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

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

MEX 01 00:02:58.1±0.8, 17.77N×93.44W, h106km±17km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	1.53	244	eP	Pn	00 03 23.7	-1.4
CMIG				iS	Sn	00 03 44.1	-1.5
CCIG	Comitan	1.94	140	eP	Pn	00 03 29.6	-0.5
CCIG				iS	Sn	00 03 54.1	-0.5
PCIG		2.07	174	eP	Pn	00 03 29.7	-2.1
PCIG				iS	Sn	00 03 56.7	-0.8
VHO	Vista Hermosa	3.22	258	iP	Pn	00 03 45.5	-1.4
VHO				iS	Sn	00 04 24.2	-0.4
HUIG	Huatulco	3.24	232	eP	Pn	00 03 46.4	-0.7
HUIG				iS	Sn	00 04 23.2	-1.8
LVIG	Laguna Verde	3.42	305	iP	Pn	00 03 47.9	-1.7
LVIG				iS	Sn	00 04 27.8	-1.7
PNIG	Pinotepa	4.68	254	eP	Pn	00 04 06.3	-0.3
PNIG				iS	Sn	00 04 57.6	-2.2

KRSC 01 00:22:13.3±0.8, 54.65N×162.66E, h27km±17km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.55	261	eP	Pb	00 22 24.5	+0.1
MKZ				eS	Sb	00 22 32.3	+0.4
KBTR	Krutoberegovo	1.56	3	eP	Pn	00 22 39.0	-0.3
KBTR				eS	Sn	00 22 57.9	-0.7
TUMR	Tumrok	1.58	295	eP	Pn	00 22 40.0	+0.5
TUMR				eS	Sn	00 22 59.6	+0.6
KMNR	Kamenistaya	1.78	310	eP	Pn	00 22 43.2	+1.0
KMNR				eS	Sn	00 23 05.4	+1.6
KIRR	Kirishev	1.86	316	eS	Sn	00 23 08.4	+2.5
KII	Karymskiy	1.98	253	eP	Pn	00 22 46.0	+1.1
KII				eS	Sn	00 23 09.6	+0.8
BKI	Bering	1.99	72	eP	Pn	00 22 45.8	+0.7
BKI				eS	Sn	00 23 09.4	+0.3
KLY	Klyuchi	2.02	326	eP	Pn	00 22 45.9	+0.4
KLY				eS	Sn	00 23 10.1	+0.2
SMKR	Semkarok	2.05	341	eP	Pn	00 22 46.8	+0.8
SMKR				eS	Sn	00 23 10.8	+0.2
BDR	Baidarnaya	2.09	337	eP	Pn	00 22 48.1	+1.6
BDR				eS	Sn	00 23 13.0	+1.4
SRKR	Sorokina	2.18	338	eP	Pn	00 22 49.0	+1.3
SPN	Mys Shipunski	2.20	226	eP	Pn	00 22 48.2	+0.2
SPN				eS	Sn	00 23 13.3	-1.1
SRDR	Sredinnyy	2.37	316	eP	Pn	00 22 51.1	+0.8
SRDR				eS	Sn	00 23 18.1	-0.3
NLC	Nalytchevo	2.46	234	eS	Sn	00 23 21.0	+0.4
AVH	Avacha	2.70	241	eP	Pn	00 22 57.0	+2.1
AVH				eS	Sn	00 23 28.4	+1.8
PET	Petropavlovsk	2.88	237	eP	Pn	00 22 59.1	+1.8
PET				eS	Sn	00 23 32.2	+1.2
GNL	Ganaly	2.93	253	eP	Pn	00 22 59.9	+1.8
RUS	Russkaya	3.33	230	eP	Pn	00 23 04.5	+1.1
RUS				eS	Sn	00 23 41.7	-0.3

*IDC **01** 00:23:35.5±2.0, 46.29N×146.39E, h277km±20km, mb3.0/7, mb1 3.2/8, mb1mx3.0/25, mbtmp3.0/8, Error ellipse: s-maj=24.3km s-min=14.8km az=105.0*
*JMA **01** 00:23:35.6±0.5, 45.66N×146.84E, h286km, M3.4*
ISC 01 00:23:34.9±0.9, 45.7N±0.2×146.7E±0.2, h310km±18km, n19, σ0s55/19, mb3.2/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	2.40	197	P	Pn	00 24 24.8	-1.1
NEM2				eS	Sx	00 25 03.7	
JTKR	Abashiri--Toko	2.62	231	P	Pn	00 24 27.4	-0.4
JAK	Akkeshi	3.03	209	P	Pn	00 24 31.5	-0.2
JAK				eS	Sx	00 25 14.8	
JAR	Ashorobuto	3.17	223	P	Pn	00 24 33.8	+0.8
ASAJ	Asahikawa	3.31	244	P	Pn	00 24 34.4	-0.1
	1.3nm,0.3s,baz=67,slow=9.9,SNR=13						
JKK2	Kamakawa 2	3.35	239	P	Pn	00 24 35.1	+0.3
JFR	Furan	3.87	231	P	Pn	00 24 41.2	+0.9
JCH	Churui	3.89	220	P	Pn	00 24 40.6	+0.1
JCH				eS	Sx	00 25 30.1	
JNBK	Urakawa-nobuka	4.43	222	P	Pn	00 24 45.8	-0.6
JNBK				eS	Sx	00 25 41.4	
JKB	Kayabe	5.58	230	P	Pn	00 24 59.7	+0.1
JKB				eS	Sx	00 26 04.1	
JOT	Ohata	5.94	226	P	Pn	00 25 03.7	-0.1
JANG	Nango	6.51	218	P	Pn	00 25 10.9	+0.3
JANG				eS	Sx	00 26 23.9	
ILAR	Eielson Array	40.15	38	P	P	00 30 41.9	+1.0
	0.3nm,0.5s,mb2.9,baz=262,slow=5.2,SNR=6.2						
MKAR	Makanchi Array	43.46	296	P	P	00 31 08.0	+0.2
	0.1nm,0.5s,mb2.3,baz=68,slow=8.0,SNR=3.7						
INK	Inuvik	44.92	31	P	P	00 31 19.0	+0.1
	0.8nm,0.5s,mb3.2,baz=304,slow=8.3,SNR=8.2						
FINES	FINESS Array B	63.05	332	P	P	00 33 28.3	-0.8
	5.7nm,1.0s,mb4.1,baz=42,slow=6.4,SNR=7.6						
WRA	Warramunga Arr	66.25	193	P	P	00 33 56.9	+6.9
	0.2nm,0.4s,mb3.2,baz=11,slow=6.8,SNR=2.8						
NOA	NORSAR Array B	67.72	338	P	P	00 33 58.3	-0.5
	0.6nm,0.7s,mb3.4,baz=30,slow=6.4,SNR=5.3						
ASAR	Alice Springs	69.97	193	P	P	00 34 21.1	+8.1
	0.4nm,0.4s,mb3.5,baz=9.0,slow=5.7,SNR=11						

*ISCJB **01** 00:40:07.9±0.9, 57.8S±0.2×24.8W±0.5, h10km, mb3.7/3, Error ellipse: s-maj=43.4km s-min=12.5km az=152.6*
*IDC **01** 00:40:07.2±2.6, 57.96S×24.80W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.7/15, mbtmp3.8/3, Error ellipse: s-maj=91.3km s-min=43.7km az=177.0*
ISC 01 00:40:09.8±0.9, 57.8S±0.2×24.8W±0.5, h10km, n8, σ1s20/6, mb3.7/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	14.69	158	eP	Pn	00 43 37.5	+0.3
VNA1				e		00 43 49.9	
VNA3	Neumayer Olymp	14.91	161	eP	Pn	00 43 41.1	+0.9
VNA3				e		00 43 53.8	
VNA2	Neumayer--Watz	15.08	158	eP	Pn	00 43 41.2	-1.3
	baz=327,slow=15						
VNA2				e		00 43 54.5	
CPUP	Villa Florida	38.95	310	P	P	00 47 34.7	-1.0
	0.7nm,0.6s,mb3.6,baz=134,slow=9.8,SNR=2.8						
LPAZ	La Paz	52.45	304	P	P	00 49 23.4	+0.9
	0.7nm,0.5s,mb3.9,baz=109,slow=4.5,SNR=4.7						
TORD	Torodi Ar. Bea	73.96	27	P	P	00 51 45.2	+0.1
	0.6nm,0.7s,mb3.6,baz=199,slow=6.4,SNR=9.5						
INK	Inuvik	147.98	318	PKPbc	PKPbc	00 59 52.7	-0.8
	1.5nm,1.1s,baz=108,slow=2.3,SNR=3.2						
ILAR	Eielson Array	152.25	309	PKPbc	PKPbc	01 00 02.8	-1.2
	0.6nm,0.9s,baz=127,slow=2.4,SNR=8.9						

*ISCJB **01** 00:43:34.0±0.3, 41.76N±0.04×140.08E±0.06, h172km±3km, mb3.7/16, Error ellipse: s-maj=8.0km s-min=5.8km az=21.8*
*IDC **01** 00:43:35.9±1.2, 41.89N×140.11E, h173km±12km, mb3.3/10, mb1 3.4/12, mb1mx3.3/27, mbtmp3.3/12, MS3.5/1, Ms1 3.5/1, ms1mx2.7/16, Error ellipse: s-maj=17.8km s-min=13.7km az=115.0*
*JMA **01** 00:43:35.7±0.1, 41.79N×140.07E, h162km±1km, M3.4*
*NEIC **01** 00:43:36.0±0.5, 41.88N×140.13E, h177km±6km, mb3.9/7, Error ellipse: s-maj=9.3km s-min=6.5km az=114.0*
ISC 01 00:43:35.1±0.3, 41.77N±0.04×140.09E±0.06, h167km±3km, n50, σ0s67/62, mb3.7/16, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JSR	Shiriuchi	0.34	133	P	Pn	00 43 57.9	+0.1
JSR				eS	Sn	00 44 15.0	-0.1
JYM2	Yakumo 2	0.41	31	P	Pn	00 43 58.1	+0.1
JOSM	Okushiri--Mats	0.56	305	P	Pn	00 43 58.4	-0.2
JOSM				eS	Sn	00 44 15.4	-1.3
JKB	Kayabe	0.72	80	P	Pn	00 43 59.6	+0.1
JOT	Ohata	0.82	118	P	Pn	00 44 00.3	+0.1
JSH	Shimam	0.88	358	P	Pn	00 44 00.6	+0.1
JSH				eS	Sn	00 44 19.3	-0.9
JNB	Noboribetsu	1.00	45	P	Pn	00 44 01.3	-0.1
JIW	Iwasaki	1.17	183	P	Pn	00 44 03.6	+0.6
JIW				eS	Sn	00 44 24.5	+0.2
JTM	Tenmabayashi	1.23	143	P	Pn	00 44 03.7	+0.3
JTM				eS	Sn	00 44 24.8	-0.3
JEW	Eniwo	1.48	43	P	Pn	00 44 06.4	+0.7
JEW				eS	Sn	00 44 30.1	+0.8
JSK	Shakotan	1.61	10	P	Pn	00 44 07.2	+0.2
JSK				eS	Sn	00 44 31.9	+0.1
JANG	Nango	1.76	142	P	Pn	00 44 08.3	-0.4
JANG				eS	Sn	00 44 33.4	-1.1
JNBK	Urakawa-nobuka	2.05	75	P	Pn	00 44 11.9	+0.1
JNBK				eS	Sn	00 44 40.5	+0.4
ERM	Erimo	2.31	83	ePn	Pn	00 44 15.2	+0.5
ERM				eSn	Sn	00 44 43.2	-2.1
JHR	Hokuryu	2.31	31	P	Pn	00 44 15.9	+1.1
JHR				eS	Sn	00 44 46.7	+1.1
JFR	Furan	2.32	52	P	Pn	00 44 15.7	+0.8
JFR				eS	Sn	00 44 45.7	0.0
ASAJ	Asahikawa	2.99	37	P	Pn	00 44 23.2	+0.4
	8.4nm,0.3s,baz=231,slow=12,SNR=28						
ASAJ				S	Sn	00 44 59.3	-0.8
	7.4nm,0.3s,baz=43,slow=26,SNR=17						
ASAJ	Asahikawa	2.99	37	ePn	Pn	00 44 23.0	+0.2
ASAJ				eSn	Sn	00 44 59.5	-0.6
MJAR	Matsushiro Arr	5.42	196	P	Pn	00 44 57.4	+3.1
	0.7nm,0.3s,baz=12,slow=12,SNR=4.2						
MJAR	Matsushiro Arr	5.42	196	P	Pn	00 44 57.4	+3.1
YSS	Yuzh-Sakhalins	5.53	19	ePn	Pn	00 44 55.5	-0.1
	50nm,0.5s						
SONM	Songino Array	24.53	296	P	P	00 48 39.1	+0.2
	0.4nm,0.4s,mb3.3,baz=99,slow=9.3,SNR=5.2						
SONM				LR	LR	00 58 39.5	
	comp=Z,117nm,19.2s,baz=194,slow=37						
SONM	Songino Array	24.53	296	P	P	00 48 39.1	+0.2
SONM				LR	LR	00 58 39.5	
ZALV	Zalesovo Beam	38.08	308	P	P	00 50 36.2	-0.9
	0.8nm,0.4s,mb3.7,baz=86,slow=9.3,SNR=7.0						
ZALV				PcP	PcP	00 52 48.7	0.0
	0.8nm,0.4s,baz=83,slow=3.0,SNR=4.8						
ZALV	Zalesovo Beam	38.08	308	P	P	00 50 36.2	-1.0
ZALV				PcP	PcP	00 52 48.7	0.0
MK31	Makanchi Array	40.88	297	eP	P	00 51 00.1	-0.4
MKAR	Makanchi Array	40.88	297	P	P	00 51 00.5	0.0
	1.9nm,0.8s,mb3.8,baz=80,slow=8.8,SNR=16						
MKAR	Makanchi Array	40.88	297	P	P	00 51 00.5	0.0
CHTO	Chiang Mai	41.72	249	eP	P	00 51 08.0	+0.3
	1.2nm,0.4s,mb3.9						
KURK	Kurchatov	42.32	304	P	P	00 51 12.5	+0.4
	2.2nm,0.6s,mb4.0,baz=80,slow=8.9,SNR=28						
KURK	Kurchatov	42.32	304	eP	P	00 51 11.7	-0.4
	2.2nm,0.6s,mb4.0						
ILAR	Eielson Array	46.12	35	P	P	00 51 40.6	-1.5
	0.5nm,0.8s,mb3.2,baz=282,slow=7.3,SNR=7.9						
ILAR	Eielson Array	46.12	35	P	P	00 51 40.6	-1.5
TKM2	Tokmak 2	46.61	294	eP	P	00 51 46.7	+0.5
	4.6nm,0.6s,mb4.3						
KBK	Karagaybulak	47.15	294	eP	P	00 51 51.0	+0.6
	3.6nm,0.5s,mb4.3						
AAK	Ala-Archa	47.47	294	eP	P	00 51 52.8	-0.1
	1.4nm,0.6s,mb3.8						
KKAR	Karatay Array	49.98	296	eP	P	00 52 11.6	-0.4
	2.2nm,0.8s,mb3.8						
INK	Inuvik	50.69	29	P	P	00 52 17.1	+0.1
	0.7nm,0.5s,mb3.5,baz=296,slow=4.1,SNR=6.1						
INK	Inuvik	50.69	29	P	P	00 52 17.1	+0.2
ABKAR	Akbulak array	54.18	307	eP	P	00 52 42.6	-0.2
	1.3nm,0.5s,mb3.9						
FINES	FINESS Array B	64.17	331	P	P	00 53 50.8	-0.5
	5.3nm,1.1s,mb4.3,baz=35,slow=7.0,SNR=5.7						
FINES	FINESS Array B	64.17	331	P	P	00 53 50.8	-0.5
ASAR	Alice Springs	65.35	186	P	P	00 53 59.9	+0.6
	0.3nm,0.7s,mb3.2,baz=8.9,slow=6.6,SNR=4.0						
ASAR	Alice Springs	65.35	186	P	P	00 53 59.9	+0.6
AKASG	Malin Array Be	69.96	321	P	P	00 54 27.6	-0.3
	0.4nm,0.4s,mb3.5,baz=279,slow=22,SNR=4.1						
AKASG	Malin Array Be	69.96	321	P	P	00 54 27.6	-0.3
GERES	GERESS Array B	78.17	327	P	P	00 55 15.4	-0.2
	0.3nm,0.9s,mb2.9,baz=27,slow=34,SNR=2.3						
GERES	GERESS Array B	78.17	327	P	P	00 55 15.4	-0.2
SNAA	Sanae	144.92	199	PKPbc	PKPdf	01 02 50.8	-0.1
	0.3nm,0.8s,baz=210,slow=7.6,SNR=11						
SNAA	Sanae	144.92	199	PKPbc	PKPdf	01 02 50.8	-0.1

*NIED **01** 00:57:00, 35.80N×141.10E, h11km, Mw4.0 Best double couple: Mo1.26000×10^15 NP1:φs2.00000°, δ89.00000°, λ81.00000°. NP2:φs265.00000°, δ9.00000°, λ173.00000°.*
*IDC **01** 00:57:01.7±1.0, 35.64N×141.28E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/25, mbtmp3.6/7, ML3.3/1, MS3.2/1, Ms1 3.2/1, ms1mx2.8/40, Error ellipse: s-maj=31.5km s-min=21.1km az=69.0*
*ISCJB **01** 00:57:06.6±0.8, 35.73N±0.05×141.04E±0.09, h45km±5km, mb3.7/9, Error ellipse: s-maj=12.9km s-min=6.8km az=154.4*
*JMA **01** 00:57:07.9±0.1, 35.74N×140.97E, h35km±1km, M3.4*
JMA Felt I J1.
*NEIC **01** 00:57:07.2±1.9, 35.67N×141.17E, h38km±15km, mb4.0/3, Error ellipse: s-maj=20.8km s-min=10.6km az=69.0*
ISC 01 00:57:07.6±0.8, 35.72N±0.05×141.03E±0.08, h35km±4km, n32, σ0s79/35, mb3.7/9, 1C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHOJ	Chosi	0.14	263	⇑P	Pb	00 57 13.7	-0.1
CHOJ				S	Sb	00 57 17.8	-0.3
JCN	Nagara	0.74	246	P	Pn	00 57 22.3	+0.8
JYT	Yasato	0.85	307	P	Pn	00 57 22.4	-0.6
JYT				S	Sn	00 57 33.1	-1.1
BSO4	Boso 4	0.92	218	P	Pn	00 57 25.4	+1.4
JHO	Hitachi	0.96	337	⇓P	Pn	00 57 24.5	-0.1
BSO3	Boso 3	1.01	205	P	Pn	00 57 24.8	-0.4
BSO3				S	Sn	00 57 37.8	-0.4
BSO1	Boso 1	1.07	182	P	Pn	00 57 26.0	0.0
JAG	Ashikaga	1.46	299	P	Pn	00 57 31.4	0.0
MJAR	Matsushiro Arr	2.43	291	Pn	Pn	00 57 46.1	+1.4
	5.6nm,0.3s,baz=124,slow=7.9,SNR=36						
MJAR				Sn	Sn	00 58 12.0	-1.2
	5.2nm,0.3s,baz=153,slow=24,SNR=5.6						
MJAR	Matsushiro Arr	2.43	291	Pn	Pn	00 57 46.1	+1.4
MJAR				Sn	Sn	00 58 12.0	-1.2
MAJO	Matsushiro	2.43	291	ePn	Pn	00 57 46.1	+1.4
MAT	Matsushiro	2.43	291	P	Pn	00 57 44.4	-0.3
MAT				S	Sn	00 58 12.9	-0.3
KSRS	Korea Array	10.68	283	LR	LR	01 03 37.0	
	comp=Z,121nm,20.5s,baz=241,slow=36						
SONM	Songino Array	28.28	306	P	P	01 02 59.2	+1.7
	0.5nm,0.6s,mb3.3,baz=94,slow=6.2,SNR=3.2						
SONM	Songino Array	28.28	306	P	P	01 02 59.2	+1.7
MK31	Makanchi Array	44.56	303	eP	P	01 05 16.2	+0.3
MKAR	Makanchi Array	44.56	303	P	P	01 05 15.5	-0.4
	0.8nm,0.7s,mb3.6,baz=99,slow=8.3,SNR=6.9						
MKAR	Makanchi Array	44.56	303	P	P	01 05 15.5	-0.4
KURK	Kurchatov	46.51	309	eP	P	01 05 31.0	-0.2
	1.9nm,0.8s,mb4.1						
COEN	Coen	49.45	177	eP	P	01 05 53.5	-0.8
TKM2	Tokmak 2	49.99	299	eP	P	01 05 59.1	+0.9
	0.9nm,0.6s,mb4.0						
ILAR	Eielson Array	50.77	32	P	P	01 06 02.9	-0.9
	0.4nm,1.0s,mb3.3,baz=271,slow=5.6,SNR=3.2						
ILAR	Eielson Array	50.77	32	P	P	01 06 02.9	-0.9
WRA	Warramunga Arr	55.72	188	P	P	01 06 39.9	-0.7
	0.9nm,0.8s,mb3.9,baz=2.1,slow=7.3,SNR=5.8						
WRA	Warramunga Arr	55.72	188	P	P	01 06 39.9	-0.7
ABKAR	Akbulak array	58.55	311	eP	P	01 07 00.4	0.0
	0.5nm,0.6s,mb3.7						
ASAR	Alice Springs	59.45	188	P	P	01 07 06.0	-0.8
	0.2nm,0.6s,mb3.3,baz=1.2,slow=6.1,SNR=3.0						
ASAR	Alice Springs	59.45	188	P	P	01 07 06.0	-0.8
FINES	FINESS Array B	69.83	332	P	P	01 08 15.1	+0.9
	2.5nm,0.9s,mb4.2,baz=32,slow=8.2,SNR=3.0						
FINES	FINESS Array B	69.83	332	P	P	01 08 15.1	+0.9
QSPA	South Pole Qui	125.47	180	PKP	PKPdf	01 16 02.9	-0.6
	0.7nm,0.3s,baz=31,slow=1.1,SNR=3.0						
QSPA	South Pole Qui	125.47	180	PKP	PKPdf	01 16 02.9	-0.6

MAN 01 01:05:26, 6.98N×125.88E, h77km, mb4.3, ML3.2, MS3.0, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	0.37	95	eP	Pn	01 05 40.5	+2.1
MATI				eS	Sn	01 05 51.7	+4.1
DMPH	Davao City--Mi	0.39	285	⇓eP	Pn	01 05 40.9	+2.4
DMPH				iS	Sn	01 05 57.8	+10
BUKP	Musuan	1.21	318	eP	Pn	01 05 50.0	+2.5
BUKP				eS	Sn	01 06 05.4	+1.9

*BJI **01** 01:13:04.8, 3.32S×149.54E, h10km, mB5.5/43, mb5.2/57, Ms5.7/70, Ms7 5.6/66*
*ISCJB **01** 01:13:07.3±0.9, 3.42S±0.03×148.78E±0.03, h6km±5km, mb5.2/167, MS5.7/246, Error ellipse: s-maj=5.2km s-min=5.0km az=159.7*
*IDC **01** 01:13:07.2±0.6, 3.43S×148.88E, h0km, mb4.8/21, mb1 4.9/22, mb1mx4.9/23, mbtmp4.8/22, ML4.9/1, MS5.5/28, Ms1 5.5/28, ms1mx5.3/38, Error ellipse: s-maj=19.8km s-min=10.0km az=110.0*
*NEIC **01** 01:13:09.6±0.2, 3.40S×148.71E, h10km, mb5.3/94, MS5.8/197, MW5.9, MW5.9, Error ellipse: s-maj=5.5km s-min=4.3km az=101.0, Moment Tensor Solution. s48 Moment tensor: Scale 10^17Nm; Mrr-0.59; Mθθ3.91; Mφφ-3.32; Mrθ5.14; Mθφ5.57; Mφr-2.67; Best double couple: Mo8.80000×10^17 NP1:φs20.00000°, δ50.00000°, λ-174.00000°. NP2:φs286.00000°, δ85.00000°, λ-40.00000°. Principal axes: T 8.3600, Plg23.0000°, Azm339.0000°; N 0.8700, Plg49.0000°, Azm100.0000°; P -9.2300, Plg30.0000°, Azm234.0000°;*
*MOS **01** 01:13:11.5±1.3, 3.38S×148.72E, h33km, mb5.5/50, MS5.7/37 Error ellipse: s-maj=9.0km s-min=5.9km az=97.9*
*TEH **01** 01:13:11.0, 3.40S×148.54E, h10km*
*GCMT **01** 01:13:14.9±0.1, 3.31S×148.89E, h12km, MW6.0, Moment Tensor Solution. s104,c225; s97,c142; Moment tensor: Scale 10^18Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mθφ0.00; Mφr0.00; Best double couple: Mo1.20000×10^18 NP1:φs201.00000°, δ85.00000°, λ178.00000°. NP2: φs291.00000°, δ88.00000°, λ5.00000°. Principal axes: T 1.1800, Plg5.0000°, Azm156.0000°; N -0.0600, Plg85.0000°, Azm309.0000°; P -1.1200, Plg2.0000°, Azm66.0000°; Data Used: II IU IC G CN. Surface waves: sta=116, comp=274, per= 50.*
*DJA **01** 01:13:15, 3.39S×148.87E, h51km, mb5.2/36*
ISC 01 01:13:10.9±1.0, 3.42S±0.03×148.81E±0.03, h18km±5km, h14km±1.0km:pP-P, n602, σ1s24/399, mb5.2/167, MS5.7/246, 9C-5D, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	6.17	195	Pn	Pn	01 14 43.2	+2.1
	2.3nm,0.3s,baz=9.0,slow=6.5,SNR=9.1						
PMG				Sn	Sn	01 15 57.7	+6.5
	5.5nm,0.3s,baz=26,slow=11,SNR=3.1						
PMG				LR	LR	01 17 17.8	
	comp=Z,37μm,18.7s,baz=205,slow=40						
PMG	Port Moresby	6.17	195	ePn	Pn	01 14 42.3	+1.1
PMG				eSg		01 16 13.0	
PMG	Port Moresby	6.17	195c	iP	Pn	01 14 41.7	+0.6
PMG	Port Moresby	6.17	195	P	Pn	01 14 44.3	+3.2
	3.7nm209nm,0.8s						
JAY	Jayapura	8.14	276	P	Pn	01 15 09.3	+1.0
	170nm,1.6s						
SMPI	Sarmi	10.19	278	P	Pn	01 15 38.9	+2.6
	330nm,1.4s						
COEN	Coen	11.85	208	ePn	Pn	01 15 58.1	-1.1
COEN				eSn	Sn	01 18 07.4	-3.6
COEN	Coen	11.85	208	P	Pn	01 16 02.4	+3.2
	2μm59nm,2.2s						
HNR	Honiara	12.57	119	LR	LR	01 19 10.8	
	comp=Z,6μm,21.9s,baz=95,slow=29						
HNR	Honiara	12.57	119	ePn	Pn	01 16 10.3	+1.2
HNR	Honiara	12.57	119	eP	Pn	01 16 10.3	+1.2
CTA	Charters Tower	16.75	188	Pn	Pn	01 17 05.9	+1.1
	0.3nm,0.3s,baz=8.2,slow=12,SNR=13						
CTA				LR	LR	01 23 31.7	
	comp=Z,17μm,18.2s,baz=6.9,slow=37						
CTA	Charters Tower	16.75	188	eP	Pn	01 17 06.0	+1.2
	76nm,1.5s						
CTA	Charters Tower	16.75	188	Pn	Pn	01 17 05.9	+1.1
CTA				LR	LR	01 23 31.7	
CTA	Charters Tower	16.75	188	P	Pn	01 17 05.9	+1.1
CTAO	Charters Tower	16.75	188	ePn	Pn	01 17 05.9	+1.1
	478nm,1.7s						
CTAO	Charters Tower	16.75	188	eP	Pn	01 17 05.9	+1.1
CTAO				pmax	pmax		
	comp=Z,478nm,1.7s						
CTAO	Charters Tower	16.75	188	P	Pn	01 17 06.6	+1.8
	comp=Z,4μmcomp=Z,138nm,1.9s						
GUMO	Guam	17.35	347	P	Pn	01 17 11.5	-0.8
	comp=Z,4.2nm,0.3s,baz=229,slow=20,SNR=7.0						
GUMO				LR	LR	01 23 00.9	
	comp=Z,13μm,19.0s,baz=167,slow=34						
GUMO	Guam	17.35	347	ePn	Pn	01 17 11.1	-1.1
	comp=Z,1μm,1.8s						
GUMO	Guam	17.35	347	eP	Pn	01 17 11.1	-1.2
GUMO				pmax	pmax		
	comp=Z,1μm,1.8s						
GUMO	Guam	17.35	347	P	Pn	01 17 13.5	+1.2
	comp=Z,391nm,2.0s						
KAKA	Kakadu	18.63	239	eP	Pn	01 17 26.1	-2.0
	comp=Z,1000nm,1.5s						
KAKA	Kakadu	18.63	239	eP	Pn	01 17 26.2	-1.9
	comp=Z,547nm,0.7s						
MSAI	Masohi	19.84	270	P	Pn	01 17 46.1	+3.4
	comp=Z,1μmcomp=Z,34nm,1.3s						
AAI	Ambon	20.57	269	P	P	01 17 52.2	+3.2
	comp=Z,4μmcomp=Z,138nm,1.1s						
LBMI	Labuha	21.47	277	P	P	01 18 01.6	+2.9
	comp=Z,6μmcomp=Z,317nm,1.6s,mb5.4						
WRAB	Tennant Creek	21.64	220	eP	P	01 17 59.6	-0.8
	comp=Z,335nm,1.1s,mb5.7						
WRAB				LR	LR		
	comp=Z,16μm,19.0s,MS5.4						
WRAB	Tennant Creek	21.64	220	eP	P	01 17 59.6	-0.8
WRAB				pmax	pmax		
	comp=Z,335nm,1.1s,mb5.7						
WRAB				MLR	MLR		
	comp=Z,16μm,19.0s,MS5.4						
WRAB	Tennant Creek	21.64	220	P	P	01 18 02.0	+1.6
	comp=Z,1μm,1.1s,mb6.2,SNR=18						
WRAB	Tennant Creek	21.64	220	P	P	01 18 02.3	+1.9
	comp=Z,5μmcomp=Z,490nm,1.3s,mb5.8						
WB2	Warramunga Arr	21.64	220	eP	P	01 17 59.6	-0.9
WRA	Warramunga Arr	21.65	220	P	P	01 17 59.7	-0.9
	comp=Z,63nm,1.0s,mb5.0,baz=43,slow=10,SNR=58						
WRA				S	S	01 22 02.3	+2.5
	comp=Z,17nm,1.3s,baz=42,slow=19,SNR=6.7						
WRA				LR	LR	01 27 04.3	
	comp=Z,15μm,18.9s,MS5.4,baz=40,slow=39						
WRA	Warramunga Arr	21.65	220	P	P	01 17 59.7	-0.9
WRA				S	S	01 22 02.3	+2.5
WRA				LR	LR	01 27 04.3	
WRA	Warramunga Arr	21.65	220	P	P	01 17 59.7	-0.9
WRA				S	S	01 22 02.3	+2.5
NLAI	Namlea	21.67	270	P	P	01 18 03.4	+2.5
	comp=Z,3μmcomp=Z,91nm,1.4s,mb5.0						
EIDS	Eidsvold	21.93	174	eP	P	01 18 03.7	+0.2
	comp=Z,204nm,1.1s,mb5.5						
KWAJ	Kwajalein Atol	22.34	57	eP	P	01 18 07.1	-0.9
	comp=Z,108nm,0.6s,mb5.5						
KWAJ	Kwajalein Atol	22.34	57	eP	P	01 18 07.1	-0.9
KWAJ				pmax	pmax		
	comp=Z,108nm,0.6s,mb5.5						
TARA	Tarawa	24.57	79	PFAKE		01 18 40.0	+10
TARA				LR	LR		
	comp=Z,2μm,21.0s,MS4.5						
ASAR	Alice Springs	24.75	214	P	P	01 18 31.0	-0.6
	comp=Z,14nm,0.7s,mb4.6,baz=44,slow=7.5,SNR=65						
ASAR	Alice Springs	24.75	214	P	P	01 18 31.0	-0.6
ASAR	Alice Springs	24.75	214	P	P	01 18 31.0	-0.6
KMSI	Cibinong	25.13	279	P	P	01 18 36.0	+0.8
	comp=Z,495nm,1.2s,mb5.9						
DZM	Mont Dzumac	25.23	139	eP	P	01 18 34.5	-1.5
	comp=Z,127nm,1.2s,mb5.3						
DAV	Davao City (W)	25.42	294	PFAKE		01 18 50.0	+12
DAV				LR	LR		
	comp=Z,7μm,19.0s,MS5.2						
BBSI	Bau Bau	26.23	265	P	P	01 18 48.2	+3.0
	comp=Z,5μmcomp=Z,246nm,1.2s,mb5.6						
FITZ	Fitzroy Crossi	26.98	236	P	P	01 18 52.2	+0.4
	comp=Z,73nm,0.9s,mb5.2,baz=63,slow=9.1,SNR=46						
FITZ				LR	LR	01 30 04.4	
	comp=Z,21μm,19.6s,MS5.7,baz=60,slow=38						
FITZ	Fitzroy Crossi	26.98	236	eP	P	01 18 49.2	-2.6
	comp=Z,220nm,0.8s,mb5.7						
FITZ	Fitzroy Crossi	26.98	236	eP	P	01 18 51.1	-0.7
	comp=Z,143nm,0.9s,mb5.5						

FITZ **Fitzroy Crossi** **26.98 236** P **P** **01 18 53.8 +2.0**
comp=Z,2µmcomp=Z,201nm,1.2s,mb5.5
ARMA **Armidale** **26.98 175** *e*P **P** **01 18 51.4 -0.3**
ARMA **Armidale** **26.98 175** *e*P **P** **01 18 51.0 -0.7**
comp=Z,131nm,1.4s,mb5.3
MRSI **Marisa** **27.13 278** P **P** **01 18 51.4 -1.9**
BKSI **Bulukumba** **28.66 265** P **P** **01 19 08.1 +1.1**
comp=Z,798nmcomp=Z,34nm,1.2s,mb5.0
TTSI **Tana Toraja** **28.94 270** P **P** **01 19 09.7 +0.2**
comp=Z,1µmcomp=Z,70nm,1.4s,mb5.2
SPSI **Sidrap Palu** **28.98 268** P **P** **01 19 09.5 -0.3**
KAPI **Kappang** **29.02 266** *e*P **P** **01 19 07.3 -2.9**
comp=Z,81nm,1.4s,mb5.3
KAPI LR LR
comp=Z,4µm,20.0s,MS5.0
KAPI **Kappang** **29.02 266** P **P** **01 19 09.0 -1.2**
comp=Z,1µmcomp=Z,42nm,1.5s,mb5.0
STKA **Stephens Creek** **29.11 193** P **P** **01 19 08.3 -2.4**
comp=Z,3.9nm,0.6s,mb4.3,baz=341,slow=8.9,SNR=9.6
STKA LR LR 01 31 37.0
comp=Z,16µm,21.4s,MS5.6,baz=11,slow=38
STKA **Stephens Creek** **29.11 193** *e*P **P** **01 19 09.2 -1.5**
comp=Z,5.6nm,0.7s,mb4.4
STKA **Stephens Creek** **29.11 193** *e*P **P** **01 19 09.1 -1.6**
comp=Z,4.9nm,0.9s,mb4.2
STKA **Stephens Creek** **29.11 193** *e*P **P** **01 19 09.1 -1.6**
STKA pmax pmax
comp=Z,5.0nm,0.9s
BMNI **Bima** **30.37 259** P **P** **01 19 20.4 -1.7**
comp=Z,29nm,1.4s,mb4.8
FUNA **Funafuti** **30.64 101** PFAKE 01 19 40.0 +16
FUNA LR LR
comp=Z,9µm,20.0s,MS5.4
CBIJ **Chichi jima** **31.00 348** LR LR 01 31 19.5
comp=Z,8µm,19.2s,MS5.4,baz=145,slow=35
MYLDM **Lahad Datu** **31.46 286** P **P** **01 19 33.5 +1.8**
comp=Z,1µmcomp=Z,47nm,1.2s,mb5.2
BBOO **Buckleboo** **31.58 201** *e*P **P** **01 19 31.8 -0.8**
comp=Z,160nm,1.3s,mb5.7
CNB **Canberra Magne** **31.74 179** *e*P **P** **01 19 34.2 +0.3**
CAN **Canberra** **31.74 180** *e*P **P** **01 19 33.8 -0.1**
comp=Z,42nm,1.2s,mb5.2
CAN LR LR
comp=Z,21µm,20.0s,MS5.8
CAN **Canberra** **31.74 180** *e*P **P** **01 19 33.8 -0.1**
CAN pmax pmax
comp=Z,42nm,1.2s,mb5.1
CAN MLR MLR
comp=Z,21µm,20.0s,MS5.8
MSVF **Nonsavu** **32.00 119** PFAKE 01 19 50.0 +14
MSVF LR LR
comp=Z,11µm,20.0s,MS5.5
TGY **Tagaytay City** **32.66 303** P **P** **01 19 42.3 0.0**
comp=Z,123nm,0.3s,mb6.3,baz=204,slow=9.1,SNR=3.6
TGY **Tagaytay City** **32.66 303** P **P** **01 19 42.3 0.0**
TGY **Tagaytay City** **32.66 303** P **P** **01 19 42.3 0.0**
MBWA **Marble Bar** **33.32 236** *e*P **P** **01 19 48.3 +0.3**
comp=Z,23nm,1.1s,mb5.0
MBWA LR LR
comp=Z,16µm,21.0s,MS5.7
FORT **Forrest** **33.53 214** *e*P **P** **01 19 53.4 +3.7**
comp=Z,39nm,0.7s,mb5.4
FORT **Forrest** **33.53 214** *e*P **P** **01 19 50.2 +0.6**
comp=Z,50nm,0.8s,mb5.5
SRBI **Singaraja** **33.73 261** P **P** **01 19 58.5 +6.8**
comp=Z,922nmcomp=Z,44nm,1.9s,mb5.1
KKM **Kota Kinabalu** **33.88 286** *e*P **P** **01 19 50.5 -2.4**
comp=Z,32nm,1.0s,mb5.2
KKM LR LR
comp=Z,5µm,22.0s,MS5.2
BBKI **Banjar Baru** **33.90 269** P **P** **01 19 55.3 +2.1**
comp=Z,8µmcomp=Z,82nm,1.7s,mb5.4
TOO **Toolangi** **34.12 185** *e*P **P** **01 19 54.6 -0.1**
JOW **Kunigami** **36.03 328** *e*P **P** **01 20 10.2 -1.1**
comp=Z,32nm,1.2s,mb5.1
SBUM **Sibu** **37.03 279** P **P** **01 20 19.5 -0.6**
comp=Z,871nmcomp=Z,38nm,1.5s,mb5.0
PWJI **Pagerwojo** **37.09 261** P **P** **01 20 22.0 +1.4**
comp=Z,54nm,1.3s,mb5.2
PBKI **Pangkalan Bun** **37.09 270** P **P** **01 20 19.4 -1.2**
comp=Z,704nm,0.5s
JHJ **Hachijo jima 2** **37.33 347** LR LR 01 33 56.0
comp=Z,6µm,19.7s,MS5.4,baz=260,slow=33
STKI **Sintang** **37.47 275** P **P** **01 20 24.8 +1.0**
comp=Z,45nm,0.5s,mb5.5
PCJI **Pacitan** **37.72 261** P **P** **01 20 26.2 +0.3**
comp=Z,126nm,1.1s,mb5.6
YULB **Yu-li** **37.81 316** *e*P **P** **01 20 26.8 +0.3**
comp=Z,77nm,1.1s,mb5.3
NACB **Ninganchiao** **38.12 317** *e*P **P** **01 20 27.9 -1.2**
comp=Z,97nm,1.3s,mb5.4
SSLB **Suanglung** **38.30 316** *e*P **P** **01 20 30.5 -0.2**
comp=Z,60nm,1.3s,mb5.2
YHNB **Yeheng** **38.60 318** *e*P **P** **01 20 33.5 +0.2**
comp=Z,547nm,1.7s,mb6.0
YHNB LR LR
comp=Z,12µm,21.0s,MS5.7
TATO **Taipei** **38.74 318** PFAKE 01 20 50.0 +16
TATO LR LR
comp=Z,14µm,20.0s,MS5.8
KSM **Kuching** **38.79 277** *e*P **P** **01 20 32.7 -2.3**
comp=Z,66nm,1.2s,mb5.2
KSM LR LR
comp=Z,5µm,20.0s,MS5.3
KSM **Kuching** **38.79 277** P **P** **01 20 33.8 -1.1**
comp=Z,681nmcomp=Z,51nm,1.2s,mb5.1
MOO **Moorlands** **38.88 182** *e*P **P** **01 20 37.0 +1.8**
TAU **Tasmania Unive** **39.34 182** PFAKE 01 20 50.0 +11
TAU LR LR
comp=Z,23µm,19.0s,MS6.0
JNU **Nakatsue** **40.11 336** *e*P **P** **01 20 44.2 -1.4**
comp=Z,55nm,1.0s,mb5.2
AFI **Afiamalu** **40.27 107** LR LR 01 36 17.8
comp=Z,3µm,18.0s,MS5.2,baz=116,slow=35
KLBR **Kellerberrin** **40.47 223** *e*P **P** **01 20 45.8 -2.9**
comp=Z,27nm,0.7s,mb5.1
QZH **Quanzhou** **40.69 316**⇑ *i*P **P** **01 20 47.2 -3.4**
QZH LR LR
comp=N,11µm,19.3s,MS5.9
QZH LR LR
comp=E,10µm,19.8s,MS5.9
QZH LR LR
comp=Z,24µm,34.2s
RAO **Raoul Island** **40.70 133** PFAKE 01 21 00.0 +9.4
RAO LR LR
comp=Z,8µm,21.0s,MS5.6
MJAR **Matsushiro Arr** **40.97 347** P **P** **01 20 49.9 -2.8**
comp=Z,2.3nm,0.7s,mb4.0,baz=169,slow=8.4,SNR=4.1
MJAR PcP PcP 01 22 56.8 +3.9
comp=Z,8.2nm,1.1s,baz=195,slow=4.6,SNR=5.1
MJAR LR LR 01 35 48.7
comp=Z,6µm,19.9s,MS5.5,baz=165,slow=33
MJAR **Matsushiro Arr** **40.97 347** P **P** **01 20 49.9 -2.8**
MJAR PcP PcP 01 22 56.8 +4.0
MJAR LR LR 01 35 48.7
MJAR **Matsushiro Arr** **40.97 347** P **P** **01 20 49.9 -2.8**
MJAR 01 22 56.8
MAJO **Matsushiro** **40.97 347** *e*P **P** **01 20 53.8 +1.1**
comp=Z,70nm,1.6s,mb5.0
MAJO LR LR
comp=Z,8µm,19.0s,MS5.6
MAJO **Matsushiro** **40.97 347** *e*P **P** **01 20 53.8 +1.1**
MAJO pmax pmax
comp=Z,70nm,1.6s,mb5.0
MAJO MLR MLR
comp=Z,8µm,19.0s,MS5.6
MAT **Matsushiro** **40.97 347** P **P** **01 20 50.6 -2.1**
MAT S **S** **01 27 03.0 -1.0**
NWAO **Narrogin (SRO)** **41.64 222** P **P** **01 20 58.2 -0.1**
comp=Z,10nm,0.7s,mb4.5,baz=50,slow=8.3,SNR=6.0
NWAO PP PP 01 22 37.0 +2.3
comp=Z,28nm,1.1s,baz=41,slow=11,SNR=4.4
NWAO LR LR 01 38 53.0
comp=Z,13µm,21.8s,MS5.8,baz=43,slow=37
NWAO **Narrogin (SRO)** **41.64 222** P **P** **01 20 58.2 -0.1**
NWAO PP PP 01 22 37.0 +2.3
NWAO LR LR 01 38 53.0
NWAO **Narrogin (SRO)** **41.64 222** P **P** **01 20 58.2 -0.1**
NWAO 01 22 37.0
HKC **Hong Kong Obse** **42.41 309** P **P** **01 21 02.0 -2.8**
PPBI **Pangkal Pinang** **42.63 271** P **P** **01 21 05.8 -1.0**
comp=Z,24nm,1.9s,mb4.6
CGJI **Cibinong** **43.05 264** P **P** **01 21 09.3 -0.8**
comp=Z,53nm,1.2s,mb5.1
URZ **Urewera** **43.24 147** LR LR 01 36 22.2
comp=Z,21µm,21.2s,MS6.0,baz=122,slow=32
SSE **Sheshan** **43.26 325** P **P** **01 21 10.5 -1.0**
SSE pP pP 01 21 13.1 -4.1
SSE sP sP 01 21 15.6 -3.8
SSE S **S** **01 27 38.6 +0.6**
SSE pmax pmax
comp=Z,17nm,0.6s,mb5.0
SSE pmax pmax
comp=Z,370nm,8.4s
SSE LR LR
comp=N,6µm,31.2s,MS5.4
SSE LR LR
comp=E,5µm,31.4s,MS5.4
SSE LR LR
comp=Z,9µm,28.2s,MS5.5
GZH **Guangzhou** **43.48 309** P **P** **01 21 19.1 +5.7**
GZH S **S** **01 27 48.2 +6.7**
GZH LR LR
comp=N,2µm,17.3s,MS5.4
GZH LR LR
comp=E,3µm,18.1s,MS5.4
GZH LR LR
comp=Z,7µm,18.3s,MS5.6
SNZO **South Karori** **44.32 152** PFAKE 01 21 30.0 +10
SNZO LR LR
comp=Z,18µm,20.0s,MS6.0
QIZ **Qiongzhong** **44.35 302** P **P** **01 21 20.9 +0.4**
QIZ pP pP 01 21 26.4 +0.2
QIZ sP sP 01 21 31.0 +2.6
QIZ S **S** **01 27 54.9 +0.6**
QIZ pmax pmax
comp=Z,72nm,1.4s,mb5.2
QIZ LR LR
comp=N,5µm,17.6s
QIZ LR LR
comp=Z,7µm,27.6s
QIZ **Qiongzhong** **44.35 302** *e*P **P** **01 21 20.6 +0.1**
comp=Z,74nm,1.1s,mb5.3
QIZ LR LR
comp=Z,7µm,22.0s,MS5.5
MDSI **Maura Dua** **44.53 267** P **P** **01 21 21.5 -0.5**
comp=Z,31nm,1.5s,mb4.9
KSRS **Korea Array** **45.06 336** P **P** **01 21 24.8 -1.1**
comp=Z,6.9nm,0.9s,mb4.5,baz=148,slow=8.9,SNR=11
KSRS PcP PcP 01 23 09.8 +3.2
comp=Z,4.1nm,0.9s,baz=137,slow=4.7,SNR=4.1
KSRS LR LR 01 39 09.5
comp=Z,7µm,21.6s,MS5.5,baz=152,slow=35
MIDW **Midway** **45.26 44** PFAKE 01 21 40.0 +12
MIDW LR LR
comp=Z,4µm,20.0s,MS5.4
NJ2 **Nanjing** **45.32 323** *e*P **P** **01 21 29.6 +1.6**
NJ2 pP pP 01 21 34.2 +0.5
NJ2 sP sP 01 21 36.4 +0.5
NJ2 S **S** **01 28 09.5 +1.5**
NJ2 sS sS 01 28 18.0 +0.7
NJ2 SS SS 01 31 22.5 -9.3
NJ2 pmax pmax
comp=Z,30nm,1.1s,mb5.0
NJ2 pmax pmax
comp=Z,630nm,12.0s
NJ2 LR LR
comp=N,7µm,19.7s,MS5.8
NJ2 LR LR
comp=E,6µm,19.5s,MS5.8
NJ2 LR LR
comp=Z,9µm,19.4s,MS5.7
ERM **Erimo** **45.51 354** PFAKE 01 21 40.0 +11
ERM LR LR
comp=Z,8µm,20.0s,MS5.7
INCN **Inchon** **45.62 335** *e*P **P** **01 21 30.9 +0.6**
comp=Z,127nm,1.4s,mb5.7
INCN LR LR
comp=Z,5µm,19.0s,MS5.5
JOHN **Johnston Islan** **45.77 63** PFAKE 01 21 40.0 +8.2
JOHN LR LR
comp=Z,10µm,20.0s,MS5.8
WHN **Wuhan** **47.15 318**⇓ P **P** **01 21 44.3 +1.9**
WHN S **S** **01 28 36.3 +2.1**
WHN LR LR
comp=N,3µm,11.6s,MS6.0
WHN LR LR
comp=E,10µm,16.1s,MS6.0
WHN LR LR
comp=Z,18µm,20.5s,MS6.0
YUK **Yuzh-Kuril'sk** **47.31 357**⇑ *i*P **P** **01 21 37.9 -5.6**
YUK *i* 01 23 38.4
YUK *i* PPP 01 24 18.5
YUK *i* S **S** **01 28 33.5 -2.7**
YUK *i* SS SS 01 31 58.8 -5.2
YUK pmax pmax
comp=N,300nm,1.3s
YUK pmax pmax
comp=E,180nm,1.3s
YUK pmax pmax
comp=Z,500nm,1.3s,mb6.3
YUK pmax pmax
comp=Z,760nm,1.5s,mb6.4
ASAJ **Asahikawa** **47.65 354** P **P** **01 21 45.7 -0.4**
comp=Z,55nm,1.1s,mb5.5,baz=190,slow=9.0,SNR=8.5
ASAJ LR LR 01 42 11.6
comp=Z,5µm,19.6s,MS5.5,baz=168,slow=37
ASAJ **Asahikawa** **47.65 354** *e*P **P** **01 21 46.5 +0.5**
comp=Z,25nm,1.1s,mb5.2
IPM **Ipoh** **48.38 279** *e*P **P** **01 21 51.0 -1.3**
VLA **Vladivostok** **48.78 344**⇓ *i*P **P** **01 21 53.3 -1.5**
VLA *e*S **S** **01 28 54.3 -2.7**
VLA pmax pmax
comp=Z,39nm,1.0s,mb5.4
KULM **Kulim** **48.88 280** *e*P **P** **01 21 55.6 -0.4**
comp=Z,15nm,1.0s,mb5.0
KULM LR LR
comp=Z,3µm,20.0s,MS5.3
DL2 **Dalian** **49.02 332** P **P** **01 21 56.3 -0.4**
DL2 S **S** **01 29 01.5 +1.0**
DL2 pmax pmax
comp=Z,20nm,1.1s,mb5.1
DL2 LR LR
comp=N,2µm,22.8s,MS5.2
DL2 LR LR
comp=E,1µm,19.2s,MS5.2
DL2 LR LR
comp=Z,4µm,25.0s
TIA **Tai'an** **49.30 326** *e*P **P** **01 21 57.6 -1.3**
TIA S **S** **01 28 57.5 -7.0**
TIA LR LR
comp=N,5µm,24.3s,MS5.6
TIA LR LR
comp=E,5µm,22.0s,MS5.6
TIA LR LR
comp=Z,7µm,24.3s,MS5.6
MNSI **Mandailing Nat** **49.38 274** P **P** **01 22 02.5 +2.5**
comp=Z,991nmcomp=Z,25nm,1.0s,mb5.2
PSI **Prapat** **50.24 276** P **P** **01 22 06.5 -0.1**
comp=Z,1.8nm,0.4s,mb4.4,baz=75,slow=8.3,SNR=5.1
PSI **Prapat** **50.24 276** P **P** **01 22 06.5 -0.1**
PSI **Prapat** **50.24 276** P **P** **01 22 06.5 0.0**
ENH **Enshi** **50.33 315** *e*P **P** **01 22 06.3 -0.6**
comp=Z,84nm,1.5s,mb5.5
ENH LR LR
comp=Z,4µm,20.0s,MS5.4
GYA **Guiyang** **50.41 309** P **P** **01 22 09.6 +2.0**
GYA PcP PcP 01 23 29.1 +3.2
GYA PP PP 01 24 05.9 +2.5
GYA ScP ScP 01 27 24.7 +3.4
GYA S **S** **01 29 24.2 +3.8**
GYA SS SS 01 32 56.5 +1.9
GYA pmax pmax
comp=Z,150nm,1.0s,mb6.0
GYA pmax pmax
comp=Z,1µm,5.9s
GYA LR LR
comp=N,4µm,18.7s,MS5.5
GYA LR LR
comp=E,3µm,21.1s,MS5.5
GYA LR LR
comp=Z,5µm,20.5s,MS5.5
YSS **Yuzh-Sakhalins** **50.44 355** PFAKE 01 22 20.0 +13
YSS LR LR
comp=Z,2µm,21.0s,MS5.2
YSS **Yuzh-Sakhalins** **50.44 355** *e*P **P** **01 22 07.5 +0.1**
YSS *e*S **S** **01 29 18.0 -2.1**
YSS *e*PS 01 29 32.0
YSS *e* 01 31 55.0
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.4
YSS smax
comp=N,2µm,9.0s
YSS smax
comp=E,1µm,11.0s
YSS MLR MLR
comp=Z,4µm,18.0s,MS5.4
YSS MLR MLR
comp=N,3µm,19.0s
SNY **Shenyang** **50.54 336**⇑ P **P** **01 22 07.2 -1.1**
SNY S **S** **01 29 24.5 +2.8**
SNY pmax pmax
comp=Z,540nm,11.3s
SNY LR LR
comp=N,2µm,31.4s,MS5.2
SNY LR LR
comp=E,3µm,26.5s,MS5.2
SNY LR LR
comp=Z,6µm,32.2s
MDJ **Mudanjiang** **50.82 342** P **P** **01 22 08.7 -1.6**
MDJ pP pP 01 22 11.3 -4.8
MDJ sP sP 01 22 13.6 -4.7
MDJ PP PP 01 24 04.2 -2.6
MDJ ScP ScP 01 27 22.3 -0.3
MDJ PcS PcS 01 27 23.9 -0.4
MDJ S **S** **01 29 23.0 -2.5**
MDJ pmax pmax
comp=Z,16nm,1.0s,mb4.9
MDJ pmax pmax
comp=Z,500nm,11.0s
MDJ LR LR
comp=N,6µm,30.4s,MS5.5
MDJ LR LR
comp=E,4µm,26.6s,MS5.5
MDJ LR LR
comp=Z,9µm,30.4s,MS5.6
MDJ **Mudanjiang** **50.82 342** *e*P **P** **01 22 08.8 -1.6**
comp=Z,39nm,1.2s,mb5.2
MDJ LR LR
comp=Z,3µm,19.0s,MS5.4
CN2 **Changchun** **51.49 338** *e*P **P** **01 22 15.1 -0.3**
CN2 *e*pP pP 01 22 19.6 -1.5
CN2 *e*sP sP 01 22 22.2 -1.1
CN2 PcP PcP 01 23 29.0 -0.5
CN2 PP PP 01 24 13.4 +0.6
CN2 *e*S **S** **01 29 34.1 -0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CN2 pmax pmax
comp=Z,200nm,9.0s
CN2 LR LR
comp=N,4µm,16.0s,MS5.6
CN2 LR LR
comp=E,3µm,16.0s,MS5.6
CN2 LR LR
comp=Z,4µm,18.0s,MS5.5
NST **Nakhon Sawan** **51.75 293** P **P** **01 22 17.0 -0.8**
comp=Z,67nm,0.9s,mb5.6
COCO **West Island** **52.14 257** PFAKE 01 22 30.0 +9.2
COCO LR LR
comp=Z,4µm,22.0s,MS5.4
BJT **Baijiatuau** **52.59 329** PFAKE 01 22 40.0 +16
BJT LR LR
comp=Z,5µm,19.0s,MS5.6
BJI **Beijing** **52.60 329** P **P** **01 22 24.0 +0.3**
BJI S **S** **01 29 52.5 +2.4**
BJI SS SS 01 33 31.9 +3.2
BJI pmax pmax
comp=Z,14nm,0.8s,mb4.9
BJI pmax pmax
comp=Z,510nm,10.4s
BJI LR LR
comp=N,5µm,23.0s,MS5.6
BJI LR LR
comp=E,4µm,22.6s,MS5.6
BJI LR LR
comp=Z,9µm,35.9s
XAN **Xi'an** **52.91 318** P **P** **01 22 24.8 -1.3**
XAN pP pP 01 22 30.5 -1.4
XAN sP sP 01 22 33.3 -0.8
XAN S **S** **01 29 49.9 -4.7**
XAN ScS ScS 01 32 13.3 -2.0
XAN pmax pmax
comp=Z,8.0nm,1.5s,mb4.4
XAN pmax pmax
comp=Z,110nm,11.2s
XAN LR LR
comp=N,2µm,21.7s,MS5.2
XAN LR LR
comp=E,900nm,24.2s,MS5.2
XAN LR LR
comp=Z,2µm,21.7s,MS5.1
KMI **Kunming** **52.93 305** P **P** **01 22 28.9 +2.5**
KMI S **S** **01 29 54.6 -0.5**
KMI pmax pmax
comp=Z,25nm,1.4s,mb5.0
KMI pmax pmax
comp=Z,340nm,4.5s
KMI LR LR
comp=N,3µm,20.2s,MS5.5
KMI LR LR
comp=E,3µm,20.2s,MS5.5
KMI LR LR
comp=Z,4µm,20.2s,MS5.5
RAR **Rarotonga** **52.98 114** PFAKE 01 22 40.0 +13
RAR LR LR
comp=Z,4µm,22.0s,MS5.4
TIY **Taiyuan** **53.03 324** *e*P **P** **01 22 29.0 +2.0**
TIY S **S** **01 29 59.0 +2.8**
TIY LR LR
comp=N,5µm,18.4s,MS5.6
TIY LR LR
comp=E,900nm,13.9s,MS5.6
TIY LR LR
comp=Z,8µm,22.0s
CHRT **Chiangrai** **53.41 298**⇑ P **P** **01 22 31.5 +1.4**
comp=Z,105nm,1.0s,mb5.7
CM31 **Chiang Mai Arr** **53.69 296** *e*P **P** **01 22 32.8 +0.7**
comp=Z,6.0nm,0.6s,mb4.7
CM31 LR LR
comp=Z,2µm,19.0s,MS5.1
CMAR **Chiang Mai Arr** **53.69 296** P **P** **01 22 32.1 0.0**
comp=Z,11nm,1.1s,mb4.7,baz=118,slow=5.1,SNR=37
CMAR **Chiang Mai Arr** **53.69 296** P **P** **01 22 32.1 0.0**
CMAR **Chiang Mai Arr** **53.69 296** P **P** **01 22 32.1 0.0**
CHG **Chiang Mai** **53.81 296** P **P** **01 22 34.8 +1.8**
CHTO **Chiang Mai** **53.81 296** *e*P **P** **01 22 33.9 +0.9**
comp=Z,24nm,1.2s,mb5.0
CHTO LR LR
comp=Z,2µm,20.0s,MS5.2
CHTO **Chiang Mai** **53.81 296** *e*P **P** **01 22 33.9 +0.9**
CHTO pmax pmax
comp=Z,24nm,1.2s,mb5.0
CHTO MLR MLR
comp=Z,2µm,20.0s,MS5.2
CHTO **Chiang Mai** **53.81 296** P **P** **01 22 34.7 +1.7**
comp=Z,511nmcomp=Z,24nm,1.7s,mb4.8
CHTO **Chiang Mai** **53.81 296** P **P** **01 22 35.3 +2.3**
SNR=11
XMAS **Kiritimati** **54.00 85** PFAKE 01 22 50.0 +15
XMAS LR LR
comp=Z,10µm,21.0s,MS5.8
KLR **Kul'dur** **54.49 346** *e*P **P** **01 22 32.2 -5.2**
KLR *e*S **S** **01 30 08.0 -7.5**
KLR pmax pmax
comp=Z,160nm,2.2s,mb5.6
KLR smax
comp=N,3µm,18.0s
KLR smax
comp=E,3µm,18.0s
KLR MLR MLR
comp=N,3µm,13.5s,MS5.6
KLR MLR MLR
comp=E,1µm,13.5s,MS5.6
KLR MLR MLR
comp=Z,6µm,13.5s,MS5.8
CD2 **Chengdu** **54.84 312** P **P** **01 22 41.6 +1.3**
CD2 pP pP 01 22 45.3 -0.8
CD2 sP sP 01 22 47.2 -1.1
CD2 PP PP 01 24 45.8 +2.5
CD2 PcS PcS 01 27 42.5 +0.2
CD2 S **S** **01 30 20.2 -0.6**
CD2 pmax pmax
comp=Z,60nm,1.1s,mb5.5
CD2 pmax pmax
comp=Z,390nm,3.6s
CD2 LR LR
comp=N,6µm,19.0s
CD2 LR LR

comp=Z,9μm,20.2s,MS5.8
HHC Hu-ho-hao-te 55.65 326 *e*P **P** **01 22 46.7 +0.7**
HHC pP pP 01 22 49.9 -1.9
HHC sP sP 01 22 53.8 -0.2
HHC PP PP 01 24 52.0 +1.6
HHC PcS PcS 01 27 44.8 -0.7
HHC S **S** **01 30 29.7 -1.7**
HHC SS SS 01 34 15.7 -1.2
HHC pmax pmax
comp=Z,16nm,0.7s,mb5.2
HHC pmax pmax
comp=Z,470nm,5.2s
HHC LR LR
comp=N,4μm,17.1s,MS5.6
HHC LR LR
comp=E,3μm,18.4s,MS5.6
HHC LR LR
comp=Z,6μm,19.1s,MS5.7
BTO Baotou 56.36 325 *e*P **P** **01 22 51.4 +0.4**
PEA0B Petropavlovsk- 56.82 6 *e*P **P** **01 22 52.5 -1.6**
PETK Petropavlovsk- 56.82 6 P **P** **01 22 53.4 -0.7**
comp=Z,7.9nm,0.8s,mb4.8,baz=177,slow=9.2,SNR=7.7
PETK LR LR 01 43 46.7
comp=Z,3μm,21.2s,MS5.3,baz=186,slow=32
PETK Petropavlovsk- 56.82 6 P **P** **01 22 53.4 -0.7**
PETK LR LR 01 43 46.7
PETK Petropavlovsk- 56.82 6 P **P** **01 22 53.4 -0.6**
PET Petropavlovsk 56.85 7 PFAKE 01 23 10.0 +16
PET LR LR
comp=Z,3μm,19.0s,MS5.4
PET Petropavlovsk 56.85 7 *e*P **P** **01 22 53.0 -1.3**
PET *e*S **S** **01 30 48.3 +1.5**
PET *e*SS SS 01 34 39.8 +4.5
PET pmax pmax
comp=Z,300nm,7.2s
PET MLR MLR
comp=Z,3μm,19.0s,MS5.5
PET MLR MLR
comp=Z,3μm,12.0s
LZH Lanzhou 57.50 317 ⇓P **P** **01 22 59.7 +0.5**
LZH pP pP 01 23 02.9 -2.1
LZH sP sP 01 23 04.3 -2.9
LZH PP PP 01 25 09.0 +2.0
LZH S **S** **01 30 55.2 -0.8**
LZH pmax pmax
comp=Z,190nm,1.5s,mb5.9
LZH pmax pmax
comp=Z,490nm,4.8s
LZH LR LR
comp=N,2μm,17.2s,MS5.5
LZH LR LR
comp=E,3μm,16.7s,MS5.5
LZH LR LR
comp=Z,5μm,19.5s,MS5.7
KIP Kipapa 57.60 62 PFAKE 01 23 10.0 +10
KIP LR LR
comp=Z,6μm,19.0s,MS5.7
HIA Hailar 58.21 338 *e*P **P** **01 23 03.0 -0.9**
comp=Z,130nm,1.2s,mb5.8
HIA LR LR
comp=Z,4μm,20.0s,MS5.5
HIA Hailar 58.21 338 *e*P **P** **01 23 03.1 -0.9**
HIA pmax pmax
comp=Z,130nm,1.2s
HIA MLR MLR
comp=Z,4μm,20.0s
FX1 Attu Island--F 59.74 17 LR LR 01 46 39.4
comp=Z,3μm,19.5s,MS5.4,baz=231,slow=34
PPT Papeete 61.94 108 *e*S **S** **01 31 53.2 -0.7**
comp=Z,6μm,26.0s
PPT *e*LQ 01 39 08.5
comp=Z,22μm,32.0s
PPT *e*LR LR 01 41 53.0
comp=Z,7μm,27.2s,baz=290
PPT Papeete 61.94 108 LR LR 01 47 26.7
comp=Z,2μm,18.7s,MS5.2,baz=90,slow=33
GTA Gaotai 61.97 319 *e*P **P** **01 23 30.1 +0.1**
GTA pP pP 01 23 34.1 -1.7
GTA sP sP 01 23 37.0 -1.0
GTA S **S** **01 31 52.9 -0.6**
GTA pmax pmax
comp=Z,12nm,1.0s,mb5.0
GTA pmax pmax
comp=Z,470nm,6.2s
GTA LR LR
comp=N,2μm,20.9s,MS5.5
GTA LR LR
comp=E,3μm,19.5s,MS5.5
GTA LR LR
comp=Z,4μm,20.4s,MS5.6
TIAR Tiarei 62.15 108 *e*P **P** **01 23 31.6 0.0**
comp=Z,191nm,1.0s,mb6.2
TIAR Tiarei 62.15 108 *e*P **P** **01 23 31.6 0.0**
comp=Z,191nm,1.0s,mb6.2
ADK Adak 62.40 23 PFAKE 01 23 40.0 +7.5
ADK LR LR
comp=Z,4μm,20.0s,MS5.6
TBI Tubuai 62.75 114 *e*S **S** **01 32 02.9 -1.1**
comp=Z,2μm,27.2s
TBI *e*LQ 01 39 36.8
comp=Z,13μm,40.8s
TBI *e*LR LR 01 42 22.0
comp=Z,6μm,27.2s,baz=284
ULN Ulaanbaatar 62.77 330 *e*P **P** **01 23 35.5 +0.4**
comp=Z,40nm,1.1s,mb5.5
ULN LR LR
comp=Z,6μm,22.0s,MS5.7
ULN Ulaanbaatar 62.77 330 *e*P **P** **01 23 35.5 +0.4**
ULN pmax pmax
comp=Z,40nm,1.1s,mb5.5
ULN MLR MLR
comp=Z,6μm,22.0s,MS5.7
ULN Ulaanbaatar 62.77 330 P **P** **01 23 35.3 +0.2**
comp=Z,691nmcomp=Z,34nm,1.4s,mb5.3
ULN Ulaanbaatar 62.77 330 P **P** **01 23 35.8 +0.7**
SNR=30
CIT Chita 62.80 336 *e*P **P** **01 23 36.8 +1.6**
CIT *e* 01 23 52.4
SONM Songino Array 63.08 329 P **P** **01 23 36.8 -0.4**
comp=Z,7.6nm,1.0s,mb4.8,baz=145,slow=4.6,SNR=22
SONM LR LR 01 50 26.0
comp=Z,4μm,21.4s,MS5.6,baz=125,slow=36
SONM Songino Array 63.08 329 P **P** **01 23 36.8 -0.4**
SONM LR LR 01 50 26.0
SONM Songino Array 63.08 329 P **P** **01 23 36.8 -0.4**
CLNS Chuĭman 63.13 346 *e*P **P** **01 23 37.8 +0.5**
CLNS *e**PP pP 01 23 53.9 +11
CLNS *e* 01 24 15.1
CLNS *e* 01 25 56.3
CLNS *e*PPP 01 27 26.8
CLNS *e*S **S** **01 32 06.0 -1.4**
CLNS *e* 01 33 18.8
CLNS *e*SSS 01 39 02.1
CLNS pmax pmax
comp=Z,55nm,1.5s,mb5.5
CLNS pmax pmax
comp=N,55nm,1.6s
CLNS pmax pmax
comp=E,7.0nm,1.0s
CLNS pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
CLNS pmax pmax
comp=N,4.0nm,0.8s
CLNS pmax pmax
comp=E,4.0nm,0.9s
CLNS smax
comp=N,345nm,9.6s
CLNS smax
comp=E,468nm,13.8s
CLNS MLR MLR
comp=Z,1μm,17.0s,MS5.1
CLNS MLR MLR
comp=N,765nm,15.0s,MS5.2
CLNS MLR MLR
comp=E,765nm,13.0s,MS5.2
DRV Dumont d'Urvil 63.42 184 P **P** **01 23 38.0 -1.2**
DRV Dumont d'Urvil 63.42 184 PP PP 01 26 02.0 +3.3
DRV S **S** **01 32 21.0 +10**
DRV SP 01 32 29.0
DRV SKS 01 33 30.0
DRV SS SS 01 36 22.0 +4.1
DRV L 01 39 00.0
DRV R 01 44 00.0
LSA Lhasa 64.19 305 P **P** **01 23 45.7 +0.8**
LSA S **S** **01 32 25.8 +4.1**
LSA LR LR
comp=N,820nm,26.1s,MS5.3
LSA LR LR
comp=E,3μm,30.4s,MS5.3
LSA LR LR
comp=Z,3μm,30.4s,MS5.3
LSA Lhasa 64.19 305 *e*P **P** **01 23 45.8 +0.9**
comp=Z,34nm,1.3s,mb5.2
LSA LR LR
comp=Z,2μm,22.0s,MS5.3
LSA Lhasa 64.19 305 *e*P **P** **01 23 45.8 +0.9**
LSA pmax pmax
comp=Z,34nm,1.3s,mb5.2
LSA MLR MLR
comp=Z,2μm,22.0s,MS5.3
CAL Calcutta 64.39 297 *e*PKP **P** **01 23 45.0 -1.3**
CAL *e*S **S** **01 32 24.9 +0.5**
SEY Seymchan 66.23 2 *e*P **P** **01 23 56.8 -0.7**
ZAK Zakamensk 66.28 330 ⇓ *i*P **P** **01 23 57.2 -0.9**
ZAK pmax pmax
comp=Z,21nm,1.2s,mb5.0
TAPN Taplejung 66.29 302 *e*P **P** **01 23 59.0 +0.4**
comp=Z,84nm,1.1s,mb5.7
TAPN Taplejung 66.29 302 *e*P **P** **01 23 59.0 +0.4**
comp=Z,84nm,1.1s,mb5.7
ODAN Odare 66.42 301 *e*P **P** **01 24 00.2 +0.8**
ODAN Odare 66.42 301 *e*P **P** **01 24 00.2 +0.8**
YAK Yakutsk 66.90 350 PFAKE 01 24 10.0 +8.3
YAK LR LR
comp=Z,4μm,21.0s,MS5.6
YAK Yakutsk 66.90 350 *e*P **P** **01 24 05.2 +3.5**
YAK *e* 01 24 31.7
YAK *e* 01 26 34.5
YAK *e*PPP 01 28 13.4
YAK *e*S S 01 32 55.8 +2.2
YAK *e* 01 33 54.8
YAK *e*SS SS 01 37 14.8 +2.6
YAK pmax pmax
comp=Z,28nm,1.2s,mb5.2
YAK pmax pmax
comp=N,17nm,1.2s
YAK pmax pmax
comp=E,10.0nm,1.4s
YAK pmax pmax
comp=Z,152nm,5.5s
YAK pmax pmax
comp=N,203nm,5.2s
YAK pmax pmax
comp=E,26nm,2.0s
YAK smax
comp=N,56nm,2.6s
YAK smax
comp=E,17nm,2.2s
TLY Talaya 66.93 331 *e*P **P** **01 24 02.2 +0.1**
comp=E,74nm,1.7s,mb5.4
TLY LR LR
comp=Z,6μm,22.0s,MS5.8
TLY Talaya 66.93 331 *e*P **P** **01 24 03.8 +1.6**
TLY *e* 01 24 32.7
TLY *e* 01 26 24.5
TLY *e*S S 01 32 57.2 +2.8
TLY *e*PS 01 33 17.5
TLY pmax pmax
comp=Z,28nm,1.4s,mb5.1
TLY Talaya 66.93 331 P **P** **01 24 03.7 +1.5**
comp=Z,113nm,1.8s,mb5.6,SNR=7.3
TLY Talaya 66.93 331 P **P** **01 24 03.2 +1.0**
SNR=12
BOD Bodaibo 67.13 341 *e*P **P** **01 24 01.9 -1.4**
BOD pmax pmax
comp=Z,26nm,1.4s,mb5.1
VIS Vishakhapatnam 67.85 291 *ex* **P** **01 24 04.7 -4.0**
VIS AMb AMB 01 24 16.0
comp=Z,47nm,1.6s,mb5.3
GUN Gumba 68.01 302 *e*P **P** **01 24 10.0 +0.5**
comp=Z,210nm,1.2s,mb6.0
GUN Gumba 68.01 302 *e*P **P** **01 24 10.0 +0.5**
comp=Z,210nm,1.2s,mb6.0
CASY Casey 68.20 196 *e*P **P** **01 24 09.3 -0.7**
CASY Casey 68.20 196 *e*P **P** **01 24 08.7 -1.3**
comp=Z,34nm,1.4s,mb5.2
CASY LR LR
comp=Z,8μm,20.0s,MS5.9
MOY Mondy 68.22 330 *e*P **P** **01 24 10.7 +0.4**
MOY pmax pmax
comp=Z,112nm,1.9s,mb5.6
PKI Pulchoki 68.31 301 *e*P **P** **01 24 11.9 +0.5**
comp=Z,170nm,1.3s,mb5.9
PKI Pulchoki 68.31 301 *e*P **P** **01 24 12.2 +0.8**
comp=Z,50nm,0.9s,mb5.5
PKI Pulchoki 68.31 301 *e*P **P** **01 24 12.2 +0.8**
PKI pmax pmax
comp=Z,50nm,0.9s,mb5.5
PKIN Phulchoki 68.33 301 *e*P **P** **01 24 12.2 +0.7**
comp=Z,50nm,0.9s,mb5.5
KKN Kakani 68.48 302 *e*P **P** **01 24 12.7 +0.2**
comp=Z,64nm,1.0s,mb5.6
KKN Kakani 68.48 302 *e*P **P** **01 24 12.7 +0.2**
comp=Z,64nm,1.0s,mb5.6
KKN Kakani 68.48 302 *e*P **P** **01 24 12.7 +0.2**
KKN pmax pmax
comp=Z,64nm,1.0s,mb5.6
DMN Daman 68.58 301 *e*P **P** **01 24 13.8 +0.7**
comp=Z,151nm,1.1s,mb5.8
DMN Daman 68.58 301 *e*P **P** **01 24 13.8 +0.7**
comp=Z,151nm,1.1s,mb5.8
GKN Gorkha 69.09 302 *e*P **P** **01 24 16.5 +0.2**
comp=Z,193nm,1.3s,mb5.9
GKN Gorkha 69.09 302 *e*P **P** **01 24 16.5 +0.2**
comp=Z,193nm,1.3s,mb5.9
KOLN Koldanda 69.91 301 *e*P **P** **01 24 21.6 +0.3**
comp=Z,135nm,1.2s,mb5.8
KOLN Koldanda 69.91 301 *e*P **P** **01 24 21.6 +0.3**
comp=Z,135nm,1.2s,mb5.8
DANN Dangsing 69.93 302 *e*P **P** **01 24 21.6 +0.2**
comp=Z,275nm,1.7s,mb5.9
DANN Dangsing 69.93 302 *e*P **P** **01 24 21.6 +0.2**
comp=Z,275nm,1.7s,mb5.9
MDRS Chennai 69.99 285 *ex* x 01 23 59.2
MDRS *ex* x 01 24 57.2
MDRS *ex* x 01 27 15.2
MDRS *ex* x 01 33 43.2
MDRS *ex* x 01 43 45.2
MDRS *ex* x 01 47 09.2
MDRS *ex* x 01 50 33.2
MDRS *ex* x 01 54 47.2
TAOE Nuku Hiva Isla 70.76 98 *e*LQ 01 42 04.4
comp=Z,7μm,27.6s
TAOE *e*LR LR 01 45 57.4
comp=Z,6μm,31.4s
WMQ Urumqi 72.05 318 P **P** **01 24 34.7 +0.7**
WMQ pP pP 01 24 39.4 -0.5
WMQ sP sP 01 24 41.7 -0.4
WMQ PP PP 01 27 16.1 +1.8
WMQ S S 01 33 53.9 -1.2
WMQ ScS ScS 01 34 36.3 -3.0
WMQ pmax pmax
comp=Z,49nm,1.6s,mb5.2
WMQ pmax pmax
comp=Z,1μm,4.0s
WMQ LR LR
comp=N,3μm,20.0s,MS5.6
WMQ LR LR
comp=E,2μm,19.0s,MS5.6
WMQ LR LR
comp=Z,2μm,22.0s,MS5.4
HYB Hyderabad 72.28 289 *i* P **P** **01 24 36.0 +0.1**
HYB *e*S S 01 33 56.0 -2.6
BILL Bilibino 72.35 7 *e*P **P** **01 24 34.7 -0.6**
comp=Z,35nm,1.0s,mb5.2
BILL LR LR
comp=Z,2μm,19.0s,MS5.4
BILL Bilibino 72.35 7 ⇑ *i*P **P** **01 24 35.3 0.0**
BILL *i* 01 24 49.0
BILL *i* S S 01 33 50.3 -7.2
BILL pmax pmax
comp=Z,41nm,1.2s,mb5.2
BILL MLR MLR
comp=Z,2μm,18.0s,MS5.4
NGP Nagpur 72.47 293 *ex* **P** **01 24 40.1 +3.1**
NGP *e*S S 01 33 59.4 -1.3
TRD Trivandrum 72.61 280 *e*PKP **P** **01 24 36.4 -1.5**
LATR Latur 74.31 290 *e*PKP **P** **01 24 47.0 -0.9**
LATR AMb AMB 01 24 56.6
comp=Z,39nm,0.6s,mb5.5
BHPL Bhopal 74.34 295 *e*PKP **P** **01 24 45.1 -2.9**
BHPL AMb AMB 01 24 57.3
comp=Z,48nm,1.2s,mb5.3
VNDA Vanda 74.37 177 P **P** **01 24 46.3 -0.8**
comp=Z,5.5nm,0.9s,mb4.5,baz=331,slow=6.5,SNR=9.6
VNDA Vanda 74.37 177 *e*P **P** **01 24 43.9 -3.2**
comp=Z,12nm,0.9s,mb4.8
VNDA LR LR
comp=Z,3μm,19.0s,MS5.6
VNDA Vanda 74.37 177 *e*P **P** **01 24 43.9 -3.2**
VNDA pmax pmax
comp=Z,12nm,0.9s
VNDA MLR MLR
comp=Z,3μm,19.0s
AGRA Agra 74.67 299 *e*PKP **P** **01 24 49.5 -0.3**
SBA Scott Base 74.98 176 *e*P **P** **01 24 49.8 -0.9**
comp=Z,40nm,1.5s,mb5.1
SBA LR LR
comp=Z,3μm,19.0s,MS5.6
SBA Scott Base 74.98 176 *e*P **P** **01 24 49.8 -0.9**
SBA pmax pmax
comp=Z,40nm,1.5s,mb5.1
SBA MLR MLR
comp=Z,3μm,19.0s,MS5.6
DDI Dehra Dun 75.24 302 *ex* **P** **01 24 53.8 +0.8**
BISR Bishrakh 75.39 301 *e*PKP **P** **01 24 53.9 0.0**
NDI New Delhi 75.60 301 *e*PKP **P** **01 24 52.9 -2.3**
NDI AMb AMB 01 25 01.5
comp=Z,62nm,1.1s,mb5.4
SONA Sohna 75.62 300 *e*PKP **P** **01 24 55.7 +0.4**
AYAN Aya Nagar 75.64 300 *e*PKP **P** **01 24 54.7 -0.7**
AYAN AMb AMB 01 25 04.0
comp=Z,44nm,0.7s,mb5.5
RKT Rikitea 75.99 113 *e*S S 01 34 39.3 -1.0
comp=Z,2μm,27.5s
RKT *e*LQ 01 45 10.9
comp=Z,10μm,36.0s
RKT *e*LR LR 01 48 17.1
comp=Z,4μm,28.0s,baz=276
DGAR Diego Garcia 76.05 263 PFAKE 01 25 10.0 +12
DGAR LR LR
comp=Z,2μm,20.0s,MS5.5
KUDL Kundal 76.12 300 *e*PKP **P** **01 24 58.5 +0.4**
KUDL AMb AMB 01 25 06.9
comp=Z,41nm,1.0s,mb5.3
SMLA Simla 76.16 303 *i* x x 01 24 48.5
KAD Karad 76.39 289 *e*PKP **P** **01 25 00.6 +0.7**
KAD AMb AMB 01 25 08.9
comp=Z,40nm,0.9s,mb5.3
MK31 Makanchi Array 76.69 320 *e*P **P** **01 25 00.7 -0.2**
MK31 Makanchi Array 76.69 320 *e*P **P** **01 25 00.7 -0.2**
MKAR Makanchi Array 76.69 320 P **P** **01 25 00.6 -0.3**
comp=Z,15nm,0.8s,mb5.0,baz=110,slow=5.0,SNR=35
MKAR LR LR 01 59 24.6
comp=Z,4μm,18.8s,MS5.7,baz=116,slow=36
MKAR Makanchi Array 76.69 320 P **P** **01 25 00.6 -0.3**
MKAR LR LR 01 59 24.6
MKAR Makanchi Array 76.69 320 P **P** **01 25 00.6 -0.3**
KHET Khetri 76.69 300 *e*PKP **P** **01 25 00.9 -0.5**
KHET AMb AMB 01 25 10.1
comp=Z,55nm,0.8s,mb5.5
KDAK Kodiak Island 76.79 28 P **P** **01 25 01.2 0.0**
comp=Z,8.7nm,1.1s,mb4.6,baz=225,slow=4.3,SNR=3.5
KDAK Kodiak Island 76.79 28 P **P** **01 25 01.2 0.0**
KDAK LR LR
comp=Z,3μm,22.0s,MS5.6
KDAK Kodiak Island 76.79 28 P **P** **01 25 01.2 -0.1**
KDAK MLR MLR
comp=Z,3μm,22.0s,MS5.6
POO Poona 76.87 290 *e*PKP **P** **01 25 02.6 0.0**
POO AMb AMB 01 25 10.3
comp=Z,35nm,1.8s,mb5.0
SVW2 Sparrevohn 77.17 24 *e*P **P** **01 25 06.6 +3.3**
comp=Z,32nm,1.8s,mb5.0
ZAA0 Zalesovo Array 77.82 327 *e*P **P** **01 25 05.5 -1.6**
ZALV Zalesovo Beam 77.82 327 P **P** **01 25 05.6 -1.5**
comp=Z,14nm,0.8s,mb4.9,baz=104,slow=6.3,SNR=21
ZALV LR LR 01 59 47.4
comp=Z,3μm,19.5s,MS5.6,baz=110,slow=36
ZALV Zalesovo Beam 77.82 327 P **P** **01 25 05.6 -1.5**
ZALV LR LR 01 59 47.5
ZALV Zalesovo Beam 77.82 327 P **P** **01 25 05.6 -1.5**
RSO Redoubt South 78.03 26 *e*P **P** **01 25 09.5 +1.4**
comp=Z,38nm,1.0s,mb5.3
NVS Novosibirsk 79.02 328 *e*P **P** **01 25 12.7 -1.0**
NVS *e*S S 01 35 14.8 +3.0
NVS pmax pmax
comp=Z,176nm,1.6s,mb5.7
NVS pmax pmax
comp=N,64nm,1.7s
NVS pmax pmax
comp=E,100nm,1.7s
NVS smax
comp=E,87nm,3.3s
KSH Kashi 79.03 311 P **P** **01 25 17.9 +3.8**
KSH pP pP 01 25 22.5 +2.4
KSH sP sP 01 25 24.6 +2.3
KSH PcP PcP 01 25 26.1 +3.5
KSH PP PP 01 28 20.1 +6.7
KSH S S 01 35 17.3 +4.8
KSH sS sS 01 35 26.1 +3.7
KSH SKS 01 35 29.0
KSH ScS ScS 01 35 37.7 +2.0
KSH SS SS 01 40 29.0 +11
KSH pmax pmax
comp=Z,34nm,1.3s,mb5.1
KSH LR LR
comp=N,550nm,9.0s
KSH LR LR
comp=E,1μm,11.5s
KSH LR LR
comp=Z,2μm,18.6s
SLKM Skilak Lake 79.16 26 *e*P **P** **01 25 13.8 -0.6**
SLKM Skilak Lake 79.16 26 *e*P **P** **01 25 13.8 -0.5**
SEW Seward 79.31 27 *e*P **P** **01 25 15.1 -0.1**
comp=Z,48nm,1.1s,mb5.3
PPLA Purkeypile 79.47 24 *e*P **P** **01 25 20.0 +3.9**
comp=Z,95nm,1.7s,mb5.5
PAF Port-aux-Franc 79.98 221 PFAKE 01 25 30.0 +11
PAF LR LR
comp=Z,4μm,20.0s,MS5.8
PMR Palmer 80.12 25 *e*P **P** **01 25 18.5 -1.1**
comp=Z,41nm,1.4s,mb5.2
PMR Palmer 80.12 25 *e*P **P** **01 25 18.5 -1.1**
PMR pmax pmax
comp=Z,41nm,1.4s,mb5.2
TKM2 Tokmak 2 80.12 314 P **P** **01 25 20.8 +0.8**
SNR=20
TKM2 Tokmak 2 80.12 314 *e*P **P** **01 25 20.8 +0.8**
comp=Z,44nm,1.3s,mb5.2
TKM2 LR LR
comp=Z,3μm,22.0s,MS5.5
TKM2 Tokmak 2 80.12 314 *e*P **P** **01 25 20.8 +0.8**
TKM2 pmax pmax
comp=Z,44nm,1.3s,mb5.2
TKM2 MLR MLR
comp=Z,3μm,22.0s,MS5.5
KZA Kyzart 80.17 314 P **P** **01 25 22.2 +2.0**
SNR=29
KZA Kyzart 80.17 314 *e*P **P** **01 25 21.0 +0.7**
comp=Z,162nm,1.3s,mb5.8
KZA Kyzart 80.17 314 *e*P **P** **01 25 21.0 +0.7**
KZA pmax pmax
comp=Z,162nm,1.3s,mb5.8
KURK Kurchatov 80.25 323 LR LR 02 01 34.4
comp=Z,3μm,19.9s,MS5.6,baz=105,slow=36
KURK Kurchatov 80.25 323 *e*P **P** **01 25 19.5 -1.0**
comp=Z,82nm,1.1s,mb5.6
KURK LR LR
comp=Z,4μm,20.0s,MS5.8
KURK Kurchatov 80.25 323 *e*P **P** **01 25 19.8 -0.7**
KURK pmax pmax
comp=Z,85nm,1.2s,mb5.5
KURK Kurchatov 80.25 323 P **P** **01 25 19.4 -1.1**
comp=Z,368nm,1.1s,mb6.2,SNR=15
KURK Kurchatov 80.25 323 P **P** **01 25 20.3 -0.3**
SNR=60
TRF Thorofare Moun 80.49 23 *e*P **P** **01 25 21.4 -0.1**
comp=Z,14nm,1.0s,mb4.8
KBK Karagaybulak 80.52 314 P **P** **01 25 12.0 -10**
SNR=6.0
KBK Karagaybulak 80.52 314 *e*P **P** **01 25 21.6 -0.5**
comp=Z,24nm,1.0s,mb5.1
KBK Karagaybulak 80.52 314 *e*P **P** **01 25 21.6 -0.6**
KBK pmax pmax
comp=Z,24nm,1.0s,mb5.1
BPAW Bear Paw Mtn. 80.53 23 *e*P **P** **01 25 22.9 +1.2**

comp=Z,18nm,1.1s,mb4.9
SML Sawmill 80.56 25 *e*P **P 01 25 13.2 -8.7**
comp=Z,8.6nm,0.9s,mb4.7
SML Sawmill 80.56 25 *e*P **P 01 25 13.2 -8.7**
SML pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
CHMS Chumysh 80.74 314 *e*P **P 01 25 23.0 -0.3**
comp=Z,106nm,1.5s,mb5.5
CHMS Chumysh 80.74 314 *e*P **P 01 25 23.0 -0.3**
CHMS pmax pmax
comp=Z,106nm,1.5s,mb5.5
AAK Ala-Archa 80.84 314 *e*P **P 01 25 24.0 +0.1**
comp=Z,26nm,1.1s,mb5.1
AAK LR LR
comp=Z,4µm,22.0s,MS5.7
AAK Ala-Archa 80.84 314 *e*P **P 01 25 23.3 -0.6**
AAK pmax pmax
comp=Z,16nm,1.2s,mb4.8
AAK Ala-Archa 80.84 314 P **P 01 25 26.9 +3.0**
SNR=19
USP Ospenovka 80.98 315 P **P 01 25 25.2 +0.6**
SNR=17
MCK McKinley 81.16 23 *e*P **P 01 25 23.3 -1.8**
comp=Z,52nm,1.1s,mb5.4
MCK McKinley 81.16 23 *e*P **P 01 25 23.3 -1.8**
MCK pmax pmax
comp=Z,52nm,1.1s,mb5.4
AML Almayashu 81.31 313 P **P 01 25 26.8 +0.4**
SNR=28
EKS2 Erkin-Say 81.36 314 P **P 01 25 25.7 -1.0**
SNR=16
EKS2 Erkin-Say 81.36 314 *e*P **P 01 25 25.9 -0.7**
comp=Z,36nm,1.1s,mb5.2
EKS2 LR LR
comp=Z,3µm,21.0s,MS5.6
EKS2 Erkin-Say 81.36 314 *e*P **P 01 25 25.9 -0.8**
EKS2 pmax pmax
comp=Z,38nm,1.1s,mb5.2
EKS2 MLR MLR
comp=Z,3µm,21.0s,MS5.6
BHJ Bhuj 81.40 294 *e*PKP **P 01 25 27.1 -0.2**
BMRM Bremner River 81.85 27 *e*P **P 01 25 28.4 -0.4**
comp=Z,33nm,1.3s,mb5.1
COLA College 82.09 23 *e*P **P 01 25 29.5 -0.5**
comp=Z,21nm,1.0s,mb5.0
COLA LR LR
comp=Z,3µm,20.0s,MS5.7
COLA College 82.09 23 *e*P **P 01 25 29.5 -0.5**
COLA pmax pmax
comp=Z,21nm,1.0s,mb5.0
COLA MLR MLR
comp=Z,3µm,20.0s,MS5.7
PAX Paxson 82.25 25 *e*P **P 01 25 30.8 -0.1**
comp=Z,20nm,1.2s,mb4.9
PAX Paxson 82.25 25 *e*P **P 01 25 30.8 -0.1**
PAX pmax pmax
comp=Z,20nm,1.2s,mb4.9
COLD Coldfoot 82.31 20 *e*P **P 01 25 29.9 -1.2**
comp=Z,15nm,1.0s,mb4.9
ILAR Eielson Array 82.42 23 P **P 01 25 29.4 -2.3**
comp=Z,4.0nm,0.9s,mb4.4,baz=252,slow=5.2,SNR=27
ILAR Eielson Array 82.42 23 P **P 01 25 29.4 -2.3**
ILAR Eielson Array 82.42 23 P **P 01 25 29.4 -2.3**
DOT Dot Lake 83.10 24 *e*P **P 01 25 35.5 +0.2**
comp=Z,89nm,1.0s,mb5.8
KBL Kabul 83.51 305 *e*P **P 01 25 37.4 -0.6**
comp=Z,27nm,1.4s,mb5.2
KBL Kabul 83.51 305 *e*P **P 01 25 37.4 -0.7**
KBL pmax pmax
comp=Z,27nm,1.4s,mb5.2
KK31 Karatay Array 83.80 314 *i* P **P 01 25 39.2 -0.2**
KK31 pmax pmax
comp=Z,152nm,1.5s,mb5.9
KKAR Karatay Array 83.80 314 *e*P **P 01 25 39.9 +0.5**
KKAR Karatay Array 83.80 314 *e*P **P 01 25 39.9 +0.5**
EGAK Eagle 84.69 24 *e*P **P 01 25 43.1 -0.3**
comp=Z,29nm,1.3s,mb5.2
EGAK LR LR
comp=Z,4µm,20.0s,MS5.8
DAWY Dawson 85.19 25 *e*P **P 01 25 46.6 +0.7**
MAW Mawson 85.30 203 P **P 01 25 45.1 -1.3**
comp=Z,16nm,1.1s,mb5.1,baz=88,slow=6.5,SNR=9.5
MAW Mawson 85.30 203 *e*P **P 01 25 48.0 +1.5**
comp=Z,15nm,1.2s,mb5.0
MAW Mawson 85.30 203 *e*P **P 01 25 48.0 +1.6**
comp=Z,11nm,1.4s,mb4.8
MAW LR LR
comp=Z,10µm,22.0s,MS6.2
MAW Mawson 85.30 203 *e*P **P 01 25 48.0 +1.5**
MAW pmax pmax
comp=Z,11nm,1.4s
MAW MLR MLR
comp=Z,10µm,22.0s
SKAG Skagway 85.78 30 *e*P **P 01 25 48.9 -0.1**
comp=Z,17nm,1.2s,mb5.2
BRVK Borovoye 85.84 324 *e*P **P 01 25 48.8 -0.6**
comp=Z,14nm,1.0s,mb5.2
BRVK LR LR
comp=Z,3µm,19.0s,MS5.7
BRVK Borovoye 85.84 324 *e*P **P 01 25 48.8 -0.6**
BRVK pmax pmax
comp=Z,14nm,1.0s,mb5.2
BRVK MLR MLR
comp=Z,3µm,19.0s,MS5.7
BRVK Borovoye 85.84 324 P **P 01 25 50.5 +1.1**
SNR=12
DIB Dawson Inlet, 85.98 36 T 03 00 49.0
SNR=22
QSPA South Pole Qui 86.53 180 P **P 01 25 51.2 -1.1**
comp=Z,4.8nm,0.8s,mb4.8,baz=337,slow=1.5,SNR=11
QSPA LR LR 02 02 30.8
comp=Z,3µm,19.9s,MS5.7,baz=179,slow=34
QSPA South Pole Qui 86.53 180 *e*P **P 01 25 50.8 -1.5**
comp=Z,51nm,1.5s,mb5.5
QSPA LR LR
comp=Z,3µm,20.0s,MS5.7
WRAK Wrangell Islan 86.67 33 PFAKE 01 26 10.0 +17
WRAK LR LR
comp=Z,3µm,20.0s,MS5.8
DLBC Dease Lake 88.27 31 LR LR 02 03 08.1
comp=Z,3µm,19.0s,MS5.7,baz=300,slow=34
DLBC Dease Lake 88.27 31 *e*P **P 01 26 00.5 -0.5**
INK Inuvik 88.61 21 *e*P **P 01 26 01.6 -0.9**
comp=Z,26nm,1.2s,mb5.4
INK Inuvik 88.61 21 *e*P **P 01 26 01.6 -0.9**
INK pmax pmax
comp=Z,26nm,1.2s
HOPS Hopland 90.67 51 PFAKE 01 26 20.0 +7.2
HOPS LR LR
comp=Z,5µm,20.0s,MS5.9
NLWA Neilton Lookou 90.68 43 PFAKE 01 26 20.0 +7.4
NLWA LR LR
comp=Z,2µm,20.0s,MS5.6
MCCM Marconi Confer 90.76 52 PFAKE 01 26 20.0 +6.8
MCCM LR LR
comp=Z,5µm,22.0s,MS5.9
IMYA Miami 90.96 306 *e*P **P 01 26 14.3 +0.1**
HUMO Hull Mountain 90.99 48 PFAKE 01 26 30.0 +16
HUMO LR LR
comp=Z,4µm,21.0s,MS5.8
YBH Yreka Blue Hor 91.12 48 LR LR 01 58 40.7
comp=Z,5µm,21.5s,MS5.9,baz=346,slow=30
YBH Yreka Blue Hor 91.12 48 *e*P **P 01 26 15.7 +0.9**
comp=Z,16nm,1.1s,mb5.3
YBH LR LR
comp=Z,5µm,22.0s,MS5.9
YBH Yreka Blue Hor 91.12 48 *e*P **P 01 26 15.7 +0.9**
YBH pmax pmax
comp=Z,16nm,1.1s
YBH MLR MLR
comp=Z,5µm,22.0s
WBK Wadi Bani Khal 91.15 292 ⇑P **P 01 26 17.8 +2.4**
SNR=5.4
WDC Whiskeytown Da 91.18 50 *e*P **P 01 26 19.6 +4.5**
comp=Z,26nm,1.4s,mb5.4
WDC LR LR
comp=Z,5µm,20.0s,MS5.9
WDC Whiskeytown Da 91.18 50 *e*P **P 01 26 19.6 +4.5**
WDC pmax pmax
comp=Z,26nm,1.4s,mb5.4
WDC MLR MLR
comp=Z,5µm,20.0s,MS5.9
RER Riviere de l'E 91.63 249 PFAKE 01 26 30.0 +12
RER LR LR
comp=Z,2µm,19.0s,MS5.6
SAO San Andreas Ge 91.82 53 PFAKE 01 26 30.0 +12
SAO LR LR
comp=Z,3µm,19.0s,MS5.8
AB31 Akbulak array 91.82 319 *i* P **P 01 26 17.5 -0.4**
ABKAR Akbulak array 91.82 319 *e*P **P 01 26 16.0 -1.9**
SVE Sverdlovsk 91.83 327 *e*P **P 01 26 21.0 +3.3**
SVE *e* 01 30 01.3
SVE *e*PPP 01 32 02.7
SVE *e*S SKSac 01 36 51.8 +2.1
SVE *e* 01 43 21.0
SVE pmax pmax
comp=Z,22nm,1.8s,mb5.2
SVE MLR MLR
comp=Z,8µm,21.0s,MS6.2
SVE MLR MLR
comp=E,7µm,22.0s
IPAY Payeh 91.86 306 *e*P **P 01 26 17.3 -1.1**
IKRD Kardeh 92.26 307 *e*P **P 01 26 15.3 -4.9**
CMB Columbia Colle 92.72 52 *e*P **P 01 26 24.8 +2.5**
comp=E,16nm,1.5s,mb5.2
CMB LR LR
comp=Z,5µm,22.0s,MS5.9
CMB Columbia Colle 92.72 52 *e*P **P 01 26 24.8 +2.5**
CMB pmax pmax
comp=Z,16nm,1.5s,mb5.2
CMB MLR MLR
comp=Z,5µm,22.0s,MS5.9
HOQ Hoqain 92.72 293 ⇑P **P 01 26 19.5 -3.2**
SNR=6.0
MOD Modoc 92.92 48 *e*P **P 01 26 23.9 +0.7**
comp=Z,37nm,1.4s,mb5.6
MOD LR LR
comp=Z,4µm,21.0s,MS5.8
ARU Arti 92.96 326 *e*P **P 01 26 22.5 -0.5**
comp=Z,25nm,1.5s,mb5.4
ARU LR LR
comp=Z,8µm,22.0s,MS6.1
ARU Arti 92.96 326 *d* iP **P 01 26 22.3 -0.7**
ARU 01 30 05.6
ARU S SKSac 01 36 53.3 -2.7
ARU SP SP 01 38 38.9 -0.7
ARU PS PS 01 38 46.7 +4.3
ARU SS SS 01 43 39.7 -2.4
ARU pmax pmax
comp=Z,23nm,1.6s,mb5.4
ARU MLR MLR
comp=Z,8µm,22.0s,MS6.1
MSEY Mahe Island 93.03 265 PFAKE 01 26 40.0 +16
MSEY LR LR
comp=Z,2µm,20.0s,MS5.5
ETW Entiat 93.08 43 *e*P **P 01 26 24.9 +1.1**
AKTO Aktyubinsk 93.12 320 P **P 01 26 23.2 -0.6**
AKTO pmax pmax
comp=Z,3.0nm,1.5s,mb4.5
WCN Washoe City 93.26 51 *e*P **P 01 26 26.3 +1.5**
comp=Z,11nm,1.1s,mb5.2
WCN Washoe City 93.26 51 *e*P **P 01 26 26.3 +1.5**
WCN pmax pmax
comp=Z,11nm,1.1s,mb5.2
PAHR Pah Rah Range 93.56 51 *e*P **P 01 26 27.4 +1.2**
comp=Z,19nm,1.4s,mb5.3
HAWA Hanford 93.60 44 *e*P **P 01 26 28.9 +2.7**
comp=Z,14nm,1.1s,mb5.3
HAWA LR LR
comp=Z,3µm,22.0s,MS5.7
SYO Syowa Base 93.62 200 ⇑*e*P **P 01 26 23.4 -2.4**
WVOR Wild Horse Val 94.18 48 *e*P **P 01 26 30.3 +1.4**
comp=Z,16nm,1.5s,mb5.2
WVOR LR LR
comp=Z,4µm,22.0s,MS5.8
WVOR Wild Horse Val 94.18 48 *e*P **P 01 26 30.3 +1.4**
WVOR pmax pmax
comp=Z,16nm,1.5s,mb5.2
WVOR MLR MLR
comp=Z,4µm,22.0s,MS5.8
NVAR Mina Array Bea 94.37 52 P **P 01 26 31.1 +1.1**
comp=Z,2.0nm,0.8s,mb4.6,baz=258,slow=5.7,SNR=8.4
NVAR PP PP 01 30 21.7 +4.4
comp=Z,0.6nm,0.6s,baz=274,slow=8.1,SNR=4.2
NVAR LR LR 02 00 52.5
comp=Z,4µm,21.4s,MS5.9,baz=92,slow=30
NVAR Mina Array Bea 94.37 52 P **P 01 26 31.1 +1.1**
NVAR PP PP 01 30 21.7 +4.4
NVAR LR LR 02 00 52.5
MWC Mount Wilson 94.50 56 *e*P **P 01 26 32.2 +1.6**
comp=Z,24nm,1.1s,mb5.5
MWC Mount Wilson 94.50 56 *e*P **P 01 26 32.2 +1.6**
MWC pmax pmax
comp=Z,24nm,1.1s,mb5.5
BMO Blue Mountains 95.15 45 *e*P **P 01 26 34.5 +1.2**
comp=Z,19nm,1.6s,mb5.3
BMO LR LR
comp=Z,3µm,22.0s,MS5.7
BMO Blue Mountains 95.15 45 *e*P **P 01 26 34.5 +1.2**
BMO pmax pmax
comp=Z,19nm,1.6s,mb5.3
BMO MLR MLR
comp=Z,3µm,22.0s,MS5.7
TPH Tonopah 95.22 52 PFAKE 01 26 50.0 +16
TPH LR LR
comp=Z,4µm,20.0s,MS5.8
NEW Newport 95.25 42 *e*P **P 01 26 35.1 +1.4**
comp=Z,13nm,1.2s,mb5.2
NEW LR LR
comp=Z,3µm,20.0s,MS5.7
NEW Newport 95.25 42 *e*P **P 01 26 35.1 +1.4**
NEW pmax pmax
comp=Z,13nm,1.2s
NEW MLR MLR
comp=Z,3µm,20.0s
GSC Goldstone 95.54 55 *e*P **P 01 26 42.5 +7.1**
comp=Z,81nm,2.8s,mb5.7
GSC Goldstone 95.54 55 *e*P **P 01 26 42.5 +7.2**
GSC pmax pmax
comp=Z,81nm,2.8s,mb5.7
BAR Barrett 95.64 58 *e*P **P 01 26 37.8 +2.0**
comp=Z,11nm,1.3s,mb5.1
PFO Pinyon Flat Ob 95.83 57 *e*P **P 01 26 41.8 +5.1**
comp=Z,5.9nm,1.0s,mb5.0
PFO LR LR
comp=Z,3µm,20.0s,MS5.8
PFO Pinyon Flat Ob 95.83 57 *e*P **P 01 26 41.8 +5.1**
PFO pmax pmax
comp=Z,6.0nm,1.0s,mb5.0
PFO MLR MLR
comp=Z,3µm,20.0s,MS5.8
YKA Yellowknife Ar 96.07 28 P **P 01 26 36.1 -0.9**
comp=Z,3.1nm,0.7s,mb4.8,baz=274,slow=4.6,SNR=9.4
YKA LR LR 02 04 27.7
comp=Z,266nm,20.5s,MS4.7,baz=275,slow=32
YKA Yellowknife Ar 96.07 28 P **P 01 26 36.1 -0.9**
YKA LR LR 02 04 27.7
YKA Yellowknife Ar 96.07 28 P **P 01 26 36.2 -0.9**
IPAR Pars 96.68 299 *e*P **P 01 26 41.1 +0.4**
BSMT Bassoo Peak 96.83 42 *e*P **P 01 26 43.0 +2.1**
LDFC Landfair 96.93 55 *e*P **P 01 26 44.0 +2.4**
comp=Z,13nm,1.1s,mb5.3
HLID Hailey 97.26 47 *e*P **P 01 26 45.4 +2.5**
comp=Z,5.5nm,1.1s,mb4.9
HLID LR LR
comp=Z,4µm,21.0s,MS5.9
ISFB Sefidab 97.34 304 *e*P **P 01 26 42.6 -0.9**
WALA Waterton Lakes 97.35 41 *e*P **P 01 26 51.2 +8.0**
comp=Z,0.5nm,1.1s,mb3.9
MSO Missoula 97.45 43 PFAKE 01 27 00.0 +16
MSO LR LR
comp=Z,1µm,19.0s,MS5.5
CHMT Chamberlain Mo 97.92 43 *e*P **P 01 26 46.8 +1.0**
comp=Z,3.6nm,1.2s,mb4.8
DUG Dugway 98.60 50 PFAKE 01 27 00.0 +11
DUG LR LR
comp=Z,3µm,22.0s,MS5.7
RPN Rapa Nui 98.97 118 LR LR 02 00 00.4
comp=Z,2µm,21.8s,MS5.5,baz=19,slow=28
RPN Rapa Nui 98.97 118 PFAKE 01 27 00.0 +9.0
RPN LR LR
comp=Z,3µm,19.0s,MS5.8
BOZ Bozeman (W) 99.13 44 PFAKE 01 27 00.0 +8.7
BOZ LR LR
comp=Z,2µm,22.0s,MS5.7
MVU Marysvale 99.15 52 PFAKE 01 27 00.0 +8.4
MVU LR LR
comp=Z,4µm,21.0s,MS5.9
HWUT Hardware Ranch 99.46 49 PFAKE 01 27 00.0 +7.1
HWUT LR LR
comp=Z,3µm,20.0s,MS5.7
AHID Auburn Hatcher 99.73 47 PFAKE 01 27 10.0 +16
AHID LR LR
comp=Z,4µm,21.0s,MS5.9
ABPO Ambohimpanom 99.81 250 PFAKE 01 27 10.0 +16
ABPO LR LR
comp=Z,2µm,20.0s,MS5.7
WUAZ Wupatki 99.97 55 PFAKE 01 27 10.0 +15
WUAZ LR LR
comp=Z,2µm,19.0s,MS5.7
LKWY Lake 100.08 45 PFAKE 01 27 10.0 +15
LKWY LR LR
comp=Z,4µm,20.0s,MS5.9
EGMT Eagleton 100.19 42 PFAKE 01 27 10.0 +14
EGMT LR LR
comp=Z,2µm,22.0s,MS5.6
MAK Makhachkala 100.59 313 *e*P Pdif 01 26 51.7 -5.9
MAK *i* 01 31 04.3
MAK *e*PPP 01 33 15.6
MAK *e*S SKSac 01 37 28.3 -8.0
MAK *e*SP SP 01 40 00.4 -3.0
MAK *e*PS PS 01 40 04.9 -1.3
MAK *e*SSS 01 49 23.1
MAK pmax pmax
comp=Z,15nm,0.5s
MAK MLR MLR
comp=Z,3µm,25.0s,MS5.8
TUC Tucson 100.62 58 PFAKE 01 27 10.0 +12
TUC LR LR
comp=Z,4µm,21.0s,MS5.9
RLMT Red Lodge 100.83 45 PFAKE 01 27 10.0 +11
RLMT LR LR
comp=Z,3µm,22.0s,MS5.7
BW06 Boulder Array 100.86 47 PFAKE 01 27 10.0 +11
BW06 LR LR
comp=Z,4µm,22.0s,MS5.9
PDAR Pinedale Array 100.86 47 P Pdif 01 26 58.7 -0.1
comp=Z,1.0nm,1.0s,baz=232,slow=1.7,SNR=3.6
PDAR Pinedale Array 100.86 47 P Pdif 01 26 58.7 -0.1
KBS Kingsbay 101.48 352 PFAKE 01 27 10.0 +8.5
KBS LR LR
comp=Z,2µm,21.0s,MS5.7
LVZ Lovozero 102.09 339 PFAKE 01 27 20.0 +16
LVZ LR LR
comp=Z,2µm,21.0s,MS5.6
MVCO Mesa Verde 102.17 53 PFAKE 01 27 20.0 +15
MVCO LR LR
comp=Z,2µm,20.0s,MS5.5
ISHB Shabestar 102.47 308 *e*P Pdif 01 27 08.8 +2.9
LAO LASA Array 102.74 43 PFAKE 01 27 20.0 +13
LAO LR LR
comp=Z,2µm,20.0s,MS5.7
GNI Garni 102.95 310 PFAKE 01 27 20.0 +12
GNI LR LR
comp=Z,2µm,22.0s,MS5.6
ZEI Tsey 103.25 313 *e*P Pdif 01 27 09.0 -0.4
ZEI pmax pmax
comp=Z,11nm,1.5s
DGMT Dagmar 103.80 41 PFAKE 01 27 20.0 +8.2
DGMT LR LR
comp=Z,2µm,21.0s,MS5.7
KEV Kevo 103.81 342 PFAKE 01 27 20.0 +8.1
KEV LR LR
comp=Z,2µm,21.0s,MS5.6
FFC Flin Flon 103.82 34 PFAKE 01 27 20.0 +8.1
FFC LR LR
comp=Z,3µm,21.0s,MS5.8
KIV Kislovodsk 103.96 314 PFAKE 01 27 20.0 +7.5
KIV LR LR
comp=Z,3µm,20.0s,MS5.8
KIV Kislovodsk 103.96 314 *e*P Pdif 01 27 14.4 +1.9
KIV *i* 01 31 32.6
KIV *i* PS PS 01 40 30.5 -11
KIV *i* SS SS 01 46 22.7 +5.6
KIV pmax pmax
comp=Z,3.0nm,1.1s
ANMO Albuquerque 104.03 55 PFAKE 01 27 30.0 +17
ANMO LR LR
comp=Z,2µm,20.0s,MS5.7
ISCO Idaho Springs 104.14 50 PFAKE 01 27 30.0 +17
ISCO LR LR
comp=Z,4µm,22.0s,MS5.9
SDCO Great Sand Dun 104.49 52 PFAKE 01 27 30.0 +15
SDCO LR LR
comp=Z,2µm,21.0s,MS5.7
KTK1 Kautokeino 105.34 342 *e* SKSac 01 38 01.9 +4.5
KTK1 *e*P SP 01 40 59.1 +7.1
OBN Obninsk 105.40 327 PFAKE 01 31 40.0 +7.4
OBN LR LR
comp=Z,4µm,22.0s,MS5.9
OBN Obninsk 105.40 327 *e*P Pdif 01 27 24.4 +5.5
OBN *e* 01 31 44.7
OBN *i* PS PS 01 40 56.0 -0.3
OBN *i* SS SS 01 46 44.1 +8.0
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,6µm,23.0s,MS6.1
DAG Danmarks Havn 106.39 357 *i* P PKiKP 01 31 31.3 -2.7
DAG *i* S SP 01 40 57.2 -5.3
OGNE Ogallala 106.67 48 PFAKE 01 31 50.0 +15
OGNE LR LR
comp=Z,3µm,20.0s,MS5.8
TXAR Lajitas Array 106.94 61 PKiKP PKiKP 01 31 38.3 +2.0
comp=Z,0.3nm,0.9s,baz=177,slow=5.0,SNR=3.4
TXAR Lajitas Array 106.94 61 PKPdf PKiKP 01 31 38.3 +2.0
AMTX Amarillo 107.93 55 PFAKE 01 31 50.0 +12
AMTX LR LR
comp=Z,2µm,19.0s,MS5.8
CBKS Cedar Bluff 108.80 50 PFAKE 01 31 50.0 +11
CBKS LR LR
comp=Z,4µm,21.0s,MS6.0
AGMN Agassiz Nation 109.23 40 PFAKE 01 31 50.0 +10
AGMN LR LR
comp=Z,2µm,20.0s,MS5.7
ECSD EROS Data Cent 109.99 45 PFAKE 01 31 50.0 +8.4
ECSD LR LR
comp=Z,2µm,22.0s,MS5.7
JCT Junction City 110.14 59 PFAKE 01 31 50.0 +7.8
JCT LR LR
comp=Z,4µm,19.0s,MS6.0
WMOK Wichita Mounta 110.31 54 PFAKE 01 31 50.0 +7.5
WMOK LR LR
comp=Z,3µm,22.0s,MS5.8
SUMG Summit 110.79 2 *i* P PP 01 32 40.6 +22
SUMG *i* S SP 01 41 57.2 +11
JMIC Jan Mayen 110.97 352 *e* SKSac 01 38 20.7 -0.8
AKASG Malin Array Be 111.05 324 PKiKP PKiKP 01 31 44.7 +1.3
comp=Z,0.1nm,0.3s,baz=48,slow=1.4,SNR=3.3
AKASG PP PP 01 32 25.1 +3.3
comp=Z,0.2nm,0.3s,baz=60,slow=7.1,SNR=6.1
AKASG Malin Array Be 111.05 324 PKPdf PKiKP 01 31 44.7 +1.3
AKASG PP PP 01 32 25.1 +3.4
AKASG Malin Array Be 111.05 324 PKIKP PKiKP 01 31 44.7 +1.4
AKASG 01 32 25.1
KIEV Kiev 111.06 324 PFAKE 01 31 50.0 +6.6
KIEV LR LR
comp=Z,2µm,21.0s,MS5.7
KSU1 Kansas State U 111.12 49 PFAKE 01 32 00.0 +16
KSU1 LR LR
comp=Z,3µm,19.0s,MS5.9
BR131 Keskin Array S 111.42 311 PFAKE 01 32 00.0 +16
BR131 LR LR
comp=Z,681nm,20.0s,MS5.2
BRTR Keskin Array B 111.42 311 PKiKP PKiKP 01 31 45.8 +1.4
comp=Z,0.5nm,1.0s,baz=30,slow=12,SNR=2.9
BRTR Keskin Array B 111.42 311 PKPdf PKiKP 01 31 45.8 +1.4
BRTR Keskin Array B 111.42 311 PKIKP PKiKP 01 31 45.8 +1.4
KMBO Kilima Mbogo 111.44 267 PFAKE 01 32 00.0 +15
KMBO LR LR
comp=Z,1µm,19.0s,MS5.5
NSS Namsos 111.61 341 *e*P SP 01 41 55.4 +0.8
EYMN Ely 112.11 39 PFAKE 01 32 00.0 +15
EYMN LR LR
comp=Z,2µm,20.0s,MS5.7
KVTX Kingsville 112.20 62 PFAKE 01 32 00.0 +14
KVTX LR LR
comp=Z,3µm,20.0s,MS5.8
CSS Prodhromos 112.74 306 PFAKE 01 32 00.0 +13
CSS LR LR
comp=Z,1µm,20.0s,MS5.5
SCIA State Center 112.89 46 PFAKE 01 32 00.0 +13
SCIA LR LR
comp=Z,2µm,21.0s,MS5.7
NATX Nacogdoches 114.26 57 PFAKE 01 32 00.0 +10
NATX LR LR
comp=Z,3µm,20.0s,MS5.8

COWI	**Conover**	**114.28**	**40**	PFAKE		01 32 00.0	+10
COWI				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
NAO01	**NORSAR Array S**	**114.49**	**339**	PFAKE		01 32 00.0	+10
NAO01				LR	LR		
	comp=Z,3μm,20.0s,MS5.9						
MIAR	**Mount Ida**	**114.55**	**54**	PFAKE		01 32 00.0	+9.5
MIAR				LR	LR		
	comp=Z,4μm,22.0s,MS5.9						
JFWS	**Jewell Farm**	**114.67**	**44**	PFAKE		01 32 00.0	+10
JFWS				LR	LR		
	comp=Z,3μm,20.0s,MS5.9						
SFJD	**Kangerlussuaq**	**115.12**	**8**	PFAKE		01 32 00.0	+9.3
SFJD				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
KWP	**Kalwaria Pacla**	**115.31**	**324**	PFAKE		01 32 00.0	+8.5
KWP				LR	LR		
	comp=Z,3μm,22.0s,MS5.8						
KONO	**Kongsberg**	**115.78**	**338**	*e*P	SP	01 42 38.8	+5.9
KONO	**Kongsberg**	**115.78**	**338**	PFAKE		01 32 00.0	+7.9
KONO				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
FOO	**Floro**	**115.92**	**342**	*e*P	SP	01 42 40.1	+6.1
FOO				AMS	AMS	02 18 46.3	
	comp=Z,2μm,28.7s,MS5.6						
UZH	**Uzhgorod**	**116.00**	**324**	*i* PKIKP	PKPdf	01 32 01.0	+8.1
UZH				*e*		01 32 09.0	
UZH				*e*		01 33 00.7	
UZH				*e*		01 42 35.0	
UZH				*i* SSS		01 53 10.0	
UZH				MLR	MLR		
	comp=N,1μm,22.0s,MS5.7						
UZH				MLR	MLR		
	comp=E,1μm,22.0s,MS5.7						
UZH				MLR	MLR		
	comp=Z,600nm,22.0s,MS5.2						
HDIL	**Hopedale**	**116.12**	**46**	PFAKE		01 32 10.0	+17
HDIL				LR	LR		
	comp=Z,2μm,20.0s,MS5.7						
BER	**Bergen**	**116.74**	**341**	*e*P	SP	01 42 49.0	+7.4
BER				AMS	AMS	02 25 00.1	
	comp=Z,2μm,18.1s,MS5.9						
BOSA	**Boshof**	**117.18**	**235**	PFAKE		01 32 10.0	+14
BOSA				LR	LR		
	comp=Z,3μm,21.0s,MS5.9						
COP	**Copenhagen**	**117.26**	**334**	*i* P	PP	01 32 40.4	-25
COP				*i* S	SP	01 42 39.8	-6.8
COP							
	comp=Z,960nm,22.0s						
VBMS	**Vicksburg**	**117.59**	**55**	PFAKE		01 32 10.0	+14
VBMS				LR	LR		
	comp=Z,3μm,20.0s,MS5.8						
GLMI	**Grayling**	**117.71**	**40**	PFAKE		01 32 10.0	+14
GLMI				LR	LR		
	comp=Z,3μm,20.0s,MS5.9						
PSZ	**Piszkesteto**	**117.75**	**324**	PFAKE		01 32 10.0	+14
PSZ				LR	LR		
	comp=Z,2μm,21.0s,MS5.7						
OKC	**Ostrava-Krasne**	**117.80**	**326**	*e*PKKP	PKKPdf	01 42 47.1	-0.1
OKC				*e*SS	SS	01 49 31.1	+10
OKC				AMS	AMS	02 22 00.0	
	comp=Z,4μm,21.5s						
OXF	**Oxford**	**117.88**	**53**	PFAKE		01 32 10.0	+13
OXF				LR	LR		
	comp=Z,3μm,21.0s,MS5.9						
MBAR	**Mbarara**	**117.97**	**268**	PFAKE		01 32 10.0	+12
MBAR				LR	LR		
	comp=Z,642nm,20.0s,MS5.2						
LBTB	**Lobatse**	**118.11**	**239**	*e*PKPdf	PKPdf	01 31 58.5	+0.8
LBTB				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
LBTB	**Lobatse**	**118.11**	**239**	*e*PKIKP	PKPdf	01 31 58.5	+0.8
LBTB				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.8						
MUD	**Monsted U'grnd**	**118.14**	**336**	*i* P	PP	01 33 07.8	-3.6
MUD				*i* S	SP	01 43 00.3	+5.9
MUD							
	comp=Z,3μm,18.0s						
MORC	**Moravsky Berou**	**118.16**	**326**	*e*PKPdf	PKPdf	01 31 58.1	+1.1
MORC	**Moravsky Berou**	**118.16**	**326**	*e*PKIKP	PKPdf	01 31 58.1	+1.1
LSZ	**Lusaka**	**118.37**	**251**	PFAKE		01 32 10.0	+12
LSZ				LR	LR		
	comp=Z,3μm,22.0s,MS5.8						
DPC	**Dobruska-Polom**	**118.52**	**327**	*e*SP	SP	01 42 58.1	-0.2
DPC				*e*x	x	01 44 52.6	
DPC				AMS	AMS	02 23 40.0	
	comp=Z,4μm,20.7s						
PLAL	**Pickwick Lake**	**118.80**	**52**	PFAKE		01 32 10.0	+11
PLAL				LR	LR		
	comp=Z,3μm,21.0s,MS5.9						
SUR	**Sutherland**	**119.23**	**230**	PFAKE		01 32 10.0	+10
SUR				LR	LR		
	comp=Z,4μm,21.0s,MS6.1						
PVCC	**Panska Ves**	**119.35**	**328**	AMS	AMS	02 22 00.0	
	comp=Z,3μm,22.3s						
AAM	**Ann Arbor**	**119.40**	**42**	PFAKE		01 32 10.0	+10
AAM				LR	LR		
	comp=Z,3μm,20.0s,MS5.9						
BRG	**Berggiesshubel**	**119.47**	**329**	*e*PKIKP	PKPdf	01 32 03.6	+4.1
BRG						01 33 26.0	
BRG				pmax	pmax		
	comp=Z,9.0nm,1.2s						
BRG				MLR	MLR		
	comp=N,2μm,23.0s,MS5.9						
BRG				MLR	MLR		
	comp=E,3μm,24.9s,MS5.9						
BRG				MLR	MLR		
	comp=Z,4μm,25.2s,MS6.0						
BRG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BRG				MLR	MLR		
	comp=N,642nm,19.6s						
BRG				MLR	MLR		
	comp=E,987nm,20.8s						
BRG				MLR	MLR		
	comp=Z,1μm,20.8s						
TREC	**Trest**	**119.55**	**327**	AMS	AMS	02 23 40.0	
	comp=Z,4μm,20.5s						
PRU	**Pruhonice**	**119.67**	**328**	*e*SP	SP	01 43 07.9	-0.8
PRU				*e*x	x	01 45 04.1	
PRU				*e*SS	SS	01 49 52.9	+7.6
PRU				AMS	AMS	02 24 30.0	
	comp=Z,4μm,21.4s						
CLL	**Collm**	**119.70**	**330**	*e*PKIKP	PKPdf	01 32 06.0	+6.1
CLL				*e*		01 33 26.0	
CLL				pmax	pmax		
	comp=Z,17nm,1.5s						
CLL	**Collm**	**119.70**	**330**	*e*PKPdf(2)	PKPdf	01 32 06.0	+6.1
	comp=Z,17nm,1.5s						
CLL				*e*PP	PP	01 33 26.0	+3.7
CLL				*e*PPP		01 35 52.0	
CLL				*e*PS	PS	01 43 07.0	-5.0
CLL				*e*		01 45 05.0	
CLL				*e*SS	SS	01 49 49.0	+3.5
CLL				*e*(SSS)		01 54 00.0	
CLL				*e*		01 55 24.0	
LRAL	**Lakeview Retre**	**120.23**	**54**	PFAKE		01 32 10.0	+8.5
LRAL				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
EFI	**East Falkland**	**120.54**	**161**	PFAKE		01 32 10.0	+8.5
EFI				LR	LR		
	comp=Z,3μm,21.0s,MS5.9						
NKC	**Novy Kostel**	**120.62**	**329**	*e*SP	SP	01 43 21.8	+4.7
NKC				*e*SS	SS	01 50 05.2	+7.8
KHC	**Kasperske Hory**	**120.68**	**327**	*e*PKIKP	PKPdf	01 32 01.5	-0.4
KHC				*e*SP	SP	01 43 13.2	-4.5
KHC				*e*		01 50 08.2	
KHC				MLR	MLR		
	comp=Z,4μm,21.3s,MS6.0						
KHC	**Kasperske Hory**	**120.68**	**327**	*e*PKPdf	PKPdf	01 32 01.5	-0.4
KHC				*e*x	x	01 33 08.5	
KHC				*e*SP	SP	01 43 13.2	-4.5
KHC				*e*SS	SS	01 50 08.2	+10
KHC				AMS	AMS	02 25 20.0	
	comp=Z,4μm,21.3s						
ACSO	**Alum Creek Sta**	**120.72**	**44**	PFAKE		01 32 10.0	+7.8
ACSO				LR	LR		
	comp=Z,2μm,21.0s,MS5.8						
BRAL	**Brewton**	**120.75**	**56**	PFAKE		01 32 10.0	+7.4
BRAL				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
TIR	**Tirane**	**120.76**	**317**	PFAKE		01 32 10.0	+7.7
TIR				LR	LR		
	comp=Z,2μm,21.0s,MS5.7						
GERES	**GERESS Array B**	**120.78**	**327**	PKP	PKPdf	01 32 02.2	+0.2
	comp=Z,0.5nm,0.7s,baz=14,slow=0.4,SNR=3.0						
GERES	**GERESS Array B**	**120.78**	**327**	PKP	PKPdf	01 32 02.2	+0.2
GERES	**GERESS Array B**	**120.78**	**327**	PKIKP	PKPdf	01 32 02.3	+0.2
PAYG	**Puerto Ayora**	**120.80**	**93**	PFAKE		01 32 10.0	+6.8
PAYG				LR	LR		
	comp=Z,3μm,21.0s,MS5.9						
ERPA	**Erie**	**121.93**	**41**	PFAKE		01 32 20.0	+16
ERPA				LR	LR		
	comp=Z,3μm,20.0s,MS5.9						
TEIG	**Tepich**	**121.99**	**68**	PFAKE		01 32 20.0	+15
TEIG				LR	LR		
	comp=Z,2μm,19.0s,MS5.7						
GOGA	**Godfrey**	**122.92**	**52**	PFAKE		01 32 20.0	+13
GOGA				LR	LR		
	comp=Z,2μm,21.0s,MS5.8						
MCWV	**Mont Chateau**	**123.15**	**44**	PFAKE		01 32 20.0	+13
MCWV				LR	LR		
	comp=Z,3μm,20.0s,MS5.9						
PLCA	**Paso Flores**	**123.23**	**145**	PKP	PKPdf	01 32 12.9	+5.8
	comp=Z,2.9nm,0.8s,baz=149,slow=4.5,SNR=5.5						
PLCA	**Paso Flores**	**123.23**	**145**	*e*PKPdf	PKPdf	01 32 07.6	+0.6
PLCA				PKP	PKPdf	01 32 12.9	+5.8
PLCA				LR	LR		
	comp=Z,3μm,19.0s,MS6.0						
PLCA	**Paso Flores**	**123.23**	**145**	*e*PKIKP	PKPdf	01 32 07.6	+0.5
PLCA						01 32 12.9	
PLCA				MLR	MLR		
	comp=Z,3μm,19.0s						
ESK	**Eskdalemuir**	**123.54**	**341**	PFAKE		01 32 20.0	+13
ESK				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
TGUH	**Tegucigalpa,Un**	**123.70**	**75**	PFAKE		01 32 20.0	+11
TGUH				LR	LR		
	comp=Z,3μm,20.0s,MS5.9						
BLA	**Blacksburg**	**123.79**	**47**	PFAKE		01 32 20.0	+12
BLA				LR	LR		
	comp=Z,4μm,20.0s,MS6.0						
BFO	**Black Forest**	**123.92**	**329**	PFAKE		01 32 20.0	+12
BFO				LR	LR		
	comp=Z,3μm,22.0s,MS6.0						
LONY	**Lake Ozonia**	**124.03**	**36**	PFAKE		01 32 20.0	+12
LONY				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
WLF	**Walferdange**	**124.11**	**332**	PFAKE		01 32 20.0	+12
WLF				LR	LR		
	comp=Z,3μm,19.0s,MS5.9						
CUC	**Castrocucco**	**124.12**	**317**	PFAKE		01 32 20.0	+11
CUC				LR	LR		
	comp=Z,2μm,22.0s,MS5.7						
BINY	**Binghamton**	**124.48**	**39**	PFAKE		01 32 20.0	+11
BINY				LR	LR		
	comp=Z,4μm,20.0s,MS6.1						
AQU	**L'Aquila**	**124.52**	**321**	PFAKE		01 32 20.0	+11
AQU				LR	LR		
	comp=Z,3μm,20.0s,MS5.9						
TUE	**Stuetta**	**124.55**	**327**	PFAKE		01 32 20.0	+11
TUE				LR	LR		
	comp=Z,4μm,21.0s,MS6.0						
ECH	**Echery**	**124.59**	**330**	PFAKE		01 32 20.0	+11
ECH				LR	LR		
	comp=Z,3μm,22.0s,MS5.9						
NCB	**Newcomb**	**124.60**	**37**	PFAKE		01 32 20.0	+10
NCB				LR	LR		
	comp=Z,2μm,20.0s,MS5.9						
CEL	**Celeste**	**124.86**	**315**	PFAKE		01 32 20.0	+10
CEL				LR	LR		
	comp=Z,2μm,22.0s,MS5.7						
CBN	**Corbin**	**125.53**	**44**	PFAKE		01 32 20.0	+8.5
CBN				LR	LR		
	comp=Z,2μm,20.0s,MS5.7						
NHSC	**New Hope**	**125.60**	**51**	PFAKE		01 32 20.0	+8.2
NHSC				LR	LR		
	comp=Z,3μm,21.0s,MS5.9						
LBNH	**Lisbon**	**125.80**	**35**	PFAKE		01 32 20.0	+8.1
LBNH				LR	LR		
	comp=Z,2μm,19.0s,MS5.9						
JTS	**JuntasAbangare**	**126.25**	**80**	PFAKE		01 32 30.0	+16
JTS				LR	LR		
	comp=Z,5μm,21.0s,MS6.2						
CNNC	**Cliffs of the**	**126.48**	**48**	PFAKE		01 32 30.0	+17
CNNC				LR	LR		
	comp=Z,2μm,19.0s,MS5.9						
PKME	**Peaks-Kenny Pk**	**126.64**	**33**	PFAKE		01 32 30.0	+17
PKME				LR	LR		
	comp=Z,2μm,20.0s,MS5.9						
LOR	**Lormes**	**126.87**	**331**	*e*PKIKP	PKPdf	01 32 10.9	-2.9
	comp=Z,24nm,1.2s						
LOR	**Lormes**	**126.87**	**331**	*e*PKPdf	PKPdf	01 32 10.9	-2.9
LOR	**Lormes**	**126.87**	**331**	*e*PKIKP	PKPdf	01 32 10.9	-2.9
BNI	**Bardonecchia**	**126.90**	**327**	PFAKE		01 32 30.0	+16
BNI				LR	LR		
	comp=Z,4μm,20.0s,MS6.1						
WDD	**Wield Dalam**	**126.92**	**313**	PFAKE		01 32 30.0	+16
WDD				LR	LR		
	comp=Z,1μm,20.0s,MS5.6						
TSUM	**Tsumeb**	**127.03**	**243**	PFAKE		01 32 30.0	+15
TSUM				LR	LR		
	comp=Z,2μm,20.0s,MS5.9						
SSF	**Saint Saulge**	**127.18**	**331**	*e*PKIKP	PKPdf	01 32 11.4	-3.0
	comp=Z,47nm,1.6s						
SSF	**Saint Saulge**	**127.18**	**331**	*e*PKPdf	PKPdf	01 32 11.4	-3.0
SSF	**Saint Saulge**	**127.18**	**331**	*e*PKIKP	PKPdf	01 32 11.4	-3.0
SSB	**Saint Sauveur**	**127.89**	**329**	PFAKE		01 32 30.0	+14
SSB				LR	LR		
	comp=Z,3μm,22.0s,MS5.9						
VSL	**Villasalto**	**128.63**	**320**	PFAKE		01 32 30.0	+13
VSL				LR	LR		
	comp=Z,2μm,20.0s,MS5.7						
TRQA	**Tornquist**	**129.84**	**148**	PFAKE		01 32 30.0	+10
TRQA				LR	LR		
	comp=Z,3μm,22.0s,MS6.0						
LCO	**Las Campanas**	**130.24**	**133**	*e*PKPdf	PKPdf	01 32 23.0	+2.2
LCO				LR	LR		
	comp=Z,3μm,19.0s,MS6.0						
BCIP	**Isla Barro Col**	**131.35**	**81**	PFAKE		01 32 40.0	+17
BCIP				LR	LR		
	comp=Z,3μm,21.0s,MS6.0						
NNA	**Nana**	**132.11**	**109**	PFAKE		01 32 40.0	+15
NNA				LR	LR		
	comp=Z,1μm,19.0s,MS5.7						
MTDJ	**Mount Denham**	**132.33**	**68**	PFAKE		01 32 40.0	+15
MTDJ				LR	LR		
	comp=Z,3μm,22.0s,MS5.9						
OTAV	**Otavalo**	**132.67**	**93**	*e*PKPdf	PKPdf	01 32 25.6	-0.2
OTAV				LR	LR		
	comp=Z,3μm,22.0s,MS5.9						
GTBY	**Guantanamo Bay**	**134.16**	**65**	PFAKE		01 32 40.0	+12
GTBY				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
TRIS	**Tristan da Cun**	**136.05**	**202**	PFAKE		01 32 40.0	+8.5
TRIS				LR	LR		
	comp=Z,2μm,19.0s,MS6.0						
ESDC	**Sonseca Array**	**136.28**	**329**	PP	PP	01 35 14.8	+3.3
	comp=Z,2.0nm,1.0s,baz=26,slow=7.1,SNR=4.2						
ESLA	**Sonseca Array**	**136.28**	**329**	PFAKE		01 32 40.0	+8.2
ESLA				LR	LR		
	comp=Z,13μm,22.0s,MS6.6						
PAB	**San Pablo**	**136.57**	**329**	PFAKE		01 32 40.0	+7.6
PAB				LR	LR		
	comp=Z,2μm,21.0s,MS5.9						
ROSC	**El Rosal**	**136.96**	**87**	PKP	PKPdf	01 32 36.1	+2.3
	comp=Z,7.0nm,0.5s,baz=264,slow=22,SNR=4.8						
ROSC	**El Rosal**	**136.96**	**87**	*e*PKPdf	PKPdf	01 32 36.1	+2.3
BBSR	**BB Station**	**137.39**	**44**	PFAKE		01 32 50.0	+16
BBSR				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
MTE	**Manteigas**	**137.44**	**333**	PFAKE		01 32 50.0	+16
MTE				LR	LR		
	comp=Z,3μm,22.0s,MS6.0						
SDDR	**Presa de Saban**	**137.88**	**65**	PFAKE		01 32 50.0	+15
SDDR				LR	LR		
	comp=Z,3μm,20.0s,MS6.0						
LPAZ	**La Paz**	**138.57**	**119**	PKP	PKPdf	01 32 37.6	+0.9
	comp=Z,1.9nm,0.7s,baz=288,slow=2.0,SNR=5.5						
LPAZ	**La Paz**	**138.57**	**119**	*e*PKPdf	PKPdf	01 32 38.0	+1.3
LPAZ				LR	LR		
	comp=Z,1μm,20.0s,MS5.7						
LPAZ	**La Paz**	**138.57**	**119**	*e*PKIKP	PKPdf	01 32 38.0	+1.3
LPAZ				MLR	MLR		
	comp=Z,1μm,20.0s						
TAM	**Tamanrasset**	**139.58**	**302**	*e*PKPdf	PKPdf	01 32 38.9	+0.5
TAM				LR	LR		
	comp=Z,1μm,21.0s,MS5.6						
TAM	**Tamanrasset**	**139.58**	**302**	*e*PKIKP	PKPdf	01 32 38.9	+0.5
TAM				MLR	MLR		
	comp=Z,1μm,21.0s,MS5.6						
SFS	**San Fernando**	**139.86**	**328**	PFAKE		01 32 50.0	+11
SFS				LR	LR		
	comp=Z,4μm,20.0s,MS6.1						
SDV	**Santo Domingo**	**140.44**	**80**	*e*PKPpre	PKPpre	01 32 35.3	
SDV				LR	LR		
	comp=Z,622nm,20.0s,MS5.4						
CPUP	**Villa Florida**	**141.09**	**141**	PKP	PKPdf	01 32 41.5	+0.4
	comp=Z,1.4nm,0.8s,baz=235,slow=7.2,SNR=2.6						
CPUP	**Villa Florida**	**141.09**	**141**	*e*PKPdf	PKPdf	01 32 41.6	+0.5
CPUP				LR	LR		
	comp=Z,489nm,22.0s,MS5.2						
CPUP	**Villa Florida**	**141.09**	**141**	*e*PKIKP	PKPdf	01 32 41.6	+0.5
CPUP				MLR	MLR		
	comp=Z,489nm,22.0s						
SJG	**San Juan**	**142.79**	**64**	PFAKE		01 33 00.0	+16
SJG				LR	LR		
	comp=Z,1μm,20.0s,MS5.8						
TORD	**Torodi Ar. Bea**	**146.09**	**289**	PKPbc	PKPbc	01 32 49.2	-1.8
	comp=Z,10nm,0.8s,baz=44,slow=2.4,SNR=31						
TORD	**Torodi Ar. Bea**	**146.09**	**289**	PKPbc	PKPbc	01 32 49.2	-1.8
ANWB	**Willy Bob**	**146.84**	**63**	PFAKE		01 33 00.0	+8.7
ANWB				LR	LR		
	comp=Z,2μm,21.0s,MS5.8						
SHEL	**Horse Pasture**	**148.31**	**232**	PFAKE		01 33 10.0	+16
SHEL				LR	LR		
	comp=Z,2μm,21.0s,MS5.9						
FDF	**Fort de France**	**148.41**	**67**	PFAKE		01 33 10.0	+16
FDF				LR	LR		
	comp=Z,1μm,20.0s,MS5.7						
GRGR	**Grenville**	**148.64**	**72**	PFAKE		01 33 10.0	+16
GRGR				LR	LR		
	comp=Z,943nm,19.0s,MS5.6						
SPB	**Sao Paulo**	**148.83**	**150**	PFAKE		01 33 10.0	+16
SPB				LR	LR		
	comp=Z,2μm,19.0s,MS5.9						
BBGH	**Gun Hill**	**150.35**	**69**	PFAKE		01 33 10.0	+13
BBGH				LR	LR		
	comp=Z,4μm,22.0s,MS6.1						
DBIC	**Dimbokro**	**153.57**	**278**	PKPbc	PKPbc	01 33 09.7	0.0
	comp=Z,12nm,1.2s,baz=15,slow=3.4,SNR=4.3						
DBIC	**Dimbokro**	**153.57**	**278**	*e*PKPbc	PKPbc	01 33 10.3	+0.6
DBIC				LR	LR		
	comp=Z,2μm,21.0s,MS5.9						
DBIC	**Dimbokro**	**153.57**	**278**	*e*PKIKP	PKPbc	01 33 10.3	+0.6
DBIC				MLR	MLR		
	comp=Z,2μm,21.0s						
LIC	**Lamto**	**153.78**	**277**	*e*PKIKP	PKPdf	01 32 58.6	-3.7
	comp=Z,71nm,1.3s						
LIC	**Lamto**	**153.78**	**277**	*e*PKPdf	PKPdf	01 32 58.6	-3.7
RCBR	**Riachuelo**	**169.68**	**153**	PFAKE		01 33 30.0	+11
RCBR				LR	LR		
	comp=Z,2μm,20.0s						

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*IDC **01** 01:18:04.3±1.7, 3.°85S×149.°63E, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.0/17, mbtmp4.1/8, Error ellipse: s-maj=55.2km s-min=21.7km az=113.0*
*NEIC **01** 01:18:06.2±1.3, 3.°89S×149.°60E, h10km, mb4.7/6, Error ellipse: s-maj=39.0km s-min=14.7km az=113.0*
ISC 01 01:18:07.9±1.3, **3.°7S**±0.°1×**149.°3E**±0.°2, **h10**km, **n30**, σ**0.s96**/30, **mb4.2**/14, **Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.07**	**201**	Pn	**Pn**	**01 19 43.0**	**+5.3**
	0.8nm,0.3s,baz=30,slow=20,SNR=1.7						
PMG				Sn	**Sn**	**01 20 51.2**	**+3.9**
	0.8nm,0.3s,baz=119,slow=1.2,SNR=2.3						
PMG	**Port Moresby**	**6.07**	**201**	Pn	**Pn**	**01 19 43.0**	**+5.3**
PMG				Sn	**Sn**	**01 20 51.2**	**+3.9**
KAKA	**Kakadu**	**18.96**	**241**	*e*P	**Pn**	**01 22 29.1**	**-1.0**
WRA	**Warramunga Arr**	**21.79**	**221**	P	**P**	**01 22 58.7**	**-1.5**
	2.7nm,0.9s,mb3.7,baz=45,slow=11,SNR=2.9						
WRA	**Warramunga Arr**	**21.79**	**221**	P	**P**	**01 22 58.7**	**-1.5**
ASAR	**Alice Springs**	**24.82**	**216**	P	**P**	**01 23 30.1**	**-0.4**
	3.5nm,1.0s,mb3.8,baz=41,slow=8.6,SNR=3.9						
ASAR	**Alice Springs**	**24.82**	**216**	P	**P**	**01 23 30.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**27.26**	**237**	P	**P**	**01 23 51.6**	**-1.0**
	4.6nm,0.8s,mb4.1,baz=45,slow=10.0,SNR=2.7						
FITZ	**Fitzroy Crossi**	**27.26**	**237**	*e*P	**P**	**01 23 57.1**	**+4.4**
	40nm,1.1s,mb4.9						
FITZ	**Fitzroy Crossi**	**27.26**	**237**	*e*P	**P**	**01 23 56.9**	**+4.2**
CMAR	**Chiang Mai Arr**	**54.29**	**296**	P	**P**	**01 27 34.6**	**-0.2**
	1.0nm,0.3s,mb4.2,baz=110,slow=5.2,SNR=5.1						
CMAR	**Chiang Mai Arr**	**54.29**	**296**	P	**P**	**01 27 34.6**	**-0.2**
CHTO	**Chiang Mai**	**54.41**	**296**	*e*P	**P**	**01 27 35.2**	**-0.5**
	6.6nm,1.2s,mb4.4						
HIA	**Hailar**	**58.67**	**338**	*e*P	**P**	**01 28 05.7**	**+0.2**
	8.5nm,0.8s,mb4.8						
SONM	**Songino Array**	**63.59**	**329**	P	**P**	**01 28 39.4**	**+0.5**
	1.8nm,0.9s,mb4.1,baz=145,slow=6.5,SNR=5.4						
SONM	**Songino Array**	**63.59**	**329**	P	**P**	**01 28 39.4**	**+0.5**
MK31	**Makanchi Array**	**77.25**	**320**	*e*P	**P**	**01 30 03.5**	**+1.1**
MKAR	**Makanchi Array**	**77.25**	**320**	P	**P**	**01 30 03.1**	**+0.7**
	0.6nm,0.2s,mb4.1,baz=102,slow=6.2,SNR=4.9						
MKAR	**Makanchi Array**	**77.25**	**320**	P	**P**	**01 30 03.1**	**+0.7**
ZAA0	**Zalesovo Array**	**78.34**	**327**	*e*P	**P**	**01 30 07.9**	**-0.5**
ZALV	**Zalesovo Beam**	**78.34**	**327**	P	**P**	**01 30 08.2**	**-0.2**
	3.2nm,0.8s,mb4.3,baz=111,slow=5.0,SNR=7.7						
ZALV	**Zalesovo Beam**	**78.34**	**327**	P	**P**	**01 30 08.2**	**-0.2**
KZA	**Kyzart**	**80.75**	**313**	*e*P	**P**	**01 30 24.5**	**+2.8**
	12nm,1.1s,mb4.7						
KURK	**Kurchatov**	**80.80**	**323**	*e*P	**P**	**01 30 22.2**	**+0.4**
	10nm,1.0s,mb4.7						
ILAR	**Eielson Array**	**82.47**	**23**	P	**P**	**01 30 28.4**	**-1.9**
	0.4nm,0.8s,mb3.4,baz=256,slow=5.5,SNR=2.2						
ILAR	**Eielson Array**	**82.47**	**23**	P	**P**	**01 30 28.4**	**-1.9**
BRVK	**Borovoye**	**86.38**	**324**	*e*P	**P**	**01 30 50.8**	**+0.4**
	1.7nm,0.6s,mb4.5						
ABKAR	**Akbulak array**	**92.38**	**319**	*e*P	**P**	**01 31 18.7**	**-0.1**
	1.0nm,0.8s,mb4.2						
TORD	**Torodi Ar. Bea**	**146.69**	**288**	PKPbc	PKPbc	01 37 47.7	-3.4
	0.4nm,0.7s,baz=69,slow=2.0,SNR=4.7						
TORD	**Torodi Ar. Bea**	**146.69**	**288**	PKPbc	PKPbc	01 37 47.7	-3.4

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*IDC **01** 01:30:57.9±1.6, 3.°30S×149.°33E, h0km, mb3.9/9, mb1 4.1/9, mb1mx4.0/18, mbtmp3.9/9, Error ellipse: s-maj=52.5km s-min=20.1km az=111.0*
*ISCJB **01** 01:31:01.0±1.0, 3.°12S±0.°07×148.°6E±0.°2, h10km, mb4.0/15, Error ellipse: s-maj=29.6km s-min=8.4km az=8.4*
*NEIC **01** 01:31:02.7±1.3, 3.°17S×148.°66E, h10km, mb4.4/6, Error ellipse: s-maj=40.2km s-min=12.8km az=102.0*
ISC 01 01:31:03.4±1.1, **3.°08S**±0.°07×**148.°5E**±0.°2, **h10**km, **n32**, σ**1.s34**/32, **mb4.0**/15, **Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.43**	**192**	Pn	**Pn**	**01 32 47.7**	**+10**
	0.6nm,0.3s,baz=352,slow=11,SNR=3.7						
PMG				Sn	**Sn**	**01 33 53.5**	**+1.7**
	0.9nm,0.3s,baz=330,slow=15,SNR=2.4						
PMG	**Port Moresby**	**6.43**	**192**	Pn	**Pn**	**01 32 47.7**	**+10**
PMG				Sn	**Sn**	**01 33 53.5**	**+1.7**
COEN	**Coen**	**12.03**	**206**	*e*P	**Pn**	**01 33 55.2**	**+0.2**
KAKA	**Kakadu**	**18.57**	**238**	*e*P	**Pn**	**01 35 20.9**	**+0.1**
	859nm,1.3s						
WRAB	**Tennant Creek**	**21.73**	**218**	*e*P	**P**	**01 35 53.3**	**-1.7**
	17nm,0.8s,mb4.5						
WB2	**Warramunga Arr**	**21.73**	**218**	*e*P	**P**	**01 35 53.2**	**-1.8**
WRA	**Warramunga Arr**	**21.74**	**218**	P	**P**	**01 35 53.2**	**-1.9**
	3.2nm,0.9s,mb3.8,baz=44,slow=12,SNR=16						
WRA	**Warramunga Arr**	**21.74**	**218**	P	**P**	**01 35 53.2**	**-1.9**
ASAR	**Alice Springs**	**24.88**	**213**	P	**P**	**01 36 24.4**	**-2.0**
	5.2nm,0.9s,mb4.0,baz=49,slow=8.1,SNR=26						
ASAR	**Alice Springs**	**24.88**	**213**	P	**P**	**01 36 24.4**	**-2.0**
FITZ	**Fitzroy Crossi**	**26.94**	**235**	P	**P**	**01 36 47.3**	**+2.1**
	10nm,1.0s,mb4.3,baz=70,slow=6.5,SNR=11						
FITZ	**Fitzroy Crossi**	**26.94**	**235**	*e*P	**P**	**01 36 47.1**	**+1.9**
	42nm,0.9s,mb5.0						
FITZ	**Fitzroy Crossi**	**26.94**	**235**	P	**P**	**01 36 47.3**	**+2.1**
MBWA	**Marble Bar**	**33.28**	**235**	*e*P	**P**	**01 37 42.0**	**+0.7**
	12nm,1.1s,mb4.8						
CMAR	**Chiang Mai Arr**	**53.28**	**296**	P	**P**	**01 40 25.7**	**+2.9**
	0.5nm,0.3s,mb3.9,baz=96,slow=8.3,SNR=3.3						
CMAR	**Chiang Mai Arr**	**53.28**	**296**	P	**P**	**01 40 25.7**	**+2.9**
SONM	**Songino Array**	**62.64**	**329**	P	**P**	**01 41 27.5**	**-0.4**
	0.1nm,0.3s,mb3.4,baz=142,slow=5.7,SNR=2.1						
SONM	**Songino Array**	**62.64**	**329**	P	**P**	**01 41 27.6**	**-0.4**
VNDA	**Vanda**	**74.73**	**177**	*e*P	**P**	**01 42 43.5**	**+0.5**
	2.6nm,1.1s,mb4.1						
MKAR	**Makanchi Array**	**76.24**	**320**	P	**P**	**01 42 52.1**	**-0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.4nm,0.2s,mb3.9,baz=90,slow=4.2,SNR=5.9						
MKAR	**Makanchi Array**	**76.24**	**320**	P	**P**	**01 42 52.1**	**-0.1**
ZALV	**Zalesovo Beam**	**77.38**	**327**	P	**P**	**01 42 57.2**	**-1.2**
	0.4nm,0.4s,mb3.7,baz=104,slow=6.1,SNR=2.5						
ZALV	**Zalesovo Beam**	**77.38**	**327**	P	**P**	**01 42 57.2**	**-1.2**
KZA	**Kyzart**	**79.72**	**314**	*e*P	**P**	**01 43 11.3**	**-0.3**
	7.2nm,1.1s,mb4.5						
KURK	**Kurchatov**	**79.80**	**323**	*e*P	**P**	**01 43 13.5**	**+1.6**
	3.2nm,1.0s,mb4.2						
ILAR	**Eielson Array**	**82.21**	**23**	P	**P**	**01 43 20.4**	**-4.0**
	0.3nm,0.9s,mb3.2,baz=279,slow=5.1,SNR=3.6						
ILAR	**Eielson Array**	**82.21**	**23**	P	**P**	**01 43 20.4**	**-4.0**
KKAR	**Karatay Array**	**83.36**	**314**	*e*P	**P**	**01 43 32.1**	**+1.3**
	3.0nm,1.2s,mb4.2						
BVAR	**Borovoye Array**	**85.32**	**324**	P	**P**	**01 43 40.2**	**-0.4**
	0.3nm,0.3s,mb3.8,baz=139,slow=4.8,SNR=3.3						
BVAR	**Borovoye Array**	**85.32**	**324**	P	**P**	**01 43 40.2**	**-0.4**
TORD	**Torodi Ar. Bea**	**145.71**	**289**	PKPbc	PKPbc	01 50 43.3	-0.3
	0.7nm,0.8s,baz=66,slow=2.4,SNR=3.3						
TORD	**Torodi Ar. Bea**	**145.71**	**289**	PKPbc	PKPbc	01 50 43.3	-0.3

BJI ***01*** *01:34:21.0, 7.°00S×129.°58E, h10km, mB5.7/23, mb5.2/55, Ms5.4/35, Ms7 5.1/35*

ISCJB ***01*** *01:34:24.9±0.9, 6.°61S±0.°03×129.°32E±0.°03, h10km±5km, mb5.3/122, MS5.2/36, Error ellipse: s-maj=4.6km s-min=3.9km az=137.4*

IDC ***01*** *01:34:25.2±0.4, 6.°66S×129.°12E, h0km, mb5.2/23, mb1 5.2/26, mb1mx5.2/28, mbtmp5.2/26, ML5.1/3, MS5.3/16, Ms1 5.3/16, ms1mx5.2/23, Error ellipse: s-maj=15.6km s-min=10.8km az=69.0*

NEIC ***01*** *01:34:26.4±0.1, 6.°68S×129.°23E, h10km, mb5.4/67, MW5.7, Error ellipse: s-maj=5.8km s-min=3.9km az=57.0*

TEH ***01*** *01:34:27.0, 6.°68S×129.°25E, h10km*

MOS ***01*** *01:34:29.4±0.9, 6.°45S×129.°27E, h33km, mb5.6/47, MS5.2/11, Error ellipse: s-maj=10.4km s-min=5.7km az=118.6*

DJA ***01*** *01:34:29.6±0.8, 7.°S±2.°×12.°9E±.°, h30km±8km, mb5.5/20, mB6.1/7, MLv6.1/2, Mw(mB)5.7/7*

GCMT ***01*** *01:34:31.1±0.1, 6.°55S×129.°20E, h21km, MW5.8, Moment Tensor Solution. s80,c131; s58,c73; Moment tensor: Scale 10^{17}Nm; M_{rr}-0.05±.09; $M_{\theta\theta}$-5.48±.08; $M_{\phi\phi}$5.54±.08; $M_{r\theta}$-0.60±.15; $M_{\theta\phi}$1.95±.07; $M_{\phi r}$1.81±.18; Best double couple: $M_0$6.10000×10^{17} NP1:ϕ_s55.00000°, δ73.00000°, λ4.00000°. NP2:ϕ_s324.00000°, δ86.00000°, λ163.00000°. Principal axes: T 6.3200, Plg15.0000°, Azm279.0000°; N -0.3600, Plg72.0000°, Azm131.0000°; P -5.9600, Plg9.0000°, Azm11.0000°; Data Used: IU II IC G CN. Surface waves: sta=116, comp=214, per= 50.*

ISC 01 01:34:29.0±0.8**, 6.°65S**±0.°03×**129.°31E**±0.°03**, h25**km±5km**, h16**km±1.9km**:pP-P, n548,** σ**1.°06**/412**, mb5.3**/122**, MS5.2**/36**, 11C-10D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.14**	**339**	P	**Pn**	**01 35 14.2**	**-2.8**
AAI				S	**Sn**	**01 35 46.3**	**-7.4**
MSAI	**Masohi**	**3.30**	**353**	P	**Pn**	**01 35 16.9**	**-2.3**
NLAI	**Namlea**	**4.04**	**327**	P	**Pn**	**01 35 29.4**	**+0.1**
NLAI				S	**Sn**	**01 36 11.9**	**-3.9**
LBMI	**Labuha**	**6.24**	**343**	P	**Pn**	**01 36 00.1**	**+0.6**
LBMI				S	**Sn**	**01 37 08.5**	**-1.6**
KAKA	**Kakadu**	**6.77**	**153**	*e*P	**Pn**	**01 36 06.5**	**-0.3**
	471nm,0.5s						
KAKA	**Kakadu**	**6.77**	**153**	P	**Pn**	**01 36 07.2**	**+0.4**
	22nm2μm,0.6s						
BBSI	**Bau Bau**	**6.80**	**279**	P	**Pn**	**01 36 07.7**	**+0.5**
KMSI	**Cibinong**	**8.93**	**323**	P	**Pn**	**01 36 38.7**	**+2.2**
BKSI	**Bulukumba**	**9.23**	**278**	P	**Pn**	**01 36 40.5**	**-0.1**
KAPI	**Kappang**	**9.64**	**279**	*e*Pn	**Pn**	**01 36 45.8**	**-0.5**
KAPI	**Kappang**	**9.64**	**279**	P	**Pn**	**01 36 45.9**	**-0.4**
	9μm816nm,1.1s						
KAPI	**Kappang**	**9.64**	**279**	P	**Pn**	**01 36 46.0**	**-0.3**
	SNR=103						
MRSI	**Marisa**	**10.21**	**314**	P	**Pn**	**01 36 55.0**	**+1.0**
SMPI	**Sarmi**	**10.46**	**64**	P	**Pn**	**01 36 56.9**	**-0.5**
BMNI	**Bima**	**10.69**	**259**	P	**Pn**	**01 37 01.1**	**+0.5**
MJSI	**Majene**	**10.73**	**286**	P	**Pn**	**01 37 02.3**	**+1.0**
SGSI	**Sangihe**	**10.94**	**340**	P	**Pn**	**01 37 04.4**	**+0.4**
	9μm1μm,0.6s						
FITZ	**Fitzroy Crossi**	**11.93**	**197**	Pn	**Pn**	**01 37 14.9**	**-2.7**
	10nm,0.3s,baz=27,slow=11,SNR=114						
FITZ				Sn	**Sn**	**01 39 20.3**	**-10**
	11nm,0.3s,baz=56,slow=5.8,SNR=5.6						
FITZ				LR	LR	01 42 41.0	
	comp=Z,12μm,19.2s,baz=20,slow=42						
FITZ	**Fitzroy Crossi**	**11.93**	**197**	*e*P	**Pn**	**01 37 14.6**	**-3.0**
	295nm,0.6s						
FITZ				*e*S	**Sn**	**01 39 22.5**	**-7.5**
FITZ	**Fitzroy Crossi**	**11.93**	**197**	*e*Pn	**Pn**	**01 37 14.2**	**-3.4**
	128nm,0.6s						
FITZ				*e*Sn	**Sn**	**01 39 20.6**	**-9.4**
FITZ	**Fitzroy Crossi**	**11.93**	**197**	P	**Pn**	**01 37 15.1**	**-2.5**
	231nm,0.9s						
JAY	**Jayapura**	**12.08**	**71**	P	**Pn**	**01 37 19.2**	**-0.5**
MTNI	**Mataram**	**13.17**	**261**	P	**Pn**	**01 37 33.2**	**-1.4**
KBKI	**Kotabaru**	**13.51**	**284**	P	**Pn**	**01 37 40.3**	**+1.1**
SMKI	**Samarinda**	**13.55**	**297**	P	**Pn**	**01 37 41.0**	**+1.2**
SRBI	**Singaraja**	**14.05**	**263**	P	**Pn**	**01 37 46.8**	**+0.2**
WRAB	**Tennant Creek**	**14.08**	**160**	*e*Pn	**Pn**	**01 37 42.2**	**-4.8**
WRAB	**Tennant Creek**	**14.08**	**160**	*e*P	**Pn**	**01 37 42.3**	**-4.7**
WRAB	**Tennant Creek**	**14.08**	**160**	Pn	**Pn**	**01 37 43.2**	**-3.8**
	1μm,0.5s,SNR=48						
WRAB	**Tennant Creek**	**14.08**	**160**	P	**Pn**	**01 37 42.7**	**-4.3**
	570nm,1.3s						
WRA	**Warramunga Arr**	**14.09**	**160**	Pn	**Pn**	**01 37 42.7**	**-4.4**
	9.7nm,0.3s,baz=343,slow=14,SNR=70						
WRA				Sn	**Sn**	**01 40 10.4**	**-12**
	30nm,0.3s,baz=338,slow=22,SNR=11						
WRA				LR	LR	01 43 47.9	
	comp=Z,27μm,19.3s,baz=335,slow=40						
WRA	**Warramunga Arr**	**14.09**	**160**	Pn	**Pn**	**01 37 42.7**	**-4.4**
WRA				Sn	**Sn**	**01 40 10.4**	**-12**
WRA				LR	LR	01 43 47.9	
WRA	**Warramunga Arr**	**14.09**	**160**	P	**Pn**	**01 37 42.7**	**-4.4**
WB2	**Warramunga Arr**	**14.09**	**160**	*e*Pn	**Pn**	**01 37 42.5**	**-4.7**
WB2				*e*Sn	**Sn**	**01 40 08.7**	**-14**
DAV	**Davao City (W)**	**14.13**	**345**	Pn	**Pn**	**01 37 48.1**	**+0.5**
	42nm,0.3s,baz=188,slow=7.1,SNR=3.1						
DAV	**Davao City (W)**	**14.13**	**345**	Pn	**Pn**	**01 37 48.1**	**+0.5**
DAV	**Davao City (W)**	**14.13**	**345**	P	**Pn**	**01 37 48.5**	**+0.8**
	SNR=6.6						
DMPH	**Davao City--Mi**	**14.16**	**344**	*e*P	**Pn**	**01 37 47.3**	**-0.8**
NBBI	**Negara**	**14.66**	**262**	P	**Pn**	**01 37 58.6**	**+3.6**
BBKI	**Banjar Baru**	**14.75**	**282**	P	**Pn**	**01 37 58.2**	**+2.0**
KMMI	**Kalianget**	**15.24**	**268**	P	**Pn**	**01 38 03.9**	**+1.3**
COEN	**Coen**	**15.45**	**119**	*e*Pn	**Pn**	**01 38 03.0**	**-2.4**
	1μm,1.0s						
COEN	**Coen**	**15.45**	**119**	P	**Pn**	**01 38 02.7**	**-2.7**
	219nm,1.3s						
TSM	**Tawau**	**15.76**	**313**	P	**Pn**	**01 38 12.1**	**+2.6**
GMJI	**Gumukmas**	**15.81**	**263**	P	**Pn**	**01 38 10.2**	**+0.1**
PLKI	**Palangkaraya**	**15.93**	**285**	P	**Pn**	**01 38 12.0**	**+0.3**
MYLDM	**Lahad Datu**	**15.95**	**317**	P	**Pn**	**01 38 15.3**	**+3.4**
MYLDM	**Lahad Datu**	**15.95**	**317**	P	**Pn**	**01 38 14.6**	**+2.7**
	238nm,1.2s						
TBP	**Tagbilaran**	**17.11**	**341**	*e*P	**Pn**	**01 38 30.7**	**+4.0**
MBWA	**Marble Bar**	**17.14**	**212**	*e*Pn	**Pn**	**01 38 24.9**	**-2.2**
	19nm,0.6s						
MBWA	**Marble Bar**	**17.14**	**212**	P	**Pn**	**01 38 25.8**	**-1.2**
	405nm,1.2s						
MBWA	**Marble Bar**	**17.14**	**212**	P	**Pn**	**01 38 29.9**	**+2.9**
	SNR=26						
SDKM	**Sandakan**	**17.18**	**315**	P	**Pn**	**01 38 32.1**	**+4.6**
PWJI	**Pagerwojo**	**17.41**	**264**	P	**Pn**	**01 38 28.1**	**-2.3**
SJI	**Sawahan**	**17.43**	**265**	P	**Pn**	**01 38 31.3**	**+0.6**
ASAR	**Alice Springs**	**17.49**	**166**	Pn	**Pn**	**01 38 28.1**	**-3.2**
	3.1nm,0.3s,baz=337,slow=11,SNR=64						
ASAR				Sn	**Sn**	**01 41 35.0**	**-10**
	8.9nm,0.3s,baz=354,slow=26,SNR=5.0						
ASAR	**Alice Springs**	**17.49**	**166**	Pn	**Pn**	**01 38 28.1**	**-3.2**
ASAR				Sn	**Sn**	**01 41 35.0**	**-10**
ASAR	**Alice Springs**	**17.49**	**166**	P	**Pn**	**01 38 28.1**	**-3.2**
NGJI	**Ngawi**	**17.73**	**267**	P	**Pn**	**01 38 35.7**	**+1.4**
PMG	**Port Moresby**	**17.89**	**100**	P	**Pn**	**01 38 38.5**	**+2.2**
	7.0nm,0.3s,baz=285,slow=4.9,SNR=20						
PMG				LR	LR	01 46 21.7	
	comp=Z,15μm,18.8s,baz=250,slow=40						
PMG	**Port Moresby**	**17.89**	**100**	*e*P	**Pn**	**01 38 37.9**	**+1.6**
	307nm,1.1s						
PMG	**Port Moresby**	**17.89**	**100**	P	**Pn**	**01 38 38.5**	**+2.2**
PMG				pmax	pmax		
	comp=Z,7.0nm,0.3s						
PMG				MLR	MLR		
	comp=Z,15μm,18.8s						
PMG	**Port Moresby**	**17.89**	**100**	P	**Pn**	**01 38 36.3**	**0.0**
	comp=Z,295nm,1.4s						
PBKI	**Pangkalan Bun**	**18.01**	**282**	P	**Pn**	**01 38 39.1**	**+1.3**
PCJI	**Pacitan**	**18.04**	**264**	P	**Pn**	**01 38 35.6**	**-2.6**
KKM	**Kota Kinabalu**	**18.16**	**314**	P	**Pn**	**01 38 41.9**	**+2.3**
KKM	**Kota Kinabalu**	**18.16**	**314**	*e*P	**Pn**	**01 38 39.0**	**-0.6**
	comp=Z,407nm,1.5s						
KKM	**Kota Kinabalu**	**18.16**	**314**	P	**Pn**	**01 38 40.9**	**+1.3**
	comp=Z,4μmcomp=Z,200nm,1.5s						
KDM	**Kudat**	**18.34**	**317**	P	**Pn**	**01 38 46.2**	**+4.3**
YOGI	**Yogyakarta**	**18.90**	**265**	P	**Pn**	**01 38 47.1**	**-1.5**
BTM	**Bintulu**	**18.92**	**301**	P	**Pn**	**01 38 50.2**	**+1.2**
STKI	**Sintang**	**19.00**	**290**	P	**Pn**	**01 38 50.5**	**+0.6**
RCP	**Roxas**	**19.23**	**340**	⇑*e*P	**Pn**	**01 38 58.4**	**+5.8**
SBUM	**Sibu**	**19.30**	**297**	P	**Pn**	**01 38 54.2**	**+0.7**
SBUM	**Sibu**	**19.30**	**297**	P	**Pn**	**01 38 53.6**	**+0.1**
	comp=Z,5μmcomp=Z,260nm,1.6s						
CNP	**Catarman**	**19.59**	**346**	*e*P	**Pn**	**01 38 56.9**	**0.0**
CNP				*e*S	pP	01 39 07.8	+5.5
KSM	**Kuching**	**20.61**	**292**	P	**P**	**01 39 07.8**	**+1.2**
KSM	**Kuching**	**20.61**	**292**	*e*P	**P**	**01 39 07.6**	**+1.0**
	comp=Z,323nm,1.2s						
KSM	**Kuching**	**20.61**	**292**	P	**P**	**01 39 06.8**	**+0.2**
	comp=Z,3μmcomp=Z,249nm,1.1s						
PVCP	**Virac**	**20.75**	**346**	*e*P	**P**	**01 39 08.7**	**+0.6**
PVCP				*e*S		01 39 19.6	
JCJI	**Jatiwangi**	**20.90**	**269**	P	**P**	**01 39 10.7**	**+0.9**
CTA	**Charters Tower**	**21.19**	**131**	P	**P**	**01 39 14.9**	**+2.1**
	comp=Z,29nm,0.8s,mb4.7,baz=309,slow=12,SNR=21						
CTA				LR	LR	01 48 24.4	
	comp=Z,22μm,18.2s,MS5.6,baz=309,slow=39						
CTA	**Charters Tower**	**21.19**	**131**	*e*P	**P**	**01 39 14.7**	**+1.9**
	comp=Z,61nm,0.8s,mb5.0						
CTA				*e*S	**S**	**01 43 01.2**	**-6.1**
CTA	**Charters Tower**	**21.19**	**131**	P	**P**	**01 39 14.9**	**+2.1**
CTA				LR	LR	01 48 24.4	
CTA	**Charters Tower**	**21.19**	**131**	P	**P**	**01 39 14.9**	**+2.1**
CTAO	**Charters Tower**	**21.19**	**131**	*e*P	**P**	**01 39 14.1**	**+1.2**
	comp=Z,204nm,1.2s,mb5.3						
CTAO				LR	LR		
	comp=Z,20μm,19.0s,MS5.5						
CTAO	**Charters Tower**	**21.19**	**131**	*e*P	**P**	**01 39 14.1**	**+1.3**
CTAO				pmax	pmax		
	comp=Z,204nm,1.2s,mb5.3						
CTAO				MLR	MLR		
	comp=Z,20μm,19.0s,MS5.5						
CTAO	**Charters Tower**	**21.19**	**131**	P	**P**	**01 39 13.5**	**+0.7**
	comp=Z,173nm,1.2s,mb5.2						
TGY	**Tagaytay City**	**22.23**	**338**	P	**P**	**01 39 25.5**	**+1.6**
	comp=Z,281nm,0.5s,mb5.9,baz=163,slow=8.4,SNR=21						
TGY	**Tagaytay City**	**22.23**	**338**	P	**P**	**01 39 25.5**	**+1.6**
TGY	**Tagaytay City**	**22.23**	**338**	P	**P**	**01 39 25.5**	**+1.6**
CBJI	**Citeko**	**22.31**	**269**	P	**P**	**01 39 23.7**	**-1.2**
DBJI	**Dramaga**	**22.41**	**269**	P	**P**	**01 39 26.4**	**+0.5**
SBJI	**Serang**	**23.04**	**270**	P	**P**	**01 39 32.2**	**-0.4**
CGJI	**Cibinong**	**23.45**	**269**	P	**P**	**01 39 33.6**	**-3.4**
PPBI	**Pangkal Pinang**	**23.52**	**280**	P	**P**	**01 39 37.2**	**-0.4**
FORT	**Forrest**	**24.03**	**183**	*e*P	**P**	**01 39 42.6**	**+0.5**
	comp=Z,127nm,0.6s,mb5.5						
FORT				*e*S	**S**	**01 43 56.8**	**-1.1**
FORT	**Forrest**	**24.03**	**183**	*e*P	**P**	**01 39 42.0**	**-0.1**
	comp=Z,158nm,0.8s,mb5.5						
KLI	**Kotabumi**	**24.39**	**273**	P	**P**	**01 39 46.0**	**+0.4**
PMBI	**Palembang**	**24.72**	**277**	P	**P**	**01 39 52.0**	**+3.4**
MDSI	**Maura Dua**	**25.10**	**274**	P	**P**	**01 39 51.2**	**-0.8**
	comp=Z,72nm,1.9s,mb4.9						
LWLI	**Liwa**	**25.17**	**272**	P	**P**	**01 39 52.6**	**-0.1**
GUMO	**Guam**	**25.36**	**38**	P	**P**	**01 39 57.0**	**+2.7**
	comp=Z,109nm,1.0s,mb5.3,baz=205,slow=13,SNR=5.7						
GUMO				LR	LR	01 48 52.7	
	comp=Z,3μm,21.1s,MS4.8,baz=219,slow=34						
GUMO	**Guam**	**25.36**	**38**	P	**P**	**01 39 57.0**	**+2.7**
GUMO				LR	LR	01 48 52.7	
GUMO	**Guam**	**25.36**	**38**	P	**P**	**01 39 57.0**	**+2.7**
GUMO	**Guam**	**25.36**	**38**	P	**P**	**01 39 54.7**	**+0.4**
	comp=Z,308nm,1.3s,mb5.7						
MYKOM	**Kota Tinggi**	**26.76**	**287**	P	**P**	**01 40 06.9**	**-0.1**
MYKOM	**Kota Tinggi**	**26.76**	**287**	P	**P**	**01 40 07.4**	**+0.3**
	comp=Z,113nm,1.7s,mb5.1						
BBOO	**Buckleboo**	**26.78**	**167**	*e*P	**P**	**01 40 07.5**	**+0.6**
KLBR	**Kellerberrin**	**27.06**	**202**	*e*P	**P**	**01 40 09.8**	**+0.2**
	comp=Z,100nm,0.7s,mb5.5						
KGM	**Kluang**	**27.33**	**287**	P	**P**	**01 40 11.7**	**-0.5**
STKA	**Stephens Creek**	**27.60**	**157**	P	**P**	**01 40 15.6**	**+1.2**
	comp=Z,31nm,0.7s,mb5.0,baz=326,slow=8.2,SNR=29						
STKA				LR	LR	01 52 23.0	
	comp=Z,17μm,18.7s,MS5.6,baz=325,slow=39						
STKA	**Stephens Creek**	**27.60**	**157**	*e*P	**P**	**01 40 15.2**	**+0.8**
	comp=Z,59nm,1.2s,mb5.1						
EIDS	**Eidsvold**	**27.93**	**134**	*e*P	**P**	**01 40 17.7**	**+0.3**
NWAO	**Narrogin (SRO)**	**28.45**	**202**	P	**P**	**01 40 20.6**	**-1.5**
	comp=Z,38nm,0.7s,mb5.2,baz=39,slow=9.7,SNR=18						
NWAO				LR	LR	01 53 08.5	
	comp=Z,5μm,18.1s,MS5.2,baz=24,slow=40						
NWAO	**Narrogin (SRO)**	**28.45**	**202**	*e*P	**P**	**01 40 20.5**	**-1.5**
	comp=Z,47nm,0.8s,mb5.2						
NWAO	**Narrogin (SRO)**	**28.45**	**202**	P	**P**	**01 40 20.6**	**-1.4**
NWAO				pmax	pmax		
	comp=Z,39nm,0.7s						
NWAO				MLR	MLR		
	comp=Z,5μm,18.1s						
KTGM	**Kuala Trenggan**	**28.70**	**294**	P	**P**	**01 40 24.1**	**-0.4**
FRIM	**Kepong**	**29.33**	**289**	P	**P**	**01 40 29.0**	**-1.1**
PDSI	**Padang**	**29.33**	**280**	P	**P**	**01 40 29.0**	**-1.0**
IPM	**Ipoh**	**30.32**	**291**	P	**P**	**01 40 37.9**	**-0.9**
IPM	**Ipoh**	**30.32**	**291**	*e*P	**P**	**01 40 37.5**	**-1.3**
	comp=Z,35nm,0.9s,mb5.1						
IPM	**Ipoh**	**30.32**	**291**	P	**P**	**01 40 38.2**	**-0.6**
	comp=Z,49nm,1.2s,mb5.1						
HNR	**Honiara**	**30.46**	**97**	P	**P**	**01 40 40.4**	**+0.4**
	comp=Z,35nm,0.6s,mb5.3,baz=227,slow=5.0,SNR=3.9						
HNR				LR	LR	01 53 23.1	
	comp=Z,4μm,18.3s,MS5.1,baz=266,slow=37						
HNR	**Honiara**	**30.46**	**97**	*e*P	**P**	**01 40 39.5**	**-0.6**
	comp=Z,148nm,1.0s,mb5.7						
HNR	**Honiara**	**30.46**	**97**	*e*P	**P**	**01 40 39.5**	**-0.5**
HNR				pmax	pmax		
	comp=Z,148nm,1.0s,mb5.7						
MNSI	**Mandailing Nat**	**30.57**	**283**	P	**P**	**01 40 40.4**	**-0.7**
KULM	**Kulim**	**30.96**	**292**	P	**P**	**01 40 43.7**	**-0.8**
KULM	**Kulim**	**30.96**	**292**	*e*P	**P**	**01 40 42.3**	**-2.2**
	comp=Z,49nm,1.0s,mb5.3						
KULM				LR	LR		
	comp=Z,7μm,20.0s,MS5.3						
KULM	**Kulim**	**30.96**	**292**	P	**P**	**01 40 42.7**	**-1.8**
SSLB	**Suanglung**	**31.33**	**345**	*e*P	**P**	**01 40 45.7**	**-1.9**
	comp=Z,56nm,1.1s,mb5.3						
ARMA	**Armidale**	**31.60**	**141**	*e*P	**P**	**01 40 52.8**	**+2.9**
PSI	**Prapat**	**31.75**	**286**	P	**P**	**01 40 49.6**	**-1.8**
	comp=Z,64nm,0.9s,mb5.5,baz=132,slow=3.9,SNR=18						
PSI	**Prapat**	**31.75**	**286**	P	**P**	**01 40 49.6**	**-1.8**
PSI	**Prapat**	**31.75**	**286**	P	**P**	**01 40 49.6**	**-1.8**
QIZ	**Qiongzhong**	**31.92**	**323**	P	**P**	**01 40 53.5**	**+0.7**
QIZ				sP	sP	01 40 57.9	-5.5
QIZ				PP	PP	01 42 05.8	+0.5
QIZ				S	**S**	**01 46 06.1**	**+3.4**
QIZ				LR	LR		
	comp=N,5μm,22.4s,MS5.1						
QIZ				LR	LR		
	comp=E,2μm,23.3s,MS5.1						
QIZ				LR	LR		
	comp=Z,3μm,20.8s,MS4.9						
YHNB	**Yeheng**	**32.07**	**346**	*e*P	**P**	**01 40 53.5**	**-0.6**
	comp=Z,79nm,1.2s,mb5.4						
JOW	**Kunigami**	**33.30**	**358**	*e*P	**P**	**01 41 05.2**	**+0.5**
	comp=Z,48nm,1.1s,mb5.3						
TPTI		**33.55**	**286**	P	**P**	**01 41 07.4**	**+0.2**
CAN	**Canberra**	**33.80**	**150**	*e*P	**P**	**01 41 10.6**	**+1.6**
	comp=Z,92nm,1.1s,mb5.6						
CAN				LR	LR		
	comp=Z,4μm,19.0s,MS5.2						
CAN	**Canberra**	**33.80**	**150**	*e*P	**P**	**01 41 10.6**	**+1.5**
CAN				pmax	pmax		
	comp=Z,92nm,1.1s,mb5.6						
CAN				MLR	MLR		
	comp=Z,4μm,19.0s,MS5.2						
CNB	**Canberra Magne**	**33.97**	**150**	*e*P	**P**	**01 41 12.7**	**+2.1**
TOO	**Toolangi**	**34.12**	**157**	*e*P	**P**	**01 41 14.6**	**+2.8**
CBIJ	**Chichi jima**	**35.79**	**20**	LR	LR	01 53 50.0	
	comp=Z,5μm,21.1s,MS5.2,baz=307,slow=32						
NST	**Nakhon Sawan**	**36.42**	**308**	P	**P**	**01 41 32.0**	**+0.1**
BDT	**Bhumibol Dam**	**38.22**	**309**	P	**P**	**01 41 47.5**	**+0.4**
	comp=Z,16nm,1.0s,mb4.7						
DZM	**Mont Dzumac**	**38.97**	**117**	*e*P	**P**	**01 41 53.9**	**+0.4**
	comp=Z,55nm,1.3s,mb5.1						
CM31	**Chiang Mai Arr**	**38.98**	**310**	*e*P	**P**	**01 41 54.2**	**+0.7**
	comp=Z,43nm,1.1s,mb5.1						
CMAR	**Chiang Mai Arr**	**38.98**	**310**	P	**P**	**01 41 53.4**	**-0.2**
	comp=Z,14nm,0.7s,mb4.8,baz=139,slow=7.1,SNR=48						
CMAR				ScP	ScP	01 47 52.8	+2.1
	comp=Z,1.1nm,0.3s,baz=170,slow=2.7,SNR=4.0						
CMAR	**Chiang Mai Arr**	**38.98**	**310**	P	**P**	**01 41 53.4**	**-0.2**
CMAR				ScP	ScP	01 47 52.8	+2.1
CMAR	**Chiang Mai Arr**	**38.98**	**310**	P	**P**	**01 41 53.4**	**-0.1**
CMAR						01 47 52.8	
MOO	**Moorlands**	**39.00**	**159**	*e*P	**P**	**01 41 57.9**	**+4.5**
CHG	**Chiang Mai**	**39.19**	**311**	⇓P	**P**	**01 41 55.4**	**+0.1**
CHG				S		01 41 56.0	
CHTO	**Chiang Mai**	**39.19**	**311**	*e*P	**P**	**01 41 55.1**	**-0.2**
	comp=Z,52nm,1.0s,mb5.2						
CHTO				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
CHTO	**Chiang Mai**	**39.19**	**311**	*e*P	**P**	**01 41 55.2**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,52nm,1.0s,mb5.2						
CHTO				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.2						
CHTO	**Chiang Mai**	**39.19**	**311**	P	**P**	**01 41 56.1**	**+0.8**
	SNR=23						
CHRT	**Chiangrai**	**39.22**	**313**	⇑P	**P**	**01 41 55.5**	**-0.1**
	comp=Z,316nm,1.0s,mb6.0						
GYA	**Guiyang**	**39.57**	**327**	P	**P**	**01 41 58.3**	**0.0**
GYA				PP	PP	01 43 35.7	+6.2
GYA				ScP	ScP	01 47 55.8	+3.0
GYA				S	**S**	**01 48 01.4**	**+1.7**
GYA				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.3						
GYA				pmax	pmax		
	comp=Z,450nm,4.3s						
GYA				LR	LR		
	comp=N,2μm,18.3s,MS5.1						
GYA				LR	LR		
	comp=E,2μm,18.3s,MS5.1						
GYA				LR	LR		
	comp=Z,3μm,19.2s,MS5.1						
JNU	**Nakatsue**	**39.58**	**2**	*e*P	**P**	**01 41 58.0**	**-0.3**
	comp=Z,21nm,0.8s,mb4.9						
WHN	**Wuhan**	**39.66**	**340**	⇑P	**P**	**01 41 59.7**	**+0.6**
WHN				pP	pP	01 42 09.3	+2.6
WHN				pmax	pmax		
	comp=Z,230nm,1.1s,mb5.8						
NJ2	**Nanjing**	**39.75**	**346**	*e*P	**P**	**01 42 00.6**	**+0.8**
NJ2				pP	pP	01 42 05.2	-2.2
NJ2				sP	sP	01 42 07.8	-2.7
NJ2				PP	PP	01 43 36.9	+5.4
NJ2				S	**S**	**01 48 09.0**	**+6.6**
NJ2				sS	sS	01 48 15.5	+0.6
NJ2				pmax	pmax		
	comp=Z,100nm,1.0s,mb5.5						
NJ2				pmax	pmax		
	comp=Z,810nm,8.5s						
NJ2				LR	LR		
	comp=N,2μm,22.8s,MS4.9						
NJ2				LR	LR		
	comp=E,1μm,26.5s,MS4.9						
NJ2				LR	LR		
	comp=Z,2μm,25.3s,MS4.8						
KMI	**Kunming**	**40.81**	**322**	P	**P**	**01 42 10.5**	**+1.8**
KMI				pmax	pmax		
	comp=Z,24nm,1.0s,mb4.8						
ENH	**Enshi**	**41.34**	**334**	*e*P	**P**	**01 42 11.6**	**-1.4**
	comp=Z,48nm,0.8s,mb5.2						
MJAR	**Matsushiro Arr**	**43.77**	**10**	P	**P**	**01 42 31.8**	**-0.8**
	comp=Z,69nm,0.9s,mb5.4,baz=192,slow=10,SNR=77						
MJAR				LR	LR	01 57 57.6	
	comp=Z,2μm,21.0s,MS5.1,baz=170,slow=32						
MJAR	**Matsushiro Arr**	**43.77**	**10**	P	**P**	**01 42 31.8**	**-0.8**
MJAR				LR	LR	01 57 57.6	
MJAR	**Matsushiro Arr**	**43.77**	**10**	P	**P**	**01 42 31.8**	**-0.8**
MAJO	**Matsushiro**	**43.77**	**10**	*e*P	**P**	**01 42 31.1**	**-1.4**
	comp=Z,105nm,0.9s,mb5.6						
MAJO				LR	LR		
	comp=Z,2μm,22.0s,MS5.0						
MAJO	**Matsushiro**	**43.77**	**10**	*e*P	**P**	**01 42 31.1**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,105nm,0.9s,mb5.6						
MAJO				MLR	MLR		
	comp=Z,2μm,22.0s,MS5.0						
MAT	**Matsushiro**	**43.77**	**10**	P	**P**	**01 42 31.1**	**-1.5**
KSRS	**Korea Array**	**43.89**	**358**	P	**P**	**01 42 34.4**	**+0.8**
	comp=Z,21nm,0.7s,mb5.0,baz=173,slow=9.4,SNR=66						
KSRS	**Korea Array**	**43.89**	**358**	P	**P**	**01 42 34.4**	**+0.9**
KSRS				pmax	pmax		
	comp=Z,21nm,0.7s,mb5.0						
INCN	**Inchon**	**43.97**	**357**	*e*P	**P**	**01 42 34.9**	**+0.7**
	comp=Z,25nm,0.7s,mb5.0						
CD2	**Chengdu**	**44.64**	**328**	P	**P**	**01 42 39.6**	**-0.1**
CD2				pP	pP	01 42 44.2	-3.2
CD2				sP	sP	01 42 46.4	-4.0
CD2				PP	PP	01 44 25.3	+1.0
CD2				S	**S**	**01 49 15.8**	**+1.2**
CD2				SS	SS	01 52 28.1	-7.2
CD2				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.2						
CD2				pmax	pmax		
	comp=Z,7μm,10.5s						
CD2				LR	LR		
	comp=N,2μm,21.0s						
CD2				LR	LR		
	comp=Z,3μm,16.7s,MS5.3						
XAN	**Xi'an**	**44.84**	**336**	P	**P**	**01 42 40.1**	**-1.1**
XAN				pP	pP	01 42 44.5	-4.4
XAN				S	**S**	**01 49 22.4**	**+5.1**
XAN				SS	SS	01 52 35.4	-3.6
XAN				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.9						
XAN				LR	LR		
	comp=N,1μm,21.9s						
XAN				LR	LR		
	comp=Z,780nm,19.2s,MS4.7						
AGT	**Agartala**	**47.96**	**311**	*e*PKP	**P**	**01 43 05.0**	**-0.9**
AGT				*e*x	x	01 43 37.0	
BJT	**Baijiatuau**	**47.99**	**346**	*e*P	**P**	**01 43 05.5**	**-0.3**
	comp=Z,45nm,0.7s,mb5.6						
BJT	**Baijiatuau**	**47.99**	**346**	*e*P	**P**	**01 43 05.5**	**-0.4**
BJT				pmax	pmax		
	comp=Z,45nm,0.7s						
BJI	**Beijing**	**48.01**	**346**	P	**P**	**01 43 05.7**	**-0.3**
BJI				S	**S**	**01 50 08.0**	**+5.4**
BJI				pmax	pmax		
	comp=Z,64nm,1.2s,mb5.5						
BJI				pmax	pmax		
	comp=Z,4μm,10.9s						
BJI				LR	LR		
	comp=N,1μm,20.3s,MS5.1						
BJI				LR	LR		
	comp=E,2μm,19.2s,MS5.1						
BJI				LR	LR		
	comp=Z,2μm,22.2s,MS5.0						
MSVF	**Nonsavu**	**48.77**	**108**	*e*P	**P**	**01 43 12.8**	**+0.5**
	comp=Z,59nm,1.4s,mb5.4						
MSVF	**Nonsavu**	**48.77**	**108**	*e*P	**P**	**01 43 12.8**	**+0.5**
MSVF				pmax	pmax		
	comp=Z,59nm,1.4s,mb5.4						
LZH	**Lanzhou**	**48.77**	**332**	⇓P	**P**	**01 43 12.2**	**+0.2**
LZH				pP	pP	01 43 15.3	-4.4
LZH				sP	sP	01 43 16.8	-6.0
LZH				PP	PP	01 45 05.4	0.0
LZH				S	**S**	**01 50 12.5**	**-1.0**
LZH				SS	SS	01 53 39.5	-5.0
LZH				pmax	pmax		
	comp=Z,97nm,1.4s,mb5.6						
LZH				pmax	pmax		
	comp=Z,250nm,5.2s						
LZH				LR	LR		
	comp=N,2μm,12.8s,MS5.4						
LZH				LR	LR		
	comp=E,2μm,13.4s,MS5.4						
LZH				LR	LR		
	comp=Z,3μm,17.2s,MS5.3						
VLA	**Vladivostok**	**49.59**	**2**	⇓*i*P	**P**	**01 43 18.2**	**+0.1**
VLA				*e*		01 44 37.7	
VLA				*e*		01 45 11.8	
VLA				*e*S	**S**	**01 50 25.7**	**+1.0**
VLA				pmax	pmax		
	comp=Z,143nm,1.2s,mb5.9						

HHC Hu-ho-hao-te 50.00 342 eP P 01 43 21.9 +0.7
HHC pP pP 01 43 25.6 -3.4
HHC sP sP 01 43 29.1 -3.0
HHC PP PP 01 45 18.2 +1.7
HHC S S 01 50 32.1 +1.6
HHC ScS ScS 01 53 09.1 -2.0
HHC SS SS 01 54 03.9 -0.1
HHC pmax pmax
comp=Z,22nm,1.2s,mb5.1
HHC pmax pmax
comp=Z,4μm,8.7s
HHC LR LR
comp=N,1μm,15.8s,MS5.0
HHC LR LR
comp=E,550nm,12.3s,MS5.0
HHC LR LR
comp=Z,1μm,19.0s
BTO Baotou 50.26 341 eP P 01 43 22.6 -0.6
CN2 Changchun 50.34 356 eP P 01 43 24.1 +0.4
CN2 esP sP 01 43 31.1 -3.4
CN2 eS S 01 50 36.7 +1.6
CN2 pmax pmax
comp=Z,30nm,1.1s,mb5.2
CN2 LR LR
comp=N,1μm,15.0s,MS5.3
CN2 LR LR
comp=E,2μm,15.0s,MS5.3
CN2 LR LR
comp=Z,2μm,16.0s,MS5.2
PALK Pallekele 50.42 285 i P P 01 43 26.1 +1.2
MDJ Mudanjiang 51.03 0 P P 01 43 29.1 +0.2
MDJ pP pP 01 43 32.4 -4.3
MDJ sP sP 01 43 33.7 -6.1
MDJ PcP PcP 01 44 44.8 +0.1
MDJ PP PP 01 45 27.1 +1.3
MDJ S S 01 50 50.8 +6.1
MDJ pmax pmax
comp=Z,53nm,1.4s,mb5.3
MDJ LR LR
comp=N,2μm,24.8s
MDJ LR LR
comp=E,1μm,18.6s
MDJ LR LR
comp=Z,3μm,31.0s
MDJ Mudanjiang 51.03 0 eP P 01 43 29.4 +0.4
comp=Z,51nm,1.3s,mb5.3
VIS Vishakhapatnam 51.45 299 ePKP P 01 43 30.1 -2.5
VIS AMb AMB 01 43 32.8
comp=Z,95nm,1.1s,mb5.7
VIS i S S 01 50 52.5 +1.0
LSA Lhasa 51.47 317 eP P 01 43 32.7 +0.1
comp=Z,70nm,1.2s,mb5.5
LSA LR LR
comp=Z,2μm,22.0s,MS5.2
LSA Lhasa 51.47 317 eP P 01 43 32.7 +0.1
LSA pmax pmax
comp=Z,70nm,1.2s,mb5.5
LSA MLR MLR
comp=Z,2μm,22.0s,MS5.2
ASAJ Asahikawa 51.94 12 P P 01 43 36.2 +0.5
comp=Z,62nm,0.7s,mb5.6,baz=226,slow=11,SNR=37
ASAJ Asahikawa 51.94 12 eP P 01 43 36.2 +0.5
comp=Z,24nm,0.8s,mb5.2
ASAJ Asahikawa 51.94 12 P P 01 43 36.2 +0.5
ASAJ pmax pmax
comp=Z,62nm,0.7s
YUK Yuzh-Kuril'sk 52.62 15 P P 01 43 39.6 -1.2
YUK eS S 01 51 16.7 +10
YUK MLR MLR
comp=N,430nm,20.0s,MS4.7
YUK MLR MLR
comp=E,470nm,20.0s,MS4.7
YUK MLR MLR
comp=Z,2μm,20.0s,MS5.0
GTA Gaotai 53.34 332 eP P 01 43 46.7 +0.5
GTA pP pP 01 43 50.2 -3.8
GTA sP sP 01 43 53.3 -3.8
GTA S S 01 51 17.8 +1.2
GTA SS SS 01 54 57.7 +0.8
GTA pmax pmax
comp=Z,41nm,0.9s,mb5.4
GTA LR LR
comp=N,1μm,24.2s,MS5.1
GTA LR LR
comp=E,1μm,19.4s,MS5.1
GTA LR LR
comp=Z,2μm,22.8s,MS5.1
URZ Urewera 53.40 133 LR LR 02 04 54.1
comp=Z,4μm,21.8s,MS5.4,baz=313,slow=34
GUN Gumba 54.20 311 eP P 01 43 52.2 -0.6
comp=Z,160nm,0.8s,mb6.0
GUN Gumba 54.20 311 eP P 01 43 52.2 -0.6
comp=Z,160nm,0.8s,mb6.0
PKI Pulchoki 54.38 311 eP P 01 43 53.2 -0.9
comp=Z,84nm,1.0s,mb5.6
PKI Pulchoki 54.38 311 eP P 01 43 53.9 -0.2
comp=Z,50nm,0.7s,mb5.5
PKI Pulchoki 54.38 311 eP P 01 43 53.9 -0.2
PKI pmax pmax
comp=Z,50nm,0.7s,mb5.5
PKIN Phulchoki 54.39 311 eP P 01 43 53.9 -0.2
comp=Z,50nm,0.7s,mb5.5
KKN Kakani 54.59 311 eP P 01 43 54.8 -0.8
comp=Z,87nm,0.9s,mb5.8
KKN Kakani 54.59 311 eP P 01 43 54.8 -0.8
comp=Z,87nm,0.9s,mb5.8
KKN Kakani 54.59 311 eP P 01 43 54.8 -0.8
KKN pmax pmax
comp=Z,87nm,0.9s,mb5.8
DMN Daman 54.62 311 eP P 01 43 55.1 -0.8
comp=Z,195nm,1.2s,mb6.0
DMN Daman 54.62 311 eP P 01 43 55.1 -0.8
comp=Z,195nm,1.2s,mb6.0
YSS Yuzh-Sakhalins 54.69 11 eP P 01 43 55.9 0.0
comp=Z,54nm,0.6s,mb5.8
YSS Yuzh-Sakhalins 54.69 11⇓eP P 01 43 55.1 -0.8
YSS e 01 44 13.1
YSS pmax pmax
comp=Z,50nm,0.8s,mb5.6
YSS MLR MLR
comp=Z,1μm,16.0s,MS5.0
YSS MLR MLR
comp=N,600nm,18.0s,MS5.0
YSS MLR MLR
comp=E,1μm,16.0s,MS5.0
GKN Gorkha 55.18 311 eP P 01 43 59.4 -0.5
comp=E,203nm,1.1s,mb6.1
GKN Gorkha 55.18 311 eP P 01 43 59.4 -0.5
comp=E,203nm,1.1s,mb6.1
HYB Hyderabad 55.54 296 i P P 01 44 03.0 +0.3
KLR Kul'dur 55.69 2 eP P 01 44 00.0 -3.1
KLR pmax pmax
comp=Z,170nm,1.4s,mb5.9
KOLN Koldanda 55.85 310 eP P 01 44 04.8 +0.1
comp=Z,359nm,1.3s,mb6.2
KOLN Koldanda 55.85 310 eP P 01 44 04.8 +0.1
comp=Z,359nm,1.3s,mb6.2
DANN Dangsing 56.02 311 eP P 01 44 05.7 -0.2
comp=Z,237nm,1.2s,mb6.1
DANN Dangsing 56.02 311 eP P 01 44 05.7 -0.2
comp=Z,237nm,1.2s,mb6.1
HIA Hailar 56.31 352 eP P 01 44 08.2 +0.7
HIA Hailar 56.31 352 eP P 01 44 08.2 +0.7
NGP Nagpur 56.52 301 ex P 01 44 05.8 -3.8
NGP AMb AMB 01 44 09.0
comp=Z,97nm,1.1s,mb5.7
LATR Latur 57.67 297 ePKP P 01 44 16.5 -1.3
LATR AMb AMB 01 44 20.0
comp=Z,58nm,1.3s,mb5.5
ULN Ulaanbaatar 57.72 342 eP P 01 44 17.5 -0.1
comp=Z,103nm,1.3s,mb5.7
ULN LR LR
comp=Z,2μm,20.0s,MS5.2
ULN Ulaanbaatar 57.72 342 eP P 01 44 17.5 -0.1
ULN pmax pmax
comp=Z,103nm,1.3s,mb5.7
ULN MLR MLR
comp=Z,2μm,20.0s,MS5.2
ULN Ulaanbaatar 57.72 342 P P 01 44 18.6 +1.0
SNR=37
SONM Songino Array 57.89 342 P P 01 44 19.4 +0.7
comp=Z,45nm,0.9s,mb5.5,baz=162,slow=6.1,SNR=134
SONM LR LR 02 09 29.1
comp=Z,2μm,18.9s,MS5.2,baz=160,slow=36
SONM PKP2bc 02 14 22.4
comp=Z,1.5nm,1.0s,baz=343,slow=2.0,SNR=6.8

SONM Songino Array 57.89 342 P P 01 44 19.4 +0.7
SONM LR LR 02 09 29.1
SONM ⇑e 02 14 22.4
SONM Songino Array 57.89 342 P P 01 44 19.4 +0.6
AFI Afiamalu 58.30 102 P P 01 44 23.6 +1.4
comp=Z,14nm,0.4s,mb5.3,baz=144,slow=5.7,SNR=3.8
AFI Afiamalu 58.30 102 P P 01 44 23.6 +1.4
AFI Afiamalu 58.30 102 P P 01 44 23.6 +1.3
BHPL Bhopal 58.74 302 ePKP P 01 44 25.1 -0.1
GOA Goa 59.19 292 ePKP P 01 44 28.2 -0.2
GOA ex x 01 52 33.2
KAD Karad 59.43 294 ePKP P 01 44 29.6 -0.5
KAD AMb AMB 01 44 32.4
comp=Z,89nm,1.1s,mb5.7
AGRA Agra 60.01 307 ePKP P 01 44 32.2 -1.7
AGRA AMb AMB 01 44 35.1
comp=Z,56nm,0.1s,mb6.4
CASY Casey 60.94 189 eP P 01 44 42.2 +2.6
CASY Casey 60.94 189 eP P 01 44 39.9 +0.3
comp=Z,49nm,1.3s,mb5.5
CASY LR LR
comp=Z,4μm,22.0s,MS5.6
BISR Bishrakh 61.00 308 ePKP P 01 44 40.2 -0.5
ZAK Zakamensk 61.11 341⇓iP P 01 44 41.2 +0.3
ZAK pmax pmax
comp=Z,15nm,1.2s,mb5.0
BOM Bombay 61.17 296 ex PP 01 47 00.3 +3.3
BOM AMb AMB 01 47 01.7
comp=Z,24nm,0.7s,mb5.4
BOM ex x 01 53 39.1
AYAN Aya Nagar 61.21 307 ePKP P 01 44 40.4 -1.7
AYAN AMb AMB 01 44 42.5
comp=Z,17nm,0.3s,mb5.6
NDI New Delhi 61.23 308 ex P 01 44 36.8 -5.4
NDI AMb AMB 01 44 41.2
comp=Z,62nm,1.0s,mb5.7
TLY Talaya 62.13 342 eP P 01 44 48.3 +0.5
comp=Z,43nm,1.3s,mb5.4
TLY Talaya 62.13 342 eP P 01 44 47.4 -0.4
TLY pmax pmax
comp=Z,28nm,1.1s,mb5.3
TLY Talaya 62.13 342 P P 01 44 49.5 +1.7
comp=Z,141nm,1.4s,mb5.9,SNR=6.1
TLY Talaya 62.13 342 P P 01 44 48.4 +0.6
SNR=11
IRK Irkutsk 62.44 343 eP P 01 44 49.2 -0.6
IRK pmax pmax
comp=Z,378nm,0.8s,mb6.6
WMQ Urumqi 62.73 327 P P 01 44 52.4 +0.4
WMQ pP pP 01 44 57.0 -2.9
WMQ sP sP 01 44 59.4 -3.5
WMQ PP PP 01 47 12.0 +1.7
WMQ S S 01 53 18.2 -1.0
WMQ pmax pmax
comp=Z,58nm,0.9s,mb5.7
WMQ pmax pmax
comp=Z,120nm,4.9s
WMQ LR LR
comp=N,3μm,21.0s
WMQ LR LR
comp=E,2μm,14.3s
WMQ LR LR
comp=Z,3μm,43.0s
MOY Mondy 62.96 341 eP P 01 44 54.7 +1.4
MOY pmax pmax
comp=Z,143nm,2.7s,mb5.6
CLNS Chul'man 63.37 357 eP P 01 44 56.4 +0.5
CLNS pmax pmax
comp=Z,33nm,0.9s,mb5.5
CLNS pmax pmax
comp=N,24nm,1.0s
CLNS pmax pmax
comp=E,12nm,0.8s
PEA0B Petropavlovsk- 64.21 19 eP P 01 45 02.4 +0.8
PETK Petropavlovsk- 64.21 19 P P 01 45 02.5 +1.0
comp=E,26nm,0.8s,mb5.3,baz=195,slow=7.3,SNR=23
PETK Petropavlovsk- 64.21 19 P P 01 45 02.5 +1.0
PETK Petropavlovsk- 64.21 19 P P 01 45 02.6 +1.0
PET Petropavlovsk 64.44 19 eP P 01 45 04.7 +1.6
comp=E,166nm,1.5s,mb5.8
PET Petropavlovsk 64.44 19 eP P 01 45 04.7 +1.6
PET pmax pmax
comp=Z,167nm,1.5s,mb5.8
MIR Mirnyy 64.80 195 eP P 01 45 08.0 +2.8
MIR i 01 45 22.0
MIR pmax pmax
comp=Z,44nm,1.2s,mb5.4
BOD Bodaibo 65.44 351 eP P 01 45 09.7 +0.2
BOD pmax pmax
comp=Z,59nm,1.3s,mb5.5
KSH Kashi 67.30 318 P P 01 45 22.2 +0.4
KSH pP pP 01 45 26.9 -2.9
KSH sP sP 01 45 29.4 -3.4
KSH PcP PcP 01 45 50.2 +0.8
KSH PP PP 01 47 52.0 +1.6
KSH ScP 01 49 51.7
KSH PcS 01 49 53.6
KSH S S 01 54 14.9 -0.7
KSH ScS ScS 01 55 15.8 -2.5
KSH pmax pmax
comp=Z,20nm,0.8s,mb5.2
KSH pmax pmax
comp=Z,120nm,3.8s
KSH LR LR
comp=N,930nm,11.8s,MS5.5
KSH LR LR
comp=E,2μm,16.5s,MS5.5
KSH LR LR
comp=Z,430nm,9.5s
MK31 Makanchi Array 67.56 327 eP P 01 45 23.2 -0.1
MK31 epP pP 01 45 33.9 +2.6
MK31 Makanchi Array 67.56 327 eP P 01 45 22.8 -0.5
MK31 pmax pmax
comp=Z,30nm,0.6s,mb5.5
MKAR Makanchi Array 67.56 327 P P 01 45 23.0 -0.3
comp=Z,43nm,0.7s,mb5.6,baz=127,slow=7.7,SNR=220
MKAR Makanchi Array 67.56 327 P P 01 45 23.0 -0.3
MKAR Makanchi Array 67.56 327 P P 01 45 23.0 -0.3
YAK Yakutsk 68.48 0 eP P 01 45 28.7 0.0
comp=Z,147nm,0.8s,mb6.1
YAK Yakutsk 68.48 0 eP P 01 45 28.5 -0.2
YAK e*PP pP 01 45 53.4 +17
YAK e 01 48 03.8
YAK eS S 01 54 29.1 +0.3
YAK e*SS sS 01 55 13.0 +31
YAK e 01 55 20.7
YAK pmax pmax
comp=Z,120nm,0.8s,mb6.0
YAK pmax pmax
comp=N,36nm,1.1s
YAK pmax pmax
comp=E,6.0nm,0.8s
YAK pmax pmax
comp=Z,3μm,24.2s
YAK pmax pmax
comp=N,2μm,24.0s
YAK pmax pmax
comp=E,2μm,21.5s
YAK smax
comp=N,748nm,6.9s
YAK smax
comp=E,409nm,4.2s
KZA Kyzart 69.07 320 P P 01 45 33.9 +1.1
SNR=16
KZA Kyzart 69.07 320 eP P 01 45 33.6 +0.7
comp=E,55nm,1.4s,mb5.3
KZA Kyzart 69.07 320 eP P 01 45 33.6 +0.8
KZA pmax pmax
comp=Z,55nm,1.4s,mb5.3
TKM2 Tokmak 2 69.28 321 P P 01 45 34.1 0.0
SNR=26
TKM2 Tokmak 2 69.28 321 eP P 01 45 33.7 -0.4
comp=Z,18nm,0.8s,mb5.0
TKM2 LR LR
comp=Z,2μm,20.0s,MS5.3
TKM2 Tokmak 2 69.28 321 i P P 01 45 34.1 0.0
KBK Karagaybulak 69.55 320 P P 01 45 36.4 +0.5
SNR=10
KBK Karagaybulak 69.55 320 eP P 01 45 36.0 +0.2
comp=Z,40nm,1.4s,mb5.2
KBK Karagaybulak 69.55 320 eP P 01 45 36.1 +0.3
KBK pmax pmax
comp=Z,40nm,1.4s,mb5.2
AAK Ala-Archa 69.83 320 P P 01 45 38.3 +0.8
comp=Z,7.5nm,0.7s,mb4.7,baz=124,slow=6.2,SNR=26

AAK Ala-Archa 69.83 320 eP P 01 45 37.9 +0.3
comp=Z,33nm,1.3s,mb5.1
AAK Ala-Archa 69.83 320 eP P 01 45 38.2 +0.7
AAK pmax pmax
comp=Z,18nm,1.7s,mb4.7
AAK Ala-Archa 69.83 320 P P 01 45 38.4 +0.9
comp=Z,96nm,0.7s,mb5.8,SNR=9.4
AAK Ala-Archa 69.83 320 P P 01 45 38.1 +0.6
SNR=13
CHMS Chumysh 69.85 320 eP P 01 45 36.8 -0.8
comp=Z,8.5nm,0.8s,mb4.7
CHMS Chumysh 69.85 320 eP P 01 45 36.8 -0.9
CHMS pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
FRU Bishkek 69.85 320 i P P 01 45 38.0 +0.3
FRU e 01 46 00.0
FX1 Attu Island--F 69.97 27 LR LR 02 16 21.8
comp=Z,989nm,19.4s,MS5.1,baz=49,slow=36
KBL Kabul 70.01 310 eP P 01 45 39.0 +0.2
comp=Z,15nm,1.0s,mb4.9
KBL Kabul 70.01 310 eP P 01 45 39.0 +0.2
KBL pmax pmax
comp=Z,15nm,1.0s,mb4.9
AML Almayashu 70.09 319 P P 01 45 39.8 +0.7
SNR=23
USP Ospenovka 70.14 321 P P 01 45 39.5 +0.1
SNR=17
EKS2 Erkin-Say 70.30 320 P P 01 45 41.1 +0.6
SNR=18
EKS2 Erkin-Say 70.30 320 eP P 01 45 40.6 +0.2
comp=Z,23nm,1.0s,mb5.1
EKS2 LR LR
comp=Z,2μm,22.0s,MS5.4
EKS2 Erkin-Say 70.30 320 eP P 01 45 40.6 +0.2
EKS2 pmax pmax
comp=Z,23nm,1.0s,mb5.1
EKS2 MLR MLR
comp=Z,2μm,22.0s,MS5.4
ZAA0 Zalesovo Array 70.97 334 eP P 01 45 42.8 -1.4
ZALV Zalesovo Beam 70.97 334 P P 01 45 43.5 -0.7
comp=Z,28nm,0.7s,mb5.3,baz=116,slow=4.7,SNR=90
ZALV Zalesovo Beam 70.97 334 P P 01 45 43.5 -0.8
ZALV Zalesovo Beam 70.97 334 P P 01 45 43.5 -0.7
SEY Seymchan 71.59 11 ceP P 01 45 49.0 +1.2
KURK Kurchatov 71.86 329 P P 01 45 49.5 -0.2
comp=Z,51nm,0.9s,mb5.5,baz=130,slow=5.2,SNR=117
KURK Kurchatov 71.86 329 eP P 01 45 49.1 -0.6
comp=Z,98nm,1.0s,mb5.7
KURK Kurchatov 71.86 329 eP P 01 45 49.1 -0.6
KURK pmax pmax
comp=Z,98nm,1.0s,mb5.7
KURK Kurchatov 71.86 329 P P 01 45 49.7 0.0
comp=Z,472nm,1.0s,mb6.4,SNR=53
KURK Kurchatov 71.86 329 P P 01 45 49.8 +0.1
SNR=39
NVS Novosibirsk 72.25 334⇓iP P 01 45 50.4 -1.6
NVS eS S 01 55 17.9 +4.7
NVS pmax pmax
comp=Z,143nm,1.9s,mb5.6
NVS pmax pmax
comp=N,63nm,2.0s
NVS pmax pmax
comp=E,30nm,1.4s
NVS pmax pmax
comp=Z,25nm,1.2s,mb5.0
NVS pmax pmax
comp=N,25nm,1.6s
NVS smax
comp=N,33nm,2.4s
NVS smax
comp=E,63nm,2.4s
KK31 Karatay Array 72.62 319 i P P 01 45 54.0 -0.4
KK31 pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
KKAR Karatay Array 72.62 319 eP P 01 45 54.8 +0.3
comp=Z,26nm,1.3s,mb5.0
KKAR Karatay Array 72.62 319 eP P 01 45 54.8 +0.4
KKAR pmax pmax
comp=Z,26nm,1.3s,mb5.0
VNDA Vanda 72.88 173 P P 01 45 55.8 +0.4
comp=Z,5.0nm,1.0s,mb4.4,baz=317,slow=7.6,SNR=9.9
VNDA LR LR 02 15 15.9
comp=Z,4μm,20.5s,MS5.6,baz=343,slow=34
VNDA Vanda 72.88 173 eP P 01 45 56.1 +0.7
comp=Z,25nm,1.3s,mb5.0
VNDA Vanda 72.88 173 P P 01 45 55.8 +0.4
VNDA pmax pmax
comp=Z,5.0nm,1.0s
SBA Scott Base 73.77 172 eP P 01 46 03.3 +2.6
comp=Z,33nm,1.3s,mb5.1
SBA Scott Base 73.77 172 eP P 01 46 03.3 +2.6
SBA pmax pmax
comp=Z,33nm,1.3s,mb5.1
WBK Wadi Bani Khal 74.64 296 ⇑P P 01 46 07.6 +0.9
SNR=5.5
MAW Mawson 75.02 201 P P 01 46 09.0 +0.9
comp=Z,17nm,0.9s,mb4.9,baz=75,slow=8.3,SNR=22
MAW LR LR 02 18 36.6
comp=Z,2μm,18.3s,MS5.5,baz=66,slow=35
MAW Mawson 75.02 201 eP P 01 46 09.2 +1.1
comp=Z,35nm,1.0s,mb5.2
MAW Mawson 75.02 201 eP P 01 46 09.0 +0.9
comp=Z,22nm,1.3s,mb4.9
MAW Mawson 75.02 201 eP P 01 46 09.0 +0.9
MAW pmax pmax
comp=Z,22nm,1.3s
BSY Bisya 76.26 295 ⇓P P 01 46 15.8 -0.2
SNR=5.7
HOQ Hoqain 76.35 296 ⇑P P 01 46 16.8 +0.2
SNR=7.3
BVAR Borovoye Array 77.40 328 P P 01 46 21.3 -0.5
comp=Z,10nm,1.0s,mb4.7,baz=155,slow=4.9,SNR=34
BVAR Borovoye Array 77.40 328 P P 01 46 21.3 -0.5
BVAR Borovoye Array 77.40 328 P P 01 46 21.3 -0.5
BRVK Borovoye 77.47 328 eP P 01 46 21.4 -0.8
comp=Z,44nm,1.1s,mb5.3
BRVK Borovoye 77.47 328 eP P 01 46 21.4 -0.8
BRVK pmax pmax
comp=Z,44nm,1.1s,mb5.3
BRVK Borovoye 77.47 328 P P 01 46 22.2 0.0
comp=Z,93nm,1.1s,mb5.6,SNR=7.4
BRVK Borovoye 77.47 328 P P 01 46 22.1 -0.1
SNR=12
IMYA Miami 77.47 309 eP P 01 46 23.0 +0.4
IMOG Moghan 77.99 309 eP P 01 46 25.8 +0.3
IPAY Payeh 78.36 309 eP P 01 46 27.3 -0.2
IKRD Kardeh 78.82 309 eP P 01 46 25.9 -4.2
BILL Bilibino 78.93 13 eP P 01 46 34.3 +4.3
BILL e 01 46 48.1
BILL pmax pmax
comp=Z,15nm,1.5s,mb4.7
BILL MLR MLR
comp=Z,1μm,19.0s,MS5.2
TBI Tubuai 79.37 112 eS S 01 56 39.8 +6.7
comp=Z,1μm,31.2s
TBI eLR LR 02 11 32.0
comp=Z,3μm,33.0s
PAE Paea 79.57 107 eP sP 01 46 45.3 -0.4
comp=Z,26nm,1.3s
PAE Paea 79.57 107 eP sP 01 46 45.3 -0.4
PAE Paea 79.57 107 eP sP 01 46 45.3 -0.4
PPT Papeete 79.58 107 eP sP 01 46 44.7 -1.0
comp=Z,70nm,1.4s
PPT eS S 01 56 40.5 +5.0
comp=Z,1μm,23.5s
PPT eLR LR 02 11 40.7
comp=Z,3μm,29.8s
PPT Papeete 79.58 107 eP sP 01 46 44.7 -1.0
comp=Z,70nm,1.4s
PPT eS S 01 56 40.5 +5.0
PPT Papeete 79.58 107 eP sP 01 46 44.7 -1.0
PPT eS S 01 56 40.5 +5.0
PPT pmax pmax
comp=Z,70nm,1.4s
IMEH Mehriz 80.52 303 eP P 01 46 38.4 -1.0
ICHK Chekchek 80.90 304 eP P 01 46 39.7 -1.7
ISAD Sadrabad 81.42 304 eP P 01 46 43.4 -0.8
IPAR Pars 81.48 301 eP P 01 46 44.3 -0.3
AB31 Akbulak array 81.81 322 i P P 01 46 45.4 -0.4
AB31 pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
ABKAR Akbulak array 81.81 322 eP P 01 46 45.0 -0.9
comp=Z,9.9nm,0.9s,mb4.7
ISFB Sefidab 83.14 306 eP P 01 46 52.9 -0.3
QSPA South Pole Qui 83.33 180 eP P 01 46 53.6 +0.3
comp=Z,39nm,1.0s,mb5.4

AKTK	Aktyubinsk	83.38	322	P	P	01 46 53.2	-0.7
AKTO	Aktyubinsk	83.38	322	P	P	01 46 53.2	-0.7
	comp=Z,7.6nm,1.0s,mb4.7,baz=100,slow=7.0,SNR=16						
AKTO	Aktyubinsk	83.38	322	P	P	01 46 53.3	-0.7
SYO	Syowa Base	83.74	201⇑	eP	P	01 46 54.8	-0.7
SYO	Syowa Base	83.74	201⇓	esP	sP	01 47 03.7	-3.0
SVE	Sverdlovsk	84.11	329⇑	eP	P	01 46 58.0	+0.4
SVE				eS	S	01 57 13.4	-7.3
SVE				pmax	pmax		
	comp=Z,44nm,1.2s,mb5.5						
IR3	Iran Long-Peri	84.36	307	eP	P	01 46 57.9	-1.5
ARU	Arti	85.05	328	eP	P	01 47 00.9	-1.4
	comp=Z,23nm,1.0s,mb5.3						
ARU	Arti	85.05	328c	iP	P	01 47 02.0	-0.3
ARU						01 50 20.6	
ARU				S	S	01 57 23.8	-6.2
ARU				PS		01 58 44.0	
ARU				SS	SS	02 03 00.9	-2.8
ARU				pmax	pmax		
	comp=Z,31nm,1.7s,mb5.2						
SOKR	Solikamsk	86.97	331	eP	P	01 47 20.4	+8.6
SOKR				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb5.0						
MAK	Makhachkala	88.52	313	eP	P	01 47 16.7	-2.9
MAK				eS	SKSac	01 57 43.2	-4.0
MAK				ePS		01 59 09.9	
MAK				eSS	SS	02 03 55.4	+0.2
MAK				eSSS		02 07 24.7	
MAK				pmax	pmax		
	comp=Z,246nm,1.5s,mb6.3						
OHAK	Old Harbor	88.78	32	eP	P	01 47 20.6	+0.1
	comp=Z,47nm,1.2s,mb5.7						
ISHB	Shabestar	89.14	309	eP	P	01 47 22.6	0.0
TAOE	Nuku Hiva Isla	89.53	99	eLR	LR	02 16 20.0	
	comp=Z,1μm,21.0s						
DGRG	David-gareji	89.82	312	P	P	01 47 26.1	+0.3
GNI	Garni	90.10	310	eP	P	01 47 26.9	-0.1
	comp=Z,32nm,1.4s,mb5.5						
GNI	Garni	90.10	310	eP	P	01 47 27.0	-0.1
GNI				pmax	pmax		
	comp=Z,32nm,1.4s						
MTA	Mtatsminda	90.29	312	P	P	01 47 28.8	+0.9
TBLG	Delisi	90.34	312	eP	P	01 47 29.2	+1.0
TBLG	Delisi	90.34	312	P	P	01 47 29.3	+1.1
GOR	Gori	90.84	312	P	P	01 47 27.2	-3.3
ZEI	Tsey	91.10	313	eP	P	01 47 31.9	+0.2
ZEI				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb5.1						
AKH	Akhalkalaki	91.22	311	P	P	01 47 33.9	+1.7
ONI	Oni	91.41	313	P	P	01 47 40.6	+7.5
KMBO	Kilima Mbogo	91.91	269	P	P	01 47 36.5	+0.4
	comp=Z,5.0nm,0.9s,mb4.8,baz=360,slow=24,SNR=6.8						
KMBO				LR	LR	02 29 44.2	
	comp=Z,1μm,19.2s,MS5.4,baz=90,slow=36						
KMBO	Kilima Mbogo	91.91	269	eP	P	01 47 36.8	+0.6
	comp=Z,15nm,1.3s,mb5.2						
KMBO	Kilima Mbogo	91.91	269	P	P	01 47 36.5	+0.4
KMBO				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KMBO				MLR	MLR		
	comp=Z,1μm,19.2s						
MCK	McKinley	92.27	26	eP	P	01 47 35.6	-1.0
	comp=Z,26nm,1.3s,mb5.4						
MCK	McKinley	92.27	26	eP	P	01 47 35.6	-1.0
MCK				pmax	pmax		
	comp=Z,26nm,1.3s,mb5.4						
COLD	Coldfoot	92.41	23	eP	P	01 47 36.6	-0.5
	comp=Z,5.0nm,0.8s,mb4.9						
MAIT	Maitri	92.51	197	eP	P	01 47 37.5	-0.1
MAIT				e		01 47 42.2	
RKT	Rikitea	92.65	114	eLR	LR	02 17 42.4	
	comp=Z,2μm,31.2s						
COLA	College	92.93	25	eP	P	01 47 38.2	-1.4
COLA	College	92.93	25	eP	P	01 47 38.3	-1.3
ILAR	Eielson Array	93.33	25	P	P	01 47 39.5	-1.9
	comp=Z,2.7nm,0.7s,mb4.8,baz=259,slow=4.4,SNR=28						
ILAR	Eielson Array	93.33	25	P	P	01 47 39.5	-1.9
ILAR	Eielson Array	93.33	25	P	P	01 47 39.5	-1.9
PAX	Paxson	93.70	27	eP	P	01 47 44.0	+0.8
	comp=Z,21nm,1.4s,mb5.4						
PAX	Paxson	93.70	27	eP	P	01 47 44.0	+0.8
PAX				pmax	pmax		
	comp=Z,21nm,1.4s,mb5.4						
DOT	Dot Lake	94.41	27	eP	P	01 47 45.7	-0.8
	comp=Z,18nm,0.7s,mb5.6						
EGAK	Eagle	95.77	26	eP	P	01 47 52.4	-0.3
	comp=Z,9.6nm,1.1s,mb5.1						
DAWY	Dawson	96.50	26	eP	P	01 47 55.8	-0.2
OBN	Obninsk	96.97	325	eP	P	01 47 58.4	+0.1
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.8						
VNA2	Neumayer--Watz	97.42	193	eP	P	01 48 01.4	+1.3
	baz=133,slow=4.4						
VNA2				e		01 52 34.0	
BR131	Keskin Array S	98.56	309	eP	P	01 48 05.4	-0.5
BRTR	Keskin Array B	98.56	309	P	P	01 48 04.7	-1.2
	comp=Z,0.7nm,0.8s,mb4.3,baz=130,slow=5.3,SNR=5.6						
BRTR				PP	PP	01 52 12.9	+6.2
	comp=Z,1.6nm,1.1s,baz=76,slow=5.2,SNR=3.8						
BRTR	Keskin Array B	98.56	309	P	P	01 48 04.7	-1.2
BRTR				PP	PP	01 52 12.9	+6.2
BRTR	Keskin Array B	98.56	309	P	P	01 48 04.7	-1.2
BRTR						01 52 12.9	
INK	Inuvik	98.80	22	eP	P	01 48 05.4	-0.8
	comp=Z,8.6nm,1.4s,mb5.1						
INK	Inuvik	98.80	22	eP	P	01 48 05.4	-0.8
INK				pmax	pmax		
	comp=Z,9.0nm,1.4s						
LSZ	Lusaka	98.90	253	eP	P	01 48 08.9	+1.0
	comp=Z,2.6nm,0.8s,mb4.8						
LSZ	Lusaka	98.90	253	eP	P	01 48 08.9	+1.0
LSZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.9						
BOSA	Boshof	99.05	240	eP	P	01 48 09.3	+1.0
BOSA	Boshof	99.05	240	eP	P	01 48 09.3	+1.0
ARCES	ARCESS Array B	101.01	340	P	Pdif	01 48 14.9	-1.6
	comp=Z,2.0nm,0.8s,baz=90,slow=6.3,SNR=2.8						
ARCES	ARCESS Array B	101.01	340	P	Pdif	01 48 14.9	-1.6
ARCES	ARCESS Array B	101.01	340	P	Pdif	01 48 14.9	-1.5
FINES	FINESS Array B	102.13	331	PKiKP	PKiKP	01 52 43.2	-0.2
	comp=Z,3.6nm,1.0s,baz=356,slow=5.7,SNR=3.3						
MORC	Moravsky Berou	109.05	320	ePKP	PKiKP	01 52 56.8	+0.3
NOA	NORSAR Array B	109.16	333	PKiKP	PKiKP	01 52 54.5	-2.0
	comp=Z,1.7nm,0.8s,baz=260,slow=3.1,SNR=5.0						
NOA	NORSAR Array B	109.16	333	PKPdf	PKiKP	01 52 54.5	-2.0
CLL	Collm	111.46	323	ePKIKP	PKiKP	01 53 01.0	-0.1
CLL	Collm	111.46	323	ePKiKP	PKiKP	01 53 01.0	-0.1
NVAR	Mina Array Bea	111.62	51	PKiKP	PKiKP	01 53 02.5	+0.8
	comp=Z,0.5nm,0.7s,baz=308,slow=3.3,SNR=3.1						
NVAR				PKKPbc	PKKPbc	02 04 10.1	+13
	comp=Z,1.5nm,0.9s,baz=72,slow=4.8,SNR=6.5						
NVAR	Mina Array Bea	111.62	51	PKPdf	PKiKP	01 53 02.5	+0.8
NVAR				PKKPbc	PKKPbc	02 04 10.1	+13
GERES	GERESS Array B	111.71	320	PKiKP	PKiKP	01 53 01.6	0.0
	comp=Z,1.6nm,0.6s,baz=44,slow=1.9,SNR=10						
GERES	GERESS Array B	111.71	320	PKPdf	PKiKP	01 53 01.6	0.0
GERES	GERESS Array B	111.71	320	PKIKP	PKiKP	01 53 01.6	0.0
WTTA	Wattenberg	113.48	319⇑	iPKiKP	PKiKP	01 53 05.2	+0.2
	comp=Z,9.2nm,0.6s						
HLID	Hailey	113.50	45	ePKP	PKiKP	01 53 06.1	+0.9
MOTA	Moosalm	113.80	319⇓	iPKiKP	PKiKP	01 53 05.4	-0.3
	comp=Z,5.3nm,0.8s						
DAVA	Damuels	114.61	319⇓	iPKiKP	PKiKP	01 53 07.4	+0.2
	comp=Z,18nm,2.1s						
DAVOX	Davos/Dischmat	114.77	319	PKP	PKiKP	01 53 07.6	+0.1
	comp=Z,4.0nm,0.6s,baz=80,slow=17,SNR=9.4						
DAVOX	Davos/Dischmat	114.77	319	PKP	PKiKP	01 53 07.6	+0.1
DAVOX	Davos/Dischmat	114.77	319	PKIKP	PKiKP	01 53 07.6	+0.1
DUG	Dugway	115.45	49	ePKP	PKPdf	01 53 10.0	+0.9
DUG	Dugway	115.45	49	ePKIKP	PKPdf	01 53 10.0	+1.0
CDF	Champ du Feu	115.90	321	ePKIKP	PKPdf	01 53 09.4	-0.2
CDF	Champ du Feu	115.90	321	ePKPdf	PKPdf	01 53 09.4	-0.2
CDF	Champ du Feu	115.90	321	ePKIKP	PKPdf	01 53 09.4	-0.2
TPAW	Teton Pass	115.95	45	ePKPdf	PKPdf	01 53 11.1	+1.2
MOOW	Moose Ponds	116.02	44	ePKPdf	PKPdf	01 53 10.9	+0.9
REDW	Red Top Meadow	116.05	45	ePKPdf	PKPdf	01 53 11.2	+1.1
SNOW	Snow King Moun	116.09	45	ePKPdf	PKPdf	01 53 11.5	+1.4
LOHW	Long Hollow	116.16	44	ePKPdf	PKPdf	01 53 10.9	+0.6
HINF	Hinteralfeld	116.38	321	ePKIKP	PKPdf	01 53 09.8	-0.8
	comp=Z,4.9nm,0.5s						
HINF	Hinteralfeld	116.38	321	ePKPdf	PKPdf	01 53 09.8	-0.8
HINF	Hinteralfeld	116.38	321	ePKIKP	PKPdf	01 53 09.8	-0.8
HAU	Haudompre	116.62	321	ePKIKP	PKPdf	01 53 09.9	-1.2
	comp=Z,12nm,0.9s						
HAU	Haudompre	116.62	321	ePKPdf	PKPdf	01 53 09.9	-1.2
HAU	Haudompre	116.62	321	ePKIKP	PKPdf	01 53 09.9	-1.2
PD02	Pinedale Array	117.12	45	ePKPdf	PKPdf	01 53 12.6	+0.4
BW06	Boulder Array	117.13	45	ePKPdf	PKPdf	01 53 11.5	-0.7
PDAR	Pinedale Array	117.13	45	PKP	PKPdf	01 53 12.7	+0.5
	comp=Z,1.0nm,0.7s,baz=231,slow=0.4,SNR=7.4						
PDAR				PKKPbc	PKKPbc	02 03 42.0	+4.0
	comp=Z,2.6nm,1.1s,baz=108,slow=4.8,SNR=8.2						
PDAR	Pinedale Array	117.13	45	PKP	PKPdf	01 53 12.7	+0.5
PDAR				PKKPbc	PKKPbc	02 03 42.0	+4.0
LPG	La Plagne	117.24	318	ePKIKP	PKPdf	01 53 11.8	-0.5
	comp=Z,12nm,0.8s						
LPG	La Plagne	117.24	318	ePKPdf	PKPdf	01 53 11.8	-0.5
LPG	La Plagne	117.24	318	ePKIKP	PKPdf	01 53 11.8	-0.5
MEZF	Maizieres J'vi	117.24	322	ePKIKP	PKPdf	01 53 12.0	-0.2
MEZF	Maizieres J'vi	117.24	322	ePKPdf	PKPdf	01 53 12.0	-0.2
LPL	La Plagne	117.25	318	ePKIKP	PKPdf	01 53 12.2	-0.1
	comp=Z,12nm,0.8s						
LPL	La Plagne	117.25	318	ePKPdf	PKPdf	01 53 12.2	-0.1
LPL	La Plagne	117.25	318	ePKIKP	PKPdf	01 53 12.2	-0.1
CABF	La Chapelle	117.29	320	ePKIKP	PKPdf	01 53 12.2	-0.2
	comp=Z,18nm,0.7s						
CABF	La Chapelle	117.29	320	ePKPdf	PKPdf	01 53 12.2	-0.2
CABF	La Chapelle	117.29	320	ePKIKP	PKPdf	01 53 12.2	-0.2
SFTF	Sexfontaines	117.37	322	ePKIKP	PKPdf	01 53 11.1	-1.4
SFTF	Sexfontaines	117.37	322	ePKPdf	PKPdf	01 53 11.1	-1.4
SRU	San Rafael	117.43	49	ePKPdf	PKPdf	01 53 13.6	+0.7
SRU	San Rafael	117.43	49	ePKIKP	PKPdf	01 53 13.6	+0.7
MBDF	Montbardon	117.48	317	ePKIKP	PKPdf	01 53 12.4	-0.4
MBDF	Montbardon	117.48	317	ePKPdf	PKPdf	01 53 12.4	-0.4
MBDF	Montbardon	117.48	317	ePKIKP	PKPdf	01 53 12.4	-0.4
WUAZ	Wupatki	117.60	53	ePKPdf	PKPdf	01 53 14.4	+1.1
ORIF	Oris-en-Rattie	118.02	318	ePKIKP	PKPdf	01 53 12.9	-0.9
	comp=Z,11nm,0.7s						
ORIF	Oris-en-Rattie	118.02	318	ePKPdf	PKPdf	01 53 12.9	-0.9
ORIF	Oris-en-Rattie	118.02	318	ePKIKP	PKPdf	01 53 12.9	-0.9
LOR	Lormes	118.46	321	ePKIKP	PKPdf	01 53 14.2	-0.4
	comp=Z,6.8nm,0.7s						
LOR	Lormes	118.46	321	ePKPdf	PKPdf	01 53 14.2	-0.4
LOR	Lormes	118.46	321	ePKIKP	PKPdf	01 53 14.2	-0.4
SMRF	Simiane la Rot	118.54	317	ePKIKP	PKPdf	01 53 13.7	-1.2
SMRF	Simiane la Rot	118.54	317	ePKPdf	PKPdf	01 53 13.7	-1.2
SMF	Signal de Mont	118.72	320	ePKIKP	PKPdf	01 53 14.3	-0.8
SMF	Signal de Mont	118.72	320	ePKPdf	PKPdf	01 53 14.3	-0.8
SMF	Signal de Mont	118.72	320	ePKIKP	PKPdf	01 53 14.3	-0.8
TUC	Tucson	118.72	57	ePKPdf	PKPdf	01 53 16.2	+0.6
TUC	Tucson	118.72	57	ePKIKP	PKPdf	01 53 16.2	+0.6
SSF	Saint Saulge	118.77	321	ePKIKP	PKPdf	01 53 14.4	-0.8
	comp=Z,6.8nm,0.7s						
SSF	Saint Saulge	118.77	321	ePKPdf	PKPdf	01 53 14.4	-0.8
SSF	Saint Saulge	118.77	321	ePKIKP	PKPdf	01 53 14.4	-0.8
VIVF	Saint-Julien-l	118.84	318	ePKIKP	PKPdf	01 53 14.4	-1.0
VIVF	Saint-Julien-l	118.84	318	ePKPdf	PKPdf	01 53 14.4	-1.0
VIVF	Saint-Julien-l	118.84	318	ePKIKP	PKPdf	01 53 14.4	-1.0
AVF	Avril sur Loir	118.97	321	ePKIKP	PKPdf	01 53 14.2	-1.4
AVF	Avril sur Loir	118.97	321	ePKPdf	PKPdf	01 53 14.2	-1.4
AVF	Avril sur Loir	118.97	321	ePKIKP	PKPdf	01 53 14.2	-1.4
BGF	Bois d'Agland	119.38	320	ePKIKP	PKPdf	01 53 15.7	-0.7
	comp=Z,40nm,1.0s						
BGF	Bois d'Agland	119.38	320	ePKPdf	PKPdf	01 53 15.7	-0.7
BGF	Bois d'Agland	119.38	320	ePKIKP	PKPdf	01 53 15.7	-0.7
TCF	Toulx Ste Croi	119.89	320	ePKIKP	PKPdf	01 53 16.6	-0.8
	comp=Z,16nm,0.9s						
TCF	Toulx Ste Croi	119.89	320	ePKPdf	PKPdf	01 53 16.6	-0.8
TCF	Toulx Ste Croi	119.89	320	ePKIKP	PKPdf	01 53 16.6	-0.8
RSSD	Black Hills	120.46	42	ePKPdf	PKPdf	01 53 18.2	-0.4
RSSD	Black Hills	120.46	42	ePKIKP	PKPdf	01 53 18.2	-0.4
MFF	Saint Martin d	121.23	321	ePKIKP	PKPdf	01 53 19.0	-1.0
MFF	Saint Martin d	121.23	321	ePKPdf	PKPdf	01 53 19.0	-1.0
MFF	Saint Martin d	121.23	321	ePKIKP	PKPdf	01 53 19.0	-1.0
SDCO	Great Sand Dun	121.60	50	ePKPdf	PKPdf	01 53 21.9	+0.9
ANMO	Albuquerque	121.64	53	ePKPdf	PKPdf	01 53 20.5	-0.6
ANMO	Albuquerque	121.64	53	ePKIKP	PKPdf	01 53 20.5	-0.6
LPM	Los Pinos Moun	121.67	54	ePKPdf	PKPdf	01 53 19.0	-2.2
BNM	Barren Site	121.72	54	ePKPdf	PKPdf	01 53 22.3	+1.0
EPF	Esparros	122.43	318	ePKIKP	PKPdf	01 53 21.7	-0.7
	comp=Z,14nm,0.9s						
EPF	Esparros	122.43	318	ePKPdf	PKPdf	01 53 21.7	-0.7
EPF	Esparros	122.43	318	ePKIKP	PKPdf	01 53 21.7	-0.7
ULM	Lac du Bonnet	122.53	33	PKP	PKPdf	01 53 21.3	-1.0
	comp=Z,4.6nm,0.9s,baz=324,slow=2.4,SNR=4.4						
ULM	Lac du Bonnet	122.53	33	PKP	PKPdf	01 53 21.3	-1.0
ULM	Lac du Bonnet	122.53	33	PKIKP	PKPdf	01 53 21.3	-1.0
TAM	Tamanrasset	123.64	293	ePKPdf	PKPdf	01 53 26.2	+0.9
TAM	Tamanrasset	123.64	293	ePKIKP	PKPdf	01 53 26.2	+0.9
TXAR	Lajitas Array	125.34	59	PKP	PKPdf	01 53 27.9	-0.5
	comp=Z,0.6nm,0.7s,baz=268,slow=1.1,SNR=6.6						
TXAR				PKKP		02 03 50.6	
	comp=Z,0.1nm,0.3s,baz=90,slow=5.0,SNR=3.5						
TXAR	Lajitas Array	125.34	59	PKP	PKPdf	01 53 27.9	-0.5
TXAR				PKKP		02 03 50.6	
TXAR	Lajitas Array	125.34	59	PKIKP	PKPdf	01 53 27.9	-0.5
AMTX	Amarillo	125.42	52	ePKPdf	PKPdf	01 53 26.2	-2.2
ECSD	EROS Data Cent	125.46	40	ePKPdf	PKPdf	01 53 28.6	+0.4
CBKS	Cedar Bluff	125.48	46	ePKPdf	PKPdf	01 53 29.1	+0.8
CBKS	Cedar Bluff	125.48	46	ePKIKP	PKPdf	01 53 29.1	+0.7
ESDC	Sonseca Array	126.77	315	PKP	PKPdf	01 53 31.6	+0.7
	comp=Z,1.4nm,0.9s,baz=47,slow=2.3,SNR=3.7						
ESDC	Sonseca Array	126.77	315	PKP	PKPdf	01 53 31.6	+0.7
WMOK	Wichita Mounta	127.72	51	ePKPdf	PKPdf	01 53 31.9	-0.9
WMOK	Wichita Mounta	127.72	51	ePKIKP	PKPdf	01 53 31.9	-0.9
TORD	Torodi Ar. Bea	128.07	281	PKP	PKPdf	01 53 33.5	-0.4
	comp=Z,2.3nm,0.8s,baz=74,slow=1.5,SNR=8.3						
TORD	Torodi Ar. Bea	128.07	281	PKP	PKPdf	01 53 33.5	-0.4
JCT	Junction City	128.28	56	ePKPdf	PKPdf	01 53 34.6	+0.6
JCT	Junction City	128.28	56	ePKIKP	PKPdf	01 53 34.6	+0.6
PLCA	Paso Flores	129.44	160	PKP	PKPdf	01 53 35.9	-0.1
	comp=Z,3.3nm,0.8s,baz=218,slow=2.5,SNR=5.0						
PLCA	Paso Flores	129.44	160	ePKPdf	PKPdf	01 53 35.4	-0.5
PLCA	Paso Flores	129.44	160	ePKIKP	PKPdf	01 53 35.4	-0.5
EVO	Evora	130.10	316	ePKIKP	PKPdf	01 53 33.1	-4.1
	comp=Z,18nm,1.0s						
EVOP	Sao Brissos	130.18	316	ePKPdf	PKPdf	01 53 33.1	-4.2
EVOP	Sao Brissos	130.18	316	ePKIKP	PKPdf	01 53 33.1	-4.2
SCHQ	Schefferville	130.23	12	PKP	PKPdf	01 53 37.6	+0.7
	comp=Z,5.2nm,1.0s,baz=270,slow=4.0,SNR=3.0						
SCHQ	Schefferville	130.23	12	PKP	PKPdf	01 53 37.6	+0.7
DBIC	Dimbokro	134.49	273	PKP	PKPdf	01 53 46.2	0.0
	comp=Z,2.2nm,0.6s,baz=186,slow=11,SNR=5.1						
DBIC	Dimbokro	134.49	273	ePKPdf	PKPdf	01 53 47.2	+1.1
DBIC	Dimbokro	134.49	273	PKIKP	PKPdf	01 53 46.2	0.0
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.6s						
LIC	Lamto	134.63	272	ePKIKP	PKPdf	01 53 45.7	-0.8
	comp=Z,23nm,1.0s						
LIC	Lamto	134.63	272	ePKPdf	PKPdf	01 53 45.7	-0.8
WCI	Wyandotte Cave	134.99	40	ePKPdf	PKPdf	01 53 47.7	+1.3
WCI	Wyandotte Cave	134.99	40	ePKIKP	PKPdf	01 53 47.7	+1.3
LRAL	Lakeview Retre	137.30	47	ePKPdf	PKPdf	01 53 49.5	-1.3
CFAA	Coronel Fontan	138.43	157	PKP	PKPdf	01 53 53.4	+0.3
	comp=Z,0.4nm,0.6s,baz=223,slow=1.8,SNR=6.7						
CFAA	Coronel Fontan	138.43	157	PKP	PKPdf	01 53 53.4	+0.3
LCO	Las Campanas	139.65	152	ePKPdf	PKPdf	01 53 56.1	+0.8
JTS	JuntasAbangare	145.93	82	ePKPdf	PKPdf	01 54 06.9	+0.1
CPUP	Villa Florida	146.59	169	PKPbc	PKPbc	01 54 09.4	+0.3
	comp=Z,5.9nm,0.6s,baz=184,slow=2.5,SNR=11						
CPUP	Villa Florida	146.59	169	ePKPbc	PKPbc	01 54 08.8	-0.3
NNA	Nana	148.08	125	ePKPbc	PKPbc	01 54 12.9	-0.7
LPAZ	La Paz	151.41	143	PKPbc	PKPbc	01 54 22.8	+1.1
	comp=Z,6.5nm,1.1s,baz=59,slow=3.8,SNR=8.4						
LPAZ	La Paz	151.41	143	ePKPdf	PKPdf	01 54 17.1	+1.5
LPAZ				ePKPbc	PKPbc	01 54 22.1	+0.4
LPAZ				PKPbc	PKPbc	01 54 22.8	+1.1
LPAZ	La Paz	151.41	143	ePKIKP	PKPdf	01 54 17.1	+1.5
LPAZ						01 54 22.8	
OTAV	Otavalo	151.59	102	ePKPdf	PKPdf	01 54 16.3	+0.2
OTAV				ePKPbc	PKPbc	01 54 22.9	+0.6
ROSC	El Rosal	156.42	93	PKPab	PKPab	01 54 53.5	+2.2
	comp=Z,2.6nm,0.3s,baz=106,slow=18,SNR=3.2						
SDV	Santo Domingo	160.12	82	ePKPdf	PKPdf	01 54 27.4	+0.2
SDV				ePKPab	PKPab	01 55 07.1	-0.2

*IDC **01** 01:36:41.0±1.6, 4°.96S×128°.41E, h0km, mb4.6/6, mb1 4.7/6, mb1mx4.4/17, mbtmp4.6/6, MS5.2/2, Ms1 5.2/2, ms1mx4.5/23, Error ellipse: s-maj=43.9km s-min=33.9km az=142.0*

*NEIC **01** 01:36:55.7±4.1, 4°.91S×128°.75E, h117km±39km, mb4.9/7, Error ellipse: s-maj=29.0km s-min=17.1km az=51.0*

ISC 01 01:36:58.3±5.7**, 5°.0S**±0°.2×**128°.8E**±0°.2**, h149**km±64km**, n32, σ0s.86**/26**, mb4.5**/15**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	Davao City (W)	12.45	345	LR	LR	01 44 10.8	
	comp=Z,12μm,21.2s,baz=270,slow=37						
COEN	Coen	16.72	123	eP	Pn	01 40 44.0	0.0
PSI	Prapat	30.83	284	P	P	01 42 55.1	-5.3
	11nm,0.8s,mb4.7,baz=76,slow=7.8,SNR=2.2						
PSI	Prapat	30.83	284	P	P	01 42 55.1	-5.3
CMAR	Chiang Mai Arr	37.56	309	P	P	01 43 58.2	-0.1
	5.7nm,0.8s,mb4.2,baz=140,slow=6.6,SNR=3.6						
CMAR	Chiang Mai Arr	37.56	309	P	P	01 43 58.2	-0.1
CHTO	Chiang Mai	37.76	310	eP	P	01 44 00.0	0.0
	26nm,0.9s,mb4.9						
ENH	Enshi	39.68	333	eP	P	01 44 15.8	-0.1
	18nm,0.7s,mb4.8						
MAJO	Matsushiro	42.30	11	eP	P	01 44 36.9	-0.2
	23nm,0.9s,mb4.8						
MJAR	Matsushiro Arr	42.30	11	P	P	01 44 36.9	-0.2
	8.2nm,0.8s,mb4.4,baz=194,slow=9.4,SNR=3.5						
MJAR	Matsushiro Arr	42.30	11	P	P	01 44 36.9	-0.2
SONM	Songino Array	56.21	342	P	P	01 46 24.2	+1.6
	4.7nm,0.9s,mb4.3,baz=144,slow=5.2,SNR=2.3						
SONM	Songino Array	56.21	342	P	P	01 46 24.2	+1.6
PETK	Petropavlovsk-	62.87	19	P	P	01 47 08.1	0.0
	4.9nm,0.7s,mb4.5,baz=188,slow=8.4,SNR=2.6						
PETK	Petropavlovsk-	62.87	19	P	P	01 47 08.1	0.0
MK31	Makanchi Array	65.93	327	eP	P	01 47 28.6	+0.3
MKAR	Makanchi Array	65.93	327	P	P	01 47 28.5	+0.3
	6.4nm,0.8s,mb4.5,baz=129,slow=7.3,SNR=2.2						
MKAR	Makanchi Array	65.93	327	P	P	01 47 28.5	+0.3
AAK	Ala-Archa	68.27	320	eP	P	01 47 42.5	-0.6
	4.9nm,0.6s,mb4.4						
EKS2	Erkin-Say	68.75	320	eP	P	01 47 45.8	-0.2
	6.2nm,0.8s,mb4.4						
ZALV	Zalesovo Beam	69.30	334	P	P	01 47 47.6	-1.6
	3.8nm,0.7s,mb4.3,baz=144,slow=5.2,SNR=2.5						
ZALV	Zalesovo Beam	69.30	334	P	P	01 47 47.6	-1.6
KURK	Kurchatov	70.22	329	P	P	01 47 54.9	-0.1
	5.3nm,0.8s,mb4.3,baz=130,slow=4.9,SNR=2.3						
KURK	Kurchatov	70.22	329	eP	P	01 47 58.7	+3.8
	20nm,0.8s,mb4.9						
RAR	Rarotonga	70.90	111	LR	LR	02 14 13.3	
	comp=Z,1μm,20.9s,baz=274,slow=32						
BVAR	Borovoye Array	75.77	328	P	P	01 48 30.1	+2.6
	5.5nm,1.0s,mb4.2,baz=122,slow=5.2,SNR=1.9						
BVAR	Borovoye Array	75.77	328	P	P	01 48 30.1	+2.6
BRVK	Borovoye	75.84	328	eP	P	01 48 26.9	-1.0
	14nm,1.0s,mb4.5						
TORD	Torodi Ar. Bea	127.22	283	PKP	PKPdf	01 55 46.2	+0.2
	2.9nm,0.9s,baz=56,slow=0.9,SNR=3.7						
TORD	Torodi Ar. Bea	127.22	283	PKP	PKPdf	01 55 46.2	+0.2
CPUP	Villa Florida	148.26	170	PKPbc	PKPbc	01 56 30.9	+3.3
	8.5nm,0.8s,baz=187,slow=3.4,SNR=2.8						
CPUP	Villa Florida	148.26	170	PKPbc	PKPbc	01 56 30.9	+3.3

DJA 01 01:38:14, 3°.65S×127°.99E, h5km, MLv3.5/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	0.21	100	P	Pg	01 38 19.6	+1.5
AAI				S	Sg	01 38 22.7	+1.8
MSAI	Masohi	0.98	72	P	Pg	01 38 32.6	-0.3

IDC 01 01:40:08.7±2.4**, 84°.30N×110°.67E, h0km, mb3.8**/6**, mb1 4.1**/6**, mb1mx3.7**/26**, mbtmp3.8**/6**, Error ellipse: s-maj=97.1km s-min=19.6km az=164.0, North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCES	ARCESS Array B	20.87	280	P	P	01 44 52.8	+1.1
	1.9nm,0.8s,baz=13,slow=8.6,SNR=3.4						
ILAR	Eielson Array	27.16	66	P	P	01 45 53.7	+0.7
	1.6nm,1.0s,baz=347,slow=8.0,SNR=14						
FINES	FINESS Array B	28.70	275	P	P	01 46 06.9	+0.1
	6.0nm,1.1s,baz=345,slow=10,SNR=2.8						
BRTR	Keskin Array B	49.41	262	P	P	01 48 59.0	-0.6
	0.8nm,0.7s,baz=35,slow=5.9,SNR=3.5						
PDAR	Pinedale Array	51.91	37	P	P	01 49 18.8	+0.4
	0.3nm,0.6s,baz=300,slow=7.2,SNR=3.1						
TXAR	Lajitas Array	65.61	33	P	P	01 50 53.3	-0.6
	0.5nm,0.7s,baz=15,slow=3.7,SNR=6.6						

*IDC **01** 01:49:21.2±1.4, 6°.64S×129°.40E, h0km, mb4.0/4, mb1 4.1/8, mb1mx3.9/20, mbtmp4.0/8, ML3.9/4, Error ellipse: s-maj=48.2km s-min=23.6km az=78.0*

*ISCJB **01** 01:49:26.9±1.9, 6°.87S±0°.07×129°.0E±0°.1, h56km±20km, mb3.9/4, Error ellipse: s-maj=18.6km s-min=9.6km az=154.0*

*NEIC **01** 01:49:29.3±2.3, 6°.85S×129°.09E, h61km±26km, mb4.0/1, Error ellipse: s-maj=34.6km s-min=11.8km az=46.0*

ISC 01 01:49:29.6±1.8**, 6°.89S**±0°.10×**129°.0E**±0°.1**, h65**km±21km**, n17, σ0s.82**/24**, mb3.9**/4**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.68	150	ePn	Pn	01 51 04.4	-0.8
	62nm,0.7s						
KAKA				eSn	Sn	01 52 21.4	+1.5
KAPI	Kappang	9.43	281	Pn	Pn	01 51 43.4	+0.7
	2.3nm,0.3s,baz=117,slow=6.2,SNR=13						
KAPI	Kappang	9.43	281	Pn	Pn	01 51 43.4	+0.7
FITZ	Fitzroy Crossi	11.62	196	Pn	Pn	01 52 12.3	-0.5
	0.5nm,0.3s,baz=36,slow=8.9,SNR=8.4						
FITZ				Sn	Sn	01 54 20.7	-0.2
	0.5nm,0.3s,baz=359,slow=18,SNR=2.6						
FITZ	Fitzroy Crossi	11.62	196	Pn	Pn	01 52 12.3	-0.5
FITZ				Sn	Sn	01 54 20.7	-0.2
WRA	Warramunga Arr	13.95	159	Pn	Pn	01 52 40.5	-3.7
	0.5nm,0.3s,baz=339,slow=14,SNR=6.3						
WRA				Sn	Sn	01 55 11.0	-6.7
	0.9nm,0.3s,baz=330,slow=22,SNR=7.6						
WRA	Warramunga Arr	13.95	159	Pn	Pn	01 52 40.5	-3.7
WRA				Sn	Sn	01 55 11.0	-6.7
ASAR	Alice Springs	17.32	165	P	Pn	01 53 28.5	+1.4
	0.6nm,0.3s,baz=340,slow=9.7,SNR=14						
ASAR				S	S	01 56 37.4	-7.2
	0.2nm,0.3s,baz=350,slow=27,SNR=4.5						
ASAR	Alice Springs	17.32	165	P	Pn	01 53 28.5	+1.4
ASAR				S	S	01 56 37.4	-7.2
SONM	Songino Array	58.04	342	P	P	01 59 16.0	+0.1
	0.3nm,0.5s,mb3.6,baz=156,slow=7.4,SNR=2.8						
SONM	Songino Array	58.04	342	P	P	01 59 16.0	+0.1
MKAR	Makanchi Array	67.62	327	P	P	02 00 19.6	+0.1
	0.6nm,0.4s,mb4.0,baz=123,slow=7.5,SNR=8.9						
MKAR	Makanchi Array	67.62	327	P	P	02 00 19.6	+0.1
ZALV	Zalesovo Beam	71.07	334	P	P	02 00 40.2	-0.5
	0.5nm,0.4s,mb3.8,baz=123,slow=5.3,SNR=2.9						
ZALV	Zalesovo Beam	71.07	334	P	P	02 00 40.2	-0.5
KURK	Kurchatov	71.93	329	P	P	02 00 46.1	+0.1
	0.7nm,0.2s,mb4.2,baz=127,slow=5.2,SNR=6.3						
KURK	Kurchatov	71.93	329	eP	P	02 00 46.0	0.0
	1.2nm,0.6s,mb4.0						

PRU 01 01:50:49.0, 50°.09N×18°.46E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.32	219	ePG	Pg	01 50 55.1	-0.1
OKC				eSG	Sg	01 50 59.2	-0.1
	comp=Z,5.3nm,0.4s						
DPC	Dobruska-Polom	1.40	282	ePG	Pg	01 51 14.8	-1.0
DPC				eSG	Sg	01 51 33.7	-0.2
	comp=Z,5.4nm,0.8s						

IDC 01 01:53:31.7±4.1**, 1°.24S×148°.43E, h0km, mb4.0**/2**, mb1 4.3**/2**, mb1mx3.7**/17**, mbtmp4.0**/2**, Error ellipse: s-maj=163.0km s-min=44.4km az=105.0, Admiralty Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.14	216	P	P	01 58 40.0	+0.3
	4.6nm,0.8s,baz=42,slow=12,SNR=6.6						
ASAR	Alice Springs	26.37	211	P	P	01 59 11.0	+1.2
	3.6nm,1.1s,baz=49,slow=8.9,SNR=8.9						
TORD	Torodi Ar. Bea	145.00	291	PKPbc	PKPbc	02 13 09.3	-2.1
	0.3nm,0.4s,baz=80,slow=2.3,SNR=9.3						

IDC 01 01:57:20.6±2.4**, 7°.97S**×**129°.79E, h0km, mb4.5**/1, **mb1 3.8**/4**, mb1mx3.5**/18**, mbtmp3.6**/4**, ML3.0**/3**, MS4.2**/1, **Ms1 4.2**/1**, ms1mx3.4**/35**, Error ellipse: s-maj=75.9km s-min=30.5km az=103.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.85**	**201**	Pn	Pn	01 59 55.2	-2.1
	0.1nm,0.3s,baz=24,slow=10.0,SNR=6.2						
FITZ				Sn	Sn	02 02 01.7	+2.1
	0.1nm,0.3s,baz=125,slow=19,SNR=2.9						
FITZ				LR	LR	02 05 03.1	
	comp=Z,1μm,18.0s,baz=260,slow=43						
WRA	**Warramunga Arr**	**12.70**	**160**	Pn	Pn	02 00 23.3	+0.8
	0.1nm,0.3s,baz=346,slow=13,SNR=5.9						
ASAR	**Alice Springs**	**16.10**	**166**	Pn	Pn	02 01 09.6	+1.1
	0.1nm,0.3s,baz=345,slow=10,SNR=2.9						
ILAR	**Eielson Array**	**94.30**	**25**	P	P	02 10 41.7	+0.1
	1.5nm,1.0s,baz=250,slow=4.8,SNR=4.1						

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*IDC **01** 01:57:30.8±3.1, 3°.41S×149°.13E, h0km, mb4.2/6, mb1 4.4/7, mb1mx4.1/17, mbtmp4.2/7, ML3.9/1, MS4.4/2, Ms1 4.4/2, ms1mx3.7/28, Error ellipse: s-maj=100.5km s-min=21.2km az=102.0*

*ISCJB **01** 01:57:33.0±1.2, 3°.49S±0°.06×148°.7E±0°.2, h10km, mb4.3/14, Error ellipse: s-maj=35.7km s-min=8.0km az=7.4*

*NEIC **01** 01:57:34.5±1.0, 3°.44S×148°.70E, h10km, mb4.5/9, Error ellipse: s-maj=31.4km s-min=9.2km az=96.0*

*GCMT **01** 01:57:43.5±0.2, 3°.34S×149°.00E, h18km±1km, MW5.3, Moment Tensor Solution. s29,c38; s91,c165; Moment tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{\phi r}$0.00; Best double couple: $M_0$1.10000×10^{17} NP1:ϕ_s19.00000°, δ88.00000°, λ-180.00000°. NP2:ϕ_s289.00000°, δ90.00000°, λ-2.00000°. Principal axes: T 1.1300, Plg2.0000°, Azm334.0000°; N -0.1300, Plg88.0000°, Azm104.0000°; P -0.9900, Plg2.0000°, Azm244.0000°; Data Used: II IC IU G CN.*

ISC 01 01:57:34.8±1.2**, 3°.46S**±0°.06×**148°.7E**±0°.2**, h10km, n36, σ0s.90**/34**, mb4.3**/14**, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.10**	**194**	Pn	**Pn**	**01 59 10.9**	**+5.8**
	0.9nm,0.3s,baz=240,slow=8.0,SNR=3.7						
PMG				Sn	**Sn**	**02 00 15.3**	**+0.2**
	0.5nm,0.3s,baz=1.8,slow=11,SNR=3.0						
PMG	**Port Moresby**	**6.10**	**194**	Pn	**Pn**	**01 59 10.9**	**+5.8**
PMG				Sn	**Sn**	**02 00 15.3**	**+0.2**
CTA	**Charters Tower**	**16.70**	**188**	Pn	**Pn**	**02 01 28.9**	**-0.1**
	0.3nm,0.3s,baz=342,slow=12,SNR=4.5						
CTA	**Charters Tower**	**16.70**	**188**	Pn	**Pn**	**02 01 28.9**	**-0.1**
CTAO	**Charters Tower**	**16.70**	**188**	*e*P	**Pn**	**02 01 29.7**	**+0.6**
	18nm,1.3s						
GUMO	**Guam**	**17.35**	**347**	LR	LR	02 07 46.8	
	comp=Z,560nm,18.7s,baz=335,slow=35						
KAKA	**Kakadu**	**18.51**	**239**	*e*P	**Pn**	**02 01 51.5**	**-0.1**
	41nm,0.8s						
KAKA	**Kakadu**	**18.51**	**239**	*e*P	**Pn**	**02 01 50.8**	**-0.8**
	129nm,0.8s						
WRAB	**Tennant Creek**	**21.54**	**219**	*e*P	**P**	**02 02 23.9**	**-0.5**
	75nm,1.4s,mb4.9						
WB2	**Warramunga Arr**	**21.54**	**219**	*e*P	**P**	**02 02 23.7**	**-0.7**
WRA	**Warramunga Arr**	**21.55**	**219**	P	**P**	**02 02 24.4**	**-0.1**
	8.3nm,0.8s,mb4.2,baz=44,slow=12,SNR=20						
WRA	**Warramunga Arr**	**21.55**	**219**	P	**P**	**02 02 24.4**	**-0.1**
ASAR	**Alice Springs**	**24.65**	**214**	P	**P**	**02 02 55.8**	**0.0**
	5.5nm,1.0s,mb4.0,baz=50,slow=7.3,SNR=13						
ASAR	**Alice Springs**	**24.65**	**214**	P	**P**	**02 02 55.8**	**0.0**
FITZ	**Fitzroy Crossi**	**26.86**	**236**	P	**P**	**02 03 17.5**	**+1.6**
	22nm,0.9s,mb4.7,baz=74,slow=8.2,SNR=24						
FITZ	**Fitzroy Crossi**	**26.86**	**236**	*e*P	**P**	**02 03 18.1**	**+2.2**
	37nm,0.9s,mb4.9						
FITZ	**Fitzroy Crossi**	**26.86**	**236**	P	**P**	**02 03 17.5**	**+1.6**
MEEK	**Meekatharra**	**36.88**	**228**	*e*P	**P**	**02 04 43.1**	**-0.7**
URZ	**Urewera**	**43.28**	**147**	LR	LR	02 20 50.3	
	comp=Z,788nm,19.4s,baz=315,slow=32						
CMAR	**Chiang Mai Arr**	**53.60**	**296**	P	**P**	**02 07 00.6**	**+4.0**
	1.3nm,0.3s,mb4.3,baz=115,slow=6.2,SNR=5.4						
CMAR	**Chiang Mai Arr**	**53.60**	**296**	P	**P**	**02 07 00.6**	**+4.0**
SONM	**Songino Array**	**63.05**	**329**	P	**P**	**02 08 01.2**	**-1.0**
	0.3nm,0.3s,mb3.9,baz=126,slow=4.0,SNR=5.3						
SONM	**Songino Array**	**63.05**	**329**	P	**P**	**02 08 01.2**	**-1.0**
MK31	**Makanchi Array**	**76.64**	**320**	*e*P	**P**	**02 09 25.4**	**-0.4**
MKAR	**Makanchi Array**	**76.64**	**320**	P	**P**	**02 09 25.6**	**-0.3**
	0.6nm,0.2s,mb4.1,baz=96,slow=6.6,SNR=9.6						
MKAR	**Makanchi Array**	**76.64**	**320**	P	**P**	**02 09 25.6**	**-0.3**
ZALV	**Zalesovo Beam**	**77.78**	**327**	P	**P**	**02 09 30.3**	**-1.8**
	0.3nm,0.3s,mb3.6,baz=86,slow=7.4,SNR=2.6						
ZALV	**Zalesovo Beam**	**77.78**	**327**	P	**P**	**02 09 30.3**	**-1.8**
TKM2	**Tokmak 2**	**80.06**	**314**	*e*P	**P**	**02 09 45.1**	**+0.2**
	3.4nm,0.9s,mb4.3						
KZA	**Kyzart**	**80.10**	**314**	*e*P	**P**	**02 09 45.8**	**+0.7**
	6.7nm,0.8s,mb4.6						
KURK	**Kurchatov**	**80.20**	**323**	*e*P	**P**	**02 09 44.8**	**-0.7**
	2.9nm,0.9s,mb4.2						
KURK				*e*PcP	PcP	02 09 52.0	-0.7
AAK	**Ala-Archa**	**80.78**	**314**	*e*P	**P**	**02 09 50.8**	**+2.0**
	3.3nm,0.9s,mb4.3						
EKS2	**Erkin-Say**	**81.30**	**314**	*e*P	**P**	**02 09 52.3**	**+0.8**
	4.6nm,0.9s,mb4.4						
EKS2				*e*pP	pP	02 10 03.8	+8.9
KKAR	**Karatay Array**	**83.74**	**314**	*e*P	**P**	**02 10 05.0**	**+0.8**
	4.1nm,1.0s,mb4.5						
TORD	**Torodi Ar. Bea**	**145.99**	**288**	PKPbc	PKPbc	02 17 14.2	-1.7
	2.0nm,0.9s,baz=58,slow=3.8,SNR=6.8						
TORD	**Torodi Ar. Bea**	**145.99**	**288**	PKPbc	PKPbc	02 17 14.2	-1.7

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*IDC **01** 02:04:37.5±1.9, 3°.59S×148°.67E, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.9/16, mbtmp4.1/4, MS4.3/2, Ms1 4.3/2, ms1mx3.7/33, Error ellipse: s-maj=116.9km s-min=25.7km az=124.0*

*NEIC **01** 02:04:38.8±1.4, 4°.31S×149°.52E, h10km, mb4.2/3, Error ellipse: s-maj=53.3km s-min=13.1km az=116.0*

ISC 01 02:04:38.9±1.5**, 4°.3S**±0°.2×**149°.5E**±0°.4**, h10km, n16, σ0s.56**/15**, mb3.8**/7**, MS4.2**/2**, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.59**	**204**	Pn	**Pb**	**02 06 16.8**	**+0.1**
	1.1nm,0.3s,baz=36,slow=8.7,SNR=2.8						
PMG	**Port Moresby**	**5.59**	**204**	Pn	**Pb**	**02 06 16.8**	**+0.1**
WRAB	**Tennant Creek**	**21.44**	**222**	*e*P	**P**	**02 09 27.1**	**-0.3**
	6.4nm,0.8s,mb4.0						
WB2	**Warramunga Arr**	**21.44**	**222**	*e*P	**P**	**02 09 28.0**	**+0.5**
WRA	**Warramunga Arr**	**21.45**	**222**	P	**P**	**02 09 27.2**	**-0.3**
	4.8nm,0.9s,mb3.8,baz=40,slow=10,SNR=13						
WRA				LR	LR	02 17 26.0	
	comp=Z,618nm,19.6s,MS4.0,baz=5.0,slow=36						
WRA	**Warramunga Arr**	**21.45**	**222**	P	**P**	**02 09 27.2**	**-0.3**
WRA				LR	LR	02 17 26.0	
ASAR	**Alice Springs**	**24.44**	**217**	P	**P**	**02 09 58.5**	**+0.5**
	3.4nm,0.8s,mb3.8,baz=45,slow=8.6,SNR=8.4						
ASAR	**Alice Springs**	**24.44**	**217**	P	**P**	**02 09 58.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**27.07**	**238**	P	**P**	**02 10 21.0**	**-0.9**
	6.4nm,0.7s,mb4.2,baz=52,slow=11,SNR=14						
FITZ				LR	LR	02 21 52.8	
	comp=Z,763nm,18.6s,MS4.3,baz=25,slow=39						
FITZ	**Fitzroy Crossi**	**27.07**	**238**	*e*P	**P**	**02 10 21.2**	**-0.7**
	5.4nm,0.6s,mb4.2						
FITZ				LR	LR	02 21 52.8	
MKAR	**Makanchi Array**	**77.78**	**320**	P	**P**	**02 16 37.5**	**+1.1**
	0.3nm,0.2s,mb3.8,baz=102,slow=4.7,SNR=1.9						
MKAR	**Makanchi Array**	**77.78**	**320**	P	**P**	**02 16 37.5**	**+1.1**
KURK	**Kurchatov**	**81.34**	**323**	*e*P	**P**	**02 16 55.3**	**-0.4**
	1.1nm,0.4s,mb4.1						
ILAR	**Eielson Array**	**82.95**	**23**	P	**P**	**02 17 03.4**	**-0.4**
	0.1nm,0.6s,mb3.1,baz=215,slow=4.4,SNR=3.7						
ILAR	**Eielson Array**	**82.95**	**23**	P	**P**	**02 17 03.4**	**-0.4**
TORD	**Torodi Ar. Bea**	**147.01**	**288**	PKPbc	PKPbc	02 24 17.2	-5.8
	0.3nm,0.7s,baz=50,slow=2.5,SNR=3.3						

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*IDC **01** 02:14:21.6±4.2, 3°.53S×149°.48E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/17, mbtmp4.0/5, MS4.3/5, Ms1 4.3/5, ms1mx3.9/36, Error ellipse: s-maj=134.2km s-min=25.0km az=105.0*

*NEIC **01** 02:14:21.3±3.4, 3°.68S×150°.02E, h10km, mb4.3/4, Error ellipse: s-maj=111.0km s-min=16.2km az=106.0*

ISC 01 02:14:23.2±4.6**, 3°.6S**±0°.3×**149°.7E**±1°.0**, h10km, n19, σ1s.04**/14**, mb4.0**/9**, MS4.3**/4**, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.27**	**203**	LR	LR	02 18 26.9	
	comp=Z,1μm,20.9s,baz=121,slow=39						
WRAB	**Tennant Creek**	**22.05**	**221**	*e*P	**P**	**02 19 20.5**	**+2.3**
	29nm,1.4s,mb4.5						
WRA	**Warramunga Arr**	**22.06**	**221**	P	**P**	**02 19 17.2**	**-1.2**
	3.0nm,0.6s,mb3.9,baz=40,slow=11,SNR=15						
WRA				LR	LR	02 28 45.8	
	comp=Z,559nm,19.5s,MS4.0,baz=10.0,slow=39						
WRA	**Warramunga Arr**	**22.06**	**221**	P	**P**	**02 19 17.2**	**-1.2**
WRA				LR	LR	02 28 45.8	
ASAR	**Alice Springs**	**25.09**	**216**	P	**P**	**02 19 47.8**	**-0.4**
	3.4nm,0.9s,mb3.9,baz=47,slow=8.5,SNR=13						
ASAR	**Alice Springs**	**25.09**	**216**	P	**P**	**02 19 47.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**27.58**	**237**	P	**P**	**02 20 10.2**	**-0.5**
	9.3nm,0.9s,mb4.4,baz=54,slow=5.0,SNR=9.9						
FITZ				LR	LR	02 31 50.9	
	comp=Z,891nm,18.5s,MS4.4,baz=57,slow=38						
FITZ	**Fitzroy Crossi**	**27.58**	**237**	P	**P**	**02 20 10.2**	**-0.5**
FITZ				LR	LR	02 31 50.9	
MJAR	**Matsushiro Arr**	**41.34**	**346**	LR	LR	02 38 47.0	
	comp=Z,446nm,19.0s,MS4.3,baz=150,slow=36						
URZ	**Urewera**	**42.63**	**148**	LR	LR	02 38 03.7	
	comp=Z,734nm,18.1s,MS4.6,baz=131,slow=33						
SONM	**Songino Array**	**63.67**	**329**	P	**P**	**02 24 54.3**	**-0.4**
	0.4nm,0.7s,mb3.6,baz=133,slow=6.1,SNR=4.0						
SONM	**Songino Array**	**63.67**	**329**	P	**P**	**02 24 54.3**	**-0.4**
MKAR	**Makanchi Array**	**77.38**	**319**	P	**P**	**02 26 17.4**	**-1.0**
	0.5nm,0.2s,mb4.0,baz=99,slow=7.5,SNR=9.1						
MKAR	**Makanchi Array**	**77.38**	**319**	P	**P**	**02 26 17.4**	**-1.0**
TKM2	**Tokmak 2**	**80.85**	**314**	*e*P	**P**	**02 26 38.2**	**+0.7**
	1.3nm,0.8s,mb3.9						
KURK	**Kurchatov**	**80.91**	**322**	*e*P	**P**	**02 26 37.3**	**-0.3**
	2.0nm,0.8s,mb4.1						
AAK	**Ala-Archa**	**81.58**	**314**	*e*P	**P**	**02 26 42.7**	**+1.4**
	2.0nm,0.7s,mb4.2						
TORD	**Torodi Ar. Bea**	**146.96**	**289**	PKPbc	PKPbc	02 34 05.9	-1.2
	1.0nm,0.9s,baz=69,slow=3.5,SNR=4.8						
TORD	**Torodi Ar. Bea**	**146.96**	**289**	PKPbc	PKPbc	02 34 05.9	-1.2

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*DDA **01** 02:14:58.5, 36°.06N×35°.86E, h24km±1km, Md3.3*

*ISCJB **01** 02:14:59.9±0.4, 36°.03N±0°.02×35°.92E±0°.04, h21km±5km, Error ellipse: s-maj=5.7km s-min=4.1km az=2.4*

*CSEM **01** 02:14:59.8±0.1, 36°.04N×35°.94E, h15km, MD3.4, Error ellipse: s-maj=3.6km s-min=3.2km az=44.0*

*ISK **01** 02:14:59.9, 36°.08N×35°.98E, h21km, MD3.4*

*NSSC **01** 02:15:00, 36°.06N×36°.00E, h15km±6km*

ISC 01 02:15:00.2±0.4**, 36°.02N**±0°.02×**35°.93E**±0°.03**, h19**km±3km**, n44, σ0s.88**/69**, 9D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YAYL	**Yayladag**	**0.14**	**85**	*i* P	**Pg**	**02 15 04.0**	**-0.4**
YAYL				*i* S	**Sg**	**02 15 08.0**	**+0.7**
YAYL				*i* S	**Sg**	**02 15 08.5**	**+1.2**
YAYL	**Yayladag**	**0.14**	**85**	*i* P	**Pg**	**02 15 04.1**	**-0.3**
YAYL				*i* S	**Sg**	**02 15 08.0**	**+0.7**
HTY	**Hatay**	**0.19**	**59**	*e*PG	**Pg**	**02 15 04.6**	**-0.5**
HTY				*e*SG	**Sg**	**02 15 08.2**	**-0.2**
HTY	**Hatay**	**0.19**	**59**	*e*Pg	**Pg**	**02 15 04.6**	**-0.5**
HTY				*e*Sg	**Sg**	**02 15 08.2**	**-0.2**
BTCH	**Batrach**	**0.43**	**88**	⇓P	**Pg**	**02 15 08.0**	**-1.0**
BTCH	**Batrach**	**0.43**	**88**	⇑*i*P	**Pg**	**02 15 07.8**	**-1.2**
BTCH				⇑*i*S	**Sg**	**02 15 14.6**	**-0.3**
SLNF	**Slenfeh**	**0.49**	**151**	⇓P	**Pg**	**02 15 10.0**	**-0.1**
SLNF				⇓S	**Sg**	**02 15 17.0**	**+0.3**
SLNF	**Slenfeh**	**0.49**	**151**	⇑*i*P	**Pg**	**02 15 10.1**	**0.0**
SLNF				⇑*i*S	**Sg**	**02 15 17.1**	**+0.4**
WRDH	**Warideh**	**0.65**	**143**	⇑P	**Pb**	**02 15 13.0**	**+0.2**
WRDH	**Warideh**	**0.65**	**143**	⇑*i*P	**Pb**	**02 15 13.0**	**+0.2**
WRDH				⇑*i*S	**Sb**	**02 15 21.6**	**+0.1**
KRTS	**Karatas**	**0.71**	**321**	*e*PG	**Pg**	**02 15 13.5**	**-0.6**
KRTS				*e*SG	**Sg**	**02 15 25.3**	**+1.7**
KRTS	**Karatas**	**0.71**	**321**	*e*Pg	**Pg**	**02 15 13.5**	**-0.7**
DRWC	**Darouich**	**0.84**	**45**	⇓*i*P	**Pb**	**02 15 15.8**	**-0.4**
DRWC				⇓*i*S	**Sb**	**02 15 25.8**	**-1.4**
BIDA	**Albida**	**1.06**	**162**	⇓P	**Pb**	**02 15 19.0**	**-0.8**
BIDA				⇓S	**Sb**	**02 15 34.0**	**+0.7**
BIDA	**Albida**	**1.06**	**162**	⇓*i*P	**Pb**	**02 15 19.3**	**-0.5**
BIDA				⇓*i*S	**Sb**	**02 15 32.2**	**-1.1**
KUZU	**Kuzuini**	**1.19**	**51**	*i* P	**Pn**	**02 15 21.6**	**-0.2**
KUZU				*i* S	**Sb**	**02 15 39.0**	**+1.9**
KUZU	**Kuzuini**	**1.19**	**51**	*i* P	**Pn**	**02 15 21.6**	**-0.2**
KUZU				*i* S	**Sb**	**02 15 39.0**	**+1.9**
KARA	**Karaisali**	**1.42**	**331**	*e*PN	**Pn**	**02 15 24.2**	**-0.9**
KARA				*e*SN	**Sn**	**02 15 43.3**	**+0.1**
KARA	**Karaisali**	**1.42**	**331**	*e*Pn	**Pn**	**02 15 24.2**	**-0.8**
KARA				*e*Sn	**Sn**	**02 15 43.3**	**0.0**
KOZT	**Kozan**	**1.46**	**357**	*e*PN	**Pn**	**02 15 24.6**	**-0.9**
EREN	**Erenkoy**	**1.52**	**252**	*e*PN	**Pn**	**02 15 27.5**	**+1.2**
EREN	**Erenkoy**	**1.52**	**252**	*e*Pn	**Pn**	**02 15 27.5**	**+1.2**
GAZ	**Gaziantep**	**1.54**	**42**	*e*PN	**Pn**	**02 15 26.3**	**-0.4**
GAZ	**Gaziantep**	**1.54**	**42**	*e*Pn	**Pn**	**02 15 26.3**	**-0.4**
GULE	**Gulek**	**1.56**	**324**	*i* P	**Pn**	**02 15 26.5**	**-0.5**
GULE				*i* S	**Sn**	**02 15 45.7**	**-1.0**
GULE	**Gulek**	**1.56**	**324**	*i* P	**Pn**	**02 15 26.5**	**-0.5**
GULE				*i* S	**Sn**	**02 15 45.7**	**-1.0**
ANDN	**Andirin**	**1.59**	**12**	*i* P	**Pn**	**02 15 27.7**	**+0.3**
ANDN				*i* S	**Sn**	**02 15 49.3**	**+1.9**
ANDN	**Andirin**	**1.59**	**12**	*i* P	**Pn**	**02 15 27.7**	**+0.4**
ANDN				*i* S	**Sn**	**02 15 49.3**	**+1.9**
HWQ	**Hawqa**	**1.74**	**180**	*e*P	**Pn**	**02 15 29.6**	**+0.2**
BHL	**Bhannes**	**2.13**	**186**	*e*P	**Pn**	**02 15 34.7**	**0.0**
CSS	**Prodhromos**	**2.37**	**244**	*e*PN	**Pn**	**02 15 40.2**	**+2.1**
CSS	**Prodhromos**	**2.37**	**244**	*e*Pn	**Pn**	**02 15 40.2**	**+2.1**
ATAB	**Bozova**	**2.38**	**52**	*e*P	**Pn**	**02 15 38.9**	**+0.6**
ATAB				*i* S	**Sn**	**02 16 13.6**	**+6.6**
ATAB	**Bozova**	**2.38**	**52**	*e*P	**Pn**	**02 15 38.9**	**+0.6**
ERMK	**Ermenek**	**2.52**	**285**	*i* P	**Pn**	**02 15 29.1**	**-11**
ERMK				*i* S	**Sn**	**02 16 00.2**	**-10**
URFA	**Urfa**	**2.72**	**58**	*e*PN	**Pn**	**02 15 43.6**	**+0.8**
URFA	**Urfa**	**2.72**	**58**	*e*Pn	**Pn**	**02 15 43.6**	**+0.8**
SARI	**SarD1z-Kayseri**	**2.72**	**13**	*e*PN	**Pn**	**02 15 38.1**	**-4.8**
SULT	**Sultanhani-AKS**	**2.91**	**319**	*e*PN	**Pn**	**02 15 45.6**	**+0.2**
SULT	**Sultanhani-AKS**	**2.91**	**319**	*e*Pn	**Pn**	**02 15 45.6**	**+0.2**
GAZI	**Gazipasa**	**2.94**	**275**	*i* P	**Pn**	**02 15 45.8**	**0.0**
GAZI				*i* S	**Sn**	**02 16 19.1**	**-1.5**
GAZI	**Gazipasa**	**2.94**	**275**	*i* P	**Pn**	**02 15 45.8**	**0.0**
GAZI				*i* S	**Sn**	**02 16 19.1**	**-1.5**
MALT	**Malatya**	**3.03**	**40**	*e*PN	**Pn**	**02 15 46.7**	**-0.5**
MALT	**Malatya**	**3.03**	**40**	*e*Pn	**Pn**	**02 15 46.7**	**-0.5**

IDC 01 02:16:52.7±4.4**, 3°.68S**×**149°.73E, h0km, mb4.2**/3, **mb1 4.4**/3**, mb1mx3.8**/17**, mbtmp4.2**/3**, MS4.2**/2**, Ms1 4.2**/2, **ms1mx3.3**/40**, Error ellipse: s-maj=156.8km s-min=51.2km az=115.0, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**17.82**	**344**	LR	LR	02 26 03.7	
	comp=Z,726nm,21.1s,baz=94,slow=31						
WRA	**Warramunga Arr**	**22.06**	**222**	P	P	02 21 48.8	-0.5
	7.6nm,0.9s,baz=42,slow=10,SNR=8.3						
ASAR	**Alice Springs**	**25.07**	**216**	P	P	02 22 19.6	+0.6
	3.8nm,0.9s,baz=52,slow=8.3,SNR=4.3						
FITZ	**Fitzroy Crossi**	**27.60**	**237**	P	P	02 22 42.0	0.0
	11nm,0.9s,baz=69,slow=8.9,SNR=8.0						
STKA	**Stephens Creek**	**29.07**	**194**	LR	LR	02 35 46.0	
	comp=Z,526nm,19.4s,baz=119,slow=39						
TORD	**Torodi Ar. Bea**	**147.06**	**289**	PKPbc	PKPbc	02 36 37.8	-0.8
	1.7nm,1.2s,baz=60,slow=2.6,SNR=4.2						

IDC 01 02:24:19.5±3.7**, 3°.31S**×**149°.51E, h0km, mb3.8**/3, **mb1 4.0**/3**, mb1mx3.7**/17**, mbtmp3.8**/3**, Error ellipse: s-maj=121.5km s-min=46.8km az=112.0, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.19**	**221**	P	P	02 29 16.4	-1.1
	2.8nm,0.9s,baz=44,slow=12,SNR=6.6						
ASAR	**Alice Springs**	**25.24**	**215**	P	P	02 29 47.9	+0.6
	1.9nm,0.9s,baz=55,slow=8.7,SNR=10						
FITZ	**Fitzroy Crossi**	**27.62**	**236**	P	P	02 30 09.5	+0.6
	2.8nm,1.0s,baz=42,slow=12,SNR=3.6						
TORD	**Torodi Ar. Bea**	**146.72**	**289**	PKPbc	PKPbc	02 44 03.4	-1.1
	0.4nm,1.0s,baz=48,slow=3.0,SNR=2.7						

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*ISCJB **01** 02:33:10.9±1.4, 3°.5S±0°.2×149°.1E±0°.3, h10km, mb3.9/8, MS3.9/4, Error ellipse: s-maj=41.8km s-min=15.2km az=25.2*

*IDC **01** 02:33:10.1±1.7, 3°.52S×149°.39E, h0km, mb3.9/8, mb1 4.2/8, mb1mx4.0/17, mbtmp4.0/8, MS4.0/5, Ms1 4.0/5, ms1mx3.6/32, Error ellipse: s-maj=54.4km s-min=20.5km az=112.0*

*NEIC **01** 02:33:11.8±1.2, 3°.53S×149°.29E, h10km, mb4.2/1, Error ellipse: s-maj=36.8km s-min=13.3km az=115.0*

ISC 01 02:33:12.4±1.4**, 3°.5S**±0°.2×**149°.2E**±0°.3**, h10km, n22, σ0s.72**/17**, mb3.9**/8**, MS3.9**/4**, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**17.53**	**346**	LR	LR	02 42 04.3	
	comp=Z,450nm,18.6s,baz=278,slow=30						
KAKA	**Kakadu**	**18.94**	**240**	*e*P	**Pn**	**02 37 33.0**	**-1.3**
	6.8nm,0.4s						
WRA	**Warramunga Arr**	**21.84**	**220**	P	**P**	**02 38 05.3**	**+0.1**
	7.4nm,0.9s,mb4.1,baz=42,slow=12,SNR=14						
WRA				LR	LR	02 45 26.0	
	comp=Z,350nm,20.1s,MS3.8,baz=60,slow=34						
WRA	**Warramunga Arr**	**21.84**	**220**	P	**P**	**02 38 05.3**	**+0.1**
WRA				LR	LR	02 45 26.0	
ASAR	**Alice Springs**	**24.90**	**215**	P	**P**	**02 38 36.4**	**+0.8**
	4.9nm,1.0s,mb4.0,baz=49,slow=8.3,SNR=19						
ASAR	**Alice Springs**	**24.90**	**215**	P	**P**	**02 38 36.4**	**+0.8**
FITZ	**Fitzroy Crossi**	**27.26**	**236**	P	**P**	**02 38 57.4**	**+0.4**
	9.3nm,0.9s,mb4.3,baz=82,slow=9.7,SNR=11						
FITZ				LR	LR	02 50 21.8	
	comp=Z,327nm,21.6s,MS3.9,baz=231,slow=38						
FITZ	**Fitzroy Crossi**	**27.26**	**236**	P	**P**	**02 38 57.4**	**+0.4**
FITZ				LR	LR	02 50 21.8	
MJAR	**Matsushiro Arr**	**41.16**	**346**	LR	LR	02 55 00.4	
	comp=Z,202nm,18.6s,MS4.0,baz=130,slow=32						
KSRS	**Korea Array**	**45.31**	**336**	LR	LR	02 59 38.7	
	comp=Z,174nm,20.6s,MS4.0,baz=47,slow=35						
CMAR	**Chiang Mai Arr**	**54.10**	**296**	P	**P**	**02 42 38.1**	**+0.2**
	0.5nm,0.3s,mb3.9,baz=104,slow=6.0,SNR=4.1						
CMAR	**Chiang Mai Arr**	**54.10**	**296**	P	**P**	**02 42 38.1**	**+0.2**
SONM	**Songino Array**	**63.37**	**329**	P	**P**	**02 43 42.6**	**+0.7**
	0.3nm,0.6s,mb3.6,baz=139,slow=7.3,SNR=2.5						
SONM	**Songino Array**	**63.37**	**329**	P	**P**	**02 43 42.6**	**+0.7**
MKAR	**Makanchi Array**	**77.02**	**320**	P	**P**	**02 45 06.3**	**+0.7**
	0.3nm,0.2s,mb3.8,baz=112,slow=6.4,SNR=2.1						
MKAR	**Makanchi Array**	**77.02**	**320**	P	**P**	**02 45 06.3**	**+0.7**
ZALV	**Zalesovo Beam**	**78.12**	**327**	P	**P**	**02 45 11.0**	**-0.6**
	0.3nm,0.3s,mb3.7,baz=153,slow=13,SNR=2.6						
ZALV	**Zalesovo Beam**	**78.12**	**327**	P	**P**	**02 45 11.0**	**-0.6**
ILAR	**Eielson Array**	**82.35**	**23**	P	**P**	**02 45 33.2**	**-0.9**
	0.5nm,0.9s,mb3.4,baz=251,slow=4.7,SNR=3.1						
ILAR	**Eielson Array**	**82.35**	**23**	P	**P**	**02 45 33.2**	**-0.9**
TORD	**Torodi Ar. Bea**	**146.51**	**289**	PKPbc	PKPbc	02 52 53.9	-1.2
	1.7nm,1.0s,baz=52,slow=2.5,SNR=6.7						
TORD	**Torodi Ar. Bea**	**146.51**	**289**	PKPbc	PKPbc	02 52 53.9	-1.2

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*ISCJB **01** 02:35:33.3±0.9, 61°.1S±0°.2×26°.3W±0°.6, h10km, mb3.8/3, Error ellipse: s-maj=51.7km s-min=13.0km az=148.6*

*IDC **01** 02:35:36.9±3.1, 60°.45S×26°.29W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/14, mbtmp3.9/3, Error ellipse: s-maj=98.8km s-min=41.6km az=2.0*

ISC 01 02:35:35.6±0.9**, 61°.1S**±0°.2×**26°.3W**±0°.6**, h10km, n7, σ1s.65**/6, **mb3.8**/3**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.05**	**150**	*e*P	**Pn**	**02 38 28.8**	**+1.8**
VNA3	**Neumayer Olymp**	**12.16**	**154**	*e*P	**Pn**	**02 38 28.6**	**+0.1**
VNA2	**Neumayer--Watz**	**12.45**	**150**	*e*P	**Pn**	**02 38 30.4**	**-2.1**
	baz=307,slow=16						
CPUP	**Villa Florida**	**40.60**	**315**	P	**P**	**02 43 14.3**	**-0.8**
	1.1nm,0.4s,mb3.9,baz=142,slow=7.0,SNR=8.1						
LPAZ	**La Paz**	**53.75**	**307**	P	**P**	**02 44 58.6**	**+0.8**
	0.6nm,0.6s,mb3.7,baz=127,slow=5.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**77.23**	**28**	P	**P**	**02 47 29.6**	**+0.1**
	0.8nm,0.6s,mb3.8,baz=204,slow=6.3,SNR=13						
ILAR	**Eielson Array**	**153.59**	**304**	PKPbc	PKPbc	02 55 35.0	+2.4
	0.3nm,0.6s,baz=120,slow=0.2,SNR=6.6						

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*IDC **01** 02:57:16.6±1.2, 51°.60N×174°.38W, h0km, mb3.8/10, mb1 4.0/12, mb1mx3.8/28, mbtmp3.8/12, ML3.8/2, Error ellipse: s-maj=32.7km s-min=18.7km az=176.0*

*NEIC **01** 02:57:17.7±0.7, 51°.28N×174°.32W, h10km, ML3.4(AEIC), Error ellipse: s-maj=15.6km s-min=9.7km az=170.0*

*ISCJB **01** 02:57:22.8±1.6, 51°.5N±0°.2×174°.31W±0°.10, h57km±11km, mb4.1/14, Error ellipse: s-maj=26.2km s-min=8.4km az=166.0*

ISC 01 02:57:23.4±1.5**, 51°.5N**±0°.1×**174°.30W**±0°.09**, h48**km±10km**, n43, σ1s.02**/47**, mb4.1**/14**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.74**	**5**	P	**Pn**	**02 57 36.4**	**-1.2**
ATKA				S	**Sn**	**02 57 49.2**	**+1.5**
GSTR	**Great Sitkin T**	**1.26**	**300**	*e*Pn	**Pn**	**02 57 43.9**	**-0.7**
ADK	**Adak**	**1.54**	**286**	P	**Pn**	**02 57 46.9**	**-1.5**
ADK				S	**Sn**	**02 58 07.3**	**0.0**
FX1	**Attu Island--F**	**7.84**	**285**	Pn	**Pn**	**02 59 16.4**	**+1.6**
	0.4nm,0.3s,baz=54,slow=19,SNR=4.7						
FX1	**Attu Island--F**	**7.84**	**285**	Pn	**Pn**	**02 59 16.4**	**+1.6**
KDAK	**Kodiak Island**	**14.04**	**55**	Pn	**Pn**	**03 00 39.0**	**-0.3**
	0.3nm,0.3s,baz=80,slow=11,SNR=4.7						
KDAK				Sn	**Sn**	**03 03 24.9**	**+11**
	0.1nm,0.3s,baz=138,slow=18,SNR=2.4						
KDAK	**Kodiak Island**	**14.04**	**55**	Pn	**Pn**	**03 00 39.0**	**-0.3**
KDAK				Sn	**Sn**	**03 03 24.9**	**+12**
BMRM	**Bremner River**	**18.89**	**48**	*e*Pn	**Pn**	**03 01 42.2**	**+1.8**
ILAR	**Eielson Array**	**19.45**	**36**	P	**Pn**	**03 01 42.2**	**-5.0**
	0.2nm,0.3s,baz=235,slow=9.1,SNR=37						
ILAR	**Eielson Array**	**19.45**	**36**	P	**Pn**	**03 01 42.2**	**-5.0**
INK	**Inuvik**	**25.79**	**34**	P	**P**	**03 02 47.9**	**-1.5**
	1.0nm,0.6s,mb3.5,baz=257,slow=5.4,SNR=5.1						
INK	**Inuvik**	**25.79**	**34**	P	**P**	**03 02 47.9**	**-1.5**
NVAR	**Mina Array Bea**	**40.74**	**86**	P	**P**	**03 05 00.6**	**+1.2**
	0.5nm,0.8s,mb3.2,baz=279,slow=12,SNR=3.3						
NVAR	**Mina Array Bea**	**40.74**	**86**	P	**P**	**03 05 00.6**	**+1.2**
PDAR	**Pinedale Array**	**43.58**	**75**	P	**P**	**03 05 22.5**	**+0.1**
	0.5nm,0.8s,mb3.3,baz=322,slow=3.1,SNR=4.5						
PDAR	**Pinedale Array**	**43.58**	**75**	P	**P**	**03 05 22.5**	**+0.1**
ULM	**Lac du Bonnet**	**47.25**	**59**	P	**P**	**03 05 49.9**	**-1.5**
	1.8nm,0.7s,mb4.1,baz=265,slow=11,SNR=2.7						
ULM	**Lac du Bonnet**	**47.25**	**59**	P	**P**	**03 05 49.9**	**-1.5**
SONM	**Songino Array**	**49.10**	**299**	P	**P**	**03 06 04.7**	**-1.0**
	0.4nm,0.5s,mb3.7,baz=39,slow=12,SNR=3.1						
SONM	**Songino Array**	**49.10**	**299**	P	**P**	**03 06 04.7**	**-1.0**
ARCES	**ARCESS Array B**	**58.44**	**352**	P	**P**	**03 07 12.5**	**-1.1**
	3.4nm,1.0s,mb4.3,baz=26,slow=5.9,SNR=5.1						
ARCES	**ARCESS Array B**	**58.44**	**352**	P	**P**	**03 07 12.5**	**-1.1**
MKAR	**Makanchi Array**	**62.15**	**311**	P	**P**	**03 07 38.8**	**-0.4**
	0.4nm,0.2s,mb4.1,baz=38,slow=7.3,SNR=3.2						
MKAR	**Makanchi Array**	**62.15**	**311**	P	**P**	**03 07 38.8**	**-0.4**
FINES	**FINESS Array B**	**66.27**	**349**	P	**P**	**03 08 04.7**	**-1.3**
	6.2nm,0.9s,mb4.6,baz=28,slow=6.3,SNR=3.7						
FINES	**FINESS Array B**	**66.27**	**349**	P	**P**	**03 08 04.7**	**-1.3**
NOA	**NORSAR Array B**	**67.75**	**357**	P	**P**	**03 08 15.2**	**-0.2**
	0.8nm,0.9s,mb3.7,baz=344,slow=6.1,SNR=3.1						
NOA	**NORSAR Array B**	**67.75**	**357**	P	**P**	**03 08 15.2**	**-0.2**
TAPN	**Taplejung**	**73.79**	**293**	*e*P	**P**	**03 08 53.5**	**+0.9**
	13nm,0.9s,mb4.8						
GUN	**Gumba**	**74.41**	**295**	*e*P	**P**	**03 08 57.5**	**+1.3**
	12nm,0.7s,mb5.0						
GUN	**Gumba**	**74.41**	**295**	*e*P	**P**	**03 08 57.5**	**+1.3**
	12nm,0.6s,mb5.0						
KKN	**Kakani**	**74.84**	**295**	*e*P	**P**	**03 08 58.9**	**+0.2**
KKN	**Kakani**	**74.84**	**295**	*e*P	**P**	**03 08 58.9**	**+0.2**
PKI	**Pulchoki**	**74.93**	**295**	*e*P	**P**	**03 09 00.1**	**+0.8**
PKI	**Pulchoki**	**74.93**	**295**	*e*P	**P**	**03 09 00.1**	**+0.8**
GKN	**Gorkha**	**75.03**	**296**	*e*P	**P**	**03 09 00.8**	**+0.9**
	5.5nm,0.7s,mb4.6						
GKN	**Gorkha**	**75.03**	**296**	*e*P	**P**	**03 09 00.8**	**+0.9**
	5.5nm,0.6s,mb4.7						
DANN	**Dangsing**	**75.26**	**297**	*e*P	**P**	**03 09 01.9**	**+0.7**
	17nm,0.7s,mb5.1						
DANN	**Dangsing**	**75.26**	**297**	*e*P	**P**	**03 09 01.9**	**+0.7**
	17nm,0.7s,mb5.1						
KOLN	**Koldanda**	**75.80**	**297**	*e*P	**P**	**03 09 04.5**	**+0.3**
KOLN	**Koldanda**	**75.80**	**297**	*e*P	**P**	**03 09 04.5**	**+0.3**
ASAR	**Alice Springs**	**87.52**	**226**	P	**P**	**03 10 05.3**	**-0.5**
	0.5nm,0.7s,mb3.8,baz=35,slow=4.6,SNR=4.5						
ASAR	**Alice Springs**	**87.52**	**226**	P	**P**	**03 10 05.3**	**-0.5**

IDC ***01*** *02:57:39.2±1.7,26°.52S×177°.39W,h0km,mb4.1/9, mb1 4.2/9,mb1mx4.1/17,mbtmp4.0/9,Error ellipse: s-maj=66.5km s-min=27.3km az=159.0*
ISCJB ***01*** *02:57:58.0±2.1,26°.72S±0°.07×177°.6W±0°.2,h165km±18km, mb3.7/9,Error ellipse: s-maj=29.4km s-min=11.1km az=7.5*
NEIC ***01*** *02:57:58.5±1.7,26°.67S×177°.56W,h158km±14km,mb4.5/1, Error ellipse: s-maj=21.6km s-min=10.9km az=98.0*
ISC 01 02:57:57.8±2.0**,26°.75S**±0°.08×**177°.6W**±0°.2**,h151**km±18km**, n34,**σ1^s**03**/24**,mb3.7**/9**,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	9.85	335	ePn	Pn	03 00 15.9	+0.1
	5.7nm,0.4s						
URZ	Urewera	12.32	200	Pn	Pn	03 00 48.8	+0.7
	0.1nm,0.3s,baz=221,slow=13,SNR=2.1						
URZ				Sn	Sn	03 03 02.6	-1.8
	1.1nm,0.3s,baz=50,slow=18,SNR=5.1						
URZ	Urewera	12.32	200	Pn	Pn	03 00 48.8	+0.7
URZ				Sn	Sn	03 03 02.6	-1.8
AFI	Afiamalu	13.88	24	Pn	Pn	03 00 59.5	-8.7
	6.5nm,0.3s,baz=53,slow=7.2,SNR=3.0						
AFI				Sn	Sx	03 03 16.9	
	baz=143,slow=16,SNR=3.6						
AFI	Afiamalu	13.88	24	Pn	Pn	03 00 59.5	-8.7
AFI				Sn	Sx	03 03 16.9	
ODZ	Otahua Downs	20.56	204	eP	P	03 02 26.5	+2.0
ASAR	Alice Springs	43.81	263	P	P	03 05 49.5	+0.6
	0.3nm,0.4s,mb3.3,baz=88,slow=7.4,SNR=4.3						
ASAR	Alice Springs	43.81	263	P	P	03 05 49.5	+0.6
WRA	Warramunga Arr	44.47	268	P	P	03 05 54.5	+0.3
	0.5nm,0.5s,mb3.4,baz=103,slow=7.8,SNR=7.6						
WRA	Warramunga Arr	44.47	268	P	P	03 05 54.5	+0.3
MJAR	Matsushiro Arr	75.48	325	P	P	03 09 23.4	-1.9
	1.2nm,0.6s,mb3.7,baz=171,slow=7.2,SNR=4.0						
MJAR	Matsushiro Arr	75.48	325	P	P	03 09 23.4	-1.9
ASAJ	Asahikawa	79.40	332	P	P	03 09 47.0	+0.2
	6.1nm,0.8s,mb4.3,baz=275,slow=4.7,SNR=4.8						
KSRS	Korea Array	81.83	319	P	P	03 09 59.5	-0.5
	1.5nm,0.7s,mb3.8,baz=143,slow=5.4,SNR=5.4						
PETK	Petropavlovsk-	82.39	345	P	P	03 10 02.8	+0.4
	2.7nm,0.6s,mb4.0,baz=117,slow=9.0,SNR=3.6						
PETK	Petropavlovsk-	82.39	345	P	P	03 10 02.8	+0.4
NVAR	Mina Array Bea	85.31	43	P	P	03 10 18.8	+1.2
	0.8nm,0.8s,mb3.5,baz=221,slow=9.8,SNR=7.8						
NVAR	Mina Array Bea	85.31	43	P	P	03 10 18.8	+1.2
PDAR	Pinedale Array	93.23	43	P	P	03 10 54.1	-0.9
	0.2nm,0.4s,mb3.6,baz=176,slow=1.4,SNR=2.0						
PDAR	Pinedale Array	93.23	43	P	P	03 10 54.1	-0.9
ILAR	Eielson Array	94.29	13	P	P	03 10 58.5	-0.8
	0.2nm,0.6s,mb3.4,baz=243,slow=4.5,SNR=5.4						
ILAR	Eielson Array	94.29	13	P	P	03 10 58.5	-0.8
ARCES	ARCESS Array B	135.10	349	PKP	PKPdf	03 16 58.3	+0.1
	4.6nm,0.9s,baz=332,slow=13,SNR=3.6						
ARCES	ARCESS Array B	135.10	349	PKP	PKPdf	03 16 58.3	+0.1
FINES	FINESS Array B	141.83	342	PKhKP	PKPpre	03 17 05.2	
	6.3nm,1.0s,baz=164,slow=15,SNR=3.6						
FINES				PKP	PKPdf	03 17 10.6	-0.2
	3.9nm,1.0s,baz=15,slow=7.9,SNR=5.3						
FINES	FINESS Array B	141.83	342	PKP	PKPpre	03 17 05.2	
FINES				PKP	PKPdf	03 17 10.6	-0.2
NB2	NORSAR Subarra	145.20	353	PKP	PKPdf	03 17 16.4	-0.3
	comp=Z,6.8nm,0.9s,baz=14,slow=4.1						
NOA	NORSAR Array B	145.20	353	PKP	PKPdf	03 17 16.7	0.0
	comp=Z,3.9nm,0.8s,baz=14,slow=2.4,SNR=13						
NOA	NORSAR Array B	145.20	353	PKP	PKPdf	03 17 16.7	0.0
AKASG	Malin Array Be	148.55	327	PKPbc	PKPbc	03 17 25.7	-0.8
	comp=Z,1.8nm,0.5s,baz=44,slow=4.3,SNR=7.9						
AKASG	Malin Array Be	148.55	327	PKPbc	PKPbc	03 17 25.7	-0.8
BR131	Keskin Array S	151.02	304	ePKPbc	PKPbc	03 17 33.4	+0.6
BR131				ePKPab	PKPab	03 17 41.4	+0.4
BRTR	Keskin Array B	151.02	304	PKPbc	PKPbc	03 17 32.9	0.0
	comp=Z,0.9nm,0.7s,baz=137,slow=4.7,SNR=6.3						
BRTR				PKPab	PKPab	03 17 41.3	+0.4
	comp=Z,1.4nm,0.7s,baz=107,slow=3.1,SNR=4.9						
BRTR	Keskin Array B	151.02	304	PKPbc	PKPbc	03 17 32.9	0.0
BRTR				PKPab	PKPab	03 17 41.3	+0.4

MOS ***01*** *03:06:35.9±0.8,40°.96N×45°.50E,h12km,mb3.9/1,Error ellipse: s-maj=32.1km s-min=7.5km az=107.2*
TIF ***01*** *03:06:37.7,41°.26N×45°.49E,h19km±1km*
CSEM ***01*** *03:06:39.1±0.1,41°.23N×45°.53E,h2km,ML3.0,Error ellipse: s-maj=4.0km s-min=2.5km az=38.0*
ISCJB ***01*** *03:06:40.4±0.3,41°.29N±0°.02×45°.67E±0°.03,h10km,Error ellipse: s-maj=3.0km s-min=2.6km az=28.3*
NSSP ***01*** *03:06:52.5,41°.35N×45°.42E,h10km,Ms2.7*
DDA ***01*** *03:07:08.9,41°.24N×43°.32E,h7km±8km,Md3.2*
ISC 01 03:06:40.9±0.3**,41°.27N**±0°.02×**45°.65E**±0°.03**,h10**km**,n67, σ1^{s}44**/118**,12C-5D,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DGRG	David-gareji	0.28	312	P	Pg	03 06 43.7	-2.8
DGRG				S	Sg	03 06 48.8	-1.4
DGRG	David-gareji	0.28	312	P	Pg	03 06 43.7	-2.8
DGRG				S	Sg	03 06 48.8	-1.4
MTA	Mtatsminda	0.77	304	P	Pg	03 06 51.8	-3.9
MTA				S	Sg	03 07 01.7	-4.2
MTA	Mtatsminda	0.77	304	P	Pg	03 06 51.8	-4.0
MTA				S	Sg	03 07 01.7	-4.1
GANJ	Ganja	0.81	140	P	Pg	03 06 55.2	-1.2
	SNR=12						
GANJ				S	Sg	03 07 07.1	+0.2
CKLZ	Chkalov	0.82	247	⇑iP	Pg	03 07 01.4	+4.6
CKLZ				⇑iS	Sg	03 07 11.9	+4.4
TBLG	Delisi	0.82	305	i PG	Pg	03 06 52.9	-3.9
TBLG	Delisi	0.82	305	P	Pg	03 06 53.0	-3.8
TBLG				S	Sg	03 07 03.4	-4.1
TBLG	Delisi	0.82	305	P	Pg	03 06 53.0	-3.8
TBLG				S	Sg	03 07 03.4	-4.1
LMTZ	Lermontov	0.91	236	⇑iP	Pg	03 07 03.4	+4.9
STEZ	Stepenevan	0.98	255	⇑iP	Pg	03 07 04.0	+4.3
STEZ				⇑iS	Sg	03 07 16.8	+4.3
STEZ	Stepenevan	0.98	255	⇑iP	Pg	03 06 55.5	-4.2
STEZ				⇑iS	Sg	03 07 08.5	-3.9
STE	Stepanavan	1.00	255	⇑P	Pg	03 07 04.0	+3.9
STE				S	Sg	03 07 16.8	+3.7
SPIZ	Spitak	1.13	247	⇑iP	Pb	03 07 05.2	+2.7
SPIZ				⇑iS	Sb	03 07 18.8	+1.6
SEKA	Sheki	1.17	92	P	Pg	03 07 01.7	-1.7
	SNR=4.8						
SEKA				S	Sg	03 07 19.7	+1.0
KAPZ	Kaputan	1.19	218	P	Px	03 07 30.4	
KAPZ				S	Sx	03 07 46.7	
GNI	Garni	1.31	212	⇓iP	Pn	03 07 03.9	-1.3
GNI				⇑iS	Sb	03 07 22.8	+0.4
GNI	Garni	1.31	212	⇓P	Pn	03 07 03.9	-1.3
GNI				S	Sb	03 07 22.8	+0.4
GOR	Gori	1.36	302	P	Pn	03 07 03.5	-2.4
GOR				S	Sb	03 07 20.4	-3.4
GOR	Gori	1.36	302	P	Pn	03 07 03.5	-2.4
GOR				S	Sb	03 07 20.4	-3.4
AMBZ	Amberd	1.37	231	P	Px	03 07 36.0	
AMBZ				S	Sx	03 07 51.9	
ERE	Yerevan	1.41	220	eP	Pn	03 07 03.8	-2.9
ERE				⇓S	Sn	03 07 22.8	-2.5
ERE	Yerevan	1.41	220	P	Pn	03 07 03.8	-2.9
ERE				S	Sn	03 07 22.8	-2.5
PAAR	P'arak'ar	1.47	221	P	Px	03 07 33.2	
PAAR				S	Sx	03 07 54.1	
ARUZ	Aruch	1.54	231	P	Px	03 07 36.7	
ARUZ				S	Sx	03 07 56.8	
AKH	Akhalkalaki	1.63	276	P	Pn	03 07 07.5	-2.1
AKH				S	Sn	03 07 27.2	-3.4
AKH	Akhalkalaki	1.63	276	P	Pn	03 07 07.5	-2.1
AKH				S	Sn	03 07 27.2	-3.4
VNNZ	Vanand	1.81	231	P	Px	03 07 41.2	
VNNZ				S	Sx	03 08 05.9	
LACR	Lac	1.85	328	⇑iPN	Pn	03 07 10.6	-2.1
LACR	Lac	1.85	328	i Pn	Pn	03 07 10.6	-2.1
SNJR	Sundja	1.90	341	ePN	Pn	03 07 13.3	-0.1
SNJR				eS	Sn	03 07 38.5	+1.1
SNJR	Sundja	1.90	341	ePn	Pn	03 07 13.3	-0.1
SNJR				eSn	Sn	03 07 38.5	+1.1
VLKR	Vladikavkaz	1.92	338	ePN	Pn	03 07 13.4	-0.2
VLKR				eS	Sn	03 07 38.7	+0.9
VLKR	Vladikavkaz	1.92	338	ePn	Pn	03 07 13.4	-0.2
VLKR				eSn	Sn	03 07 38.7	+0.9
DIGO	Kars	1.92	244	i P	Pn	03 07 12.3	-1.3
DIGO				i S	Sn	03 07 36.7	-1.1
DIGO	Kars	1.92	244	i P	Pn	03 07 12.3	-1.4
DIGO				i S	Sn	03 07 36.7	-1.2
DBC	Dubki	1.96	26	ePN	Pn	03 07 14.5	+0.3
DBC				eS	Sn	03 07 40.0	+1.1
DBC	Dubki	1.96	26	ePn	Pn	03 07 14.5	+0.3
DBC				eSn	Sn	03 07 40.0	+1.1
IML	Ismayilli	1.98	103	P	Pn	03 07 13.8	-0.6
	SNR=3.2						
IML				S	Sn	03 07 42.1	+2.9
ZEI	Tsey	1.99	320	⇓iPN	Pn	03 07 13.2	-1.4
ZEI				eS	Sn	03 07 39.2	-0.3
ZEI				pmax	pmax		
	comp=Z,32nm,0.4s						
ZEI				smax			
	comp=N,95nm,0.4s						
ZEI				smax			
	comp=E,180nm,0.4s						
ZEI	Tsey	1.99	320	i Pn	Pn	03 07 13.2	-1.4
	comp=E,32nm,0.4s						
ZEI				eSn	Sn	03 07 39.2	-0.3
	comp=E,95nm,0.4s						
ONI	Oni	2.10	310	P	Pn	03 07 14.8	-1.3
ONI				S	Sn	03 07 42.0	-0.3
ONI	Oni	2.10	310	P	Pn	03 07 14.8	-1.4
ONI				S	Sn	03 07 42.0	-0.4
QUBA	Quba, Azerbaij	2.15	87	P	Pn	03 07 17.3	+0.5
KORR	Kora	2.16	328	⇓iPN	Pn	03 07 16.7	-0.3
KORR				eS	Sn	03 07 43.4	-0.4
KORR	Kora	2.16	328	i Pn	Pn	03 07 16.7	-0.3
KORR				eSn	Sn	03 07 43.4	-0.4
ARNR	Ardon	2.17	333	ePN	Pn	03 07 16.8	-0.3
ARNR				eS	Sn	03 07 44.6	+0.5
ARNR	Ardon	2.17	333	ePn	Pn	03 07 16.8	-0.3
ARNR				eSn	Sn	03 07 44.6	+0.5
DIGR	Digorskoe uzhe	2.24	317	ePN	Pn	03 07 17.5	-0.6
DIGR				i S	Sn	03 07 46.1	+0.3
DIGR	Digorskoe uzhe	2.24	317	ePn	Pn	03 07 17.5	-0.6
DIGR				i Sn	Sn	03 07 46.1	+0.3
BTKR	Batakoyurt	2.26	339	ePN	Pn	03 07 18.0	-0.3
BTKR				eS	Sn	03 07 47.7	+1.5
BTKR	Batakoyurt	2.26	339	ePn	Pn	03 07 18.0	-0.3
BTKR				eSn	Sn	03 07 47.7	+1.5
PQL	Pirkuli	2.28	101	P	Pn	03 07 19.0	+0.4
	SNR=3.0						
PQL				S	Sn	03 07 50.9	+4.2
KMSR	Komsomolskaya	2.33	335	ePN	Pn	03 07 19.0	-0.3
KMSR				eS	Sn	03 07 48.1	+0.2
KMSR	Komsomolskaya	2.33	335	ePn	Pn	03 07 19.0	-0.3
KMSR				eSn	Sn	03 07 48.1	+0.2
LSNR	Lesken	2.42	327	ePN	Pn	03 07 20.5	0.0
LSNR				eS	Sn	03 07 50.9	+0.7
LSNR	Lesken	2.42	327	ePn	Pn	03 07 20.5	0.0
LSNR				eSn	Sn	03 07 50.9	+0.7
SIZA	Siyzn	2.46	93	P	Pn	03 07 25.0	+3.9
ARTV	Artvin	2.80	270	i P	Pn	03 07 27.4	+1.6
ARTV				i S	Sn	03 08 02.0	+2.4
ARTV	Artvin	2.80	270	i P	Pn	03 07 27.4	+1.6
ARTV				i S	Sn	03 08 02.0	+2.4
DAGI	Agillar	2.82	267	i P	Pn	03 07 29.4	+3.4
DAGI				i S	Sn	03 08 03.7	+3.6
DDEM	Demirkent	2.97	264	eP	Pn	03 07 32.8	+4.7
DDEM				i S	Sn	03 08 07.9	+4.2
DDEM	Demirkent	2.97	264	eP	Pn	03 07 32.8	+4.8
DDEM				i S	Sn	03 08 07.9	+4.2
DBAD	Bademkaya	2.99	267	eP	Pn	03 07 34.1	+5.8
DBAD				eS	Sn	03 08 06.1	+1.8
DBAD	Bademkaya	2.99	267	eP	Pn	03 07 34.2	+5.8
DBAD				eS	Sn	03 08 06.1	+1.8
DBOC	Borcka	3.00	273	i P	Pn	03 07 31.1	+2.7
DBOC				i S	Sn	03 08 06.8	+2.4
DBOC	Borcka	3.00	273	i P	Pn	03 07 31.1	+2.6
DBOC				i S	Sn	03 08 06.8	+2.4

ISCJB ***01*** *03:10:30.7±0.7,35°.38N±0°.08×81°.3E±0°.1,h10km, mb3.8/12,Error ellipse: s-maj=14.5km s-min=10.1km az=151.2*
IDC ***01*** *03:10:30.2±0.8,35°.22N×81°.31E,h0km,mb3.8/12, mb1 3.9/17,mb1mx3.8/30,mbtmp3.8/17,ML3.6/3,MS3.2/1, Ms1 3.2/1,ms1mx2.5/42,Error ellipse: s-maj=22.0km s-min=16.0km az=56.0*
NEIC ***01*** *03:10:32.1±0.7,35°.31N×81°.30E,h10km,mb3.9/2,Error ellipse: s-maj=15.2km s-min=10.5km az=58.0*
ISC 01 03:10:32.2±0.6**,35°.31N**±0°.08×**81°.3E**±0°.1**,h10**km**,n39, σ1^{s}16**/39**,mb3.8**/12**,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KZA	Kyzart	8.26	327	ePn	Pn	03 12 30.1	-1.9
TKM2	Tokmak 2	8.80	331	ePn	Pn	03 12 43.2	+3.7
	3.7nm,0.5s						
AAK	Ala-Archa	9.04	326	Pn	Pn	03 12 44.6	+1.9
	0.0nm,0.3s,baz=160,slow=15,SNR=3.3						
AAK				Pg	Pn	03 13 11.8	+29
	0.0nm,0.3s,baz=252,slow=22,SNR=4.3						
AAK				Lg		03 15 12.6	
	0.0nm,0.3s,baz=324,slow=14,SNR=3.0						
AAK				LR	LR	03 16 00.8	
	comp=Z,176nm,21.4s,baz=14,slow=36						
AAK	Ala-Archa	9.04	326	Pn	Pn	03 12 44.6	+1.9
AAK				Pg	Pn	03 13 11.8	+29
AAK				Lg		03 15 12.6	
AAK				LR	LR	03 16 00.8	
EKS2	Erkin-Say	9.40	324	ePn	Pn	03 12 45.9	-1.7
MK31	Makanchi Array	11.49	3	ePn	Pn	03 13 16.3	0.0
MKAR	Makanchi Array	11.49	3	Pn	Pn	03 13 16.1	-0.1
	0.3nm,0.3s,baz=178,slow=12,SNR=12						
MKAR	Makanchi Array	11.49	3	Pn	Pn	03 13 16.1	-0.1
KURK	Kurchatov	15.52	354	Pn	Pn	03 14 07.5	-3.5
	baz=174,slow=12,SNR=6.3						
KURK	Kurchatov	15.52	354	ePn	Pn	03 14 08.4	-2.6
	9.8nm,1.3s						
ZALV	Zalesovo Beam	18.79	6	P	Pn	03 14 50.9	-1.1
	0.1nm,0.3s,baz=203,slow=9.7,SNR=6.1						
ZALV	Zalesovo Beam	18.79	6	P	Pn	03 14 50.9	-1.1
BVAR	Borovoye Array	19.33	340	P	Pn	03 14 57.8	-0.7
	0.3nm,0.3s,baz=128,slow=12,SNR=5.1						
BVAR	Borovoye Array	19.33	340	P	Pn	03 14 57.8	-0.7
ABKAR	Akbulak array	20.98	318	eP	P	03 15 15.8	+0.3
	4.0nm,0.9s						
SONM	Songino Array	22.43	48	P	P	03 15 32.4	+1.4
	1.3nm,0.8s,mb3.4,baz=236,slow=10,SNR=7.7						
SONM	Songino Array	22.43	48	P	P	03 15 32.4	+1.4
AKTK	Aktyubinsk	22.68	319	P	P	03 15 35.1	+1.6
AKTO	Aktyubinsk	22.68	319	P	P	03 15 35.1	+1.6
	1.2nm,0.7s,mb3.4,baz=117,slow=9.6,SNR=5.0						
CMAR	Chiang Mai Arr	22.93	133	P	P	03 15 37.2	+0.8
	1.2nm,0.6s,mb3.5,baz=309,slow=12,SNR=6.0						
CMAR	Chiang Mai Arr	22.93	133	P	P	03 15 37.2	+0.8
AKASG	Malin Array Be	40.22	309	P	P	03 18 08.3	-0.4
	0.5nm,0.4s,mb3.6,baz=79,slow=8.1,SNR=4.5						
AKASG	Malin Array Be	40.22	309	P	P	03 18 08.3	-0.4
FINES	FINESS Array B	43.23	325	P	P	03 18 33.5	+0.3
	3.9nm,0.9s,mb4.1,baz=93,slow=7.6,SNR=4.9						
FINES	FINESS Array B	43.23	325	P	P	03 18 33.5	+0.3
ARCES	ARCESS Array B	45.55	336	P	P	03 18 52.8	+1.0
	5.6nm,1.1s,mb4.4,baz=78,slow=12,SNR=3.6						
ARCES	ARCESS Array B	45.55	336	P	P	03 18 52.8	+1.0
NOA	NORSAR Array B	50.35	324	P	P	03 19 29.0	+0.1
	1.1nm,0.8s,mb4.0,baz=87,slow=7.5,SNR=3.5						
NOA	NORSAR Array B	50.35	324	P	P	03 19 29.0	0.0
GERES	GERESS Array B	50.38	308	P	P	03 19 30.2	+0.8
	0.5nm,0.7s,mb3.7,baz=56,slow=7.2,SNR=4.1						
GERES	GERESS Array B	50.38	308	P	P	03 19 30.2	+0.8
ILAR	Eielson Array	73.36	19	P	P	03 22 03.8	0.0
	0.7nm,0.8s,mb3.6,baz=312,slow=4.6,SNR=10						
ILAR	Eielson Array	73.36	19	P	P	03 22 03.8	0.0
TORD	Torodi Ar. Bea	74.13	275	P	P	03 22 08.6	-0.5
	1.5nm,0.7s,mb4.0,baz=46,slow=4.9,SNR=15						
TORD	Torodi Ar. Bea	74.13	275	P	P	03 22 08.6	-0.5
WRA	Warramunga Arr	74.46	129	P	P	03 22 09.3	-1.5
	0.3nm,0.6s,mb3.4,baz=307,slow=8.1,SNR=4.4						
WRA	Warramunga Arr	74.46	129	P	P	03 22 09.3	-1.5
BOSA	Boshof	82.69	227	P	P	03 22 55.0	-1.0
	3.8nm,0.8s,mb4.5,baz=80,slow=6.9,SNR=7.5						
BOSA	Boshof	82.69	227	P	P	03 22 55.0	-1.0

CSEM ***01*** *03:12:35.6±0.1,39°.80N×33°.35E,h2km,MD3.0,Error ellipse: s-maj=3.0km s-min=2.9km az=147.0*
DDA ***01*** *03:12:35.5,39°.77N×33°.38E,h7km±2km,Md3.0*
ISK ***01*** *03:12:35.6,39°.81N×33°.31E,h7km,MD3.1*
ISCJB ***01*** *03:12:36.2±0.4,39°.81N±0°.03×33°.34E±0°.04,h10km,Error ellipse: s-maj=4.2km s-min=3.9km az=162.6*
ISC 01 03:12:35.8±0.6**,39°.80N**±0°.03×**33°.36E**±0°.04**,h2**km±6km**, n39,**σ**0^{s}65**/51**,Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BBAL	Bala	0.32	215	i P	Pg	03 12 41.8	-0.1
BBAL				i S	Sg	03 12 46.8	+0.8
BBAL	Bala	0.32	215	i P	Pg	03 12 41.8	-0.1
BBAL				i S	Sg	03 12 46.8	+0.8
LOD	Lodumlu	0.46	281	ePG	Pg	03 12 44.0	-0.7
LOD				eSG	Sg	03 12 50.9	+0.2
LOD	Lodumlu	0.46	281	ePg	Pg	03 12 44.0	-0.7
LOD				eSg	Sg	03 12 50.9	+0.2
CDAG	Cicekdag	0.80	103	i P	Pg	03 12 50.1	-1.2
CDAG				i S	Sg	03 13 01.2	-0.4
CDAG	Cicekdag	0.80	103	i P	Pg	03 12 50.1	-1.2
CDAG				i S	Sg	03 13 01.2	-0.5
CANT	Cankiri	0.83	14	ePG	Pg	03 12 52.3	+0.5
ILGA	Ilgaz	1.28	12	i P	Pg	03 13 00.7	+0.3
ILGA				i S	Sg	03 13 18.8	+1.8
ILGA	Ilgaz	1.28	12	i P	Pg	03 13 00.6	+0.3
ILGA				i S	Sg	03 13 18.8	+1.9
TOS	Tosya	1.33	22	ePN	Pn	03 13 00.8	-0.7
TOS	Tosya	1.33	22	ePn	Pn	03 13 00.8	-0.7
SVRH	Sivrihisar-ESK	1.46	256	ePN	Pn	03 13 02.7	-0.5
SVRH	Sivrihisar-ESK	1.46	256	ePn	Pn	03 13 02.7	-0.5
KIZT	Kizilcal	1.47	232	ePN	Pn	03 13 03.0	-0.3
KIZT	Kizilcal	1.47	232	ePn	Pn	03 13 03.0	-0.3
SAFT	Safranbolu	1.52	341	ePN	Pn	03 13 03.8	-0.3
SAFT	Safranbolu	1.52	341	ePn	Pn	03 13 03.8	-0.3
YOZ	Yozgat	1.52	96	ePN	Pn	03 13 04.2	+0.1
YOZ	Yozgat	1.52	96	ePn	Pn	03 13 04.2	+0.1
AVNT	Avonos	1.55	131	i P	Pn	03 13 04.0	-0.4
AVNT				i S	Sn	03 13 25.9	+0.8
AVNT	Avonos	1.55	131	i P	Pn	03 13 04.1	-0.3
AVNT				i S	Sn	03 13 25.9	+0.8
KDHN	Kadinhani	1.60	217	i P	Pn	03 13 04.5	-0.6
KDHN				i S	Sn	03 13 27.6	+1.2
KDHN	Kadinhani	1.60	217	i P	Pn	03 13 04.5	-0.7
KDHN				i S	Sn	03 13 27.6	+1.2
SULT	Sultanhani-AKS	1.61	176	ePN	Pn	03 13 05.5	+0.2
SULT	Sultanhani-AKS	1.61	176	ePn	Pn	03 13 05.5	+0.3
MDU	Mudurnu	1.77	293	ePN	Pn	03 13 07.1	-0.3
MDU	Mudurnu	1.77	293	ePn	Pn	03 13 07.1	-0.4
ESKT	Eskisehir	1.96	262	ePN	Pn	03 13 09.4	-0.6
ESKT	Eskisehir	1.96	262	ePn	Pn	03 13 09.4	-0.6
KONT	Konya--Tatoy	2.01	203	ePN	Pn	03 13 11.0	+0.2
KONT	Konya--Tatoy	2.01	203	ePn	Pn	03 13 11.0	+0.2
KDZE	Karadeniz Ereo	2.10	317	ePN	Pn	03 13 11.8	-0.2
KDZE	Karadeniz Ereo	2.10	317	ePn	Pn	03 13 11.8	-0.2
GULT	Gulveren	2.27	287	ePN	Pn	03 13 14.0	-0.3
GULT	Gulveren	2.27	287	ePn	Pn	03 13 14.0	-0.3
ALT	Altintas	2.62	254	ePN	Pn	03 13 19.1	-0.1
ALT	Altintas	2.62	254	ePn	Pn	03 13 19.1	-0.1
HDMB	Hadim	2.92	194	ePN	Pn	03 13 24.1	+0.8
HDMB	Hadim	2.92	194	ePn	Pn	03 13 24.1	+0.9

MAN 01 03:22:25,5°.98N×**124°.56E,h41**km**,mb4.2,ML3.0,MS2.8, 2C-1D,Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	1.27	346	⇑eP	Pn	03 22 47.4	+1.0
CTBH				i S	Sn	03 23 04.9	+2.6
DMPH	Davao City--Mi	1.45	41	⇓eP	Pn	03 22 51.5	+2.8
DMPH				i S	Sn	03 23 13.7	+7.2
MATI	Mati	1.94	60	eP	Pn	03 22 57.3	+1.8
MATI				eS	Sn	03 23 19.4	+0.7
BUKP	Musuan	1.95	15	eP	Pn	03 22 57.7	+2.1
BUKP				eS	Sn	03 23 20.1	+1.1
PAGZ	Pagadian	2.20	328	eP	Pn	03 23 00.9	+1.9
CGP	Cagayan de Oro	2.46	3	⇑iP	Pn	03 23 04.8	+2.0
CGP				i S	Sn	03 23 39.1	+7.5
IPIL	Ipil	2.67	312	eP	Pn	03 23 06.1	+0.6

IDC 01 03:30:55.9±2.0**,6°.91S**×**128°.87E,h0**km**,mb3.5**/1**, mb1 3.6**/4**,mb1mx3.5**/18**,mbtmp3.4**/4**,ML3.4**/2**,MS2.9**/1**, Ms1 2.9**/1**,ms1mx2.4**/27**,Error ellipse: s-maj=83.4km s-min=27.7km az=75.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAPI	Kappang	9.26	281	LR	LR	03 37 13.7	
	comp=Z,62nm,18.2s,baz=122,slow=41						
FITZ	Fitzroy Crossi	11.57	196	Pn	Pn	03 33 44.3	+2.0
	0.2nm,0.3s,baz=176,slow=3.1,SNR=6.7						
FITZ				Sn	Sn	03 35 54.0	+1.6
	0.2nm,0.3s,baz=84,slow=16,SNR=3.7						
WRA	Warramunga Arr	14.00	158	Pn	Pn	03 34 13.9	-1.8
	0.2nm,0.3s,baz=335,slow=13,SNR=8.0						
WRA				Sn	Sn	03 36 45.0	-7.0
	0.2nm,0.3s,baz=337,slow=21,SNR=5.6						
ASAR	Alice Springs	17.35	164	P	Pn	03 34 59.3	-0.2
	baz=338,slow=9.7,SNR=5.7						
ASAR				S	Sn	03 38 05.3	-8.1
	0.1nm,0.3s,baz=194,slow=37,SNR=3.2						
MKAR	Makanchi Array	67.54	327	P	P	03 41 54.1	+0.1
	0.1nm,0.3s,baz=124,slow=6.2,SNR=2.3						

CSEM 01 03:34:44.5,41°.16N×**45°.23E,h0**km**,ML1.6,After TIF, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MTA	Mtatsminda	0.63	328	P	Pg	03 34 57.6	+1.0
MTA				S	Sg	03 35 07.2	+2.5
TBLG	Delisi	0.68	327	P	Pg	03 34 58.6	+1.0
TBLG				S	Sg	03 35 08.6	+2.1
TBLG	Delisi	0.68	327	P	Pg	03 34 58.6	+1.0
TBLG				S	Sg	03 35 08.6	+2.2
GOR	Gori	1.18	315	P	Pg	03 35 07.6	+0.5
GOR				S	Sg	03 35 16.7	-5.8
GOR	Gori	1.18	315	P	Pg	03 35 07.6	+0.5
GOR				S	Sg	03 35 16.7	-5.8
AKH	Akhalkalaki	1.34	281	P	Pg	03 35 01.3	-8.8
AKH				S	Sg	03 35 13.7	-14
ONI	Oni	1.95	318	P	Pn	03 35 25.2	+6.3
ONI				S	Sn	03 35 45.0	+0.9
ONI	Oni	1.95	318	P	Pn	03 35 25.2	+6.3
ONI				S	Sn	03 35 45.0	+0.9

IDC ***01*** *04:07:53.3±0.8,3°.50S×148°.91E,h0km,mb4.3/17, mb1 4.4/18,mb1mx4.4/20,mbtmp4.3/18,ML3.7/1,MS5.0/1, Ms1 5.0/1,ms1mx3.9/11,Error ellipse: s-maj=27.7km s-min=13.6km az=95.0*
BJI ***01*** *04:07:55.0,2°.97S×149°.09E,h10km,mB5.1/34,mb4.8/41, Ms5.3/47,Ms7 5.1/47*
ISCJB ***01*** *04:07:55.4±1.3,3°.46S±0°.04×148°.79E±0°.05,h19km±8km, mb4.8/73,MS5.2/21,Error ellipse: s-maj=8.2km s-min=6.7km az=176.7*
NEIC ***01*** *04:07:56.1±0.3,3°.41S×148°.72E,h10km,mb5.0/39,Error ellipse: s-maj=8.6km s-min=5.4km az=99.0*
MOS ***01*** *04:07:57.1±1.0,3°.44S×148°.81E,h33km,mb5.1/15, MS5.0/4,Error ellipse: s-maj=13.4km s-min=7.5km az=95.1*
DJA ***01*** *04:08:13,4°.11S×147°.87E,h21km,mb4.9/9*
ISC 01 04:07:58.6±1.2**,3°.47S**±0°.04×**148°.79E**±0°.05**,h29**km±8km**, h15**km±.7km**:pP-P,n197,**σ1^s**11**/189**,mb4.8**/73**,MS5.2**/21**,2C, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.12	195	Pn	Pn	04 09 30.0	+2.8
	0.7nm,0.3s,baz=33,slow=5.9,SNR=1.9						
PMG	Port Moresby	6.12	195	ePn	Pn	04 09 31.4	+4.2
PMG	Port Moresby	6.12	195	eP	Pn	04 09 33.7	+6.5
PMG	Port Moresby	6.12	195	P	Pn	04 09 35.1	+7.9
	1.1nm3μm121nm,1.1s						
JAY	Jayapura	8.13	276	P	Pn	04 09 57.9	+3.0
	0.9nm7μm61nm,1.1s						
SMPI	Sarmi	10.18	278	P	Pn	04 10 26.3	+3.4
	142nm,1.3s						
COEN	Coen	11.81	208	ePn	Pn	04 10 45.8	+0.6

COEN Coen 11.81 208 P **Pn** **04 10 50.0 +4.8**
25nm,1.6s
HNR Honiara 12.56 119 *e*Pn **Pn** **04 10 57.2 +1.6**
HNR Honiara 12.56 119 *e*P **Pn** **04 10 57.2 +1.6**
CTA Charters Tower 16.71 188 Pn **Pn** **04 11 49.8 -0.9**
0.2nm,0.3s,baz=22,slow=14,SNR=5.1
CTA Charters Tower 16.71 188 *e*P **Pn** **04 11 50.5 -0.2**
22nm,1.0s
CTA Charters Tower 16.71 188 Pn **Pn** **04 11 49.8 -0.9**
CTA Charters Tower 16.71 188 P **Pn** **04 11 49.8 -0.9**
CTAO Charters Tower 16.71 188 *e*Pn **Pn** **04 11 52.0 +1.2**
118nm,1.4s
CTAO Charters Tower 16.71 188 *e*P **Pn** **04 11 52.0 +1.2**
CTAO pmax pmax
comp=Z,117nm,1.4s
CTAO Charters Tower 16.71 188 P **Pn** **04 11 51.9 +1.1**
comp=Z,2µmcomp=Z,62nm,1.4s
GUMO Guam 17.39 347 *e*Pn **Pn** **04 11 58.8 -0.5**
GUMO Guam 17.39 347 *e*P **Pn** **04 11 58.8 -0.5**
KAKA Kakadu 18.60 239 *e*P **Pn** **04 12 13.8 -0.4**
comp=Z,107nm,0.8s
KAKA Kakadu 18.60 239 *e*P **Pn** **04 12 13.9 -0.3**
comp=Z,355nm,0.9s
AAI Ambon 20.56 269 P **P** **04 12 39.1 +3.8**
comp=Z,3µmcomp=Z,82nm,0.7s
LBMI Labuha 21.46 277 P Px 04 12 54.8
comp=Z,131nm,2.2s,comp=Z,3µm
WRAB Tennant Creek 21.60 220 *e*P **P** **04 12 46.4 0.0**
comp=Z,110nm,1.1s,mb5.2
WRAB Tennant Creek 21.60 220 *e*P **P** **04 12 46.4 0.0**
WRAB pmax pmax
comp=Z,110nm,1.1s,mb5.2
WRAB Tennant Creek 21.60 220 P **P** **04 12 46.0 -0.4**
comp=Z,470nm,1.0s,mb5.9,SNR=19
WRAB Tennant Creek 21.60 220 P **P** **04 12 46.8 +0.4**
comp=Z,4µmcomp=Z,173nm,1.2s,mb5.4
WB2 Warramunga Arr 21.60 220 *e*P **P** **04 12 46.0 -0.4**
WRA Warramunga Arr 21.61 220 P **P** **04 12 46.5 0.0**
comp=Z,12nm,0.6s,mb4.5,baz=40,slow=11,SNR=50
WRA Warramunga Arr 21.61 220 P **P** **04 12 46.5 0.0**
WRA Warramunga Arr 21.61 220 P **P** **04 12 46.5 0.0**
NLAI Namlea 21.66 270 P **P** **04 12 56.2 +9.1**
EIDS Eidsvold 21.89 174 *e*P **P** **04 12 49.2 -0.2**
comp=Z,106nm,1.3s,mb5.1
ASAR Alice Springs 24.70 214 P **P** **04 13 17.2 -0.3**
comp=Z,43nm,1.1s,mb4.9,baz=52,slow=7.8,SNR=56
ASAR Alice Springs 24.70 214 P **P** **04 13 17.2 -0.3**
ASAR Alice Springs 24.70 214 P **P** **04 13 17.2 -0.3**
ARMA Armidale 26.94 175 *e*P **P** **04 13 36.6 -1.0**
ARMA Armidale 26.94 175 *e*P **P** **04 13 37.6 0.0**
comp=Z,26nm,1.0s,mb4.7
FITZ Fitzroy Crossi 26.94 236 P **P** **04 13 36.8 -1.0**
comp=Z,46nm,0.8s,mb5.1,baz=64,slow=9.5,SNR=62
FITZ Fitzroy Crossi 26.94 236 *e*P **P** **04 13 36.8 -1.0**
comp=Z,102nm,0.9s,mb5.4
FITZ Fitzroy Crossi 26.94 236 *e*P **P** **04 13 37.5 -0.3**
comp=Z,105nm,1.1s,mb5.3
KAPI Kappang 29.00 266 P **P** **04 13 55.8 -0.5**
comp=Z,4.1nm,0.2s,mb4.8,baz=152,slow=18,SNR=3.0
KAPI Kappang 29.00 266 *e*P **P** **04 13 55.9 -0.4**
comp=Z,41nm,1.5s,mb4.9
STKA Stephens Creek 29.06 193 P **P** **04 13 55.3 -1.3**
comp=Z,1.9nm,0.7s,mb3.9,baz=284,slow=12,SNR=3.5
STKA Stephens Creek 29.06 193 P **P** **04 13 55.3 -1.3**
STKA Stephens Creek 29.06 193 P **P** **04 13 55.3 -1.3**
BBOO Buckleboo 31.54 201 *e*P **P** **04 14 19.1 +0.6**
comp=Z,65nm,1.1s,mb5.4
CNB Canberra Magne 31.70 179 *e*P **P** **04 14 24.3 +4.5**
MBWA Marble Bar 33.28 236 *e*P **P** **04 14 33.2 -0.7**
comp=Z,26nm,1.3s,mb5.0
KKM Kota Kinabalu 33.88 286 *e*P **P** **04 14 39.1 -0.1**
comp=Z,17nm,0.9s,mb5.0
YULB Yu-li 37.83 316 *e*P **P** **04 15 14.4 +1.4**
comp=Z,39nm,1.3s,mb5.0
YHNB Yeheng 38.63 318 *e*P **P** **04 15 19.0 -0.6**
comp=Z,56nm,1.1s,mb5.2
KSM Kuching 38.78 277 *e*P **P** **04 15 17.9 -3.2**
comp=Z,18nm,1.0s,mb4.7
JNU Nakatsue 40.15 336 *e*P **P** **04 15 31.4 -0.8**
comp=Z,13nm,0.9s,mb4.7
QZH Quanzhou 40.71 316 *e*P **P** **04 15 37.9 +0.9**
QZH S **S** **04 21 49.1 +3.3**
QZH LR LR
comp=N,4µm,16.2s
QZH LR LR
comp=E,6µm,24.1s
QZH LR LR
comp=Z,5µm,20.6s,MS5.4
MJAR Matsushiro Arr 41.01 347 P **P** **04 15 39.4 +0.1**
comp=Z,1.5nm,0.7s,mb3.7,baz=177,slow=7.1,SNR=3.1
MJAR Matsushiro Arr 41.01 347 P **P** **04 15 39.4 +0.1**
MJAR Matsushiro Arr 41.01 347 P **P** **04 15 39.4 +0.1**
MAT Matsushiro 41.01 347 P **P** **04 15 37.6 -1.7**
MAT S **S** **04 21 49.0 -0.9**
SSE Sheshan 43.28 325 P **P** **04 15 56.1 -1.8**
SSE sP sP 04 16 01.0 -9.0
SSE PP PP 04 17 37.1 -1.8
SSE S **S** **04 22 24.0 +0.3**
SSE sS sS 04 22 29.4 -8.4
SSE pmax pmax
comp=Z,33nm,0.7s,mb5.2
SSE pmax pmax
comp=Z,130nm,4.5s
SSE LR LR
comp=N,2µm,26.9s,MS5.0
SSE LR LR
comp=E,2µm,26.9s,MS5.0
SSE LR LR
comp=Z,3µm,21.6s
QIZ Qiongzhong 44.36 302 P **P** **04 16 03.1 -3.7**
QIZ S **S** **04 22 38.9 -0.8**
QIZ LR LR
comp=N,1µm,16.9s
QIZ LR LR
comp=Z,2µm,22.8s
KSRS Korea Array 45.10 336 P **P** **04 16 11.3 -1.1**
comp=Z,0.4nm,0.3s,mb3.7,baz=156,slow=8.4,SNR=2.7
NJ2 Nanjing 45.35 323 *e*P **P** **04 16 14.4 0.0**
NJ2 pP pP 04 16 18.9 -4.1
NJ2 sP sP 04 16 21.4 -5.1
NJ2 PP PP 04 18 01.0 +0.1
NJ2 SS SS 04 26 05.0 -13
NJ2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
NJ2 pmax pmax
comp=Z,310nm,5.3s
NJ2 LR LR
comp=N,3µm,23.4s,MS5.4
NJ2 LR LR
comp=E,3µm,20.0s,MS5.4
NJ2 LR LR
comp=Z,4µm,20.6s,MS5.3
WHN Wuhan 47.17 318 ⇑P **P** **04 16 33.0 +4.2**
WHN pmax pmax
comp=Z,28nm,0.4s,mb5.5
WHN LR LR
comp=N,2µm,15.2s
WHN LR LR
comp=E,7µm,20.8s
WHN LR LR
comp=Z,8µm,21.4s
YUK Yuzh-Kuril'sk 47.36 357 *e*P **P** **04 16 28.0 -2.0**
YUK *i* 04 18 13.7
YUK *i* S **S** **04 23 21.5 -0.6**
YUK pmax pmax
comp=N,20nm,2.1s
YUK pmax pmax
comp=E,10.0nm,2.1s
YUK pmax pmax
comp=Z,20nm,2.1s,mb4.7
ASAJ Asahikawa 47.69 354 P **P** **04 16 34.4 +1.8**
comp=Z,17nm,1.2s,mb5.0,baz=245,slow=8.0,SNR=4.4
ASAJ Asahikawa 47.69 354 *e*P **P** **04 16 31.7 -0.9**
comp=Z,16nm,1.3s,mb4.9
GYA Guiyang 50.43 309 *e*P **P** **04 16 54.5 +0.6**
GYA ScP ScP 04 22 08.0 +1.7
GYA SS SS 04 27 37.9 -2.3
GYA pmax pmax
comp=Z,20nm,1.0s,mb5.1
GYA pmax pmax
comp=Z,120nm,5.3s
GYA LR LR
comp=N,940nm,18.0s,MS5.2
GYA LR LR
comp=E,2µm,20.5s,MS5.2
GYA LR LR
comp=Z,2µm,22.1s,MS5.1
YSS Yuzh-Sakhalins 50.49 355 *e*P **P** **04 17 02.1 +8.2**
YSS *e*S **S** **04 24 16.0 +10**
YSS MLR MLR
comp=N,1µm,17.0s,MS5.1
YSS MLR MLR
comp=E,800nm,17.0s,MS5.1
YSS MLR MLR
comp=Z,2µm,17.0s,MS5.1
MDJ Mudanjiang 50.86 342 P **P** **04 16 57.3 +0.5**
MDJ pP pP 04 17 00.4 -5.1
MDJ sP sP 04 17 01.7 -7.2
MDJ PP PP 04 18 54.1 +0.7
MDJ ScP ScP 04 22 09.8 +2.1
MDJ PcS PcS 04 22 11.0 +0.5
MDJ S **S** **04 24 11.4 +0.1**
MDJ sS sS 04 24 20.1 -5.5
MDJ pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
MDJ pmax pmax
comp=Z,140nm,6.2s
MDJ LR LR
comp=N,2µm,28.8s,MS5.1
MDJ LR LR
comp=E,2µm,25.8s,MS5.1
MDJ LR LR
comp=Z,3µm,30.3s,MS5.1
CN2 Changchun 51.52 338 *e*P **P** **04 16 58.6 -3.2**
CN2 *e*sP sP 04 17 05.0 -9.0
CN2 *e*S **S** **04 24 14.8 -5.7**
CN2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1µm,16.0s,MS5.4
CN2 LR LR
comp=E,2µm,16.0s,MS5.4
CN2 LR LR
comp=Z,2µm,19.0s,MS5.1
BJI Beijing 52.63 329 P **P** **04 17 10.3 +0.2**
BJI S **S** **04 24 38.0 +2.3**
BJI pmax pmax
comp=Z,13nm,0.9s,mb4.9
BJI pmax pmax
comp=Z,210nm,6.0s
BJI LR LR
comp=N,2µm,22.6s,MS5.2
BJI LR LR
comp=E,2µm,20.4s,MS5.2
BJI LR LR
comp=Z,3µm,33.4s
XAN Xi'an 52.94 318 P **P** **04 17 16.6 +4.1**
XAN pP pP 04 17 21.9 +0.6
XAN ScS ScS 04 27 02.3 +1.8
XAN LR LR
comp=N,950nm,20.3s,MS4.9
XAN LR LR
comp=E,620nm,21.2s,MS4.9
XAN LR LR
comp=Z,810nm,22.6s,MS4.7
KMI Kunming 52.94 305 P **P** **04 17 14.1 +1.4**
KMI pP pP 04 17 18.9 -2.6
KMI S **S** **04 24 42.4 +1.8**
KMI pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
KMI pmax pmax
comp=Z,110nm,4.2s
KMI LR LR
comp=N,1µm,19.9s,MS5.1
KMI LR LR
comp=E,1µm,18.9s,MS5.1
KMI LR LR
comp=Z,2µm,19.9s,MS5.1
CMAR Chiang Mai Arr 53.70 296 P **P** **04 17 19.1 +0.7**
comp=Z,2.3nm,0.8s,mb4.2,baz=104,slow=5.2,SNR=7.4
CMAR Chiang Mai Arr 53.70 296 P **P** **04 17 19.1 +0.7**
CMAR Chiang Mai Arr 53.70 296 P **P** **04 17 19.1 +0.7**
KLR Kul'dur 54.53 346 *e*P **P** **04 17 18.8 -5.1**
KLR MLR MLR
comp=N,1µm,14.0s
KLR MLR MLR
comp=Z,2µm,14.0s,MS5.3
CD2 Chengdu 54.86 312 P **P** **04 17 28.4 +1.8**
CD2 pP pP 04 17 33.0 -2.4
CD2 sP sP 04 17 35.2 -3.6
CD2 PP PP 04 19 32.7 +2.9
CD2 S **S** **04 25 07.6 +1.3**
CD2 sS sS 04 25 14.8 -6.0
CD2 SS SS 04 28 49.9 -0.2
CD2 pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
CD2 pmax pmax
comp=Z,240nm,5.4s
CD2 LR LR
comp=N,3µm,20.6s
CD2 LR LR
comp=Z,4µm,20.2s,MS5.4
HHC Hu-ho-hao-te 55.68 326 *e*P **P** **04 17 32.9 +0.5**
HHC pP pP 04 17 37.0 -4.2
HHC sP sP 04 17 40.0 -4.5
HHC PP PP 04 19 39.0 +2.0
HHC S **S** **04 25 15.8 -1.2**
HHC sS sS 04 25 24.0 -7.4
HHC ScS ScS 04 27 17.9 -1.8
HHC pmax pmax
comp=Z,11nm,0.9s,mb4.9
HHC pmax pmax
comp=Z,150nm,5.7s
HHC LR LR
comp=N,1µm,19.0s,MS5.2
HHC LR LR
comp=E,1µm,17.7s,MS5.2
HHC LR LR
comp=Z,3µm,20.0s,MS5.4
PETK Petropavlovsk- 56.86 6 P **P** **04 17 40.0 -0.6**
comp=Z,5.3nm,0.8s,mb4.6,baz=214,slow=12,SNR=2.5
PETK Petropavlovsk- 56.86 6 P **P** **04 17 40.0 -0.6**
PETK Petropavlovsk- 56.86 6 P **P** **04 17 40.0 -0.5**
PET Petropavlovsk 56.89 7 *e*P **P** **04 17 41.0 +0.2**
PET *e*S **S** **04 25 31.9 -0.7**
PET pmax pmax
comp=Z,21nm,1.2s,mb5.0
PET pmax pmax
comp=Z,200nm,9.5s
PET MLR MLR
comp=Z,1µm,15.0s,MS5.0
PET MLR MLR
comp=Z,1µm,19.0s
LZH Lanzhou 57.52 317 *e*P **P** **04 17 44.0 -1.5**
LZH sP sP 04 17 51.0 -6.8
LZH PP PP 04 19 53.9 +0.5
LZH *e*S **S** **04 25 39.2 -2.3**
LZH sS sS 04 25 47.0 -9.0
LZH *e*SS SS 04 29 29.1 -2.8
LZH pmax pmax
comp=Z,39nm,1.4s,mb5.2
LZH pmax pmax
comp=Z,170nm,6.5s
LZH LR LR
comp=N,560nm,12.3s,MS5.1
LZH LR LR
comp=E,940nm,16.0s,MS5.1
LZH LR LR
comp=Z,1µm,18.2s,MS5.1
HIA Hailar 58.25 338 *e*P **P** **04 17 49.6 -0.8**
comp=Z,24nm,0.9s,mb5.2
HIA Hailar 58.25 338 *e*P **P** **04 17 49.6 -0.8**
HIA pmax pmax
comp=Z,24nm,0.9s
FX1 Attu Island--F 59.78 17 LR LR 04 41 48.1
comp=Z,1µm,19.0s,MS5.1,baz=222,slow=34
PPT Papeete 61.94 108 *e*S **S** **04 26 39.1 +0.1**
comp=Z,1µm,25.2s
PPT *e*LQ 04 33 53.9
comp=Z,4µm,30.8s
PPT *e*LR LR 04 36 44.0
comp=Z,2µm,28.0s
GTA Gaotai 61.99 319 *e*P **P** **04 18 17.3 +1.0**
GTA pP pP 04 18 21.3 -3.9
GTA sP sP 04 18 23.7 -4.8
GTA S **S** **04 26 43.2 +4.2**
GTA sS sS 04 26 49.3 -4.3
GTA pmax pmax
comp=Z,7.0nm,0.6s,mb5.0
GTA pmax pmax
comp=Z,190nm,9.5s
GTA LR LR
comp=N,570nm,19.5s,MS5.0
GTA LR LR
comp=E,960nm,20.9s,MS5.0
GTA LR LR
comp=Z,1µm,20.9s,MS5.1
TBI Tubuai 62.74 114 *e*S **S** **04 26 52.0 +2.9**
comp=Z,872nm,28.2s
TBI *e*LQ 04 34 20.8
comp=Z,3µm,25.5s
TBI *e*LR LR 04 36 58.5
comp=Z,2µm,31.5s
ULN Ulaanbaatar 62.80 330 *e*P **P** **04 18 23.1 +1.7**
comp=Z,15nm,1.3s,mb5.0
ULN Ulaanbaatar 62.80 330 *e*P **P** **04 18 23.1 +1.6**
ULN pmax pmax
comp=Z,15nm,1.3s,mb5.0
SONM Songino Array 63.11 329 P **P** **04 18 23.7 +0.1**
comp=Z,2.0nm,0.7s,mb4.4,baz=145,slow=6.3,SNR=10
SONM Songino Array 63.11 329 P **P** **04 18 23.7 +0.1**
SONM Songino Array 63.11 329 P **P** **04 18 23.7 +0.1**
SEY Seymchan 66.27 2 *e*P **P** **04 18 42.9 -1.0**
TAPN Taplejung 66.30 302 *e*P **P** **04 18 46.0 +1.2**
TAPN Taplejung 66.30 302 *e*P **P** **04 18 46.0 +1.2**
ZAK Zakamensk 66.32 330 *e*P **P** **04 18 44.4 0.0**
ZAK *e* 04 19 00.7
ZAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
ODAN Odare 66.43 301 *e*P **P** **04 18 46.4 +0.7**
comp=Z,46nm,1.0s,mb5.4
ODAN Odare 66.43 301 *e*P **P** **04 18 46.4 +0.7**
comp=Z,46nm,1.0s,mb5.5
TLY Talaya 66.96 331 *e*P **P** **04 18 53.7 +5.2**
TLY pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
TLY MLR MLR
comp=Z,851nm,18.0s,MS5.0
BOD Bodaibo 67.17 341 *e*P **P** **04 18 48.4 -1.3**
BOD pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
GUN Gumba 68.02 302 *e*P **P** **04 18 55.9 +0.2**
GUN Gumba 68.02 302 *e*P **P** **04 18 55.9 +0.2**
PKI Pulchoki 68.33 301 *e*P **P** **04 18 57.7 +0.1**
PKI Pulchoki 68.33 301 *e*P **P** **04 18 58.0 +0.4**
PKI Pulchoki 68.33 301 *e*P **P** **04 18 58.0 +0.4**
PKIN Phulchoki 68.34 301 *e*P **P** **04 18 58.0 +0.3**
DMN Daman 68.59 301 *e*P **P** **04 18 59.4 +0.1**
comp=Z,82nm,1.1s,mb5.6
DMN Daman 68.59 301 *e*P **P** **04 18 59.4 +0.1**
comp=Z,82nm,1.1s,mb5.6
GKN Gorkha 69.10 302 *e*P **P** **04 19 02.9 +0.4**
comp=Z,52nm,1.1s,mb5.4
GKN Gorkha 69.10 302 *e*P **P** **04 19 02.9 +0.4**
comp=Z,52nm,1.1s,mb5.4
KOLN Koldanda 69.92 301 *e*P **P** **04 19 08.7 +1.1**
comp=Z,33nm,0.9s,mb5.3
KOLN Koldanda 69.92 301 *e*P **P** **04 19 08.7 +1.1**
comp=Z,33nm,0.9s,mb5.3
DANN Dangsing 69.94 302 *e*P **P** **04 19 08.2 +0.5**
DANN Dangsing 69.94 302 *e*P **P** **04 19 08.2 +0.5**
TAOE Nuku Hiva Isla 70.77 98 *e*LR LR 04 40 42.6
comp=Z,2µm,29.4s,baz=276
WMQ Urumqi 72.08 318 P **P** **04 19 26.2 +5.9**
WMQ pP pP 04 19 30.9 +1.6
WMQ sP sP 04 19 33.2 +0.6
WMQ S S 04 28 45.4 +4.9
WMQ pmax pmax
comp=Z,11nm,0.5s,mb5.0
WMQ pmax pmax
comp=Z,230nm,4.3s
WMQ LR LR
comp=N,710nm,17.8s,MS5.1
WMQ LR LR
comp=E,560nm,18.5s,MS5.1
WMQ LR LR
comp=Z,830nm,17.9s,MS5.0
HYB Hyderabad 72.28 289 *i* P **P** **04 19 26.5 +4.5**
BILL Bilibino 72.39 7 *e*P **P** **04 19 19.6 -2.1**
comp=Z,10nm,1.0s,mb4.7
BILL Bilibino 72.39 7 *e*P **P** **04 19 20.1 -1.6**
BILL *e* 04 19 38.5
BILL *e* 04 19 38.5
BILL pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
MIR Mirnyy 73.76 200 *e*P **P** **04 19 31.0 +1.2**
MIR pmax pmax
comp=Z,24nm,1.4s,mb4.9
VNDA Vanda 74.33 177 P **P** **04 19 31.6 -1.4**
comp=Z,2.6nm,1.0s,mb4.1,baz=327,slow=7.2,SNR=8.3
VNDA Vanda 74.33 177 *e*P **P** **04 19 31.4 -1.6**
comp=Z,16nm,1.6s,mb4.7
VNDA Vanda 74.33 177 *e*P **P** **04 19 31.4 -1.6**
VNDA pmax pmax
comp=Z,16nm,1.6s
RKT Rikitea 75.99 113 *e*S S 04 29 26.2 +0.9
comp=Z,497nm,34.2s
RKT *e*LQ 04 39 55.7
comp=Z,1µm,32.0s
RKT *e*LR LR 04 43 14.5
comp=Z,2µm,29.5s
MK31 Makanchi Array 76.71 320 *e*P **P** **04 19 47.5 +0.3**
MK31 Makanchi Array 76.71 320 *e*P **P** **04 19 47.5 +0.3**
MKAR Makanchi Array 76.71 320 P **P** **04 19 47.7 +0.5**
comp=Z,2.9nm,0.7s,mb4.3,baz=108,slow=6.5,SNR=15
MKAR Makanchi Array 76.71 320 P **P** **04 19 47.7 +0.5**
MKAR Makanchi Array 76.71 320 P **P** **04 19 47.7 +0.5**
ZAA0 Zalesovo Array 77.85 327 *e*P **P** **04 19 52.0 -1.4**
ZALV Zalesovo Beam 77.85 327 P **P** **04 19 52.2 -1.2**
comp=Z,1.8nm,0.7s,mb4.1,baz=101,slow=5.3,SNR=7.5
ZALV Zalesovo Beam 77.85 327 P **P** **04 19 52.2 -1.2**
ZALV Zalesovo Beam 77.85 327 P **P** **04 19 52.3 -1.1**
RSO Redoubt South 78.08 26 *e*P **P** **04 19 56.6 +2.1**
comp=Z,14nm,0.9s,mb4.9
KSH Kashi 79.05 311 P **P** **04 20 09.6 +9.2**
KSH pP pP 04 20 14.3 +4.8
KSH sP sP 04 20 16.6 +3.8
KSH PP PP 04 23 15.3 +16
KSH S S 04 30 14.6 +17
KSH SKS 04 30 22.5
KSH sS sS 04 30 22.8 +10
KSH SS SS 04 35 30.4 +26
KSH pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
KSH pmax pmax
comp=Z,140nm,4.8s
KSH LR LR
comp=N,440nm,14.7s,MS5.0
KSH LR LR
comp=E,330nm,13.0s,MS5.0
KSH LR LR
comp=Z,970nm,20.3s
NVS Novosibirsk 79.05 328 *e*P **P** **04 20 00.1 +0.1**
NVS pmax pmax
comp=E,19nm,1.5s
NVS pmax pmax
comp=Z,32nm,1.5s,mb5.0
SLKM Skilak Lake 79.20 26 *e*P **P** **04 20 00.3 -0.4**
SLKM Skilak Lake 79.20 26 *e*P **P** **04 20 00.3 -0.4**
PPLA Purkeypile 79.52 24 *e*P **P** **04 20 02.6 +0.2**
comp=Z,30nm,1.6s,mb5.0
PMR Palmer 80.17 25 *e*P **P** **04 20 07.2 +1.3**
comp=Z,38nm,1.7s,mb5.0
PMR Palmer 80.17 25 *e*P **P** **04 20 07.2 +1.3**
PMR pmax pmax
comp=Z,38nm,1.7s,mb5.0
KURK Kurchatov 80.28 323 P **P** **04 20 05.9 -0.9**
comp=Z,1.8nm,0.8s,mb4.0,baz=105,slow=5.4,SNR=17
KURK Kurchatov 80.28 323 *e*P **P** **04 20 06.0 -0.8**
comp=Z,18nm,1.1s,mb4.9
KURK Kurchatov 80.28 323 *e*P **P** **04 20 06.3 -0.5**
KURK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
TRF Thorofare Moun 80.54 23 *e*P **P** **04 20 09.7 +1.8**
comp=Z,8.5nm,1.1s,mb4.6
FRU Bishkek 80.82 314 *e* PcP 04 20 18.0 +1.5
AAK Ala-Archa 80.86 314 *e*P **P** **04 20 11.2 +1.1**
comp=Z,4.9nm,0.8s,mb4.5
AAK Ala-Archa 80.86 314 *e*P **P** **04 20 10.0 -0.1**
MCK McKinley 81.21 23 *e*P **P** **04 20 12.0 +0.5**
comp=Z,32nm,1.3s,mb5.1
MCK McKinley 81.21 23 *e*P **P** **04 20 12.0 +0.5**
MCK pmax pmax
comp=Z,32nm,1.3s,mb5.1

BMRM	**Bremner River**	**81.90**	**27**	*e*P	**P**	**04 20 15.3**	**+0.2**
	comp=Z,6.4nm,0.9s,mb4.5						
COLA	**College**	**82.14**	**23**	*e*P	**P**	**04 20 15.7**	**-0.7**
	comp=Z,3.4nm,0.8s,mb4.3						
COLA	**College**	**82.14**	**23**	*e*P	**P**	**04 20 15.7**	**-0.7**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
COLD	**Coldfoot**	**82.35**	**20**	*e*P	**P**	**04 20 17.7**	**+0.3**
	comp=Z,6.3nm,1.2s,mb4.4						
ILAR	**Eielson Array**	**82.47**	**23**	P	**P**	**04 20 14.8**	**-3.2**
	comp=Z,1.7nm,0.9s,mb4.0,baz=250,slow=5.1,SNR=7.9						
ILAR	**Eielson Array**	**82.47**	**23**	P	**P**	**04 20 14.8**	**-3.2**
ILAR	**Eielson Array**	**82.47**	**23**	P	**P**	**04 20 14.9**	**-3.2**
DOT	**Dot Lake**	**83.15**	**24**	*e*P	**P**	**04 20 22.6**	**+0.9**
	comp=Z,75nm,1.4s,mb5.5						
KKAR	**Karatay Array**	**83.82**	**314**	*e*P	**P**	**04 20 25.3**	**-0.3**
	comp=Z,7.3nm,1.0s,mb4.8						
KKAR	**Karatay Array**	**83.82**	**314**	*e*P	**P**	**04 20 25.3**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
DAWY	**Dawson**	**85.24**	**25**	*e*P	**P**	**04 20 32.3**	**+0.1**
MAW	**Mawson**	**85.26**	**203**	P	**P**	**04 20 31.8**	**-0.5**
	comp=Z,4.2nm,1.1s,mb4.5,baz=57,slow=5.8,SNR=5.9						
BVAR	**Borovoye Array**	**85.79**	**324**	P	**P**	**04 20 33.7**	**-1.6**
	comp=Z,1.4nm,0.4s,mb4.6,baz=104,slow=6.3,SNR=6.4						
BVAR	**Borovoye Array**	**85.79**	**324**	P	**P**	**04 20 33.6**	**-1.6**
BVAR	**Borovoye Array**	**85.79**	**324**	P	**P**	**04 20 33.7**	**-1.6**
SKAG	**Skagway**	**85.83**	**30**	*e*P	**P**	**04 20 35.7**	**+0.4**
	comp=Z,29nm,1.4s,mb5.3						
BRVK	**Borovoye**	**85.86**	**324**	*e*P	**P**	**04 20 35.5**	**-0.1**
	comp=Z,9.7nm,1.2s,mb4.9						
BRVK	**Borovoye**	**85.86**	**324**	*e*P	**P**	**04 20 34.9**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.4						
QSPA	**South Pole Qui**	**86.48**	**180**	P	**P**	**04 20 36.0**	**-2.2**
	comp=Z,1.5nm,0.8s,mb4.3,baz=53,slow=2.2,SNR=3.5						
QSPA	**South Pole Qui**	**86.48**	**180**	P	**P**	**04 20 36.0**	**-2.2**
INK	**Inuvik**	**88.66**	**21**	*e*P	**P**	**04 20 50.6**	**+1.8**
	comp=Z,10nm,1.2s,mb5.0						
INK	**Inuvik**	**88.66**	**21**	*e*P	**P**	**04 20 50.6**	**+1.8**
INK				pmax	pmax		
	comp=Z,10.0nm,1.2s						
ABKAR	**Akbulak array**	**91.85**	**319**	*e*P	**P**	**04 21 02.2**	**-1.9**
	comp=Z,1.8nm,0.8s,mb4.5						
NVAR	**Mina Array Bea**	**94.41**	**52**	P	**P**	**04 21 17.0**	**+0.8**
	comp=Z,0.7nm,0.8s,mb4.1,baz=256,slow=6.0,SNR=4.0						
NVAR	**Mina Array Bea**	**94.41**	**52**	P	**P**	**04 21 17.0**	**+0.8**
APA	**Apatity**	**102.69**	**339**⇑	*e*P	Pdif	04 21 53.5	+0.5
ANN	**Anapa**	**107.52**	**316**	*e*P	Pdif	04 22 19.5	+5.0
ANN				pmax	pmax		
	comp=Z,26nm,1.3s						
ANN				MLR	MLR		
	comp=N,615nm,22.0s,MS5.3						
ANN				MLR	MLR		
	comp=E,610nm,22.0s,MS5.3						
ANN				MLR	MLR		
	comp=Z,728nm,22.0s,MS5.2						
OKC	**Ostrava-Krasne**	**117.83**	**326**	AMS	AMS	05 17 40.0	
	comp=Z,1μm,20.8s						
DPC	**Dobruska-Polom**	**118.55**	**327**	AMS	AMS	05 18 30.0	
	comp=Z,2μm,20.1s						
PVCC	**Panska Ves**	**119.38**	**328**	AMS	AMS	05 18 40.0	
	comp=Z,1μm,20.3s						
TREC	**Trest**	**119.58**	**327**	AMS	AMS	05 19 00.0	
	comp=Z,2μm,20.2s						
PRU	**Pruhonice**	**119.70**	**328**	AMS	AMS	05 19 30.0	
	comp=Z,1μm,21.2s						
CLL	**Collm**	**119.73**	**330**	*e*SKKSac	SKKSac	04 35 18.0	+11
CLL				*e*PS	PS	04 37 55.0	-3.6
CLL				*e*(PPS)		04 39 00.0	
CLL				*e*SS	SS	04 44 42.0	+11
CLL				*e*		04 50 06.0	
NKC	**Novy Kostel**	**120.65**	**329**	AMS	AMS	05 19 40.0	
	comp=Z,2μm,21.7s						
KHC	**Kasperske Hory**	**120.71**	**327**	AMS	AMS	05 20 00.0	
	comp=Z,2μm,22.2s						
LPAZ	**La Paz**	**138.56**	**119**	*e*PKPdf	PKPdf	04 27 25.6	+2.9
LPAZ	**La Paz**	**138.56**	**119**	*e*PKIKP	PKPdf	04 27 25.6	+2.9
SDV	**Santo Domingo**	**140.46**	**80**	*e*PKPdf	PKPdf	04 27 25.9	-0.4
TORD	**Torodi Ar. Bea**	**146.10**	**288**	PKPbc	PKPbc	04 27 36.7	-0.3
	comp=Z,5.5nm,1.0s,baz=57,slow=3.1,SNR=15						
TORD	**Torodi Ar. Bea**	**146.10**	**288**	PKPbc	PKPbc	04 27 36.7	-0.3
DBIC	**Dimbokro**	**153.56**	**278**	PKPab	PKPab	04 28 08.4	+0.2
	comp=Z,8.8nm,1.1s,baz=148,slow=3.3,SNR=4.6						
DBIC	**Dimbokro**	**153.56**	**278**	PKPab	PKPab	04 28 08.4	+0.2
DBIC	**Dimbokro**	**153.56**	**278**	PKP2	PKPab	04 28 08.4	+0.2

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*MOS **01** 04:08:33.7±0.6, 55°.10N×165°.46E, h36^{km}, mb4.2/1, Error ellipse: s-maj=43.1km s-min=23.9km az=143.5*

KRSC 01 04:08:34.9±0.2**, 55°.04N×165°.35E, h35**^{km}±25^{km}**, ML4.1, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.39**	**65**	*e*P	Pn	04 08 43.3	-0.7
BKI				*i* S	Sn	04 08 49.2	-1.1
BKI	**Bering**	**0.39**	**65**	PN	Pn	04 08 43.3	-0.7
BKI				S	Sn	04 08 49.2	-1.1
KBTR	**Krutoberegovo**	**1.85**	**310**	*e*P	Pn	04 09 03.6	-0.5
KBTR				*i* S	Sn	04 09 24.4	-1.8
KBTR	**Krutoberegovo**	**1.85**	**310**	PN	Pn	04 09 03.6	-0.5
KBTR				S	Sn	04 09 24.4	-1.8
MKZ	**Mys Kozlova**	**2.15**	**258**	*e*P	Pn	04 09 09.3	+1.1
MKZ				*i* S	Sn	04 09 34.0	+0.4
MKZ	**Mys Kozlova**	**2.15**	**258**	PN	Pn	04 09 09.3	+1.1
MKZ				S	Sn	04 09 34.0	+0.4
TUMR	**Tumrok**	**3.00**	**277**	*e*P	Pn	04 09 22.3	+2.5
TUMR				*i* S	Sn	04 09 57.9	+3.5
KMNR	**Kamenistaya**	**3.00**	**286**	*e*P	Pn	04 09 23.0	+3.1
KMNR				*i* S	Sn	04 09 57.9	+3.3
SRDR	**Sredinnyy**	**3.44**	**294**	*e*P	Pn	04 09 28.9	+3.1
KII	**Karymskiy**	**3.58**	**256**	*e*P	Pn	04 09 30.6	+2.8
KII				*i* S	Sn	04 10 09.8	+0.9
SPN	**Mys Shipunski**	**3.69**	**240**	*e*P	Pn	04 09 30.3	+0.9
SPN				*i* S	Sn	04 10 10.2	-1.4
SPN	**Mys Shipunski**	**3.69**	**240**	PN	Pn	04 09 30.3	+0.9
NLC	**Nalytchevo**	**4.00**	**245**	*e*P	Pn	04 09 35.1	+1.5
NLC				*i* S	Sn	04 10 18.5	-0.7
NLC	**Nalytchevo**	**4.00**	**245**	PN	Pn	04 09 35.1	+1.5
AVH	**Avacha**	**4.28**	**248**	*e*P	Pn	04 09 40.1	+2.7
AVH				*i* S	Sn	04 10 27.4	+1.5
PET	**Petropavlovsk**	**4.43**	**246**	*e*P	Pn	04 09 42.0	+2.4
PET				*i* S	Sn	04 10 29.5	-0.4
PET	**Petropavlovsk**	**4.43**	**246**	PN	Pn	04 09 42.0	+2.4
GNL	**Ganaly**	**4.54**	**256**	*e*P	Pn	04 09 44.0	+3.0

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*IDC **01** 04:08:58.6±1.3, 3°.36S×148°.66E, h0^{km}, mb4.7/10, mb1 4.9/11, mb1mx4.6/20, mbtmp4.7/11, ML3.1/1, MS5.1/8, Ms1 5.0/8, ms1mx4.8/13, Error ellipse: s-maj=44.3km s-min=18.3km az=101.0*

*NEIC **01** 04:08:59.3±0.6, 3°.42S×148°.87E, h10^{km}, mb4.8/11, Error ellipse: s-maj=19.0km s-min=9.3km az=93.0*

*ISCJB **01** 04:09:03.0±6.3, 3°.4S±0°.1×148°.6E±0°.2, h39^{km}±57^{km}, mb4.7/18, MS5.1/4, Error ellipse: s-maj=31.2km s-min=24.2km az=171.7*

*GCMT **01** 04:09:05.2±0.1, 3°.35S×149°.07E, h12^{km}, MW5.7, Moment Tensor Solution. s86,c142; s99,c214; Moment tensor: Scale 10^{17}Nm; M_{rr}0.02±.05; $M_{\theta\theta}$2.11±.05; $M_{\phi\phi}$-2.14±.05; $M_{r\theta}$0.70±.13; $M_{\theta\phi}$2.95±.04; $M_{\phi r}$0.96±.13; Best double couple: $M_0$3.80000×10^{17} NP1:ϕ_s109.00000°, δ73.00000°, λ5.00000°. NP2:ϕ_s17.00000°, δ85.00000°, λ163.00000°. Principal axes: T 3.9100, Plg15.0000°, Azm332.0000°; N -0.1900, Plg72.0000°, Azm182.0000°; P -3.7300, Plg9.0000°, Azm64.0000°; Data Used: II IU IC G CN. Surface waves from 103 sta.*

ISC 01 04:09:04.7±5.2**, 3°.4S**±0°.1×**148°.6E**±0°.2**, h39**^{km}±48^{km}**, n42, σ0.75s**/35**, mb4.7**/18**, MS5.1**/4**, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.09**	**194**	LR	LR	04 12 38.4	
	comp=Z,6μm,19.2s,baz=217,slow=36						
HNR	**Honiara**	**12.74**	**118**	LR	LR	04 15 08.5	
	comp=Z,6μm,19.8s,baz=114,slow=29						
CTA	**Charters Tower**	**16.70**	**188**	Pn	**Pn**	**04 12 55.6**	**-0.3**
	0.1nm,0.3s,baz=31,slow=16,SNR=2.1						
CTA				LR	LR	04 18 56.9	
	comp=Z,6μm,21.3s,baz=9.5,slow=36						
CTA	**Charters Tower**	**16.70**	**188**	Pn	**Pn**	**04 12 55.6**	**-0.3**
CTA				LR	LR	04 18 56.9	
CTAO	**Charters Tower**	**16.70**	**188**	*e*P	**Pn**	**04 12 56.0**	**+0.2**
	67nm,1.3s						
GUMO	**Guam**	**17.32**	**348**	LR	LR	04 18 17.4	
	comp=Z,7μm,22.0s,baz=191,slow=32						
KAKA	**Kakadu**	**18.45**	**239**	*e*P	**Pn**	**04 13 17.0**	**-0.6**
	346nm,1.0s						
KAKA	**Kakadu**	**18.45**	**239**	*e*	**Pn**	**04 13 17.0**	**-0.5**
WRAB	**Tennant Creek**	**21.50**	**219**	*e*P	**P**	**04 13 50.8**	**+0.5**
	23nm,0.7s,mb4.6						
WB2	**Warramunga Arr**	**21.50**	**219**	*e*P	**P**	**04 13 49.8**	**-0.5**
WRA	**Warramunga Arr**	**21.51**	**219**	P	**P**	**04 13 50.0**	**-0.4**
	47nm,0.9s,mb4.9,baz=41,slow=12,SNR=2.5						
WRA				LR	LR	04 22 19.5	
	comp=Z,8μm,20.5s,MS5.1,baz=40,slow=37						
WRA	**Warramunga Arr**	**21.51**	**219**	P	**P**	**04 13 50.0**	**-0.5**
WRA				LR	LR	04 22 19.5	
ASAR	**Alice Springs**	**24.62**	**214**	P	**P**	**04 14 21.2**	**-0.3**
	31nm,1.1s,mb4.8,baz=48,slow=7.6,SNR=2.5						
ASAR	**Alice Springs**	**24.62**	**214**	P	**P**	**04 14 21.2**	**-0.3**
DZM	**Mont Dzumac**	**25.35**	**138**	*e*P	**P**	**04 14 22.5**	**-5.7**
	32nm,1.0s,mb4.8						
FITZ	**Fitzroy Crossi**	**26.80**	**235**	P	**P**	**04 14 42.2**	**+0.9**
	60nm,1.0s,mb5.1,baz=74,slow=9.3,SNR=5.0						
FITZ	**Fitzroy Crossi**	**26.80**	**235**	*e*P	**P**	**04 14 42.1**	**+0.7**
	26nm,0.7s,mb4.9						
STKA	**Stephens Creek**	**29.04**	**192**	P	**P**	**04 15 02.2**	**+1.0**
	19nm,1.2s,mb4.7,baz=346,slow=14,SNR=4.6						
STKA				LR	LR	04 27 58.1	
	comp=Z,3μm,19.1s,MS5.0,baz=13,slow=39						
STKA	**Stephens Creek**	**29.04**	**192**	P	**P**	**04 15 02.2**	**+1.0**
STKA				LR	LR	04 27 58.1	
CMAR	**Chiang Mai Arr**	**53.52**	**296**	P	**P**	**04 18 22.4**	**+0.5**
	5.8nm,1.0s,mb4.5,baz=108,slow=5.3,SNR=4.8						
CMAR	**Chiang Mai Arr**	**53.52**	**296**	P	**P**	**04 18 22.4**	**+0.5**
CHTO	**Chiang Mai**	**53.64**	**296**	*e*P	**P**	**04 18 23.6**	**+0.9**
	7.6nm,1.0s,mb4.6						
HIA	**Hailar**	**58.16**	**338**	*e*P	**P**	**04 18 55.4**	**+0.9**
	11nm,0.8s,mb4.9						
SONM	**Songino Array**	**63.00**	**329**	P	**P**	**04 19 28.6**	**+1.0**
	3.4nm,1.0s,mb4.4,baz=125,slow=7.2,SNR=3.1						
SONM	**Songino Array**	**63.00**	**329**	P	**P**	**04 19 28.6**	**+1.0**
MK31	**Makanchi Array**	**76.58**	**320**	*e*P	**P**	**04 20 50.9**	**-0.2**
MKAR	**Makanchi Array**	**76.58**	**320**	P	**P**	**04 20 50.9**	**-0.2**
	9.3nm,0.9s,mb4.7,baz=101,slow=6.3,SNR=5.8						
MKAR	**Makanchi Array**	**76.58**	**320**	P	**P**	**04 20 50.9**	**-0.2**
TKM2	**Tokmak 2**	**79.99**	**314**	*e*P	**P**	**04 21 09.9**	**-0.2**
	5.0nm,0.9s,mb4.4						
KZA	**Kyzart**	**80.04**	**314**	*e*P	**P**	**04 21 11.3**	**+0.9**
	14nm,1.1s,mb4.8						
KURK	**Kurchatov**	**80.15**	**323**	P	**P**	**04 21 09.2**	**-1.6**
	5.7nm,1.1s,mb4.4,baz=105,slow=4.3,SNR=2.5						
KURK	**Kurchatov**	**80.15**	**323**	*e*P	**P**	**04 21 10.2**	**-0.6**
	11nm,1.0s,mb4.8						
EKS2	**Erkin-Say**	**81.23**	**314**	*e*P	**P**	**04 21 15.1**	**-1.7**
	8.1nm,1.0s,mb4.6						
ILAR	**Eielson Array**	**82.52**	**23**	P	**P**	**04 21 23.0**	**0.0**
	2.5nm,0.9s,mb4.2,baz=257,slow=5.4,SNR=2.6						
ILAR	**Eielson Array**	**82.52**	**23**	P	**P**	**04 21 23.0**	**0.0**
KKAR	**Karatay Array**	**83.67**	**314**	*e*P	**P**	**04 21 29.1**	**-0.3**
	12nm,1.1s,mb5.0						
MAW	**Mawson**	**85.21**	**203**	LR	LR	04 57 57.2	
	comp=Z,2μm,20.6s,MS5.5,baz=85,slow=34						
BVAR	**Borovoye Array**	**85.67**	**324**	P	**P**	**04 21 38.3**	**-1.0**
	4.5nm,0.9s,mb4.7,baz=90,slow=8.6,SNR=2.2						
BVAR	**Borovoye Array**	**85.67**	**324**	P	**P**	**04 21 38.3**	**-1.0**
INK	**Inuvik**	**88.71**	**21**	LR	LR	04 56 29.8	
	comp=Z,595nm,21.8s,MS5.0,baz=81,slow=32						
TORD	**Torodi Ar. Bea**	**145.91**	**288**	PKPbc	PKPbc	04 28 39.7	-1.4
	5.9nm,0.9s,baz=78,slow=2.5,SNR=4.1						
TORD	**Torodi Ar. Bea**	**145.91**	**288**	PKPbc	PKPbc	04 28 39.7	-1.4

DJA 01 04:26:50, 0°.49N×98°.33E, h16^{km}**, MLv3.9**/4**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.54**	**185**	P	Pg	04 27 02.0	+1.2
PBSI				S	Sg	04 27 08.4	+0.3
MNSI	**Mandailing Nat**	**1.29**	**76**	P	Pn	04 27 13.1	-0.2
MNSI				S	Sb	04 27 28.1	-2.0
SISI	**Saibi**	**1.96**	**157**	P	Pn	04 27 21.5	-1.1
PDSI	**Padang**	**2.55**	**123**	P	Pn	04 27 30.8	+0.1
PDSI				S	Sn	04 28 03.9	+2.5

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*IDC **01** 04:35:20.3±0.7, 51°.48N×174°.34W, h0^{km}, mb4.0/21, mb1 4.2/22, mb1mx4.1/30, mbtmp4.0/22, ML4.5/1, MS4.6/3, Ms1 4.6/3, ms1mx3.7/39, Error ellipse: s-maj=22.1km s-min=13.9km az=173.0*

*NEIC **01** 04:35:21.6±0.4, 51°.31N×174°.32W, h10^{km}, mb4.1/11, ML3.6(AEIC), Error ellipse: s-maj=10.7km s-min=6.1km az=169.0*

*ISCJB **01** 04:35:26.3±1.1, 51°.44N±0°.09×174°.29W±0°.06, h52^{km}±7^{km}, mb4.4/43, MS4.6/3, Error ellipse: s-maj=14.7km s-min=6.1km az=172.6*

ISC 01 04:35:27.7±1.0**, 51°.47N**±0°.09×**174°.32W**±0°.06**, h49**^{km}±6^{km}**, n133, σ0.95s**/131**, mb4.4**/43**, MS4.6**/3**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.74**	**6**	P	**Pn**	**04 35 40.5**	**-1.4**
ATKA				S	**Sn**	**04 35 53.4**	**+1.2**
GSTR	**Great Sitkin T**	**1.25**	**301**	*e*Pn	**Pn**	**04 35 47.8**	**-0.9**
GSTR				*e*Sn	**Sn**	**04 36 06.2**	**+1.8**
ADK	**Adak**	**1.53**	**287**	P	**Pn**	**04 35 50.6**	**-1.9**
ADK				S	**Sn**	**04 36 11.3**	**+0.1**
NIKO	**Nikolski**	**3.69**	**64**	*e*Pn	**Pn**	**04 36 22.2**	**+0.2**
UNV	**Unalaska Valle**	**5.32**	**60**	*e*Pn	**Pn**	**04 36 46.0**	**+1.5**
UNV				*e*Sg	Sn	04 38 05.5	+21
FX1	**Attu Island--F**	**7.83**	**285**	Pn	**Pn**	**04 37 17.1**	**-1.7**
	1.8nm,0.3s,baz=53,slow=20,SNR=15						
FX1	**Attu Island--F**	**7.83**	**285**	Pn	**Pn**	**04 37 17.1**	**-1.7**
KDAK	**Kodiak Island**	**14.05**	**55**	*e*Pn	**Pn**	**04 38 49.9**	**+6.2**
	7.7nm,0.5s						
PPLA	**Purkeypile**	**16.48**	**37**	*e*Pn	**Pn**	**04 39 16.7**	**+1.7**
	23nm,1.4s						
MCK	**McKinley**	**18.16**	**38**	*e*P	**Pn**	**04 39 34.9**	**-1.0**
	8.1nm,0.9s						
BILL	**Bilibino**	**19.12**	**338**	*e*P	**Pn**	**04 39 47.4**	**0.0**
	4.9nm,0.7s						
COLA	**College**	**19.16**	**35**	*e*P	**Pn**	**04 39 48.8**	**+0.9**
	7.4nm,0.7s						
ILAR	**Eielson Array**	**19.46**	**36**	P	**Pn**	**04 39 48.0**	**-3.4**
	0.7nm,0.3s,baz=236,slow=8.9,SNR=26						
ILAR	**Eielson Array**	**19.46**	**36**	P	**Pn**	**04 39 48.0**	**-3.4**
COLD	**Coldfoot**	**19.80**	**28**	*e*P	**Pn**	**04 39 58.9**	**+3.6**
	6.3nm,0.9s						
EGAK	**Eagle**	**21.67**	**39**	*e*P	**P**	**04 40 12.7**	**-1.0**
	24nm,0.8s,mb4.7						
DAWY	**Dawson**	**22.15**	**42**	*e*P	**P**	**04 40 18.1**	**-0.7**
INK	**Inuvik**	**25.80**	**34**	P	**P**	**04 40 52.4**	**-1.2**
	1.3nm,0.7s,mb3.6,baz=225,slow=11,SNR=8.8						
INK	**Inuvik**	**25.80**	**34**	*e*P	**P**	**04 40 53.1**	**-0.4**
	1.7nm,0.6s,mb3.8						
DLBC	**Dease Lake**	**25.97**	**57**	P	**P**	**04 40 54.5**	**-0.6**
	3.8nm,0.8s,mb4.0,baz=289,slow=8.8,SNR=5.0						
DLBC	**Dease Lake**	**25.97**	**57**	P	**P**	**04 40 54.5**	**-0.6**
HLID	**Hailey**	**40.20**	**77**	*e*P	**P**	**04 43 00.9**	**+2.0**
NVAR	**Mina Array Bea**	**40.75**	**86**	P	**P**	**04 43 03.7**	**+0.2**
	0.3nm,0.5s,baz=284,slow=7.3,SNR=3.3						
NVAR	**Mina Array Bea**	**40.75**	**86**	P	**P**	**04 43 03.7**	**+0.2**
KSRS	**Korea Array**	**42.44**	**274**	P	**P**	**04 43 17.9**	**+0.5**
	1.3nm,0.7s,mb3.7,baz=65,slow=7.3,SNR=5.0						
BW06	**Boulder Array**	**43.59**	**75**	*e*P	**P**	**04 43 28.2**	**+1.6**
	2.0nm,0.8s,mb3.9						
PDAR	**Pinedale Array**	**43.59**	**75**	P	**P**	**04 43 26.9**	**+0.3**
	1.2nm,0.8s,mb3.7,baz=324,slow=3.2,SNR=8.6						
PDAR				LR	LR	05 00 43.2	
	comp=Z,2μm,21.1s,MS4.9,baz=271,slow=35						
PDAR	**Pinedale Array**	**43.59**	**75**	P	**P**	**04 43 26.9**	**+0.3**
PDAR				LR	LR	05 00 43.2	
ULM	**Lac du Bonnet**	**47.26**	**59**	P	**P**	**04 43 54.9**	**-0.7**
	2.7nm,0.8s,mb4.2,baz=283,slow=7.1,SNR=4.0						
ULM	**Lac du Bonnet**	**47.26**	**59**	P	**P**	**04 43 54.9**	**-0.7**
SONM	**Songino Array**	**49.09**	**299**	P	**P**	**04 44 09.1**	**-0.6**
	1.1nm,0.8s,mb4.0,baz=52,slow=9.8,SNR=4.3						
SONM	**Songino Array**	**49.09**	**299**	P	**P**	**04 44 09.1**	**-0.6**
TXAR	**Lajitas Array**	**55.86**	**85**	P	**P**	**04 44 59.4**	**-0.6**
	0.4nm,0.8s,mb3.5,baz=303,slow=5.3,SNR=4.1						
TXAR	**Lajitas Array**	**55.86**	**85**	P	**P**	**04 44 59.4**	**-0.6**
ARCES	**ARCESS Array B**	**58.44**	**352**	P	**P**	**04 45 15.6**	**-2.1**
	4.2nm,0.8s,mb4.5,baz=11,slow=8.7,SNR=8.3						
ARCES				PcP	PcP	04 46 08.2	+0.5
	2.7nm,0.7s,baz=24,slow=3.3,SNR=4.0						
ARCES				LR	LR	05 13 32.2	
	comp=Z,373nm,20.5s,MS4.5,baz=53,slow=39						
ARCES	**ARCESS Array B**	**58.44**	**352**	P	**P**	**04 45 15.6**	**-2.1**
ARCES				PcP	PcP	04 46 08.2	+0.5
ARCES				LR	LR	05 13 32.2	
KURK	**Kurchatov**	**60.95**	**316**	P	**P**	**04 45 35.2**	**0.0**
	1.0nm,0.3s,mb4.5,baz=42,slow=7.2,SNR=3.1						
KURK	**Kurchatov**	**60.95**	**316**	P	**P**	**04 45 35.2**	**0.0**
MKAR	**Makanchi Array**	**62.14**	**311**	P	**P**	**04 45 42.8**	**-0.4**
	0.7nm,0.3s,mb4.3,baz=54,slow=6.6,SNR=7.2						
MKAR	**Makanchi Array**	**62.14**	**311**	P	**P**	**04 45 42.8**	**-0.4**
BVAR	**Borovoye Array**	**62.59**	**322**	P	**P**	**04 45 46.0**	**-0.2**
	1.6nm,0.5s,mb4.4,baz=56,slow=8.0,SNR=8.0						
BVAR				PcP	PcP	04 46 25.7	+0.9
	3.5nm,0.7s,baz=54,slow=3.8,SNR=9.8						
BVAR	**Borovoye Array**	**62.59**	**322**	P	**P**	**04 45 46.0**	**-0.2**
BVAR				PcP	PcP	04 46 25.7	+0.9
FINES	**FINESS Array B**	**66.27**	**349**	P	**P**	**04 46 08.7**	**-1.4**
	4.6nm,1.0s,mb4.5,baz=20,slow=7.5,SNR=3.8						
FINES	**FINESS Array B**	**66.27**	**349**	P	**P**	**04 46 08.7**	**-1.4**
NB2	**NORSAR Subarra**	**67.76**	**357**	P	**P**	**04 46 19.2**	**-0.3**
	comp=Z,3.2nm,1.0s,mb4.3,baz=3.7,slow=6.2						
NOA	**NORSAR Array B**	**67.76**	**357**	P	**P**	**04 46 19.3**	**-0.2**
	comp=Z,1.9nm,0.8s,mb4.2,baz=2.0,slow=6.3,SNR=6.1						
NOA	**NORSAR Array B**	**67.76**	**357**	P	**P**	**04 46 19.3**	**-0.2**
AAK	**Ala-Archa**	**68.92**	**312**	*e*P	**P**	**04 46 26.0**	**-1.0**
	comp=Z,1.9nm,0.8s,mb4.1						
ABKAR	**Akbulak array**	**69.51**	**325**	*e*P	**P**	**04 46 31.1**	**+0.5**
	comp=Z,1.2nm,0.7s,mb3.9						
ABKAR				*e*PcP	PcP	04 46 54.3	+0.7
LSA	**Lhasa**	**70.03**	**293**	*e*P	**P**	**04 46 36.6**	**+2.5**
	comp=Z,10nm,0.8s,mb4.8						
TAPN	**Taplejung**	**73.78**	**293**	*e*P	**P**	**04 46 57.8**	**+1.2**
	comp=Z,22nm,0.8s,mb5.2						
TAPN	**Taplejung**	**73.78**	**293**	*e*P	**P**	**04 46 57.8**	**+1.2**
	comp=Z,22nm,0.8s,mb5.1						
CMAR	**Chiang Mai Arr**	**73.78**	**279**	P	**P**	**04 46 57.1**	**+0.4**
	comp=Z,0.7nm,0.5s,mb3.9,baz=29,slow=7.6,SNR=3.8						
CMAR	**Chiang Mai Arr**	**73.78**	**279**	P	**P**	**04 46 57.1**	**+0.4**
GUN	**Gumba**	**74.39**	**295**	*e*P	**P**	**04 47 01.5**	**+1.3**
	comp=Z,28nm,0.7s,mb5.3						
GUN	**Gumba**	**74.39**	**295**	*e*P	**P**	**04 47 01.5**	**+1.3**
	comp=Z,28nm,0.7s,mb5.3						
KKN	**Kakani**	**74.83**	**295**	*e*P	**P**	**04 47 03.7**	**+1.0**
KKN	**Kakani**	**74.83**	**295**	*e*P	**P**	**04 47 03.7**	**+1.0**
PKI	**Pulchoki**	**74.92**	**295**	*e*P	**P**	**04 47 04.8**	**+1.5**
PKI	**Pulchoki**	**74.92**	**295**	*e*P	**P**	**04 47 04.8**	**+1.5**
PKIN	**Phulchoki**	**74.92**	**295**	*e*P	**P**	**04 47 04.5**	**+1.2**
	comp=Z,16nm,0.8s,mb5.0						
GKN	**Gorkha**	**75.02**	**296**	*e*P	**P**	**04 47 04.5**	**+0.6**
GKN	**Gorkha**	**75.02**	**296**	*e*P	**P**	**04 47 04.5**	**+0.6**
DMN	**Daman**	**75.06**	**295**	*e*P	**P**	**04 47 05.4**	**+1.3**
	comp=Z,13nm,0.8s,mb4.9						
DMN	**Daman**	**75.06**	**295**	*e*P	**P**	**04 47 05.4**	**+1.3**
	comp=Z,13nm,0.8s,mb4.9						
DANN	**Dangsing**	**75.25**	**297**	*e*P	**P**	**04 47 06.2**	**+1.1**
	comp=Z,41nm,0.8s,mb5.4						
DANN	**Dangsing**	**75.25**	**297**	*e*P	**P**	**04 47 06.2**	**+1.1**
	comp=Z,41nm,0.8s,mb5.4						
KOLN	**Koldanda**	**75.78**	**297**	*e*P	**P**	**04 47 08.9**	**+0.7**
	comp=Z,18nm,0.9s,mb5.0						
KOLN	**Koldanda**	**75.78**	**297**	*e*P	**P**	**04 47 08.9**	**+0.7**
	comp=Z,18nm,0.9s,mb5.0						
AKASG	**Malin Array Be**	**76.27**	**345**	P	**P**	**04 47 09.6**	**-0.9**
	comp=Z,2.1nm,0.7s,mb4.2,baz=15,slow=5.8,SNR=3.0						
AKASG	**Malin Array Be**	**76.27**	**345**	P	**P**	**04 47 09.6**	**-0.9**
CLL	**Collm**	**77.42**	**355**	*e*P	**P**	**04 47 17.0**	**0.0**
	comp=Z,4.0nm,0.9s,mb4.3						
GIVF	**Givet**	**78.81**	**1**	*e*P	**P**	**04 47 24.7**	**-0.1**
GIVF	**Givet**	**78.81**	**1**	*e*P	**P**	**04 47 24.7**	**-0.1**
BAIF	**Baives**	**78.85**	**1**	*e*P	**P**	**04 47 25.7**	**+0.7**
BAIF	**Baives**	**78.85**	**1**	*e*P	**P**	**04 47 25.7**	**+0.7**
GERES	**GERESS Array B**	**79.83**	**355**	P	**P**	**04 47 30.4**	**+0.1**
	comp=Z,1.2nm,0.8s,mb3.9,baz=14,slow=5.9,SNR=7.5						
GERES	**GERESS Array B**	**79.83**	**355**	P	**P**	**04 47 30.4**	**0.0**
FLN	**La Foliniere**	**80.01**	**4**	*e*P	**P**	**04 47 30.7**	**-0.6**
FLN	**La Foliniere**	**80.01**	**4**	*e*P	**P**	**04 47 30.7**	**-0.6**
LDF	**La Druitiere**	**80.20**	**4**	*e*P	**P**	**04 47 31.6**	**-0.7**
	comp=Z,12nm,0.9s,mb4.5						
LDF	**La Druitiere**	**80.20**	**4**	*e*P	**P**	**04 47 31.6**	**-0.7**
	comp=Z,6.2nm,0.9s,mb4.5						
MEZF	**Maizieres J'vi**	**80.41**	**0**	*e*P	**P**	**04 47 33.6**	**+0.1**
MEZF	**Maizieres J'vi**	**80.41**	**0**	*e*P	**P**	**04 47 33.6**	**+0.1**
CDF	**Champ du Feu**	**80.49**	**359**	*e*P	**P**	**04 47 33.8**	**-0.1**
	comp=Z,14nm,1.0s,mb4.5						
CDF	**Champ du Feu**	**80.49**	**359**	*e*P	**P**	**04 47 33.8**	**-0.1**
	comp=Z,6.8nm,1.0s,mb4.5						
SFTF	**Sexfontaines**	**80.71**	**0**	*e*P	**P**	**04 47 34.3**	**-0.8**
	comp=Z,32nm,0.9s,mb4.9						
SFTF	**Sexfontaines**	**80.71**	**0**	*e*P	**P**	**04 47 34.3**	**-0.8**
	comp=Z,32nm,0.9s,mb5.3						
HAU	**Haudompre**	**80.91**	**360**	*e*P	**P**	**04 47 36.1**	**-0.1**
	comp=Z,17nm,1.0s,mb4.6						
HAU	**Haudompre**	**80.91**	**360**	*e*P	**P**	**04 47 36.1**	**-0.1**
	comp=Z,8.4nm,1.0s,mb4.6						
HINF	**Hinteralfeld**	**81.09**	**359**	*e*P	**P**	**04 47 36.8**	**-0.3**
HINF	**Hinteralfeld**	**81.09**	**359**	*e*P	**P**	**04 47 36.8**	**-0.3**
LOR	**Lormes**	**81.64**	**1**	*e*P	**P**	**04 47 39.9**	**-0.1**
	comp=Z,17nm,0.8s,mb4.7						
LOR	**Lormes**	**81.64**	**1**	*e*P	**P**	**04 47 39.9**	**-0.1**
	comp=Z,8.5nm,0.8s,mb4.7						
SSF	**Saint Saulge**	**81.84**	**2**	*e*P	**P**	**04 47 40.9**	**-0.2**
	comp=Z,11nm,0.8s,mb4.5						
SSF	**Saint Saulge**	**81.84**	**2**	*e*P	**P**	**04 47 40.9**	**-0.2**
	comp=Z,5.3nm,0.8s,mb4.5						
AVF	**Avril sur Loir**	**82.11**	**2**	*e*P	**P**	**04 47 42.3**	**-0.2**
	comp=Z,46nm,1.4s,mb4.9						
AVF	**Avril sur Loir**	**82.11**	**2**	*e*P	**P**	**04 47 42.3**	**-0.2**
	comp=Z,23nm,1.4s,mb4.9						
MFF	**Saint Martin d**	**82.19**	**4**	*e*P	**P**	**04 47 42.7**	**-0.2**
MFF	**Saint Martin d**	**82.19**	**4**	*e*P	**P**	**04 47 42.7**	**-0.2**
SMF	**Signal de Mont**	**82.26**	**1**	*e*P	**P**	**04 47 43.1**	**-0.2**
	comp=Z,19nm,1.1s,mb4.7						
SMF	**Signal de Mont**	**82.26**	**1**	*e*P	**P**	**04 47 43.1**	**-0.2**
	comp=Z,9.6nm,1.0s,mb4.7						
CABF	**La Chapelle**	**82.31**	**360**	*e*P	**P**	**04 47 43.8**	**+0.3**
CABF	**La Chapelle**	**82.31**	**360**	*e*P	**P**	**04 47 43.8**	**+0.3**
BGF	**Bois d'Agland**	**82.33**	**2**	*e*P	**P**	**04 47 43.4**	**-0.3**
BGF	**Bois d'Agland**	**82.33**	**2**	*e*P	**P**	**04 47 43.4**	**-0.3**
TCF	**Toulx Ste Croi**	**82.58**	**2**	*e*P	**P**	**04 47 44.8**	**-0.2**
	comp=Z,21nm,1.0s,mb4.8						
TCF	**Toulx Ste Croi**	**82.58**	**2**	*e*P	**P**	**04 47 44.8**	**-0.2**
	comp=Z,10nm,1.0s,mb4.8						
LFF	**La Frestale**	**83.88**	**4**	*e*P	**P**	**04 47 51.9**	**+0.2**
	comp=Z,48nm,1.0s,mb5.3						
LFF	**La Frestale**	**83.88**	**4**	*e*P	**P**	**04 47 51.9**	**+0.2**
	comp=Z,24nm,1.0s,mb5.3						
CAF	**Calviac**	**83.94**	**3**	*e*P	**P**	**04 47 52.2**	**+0.2**
	comp=Z,15nm,0.9s,mb4.8						
CAF	**Calviac**	**83.94**	**3**	*e*P	**P**	**04 47 52.2**	**+0.2**
	comp=Z,7.3nm,0.9s,mb4.8						
VIVF	**Saint-Julien-l**	**84.06**	**1**	*e*P	**P**	**04 47 51.7**	**-0.9**
VIVF	**Saint-Julien-l**	**84.06**	**1**	*e*P	**P**	**04 47 51.7**	**-0.9**
WRA	**Warramunga Arr**	**84.08**	**228**	P	**P**	**04 47 51.4**	**-1.5**
	comp=Z,0.4nm,0.8s,mb3.6,baz=32,slow=5.9,SNR=3.1						
WRA	**Warramunga Arr**	**84.08**	**228**	P	**P**	**04 47 51.4**	**-1.5**
MBDF	**Montbardon**	**84.19**	**359**	*e*P	**P**	**04 47 52.5**	**-0.8**
MBDF	**Montbardon**	**84.19**	**359**	*e*P	**P**	**04 47 52.5**	**-0.8**
LASF	**Ste Croix**	**84.83**	**1**	*e*P	**P**	**04 47 57.0**	**+0.5**
LASF	**Ste Croix**	**84.83**	**1**	*e*P	**P**	**04 47 57.0**	**+0.5**
MTLF	**Montolieu**	**85.53**	**3**	*e*P	**P**	**04 48 00.4**	**+0.4**
MTLF	**Montolieu**	**85.53**	**3**	*e*P	**P**	**04 48 00.4**	**+0.4**
BRTR	**Keskin Array B**	**85.96**	**339**	P	**P**	**04 48 02.9**	**+0.6**
	comp=Z,0.4nm,0.8s,mb3.7,baz=123,slow=4.6,SNR=4.5						
BRTR	**Keskin Array B**	**85.96**	**339**	P	**P**	**04 48 02.9**	**+0.6**
ASAR	**Alice Springs**	**87.51**	**226**	P	**P**	**04 48 09.0**	**-0.8**
	comp=Z,1.0nm,0.8s,mb4.1,baz=36,slow=4.9,SNR=8.0						
ASAR	**Alice Springs**	**87.51**	**226**	P	**P**	**04 48 09.0**	**-0.8**
ESDC	**Sonseca Array**	**88.85**	**7**	P	**P**	**04 48 15.2**	**-1.0**
	comp=Z,0.8nm,0.7s,mb4.1,baz=346,slow=2.7,SNR=5.4						
ESDC	**Sonseca Array**	**88.85**	**7**	P	**P**	**04 48 15.2**	**-1.0**
KEST	**Kesra**	**93.11**	**357**	LR	LR	05 28 36.6	
	comp=Z,174nm,21.4s,MS4.5,baz=351,slow=34						
PLCA	**Paso Flores**	**128.34**	**110**	PKP	PKPdf	04 54 27.1	-0.8
	comp=Z,1.5nm,0.8s,baz=16,slow=7.4,SNR=3.6						
PLCA	**Paso Flores**	**128.34**	**110**	PKP	PKPdf	04 54 27.1	-0.8
BOSA	**Boshof**	**152.86**	**320**	PKPab	PKPab	04 55 29.8	-0.3
	comp=Z,2.7nm,0.7s,baz=347,slow=3.4,SNR=5.1						
BOSA	**Boshof**	**152.86**	**320**	PKPab	PKPab	04 55 29.8	-0.3

IDC 01 05:05:13.8±4.7**, 21°.38S×148°.45E, h0**^{km}**, mb1 3.5**/4**, mb1mx3.4**/15**, mbtmp3.4**/4**, ML3.4**/4**, Error ellipse: s-maj=46.6km s-min=25.5km az=57.0, Queensland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.43**	**302**	Pn	Pn	05 05 56.2	+1.5
	5.5nm,0.3s,baz=128,slow=18,SNR=28						
CTA				Lg		05 06 30.5	
	7.8nm,0.3s,baz=18,slow=14,SNR=13						
STKA	**Stephens Creek**	**12.11**	**209**	Pn	Pn	05 08 07.2	-0.6
	0.2nm,0.3s,baz=23,slow=13,SNR=4.7						
WRA	**Warramunga Arr**	**13.29**	**274**	Pn	Pn	05 08 23.1	-0.7
	0.1nm,0.3s,baz=96,slow=13,SNR=5.1						
WRA				Lg		05 12 17.7	
	0.1nm,0.3s,baz=100,slow=29,SNR=4.2						
ASAR	**Alice Springs**	**13.63**	**258**	Pn	Pn	05 08 26.6	-1.9
	0.1nm,0.3s,baz=80,slow=13,SNR=7.2						
ASAR				Lg		05 12 29.6	
	0.0nm,0.3s,baz=78,slow=28,SNR=4.2						

*IDC **01** 05:10:24.9±0.5, 10.°65N×126.°01E, h0km, mb4.3/20, mb1 4.4/21, mb1mx4.4/25, mbtmp4.3/21, ML4.2/1, MS3.9/9, Ms1 3.9/9, ms1mx3.5/33, Error ellipse: s-maj=24.3km s-min=11.3km az=76.0*

*MAN **01** 05:10:27, 10.°79N×126.°45E, h105km, mb5.3, ML4.3, MS4.5*

*ISCJB **01** 05:10:32.5±0.7, 10.°62N±0.°03×126.°09E±0.°05, h70km±6km, mb4.4/58, Error ellipse: s-maj=8.6km s-min=5.2km az=160.4*

*BJI **01** 05:10:32.4, 10.°36N×126.°32E, h97km, mB4.9/18, mb4.6/35*

*NEIC **01** 05:10:34.6±1.0, 10.°58N×125.°93E, h75km±9km, mb4.6/28, Error ellipse: s-maj=9.4km s-min=5.0km az=70.0*

ISC 01 05:10:34.3±0.7, 10.°62N±0.°04×126.°06E±0.°05, h71km±6km, h100km±2.3km:pP-P, n115, σ1.°11/115, mb4.4/58, 2C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.00**	**214**	⇓eP	**Pn**	**05 10 49.6**	**-3.3**
SCPH				eS	**Sn**	**05 11 05.5**	**-1.2**
PLP	**Palo**	**1.19**	**297**	⇓eP	**Pn**	**05 10 52.6**	**-2.7**
LLP	**Lapu-Lapu**	**2.08**	**262**	⇓eP	**Pn**	**05 11 06.8**	**-0.2**
LLP				eS	**Sn**	**05 11 32.3**	**+0.3**
CNP	**Catarman**	**2.33**	**324**	eP	**Pn**	**05 11 07.4**	**-3.0**
TBP	**Tagbilaran**	**2.35**	**247**	eP	**Pn**	**05 11 12.7**	**+2.0**
TBP				eS	**Sn**	**05 11 42.1**	**+3.5**
DCPH	**Dipolog City**	**3.35**	**233**	⇑eP	**Pn**	**05 11 23.6**	**-0.7**
DCPH				eS	**Sn**	**05 12 04.7**	**+1.8**
RCP	**Roxas**	**3.38**	**286**	⇑eP	**Pn**	**05 11 25.0**	**+0.2**
PVCP	**Virac**	**3.50**	**328**	eP	**Pn**	**05 11 22.3**	**-4.0**
DMPH	**Davao City--Mi**	**3.55**	**189**	eP	**Pn**	**05 11 29.2**	**+2.1**
DAV	**Davao City (W)**	**3.56**	**188**	Pn	**Pn**	**05 11 27.5**	**+0.4**
	50nm,0.3s,baz=309,slow=4.9,SNR=4.5						
DAV				LR	LR	05 13 18.0	
	comp=Z,3μm,18.3s,baz=340,slow=48						
DAV	**Davao City (W)**	**3.56**	**188**	Pn	**Pn**	**05 11 27.5**	**+0.4**
DAV				LR	LR	05 13 18.0	
TGY	**Tagaytay City**	**6.08**	**305**	Pn	**Pn**	**05 12 01.9**	**+0.2**
	33nm,0.3s,baz=162,slow=12,SNR=4.8						
TGY	**Tagaytay City**	**6.08**	**305**	Pn	**Pn**	**05 12 01.9**	**+0.2**
KKM	**Kota Kinabalu**	**10.75**	**246**	ePn	**Pn**	**05 13 09.5**	**+4.1**
TPUB	**Ta-pu**	**13.63**	**338**	ePn	**Pn**	**05 13 49.0**	**+4.5**
JOW	**Kunigami**	**16.26**	**7**	eP	**Pn**	**05 14 19.3**	**+0.9**
	16nm,1.0s						
KAPI	**Kappang**	**16.75**	**202**	Pn	**Pn**	**05 14 22.2**	**-2.3**
	0.8nm,0.3s,baz=163,slow=19,SNR=2.2						
KAPI				LR	LR	05 21 13.3	
	comp=Z,274nm,18.8s,baz=7.9,slow=39						
KAPI	**Kappang**	**16.75**	**202**	Pn	**Pn**	**05 14 22.2**	**-2.3**
KAPI				LR	LR	05 21 13.3	
GUMO	**Guam**	**18.63**	**79**	LR	LR	05 20 47.0	
	comp=Z,197nm,18.7s,baz=329,slow=33						
CBIJ	**Chichi jima**	**22.35**	**41**	LR	LR	05 22 03.2	
	comp=Z,216nm,20.7s,baz=159,slow=31						
JNU	**Nakatsue**	**22.83**	**10**	eP	**P**	**05 15 30.2**	**-1.2**
	12nm,1.2s,mb4.1						
KAKA	**Kakadu**	**24.03**	**165**	eP	**P**	**05 15 41.9**	**-0.9**
	9.4nm,0.6s,mb4.3						
KAKA	**Kakadu**	**24.03**	**165**	eP	**P**	**05 15 42.1**	**-0.7**
	31nm,0.6s,mb4.8						
GYA	**Guiyang**	**24.16**	**313**	eP	**P**	**05 15 45.8**	**+1.9**
GYA				pP		05 16 07.3	
GYA				sP	sP	05 16 20.4	+11
GYA				PP		05 16 23.8	
GYA				S	**S**	**05 19 53.1**	**-4.0**
GYA				sS	sS	05 20 32.0	+6.3
GYA				ScP	ScP	05 22 52.8	-3.0
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.2						
KMI	**Kunming**	**26.41**	**306**	P	**P**	**05 16 05.1**	**+0.8**
KMI				pP	pP	05 16 25.6	+4.5
KMI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
KSRS	**Korea Array**	**26.77**	**3**	P	**P**	**05 16 07.0**	**-0.5**
	comp=Z,6.7nm,1.0s,mb4.1,baz=181,slow=10,SNR=16						
KSRS				LR	LR	05 27 30.2	
	comp=Z,104nm,18.1s,baz=44,slow=38						
CMAR	**Chiang Mai Arr**	**27.35**	**290**	P	**P**	**05 16 12.2**	**-0.8**
	comp=Z,1.9nm,0.9s,mb3.6,baz=118,slow=7.6,SNR=5.7						
CMAR	**Chiang Mai Arr**	**27.35**	**290**	P	**P**	**05 16 12.2**	**-0.8**
MJAR	**Matsushiro Arr**	**28.05**	**21**	P	**P**	**05 16 16.6**	**-2.4**
	comp=Z,2.5nm,0.9s,mb3.8,baz=205,slow=10,SNR=5.1						
MJAR				LR	LR	05 25 11.1	
	comp=Z,245nm,20.8s,baz=205,slow=32						
MJAR	**Matsushiro Arr**	**28.05**	**21**	P	**P**	**05 16 16.6**	**-2.4**
MJAR				LR	LR	05 25 11.1	
XAN	**Xi'an**	**28.10**	**329**	P	**P**	**05 16 18.1**	**-1.3**
XAN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.5						
FITZ	**Fitzroy Crossi**	**28.54**	**181**	P	**P**	**05 16 22.6**	**-0.8**
	comp=Z,4.8nm,0.5s,mb4.4,baz=23,slow=4.1,SNR=12						
FITZ	**Fitzroy Crossi**	**28.54**	**181**	eP	**P**	**05 16 23.4**	**0.0**
	comp=Z,9.4nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**28.54**	**181**	eP	**P**	**05 16 23.2**	**-0.2**
	comp=Z,7.4nm,0.8s,mb4.4						
CD2	**Chengdu**	**28.91**	**318**	P	**P**	**05 16 29.7**	**+3.0**
CD2				pP	pP	05 16 51.5	+7.9
CD2				sP	sP	05 17 03.0	+11
CD2				PP	PP	05 17 27.3	-5.9
CD2				PcP	PcP	05 19 36.5	+2.1
CD2				S	**S**	**05 21 12.3**	**0.0**
CD2				sS	sS	05 21 50.4	+9.1
CD2				SS	SS	05 22 48.6	-29
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.7						
CD2				pmax	pmax		
	comp=Z,210nm,7.3s						
CD2				LR	LR		
	comp=N,260nm,17.8s						
CD2				LR	LR		
	comp=Z,270nm,14.6s						
COEN	**Coen**	**29.74**	**145**	eP	**P**	**05 16 33.9**	**-0.2**
	comp=Z,63nm,0.9s,mb5.2						
BJI	**Beijing**	**30.59**	**345**	P	**P**	**05 16 43.4**	**+2.0**
BJI				S	**S**	**05 21 39.3**	**+1.0**
BJI				pmax	pmax		
	comp=Z,11nm,0.5s,mb4.8						
BJI				LR	LR		
	comp=N,130nm,14.3s						
BJI				LR	LR		
	comp=E,180nm,14.8s						
BJI				LR	LR		
	comp=Z,89nm,19.7s						
WRAB	**Tennant Creek**	**31.44**	**165**	eP	**P**	**05 16 48.2**	**-0.8**
	comp=Z,2.8nm,0.8s,mb4.0						
WRA	**Warramunga Arr**	**31.44**	**165**	P	**P**	**05 16 48.3**	**-0.8**
	comp=Z,1.2nm,0.6s,mb3.8,baz=344,slow=9.5,SNR=9.5						
WRA	**Warramunga Arr**	**31.44**	**165**	P	**P**	**05 16 48.3**	**-0.8**
MBWA	**Marble Bar**	**32.18**	**191**	eP	**P**	**05 16 55.8**	**+0.2**
	comp=Z,4.5nm,0.6s,mb4.4						
LZH	**Lanzhou**	**32.37**	**325**	eP	**P**	**05 16 57.0**	**-0.1**
LZH				pP	pP	05 17 19.8	+5.6
LZH				sP	sP	05 17 31.2	+8.7
LZH				ePP	PP	05 18 08.5	-3.0
LZH				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.7						
LZH				pmax	pmax		
	comp=Z,52nm,5.3s						
LZH				LR	LR		
	comp=N,180nm,13.2s						
LZH				LR	LR		
	comp=Z,240nm,17.3s						
HHC	**Hu-ho-hao-te**	**32.72**	**339**	eP	**P**	**05 17 02.9**	**+2.8**
HHC				pP	pP	05 17 25.0	+7.9
HHC				sP	sP	05 17 36.5	+11
HHC				S	**S**	**05 22 11.1**	**-0.4**
HHC				sS	sS	05 22 49.3	+8.6
HHC				PcS	PcS	05 23 30.1	+0.7
HHC				SS	SS	05 24 16.3	-19
HHC				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.8						
HHC				pmax	pmax		
	comp=Z,130nm,4.9s						
CN2	**Changchun**	**33.06**	**359**	eP	**P**	**05 17 04.1**	**+1.1**
CN2				eS	**S**	**05 22 15.6**	**-1.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
MDJ	**Mudanjiang**	**34.01**	**5**	P	**P**	**05 17 12.1**	**+0.8**
MDJ				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.6						
MDJ				pmax	pmax		
	comp=Z,97nm,5.8s						
ASAR	**Alice Springs**	**34.93**	**167**	P	**P**	**05 17 18.4**	**-0.9**
	comp=Z,1.2nm,0.3s,mb4.2,baz=343,slow=7.4,SNR=18						
ASAR	**Alice Springs**	**34.93**	**167**	P	**P**	**05 17 18.4**	**-0.9**
CTA	**Charters Tower**	**36.42**	**147**	P	**P**	**05 17 32.6**	**+0.4**
	comp=Z,3.6nm,0.5s,mb4.6,baz=317,slow=8.1,SNR=5.6						
CTA	**Charters Tower**	**36.42**	**147**	P	**P**	**05 17 32.6**	**+0.4**
GTA	**Gaotai**	**36.98**	**325**	eP	**P**	**05 17 37.8**	**+1.0**
GTA				pP	pP	05 18 02.4	+8.4
GTA				sP	sP	05 18 13.5	+11
GTA				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.9						
ULN	**Ulaanbaatar**	**40.43**	**340**	eP	**P**	**05 18 06.8**	**+1.2**
	comp=Z,6.9nm,0.7s,mb4.6						
SONM	**Songino Array**	**40.62**	**340**	P	**P**	**05 18 07.3**	**+0.1**
	comp=Z,6.4nm,0.9s,mb4.4,baz=157,slow=9.0,SNR=21						
SONM	**Songino Array**	**40.62**	**340**	P	**P**	**05 18 07.3**	**+0.1**
GUN	**Gumba**	**41.41**	**300**	eP	**P**	**05 18 12.6**	**-1.4**
	comp=Z,24nm,0.9s,mb5.0						
GUN	**Gumba**	**41.41**	**300**	eP	**P**	**05 18 12.6**	**-1.4**
	comp=Z,24nm,0.9s,mb5.0						
PKI	**Pulchoki**	**41.72**	**300**	eP	**P**	**05 18 15.6**	**-0.9**
PKI	**Pulchoki**	**41.72**	**300**	eP	**P**	**05 18 15.6**	**-0.9**
PKIN	**Phulchoki**	**41.73**	**300**	eP	**P**	**05 18 15.3**	**-1.3**
	comp=Z,9.2nm,0.8s,mb4.6						
KKN	**Kakani**	**41.89**	**300**	eP	**P**	**05 18 16.6**	**-1.3**
KKN	**Kakani**	**41.89**	**300**	eP	**P**	**05 18 16.6**	**-1.3**
GKN	**Gorkha**	**42.49**	**300**	eP	**P**	**05 18 21.9**	**-0.9**
GKN	**Gorkha**	**42.49**	**300**	eP	**P**	**05 18 21.9**	**-0.9**
KLBR	**Kellerberrin**	**42.72**	**190**	eP	**P**	**05 18 25.1**	**+0.7**
	comp=Z,7.7nm,0.5s,mb4.7						
KOLN	**Koldanda**	**43.32**	**299**	eP	**P**	**05 18 29.0**	**-0.5**
	comp=Z,16nm,1.0s,mb4.7						
KOLN	**Koldanda**	**43.32**	**299**	eP	**P**	**05 18 29.0**	**-0.5**
	comp=Z,16nm,1.0s,mb4.7						
DANN	**Dangsing**	**43.33**	**300**	eP	**P**	**05 18 29.0**	**-0.6**
DANN	**Dangsing**	**43.33**	**300**	eP	**P**	**05 18 29.0**	**-0.6**
NWAO	**Narrogin (SRO)**	**44.11**	**191**	eP	**P**	**05 18 36.7**	**+1.1**
	comp=Z,12nm,0.7s,mb4.7						
BBOO	**Buckleboo**	**44.23**	**168**	eP	**P**	**05 18 36.5**	**-0.1**
	comp=Z,4.2nm,0.3s,mb4.7						
STKA	**Stephens Creek**	**44.80**	**161**	P	**P**	**05 18 41.8**	**+0.7**
	comp=Z,2.2nm,0.5s,mb4.2,baz=333,slow=11,SNR=7.6						
STKA	**Stephens Creek**	**44.80**	**161**	eP	**P**	**05 18 41.3**	**+0.2**
	comp=Z,3.3nm,1.0s,mb4.0						
STKA	**Stephens Creek**	**44.80**	**161**	eP	**P**	**05 18 41.4**	**+0.3**
	comp=Z,0.9nm,0.8s,mb3.5						
TLY	**Talaya**	**44.84**	**340**	eP	**P**	**05 18 40.9**	**-0.3**
	comp=Z,5.9nm,0.8s,mb4.4						
CMSA	**Cobar Meteorol**	**45.95**	**156**	eP	**P**	**05 18 50.7**	**+0.5**
WMQ	**Urumqi**	**46.82**	**322**	eP	**P**	**05 18 59.2**	**+2.2**
PETK	**Petropavlovsk-**	**49.41**	**25**	P	**P**	**05 19 17.6**	**+0.8**
	comp=Z,3.7nm,0.7s,mb4.4,baz=204,slow=3.3,SNR=4.1						
PETK				LR	LR	05 38 16.3	
	comp=Z,85nm,18.3s,baz=304,slow=34						
PETK	**Petropavlovsk-**	**49.41**	**25**	P	**P**	**05 19 17.6**	**+0.8**
PETK				LR	LR	05 38 16.3	
MK31	**Makanchi Array**	**51.63**	**323**	eP	**P**	**05 19 34.1**	**+0.5**
MKAR	**Makanchi Array**	**51.63**	**323**	P	**P**	**05 19 34.1**	**+0.5**
	comp=Z,7.5nm,0.7s,mb4.8,baz=116,slow=8.4,SNR=59						
MKAR				LR	LR	05 45 45.7	
	comp=Z,103nm,18.7s,baz=93,slow=41						
MKAR	**Makanchi Array**	**51.63**	**323**	P	**P**	**05 19 34.1**	**+0.5**
MKAR				LR	LR	05 45 45.7	
KZA	**Kyzart**	**54.22**	**315**	eP	**P**	**05 19 54.0**	**+1.2**
	comp=Z,6.0nm,0.8s,mb4.7						
ZAA0	**Zalesovo Array**	**54.22**	**331**	eP	**P**	**05 19 52.4**	**-0.2**
ZALV	**Zalesovo Beam**	**54.22**	**331**	P	**P**	**05 19 52.5**	**-0.1**
	comp=Z,5.1nm,0.8s,mb4.6,baz=113,slow=6.7,SNR=22						
ZALV	**Zalesovo Beam**	**54.22**	**331**	P	**P**	**05 19 52.5**	**-0.1**
KBK	**Karagaybulak**	**54.63**	**315**	eP	**P**	**05 19 56.3**	**+0.6**
	comp=Z,4.8nm,0.8s,mb4.6						
AML	**Almayashu**	**55.33**	**314**	eP	**P**	**05 19 58.2**	**-2.6**
	comp=Z,4.0nm,0.6s,mb4.6						
KURK	**Kurchatov**	**55.66**	**325**	eP	**P**	**05 20 03.2**	**+0.1**
	comp=Z,9.3nm,0.7s,mb4.9						
KKAR	**Karatay Array**	**57.86**	**314**	eP	**P**	**05 20 18.4**	**-0.4**
	comp=Z,1.3nm,0.5s,mb4.2						
BRVK	**Borovoye**	**61.33**	**325**	eP	**P**	**05 20 42.7**	**+0.2**
	comp=Z,4.6nm,0.8s,mb4.6						
ABKAR	**Akbulak array**	**66.48**	**319**	eP	**P**	**05 21 15.7**	**-0.7**
	comp=Z,0.7nm,0.5s,mb3.8						
BPAW	**Bear Paw Mtn.**	**77.44**	**27**	eP	**P**	**05 22 22.4**	**+0.8**
	comp=Z,12nm,0.9s,mb4.6						
TRF	**Thorofare Moun**	**77.74**	**27**	eP	**P**	**05 22 24.0**	**+0.7**
	comp=Z,6.4nm,0.9s,mb4.3						
COLD	**Coldfoot**	**77.86**	**23**	eP	**P**	**05 22 25.4**	**+1.5**
	comp=Z,8.3nm,1.0s,mb4.4						
PMR	**Palmer**	**78.27**	**29**	eP	**P**	**05 22 25.5**	**-0.7**
	comp=Z,3.5nm,0.9s,mb4.1						
MCK	**McKinley**	**78.34**	**27**	eP	**P**	**05 22 27.0**	**+0.4**
	comp=Z,18nm,1.0s,mb4.8						
COLA	**College**	**78.80**	**26**	eP	**P**	**05 22 29.0**	**-0.1**
	comp=Z,3.9nm,0.8s,mb4.3						
ILAR	**Eielson Array**	**79.22**	**26**	P	**P**	**05 22 30.8**	**-0.7**
	comp=Z,1.4nm,0.8s,mb3.9,baz=234,slow=5.2,SNR=19						
ILAR	**Eielson Array**	**79.22**	**26**	P	**P**	**05 22 30.8**	**-0.7**
DAWY	**Dawson**	**82.52**	**26**	eP	**P**	**05 22 50.2**	**+1.1**
ARCES	**ARCESS Array B**	**83.80**	**340**	P	**P**	**05 22 55.9**	**+0.4**
	comp=Z,4.1nm,0.9s,mb4.2,baz=76,slow=6.3,SNR=11						
INK	**Inuvik**	**84.04**	**22**	eP	**P**	**05 22 57.2**	**+0.5**
	comp=Z,21nm,1.9s,mb4.6						
BRTR	**Keskin Array B**	**85.15**	**309**	P	**P**	**05 23 02.4**	**-0.6**
	comp=Z,0.9nm,0.6s,mb3.9,baz=97,slow=3.9,SNR=6.6						
FINES	**FINESS Array B**	**85.49**	**332**	P	**P**	**05 23 02.8**	**-1.3**
	comp=Z,2.5nm,0.7s,mb4.2,baz=111,slow=2.7,SNR=13						
AKASG	**Malin Array Be**	**86.17**	**321**	P	**P**	**05 23 06.5**	**-1.2**
	comp=Z,1.0nm,0.5s,mb4.0,baz=68,slow=4.2,SNR=8.1						
KIEV	**Kiev**	**86.18**	**321**	eP	**P**	**05 23 06.5**	**-1.3**
	comp=Z,3.0nm,0.8s,mb4.3						
MAW	**Mawson**	**89.95**	**200**	P	**P**	**05 23 25.8**	**+0.5**
	comp=Z,0.9nm,0.6s,mb4.1,baz=243,slow=4.5,SNR=2.1						
VNDA	**Vanda**	**90.30**	**173**	P	**P**	**05 23 27.1**	**+0.4**
	comp=Z,0.5nm,0.7s,mb3.8,baz=299,slow=9.8,SNR=3.3						
GERES	**GERESS Array B**	**96.29**	**322**	P	**P**	**05 23 54.1**	**-0.9**
	comp=Z,0.5nm,0.7s,mb4.1,baz=108,slow=3.0,SNR=4.2						
DAVOX	**Davos/Dischmat**	**99.50**	**321**	LR	LR	06 08 33.4	
	comp=Z,198nm,21.6s,baz=269,slow=35						
TXAR	**Lajitas Array**	**117.76**	**49**	PKP	PKPdf	05 29 14.4	+1.2
	comp=Z,0.6nm,0.7s,baz=212,slow=0.5,SNR=7.1						
PLAL	**Pickwick Lake**	**124.31**	**34**	ePKPdf	PKPdf	05 29 26.0	+0.4
PLCA	**Paso Flores**	**146.61**	**157**	PKPbc	PKPbc	05 30 07.0	-1.1
	comp=Z,2.0nm,0.8s,baz=164,slow=7.4,SNR=4.0						
SDV	**Santo Domingo**	**154.48**	**41**	ePKPbc	PKPbc	05 30 29.4	+1.5
LPAZ	**La Paz**	**165.10**	**114**	PKPab	PKPab	05 31 31.5	+3.0
	comp=Z,2.0nm,0.9s,baz=314,slow=1.7,SNR=6.6						
LPAZ	**La Paz**	**165.10**	**114**	ePKPab	PKPab	05 31 31.9	+3.4

*ISCJB **01** 05:12:19.1±0.3, 32.°69N±0.°02×116.°01W±0.°02, h11km±2km, Error ellipse: s-maj=3.3km s-min=3.0km az=28.5*

*NEIC **01** 05:12:19.9, 32.°65N×116.°04W, h8km, ML2.8(PAS), After PAS.*

NEIC Felt at Ocotillo.

*ECX **01** 05:12:20.3±0.7, 32.°68N×116.°04W, h4km±1km, MD2.8, ML2.9*

ISC 01 05:12:19.1±0.3, 32.°69N±0.°02×116.°03W±0.°02, h13km±2km, n32, σ0.°85/49, 13C-17D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DVTC	**Desert V Tower**	**0.07**	**244**	⇓P	**Pg**	**05 12 21.8**	**+0.1**
	baz=0.0,SNR=1000						
DVTC				⇓S	**Sg**	**05 12 23.3**	**-0.3**
	baz=0.0						
YUH	**Yuha Desert**	**0.10**	**116**	⇑eP	**Pg**	**05 12 21.8**	**-0.2**
RMX	**La Rumorosa**	**0.10**	**207**	⇓eP	**Pg**	**05 12 22.0**	**0.0**
RMX				eS	**Sg**	**05 12 23.6**	**-0.5**
CRR	**Carrizo Plain**	**0.20**	**14**	⇓eP	**Pg**	**05 12 24.2**	**+0.6**
SGL	**Mount Signal**	**0.26**	**99**	⇑eP	**Pg**	**05 12 24.9**	**+0.4**
COK	**Cook Ranch**	**0.30**	**58**	⇓eP	**Pg**	**05 12 26.2**	**+1.0**
SWSC	**Sam W. Stewart**	**0.32**	**38**	⇓P	**Pg**	**05 12 26.2**	**+0.6**
	baz=0.4						
SWSC				⇓S	**Sg**	**05 12 30.6**	**+0.7**
	baz=0.4						
MONP	**Monument Peak**	**0.39**	**301**	P	**Pg**	**05 12 27.5**	**+0.6**
	baz=0.4,SNR=535						
MONP				⇓S	**Sg**	**05 12 32.9**	**+0.8**
	baz=0.4						
BAR	**Barrett**	**0.55**	**269**	eP	**Pg**	**05 12 30.1**	**+0.3**
CBX	**Cerro Bola**	**0.66**	**235**	⇑eP	**Pg**	**05 12 32.0**	**+0.1**
CBX				eS	**Sg**	**05 12 40.5**	**-0.1**
CBX				e		05 12 43.5	
	comp=N,794nm,0.5s						
CPBX	**Cerro Prieto**	**0.67**	**114**	⇓eP	**Pg**	**05 12 32.6**	**+0.5**
RDX	**Rancho Dawling**	**0.76**	**175**	⇓eP	**Pg**	**05 12 33.3**	**-0.6**
RDX				eS	**Sg**	**05 12 43.2**	**-0.7**
RDX				⇑e		05 12 44.0	
	comp=N,347nm,0.4s						
RDX				⇑e		05 12 44.4	
	comp=E,500nm,0.2s						
COA	**Coachella**	**0.78**	**77**	⇓eP	**Pg**	**05 12 34.5**	**+0.3**
109C	**Camp Elliot, M**	**0.93**	**283**	P	**Pg**	**05 12 36.7**	**-0.4**
	baz=0.9,SNR=108						
109C				⇑S	**Sg**	**05 12 48.8**	**-0.5**
	baz=0.9						
PFO	**Pinyon Flat Ob**	**0.98**	**339**	P	**Pb**	**05 12 37.9**	**-0.2**
	baz=1.0,SNR=78						
PFO				⇓S	**Sb**	**05 12 51.3**	**+0.3**
	baz=1.0						
PFO	**Pinyon Flat Ob**	**0.98**	**339**	ePn	**Pn**	**05 12 37.6**	**-1.1**
PFO				eSg	**Sg**	**05 12 51.1**	**+0.1**
GLA	**Glamis**	**1.07**	**70**	P	**Pb**	**05 12 38.5**	**-1.0**
	baz=1.1,SNR=49						
GLA				⇑S	**Sb**	**05 12 52.7**	**-0.7**
	baz=1.1						
GLA	**Glamis**	**1.07**	**70**	ePn	**Pn**	**05 12 38.5**	**-1.3**
GLA				eSg	**Sg**	**05 12 52.9**	**-0.8**
BC3	**Big Chuckawall**	**1.08**	**26**	⇑P	**Pb**	**05 12 38.9**	**-0.7**
	baz=1.1,SNR=48						
PBX	**Punta Banda**	**1.12**	**212**	eP	**Pb**	**05 12 39.9**	**-0.3**
PBX				eS	**Sb**	**05 12 54.5**	**-0.1**
PBX				⇑e		05 12 55.2	
	comp=N,339nm,0.7s						
ECNX	**Esteban Cantu**	**1.14**	**205**	⇓eP	**Pb**	**05 12 40.2**	**-0.4**
ECNX				eS	**Sb**	**05 12 55.1**	**-0.2**
BELC	**Belle Mtn. Jos**	**1.31**	**1**	⇑Pn	**Pn**	**05 12 42.3**	**-0.8**
	baz=1.3,SNR=8.5						
MURC	**Murrieta**	**1.34**	**313**	⇑Pb	**Pb**	**05 12 44.3**	**+0.2**
	baz=1.4,SNR=24						
MURC				⇓Sb	**Sb**	**05 13 01.6**	**+0.4**
	baz=1.4						
ECBX	**El Chinero**	**1.47**	**145**	eS	**Sn**	**05 13 05.2**	**+0.8**
IRM	**Iron Mountain**	**1.64**	**26**	⇑Pb	**Pb**	**05 12 48.3**	**-0.9**
	baz=1.7						
Y12C	**Blythe**	**1.64**	**50**	⇓Sn	**Sn**	**05 13 08.1**	**-0.7**
	baz=1.7						
SPX	**San Pedro Mart**	**1.71**	**164**	⇓ePN	**Pn**	**05 12 50.6**	**+2.0**
SPX				eS	**Sn**	**05 13 12.7**	**+2.4**
BBRC	**Big Bear Solar**	**1.74**	**335**	⇓Sb	**Sb**	**05 13 14.6**	**+1.9**
	baz=1.8						
113A	**Mohawk Valley,**	**1.91**	**87**	⇑Pn	**Pn**	**05 12 50.8**	**-0.5**
	baz=1.9,SNR=12						
MWC	**Mount Wilson**	**2.29**	**313**	ePn	**Pn**	**05 13 00.3**	**+3.8**
MWC				eSg	**Sg**	**05 13 30.5**	**-2.1**
LDFC	**Landfair**	**2.50**	**17**	ePg	**Pg**	**05 13 08.9**	**+1.8**
GSC	**Goldstone**	**2.69**	**346**	eP	**Pn**	**05 13 08.7**	**+6.7**
GSC				eSg	**Sg**	**05 13 45.0**	**-0.4**

*FUNV **01** 05:29:33.8, 11.°01N×61.°39W, h24km, MW2.9*

TRN 01 05:29:33.9, 11.°21N×61.°50W, h26km, MD3.1, 3C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRN	**Trinidad (W)**	**0.56**	**170**	⇑iP	Pb	05 29 45.5	+0.3
TRN				eS	Sb	05 29 53.2	+0.4
TPR	**Prospect**	**0.71**	**92**	⇑iP	Pb	05 29 48.2	+0.6
TPR				eS	Sb	05 29 57.9	+1.0
TBH	**Brigand Hill**	**0.83**	**149**	⇑eP	Pb	05 29 50.5	+0.7
GUIV	**Guiria**	**0.90**	**232**	eP	Pn	05 29 50.1	-0.8
GUIV				eS	Sb	05 30 02.8	+0.2
GRW	**Mount Saint Ca**	**0.96**	**350**	⇓iP	Pn	05 29 52.1	+0.5
GRW				eS	Sb	05 30 05.5	+1.3
GRHS	**Sauteurs**	**1.02**	**352**	eP	Pn	05 29 52.4	-0.1
GRHS				eS	Sb	05 30 06.8	+1.0
GRIC	**Isle de Caille**	**1.07**	**355**	eP	Pn	05 29 53.5	+0.2
GRIC				eS	Sn	05 30 07.2	-0.1
GRSS	**Sisters**	**1.09**	**354**	eP	Pn	05 29 53.9	+0.4
GRSS				eS	Sn	05 30 07.3	-0.4
GUNV	**Guanoco**	**1.76**	**234**	eP	Pn	05 30 02.3	-0.4
CRUV	**Carupano**	**1.79**	**253**	eP	Pn	05 30 02.4	-0.7
CRUV				eS	Sn	05 30 24.7	-0.2
ORIV	**Oritupano**	**2.84**	**222**	eP	Pn	05 30 16.4	-1.1
ORIV				eS	Sn	05 30 47.2	-3.6
RIOV	**Rio Grande**	**3.13**	**186**	eP	Pn	05 30 18.6	-3.0
RIOV				eS	Sn	05 30 52.1	-6.1
GURV	**El Guri**	**3.77**	**205**	eP	Pn	05 30 28.0	-2.3
GURV				eS	Sn	05 31 07.2	-6.7
PRGV	**PARIAGUAN**	**3.94**	**232**	eS	Sn	05 31 13.7	-4.5
CUPV	**Cœpira**	**4.37**	**255**	eP	Pn	05 30 38.1	-0.5
CUPV				eS	Sn	05 31 26.6	-2.1
LUEV	**Luepa**	**5.33**	**180**	eP	Pn	05 30 48.1	-3.8
LUEV				eS	Sn	05 31 42.0	-10
CAOV	**Caicara del Or**	**6.13**	**231**	eP	Pn	05 31 00.6	-2.2
CAOV				eS	Sn	05 32 04.1	-8.0
BAUV	**El Baul**	**6.83**	**251**	eP	Pn	05 31 11.0	-1.4
BAUV				eS	Sn	05 32 23.2	-6.0

*NEIC **01** 05:29:51.0, 32.°12S×71.°74W, h27km, ML2.9(GUC), After GUC.*

GUC 01 05:29:51.0±0.6, 32.°12S×71.°74W, h27km±2km, MD3.7, ML2.9, 10C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.31**	**40**	⇓iP	Pb	05 29 58.1	-0.2
CHNG				i S	Sb	05 30 03.6	+0.2
CHNG				AML	AML	05 30 03.9	
	comp=E,2μm,0.4s						
ROCH	**El Roble**	**1.04**	**144**	⇓iP	Pn	05 30 09.6	-0.2
ROCH				i S	Sn	05 30 24.2	+0.7
ROCH				AML	AML	05 30 27.4	
	comp=N,505nm,0.3s						
JACH	**Jahuel**	**1.12**	**120**	⇑iP	Pn	05 30 10.8	0.0
JACH				i S	Sn	05 30 26.0	+0.7
JACH	**Jahuel**	**1.12**	**120**	⇑iP	Pn	05 30 10.8	0.0
JACH				i S	Sn	05 30 26.0	+0.7
CMCH	**Combarbala**	**1.14**	**34**	⇑iP	Pn	05 30 10.1	-1.0
CMCH				i S	Sn	05 30 25.6	-0.2
CMCH	**Combarbala**	**1.14**	**34**	⇑iP	Pn	05 30 10.1	-1.0
CMCH				i S	Sn	05 30 25.6	-0.2
CMCH				AML	AML	05 30 33.6	
	comp=E,957nm,0.7s						
PEL	**Peldehue**	**1.35**	**139**	⇑iP	Pn	05 30 14.6	+0.6
PEL				i S	Sn	05 30 32.4	+1.4
PEL				AML	AML	05 30 36.0	
	comp=E,463nm,0.3s						
CLCH	**Cerro Calan**	**1.62**	**142**	⇑iP	Pn	05 30 18.6	+0.8
CLCH				i S	Sn	05 30 40.0	+2.3
CLCH				AML	AML	05 30 55.9	
	comp=E,197nm,0.5s						
TACH	**Talagante**	**1.67**	**156**	⇓iP	Pn	05 30 19.6	+1.2
TACH				i S	Sn	05 30 40.9	+2.0
TACH	**Talagante**	**1.67**	**156**	⇓iP	Pn	05 30 19.6	+1.2
TACH				i S	Sn	05 30 40.9	+2.0
FCH	**Farellones**	**1.71**	**135**	eP	Pn	05 30 21.6	+2.6
FCH				i S	Sn	05 30 43.9	+3.9
FCH				AML	AML	05 30 47.3	
	comp=E,278nm,0.4s						
ANTU	**Antumapu**	**1.71**	**148**	⇑iP	Pn	05 30 20.0	+0.9
ANTU				i S	Sn	05 30 42.5	+2.4
ANTU	**Antumapu**	**1.71**	**148**	⇑iP	Pn	05 30 20.0	+0.9
ANTU				i S	Sn	05 30 42.5	+2.4
ANTU				AML	AML	05 30 55.1	
	comp=N,144nm,0.5s						
PCH	**Pirque**	**1.81**	**146**	eP	Pn	05 30 21.8	+1.3
PCH				i S	Sn	05 30 45.2	+2.7
PCH	**Pirque**	**1.81**	**146**	eP	Pn	05 30 21.8	+1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PCH				i S	Sn	05 30 45.2	+2.7
LNV	Longovilo	1.85	172	eP	Pn	05 30 22.6	+1.7
LNV	Longovilo	1.85	172	eP	Pn	05 30 22.6	+1.7
CHCH	Chadas Angostu	2.02	154	⇑iP	Pn	05 30 24.6	+1.3
CHCH				i S	Sn	05 30 50.2	+2.5
CHCH	Chadas Angostu	2.02	154	⇑iP	Pn	05 30 24.6	+1.3
CHCH				i S	Sn	05 30 50.2	+2.5
TLL	Tololo Astrono	2.11	23	eP	Pn	05 30 26.5	+2.0
TLL	Tololo Astrono	2.11	23	eP	Pn	05 30 26.5	+2.0
TLL				AML	AML	05 31 01.3	
	comp=N,134nm,0.5s						
LMEL	Las Melosas	2.15	144	eP	Pn	05 30 26.6	+1.6
LMEL				i S	Sn	05 30 53.9	+3.1
LMEL	Las Melosas	2.15	144	eP	Pn	05 30 26.6	+1.6
LMEL				i S	Sn	05 30 53.9	+3.1
LMEL				AML	AML	05 31 04.7	
	comp=N,180nm,0.2s						
CACH	El Canelo	2.20	155	eP	Pn	05 30 27.9	+2.1
CACH	El Canelo	2.20	155	eP	Pn	05 30 27.9	+2.1

JMA 01 05:32:20.0±0.1, 40°.57N×139°.24E, h22km±2km, M3.6, 1C-2D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIW	Iwasaki	0.58	88	⇓P	Pb	05 32 31.3	-0.2
JIW				eS	Sb	05 32 39.0	-0.4
JOG2	Oga 2	0.78	147	⇑P	Pb	05 32 34.8	-0.1
JOG2				S	Sb	05 32 45.4	+0.4
JAH	Hinai	1.13	109	P	Pn	05 32 40.3	-0.2
JAH				S	Sb	05 32 55.1	0.0
JSR	Shiriuchi	1.31	43	⇓P	Pn	05 32 42.9	0.0
JSR				eS	Sn	05 32 59.4	-0.3
JTM	Tenmabayashi	1.41	81	P	Pn	05 32 44.2	-0.1
JTM				eS	Sn	05 33 01.2	-0.9
JOSM	Okushiri--Mats	1.52	7	P	Pn	05 32 44.9	-1.0
JOSM				eS	Sn	05 33 03.0	-2.0
JOT	Ohata	1.59	59	P	Pn	05 32 47.0	+0.2
JOT				S	Sn	05 33 06.5	-0.2
JANG	Nango	1.75	96	P	Pn	05 32 49.8	+0.9

*IDC **01** 05:41:16.3±3.2, 30°.29N×105°.59E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/22, mbtmp3.4/3, MS3.9/2, Ms1 3.9/2, ms1mx3.0/27, Error ellipse: s-maj=614.5km s-min=27.8km az=53.0*
*ISCJB **01** 05:41:17.2±1.2, 28°.12N±0°.08×102°.3E±0°.2, h10km, mb3.4/3, Error ellipse: s-maj=27.1km s-min=9.3km az=15.7*
*BJI **01** 05:41:19.1, 28°.19N×101°.81E, h14km, ML3.1/5*
ISC 01 05:41:19.0±1.2, 28°.13N±0°.09×102°.2E±0°.2, h10km, n6, σ0s.37/5, mb3.4/3, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CD2	Chengdu	3.09	26	Pg	Pg	05 42 17.9	-0.4
CD2				Sg	Sg	05 42 58.7	+0.3
CD2				smax			
	comp=N,60nm,0.8s						
MKAR	Makanchi Array	24.31	325	P	P	05 46 36.6	+0.1
	comp=N,0.5nm,0.3s,mb3.5,baz=129,slow=13,SNR=3.1						
GUMO	Guam	42.20	101	LR	LR	06 05 17.4	
	comp=N,60nm,20.9s,baz=106,slow=36						
WRA	Warramunga Arr	57.01	143	P	P	05 51 05.4	+0.3
	comp=N,0.2nm,0.5s,mb3.4,baz=332,slow=8.2,SNR=5.4						
ASAR	Alice Springs	59.89	146	P	P	05 51 25.0	-0.2
	comp=N,0.1nm,0.3s,mb3.3,baz=334,slow=7.1,SNR=4.1						
SPITS	Spitsbergen Ar	61.83	347	LR	LR	06 24 23.3	
	comp=N,231nm,19.6s,baz=240,slow=43						

*ISCJB **01** 05:48:01.0±0.6, 42°.77N±0°.04×76°.51E±0°.05, h10km, Error ellipse: s-maj=6.1km s-min=3.4km az=138.7*
*KNET **01** 05:48:01.7±0.8, 42°.74N×76°.38E, h11km±3km, ml3.0, Error ellipse: s-maj=5.6km s-min=2.2km az=64.0*
*NNC **01** 05:48:01.3±0.8, 42°.78N×76°.45E, h0km, mb3.6, mpv3.7, Error ellipse: s-maj=7.6km s-min=1.2km az=161.0*
*MOS **01** 05:48:02.0±1.2, 42°.72N×76°.52E, h19km, mb3.7/1, Error ellipse: s-maj=15.8km s-min=10.2km az=156.0*
ISC 01 05:48:01.2±0.6, 42°.78N±0°.04×76°.49E±0°.05, h10km, n28, σ0s.92/43, 19C-11D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ULHL	Ulahol	0.56	199	⇓P	Pg	05 48 11.8	-0.3
	440nm,0.2s,SNR=1937						
ULHL				⇑S	Sg	05 48 19.3	-0.1
	300nm,0.1s						
ULHL				⇑S	Sg	05 48 19.3	-0.1
	300nm,0.1s						
ULHL	Ulahol	0.56	199	i PG	Pg	05 48 11.7	-0.3
KNDC	Almaty	0.56	38	⇓P	Pg	05 48 12.5	+0.4
	224nm,0.2s						
KNDC				⇑S	Sg	05 48 20.8	+1.2
	486nm,0.5s						
AAA	Alma-Ata	0.60	34	i PG	Pg	05 48 12.0	-0.8
AAA				i S	Sg	05 48 19.9	-0.8
AAA				pmax	pmax		
	comp=Z,1μm,0.1s						
AAA				smax			
	comp=E,3μm,0.2s						
TKM2	Tokmak 2	0.67	283	P	Pg	05 48 13.8	-0.4
	comp=E,223nm,0.2s,SNR=1058						
TKM2				⇑S	Sg	05 48 23.1	+0.2
	comp=E,1μm,0.1s						
TKM2				⇑S	Sg	05 48 23.1	+0.2
	comp=E,1μm,0.1s						
TKM2	Tokmak 2	0.67	283	⇑P	Pg	05 48 13.8	-0.4
	comp=E,136nm,0.4s						
TKM2				⇓S	Sg	05 48 23.1	+0.1
	comp=E,172nm,0.2s						
TKM2	Tokmak 2	0.67	283	i PG	Pg	05 48 13.8	-0.4
KBK	Karagaybulak	1.14	265	⇑P	Pb	05 48 22.4	-0.6
	comp=E,126nm,0.1s,SNR=43						
KBK				⇑S	Sb	05 48 38.0	+0.1
	comp=E,436nm,0.2s						
KBK				⇑S	Sb	05 48 38.0	+0.1
	comp=E,436nm,0.2s						
KBK	Karagaybulak	1.14	265	i PG	Pg	05 48 22.5	-0.6
KZA	Kyzart	1.15	233	⇓P	Pb	05 48 22.8	-0.4
	comp=E,48nm,0.1s,SNR=136						
KZA				⇑S	Sb	05 48 39.0	+0.8
	comp=E,96nm,0.1s						
KZA				⇑S	Sb	05 48 39.0	+0.8
	comp=E,96nm,0.1s						
KZA	Kyzart	1.15	233	i PG	Pg	05 48 22.7	-0.6
CHMS	Chumysh	1.30	280	⇑P	Pn	05 48 24.5	-0.8
	comp=E,61nm,0.1s,SNR=49						
CHMS				⇑S	Sb	05 48 41.8	-0.4
	comp=E,210nm,0.3s						
CHMS				⇑S	Sb	05 48 41.8	-0.4
	comp=E,210nm,0.3s						
AAK	Ala-Archa	1.48	265c	i PG	Pg	05 48 28.0	-1.5
USP	Ospenovka	1.54	289	P	Pn	05 48 28.8	+0.2
	comp=E,76nm,0.2s,SNR=199						
USP				⇓S	Sn	05 48 49.7	+1.0
	comp=E,312nm,0.3s						
USP				⇓S	Sn	05 48 49.7	+1.0
	comp=E,312nm,0.3s						
USP	Ospenovka	1.54	289	i PN	Pn	05 48 28.8	+0.2
UCH	Uchtor	1.56	250	i PN	Pn	05 48 29.8	+0.9
EKS2	Erkin-Say	2.00	268	P	Pn	05 48 37.7	+2.7
	comp=E,54nm,0.2s,SNR=94						
EKS2				⇓S	Sn	05 49 04.9	+4.8
	comp=E,84nm,0.2s						
EKS2				⇓S	Sn	05 49 04.9	+4.8
	comp=E,84nm,0.2s						
EKS2	Erkin-Say	2.00	268	i PN	Pn	05 48 37.7	+2.7
AML	Almayashu	2.17	254	⇑P	Pn	05 48 40.7	+3.5
	comp=E,32nm,0.2s,SNR=51						
AML	Almayashu	2.17	254	i PN	Pn	05 48 40.0	+2.7
KK31	Karatay Array	4.40	276	⇓Pn	Pn	05 49 11.9	+3.9
	comp=E,2.4nm,0.3s,baz=93,slow=15,SNR=76						
KK31				⇑Sn	Sn	05 50 07.4	+8.1
	comp=E,20nm,0.6s,baz=88,slow=26,SNR=10						
KK31	Karatay Array	4.40	276	PN	Pn	05 49 11.9	+3.9
MK31	Makanchi Array	5.76	44	⇓Pn	Pn	05 49 31.6	+4.9
	comp=E,0.6nm,0.3s,baz=296,slow=30,SNR=11						
MK31				Lg		05 51 02.2	
MK31	Makanchi Array	5.76	44	PN	Pn	05 49 31.6	+5.0
KURK	Kurchatov	8.08	10	⇑Lg		05 52 17.4	
	comp=E,9.4nm,0.8s						
VOSK	Vostochnaya	10.62	342	⇓Lg		05 53 37.9	
	comp=E,12nm,0.8s						
BRVK	Borovoye	11.09	340	eP	Pn	05 50 39.0	-0.7
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ZRNK	Zerenda	11.35	336	⇑Lg		05 54 00.7	
	comp=Z,7.4nm,1.4s						

*IDC **01** 05:57:30.0±0.8, 6°.81S×128°.77E, h0km, mb4.0/7, mb1 4.0/10, mb1mx3.9/20, mbtmp3.9/10, ML3.7/3, MS3.4/4, Ms1 3.4/4, ms1mx3.0/29, Error ellipse: s-maj=45.3km s-min=15.8km az=65.0*
*ISCJB **01** 05:57:34.0±2.3, 6°.94S±0°.06×129°.0E±0°.1, h55km±24km, mb4.0/9, MS3.4/2, Error ellipse: s-maj=17.5km s-min=9.8km az=165.2*
*NEIC **01** 05:57:34.4±0.6, 6°.79S×129°.17E, h35km, mb4.6/3, Error ellipse: s-maj=22.3km s-min=8.9km az=66.0*
ISC 01 05:57:37.5±2.9, 7°.0S±0°.1×129°.2E±0°.1, h75km±34km, n30, σ0s.89/36, mb3.9/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	6.51	151	ePn	Pn	05 59 06.0	-4.7
	48nm,0.6s						
KAKA				eSn	Sn	06 00 29.1	+5.5
KAPI	Kappang	9.59	281	LR	LR	06 03 05.2	
	comp=Z,198nm,21.4s,baz=116,slow=37						
FITZ	Fitzroy Crossi	11.56	197	Pn	Pn	06 00 19.0	-0.6
	0.3nm,0.3s,baz=17,slow=14,SNR=11						
FITZ				Sn	Sn	06 02 26.5	-0.4
	0.5nm,0.3s,baz=209,slow=13,SNR=3.9						
FITZ	Fitzroy Crossi	11.56	197	ePn	Pn	06 00 20.6	+1.0
	15nm,1.4s						
FITZ				eSn	Sn	06 02 28.6	+1.7
WRAB	Tennant Creek	13.79	159	ePn	Pn	06 00 49.2	-0.5
	8.0nm,0.8s						
WRAB				eSn	Sn	06 03 21.1	-0.2
WRA	Warramunga Arr	13.80	159	Pn	Pn	06 00 49.4	-0.3
	0.4nm,0.3s,baz=331,slow=14,SNR=18						
WRA				Sn	Sn	06 03 20.6	-0.8
	0.8nm,0.3s,baz=338,slow=21,SNR=6.6						
WRA				LR	LR	06 06 41.6	
	comp=Z,117nm,19.8s,baz=195,slow=39						
WRA	Warramunga Arr	13.80	159	Pn	Pn	06 00 49.4	-0.3
WRA				Sn	Sn	06 03 20.6	-0.8
WRA				LR	LR	06 06 41.6	
WB2	Warramunga Arr	13.80	159	ePn	Pn	06 00 49.4	-0.4
WB2				eSn	Sn	06 03 21.1	-0.4
COEN	Coen	15.39	118	eP	Pn	06 01 11.1	+0.7
	33nm,0.8s						
COEN				eS	S	06 03 56.2	-16
ASAR	Alice Springs	17.18	165	P	Pn	06 01 34.8	+2.2
	0.2nm,0.3s,baz=331,slow=9.4,SNR=16						
ASAR				S	S	06 04 43.6	-4.5
	0.1nm,0.3s,baz=345,slow=25,SNR=5.4						
ASAR	Alice Springs	17.18	165	P	Pn	06 01 34.8	+2.2
ASAR				S	S	06 04 43.6	-4.5
CTA	Charters Tower	21.05	130	P	P	06 02 20.7	+5.2
	3.8nm,0.8s,mb3.8,baz=339,slow=17,SNR=2.6						
CTA	Charters Tower	21.05	130	P	P	06 02 20.7	+5.2
FORT	Forrest	23.67	182	eP	P	06 02 47.6	+5.4
	22nm,0.8s,mb4.5						
STKA	Stephens Creek	27.32	157	P	P	06 03 20.4	+5.1
	3.5nm,0.8s,mb4.0,baz=328,slow=12,SNR=4.4						
STKA				LR	LR	06 13 53.6	
	comp=Z,101nm,18.5s,baz=237,slow=36						
STKA	Stephens Creek	27.32	157	eP	P	06 03 22.3	+7.1
	0.8nm,0.8s,mb3.3						
STKA				LR	LR	06 13 53.6	
HNR	Honiara	30.54	97	LR	LR	06 14 30.0	
	comp=Z,79nm,20.8s,baz=168,slow=33						
CMAR	Chiang Mai Arr	39.12	311	P	P	06 04 56.0	-1.7
	0.5nm,0.3s,mb3.8,baz=144,slow=7.8,SNR=2.8						
CMAR	Chiang Mai Arr	39.12	311	P	P	06 04 56.0	-1.7
SONM	Songino Array	58.19	342	P	P	06 07 24.3	+0.7
	1.0nm,0.7s,mb4.0,baz=165,slow=6.2,SNR=3.6						
SONM	Songino Array	58.19	342	P	P	06 07 24.3	+0.7
MKAR	Makanchi Array	67.79	327	P	P	06 08 26.8	-0.5
	0.7nm,0.7s,mb3.6,baz=117,slow=6.9,SNR=4.9						
MKAR	Makanchi Array	67.79	327	P	P	06 08 26.8	-0.5
ZALV	Zalesovo Beam	71.23	334	P	P	06 08 48.5	+0.2
	0.4nm,0.3s,mb3.7,baz=112,slow=6.9,SNR=2.7						
ZALV	Zalesovo Beam	71.23	334	P	P	06 08 48.5	+0.2
KURK	Kurchatov	72.10	329	P	P	06 08 54.0	+0.4
	2.2nm,1.0s,mb4.0,baz=137,slow=5.1,SNR=5.4						
KURK	Kurchatov	72.10	329	P	P	06 08 54.0	+0.4
QSPA	South Pole Qui	82.97	180	eP	P	06 09 59.1	+5.4
	6.3nm,1.2s,mb4.3						
CPUP	Villa Florida	146.27	169	PKPbc	PKPbc	06 17 13.2	+3.0
	2.6nm,1.1s,baz=287,slow=4.0,SNR=2.1						
CPUP	Villa Florida	146.27	169	PKPbc	PKPbc	06 17 13.2	+3.0

*ISCJB **01** 05:57:55.1±0.4, 12°.71N±0°.08×44°.36W±0°.06, h10km, mb4.3/28, MS3.9/13, Error ellipse: s-maj=11.5km s-min=8.7km az=170.0*
*IDC **01** 05:57:55.2±0.6, 12°.72N×44°.46W, h0km, mb4.1/18, mb1 4.3/18, mb1mx4.1/25, mbtmp4.1/18, MS3.9/13, Ms1 3.9/13, ms1mx3.7/33, Error ellipse: s-maj=18.9km s-min=13.8km az=136.0*
*NEIC **01** 05:57:56.9±0.4, 12°.70N×44°.38W, h10km, mb4.6/17, Error ellipse: s-maj=10.4km s-min=8.1km az=173.0*
ISC 01 05:57:57.1±0.4, 12°.71N±0°.08×44°.36W±0°.06, h10km, n57, σ0s.92/50, mb4.3/28, MS3.9/13, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FDF	Fort de France	16.43	279	eP	Pn	06 01 49.3	+1.3
	32nm,0.4s						
RCBR	Riachuelo	20.25	155	P	P	06 02 34.0	+1.3
	7.3nm,0.8s,baz=13,slow=5.8,SNR=4.0						
RCBR				LR	LR	06 07 47.8	
	comp=Z,152nm,21.5s,MS3.3,baz=330,slow=29						
RCBR	Riachuelo	20.25	155	eP	P	06 02 34.6	+1.9
	14nm,0.9s						
RCBR				LR	LR	06 07 47.8	
MTP	Monte Pirata	21.11	287	eP	P	06 02 42.6	+0.5
	30nm,0.9s,mb4.6						
SDV	Santo Domingo	26.08	264	eP	P	06 03 30.7	-0.5
	11nm,0.9s,mb4.4						
BBTS	Babate	27.10	83	LR	LR	06 11 10.7	
	comp=Z,265nm,21.5s,MS3.8,baz=265,slow=29						
ROSC	El Rosal	30.60	258	P	P	06 04 11.1	-0.5
	3.4nm,0.4s,mb4.5,baz=275,slow=23,SNR=5.1						
ROSC	El Rosal	30.60	258	P	P	06 04 11.1	-0.5
OTAV	Otavalo	36.00	252	eP	P	06 04 59.8	+1.1
	4.1nm,1.0s,mb4.3						
LPAZ	La Paz	37.18	220	P	P	06 05 09.1	+0.4
	8.3nm,1.1s,mb4.5,baz=32,slow=8.8,SNR=19						
LPAZ				LR	LR	06 20 20.8	
	comp=Z,310nm,21.5s,MS4.1,baz=248,slow=36						
LPAZ	La Paz	37.18	220	eP	P	06 05 08.8	+0.1
	8.2nm,1.0s,mb4.5						
LPAZ				LR	LR	06 20 20.8	
ATAH	Atahualpa	39.15	242	LR	LR	06 21 58.2	
	comp=Z,252nm,21.8s,MS4.0,baz=58,slow=37						
DBIC	Dimbokro	39.37	95	P	P	06 05 26.4	-0.8
	4.1nm,0.9s,mb4.1,baz=275,slow=5.8,SNR=4.1						
DBIC	Dimbokro	39.37	95	P	P	06 05 26.4	-0.8
CPUP	Villa Florida	40.80	198	P	P	06 05 38.0	-0.8
	2.9nm,0.7s,mb4.0,baz=4.7,slow=7.8,SNR=8.0						
CPUP	Villa Florida	40.80	198	eP	P	06 05 36.9	-2.0
	11nm,0.6s,mb4.7						
ESDC	Sonseca Array	44.56	45	P	P	06 06 08.4	-0.9
	0.3nm,0.5s,baz=231,slow=7.3,SNR=3.8						
ESDC				LR	LR	06 19 55.2	
	comp=Z,136nm,19.2s,MS3.9,baz=225,slow=30						
ESDC	Sonseca Array	44.56	45	P	P	06 06 08.4	-0.9
ESDC				LR	LR	06 19 55.2	
TORD	Torodi Ar. Bea	44.84	84	P	P	06 06 10.9	-1.0
	1.9nm,0.9s,mb3.9,baz=282,slow=7.8,SNR=9.2						
TORD				LR	LR	06 24 29.2	
	comp=Z,126nm,19.1s,MS3.9,baz=265,slow=36						
TORD	Torodi Ar. Bea	44.84	84	P	P	06 06 10.9	-1.0
TORD				LR	LR	06 24 29.2	
ULM	Lac du Bonnet	56.12	323	P	P	06 07 35.1	-1.6
	3.5nm,1.0s,mb4.3,baz=256,slow=3.5,SNR=4.4						
ULM	Lac du Bonnet	56.12	323	P	P	06 07 35.1	-1.6
DAVOX	Davos/Dischmat	56.59	42	P	P	06 07 40.8	+0.7
	1.5nm,0.7s,mb4.1,baz=193,slow=19,SNR=2.4						
DAVOX	Davos/Dischmat	56.59	42	P	P	06 07 40.8	+0.7
TXAR	Lajitas Array	57.21	297	P	P	06 07 43.2	-1.6
	0.6nm,0.8s,mb3.7,baz=100,slow=5.2,SNR=5.5						
TXAR				LR	LR	06 34 09.1	
	comp=Z,93nm,18.4s,MS3.9,baz=5.0,slow=38						
TXAR	Lajitas Array	57.21	297	P	P	06 07 43.2	-1.6
TXAR				LR	LR	06 34 09.1	
PLCA	Paso Flores	58.45	203	P	P	06 07 52.3	-0.8
	6.2nm,0.9s,mb4.7,baz=23,slow=8.0,SNR=11						
PLCA	Paso Flores	58.45	203	eP	P	06 07 52.5	-0.6
	6.7nm,0.9s,mb4.7						
SDCO	Great Sand Dun	59.56	306	eP	P	06 08 01.3	+0.3
	2.4nm,1.2s,mb4.1						
GERES	GERESS Array B	59.66	41	P	P	06 08 01.7	+0.1
	0.1nm,0.3s,mb3.4,baz=208,slow=12,SNR=3.8						
GERES	GERESS Array B	59.66	41	P	P	06 08 01.7	+0.1
ISCO	Idaho Springs	59.94	309	eP	P	06 08 04.6	+1.0
	7.1nm,1.1s,mb4.6						
CLL	Collm	59.97	38	eP	P	06 08 03.0	-0.6
CLL				Lm		06 28 00.0	
	comp=Z,200nm,20.3s						
ANMO	Albuquerque	60.01	303	LR	LR	06 30 30.4	
	comp=Z,189nm,19.8s,MS4.2,baz=138,slow=33						
PV10	Paradox Valley	62.40	307	eP	P	06 08 21.4	+1.0
	comp=Z,41nm,0.9s,mb5.6						
NOA	NORSAR Array B	62.65	27	LR	LR	06 29 21.5	
	comp=Z,92nm,19.3s,MS4.0,baz=245,slow=30						
PDAR	Pinedale Array	63.30	312	P	P	06 08 25.4	-0.8
	comp=Z,1.2nm,1.1s,mb4.0,baz=98,slow=9.1,SNR=6.1						
PDAR	Pinedale Array	63.30	312	P	P	06 08 25.4	-0.8
IMW	Indian Meadow	64.44	313	eP	P	06 08 33.6	-0.1
	comp=Z,3.9nm,0.9s,mb4.4						
HWUT	Hardware Ranch	64.65	310	eP	P	06 08 34.6	-0.6
	comp=Z,4.7nm,1.1s,mb4.4						
HLID	Hailey	66.91	312	eP	P	06 08 49.8	0.0
	comp=Z,1.6nm,0.9s,mb4.0						
NEW	Newport	69.15	317	eP	P	06 09 03.8	0.0
	comp=Z,4.4nm,1.1s,mb4.3						
FINES	FINESS Array B	69.59	29	P	P	06 09 07.5	+1.3
	comp=Z,4.6nm,0.9s,mb4.4,baz=256,slow=5.6,SNR=3.6						
FINES	FINESS Array B	69.59	29	P	P	06 09 07.5	+1.3
YKA	Yellowknife Ar	69.71	332	LR	LR	06 35 06.6	
	comp=Z,16nm,20.8s,MS3.2,baz=210,slow=32						
AKASG	Malin Array Be	69.88	41	P	P	06 09 09.7	+1.5
	comp=Z,0.4nm,0.5s,mb3.6,baz=252,slow=8.5,SNR=4.1						
AKASG	Malin Array Be	69.88	41	P	P	06 09 09.7	+1.5
OD2	Odessa Site #2	70.17	316	eP	P	06 09 09.6	-0.4
	comp=Z,19nm,1.4s,mb4.8						
ARCES	ARCESS Array B	71.17	20	P	P	06 09 15.2	-0.5
	comp=Z,3.9nm,1.0s,mb4.3,baz=235,slow=4.3,SNR=4.1						
ARCES				LR	LR	06 35 31.4	
	comp=Z,62nm,21.1s,MS3.8,baz=167,slow=32						
ARCES	ARCESS Array B	71.17	20	P	P	06 09 15.2	-0.5
ARCES				LR	LR	06 35 31.4	
BRTR	Keskin Array B	72.81	52	P	P	06 09 27.8	+1.7
	comp=Z,0.5nm,0.7s,mb3.6,baz=310,slow=6.8,SNR=3.2						
BRTR	Keskin Array B	72.81	52	P	P	06 09 27.8	+1.7
RPN	Rapa Nui	74.41	237	LR	LR	06 40 03.9	
	comp=Z,134nm,21.1s,MS4.2,baz=61,slow=34						
BOSA	Boshof	78.78	123	LR	LR	06 36 53.2	
	comp=Z,109nm,19.8s,MS4.2,baz=74,slow=30						
ILAR	Eielson Array	83.87	335	P	P	06 10 26.8	0.0
	comp=Z,1.9nm,0.9s,mb4.2,baz=65,slow=4.7,SNR=18						
ILAR	Eielson Array	83.87	335	P	P	06 10 26.8	0.0
COLA	College	84.23	335	eP	P	06 10 28.5	-0.1
	comp=Z,2.7nm,0.6s,mb4.5						

DJA 01 06:01:05, 4°.26S×127°.66E, h10km, MLv3.2/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAI	Ambon	0.78	43	P	Pg	06 01 19.0	-1.1
AAI				S	Sg	06 01 31.7	+1.4
NLAI	Namlea	1.16	331	P	Sb	06 01 47.7	+5.5
MSAI	Masohi	1.56	54	P	Pn	06 01 33.2	+0.4
MSAI				S	Sn	06 01 52.4	-0.6

IDC 01 06:19:10.7±1.8, 6°.69S×128°.78E, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.7/17, mbtmp3.8/4, ML3.7/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/28, Error ellipse: s-maj=92.6km s-min=26.8km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.75	195	Pn	Pn	06 21 60.0	+0.3
	0.3nm,0.3s,baz=20,slow=10,SNR=6.9						
FITZ				Sn	Sn	06 24 04.7	-7.0
	0.2nm,0.3s,baz=76,slow=4.8,SNR=5.8						
WRA	Warramunga Arr	14.24	158	Pn	Pn	06 22 27.5	-6.2
	0.3nm,0.3s,baz=334,slow=13,SNR=9.0						
WRA				Sn	Sn	06 24 57.5	-15
	0.4nm,0.3s,baz=330,slow=22,SNR=8.2						
WRA				LR	LR	06 27 43.5	
	comp=Z,69nm,19.1s,baz=180,slow=36						
ASAR	Alice Springs	17.59	164	P	Pn	06 23 16.0	-1.2
	0.3nm,0.3s,baz=342,slow=9.2,SNR=15						
ASAR				S	Sn	06 26 19.5	-14
	0.1nm,0.3s,baz=346,slow=26,SNR=3.8						
STKA	Stephens Creek	27.77	156	P	P	06 25 01.8	+0.4
	1.3nm,0.8s,baz=331,slow=10,SNR=2.1						
PETK	Petropavlovsk-	64.41	19	LR	LR	06 55 53.6	
	comp=Z,40nm,18.9s,baz=321,slow=34						
MKAR	Makanchi Array	67.31	327	P	P	06 30 07.3	0.0
	0.4nm,0.5s,baz=118,slow=8.1,SNR=4.6						

*NIED **01** 06:22:00, 34°.30N×140°.40E, h59km, Mw4.0 Best double couple: M0 1.21000×10^15 NP1: φs 245.00000°, δ82.00000°, λ-170.00000°. NP2: φs 154.00000°, δ80.00000°, λ-8.00000°.*
*MOS **01** 06:22:27.0±1.5, 34°.22N×140°.68E, h33km, mb4.3/4, Error ellipse: s-maj=16.8km s-min=8.8km az=106.9*
*ISCJB **01** 06:22:31.3±0.4, 34°.33N±0°.03×140°.47E±0°.04, h66km±3km, mb3.9/15, Error ellipse: s-maj=6.2km s-min=5.4km az=34.2*
*NEIC **01** 06:22:31.4±1.2, 34°.33N×140°.65E, h56km±11km, mb4.4/3, Error ellipse: s-maj=14.1km s-min=10.1km az=119.0*
NEIC Recorded [2 JMA] on Miyake-jima and [1 JMA] on Kozu-shima and O-shima. Also recorded [1 JMA] in Chiba and Shizuoka.
*JMA **01** 06:22:32.2±0.1, 34°.34N×140°.43E, h60km±2km, M4.4*
JMA Felt II J1.
*IDC **01** 06:22:33.7±1.4, 34°.30N×140°.37E, h69km±12km, mb3.6/11, mb1 3.8/13, mb1mx3.7/27, mbtmp3.7/13, Error ellipse: s-maj=22.9km s-min=7.2km az=77.0*
ISC 01 06:22:32.3±0.4, 34°.33N±0°.03×140°.48E±0°.04, h57km±3km, n67, σ0s.90/83, mb3.9/15, 2C-8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO3	Boso 3	0.47	4	⇓P	Pn	06 22 44.2	+0.5
BSO3				S	Sn	06 22 52.5	+0.6
BSO1	Boso 1	0.52	52	⇑P	Pn	06 22 44.6	+0.3
BSO1				S	Sn	06 22 52.0	-1.0
BSO4	Boso 4	0.66	350	⇓P	Pn	06 22 46.5	+0.6
BSO4				S	Sn	06 22 55.9	0.0
KTR	Katsuura	0.82	351	P	Pn	06 22 48.2	+0.3
JMY	Miyakejima3	0.84	252	P	Pn	06 22 48.0	-0.1
JMY				S	Sn	06 22 59.9	+0.2
TATJ	Tateyama 2	0.85	325	⇓P	Pn	06 22 48.7	+0.5
JIM2	Oshima 3	0.94	294	⇓P	Pn	06 22 49.0	-0.5
JIM2				S	Sn	06 23 00.5	-1.6
JKO	Kozu shima	1.12	263	⇓P	Pn	06 22 51.7	-0.1
JKO				S	Sn	06 23 06.1	-0.1
KTJJ	Kamata 2	1.30	297	⇓P	Pn	06 22 53.7	-0.6
KTJJ				S	Sn	06 23 08.9	-1.8
JHJ2	Mitsune	1.34	204	P	Pn	06 22 55.0	+0.3
JHJ	Hachijo jima 2	1.34	206	P	Pn	06 22 55.0	+0.2
	745nm,0.3s,baz=232,slow=0.9,SNR=62						
JHJ				S	Sn	06 23 12.0	+0.4
	1μm,0.3s,baz=78,slow=22,SNR=21						
JIZS	Izushimoda	1.37	287	⇓P	Pn	06 22 55.0	-0.2
JIZS				S	Sn	06 23 11.6	-0.7
JOD2	Odawara 2	1.47	309	⇓P	Pn	06 22 56.1	-0.4
MJAR	Matsushiro Arr	2.88	321	P	Pn	06 23 16.8	+1.1
	76nm,0.3s,baz=157,slow=12,SNR=305						
MJAR				S	Sn	06 23 49.5	+0.4
	58nm,0.3s,baz=146,slow=15,SNR=8.4						
MJAR	Matsushiro Arr	2.88	321	P	Pn	06 23 16.8	+1.1
MJAR				S	Sn	06 23 49.5	+0.4
MJAR	Matsushiro Arr	2.88	321	P	Pn	06 23 16.8	+1.1
MJAR				S	Sn	06 23 49.5	+0.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MAJO	Matsushiro	2.88	321	ePn	Pn	06 23 17.0	+1.3
MAJO				eSn	Sn	06 23 55.2	+6.1
MAJO	Matsushiro	2.88	321	eP	Pn	06 23 17.0	+1.3
MAJO				e		06 23 55.2	
MAT	Matsushiro	2.88	321	P	Pn	06 23 17.1	+1.4
MAT				S	Sn	06 23 49.6	+0.5
ERM	Erimo	7.95	15	ePn	Pn	06 24 24.4	-0.8
ERM				eSn	Sn	06 25 45.8	-7.9
ERM	Erimo	7.95	15	eP	Pn	06 24 24.4	-0.7
ERM				e		06 25 45.8	
JNU	Nakatsue	8.09	264	ePn	Pn	06 24 29.0	+2.0
	6.4nm,0.8s						
ASAJ	Asahikawa	9.91	9	P	Pn	06 24 49.0	-2.8
	1.8nm,0.3s,baz=240,slow=10,SNR=5.3						
ASAJ				S	Sn	06 26 36.7	-4.7
	1.0nm,0.3s,baz=78,slow=20,SNR=3.9						
ASAJ	Asahikawa	9.91	9	ePn	Pn	06 24 49.4	-2.4
ASAJ	Asahikawa	9.91	9	P	Pn	06 24 49.1	-2.7
ASAJ				S	Sn	06 26 36.7	-4.7
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
KSRS	Korea Array	10.65	291	P	Pn	06 25 04.1	+2.1
	comp=N,0.2nm,0.3s,baz=110,slow=14,SNR=4.4						
KSRS	Korea Array	10.65	291	P	Pn	06 25 04.1	+2.1
YSS	Yuzh-Sakhalins	12.72	7	ePn	Pn	06 25 27.9	-2.4
	comp=N,14nm,0.5s						
YSS	Yuzh-Sakhalins	12.72	7⇑	eP	Pn	06 25 28.6	-1.7
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
SONM	Songino Array	28.76	308	P	P	06 28 23.8	-0.5
	comp=Z,0.8nm,0.5s,mb3.7,baz=111,slow=9.2,SNR=4.6						
SONM	Songino Array	28.76	308	P	P	06 28 23.8	-0.5
SONM	Songino Array	28.76	308	P	P	06 28 23.8	-0.5
ZAK	Zakamensk	31.43	312	eP	P	06 28 48.2	+0.3
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.6						
ZALV	Zalesovo Beam	43.21	315	P	P	06 30 27.3	-0.2
	comp=Z,0.6nm,0.3s,mb3.8,baz=91,slow=6.1,SNR=4.9						
ZALV	Zalesovo Beam	43.21	315	P	P	06 30 27.3	-0.2
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.0						
MK31	Makanchi Array	44.95	304	eP	P	06 30 41.2	-0.3
MK31	Makanchi Array	44.95	304	eP	P	06 30 41.2	-0.3
MKAR	Makanchi Array	44.95	304	P	P	06 30 41.4	-0.1
	comp=Z,2.1nm,0.7s,mb4.1,baz=88,slow=10,SNR=16						
MKAR	Makanchi Array	44.95	304	P	P	06 30 41.4	-0.1
MKAR	Makanchi Array	44.95	304	P	P	06 30 41.4	-0.1
KURK	Kurchatov	47.04	310	eP	P	06 30 58.1	+0.3
	comp=Z,2.8nm,0.6s,mb4.4						
KURK	Kurchatov	47.04	310	eP	P	06 30 58.1	+0.3
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ILAR	Eielson Array	52.19	31	P	P	06 31 37.1	+0.4
	comp=Z,0.5nm,0.6s,mb3.6,baz=271,slow=6.3,SNR=10						
ILAR	Eielson Array	52.19	31	P	P	06 31 37.1	+0.4
ILAR	Eielson Array	52.19	31	P	P	06 31 37.2	+0.4
WRAB	Tennant Creek	54.28	187	eP	P	06 31 51.5	-1.1
	comp=Z,2.5nm,0.6s,mb4.3						
WRAB	Tennant Creek	54.28	187	eP	P	06 31 51.5	-1.1
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
WB2	Warramunga Arr	54.29	187	eP	P	06 31 51.4	-1.2
WRA	Warramunga Arr	54.29	187	P	P	06 31 51.6	-1.1
	comp=Z,2.9nm,0.6s,mb4.4,baz=4.0,slow=7.6,SNR=42						
WRA	Warramunga Arr	54.29	187	P	P	06 31 51.6	-1.1
WRA	Warramunga Arr	54.29	187	P	P	06 31 51.6	-1.1
INK	Inuvik	57.14	26	P	P	06 32 12.8	+0.2
	comp=Z,1.2nm,1.0s,mb3.9,baz=313,slow=5.4,SNR=4.7						
INK	Inuvik	57.14	26	P	P	06 32 12.8	+0.2
INK	Inuvik	57.14	26	P	P	06 32 12.8	+0.2
ASAR	Alice Springs	58.02	187	P	P	06 32 19.4	+0.2
	comp=Z,0.6nm,0.5s,mb3.9,baz=14,slow=8.7,SNR=9.0						
ASAR	Alice Springs	58.02	187	P	P	06 32 19.4	+0.2
ASAR	Alice Springs	58.02	187	P	P	06 32 19.4	+0.2
ABKAR	Akbulak array	59.12	311	eP	P	06 32 25.9	-0.7
	comp=Z,1.3nm,0.5s,mb4.2						
FINES	FINESS Array B	70.85	332	P	P	06 33 43.5	+0.8
	comp=Z,1.9nm,0.8s,mb4.1,baz=46,slow=8.2,SNR=6.3						
FINES	FINESS Array B	70.85	332	P	P	06 33 43.5	+0.8
FINES	FINESS Array B	70.85	332	P	P	06 33 43.5	+0.9
AKASG	Malin Array Be	75.96	322	P	P	06 34 12.3	-0.6
	comp=Z,0.3nm,0.3s,mb3.8,baz=47,slow=6.2,SNR=4.7						
AKASG	Malin Array Be	75.96	322	P	P	06 34 12.3	-0.6
NVAR	Mina Array Bea	77.23	52	P	P	06 34 21.8	+1.5
	comp=Z,0.4nm,0.6s,mb3.5,baz=278,slow=6.3,SNR=3.7						
TXAR	Lajitas Array	92.38	52	P	P	06 35 37.8	+0.9
	comp=Z,0.1nm,0.4s,mb3.5,baz=260,slow=2.2,SNR=4.0						
TXAR	Lajitas Array	92.38	52	P	P	06 35 37.8	+0.9
TORD	Torodi Ar. Bea	118.65	313	PKP	PKPdf	06 41 14.5	+0.1
	comp=Z,0.2nm,0.5s,baz=50,slow=3.2,SNR=2.4						

IDC 01 06:22:59.2±51.0**, 18.°33S**×**176.°94W, h0**km**, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.8**/18**, mbtmp3.9**/3**, Error ellipse: s-maj=938.0km s-min=154.9km az=80.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.66	242	P	P	06 30 33.4	+0.3
	1.3nm,0.5s,baz=73,slow=12,SNR=3.0						
WRA	Warramunga Arr	45.94	260	P	P	06 31 24.0	-0.1
	0.6nm,0.4s,baz=98,slow=7.6,SNR=14						
ASAR	Alice Springs	46.03	255	P	P	06 31 24.6	-0.3
	0.9nm,0.4s,baz=87,slow=8.2,SNR=16						

IDC 01 06:47:25.2±2.2**, 7.°07S**×**129.°01E, h0**km**, mb3.7**/1**, mb1 3.7**/4**, mb1mx3.6**/18**, mbtmp3.6**/4**, ML3.4**/3**, Error ellipse: s-maj=84.2km s-min=26.2km az=80.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.45	196	Pn	Pn	06 50 10.7	+0.6
	0.1nm,0.3s,baz=27,slow=9.0,SNR=4.8						
FITZ				Sn	Sn	06 52 19.4	+0.7
	0.1nm,0.3s,baz=102,slow=19,SNR=3.7						
WRA	Warramunga Arr	13.80	159	Pn	Pn	06 50 40.6	-1.6
	0.2nm,0.3s,baz=333,slow=13,SNR=11						
WRA				Sn	Sn	06 53 13.8	-2.5
	0.2nm,0.3s,baz=332,slow=22,SNR=5.4						
ASAR	Alice Springs	17.16	165	P	Pn	06 51 27.6	+1.1
	0.1nm,0.3s,baz=340,slow=9.4,SNR=7.3						
MKAR	Makanchi Array	67.75	327	P	P	06 58 24.7	+0.1
	0.4nm,0.4s,baz=125,slow=7.6,SNR=5.4						

*MOS **01** 06:50:32.0±1.4, 51.°90N×158.°76E, h60km, mb4.9/53, Error ellipse: s-maj=7.8km s-min=4.1km az=87.2*
MOS Felt (III-IV) at Petropavlovsk-Kamchatskiy.
*BJI **01** 06:50:33.1, 52.°18N×158.°71E, h73km, mB4.7/18, mb4.6/23, Ms4.7/13, Ms7 4.4/12*
*ISCJB **01** 06:50:34.4±0.2, 51.°96N±0.°02×158.°84E±0.°03, h82km, mb4.5/163, Error ellipse: s-maj=3.6km s-min=2.8km az=145.8*
*NEIC **01** 06:50:34.7±0.7, 51.°94N×158.°81E, h69km±5km, mb4.7/99, Error ellipse: s-maj=6.2km s-min=3.4km az=172.0*
*KRSC **01** 06:50:34.5±0.1, 52.°04N×159.°13E, h55km±55km, ML4.8*
*IDC **01** 06:50:36.5±0.7, 51.°99N×158.°85E, h87km±5km, mb4.2/28, mb1 4.4/28, mb1mx4.4/29, mbtmp4.2/28, MS3.5/5, Ms1 3.5/5, ms1mx3.0/31, Error ellipse: s-maj=9.7km s-min=8.8km az=2.0*
*BGS **01** 06:50:43.2±2.0, 52.°89N×155.°58E, h67km, mb4.8*
ISC 01 06:50:36.6±0.2**, 52.°01N**±0.°02×**158.°75E**±0.°03**, h84**km**, h84**km±1.6km**:pP-P, n494, σ0.s98**/506**, mb4.5**/163**, 27C-11D, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	0.45	341	eP	Pn	06 50 47.6	-2.6
RUS				i S	Sn	06 50 56.1	-4.2
RUS	Russkaya	0.45	341	PN	Pn	06 50 47.6	-2.6
RUS				S	Sn	06 50 56.1	-4.2
GRL	Gorelyy	0.68	323	eP	Pn	06 50 51.6	-0.7
GRL				i S	Sn	06 51 04.2	+0.2
PET	Petropavlovsk	1.01	357	eP	Pn	06 50 54.3	-1.7
PET				i S	Sn	06 51 09.0	-1.5
PET	Petropavlovsk	1.01	357	ePn	Pn	06 50 54.1	-1.9
PET				eSn	Sn	06 51 07.4	-3.1
PET	Petropavlovsk	1.01	357κ	i PN	Pn	06 50 53.7	-2.3
PET				eS	Sn	06 51 08.5	-2.0
PET				pmax	pmax		
	comp=Z,4μm,0.4s						
PET				smax			
	comp=E,10μm,0.5s						
PET				smax			
	comp=N,22μm,0.7s						
PET				smax			
	comp=N,27μm,0.6s						
INSR	Institute	1.06	355	eP	Pn	06 50 54.3	-2.2
INSR				i S	Sn	06 51 09.5	-1.9
NLC	Nalytchevo	1.22	17	eP	Pn	06 50 55.3	-3.1
NLC				i S	Sn	06 51 10.6	-4.2
NLC	Nalytchevo	1.22	17	PN	Pn	06 50 55.3	-3.1
NLC				S	Sn	06 51 10.6	-4.2
AVH	Avacha	1.25	360	eP	Pn	06 50 57.8	-1.1
AVH				i S	Sn	06 51 15.6	-0.1
PEA0B	Petropavlovsk-	1.27	330	ePn	Pn	06 50 58.8	-0.2
PETK	Petropavlovsk-	1.27	330	P	Pn	06 50 58.9	-0.2
	comp=N,713nm,0.3s,baz=132,slow=17,SNR=4720						
PETK				S	Sn	06 51 18.1	+2.1
	comp=N,605nm,0.3s,baz=147,slow=22,SNR=15						
PETK	Petropavlovsk-	1.27	330	P	Pn	06 50 58.9	-0.2
PETK				S	Sn	06 51 18.1	+2.1
PETK	Petropavlovsk-	1.27	330	PN	Pn	06 50 58.9	-0.2
SPN	Mys Shipunski	1.34	35	eP	Pn	06 50 57.1	-2.8
SPN				i S	Sn	06 51 13.1	-4.4
SPN	Mys Shipunski	1.34	35	PN	Pn	06 50 57.1	-2.8
SPN				S	Sn	06 51 13.1	-4.4
GNL	Ganaly	1.75	344	eP	Pn	06 51 05.2	-0.1
KII	Karymskiy	2.07	12	eP	Pn	06 51 09.1	-0.4
KII				i S	Sn	06 51 35.3	+0.8
SKR	Severo-Kuril's	2.12	232	ePN	Pn	06 51 10.0	-0.1
SKR				eS	Sn	06 51 34.5	-1.2
SKR				pmax	pmax		
	comp=Z,120nm,0.2s						
SKR				pmax	pmax		
	comp=N,120nm,0.5s						
SKR				pmax	pmax		
	comp=E,120nm,0.2s						
SKR				smax			
	comp=N,3μm,0.5s						
SKR				smax			
	comp=E,2μm,0.5s						
SKR				smax			
	comp=N,4μm,2.0s						
SKR				smax			
	comp=E,3μm,2.0s						
MKZ	Mys Kozlova	3.11	34	eP	Pn	06 51 20.2	-3.2
MKZ				i S	Sn	06 51 54.0	-5.6
MKZ	Mys Kozlova	3.11	34	PN	Pn	06 51 20.2	-3.2
MKZ				S	Sn	06 51 54.0	-5.6
TUMR	Tumrok	3.38	14	eP	Pn	06 51 27.2	+0.2
TUMR				i S	Sn	06 52 05.0	-1.0
KMNR	Kamenistaya	3.85	13	eP	Pn	06 51 34.1	+0.7
KPT	Kopyto	4.06	12	eP	Pn	06 51 36.6	+0.4
KIRR	Kirishev	4.06	13	eP	Pn	06 51 36.8	+0.6
BZMR	Bezymyannaya	4.06	14	eP	Pn	06 51 37.1	+0.8
KOZ	Kozyrevsk	4.11	9	eP	Pn	06 51 37.4	+0.5
KOZR	Kozyr	4.12	9	PN	Pn	06 51 37.4	+0.4
KRSR	Krestovskiy	4.35	14	eP	Pn	06 51 40.2	+0.1
SRDR	Sredinnyy	4.35	7	eP	Pn	06 51 40.3	+0.1
KLY	Klyuchi	4.45	14	eP	Pn	06 51 42.3	+0.7
KLY	Klyuchi	4.45	14	PN	Pn	06 51 42.3	+0.7
BDR	Baidarnaya	4.79	17	eP	Pn	06 51 46.4	+0.3
KBTR	Krutoberegovo	4.84	28	eP	Pn	06 51 45.0	-1.8
KBTR				i S	Sn	06 52 35.9	-5.6
KBTR	Krutoberegovo	4.84	28	PN	Pn	06 51 45.0	-1.8
SMKR	Semkarok	4.85	18	eP	Pn	06 51 46.6	-0.3
SRKR	Sorokina	4.86	16	eP	Pn	06 51 47.3	+0.2
FX1	Attu Island--F	8.85	79	P	Pn	06 52 36.9	-4.6
	comp=E,73nm,0.3s,baz=310,slow=2.0,SNR=381						
FX1				S	Sn	06 54 07.4	-12
	comp=E,65nm,0.3s,baz=128,slow=19,SNR=24						
FX1	Attu Island--F	8.85	79	P	Pn	06 52 36.9	-4.6
FX1				S	Sn	06 54 07.4	-12
FX1	Attu Island--F	8.85	79	PN	Pn	06 52 36.9	-4.6
SEY	Seymchan	11.46	345⇓	ePN	Pn	06 53 18.4	+1.4
YUK	Yuzh-Kuril'sk	11.74	232	PN	Pn	06 53 15.1	-5.8
YUK				MLR	MLR		
	comp=Z,180nm,19.0s						
ASAJ	Asahikawa	13.36	240	P	Pn	06 53 46.2	+3.6
	comp=Z,0.8nm,0.3s,baz=85,slow=20,SNR=6.9						
ASAJ	Asahikawa	13.36	240	PN	Pn	06 53 46.2	+3.6
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BILL	Bilibino	16.49	10	eP	Pn	06 54 23.5	+1.2
	comp=Z,8.7nm,0.7s						
BILL				e		06 54 38.8	
BILL	Bilibino	16.49	10⇓	eP	Pn	06 54 21.8	-0.5
BILL				pmax	pmax		
	comp=Z,22nm,1.6s						
KLR	Kul'dur	17.32	271	eP	Pn	06 54 31.7	-1.0
YAK	Yakutsk	18.56	314	eP	Pn	06 54 44.8	-2.8
YAK				eS	S	06 58 13.5	0.0
YAK				pmax	pmax		
	comp=Z,44nm,0.9s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,20nm,1.2s						
YAK				smax			
	comp=N,34nm,1.8s						
YAK				smax			
	comp=E,19nm,1.2s						
MAJO	Matsushiro	21.23	231	eP	P	06 55 15.7	+0.2
	comp=E,12nm,0.7s,mb4.3						
MAJO	Matsushiro	21.23	231	eP	P	06 55 15.7	+0.2
MAJO				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.3						
MAT	Matsushiro	21.23	231	P	P	06 55 15.2	-0.3
MJAR	Matsushiro Arr	21.23	231	P	P	06 55 15.8	+0.2
	comp=Z,6.7nm,0.8s,mb4.0,baz=22,slow=9.4,SNR=11						
MJAR	Matsushiro Arr	21.23	231	P	P	06 55 15.8	+0.2
MJAR	Matsushiro Arr	21.23	231	P	P	06 55 15.8	+0.3
CN2	Changchun	23.61	263	eP	P	06 55 36.3	-3.4
CN2				eS	S	06 59 41.0	-6.8
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.3						
BOD	Bodaibo	25.97	301	eP	P	06 55 58.2	-2.8
BOD				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.9						
KSRS	Korea Array	26.05	248	P	P	06 56 01.6	-0.3
	comp=Z,1.9nm,0.6s,mb3.7,baz=41,slow=9.8,SNR=6.5						
KSRS	Korea Array	26.05	248	P	P	06 56 01.6	-0.3
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
PPLA	Purkeypile	27.84	48	eP	P	06 56 17.2	-0.4
	comp=Z,4.7nm,0.9s,mb4.0						
KDAK	Kodiak Island	28.06	59	P	P	06 56 17.6	-2.1
	comp=Z,3.0nm,0.5s,mb4.1,baz=267,slow=7.8,SNR=4.6						
KDAK	Kodiak Island	28.06	59	P	P	06 56 17.6	-2.1
KDAK	Kodiak Island	28.06	59	i P	P	06 56 21.8	+2.1
TRF	Thorofare Moun	28.69	47	eP	P	06 56 24.8	-0.5
	comp=Z,9.8nm,1.0s,mb4.4						
COLD	Coldfoot	28.91	39	eP	P	06 56 26.3	-0.8
	comp=Z,60nm,2.5s,mb4.8						
MCK	McKinley	29.29	46	eP	P	06 56 29.4	-1.1
	comp=Z,8.4nm,0.8s,mb4.4						
MCK	McKinley	29.29	46	eP	P	06 56 29.4	-1.1
MCK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.4						
PMR	Palmer	29.32	50	eP	P	06 56 29.4	-1.4
	comp=Z,5.0nm,0.6s,mb4.3						
PMR	Palmer	29.32	50	eP	P	06 56 29.4	-1.4
PMR				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.3						
SEW	Seward	29.33	53	eP	P	06 56 29.2	-1.7
	comp=Z,14nm,0.5s,mb4.8						
SML	Sawmill	29.68	50	eP	P	06 56 33.2	-0.8
	comp=Z,11nm,0.8s,mb4.5						
SML	Sawmill	29.68	50	eP	P	06 56 33.2	-0.8
SML				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.5						
COLA	College	29.75	44	eP	P	06 56 33.5	-1.0
	comp=Z,7.8nm,1.0s,mb4.3						
COLA	College	29.75	44	eP	P	06 56 33.5	-1.1
COLA				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.3						
ILAR	Eielson Array	30.16	44	P	P	06 56 36.8	-1.5
	comp=Z,3.8nm,0.8s,mb4.1,baz=260,slow=6.3,SNR=47						
ILAR				pP	pP	06 56 57.2	-0.3
	comp=Z,2.7nm,0.8s,baz=266,slow=7.4,SNR=5.9						
ILAR	Eielson Array	30.16	44	P	P	06 56 36.8	-1.5
ILAR				pP	pP	06 56 57.2	-0.3
ILAR	Eielson Array	30.16	44	P	P	06 56 36.8	-1.4
ILAR				*PP	pP	06 56 57.2	-0.3
PAX	Paxson	30.90	47	eP	P	06 56 43.7	-1.1
	comp=Z,6.3nm,1.1s,mb4.3						
PAX	Paxson	30.90	47	eP	P	06 56 43.7	-1.0
PAX				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.2						
DIV	Divide	30.98	51	eP	P	06 56 44.2	-1.3
	comp=Z,15nm,0.6s,mb4.9						
BJI	Beijing	31.44	265	P	P	06 56 48.7	-1.1
BJI				S	S	07 01 51.2	-0.1
BJI				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.7						
BJI				pmax	pmax		
	comp=Z,100nm,5.1s						
BJI				LR	LR		
	comp=N,110nm,23.5s						
BJI				LR	LR		
	comp=E,94nm,24.9s						
BMRM	Bremner River	31.57	51	eP	P	06 56 50.1	-0.5
	comp=E,15nm,0.8s,mb4.8						
EGAK	Eagle	32.61	44	eP	P	06 56 58.4	-1.4
	comp=E,9.5nm,0.6s,mb4.8						
EGAK				e	pP	06 57 18.0	-1.1
TLY	Talaya	33.35	292	eP	P	06 57 06.9	+0.6
SONM	Songino Array	33.36	284	P	P	06 57 06.5	+0.1
	comp=E,1.0nm,0.4s,mb4.0,baz=59,slow=7.5,SNR=7.0						
SONM				PcP	PcP	06 59 45.6	-0.5
	comp=E,1.8nm,0.6s,baz=75,slow=1.9,SNR=6.5						
SONM				LR	LR	07 12 05.7	
	comp=E,76nm,18.2s,baz=20,slow=39						
SONM	Songino Array	33.36	284	P	P	06 57 06.5	+0.1
SONM				PcP	PcP	06 59 45.6	-0.5
SONM				LR	LR	07 12 05.7	
SONM	Songino Array	33.36	284	P	P	06 57 06.5	+0.1
SONM						06 59 45.6	
HHC	Hu-ho-hao-te	33.81	270	eP	P	06 57 11.0	+0.6
HHC				pP	pP	06 57 29.0	-0.8
HHC				sP	sP	06 57 38.3	-1.2
HHC				PP	PP	06 58 26.5	-1.8
HHC				S	S	07 02 27.5	-0.6
HHC				sS	sS	07 02 58.2	-3.3
HHC				SS	SS	07 04 36.4	-21
HHC				ScS	ScS	07 07 25.3	-0.9
HHC				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.8						
HHC				pmax	pmax		
	comp=Z,120nm,5.1s						
HHC				LR	LR		
	comp=N,110nm,13.1s						
HHC				LR	LR		
	comp=E,350nm,16.2s						
HHC				LR	LR		
	comp=Z,47nm,14.1s						
ZAK	Zakamensk	34.09	290	eP	P	06 57 13.5	+0.8
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.6						
NJ2	Nanjing	35.13	251	eP	P	06 57 22.0	+0.1
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s,mb5.2						
INK	Inuvik	35.23	37	P	P	06 57 22.2	-0.2
	comp=Z,9.7nm,0.6s,mb4.8,baz=298,slow=7.0,SNR=67						
INK	Inuvik	35.23	37	eP	P	06 57 22.2	-0.2
	comp=Z,10nm,0.8s,mb4.7						
INK	Inuvik	35.23	37	eP	P	06 57 22.2	-0.1
INK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
DLBC	Dease Lake	39.36	52	eP	P	06 57 58.1	+0.8
LZH	Lanzhou	41.51	270	eP	P	06 58 15.6	+0.3
LZH				pP	pP	06 58 33.5	-1.7
LZH				sP	sP	06 58 42.7	-2.1
LZH				ePP	PP	06 59 55.4	+2.8
LZH				pmax	pmax		
	comp=Z,25nm,1.4s,mb4.8						
LZH				pmax	pmax		
	comp=Z,61nm,6.5s						
LZH				LR	LR		
	comp=E,460nm,14.3s						
LZH				LR	LR		
	comp=Z,510nm,17.8s						
GTA	Gaotai	41.91	277	P	P	06 58 18.8	+0.2
GTA				pP	pP	06 58 36.4	-2.1
GTA				sP	sP	06 58 44.8	-3.2
GTA				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.2						
ZALV	Zalesovo Beam	42.67	303	P	P	06 58 22.6	-2.0
	comp=Z,0.8nm,0.3s,mb3.9,baz=60,slow=8.8,SNR=4.6						
ZALV				PcP	PcP	07 00 15.2	+0.4
	comp=Z,1.4nm,0.5s,baz=71,slow=2.6,SNR=5.9						
ZALV				LR	LR	07 16 38.8	
	comp=Z,54nm,19.3s,baz=79,slow=37						
ZALV	Zalesovo Beam	42.67	303	P	P	06 58 22.6	-2.0
ZALV				PcP	PcP	07 00 15.2	+0.4
ZALV				LR	LR	07 16 38.8	
ZALV	Zalesovo Beam	42.67	303	P	P	06 58 22.6	-2.0
ZALV						07 00 15.2	
YKA	Yellowknife Ar	44.52	41	P	P	06 58 38.8	-0.4
	comp=Z,4.6nm,0.7s,mb4.3,baz=298,slow=7.3,SNR=9.4						
YKA				pP	pP	06 58 59.2	-0.1
	comp=Z,1.9nm,0.6s,baz=293,slow=7.5,SNR=3.3						
YKA	Yellowknife Ar	44.52	41	P	P	06 58 38.8	-0.5
YKA				pP	pP	06 58 59.2	-0.1
YKA	Yellowknife Ar	44.52	41	P	P	06 58 38.8	-0.4
YKA				*PP	pP	06 58 59.2	-0.1
RES	Resolute Bay	44.63	21	eP	P	06 58 40.1	0.0
	comp=Z,6.3nm,0.9s,mb4.3						
RES	Resolute Bay	44.63	21	eP	P	06 58 40.1	+0.1
RES				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
CD2	Chengdu	45.04	264	P	P	06 58 43.8	0.0
CD2				pP	pP	06 59 02.2	-1.7
CD2				sP	sP	06 59 11.3	-2.1
CD2				PP	PP	07 00 30.9	+0.5
CD2				S	S	07 05 16.1	-0.2
CD2				sS	sS	07 05 48.2	-2.6
CD2				SS	SS	07 08 30.5	-10
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.7						
CD2				pmax	pmax		
	comp=Z,80nm,4.3s						
CD2				LR	LR		
	comp=N,200nm,4.5s						
CD2				LR	LR		
	comp=Z,190nm,8.9s						
GYA	Guiyang	46.46	257	eP	P	06 58 55.0	0.0
GYA				pP	pP	06 59 14.6	-0.7
GYA				sP	sP	06 59 23.4	-1.3
GYA				PP	PP	07 00 44.3	-1.1
GYA				ScP	ScP	07 04 13.8	-0.2
GYA				S	S	07 05 35.6	-1.2
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
GYA				pmax	pmax		
	comp=Z,80nm,5.3s						
WMQ	Urumqi	46.55	289	P	P	06 58 57.3	+1.7
KURK	Kurchatov	47.61	302	eP	P	06 59 02.0	-1.7
	comp=Z,21nm,0.8s,mb5.0						
KURK	Kurchatov	47.61	302	ceP	P	06 59 02.1	-1.6
KURK				i *PP	pP	06 59 19.3	-4.7
KURK				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.0						
MK31	Makanchi Array	47.88	296	eP	P	06 59 04.2	-1.7
MK31	Makanchi Array	47.88	296	eP	P	06 59 04.2	-1.6
MKAR	Makanchi Array	47.88	296	P	P	06 59 04.3	-1.5
	comp=Z,3.3nm,0.5s,mb4.5,baz=56,slow=7.2,SNR=26						
MKAR				pP	pP	06 59 26.9	+0.7
	comp=Z,0.8nm,0.5s,baz=56,slow=13,SNR=2.9						
MKAR				LR	LR	07 20 07.8	
	comp=Z,47nm,19.3s,baz=6.7,slow=37						
MKAR	Makanchi Array	47.88	296	P	P	06 59 04.3	-1.5
MKAR				pP	pP	06 59 26.9	+0.7
MKAR				LR	LR	07 20 07.8	
MKAR	Makanchi Array	47.88	296	P	P	06 59 04.3	-1.5
MKAR				*PP	pP	06 59 26.9	+0.7
SPB4	Spitsbergen Ar	48.07	350	eP	P	06 59 06.6	-0.3
KMI	Kunming	49.82	260	P	P	06 59 20.2	-0.7
KMI				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
ETW	Entiat	49.85	61	eP	P	06 59 20.7	-0.1
VOSK	Vostochnaya	50.31	308	P	P	06 59 21.8	-2.5
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						

BRVK Borovoye 50.45 309 *e*P P **06 59 23.5 -1.8**
comp=Z,9.9nm,0.5s,mb5.0
BRVK Borovoye 50.45 309⇓*i*P P **06 59 23.0 -2.3**
BRVK pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
OD2 Odessa Site #2 50.85 60 *e*P P **06 59 27.4 -1.0**
ZRNK Zerenda 51.13 309 P P **06 59 28.0 -2.4**
ZRNK pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
NEW Newport 51.16 59 *e*P P **06 59 30.1 -0.6**
comp=Z,7.0nm,1.1s,mb4.6
NEW Newport 51.16 59 *e*P P **06 59 30.1 -0.6**
NEW pmax pmax
comp=Z,7.0nm,1.1s
DAG Danmarks Havn 51.48 359 *i*P P **06 59 32.9 +0.2**
comp=Z,11nm,0.9s,mb4.9
WALA Waterton Lakes 52.34 56 *e*P P **06 59 38.8 -0.7**
comp=Z,0.3nm,0.8s,mb3.4
WALA *e* pP 06 59 59.8 -0.3
BSMT Bassoo Peak 52.65 58 *e*P P **06 59 41.8 +0.1**
BSMT *e* pP 07 00 02.3 -0.1
JTMT Jette 52.98 58 *e*P P **06 59 44.3 +0.1**
JTMT *e* pP 07 00 05.1 +0.2
YBMT Yellow Bay 53.04 57 *e*P P **06 59 44.2 -0.5**
YBMT *e* pP 07 00 04.8 -0.5
BMO Blue Mountains 53.21 62 *e*P P **06 59 45.2 -0.7**
comp=Z,1.7nm,0.5s,mb4.3
MOD Modoc 53.44 67 *e*P P **06 59 48.5 +0.8**
comp=Z,23nm,0.7s,mb5.3
ARU Arti 53.63 317 *e*P P **06 59 47.2 -1.6**
comp=Z,7.2nm,0.5s,mb5.0
ARU Arti 53.63 317 *e*P P **06 59 47.2 -1.7**
ARU pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
SLMT Seeley Lake 53.71 58 *e*P P **06 59 49.6 0.0**
SLMT *e* pP 07 00 10.6 +0.3
MSO Missoula 53.74 58 *e*P P **06 59 48.9 -0.9**
comp=Z,5.3nm,1.2s,mb4.5
ARCES ARCESS Array B 54.06 342 P P **06 59 51.0 -0.8**
comp=Z,4.9nm,0.9s,mb4.5,baz=37,slow=8.0,SNR=12
ARCES PcP PcP 07 00 55.0 -0.6
comp=Z,5.7nm,1.0s,baz=355,slow=6.1,SNR=3.7
ARCES LR LR 07 26 46.8
comp=Z,46nm,18.1s,baz=344,slow=40
ARCES ARCESS Array B 54.06 342 P P **06 59 51.0 -0.8**
ARCES PcP PcP 07 00 55.0 -0.6
ARCES LR LR 07 26 46.8
ARCES ARCESS Array B 54.06 342 P P **06 59 51.0 -0.8**
ARCES 07 00 55.0
OHCM Honcut 54.45 70 *e*P P **06 59 55.0 -0.1**
AAK Ala-Archa 54.82 296 *e*P P **06 59 56.9 -0.7**
comp=Z,1.4nm,0.3s,mb4.5
AAK Ala-Archa 54.82 296*ce*P P **06 59 56.7 -1.0**
AAK pmax pmax
comp=Z,2.0nm,1.7s,mb3.9
HRY Holter Researc 54.92 57 *e*P P **06 59 58.6 +0.3**
SUMG Summit 55.13 6 *e*P P **07 00 00.5 +1.0**
comp=Z,20nm,1.0s,mb5.1
SUMG Summit 55.13 6 *e*P P **07 00 00.5 +1.0**
SUMG pmax pmax
comp=Z,19nm,1.0s
SUMG Summit 55.13 6 *i*P P **07 00 00.1 +0.6**
comp=Z,13nm,0.9s,mb5.0
PAHR Pah Rah Range 55.41 68 *e*P P **07 00 01.8 -0.2**
comp=Z,12nm,1.3s,mb4.8
WCN Washoe City 55.47 69 *e*P P **07 00 02.8 +0.3**
comp=Z,6.1nm,1.0s,mb4.6
WCN Washoe City 55.47 69 *e*P P **07 00 02.8 +0.4**
WCN pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
HLID Hailey 55.62 62 *e*P P **07 00 03.4 -0.1**
comp=Z,3.5nm,1.0s,mb4.3
BOZ Bozeman (W) 55.73 58 *e*P P **07 00 04.5 +0.3**
comp=Z,4.1nm,1.5s,mb4.2
BOZ *e* pP 07 00 25.2 +0.3
BOZ Bozeman (W) 55.73 58 *e*P P **07 00 04.5 +0.3**
BOZ *e* pP 07 00 25.2 +0.2
BOZ pmax pmax
comp=Z,4.0nm,1.5s,mb4.2
CMB Columbia Colle 55.96 70 *e*P P **07 00 05.7 -0.2**
comp=Z,3.6nm,0.9s,mb4.4
CMB Columbia Colle 55.96 70 *e*P P **07 00 05.7 -0.2**
CMB pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
QLMT Earthquake Lak 56.38 59 *e*P P **07 00 09.5 +0.7**
QLMT *e* pP 07 00 28.8 -0.9
KK31 Karatay Array 56.69 299 *i*P P **07 00 09.5 -1.5**
KK31 pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
KKAR Karatay Array 56.69 299 *e*P P **07 00 09.3 -1.7**
comp=Z,3.0nm,0.7s,mb4.4
KKAR Karatay Array 56.69 299 *e*P P **07 00 09.3 -1.7**
KKAR pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
CHTO Chiang Mai 56.88 258 *e*P P **07 00 13.8 +1.1**
comp=Z,4.4nm,0.6s,mb4.7
CHTO Chiang Mai 56.88 258 *e*P P **07 00 13.8 +1.2**
CHTO pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
NVAR Mina Array Bea 56.89 69 P P **07 00 13.0 +0.4**
comp=Z,5.4nm,0.7s,mb4.7,baz=297,slow=7.4,SNR=27
NVAR Mina Array Bea 56.89 69 P P **07 00 13.0 +0.4**
CMAR Chiang Mai Arr 57.15 258 P P **07 00 16.1 +1.5**
comp=Z,3.0nm,0.8s,mb4.4,baz=28,slow=7.0,SNR=13
CMAR Chiang Mai Arr 57.15 258 P P **07 00 16.1 +1.5**
CMAR Chiang Mai Arr 57.15 258 P P **07 00 16.1 +1.5**
IMW Indian Meadow 57.27 59 *e*P P **07 00 16.0 +0.9**
comp=Z,7.1nm,1.0s,mb4.7
FLWY Flagg Ranch 57.27 59 *e*P P **07 00 16.4 +1.3**
comp=Z,7.0nm,1.0s,mb4.7
RLMT Red Lodge 57.31 57 *e*P P **07 00 16.4 +1.0**
comp=Z,9.6nm,0.9s,mb4.8
RLMT *e* pP 07 00 37.4 +1.1
RRI2 Red Ridge 57.44 60 *e*P P **07 00 17.2 +0.9**
comp=Z,2.7nm,0.7s,mb4.4
MOOW Moose Ponds 57.47 59 *e*P P **07 00 17.2 +0.7**
comp=Z,7.2nm,1.3s,mb4.5
TPAW Teton Pass 57.54 60 *e*P P **07 00 18.1 +1.1**
comp=Z,7.1nm,1.3s,mb4.5
LOHW Long Hollow 57.64 59 *e*P P **07 00 18.9 +1.2**
comp=Z,6.4nm,1.0s,mb4.6
SNOW Snow King Moun 57.66 60 *e*P P **07 00 19.1 +1.2**
comp=Z,7.3nm,1.1s,mb4.6
REDW Red Top Meadow 57.68 60 *e*P P **07 00 18.9 +0.9**
comp=Z,8.1nm,1.0s,mb4.7
LAO LASA Array 57.80 54 *e*P P **07 00 18.7 -0.1**
comp=Z,9.5nm,1.0s,mb4.8
AB31 Akbulak array 57.87 310 *i*P P **07 00 17.5 -1.7**
AB31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
ABKAR Akbulak array 57.87 310 *e*P P **07 00 17.1 -2.1**
comp=Z,1.1nm,0.5s,mb4.1
AKTO Aktyubinsk 57.94 312 P P **07 00 17.5 -2.2**
JIRN Jiri 58.17 275 *e*P P **07 00 22.3 +0.6**
JIRN Jiri 58.17 275 *e*P P **07 00 22.3 +0.6**
GUN Gumba 58.19 276 *e*P P **07 00 21.8 0.0**
comp=Z,5.9nm,0.3s,mb5.0
JOF Joensuu 58.20 335 *e*P P **07 00 19.6 -1.7**
JOF Joensuu 58.20 335 *ep* P **07 00 19.6 -1.7**
HWUT Hardware Ranch 58.50 62 *e*P P **07 00 24.4 +0.6**
comp=Z,5.6nm,1.1s,mb4.5
KKN Kakani 58.64 276 *e*P P **07 00 25.2 +0.3**
comp=Z,10nm,0.6s,mb5.1
KKN Kakani 58.64 276 *e*P P **07 00 25.2 +0.3**
comp=Z,10nm,0.6s,mb5.0
KKN Kakani 58.64 276 *e*P P **07 00 25.2 +0.3**
KKN pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
ISA Isabella 58.70 71 *e*P P **07 00 23.8 -1.4**
comp=Z,1.6nm,0.8s,mb4.1
ISA Isabella 58.70 71 *e*P P **07 00 23.8 -1.4**
ISA pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
PKIN Phulchoki 58.72 276 *e*P P **07 00 26.1 +0.6**
comp=Z,9.4nm,0.4s,mb5.2
PD01 Pinedale Array 58.76 59 *e*P P **07 00 25.8 +0.3**
PD01 *e* pP 07 00 47.4 +0.9
PD02 Pinedale Array 58.76 59 *e*P P **07 00 25.8 +0.2**
PD02 *e* pP 07 00 48.1 +1.6
BW06 Boulder Array 58.78 59 *e*P P **07 00 25.8 +0.2**
comp=Z,10nm,1.0s,mb4.8
BW06 *e* pP 07 00 47.7 +1.0
PDAR Pinedale Array 58.78 59 P P **07 00 25.9 +0.3**
comp=Z,7.2nm,0.8s,mb4.8,baz=320,slow=2.8,SNR=58
PDAR pP pP 07 00 46.0 -0.6
comp=Z,3.7nm,0.8s,baz=308,slow=2.6,SNR=7.5
PDAR Pinedale Array 58.78 59 P P **07 00 25.9 +0.3**
PDAR pP pP 07 00 46.0 -0.6
DUG Dugway 58.78 64 *e*P P **07 00 26.2 +0.4**
comp=Z,9.9nm,1.1s,mb4.8
DUG Dugway 58.78 64 *e*P P **07 00 26.2 +0.4**
DUG pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
DMN Daman 58.88 276 *e*P P **07 00 26.8 +0.2**
DMN Daman 58.88 276 *e*P P **07 00 26.8 +0.2**
GKN Gorkha 58.88 277 *e*P P **07 00 26.3 -0.3**
GKN Gorkha 58.88 277 *e*P P **07 00 26.3 -0.3**
MOR8 Moi Rana 59.04 344 *e*P P **07 00 25.5 -1.7**
MOR8 AMB AMB 07 00 35.7
comp=Z,52nm,3.2s
FLOS Flostrand 59.07 344 *e*P P **07 00 26.9 -0.4**
STOK Stokkvaagen 59.13 345 *e*P P **07 00 27.4 -0.4**
DANN Dangsing 59.17 278 *e*P P **07 00 28.5 -0.1**
comp=Z,12nm,0.5s,mb5.1
DANN Dangsing 59.17 278 *e*P P **07 00 28.5 -0.1**
comp=Z,12nm,0.5s,mb5.2
JLU Jordanelle 59.25 62 *e*P P **07 00 29.7 +0.7**
comp=Z,3.2nm,1.2s,mb4.2
NLU North Lily Min 59.36 63 *e*P P **07 00 29.9 +0.2**
comp=Z,6.8nm,1.1s,mb4.6
KOLN Koldanda 59.69 277 *e*P P **07 00 32.0 -0.1**
comp=Z,7.2nm,0.5s,mb4.9
KOLN Koldanda 59.69 277 *e*P P **07 00 32.0 -0.1**
comp=Z,7.2nm,0.5s,mb5.0
GSC Goldstone 59.92 70 *e*P P **07 00 33.4 -0.3**
comp=Z,5.0nm,1.0s,mb4.5
GSC Goldstone 59.92 70 *e*P P **07 00 33.4 -0.3**
GSC pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
ARUT Antelope Range 60.11 66 *e*P P **07 00 32.7 -2.2**
comp=Z,5.1nm,0.9s,mb4.5
ARUT Antelope Range 60.11 66 *e*P P **07 00 32.7 -2.2**
ARUT pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
KAF Kangasniemi 60.15 336 *e*P P **07 00 33.7 -1.1**
KAF Kangasniemi 60.15 336 *ep* P **07 00 33.7 -1.1**
ULM Lac du Bonnet 60.16 46 P P **07 00 34.4 -0.7**
comp=Z,5.5nm,0.4s,mb4.9,baz=319,slow=7.7,SNR=23
ULM Lac du Bonnet 60.16 46 P P **07 00 34.4 -0.7**
ULM Lac du Bonnet 60.16 46 P P **07 00 34.4 -0.7**
TMUT Trail Mountain 60.30 63 *e*P P **07 00 37.0 +0.8**
comp=Z,5.9nm,0.6s,mb4.8
MSU Marysvale 60.31 65 *e*P P **07 00 37.2 +0.9**
comp=Z,2.9nm,1.1s,mb4.2
MSU Marysvale 60.31 65 *e*P P **07 00 37.2 +0.9**
MSU pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
CCUT Cedar City 60.32 66 *e*P P **07 00 36.6 +0.2**
comp=Z,5.4nm,1.2s,mb4.5
RSSD Black Hills 60.70 55 *e*P P **07 00 38.7 -0.1**
comp=Z,18nm,1.1s,mb5.0
RSSD *e* pP 07 01 00.7 +0.8
RSSD Black Hills 60.70 55 *e*P P **07 00 38.7 -0.1**
RSSD *e* pP 07 01 00.7 +0.8
RSSD pmax pmax
comp=Z,18nm,1.1s,mb5.0
FINES FINESS Array B 60.78 336 P P **07 00 38.9 -0.2**
comp=Z,2.7nm,0.5s,mb4.6,baz=38,slow=5.9,SNR=16
FINES FINESS Array B 60.78 336 P P **07 00 38.9 -0.2**
FINES FINESS Array B 60.78 336 P P **07 00 38.9 -0.2**
SRU San Rafael 60.80 63 *e*P P **07 00 40.0 +0.4**
comp=Z,10nm,0.8s,mb4.9
SRU San Rafael 60.80 63 *e*P P **07 00 40.0 +0.4**
SRU pmax pmax
comp=Z,11nm,0.8s,mb4.9
LDFC Landfair 61.06 69 *e*P P **07 00 41.5 0.0**
comp=Z,12nm,0.8s,mb5.0
PV10 Paradox Valley 62.14 63 *e*P P **07 00 49.2 +0.6**
comp=Z,214nm,0.8s
PV04 Paradox Valley 62.20 63 *e*P P **07 00 49.2 +0.1**
PV01 Paradox Valley 62.57 63 *e*P P **07 00 51.4 -0.1**
comp=Z,238nm,0.6s
GLA Glamis 62.67 71 *e*P P **07 00 52.1 -0.2**
comp=Z,2.7nm,0.7s,mb4.3
GLA Glamis 62.67 71 *e*P P **07 00 52.1 -0.1**
GLA pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
SMCO Snowmass 62.69 61 *e*P P **07 00 52.3 0.0**
comp=Z,6.3nm,0.8s,mb4.6
WUAZ Wupatki 62.89 66 *e*P P **07 00 53.9 +0.2**
comp=Z,11nm,1.3s,mb4.6
ISCO Idaho Springs 62.97 59 *e*P P **07 00 55.0 +0.9**
comp=Z,9.1nm,0.9s,mb4.7
ISCO Idaho Springs 62.97 59 *e*P P **07 00 55.0 +0.9**
ISCO pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
OBN Obninsk 62.98 327 *e*P P **07 00 55.4 +1.5**
OBN pmax pmax
comp=Z,8.0nm,0.4s,mb5.0
MVCO Mesa Verde 63.28 63 *e*P P **07 00 56.6 +0.4**
comp=Z,6.3nm,0.8s,mb4.6
MOL Molde 63.52 346 *e*P P **07 00 57.5 +0.1**
MOL AMB AMB 07 01 04.8
comp=Z,45nm,2.9s,mb4.8
EYMN Ely 63.80 45 *e*P P **07 00 58.5 -1.0**
comp=Z,9.8nm,0.6s,mb4.8
NB2 NORSAR Subarra 64.35 343 P P **07 01 02.7 -0.1**
comp=Z,14nm,0.7s,mb4.9,baz=23,slow=6.9
NOA NORSAR Array B 64.35 343 P P **07 01 02.7 -0.1**
comp=Z,11nm,0.6s,mb4.8,baz=21,slow=6.7,SNR=54
NOA NORSAR Array B 64.35 343 P P **07 01 02.7 -0.1**
NOA NORSAR Array B 64.35 343 P P **07 01 02.7 -0.1**
SDCO Great Sand Dun 64.53 61 *e*P P **07 01 04.6 +0.3**
comp=Z,3.8nm,1.3s,mb4.1
ECSD EROS Data Cent 64.64 51 *e*P P **07 01 04.1 -0.9**
comp=Z,54nm,2.0s,mb5.0
FOO Floro 64.82 346 *e*P P **07 01 05.3 -0.6**
TUC Tucson 65.55 68 *e*P P **07 01 10.5 -0.6**
comp=Z,0.7nm,0.8s,mb3.5
TUC Tucson 65.55 68 *e*P P **07 01 10.5 -0.6**
TUC pmax pmax
comp=Z,1.0nm,0.8s,mb3.7
ASK Askoy 65.86 346 *e*P P **07 01 12.3 -0.3**
RUND Rundenannen 65.90 346 *e*P P **07 01 12.7 -0.2**
BER Bergen 65.94 346 *e*P P **07 01 12.8 -0.3**
KONO Kongsberg 65.94 343 *e*P P **07 01 12.8 -0.3**
KONO AMB AMB 07 01 29.4
comp=Z,25nm,2.4s,mb4.6
ANMO Albuquerque 66.05 64 *e*P P **07 01 14.5 +0.2**
comp=Z,4.7nm,1.1s,mb4.2
ANMO Albuquerque 66.05 64 *e*P P **07 01 14.5 +0.2**
ANMO pmax pmax
comp=Z,5.0nm,1.1s
SCHQ Schefferville 66.99 27 P P **07 01 19.0 -0.9**
comp=Z,4.7nm,0.7s,mb4.4,baz=350,slow=6.2,SNR=7.6
SCHQ Schefferville 66.99 27 P P **07 01 19.0 -0.9**
COEN Coen 67.07 196 *e*P P **07 01 20.2 -0.6**
comp=Z,32nm,0.7s,mb5.3
SNART Snartemo 67.59 344 *e*P P **07 01 24.6 +1.0**
SCIA State Center 67.65 50 *e*P P **07 01 24.1 -0.3**
comp=Z,38nm,0.7s,mb5.3
SCIA *e* 07 01 40.0
AMTX Amarillo 68.71 60 *e*P P **07 01 31.0 0.0**
comp=Z,4.0nm,0.5s,mb4.5
AKASG Malin Array Be 69.11 328 P P **07 01 31.4 -1.8**
comp=Z,4.2nm,0.4s,mb4.7,baz=30,slow=7.0,SNR=19
AKASG Malin Array Be 69.11 328 P P **07 01 31.4 -1.8**
AKASG Malin Array Be 69.11 328 P P **07 01 31.4 -1.9**
KIV Kislovodsk 69.66 316 *e*P P **07 01 36.7 -0.1**
MCD Coleburn Disti 69.78 350 *e*P P **07 01 38.3 +1.1**
MCD Coleburn Disti 69.78 350 P P **07 01 38.3 +1.1**
MDO Dochfour 70.03 350 *e*P P **07 01 39.0 +0.2**
MDO Dochfour 70.03 350 P P **07 01 39.0 +0.2**
KPL Plockton 70.26 351 *e*P P **07 01 41.0 +0.8**
KPL AMB AMB 07 01 51.3
comp=Z,38nm,3.3s
KPL Plockton 70.26 351 P P **07 01 41.0 +0.8**
KPL AMB AMB 07 01 51.3
comp=Z,38nm,3.3s
WMOK Wichita Mounta 70.37 59 *e*P P **07 01 40.6 -0.7**
comp=Z,8.5nm,1.0s,mb4.5
WMOK Wichita Mounta 70.37 59 *e*P P **07 01 40.6 -0.7**
WMOK pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
KSB Sheil Bridge 70.37 351 *e*P P **07 01 42.0 +1.1**
KSB Sheil Bridge 70.37 351 P P **07 01 42.0 +1.1**
HDIL Hopedale 70.55 49 *e*P P **07 01 41.4 -0.8**
comp=Z,17nm,0.6s,mb5.0
EAB Aberfoyle 71.26 350 *e*P P **07 01 47.2 +0.9**
EAB Aberfoyle 71.26 350 P P **07 01 47.2 +0.9**
ESY Stoneypath 71.34 349 *e*P P **07 01 47.5 +0.8**
ESY Stoneypath 71.34 349 P P **07 01 47.5 +0.8**
EAU Auchinoon 71.50 350 *e*P P **07 01 47.9 +0.1**
EAU Auchinoon 71.50 350 P P **07 01 47.9 +0.1**
PGBU Glenifferbraes 71.65 350 *e*P P **07 01 49.8 +1.1**
PGBU AMB AMB 07 01 50.9
comp=Z,57nm,3.6s
PGBU Glenifferbraes 71.65 350 P P **07 01 49.8 +1.1**
PGBU AMB AMB 07 01 50.9
comp=Z,57nm,3.6s
TXAR Lajitas Array 71.83 66 P P **07 01 50.0 -0.1**
comp=Z,10nm,0.8s,mb4.8,baz=298,slow=4.7,SNR=109
TXAR Lajitas Array 71.83 66 P P **07 01 50.0 -0.1**
TXAR Lajitas Array 71.83 66 P P **07 01 50.0 -0.1**
ESK Eskdalemuir 72.00 349 *e*P P **07 01 50.8 +0.1**
ESK AMB AMB 07 01 52.7
comp=Z,23nm,1.5s,mb4.8
ESK Eskdalemuir 72.00 349 P P **07 01 50.8 +0.1**
ESK AMB AMB 07 01 52.7
comp=Z,23nm,1.5s,mb4.8
ESK Eskdalemuir 72.00 349 *i*P P **07 01 52.6 +1.9**
ECK Cauldkaine Hil 72.12 349 *e*P P **07 01 52.1 +0.6**
ECK Cauldkaine Hil 72.12 349 P P **07 01 52.1 +0.6**
XAL Allendale 72.32 349 *e*P P **07 01 53.3 +0.6**
XAL Allendale 72.32 349 P P **07 01 53.3 +0.6**
OJC Ojcow 72.36 334 *e*P P **07 01 53.2 +0.2**
OJC Ojcow 72.36 334 *e*P P **07 01 53.2 +0.2**
GAL1 Galloway 72.61 350 *e*P P **07 01 55.1 +0.8**
GAL1 AMB AMB 07 02 02.6
comp=Z,44nm,2.1s,mb4.9
GAL1 Galloway 72.61 350 P P **07 01 55.1 +0.8**
GAL1 AMB AMB 07 02 02.6
comp=Z,44nm,2.1s,mb4.9
CTA Charters Tower 72.62 192 P P **07 01 53.4 -1.3**
comp=Z,3.0nm,0.7s,mb4.2,baz=337,slow=6.6,SNR=4.0
CTA Charters Tower 72.62 192 P P **07 01 53.4 -1.3**
CTA Charters Tower 72.62 192 P P **07 01 53.4 -1.3**
STHS Stebnicka Huta 72.68 332 *e*P P **07 01 55.5 +0.6**
STHS pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
STHS Stebnicka Huta 72.68 332 *e*P P **07 01 55.5 +0.6**
KESW Keswick, Cumbr 72.70 349 *e*P P **07 01 56.2 +1.3**
KESW AMB AMB 07 02 03.3
comp=Z,45nm,1.8s,mb5.0
KESW Keswick, Cumbr 72.70 349 P P **07 01 56.2 +1.3**
KESW AMB AMB 07 02 03.3
comp=Z,45nm,1.8s,mb5.0
KOLS Kolonicke sedl 72.82 332 *e*P P **07 01 56.0 +0.3**
KOLS pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
KOLS Kolonicke sedl 72.82 332 *e*P P **07 01 56.0 +0.3**
NIE Niedzica 72.94 333 *e*P P **07 01 57.2 +0.8**
NIE Niedzica 72.94 333 *e*P P **07 01 57.2 +0.8**
CLL Collm 73.06 338⇓*i*P P **07 01 57.0 -0.1**
CLL pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
CLL Collm 73.06 338⇓*i*P P **07 01 57.0 -0.1**
comp=Z,10.0nm,0.8s,mb4.7
BUR08 Bucovina Ar. S 73.07 329 *e*P P **07 01 56.8 -0.5**
CRVS Cervenica-Dubn 73.08 332 *e*P P **07 01 57.6 +0.3**
CRVS pmax pmax
comp=Z,21nm,1.9s,mb4.6
CRVS Cervenica-Dubn 73.08 332 *e*P P **07 01 57.5 +0.2**
BURAR Bucovina Array 73.09 329⇑P P **07 01 57.2 -0.2**
BURAR Bucovina Array 73.09 329⇑*i*P P **07 01 57.2 -0.2**
JCT Junction City 73.09 62 *e*P P **07 01 57.3 -0.4**
JCT Junction City 73.09 62 *e*P P **07 01 57.3 -0.4**
DPC Dobruska-Polom 73.16 336 *e*P P **07 01 58.3 +0.6**
DPC Dobruska-Polom 73.16 336 *e*P P **07 01 58.3 +0.6**
MORC Moravsky Berou 73.37 335 *e*P P **07 01 59.1 +0.2**
comp=Z,2.6nm,0.7s,mb4.2
MORC Moravsky Berou 73.37 335⇓P P **07 01 59.7 +0.8**
MORC Moravsky Berou 73.37 335⇓*i*P P **07 01 59.7 +0.8**
PARMO Parma 73.43 51 *e*P P **07 01 59.3 -0.2**
TRPA Tarpa 73.46 331⇓*i*P P **07 02 00.0 +0.5**
TESR 73.60 328⇓*i*P P **07 01 59.8 -0.6**
KECS Kecovo 73.74 333 *e*P P **07 02 01.3 +0.2**
KECS pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
KECS Kecovo 73.74 333 *e*P P **07 02 01.3 +0.2**
WCI Wyandotte Cave 73.80 48 *e*P P **07 02 00.6 -1.1**
comp=Z,7.5nm,0.7s,mb4.5
WCI Wyandotte Cave 73.80 48 *e*P P **07 02 00.6 -1.1**
WCI pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
PRU Pruhonice 73.93 337 *e*P P **07 02 03.8 +1.6**
PRU Pruhonice 73.93 337 *e*P P **07 02 03.8 +1.6**
TLCR 74.02 326⇑P P **07 02 02.2 -0.7**
TLCR 74.02 326⇑*i*P P **07 02 02.2 -0.7**
VYHS Vyhne 74.19 334 *e*P P **07 02 04.5 +0.7**
VYHS pmax pmax
comp=Z,4.0nm,1.2s,mb4.0
VYHS Vyhne 74.19 334 *e*P P **07 02 04.5 +0.7**
PSZ Piszkesteto 74.42 333⇑P P **07 02 05.6 +0.5**
PSZ Piszkesteto 74.42 333⇑*i*P P **07 02 05.6 +0.5**
DRGR 74.60 330⇑P P **07 02 06.3 +0.1**
DRGR 74.60 330⇑*i*P P **07 02 06.3 +0.1**
MLR Muntele Rosu 74.73 328⇑P P **07 02 07.6 +0.6**
MLR Muntele Rosu 74.73 328⇑*i*P P **07 02 07.6 +0.6**
WRAB Tennant Creek 74.74 204 *e*P P **07 02 06.3 -0.9**
comp=Z,8.8nm,0.8s,mb4.4
WRAB Tennant Creek 74.74 204 *e*P P **07 02 06.3 -0.9**
WRAB pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
WRA Warramunga Arr 74.75 204 P P **07 02 06.7 -0.6**
comp=Z,4.5nm,0.7s,mb4.3,baz=19,slow=6.1,SNR=50
WRA Warramunga Arr 74.75 204 P P **07 02 06.7 -0.6**
WRA Warramunga Arr 74.75 204 P P **07 02 06.7 -0.5**
TIRR Tirgusor 74.80 326⇑P P **07 02 05.7 -1.7**
TIRR Tirgusor 74.80 326⇑*i*P P **07 02 05.7 -1.7**
KHC Kasperske Hory 74.96 337 *e*P P **07 02 09.0 +0.8**
comp=Z,3.9nm,0.7s,mb4.2
KHC Kasperske Hory 74.96 337 *e*P P **07 02 09.2 +1.0**
KHC Kasperske Hory 74.96 337 *e*P P **07 02 09.2 +1.0**
VOIR 75.07 328⇑P P **07 02 09.2 +0.3**
VOIR 75.07 328⇑*i*P P **07 02 09.2 +0.3**
MEM Membach 75.18 342 P P **07 02 10.7 +1.2**
GERES GERESS Array B 75.20 337 P P **07 02 10.2 +0.7**
comp=Z,2.8nm,0.5s,mb4.3,baz=34,slow=5.5,SNR=36
GERES LR LR 07 39 14.0
comp=Z,30nm,20.1s,baz=343,slow=39
GERES GERESS Array B 75.20 337 P P **07 02 10.2 +0.7**
GERES LR LR 07 39 14.0
GERES GERESS Array B 75.20 337 P P **07 02 10.2 +0.6**
SSPA Standing Stone 75.45 41 *e*P P **07 02 10.0 -1.2**
comp=Z,9.6nm,0.7s,mb4.6
BCLA Clavier 75.49 343 P P **07 02 10.4 -0.8**
comp=Z,22nm,2.6s,mb4.4
FITZ Fitzroy Crossi 75.54 212 P P **07 02 12.7 +0.9**
comp=Z,4.3nm,0.8s,mb4.2,baz=14,slow=5.9,SNR=9.0
FITZ Fitzroy Crossi 75.54 212 *e*P P **07 02 12.0 +0.2**
comp=Z,4.6nm,0.8s,mb4.3
GZR Gura Zlata 75.84 330⇑P P **07 02 12.8 -0.5**
GZR Gura Zlata 75.84 330⇑*i*P P **07 02 12.8 -0.5**
GIVF Givet 75.88 343 *e*P P **07 02 14.7 +1.2**
comp=Z,13nm,0.7s,mb4.5
GIVF Givet 75.88 343 *e*P P **07 02 14.7 +1.2**
comp=Z,6.3nm,0.7s,mb4.5
GIVF Givet 75.88 343 *e*P P **07 02 14.7 +1.2**
GIVF pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
DOU Dourbes 75.93 343 P P **07 02 15.0 +1.2**
comp=Z,13nm,2.1s,mb4.3
BAIF Baives 76.03 343 *e*P P **07 02 15.3 +1.0**
BAIF Baives 76.03 343 *e*P P **07 02 15.3 +1.0**
BAIF Baives 76.03 343 *e*P P **07 02 15.3 +1.0**
SOKA Soboth 76.88 335⇑*i*P P **07 02 20.3 +1.1**
comp=Z,3.2nm,0.5s,mb4.3
CPCT Cooper Cave 76.88 48 *e*P P **07 02 17.4 -2.0**
BRTR Keskin Array B 76.92 320 P P **07 02 19.4 -0.1**
comp=Z,0.9nm,0.3s,mb3.9,baz=48,slow=1.8,SNR=8.2
BRTR Keskin Array B 76.92 320 P P **07 02 19.4 -0.1**
BRTR Keskin Array B 76.92 320 P P **07 02 19.4 -0.1**
KBA Koelnbreinsper 76.93 337⇑*i*P P **07 02 21.4 +1.9**
comp=Z,17nm,0.7s,mb4.9
CDF Champ du Feu 77.03 341 *e*P P **07 02 20.3 +0.3**
comp=Z,13nm,0.9s,mb4.3
CDF Champ du Feu 77.03 341 *e*P P **07 02 20.3 +0.3**
comp=Z,6.6nm,0.9s,mb4.4
CDF Champ du Feu 77.03 341 *e*P P **07 02 20.3 +0.3**
CDF pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
WATA Walderalm 77.11 338⇑*i*P P **07 02 21.9 +1.4**
comp=Z,3.2nm,0.5s,mb4.3
MOTA Moosalm 77.22 338⇑*i*P P **07 02 22.2 +1.2**

	comp=Z,1.9nm,0.5s,mb4.1						
MEZF	**Maizieres J'vi**	**77.38**	**342**	eP	**P**	**07 02 22.7**	**+0.8**
	comp=Z,15nm,0.6s,mb4.6						
MEZF	**Maizieres J'vi**	**77.38**	**342**	eP	**P**	**07 02 22.7**	**+0.8**
	comp=Z,15nm,0.6s,mb4.9						
ABTA	**Abfaltersbach**	**77.44**	**337**	⇑iP	**P**	**07 02 23.3**	**+1.0**
	comp=Z,5.7nm,0.6s,mb4.5						
HAU	**Haudompre**	**77.61**	**341**	eP	**P**	**07 02 23.4**	**+0.2**
HAU				eMLR	MLR		
	comp=Z,46nm,20.8s						
HAU	**Haudompre**	**77.61**	**341**	eP	**P**	**07 02 23.4**	**+0.2**
HAU				LR	LR		
	comp=Z,50nm,20.8s						
HAU	**Haudompre**	**77.61**	**341**	eP	**P**	**07 02 23.4**	**+0.2**
HAU				MLR	MLR		
	comp=Z,50nm,20.8s						
FETA	**Feichten**	**77.61**	**338**	⇑iP	**P**	**07 02 24.9**	**+1.7**
	comp=Z,10nm,1.1s,mb4.5						
SFTF	**Sexfontaines**	**77.67**	**342**	eP	**P**	**07 02 24.1**	**+0.6**
	comp=Z,22nm,0.5s,mb4.9						
SFTF	**Sexfontaines**	**77.67**	**342**	eP	**P**	**07 02 24.1**	**+0.6**
	comp=Z,22nm,0.5s,mb5.1						
HINF	**Hinteralfeld**	**77.69**	**341**	eP	**P**	**07 02 23.7**	**+0.1**
HINF	**Hinteralfeld**	**77.69**	**341**	eP	**P**	**07 02 23.7**	**+0.1**
HINF	**Hinteralfeld**	**77.69**	**341**	eP	**P**	**07 02 23.7**	**+0.1**
FLN	**La Foliniere**	**78.05**	**346**	eP	**P**	**07 02 27.0**	**+1.3**
FLN				eMLR	MLR		
	comp=Z,38nm,19.0s						
FLN	**La Foliniere**	**78.05**	**346**	eP	**P**	**07 02 27.0**	**+1.3**
FLN				LR	LR		
	comp=Z,40nm,19.0s						
FLN	**La Foliniere**	**78.05**	**346**	eP	**P**	**07 02 27.0**	**+1.3**
FLN				MLR	MLR		
	comp=Z,40nm,19.0s						
LDF	**La Druitiere**	**78.16**	**346**	eP	**P**	**07 02 27.0**	**+0.7**
LDF	**La Druitiere**	**78.16**	**346**	eP	**P**	**07 02 27.0**	**+0.7**
LDF	**La Druitiere**	**78.16**	**346**	eP	**P**	**07 02 27.0**	**+0.7**
VTS	**Vitosha**	**78.21**	**328**	⇑P	**P**	**07 02 26.7**	**0.0**
VTS	**Vitosha**	**78.21**	**328**	⇑iP	**P**	**07 02 26.7**	**0.0**
ASAR	**Alice Springs**	**78.44**	**203**	P	**P**	**07 02 28.2**	**+0.3**
	comp=Z,4.8nm,0.7s,mb4.4,baz=13,slow=5.3,SNR=62						
ASAR	**Alice Springs**	**78.44**	**203**	P	**P**	**07 02 28.2**	**+0.3**
ASAR	**Alice Springs**	**78.44**	**203**	P	**P**	**07 02 28.3**	**+0.4**
TUE	**Stuetta**	**78.44**	**339**	eP	**P**	**07 02 29.3**	**+1.4**
	comp=Z,6.8nm,0.6s,mb4.5						
GRR	**Gorron**	**78.47**	**346**	eP	**P**	**07 02 28.8**	**+0.8**
GRR	**Gorron**	**78.47**	**346**	eP	**P**	**07 02 28.8**	**+0.8**
GRR	**Gorron**	**78.47**	**346**	eP	**P**	**07 02 28.8**	**+0.8**
LOR	**Lormes**	**78.78**	**343**	eP	**P**	**07 02 30.2**	**+0.5**
	comp=Z,22nm,0.8s,mb4.7						
LOR				eMLR	MLR		
	comp=Z,58nm,22.2s						
LOR	**Lormes**	**78.78**	**343**	eP	**P**	**07 02 30.2**	**+0.5**
	comp=Z,11nm,0.8s,mb4.7						
LOR				LR	LR		
	comp=Z,60nm,22.3s						
LOR	**Lormes**	**78.78**	**343**	eP	**P**	**07 02 30.2**	**+0.5**
LOR				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.7						
LOR				MLR	MLR		
	comp=Z,60nm,22.3s						
SGMF	**Saint Gilles**	**78.84**	**347**	eP	**P**	**07 02 30.9**	**+0.9**
	comp=Z,36nm,0.9s,mb4.9						
SGMF	**Saint Gilles**	**78.84**	**347**	eP	**P**	**07 02 30.9**	**+0.9**
	comp=Z,18nm,0.9s,mb4.9						
SGMF	**Saint Gilles**	**78.84**	**347**	eP	**P**	**07 02 30.9**	**+0.9**
SGMF				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.9						
ROSF	**Rostrenen**	**78.86**	**348**	eP	**P**	**07 02 31.0**	**+0.9**
	comp=Z,71nm,1.0s,mb5.1						
ROSF	**Rostrenen**	**78.86**	**348**	eP	**P**	**07 02 31.0**	**+0.9**
	comp=Z,36nm,1.0s,mb5.2						
ROSF	**Rostrenen**	**78.86**	**348**	eP	**P**	**07 02 31.0**	**+0.9**
ROSF				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.2						
CABF	**La Chapelle**	**78.99**	**341**	eP	**P**	**07 02 30.8**	**-0.1**
CABF	**La Chapelle**	**78.99**	**341**	eP	**P**	**07 02 30.8**	**-0.1**
CABF	**La Chapelle**	**78.99**	**341**	eP	**P**	**07 02 30.8**	**-0.1**
SSF	**Saint Saulge**	**79.05**	**343**	eP	**P**	**07 02 31.7**	**+0.5**
	comp=Z,16nm,1.0s,mb4.5						
SSF	**Saint Saulge**	**79.05**	**343**	eP	**P**	**07 02 31.7**	**+0.5**
	comp=Z,8.3nm,1.0s,mb4.5						
SSF	**Saint Saulge**	**79.05**	**343**	eP	**P**	**07 02 31.7**	**+0.5**
SSF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.5						
AVF	**Avril sur Loir**	**79.34**	**343**	eP	**P**	**07 02 33.4**	**+0.7**
	comp=Z,24nm,0.9s,mb4.7						
AVF	**Avril sur Loir**	**79.34**	**343**	eP	**P**	**07 02 33.4**	**+0.7**
	comp=Z,12nm,0.9s,mb4.7						
AVF	**Avril sur Loir**	**79.34**	**343**	eP	**P**	**07 02 33.4**	**+0.7**
AVF				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.7						
SMF	**Signal de Mont**	**79.39**	**343**	eP	**P**	**07 02 33.7**	**+0.7**
SMF	**Signal de Mont**	**79.39**	**343**	eP	**P**	**07 02 33.7**	**+0.7**
SMF	**Signal de Mont**	**79.39**	**343**	eP	**P**	**07 02 33.7**	**+0.7**
BGF	**Bois d'Agland**	**79.65**	**343**	eP	**P**	**07 02 35.2**	**+0.7**
BGF	**Bois d'Agland**	**79.65**	**343**	eP	**P**	**07 02 35.2**	**+0.7**
BGF	**Bois d'Agland**	**79.65**	**343**	eP	**P**	**07 02 35.2**	**+0.7**
LPL	**La Plagne**	**79.91**	**340**	eP	**P**	**07 02 37.4**	**+1.5**
	comp=Z,12nm,0.6s,mb4.6						
LPL	**La Plagne**	**79.91**	**340**	eP	**P**	**07 02 37.4**	**+1.5**
	comp=Z,5.9nm,0.6s,mb4.6						
LPL	**La Plagne**	**79.91**	**340**	eP	**P**	**07 02 37.4**	**+1.5**
LPL				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6						
LPG	**La Plagne**	**79.92**	**340**	eP	**P**	**07 02 37.6**	**+1.7**
	comp=Z,18nm,0.7s,mb4.7						
LPG	**La Plagne**	**79.92**	**340**	eP	**P**	**07 02 37.6**	**+1.7**
	comp=Z,9.1nm,0.7s,mb4.7						
LPG	**La Plagne**	**79.92**	**340**	eP	**P**	**07 02 37.6**	**+1.7**
LPG				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.7						
TCF	**Toulx Ste Croi**	**80.03**	**344**	eP	**P**	**07 02 37.6**	**+1.1**
	comp=Z,13nm,0.8s,mb4.5						
TCF	**Toulx Ste Croi**	**80.03**	**344**	eP	**P**	**07 02 37.6**	**+1.1**
	comp=Z,6.4nm,0.8s,mb4.5						
TCF	**Toulx Ste Croi**	**80.03**	**344**	eP	**P**	**07 02 37.6**	**+1.1**
TCF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
MFF	**Saint Martin d**	**80.11**	**345**	eP	**P**	**07 02 38.2**	**+1.3**
	comp=Z,9.0nm,0.6s,mb4.5						
MFF	**Saint Martin d**	**80.11**	**345**	eP	**P**	**07 02 38.2**	**+1.3**
	comp=Z,4.5nm,0.6s,mb4.5						
MFF	**Saint Martin d**	**80.11**	**345**	eP	**P**	**07 02 38.2**	**+1.3**
MFF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
MBDF	**Montbardon**	**80.65**	**340**	eP	**P**	**07 02 40.8**	**+0.9**
	comp=Z,15nm,0.9s,mb4.5						
MBDF	**Montbardon**	**80.65**	**340**	eP	**P**	**07 02 40.8**	**+0.9**
	comp=Z,7.4nm,0.9s,mb4.5						
MBDF	**Montbardon**	**80.65**	**340**	eP	**P**	**07 02 40.8**	**+0.9**
MBDF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
ORIF	**Oris-en-Rattie**	**80.65**	**341**	eP	**P**	**07 02 41.3**	**+1.4**
ORIF				eMLR	MLR		
	comp=Z,48nm,18.8s						
ORIF	**Oris-en-Rattie**	**80.65**	**341**	eP	**P**	**07 02 41.3**	**+1.4**
ORIF	**Oris-en-Rattie**	**80.65**	**341**	eP	**P**	**07 02 41.3**	**+1.4**
VIVF	**Saint-Julien-l**	**80.95**	**342**	eP	**P**	**07 02 42.8**	**+1.3**
VIVF	**Saint-Julien-l**	**80.95**	**342**	eP	**P**	**07 02 42.8**	**+1.3**
VIVF	**Saint-Julien-l**	**80.95**	**342**	eP	**P**	**07 02 42.8**	**+1.3**
RJF	**Les Rejaudoux**	**81.10**	**344**	eP	**P**	**07 02 44.5**	**+2.3**
RJF				eMLR	MLR		
	comp=Z,59nm,18.2s						
RJF	**Les Rejaudoux**	**81.10**	**344**	eP	**P**	**07 02 44.5**	**+2.3**
RJF				LR	LR		
	comp=Z,60nm,18.3s						
RJF	**Les Rejaudoux**	**81.10**	**344**	eP	**P**	**07 02 44.5**	**+2.3**
RJF				MLR	MLR		
	comp=Z,60nm,18.3s						
CAF	**Calviac**	**81.37**	**343**	eP	**P**	**07 02 45.5**	**+1.8**
	comp=Z,9.4nm,0.6s,mb4.5						
CAF	**Calviac**	**81.37**	**343**	eP	**P**	**07 02 45.5**	**+1.8**
	comp=Z,4.7nm,0.6s,mb4.5						
CAF	**Calviac**	**81.37**	**343**	eP	**P**	**07 02 45.5**	**+1.8**
CAF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
LFF	**La Frestale**	**81.58**	**344**	eP	**P**	**07 02 46.4**	**+1.6**
	comp=Z,17nm,0.7s,mb4.7						
LFF	**La Frestale**	**81.58**	**344**	eP	**P**	**07 02 46.4**	**+1.6**
	comp=Z,8.6nm,0.7s,mb4.7						
LFF	**La Frestale**	**81.58**	**344**	eP	**P**	**07 02 46.4**	**+1.6**
LFF				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.7						
MTLF	**Montolieu**	**82.88**	**343**	eP	**P**	**07 02 52.2**	**+0.6**
MTLF	**Montolieu**	**82.88**	**343**	eP	**P**	**07 02 52.2**	**+0.6**
MTLF	**Montolieu**	**82.88**	**343**	eP	**P**	**07 02 52.2**	**+0.6**
EPF	**Esparros**	**83.51**	**344**	eP	**P**	**07 02 55.2**	**+0.4**
	comp=Z,19nm,0.9s,mb4.6						
EPF	**Esparros**	**83.51**	**344**	eP	**P**	**07 02 55.2**	**+0.4**
	comp=Z,9.6nm,0.9s,mb4.6						
EPF	**Esparros**	**83.51**	**344**	eP	**P**	**07 02 55.2**	**+0.4**
EPF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**84.88**	**195**	P	**P**	**07 02 59.5**	**-2.1**
	comp=Z,1.9nm,0.5s,mb4.2,baz=20,slow=5.4,SNR=5.4						
STKA	**Stephens Creek**	**84.88**	**195**	P	**P**	**07 02 59.5**	**-2.1**
STKA	**Stephens Creek**	**84.88**	**195**	P	**P**	**07 02 59.6**	**-2.0**
ESDC	**Sonseca Array**	**87.45**	**347**	P	**P**	**07 03 14.3**	**-0.2**
	comp=Z,1.2nm,0.5s,mb4.0,baz=359,slow=4.5,SNR=13						
ESDC	**Sonseca Array**	**87.45**	**347**	P	**P**	**07 03 14.3**	**-0.2**
KEST	**Kesra**	**88.61**	**336**	P	**P**	**07 03 21.6**	**+1.5**
	comp=Z,2.2nm,0.5s,mb4.5,baz=305,slow=4.0,SNR=9.1						
KEST	**Kesra**	**88.61**	**336**	eP	**P**	**07 03 21.7**	**+1.7**
TORD	**Torodi Ar. Bea**	**112.13**	**336**	PKiKP	PKiKP	07 09 01.2	-1.3
	comp=Z,0.3nm,0.4s,baz=8.3,slow=2.8,SNR=6.3						
TORD	**Torodi Ar. Bea**	**112.13**	**336**	PKPdf	PKiKP	07 09 01.2	-1.3
DBIC	**Dimbokro**	**119.89**	**341**	PKP	PKPdf	07 09 17.2	-0.1
	comp=Z,2.0nm,0.6s,baz=297,slow=4.8,SNR=5.7						
DBIC	**Dimbokro**	**119.89**	**341**	PKP	PKPdf	07 09 17.2	-0.1
DBIC	**Dimbokro**	**119.89**	**341**	PKIKP	PKPdf	07 09 17.2	-0.2
VNDA	**Vanda**	**129.28**	**179**	PKP	PKPdf	07 09 32.6	-0.7
	comp=Z,0.2nm,0.5s,baz=309,slow=3.1,SNR=3.6						
VNDA	**Vanda**	**129.28**	**179**	PKP	PKPdf	07 09 32.6	-0.7
VNDA	**Vanda**	**129.28**	**179**	PKIKP	PKPdf	07 09 32.6	-0.8
BOSA	**Boshof**	**138.46**	**286**	PKP	PKPdf	07 09 51.9	-0.2
	comp=Z,1.2nm,0.5s,baz=29,slow=0.7,SNR=5.4						
BOSA	**Boshof**	**138.46**	**286**	PKP	PKPdf	07 09 51.9	-0.2
BOSA	**Boshof**	**138.46**	**286**	PKIKP	PKPdf	07 09 51.9	-0.1
PLCA	**Paso Flores**	**144.81**	**91**	PKP	PKPdf	07 10 01.8	-1.2
	comp=Z,7.8nm,0.7s,baz=258,slow=4.5,SNR=16						
PLCA	**Paso Flores**	**144.81**	**91**	ePKPdf	PKPdf	07 10 01.3	-1.7
PLCA	**Paso Flores**	**144.81**	**91**	ePKIKP	PKPdf	07 10 01.3	-1.7
SYO	**Syowa Base**	**147.33**	**216**	⇑eP	PKPdf	07 10 05.4	-1.0
TRQA	**Tornquist**	**148.47**	**80**	ePKPbc	PKPbc	07 10 11.6	-1.3

JMA 01 07:05:57.4±0.1**,42°.23N×139°.20E,h14**km±1km**,M3.5, 1C-1D,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**0.25**	**126**	⇓P	Pg	07 06 02.8	0.0
JOSM				eS	Sg	07 06 06.3	-0.1
JSH	**Shimam**	**0.75**	**56**	⇑P	Pg	07 06 11.5	-0.5
JSH				eS	Sg	07 06 21.7	-0.1
JYM2	**Yakumo 2**	**0.88**	**97**	P	Pg	07 06 13.5	-0.9
JSR	**Shiriuchi**	**1.15**	**127**	P	Pb	07 06 18.2	-0.8
JSR				eS	Sb	07 06 33.1	-0.6
JNB	**Noboribetsu**	**1.38**	**79**	P	Pn	07 06 21.0	-1.3
JKB	**Kayabe**	**1.41**	**103**	P	Pn	07 06 22.5	-0.1

IDC 01 07:38:51.2±1.8**,40°.23S×74°.97W,h0**km**,mb3.6**/3**, mb1 3.7**/5**,mb1mx3.6**/16**,mbtmp3.4**/5**,ML3.3**/2**,MS2.9**/1**, Ms1 2.9**/1**,ms1mx2.5**/24**,Error ellipse: s-maj=43.8km s-min=23.5km az=41.0,Off coast of southern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.41**	**100**	Pn	Pn	07 39 46.3	+0.7
	0.9nm,0.3s,baz=272,slow=13,SNR=19						
PLCA				Sn	Sn	07 40 29.6	+3.0
	2.3nm,0.3s,baz=30,slow=18,SNR=3.3						
PLCA				LR	LR	07 41 07.8	
	comp=Z,195nm,20.2s,baz=266,slow=40						
CFAA	**Coronel Fontan**	**10.19**	**34**	Pn	Pn	07 41 16.7	-2.0
	0.1nm,0.3s,baz=211,slow=12,SNR=14						
CFAA				Sn	Sn	07 43 05.8	-7.8
	0.0nm,0.3s,baz=283,slow=18,SNR=3.2						
LPAZ	**La Paz**	**24.58**	**16**	P	P	07 44 14.5	+1.6
	0.5nm,0.7s,baz=192,slow=10,SNR=2.7						
TXAR	**Lajitas Array**	**74.17**	**334**	P	P	07 50 30.3	+0.9
	0.2nm,0.7s,baz=153,slow=8.1,SNR=2.8						
BOSA	**Boshof**	**79.22**	**118**	P	P	07 50 57.8	-0.5
	2.1nm,0.7s,baz=226,slow=5.0,SNR=5.7						

TRN 01 07:42:59.8,17°.04N×62°.15W,h3km**,M3.5**(FDF)**,Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCG	**Bois Riant Cap**	**1.07**	**152**	eP	Pg	07 43 23.7	+3.3
SCG	**Saint Claude**	**1.10**	**156**	eP	Pg	07 43 24.0	+3.1
DOG	**Dongo Capester**	**1.12**	**153**	eP	Pg	07 43 24.8	+3.5
PHG	**Guadaloupe-2**	**1.12**	**154**	eP	Pg	07 43 25.0	+3.6
HMG	**Houelmont**	**1.13**	**158**	eP	Pg	07 43 24.8	+3.2
DEG	**La Desirade**	**1.27**	**124**	eP	Pg	07 43 26.7	+2.6
DEG				eS	Sg	07 43 46.5	+5.9
MGG	**Marie-Galante**	**1.37**	**144**	eP	Pn	07 43 28.3	+2.5

*IDC **01** 07:49:50.1±2.3,23°.19S×179°.85W,h521km±24km,mb3.7/8, mb1 3.8/9,mb1mx3.4/21,mbtmp3.6/9,Error ellipse: s-maj=28.7km s-min=19.4km az=171.0*
*ISCJB **01** 07:49:51.7±1.2,23°.3S±0°.1×180°.0E±0°.1,h554km±16km, mb4.1/13,Error ellipse: s-maj=20.4km s-min=15.1km az=141.3*
*NEIC **01** 07:49:51.9±0.9,23°.33S×179°.91W,h547km±10km,mb4.1/8, Error ellipse: s-maj=14.1km s-min=10.8km az=143.0*
ISC 01 07:49:52.0±1.2**,23°.3S**±0°.1×**179°.9W**±0°.1**,h545**km±14km**, n36,**σ**0s.64**/31**,mb4.1**/13**,3D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.89**	**341**	ePn	**P**	**07 51 29.7**	**+0.2**
	22nm,0.8s						
URZ	**Urewera**	**15.09**	**189**	P	**P**	**07 53 01.1**	**-1.1**
	0.6nm,0.3s,baz=179,slow=17,SNR=3.0						
URZ	**Urewera**	**15.09**	**189**	P	**P**	**07 53 01.1**	**-1.1**
RPZ	**Rata Peaks**	**21.64**	**198**	P	**P**	**07 54 04.1**	**+1.2**
	14nm,0.7s,mb4.7,baz=15,slow=20,SNR=5.3						
RPZ	**Rata Peaks**	**21.64**	**198**	P	**P**	**07 54 04.1**	**+1.2**
EIDS	**Eidsvold**	**26.47**	**260**	eP	**P**	**07 54 46.2**	**+0.2**
	2.9nm,0.5s,mb4.2						
CMSA	**Cobar Meteorol**	**31.49**	**247**	⇓iP	**P**	**07 55 30.0**	**+0.5**
CTA	**Charters Tower**	**31.54**	**269**	P	**P**	**07 55 31.1**	**+1.0**
	19nm,0.5s,mb4.9,baz=96,slow=11,SNR=36						
CTA	**Charters Tower**	**31.54**	**269**	⇓iP	**P**	**07 55 31.1**	**+1.0**
	12nm,0.4s,mb4.8						
CTA	**Charters Tower**	**31.54**	**269**	P	**P**	**07 55 31.1**	**+1.0**
CTAO	**Charters Tower**	**31.54**	**269**	eP	**P**	**07 55 30.9**	**+0.8**
	16nm,0.4s,mb4.9						
STKA	**Stephens Creek**	**34.99**	**247**	P	**P**	**07 55 59.8**	**+0.8**
	6.1nm,0.6s,mb4.3,baz=95,slow=9.4,SNR=27						
STKA	**Stephens Creek**	**34.99**	**247**	⇓iP	**P**	**07 55 59.6**	**+0.5**
	4.0nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**34.99**	**247**	eP	**P**	**07 55 59.7**	**+0.6**
	1.0nm,0.5s,mb3.6						
ASAR	**Alice Springs**	**42.19**	**260**	P	**P**	**07 56 57.7**	**+0.2**
	7.4nm,0.8s,mb4.3,baz=99,slow=6.9,SNR=66						
ASAR				ScP	ScP	08 01 40.0	+2.1
	1.1nm,1.0s,baz=109,slow=3.7,SNR=4.8						
ASAR	**Alice Springs**	**42.19**	**260**	P	**P**	**07 56 57.7**	**+0.2**
ASAR				ScP	ScP	08 01 40.0	+2.1
WB2	**Warramunga Arr**	**42.50**	**266**	eP	**P**	**07 56 59.2**	**-0.7**
WRAB	**Tennant Creek**	**42.50**	**266**	eP	**P**	**07 56 59.3**	**-0.7**
	5.1nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**42.51**	**266**	P	**P**	**07 56 59.7**	**-0.3**
	4.5nm,0.3s,mb4.4,baz=92,slow=8.5,SNR=143						
WRA				ScP	ScP	08 01 42.2	+3.0
	1.4nm,1.0s,baz=98,slow=3.8,SNR=8.8						
WRA	**Warramunga Arr**	**42.51**	**266**	P	**P**	**07 56 59.7**	**-0.3**
WRA				ScP	ScP	08 01 42.2	+3.0
KAKA	**Kakadu**	**46.33**	**275**	eP	**P**	**07 57 28.4**	**-1.0**
	3.5nm,0.4s,mb4.2						
KAKA	**Kakadu**	**46.33**	**275**	eP	**P**	**07 57 28.4**	**-1.0**
FITZ	**Fitzroy Crossi**	**50.94**	**265**	P	**P**	**07 58 03.7**	**+0.1**
	3.0nm,0.5s,mb3.8,baz=131,slow=6.1,SNR=14						
FITZ	**Fitzroy Crossi**	**50.94**	**265**	eP	**P**	**07 58 04.0**	**+0.4**
	4.0nm,0.4s,mb4.1						
FITZ	**Fitzroy Crossi**	**50.94**	**265**	eP	**P**	**07 58 03.8**	**+0.2**
	2.2nm,0.5s,mb3.7						
MBWA	**Marble Bar**	**55.53**	**260**	eP	**P**	**07 58 35.7**	**-0.5**
	4.1nm,0.5s,mb3.9						
ISA	**Isabella**	**82.58**	**46**	eP	**P**	**08 01 18.3**	**+0.1**
	2.3nm,0.8s,mb3.8						
TXAR	**Lajitas Array**	**90.08**	**58**	P	**P**	**08 01 54.0**	**-0.2**
	0.7nm,0.7s,mb3.6,baz=208,slow=5.7,SNR=8.7						
TXAR	**Lajitas Array**	**90.08**	**58**	P	**P**	**08 01 54.0**	**-0.2**
PDAR	**Pinedale Array**	**92.24**	**44**	P	**P**	**08 02 04.0**	**+0.2**
	0.5nm,0.8s,mb3.6,baz=191,slow=6.8,SNR=4.5						
PDAR	**Pinedale Array**	**92.24**	**44**	P	**P**	**08 02 04.0**	**+0.2**
HFS	**Hagfors**	**142.01**	**349**	PKhKP	PKPpre	08 08 16.9	
	1.8nm,0.3s,baz=59,slow=4.3,SNR=18						
HFS	**Hagfors**	**142.01**	**349**	PKP	PKPpre	08 08 16.9	
AKASG	**Malin Array Be**	**144.53**	**328**	PKP	PKPdf	08 08 25.6	-0.7
	0.8nm,0.4s,baz=45,slow=4.0,SNR=5.3						
AKASG	**Malin Array Be**	**144.53**	**328**	PKP	PKPdf	08 08 25.6	-0.7
CLL	**Collm**	**150.34**	**344**	ePKPbc	PKPbc	08 08 41.0	-0.6

*IDC **01** 07:55:30.7±0.6,46°.86N×155°.95E,h0km,mb4.0/14, mb1 4.1/17,mb1mx3.9/31,mbtmp4.0/17,ML3.6/3,MS3.1/5, Ms1 3.2/5,ms1mx2.8/46,Error ellipse: s-maj=18.0km s-min=12.6km az=139.0*
*ISCJB **01** 07:55:34.0±0.4,46°.96N±0°.05×155°.79E±0°.09,h33km, mb4.1/18,MS3.3/4,Error ellipse: s-maj=10.1km s-min=5.7km az=32.2*
*MOS **01** 07:55:36.1±2.1,47°.03N×155°.65E,h54km,mb4.5/4,Error ellipse: s-maj=14.2km s-min=8.4km az=70.2*
*NEIC **01** 07:55:36.1±0.5,46°.94N×155°.97E,h35km,mb4.3/4,Error ellipse: s-maj=15.9km s-min=10.2km az=151.0*
ISC 01 07:55:36.2±0.4**,46°.94N**±0°.05×**155°.83E**±0°.09**,h35**km**,n75, **σ**1s.22**/72**,mb4.1**/18**,MS3.3**/4**,2C-1D,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.76**	**3**	ePN	**Pn**	**07 56 30.2**	**-1.3**
SKR				eS	**Sn**	**07 57 13.6**	**-0.9**
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR				smax			
	comp=N,280nm,0.4s						
SKR				smax			
	comp=E,320nm,0.4s						
KUR	**Kuril'sk**	**5.79**	**256**	ePN	**Pn**	**07 56 57.5**	**-2.0**
KUR				pmax	pmax		
	comp=Z,90nm,0.5s						
PETK	**Petropavlovsk-**	**6.30**	**10**	Pn	**Pn**	**07 57 04.3**	**-2.1**
	comp=Z,2.8nm,0.3s,baz=207,slow=15,SNR=92						
PETK				Sn	**Sn**	**07 58 17.2**	**+0.2**
	comp=Z,2.2nm,0.3s,baz=72,slow=25,SNR=6.4						
PETK	**Petropavlovsk-**	**6.30**	**10**	Pn	**Pn**	**07 57 04.3**	**-2.1**
PETK				Sn	**Sn**	**07 58 17.2**	**+0.2**
PETK	**Petropavlovsk-**	**6.30**	**10**	PN	**Pn**	**07 57 04.3**	**-2.1**
PETK						07 58 17.3	
PET	**Petropavlovsk**	**6.36**	**16**	ePN	**Pn**	**07 57 03.8**	**-3.5**
YUK	**Yuzh-Kuril'sk**	**7.58**	**251**	ePN	**Pn**	**07 57 21.8**	**-2.3**
YUK				pmax	pmax		
	comp=N,20nm,0.3s						
YUK				pmax	pmax		
	comp=E,20nm,0.3s						
YUK				pmax	pmax		
	comp=Z,140nm,0.3s						
ASAJ	**Asahikawa**	**9.71**	**258**	Pn	**Pn**	**07 57 52.5**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=104,slow=17,SNR=3.8						
ASAJ				LR	LR	08 01 17.1	
	comp=Z,34nm,19.9s,baz=58,slow=35						
ASAJ	**Asahikawa**	**9.71**	**258**	ePn	**Pn**	**07 57 52.1**	**-1.1**
ASAJ	**Asahikawa**	**9.71**	**258**	PN	**Pn**	**07 57 52.5**	**-0.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,34nm,19.9s						
ERM	**Erimo**	**10.30**	**246**	⇑iPN	**Pn**	**07 58 01.6**	**+0.2**
FX1	**Attu Island--F**	**12.65**	**56**	Pn	**Pn**	**07 58 29.6**	**-3.7**
	comp=Z,1.0nm,0.3s,baz=298,slow=22,SNR=9.8						
FX1				Sn	**Sn**	**08 00 38.5**	**-14**
	comp=Z,1.8nm,0.3s,baz=139,slow=14,SNR=6.7						
FX1	**Attu Island--F**	**12.65**	**56**	Pn	**Pn**	**07 58 29.6**	**-3.7**
FX1				Sn	**Sn**	**08 00 38.5**	**-14**
FX1	**Attu Island--F**	**12.65**	**56**	PN	**Pn**	**07 58 29.6**	**-3.7**
MAJO	**Matsushiro**	**16.72**	**238**	eP	**Pn**	**07 59 27.1**	**-0.4**
YAK	**Yakutsk**	**21.21**	**325**	eP	**P**	**08 00 20.5**	**+2.1**
BILL	**Bilibino**	**21.83**	**11**	⇓eP	**P**	**08 00 25.7**	**+0.7**
BILL				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.1						
KDAK	**Kodiak Island**	**32.54**	**51**	P	**P**	**08 02 01.2**	**-2.2**
	comp=Z,2.5nm,0.6s,mb4.3,baz=274,slow=7.8,SNR=7.9						
KDAK	**Kodiak Island**	**32.54**	**51**	P	**P**	**08 02 01.2**	**-2.2**
KDAK	**Kodiak Island**	**32.54**	**51**	i P	**P**	**08 02 02.5**	**-0.9**
COLA	**College**	**34.83**	**38**	eP	**P**	**08 02 23.2**	**-0.1**
ILAR	**Eielson Array**	**35.24**	**39**	P	**P**	**08 02 25.6**	**-1.2**
	comp=Z,0.5nm,0.6s,mb3.6,baz=249,slow=7.5,SNR=9.8						
ILAR				LR	LR	08 17 13.8	
	comp=Z,39nm,20.0s,MS3.2,baz=238,slow=37						
ILAR	**Eielson Array**	**35.24**	**39**	P	**P**	**08 02 25.6**	**-1.2**
ILAR				LR	LR	08 17 13.8	
ILAR	**Eielson Array**	**35.24**	**39**	P	**P**	**08 02 25.6**	**-1.2**
INK	**Inuvik**	**40.49**	**33**	P	**P**	**08 03 11.4**	**+0.4**
	comp=Z,2.3nm,0.5s,mb4.2,baz=300,slow=6.1,SNR=28						
INK	**Inuvik**	**40.49**	**33**	eP	**P**	**08 03 11.3**	**+0.2**
	comp=Z,2.2nm,0.5s,mb4.1						
INK	**Inuvik**	**40.49**	**33**	P	**P**	**08 03 11.4**	**+0.4**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZALV	**Zalesovo Beam**	**44.01**	**306**	P	**P**	**08 03 41.4**	**+1.5**
	comp=Z,0.4nm,0.3s,mb3.6,baz=73,slow=7.1,SNR=3.4						
ZALV				LR	LR	08 22 44.4	
	comp=Z,18nm,19.0s,MS3.0,baz=290,slow=37						
ZALV	**Zalesovo Beam**	**44.01**	**306**	P	**P**	**08 03 41.4**	**+1.5**
ZALV				LR	LR	08 22 44.4	
ZALV	**Zalesovo Beam**	**44.01**	**306**	P	**P**	**08 03 41.4**	**+1.6**
MKAR	**Makanchi Array**	**48.50**	**298**	P	**P**	**08 04 15.7**	**+0.4**
	comp=Z,0.3nm,0.6s,mb3.5,baz=74,slow=6.2,SNR=3.1						
MKAR	**Makanchi Array**	**48.50**	**298**	P	**P**	**08 04 15.7**	**+0.4**
MKAR	**Makanchi Array**	**48.50**	**298**	P	**P**	**08 04 15.7**	**+0.5**
KURK	**Kurchatov**	**48.81**	**305**	P	**P**	**08 04 17.9**	**+0.3**
	comp=Z,2.6nm,0.6s,mb4.4,baz=67,slow=8.4,SNR=11						
KURK	**Kurchatov**	**48.81**	**305**	eP	**P**	**08 04 18.8**	**+1.3**
	comp=Z,2.4nm,0.6s,mb4.4						
KURK	**Kurchatov**	**48.81**	**305**	⇑eP	**P**	**08 04 19.3**	**+1.8**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
BVAR	**Borovoye Array**	**52.17**	**310**	P	**P**	**08 04 43.5**	**+0.6**
	comp=Z,0.9nm,0.4s,mb4.0,baz=44,slow=8.2,SNR=5.9						
BVAR	**Borovoye Array**	**52.17**	**310**	P	**P**	**08 04 43.5**	**+0.6**
BVAR	**Borovoye Array**	**52.17**	**310**	P	**P**	**08 04 43.5**	**+0.6**
AAK	**Ala-Archa**	**55.41**	**298**	LR	LR	08 29 38.7	
	comp=Z,34nm,19.5s,MS3.4,baz=208,slow=37						
ARU	**Arti**	**56.12**	**318**	P	pP	08 05 27.0	+4.8
ABKAR	**Akbulak array**	**59.73**	**311**	eP	**P**	**08 05 38.6**	**+1.7**
	comp=Z,1.0nm,0.5s,mb4.1						
AKTO	**Aktyubinsk**	**59.98**	**313**	LR	LR	08 36 08.6	
	comp=Z,31nm,19.2s,MS3.5,baz=231,slow=41						
NVAR	**Mina Array Bea**	**60.69**	**64**	P	**P**	**08 05 44.9**	**+1.1**
	comp=Z,0.8nm,0.6s,mb4.0,baz=298,slow=7.2,SNR=5.9						
NVAR	**Mina Array Bea**	**60.69**	**64**	P	**P**	**08 05 44.9**	**+1.2**
PDAR	**Pinedale Array**	**63.12**	**55**	P	**P**	**08 05 60.0**	**-0.1**
	comp=Z,1.1nm,0.8s,mb4.0,baz=308,slow=2.3,SNR=7.8						
PDAR	**Pinedale Array**	**63.12**	**55**	P	**P**	**08 05 60.0**	**-0.1**
KBL	**Kabul**	**63.72**	**293**	eP	**P**	**08 06 05.1**	**+1.0**
	comp=Z,4.6nm,0.6s,mb4.7						
KBL	**Kabul**	**63.72**	**293**	eP	**P**	**08 06 05.1**	**+1.0**
KBL				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
FINES	**FINESS Array B**	**64.65**	**336**	P	**P**	**08 06 11.2**	**+1.5**
	comp=Z,1.0nm,0.5s,mb4.1,baz=31,slow=6.5,SNR=8.7						
FINES	**FINESS Array B**	**64.65**	**336**	P	**P**	**08 06 11.2**	**+1.5**
FINES	**FINESS Array B**	**64.65**	**336**	P	**P**	**08 06 11.3**	**+1.5**
RSSD	**Black Hills**	**65.27**	**51**	eP	**P**	**08 06 14.3**	**+0.3**
RSSD	**Black Hills**	**65.27**	**51**	eP	**P**	**08 06 14.3**	**+0.3**
PV10	**Paradox Valley**	**66.29**	**59**	eP	**P**	**08 06 22.0**	**+1.3**
WRA	**Warramunga Arr**	**69.33**	**202**	P	**P**	**08 06 38.0**	**-1.9**
	comp=Z,1.8nm,0.8s,mb4.0,baz=19,slow=6.7,SNR=10						
WRA	**Warramunga Arr**	**69.33**	**202**	P	**P**	**08 06 38.0**	**-1.9**
WRA	**Warramunga Arr**	**69.33**	**202**	P	**P**	**08 06 38.0**	**-1.9**
FITZ	**Fitzroy Crossi**	**70.22**	**211**	P	**P**	**08 06 44.9**	**-0.4**
	comp=Z,1.4nm,1.0s,mb3.9,baz=50,slow=7.9,SNR=2.6						
FITZ	**Fitzroy Crossi**	**70.22**	**211**	P	**P**	**08 06 44.9**	**-0.4**
ASAR	**Alice Springs**	**73.01**	**201**	P	**P**	**08 07 02.0**	**-0.1**
	comp=Z,1.2nm,0.8s,mb3.9,baz=17,slow=5.5,SNR=11						
ASAR	**Alice Springs**	**73.01**	**201**	P	**P**	**08 07 02.0**	**-0.1**
ASAR	**Alice Springs**	**73.01**	**201**	P	**P**	**08 07 02.0**	**-0.1**
TXAR	**Lajitas Array**	**75.77**	**62**	P	**P**	**08 07 18.9**	**+0.6**
	comp=Z,4.9nm,0.5s,mb4.7,baz=304,slow=5.1,SNR=128						
TXAR	**Lajitas Array**	**75.77**	**62**	P	**P**	**08 07 18.9**	**+0.6**
TXAR	**Lajitas Array**	**75.77**	**62**	P	**P**	**08 07 18.9**	**+0.6**
KHC	**Kasperske Hory**	**78.86**	**336**	eP	**P**	**08 07 34.8**	**-0.5**
STKA	**Stephens Creek**	**79.49**	**192**	P	**P**	**08 07 40.3**	**+1.6**
	comp=Z,3.5nm,1.1s,mb4.2,baz=151,slow=7.3,SNR=3.3						
STKA	**Stephens Creek**	**79.49**	**192**	P	**P**	**08 07 40.3**	**+1.6**

STKA	**Stephens Creek**	**79.49**	**192**	P	**P**	**08 07 40.3**	**+1.6**
PLCA	**Paso Flores**	**146.37**	**97**	PKPbc	PKPbc	08 15 13.0	+0.3
	comp=Z,2.1nm,1.0s,baz=253,slow=2.4,SNR=3.1						
PLCA	**Paso Flores**	**146.37**	**97**	PKPbc	PKPbc	08 15 13.0	+0.3
PLCA	**Paso Flores**	**146.37**	**97**	PKP2	PKPab	08 15 13.0	-0.6
VNA2	**Neumayer--Watz**	**154.62**	**193**	*e*PKPdf	PKPab	08 15 45.5	-1.2
VNA3	**Neumayer Olymp**	**154.66**	**191**	*e*PKPdf	PKPdf	08 15 21.9	-1.4

IDC 01 08:16:48.8±29.0**, 19°.64S×177°.62W, h0km, mb3.9**/4**, mb1 4.1**/4**, mb1mx3.7**/19**, mbtmp3.9**/4**, Error ellipse: s-maj=560.4km s-min=145.3km az=87.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.49**	**243**	P	P	08 24 12.6	-0.2
	2.1nm,1.0s,baz=66,slow=10.0,SNR=4.1						
ASAR	**Alice Springs**	**45.07**	**256**	P	P	08 25 06.8	0.0
	1.8nm,0.5s,baz=97,slow=8.0,SNR=31						
WRA	**Warramunga Arr**	**45.08**	**261**	P	P	08 25 07.0	+0.1
	0.6nm,0.3s,baz=97,slow=7.4,SNR=50						
FITZ	**Fitzroy Crossi**	**53.50**	**262**	P	P	08 26 11.3	-0.2
	1.1nm,0.7s,baz=72,slow=8.0,SNR=6.5						

*ISK **01** 08:28:04.9, 40°.50N×29°.24E, h2km, MD2.5*
*ISCJB **01** 08:28:05.8±0.6, 40°.54N±0°.04×29°.26E±0°.04, h10km, Error ellipse: s-maj=5.8km s-min=4.6km az=3.0*
*CSEM **01** 08:28:05.9±0.2, 40°.49N×29°.26E, h2km, MD2.5, Error ellipse: s-maj=4.4km s-min=3.8km az=165.0*
*DDA **01** 08:28:06.0, 40°.44N×29°.22E, h7km±3km, Md2.6*
ISC 01 08:28:06.1±0.6**, 40°.51N**±0°.04×**29°.26E**±0°.04**, h7**km±6km**, n22,** σ0s.77/32**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEMT	**Gemlik**	**0.09**	**216**	*e*PG	**Pg**	**08 28 06.6**	**-1.5**
GEMT	**Gemlik**	**0.09**	**216**	*e*Pg	**Pg**	**08 28 06.6**	**-1.5**
ARMT	**Armutlu**	**0.31**	**281**	*e*PG	**Pg**	**08 28 11.9**	**-0.2**
ARMT				*e*SG	**Sg**	**08 28 16.7**	**+0.5**
ARMT	**Armutlu**	**0.31**	**281**	*e*Pg	**Pg**	**08 28 11.9**	**-0.2**
ARMT				*e*Sg	**Sg**	**08 28 16.7**	**+0.5**
MDNY	**Mudanya-Bursa**	**0.32**	**244**	*e*PG	**Pg**	**08 28 12.1**	**-0.2**
MDNY	**Mudanya-Bursa**	**0.32**	**244**	*e*Pg	**Pg**	**08 28 12.1**	**-0.2**
ADVT	**Abdulvahap**	**0.37**	**101**	*e*PG	**Pg**	**08 28 13.3**	**0.0**
ADVT	**Abdulvahap**	**0.37**	**101**	*e*Pg	**Pg**	**08 28 13.3**	**0.0**
HRT	**Hereke**	**0.44**	**45**	*e*PG	**Pg**	**08 28 14.9**	**+0.2**
HRT	**Hereke**	**0.44**	**45**	*e*Pg	**Pg**	**08 28 14.9**	**+0.2**
KLYT	**Kilyos**	**0.76**	**348**	*e*PG	**Pg**	**08 28 20.9**	**+0.2**
KLYT	**Kilyos**	**0.76**	**348**	*e*Pg	**Pg**	**08 28 20.9**	**+0.1**
DST	**Dursunbey**	**1.03**	**209**	*e*PG	**Pg**	**08 28 25.5**	**-0.3**
DST	**Dursunbey**	**1.03**	**209**	*e*Pg	**Pg**	**08 28 25.5**	**-0.3**
DURS	**Dursunbey**	**1.09**	**214**	*i* P	**Pg**	**08 28 26.7**	**-0.2**
DURS				*i* S	**Sg**	**08 28 42.4**	**+1.4**
DURS	**Dursunbey**	**1.09**	**214**	*i* P	**Pg**	**08 28 26.7**	**-0.2**
DURS				*i* S	**Sg**	**08 28 42.4**	**+1.4**
BORA	**Eskisehir**	**1.11**	**124**	*i* P	**Pg**	**08 28 27.1**	**-0.2**
BORA				*i* S	**Sg**	**08 28 43.2**	**+1.4**
BORA	**Eskisehir**	**1.11**	**124**	*i* P	**Pg**	**08 28 27.1**	**-0.2**
BORA				*i* S	**Sg**	**08 28 43.2**	**+1.5**
GDZ	**Gediz**	**1.43**	**173**	*i* P	**Pn**	**08 28 31.0**	**-1.4**
GDZ				*i* S	**Sb**	**08 28 50.9**	**-0.5**
GDZ	**Gediz**	**1.43**	**173**	*i* P	**Pn**	**08 28 31.0**	**-1.4**
GDZ				*i* S	**Sb**	**08 28 50.9**	**-0.4**
BALY	**Balya**	**1.47**	**239**	*i* P	**Pn**	**08 28 32.9**	**-0.1**
BALY				*i* S	**Sn**	**08 28 53.3**	**+0.8**
BALY	**Balya**	**1.47**	**239**	*i* P	**Pn**	**08 28 32.8**	**-0.2**
BALY				*i* S	**Sn**	**08 28 53.3**	**+0.8**

ISC 01 09:13:58.5±2.2**, 36°.63N**±0°.08×**70°.2E**±0°.3**, h148**km±45km**, n10,** σ0s.62/13**, 1C-4D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.13**	**153**	⇓P	**Pn**	**09 14 48.4**	**+0.9**
CEP				S	**Sn**	**09 15 25.0**	**-0.3**
CHCP	**Chirah Chowk**	**3.89**	**139**	⇓P	**Pn**	**09 14 57.4**	**+0.2**
THW	**Thamme Wali**	**4.03**	**161**	P	**Pn**	**09 14 58.6**	**-0.6**
KK31	**Karatay Array**	**6.47**	**2**	Pn	**Pn**	**09 15 31.3**	**0.0**
	1.6nm,0.3s,baz=192,slow=13,SNR=36						
KK31				⇑Sn	**Sn**	**09 16 44.0**	**-0.1**
	1.0nm,0.3s,baz=193,slow=25,SNR=4.2						
EKS2	**Erkin-Say**	**6.63**	**24**	P	**Pn**	**09 15 33.6**	**+0.1**
	SNR=20						
KZA	**Kyzart**	**6.70**	**34**	P	**Pn**	**09 15 34.0**	**-0.5**
	SNR=15						
ULHL	**Ulahol**	**7.30**	**38**	P	**Pn**	**09 15 42.1**	**-0.3**
	SNR=7.7						
USP	**Ospenovka**	**7.41**	**25**	P	**Pn**	**09 15 43.7**	**-0.1**
	SNR=5.0						
TKM2	**Tokmak 2**	**7.53**	**32**	P	**Pn**	**09 15 44.8**	**-0.7**
	SNR=7.4						
TKM2	**Tokmak 2**	**7.53**	**32**	⇓Pn	**Pn**	**09 15 48.2**	**+2.7**
	7.7nm,0.8s						
TKM2				⇓Sn	**Sn**	**09 17 14.5**	**+4.9**
	3.8nm,0.9s						

*IDC **01** 09:22:42.5±0.7, 51°.57N×174°.31W, h0km, mb4.1/20, mb1 4.3/22, mb1mx4.2/32, mbtmp4.1/22, ML4.7/2, MS2.8/2, Ms1 2.8/2, ms1mx2.3/38, Error ellipse: s-maj=22.2km s-min=13.4km az=167.0*
*BJI **01** 09:22:44.5, 51°.50N×174°.40W, h38km, mB4.8/10, mb4.8/20, Ms4.4/8, Ms7 4.0/8*
*ISCJB **01** 09:22:47.3±0.9, 51°.46N±0°.08×174°.32W±0°.05, h45km±6km, mb4.4/41, MS3.7/4, Error ellipse: s-maj=12.7km s-min=4.7km az=172.5*
*NEIC **01** 09:22:49.0±0.9, 51°.51N×174°.38W, h46km±6km, mb4.1/13, ML3.7(AEIC), Error ellipse: s-maj=12.9km s-min=5.3km az=172.0*
ISC 01 09:22:49.2±0.8**, 51°.53N**±0°.07×**174°.35W**±0°.05**, h44**km±5km**, n127,** σ1s.01/131**, mb4.4**/41**, MS3.7**/4**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.69**	**8**	P	**Pn**	**09 23 01.8**	**-0.7**
ATKA				S	**Sn**	**09 23 12.1**	**0.0**
GSTR	**Great Sitkin T**	**1.20**	**299**	*e*Pn	**Pn**	**09 23 08.9**	**-0.6**
GSTR				*e*Sn	**Sn**	**09 23 28.4**	**+3.8**
ADK	**Adak**	**1.49**	**285**	P	**Pn**	**09 23 12.5**	**-0.9**
ADK				S	**Sn**	**09 23 31.4**	**-0.3**
NIKO	**Nikolski**	**3.68**	**65**	P	**Pn**	**09 23 42.6**	**-0.8**
UNV	**Unalaska Valle**	**5.31**	**61**	*e*Pn	**Pn**	**09 24 06.3**	**+0.5**
	40nm,0.4s						
AKUT	**Akutan**	**5.82**	**60**	*e*Pn	**Pn**	**09 24 13.5**	**+0.7**
FALS	**False Pass**	**7.37**	**59**	*e*Pn	**Pn**	**09 24 35.0**	**+0.9**
FALS				*e*Sn	**Sn**	**09 25 60.0**	**+3.7**
FX1	**Attu Island--F**	**7.79**	**285**	Pn	**Pn**	**09 24 41.5**	**+1.7**
	3.8nm,0.3s,baz=262,slow=15,SNR=18						
FX1	**Attu Island--F**	**7.79**	**285**	Pn	**Pn**	**09 24 41.5**	**+1.7**
SDPT	**Sand Point**	**9.12**	**60**	*e*Pn	**Pn**	**09 24 58.3**	**+0.3**
OHAK	**Old Harbor**	**13.51**	**57**	*e*Pn	**Pn**	**09 25 54.7**	**-3.2**
	8.4nm,0.4s						
KDAK	**Kodiak Island**	**14.04**	**55**	Pn	**Pn**	**09 26 03.3**	**-1.7**
	1.0nm,0.3s,baz=293,slow=13,SNR=13						
KDAK				Sn	**Sn**	**09 28 34.7**	**-4.4**
	baz=127,slow=20,SNR=2.3						
KDAK	**Kodiak Island**	**14.04**	**55**	*e*Pn	**Pn**	**09 26 04.4**	**-0.7**
	13nm,0.3s						
SLKM	**Skilak Lake**	**16.12**	**47**	Pn	**Pn**	**09 26 31.6**	**-0.8**
PPLA	**Purkeypile**	**16.44**	**38**	*e*Pn	**Pn**	**09 26 38.0**	**+1.6**
	9.3nm,0.7s						
PETK	**Petropavlovsk-**	**17.12**	**286**	LR	LR	09 32 30.2	
	comp=Z,45nm,18.5s,baz=278,slow=34						
TRF	**Thorofare Moun**	**17.47**	**38**	*e*Pn	**Pn**	**09 26 50.3**	**+1.2**
	6.4nm,0.8s						
BPAW	**Bear Paw Mtn.**	**17.57**	**35**	*e*Pn	**Pn**	**09 26 51.6**	**+1.2**
	22nm,1.1s						
MCK	**McKinley**	**18.13**	**38**	*e*Pn	**Pn**	**09 26 56.0**	**-1.2**
	9.7nm,0.8s						
DIV	**Divide**	**18.39**	**47**	*e*P	**Pn**	**09 27 01.3**	**+0.9**
	7.0nm,0.6s						
BILL	**Bilibino**	**19.06**	**338**	*e*P	**Pn**	**09 27 09.2**	**+0.7**
	14nm,0.9s						
COLA	**College**	**19.13**	**36**	P	**Pn**	**09 27 10.5**	**+1.2**
	3.9nm,0.6s						
ILAR	**Eielson Array**	**19.43**	**36**	P	**Pn**	**09 27 08.6**	**-4.3**
	2.3nm,0.3s,baz=238,slow=9.6,SNR=84						
ILAR	**Eielson Array**	**19.43**	**36**	P	**Pn**	**09 27 08.6**	**-4.3**
MENT	**Mentasta**	**19.91**	**43**	*e*P	**Pn**	**09 27 18.1**	**-0.5**
DOT	**Dot Lake**	**20.03**	**41**	*e*P	**P**	**09 27 17.1**	**-0.9**
	28nm,0.5s						
EGAK	**Eagle**	**21.64**	**40**	*e*P	**P**	**09 27 34.9**	**-0.4**
	20nm,0.5s,mb4.8						
DAWY	**Dawson**	**22.11**	**42**	*e*P	**P**	**09 27 39.2**	**-1.2**
INK	**Inuvik**	**25.76**	**34**	P	**P**	**09 28 13.8**	**-1.5**
	2.1nm,0.6s,mb3.9,baz=250,slow=9.5,SNR=21						
INK	**Inuvik**	**25.76**	**34**	*e*P	**P**	**09 28 14.7**	**-0.5**
	2.6nm,0.7s,mb3.9						
DLBC	**Dease Lake**	**25.95**	**57**	P	**P**	**09 28 17.5**	**+0.5**
	2.5nm,0.6s,mb3.9,baz=293,slow=10.0,SNR=5.3						
DLBC	**Dease Lake**	**25.95**	**57**	P	**P**	**09 28 17.5**	**+0.5**
YKA	**Yellowknife Ar**	**33.10**	**47**	P	**P**	**09 29 18.6**	**-1.8**
	0.4nm,0.4s,mb3.7,baz=273,slow=8.9,SNR=3.2						
YKA				LR	LR	09 42 47.8	
	comp=Z,9.9nm,18.5s,MS2.5,baz=225,slow=36						
YKA	**Yellowknife Ar**	**33.10**	**47**	P	**P**	**09 29 18.6**	**-1.8**
YKA				LR	LR	09 42 47.8	
RES	**Resolute Bay**	**38.45**	**25**	P	**P**	**09 30 05.2**	**-0.8**
	1.3nm,0.7s,mb3.8,baz=268,slow=6.9,SNR=5.0						
RES	**Resolute Bay**	**38.45**	**25**	P	**P**	**09 30 05.2**	**-0.8**
CN2	**Changchun**	**40.24**	**283**	*e*P	**P**	**09 30 22.3**	**+1.0**
CN2				*e*sP	sP	09 30 36.1	-2.4
CN2				*e*S	**S**	**09 36 26.4**	**+1.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.7						
MCMT	**McKenzie Canyo**	**40.47**	**74**	*e*P	**P**	**09 30 24.2**	**+1.0**
	comp=Z,1.0nm,0.5s,mb3.8						
NVAR	**Mina Array Bea**	**40.77**	**86**	P	**P**	**09 30 24.8**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=292,slow=9.7,SNR=2.7						
NVAR	**Mina Array Bea**	**40.77**	**86**	P	**P**	**09 30 24.8**	**-1.0**
KSRS	**Korea Array**	**42.41**	**274**	P	**P**	**09 30 42.1**	**+3.0**
	comp=Z,0.7nm,0.5s,mb3.5,baz=55,slow=8.1,SNR=4.4						
PD01	**Pinedale Array**	**43.58**	**75**	*e*P	**P**	**09 30 50.2**	**+1.6**
PD02	**Pinedale Array**	**43.59**	**75**	*e*P	**P**	**09 30 49.6**	**+1.0**
PDAR	**Pinedale Array**	**43.60**	**75**	P	**P**	**09 30 49.1**	**+0.4**
	comp=Z,0.7nm,0.5s,mb3.7,baz=332,slow=3.3,SNR=9.3						
PDAR	**Pinedale Array**	**43.60**	**75**	P	**P**	**09 30 49.1**	**+0.4**
ULM	**Lac du Bonnet**	**47.25**	**59**	P	**P**	**09 31 16.2**	**-1.3**
	comp=Z,4.2nm,0.5s,mb4.6,baz=308,slow=11,SNR=13						
ULM	**Lac du Bonnet**	**47.25**	**59**	P	**P**	**09 31 16.2**	**-1.3**
BJI	**Beijing**	**48.05**	**285**	P	**P**	**09 31 23.9**	**+0.1**
BJI				S	**S**	**09 38 19.5**	**+0.7**
BJI				SS	SS	09 41 43.9	-3.7
BJI				pmax	pmax		
	comp=Z,11nm,0.5s,mb5.1						
BJI				pmax	pmax		
	comp=Z,110nm,3.6s						
BJI				LR	LR		
	comp=N,100nm,15.5s,MS4.0						
BJI				LR	LR		
	comp=E,96nm,15.5s,MS4.0						
BJI				LR	LR		
	comp=Z,40nm,20.9s						
HHC	**Hu-ho-hao-te**	**50.30**	**289**	*e*P	**P**	**09 31 41.6**	**+0.6**
HHC				PP	PP	09 33 38.0	+1.5
HHC				S	**S**	**09 38 46.6**	**-3.8**
HHC				SS	SS	09 42 16.8	-7.0
HHC				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
HHC				pmax	pmax		
	comp=Z,55nm,3.7s						
HHC				LR	LR		
	comp=N,96nm,14.3s,MS4.0						
HHC				LR	LR		
	comp=E,67nm,14.3s,MS4.0						
HHC				LR	LR		
	comp=Z,96nm,14.3s,MS4.0						
NJ2	**Nanjing**	**51.58**	**275**	*e*P	**P**	**09 31 54.2**	**+3.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.0						
TXAR	**Lajitas Array**	**55.88**	**85**	P	**P**	**09 32 21.7**	**-0.5**
	comp=Z,0.5nm,0.7s,mb3.7,baz=298,slow=6.1,SNR=7.2						
TXAR	**Lajitas Array**	**55.88**	**85**	P	**P**	**09 32 21.7**	**-0.5**
LZH	**Lanzhou**	**57.99**	**289**	*e*P	**P**	**09 32 35.0**	**-2.1**
LZH				pP	pP	09 32 45.2	-4.4
LZH				sP	sP	09 32 49.3	-5.4
LZH				*e*PP	PP	09 34 45.1	-0.5
LZH				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.9						
LZH				LR	LR		
	comp=E,180nm,16.5s						
LZH				LR	LR		
	comp=Z,250nm,19.3s,MS4.3						
KEV	**Kevo**	**58.03**	**351**	*e*p	**P**	**09 32 30.1**	**-6.7**
ARCES	**ARCESS Array B**	**58.38**	**352**	P	**P**	**09 32 37.9**	**-1.4**
	comp=Z,3.2nm,0.7s,mb4.5,baz=16,slow=7.0,SNR=7.6						
ARCES				PcP	PcP	09 33 29.8	+0.1
	comp=Z,6.0nm,0.9s,baz=15,slow=3.7,SNR=4.3						
ARCES	**ARCESS Array B**	**58.38**	**352**	P	**P**	**09 32 37.9**	**-1.4**
ARCES				PcP	PcP	09 33 29.8	+0.1
KURK	**Kurchatov**	**60.89**	**316**	P	**P**	**09 32 58.1**	**+1.3**
	comp=Z,1.4nm,0.3s,mb4.5,baz=46,slow=6.7,SNR=6.1						
KURK	**Kurchatov**	**60.89**	**316**	*e*P	**P**	**09 32 56.1**	**-0.8**
	comp=Z,1.4nm,0.5s,mb4.3						
WMQ	**Urumqi**	**61.56**	**305**	*e*P	**P**	**09 33 04.7**	**+3.2**
CD2	**Chengdu**	**61.65**	**285**	P	**P**	**09 33 03.1**	**+0.8**
CD2				pP	pP	09 33 14.6	-0.3
CD2				sP	sP	09 33 19.3	-0.7
CD2				PP	PP	09 35 20.9	+2.9
CD2				S	**S**	**09 41 20.1**	**-1.2**
CD2				sS	sS	09 41 39.4	-3.0
CD2				SS	SS	09 45 23.5	+0.8
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,80nm,6.5s						
CD2				LR	LR		
	comp=N,120nm,8.3s						
CD2				LR	LR		
	comp=Z,140nm,6.5s						
MK31	**Makanchi Array**	**62.08**	**311**	*e*P	**P**	**09 33 05.2**	**+0.3**
MKAR	**Makanchi Array**	**62.08**	**311**	P	**P**	**09 33 04.9**	**-0.1**
	comp=Z,0.5nm,0.3s,mb4.0,baz=46,slow=6.7,SNR=12						
MKAR	**Makanchi Array**	**62.08**	**311**	P	**P**	**09 33 04.9**	**-0.1**
BVAR	**Borovoye Array**	**62.53**	**322**	P	**P**	**09 33 08.0**	**+0.2**
	comp=Z,0.9nm,0.4s,mb4.3,baz=52,slow=7.5,SNR=5.0						
BVAR				PcP	PcP	09 33 47.2	+0.5
	comp=Z,2.1nm,0.5s,baz=28,slow=4.9,SNR=7.6						
BVAR	**Borovoye Array**	**62.53**	**322**	P	**P**	**09 33 08.0**	**+0.2**
BVAR				PcP	PcP	09 33 47.2	+0.5
NCB	**Newcomb**	**62.55**	**53**	*e*P	**P**	**09 33 08.6**	**+0.5**
	comp=Z,3.0nm,0.5s,mb4.7						
BINY	**Binghamton**	**62.94**	**56**	*e*P	**P**	**09 33 11.4**	**+0.7**
	comp=Z,6.7nm,0.6s,mb5.0						
GYA	**Guiyang**	**63.06**	**279**	*e*P	**P**	**09 33 12.8**	**+1.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.9						
JOF	**Joensuu**	**64.12**	**347**	*e*p	**P**	**09 33 16.9**	**-1.3**
KAF	**Kangasniemi**	**65.53**	**349**	*e*p	**P**	**09 33 25.9**	**-1.4**
FINES	**FINESS Array B**	**66.20**	**349**	P	**P**	**09 33 30.4**	**-1.3**
	comp=Z,6.5nm,1.0s,mb4.6,baz=15,slow=5.8,SNR=6.3						
FINES	**FINESS Array B**	**66.20**	**349**	P	**P**	**09 33 30.4**	**-1.3**
NB2	**NORSAR Subarra**	**67.70**	**357**	P	**P**	**09 33 41.0**	**-0.2**
	comp=Z,0.8nm,0.6s,mb3.9,baz=5.0,slow=6.5						
NOA	**NORSAR Array B**	**67.70**	**357**	P	**P**	**09 33 40.7**	**-0.5**
	comp=Z,1.7nm,0.8s,mb4.1,baz=343,slow=4.8,SNR=4.9						
NOA	**NORSAR Array B**	**67.70**	**357**	P	**P**	**09 33 40.7**	**-0.5**
AKTK	**Aktyubinsk**	**69.12**	**327**	P	**P**	**09 33 50.4**	**+0.1**
AKTO	**Aktyubinsk**	**69.12**	**327**	P	**P**	**09 33 50.4**	**+0.1**
	comp=Z,2.1nm,0.6s,mb4.2,baz=27,slow=6.8,SNR=8.1						
EKS2	**Erkin-Say**	**69.17**	**313**	*e*P	**P**	**09 33 51.9**	**+1.2**
	comp=Z,4.7nm,0.4s,mb4.8						
CMAR	**Chiang Mai Arr**	**73.75**	**279**	P	**P**	**09 34 17.6**	**-1.1**
	comp=Z,0.6nm,0.3s,mb4.0,baz=46,slow=5.2,SNR=3.8						
CMAR	**Chiang Mai Arr**	**73.75**	**279**	P	**P**	**09 34 17.6**	**-1.1**
GUN	**Gumba**	**74.35**	**295**	*e*P	**P**	**09 34 20.9**	**-1.1**
	comp=Z,14nm,0.4s,mb5.3						
GUN	**Gumba**	**74.35**	**295**	*e*P	**P**	**09 34 20.9**	**-1.1**
	comp=Z,14nm,0.4s,mb5.2						
PKI	**Pulchoki**	**74.88**	**295**	*e*P	**P**	**09 34 23.0**	**-2.1**
	comp=Z,18nm,0.3s						
PKIN	**Phulchoki**	**74.88**	**295**	*e*P	**P**	**09 34 23.0**	**-2.1**
	comp=Z,18nm,0.3s						
GKN	**Gorkha**	**74.98**	**296**	*e*P	**P**	**09 34 25.3**	**-0.4**
	comp=Z,13nm,0.5s,mb5.1						
GKN	**Gorkha**	**74.98**	**296**	*e*P	**P**	**09 34 25.3**	**-0.4**
	comp=Z,13nm,0.5s,mb5.1						
DMN	**Daman**	**75.02**	**295**	*e*P	**P**	**09 34 24.2**	**-1.7**
	comp=Z,8.0nm,0.6s,mb4.8						
DMN	**Daman**	**75.02**	**295**	*e*P	**P**	**09 34 24.2**	**-1.7**
	comp=Z,8.0nm,0.6s,mb4.8						
DANN	**Dangsing**	**75.20**	**297**	*e*P	**P**	**09 34 28.4**	**+1.4**
	comp=Z,33nm,0.8s,mb5.3						
DANN	**Dangsing**	**75.20**	**297**	*e*P	**P**	**09 34 28.4**	**+1.4**
	comp=Z,33nm,0.8s,mb5.3						
KOLN	**Koldanda**	**75.74**	**297**	*e*P	**P**	**09 34 30.5**	**+0.4**
	comp=Z,16nm,0.8s,mb5.0						
KOLN	**Koldanda**	**75.74**	**297**	*e*P	**P**	**09 34 30.5**	**+0.4**
	comp=Z,16nm,0.8s,mb5.0						
AKASG	**Malin Array Be**	**76.20**	**345**	P	**P**	**09 34 31.1**	**-1.2**
	comp=Z,1.5nm,0.4s,mb4.3,baz=17,slow=6.2,SNR=4.7						
AKASG	**Malin Array Be**	**76.20**	**345**	P	**P**	**09 34 31.1**	**-1.2**
CLL	**Collm**	**77.36**	**355**	*e*P	**P**	**09 34 39.0**	**+0.2**
GIVF	**Givet**	**78.75**	**1**	*e*P	**P**	**09 34 47.0**	**+0.5**
BAIF	**Baives**	**78.79**	**1**	*e*P	**P**	**09 34 47.3**	**+0.6**
	comp=Z,23nm,1.1s,mb4.7						
BAIF	**Baives**	**78.79**	**1**	*e*P	**P**	**09 34 47.3**	**+0.6**
	comp=Z,11nm,1.1s,mb4.7						
GERES	**GERESS Array B**	**79.77**	**355**	P	**P**	**09 34 52.7**	**+0.5**
	comp=Z,1.0nm,0.8s,mb3.8,baz=16,slow=4.5,SNR=6.7						
GERES	**GERESS Array B**	**79.77**	**355**	P	**P**	**09 34 52.7**	**+0.5**
FLN	**La Foliniere**	**79.95**	**4**	*e*P	**P**	**09 34 53.2**	**+0.1**
LDF	**La Druitiere**	**80.14**	**4**	*e*P	**P**	**09 34 53.8**	**-0.3**
	comp=Z,7.7nm,0.7s,mb4.5						
ROSF	**Rostrenen**	**80.23**	**6**	*e*P	**P**	**09 34 54.5**	**-0.1**
ROSF	**Rostrenen**	**80.23**	**6**	*e*P	**P**	**09 34 54.5**	**-0.1**
GRR	**Gorron**	**80.31**	**4**	*e*P	**P**	**09 34 55.0**	**-0.1**
CDF	**Champ du Feu**	**80.43**	**359**	*e*P	**P**	**09 34 56.2**	**+0.5**
	comp=Z,3.6nm,0.5s,mb4.3						
SFTF	**Sexfontaines**	**80.65**	**0**	*e*P	**P**	**09 34 57.4**	**+0.5**
HAU	**Haudompre**	**80.85**	**360**	*e*P	**P**	**09 34 58.3**	**+0.4**
HINF	**Hinteralfeld**	**81.03**	**359**	*e*P	**P**	**09 34 59.2**	**+0.3**
	comp=Z,5.9nm,0.6s,mb4.4						
LOR	**Lormes**	**81.58**	**1**	*e*P	**P**	**09 35 02.3**	**+0.5**
SSF	**Saint Saulge**	**81.78**	**1**	*e*P	**P**	**09 35 03.4**	**+0.5**
	comp=Z,5.6nm,0.6s,mb4.4						
AVF	**Avril sur Loir**	**82.05**	**2**	*e*P	**P**	**09 35 04.6**	**+0.3**
MFF	**Saint Martin d**	**82.13**	**4**	*e*P	**P**	**09 35 05.2**	**+0.5**
SMF	**Signal de Mont**	**82.20**	**1**	*e*P	**P**	**09 35 05.4**	**+0.3**
CABF	**La Chapelle**	**82.25**	**360**	*e*P	**P**	**09 35 06.2**	**+0.9**
CABF	**La Chapelle**	**82.25**	**360**	*e*P	**P**	**09 35 06.2**	**+0.9**
TCF	**Toulx Ste Croi**	**82.52**	**2**	*e*P	**P**	**09 35 07.0**	**+0.2**
WRA	**Warramunga Arr**	**84.11**	**228**	P	**P**	**09 35 14.0**	**-1.1**
	comp=Z,0.5nm,0.7s,mb3.8,baz=33,slow=5.8,SNR=4.5						
WRA	**Warramunga Arr**	**84.11**	**228**	P	**P**	**09 35 14.0**	**-1.1**
MBDF	**Montbardon**	**84.12**	**359**	*e*P	**P**	**09 35 15.6**	**+0.5**
MBDF	**Montbardon**	**84.12**	**359**	*e*P	**P**	**09 35 15.6**	**+0.5**
ASAR	**Alice Springs**	**87.53**	**226**	P	**P**	**09 35 31.8**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.9,baz=24,slow=4.7,SNR=4.7						
ASAR	**Alice Springs**	**87.53**	**226**	P	**P**	**09 35 31.8**	**-0.3**
MAW	**Mawson**	**148.30**	**218**	PKPbc	PKPbc	09 42 29.8	+0.9
	comp=Z,1.7nm,0.9s,baz=27,slow=2.3,SNR=3.1						
MAW	**Mawson**	**148.30**	**218**	PKPbc	PKPbc	09 42 29.8	+0.9
BOSA	**Boshof**	**152.80**	**320**	PKPbc	PKPbc	09 42 41.1	+0.2
	comp=Z,0.9nm,0.5s,baz=59,slow=3.8,SNR=4.6						
BOSA				PKPab	PKPab	09 42 52.1	+0.2
	comp=Z,2.8nm,0.6s,baz=50,slow=7.9,SNR=7.8						
BOSA	**Boshof**	**152.80**	**320**	PKPbc	PKPbc	09 42 41.1	+0.2
BOSA				PKPab	PKPab	09 42 52.1	+0.2

*BJI **01** 09:23:06.4, 18°.10N×147°.77E, h60km, mB5.0/16, mb4.7/27, Ms4.7/15, Ms7 4.4/14*
*MOS **01** 09:23:08.5±0.8, 18°.55N×147°.21E, h33km, mb5.1/15, Error ellipse: s-maj=14.8km s-min=7.3km az=114.7*
*ISCJB **01** 09:23:10.6±1.2, 18°.54N±0°.04×147°.16E±0°.08, h49km±10km, mb4.7/58, MS3.7/9, Error ellipse: s-maj=12.1km s-min=7.0km az=1.7*
*IDC **01** 09:23:12.8±2.8, 18°.55N×147°.20E, h52km±24km, mb4.1/18, mb1 4.3/21, mb1mx4.2/27, mbtmp4.2/21, ML4.6/4, MS3.4/7, Ms1 3.4/7, ms1mx3.1/30, Error ellipse: s-maj=22.9km s-min=9.6km az=83.0*
*NEIC **01** 09:23:13.4±1.2, 18°.50N×147°.16E, h60km±11km, mb4.8/12, Error ellipse: s-maj=9.9km s-min=5.6km az=82.0*
ISC 01 09:23:12.7±1.0**, 18°.54N**±0°.04×**147°.18E**±0°.08**, h53**km±8km**, h64**km±1.1km**: pP-P, n150,** σ0s.92/153**, mb4.7**/58**, MS3.7**/9**, 3C-2D, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.40**	**205**	P	**Pn**	**09 24 33.0**	**+2.3**
	74nm,0.3s,baz=358,slow=7.4,SNR=100						
GUMO				S	**Sn**	**09 25 31.7**	**+0.1**
	140nm,0.3s,baz=340,slow=22,SNR=12						
GUMO				LR	LR	09 26 28.4	
	comp=Z,122nm,19.6s,baz=299,slow=36						
GUMO	**Guam**	**5.40**	**205**	*e*Pn	**Pn**	**09 24 29.8**	**-0.9**
GUMO				S	**Sn**	**09 25 31.7**	**+0.1**
GUMO				LR	LR	09 26 28.4	
GUMO	**Guam**	**5.40**	**205**	*e*P	**Pn**	**09 24 29.8**	**-0.9**
GUMO				S	**Sn**	**09 25 31.7**	**+0.1**
CBIJ	**Chichi jima**	**9.68**	**333**	P	**Pn**	**09 25 28.8**	**-0.6**
	24nm,0.3s,baz=132,slow=16,SNR=5.1						
CBIJ				S	**Sn**	**09 27 09.2**	**-7.5**
	13nm,0.3s,baz=270,slow=20,SNR=4.2						
JOW	**Kunigami**	**19.28**	**299**	P	**Pn**	**09 27 33.9**	**-0.8**
	1.9nm,0.3s,baz=122,slow=10,SNR=4.9						
JOW	**Kunigami**	**19.28**	**299**	P	**Pn**	**09 27 33.9**	**-0.8**
MJAR	**Matsushiro Arr**	**19.60**	**338**	P	**Pn**	**09 27 36.5**	**-1.8**
	1.1nm,0.3s,baz=168,slow=11,SNR=17						
MJAR				S	**S**	**09 31 16.3**	**+1.3**
	0.2nm,0.3s,baz=230,slow=20,SNR=4.0						
MJAR	**Matsushiro Arr**	**19.60**	**338**	P	**Pn**	**09 27 36.5**	**-1.8**
MJAR				S	**S**	**09 31 16.3**	**+1.3**
MJAR	**Matsushiro Arr**	**19.60**	**338**	P	**Pn**	**09 27 36.5**	**-1.8**
MJAR				S	**S**	**09 31 16.3**	**+1.3**
MAJO	**Matsushiro**	**19.60**	**338**	*e*P	**Pn**	**09 27 38.5**	**+0.1**
	19nm,0.7s						
MAJO	**Matsushiro**	**19.60**	**338**	*e*P	**Pn**	**09 27 38.5**	**+0.2**
MAJO				pmax	pmax		
	comp=Z,19nm,0.7s						
MAT	**Matsushiro**	**19.60**	**338**	P	**Pn**	**09 27 37.1**	**-1.2**
MAT				S	**S**	**09 31 16.0**	**+1.0**
JNU	**Nakatsue**	**20.61**	**318**	*e*P	**P**	**09 27 48.8**	**+1.3**
	comp=Z,12nm,0.9s						
DAV	**Davao City (W)**	**23.92**	**244**	LR	LR	09 35 47.1	
	comp=Z,88nm,21.2s,MS3.2,baz=16,slow=32						
YHNB	**Yeheng**	**24.74**	**289**	*e*P	**P**	**09 28 30.0**	**+0.6**
	comp=Z,30nm,0.7s,mb4.9						
SSLB	**Suanglung**	**24.99**	**287**	*e*P	**P**	**09 28 30.9**	**-0.8**
	comp=Z,33nm,0.7s,mb5.0						
KSRS	**Korea Array**	**25.29**	**322**	P	**P**	**09 28 35.2**	**+0.9**
	comp=Z,13nm,0.7s,mb4.6,baz=144,slow=9.1,SNR=43						
NJ2	**Nanjing**	**28.83**	**303**	*e*P	**P**	**09 29 10.0**	**+3.9**
NJ2				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
CN2	**Changchun**	**31.12**	**329**	*e*P	**P**	**09 29 25.4**	**-0.8**
CN2				*e*S	**S**	**09 34 26.0**	**-2.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.8						
WHN	**Wuhan**	**32.05**	**298**	*e*P	**P**	**09 29 27.8**	**-6.8**
KKM	**Kota Kinabalu**	**32.64**	**252**	*e*P	**P**	**09 29 40.0**	**+0.2**
	comp=Z,21nm,0.8s,mb5.1						
KLR	**Kul'dur**	**33.05**	**341**	*e*P	**P**	**09 29 38.2**	**-4.9**
BJT	**Baijiatuau**	**34.22**	**315**	*e*P	**P**	**09 29 53.6**	**+0.2**
	comp=Z,12nm,0.4s,mb5.2						
BJT	**Baijiatuau**	**34.22**	**315**	*e*P	**P**	**09 29 53.6**	**+0.2**
BJT				pmax	pmax		
	comp=Z,12nm,0.4s						
BJI	**Beijing**	**34.23**	**315**	P	**P**	**09 29 53.4**	**0.0**
BJI				pmax	pmax		
	comp=Z,22nm,0.5s,mb5.3						
GYA	**Guiyang**	**38.13**	**289**	P	**P**	**09 30 27.0**	**+0.1**
GYA				pP	pP	09 30 42.7	+2.1
GYA				sP	sP	09 30 50.4	+3.6
GYA				PP	PP	09 31 59.3	+4.4
GYA				S	**S**	**09 36 15.2**	**-1.3**
GYA				ScP	ScP	09 36 23.0	-1.5
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
GYA				pmax	pmax		
	comp=Z,110nm,5.0s						
GYA				LR	LR		
	comp=N,540nm,17.0s,MS4.5						
GYA				LR	LR		
	comp=E,450nm,18.5s,MS4.5						
GYA				LR	LR		
	comp=Z,580nm,16.1s,MS4.5						
CTA	**Charters Tower**	**38.40**	**181**	LR	LR	09 43 30.9	
	comp=Z,39nm,19.6s,MS3.2,baz=232,slow=32						
WRAB	**Tennant Creek**	**40.25**	**199**	*e*P	**P**	**09 30 44.0**	**-0.6**
	comp=Z,6.7nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**40.25**	**199**	*e*P	**P**	**09 30 44.0**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
WB2	**Warramunga Arr**	**40.26**	**199**	*e*P	**P**	**09 30 44.7**	**0.0**
WB2				*e*PcP	PcP	09 32 49.0	+1.3
WRA	**Warramunga Arr**	**40.26**	**199**	P	**P**	**09 30 45.0**	**+0.3**

comp=Z,2.4nm,0.6s,mb4.1,baz=22,slow=8.6,SNR=36
WRA PcP PcP 09 32 47.9 +0.2
comp=Z,2.0nm,0.5s,baz=16,slow=3.4,SNR=11
WRA Warramunga Arr 40.26 199 P P 09 30 45.0 +0.3
WRA PcP PcP 09 32 47.9 +0.2
WRA Warramunga Arr 40.26 199 P P 09 30 45.0 +0.3
WRA 09 32 47.9
CD2 Chengdu 41.08 296 P P 09 30 52.6 +1.2
CD2 pP pP 09 31 07.9 +2.7
CD2 PP PP 09 32 32.0 +5.0
CD2 S **S 09 37 00.8 +0.1**
CD2 sS sS 09 37 27.0 +3.1
CD2 pmax pmax
comp=Z,20nm,0.5s,mb5.0
CD2 pmax pmax
comp=Z,140nm,6.9s
CD2 LR LR
comp=N,120nm,8.3s
CD2 LR LR
comp=Z,140nm,6.5s
KMI Kunming 41.63 287 P P 09 30 55.8 -0.2
KMI pP pP 09 31 11.2 +1.4
KMI sP sP 09 31 19.1 +3.1
KMI PP PP 09 32 36.4 +3.4
KMI S **S 09 37 08.4 -0.5**
KMI sS sS 09 37 35.5 +3.3
KMI pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
KMI LR LR
comp=N,120nm,14.2s,MS4.0
KMI LR LR
comp=E,75nm,16.0s,MS4.0
KMI LR LR
comp=Z,72nm,18.1s,MS3.6
LZH Lanzhou 41.91 304 *e*P **P 09 30 59.0 +0.9**
LZH pP pP 09 31 14.2 +2.3
LZH sP sP 09 31 22.0 +3.9
LZH *e*PP PP 09 32 40.5 +4.7
LZH pmax pmax
comp=Z,20nm,1.4s,mb4.5
LZH LR LR
comp=N,380nm,14.0s
LZH LR LR
comp=Z,540nm,17.6s,MS4.5
FITZ Fitzroy Crossi 42.12 211 P P 09 30 59.5 -0.5
comp=Z,1.2nm,0.3s,mb4.0,baz=40,slow=9.6,SNR=15
FITZ Fitzroy Crossi 42.12 211 *e*P **P 09 30 59.3 -0.6**
comp=Z,2.9nm,0.6s,mb4.1
FITZ Fitzroy Crossi 42.12 211 P P 09 30 59.5 -0.5
ULN Ulaanbaatar 43.77 321 *e*P **P 09 31 14.0 +1.0**
comp=Z,20nm,1.4s,mb4.7
ULN Ulaanbaatar 43.77 321 *e*P **P 09 31 14.0 +1.0**
ULN pmax pmax
comp=Z,20nm,1.4s,mb4.7
ASAR Alice Springs 43.90 198 P P 09 31 14.6 +0.3
comp=Z,0.9nm,0.4s,mb3.9,baz=28,slow=7.6,SNR=25
ASAR PcP PcP 09 33 01.0 +1.3
comp=Z,1.8nm,0.6s,baz=37,slow=3.0,SNR=8.5
ASAR Alice Springs 43.90 198 P P 09 31 14.6 +0.3
ASAR PcP PcP 09 33 01.0 +1.3
ASAR Alice Springs 43.90 198 P P 09 31 14.6 +0.3
ASAR 09 33 01.0
SONM Songino Array 44.15 321 P P 09 31 16.8 +0.7
comp=Z,6.3nm,0.6s,mb4.5,baz=132,slow=9.1,SNR=38
SONM PcP PcP 09 33 01.0 +0.7
comp=Z,1.2nm,0.4s,baz=132,slow=2.7,SNR=5.2
SONM LR LR 09 51 24.3
comp=Z,39nm,18.0s,MS3.4,baz=12,slow=38
SONM Songino Array 44.15 321 P P 09 31 16.8 +0.7
SONM PcP PcP 09 33 01.0 +0.7
SONM LR LR 09 51 24.3
SONM Songino Array 44.15 321 P P 09 31 16.8 +0.7
SONM 09 33 01.0
YAK Yakutsk 45.15 348 *e*P **P 09 31 23.7 -0.1**
YAK pmax pmax
comp=Z,12nm,1.0s,mb4.7
CMAR Chiang Mai Arr 45.63 278 P P 09 31 28.7 +0.4
comp=Z,2.6nm,0.5s,mb4.4,baz=85,slow=4.8,SNR=15
CMAR Chiang Mai Arr 45.63 278 P P 09 31 28.7 +0.4
CMAR Chiang Mai Arr 45.63 278 P P 09 31 28.7 +0.4
GTA Gaotai 45.76 307 *e*P **P 09 31 30.2 +1.2**
GTA pP pP 09 31 46.9 +3.9
GTA sP sP 09 31 54.2 +5.1
GTA ScS ScS 09 41 18.3 -2.2
GTA pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
ZAK Zakamensk 47.12 323 *e*P **P 09 31 33.9 -5.6**
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb3.9
KULM Kulim 47.24 260 *e*P **P 09 31 41.1 +0.1**
comp=Z,11nm,0.7s,mb4.9
TLY Talaya 47.51 324 *e*P **P 09 31 41.9 -0.6**
TLY pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
STKA Stephens Creek 50.41 186 P P 09 32 05.5 +0.7
comp=Z,3.0nm,0.5s,mb4.6,baz=0.2,slow=9.2,SNR=14
STKA LR LR 09 52 56.9
comp=Z,84nm,20.6s,MS3.7,baz=24,slow=35
STKA Stephens Creek 50.41 186 *e*P **P 09 32 05.8 +1.0**
comp=Z,2.8nm,0.6s,mb4.5
STKA Stephens Creek 50.41 186 P P 09 32 05.5 +0.7
STKA LR LR 09 52 56.9
STKA Stephens Creek 50.41 186 P P 09 32 05.5 +0.7
BILL Bilibino 50.95 9‖ *e*P **P 09 32 09.6 +1.1**
BILL pmax pmax
comp=Z,14nm,1.7s,mb4.6
BBOO Buckleboo 52.15 192 *e*P **P 09 32 18.3 +0.4**
comp=Z,10nm,0.6s,mb4.9
WMQ Urumqi 55.48 311 P P 09 32 44.7 +2.5
GUN Gumba 56.61 292 *e*P **P 09 32 50.0 -0.6**
comp=Z,18nm,0.6s,mb5.2
GUN Gumba 56.61 292 *e*P **P 09 32 50.0 -0.6**
comp=Z,18nm,0.6s,mb5.3
PKI Pulchoki 57.06 291 *e*P **P 09 32 53.3 -0.4**
comp=Z,18nm,0.6s,mb5.3
PKI Pulchoki 57.06 291 *e*P **P 09 32 53.9 +0.2**
PKI Pulchoki 57.06 291 *e*P **P 09 32 53.9 +0.2**
PKIN Phulchoki 57.07 291 *e*P **P 09 32 53.9 +0.1**
KKN Kakani 57.15 292 *e*P **P 09 32 54.3 -0.1**
KKN Kakani 57.15 292 *e*P **P 09 32 54.3 -0.1**
KKN Kakani 57.15 292 *e*P **P 09 32 54.3 -0.1**
DMN Daman 57.32 291 *e*P **P 09 32 55.3 -0.3**
comp=Z,13nm,0.6s,mb5.2
DMN Daman 57.32 291 *e*P **P 09 32 55.3 -0.3**
comp=Z,13nm,0.6s,mb5.1
GKN Gorkha 57.70 292 *e*P **P 09 32 57.9 -0.3**
comp=Z,12nm,0.4s,mb5.3
GKN Gorkha 57.70 292 *e*P **P 09 32 57.9 -0.3**
comp=Z,12nm,0.4s,mb5.3
DANN Dangsing 58.44 292 *e*P **P 09 33 03.6 +0.2**
comp=Z,67nm,0.5s
DANN Dangsing 58.44 292 *e*P **P 09 33 03.6 +0.2**
comp=Z,67nm,0.5s
KOLN Koldanda 58.63 292 *e*P **P 09 33 04.5 -0.3**
comp=Z,19nm,0.9s,mb5.1
KOLN Koldanda 58.63 292 *e*P **P 09 33 04.5 -0.3**
comp=Z,19nm,0.9s,mb5.1
ZAA0 Zalesovo Array 59.00 322 *e*P **P 09 33 06.7 -0.2**
ZAA0 *e*pP pP 09 33 23.7 +2.4
ZALV Zalesovo Beam 59.00 322 P P 09 33 06.8 -0.1
comp=Z,8.0nm,0.6s,mb4.9,baz=110,slow=8.8,SNR=29
ZALV PcP PcP 09 33 55.2 -0.2
comp=Z,2.5nm,0.6s,baz=106,slow=5.1,SNR=2.6
ZALV Zalesovo Beam 59.00 322 P P 09 33 06.8 -0.1
ZALV PcP PcP 09 33 55.1 -0.2
ZALV Zalesovo Beam 59.00 322 P P 09 33 06.8 -0.1
ZALV 09 33 55.2
MK31 Makanchi Array 59.59 314 *i* P **P 09 33 11.3 +0.2**
MK31 pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
MKAR Makanchi Array 59.59 314 P P 09 33 11.4 +0.4
comp=Z,9.1nm,0.7s,mb4.9,baz=90,slow=8.3,SNR=88
MKAR PcP PcP 09 33 57.8 -0.1
comp=Z,1.8nm,0.6s,baz=107,slow=6.4,SNR=4.2
MKAR Makanchi Array 59.59 314 P P 09 33 11.4 +0.4
MKAR PcP PcP 09 33 57.8 -0.1
MKAR Makanchi Array 59.59 314 P P 09 33 11.5 +0.4
MKAR 09 33 57.8
NVS Novosibirsk 60.08 323 *e*P **P 09 33 14.4 +0.1**
NVS pmax pmax
comp=Z,18nm,1.2s,mb5.0
NVS pmax pmax
comp=N,6.0nm,1.1s
NVS pmax pmax
comp=E,10.0nm,1.3s

KURK Kurchatov 62.33 318 P P 09 33 30.2 +0.6
comp=E,43nm,0.6s,mb5.7,baz=95,slow=7.5,SNR=146
KURK Kurchatov 62.33 318 *e*P **P 09 33 29.9 +0.3**
comp=E,49nm,1.2s,mb5.5
KURK Kurchatov 62.33 318 *c i*P **P 09 33 29.8 +0.2**
KURK pmax pmax
comp=Z,25nm,0.8s,mb5.4
ILAR Eielson Array 63.17 26 P P 09 33 34.1 -0.8
comp=Z,0.9nm,0.9s,mb3.9,baz=262,slow=6.0,SNR=8.4
ILAR Eielson Array 63.17 26 P P 09 33 34.1 -0.8
ILAR Eielson Array 63.17 26 P P 09 33 34.2 -0.7
KSH Kashi 64.11 306 P P 09 33 44.4 +2.8
KSH ScP 09 38 10.7
KSH PcS 09 38 14.5
KSH pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
KSH pmax pmax
comp=Z,100nm,4.3s
KSH LR LR
comp=N,110nm,5.2s
KSH LR LR
comp=E,84nm,5.3s
KSH LR LR
comp=Z,110nm,4.4s
TKM2 Tokmak 2 64.24 309 P P 09 33 45.6 +3.2
SNR=8.8
TKM2 Tokmak 2 64.24 309 *e*P **P 09 33 43.1 +0.7**
TKM2 Tokmak 2 64.24 309 *e*P **P 09 33 43.1 +0.7**
KBK Karagaybulak 64.73 309 P P 09 33 37.0 -8.6
SNR=5.0
USP Ospenovka 65.03 310 P P 09 33 44.9 -2.6
SNR=11
AAK Ala-Archa 65.06 309‖ *e*P **P 09 33 47.8 0.0**
AAK pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
VOSK Vostochnaya 67.14 320 P P 09 34 00.4 -0.5
VOSK pmax pmax
comp=Z,16nm,0.6s,mb5.2
BVAR Borovoye Array 67.50 320 P P 09 34 03.7 +0.6
comp=Z,39nm,0.6s,mb5.6,baz=96,slow=7.5,SNR=112
BVAR Borovoye Array 67.50 320 P P 09 34 03.7 +0.6
BVAR Borovoye Array 67.50 320 P P 09 34 03.7 +0.6
BRVK Borovoye 67.56 321 *e*P P 09 34 04.2 +0.7
BRVK Borovoye 67.56 321 *c i*P **P 09 34 03.4 -0.1**
BRVK pmax pmax
comp=Z,61nm,1.1s,mb5.5
ZRNK Zerenda 68.33 320 P P 09 34 08.5 +0.1
ZRNK pmax pmax
comp=Z,26nm,0.7s,mb5.4
POO Poona 69.02 283 *ex* x 09 34 11.0
ARU Arti 74.01 325 *d i*P **P 09 34 43.6 +1.0**
ARU 09 37 25.7
ARU S S 09 44 10.4 -0.6
ARU pmax pmax
comp=Z,29nm,1.2s,mb5.1
AB31 Akbulak array 74.42 317 *e*P **P 09 34 45.0 -0.1**
AB31 pmax pmax
comp=Z,10.0nm,0.3s,mb5.2
ABKAR Akbulak array 74.42 317 *e*P **P 09 34 45.1 0.0**
comp=Z,12nm,0.3s,mb5.3
AKTK Aktyubinsk 75.42 319 P P 09 34 50.8 -0.1
AKTO Aktyubinsk 75.42 319 P P 09 34 50.8 -0.1
comp=Z,6.4nm,0.6s,mb4.7,baz=88,slow=11,SNR=14
AKTO Aktyubinsk 75.42 319 P P 09 34 50.2 -0.7
AKTO pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
NVAR Mina Array Bea 82.13 52 P P 09 35 29.9 +1.9
comp=Z,0.2nm,0.3s,mb3.5,baz=282,slow=4.5,SNR=3.7
NVAR Mina Array Bea 82.13 52 P P 09 35 29.9 +1.8
KEV Kevo 82.52 342 *e*P **P 09 35 30.5 +1.1**
KEV Kevo 82.52 342 *e*p **P 09 35 30.5 +1.1**
ARCES ARCESS Array B 83.08 342 P P 09 35 33.1 +0.8
comp=Z,4.8nm,0.6s,mb4.7,baz=64,slow=6.3,SNR=25
ARCES ARCESS Array B 83.08 342 P P 09 35 33.1 +0.8
ARCES ARCESS Array B 83.08 342 P P 09 35 33.1 +0.8
JOF Joensuu 84.75 336 *e*P **P 09 35 38.9 -2.0**
JOF Joensuu 84.75 336 *e*p **P 09 35 38.9 -2.0**
VRHR Novokhopersk 85.14 322 *e*P **P 09 35 41.1 -2.0**
VRHR pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
VRHR pmax pmax
comp=N,10.0nm,1.4s
VRHR pmax pmax
comp=E,8.0nm,0.5s
VSR Storozhevoye 86.50 323 *e*P **P 09 35 49.2 -0.7**
VSR pmax pmax
comp=Z,8.0nm,0.5s,mb5.2
VSR pmax pmax
comp=N,3.0nm,0.6s
VSR pmax pmax
comp=E,9.0nm,1.1s
PDAR Pinedale Array 86.93 46 P P 09 35 52.1 -0.1
comp=E,0.5nm,0.9s,mb3.7,baz=318,slow=3.6,SNR=3.5
PDAR Pinedale Array 86.93 46 P P 09 35 52.1 -0.1
ZEI Tsey 86.95 314 *e*P **P 09 35 49.7 -2.5**
ZEI pmax pmax
comp=Z,3.0nm,0.5s,mb4.8
KAF Kangasniemi 87.14 336 *e*P **P 09 35 51.2 -1.6**
KAF Kangasniemi 87.14 336 *e*p **P 09 35 51.2 -1.6**
FINES FINESS Array B 87.62 336 P P 09 35 54.1 -1.0
comp=Z,3.7nm,0.4s,mb5.0,baz=57,slow=5.1,SNR=24
FINES FINESS Array B 87.62 336 P P 09 35 54.1 -1.0
FINES FINESS Array B 87.62 336 P P 09 35 54.1 -1.0
AKASG Malin Array Be 92.23 326 P P 09 36 15.8 -1.1
comp=Z,0.7nm,0.5s,mb4.3,baz=51,slow=5.2,SNR=3.3
AKASG Malin Array Be 92.23 326 P P 09 36 15.8 -1.1
AKASG Malin Array Be 92.23 326 P P 09 36 15.8 -1.1
NOA NORSAR Array B 93.21 340 P P 09 36 21.0 -0.2
comp=Z,0.9nm,0.7s,mb4.3,baz=45,slow=4.4,SNR=3.4
NOA LR LR 10 25 43.9
comp=Z,18nm,18.4s,MS3.6,baz=20,slow=40
NOA NORSAR Array B 93.21 340 P P 09 36 20.9 -0.2
NOA LR LR 10 25 43.9
NOA NORSAR Array B 93.21 340 P P 09 36 21.0 -0.2
BR131 Keskin Array S 95.23 315 *e*P **P 09 36 30.3 -0.6**
comp=Z,1.0nm,0.6s,mb4.4
BRTR Keskin Array B 95.23 315 P P 09 36 30.1 -0.8
comp=Z,3.5nm,0.9s,mb4.8,baz=71,slow=3.3,SNR=12
BRTR LR LR 10 21 05.7
comp=Z,33nm,18.9s,MS3.8,baz=230,slow=36
BRTR Keskin Array B 95.23 315 P P 09 36 30.1 -0.8
BRTR LR LR 10 21 05.7
BRTR Keskin Array B 95.23 315 P P 09 36 30.2 -0.7
VNA2 Neumayer--Watz 125.46 190 *e*PKPdf PKPdf 09 42 05.1 -2.1
baz=327,slow=0.7
TORD Torodi Ar. Bea 133.64 310 PKP PKPdf 09 42 25.3 +0.9
comp=Z,0.2nm,0.4s,baz=23,slow=1.3,SNR=2.8
TORD Torodi Ar. Bea 133.64 310 PKP PKPdf 09 42 25.3 +0.9
DBIC Dimbokro 142.75 310 PKhKP PKPpre 09 42 36.2
comp=Z,5.9nm,0.9s,baz=48,slow=2.8,SNR=6.0
DBIC Dimbokro 142.75 310 PKP PKPpre 09 42 36.2
DBIC Dimbokro 142.75 310 PKIKP PKPpre 09 42 36.2

*IDC **01** 10:12:46.6±0.7, 2°.77N×128°.51E, h0km, mb4.0/11, mb1 4.1/11, mb1mx4.0/21, mbtmp4.0/11, MS3.2/3, Ms1 3.2/3, ms1mx2.7/36, Error ellipse: s-maj=42.2km s-min=13.8km az=76.0*
*ISCJB **01** 10:12:52.7±4.7, 2°.76N±0°.09×128°.5E±0°.2, h62km±46km, mb4.0/12, Error ellipse: s-maj=33.9km s-min=12.8km az=168.2*
*NEIC **01** 10:12:54.9±2.8, 2°.75N×128°.56E, h69km±28km, mb4.2/3, Error ellipse: s-maj=21.5km s-min=8.4km az=75.0*
ISC 01 10:12:55.1±3.9, 2°.73N±0°.08×128°.5E±0°.2, h68km±40km, n25, σ0°.54/25, mb4.0/12, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**15.82**	**166**	*e*Pn	**Pn**	**10 16 33.4**	**-0.3**
	13nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.89**	**188**	P	**P**	**10 17 32.7**	**+0.8**
	0.7nm,0.4s,baz=26,slow=4.6,SNR=2.0						
FITZ				LR	LR	10 25 20.7	
	comp=Z,46nm,20.0s,baz=190,slow=36						
FITZ	**Fitzroy Crossi**	**20.89**	**188**	P	**P**	**10 17 32.7**	**+0.8**
FITZ				LR	LR	10 25 20.7	
WRAB	**Tennant Creek**	**23.23**	**166**	*e*P	**P**	**10 17 56.2**	**-0.3**
	7.9nm,0.4s,mb4.4						
WRA	**Warramunga Arr**	**23.24**	**166**	P	**P**	**10 17 56.4**	**-0.1**
	12nm,0.7s,mb4.3,baz=344,slow=11,SNR=103						
WRA	**Warramunga Arr**	**23.24**	**166**	P	**P**	**10 17 56.4**	**-0.1**
WB2	**Warramunga Arr**	**23.24**	**166**	*e*P	**P**	**10 17 56.5**	**-0.1**
MBWA	**Marble Bar**	**25.25**	**200**	*e*P	**P**	**10 18 14.1**	**-0.8**
	4.4nm,0.9s,mb3.9						
ASAR	**Alice Springs**	**26.75**	**169**	P	**P**	**10 18 28.8**	**+0.3**
	1.3nm,0.5s,mb3.7,baz=354,slow=8.3,SNR=30						
ASAR				PcP	PcP	10 21 50.6	+0.3
	0.4nm,0.6s,baz=356,slow=2.1,SNR=6.1						
ASAR	**Alice Springs**	**26.75**	**169**	P	**P**	**10 18 28.8**	**+0.3**
ASAR				PcP	PcP	10 21 50.6	+0.3
CMAR	**Chiang Mai Arr**	**32.93**	**300**	P	**P**	**10 19 23.6**	**+0.4**
	0.6nm,0.5s,mb3.6,baz=120,slow=7.7,SNR=5.5						
CMAR	**Chiang Mai Arr**	**32.93**	**300**	P	**P**	**10 19 23.6**	**+0.4**
KSRS	**Korea Array**	**34.56**	**359**	P	**P**	**10 19 38.0**	**+0.9**
	3.0nm,0.6s,mb4.3,baz=175,slow=10.0,SNR=12						
KSRS				LR	LR	10 32 45.3	
	comp=Z,17nm,18.6s,baz=235,slow=35						
MJAR	**Matsushiro Arr**	**34.81**	**14**	P	**P**	**10 19 38.9**	**-0.4**
	2.3nm,0.8s,mb4.1,baz=188,slow=10,SNR=7.0						
MJAR	**Matsushiro Arr**	**34.81**	**14**	P	**P**	**10 19 38.9**	**-0.4**
STKA	**Stephens Creek**	**36.58**	**161**	P	**P**	**10 19 54.7**	**+0.1**
	2.3nm,0.4s,mb4.5,baz=347,slow=6.8,SNR=4.5						
STKA				LR	LR	10 36 18.6	
	comp=Z,100nm,20.2s,baz=205,slow=39						
STKA	**Stephens Creek**	**36.58**	**161**	P	**P**	**10 19 54.7**	**+0.1**
STKA				LR	LR	10 36 18.6	
SONM	**Songino Array**	**48.83**	**340**	P	**P**	**10 21 33.8**	**+0.3**
	0.4nm,0.6s,mb3.5,baz=158,slow=7.7,SNR=4.4						
SONM	**Songino Array**	**48.83**	**340**	P	**P**	**10 21 33.8**	**+0.3**
MKAR	**Makanchi Array**	**59.40**	**325**	P	**P**	**10 22 50.2**	**-0.3**
	1.3nm,0.5s,mb4.2,baz=115,slow=8.4,SNR=11						
MKAR	**Makanchi Array**	**59.40**	**325**	P	**P**	**10 22 50.2**	**-0.3**
ZALV	**Zalesovo Beam**	**62.30**	**333**	P	**P**	**10 23 08.9**	**-1.1**
	0.4nm,0.4s,mb3.8,baz=134,slow=8.3,SNR=2.8						
ZALV	**Zalesovo Beam**	**62.30**	**333**	P	**P**	**10 23 08.8**	**-1.1**
VNDA	**Vanda**	**82.21**	**173**	P	**P**	**10 25 08.8**	**+0.5**
	0.5nm,0.6s,mb3.5,baz=331,slow=5.1,SNR=5.1						
VNDA	**Vanda**	**82.21**	**173**	P	**P**	**10 25 08.8**	**+0.5**

IDC 01 10:19:43.1±2.4, 13°.73N×121°.34E, h190km±15km, mb3.0/3, mb1 3.3/3, mb1mx2.8/23, mbtmp3.0/3, Error ellipse: s-maj=122.9km s-min=21.2km az=39.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.54**	**313**	P	Pn	10 20 09.7	+0.6
	70nm,0.3s,baz=306,slow=2.3,SNR=11						
TGY				S	Sn	10 20 30.4	+1.2
	116nm,0.3s,baz=293,slow=23,SNR=14						
CMAR	**Chiang Mai Arr**	**22.02**	**285**	P	P	10 24 22.3	-0.1
	2.3nm,0.9s,baz=101,slow=7.6,SNR=13						
WRA	**Warramunga Arr**	**35.82**	**159**	P	P	10 26 24.0	-0.6
	0.7nm,0.7s,baz=337,slow=9.5,SNR=8.7						
ASAR	**Alice Springs**	**39.15**	**162**	P	P	10 26 53.0	+0.6
	0.2nm,0.3s,baz=337,slow=6.8,SNR=8.5						

*BJI **01** 10:23:47.9, 7°.00S×129°.50E, h119km, mB4.9/10, mb4.7/18*
*IDC **01** 10:23:47.7±3.3, 6°.90S×129°.45E, h116km±30km, mb4.1/16, mb1 4.2/19, mb1mx4.2/23, mbtmp4.2/19, MS3.2/1, Ms1 3.2/1, ms1mx2.5/31, Error ellipse: s-maj=23.3km s-min=10.9km az=67.0*
*NEIC **01** 10:23:47.4±1.5, 6°.98S×129°.50E, h115km±15km, mb4.5/17, Error ellipse: s-maj=14.5km s-min=7.9km az=48.0*
*ISCJB **01** 10:23:49.7±0.5, 7°.11S±0°.03×129°.67E±0°.04, h162km±5km, mb4.5/43, Error ellipse: s-maj=7.7km s-min=4.6km az=148.7*
*DJA **01** 10:23:51, 7°.07S×129°.67E, h135km, mb4.8/28*
ISC 01 10:23:50.2±0.5, 7°.09S±0°.04×129°.70E±0°.05, h148km±5km, h123km±2.2km:pP-P,n122,σ1932/130, mb4.5/43, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**3.70**	**336**	P	**Pn**	**10 24 46.6**	**+0.1**
MSAI	**Masohi**	**3.80**	**348**	P	**Pn**	**10 24 48.7**	**+0.9**
NLAI	**Namlea**	**4.62**	**326**	P	**Pn**	**10 24 58.7**	**+0.1**
KAKA	**Kakadu**	**6.20**	**154**	*e*P	**Pn**	**10 25 20.4**	**+0.8**
	130nm,0.2s						
KAKA				*e*S	**Sn**	**10 26 21.6**	**-7.9**
KAKA	**Kakadu**	**6.20**	**154**	*e*Pn	**Pn**	**10 25 20.7**	**+1.1**
KAKA				*e*Sn	**Sn**	**10 26 27.0**	**-2.5**
KAKA	**Kakadu**	**6.20**	**154**	P	**Pn**	**10 25 20.9**	**+1.3**
	19nm712nm,0.6s						
SWI	**Sorong**	**6.38**	**14**	P	**Pn**	**10 25 19.4**	**-2.5**
	1.3nm6µm58nm,0.5s						
LBMI	**Labuha**	**6.78**	**341**	P	**Pn**	**10 25 27.6**	**+0.3**
	0.5nm91nm,0.8s						
BKSI	**Bulukumba**	**9.69**	**280**	P	**Pn**	**10 26 06.5**	**+0.4**
	21nm,0.7s						
SMPI	**Sarmi**	**10.31**	**61**	P	**Pn**	**10 26 14.6**	**+0.3**
	32nm,1.1s						
MRSI	**Marisa**	**10.79**	**314**	P	**Pn**	**10 26 22.4**	**+1.6**
	38nm,0.8s						
BMNI	**Bima**	**11.01**	**262**	P	**Pn**	**10 26 21.9**	**-1.7**
	3µm91nm,0.7s						
FITZ	**Fitzroy Crossi**	**11.64**	**200**	P	**Pn**	**10 26 30.3**	**-1.5**
	3.8nm,0.3s,baz=34,slow=10,SNR=90						
FITZ				S	**Sn**	**10 28 33.7**	**-6.8**
	10nm,0.3s,baz=317,slow=18,SNR=9.1						
FITZ	**Fitzroy Crossi**	**11.64**	**200**	*e*P	**Pn**	**10 26 29.6**	**-2.2**
	22nm,0.3s						
FITZ				*e*S	**Sn**	**10 28 29.5**	**-11**
FITZ	**Fitzroy Crossi**	**11.64**	**200**	*e*Pn	**Pn**	**10 26 29.8**	**-2.0**
FITZ	**Fitzroy Crossi**	**11.64**	**200**	P	**Pn**	**10 26 30.6**	**-1.2**
	21nm,0.5s						
MTNI	**Mataram**	**13.49**	**263**	P	**Pn**	**10 26 56.9**	**+1.1**
	36nm,0.8s						
WRAB	**Tennant Creek**	**13.54**	**161**	*e*Pn	**Pn**	**10 26 54.5**	**-1.8**
WRAB				*e*Sn	**Sn**	**10 29 17.6**	**-8.7**
WRAB	**Tennant Creek**	**13.54**	**161**	P	**Pn**	**10 26 54.9**	**-1.5**
	2µm116nm,0.9s						
WRA	**Warramunga Arr**	**13.54**	**161**	P	**Pn**	**10 26 54.6**	**-1.8**
	11nm,0.3s,baz=346,slow=13,SNR=99						
WRA				S	**Sn**	**10 29 20.8**	**-5.6**
	19nm,0.3s,baz=330,slow=23,SNR=14						
WRA	**Warramunga Arr**	**13.54**	**161**	P	**Pn**	**10 26 54.6**	**-1.8**
WRA				S	**Sn**	**10 29 20.8**	**-5.6**
WB2	**Warramunga Arr**	**13.55**	**161**	*e*Pn	**Pn**	**10 26 54.7**	**-1.7**
WB2				*e*Sn	**Sn**	**10 29 15.3**	**-11**
KBKI	**Kotabaru**	**14.00**	**285**	P	**Pn**	**10 27 07.1**	**+4.9**
	721nm42nm,1.0s						
COEN	**Coen**	**14.89**	**118**	*e*Pn	**Pn**	**10 27 15.1**	**+1.7**
	578nm,0.8s						
COEN				*e*Sn	**Sn**	**10 29 44.9**	**-14**
COEN	**Coen**	**14.89**	**118**	P	**Pn**	**10 27 15.9**	**+2.5**
	1µm130nm,0.8s						
BBKI	**Banjar Baru**	**15.23**	**283**	P	**Pn**	**10 27 21.6**	**+3.9**
	3µm220nm,1.0s						
KMMI	**Kalianget**	**15.62**	**269**	P	**Pn**	**10 27 24.8**	**+2.3**
	48nm,0.9s						
PLKI	**Palangkaraya**	**16.43**	**286**	P	**Pn**	**10 27 33.3**	**+0.9**
	298nm,1.0s						
MYLDM	**Lahad Datu**	**16.54**	**317**	P	**Pn**	**10 27 36.2**	**+2.5**
	25nm,0.8s						
ASAR	**Alice Springs**	**16.97**	**167**	P	**Pn**	**10 27 39.9**	**+1.1**
	11nm,0.3s,baz=336,slow=8.5,SNR=445						
ASAR				S	**S**	**10 30 40.5**	**-7.1**
	3.9nm,0.3s,baz=355,slow=29,SNR=7.0						
ASAR				ScP	ScP	10 35 37.6	+0.2
	0.3nm,0.3s,baz=1.9,slow=3.8,SNR=4.4						
ASAR	**Alice Springs**	**16.97**	**167**	P	**Pn**	**10 27 39.9**	**+1.1**
ASAR				S	**S**	**10 30 40.5**	**-7.1**
ASAR				ScP	ScP	10 35 37.6	+0.2
MBWA	**Marble Bar**	**16.99**	**214**	Pn	**Pn**	**10 27 38.6**	**-0.5**
	18nm,0.7s						
MBWA	**Marble Bar**	**16.99**	**214**	P	**Pn**	**10 27 40.7**	**+1.6**
	30nm,0.7s						
PMG	**Port Moresby**	**17.43**	**99**	P	**Pn**	**10 27 48.2**	**+3.8**
	2.5nm,0.3s,baz=242,slow=5.7,SNR=11						
PMG				S	**S**	**10 30 53.7**	**-3.5**
	1.7nm,0.3s,baz=191,slow=22,SNR=7.2						
PMG	**Port Moresby**	**17.43**	**99**	*e*P	**Pn**	**10 27 46.3**	**+1.9**
	41nm,0.9s						
PMG	**Port Moresby**	**17.43**	**99**	P	**Pn**	**10 27 48.5**	**+4.1**
	50nm,1.2s						
PWJI	**Pagerwojo**	**17.77**	**266**	P	**Pn**	**10 27 46.7**	**-1.8**
	44nm,0.5s						
PCJI	**Pacitan**	**18.40**	**265**	P	**Pn**	**10 27 52.3**	**-1.7**
	87nm,0.5s						
PBKI	**Pangkalan Bun**	**18.48**	**283**	P	**Pn**	**10 27 56.6**	**+1.6**
	2µm297nm,0.9s						
KKM	**Kota Kinabalu**	**18.75**	**314**	*e*Pn	**Pn**	**10 27 57.2**	**-2.7**
	25nm,1.0s						
STKI	**Sintang**	**19.52**	**291**	P	**P**	**10 28 07.1**	**+0.8**
	36nm,0.9s						
SBUM	**Sibu**	**19.86**	**298**	P	**P**	**10 28 11.2**	**+1.3**
	520nm69nm,0.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	20.60	130	P	P	10 28 22.2	+4.4
	10nm,0.6s,baz=292,slow=13,SNR=9.4						
CTA	Charters Tower	20.60	130	eP	P	10 28 21.0	+3.2
	7.9nm,0.6s						
CTA	Charters Tower	20.60	130	P	P	10 28 22.2	+4.4
CTAO	Charters Tower	20.60	130	eP	P	10 28 21.5	+3.7
	18nm,1.0s						
CTAO	Charters Tower	20.60	130	P	P	10 28 21.5	+3.7
	21nm,0.8s						
KSM	Kuching	21.14	293	P	P	10 28 22.5	-1.1
	13nm,0.8s,mb4.3						
KSM	Kuching	21.14	293	P	P	10 28 24.9	+1.3
	17nm,0.7s,mb4.5						
FORT	Forrest	23.62	184	eP	P	10 28 49.7	+2.0
	92nm,0.6s,mb5.5						
FORT				eS	S	10 33 07.5	+16
FORT	Forrest	23.62	184	eP	P	10 28 50.1	+2.4
	100nm,0.6s,mb5.5						
PPBI	Pangkal Pinang	23.99	281	P	P	10 28 51.0	-0.3
	4μm32nm,0.9s,mb4.8						
BBOO	Buckleboo	26.26	168	eP	P	10 29 12.7	+1.1
	58nm,0.7s,mb5.3						
STKA	Stephens Creek	27.04	157	P	P	10 29 20.9	+2.3
	12nm,0.5s,mb4.8,baz=336,slow=8.1,SNR=15						
STKA	Stephens Creek	27.04	157	eP	P	10 29 20.7	+2.1
	9.6nm,0.5s,mb4.7						
STKA	Stephens Creek	27.04	157	eP	P	10 29 20.7	+2.1
	2.9nm,0.6s,mb4.1						
MYKOM	Kota Tinggi	27.27	288	P	P	10 29 21.2	+0.3
	13nm,1.1s,mb4.5						
PSI	Prapat	32.25	287	P	P	10 30 05.8	+0.8
	20nm,0.8s,mb4.9,baz=141,slow=4.7,SNR=11						
PSI	Prapat	32.25	287	P	P	10 30 05.8	+0.8
CAN	Canberra	33.22	150	eP	P	10 30 16.7	+3.7
	9.7nm,1.0s,mb4.5						
CMAR	Chiang Mai Arr	39.56	310	P	P	10 31 06.2	-0.8
	5.6nm,0.6s,mb4.4,baz=137,slow=7.1,SNR=31						
CMAR	Chiang Mai Arr	39.56	310	P	P	10 31 06.2	-0.8
CHTO	Chiang Mai	39.78	311	eP	P	10 31 08.0	-0.9
	7.4nm,0.6s,mb4.5						
CHTO	Chiang Mai	39.78	311	P	P	10 31 07.9	-1.0
GYA	Guiyang	40.15	327	eP	P	10 31 12.8	+1.0
GYA				pP	pP	10 31 40.7	-3.7
GYA				sP	sP	10 31 55.2	-5.9
GYA				PP	PP	10 32 50.8	+3.5
GYA				PcP	PcP	10 33 15.4	+2.1
GYA				ScP	ScP	10 36 51.5	+2.7
GYA				PcS	PcS	10 37 05.9	+1.9
GYA				S	S	10 37 10.0	+2.6
GYA				sS	sS	10 37 58.3	-5.9
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.5						
NJ2	Nanjing	40.27	346	eP	P	10 31 13.8	+1.1
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.5						
KMI	Kunming	41.40	322	P	P	10 31 24.5	+2.4
KMI				pP	pP	10 31 51.7	-3.1
KMI				sP	sP	10 32 05.5	-6.1
KMI				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
TARA	Tarawa	43.93	81	eP	P	10 31 50.2	+7.5
	comp=Z,184nm,0.6s						
MJAR	Matsushiro Arr	44.13	10	P	P	10 31 42.4	-1.5
	comp=Z,1.3nm,0.8s,mb3.6,baz=190,slow=11,SNR=4.5						
KSRS	Korea Array	44.34	358	P	P	10 31 45.2	-0.4
	comp=Z,1.2nm,0.7s,mb3.7,baz=179,slow=8.9,SNR=4.4						
CD2	Chengdu	45.22	328	P	P	10 31 53.2	+0.5
CD2				pP	pP	10 32 21.9	-4.0
CD2				sP	sP	10 32 36.4	-6.1
CD2				PP	PP	10 33 41.4	-0.1
CD2				S	S	10 38 23.2	+1.6
CD2				sS	sS	10 39 13.4	-5.9
CD2				SS	SS	10 41 40.2	-7.0
CD2				pmax	pmax		
	comp=Z,20nm,0.5s,mb5.0						
CD2				pmax	pmax		
	comp=Z,120nm,4.9s						
CD2				LR	LR		
	comp=N,130nm,7.7s						
CD2				LR	LR		
	comp=Z,140nm,8.3s						
LZH	Lanzhou	49.35	332	eP	P	10 32 25.0	+0.5
LZH				pP	pP	10 32 54.1	-4.1
LZH				sP	sP	10 33 08.2	-6.5
LZH				ePP	PP	10 34 21.5	+1.5
LZH				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.6						
LZH				pmax	pmax		
	comp=Z,56nm,6.6s						
LZH				LR	LR		
	comp=E,180nm,15.0s						
LZH				LR	LR		
	comp=Z,240nm,18.7s						
HHC	Hu-ho-hao-te	50.54	342	eP	P	10 32 35.2	+1.8
HHC				pP	pP	10 33 04.5	-2.8
HHC				sP	sP	10 33 18.7	-5.0
HHC				PP	PP	10 34 32.2	+1.4
HHC				S	S	10 39 37.9	+1.7
HHC				sS	sS	10 40 29.2	-5.7
HHC				SS	SS	10 43 11.7	-0.7
HHC				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.6						
HHC				pmax	pmax		
	comp=Z,83nm,4.4s						
ASAJ	Asahikawa	52.28	12	LR	LR	10 52 59.2	
	comp=Z,23nm,19.2s,baz=161,slow=34						
ODAN	Odare	53.09	311	eP	P	10 32 51.4	-1.2
	comp=Z,14nm,0.4s,mb5.0						
TAPN	Taplejung	53.13	312	eP	P	10 32 51.9	-0.9
	comp=Z,10nm,0.3s,mb5.0						
GTA	Gaotai	53.91	331	eP	P	10 32 58.6	+0.3
GTA				pP	pP	10 33 25.3	-7.3
GTA				sP	sP	10 33 39.6	-9.3
GTA				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.5						
GUN	Gumba	54.79	311	eP	P	10 33 05.0	+0.1
	comp=Z,19nm,0.4s,mb5.1						
PKI	Pulchoki	54.96	311	eP	P	10 33 04.8	-1.3
	comp=Z,10nm,0.5s,mb4.9						
PKI	Pulchoki	54.96	311	eP	P	10 33 05.2	-0.9
	comp=Z,11nm,0.5s,mb4.8						
PKIN	Phulchoki	54.97	311	eP	P	10 33 05.2	-1.0
	comp=Z,11nm,0.5s,mb4.8						
KKN	Kakani	55.17	311	eP	P	10 33 06.5	-1.2
KKN	Kakani	55.17	311	eP	P	10 33 06.5	-1.2
DMN	Daman	55.21	311	eP	P	10 33 06.9	-1.0
	comp=Z,4.5nm,0.3s,mb4.7						
GKN	Gorkha	55.77	311	eP	P	10 33 10.7	-1.2
	comp=Z,17nm,0.2s,mb5.5						
KOLN	Koldanda	56.43	310	eP	P	10 33 15.6	-1.0
	comp=Z,9.6nm,0.3s,mb5.1						
DANN	Dangsing	56.61	311	eP	P	10 33 16.2	-1.7
	comp=Z,13nm,0.6s,mb5.0						
DANN	Dangsing	56.61	311	eP	P	10 33 16.2	-1.7
	comp=Z,13nm,0.6s,mb5.0						
SONM	Songino Array	58.43	342	P	P	10 33 29.9	-0.4
	comp=Z,1.5nm,0.5s,mb4.1,baz=160,slow=7.3,SNR=14						
SONM	Songino Array	58.43	342	P	P	10 33 29.9	-0.4
WMQ	Urumqi	63.31	327	P	P	10 34 04.8	+1.5
MK31	Makanchi Array	68.14	327	eP	P	10 34 33.9	-0.3
MKAR	Makanchi Array	68.14	327	P	P	10 34 33.6	-0.5
	comp=Z,9.2nm,0.4s,mb4.8,baz=116,slow=8.4,SNR=59						
MKAR	Makanchi Array	68.14	327	P	P	10 34 33.6	-0.5
KZA	Kyzart	69.66	320	eP	P	10 34 44.8	+1.2
	comp=Z,1.9nm,0.4s,mb4.2						
TKM2	Tokmak 2	69.87	321	eP	P	10 34 44.4	-0.5
	comp=Z,3.9nm,0.6s,mb4.3						
AAK	Ala-Archa	70.42	320	P	P	10 34 49.3	+1.0
	comp=Z,1.9nm,0.4s,mb4.2,baz=123,slow=6.2,SNR=8.7						
AAK	Ala-Archa	70.42	320	P	P	10 34 49.3	+1.0
EKS2	Erkin-Say	70.89	320	eP	P	10 34 50.5	-0.6
	comp=Z,4.6nm,0.7s,mb4.3						
ZAA0	Zalesovo Array	71.53	334	eP	P	10 34 53.1	-1.6
ZALV	Zalesovo Beam	71.53	334	P	P	10 34 53.3	-1.4
	comp=Z,3.0nm,0.5s,mb4.3,baz=130,slow=5.6,SNR=13						
ZALV	Zalesovo Beam	71.53	334	P	P	10 34 53.3	-1.4
VNDA	Vanda	72.39	173	P	P	10 35 01.4	+1.8
	comp=Z,0.9nm,0.6s,mb3.7,baz=325,slow=6.3,SNR=8.8						
VNDA	Vanda	72.39	173	P	P	10 35 01.4	+1.8
KURK	Kurchatov	72.44	329	P	P	10 34 59.5	-0.7
	comp=Z,4.5nm,0.5s,mb4.5,baz=132,slow=5.0,SNR=24						
KURK	Kurchatov	72.44	329	eP	P	10 34 59.4	-0.8
	comp=Z,7.1nm,1.0s,mb4.3						
KKAR	Karatay Array	73.21	319	eP	P	10 35 04.6	-0.4
MAW	Mawson	74.76	201	P	P	10 35 15.5	+2.0
	comp=Z,1.6nm,0.6s,mb3.9,baz=71,slow=4.4,SNR=9.2						
MAW	Mawson	74.76	201	P	P	10 35 15.5	+2.0
BVAR	Borovoye Array	77.98	328	P	P	10 35 30.8	-1.1
	comp=Z,1.8nm,0.4s,mb4.0,baz=114,slow=6.6,SNR=8.5						
BVAR	Borovoye Array	77.98	328	P	P	10 35 30.8	-1.1
ABKAR	Akbulak array	82.40	322	eP	P	10 35 54.8	-0.8
	comp=Z,4.4nm,0.4s,mb4.4						
AKTO	Aktyubinsk	83.96	322	P	P	10 36 03.0	-0.6
	comp=Z,2.0nm,0.3s,mb4.3,baz=84,slow=5.2,SNR=8.9						
ILAR	Eielson Array	93.55	25	P	P	10 36 47.9	-1.0
	comp=Z,0.4nm,0.7s,mb3.6,baz=238,slow=4.2,SNR=4.8						
BRTR	Keskin Array B	99.14	309	P	P	10 37 13.6	-1.3
	comp=Z,0.4nm,0.5s,mb4.2,baz=266,slow=17,SNR=3.6						
PDAR	Pinedale Array	117.16	45	PKP	PKPdf	10 42 18.1	+0.1
	comp=Z,0.4nm,0.7s,baz=168,slow=2.9,SNR=3.6						
TXAR	Lajitas Array	125.23	59	PKP	PKPdf	10 42 36.7	+2.9
	comp=Z,0.2nm,0.8s,baz=94,slow=1.7,SNR=4.1						
TORD	Torodi Ar. Bea	128.54	281	PKP	PKPdf	10 42 41.3	+0.7
	comp=Z,0.9nm,0.6s,baz=66,slow=1.6,SNR=6.8						
DBIC	Dimbokro	134.90	272	PKP	PKPdf	10 42 54.5	+1.8
	comp=Z,1.3nm,0.4s,baz=57,slow=5.6,SNR=4.7						
CPUP	Villa Florida	146.09	169	PKPbc	PKPbc	10 43 15.1	+1.6
	comp=Z,1.3nm,0.6s,baz=192,slow=4.3,SNR=4.8						
LPAZ	La Paz	150.83	143	PKPbc	PKPbc	10 43 28.9	+2.8
	comp=Z,1.4nm,0.3s,baz=52,slow=3.4,SNR=18						
LPAZ				PKPab	PKPab	10 43 38.8	+5.2
	comp=Z,1.3nm,0.6s,baz=162,slow=3.2,SNR=5.3						
LPAZ	La Paz	150.83	143	ePKPbc	PKPbc	10 43 28.7	+2.6

*IDC **01** 10:32:58.2±0.9, 10°.67N×126°.10E, h0^{km}, mb3.7/7, mb1 3.9/7, mb1mx3.7/23, mbtmp3.7/7, Error ellipse: s-maj=58.9km s-min=18.0km az=76.0*
*ISCJB **01** 10:33:03.2±1.9, 10°.68N±0°.06×126°.2E±0°.2, h54^{km}±18^{km}, mb3.6/7, Error ellipse: s-maj=31.3km s-min=9.0km az=169.9*
*MAN **01** 10:33:03, 10°.69N×126°.20E, h30^{km}, mb4.9, ML3.9, MS3.9*
ISC 01 10:33:04.5±1.8**, 10°.67N**±0°.06×**126°.2E**±0°.2**, h46**^{km}±18^{km}**, n17, σ0^{s}99**/18**, mb3.6**/7**, 2C-1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	Surigao	1.13	218⇑	eP	Pn	10 33 22.3	-1.6
SCPH				eS	Sn	10 33 38.1	-0.1
PLP	Palo	1.29	292⇓	eP	Pn	10 33 25.1	-1.0
MSLP	Maasin	1.42	248	eP	Pn	10 33 27.0	-0.9
OCLP	Ormoc	1.61	284	eP	Pn	10 33 31.6	+1.2
BUTP	Butuan	1.79	199	eP	Pn	10 33 33.1	+0.2
CNP	Catarman	2.37	321	eP	Pn	10 33 40.2	-0.7
TBP	Tagbilaran	2.50	247	eP	Pn	10 33 45.7	+3.0
BUKP	Musuan	2.99	202	eP	Pn	10 33 50.6	+1.2
RCP	Roxas	3.50	285⇑	eP	Pn	10 33 57.2	+0.7
PVCP	Virac	3.53	326	eP	Pn	10 33 56.9	+0.1
FITZ	Fitzroy Crossi	28.60	181	P	P	10 38 55.9	-0.6
	2.1nm,0.9s,mb3.9,baz=352,slow=7.1,SNR=3.4						
WRA	Warramunga Arr	31.46	165	P	P	10 39 20.7	-1.1
	0.4nm,0.6s,mb3.4,baz=346,slow=9.1,SNR=2.3						
ASAR	Alice Springs	34.95	168	P	P	10 39 53.4	+1.2
	0.3nm,0.4s,mb3.6,baz=339,slow=6.9,SNR=6.7						
SONM	Songino Array	40.62	339	P	P	10 40 40.4	+0.5
	0.3nm,0.5s,mb3.2,baz=149,slow=9.0,SNR=4.4						
MKAR	Makanchi Array	51.67	323	P	P	10 42 06.8	0.0
	2.1nm,0.9s,mb4.1,baz=116,slow=8.4,SNR=10.0						
ZALV	Zalesovo Beam	54.24	331	P	P	10 42 24.4	-1.2
	1.0nm,0.8s,mb3.8,baz=101,slow=6.8,SNR=4.4						
ILAR	Eielson Array	79.11	26	P	P	10 45 04.6	+0.7
	0.2nm,0.8s,mb3.1,baz=250,slow=4.7,SNR=3.7						

MAN 01 10:51:18, 16°.82N×120°.59E, h8^{km}, mb4.0, ML2.8, MS2.5, 1C, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BCPH	Baguio City Da	0.44	181⇑	iP	Pg	10 51 26.4	-0.2
BCPH				i S	Sg	10 51 32.9	+0.5
BOLP	Bolinao	0.79	236	eP	Pg	10 51 33.4	+0.2
BOLP				eS	Sg	10 51 41.5	-1.9
ABRA	Dolores	0.83	8	eP	Pg	10 51 34.0	+0.1
CAUP	Cauayan	1.19	84	eP	Pb	10 51 41.3	+0.6
APYP	Conner	1.21	31	eP	Pb	10 51 39.6	-1.5
APYP				eS	Sg	10 51 48.7	-8.1
SCZP	Santa Cruz	1.23	212	eP	Pn	10 51 41.5	0.0
BALP	Baler	1.43	139	eP	Pn	10 51 43.2	-1.1

*IDC **01** 11:23:32.6±0.9, 51°.40N×174°.34W, h0^{km}, mb3.9/17, mb1 4.1/19, mb1mx4.0/29, mbtmp3.9/19, ML4.1/2, MS3.0/2, Ms1 2.9/2, ms1mx2.3/41, Error ellipse: s-maj=27.6km s-min=15.6km az=161.0*
*MOS **01** 11:23:36.0±1.4, 51°.33N×174°.12W, h33^{km}, mb5.0/7, Error ellipse: s-maj=15.4km s-min=10.2km az=99.1*
*ISCJB **01** 11:23:37.0±1.2, 51°.34N±0°.09×174°.16W±0°.06, h39^{km}±8^{km}, mb4.2/31, Error ellipse: s-maj=14.6km s-min=5.9km az=170.6*
*NEIC **01** 11:23:38.6±1.0, 51°.38N×174°.26W, h38^{km}±7^{km}, mb4.6/6, Error ellipse: s-maj=14.4km s-min=6.0km az=171.0*
ISC 01 11:23:38.6±1.1**, 51°.36N**±0°.08×**174°.24W**±0°.06**, h38**^{km}±8^{km}**, n128, σ0^{s}82**/130**, mb4.2**/31**, 1D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.84	2	P	Pn	11 23 53.3	-0.6
ATKA				S	Sn	11 24 03.6	-1.4
GSTR	Great Sitkin T	1.35	304	ePn	Pn	11 24 00.7	-0.1
GSTR				eSn	Sn	11 24 19.4	+1.9
ADK	Adak	1.61	290	P	Pn	11 24 03.5	-1.0
ADK				S	Sn	11 24 24.6	+0.6
ADK	Adak	1.61	290	P	Pn	11 24 03.5	-1.0
ADK				S	Sn	11 24 24.6	+0.6
NIKO	Nikolski	3.69	62	ePn	Pn	11 24 35.6	+2.6
UNV	Unalaska Valle	5.33	59	ePn	Pn	11 24 54.6	-0.9
UNV				eSn	Sn	11 25 56.1	+0.4
FX1	Attu Island--F	7.90	286	Pn	Pn	11 25 35.0	+4.1
	1.1nm,0.3s,baz=80,slow=11,SNR=5.9						
FX1	Attu Island--F	7.90	286	Pn	Pn	11 25 35.0	+4.1
FX1	Attu Island--F	7.90	286	P	Pn	11 25 35.0	+4.2
KDAK	Kodiak Island	14.07	54	Pn	Pn	11 26 54.6	-0.5
	0.4nm,0.3s,baz=266,slow=9.5,SNR=6.0						
KDAK	Kodiak Island	14.07	54	Pn	Pn	11 26 54.6	-0.5
KDAK	Kodiak Island	14.07	54	P	Pn	11 26 54.6	-0.5
PETK	Petropavlovsk-	17.23	287	P	Pn	11 27 37.1	+1.0
	0.2nm,0.3s,baz=90,slow=11,SNR=5.6						
PETK	Petropavlovsk-	17.23	287	P	Pn	11 27 37.1	+1.0
PETK	Petropavlovsk-	17.23	287	P	Pn	11 27 37.2	+1.1
BILL	Bilibino	19.24	338	eP	Pn	11 28 00.6	+0.2
	28nm,1.3s						
BILL	Bilibino	19.24	338⇓	eP	Pn	11 28 00.7	+0.3
BILL				pmax	pmax		
	comp=Z,36nm,1.6s						
ILAR	Eielson Array	19.52	36	P	Pn	11 27 59.5	-4.3
	comp=Z,0.5nm,0.3s,baz=237,slow=9.2,SNR=67						
ILAR	Eielson Array	19.52	36	P	Pn	11 27 59.5	-4.3
ILAR	Eielson Array	19.52	36	P	Pn	11 27 59.5	-4.3
DOT	Dot Lake	20.11	41	eP	P	11 28 07.9	-0.8
	comp=Z,26nm,0.9s						
PNL	Peninsula	21.18	53	eP	P	11 28 20.6	+0.2
	comp=Z,121nm,1.7s,mb5.0						
INK	Inuvik	25.86	34	P	P	11 29 05.8	-0.4
	comp=Z,0.8nm,0.5s,mb3.5,baz=215,slow=16,SNR=9.8						
INK	Inuvik	25.86	34	P	P	11 29 05.8	-0.4
INK	Inuvik	25.86	34	P	P	11 29 05.8	-0.4
DLBC	Dease Lake	25.98	57	P	P	11 29 08.6	+1.3
	comp=Z,2.6nm,0.7s,baz=275,slow=7.2,SNR=4.3						
DLBC				LR	LR	11 39 27.6	
	comp=Z,65nm,20.0s,baz=160,slow=37						
DLBC	Dease Lake	25.98	57	P	P	11 29 08.6	+1.3
DLBC				LR	LR	11 39 27.6	
YKA	Yellowknife Ar	33.16	47	LR	LR	11 45 27.0	
	comp=Z,11nm,18.8s,baz=295,slow=40						
KSRS	Korea Array	42.49	274	P	P	11 31 27.5	-2.5
	comp=Z,0.7nm,0.6s,mb3.4,baz=296,slow=30,SNR=2.8						
KSRS	Korea Array	42.49	274	P	P	11 31 27.5	-2.5
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
PDAR	Pinedale Array	43.57	75	P	P	11 31 38.9	+0.3
	comp=Z,0.6nm,0.8s,mb3.4,baz=302,slow=3.3,SNR=6.1						
PDAR	Pinedale Array	43.57	75	P	P	11 31 38.9	+0.3
SONM	Songino Array	49.18	299	P	P	11 32 22.8	+0.3
	comp=Z,1.5nm,0.9s,mb4.0,baz=47,slow=7.9,SNR=9.6						
SONM	Songino Array	49.18	299	P	P	11 32 22.8	+0.3
SONM	Songino Array	49.18	299	P	P	11 32 22.8	+0.3
ZAK	Zakamensk	49.38	303	eP	P	11 32 24.0	0.0
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
TXAR	Lajitas Array	55.82	84	P	P	11 33 11.9	0.0
	comp=Z,0.1nm,0.3s,mb3.4,baz=296,slow=6.4,SNR=5.0						
TXAR	Lajitas Array	55.82	84	P	P	11 33 11.9	0.0
TXAR	Lajitas Array	55.82	84	P	P	11 33 12.0	+0.1
ARCES	ARCESS Array B	58.55	352	P	P	11 33 29.8	-0.9
	comp=Z,2.7nm,0.8s,mb4.3,baz=27,slow=8.2,SNR=7.1						
ARCES	ARCESS Array B	58.55	352	P	P	11 33 29.8	-0.9
ARCES	ARCESS Array B	58.55	352	P	P	11 33 29.8	-0.8
MKAR	Makanchi Array	62.24	311	P	P	11 33 55.3	-0.9
	comp=Z,0.5nm,0.5s,mb3.9,baz=56,slow=7.4,SNR=4.6						
MKAR	Makanchi Array	62.24	311	P	P	11 33 55.3	-0.9
MKAR	Makanchi Array	62.24	311	P	P	11 33 55.3	-0.9
FINES	FINESS Array B	66.38	350	P	P	11 34 21.5	-1.5
	comp=Z,1.6nm,0.5s,mb4.3,baz=226,slow=34,SNR=2.0						
FINES	FINESS Array B	66.38	350	P	P	11 34 21.5	-1.5
FINES	FINESS Array B	66.38	350	P	P	11 34 21.5	-1.5
NB2	NORSAR Subarra	67.86	357	P	P	11 34 31.3	-1.1
	comp=Z,1.0nm,0.8s,mb3.9,baz=2.9,slow=6.2						
NOA	NORSAR Array B	67.86	357	P	P	11 34 32.2	-0.2
	comp=Z,1.8nm,0.9s,mb4.1,baz=3.2,slow=6.3,SNR=4.8						
NOA	NORSAR Array B	67.86	357	P	P	11 34 32.2	-0.2
NOA	NORSAR Array B	67.86	357	P	P	11 34 32.2	-0.2
CMAR	Chiang Mai Arr	73.85	279	P	P	11 35 08.8	-0.6
	comp=Z,0.7nm,0.5s,mb3.8,baz=23,slow=7.0,SNR=6.9						
CMAR	Chiang Mai Arr	73.85	279	P	P	11 35 08.8	-0.6
CMAR	Chiang Mai Arr	73.85	279	P	P	11 35 08.8	-0.6
GUN	Gumba	74.48	295	eP	P	11 35 12.7	-0.3
	comp=Z,29nm,0.9s,mb5.2						
GUN	Gumba	74.48	295	eP	P	11 35 12.7	-0.3
	comp=Z,29nm,0.9s,mb5.2						
KKN	Kakani	74.91	296	eP	P	11 35 15.3	-0.2
	comp=Z,7.5nm,0.6s,mb4.8						
KKN	Kakani	74.91	296	eP	P	11 35 15.3	-0.2
	comp=Z,7.5nm,0.6s,mb4.8						
KKN	Kakani	74.91	296	eP	P	11 35 15.3	-0.2
KKN				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
PKI	Pulchoki	75.01	295	eP	P	11 35 15.0	-1.1
	comp=Z,10nm,0.7s,mb4.9						
PKI	Pulchoki	75.01	295	eP	P	11 35 15.0	-1.1
PKI				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
PKIN	Phulchoki	75.01	295	eP	P	11 35 15.0	-1.1
	comp=Z,10nm,0.7s,mb4.8						
GKN	Gorkha	75.11	296	eP	P	11 35 17.2	+0.5
GKN	Gorkha	75.11	296	eP	P	11 35 17.2	+0.5
DMN	Daman	75.15	296	eP	P	11 35 16.0	-0.9
DMN	Daman	75.15	296	eP	P	11 35 16.0	-0.9
DANN	Dangsing	75.34	297	eP	P	11 35 19.0	+1.1
	comp=Z,37nm,0.9s,mb5.3						
DANN	Dangsing	75.34	297	eP	P	11 35 19.0	+1.1
	comp=Z,37nm,0.9s,mb5.3						
KOLN	Koldanda	75.87	297	eP	P	11 35 21.9	+0.9
	comp=Z,12nm,0.7s,mb4.9						
KOLN	Koldanda	75.87	297	eP	P	11 35 21.9	+0.9
	comp=Z,12nm,0.7s,mb4.9						
AKASG	Malin Array Be	76.38	345	P	P	11 35 22.4	-1.1
	comp=Z,0.4nm,0.3s,mb3.8,baz=15,slow=5.2,SNR=4.6						
AKASG	Malin Array Be	76.38	345	P	P	11 35 22.4	-1.1
AKASG	Malin Array Be	76.38	345	P	P	11 35 22.4	-1.1
CLL	Collm	77.52	355	eP	P	11 35 30.0	+0.1
GIVF	Givet	78.91	1	eP	P	11 35 37.8	+0.2
BAIF	Baives	78.95	1	eP	P	11 35 38.2	+0.4
GERES	GERESS Array B	79.94	355	P	P	11 35 43.7	+0.4
	comp=Z,1.1nm,0.7s,mb3.9,baz=19,slow=5.7,SNR=9.5						
GERES	GERESS Array B	79.94	355	P	P	11 35 43.7	+0.4
GERES	GERESS Array B	79.94	355	P	P	11 35 43.7	+0.4
LDF	La Druitiere	80.30	4	eP	P	11 35 44.7	-0.5
	comp=Z,3.6nm,0.5s,mb4.2						
LDF	La Druitiere	80.30	4	eP	P	11 35 44.7	-0.5
	comp=Z,1.8nm,0.5s,mb4.3						
LDF	La Druitiere	80.30	4	eP	P	11 35 44.7	-0.5
LDF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
ROSF	Rostrenen	80.38	6	eP	P	11 35 46.4	+0.8
ROSF	Rostrenen	80.38	6	eP	P	11 35 46.4	+0.8
ROSF	Rostrenen	80.38	6	eP	P	11 35 46.4	+0.8
MEZF	Maizieres J'vi	80.51	0	eP	P	11 35 46.9	+0.6
CDF	Champ du Feu	80.60	359	eP	P	11 35 47.0	+0.2
	comp=Z,4.9nm,0.7s,mb4.2						
SFTF	Sexfontaines	80.81	0	eP	P	11 35 48.3	+0.4
	comp=Z,19nm,0.8s,mb4.8						
HAU	Haudompre	81.01	360	eP	P	11 35 49.3	+0.3
HINF	Hinteralfeld	81.20	359	eP	P	11 35 50.1	+0.1
LOR	Lormes	81.73	1	eP	P	11 35 53.2	+0.3
	comp=Z,9.4nm,0.8s,mb4.5						
LOR	Lormes	81.73	1	eP	P	11 35 53.2	+0.3
	comp=Z,4.7nm,0.8s,mb4.5						
LOR	Lormes	81.73	1	eP	P	11 35 53.2	+0.3
LOR				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
SSF	Saint Saulge	81.94	2	eP	P	11 35 54.2	+0.3
	comp=Z,9.9nm,0.7s,mb4.5						
SSF	Saint Saulge	81.94	2	eP	P	11 35 54.2	+0.3
	comp=Z,4.9nm,0.7s,mb4.5						
SSF	Saint Saulge	81.94	2	eP	P	11 35 54.2	+0.3
SSF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
AVF	Avril sur Loir	82.20	2	eP	P	11 35 55.4	+0.1
	comp=Z,19nm,1.1s,mb4.7						
AVF	Avril sur Loir	82.20	2	eP	P	11 35 55.4	+0.1
	comp=Z,9.5nm,1.1s,mb4.6						
AVF	Avril sur Loir	82.20	2	eP	P	11 35 55.4	+0.1
AVF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
MFF	Saint Martin d	82.28	4	eP	P	11 35 56.1	+0.4
MFF	Saint Martin d	82.28	4	eP	P	11 35 56.1	+0.4
MFF	Saint Martin d	82.28	4	eP	P	11 35 56.1	+0.4
SMF	Signal de Mont	82.36	1	eP	P	11 35 56.3	+0.2
	comp=Z,7.5nm,0.7s,mb4.5						
SMF	Signal de Mont	82.36	1	eP	P	11 35 56.3	+0.2
	comp=Z,3.8nm,0.6s,mb4.5						
SMF	Signal de Mont	82.36	1	eP	P	11 35 56.3	+0.2
SMF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
CAF	Calviac	84.04	3	eP	P	11 36 05.4	+0.6
CAF	Calviac	84.04	3	eP	P	11 36 05.4	+0.6
CAF	Calviac	84.04	3	eP	P	11 36 05.4	+0.6
WRA	Warramunga Arr	84.05	228	P	P	11 36 04.0	-1.0
	comp=Z,0.3nm,0.8s,mb3.5,baz=32,slow=5.8,SNR=1.8						
WRA	Warramunga Arr	84.05	228	P	P	11 36 04.0	-1.0
WRA	Warramunga Arr	84.05	228	P	P	11 36 04.0	-1.1
ORIF	Oris-en-Rattie	84.10	360	eP	P	11 36 06.6	+1.4
ORIF	Oris-en-Rattie	84.10	360	eP	P	11 36 06.6	+1.4
ORIF	Oris-en-Rattie	84.10	360	eP	P	11 36 06.6	+1.4
FRF	La Foret Royal	85.45	359	eP	P	11 36 12.4	+0.4
FRF	La Foret Royal	85.45	359	eP	P	11 36 12.4	+0.4
FRF	La Foret Royal	85.45	359	eP	P	11 36 12.4	+0.4
BRTR	Keskin Array B	86.07	339	P	P	11 36 15.9	+0.8
	comp=Z,0.6nm,0.5s,mb4.1,baz=96,slow=5.5,SNR=3.8						
BRTR	Keskin Array B	86.07	339	P	P	11 36 15.9	+0.8
BRTR	Keskin Array B	86.07	339	P	P	11 36 15.9	+0.8
ASAR	Alice Springs	87.47	226	P	P	11 36 22.0	0.0
	comp=Z,0.4nm,0.7s,mb3.7,baz=24,slow=5.4,SNR=4.6						
ASAR	Alice Springs	87.47	226	P	P	11 36 22.0	0.0
ASAR	Alice Springs	87.47	226	P	P	11 36 22.0	0.0
ESDC	Sonseca Array	88.94	7	P	P	11 36 28.8	-0.1
	comp=Z,0.2nm,0.3s,mb3.9,baz=148,slow=45,SNR=3.6						
ESDC	Sonseca Array	88.94	7	P	P	11 36 28.8	-0.1
BOSA	Boshof	152.97	320	PKPbc	PKPbc	11 43 31.9	+0.3
	comp=Z,1.0nm,0.6s,baz=128,slow=9.4,SNR=2.0						
BOSA				PKPab	PKPab	11 43 42.5	-0.3
	comp=Z,2.5nm,0.7s,baz=298,slow=4.6,SNR=3.8						
BOSA	Boshof	152.97	320	PKPbc	PKPbc	11 43 31.9	+0.3
BOSA				PKPab	PKPab	11 43 42.5	-0.3

*IDC **01** 11:25:52.9±7.1, 11°.69S×166°.35E, h93^{km}±52^{km}, mb3.7/7, mb1 3.8/8, mb1mx3.6/19, mbtmp3.8/8, Error ellipse: s-maj=50.6km s-min=27.2km az=119.0*
*ISCJB **01** 11:25:53.2±2.6, 11°.7S±0°.1×166°.3E±0°.2, h108^{km}±21^{km}, mb3.9/8, Error ellipse: s-maj=29.4km s-min=14.6km az=140.9*
*NEIC **01** 11:25:53.8±1.6, 11°.67S×166°.28E, h100^{km}±13^{km}, mb4.2/1, Error ellipse: s-maj=19.2km s-min=13.4km az=63.0*
ISC 01 11:25:53.9±2.1**, 11°.7S**±0°.1×**166°.3E**±0°.1**, h102**^{km}±17^{km}**, n18, σ0^{s}51**/20**, mb3.9**/8**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.66	289	P	Pn	11 27 28.4	-0.8
	11nm,0.3s,baz=167,slow=1.9,SNR=6.7						
HNR				S	Sn	11 28 44.4	+0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	9.1nm,0.3s,baz=74,slow=22,SNR=3.2						
HNR	Honiara	6.66	289	P	Pn	11 27 28.4	-0.8
HNR				S	Sn	11 28 44.4	+0.6
DZM	Mont Dzumac	10.32	179	ePn	Pn	11 28 19.3	+0.3
WRAB	Tennant Creek	31.80	251	eP	P	11 32 08.6	-0.4
	5.7nm,1.2s,mb4.2						
WRA	Warramunga Arr	31.81	251	P	P	11 32 09.1	0.0
	0.9nm,0.6s,mb3.6,baz=84,slow=9.0,SNR=11						
WRA				PcP	PcP	11 34 58.8	+0.8
	0.5nm,0.8s,baz=73,slow=3.3,SNR=5.5						
WRA	Warramunga Arr	31.81	251	P	P	11 32 09.1	0.0
WRA				PcP	PcP	11 34 58.8	+0.8
ASAR	Alice Springs	33.02	244	P	P	11 32 19.4	-0.2
	0.8nm,0.6s,mb3.7,baz=70,slow=9.6,SNR=17						
ASAR				pP	pP	11 32 42.8	+0.2
	0.2nm,0.5s,baz=70,slow=9.4,SNR=2.2						
ASAR				PcP	PcP	11 35 01.1	-0.1
	0.5nm,0.6s,baz=78,slow=2.2,SNR=7.2						
ASAR	Alice Springs	33.02	244	P	P	11 32 19.4	-0.2
ASAR				pP	pP	11 32 42.8	+0.2
ASAR				PcP	PcP	11 35 01.1	-0.1
CMAR	Chiang Mai Arr	72.89	294	P	P	11 37 13.4	+1.0
	1.5nm,0.9s,mb3.8,baz=121,slow=4.8,SNR=7.3						
CMAR	Chiang Mai Arr	72.89	294	P	P	11 37 13.4	+1.0
SONM	Songino Array	79.52	324	P	P	11 37 48.9	-0.4
	1.0nm,0.6s,mb3.8,baz=138,slow=4.6,SNR=7.8						
SONM	Songino Array	79.52	324	P	P	11 37 48.9	-0.4
ILAR	Eielson Array	83.94	18	P	P	11 38 12.7	+0.5
	0.1nm,0.3s,mb3.1,baz=249,slow=4.7,SNR=2.7						
ILAR	Eielson Array	83.94	18	P	P	11 38 12.7	+0.5
MKAR	Makanchi Array	94.38	317	P	P	11 39 02.1	-0.1
	1.9nm,0.6s,mb4.6,baz=96,slow=6.3,SNR=21						
MKAR	Makanchi Array	94.38	317	P	P	11 39 02.1	-0.1
ZALV	Zalesovo Beam	94.41	324	P	P	11 39 01.7	-0.4
	0.5nm,0.6s,mb4.0,baz=180,slow=1.5,SNR=3.7						
ZALV	Zalesovo Beam	94.41	324	P	P	11 39 01.7	-0.4

*IDC **01** 11:26:31.0±1.2, 51°.50N×174°.23W, h0km, mb3.7/7, mb1 3.9/9, mb1mx3.7/28, mbtmp3.7/9, ML4.0/2, Error ellipse: s-maj=35.0km s-min=22.9km az=150.0*
*ISCJB **01** 11:26:33.5±0.7, 51°.35N±0°.08×174°.07W±0°.09, h33km, mb3.6/7, Error ellipse: s-maj=11.4km s-min=7.6km az=171.5*
*NEIC **01** 11:26:35.9±0.8, 51°.46N×174°.09W, h35km, ML3.2(AEIC), Error ellipse: s-maj=18.3km s-min=8.7km az=164.0*
ISC 01 11:26:35.8±0.7**, 51°.41N**±0°.08×**174°.11W**±0°.09**, h35km, n26, σ1s13**/28**, mb3.6**/7**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.79	356	P	Pn	11 26 51.4	+1.0
ATKA				S	Sn	11 27 02.1	+1.1
ADK	Adak	1.67	287	P	Pn	11 27 01.4	-1.1
ADK				S	Sn	11 27 21.7	-0.9
FX1	Attu Island--F	7.97	286	Pn	Pn	11 28 30.1	+1.2
	0.8nm,0.3s,baz=63,slow=18,SNR=3.9						
FX1	Attu Island--F	7.97	286	Pn	Pn	11 28 30.1	+1.2
KDAK	Kodiak Island	13.98	54	Pn	Pn	11 29 49.4	-1.6
	0.3nm,0.3s,baz=64,slow=8.8,SNR=2.5						
KDAK	Kodiak Island	13.98	54	Pn	Pn	11 29 49.4	-1.6
PETK	Petropavlovsk-	17.30	287	P	Pn	11 30 33.9	-0.3
	0.2nm,0.3s,baz=84,slow=14,SNR=4.1						
PETK	Petropavlovsk-	17.30	287	P	Pn	11 30 33.9	-0.3
PAX	Paxson	19.16	42	eP	Pn	11 30 53.7	-3.2
ILAR	Eielson Array	19.43	36	P	Pn	11 30 58.0	-2.0
	0.5nm,0.3s,baz=237,slow=8.9,SNR=17						
ILAR	Eielson Array	19.43	36	P	Pn	11 30 58.0	-2.0
EGAK	Eagle	21.63	39	eP	P	11 31 23.7	+1.2
INK	Inuvik	25.77	34	P	P	11 32 03.0	+0.2
	1.3nm,0.8s,mb3.5,baz=287,slow=5.8,SNR=3.0						
INK	Inuvik	25.77	34	P	P	11 32 03.0	+0.2
PDAR	Pinedale Array	43.48	75	P	P	11 34 36.9	+1.5
	0.1nm,0.5s,mb2.8,baz=302,slow=5.2,SNR=2.8						
PDAR	Pinedale Array	43.48	75	P	P	11 34 36.9	+1.5
SONM	Songino Array	49.23	299	P	P	11 35 20.7	+0.3
	0.4nm,0.8s,mb3.5,baz=39,slow=5.2,SNR=4.0						
SONM	Songino Array	49.23	299	P	P	11 35 20.7	+0.3
ARCES	ARCESS Array B	58.51	352	P	P	11 36 27.1	-0.7
	10nm,1.2s,mb4.7,baz=50,slow=8.1,SNR=4.0						
ARCES	ARCESS Array B	58.51	352	P	P	11 36 27.1	-0.7
MKAR	Makanchi Array	62.27	311	P	P	11 36 53.4	-0.4
	0.2nm,0.3s,mb3.7,baz=38,slow=4.2,SNR=5.0						
MKAR	Makanchi Array	62.27	311	P	P	11 36 53.4	-0.4
WRA	Warramunga Arr	84.14	228	P	P	11 39 04.1	+1.1
	0.3nm,0.8s,mb3.5,baz=35,slow=6.0,SNR=2.6						
WRA	Warramunga Arr	84.14	228	P	P	11 39 04.1	+1.1
ASAR	Alice Springs	87.56	226	P	P	11 39 20.0	+0.1
	0.4nm,0.7s,mb3.7,baz=18,slow=4.6,SNR=3.6						
ASAR	Alice Springs	87.56	226	P	P	11 39 20.0	+0.1

*IDC **01** 11:31:36.5±1.0, 51°.45N×174°.37W, h0km, mb3.8/14, mb1 4.1/16, mb1mx3.9/29, mbtmp3.8/16, ML4.2/2, Error ellipse: s-maj=28.0km s-min=18.3km az=168.0*
*ISCJB **01** 11:31:40.7±1.3, 51°.37N±0°.10×174°.21W±0°.08, h41km±9km, mb4.1/21, Error ellipse: s-maj=17.0km s-min=7.6km az=166.6*
*NEIC **01** 11:31:43.4±1.4, 51°.61N×174°.28W, h44km±9km, ML3.2(AEIC), Error ellipse: s-maj=24.8km s-min=7.6km az=170.0*
ISC 01 11:31:42.2±1.2**, 51°.41N**±0°.10×**174°.21W**±0°.08**, h38km**±8km**, n60, σ0s93**/62**, mb4.1**/21**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.79	1	P	Pn	11 31 56.5	-0.3
ATKA				S	Sn	11 32 09.4	+2.1
ADK	Adak	1.61	288	P	Pn	11 32 06.6	-1.4
ADK				S	Sn	11 32 27.2	-0.3
NIKO	Nikolski	3.65	63	ePn	Pn	11 32 37.6	+1.6
FX1	Attu Island--F	7.91	286	Pn	Pn	11 33 35.8	+1.3
	1.2nm,0.3s,baz=304,slow=16,SNR=8.6						
FX1	Attu Island--F	7.91	286	Pn	Pn	11 33 35.8	+1.3
KDAK	Kodiak Island	14.03	55	Pn	Pn	11 34 56.8	-1.2
	0.4nm,0.3s,baz=150,slow=2.1,SNR=7.9						
KDAK	Kodiak Island	14.03	55	Pn	Pn	11 34 56.8	-1.2
PPLA	Purkeypile	16.48	37	ePn	Pn	11 35 34.6	+4.6
PETK	Petropavlovsk-	17.24	287	P	Pn	11 35 38.6	-1.1
	0.2nm,0.3s,baz=98,slow=13,SNR=5.3						
PETK	Petropavlovsk-	17.24	287	P	Pn	11 35 38.6	-1.1
MCK	McKinley	18.16	38	ePn	Pn	11 35 50.3	-0.7
	8.2nm,1.2s						
ILAR	Eielson Array	19.47	36	P	Pn	11 36 03.5	-3.2
	0.8nm,0.3s,baz=236,slow=9.3,SNR=47						
ILAR	Eielson Array	19.47	36	P	Pn	11 36 03.5	-3.2
DOT	Dot Lake	20.06	41	eP	P	11 36 09.6	-2.1
	31nm,1.0s						
EGAK	Eagle	21.67	39	eP	P	11 36 29.3	+0.3
	13nm,0.6s,mb4.5						
INK	Inuvik	25.81	34	P	P	11 37 09.1	-0.1
	1.2nm,0.7s,mb3.5,baz=211,slow=12,SNR=6.7						
INK	Inuvik	25.81	34	P	P	11 37 09.1	-0.1
YKA	Yellowknife Ar	33.11	47	P	P	11 38 15.0	+0.9
	1.6nm,0.7s,mb4.0,baz=274,slow=8.9,SNR=2.9						
YKA	Yellowknife Ar	33.11	47	P	P	11 38 15.0	+0.9
PDAR	Pinedale Array	43.54	75	P	P	11 39 43.5	+1.7
	0.5nm,0.5s,mb3.5,baz=305,slow=2.7,SNR=6.4						
PDAR	Pinedale Array	43.54	75	P	P	11 39 43.5	+1.7
SONM	Songino Array	49.17	299	P	P	11 40 26.0	0.0
	0.8nm,0.7s,mb3.9,baz=36,slow=7.4,SNR=5.6						
SONM	Songino Array	49.17	299	P	P	11 40 26.0	0.0
TXAR	Lajitas Array	55.80	85	P	P	11 41 15.7	+0.4
	0.4nm,0.9s,mb3.5,baz=228,slow=1.5,SNR=2.4						
TXAR	Lajitas Array	55.80	85	P	P	11 41 15.7	+0.4
ARCES	ARCESS Array B	58.50	352	P	P	11 41 33.3	-0.5
	7.5nm,1.1s,mb4.6,baz=34,slow=9.4,SNR=5.5						
ARCES				PcP	PcP	11 42 24.7	+0.8
	2.3nm,0.7s,baz=12,slow=6.7,SNR=3.9						
ARCES	ARCESS Array B	58.50	352	P	P	11 41 33.3	-0.5
ARCES				PcP	PcP	11 42 24.7	+0.8
KURK	Kurchatov	61.03	316	P	P	11 41 52.7	+1.3
	0.6nm,0.5s,mb4.0,baz=60,slow=4.4,SNR=3.6						
KURK	Kurchatov	61.03	316	P	P	11 41 52.7	+1.3
MKAR	Makanchi Array	62.22	311	P	P	11 41 58.6	-0.9
	0.4nm,0.3s,mb4.0,baz=47,slow=6.5,SNR=9.0						
MKAR	Makanchi Array	62.22	311	P	P	11 41 58.6	-0.9
FINES	FINESS Array B	66.33	350	P	P	11 42 24.7	-1.5
	3.0nm,1.0s,mb4.3,baz=234,slow=35,SNR=2.7						
FINES	FINESS Array B	66.33	350	P	P	11 42 24.7	-1.4
NOA	NORSAR Array B	67.81	357	P	P	11 42 35.0	-0.6
	0.7nm,0.8s,mb3.7,baz=313,slow=18,SNR=2.1						
NOA	NORSAR Array B	67.81	357	P	P	11 42 35.0	-0.6
GUN	Gumba	74.48	295	eP	P	11 43 17.6	+1.2
	14nm,0.4s						
PKI	Pulchoki	75.00	295	eP	P	11 43 20.3	+0.8
PKIN	Phulchoki	75.01	295	eP	P	11 43 20.9	+1.4
	8.7nm,0.6s,mb4.9						
GKN	Gorkha	75.11	296	eP	P	11 43 20.6	+0.5
	9.6nm,0.6s,mb4.9						
DMN	Daman	75.14	296	eP	P	11 43 21.4	+1.1
DANN	Dangsing	75.33	297	eP	P	11 43 22.5	+1.1
AKASG	Malin Array Be	76.33	345	P	P	11 43 25.9	-0.8
	0.6nm,0.4s,mb3.9,baz=19,slow=7.7,SNR=2.1						
GIVF	Givet	78.86	1	eP	P	11 43 40.7	-0.1
BAIF	Baives	78.90	1	eP	P	11 43 40.9	-0.1
GERES	GERESS Array B	79.89	355	P	P	11 43 46.2	-0.3
	0.6nm,0.7s,mb3.7,baz=20,slow=4.4,SNR=6.7						
LDF	La Druitiere	80.24	4	eP	P	11 43 47.8	-0.6
SGMF	Saint Gilles	80.45	6	eP	P	11 43 49.5	0.0
MEZF	Maizieres J'vi	80.46	0	eP	P	11 43 49.9	+0.4
CDF	Champ du Feu	80.55	359	eP	P	11 43 49.8	-0.2
	4.8nm,0.7s,mb4.2						
SFTF	Sexfontaines	80.76	1	eP	P	11 43 51.1	0.0
	12nm,0.7s,mb4.6						
HAU	Haudompre	80.96	360	eP	P	11 43 52.2	0.0
	6.0nm,0.7s,mb4.3						
HINF	Hinteralfeld	81.15	359	eP	P	11 43 53.5	+0.3
SSF	Saint Saulge	81.89	2	eP	P	11 43 57.0	-0.1
	6.5nm,0.8s,mb4.3						
AVF	Avril sur Loir	82.15	2	eP	P	11 43 58.4	-0.1
MFF	Saint Martin d	82.23	4	eP	P	11 43 59.0	+0.1
SMF	Signal de Mont	82.31	1	eP	P	11 43 58.4	-0.9
WRA	Warramunga Arr	84.10	228	P	P	11 44 07.6	-1.1
	0.2nm,0.6s,mb3.5,baz=34,slow=6.0,SNR=1.9						
VIVF	Saint-Julien-l	84.11	1	eP	P	11 44 08.1	-0.6
SJPF	Ste Jean	85.66	5	eP	P	11 44 17.0	+0.5
ASAR	Alice Springs	87.52	226	P	P	11 44 25.7	0.0
	0.3nm,0.7s,mb3.6,baz=20,slow=5.4,SNR=5.6						

WEL 01 12:11:19.8±0.2**, 44°.80S×167°.38E, h5km, ML3.7**/16**, 2D, Error ellipse: s-maj=1.7km s-min=1.4km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.69	193	P*	Pb	12 11 33.2	-1.2
DCZ				SG	Sg	12 11 42.8	+0.7
MLZ	Mavora Lakes	0.78	135	P*	Pb	12 11 34.9	-1.0
MLZ				S*	Sb	12 11 45.7	-1.0
WHZ	Wether Hill Ro	1.16	160	P*	Pb	12 11 41.5	-0.8
WHZ				S*	Sb	12 11 57.2	-0.5
WKZ	Wanaka	1.16	92	⇓P*	Pb	12 11 41.7	-0.7
WKZ				S*	Sb	12 11 56.4	-1.3
JCZ	Jackson Bay	1.23	54	P*	Pb	12 11 42.9	-0.5
EAZ	Earnscleugh	1.43	108	⇓PN	Pn	12 11 46.2	-0.2
TUZ	Tuapeka	1.96	127	PN	Pn	12 11 54.4	+0.8
LBZ	Lake Benmore	2.04	79	PN	Pn	12 11 55.5	+0.7
FOZ	Fox Glacier	2.07	54	ePN	Pn	12 11 54.3	-0.9
APZ	The Paps	2.07	168	PN	Pn	12 11 56.7	+1.4
SYZ	Scrubby Hill	2.13	145	PN	Pn	12 11 57.1	+1.1
ODZ	Otahua Downs	2.33	97	PN	Pn	12 11 59.5	+0.8
RPZ	Rata Peaks	2.85	69	PN	Pn	12 12 05.9	0.0
WVZ	Waitaha Valley	2.97	56	ePN	Pn	12 12 05.9	-1.7
LTZ	Lake Taylor	4.07	62	PN	Pn	12 12 21.8	-0.9
DSZ	Denniston Nort	4.44	48	PN	Pn	12 12 26.4	-1.4
THZ	Tophouse	5.05	55	PN	Pn	12 12 35.9	-0.2
QRZ	Quartz Range	5.49	45	PN	Pn	12 12 40.4	-1.7
NNZ	Nelson	5.67	53	PN	Pn	12 12 44.3	-0.3

*IDC **01** 12:14:04.1±0.7, 51°.43N×174°.29W, h0km, mb3.9/17, mb1 4.1/20, mb1mx4.1/29, mbtmp4.0/20, ML4.1/3, MS3.0/5, Ms1 3.0/5, ms1mx2.8/53, Error ellipse: s-maj=23.6km s-min=13.7km az=165.0*
*ISCJB **01** 12:14:07.2±2.1, 51°.28N±0°.08×174°.25W±0°.06, h32km±12km, mb4.4/30, MS3.0/4, Error ellipse: s-maj=13.9km s-min=6.5km az=174.9*
*NEIC **01** 12:14:10.8±1.6, 51°.56N×174°.30W, h44km±13km, mb4.0/1, ML3.7(AEIC), Error ellipse: s-maj=24.9km s-min=8.3km az=167.0*
ISC 01 12:14:09.5±1.3**, 51°.38N**±0°.09×**174°.24W**±0°.08**, h36km**±9km**, n77, σ0s77**/77**, mb4.4**/30**, MS3.0**/4**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ATKA	Atka Island	0.83	2	P	Pn	12 14 24.1	-0.5
ATKA				S	Sn	12 14 37.1	+1.5
GSTR	Great Sitkin T	1.34	303	ePn	Pn	12 14 30.9	-0.8
GSTR				eSn	Sn	12 14 48.2	-0.1
ADK	Adak	1.61	289	P	Pn	12 14 34.2	-1.2
ADK				S	Sn	12 14 55.1	+0.3
FX1	Attu Island--F	7.90	286	Pn	Pn	12 16 03.4	+1.7
	1.5nm,0.3s,baz=251,slow=22,SNR=9.1						
FX1	Attu Island--F	7.90	286	Pn	Pn	12 16 03.4	+1.7
KDAK	Kodiak Island	14.06	54	Pn	Pn	12 17 26.2	+0.3
	0.5nm,0.3s,baz=275,slow=11,SNR=8.2						
KDAK				Sn	Sn	12 20 05.9	+5.4
	0.1nm,0.3s,baz=354,slow=19,SNR=2.2						
KDAK	Kodiak Island	14.06	54	Pn	Pn	12 17 26.2	+0.3
KDAK				Sn	Sn	12 20 05.9	+5.4
PETK	Petropavlovsk-	17.23	287	P	Pn	12 18 06.6	-0.5
	0.2nm,0.3s,baz=105,slow=12,SNR=7.9						
PETK	Petropavlovsk-	17.23	287	P	Pn	12 18 06.6	-0.6
ILAR	Eielson Array	19.51	36	P	Pn	12 18 31.3	-3.4
	1.0nm,0.3s,baz=232,slow=8.5,SNR=42						
ILAR				LR	LR	12 26 35.8	
	comp=Z,62nm,18.7s,baz=21,slow=39						
ILAR	Eielson Array	19.51	36	P	Pn	12 18 31.3	-3.4
ILAR				LR	LR	12 26 35.8	
COLD	Coldfoot	19.85	28	eP	Pn	12 18 35.6	-3.2
	8.4nm,1.0s						
INK	Inuvik	25.85	34	P	P	12 19 36.7	-0.4
	1.5nm,0.6s,mb3.7,baz=234,slow=8.9,SNR=9.1						
INK	Inuvik	25.85	34	P	P	12 19 36.7	-0.4
DLBC	Dease Lake	25.97	57	P	P	12 19 39.8	+1.5
	4.2nm,0.9s,mb4.0,baz=268,slow=7.2,SNR=3.9						
DLBC	Dease Lake	25.97	57	P	P	12 19 39.8	+1.5
YKA	Yellowknife Ar	33.15	47	LR	LR	12 35 49.9	
	comp=Z,9.5nm,18.6s,MS2.5,baz=55,slow=39						
MJAR	Matsushiro Arr	36.62	265	LR	LR	12 35 06.5	
	comp=Z,22nm,21.9s,MS2.9,baz=55,slow=34						
NVAR	Mina Array Bea	40.71	86	P	P	12 21 47.5	+1.1
	1.1nm,1.1s,mb3.4,baz=289,slow=9.1,SNR=3.5						
NVAR	Mina Array Bea	40.71	86	P	P	12 21 47.5	+1.1
KSRS	Korea Array	42.49	274	P	P	12 22 01.9	+0.9
	0.9nm,0.5s,mb3.6,baz=52,slow=7.1,SNR=4.3						
KSRS				LR	LR	12 36 57.3	
	comp=Z,27nm,20.8s,MS3.1,baz=61,slow=32						
PDAR	Pinedale Array	43.57	75	P	P	12 22 10.1	+0.4
	0.7nm,0.5s,mb3.6,baz=285,slow=5.8,SNR=7.0						
PDAR	Pinedale Array	43.57	75	P	P	12 22 10.1	+0.4
ULM	Lac du Bonnet	47.27	59	P	P	12 22 38.5	-0.4
	1.3nm,0.5s,mb4.1,baz=314,slow=10,SNR=4.8						
ULM	Lac du Bonnet	47.27	59	P	P	12 22 38.5	-0.4
SONM	Songino Array	49.18	299	P	P	12 22 53.9	+0.3
	2.0nm,0.9s,mb4.1,baz=55,slow=9.7,SNR=5.0						
SONM	Songino Array	49.18	299	P	P	12 22 53.9	+0.3
TXAR	Lajitas Array	55.82	85	P	P	12 23 43.3	+0.3
	0.6nm,0.9s,mb3.6,baz=295,slow=3.3,SNR=4.6						
TXAR	Lajitas Array	55.82	85	P	P	12 23 43.3	+0.3
ZALV	Zalesovo Beam	56.07	316	LR	LR	12 49 12.6	
	comp=Z,22nm,18.1s,MS3.3,baz=314,slow=38						
ARCES	ARCESS Array B	58.54	352	P	P	12 24 00.9	-0.7
	2.8nm,0.8s,mb4.4,baz=14,slow=5.4,SNR=6.6						
ARCES				PcP	PcP	12 24 51.2	-0.5
	4.6nm,0.8s,baz=20,slow=5.8,SNR=4.7						
MKAR	Makanchi Array	62.24	311	P	P	12 24 25.8	-1.5
	0.8nm,0.5s,mb4.1,baz=49,slow=5.7,SNR=12						
NB2	NORSAR Subarra	67.85	357	P	P	12 25 02.0	-1.5
	comp=Z,1.1nm,0.7s,mb4.0,baz=1.7,slow=6.2						
NOA	NORSAR Array B	67.85	357	P	P	12 25 02.8	-0.7
	comp=Z,2.3nm,0.8s,mb4.2,baz=1.2,slow=6.2,SNR=6.3						
CMAR	Chiang Mai Arr	73.85	279	P	P	12 25 42.4	+1.9
	comp=Z,1.2nm,0.8s,mb3.9,baz=24,slow=6.4,SNR=7.5						
GUN	Gumba	74.48	295	eP	P	12 25 45.1	+1.0
	comp=Z,42nm,0.9s,mb5.4						
KKN	Kakani	74.91	296	eP	P	12 25 47.0	+0.4
PKI	Pulchoki	75.00	295	eP	P	12 25 47.8	+0.6
PKIN	Phulchoki	75.01	295	eP	P	12 25 47.4	+0.2
	comp=Z,12nm,0.7s,mb4.9						
GKN	Gorkha	75.11	296	eP	P	12 25 48.1	+0.3
	comp=Z,35nm,1.0s,mb5.3						
DMN	Daman	75.15	296	eP	P	12 25 48.6	+0.6
DANN	Dangsing	75.33	297	eP	P	12 25 49.8	+0.7
	comp=Z,43nm,0.8s,mb5.4						
AKASG	Malin Array Be	76.37	345	P	P	12 25 53.3	-1.3
	comp=Z,1.5nm,0.7s,mb4.1,baz=17,slow=6.0,SNR=3.5						
CLL	Collm	77.51	355	eP	P	12 26 00.0	-1.0
GIVF	Givet	78.90	1	eP	P	12 26 08.9	+0.2
BAIF	Baives	78.94	1	eP	P	12 26 09.0	+0.1
GERES	GERESS Array B	79.93	355	P	P	12 26 14.5	+0.2
	comp=Z,1.2nm,0.8s,mb3.9,baz=23,slow=4.8,SNR=9.7						
FLN	La Foliniere	80.10	4	eP	P	12 26 15.1	-0.1
LDF	La Druitiere	80.28	4	eP	P	12 26 15.7	-0.5
ROSF	Rostrenen	80.37	6	eP	P	12 26 16.5	-0.2
GRR	Gorron	80.45	4	eP	P	12 26 17.0	-0.2
MEZF	Maizieres J'vi	80.50	0	eP	P	12 26 17.7	+0.3
CDF	Champ du Feu	80.58	359	eP	P	12 26 17.9	0.0
	comp=Z,9.6nm,0.9s,mb4.4						
SFTF	Sexfontaines	80.80	0	eP	P	12 26 19.2	+0.2
	comp=Z,87nm,1.4s,mb5.2						
HAU	Haudompre	81.00	360	eP	P	12 26 20.1	0.0
	comp=Z,12nm,0.8s,mb4.6						
HINF	Hinteralfeld	81.19	359	eP	P	12 26 20.9	-0.2
LOR	Lormes	81.72	1	eP	P	12 26 24.0	+0.1
	comp=Z,10nm,0.9s,mb4.5						
SSF	Saint Saulge	81.93	2	eP	P	12 26 25.1	+0.1
	comp=Z,12nm,0.8s,mb4.6						
AVF	Avril sur Loir	82.19	2	eP	P	12 26 26.4	0.0
	comp=Z,12nm,0.8s,mb4.6						
MFF	Saint Martin d	82.27	4	eP	P	12 26 26.9	+0.1
	comp=Z,45nm,1.2s,mb5.0						
SMF	Signal de Mont	82.35	1	eP	P	12 26 27.3	+0.1
	comp=Z,56nm,1.4s,mb5.0						
CABF	La Chapelle	82.39	360	eP	P	12 26 28.1	+0.6
BGF	Bois d'Agland	82.42	2	eP	P	12 26 27.6	0.0
LPL	La Plagne	83.49	359	eP	P	12 26 33.4	+0.3
LPG	La Plagne	83.50	359	eP	P	12 26 33.2	0.0
RJF	Les Rejaudoux	83.63	3	eP	P	12 26 34.1	+0.2
LFF	La Frestale	83.97	4	eP	P	12 26 35.9	+0.3
CAF	Calviac	84.03	3	eP	P	12 26 36.4	+0.5
WRA	Warramunga Arr	84.06	228	P	P	12 26 34.7	-1.5
	comp=Z,0.4nm,0.7s,mb3.6,baz=32,slow=5.7,SNR=5.4						
SBF	Sospel	85.13	359	eP	P	12 26 40.5	-1.0
FRF	La Foret Royal	85.44	359	eP	P	12 26 43.1	0.0
	comp=Z,70nm,1.2s,mb5.3						
LMR	La Mourre	85.67	359	eP	P	12 26 43.6	-0.6
EPF	Esparros	85.86	4	eP	P	12 26 44.7	-0.4
BRTR	Keskin Array B	86.06	339	P	P	12 26 46.5	+0.3
	comp=Z,4.2nm,1.2s,mb4.5,baz=23,slow=4.4,SNR=3.6						
ASAR	Alice Springs	87.48	226	P	P	12 26 52.0	-1.1
	comp=Z,0.6nm,0.7s,mb3.9,baz=41,slow=4.4,SNR=6.6						
MAW	Mawson	148.23	218	PKPbc	PKPbc	12 33 50.1	0.0
	comp=Z,1.4nm,1.0s,baz=52,slow=3.5,SNR=3.4						
BOSA	Boshof	152.96	320	PKPbc	PKPbc	12 34 04.0	+1.4
	comp=Z,0.8nm,0.4s,baz=331,slow=10.0,SNR=3.9						
BOSA				PKPab	PKPab	12 34 14.2	+0.3
	comp=Z,3.8nm,0.9s,baz=38,slow=2.1,SNR=3.7						

*BYKL **01** 12:16:11.0±0.2, 52°.72N×108°.06E*
MOS 01 12:16:11.5±2.7**, 52°.80N×108°.10E, h16km, mb4.3**/1**, 8C-4D, Error ellipse: s-maj=29.4km s-min=21.5km az=144.9, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXMB	Maximikha	0.61	40	⇑iPg	Pg	12 16 23.2	-0.2
MXMB				iSg	Sg	12 16 32.8	+1.3
MXMB				eSb	Sb	12 16 36.2	+4.2
MXMB				Pmax			
	258nm,0.1s						
MXMB				Smax			
	933nm,0.3s						
ZRHB	Zarechye	0.63	247	⇑iPg	Pg	12 16 22.0	-1.8
ZRHB				ePb	Pb	12 16 24.4	+0.3
ZRHB				iSg	Sg	12 16 30.4	-1.7
ZRHB				eSb	Sb	12 16 32.3	-0.3
ZRHB				Pmax			
	81nm,0.1s						
ZRHB				max			
	4μm,0.2s						
OGRR	Ongureny	0.90	340	ePG	Pg	12 16 28.3	-0.6
OGRR				e		12 16 41.5	
OGRR				pmax	pmax		
	comp=Z,101nm,0.1s						
OGRR				smax			
	comp=E,783nm,0.2s						
OGRR	Ongureny	0.90	340	⇑iPg	Pg	12 16 28.3	-0.6
OGRR				eSg	Sg	12 16 41.5	+0.8
OGRR				Pmax			
	comp=E,81nm,0.2s						
OGRR				Smax			
	comp=E,788nm,0.2s						
TRG	Tyrgan	1.06	269	⇓iPG	Pg	12 16 30.0	-2.1
TRG				e		12 16 44.7	
TRG				pmax	pmax		
	comp=Z,146nm,0.1s						
TRG				smax			
	comp=N,1μm,0.2s						
TRG	Tyrgan	1.06	269	ePg	Pg	12 16 29.7	-2.4
TRG				⇓i		12 16 30.1	
TRG				iSg	Sg	12 16 44.7	-1.3
TRG				max			
	comp=N,147nm,0.1s						
TRG				Smax			
	comp=N,1μm,0.2s						
FFNB	Fofonovo	1.11	228	⇑iPg	Pg	12 16 30.2	-2.8
FFNB				⇑iPb	Pb	12 16 31.8	-0.5
FFNB				eSg	Sg	12 16 44.4	-3.1
FFNB				eSb	Sb	12 16 46.1	-0.4
FFNB				max			
	comp=N,63nm,0.1s						
FFNB				max			
	comp=N,662nm,0.1s						
KAB	Kabansk	1.16	230	⇑iPG	Pg	12 16 32.3	-1.6
KAB				e		12 16 46.5	
KAB				pmax	pmax		
	comp=Z,138nm,0.4s						
KAB				smax			
	comp=N,926nm,0.4s						
KAB	Kabansk	1.16	230	ePg	Pg	12 16 31.6	-2.3
KAB				e		12 16 37.0	
KAB				iSg	Sg	12 16 46.4	-2.6
KAB				Pmax			
	comp=N,87nm,0.3s						
KAB				Smax			
	comp=N,870nm,0.4s						
HRMR	Khuramsha	1.37	211	⇑iPg	Pg	12 16 34.2	-3.6
HRMR				⇑iPb	Pb	12 16 35.0	-1.7
HRMR				e		12 16 40.0	
HRMR				iSg	Sg	12 16 51.9	-3.7
HRMR				max			
	comp=N,147nm,0.2s						
HRMR				Smax			
	comp=N,2μm,0.4s						
SYVR	Suvo	1.43	52	⇓iPg	Pg	12 16 37.5	-1.5
SYVR				e		12 16 44.2	
SYVR				iSg	Sg	12 16 58.2	+0.6
SYVR				Pmax			
	comp=N,66nm,0.2s						
SYVR				Smax			
	comp=N,278nm,0.3s						
LSTR	Listvyanka	2.21	246	ePn	Pn	12 16 46.0	-1.5
LSTR				ePg	Pg	12 16 49.0	-4.9
LSTR				e		12 16 56.2	
LSTR				e		12 17 12.5	
LSTR				eSg	Sg	12 17 16.7	-5.9
LSTR				max			
	comp=N,14nm,0.4s						
LSTR				Smax			
	comp=N,95nm,0.3s						
IRK	Irkutsk	2.41	258	ePN	Pn	12 16 53.7	+3.6
IRK				e		12 17 24.3	
IRK				pmax	pmax		
	comp=Z,61nm,0.2s						
IRK				smax			
	comp=N,628nm,0.4s						
IRK	Irkutsk	2.41	258	iSg	Sg	12 17 24.2	-4.5
IRK				Smax			
	comp=N,628nm,0.4s						
YLYR	Ulyunkhan	2.76	40	⇓iPn	Pn	12 16 55.3	+0.3
YLYR				ePg	Pg	12 17 02.0	-2.4
YLYR				e		12 17 03.7	
YLYR				eSg	Sg	12 17 39.7	-0.4
YLYR				max			
	comp=N,11nm,0.6s						
YLYR				Smax			
	comp=N,39nm,0.7s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TLY	**Talaya**	**2.96**	**250**	*e*Pn	Pn	12 16 56.4	-1.4
TLY				*e*Pg	Pg	12 17 02.3	-5.9
TLY				*e*PgPg		12 17 04.5	
TLY				*e*		12 17 31.7	
TLY				*e*Sg	Sg	12 17 39.9	-6.6
TLY				*e*		12 17 42.5	
TLY				max			
	comp=N,8.0nm,0.1s						
TLY				max			
	comp=N,69nm,0.2s						
NIZ	**Nizh Angarsk**	**3.10**	**15**	*e*Pn	Pn	12 17 00.7	+1.0
NIZ				*e*Pg	Pg	12 17 07.0	-3.8
NIZ				*e*		12 17 14.7	
NIZ				*e*Sg	Sg	12 17 47.7	-3.2
NIZ				Pmax			
	comp=N,9.0nm,0.4s						
NIZ				Smax			
	comp=N,60nm,0.7s						
CIT	**Chita**	**3.43**	**101**	*e*Sg	Sg	12 17 57.0	-4.5
CIT				Smax			
	comp=N,164nm,0.3s						
KMO	**Kumora**	**3.59**	**29**	Pg	Pg	12 17 16.7	-3.4
KMO				*e*		12 17 20.9	
KMO				*e*Sg	Sg	12 18 04.8	-1.8
KMO				max			
	comp=N,13nm,0.5s						
KMO				Smax			
	comp=N,66nm,1.1s						
ARS	**Arshan**	**3.59**	**258**	*e*PN	Pn	12 17 13.9	+7.5
ARS	**Arshan**	**3.59**	**258**	*e*Pg	Pg	12 17 14.5	-5.7
ARS				*e*		12 17 47.8	
ARS				*i* Sg	Sg	12 18 00.9	-5.8
ARS				Pmax			
	comp=N,26nm,0.4s						
ARS				Smax			
	comp=N,184nm,1.0s						
ZAK	**Zakamensk**	**3.86**	**233**	*e*Pn	Pn	12 17 10.2	+0.1
ZAK				*e*Pg	Pg	12 17 19.7	-5.7
ZAK				*e*		12 17 49.6	
ZAK				*e*Sg	Sg	12 18 09.8	-5.5
ZAK				Pmax			
	comp=N,6.0nm,0.8s						
ZAK				Smax			
	comp=N,22nm,0.3s						
YOA	**Uoyan**	**3.95**	**31**	*e*	Pn	12 17 29.5	+18
YOA				*e*		12 17 34.6	
YOA				*e*Sg	Sg	12 18 16.8	-1.5
YOA				Smax			
	comp=N,174nm,2.2s						
KPC	**Khapcheranga**	**4.10**	**137**	*e*Pn	Pn	12 17 11.6	-1.9
KPC				*e*Pg	Pg	12 17 23.9	-6.1
KPC				*e*Sn	Sn	12 17 57.4	-3.7
KPC				*e*		12 18 07.0	
KPC				*e*Sg	Sg	12 18 17.4	-5.7
KPC				Pmax			
	comp=N,9.0nm,0.2s						
KPC				Smax			
	comp=N,56nm,0.9s						
UKT	**Uakit**	**4.22**	**48**	*e*Pn	Pn	12 17 15.1	0.0
UKT				*e*Pg	Pg	12 17 28.3	-4.0
UKT				*e*		12 17 33.0	
UKT				*i* Sg	Sg	12 18 23.9	-3.0
UKT				max			
	comp=N,2.0nm,0.8s						
UKT				Smax			
	comp=N,35nm,1.5s						
MOY	**Mondy**	**4.51**	**258**	*e*	Pn	12 17 18.9	-0.2
MOY				*e*Pg	Pg	12 17 30.1	-7.8
MOY				*e*		12 18 12.3	
MOY				*i* Sg	Sg	12 18 29.0	-7.3
MOY				Pmax			
	comp=N,8.0nm,0.8s						
MOY				Smax			
	comp=N,50nm,0.8s						
SVKR	**Severomuysk**	**4.60**	**42**	*e*Sg	Sg	12 18 38.0	-1.1
SVKR				Smax			
	comp=N,82nm,0.5s						
ULN	**Ulaanbaatar**	**4.99**	**188**	*e*	Pn	12 17 28.7	+3.1
ULN				*e*Pg	Pg	12 17 39.5	-7.4
ULN				*e*Sg	Sg	12 18 44.1	-7.3
ORL	**Orlik**	**5.05**	**270**	*e*PN	Pn	12 17 27.0	+0.5
ORL				*e*		12 17 41.3	
ORL				*e*S	Sn	12 18 24.4	-0.1
ORL				*e*		12 18 45.9	
ORL				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ORL				smax			
	comp=N,36nm,1.0s						
ORL	**Orlik**	**5.05**	**270**	*e*Pn	Pn	12 17 27.0	+0.5
ORL				*e*		12 17 37.7	
ORL				*e*Pg	Pg	12 17 40.5	-7.7
ORL				*e*Sn	Sn	12 18 22.9	-1.6
ORL				*e*Sg	Sg	12 18 46.1	-7.4
ORL				Pmax			
	comp=N,4.0nm,0.5s						
ORL				Smax			
	comp=N,36nm,1.0s						
NLYR	**Nelyaty**	**5.76**	**47**	*e*	Pn	12 18 43.4	+67
NLYR				*e*Sg	Sg	12 19 12.0	-4.1
NLYR				Smax			
	comp=N,56nm,1.4s						
BOD	**Bodaibo**	**6.05**	**31**	*e*Sg	Sg	12 19 18.6	-7.0
BOD				Smax			
	comp=N,9.0nm,1.1s						
CRS	**Chara**	**7.16**	**51**	*e*	Pn	12 17 50.1	-5.3
CRS				*e*		12 18 01.5	
CRS				*e*		12 19 15.2	
CRS				*e*Sg	Sn	12 19 54.9	+39
CRS				Smax			
	comp=N,10.0nm,1.2s						
TUP	**Tupik**	**7.24**	**72**	*e*PG	Pn	12 18 24.3	+28
TUP				*e*		12 19 55.1	
TUP				pmax	pmax		
	comp=Z,2.0nm,0.4s						
TUP				smax			
	comp=N,31nm,1.1s						
TUP	**Tupik**	**7.24**	**72**	*e*Pg	Pn	12 18 20.5	+24
TUP				*e*		12 18 27.8	
TUP				*e*Sg	Sn	12 19 55.5	+37
TUP				Smax			
	comp=N,39nm,1.8s						

IDC 01 12:18:04.1±1.9**, 3°.59N**×**123°.50E, h0**km**, mb3.8**/4**, mb1 4.0**/4**, mb1mx3.6**/21**, mbtmp3.8**/4**, Error ellipse: s-maj=288.0km s-min=23.5km az=62.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.70**	**156**	P	P	12 23 37.1	+0.9
	0.9nm,0.4s,baz=336,slow=9.6,SNR=11						
ASAR	**Alice Springs**	**28.93**	**160**	P	P	12 24 05.1	-0.1
	0.3nm,0.4s,baz=333,slow=7.7,SNR=8.5						
STKA	**Stephens Creek**	**39.25**	**155**	P	P	12 25 33.8	-0.7
	1.5nm,0.3s,baz=338,slow=8.2,SNR=10.0						
MKAR	**Makanchi Array**	**55.87**	**327**	P	P	12 27 43.6	+0.1
	0.3nm,0.3s,baz=128,slow=8.2,SNR=8.2						

IDC 01 12:32:46.1±19.0**, 12°.69S**×**169°.59E, h0**km**, mb4.2**/4**, mb1 4.4**/4**, mb1mx3.8**/19**, mbtmp4.2**/4**, Error ellipse: s-maj=326.9km s-min=107.6km az=60.0, Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EIDS	**Eidsvold**	**21.53**	**231**	*e*P	P	12 37 34.4	-2.6
CTA	**Charters Tower**	**23.54**	**249**	P	P	12 37 58.5	0.0
	3.6nm,0.9s,baz=47,slow=7.2,SNR=3.7						
RMQ	**Roma**	**23.89**	**232**	*e*P	P	12 37 59.3	-2.4
	8.1nm,0.6s						
STKA	**Stephens Creek**	**32.02**	**229**	P	P	12 39 14.4	0.0
	4.7nm,0.4s,baz=54,slow=9.2,SNR=17						
STKA	**Stephens Creek**	**32.02**	**229**	*e*P	P	12 39 14.3	-0.1
	4.1nm,0.4s						
WRA	**Warramunga Arr**	**34.53**	**253**	P	P	12 39 36.0	-0.5
	0.9nm,0.7s,baz=85,slow=8.8,SNR=13						
ASAR	**Alice Springs**	**35.52**	**247**	P	P	12 39 45.4	+0.4
	2.3nm,0.4s,baz=79,slow=9.1,SNR=33						
BBOO	**Buckleboo**	**36.60**	**231**	*e*P	P	12 39 54.1	0.0
	4.1nm,0.4s						
FITZ	**Fitzroy Crossi**	**42.63**	**257**	*e*P	P	12 40 48.5	+3.9
	5.8nm,0.4s						

*ISCJB **01** 12:34:25.3±1.1, 67°.68N±0°.04×34°.2E±0°.2, h0km, Error ellipse: s-maj=8.8km s-min=5.6km az=11.0*
*CSEM **01** 12:34:27.1±0.5, 67°.63N×34°.07E, h1km, ML2.2, Error ellipse: s-maj=10.7km s-min=6.0km az=97.0, Mining explosion.*
*HEL **01** 12:34:28.0±0.4, 67°.71N×34°.03E, h0km, ML2.3, ML2.2(NAO), Explosion*
*IDC **01** 12:34:30.5±1.8, 67°.71N×33°.92E, h0km, mb1 3.7/5, mb1mx3.3/28, mbtmp3.7/5, ML3.0/5, Error ellipse: s-maj=18.0km s-min=9.1km az=87.0*
*NAO **01** 12:34:30.4±1.3, 67°.63N×33°.76E, ML2.2*
ISC 01 12:34:27.3±1.0**, 67°.64N**±0°.04×**34°.1E**±0°.2**, h0**km**, n39, σ1s.06**/66**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.40**	**266**	Pg	**Pg**	**12 34 36.2**	**+1.2**
	baz=98,slow=18						
APA0				Lg		12 34 40.8	
	baz=84,slow=37						
APA0	**Apatity Array**	**0.40**	**266**	*i* P	**Pg**	**12 34 36.2**	**+1.2**
APA0				*i* S	**Sg**	**12 34 40.8**	**+0.5**
APA0	**Apatity Array**	**0.40**	**266**	P	**Pg**	**12 34 36.2**	**+1.2**
APA0				S	**Sg**	**12 34 40.7**	**+0.5**
APA0				Lg		12 34 40.8	
	baz=84,slow=33,SNR=30						
VRF	**Varrio**	**1.70**	**276**	*e*P	**Pn**	**12 34 57.4**	**-0.7**
	baz=91						
VRF				*e*SN	**Sn**	**12 35 20.5**	**0.0**
VRF				MSG		12 35 20.5	
	comp=Z,32nm,0.2s						
VRF	**Varrio**	**1.70**	**276**	P	**Pn**	**12 34 57.4**	**-0.7**
VRF				Sn	**Sn**	**12 35 20.4**	**-0.1**
	comp=Z,32nm,0.2s						
KU6	**Riekki**	**2.31**	**227**	*e*P	**Pn**	**12 35 07.8**	**+1.4**
	baz=50						
KU6				*e*SB	**Sb**	**12 35 39.2**	**+0.5**
KU6				MSG		12 35 39.2	
	comp=Z,19nm,0.2s						
KU6	**Riekki**	**2.31**	**227**	P	**Pn**	**12 35 07.8**	**+1.3**
KU6				Sb	**Sb**	**12 35 39.1**	**+0.4**
	comp=Z,19nm,0.2s						
MSF	**Maaselka**	**2.63**	**231**	*e*PB	**Pb**	**12 35 13.7**	**-1.6**
MSF				*e*SB	**Sb**	**12 35 49.0**	**+0.9**
MSF				MSG		12 35 49.0	
	comp=Z,4.2nm,0.2s						
MSF	**Maaselka**	**2.63**	**231**	Pb	**Pb**	**12 35 13.7**	**-1.6**
MSF				Sb	**Sb**	**12 35 49.0**	**+0.9**
	comp=Z,4.2nm,0.2s						
RNF	**Rovaniemi**	**3.30**	**256**	*e*P	**Pn**	**12 35 20.6**	**+0.5**
	baz=58						
RNF				*e*SB	**Sb**	**12 36 06.8**	**-0.5**
RNF				MSG		12 36 06.8	
	comp=Z,14nm,0.4s						
RNF	**Rovaniemi**	**3.30**	**256**	P	**Pn**	**12 35 20.6**	**+0.5**
RNF				Sb	**Sb**	**12 36 06.8**	**-0.5**
	comp=Z,14nm,0.4s						
KEV	**Kevo**	**3.33**	**313**	*e*P	**Pn**	**12 35 21.2**	**+0.6**
KEV				*e*S	**Sn**	**12 36 02.7**	**+1.9**
KEV				MSG		12 36 02.7	
	comp=Z,6.6nm,0.1s						
KEV	**Kevo**	**3.33**	**313**	P	**Pn**	**12 35 21.1**	**+0.5**
KEV				S	**Sn**	**12 36 02.7**	**+1.9**
	comp=Z,6.6nm,0.1s						
ARA0	**ARCESS Array S**	**3.67**	**305**	Pn	**Pn**	**12 35 26.8**	**+1.6**
	baz=123,slow=16						
ARA0				Pg	**Pg**	**12 35 32.9**	**-4.6**
	baz=120,slow=16						
ARA0				Sn	**Sn**	**12 36 08.1**	**-0.9**
	baz=121,slow=28						
ARA0				Lg		12 36 19.6	
	baz=124,slow=28						
ARA0	**ARCESS Array S**	**3.67**	**305**	*e*P	**Pn**	**12 35 24.3**	**-0.8**
	baz=122						
ARA0	**ARCESS Array S**	**3.67**	**305**	P	**Pn**	**12 35 24.3**	**-0.8**
ARA0	**ARCESS Array S**	**3.67**	**305**	Pn	**Pn**	**12 35 26.8**	**+1.7**
	baz=123,slow=15,SNR=2.7						
ARA0	**ARCESS Array S**	**3.67**	**305**	Pg	**Pg**	**12 35 32.9**	**-4.5**
	baz=120,slow=15,SNR=90						
ARA0				Sn	**Sn**	**12 36 08.1**	**-0.8**
	baz=121,slow=24						
ARCES	**ARCESS Array B**	**3.67**	**305**	Pn	**Pn**	**12 35 25.5**	**+0.4**
	comp=Z,6.8nm,0.3s,baz=120,slow=14,SNR=220						
ARCES				Pg	**Pg**	**12 35 34.4**	**-3.0**
	comp=Z,1.9nm,0.3s,baz=114,slow=14,SNR=8.8						
ARCES				Sn	**Sn**	**12 36 09.3**	**+0.4**
	comp=Z,3.8nm,0.3s,baz=121,slow=28,SNR=11						
ARCES				Lg		12 36 23.0	
	comp=Z,7.0nm,0.3s,baz=119,slow=29,SNR=9.0						
HEF	**Hetta**	**3.98**	**286**	*e*P	**Pn**	**12 35 29.8**	**+0.4**
	baz=96						
HEF	**Hetta**	**3.98**	**286**	P	**Pn**	**12 35 29.8**	**+0.4**
KTK1	**Kautokeino**	**4.24**	**294**	*e*P	**Pn**	**12 35 33.4**	**+0.4**
KTK1				*i* Sg	**Sn**	**12 36 21.3**	**-1.8**
KTK1				*e*S	**Sn**	**12 36 21.3**	**-1.8**
KTK1	**Kautokeino**	**4.24**	**294**	*e*P	**Pn**	**12 35 33.4**	**+0.4**
KTK1				*e*S	**Sn**	**12 36 21.3**	**-1.8**
FIA0	**FINESS Array S**	**7.10**	**213**	Pn	**Pn**	**12 36 13.4**	**+1.2**
	baz=36,slow=14						
FIA0				Sn	**Sn**	**12 37 31.8**	**-1.7**
	baz=34,slow=22						
FIA0				Lg		12 38 05.7	
	baz=19,slow=28						
FIA0	**FINESS Array S**	**7.10**	**213**	*e*P	**Pn**	**12 36 13.4**	**+1.2**
FIA0				*e*S	**Sn**	**12 37 31.8**	**-1.7**
FIA0				*e*SG	**Sg**	**12 38 05.7**	**-9.3**
FIA0	**FINESS Array S**	**7.10**	**213**	P	**Pn**	**12 36 13.3**	**+1.1**
FIA0				Sn	**Sn**	**12 37 31.8**	**-1.6**
	baz=34,slow=20						
FINES	**FINESS Array B**	**7.10**	**213**	Pn	**Pn**	**12 36 13.4**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=28,slow=13,SNR=5.8						
FINES				Sn	**Sn**	**12 37 33.0**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=39,slow=21,SNR=3.3						
HFS	**Hagfors**	**11.65**	**240**	Pn	**Pn**	**12 37 12.9**	**-1.6**
	baz=17,slow=12						
HFS	**Hagfors**	**11.65**	**240**	Pn	**Pn**	**12 37 13.6**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=25,slow=12,SNR=5.2						
HFS				Sn	**Sn**	**12 39 19.1**	**-5.9**
	comp=Z,0.1nm,0.3s,baz=48,slow=29,SNR=3.9						
HFS	**Hagfors**	**11.65**	**240**	*e*P	**Pn**	**12 37 12.9**	**-1.6**
HFS	**Hagfors**	**11.65**	**240**	Pn	**Pn**	**12 37 12.9**	**-1.6**
	baz=17,slow=12,SNR=5.5						
SPA0	**Spitsbergen Ar**	**11.70**	**342**	Pn	**Pn**	**12 37 14.4**	**-0.8**
	baz=143,slow=16						
SPA0	**Spitsbergen Ar**	**11.70**	**342**	*e*P	**Pn**	**12 37 14.4**	**-0.8**
SPA0	**Spitsbergen Ar**	**11.70**	**342**	P	**Pn**	**12 37 14.4**	**-0.8**
SPITS	**Spitsbergen Ar**	**11.70**	**342**	Pn	**Pn**	**12 37 15.1**	**-0.1**
	baz=141,slow=13,SNR=4.4						
NB2	**NORSAR Subarra**	**11.84**	**247**	Pn	**Pn**	**12 37 16.6**	**-0.5**
NB2	**NORSAR Subarra**	**11.84**	**247**	*e*P	**Pn**	**12 37 16.6**	**-0.5**
NB2	**NORSAR Subarra**	**11.84**	**247**	Pn	**Pn**	**12 37 16.6**	**-0.5**
NOA	**NORSAR Array B**	**11.84**	**247**	Pn	**Pn**	**12 37 16.7**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=40,slow=11,SNR=1.3						
NOA				Sn	**Sn**	**12 39 23.6**	**-6.1**
	comp=Z,0.1nm,0.3s,baz=169,slow=13,SNR=2.7						

IDC 01 12:34:56.0±1.3**, 7°.10S**×**155°.89E, h0**km**, mb3.6**/5**, mb1 3.7**/6**, mb1mx3.5**/19**, mbtmp3.6**/6**, ML3.8**/1**, Error ellipse: s-maj=33.3km s-min=28.3km az=28.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.63**	**120**	Pn	Pn	12 36 06.7	-0.6
	4.8nm,0.3s,baz=19,slow=17,SNR=2.8						
HNR				Sn	Sn	12 37 04.6	+2.7
	baz=249,slow=24,SNR=1.9						
WRA	**Warramunga Arr**	**24.49**	**236**	P	P	12 40 16.4	-0.8
	0.7nm,0.5s,baz=62,slow=10,SNR=14						
ASAR	**Alice Springs**	**26.77**	**230**	P	P	12 40 39.2	+1.4
	0.2nm,0.6s,baz=74,slow=10,SNR=1.6						
MKAR	**Makanchi Array**	**84.07**	**318**	P	P	12 47 29.8	+1.0
	0.2nm,0.4s,baz=97,slow=6.2,SNR=4.1						
ZALV	**Zalesovo Beam**	**84.77**	**326**	P	P	12 47 31.8	-0.3
	0.4nm,0.5s,baz=111,slow=5.6,SNR=3.6						
KURK	**Kurchatov**	**87.47**	**322**	P	P	12 47 45.3	-0.2
	0.2nm,0.5s,baz=100,slow=4.5,SNR=3.8						

*IDC **01** 13:04:33.3±1.0, 0°.16N×98°.67E, h0km, mb4.3/11, mb1 4.4/12, mb1mx4.1/25, mbtmp4.3/12, ML4.2/1, MS3.5/7, Ms1 3.5/7, ms1mx3.1/37, Error ellipse: s-maj=36.6km s-min=15.5km az=61.0*
*ISCJB **01** 13:04:38.2±0.6, 0°.09N±0°.04×98°.47E±0°.05, h59km±5km, mb4.4/15, MS3.4/7, Error ellipse: s-maj=9.4km s-min=5.7km az=150.7*
*DJA **01** 13:04:38, 0°.10N×98°.55E, h12km, MLv4.7/20*
*NEIC **01** 13:04:40.3±2.1, 0°.17N×98°.60E, h55km±16km, mb4.6/5, Error ellipse: s-maj=22.5km s-min=9.7km az=51.0*
ISC 01 13:04:39.3±0.5**, 0°.09N**±0°.04×**98°.44E**±0°.05**, h49**km±5km**, n76, σ0s.99**/70**, mb4.4**/15**, MS3.4**/7**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.21**	**227**	P	**Pn**	**13 04 46.4**	**-1.2**
PBSI				S	**Sn**	**13 04 50.5**	**-3.0**
PBSI	**Pulau Batu**	**0.21**	**227**	P	**Pn**	**13 04 45.9**	**-1.7**
MNSI	**Mandailing Nat**	**1.34**	**59**	P	**Pn**	**13 05 00.7**	**-0.9**
MNSI				S	**Sn**	**13 05 18.2**	**-0.1**
MNSI	**Mandailing Nat**	**1.34**	**59**	P	**Pn**	**13 05 00.0**	**-1.6**
SBSI	**Sibolga**	**1.52**	**17**	P	**Pn**	**13 05 05.3**	**+1.2**
SISI	**Saibi**	**1.55**	**155**	P	**Pn**	**13 05 05.3**	**+0.7**
PDSI	**Padang**	**2.26**	**116**	P	**Pn**	**13 05 14.9**	**+0.7**
PDSI				S	**Sn**	**13 05 42.1**	**+1.2**
PSI	**Prapat**	**2.73**	**10**	Pn	**Pn**	**13 05 19.4**	**-1.4**
	16nm,0.3s,baz=205,slow=6.6,SNR=45						
PSI				Sn	**Sn**	**13 05 45.5**	**-7.1**
	18nm,0.3s,baz=184,slow=5.6,SNR=7.5						
PSI	**Prapat**	**2.73**	**10**	Pn	**Pn**	**13 05 19.4**	**-1.4**
PSI				Sn	**Sn**	**13 05 45.5**	**-7.1**
SDSI	**Sungai Dareh**	**3.16**	**109**	P	**Pn**	**13 05 26.3**	**-0.3**
TPTI		**3.39**	**338**	P	**Pn**	**13 05 32.2**	**+2.5**
TSI	**Tuntungan**	**3.39**	**2**	P	**Pn**	**13 05 30.8**	**+1.1**
KRJI	**Kerinci**	**3.72**	**126**	P	**Pn**	**13 05 34.7**	**+0.4**
RGRI	**Rengat**	**3.92**	**96**	P	**Pn**	**13 05 36.3**	**-0.7**
FRIM	**Kepong**	**4.46**	**46**	P	**Pn**	**13 05 45.7**	**+1.2**
IPM	**Ipoh**	**5.07**	**31**	P	**Pn**	**13 05 54.4**	**+1.6**
IPM	**Ipoh**	**5.07**	**31**	*e*Pn	**Pn**	**13 05 53.0**	**+0.3**
	37nm,0.5s						
IPM	**Ipoh**	**5.07**	**31**	P	**Pn**	**13 05 53.3**	**+0.5**
	0.3nm613nm77nm,0.9s						
KGM	**Kluang**	**5.24**	**69**	P	**Pn**	**13 05 54.9**	**-0.2**
JMBI	**JAMBI**	**5.48**	**108**	P	**Pn**	**13 05 57.2**	**-1.2**
	0.8nm164nm,0.9s						
KULM	**Kulim**	**5.62**	**23**	P	**Pn**	**13 06 00.1**	**-0.3**
KULM	**Kulim**	**5.62**	**23**	*e*Pn	**Pn**	**13 05 58.8**	**-1.5**
	41nm,0.8s						
KULM	**Kulim**	**5.62**	**23**	P	**Pn**	**13 06 00.7**	**+0.4**
	0.2nm581nm53nm,1.0s						
MYKOM	**Kota Tinggi**	**5.67**	**73**	P	**Pn**	**13 06 00.5**	**-0.6**
MYKOM	**Kota Tinggi**	**5.67**	**73**	P	**Pn**	**13 06 00.6**	**-0.4**
	0.2nm748nm36nm,0.7s						
LHSI	**Lahat**	**6.40**	**127**	P	**Pn**	**13 06 11.6**	**+0.5**
	0.0nm14nm,1.0s						
KTGM	**Kuala Trenggan**	**7.00**	**42**	P	**Pn**	**13 06 19.0**	**-0.4**
MDSI	**Maura Dua**	**7.32**	**128**	P	**Pn**	**13 06 24.5**	**+0.8**
	0.2nm635nm61nm,0.9s						
LWLI	**Liwa**	**7.57**	**132**	P	**Pn**	**13 06 28.1**	**+1.0**
	0.9nm7μm120nm,0.8s						
KLSI		**7.88**	**127**	P	**Pn**	**13 06 31.9**	**+0.5**
	0.2nm54nm,0.8s						
PPBI	**Pangkal Pinang**	**8.02**	**106**	P	**Pn**	**13 06 32.8**	**-0.5**
KLI	**Kotabumi**	**8.08**	**128**	P	**Pn**	**13 06 34.7**	**+0.5**
SBUM	**Sibu**	**13.98**	**80**	P	**Pn**	**13 07 49.8**	**-5.0**
CMAR	**Chiang Mai Arr**	**18.26**	**2**	P	**Pn**	**13 08 48.5**	**-0.7**
	0.3nm,0.3s,baz=189,slow=9.9,SNR=11						
CMAR	**Chiang Mai Arr**	**18.26**	**2**	P	**Pn**	**13 08 48.5**	**-0.7**
KKM	**Kota Kinabalu**	**18.70**	**71**	*e*Pn	**Pn**	**13 08 54.6**	**-0.1**
	22nm,0.6s						
KAPI	**Kappang**	**21.89**	**104**	LR	LR	13 18 19.4	
	comp=Z,132nm,19.9s,MS3.4,baz=306,slow=38						
ENH	**Enshi**	**31.80**	**18**	*e*Pn	**P**	**13 10 58.5**	**-0.8**
	15nm,0.5s,mb5.1						
FITZ	**Fitzroy Crossi**	**32.28**	**126**	LR	LR	13 25 05.0	
	comp=Z,52nm,20.7s,MS3.2,baz=290,slow=38						
WRA	**Warramunga Arr**	**40.40**	**122**	P	**P**	**13 12 11.3**	**-1.7**
	2.2nm,0.5s,mb4.2,baz=303,slow=9.0,SNR=35						
WRA	**Warramunga Arr**	**40.40**	**122**	P	**P**	**13 12 11.3**	**-1.7**
ASAR	**Alice Springs**	**41.74**	**127**	P	**P**	**13 12 23.0**	**-1.0**
	2.0nm,0.6s,mb3.9,baz=299,slow=7.9,SNR=39						
ASAR				PcP	PcP	13 14 21.1	+1.3
	0.8nm,0.7s,baz=295,slow=2.6,SNR=6.7						
ASAR	**Alice Springs**	**41.74**	**127**	P	**P**	**13 12 23.0**	**-1.0**
ASAR				PcP	PcP	13 14 21.1	+1.3
KSRS	**Korea Array**	**46.08**	**33**	P	**P**	**13 12 57.8**	**-0.7**
	5.7nm,0.7s,mb4.6,baz=220,slow=8.5,SNR=26						
KSRS				LR	LR	13 34 42.9	
	comp=Z,43nm,18.4s,MS3.4,baz=220,slow=40						
TKM2	**Tokmak 2**	**47.31**	**337**	*e*P	**P**	**13 13 09.3**	**+1.2**
	4.5nm,0.9s,mb4.4						
KBK	**Karagaybulak**	**47.34**	**336**	*e*P	**P**	**13 13 09.6**	**+1.3**
	8.5nm,1.0s,mb4.6						
EKS2	**Erkin-Say**	**47.82**	**335**	*e*P	**P**	**13 13 13.5**	**+1.4**
SONM	**Songino Array**	**48.05**	**7**	P	**P**	**13 13 15.0**	**+1.2**
	5.8nm,0.7s,mb4.7,baz=186,slow=8.9,SNR=16						
SONM				LR	LR	13 35 30.3	
	comp=Z,63nm,19.2s,MS3.6,baz=338,slow=39						
SONM	**Songino Array**	**48.05**	**7**	P	**P**	**13 13 15.0**	**+1.2**
SONM				LR	LR	13 35 30.3	
ULN	**Ulaanbaatar**	**48.17**	**8**	*e*P	**P**	**13 13 13.7**	**-1.0**
	3.1nm,0.6s,mb4.5						
MK31	**Makanchi Array**	**48.61**	**345**	*e*P	**P**	**13 13 18.6**	**+0.5**
MKAR	**Makanchi Array**	**48.61**	**345**	P	**P**	**13 13 18.7**	**+0.6**
	4.1nm,0.6s,mb4.6,baz=150,slow=7.8,SNR=35						
MKAR				LR	LR	13 35 06.4	
	comp=Z,33nm,20.8s,MS3.3,baz=11,slow=38						
MKAR	**Makanchi Array**	**48.61**	**345**	P	**P**	**13 13 18.7**	**+0.6**
MKAR				LR	LR	13 35 06.5	
MJAR	**Matsushiro Arr**	**51.69**	**41**	P	**P**	**13 13 40.4**	**-1.2**
	2.0nm,0.8s,mb4.1,baz=236,slow=7.7,SNR=6.1						
MJAR	**Matsushiro Arr**	**51.69**	**41**	P	**P**	**13 13 40.4**	**-1.2**
STKA	**Stephens Creek**	**51.70**	**132**	P	**P**	**13 13 42.2**	**+0.4**
	3.9nm,0.8s,mb4.4,baz=288,slow=6.1,SNR=6.5						
STKA	**Stephens Creek**	**51.70**	**132**	P	**P**	**13 13 42.2**	**+0.4**
KURK	**Kurchatov**	**53.18**	**344**	P	**P**	**13 13 52.3**	**0.0**
	1.8nm,0.7s,mb4.1,baz=166,slow=7.4,SNR=26						
KURK	**Kurchatov**	**53.18**	**344**	P	**P**	**13 13 52.3**	**0.0**
ZAA0	**Zalesovo Array**	**54.84**	**350**	*e*P	**P**	**13 14 03.6**	**-0.9**
ZALV	**Zalesovo Beam**	**54.84**	**350**	P	**P**	**13 14 04.6**	**+0.1**
	6.3nm,1.0s,mb4.6,baz=176,slow=6.0,SNR=16						
ZALV	**Zalesovo Beam**	**54.84**	**350**	P	**P**	**13 14 04.6**	**+0.1**
BVAR	**Borovoye Array**	**57.70**	**340**	P	**P**	**13 14 24.6**	**-0.2**
	1.9nm,0.7s,mb4.2,baz=147,slow=8.5,SNR=9.9						
BVAR	**Borovoye Array**	**57.70**	**340**	P	**P**	**13 14 24.6**	**-0.2**
ABKAR	**Akbulak array**	**59.07**	**332**	*e*P	**P**	**13 14 32.8**	**-1.6**
HNR	**Honiara**	**61.94**	**101**	LR	LR	13 39 39.3	
	comp=Z,51nm,20.1s,MS3.7,baz=359,slow=34						
PETK	**Petropavlovsk-**	**71.98**	**33**	P	**P**	**13 15 57.4**	**-0.3**
	2.8nm,0.8s,mb4.2,baz=159,slow=13,SNR=4.1						
PETK				LR	LR	13 48 22.7	
	comp=Z,28nm,19.2s,MS3.5,baz=227,slow=37						
PETK	**Petropavlovsk-**	**71.98**	**33**	P	**P**	**13 15 57.4**	**-0.3**
PETK				LR	LR	13 48 22.7	
NVAR	**Mina Array Bea**	**128.93**	**37**	PKP	PKPdf	13 23 44.2	+2.1
	0.9nm,0.8s,baz=288,slow=2.3,SNR=5.1						
NVAR	**Mina Array Bea**	**128.93**	**37**	PKP	PKPdf	13 23 44.2	+2.1
PDAR	**Pinedale Array**	**130.48**	**27**	PKP	PKPdf	13 23 45.3	+0.4
	0.2nm,0.4s,baz=227,slow=40,SNR=2.6						
PDAR	**Pinedale Array**	**130.48**	**27**	PKP	PKPdf	13 23 45.3	+0.4
TXAR	**Lajitas Array**	**143.92**	**34**	PKP	PKPdf	13 24 08.8	-1.3
	0.5nm,0.6s,baz=279,slow=0.7,SNR=7.3						
TXAR	**Lajitas Array**	**143.92**	**34**	PKP	PKPdf	13 24 08.8	-1.3
CPUP	**Villa Florida**	**144.99**	**220**	PKPbc	PKPdf	13 24 13.6	+1.6
	0.7nm,0.5s,baz=156,slow=7.5,SNR=4.3						
CPUP	**Villa Florida**	**144.99**	**220**	PKPbc	PKPdf	13 24 13.6	+1.6

*IDC **01** 13:08:19.7±2.9, 38°.83S×177°.37E, h33km±18km, mb4.1/4, mb1 4.3/5, mb1mx3.9/17, mbtmp4.1/5, ML3.9/1, Error ellipse: s-maj=31.7km s-min=28.5km az=109.0*
*ISCJB **01** 13:08:20.7±0.4, 38°.75S±0°.02×177°.30E±0°.04, h67km±3km, mb4.5/7, Error ellipse: s-maj=5.7km s-min=4.0km az=10.0*
*NEIC **01** 13:08:20.0±1.6, 38°.90S×177°.30E, h37km±10km, mb4.6/3, Error ellipse: s-maj=25.1km s-min=10.0km az=97.0*
*WEL **01** 13:08:22.5±0.1, 38°.70S×177°.24E, h52km±1km, ML4.6/22, Error ellipse: s-maj=1.1km s-min=0.7km az=90.0*
WEL Felt between Bay Plenty, Hawke Bay, Gisborne, maximum reported intensity MM 4.
ISC 01 13:08:21.4±0.4**, 38°.76S**±0°.02×**177°.29E**±0°.04**, h61**km±4km**, n111, σ1s.24**/115**, mb4.4**/7**, 17C-12D, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAHZ	**Arahi**	**0.23**	**226**	PN	**Pn**	**13 08 30.5**	**-0.5**
RAHZ				SN	**Sn**	**13 08 36.7**	**-1.4**

KNZ	**Kokohu**	**0.40**	**131**	⇑PN	**Pn**	**13 08 33.1**	**+0.8**
KNZ				SN	**Sn**	**13 08 41.5**	**+1.2**
MWZ	**Matawai**	**0.46**	**23**	⇓PN	**Pn**	**13 08 32.8**	**-0.3**
MWZ				SN	**Sn**	**13 08 40.9**	**-0.6**
PRGZ	**Paritu Road**	**0.49**	**110**	⇑PN	**Pn**	**13 08 34.3**	**+1.0**
NMHZ	**Naumai**	**0.51**	**228**	⇓PN	**Pn**	**13 08 34.4**	**+0.9**
NMHZ				SN	**Sn**	**13 08 44.3**	**+1.9**
URZ	**Urewera**	**0.52**	**344**	⇑PN	**Pn**	**13 08 32.7**	**-0.9**
URZ				SN	**Sn**	**13 08 40.3**	**-2.2**
URZ	**Urewera**	**0.52**	**344**	Pg	**Pn**	**13 08 32.4**	**-1.2**
	2μm,0.3s,baz=210,slow=6.8,SNR=9970						
URZ				Lg		13 08 40.5	
	5μm,0.3s,baz=89,slow=21,SNR=124						
URZ	**Urewera**	**0.52**	**344**	Pg	**Pn**	**13 08 32.4**	**-1.2**
URZ				Lg		13 08 40.5	
URZ				*e*Sn	**Sn**	**13 08 40.9**	**-1.7**
MHGZ	**Mahia Peninsul**	**0.62**	**130**	⇑PN	**Pn**	**13 08 36.1**	**+1.4**
RRRZ	**Republican Roa**	**0.74**	**304**	⇑PN	**Pn**	**13 08 35.5**	**-0.7**
BKZ	**Black Stump Fm**	**0.74**	**237**	⇓PN	**Pn**	**13 08 37.1**	**+0.9**
BKZ				SN	**Sn**	**13 08 48.4**	**+1.3**
PRRZ	**Plateau Road**	**0.75**	**290**	⇑PN	**Pn**	**13 08 35.7**	**-0.6**
CNGZ	**Carnagh Statio**	**0.77**	**69**	PN	**Pn**	**13 08 38.0**	**+1.5**
ALRZ	**Allen Road**	**0.77**	**284**	⇑PN	**Pn**	**13 08 36.1**	**-0.4**
EDRZ	**Edgecumbe**	**0.79**	**326**	⇑PN	**Pn**	**13 08 36.1**	**-0.6**
TARZ	**Mount Tarawera**	**0.81**	**310**	⇑PN	**Pn**	**13 08 36.7**	**-0.3**
MCHZ	**McNeill Hill**	**0.83**	**214**	⇓PN	**Pn**	**13 08 38.7**	**+1.5**
HRRZ	**Handcock Road**	**0.87**	**295**	⇑PN	**Pn**	**13 08 37.2**	**-0.6**
MKRZ	**Makatiti**	**0.90**	**313**	PN	**Pn**	**13 08 38.3**	**+0.2**
MARZ	**Manawahe**	**0.91**	**328**	PN	**Pn**	**13 08 38.2**	**-0.2**
CKHZ	**Cape Kidnapper**	**0.91**	**191**	⇓PN	**Pn**	**13 08 39.5**	**+1.2**
HATZ	**Hinemaiaia**	**0.95**	**262**	PN	**Pn**	**13 08 38.8**	**0.0**
OMRZ	**Omania**	**0.97**	**312**	⇑PN	**Pn**	**13 08 38.5**	**-0.6**
PUZ	**Puketiti**	**1.02**	**48**	⇓PN	**Pn**	**13 08 40.7**	**+1.0**
LIRZ	**Lichensteins R**	**1.04**	**316**	PN	**Pn**	**13 08 39.4**	**-0.5**
UTU	**Utuhina**	**1.04**	**304**	⇑PN	**Pn**	**13 08 39.8**	**-0.2**
WHTZ	**Whakaora**	**1.05**	**275**	PN	**Pn**	**13 08 40.3**	**+0.2**
OPRZ	**Ohinepanea**	**1.08**	**327**	⇑PN	**Pn**	**13 08 39.6**	**-0.9**
OPRZ				SN	**Sn**	**13 08 53.5**	**-1.3**
KARZ	**Kaharoa**	**1.11**	**311**	⇑PN	**Pn**	**13 08 40.1**	**-0.7**
RITZ	**Rihia Road**	**1.14**	**259**	PN	**Pn**	**13 08 41.8**	**+0.5**
RATZ	**Rangitukua**	**1.20**	**264**	PN	**Pn**	**13 08 42.1**	**+0.2**
BHHZ	**Black Hill Sta**	**1.20**	**232**	⇓PN	**Pn**	**13 08 43.3**	**+1.2**
WATZ	**Wairara**	**1.22**	**272**	⇑PN	**Pn**	**13 08 42.4**	**+0.1**
WIZ	**White Island**	**1.23**	**356**	PN	**Pn**	**13 08 42.1**	**-0.5**
KATZ	**Kakaramea**	**1.27**	**260**	PN	**Pn**	**13 08 43.6**	**+0.6**
TGRZ	**Tauranga**	**1.31**	**321**	⇑PN	**Pn**	**13 08 42.7**	**-0.9**
PXZ	**Pawanui**	**1.31**	**195**	⇓PN	**Pn**	**13 08 43.9**	**+0.3**
KRVZ	**Karewarewa**	**1.33**	**255**	PN	**Pn**	**13 08 44.4**	**+0.5**
OTVZ	**Oturere**	**1.33**	**252**	PN	**Pn**	**13 08 44.7**	**+0.9**
MOVZ	**Moawhango**	**1.36**	**241**	PN	**Pn**	**13 08 44.8**	**+0.5**
TUVZ	**Tukino**	**1.38**	**248**	PN	**Pn**	**13 08 45.3**	**+0.9**
WTVZ	**West Tongariro**	**1.38**	**254**	PN	**Pn**	**13 08 45.3**	**+0.9**
NGZ	**Ngauruhoe**	**1.38**	**252**	PN	**Pn**	**13 08 45.3**	**+0.8**
PNHZ	**Pukenui**	**1.43**	**216**	⇓PN	**Pn**	**13 08 45.6**	**+0.4**
WPVZ	**Whakapapa**	**1.43**	**251**	PN	**Pn**	**13 08 46.0**	**+0.8**
MXZ	**Matakaoa Point**	**1.44**	**34**	PN	**Pn**	**13 08 46.6**	**+1.4**
WNVZ	**Wahianoa**	**1.44**	**246**	PN	**Pn**	**13 08 46.1**	**+0.9**
DRZ	**Dome Shelter**	**1.44**	**249**	PN	**Pn**	**13 08 46.5**	**+1.2**
FWVZ	**Far West T-bar**	**1.45**	**249**	PN	**Pn**	**13 08 46.1**	**+0.7**
WPHZ	**Waipukurau**	**1.46**	**207**	⇓PN	**Pn**	**13 08 45.9**	**+0.4**
TRVZ	**Turoa**	**1.46**	**248**	PN	**Pn**	**13 08 46.4**	**+0.8**
TWVZ	**Taurewa**	**1.48**	**257**	PN	**Pn**	**13 08 46.1**	**+0.3**
MTVZ	**Mangateitei**	**1.55**	**246**	PN	**Pn**	**13 08 47.5**	**+0.8**
PRHZ	**Porangahau**	**1.59**	**198**	⇓PN	**Pn**	**13 08 47.4**	**+0.2**
PKVZ	**Pokaka**	**1.61**	**250**	PN	**Pn**	**13 08 48.6**	**+1.0**
TOZ	**Tahuroa Road**	**1.75**	**306**	PN	**Pn**	**13 08 48.7**	**-0.7**
DVHZ	**Dannevirke**	**1.77**	**209**	⇓PN	**Pn**	**13 08 49.3**	**-0.3**
HIZ	**Hauiti**	**1.93**	**277**	⇑PN	**Pn**	**13 08 52.4**	**+0.6**
VRZ	**Vera Road**	**2.01**	**259**	PN	**Pn**	**13 08 54.2**	**+1.2**
WAZ	**Wanganui**	**2.05**	**240**	PN	**Pn**	**13 08 54.8**	**+1.3**
BFZ	**Birch Farm**	**2.08**	**203**	PN	**Pn**	**13 08 53.4**	**-0.6**
MRZ	**Mangatainoka R**	**2.31**	**214**	PN	**Pn**	**13 08 56.2**	**-0.9**
RAEZ	**Rainy Point**	**2.32**	**256**	PN	**Pn**	**13 08 59.5**	**+2.3**
MKAZ	**Moumakai**	**2.35**	**314**	PN	**Pn**	**13 08 57.3**	**-0.4**
KUZ	**Kuaotunu**	**2.37**	**328**	PN	**Pn**	**13 08 57.2**	**-0.7**
DREZ	**Durham Road**	**2.45**	**259**	PN	**Pn**	**13 09 01.6**	**+2.6**
NEZ	**North Egmont**	**2.54**	**257**	PN	**Pn**	**13 09 03.0**	**+2.8**
DFE	**Dawson Falls**	**2.55**	**256**	PN	**Pn**	**13 09 03.3**	**+3.0**
PKE	**Pukeiti**	**2.61**	**259**	PN	**Pn**	**13 09 03.8**	**+2.6**
MTW	**Mount Morrison**	**2.76**	**209**	PN	**Pn**	**13 09 01.4**	**-1.8**
KIW	**Kapiti Island**	**2.79**	**220**	PN	**Pn**	**13 09 02.5**	**-1.1**
CAW	**Cannon Point**	**2.90**	**215**	PN	**Pn**	**13 09 03.4**	**-1.7**
TRWZ	**Traveller**	**2.91**	**205**	PN	**Pn**	**13 09 03.5**	**-1.8**
PAWZ	**Paruwai Farm**	**2.98**	**208**	PN	**Pn**	**13 09 04.2**	**-2.0**
MSWZ	**Moikau Station**	**3.08**	**210**	PN	**Pn**	**13 09 05.2**	**-2.4**
WEL	**Wellington**	**3.18**	**217**	PN	**Pn**	**13 09 06.9**	**-2.0**
PLWZ	**Palliser**	**3.21**	**208**	PN	**Pn**	**13 09 06.9**	**-2.5**
SNZO	**South Karori**	**3.23**	**217**	PN	**Pn**	**13 09 07.4**	**-2.2**
SNZO	**South Karori**	**3.23**	**217**	*e*Pn	**Pn**	**13 09 06.6**	**-3.0**
TCW	**Tory Channel**	**3.37**	**222**	PN	**Pn**	**13 09 09.6**	**-2.0**
BSWZ	**Blackbirch Sta**	**3.94**	**220**	PN	**Pn**	**13 09 16.9**	**-2.5**
QRZ	**Quartz Range**	**4.21**	**239**	PN	**Pn**	**13 09 22.8**	**-0.2**
THZ	**Tophouse**	**4.50**	**227**	PN	**Pn**	**13 09 25.1**	**-1.9**
OUZ	**Omahuta**	**4.61**	**319**	PN	**Pn**	**13 09 29.3**	**+0.8**
OUZ	**Omahuta**	**4.61**	**319**	*e*Pn	**Pn**	**13 09 29.4**	**+0.9**
KHZ	**Kahutara**	**4.64**	**217**	*e*Pn	**Pn**	**13 09 26.2**	**-2.7**
DSZ	**Denniston Nort**	**5.15**	**233**	PN	**Pn**	**13 09 34.7**	**-1.1**
LTZ	**Lake Taylor**	**5.54**	**222**	PN	**Pn**	**13 09 38.1**	**-3.1**
RPZ	**Rata Peaks**	**6.83**	**222**	PN	**Pn**	**13 09 56.6**	**-2.3**
RPZ	**Rata Peaks**	**6.83**	**222**	Pn	**Pn**	**13 09 56.5**	**-2.3**
	2.3nm,0.3s,baz=273,slow=17,SNR=9.9						
RPZ				Sn	**Sn**	**13 11 07.3**	**-7.8**
	8.0nm,0.3s,baz=346,slow=20,SNR=14						
RPZ	**Rata Peaks**	**6.83**	**222**	*e*Pn	**Pn**	**13 09 56.0**	**-2.8**
RPZ				Sn	**Sn**	**13 11 07.3**	**-7.8**
LBZ	**Lake Benmore**	**7.74**	**221**	PN	**Pn**	**13 10 08.7**	**-2.7**
ODZ	**Otahua Downs**	**8.00**	**216**	PN	**Pn**	**13 10 10.9**	**-4.0**
SYZ	**Scrubby Hill**	**9.82**	**215**	PN	**Pn**	**13 10 38.3**	**-1.4**
CTA	**Charters Tower**	**32.59**	**296**	P	**P**	**13 14 50.4**	**+3.2**
	2.2nm,0.6s,mb4.2,baz=64,slow=22,SNR=1.7						
CTA	**Charters Tower**	**32.59**	**296**	P	**P**	**13 14 50.4**	**+3.2**
ASAR	**Alice Springs**	**39.66**	**279**	P	**P**	**13 15 49.0**	**+1.6**
	4.3nm,0.3s,mb4.6,baz=112,slow=6.1,SNR=134						
ASAR	**Alice Springs**	**39.66**	**279**	P	**P**	**13 15 49.0**	**+1.6**
PMG	**Port Moresby**	**39.79**	**309**	P	**P**	**13 15 46.8**	**-1.8**
	21nm,1.0s,mb4.8						
WRAB	**Tennant Creek**	**41.43**	**284**	*e*P	**P**	**13 16 02.8**	**+0.7**
	3.5nm,0.9s,mb4.0						
WRA	**Warramunga Arr**	**41.43**	**284**	P	**P**	**13 16 03.2**	**+1.1**
	0.7nm,0.4s,mb3.7,baz=123,slow=8.1,SNR=20						
WRA	**Warramunga Arr**	**41.43**	**284**	P	**P**	**13 16 03.2**	**+1.1**
FITZ	**Fitzroy Crossi**	**49.16**	**280**	P	**P**	**13 17 04.8**	**+1.5**
	4.5nm,0.6s,mb4.7,baz=144,slow=8.4,SNR=21						
FITZ	**Fitzroy Crossi**	**49.16**	**280**	P	**P**	**13 17 04.8**	**+1.5**
MBWA	**Marble Bar**	**52.04**	**272**	*e*P	**P**	**13 17 24.9**	**-0.1**
	5.1nm,0.6s,mb4.6						
ARCES	**ARCESS Array B**	**145.69**	**343**	PKPbc	PKPbc	13 27 53.3	+1.2
	4.8nm,1.0s,baz=56,slow=3.1,SNR=12						
ARCES	**ARCESS Array B**	**145.69**	**343**	PKPbc	PKPbc	13 27 53.3	+1.2
FINES	**FINESS Array B**	**151.17**	**331**	PKPbc	PKPbc	13 28 07.9	+1.2
	2.7nm,0.8s,baz=64,slow=3.2,SNR=7.3						
FINES				PKPab	PKPab	13 28 14.7	-0.1
	3.3nm,0.9s,baz=103,slow=6.3,SNR=3.7						
FINES	**FINESS Array B**	**151.17**	**331**	PKPbc	PKPbc	13 28 07.9	+1.2
FINES				PKPab	PKPab	13 28 14.7	-0.1
TORD	**Torodi Ar. Bea**	**154.19**	**190**	PKPbc	PKPbc	13 28 18.3	+3.4
	0.4nm,0.7s,baz=151,slow=2.3,SNR=3.0						
TORD				PKPab	PKPab	13 28 28.9	+0.2
	0.4nm,0.6s,baz=169,slow=3.6,SNR=2.7						
TORD	**Torodi Ar. Bea**	**154.19**	**190**	PKPbc	PKPbc	13 28 18.3	+3.4
TORD				PKPab	PKPab	13 28 28.9	+0.2

JMA 01 13:22:04.2, 25°08N×144°16E, h9km, M4.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**2.36**	**311**	P	Pn	13 22 44.1	+1.0
JHHJ				*e*S	Sn	13 23 13.3	+1.1
CBIJ	**Chichi jima**	**2.68**	**319**	P	Pn	13 22 48.7	+1.2
JHO	**Hitachi**	**11.90**	**346**	P	Pn	13 24 56.6	+2.6
JMM	**Marumori**	**13.06**	**348**	P	Pn	13 25 13.3	+3.3

*ISCJB **01** 13:24:55.9±0.5, 50°10N±0°03×18°37E±0°03, h0km, Error ellipse: s-maj=5.1km s-min=2.9km az=10.3*
*CSEM **01** 13:24:56.5±0.2, 50°06N×18°42E, h1km, ML2.5/5, Error ellipse: s-maj=5.5km s-min=3.3km az=177.0*
*WAR **01** 13:24:56.8, 50°06N×18°43E*
*IPEC **01** 13:24:57.1±0.1, 50°07N×18°41E, h8km±1km, ML1.7/3, Error ellipse: s-maj=1.6km s-min=0.7km az=162.0*
*PRU **01** 13:24:59.1, 50°01N×18°29E, h0km*
ISC 01 13:24:57.1±0.5**, 50°06N**±0°03×**18°37E**±0°03**, h0km, n25, σ1s05**/40**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.12**	**281**	*e*Pg	**Pg**	**13 25 00.6**	**+1.2**
RAC				*e*Sg	**Sg**	**13 25 03.8**	**+2.9**
OKC	**Ostrava-Krasne**	**0.27**	**213**	*e*PG	**Pg**	**13 25 02.8**	**+0.6**
OKC				*e*SG	**Sg**	**13 25 06.8**	**+1.1**
	comp=Z,48nm,0.9s						
OKC	**Ostrava-Krasne**	**0.27**	**213**	Pg	**Pg**	**13 25 02.8**	**+0.6**
OKC				Sg	**Sg**	**13 25 06.8**	**+1.1**
	comp=Z,48nm,0.9s						
MORC	**Moravsky Berou**	**0.61**	**242**	*e*Pg	**Pg**	**13 25 09.1**	**+0.3**
	baz=62						
MORC				*e*Sg	**Sg**	**13 25 17.7**	**+1.1**
	comp=Z,8.6nm,0.1s,baz=62						
OJC	**Ojcow**	**0.93**	**80**	*e*Pg	**Pg**	**13 25 13.7**	**-1.2**
OJC				*e*Sg	**Sg**	**13 25 26.7**	**-0.3**
OJC	**Ojcow**	**0.93**	**80**	*e*Pg	**Pg**	**13 25 13.6**	**-1.3**
	baz=261						
OJC				*e*Sg	**Sg**	**13 25 26.5**	**-0.5**
	baz=261						
DPC	**Dobruska-Polom**	**1.35**	**283**	*e*PG	**Pg**	**13 25 22.3**	**-0.7**
DPC				*e*SG	**Sg**	**13 25 41.0**	**+0.6**
	comp=Z,16nm,0.4s						
DPC	**Dobruska-Polom**	**1.35**	**283**	Pg	**Pg**	**13 25 22.3**	**-0.7**
DPC				*e*Sg	**Sg**	**13 25 40.4**	**0.0**
	baz=101						
VRAC	**Vranov**	**1.38**	**238**	*e*Pn	**Pn**	**13 25 22.8**	**-0.8**
VRAC				*e*Sg	**Sg**	**13 25 40.9**	**-0.5**
	comp=Z,11nm,0.4s,baz=56						
NIE	**Niedzica**	**1.41**	**116**	*e*Pg	**Pg**	**13 25 23.6**	**-0.6**
NIE				*e*Sg	**Sg**	**13 25 43.2**	**+0.7**
KSP	**Ksiaz**	**1.54**	**301**	*e*Pg	**Pg**	**13 25 25.4**	**-1.3**
KSP				*e*Sg	**Sg**	**13 25 47.7**	**+1.0**
UPC	**Upice**	**1.58**	**287**	*e*SG	**Sg**	**13 25 48.0**	**+0.2**
UPC	**Upice**	**1.58**	**287**	Sg	**Sg**	**13 25 48.0**	**+0.2**
VYHS	**Vyhne**	**1.60**	**169**	*e*PN	**Pn**	**13 25 25.9**	**-0.7**
VYHS				*e*SN	**Sn**	**13 25 47.5**	**-0.4**
VYHS	**Vyhne**	**1.60**	**169**	*e*Pn	**Pn**	**13 25 25.3**	**-1.3**
	baz=350						
VYHS				*e*Sn	**Sn**	**13 25 47.5**	**-0.4**
KRUC	**Moravsky**	**1.63**	**233**	*e*Pn	**Pn**	**13 25 26.9**	**-0.1**
	baz=52						
KRUC				*e*Sg	**Sg**	**13 25 48.0**	**-1.5**
	comp=Z,7.2nm,0.3s,baz=52						
STHS	**Stebnicka Huta**	**1.97**	**108**	*e*PN	**Pn**	**13 25 34.3**	**+2.6**
STHS				*e*SN	**Sn**	**13 26 01.9**	**+4.8**
STHS	**Stebnicka Huta**	**1.97**	**108**	*e*Pn	**Pn**	**13 25 34.3**	**+2.6**
KECS	**Kecovo**	**2.10**	**138**	*e*	**Pn**	**13 25 37.8**	**+4.3**
KECS	**Kecovo**	**2.10**	**138**	*e*SN	**Sn**	**13 26 01.2**	**+0.9**
KECS	**Kecovo**	**2.10**	**138**	*e*Sn	**Sn**	**13 26 01.2**	**+0.9**
PRU	**Pruhonice**	**2.47**	**270**	*e*SG	**Sg**	**13 26 15.8**	**-0.7**
	comp=Z,3.6nm,0.6s						
PRU	**Pruhonice**	**2.47**	**270**	Sg	**Sg**	**13 26 15.8**	**-0.7**
	comp=Z,3.6nm,0.6s						
KHC	**Kasperske Hory**	**3.26**	**255**	*e*SG	**Sg**	**13 26 40.2**	**-1.5**
	comp=Z,4.8nm,0.9s						
KHC	**Kasperske Hory**	**3.26**	**255**	Sg	**Sg**	**13 26 40.2**	**-1.5**
	comp=Z,4.8nm,0.9s						

*IDC **01** 13:25:47.5±1.1, 39°41N×73°98E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/26, mbtmp3.6/5, ML2.9/1, MS3.0/1, Ms1 3.0/1, ms1mx2.0/42, Error ellipse: s-maj=32.3km s-min=14.1km az=92.0*
*ISCJB **01** 13:25:50.5±0.8, 39°29N±0°05×73°57E±0°09, h33km, mb3.7/4, Error ellipse: s-maj=10.5km s-min=7.0km az=12.9*
*NEIC **01** 13:25:53.6±0.9, 39°50N×73°55E, h50km, Error ellipse: s-maj=14.9km s-min=11.4km az=97.0*
ISC 01 13:25:52.2±0.8**, 39°29N**±0°05×**73°5E**±0°1**, h35km, n31, σ1s38**/41**, mb3.7**/4**, 4C-2D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.84**	**3**	P	**Pn**	**13 26 34.1**	**-0.9**
	SNR=80						
AML	**Almayashu**	**2.84**	**3**	*e*Pn	**Pn**	**13 26 33.9**	**-1.1**
AML				*e*Sn	**Sn**	**13 27 04.6**	**-3.4**
UCH	**Uchtor**	**3.03**	**14**	P	**Pn**	**13 26 38.1**	**+0.5**
	SNR=6.3						
UCH	**Uchtor**	**3.03**	**14**	*e*Pn	**Pn**	**13 26 37.5**	**-0.1**
UCH				*e*Sn	**Sn**	**13 27 10.8**	**-1.9**
KZA	**Kyzart**	**3.08**	**25**	P	**Pn**	**13 26 37.9**	**-0.4**
	SNR=29						
KZA	**Kyzart**	**3.08**	**25**	*e*Pn	**Pn**	**13 26 37.1**	**-1.2**
KZA				*e*Sn	**Sn**	**13 27 15.5**	**+1.5**
EKS2	**Erkin-Say**	**3.37**	**3**	P	**Pn**	**13 26 41.5**	**-0.8**
	SNR=18						
EKS2	**Erkin-Say**	**3.37**	**3**	*e*Pn	**Pn**	**13 26 41.1**	**-1.2**
EKS2				*e*Sn	**Sn**	**13 27 20.3**	**-0.8**
AAK	**Ala-Archa**	**3.42**	**12**	Pn	**Pn**	**13 26 42.8**	**-0.2**
	0.1nm,0.3s,baz=167,slow=6.5,SNR=76						
AAK				Sn	**Sn**	**13 27 24.9**	**+2.6**
	0.2nm,0.3s,baz=120,slow=19,SNR=8.4						
AAK				Lg		13 27 30.5	
	0.2nm,0.3s,baz=310,slow=23,SNR=9.4						
AAK	**Ala-Archa**	**3.42**	**12**	*e*Pn	**Pn**	**13 26 41.9**	**-1.1**
AAK				*e*Sn	**Sn**	**13 27 22.4**	**+0.1**
AAK				Sn	**Sn**	**13 27 24.9**	**+2.5**
AAK				Lg		13 27 30.5	
KBK	**Karagaybulak**	**3.54**	**17**	P	**Pn**	**13 26 44.4**	**-0.1**
	SNR=23						
KBK	**Karagaybulak**	**3.54**	**17**	*e*Pn	**Pn**	**13 26 44.0**	**-0.6**
KBK				*e*Sn	**Sn**	**13 27 26.0**	**+1.0**
ULHL	**Ulahol**	**3.61**	**34**	P	**Pn**	**13 26 46.3**	**+0.7**
	SNR=18						
CHMS	**Chumysh**	**3.82**	**14**	P	**Pn**	**13 26 47.7**	**-0.8**
	SNR=7.6						
CHMS	**Chumysh**	**3.82**	**14**	*e*Pn	**Pn**	**13 26 46.7**	**-1.7**
CHMS				*e*Sn	**Sn**	**13 27 35.2**	**+3.0**
TKM2	**Tokmak 2**	**3.96**	**23**	P	**Pn**	**13 26 52.1**	**+1.8**
	SNR=15						
TKM2	**Tokmak 2**	**3.96**	**23**	⇑Pg	**Pn**	**13 26 52.1**	**+1.8**
	8.9nm,0.5s						
TKM2				⇓Lg		13 27 36.4	
	18nm,0.7s						
TKM2	**Tokmak 2**	**3.96**	**23**	*e*Pn	**Pn**	**13 26 49.0**	**-1.3**
USP	**Ospenovka**	**4.04**	**10**	P	**Pn**	**13 26 51.6**	**+0.1**
	SNR=6.8						
KK31	**Karatay Array**	**4.43**	**330**	⇑Pn	**Pn**	**13 26 57.4**	**+0.5**
	1.5nm,0.3s,baz=133,slow=13,SNR=38						
KK31				⇑Pg	**Pn**	**13 27 06.8**	**+10**
	3.0nm,0.2s,baz=139,slow=16,SNR=12						
KK31				⇑Sn	**Sn**	**13 27 50.6**	**+3.4**
	5.5nm,0.3s						
KK31				⇓Lg		13 28 00.8	
	10nm,0.5s,baz=138,slow=30						
KKAR	**Karatay Array**	**4.43**	**330**	*e*Pn	**Pn**	**13 26 56.5**	**-0.3**
ABKAR	**Akbulak array**	**13.90**	**320**	*e*Pn	**Pn**	**13 29 03.8**	**-2.6**
	0.6nm,0.4s						
MLR	**Muntele Rosu**	**35.25**	**296**	LR	LR	13 48 12.0	
	comp=Z,20nm,18.5s,baz=125,slow=38						
FINES	**FINESS Array B**	**36.36**	**323**	P	**P**	**13 32 55.7**	**+3.3**
	3.8nm,0.9s,mb4.3,baz=106,slow=10,SNR=4.4						
FINES	**FINESS Array B**	**36.36**	**323**	P	**P**	**13 32 55.7**	**+3.3**
TORD	**Torodi Ar. Bea**	**67.76**	**269**	P	**P**	**13 36 48.6**	**+2.0**
	0.3nm,0.5s,mb3.6,baz=50,slow=4.9,SNR=4.8						
TORD	**Torodi Ar. Bea**	**67.76**	**269**	P	**P**	**13 36 48.6**	**+2.0**
WRA	**Warramunga Arr**	**81.84**	**124**	P	**P**	**13 38 08.3**	**+0.5**
	0.2nm,0.4s,mb3.4,baz=308,slow=3.7,SNR=10						
WRA	**Warramunga Arr**	**81.84**	**124**	P	**P**	**13 38 08.3**	**+0.5**
ASAR	**Alice Springs**	**84.27**	**127**	P	**P**	**13 38 19.1**	**-1.2**
	0.2nm,0.6s,mb3.4,baz=324,slow=4.6,SNR=1.7						
ASAR	**Alice Springs**	**84.27**	**127**	P	**P**	**13 38 19.1**	**-1.2**

*ISCJB **01** 13:41:34.6±0.6, 51°53N±0°03×16°05E±0°03, h0km, Error ellipse: s-maj=4.8km s-min=2.7km az=15.0*
*IPEC **01** 13:41:35.6±0.3, 51°63N×16°12E, h2km±1km, ML2.2/3, Error ellipse: s-maj=1.8km s-min=0.7km az=26.0*
*CSEM **01** 13:41:35.9±0.3, 51°58N×16°04E, h2km, ML3.2/9, Error ellipse: s-maj=5.4km s-min=2.9km az=20.0*
*PRU **01** 13:41:36.2, 51°58N×16°09E, h0km*
*WAR **01** 13:41:37.1, 51°59N×16°01E, ML2.6, Mining Induced*
*VIE **01** 13:41:37.8±0.5, 51°47N×16°16E, h0km, mb2.4/4, ML2.6/4, Error ellipse: s-maj=5.5km s-min=3.7km az=84.0 72 km NW of Wroclaw Suspected Mining induced.*
ISC 01 13:41:35.5±0.6**, 51°59N**±0°03×**16°05E**±0°03**, h0km, n44, σ0s91**/83**, 3C-3D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.77**	**168**	*e*Pg	**Pg**	**13 41 51.2**	**+1.1**
KSP				*e*Sg	**Sg**	**13 42 01.4**	**+1.4**
KSP	**Ksiaz**	**0.77**	**168**	*i* Pg	**Pg**	**13 41 51.2**	**+1.1**
KSP				*i*		13 41 53.2	
KSP				*i* Sg	**Sg**	**13 42 01.4**	**+1.4**
KSP	**Ksiaz**	**0.77**	**168**	*e*Pg	**Pg**	**13 41 51.0**	**+0.9**
	baz=352						
KSP				*e*Sg	**Sg**	**13 42 01.2**	**+1.2**
	baz=352						
UPC	**Upice**	**1.08**	**181**	*e*PG	**Pg**	**13 41 57.0**	**+0.7**
UPC	**Upice**	**1.08**	**181**	*e*Pg	**Pg**	**13 41 57.0**	**+0.7**
	baz=3.3						
DPC	**Dobruska-Polom**	**1.25**	**172**	*e*PG	**Pg**	**13 41 59.9**	**+0.4**
DPC				*e*SG	**Sg**	**13 42 16.1**	**+0.4**
	comp=Z,31nm,0.6s						
DPC	**Dobruska-Polom**	**1.25**	**172**	Pg	**Pg**	**13 41 59.9**	**+0.4**
DPC				*e*Sg	**Sg**	**13 42 16.0**	**+0.3**
	baz=354						
PVCC	**Panska Ves**	**1.42**	**222**	*e*PG	**Pg**	**13 42 03.2**	**+0.6**
PVCC				*e*SG	**Sg**	**13 42 21.8**	**+0.8**
	comp=Z,70nm,0.3s						
PVCC	**Panska Ves**	**1.42**	**222**	Pg	**Pg**	**13 42 03.2**	**+0.6**
PVCC				Sg	**Sg**	**13 42 21.8**	**+0.8**
	comp=Z,70nm,0.3s						
BRG	**Berggiesshubel**	**1.51**	**242**	*e*Pn	**Pn**	**13 42 04.1**	**+0.4**
	baz=60						
BRG				*e*Sg	**Sg**	**13 42 23.8**	**-0.1**
	baz=60						
PRU	**Pruhonice**	**1.87**	**211**	*e*PG	**Pg**	**13 42 11.5**	**+0.2**
PRU				*e*SG	**Sg**	**13 42 35.7**	**+0.2**
	comp=Z,17nm,0.4s						
PRU	**Pruhonice**	**1.87**	**211**	*e*Pn	**Pn**	**13 42 10.8**	**+2.1**
	baz=31						
PRU	**Pruhonice**	**1.87**	**211**	Pg	**Pg**	**13 42 11.5**	**+0.2**
PRU				Sg	**Sg**	**13 42 35.7**	**+0.2**
	comp=Z,17nm,0.4s						
CLL	**Collm**	**1.93**	**263**	*i* Pn	**Pn**	**13 42 08.8**	**-0.7**
CLL				*i* Pg	**Pg**	**13 42 11.8**	**-0.6**
CLL				*i*		13 42 15.8	
CLL				*i* Sg	**Sg**	**13 42 38.2**	**+0.8**
	comp=Z,14nm,0.6s						
CLL	**Collm**	**1.93**	**263**	*e*Pn	**Pn**	**13 42 08.6**	**-0.9**
	baz=79						
CLL				*e*Sg	**Sg**	**13 42 37.1**	**-0.3**
	baz=79						
MORC	**Moravsky Berou**	**2.05**	**152**	*e*Pn	**Pn**	**13 42 11.1**	**-0.1**
	baz=334						
MORC				*e*Sg	**Sg**	**13 42 40.5**	**-0.8**
	comp=Z,9.9nm,0.4s,baz=334						
OKC	**Ostrava-Krasne**	**2.20**	**142**	*e*PG	**Pg**	**13 42 17.3**	**-0.4**
OKC				*e*SG	**Sg**	**13 42 45.7**	**-0.6**
OKC	**Ostrava-Krasne**	**2.20**	**142**	Pg	**Pg**	**13 42 17.3**	**-0.4**
OKC				Sg	**Sg**	**13 42 45.7**	**-0.6**
VRAC	**Vranov**	**2.31**	**171**	*e*Pn	**Pn**	**13 42 15.1**	**+0.3**
	baz=353						
VRAC				*e*Sg	**Sg**	**13 42 48.3**	**-1.4**
	comp=Z,14nm,0.5s,baz=353						
TREC	**Trest**	**2.33**	**189**	*e*PN	**Pn**	**13 42 15.9**	**+0.9**
TREC				*e*PG	**Pg**	**13 42 19.9**	**-0.2**
TREC	**Trest**	**2.33**	**189**	Pn	**Pn**	**13 42 15.9**	**+0.9**
KRUC	**Moravsky**	**2.54**	**175**	*e*Pn	**Pn**	**13 42 18.8**	**+0.9**
	baz=356						
KRUC	**Moravsky**	**2.54**	**175**	*e*Pg	**Pg**	**13 42 23.1**	**-1.1**
	baz=356						
KRUC				*e*Sg	**Sg**	**13 42 56.1**	**-1.0**
	comp=Z,9.6nm,0.3s,baz=356						
NKC	**Novy Kostel**	**2.66**	**241**	*e*PN	**Pn**	**13 42 20.1**	**+0.6**
NKC				*e*PG	**Pg**	**13 42 26.2**	**-0.2**
NKC				*e*SG	**Sg**	**13 43 00.2**	**-0.6**
	comp=Z,21nm,0.4s						
NKC	**Novy Kostel**	**2.66**	**241**	Pn	**Pn**	**13 42 20.1**	**+0.6**
NKC	**Novy Kostel**	**2.66**	**241**	Pg	**Pg**	**13 42 26.2**	**-0.2**
NKC				Sg	**Sg**	**13 43 00.2**	**-0.6**
	comp=Z,21nm,0.4s						
OJC	**Ojcow**	**2.74**	**119**	*e*Pg	**Pg**	**13 42 28.0**	**0.0**
OJC				*e*Sg	**Sg**	**13 43 03.9**	**+0.4**
OJC	**Ojcow**	**2.74**	**119**	*e*Pg	**Pg**	**13 42 28.0**	**0.0**
KHC	**Kasperske Hory**	**2.93**	**214**	*e*PN	**Pn**	**13 42 23.4**	**+0.2**
KHC				*e*PG	**Pg**	**13 42 29.6**	**-2.0**
KHC				*e*SN	**Sn**	**13 42 57.5**	**-1.6**
KHC				*e*SG	**Sg**	**13 43 08.4**	**-1.1**
	comp=Z,8.1nm,0.6s						
KHC	**Kasperske Hory**	**2.93**	**214**	Pn	**Pn**	**13 42 23.4**	**+0.2**
KHC	**Kasperske Hory**	**2.93**	**214**	Pg	**Pg**	**13 42 29.6**	**-2.0**
KHC				Sn	**Sn**	**13 42 57.5**	**-1.6**
KHC				Sg	**Sg**	**13 43 08.4**	**-1.1**
	comp=Z,8.1nm,0.6s						
MOX	**Moxa**	**2.95**	**253**	*e*Pn	**Pn**	**13 42 23.3**	**-0.3**
	baz=69						
MOX	**Moxa**	**2.95**	**253**	*e*Pg	**Pg**	**13 42 31.6**	**-0.4**
	baz=69						
MOX				*e*Sg	**Sg**	**13 43 10.2**	**-0.1**
	baz=69						
NIE	**Niedzica**	**3.48**	**127**	*e*P	**Pg**	**13 42 42.1**	**-0.1**
NIE				*e*S	**Sg**	**13 43 27.4**	**+0.1**
VYHS	**Vyhne**	**3.58**	**149**	*e*PN	**Pn**	**13 42 32.3**	**+0.1**
VYHS				*e*SG	**Sg**	**13 43 29.1**	**-1.4**
VYHS	**Vyhne**	**3.58**	**149**	*e*Pn	**Pn**	**13 42 32.4**	**+0.2**
VYHS				*e*Sg	**Sg**	**13 43 29.1**	**-1.4**
CONA	**Conrad Observa**	**3.67**	**182**	⇑*i*Pn	**Pn**	**13 42 34.0**	**+0.6**
	comp=Z,0.4nm,0.2s						
CONA				⇓*e*Sg	**Sg**	**13 43 35.2**	**+1.9**
	comp=Z,14nm,0.4s						
CONA	**Conrad Observa**	**3.67**	**182**	Pn	**Pn**	**13 42 34.0**	**+0.6**
	comp=Z,0.4nm,0.2s						
CONA				Sg	**Sg**	**13 43 35.2**	**+1.9**
	comp=Z,14nm,0.4s						
CSNA	**Conrad Observa**	**3.67**	**182**	⇑*e*Pn	**Pn**	**13 42 34.5**	**+1.1**
	comp=Z,0.5nm,0.1s						
CSNA				⇓*e*Sg	**Sg**	**13 43 34.9**	**+1.6**
	comp=Z,6.7nm,0.3s						
CSNA	**Conrad Observa**	**3.67**	**182**	Pn	**Pn**	**13 42 34.5**	**+1.1**
	comp=Z,0.5nm,0.1s						
CSNA				Sg	**Sg**	**13 43 34.9**	**+1.6**
	comp=Z,6.7nm,0.3s						
MOA	**Molln**	**3.92**	**198**	⇑*i*Pn	**Pn**	**13 42 37.6**	**+0.8**
	comp=Z,3.3nm,0.3s						
MOA				⇓Sg	**Sg**	**13 43 40.4**	**-1.0**
	comp=Z,7.0nm,0.5s						
MOA	**Molln**	**3.92**	**198**	Pn	**Pn**	**13 42 37.6**	**+0.7**
	comp=Z,3.3nm,0.3s						
MOA				Sg	**Sg**	**13 43 40.4**	**-1.0**
	comp=Z,7.0nm,0.5s						
STHS	**Stebnicka Huta**	**3.96**	**121**	*e*PN	**Pn**	**13 42 34.9**	**-2.6**
STHS				*e*SG	**Sg**	**13 43 36.1**	**-6.7**
STHS	**Stebnicka Huta**	**3.96**	**121**	*e*Pn	**Pn**	**13 42 34.9**	**-2.6**

RSPR 01 13:55:19.1, 18°56N×64°92W, h115km±2km, 6C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.20**	**188**	⇑*e*P	Pn	13 55 34.3	-0.8
STVI	**Saint Thomas**	**0.20**	**188**	⇑*e*P	Pn	13 55 34.3	-0.8
STVI				*e*S	Sn	13 55 47.2	0.0
MTP	**Monte Pirata**	**0.75**	**233**	⇑*e*P	Pn	13 55 38.1	-0.3
MTP	**Monte Pirata**	**0.75**	**233**	⇑*e*P	Pn	13 55 38.1	-0.3
MTP				*e*S	Sn	13 55 52.8	-0.2
CBYP	**Canovanas**	**0.93**	**252**	⇑*e*P	Pn	13 55 40.2	+0.2
CBYP	**Canovanas**	**0.93**	**252**	⇑*e*P	Pn	13 55 40.2	+0.2
CBYP				*e*S	Sn	13 55 55.5	-0.4

*ISCJB **01** 14:04:43.9±1.7, 51°6N±0°2×177°76W±0°09, h68km±9km, mb3.6/4, Error ellipse: s-maj=40.1km s-min=9.1km az=1.4*
*NEIC **01** 14:04:46.2, 51°37N×177°56W, h35km, ML3.5(AEIC), After AEIC.*
*IDC **01** 14:05:22.6±3.6, 52°72N×174°00W, h247km±54km, mb3.1/4, mb1 3.3/7, mb1mx3.0/29, mbtmp3.1/7, Error ellipse: s-maj=45.1km s-min=31.8km az=137.0*
ISC 01 14:04:44.8±1.9**, 51°5N**±0°2×**177°70W**±0°09**, h58km**±12km**, n16, σ0s60**/19**, mb3.6**/4**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.73**	**59**	P	**Pn**	**14 04 58.7**	**-0.6**
ADK				S	**Sn**	**14 05 10.1**	**+0.2**
GSTR	**Great Sitkin T**	**1.17**	**59**	*e*Pn	**Pn**	**14 05 04.9**	**-0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSTR				eSn	Sn	14 05 20.9	+0.9
ATKA	Atka Island	2.28	71	P	Pn	14 05 19.7	-0.3
ATKA				S	Sn	14 05 46.5	-0.3
FX1	Attu Island--F	5.79	287	P	Sn	14 07 13.1	+0.2
	1.5nm,0.3s,baz=49,slow=20,SNR=3.7						
KDAK	Kodiak Island	15.77	57	P	Pn	14 08 19.2	-3.8
	1.6nm,0.3s,baz=230,slow=5.8,SNR=27						
KDAK	Kodiak Island	15.77	57	P	Pn	14 08 19.2	-3.8
ILAR	Eielson Array	20.71	38	P	P	14 09 19.5	-0.4
	0.1nm,0.3s,baz=232,slow=8.9,SNR=6.3						
ILAR	Eielson Array	20.71	38	P	P	14 09 19.5	-0.4
INK	Inuvik	26.96	35	P	P	14 10 20.2	-0.1
	0.8nm,0.7s,mb3.4,baz=270,slow=11,SNR=4.0						
INK	Inuvik	26.96	35	P	P	14 10 20.2	-0.1
NVAR	Mina Array Bea	42.85	84	P	P	14 12 38.3	+1.3
	0.3nm,0.5s,mb3.3,baz=295,slow=8.8,SNR=3.3						
NVAR	Mina Array Bea	42.85	84	P	P	14 12 38.3	+1.3
PDAR	Pinedale Array	45.61	73	P	P	14 12 59.0	-0.1
	1.1nm,0.6s,mb3.9,baz=335,slow=4.0,SNR=11						
PDAR	Pinedale Array	45.61	73	P	P	14 12 59.0	-0.1
TXAR	Lajitas Array	57.95	82	P	P	14 14 30.8	-0.3
	0.4nm,0.2s,mb4.0,baz=304,slow=4.7,SNR=3.6						
TXAR	Lajitas Array	57.95	82	P	P	14 14 30.8	-0.3

IDC 01 14:10:29.6±3.9, 19°.09S×175°.48W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/19, mbtmp4.0/5, MS3.7/5, Ms1 3.7/5, ms1mx3.3/29, Error ellipse: s-maj=158.2km s-min=34.5km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	20.16	197	LR	LR	14 20 56.2	
	comp=Z,331nm,20.6s,baz=120,slow=31						
RMQ	Roma	33.70	251	eP	P	14 17 01.7	-11
	62nm,1.2s						
CTA	Charters Tower	36.01	262	P	P	14 17 33.4	+0.7
	3.1nm,0.8s,baz=98,slow=12,SNR=3.3						
CMSA	Cobar Meteorol	37.03	243	eP	P	14 17 36.3	-5.0
MTSU	Mount Surprise	38.05	265	eP	P	14 17 47.3	-2.8
	34nm,1.0s						
STKA	Stephens Creek	40.54	243	P	P	14 18 11.1	+0.4
	6.0nm,1.0s,baz=104,slow=8.3,SNR=5.7						
ASAR	Alice Springs	47.16	255	P	P	14 19 03.6	-0.4
	3.6nm,1.0s,baz=91,slow=9.2,SNR=16						
WRA	Warramunga Arr	47.16	260	P	P	14 19 03.5	-0.6
	0.7nm,0.5s,baz=97,slow=8.3,SNR=15						
GUMO	Guam	50.80	307	LR	LR	14 36 01.8	
	comp=Z,62nm,21.9s,baz=110,slow=30						
FITZ	Fitzroy Crossi	55.58	261	eP	P	14 20 15.4	+8.1
	9.3nm,0.9s						
VNDA	Vanda	59.52	186	LR	LR	14 42 48.8	
	comp=Z,116nm,18.7s,baz=332,slow=33						
PETK	Petropavlovsk-	75.56	344	LR	LR	14 55 15.6	
	comp=Z,37nm,19.2s,baz=33,slow=36						
KSRS	Korea Array	77.44	317	LR	LR	14 52 15.6	
	comp=Z,21nm,18.7s,baz=95,slow=32						
ILAR	Eielson Array	86.44	12	P	P	14 23 13.5	+0.1
	0.2nm,0.5s,baz=192,slow=8.1,SNR=5.3						

JSN 01 14:13:39.9±0.5, 18°.18N×77°.85W, h9km±5km, MD4.0, 4C, Jamaica region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MCJ	Malvern	0.30	148	⇑iP	Pg	14 13 45.8	0.0
NEJ	Negril	0.46	279	iP	Pg	14 13 48.4	-0.5
BBJ	Bamboo Saint A	0.59	70	iP	Pg	14 13 50.8	-0.6
PCJ	Portland Cotta	0.79	123	⇑iP	Pg	14 13 53.8	-1.4
STH	Stony Hill	1.00	96	⇑iP	Pg	14 13 57.4	-1.7
GWJ	Greenwich	1.07	95	iP	Pg	14 13 58.4	-2.1
YHJ	Yallahs	1.32	102	iP	Pn	14 14 02.6	-1.9
CMJ	Castle Mountai	1.41	91	⇑iP	Pn	14 14 04.5	-1.2

*NEIC **01** 14:24:59.7±1.2, 21°.37S×67°.30W, h182km±13km, Error ellipse: s-maj=28.9km s-min=11.7km az=82.0*
*IDC **01** 14:24:59.2±2.2, 21°.33S×67°.20W, h176km±19km, mb3.4/3, mb1 3.5/5, mb1mx3.2/17, mbtmp3.4/5, Error ellipse: s-maj=29.6km s-min=19.7km az=81.0*
ISC 01 14:24:59.2±1.1, 21°.37S±0°.07×67°.3W±0°.2, h182km±14km, n20, σ0.s96/18, mb3.6/3, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	5.12	351	P	Pn	14 26 16.8	+1.9
	8.9nm,0.3s,baz=161,slow=8.3,SNR=174						
LPAZ				S	Sn	14 27 13.6	-0.6
	baz=356,slow=14,SNR=1.5						
LPAZ	La Paz	5.12	351	ePn	Pn	14 26 16.4	+1.6
LPAZ				P		14 26 16.8	
LPAZ				eSn	Sn	14 27 11.7	-2.5
LPAZ				S	Sn	14 27 13.6	-0.6
LCO	Las Campanas	8.22	202	ePn	Pn	14 26 49.6	-5.7
CFAA	Coronel Fontan	10.23	185	P	Pn	14 27 21.8	+0.2
	0.2nm,0.3s,baz=338,slow=5.4,SNR=5.1						
CFAA				S	Sn	14 29 08.3	-7.1
	0.1nm,0.3s,baz=260,slow=19,SNR=3.0						
CFAA	Coronel Fontan	10.23	185	P	Pn	14 27 21.8	+0.2
CFAA				S	Sn	14 29 08.3	-7.1
TRQA	Tornquist	17.25	166	P	Pn	14 28 48.6	-0.6
OTAV	Otavalo	24.09	332	eP	P	14 29 57.5	-0.8
RKT	Rikitea	62.16	254	eLR	LR	14 35 20.9	
	631nm,36.2s						
DBIC	Dimbokro	67.24	73	P	P	14 35 33.8	-0.7
	2.0nm,0.8s,mb4.0,baz=247,slow=7.7,SNR=2.7						
DBIC	Dimbokro	67.24	73	P	P	14 35 33.8	-0.7
PDAR	Pinedale Array	74.77	329	P	P	14 36 19.8	+0.6
	0.2nm,0.5s,mb3.0,baz=99,slow=5.6,SNR=2.7						
PDAR	Pinedale Array	74.77	329	P	P	14 36 19.8	+0.6
TORD	Torodi Ar. Bea	75.88	70	P	P	14 36 26.9	+0.8
	0.9nm,0.5s,mb3.7,baz=256,slow=5.7,SNR=15						
TORD	Torodi Ar. Bea	75.88	70	P	P	14 36 26.9	+0.8
ASAR	Alice Springs	130.72	206	PKP	PKPdf	14 43 49.6	+0.3
	0.2nm,0.5s,baz=122,slow=1.7,SNR=5.2						
ASAR	Alice Springs	130.72	206	PKP	PKPdf	14 43 49.6	+0.3
WRA	Warramunga Arr	133.82	209	PKP	PKPdf	14 43 56.7	+1.5
	0.4nm,0.8s,baz=152,slow=1.6,SNR=5.0						
WRA	Warramunga Arr	133.82	209	PKP	PKPdf	14 43 56.7	+1.4
MKAR	Makanchi Array	144.62	37	PKP	PKPdf	14 44 15.2	+1.1
	0.8nm,0.4s,baz=318,slow=3.3,SNR=11						
MKAR	Makanchi Array	144.62	37	PKP	PKPdf	14 44 15.2	+1.1

IDC 01 14:32:23.4±1.5, 15°.26S×175°.46W, h297km±34km, mb3.3/4, mb1 3.6/5, mb1mx3.2/19, mbtmp3.3/5, Error ellipse: s-maj=132.1km s-min=17.7km az=148.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.81	70	P	Pn	14 33 27.0	-0.4
	3.4nm,0.3s,baz=282,slow=21,SNR=10.0						
AFI				S	S	14 34 19.4	+0.8
	4.8nm,0.3s,baz=213,slow=20,SNR=7.6						
WRA	Warramunga Arr	47.94	257	P	P	14 40 32.9	0.0
	1.0nm,0.5s,baz=90,slow=7.4,SNR=37						
ASAR	Alice Springs	48.26	252	P	P	14 40 35.2	-0.1
	7.3nm,0.6s,baz=88,slow=8.0,SNR=175						
ILAR	Eielson Array	82.71	12	P	P	14 44 13.9	+0.3
	0.2nm,0.4s,baz=219,slow=5.3,SNR=10						
PDAR	Pinedale Array	83.50	43	P	P	14 44 18.3	+0.1
	0.3nm,0.6s,baz=207,slow=5.7,SNR=2.6						

*DDA **01** 14:32:49.2, 39°.16N×29°.40E, h9km±2km, Md3.4, Ml3.5*
*ISK **01** 14:32:49.5, 39°.14N×29°.40E, h7km, ML3.3*
*CSEM **01** 14:32:49.6±0.1, 39°.16N×29°.43E, h2km, ML3.5*
*ISCJB **01** 14:32:50.1±0.2, 39°.17N±0°.02×29°.43E±0°.02, h10km, Error ellipse: s-maj=2.7km s-min=2.4km az=5.4*
*ATH **01** 14:32:58.1, 39°.43N×28°.96E, h35km, MD3.4/7*
ISC 01 14:32:49.8±0.4, 39°.18N±0°.02×29°.43E±0°.02, h2km±3km, n119, σ0.s84/152, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GDZ	Gediz	0.10	156	iP	Pg	14 32 51.5	-0.2
GDZ				iS	Sg	14 32 53.3	+0.3
GDZ	Gediz	0.10	156	iP	Pg	14 32 51.5	-0.2
GDZ				iS	Sg	14 32 53.3	+0.3
ALT	Altintas	0.54	103	ePG	Pg	14 33 00.6	+0.3
ALT	Altintas	0.54	103	ePg	Pg	14 33 00.6	+0.3
DEMI	Demirci	0.57	256	iP	Pg	14 33 00.5	-0.3
DEMI				iS	Sg	14 33 07.8	-0.4
DEMI	Demirci	0.57	256	iP	Pg	14 33 00.5	-0.3
DEMI				iS	Sg	14 33 07.8	-0.4
DST	Dursunbey	0.76	304	ePG	Pg	14 33 04.6	+0.2
DST				eSG	Sg	14 33 15.8	+1.6
DST	Dursunbey	0.76	304	ePg	Pg	14 33 04.6	+0.2
DST				eSg	Sg	14 33 15.8	+1.6
KHAL	Karahalli	0.81	177	iP	Pg	14 33 05.0	-0.3
KHAL				iS	Sg	14 33 15.1	-0.7
KHAL	Karahalli	0.81	177	iP	Pg	14 33 05.0	-0.3
KHAL				iS	Sg	14 33 15.1	-0.7
DURS	Dursunbey	0.85	300	iP	Pg	14 33 06.6	+0.4
DURS				iS	Sg	14 33 17.8	+0.6
DURS	Dursunbey	0.85	300	iP	Pg	14 33 06.6	+0.4
DURS				iS	Sg	14 33 17.8	+0.6
KULA	Kula-Manisa	0.89	222	ePG	Pg	14 33 05.6	-1.4
KULA	Kula-Manisa	0.89	222	ePg	Pg	14 33 05.6	-1.4
ULDT	Uludag	0.99	347	iP	Pg	14 33 08.6	-0.2
ULDT				iS	Sg	14 33 21.2	-0.5
ULDT	Uludag	0.99	347	iP	Pg	14 33 08.6	-0.2
ULDT				iS	Sg	14 33 21.2	-0.4
BORA	Eskisehir	1.06	48	iP	Pg	14 33 10.3	+0.2
BORA				iS	Sg	14 33 24.7	+0.9
BORA	Eskisehir	1.06	48	iP	Pg	14 33 10.3	+0.2
BORA				iS	Sg	14 33 24.7	+0.9
CAVI	Cavuskoy	1.07	17	ePN	Pn	14 33 11.2	-0.7
CAVI	Cavuskoy	1.07	17	ePn	Pn	14 33 11.2	-0.6
SHUT	Suhut-Afyon	1.08	125	ePG	Pg	14 33 10.6	+0.2
SHUT	Suhut-Afyon	1.08	125	ePg	Pg	14 33 10.6	+0.2
ESKT	Eskisehir	1.15	72	ePN	Pn	14 33 12.2	-0.8
ESKT	Eskisehir	1.15	72	iP	Pg	14 33 10.8	-1.1
ESKT				iS	Sg	14 33 26.1	-0.7
ESKT	Eskisehir	1.15	72	ePn	Pn	14 33 12.2	-0.8
SEYT	Eskypehyr	1.15	72	iP	Pg	14 33 10.8	-1.1
SEYT				iS	Sg	14 33 26.1	-0.8
MDNY	Mudanya-Bursa	1.26	341	ePN	Pn	14 33 14.2	-0.3
MDNY	Mudanya-Bursa	1.26	341	ePn	Pn	14 33 14.2	-0.2
GEMT	Gemlik	1.27	352	ePN	Pn	14 33 14.5	-0.1
GEMT	Gemlik	1.27	352	ePn	Pn	14 33 14.5	0.0
BOLV	Bolvadin	1.27	111	iP	Pg	14 33 14.1	-0.1
BOLV				iS	Sg	14 33 31.3	+0.6
BOLV	Bolvadin	1.27	111	iP	Pg	14 33 14.1	-0.1
BOLV				iS	Sg	14 33 31.3	+0.6
ADVT	Abdulvahap	1.28	11	ePN	Pn	14 33 15.0	+0.4
ADVT	Abdulvahap	1.28	11	ePn	Pn	14 33 15.0	+0.4
BALB	Balikesir	1.29	292	ePN	Pn	14 33 14.3	-0.4
BALB	Balikesir	1.29	292	ePn	Pn	14 33 14.4	-0.4
AKHS	Akhisar	1.29	257	iP	Pg	14 33 14.2	-0.4
AKHS				iS	Sg	14 33 31.2	-0.2
AKHS	Akhisar	1.29	257	iP	Pg	14 33 14.2	-0.4
AKHS				iS	Sg	14 33 31.2	-0.2
AKS	Akhisar	1.29	257	ePN	Pn	14 33 14.1	-0.8
AKS	Akhisar	1.29	257	ePn	Pn	14 33 14.1	-0.8
GPA	Golpazari	1.30	31	ePN	Pn	14 33 15.2	+0.2
GPA	Golpazari	1.30	31	ePn	Pn	14 33 15.2	+0.2
ARMT	Armutlu	1.45	343	ePN	Pn	14 33 17.2	+0.1
ARMT	Armutlu	1.45	343	ePn	Pn	14 33 17.2	+0.1
DENT	Denizli	1.46	192	ePN	Pn	14 33 16.1	-1.0
DENT	Denizli	1.46	192	ePn	Pn	14 33 16.1	-1.0
EYL	Eskiyayla	1.49	21	ePN	Pn	14 33 17.8	+0.3
EYL	Eskiyayla	1.49	21	ePn	Pn	14 33 17.8	+0.3
GULT	Gulveren	1.51	33	ePN	Pn	14 33 18.3	+0.4
GULT	Gulveren	1.51	33	ePn	Pn	14 33 18.3	+0.5
BALY	Balya	1.51	292	iP	Pn	14 33 17.3	-0.5
BALY				iS	Sn	14 33 38.6	+0.6
BALY	Balya	1.51	292	iP	Pn	14 33 17.3	-0.5
BALY				iS	Sn	14 33 38.6	+0.5
DNZL	Cakiroluk	1.52	192	iP	Pn	14 33 17.6	-0.3
DNZL				iS	Sn	14 33 38.4	+0.1
DNZL	Cakiroluk	1.52	192	iP	Pn	14 33 17.6	-0.3
DNZL				iS	Sn	14 33 38.4	+0.2
GONE	Gonen-Balikesi	1.60	303	ePN	Pn	14 33 19.0	-0.2
GONE	Gonen-Balikesi	1.60	303	ePn	Pn	14 33 19.0	-0.1
SVRH	Sivrihisar-ESK	1.65	80	ePN	Pn	14 33 20.1	+0.4
SVRH	Sivrihisar-ESK	1.65	80	ePn	Pn	14 33 20.1	+0.4
HRT	Hereke	1.65	6	ePN	Pn	14 33 20.0	+0.2
HRT	Hereke	1.65	6	ePn	Pn	14 33 20.0	+0.2
BNT	Bandirma	1.65	316	ePN	Pn	14 33 19.6	-0.3
BNT	Bandirma	1.65	316	ePn	Pn	14 33 19.6	-0.2
BUY	Buyukada	1.69	352	iP	Pn	14 33 19.8	-0.5
BUY				iS	Sn	14 33 39.3	-3.2
BUY	Buyukada	1.69	352	iP	Pn	14 33 19.8	-0.5
IZM	Izmir	1.86	246	ePN	Pn	14 33 22.2	-0.5
IZM	Izmir	1.86	246	ePn	Pn	14 33 22.2	-0.5
MDU	Mudurnu	1.88	46	ePN	Pn	14 33 24.0	+1.0
MDU	Mudurnu	1.88	46	ePn	Pn	14 33 24.0	+1.0
KIZT	Kizilcal	1.93	98	ePN	Pn	14 33 24.2	+0.5
KIZT	Kizilcal	1.93	98	ePn	Pn	14 33 24.2	+0.5
AYDN	Tasoluk	1.94	219	iP	Pn	14 33 24.6	+0.7
AYDN				iS	Sn	14 33 51.1	+2.3
AYDN	Tasoluk	1.94	219	iP	Pn	14 33 24.6	+0.8
SILT	Sile	1.98	5	ePN	Pn	14 33 24.8	+0.5
SILT	Sile	1.98	5	ePn	Pn	14 33 24.8	+0.5
HENT	Hendek	1.99	34	iP	Pn	14 33 23.9	-0.6
HENT				iS	Sn	14 33 46.6	-3.4
HENT	Hendek	1.99	34	iP	Pn	14 33 23.9	-0.6
KRBG	Karabiga-Canak	2.04	307	ePN	Pn	14 33 25.0	-0.2
KRBG	Karabiga-Canak	2.04	307	ePn	Pn	14 33 25.0	-0.2
BGKT	Bogazkoy	2.06	346	ePN	Pn	14 33 25.9	+0.5
BGKT	Bogazkoy	2.06	346	ePn	Pn	14 33 25.9	+0.4
KLYT	Kilyos	2.09	352	ePN	Pn	14 33 26.3	+0.4
KLYT	Kilyos	2.09	352	ePn	Pn	14 33 26.3	+0.4
ELBA	Catalca	2.11	339	iP	Pn	14 33 24.6	-1.6
ELBA				iS	Sn	14 33 49.6	-3.3
ELBA	Catalca	2.11	339	iP	Pn	14 33 24.6	-1.5
AYVA	Ayvalik	2.13	274	iP	Pn	14 33 30.2	+3.9
AYVA				iS	Sn	14 33 52.7	-0.7
CTKS	Kestanelik-??a	2.17	341	ePN	Pn	14 33 27.4	+0.4
CTKS	Kestanelik-??a	2.17	341	ePn	Pn	14 33 27.4	+0.4
SLVT	Silivri	2.25	336	ePN	Pn	14 33 28.2	+0.1
SLVT	Silivri	2.25	336	ePn	Pn	14 33 28.2	+0.1
RKY	Sarkoy-Tekirda	2.29	312	ePN	Pn	14 33 29.3	+0.6
RKY	Sarkoy-Tekirda	2.29	312	ePn	Pn	14 33 29.3	+0.6
SART	Tekirdag	2.29	312	iP	Pn	14 33 27.3	-1.4
SART				iS	Sn	14 33 53.1	-4.3
SART	Tekirdag	2.29	312	iP	Pn	14 33 27.3	-1.4
MFT	Murefte	2.30	315	ePN	Pn	14 33 28.9	+0.1
MFT	Murefte	2.30	315	ePn	Pn	14 33 28.9	+0.1
URLA	Izmir	2.36	251	iP	Pn	14 33 32.9	+3.4
URLA				iS	Sn	14 34 03.7	+4.7
LPK	Lapseki	2.38	301	ePN	Pn	14 33 30.1	+0.3
LPK	Lapseki	2.38	301	ePn	Pn	14 33 30.1	+0.3
CTYL	Yal??k??y-??at	2.45	340	ePN	Pn	14 33 31.4	+0.6
CTYL	Yal??k??y-??at	2.45	340	ePn	Pn	14 33 31.4	+0.6
PRK	Paraskevi	2.45	273	ePN	Pn	14 33 33.1	+2.3
PRK	Paraskevi	2.45	273	ePn	Pn	14 33 33.1	+2.3
SGKT	Sivrigoynuk	2.46	55	iP	Pn	14 33 30.4	-0.4
SGKT				iS	Sn	14 34 08.7	+7.3
SGKT	Sivrigoynuk	2.46	55	iP	Pn	14 33 30.4	-0.5
SMG	Samos	2.51	235	ePN	Pn	14 33 36.5	+4.9
GELI	Tayfur-Gelibol	2.58	299	ePN	Pn	14 33 32.8	+0.2
GELI	Tayfur-Gelibol	2.58	299	ePn	Pn	14 33 32.8	+0.2
ERIK	Erikli-Kesan	2.69	305	ePN	Pn	14 33 34.5	+0.4
ERIK	Erikli-Kesan	2.69	305	ePn	Pn	14 33 34.5	+0.4
BOZC	Bozcaada	2.69	285	iP	Pn	14 33 33.4	-0.8
BOZC				eS	Sn	14 34 05.8	-1.5
CHOS	Chios island	2.75	254	ePN	Pn	14 33 38.7	+3.8
CHOS	Chios island	2.75	254	ePn	Pn	14 33 38.7	+3.8
ARG	Arkhangelos	3.13	200	ePN	Pn	14 33 50.1	+10
SAFT	Safranbolu	3.23	49	ePN	Pn	14 33 42.9	+1.4
SAFT	Safranbolu	3.23	49	ePn	Pn	14 33 42.9	+1.3
LIA	Limnos Island	3.36	284	ePN	Pn	14 33 44.5	+1.2
LIA	Limnos Island	3.36	284	ePn	Pn	14 33 44.5	+1.2
APE	Apeiranthos	3.73	237	ePN	Pn	14 33 53.9	+5.6
KARP	Karpathos	4.05	207	ePN	Pn	14 34 00.8	+8.0

*CSEM **01** 14:51:15.7, 44°.03N×19°.11E, h2km, ML1.6, Suspected Mining explosion. After BEO*
BEO 01 14:51:15.0±0.9, 44°.03N×19°.11E, h2km±5km, ML1.6/3, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BBLS	Lazići	0.27	127	ePg	Pg	14 51 20.2	+0.1
BBLS				eSg	Sg	14 51 24.8	+1.2
BBLS	Lazići	0.27	127	ePg	Pg	14 51 20.2	+0.1
DIVS	Divibare	0.64	84	ePg	Pg	14 51 27.1	-0.1
DIVS				eSg	Sg	14 51 35.1	-0.4
DIVS	Divibare	0.64	84	ePg	Pg	14 51 27.1	-0.1
DIVS				eSg	Sg	14 51 35.1	-0.4
IVAS	Ivanjica	0.88	121	ePg	Pg	14 51 30.8	-1.1
IVAS				eSg	Sg	14 51 44.1	+0.8
IVAS	Ivanjica	0.88	121	ePg	Pg	14 51 30.8	-1.1
IVAS				eSg	Sg	14 51 44.1	+0.8
TRUS	Trudelj	0.95	78	ePg	Pg	14 51 32.3	-1.0
TRUS				eSg	Sg	14 51 46.4	+0.8
GRUS	Gruza	1.17	96	ePg	Pg	14 51 37.0	-0.4
GRUS				eSg	Sg	14 51 52.5	0.0
GRUS	Gruza	1.17	96	ePg	Pg	14 51 37.0	-0.4
GRUS				eSg	Sg	14 51 52.5	0.0
FGSL	Fruska Gora	1.23	24	eSg	Sg	14 51 54.9	+0.3
FRGS	Fruska Gora	1.23	24	ePg	Pg	14 51 38.0	-0.6
FRGS				eSg	Sg	14 51 54.9	+0.3

*ISCJB **01** 14:52:40.2±0.9, 33°.35N±0°.04×141°.01E±0°.08, h66km±10km, mb3.6/2, Error ellipse: s-maj=11.1km s-min=6.8km az=16.8*
*JMA **01** 14:52:40.2±0.1, 33°.35N×141°.04E, h54km±5km, M2.9*
*IDC **01** 14:52:41.6±4.4, 33°.30N×140°.99E, h55km±40km, mb3.3/2, mb1 3.5/3, mb1mx3.1/24, mbtmp3.2/3, ML3.0/1, Error ellipse: s-maj=47.9km s-min=14.0km az=92.0*
ISC 01 14:52:41.1±1.0, 33°.34N±0°.05×141°.02E±0°.08, h52km±14km, n15, σ0.s59/27, mb3.6/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	1.03	257	P	Pn	14 52 59.0	-0.3
JHJ2				S	Sn	14 53 13.3	+0.5
JHJ	Hachijo jima 2	1.06	258	P	Pn	14 52 59.1	-0.6
	150nm,0.3s,baz=77,slow=22,SNR=306						
JHJ				S	Sn	14 53 13.2	-0.1
	222nm,0.3s,baz=72,slow=19,SNR=34						
BSO1	Boso 1	1.31	359	P	Pn	14 53 02.5	-0.5
BSO1				eS	Sn	14 53 18.7	-0.7
BSO2	Boso 2	1.42	351	eS	Sn	14 53 21.9	-0.3
JMY	Miyakejima3	1.45	300	P	Pn	14 53 04.9	-0.1
JMY				eS	Sn	14 53 23.6	+0.7
BSO3	Boso 3	1.52	344	P	Pn	14 53 06.1	+0.3
BSO3				S	Sn	14 53 24.9	+0.5
BSO4	Boso 4	1.74	341	P	Pn	14 53 09.2	+0.3
BSO4				eS	Sn	14 53 30.7	+0.8
JKO	Kozu shima	1.78	299	P	Pn	14 53 09.5	+0.1
JKO				eS	Sn	14 53 30.8	-0.1
JIM2	Oshima 3	1.90	317	P	Pn	14 53 10.7	-0.4
JIM2				S	Sn	14 53 33.4	-0.5
JIZS	Izushimoda	2.25	308	P	Pn	14 53 16.3	+0.5
JIZS				eS	Sn	14 53 42.1	-0.2
KTJJ	Kamata 2	2.26	315	P	Pn	14 53 16.1	+0.1
KTJJ				eS	Sn	14 53 42.2	-0.5
JOD2	Odawara 2	2.50	321	P	Pn	14 53 19.2	0.0
JOD2				eS	Sn	14 53 46.8	-1.6
MJAR	Matsushiro Arr	3.94	325	P	Pn	14 53 40.5	+1.5
	0.9nm,0.3s,baz=144,slow=17,SNR=13						
MJAR				S	Sn	14 54 24.6	+0.7
	0.8nm,0.3s,baz=82,slow=10,SNR=6.1						
WRA	Warramunga Arr	53.37	188	P	P	15 01 55.1	-0.2
	0.4nm,0.5s,mb3.6,baz=6.3,slow=7.5,SNR=14						
ASAR	Alice Springs	57.09	188	P	P	15 02 22.1	+0.1
	0.2nm,0.4s,mb3.5,baz=3.0,slow=7.0,SNR=15						

*ISCJB **01** 14:55:22.7±1.1, 30°.44N±0°.03×67°.61E±0°.03, h2km±7km, mb4.4/46, MS3.7/23, Error ellipse: s-maj=5.4km s-min=3.9km az=24.7*
*IDC **01** 14:55:24.6±0.6, 30°.42N×67°.48E, h0km, mb4.1/21, mb1 4.2/23, mb1mx4.1/34, mbtmp4.1/23, ML3.9/2, MS3.6/17, Ms1 3.7/17, ms1mx3.3/45, Error ellipse: s-maj=14.6km s-min=13.8km az=43.0*
*NEIC **01** 14:55:25.8±0.3, 30°.46N×67°.66E, h10km, mb4.6/23, Error ellipse: s-maj=6.4km s-min=5.1km az=187.0*
*BJI **01** 14:55:25.6, 30°.56N×67°.61E, h11km, mB4.6/16, mb4.6/30, Ms4.2/20, Ms7 3.8/20*
*MOS **01** 14:55:28.2±1.1, 30°.57N×67°.58E, h33km, mb4.7/20, Error ellipse: s-maj=8.9km s-min=5.3km az=84.7*
ISC 01 14:55:25.6±1.2, 30°.46N±0°.03×67°.58E±0°.03, h6km±7km, h12km±1.5km:pP-P, n207, σ1.s16/218, mb4.4/46, MS3.7/23, 6C-2D, Pakistan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBL	Kabul	4.25	17	ePn	Pn	14 56 32.9	+2.1
KBL	Kabul	4.25	17	eP	Pn	14 56 32.9	+2.0
AJM	Ajmer	7.38	121	ex	Pn	14 57 14.0	+0.2
AJM				eS	Sn	14 58 38.0	+0.2
BHJ	Bhuj	7.41	165	ex	Pn	14 57 12.4	-1.9
BHJ				eS	Sn	14 58 39.2	+0.4
KHET	Khetri	7.57	106	ePKP	Pn	14 57 18.1	+1.6
KHET				eS	Sn	14 58 40.5	-2.1
BHK	Bhakra	7.65	81	ePKP	Pn	14 57 18.0	+0.4
SDNR	Sundarnagar	8.13	80	ePKP	Pn	14 57 25.0	+0.8
SDNR				ex	x	14 59 01.0	
SMLA	Simla	8.28	83	iP	Pn	14 57 27.4	+1.3
SMLA				iS	Sn	14 58 56.0	-3.9
SMLA				iS	Sn	14 58 57.2	-2.7
SMLA				⇓AML	AML	14 59 04.4	
	comp=N,426nm,0.4s						
SMLA				⇓AML	AML	14 59 04.5	
	comp=E,515nm,0.3s						
NDI	New Delhi	8.58	100	ePKP	Pn	14 57 36.0	+5.7
NDI				eS	Sn	14 59 07.0	-0.4
DDI	Dehra Dun	9.05	88	ePKP	Pn	14 57 39.2	+2.4
DDI				ex	x	14 59 29.0	
KLP	Kalpa	9.22	81	ePKP	Pn	14 57 40.1	+1.0
KLP				eS	Sn	14 59 20.2	-3.0
KLP				AML	AML	14 59 30.1	
	comp=E,156nm,0.8s						
KLP				AML	AML	14 59 33.0	
	comp=N,136nm,0.9s						
KSH	Kashi	11.35	35	eP	Pn	14 58 02.6	-5.7
KSH				pP		14 58 05.8	
KSH				sP		14 58 08.8	
KSH				PP		14 58 11.1	
KSH				S	Sn	15 00 04.5	-11
KSH				sS		15 00 11.3	
KSH				SS		15 00 18.1	
KSH				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KSH				LR	LR		
	comp=N,370nm,5.9s						
KSH				LR	LR		
	comp=E,820nm,9.0s						
KSH				LR	LR		
	comp=Z,720nm,8.3s						
BHPL	Bhopal	11.35	127	ePKP	Pn	14 58 08.9	+0.6
BHPL				eS	Sn	15 00 11.7	-3.9
KKAR	Karatay Array	12.83	10	ePn	Pn	14 58 27.1	-1.4
	comp=Z,2.5nm,0.4s						
KKAR	Karatay Array	12.83	10	eP	Pn	14 58 27.1	-1.4
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KZA	Kyzart	13.13	26	ePn	Pn	14 58 31.6	-1.0
	comp=Z,10nm,0.8s						
KZA	Kyzart	13.13	26	eP	Pn	14 58 31.6	-1.0
KZA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
EKS2	Erkin-Say	13.15	21	ePn	Pn	14 58 32.6	-0.2
	comp=Z,5.5nm,0.5s						
EKS2				eSn	Sn	15 00 55.5	-3.9
EKS2	Erkin-Say	13.15	21	eP	Pn	14 58 32.6	-0.2
EKS2				e		15 00 55.5	
EKS2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
POO	Poona	13.18	153	ex	x	14 58 42.0	
AAK	Ala-Archa	13.35	23	Pn	Pn	14 58 36.4	+0.8
	comp=Z,0.0nm,0.3s,baz=187,slow=6.2,SNR=21						
AAK				Sn	Sn	15 01 03.9	-0.4
	comp=Z,0.0nm,0.3s,baz=336,slow=20,SNR=4.7						
AAK				LR	LR	15 05 03.5	
	comp=Z,176nm,21.8s,baz=199,slow=43						
AAK	Ala-Archa	13.35	23	ePn	Pn	14 58 34.3	-1.3
	comp=Z,9.5nm,0.7s						
AAK				eSn	Sn	15 01 01.6	-2.7
AAK	Ala-Archa	13.35	23	eP	Pn	14 58 34.3	-1.3
AAK				e		15 01 01.6	
AAK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KBK	Karagaybulak	13.53	24	ePn	Pn	14 58 36.5	-1.4
	comp=Z,9.0nm,0.8s						

KBK Karagaybulak 13.53 24 *e*P Pn 14 58 36.5 -1.5
KBK pmax pmax
comp=Z,9.0nm,0.8s
FRU Bishkek 13.57 23 *e*P Pn 14 58 40.0 +1.4
FRU *e*S Sn 15 01 10.0 +0.4
FRU pmax pmax
comp=E,40nm,1.8s
CHMS Chumysh 13.76 23 *e*Pn Pn 14 58 40.8 -0.4
comp=E,8.5nm,0.7s
CHMS Chumysh 13.76 23 *e*P Pn 14 58 40.8 -0.4
CHMS pmax pmax
comp=Z,9.0nm,0.7s
TKM2 Tokmak 2 13.99 25 *e*Pn Pn 14 58 44.0 -0.3
comp=Z,20nm,0.9s
TKM2 Tokmak 2 13.99 25 *e*P Pn 14 58 44.0 -0.3
TKM2 pmax pmax
comp=Z,20nm,0.9s
KOLN Koldanda 14.26 97 *e*P Pn 14 58 45.8 -2.3
comp=Z,40nm,0.8s
KOLN Koldanda 14.26 97 *e*P Pn 14 58 45.8 -2.3
comp=Z,40nm,0.8s
DANN Dangsing 14.27 94 *e*P Pn 14 58 47.1 -1.0
comp=Z,80nm,0.7s
DANN Dangsing 14.27 94 *e*P Pn 14 58 47.1 -1.0
comp=Z,80nm,0.7s
GKN Gorkha 15.10 95 *e*P Pn 14 58 56.2 -3.2
comp=Z,52nm,0.9s
GKN Gorkha 15.10 95 *e*P Pn 14 58 56.2 -3.2
comp=Z,52nm,0.9s
KKN Kakani 15.70 95 *e*P Pn 14 59 03.6 -3.8
comp=Z,31nm,0.5s
KKN Kakani 15.70 95 *e*P Pn 14 59 03.6 -3.8
comp=Z,31nm,0.5s
KKN Kakani 15.70 95 *e*P Pn 14 59 03.6 -3.8
KKN pmax pmax
comp=Z,31nm,0.5s
PKIN Phulchoki 15.85 96 *e*P Pn 14 59 05.0 -4.3
comp=Z,39nm,0.7s
PKI Pulchoki 15.87 96 *e*P Pn 14 59 05.5 -4.0
comp=Z,47nm,0.8s
PKI Pulchoki 15.87 96 *e*P Pn 14 59 05.5 -4.0
comp=Z,47nm,0.8s
PKI Pulchoki 15.87 96 *e*P Pn 14 59 05.5 -4.0
PKI pmax pmax
comp=Z,47nm,0.8s
GUN Gumba 16.19 94 *e*P Pn 14 59 10.6 -3.1
comp=Z,268nm,0.9s
GUN Gumba 16.19 94 *e*P Pn 14 59 10.6 -3.1
comp=Z,268nm,0.9s
HYB Hyderabad 16.39 140 *i* P Pn 14 59 20.5 +4.1
RDF Al-Radifah 17.47 270 *e*P Pn 14 59 28.1 -1.8
MIB Mutribah 17.52 273 *e*P Pn 14 59 28.1 -2.4
MIB AMb AMB 14 59 36.4
comp=Z,33nm,0.8s
NAY Al-Naaiem 17.68 271 *e*P Pn 14 59 30.2 -2.3
NAY AMb AMB 14 59 39.5
comp=Z,10nm,0.8s
ABKAR Akbulak array 19.64 345 *e*Pn Pn 14 59 55.3 -0.9
comp=Z,4.3nm,0.8s
MK31 Makanchi Array 19.90 31 *e*Pn Pn 14 59 57.3 -1.9
MK31 Makanchi Array 19.90 31 *e*P Pn 14 59 57.3 -1.9
MKAR Makanchi Array 19.90 31 P Pn 14 59 58.1 -1.1
comp=Z,0.7nm,0.3s,baz=210,slow=11,SNR=29
MKAR LR LR 15 08 46.7
comp=Z,166nm,19.7s,baz=32,slow=40
MKAR Makanchi Array 19.90 31 P Pn 14 59 58.1 -1.1
MKAR LR LR 15 08 46.7
MKAR Makanchi Array 19.90 31 P Pn 14 59 58.1 -1.1
LSA Lhasa 20.41 86 P P 15 00 06.4 +3.0
LSA pmax pmax
comp=Z,10.0nm,0.8s
LSA Lhasa 20.41 86 *e*P P 15 00 06.4 +3.0
comp=Z,17nm,0.8s
LSA Lhasa 20.41 86 *e*P P 15 00 06.4 +3.0
LSA pmax pmax
comp=Z,17nm,0.8s
WMQ Urumqi 20.79 45 P P 15 00 12.7 +5.4
WMQ pP 15 00 13.7
WMQ sP sP 15 00 14.7 +4.7
WMQ PP 15 00 34.7
WMQ S S 15 04 00.7 +1.1
WMQ pmax pmax
comp=Z,17nm,1.4s
WMQ pmax pmax
comp=Z,100nm,4.0s
WMQ LR LR
comp=N,370nm,14.0s,MS4.0
WMQ LR LR
comp=E,250nm,15.0s,MS4.0
WMQ LR LR
comp=Z,160nm,22.3s
MDRS Chennai 20.90 143 *e*x x 15 00 50.2
MDRS *e*x x 15 02 50.2
MDRS *e*x x 15 06 26.2
MDRS *e*x x 15 09 32.2
MDRS *e*x x 15 16 56.2
AKTK Aktyubinsk 21.20 343 P P 15 00 12.6 +0.9
AKTK LR LR 15 10 11.6
AKTO Aktyubinsk 21.20 343 P P 15 00 12.6 +0.9
comp=Z,3.3nm,0.7s,mb3.8,baz=185,slow=9.9,SNR=7.8
AKTO LR LR 15 10 11.6
comp=Z,84nm,19.6s,MS3.1,baz=338,slow=42
AKTO Aktyubinsk 21.20 343 P P 15 00 12.6 +0.9
KURK Kurchatov 21.86 19 P P 15 00 19.6 +0.9
comp=Z,6.4nm,0.8s,mb4.1,baz=208,slow=12,SNR=16
KURK Kurchatov 21.86 19 *e*Pn P 15 00 18.3 -0.5
comp=Z,18nm,1.1s,mb4.4
KURK Kurchatov 21.86 19⇑*i*P P 15 00 20.0 +1.3
KURK pmax pmax
comp=Z,22nm,1.2s,mb4.5
ZEI Tsey 22.55 310 *e*P P 15 00 29.5 +3.3
ZEI pmax pmax
comp=Z,7.0nm,0.9s,mb4.1
BVAR Borovoye Array 22.64 4 P P 15 00 28.2 +1.1
comp=Z,3.6nm,0.7s,mb3.9,baz=187,slow=8.5,SNR=20
BVAR Borovoye Array 22.64 4 P P 15 00 28.2 +1.1
BVAR Borovoye Array 22.64 4 P P 15 00 28.2 +1.1
BRVK Borovoye 22.67 4 *e*Pn P 15 00 26.6 -0.7
comp=Z,33nm,1.4s,mb4.6
BRVK Borovoye 22.67 4*c* *i*P P 15 00 27.4 0.0
BRVK pmax pmax
comp=Z,24nm,1.4s,mb4.4
KIV Kislovodsk 23.86 311 *e*P P 15 00 46.8 +7.2
KIV *i* 15 01 11.3
KIV pmax pmax
comp=Z,6.0nm,1.1s,mb3.9
ASF Jabal al Asfar 26.22 282 LR LR 15 13 02.4
comp=Z,110nm,18.6s,MS3.4,baz=84,slow=40
ZAA0 Zalesovo Array 26.58 23 *e*P P 15 01 04.5 +0.3
ZALV Zalesovo Beam 26.58 23 P P 15 01 05.0 +0.8
comp=Z,2.8nm,0.4s,mb4.1,baz=221,slow=11,SNR=22
ZALV LR LR 15 12 41.5
comp=Z,27nm,20.9s,MS2.8,baz=136,slow=39
ZALV Zalesovo Beam 26.58 23 P P 15 01 05.0 +0.8
ZALV LR LR 15 12 41.5
ZALV Zalesovo Beam 26.58 23 P P 15 01 05.1 +0.9
ARU Arti 26.72 349*c* *i*P P 15 01 06.4 +0.9
ARU *e* 15 01 46.4
ARU S S 15 05 42.9 +1.7
ARU SS 15 06 43.7
ARU pmax pmax
comp=Z,11nm,1.7s,mb4.1
MMAI Mount Meron Ar 27.43 284 LR LR 15 14 00.2
comp=Z,142nm,19.2s,MS3.6,baz=110,slow=41
GTA Gaotai 27.78 62 *e*P P 15 01 18.3 +3.1
GTA pP pP 15 01 20.7 +3.6
GTA sP sP 15 01 23.4 +5.5
GTA S S 15 06 06.0 +7.7
GTA pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
GTA pmax pmax
comp=Z,57nm,5.7s
GTA LR LR
comp=N,200nm,17.5s,MS3.9
GTA LR LR
comp=E,120nm,14.7s,MS3.9
GTA LR LR
comp=Z,120nm,10.0s,MS3.8
EIL Elat 28.20 277 LR LR 15 14 14.0
comp=Z,151nm,19.3s,MS3.6,baz=271,slow=40
BR131 Keskin Array S 29.12 298 *e*P P 15 01 28.6 +1.5
comp=Z,1.4nm,0.9s,mb3.7
CHTO Chiang Mai 30.68 105 *e*P P 15 01 41.1 0.0
comp=Z,6.6nm,1.0s,mb4.4
CHTO Chiang Mai 30.68 105 *e*P P 15 01 41.1 0.0
CHTO pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
LZH Lanzhou 30.72 70 *e*P P 15 01 42.0 +0.7
LZH pP pP 15 01 45.1 +1.8
LZH sP sP 15 01 47.2 +3.1
LZH *e*PP PP 15 02 41.9 -8.6
LZH pmax pmax
comp=Z,17nm,1.2s,mb4.8
LZH pmax pmax
comp=Z,46nm,4.6s
LZH LR LR
comp=N,310nm,12.7s
LZH LR LR
comp=Z,460nm,17.3s,MS4.2
CMAR Chiang Mai Arr 30.85 106 P P 15 01 43.2 +0.6
comp=Z,2.1nm,0.9s,mb4.0,baz=297,slow=7.7,SNR=12
CMAR PcP PcP 15 04 41.5 +1.8
comp=Z,0.7nm,0.8s,baz=292,slow=4.5,SNR=4.3
CMAR LR LR 15 16 04.7
comp=Z,70nm,20.7s,MS3.3,baz=305,slow=40
CMAR Chiang Mai Arr 30.85 106 P P 15 01 43.2 +0.6
CMAR PcP PcP 15 04 41.5 +1.8
CMAR LR LR 15 16 04.7
CMAR Chiang Mai Arr 30.85 106 P P 15 01 43.2 +0.6
CMAR 15 04 41.5
CD2 Chengdu 31.04 80 P P 15 01 45.3 +1.1
CD2 PP PP 15 02 47.0 -7.2
CD2 PcP PcP 15 04 41.5 +1.5
CD2 S S 15 06 50.0 +0.4
CD2 SS SS 15 08 33.3 -29
CD2 pmax pmax
comp=Z,10.0nm,0.5s,mb4.9
CD2 LR LR
comp=N,260nm,7.7s
CD2 LR LR
comp=Z,320nm,12.5s,MS4.2
KMI Kunming 31.48 91 P P 15 01 51.5 +3.4
KMI PP PP 15 02 53.9 -5.2
KMI S S 15 06 57.9 +1.3
KMI SS SS 15 08 45.4 -26
KMI pmax pmax
comp=Z,10.0nm,1.2s,mb4.5
KMI pmax pmax
comp=Z,110nm,4.8s
KMI LR LR
comp=N,140nm,16.8s,MS3.9
KMI LR LR
comp=E,180nm,18.3s,MS3.9
KMI LR LR
comp=Z,140nm,16.6s,MS3.7
OBN Obninsk 33.06 327⇑*e*P P 15 02 04.5 +2.8
OBN pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
OBN MLR MLR
comp=Z,100nm,19.0s,MS3.5
SONM Songino Array 34.31 49 P P 15 02 13.8 +1.1
comp=Z,0.5nm,0.7s,mb3.5,baz=242,slow=8.9,SNR=4.5
SONM LR LR 15 18 41.8
comp=Z,158nm,18.1s,MS3.8,baz=203,slow=41
SONM Songino Array 34.31 49 P P 15 02 13.8 +1.1
SONM LR LR 15 18 41.8
SONM Songino Array 34.31 49 P P 15 02 13.8 +1.2
GYA Guiyang 34.48 87 P P 15 02 15.5 +1.1
GYA PP PP 15 03 31.2 -1.2
GYA S S 15 07 42.0 -1.3
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
GYA pmax pmax
comp=Z,20nm,5.6s
GYA LR LR
comp=N,480nm,15.9s,MS4.4
GYA LR LR
comp=E,360nm,16.9s,MS4.4
GYA LR LR
comp=Z,490nm,16.4s,MS4.3
AKASG Malin Array Be 34.93 316 P P 15 02 17.6 -0.3
comp=Z,1.9nm,0.7s,mb4.2,baz=102,slow=7.2,SNR=7.2
AKASG Malin Array Be 34.93 316 P P 15 02 17.6 -0.3
AKASG Malin Array Be 34.93 316 P P 15 02 17.7 -0.2
KIEV Kiev 34.93 316 *e*P P 15 02 17.9 -0.1
comp=Z,24nm,1.6s,mb4.9
KIEV Kiev 34.93 316 *e*P P 15 02 17.9 -0.1
KIEV pmax pmax
comp=Z,24nm,1.6s,mb4.9
ENH Enshi 36.01 79 *e*Pn P 15 02 28.8 +1.2
comp=Z,11nm,0.9s,mb4.8
BUR08 Bucovina Ar. S 36.59 310 P P 15 02 31.9 -0.3
HHC Hu-ho-hao-te 36.88 61 *e*P P 15 02 34.1 -0.7
HHC pP pP 15 02 38.2 +1.4
HHC sP sP 15 02 42.9 +5.3
HHC PP PP 15 03 58.8 +0.1
HHC S S 15 08 16.7 -3.0
HHC sS sS 15 08 24.9 +1.9
HHC PcS PcS 15 08 43.6 -0.8
HHC pmax pmax
comp=Z,19nm,0.8s,mb5.0
HHC pmax pmax
comp=Z,84nm,5.0s
HHC LR LR
comp=N,130nm,13.1s,MS3.9
HHC LR LR
comp=E,83nm,15.5s,MS3.9
HHC LR LR
comp=Z,100nm,13.1s,MS3.8
JOF Joensuu 39.90 335 *e*P P 15 03 00.4 +0.5
JOF Joensuu 39.90 335 *e*p P 15 03 00.4 +0.5
WHN Wuhan 40.07 78 ⇑P P 15 03 04.8 +3.0
PSZ Piszkesteto 40.16 310 *e*P P 15 03 02.8 +0.5
comp=Z,7.5nm,1.0s,mb4.4
PSZ Piszkesteto 40.16 310 *e*P P 15 03 02.8 +0.5
PSZ pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
FINES FINESS Array B 41.14 331 P P 15 03 09.9 -0.3
comp=Z,2.2nm,0.8s,mb3.9,baz=129,slow=11,SNR=7.4
FINES LR LR 15 22 57.6
comp=Z,160nm,18.3s,MS3.9,baz=143,slow=40
FINES FINESS Array B 41.14 331 P P 15 03 09.9 -0.3
FINES LR LR 15 22 57.6
FINES FINESS Array B 41.14 331 P P 15 03 09.9 -0.3
KAF Kangasniemi 41.38 332 *e*P P 15 03 11.5 -0.7
KAF Kangasniemi 41.38 332 *e*p P 15 03 11.5 -0.7
BOD Bodaibo 41.87 36 *e*P P 15 03 17.3 +1.0
KMBO Kilima Mbogo 42.66 228 P P 15 03 23.6 +0.4
KMBO Kilima Mbogo 42.66 228 P P 15 03 23.6 +0.4
NJ2 Nanjing 43.53 74 *e*P P 15 03 27.4 -2.7
NJ2 pmax pmax
comp=Z,20nm,0.6s,mb5.0
GERES GERESS Array B 44.36 310 P P 15 03 36.2 -0.3
comp=Z,0.2nm,0.4s,baz=82,slow=8.0,SNR=2.5
GERES GERESS Array B 44.36 310 P P 15 03 36.2 -0.3
GERES GERESS Array B 44.36 310 P P 15 03 36.2 -0.3
ARCES ARCESS Array B 45.76 341 P P 15 03 47.8 +0.4
comp=Z,7.5nm,1.1s,mb4.5,baz=129,slow=9.5,SNR=9.1
ARCES LR LR 15 24 34.8
comp=Z,147nm,18.7s,MS4.0,baz=303,slow=38
ARCES ARCESS Array B 45.76 341 P P 15 03 47.8 +0.4
ARCES LR LR 15 24 34.8
ARCES ARCESS Array B 45.76 341 P P 15 03 47.8 +0.4
HFS Hagfors 46.26 326 LR LR 15 24 44.1
comp=Z,73nm,19.2s,MS3.6,baz=71,slow=38
CN2 Changchun 47.12 57 *e*P P 15 03 58.7 +0.2
CN2 *e*S S 15 10 50.7 -0.4
CN2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
CN2 pmax pmax
comp=Z,200nm,3.0s
NB2 NORSAR Subarra 47.67 327 P P 15 04 01.7 -0.7
comp=Z,2.5nm,0.8s,mb4.3,baz=108,slow=7.9
NOA NORSAR Array B 47.67 327 P P 15 04 01.5 -0.9
comp=Z,2.4nm,1.1s,mb4.2,baz=96,slow=8.1,SNR=3.5
NOA LR LR 15 26 39.5
comp=Z,78nm,18.2s,MS3.7,baz=270,slow=39
NOA NORSAR Array B 47.67 327 P P 15 04 01.5 -0.9
NOA LR LR 15 26 39.5
NOA NORSAR Array B 47.67 327 P P 15 04 01.5 -0.9
SBF Sospel 48.76 303 *e*P P 15 04 11.0 -0.1
comp=Z,43nm,0.9s,mb5.2
SBF Sospel 48.76 303 *e*P P 15 04 11.0 -0.1
comp=Z,22nm,0.9s,mb5.2
SBF Sospel 48.76 303 *e*P P 15 04 11.0 -0.1
SBF pmax pmax
comp=Z,21nm,0.9s,mb5.2
LPG La Plagne 49.11 306 *e*P P 15 04 13.9 +0.1
LPG La Plagne 49.11 306 *e*P P 15 04 13.9 +0.1
LPG La Plagne 49.11 306 *e*P P 15 04 13.9 +0.1
LPL La Plagne 49.12 306 *e*P P 15 04 13.9 0.0
comp=Z,12nm,0.9s,mb4.6
LPL La Plagne 49.12 306 *e*P P 15 04 13.9 0.0
comp=Z,5.9nm,0.9s,mb4.6
LPL La Plagne 49.12 306 *e*P P 15 04 13.9 0.0
LPL pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
MBDF Montbardon 49.16 305 *e*P P 15 04 13.6 -0.5
comp=Z,23nm,1.1s,mb4.8
MBDF Montbardon 49.16 305 *e*P P 15 04 13.6 -0.5
comp=Z,12nm,1.1s,mb4.8
MBDF Montbardon 49.16 305 *e*P P 15 04 13.6 -0.5
MBDF pmax pmax
comp=Z,12nm,1.1s,mb4.8
HAU Haudompre 49.24 309 *e*P P 15 04 15.1 +0.3
HAU Haudompre 49.24 309 *e*P P 15 04 15.1 +0.3
HAU Haudompre 49.24 309 *e*P P 15 04 15.1 +0.3
ORIF Oris-en-Rattie 49.77 305 *e*P P 15 04 17.5 -1.3
ORIF Oris-en-Rattie 49.77 305 *e*P P 15 04 17.5 -1.3
ORIF Oris-en-Rattie 49.77 305 *e*P P 15 04 17.5 -1.3
KSRS Korea Array 49.80 65 P P 15 04 18.7 -0.5
comp=Z,2.1nm,1.0s,mb4.1,baz=274,slow=7.4,SNR=4.4
KSRS LR LR 15 28 12.6
comp=Z,48nm,19.5s,MS3.5,baz=293,slow=40
KSRS Korea Array 49.80 65 P P 15 04 18.7 -0.5
KSRS pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
KSRS MLR MLR
comp=Z,48nm,19.5s,MS3.5
SMRF Simiane la Rot 50.08 304 *e*P P 15 04 20.7 -0.5
SMRF Simiane la Rot 50.08 304 *e*P P 15 04 20.7 -0.5
SFTF Sexfontaines 50.11 309 *e*P P 15 04 21.5 +0.1
SFTF Sexfontaines 50.11 309 *e*P P 15 04 21.5 +0.1
YAK Yakutsk 50.56 33 *e*P P 15 04 23.0 -1.5
YAK *e* 15 05 40.6
YAK *e* 15 06 16.0
YAK *e*PPP 15 07 19.2
YAK *e*S S 15 11 28.6 -10
YAK *e*SS SS 15 15 06.8 -5.8
YAK *e*SSS 15 16 37.8
YAK pmax pmax
comp=Z,12nm,1.1s,mb4.7
YAK pmax pmax
comp=E,8.0nm,1.3s
YAK pmax pmax
comp=Z,21nm,2.5s,mb4.6
YAK pmax pmax
comp=N,33nm,2.9s
YAK pmax pmax
comp=E,27nm,2.2s
YAK smax
comp=N,12nm,1.1s
YAK smax
comp=E,39nm,2.3s
VIVF Saint-Julien-l 50.63 305 *e*P P 15 04 25.2 -0.2
comp=E,25nm,1.0s,mb4.8
VIVF Saint-Julien-l 50.63 305 *e*P P 15 04 25.2 -0.2
comp=E,13nm,1.0s,mb4.8
VIVF Saint-Julien-l 50.63 305 *e*P P 15 04 25.2 -0.2
VIVF pmax pmax
comp=Z,13nm,1.0s,mb4.8
SSF Saint Saulge 51.23 308 *e*P P 15 04 29.6 -0.2
SSF Saint Saulge 51.23 308 *e*P P 15 04 29.6 -0.2
SSF Saint Saulge 51.23 308 *e*P P 15 04 29.6 -0.2
JOW Kunigami 52.84 78 P P 15 04 42.7 +0.6
comp=Z,11nm,0.8s,mb4.8,baz=315,slow=11,SNR=2.6
JOW Kunigami 52.84 78 P P 15 04 42.7 +0.6
LDF La Druitiere 53.51 310 *e*P P 15 04 46.8 +0.1
LDF La Druitiere 53.51 310 *e*P P 15 04 46.8 +0.1
LDF La Druitiere 53.51 310 *e*P P 15 04 46.8 +0.1
FLN La Foliniere 53.72 310 *e*P P 15 04 48.4 +0.1
FLN La Foliniere 53.72 310 *e*P P 15 04 48.4 +0.1
FLN La Foliniere 53.72 310 *e*P P 15 04 48.4 +0.1
ETSF Etsaut 54.66 303 *e*P P 15 04 55.4 +0.2
comp=Z,21nm,0.9s,mb4.9
ETSF Etsaut 54.66 303 *e*P P 15 04 55.4 +0.2
comp=Z,11nm,0.9s,mb4.9
ETSF Etsaut 54.66 303 *e*P P 15 04 55.4 +0.2
ETSF pmax pmax
comp=Z,11nm,0.9s,mb4.9
ESDC Sonseca Array 57.88 300 P P 15 05 18.3 +0.1
comp=Z,1.4nm,0.7s,mb4.1,baz=63,slow=7.4,SNR=9.9
ESDC Sonseca Array 57.88 300 P P 15 05 18.3 +0.1
SEY Seymchan 61.03 31⇑*e*P P 15 05 40.7 +1.0
TORD Torodi Ar. Bea 62.76 270 P P 15 05 50.6 -1.4
comp=Z,2.2nm,0.8s,mb4.3,baz=63,slow=5.9,SNR=16
TORD LR LR 15 35 58.1
comp=Z,89nm,19.2s,MS4.0,baz=35,slow=39
TORD Torodi Ar. Bea 62.76 270 P P 15 05 50.6 -1.4
TORD LR LR 15 35 58.1
PETK Petropavlovsk- 66.34 41 LR LR 15 38 44.4
comp=Z,43nm,18.9s,MS3.7,baz=102,slow=39
LBTB Lobatse 68.27 221 P P 15 06 27.8 +0.4
comp=Z,2.3nm,0.8s,mb4.2,baz=53,slow=2.7,SNR=4.3
LBTB Lobatse 68.27 221 *e*P P 15 06 27.9 +0.5
comp=Z,3.6nm,0.9s,mb4.4
LBTB Lobatse 68.27 221 *e*P P 15 06 27.9 +0.5
LBTB pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
BOSA Boshof 71.28 219 P P 15 06 46.5 +0.6
comp=Z,2.4nm,0.9s,mb4.1,baz=82,slow=8.4,SNR=3.6
BOSA Boshof 71.28 219 *e*P P 15 06 46.6 +0.8
comp=Z,7.6nm,1.3s,mb4.5
BOSA Boshof 71.28 219 P P 15 06 46.5 +0.7
BOSA pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
DBIC Dimbokro 71.51 267 LR LR 15 40 17.7
comp=Z,87nm,18.3s,MS4.1,baz=16,slow=38
DBIC Dimbokro 71.51 267 P P 15 06 47.6 -0.1
DBIC Dimbokro 71.51 267 P P 15 06 47.6 -0.1
INK Inuvik 80.28 8 P P 15 07 37.8 +0.9
comp=Z,3.9nm,1.1s,mb4.3,baz=334,slow=8.5,SNR=8.2
INK Inuvik 80.28 8 *e*P P 15 07 37.5 +0.7
comp=Z,4.2nm,1.0s,mb4.3
INK Inuvik 80.28 8 *e*P P 15 07 37.5 +0.6
INK pmax pmax
comp=Z,4.0nm,1.0s
COLA College 81.04 15 *e*P P 15 07 41.2 +0.3
comp=Z,2.6nm,1.0s,mb4.1
COLA College 81.04 15 *e*P P 15 07 41.3 +0.3
COLA pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
ILAR Eielson Array 81.34 14 P P 15 07 42.4 -0.2
comp=Z,0.7nm,0.9s,mb3.6,baz=337,slow=5.0,SNR=5.6
ILAR Eielson Array 81.34 14 P P 15 07 42.4 -0.2
ILAR Eielson Array 81.34 14 P P 15 07 42.4 -0.1
WRA Warramunga Arr 81.40 119 P P 15 07 43.5 -0.1
comp=Z,1.6nm,0.8s,mb4.0,baz=320,slow=4.9,SNR=12
WRA Warramunga Arr 81.40 119 P P 15 07 43.5 -0.1
WRA Warramunga Arr 81.40 119 P P 15 07 43.5 -0.1
WRAB Tennant Creek 81.41 119 *e*P P 15 07 44.2 +0.7
comp=Z,4.9nm,1.2s,mb4.3
WRAB Tennant Creek 81.41 119 *e*P P 15 07 44.3 +0.7
WRAB pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
ASAR Alice Springs 83.31 122 P P 15 07 53.9 +0.4
comp=Z,1.8nm,0.8s,mb4.2,baz=310,slow=5.0,SNR=26
ASAR Alice Springs 83.31 122 P P 15 07 53.9 +0.4
ASAR Alice Springs 83.31 122 P P 15 07 53.9 +0.4
DAWY Dawson 83.42 12 *e*P P 15 07 52.5 -0.9
VNDA Vanda 120.42 165 PKP PKPdf 15 14 15.9 -0.8
comp=Z,0.9nm,0.6s,baz=315,slow=5.2,SNR=11
VNDA Vanda 120.42 165 PKP PKPdf 15 14 15.9 -0.8
VNDA Vanda 120.42 165 PKIKP PKPdf 15 14 16.0 -0.7

IDC 01 14:55:57.4±6.3**, 3°27S**×**149°32E, h0**^{km}**, mb3.3**/2**, mb1 3.7**/2**, mb1mx3.3**/16**, mbtmp3.4**/2**, MS2.6**/1**, Ms1 2.6**/1**, ms1mx2.4**/18**, Error ellipse: s-maj=289.9km s-min=48.0km az=110.0, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**17.33**	**345**	LR	LR	15 05 59.2	
	comp=Z,18nm,18.4s,baz=0.6,slow=35						
WRA	**Warramunga Arr**	**22.10**	**220**	P	P	15 00 54.5	+0.2
	1.2nm,0.9s,baz=42,slow=11,SNR=8.3						
ASAR	**Alice Springs**	**25.16**	**215**	P	P	15 01 24.6	0.0
	0.9nm,0.9s,baz=51,slow=7.8,SNR=7.0						
TORD	**Torodi Ar. Bea**	**146.54**	**289**	PKPbc	PKPbc	15 15 41.0	-0.8
	0.4nm,1.0s,baz=48,slow=2.1,SNR=3.1						

JSN 01 15:12:10.0±1.1**, 18°09N**×**77°90W, h22**^{km}±34^{km}**, MD3.9, 3C, Jamaica region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MCJ	Malvern	0.26	129	⇑iP	Pb	15 12 15.8	-0.3
NEJ	Negril	0.44	292	⇑iP	Pb	15 12 18.5	-0.6
PCJ	Portland Cotta	0.79	116	⇑iP	Pb	15 12 23.8	-1.2
STH	Stony Hill	1.04	91	iP	Pn	15 12 27.8	-1.5
STH				iS	Sb	15 12 41.1	-1.4
HOJ	Hope	1.10	94	iP	Pn	15 12 27.8	-2.3
GWJ	Greenwich	1.11	91	iP	Pn	15 12 28.8	-1.5
YHJ	Yallahs	1.35	98	iP	Pn	15 12 33.0	-0.5

*ISCJB **01** 15:24:53.3±4.4, 10°.4S±0°.2×161°.3E±0°.3, h90km±28km, mb3.6/7, Error ellipse: s-maj=55.8km s-min=21.1km az=28.5*
*IDC **01** 15:24:54.4±1.3, 10°.31S×161°.35E, h86km±8km, mb3.5/6, mb1 3.7/6, mb1mx3.5/18, mbtmp3.5/6, Error ellipse: s-maj=22.2km s-min=11.8km az=50.0*
*NEIC **01** 15:24:54.8±1.3, 10°.23S×161°.32E, mb4.0/2, Error ellipse: s-maj=30.2km s-min=16.1km az=121.0*
ISC 01 15:24:54.5±4.1**, 10°.3S**±0°.2×**161°.4E**±0°.3**, h85**km±27km**, h87**km±4.6km**:pP-P, n19, σ0s.78**/21**, mb3.6**/7**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	1.63	302	P	Pn	15 25 21.3	-0.3
	160nm,0.3s,baz=154,slow=6.6,SNR=70						
HNR				S	Sn	15 25 42.5	+0.2
	264nm,0.3s,baz=246,slow=21,SNR=18						
HNR	Honiara	1.63	302	ePn	Pn	15 25 21.3	-0.4
HNR				P		15 25 21.4	
HNR				eSn	Sn	15 25 38.1	-4.2
HNR				S	Sn	15 25 42.5	+0.2
CTA	Charters Tower	17.51	234	P	Pn	15 28 55.7	+2.4
	0.4nm,0.3s,baz=56,slow=14,SNR=4.2						
CTA	Charters Tower	17.51	234	P	Pn	15 28 55.7	+2.4
CTAO	Charters Tower	17.51	234	P	Pn	15 28 53.9	+0.6
	14nm,1.1s						
WRAB	Tennant Creek	27.74	247	eP	P	15 30 34.8	-0.5
	4.1nm,1.2s,mb3.8						
WRA	Warramunga Arr	27.75	247	P	P	15 30 35.2	-0.1
	0.9nm,0.5s,mb3.6,baz=77,slow=9.0,SNR=18						
WRA				pP	pP	15 30 55.7	+0.9
	1.2nm,0.7s,baz=75,slow=9.5,SNR=4.3						
WRA	Warramunga Arr	27.75	247	P	P	15 30 35.2	-0.1
WRA				pP	pP	15 30 55.7	+0.9
ASAR	Alice Springs	29.36	240	P	P	15 30 48.6	-1.0
	0.2nm,0.4s,mb3.1,baz=61,slow=10.0,SNR=14						
ASAR				pP	pP	15 31 09.2	+0.1
	0.3nm,0.6s,baz=64,slow=10,SNR=2.5						
ASAR	Alice Springs	29.36	240	P	P	15 30 48.6	-1.0
ASAR				pP	pP	15 31 09.2	+0.1
FITZ	Fitzroy Crossi	35.43	253	P	P	15 31 42.3	-0.4
	2.6nm,0.8s,mb4.1,baz=142,slow=9.0,SNR=8.2						
FITZ				pP	pP	15 32 02.7	+0.1
	1.0nm,0.4s,baz=148,slow=15,SNR=2.1						
FITZ	Fitzroy Crossi	35.43	253	P	P	15 31 42.3	-0.4
FITZ				pP	pP	15 32 02.7	+0.1
CMAR	Chiang Mai Arr	67.87	295	pP	pP	15 36 07.5	+1.3
	0.5nm,0.5s,baz=128,slow=4.9,SNR=4.1						
SONM	Songino Array	75.55	325	P	P	15 36 30.0	+0.2
	0.7nm,0.7s,mb3.5,baz=135,slow=6.0,SNR=6.1						
SONM	Songino Array	75.55	325	P	P	15 36 30.0	+0.2
ILAR	Eielson Array	84.22	20	P	P	15 37 15.8	-0.3
	0.3nm,0.6s,mb3.3,baz=239,slow=4.6,SNR=4.7						
ILAR	Eielson Array	84.22	20	P	P	15 37 15.8	-0.3
MKAR	Makanchi Array	90.04	318	P	P	15 37 45.7	+1.0
	0.3nm,0.2s,mb4.0,baz=96,slow=7.4,SNR=2.1						
MKAR				pP	pP	15 38 06.9	-0.7
	0.3nm,0.2s,baz=84,slow=5.9,SNR=1.2						
MKAR	Makanchi Array	90.04	318	P	P	15 37 45.7	+1.0
MKAR				pP	pP	15 38 06.9	-0.7

MAN 01 15:38:27, 10°.04N×126°.02E, h20km, mb4.8, ML3.7, MS3.7, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	0.58	244	⇓eP	Pb	15 38 38.8	+0.4
SCPH				eS	Sb	15 38 49.4	+3.1
BUTP	Butuan	1.13	200	eP	Pn	15 38 46.1	-1.6
BUTP				eS	Sb	15 39 00.9	-1.2
MSLP	Maasin	1.14	275	eP	Pn	15 38 48.6	+0.7
MSLP				eS	Sb	15 39 01.0	-1.6
OCLP	Ormoc	1.71	306	eP	Pn	15 38 56.6	+0.9
CGP	Cagayan de Oro	2.04	220	⇑eP	Pn	15 39 00.5	+0.2
CGP				iS	Sn	15 39 26.9	+1.7
TBP	Tagbilaran	2.15	261	eP	Pn	15 39 05.4	+3.7
BUKP	Musuan	2.34	204	eP	Pn	15 39 06.3	+1.9
CNP	Catarman	2.79	332	eP	Pn	15 39 10.6	-0.1
CNP				eS	Pb	15 39 15.4	-0.9
PAGZ	Pagadian	3.39	230	eP	Pn	15 39 20.7	+1.9
GUIM	Jordan	3.42	280	eP	Pn	15 39 21.1	+1.8
RCP	Roxas	3.55	296	⇑eP	Pn	15 39 23.0	+1.9
PVCP	Virac	3.98	333	eP	Pn	15 39 27.8	+0.9
PVCP				eS	Pb	15 39 40.0	+3.5

IDC 01 16:00:21.2±38.0**, 28°.72N×69°.14E, h0km, mb3.7**/3**, mb1 3.7**/3**, mb1mx3.3**/26**, mbtmp3.7**/3**, Error ellipse: s-maj=1285.0km s-min=32.5km az=140.0, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	20.77	26	P	P	16 05 01.9	-1.8
	0.4nm,0.3s,baz=213,slow=10.0,SNR=6.9						
ZALV	Zalesovo Beam	27.69	20	P	P	16 06 11.9	+1.2
	1.4nm,0.5s,baz=223,slow=9.2,SNR=11						
TORD	Torodi Ar. Bea	64.14	271	P	P	16 10 57.7	-0.1
	1.2nm,1.1s,baz=50,slow=6.2,SNR=4.2						

*IDC **01** 16:06:22.7±1.3, 31°.97S×177°.66W, h0km, mb4.1/5, mb1 4.3/6, mb1mx4.0/18, mbtmp4.1/6, ML3.1/1, Error ellipse: s-maj=47.4km s-min=24.0km az=148.0*
*NEIC **01** 16:06:27.8±0.8, 32°.11S×177°.67W, h35km, mb4.7/1, Error ellipse: s-maj=24.8km s-min=14.4km az=134.0*
*ISCJB **01** 16:06:28.0±1.1, 31°.8S±0°.1×178°.0W±0°.2, h33km, mb4.1/6, Error ellipse: s-maj=24.5km s-min=12.5km az=22.9*
ISC 01 16:06:30.1±1.1**, 31°.7S**±0°.1×**178°.0W**±0°.2**, h35km, n19, σ0s.63**/15**, mb4.1**/6**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	7.65	210	Pn	Pn	16 08 14.1	-4.8
	0.3nm,0.3s,baz=167,slow=18,SNR=5.5						
URZ				Sn	Sn	16 09 43.8	-0.5
	4.4nm,0.3s,baz=155,slow=17,SNR=7.4						
URZ	Urewera	7.65	210	Pn	Pn	16 08 14.1	-4.8
URZ				Sn	Sn	16 09 43.8	-0.5
CTA	Charters Tower	34.05	281	P	P	16 13 11.2	+0.1
	1.7nm,0.5s,mb4.3,baz=119,slow=13,SNR=3.3						
CTA	Charters Tower	34.05	281	P	P	16 13 11.2	+0.1
STKA	Stephens Creek	34.22	259	P	P	16 13 12.2	-0.2
	1.5nm,0.7s,mb4.1,baz=104,slow=11,SNR=5.6						
STKA	Stephens Creek	34.22	259	P	P	16 13 12.2	-0.2
ASAR	Alice Springs	43.07	268	P	P	16 14 26.9	+0.1
	1.2nm,0.6s,mb3.8,baz=107,slow=7.5,SNR=30						
ASAR				ScP	ScP	16 20 08.5	+3.6
	0.2nm,0.8s,baz=114,slow=3.9,SNR=4.0						
ASAR	Alice Springs	43.07	268	P	P	16 14 26.9	+0.1
ASAR				ScP	ScP	16 20 08.5	+3.6
WRA	Warramunga Arr	44.18	274	P	P	16 14 36.1	+0.4
	1.7nm,0.6s,mb4.0,baz=111,slow=8.0,SNR=25						
WRA	Warramunga Arr	44.18	274	P	P	16 14 36.1	+0.4
QSPA	South Pole Qui	58.37	180	eP	P	16 16 22.4	+1.1
	8.1nm,1.0s,mb4.7						
NVAR	Mina Array Bea	89.21	43	P	P	16 19 21.1	-1.0
	0.2nm,0.3s,mb4.0,baz=193,slow=3.7,SNR=3.2						
NVAR	Mina Array Bea	89.21	43	P	P	16 19 21.1	-1.0
KURK	Kurchatov	121.98	313	PKP	PKPdf	16 25 18.2	-2.0
	0.1nm,0.3s,baz=86,slow=2.6,SNR=3.1						
KURK	Kurchatov	121.98	313	PKP	PKPdf	16 25 18.2	-2.0
FINES	FINESS Array B	146.41	339	PKPbc	PKPbc	16 26 04.7	-1.8
	2.8nm,0.9s,baz=44,slow=4.2,SNR=8.7						
FINES	FINESS Array B	146.41	339	PKPbc	PKPbc	16 26 04.7	-1.8
AKASG	Malin Array Be	152.37	321	PKPbc	PKPbc	16 26 21.1	-0.8
	0.5nm,0.5s,baz=65,slow=4.5,SNR=3.6						
AKASG	Malin Array Be	152.37	321	PKPbc	PKPbc	16 26 21.1	-0.8

*ATH **01** 16:10:36.2, 36°.63N×27°.10E, h143km±3km*
*CSEM **01** 16:10:36.7±0.5, 36°.64N×27°.22E, h136km±6km, MD3.1, Error ellipse: s-maj=8.5km s-min=5.2km az=158.0*
*ISCJB **01** 16:10:36.4±0.8, 36°.66N±0°.05×27°.21E±0°.05, h136km±9km, Error ellipse: s-maj=8.4km s-min=6.4km az=161.4*
*ISK **01** 16:10:37.1, 36°.84N×27°.20E, h131km, MD3.1*
*DDA **01** 16:10:38.4, 36°.44N×27°.60E, h7km±8km, Md3.2*
*THE **01** 16:10:42.4, 36°.49N×26°.91E, h103km±11km, Error ellipse: s-maj=11.4km s-min=1.4km az=141.0*
ISC 01 16:10:36.8±0.8**, 36°.66N**±0°.05×**27°.22E**±0°.05**, h139**km±9km**, n58, σ0s.88**/80**, 1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DAT	Datca	0.30	76	ePG	Pn	16 10 56.0	+0.1
DAT				eSG	Sn	16 11 10.1	-0.2
BODT	Bodrum	0.41	11	ePG	Pn	16 10 54.9	-1.4
BODT	Bodrum	0.41	11	ePg	Pn	16 10 54.9	-1.4
MLSB	Milas	0.78	35	ePG	Pn	16 10 56.7	-1.9
MLSB	Milas	0.78	35	ePg	Pn	16 10 56.7	-1.9
ARG	Arkhangelos	0.86	121	eP	Pn	16 11 00.6	+1.4
ARG				eS	Sn	16 11 17.9	+1.7
ARG	Arkhangelos	0.86	121	P	Pn	16 11 00.5	+1.3
ARG				S	Sn	16 11 17.4	+1.2
ARG	Arkhangelos	0.86	121	P	Pn	16 11 00.5	+1.3
ARG				S	Sn	16 11 17.4	+1.2
ARG				eSn	Sn	16 11 17.9	+1.7
YER	Yerkesik	0.98	61	ePG	Pn	16 10 59.8	-0.4
YER	Yerkesik	0.98	61	ePg	Pn	16 10 59.8	-0.4
GCAM	G?zelcaml?	1.04	1	eP	Pn	16 11 01.6	+0.8
GCAM	G?zelcaml?	1.04	1	eP	Pn	16 11 01.6	+0.8
SMG	Samos	1.09	344	eP	Pn	16 11 01.8	+0.6
KARP	Karpathos	1.11	182	eP	Pn	16 11 01.6	+0.1
KARP				eS	Sn	16 11 20.5	+0.2
KARP	Karpathos	1.11	182	P	Pn	16 11 01.7	+0.2
KARP				S	Sn	16 11 15.7	-4.6
KARP	Karpathos	1.11	182	P	Pn	16 11 01.7	+0.2
KARP				S	Sn	16 11 15.7	-4.6
KARP				eSn	Sn	16 11 20.5	+0.2
AYDN	Tasoluk	1.13	28	eP	Pn	16 11 03.0	+1.4
AYDN				eS	Sn	16 11 20.8	+0.2
AYDN	Tasoluk	1.13	28	eP	Pn	16 11 03.0	+1.4
AYDN				eS	Sn	16 11 20.8	+0.2
TURN	Turunc	1.13	79	⇑iP	Pn	16 10 59.8	-1.9
TURN				iS	Sn	16 11 15.4	-5.2
TURN	Turunc	1.13	79	iP	Pn	16 10 59.8	-1.9
APE	Apeiranthos	1.41	287	ePN	Pn	16 11 04.5	0.0
APE	Apeiranthos	1.41	287	P	Pn	16 11 04.8	+0.3
APE	Apeiranthos	1.41	287	ePn	Pn	16 11 04.5	0.0
APE	Apeiranthos	1.41	287	P	Pn	16 11 04.8	+0.3
FETY	Fethiye	1.50	90	ePN	Pn	16 11 05.4	-0.1
FETY				eSN	Sn	16 11 28.1	+0.7
FETY	Fethiye	1.50	90	ePn	Pn	16 11 05.4	0.0
FETY				eSn	Sn	16 11 28.1	+0.8
BLCB	Balcova	1.73	355	ePN	Pn	16 11 07.2	-0.8
BLCB	Balcova	1.73	355	ePn	Pn	16 11 07.2	-0.8
IZM	Izmir	1.74	1	ePN	Pn	16 11 07.0	-1.0
IZM	Izmir	1.74	1	ePn	Pn	16 11 07.0	-1.1
DNZL	Cakiroluk	1.79	54	eP	Pn	16 11 08.8	+0.1
DNZL				eS	Sn	16 11 33.1	0.0
DNZL	Cakiroluk	1.79	54	eP	Pn	16 11 08.8	+0.1
DNZL				eS	Sn	16 11 33.1	0.0
GLHS	Glhisar (BURDU	1.90	74	ePN	Pn	16 11 10.4	+0.5
GLHS	Glhisar (BURDU	1.90	74	ePn	Pn	16 11 10.4	+0.5
NPS	Neapolis	1.91	224	eP	Pn	16 11 09.1	-1.0
NPS	Neapolis	1.91	224	P	Pn	16 11 09.2	-0.9
NPS				S	Sn	16 11 29.6	-6.0
NPS	Neapolis	1.91	224	P	Pn	16 11 09.2	-0.9
GOLH	Golhisar	1.96	72	eP	Pn	16 11 11.1	+0.3
GOLH				eS	Sn	16 11 36.5	-0.3
GOLH	Golhisar	1.96	72	eP	Pn	16 11 11.1	+0.4
GOLH				eS	Sn	16 11 36.5	-0.3
AKAS	Kas	1.97	102	eP	Pn	16 11 10.3	-0.5
AKAS				eS	Sn	16 11 36.0	-0.9
AKAS	Kas	1.97	102	eP	Pn	16 11 10.3	-0.5
AKAS				eS	Sn	16 11 36.0	-1.0
LAST	Lasithi	2.06	224	eP	Pn	16 11 11.0	-0.9
LAST	Lasithi	2.06	224	P	Pn	16 11 11.6	-0.3
LAST				S	Sn	16 11 33.3	-5.5
LAST	Lasithi	2.06	224	ePb	Pn	16 11 11.0	-0.9
LAST	Lasithi	2.06	224	P	Pn	16 11 11.6	-0.3
ELL	Elmali	2.17	87	ePN	Pn	16 11 14.3	+1.1
ELL	Elmali	2.17	87	ePn	Pn	16 11 14.3	+1.1
KARN	Karanos	2.95	246	eP	Pn	16 11 22.7	-0.4
KARN	Karanos	2.95	246	P	Pn	16 11 22.7	-0.4
KARN	Karanos	2.95	246	P	Pn	16 11 22.7	-0.4
DID	Didima	3.29	286	P	Pn	16 11 28.1	+0.7
DID	Didima	3.29	286	P	Pn	16 11 28.1	+0.7
KYTH	Kithira	3.39	265	P	Pn	16 11 28.4	-0.3
KYTH	Kithira	3.39	265	P	Pn	16 11 28.4	-0.3
VLI	Veliai	3.44	272	P	Pn	16 11 29.2	-0.1
VLI	Veliai	3.44	272	P	Pn	16 11 29.2	-0.1
GUR	Goura	4.09	290	P	Pn	16 11 39.9	+2.0
GUR	Goura	4.09	290	P	Pn	16 11 39.9	+2.0

*JMA **01** 16:10:47.9±0.2, 22°.84N×122°.75E, h57km, M2.3*
TAP 01 16:10:48.5, 22°.86N×122°.53E, h57km, ML3.2, 1C, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHKT	Chengkung	1.10	283	iP	Pn	16 11 06.7	-1.0
	baz=286						
CHKT				S	Sn	16 11 19.9	-2.0
	baz=286						
LAY	Lan-yu	1.22	228	P	Pn	16 11 07.8	-1.5
	baz=233						
LAY				eS	Sn	16 11 21.5	-3.4
	baz=233						
TWF1	Yuli	1.23	294	⇑iP	Pn	16 11 09.0	-0.5
	baz=293						
TWF1				eS	Sn	16 11 22.7	-2.5
	baz=293						
TTN	Taitung	1.28	265	eP	Pn	16 11 10.1	0.0
	baz=264						
TTN				eS	Sn	16 11 26.0	-0.3
	baz=264						
EHY	Hungye	1.28	300	P	Pn	16 11 09.5	-0.6
	baz=304						
EHY				eS	Sn	16 11 25.2	-1.1
	baz=304						
TWG	Pinlang	1.34	268	P	Pn	16 11 11.2	+0.2
	baz=267						
TWG				S	Sn	16 11 27.1	-0.7
	baz=267						
ESL	Shilin	1.38	313	P	Pn	16 11 10.4	-1.1
	baz=313						
ESL				S	Sn	16 11 27.1	-1.6
	baz=313						
ELDTW	Lidau	1.43	283	P	Pn	16 11 11.8	-0.3
	baz=290						
ELDTW				eS	Sn	16 11 28.9	-1.0
	baz=290						
ECL	Taimali	1.48	260	P	Pn	16 11 12.7	-0.1
	baz=259						
ECL				S	Sn	16 11 30.3	-0.7
	baz=259						
TWD	Chiawan	1.48	325	eP	Pn	16 11 12.2	-0.7
	baz=325						
TWD				eS	Sn	16 11 30.3	-1.0
	baz=325						
EAST	Anshuo	1.62	253	eP	Pn	16 11 15.8	+1.0
	baz=261						
EAST				S	Sn	16 11 34.7	+0.1
	baz=261						
YOJ	Yonaguni jima	1.65	15	P	Pn	16 11 14.9	-0.3
YOJ				eS	Sn	16 11 34.9	-0.4
STYT	Tauyuan	1.66	281	eP	Pn	16 11 15.2	0.0
	baz=272						
STYT				eS	Sn	16 11 35.2	-0.2
	baz=272						
HATJ	Hateruma jima	1.67	44	P	Pn	16 11 13.7	-1.7
HATJ				S	Sn	16 11 33.0	-2.8
ENA	Nanau	1.72	335	P	Pn	16 11 15.9	-0.1
	baz=328						
ENA				eS	Sn	16 11 36.7	-0.2
	baz=328						
WHF	Hehuan Shan	1.72	318	eP	Pn	16 11 16.1	0.0
	baz=317						
WHF				eS	Sn	16 11 36.6	-0.5
	baz=317						
SSD	Sandimen	1.75	267	eP	Pn	16 11 17.0	+0.5
	baz=262						
WTP	Ta-pu	1.80	283	eP	Pn	16 11 18.9	+1.6
	baz=289						
WTP				eS	Sn	16 11 41.6	+2.6
	baz=289						
SGST	Jiashian	1.81	277	eP	Pn	16 11 18.9	+1.7
	baz=276						
SGST				eS	Sn	16 11 39.3	+0.2
	baz=276						
SCZT	Fangliau	1.83	255	eP	Pn	16 11 18.8	+1.3
	baz=258						
IRIF	Iriomote-Funau	1.83	37	P	Pn	16 11 16.3	-1.4
IRIF				S	Sn	16 11 37.8	-2.0
CHN4	Tsaushan	1.85	286	eP	Pn	16 11 20.0	+2.2
	baz=292						
TWC	Suao	1.85	340	eP	Pn	16 11 18.5	+0.7
	baz=349						
TWC				eS	Sn	16 11 39.4	-0.7
	baz=349						
CHN5	Tsauling	1.85	294	P	Pn	16 11 20.1	+2.2
	baz=293						
TYC	Yuchr	1.85	304	eP	Pn	16 11 18.6	+0.7
	baz=304						
TYC				eS	Sn	16 11 38.8	-1.4
	baz=304						
TWT	Tachien	1.86	318	eP	Pn	16 11 19.2	+1.2
	baz=317						
TWT				eS	Sn	16 11 40.8	+0.5
	baz=317						
CHN1	Nanshi	1.87	280	eP	Pn	16 11 20.6	+2.4
	baz=289						
CHN1				eS	Sn	16 11 44.1	+3.5
	baz=289						
NNS	Nan Shan	1.89	326	eP	Pn	16 11 18.8	+0.3
	baz=326						
NNS				eS	Sn	16 11 41.0	-0.3
	baz=326						
JKRS	Kuro-shima	1.93	45	P	Pn	16 11 17.7	-1.3
JKRS				S	Sn	16 11 39.3	-2.8
TWM1	Shoushan	1.94	269	eP	Pn	16 11 22.5	+3.4
	baz=266						
TWM1				eS	Sn	16 11 49.4	+7.0
	baz=266						
ENTT	Nioudou	1.98	334	eP	Pn	16 11 20.3	+0.7
	baz=333						
ENTT				eS	Sn	16 11 43.2	0.0
	baz=333						
WGK	Gukeng	1.98	295	eP	Pn	16 11 22.6	+2.9
	baz=295						
CHN3	Shinhua	2.00	276	eP	Pn	16 11 22.6	+2.6
	baz=275						
CHN3				eS	Sn	16 11 50.7	+6.8
	baz=275						
TWE	Neicheng	2.01	337	eP	Pn	16 11 20.7	+0.6
	baz=337						
TWE				eS	Sn	16 11 44.7	+0.6
	baz=337						
NSK	Sanguang	2.10	330	eP	Pn	16 11 22.0	+0.7
	baz=329						
NSK				eS	Sn	16 11 45.9	-0.3
	baz=329						
JIJ	Ishigaki jima	2.10	44	P	Pn	16 11 19.6	-1.7
JIJ				S	Sn	16 11 42.8	-3.6
TWQ1	Liyutan	2.19	313	eP	Pn	16 11 24.1	+1.7
	baz=322						
TWQ1				eS	Sn	16 11 52.0	+3.6
	baz=322						
NSTT	Nanjuang	2.25	322	eP	Pn	16 11 25.3	+2.0
	baz=321						
NSTT				eS	Sn	16 11 50.4	+0.5
	baz=321						
TWA	Mucha	2.28	338	eP	Pn	16 11 25.0	+1.3
	baz=338						
TWA				S	Sn	16 11 52.3	+1.7
	baz=338						
JTJ	Tarama	2.67	48	P	Pn	16 11 27.7	-1.3
JTJ				S	Sn	16 11 57.4	-2.7
JOGS	Gusukube	3.24	54	eS	Sn	16 12 12.2	-2.1

MAN 01 16:13:56, 6°.80N×123°.64E, h1km, mb4.5, ML3.4, MS3.3, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTBH	Cotabato--PC H	0.73	55	⇑eP	Pg	16 14 10.3	+0.2
CTBH				iS	Sg	16 14 19.9	+0.3
PAGZ	Pagadian	1.07	346	eP	Pg	16 14 17.2	+0.7
PAGZ				eS	Sg	16 14 26.2	-4.2
IPIL	Ipil	1.44	313	eP	Pn	16 14 23.0	-0.2
BUKP	Musuan	1.77	53	eP	Pn	16 14 28.3	+0.5
DCPH	Dipolog City	1.79	351	⇑eP	Pn	16 14 28.4	+0.3
DCPH				eS	Sn	16 14 51.2	-0.3
CGP	Cagayan de Oro	1.95	32	⇑iP	Pn	16 14 31.6	+1.3
CGP				iS	Sn	16 14 56.0	+0.6
MATI	Mati	2.60	87	eP	Pn	16 14 39.1	-0.2

*NEIC **01** 16:20:36.9±0.7, 6°.91S×129°.13E, h35km, Error ellipse: s-maj=18.5km s-min=9.5km az=57.0*
*ISCJB **01** 16:20:37.3±1.4, 7°.07S±0°.06×129°.27E±0°.08, h68km±17km, mb3.6/4, Error ellipse: s-maj=14.4km s-min=7.2km az=148.6*
*DJA **01** 16:20:37, 6°.41S×129°.54E, h70km, mb4.3/10*
*IDC **01** 16:20:38.4±4.3, 7°.02S×129°.13E, h54km±48km, mb3.4/3, mb1 3.8/8, mb1mx3.6/20, mbtmp3.7/8, ML3.6/5, MS3.4/5, Ms1 3.5/5, ms1mx3.1/18, Error ellipse: s-maj=41.2km s-min=23.6km az=46.0*
ISC 01 16:20:37.6±1.3**, 6°.98S**±0°.07×**129°.38E**±0°.08**, h46**km±16km**, n40, σ1s.17**/42**, mb3.6**/4**, MS3.3**/5**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNDI	Bandanaira	2.50	12	P	Px	16 21 08.5	
AAI	Ambon	3.48	340	P	Pn	16 21 21.9	-7.3
MSAI	Masohi	3.64	353	P	Px	16 21 23.9	
NLAI	Namlea	4.36	328	P	Pn	16 21 36.0	-5.3
SWI	Sorong	6.36	17	P	Px	16 22 01.6	
	23nm,0.9s,668nm0.1nm						
KAKA	Kakadu	6.44	152	ePn	Pn	16 22 13.8	+3.9
	37nm,0.5s						
KAKA				eSn	Sn	16 23 20.7	-1.5
KAKA	Kakadu	6.44	152	P	Pn	16 22 15.6	+5.7
	0.6nm1µm54nm,0.7s						
BBSI	Bau Bau	6.93	282	P	Pn	16 22 17.6	+0.9
	0.1nm30nm,1.0s						
MMRI	Maumere	7.27	256	P	Pn	16 22 25.5	+4.2
	0.3nm75nm,1.2s						
LUWI	Luwuk	8.85	312	P	Pn	16 22 36.3	-6.6
	1µm38nm,1.1s						
BKSI	Bulukumba	9.36	280	P	Pn	16 22 49.5	-0.4
	189nm15nm,0.9s						
KAPI	Kappang	9.78	281	P	Pn	16 22 52.9	-2.8
	1.1nm,0.3s,baz=122,slow=7.3,SNR=5.7						
KAPI	Kappang	9.78	281	P	Pn	16 22 52.9	-2.8
FITZ	Fitzroy Crossi	11.64	198	P	Pn	16 23 21.3	+0.1
	0.5nm,0.3s,baz=31,slow=13,SNR=19						
FITZ				S	Sn	16 25 29.3	-0.5
	0.8nm,0.3s,baz=105,slow=17,SNR=6.0						
FITZ	Fitzroy Crossi	11.64	198	P	Pn	16 23 21.3	+0.1
FITZ				S	Sn	16 25 29.3	-0.5
FITZ	Fitzroy Crossi	11.64	198	P	Pn	16 23 20.8	-0.3
WRAB	Tennant Creek	13.75	160	ePn	Pn	16 23 50.7	+0.8
	15nm,1.1s						
WRAB				eSn	Sn	16 26 17.9	-3.4
WRAB	Tennant Creek	13.75	160	P	Pn	16 23 50.7	+0.8
	15nm,1.1s						
WRA	Warramunga Arr	13.75	160	P	Pn	16 23 50.2	+0.2
	0.4nm,0.3s,baz=334,slow=14,SNR=28						
WRA				S	Sn	16 26 21.0	-0.3
	0.4nm,0.3s,baz=327,slow=23,SNR=11						
WRA	Warramunga Arr	13.75	160	P	Pn	16 23 50.2	+0.2
WRA				S	Sn	16 26 21.0	-0.3
WB2	Warramunga Arr	13.76	160	ePn	Pn	16 23 50.0	0.0
WB2				eSn	Sn	16 26 12.8	-8.6
SRBI	Singaraja	14.09	265	P	Pn	16 23 58.3	+3.6
	19nm,0.9s						
COEN	Coen	15.22	118	P	Pn	16 24 10.1	+0.5
	15nm,1.4s						
MBWA	Marble Bar	16.91	213	P	Pn	16 24 33.1	+2.1
ASAR	Alice Springs	17.15	166	P	Pn	16 24 35.7	+1.7
	0.1nm,0.3s,baz=336,slow=9.1,SNR=18						
ASAR				S	Sn	16 27 39.5	-4.3
	0.1nm,0.3s,baz=346,slow=21,SNR=3.9						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	17.15	166	P	Pn	16 24 35.7	+1.7
ASAR				S	Sn	16 27 39.5	-4.3
PMG	Port Moresby	17.76	99	P	Pn	16 24 45.8	+4.2
	0.3nm,0.3s,baz=272,slow=5.7,SNR=3.8						
PMG	Port Moresby	17.76	99	P	Pn	16 24 45.8	+4.2
CTA	Charters Tower	20.92	130	LR	LR	16 34 30.1	
	comp=Z,146nm,18.6s,MS3.4,baz=234,slow=39						
STKA	Stephens Creek	27.27	157	P	P	16 26 23.6	+6.0
	0.9nm,0.6s,mb3.5,baz=333,slow=14,SNR=3.6						
STKA				LR	LR	16 38 17.7	
	comp=Z,109nm,19.3s,MS3.4,baz=5.7,slow=39						
STKA	Stephens Creek	27.27	157	P	P	16 26 23.6	+6.0
STKA				LR	LR	16 38 17.7	
HNR	Honiara	30.34	97	LR	LR	16 38 31.0	
	comp=Z,80nm,19.4s,MS3.4,baz=215,slow=35						
CMAR	Chiang Mai Arr	39.25	311	LR	LR	16 46 55.7	
	comp=Z,34nm,18.4s,MS3.2,baz=125,slow=40						
KSRS	Korea Array	44.22	358	LR	LR	16 49 52.0	
	comp=Z,34nm,18.1s,MS3.3,baz=184,slow=40						
SONM	Songino Array	58.23	342	P	P	16 30 26.7	-0.4
	0.6nm,0.8s,mb3.7,baz=158,slow=5.3,SNR=3.0						
SONM	Songino Array	58.23	342	P	P	16 30 26.7	-0.4
MKAR	Makanchi Array	67.88	327	P	P	16 31 30.7	-0.4
	0.5nm,0.6s,mb3.7,baz=116,slow=9.8,SNR=2.7						
MKAR	Makanchi Array	67.88	327	P	P	16 31 30.7	-0.4
KURK	Kurchatov	72.18	329	P	P	16 31 57.0	-0.5
	0.5nm,0.6s,mb3.6,baz=127,slow=4.9,SNR=3.3						
KURK	Kurchatov	72.18	329	P	P	16 31 57.0	-0.5

*IDC **01** 16:26:29.6±4.2, 36°.12N×70°.92E, h94km±36km, mb3.6/10, mb1 3.8/14, mb1mx3.5/30, mbtmp3.7/14, Error ellipse: s-maj=31.0km s-min=16.2km az=41.0*
*ISCJB **01** 16:26:32.0±0.4, 36°.42N±0°.03×71°.08E±0°.05, h123km±6km, mb3.7/9, Error ellipse: s-maj=7.0km s-min=4.3km az=171.4*
*MOS **01** 16:26:31.8±1.0, 36°.36N×71°.04E, h122km, mb4.2/1, Error ellipse: s-maj=12.2km s-min=5.3km az=84.4*
*NEIC **01** 16:26:32.4±0.6, 36°.32N×71°.04E, h116km±7km, mb4.6/12, Error ellipse: s-maj=8.6km s-min=5.7km az=65.0*
*NNC **01** 16:26:34.5±1.0, 36°.81N×70°.06E, h0km, mb4.3, mpv4.5, Error ellipse: s-maj=8.6km s-min=6.1km az=176.0*
ISC 01 16:26:33.1±0.4**, 36°.40N**±0°.03×**71°.08E**±0°.06**, h120**km±5km**, n107,** σ**1**^{s}**16**/121**, mb3.7**/9**, 6C-5D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBL	Kabul	2.49	223	ePn	Pn	16 27 12.9	+0.1
KBL				eSn	Sn	16 27 42.9	-0.3
KBL	Kabul	2.49	223	ePN	Pn	16 27 12.9	+0.1
KBL				e		16 27 42.9	
CHCP	Chirah Chowk	3.27	146	P	Pn	16 27 25.1	+2.2
THW	Thamme Wali	3.63	171	⇑P	Pn	16 27 28.8	+1.0
UCH	Uchtor	6.40	24	ePn	Pn	16 28 06.1	+1.2
UCH				eSn	Sn	16 29 15.0	-1.5
UCH	Uchtor	6.40	24	ePN	Pn	16 28 06.1	+1.2
KZA	Kyzart	6.53	28	P	Pn	16 28 07.9	+1.3
	SNR=16						
KZA	Kyzart	6.53	28	ePn	Pn	16 28 06.9	+0.3
	16nm,0.4s						
KZA				eSn	Sn	16 29 15.2	-4.4
KZA	Kyzart	6.53	28	ePN	Pn	16 28 06.9	+0.3
KZA				pmax	pmax		
	comp=Z,16nm,0.4s						
EKS2	Erkin-Say	6.59	18	P	Pn	16 28 08.4	+0.9
	SNR=27						
EKS2	Erkin-Say	6.59	18	ePn	Pn	16 28 07.8	+0.4
EKS2				eSn	Sn	16 29 19.6	-1.6
EKS2	Erkin-Say	6.59	18	ePN	Pn	16 28 07.8	+0.3
KK31	Karatay Array	6.71	356	⇓P	Pn	16 28 08.9	-0.2
	comp=Z,39nm,0.4s,baz=179,slow=12,SNR=420						
KK31				S	Sn	16 29 22.7	-1.3
	comp=Z,10.0nm,0.5s,baz=184,slow=24,SNR=4.2						
KK31	Karatay Array	6.71	356	ePN	Pn	16 28 08.8	-0.3
KK31				pmax	pmax		
	comp=Z,45nm,0.3s						
KKAR	Karatay Array	6.71	356	ePn	Pn	16 28 08.9	-0.1
	comp=Z,78nm,0.4s						
KKAR				eSn	Sn	16 29 22.6	-1.4
KKAR	Karatay Array	6.71	356	ePN	Pn	16 28 08.9	-0.2
KKAR				pmax	pmax		
	comp=Z,78nm,0.4s						
AAK	Ala-Archa	6.76	22	P	Pn	16 28 11.1	+1.3
	comp=Z,0.3nm,0.3s,baz=154,slow=2.9,SNR=92						
AAK				S	Sn	16 29 24.2	-1.1
	comp=Z,0.1nm,0.3s,baz=336,slow=21,SNR=8.6						
AAK	Ala-Archa	6.76	22	ePn	Pn	16 28 10.6	+0.9
AAK				eSn	Sn	16 29 23.5	-1.8
AAK				S	Sn	16 29 24.2	-1.1
AAK	Ala-Archa	6.76	22	PN	Pn	16 28 11.1	+1.3
AAK				pmax	pmax		
	comp=Z,14nm,0.3s						
SDNR	Sundarnagar	6.91	133	ePKP	Pn	16 28 12.0	+0.1
SDNR				eS	Sn	16 29 25.0	-4.0
KBK	Karagaybulak	6.93	24	P	Pn	16 28 13.7	+1.7
	SNR=14						
KBK	Karagaybulak	6.93	24	ePn	Pn	16 28 13.3	+1.3
	comp=Z,20nm,0.5s						
KBK	Karagaybulak	6.93	24	ePN	Pn	16 28 13.3	+1.3
KBK				pmax	pmax		
	comp=Z,20nm,0.5s						
ULHL	Ulahol	7.08	33	P	Pn	16 28 15.4	+1.4
	SNR=13						
CHMS	Chumysh	7.17	22	P	Pn	16 28 17.1	+1.8
	SNR=21						
CHMS	Chumysh	7.17	22	ePn	Pn	16 28 15.7	+0.3
	comp=Z,34nm,0.5s						
CHMS	Chumysh	7.17	22	ePN	Pn	16 28 15.7	+0.4
CHMS				pmax	pmax		
	comp=Z,33nm,0.5s						
USP	Ospenovka	7.35	20	P	Pn	16 28 18.6	+0.9
	SNR=30						
TKM2	Tokmak 2	7.39	27	P	Pn	16 28 19.3	+1.1
	SNR=8.2						
TKM2	Tokmak 2	7.39	27	⇑P	Pn	16 28 24.7	+6.5
	comp=Z,6.8nm,0.5s						
TKM2				⇑S	Sn	16 29 50.6	+10
	comp=Z,13nm,0.8s						
TKM2	Tokmak 2	7.39	27	ePn	Pn	16 28 18.4	+0.2
	comp=Z,23nm,0.6s						
TKM2	Tokmak 2	7.39	27	ePN	Pn	16 28 18.4	+0.2
TKM2				pmax	pmax		
	comp=Z,23nm,0.6s						
MK31	Makanchi Array	13.34	35	ePn	Pn	16 29 38.0	+0.5
MK31	Makanchi Array	13.34	35	eP	Pn	16 29 38.1	+0.6
MKAR	Makanchi Array	13.34	35	P	Pn	16 29 38.0	+0.5
	comp=Z,0.4nm,0.3s,baz=221,slow=14,SNR=13						
MKAR	Makanchi Array	13.34	35	P	Pn	16 29 38.0	+0.5
MKAR	Makanchi Array	13.34	35	P	Pn	16 29 38.0	+0.5
DANN	Dangsing	13.38	123	eP	Pn	16 29 36.9	-1.3
	comp=Z,9.6nm,0.4s						
DANN	Dangsing	13.38	123	eP	Pn	16 29 36.9	-1.3
	comp=Z,9.6nm,0.4s						
GKN	Gorkha	14.19	122	eP	Pn	16 29 47.2	-1.5
	comp=Z,13nm,0.4s						
GKN	Gorkha	14.19	122	eP	Pn	16 29 47.2	-1.5
	comp=Z,13nm,0.4s						
KKN	Kakani	14.77	122	eP	Pn	16 29 54.7	-1.3
	comp=Z,8.1nm,0.4s						
KKN	Kakani	14.77	122	eP	Pn	16 29 54.7	-1.3
	comp=Z,8.1nm,0.4s						
KKN	Kakani	14.77	122	eP	Pn	16 29 54.7	-1.3
KKN				pmax	pmax		
	comp=Z,8.0nm,0.4s						
PKIN	Phulchoki	14.98	122	eP	Pn	16 29 57.5	-1.2
	comp=Z,16nm,0.5s						
PKI	Pulchoki	14.99	122	eP	Pn	16 29 57.9	-0.9
	comp=Z,7.6nm,0.4s						
PKI	Pulchoki	14.99	122	eP	Pn	16 29 57.9	-0.9
	comp=Z,7.6nm,0.4s						
PKI	Pulchoki	14.99	122	eP	Pn	16 29 57.9	-0.9
PKI				pmax	pmax		
	comp=Z,8.0nm,0.4s						
GUN	Gumba	15.11	120	eP	Pn	16 29 58.4	-1.8
	comp=Z,12nm,0.6s						
GUN	Gumba	15.11	120	eP	Pn	16 29 58.4	-1.8
	comp=Z,12nm,0.6s						
AB31	Akbulak array	15.21	331	P	Pn	16 30 00.5	-0.8
	comp=Z,2.1nm,0.4s,baz=147,slow=12,SNR=111						
AB31				⇓S	S	16 32 42.6	-15
	comp=Z,4.1nm,0.7s,baz=152,slow=23,SNR=13						
AB31	Akbulak array	15.21	331	eP	Pn	16 29 59.6	-1.7
AB31				pmax	pmax		
	comp=Z,5.0nm,0.4s						
ABKAR	Akbulak array	15.21	331	ePn	Pn	16 29 59.3	-2.0
	comp=Z,4.1nm,0.4s						
ABKAR				eSn	Sn	16 32 35.3	-14
KURK	Kurchatov	15.31	18	⇑P	Pn	16 30 09.5	+7.0
	comp=Z,4.1nm,0.8s						
KURK	Kurchatov	15.31	18	P	Pn	16 29 59.1	-3.4
	comp=Z,0.2nm,0.3s,baz=207,slow=10,SNR=10						
KURK	Kurchatov	15.31	18	P	Pn	16 29 59.1	-3.4
KURK	Kurchatov	15.31	18	P	Pn	16 30 04.6	+2.1
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VOSK	Vostochnaya	16.32	360	⇓P	Pn	16 30 19.6	+4.5
	comp=Z,4.9nm,0.9s						
VOSK	Vostochnaya	16.32	360	P	Pn	16 30 13.4	-1.7
VOSK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ZRNK	Zerenda	16.62	356	⇑P	Pn	16 30 22.7	+4.0
	comp=Z,3.6nm,1.1s						
ZRNK	Zerenda	16.62	356	P	Pn	16 30 18.1	-0.6
ZRNK				pmax	pmax		
	comp=Z,5.0nm,1.7s						
BVAR	Borovoye Array	16.63	359	P	Pn	16 30 18.9	0.0
	comp=Z,0.9nm,0.3s,baz=170,slow=12,SNR=13						
BVAR	Borovoye Array	16.63	359	P	Pn	16 30 18.9	0.0
BVAR	Borovoye Array	16.63	359	P	Pn	16 30 18.9	0.0
BRVK	Borovoye	16.67	358	⇓P	Pn	16 30 24.0	+4.7
	comp=Z,6.3nm,0.7s						
BRVK	Borovoye	16.67	358	eP	Pn	16 30 19.8	+0.5
	comp=Z,4.3nm,0.6s						
BRVK	Borovoye	16.67	358	P	Pn	16 30 19.9	+0.6
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.7s						
AKTK	Aktyubinsk	16.90	330	P	Pn	16 30 21.9	-0.3
AKTO	Aktyubinsk	16.90	330	⇑P	Pn	16 30 22.6	+0.4
	comp=Z,1.1nm,0.8s						
AKTO				⇓S	S	16 33 23.8	-6.7
	comp=Z,0.4nm,0.6s						
AKTO	Aktyubinsk	16.90	330	P	Pn	16 30 21.9	-0.3
	comp=Z,1.1nm,0.3s,baz=131,slow=10.0,SNR=20						
AKTO	Aktyubinsk	16.90	330	P	Pn	16 30 22.6	+0.4
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LSA	Lhasa	18.09	106	eP	P	16 30 37.9	+2.5
	comp=Z,2.8nm,0.6s						
LSA	Lhasa	18.09	106	eP	P	16 30 37.9	+2.5
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZAA0	Zalesovo Array	19.98	24	eP	P	16 30 56.6	+0.8
ZALV	Zalesovo Beam	19.98	24	P	P	16 30 57.1	+1.3
	comp=Z,9.6nm,0.5s,baz=223,slow=10,SNR=85						
ZALV	Zalesovo Beam	19.98	24	P	P	16 30 57.1	+1.3
ZALV	Zalesovo Beam	19.98	24	P	P	16 30 57.1	+1.3
NVS	Novosibirsk	20.25	21	eP	P	16 30 59.6	+0.9
NVS				pmax	pmax		
	comp=Z,15nm,1.0s						
NVS				pmax	pmax		
	comp=N,9.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.8s						
ARU	Arti	21.75	341	eP	P	16 31 15.1	+0.5
ARU	Arti	21.75	341	eP	P	16 31 15.1	+0.5
CMAR	Chiang Mai Arr	30.35	119	P	P	16 32 33.2	-0.3
	comp=E,0.6nm,0.7s,mb3.4,baz=298,slow=8.7,SNR=5.4						
CMAR	Chiang Mai Arr	30.35	119	P	P	16 32 33.2	-0.3
CMAR	Chiang Mai Arr	30.35	119	P	P	16 32 33.3	-0.2
FINES	FINESS Array B	37.60	326	P	P	16 33 36.7	+1.0
	comp=E,1.1nm,0.4s,mb4.0,baz=119,slow=9.9,SNR=13						
FINES	FINESS Array B	37.60	326	P	P	16 33 36.7	+1.0
FINES	FINESS Array B	37.60	326	P	P	16 33 36.7	+1.0
ARCES	ARCESS Array B	41.27	338	P	P	16 34 07.5	+1.5
	comp=E,2.8nm,0.6s,mb4.3,baz=105,slow=9.4,SNR=10						
ARCES	ARCESS Array B	41.27	338	P	P	16 34 07.5	+1.5
ARCES	ARCESS Array B	41.27	338	P	P	16 34 07.5	+1.5
NB2	NORSAR Subarra	44.50	323	P	P	16 34 32.2	+0.1
	comp=Z,0.9nm,0.5s,mb3.8,baz=97,slow=7.9						
NOA	NORSAR Array B	44.50	323	P	P	16 34 32.6	+0.5
	comp=Z,1.8nm,0.7s,mb3.9,baz=97,slow=7.8,SNR=5.9						
NOA	NORSAR Array B	44.50	323	P	P	16 34 32.6	+0.5
NOA	NORSAR Array B	44.50	323	P	P	16 34 32.7	+0.6
TORD	Torodi Ar. Bea	65.78	269	P	P	16 37 03.0	-2.6
	comp=Z,0.4nm,0.6s,mb3.4,baz=46,slow=5.5,SNR=4.0						
TORD	Torodi Ar. Bea	65.78	269	P	P	16 37 03.0	-2.6
INK	Inuvik	74.00	9	P	P	16 37 55.9	+1.0
	comp=Z,0.9nm,0.5s,mb3.7,baz=156,slow=2.9,SNR=8.2						
INK	Inuvik	74.00	9	P	P	16 37 55.9	+1.0
INK	Inuvik	74.00	9	P	P	16 37 55.9	+0.9
ILAR	Eielson Array	74.86	16	P	P	16 38 00.9	+0.9
	comp=Z,0.4nm,1.0s,mb3.1,baz=316,slow=5.0,SNR=3.5						
ILAR	Eielson Array	74.86	16	P	P	16 38 00.9	+0.9
ILAR	Eielson Array	74.86	16	P	P	16 38 00.9	+0.9
WRA	Warramunga Arr	81.88	122	P	P	16 38 38.4	-0.9
	comp=Z,0.7nm,0.4s,mb3.8,baz=326,slow=4.9,SNR=9.1						
WRA	Warramunga Arr	81.88	122	P	P	16 38 38.4	-0.9
WRA	Warramunga Arr	81.88	122	P	P	16 38 38.4	-0.8
ASAR	Alice Springs	84.14	125	P	P	16 38 50.1	-0.7
	comp=Z,0.8nm,0.6s,mb3.8,baz=308,slow=5.1,SNR=21						
ASAR	Alice Springs	84.14	125	P	P	16 38 50.1	-0.7
ASAR	Alice Springs	84.14	125	P	P	16 38 50.2	-0.6

IDC 01 16:36:48.7±13.0**, 7°.67S**×**128°.11E, h157**km±145km**, mb2.9**/1**, mb1 3.3**/4**, mb1mx3.0**/18**, mbtmp3.1**/4**, ML3.7**/3**, Error ellipse: s-maj=98.0km s-min=53.3km az=30.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	10.64	193	P	Pn	16 39 18.3	+1.2
	1.5nm,0.3s,baz=32,slow=9.8,SNR=38						
FITZ				S	Sn	16 41 13.1	-1.9
	0.4nm,0.3s,baz=27,slow=6.8,SNR=2.5						
WRA	Warramunga Arr	13.61	154	P	Pn	16 39 53.9	-1.6
	0.2nm,0.3s,baz=330,slow=13,SNR=11						
WRA				S	Sn	16 42 13.3	-13
	0.5nm,0.3s,baz=332,slow=22,SNR=7.2						
ASAR	Alice Springs	16.84	161	P	Pn	16 40 36.5	+1.1
	0.3nm,0.3s,baz=339,slow=9.5,SNR=35						
ASAR				S	S	16 43 33.2	-9.5
	0.1nm,0.3s,baz=333,slow=24,SNR=4.8						
MKAR	Makanchi Array	67.78	328	P	P	16 47 29.6	0.0
	0.1nm,0.5s,baz=124,slow=8.1,SNR=3.2						

*ISK **01** 16:38:31.7, 37°.89N×26°.69E, h4km, MD2.8*
*CSEM **01** 16:38:32.0±0.2, 37°.90N×26°.61E, h5km, MD3.1, Error ellipse: s-maj=6.0km s-min=3.5km az=106.0*
*DDA **01** 16:38:32.8, 37°.95N×26°.68E, h11km±2km, Md3.1*
ISC 01 16:38:32.1±1.0**, 37°.91N**±0°.03×**26°.60E**±0°.07**, h6**km±7km**, n20,** σ**0**^{s}**60**/28**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URLA	Izmir	0.45	360	i Pg	Pg	16 38 40.5	-0.3
URLA				i Sg	Sg	16 38 47.5	+0.8
GCAM	G?zelcaml?	0.54	112	eP	Pg	16 38 42.7	+0.2
GCAM				eS	Sg	16 38 50.1	+0.5
GCAM	G?zelcaml?	0.54	112	eP	Pg	16 38 42.7	+0.2
GCAM				eS	Sg	16 38 50.1	+0.5
BLCB	Balcova	0.59	36	ePG	Pg	16 38 43.3	-0.1
BLCB				eSG	Sg	16 38 52.1	+1.0
BLCB	Balcova	0.59	36	ePg	Pg	16 38 43.3	-0.1
BLCB				eSg	Sg	16 38 52.1	+1.0
IZM	Izmir	0.71	47	ePG	Pg	16 38 45.7	-0.1
IZM	Izmir	0.71	47	ePg	Pg	16 38 45.7	-0.1
BODT	Bodrum	1.02	146	ePG	Pg	16 38 50.8	-0.8
BODT	Bodrum	1.02	146	ePg	Pg	16 38 50.8	-0.8
APE	Apeiranthos	1.20	226	ePN	Pn	16 38 56.0	+0.7
APE	Apeiranthos	1.20	226	ePn	Pn	16 38 56.0	+0.7
AKHS	Akhisar	1.36	44	eP	Pn	16 38 56.8	-0.7
AKHS				eS	Sb	16 39 15.7	+0.2
AKHS	Akhisar	1.36	44	eP	Pn	16 38 56.8	-0.7
AKHS				eS	Sb	16 39 15.7	+0.2
AKS	Akhisar	1.36	44	ePN	Pn	16 38 57.8	+0.2
AKS	Akhisar	1.36	44	ePn	Pn	16 38 57.8	+0.3
DAT	Datca	1.41	146	ePN	Pn	16 38 58.1	-0.2
DAT	Datca	1.41	146	ePn	Pn	16 38 58.1	-0.2
KULA	Kula-Manisa	1.73	69	ePN	Pn	16 39 02.9	+0.2
KULA	Kula-Manisa	1.73	69	ePn	Pn	16 39 02.9	+0.2
BALY	Balya	1.99	23	eP	Pg	16 39 09.8	-0.5
BALY				eS	Sg	16 39 34.8	-1.3

*ISCJB **01** 16:47:48.3±0.5, 10°.84N±0°.03×62°.28W±0°.04, h103km±5km, Error ellipse: s-maj=7.3km s-min=3.3km az=43.9*
*FUNV **01** 16:47:50.5, 10°.82N×62°.20W, h92km, MW4.0*
*TRN **01** 16:47:50.5, 10°.83N×62°.01W, h106km, MD3.2, M3.8(FDF)*
ISC 01 16:47:49.4±0.5**, 10°.84N**±0°.03×**62°.27W**±0°.03**, h95**km±6km**, n39,** σ**0**^{s}**91**/57**, 13C-7D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIV	Guiria	0.20	166	⇓iP	Pn	16 48 03.4	+0.4
GUIV				eS	Sn	16 48 12.7	-0.4
TRN	Trinidad (W)	0.87	102	⇑iP	Pn	16 48 08.2	+0.1
TRN	Trinidad (W)	0.87	102	⇑iP	Pn	16 48 08.2	+0.1
TRN				eS	Sn	16 48 20.2	-1.9
GUNV	Guanoco	0.94	225	⇑iP	Pn	16 48 10.6	+1.8
GUNV				eS	Sn	16 48 23.9	+0.5
CRUV	Carupano	0.96	260	⇓iP	Pn	16 48 10.0	+1.0
CRUV				eS	Sn	16 48 23.7	-0.1
GRW	Mount Saint Ca	1.44	24	⇓iP	Pn	16 48 14.8	0.0
GRW	Mount Saint Ca	1.44	24	⇓iP	Pn	16 48 14.8	0.0
GRW				eS	Sn	16 48 33.0	-0.9
TPR	Prospect	1.51	77	⇑iP	Pn	16 48 15.0	-0.5
TPR	Prospect	1.51	77	⇑iP	Pn	16 48 15.0	-0.5
TPR				eS	Sn	16 48 31.2	-4.0
GRHS	Sauteurs	1.51	24	eP	Pn	16 48 16.3	+0.8
GRHS				eS	Sn	16 48 35.1	-0.2
GRIC	Isle de Caille	1.59	25	eP	Pn	16 48 17.5	+0.9
GRIC				eS	Sn	16 48 37.3	+0.2
GRSS	Sisters	1.59	24	⇑iP	Pn	16 48 17.6	+1.1
GRSS	Sisters	1.59	24	⇑iP	Pn	16 48 17.6	+1.1
GRSS				eS	Sn	16 48 37.5	+0.5
ORIV	Oritupano	2.08	213	⇑iP	Pn	16 48 24.1	+1.2
ORIV				eS	Sn	16 48 48.1	-0.4
PCRV	Puerto La Cruz	2.42	254	⇑eP	Pn	16 48 28.4	+1.1
PCRV				eS	Sn	16 48 56.0	-0.4
IBAV	Isla La Blanqu	2.46	294	⇓eP	Pn	16 48 28.7	+0.8
SVV	Soufriere Volc	2.67	23	eP	Pn	16 48 31.3	+0.6
BHS	Barnard House	2.69	24	eP	Pn	16 48 31.8	+0.9
SSV	Crater Summit	2.69	23	⇓eP	Pn	16 48 31.7	+0.8
SSV	Crater Summit	2.69	23	⇓eP	Pn	16 48 31.7	+0.8
RIOV	Rio Grande	2.79	171	eP	Pn	16 48 32.6	+0.4
PRGV	PARIAGUAN	3.12	229	eP	Pn	16 48 37.6	+0.9
PRGV				eS	Sn	16 49 12.9	-0.2
GURV	El Guri	3.16	195	⇑iP	Pn	16 48 37.5	+0.2
SLB	Belfond	3.21	22	eP	Pn	16 48 38.5	+0.7
SLB				eS	Sn	16 49 13.6	-1.6
SLW	Petit Monier	3.42	22	eP	Pn	16 48 41.6	+0.9
CUPV	Cœpira	3.55	258	⇑eP	Pn	16 48 43.4	+1.0
CUPV				eS	Sn	16 49 22.7	-0.7
BIM	Bigot	3.84	18	eP	Pn	16 48 45.9	-0.5
BIM				eS	Sn	16 49 27.9	-2.5
MVM	Montagne Vaucl	3.93	20	eP	Pn	16 48 47.5	-0.2
BIRV	Birongo	3.95	265	eP	Pn	16 48 49.2	+1.4
BIRV				eS	Sn	16 49 32.1	-1.0
FDF	Fort de France	4.02	16	⇑iP	Pn	16 48 48.5	-0.4
FDF				⇑eS	Sn	16 49 30.8	-4.1
MERV	Las Mercedes	4.27	249	eP	Pn	16 48 52.3	+0.2
MERV				eS	Sn	16 49 39.3	-1.6
LUEV	Luepa	5.03	171	eP	Pn	16 49 00.8	-1.7
TURV	Turiamo	5.49	266	eP	Pn	16 49 08.6	-0.1
BAUV	El Baul	5.99	252	eP	Pn	16 49 14.5	-1.1
MAPV	Macapo	6.17	261	eP	Pn	16 49 17.7	-0.3
TEPV	Terepaima	6.86	263	eP	Pn	16 49 26.8	-0.6
CURV	Curarigua	7.61	265	eP	Pn	16 49 37.1	-0.5
MONV	Montecano	7.63	279	eP	Pn	16 49 38.2	+0.2
SOCV	Socops	8.84	254	eP	Pn	16 49 53.1	-1.3

*NOU **01** 16:48:18.0±1.2, 12°.00S×165°.25E, h30km, ML3.5*
*IDC **01** 16:48:27.8±0.7, 12°.71S×167°.01E, h207km±5km, mb4.1/26, mb1 4.2/28, mb1mx4.2/30, mbtmp4.1/28, Error ellipse: s-maj=11.9km s-min=8.2km az=141.0*
*ISCJB **01** 16:48:27.3±0.2, 12°.60S±0°.03×166°.94E±0°.05, h214km, mb4.5/78, Error ellipse: s-maj=6.4km s-min=4.4km az=14.3*
*BJI **01** 16:48:27.7, 12°.02S×167°.22E, h206km, mB4.7/14, mb4.6/26*
*NEIC **01** 16:48:28.4±0.2, 12°.61S×166°.97E, mb4.6/49, Error ellipse: s-maj=7.3km s-min=4.7km az=150.0*
*LDG **01** 16:48:28.5±0.4, 12°.76S×166°.83E, h220km, Mb4.6/4, Error ellipse: s-maj=48.1km s-min=12.0km az=84.0*
ISC 01 16:48:28.7±0.2**, 12°.67S**±0°.03×**167°.00E**±0°.05**, h216**km**, h216**km±2.6km**:pP-P, n200,** σ**0**^{s}**90**/135**, mb4.5**/78**, 1C-1D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	7.63	294	P	Pn	16 50 18.0	+0.8
	3.5nm,0.3s,baz=5.3,slow=7.5,SNR=7.2						
HNR	Honiara	7.63	294	ePn	Pn	16 50 16.9	-0.3
	66nm,0.7s						
DZM	Mont Dzumac	9.37	183	eP	Pn	16 50 39.4	-0.2
DZM				eS	S	16 52 24.0	-0.9
DZM				AMP		16 52 32.4	
	comp=Z,152nm,0.8s						
NOUC	Port Laguerre	9.41	184	eP	Pn	16 50 39.9	-0.2
NOUC				eS	S	16 52 24.0	-1.8
NOUC				AMP		16 52 38.8	
	comp=Z,5.4nm,4.3s						
BAYA	Yate Dam	9.44	181	eS	S	16 52 28.3	+1.8
LASL	Noumea	9.52	183	eP	Pn	16 50 41.7	+0.1
MSVF	Nonsavu	11.80	117	ePn	Pn	16 51 18.3	+7.6
	comp=Z,26nm,1.0s						
EIDS	Eidsvold	19.62	228	eP	P	16 52 42.8	+1.8
EIDS	Eidsvold	19.62	228	eP	P	16 52 42.5	+1.5
	comp=Z,9.5nm,0.5s						
PMG	Port Moresby	19.74	277	P	P	16 52 43.4	+1.1
	comp=Z,1.1nm,0.3s,baz=48,slow=7.1,SNR=5.0						
PMG	Port Moresby	19.74	277	eP	P	16 52 43.0	+0.6
	comp=Z,41nm,1.0s						
AFI	Afiamalu	20.70	96	P	P	16 52 51.7	-0.8
	comp=Z,14nm,0.7s,baz=279,slow=23,SNR=5.4						
AFI	Afiamalu	20.70	96	P	P	16 52 51.7	-0.8
CTA	Charters Tower	21.21	247	P	P	16 52 56.9	-1.0
	comp=Z,6.2nm,0.7s,mb4.2,baz=97,slow=9.3,SNR=8.3						
CTA	Charters Tower	21.21	247	eP	P	16 52 58.7	+0.8
	comp=Z,5.7nm,0.8s,mb4.2						
CTA	Charters Tower	21.21	247	P	P	16 52 56.9	-1.0
CTAO	Charters Tower	21.21	247	eP	P	16 52 58.5	+0.5
	comp=Z,7.2nm,0.7s,mb4.3						
CTAO				epP		16 53 31.2	
ARMA	Armidale	22.68	216	eP	P	16 53 12.7	+1.0
STKA	Stephens Creek	30.17	227	P	P	16 54 19.7	+0.9
	comp=Z,7.2nm,0.6s,mb4.5,baz=39,slow=7.7,SNR=28						
STKA				PcP	PcP	16 57 14.4	-0.1
	comp=Z,5.7nm,0.9s,baz=21,slow=2.1,SNR=6.6						
STKA				ScP	ScP	17 00 38.0	+1.8
	comp=Z,2.6nm,0.9s,baz=46,slow=2.2,SNR=4.1						
STKA	Stephens Creek	30.17	227	eP	P	16 54 19.6	+0.8
	comp=Z,4.6nm,0.5s,mb4.4						
STKA	Stephens Creek	30.17	227	eP	P	16 54 19.5	+0.7
	comp=Z,2.4nm,0.9s,mb3.8						
STKA				ePcP	PcP	16 57 14.2	-0.3
RPZ	Rata Peaks	31.14	174	P	P	16 54 28.2	+1.1
	comp=Z,18nm,0.6s,mb4.9,baz=139,slow=1.3,SNR=7.0						
RPZ	Rata Peaks	31.14	174	P	P	16 54 28.2	+1.1
WB2	Warramunga Arr	32.11	253	eP	P	16 54 35.1	-0.9
WRAB	Tennant Creek	32.11	253	eP	P	16 54 35.2	-0.8
	comp=Z,5.3nm,1.0s,mb4.0						
WRA	Warramunga Arr	32.12	253	P	P	16 54 35.4	-0.7
	comp=Z,2.2nm,0.6s,mb3.9,baz=86,slow=9.1,SNR=36						
WRA				pP	pP	16 55 18.5	-1.5
	comp=Z,3.0nm,0.8s,baz=82,slow=8.9,SNR=7.3						
WRA				S	S	16 59 28.3	-4.2
	comp=Z,0.8nm,0.9s,baz=84,slow=14,SNR=3.1						
WRA				ScP	ScP	17 00 45.1	+2.0
	comp=Z,2.5nm,0.9s,baz=79,slow=3.8,SNR=14						
WRA	Warramunga Arr	32.12	253	P	P	16 54 35.4	-0.7
WRA				pP	pP	16 55 18.5	-1.5
WRA				S	S	16 59 28.3	-4.2
WRA				ScP	ScP	17 00 45.1	+2.0
ASAR	Alice Springs	33.21	246	P	P	16 54 44.9	-0.6
	comp=Z,3.8nm,0.6s,mb4.1,baz=72,slow=9.3,SNR=96						
ASAR				pP	pP	16 55 28.6	-0.9
	comp=Z,7.3nm,0.8s,baz=73,slow=9.4,SNR=10						
ASAR				PcP	PcP	16 57 21.2	-1.7
	comp=Z,2.0nm,0.8s,baz=84,slow=4.8,SNR=7.5						
ASAR				S	S	16 59 47.0	-2.3
	comp=Z,0.7nm,0.9s,baz=74,slow=16,SNR=4.5						
ASAR				ScP	ScP	17 00 48.5	+1.8
	comp=Z,3.9nm,0.9s,baz=83,slow=3.3,SNR=19						
ASAR	Alice Springs	33.21	246	P	P	16 54 44.9	-0.6
ASAR				pP	pP	16 55 28.6	-0.9

ASAR PcP PcP 16 57 21.2 -1.7
ASAR S S 16 59 47.0 -2.3
ASAR ScP ScP 17 00 48.5 +1.8
BBOO Buckleboo 34.67 230 eP P 16 54 58.4 +0.5
comp=Z,11nm,0.5s,mb4.7
FORT Forrest 40.16 237 eP P 16 55 44.3 +0.4
comp=Z,54nm,0.6s,mb5.2
FORT Forrest 40.16 237 eP P 16 55 44.2 +0.3
comp=Z,57nm,0.6s,mb5.2
FITZ Fitzroy Crossi 40.18 257 eP P 16 55 44.3 0.0
comp=Z,6.7nm,0.7s,mb4.2
KMBL Kambalda 45.41 238 eP P 16 56 26.3 +0.2
comp=Z,133nm,0.5s,mb5.5
KAPI Kappang 47.24 275 P P 16 56 40.0 -0.6
comp=Z,6.0nm,0.9s,mb3.9,baz=76,slow=12,SNR=4.7
KAPI Kappang 47.24 275 P P 16 56 40.0 -0.6
MEEK Meekatharra 47.37 245 eP P 16 56 41.6 +0.2
NWAO Narrogin (SRO) 49.60 237 P P 16 56 58.1 -0.2
comp=Z,12nm,0.6s,mb4.4,baz=71,slow=7.9,SNR=18
NWAO Narrogin (SRO) 49.60 237 eP P 16 56 58.0 -0.3
comp=Z,13nm,0.8s,mb4.3
NWAO epP pP 16 57 48.8 +3.2
KKM Kota Kinabalu 53.78 287 eP P 16 57 29.4 0.0
comp=Z,13nm,1.0s,mb4.4
MJAR Matsushiro Arr 55.96 332 P P 16 57 44.0 -0.7
comp=Z,3.9nm,0.7s,mb4.0,baz=168,slow=9.0,SNR=14
MJAR PcP PcP 16 58 41.2 +0.8
comp=Z,0.9nm,0.5s,baz=159,slow=4.9,SNR=4.3
MJAR Matsushiro Arr 55.96 332 P P 16 57 44.0 -0.7
MJAR PcP PcP 16 58 41.2 +0.8
MAJO Matsushiro 55.97 332 eP P 16 57 43.5 -1.2
comp=Z,11nm,1.1s,mb4.3
MAT Matsushiro 55.97 332 P P 16 57 43.8 -0.9
KSM Kuching 57.98 280 P P 16 57 57.1 -2.2
comp=Z,8.3nm,1.3s,mb4.2
ASAJ Asahikawa 60.72 340 P P 16 58 18.1 +0.7
comp=Z,11nm,0.6s,mb4.6,baz=239,slow=8.0,SNR=16
KSRS Korea Array 61.90 325 P P 16 58 26.1 +0.7
comp=Z,1.9nm,0.8s,mb3.8,baz=132,slow=7.5,SNR=5.0
YSS Yuzh-Sakhalins 63.20 342 eP P 16 58 33.6 -0.2
comp=Z,16nm,0.8s,mb4.7
NJ2 Nanjing 64.03 315 eP P 16 58 40.5 +1.0
NJ2 pmax pmax
comp=Z,20nm,0.9s,mb4.8
SBA Scott Base 65.19 180 eP P 16 58 47.9 +1.5
comp=Z,21nm,0.8s,mb4.8
PETK Petropavlovsk- 65.99 354 P P 16 58 52.8 +1.1
comp=Z,6.5nm,0.7s,mb4.4,baz=162,slow=7.3,SNR=19
PETK Petropavlovsk- 65.99 354 P P 16 58 52.8 +1.1
MDJ Mudanjiang 66.35 332 eP P 16 58 54.1 0.0
comp=Z,7.5nm,0.9s,mb4.3
CN2 Changchun 67.75 329 eP P 16 59 03.7 +0.7
CN2 eS S 17 07 43.2 +0.2
CN2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.6
KULM Kulim 68.29 281 eP P 16 59 05.7 -1.3
comp=Z,4.3nm,0.8s,mb4.1
ENH Enshi 69.86 309 eP P 16 59 15.3 -1.0
comp=Z,7.6nm,0.9s,mb4.3
GYA Guiyang 70.33 304 eP P 16 59 20.7 +1.4
GYA pP pP 17 00 12.3 +2.4
GYA sP sP 17 00 35.8 +2.7
GYA PP PP 17 02 01.2 +3.0
GYA S S 17 08 13.4 -0.6
GYA SKS 17 08 57.0
GYA pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
GYA pmax pmax
comp=Z,70nm,5.4s
XAN Xi'an 72.11 312 P P 16 59 30.4 +0.6
XAN pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
KMI Kunming 73.00 301 P P 16 59 37.0 +1.8
KMI pmax pmax
comp=Z,11nm,0.8s,mb4.5
HHC Hu-ho-hao-te 73.85 319 eP P 16 59 41.3 +1.5
HHC pP pP 17 00 34.0 +3.1
HHC PP PP 17 02 30.6 +2.7
HHC S S 17 08 52.9 -0.6
HHC SS SS 17 13 44.7 +1.9
HHC pmax pmax
comp=Z,13nm,0.8s,mb4.6
HHC pmax pmax
comp=Z,56nm,4.4s
CM31 Chiang Mai Arr 73.88 294 eP P 16 59 40.8 +0.4
comp=Z,6.0nm,0.9s,mb4.2
CMAR Chiang Mai Arr 73.88 294 P P 16 59 41.9 +1.5
comp=Z,4.5nm,0.8s,mb4.1,baz=125,slow=4.3,SNR=28
CMAR pP pP 17 00 29.2 -2.3
comp=Z,1.3nm,1.0s,baz=121,slow=3.4,SNR=2.1
CMAR Chiang Mai Arr 73.88 294 P P 16 59 41.9 +1.5
CMAR pP pP 17 00 29.2 -2.3
CHTO Chiang Mai 74.00 294 eP P 16 59 38.9 -2.3
comp=Z,10nm,1.3s,mb4.3
HIA Hailar 74.38 330 P P 16 59 42.2 -0.5
comp=Z,16nm,1.0s,mb4.6
CD2 Chengdu 74.55 307 P P 16 59 44.2 +0.1
CD2 pP pP 17 00 37.2 +1.9
CD2 PP PP 17 02 35.8 +1.7
CD2 S S 17 08 59.8 -1.9
CD2 pmax pmax
comp=Z,20nm,0.5s,mb5.0
CD2 pmax pmax
comp=Z,180nm,5.5s
LZH Lanzhou 76.75 312 P P 16 59 57.2 +0.8
LZH pP pP 17 00 50.5 +2.6
LZH pmax pmax
comp=Z,18nm,1.4s,mb4.5
LZH pmax pmax
comp=Z,55nm,8.0s
QSPA South Pole Qui 77.35 180 eP P 16 59 59.8 +0.7
comp=Z,11nm,0.8s,mb4.5
KDAK Kodiak Island 77.64 21 P P 17 00 00.7 -0.1
comp=Z,5.0nm,0.6s,mb4.3,baz=230,slow=5.8,SNR=7.3
KDAK Kodiak Island 77.64 21 P P 17 00 00.7 -0.1
RSO Redoubt South 79.64 19 eP P 17 00 11.4 -0.3
comp=Z,15nm,0.7s,mb4.7
YAK Yakutsk 79.99 343 eP P 17 00 13.2 -0.4
comp=Z,32nm,1.1s,mb4.9
ULN Ulaanbaatar 80.32 324 eP P 17 00 16.3 +0.7
comp=Z,2.8nm,0.3s,mb4.4
SEW Seward 80.46 20 eP P 17 00 14.7 -1.3
comp=Z,16nm,1.0s,mb4.6
BILL Bilibino 80.49 360 eP P 17 00 16.1 0.0
comp=Z,33nm,1.2s,mb4.8
SONM Songino Array 80.69 323 P P 17 00 18.5 +0.9
comp=Z,2.0nm,0.7s,mb3.8,baz=132,slow=5.1,SNR=11
SONM Songino Array 80.69 323 P P 17 00 18.5 +0.9
GTA Gaotai 81.06 314 ⇑P P 17 00 21.1 +1.4
GTA pP pP 17 01 11.2 -0.6
GTA sP sP 17 01 32.7 -1.9
GTA pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
PMR Palmer 81.66 20 eP P 17 00 22.0 -0.3
comp=Z,9.2nm,0.7s,mb4.5
DIV Divide 82.46 21 eP P 17 00 26.5 -0.1
comp=Z,8.4nm,0.6s,mb4.5
TRF Thorofare Moun 82.67 18 eP P 17 00 26.6 -0.9
comp=Z,10nm,0.8s,mb4.6
MCK McKinley 83.28 18 eP P 17 00 30.1 -0.6
comp=Z,6.7nm,0.7s,mb4.5
MAW Mawson 83.69 202 P P 17 00 32.4 -0.5
comp=Z,4.8nm,0.9s,mb4.2,baz=94,slow=6.7,SNR=11
MAW Mawson 83.69 202 eP P 17 00 33.1 +0.2
comp=Z,1.9nm,1.2s,mb3.7
PAX Paxson 83.84 20 eP P 17 00 32.2 -1.4
comp=Z,6.1nm,1.0s,mb4.3
TLY Talaya 84.14 326 eP P 17 00 35.4 +0.1
comp=Z,3.8nm,0.7s,mb4.2
YBH Yreka Blue Hor 84.15 45 P P 17 00 35.2 -0.5
comp=Z,5.7nm,0.9s,mb4.3,baz=335,slow=3.3,SNR=5.9
YBH Yreka Blue Hor 84.15 45 P P 17 00 35.1 -0.5
LSA Lhasa 84.25 302 eP P 17 00 37.7 +1.3
comp=Z,5.0nm,0.8s,mb4.3
COLA College 84.44 18 eP P 17 00 35.8 -0.8
comp=Z,21nm,0.8s,mb4.9
ILAR Eielson Array 84.66 18 P P 17 00 37.4 -0.3
comp=Z,17nm,0.7s,mb4.9,baz=249,slow=5.0,SNR=261
ILAR pP pP 17 01 27.8 -2.3
comp=Z,3.5nm,0.9s,baz=228,slow=5.8,SNR=4.0
ILAR Eielson Array 84.66 18 P P 17 00 37.4 -0.3
ILAR pP pP 17 01 27.8 -2.3
DOT Dot Lake 84.77 20 eP P 17 00 37.8 -0.4
comp=Z,20nm,0.6s,mb5.0
DOT epP pP 17 01 23.3 -7.4
WAKR Walker 85.32 49 eP P 17 00 42.2 +0.7
comp=Z,6.2nm,1.0s,mb4.3
COLD Coldfoot 85.52 15 eP P 17 00 42.2 +0.3
comp=Z,9.0nm,0.9s,mb4.5
NVAR Mina Array Bea 86.13 49 P P 17 00 46.5 +0.9
comp=Z,4.4nm,0.8s,mb4.3,baz=230,slow=7.1,SNR=16
NVAR Mina Array Bea 86.13 49 P P 17 00 46.5 +0.9
EGAK Eagle 86.47 20 eP P 17 00 45.9 -0.7
comp=Z,12nm,0.8s,mb4.7
EGAK epP pP 17 01 38.0 -1.3
DAWY Dawson 86.62 21 eP P 17 00 46.4 -0.9
DAWY epP pP 17 01 40.2 +0.1
LDFC Landfair 87.52 53 eP P 17 00 53.0 +0.7
comp=Z,28nm,0.8s,mb5.1
LDFC epP pP 17 01 47.0 +1.8
SHPR Sheep Range 87.91 52 eP P 17 00 54.4 +0.3
comp=Z,14nm,1.3s,mb4.6
OD2 Odessa Site #2 88.87 41 eP P 17 00 58.2 -0.2
comp=Z,5.5nm,0.8s,mb4.4
MFID Camas Ranch 89.50 45 eP P 17 01 01.8 +0.4
comp=Z,9.0nm,0.8s,mb4.7
CCUT Cedar City 89.58 51 eP P 17 01 02.8 +0.9
comp=Z,37nm,1.7s,mb4.9
ARUT Antelope Range 89.59 51 eP P 17 01 02.4 +0.4
comp=Z,9.0nm,1.0s,mb4.5
TUC Tucson 90.23 57 eP P 17 01 05.7 +0.6
comp=Z,13nm,1.2s,mb4.6
TUC epP pP 17 01 57.7 -0.5
HLID Hailey 90.53 45 eP P 17 01 06.9 +0.7
comp=Z,8.1nm,1.1s,mb4.6
HLID epP pP 17 02 00.3 +1.0
WUAZ Wupatki 90.58 54 eP P 17 01 07.4 +0.7
comp=Z,10nm,0.8s,mb4.8
WUAZ epP pP 17 02 00.1 +0.4
SYO Syowa Base 90.60 197⇓eP P 17 01 04.6 -1.5
MSU Marysvale 90.75 51 eP P 17 01 08.6 +1.3
comp=Z,12nm,1.1s,mb4.7
MSU epP pP 17 02 03.6 +3.2
INK Inuvik 91.03 19 P P 17 01 07.5 -0.4
comp=Z,1.0nm,0.6s,mb3.9,baz=294,slow=2.4,SNR=4.5
INK Inuvik 91.03 19 P P 17 01 07.5 -0.4
WMQ Urumqi 91.10 315 P P 17 01 08.5 -0.3
PV01 Paradox Valley 93.40 52 eP P 17 01 19.6 0.0
comp=Z,427nm,0.9s
PDAR Pinedale Array 93.75 47 P P 17 01 20.6 -0.4
comp=Z,0.6nm,0.7s,mb3.7,baz=198,slow=2.2,SNR=5.0
PDAR Pinedale Array 93.75 47 P P 17 01 20.6 -0.4
TXAR Lajitas Array 95.53 61 P P 17 01 29.9 +0.3
comp=Z,1.4nm,0.7s,mb4.3,baz=220,slow=5.2,SNR=18
TXAR Lajitas Array 95.53 61 P P 17 01 29.9 +0.3
MK31 Makanchi Array 95.53 317 eP P 17 01 29.1 -0.1
MK31 epP pP 17 02 18.8 -3.6
MKAR Makanchi Array 95.53 317 P P 17 01 29.4 +0.2
comp=Z,3.1nm,0.6s,mb4.7,baz=89,slow=6.4,SNR=49
MKAR pP pP 17 02 18.9 -3.4
comp=Z,0.3nm,0.4s,baz=108,slow=4.7,SNR=2.3
MKAR PKKP PKKPbc 17 18 18.6 -2.9
comp=Z,0.3nm,0.3s,baz=265,slow=3.5,SNR=7.2
MKAR Makanchi Array 95.53 317 P P 17 01 29.4 +0.2
MKAR pP pP 17 02 18.9 -3.4
MKAR PKKP PKKPbc 17 18 18.6 -2.9
ZAA0 Zalesovo Array 95.58 324 eP P 17 01 27.8 -1.4
ZALV Zalesovo Beam 95.58 324 P P 17 01 28.4 -0.7
comp=Z,3.2nm,0.8s,mb4.6,baz=119,slow=4.7,SNR=16
ZALV Zalesovo Beam 95.58 324 P P 17 01 28.4 -0.7
YKA Yellowknife Ar 95.84 27 P P 17 01 28.5 -1.7
comp=Z,0.8nm,0.5s,mb4.2,baz=263,slow=9.5,SNR=4.5
YKA Yellowknife Ar 95.84 27 P P 17 01 28.5 -1.7
VNA3 Neumayer Olymp 96.26 181 eP P 17 01 29.0 -3.0
KURK Kurchatov 98.66 320 P P 17 01 42.5 -0.6
comp=Z,0.6nm,0.6s,mb4.1,baz=97,slow=4.7,SNR=8.8
KURK Kurchatov 98.66 320 P P 17 01 42.5 -0.6
ARCES ARCESS Array B 118.20 346 PKP PKPdf 17 06 48.7 -0.8
comp=Z,5.3nm,0.6s,baz=91,slow=2.4,SNR=17
LPAZ La Paz 118.37 116 PKP PKPdf 17 06 51.9 +0.5
comp=Z,0.9nm,0.5s,baz=334,slow=4.2,SNR=3.6
JOF Joensuu 120.89 338 ep PKPdf 17 06 54.7 -0.1
KAF Kangasniemi 123.19 339 ep PKPdf 17 06 56.7 -2.5
FINES FINESS Array B 123.72 339 PKP PKPdf 17 07 00.2 0.0
comp=Z,5.6nm,0.8s,baz=78,slow=0.8,SNR=10
BOSA Boshof 124.75 222 PKP PKPdf 17 07 03.5 +0.2
comp=Z,5.3nm,0.8s,baz=86,slow=5.3,SNR=7.2
BOSA Boshof 124.75 222 ePKPdf PKPdf 17 07 03.0 -0.3
LBTB Lobatse 126.90 225 ePKPdf PKPdf 17 07 06.1 -1.4
NB2 NORSAR Subarra 128.57 345 PKPdf PKPdf 17 07 08.8 -0.8
comp=Z,1.0nm,0.7s,baz=26,slow=1.9
NOA NORSAR Array B 128.57 345 PKP PKPdf 17 07 09.4 -0.2
comp=Z,1.4nm,0.6s,baz=28,slow=1.9,SNR=5.1
AKASG Malin Array Be 128.88 327 PKP PKPdf 17 07 09.8 -0.7
comp=Z,0.2nm,0.3s,baz=32,slow=2.2,SNR=5.1
LSZ Lusaka 130.68 237 ePKPdf PKPdf 17 07 15.4 +0.5
BRTR Keskin Array B 130.95 312 PKP PKPdf 17 07 14.7 -0.1
comp=Z,0.6nm,0.8s,baz=52,slow=2.4,SNR=3.5
TSUM Tsumeb 136.28 224 ePKPdf PKPdf 17 07 23.6 -1.8
GERES GERESS Array B 137.69 334 PKP PKPdf 17 07 26.8 -0.3
comp=Z,0.5nm,0.3s,baz=78,slow=1.9,SNR=6.9
SFTF Sexfontaines 141.51 341 ePKP1 PKPdf 17 07 33.4 -0.6
LDF La Druitiere 142.61 346 ePKP1 PKPdf 17 07 33.0 -3.0
comp=Z,8.8nm,0.6s
LOR Lormes 142.71 341 ePKP1 PKPdf 17 07 33.1 -3.1
GRR Gorron 142.98 347 ePKP1 PKPdf 17 07 34.0 -2.6
comp=Z,17nm,0.7s
SSF Saint Saulge 143.01 341 ePKP1 PKPdf 17 07 33.8 -2.9
comp=Z,16nm,0.9s
LPL La Plagne 143.21 337 ePKP1 PKPdf 17 07 35.2 -1.9
comp=Z,14nm,0.9s
LPG La Plagne 143.22 337 ePKP1 PKPdf 17 07 35.5 -1.6
comp=Z,56nm,1.4s
SMF Signal de Mont 143.27 340 ePKP1 PKPdf 17 07 35.2 -2.0
comp=Z,5.4nm,0.6s
AVF Avril sur Loir 143.30 341 ePKP1 PKPdf 17 07 34.9 -2.3
SGMF Saint Gilles 143.47 348 ePKP1 PKPdf 17 07 35.3 -2.2
comp=Z,34nm,0.8s
BNI Bardonecchia 143.62 336 ePKPdf PKPdf 17 07 36.3 -1.5
BGF Bois d'Agland 143.66 341 ePKP1 PKPdf 17 07 36.3 -1.6
comp=Z,39nm,0.9s
MBDF Montbardon 143.85 336 ePKP1 PKPdf 17 07 36.8 -1.5
comp=Z,23nm,0.8s
QUIF Quistinic 143.91 349 ePKP1 PKPdf 17 07 36.6 -1.7
comp=Z,55nm,1.0s
ORIF Oris-en-Rattie 144.04 337 ePKP1 PKPdf 17 07 37.9 -0.7
comp=Z,75nm,0.8s
TCF Toulx Ste Croi 144.10 342 ePKP1 PKPdf 17 07 37.8 -0.9
comp=Z,48nm,0.9s
SBF Sospel 144.29 334 ePKP1 PKPdf 17 07 38.1 -1.0
comp=Z,111nm,0.8s
MFF Saint Martin d 144.47 345 ePKP1 PKPdf 17 07 38.9 -0.4
comp=Z,119nm,0.8s
VIVF Saint-Julien-l 144.54 338 ePKP1 PKPdf 17 07 39.6 +0.1
comp=Z,78nm,1.1s
PGF Pioggiola 144.63 331 ePKP1 PKPdf 17 07 39.4 -0.3
comp=Z,88nm,1.1s
FRF La Foret Royal 144.86 335 ePKP1 PKPdf 17 07 40.1 0.0
comp=Z,89nm,1.0s
SMRF Simiane la Rot 144.95 336 ePKP1 PKPdf 17 07 41.0 +0.8
comp=Z,26nm,0.8s
LMR La Mourre 145.11 335 ePKP1 PKPbc 17 07 40.9 +0.4
RJF Les Rejaudoux 145.20 342 ePKP1 PKPbc 17 07 41.4 +0.7
comp=Z,60nm,1.1s
CAF Calviac 145.37 341 ePKP1 PKPbc 17 07 42.1 +0.9
comp=Z,23nm,0.8s
LASF Ste Croix 145.51 338 ePKP1 PKPbc 17 07 42.6 +0.9
comp=Z,25nm,0.8s
LFF La Frestale 145.76 343 ePKP1 PKPbc 17 07 43.1 +0.7
comp=Z,43nm,0.8s
MTLF Montolieu 146.73 340 ePKP1 PKPbc 17 07 46.1 +0.8
comp=Z,27nm,0.7s
EPF Esparros 147.62 342 ePKP1 PKPbc 17 07 47.2 -0.5
KEST Kesra 149.44 323 PKPbc PKPbc 17 07 53.6 +1.0
comp=Z,4.6nm,0.9s,baz=218,slow=2.7,SNR=8.5
KEST Kesra 149.44 323 ePKPbc PKPbc 17 07 53.1 +0.4
PBRG Braganca 150.46 350 ePKPbc PKPbc 17 07 54.3 -0.6
PGAV Gavieira, Arco 150.52 353 ePKPbc PKPbc 17 07 55.6 +0.6
PCAB Cabril 150.74 352 ePKPbc PKPbc 17 07 56.3 +0.8
RCBR Riachuelo 150.75 128 PKPbc PKPbc 17 07 56.0 -0.4
comp=Z,15nm,0.9s,baz=100,slow=1.5,SNR=5.1
MVO Moncorvo 151.13 351 ePKPbc PKPbc 17 07 57.2 +0.7
PTO Porto 151.38 353 ePKPbc PKPbc 17 07 57.6 +0.6
PVIS Viseu 151.70 352 ePKPbc PKPbc 17 07 58.2 +0.4
ESDC Sonseca Array 151.94 345 PKPbc PKPbc 17 07 58.9 +0.5
comp=Z,4.0nm,0.7s,baz=17,slow=2.9,SNR=22
ESDC PKPab PKPab 17 08 09.3 +1.0
comp=Z,5.9nm,0.7s,baz=14,slow=4.3,SNR=21
ESLA Sonseca Array 151.94 345 ePKPdf PKPdf 17 07 51.3 -0.4
ESLA ePKPbc PKPbc 17 07 58.2 -0.1
ESLA ePKPab PKPab 17 08 07.1 -1.2
MTE Manteigas 151.96 351 ePKPdf PKPdf 17 07 52.5 +0.8
MTE Manteigas 151.96 351 ePKPbc PKPbc 17 07 57.7 -0.7
PCBR Castelo Branco 152.50 351 ePKPbc PKPbc 17 08 00.1 +0.5
PTOM Tomar 152.85 352 ePKPbc PKPbc 17 08 00.9 +0.5
PMRV Marv??o 152.88 350 ePKPdf PKPdf 17 07 50.9 -2.2
PMRV Marv??o 152.88 350 ePKPbc PKPbc 17 07 59.9 -0.6
PMTG Montargil 153.36 352 ePKPbc PKPbc 17 08 01.4 -0.1
PESTR Estremoz 153.47 351 ePKPab PKPab 17 08 15.1 +0.4
EVO Evora 153.86 351 ePKP2 PKPab 17 08 14.5 -1.9
comp=Z,175nm,1.9s
EVO Evora 153.86 351 ePKPbc PKPbc 17 08 02.7 +0.1
PBAR Barrancos 154.04 349 ePKPab PKPab 17 08 18.4 +1.2
PBEJ Beja 154.33 351 ePKPab PKPab 17 08 20.1 +1.7
PCVE Castro Verde 154.74 351 ePKPab PKPab 17 08 21.6 +1.4
TORD Torodi Ar. Bea 165.66 274 PKP PKPdf 17 08 08.0 -0.5
comp=Z,2.0nm,0.9s,baz=33,slow=1.0,SNR=9.9
TORD PKPab PKPab 17 09 09.0 +0.3
comp=Z,4.5nm,1.1s,baz=83,slow=5.1,SNR=12
DBIC Dimbokro 170.00 234 PKP PKPdf 17 08 11.2 -0.3
comp=Z,1.9nm,0.7s,baz=174,slow=3.0,SNR=3.3
DBIC Dimbokro 170.00 234 PKPdf PKPdf 17 08 10.6 -0.9

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*TRN **01** 16:53:39.5, 17°06N×62°36W, h11^{km}, MD3.4, M3.6(FDF)*
*ISCJB **01** 16:53:41.4±0.5, 17°03N±0°05×62°38W±0°04, h10^{km}±5^{km}, Error ellipse: s-maj=9.7km s-min=3.6km az=38.8*
*NEIC **01** 16:53:41.2, 17°06N×62°13W, h6^{km}, MD3.7(RSPR), After RSPR.*
*RSPR **01** 16:53:41.2, 17°06N×62°13W, h6^{km}±29^{km}, MD3.7/5*
ISC 01 16:53:41.9±0.4**, 17°03N**±0°05×**62°37W**±0°04**, h13**^{km}±4^{km}**, n32, σ0^{s}84**/41**, 7C-4D, Leeward Islands**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
MBRV 0.27 143 iP Pg 16 53 47.3 -0.3
MBGB 0.32 156 iP Pg 16 53 48.6 +0.2
MBWH 0.33 149 iP Pg 16 53 48.5 -0.1
MLYT Lee's Yard 0.35 151 iP Pg 16 53 49.0 +0.1
SKI Saint Kitts 0.47 310 eP Pg 16 53 50.5 -0.6
SKI eS Sg 16 53 56.8 -0.5
BPA Boggy Peak 0.49 88⇑eP Pg 16 53 52.4 +0.9
BPA eS Sg 16 53 59.5 +1.5
SEUS St. Eustatius 0.75 308⇑eP Pg 16 53 56.0 -0.4
SEUS St. Eustatius 0.75 308⇑eP Pg 16 53 56.0 -0.4
SEUS eS Sg 16 54 05.8 -0.4
SEUS St. Eustatius 0.75 308 eP Pg 16 53 56.0 -0.4
SEUS eS Sg 16 54 05.8 -0.4
ANWB Willy Bob 0.84 41 ePg Pg 16 53 56.8 -1.5
SABA Saba 1.02 305⇑eP Pb 16 54 02.0 +0.5
SABA Saba 1.02 305⇑eP Pb 16 54 02.0 +0.5
SABA eS Sg 16 54 17.0 +2.0
SABA Saba 1.02 305 eP Pb 16 54 02.0 +0.5
SABA eS Sg 16 54 17.0 +2.0
BCG Bois Riant Cap 1.18 143 eP Pb 16 54 03.5 -0.7
SCG Saint Claude 1.19 146 eP Pn 16 54 03.6 -0.7
HMG Houelmont 1.22 148 eP Pn 16 54 04.1 -0.6
DOG Dongo Capester 1.23 144 eP Pn 16 54 03.8 -0.9
PHG Guadaloupe-2 1.23 145 eP Pn 16 54 04.2 -0.6
TBG Guadaloupe-3 1.36 149 eP Pn 16 54 05.9 -0.7
DEG La Desirade 1.44 119 eP Pn 16 54 06.6 -1.1
DEG eS Sn 16 54 26.4 -0.1
MGG Marie-Galante 1.50 137 eP Pn 16 54 08.6 +0.1
DWS Wesley 1.77 145⇑eP Pn 16 54 12.9 +0.7
DWS eS Sn 16 54 37.2 +2.5
FDF Fort de France 2.57 153 eP Pn 16 54 23.7 +0.5
FDF eS Sn 16 55 01.6 +7.3
MTP Monte Pirata 3.22 290⇓eP Pn 16 54 32.4 +0.2
MTP Monte Pirata 3.22 290⇓eP Pn 16 54 32.4 +0.2
MTP Monte Pirata 3.22 290 eP Pn 16 54 32.4 +0.2
HUMP Col San Antoni 3.50 289⇓eP Pn 16 54 36.1 +0.1
HUMP Col San Antoni 3.50 289⇓eP Pn 16 54 36.1 +0.1
HUMP Col San Antoni 3.50 289 eP Pn 16 54 36.1 +0.1
CBYP Canovanas 3.55 291⇑iP Pn 16 54 37.5 +0.7
CBYP Canovanas 3.55 291⇑iP Pn 16 54 37.5 +0.7
CBYP Canovanas 3.55 291 iP Pn 16 54 37.5 +0.7

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*BJI **01** 17:02:00.2, 7°04N×77°16W, h20^{km}, mB4.9/3, Ms5.0/4, Ms7 4.7/4*
*ISCJB **01** 17:02:01.3±0.4, 7°96N±0°05×77°30W±0°06, h25^{km}, mb4.3/24, MS3.8/5, Error ellipse: s-maj=8.0km s-min=6.5km az=176.8*
*IDC **01** 17:02:02.3±0.7, 7°92N×77°21W, h23^{km}±4^{km}, mb4.0/10, mb1 4.3/12, mb1mx4.1/18, mbtmp4.0/12, ML3.6/2, MS3.4/5, Ms1 3.4/5, ms1mx3.0/24, Error ellipse: s-maj=26.4km s-min=15.5km az=61.0*
*NEIC **01** 17:02:04.9±0.7, 7°95N×77°33W, h40^{km}±7^{km}, mb4.4/19, Error ellipse: s-maj=8.0km s-min=6.8km az=52.0*
ISC 01 17:02:03.7±0.4**, 7°97N**±0°04×**77°29W**±0°05**, h27**^{km}**, h27**^{km}±1.0^{km}**:pP-P, n67, σ1^{s}10**/58**, mb4.3**/24**, MS3.8**/5**, Panama-Colombia border region**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
BCIP Isla Barro Col 2.78 295 ePn Pn 17 02 45.1 -1.4
ROSC El Rosal 4.27 136 Pn Pn 17 03 10.6 +3.7
14nm,0.3s,baz=282,slow=22,SNR=13
ROSC El Rosal 4.27 136 ePn Pn 17 03 10.0 +3.1
SDV Santo Domingo 6.65 82 ePn Pn 17 03 40.6 +1.0
66nm,0.6s
SDV eSn Sn 17 04 49.0 -5.6
OTAV Otavalo 7.77 189 ePn Pn 17 03 55.8 +0.7
72nm,0.6s
OTAV eSn Sn 17 05 18.2 -4.0
JTS JuntasAbangare 7.91 288 Pn Pn 17 03 57.3 +0.3
0.7nm,0.3s,baz=111,slow=14,SNR=7.8
JTS LR LR 17 07 07.9
comp=Z,385nm,19.4s,baz=117,slow=38
JTS JuntasAbangare 7.91 288 ePn Pn 17 03 57.0 0.0
18nm,0.6s
HOJ Hope 9.99 3 eP Pn 17 04 28.2 +2.8
HOJ iS Sn 17 06 15.6 -1.1
STH Stony Hill 10.05 3 eP Pn 17 04 28.4 +2.0
STH iS Sn 17 06 12.0 -6.3
GWJ Greenwich 10.06 3 iP Pn 17 04 28.5 +2.1
GWJ iS Sn 17 06 16.9 -1.5
MTDJ Mount Denham 10.20 359 ePn Pn 17 04 29.1 +0.8
MTDJ eSn Sn 17 06 12.2 -10
SDDR Presa de Saban 12.40 27 ePn Pn 17 05 00.5 +2.0
49nm,0.6s
SDDR eSn Sn 17 07 13.6 -2.2
SJG San Juan 14.80 46 P Pn 17 05 26.9 -4.4
ATAH Atahualpa 15.05 184 Pn Pn 17 05 34.0 -0.7
0.2nm,0.3s,baz=112,slow=19,SNR=2.8
STVI Saint Thomas 15.82 48 ePn Pn 17 05 44.7 0.0
18nm,0.9s
ANWB Willy Bob 17.91 56 ePn Pn 17 06 11.2 +0.2
CMIG Matias Romero 19.40 300 LR LR 17 14 20.1
comp=Z,130nm,21.3s,baz=204,slow=38
LPAZ La Paz 25.75 159 P P 17 07 30.6 -1.6
1.7nm,0.6s,mb3.7,baz=88,slow=2.2,SNR=5.6
LPAZ La Paz 25.75 159 eP P 17 07 30.9 -1.3
3.0nm,0.9s,mb3.8
TKL Tuckaleechee C 28.19 349 LR LR 17 19 12.2
comp=Z,43nm,18.3s,MS3.1,baz=255,slow=36
SWET Sewanee 28.25 345 eP P 17 07 52.5 -2.0
5.5nm,0.7s,mb4.3
USIN University of 31.30 344 P P 17 08 22.1 +0.5
36nm,0.7s,mb5.3
USIN e pP 17 08 30.0 +0.4
CCM Cathedral Cave 32.50 339 eP P 17 08 31.6 -0.5
24nm,0.8s,mb5.1
CCM e pP 17 08 39.2 -0.9
TXAR Lajitas Array 32.65 314 P P 17 08 33.8 +0.3
4.9nm,0.9s,mb4.4,baz=136,slow=9.8,SNR=28
TXAR PcP PcP 17 11 19.9 +0.6
0.3nm,0.3s,baz=191,slow=5.9,SNR=3.5
TXAR LR LR 17 24 45.9
comp=Z,46nm,19.4s,MS3.2,baz=0.0,slow=42
TXAR Lajitas Array 32.65 314 P P 17 08 33.8 +0.3
TXAR PcP PcP 17 11 19.9 +0.6
TXAR LR LR 17 24 45.9
WMOK Wichita Mounta 33.16 327 eP P 17 08 36.6 -1.4
1.7nm,0.7s,mb4.1
ANMO Albuquerque 37.91 319 eP P 17 09 19.1 +0.4
11nm,1.0s,mb4.5
SDCO Great Sand Dun 39.12 324 eP P 17 09 29.7 +0.9
8.1nm,0.9s,mb4.5
TUC Tucson 39.40 313 eP P 17 09 31.1 -0.2
6.6nm,1.1s,mb4.3
PV01 Paradox Valley 41.21 322 eP P 17 09 47.2 +1.0
871nm,1.0s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PV10	Paradox Valley	41.65	322	eP	P	17 09 50.7	+0.9
RSSD	Black Hills	42.90	332	P	P	17 10 00.5	+0.6
	2.5nm,0.7s,mb4.0						
LDFC	Landfair	43.90	314	P	P	17 10 08.7	+0.6
	11nm,1.2s,mb4.5						
PDAR	Pinedale Array	44.77	326	P	P	17 10 15.6	+0.6
	3.0nm,0.8s,mb4.2,baz=128,slow=9.8,SNR=22						
PDAR				LR	LR	17 34 24.9	
	comp=Z,34nm,18.1s,MS3.3,baz=316,slow=43						
PDAR	Pinedale Array	44.77	326	P	P	17 10 15.6	+0.6
PDAR				LR	LR	17 34 24.9	
ULM	Lac du Bonnet	44.90	343	P	P	17 10 14.7	-1.2
	3.3nm,0.7s,mb4.3,baz=192,slow=9.3,SNR=4.4						
ULM				pP	pP	17 10 21.9	-2.1
	5.8nm,0.8s,baz=161,slow=7.3,SNR=4.1						
ULM	Lac du Bonnet	44.90	343	P	P	17 10 14.7	-1.2
ULM				pP	pP	17 10 21.9	-2.1
REDW	Red Top Meadow	45.88	326	eP	P	17 10 23.8	0.0
	11nm,1.1s,mb4.7						
IMW	Indian Meadow	46.27	326	eP	P	17 10 26.9	+0.1
	3.0nm,0.6s,mb4.4						
NVAR	Mina Array Bea	47.76	316	P	P	17 10 39.7	+1.2
	0.3nm,0.3s,mb3.8,baz=122,slow=7.2,SNR=3.6						
NVAR				PcP	PcP	17 12 07.6	+0.1
	0.3nm,0.3s,baz=84,slow=7.6,SNR=4.7						
NVAR	Mina Array Bea	47.76	316	P	P	17 10 39.7	+1.2
NVAR				PcP	PcP	17 12 07.6	+0.1
MCMT	McKenzie Canyo	47.92	326	eP	P	17 10 40.4	+0.7
	1.1nm,0.7s,mb4.0						
PLCA	Paso Flores	48.86	173	P	P	17 10 45.4	-1.5
	1.8nm,0.9s,mb4.1,baz=347,slow=14,SNR=2.9						
PLCA	Paso Flores	48.86	173	P	P	17 10 45.4	-1.5
NEW	Newport	52.36	327	eP	P	17 11 12.5	-0.7
	3.4nm,0.8s,mb4.3						
NEW				e	pP	17 11 21.2	-0.4
YKA	Yellowknife Ar	60.81	341	P	P	17 12 12.3	-0.8
	5.4nm,0.6s,mb4.8,baz=131,slow=7.1,SNR=12						
YKA	Yellowknife Ar	60.81	341	P	P	17 12 12.3	-0.8
DLBC	Dease Lake	64.37	332	P	P	17 12 37.5	+0.5
INK	Inuvik	70.57	341	P	P	17 13 15.5	-0.5
	3.5nm,0.5s,mb4.5,baz=99,slow=7.1,SNR=21						
INK	Inuvik	70.57	341	eP	P	17 13 15.4	-0.7
	4.8nm,0.7s,mb4.5						
DBIC	Dimbokro	71.77	86	pP	pP	17 13 30.8	-2.2
	3.5nm,0.7s,baz=314,slow=5.1,SNR=3.7						
DBIC	Dimbokro	71.77	86	eP	pP	17 13 30.4	-2.5
	5.3nm,0.8s						
ESDC	Sonseca Array	72.13	51	pP	pP	17 13 34.0	-0.6
	2.9nm,0.9s,baz=271,slow=5.4,SNR=8.8						
ESLA	Sonseca Array	72.13	51	eP	pP	17 13 34.1	-0.5
	15nm,1.7s						
ILAR	Eielson Array	74.19	335	P	P	17 13 37.1	-0.5
	2.4nm,0.7s,mb4.2,baz=114,slow=4.3,SNR=34						
MCK	McKinley	74.80	334	eP	P	17 13 40.9	-0.3
	2.1nm,0.7s,mb4.2						
TORD	Torodi Ar. Bea	77.56	78	P	P	17 13 57.5	-0.4
	0.4nm,0.6s,mb3.5,baz=296,slow=6.8,SNR=4.8						
TORD				pP	pP	17 14 04.7	-1.9
	1.4nm,0.5s,baz=285,slow=6.3,SNR=8.2						
GERES	GERESS Array B	84.72	42	pP	pP	17 14 43.5	-0.5
	0.9nm,0.9s,baz=282,slow=6.5,SNR=4.5						
ARCES	ARCESS Array B	87.03	20	pP	pP	17 14 54.0	-1.1
	1.6nm,0.6s,baz=263,slow=4.8,SNR=1.6						
MKAR	Makanchi Array	122.53	17	PKP	PKPdf	17 20 55.5	-1.4
	0.2nm,0.2s,baz=313,slow=2.6,SNR=1.9						
WMQ	Urumqi	126.68	14	PKP	PKPdf	17 21 05.2	+0.3
HHC	Hu-ho-hao-te	130.74	351	ePKP	PKPdf	17 21 11.5	-1.2
HHC				sPKP		17 21 25.6	
HHC				PKS		17 24 46.6	
HHC				SKS	SKSdf	17 28 17.7	-5.0
HHC				AMB	AMB		
	comp=Z,120nm,4.8s						
HHC				LR	LR		
	comp=N,95nm,14.3s,MS4.8						
HHC				LR	LR		
	comp=E,98nm,15.5s,MS4.8						
HHC				LR	LR		
	comp=Z,66nm,15.5s,MS4.4						
LZH	Lanzhou	136.16	359	ePKP	PKPdf	17 21 23.5	+0.4
LZH				LR	LR		
	comp=N,110nm,18.2s						
LZH				LR	LR		
	comp=Z,180nm,20.1s,MS4.8						
NJ2	Nanjing	137.32	340	ePKP	PKPdf	17 21 25.1	-0.2
CD2	Chengdu	141.33	359	PKP	PKPdf	17 21 36.4	+3.7
ASAR	Alice Springs	146.29	239	PKPbc	PKPbc	17 21 40.8	-1.9
	comp=Z,3.0nm,0.5s,baz=118,slow=3.7,SNR=122						
ASAR				pPKPbc	pPKPbc	17 21 49.2	-2.4
	comp=Z,2.4nm,0.9s,baz=118,slow=3.6,SNR=8.8						
CMAR	Chiang Mai Arr	153.48	8	PKPbc	PKPbc	17 21 59.9	-0.8
	comp=Z,0.8nm,0.5s,baz=324,slow=3.2,SNR=7.7						
CMAR				PKPab	PKPab	17 22 11.8	-0.9
	comp=Z,1.2nm,0.6s,baz=327,slow=4.3,SNR=8.3						

IDC 01 17:17:29.6±2.8, 3°.09S×135°.62E, h0km, mb3.8/2, mb1 4.0/3, mb1mx3.5/16, mbtmp3.8/3, Error ellipse: s-maj=107.4km s-min=31.0km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.80	184	Pn	Pn	17 21 24.3	-2.1
	0.7nm,0.3s,baz=5.9,slow=13,SNR=14						
WRA				Sn	Sn	17 24 22.3	-12
	0.1nm,0.3s,baz=8.4,slow=23,SNR=4.8						
ASAR	Alice Springs	20.53	184	P	P	17 22 10.7	+1.0
	7.3nm,0.8s,baz=6.9,slow=11,SNR=54						
MKAR	Makanchi Array	68.23	324	P	P	17 28 32.2	+0.1
	0.2nm,0.2s,baz=112,slow=8.0,SNR=4.0						

TRN 01 17:25:04.8, 17°.11N×62°.34W, h8km, MD3.5, M4.1(FDF)
ISCJB 01 17:25:07.4±0.5, 17°.06N±0°.05×62°.36W±0°.04, h11km±5km, Error ellipse: s-maj=9.6km s-min=3.9km az=37.2
NEIC 01 17:25:08.3±0.7, 17°.17N×62°.14W, h79km±13km, mb4.5/2, Error ellipse: s-maj=13.1km s-min=8.6km az=61.0
ISC 01 17:25:07.9±0.5, 17°.05N±0°.05×62°.35W±0°.04, h14km±4km, n28, σ0s.89/33, 2C, Leeward Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MBRV		0.28	149	i P	Pg	17 25 13.5	-0.2
MBGB		0.34	160	i P	Pg	17 25 14.9	+0.1
MBWH		0.34	154	i P	Pg	17 25 14.7	-0.2
MLYT	Lee's Yard	0.36	155	⇑iP	Pg	17 25 14.2	-1.0
MLYT	Lee's Yard	0.36	155	i P	Pg	17 25 15.2	0.0
SKI	Saint Kitts	0.47	307	eP	Pg	17 25 16.4	-0.7
SKI				eS	Sg	17 25 23.0	-0.4
BPA	Boggy Peak	0.47	91	⇑iP	Pg	17 25 17.4	+0.2
BPA				eS	Sg	17 25 24.4	+0.8
SEUS	St. Eustatius	0.75	306	eP	Pg	17 25 22.1	-0.3
SEUS				eS	Sg	17 25 34.3	+2.0
ANWB	Willy Bob	0.81	41	ePn	Pn	17 25 22.9	-2.0
SABA	Saba	1.02	304	eP	Pb	17 25 27.0	-0.4
BCG	Bois Riant Cap	1.19	144	eP	Pn	17 25 29.9	-0.2
SCG	Saint Claude	1.20	148	eP	Pn	17 25 29.8	-0.4
HMG	Houelmont	1.23	150	eP	Pn	17 25 30.2	-0.4
DOG	Dongo Capester	1.23	145	eP	Pn	17 25 30.5	-0.2
PHG	Guadaloupe-2	1.23	147	eP	Pn	17 25 30.7	0.0
TBG	Guadaloupe-3	1.37	150	eP	Pn	17 25 32.3	-0.3
DEG	La Desirade	1.44	121	eP	Pn	17 25 32.8	-0.7
DEG				eS	Sn	17 25 52.6	+0.4
MGG	Marie-Galante	1.50	139	eP	Pn	17 25 35.3	+0.9
DWS	Wesley	1.78	146	eP	Pn	17 25 39.2	+1.0
DWS				eS	Sn	17 26 04.2	+3.6
FDF	Fort de France	2.58	153	ePn	Pn	17 25 48.4	-0.8
FDF	Fort de France	2.58	153	eP	Pn	17 25 51.5	+2.3
MVM	Montagne Vaucl	2.85	150	eP	Pn	17 25 53.2	+0.3
CBYP	Canovanas	3.56	290	ePn	Pn	17 26 03.8	+1.1
SJG	San Juan	3.78	287	ePn	Pn	17 26 06.7	+1.0
CELP	Cerrillos	4.16	285	ePn	Pn	17 26 10.9	-0.1
GRGR	Grenville	4.94	172	ePn	Pn	17 26 21.1	-0.6
BBSR	BB Station	15.40	352	P	Pn	17 28 39.7	-5.1
	24nm,0.9s						
BCIP	Isla Barro Col	18.74	247	eP	Pn	17 29 23.8	-3.1
	28nm,0.8s						

DJA 01 17:43:12, 7°.01S×106°.63E, h121km, MLv3.7/7, Jawa

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKJI	Sukabumi	0.07	274	P	Pn	17 43 27.8	-0.7
CGJI	Cibinong	1.01	293	P	Pn	17 43 31.3	-2.9
CISI	Cisompet, Garu	1.29	115	P	Pn	17 43 26.2	-11
CLJI	Cilicap	2.47	107	P	Pn	17 43 51.7	+0.3
KLI	Kotabumi	2.77	320	P	Pn	17 43 58.1	+2.8
KLSI		2.98	321	P	Pn	17 44 00.5	+2.4
XMIS	Christmas Isla	3.58	196	P	Pn	17 44 08.9	+2.9
PCJI	Pacitan	4.66	105	P	Pn	17 44 21.5	+1.1

NEIC 01 17:46:41.5, 32°.00S×71°.52W, h31km, ML3.5(GUC), After GUC.
GUC 01 17:46:41.5±0.8, 32°.00S×71°.52W, h31km±2km, MD3.9, ML3.5, 12C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.12	10	⇑iP	Pb	17 46 47.4	+0.4
CHNG				i S	Sb	17 46 51.0	+0.2
CHNG				AML	AML	17 46 52.0	
	comp=E,14µm,0.4s						
CMCH	Combarbala	0.93	29	⇑iP	Pn	17 46 58.4	-0.1
CMCH				i S	Sn	17 47 11.4	+0.7
CMCH	Combarbala	0.93	29	⇑iP	Pn	17 46 58.4	-0.1
CMCH				i S	Sn	17 47 11.4	+0.7
CMCH				AML	AML	17 47 15.2	
	comp=E,6µm,0.7s						
IHA	Instituto Hidr	1.03	185	⇑iP	Pn	17 46 59.8	-0.1
IHA				i S	Sn	17 47 13.3	+0.1
IHA	Instituto Hidr	1.03	185	⇑iP	Pn	17 46 59.8	-0.1
IHA				i S	Sn	17 47 13.3	+0.1
JACH	Jahuel	1.04	131	⇑iP	Pn	17 47 00.9	+0.9
JACH	Jahuel	1.04	131	⇑iP	Pn	17 47 00.9	+0.9
ROCH	El Roble	1.06	156	⇓iP	Pn	17 47 00.6	+0.3
ROCH				i S	Sn	17 47 15.4	+1.4
ROCH				AML	AML	17 47 18.9	
	comp=E,1µm,0.3s						
PEL	Peldehue	1.35	148	⇑iP	Pn	17 47 04.9	+0.7
PEL				i S	Sn	17 47 22.9	+1.9
PEL				AML	AML	17 47 24.3	
	comp=E,3µm,0.4s						
STL	Santa Lucia	1.62	153	eP	Pn	17 47 08.8	+0.9
STL				eS	Sn	17 47 29.7	+2.0
CLCH	Cerro Calan	1.62	149	⇓iP	Pn	17 47 09.6	+1.6
CLCH				i S	Sn	17 47 30.8	+2.9
CLCH				AML	AML	17 47 34.2	
	comp=N,1µm,0.4s						
SAN	Santiago	1.62	154	eP	Pn	17 47 09.0	+1.0
SAN				i S	Sn	17 47 30.6	+2.8
SAN	Santiago	1.62	154	eP	Pn	17 47 09.0	+1.0
SAN				i S	Sn	17 47 30.6	+2.8
SAN				AML	AML	17 47 33.6	
	comp=N,484nm,0.4s						
LACH	Col Las Americ	1.68	150	i S	Sn	17 47 31.8	+2.7
LACH				AML	AML	17 47 36.6	
	comp=N,467nm,0.4s						
FCH	Farellones	1.69	142	⇓iP	Pn	17 47 10.6	+1.7
FCH				i S	Sn	17 47 33.0	+3.6
FCH				AML	AML	17 47 35.9	
	comp=E,831nm,0.2s						
TACH	Talagante	1.73	164	⇑iP	Pn	17 47 10.7	+1.3
TACH				eS	Sn	17 47 33.3	+3.0
TACH	Talagante	1.73	164	⇑iP	Pn	17 47 10.7	+1.3
TACH				eS	Sn	17 47 33.3	+3.0
ANTU	Antumapu	1.74	155	eP	Pn	17 47 11.2	+1.6
ANTU				i S	Sn	17 47 33.4	+2.7
ANTU	Antumapu	1.74	155	eP	Pn	17 47 11.2	+1.6
ANTU				i S	Sn	17 47 33.4	+2.7
ANTU				AML	AML	17 47 38.3	
	comp=N,587nm,0.5s						
PCH	Pirque	1.83	153	⇓iP	Pn	17 47 12.4	+1.6
PCH	Pirque	1.83	153	⇓iP	Pn	17 47 12.4	+1.6
TLL	Tololo Astrono	1.93	19	⇑iP	Pn	17 47 13.6	+1.5
TLL				i S	Sn	17 47 38.8	+3.6
TLL	Tololo Astrono	1.93	19	⇑iP	Pn	17 47 13.6	+1.5
TLL				i S	Sn	17 47 38.8	+3.6
TLL				AML	AML	17 47 43.6	
	comp=E,559nm,0.7s						
CHCH	Chadas Angostu	2.07	159	eP	Pn	17 47 16.1	+2.1
CHCH				eS	Sn	17 47 41.6	+2.8
CHCH	Chadas Angostu	2.07	159	eP	Pn	17 47 16.1	+2.1
CHCH				eS	Sn	17 47 41.6	+2.8
LMEL	Las Melosas	2.15	149	eP	Pn	17 47 17.4	+2.1
LMEL				eS	Sn	17 47 44.1	+3.2
LMEL	Las Melosas	2.15	149	eP	Pn	17 47 17.4	+2.1
LMEL				eS	Sn	17 47 44.1	+3.2
LMEL				AML	AML	17 47 47.3	
	comp=N,590nm,0.2s						
CACH	El Canelo	2.25	160	eP	Pn	17 47 18.9	+2.3
CACH	El Canelo	2.25	160	eP	Pn	17 47 18.9	+2.3
LCO	Las Campanas	3.06	14	ePn	Pn	17 47 27.6	-0.1
LCO				eSn	Sn	17 48 01.2	-2.1
PLCA	Paso Flores	8.75	175	ePn	Pn	17 48 44.6	-1.3

ISCJB 01 17:56:03.4±0.7, 34°.57N±0°.04×139°.79E±0°.06, h106km±5km, mb3.4/2, Error ellipse: s-maj=9.0km s-min=5.4km az=149.0
JMA 01 17:56:04.6±0.1, 34°.62N×139°.82E, h92km±2km, M2.8
IDC 01 17:56:05.5±2.4, 34°.19N×138°.61E, h86km±44km, mb3.1/2, mb1 3.3/3, mb1mx3.0/25, mbtmp3.1/3, MS2.1/1, Ms1 2.1/1, ms1mx1.9/7, Error ellipse: s-maj=102.9km s-min=6.5km az=68.0
ISC 01 17:56:04.5±0.6, 34°.57N±0°.04×139°.78E±0°.06, h100km±5km, n16, σ0s.76/26, mb3.4/2, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIM2	Oshima 3	0.32	298	P	Pn	17 56 18.4	-0.7
JIM2				S	Sn	17 56 28.7	-1.4
BSO3	Boso 3	0.65	69	P	Pn	17 56 21.2	-0.2
BSO3				eS	Sn	17 56 34.7	+0.7
JIZS	Izushimoda	0.76	282	P	Pn	17 56 22.4	0.0
JIZS				S	Sn	17 56 35.0	-0.8
JOD2	Odawara 2	0.90	321	P	Pn	17 56 23.1	-0.7
JOD2				S	Sn	17 56 37.0	-1.3
BSO1	Boso 1	0.99	85	P	Pn	17 56 24.4	-0.4
BSO1				S	Sn	17 56 40.4	+0.3
JYN	Shimob	1.38	313	P	Pn	17 56 29.3	+0.1
JYN				S	Sn	17 56 50.0	+2.1
SHZ3	Shizuoka 3	1.38	292	P	Pn	17 56 29.7	+0.4
JHJ	Hachijo jima 2	1.44	180	P	Pn	17 56 30.7	+0.6
	27nm,0.3s,baz=242,slow=20,SNR=40						
JHJ				S	Sn	17 56 49.6	+0.2
	185nm,0.3s,baz=255,slow=23,SNR=11						
JHJ2	Mitsune	1.45	179	P	Pn	17 56 30.6	+0.4
JHJ2				S	Sn	17 56 49.9	+0.3
JRY	Ryogami san	1.61	334	P	Pn	17 56 32.1	0.0
JRY				S	Sn	17 56 53.1	0.0
TK02	Tokai 2	1.79	250	P	Pn	17 56 35.4	+1.1
MJAR	Matsushiro Arr	2.35	327	P	Pn	17 56 41.7	+0.2
	6.8nm,0.3s,baz=168,slow=12,SNR=122						
MJAR				S	Sn	17 57 11.0	+1.0
	4.2nm,0.3s,baz=324,slow=21,SNR=8.5						
MAT	Matsushiro	2.35	327	P	Pn	17 56 42.0	+0.4
MAT				S	Sn	17 57 09.8	-0.2
FX1	Attu Island--F	29.91	42	LR	LR	18 12 50.3	
	comp=Z,4.0nm,21.1s,baz=231,slow=33						
WRA	Warramunga Arr	54.45	186	P	P	18 05 20.6	-1.0
	0.3nm,0.4s,mb3.6,baz=1.2,slow=7.6,SNR=12						
ASAR	Alice Springs	58.18	186	P	P	18 05 47.2	-0.8
	0.2nm,0.7s,mb3.2,baz=24,slow=10,SNR=4.2						

IDC 01 17:57:07.1±2.1, 56°.24S×144°.10E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/14, mbtmp3.8/4, MS3.8/1, Ms1 3.7/1, ms1mx3.1/17, Error ellipse: s-maj=202.9km s-min=26.5km az=84.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	24.42	355	P	P	18 02 27.1	+0.1
	1.9nm,0.7s,baz=172,slow=7.4,SNR=4.6						
ASAR	Alice Springs	33.38	343	P	P	18 03 46.7	-0.3
	1.0nm,0.5s,baz=165,slow=10,SNR=40						
QSPA	South Pole Qui	33.87	180	P	P	18 03 51.1	+0.4
	0.6nm,0.9s,baz=346,slow=8.3,SNR=3.1						
WRA	Warramunga Arr	36.97	345	P	P	18 04 18.1	+0.2
	1.0nm,0.6s,baz=171,slow=7.7,SNR=19						
MAW	Mawson	36.97	219	LR	LR	18 18 27.3	
	comp=Z,126nm,19.1s,baz=235,slow=35						

WEL 01 18:11:53.1±0.3, 37°.78S×176°.82E, h157km±2km, ML4.1/21, 11C-1D, Error ellipse: s-maj=2.1km s-min=1.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OPRZ	Ohinepanea	0.22	253	⇑PN	Pn	18 12 14.1	-0.1
MARZ	Manawahe	0.24	210	⇑PN	Pn	18 12 14.4	+0.2
EDRZ	Edgecumbe	0.33	191	PN	Pn	18 12 14.6	+0.1
TGRZ	Tauranga	0.45	276	⇑PN	Pn	18 12 15.2	+0.2
TGRZ				SN	Sn	18 12 32.1	+0.5
TARZ	Mount Tarawera	0.52	209	⇑PN	Pn	18 12 15.7	+0.5
URZ	Urewera	0.53	155	⇑PN	Pn	18 12 14.9	-0.4
URZ				SN	Sn	18 12 31.1	-1.3
RRRZ	Republican Roa	0.61	203	⇑PN	Pn	18 12 15.9	+0.2
MWZ	Matawai	0.79	135	⇑PN	Pn	18 12 16.6	-0.2
PRRZ	Plateau Road	0.79	205	PN	Pn	18 12 17.1	+0.2
PRRZ				SN	Sn	18 12 35.1	-0.1
ALRZ	Allen Road	0.87	206	PN	Pn	18 12 17.5	+0.1
RAHZ	Arahi	1.15	170	⇑PN	Pn	18 12 20.3	+0.5
RAHZ				SN	Sn	18 12 41.2	+0.9
PUZ	Puketiti	1.17	105	PN	Pn	18 12 19.6	-0.3
MXZ	Matakaoa Point	1.20	80	PN	Pn	18 12 20.1	0.0
CNGZ	Carnagh Statio	1.30	123	PN	Pn	18 12 21.8	+0.7
NMHZ	Naumai	1.32	181	PN	Pn	18 12 21.8	+0.5
BKZ	Black Stump Fm	1.41	190	⇑PN	Pn	18 12 21.9	-0.3
KNZ	Kokohu	1.41	152	⇑PN	Pn	18 12 22.3	+0.2
PRGZ	Paritu Road	1.41	144	PN	Pn	18 12 22.4	+0.2
MKAZ	Moumakai	1.48	296	⇓PN	Pn	18 12 23.7	+0.8
KATZ	Kakaramea	1.49	216	PN	Pn	18 12 23.1	+0.1
KRVZ	Karewarewa	1.61	215	PN	Pn	18 12 24.3	+0.1
MHGZ	Mahia Peninsul	1.61	148	⇑PN	Pn	18 12 24.7	+0.4
WTVZ	West Tongariro	1.65	216	PN	Pn	18 12 24.6	-0.1
OTVZ	Oturere	1.65	213	PN	Pn	18 12 25.1	+0.4
MCHZ	McNeill Hill	1.66	183	PN	Pn	18 12 25.1	+0.3
TWVZ	Taurewa	1.69	220	PN	Pn	18 12 25.1	+0.1
NGZ	Ngauruhoe	1.69	214	PN	Pn	18 12 25.4	+0.3
HIZ	Hauiti	1.71	244	PN	Pn	18 12 25.9	+0.5
OTAZ	Otara	1.72	298	PN	Pn	18 12 26.7	+1.2
WPVZ	Whakapapa	1.74	215	PN	Pn	18 12 25.9	+0.3
TUVZ	Tukino	1.75	211	PN	Pn	18 12 25.8	+0.1
FWVZ	Far West T-bar	1.78	214	PN	Pn	18 12 26.0	-0.1
DRZ	Dome Shelter	1.79	213	PN	Pn	18 12 26.5	+0.3
BHHZ	Black Hill Sta	1.81	199	PN	Pn	18 12 25.9	-0.4
WNVZ	Wahianoa	1.82	211	PN	Pn	18 12 26.5	0.0
MOVZ	Moawhango	1.83	207	PN	Pn	18 12 26.0	-0.6
CKHZ	Cape Kidnapper	1.89	174	PN	Pn	18 12 27.3	+0.1
PKVZ	Pokaka	1.90	217	PN	Pn	18 12 27.4	0.0
KAHZ	Kahuranaki	2.01	179	PN	Pn	18 12 28.7	0.0
PNHZ	Pukenui	2.19	193	PN	Pn	18 12 29.7	-1.0
PXZ	Pawanui	2.25	179	PN	Pn	18 12 30.8	-0.6
WPHZ	Waipukurau	2.30	187	PN	Pn	18 12 31.3	-0.8
TSZ	Takapari Road	2.37	196	PN	Pn	18 12 31.8	-1.1
WAZ	Wanganui	2.44	215	PN	Pn	18 12 33.3	-0.4
PRHZ	Porangahau	2.49	183	PN	Pn	18 12 33.5	-0.8
POWZ	Post Office Ro	2.73	197	PN	Pn	18 12 36.0	-1.3
BFZ	Birch Farm	2.93	189	PN	Pn	18 12 38.3	-1.5
MRZ	Mangatainoka R	3.04	198	PN	Pn	18 12 39.2	-1.9
TIWZ	Tintock	3.08	193	PN	Pn	18 12 40.0	-1.6
HOWZ	Holdsworth Sta	3.27	198	PN	Pn	18 12 41.9	-2.2
OGWZ	Otaki Gorge	3.29	202	PN	Pn	18 12 42.4	-1.9
TMWZ	Te Maipa	3.40	192	PN	Pn	18 12 43.8	-1.9
KIW	Kapiti Island	3.42	205	PN	Pn	18 12 43.5	-2.4
MTW	Mount Morrison	3.52	196	PN	Pn	18 12 44.6	-2.6
CAW	Cannon Point	3.59	202	PN	Pn	18 12 45.6	-2.5
TRWZ	Traveller	3.72	193	PN	Pn	18 12 47.6	-2.2
PAWZ	Paruwai Farm	3.75	196	PN	Pn	18 12 47.5	-2.7
DUWZ	D'Urville Isla	3.77	216	PN	Pn	18 12 47.8	-2.5
MSWZ	Moikau Station	3.83	198	PN	Pn	18 12 48.3	-2.9
WEL	Wellington	3.84	204	PN	Pn	18 12 48.6	-2.8
SNZO	South Karori	3.89	204	PN	Pn	18 12 48.9	-3.0
TCW	Tory Channel	3.95	209	PN	Pn	18 12 49.7	-3.1
PLWZ	Palliser	3.97	197	PN	Pn	18 12 49.9	-3.1
TUWZ	Tuamarina	4.27	210	PN	Pn	18 12 53.6	-3.3
NNZ	Nelson	4.34	217	PN	Pn	18 12 54.9	-3.0
QRZ	Quartz Range	4.51	226	PN	Pn	18 12 57.1	-3.0
BSWZ	Blackbirch Sta	4.54	209	PN	Pn	18 12 57.6	-2.8
THZ	Tophouse	4.99	216	PN	Pn	18 13 03.3	-3.1
KHZ	Kahutara	5.27	207	PN	Pn	18 13 06.4	-3.6
LTZ	Lake Taylor	6.09	213	PN	Pn	18 13 16.8	-4.1
MQZ	McQueen's Vall	6.71	207	PN	Pn	18 13 23.8	-5.3
ODZ	Otahua Downs	8.61	211	PN	Pn	18 13 50.3	-4.1

TRN 01 18:14:24.1, 17°.10N×62°.34W, h2km, MD4.3
IDC 01 18:14:26.6±0.7, 16°.89N×62°.51W, h0km, mb4.0/16, mb1 4.2/18, mb1mx4.1/27, mbtmp4.0/18, MS3.7/13, Ms1 3.7/13, ms1mx3.5/41, Error ellipse: s-maj=20.8km s-min=16.0km az=27.0
NEIC 01 18:14:27.6±0.4, 16°.93N×62°.44W, h10km, mb4.3/16, Error ellipse: s-maj=8.0km s-min=6.7km az=208.0
NEIC Felt at Gingerland and Newcastle, Nevis.
ISCJB 01 18:14:28.1±0.5, 17°.03N±0°.03×62°.43W±0°.03, h20km±4km, mb4.1/29, MS3.7/13, Error ellipse: s-maj=6.5km s-min=3.0km az=43.4
ISC 01 18:14:27.8±0.6, 17°.00N±0°.03×62°.41W±0°.03, h7km±4km, n97, σ1s.17/105, mb4.1/29, MS3.7/13, 6C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKI	Saint Kitts	0.45	316	eP	Pg	18 14 37.0	+0.3
SKI				eS	Sg	18 14 43.7	+1.1
BPA	Boggy Peak	0.53	85	⇑eP	Pg	18 14 36.6	-1.5
BPA				eS	Sg	18 14 45.6	+0.6
SEUS	St. Eustatius	0.73	312	eP	Pg	18 14 42.1	+0.2
ANWB	Willy Bob	0.89	42	ePn	Pn	18 14 43.8	-3.0
SABA	Saba	1.00	308	eP	Pg	18 14 48.1	+1.0
SABA				eS	Sg	18 15 04.6	+4.4
BCG	Bois Riant Cap	1.19	140	eP	Pg	18 14 50.2	-0.4
SCG	Saint Claude	1.20	144	⇑iP	Pb	18 14 50.1	-0.7
HMG	Houelmont	1.22	146	⇑iP	Pb	18 14 50.5	-0.7
DOG	Dongo Capester	1.23	142	eP	Pb	18 14 50.6	-0.7
PHG	Guadaloupe-2	1.23	143	eP	Pb	18 14 50.7	-0.7
TBG	Guadaloupe-3	1.36	147	⇑iP	Pn	18 14 52.6	-0.6
SFG	Saint Francois	1.38	122	eP	Pn	18 14 52.8	-0.7
DEG	La Desirade	1.47	118	eP	Pn	18 14 53.3	-1.4
DEG				eS	Sn	18 15 12.7	-1.4
MGG	Marie-Galante	1.50	136	eP	Pn	18 14 55.1	-0.2
DWS	Wesley	1.77	143	eP	Pn	18 14 59.3	+0.4
DWS				eS	Sn	18 15 24.7	+2.9
MDN	Morne-Daniel	1.94	150	⇑eP	Pn	18 15 02.1	+0.9
DPMT	Pointe Michel	2.00	150	⇓eP	Pn	18 15 03.0	+1.1
DFBT	Forest Bistro	2.02	150	eP	Pn	18 15 03.0	+0.7
DSHT	Scott's Head	2.04	151	⇓eP	Pn	18 15 03.2	+0.7
FDF	Fort de France	2.56	152	ePn	Pn	18 15 08.3	-1.5
FDF	Fort de France	2.56	152	eP	Pn	18 15 08.5	-1.3
FDF				eS	Sn	18 15 48.1	+6.9
STVI	Saint Thomas	2.77	299	ePn	Pn	18 15 12.6	-0.1
STVI				eSn	Sn	18 15 52.2	+5.9
BIM	Bigot	2.79	152	eP	Pn	18 15 12.7	-0.2
MVM	Montagne Vaucl	2.84	149	eP	Pn	18 15 14.0	+0.4
SLW	Petit Monier	3.29	154	eP	Pn	18 15 19.5	-0.3
SLW				eS	Sn	18 15 58.8	-0.3
CBYP	Canovanas	3.52	292	ePn	Pn	18 15 23.6	+0.6
MCLT	Moule a Chique	3.57	156	eP	Pn	18 15 23.9	+0.3
MCLT				eS	Sn	18 16 08.8	+2.7
SJG	San Juan	3.73	288	Pn	Pn	18 15 26.7	+0.8
	43nm,0.3s,baz=116,slow=9.1,SNR=42						
SJG				Sn	Sn	18 16 08.6	-1.5
	18nm,0.3s,baz=295,slow=23,SNR=5.6						
SJG	San Juan	3.73	288	ePn	Pn	18 15 25.7	-0.2
SJG				eSn	Sn	18 16 06.2	-4.0
SSV	Crater Summit	3.84	162	⇑eP	Pn	18 15 28.8	+1.4
SVB	Belmont	3.87	163	eP	Pn	18 15 29.9	+2.0
SVB				eS	Sn	18 16 16.3	+2.7
ICM	Isla Caja Muer	4.02	283	ePn	Pn	18 15 29.5	-0.3
CELP	Cerrillos	4.12	286	ePn	Pn	18 15 31.0	-0.2
OBIP	Obispado Ponce	4.13	285	ePn	Pn	18 15 30.8	-0.6
LRS	Lares	4.42	288	ePn	Pn	18 15 35.4	+0.1
LSP	Las Mesas	4.61	285	ePn	Pn	18 15 34.8	-3.1
LSP				eSn	Sn	18 16 39.6	+7.9
AGPR	Aguadilla, PR	4.71	289	ePn	Pn	18 15 38.7	-0.6
GRGR	Grenville	4.90	171	ePn	Pn	18 15 41.6	-0.3
TOSP	Speyside	5.96	162	eP	Pn	18 15 58.6	+2.1
SDDR	Presa de Saban	8.67	284	ePn	Pn	18 16 36.4	+2.6
SDV	Santo Domingo	11.37	226	Pn	Pn	18 17 11.0	+0.3
ROSC	El Rosal	16.80	225	Pn	Pn	18 18 21.6	-2.1
	0.6nm,0.3s,baz=93,slow=15,SNR=2.7						

ROSC	El Rosal	16.80	225	Pn	Pn	18 18 21.6	-2.1
BCIP	Isla Barro Col	18.66	248	eP	Pn	18 18 43.9	-3.0
	60nm,0.9s						
JTS	JuntasAbangare	22.89	256	P	P	18 19 37.0	+4.7
	5.8nm,0.9s,mb4.0,baz=295,slow=11,SNR=4.1						
JTS				LR	LR	18 27 43.2	
	comp=Z,87nm,20.0s,MS3.2,baz=237,slow=35						
JTS	JuntasAbangare	22.89	256	P	P	18 19 37.0	+4.7
JTS				LR	LR	18 27 43.2	
OTAV	Otavalo	22.96	225	eP	P	18 19 31.3	-1.7
	6.3nm,1.1s,mb4.0						
TKL	Tuckaleechee C	26.58	318	LR	LR	18 29 06.9	
	comp=Z,156nm,20.4s,MS3.5,baz=258,slow=33						
LPAZ	La Paz	33.56	190	LR	LR	18 36 24.4	
	comp=Z,134nm,20.2s,MS3.6,baz=238,slow=39						
WMOK	Wichita Mounta	36.93	306	eP	P	18 21 27.9	-10
	1.8nm,0.6s,mb4.1						
SCHQ	Schefferville	37.91	356	LR	LR	18 35 26.5	
	comp=Z,187nm,21.5s,MS3.9,baz=110,slow=33						
ECSD	EROS Data Cent	39.30	320	eP	P	18 21 49.7	-7.7
	5.5nm,0.8s,mb4.3						
TXAR	Lajitas Array	39.67	296	P	P	18 22 00.2	-0.4
	0.7nm,0.7s,mb3.5,baz=101,slow=12,SNR=8.1						
TXAR	Lajitas Array	39.67	296	P	P	18 22 00.2	-0.4
ULM	Lac du Bonnet	42.67	329	P	P	18 22 24.4	-0.7
	1.3nm,0.3s,mb4.1,baz=143,slow=10,SNR=3.0						
ULM				LR	LR	18 38 37.7	
	comp=Z,88nm,21.3s,MS3.6,baz=0.3,slow=34						
ULM	Lac du Bonnet	42.67	329	P	P	18 22 24.4	-0.7
ULM				LR	LR	18 38 37.8	
BNM	Barren Site	43.02	302	eP	P	18 22 28.6	+0.5
	9.9nm,1.4s,mb4.3						
SDCO	Great Sand Dun	43.02	307	eP	P	18 22 27.5	-0.6
	3.1nm,1.1s,mb4.0						
ANMO	Albuquerque	43.06	303	eP	P	18 22 30.2	+1.7
	5.4nm,1.2s,mb4.2						
CPUP	Villa Florida	43.35	173	P	P	18 22 30.2	-0.7
	0.8nm,0.5s,mb3.7,baz=358,slow=8.5,SNR=3.7						
CPUP				LR	LR	18 41 59.6	
	comp=Z,116nm,18.4s,MS3.8,baz=196,slow=38						
CPUP	Villa Florida	43.35	173	P	P	18 22 30.2	-0.7
CPUP				LR	LR	18 41 59.6	
BBTS	Babate	44.12	86	LR	LR	18 37 41.7	
	comp=Z,81nm,20.9s,MS3.6,baz=323,slow=32						
RSSD	Black Hills	44.21	317	P	P	18 22 38.1	+0.5
WUAZ	Wupatki	47.11	303	P	P	18 22 59.1	-1.6
	6.0nm,1.1s,mb4.4						
WUAZ				e		18 23 12.1	
PDAR	Pinedale Array	47.48	313	P	P	18 23 03.9	+0.4
	1.0nm,0.5s,mb4.0,baz=106,slow=7.5,SNR=12						
PDAR				PcP	PcP	18 24 35.4	+1.7
	0.6nm,0.9s,baz=91,slow=4.5,SNR=2.9						
PDAR	Pinedale Array	47.48	313	P	P	18 23 03.9	+0.4
PDAR				PcP	PcP	18 24 35.4	+1.7
HWUT	Hardware Ranch	48.58	311	eP	P	18 23 11.5	-0.5
	2.4nm,0.7s,mb4.3						
QLMT	Earthquake Lak	49.41	315	eP	P	18 23 19.3	+1.1
	0.6nm,0.8s,mb3.7						
BGU	Big Grassy Mou	49.48	310	eP	P	18 23 18.1	-0.8
	4.4nm,1.0s,mb4.4						
NVAR	Mina Array Bea	53.04	306	P	P	18 23 44.8	-0.8
	0.3nm,0.3s,mb3.7,baz=88,slow=6.7,SNR=2.6						
NVAR	Mina Array Bea	53.04	306	P	P	18 23 44.8	-0.8
NEW	Newport	54.16	318	eP	P	18 23 51.8	-1.9
	2.8nm,0.8s,mb4.2						
DBIC	Dimbokro	57.08	93	P	P	18 24 15.2	-0.1
	3.3nm,0.8s,mb4.4,baz=270,slow=9.1,SNR=2.5						
DBIC				LR	LR	18 43 13.8	
	comp=Z,100nm,18.8s,MS3.9,baz=224,slow=30						
DBIC	Dimbokro	57.08	93	P	P	18 24 14.1	-1.2
	4.2nm,0.9s,mb4.5						
DBIC				LR	LR	18 43 13.8	
SUMG	Summit	57.28	8	P	P	18 24 17.8	+2.1
PLCA	Paso Flores	57.93	187	P	P	18 24 19.7	-1.0
	2.0nm,0.8s,mb4.2,baz=16,slow=17,SNR=3.3						
PLCA				LR	LR	18 50 51.2	
	comp=Z,211nm,20.9s,MS4.2,baz=302,slow=38						
PLCA	Paso Flores	57.93	187	P	P	18 24 18.7	-2.0
	4.5nm,1.1s,mb4.4						
PLCA				LR	LR	18 50 51.2	
YKA	Yellowknife Ar	58.01	334	P	P	18 24 22.0	+1.0
	1.3nm,0.5s,mb4.2,baz=105,slow=7.5,SNR=3.0						
YKA				LR	LR	18 48 49.6	
	comp=Z,12nm,19.2s,MS3.0,baz=15,slow=36						
YKA	Yellowknife Ar	58.01	334	P	P	18 24 22.0	+1.0
YKA				LR	LR	18 48 49.6	
TORD	Torodi Ar. Bea	61.79	84	P	P	18 24 47.5	-0.3
	1.0nm,0.8s,mb4.0,baz=281,slow=5.3,SNR=5.5						
TORD				LR	LR	18 48 18.0	
	comp=Z,110nm,18.9s,MS4.0,baz=340,slow=33						
TORD	Torodi Ar. Bea	61.79	84	P	P	18 24 47.5	-0.3
TORD				LR	LR	18 48 18.1	
DLBC	Dease Lake	63.97	327	P	P	18 25 02.6	+1.1
	1.4nm,0.5s,mb4.3,baz=89,slow=22,SNR=3.3						
DLBC	Dease Lake	63.97	327	P	P	18 24 58.2	-3.4
NOA	NORSAR Array B	67.35	30	P	P	18 25 25.9	+2.6
	1.1nm,0.9s,mb3.9,baz=266,slow=6.5,SNR=3.2						
NOA	NORSAR Array B	67.35	30	P	P	18 25 25.9	+2.6
INK	Inuvik	67.36	338	P	P	18 25 22.8	-0.5
	4.4nm,0.9s,mb4.5,baz=121,slow=5.6,SNR=7.4						
INK	Inuvik	67.36	338	eP	P	18 25 22.4	-0.9
	12nm,1.2s,mb4.8						
GERES	GERESS Array B	68.29	44	P	P	18 25 31.3	+1.7
	0.2nm,0.7s,mb3.3,baz=320,slow=2.6,SNR=2.7						
GERES				LR	LR	18 52 14.9	
	comp=Z,66nm,18.6s,MS3.9,baz=0.9,slow=33						
GERES	GERESS Array B	68.29	44	P	P	18 25 31.3	+1.7
GERES				LR	LR	18 52 14.9	
ILAR	Eielson Array	72.42	333	P	P	18 25 54.0	-0.5
	0.7nm,0.6s,mb3.8,baz=99,slow=3.8,SNR=13						
ILAR				LR	LR	18 59 07.0	
	comp=Z,73nm,18.5s,MS4.0,baz=92,slow=37						
ILAR	Eielson Array	72.42	333	P	P	18 25 54.0	-0.5
ILAR				LR	LR	18 59 07.0	
TRF	Thorofare Moun	74.00	332	eP	P	18 26 04.2	+0.3
	6.4nm,0.9s,mb4.5						
FINES	FINESS Array B	74.51	30	P	P	18 26 08.3	+1.4
	3.8nm,0.9s,mb4.3,baz=292,slow=10,SNR=4.1						
FINES	FINESS Array B	74.51	30	P	P	18 26 08.3	+1.4
BRTR	Keskin Array B	83.84	50	P	P	18 26 59.0	+0.6
	0.5nm,0.7s,mb3.8,baz=258,slow=4.8,SNR=5.1						
BRTR	Keskin Array B	83.84	50	P	P	18 26 59.0	+0.6
ASAR	Alice Springs	163.33	244	PKPab	PKPab	18 35 22.1	-0.6
	0.3nm,0.8s,baz=105,slow=4.0,SNR=4.5						

MAN 01 18:27:45, 10°.75N×122°.78E, h27^{km}, mb4.0, ML2.8, MS2.5, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	Jordan	0.23	238	eP	Pb	18 27 52.7	+1.6
RCP	Roxas	0.81	357⇑	eP	Pb	18 28 00.4	-0.1
RCP				iS	Sb	18 28 12.6	+1.5
OCLP	Ormoc	1.82	80	eP	Pn	18 28 14.8	+0.3
OCLP				eS	Sn	18 28 33.8	-2.9
MSLP	Maasin	2.13	106	eP	Pn	18 28 19.8	+1.0

*ISCJB **01** 18:34:37.7±1.1, 20°.31S±0°.08×177°.95W±0°.07, h497^{km}±13^{km}, mb4.1/45, Error ellipse: s-maj=13.5km s-min=8.5km az=140.3*
*NEIC **01** 18:34:40.3±0.7, 20°.39S×177°.83W, h523^{km}±7^{km}, mb4.3/26, Error ellipse: s-maj=11.2km s-min=7.6km az=141.0*
*IDC **01** 18:34:43.5±2.6, 20°.41S×177°.97W, h550^{km}±29^{km}, mb3.6/18, mb1 3.8/19, mb1mx3.7/24, mbtmp3.6/19, Error ellipse: s-maj=15.7km s-min=11.2km az=143.0*
ISC 01 18:34:39.0±1.0, **20°.29S**±0°.08×**177°.92W**±0°.08, **h498**^{km}±13^{km}, **n136**, σ0^{s}**85**/81, **mb4.1**/45, **18C-5D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.58	303	eP	P	18 36 08.2	+5.9
AFI	Afiamalu	8.65	44	P	P	18 36 41.9	-0.3
	4.4nm,0.3s,baz=10,slow=2.8,SNR=6.3						
AFI				S	S	18 38 18.0	-5.2
	4.8nm,0.3s,baz=40,slow=22,SNR=11						
AFI	Afiamalu	8.65	44	P	P	18 36 41.9	-0.3
AFI				S	S	18 38 18.0	-5.2
RAO	Raoul Island	8.92	180	eP	P	18 36 44.9	+0.1
URZ	Urewera	18.42	192	P	P	18 38 21.9	-1.1
	5.2nm,0.3s,baz=304,slow=1.1,SNR=14						
URZ				S	S	18 41 18.3	-7.5
	0.4nm,0.3s,baz=24,slow=20,SNR=2.9						
URZ	Urewera	18.42	192	eP	P	18 38 21.8	-1.2
EIDS	Eidsvold	28.98	254	eP	P	18 39 58.1	+0.5
	4.8nm,0.6s,mb4.1						
CTA	Charters Tower	33.59	264	eP	P	18 40 37.8	+0.6
	8.8nm,0.6s,mb4.4						
CTAO	Charters Tower	33.59	264	eP	P	18 40 38.1	+0.9
	13nm,0.7s,mb4.5						
CMSA	Cobar Meteorol	34.45	244	eP	P	18 40 44.7	+0.4
PMG	Port Moresby	35.37	283	P	P	18 40 52.5	+0.2
STKA	Stephens Creek	37.95	244	P	P	18 41 14.2	+0.8
	4.7nm,0.8s,mb4.0,baz=82,slow=8.6,SNR=11						
STKA				PcP	PcP	18 43 15.9	-0.6
	1.6nm,0.8s,baz=59,slow=5.9,SNR=2.9						
STKA	Stephens Creek	37.95	244	eP	P	18 41 13.9	+0.6
	2.4nm,0.6s,mb3.8						
STKA	Stephens Creek	37.95	244	eP	P	18 41 13.9	+0.5
	0.8nm,0.6s,mb3.3						
STKA				PcP	PcP	18 43 15.9	-0.6
ASAR	Alice Springs	44.64	257	P	P	18 42 07.0	+0.3
	12nm,0.5s,mb4.6,baz=90,slow=7.9,SNR=339						
ASAR				PcP	PcP	18 43 38.2	-0.7
	2.4nm,0.7s,baz=102,slow=3.6,SNR=8.3						
ASAR				S	S	18 48 02.7	-3.5
	0.4nm,0.7s,baz=90,slow=15,SNR=4.4						
ASAR	Alice Springs	44.64	257	P	P	18 42 07.0	+0.3
ASAR				PcP	PcP	18 43 38.2	-0.7
ASAR				S	S	18 48 02.7	-3.5
WB2	Warramunga Arr	44.69	262	eP	P	18 42 06.7	-0.5
WRAB	Tennant Creek	44.70	262	eP	P	18 42 06.5	-0.7
	7.6nm,0.8s,mb4.2						
WRA	Warramunga Arr	44.70	262	P	P	18 42 06.8	-0.5
	5.3nm,0.3s,mb4.4,baz=97,slow=7.7,SNR=182						
WRA				PcP	PcP	18 43 38.6	-0.6
	1.1nm,0.7s,baz=90,slow=3.7,SNR=4.8						
WRA	Warramunga Arr	44.70	262	P	P	18 42 06.8	-0.4
WRA				PcP	PcP	18 43 38.6	-0.6
KAKA	Kakadu	48.05	271	eP	P	18 42 32.4	-0.3
	10nm,0.3s,mb4.6						
KAKA	Kakadu	48.05	271	eP	P	18 42 32.3	-0.4
	41nm,0.6s,mb4.9						
FORT	Forrest	49.45	246	eP	P	18 42 42.3	-0.6
	11nm,0.5s,mb4.4						
FITZ	Fitzroy Crossi	53.13	262	P	P	18 43 10.2	+0.3
	3.5nm,0.5s,mb3.9,baz=135,slow=4.6,SNR=27						
FITZ	Fitzroy Crossi	53.13	262	eP	P	18 43 09.9	0.0
	7.5nm,0.5s,mb4.3						
FITZ	Fitzroy Crossi	53.13	262	P	P	18 43 10.2	+0.3
MBWA	Marble Bar	57.97	257	eP	P	18 43 42.4	-1.2
MBWA	Marble Bar	57.97	257	eP	P	18 43 42.7	-0.9
	7.9nm,0.4s,mb4.4						
SBA	Scott Base	58.08	184	eP	P	18 43 45.2	+1.8
	2.8nm,1.0s,mb3.5						
VNDA	Vanda	58.12	185	P	P	18 43 44.2	+0.6
	0.5nm,0.7s,mb3.0,baz=33,slow=8.2,SNR=4.4						
VNDA	Vanda	58.12	185	P	P	18 43 44.2	+0.6
KLBR	Kellerberrin	58.21	245	eP	P	18 43 44.4	-0.7
	6.0nm,0.6s,mb4.1						
NWAO	Narrogin (SRO)	58.53	243	P	P	18 43 46.6	-0.6
	4.9nm,0.6s,mb4.0,baz=87,slow=8.6,SNR=6.1						
NWAO	Narrogin (SRO)	58.53	243	P	P	18 43 46.2	-0.9
	6.2nm,0.7s,mb4.0						
QSPA	South Pole Qui	69.78	180	P	P	18 44 58.4	+0.4
	0.7nm,0.6s,mb3.4,baz=66,slow=2.6,SNR=7.0						
QSPA	South Pole Qui	69.78	180	eP	P	18 44 58.1	+0.2
	1.0nm,0.7s,mb3.5						
KKM	Kota Kinabalu	69.78	285	eP	P	18 44 59.4	+0.2
	7.8nm,0.7s,mb4.3						
MJAR	Matsushiro Arr	70.09	324	P	P	18 45 00.4	-0.1
	3.8nm,0.6s,mb4.1,baz=157,slow=6.1,SNR=24						
MJAR	Matsushiro Arr	70.09	324	P	P	18 45 00.4	-0.1
MAJO	Matsushiro	70.09	324	eP	P	18 45 00.4	-0.1
	3.9nm,0.5s,mb4.2						
KSM	Kuching	73.46	278	eP	P	18 45 21.2	+0.5
	7.7nm,0.6s,mb4.4						
ASAJ	Asahikawa	73.58	331	P	P	18 45 22.6	+1.9
	12nm,0.8s,mb4.5,baz=161,slow=5.4,SNR=7.8						
YSS	Yuzh-Sakhalins	75.74	333	eP	P	18 45 33.8	+1.0
	9.7nm,0.6s,mb4.5						
PETK	Petropavlovsk-	76.09	345	P	P	18 45 34.8	+0.2
	5.6nm,0.7s,mb4.2,baz=138,slow=10.0,SNR=6.4						
PETK	Petropavlovsk-	76.09	345	P	P	18 45 34.8	+0.2
KSRS	Korea Array	76.78	318	P	P	18 45 39.9	+1.1
	1.7nm,0.7s,mb3.7,baz=130,slow=6.0,SNR=6.7						
CMB	Columbia Colle	79.26	43	eP	P	18 45 52.4	+0.3
	3.6nm,0.9s,mb3.9						
YBH	Yreka Blue Hor	80.08	39	P	P	18 45 57.6	+1.2
	5.0nm,0.8s,mb4.1,baz=178,slow=3.7,SNR=8.4						
YBH	Yreka Blue Hor	80.08	39	P	P	18 45 57.6	+1.2
MDJ	Mudanjiang	80.39	325	P	P	18 45 59.0	+1.1
	10nm,0.8s,mb4.4						
KDAK	Kodiak Island	80.60	13	P	P	18 45 58.6	0.0
	3.4nm,0.6s,mb4.0,baz=270,slow=19,SNR=5.1						
KDAK	Kodiak Island	80.60	13	P	P	18 45 58.6	0.0
NVAR	Mina Array Bea	80.82	43	P	P	18 46 01.1	+0.9
	2.7nm,0.8s,mb3.8,baz=224,slow=8.7,SNR=10.0						
NVAR	Mina Array Bea	80.82	43	P	P	18 46 01.1	+0.9
MAW	Mawson	81.78	200	P	P	18 46 03.8	-1.0
	1.1nm,1.1s,mb3.3						
KULM	Kulim	83.82	278	eP	P	18 46 15.9	-0.2
	8.2nm,0.6s,mb4.4						
PMR	Palmer	84.80	13	eP	P	18 46 18.0	-1.8
	4.2nm,0.6s,mb4.2						
ENH	Enshi	85.98	304	eP	P	18 46 26.3	0.0
	10nm,0.9s,mb4.5						
TRF	Thorofare Moun	86.23	12	eP	P	18 46 25.5	-1.1
	12nm,0.9s,mb4.5						
MCK	McKinley	86.75	12	eP	P	18 46 28.4	-0.7
	10.0nm,1.1s,mb4.5						
TXAR	Lajitas Array	86.88	57	P	P	18 46 31.6	+1.1
	1.2nm,0.6s,mb3.8,baz=215,slow=6.9,SNR=17						
TXAR	Lajitas Array	86.88	57	P	P	18 46 31.6	+1.1
PV01	Paradox Valley	87.19	48	eP	P	18 46 31.9	+0.1
ANMO	Albuquerque	87.22	51	eP	P	18 46 32.0	+0.1
	2.1nm,0.9s,mb3.9						
COLA	College	87.99	12	eP	P	18 46 32.8	-2.1
	4.9nm,0.8s,mb4.3						
ILAR	Eielson Array	88.09	13	P	P	18 46 34.4	-1.0
	1.5nm,0.4s,mb4.1,baz=216,slow=5.2,SNR=8.0						
ILAR	Eielson Array	88.09	13	P	P	18 46 34.4	-1.0
PDAR	Pinedale Array	88.76	43	P	P	18 46 39.0	+0.1
	1.7nm,0.6s,mb4.0,baz=205,slow=3.3,SNR=15						
PDAR	Pinedale Array	88.76	43	P	P	18 46 39.0	+0.1
BILL	Bilibino	88.84	354	eP	P	18 46 38.4	-0.4
	1.6nm,0.6s,mb4.0						
WALA	Waterton Lakes	89.37	36	P	P	18 46 41.1	-0.6
	0.1nm,0.8s,mb2.7						
CM31	Chiang Mai Arr	90.12	290	eP	P	18 46 45.2	-0.7
	2.4nm,0.6s,mb4.2						
CMAR	Chiang Mai Arr	90.12	290	P	P	18 46 47.4	+1.5
	4.1nm,0.8s,mb4.3,baz=120,slow=2.9,SNR=28						
CMAR	Chiang Mai Arr	90.12	290	P	P	18 46 47.4	+1.5
CHTO	Chiang Mai	90.24	290	eP	P	18 46 47.3	+0.9
	7.0nm,0.6s,mb4.7						
YAK	Yakutsk	91.95	338	eP	P	18 46 51.9	-1.4
	8.7nm,0.8s,mb4.7						
ZALV	Zalesovo Beam	110.38	321	PKiKP	PKiKP	18 52 11.8	-1.9
	0.6nm,0.5s,baz=149,slow=0.3,SNR=5.9						
ZALV	Zalesovo Beam	110.38	321	PKPdf	PKiKP	18 52 11.8	-1.9
MK31	Makanchi Array	111.11	313	ePKPdf	PKiKP	18 52 13.3	-2.1
MKAR	Makanchi Array	111.11	313	PKiKP	PKiKP	18 52 13.6	-1.7
	0.8nm,0.6s,baz=79,slow=0.1,SNR=13						
MKAR	Makanchi Array	111.11	313	PKPdf	PKiKP	18 52 13.6	-1.7
ARCES	ARCESS Array B	128.73	350	PKP	PKPdf	18 52 47.0	-1.4
	4.9nm,1.0s,baz=29,slow=2.8,SNR=5.1						
ARCES	ARCESS Array B	128.73	350	PKP	PKPdf	18 52 47.0	-1.4
FINES	FINESS Array B	135.60	344	PKP	PKPdf	18 52 59.0	-2.6
	2.1nm,0.8s,baz=107,slow=3.3,SNR=9.1						
FINES	FINESS Array B	135.60	344	PKP	PKPdf	18 52 59.0	-2.6
AKASG	Malin Array Be	142.87	331	PKhKP	PKPpre	18 53 11.1	
	6.3nm,0.5s,baz=42,slow=4.2,SNR=43						
AKASG	Malin Array Be	142.87	331	PKP	PKPpre	18 53 11.1	
KWP	Kalwaria Pacla	146.43	336⇑	iP	PKPbc	18 53 48.8	+25
BRTR	Keskin Array B	146.75	313	PKPbc	PKPbc	18 53 24.0	-0.8
	3.7nm,0.6s,baz=132,slow=4.7,SNR=23						
BRTR	Keskin Array B	146.75	313	PKPbc	PKPbc	18 53 24.0	-0.8
TLCR		146.78	324⇑	iP	PKPbc	18 53 23.1	-1.6
TESR		147.03	328⇓	iP	PKPdf	18 53 24.8	+2.4
KOLS	Kolonicke sedl	147.16	335	ePKP	PKPbc	18 53 26.8	+1.3
KOLS				e		18 53 29.0	
VRI	Vrincioaia	147.44	327⇓	iP	PKPdf	18 53 25.1	+2.0
TIRR	Tirgusor	147.47	324⇑	iP	PKPdf	18 53 22.9	-0.3
CRVS	Cervenica-Dubn	147.50	336	ePKP	PKPbc	18 53 27.0	+0.6
CRVS				e		18 53 30.5	
TRPA	Tarpa	147.69	334⇑	iP	PKPbc	18 53 26.3	-0.7
OKC	Ostrava-Krasne	147.86	340⇑	ePKP	PKPbc	18 53 26.8	-0.5
CLL	Collm	147.88	347⇓	iPKPbc	PKPbc	18 53 26.9	-0.4
	comp=Z,17nm,0.9s						
UPC	Upice	147.90	343⇑	ePKP	PKPbc	18 53 27.0	-0.4
DPC	Dobruska-Polom	147.95	343⇑	ePKP	PKPbc	18 53 27.6	0.0
DPC				ePKPAB	PKPab	18 53 32.4	+0.5
DOPR	Dopca	148.03	329⇓	iP	PKPdf	18 53 28.2	+4.2
MLR	Muntele Rosu	148.09	327⇑	iP	PKPdf	18 53 27.7	+3.5
MORC	Moravsky Berou	148.11	341⇑	iP	PKPbc	18 53 27.8	-0.2
PVCC	Panska Ves	148.25	345⇑	ePKP	PKPbc	18 53 28.2	-0.1
VOIR		148.58	328⇑	iP	PKPbc	18 53 28.5	-0.8
DRGR		148.66	332⇑	iP	PKPbc	18 53 29.0	-0.4
PRU	Pruhonice	148.75	344⇑	ePKP	PKPbc	18 53 29.8	+0.2
PRU				ePKPAB	PKPab	18 53 35.2	0.0
VYHS	Vyhne	148.80	338	ePKP	PKPbc	18 53 29.2	-0.5
VRAC	Vranov	148.81	342⇑	iP	PKPab	18 53 35.8	+0.3
CSS	Prodhromos	148.85	305	ePKPbc	PKPbc	18 53 28.9	-1.4
GZR	Gura Zlata	149.70	330⇑	iP	PKPbc	18 53 30.7	-1.3
KHC	Kasperske Hory	149.79	345⇑	ePKP	PKPbc	18 53 31.3	-0.8
KHC				ePKPAB	PKPab	18 53 39.7	+0.2
GERES	GERESS Array B	150.02	345	PKPbc	PKPbc	18 53 32.0	-0.6
	comp=Z,2.7nm,0.8s,baz=11,slow=1.4,SNR=22						
GERES				PKPab	PKPab	18 53 39.8	-0.8
	comp=Z,0.5nm,0.5s,baz=40,slow=5.5,SNR=6.8						
GERES	GERESS Array B	150.02	345	PKPbc	PKPbc	18 53 32.0	-0.6
GERES				PKPab	PKPab	18 53 39.8	-0.7
BZS	Buzias	150.05	332⇑	iP	PKPbc	18 53 31.4	-1.4
GIVF	Givet	150.18	356	ePKIKP	PKPbc	18 53 32.2	-0.8
GIVF	Givet	150.18	356	ePKPdf	PKPbc	18 53 32.2	-0.8
BAIF	Baives	150.25	357	ePKIKP	PKPbc	18 53 32.6	-0.5
	comp=Z,12nm,0.8s						
BAIF	Baives	150.25	357	ePKPdf	PKPbc	18 53 32.6	-0.5
PKSM	Moragy	150.80	336⇓	iP	PKPbc	18 53 33.5	-1.0
VTS	Vitosha	151.53	326⇑	iP	PKPbc	18 53 35.2	-1.1
CDF	Champ du Feu	151.63	353	ePKIKP	PKPbc	18 53 35.5	-0.9
	comp=Z,4.3nm,0.8s						
CDF	Champ du Feu	151.63	353	ePKPdf	PKPbc	18 53 35.5	-0.9
LDF	La Druitiere	151.71	3	ePKIKP	PKPbc	18 53 35.1	-1.4
	comp=Z,3.5nm,0.5s						
LDF	La Druitiere	151.71	3	ePKPdf	PKPbc	18 53 35.1	-1.4
SFTF	Sexfontaines	152.05	356	ePKIKP	PKPbc	18 53 36.5	-0.8
SFTF	Sexfontaines	152.05	356	ePKPdf	PKPbc	18 53 36.5	-0.8
QUIF	Quistinic	152.12	8	ePKIKP	PKPbc	18 53 36.2	-1.2
QUIF	Quistinic	152.12	8	ePKPdf	PKPbc	18 53 36.2	-1.2
HAU	Haudompre	152.14	354	ePKIKP	PKPbc	18 53 36.7	-0.8
HAU	Haudompre	152.14	354	ePKPdf	PKPbc	18 53 36.7	-0.8
HINF	Hinteralfeld	152.27	353	ePKIKP	PKPbc	18 53 36.5	-1.3
HINF	Hinteralfeld	152.27	353	ePKPdf	PKPbc	18 53 36.5	-1.3
TORD	Torodi Ar. Bea	172.89	177	PKP	PKPdf	18 53 48.8	-2.4
	comp=Z,0.8nm,0.9s,baz=201,slow=2.2,SNR=4.2						
TORD	Torodi Ar. Bea	172.89	177	PKP	PKPdf	18 53 48.8	-2.4

*RSPR **01** 18:41:22.6, 17°.10N×61°.90W, h12^{km}±29^{km}, MD4.0/5*
*NEIC **01** 18:41:22.6, 17°.10N×61°.90W, h12^{km}, MD4.0(RSPR), After RSPR.*
*TRN **01** 18:41:22.2, 17°.08N×62°.34W, h5^{km}, MD3.6, M4.0(FDF)*
*ISCJB **01** 18:41:25.0±0.6, 17°.03N±0°.04×62°.37W±0°.03, h10^{km}±5^{km}, Error ellipse: s-maj=7.6km s-min=3.5km az=38.5*
ISC 01 18:41:25.4±0.5, **17°.01N**±0°.04×**62°.36W**±0°.03, **h9**^{km}±5^{km}, **n36**, σ0^{s}**72**/47, **5C-3D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWH		0.31	148	iP	Pg	18 41 32.4	+0.9
MLYT	Lee's Yard	0.33	150	iP	Pg	18 41 32.9	+1.0
BPA	Boggy Peak	0.48	85⇓	eP	Pg	18 41 34.7	-0.1
BPA				eS	Sg	18 41 42.6	+1.4
SKI	Saint Kitts	0.48	312	eP	Pg	18 41 34.4	-0.5
SKI				eS	Sg	18 41 41.1	-0.1
SEUS	St. Eustatius	0.76	309⇓	eP	Pg	18 41 39.7	-0.4
SEUS	St. Eustatius	0.76	309⇓	eP	Pg	18 41 39.7	-0.4
SEUS				eS	Sg	18 41 50.0	-0.2
SEUS	St. Eustatius	0.76	309	eP	Pg	18 41 39.7	-0.4
SEUS				eS	Sg	18 41 50.0	-0.2
ANWB	Willy Bob	0.86	40	ePg	Pg	18 41 40.6	-1.3
ANWB				eSg	Sg	18 41 53.2	+0.2
SABA	Saba	1.04	306⇑	eP	Pg	18 41 44.6	-0.8
SABA	Saba	1.04	306⇑	eP	Pg	18 41 44.6	-0.8
SABA				eS	Sg	18 42 02.3	+3.4
SABA	Saba	1.04	306	eP	Pg	18 41 44.6	-0.8
SABA				eS	Sg	18 42 02.3	+3.4
BCG	Bois Riant Cap	1.16	142	eP	Pb	18 41 47.4	-0.2
SCG	Saint Claude	1.17	146	eP	Pb	18 41 47.6	-0.2
HMG	Houelmont	1.20	148	eP	Pb	18 41 47.9	-0.4
DOG	Dongo Capester	1.20	144	eP	Pb	18 41 47.8	-0.6
PHG	Guadaloupe-2	1.20	145	eP	Pb	18 41 48.2	-0.1
TBG	Guadaloupe-3	1.34	149	eP	Pn	18 41 49.8	-0.4
DEG	La Desirade	1.43	119	eP	Pn	18 41 50.6	-0.8
DEG				eS	Sn	18 42 10.2	-0.1
MGG	Marie-Galante	1.48	137	eP	Pn	18 41 52.7	+0.6
ABV	Anegada	2.54	313	eS	Sn	18 42 38.4	+0.6
ABV	Anegada	2.54	313	eS	Sn	18 42 38.4	+0.6
FDF	Fort de France	2.54	153	ePn	Pn	18 42 06.6	-0.2
FDF	Fort de France	2.54	153	eP	Pn	18 42 06.9	+0.1
FDF				eS	Sn	18 42 44.0	+6.1
STVI	Saint Thomas	2.81	299	eS	Sn	18 42 46.0	+1.6
STVI	Saint Thomas	2.81	299	eS	Sn	18 42 46.0	+1.6
STVI				eS	Sn	18 42 46.5	+2.0
MTP	Monte Pirata	3.23	290⇑	iP	Pn	18 42 16.1	-0.1
MTP	Monte Pirata	3.23	290⇑	iP	Pn	18 42 16.1	-0.1
MTP	Monte Pirata	3.23	290	iP	Pn	18 42 16.1	-0.1
HUMP	Col San Antoni	3.51	289⇑	iP	Pn	18 42 19.9	-0.2
HUMP	Col San Antoni	3.51	289⇑	iP	Pn	18 42 19.9	-0.2
HUMP	Col San Antoni	3.51	289	iP	Pn	18 42 19.9	-0.2
CBYP	Canovanas	3.56	291⇑	iP	Pn	18 42 21.4	+0.6
CBYP	Canovanas	3.56	291⇑	iP	Pn	18 42 21.4	+0.6
CBYP	Canovanas	3.56	291	iP	Pn	18 42 21.4	+0.6
SJG	San Juan	3.78	287	ePn	Pn	18 42 23.3	-0.5
SJG				eSn	Sn	18 43 00.9	-7.4
CELP	Cerrillos	4.16	285	ePn	Pn	18 42 28.6	-0.5

*DDA **01** 18:45:43.7, 37°.82N×43°.09E, h19^{km}±3^{km}, Md3.1*
*ISK **01** 18:45:44.2, 37°.90N×43°.16E, h5^{km}, MD2.9*
*CSEM **01** 18:45:44.5±0.3, 37°.87N×43°.10E, h2^{km}, MD2.9, Error ellipse: s-maj=7.5km s-min=5.1km az=71.0*
*ISCJB **01** 18:45:45.0±0.5, 37°.87N±0°.04×43°.13E±0°.04, h10^{km}, Error ellipse: s-maj=5.1km s-min=4.5km az=163.1*
ISC 01 18:45:45.0±0.8, **37°.87N**±0°.04×**43°.08E**±0°.05, **h2**^{km}±8^{km}, **n18**, σ0^{s}**98**/28, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANT	Van	0.57	14	ePG	Pg	18 45 55.4	-0.6
VANT	Van	0.57	14	ePg	Pg	18 45 55.4	-0.6
HAKT	HAKKARI	0.58	122	iP	Pg	18 45 55.0	-1.1
HAKT				iS	Sg	18 46 04.7	+1.0
HAKT	HAKKARI	0.58	122	iP	Pg	18 45 55.0	-1.1
HAKT				iS	Sg	18 46 04.7	+1.1
TVAN	Van	0.71	21	eP	Pg	18 45 58.3	-0.3
TVAN				eS	Sg	18 46 10.9	+3.1
TVAN	Van	0.71	21	eP	Pg	18 45 58.3	-0.3
TVAN				eS	Sg	18 46 10.9	+3.1
CUKT	Cukurca	0.74	146	ePG	Pg	18 45 59.8	+0.5
CUKT	Cukurca	0.74	146	ePg	Pg	18 45 59.8	+0.6
VANB	Van	0.77	18	ePG	Pg	18 45 59.2	-0.5
VANB				eSG	Sg	18 46 10.1	+0.4
VANB	Van	0.77	18	ePg	Pg	18 45 59.2	-0.5
VANB				eSg	Sg	18 46 10.1	+0.4
CLDR	Caldiran	1.43	27	ePN	Pn	18 46 11.6	-0.4
CLDR	Caldiran	1.43	27	ePn	Pn	18 46 11.6	-0.4
BEST	Besiri	1.44	272	eP	Pn	18 46 09.8	-2.2
BEST				eS	Sg	18 46 31.5	+0.4
AGRB	Hanur-Agry	1.71	358	ePN	Pn	18 46 15.9	+0.1
AGRB	Hanur-Agry	1.71	358	ePn	Pn	18 46 15.9	+0.1
MARD	Mardin	1.91	254	eP	Pn	18 46 18.6	+0.1
MARD				eS	Sn	18 46 43.5	+0.3
DIYA	Diyarbakir	2.34	272	eP	Pn	18 46 23.6	-0.9
DIYA				eS	Sn	18 46 55.5	+1.6
DIYA	Diyarbakir	2.34	272	eP	Pn	18 46 23.6	-0.9
DIYA				eS	Sn	18 46 55.5	+1.6

*DDA **01** 19:03:53.7, 40°.81N×31°.63E, h6^{km}±3^{km}, Md3.0*
*ISK **01** 19:03:53.3, 40°.74N×31°.68E, h5^{km}, MD2.9*
*ISCJB **01** 19:03:54.7±0.5, 40°.78N±0°.04×31°.64E±0°.03, h10^{km}, Error ellipse: s-maj=6.0km s-min=3.8km az=178.9*
*CSEM **01** 19:03:54.3±0.2, 40°.73N×31°.68E, h2^{km}, MD3.0, Error ellipse: s-maj=4.9km s-min=3.5km az=165.0*
ISC 01 19:03:54.7±0.6, **40°.78N**±0°.04×**31°.66E**±0°.03, **h4**^{km}±7^{km},

n28, σ0§86/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGKT	**Sivrigoynuk**	**0.36**	**124**	*i* P	**Pg**	**19 04 00.3**	**-1.4**
SGKT				*i* S	**Sg**	**19 04 08.3**	**+1.9**
SGKT	**Sivrigoynuk**	**0.36**	**124**	*i* P	**Pg**	**19 04 00.3**	**-1.4**
MDU	**Mudurnu**	**0.46**	**227**	*e*PG	**Pg**	**19 04 02.6**	**-0.9**
MDU				*e*SG	**Sg**	**19 04 10.8**	**+1.2**
MDU	**Mudurnu**	**0.46**	**227**	*e*Pg	**Pg**	**19 04 02.7**	**-0.8**
MDU				*e*Sg	**Sg**	**19 04 10.8**	**+1.3**
KDZE	**Karadeniz Ereo**	**0.56**	**343**	*e*PG	**Pg**	**19 04 06.0**	**+0.7**
KDZE	**Karadeniz Ereo**	**0.56**	**343**	*e*Pg	**Pg**	**19 04 06.0**	**+0.6**
HENT	**Hendek**	**0.58**	**274**	*e*P	**Pg**	**19 04 05.0**	**-0.7**
HENT				*e*S	**Sg**	**19 04 13.0**	**-0.3**
HENT	**Hendek**	**0.58**	**274**	*e*P	**Pg**	**19 04 05.1**	**-0.7**
HENT				*e*S	**Sg**	**19 04 13.0**	**-0.3**
SAFT	**Safranbolu**	**0.90**	**59**	*e*PG	**Pg**	**19 04 11.9**	**-0.1**
SAFT	**Safranbolu**	**0.90**	**59**	*e*Pg	**Pg**	**19 04 11.9**	**-0.1**
GULT	**Gulveren**	**0.94**	**249**	*e*PG	**Pg**	**19 04 12.6**	**-0.1**
GULT	**Gulveren**	**0.94**	**249**	*e*Pg	**Pg**	**19 04 12.6**	**-0.1**
BORA	**Eskisehir**	**1.29**	**226**	*e*P	**Pg**	**19 04 18.3**	**-1.0**
BORA				*e*S	**Sg**	**19 04 37.2**	**+1.2**
BORA	**Eskisehir**	**1.29**	**226**	*e*P	**Pg**	**19 04 18.3**	**-1.1**
BORA				*e*S	**Sg**	**19 04 37.2**	**+1.2**
SVRH	**Sivrihisar-ESK**	**1.34**	**185**	*e*PN	**Pn**	**19 04 19.4**	**-0.6**
SVRH	**Sivrihisar-ESK**	**1.34**	**185**	*e*Pn	**Pn**	**19 04 19.5**	**-0.6**
ELDT	**Eldivan**	**1.38**	**102**	*e*P	**Pn**	**19 04 20.4**	**-0.2**
ELDT				*e*S	**Sg**	**19 04 39.0**	**+0.1**
ELDT	**Eldivan**	**1.38**	**102**	*e*P	**Pn**	**19 04 20.4**	**-0.2**
ELDT				*e*S	**Sg**	**19 04 39.0**	**+0.1**
ESKT	**Eskisehir**	**1.40**	**207**	*e*PN	**Pn**	**19 04 20.8**	**-0.2**
ESKT	**Eskisehir**	**1.40**	**207**	*e*P	**Pn**	**19 04 19.9**	**-1.1**
ESKT				*e*S	**Sg**	**19 04 35.6**	**-4.1**
ESKT	**Eskisehir**	**1.40**	**207**	*e*Pn	**Pn**	**19 04 20.8**	**-0.2**
SEYT	**Eskypehyr**	**1.40**	**207**	*e*P	**Pn**	**19 04 19.9**	**-1.1**
SEYT				*e*S	**Sg**	**19 04 35.6**	**-4.1**
HRT	**Hereke**	**1.51**	**272**	*e*PN	**Pn**	**19 04 23.0**	**+0.4**
HRT	**Hereke**	**1.51**	**272**	*e*Pn	**Pn**	**19 04 23.0**	**+0.5**
SILT	**Sile**	**1.57**	**284**	*e*PN	**Pn**	**19 04 23.9**	**+0.6**
SILT	**Sile**	**1.57**	**284**	*e*Pn	**Pn**	**19 04 23.9**	**+0.6**
ARMT	**Armutlu**	**2.14**	**265**	*e*PN	**Pn**	**19 04 31.8**	**+0.7**
ARMT	**Armutlu**	**2.14**	**265**	*e*Pn	**Pn**	**19 04 31.8**	**+0.7**

IDC 01 19:04:17.8±1.6**, 1°.73N×127°.15E, h0km, mb3.6**/5**, mb1 3.8**/5**, mb1mx3.5**/20**, mbtmp3.6**/5**, Error ellipse: s-maj=162.5km s-min=19.4km az=66.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.66**	**162**	P	P	19 09 21.9	+1.0
	1.6nm,0.7s,baz=340,slow=11,SNR=15						
ASAR	**Alice Springs**	**26.08**	**166**	P	P	19 09 53.9	+0.5
	0.1nm,0.4s,baz=342,slow=7.9,SNR=4.9						
STKA	**Stephens Creek**	**36.12**	**159**	P	P	19 11 20.3	-1.4
	0.8nm,0.4s,baz=326,slow=11,SNR=5.1						
MKAR	**Makanchi Array**	**59.43**	**326**	P	P	19 14 22.9	+0.6
	0.4nm,0.4s,baz=118,slow=7.8,SNR=9.9						
KURK	**Kurchatov**	**63.65**	**328**	P	P	19 14 50.3	-0.4
	0.5nm,0.5s,baz=127,slow=6.4,SNR=5.5						

*IDC **01** 19:04:22.4±1.1, 13°.69N×90°.30W, h0km, mb4.1/11, mb1 4.3/13, mb1mx4.1/26, mbtmp4.1/13, ML4.3/1, MS3.6/5, Ms1 3.6/5, ms1mx3.2/29, Error ellipse: s-maj=33.7km s-min=22.1km az=38.0*

*ISCJB **01** 19:04:27.6±0.4, 13°.46N±0°.04×90°.85W±0°.03, h63km±4km, mb4.2/18, Error ellipse: s-maj=7.0km s-min=2.8km az=28.2*

*MEX **01** 19:04:27.6±0.6, 13°.14N×90°.98W, h30km±452km, MD4.5*

*CASC **01** 19:04:28.5±1.7, 13°.55N×90°.81W, h30km±10km, MD4.2, ML4.2, mb4.2(NEIC)*

*NEIC **01** 19:04:30.2±1.5, 13°.52N×90°.62W, h65km±13km, mb4.2/9, Error ellipse: s-maj=19.9km s-min=10.2km az=222.0*

ISC 01 19:04:29.4±0.3**, 13°.52N**±0°.04×**90°.82W**±0°.02**, h54**km±4km**, n105,** σ**1§13**/118**, mb4.2**/18**, MS3.7**/4**, 3C-3D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.74**	**29**⇓	*e*P	**Pn**	**19 04 43.0**	**-0.9**
PCG	**Pacaya**	**0.89**	**13**	*e*P	**Pn**	**19 04 45.5**	**-0.3**
FUG	**Fuego 3**	**0.92**	**358**	*e*P	**Pn**	**19 04 45.4**	**-0.8**
FG6		**1.03**	**356**⇓	*e*P	**Pn**	**19 04 47.1**	**-0.5**
GCG	**Guatemala City**	**1.09**	**15**	*e*P	**Pn**	**19 04 47.6**	**-0.9**
GCG				*e*S	**Sn**	**19 05 03.2**	**+0.6**
JAT	**Jato**	**1.12**	**315**⇓	*e*P	**Pn**	**19 04 48.1**	**-0.8**
NBG	**Las Nubes**	**1.15**	**23**	*e*P	**Pn**	**19 04 50.7**	**+1.4**
RTR	**El Retiro**	**1.20**	**72**⇑	*e*P	**Pn**	**19 04 48.9**	**-1.0**
SBLS	**San Blas**	**1.20**	**75**	*e*P	**Pn**	**19 04 48.7**	**-1.3**
SNJE	**San Jose**	**1.23**	**74**	*e*P	**Pn**	**19 04 48.9**	**-1.4**
RBDL	**Robledal**	**1.25**	**62**	*e*P	**Pn**	**19 04 49.6**	**-0.9**
BOQS	**Boqueron**	**1.51**	**82**	*e*P	**Pn**	**19 04 53.5**	**-0.6**
SNET	**Serv Nac Est T**	**1.55**	**84**	*e*P	**Pn**	**19 04 53.6**	**-1.1**
SNET				*e*S	**Sn**	**19 05 13.9**	**+0.2**
SNET				AML	AML	19 05 18.0	
	comp=Z,10μm,0.3s						
MTO2	**Montecristo 2**	**1.66**	**58**⇑	*e*P	**Pn**	**19 04 55.9**	**-0.3**
MTO2				*e*S	**Sn**	**19 05 16.3**	**0.0**
LFRS	**El Faro**	**1.71**	**86**	*e*P	**Pn**	**19 04 56.0**	**-0.8**
LBRS	**Las Brisas**	**1.74**	**83**⇑	*e*P	**Pn**	**19 04 56.7**	**-0.5**
SNVI	**San Vicente**	**1.93**	**87**	*e*P	**Pn**	**19 04 59.6**	**-0.2**
SNVI				*e*S	**Sn**	**19 05 23.4**	**+0.5**
THIG		**1.97**	**315**	*e*P	**Pn**	**19 04 58.9**	**-1.4**
THIG				*i* S	**Sn**	**19 05 24.2**	**+0.3**
VSM	**San Miguel**	**2.48**	**92**	*e*P	**Pn**	**19 05 07.4**	**+0.1**
BLLM	**Bellamira**	**2.51**	**92**	*e*P	**Pn**	**19 05 07.5**	**-0.2**
BLLM				*e*S	**Sn**	**19 05 38.4**	**+1.2**
CAHU	**Cacacuatique**	**2.54**	**84**	*e*P	**Pn**	**19 05 07.9**	**-0.4**
CNCH	**Conchagua**	**2.91**	**94**	*e*P	**Pn**	**19 05 13.0**	**-0.3**
CNCH				*e*S	**Sn**	**19 05 48.4**	**+1.3**
CCIG	**Comitan**	**3.02**	**335**	*i* P	**Pn**	**19 05 16.7**	**+1.9**
CCIG				*i* S	**Sn**	**19 05 53.9**	**+4.1**
PCIG		**3.18**	**313**	*i* P	**Pn**	**19 05 16.5**	**-0.4**
PCIG				*i* S	**Sn**	**19 05 54.3**	**+0.7**
TGUH	**Tegucigalpa,Un**	**3.48**	**81**	*e*Pn	**Pn**	**19 05 21.0**	**-0.2**
TGUH				*e*Pb	**Pn**	**19 05 29.3**	**+8.2**
TGUH				*e*Pg	**Pn**	**19 05 35.0**	**+14**
SCX	**San Cristobal**	**3.64**	**331**	*i* P	**Pn**	**19 05 25.4**	**+2.1**
SCX				*i* S	**Sn**	**19 06 09.6**	**+4.5**
CRIN	**San Cristobal**	**3.76**	**102**	*e*P	**Pn**	**19 05 25.1**	**+0.2**
CRIN				AML	AML	19 06 34.0	
	comp=Z,993nm,0.6s						
TGIG		**3.93**	**326**	*e*P	**Pn**	**19 05 28.4**	**+1.2**
TGIG				*i* S	**Sn**	**19 06 15.9**	**+3.9**
TEL3	**Telica 3**	**3.98**	**103**	*e*P	**Pn**	**19 05 26.5**	**-1.5**
CNGN	**Cerro Negro**	**4.14**	**104**	*e*P	**Pn**	**19 05 29.7**	**-0.4**
CNGN				AML	AML	19 06 43.9	
	comp=Z,273nm,0.6s						
MIRN	**Miramar**	**4.14**	**105**	*e*P	**Pn**	**19 05 30.3**	**+0.1**
COPN	**Copaltepe**	**4.33**	**107**	*e*P	**Pn**	**19 05 32.1**	**-0.6**
APYN	**Apoyeque**	**4.54**	**106**	*e*P	**Pn**	**19 05 35.8**	**+0.2**
CRUN	**El Crucero**	**4.67**	**109**	*e*P	**Pn**	**19 05 37.9**	**+0.6**
HUEN		**4.68**	**104**	*e*P	**Pn**	**19 05 37.4**	**-0.1**
TICN	**Ticuantepe**	**4.71**	**108**	*e*P	**Pn**	**19 05 38.2**	**+0.2**
APON	**Apoyo**	**4.90**	**108**	*e*P	**Pn**	**19 05 41.8**	**+1.2**
CMIG	**Matias Romero**	**5.29**	**313**	Pn	**Pn**	**19 05 44.8**	**-1.1**
	comp=Z,8.8nm,0.3s,baz=139,slow=11,SNR=53						
CMIG				Sn	**Sn**	**19 06 42.3**	**-3.2**
	comp=Z,17nm,0.3s,baz=122,slow=10,SNR=3.7						
CMIG	**Matias Romero**	**5.29**	**313**	Pn	**Pn**	**19 05 44.8**	**-1.0**
CMIG				Sn	**Sn**	**19 06 42.3**	**-3.2**
CMIG	**Matias Romero**	**5.29**	**313**	*e*P	**Pn**	**19 05 45.3**	**-0.6**
CMIG				*i* S	**Sn**	**19 06 46.1**	**+0.6**
HUIG	**Huatulco**	**5.59**	**294**	*i* P	**Pn**	**19 05 48.7**	**-1.3**
HUIG				*i* S	**Sn**	**19 06 51.5**	**-1.4**
JTS	**JuntasAbangare**	**6.58**	**119**	Pn	**Pn**	**19 06 04.1**	**+0.5**
	comp=Z,6.8nm,0.3s,baz=308,slow=21,SNR=26						
JTS				Sn	**Sn**	**19 07 16.1**	**-1.1**
	baz=261,slow=19,SNR=1.9						
JTS				Lg		19 07 39.1	
	comp=Z,3.2nm,0.3s,baz=7.6,slow=22,SNR=11						
JTS	**JuntasAbangare**	**6.58**	**119**	*e*Pn	**Pn**	**19 06 02.9**	**-0.7**
JTS				Sn	**Sn**	**19 07 16.1**	**-1.1**
JTS				Lg		19 07 39.1	
JTS				*e*Sg	Sn	19 07 41.7	+24
JTS	**JuntasAbangare**	**6.58**	**119**	*e*P	**Pn**	**19 06 04.0**	**+0.4**
JCR	**Jicaral**	**6.67**	**123**	*e*P	**Pn**	**19 06 05.8**	**+0.9**
OXX	**Oaxaca**	**6.71**	**303**	*i* P	**Pn**	**19 06 06.1**	**+0.7**
VHO	**Vista Hermosa**	**6.71**	**302**	*i* P	**Pn**	**19 06 05.3**	**0.0**
VHO				*i* S	**Sn**	**19 07 21.6**	**+1.1**
TEIG	**Tepich**	**7.09**	**20**	Pn	**Pn**	**19 06 12.0**	**+1.4**
	comp=Z,22nm,0.3s,baz=207,slow=5.5,SNR=65						
TEIG				Sn	**Sn**	**19 07 30.6**	**+0.7**
	baz=37,slow=20,SNR=2.3						
TEIG				Lg		19 08 13.5	
	comp=Z,3.0nm,0.3s,baz=66,slow=23,SNR=6.0						
TEIG				LR	LR	19 08 28.5	
	comp=Z,79nm,21.4s,baz=52,slow=36						
TEIG	**Tepich**	**7.09**	**20**	*e*Pn	**Pn**	**19 06 11.7**	**+1.1**
TEIG				Sn	**Sn**	**19 07 30.6**	**+0.7**
TEIG				*e*Sg	Sn	19 08 08.9	+39
TEIG				Lg		19 08 13.6	
TEIG				LR	LR	19 08 28.5	
PRS1	**Puriscal**	**7.28**	**118**	*e*P	**Pn**	**19 06 15.2**	**+2.0**
PNIG	**Pinotepa**	**7.62**	**293**	*i* P	**Pn**	**19 06 17.1**	**-0.7**
PNIG				*i* S	**Sn**	**19 07 42.0**	**-0.8**
QCR	**Quepos**	**7.69**	**121**	*e*P	**Pn**	**19 06 21.3**	**+2.5**
URSC	**Urasca**	**7.81**	**117**	*e*P	**Pn**	**19 06 22.4**	**+2.0**
TPIG	**Tehuac#an**	**7.96**	**309**	*i* S	**Sn**	**19 07 52.9**	**+1.8**
BUS	**Buena Vista**	**7.96**	**119**	*e*P	**Pn**	**19 06 25.2**	**+2.7**
UTMO	**Huajuapan**	**7.97**	**303**	*e*P	**Pn**	**19 06 23.7**	**+1.0**
UTMO				*i* S	**Sn**	**19 07 49.8**	**-1.7**
BCIP	**Isla Barro Col**	**11.60**	**111**	Pn	**Pn**	**19 07 11.2**	**-1.2**
VBMS	**Vicksburg**	**18.61**	**1**	*e*P	**Pn**	**19 08 44.0**	**+0.8**
LRAL	**Lakeview Retre**	**19.73**	**10**	*e*P	**Pn**	**19 08 56.1**	**-0.4**
	comp=Z,15nm,1.1s						
TXAR	**Lajitas Array**	**19.73**	**325**	P	**Pn**	**19 08 56.6**	**0.0**
	comp=Z,0.4nm,0.3s,baz=150,slow=11,SNR=22						
TXAR				PcP	PcP	19 13 13.6	+1.9
	comp=Z,0.1nm,0.3s,baz=120,slow=1.5,SNR=2.8						
TXAR	**Lajitas Array**	**19.73**	**325**	P	**Pn**	**19 08 56.6**	**0.0**
TXAR				PcP	PcP	19 13 13.6	+1.9
SDV	**Santo Domingo**	**20.32**	**101**	*e*P	**P**	**19 08 57.8**	**-3.4**
	comp=Z,6.2nm,0.6s						
GOGA	**Godfrey**	**20.90**	**17**	*e*P	**P**	**19 09 08.6**	**+1.3**
	comp=Z,29nm,0.9s						
OXF	**Oxford**	**20.93**	**3**	*e*P	**P**	**19 09 07.1**	**-0.5**
	comp=Z,58nm,0.9s						
MIAR	**Mount Ida**	**21.08**	**354**	*e*P	**P**	**19 09 08.1**	**-1.0**
	comp=Z,9.2nm,0.8s,mb4.2						
UALR	**University of**	**21.20**	**357**	*e*P	**P**	**19 09 11.6**	**+1.0**
	comp=Z,12nm,0.9s,mb4.2						
WMOK	**Wichita Mounta**	**22.32**	**343**	*e*P	**P**	**19 09 22.3**	**-0.1**
	comp=Z,2.4nm,0.8s,mb3.7						
TKL	**Tuckaleechee C**	**22.93**	**15**	P	**P**	**19 09 27.1**	**-1.9**
	comp=Z,11nm,0.9s,mb4.3,baz=181,slow=9.1,SNR=10						
TKL				LR	LR	19 18 59.7	
	comp=Z,162nm,21.7s,MS3.4,baz=67,slow=39						
TKL	**Tuckaleechee C**	**22.93**	**15**	P	**P**	**19 09 27.1**	**-1.9**
TKL				LR	LR	19 18 59.7	
AGPR	**Aguadilla, PR**	**23.30**	**75**	P	**P**	**19 09 27.9**	**-5.0**
	comp=Z,190nm,1.3s,mb5.4						
SADO	**Sadowa**	**32.69**	**15**	P	**P**	**19 10 56.6**	**+0.1**
	comp=Z,2.9nm,0.4s,mb4.5,baz=224,slow=9.8,SNR=3.2						
SADO				LR	LR	19 25 03.3	
	comp=Z,151nm,20.3s,MS3.7,baz=246,slow=38						
SADO	**Sadowa**	**32.69**	**15**	P	**P**	**19 10 56.6**	**+0.1**
SADO				LR	LR	19 25 03.3	
ISA	**Isabella**	**33.24**	**316**	P	**P**	**19 11 03.4**	**+1.9**
	comp=Z,5.8nm,1.4s,mb4.3						
PDAR	**Pinedale Array**	**33.34**	**334**	P	**P**	**19 11 03.2**	**+1.0**
	comp=Z,0.3nm,0.6s,mb3.4,baz=134,slow=6.5,SNR=2.6						
PDAR	**Pinedale Array**	**33.34**	**334**	P	**P**	**19 11 03.2**	**+1.0**
NVAR	**Mina Array Bea**	**34.76**	**321**	P	**P**	**19 11 17.7**	**+3.1**
	comp=Z,4.2nm,0.7s,mb4.5,baz=135,slow=8.5,SNR=21						
NVAR				PcP	PcP	19 13 50.7	+3.4
	comp=Z,0.8nm,0.7s,baz=121,slow=3.5,SNR=3.9						
NVAR				LR	LR	19 27 07.5	
	comp=Z,132nm,18.9s,MS3.7,baz=303,slow=39						
NVAR	**Mina Array Bea**	**34.76**	**321**	P	**P**	**19 11 17.7**	**+3.1**
NVAR				PcP	PcP	19 13 50.7	+3.4
NVAR				LR	LR	19 27 07.5	
HLID	**Hailey**	**36.15**	**330**	*e*P	**P**	**19 11 29.2**	**+2.7**
	comp=Z,4.6nm,1.3s,mb4.2						
ULM	**Lac du Bonnet**	**36.86**	**355**	P	**P**	**19 11 30.5**	**-1.8**
	comp=Z,2.1nm,0.5s,mb4.2,baz=188,slow=11,SNR=3.6						
ULM	**Lac du Bonnet**	**36.86**	**355**	P	**P**	**19 11 30.5**	**-1.8**
SCHQ	**Schefferville**	**45.28**	**19**	P	**P**	**19 12 39.4**	**-2.1**
	comp=Z,3.4nm,0.3s,mb4.6,baz=239,slow=11,SNR=12						
SCHQ	**Schefferville**	**45.28**	**19**	P	**P**	**19 12 39.4**	**-2.1**
RKT	**Rikitea**	**56.52**	**230**	*e*T		20 14 42.2	
	comp=Z,3.7nm,0.2s						
RES	**Resolute Bay**	**61.20**	**359**	P	**P**	**19 14 36.8**	**-1.3**
	comp=Z,2.0nm,0.9s,mb4.2,baz=129,slow=6.5,SNR=2.6						
RES	**Resolute Bay**	**61.20**	**359**	P	**P**	**19 14 36.8**	**-1.3**
INK	**Inuvik**	**61.22**	**343**	P	**P**	**19 14 37.7**	**-0.7**
	comp=Z,1.6nm,1.0s,mb4.1,baz=124,slow=3.6,SNR=3.2						
INK	**Inuvik**	**61.22**	**343**	P	**P**	**19 14 37.7**	**-0.7**
PMOR	**Pomariorio Ree**	**63.19**	**245**	*e*T		20 22 52.1	
	comp=Z,2.3nm,0.2s						
KDAK	**Kodiak Island**	**63.72**	**328**	P	**P**	**19 14 55.8**	**+0.5**
	comp=Z,3.7nm,1.0s,mb4.4,baz=90,slow=8.1,SNR=5.9						
KDAK	**Kodiak Island**	**63.72**	**328**	P	**P**	**19 14 55.8**	**+0.5**
ILAR	**Eielson Array**	**63.73**	**337**	P	**P**	**19 14 55.5**	**+0.3**
	comp=Z,0.2nm,0.4s,mb3.5,baz=123,slow=5.5,SNR=2.3						
ILAR	**Eielson Array**	**63.73**	**337**	P	**P**	**19 14 55.5**	**+0.3**
PPT	**Papeete**	**65.70**	**243**	*e*LR	LR	19 34 53.3	
	comp=Z,96nm,24.2s						
PPT	**Papeete**	**65.70**	**243**	LR	LR	19 36 03.6	
	comp=Z,131nm,20.6s,MS4.1,baz=349,slow=29						
TBI	**Tubuai**	**68.06**	**238**	*e*T		20 29 02.3	
	comp=Z,3.0nm,0.2s						
DBIC	**Dimbokro**	**84.56**	**84**	P	**P**	**19 16 56.3**	**-1.2**
	comp=Z,1.6nm,0.6s,mb4.3,baz=246,slow=6.4,SNR=3.3						
DBIC	**Dimbokro**	**84.56**	**84**	P	**P**	**19 16 56.3**	**-1.2**
TORD	**Torodi Ar. Bea**	**89.37**	**77**	P	**P**	**19 17 17.8**	**-3.1**
	comp=Z,0.5nm,1.0s,mb3.8,baz=289,slow=4.4,SNR=2.9						
TORD	**Torodi Ar. Bea**	**89.37**	**77**	P	**P**	**19 17 17.8**	**-3.1**
WRA	**Warramunga Arr**	**136.39**	**255**	PKP	PKPdf	19 23 47.6	+1.7
	comp=Z,0.3nm,0.8s,baz=77,slow=2.5,SNR=3.0						
WRA	**Warramunga Arr**	**136.39**	**255**	PKP	PKPdf	19 23 47.6	+1.7
ASAR	**Alice Springs**	**136.59**	**250**	PKP	PKPdf	19 23 47.7	+1.4
	comp=Z,0.2nm,0.5s,baz=117,slow=2.8,SNR=3.1						
ASAR	**Alice Springs**	**136.59**	**250**	PKP	PKPdf	19 23 47.7	+1.4
CMAR	**Chiang Mai Arr**	**146.80**	**343**	PKPbc	PKPbc	19 24 06.2	-0.2
	comp=Z,1.8nm,0.5s,baz=343,slow=3.2,SNR=18						
CMAR	**Chiang Mai Arr**	**146.80**	**343**	PKPbc	PKPbc	19 24 06.2	-0.2

TRN 01 19:13:04.0, 17°.06N×62°.39W, h13km, MD3.5, M3.1(FDF)**, 1C, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBRV		**0.31**	**144**⇑	*i*P	Pg	19 13 12.3	+1.9
MBGB		**0.36**	**155**	*i* P	Pg	19 13 13.6	+2.2
MBWH		**0.37**	**149**	*i* P	Pg	19 13 13.4	+2.0
MLYT	**Lee's Yard**	**0.39**	**151**	*i* P	Pg	19 13 12.9	+1.0
MLYT	**Lee's Yard**	**0.39**	**151**	*i* P	Pg	19 13 13.9	+2.1
SKI	**Saint Kitts**	**0.43**	**309**	*e*P	Pg	19 13 15.4	+2.9
SKI				*e*S	Sg	19 13 21.8	+3.5
BPA	**Boggy Peak**	**0.51**	**92**	*e*P	Pg	19 13 16.9	+2.9
BPA				*e*S	Sg	19 13 24.8	+4.0
BCG	**Bois Riant Cap**	**1.22**	**143**	*e*P	Pn	19 13 28.6	+1.7
SCG	**Saint Claude**	**1.23**	**147**	*e*P	Pn	19 13 28.5	+1.5
DOG	**Dongo Capester**	**1.26**	**144**	*e*P	Pn	19 13 29.2	+1.8
PHG	**Guadaloupe-2**	**1.27**	**145**	*e*P	Pn	19 13 29.4	+2.0
TBG	**Guadaloupe-3**	**1.40**	**149**	*e*P	Pn	19 13 31.1	+1.8
MGG	**Marie-Galante**	**1.53**	**138**	*e*P	Pn	19 13 33.3	+2.2

*TAP **01** 19:31:56.9, 24°.06N×122°.72E, h13km, ML3.2, C*

JMA 01 19:31:55.1±0.2**, 24°.09N×122°.89E, h12**km**, M3.2, 1C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.39**	**17**	P	Pg	19 32 03.0	+0.2
YOJ				S	Sg	19 32 08.3	+0.3
IRIF	**Iriomote-Funau**	**0.81**	**72**	P	Pg	19 32 10.3	-0.4
IRIF				S	Sg	19 32 22.1	+0.9
HATJ	**Hateruma jima**	**0.84**	**92**	P	Pg	19 32 10.7	-0.6
HATJ				S	Sg	19 32 22.4	+0.2
JKRS	**Kuro-shima**	**1.03**	**82**	P	Pb	19 32 14.8	-0.1
JKRS				S	Sb	19 32 29.3	+0.9
TWC	**Suao**	**1.08**	**299**	P	Pb	19 32 14.7	-1.1
	baz=305						
TWC				*e*S	Sb	19 32 28.5	-1.3
	baz=305						
ENA	**Nanau**	**1.10**	**288**⇑	*i*P	Pb	19 32 15.0	-1.1
	baz=302						
ENA				S	Sb	19 32 28.9	-1.6
	baz=302						
EGS		**1.15**	**311**	*e*P	Pb	19 32 17.2	+0.3
	baz=318						
EGS				*e*S	Sb	19 32 32.1	+0.3
	baz=318						
JIJ	**Ishigaki jima**	**1.18**	**76**	P	Pb	19 32 16.6	-0.8
JIJ				S	Sb	19 32 32.4	-0.1
TWD	**Chiawan**	**1.18**	**270**	*e*P	Pn	19 32 16.3	-1.2
	baz=271						
TWD				*e*S	Sb	19 32 30.8	-1.9
	baz=271						
TWB1	**Santiao Chiao**	**1.23**	**318**	*e*P	Pn	19 32 18.4	+0.3
	baz=325						
TWB1				S	Sb	19 32 33.6	-0.5
	baz=325						
ILA	**Ilan**	**1.24**	**303**	*e*P	Pn	19 32 18.2	0.0
	baz=308						
TWE	**Neicheng**	**1.28**	**300**	*i* P	Pn	19 32 18.4	-0.4
	baz=315						
TWE				*e*S	Sb	19 32 34.1	-1.4
	baz=315						
ENTT	**Nioudou**	**1.33**	**295**	*i* P	Pn	19 32 19.4	0.0
	baz=298						
ESL	**Shilin**	**1.36**	**259**	P	Pn	19 32 18.3	-1.6
	baz=258						
ESL				*e*S	Sb	19 32 37.2	-0.7
	baz=258						
NWF	**Wu-fen Shan**	**1.41**	**314**	*e*P	Pn	19 32 20.3	-0.2
	baz=320						
NWF				S	Sn	19 32 39.3	+0.4
	baz=320						
NNS	**Nan Shan**	**1.43**	**284**	P	Pn	19 32 21.5	+0.6
	baz=287						
NNS				*e*S	Sn	19 32 39.6	0.0
	baz=287						
TWA	**Mucha**	**1.48**	**307**	*e*P	Pn	19 32 21.8	+0.2
	baz=329						
TWA				*e*S	Sn	19 32 40.9	0.0
	baz=329						
WHF	**Hehuan Shan**	**1.49**	**272**	*i* P	Pn	19 32 21.4	-0.2
	baz=257						
WHF				*e*S	Sn	19 32 41.2	+0.3
	baz=257						
NSK	**Sanguang**	**1.51**	**293**	P	Pn	19 32 23.0	+1.0
	baz=304						
NSK				*e*S	Sn	19 32 42.1	+0.5
	baz=304						
EHY	**Hungye**	**1.55**	**248**	P	Pn	19 32 21.4	-1.1
	baz=246						
TAP1	**Taipei**	**1.56**	**307**	*e*P	Pn	19 32 25.1	+2.4
	baz=328						
TAP1				*e*S	Sn	19 32 44.1	+1.2
	baz=328						
TWT	**Tachien**	**1.57**	**276**	*e*P	Pn	19 32 22.7	-0.2
	baz=262						
TWF1	**Yuli**	**1.63**	**244**	P	Pn	19 32 22.5	-1.1
	baz=241						
TWF1				*e*S	Sn	19 32 43.2	-1.4
	baz=241						
TWS1	**Kuangyinshan**	**1.68**	**307**	*e*P	Pn	19 32 26.6	+2.3
	baz=328						
CHKT	**Chengkung**	**1.71**	**235**	*e*P	Pn	19 32 22.7	-2.0
	baz=217						
CHKT				*e*S	Sn	19 32 43.2	-3.3
	baz=217						
JTJ	**Tarama**	**1.74**	**71**	P	Pn	19 32 25.3	+0.2
JTJ				*e*S	Sn	19 32 48.8	+1.5
NSTT	**Nanjuang**	**1.81**	**288**	*e*P	Pn	19 32 27.6	+1.6
	baz=290						
NSTT				*e*S	Sn	19 32 50.1	+1.3
	baz=290						
TYC	**Yuchr**	**1.87**	**265**	P	Pn	19 32 26.9	0.0
	baz=265						
TYC				*e*S	Sn	19 32 49.7	-0.7
	baz=265						
ELDTW	**Lidau**	**1.94**	**243**	P	Pn	19 32 26.6	-1.3
	baz=240						
ELDTW				*e*S	Sn	19 32 50.1	-2.0
	baz=240						
TWQ1	**Liyutan**	**1.95**	**278**	*e*P	Pn	19 32 29.7	+1.7
	baz=263						
TWQ1				*e*S	Sn	19 32 53.4	+0.9
	baz=263						
TCU	**Taichung**	**2.02**	**272**	*e*P	Pn	19 32 30.7	+1.7
	baz=273						
WNT	**Mingjian**	**2.03**	**264**	*e*P	Pn	19 32 30.8	+1.7
	baz=264						
CHN5	**Tsauling**	**2.08**	**257**	P	Pn	19 32 30.7	+0.8
	baz=243						
CHN5				*e*S	Sn	19 32 55.4	-0.4
	baz=243						
TWG	**Pinlang**	**2.09**	**233**	P	Pn	19 32 28.8	-1.2
	baz=220						
TWG				*e*S	Sn	19 32 53.7	-2.3
	baz=220						
STYT	**Tauyuan**	**2.16**	**245**	P	Pn	19 32 30.9	0.0
	baz=243						
STYT				*e*S	Sn	19 32 56.9	-0.8
	baz=243						
WGK	**Gukeng**	**2.17**	**260**	*e*P	Pn	19 32 32.2	+1.2
	baz=260						
CHN4	**Tsaushan**	**2.23**	**251**	*e*P	Pn	19 32 33.6	+1.7
	baz=250						
CHN4				*e*S	Sn	19 33 00.9	+1.5
	baz=250						
WTP	**Ta-pu**	**2.25**	**249**	P	Pn	19 32 33.0	+0.8
	baz=247						
WTP				*e*S	Sn	19 32 58.7	-1.1
	baz=247						
ECL	**Taimali**	**2.32**	**231**	*e*P	Pn	19 32 31.6	-1.5
	baz=227						
ECL				*e*S	Sn	19 32 58.8	-2.7
	baz=227						
SGST	**Jiashian**	**2.34**	**245**	*e*P	Pn	19 32 34.3	+0.8
	baz=243						
SGST				*e*S	Sn	19 33 04.7	+2.5
	baz=243						
CHN1	**Nanshi**	**2.35**	**248**	*e*P	Pn	19 32 35.3	+1.8
	baz=246						
CHN1				*e*S	Sn	19 33 03.1	+0.9
	baz=246						
LAY	**Lan-yu**	**2.38**	**211**	*e*P	Pn	19 32 32.1	-1.9
	baz=209						
SSD	**Sandimen**	**2.47**	**238**	*e*P	Pn	19 32 35.0	-0.2
	baz=228						
SSD				*e*S	Sn	19 33 05.7	+0.5
	baz=228						
EAST	**Anshuo**	**2.53**	**228**	*e*P	Pn	19 32 34.8	-1.2
	baz=226						
EAST				*e*S	Sn	19 33 05.1	-1.7
	baz=226						
TWM1	**Shoushan**	**2.59**	**241**	*e*P	Pn	19 32 39.1	+2.2
	baz=240						
SCZT	**Fangliau**	**2.70**	**231**	*e*P	Pn	19 32 39.3	+1.0
	baz=221						

*ISCJB **01** 19:36:21.0±0.3, 31°.72N±0°.03×104°.58E±0°.04, h10km, mb3.8/11, Error ellipse: s-maj=5.0km s-min=4.6km az=16.7*

*IDC **01** 19:36:21.5±0.8, 31°.75N×104°.42E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.7/27, mbtmp3.7/10, ML3.4/2, Error ellipse: s-maj=33.0km s-min=16.5km az=63.0*

*NEIC **01** 19:36:22.6±0.4, 31°.72N×104°.48E, h10km, mb3.9/6, Error ellipse: s-maj=11.2km s-min=7.4km az=52.0*

*BJI **01** 19:36:23.2, 31°.79N×104°.33E, h10km, ML3.7/14, Ms3.4/3, Ms7 3.2/2*

ISC 01 19:36:22.9±0.3**, 31°.73N**±0°.03×**104°.55E**±0°.04**, h10**km**, n37,** σ**1§22**/49**, mb3.8**/11**, Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.06**	**220**	Pg	**Pg**	**19 36 43.0**	**-0.4**
CD2				Sg	**Sg**	**19 36 58.1**	**+0.9**
CD2				smax			
	comp=N,2μm,0.4s						
CD2				smax			
	comp=E,3μm,0.3s						
XAN	**Xi'an**	**4.34**	**57**	Pn	**Pn**	**19 37 30.3**	**+1.4**
XAN				Pg	**Pg**	**19 37 42.8**	**-3.2**
XAN				Sn	**Sn**	**19 38 20.2**	**+0.7**
XAN				Sg	**Sg**	**19 38 38.0**	**-4.2**
XAN				smax			
	comp=N,130nm,0.6s						
XAN				smax			
	comp=E,73nm,0.8s						
LZH	**Lanzhou**	**4.38**	**352**	Pn	**Pn**	**19 37 31.8**	**+2.3**
LZH				Pg	**Pg**	**19 37 42.8**	**-4.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LZH				Sn	Sn	19 38 22.2	+1.5
LZH				Sg	Sg	19 38 38.7	-5.0
LZH				smax			
	comp=N,89nm,1.0s						
LZH				smax			
	comp=E,120nm,1.0s						
LZH				LR	LR		
	comp=N,320nm,4.6s						
LZH				LR	LR		
	comp=E,280nm,6.1s						
LZH				LR	LR		
	comp=Z,290nm,6.4s						
ENH	Enshi	4.48	108	*e*Pn	Pn	19 37 31.7	+0.8
ENH				*e*Sn	Sn	19 38 21.1	-1.9
ENH				*e*Sg	Sg	19 38 46.1	-0.7
GYA	Guiyang	5.57	160	Pn	Pn	19 37 49.6	+3.8
GYA				Pg	Pg	19 38 07.6	-2.0
GYA				Sn	Sn	19 38 51.7	+1.8
GYA				Sg	Sg	19 39 13.0	-8.7
GYA				smax			
	comp=N,70nm,0.8s						
GYA				smax			
	comp=E,80nm,0.8s						
WHN	Wuhan	8.48	95	*e*P	Pn	19 38 30.4	+4.6
LSA	Lhasa	11.71	264	Pn	Pn	19 39 10.6	+0.5
CMAR	Chiang Mai Arr	14.15	202	Pn	Pn	19 39 42.2	-1.3
	comp=E,0.1nm,0.3s,baz=21,slow=12,SNR=3.2						
CMAR	Chiang Mai Arr	14.15	202	Pn	Pn	19 39 42.2	-1.3
SONM	Songino Array	16.14	4	Pn	Pn	19 40 10.2	+0.4
	comp=E,0.1nm,0.3s,baz=355,slow=16,SNR=3.8						
SONM	Songino Array	16.14	4	Pn	Pn	19 40 10.2	+0.4
ULN	Ulaanbaatar	16.23	6	Pn	Pn	19 40 06.8	-4.0
	comp=E,4.3nm,1.1s						
KSRS	Korea Array	20.05	67	P	P	19 40 57.9	+1.8
	comp=E,1.5nm,0.7s,baz=258,slow=10,SNR=3.5						
MK31	Makanchi Array	22.77	318	P	P	19 41 24.2	-1.1
MKAR	Makanchi Array	22.77	318	P	P	19 41 25.4	+0.1
	comp=E,0.4nm,0.3s,mb3.3,baz=113,slow=13,SNR=9.3						
MKAR	Makanchi Array	22.77	318	P	P	19 41 25.4	+0.1
TKM2	Tokmak 2	25.47	304	P	P	19 41 49.8	-1.3
	comp=E,1.5nm,0.7s,mb3.6						
ZAA0	Zalesovo Array	26.33	333	*e*P	P	19 42 00.7	+1.9
ZALV	Zalesovo Beam	26.33	333	P	P	19 41 58.4	-0.3
	comp=E,1.5nm,0.6s,mb3.7,baz=128,slow=10,SNR=8.8						
ZALV	Zalesovo Beam	26.33	333	P	P	19 41 58.4	-0.3
KURK	Kurchatov	26.98	322	P	P	19 42 03.8	-0.9
	comp=E,1.9nm,1.0s,mb3.6						
ABKAR	Akbulak array	37.55	311	P	P	19 43 36.6	-0.5
ARU	Arti	40.18	322	*e*P	P	19 43 58.8	-0.3
	comp=E,3.5nm,0.7s,mb4.2						
GNI	Garni	48.35	298	P	P	19 45 03.1	-1.7
FINES	FINESS Array B	57.26	326	P	P	19 46 09.6	-0.7
	comp=E,4.1nm,1.0s,mb4.4,baz=90,slow=7.6,SNR=7.5						
FINES	FINESS Array B	57.26	326	P	P	19 46 09.6	-0.7
WRAB	Tennant Creek	58.78	147	*e*P	P	19 46 22.1	+0.7
	comp=E,2.0nm,0.6s,mb4.3						
WRA	Warramunga Arr	58.78	147	P	P	19 46 22.2	+0.9
	comp=E,1.3nm,0.6s,mb4.1,baz=339,slow=7.5,SNR=23						
WRA	Warramunga Arr	58.78	147	P	P	19 46 22.2	+0.9
WB2	Warramunga Arr	58.79	147	*e*P	P	19 46 21.4	-0.1
ASAR	Alice Springs	61.83	149	P	P	19 46 43.1	+0.9
	comp=E,0.6nm,0.6s,mb3.9,baz=332,slow=6.5,SNR=20						
ASAR	Alice Springs	61.83	149	P	P	19 46 43.1	+0.9
ILAR	Eielson Array	69.11	26	P	P	19 47 28.0	-0.8
	comp=E,0.1nm,0.3s,mb3.2,baz=280,slow=5.4,SNR=4.4						
ILAR	Eielson Array	69.11	26	P	P	19 47 28.0	-0.8
PMR	Palmer	69.81	29	P	P	19 47 33.7	+0.5
STKA	Stephens Creek	72.33	147	P	P	19 47 49.3	+0.6
	comp=E,1.1nm,0.8s,mb3.8,baz=323,slow=10,SNR=3.8						
STKA	Stephens Creek	72.33	147	P	P	19 47 45.7	-3.1
	comp=E,2.1nm,1.4s,mb3.9						

*ISK **01** 19:40:23.4, 38°.94N×28°.16E, h5km, MD2.9*
*ISCJB **01** 19:40:24.6±0.5, 38°.94N±0°.03×28°.13E±0°.04, h10km, Error ellipse: s-maj=4.8km s-min=3.7km az=41.8*
*CSEM **01** 19:40:24.6±0.1, 38°.95N×28°.14E, h2km, MD2.9, Error ellipse: s-maj=3.4km s-min=3.0km az=27.0*
*DDA **01** 19:40:24.7, 38°.95N×28°.16E, h7km±3km, Md2.8*
ISC 01 19:40:25.0±0.4**, 38°.94N**±0°.03×**28°.14E**±0°.04**, h10**km**, n42,** σ**0.89**/52**, 1C, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AKS	Akhisar	0.26	257	*e*PG	Pg	19 40 29.5	-0.7
AKS	Akhisar	0.26	257	*e*Pg	Pg	19 40 29.5	-0.8
DEMI	Demirci	0.46	77	*i* P	Pg	19 40 33.6	-0.5
DEMI				*i* S	Sg	19 40 39.3	-0.9
DEMI	Demirci	0.46	77	*i* P	Pg	19 40 33.6	-0.5
DEMI				*i* S	Sg	19 40 39.3	-0.9
KULA	Kula-Manisa	0.59	136	*e*PG	Pg	19 40 35.9	-0.5
KULA				*e*SG	Sg	19 40 44.9	+0.7
KULA	Kula-Manisa	0.59	136	*e*Pg	Pg	19 40 35.9	-0.5
KULA				*e*Sg	Sg	19 40 44.9	+0.7
DURS	Dursunbey	0.71	21	⇑*i*P	Pg	19 40 38.4	-0.4
DURS				*i* S	Sg	19 40 49.1	+0.9
DURS	Dursunbey	0.71	21	*i* P	Pg	19 40 38.4	-0.4
DURS				*i* S	Sg	19 40 49.1	+1.0
BALB	Balikesir	0.73	344	*e*PG	Pg	19 40 38.6	-0.5
BALB	Balikesir	0.73	344	*e*Pg	Pg	19 40 38.6	-0.5
DST	Dursunbey	0.76	29	*e*PG	Pg	19 40 39.2	-0.6
DST	Dursunbey	0.76	29	*e*Pg	Pg	19 40 39.2	-0.6
IZM	Izmir	0.87	232	*e*PG	Pg	19 40 41.8	0.0
IZM	Izmir	0.87	232	*e*Pg	Pg	19 40 41.8	0.0
BALY	Balya	0.90	334	*e*P	Pg	19 40 40.9	-1.4
BALY				*e*S	Sg	19 40 51.7	-2.3
BALY	Balya	0.90	334	*e*P	Pg	19 40 40.9	-1.4
BALY				*e*S	Sg	19 40 51.7	-2.3
BLCB	Balcova	1.02	238	*e*PG	Pg	19 40 44.6	0.0
BLCB	Balcova	1.02	238	*e*Pg	Pg	19 40 44.6	0.0
GONE	Gonen-Balikesi	1.16	343	*e*PN	Pn	19 40 45.9	-1.4
GONE	Gonen-Balikesi	1.16	343	*e*Pn	Pn	19 40 45.9	-1.4
KHAL	Karahalli	1.20	118	*e*P	Pb	19 40 47.5	-0.3
KHAL				*e*S	Sb	19 41 02.7	-0.8
KHAL	Karahalli	1.20	118	*e*P	Pb	19 40 47.5	-0.4
KHAL				*e*S	Sb	19 41 02.7	-0.8
ALT	Altintas	1.54	85	*e*PN	Pn	19 40 52.8	+0.2
ALT	Altintas	1.54	85	*e*Pn	Pn	19 40 52.8	+0.2
KRBG	Karabiga-Canak	1.59	336	*e*PN	Pn	19 40 54.0	+0.8
KRBG	Karabiga-Canak	1.59	336	*e*Pn	Pn	19 40 54.0	+0.8
GEMT	Gemlik	1.70	28	*e*PN	Pn	19 40 55.4	+0.7
GEMT	Gemlik	1.70	28	*e*Pn	Pn	19 40 55.4	+0.6
ARMT	Armutlu	1.72	19	*e*PN	Pn	19 40 55.7	+0.7
ARMT	Armutlu	1.72	19	*e*Pn	Pn	19 40 55.7	+0.7
CAVI	Cavuskoy	1.83	46	*e*PN	Pn	19 40 57.1	+0.6
CAVI	Cavuskoy	1.83	46	*e*Pn	Pn	19 40 57.1	+0.6
RKY	Sarkoy-Tekirda	1.90	337	*e*PN	Pn	19 40 58.5	+1.0
RKY	Sarkoy-Tekirda	1.90	337	*e*Pn	Pn	19 40 58.5	+1.1
GELI	Tayfur-Gelibol	1.94	319	*e*PN	Pn	19 40 59.1	+1.0
GELI	Tayfur-Gelibol	1.94	319	*e*Pn	Pn	19 40 59.1	+1.0
MFT	Murefte	1.96	341	*e*PN	Pn	19 40 59.4	+1.1
MFT	Murefte	1.96	341	*e*Pn	Pn	19 40 59.4	+1.1
ERIK	Erikli-Kesan	2.14	325	*e*PN	Pn	19 41 01.9	+1.2
ERIK	Erikli-Kesan	2.14	325	*e*Pn	Pn	19 41 01.9	+1.2
GULT	Gulveren	2.37	50	*e*PN	Pn	19 41 04.8	+0.9
GULT	Gulveren	2.37	50	*e*Pn	Pn	19 41 04.8	+0.9

IDC 01 19:50:18.7±42.0**, 57°.85S**×**144°.71E, h0**km**, mb3.7**/4**, mb1 3.8**/4**, mb1mx3.6**/14**, mbtmp3.7**/4**, Error ellipse: s-maj=741.9km s-min=152.3km az=151.0, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	26.06	354	P	P	19 55 54.5	+1.0
	2.0nm,0.7s,baz=163,slow=11,SNR=3.9						
ASAR	Alice Springs	35.02	343	P	P	19 57 11.8	-1.0
	0.4nm,0.5s,baz=165,slow=10,SNR=13						
WRA	Warramunga Arr	38.61	344	P	P	19 57 43.2	-0.1
	0.4nm,0.6s,baz=171,slow=7.6,SNR=9.4						
FITZ	Fitzroy Crossi	42.13	332	P	P	19 58 13.0	+0.6
	1.0nm,0.8s,baz=170,slow=6.1,SNR=3.0						

*ISCJB **01** 19:52:58.9±0.9, 18°.52N±0°.09×145°.3E±0°.2, h495km±12km, mb3.2/8, Error ellipse: s-maj=27.7km s-min=14.4km az=5.0*
*IDC **01** 19:52:59.1±1.5, 18°.53N×145°.41E, h479km±18km, mb2.6/6, mb1 3.0/8, mb1mx2.8/25, mbtmp2.7/8, Error ellipse: s-maj=26.4km s-min=15.6km az=96.0*
*NEIC **01** 19:52:59.4±1.0, 18°.55N×145°.27E, h487km±13km, mb3.9/3, Error ellipse: s-maj=19.4km s-min=11.7km az=95.0*
ISC 01 19:52:59.2±1.0**, 18°.55N**±0°.10×**145°.3E**±0°.2**, h484**km±13km**, n21,** σ**0.72**/21**, mb3.2**/8**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.94	185	P	P	19 54 25.3	+0.4
	1.5nm,0.3s,baz=18,slow=20,SNR=2.8						
GUMO				S	S	19 55 34.3	-0.3
	3.7nm,0.3s,baz=0.0,slow=20,SNR=2.6						
GUMO	Guam	4.94	185	P	P	19 54 25.3	+0.4
GUMO				S	S	19 55 34.3	-0.3
MJAR	Matsushiro Arr	18.98	342	P	P	19 56 49.7	+0.5
	0.2nm,0.3s,baz=164,slow=9.5,SNR=6.9						
MJAR	Matsushiro Arr	18.98	342	P	P	19 56 49.7	+0.5
MAJO	Matsushiro	18.98	342	P	P	19 56 49.1	-0.1
	3.2nm,0.8s						
KSM	Kuching	38.25	248	P	P	19 59 36.0	-1.2
	5.3nm,1.1s,mb3.9						
WRA	Warramunga Arr	39.72	196	P	P	19 59 49.5	+0.4
	0.2nm,0.7s,mb2.7,baz=8.7,slow=8.4,SNR=4.8						
WRA	Warramunga Arr	39.72	196	P	P	19 59 49.5	+0.4
FITZ	Fitzroy Crossi	41.21	209	P	P	20 00 00.9	-0.2
	0.4nm,0.3s,mb3.3,baz=38,slow=12,SNR=5.4						
FITZ	Fitzroy Crossi	41.21	209	P	P	20 00 00.9	-0.2
ASAR	Alice Springs	43.40	195	P	P	20 00 18.4	+0.2
	0.3nm,0.9s,mb2.7,baz=21,slow=8.0,SNR=3.8						
ASAR	Alice Springs	43.40	195	P	P	20 00 18.4	+0.2
CMAR	Chiang Mai Arr	43.84	278	P	P	20 00 23.3	+1.5
	0.9nm,0.8s,mb3.3,baz=66,slow=6.6,SNR=6.5						
CMAR	Chiang Mai Arr	43.84	278	P	P	20 00 23.3	+1.5
KURK	Kurchatov	61.11	318	P	P	20 02 24.7	-0.8
	1.1nm,0.6s,mb3.5						
ILAR	Eielson Array	63.96	26	P	P	20 02 42.8	-0.9
	0.3nm,0.8s,mb2.9,baz=247,slow=6.7,SNR=3.8						
ILAR	Eielson Array	63.96	26	P	P	20 02 42.8	-0.9
NVAR	Mina Array Bea	83.55	52	P	P	20 04 36.5	+0.6
	0.6nm,0.5s,mb3.4,baz=271,slow=7.8,SNR=3.9						
NVAR	Mina Array Bea	83.55	52	P	P	20 04 36.5	+0.6
LPAZ	La Paz	148.08	91	PKPbc	PKPbc	20 11 51.7	+1.1
	0.9nm,0.6s,baz=280,slow=6.1,SNR=4.4						
LPAZ	La Paz	148.08	91	PKPbc	PKPbc	20 11 51.7	+1.1

*IDC **01** 20:21:04.5±0.9, 30°.32N×67°.50E, h0km, mb3.8/14, mb1 4.0/15, mb1mx3.8/32, mbtmp3.8/15, ML3.3/1, MS3.2/4, Ms1 3.2/4, ms1mx2.6/51, Error ellipse: s-maj=21.1km s-min=18.2km az=56.0*
*ISCJB **01** 20:21:05.4±0.7, 30°.49N±0°.05×67°.78E±0°.07, h10km, mb3.9/15, MS3.1/3, Error ellipse: s-maj=10.4km s-min=5.9km az=145.5*
*NEIC **01** 20:21:06.5±0.8, 30°.40N×67°.70E, h10km, mb4.5/7, Error ellipse: s-maj=14.3km s-min=7.8km az=47.0*
*MOS **01** 20:21:09.4±1.2, 30°.61N×67°.85E, h33km, mb4.1/1, Error ellipse: s-maj=12.6km s-min=7.2km az=72.7*
ISC 01 20:21:06.4±0.6**, 30°.41N**±0°.05×**67°.69E**±0°.07**, h10**km**, n93,** σ**1.24**/96**, mb3.9**/15**, MS3.1**/3**, Pakistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBL	Kabul	4.27	15	*e*Pn	Pn	20 22 15.1	+3.6
KBL	Kabul	4.27	15	*e*P	Pn	20 22 15.1	+3.6
KKAR	Karatay Array	12.87	9	*e*Pn	Pn	20 24 07.2	-2.2
	1.1nm,0.4s						
KKAR	Karatay Array	12.87	9	*e*P	Pn	20 24 07.2	-2.1
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KZA	Kyzart	13.14	26	*e*Pn	Pn	20 24 11.1	-1.9
KZA	Kyzart	13.14	26	*e*P	Pn	20 24 11.1	-1.9
EKS2	Erkin-Say	13.16	20	*e*Pn	Pn	20 24 14.5	+1.1
EKS2				*e*Sn	Sn	20 26 40.4	+0.6
EKS2	Erkin-Say	13.16	20	*e*P	Pn	20 24 14.5	+1.1
EKS2				*e*		20 26 40.4	
AAK	Ala-Archa	13.36	22	Pn	Pn	20 24 17.8	+1.7
	comp=Z,0.0nm,0.3s,baz=184,slow=7.3,SNR=15						
AAK				Sn	Sn	20 26 45.9	+1.2
	comp=Z,0.0nm,0.3s,baz=37,slow=20,SNR=2.9						
AAK				LR	LR	20 30 37.0	
	comp=Z,63nm,20.4s,baz=12,slow=42						
AAK	Ala-Archa	13.36	22	*e*Pn	Pn	20 24 16.1	0.0
AAK				Pn	Pn	20 24 17.8	+1.7
AAK				*e*Sn	Sn	20 26 40.9	-3.7
AAK				Sn	Sn	20 26 45.9	+1.2
AAK				LR	LR	20 30 37.0	
AAK	Ala-Archa	13.36	22	*e*P	Pn	20 24 16.1	0.0
AAK				*e*		20 26 40.9	
KBK	Karagaybulak	13.53	23	*e*Pn	Pn	20 24 16.5	-1.9
	comp=Z,3.7nm,0.6s						
KBK	Karagaybulak	13.53	23	*e*P	Pn	20 24 16.5	-1.9
KBK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TKM2	Tokmak 2	13.99	25	*e*Pn	Pn	20 24 25.2	+0.5
TKM2	Tokmak 2	13.99	25	*e*P	Pn	20 24 25.2	+0.5
KOLN	Koldanda	14.16	97	*e*P	Pn	20 24 26.4	-0.6
	comp=Z,32nm,0.9s						
KOLN	Koldanda	14.16	97	*e*P	Pn	20 24 26.4	-0.6
	comp=Z,32nm,0.9s						
DANN	Dangsing	14.16	94	*e*P	Pn	20 24 26.3	-0.8
DANN	Dangsing	14.16	94	*e*P	Pn	20 24 26.3	-0.8
GKN	Gorkha	14.99	95	*e*P	Pn	20 24 36.8	-1.6
	comp=Z,14nm,0.5s						
GKN	Gorkha	14.99	95	*e*P	Pn	20 24 36.8	-1.6
	comp=Z,14nm,0.5s						
DMN	Daman	15.49	96	*e*P	Pn	20 24 44.7	-0.3
DMN	Daman	15.49	96	*e*P	Pn	20 24 44.7	-0.3
KKN	Kakani	15.60	95	*e*P	Pn	20 24 45.3	-1.1
	comp=Z,18nm,0.6s						
KKN	Kakani	15.60	95	*e*P	Pn	20 24 45.3	-1.1
	comp=Z,18nm,0.6s						
KKN	Kakani	15.60	95	*e*P	Pn	20 24 45.3	-1.1
KKN				pmax	pmax		
	comp=Z,18nm,0.6s						
PKIN	Phulchoki	15.75	96	*e*P	Pn	20 24 47.9	-0.4
	comp=Z,26nm,0.8s						
PKI	Pulchoki	15.76	96	*e*P	Pn	20 24 48.5	0.0
PKI	Pulchoki	15.76	96	*e*P	Pn	20 24 48.5	0.0
PKI	Pulchoki	15.76	96	*e*P	Pn	20 24 48.5	0.0
GUN	Gumba	16.08	94	*e*P	Pn	20 24 51.1	-1.6
	comp=Z,114nm,0.9s						
GUN	Gumba	16.08	94	*e*P	Pn	20 24 51.1	-1.6
	comp=Z,114nm,0.9s						
ODAN	Odare	17.65	97	*e*P	Pn	20 25 14.0	+1.6
	comp=Z,49nm,0.8s						
ODAN	Odare	17.65	97	*e*P	Pn	20 25 14.0	+1.6
	comp=Z,49nm,0.8s						
TAPN	Taplejung	17.79	95	*e*P	Pn	20 25 15.0	+0.8
	comp=Z,25nm,0.8s						
TAPN	Taplejung	17.79	95	*e*P	Pn	20 25 15.0	+0.8
	comp=Z,25nm,0.8s						
ABKAR	Akbulak array	19.72	345	*e*P	Pn	20 25 36.3	-1.1
	comp=Z,0.9nm,0.6s						
MK31	Makanchi Array	19.89	31	*e*P	Pn	20 25 38.3	-1.2
MK31	Makanchi Array	19.89	31	*e*P	Pn	20 25 38.3	-1.2
MKAR	Makanchi Array	19.89	31	P	Pn	20 25 38.4	-1.1
	comp=Z,2.1nm,0.6s,baz=206,slow=10,SNR=33						
MKAR	Makanchi Array	19.89	31	P	Pn	20 25 38.4	-1.1
MKAR	Makanchi Array	19.89	31	P	Pn	20 25 38.4	-1.1
LSA	Lhasa	20.31	86	*e*P	P	20 25 45.3	+2.7
	comp=Z,6.2nm,0.8s						
LSA	Lhasa	20.31	86	*e*P	P	20 25 45.3	+2.7
LSA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GNI	Garni	21.06	304	LR	LR	20 35 15.0	
	comp=Z,37nm,18.4s,MS2.8,baz=83,slow=41						
AKTK	Aktyubinsk	21.28	343	P	P	20 25 53.2	+0.3
AKTO	Aktyubinsk	21.28	343	P	P	20 25 53.2	+0.3
	comp=Z,1.0nm,0.6s,mb3.3,baz=150,slow=15,SNR=4.1						
AKTO	Aktyubinsk	21.28	343	P	P	20 25 53.2	+0.3
KURK	Kurchatov	21.87	19	P	P	20 25 58.4	-0.8
	comp=Z,2.8nm,0.7s,mb3.8,baz=209,slow=10,SNR=19						
KURK	Kurchatov	21.87	19	P	P	20 25 58.4	-0.8
KURK				*e*P		20 25 59.7	
KURK	Kurchatov	21.87	19	P	P	20 25 58.4	-0.8
ZEI	Tsey	22.66	310	*e*P	P	20 26 13.5	+5.8
ZEI				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb3.7						
BVAR	Borovoye Array	22.68	4	P	P	20 26 08.5	+0.6
	comp=Z,1.5nm,0.8s,mb3.5,baz=134,slow=8.5,SNR=8.8						
BVAR	Borovoye Array	22.68	4	P	P	20 26 08.5	+0.6
BVAR	Borovoye Array	22.68	4	P	P	20 26 08.5	+0.6
BRVK	Borovoye	22.71	4	*e*P	P	20 26 07.5	-0.7
	comp=Z,6.5nm,1.3s,mb3.9						
BRVK	Borovoye	22.71	4	*e*P	P	20 26 07.5	-0.6
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb3.9						
ZAA0	Zalesovo Array	26.59	23	*e*P	P	20 26 47.2	+2.6
ZALV	Zalesovo Beam	26.59	23	P	P	20 26 45.9	+1.4
	comp=Z,3.0nm,0.6s,mb4.0,baz=224,slow=11,SNR=19						
ZALV				LR	LR	20 38 31.8	
	comp=Z,30nm,18.6s,MS2.9,baz=236,slow=39						
ZALV	Zalesovo Beam	26.59	23	P	P	20 26 45.9	+1.3
ZALV				LR	LR	20 38 31.8	
ZALV	Zalesovo Beam	26.59	23	P	P	20 26 45.9	+1.3
CHTO	Chiang Mai	30.57	105	*e*P	P	20 27 21.8	+1.4
CHTO	Chiang Mai	30.57	105	*e*P	P	20 27 21.8	+1.4
CMAR	Chiang Mai Arr	30.73	106	P	P	20 27 23.4	+1.4
	comp=Z,0.8nm,0.9s,mb3.5,baz=301,slow=9.2,SNR=6.6						
CMAR	Chiang Mai Arr	30.73	106	P	P	20 27 23.4	+1.4
CMAR	Chiang Mai Arr	30.73	106	P	P	20 27 23.4	+1.5
SONM	Songino Array	34.27	48	P	P	20 27 54.9	+2.4
	comp=Z,0.7nm,0.7s,mb3.7,baz=231,slow=9.1,SNR=3.1						
SONM	Songino Array	34.27	48	P	P	20 27 54.9	+2.4
SONM	Songino Array	34.27	48	P	P	20 27 54.9	+2.4
ENH	Enshi	35.92	79	P	P	20 28 03.6	-3.5
FINES	FINESS Array B	41.23	331	LR	LR	20 47 55.3	
	comp=Z,78nm,18.3s,MS3.6,baz=358,slow=39						
GERES	GERESS Array B	44.47	310	P	P	20 29 18.5	+0.8
	comp=Z,0.3nm,0.7s,baz=104,slow=8.2,SNR=3.2						
GERES	GERESS Array B	44.47	310	P	P	20 29 18.5	+0.8
GERES	GERESS Array B	44.47	310	P	P	20 29 18.5	+0.8
ARCES	ARCESS Array B	45.84	341	P	P	20 29 28.2	0.0
	comp=Z,5.1nm,1.0s,mb4.4,baz=130,slow=8.3,SNR=5.5						
ARCES	ARCESS Array B	45.84	341	P	P	20 29 28.2	0.0
ARCES	ARCESS Array B	45.84	341	P	P	20 29 28.3	0.0
YSS	Yuzh-Sakhalins	58.70	51	P	P	20 31 04.3	+0.1
	comp=Z,13nm,0.9s,mb5.0						
YSS	Yuzh-Sakhalins	58.70	51	P	P	20 31 04.3	+0.1
YSS				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
TORD	Torodi Ar. Bea	62.86	270	P	P	20 31 30.7	-2.2
	comp=Z,1.2nm,0.8s,mb4.0,baz=59,slow=5.9,SNR=10.0						
TORD	Torodi Ar. Bea	62.86	270	P	P	20 31 30.7	-2.2
INK	Inuvik	80.32	8	P	P	20 33 17.9	+0.6
	comp=Z,1.3nm,0.8s,mb3.9,baz=323,slow=9.8,SNR=3.7						
INK	Inuvik	80.32	8	P	P	20 33 17.9	+0.6
INK	Inuvik	80.32	8	P	P	20 33 17.9	+0.6
WRA	Warramunga Arr	81.29	119	P	P	20 33 23.4	+0.2
	comp=Z,0.6nm,0.7s,mb3.7,baz=319,slow=4.8,SNR=9.4						
WRA	Warramunga Arr	81.29	119	P	P	20 33 23.4	+0.2
WRA	Warramunga Arr	81.29	119	P	P	20 33 23.4	+0.2
ILAR	Eielson Array	81.36	14	P	P	20 33 22.4	-0.5
	comp=Z,0.3nm,0.8s,mb3.3,baz=299,slow=3.7,SNR=4.3						
ILAR	Eielson Array	81.36	14	P	P	20 33 22.4	-0.5
ILAR	Eielson Array	81.36	14	P	P	20 33 22.4	-0.5
ASAR	Alice Springs	83.19	122	P	P	20 33 33.5	+0.4
	comp=Z,1.2nm,0.7s,mb4.0,baz=310,slow=5.4,SNR=14						
ASAR	Alice Springs	83.19	122	P	P	20 33 33.5	+0.4
ASAR	Alice Springs	83.19	122	P	P	20 33 33.5	+0.4

*ISCJB **01** 20:23:04.2±0.7, 7°.5N±0°.1×36°.7W±0°.1, h10km, mb3.8/9, Error ellipse: s-maj=21.1km s-min=14.5km az=31.5*
*IDC **01** 20:23:04.6±1.0, 7°.53N×36°.73W, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.8/25, mbtmp3.8/9, Error ellipse: s-maj=37.9km s-min=19.5km az=158.0*
*NEIC **01** 20:23:06.0±0.5, 7°.46N×36°.70W, h10km, Error ellipse: s-maj=15.8km s-min=10.8km az=121.0*
ISC 01 20:23:06.3±0.7**, 7°.5N**±0°.1×**36°.7W**±0°.1**, h10**km**, n19,** σ**0.61**/19**, mb3.8**/9**, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RCBR	Riachuelo	13.22	177	*e*P	Pn	20 26 13.9	-0.3
	14nm,1.0s						
DBIC	Dimbokro	31.58	89	P	P	20 29 28.9	-0.6
	2.2nm,0.8s,mb4.0,baz=252,slow=13,SNR=2.8						
DBIC	Dimbokro	31.58	89	P	P	20 29 28.9	-0.5
TORD	Torodi Ar. Bea	38.14	78	P	P	20 30 26.1	+0.1
	0.6nm,0.6s,mb3.5,baz=271,slow=8.9,SNR=8.7						
TORD	Torodi Ar. Bea	38.14	78	P	P	20 30 26.1	+0.1
LPAZ	La Paz	39.06	233	P	P	20 30 34.6	+0.9
	4.0nm,0.8s,mb4.2,baz=49,slow=8.3,SNR=15						
LPAZ	La Paz	39.06	233	P	P	20 30 34.6	+0.9
DAVOX	Davos/Dischmat	55.78	37	P	P	20 32 43.9	+0.5
	2.1nm,0.8s,mb4.2,baz=250,slow=5.9,SNR=4.6						
DAVOX	Davos/Dischmat	55.78	37	P	P	20 32 43.9	+0.4
GERES	GERESS Array B	59.03	36	P	P	20 33 05.8	-0.6
	0.5nm,0.7s,mb3.6,baz=267,slow=4.9,SNR=5.0						
GERES	GERESS Array B	59.03	36	P	P	20 33 05.8	-0.6
MLR	Muntele Rosu	65.64	43	P	P	20 33 51.1	+0.4
	0.6nm,0.9s,mb3.6,baz=292,slow=19,SNR=4.6						
MLR	Muntele Rosu	65.64	43	P	P	20 33 51.1	+0.4
TXAR	Lajitas Array	66.34	299	P	P	20 33 54.5	-1.0
	0.1nm,0.4s,mb3.2,baz=93,slow=4.5,SNR=2.7						
TXAR	Lajitas Array	66.34	299	P	P	20 33 54.5	-1.0
BRTR	Keskin Array B	70.14	51	P	P	20 34 20.1	+0.9
	0.9nm,0.8s,mb3.7,baz=232,slow=6.5,SNR=5.2						
BRTR	Keskin Array B	70.14	51	P	P	20 34 20.1	+0.9
FINES	FINESS Array B	70.66	27	P	P	20 34 21.6	-0.3
	1.9nm,0.9s,mb4.0,baz=246,slow=10,SNR=3.1						
FINES	FINESS Array B	70.66	27	P	P	20 34 21.6	-0.3

IDC 01 20:26:42.3±13.0**, 5°.79S**×**128°.37E, h278**km±151km**, mb2.6**/1**, mb1 2.6**/4**, mb1mx2.6**/19**, mbtmp2.5**/4**, Error ellipse: s-maj=86.9km s-min=47.7km az=41.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	12.52	192	P	Pn	20 29 30.8	-0.9
	0.0nm,0.3s,baz=0.0,slow=14,SNR=2.6						
FITZ				S	S	20 31 55.7	+4.8
	0.1nm,0.3s,baz=299,slow=19,SNR=2.0						
WRA	Warramunga Arr	15.21	158	P	Pn	20 30 04.2	+0.1
	0.1nm,0.3s,baz=335,slow=11,SNR=9.8						
ASAR	Alice Springs	18.55	164	P	P	20 30 38.4	-0.9
	0.4nm,0.3s,baz=330,slow=9.6,SNR=25						
MKAR	Makanchi Array	66.34	327	P	P	20 37 01.7	+0.3
	0.1nm,0.3s,baz=122,slow=6.1,SNR=2.2						

MAN 01 20:35:47, 7°.94N×**124°.99E, h29**km**, mb4.2, ML3.0, MS2.8, 1C, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUKP	Musuan	0.09	129	*e*P	Pb	20 35 52.9	+0.8
BUKP				*e*S	Sb	20 35 58.5	+2.9
CGP	Cagayan de Oro	0.59	330	⇑*i*P	Pb	20 35 60.0	+1.0
CGP				*i* S	Sb	20 36 09.2	+2.2
MATI	Mati	1.59	128	*e*P	Pn	20 36 15.4	+2.2
MATI				*e*S	Sn	20 36 33.6	+0.6

*ISCJB **01** 20:36:29.0±0.5, 32°.21N±0°.04×104°.99E±0°.06, h10km, mb3.9/9, Error ellipse: s-maj=7.5km s-min=5.0km az=27.6*
*IDC **01** 20:36:28.5±0.9, 32°.36N×105°.26E, h0km, mb3.7/8, mb1 3.8/9, mb1mx3.6/26, mbtmp3.7/9, ML3.2/1, Error ellipse: s-maj=55.9km s-min=16.2km az=57.0*
*NEIC **01** 20:36:30.8±0.7, 32°.30N×105°.01E, h10km, Error ellipse: s-maj=21.0km s-min=11.4km az=54.0*
*BJI **01** 20:36:33.1, 32°.14N×104°.89E, h12km, ML3.7/13, Ms7 3.4/2*
ISC 01 20:36:30.8±0.4**, 32°.23N**±0°.04×**104°.97E**±0°.06**, h10**km**, n26,** σ**1.18**/36**, mb3.9**/9**, Sichuan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CD2	Chengdu	1.67	218	Pn	Pn	20 37 00.4	+0.3
CD2				Pg	Pg	20 37 01.4	-1.4
CD2				Sg	Sg	20 37 24.2	-0.3
CD2				smax			
	comp=N,1µm,0.4s						
CD2				smax			
	comp=E,2µm,0.4s						
XAN	Xi'an	3.78	60	Pn	Pn	20 37 28.7	-0.4
XAN				Pg	Pg	20 37 37.4	-5.8
XAN				Sn	Sn	20 38 12.9	-0.7
XAN				Sg	Sg	20 38 25.3	-6.8
XAN				smax			
	comp=N,91nm,0.5s						
XAN				smax			
	comp=E,55nm,0.7s						
LZH	Lanzhou	3.96	347	Pn	Pn	20 37 33.4	+1.9
LZH				Pg	Pg	20 37 43.5	-3.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LZH				Sn	Sn	20 38 19.5	+1.5
LZH				Sg	Sg	20 38 34.2	-3.7
LZH				smax			
	comp=N,110nm,1.0s						
LZH				smax			
	comp=E,180nm,1.0s						
LZH				LR	LR		
	comp=Z,340nm,6.4s						
ENH	Enshi	4.34	116	ePn	Pn	20 37 37.8	+1.1
GYA	Guiyang	5.94	165	Pn	Pn	20 38 00.5	+1.7
GYA				Pg	Pg	20 38 18.7	-5.9
GYA				Sn	Sn	20 39 01.5	-5.4
GYA				smax			
	comp=N,60nm,0.8s						
GYA				smax			
	comp=E,70nm,0.7s						
CMAR	Chiang Mai Arr	14.75	203	Pn	Pn	20 40 00.6	+1.1
	comp=E,0.0nm,0.3s,baz=6.2,slow=9.1,SNR=3.6						
CMAR	Chiang Mai Arr	14.75	203	Pn	Pn	20 40 00.6	+1.1
SONM	Songino Array	15.62	4	Pn	Pn	20 40 15.1	+4.2
	comp=E,0.1nm,0.3s,baz=207,slow=6.2,SNR=3.6						
SONM	Songino Array	15.62	4	Pn	Pn	20 40 15.1	+4.2
MKAR	Makanchi Array	22.64	317	P	P	20 41 32.1	+0.3
	comp=E,0.7nm,0.7s,mb3.2,baz=116,slow=11,SNR=8.8						
MKAR	Makanchi Array	22.64	317	P	P	20 41 32.1	+0.3
ZALV	Zalesovo Beam	26.05	332	P	P	20 42 03.9	-0.1
	comp=E,0.7nm,0.6s,mb3.4,baz=126,slow=7.5,SNR=4.2						
ZALV	Zalesovo Beam	26.05	332	P	P	20 42 03.9	-0.1
KURK	Kurchatov	26.81	321	P	P	20 42 10.8	-0.2
	comp=E,0.6nm,0.2s,mb3.8,baz=122,slow=9.1,SNR=4.9						
KURK	Kurchatov	26.81	321	P	P	20 42 10.8	-0.2
BRTR	Keskin Array B	56.83	299	P	P	20 46 15.0	-0.4
	comp=E,0.2nm,0.4s,mb3.5,baz=38,slow=7.3,SNR=2.7						
BRTR	Keskin Array B	56.83	299	P	P	20 46 15.0	-0.4
FINES	FINESS Array B	57.05	326	P	P	20 46 15.4	-1.2
	comp=E,2.3nm,0.8s,mb4.2,baz=247,slow=1.5,SNR=6.0						
FINES	FINESS Array B	57.05	326	P	P	20 46 15.4	-1.2
WRA	Warramunga Arr	59.01	147	P	P	20 46 29.8	-1.0
	comp=E,1.1nm,0.6s,mb4.1,baz=342,slow=7.4,SNR=22						
WB2	Warramunga Arr	59.02	147	eP	P	20 46 29.7	-1.2
ASAR	Alice Springs	62.08	150	P	P	20 46 51.0	-0.7
	comp=E,0.5nm,0.5s,mb3.9,baz=332,slow=6.7,SNR=12						
ASAR	Alice Springs	62.08	150	P	P	20 46 51.0	-0.7
HFS	Hagfors	63.25	326	P	P	20 46 59.2	+0.1
	comp=E,0.6nm,0.6s,mb3.9,baz=72,slow=9.3,SNR=3.5						
BOSA	Boshof	96.88	241	P	P	20 50 04.9	+2.6
	comp=E,2.3nm,0.9s,mb4.6,baz=72,slow=6.4,SNR=3.3						
BOSA	Boshof	96.88	241	P	P	20 50 04.9	+2.6

*ISCJB **01** 20:40:28.0±1.5, 12°.54S±0°.06×77°.2W±0°.1, h36km±12km, mb4.1/18, MS4.3/5, Error ellipse: s-maj=18.9km s-min=9.4km az=162.2*

*IDC **01** 20:40:29.8±0.6, 12°.48S×77°.08W, h35km±4km, mb3.8/16, mb1 4.0/17, mb1mx3.9/24, mbtmp3.8/17, ML3.2/1, MS3.6/7, Ms1 3.6/7, ms1mx3.3/34, Error ellipse: s-maj=16.0km s-min=10.1km az=93.0*

*NEIC **01** 20:40:29.6±0.3, 12°.45S×77°.07W, mb4.5/5, Error ellipse: s-maj=11.8km s-min=6.3km az=73.0*

NEIC Felt [IV] at Lima, [III] at Canta and [II] at Chincha Alta and Ica.

*BJI **01** 20:40:30.2, 12°.55S×76°.23W, h55km, mB5.1/1, Ms5.1/2, Ms7 5.0/2*

ISC 01 20:40:29.4±1.7**, 12°.49S**±0°.05×**77°.16W**±0°.09**, h31**km±11km**, h38**km±1.3km**:pP-P, n78, σ0.97**/53**, mb4.1**/18**, MS4.3**/5**, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NNA	Nana	0.58	32	Pg	Pb	20 40 41.3	+0.1
	5µm,0.3s,baz=196,slow=12,SNR=4715						
NNA				Lg		20 40 49.0	
	9µm,0.3s,baz=195,slow=19,SNR=148						
NNA	Nana	0.58	32	ePn	Pn	20 40 40.8	-0.8
NNA				eSn	Sn	20 40 48.8	-1.2
ATAH	Atahualpa	5.46	347	Pn	Pn	20 41 53.0	+4.4
	31nm,0.3s,baz=153,slow=6.5,SNR=60						
ATAH				Sn	Sn	20 42 57.3	+7.0
	30nm,0.3s,baz=273,slow=19,SNR=2.1						
ATAH				LR	LR	20 44 01.4	
	comp=Z,224nm,20.2s,baz=45,slow=39						
LPAZ	La Paz	9.53	114	Pn	Pn	20 42 44.5	0.0
	0.1nm,0.3s,baz=274,slow=8.4,SNR=2.5						
LPAZ				Sn	Sn	20 44 24.8	-5.8
	0.7nm,0.3s,baz=228,slow=4.0,SNR=3.7						
LPAZ				Lg		20 45 36.0	
	0.3nm,0.3s,baz=197,slow=14,SNR=2.0						
LPAZ				LR	LR	20 47 06.5	
	comp=Z,276nm,19.9s,baz=308,slow=42						
LPAZ	La Paz	9.53	114	ePn	Pn	20 42 44.0	-0.6
	11nm,0.8s						
OTAV	Otavalo	12.71	354	ePn	Pn	20 43 27.3	-0.8
ROSC	El Rosal	17.45	9	P	Pn	20 44 36.3	+5.6
	1.8nm,0.3s,baz=269,slow=22,SNR=8.6						
ROSC				LR	LR	20 52 20.6	
	comp=Z,369nm,20.9s,baz=195,slow=41						
ROSC	El Rosal	17.45	9	ePn	Pn	20 44 36.6	+5.9
LCO	Las Campanas	17.51	161	ePn		20 44 45.1	
CFAA	Coronel Fontan	20.73	158	P	P	20 45 08.0	+0.6
	1.7nm,0.8s,baz=342,slow=11,SNR=19						
CFAA				LR	LR	20 52 40.9	
	comp=Z,29nm,21.6s,baz=138,slow=35						
CFAA	Coronel Fontan	20.73	158	P	P	20 45 08.0	+0.6
CFAA				LR	LR	20 52 40.9	
SDV	Santo Domingo	22.20	17	eP	P	20 45 22.8	-0.5
	25nm,0.9s,mb4.6						
CPUP	Villa Florida	23.18	129	P	P	20 45 33.1	-0.5
	0.4nm,0.4s,mb3.2,baz=286,slow=13,SNR=2.0						
CPUP	Villa Florida	23.18	129	P	P	20 45 34.9	+1.2
	18nm,0.9s,mb4.5						
PLCA	Paso Flores	28.73	170	P	P	20 46 23.6	-0.5
	6.3nm,0.7s,mb4.4,baz=348,slow=11,SNR=12						
PLCA	Paso Flores	28.73	170	eP	P	20 46 23.9	-0.1
	7.6nm,0.8s,mb4.5						
FDF	Fort de France	31.35	31	P	P	20 46 40.4	-6.9
HMG	Houelmont	32.15	29	eP	P	20 46 56.9	+2.5
SCG	Saint Claude	32.20	29	eP	P	20 46 56.4	+1.5
PHG	Guadaloupe-2	32.21	29	eP	P	20 46 56.8	+1.9
DOG	Dongo Capester	32.23	29	eP	P	20 46 57.1	+1.9
BCG	Bois Riant Cap	32.28	29	eP	P	20 46 56.5	+0.9
SJG	San Juan	32.28	20	P	P	20 46 54.6	-0.9
	6.2nm,0.4s,mb4.8,baz=256,slow=4.2,SNR=3.8						
SJG	San Juan	32.28	20	P	P	20 46 50.9	-4.7
TEIG	Tepich	34.30	341	P	P	20 47 12.5	-0.7
	5.7nm,0.6s,mb4.7,baz=141,slow=1.9,SNR=3.6						
TEIG	Tepich	34.30	341	P	P	20 47 12.5	-0.7
LRAL	Lakeview Retre	46.23	349	eP	P	20 48 51.0	-0.8
	4.0nm,0.8s,mb4.4						
TXAR	Lajitas Array	48.82	329	P	P	20 49 12.4	+0.5
	0.3nm,0.5s,mb3.6,baz=150,slow=7.8,SNR=5.1						
TXAR	Lajitas Array	48.82	329	P	P	20 49 12.4	+0.5
MIAR	Mount Ida	49.30	342	eP	P	20 49 15.7	+0.1
	5.7nm,0.8s,mb4.7						
BRNJ	Basking Ridge	52.95	2	P	P	20 49 43.9	+1.0
RKT	Rikitea	55.75	250	eT		21 50 07.3	
	5.2nm,0.2s						
PDAR	Pinedale Array	62.49	334	P	P	20 50 50.2	+0.3
	0.6nm,1.0s,mb3.7,baz=104,slow=3.8,SNR=2.7						
PDAR				pP	pP	20 51 01.0	+1.5
	0.4nm,0.5s,baz=122,slow=9.6,SNR=3.5						
PDAR	Pinedale Array	62.49	334	P	P	20 50 50.2	+0.3
PDAR				pP	pP	20 51 01.0	+1.5
NVAR	Mina Array Bea	63.60	325	P	P	20 50 57.8	+0.5
	0.1nm,0.3s,mb3.3,baz=139,slow=5.9,SNR=2.9						
NVAR	Mina Array Bea	63.60	325	P	P	20 50 57.8	+0.5
ULM	Lac du Bonnet	64.59	347	P	P	20 51 02.6	-1.0
	3.3nm,0.4s,mb4.7,baz=174,slow=6.9,SNR=5.5						
ULM	Lac du Bonnet	64.59	347	P	P	20 51 02.6	-1.0
TBI	Tubuai	69.06	250	eT		22 06 44.0	
	7.5nm,0.3s						
TIAR	Tiarei	69.55	256	eT		22 07 20.9	
	9.2nm,0.2s						
PPT	Papeete	69.77	256	eLR	LR	21 13 00.7	
	76nm,25.2s						
SNAA	Sanae	73.30	161	P	P	20 51 57.6	0.0
	0.8nm,0.8s,mb3.7,baz=291,slow=7.2,SNR=7.8						
SNAA	Sanae	73.30	161	P	P	20 51 57.6	0.0
DBIC	Dimbokro	74.33	79	P	P	20 52 03.3	-1.3
	1.9nm,0.6s,mb4.2,baz=241,slow=6.4,SNR=3.6						
DBIC				LR	LR	21 24 57.9	
	comp=Z,70nm,18.9s,MS4.0,baz=192,slow=36						
DBIC	Dimbokro	74.33	79	P	P	20 52 03.3	-1.3
DBIC				LR	LR	21 24 57.9	
YKA	Yellowknife Ar	80.23	343	P	P	20 52 36.2	-0.3
	2.3nm,0.8s,mb4.2,baz=141,slow=5.4,SNR=3.2						
YKA				pP	pP	20 52 48.1	+1.8
	1.4nm,0.6s,baz=141,slow=5.4,SNR=2.3						
YKA	Yellowknife Ar	80.23	343	P	P	20 52 36.2	-0.3
YKA				pP	pP	20 52 48.1	+1.8
TORD	Torodi Ar. Bea	82.22	75	P	P	20 52 47.5	-0.7
	4.4nm,0.8s,mb4.4,baz=255,slow=4.9,SNR=26						
TORD				pP	pP	20 52 59.0	+0.9
	2.4nm,0.7s,baz=260,slow=4.9,SNR=8.8						
TORD				LR	LR	21 27 35.2	
	comp=Z,71nm,20.3s,MS4.0,baz=235,slow=34						
TORD	Torodi Ar. Bea	82.22	75	P	P	20 52 47.5	-0.7
TORD				pP	pP	20 52 59.0	+0.9
TORD				LR	LR	21 27 35.2	
VNDA	Vanda	84.25	191	P	P	20 52 56.1	-1.5
	0.7nm,0.8s,mb3.8,baz=38,slow=12,SNR=7.0						
VNDA	Vanda	84.25	191	P	P	20 52 56.1	-1.5
ESDC	Sonseca Array	85.33	48	P	P	20 53 03.3	-0.3
	0.2nm,0.4s,mb3.6,baz=255,slow=5.0,SNR=3.7						
ESDC				LR	LR	21 30 54.1	
	comp=Z,46nm,18.1s,MS3.9,baz=125,slow=36						
ESDC	Sonseca Array	85.33	48	P	P	20 53 03.3	-0.3
ESDC				LR	LR	21 30 54.1	
ILAR	Eielson Array	92.81	336	P	P	20 53 38.4	-0.2
	0.2nm,0.7s,mb3.7,baz=108,slow=2.9,SNR=3.5						
ILAR	Eielson Array	92.81	336	P	P	20 53 38.4	-0.2
ASAR	Alice Springs	132.95	220	PKP	PKPdf	20 59 41.7	-0.8
	0.8nm,0.6s,baz=124,slow=2.3,SNR=17						
ASAR				pPKP	pPKPdf	20 59 55.0	+2.3
	0.5nm,0.6s,baz=114,slow=2.3,SNR=3.4						
ASAR	Alice Springs	132.95	220	PKP	PKPdf	20 59 41.7	-0.8
ASAR				pPKP	pPKPdf	20 59 55.0	+2.3
WRA	Warramunga Arr	135.29	224	PKP	PKPdf	20 59 46.5	-0.5
	0.8nm,0.3s,baz=122,slow=2.0,SNR=39						
WRA				pPKP	pPKPdf	21 00 00.3	+3.1
	0.9nm,0.5s,baz=126,slow=2.0,SNR=5.2						
WRA	Warramunga Arr	135.29	224	PKP	PKPdf	20 59 46.5	-0.5
WRA				pPKP	pPKPdf	21 00 00.3	+3.1
ZALV	Zalesovo Beam	136.24	15	PKP	PKPdf	20 59 46.9	-0.8
	0.5nm,0.4s,baz=318,slow=2.0,SNR=4.2						
ZALV				pPKP	pPKPdf	20 59 57.5	-0.3
	1.7nm,0.7s,baz=323,slow=2.2,SNR=6.0						
ZALV	Zalesovo Beam	136.24	15	PKP	PKPdf	20 59 46.9	-0.8
ZALV				pPKP	pPKPdf	20 59 57.5	-0.3
KURK	Kurchatov	137.06	23	PKP	PKPdf	20 59 47.2	-2.1
	0.4nm,0.2s,baz=319,slow=2.1,SNR=2.6						
KURK	Kurchatov	137.06	23	PKP	PKPdf	20 59 47.2	-2.1
MKAR	Makanchi Array	141.66	23	PKP	PKPdf	20 59 54.9	-3.0
	0.3nm,0.2s,baz=0.6,slow=2.5,SNR=2.4						
MKAR				pPKP	pPKPdf	21 00 11.0	+2.9
	0.3nm,0.2s,baz=27,slow=2.7,SNR=1.4						
MKAR	Makanchi Array	141.66	23	PKP	PKPdf	20 59 54.9	-3.0
MKAR				pPKP	pPKPdf	21 00 11.0	+2.9
FITZ	Fitzroy Crossi	142.19	217	PKhKP	PKPpre	20 59 53.9	
	2.3nm,1.0s,baz=236,slow=3.6,SNR=3.9						
FITZ	Fitzroy Crossi	142.19	217	PKP	PKPpre	20 59 53.9	
CN2	Changchun	143.23	332	ePKP	PKPdf	21 00 00.1	-0.6
CN2				PP	PP	21 03 14.6	+3.9
ULN	Ulaanbaatar	144.56	355	ePKPdf	PKPdf	21 00 01.6	-1.3
SONM	Songino Array	144.64	356	PKP	PKPdf	21 00 02.0	-1.1
	1.5nm,0.5s,baz=318,slow=2.1,SNR=23						
SONM	Songino Array	144.64	356	PKP	PKPdf	21 00 02.0	-1.1
WMQ	Urumqi	146.16	20	PKPbc	PKPbc	21 00 04.1	-2.6
KSRS	Korea Array	146.52	322	PKPbc	PKPbc	21 00 07.7	-0.3
	1.0nm,0.7s,baz=33,slow=2.3,SNR=4.0						
KSRS				pPKPbc	pPKPbc	21 00 19.3	+1.1
	2.3nm,0.8s,baz=49,slow=2.1,SNR=5.9						
HHC	Hu-ho-hao-te	150.73	346	ePKPbc	PKPdf	21 00 13.1	-0.2
HHC				pPKP	pPKPdf	21 00 23.1	-0.4
HHC				PKS		21 03 46.4	
HHC				PP	PP	21 03 58.2	+3.8
HHC				SKS	SKSdf	21 07 15.3	-3.7
HHC				SKKS	SKKSac	21 10 42.2	-2.0
HHC				SS	SS	21 23 13.4	+1.2
HHC				AMB	AMB		
	comp=Z,76nm,5.1s						
HHC				LR	LR		
	comp=N,120nm,13.1s,MS5.0						
HHC				LR	LR		
	comp=E,74nm,13.1s,MS5.0						
HHC				LR	LR		
	comp=Z,120nm,13.1s,MS4.9						
LZH	Lanzhou	156.48	358	ePKP	PKPdf	21 00 19.0	-2.7
LZH				pPKP	pPKPdf	21 00 34.1	+2.2
LZH				LR	LR		
	comp=E,130nm,18.0s						
LZH				LR	LR		
	comp=Z,190nm,20.3s,MS4.9						
CD2	Chengdu	161.64	358	PKP	PKPdf	21 00 27.0	-0.9
CMAR	Chiang Mai Arr	172.97	32	PKP	PKPdf	21 00 36.3	-0.1
	comp=Z,0.2nm,0.6s,baz=207,slow=1.0,SNR=3.3						
CMAR				pPKP	pPKPdf	21 00 49.3	+2.6
	comp=Z,0.7nm,0.8s,baz=298,slow=1.9,SNR=3.9						
CMAR	Chiang Mai Arr	172.97	32	PKP	PKPdf	21 00 36.3	-0.2
CMAR				pPKP	pPKPdf	21 00 49.3	+2.6

*RSPR **01** 20:46:31.1, 17°.10N×61°.94W, h7km±28km, MD4.0/8*

*NEIC **01** 20:46:31.1, 17°.10N×61°.94W, h7km, MD4.0(RSPR), After RSPR.*

*TRN **01** 20:46:32.1, 17°.06N×62°.37W, h10km, MD3.7, M4.0(FDF)*

*ISCJB **01** 20:46:34.4±0.5, 16°.98N±0°.05×62°.41W±0°.04, h11km±5km, Error ellipse: s-maj=10.7km s-min=3.9km az=36.0*

ISC 01 20:46:35.0±0.5**, 16°.98N**±0°.05×**62°.38W**±0°.04**, h12**km±4km**, n46, σ0.86**/54**, 14C-20D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MBRV		0.25	133	i P	Pg	20 46 40.3	+0.1
MBGB		0.29	149	⇑iP	Pg	20 46 41.6	+0.7
MBWH		0.30	142	⇑iP	Pg	20 46 41.5	+0.3
MLYT	Lee's Yard	0.32	145	⇑iP	Pg	20 46 42.0	+0.5
SKI	Saint Kitts	0.49	316	⇑iP	Pg	20 46 43.5	-1.1
SKI				eS	Sg	20 46 50.0	-1.1
BPA	Boggy Peak	0.51	83	eP	Pg	20 46 45.2	+0.2
BPA				eS	Sg	20 46 52.6	+0.9
SEUS	St. Eustatius	0.76	312	⇑iP	Pg	20 46 48.6	-1.3
SEUS	St. Eustatius	0.76	312	⇑iP	Pg	20 46 48.6	-1.3
SEUS				eS	Sg	20 47 01.4	+1.5
SEUS	St. Eustatius	0.76	312	⇑iP	Pg	20 46 48.6	-1.3
SEUS				eS	Sg	20 47 01.4	+1.5
SABA	Saba	1.04	308	⇓eP	Pb	20 46 53.5	-1.5
SABA	Saba	1.04	308	⇓eP	Pb	20 46 53.5	-1.5
SABA				eS	Sb	20 47 10.6	+2.0
SABA	Saba	1.04	308	⇓eP	Pb	20 46 53.5	-1.5
SABA				eS	Sb	20 47 10.6	+2.0
TBG	Guadaloupe-3	1.33	148	eP	Pn	20 46 59.0	-0.5
DEG	La Desirade	1.43	117	eP	Pn	20 46 59.5	-1.4
DEG				eS	Sn	20 47 19.2	-0.5
MGG	Marie-Galante	1.47	136	eP	Pn	20 47 01.9	+0.5
FDF	Fort de France	2.53	152	eP	Pn	20 47 16.3	+0.3
FDF				eS	Sn	20 47 56.5	+10
ABV	Anegada	2.54	313	eS	Sn	20 47 47.5	+0.4
ABV	Anegada	2.54	313	eS	Sn	20 47 47.5	+0.4
TBVI	Tortola	2.56	304	⇓eP	Pn	20 47 15.6	-0.9
TBVI	Tortola	2.56	304	⇓eP	Pn	20 47 15.6	-0.9
TBVI	Tortola	2.56	304	⇓eP	Pn	20 47 15.6	-0.9
STVI	Saint Thomas	2.80	299	eS	Sn	20 47 55.2	+1.7
STVI	Saint Thomas	2.80	299	eS	Sn	20 47 55.2	+1.7
MTP	Monte Pirata	3.22	291	⇑eP	Pn	20 47 25.2	-0.2
MTP	Monte Pirata	3.22	291	⇑eP	Pn	20 47 25.2	-0.2
MTP	Monte Pirata	3.22	291	⇑eP	Pn	20 47 25.2	-0.2
HUMP	Col San Antoni	3.50	290	⇑iP	Pn	20 47 29.1	-0.3
HUMP	Col San Antoni	3.50	290	⇑iP	Pn	20 47 29.1	-0.3
HUMP	Col San Antoni	3.50	290	⇑iP	Pn	20 47 29.7	+0.3
CBYP	Canovanas	3.55	292	⇑eP	Pn	20 47 30.3	+0.3
CBYP	Canovanas	3.55	292	⇑eP	Pn	20 47 30.3	+0.3
CBYP	Canovanas	3.55	292	⇑eP	Pn	20 47 30.3	+0.3
SJG	San Juan	3.76	288	⇓eP	Pn	20 47 32.9	-0.1
SJG	San Juan	3.76	288	⇓eP	Pn	20 47 32.8	-0.2
SJG	San Juan	3.76	288	⇓eP	Pn	20 47 32.8	-0.2
SJG	San Juan	3.76	288	⇓eP	Pn	20 47 32.8	-0.2
SJG	San Juan	3.76	288	⇓eP	Pn	20 47 32.9	-0.1
CELP	Cerrillos	4.15	286	⇓eP	Pn	20 47 38.1	-0.1
CELP	Cerrillos	4.15	286	⇓eP	Pn	20 47 38.1	-0.1
CELP	Cerrillos	4.15	286	⇓eP	Pn	20 47 38.1	-0.1
AOPR	Arecibo Observ	4.38	289	⇓eP	Pn	20 47 41.5	+0.1
AOPR	Arecibo Observ	4.38	289	⇓eP	Pn	20 47 41.5	+0.1
AOPR	Arecibo Observ	4.38	289	⇓eP	Pn	20 47 41.5	+0.1
CRPR	Cabo Rojo, PR	4.62	283	⇓eP	Pn	20 47 44.5	-0.3
CRPR	Cabo Rojo, PR	4.62	283	⇓eP	Pn	20 47 44.5	-0.3
CRPR	Cabo Rojo, PR	4.62	283	⇓eP	Pn	20 47 44.5	-0.3

IDC 01 20:56:59.0±3.8**, 57°.66S**×**24°.76W, h0**km**, mb3.7**/2**, mb1 3.8**/2**, mb1mx3.5**/15**, mbtmp3.7**/2**, Error ellipse: s-maj=132.2km s-min=52.6km az=169.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	52.39	304	P	P	21 06 13.4	+0.7
	0.5nm,0.4s,baz=156,slow=19,SNR=4.6						
TORD	Torodi Ar. Bea	73.85	27	P	P	21 08 35.3	+0.1
	0.6nm,0.9s,baz=200,slow=6.5,SNR=6.2						
ILAR	Eielson Array	152.18	309	PKPbc	PKPbc	21 16 54.6	-0.1
	0.5nm,0.8s,baz=127,slow=2.1,SNR=5.5						

*IDC **01** 20:58:50.6±0.6, 6°.76S×129°.04E, h0km, mb3.9/13, mb1 4.1/15, mb1mx4.1/20, mbtmp4.0/15, ML4.1/2, MS3.4/7, Ms1 3.3/7, ms1mx3.1/30, Error ellipse: s-maj=23.7km s-min=13.9km az=73.0*

*DJA **01** 20:58:50, 6°.55S×129°.64E, h10km, mb4.6/12*

*ISCJB **01** 20:58:51.9±0.3, 6°.69S±0°.04×129°.39E±0°.05, h33km, mb4.0/19, MS3.3/4, Error ellipse: s-maj=8.2km s-min=3.8km az=151.8*

*NEIC **01** 20:58:51.1±0.5, 6°.87S×129°.15E, h10km, mb4.2/7, Error ellipse: s-maj=17.8km s-min=8.6km az=64.0*

ISC 01 20:58:54.6±0.4**, 6°.65S**±0°.04×**129°.39E**±0°.05**, h35**km**, n72, σ1.32**/84**, mb4.0**/19**, MS3.3**/4**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	2.18	14	P	Pn	20 59 25.9	-2.4
BNDI				S	Sn	20 59 50.1	-3.9
AAI	Ambon	3.17	338	P	Pn	20 59 39.0	-3.1
AAI				S	Sn	21 00 20.3	+1.6
MSAI	Masohi	3.31	352	P	Pn	20 59 42.1	-1.9
NLAI	Namlea	4.08	326	P	Pn	20 59 52.3	-2.3
KAKA	Kakadu	6.73	154	eP	Pn	21 00 30.9	-0.1
	39nm,0.6s						
KAKA				eS	Sn	21 01 46.3	-0.1
KAKA	Kakadu	6.73	154	ePn	Pn	21 00 30.6	-0.4
	91nm,0.4s						
KAKA				eSn	Sn	21 01 44.4	-2.1
KAKA	Kakadu	6.73	154	P	Pn	21 00 30.8	-0.2
	1.3nm3µm137nm,0.6s						
KAKA				S	Sn	21 01 46.4	0.0
	1.3nm3µm137nm,0.6s						
BBSI	Bau Bau	6.88	279	P	Pn	21 00 33.3	+0.3
	0.5nm48nm,0.8s						
MMRI	Maumere	7.36	254	P	Pn	21 00 41.1	+1.5
	4.9nm1µm153nm,1.0s						
LUWI	Luwuk	8.64	310	P	Pn	21 00 56.2	-0.9
BKSI	Bulukumba	9.31	278	P	Pn	21 01 06.2	-0.2
	28nm,0.9s						
KAPI	Kappang	9.72	279	Pn	Pn	21 01 11.6	-0.5
	3.0nm,0.3s,baz=128,slow=5.8,SNR=11						
KAPI				LR	LR	21 04 26.5	
	comp=Z,323nm,21.4s,baz=30,slow=36						
KAPI	Kappang	9.72	279	Pn	Pn	21 01 11.6	-0.5
KAPI				LR	LR	21 04 26.5	
KAPI	Kappang	9.72	279	P	Pn	21 01 12.0	-0.1
	30nm,0.8s						
SPSI	Sidrap Palu	9.94	285	P	Pn	21 01 15.0	-0.1
	16nm,1.0s						
MRSI	Marisa	10.27	313	P	Pn	21 01 19.2	-0.3
	680nm18nm,0.9s						
FITZ	Fitzroy Crossi	11.96	197	Pn	Pn	21 01 38.5	-4.1
	2.0nm,0.3s,baz=31,slow=9.7,SNR=49						
FITZ				Sn	Sn	21 03 44.7	-10
	1.4nm,0.3s,baz=91,slow=17,SNR=4.4						
FITZ				LR	LR	21 06 32.0	
	comp=Z,109nm,18.9s,baz=18,slow=39						
FITZ	Fitzroy Crossi	11.96	197	eP	Pn	21 01 38.4	-4.2
	21nm,0.5s						
FITZ				eS	Sn	21 03 44.5	-10
FITZ	Fitzroy Crossi	11.96	197	Pn	Pn	21 01 38.5	-4.1
FITZ				Sn	Sn	21 03 44.7	-10
FITZ				LR	LR	21 06 32.0	
WRAB	Tennant Creek	14.05	160	ePn	Pn	21 02 06.1	-5.2
	15nm,0.7s						
WRAB				eSn	Sn	21 04 36.0	-10
WRAB	Tennant Creek	14.05	160	P	Pn	21 02 08.5	-2.8
	34nm,0.8s						
WRA	Warramunga Arr	14.06	160	Pn	Pn	21 02 06.8	-4.6
	1.9nm,0.3s,baz=324,slow=14,SNR=94						
WRA				Sn	Sn	21 04 36.7	-10
	1.7nm,0.3s,baz=336,slow=20,SNR=7.6						
WRA				LR	LR	21 07 49.8	
	comp=Z,135nm,20.1s,baz=340,slow=38						
WRA	Warramunga Arr	14.06	160	Pn	Pn	21 02 06.8	-4.6
WRA				Sn	Sn	21 04 36.7	-10
WRA				LR	LR	21 07 49.8	
WB2	Warramunga Arr	14.06	160	ePn	Pn	21 02 06.6	-4.8
WB2				eSn	Sn	21 04 27.8	-19
COEN	Coen	15.38	119	eP	Pn	21 02 28.5	-0.5
MBWA	Marble Bar	17.19	212	ePn	Pn	21 02 51.4	-0.7
	17nm,0.8s						
MBWA	Marble Bar	17.19	212	P	Pn	21 02 52.7	+0.6
	31nm,0.9s						
ASAR	Alice Springs	17.47	166	P	Pn	21 02 52.2	-3.3
	0.6nm,0.3s,baz=337,slow=11,SNR=52						
ASAR				S	Sn	21 06 02.0	-7.0
	0.6nm,0.3s,baz=346,slow=25,SNR=6.6						
ASAR	Alice Springs	17.47	166	P	Pn	21 02 52.2	-3.3
ASAR				S	Sn	21 06 02.0	-7.0
PMG	Port Moresby	17.81	100	P	Pn	21 03 03.2	+3.4
	1.0nm,0.3s,baz=305,slow=4.1,SNR=7.7						
PMG	Port Moresby	17.81	100	eP	Pn	21 03 02.9	+3.1
	26nm,0.8s						
STKI	Sintang	19.08	290	P	Pn	21 03 15.9	+0.6
	2µm13nm,1.2s						
SBUM	Sibu	19.38	297	P	Pn	21 03 18.4	-0.5
	8.6nm,1.5s						
KSM	Kuching	20.68	292	P	P	21 03 30.1	-1.7
	6.2nm,0.8s						
CTA	Charters Tower	21.13	131	P	P	21 03 40.3	+3.8
	2.3nm,0.2s,mb4.1,baz=304,slow=14,SNR=2.8						
CTA				LR	LR	21 12 02.1	
	comp=Z,92nm,20.5s,MS3.1,baz=58,slow=37						
CTA	Charters Tower	21.13	131	P	P	21 03 40.3	+3.8
CTA				LR	LR	21 12 02.1	
PPBI	Pangkal Pinang	23.60	280	P	P	21 04 03.9	+1.3
FORT	Forrest	24.04	183	eP	P	21 04 07.0	+0.6
	17nm,0.7s,mb4.6						
KMBL	Kambalda	25.57	195	eP	P	21 04 20.9	+0.5
	86nm,1.4s,mb5.1						
MORW	Morawa	25.61	208	eP	P	21 04 22.2	+1.4
BBOO	Buckleboo	26.76	167	eP	P	21 04 30.8	-0.3
	7.7nm,1.0s,mb4.2						
STKA	Stephens Creek	27.57	157	P	P	21 04 39.6	+1.3
	2.8nm,0.7s,mb4.0,baz=346,slow=10,SNR=9.0						
STKA				LR	LR	21 16 28.4	
	comp=Z,99nm,18.2s,MS3.4,baz=7.3,slow=38						
STKA	Stephens Creek	27.57	157	eP	P	21 04 39.5	+1.2
	2.5nm,0.6s,mb4.0						
STKA	Stephens Creek	27.57	157	eP	P	21 04 39.3	+0.9
	2.3nm,1.1s,mb3.7						
STKA				LR	LR	21 16 28.4	
NWAO	Narrogin (SRO)	28.48	202	P	P	21 04 46.4	-0.2
	7.8nm,0.8s,mb4.4,baz=36,slow=9.6,SNR=4.4						
NWAO	Narrogin (SRO)	28.48	202	P	P	21 04 46.4	-0.2
PSI	Prapat	31.83	286	P	P	21 05 13.8	-2.6
	1.7nm,0.4s,mb4.2,baz=34,slow=7.3,SNR=2.8						
PSI				LR	LR	21 18 41.4	
	comp=Z,76nm,21.6s,MS3.3,baz=290,slow=38						
PSI	Prapat	31.83	286	P	P	21 05 13.8	-2.6
PSI				LR	LR	21 18 41.4	
YNG	Young	32.64	150	eP	P	21 05 26.7	+3.5
	4.1nm,0.8s,mb4.4						
CMAR	Chiang Mai Arr	39.04	310	P	P	21 06 18.9	+0.6
	0.3nm,0.6s,mb3.2,baz=172,slow=6.9,SNR=3.8						
CMAR	Chiang Mai Arr	39.04	310	P	P	21 06 18.9	+0.6
CHTO	Chiang Mai	39.26	311	P	P	21 06 18.6	-1.4
	5.6nm,1.1s,mb4.2						
MJAR	Matsushiro Arr	43.75	10	P	P	21 06 58.8	+2.2
	1.6nm,1.0s,mb3.7,baz=189,slow=10,SNR=3.6						
MJAR	Matsushiro Arr	43.75	10	P	P	21 06 58.8	+2.2
KSRS	Korea Array	43.90	358	P	P	21 07 01.3	+3.5
	0.8nm,0.6s,mb3.6,baz=277,slow=11,SNR=3.6						
KSRS				LR	LR	21 25 27.8	
	comp=Z,22nm,18.3s,MS3.1,baz=60,slow=36						
SONM	Songino Array	57.92	342	P	P	21 08 43.3	+0.1
	0.2nm,0.4s,mb3.5,baz=160,slow=4.6,SNR=2.5						
SONM	Songino Array	57.92	342	P	P	21 08 43.3	+0.1
MK31	Makanchi Array	67.60	327	eP	P	21 09 47.7	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MKAR	Makanchi Array	67.60	327	P	P	21 09 48.2	+0.5
	0.9nm,0.6s,mb4.0,baz=122,slow=7.5,SNR=13						
MKAR	Makanchi Array	67.60	327	P	P	21 09 48.2	+0.5
ZAA0	Zalesovo Array	71.00	334	*e*P	P	21 10 09.6	+1.0
ZALV	Zalesovo Beam	71.00	334	P	P	21 10 09.8	+1.3
	0.4nm,0.5s,mb3.6,baz=107,slow=4.8,SNR=3.3						
ZALV	Zalesovo Beam	71.00	334	P	P	21 10 09.8	+1.3
KURK	Kurchatov	71.91	329	P	P	21 10 18.6	+4.5
	6.1nm,0.9s,mb4.5						
VNDA	Vanda	72.86	173	P	P	21 10 19.9	+0.5
	0.5nm,0.6s,mb3.6,baz=282,slow=5.9,SNR=3.4						
VNDA	Vanda	72.86	173	P	P	21 10 19.9	+0.5
MAW	Mawson	75.05	201	P	P	21 10 33.0	+0.6
	1.5nm,0.6s,mb4.1,baz=93,slow=7.4,SNR=3.6						
MAW	Mawson	75.05	201	P	P	21 10 33.0	+0.6
ILAR	Eielson Array	93.29	25	P	P	21 12 07.7	+2.3
	0.4nm,0.9s,mb3.9,baz=292,slow=4.8,SNR=3.3						
ILAR	Eielson Array	93.29	25	P	P	21 12 07.7	+2.3
TORD	Torodi Ar. Bea	128.15	281	PKP	PKPdf	21 18 00.2	+2.1
	0.3nm,1.0s,baz=74,slow=2.8,SNR=2.6						
TORD	Torodi Ar. Bea	128.15	281	PKP	PKPdf	21 18 00.2	+2.1

NEIC ***01*** *21:02:43.2±1.1, 9.°05S×118.°80E, h89km±11km, mb4.7/11, Error ellipse: s-maj=18.5km s-min=6.9km az=64.0*
DJA ***01*** *21:02:43, 9.°18S×119.°06E, h10km, MLv4.9/19*
ISCJB ***01*** *21:02:44.5±0.5, 9.°08S±0.°05×119.°02E±0.°03, h128km±4km, mb4.5/20, Error ellipse: s-maj=7.9km s-min=5.5km az=10.3*
IDC ***01*** *21:02:44.5±2.2, 8.°92S×118.°96E, h96km±19km, mb3.9/9, mb1 4.0/12, mb1mx3.8/23, mbtmp3.9/12, Error ellipse: s-maj=28.3km s-min=11.7km az=69.0*
ISC 01 21:02:45.7±0.4**, 9.°07S**±0.°05×**119.°01E**±0.°03**, h119**km±4km**, n79,** σ1s**25**/87**, mb4.5**/20**, Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MTNI	Mataram	2.84	279	P	Pn	21 03 29.6	-0.3
MTNI				S	Sn	21 04 05.5	+1.6
MMRI	Maumere	3.22	82	P	Pn	21 03 34.6	-0.3
MMRI				S	Sn	21 04 12.6	-0.2
DNP	Denpasar	3.78	276	P	Pn	21 03 44.8	+2.5
SRBI	Singaraja	3.88	284	P	Pn	21 03 42.6	-1.1
BKSI	Bulukumba	3.89	17	P	Pn	21 03 42.9	-0.9
KAPI	Kappang	4.10	10	P	Pn	21 03 44.8	-1.9
	32nm,0.3s,baz=194,slow=8.5,SNR=44						
KAPI				S	Sn	21 04 28.9	-4.9
	95nm,0.3s,baz=184,slow=21,SNR=18						
KAPI	Kappang	4.10	10	P	Pn	21 03 44.8	-1.9
KAPI				S	Sn	21 04 28.9	-4.9
KAPI	Kappang	4.10	10	P	Pn	21 03 44.2	-2.4
NBBI	Negara	4.40	279	P	Pn	21 03 49.0	-1.6
JAGI	Jajag, Banyuwa	4.84	277	P	Pn	21 03 54.7	-1.9
BBSI	Bau Bau	5.01	45	P	Pn	21 03 58.7	-0.2
	0.5nm2μm136nm,0.8s						
SPSI	Sidrap Palu	5.13	8	P	Pn	21 03 59.8	-0.7
	0.5nm2μm105nm,0.5s						
KMMI	Kalianget	5.38	292	P	Pn	21 04 04.1	+0.2
	0.3nm4μm58nm,0.8s						
MJSI	Majene	5.49	360	P	Pn	21 04 05.5	+0.2
	0.3nm1μm102nm,0.8s						
GMJI	Gumukmas	5.56	278	P	Pn	21 04 03.3	-3.0
	0.8nm3μm99nm,0.8s						
TTSI	Tana Toraja	6.04	8	P	Pn	21 04 14.1	+1.3
	0.3nm598nm59nm,0.8s						
KBKI	Kotabaru	6.39	334	P	Pn	21 04 20.0	+2.4
	0.1nm688nm22nm,0.6s						
KRKI	Karangkates	6.55	277	P	Pn	21 04 20.7	+1.1
	2.2nm209nm,0.5s						
BBKI	Banjar Baru	6.95	323	P	Pn	21 04 27.7	+2.7
	0.5nm138nm,1.0s						
PWJI	Pagerwojo	7.20	278	P	Pn	21 04 27.1	-1.4
	0.5nm53nm,1.1s						
SJI	Sawahan	7.29	280	P	Pn	21 04 32.4	+2.7
	0.8nm4μm56nm,0.5s						
PCJI	Pacitan	7.79	276	P	Pn	21 04 35.8	-0.7
	69nm,1.0s						
PBKI	Pangkalan Bun	9.66	310	P	Pn	21 05 04.1	+2.3
	2μm202nm,1.1s						
NLAI	Namlea	9.91	55	P	Pn	21 05 11.5	+6.3
FITZ	Fitzroy Crossi	11.04	145	P	Pn	21 05 19.6	-0.7
	1.3nm,0.3s,baz=0.0,slow=15,SNR=1.8						
FITZ				S	Sn	21 07 14.4	-7.6
	4.9nm,0.3s,baz=188,slow=21,SNR=8.1						
FITZ	Fitzroy Crossi	11.04	145	P	Pn	21 05 19.6	-0.7
FITZ				S	Sn	21 07 14.4	-7.6
STKI	Sintang	11.78	320	P	Pn	21 05 33.9	+3.9
	4μm12nm,1.1s						
MBWA	Marble Bar	12.04	177	*e*Pn	Pn	21 05 31.4	-2.0
MBWA				*e*S	Sn	21 07 36.9	-9.1
CBJI	Citeko	12.34	281	P	Pn	21 05 44.8	+7.4
PPBI	Pangkal Pinang	14.53	297	P	Pn	21 06 10.3	+4.5
	21nm,0.7s						
LWLI	Liwa	15.37	284	P	Pn	21 06 20.6	+4.2
MEEK	Meekatharra	17.48	181	*e*P	Pn	21 06 45.1	+3.1
MEEK				*e*S	S	21 09 39.2	-18
WRA	Warramunga Arr	18.34	128	P	P	21 06 52.0	+1.0
	0.0nm,0.3s,baz=299,slow=14,SNR=2.4						
WRA				S	S	21 10 05.6	-8.9
	0.7nm,0.3s,baz=301,slow=24,SNR=5.6						
WRA	Warramunga Arr	18.34	128	P	P	21 06 52.0	+1.0
WRA				S	S	21 10 05.6	-8.9
ASAR	Alice Springs	20.34	137	P	P	21 07 14.7	+2.0
	3.9nm,0.9s,baz=325,slow=14,SNR=3.0						
ASAR				S	S	21 10 54.7	+0.6
	1.4nm,0.7s,baz=317,slow=21,SNR=4.6						
ASAR				ScP	ScP	21 14 50.4	+3.5
	1.0nm,0.7s,baz=328,slow=1.8,SNR=4.6						
ASAR	Alice Springs	20.34	137	P	P	21 07 14.7	+2.0
ASAR				S	S	21 10 54.7	+0.6
ASAR				ScP	ScP	21 14 50.4	+3.5
PSI	Prapat	23.24	300	P	P	21 07 41.8	-0.9
	12nm,0.4s,mb4.5,baz=149,slow=8.6,SNR=17						
PSI	Prapat	23.24	300	P	P	21 07 41.8	-0.9
NWAO	Narrogin (SRO)	23.80	184	S	S	21 12 10.4	+16
	5.0nm,0.4s,baz=74,slow=24,SNR=2.9						
STKA	Stephens Creek	30.89	140	P	P	21 08 53.2	+2.2
	1.1nm,0.6s,mb3.8,baz=282,slow=13,SNR=4.2						
STKA	Stephens Creek	30.89	140	P	P	21 08 53.2	+2.2
CMAR	Chiang Mai Arr	33.77	324	P	P	21 09 17.2	+0.9
	0.9nm,0.6s,mb3.8,baz=154,slow=7.0,SNR=9.8						
CMAR				PcP	PcP	21 11 55.2	+2.1
	0.7nm,0.8s,baz=160,slow=2.9,SNR=4.6						
CMAR	Chiang Mai Arr	33.77	324	P	P	21 09 17.2	+0.9
CMAR				PcP	PcP	21 11 55.2	+2.1
LSA	Lhasa	46.96	326	*e*P	P	21 11 05.7	+0.9
	8.7nm,0.6s,mb4.7						
KSRS	Korea Array	47.03	10	P	P	21 11 05.9	+0.8
	0.9nm,0.5s,mb3.8,baz=186,slow=10,SNR=4.7						
GUN	Gumba	48.78	320	*e*P	P	21 11 19.3	+0.5
	28nm,0.7s,mb5.3						
GUN	Gumba	48.78	320	*e*P	P	21 11 19.3	+0.5
	28nm,0.7s,mb5.3						
PKI	Pulchoki	48.84	319	*e*P	P	21 11 19.3	0.0
	5.1nm,0.3s,mb5.0						
PKI	Pulchoki	48.84	319	*e*P	P	21 11 19.6	+0.3
	6.0nm,0.5s,mb4.8						
PKIN	Phulchoki	48.85	319	*e*P	P	21 11 19.6	+0.2
	6.0nm,0.5s,mb4.8						
DMN	Daman	49.06	319	*e*P	P	21 11 20.3	-0.7
DMN	Daman	49.06	319	*e*P	P	21 11 20.3	-0.7
KKN	Kakani	49.08	319	*e*P	P	21 11 21.0	-0.1
KKN	Kakani	49.08	319	*e*P	P	21 11 21.0	-0.1
GKN	Gorkha	49.64	319	*e*P	P	21 11 24.3	-1.1
	8.0nm,0.3s,mb5.2						
GKN	Gorkha	49.64	319	*e*P	P	21 11 24.3	-1.1
	8.0nm,0.3s,mb5.1						
KOLN	Koldanda	50.16	318	*e*P	P	21 11 27.7	-1.6
	4.1nm,0.3s,mb4.9						
KOLN	Koldanda	50.16	318	*e*P	P	21 11 27.7	-1.6
	4.1nm,0.3s,mb4.8						
DANN	Dangsing	50.44	319	*e*P	P	21 11 31.2	-0.2
	25nm,0.4s,mb5.5						
DANN	Dangsing	50.44	319	*e*P	P	21 11 31.2	-0.2
	25nm,0.4s,mb5.5						
SONM	Songino Array	57.75	350	P	P	21 12 24.6	+0.5
	6.2nm,0.7s,mb4.8,baz=166,slow=8.9,SNR=46						
SONM	Songino Array	57.75	350	P	P	21 12 24.6	+0.5
KBL	Kabul	64.15	315	*e*P	P	21 13 06.2	-1.5
	4.3nm,0.7s,mb4.4						
MK31	Makanchi Array	64.53	333	*e*P	P	21 13 09.9	+0.1
MKAR	Makanchi Array	64.53	333	P	P	21 13 09.7	-0.2
	6.0nm,0.6s,mb4.6,baz=144,slow=7.4,SNR=49						
MKAR	Makanchi Array	64.53	333	P	P	21 13 09.7	-0.2
AAK	Ala-Archa	65.54	325	*e*P	P	21 13 16.8	+0.2
	3.2nm,0.9s,mb4.2						
EKS2	Erkin-Say	65.97	325	*e*P	P	21 13 19.2	0.0
	4.0nm,1.0s,mb4.2						
KURK	Kurchatov	69.06	334	*e*P	P	21 13 38.3	-0.2
	1.9nm,0.7s,mb4.0						
ZAA0	Zalesovo Array	69.11	339	*e*P	P	21 13 37.9	-0.9
ZALV	Zalesovo Beam	69.11	339	P	P	21 13 37.9	-0.8
	3.2nm,0.5s,mb4.4,baz=144,slow=5.2,SNR=20						
ZALV	Zalesovo Beam	69.11	339	P	P	21 13 37.9	-0.8
VNDA	Vanda	71.92	171	P	P	21 13 59.2	+3.6
	0.7nm,0.6s,mb3.7,baz=341,slow=7.4,SNR=6.7						
VNDA	Vanda	71.92	171	P	P	21 13 59.2	+3.6
ABKAR	Akbulak array	77.63	325	*e*P	P	21 14 28.5	-0.3
	2.3nm,0.6s,mb4.1						
TORD	Torodi Ar. Bea	118.48	280	PKP	PKPdf	21 21 21.5	+1.1
	0.5nm,0.5s,baz=61,slow=1.9,SNR=17						
TORD	Torodi Ar. Bea	118.48	280	PKP	PKPdf	21 21 21.5	+1.1
CPUP	Villa Florida	144.63	186	PKP	PKPdf	21 22 10.8	+1.7
	1.2nm,0.5s,baz=167,slow=0.8,SNR=5.5						
CPUP	Villa Florida	144.63	186	PKP	PKPdf	21 22 10.8	+1.7

ISCJB ***01*** *21:06:49.0±1.2, 4.°9S±0.°2×106.°1W±0.°2, h10km, mb4.0/10, MS3.8/17, Error ellipse: s-maj=36.7km s-min=15.4km az=150.6*
IDC ***01*** *21:06:49.9±1.2, 4.°83S×105.°92W, h0km, mb3.8/8, mb1 4.2/8, mb1mx4.1/16, mbtmp3.8/8, MS3.8/17, Ms1 3.8/17, ms1mx3.7/28, Error ellipse: s-maj=50.3km s-min=20.9km az=64.0*
NEIC ***01*** *21:06:51.5±0.9, 4.°85S×105.°98W, h10km, mb4.3/2, Error ellipse: s-maj=29.6km s-min=14.6km az=62.0*
ISC 01 21:06:51.1±1.2**, 4.°9S**±0.°2×**106.°1W**±0.°2**, h10**km**, n36,** σ0s**83**/18**, mb4.0**/10**, MS3.8**/17**, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	24.48	27	LR	LR	21 18 59.0	
	comp=Z,106nm,21.9s,MS3.3,baz=198,slow=30						
JTS	JuntasAbangare	25.87	54	LR	LR	21 19 34.5	
	comp=Z,504nm,20.7s,MS4.0,baz=263,slow=30						
ATAH	Atahualpa	27.59	96	LR	LR	21 21 12.1	
	comp=Z,91nm,18.6s,MS3.4,baz=94,slow=31						
NNA	Nana	29.71	106	LR	LR	21 22 36.2	
	comp=Z,116nm,18.4s,MS3.5,baz=333,slow=32						
TEIG	Tepich	30.47	34	LR	LR	21 23 20.9	
	comp=Z,231nm,18.5s,MS3.9,baz=188,slow=33						
RKT	Rikitea	33.28	234	*e*LR	LR	21 22 38.8	
	362nm,27.0s,baz=53						
RKT				*e*T		21 48 53.9	
	2.9nm,0.4s						
TAOE	Nuku Hiva Isla	34.07	261	*e*LR	LR	21 22 30.2	
	272nm,26.2s						
TXAR	Lajitas Array	34.12	4	P	P	21 13 36.8	+0.6
	0.3nm,0.7s,mb3.3,baz=185,slow=16,SNR=3.5						
TXAR				LR	LR	21 24 54.9	
	comp=Z,141nm,18.3s,MS3.7,baz=120,slow=32						
TXAR	Lajitas Array	34.12	4	P	P	21 13 36.8	+0.6
TXAR				LR	LR	21 24 54.9	
SDV	Santo Domingo	37.87	69	*e*P	P	21 14 09.4	+0.8
	5.9nm,0.8s,mb4.4						
LPAZ	La Paz	38.87	110	LR	LR	21 26 12.7	
	comp=Z,117nm,21.9s,MS3.7,baz=224,slow=30						
ANMO	Albuquerque	39.64	359	LR	LR	21 29 32.3	
	comp=Z,67nm,18.2s,MS3.5,baz=190,slow=34						
PLAL	Pickwick Lake	43.13	22	*e*P	P	21 14 51.3	-0.6
	6.3nm,1.0s,mb4.3						
PPT	Papeete	44.39	250	*e*LR	LR	21 27 40.6	
	320nm,26.2s,baz=81						
PPT	Papeete	44.39	250	LR	LR	21 28 22.8	
	comp=Z,213nm,18.8s,MS4.1,baz=173,slow=29						
NVAR	Mina Array Bea	44.59	346	P	P	21 15 04.9	+1.4
	1.2nm,1.0s,mb3.7,baz=173,slow=8.2,SNR=5.5						
NVAR				LR	LR	21 29 30.0	
	comp=Z,142nm,20.9s,MS3.9,baz=122,slow=31						
NVAR	Mina Array Bea	44.59	346	P	P	21 15 04.9	+1.4
NVAR				LR	LR	21 29 30.0	
TKL	Tuckaleechee C	45.45	26	P	P	21 15 09.3	-1.0
	2.8nm,0.9s,mb4.1,baz=162,slow=6.4,SNR=2.4						
TKL				LR	LR	21 34 01.5	
	comp=Z,67nm,18.4s,MS3.6,baz=274,slow=36						
TKL	Tuckaleechee C	45.45	26	P	P	21 15 09.3	-1.0
TKL				LR	LR	21 34 01.5	
TBI	Tubuai	45.68	242	*e*LR	LR	21 28 28.1	
	207nm,26.0s						
PDAR	Pinedale Array	47.55	356	P	P	21 15 26.2	-0.5
	0.3nm,0.6s,mb3.5,baz=184,slow=7.1,SNR=2.3						
PDAR	Pinedale Array	47.55	356	P	P	21 15 26.2	-0.5
PLCA	Paso Flores	47.81	143	P	P	21 15 28.9	0.0
	3.1nm,1.0s,mb4.3,baz=305,slow=13,SNR=3.0						
PLCA				LR	LR	21 30 23.1	
	comp=Z,269nm,19.1s,MS4.2,baz=301,slow=30						
PLCA	Paso Flores	47.81	143	P	P	21 15 28.9	0.0
PLCA				LR	LR	21 30 23.1	
YBH	Yreka Blue Hor	48.84	343	P	P	21 15 37.4	+0.7
	2.2nm,0.8s,mb4.2,baz=132,slow=12,SNR=2.6						
YBH	Yreka Blue Hor	48.84	343	P	P	21 15 37.4	+0.7
CPUP	Villa Florida	51.14	120	P	P	21 15 54.6	0.0
	3.1nm,0.8s,mb4.3,baz=307,slow=10,SNR=2.7						
CPUP				LR	LR	21 34 30.4	
	comp=Z,98nm,19.4s,MS3.8,baz=28,slow=32						
CPUP	Villa Florida	51.14	120	P	P	21 15 54.6	0.0
CPUP				LR	LR	21 34 30.4	
ULM	Lac du Bonnet	55.63	8	LR	LR	21 38 55.8	
	comp=Z,109nm,19.1s,MS4.0,baz=18,slow=35						
YKA	Yellowknife Ar	67.53	356	LR	LR	21 44 53.3	
	comp=Z,7.6nm,18.5s,MS3.0,baz=55,slow=34						
KDAK	Kodiak Island	72.81	336	LR	LR	21 41 48.7	
	comp=Z,184nm,20.6s,MS4.3,baz=104,slow=29						
ILAR	Eielson Array	75.74	343	P	P	21 18 35.2	-1.4
	0.7nm,0.9s,mb3.6,baz=156,slow=6.0,SNR=6.5						
ILAR	Eielson Array	75.74	343	P	P	21 18 35.2	-1.4
PETK	Petropavlovsk-	97.65	323	LR	LR	21 55 26.1	
	comp=Z,45nm,18.3s,MS4.0,baz=231,slow=30						
CMAR	Chiang Mai Arr	152.12	301	PKP	PKPdf	21 26 42.9	+1.7
	0.7nm,0.9s,baz=288,slow=0.6,SNR=3.4						
CMAR				PKPbc	PKPbc	21 26 48.3	+0.4
	0.5nm,0.9s,baz=291,slow=1.1,SNR=4.9						
CMAR	Chiang Mai Arr	152.12	301	PKP	PKPdf	21 26 42.9	+1.7
CMAR				PKPbc	PKPbc	21 26 48.3	+0.4

TIR ***01*** *21:07:14.2±1.7, 41.°28N×20.°30E, h1km±6km, ML2.8*
SKO ***01*** *21:07:17.6, 41.°36N×20.°27E, h8km*
ISCJB ***01*** *21:07:18.8±0.6, 41.°25N±0.°04×20.°36E±0.°05, h10km, Error ellipse: s-maj=7.3km s-min=4.1km az=41.0*
CSEM ***01*** *21:07:18.4±0.4, 41.°26N×20.°36E, h0km±5km, ML2.8, Error ellipse: s-maj=9.8km s-min=6.4km az=43.0*
ISC 01 21:07:19.2±0.6**, 41.°27N**±0.°04×**20.°36E**±0.°05**, h10**km**, n14,** σ1s**23**/25**, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIR	Tirane	0.38	282	*i* PG	Pg	21 07 25.5	-1.3
TIR				*i* SG	Sg	21 07 32.0	+0.1
TIR	Tirane	0.38	282	*i* Pg	Pg	21 07 25.5	-1.3
TIR				*i* Sg	Sg	21 07 32.0	+0.1
KRUS	Krusevo	0.67	81	*e*Pg	Pg	21 07 30.9	-1.4
KRUS	Krusevo	0.67	81	*e*Pg	Pg	21 07 30.8	-1.5
KBN	Korca	0.72	153	*i* PG	Pg	21 07 32.0	-1.1
KBN				*i* SG	Sg	21 07 43.4	+0.9
KBN	Korca	0.72	153	*i* Pg	Pg	21 07 32.0	-1.1
KBN				*i* Sg	Sg	21 07 43.4	+0.9
BIA	Bitola	0.77	109	*e*Pg	Pg	21 07 33.0	-1.0
BIA				*e*Sg	Sg	21 07 45.4	+1.4
BIA				*e*Lg		21 07 48.4	
	comp=E,25nm,0.2s						
BIA				*e*Lg		21 07 48.5	
	comp=N,25nm,0.3s						
BIA	Bitola	0.77	109	*e*Pg	Pg	21 07 33.0	-1.0
BIA				*e*Sg	Sg	21 07 45.4	+1.4
PUK	Puka	0.85	336	*i* PG	Pg	21 07 35.6	0.0
PUK				*i* SG	Sg	21 07 50.3	+3.6
PUK	Puka	0.85	336	*i* Pg	Pg	21 07 35.6	0.0
BCI	Bajram Curri	1.12	349	*i* PN	Pn	21 07 40.9	0.0
BCI				*i* SN	Sn	21 08 00.2	+3.8
BCI	Bajram Curri	1.12	349	*i* Pn	Pn	21 07 40.9	0.0
BCI				*i* Sn	Sn	21 08 00.2	+3.8
SRN	Sarande	1.41	191	*e*PN	Pn	21 07 44.2	-0.8
SRN				*i* SN	Sn	21 08 06.3	+2.7
SRN	Sarande	1.41	191	*e*Pn	Pn	21 07 44.2	-0.8
SRN				*i* Sn	Sn	21 08 06.3	+2.7

ISCJB ***01*** *21:10:32.9±0.5, 54.°4N±0.°2×165.°7W±0.°1, h109km±7km, mb3.7/10, Error ellipse: s-maj=28.7km s-min=6.7km az=153.3*
IDC ***01*** *21:10:33.5±3.8, 54.°44N×165.°63W, h96km±31km, mb3.5/11, mb1 3.6/13, mb1mx3.4/30, mbtmp3.5/13, Error ellipse: s-maj=36.1km s-min=19.0km az=176.0*
NEIC ***01*** *21:10:35.4, 54.°08N×165.°58W, h102km, MG3.5(AEIC), After AEIC.*
ISC 01 21:10:34.1±0.5**, 54.°4N**±0.°2×**165.°8W**±0.°1**, h101**km±8km**, n39,** σ0s**84**/43**, mb3.7**/10**, 1D, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKUT	Akutan	0.30	181	*e*Pg	Pn	21 10 48.7	-0.1
AKUT				*e*S	Sn	21 10 59.8	0.0
UNV	Unalaska Valle	0.73	217	*e*Pn	Pn	21 10 51.0	-0.9
UNV				*e*S	Sn	21 11 04.9	-0.3
FALS	False Pass	1.43	72	*e*Pn	Pn	21 11 01.0	+1.5
FALS				*e*S	Sn	21 11 19.9	+1.1
NIKO	Nikolski	2.35	233	P	Pn	21 11 11.1	-0.1
SDPT	Sand Point	3.19	71	*e*Pn	Pn	21 11 23.3	+1.1
CHGN	Chignik	4.59	63	*e*Pn	Pn	21 11 42.0	+0.8
CHGN				*e*S	Sn	21 12 33.9	+0.7
OHAK	Old Harbor	7.56	63	*e*Pn	Pn	21 12 18.6	-2.8
OHAK				*e*S	Sn	21 13 39.2	-6.1
KDAK	Kodiak Island	8.09	60	P	Pn	21 12 27.9	-0.8
	0.7nm,0.3s,baz=81,slow=20,SNR=23						
KDAK				S	Sn	21 13 54.9	-3.4
	0.6nm,0.3s,baz=123,slow=21,SNR=7.0						
KDAK	Kodiak Island	8.09	60	P	Pn	21 12 27.9	-0.8
KDAK				S	Sn	21 13 54.9	-3.4
SEW	Seward	10.49	51	*e*Pn	Pn	21 13 00.6	-0.5
SEW				*e*S	Sn	21 14 47.4	-9.0
ILAR	Eielson Array	14.02	35	P	Pn	21 13 47.0	-0.9
	0.1nm,0.3s,baz=226,slow=12,SNR=4.3						
ILAR	Eielson Array	14.02	35	P	Pn	21 13 47.0	-0.9
INK	Inuvik	20.43	35	P	P	21 15 02.0	-0.8
	1.9nm,0.4s,baz=272,slow=14,SNR=7.7						
INK	Inuvik	20.43	35	P	P	21 15 02.0	-0.8
PETK	Petropavlovsk-	21.48	281	P	P	21 15 14.9	+0.7
	1.2nm,0.4s,mb3.6,baz=86,slow=13,SNR=5.3						
PETK	Petropavlovsk-	21.48	281	P	P	21 15 14.9	+0.7
YKA	Yellowknife Ar	27.26	52	P	P	21 16 08.3	0.0
	0.9nm,0.6s,mb3.5,baz=274,slow=8.0,SNR=4.7						
YKA	Yellowknife Ar	27.26	52	P	P	21 16 08.3	0.0
TXAR	Lajitas Array	50.63	93	P	P	21 19 22.4	-0.2
	0.1nm,0.4s,mb3.2,baz=313,slow=6.8,SNR=2.6						
TXAR	Lajitas Array	50.63	93	P	P	21 19 22.4	-0.2
SONM	Songino Array	52.08	301	P	P	21 19 34.1	+0.9
	0.3nm,0.7s,mb3.4,baz=62,slow=6.7,SNR=2.3						
SONM				PcP	PcP	21 20 43.9	+0.2
	0.5nm,0.5s,baz=66,slow=2.8,SNR=5.0						
SONM	Songino Array	52.08	301	P	P	21 19 34.1	+0.9
SONM				PcP	PcP	21 20 43.9	+0.2
ARCES	ARCESS Array B	56.07	355	P	P	21 20 02.0	+0.3
	5.8nm,1.0s,mb4.6,baz=19,slow=8.8,SNR=3.6						
ARCES	ARCESS Array B	56.07	355	P	P	21 20 02.0	+0.3
BVAR	Borovoye Array	63.24	326	P	P	21 20 51.2	0.0
	0.5nm,0.7s,mb3.6,baz=298,slow=37,SNR=3.0						
BVAR	Borovoye Array	63.24	326	P	P	21 20 51.2	0.0
FINES	FINESS Array B	64.09	354	P	P	21 20 56.7	0.0
	1.2nm,0.3s,mb4.2,baz=2.7,slow=7.4,SNR=23						
FINES	FINESS Array B	64.09	354	P	P	21 20 56.7	0.0
NOA	NORSAR Array B	64.85	2	P	P	21 21 02.0	+0.4
	0.6nm,0.5s,mb3.7,baz=360,slow=5.9,SNR=3.0						
NOA	NORSAR Array B	64.85	2	P	P	21 21 02.0	+0.4
PVCP	Virac	67.47	262	⇓*i*P	P	21 21 00.4	-19
AKASG	Malin Array Be	74.49	350	P	P	21 22 00.2	-0.7
	1.7nm,0.5s,mb4.0,baz=15,slow=6.0,SNR=3.3						
AKASG	Malin Array Be	74.49	350	P	P	21 22 00.2	-0.7
BRTR	Keskin Array B	84.74	345	P	P	21 22 57.1	+0.6
	0.3nm,0.4s,mb3.6,baz=38,slow=8.2,SNR=4.8						
BRTR	Keskin Array B	84.74	345	P	P	21 22 57.1	+0.6
QSPA	South Pole Qui	144.20	180	PKP	PKPdf	21 29 53.6	-2.3
	0.3nm,0.5s,baz=136,slow=1.1,SNR=3.5						
QSPA	South Pole Qui	144.20	180	PKP	PKPdf	21 29 53.6	-2.3
LBTB	Lobatse	149.42	339	PKPbc	PKPbc	21 30 11.3	+0.4
	2.3nm,0.5s,baz=69,slow=18,SNR=10						
LBTB	Lobatse	149.42	339	PKPbc	PKPbc	21 30 11.3	+0.4

DDA ***01*** *21:10:57.7, 37.°50N×35.°73E, h7km±6km, Md3.2*
ISCJB ***01*** *21:10:58.3±0.6, 37.°49N±0.°04×35.°69E±0.°04, h10km±5km, Error ellipse: s-maj=6.5km s-min=5.2km az=136.1*
CSEM ***01*** *21:10:58.3±0.3, 37.°51N×35.°72E, h10km, MD2.4, Error ellipse: s-maj=6.0km s-min=5.3km az=132.0*
ISK ***01*** *21:10:58.0, 37.°55N×35.°82E, h11km, MD2.4*
ISC 01 21:10:58.5±0.6**, 37.°50N**±0.°04×**35.°70E**±0.°04**, h9**km±6km**, n20,** σ0s**91**/33**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOZT	Kozan	0.11	101	*e*PG	Pg	21 11 00.5	-0.5
KOZT				*e*SG	Sg	21 11 02.7	-0.2
CEYT	Ceyhan	0.49	175	*e*PG	Pg	21 11 09.1	+1.1
CEYT	Ceyhan	0.49	175	*e*Pg	Pg	21 11 09.1	+1.1
ANDN	Andirin	0.52	81	*i* P	Pg	21 11 08.7	+0.1
ANDN				*i* S	Sg	21 11 17.3	+1.8
ANDN	Andirin	0.52	81	*i* P	Pg	21 11 08.7	+0.1
ANDN				*i* S	Sg	21 11 17.3	+1.8
GULE	Gulek	0.76	254	*i* P	Pg	21 11 12.9	-0.2
GULE				*i* S	Sg	21 11 23.5	+0.4
GULE	Gulek	0.76	254	*i* P	Pg	21 11 12.9	-0.3
GULE				*i* S	Sg	21 11 23.5	+0.4
KMRS	Kahramanmaras	0.96	89	*e*PG	Pg	21 11 15.0	-1.8
KMRS	Kahramanmaras	0.96	89	*e*Pg	Pg	21 11 15.0	-1.9
KRTS	Karatas	0.96	196	*e*PG	Pg	21 11 18.4	+1.5
KRTS	Karatas	0.96	196	*e*Pg	Pg	21 11 18.5	+1.6
COBT	Iskenderun	1.08	155	*e*P	Pg	21 11 17.9	-1.2
COBT				*e*S	Sg	21 11 32.2	-0.9
COBT	Iskenderun	1.08	155	*e*P	Pg	21 11 18.0	-1.1
COBT				*e*S	Sg	21 11 32.2	-0.9
PINB	Pinarbasi	1.30	25	*e*P	Pn	21 11 22.8	+0.1
PINB				*e*S	Sb	21 11 40.0	+0.2
PINB	Pinarbasi	1.30	25	*e*P	Pn	21 11 22.8	+0.1
PINB				*e*S	Sb	21 11 40.0	+0.2
SARI	SarD1z-Kayseri	1.42	34	*e*PG	Pg	21 11 17.2	-8.4
AVNT	Avonos	1.44	333	*e*P	Pn	21 11 24.7	+0.1
AVNT				*e*S	Sn	21 11 42.8	-0.9
AVNT	Avonos	1.44	333	*e*P	Pn	21 11 24.7	+0.1
AVNT				*e*S	Sn	21 11 42.8	-0.8
AKCD	Akcadag	1.93	65	*e*P	Pn	21 11 31.0	-0.5
AKCD				*e*S	Sn	21 11 56.7	+0.9
AKCD	Akcadag	1.93	65	*e*P	Pn	21 11 31.0	-0.4
AKCD				*e*S	Sn	21 11 56.7	+0.9

NIED ***01*** *21:17:00, 45.°10N×150.°70E, h29km, Mw4.1 Best double couple: M0 1.52000×10^15 NP1:φs62.00000°, δ81.00000°, λ103.00000°. NP2:φs186.00000°, δ16.00000°, λ35.00000°.*
IDC ***01*** *21:17:53.0±0.6, 44.°97N×150.°73E, h0km, mb4.0/18, mb1 4.2/22, mb1mx4.1/30, mbtmp4.0/22, ML3.5/4, MS3.1/4, Ms1 3.2/4, ms1mx2.7/45, Error ellipse: s-maj=17.8km s-min=14.1km az=149.0*
BJI ***01*** *21:17:54.8, 45.°22N×151.°28E, h32km, mB4.6/8, mb4.5/11, Ms4.1/1, Ms7 3.7/1*
NEIC ***01*** *21:17:55.5±2.5, 44.°96N×150.°81E, h15km±15km, mb4.6/20, Error ellipse: s-maj=10.0km s-min=5.7km az=149.0*
ISCJB ***01*** *21:17:56.1±0.8, 44.°65N±0.°06×150.°81E±0.°06, h37km±6km, mb4.4/58, MS3.4/3, Error ellipse: s-maj=10.1km s-min=5.9km az=153.2*
JMA ***01*** *21:17:56.6±0.4, 45.°14N×150.°75E, h30km, M4.6*
MOS ***01*** *21:17:57.9±0.9, 44.°95N×150.°70E, h43km, mb4.7/21, Error ellipse: s-maj=9.6km s-min=7.8km az=133.6*
ISC 01 21:17:58.3±0.7**, 44.°74N**±0.°06×**150.°81E**±0.°06**, h38**km±5km**, n223,** σ1s**06**/234**, mb4.4**/58**, MS3.4**/3**, 8C-3D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.14	284	*e*PN	Pn	21 18 30.0	-1.5
KUR				*e*S	Sn	21 18 57.5	+0.6
KUR				pmax	pmax		
	comp=Z,460nm,0.6s						
KUR				pmax	pmax		
	comp=N,380nm,0.5s						
KUR				pmax	pmax		
	comp=E,270nm,0.5s						
KUR				smax			

comp=N,2µm,2.0s
KUR smax
comp=E,3.0nm,2.0s
KUR smax
comp=N,1µm,0.5s
KUR smax
comp=E,450nm,0.7s
YUK Yuzh-Kuril'sk 3.62 260⇑ *i*PN **Pn 21 18 53.7 +2.0**
YUK *i* S **Sn 21 19 32.0 -1.1**
YUK pmax pmax
comp=Z,80nm,0.3s
YUK pmax pmax
comp=N,69nm,0.3s
YUK pmax pmax
comp=Z,293nm,0.3s
YUK pmax pmax
comp=E,51nm,0.3s
YUK smax
comp=N,229nm,0.6s
YUK smax
comp=E,626nm,0.6s
YUK smax
comp=N,285µm,0.4s
YUK smax
comp=E,265µm,0.4s
YUK MLR MLR
comp=Z,160nm,15.0s
YUK MLR MLR
comp=E,240nm,14.0s
NEM2 Nemuro 2 3.90 251 P Pn 21 18 54.9 -0.8
NEM2 *e*S **Sn 21 19 38.7 -1.5**
JRA Rausu 4.16 261 P Pn 21 19 00.2 +1.0
JRA *e*S **Sn 21 19 47.1 +0.6**
JNK Nakash 4.53 257 P Pn 21 19 04.4 +0.1
JNK *e*S **Sn 21 19 55.4 -0.3**
JAK Akkeshi 4.75 251 P Pn 21 19 06.9 -0.4
JAK *e*S **Sn 21 19 58.4 -2.7**
JTKR Abashiri--Toko 5.01 264 P Pn 21 19 12.2 +1.3
JAR Ashorobuto 5.28 257 P Pn 21 19 15.5 +0.9
JAR *e*S **Sn 21 20 16.1 +2.0**
JOB Onbets 5.37 252 P Pn 21 19 15.8 0.0
JOB *e*S **Sn 21 20 14.6 -1.8**
JMP Maruseppu 5.39 265 P Pn 21 19 17.6 +1.5
JCH Churui 5.80 251 P Pn 21 19 21.6 -0.2
JCH *e*S **Sn 21 20 25.9 -1.1**
JKK2 Kamakawa 2 5.85 264 P Pn 21 19 24.2 +1.8
JSE Soyaes 5.85 275 P Pn 21 19 23.5 +1.1
ASAJ Asahikawa 5.91 267 Pn **Pn 21 19 25.2 +1.9**
comp=E,4.6nm,0.3s,baz=74,slow=20,SNR=35
ASAJ LR LR 21 21 47.8
comp=E,182nm,21.6s,baz=159,slow=40
ASAJ Asahikawa 5.91 267 *e*Pn **Pn 21 19 25.3 +2.0**
ASAJ Asahikawa 5.91 267 PN **Pn 21 19 25.2 +1.9**
ASAJ pmax pmax
comp=Z,5.0nm,0.3s
ASAJ MLR MLR
comp=Z,182nm,21.6s
ASAJ Asahikawa 5.91 267 P Pn 21 19 25.2 +1.9
YSS Yuzh-Sakhalins 6.04 294 *e*Pn **Pn 21 19 23.6 -1.5**
YSS Yuzh-Sakhalins 6.04 294 *e*PN **Pn 21 19 25.0 -0.1**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,500nm,17.0s
JFR Furan 6.14 258 P Pn 21 19 27.9 +1.5
ERM Erimo 6.21 247 *e*Pn **Pn 21 19 29.2 +1.9**
ERM Erimo 6.21 247 *c*ePN **Pn 21 19 29.2 +1.9**
JEM Erimo 6.21 247 P Pn 21 19 28.8 +1.5
JWK2 Keihoku 6.34 278 P Pn 21 19 32.3 +3.1
JBT2 Biratori 2 6.42 255 P Pn 21 19 30.2 -0.1
SKR Severo-Kuril's 6.94 29 *e*PN **Pn 21 19 37.2 -0.1**
SKR pmax pmax
comp=N,30nm,0.5s
SKR pmax pmax
comp=Z,50nm,0.5s
SKR MLR MLR
comp=E,2µm,14.0s
JEW Eniwo 7.03 258 P Pn 21 19 40.0 +1.3
JNB Noboribetsu 7.45 256 P Pn 21 19 44.4 +0.1
JNB *e*S **Sn 21 21 06.1 -1.4**
JKB Kayabe 7.68 252 P Pn 21 19 46.9 -0.6
JKB *e*S **Sn 21 21 08.6 -4.6**
JYM2 Yakumo 2 8.04 255 P Pn 21 19 52.5 +0.1
JANG Nango 8.13 241 P Pn 21 19 52.3 -1.4
JANG *e*S **Sn 21 21 17.9 -6.4**
JTH Tanohata 8.18 237 P Pn 21 19 52.7 -1.7
JTH *e*S **Sn 21 21 18.1 -7.4**
JTM Tenmabayashi 8.18 245 P Pn 21 19 53.6 -0.8
JTM *e*S **Sn 21 21 20.3 -5.3**
JOSM Okushiri--Mats 8.67 256 P Pn 21 20 01.1 0.0
OFUJ Ofunato 8.85 233 P Pn 21 20 01.8 -1.8
OFUJ *e*S **Sn 21 21 36.0 -6.0**
JRG Rokugo 9.26 238 P Pn 21 20 08.9 -0.3
JIO Ouri 9.46 232 P Pn 21 20 09.9 -2.1
PETK Petropavlovsk- 9.52 26 Pn **Pn 21 20 07.8 -4.9**
comp=E,0.4nm,0.3s,baz=203,slow=17,SNR=4.3
PETK LR LR 21 23 45.7
comp=E,80nm,18.6s,baz=38,slow=38
PETK Petropavlovsk- 9.52 26 Pn **Pn 21 20 07.8 -4.9**
PETK LR LR 21 23 45.7
PETK Petropavlovsk- 9.52 26 PN **Pn 21 20 07.8 -4.9**
JFY Yanaizu 11.12 233 P Pn 21 20 34.7 0.0
MAJO Matsushiro 12.58 234 Pn **Pn 21 20 54.5 -0.2**
MAJO Matsushiro 12.58 234 PN **Pn 21 20 54.5 -0.2**
MJAR Matsushiro Arr 12.58 234 Pn **Pn 21 20 53.2 -1.4**
comp=E,0.3nm,0.3s,baz=31,slow=12,SNR=8.5
MJAR Matsushiro Arr 12.58 234 Pn **Pn 21 20 53.2 -1.4**
MJAR Matsushiro Arr 12.58 234 PN **Pn 21 20 53.2 -1.5**
KLR Kul'dur 13.75 296 *e*P **Pn 21 21 11.8 +1.2**
FX1 Attu Island--F 16.78 53 Pn **Pn 21 21 49.0 -1.1**
comp=E,0.5nm,0.3s,baz=259,slow=16,SNR=3.4
FX1 Attu Island--F 16.78 53 Pn **Pn 21 21 49.0 -1.1**
FX1 Attu Island--F 16.78 53 P **Pn 21 21 49.0 -1.1**
KSRS Korea Array 18.68 255 P **Pn 21 22 14.6 +0.9**
comp=E,0.2nm,0.3s,baz=62,slow=11,SNR=5.4
KSRS Korea Array 18.68 255 P **Pn 21 22 14.6 +0.9**
YAK Yakutsk 21.24 332 *e*Pn **P 21 22 33.8 -6.9**
comp=E,44nm,1.0s,mb4.7
YAK Yakutsk 21.24 332 *e*P **P 21 22 44.8 +4.1**
YAK pmax pmax
comp=Z,35nm,0.9s,mb4.7
YAK pmax pmax
comp=N,14nm,1.0s
YAK pmax pmax
comp=E,13nm,1.2s
HIA Hailar 21.58 293 *e*P **P 21 22 41.6 -2.8**
comp=E,4.7nm,0.5s,mb4.2
HIA Hailar 21.58 293 *e*P **P 21 22 41.6 -2.8**
HIA pmax pmax
comp=Z,5.0nm,0.5s
ULN Ulaanbaatar 30.09 292 *e*P **P 21 24 03.7 -0.1**
comp=Z,3.2nm,0.8s,mb4.1
ULN Ulaanbaatar 30.09 292 *e*P **P 21 24 03.7 -0.1**
ULN pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
SONM Songino Array 30.53 292 P **P 21 24 07.0 -0.7**
comp=Z,1.5nm,0.7s,mb4.0,baz=84,slow=8.3,SNR=13
SONM Songino Array 30.53 292 P **P 21 24 07.0 -0.7**
SONM Songino Array 30.53 292 P **P 21 24 07.0 -0.7**
GTA Gaotai 37.71 280 *e*P **P 21 25 10.7 +0.7**
GTA pP pP 21 25 18.7 -2.1
GTA sP sP 21 25 23.2 -2.2
GTA pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
GTA pmax pmax
comp=Z,67nm,6.2s
GTA LR LR
comp=N,130nm,14.2s,MS4.0
GTA LR LR
comp=E,94nm,14.7s,MS4.0
GTA LR LR
comp=Z,71nm,13.3s,MS3.6
ILAR Eielson Array 39.12 37 P **P 21 25 20.9 -0.7**
comp=Z,0.7nm,0.6s,mb3.6,baz=262,slow=7.5,SNR=16
ILAR Eielson Array 39.12 37 P **P 21 25 20.9 -0.7**
ILAR Eielson Array 39.12 37 P **P 21 25 20.9 -0.7**
ZALV Zalesovo Beam 42.50 307 P **P 21 25 46.9 -2.6**
comp=Z,0.6nm,0.4s,mb3.7,baz=63,slow=7.4,SNR=5.2
ZALV PcP PcP 21 27 42.0 +0.5
comp=Z,0.5nm,0.5s,baz=85,slow=5.3,SNR=3.3
ZALV LR LR 21 44 46.7
comp=Z,27nm,19.0s,MS3.1,baz=15,slow=38
ZALV Zalesovo Beam 42.50 307 P **P 21 25 46.9 -2.6**
ZALV PcP PcP 21 27 42.0 +0.5
ZALV LR LR 21 44 46.7
ZALV Zalesovo Beam 42.50 307 P **P 21 25 46.9 -2.6**
ZALV 21 27 42.1
INK Inuvik 44.21 31 P **P 21 26 03.3 +0.2**
comp=Z,1.4nm,0.5s,mb4.0,baz=301,slow=8.9,SNR=3.9
INK Inuvik 44.21 31 P **P 21 26 03.3 +0.2**
INK Inuvik 44.21 31 P **P 21 26 03.3 +0.2**
MK31 Makanchi Array 46.45 298 *e*P **P 21 26 21.0 -0.1**
MK31 Makanchi Array 46.45 298 *e*P **P 21 26 21.0 -0.1**
MKAR Makanchi Array 46.45 298 P **P 21 26 20.9 -0.2**
comp=Z,3.9nm,0.6s,mb4.5,baz=72,slow=7.7,SNR=45
MKAR PcP PcP 21 27 56.3 +1.1
comp=Z,0.3nm,0.2s,baz=70,slow=5.4,SNR=2.4
MKAR Makanchi Array 46.45 298 P **P 21 26 20.9 -0.2**
MKAR PcP PcP 21 27 56.3 +1.1
MKAR Makanchi Array 46.45 298 P **P 21 26 20.9 -0.2**
MKAR 21 27 56.3
KURK Kurchatov 47.15 304 P **P 21 26 25.3 -1.2**
comp=Z,3.6nm,0.5s,mb4.5,baz=71,slow=8.8,SNR=24
KURK Kurchatov 47.15 304 P **P 21 26 25.3 -1.2**
KURK Kurchatov 47.15 304 *de*P **P 21 26 24.8 -1.7**
CMAR Chiang Mai Arr 50.32 256 P **P 21 26 53.0 +1.7**
comp=Z,0.6nm,0.6s,mb3.8,baz=36,slow=7.5,SNR=5.1
CMAR LR LR 21 50 16.4
comp=Z,26nm,18.4s,MS3.3,baz=185,slow=39
CMAR Chiang Mai Arr 50.32 256 P **P 21 26 53.0 +1.7**
CMAR LR LR 21 50 16.4
CMAR Chiang Mai Arr 50.32 256 P **P 21 26 53.0 +1.7**
BVAR Borovoye Array 50.90 310 P **P 21 26 53.7 -1.5**
comp=Z,0.8nm,0.5s,mb3.9,baz=40,slow=12,SNR=7.0
BVAR PcP PcP 21 28 11.4 +0.2
comp=Z,0.3nm,0.4s,baz=66,slow=1.9,SNR=2.6
BVAR Borovoye Array 50.90 310 P **P 21 26 53.7 -1.5**
BVAR PcP PcP 21 28 11.4 +0.2
BVAR Borovoye Array 50.90 310 P **P 21 26 53.7 -1.5**
BVAR 21 28 11.4
TAPN Taplejung 52.60 273 *e*P **P 21 27 09.2 +1.0**
comp=Z,6.6nm,0.6s,mb4.7
TAPN Taplejung 52.60 273 *e*P **P 21 27 09.2 +1.0**
comp=Z,6.6nm,0.6s,mb4.7
KZA Kyzart 53.08 296 *e*P **P 21 27 12.9 +1.3**
comp=Z,7.4nm,0.8s,mb4.7
KZA Kyzart 53.08 296 *e*P **P 21 27 12.9 +1.3**
KZA pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
ODAN Odare 53.12 273 *e*P **P 21 27 12.9 +0.8**
comp=Z,3.0nm,0.4s,mb4.5
ODAN Odare 53.12 273 *e*P **P 21 27 12.9 +0.8**
comp=Z,3.0nm,0.4s,mb4.6
AAK Ala-Archa 53.28 297 *e*P **P 21 27 11.1 -2.0**
comp=Z,4.0nm,0.7s,mb4.5
AAK Ala-Archa 53.28 297⇑ *e*P **P 21 27 09.8 -3.3**
AAK pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
GUN Gumba 53.57 275 *e*P **P 21 27 16.1 +0.7**
comp=Z,11nm,0.5s,mb5.1
GUN Gumba 53.57 275 *e*P **P 21 27 16.1 +0.7**
comp=Z,11nm,0.5s,mb5.0
EKS2 Erkin-Say 53.73 297 *e*P **P 21 27 16.6 +0.3**
comp=Z,8.2nm,0.9s,mb4.7
EKS2 Erkin-Say 53.73 297 *e*P **P 21 27 16.6 +0.3**
EKS2 pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
AML Almayashu 54.05 296 *e*P **P 21 27 19.2 +0.5**
comp=Z,3.6nm,0.7s,mb4.4
AML Almayashu 54.05 296 *e*P **P 21 27 19.2 +0.5**
AML pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
KKN Kakani 54.06 275 *e*P **P 21 27 20.2 +1.2**
KKN Kakani 54.06 275 *e*P **P 21 27 20.2 +1.2**
KKN Kakani 54.06 275 *e*P **P 21 27 20.2 +1.2**
PKI Pulchoki 54.10 275 *e*P **P 21 27 20.3 +1.0**
comp=Z,6.3nm,0.6s,mb4.7
PKI Pulchoki 54.10 275 *e*P **P 21 27 20.3 +1.0**
PKI pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
PKIN Phulchoki 54.11 275 *e*P **P 21 27 20.3 +1.0**
comp=Z,6.3nm,0.6s,mb4.7
DMN Daman 54.30 275 *e*P **P 21 27 21.7 +1.0**
comp=Z,9.7nm,0.6s,mb4.9
DMN Daman 54.30 275 *e*P **P 21 27 21.7 +1.0**
comp=Z,9.7nm,0.6s,mb4.9
GKN Gorkha 54.39 276 *e*P **P 21 27 21.9 +0.5**
comp=Z,9.2nm,0.7s,mb4.8
GKN Gorkha 54.39 276 *e*P **P 21 27 21.9 +0.5**
comp=Z,9.2nm,0.7s,mb4.8
DANN Dangsing 54.81 277 *e*P **P 21 27 25.5 +1.1**
DANN Dangsing 54.81 277 *e*P **P 21 27 25.5 +1.1**
KOLN Koldanda 55.27 276 *e*P **P 21 27 28.4 +0.7**
comp=Z,8.5nm,0.7s,mb4.9
KOLN Koldanda 55.27 276 *e*P **P 21 27 28.4 +0.7**
comp=Z,8.5nm,0.7s,mb4.9
KKAR Karatay Array 55.55 299 *e*P **P 21 27 29.1 -0.5**
comp=Z,3.7nm,0.6s,mb4.6
KKAR Karatay Array 55.55 299 *e*P **P 21 27 29.1 -0.5**
KKAR pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
ABKAR Akbulak array 58.47 310 *e*P **P 21 27 49.0 -1.1**
comp=Z,3.7nm,0.5s,mb4.7
KBL Kabul 61.30 291 *e*P **P 21 28 09.3 -0.5**
comp=Z,4.3nm,0.8s,mb4.6
KBL Kabul 61.30 291 *e*P **P 21 28 09.3 -0.5**
KBL pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
SUMG Summit 62.81 3 *i* P **P 21 28 19.7 +0.4**
comp=Z,7.9nm,0.8s,mb4.9
NVAR Mina Array Bea 64.81 60 P **P 21 28 32.5 -0.5**
comp=Z,0.4nm,0.6s,mb3.7,baz=297,slow=6.5,SNR=3.6
NVAR Mina Array Bea 64.81 60 P **P 21 28 32.5 -0.5**
FINES FINESS Array B 65.16 334 P **P 21 28 32.8 -2.0**
comp=Z,4.1nm,0.6s,mb4.6,baz=35,slow=7.8,SNR=24
FINES FINESS Array B 65.16 334 P **P 21 28 32.8 -2.0**
FINES FINESS Array B 65.16 334 P **P 21 28 32.8 -2.1**
WRA Warramunga Arr 66.10 197 P **P 21 28 42.4 +1.0**
comp=Z,0.7nm,0.7s,mb3.8,baz=14,slow=6.6,SNR=9.5
WRA Warramunga Arr 66.10 197 P **P 21 28 42.4 +1.0**
WRA Warramunga Arr 66.10 197 P **P 21 28 42.4 +1.0**
PDAR Pinedale Array 67.25 52 P **P 21 28 50.0 +1.5**
comp=Z,0.4nm,0.7s,mb3.6,baz=343,slow=4.6,SNR=3.6
PDAR Pinedale Array 67.25 52 P **P 21 28 50.0 +1.5**
NB2 NORSAR Subarra 69.59 340 P **P 21 29 01.2 -1.7**
comp=Z,4.6nm,1.1s,mb4.3,baz=36,slow=5.9
NOA NORSAR Array B 69.59 340 P **P 21 29 01.6 -1.3**
comp=Z,1.4nm,0.9s,mb3.9,baz=6.6,slow=15,SNR=7.9
NOA NORSAR Array B 69.59 340 P **P 21 29 01.6 -1.3**
NOA NORSAR Array B 69.59 340 P **P 21 29 01.6 -1.3**
ASAR Alice Springs 69.81 197 P **P 21 29 06.7 +2.1**
comp=Z,1.3nm,0.8s,mb3.9,baz=7.3,slow=5.4,SNR=14
ASAR Alice Springs 69.81 197 P **P 21 29 06.7 +2.1**
ASAR Alice Springs 69.81 197 P **P 21 29 06.7 +2.1**
KIV Kislovodsk 71.03 313 P **P 21 29 12.2 +0.2**
comp=Z,4.1nm,0.6s,mb4.5
KIV Kislovodsk 71.03 313 *e*P **P 21 29 12.4 +0.4**
KIV *e* 21 31 47.0
KIV pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
ZEI Tsey 71.22 312 *e*P **P 21 29 12.6 -0.6**
ZEI pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
AKASG Malin Array Be 72.30 325 P **P 21 29 18.1 -1.4**
comp=Z,2.8nm,0.8s,mb4.3,baz=32,slow=5.2,SNR=5.3
AKASG Malin Array Be 72.30 325 P **P 21 29 18.1 -1.4**
AKASG Malin Array Be 72.30 325 P **P 21 29 18.1 -1.4**
KOLS Kolonicke sedl 76.43 328 *e*P **P 21 29 43.1 -0.5**
KOLS Kolonicke sedl 76.43 328 *e*P **P 21 29 43.1 -0.5**
CRVS Cervenica-Dubn 76.76 328 *e*P **P 21 29 44.8 -0.7**
CRVS Cervenica-Dubn 76.76 328 *e*P **P 21 29 44.8 -0.7**
DPC Dobruska-Polom 77.37 332 *e*P **P 21 29 53.1 +4.3**
DPC Dobruska-Polom 77.37 332 *e*P **P 21 29 53.1 +4.3**
KECS Kecovo 77.47 329 *e*P **P 21 29 49.7 +0.2**
KECS pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
KECS Kecovo 77.47 329 *e*P **P 21 29 49.7 +0.2**
CLL Collm 77.60 334 *i* P **P 21 29 49.2 -0.9**
CLL pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CLL Collm 77.60 334 *i* P **P 21 29 49.2 -0.9**
comp=Z,5.0nm,0.8s,mb4.5
VYHS Vyhne 78.07 330 *e*P **P 21 29 52.2 -0.6**
VYHS Vyhne 78.07 330 *e*P **P 21 29 52.2 -0.6**
VYHS *e* 21 43 54.7
PRU Pruhonice 78.26 333 *e*P **P 21 29 56.0 +2.2**
PRU Pruhonice 78.26 333 *e*P **P 21 29 56.0 +2.2**
BR131 Keskin Array S 78.72 316 P **P 21 29 57.6 +1.1**
comp=Z,0.9nm,0.6s,mb3.9
BRTR Keskin Array B 78.72 316 P **P 21 29 57.4 +0.8**
comp=Z,1.9nm,0.8s,mb4.1,baz=70,slow=5.7,SNR=9.2
BRTR Keskin Array B 78.72 316 P **P 21 29 57.4 +0.8**
BRTR Keskin Array B 78.72 316 P **P 21 29 57.4 +0.9**
KHC Kasperske Hory 79.32 333 *e*P **P 21 29 59.6 -0.1**
comp=Z,3.7nm,0.7s,mb4.4
KHC Kasperske Hory 79.32 333 *e*P **P 21 29 59.4 -0.2**
KHC Kasperske Hory 79.32 333 *e*P **P 21 29 59.4 -0.2**
GERES GERESS Array B 79.53 333 P **P 21 30 00.1 -0.6**
comp=Z,1.4nm,0.6s,mb4.1,baz=39,slow=5.2,SNR=20
GERES GERESS Array B 79.53 333 P **P 21 30 00.1 -0.6**
GERES GERESS Array B 79.53 333 P **P 21 30 00.2 -0.6**
CONA Conrad Observa 79.60 331⇑ *i*pP **P 21 30 01.9 +0.7**
comp=Z,4.0nm,0.6s,mb4.5
CSNA Conrad Observa 79.60 331⇓ *i*pP **P 21 30 01.8 +0.7**
comp=Z,4.0nm,0.6s,mb4.5
TXAR Lajitas Array 79.90 59 P **P 21 30 03.2 0.0**
comp=Z,0.2nm,0.4s,mb3.4,baz=287,slow=3.7,SNR=4.1
TXAR Lajitas Array 79.90 59 P **P 21 30 03.2 0.0**
TXAR Lajitas Array 79.90 59 P **P 21 30 03.2 0.0**
MOA Molln 80.21 332⇓ *i*P **P 21 30 04.6 +0.2**
comp=Z,2.5nm,0.7s,mb4.3
KBA Koelnbreinsper 81.19 332⇑ *i*pP **P 21 30 10.4 +0.7**
comp=Z,7.5nm,0.9s,mb4.6
BAIF Baives 81.21 339 *e*P **P 21 30 09.2 -0.6**
BAIF Baives 81.21 339 *e*P **P 21 30 09.2 -0.6**
BAIF Baives 81.21 339 *e*P **P 21 30 09.2 -0.6**
WATA Walderalm 81.54 333 *i*pP **P 21 30 12.1 +0.6**
comp=Z,2.9nm,0.3s,mb4.6
WTTA Wattenberg 81.58 333⇑ *i*P **P 21 30 12.3 +0.5**
comp=Z,6.2nm,0.5s,mb4.8
MOTA Moosalm 81.68 334⇑ *i*P **P 21 30 12.6 +0.2**
comp=Z,4.6nm,0.7s,mb4.5
CDF Champ du Feu 81.88 336 *e*P **P 21 30 12.6 -0.7**
comp=Z,7.0nm,0.7s,mb4.4
CDF Champ du Feu 81.88 336 *e*P **P 21 30 12.6 -0.7**
comp=Z,3.5nm,0.7s,mb4.4
CDF Champ du Feu 81.88 336 *e*P **P 21 30 12.6 -0.7**
CDF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
MEZF Maizieres J'vi 82.41 338 *e*P **P 21 30 15.7 -0.4**
comp=Z,16nm,0.9s,mb4.6
MEZF Maizieres J'vi 82.41 338 *e*P **P 21 30 15.7 -0.4**
comp=Z,16nm,0.9s,mb4.9
SFTF Sexfontaines 82.69 338 *e*P **P 21 30 16.9 -0.7**
SFTF Sexfontaines 82.69 338 *e*P **P 21 30 16.9 -0.7**
LOR Lormes 83.86 338 *e*P **P 21 30 23.0 -0.7**
comp=Z,3.5nm,0.5s,mb4.5
LOR Lormes 83.86 338 *e*P **P 21 30 23.0 -0.7**
comp=Z,1.8nm,0.4s,mb4.5
LOR Lormes 83.86 338 *e*P **P 21 30 23.0 -0.7**
LOR pmax pmax
comp=Z,2.0nm,0.4s,mb4.6
AVF Avril sur Loir 84.44 338 *e*P **P 21 30 26.2 -0.4**
comp=Z,4.2nm,0.6s,mb4.4
AVF Avril sur Loir 84.44 338 *e*P **P 21 30 26.2 -0.4**
comp=Z,2.1nm,0.6s,mb4.4
AVF Avril sur Loir 84.44 338 *e*P **P 21 30 26.2 -0.4**
AVF pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
SMF Signal de Mont 84.44 338 *e*P **P 21 30 26.1 -0.5**
comp=Z,2.8nm,0.5s,mb4.3
SMF Signal de Mont 84.44 338 *e*P **P 21 30 26.1 -0.5**
comp=Z,1.4nm,0.5s,mb4.3
SMF Signal de Mont 84.44 338 *e*P **P 21 30 26.1 -0.5**
SMF pmax pmax
comp=Z,1.0nm,0.5s,mb4.2
SGMF Saint Gilles 84.49 342 *e*P **P 21 30 26.5 -0.3**
SGMF Saint Gilles 84.49 342 *e*P **P 21 30 26.5 -0.3**
SGMF Saint Gilles 84.49 342 *e*P **P 21 30 26.5 -0.3**
LPL La Plagne 84.66 336 *e*P **P 21 30 27.9 +0.2**
LPL La Plagne 84.66 336 *e*P **P 21 30 27.9 +0.2**
LPL La Plagne 84.66 336 *e*P **P 21 30 27.9 +0.2**
LPG La Plagne 84.67 336 *e*P **P 21 30 28.1 +0.3**
LPG La Plagne 84.67 336 *e*P **P 21 30 28.1 +0.3**
LPG La Plagne 84.67 336 *e*P **P 21 30 28.1 +0.3**
TCF Toulx Ste Croi 85.20 339 *e*P **P 21 30 30.4 -0.1**
comp=Z,3.7nm,0.7s,mb4.3
TCF Toulx Ste Croi 85.20 339 *e*P **P 21 30 30.4 -0.1**
comp=Z,1.9nm,0.7s,mb4.3
TCF Toulx Ste Croi 85.20 339 *e*P **P 21 30 30.4 -0.1**
TCF pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
MBDF Montbardon 85.36 335 *e*P **P 21 30 31.3 0.0**
comp=Z,8.8nm,0.8s,mb4.7
MBDF Montbardon 85.36 335 *e*P **P 21 30 31.3 0.0**
comp=Z,4.4nm,0.8s,mb4.6
MBDF Montbardon 85.36 335 *e*P **P 21 30 31.3 0.0**
MBDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
ORIF Oris-en-Rattie 85.45 336 *e*P **P 21 30 31.9 +0.2**
comp=Z,14nm,0.9s,mb4.8
ORIF Oris-en-Rattie 85.45 336 *e*P **P 21 30 31.9 +0.2**
comp=Z,6.8nm,0.9s,mb4.8
ORIF Oris-en-Rattie 85.45 336 *e*P **P 21 30 31.9 +0.2**
ORIF pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
CAF Calviac 86.51 338 *e*P **P 21 30 36.6 -0.3**
CAF Calviac 86.51 338 *e*P **P 21 30 36.6 -0.3**
CAF Calviac 86.51 338 *e*P **P 21 30 36.6 -0.3**
LFF La Frestale 86.83 339 *e*P **P 21 30 38.0 -0.5**
LFF La Frestale 86.83 339 *e*P **P 21 30 38.0 -0.5**
LFF La Frestale 86.83 339 *e*P **P 21 30 38.0 -0.5**
TORD Torodi Ar. Bea 115.93 326 PKP PKPdf 21 36 36.6 -0.6
comp=Z,0.4nm,1.0s,baz=20,slow=2.9,SNR=2.3
TORD Torodi Ar. Bea 115.93 326 PKP PKPdf 21 36 36.6 -0.6
PLCA Paso Flores 149.60 97 PKP PKPdf 21 37 39.0 +0.5
comp=Z,1.3nm,0.9s,baz=315,slow=1.4,SNR=2.1
PLCA PKPbc PKPbc 21 37 42.6 -0.5
comp=Z,1.5nm,0.9s,baz=265,slow=3.2,SNR=3.0
PLCA Paso Flores 149.60 97 PKP PKPdf 21 37 39.0 +0.5
PLCA PKPbc PKPbc 21 37 42.6 -0.5

ATH ***01*** *21:21:40.3, 37.36N×20.72E, h7km±4km, MD3.7/9*
ISCJB ***01*** *21:21:41.8±1.0, 37.35N±0.04×20.79E±0.07, h10km, Error ellipse: s-maj=9.1km s-min=3.8km az=144.7*
CSEM ***01*** *21:21:42.3±0.6, 37.37N×20.88E, h2km, MD3.7, Error ellipse: s-maj=13.0km s-min=5.1km az=56.0*
THE ***01*** *21:21:42.7, 37.38N×20.88E, h0km±4km, Error ellipse: s-maj=4.8km s-min=1.5km az=200.0*

ISC 01 21:21:42.0±1.2, 37.34N±0.04×20.80E±0.07, h1km±6km, n30, σ1°01/46, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KFL	**Anninata**	**0.77**	**359**	P		**Pg**	**21 21 56.6**	**-0.1**
KFL				S		**Sg**	**21 22 08.1**	**+1.4**
KFL	**Anninata**	**0.77**	**359**	P		**Pg**	**21 21 56.6**	**-0.1**
KFL				S		**Sg**	**21 22 08.1**	**+1.4**
VLS	**Valsamata**	**0.85**	**349**	P		**Pg**	**21 21 57.5**	**-0.8**
VLS				S		**Sg**	**21 22 10.1**	**+0.7**
VLS	**Valsamata**	**0.85**	**349**	P		**Pg**	**21 21 57.5**	**-0.8**
VLS				S		**Sg**	**21 22 10.1**	**+0.7**
PYL	**PYLOS**	**0.88**	**120**	*e*PB		**Pg**	**21 21 58.2**	**-0.5**
PYL				*e*SB		**Sg**	**21 22 11.5**	**+1.4**
PYL	**PYLOS**	**0.88**	**120**	*e*Pb		**Pg**	**21 21 58.2**	**-0.5**
PYL				*e*Sb		**Sg**	**21 22 11.5**	**+1.4**
RLS	**Riolos of Patr**	**0.89**	**36**	P		**Pg**	**21 21 58.2**	**-0.9**
RLS				S		**Sg**	**21 22 10.1**	**-0.6**
RLS	**Riolos of Patr**	**0.89**	**36**	P		**Pg**	**21 21 58.2**	**-0.9**
RLS				S		**Sg**	**21 22 10.1**	**-0.6**
ITM	**Ithomi**	**0.91**	**100**	*e*PG		**Pg**	**21 21 58.6**	**-0.9**
ITM				*e*SB		**Sg**	**21 22 12.3**	**+1.0**
ITM	**Ithomi**	**0.91**	**100**	P		**Pg**	**21 21 59.0**	**-0.5**
ITM	**Ithomi**	**0.91**	**100**	*e*Pg		**Pg**	**21 21 58.6**	**-0.9**
ITM	**Ithomi**	**0.91**	**100**	P		**Pg**	**21 21 59.0**	**-0.5**
ITM				*e*Sb		**Sg**	**21 22 12.3**	**+1.0**
VLX	**Vlachokerasia**	**1.26**	**88**	*e*PB		**Pb**	**21 22 05.7**	**-0.8**
VLX				*e*SB		**Sb**	**21 22 23.3**	**+0.1**
VLX	**Vlachokerasia**	**1.26**	**88**	*e*Pb		**Pb**	**21 22 05.7**	**-0.8**
VLX				*e*Sb		**Sb**	**21 22 23.3**	**+0.1**
GUR	**Goura**	**1.36**	**64**	*e*PN		**Pn**	**21 22 06.0**	**-2.1**
GUR				*e*SB		**Sb**	**21 22 26.7**	**+0.6**
GUR	**Goura**	**1.36**	**64**	*e*Pn		**Pn**	**21 22 06.0**	**-2.1**
GUR				*e*Sb		**Sb**	**21 22 26.7**	**+0.6**
EFP	**Efpalio**	**1.40**	**39**	*e*PB		**Pb**	**21 22 07.1**	**-1.7**
EFP	**Efpalio**	**1.40**	**39**	*e*Pb		**Pb**	**21 22 07.1**	**-1.7**
LKD2	**Lefkada island**	**1.45**	**356**	P		**Pn**	**21 22 09.7**	**+0.4**
LKD2				S		**Sb**	**21 22 30.0**	**+1.3**
LKD2	**Lefkada island**	**1.45**	**356**	P		**Pn**	**21 22 09.7**	**+0.4**
LKD2				S		**Sb**	**21 22 30.0**	**+1.3**
KALE	**Kalithea**	**1.49**	**45**	P		**Pn**	**21 22 08.4**	**-1.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KALE	Kalithea	1.49	45	P	Pn	21 22 08.4	-1.5
VLI	Veliai	1.82	109	ePN	Pn	21 22 15.2	+0.9
VLI	Veliai	1.82	109	ePn	Pn	21 22 15.2	+0.9
LTK	Loutraki	1.85	68	ePN	Pn	21 22 14.3	-0.5
LTK	Loutraki	1.85	68	ePn	Pn	21 22 14.3	-0.5
AGG	Agios Georgios	2.07	35	ePG	Pn	21 22 18.8	+1.0
AGG	Agios Georgios	2.07	35	ePg	Pn	21 22 18.8	+1.0
KYTH	Kithira	2.08	120	ePN	Pn	21 22 19.0	+1.0
KYTH	Kithira	2.08	120	ePn	Pn	21 22 19.0	+1.0

*IDC **01** 21:24:16.2±0.8, 15.°12S×173.°67W, h0km, mb3.9/8, mb1 4.2/8, mb1mx4.0/19, mbtmp3.9/8, MS3.7/3, Ms1 3.8/3, ms1mx3.0/36, Error ellipse: s-maj=37.6km s-min=21.5km az=138.0*

ISC 01 21:24:15.8±0.7**, 15.°0S**±0.°2×**173.°6W**±0.°2**, h0km, n13, σ0.s89**/10**, mb3.9**/8**, MS4.1**/2**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	2.10	58	Pn	Pn	21 24 50.4	-1.8
	81nm,0.3s,baz=66,slow=0.8,SNR=76						
AFI				Sn	Sn	21 25 09.6	-9.4
	380nm,0.3s,baz=183,slow=23,SNR=31						
AFI				LR	LR	21 25 22.3	
	comp=Z,408nm,19.6s,baz=254,slow=30						
STKA	Stephens Creek	44.05	240	P	P	21 32 25.5	-0.1
	0.7nm,0.4s,mb3.7,baz=98,slow=16,SNR=5.3						
WRA	Warramunga Arr	49.73	256	P	P	21 33 10.0	-0.3
	0.5nm,0.4s,mb3.8,baz=96,slow=6.5,SNR=26						
ASAR	Alice Springs	50.03	252	P	P	21 33 11.7	-0.9
	2.5nm,0.6s,mb4.4,baz=86,slow=8.3,SNR=76						
ASAJ	Asahikawa	71.12	328	LR	LR	22 00 01.7	
	comp=Z,58nm,21.1s,MS3.8,baz=135,slow=30						
QSPA	South Pole Qui	75.01	180	P	P	21 35 59.0	+0.4
	1.6nm,0.7s,mb4.2,baz=142,slow=1.9,SNR=11						
TXAR	Lajitas Array	80.58	56	P	P	21 36 31.8	+1.3
	0.1nm,0.3s,mb3.3,baz=198,slow=3.6,SNR=3.8						
ILAR	Eielson Array	82.13	11	P	P	21 36 38.3	+0.4
	0.5nm,0.9s,mb3.7,baz=226,slow=6.9,SNR=5.9						
PDAR	Pinedale Array	82.13	42	P	P	21 36 39.6	+1.2
	0.6nm,0.9s,mb3.7,baz=239,slow=4.7,SNR=3.7						
MAW	Mawson	88.07	199	P	P	21 37 07.6	-0.3
	0.8nm,0.5s,mb4.3,baz=138,slow=11,SNR=4.7						
PLCA	Paso Flores	89.90	132	LR	LR	22 12 47.0	
	comp=Z,153nm,18.6s,MS4.5,baz=118,slow=32						
BRTR	Keskin Array B	145.75	321	PKPbc	PKPbc	21 43 57.9	+0.8
	0.8nm,0.7s,baz=97,slow=2.9,SNR=6.6						
GERES	GERESS Array B	145.75	351	PKPbc	PKPbc	21 43 57.1	+0.3
	1.2nm,1.0s,baz=280,slow=18,SNR=6.3						

*MOS **01** 21:33:16.4±1.3, 52.°52N×159.°22E, h62km, mb4.3/2, Error ellipse: s-maj=19.7km s-min=9.0km az=73.0*
*KRSC **01** 21:33:16.7±0.4, 52.°52N×159.°17E, h60km±50km, ML4.3*
*ISCJB **01** 21:33:17.3±0.5, 52.°55N±0.°04×159.°16E±0.°07, h68km±4km, mb3.4/6, Error ellipse: s-maj=9.3km s-min=4.4km az=43.3*
*NEIC **01** 21:33:17.8±0.9, 52.°60N×159.°04E, h67km±11km, Error ellipse: s-maj=22.3km s-min=10.4km az=164.0*
*IDC **01** 21:33:17.2±1.8, 52.°54N×159.°19E, h60km±22km, mb3.2/5, mb1 3.7/7, mb1mx3.3/27, mbtmp3.5/7, ML3.7/2, MS2.5/1, Ms1 2.5/1, ms1mx2.0/25, Error ellipse: s-maj=29.0km s-min=14.1km az=171.0*

ISC 01 21:33:18.4±0.5**, 52.°53N**±0.°04×**159.°16E**±0.°06**, h60**km±5km**, n56, σ1.s18**/80**, mb3.5**/6**, 1C, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUS	Russkaya	0.41	256	eP	Pn	21 33 28.8	-0.6
RUS				i S	Sn	21 33 37.0	-0.4
RUS	Russkaya	0.41	256	PN	Pn	21 33 28.8	-0.6
RUS				S	Sn	21 33 37.0	-0.4
PET	Petropavlovsk	0.58	328	eP	Pn	21 33 30.2	-1.0
PET				i S	Sn	21 33 39.1	-1.5
PET	Petropavlovsk	0.58	328	eP	Pn	21 33 30.0	-1.2
PET				eS	Sn	21 33 39.1	-1.5
PET	Petropavlovsk	0.58	328	ePN	Pn	21 33 30.0	-1.2
PET				eS	Sn	21 33 39.1	-1.5
NLC	Nalytchevo	0.65	10	eP	Pn	21 33 30.9	-1.1
NLC				i S	Sn	21 33 40.7	-1.3
NLC	Nalytchevo	0.65	10	PN	Pn	21 33 30.9	-1.1
NLC				S	Sn	21 33 40.7	-1.3
GRL	Gorelyy	0.67	272	eP	Pn	21 33 32.3	+0.1
GRL				i S	Sn	21 33 43.4	+1.2
SPN	Mys Shipunski	0.77	42	eP	Pn	21 33 33.2	-0.3
SPN				i S	Sn	21 33 46.5	+1.9
SPN	Mys Shipunski	0.77	42	PN	Pn	21 33 33.2	-0.3
SPN				S	Sn	21 33 46.5	+1.9
AVH	Avacha	0.78	341	eP	Pn	21 33 33.1	-0.5
AVH				i S	Sn	21 33 44.5	-0.2
PEA0B	Petropavlovsk-	1.06	304	ePn	Pn	21 33 35.7	-1.5
PETK	Petropavlovsk-	1.06	304	P	Pn	21 33 35.8	-1.3
	48nm,0.3s,baz=103,slow=18,SNR=515						
PETK				S	Sn	21 33 50.5	-0.6
	65nm,0.3s,baz=116,slow=20,SNR=15						
PETK	Petropavlovsk-	1.06	304	P	Pn	21 33 35.8	-1.3
PETK				S	Sn	21 33 50.5	-0.6
PETK	Petropavlovsk-	1.06	304	PN	Pn	21 33 35.8	-1.4
PETK				S	Sn	21 33 50.5	-0.6
GNL	Ganaly	1.38	328	eP	Pn	21 33 40.2	-1.2
GNL				i S	Sn	21 33 58.3	-0.3
KII	Karymskiy	1.52	6	eP	Pn	21 33 43.1	-0.2
KII				i S	Sn	21 34 02.5	+0.5
MKZ	Mys Kozlova	2.54	36	eP	Pn	21 33 55.9	-1.3
MKZ				i S	Sn	21 34 25.4	-1.5
MKZ	Mys Kozlova	2.54	36	PN	Pn	21 33 55.9	-1.3
MKZ				S	Sn	21 34 25.4	-1.5
SKR	Severo-Kuril's	2.65	227	ePN	Pn	21 34 01.2	+2.5
SKR				eS	Sn	21 34 31.3	+1.7
SKR				pmax	pmax		
	comp=E,30nm,0.4s						
SKR				pmax	pmax		
	comp=Z,50nm,0.4s						
SKR				smax			
	comp=E,300nm,0.4s						
TUMR	Tumrok	2.82	12	eP	Pn	21 34 01.5	+0.6
KMNR	Kamenistaya	3.29	11	eP	Pn	21 34 08.8	+1.4
KIRR	Kirishev	3.50	11	eP	Pn	21 34 11.9	+1.7
KPT	Kopyto	3.50	10	eP	Pn	21 34 11.7	+1.5
BZMR	Bezymyannaya	3.50	12	eP	Pn	21 34 11.0	+0.8
KOZ	Kozyrevsk	3.56	6	P	Pn	21 34 12.3	+1.3
KOZR	Kozyr	3.57	7	PN	Pn	21 34 12.3	+1.1
SRDR	Sredinnyy	3.81	5	eP	Pn	21 34 15.0	+0.6
KLY	Klyuchi	3.89	12	eP	Pn	21 34 17.3	+1.8
KLY	Klyuchi	3.89	12	PN	Pn	21 34 17.3	+1.8
BDR	Baidarnaya	4.22	16	eP	Pn	21 34 21.3	+1.3
KBTR	Krutoberegovo	4.26	29	eP	Pn	21 34 21.2	+0.6
KBTR				i S	Sn	21 35 08.9	-0.1
KBTR	Krutoberegovo	4.26	29	PN	Pn	21 34 21.2	+0.6
KBTR				S	Sn	21 35 08.9	-0.1
SMKR	Semkarok	4.28	17	eP	Pn	21 34 20.3	-0.5
SRKR	Sorokina	4.29	15	eP	Pn	21 34 22.6	+1.5
FX1	Attu Island--F	8.51	82	P	Pn	21 35 19.1	+0.3
	comp=E,2.9nm,0.3s,baz=146,slow=20,SNR=68						
FX1				S	Sn	21 36 50.5	-2.9
	comp=E,13nm,0.3s,baz=27,slow=13,SNR=18						
FX1	Attu Island--F	8.51	82	P	Pn	21 35 19.1	+0.3
FX1				S	Sn	21 36 50.5	-2.9
FX1	Attu Island--F	8.51	82	PN	Pn	21 35 19.1	+0.3
ASAJ	Asahikawa	13.84	239	P	Pn	21 36 32.3	+0.8
	comp=E,0.5nm,0.3s,baz=44,slow=7.6,SNR=7.2						
ASAJ	Asahikawa	13.84	239	P	Pn	21 36 32.3	+0.8
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	Matsushiro Arr	21.75	231	P	P	21 38 02.9	-1.8
	comp=Z,0.9nm,0.6s,mb3.4,baz=23,slow=9.9,SNR=5.0						
MJAR	Matsushiro Arr	21.75	231	P	P	21 38 02.9	-1.8
MJAR	Matsushiro Arr	21.75	231	P	P	21 38 02.9	-1.8
ILAR	Eielson Array	29.61	45	P	P	21 39 15.2	-2.2
	comp=Z,0.2nm,0.7s,mb3.0,baz=274,slow=7.0,SNR=3.3						
ILAR	Eielson Array	29.61	45	P	P	21 39 15.2	-2.2
ILAR	Eielson Array	29.61	45	P	P	21 39 15.2	-2.2
ARU	Arti	53.43	317c	iP	P	21 42 32.5	+0.9
ARU				e		21 44 31.7	
ARU				S	S	21 50 04.2	+5.1
ARU				SS	SS	21 53 42.6	+3.6
ARU				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.4						
TXAR	Lajitas Array	71.38	66	P	P	21 44 31.8	-0.1
	comp=Z,0.2nm,0.5s,mb3.3,baz=339,slow=4.8,SNR=3.0						
TXAR	Lajitas Array	71.38	66	P	P	21 44 31.8	-0.1
TXAR	Lajitas Array	71.38	66	P	P	21 44 31.8	-0.1
WRA	Warramunga Arr	75.33	204	P	P	21 44 53.7	-1.3
	comp=Z,1.1nm,1.1s,mb3.7,baz=2.6,slow=5.5,SNR=5.3						
WRA	Warramunga Arr	75.33	204	P	P	21 44 53.7	-1.3
WRA	Warramunga Arr	75.33	204	P	P	21 44 53.7	-1.3
ASAR	Alice Springs	79.01	203	P	P	21 45 14.7	-0.8
	comp=Z,0.2nm,0.4s,mb3.4,baz=17,slow=5.5,SNR=5.6						
ASAR	Alice Springs	79.01	203	P	P	21 45 14.8	-0.8
ASAR	Alice Springs	79.01	203	eP	P	21 45 14.9	-0.7

*NIED **01** 21:46:00, 36.°60N×141.°60E, h20km, Mw3.9 Best double couple: M0 8.05000×10^14 NP1:φs10.00000°, δ67.00000°, λ82.00000°. NP2:φs209.00000°, δ24.00000°, λ108.00000°.*
*IDC **01** 21:46:27.0±0.7, 36.°64N×141.°66E, h0km, mb4.0/15, mb1 4.1/19, mb1mx4.0/30, mbtmp4.0/19, ML4.0/4, MS3.4/3, Ms1 3.4/3, ms1mx2.7/44, Error ellipse: s-maj=20.8km s-min=13.6km az=84.0*
*ISCJB **01** 21:46:27.7±1.0, 36.°63N±0.°03×141.°74E±0.°05, h20km±7km, mb3.9/17, Error ellipse: s-maj=7.1km s-min=5.0km az=15.3*
*NEIC **01** 21:46:30.1±2.4, 36.°64N×141.°65E, h21km±16km, mb4.3/2, Error ellipse: s-maj=10.1km s-min=7.6km az=116.0*
*JMA **01** 21:46:30.1±0.2, 36.°64N×141.°55E, h53km±3km, M3.9*

ISC 01 21:46:28.5±1.0**, 36.°65N**±0.°03×**141.°64E**±0.°05**, h10**km±5km**, n59, σ0.s73**/66**, mb3.9**/17**, 1C-6D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.81	304	⇓P	Pg	21 46 44.6	+0.4
JHO	Hitachi	0.86	268	⇓P	Pg	21 46 44.9	-0.3
JHO				eS	Sg	21 46 55.8	-0.6
JFK	Kawauchi	0.94	320	P	Pg	21 46 46.5	-0.2
JFT	Otama	1.36	310	⇓P	Pn	21 46 53.5	0.0
JFT				eS	Sb	21 47 10.6	-0.8
JMM	Marumori	1.39	331	⇓P	Pn	21 46 53.1	-0.9
JFY	Yanaizu	1.72	297	P	Pn	21 46 58.9	+0.3
JFY				eS	Sn	21 47 20.3	-0.4
JAG	Ashikaga	1.78	263	P	Pn	21 46 58.5	-0.8
JIO	Ouri	1.82	353	⇓P	Pn	21 46 58.8	-1.1
JIO				eS	Sn	21 47 19.3	-3.6
JOU	Okura	1.88	336	⇑P	Pn	21 47 01.4	+0.7
JOU				eS	Sn	21 47 24.1	-0.4
JKT	Katashina	1.93	274	⇓P	Pn	21 47 01.3	-0.1
JYS	Shirataka	2.01	322	P	Pn	21 47 03.5	+1.0
MJAR	Matsushiro Arr	2.76	269	Pn	Pn	21 47 13.1	+0.1
	20nm,0.3s,baz=91,slow=6.8,SNR=139						
MJAR				Sn	Sn	21 47 48.8	+2.5
	18nm,0.3s,baz=92,slow=17,SNR=7.7						
MJAR				LR	LR	21 48 33.1	
	comp=Z,485nm,18.0s,baz=30,slow=46						
MJAR	Matsushiro Arr	2.76	269	Pn	Pn	21 47 13.1	+0.1
MJAR				Sn	Sn	21 47 48.8	+2.5
MJAR				LR	LR	21 48 33.1	
MAJO	Matsushiro	2.77	269	ePn	Pn	21 47 13.8	+0.9
MAT	Matsushiro	2.77	269	P	Pn	21 47 13.7	+0.8
MAT				S	Sn	21 47 46.5	+0.1
JHJ	Hachijo jima 2	3.84	204	Pn	Pn	21 47 28.4	+0.7
	66nm,0.3s,baz=296,slow=13,SNR=29						
JHJ				Sn	Sn	21 48 10.9	-2.0
	51nm,0.3s,baz=117,slow=23,SNR=6.6						
ERM	Erimo	5.48	12	ePn	Pn	21 47 50.1	-0.1
ERM				eS	Sn	21 48 52.6	-0.7
ASAJ	Asahikawa	7.49	5	Pn	Pn	21 48 19.1	+1.3
	1.1nm,0.3s,baz=203,slow=11,SNR=6.8						
ASAJ				Sn	Sn	21 49 42.9	0.0
	0.4nm,0.3s,baz=19,slow=30,SNR=3.5						
CBIJ	Chichi jima	9.54	177	Pn	Pn	21 48 45.9	0.0
	8.2nm,0.3s,baz=286,slow=21,SNR=5.3						
CBIJ				Sn	Sn	21 50 24.4	-8.8
	8.6nm,0.3s,baz=284,slow=21,SNR=2.5						
KSRS	Korea Array	10.99	278	LR	LR	21 53 04.9	
	comp=Z,70nm,20.7s,baz=172,slow=36						
SONM	Songino Array	28.15	305	P	P	21 52 21.8	+1.0
	2.3nm,0.7s,mb4.0,baz=109,slow=8.5,SNR=12						
SONM	Songino Array	28.15	305	P	P	21 52 21.8	+1.0
CMAR	Chiang Mai Arr	41.58	256	P	P	21 54 16.9	+0.3
	0.9nm,0.7s,mb3.5,baz=36,slow=6.1,SNR=8.8						
CMAR	Chiang Mai Arr	41.58	256	P	P	21 54 16.9	+0.3
ZAA0	Zalesovo Array	42.31	313	eP	P	21 54 22.2	0.0
ZALV	Zalesovo Beam	42.31	313	P	P	21 54 22.1	-0.1
	2.3nm,0.5s,mb4.0,baz=95,slow=7.5,SNR=18						
ZALV				PcP	PcP	21 56 15.6	-0.1
	0.7nm,0.5s,baz=112,slow=2.6,SNR=3.5						
ZALV	Zalesovo Beam	42.31	313	P	P	21 54 22.1	-0.1
ZALV				PcP	PcP	21 56 15.6	-0.1
MK31	Makanchi Array	44.48	302	eP	P	21 54 39.1	-0.7
MKAR	Makanchi Array	44.48	302	P	P	21 54 39.9	0.0
	0.7nm,0.3s,mb3.9,baz=88,slow=9.9,SNR=14						
MKAR	Makanchi Array	44.48	302	P	P	21 54 39.9	0.0
KURK	Kurchatov	46.31	308	P	P	21 54 54.3	0.0
	2.9nm,0.6s,mb4.4,baz=83,slow=8.0,SNR=28						
KURK	Kurchatov	46.31	308	P	P	21 54 54.3	0.0
ILAR	Eielson Array	49.72	32	P	P	21 55 21.8	+1.3
	0.5nm,0.9s,mb3.6,baz=252,slow=6.1,SNR=5.3						
ILAR	Eielson Array	49.72	32	P	P	21 55 21.8	+1.3
TKM2	Tokmak 2	49.97	299	eP	P	21 55 23.1	+0.4
	2.2nm,0.6s,mb4.4						
BVAR	Borovoye Array	50.97	313	P	P	21 55 30.1	0.0
	0.4nm,0.4s,mb3.8,baz=95,slow=6.6,SNR=5.2						
BVAR	Borovoye Array	50.97	313	P	P	21 55 30.1	0.0
FITZ	Fitzroy Crossi	56.52	198	P	P	21 56 11.3	+0.3
	1.5nm,0.8s,mb4.1,baz=3.6,slow=8.0,SNR=6.7						
FITZ	Fitzroy Crossi	56.52	198	P	P	21 56 11.3	+0.3
WRA	Warramunga Arr	56.71	188	P	P	21 56 11.6	-0.8
	0.9nm,0.5s,mb4.1,baz=6.8,slow=7.6,SNR=28						
WRA	Warramunga Arr	56.71	188	P	P	21 56 11.6	-0.8
ABKAR	Akbulak array	58.33	310	eP	P	21 56 23.2	-0.4
	1.1nm,0.6s,mb4.1						
ASAR	Alice Springs	60.43	188	P	P	21 56 37.8	-0.5
	0.3nm,0.5s,mb3.6,baz=13,slow=14,SNR=11						
ASAR	Alice Springs	60.43	188	P	P	21 56 37.8	-0.5
FINES	FINESS Array B	69.24	332	P	P	21 57 35.1	-0.2
	1.6nm,0.7s,mb4.1,baz=27,slow=9.0,SNR=4.2						
FINES	FINESS Array B	69.24	332	P	P	21 57 35.1	-0.2
NB2	NORSAR Subarra	74.61	337	P	P	21 58 07.5	0.0
	comp=Z,2.1nm,0.8s,mb4.1,baz=35,slow=6.2						
NOA	NORSAR Array B	74.61	337	P	P	21 58 07.5	0.0
	comp=Z,2.2nm,0.8s,mb4.1,baz=37,slow=5.9,SNR=5.6						
NOA	NORSAR Array B	74.61	337	P	P	21 58 07.5	0.0
AKASG	Malin Array Be	74.71	322	P	P	21 58 07.8	-0.5
	comp=Z,1.5nm,0.5s,mb4.2,baz=46,slow=6.4,SNR=8.0						
AKASG	Malin Array Be	74.71	322	P	P	21 58 07.8	-0.5
BRTR	Keskin Array B	79.24	312	P	P	21 58 34.7	+0.7
	comp=Z,0.8nm,0.8s,mb3.7,baz=96,slow=5.1,SNR=5.2						
BRTR	Keskin Array B	79.24	312	P	P	21 58 34.7	+0.7
GERES	GERESS Array B	83.13	328	P	P	21 58 54.5	-0.1
	comp=Z,0.4nm,0.6s,mb3.6,baz=29,slow=6.1,SNR=4.5						
GERES	GERESS Array B	83.13	328	P	P	21 58 54.5	-0.1
TORD	Torodi Ar. Bea	117.73	315	PKP	PKPdf	22 05 14.6	-1.0
	comp=Z,0.3nm,0.9s,baz=293,slow=1.1,SNR=3.0						
TORD	Torodi Ar. Bea	117.73	315	PKP	PKPdf	22 05 14.6	-1.0
LPAZ	La Paz	146.73	60	PKPbc	PKPbc	22 06 12.0	+0.9
	comp=Z,1.2nm,0.7s,baz=343,slow=0.6,SNR=4.6						
LPAZ	La Paz	146.73	60	PKPbc	PKPbc	22 06 12.0	+0.9

IDC 01 21:58:28.5±4.9**, 34.°94N**×**88.°59E, h0**km**, mb3.1**/1**, mb1 3.4**/5**, mb1mx3.2**/27**, mbtmp3.4**/5**, ML3.4**/4**, MS3.3**/4**, Ms1 3.3**/4**, ms1mx2.8**/14**, Error ellipse: s-maj=73.4km s-min=42.4km az=38.0, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	12.76	340	Pn	Pn	22 01 27.0	-4.0
	0.1nm,0.3s,baz=150,slow=14,SNR=10						
MKAR				Lg		22 05 14.2	
	0.0nm,0.3s,baz=155,slow=20,SNR=3.6						
AAK	Ala-Archa	13.40	309	LR	LR	22 07 31.7	
	comp=Z,151nm,18.6s,baz=190,slow=40						
KURK	Kurchatov	17.35	338	Pn	Pn	22 02 26.7	-5.2
	0.1nm,0.3s,baz=147,slow=12,SNR=7.4						
KURK				Lg		22 07 40.6	
	baz=206,slow=27,SNR=4.2						
KURK				LR	LR	22 09 37.3	
	comp=Z,53nm,19.8s,baz=140,slow=39						
SONM	Songino Array	18.50	40	P	Pn	22 02 46.1	0.0
	0.1nm,0.3s,baz=235,slow=12,SNR=3.5						
ZALV	Zalesovo Beam	19.19	353	P	Pn	22 02 54.9	+0.5
	0.1nm,0.3s,baz=165,slow=7.4,SNR=2.8						
BVAR	Borovoye Array	22.21	330	P	P	22 03 27.0	+0.7
	0.8nm,0.8s,baz=187,slow=8.7,SNR=2.9						
MJAR	Matsushiro Arr	39.95	73	LR	LR	22 24 18.4	
	comp=Z,28nm,21.8s,baz=70,slow=39						
NOA	NORSAR Array B	54.17	324	LR	LR	22 32 42.0	
	comp=Z,54nm,19.6s,baz=320,slow=38						

MAN 01 22:16:04, 9.°34N×125.°48E, h5km, mb3.9, ML2.6, MS2.2, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUTP	Butuan	0.39	159	eP	Pg	22 16 12.2	+0.6
BUTP				eS	Sg	22 16 19.1	+2.4
SCPH	Surigao	0.44	1	⇓eP	Pg	22 16 13.0	+0.5
SCPH				eS	Sg	22 16 25.4	+7.1
BUKP	Musuan	1.51	196	eP	Pn	22 16 31.2	-0.4
BUKP				eS	Sn	22 16 51.9	+0.2

*NIED **01** 22:49:00, 45.°10N×150.°80E, h11km, Mw4.3 Best double couple: M0 3.56000×10^15 NP1:φs58.00000°, δ70.00000°, λ91.00000°. NP2:φs235.00000°, δ20.00000°, λ87.00000°.*
*IDC **01** 22:49:11.8±0.6, 44.°99N×150.°55E, h0km, mb4.3/21, mb1 4.4/25, mb1mx4.3/31, mbtmp4.2/25, ML3.7/4, MS3.7/1, Ms1 3.7/1, ms1mx2.6/41, Error ellipse: s-maj=17.3km s-min=13.1km az=143.0*
*SKHL **01** 22:49:12.3±0.7, 44.°60N×151.°13E, h55km±13km, mb4.8/5, Ms4.4/2*
*ISCJB **01** 22:49:13.4±0.9, 44.°86N±0.°05×150.°70E±0.°05, h21km±6km, mb4.6/104, MS4.1/11, Error ellipse: s-maj=9.9km s-min=3.6km az=149.0*
*BJI **01** 22:49:15.3, 45.°03N×150.°68E, h32km, mB4.8/23, mb4.7/40, Ms4.4/26, Ms7 4.2/27*
*JMA **01** 22:49:15.0±0.7, 45.°10N×150.°78E, h30km, M4.6*
*MOS **01** 22:49:16.2±1.0, 44.°92N×150.°67E, h42km, mb5.0/48, Error ellipse: s-maj=7.8km s-min=5.4km az=109.7*
*NEIC **01** 22:49:17.7±0.8, 45.°03N×150.°66E, h37km±6km, mb4.8/40, Error ellipse: s-maj=9.4km s-min=5.1km az=147.0*

ISC 01 22:49:16.7±1.0**, 44.°86N**±0.°05×**150.°75E**±0.°05**, h34**km±6km**, h26**km±1.2km**:pP-P, n373, σ1.s02**/390**, mb4.6**/104**, MS4.1**/11**, 33C-21D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	2.08	281	ePN	Pn	22 49 49.0	-0.2
KUR				eS	Sn	22 50 14.0	+0.1
KUR				pmax	pmax		
	comp=Z,2μm,1.0s						
KUR				pmax	pmax		
	comp=Z,680nm,0.5s						
KUR				smax			
	comp=N,2μm,0.5s						
KUR				smax			
	comp=E,1μm,0.9s						
KUR				smax			
	comp=N,5μm,2.0s						
KUR				smax			
	comp=E,3μm,1.0s						
KUR	Kuril'sk	2.08	281	eP	Pn	22 49 49.0	-0.2
KUR				AMB	AMB	22 49 55.4	
	comp=E,2μm,1.0s						
KUR				AMB	AMB	22 49 57.0	
	comp=E,330nm,0.5s						
KUR				AMB	AMB	22 49 57.0	
	comp=E,170nm,0.5s						
KUR				AMB	AMB	22 49 57.0	
	comp=E,650nm,0.5s						
KUR				eS	Sn	22 50 17.0	+3.1
KUR				A		22 50 33.0	
	comp=E,1μm,0.6s						
KUR				A		22 50 33.0	
	comp=E,1μm,0.9s						
KUR				A		22 50 34.0	
	comp=E,2μm,1.2s						
KUR				A		22 50 34.0	
	comp=E,4μm,1.4s						
YUK	Yuzh-Kuril'sk	3.60	259	ePN	Pn	22 50 12.4	+2.4
YUK				eS	Sn	22 50 50.5	-0.8
YUK				pmax	pmax		
	comp=N,120nm,0.3s						
YUK				pmax	pmax		
	comp=E,83nm,0.3s						
YUK				pmax	pmax		
	comp=Z,239nm,0.3s						
YUK				pmax	pmax		
	comp=Z,210nm,0.6s						
YUK				smax			
	comp=N,320nm,0.5s						
YUK				smax			
	comp=E,429nm,0.5s						
YUK				smax			
	comp=N,360nm,0.6s						
YUK				smax			
	comp=E,550nm,0.6s						
YUK	Yuzh-Kuril'sk	3.60	259	eP	Pn	22 50 12.4	+2.4
YUK				AMB	AMB	22 50 24.0	
	comp=E,210nm,0.4s						
YUK				AMB	AMB	22 50 24.0	
	comp=E,180nm,0.4s						
YUK				AMB	AMB	22 50 24.0	
	comp=E,350nm,0.4s						
YUK				eS	Sn	22 50 50.5	-0.8
YUK				A		22 50 55.1	
	comp=E,473nm,0.5s						
YUK				A		22 50 55.1	
	comp=E,400nm,0.5s						
YUK				A		22 50 58.4	
	comp=E,2μm,0.9s						
YUK				A		22 50 58.4	
	comp=E,2μm,0.9s						
NEM2	Nemuro 2	3.90	249	P	Pn	22 50 13.7	-0.6
NEM2				eS	Sn	22 50 56.8	-2.1
JRA	Rausu	4.14	259	P	Pn	22 50 18.1	+0.6
JNK	Nakash	4.52	256	P	Pn	22 50 23.4	+0.7
JNK				eS	Sn	22 51 14.0	0.0
JAK	Akkeshi	4.75	249	P	Pn	22 50 25.2	-0.7
JAK				eS	Sn	22 51 16.9	-2.9
JTKR	Abashiri--Toko	4.98	262	P	Pn	22 50 30.5	+1.4
JAR	Ashorobuto	5.27	255	P	Pn	22 50 33.7	+0.7
JAR				eS	Sn	22 51 33.8	+1.3
JMP	Maruseppu	5.36	263	P	Pn	22 50 36.2	+1.9
JOB	Onbets	5.37	251	P	Pn	22 50 34.5	+0.1
JOB				eS	Sn	22 51 33.0	-2.0
JCH	Churui	5.80	250	P	Pn	22 50 40.6	+0.2
JCH				eS	Sn	22 51 44.0	-1.7
JKK2	Kamakawa 2	5.82	263	P	Pn	22 50 42.5	+1.9
ASAJ	Asahikawa	5.88	266	Pn	Pn	22 50 43.6	+2.2
	comp=E,6.5nm,0.3s,baz=77,slow=21,SNR=38						
ASAJ	Asahikawa	5.88	266	ePn	Pn	22 50 43.7	+2.2
ASAJ	Asahikawa	5.88	266	PN	Pn	22 50 43.7	+2.3
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
ASAJ	Asahikawa	5.88	266	P	Pn	22 50 43.8	+2.4
YSS	Yuzh-Sakhalins	5.96	293	⇑ePN	Pn	22 50 42.0	-0.5
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				MLR	MLR		
	comp=N,500nm,15.0s						
YSS				MLR	MLR		
	comp=E,500nm,15.0s						
YSS				MLR	MLR		
	comp=Z,800nm,15.0s						
YSS	Yuzh-Sakhalins	5.96	293	⇑eP	Pn	22 50 42.0	-0.5
YSS				AMB	AMB	22 50 44.0	
	comp=Z,30nm,0.8s						
JFR	Furan	6.12	257	P	Pn	22 50 46.5	+1.8
ERM	Erimo	6.22	245	ePn	Pn	22 50 47.8	+1.8
ERM	Erimo	6.22	245	⇑ePN	Pn	22 50 45.7	-0.3
JAB	Ashibetsu	6.28	261	P	Pn	22 50 49.6	+2.7
JNBK	Urakawa-nobuka	6.36	249	P	Pn	22 50 47.5	-0.4
JBT2	Biratori 2	6.42	254	P	Pn	22 50 48.9	+0.2
SKR	Severo-Kuril's	6.86	30	ePN	Pn	22 50 55.0	+0.2
SKR				pmax	pmax		
	comp=Z,40nm,0.6s						
SKR				MLR	MLR		
	comp=E,2μm,14.0s						
SKR				MLR	MLR		
	comp=Z,2μm,14.0s						
SKR	Severo-Kuril's	6.86	30	eP	Pn	22 50 55.0	+0.2
SKR				AMB	AMB	22 50 57.0	
	comp=Z,40nm,0.6s						
SKR				eS	Sn	22 52 11.5	0.0
SKR				A		22 52 34.9	

comp=Z,40nm,0.5s
SKR A 22 52 34.9
comp=Z,80nm,0.6s
SKR AMS AMS 22 53 57.0
comp=Z,2µm,14.0s
SKR AMS AMS 22 53 57.0
comp=Z,2µm,14.0s
JNB Noboribetsu 7.44 255 P **Pn** **22 51 03.2 +0.4**
JNB eS **Sn** **22 52 24.5 -1.4**
JKB Kayabe 7.68 251 P **Pn** **22 51 05.6 -0.5**
JKB eS **Sn** **22 52 27.4 -4.4**
JYM2 Yakumo 2 8.03 254 P **Pn** **22 51 11.3 +0.4**
TYV Tymovskoe 8.11 321 eP **Pn** **22 51 12.8 +0.9**
TYV AMB AMB 22 51 14.3
comp=Z,9.0nm,0.4s
TYV AMB AMB 22 51 14.3
comp=Z,8.0nm,0.6s
TYV AMS AMS 22 56 24.0
comp=Z,1µm,14.0s
TYV AMS AMS 22 56 24.0
comp=Z,1µm,10.0s
JANG Nango 8.15 240 P **Pn** **22 51 10.3 -2.3**
JANG eS **Sn** **22 52 36.3 -7.2**
JTH Tanohata 8.21 236 P **Pn** **22 51 12.1 -1.3**
JTH eS **Sn** **22 52 35.8 -9.1**
OFUJ Ofunato 8.89 233 P **Pn** **22 51 20.7 -2.0**
OFUJ eS **Sn** **22 52 54.2 -7.4**
JRG Rokugo 9.29 238 P **Pn** **22 51 27.5 -0.6**
PETK Petropavlovsk- 9.43 26 Pn **Pn** **22 51 30.0 0.0**
comp=Z,0.6nm,0.3s,baz=179,slow=14,SNR=4.5
PETK Petropavlovsk- 9.43 26 Pn **Pn** **22 51 30.0 0.0**
PETK Petropavlovsk- 9.43 26 PN **Pn** **22 51 30.0 0.0**
JIO Ouri 9.51 231 P **Pn** **22 51 29.1 -2.1**
JIO eS **Sn** **22 53 08.0 -8.7**
MJAR Matsushiro Arr 12.62 233 Pn **Pn** **22 52 13.5 -0.3**
comp=Z,0.3nm,0.3s,baz=33,slow=12,SNR=6.4
MJAR Matsushiro Arr 12.62 233 Pn **Pn** **22 52 13.5 -0.3**
MJAR Matsushiro Arr 12.62 233 PN **Pn** **22 52 13.5 -0.3**
KLR Kul'dur 13.67 295 eP **Pn** **22 52 30.0 +2.0**
FX1 Attu Island--F 16.74 53 Pn **Pn** **22 53 08.3 -0.1**
comp=Z,0.9nm,0.3s,baz=281,slow=17,SNR=5.6
FX1 Attu Island--F 16.74 53 Pn **Pn** **22 53 08.3 -0.1**
FX1 Attu Island--F 16.74 53 P **Pn** **22 53 08.3 0.0**
ZEA Zeya 17.65 309 eP **Pn** **22 53 16.1 -3.6**
ZEA AMB AMB 22 53 26.2
comp=Z,14nm,1.2s
CN2 Changchun 18.12 276 eP **Pn** **22 53 24.3 -1.2**
CN2 epP pP 22 53 30.3 -4.2
CN2 eS **Sn** **22 56 40.7 -5.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=N,400nm,14.0s
CN2 LR LR
comp=E,200nm,14.0s
CN2 LR LR
comp=Z,400nm,15.0s
SEY Seymchan 18.14 2⇓ eP **Pn** **22 53 23.7 -1.9**
KSRS Korea Array 18.68 255 P **Pn** **22 53 31.2 -1.2**
comp=Z,0.3nm,0.3s,baz=63,slow=10,SNR=5.9
KSRS Korea Array 18.68 255 P **Pn** **22 53 31.2 -1.2**
YAK Yakutsk 21.12 332 ePn **P** **22 53 56.8 -1.4**
comp=Z,64nm,1.0s,mb4.9
YAK Yakutsk 21.12 332 eP **P** **22 54 03.6 +5.4**
YAK pmax pmax
comp=E,21nm,1.3s
YAK pmax pmax
comp=Z,49nm,0.9s,mb4.8
YAK pmax pmax
comp=N,19nm,1.1s
YAK MLR MLR
comp=Z,245nm,15.0s,MS3.7
YAK MLR MLR
comp=E,127nm,15.0s,MS3.5
YAK MLR MLR
comp=N,88nm,17.0s,MS3.5
BILL Bilibino 24.62 14⇓ eP **P** **22 54 33.0 -0.5**
BILL pmax pmax
comp=Z,8.0nm,1.6s,mb4.0
BILL MLR MLR
comp=Z,300nm,16.0s,MS3.9
BOD Bodaibo 26.00 313 eP **P** **22 54 42.8 -3.3**
HHC Hu-ho-hao-te 28.81 276 eP **P** **22 55 15.9 +4.4**
HHC pP pP 22 55 22.6 +1.3
HHC sP sP 22 55 26.1 +0.7
HHC PP PP 22 56 08.0 -8.7
HHC S **S** **23 00 01.0 +2.0**
HHC sS sS 23 00 12.2 -2.9
HHC SS SS 23 01 26.1 -35
HHC pmax pmax
comp=Z,22nm,0.8s,mb4.9
HHC pmax pmax
comp=Z,74nm,6.5s
HHC LR LR
comp=N,160nm,13.9s,MS4.0
HHC LR LR
comp=E,210nm,11.6s,MS4.0
HHC LR LR
comp=Z,230nm,12.5s,MS4.0
ULN Ulaanbaatar 30.01 292 eP **P** **22 55 20.6 -1.4**
comp=Z,5.8nm,0.8s,mb4.4
ULN Ulaanbaatar 30.01 292 eP **P** **22 55 20.6 -1.4**
ULN pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
SONM Songino Array 30.45 292 P **P** **22 55 24.3 -1.6**
comp=Z,3.2nm,0.8s,mb4.1,baz=83,slow=7.5,SNR=12
SONM Songino Array 30.45 292 P **P** **22 55 24.3 -1.6**
SONM Songino Array 30.45 292 P **P** **22 55 24.3 -1.6**
ZAK Zakamensk 32.03 297 eP **P** **22 55 32.9 -6.9**
XAN Xi'an 33.72 266 P **P** **22 55 54.4 -0.4**
XAN pP pP 22 56 01.3 -3.3
XAN pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
LZH Lanzhou 36.31 273 eP **P** **22 56 18.5 +1.4**
LZH pP pP 22 56 25.8 -1.1
LZH sP sP 22 56 29.3 -1.7
LZH PP PP 22 57 39.0 -0.9
LZH pmax pmax
comp=Z,24nm,1.3s,mb5.0
LZH pmax pmax
comp=Z,78nm,4.9s
LZH LR LR
comp=N,300nm,11.0s,MS4.4
LZH LR LR
comp=E,240nm,13.5s,MS4.4
LZH LR LR
comp=Z,350nm,14.3s,MS4.3
GTA Gaotai 37.66 280 ⇑P **P** **22 56 29.2 +0.8**
GTA pP pP 22 56 36.4 -1.9
GTA sP sP 22 56 39.8 -2.6
GTA S **S** **23 02 15.5 -0.4**
GTA pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
GTA pmax pmax
comp=Z,120nm,7.1s
GTA LR LR
comp=N,210nm,15.2s,MS4.1
GTA LR LR
comp=E,110nm,14.2s,MS4.1
GTA LR LR
comp=Z,100nm,14.2s,MS3.8
ILAR Eielson Array 39.06 37 P **P** **22 56 39.2 -0.6**
comp=Z,1.6nm,0.7s,mb3.8,baz=277,slow=8.8,SNR=18
ILAR Eielson Array 39.06 37 P **P** **22 56 39.2 -0.6**
ILAR Eielson Array 39.06 37 P **P** **22 56 39.3 -0.6**
CD2 Chengdu 39.08 266 P **P** **22 56 42.2 +1.7**
CD2 pP pP 22 56 49.6 -0.8
CD2 sP sP 22 56 53.0 -1.5
CD2 PP PP 22 58 15.3 +5.0
CD2 PcP PcP 22 58 53.8 +3.9
CD2 S **S** **23 02 38.8 +1.2**
CD2 sS sS 23 02 50.4 -3.6
CD2 SS SS 23 05 20.8 -10
CD2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
CD2 pmax pmax
comp=Z,130nm,6.5s
CD2 LR LR
comp=N,170nm,6.0s
CD2 LR LR
comp=Z,130nm,7.1s
GYA Guiyang 39.69 258 P **P** **22 56 45.5 -0.2**
GYA pP pP 22 56 55.8 +0.2
GYA PP PP 22 58 23.4 +6.3
GYA PcP PcP 22 58 55.9 +4.0
GYA ScP ScP 23 02 41.5 +3.6
GYA S **S** **23 02 50.0 +3.1**
GYA SS SS 23 05 38.2 -4.8
GYA pmax pmax
comp=Z,20nm,0.9s,mb4.8
GYA pmax pmax
comp=Z,120nm,5.0s
GYA LR LR
comp=N,580nm,17.0s,MS4.6
GYA LR LR
comp=E,460nm,18.9s,MS4.6
GYA LR LR
comp=Z,590nm,17.4s,MS4.5
RAGM Ragged Mountai 40.38 44 eP **P** **22 56 59.7 +8.8**
EGAK Eagle 41.51 37 eP **P** **22 56 59.6 -0.6**
comp=Z,6.1nm,0.8s,mb4.3
ZALV Zalesovo Beam 42.40 307 P **P** **22 57 05.1 -2.5**
comp=Z,1.1nm,0.5s,mb3.7,baz=66,slow=7.4,SNR=7.2
ZALV LR 23 18 06.9
comp=Z,90nm,18.3s,MS3.7,baz=72,slow=41
ZALV Zalesovo Beam 42.40 307 P **P** **22 57 05.1 -2.5**
ZALV LR LR 23 18 06.9
ZALV Zalesovo Beam 42.40 307 P **P** **22 57 05.1 -2.5**
KMI Kunming 43.27 259 P **P** **22 57 18.1 +3.1**
KMI pmax pmax
comp=Z,7.0nm,1.1s,mb4.3
WMQ Urumqi 44.09 292 P **P** **22 57 23.1 +1.8**
WMQ pP pP 22 57 30.6 -0.8
WMQ pmax pmax
comp=Z,11nm,0.8s,mb4.6
WMQ pmax pmax
comp=Z,65nm,4.0s
WMQ LR LR
comp=N,100nm,8.0s
WMQ LR LR
comp=E,170nm,6.4s
WMQ LR LR
comp=Z,110nm,17.2s,MS3.8
INK Inuvik 44.13 31 P **P** **22 57 21.6 +0.2**
comp=Z,5.0nm,0.7s,mb4.3,baz=280,slow=5.4,SNR=12
INK Inuvik 44.13 31 eP **P** **22 57 21.7 +0.3**
comp=Z,132nm,2.8s,mb5.2
INK Inuvik 44.13 31 eP **P** **22 57 21.7 +0.3**
INK pmax pmax
comp=Z,132nm,2.8s
MK31 Makanchi Array 46.36 298 eP **P** **22 57 38.9 -0.4**
MK31 Makanchi Array 46.36 298 ceP **P** **22 57 38.5 -0.8**
MK31 pmax pmax
comp=Z,13nm,0.7s,mb5.0
MKAR Makanchi Array 46.36 298 P **P** **22 57 38.6 -0.7**
comp=Z,9.0nm,0.7s,mb4.8,baz=72,slow=7.7,SNR=105
MKAR Makanchi Array 46.36 298 P **P** **22 57 38.6 -0.7**
MKAR Makanchi Array 46.36 298 P **P** **22 57 38.6 -0.7**
KURK Kurchatov 47.05 304 P **P** **22 57 43.4 -1.2**
comp=Z,6.8nm,0.6s,mb4.8,baz=71,slow=8.8,SNR=44
KURK Kurchatov 47.05 304 eP **P** **22 57 43.2 -1.5**
comp=Z,7.2nm,0.7s,mb4.7
KURK Kurchatov 47.05 304⇑ *i*P **P** **22 57 43.0 -1.7**
KURK pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
LSA Lhasa 48.73 273 P **P** **22 57 58.8 +0.9**
CHTO Chiang Mai 50.07 256 eP **P** **22 58 09.2 +1.0**
comp=Z,3.0nm,0.9s,mb4.3
CHTO Chiang Mai 50.07 256 eP **P** **22 58 09.2 +0.9**
CHTO pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
CMAR Chiang Mai Arr 50.31 256 P **P** **22 58 10.6 +0.5**
comp=Z,1.3nm,0.7s,mb4.1,baz=45,slow=6.9,SNR=12
CMAR Chiang Mai Arr 50.31 256 P **P** **22 58 10.7 +0.5**
CMAR Chiang Mai Arr 50.31 256 P **P** **22 58 10.6 +0.5**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 50.79 310 P **P** **22 58 12.3 -1.0**
comp=Z,2.2nm,0.7s,mb4.2,baz=60,slow=8.8,SNR=9.3
BVAR Borovoye Array 50.79 310 P **P** **22 58 12.3 -1.0**
BVAR Borovoye Array 50.79 310 P **P** **22 58 12.3 -1.0**
BRVK Borovoye 50.84 310⇑ *i*P **P** **22 58 14.1 +0.5**
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ZRNK Zerenda 51.58 310 *i* P **P** **22 58 16.9 -2.3**
ZRNK pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
TKM2 Tokmak 2 52.35 296 eP **P** **22 58 25.6 +0.5**
comp=Z,4.5nm,0.8s,mb4.5
TKM2 Tokmak 2 52.35 296 eP **P** **22 58 25.6 +0.5**
TKM2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
TAPN Taplejung 52.55 273 eP **P** **22 58 27.8 +1.0**
comp=Z,15nm,0.8s,mb5.0
TAPN Taplejung 52.55 273 eP **P** **22 58 27.8 +1.0**
comp=Z,15nm,0.8s,mb5.0
KBK Karagaybulak 52.90 296 eP **P** **22 58 29.9 +0.8**
comp=Z,10nm,0.8s,mb4.8
KBK Karagaybulak 52.90 296 eP **P** **22 58 29.9 +0.7**
KBK pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
KZA Kyzart 53.00 296 eP **P** **22 58 31.6 +1.7**
comp=Z,17nm,0.8s,mb5.0
KZA Kyzart 53.00 296 eP **P** **22 58 31.6 +1.7**
KZA pmax pmax
comp=Z,17nm,0.8s,mb5.0
ODAN Odare 53.08 273 eP **P** **22 58 31.2 +0.5**
comp=Z,13nm,1.0s,mb4.8
ODAN Odare 53.08 273 eP **P** **22 58 31.2 +0.5**
comp=Z,13nm,1.0s,mb4.8
RES Resolute Bay 53.15 18 P **P** **22 58 30.6 +0.1**
comp=Z,8.4nm,0.7s,mb4.8,baz=322,slow=7.6,SNR=13
RES Resolute Bay 53.15 18 eP **P** **22 58 30.9 +0.4**
comp=Z,8.9nm,0.8s,mb4.8
RES Resolute Bay 53.15 18 P **P** **22 58 30.7 +0.1**
RES pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
AAK Ala-Archa 53.20 296 eP **P** **22 58 30.6 -0.8**
comp=Z,10.0nm,0.7s,mb4.8
AAK Ala-Archa 53.20 296 ceP **P** **22 58 30.9 -0.5**
AAK pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
YKA Yellowknife Ar 53.43 35 P **P** **22 58 33.9 +1.1**
comp=Z,0.9nm,0.6s,mb3.9,baz=302,slow=7.2,SNR=3.0
YKA Yellowknife Ar 53.43 35 P **P** **22 58 33.9 +1.1**
YKA Yellowknife Ar 53.43 35 P **P** **22 58 33.9 +1.2**
GUN Gumba 53.52 275 eP **P** **22 58 34.5 +0.6**
comp=Z,25nm,0.6s,mb5.3
GUN Gumba 53.52 275 eP **P** **22 58 34.5 +0.6**
comp=Z,25nm,0.6s,mb5.3
EKS2 Erkin-Say 53.64 297 eP **P** **22 58 34.5 -0.1**
comp=Z,9.3nm,0.7s,mb4.8
EKS2 Erkin-Say 53.64 297 eP **P** **22 58 34.5 -0.1**
EKS2 pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
KSH Kashi 53.85 292 P **P** **22 58 39.9 +3.7**
KSH pP pP 22 58 47.4 +1.0
KSH sP sP 22 58 50.7 +0.3
KSH PcP PcP 22 59 45.4 +3.9
KSH PP PP 23 00 42.4 +5.2
KSH ScP ScP 23 03 40.1 +3.3
KSH PcS PcS 23 03 43.2 +2.5
KSH S **S** **23 06 11.1 +2.4**
KSH ScS ScS 23 08 24.1 +1.3
KSH SS SS 23 09 51.7 +2.2
KSH pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
KSH pmax pmax
comp=Z,78nm,5.8s
KSH LR LR
comp=N,130nm,7.6s
KSH LR LR
comp=E,85nm,5.4s
KSH LR LR
comp=Z,120nm,4.6s
AML Almayashu 53.96 296 eP **P** **22 58 37.7 +0.7**
comp=Z,7.4nm,0.7s,mb4.7
AML Almayashu 53.96 296 eP **P** **22 58 37.7 +0.7**
AML pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
KKN Kakani 54.01 275 eP **P** **22 58 38.2 +0.6**
comp=Z,20nm,0.7s,mb5.2
KKN Kakani 54.01 275 eP **P** **22 58 38.2 +0.6**
comp=Z,20nm,0.7s,mb5.2
KKN Kakani 54.01 275 eP **P** **22 58 38.2 +0.6**
KKN pmax pmax
comp=Z,20nm,0.7s,mb5.2
PKI Pulchoki 54.05 275 eP **P** **22 58 38.2 +0.4**
comp=Z,12nm,0.7s,mb4.9
PKI Pulchoki 54.05 275 eP **P** **22 58 38.7 +0.9**
comp=Z,14nm,0.6s,mb5.1
PKI Pulchoki 54.05 275 eP **P** **22 58 38.7 +0.9**
PKI pmax pmax
comp=Z,14nm,0.6s,mb5.1
PKIN Phulchoki 54.06 275 eP **P** **22 58 38.7 +0.8**
comp=Z,14nm,0.6s,mb5.0
DMN Daman 54.25 275 eP **P** **22 58 40.1 +0.9**
comp=Z,29nm,0.8s,mb5.3
DMN Daman 54.25 275 eP **P** **22 58 40.1 +0.9**
comp=Z,29nm,0.8s,mb5.3
GKN Gorkha 54.34 276 eP **P** **22 58 40.2 +0.3**
comp=Z,19nm,0.8s,mb5.1
GKN Gorkha 54.34 276 eP **P** **22 58 40.2 +0.3**
comp=Z,19nm,0.8s,mb5.1
DANN Dangsing 54.76 277 eP **P** **22 58 44.0 +1.1**
comp=Z,30nm,0.7s,mb5.4
DANN Dangsing 54.76 277 eP **P** **22 58 44.0 +1.1**
comp=Z,30nm,0.7s,mb5.4
KOLN Koldanda 55.22 276 eP **P** **22 58 46.9 +0.6**
comp=Z,20nm,0.9s,mb5.1
KOLN Koldanda 55.22 276 eP **P** **22 58 46.9 +0.6**
comp=Z,20nm,0.9s,mb5.1
ARU Arti 55.29 318*d* iP **P** **22 58 44.4 -2.0**
ARU *e* 23 00 45.4
ARU S **S** **23 06 26.4 -1.2**
ARU SS SS 23 10 07.2 -4.3
ARU pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
KKAR Karatay Array 55.47 299 eP **P** **22 58 47.8 -0.1**
comp=Z,8.4nm,0.7s,mb4.9
KKAR Karatay Array 55.47 299 eP **P** **22 58 47.8 -0.1**
KKAR pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
AB31 Akbulak array 58.37 310 ceP **P** **22 59 07.2 -1.1**
AB31 pmax pmax
comp=Z,12nm,0.6s,mb5.1
ABKAR Akbulak array 58.37 310 eP **P** **22 59 07.5 -0.8**
APA Apatity 58.42 336⇓ eP **P** **22 59 14.0 +5.6**
APA *e* 22 59 56.0
APA eS **S** **23 07 14.0 +5.4**
APA eSS SS 23 11 00.0 -0.2
APA MLR MLR
comp=Z,2µm,18.0s,MS5.2
ARCES ARCESS Array B 59.09 340 P **P** **22 59 10.7 -2.3**
comp=Z,5.8nm,1.0s,mb4.6,baz=26,slow=8.8,SNR=3.6
ARCES ARCESS Array B 59.09 340 P **P** **22 59 10.7 -2.3**
ARCES ARCESS Array B 59.09 340 P **P** **22 59 10.7 -2.3**
KBL Kabul 61.22 291 eP **P** **22 59 27.8 -0.3**
comp=Z,11nm,0.7s,mb5.1
KBL Kabul 61.22 291 eP **P** **22 59 27.8 -0.4**
KBL pmax pmax
comp=Z,11nm,0.7s,mb5.1
JOF Joensuu 62.29 333 eP **P** **22 59 31.4 -3.5**
JOF Joensuu 62.29 333 ep **P** **22 59 31.4 -3.5**
SUMG Summit 62.69 3 eP **P** **22 59 36.8 -0.6**
comp=Z,16nm,0.7s,mb5.3
SUMG Summit 62.69 3 eP **P** **22 59 36.8 -0.7**
SUMG pmax pmax
comp=Z,16nm,0.7s
SUMG Summit 62.69 3 *i* P **P** **22 59 37.5 0.0**
comp=Z,16nm,0.8s,mb5.2
KAF Kangasniemi 64.45 335 eP **P** **22 59 46.5 -2.7**
KAF Kangasniemi 64.45 335 ep **P** **22 59 46.5 -2.7**
FINES FINESS Array B 65.04 334 P **P** **22 59 51.1 -1.9**
comp=Z,6.0nm,0.6s,mb4.8,baz=34,slow=7.5,SNR=36
FINES FINESS Array B 65.04 334 P **P** **22 59 51.1 -1.9**
FINES FINESS Array B 65.04 334 P **P** **22 59 51.1 -1.9**
WRA Warramunga Arr 66.20 197 P **P** **23 00 01.6 +0.7**
comp=Z,1.2nm,0.8s,mb4.0,baz=14,slow=6.6,SNR=7.5
WRA Warramunga Arr 66.20 197 P **P** **23 00 01.6 +0.7**
WRA Warramunga Arr 66.20 197 P **P** **23 00 01.6 +0.7**
PDAR Pinedale Array 67.21 52 P **P** **23 00 08.8 +1.5**
comp=Z,0.5nm,0.7s,mb3.7,baz=298,slow=3.2,SNR=4.2
PDAR Pinedale Array 67.21 52 P **P** **23 00 08.8 +1.5**
NB2 NORSAR Subarra 69.47 340 P **P** **23 00 19.7 -1.4**
comp=Z,2.0nm,0.7s,mb4.2,baz=29,slow=6.5
NOA NORSAR Array B 69.47 340 P **P** **23 00 20.1 -1.0**
comp=Z,3.3nm,0.7s,mb4.4,baz=30,slow=6.3,SNR=12
NOA NORSAR Array B 69.47 340 P **P** **23 00 20.1 -1.0**
NOA NORSAR Array B 69.47 340 P **P** **23 00 20.1 -1.0**
ASAR Alice Springs 69.91 196 P **P** **23 00 24.0 -0.2**
comp=Z,0.6nm,0.7s,mb3.6,baz=8.7,slow=5.7,SNR=16
ASAR Alice Springs 69.91 196 P **P** **23 00 24.0 -0.2**
ASAR Alice Springs 69.91 196 P **P** **23 00 24.0 -0.1**
KIV Kislovodsk 70.92 313 eP **P** **23 00 31.9 +1.6**
comp=Z,20nm,0.8s,mb5.1
KIV Kislovodsk 70.92 313*d* iP **P** **23 00 31.5 +1.2**
KIV *i* 23 00 53.9
KIV pmax pmax
comp=Z,18nm,0.8s,mb5.0
KIV MLR MLR
comp=Z,100nm,16.0s,MS4.2
ZEI Tsey 71.11 312 eP **P** **23 00 30.4 -1.1**
ZEI pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
DGRG David-gareji 71.23 310 P **P** **23 00 34.9 +2.7**
MTA Mtatsminda 71.38 311 P **P** **23 00 33.5 +0.4**
TBLG Delisi 71.38 311 eP **P** **23 00 33.3 +0.2**
TBLG Delisi 71.38 311 P **P** **23 00 33.4 +0.3**
ONI Oni 71.47 312 P **P** **23 00 34.7 +1.1**
GOR Gori 71.54 311 P **P** **23 00 32.1 -1.9**
AKASG Malin Array Be 72.18 325 P **P** **23 00 36.5 -1.3**
comp=Z,3.5nm,0.5s,mb4.5,baz=34,slow=6.0,SNR=17
AKASG Malin Array Be 72.18 325 P **P** **23 00 36.5 -1.3**
AKASG Malin Array Be 72.18 325 P **P** **23 00 36.5 -1.3**
AKH Akhalkalaki 72.28 311 P **P** **23 00 39.8 +1.3**
GNI Garni 72.48 309 eP **P** **23 00 41.6 +1.9**
comp=Z,18nm,0.9s,mb5.0
GNI Garni 72.48 309⇑ *i*P **P** **23 00 40.9 +1.2**
GNI pmax pmax
comp=Z,9.0nm,0.8s
KWP Kalwaria Pacla 75.58 328 eP **P** **23 00 57.7 0.0**
comp=Z,28nm,1.0s,mb5.1
KWP Kalwaria Pacla 75.58 328 eP **P** **23 00 57.7 0.0**
KWP pmax pmax
comp=Z,28nm,1.0s,mb5.2
KWP Kalwaria Pacla 75.58 328⇑ *i*P **P** **23 00 57.7 0.0**
OJC Ojcow 76.16 330 eP **P** **23 01 00.7 -0.2**
OJC Ojcow 76.16 330 eP **P** **23 01 00.6 -0.3**
comp=Z,10nm,0.9s,mb4.8
OJC Ojcow 76.16 330 eP **P** **23 01 00.6 -0.3**
OJC pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
STHS Stebnicka Huta 76.30 329 eP **P** **23 01 02.5 +0.7**
STHS pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
STHS Stebnicka Huta 76.30 329 eP **P** **23 01 02.5 +0.7**
KOLS Kolonicke sedl 76.31 328 eP **P** **23 01 01.6 -0.3**
KOLS pmax pmax
comp=Z,11nm,1.3s,mb4.6
KOLS Kolonicke sedl 76.31 328 eP **P** **23 01 01.6 -0.3**
TESR 76.53 324⇓ *i*P **P** **23 01 02.9 -0.2**
NIE Niedzica 76.64 329 eP **P** **23 01 04.2 +0.5**
NIE Niedzica 76.64 329 eP **P** **23 01 04.2 +0.5**
CRVS Cervenica-Dubn 76.64 328 eP **P** **23 01 03.6 -0.1**
CRVS pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CRVS Cervenica-Dubn 76.64 328 eP **P** **23 01 03.6 -0.1**
TRPA Tarpa 76.87 327⇓ *i*P **P** **23 01 05.1 +0.1**
CFR Carcaliu 76.95 322⇑ P **P** **23 01 05.2 -0.3**
CFR Carcaliu 76.95 322⇑ *i*P **P** **23 01 05.2 -0.3**
VRI Vrincioaia 77.01 324⇓ P **P** **23 01 06.6 +0.8**
VRI Vrincioaia 77.01 324⇓ *i*P **P** **23 01 06.6 +0.8**
OKC Ostrava-Krasne 77.06 331 eP **P** **23 01 05.6 -0.4**
OKC Ostrava-Krasne 77.06 331 eP **P** **23 01 05.6 -0.4**
UPC Upice 77.21 332 eP **P** **23 01 06.7 -0.2**
UPC Upice 77.21 332 eP **P** **23 01 06.7 -0.2**
DPC Dobruska-Polom 77.25 332 eP **P** **23 01 07.3 +0.2**
DPC Dobruska-Polom 77.25 332 eP **P** **23 01 07.3 +0.2**
MORC Moravsky Berou 77.32 331⇑ P **P** **23 01 07.3 -0.2**
MORC Moravsky Berou 77.32 331⇑ *i*P **P** **23 01 07.3 -0.2**
KECS Kecovo 77.36 329 eP **P** **23 01 07.2 -0.5**
KECS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
KECS Kecovo 77.36 329 eP **P** **23 01 07.2 -0.5**
CLL Collm 77.48 334 *i* P **P** **23 01 07.2 -1.2**
CLL *i* 23 01 14.2
CLL pmax pmax
comp=Z,13nm,0.8s,mb4.9
CLL MLR MLR
comp=Z,100nm,16.3s,MS4.2
CLL Collm 77.48 334 *i* P **P** **23 01 07.2 -1.2**
comp=Z,13nm,0.8s
DOPR Dopca 77.49 324⇑ *i*P **P** **23 01 09.4 +0.9**
MLR Muntele Rosu 77.64 324⇑ P **P** **23 01 10.3 +0.9**

MLR	Muntele Rosu	77.64	324	⇑iP	P	23 01 10.3	+0.9
PVCC	Panska Ves	77.67	333	eP	P	23 01 09.4	0.0
PVCC	Panska Ves	77.67	333	eP	P	23 01 09.4	0.0
ISR	Istrita	77.69	323	⇑P	P	23 01 10.5	+0.9
ISR	Istrita	77.69	323	⇑iP	P	23 01 10.5	+0.9
DRGR		77.90	326	⇑P	P	23 01 11.4	+0.6
DRGR		77.90	326	⇑iP	P	23 01 11.4	+0.6
VYHS	Vyhne	77.95	330	eP	P	23 01 11.0	0.0
VYHS				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
VYHS	Vyhne	77.95	330	eP	P	23 01 11.0	0.0
VYHS				epP	pP	23 01 17.8	-3.9
KOLL	Kolacno	78.03	330	eP	P	23 01 11.0	-0.5
KOLL	Kolacno	78.03	330	eP	P	23 01 11.0	-0.5
VRAC	Vranov	78.04	331	⇑P	P	23 01 09.0	-2.6
VRAC	Vranov	78.04	331	⇑iP	P	23 01 08.9	-2.7
PSZ	Piszkesteto	78.05	329	⇑P	P	23 01 05.6	-6.0
PSZ	Piszkesteto	78.05	329	⇑iP	P	23 01 05.6	-6.0
VOIR		78.06	324	⇑P	P	23 01 12.4	+0.7
VOIR		78.06	324	⇑iP	P	23 01 12.4	+0.7
PRU	Pruhonice	78.14	333	eP	P	23 01 13.2	+1.1
PRU	Pruhonice	78.14	333	eP	P	23 01 13.2	+1.1
NKC	Novy Kostel	78.59	334	eP	P	23 01 14.4	-0.2
NKC	Novy Kostel	78.59	334	eP	P	23 01 14.4	-0.2
BR131	Keskin Array S	78.61	316	eP	P	23 01 15.2	+0.3
	comp=Z,2.0nm,0.6s,mb4.2						
BRTR	Keskin Array B	78.61	316	P	P	23 01 15.6	+0.7
	comp=Z,3.4nm,0.8s,mb4.4,baz=76,slow=4.7,SNR=29						
BRTR	Keskin Array B	78.61	316	P	P	23 01 15.6	+0.7
BRTR	Keskin Array B	78.61	316	P	P	23 01 15.6	+0.7
ZST	Bratislava	78.82	330	eP	P	23 01 17.4	+1.6
ZST				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
ZST	Bratislava	78.82	330	eP	P	23 01 17.4	+1.6
GZR	Gura Zlata	79.02	326	⇑P	P	23 01 16.6	-0.4
GZR	Gura Zlata	79.02	326	⇑iP	P	23 01 16.6	-0.4
KHC	Kasperske Hory	79.20	333	eP	P	23 01 17.7	-0.2
	comp=Z,5.2nm,0.7s,mb4.6						
KHC	Kasperske Hory	79.20	333	eP	P	23 01 18.0	+0.1
KHC				e		23 01 24.0	
KHC	Kasperske Hory	79.20	333	eP	P	23 01 18.0	+0.1
KHC				ePCP	PcP	23 01 24.0	-2.2
BZS	Buzias	79.30	326	⇓P	P	23 01 17.4	-1.1
BZS	Buzias	79.30	326	⇓iP	P	23 01 17.4	-1.1
GERES	GERESS Array B	79.41	333	P	P	23 01 18.7	-0.3
	comp=Z,2.7nm,0.6s,mb4.3,baz=34,slow=5.2,SNR=29						
GERES	GERESS Array B	79.41	333	P	P	23 01 18.7	-0.3
GERES	GERESS Array B	79.41	333	P	P	23 01 18.7	-0.4
GRFO	Grafenberg	79.45	335	eP	P	23 01 19.5	+0.2
	comp=Z,11nm,0.8s,mb4.8						
GRFO	Grafenberg	79.45	335	eP	P	23 01 19.5	+0.2
GRFO				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
CONA	Conrad Observa	79.48	331	⇓iP	P	23 01 20.1	+0.7
	comp=Z,7.2nm,0.7s,mb4.7						
CSNA	Conrad Observa	79.48	331	⇓iP	P	23 01 20.1	+0.6
	comp=Z,6.9nm,0.7s,mb4.7						
TXAR	Lajitas Array	79.88	59	P	P	23 01 21.9	-0.1
	comp=Z,0.4nm,0.5s,mb3.6,baz=305,slow=4.2,SNR=8.4						
TXAR	Lajitas Array	79.88	59	P	P	23 01 21.9	-0.1
TXAR	Lajitas Array	79.88	59	P	P	23 01 21.9	-0.1
MOA	Molln	80.09	332	⇓iP	P	23 01 22.9	+0.1
	comp=Z,7.7nm,0.9s,mb4.6						
MEM	Membach	80.11	338	P	P	23 01 23.0	+0.2
	comp=Z,14nm,2.2s,mb4.5						
BCLA	Clavier	80.47	338	P	P	23 01 24.7	-0.1
	comp=Z,18nm,2.3s,mb4.6						
SOKA	Soboth	80.84	331	⇓iP	P	23 01 27.5	+0.7
	comp=Z,6.6nm,0.8s,mb4.6						
PERS	Pernice	80.85	331	iP	P	23 01 26.9	+0.1
GIVF	Givet	80.89	339	eP	P	23 01 27.1	+0.1
GIVF	Givet	80.89	339	eP	P	23 01 27.1	+0.1
GIVF	Givet	80.89	339	eP	P	23 01 27.1	+0.1
KBA	Koelnbreinsper	81.07	332	⇓iP	P	23 01 28.6	+0.6
	comp=Z,11nm,0.7s,mb4.9						
BAIF	Baives	81.08	339	eP	P	23 01 28.1	0.0
BAIF	Baives	81.08	339	eP	P	23 01 28.1	0.0
BAIF	Baives	81.08	339	eP	P	23 01 28.1	0.0
VTS	Vitosha	81.15	324	⇑P	P	23 01 28.6	+0.1
VTS	Vitosha	81.15	324	⇑iP	P	23 01 28.6	+0.1
OBKA	Obir	81.16	331	⇓iP	P	23 01 29.0	+0.5
	comp=Z,6.7nm,0.8s,mb4.7						
WATA	Walderalm	81.42	333	⇓iP	P	23 01 30.0	+0.1
	comp=Z,7.5nm,0.5s,mb4.9						
WTTA	Wattenberg	81.46	333	⇓iP	P	23 01 30.6	+0.5
	comp=Z,11nm,0.5s,mb5.1						
RETA	Reutte	81.54	334	⇓iP	P	23 01 31.3	+0.8
	comp=Z,5.2nm,0.8s,mb4.5						
MOTA	Moosalm	81.56	334	⇓iP	P	23 01 30.7	+0.1
	comp=Z,5.6nm,0.6s,mb4.7						
VISS	Visnje	81.67	331	iP	P	23 01 30.5	-0.7
CDF	Champ du Feu	81.76	336	eP	P	23 01 31.1	-0.6
	comp=Z,7.9nm,0.8s,mb4.4						
CDF	Champ du Feu	81.76	336	eP	P	23 01 31.1	-0.6
	comp=Z,4.0nm,0.8s,mb4.4						
CDF	Champ du Feu	81.76	336	eP	P	23 01 31.1	-0.6
CDF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BOJS	Bojanci	81.78	330	iP	P	23 01 31.2	-0.7
JAVS	Javornik	81.86	331	iP	P	23 01 31.6	-0.6
DAVA	Damuels	82.00	334	⇓iP	P	23 01 33.7	+0.8
	comp=Z,4.4nm,0.7s,mb4.5						
MEZF	Maizieres J'vi	82.29	338	eP	P	23 01 34.2	-0.3
	comp=Z,17nm,0.7s,mb4.8						
MEZF	Maizieres J'vi	82.29	338	eP	P	23 01 34.2	-0.3
	comp=Z,17nm,0.7s,mb5.1						
HAU	Haudompre	82.39	337	eP	P	23 01 34.2	-0.8
HAU	Haudompre	82.39	337	eP	P	23 01 34.2	-0.8
HAU	Haudompre	82.39	337	eP	P	23 01 34.2	-0.8
HINF	Hinteralfeld	82.42	336	eP	P	23 01 34.9	-0.2
	comp=Z,4.8nm,0.6s,mb4.3						
HINF	Hinteralfeld	82.42	336	eP	P	23 01 34.9	-0.2
	comp=Z,2.4nm,0.6s,mb4.3						
HINF	Hinteralfeld	82.42	336	eP	P	23 01 34.9	-0.2
HINF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
CSS	Prodhromos	82.42	313	eP	P	23 01 35.1	-0.2
	comp=Z,4.6nm,0.7s,mb4.5						
SFTF	Sexfontaines	82.57	338	eP	P	23 01 35.5	-0.4
	comp=Z,24nm,0.7s,mb5.0						
SFTF	Sexfontaines	82.57	338	eP	P	23 01 35.5	-0.4
	comp=Z,24nm,0.7s,mb5.3						
FLN	La Foliniere	83.42	341	eP	P	23 01 39.9	-0.4
FLN	La Foliniere	83.42	341	eP	P	23 01 39.9	-0.4
FLN	La Foliniere	83.42	341	eP	P	23 01 39.9	-0.4
LDF	La Druitiere	83.50	341	eP	P	23 01 40.2	-0.5
	comp=Z,4.2nm,0.6s,mb4.5						
LDF	La Druitiere	83.50	341	eP	P	23 01 40.2	-0.5
	comp=Z,2.1nm,0.6s,mb4.4						
LDF	La Druitiere	83.50	341	eP	P	23 01 40.2	-0.5
LDF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
LOR	Lormes	83.74	338	eP	P	23 01 41.6	-0.4
	comp=Z,7.9nm,0.6s,mb4.7						
LOR	Lormes	83.74	338	eP	P	23 01 41.6	-0.4
	comp=Z,4.0nm,0.6s,mb4.7						
LOR	Lormes	83.74	338	eP	P	23 01 41.6	-0.4
LOR				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7						
GRR	Gorron	83.86	341	eP	P	23 01 42.5	-0.1
GRR	Gorron	83.86	341	eP	P	23 01 42.5	-0.1
GRR	Gorron	83.86	341	eP	P	23 01 42.5	-0.1
SSF	Saint Saulge	84.03	338	eP	P	23 01 43.0	-0.4
	comp=Z,7.7nm,0.7s,mb4.7						
SSF	Saint Saulge	84.03	338	eP	P	23 01 43.0	-0.4
	comp=Z,3.8nm,0.7s,mb4.6						
SSF	Saint Saulge	84.03	338	eP	P	23 01 43.0	-0.4
SSF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.7						
AVF	Avril sur Loir	84.32	338	eP	P	23 01 44.6	-0.3
	comp=Z,4.4nm,0.5s,mb4.6						
AVF	Avril sur Loir	84.32	338	eP	P	23 01 44.6	-0.3
	comp=Z,2.2nm,0.5s,mb4.5						
AVF	Avril sur Loir	84.32	338	eP	P	23 01 44.6	-0.3
AVF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.5						
SMF	Signal de Mont	84.32	338	eP	P	23 01 44.7	-0.3
	comp=Z,11nm,0.6s,mb4.8						
SMF	Signal de Mont	84.32	338	eP	P	23 01 44.7	-0.3
	comp=Z,5.5nm,0.6s,mb4.9						
SMF	Signal de Mont	84.32	338	eP	P	23 01 44.7	-0.3
SMF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.9						
SGMF	Saint Gilles	84.36	342	eP	P	23 01 45.3	+0.2
SGMF	Saint Gilles	84.36	342	eP	P	23 01 45.3	+0.2
SGMF	Saint Gilles	84.36	342	eP	P	23 01 45.3	+0.2
LPL	La Plagne	84.54	335	eP	P	23 01 46.5	+0.4
	comp=Z,5.6nm,0.6s,mb4.6						
LPL	La Plagne	84.54	335	eP	P	23 01 46.5	+0.4
	comp=Z,2.8nm,0.6s,mb4.6						
LPL	La Plagne	84.54	335	eP	P	23 01 46.5	+0.4
LPL				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
LPG	La Plagne	84.55	335	eP	P	23 01 46.6	+0.5
LPG	La Plagne	84.55	335	eP	P	23 01 46.6	+0.5
LPG	La Plagne	84.55	335	eP	P	23 01 46.6	+0.5
BGF	Bois d'Agland	84.67	338	eP	P	23 01 47.1	+0.4
	comp=Z,21nm,0.9s,mb5.0						
BGF	Bois d'Agland	84.67	338	eP	P	23 01 47.1	+0.4
	comp=Z,11nm,0.9s,mb5.0						
BGF	Bois d'Agland	84.67	338	eP	P	23 01 47.1	+0.4
BGF				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.0						
TCF	Toulx Ste Croi	85.08	339	eP	P	23 01 48.9	+0.1
	comp=Z,14nm,0.8s,mb4.8						
TCF	Toulx Ste Croi	85.08	339	eP	P	23 01 48.9	+0.1
	comp=Z,7.2nm,0.8s,mb4.8						
TCF	Toulx Ste Croi	85.08	339	eP	P	23 01 48.9	+0.1
TCF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
MBDF	Montbardon	85.24	335	eP	P	23 01 49.3	-0.3
	comp=Z,6.5nm,0.7s,mb4.6						
MBDF	Montbardon	85.24	335	eP	P	23 01 49.3	-0.3
	comp=Z,3.3nm,0.6s,mb4.6						
MBDF	Montbardon	85.24	335	eP	P	23 01 49.3	-0.3
MBDF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
ORIF	Oris-en-Rattie	85.33	336	eP	P	23 01 50.5	+0.4
	comp=Z,23nm,1.0s,mb5.0						
ORIF	Oris-en-Rattie	85.33	336	eP	P	23 01 50.5	+0.4
	comp=Z,11nm,1.0s,mb5.0						
ORIF	Oris-en-Rattie	85.33	336	eP	P	23 01 50.5	+0.4
ORIF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.9						
MFF	Saint Martin d	85.38	340	eP	P	23 01 50.7	+0.5
	comp=Z,32nm,0.9s,mb5.1						
MFF	Saint Martin d	85.38	340	eP	P	23 01 50.7	+0.5
	comp=Z,16nm,0.9s,mb5.2						
MFF	Saint Martin d	85.38	340	eP	P	23 01 50.7	+0.5
MFF				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.2						
RJF	Les Rejaudoux	86.17	339	eP	P	23 01 53.8	-0.4
RJF	Les Rejaudoux	86.17	339	eP	P	23 01 53.8	-0.4
RJF	Les Rejaudoux	86.17	339	eP	P	23 01 53.8	-0.4
CAF	Calviac	86.39	338	eP	P	23 01 55.2	-0.1
	comp=Z,9.1nm,0.7s,mb4.8						
CAF	Calviac	86.39	338	eP	P	23 01 55.2	-0.1
	comp=Z,4.6nm,0.7s,mb4.8						
CAF	Calviac	86.39	338	eP	P	23 01 55.2	-0.1
CAF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
LFF	La Frestale	86.71	339	eP	P	23 01 56.7	-0.2
	comp=Z,17nm,0.7s,mb5.1						
LFF	La Frestale	86.71	339	eP	P	23 01 56.7	-0.2
	comp=Z,8.4nm,0.7s,mb5.1						
LFF	La Frestale	86.71	339	eP	P	23 01 56.7	-0.2
LFF				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb5.1						
SJPF	Ste Jean	88.92	340	eP	P	23 02 07.3	-0.2
SJPF	Ste Jean	88.92	340	eP	P	23 02 07.3	-0.2
SJPF	Ste Jean	88.92	340	eP	P	23 02 07.3	-0.2
ETSF	Etsaut	88.95	339	eP	P	23 02 07.5	-0.1
ETSF	Etsaut	88.95	339	eP	P	23 02 07.5	-0.1
ETSF	Etsaut	88.95	339	eP	P	23 02 07.5	-0.1
ESDC	Sonseca Array	92.83	341	P	P	23 02 24.5	-1.2
	comp=Z,0.2nm,0.6s,mb3.8,baz=358,slow=3.6,SNR=2.9						
ESDC	Sonseca Array	92.83	341	P	P	23 02 24.5	-1.2
TORD	Torodi Ar. Bea	115.81	326	PKP	PKPdf	23 07 55.0	-1.0
	comp=Z,0.1nm,0.4s,baz=14,slow=2.8,SNR=4.1						
TORD	Torodi Ar. Bea	115.81	326	PKP	PKPdf	23 07 55.0	-1.0
PLCA	Paso Flores	149.65	97	PKPbc	PKPbc	23 09 03.8	+1.5
	comp=Z,1.1nm,0.5s,baz=206,slow=7.1,SNR=5.0						
PLCA	Paso Flores	149.65	97	PKPbc	PKPbc	23 09 03.8	+1.5
PLCA	Paso Flores	149.65	97	PKP2	PKPbc	23 09 03.8	+1.6
SNAA	Sanae	150.27	196	PKPbc	PKPbc	23 09 04.3	+1.5
	comp=Z,0.2nm,0.5s,baz=207,slow=14,SNR=3.2						
SNAA	Sanae	150.27	196	PKPbc	PKPbc	23 09 04.3	+1.5
SNAA	Sanae	150.27	196	PKIKP	PKPbc	23 09 04.3	+1.5

*ISCJB **01** 22:51:03.6±0.7, 45°0N±0°1×150°6E±0°1, h62km, mb3.9/20, Error ellipse: s-maj=16.7km s-min=12.9km az=147.0*
*NEIC **01** 22:51:03.4±2.3, 44°96N×150°56E, h43km±21km, mb4.4/1, Error ellipse: s-maj=16.2km s-min=14.1km az=112.0*
*IDC **01** 22:51:05.5±0.8, 44°98N×150°55E, h63km±4km, mb3.6/15, mb1 3.7/16, mb1mx3.6/28, mbtmp3.6/16, MS3.4/4, Ms1 3.5/4, ms1mx3.0/41, Error ellipse: s-maj=18.6km s-min=15.6km az=142.0*
*MOS **01** 22:51:15.2±1.5, 45°00N×150°45E, h166km, mb4.2/6, Error ellipse: s-maj=22.8km s-min=12.8km az=116.1*
ISC 01 22:51:05.9±0.7, 45°0N±0°1×150°6E±0°1, h64km±1.6km: pP-P, n68, σ1s05/62, mb3.9/20, 2C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.96	277	PN	Pn	22 51 50.0	+13
KUR				S	Sn	22 52 16.0	+16
KUR				pmax	pmax		
	comp=Z,540nm,0.8s						
KUR				smax			
	comp=N,5µm,2.0s						
KUR				smax			
	comp=E,2µm,2.0s						
KUR				smax			
	comp=N,780nm,0.5s						
KUR				smax			
	comp=E,710nm,0.7s						
YUK	Yuzh-Kuril'sk	3.54	256	PN	Pn	22 52 01.0	+2.7
YUK				eS	Sn	22 52 56.0	+17
YUK				pmax	pmax		
	comp=Z,169nm,0.3s						
YUK				pmax	pmax		
	comp=N,70nm,0.3s						
YUK				pmax	pmax		
	comp=E,136nm,0.3s						
YUK				pmax	pmax		
	comp=Z,190nm,0.6s						
YUK				smax			
	comp=N,810nm,0.8s						
YUK				smax			
	comp=E,490nm,0.8s						
PETK	Petropavlovsk-	9.34	27	LR	LR	22 56 30.7	
	comp=E,89nm,20.1s,baz=203,slow=35						
MJAR	Matsushiro Arr	12.64	232	P	Pn	22 53 59.6	-3.1
	comp=E,0.2nm,0.3s,baz=28,slow=12,SNR=3.6						
MJAR	Matsushiro Arr	12.64	232	P	Pn	22 53 59.6	-3.1
MJAR	Matsushiro Arr	12.64	232	PN	Pn	22 53 59.6	-3.1
KLR	Kul'dur	13.52	295	ePN	Pn	22 54 14.6	+0.1
KLR				MLR	MLR		
	comp=E,500nm,14.0s						
KLR				MLR	MLR		
	comp=Z,1µm,14.0s						
KSRS	Korea Array	18.63	254	LR	LR	23 01 43.0	
	comp=Z,99nm,18.8s,baz=60,slow=34						
SONM	Songino Array	30.30	291	P	P	22 57 09.5	-1.4
	comp=Z,2.3nm,1.0s,mb3.9,baz=111,slow=8.0,SNR=4.8						
SONM				pP	pP	22 57 27.8	+1.4
	comp=Z,1.7nm,0.7s,baz=79,slow=8.0,SNR=4.1						
SONM	Songino Array	30.30	291	P	P	22 57 09.5	-1.4
SONM				pP	pP	22 57 27.8	+1.4
SONM	Songino Array	30.30	291	P	P	22 57 09.5	-1.4
ILAR	Eielson Array	38.99	37	P	P	22 58 25.4	-0.1
	comp=Z,0.7nm,0.9s,mb3.4,baz=272,slow=8.6,SNR=3.4						
ILAR				pP	pP	22 58 41.5	+0.1
	comp=Z,1.5nm,0.9s,baz=275,slow=7.6,SNR=6.2						
ILAR	Eielson Array	38.99	37	P	P	22 58 25.4	-0.1
ILAR				pP	pP	22 58 41.5	+0.1
ILAR	Eielson Array	38.99	37	P	P	22 58 25.4	-0.1
ZALV	Zalesovo Beam	42.23	307	P	P	22 58 51.5	-0.9
	comp=Z,0.2nm,0.3s,mb3.2,baz=43,slow=18,SNR=2.3						
ZALV				PcP	PcP	23 00 42.7	-2.6
	comp=Z,0.6nm,0.6s,baz=90,slow=0.1,SNR=3.5						
ZALV	Zalesovo Beam	42.23	307	P	P	22 58 51.5	-0.9
ZALV				PcP	PcP	23 00 42.6	-2.6
ZALV	Zalesovo Beam	42.23	307	P	P	22 58 51.5	-0.9
ZALV						23 00 42.7	
INK	Inuvik	44.05	31	P	P	22 59 07.0	+0.1
	comp=Z,2.2nm,0.9s,mb3.9,baz=240,slow=4.6,SNR=2.4						
INK				pP	pP	22 59 22.4	-0.6
	comp=Z,1.8nm,0.8s,baz=260,slow=4.6,SNR=3.1						
INK				LR	LR	23 18 24.0	
	comp=Z,78nm,18.1s,baz=94,slow=37						
INK	Inuvik	44.05	31	P	P	22 59 07.0	+0.1
INK				pP	pP	22 59 22.4	-0.6
INK				LR	LR	23 18 24.0	
INK	Inuvik	44.05	31	P	P	22 59 07.0	+0.2
MKAR	Makanchi Array	46.20	298	P	P	22 59 24.0	-0.2
	comp=Z,3.5nm,0.8s,mb4.4,baz=72,slow=7.6,SNR=9.7						
MKAR				pP	pP	22 59 40.4	0.0
	comp=Z,4.0nm,0.8s,baz=72,slow=8.2,SNR=8.7						
MKAR	Makanchi Array	46.20	298	P	P	22 59 24.0	-0.2
MKAR				pP	pP	22 59 40.4	0.0
MKAR	Makanchi Array	46.20	298	P	P	22 59 24.0	-0.2
KURK	Kurchatov	46.88	304	P	P	22 59 29.3	-0.2
	comp=Z,1.3nm,0.3s,mb4.3,baz=71,slow=8.6,SNR=6.2						
KURK				pP	pP	22 59 45.7	0.0
	comp=Z,2.4nm,0.5s,baz=71,slow=8.6,SNR=5.0						
KURK	Kurchatov	46.88	304	P	P	22 59 29.3	-0.2
KURK				pP	pP	22 59 45.7	0.0
KURK	Kurchatov	46.88	304	⇓eP	P	22 59 27.8	-1.7
KURK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
CMAR	Chiang Mai Arr	50.26	256	LR	LR	23 22 18.7	
	comp=Z,51nm,18.5s,baz=50,slow=37						
BVAR	Borovoye Array	50.62	310	P	P	22 59 57.9	-0.1
	comp=Z,1.1nm,0.7s,mb3.9,baz=46,slow=13,SNR=3.8						
BVAR				pP	pP	23 00 15.3	+0.8
	comp=Z,1.5nm,0.7s,baz=31,slow=9.3,SNR=3.9						
BVAR	Borovoye Array	50.62	310	P	P	22 59 57.9	-0.1
BVAR				pP	pP	23 00 15.3	+0.8
BVAR	Borovoye Array	50.62	310	P	P	22 59 57.9	-0.2
BRVK	Borovoye	50.66	310	⇑eP	P	22 59 58.7	+0.3
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
RES	Resolute Bay	53.03	18	P	P	23 00 17.3	+1.6
	comp=Z,2.3nm,0.9s,mb4.1,baz=350,slow=6.1,SNR=3.1						
RES				pP	pP	23 00 32.6	+0.4
	comp=Z,4.5nm,0.8s,baz=301,slow=6.6,SNR=4.2						
RES	Resolute Bay	53.03	18	P	P	23 00 17.3	+1.6
RES				pP	pP	23 00 32.6	+0.4
RES	Resolute Bay	53.03	18	P	P	23 00 17.3	+1.6
AAK	Ala-Archa	53.04	296	⇓eP	P	23 00 16.6	+0.4
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
FINES	FINESS Array B	64.86	334	P	P	23 01 36.3	-1.4
	comp=Z,0.9nm,0.7s,mb3.9,baz=47,slow=6.1,SNR=2.7						
FINES				pP	pP	23 01 52.6	-2.1
	comp=Z,2.1nm,0.6s,baz=40,slow=10.0,SNR=3.2						
FINES	FINESS Array B	64.86	334	P	P	23 01 36.3	-1.4
FINES				pP	pP	23 01 52.6	-2.1
FINES	FINESS Array B	64.86	334	P	P	23 01 36.3	-1.4
WRA	Warramunga Arr	66.32	197	P	P	23 01 46.7	-0.9
	comp=Z,0.4nm,0.8s,mb3.5,baz=12,slow=6.3,SNR=3.0						
WRA	Warramunga Arr	66.32	197	P	P	23 01 46.7	-0.9
WRA	Warramunga Arr	66.32	197	P	P	23 01 46.7	-0.9
NOA	NORSAR Array B	69.29	340	P	P	23 02 05.7	-0.1
	comp=Z,0.6nm,0.9s,mb3.5,baz=25,slow=7.5,SNR=3.6						
NOA				pP	pP	23 02 22.0	-1.0
	comp=Z,1.1nm,0.6s,baz=30,slow=6.2,SNR=2.6						
NOA	NORSAR Array B	69.29	340	P	P	23 02 05.7	-0.1
NOA				pP	pP	23 02 22.0	-1.0
NOA	NORSAR Array B	69.29	340	P	P	23 02 05.7	-0.1
GOF	Gofitskoye	69.80	314	eP	pP	23 02 25.3	-1.1
ASAR	Alice Springs	70.03	196	P	P	23 02 11.0	+0.2
	comp=Z,0.5nm,0.9s,mb3.4,baz=14,slow=4.8,SNR=3.3						
ASAR	Alice Springs	70.03	196	P	P	23 02 11.0	+0.2
ASAR	Alice Springs	70.03	196	P	P	23 02 11.0	+0.3
KIV	Kislovodsk	70.74	313	eP	P	23 02 17.1	+2.0
	comp=Z,10nm,0.9s,mb4.8						
KIV	Kislovodsk	70.74	313	c iP	P	23 02 17.0	+2.0
KIV				i	pP	23 02 33.4	+1.2
KIV				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
ZEI	Tsey	70.94	312	eP	P	23 02 15.1	-1.1
ZEI				e	pP	23 02 32.0	-1.4
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
AKASG	Malin Array Be	72.00	325	P	P	23 02 21.3	-1.2
	comp=Z,0.4nm,0.4s,mb3.8,baz=36,slow=6.7,SNR=5.5						
AKASG				pP	pP	23 02 38.5	-1.3
	comp=Z,2.0nm,0.6s,baz=33,slow=5.6,SNR=5.6						
AKASG	Malin Array Be	72.00	325	P	P	23 02 21.3	-1.2
AKASG				pP	pP	23 02 38.5	-1.3
AKASG	Malin Array Be	72.00	325	P	P	23 02 21.3	-1.2
AKASG				*PP	pP	23 02 38.5	-1.2
MORC	Moravsky Berou	77.14	331	eP	P	23 02 52.2	0.0
	comp=Z,4.0nm,0.9s,mb4.3						
MORC				e	pP	23 03 09.6	-0.1
MORC	Moravsky Berou	77.14	331	eP	P	23 02 52.2	-0.1
MORC				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
KECS	Kecovo	77.17	329	esP	pP	23 03 11.0	+1.1
CLL	Collm	77.30	334	iP	P	23 02 53.2	+0.1
CLL				i	pP	23 03 09.3	-1.3
CLL	Collm	77.30	334	iP	P	23 02 53.2	+0.1
CLL				i (sP)	pP	23 03 09.3	-1.3
	comp=Z,11nm,1.0s						
CLL				epPcP		23 03 16.0	
VYHS	Vyhne	77.77	329	esP	pP	23 03 13.7	+0.5
BRTR	Keskin Array B	78.43	315	P	P	23 03 00.9	+1.2
	comp=Z,1.3nm,0.8s,mb3.9,baz=60,slow=7.3,SNR=6.1						
BRTR				pP	pP	23 03 17.8	+0.7
	comp=Z,1.6nm,0.8s,baz=84,slow=5.2,SNR=7.2						
BRTR	Keskin Array B	78.43	315	P	P	23 03 00.9	+1.2
BRTR				pP	pP	23 03 17.8	+0.7
BRTR	Keskin Array B	78.43	315	P	P	23 03 00.9	+1.3
GERES	GERESS Array B	79.23	333	P	P	23 03 04.7	+0.8
	comp=Z,0.6nm,0.6s,mb3.7,baz=45,slow=4.0,SNR=4.0						
GERES				pP	pP	23 03 20.7	-0.6
	comp=Z,1.2nm,0.7s,baz=38,slow=5.6,SNR=5.9						
GERES	GERESS Array B	79.23	333	P	P	23 03 04.7	+0.8
GERES				pP	pP	23 03 20.7	-0.6
GERES	GERESS Array B	79.23	333	P	P	23 03 04.7	+0.9
PLCA	Paso Flores	149.76	97	PKPbc	PKPbc	23 10 47.3	-0.7
	comp=Z,1.9nm,0.9s,baz=263,slow=8.1,SNR=2.1						
PLCA	Paso Flores	149.76	97	PKPbc	PKPbc	23 10 47.3	-0.7

*CSEM **01** 22:56:16.2±1.1, 37°78N×35°63E, h10km, MD2.3, Error ellipse: s-maj=27.5km s-min=16.9km az=150.0*
*DDA **01** 22:56:19.2, 37°58N×35°66E, h7km±2km, Md2.9*
ISK 01 22:56:18.4, 37°55N×35°68E, h6km, MD2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	Kozan	0.13	120	ePG	Pg	22 56 21.9	+0.8
KOZT				eSG	Sg	22 56 24.0	+0.9
ANDN	Andirin	0.53	86	iP	Pg	22 56 29.9	+1.3
ANDN				iS	Sg	22 56 38.1	+2.6
ANDN	Andirin	0.53	86	iP	Pg	22 56 29.9	+1.3
ANDN				iS	Sg	22 56 38.1	+2.6
CEYT	Ceyhan	0.54	174	ePG	Pg	22 56 29.2	+0.4
CEYT	Ceyhan	0.54	174	ePg	Pg	22 56 29.2	+0.4
GULE	Gulek	0.77	250	eP	Pg	22 56 34.1	+1.0
GULE				eS	Sg	22 56 45.6	+2.5
GULE	Gulek	0.77	250	eP	Pg	22 56 34.1	+1.0
GULE				eS	Sg	22 56 45.6	+2.5
KMRS	Kahramanmaras	0.97	92	ePG	Pg	22 56 37.5	+0.5
KMRS	Kahramanmaras	0.97	92	ePg	Pg	22 56 37.5	+0.5
SARI	SarD1z-Kayseri	1.38	35	ePG	Pn	22 56 38.5	-5.8
SARI	SarD1z-Kayseri	1.38	35	ePg	Pn	22 56 38.5	-5.7

IDC 01 23:01:26.9±2.2, 3°04N×124°00E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/21, mbtmp3.3/3, Error ellipse: s-maj=300.7km s-min=25.6km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.99	156	P	P	23 06 53.0	+0.4
	0.4nm,0.3s,baz=336,slow=9.8,SNR=8.9						
ASAR	Alice Springs	28.24	161	P	P	23 07 21.4	-0.4
	0.3nm,1.0s,baz=336,slow=6.8,SNR=4.5						
MKAR	Makanchi Array	56.60	327	P	P	23 11 11.6	+0.1
	0.2nm,0.4s,baz=124,slow=8.6,SNR=3.2						

*IDC **01** 23:04:48.5±1.6, 45°09N×151°21E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/24, mbtmp3.6/7, ML3.5/1, MS2.7/1, Ms1 2.7/1, ms1mx2.2/37, Error ellipse: s-maj=46.3km*

s-min=24.5km az=72.0
*JMA **01** 23:04:53.9±0.6, 45.°20N×150.°65E, h30km, M4.0*
*ISCJB **01** 23:04:57.0±1.8, 44.°7N±0.°1×150.°4E±0.°1, h63km±15km, mb3.5/6, Error ellipse: s-maj=25.6km s-min=14.3km az=154.7*
ISC 01 23:04:58.2±1.7**, 44.°8N**±0.°1×**150.°5E**±0.°2**, h58**km±14km**, n18, σ1s12**/24**, mb3.5**/6**, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**3.70**	**249**	P	**Pn**	**23 05 51.7**	**-1.2**
NEM2				eS	**Sn**	**23 06 34.4**	**-0.8**
JAK	**Akkeshi**	**4.55**	**249**	P	**Pn**	**23 06 03.6**	**-0.9**
JAK				eS	**Sn**	**23 06 56.2**	**+0.1**
JTKR	**Abashiri--Toko**	**4.79**	**263**	P	**Pn**	**23 06 08.5**	**+0.8**
JAR	**Ashorobuto**	**5.07**	**255**	P	**Pn**	**23 06 12.1**	**+0.5**
JAR				eS	**Sn**	**23 07 10.3**	**+1.6**
JOB	**Onbets**	**5.17**	**251**	P	**Pn**	**23 06 12.3**	**-0.6**
JMP	**Maruseppu**	**5.17**	**264**	P	**Pn**	**23 06 13.9**	**+1.0**
JCH	**Churui**	**5.60**	**250**	P	**Pn**	**23 06 18.2**	**-0.7**
JCH				eS	**Sn**	**23 07 21.4**	**-0.5**
JKK2	**Kamakawa 2**	**5.63**	**263**	P	**Pn**	**23 06 20.4**	**+1.2**
ASAJ	**Asahikawa**	**5.69**	**266**	Pn	**Pn**	**23 06 21.6**	**+1.5**
	1.1nm,0.3s,baz=116,slow=13,SNR=7.9						
ASAJ				LR	LR	23 08 46.1	
	comp=Z,63nm,18.3s,baz=93,slow=38						
ASAJ	**Asahikawa**	**5.69**	**266**	P	**Pn**	**23 06 21.4**	**+1.3**
JNB	**Noboribetsu**	**7.24**	**255**	P	**Pn**	**23 06 41.5**	**+0.2**
JNB				eS	**Sn**	**23 08 02.6**	**+0.6**
JKB	**Kayabe**	**7.48**	**251**	P	**Pn**	**23 06 43.5**	**-1.1**
JKB				eS	**Sn**	**23 08 05.2**	**-2.7**
SONM	**Songino Array**	**30.30**	**292**	P	**P**	**23 11 04.8**	**+1.0**
	0.6nm,0.8s,mb3.4,baz=74,slow=11,SNR=3.3						
MKAR	**Makanchi Array**	**46.23**	**298**	P	**P**	**23 13 17.4**	**+0.2**
	1.1nm,0.8s,mb3.9,baz=70,slow=8.5,SNR=14						
FINES	**FINESS Array B**	**65.02**	**334**	P	**P**	**23 15 29.2**	**-2.5**
	2.3nm,0.9s,mb4.2,baz=37,slow=14,SNR=3.8						
WRA	**Warramunga Arr**	**66.08**	**197**	P	**P**	**23 15 39.1**	**+0.2**
	0.1nm,0.5s,mb3.1,baz=16,slow=6.1,SNR=3.1						
ASAR	**Alice Springs**	**69.78**	**196**	P	**P**	**23 16 04.2**	**+2.1**
	0.3nm,0.9s,mb3.2,baz=3.8,slow=5.6,SNR=2.9						
GERES	**GERESS Array B**	**79.39**	**333**	P	**P**	**23 16 56.3**	**-1.3**
	0.4nm,0.7s,mb3.5,baz=26,slow=7.0,SNR=4.1						

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*CSEM **01** 23:10:38.5±0.6, 36.°75N×21.°27E, h2km, ML2.2/1, Error ellipse: s-maj=10.6km s-min=6.8km az=50.0*
*ATH **01** 23:10:38.3, 36.°74N×21.°27E, h14km±2km, MD3.7/11*
*THE **01** 23:10:40.7, 36.°84N×21.°32E, h12km±1km, ML2.2/1, Error ellipse: s-maj=3.6km s-min=1.7km az=122.0*
ISC 01 23:10:38.6±1.5**, 36.°74N**±0.°06×**21.°27E**±0.°08**, h5**km±6km**, n29, σ0s88**/42**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.41**	**67**	ePB	**Pg**	**23 10 46.5**	**0.0**
PYL	**PYLOS**	**0.41**	**67**	P	**Pg**	**23 10 46.6**	**+0.1**
PYL				S	**Sg**	**23 10 53.1**	**+1.3**
PYL	**PYLOS**	**0.41**	**67**	ePb	**Pg**	**23 10 46.5**	**0.0**
PYL				S	**Sg**	**23 10 53.1**	**+1.3**
ITM	**Ithomi**	**0.69**	**50**	ePG	**Pg**	**23 10 51.4**	**-0.4**
ITM				eSB	**Sb**	**23 11 01.5**	**-1.3**
ITM	**Ithomi**	**0.69**	**50**	P	**Pg**	**23 10 51.6**	**-0.2**
ITM				S	**Sg**	**23 11 01.2**	**+0.5**
ITM	**Ithomi**	**0.69**	**50**	P	**Pg**	**23 10 51.6**	**-0.2**
ITM				S	**Sg**	**23 11 01.2**	**+0.5**
ITM				eSb	**Sb**	**23 11 01.5**	**-1.3**
VLX	**Vlachokerasia**	**1.09**	**54**	ePN	**Pg**	**23 10 59.3**	**-0.2**
VLX				eSB	**Sb**	**23 11 14.4**	**0.0**
VLX	**Vlachokerasia**	**1.09**	**54**	P	**Pg**	**23 10 59.3**	**-0.2**
VLX	**Vlachokerasia**	**1.09**	**54**	P	**Pg**	**23 10 59.3**	**-0.2**
VLX				eSb	**Sb**	**23 11 14.4**	**0.0**
VLI	**Veliai**	**1.34**	**90**	ePG	**Pg**	**23 11 03.3**	**-1.0**
VLI				eSB	**Sb**	**23 11 22.5**	**+0.9**
VLI	**Veliai**	**1.34**	**90**	ePg	**Pg**	**23 11 03.3**	**-1.0**
VLI				eSb	**Sb**	**23 11 22.5**	**+0.9**
GUR	**Goura**	**1.47**	**35**	ePN	**Pn**	**23 11 05.0**	**-0.8**
GUR	**Goura**	**1.47**	**35**	P	**Pn**	**23 11 05.2**	**-0.6**
GUR	**Goura**	**1.47**	**35**	P	**Pn**	**23 11 05.2**	**-0.6**
KYTH	**Kithira**	**1.49**	**107**	ePB	**Pb**	**23 11 07.1**	**+0.3**
KYTH	**Kithira**	**1.49**	**107**	P	**Pb**	**23 11 07.1**	**+0.3**
KYTH	**Kithira**	**1.49**	**107**	P	**Pb**	**23 11 07.1**	**+0.3**
UPR	**University Cam**	**1.60**	**15**	ePB	**Pb**	**23 11 09.0**	**+0.4**
UPR	**University Cam**	**1.60**	**15**	ePb	**Pb**	**23 11 09.0**	**+0.4**
DID	**Didima**	**1.75**	**63**	ePN	**Pn**	**23 11 09.8**	**+0.2**
DID	**Didima**	**1.75**	**63**	P	**Pn**	**23 11 09.0**	**-0.6**
DID				S	**Sn**	**23 11 30.5**	**-1.7**
DID	**Didima**	**1.75**	**63**	P	**Pn**	**23 11 09.0**	**-0.6**
DID	**Didima**	**1.75**	**63**	ePn	**Pn**	**23 11 09.8**	**+0.2**
EFP	**Efpalio**	**1.76**	**16**	ePG	**Pg**	**23 11 11.1**	**-1.3**
EFP				eSN	**Sn**	**23 11 33.7**	**+1.1**
EFP	**Efpalio**	**1.76**	**16**	ePg	**Pg**	**23 11 11.1**	**-1.3**
EFP				eSn	**Sn**	**23 11 33.7**	**+1.1**
LTK	**Loutraki**	**1.86**	**46**	ePN	**Pn**	**23 11 12.2**	**+1.0**
LTK	**Loutraki**	**1.86**	**46**	ePn	**Pn**	**23 11 12.2**	**+1.0**
AGG	**Agios Georgios**	**2.43**	**20**	ePN	**Pn**	**23 11 20.0**	**+1.0**
AGG	**Agios Georgios**	**2.43**	**20**	ePn	**Pn**	**23 11 20.0**	**+1.0**

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*ISCJB **01** 23:26:12.2±0.4, 39.°77N±0.°03×27.°90E±0.°03, h7km±4km, Error ellipse: s-maj=4.9km s-min=4.0km az=32.9*
*CSEM **01** 23:26:12.5±0.1, 39.°76N×27.°89E, h8km, MD2.8, Error ellipse: s-maj=1.7km s-min=1.4km az=47.0*
*ISK **01** 23:26:12.0, 39.°76N×27.°89E, h7km, MD2.8*
*DDA **01** 23:26:12.4, 39.°75N×27.°89E, h7km±3km, Md2.9*
ISC 01 23:26:12.6±0.4**, 39.°76N**±0.°03×**27.°90E**±0.°03**, h8**km±5km**, n44, σ0s38**/56**, 3C-1D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.12**	**186**	ePG	**Pg**	**23 26 15.1**	**-0.3**
BALB				eSG	**Sg**	**23 26 17.3**	**0.0**
BALB	**Balikesir**	**0.12**	**186**	ePg	**Pg**	**23 26 15.1**	**-0.3**
BALB				eSg	**Sg**	**23 26 17.3**	**0.0**
BALY	**Balya**	**0.21**	**264**	⇑iP	**Pg**	**23 26 17.4**	**+0.4**
BALY				i S	**Sg**	**23 26 20.6**	**+0.7**
BALY	**Balya**	**0.21**	**264**	i P	**Pg**	**23 26 17.4**	**+0.4**
BALY				i S	**Sg**	**23 26 20.6**	**+0.7**
GONE	**Gonen-Balikesi**	**0.33**	**330**	ePG	**Pg**	**23 26 19.1**	**0.0**
GONE	**Gonen-Balikesi**	**0.33**	**330**	ePg	**Pg**	**23 26 19.1**	**+0.1**
DURS	**Dursunbey**	**0.47**	**110**	⇓iP	**Pg**	**23 26 21.9**	**+0.1**
DURS				i S	**Sg**	**23 26 28.7**	**+0.7**
DURS	**Dursunbey**	**0.47**	**110**	i P	**Pg**	**23 26 21.9**	**+0.1**
DURS				i S	**Sg**	**23 26 28.7**	**+0.7**
DST	**Dursunbey**	**0.58**	**106**	ePG	**Pg**	**23 26 23.7**	**-0.1**
DST	**Dursunbey**	**0.58**	**106**	ePg	**Pg**	**23 26 23.7**	**-0.1**
KRBG	**Karabiga-Canak**	**0.78**	**324**	ePG	**Pg**	**23 26 27.6**	**0.0**
KRBG	**Karabiga-Canak**	**0.78**	**324**	ePg	**Pg**	**23 26 27.6**	**0.0**
AKS	**Akhisar**	**0.89**	**184**	ePG	**Pg**	**23 26 29.2**	**-0.5**
AKS	**Akhisar**	**0.89**	**184**	ePg	**Pg**	**23 26 29.2**	**-0.4**
AKHS	**Akhisar**	**0.89**	**184**	⇑iP	**Pg**	**23 26 29.3**	**-0.3**
AKHS				i S	**Sg**	**23 26 41.6**	**+0.4**
AKHS	**Akhisar**	**0.89**	**184**	i P	**Pg**	**23 26 29.3**	**-0.4**
AKHS				i S	**Sg**	**23 26 41.6**	**+0.4**
DEMI	**Demirci**	**0.96**	**138**	⇑iP	**Pg**	**23 26 31.0**	**-0.1**
DEMI				i S	**Sg**	**23 26 43.1**	**-0.4**
DEMI	**Demirci**	**0.96**	**138**	i P	**Pg**	**23 26 31.0**	**-0.1**
DEMI				i S	**Sg**	**23 26 43.1**	**-0.4**
MDNY	**Mudanya-Bursa**	**0.97**	**51**	ePG	**Pg**	**23 26 31.2**	**0.0**
MDNY	**Mudanya-Bursa**	**0.97**	**51**	ePg	**Pg**	**23 26 31.2**	**0.0**
AYVA	**Ayvalik**	**1.04**	**244**	eP	**Pg**	**23 26 32.1**	**-0.4**
AYVA				eS	**Sg**	**23 26 46.1**	**+0.1**
AYVA	**Ayvalik**	**1.04**	**244**	eP	**Pg**	**23 26 32.1**	**-0.5**
AYVA				eS	**Sg**	**23 26 46.1**	**+0.1**
LPK	**Lapseki**	**1.06**	**305**	ePG	**Pg**	**23 26 32.4**	**-0.6**
LPK	**Lapseki**	**1.06**	**305**	ePg	**Pg**	**23 26 32.4**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.07**	**329**	ePG	**Pg**	**23 26 33.0**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.07**	**329**	ePg	**Pg**	**23 26 33.0**	**-0.3**
ARMT	**Armutlu**	**1.09**	**42**	ePN	**Pn**	**23 26 33.3**	**-0.8**
ARMT	**Armutlu**	**1.09**	**42**	ePn	**Pn**	**23 26 33.3**	**-0.8**
EZN	**Ezine**	**1.21**	**273**	ePN	**Pn**	**23 26 35.5**	**-0.3**
EZN	**Ezine**	**1.21**	**273**	ePn	**Pn**	**23 26 35.5**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.26**	**301**	ePN	**Pn**	**23 26 36.4**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.26**	**301**	ePn	**Pn**	**23 26 36.4**	**-0.1**
ERIK	**Erikli-Kesan**	**1.39**	**311**	ePN	**Pn**	**23 26 38.5**	**+0.2**
ERIK	**Erikli-Kesan**	**1.39**	**311**	ePn	**Pn**	**23 26 38.5**	**+0.2**
BLCB	**Balcova**	**1.53**	**206**	ePN	**Pn**	**23 26 40.3**	**+0.1**
BLCB	**Balcova**	**1.53**	**206**	ePn	**Pn**	**23 26 40.3**	**+0.1**
CTKS	**Kestanelik-??a**	**1.54**	**17**	ePN	**Pn**	**23 26 40.6**	**+0.3**
CTKS	**Kestanelik-??a**	**1.54**	**17**	ePn	**Pn**	**23 26 40.7**	**+0.3**
GADA	**Gvkgeada**	**1.59**	**286**	ePN	**Pn**	**23 26 41.2**	**+0.2**
GADA	**Gvkgeada**	**1.59**	**286**	ePn	**Pn**	**23 26 41.2**	**+0.2**
ENEZ	**Enez**	**1.65**	**307**	ePN	**Pn**	**23 26 42.1**	**+0.2**
ENEZ	**Enez**	**1.65**	**307**	ePn	**Pn**	**23 26 42.1**	**+0.3**
GULT	**Gulveren**	**2.12**	**71**	ePN	**Pn**	**23 26 49.0**	**+0.7**
GULT	**Gulveren**	**2.12**	**71**	ePn	**Pn**	**23 26 49.0**	**+0.8**

KRSC 01 23:30:57.4±0.7**, 51.°24N**×**158.°19E, h122**km±121km**, ML4.0, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.21**	**9**	eP	Pn	23 31 24.0	+2.3
RUS				i S	Sn	23 31 43.3	+3.1
GRL	**Gorelyy**	**1.32**	**357**	eP	Pn	23 31 25.0	+2.2
GRL				eS	Sn	23 31 44.8	+2.6
PET	**Petropavlovsk**	**1.81**	**9**	eP	Pn	23 31 30.5	+2.0
PET				i S	Sn	23 31 55.1	+2.7
AVH	**Avacha**	**2.06**	**9**	eP	Pn	23 31 34.4	+2.8
AVH				i S	Sn	23 32 01.7	+3.9
NLC	**Nalytchevo**	**2.06**	**20**	eP	Pn	23 31 33.4	+1.8
NLC				i S	Sn	23 31 59.6	+1.7
SPN	**Mys Shipunski**	**2.18**	**31**	eP	Pn	23 31 36.6	+3.5
SPN				i S	Sn	23 32 04.7	+4.3
GNL	**Ganaly**	**2.46**	**357**	eP	Pn	23 31 37.1	+0.4
KII	**Karymskiy**	**2.90**	**15**	eP	Pn	23 31 45.3	+2.9
MKZ	**Mys Kozlova**	**3.95**	**31**	eP	Pn	23 31 58.6	+2.4
MKZ				i S	Sn	23 32 43.4	+1.5
TUMR	**Tumrok**	**4.22**	**15**	eP	Pn	23 32 02.7	+3.0
KBTR	**Krutoberegovo**	**5.69**	**27**	eP	Pn	23 32 21.4	+2.0
KBTR				i S	Sn	23 33 22.5	-0.9

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*IDC **01** 23:33:44.3±0.6, 51.°54N×174.°27W, h0km, mb4.6/31, mb1 4.7/35, mb1mx4.7/39, mbtmp4.6/35, ML4.3/4, MS4.4/29, Ms1 4.4/29, ms1mx4.2/49, Error ellipse: s-maj=17.7km s-min=9.2km az=172.0*
*SZGRF **01** 23:33:47.0, 51.°67N×175.°74W, h28km, mb5.3, MS4.5, Andreanof Islands, Aleutian Islands, United States*
*BJI **01** 23:33:48.7, 51.°94N×174.°67W, h32km, mB5.1/28, mb5.2/50, Ms4.9/37, Ms7 4.6/35*
*NEIC **01** 23:33:49.9±0.6, 51.°47N×174.°37W, h37km±4km, mb5.1/159, MS4.6/4, ML4.5(AEIC), Error ellipse: s-maj=6.0km s-min=2.6km az=182.0*
*ISCJB **01** 23:33:49.3±0.2, 51.°47N±0.°04×174.°32W±0.°03, h46km, mb5.0/252, MS4.5/49, Error ellipse: s-maj=5.3km s-min=2.3km az=175.4*
*GCMT **01** 23:33:50.0±0.3, 51.°39N×174.°34W, h19km, MW5.0, Moment Tensor Solution. s43,c61; s58,c94; Moment tensor: Scale 10^{16}Nm; M_{rr}3.62±.17; $M_{\theta\theta}$-3.04±.12; $M_{\phi\phi}$-0.58±.11; $M_{r\theta}$2.61±.25; $M_{\theta\phi}$-1.12±.07; $M_{\phi r}$0.93±.26; Best double couple: $M_0$4.50000×10^{16} NP1:ϕ_s248.00000°, δ26.00000°, λ88.00000°. NP2:ϕ_s70.00000°, δ64.00000°, λ91.00000°. Principal axes: T 4.5700, Plg71.0000°, Azm341.0000°; N -0.1500, Plg1.0000°, Azm249.0000°; P -4.4300, Plg19.0000°, Azm159.0000°; Data Used: II IC CN G IU.*
*MOS **01** 23:33:50.4±1.1, 51.°52N×174.°33W, h54km, mb5.3/98, MS4.4/12 Error ellipse: s-maj=7.1km s-min=4.2km az=92.5*
*DJA **01** 23:34:39, 52.°34N×177.°68W, h381km, mb4.5/8*
ISC 01 23:33:51.3±0.2**, 51.°53N**±0.°04×**174.°34W**±0.°03**, h48**km±1.6km**:pP-P, n716, σ0s93**/706**, mb5.0**/252**, MS4.5**/49**, 49C-19D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.68**	**8**	P	**Pn**	**23 34 03.6**	**-1.0**
ATKA				S	**Sn**	**23 34 15.1**	**+0.8**
GSTR	**Great Sitkin T**	**1.21**	**299**	ePn	**Pn**	**23 34 10.9**	**-0.8**
GSTR				eSn	**Sn**	**23 34 29.9**	**+3.0**
ADK	**Adak**	**1.50**	**285**	P	**Pn**	**23 34 13.7**	**-2.1**
ADK				S	**Sn**	**23 34 34.1**	**+0.1**
ADK	**Adak**	**1.50**	**285**	P	**Pn**	**23 34 13.6**	**-2.1**
ADK				S	**Sn**	**23 34 34.1**	**0.0**
NIKO	**Nikolski**	**3.67**	**65**	P	**Pn**	**23 34 43.7**	**-1.8**
NIKO				S	**Sn**	**23 35 24.9**	**-2.5**
UNV	**Unalaska Valle**	**5.30**	**61**	ePn	**Pn**	**23 35 09.0**	**+1.2**
AKUT	**Akutan**	**5.81**	**60**	eP	**Pn**	**23 35 20.3**	**+5.5**
FALS	**False Pass**	**7.36**	**59**	ePn	**Pn**	**23 35 37.7**	**+1.6**
FALS				eS	**Sn**	**23 37 00.3**	**+2.2**
FX1	**Attu Island--F**	**7.80**	**285**	Pn	**Pn**	**23 35 39.5**	**-2.5**
	4.8nm,0.3s,baz=244,slow=23,SNR=11						
FX1				Sn	**Sn**	**23 37 17.6**	**+8.8**
	5.8nm,0.3s,baz=89,slow=18,SNR=1.1						
FX1				LR	LR	23 37 44.1	
	comp=Z,218nm,21.1s,baz=328,slow=31						
FX1	**Attu Island--F**	**7.80**	**285**	Pn	**Pn**	**23 35 39.5**	**-2.5**
FX1				Sn	**Sn**	**23 37 17.6**	**+8.8**
FX1				LR	LR	23 37 44.1	
FX1	**Attu Island--F**	**7.80**	**285**	P	**Pn**	**23 35 39.5**	**-2.5**
FX1						23 37 17.7	
SDPT	**Sand Point**	**9.11**	**60**	ePn	**Pn**	**23 36 00.4**	**+0.4**
	44nm,0.5s						
CHGN	**Chignik**	**10.53**	**57**	ePn	**Pn**	**23 36 19.0**	**-0.4**
CHGN				eS	**Sn**	**23 38 20.9**	**+5.1**
OHAK	**Old Harbor**	**13.50**	**57**	ePn	**Pn**	**23 36 56.4**	**-3.5**
KDAK	**Kodiak Island**	**14.03**	**55**	Pn	**Pn**	**23 37 04.7**	**-2.3**
	1.7nm,0.3s,baz=249,slow=8.7,SNR=17						
KDAK				Sn	**Sn**	**23 39 50.6**	**+10**
	0.3nm,0.3s,baz=332,slow=22,SNR=1.6						
KDAK	**Kodiak Island**	**14.03**	**55**	ePn	**Pn**	**23 37 04.8**	**-2.3**
KDAK				eS	**Sn**	**23 39 58.7**	**+18**
KDAK	**Kodiak Island**	**14.03**	**55**	P	**Pn**	**23 37 04.7**	**-2.4**
KDAK						23 39 50.7	
KDAK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
SVW2	**Sparrevohn**	**14.09**	**40**	eP	**Pn**	**23 37 13.9**	**+5.9**
	comp=Z,67nm,1.5s						
RSO	**Redoubt South**	**14.96**	**45**	ePn	**Pn**	**23 37 21.4**	**+2.0**
	comp=Z,58nm,0.8s						
SLKM	**Skilak Lake**	**16.12**	**47**	ePn	**Pn**	**23 37 32.8**	**-1.5**
SLKM	**Skilak Lake**	**16.12**	**47**	eP	**Pn**	**23 37 32.8**	**-1.5**
SEW	**Seward**	**16.32**	**49**	ePn	**Pn**	**23 37 34.0**	**-2.9**
	comp=Z,33nm,0.8s						
SEW				eS	**S**	**23 40 32.3**	**-15**
PPLA	**Purkeypile**	**16.43**	**38**	ePn	**Pn**	**23 37 39.6**	**+1.4**
	comp=Z,70nm,1.0s						
PET	**Petropavlovsk**	**16.56**	**286**	ePn	**Pn**	**23 37 42.4**	**+2.4**
	comp=Z,49nm,1.3s						
PET	**Petropavlovsk**	**16.56**	**286**	eP	**Pn**	**23 37 42.4**	**+2.5**
PET				pmax	pmax		
	comp=Z,49nm,1.3s						
PMR	**Palmer**	**17.04**	**44**	ePn	**Pn**	**23 37 45.1**	**-0.8**
	comp=Z,37nm,1.2s						
PMR	**Palmer**	**17.04**	**44**	eP	**Pn**	**23 37 45.1**	**-0.8**
PMR				pmax	pmax		
	comp=Z,37nm,1.2s						
PETK	**Petropavlovsk-**	**17.12**	**286**	Pn	**Pn**	**23 37 46.3**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=97,slow=16,SNR=20						
PETK	**Petropavlovsk-**	**17.12**	**286**	Pn	**Pn**	**23 37 46.3**	**-0.7**
PETK	**Petropavlovsk-**	**17.12**	**286**	P	**Pn**	**23 37 46.3**	**-0.7**
TRF	**Thorofare Moun**	**17.46**	**38**	ePn	**Pn**	**23 37 51.9**	**+0.9**
	comp=Z,64nm,1.1s						
SML	**Sawmill**	**17.48**	**44**	ePn	**Pn**	**23 37 49.6**	**-1.6**
	comp=Z,7.0nm,0.9s						
SML	**Sawmill**	**17.48**	**44**	eP	**Pn**	**23 37 49.6**	**-1.7**
SML				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BPAW	**Bear Paw Mtn.**	**17.56**	**35**	ePn	**Pn**	**23 37 52.5**	**+0.2**
	comp=Z,76nm,1.2s						
MCK	**McKinley**	**18.12**	**38**	ePn	**Pn**	**23 37 57.6**	**-1.5**
	comp=Z,68nm,1.0s						
MCK	**McKinley**	**18.12**	**38**	eP	**Pn**	**23 37 57.6**	**-1.5**
MCK				pmax	pmax		
	comp=Z,68nm,1.0s						
DIV	**Divide**	**18.38**	**47**	ePn	**Pn**	**23 38 00.5**	**-1.7**
	comp=Z,31nm,0.8s						
SKR	**Severo-Kuril's**	**18.52**	**279**	eP	**Pn**	**23 38 04.5**	**+0.5**
SKR				pmax	pmax		
	comp=N,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR				pmax	pmax		
	comp=E,100nm,1.0s						
BMRM	**Bremner River**	**18.87**	**48**	ePn	**Pn**	**23 38 07.1**	**-1.0**
	comp=E,50nm,1.0s						
BILL	**Bilibino**	**19.06**	**338**	eP	**Pn**	**23 38 10.7**	**+0.3**
	comp=E,275nm,1.3s						
BILL	**Bilibino**	**19.06**	**338c**	iP	**Pn**	**23 38 09.7**	**-0.7**
BILL				eS	**S**	**23 41 45.5**	**+2.9**
BILL				pmax	pmax		
	comp=Z,76nm,1.6s						
BILL				MLR	MLR		
	comp=Z,900nm,19.0s						
COLA	**College**	**19.12**	**36**	eP	**Pn**	**23 38 10.2**	**-0.9**
	comp=Z,27nm,0.9s						
COLA	**College**	**19.12**	**36**	eP	**Pn**	**23 38 10.3**	**-0.8**
COLA				pmax	pmax		
	comp=Z,27nm,0.9s						
PAX	**Paxson**	**19.17**	**42**	eP	**Pn**	**23 38 09.8**	**-1.9**
	comp=Z,17nm,0.8s						
PAX	**Paxson**	**19.17**	**42**	eP	**Pn**	**23 38 09.9**	**-1.9**
PAX				pmax	pmax		
	comp=Z,17nm,0.8s						
ILAR	**Eielson Array**	**19.42**	**36**	P	**Pn**	**23 38 10.7**	**-4.0**
	comp=Z,2.7nm,0.3s,baz=238,slow=9.2,SNR=98						
ILAR				LR	LR	23 46 25.1	
	comp=Z,1μm,18.1s,baz=60,slow=39						
ILAR	**Eielson Array**	**19.42**	**36**	P	**Pn**	**23 38 10.7**	**-4.0**
ILAR				LR	LR	23 46 25.1	
ILAR	**Eielson Array**	**19.42**	**36**	P	**Pn**	**23 38 10.7**	**-4.0**
COLD	**Coldfoot**	**19.75**	**28**	eP	**Pn**	**23 38 17.1**	**-1.4**
	comp=Z,56nm,1.0s						
MENT	**Mentasta**	**19.90**	**43**	eP	**Pn**	**23 38 20.5**	**+0.1**
DOT	**Dot Lake**	**20.02**	**41**	eP	**P**	**23 38 18.5**	**-1.3**
	comp=Z,119nm,0.9s						
SEY	**Seymchan**	**21.05**	**316**	⇓eP	**P**	**23 38 31.3**	**+0.5**
PNL	**Peninsula**	**21.14**	**54**	eP	**P**	**23 38 31.5**	**-0.3**
EGAK	**Eagle**	**21.63**	**40**	eP	**P**	**23 38 35.6**	**-1.4**
	comp=Z,84nm,0.7s,mb5.3						
DAWY	**Dawson**	**22.11**	**42**	eP	**P**	**23 38 41.0**	**-1.2**
SKAG	**Skagway**	**23.18**	**55**	eP	**P**	**23 38 52.5**	**-1.1**
	comp=Z,24nm,0.8s,mb4.7						
SIT	**Sitka**	**23.19**	**61**	eP	**P**	**23 38 55.0**	**+1.4**
SIT	**Sitka**	**23.19**	**61**	eP	**P**	**23 38 55.1**	**+1.5**
WRAK	**Wrangell Islan**	**24.88**	**62**	eP	**P**	**23 39 12.6**	**+3.4**
	comp=Z,79nm,1.1s,mb5.2						
INK	**Inuvik**	**25.75**	**34**	P	**P**	**23 39 16.1**	**-0.9**
	comp=Z,6.2nm,0.8s,mb4.2,baz=251,slow=7.7,SNR=18						
INK				LR	LR	23 50 25.1	
	comp=Z,809nm,19.4s,MS4.3,baz=340,slow=39						
INK	**Inuvik**	**25.75**	**34**	eP	**P**	**23 39 16.0**	**-1.0**
	comp=Z,48nm,1.2s,mb4.9						
INK	**Inuvik**	**25.75**	**34**	P	**P**	**23 39 16.1**	**-0.9**
INK				pmax	pmax		
	comp=Z,6.0nm,0.8s						
INK				MLR	MLR		
	comp=Z,809nm,19.4s						
DLBC	**Dease Lake**	**25.94**	**57**	P	**P**	**23 39 19.1**	**+0.3**
	comp=Z,16nm,1.0s,mb4.5,baz=267,slow=9.0,SNR=15						
DLBC	**Dease Lake**	**25.94**	**57**	eP	**P**	**23 39 20.4**	**+1.6**
YUK	**Yuzh-Kuril'sk**	**27.49**	**270**	⇓iP	**P**	**23 39 30.0**	**-2.9**
YUK				PPP		23 40 33.2	
YUK				eS	**S**	**23 44 03.3**	**-6.9**
YSS	**Yuzh-Sakhalins**	**28.07**	**278**	eP	**P**	**23 39 39.0**	**+1.0**
YSS				e	pP	23 39 51.8	+1.4
YSS				e		23 40 30.8	
YSS				eS	**S**	**23 44 20.0**	**+0.7**
BBB	**Bella Bella**	**28.19**	**70**	LR	LR	23 49 07.0	
	comp=Z,599nm,18.3s,MS4.2,baz=124,slow=33						
ASAJ	**Asahikawa**	**29.49**	**273**	P	**P**	**23 39 51.5**	**+0.8**
	comp=Z,27nm,1.1s,mb4.9,baz=338,slow=5.4,SNR=4.5						
ASAJ				LR	LR	23 51 04.0	
	comp=Z,376nm,18.7s,MS4.0,baz=340,slow=35						
ASAJ	**Asahikawa**	**29.49**	**273**	P	**P**	**23 39 51.5**	**+0.8**
ASAJ				pmax	pmax		
	comp=Z,27nm,1.1s						
ASAJ				MLR	MLR		
	comp=Z,376nm,18.7s						
YAK	**Yakutsk**	**31.41**	**311**	eP	**P**	**23 40 07.0**	**-0.4**
YAK				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.9						
YAK				pmax	pmax		
	comp=E,11nm,1.2s						
YAK				MLR	MLR		
	comp=Z,1μm,19.0s,MS4.6						
YAK				MLR	MLR		
	comp=N,877nm,18.0s,MS4.6						
YAK				MLR	MLR		
	comp=E,820nm,17.0s,MS4.6						
YKA	**Yellowknife Ar**	**33.09**	**47**	P	**P**	**23 40 22.4**	**+0.3**
	comp=E,2.4nm,0.9s,mb4.1,baz=276,slow=6.9,SNR=3.6						
YKA				LR	LR	23 55 39.3	
	comp=E,152nm,18.9s,MS3.7,baz=175,slow=40						
YKA	**Yellowknife Ar**	**33.09**	**47**	P	**P**	**23 40 22.4**	**+0.3**
YKA				LR	LR	23 55 39.3	
YKA	**Yellowknife Ar**	**33.09**	**47**	P	**P**	**23 40 22.4**	**+0.3**
KLR	**Kul'dur**	**33.81**	**288**	eP	**P**	**23 40 23.0**	**-5.5**
KLR				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.2						
KLR				MLR	MLR		
	comp=N,500nm,14.0s						
KLR				MLR	MLR		
	comp=Z,1μm,14.0s,MS4.7						
RSW	**Rattlesnake Hi**	**35.59**	**76**	eP	**P**	**23 40 44.5**	**+0.6**
	comp=Z,17nm,0.8s,mb5.0						
HAWA	**Hanford**	**35.63**	**76**	eP	**P**	**23 40 44.6**	**+0.4**
	comp=Z,14nm,0.9s,mb4.9						
YBH	**Yreka Blue Hor**	**36.09**	**85**	P	**P**	**23 40 48.9**	**+0.7**
	comp=Z,2.2nm,0.7s,mb4.2,baz=173,slow=15,SNR=4.1						
YBH	**Yreka Blue Hor**	**36.09**	**85**	P	**P**	**23 40 48.9**	**+0.7**
YBH	**Yreka Blue Hor**	**36.09**	**85**	P	**P**	**23 40 48.9**	**+0.6**
NEW	**Newport**	**36.20**	**72**	eP	**P**	**23 40 49.0**	**-0.1**
	comp=Z,17nm,1.1s,mb4.9						
NEW	**Newport**	**36.20**	**72**	eP	**P**	**23 40 49.0**	**-0.1**
NEW				pmax	pmax		
	comp=Z,17nm,1.1s						
MJAR	**Matsushiro Arr**	**36.57**	**265**	P	**P**	**23 40 52.2**	**-0.2**
	comp=Z,6.8nm,0.8s,mb4.5,baz=50,slow=8.1,SNR=15						
MJAR	**Matsushiro Arr**	**36.57**	**265**	P	**P**	**23 40 52.2**	**-0.2**
MJAR	**Matsushiro Arr**	**36.57**	**265**	P	**P**	**23 40 52.2**	**-0.2**
MAJO	**Matsushiro**	**36.57**	**265**	eP	**P**	**23 40 52.1**	**-0.2**
	comp=Z,32nm,1.1s,mb5.1						
MAJO	**Matsushiro**	**36.57**	**265**	eP	**P**	**23 40 52.2**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,32nm,1.1s,mb5.1						
MAT	**Matsushiro**	**36.57**	**265**	P	**P**	**23 40 51.8**	**-0.6**
MAT				S	**S**	**23 46 33.0**	**+1.5**
VLA	**Vladivostok**	**36.66**	**278**	⇑eP	**P**	**23 40 52.6**	**-0.5**
VLA				pmax	pmax		
	comp=Z,216nm,1.7s,mb5.7						
MDJ	**Mudanjiang**	**37.28**	**282**	P	**P**	**23 40 55.9**	**-2.5**
MDJ				pmax	pmax		
	comp=Z,37nm,1.0s,mb5.2						
MDJ				pmax	pmax		
	comp=Z,93nm,4.4s						
MDJ	**Mudanjiang**	**37.28**	**282**	eP	**P**	**23 40 57.9**	**-0.5**
	comp=Z,28nm,0.9s,mb5.1						
WALA	**Waterton Lakes**	**37.73**	**69**	eP	**P**	**23 41 02.3**	**+0.3**
	comp=Z,0.8nm,1.1s						
BSMT	**Bassoo Peak**	**37.78**	**71**	eP	**P**	**23 41 03.3**	**+0.8**
JTMT	**Jette**	**38.13**	**71**	eP	**P**	**23 41 07.0**	**+1.6**
WVOR	**Wild Horse Val**	**38.23**	**81**	eP	**P**	**23 41 06.5**	**+0.2**
	comp=Z,13nm,1.0s,mb4.6						
WVOR	**Wild Horse Val**	**38.23**	**81**	eP	**P**	**23 41 06.6**	**+0.2**
WVOR				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.6						
YBMT	**Yellow Bay**	**38.23**	**71**	eP	**P**	**23 41 07.2**	**+0.9**
RES	**Resolute Bay**	**38.44**	**25**	P	**P**	**23 41 07.1**	**-0.7**
	comp=Z,2.8nm,1.0s,mb3.9,baz=262,slow=21,SNR=7.8						
RES				LR	LR	00 00 11.2	
	comp=Z,559nm,19.1s,MS4.4,baz=67,slow=41						
RES	**Resolute Bay**	**38.44**	**25**	P	**P**	**23 41 07.1**	**-0.7**
RES				LR	LR	00 00 11.2	
RES	**Resolute Bay**	**38.44**	**25**	P	**P**	**23 41 07.1**	**-0.7**
MSO	**Missoula**	**38.78**	**72**	eP	**P**	**23 41 12.1**	**+1.2**
	comp=Z,9.6nm,1.0s,mb4.5						
SLMT	**Seeley Lake**	**38.84**	**72**	eP	**P**	**23 41 13.1**	**+1.6**
	comp=Z,20nm,1.2s,mb4.7						
CHMT	**Chamberlain Mo**	**39.15**	**72**	eP	**P**	**23 41 14.7**	**+0.7**
CMB	**Columbia Colle**	**39.70**	**88**	eP	**P**	**23 41 18.3**	**-0.4**
	comp=Z,18nm,1.3s,mb4.6						
CMB	**Columbia Colle**	**39.70**	**88**	eP	**P**	**23 41 18.3**	**-0.4**
CMB				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.6						
HRY	**Holter Researc**	**40.09**	**71**	eP	**P**	**23 41 22.8**	**+0.9**
BOD	**Bodaibo**	**40.10**	**308**	eP	**P**	**23 41 21.0**	**-0.8**
BOD				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.7						
HLID	**Hailey**	**40.20**	**77**	eP	**P**	**23 41 23.2**	**+0.4**
	comp=Z,13nm,1.3s,mb4.5						
CN2	**Changchun**	**40.24**	**283**	eP	**P**	**23 41 21.8**	**-1.3**
CN2				esP	sP	23 41 35.6	-5.8

CN2 eS S 23 47 25.3 -1.4
CN2 pmax pmax
comp=Z,30nm,0.9s,mb5.0
CN2 LR LR
comp=N,800nm,19.0s,MS4.7
CN2 LR LR
comp=E,500nm,19.0s,MS4.7
CN2 LR LR
comp=Z,1µm,18.0s,MS4.7
MCMT McKenzie Canyo 40.47 74 *e*P **P 23 41 25.1 +0.1**
comp=Z,5.5nm,0.7s,mb4.4
EGMT Eagleton 40.65 69 *e*P **P 23 41 26.0 -0.4**
comp=Z,33nm,1.0s,mb4.9
NVAR Mina Array Bea 40.76 86 P **P 23 41 28.2 +0.7**
comp=Z,1.6nm,0.7s,mb3.8,baz=300,slow=8.4,SNR=5.8
NVAR LR LR 23 54 19.6
comp=Z,230nm,20.7s,MS4.0,baz=21,slow=30
NVAR Mina Array Bea 40.76 86 P **P 23 41 28.2 +0.7**
NVAR LR LR 23 54 19.6
BOZ Bozeman (W) 40.76 73 *e*P **P 23 41 27.2 -0.2**
comp=Z,29nm,1.7s,mb4.6
BOZ Bozeman (W) 40.76 73 *e*P **P 23 41 27.2 -0.2**
BOZ pmax pmax
comp=Z,29nm,1.7s,mb4.6
HIA Hailar 40.80 294 *e*P **P 23 41 27.2 -0.4**
comp=Z,6.5nm,0.6s,mb4.4
HIA Hailar 40.80 294 *e*P **P 23 41 27.2 -0.5**
HIA pmax pmax
comp=Z,6.0nm,0.6s
QLMT Earthquake Lak 41.32 74 *e*P **P 23 41 32.3 +0.3**
comp=Z,0.8nm,0.8s
FFC Flin Flon 41.77 56 *e*P **P 23 41 34.3 -1.2**
comp=Z,152nm,2.2s,mb5.2
FFC Flin Flon 41.77 56 *i*P **P 23 41 35.5 0.0**
GCMT Greycliff 41.85 71 *e*P **P 23 41 41.9 +5.5**
comp=Z,29nm,1.7s,mb4.6
IMW Indian Meadow 42.12 75 *e*P **P 23 41 38.4 -0.1**
comp=Z,8.1nm,0.9s,mb4.3
FLWY Flagg Ranch 42.16 74 *e*P **P 23 41 40.3 +1.4**
comp=Z,19nm,1.3s,mb4.6
RRI2 Red Ridge 42.20 75 *e*P **P 23 41 40.2 +1.0**
comp=Z,17nm,1.0s,mb4.6
HVU Hansel Valley 42.20 78 *e*P **P 23 41 39.1 -0.1**
comp=Z,8.4nm,0.8s,mb4.4
HVU Hansel Valley 42.20 78 *e*P **P 23 41 39.2 0.0**
HVU pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
ISA Isabella 42.38 90 *e*P **P 23 41 39.7 -1.0**
comp=Z,11nm,1.0s,mb4.5
ISA Isabella 42.38 90 *e*P **P 23 41 39.7 -1.1**
ISA pmax pmax
comp=Z,11nm,1.0s,mb4.4
KSRS Korea Array 42.42 274 P **P 23 41 41.7 +0.7**
comp=Z,8.7nm,0.9s,mb4.4,baz=60,slow=6.8,SNR=17
KSRS LR LR 23 59 17.1
comp=Z,239nm,19.8s,MS4.1,baz=43,slow=36
KSRS Korea Array 42.42 274 P **P 23 41 41.7 +0.6**
KSRS pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
KSRS MLR MLR
comp=Z,239nm,19.8s,MS4.1
RLMT Red Lodge 42.45 72 *e*P **P 23 41 41.2 0.0**
comp=Z,34nm,1.3s,mb4.8
SNY Shenyang 42.49 282 ⇑P **P 23 41 41.8 +0.2**
SNY pmax pmax
comp=Z,83nm,1.2s,mb5.2
SNY LR LR
comp=N,610nm,19.2s,MS4.6
SNY LR LR
comp=E,370nm,20.4s,MS4.6
SNY LR LR
comp=Z,490nm,17.6s,MS4.5
BGU Big Grassy Mou 42.54 79 *e*P **P 23 41 42.0 0.0**
comp=Z,9.9nm,1.0s,mb4.5
DUG Dugway 43.10 80 *e*P **P 23 41 46.5 0.0**
comp=Z,23nm,1.1s,mb4.8
DUG Dugway 43.10 80 *e*P **P 23 41 46.5 -0.1**
DUG pmax pmax
comp=Z,23nm,1.1s,mb4.8
JNU Nakatsue 43.37 267 *e*P **P 23 41 48.8 0.0**
comp=Z,19nm,1.3s,mb4.7
LAO LASA Array 43.39 68 *e*P **P 23 41 49.2 +0.4**
comp=Z,42nm,1.4s,mb5.0
PD01 Pinedale Array 43.57 75 *e*P **P 23 41 49.6 -0.7**
MWC Mount Wilson 43.57 91 *e*P pP 23 41 60.0 -3.3
comp=Z,12nm,0.5s
MWC Mount Wilson 43.57 91 *e*P pP 23 42 00.0 -3.3
MWC pmax pmax
comp=Z,12nm,0.5s,mb4.9
PDAR Pinedale Array 43.59 75 P **P 23 41 49.7 -0.7**
comp=Z,5.9nm,0.8s,mb4.3,baz=302,slow=4.3,SNR=38
PDAR LR LR 00 00 15.8
comp=Z,280nm,18.2s,MS4.2,baz=64,slow=36
PDAR Pinedale Array 43.59 75 P **P 23 41 49.7 -0.7**
PDAR LR LR 00 00 15.8
DGMT Dagmar 43.61 65 *e*P **P 23 41 51.8 +1.3**
comp=Z,53nm,1.3s,mb5.1
GSC Goldstone 43.66 89 *e*P **P 23 41 50.7 -0.4**
comp=Z,25nm,1.0s,mb4.9
GSC *e* pP 23 42 03.7 -0.2
GSC Goldstone 43.66 89 *e*P **P 23 41 50.7 -0.4**
GSC *e* pP 23 42 03.7 -0.2
GSC pmax pmax
comp=Z,25nm,1.0s,mb4.9
NLU North Lily Min 43.70 80 *e*P **P 23 41 49.5 -1.9**
comp=Z,15nm,1.1s,mb4.6
DAU Daniels Canyon 43.93 79 *e*P **P 23 41 54.0 +0.7**
DAU Daniels Canyon 43.93 79 *e*P **P 23 41 54.0 +0.8**
ARUT Antelope Range 44.18 83 *e*P **P 23 41 55.2 -0.1**
comp=Z,9.8nm,1.0s,mb4.5
ARUT Antelope Range 44.18 83 *e*P **P 23 41 55.2 -0.1**
ARUT pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
CCUT Cedar City 44.38 84 *e*P **P 23 41 56.6 -0.2**
comp=Z,6.1nm,0.8s,mb4.4
MSU Marysvale 44.52 82 *e*P **P 23 41 57.7 -0.2**
comp=Z,5.7nm,0.8s,mb4.5
MSU Marysvale 44.52 82 *e*P **P 23 41 57.7 -0.2**
MSU pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
TMUT Trail Mountain 44.63 80 *e*P **P 23 41 59.4 +0.5**
comp=Z,14nm,0.8s,mb4.8
SRU San Rafael 45.17 80 *e*P **P 23 42 04.3 +1.2**
comp=Z,15nm,0.9s,mb4.8
SRU San Rafael 45.17 80 *e*P **P 23 42 04.3 +1.2**
SRU pmax pmax
comp=Z,15nm,0.9s,mb4.8
PV04 Paradox Valley 46.60 80 *e*P **P 23 42 13.8 -0.6**
WUAZ Wupatki 46.90 84 *e*P **P 23 42 16.8 0.0**
comp=Z,15nm,1.1s,mb4.8
PV01 Paradox Valley 46.97 80 *e*P **P 23 42 16.9 -0.5**
comp=Z,902nm,0.7s
PV01 *e* pP 23 42 29.7 -0.6
ULM Lac du Bonnet 47.24 59 P **P 23 42 18.5 -0.7**
comp=Z,3.9nm,0.5s,mb4.6,baz=310,slow=7.2,SNR=7.6
ULM LR LR 00 04 34.8
comp=Z,410nm,18.8s,MS4.4,baz=339,slow=39
ULM Lac du Bonnet 47.24 59 P **P 23 42 18.5 -0.7**
ULM LR LR 00 04 34.8
ULM Lac du Bonnet 47.24 59 P **P 23 42 18.5 -0.7**
SMCO Snowmass 47.30 77 *e*P **P 23 42 19.7 -0.1**
comp=Z,57nm,2.3s,mb5.1
MVCO Mesa Verde 47.60 81 *e*P **P 23 42 24.4 +2.2**
BJI Beijing 48.05 285 P **P 23 42 25.5 -0.2**
BJI pmax pmax
comp=Z,40nm,1.2s,mb5.3
BJI pmax pmax
comp=Z,180nm,3.7s
BJI LR LR
comp=N,360nm,24.0s,MS4.3
BJI LR LR
comp=E,250nm,24.0s,MS4.3
BJI LR LR
comp=Z,320nm,26.6s,MS4.2
BJT Baijiatuan 48.07 285 *e*P **P 23 42 25.6 -0.1**
comp=Z,19nm,0.8s,mb5.2
BJT Baijiatuan 48.07 285 *e*P **P 23 42 25.7 -0.1**
BJT pmax pmax
comp=Z,19nm,0.8s
TLY Talaya 48.31 304 *e*P **P 23 42 27.8 +0.4**
comp=Z,22nm,0.8s,mb5.2
TLY Talaya 48.31 304 *e*P **P 23 42 26.9 -0.6**
TLY *e*S **S 23 49 30.8 +7.1**
TLY pmax pmax
comp=Z,29nm,1.0s,mb5.3
TLY MLR MLR
comp=Z,427nm,18.0s,MS4.5

AGMN Agassiz Nation 48.35 61 *e*P **P 23 42 26.6 -1.2**
comp=Z,59nm,1.2s,mb5.5
AGMN *e* pP 23 42 41.2 +0.4
ULN Ulaanbaatar 48.67 298 *e*P **P 23 42 29.7 -0.6**
comp=Z,13nm,0.9s,mb5.0
ULN Ulaanbaatar 48.67 298 *e*P **P 23 42 29.7 -0.6**
ULN pmax pmax
comp=Z,13nm,0.9s,mb5.0
ULN Ulaanbaatar 48.67 298 P **P 23 42 29.5 -0.8**
comp=Z,15nm,1.1s,mb4.9
ULN Ulaanbaatar 48.67 298 P **P 23 42 30.6 +0.3**
SNR=5.8
SONM Songino Array 49.05 299 P **P 23 42 32.6 -0.6**
comp=Z,13nm,1.0s,mb4.9,baz=48,slow=8.5,SNR=57
SONM PcP PcP 23 43 57.3 +1.0
comp=Z,1.5nm,0.6s,baz=55,slow=1.8,SNR=3.6
SONM ScP ScP 23 47 49.5 +2.3
comp=Z,1.0nm,1.1s,baz=97,slow=6.1,SNR=3.1
SONM LR LR 00 04 45.0
comp=Z,658nm,19.5s,MS4.6,baz=53,slow=38
SONM Songino Array 49.05 299 P **P 23 42 32.6 -0.6**
SONM PcP PcP 23 43 57.3 +1.0
SONM ScP ScP 23 47 49.5 +2.3
SONM LR LR 00 04 45.0
SONM Songino Array 49.05 299 P **P 23 42 32.6 -0.6**
SONM 23 43 57.3
SDCO Great Sand Dun 49.10 78 *e*P **P 23 42 32.9 -0.9**
comp=Z,1.6nm,0.8s,mb4.1
ZAK Zakamensk 49.24 303 *e*P **P 23 42 34.2 -0.4**
ZAK pmax pmax
comp=Z,23nm,1.2s,mb5.1
TUC Tucson 49.39 87 *e*P **P 23 42 35.5 -0.5**
comp=Z,8.4nm,1.1s,mb4.7
TUC *e* pP 23 42 48.5 -0.5
TUC Tucson 49.39 87 *e*P **P 23 42 35.6 -0.4**
TUC *e* pP 23 42 48.5 -0.5
TUC pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
MOY Mondy 49.67 306 *e*P **P 23 42 36.5 -1.4**
MOY pmax pmax
comp=Z,50nm,1.3s,mb5.4
LAZ Ladron 50.26 82 *e*P **P 23 42 42.2 -0.4**
comp=Z,5.8nm,1.2s,mb4.5
HHC Hu-ho-hao-te 50.31 289 *e*P **P 23 42 43.5 +0.6**
HHC pP pP 23 42 53.0 -2.9
HHC sP sP 23 42 57.5 -3.9
HHC PP PP 23 44 39.6 +1.3
HHC S **S** **23 49 51.2 -0.8**
HHC sS sS 23 50 06.9 -6.9
HHC SS SS 23 53 20.5 -5.0
HHC pmax pmax
comp=Z,41nm,1.0s,mb5.4
HHC pmax pmax
comp=Z,140nm,5.1s
HHC LR LR
comp=N,280nm,14.0s,MS4.6
HHC LR LR
comp=E,310nm,16.4s,MS4.6
HHC LR LR
comp=Z,320nm,16.7s,MS4.4
ANMO Albuquerque 50.32 81 *e*pP pP 23 42 54.2 -1.9
ANMO Albuquerque 50.32 81 *e*P pP 23 42 54.2 -1.9
SPITS Spitsbergen Ar 50.39 357 P **P 23 42 42.7 -0.3**
comp=Z,28nm,1.0s,mb5.3,baz=54,slow=7.5,SNR=6.8
SPITS Spitsbergen Ar 50.39 357 P **P 23 42 42.7 -0.3**
SPITS Spitsbergen Ar 50.39 357 P **P 23 42 42.7 -0.3**
LENM Lemitar 50.52 83 *e*P **P 23 42 46.0 +1.4**
comp=Z,7.7nm,1.2s,mb4.5
LPM Los Pinos Moun 50.63 82 *e*P **P 23 42 45.5 0.0**
ECSD EROS Data Cent 50.64 66 *e*P **P 23 42 44.4 -1.0**
comp=Z,22nm,1.3s,mb4.9
BNM Barren Site 50.74 82 *e*P **P 23 42 45.9 -0.4**
comp=Z,16nm,1.4s,mb4.8
EYMN Ely 50.92 59 *e*P **P 23 42 41.3 -6.1**
comp=Z,62nm,1.4s,mb5.3
EYMN *e* 23 43 01.2
BTO Baotou 51.37 289 *e*P **P 23 42 50.3 -0.6**
NJ2 Nanjing 51.59 275 *e*P **P 23 42 56.2 +3.6**
NJ2 pmax pmax
comp=Z,20nm,0.7s,mb5.2
CBKS Cedar Bluff 51.90 73 *e*P **P 23 42 54.7 -0.2**
comp=Z,6.1nm,0.7s,mb4.6
CBKS Cedar Bluff 51.90 73 *e*P **P 23 42 54.7 -0.2**
CBKS pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
AMTX Amarillo 53.30 78 *e*pP pP 23 43 15.9 -2.5
COWI Conover 53.33 60 *e*P **P 23 43 04.2 -1.1**
comp=Z,35nm,1.3s,mb5.1
JFWS Jewell Farm 54.76 63 *e*P **P 23 43 16.6 +0.8**
comp=Z,26nm,1.0s,mb5.2
JFWS Jewell Farm 54.76 63 *e*P **P 23 43 16.6 +0.8**
JFWS pmax pmax
comp=Z,25nm,1.0s,mb5.2
WMOK Wichita Mounta 55.16 76 *e*P **P 23 43 17.4 -1.4**
comp=Z,8.5nm,0.8s,mb4.8
WMOK Wichita Mounta 55.16 76 *e*P **P 23 43 17.4 -1.4**
WMOK pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
WHN Wuhan 55.42 277 ⇑P **P 23 43 20.0 -0.7**
TXAR Lajitas Array 55.87 85 P **P 23 43 22.9 -1.1**
comp=Z,1.6nm,0.8s,mb4.1,baz=297,slow=4.9,SNR=13
TXAR Lajitas Array 55.87 85 P **P 23 43 22.9 -1.1**
TXAR Lajitas Array 55.87 85 P **P 23 43 22.9 -1.0**
ZALV Zalesovo Beam 55.91 315 P **P 23 43 23.0 -0.9**
comp=Z,0.6nm,0.5s,mb3.9,baz=35,slow=8.0,SNR=5.1
ZALV PcP PcP 23 44 22.4 +0.4
comp=Z,1.3nm,0.6s,baz=23,slow=4.8,SNR=5.6
ZALV LR LR 00 09 02.3
comp=Z,343nm,18.7s,MS4.5,baz=26,slow=38
ZALV Zalesovo Beam 55.91 315 P **P 23 43 23.0 -0.9**
ZALV PcP PcP 23 44 22.4 +0.4
ZALV LR LR 00 09 02.3
ZALV Zalesovo Beam 55.91 315 P **P 23 43 23.0 -0.9**
ZALV 23 44 22.4
SSLB Suanglung 56.10 266 *e*P **P 23 43 25.7 0.0**
comp=Z,38nm,0.8s,mb5.5
XAN Xi'an 56.35 284 P **P 23 43 26.4 -0.9**
XAN pP pP 23 43 40.2 -0.4
XAN pmax pmax
comp=Z,11nm,1.5s,mb4.7
CCM Cathedral Cave 57.41 68 *e*P **P 23 43 34.8 0.0**
comp=Z,7.3nm,0.8s,mb4.8
CCM Cathedral Cave 57.41 68 *e*P **P 23 43 34.8 0.0**
CCM pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
JCT Junction City 57.46 81 *e*P **P 23 43 36.3 +1.1**
comp=Z,9.6nm,0.9s,mb4.8
JCT Junction City 57.46 81 *e*P **P 23 43 36.3 +1.1**
JCT pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
FVM French Village 57.93 68 *e*P **P 23 43 37.0 -1.4**
comp=Z,12nm,0.7s,mb5.0
FVM French Village 57.93 68 *e*P **P 23 43 37.1 -1.4**
FVM pmax pmax
comp=Z,12nm,0.7s,mb5.0
LZH Lanzhou 58.00 289 ⇑P **P 23 43 39.3 +0.4**
LZH pP pP 23 43 50.2 -2.0
LZH sP sP 23 43 54.0 -3.6
LZH PP PP 23 45 49.5 +2.1
LZH *e*S **S** **23 51 34.5 -1.2**
LZH sS sS 23 51 51.2 -6.7
LZH SS SS 23 55 26.5 -0.3
LZH pmax pmax
comp=Z,59nm,1.5s,mb5.4
LZH pmax pmax
comp=Z,140nm,6.7s
LZH LR LR
comp=N,690nm,18.0s,MS5.0
LZH LR LR
comp=E,760nm,17.8s,MS5.0
LZH LR LR
comp=Z,1µm,19.5s,MS5.0
KEV Kevo 58.03 351 *e*P **P 23 43 35.9 -2.7**
KEV Kevo 58.03 351 *e*p **P 23 43 35.9 -2.7**
GTA Gaotai 58.07 294 P **P 23 43 39.2 -0.2**
GTA pP pP 23 43 51.1 -1.6
GTA sP sP 23 43 55.1 -3.0
GTA PcP PcP 23 44 30.3 -0.4
GTA S **S** **23 51 36.0 -0.6**
GTA sS sS 23 51 51.6 -7.2
GTA SS SS 23 55 27.6 -0.3
GTA pmax pmax
comp=Z,22nm,1.0s,mb5.1
GTA pmax pmax
comp=Z,86nm,6.6s

GTA LR LR
comp=N,270nm,18.0s,MS4.7
GTA LR LR
GTA comp=E,490nm,19.4s,MS4.7 LR LR
comp=Z,470nm,20.4s,MS4.6
SCHQ Schefferville 58.12 41 LR LR 00 10 59.1
comp=Z,624nm,19.2s,MS4.7,baz=92,slow=38
ARCES ARCESS Array B 58.38 352 P **P 23 43 40.2 -0.9**
comp=Z,7.7nm,0.8s,mb4.8,baz=32,slow=7.7,SNR=14
ARCES PcP PcP 23 44 32.0 +0.6
comp=Z,11nm,0.8s,baz=16,slow=6.3,SNR=6.9
ARCES LR LR 00 10 24.2
comp=Z,347nm,18.6s,MS4.5,baz=154,slow=38
ARCES ARCESS Array B 58.38 352 P **P 23 43 40.2 -0.9**
ARCES PcP PcP 23 44 32.0 +0.6
ARCES LR LR 00 10 24.2
ARCES ARCESS Array B 58.38 352 P **P 23 43 40.2 -0.9**
ARCES 23 44 32.1
MIAR Mount Ida 58.43 73 *e*P **P 23 43 41.0 -1.0**
comp=Z,182nm,2.4s,mb5.7
MIAR Mount Ida 58.43 73 *e*P **P 23 43 41.0 -1.0**
MIAR pmax pmax
comp=Z,182nm,2.4s,mb5.7
ENH Enshi 58.61 280 *e*P **P 23 43 43.4 +0.1**
comp=Z,51nm,1.5s,mb5.3
OLIL Olney 58.76 66 *e*P **P 23 43 43.3 -0.9**
comp=Z,49nm,1.1s,mb5.5
LVZ Lovozero 58.93 348*c i*P **P 23 43 44.6 -0.3**
LVZ pmax pmax
comp=Z,71nm,2.5s,mb5.2
BLO Bloomington 59.35 65 *e*P **P 23 43 49.2 +0.9**
comp=Z,45nm,1.1s,mb5.4
BLO Bloomington 59.35 65 *e*P **P 23 43 49.2 +0.9**
BLO pmax pmax
comp=Z,45nm,1.1s,mb5.4
APA Apatity 59.41 348⇓*e*P **P 23 43 50.0 +1.8**
APA pmax pmax
comp=Z,30nm,1.2s,mb5.2
APA MLR MLR
comp=Z,2µm,18.0s,MS5.2
WCI Wyandotte Cave 60.13 65 *e*P **P 23 43 55.1 +1.4**
comp=Z,15nm,0.9s,mb5.0
WCI Wyandotte Cave 60.13 65 *e*P **P 23 43 55.1 +1.4**
WCI pmax pmax
comp=Z,15nm,0.9s,mb5.0
KURK Kurchatov 60.89 316 P **P 23 43 58.8 +0.1**
comp=Z,4.5nm,0.7s,mb4.7,baz=42,slow=6.7,SNR=31
KURK Kurchatov 60.89 316 *e*P **P 23 43 57.5 -1.2**
comp=Z,15nm,1.1s,mb5.0
KURK Kurchatov 60.89 316⇑*e*P **P 23 43 57.3 -1.4**
KURK pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
KURK Kurchatov 60.89 316 P **P 23 43 57.9 -0.7**
SNR=5.6
OXF Oxford 60.92 70 *e*P **P 23 43 57.5 -1.7**
comp=Z,34nm,0.9s,mb5.5
OXF Oxford 60.92 70 *e*P **P 23 43 57.5 -1.6**
OXF pmax pmax
comp=Z,34nm,0.9s,mb5.5
ALLY Alegheny Colle 61.14 59 *e*P **P 23 44 00.7 +0.2**
comp=Z,172nm,1.4s,mb6.0
PLAL Pickwick Lake 61.38 69 *e*P **P 23 44 00.7 -1.4**
comp=Z,12nm,0.8s,mb5.1
MSNY Massena 61.49 53 *e*P **P 23 44 02.2 -0.5**
comp=Z,569nm,0.9s
WMQ Urumqi 61.56 305 P **P 23 44 03.2 -0.1**
WMQ pP pP 23 44 16.0 -0.7
WMQ sP sP 23 44 21.3 -0.8
WMQ S **S** **23 52 19.7 -1.7**
WMQ pmax pmax
comp=Z,23nm,1.0s,mb5.3
WMQ pmax pmax
comp=Z,170nm,5.0s
WMQ LR LR
comp=N,910nm,19.5s,MS5.1
WMQ LR LR
comp=E,670nm,17.6s,MS5.1
WMQ LR LR
comp=Z,360nm,24.3s
CD2 Chengdu 61.65 285⇑*i*P **P 23 44 04.1 0.0**
CD2 pP pP 23 44 14.3 -3.2
CD2 sP sP 23 44 18.2 -4.7
CD2 PP PP 23 46 22.1 +2.2
CD2 S **S** **23 52 21.6 -1.3**
CD2 sS sS 23 52 38.7 -6.6
CD2 SS SS 23 56 25.2 +0.8
CD2 pmax pmax
comp=Z,50nm,1.2s,mb5.5
CD2 pmax pmax
comp=Z,150nm,8.9s
CD2 LR LR
comp=N,380nm,19.0s
CD2 LR LR
comp=Z,360nm,17.0s,MS4.6
LONY Lake Ozonia 61.90 53 *e*P **P 23 44 04.8 -0.7**
comp=Z,25nm,0.9s,mb5.3
MK31 Makanchi Array 62.09 311 *e*P **P 23 44 05.9 -0.9**
MK31 Makanchi Array 62.09 311*ce*P **P 23 44 05.6 -1.2**
MK31 pmax pmax
comp=Z,1.0nm,0.2s,mb4.6
MKAR Makanchi Array 62.09 311 P **P 23 44 05.6 -1.1**
comp=Z,8.0nm,0.9s,mb4.8,baz=47,slow=5.7,SNR=61
MKAR LR LR 00 14 08.8
comp=Z,254nm,18.3s,MS4.4,baz=39,slow=39
MKAR Makanchi Array 62.09 311 P **P 23 44 05.6 -1.1**
MKAR LR LR 00 14 08.8
MKAR Makanchi Array 62.09 311 P **P 23 44 05.6 -1.2**
BVAR Borovoye Array 62.53 322 P **P 23 44 09.3 -0.3**
comp=Z,7.2nm,0.5s,mb5.0,baz=48,slow=6.7,SNR=35
BVAR PcP PcP 23 44 48.9 +0.5
comp=Z,8.7nm,0.8s,baz=54,slow=2.6,SNR=11
BVAR Borovoye Array 62.53 322 P **P 23 44 09.3 -0.3**
BVAR PcP PcP 23 44 48.9 +0.5
BVAR Borovoye Array 62.53 322 P **P 23 44 09.3 -0.3**
BVAR 23 44 48.9
NCB Newcomb 62.55 53 *e*P **P 23 44 08.0 -1.9**
comp=Z,9.9nm,0.7s,mb5.0
BRVK Borovoye 62.55 322*c i*P **P 23 44 09.5 -0.2**
BRVK pmax pmax
comp=Z,22nm,2.5s,mb4.8
MCWV Mont Chateau 62.70 60 *e*P **P 23 44 10.7 -0.4**
comp=Z,29nm,1.2s,mb5.3
MCWV *e* pP 23 44 25.2 +0.8
SVE Sverdlovsk 62.92 330 *e*P **P 23 44 12.1 -0.1**
SVE *e*S **S** **23 52 45.2 +7.1**
SVE pmax pmax
comp=Z,15nm,1.1s,mb5.0
SVE MLR MLR
comp=Z,974nm,19.0s,MS5.0
BINY Binghamton 62.93 56 *e*P **P 23 44 13.0 +0.6**
comp=Z,91nm,1.1s,mb5.8
SSPA Standing Stone 63.05 58 *e*P **P 23 44 13.1 -0.2**
comp=Z,29nm,0.9s,mb5.4
SSPA *e* pP 23 44 27.3 +0.6
GYA Guiyang 63.07 279 P **P 23 44 14.5 +0.9**
GYA pP pP 23 44 24.7 -2.3
GYA sP sP 23 44 32.0 -0.4
GYA PcP PcP 23 44 52.5 +1.5
GYA PP PP 23 46 34.3 +1.9
GYA ScP ScP 23 48 51.2 +2.1
GYA S **S** **23 52 42.5 +1.7**
GYA sS sS 23 52 56.6 -6.6
GYA SKS 23 54 01.0
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
GYA pmax pmax
comp=Z,40nm,3.9s
GYA LR LR
comp=N,570nm,18.9s,MS4.9
GYA LR LR
comp=E,470nm,19.9s,MS4.9
GYA LR LR
comp=Z,550nm,20.2s,MS4.7
ZRNK Zerenda 63.12 323 *i*P **P 23 44 12.7 -0.8**
ZRNK pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
ACCN Adirondack Com 63.25 53 *e*P **P 23 44 14.1 -0.5**
comp=Z,44nm,1.1s,mb5.5
ACCN *e* pP 23 44 29.1 +1.1
ARU Arti 63.90 330 *e*P **P 23 44 18.4 -0.2**
comp=Z,15nm,1.2s,mb4.9
ARU Arti 63.90 330*c i*P **P 23 44 18.1 -0.5**
ARU *e* 23 44 50.4
ARU *e* 23 46 38.0

ARU S **S** **23 52 52.4 +2.2**
ARU SS SS 23 56 59.6 +1.5
ARU pmax pmax
comp=Z,12nm,1.2s,mb4.8
ELN Prospectdale 63.95 62 *e*P **P** **23 44 20.5 +1.2**
JOF Joensuu 64.11 347 *e*P **P** **23 44 18.3 -1.6**
JOF Joensuu 64.11 347 *e*p **P** **23 44 18.3 -1.6**
BLA Blacksburg 64.14 62 *e*P **P** **23 44 19.1 -1.5**
comp=Z,24nm,0.8s,mb5.3
BLA *e* pP 23 44 29.6 -4.4
BLA Blacksburg 64.14 62 *e*P **P** **23 44 19.1 -1.4**
BLA *e* pP 23 44 29.6 -4.4
BLA pmax pmax
comp=Z,24nm,0.8s,mb5.3
KLMR Klimovskoe 64.72 342 *e*P **P** **23 44 20.7 -3.2**
KLMR pmax pmax
comp=Z,18nm,1.3s,mb4.9
PAL Palisades 64.86 55 *e*P **P** **23 44 24.0 -1.2**
comp=Z,90nm,1.0s,mb5.8
PAL *e* pP 23 44 39.5 +0.8
PAL Palisades 64.86 55 *e*P **P** **23 44 24.0 -1.2**
PAL *e* pP 23 44 39.5 +0.8
PAL pmax pmax
comp=Z,90nm,1.0s,mb5.8
CPNY Central Park 64.99 55 *e*P **P** **23 44 26.2 +0.1**
comp=Z,61nm,1.0s,mb5.6
CPNY *e* pP 23 44 40.5 +1.0
CBN Corbin 65.09 60 *e*P **P** **23 44 32.9 +6.2**
comp=Z,70nm,1.3s,mb5.5
GOGA Godfrey 65.17 67 *e*P **P** **23 44 28.0 +0.7**
comp=Z,10nm,0.8s,mb4.9
GOGA Godfrey 65.17 67 *e*P **P** **23 44 28.0 +0.7**
GOGA pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
AFI Afiamalu 65.20 177 LR LR 00 11 02.9
comp=Z,158nm,18.8s,MS4.2,baz=106,slow=34
KAF Kangasniemi 65.52 350 *e*P **P** **23 44 27.2 -1.9**
KAF Kangasniemi 65.52 350 *e*p **P** **23 44 27.2 -1.9**
JSC Jenkinsville 65.79 65 *e*P **P** **23 44 31.6 +0.3**
JSC Jenkinsville 65.79 65 *e*P **P** **23 44 31.6 +0.3**
FINES FINESS Array B 66.20 349 P **P** **23 44 32.2 -1.2**
comp=Z,9.5nm,0.9s,mb4.8,baz=29,slow=5.2,SNR=11
FINES PcP PcP 23 45 03.2 -0.2
comp=Z,4.2nm,0.6s,baz=43,slow=4.1,SNR=6.4
FINES LR LR 00 18 20.4
comp=Z,332nm,19.0s,MS4.6,baz=332,slow=40
FINES FINESS Array B 66.20 349 P **P** **23 44 32.2 -1.2**
FINES PcP PcP 23 45 03.2 -0.2
FINES LR LR 00 18 20.4
FINES FINESS Array B 66.20 349 P **P** **23 44 32.2 -1.3**
FINES 23 45 03.2
KMI Kunming 66.45 281 P **P** **23 44 36.0 +0.3**
KMI pP pP 23 44 49.8 +0.6
KMI pmax pmax
comp=Z,19nm,1.1s,mb5.0
QIZ Qiongzhong 66.55 271 P **P** **23 44 32.6 -3.8**
QIZ S S 23 53 23.0 -0.8
QIZ LR LR
comp=E,120nm,16.0s
QIZ LR LR
comp=Z,200nm,18.0s,MS4.4
TAOE Nuku Hiva Isla 66.97 143 *e*LR LR 00 04 35.0
comp=Z,219nm,24.9s
NB2 NORSAR Subarra 67.69 357 P **P** **23 44 42.9 -0.1**
comp=Z,20nm,1.0s,mb5.1,baz=4.4,slow=6.5
NOA NORSAR Array B 67.69 357 P **P** **23 44 42.7 -0.3**
comp=Z,11nm,0.9s,mb4.9,baz=1.9,slow=6.3,SNR=18
NOA LR LR 00 14 52.5
comp=Z,148nm,18.8s,MS4.2,baz=355,slow=36
NOA NORSAR Array B 67.69 357 P **P** **23 44 42.7 -0.3**
NOA LR LR 00 14 52.5
NOA NORSAR Array B 67.69 357 P **P** **23 44 42.7 -0.3**
TKM2 Tokmak 2 68.13 312 *e*P **P** **23 44 46.4 +0.4**
comp=Z,21nm,1.3s,mb5.0
TKM2 Tokmak 2 68.13 312 *e*P **P** **23 44 46.4 +0.4**
TKM2 pmax pmax
comp=Z,21nm,1.3s,mb5.0
KBK Karagaybulak 68.64 312 *e*P **P** **23 44 49.6 +0.4**
comp=Z,22nm,1.1s,mb5.0
KBK Karagaybulak 68.64 312 *e*P **P** **23 44 49.6 +0.4**
KBK pmax pmax
comp=Z,22nm,1.1s,mb5.0
AAK Ala-Archa 68.87 312 P **P** **23 44 51.1 +0.5**
comp=Z,8.7nm,0.8s,mb4.7,baz=100,slow=3.9,SNR=22
AAK LR LR 00 19 11.5
comp=Z,391nm,18.9s,MS4.7,baz=34,slow=40
AAK Ala-Archa 68.87 312 *e*P **P** **23 44 50.9 +0.3**
comp=Z,15nm,0.9s,mb4.9
AAK Ala-Archa 68.87 312⇑*i*P **P** **23 44 49.9 -0.7**
AAK pmax pmax
comp=Z,17nm,1.7s,mb4.7
AAK Ala-Archa 68.87 312 P **P** **23 44 51.3 +0.7**
comp=Z,91nm,1.1s,mb5.6,SNR=6.0
AAK Ala-Archa 68.87 312 P **P** **23 44 50.7 +0.1**
comp=Z,18nm,1.2s,mb4.9
AKTK Aktyubinsk 69.12 327 P **P** **23 44 52.6 +0.5**
AKTO Aktyubinsk 69.12 327 P **P** **23 44 52.6 +0.5**
comp=Z,5.1nm,0.6s,mb4.7,baz=60,slow=6.4,SNR=14
AKTO Aktyubinsk 69.12 327 P **P** **23 44 52.6 +0.5**
EKS2 Erkin-Say 69.17 313 *e*P **P** **23 44 53.2 +0.6**
comp=Z,13nm,0.8s,mb4.9
EKS2 Erkin-Say 69.17 313 *e*P **P** **23 44 53.2 +0.7**
EKS2 pmax pmax
comp=Z,13nm,0.8s,mb4.9
AB31 Akbulak array 69.45 325*ce*P **P** **23 44 53.3 -0.8**
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
ABKAR Akbulak array 69.45 325 *e*P **P** **23 44 53.7 -0.4**
comp=Z,2.7nm,0.6s,mb4.3
LSA Lhasa 69.99 293 P **P** **23 44 59.3 +1.6**
LSA Lhasa 69.99 293 *e*P **P** **23 44 59.5 +1.8**
comp=Z,75nm,0.9s,mb5.6
LSA Lhasa 69.99 293 *e*P **P** **23 44 59.5 +1.8**
LSA pmax pmax
comp=Z,75nm,0.9s,mb5.6
KK31 Karatay Array 70.29 315*ce*P **P** **23 44 58.8 -0.6**
KK31 pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
KKAR Karatay Array 70.29 315 *e*P **P** **23 44 59.5 +0.1**
comp=Z,4.9nm,0.6s,mb4.6
KKAR Karatay Array 70.29 315 *e*P **P** **23 44 59.5 +0.1**
KKAR pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
KSH Kashi 70.60 309 P **P** **23 45 05.1 +3.8**
KSH pP pP 23 45 15.3 +0.3
KSH sP sP 23 45 19.3 -1.0
KSH PcP PcP 23 45 25.7 +3.5
KSH PP PP 23 47 44.1 +6.5
KSH S S 23 54 15.6 +4.2
KSH sS sS 23 54 33.3 -0.8
KSH SKS 23 55 00.2
KSH ScS ScS 23 55 02.4 +1.9
KSH SS SS 23 58 50.7 +8.1
KSH pmax pmax
comp=Z,43nm,1.1s,mb5.3
KSH LR LR
comp=N,110nm,5.5s
KSH LR LR
comp=E,130nm,6.4s
KSH LR LR
comp=Z,140nm,6.4s
OBN Obninsk 70.66 342⇓*e*P **P** **23 45 00.5 -0.9**
OBN *e* 23 45 21.2
OBN pmax pmax
comp=Z,48nm,2.5s,mb5.0
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.4
IZAR Zarasai 71.73 348 *e*P **P** **23 45 05.1 -2.7**
MYLDM Lahad Datu 71.85 255 P **P** **23 45 10.1 +0.9**
comp=Z,27nm,1.6s,mb4.9
ISAL Salakas 71.92 348 *e*P **P** **23 45 06.8 -2.2**
IIGN Ignalina 72.12 348 *e*P **P** **23 45 09.8 -0.4**
PPT Papeete 72.13 155 *e*S S 23 54 34.3 +5.1
comp=Z,130nm,29.5s
PPT eLR LR 00 07 18.8
comp=Z,309nm,21.0s,baz=342
PPT Papeete 72.13 155 LR LR 00 12 16.0
comp=Z,420nm,18.6s,MS4.7,baz=5.4,slow=32
MUD Monsted U'grnd 72.34 358 *i* P **P** **23 45 11.9 +0.4**
comp=Z,13nm,0.9s,mb4.9
MUD *i* pP 23 45 25.3 +0.1
VRHR Novokhopersk 73.31 337 *e*P **P** **23 45 16.1 -1.2**
VRHR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.6s
CHTO Chiang Mai 73.49 279 *e*P **P** **23 45 18.8 -0.1**
comp=E,30nm,1.6s,mb5.0
CHTO Chiang Mai 73.49 279 *e*P **P** **23 45 18.8 -0.1**
CHTO pmax pmax
comp=Z,30nm,1.6s,mb5.0
CHTO Chiang Mai 73.49 279 P **P** **23 45 20.5 +1.6**
comp=Z,13nm,1.5s,mb4.6
RAR Rarotonga 73.55 166 LR LR 00 10 43.7
comp=Z,351nm,19.3s,MS4.7,baz=265,slow=30
MRSI Marisa 73.56 249 P **P** **23 45 25.0 +5.7**
comp=Z,26nm,1.2s,mb5.0
CMAR Chiang Mai Arr 73.76 279 P **P** **23 45 21.4 +1.0**
comp=Z,1.1nm,0.4s,mb4.2,baz=255,slow=9.7,SNR=6.3
CMAR LR LR 00 20 41.0
comp=Z,170nm,18.6s,MS4.4,baz=34,slow=38
CMAR Chiang Mai Arr 73.76 279 P **P** **23 45 21.4 +1.0**
CMAR LR LR 00 20 41.0
CMAR Chiang Mai Arr 73.76 279 P **P** **23 45 21.4 +0.9**
VSR Storozhevoye 73.77 339 *e*P **P** **23 45 19.2 -0.8**
VSR pmax pmax
comp=Z,40nm,1.3s,mb5.2
VSR pmax pmax
comp=N,20nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.1s
SUW Suwalki 73.81 349 *e*P **P** **23 45 18.9 -1.4**
comp=E,33nm,0.9s,mb5.3
SUW Suwalki 73.81 349 *e*P **P** **23 45 18.9 -1.3**
SUW pmax pmax
comp=Z,33nm,0.9s,mb5.3
LUWI Luwuk 74.30 248 P **P** **23 45 27.0 +3.3**
comp=Z,838nmcomp=Z,38nm,1.3s,mb5.2
GUN Gumba 74.35 295 *e*P **P** **23 45 24.1 +0.3**
comp=Z,308nm,1.1s,mb6.2
GUN Gumba 74.35 295 *e*P **P** **23 45 24.1 +0.3**
comp=Z,308nm,1.1s,mb6.2
KKN Kakani 74.78 295 *e*P **P** **23 45 26.8 +0.5**
comp=Z,129nm,1.1s,mb5.8
KKN Kakani 74.78 295 *e*P **P** **23 45 26.8 +0.5**
comp=Z,129nm,1.1s,mb5.8
KKN Kakani 74.78 295 *e*P **P** **23 45 26.8 +0.5**
KKN pmax pmax
comp=Z,129nm,1.1s,mb5.8
BSEG Bad Segeberg 74.83 357 *e*P **P** **23 45 26.7 +0.5**
comp=Z,69nm,1.0s,mb5.5
BSEG Bad Segeberg 74.83 357 *e*P **P** **23 45 26.7 +0.5**
BSEG pmax pmax
comp=Z,69nm,1.0s,mb5.5
PKI Pulchoki 74.88 295 *e*P **P** **23 45 27.3 +0.4**
comp=Z,216nm,1.2s,mb6.0
PKI Pulchoki 74.88 295 *e*P **P** **23 45 27.4 +0.5**
comp=Z,69nm,0.9s,mb5.6
PKI Pulchoki 74.88 295 *e*P **P** **23 45 27.4 +0.5**
PKI pmax pmax
comp=Z,69nm,0.9s,mb5.6
PKIN Phulchoki 74.88 295 *e*P **P** **23 45 27.4 +0.5**
comp=Z,69nm,0.9s,mb5.6
GKN Gorkha 74.98 296 *e*P **P** **23 45 27.7 +0.2**
comp=Z,227nm,1.1s,mb6.0
GKN Gorkha 74.98 296 *e*P **P** **23 45 27.7 +0.2**
comp=Z,227nm,1.1s,mb6.0
DMN Daman 75.02 295 *e*P **P** **23 45 28.6 +0.9**
comp=Z,216nm,1.2s,mb5.9
DMN Daman 75.02 295 *e*P **P** **23 45 28.6 +0.9**
comp=Z,216nm,1.2s,mb6.0
DZM Mont Dzumac 75.20 198 *e*LR LR 00 08 55.8
comp=Z,223nm,20.2s
DANN Dangsing 75.20 297 *e*P **P** **23 45 29.5 +0.7**
comp=Z,221nm,0.9s,mb6.1
DANN Dangsing 75.20 297 *e*P **P** **23 45 29.5 +0.7**
comp=Z,221nm,0.9s,mb6.1
KOLN Koldanda 75.74 297 *e*P **P** **23 45 32.1 +0.2**
comp=Z,166nm,1.1s,mb5.9
KOLN Koldanda 75.74 297 *e*P **P** **23 45 32.1 +0.2**
comp=Z,166nm,1.1s,mb5.9
AKASG Malin Array Be 76.20 345 P **P** **23 45 32.7 -1.4**
comp=Z,4.9nm,0.6s,mb4.6,baz=14,slow=5.5,SNR=21
AKASG LR LR 00 25 46.5
comp=Z,379nm,18.7s,MS4.7,baz=15,slow=41
AKASG Malin Array Be 76.20 345 P **P** **23 45 32.7 -1.4**
AKASG LR LR 00 25 46.5
AKASG Malin Array Be 76.20 345 P **P** **23 45 32.7 -1.4**
AKBB Malin Array Si 76.20 345 *e*P **P** **23 45 33.4 -0.7**
AKBB Malin Array Si 76.20 345 *e*P **P** **23 45 33.4 -0.7**
KIEV Kiev 76.21 345 *e*P **P** **23 45 32.0 -2.2**
comp=Z,81nm,2.2s,mb5.3
KIEV Kiev 76.21 345 *e*P **P** **23 45 32.0 -2.1**
KIEV pmax pmax
comp=Z,81nm,2.2s,mb5.3
IBBN Ibbenburen 76.52 359 *e*P **P** **23 45 36.2 +0.3**
comp=Z,54nm,0.9s,mb5.5
DDI Dehra Dun 76.77 302 *e*PKP **P** **23 45 36.5 -1.1**
CLZ Clausthal 76.93 357 *e*P **P** **23 45 38.7 +0.5**
comp=Z,41nm,1.0s,mb5.3
CLZ Clausthal 76.93 357 *e*P **P** **23 45 38.7 +0.5**
CLZ pmax pmax
comp=Z,41nm,1.0s,mb5.3
CLL Collm 77.35 355 *e*P **P** **23 45 40.2 -0.3**
comp=Z,19nm,0.9s,mb5.0
CLL Collm 77.35 355⇑*i*P **P** **23 45 40.1 -0.4**
CLL *e* pP 23 45 53.0 -1.3
CLL *e*S S 23 55 37.0 +10
CLL pmax pmax
comp=Z,19nm,0.9s,mb5.0
CLL Collm 77.35 355⇑*i*P **P** **23 45 40.1 -0.4**
comp=Z,19nm,0.9s,mb5.0
CLL *e*pP pP 23 45 53.0 -1.3
CLL *e*S S 23 55 37.0 +10
CLL *e*PPS 23 56 24.0
CLL *e*SS SS 00 00 40.0 +16
CLL *e* 00 01 39.0
CLL LmV 00 21 00.0
comp=Z,100nm,20.3s
NEUB Neuenburg 77.51 356 *e*P **P** **23 45 41.6 +0.2**
comp=Z,53nm,1.0s,mb5.4
KSP Ksiaz 77.61 353 *e*P **P** **23 45 42.1 +0.2**
TTSI Tana Toraja 77.64 249 P **P** **23 45 46.7 +4.1**
TBI Tubuai 77.70 157 *e*LR LR 00 09 50.8
comp=Z,332nm,26.2s,baz=340
BRG Berggiesshubel 77.73 355 *e*P **P** **23 45 42.3 -0.4**
comp=Z,21nm,1.0s,mb5.0
BRG Berggiesshubel 77.73 355 *i* P **P** **23 45 42.4 -0.3**
BRG *e* pP 23 45 56.4 0.0
BRG pmax pmax
comp=Z,21nm,1.0s,mb5.0
BRG pmax pmax
comp=Z,40nm,1.6s,mb5.1
SBUM Sibu 77.82 258 P **P** **23 45 43.8 +0.1**
comp=Z,9.5nm,1.9s,mb4.4
KBL Kabul 77.89 311 *e*P **P** **23 45 43.1 -0.7**
comp=Z,49nm,1.0s,mb5.4
KBL Kabul 77.89 311 *e*P **P** **23 45 43.1 -0.8**
KBL pmax pmax
comp=Z,49nm,1.0s,mb5.4
UPC Upice 77.96 353 *e*P **P** **23 45 44.0 +0.1**
UPC Upice 77.96 353 *e*P **P** **23 45 44.0 +0.1**
UBBA Unterbreizbach 77.96 357 *e*P **P** **23 45 43.7 -0.2**
comp=Z,17nm,1.3s,mb4.8
UBBA *e*pP pP 23 45 51.7 -6.0
PVCC Panska Ves 78.04 354 *e*P **P** **23 45 44.7 +0.3**
PVCC Panska Ves 78.04 354 *e*P **P** **23 45 44.7 +0.3**
MOX Moxa 78.08 356 *e*P **P** **23 45 44.7 +0.1**
comp=Z,26nm,1.1s,mb5.1
MOX Moxa 78.08 356 *e*P **P** **23 45 44.7 +0.1**
MOX pmax pmax
comp=Z,26nm,1.1s,mb5.1
DPC Dobruska-Polom 78.09 353 *e*P **P** **23 45 44.5 -0.2**
comp=Z,22nm,0.9s,mb5.1
DPC Dobruska-Polom 78.09 353 *e*P **P** **23 45 44.7 0.0**
DPC *e* pP 23 45 58.6 +0.1
DPC Dobruska-Polom 78.09 353 *e*P **P** **23 45 44.7 0.0**
DPC *e*pP pP 23 45 58.6 +0.1
KWP Kalwaria Pacla 78.17 349 *e*P **P** **23 45 44.4 -0.8**
comp=Z,27nm,1.0s,mb5.1
KWP Kalwaria Pacla 78.17 349⇓P **P** **23 45 45.2 +0.1**
KWP Kalwaria Pacla 78.17 349⇓*i*P **P** **23 45 45.2 +0.1**
MEM Membach 78.24 360 P **P** **23 45 45.9 +0.4**
comp=Z,21nm,1.3s,mb4.9
TANN Tannenbergstha 78.27 356 *e*P **P** **23 45 45.8 +0.1**
comp=Z,26nm,1.5s,mb4.9
WERN Wernitzgruen 78.40 356 *e*P **P** **23 45 46.7 +0.3**
comp=Z,39nm,1.0s,mb5.2
SPSI Sidrap Palu 78.41 248 P pP 23 45 58.6 -2.1
BCLA Clavier 78.43 0 P **P** **23 45 47.0 +0.5**
NKC Novy Kostel 78.45 356 *e*P **P** **23 45 46.8 +0.1**
NKC *e* pP 23 46 00.0 -0.5
NKC Novy Kostel 78.45 356 *e*P **P** **23 45 46.8 +0.1**
NKC *e*pP pP 23 46 00.0 -0.5
OKC Ostrava-Krasne 78.45 352 *e*P **P** **23 45 46.6 -0.1**
OKC *e* pP 23 46 00.3 -0.2
OKC Ostrava-Krasne 78.45 352 *e*P **P** **23 45 46.6 -0.1**
OKC *e*pP pP 23 46 00.3 -0.2
NDI New Delhi 78.51 302 *e*PKP **P** **23 45 45.6 -1.8**
NDI AMb AMB 23 45 45.8
comp=Z,36nm,1.1s,mb5.2
STHS Stebnicka Huta 78.56 350 *e*P **P** **23 45 48.2 +0.9**
STHS pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
STHS Stebnicka Huta 78.56 350 *e*P **P** **23 45 48.2 +0.9**
MORC Moravsky Berou 78.56 352 *e*P **P** **23 45 47.1 -0.2**
comp=Z,6.0nm,1.0s,mb4.5
MORC Moravsky Berou 78.56 352⇓P **P** **23 45 45.5 -1.8**
MORC Moravsky Berou 78.56 352⇓*i*P **P** **23 45 45.5 -1.8**
PRU Pruhonice 78.58 354 *e*P **P** **23 45 48.1 +0.7**
PRU Pruhonice 78.58 354 *e*P **P** **23 45 48.1 +0.7**
TNS Taunus Mts 78.60 358 *e*P **P** **23 45 47.6 +0.1**
comp=Z,32nm,1.0s,mb5.2
TNS Taunus Mts 78.60 358 *e*P **P** **23 45 47.6 +0.1**
TNS pmax pmax
comp=Z,32nm,1.0s,mb5.2
GIVF Givet 78.74 1 *e*P **P** **23 45 48.5 +0.2**
comp=Z,74nm,1.1s,mb5.2
GIVF Givet 78.74 1 *e*P **P** **23 45 48.5 +0.2**
comp=Z,37nm,1.1s,mb5.2
GIVF Givet 78.74 1 *e*P **P** **23 45 48.5 +0.2**
GIVF pmax pmax
comp=Z,37nm,1.1s,mb5.2
DOU Dourbes 78.75 1 P **P** **23 45 48.7 +0.4**
comp=Z,25nm,1.7s,mb4.9
BAIF Baives 78.78 1 *e*P **P** **23 45 48.9 +0.4**
comp=Z,52nm,1.0s,mb5.1
BAIF Baives 78.78 1 *e*P **P** **23 45 48.9 +0.4**
comp=Z,26nm,1.0s,mb5.1
BAIF Baives 78.78 1 *e*P **P** **23 45 48.9 +0.4**
BAIF pmax pmax
comp=Z,26nm,1.0s,mb5.1
KOLS Kolonicke sedl 78.91 349 *e*P **P** **23 45 49.2 0.0**
KOLS pmax pmax
comp=Z,53nm,2.4s,mb5.0
KOLS Kolonicke sedl 78.91 349 *e*P **P** **23 45 49.2 0.0**
ABH Alteburg 78.95 359 *e*P **P** **23 45 50.3 +0.9**
CRVS Cervenica-Dubn 79.04 349 *e*P **P** **23 45 49.9 0.0**
CRVS pmax pmax
comp=Z,32nm,2.1s,mb4.9
CRVS Cervenica-Dubn 79.04 349 *e*P **P** **23 45 49.9 0.0**
GRF Grafenberg Arr 79.05 356 *e*L 00 29 58.5
comp=Z,196nm,19.0s
GRFO Grafenberg 79.05 356 *e*P **P** **23 45 50.2 +0.3**
comp=Z,38nm,1.0s,mb5.3
GRFO Grafenberg 79.05 356 *e*P **P** **23 45 50.3 +0.4**
GRFO pmax pmax
comp=Z,38nm,1.0s,mb5.3
VRAC Vranov 79.11 353⇑P **P** **23 45 50.7 +0.4**
VRAC Vranov 79.11 353⇑*i*P **P** **23 45 50.7 +0.4**
RUP Ruppelstein 79.14 359 *e*P **P** **23 45 51.2 +0.7**
RUP Ruppelstein 79.14 359 *e*P **P** **23 45 51.2 +0.7**
WLF Walferdange 79.18 360 P **P** **23 45 51.3 +0.6**
WLF Walferdange 79.18 360 *e*P **P** **23 45 51.0 +0.3**
comp=Z,24nm,1.0s,mb5.1
TREC Trest 79.20 353 *e*P **P** **23 45 50.9 +0.1**
TREC Trest 79.20 353 *e*P **P** **23 45 50.9 +0.1**
TOD Tromm 79.21 358 *e*P **P** **23 45 51.4 +0.6**
TOD Tromm 79.21 358 *e*P **P** **23 45 51.4 +0.6**
UZH Uzhgorod 79.21 349 *e*P **P** **23 45 50.0 -0.9**
UZH *e* 23 45 54.5
BKSI Bulukumba 79.30 247 P **P** **23 45 51.8 0.0**
KHC Kasperske Hory 79.49 355 *e*P **P** **23 45 52.5 +0.1**
comp=Z,13nm,0.9s,mb4.8
KHC *e* pP 23 46 06.7 +0.5
KHC Kasperske Hory 79.49 355 *e*P **P** **23 45 52.5 +0.1**
KHC *e* pP 23 46 06.7 +0.5
KHC pmax pmax
comp=Z,13nm,0.9s,mb4.9
KHC Kasperske Hory 79.49 355 *e*P **P** **23 45 52.5 +0.1**
KHC *e*pP pP 23 46 06.4 +0.2
KECS Kecovo 79.56 350 *e*P **P** **23 45 53.3 +0.5**
KECS pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
KECS Kecovo 79.56 350 *e*P **P** **23 45 53.3 +0.5**
KIV Kislovodsk 79.63 334 *e*P **P** **23 45 52.6 -0.7**
comp=Z,6.5nm,0.9s,mb4.6
KIV Kislovodsk 79.63 334⇑*i*P **P** **23 45 53.0 -0.3**
KIV *e* 23 45 59.7
KIV pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
TRPA Tarpa 79.67 349⇑*i*P **P** **23 45 52.7 -0.7**
KOLL Kolacno 79.68 351 *e*P **P** **23 45 54.0 +0.6**
KOLL Kolacno 79.68 351 *e*P **P** **23 45 54.0 +0.6**
VYHS Vyhne 79.72 351 *e*P **P** **23 45 53.7 +0.1**
VYHS pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
VYHS Vyhne 79.72 351 *e*P **P** **23 45 53.7 +0.1**
GEC2 GERESS Array S 79.77 355 *e*P **P** **23 45 53.5 -0.4**
comp=Z,16nm,1.1s,mb4.9
GEC2 GERESS Array S 79.77 355 *e*P **P** **23 45 53.5 -0.4**
GEC2 pmax pmax
comp=Z,16nm,1.1s,mb4.9
GERES GERESS Array B 79.77 355 P **P** **23 45 54.1 +0.2**
comp=Z,5.4nm,0.9s,mb4.5,baz=18,slow=4.6,SNR=38
GERES GERESS Array B 79.77 355 P **P** **23 45 54.1 +0.2**
GERES GERESS Array B 79.77 355 P **P** **23 45 54.1 +0.2**
ABKT Ailbek 79.80 320 P **P** **23 45 53.2 -1.1**
comp=Z,153nm,1.0s,mb5.9,SNR=11
BURAR Bucovina Array 79.82 347⇓P **P** **23 45 54.2 0.0**
BURAR Bucovina Array 79.82 347⇓*i*P **P** **23 45 54.2 0.0**
LANF Langenberg 79.85 359 *e*P **P** **23 45 55.1 +0.8**
LANF Langenberg 79.85 359 *e*P **P** **23 45 55.1 +0.8**
LANF Langenberg 79.85 359 *e*P **P** **23 45 55.1 +0.8**
FLN La Foliniere 79.95 4 *e*P **P** **23 45 54.7 -0.2**
comp=Z,50nm,1.2s,mb5.0
FLN *e*MLR MLR
comp=Z,227nm,19.5s,MS4.2
FLN La Foliniere 79.95 4 *e*P **P** **23 45 54.7 -0.2**
comp=Z,25nm,1.2s,mb5.0
FLN LR LR
comp=Z,230nm,19.5s,MS4.5
FLN La Foliniere 79.95 4 *e*P **P** **23 45 54.7 -0.2**
FLN pmax pmax
comp=Z,25nm,1.2s,mb5.0
FLN MLR MLR
comp=Z,230nm,19.5s,MS4.5
STU Stuttgart 80.03 358 *e*P **P** **23 45 55.9 +0.6**
comp=Z,34nm,1.2s,mb5.2
STU Stuttgart 80.03 358 *e*P **P** **23 45 55.9 +0.6**
STU pmax pmax
comp=Z,34nm,1.2s,mb5.2
LDF La Druitiere 80.13 4 *e*P **P** **23 45 55.5 -0.4**
comp=Z,42nm,1.3s,mb4.9
LDF La Druitiere 80.13 4 *e*P **P** **23 45 55.5 -0.4**
comp=Z,21nm,1.3s,mb4.9
LDF La Druitiere 80.13 4 *e*P **P** **23 45 55.5 -0.4**
LDF pmax pmax
comp=Z,21nm,1.3s,mb4.9
ZST Bratislava 80.17 352 *e*P **P** **23 45 56.8 +0.7**
ZST pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
ZST Bratislava 80.17 352 *e*P **P** **23 45 56.8 +0.7**
PSZ Piszkesteto 80.18 350 *e*P **P** **23 45 56.9 +0.7**
comp=Z,7.3nm,1.0s,mb4.6
PSZ Piszkesteto 80.18 350 *e*P **P** **23 45 56.9 +0.8**
PSZ pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
PSZ Piszkesteto 80.18 350⇑*i*P **P** **23 45 56.9 +0.8**
GRR Gorron 80.31 4 *e*P **P** **23 45 56.8 0.0**
comp=Z,73nm,1.1s,mb5.2
GRR Gorron 80.31 4 *e*P **P** **23 45 56.8 0.0**
comp=Z,36nm,1.1s,mb5.2
GRR Gorron 80.31 4 *e*P **P** **23 45 56.8 0.0**
GRR pmax pmax
comp=Z,36nm,1.1s,mb5.2
MEZF Maizieres J'vi 80.35 0 *e*P **P** **23 45 57.6 +0.6**
comp=Z,65nm,1.1s,mb5.2
MEZF Maizieres J'vi 80.35 0 *e*P **P** **23 45 57.6 +0.6**
comp=Z,65nm,1.1s,mb5.5
SGMF Saint Gilles 80.35 6 *e*P **P** **23 45 57.1 +0.1**
comp=Z,42nm,1.0s,mb5.0
SGMF Saint Gilles 80.35 6 *e*P **P** **23 45 57.1 +0.1**
comp=Z,21nm,1.0s,mb5.0

SGMF Saint Gilles 80.35 6 *e*P **P 23 45 57.1 +0.1**
SGMF pmax pmax
comp=Z,21nm,1.0s,mb5.0
ZEI Tsey 80.38 332 *e*P **P 23 45 56.0 -1.3**
ZEI pmax pmax
comp=Z,12nm,1.6s,mb4.6
CDF Champ du Feu 80.43 359 *e*P **P 23 45 57.8 +0.3**
comp=Z,36nm,1.0s,mb5.0
CDF Champ du Feu 80.43 359 *e*P **P 23 45 57.8 +0.3**
comp=Z,18nm,1.0s,mb5.0
CDF Champ du Feu 80.43 359 *e*P **P 23 45 57.8 +0.3**
CDF pmax pmax
comp=Z,18nm,1.0s,mb5.0
LEOM Leova 80.46 344 ⇓P **P 23 45 57.8 +0.1**
LEOM Leova 80.46 344 ⇓*i*P **P 23 45 57.8 +0.1**
BFO Black Forest 80.49 358 *e*P **P 23 45 57.8 0.0**
comp=Z,21nm,1.1s,mb5.0
BFO Black Forest 80.49 358 *e*P **P 23 45 57.3 -0.5**
comp=Z,16nm,1.0s,mb4.9
BFO Black Forest 80.49 358 *e*P **P 23 45 57.8 0.0**
BFO pmax pmax
comp=Z,21nm,1.1s,mb5.0
CONA Conrad Observa 80.54 353 ⇑*i*P **P 23 45 58.4 +0.3**
comp=Z,18nm,1.3s,mb4.8,SNR=7.4
CSNA Conrad Observa 80.54 353 ⇑*i*P **P 23 45 58.3 +0.2**
comp=Z,16nm,1.3s,mb4.8
THEF They Montfort 80.62 360 *e*P **P 23 45 59.4 +0.9**
THEF They Montfort 80.62 360 *e*P **P 23 45 59.4 +0.9**
THEF They Montfort 80.62 360 *e*P **P 23 45 59.4 +0.9**
ECH Echery 80.63 359 *e*P **P 23 45 59.0 +0.5**
comp=Z,31nm,1.0s,mb5.2
ECH Echery 80.63 359 *e*P **P 23 45 59.0 +0.5**
ECH pmax pmax
comp=Z,31nm,1.0s,mb5.2
ECH Echery 80.63 359 *e*P **P 23 45 59.0 +0.5**
SFTF Sexfontaines 80.64 0 *e*P **P 23 45 59.0 +0.4**
comp=Z,120nm,1.0s,mb5.5
SFTF Sexfontaines 80.64 0 *e*P **P 23 45 59.0 +0.4**
comp=Z,120nm,1.0s,mb5.8
TESR 80.68 345 ⇑*i*P **P 23 45 58.9 +0.1**
SPAK Spaichingen-Ko 80.71 358 *e*P **P 23 45 59.6 +0.6**
HAU Haudompre 80.84 360 *e*P **P 23 45 59.9 +0.2**
comp=Z,70nm,1.0s,mb5.2
HAU *e*MLR MLR
comp=Z,273nm,20.5s,MS4.3
HAU Haudompre 80.84 360 *e*P **P 23 45 59.9 +0.2**
comp=Z,35nm,1.0s,mb5.2
HAU LR LR
comp=Z,270nm,20.5s,MS4.6
HAU Haudompre 80.84 360 *e*P **P 23 45 59.9 +0.2**
HAU pmax pmax
comp=Z,35nm,1.0s,mb5.2
HAU MLR MLR
comp=Z,270nm,20.5s,MS4.6
FELD Feldberg im Sc 80.95 358 *e*P **P 23 46 00.7 +0.4**
DRGR 80.97 348 ⇑P **P 23 46 00.5 +0.1**
DRGR 80.97 348 ⇑*i*P **P 23 46 00.5 +0.1**
MOF Molkenrain 80.99 359 *e*P **P 23 46 00.9 +0.4**
MOF Molkenrain 80.99 359 *e*P **P 23 46 00.9 +0.4**
MOF Molkenrain 80.99 359 *e*P **P 23 46 00.9 +0.4**
HINF Hinteralfeld 81.03 359 *e*P **P 23 46 00.8 +0.1**
comp=Z,34nm,1.1s,mb4.9
HINF Hinteralfeld 81.03 359 *e*P **P 23 46 00.8 +0.1**
comp=Z,17nm,1.1s,mb4.9
HINF Hinteralfeld 81.03 359 *e*P **P 23 46 00.8 +0.1**
HINF pmax pmax
comp=Z,17nm,1.1s,mb4.9
ARSA Arzberg 81.23 353 ⇑*i*P **P 23 46 02.4 +0.7**
comp=Z,11nm,1.2s,mb4.7
RETA Reutte 81.27 356 ⇑*i*P **P 23 46 02.1 +0.2**
comp=Z,9.3nm,1.2s,mb4.6
VRI Vrincioaia 81.30 345 ⇓P **P 23 46 02.7 +0.6**
VRI Vrincioaia 81.30 345 ⇓*i*P **P 23 46 02.7 +0.6**
WATA Walderalm 81.38 356 ⇑*i*P **P 23 46 03.6 +1.0**
comp=Z,15nm,1.1s,mb4.8
MOTA Moosalm 81.39 356 ⇑*i*P **P 23 46 02.8 +0.2**
comp=Z,16nm,1.2s,mb4.8,SNR=7.6
DOPR Dopca 81.40 346 ⇑*i*P **P 23 45 56.2 -6.5**
WTTA Wattenberg 81.45 356 *e*P **P 23 46 03.5 +0.6**
comp=Z,24nm,1.1s,mb5.0
WTTA Wattenberg 81.45 356 ⇑*i*P **P 23 46 03.2 +0.3**
comp=Z,20nm,1.0s,mb5.0
LOMF Lomont 81.49 359 *e*P **P 23 46 04.2 +1.0**
LOMF Lomont 81.49 359 *e*P **P 23 46 04.2 +1.0**
LOMF Lomont 81.49 359 *e*P **P 23 46 04.2 +1.0**
DAVA Damuels 81.50 357 ⇑*i*P **P 23 46 03.4 +0.2**
comp=Z,11nm,1.1s,mb4.7
HYF Humbligny 81.55 2 *e*P **P 23 46 04.0 +0.6**
HYF Humbligny 81.55 2 *e*P **P 23 46 04.0 +0.6**
KBA Koelnbreinsper 81.55 355 *e*P **P 23 46 04.0 +0.5**
comp=Z,33nm,1.0s,mb5.2
KBA Koelnbreinsper 81.55 355 ⇑*i*P **P 23 46 04.3 +0.9**
comp=Z,35nm,1.1s,mb5.2,SNR=22
LOR Lormes 81.57 1 *e*P **P 23 46 03.8 +0.2**
comp=Z,76nm,1.1s,mb5.2
LOR *e*MLR MLR
comp=Z,213nm,19.2s,MS4.2
LOR Lormes 81.57 1 *e*P **P 23 46 03.8 +0.2**
comp=Z,38nm,1.1s,mb5.2
LOR LR LR
comp=Z,210nm,19.3s,MS4.5
LOR Lormes 81.57 1 *e*P **P 23 46 03.8 +0.2**
LOR pmax pmax
comp=Z,38nm,1.1s,mb5.2
LOR MLR MLR
comp=Z,210nm,19.3s,MS4.5
TLCR 81.61 344 ⇓P **P 23 46 04.8 +1.0**
TLCR 81.61 344 ⇓*i*P **P 23 46 04.8 +1.0**
GRER 81.73 345 ⇑*i*P **P 23 46 06.8 +2.4**
FETA Feichten 81.73 356 ⇑*i*P **P 23 46 05.0 +0.6**
comp=Z,17nm,1.0s,mb4.9
SSF Saint Saulge 81.77 1 *e*P **P 23 46 04.9 +0.3**
comp=Z,62nm,1.1s,mb5.2
SSF Saint Saulge 81.77 1 *e*P **P 23 46 04.9 +0.3**
comp=Z,31nm,1.1s,mb5.2
SSF Saint Saulge 81.77 1 *e*P **P 23 46 04.9 +0.3**
SSF pmax pmax
comp=Z,31nm,1.1s,mb5.2
MLR Muntele Rosu 81.78 346 ⇓P **P 23 46 06.1 +1.4**
MLR Muntele Rosu 81.78 346 ⇓*i*P **P 23 46 06.1 +1.4**
SOKA Soboth 81.84 353 ⇑*i*P **P 23 46 05.3 +0.3**
comp=Z,23nm,1.1s,mb5.0
PERS Pernice 81.88 353 *i* P **P 23 46 05.2 0.0**
PERS *i* pP 23 46 13.7 -5.3
ABTA Abfaltersbach 81.92 355 ⇑*i*P **P 23 46 05.5 +0.1**
comp=Z,16nm,1.2s,mb4.8
RKT Rikitea 81.97 144 *e*LR LR 00 11 48.7
comp=Z,340nm,28.5s
VOIR 81.97 346 ⇑P **P 23 46 06.7 +1.0**
VOIR 81.97 346 ⇑*i*P **P 23 46 06.7 +1.0**
AVF Avril sur Loir 82.04 2 *e*P **P 23 46 06.2 +0.2**
comp=Z,81nm,1.1s,mb5.3
AVF Avril sur Loir 82.04 2 *e*P **P 23 46 06.2 +0.2**
comp=Z,40nm,1.1s,mb5.3
AVF Avril sur Loir 82.04 2 *e*P **P 23 46 06.2 +0.2**
AVF pmax pmax
comp=Z,41nm,1.1s,mb5.3
MFF Saint Martin d 82.12 4 *e*P **P 23 46 06.8 +0.3**
comp=Z,92nm,1.1s,mb5.3
MFF Saint Martin d 82.12 4 *e*P **P 23 46 06.8 +0.3**
comp=Z,46nm,1.1s,mb5.3
MFF Saint Martin d 82.12 4 *e*P **P 23 46 06.8 +0.3**
MFF pmax pmax
comp=Z,46nm,1.1s,mb5.3
SMF Signal de Mont 82.19 1 *e*P **P 23 46 07.1 +0.3**
comp=Z,118nm,1.2s,mb5.4
SMF Signal de Mont 82.19 1 *e*P **P 23 46 07.1 +0.3**
comp=Z,59nm,1.2s,mb5.4
SMF Signal de Mont 82.19 1 *e*P **P 23 46 07.1 +0.3**
SMF pmax pmax
comp=Z,59nm,1.2s,mb5.4
CABF La Chapelle 82.24 360 *e*P **P 23 46 07.9 +0.8**
comp=Z,129nm,1.2s,mb5.4
CABF La Chapelle 82.24 360 *e*P **P 23 46 07.9 +0.8**
comp=Z,65nm,1.2s,mb5.4
CABF La Chapelle 82.24 360 *e*P **P 23 46 07.9 +0.8**
CABF pmax pmax
comp=Z,65nm,1.2s,mb5.4
BZS Buzias 82.26 349 ⇑P **P 23 46 07.4 +0.2**
BZS Buzias 82.26 349 ⇑*i*P **P 23 46 07.4 +0.2**
BGF Bois d'Agland 82.26 2 *e*P **P 23 46 07.5 +0.3**
comp=Z,67nm,1.1s,mb5.2
BGF Bois d'Agland 82.26 2 *e*P **P 23 46 07.5 +0.3**
comp=Z,33nm,1.1s,mb5.2
BGF Bois d'Agland 82.26 2 *e*P **P 23 46 07.5 +0.3**
BGF pmax pmax
comp=Z,33nm,1.1s,mb5.2
TUE Stuetta 82.33 357 *e*P **P 23 46 08.0 +0.5**
comp=Z,28nm,1.2s,mb5.1
GZR Gura Zlata 82.33 348 ⇑P **P 23 46 08.0 +0.4**
GZR Gura Zlata 82.33 348 ⇑*i*P **P 23 46 07.9 +0.3**
TIRR Tirgusor 82.38 344 ⇑P **P 23 46 07.9 0.0**
TIRR Tirgusor 82.38 344 ⇑*i*P **P 23 46 07.9 0.0**
TCF Toulx Ste Croi 82.52 2 *e*P **P 23 46 08.7 +0.2**
comp=Z,41nm,1.0s,mb5.1
TCF Toulx Ste Croi 82.52 2 *e*P **P 23 46 08.7 +0.2**
comp=Z,21nm,1.0s,mb5.1
TCF Toulx Ste Croi 82.52 2 *e*P **P 23 46 08.7 +0.2**
TCF pmax pmax
comp=Z,21nm,1.0s,mb5.1
GNI Garni 82.54 331 LR LR 00 29 56.5
comp=Z,348nm,18.7s,MS4.8,baz=278,slow=41
VISS Visnje 82.72 354 *i* P **P 23 46 10.8 +1.1**
VISS *i* 23 46 16.1
VISS *i* pP 23 46 25.5 +2.0
BHPL Bhopal 82.73 298 *e*PKP **P 23 46 08.9 -1.1**
BHPL AMb AMB 23 46 11.9
comp=Z,90nm,1.4s,mb5.6
AGO Saint Agoulin 82.77 2 *e*P **P 23 46 10.5 +0.6**
AGO Saint Agoulin 82.77 2 *e*P **P 23 46 10.5 +0.6**
PLDF La Plantade 82.86 1 *e*P **P 23 46 11.6 +1.2**
PLDF La Plantade 82.86 1 *e*P **P 23 46 11.6 +1.2**
PLDF La Plantade 82.86 1 *e*P **P 23 46 11.6 +1.2**
BOJS Bojanci 82.99 353 *i* P **P 23 46 09.8 -1.2**
BOJS *i* pP 23 46 25.1 +0.2
PYM Petit Puy Mans 83.07 2 *e*P **P 23 46 12.4 +1.0**
PYM Petit Puy Mans 83.07 2 *e*P **P 23 46 12.4 +1.0**
PYM Petit Puy Mans 83.07 2 *e*P **P 23 46 12.4 +1.0**
LPG La Plagne 83.35 359 *e*P **P 23 46 13.3 +0.4**
LPG La Plagne 83.35 359 *e*P **P 23 46 13.3 +0.4**
LPG La Plagne 83.35 359 *e*P **P 23 46 13.3 +0.4**
RJF Les Rejaudoux 83.48 3 *e*P **P 23 46 13.7 +0.2**
comp=Z,93nm,1.5s,mb5.3
RJF *e*MLR MLR
comp=Z,321nm,20.0s,MS4.4
RJF Les Rejaudoux 83.48 3 *e*P **P 23 46 13.7 +0.2**
comp=Z,46nm,1.5s,mb5.3
RJF LR LR
comp=Z,320nm,20.0s,MS4.7
RJF Les Rejaudoux 83.48 3 *e*P **P 23 46 13.7 +0.2**
RJF pmax pmax
comp=Z,47nm,1.5s,mb5.3
RJF MLR MLR
comp=Z,320nm,20.0s,MS4.7
VIS Vishakhapatnam 83.74 290 *ex* **P 23 46 12.3 -3.0**
VIS AMb AMB 23 46 16.0
comp=Z,22nm,0.7s,mb5.4
BNI Bardonecchia 83.80 359 *e*P **P 23 46 17.1 +2.0**
comp=Z,43nm,1.2s,mb5.5
BNI Bardonecchia 83.80 359 *e*P **P 23 46 17.1 +1.9**
BNI pmax pmax
comp=Z,43nm,1.2s,mb5.5
LFF La Frestale 83.82 4 *e*P **P 23 46 15.8 +0.5**
comp=Z,127nm,1.2s,mb5.6
LFF La Frestale 83.82 4 *e*P **P 23 46 15.8 +0.5**
comp=Z,63nm,1.2s,mb5.6
LFF La Frestale 83.82 4 *e*P **P 23 46 15.8 +0.5**
LFF pmax pmax
comp=Z,63nm,1.2s,mb5.6
CAF Calviac 83.88 3 *e*P **P 23 46 16.2 +0.6**
comp=Z,63nm,1.2s,mb5.3
CAF Calviac 83.88 3 *e*P **P 23 46 16.2 +0.6**
comp=Z,32nm,1.2s,mb5.3
CAF Calviac 83.88 3 *e*P **P 23 46 16.2 +0.6**
CAF pmax pmax
comp=Z,32nm,1.2s,mb5.3
ORIF Oris-en-Rattie 83.93 360 *e*P **P 23 46 17.1 +1.2**
comp=Z,48nm,1.3s,mb5.2
ORIF *e*MLR MLR
comp=Z,170nm,19.2s,MS4.1
ORIF Oris-en-Rattie 83.93 360 *e*P **P 23 46 17.1 +1.2**
comp=Z,24nm,1.3s,mb5.2
ORIF Oris-en-Rattie 83.93 360 *e*P **P 23 46 17.1 +1.2**
ORIF pmax pmax
comp=Z,24nm,1.3s,mb5.2
VIVF Saint-Julien-l 83.99 1 *e*P **P 23 46 17.0 +0.8**
comp=Z,63nm,1.3s,mb5.3
VIVF Saint-Julien-l 83.99 1 *e*P **P 23 46 17.0 +0.8**
comp=Z,32nm,1.3s,mb5.3
VIVF Saint-Julien-l 83.99 1 *e*P **P 23 46 17.0 +0.8**
VIVF pmax pmax
comp=Z,32nm,1.3s,mb5.3
PVL Pavlikeni 84.10 346 P **P 23 46 15.2 -1.5**
WRA Warramunga Arr 84.12 228 P **P 23 46 14.3 -2.6**
comp=Z,1.9nm,1.0s,mb4.2,baz=32,slow=5.7,SNR=9.3
WRA Warramunga Arr 84.12 228 P **P 23 46 14.3 -2.6**
WRA Warramunga Arr 84.12 228 P **P 23 46 14.3 -2.7**
MBDF Montbardon 84.12 359 *e*P **P 23 46 18.1 +1.3**
comp=Z,57nm,1.3s,mb5.2
MBDF Montbardon 84.12 359 *e*P **P 23 46 18.1 +1.3**
comp=Z,28nm,1.3s,mb5.2
MBDF Montbardon 84.12 359 *e*P **P 23 46 18.1 +1.3**
MBDF pmax pmax
comp=Z,29nm,1.3s,mb5.2
MPEP Malo Peshtene 84.20 347 P **P 23 46 16.4 -0.9**
LASF Ste Croix 84.76 1 *e*P **P 23 46 21.0 +0.9**
comp=Z,56nm,1.2s,mb5.3
LASF Ste Croix 84.76 1 *e*P **P 23 46 21.0 +0.9**
TOUF Mont Tournerai 84.83 359 *e*P **P 23 46 21.6 +1.2**
TOUF Mont Tournerai 84.83 359 *e*P **P 23 46 21.6 +1.2**
TOUF Mont Tournerai 84.83 359 *e*P **P 23 46 21.6 +1.2**
AUTN L'Aution 84.84 359 *e*P **P 23 46 21.7 +1.2**
AUTN L'Aution 84.84 359 *e*P **P 23 46 21.7 +1.2**
AUTN L'Aution 84.84 359 *e*P **P 23 46 21.7 +1.2**
SAOF Saorge 84.85 359 *e*P **P 23 46 21.2 +0.7**
SAOF Saorge 84.85 359 *e*P **P 23 46 21.2 +0.7**
SAOF Saorge 84.85 359 *e*P **P 23 46 21.2 +0.7**
SMRF Simiane la Rot 84.88 0 *e*P **P 23 46 20.9 +0.3**
comp=Z,156nm,1.3s,mb5.7
SMRF Simiane la Rot 84.88 0 *e*P **P 23 46 20.9 +0.3**
comp=Z,156nm,1.3s,mb6.0
MVIF Mont Vial 84.95 359 *e*P **P 23 46 21.9 +0.9**
MVIF Mont Vial 84.95 359 *e*P **P 23 46 21.9 +0.9**
MVIF Mont Vial 84.95 359 *e*P **P 23 46 21.9 +0.9**
LUCF Luceram 84.95 359 *e*P **P 23 46 21.7 +0.7**
LUCF Luceram 84.95 359 *e*P **P 23 46 21.7 +0.7**
SBF Sospel 84.97 359 *e*P **P 23 46 21.4 +0.2**
comp=Z,85nm,0.9s,mb5.6
SBF Sospel 84.97 359 *e*P **P 23 46 21.4 +0.2**
comp=Z,43nm,0.9s,mb5.6
SBF Sospel 84.97 359 *e*P **P 23 46 21.4 +0.2**
SBF pmax pmax
comp=Z,43nm,0.9s,mb5.6
VTS Vitosha 85.03 347 ⇑*i*P **P 23 46 21.8 +0.4**
PRAF Pradon 85.05 0 *e*P **P 23 46 23.9 +2.4**
PRAF Pradon 85.05 0 *e*P **P 23 46 23.9 +2.4**
REVF Revere 85.10 359 *e*P **P 23 46 22.4 +0.6**
REVF Revere 85.10 359 *e*P **P 23 46 22.4 +0.6**
REVF Revere 85.10 359 *e*P **P 23 46 22.4 +0.6**
TREF Trevaresse 85.23 0 *e*P **P 23 46 22.4 0.0**
TREF Trevaresse 85.23 0 *e*P **P 23 46 22.4 0.0**
TAVF Tavernes 85.23 360 *e*P **P 23 46 24.3 +1.9**
TAVF Tavernes 85.23 360 *e*P **P 23 46 24.3 +1.9**
FRF La Foret Royal 85.29 359 *e*P **P 23 46 23.0 +0.3**
comp=Z,80nm,1.2s,mb5.4
FRF La Foret Royal 85.29 359 *e*P **P 23 46 23.0 +0.3**
comp=Z,40nm,1.2s,mb5.4
FRF La Foret Royal 85.29 359 *e*P **P 23 46 23.0 +0.3**
FRF pmax pmax
comp=Z,40nm,1.2s,mb5.4
MTLF Montolieu 85.46 3 *e*P **P 23 46 24.2 +0.6**
comp=Z,50nm,1.2s,mb5.2
MTLF Montolieu 85.46 3 *e*P **P 23 46 24.2 +0.6**
comp=Z,25nm,1.2s,mb5.2
MTLF Montolieu 85.46 3 *e*P **P 23 46 24.2 +0.6**
MTLF pmax pmax
comp=Z,25nm,1.2s,mb5.2
LMR La Mourre 85.51 359 *e*P **P 23 46 23.1 -0.8**
comp=Z,77nm,1.1s,mb5.5
LMR La Mourre 85.51 359 *e*P **P 23 46 23.1 -0.8**
comp=Z,39nm,1.1s,mb5.5
LMR La Mourre 85.51 359 *e*P **P 23 46 23.1 -0.8**
LMR pmax pmax
comp=Z,39nm,1.1s,mb5.5
BERF Bertagne 85.54 360 *e*P **P 23 46 25.8 +1.8**
BERF Bertagne 85.54 360 *e*P **P 23 46 25.8 +1.8**
SJPF Ste Jean 85.55 5 *e*P **P 23 46 25.1 +1.1**
comp=Z,41nm,1.2s,mb5.2
SJPF Ste Jean 85.55 5 *e*P **P 23 46 25.1 +1.1**
comp=Z,20nm,1.2s,mb5.2
SJPF Ste Jean 85.55 5 *e*P **P 23 46 25.1 +1.1**
SJPF pmax pmax
comp=Z,20nm,1.2s,mb5.2
EPF Esparros 85.71 4 *e*P **P 23 46 24.6 -0.2**
comp=Z,32nm,1.2s,mb5.1
EPF Esparros 85.71 4 *e*P **P 23 46 24.6 -0.2**
comp=Z,16nm,1.2s,mb5.1
EPF Esparros 85.71 4 *e*P **P 23 46 24.6 -0.2**
EPF pmax pmax
comp=Z,16nm,1.2s,mb5.1
PSI Prapat 85.79 269 P **P 23 46 25.9 +0.3**
comp=Z,11nm,0.7s,mb5.2,baz=29,slow=6.2,SNR=9.1
PSI LR LR 00 31 54.6
comp=Z,127nm,18.3s,MS4.3,baz=146,slow=41
PSI Prapat 85.79 269 P **P 23 46 25.9 +0.3**
PSI LR LR 00 31 54.6
PSI Prapat 85.79 269 P **P 23 46 25.9 +0.3**
ETSF Etsaut 85.80 5 *e*P **P 23 46 26.1 +0.8**
comp=Z,45nm,1.3s,mb5.2
ETSF Etsaut 85.80 5 *e*P **P 23 46 26.1 +0.8**
comp=Z,23nm,1.3s,mb5.2
ETSF Etsaut 85.80 5 *e*P **P 23 46 26.1 +0.8**
ETSF pmax pmax
comp=Z,23nm,1.3s,mb5.2
BRTR Keskin Array B 85.89 339 P **P 23 46 25.6 -0.2**
comp=Z,5.5nm,0.9s,mb4.8,baz=46,slow=3.6,SNR=32
BRTR PP PP 23 49 46.8 +1.8
comp=Z,2.4nm,1.2s,baz=18,slow=4.4,SNR=4.5
BRTR LR LR 00 32 21.3
comp=Z,112nm,18.7s,MS4.3,baz=37,slow=41
BRTR Keskin Array B 85.89 339 P **P 23 46 25.6 -0.2**
BRTR PP PP 23 49 46.8 +1.8
BRTR LR LR 00 32 21.3
BRTR Keskin Array B 85.89 339 P **P 23 46 25.6 -0.2**
BRTR 23 49 46.8
PGF Pioggiola 86.26 358 *e*P **P 23 46 27.7 +0.2**
comp=Z,121nm,1.4s,mb5.7
PGF Pioggiola 86.26 358 *e*P **P 23 46 27.7 +0.2**
comp=Z,61nm,1.4s,mb5.6
PGF Pioggiola 86.26 358 *e*P **P 23 46 27.7 +0.2**
PGF pmax pmax
comp=Z,61nm,1.4s,mb5.6
VAY Valandovo 86.36 347 *i* P **P 23 46 28.1 +0.1**
KRUS Krusevo 86.49 348 *e*P **P 23 46 28.0 -0.7**
HYB Hyderabad 86.74 294 *i* P **P 23 46 30.0 -0.3**
HYB *es*P sP 23 46 43.0 -6.5
ASAR Alice Springs 87.54 226 P **P 23 46 32.2 -1.7**
comp=Z,2.7nm,0.8s,mb4.5,baz=35,slow=4.7,SNR=20
ASAR Alice Springs 87.54 226 P **P 23 46 32.1 -1.7**
ASAR Alice Springs 87.54 226 P **P 23 46 32.2 -1.6**
POO Poona 88.48 298 *e*PKP **P 23 46 38.7 +0.1**
POO AMb AMB 23 46 41.8
comp=Z,40nm,1.3s,mb5.5
ESDC Sonseca Array 88.78 7 P **P 23 46 38.5 -1.2**
comp=Z,4.9nm,0.9s,mb4.8,baz=353,slow=4.6,SNR=16
ESDC Sonseca Array 88.78 7 P **P 23 46 38.5 -1.2**
MDRS Chennai 89.22 290 *e*PKP **P 23 46 42.4 +0.2**
KAD Karad 89.29 297 *e*PKP **P 23 46 42.6 +0.2**
KAD AMb AMB 23 46 45.4
comp=Z,27nm,1.3s,mb5.4
CSS Prodhromos 90.51 338 *e*P **P 23 46 47.5 -0.4**
comp=Z,23nm,1.3s,mb5.4
STKA Stephens Creek 91.63 216 P **P 23 46 52.7 -0.2**
comp=Z,1.2nm,0.4s,mb4.6,baz=2.6,slow=3.4,SNR=4.5
STKA LR LR 00 27 07.1
comp=Z,216nm,19.8s,MS4.6,baz=26,slow=35
STKA Stephens Creek 91.63 216 P **P 23 46 52.7 -0.2**
STKA LR LR 00 27 07.1
STKA Stephens Creek 91.63 216 P **P 23 46 52.7 -0.1**
ASF Jabal al Asfar 92.24 334 LR LR 00 37 03.9
comp=Z,148nm,18.9s,MS4.5,baz=150,slow=41
ROSC El Rosal 92.44 79 LR LR 00 27 03.8
comp=Z,96nm,20.7s,MS4.2,baz=335,slow=35
WBK Wadi Bani Khal 92.66 312 ⇑P **P 23 46 58.5 +0.5**
SNR=7.8
SMDO Samad 92.69 313 ⇓P **P 23 46 58.5 +0.3**
SNR=5.3
ARQ Araqi 93.14 314 ⇑P **P 23 46 59.9 -0.3**
SNR=7.7
JMDO Jabal Madar 93.27 313 P **P 23 47 00.7 -0.2**
SNR=9.0
BSY Bisya 93.35 314 P **P 23 47 00.9 -0.3**
SNR=7.5
TORD Torodi Ar. Bea 115.50 4 PKP PKPdf 23 52 27.1 -0.9
comp=Z,0.4nm,0.7s,baz=333,slow=2.4,SNR=4.3
TORD PKKPab PKKPab 00 03 12.2 +2.8
comp=Z,0.7nm,1.0s,baz=161,slow=3.0,SNR=4.2
TORD Torodi Ar. Bea 115.50 4 PKP PKPdf 23 52 27.1 -0.9
TORD PKKPab PKKPab 00 03 12.2 +2.8
KMBO Kilima Mbogo 123.18 321 PKP PKPdf 23 52 42.7 -0.1
comp=Z,2.1nm,1.0s,baz=180,slow=24,SNR=4.9
KMBO Kilima Mbogo 123.18 321 PKP PKPdf 23 52 42.7 -0.1
KMBO Kilima Mbogo 123.18 321 PKIKP PKPdf 23 52 42.7 -0.2
QSPA South Pole Qui 141.29 180 PKP PKPdf 23 53 15.5 +0.7
comp=Z,1.0nm,0.7s,baz=223,slow=1.8,SNR=2.7
QSPA South Pole Qui 141.29 180 PKP PKPdf 23 53 15.5 +0.7
TSUM Tsumeb 146.40 339 *e*PKPbc PKPbc 23 53 27.1 +0.3
MAW Mawson 148.31 218 PKPbc PKPbc 23 53 29.4 -1.3
comp=Z,5.5nm,1.1s,baz=60,slow=7.8,SNR=5.9
MAW Mawson 148.31 218 *e*PKPbc PKPbc 23 53 29.8 -0.9
MAW Mawson 148.31 218 PKP2 PKPbc 23 53 29.4 -1.3
MAW pmax pmax
comp=Z,6.0nm,1.1s
LBTB Lobatse 149.45 323 *e*PKPbc PKPbc 23 53 34.9 0.0
LBTB Lobatse 149.45 323 *e*PKP2 PKPbc 23 53 34.9 0.0
BOSA Boshof 152.80 320 PKPbc PKPbc 23 53 42.8 +0.2
comp=Z,4.1nm,0.6s,baz=25,slow=7.9,SNR=12
BOSA PKPab PKPab 23 53 54.1 +0.5
comp=Z,24nm,1.0s,baz=38,slow=3.3,SNR=13
BOSA Boshof 152.80 320 PKPbc PKPbc 23 53 43.0 +0.4
BOSA *e*PKPab PKPab 23 53 54.1 +0.4
BOSA Boshof 152.80 320 PKIKP PKPbc 23 53 42.8 +0.2
BOSA 23 53 54.1
BOSA pmax pmax
comp=Z,4.0nm,0.6s
BOSA pmax pmax
comp=Z,24nm,1.0s

DJA ***02*** *00:10:37,3.˚96N×126.˚71E,h306km,MLv4.4/5*
IDC ***02*** *00:10:53.2±1.2,2.˚88N×126.˚22E,h0km,mb3.7/8, mb1 3.8/8,mb1mx3.6/23,mbtmp3.7/8, Error ellipse: s-maj=102.2km s-min=16.2km az=71.0*
NEIC ***02*** *00:10:58.4±0.7,2.˚92N×126.˚23E,h35km,mb3.8/2,Error ellipse: s-maj=67.7km s-min=9.4km az=69.0*
ISCJB ***02*** *00:10:59.6±1.1,2.˚87N±0.˚09×126.˚2E±0.˚2,h67km±11km, mb3.6/8,Error ellipse: s-maj=28.8km s-min=9.8km az=156.2*

ISC 02 00:11:00.3±1.3,2.˚88N±0.˚09×126.˚3E±0.˚2,h55km±12km, n24,σ0°60/24,mb3.7/8,Northern Molucca Sea

Code	Station Name	Δ°	Az°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.08**	**318**	P	**Pn**	**00 11 19.3**	**0.0**
TNTI	**Ternate**	**2.37**	**152**	P	**Pn**	**00 11 36.3**	**-0.5**
KMSI	**Cibinong**	**3.23**	**225**	P	**Pn**	**00 11 48.5**	**-0.1**
MRSI	**Marisa**	**4.93**	**241**	P	**Pn**	**00 12 05.5**	**-6.4**
	0.2nm3μm51nm,0.5s						
LUWI	**Luwuk**	**5.23**	**222**	P	**Pn**	**00 12 11.0**	**-5.0**
KAKA	**Kakadu**	**16.66**	**159**	*e*Pn	**Pn**	**00 14 51.7**	**+1.5**
FITZ	**Fitzroy Crossi**	**20.86**	**182**	P	**P**	**00 15 38.1**	**+0.3**
	1.5nm,0.5s,baz=12,slow=9.3,SNR=10						
FITZ	**Fitzroy Crossi**	**20.86**	**182**	*e*P	**P**	**00 15 38.2**	**+0.4**
	1.8nm,0.7s						
WRAB	**Tennant Creek**	**24.02**	**161**	*e*P	**P**	**00 16 09.7**	**-0.6**
	3.5nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**24.03**	**161**	P	**P**	**00 16 09.6**	**-0.7**
	2.0nm,0.4s,mb3.9,baz=338,slow=10,SNR=26						
WRA	**Warramunga Arr**	**24.03**	**161**	P	**P**	**00 16 09.6**	**-0.7**
ASAR	**Alice Springs**	**27.41**	**165**	P	**P**	**00 16 40.9**	**0.0**
	0.7nm,0.3s,mb3.6,baz=348,slow=6.8,SNR=19						
ASAR	**Alice Springs**	**27.41**	**165**	P	**P**	**00 16 40.9**	**0.0**
SONM	**Songino Array**	**47.95**	**342**	P	**P**	**00 19 33.8**	**+0.4**
	0.3nm,0.6s,mb3.5,baz=140,slow=6.9,SNR=4.2						
SONM	**Songino Array**	**47.95**	**342**	P	**P**	**00 19 33.8**	**+0.4**
MK31	**Makanchi Array**	**57.99**	**326**	*e*P	**P**	**00 20 47.0**	**-0.3**
MKAR	**Makanchi Array**	**57.99**	**326**	P	**P**	**00 20 47.5**	**+0.2**
	0.3nm,0.5s,mb3.6,baz=118,slow=7.8,SNR=7.6						
MKAR				PcP	PcP	00 21 41.0	+2.1
	0.4nm,0.7s,baz=106,slow=5.4,SNR=3.6						
MKAR	**Makanchi Array**	**57.99**	**326**	P	**P**	**00 20 47.5**	**+0.2**
MKAR				PcP	PcP	00 21 41.0	+2.1
ZALV	**Zalesovo Beam**	**61.13**	**333**	P	**P**	**00 21 08.2**	**-0.6**
	0.3nm,0.4s,mb3.8,baz=121,slow=6.9,SNR=2.6						
ZALV	**Zalesovo Beam**	**61.13**	**333**	P	**P**	**00 21 08.2**	**-0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**62.20**	**328**	P	**P**	**00 21 15.7**	**-0.4**
	0.5nm,0.5s,mb3.9,baz=125,slow=6.6,SNR=7.3						
KURK	**Kurchatov**	**62.20**	**328**	P	**P**	**00 21 15.7**	**-0.4**
BVAR	**Borovoye Array**	**67.78**	**327**	P	**P**	**00 21 53.2**	**+0.9**
	0.3nm,0.4s,mb3.6,baz=128,slow=4.4,SNR=3.0						
BVAR	**Borovoye Array**	**67.78**	**327**	P	**P**	**00 21 53.2**	**+0.9**

*ISCJB **02** 00:16:54.2±0.6, 13°.3N±0°.1×50°.76E±0°.06, h10km, mb3.8/18, Error ellipse: s-maj=14.8km s-min=8.3km az=173.9*

*IDC **02** 00:16:54.5±0.8, 13°.24N×50°.86E, h0km, mb3.8/16, mb1 3.9/17, mb1mx3.8/30, mbtmp3.8/17, ML4.0/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/42, Error ellipse: s-maj=21.7km s-min=17.0km az=21.0*

*CSEM **02** 00:16:56.4±0.3, 13°.35N×50°.73E, h10km, ML3.2, Error ellipse: s-maj=17.1km s-min=9.4km az=175.0*

*NEIC **02** 00:16:56.1±0.5, 13°.25N×50°.86E, h10km, mb3.9/2, Error ellipse: s-maj=13.0km s-min=9.6km az=173.0*

*DHMR **02** 00:17:01.7±1.8, 13°.37N×50°.04E, h2km±629km, ML3.2*

ISC 02 00:16:56.0±0.6**, 13°.3N**±0°.1×**50°.76E**±0°.06**, h10km, n65, σ1.s02/62, mb3.8/18, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**2.05**	**306**	*i* P	**Pn**	**00 17 28.6**	**-2.0**
MUKL				*i* S	**Sn**	**00 17 50.0**	**-6.2**
MUKL				AML	AML	00 17 52.2	
	comp=N,357nm,0.5s						
BDHA	**Al Bayda'**	**5.09**	**278**	*i* P	**Pn**	**00 18 11.9**	**-0.6**
BDHA				*e*		00 18 12.1	
	baz=110,slow=16						
BDHA				*i* S	**Sn**	**00 19 07.2**	**-4.1**
BDHA	**Al Bayda'**	**5.09**	**278**	*i* P	**Pn**	**00 18 11.9**	**-0.5**
BDHA				*i* S	**Sn**	**00 19 07.2**	**-4.1**
LBOS		**5.39**	**277**	*i* P	**Pn**	**00 18 16.0**	**-0.5**
LBOS				*i* S	**Sn**	**00 19 12.9**	**-5.6**
ATD	**Arta Tunnel**	**7.92**	**258**	Pn	**Pn**	**00 18 52.6**	**+1.3**
	comp=N,2.1nm,0.3s,baz=28,slow=23,SNR=5.0						
ATD				LR	LR	00 21 13.2	
	comp=N,216nm,19.1s,baz=43,slow=32						
ATD	**Arta Tunnel**	**7.92**	**258**	Pn	**Pn**	**00 18 52.6**	**+1.3**
ATD				LR	LR	00 21 13.2	
ATD	**Arta Tunnel**	**7.92**	**258**	Pn	**Pn**	**00 18 52.6**	**+1.3**
KMBO	**Kilima Mbogo**	**19.60**	**224**	LR	LR	00 28 31.0	
	comp=N,66nm,18.1s,baz=179,slow=36						
ASF	**Jabal al Asfar**	**22.69**	**328**	P	**P**	**00 22 00.3**	**+2.5**
	comp=N,1.8nm,0.9s,mb3.5,baz=150,slow=8.1,SNR=3.4						
ASF	**Jabal al Asfar**	**22.69**	**328**	P	**P**	**00 22 00.3**	**+2.5**
GNI	**Garni**	**27.28**	**350**	P	**P**	**00 22 42.4**	**+1.8**
	comp=N,2.4nm,0.6s,mb3.9,baz=206,slow=7.1,SNR=4.5						
GNI	**Garni**	**27.28**	**350**	P	**P**	**00 22 42.5**	**+1.8**
GNI	**Garni**	**27.28**	**350**	P	**P**	**00 22 42.5**	**+1.9**
ABKAR	**Akbulak array**	**36.66**	**10**	*e*P	**P**	**00 24 03.0**	**+0.3**
	comp=N,1.1nm,0.8s,mb3.7						
ABKAR	**Akbulak array**	**36.66**	**10**	*e*P	**P**	**00 24 03.0**	**+0.2**
	comp=N,1.1nm,0.8s,mb3.7						
AKTK	**Aktyubinsk**	**37.52**	**8**	P	**P**	**00 24 09.8**	**-0.3**
AKTK	**Aktyubinsk**	**37.52**	**8**	P	**P**	**00 24 09.8**	**-0.3**
AKTO	**Aktyubinsk**	**37.52**	**8**	P	**P**	**00 24 09.8**	**-0.3**
	comp=N,1.0nm,0.7s,mb3.6,baz=222,slow=13,SNR=4.3						
AKASG	**Malin Array Be**	**41.23**	**339**	P	**P**	**00 24 41.4**	**+0.4**
	comp=N,0.5nm,0.6s,mb3.3,baz=168,slow=8.1,SNR=5.3						
AKASG	**Malin Array Be**	**41.23**	**339**	P	**P**	**00 24 41.4**	**+0.4**
AKASG	**Malin Array Be**	**41.23**	**339**	P	**P**	**00 24 41.4**	**+0.4**
MKAR	**Makanchi Array**	**42.61**	**32**	P	**P**	**00 24 52.7**	**+0.3**
	comp=N,0.3nm,0.6s,mb3.2,baz=216,slow=10.0,SNR=4.9						
MKAR	**Makanchi Array**	**42.61**	**32**	P	**P**	**00 24 52.7**	**+0.3**
MKAR	**Makanchi Array**	**42.61**	**32**	P	**P**	**00 24 52.7**	**+0.4**
BVAR	**Borovoye Array**	**42.62**	**17**	P	**P**	**00 24 52.6**	**+0.2**
	comp=N,1.2nm,0.6s,mb3.8,baz=218,slow=9.4,SNR=8.0						
BVAR	**Borovoye Array**	**42.62**	**17**	P	**P**	**00 24 52.6**	**+0.2**
BVAR	**Borovoye Array**	**42.62**	**17**	P	**P**	**00 24 52.6**	**+0.2**
KURK	**Kurchatov**	**43.66**	**25**	P	**P**	**00 24 58.8**	**-2.1**
	comp=N,0.3nm,0.6s,mb3.2,baz=191,slow=12,SNR=5.4						
KURK	**Kurchatov**	**43.66**	**25**	P	**P**	**00 24 58.8**	**-2.1**
KURK	**Kurchatov**	**43.66**	**25**	P	**P**	**00 24 58.8**	**-2.0**
TAM	**Tamanrasset**	**43.89**	**289**	*e*P	**P**	**00 25 04.6**	**+1.5**
	comp=N,4.3nm,1.3s,mb4.0						
TAM	**Tamanrasset**	**43.89**	**289**	*e*P	**P**	**00 25 04.6**	**+1.5**
	comp=N,4.2nm,1.3s,mb4.0						
CMAR	**Chiang Mai Arr**	**46.53**	**77**	P	**P**	**00 25 23.9**	**-0.3**
	comp=N,1.5nm,0.7s,mb4.0,baz=273,slow=8.5,SNR=11						
CMAR	**Chiang Mai Arr**	**46.53**	**77**	P	**P**	**00 25 23.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**46.53**	**77**	P	**P**	**00 25 23.9**	**-0.2**
GERES	**GERESS Array B**	**46.79**	**327**	P	**P**	**00 25 25.1**	**-0.6**
	comp=N,0.7nm,1.0s,mb3.5,baz=113,slow=3.5,SNR=3.6						
GERES	**GERESS Array B**	**46.79**	**327**	P	**P**	**00 25 25.1**	**-0.6**
GERES	**GERESS Array B**	**46.79**	**327**	P	**P**	**00 25 25.1**	**-0.6**
TORD	**Torodi Ar. Bea**	**47.70**	**276**	P	**P**	**00 25 34.0**	**+0.7**
	comp=N,1.0nm,0.6s,mb4.0,baz=88,slow=6.7,SNR=12						
TORD	**Torodi Ar. Bea**	**47.70**	**276**	P	**P**	**00 25 34.0**	**+0.7**
TORD	**Torodi Ar. Bea**	**47.70**	**276**	P	**P**	**00 25 34.0**	**+0.7**
ZALV	**Zalesovo Beam**	**48.63**	**26**	P	**P**	**00 25 39.0**	**-0.9**
	comp=N,0.8nm,0.6s,mb4.0,baz=228,slow=7.7,SNR=6.1						
ZALV	**Zalesovo Beam**	**48.63**	**26**	P	**P**	**00 25 39.0**	**-0.9**
ZALV	**Zalesovo Beam**	**48.63**	**26**	P	**P**	**00 25 39.0**	**-0.9**
ESDC	**Sonseca Array**	**54.61**	**309**	P	**P**	**00 26 25.6**	**+0.7**
	comp=N,0.5nm,0.6s,mb3.7,baz=103,slow=6.4,SNR=5.8						
ESDC	**Sonseca Array**	**54.61**	**309**	P	**P**	**00 26 25.6**	**+0.7**
ESDC	**Sonseca Array**	**54.61**	**309**	P	**P**	**00 26 25.5**	**+0.6**
SONM	**Songino Array**	**57.39**	**41**	P	**P**	**00 26 45.5**	**+0.9**
	comp=N,0.6nm,0.7s,mb3.8,baz=244,slow=7.3,SNR=5.4						
SONM	**Songino Array**	**57.39**	**41**	P	**P**	**00 26 45.5**	**+0.9**
SONM	**Songino Array**	**57.39**	**41**	P	**P**	**00 26 45.5**	**+0.8**
FITZ	**Fitzroy Crossi**	**80.15**	**111**	P	**P**	**00 29 06.1**	**-1.0**
	comp=N,1.2nm,0.8s,mb3.9,baz=278,slow=5.5,SNR=3.7						
FITZ	**Fitzroy Crossi**	**80.15**	**111**	P	**P**	**00 29 06.1**	**-1.0**
FITZ	**Fitzroy Crossi**	**80.15**	**111**	P	**P**	**00 29 06.1**	**-0.9**
WRA	**Warramunga Arr**	**88.57**	**111**	P	**P**	**00 29 49.6**	**-0.1**
	comp=N,1.2nm,0.7s,mb4.3,baz=297,slow=3.8,SNR=12						
WRA	**Warramunga Arr**	**88.57**	**111**	P	**P**	**00 29 49.6**	**-0.1**
WRA	**Warramunga Arr**	**88.57**	**111**	P	**P**	**00 29 49.6**	**-0.1**
ASAR	**Alice Springs**	**89.12**	**114**	P	**P**	**00 29 52.0**	**-0.3**
	comp=N,0.8nm,0.7s,mb4.1,baz=287,slow=4.7,SNR=9.0						
ASAR	**Alice Springs**	**89.12**	**114**	P	**P**	**00 29 52.0**	**-0.3**
ASAR	**Alice Springs**	**89.12**	**114**	P	**P**	**00 29 52.0**	**-0.2**
PDAR	**Pinedale Array**	**121.37**	**343**	PKP	PKPdf	00 35 50.2	+0.4
	comp=N,0.2nm,0.6s,baz=52,slow=5.8,SNR=2.3						
PDAR	**Pinedale Array**	**121.37**	**343**	PKP	PKPdf	00 35 50.2	+0.4
PDAR	**Pinedale Array**	**121.37**	**343**	PKIKP	PKPdf	00 35 50.2	+0.3
NVAR	**Mina Array Bea**	**127.55**	**349**	PKP	PKPdf	00 36 03.9	+2.0
	comp=N,0.6nm,0.7s,baz=75,slow=1.7,SNR=4.1						
NVAR	**Mina Array Bea**	**127.55**	**349**	PKP	PKPdf	00 36 03.9	+2.0
NVAR	**Mina Array Bea**	**127.55**	**349**	PKIKP	PKPdf	00 36 03.9	+2.1

IDC 02 00:21:25.8±1.3**, 8°.12N×34°.96W, h0km, mb3.6**/4**, mb1 3.9**/4**, mb1mx3.6**/22**, mbtmp3.6**/4**, Error ellipse: s-maj=54.6km s-min=27.7km az=172.0, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**36.35**	**79**	P	P	00 28 31.8	-0.1
	0.9nm,0.8s,baz=268,slow=9.4,SNR=10.0						
LPAZ	**La Paz**	**40.81**	**234**	P	P	00 29 10.1	+0.7
	1.0nm,0.7s,baz=82,slow=8.5,SNR=4.1						
TXAR	**Lajitas Array**	**67.52**	**298**	P	P	00 32 24.0	-0.2
	0.1nm,0.5s,baz=111,slow=4.9,SNR=3.4						
PDAR	**Pinedale Array**	**73.23**	**312**	P	P	00 32 59.6	+0.8
	0.4nm,0.7s,baz=102,slow=7.5,SNR=3.8						

NNC 02 00:22:06.6±2.7**, 38°.78N×76°.81E, h0km, mb3.8, mpv3.4, 7C, Error ellipse: s-maj=23.4km s-min=14.2km az=124.0, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**4.24**	**348**	⇑Pg	Pg	00 23 23.2	-4.7
	11nm,0.8s						
TKM2				⇑Lg		00 24 22.1	
	10nm,0.5s						
KNDC	**Almaty**	**4.44**	**1**	⇑Pg	Pg	00 23 27.6	-4.1
	21nm,0.8s						
KNDC				⇑Lg		00 24 28.8	
	21nm,0.5s						
CHCP	**Chirah Chowk**	**5.86**	**210**	P	Pn	00 23 31.9	-2.8
KK31	**Karatay Array**	**6.44**	**314**	⇑Pn	Pn	00 23 43.2	+0.6
	0.8nm,0.6s,baz=128,slow=13,SNR=6.0						
KK31				⇑Pg	Pg	00 24 04.2	-5.7
	0.7nm,0.6s,baz=141,slow=13,SNR=5.4						
KK31				⇑Lg		00 25 29.8	
	1.0nm,0.5s,baz=135,slow=27,SNR=3.5						
THW	**Thamme Wali**	**7.25**	**216**	P	Pn	00 23 50.2	-3.6

*SKO **02** 00:24:56.7, 39°.73N×20°.19E, h18km*

*ISCJB **02** 00:25:01.4±0.8, 40°.00N±0°.05×20°.54E±0°.05, h10km, Error ellipse: s-maj=7.6km s-min=5.0km az=164.5*

*CSEM **02** 00:25:01.9±0.4, 39°.89N×20°.55E, h20km, MD3.5, Error ellipse: s-maj=9.5km s-min=6.9km az=175.0*

*ATH **02** 00:25:01.1, 40°.01N×20°.56E, h13km±2km, MD3.5/6*

ISC 02 00:25:01.5±0.9**, 40°.00N**±0°.05×**20°.55E**±0°.05**, h2km**±9km**, n16, σ0.s66**/24**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.41**	**146**	*e*PG	**Pg**	**00 25 08.6**	**-0.8**
JAN				*e*SB	**Sg**	**00 25 15.3**	**+0.6**
JAN	**Janina**	**0.41**	**146**	*e*Pg	**Pg**	**00 25 08.6**	**-0.8**
JAN				*e*Sb	**Sg**	**00 25 15.3**	**+0.6**
KEK	**Kerkira**	**0.65**	**244**	*e*PG	**Pg**	**00 25 13.4**	**-0.5**
KEK				*e*SB	**Sg**	**00 25 23.0**	**+0.7**
KEK	**Kerkira**	**0.65**	**244**	*e*Pg	**Pg**	**00 25 13.4**	**-0.5**
KEK				*e*Sb	**Sg**	**00 25 23.0**	**+0.7**
KZN	**Kozani**	**0.98**	**71**	*e*PB	**Pg**	**00 25 19.8**	**-0.5**
KZN				*e*SB	**Sg**	**00 25 33.5**	**+0.5**
KZN	**Kozani**	**0.98**	**71**	*e*Pb	**Pg**	**00 25 19.8**	**-0.5**
KZN				*e*Sb	**Sg**	**00 25 33.5**	**+0.5**
THL	**Klokotos Trika**	**1.21**	**111**	*e*PB	**Pn**	**00 25 24.2**	**-1.2**
THL	**Klokotos Trika**	**1.21**	**111**	*e*Pb	**Pn**	**00 25 24.2**	**-1.2**
EVR	**Evrytania**	**1.46**	**138**	*e*PG	**Pn**	**00 25 28.0**	**-0.8**
EVR	**Evrytania**	**1.46**	**138**	*e*Pg	**Pn**	**00 25 28.0**	**-0.8**
KRUS	**Krusevo**	**1.47**	**21**	*e*Pn	**Pn**	**00 25 29.5**	**+0.6**
KRUS	**Krusevo**	**1.47**	**21**	*e*Pn	**Pn**	**00 25 29.4**	**+0.5**
LIT	**Litokhoron**	**1.49**	**86**	*e*PB	**Pn**	**00 25 29.8**	**+0.5**
LIT	**Litokhoron**	**1.49**	**86**	*e*Pb	**Pn**	**00 25 29.8**	**+0.5**
AGG	**Agios Georgios**	**1.69**	**125**	*e*PB	**Pn**	**00 25 32.1**	**+0.1**
AGG				*e*SB	**Sb**	**00 25 55.6**	**+0.7**
AGG	**Agios Georgios**	**1.69**	**125**	*e*Pb	**Pn**	**00 25 32.1**	**+0.1**
AGG				*e*Sb	**Sb**	**00 25 55.6**	**+0.7**

*ISCJB **02** 00:31:03.4±0.6, 36°.42N±0°.04×71°.18E±0°.06, h122km±11km, mb3.4/2, Error ellipse: s-maj=8.7km s-min=6.0km az=170.1*

*IDC **02** 00:31:03.6±6.8, 36°.39N×71°.02E, h101km±67km, mb3.2/3, mb1 3.1/5, mb1mx2.9/27, mbtmp3.1/5, ML3.2/3, MS3.2/1, Ms1 3.2/1, ms1mx2.3/24, Error ellipse: s-maj=80.1km s-min=44.7km az=124.0*

*NEIC **02** 00:31:04.2±0.5, 36°.33N×71°.15E, h116km±8km, mb3.9/2, Error ellipse: s-maj=7.6km s-min=4.6km az=62.0*

*NNC **02** 00:31:16.6±6.6, 37°.39N×71°.55E, h234km±72km, mb2.2, mpv3.6, Error ellipse: s-maj=64.0km s-min=39.7km az=18.0*

ISC 02 00:31:04.5±0.5**, 36°.40N**±0°.04×**71°.19E**±0°.06**, h118km**±10km**, n38, σ0.s69**/46**, mb3.4**/2**, 2C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.55**	**224**	*e*Pn	**Pn**	**00 31 44.5**	**-0.3**
KBL				*e*S	**Sn**	**00 32 16.5**	**+0.8**
EKS2	**Erkin-Say**	**6.57**	**17**	*e*Pn	**Pn**	**00 32 39.3**	**+0.8**
EKS2				*e*S	**Sn**	**00 33 50.7**	**-1.2**
KK31	**Karatay Array**	**6.72**	**356**	⇓P	**Pn**	**00 32 40.1**	**-0.5**
	2.2nm,0.3s,baz=178,slow=12,SNR=123						
KK31				⇑S	**Sn**	**00 33 50.6**	**-5.0**
	1.9nm,0.3s,baz=188,slow=18,SNR=9.6						
KKAR	**Karatay Array**	**6.72**	**356**	*e*Pn	**Pn**	**00 32 40.2**	**-0.3**
	7.4nm,0.3s						
KKAR				*e*S	**Sn**	**00 33 49.9**	**-5.6**
AAK	**Ala-Archa**	**6.73**	**21**	P	**Pn**	**00 32 41.7**	**+1.0**
	0.0nm,0.3s,baz=170,slow=4.9,SNR=24						
AAK				S	**Sn**	**00 33 55.3**	**-0.5**
	0.0nm,0.3s,baz=136,slow=22,SNR=14						
AAK	**Ala-Archa**	**6.73**	**21**	*e*Pn	**Pn**	**00 32 41.9**	**+1.2**
AAK				*e*S	**Sn**	**00 33 48.0**	**-7.9**
TKM2	**Tokmak 2**	**7.35**	**26**	⇓P	**Pn**	**00 32 49.3**	**+0.2**
	5.3nm,1.0s						
TKM2				⇑S	**Sn**	**00 34 02.3**	**-8.5**
	6.1nm,1.3s						
MKAR	**Makanchi Array**	**13.29**	**35**	P	**Pn**	**00 34 09.0**	**+0.7**
	0.0nm,0.3s,baz=222,slow=17,SNR=2.7						
MKAR	**Makanchi Array**	**13.29**	**35**	P	**Pn**	**00 34 09.0**	**+0.7**
DANN	**Dangsing**	**13.30**	**124**	*e*P	**Pn**	**00 34 08.5**	**-0.2**
DANN	**Dangsing**	**13.30**	**124**	*e*P	**Pn**	**00 34 08.5**	**-0.2**
KOLN	**Koldanda**	**13.58**	**126**	*e*P	**Pn**	**00 34 11.6**	**-0.6**
	4.6nm,0.3s						
KOLN	**Koldanda**	**13.58**	**126**	*e*P	**Pn**	**00 34 11.6**	**-0.6**
	4.6nm,0.3s						
GKN	**Gorkha**	**14.12**	**123**	*e*P	**Pn**	**00 34 18.9**	**-0.3**
	8.1nm,0.5s						
GKN	**Gorkha**	**14.12**	**123**	*e*P	**Pn**	**00 34 18.9**	**-0.3**
	8.1nm,0.4s						
DMN	**Daman**	**14.69**	**123**	*e*P	**Pn**	**00 34 26.2**	**-0.2**
DMN	**Daman**	**14.69**	**123**	*e*P	**Pn**	**00 34 26.2**	**-0.2**
KKN	**Kakani**	**14.69**	**122**	*e*P	**Pn**	**00 34 26.1**	**-0.4**
	3.8nm,0.2s						
KKN	**Kakani**	**14.69**	**122**	*e*P	**Pn**	**00 34 26.1**	**-0.4**
	3.8nm,0.2s						
PKIN	**Phulchoki**	**14.91**	**122**	*e*P	**Pn**	**00 34 28.6**	**-0.6**
	7.7nm,0.4s						
PKI	**Pulchoki**	**14.92**	**122**	*e*P	**Pn**	**00 34 29.1**	**-0.2**
PKI	**Pulchoki**	**14.92**	**122**	*e*P	**Pn**	**00 34 29.1**	**-0.2**
GUN	**Gumba**	**15.03**	**120**	*e*P	**Pn**	**00 34 31.2**	**+0.5**
GUN	**Gumba**	**15.03**	**120**	*e*P	**Pn**	**00 34 31.2**	**+0.5**
AB31	**Akbulak array**	**15.25**	**331**	P	**Pn**	**00 34 32.1**	**-1.1**
	0.2nm,0.3s,baz=37,slow=4.7,SNR=14						
AB31				⇓S	**Sn**	**00 37 09.6**	**-12**
	0.5nm,0.3s,baz=149,slow=23,SNR=7.3						
ABKAR	**Akbulak array**	**15.25**	**331**	*e*Pn	**Pn**	**00 34 32.6**	**-0.7**
	0.6nm,0.3s						
ABKAR				*e*S	**Sn**	**00 37 09.8**	**-12**
KURK	**Kurchatov**	**15.28**	**18**	P	**Pn**	**00 34 34.7**	**+1.0**
	0.1nm,0.3s,baz=208,slow=9.8,SNR=4.7						
KURK	**Kurchatov**	**15.28**	**18**	P	**Pn**	**00 34 34.7**	**+1.0**
JIRN	**Jiri**	**15.40**	**120**	*e*P	**Pn**	**00 34 35.6**	**+0.2**
JIRN	**Jiri**	**15.40**	**120**	*e*P	**Pn**	**00 34 35.6**	**+0.2**
AKTO	**Aktyubinsk**	**16.95**	**330**	⇓P	**Pn**	**00 34 53.8**	**-0.4**
	0.1nm,0.5s						
AKTO	**Aktyubinsk**	**16.95**	**330**	LR	LR	00 41 31.1	
	comp=Z,86nm,19.9s,baz=106,slow=37						
ZALV	**Zalesovo Beam**	**19.95**	**24**	P	**P**	**00 35 28.3**	**+1.4**
	0.9nm,0.4s,baz=215,slow=10,SNR=4.3						
ZALV	**Zalesovo Beam**	**19.95**	**24**	P	**P**	**00 35 28.3**	**+1.4**
FINES	**FINESS Array B**	**37.66**	**326**	P	**P**	**00 38 08.5**	**+0.8**
	1.6nm,0.8s,mb3.9,baz=108,slow=8.9,SNR=3.6						
FINES	**FINESS Array B**	**37.66**	**326**	P	**P**	**00 38 08.5**	**+0.8**
TORD	**Torodi Ar. Bea**	**65.87**	**269**	P	**P**	**00 41 37.3**	**-0.4**
	0.1nm,0.4s,mb3.0,baz=40,slow=5.0,SNR=3.4						
TORD	**Torodi Ar. Bea**	**65.87**	**269**	P	**P**	**00 41 37.3**	**-0.4**

*ISK **02** 00:32:27.7, 41°.98N×27°.49E, h10km, MD3.6, ML3.6*

*SOF **02** 00:32:27.4, 41°.87N×27°.44E, h9km, MD2.9*

*ISCJB **02** 00:32:28.1±0.5, 41°.93N±0°.02×27°.46E±0°.02, h8km±4km, Error ellipse: s-maj=3.6km s-min=2.5km az=136.8*

*CSEM **02** 00:32:29.2±0.1, 41°.91N×27°.47E, h10km, MD3.6, Error ellipse: s-maj=2.3km s-min=1.6km az=44.0*

*THE **02** 00:32:29.3, 41°.88N×27°.43E, h2km±3km, Error ellipse: s-maj=5.6km s-min=1.0km az=67.0*

*DDA **02** 00:32:32.5, 41°.70N×27°.62E, h27km±1km, Ml3.6*

*ATH **02** 00:32:35.3, 41°.55N×27°.13E, h91km±9km*

ISC 02 00:32:28.8±0.4**, 41°.92N**±0°.02×**27°.47E**±0°.02**, h6km**±3km**, n206, σ0.s73**/234**, 21C-19D, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EDRB	**Edirne**	**0.55**	**263**	PG	**Pg**	**00 32 39.3**	**0.0**
EDRB	**Edirne**	**0.55**	**263**	*i* Pg	**Pg**	**00 32 39.3**	**0.0**
CTYL	**Yal??k??y-??at**	**0.76**	**126**	*e*PG	**Pg**	**00 32 43.3**	**+0.1**
CTYL				*e*SG	**Sg**	**00 32 54.3**	**+1.2**
CTYL	**Yal??k??y-??at**	**0.76**	**126**	*e*Pg	**Pg**	**00 32 43.3**	**+0.1**
CTYL				*e*Sg	**Sg**	**00 32 54.3**	**+1.3**
CRLT	**Corlu**	**0.81**	**166**	*e*PG	**Pg**	**00 32 45.0**	**+0.7**
CRLT	**Corlu**	**0.81**	**166**	*e*Pg	**Pg**	**00 32 45.0**	**+0.7**
JMB	**Yambol**	**0.86**	**310**	P	**Pg**	**00 32 45.6**	**+0.4**
JMB				S	**Sg**	**00 32 57.6**	**+1.2**
JMB	**Yambol**	**0.86**	**310**	*i* P	**Pg**	**00 32 45.6**	**+0.4**
JMB	**Yambol**	**0.86**	**310**	*i* P	**Pg**	**00 32 45.6**	**+0.4**
JMB	**Yambol**	**0.86**	**310**	P	**Pg**	**00 32 45.6**	**+0.4**
JMB				S	**Sg**	**00 32 57.6**	**+1.2**
SLVT	**Silivri**	**0.88**	**141**	*e*PG	**Pg**	**00 32 46.0**	**+0.4**
SLVT	**Silivri**	**0.88**	**141**	*e*Pg	**Pg**	**00 32 46.0**	**+0.3**
TKR	**Tekirdag**	**0.93**	**177**	*e*PG	**Pg**	**00 32 47.1**	**+0.5**
TKR	**Tekirdag**	**0.93**	**177**	*e*Pg	**Pg**	**00 32 47.1**	**+0.6**
CTKS	**Kestanelik-??a**	**1.03**	**131**	*e*PG	**Pg**	**00 32 48.6**	**0.0**
CTKS	**Kestanelik-??a**	**1.03**	**131**	*e*Pg	**Pg**	**00 32 48.6**	**+0.1**
ELBA	**Catalca**	**1.05**	**137**	⇓*i*P	**Pg**	**00 32 48.3**	**-0.7**
ELBA				*i* S	**Sg**	**00 33 02.1**	**-0.5**
ELBA	**Catalca**	**1.05**	**137**	*i* P	**Pg**	**00 32 48.3**	**-0.7**
ELBA				*i* S	**Sg**	**00 33 02.1**	**-0.5**
MFT	**Murefte**	**1.14**	**187**	*e*PN	**Pn**	**00 32 51.1**	**-0.1**
MFT	**Murefte**	**1.14**	**187**	*e*Pn	**Pn**	**00 32 51.1**	**-0.1**
BGKT	**Bogazkoy**	**1.22**	**127**	*e*PN	**Pn**	**00 32 52.0**	**-0.4**
BGKT	**Bogazkoy**	**1.22**	**127**	*e*Pn	**Pn**	**00 32 52.0**	**-0.4**
SART	**Tekirdag**	**1.25**	**190**	⇓*i*P	**Pg**	**00 32 52.5**	**-0.2**
SART				*i* S	**Sg**	**00 33 07.9**	**-0.9**
SART	**Tekirdag**	**1.25**	**190**	*i* P	**Pg**	**00 32 52.5**	**-0.1**
SART				*i* S	**Sg**	**00 33 07.9**	**-0.9**
RKY	**Sarkoy-Tekirda**	**1.25**	**190**	*e*PN	**Pn**	**00 32 52.8**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.25**	**190**	*e*Pn	**Pn**	**00 32 52.8**	**+0.1**
PRD	**Provadia**	**1.28**	**358**	*i* P	**Pn**	**00 32 52.5**	**-0.8**
PRD	**Provadia**	**1.28**	**358**	*i* P	**Pn**	**00 32 52.5**	**-0.8**
PRD	**Provadia**	**1.28**	**358**	*i* P	**Pn**	**00 32 52.5**	**-0.8**
KLYT	**Kilyos**	**1.35**	**119**	*e*PN	**Pn**	**00 32 53.3**	**-0.9**
KLYT	**Kilyos**	**1.35**	**119**	*e*Pn	**Pn**	**00 32 53.3**	**-0.9**
ERIK	**Erikli-Kesan**	**1.44**	**210**	*e*PN	**Pn**	**00 32 55.1**	**-0.3**
ERIK	**Erikli-Kesan**	**1.44**	**210**	*e*Pn	**Pn**	**00 32 55.1**	**-0.3**
DIM	**Dimitrovgrad**	**1.45**	**276**	*i* P	**Pn**	**00 32 55.0**	**-0.6**
DIM	**Dimitrovgrad**	**1.45**	**276**	*i* P	**Pn**	**00 32 55.0**	**-0.6**
DIM	**Dimitrovgrad**	**1.45**	**276**	*i* P	**Pn**	**00 32 55.0**	**-0.6**
ALN	**Alexandroupoli**	**1.48**	**227**	*e*P	**Pn**	**00 32 55.7**	**-0.2**
ALN				*e*S	**Sn**	**00 33 11.8**	**-3.8**
ALN	**Alexandroupoli**	**1.48**	**227**	P	**Pn**	**00 32 55.5**	**-0.4**
ALN				S	**Sn**	**00 33 16.1**	**+0.5**
ALN	**Alexandroupoli**	**1.48**	**227**	*e*P	**Pn**	**00 32 55.7**	**-0.2**
ALN				S	**Sn**	**00 33 16.1**	**+0.5**
KRBG	**Karabiga-Canak**	**1.53**	**185**	*e*PN	**Pn**	**00 32 56.0**	**-0.6**
KRBG	**Karabiga-Canak**	**1.53**	**185**	*e*Pn	**Pn**	**00 32 56.0**	**-0.6**
ENEZ	**Enez**	**1.54**	**221**	*e*PN	**Pn**	**00 32 56.2**	**-0.6**
ENEZ	**Enez**	**1.54**	**221**	*e*Pn	**Pn**	**00 32 56.2**	**-0.6**
KDZ	**Kurdzhali**	**1.56**	**261**	*i* P	**Pn**	**00 32 56.7**	**-0.3**
KDZ	**Kurdzhali**	**1.56**	**261**	*i* P	**Pn**	**00 32 56.7**	**-0.3**
KDZ	**Kurdzhali**	**1.56**	**261**	*i* P	**Pn**	**00 32 56.7**	**-0.3**
BNT	**Bandirma**	**1.60**	**168**	*e*PN	**Pn**	**00 32 57.5**	**0.0**
BNT	**Bandirma**	**1.60**	**168**	*e*Pn	**Pn**	**00 32 57.6**	**+0.1**
BUY	**Buyukada**	**1.63**	**130**	⇓*i*P	**Pn**	**00 32 57.5**	**-0.5**
BUY				*i* S	**Sn**	**00 33 19.5**	**+0.1**
BUY	**Buyukada**	**1.63**	**130**	*i* P	**Pn**	**00 32 57.5**	**-0.5**
BUY				*i* S	**Sn**	**00 33 19.5**	**+0.1**
LPK	**Lapseki**	**1.63**	**199**	*e*PN	**Pn**	**00 32 57.8**	**-0.2**
LPK	**Lapseki**	**1.63**	**199**	*e*Pn	**Pn**	**00 32 57.8**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.69**	**207**	*e*PN	**Pn**	**00 32 59.1**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.69**	**207**	*e*Pn	**Pn**	**00 32 59.1**	**+0.2**
ARMT	**Armutlu**	**1.71**	**142**	*e*PN	**Pn**	**00 32 58.8**	**-0.3**
ARMT	**Armutlu**	**1.71**	**142**	*e*Pn	**Pn**	**00 32 58.8**	**-0.3**
SZH	**Strazhica**	**1.76**	**320**	*i* P	**Pn**	**00 33 00.4**	**+0.6**
SZH	**Strazhica**	**1.76**	**320**	*i* P	**Pn**	**00 33 00.4**	**+0.6**
SZH	**Strazhica**	**1.76**	**320**	*i* P	**Pn**	**00 33 00.4**	**+0.6**
SILT	**Sile**	**1.80**	**114**	*e*PN	**Pn**	**00 32 59.7**	**-0.6**
SILT	**Sile**	**1.80**	**114**	*e*Pn	**Pn**	**00 32 59.7**	**-0.6**
PSN	**Preselentsi**	**1.84**	**16**	*i* P	**Pn**	**00 32 59.2**	**-1.7**
PSN	**Preselentsi**	**1.84**	**16**	*i* P	**Pn**	**00 32 59.2**	**-1.7**
PSN	**Preselentsi**	**1.84**	**16**	*i* P	**Pn**	**00 32 59.2**	**-1.7**
GONE	**Gonen-Balikesi**	**1.88**	**175**	*e*PN	**Pn**	**00 33 01.5**	**+0.1**
GONE	**Gonen-Balikesi**	**1.88**	**175**	*e*Pn	**Pn**	**00 33 01.5**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.88**	**145**	*e*PN	**Pn**	**00 33 01.4**	**0.0**
MDNY	**Mudanya-Bursa**	**1.88**	**145**	*e*Pn	**Pn**	**00 33 01.4**	**0.0**
GEMT	**Gemlik**	**1.97**	**138**	*e*PN	**Pn**	**00 33 02.6**	**0.0**
GEMT	**Gemlik**	**1.97**	**138**	*e*Pn	**Pn**	**00 33 02.7**	**+0.1**
HRT	**Hereke**	**1.98**	**123**	*e*PN	**Pn**	**00 33 02.7**	**-0.2**
HRT	**Hereke**	**1.98**	**123**	*e*Pn	**Pn**	**00 33 02.7**	**-0.1**
PVL	**Pavlikeni**	**2.04**	**310**	*i* P	**Pn**	**00 33 04.3**	**+0.6**
PVL	**Pavlikeni**	**2.04**	**310**	*i* P	**Pn**	**00 33 04.3**	**+0.6**
PVL	**Pavlikeni**	**2.04**	**310**	*i* P	**Pn**	**00 33 04.3**	**+0.6**
MANR	**Mangalia**	**2.07**	**23**	⇑*i*P	**Pn**	**00 33 03.6**	**-0.4**
MANR	**Mangalia**	**2.07**	**23**	⇑*i*P	**Pn**	**00 33 03.6**	**-0.4**
PLD	**Plovdiv**	**2.07**	**276**	P	**Pn**	**00 33 03.9**	**-0.2**
PLD	**Plovdiv**	**2.07**	**276**	*i* P	**Pn**	**00 33 06.3**	**+2.2**
PLD	**Plovdiv**	**2.07**	**276**	P	**Pn**	**00 33 03.9**	**-0.2**
RZN	**Rozhen**	**2.07**	**265**	*i* P	**Pn**	**00 33 03.8**	**-0.3**
RZN	**Rozhen**	**2.07**	**265**	*i* P	**Pn**	**00 33 03.8**	**-0.3**
RZN	**Rozhen**	**2.07**	**265**	*i* P	**Pn**	**00 33 03.8**	**-0.3**
GADA	**Gvkgeada**	**2.10**	**215**	*e*PN	**Pn**	**00 33 04.7**	**+0.3**
GADA	**Gvkgeada**	**2.10**	**215**	*e*Pn	**Pn**	**00 33 04.7**	**+0.3**
BALY	**Balya**	**2.18**	**177**	⇓*i*P	**Pn**	**00 33 05.7**	**+0.1**
BALY				*i* S	**Sn**	**00 33 31.5**	**-1.3**
BALY	**Balya**	**2.18**	**177**	*i* P	**Pn**	**00 33 05.7**	**+0.2**
BALY				*i* S	**Sn**	**00 33 31.5**	**-1.3**
EZN	**Ezine**	**2.26**	**203**	*e*PN	**Pn**	**00 33 07.1**	**+0.4**
EZN	**Ezine**	**2.26**	**203**	*e*Pn	**Pn**	**00 33 07.1**	**+0.4**
ADVT	**Abdulvahap**	**2.26**	**130**	*e*PN	**Pn**	**00 33 06.7**	**-0.1**
ADVT	**Abdulvahap**	**2.26**	**130**	*e*Pn	**Pn**	**00 33 06.7**	**0.0**
BALB	**Balikesir**	**2.30**	**172**	*e*PN	**Pn**	**00 33 07.5**	**+0.3**
BALB	**Balikesir**	**2.30**	**172**	*e*Pn	**Pn**	**00 33 07.5**	**+0.3**
BOZC	**Bozcaada**	**2.34**	**208**	*i* P	**Pn**	**00 33 07.3**	**-0.4**
BOZC				*i* S	**Sn**	**00 33 35.7**	**-1.0**
KAVA	**Kavala**	**2.41**	**249**	P	**Pn**	**00 33 08.4**	**-0.3**
KAVA	**Kavala**	**2.41**	**249**	P	**Pn**	**00 33 08.4**	**-0.3**
CVD	**Cernavoda**	**2.43**	**10**	⇑*i*P	**Sg**	**00 33 44.7**	**-2.1**
DURS	**Dursunbey**	**2.44**	**161**	*e*P	**Pn**	**00 33 09.8**	**+0.7**
DURS				*e*S	**Sn**	**00 33 42.6**	**+3.5**
DURS	**Dursunbey**	**2.44**	**161**	*e*P	**Pn**	**00 33 09.8**	**+0.7**
DURS				*e*S	**Sn**	**00 33 42.6**	**+3.4**
SPNC	**Sapanca-Adapaz**	**2.47**	**119**	*e*PN	**Pn**	**00 33 09.4**	**-0.1**
SPNC	**Sapanca-Adapaz**	**2.47**	**119**	*e*Pn	**Pn**	**00 33 09.4**	**-0.1**
DST	**Dursunbey**	**2.47**	**159**	*e*PN	**Pn**	**00 33 09.9**	**+0.4**
DST	**Dursunbey**	**2.47**	**159**	*e*Pn	**Pn**	**00 33 10.0**	**+0.5**
CAVI	**Cavuskoy**	**2.48**	**133**	*e*PN	**Pn**	**00 33 09.7**	**0.0**
CAVI	**Cavuskoy**	**2.48**	**133**	*e*Pn	**Pn**	**00 33 09.7**	**0.0**
PGB	**Panagyurishte**	**2.54**	**286**	*e*P	**Pn**	**00 33 14.2**	**+3.8**
TIRR	**Tirgusor**	**2.63**	**15**	⇑*i*P	**Pn**	**00 33 18.6**	**+6.8**
LIA	**Limnos Island**	**2.66**	**221**	*e*P	**Pn**	**00 33 11.8**	**-0.4**
LIA	**Limnos Island**	**2.66**	**221**	P	**Pn**	**00 33 11.4**	**-0.8**
LIA	**Limnos Island**	**2.66**	**221**	*e*P	**Pn**	**00 33 11.8**	**-0.4**
GPA	**Golpazari**	**2.69**	**126**	*e*PN	**Pn**	**00 33 12.8**	**+0.3**
GPA	**Golpazari**	**2.69**	**126**	*e*Pn	**Pn**	**00 33 12.9**	**+0.3**
AMRR	**Amara**	**2.69**	**358**	⇓*i*P	**Sg**	**00 33 45.9**	**-9.4**
GULT	**Gulveren**	**2.73**	**122**	*e*PN	**Pn**	**00 33 13.2**	**+0.1**
GULT	**Gulveren**	**2.73**	**122**	*e*Pn	**Pn**	**00 33 13.2**	**0.0**
NVR	**Nevrokopi**	**2.77**	**259**	*e*P	**Pn**	**00 33 15.4**	**+1.8**
NVR	**Nevrokopi**	**2.77**	**259**	P	**Pn**	**00 33 14.0**	**+0.4**
NVR				S	**Sn**	**00 33 48.4**	**+1.1**
NVR	**Nevrokopi**	**2.77**	**259**	P	**Pn**	**00 33 14.0**	**+0.4**
NVR				S	**Sn**	**00 33 48.4**	**+1.1**
MMB	**Musomiste**	**2.82**	**265**	*i* P	**Pn**	**00 33 19.0**	**+4.6**
PRK	**Paraskevi**	**2.82**	**199**	*e*P	**Pn**	**00 33 14.7**	**+0.3**
PRK	**Paraskevi**	**2.82**	**199**	P	**Pn**	**00 33 14.1**	**-0.3**
PRK				S	**Sn**	**00 33 48.4**	**-0.3**
PRK	**Paraskevi**	**2.82**	**199**	P	**Pn**	**00 33 14.1**	**-0.3**
PRK				S	**Sn**	**00 33 48.4**	**-0.3**
SULR		**2.90**	**343**	⇑*i*P	**Pn**	**00 33 22.3**	**+6.8**
SRS	**Serrai**	**3.02**	**256**	P	**Pn**	**00 33 17.0**	**-0.1**
SRS	**Serrai**	**3.02**	**256**	P	**Pn**	**00 33 17.0**	**-0.1**
KDZE	**Karadeniz Ereo**	**3.04**	**100**	*e*PN	**Pn**	**00 33 17.2**	**-0.2**
KDZE	**Karadeniz Ereo**	**3.04**	**100**	*e*Pn	**Pn**	**00 33 17.2**	**-0.2**
AKS	**Akhisar**	**3.05**	**175**	*e*PN	**Pn**	**00 33 18.2**	**+0.7**
AKS	**Akhisar**	**3.05**	**175**	*e*Pn	**Pn**	**00 33 18.2**	**+0.7**
OUR	**Ouranopolis**	**3.07**	**240**	P	**Pn**	**00 33 17.6**	**-0.3**
OUR				S	**Sn**	**00 33 55.2**	**+0.3**
OUR	**Ouranopolis**	**3.07**	**240**	P	**Pn**	**00 33 17.6**	**-0.3**
OUR				S	**Sn**	**00 33 55.2**	**+0.3**
MPEP	**Malo Peshtene**	**3.11**	**299**	*i* P	**Pn**	**00 33 18.3**	**0.0**
MPEP	**Malo Peshtene**	**3.11**	**299**	*i* P	**Pn**	**00 33 18.3**	**0.0**
MDU	**Mudurnu**	**3.17**	**116**	*e*PN	**Pn**	**00 33 19.5**	**+0.3**
MDU	**Mudurnu**	**3.17**	**116**	*e*Pn	**Pn**	**00 33 19.5**	**+0.3**
VTS	**Vitosha**	**3.24**	**283**	⇑*i*P	**Pn**	**00 33 19.0**	**-1.1**
VTS	**Vitosha**	**3.24**	**283**	⇑*i*P	**Pn**	**00 33 19.0**	**-1.1**
ISR	**Istrita**	**3.27**	**348**	⇓*i*P	**Pg**	**00 33 30.7**	**-0.7**
SOH	**Sokhos**	**3.29**	**252**	*e*P	**Pn**	**00 33 22.4**	**+1.6**
SOH	**Sokhos**	**3.29**	**252**	P	**Pn**	**00 33 20.3**	**-0.5**
SOH				S	**Sn**	**00 34 00.2**	**0.0**
SOH	**Sokhos**	**3.29**	**252**	P	**Pn**	**00 33 20.3**	**-0.5**
SOH				S	**Sn**	**00 34 00.2**	**0.0**
CFR	**Carcaliu**	**3.29**	**8**	⇑*i*P	**Pn**	**00 33 27.7**	**+6.8**
CFR	**Carcaliu**	**3.29**	**8**	⇓*i*P	**Sg**	**00 34 08.5**	**-6.1**
PLG	**Polygyros**	**3.41**	**244**	*e*P	**Pn**	**00 33 21.6**	**-0.9**
PLG	**Polygyros**	**3.41**	**244**	P	**Pn**	**00 33 22.4**	**-0.1**

PLG	**Polygyros**	**3.41**	**244**	P	**Pn**	**00 33 22.4**	**-0.1**
TLCR		**3.41**	**16**⇑	*i*P	**Pn**	**00 33 30.4**	**+7.9**
GRER		**3.48**	**354**⇓	*i*P	**Pg**	**00 33 40.8**	**+5.4**
ALT	**Altintas**	**3.50**	**144**	*e*PN	**Pn**	**00 33 24.2**	**+0.6**
ALT	**Altintas**	**3.50**	**144**	*e*Pn	**Pn**	**00 33 24.2**	**+0.5**
ESKT	**Eskisehir**	**3.51**	**132**	*e*PN	**Pn**	**00 33 24.4**	**+0.5**
ESKT	**Eskisehir**	**3.51**	**132**	*e*Pn	**Pn**	**00 33 24.4**	**+0.5**
KNT	**Kendrikon**	**3.52**	**259**	P	**Pn**	**00 33 24.1**	**+0.2**
KNT				S	**Sn**	**00 34 06.2**	**+0.4**
KNT	**Kendrikon**	**3.52**	**259**	P	**Pn**	**00 33 24.1**	**+0.2**
KNT				S	**Sn**	**00 34 06.2**	**+0.4**
KULA	**Kula-Manisa**	**3.52**	**165**	*e*PN	**Pn**	**00 33 24.6**	**+0.7**
KULA	**Kula-Manisa**	**3.52**	**165**	*e*Pn	**Pn**	**00 33 24.6**	**+0.6**
IZM	**Izmir**	**3.52**	**183**	*e*PN	**Pn**	**00 33 25.0**	**+1.1**
IZM	**Izmir**	**3.52**	**183**	*e*Pn	**Pn**	**00 33 25.0**	**+1.0**
BLCB	**Balcova**	**3.54**	**185**	*e*PN	**Pn**	**00 33 25.3**	**+1.0**
BLCB	**Balcova**	**3.54**	**185**	*e*Pn	**Pn**	**00 33 25.3**	**+1.0**
CHOS	**Chios island**	**3.69**	**198**	*e*P	**Pn**	**00 33 26.1**	**-0.2**
CHOS	**Chios island**	**3.69**	**198**	*e*P	**Pn**	**00 33 26.1**	**-0.2**
MLR	**Muntele Rosu**	**3.74**	**343**⇓	*i*P	**Pn**	**00 33 28.6**	**+1.6**
MLR	**Muntele Rosu**	**3.74**	**343**⇓	*i*P	**Pn**	**00 33 28.6**	**+1.6**
VOIR		**3.93**	**334**⇑	*i*P	**Pn**	**00 33 29.6**	**-0.1**
VOIR		**3.93**	**334**⇑	*i*P	**Pn**	**00 33 29.6**	**-0.1**
SVRH	**Sivrihisar-ESK**	**3.95**	**127**	*e*PN	**Pn**	**00 33 29.9**	**0.0**
SVRH	**Sivrihisar-ESK**	**3.95**	**127**	*e*Pn	**Pn**	**00 33 29.9**	**0.0**
SAFT	**Safranbolu**	**3.97**	**98**	*e*PN	**Pn**	**00 33 30.3**	**+0.1**
SAFT	**Safranbolu**	**3.97**	**98**	*e*Pn	**Pn**	**00 33 30.3**	**+0.1**
PLOR	**Plostina**	**3.98**	**352**⇑	*i*P	**Pn**	**00 33 32.2**	**+1.9**
PLOR	**Plostina**	**3.98**	**352**⇑	*i*P	**Pn**	**00 33 32.2**	**+1.9**
VRI	**Vrincioaia**	**3.98**	**352**⇓	*i*P	**Pn**	**00 33 31.2**	**+0.8**
VRI	**Vrincioaia**	**3.98**	**352**⇓	*i*P	**Pn**	**00 33 31.2**	**+0.8**
SHUT	**Suhut-Afyon**	**4.10**	**144**	*e*PN	**Pn**	**00 33 33.0**	**+1.0**
SHUT	**Suhut-Afyon**	**4.10**	**144**	*e*Pn	**Pn**	**00 33 33.0**	**+1.0**
NEO	**Neokhori**	**4.15**	**233**	*e*P	**Pn**	**00 33 31.4**	**-1.3**
NEO	**Neokhori**	**4.15**	**233**	*e*P	**Pn**	**00 33 31.4**	**-1.3**
LIT	**Litokhoron**	**4.18**	**246**	*e*P	**Pn**	**00 33 32.8**	**-0.3**
LIT	**Litokhoron**	**4.18**	**246**	*e*P	**Pn**	**00 33 32.8**	**-0.3**
SMG	**Samos**	**4.23**	**187**	*e*P	**Pn**	**00 33 33.3**	**-0.5**
SMG	**Samos**	**4.23**	**187**	*e*P	**Pn**	**00 33 33.3**	**-0.5**
BARS	**Barje**	**4.29**	**284**	*e*Pn	**Pn**	**00 33 35.4**	**+0.9**
DOPR	**Dopca**	**4.32**	**340**⇑	*i*P	**Pn**	**00 33 35.2**	**+0.2**
DOPR	**Dopca**	**4.32**	**340**⇑	*i*P	**Pn**	**00 33 35.2**	**+0.2**
LOT	**Lotru**	**4.43**	**324**⇑	*i*P	**Pn**	**00 33 37.0**	**+0.5**
LOT	**Lotru**	**4.43**	**324**⇑	*i*P	**Pn**	**00 33 37.0**	**+0.5**
TESR		**4.63**	**353**⇓	*i*P	**Pn**	**00 33 39.6**	**+0.3**
TESR		**4.63**	**353**⇓	*i*P	**Pn**	**00 33 39.6**	**+0.3**
THL	**Klokotos Trika**	**4.76**	**242**	*e*P	**Pn**	**00 33 41.3**	**+0.2**
THL	**Klokotos Trika**	**4.76**	**242**	*e*P	**Pn**	**00 33 41.3**	**+0.2**
GZR	**Gura Zlata**	**4.87**	**317**⇓	*i*P	**Pn**	**00 33 40.7**	**-1.8**
GZR	**Gura Zlata**	**4.87**	**317**⇓	*i*P	**Pn**	**00 33 40.7**	**-1.8**
AGG	**Agios Georgios**	**4.87**	**235**	*e*P	**Pn**	**00 33 41.8**	**-0.8**
AGG	**Agios Georgios**	**4.87**	**235**	*e*P	**Pn**	**00 33 41.8**	**-0.8**
APE	**Apeiranthos**	**5.07**	**198**	*e*P	**Pn**	**00 33 44.3**	**-1.0**
APE	**Apeiranthos**	**5.07**	**198**⇓	*i*P	**Pn**	**00 33 46.5**	**+1.2**
APE	**Apeiranthos**	**5.07**	**198**	*e*P	**Pn**	**00 33 44.3**	**-1.0**
GRUS	**Gruza**	**5.34**	**294**	*e*Pn	**Pn**	**00 33 48.0**	**-1.0**
BZS	**Buzias**	**5.62**	**313**⇑	*i*P	**Pn**	**00 33 51.1**	**-1.8**
BZS	**Buzias**	**5.62**	**313**⇑	*i*P	**Pn**	**00 33 51.1**	**-1.8**
DIVS	**Divibare**	**5.90**	**294**	*e*Pn	**Pn**	**00 33 57.2**	**+0.5**
BURAR	**Bucovina Array**	**5.92**	**345**⇑	*i*P	**Pn**	**00 33 58.2**	**+1.3**
BURAR	**Bucovina Array**	**5.92**	**345**⇑	*i*P	**Pn**	**00 33 58.2**	**+1.3**
DRGR		**5.95**	**327**⇓	*i*P	**Pn**	**00 33 57.4**	**+0.1**
DRGR		**5.95**	**327**⇓	*i*P	**Pn**	**00 33 57.4**	**+0.1**

*MOS **02** 00:33:12.5±0.8, 51°41N×174°30W, h31km, mb5.1/34, Error ellipse: s-maj=12.2km s-min=6.2km az=94.7*

*ISCJB **02** 00:33:13.5±1.1, 51°36N±0°08×174°26W±0°06, h41km±7km, mb4.6/73, MS3.7/12, Error ellipse: s-maj=13.3km s-min=5.5km az=169.0*

*NEIC **02** 00:33:15.8±0.8, 51°46N×174°32W, h45km±5km, mb4.8/44, Error ellipse: s-maj=10.1km s-min=4.0km az=169.0*

*IDC **02** 00:33:15.5±0.7, 51°51N×174°34W, h40km±6km, mb3.9/24, mb1 4.1/28, mb1mx4.0/35, mbtmp3.9/28, ML3.7/3, MS3.7/14, Ms1 3.7/14, ms1mx3.4/53, Error ellipse: s-maj=18.8km s-min=10.6km az=177.0*

*SZGRF **02** 00:33:19.8, 52°38N×176°48W, h45km, mb4.7, MS3.9, Andreanof Islands, Aleutian Islands, United States*

ISC 02 00:33:14.6±0.9**, 51°39N**±0°06×**174°27W**±0°05**, h35**km±6km**, h46**km±1.8km**: pP-P, n273, σ0s75**/272**, mb4.6**/73**, MS3.7**/12**, 1D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.81**	**3**	P	**Pn**	**00 33 29.3**	**-0.2**
ATKA				S	**Sn**	**00 33 42.5**	**+2.2**
GSTR	**Great Sitkin T**	**1.31**	**303**	*e*Pn	**Pn**	**00 33 36.1**	**-0.3**
ADK	**Adak**	**1.58**	**289**	P	**Pn**	**00 33 39.3**	**-0.8**
ADK				S	**Sn**	**00 33 59.9**	**+0.6**
ADK	**Adak**	**1.58**	**289**	P	**Pn**	**00 33 39.3**	**-0.8**
ADK				S	**Sn**	**00 33 59.9**	**+0.6**
NIKO	**Nikolski**	**3.69**	**63**	*e*Pn	**Pn**	**00 34 16.6**	**+7.5**
NIKO				S	**Sn**	**00 34 49.7**	**-1.6**
UNV	**Unalaska Valle**	**5.33**	**60**	*e*Pn	**Pn**	**00 34 35.3**	**+3.7**
AKUT	**Akutan**	**5.84**	**59**	*e*Pn	**Pn**	**00 34 46.8**	**+8.2**
FX1	**Attu Island--F**	**7.87**	**286**	P	**Pn**	**00 35 06.9**	**+0.4**
	0.9nm,0.3s,baz=30,slow=20,SNR=5.6						
FX1				S	**Sn**	**00 36 32.6**	**-1.6**
	baz=159,slow=17,SNR=2.2						
FX1				LR	LR	00 37 59.7	
	comp=Z,395nm,20.8s,baz=101,slow=36						
FX1	**Attu Island--F**	**7.87**	**286**	P	**Pn**	**00 35 06.9**	**+0.4**
FX1				S	**Sn**	**00 36 32.6**	**-1.6**
FX1				LR	LR	00 37 59.7	
FX1	**Attu Island--F**	**7.87**	**286**	P	**Pn**	**00 35 06.9**	**+0.4**
FX1				S	**Sn**	**00 36 32.6**	**-1.7**
KDAK	**Kodiak Island**	**14.07**	**55**	P	**Pn**	**00 36 29.8**	**-1.4**
	0.5nm,0.3s,baz=229,slow=10,SNR=7.7						
KDAK				S	**Sn**	**00 39 18.3**	**+12**
	0.1nm,0.3s,baz=313,slow=17,SNR=2.6						
KDAK	**Kodiak Island**	**14.07**	**55**	*e*Pn	**Pn**	**00 36 33.5**	**+2.4**
KDAK				S	**Sn**	**00 39 18.3**	**+12**
KDAK	**Kodiak Island**	**14.07**	**55**	*e*P	**Pn**	**00 36 33.5**	**+2.3**
SEW	**Seward**	**16.38**	**48**	*e*Pn	**Pn**	**00 37 00.1**	**-1.4**
SEW				*e*S	**Sn**	**00 39 54.2**	**-7.7**
PPLA	**Purkeypile**	**16.52**	**37**	*e*Pn	**Pn**	**00 37 04.5**	**+1.3**
	41nm,1.5s						
PETK	**Petropavlovsk-**	**17.20**	**287**	P	**Pn**	**00 37 13.4**	**+1.5**
	0.1nm,0.3s,baz=91,slow=14,SNR=5.8						
PETK				S	**Sn**	**00 40 14.8**	**-7.2**
	0.5nm,0.3s,baz=47,slow=33,SNR=4.8						
PETK	**Petropavlovsk-**	**17.20**	**287**	P	**Pn**	**00 37 13.4**	**+1.5**
PETK				S	**Sn**	**00 40 14.8**	**-7.2**
PETK	**Petropavlovsk-**	**17.20**	**287**	P	**Pn**	**00 37 13.4**	**+1.5**
PETK				S	**Sn**	**00 40 14.8**	**-7.2**
TRF	**Thorofare Moun**	**17.54**	**37**	*e*Pn	**Pn**	**00 37 17.8**	**+1.8**
	19nm,1.2s						
BPAW	**Bear Paw Mtn.**	**17.64**	**35**	*e*Pn	**Pn**	**00 37 17.8**	**+0.6**
	18nm,1.1s						
MCK	**McKinley**	**18.20**	**38**	*e*Pn	**Pn**	**00 37 23.1**	**-1.1**
	18nm,1.0s						
MCK	**McKinley**	**18.20**	**38**	*e*P	**Pn**	**00 37 23.1**	**-1.0**
MCK				pmax	pmax		
	comp=Z,18nm,1.0s						
BILL	**Bilibino**	**19.20**	**338**	*e*P	**Pn**	**00 37 36.0**	**-0.2**
	comp=Z,73nm,1.3s						
BILL	**Bilibino**	**19.20**	**338**⇓	*i*P	**Pn**	**00 37 35.9**	**-0.2**
BILL				*e*S	**S**	**00 41 10.2**	**-0.2**
BILL				pmax	pmax		
	comp=Z,11nm,1.0s						
BILL				MLR	MLR		
	comp=Z,200nm,18.0s						
COLA	**College**	**19.20**	**35**	*e*P	**Pn**	**00 37 35.1**	**-1.1**
	comp=Z,12nm,1.0s						
COLA	**College**	**19.20**	**35**	*e*P	**Pn**	**00 37 35.1**	**-1.1**
COLA				pmax	pmax		
	comp=Z,12nm,1.0s						
PAX	**Paxson**	**19.24**	**42**	*e*P	**Pn**	**00 37 36.0**	**-0.7**
	comp=Z,39nm,2.0s						
PAX	**Paxson**	**19.24**	**42**	*e*P	**Pn**	**00 37 36.0**	**-0.7**
PAX				pmax	pmax		
	comp=Z,39nm,2.0s						
ILAR	**Eielson Array**	**19.50**	**36**	P	**Pn**	**00 37 36.1**	**-3.7**
	comp=Z,0.6nm,0.3s,baz=236,slow=8.6,SNR=56						
ILAR				LR	LR	00 45 50.0	
	comp=Z,243nm,18.3s,baz=239,slow=39						
ILAR	**Eielson Array**	**19.50**	**36**	P	**Pn**	**00 37 36.1**	**-3.7**
ILAR				LR	LR	00 45 50.0	
ILAR	**Eielson Array**	**19.50**	**36**	P	**Pn**	**00 37 36.1**	**-3.7**
COLD	**Coldfoot**	**19.85**	**28**	*e*P	**Pn**	**00 37 42.7**	**-1.1**
	comp=Z,26nm,1.5s						
DOT	**Dot Lake**	**20.10**	**41**	*e*P	**P**	**00 37 44.7**	**-0.1**
	comp=Z,34nm,1.0s						
EGAK	**Eagle**	**21.71**	**39**	*e*P	**P**	**00 38 01.2**	**-1.0**
	comp=Z,38nm,0.8s,mb4.9						
DAWY	**Dawson**	**22.18**	**42**	*e*P	**P**	**00 38 06.3**	**-0.9**
INK	**Inuvik**	**25.84**	**34**	P	**P**	**00 38 41.6**	**-0.7**
	comp=Z,2.4nm,0.7s,mb3.8,baz=267,slow=6.2,SNR=7.6						
INK	**Inuvik**	**25.84**	**34**	*e*P	**P**	**00 38 42.5**	**+0.2**
	comp=Z,147nm,3.0s						
INK	**Inuvik**	**25.84**	**34**	*e*P	**P**	**00 38 42.5**	**+0.2**
INK				pmax	pmax		
	comp=Z,147nm,3.0s						
DLBC	**Dease Lake**	**25.98**	**57**	P	**P**	**00 38 44.8**	**+1.2**
	comp=Z,3.8nm,0.8s,mb4.0,baz=270,slow=10.0,SNR=5.8						
DLBC				LR	LR	00 48 45.2	
	comp=Z,148nm,19.4s,MS3.5,baz=336,slow=36						
DLBC	**Dease Lake**	**25.98**	**57**	P	**P**	**00 38 44.8**	**+1.2**
DLBC				LR	LR	00 48 45.2	
YKA	**Yellowknife Ar**	**33.15**	**47**	LR	LR	00 55 03.9	
	comp=Z,27nm,19.0s,MS3.0,baz=195,slow=40						
KLR	**Kul'dur**	**33.89**	**288**	*e*P	**P**	**00 39 48.8**	**-4.9**
JHJ	**Hachijo jima 2**	**37.87**	**259**	LR	LR	00 57 27.1	
	comp=Z,48nm,18.6s,MS3.3,baz=238,slow=38						
EGMT	**Eagleton**	**40.66**	**68**	*e*P	pP	00 41 06.1	+4.8
NVAR	**Mina Array Bea**	**40.73**	**86**	P	**P**	**00 40 53.0**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=302,slow=5.0,SNR=4.0						
NVAR				pP	pP	00 41 04.9	+2.8
	comp=Z,1.8nm,0.8s,baz=301,slow=7.5,SNR=7.1						
NVAR				PcP	PcP	00 42 53.6	+1.0
	comp=Z,0.7nm,0.8s,baz=302,slow=5.2,SNR=3.0						
NVAR	**Mina Array Bea**	**40.73**	**86**	P	**P**	**00 40 53.0**	**+1.3**
NVAR				pP	pP	00 41 04.9	+2.8
NVAR				PcP	PcP	00 42 53.6	+1.0
KSRS	**Korea Array**	**42.47**	**274**	P	**P**	**00 41 05.1**	**-0.9**
	comp=Z,3.1nm,1.1s,mb3.9,baz=37,slow=13,SNR=3.5						
KSRS				LR	LR	00 56 04.0	
	comp=Z,49nm,20.6s,MS3.4,baz=159,slow=32						
KSRS	**Korea Array**	**42.47**	**274**	P	**P**	**00 41 05.1**	**-0.9**
KSRS				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.8						
DUG	**Dugway**	**43.09**	**80**	*e*P	pP	00 41 23.4	+2.1
DUG	**Dugway**	**43.09**	**80**	*e*P	pP	00 41 23.4	+2.1
BW06	**Boulder Array**	**43.58**	**75**	*e*P	pP	00 41 26.0	+0.6
PDAR	**Pinedale Array**	**43.59**	**75**	P	**P**	**00 41 15.2**	**+0.2**
	comp=Z,2.0nm,0.9s,mb3.9,baz=304,slow=4.7,SNR=13						
PDAR	**Pinedale Array**	**43.59**	**75**	P	**P**	**00 41 15.2**	**+0.2**
GSC	**Goldstone**	**43.62**	**89**	P	**P**	**00 41 16.0**	**+0.7**
	comp=Z,5.2nm,1.0s,mb4.2						
GSC	**Goldstone**	**43.62**	**89**	P	**P**	**00 41 16.0**	**+0.7**
GSC				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2						
PV01	**Paradox Valley**	**46.96**	**80**	P	**P**	**00 41 41.8**	**+0.1**
ULM	**Lac du Bonnet**	**47.28**	**59**	P	**P**	**00 41 44.0**	**-0.1**
	comp=Z,3.5nm,0.7s,mb4.4,baz=358,slow=6.4,SNR=2.9						
ULM	**Lac du Bonnet**	**47.28**	**59**	P	**P**	**00 41 44.0**	**-0.1**
ULM	**Lac du Bonnet**	**47.28**	**59**	P	**P**	**00 41 44.0**	**-0.1**
ULN	**Ulaanbaatar**	**48.77**	**299**	*e*P	**P**	**00 41 55.1**	**-0.5**
	comp=Z,5.7nm,1.1s,mb4.5						
ULN	**Ulaanbaatar**	**48.77**	**299**	*e*P	**P**	**00 41 55.2**	**-0.4**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
SONM	**Songino Array**	**49.15**	**299**	P	**P**	**00 41 58.8**	**+0.3**
	comp=Z,3.2nm,1.0s,mb4.3,baz=45,slow=8.4,SNR=12						
SONM				LR	LR	01 04 00.3	
	comp=Z,140nm,18.3s,MS4.0,baz=189,slow=38						
SONM	**Songino Array**	**49.15**	**299**	P	**P**	**00 41 58.8**	**+0.3**
SONM				LR	LR	01 04 00.3	
SONM	**Songino Array**	**49.15**	**299**	P	**P**	**00 41 58.8**	**+0.3**
ZAK	**Zakamensk**	**49.35**	**303**	*e*P	**P**	**00 41 59.3**	**-0.7**
ZAK				*e*		00 43 29.5	
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
TXAR	**Lajitas Array**	**55.84**	**84**	P	**P**	**00 42 48.3**	**0.0**
	comp=Z,0.5nm,0.8s,mb3.6,baz=308,slow=6.1,SNR=5.7						
TXAR	**Lajitas Array**	**55.84**	**84**	P	**P**	**00 42 48.3**	**0.0**
TXAR	**Lajitas Array**	**55.84**	**84**	P	**P**	**00 42 48.3**	**0.0**
ZALV	**Zalesovo Beam**	**56.04**	**316**	P	**P**	**00 42 50.5**	**+1.0**
	comp=Z,0.2nm,0.3s,mb3.6,baz=342,slow=24,SNR=2.7						
ZALV				PcP	PcP	00 43 47.6	+0.3
	comp=Z,1.0nm,0.6s,baz=38,slow=5.6,SNR=6.4						
ZALV				pPcP		00 44 02.3	
	comp=Z,0.8nm,0.7s,baz=29,slow=3.4,SNR=5.7						
ZALV				LR	LR	01 09 29.0	
	comp=Z,68nm,18.5s,MS3.8,baz=59,slow=39						
ZALV	**Zalesovo Beam**	**56.04**	**316**	P	**P**	**00 42 50.5**	**+1.0**
ZALV				PcP	PcP	00 43 47.6	+0.3
ZALV				pPcP		00 44 02.3	
ZALV				LR	LR	01 09 29.0	
ZALV	**Zalesovo Beam**	**56.04**	**316**	P	**P**	**00 42 50.5**	**+1.1**
ZALV						00 43 47.6	
ARCES	**ARCESS Array B**	**58.52**	**352**	P	**P**	**00 43 06.3**	**-0.3**
	comp=Z,4.1nm,0.8s,mb4.5,baz=12,slow=6.8,SNR=5.0						
ARCES	**ARCESS Array B**	**58.52**	**352**	P	**P**	**00 43 06.3**	**-0.3**
ARCES	**ARCESS Array B**	**58.52**	**352**	P	**P**	**00 43 06.3**	**-0.4**
KURK	**Kurchatov**	**61.02**	**316**	P	**P**	**00 43 24.0**	**-0.1**
	comp=Z,0.7nm,0.4s,mb4.2,baz=41,slow=6.7,SNR=8.7						
KURK				PcP	PcP	00 44 08.2	+1.1
	comp=Z,2.0nm,1.0s,baz=38,slow=4.3,SNR=5.2						
KURK	**Kurchatov**	**61.02**	**316**	P	**P**	**00 43 24.0**	**-0.1**
KURK				PcP	PcP	00 44 08.2	+1.1
KURK	**Kurchatov**	**61.02**	**316**	P	**P**	**00 43 24.0**	**-0.2**
KURK						00 44 08.2	
MK31	**Makanchi Array**	**62.21**	**311**	*e*P	**P**	**00 43 31.7**	**-0.5**
MK31	**Makanchi Array**	**62.21**	**311**	*e*P	**P**	**00 43 31.7**	**-0.5**
MKAR	**Makanchi Array**	**62.21**	**311**	P	**P**	**00 43 31.3**	**-0.9**
	comp=Z,0.6nm,0.3s,mb4.2,baz=48,slow=6.3,SNR=27						
MKAR				LR	LR	01 11 01.0	
	comp=Z,60nm,19.1s,MS3.8,baz=115,slow=36						
MKAR	**Makanchi Array**	**62.21**	**311**	P	**P**	**00 43 31.3**	**-0.9**
MKAR				LR	LR	01 11 00.9	
MKAR	**Makanchi Array**	**62.21**	**311**	P	**P**	**00 43 31.3**	**-0.9**
BVAR	**Borovoye Array**	**62.67**	**322**	P	**P**	**00 43 34.8**	**-0.4**
	comp=Z,2.1nm,0.7s,mb4.4,baz=56,slow=9.2,SNR=10						
BVAR				PcP	PcP	00 44 14.3	+0.6
	comp=Z,3.9nm,0.8s,baz=72,slow=1.9,SNR=11						
BVAR	**Borovoye Array**	**62.67**	**322**	P	**P**	**00 43 34.8**	**-0.4**
BVAR				PcP	PcP	00 44 14.3	+0.6
BVAR	**Borovoye Array**	**62.67**	**322**	P	**P**	**00 43 34.8**	**-0.4**
BVAR						00 44 14.3	
FINES	**FINESS Array B**	**66.34**	**349**	P	**P**	**00 43 57.4**	**-1.6**
	comp=Z,4.0nm,0.9s,mb4.4,baz=39,slow=7.3,SNR=5.7						
FINES				PcP	PcP	00 44 28.0	-0.7
	comp=Z,2.2nm,0.8s,baz=29,slow=3.3,SNR=4.6						
FINES				LR	LR	01 13 59.5	
	comp=Z,70nm,20.9s,MS3.9,baz=315,slow=37						
FINES	**FINESS Array B**	**66.34**	**349**	P	**P**	**00 43 57.4**	**-1.6**
FINES				PcP	PcP	00 44 28.0	-0.7
FINES				LR	LR	01 13 59.5	
FINES	**FINESS Array B**	**66.34**	**349**	P	**P**	**00 43 57.4**	**-1.6**
FINES						00 44 28.0	
NB2	**NORSAR Subarra**	**67.83**	**357**	P	**P**	**00 44 08.0**	**-0.5**
	comp=Z,2.0nm,0.8s,mb4.2,baz=3.1,slow=6.5						
NOA	**NORSAR Array B**	**67.83**	**357**	P	**P**	**00 44 08.0**	**-0.5**
	comp=Z,4.0nm,0.9s,mb4.5,baz=1.1,slow=6.3,SNR=8.5						
NOA	**NORSAR Array B**	**67.83**	**357**	P	**P**	**00 44 08.0**	**-0.5**
NOA	**NORSAR Array B**	**67.83**	**357**	P	**P**	**00 44 08.0**	**-0.5**
AAK	**Ala-Archa**	**68.99**	**313**	P	**P**	**00 44 15.2**	**-0.8**
	comp=Z,3.2nm,0.8s,mb4.3,baz=123,slow=1.0,SNR=5.5						
AAK				LR	LR	01 17 14.8	
	comp=Z,76nm,18.7s,MS4.0,baz=267,slow=38						
AAK	**Ala-Archa**	**68.99**	**313**	P	**P**	**00 44 15.2**	**-0.8**
AAK				LR	LR	01 17 14.8	
AAK	**Ala-Archa**	**68.99**	**313**	P	**P**	**00 44 15.2**	**-0.9**
AKTK	**Aktyubinsk**	**69.26**	**327**	P	**P**	**00 44 17.4**	**-0.2**
AKTO	**Aktyubinsk**	**69.26**	**327**	P	**P**	**00 44 17.4**	**-0.2**
	comp=Z,2.6nm,0.7s,mb4.2,baz=18,slow=7.3,SNR=9.3						
AKTO	**Aktyubinsk**	**69.26**	**327**	P	**P**	**00 44 17.4**	**-0.2**
LSA	**Lhasa**	**70.08**	**293**	*e*P	**P**	**00 44 25.4**	**+2.4**
	comp=Z,19nm,0.9s,mb5.0						
LSA	**Lhasa**	**70.08**	**293**	*e*P	**P**	**00 44 25.4**	**+2.4**
LSA				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
KKAR	**Karatay Array**	**70.42**	**315**	*e*P	**P**	**00 44 25.2**	**+0.4**
KKAR	**Karatay Array**	**70.42**	**315**	*e*P	**P**	**00 44 25.3**	**+0.5**
PPT	**Papeete**	**71.99**	**155**	LR	LR	01 11 34.3	
	comp=Z,150nm,20.1s,MS4.3,baz=18,slow=32						
CMAR	**Chiang Mai Arr**	**73.82**	**279**	P	**P**	**00 44 45.4**	**-0.2**
	comp=Z,1.1nm,0.4s,mb4.2,baz=26,slow=6.4,SNR=9.7						
CMAR	**Chiang Mai Arr**	**73.82**	**279**	P	**P**	**00 44 45.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**73.82**	**279**	P	**P**	**00 44 45.4**	**-0.1**
GUN	**Gumba**	**74.45**	**295**	*e*P	**P**	**00 44 50.2**	**+1.1**
	comp=Z,64nm,0.9s,mb5.5						
GUN	**Gumba**	**74.45**	**295**	*e*P	**P**	**00 44 50.2**	**+1.1**
	comp=Z,64nm,0.9s,mb5.5						
KKN	**Kakani**	**74.88**	**296**	*e*P	**P**	**00 44 52.4**	**+0.8**
KKN	**Kakani**	**74.88**	**296**	*e*P	**P**	**00 44 52.4**	**+0.8**
KKN	**Kakani**	**74.88**	**296**	*e*P	**P**	**00 44 52.4**	**+0.8**
BSEG	**Bad Segeberg**	**74.97**	**357**	*e*P	**P**	**00 44 52.3**	**+0.6**
	comp=Z,18nm,0.9s,mb5.0						
BSEG	**Bad Segeberg**	**74.97**	**357**	*e*P	**P**	**00 44 52.3**	**+0.6**
BSEG				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.0						
PKI	**Pulchoki**	**74.98**	**295**	*e*P	**P**	**00 44 52.8**	**+0.6**
	comp=Z,46nm,1.1s,mb5.3						
PKI	**Pulchoki**	**74.98**	**295**	*e*P	**P**	**00 44 52.8**	**+0.6**
	comp=Z,46nm,1.1s,mb5.3						
PKI	**Pulchoki**	**74.98**	**295**	*e*P	**P**	**00 44 52.8**	**+0.6**
PKI				pmax	pmax		
	comp=Z,46nm,1.1s,mb5.3						
PKIN	**Phulchoki**	**74.98**	**295**	*e*P	**P**	**00 44 52.6**	**+0.4**
	comp=Z,22nm,0.9s,mb5.1						
GKN	**Gorkha**	**75.08**	**296**	*e*P	**P**	**00 44 53.2**	**+0.5**
	comp=Z,47nm,1.0s,mb5.4						
GKN	**Gorkha**	**75.08**	**296**	*e*P	**P**	**00 44 53.2**	**+0.5**
	comp=Z,47nm,1.0s,mb5.4						
DANN	**Dangsing**	**75.31**	**297**	*e*P	**P**	**00 44 54.9**	**+0.9**
	comp=Z,64nm,0.8s,mb5.6						
DANN	**Dangsing**	**75.31**	**297**	*e*P	**P**	**00 44 54.9**	**+0.9**
	comp=Z,64nm,0.8s,mb5.6						
KOLN	**Koldanda**	**75.84**	**297**	*e*P	**P**	**00 44 57.4**	**+0.3**
	comp=Z,41nm,1.0s,mb5.3						
KOLN	**Koldanda**	**75.84**	**297**	*e*P	**P**	**00 44 57.4**	**+0.3**
	comp=Z,41nm,1.0s,mb5.3						
AKASG	**Malin Array Be**	**76.34**	**345**	P	**P**	**00 44 58.4**	**-1.2**
	comp=Z,2.8nm,0.8s,mb4.3,baz=12,slow=5.2,SNR=6.7						
AKASG				pP	pP	00 45 10.2	-0.3
	comp=Z,1.4nm,0.5s,baz=17,slow=5.2,SNR=3.8						
AKASG				LR	LR	01 21 02.3	
	comp=Z,91nm,18.6s,MS4.1,baz=330,slow=38						
AKASG	**Malin Array Be**	**76.34**	**345**	P	**P**	**00 44 58.4**	**-1.2**
AKASG				pP	pP	00 45 10.2	-0.3
AKASG				LR	LR	01 21 02.4	
AKASG	**Malin Array Be**	**76.34**	**345**	P	**P**	**00 44 58.4**	**-1.2**
AKASG				*PP	pP	00 45 10.2	-0.4
NRDL	**Niedersach Rie**	**76.42**	**357**	*e*P	**P**	**00 45 00.1**	**+0.1**
	comp=Z,4.0nm,0.8s,mb4.4						
IBBN	**Ibbenburen**	**76.66**	**359**	*e*P	**P**	**00 45 02.0**	**+0.7**
	comp=Z,14nm,0.9s,mb4.9						
CLZ	**Clausthal**	**77.07**	**357**	*e*P	**P**	**00 45 04.4**	**+0.8**
	comp=Z,11nm,0.9s,mb4.8						
CLZ	**Clausthal**	**77.07**	**357**	*e*P	**P**	**00 45 04.4**	**+0.8**
CLZ				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
CLL	**Collm**	**77.49**	**355**	*e*P	**P**	**00 45 05.8**	**-0.2**
	comp=Z,4.0nm,0.8s,mb4.4						
CLL	**Collm**	**77.49**	**355**	*e*P	**P**	**00 45 06.0**	**0.0**
	comp=Z,6.0nm,0.9s,mb4.5						
NEUB	**Neuenburg**	**77.65**	**356**	*e*P	**P**	**00 45 07.4**	**+0.5**
	comp=Z,10.0nm,0.8s,mb4.8						
BRG	**Berggiesshubel**	**77.87**	**355**	*e*P	**P**	**00 45 08.2**	**+0.1**
	comp=Z,4.0nm,0.9s,mb4.3						
BRG	**Berggiesshubel**	**77.87**	**355**	*i* P	**P**	**00 45 08.0**	**-0.1**
BRG				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
KBL	**Kabul**	**78.02**	**311**	*e*P	**P**	**00 45 08.5**	**-0.8**
	comp=Z,11nm,0.8s,mb4.8						
KBL	**Kabul**	**78.02**	**311**	*e*P	**P**	**00 45 08.5**	**-0.8**
KBL				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
UPC	**Upice**	**78.10**	**353**	*e*P	**P**	**00 45 09.5**	**+0.1**
UPC	**Upice**	**78.10**	**353**	*e*P	**P**	**00 45 09.5**	**+0.1**
PVCC	**Panska Ves**	**78.18**	**354**	*e*P	**P**	**00 45 09.8**	**-0.1**
PVCC	**Panska Ves**	**78.18**	**354**	*e*P	**P**	**00 45 09.8**	**-0.1**
MOX	**Moxa**	**78.22**	**356**	*e*P	**P**	**00 45 10.4**	**+0.3**
	comp=Z,5.0nm,0.8s,mb4.5						
MOX	**Moxa**	**78.22**	**356**	*e*P	**P**	**00 45 10.4**	**+0.3**
MOX				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
DPC	**Dobruska-Polom**	**78.23**	**353**	*e*P	**P**	**00 45 10.5**	**+0.3**
	comp=Z,11nm,1.0s,mb4.8						
DPC	**Dobruska-Polom**	**78.23**	**353**	*e*P	**P**	**00 45 10.5**	**+0.3**
DPC				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
DPC	**Dobruska-Polom**	**78.23**	**353**	*e*P	**P**	**00 45 10.4**	**+0.2**
NKC	**Novy Kostel**	**78.59**	**356**	*e*P	**P**	**00 45 12.4**	**+0.3**
NKC	**Novy Kostel**	**78.59**	**356**	*e*P	**P**	**00 45 12.4**	**+0.3**
OKC	**Ostrava-Krasne**	**78.59**	**352**	*e*P	**P**	**00 45 11.9**	**-0.3**
OKC	**Ostrava-Krasne**	**78.59**	**352**	*e*P	**P**	**00 45 11.9**	**-0.3**
PRU	**Pruhonice**	**78.72**	**354**	*e*P	**P**	**00 45 13.5**	**+0.7**
PRU	**Pruhonice**	**78.72**	**354**	*e*P	**P**	**00 45 13.5**	**+0.7**
TNS	**Taunus Mts**	**78.74**	**358**	*e*P	**P**	**00 45 13.3**	**+0.4**
	comp=Z,7.0nm,0.8s,mb4.6						
TNS				*e*pP	pP	00 45 26.3	+2.3
TNS	**Taunus Mts**	**78.74**	**358**	*e*P	**P**	**00 45 13.3**	**+0.4**
TNS				*e**PP	pP	00 45 26.3	+2.3
TNS				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
GIVF	**Givet**	**78.88**	**1**	*e*P	**P**	**00 45 13.5**	**-0.2**
GIVF	**Givet**	**78.88**	**1**	*e*P	**P**	**00 45 13.5**	**-0.2**
GIVF	**Givet**	**78.88**	**1**	*e*P	**P**	**00 45 13.5**	**-0.2**
BAIF	**Baives**	**78.92**	**1**	*e*P	**P**	**00 45 13.9**	**0.0**
	comp=Z,25nm,1.1s,mb4.8						
BAIF	**Baives**	**78.92**	**1**	*e*P	**P**	**00 45 13.9**	**0.0**
	comp=Z,12nm,1.1s,mb4.8						
BAIF	**Baives**	**78.92**	**1**	*e*P	**P**	**00 45 13.9**	**0.0**
BAIF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
KOLS	**Kolonicke sedl**	**79.06**	**349**	*e*P	**P**	**00 45 15.1**	**+0.4**
KOLS	**Kolonicke sedl**	**79.06**	**349**	*e*P	**P**	**00 45 15.1**	**+0.4**
ROTZ	**Rotzenmuhle**	**79.07**	**356**	*e*pP	pP	00 45 27.7	+1.9
GRF	**Grafenberg Arr**	**79.18**	**356**	*e*P	**P**	**00 45 15.9**	**+0.5**
	comp=Z,12nm,0.8s,mb4.9						
GRF				*e*L		00 56 06.1	
	comp=Z,57nm,18.9s						
GRF	**Grafenberg Arr**	**79.18**	**356**	*e*P	**P**	**00 45 15.9**	**+0.5**
GRF				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
GRFO	**Grafenberg**	**79.19**	**356**	*e*P	**P**	**00 45 14.9**	**-0.5**
	comp=Z,18nm,1.0s,mb5.0						
GRFO	**Grafenberg**	**79.19**	**356**	*e*P	**P**	**00 45 14.9**	**-0.5**
GRFO				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.0						
WLF	**Walferdange**	**79.32**	**360**	*e*P	**P**	**00 45 17.1**	**+1.0**
	comp=Z,6.0nm,0.8s,mb4.6						
KHC	**Kasperske Hory**	**79.63**	**355**	*e*P	**P**	**00 45 18.1**	**+0.3**
KHC	**Kasperske Hory**	**79.63**	**355**	*e*P	**P**	**00 45 18.1**	**+0.3**
KHC				*e*pP	pP	00 45 31.0	+2.1
WET	**Wettzell**	**79.66**	**355**	*e*P	**P**	**00 45 18.4**	**+0.4**
	comp=Z,2.0nm,1.0s,mb4.0						
WET	**Wettzell**	**79.66**	**355**	*e*P	**P**	**00 45 18.4**	**+0.4**
WET				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
KECS	**Kecovo**	**79.70**	**350**	*e*P	**P**	**00 45 18.4**	**+0.1**
KECS	**Kecovo**	**79.70**	**350**	*e*P	**P**	**00 45 18.4**	**+0.1**
VYHS	**Vyhne**	**79.86**	**351**	*e*P	**P**	**00 45 18.6**	**-0.5**
VYHS	**Vyhne**	**79.86**	**351**	*e*P	**P**	**00 45 18.6**	**-0.5**
GEC2	**GERESS Array S**	**79.91**	**355**	*e*P	**P**	**00 45 19.6**	**+0.2**
	comp=Z,2.0nm,0.9s,mb4.0						
GEC2	**GERESS Array S**	**79.91**	**355**	*e*P	**P**	**00 45 19.6**	**+0.2**
GEC2				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
GERES	**GERESS Array B**	**79.91**	**355**	P	**P**	**00 45 19.4**	**0.0**
	comp=Z,1.9nm,0.8s,mb4.1,baz=24,slow=4.7,SNR=16						
GERES	**GERESS Array B**	**79.91**	**355**	P	**P**	**00 45 19.4**	**0.0**
GERES	**GERESS Array B**	**79.91**	**355**	P	**P**	**00 45 19.4**	**0.0**
FLN	**La Foliniere**	**80.08**	**4**	*e*P	**P**	**00 45 19.8**	**-0.5**
FLN	**La Foliniere**	**80.08**	**4**	*e*P	**P**	**00 45 19.8**	**-0.5**
FLN	**La Foliniere**	**80.08**	**4**	*e*P	**P**	**00 45 19.8**	**-0.5**
STU	**Stuttgart**	**80.17**	**358**	*e*P	**P**	**00 45 21.3**	**+0.5**
	comp=Z,6.0nm,0.9s,mb4.5						
LDF	**La Druitiere**	**80.27**	**4**	*e*P	**P**	**00 45 20.4**	**-0.9**
	comp=Z,7.8nm,0.7s,mb4.4						
LDF	**La Druitiere**	**80.27**	**4**	*e*P	**P**	**00 45 20.4**	**-0.9**
	comp=Z,3.9nm,0.7s,mb4.5						
LDF	**La Druitiere**	**80.27**	**4**	*e*P	**P**	**00 45 20.4**	**-0.9**
LDF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
GRR	**Gorron**	**80.44**	**4**	*e*P	**P**	**00 45 21.6**	**-0.6**
GRR	**Gorron**	**80.44**	**4**	*e*P	**P**	**00 45 21.6**	**-0.6**
GRR	**Gorron**	**80.44**	**4**	*e*P	**P**	**00 45 21.6**	**-0.6**
MEZF	**Maizieres J'vi**	**80.48**	**0**	*e*P	**P**	**00 45 22.5**	**0.0**
	comp=Z,27nm,1.1s,mb4.8						
MEZF	**Maizieres J'vi**	**80.48**	**0**	*e*P	**P**	**00 45 22.5**	**0.0**
	comp=Z,27nm,1.1s,mb5.1						
CDF	**Champ du Feu**	**80.56**	**359**	*e*P	**P**	**00 45 22.7**	**-0.2**
	comp=Z,14nm,1.0s,mb4.6						
CDF	**Champ du Feu**	**80.56**	**359**	*e*P	**P**	**00 45 22.7**	**-0.2**
	comp=Z,7.0nm,1.0s,mb4.5						
CDF	**Champ du Feu**	**80.56**	**359**	*e*P	**P**	**00 45 22.7**	**-0.2**
CDF				pmax	pmax		

comp=Z,7.0nm,1.0s,mb4.5
BFO Black Forest 80.63 358 *e*P **P 00 45 23.7 +0.4**
comp=Z,2.0nm,0.8s,mb4.1
BFO Black Forest 80.63 358 *e*P **P 00 45 23.7 +0.4**
BFO pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
FUR Furstenfeldbru 80.71 356 *e*P **P 00 45 24.3 +0.6**
comp=Z,6.0nm,1.0s,mb4.5
FUR Furstenfeldbru 80.71 356 *e*P **P 00 45 24.3 +0.6**
FUR pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
SFTF Sexfontaines 80.78 0 *e*P **P 00 45 24.0 -0.1**
comp=Z,31nm,0.8s,mb5.0
SFTF Sexfontaines 80.78 0 *e*P **P 00 45 24.0 -0.1**
comp=Z,31nm,0.8s,mb5.3
HAU Haudompre 80.98 360 *e*P **P 00 45 24.9 -0.2**
comp=Z,32nm,1.0s,mb4.9
HAU Haudompre 80.98 360 *e*P **P 00 45 24.9 -0.2**
comp=Z,16nm,1.0s,mb4.9
HAU Haudompre 80.98 360 *e*P **P 00 45 24.9 -0.2**
HAU pmax pmax
comp=Z,16nm,1.0s,mb4.9
HINF Hinteralfeld 81.17 359 *e*P **P 00 45 25.7 -0.4**
comp=Z,8.1nm,0.8s,mb4.4
HINF Hinteralfeld 81.17 359 *e*P **P 00 45 25.7 -0.4**
comp=Z,4.1nm,0.8s,mb4.4
HINF Hinteralfeld 81.17 359 *e*P **P 00 45 25.7 -0.4**
HINF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
HYF Humbligny 81.68 2 *e*P **P 00 45 28.9 0.0**
HYF Humbligny 81.68 2 *e*P **P 00 45 28.9 0.0**
LOR Lormes 81.71 1 *e*P **P 00 45 28.8 -0.2**
comp=Z,24nm,0.9s,mb4.8
LOR Lormes 81.71 1 *e*P **P 00 45 28.8 -0.2**
comp=Z,12nm,0.9s,mb4.8
LOR Lormes 81.71 1 *e*P **P 00 45 28.8 -0.2**
LOR pmax pmax
comp=Z,12nm,0.9s,mb4.8
SSF Saint Saulge 81.91 2 *e*P **P 00 45 29.9 -0.1**
comp=Z,16nm,0.8s,mb4.7
SSF Saint Saulge 81.91 2 *e*P **P 00 45 29.9 -0.1**
comp=Z,8.1nm,0.8s,mb4.7
SSF Saint Saulge 81.91 2 *e*P **P 00 45 29.9 -0.1**
SSF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
AVF Avril sur Loir 82.17 2 *e*P **P 00 45 31.2 -0.3**
comp=Z,51nm,1.2s,mb5.0
AVF Avril sur Loir 82.17 2 *e*P **P 00 45 31.2 -0.3**
comp=Z,25nm,1.2s,mb5.0
AVF Avril sur Loir 82.17 2 *e*P **P 00 45 31.2 -0.3**
AVF pmax pmax
comp=Z,25nm,1.2s,mb5.0
MFF Saint Martin d 82.25 4 *e*P **P 00 45 31.8 -0.1**
comp=Z,42nm,1.1s,mb5.0
MFF Saint Martin d 82.25 4 *e*P **P 00 45 31.8 -0.1**
comp=Z,21nm,1.1s,mb5.0
MFF Saint Martin d 82.25 4 *e*P **P 00 45 31.8 -0.1**
MFF pmax pmax
comp=Z,21nm,1.1s,mb5.0
SMF Signal de Mont 82.33 1 *e*P **P 00 45 32.0 -0.3**
comp=Z,32nm,1.0s,mb4.9
SMF Signal de Mont 82.33 1 *e*P **P 00 45 32.0 -0.3**
comp=Z,16nm,1.0s,mb4.9
SMF Signal de Mont 82.33 1 *e*P **P 00 45 32.0 -0.3**
SMF pmax pmax
comp=Z,16nm,1.0s,mb4.9
CABF La Chapelle 82.38 360 *e*P **P 00 45 32.9 +0.4**
comp=Z,41nm,1.2s,mb4.9
CABF La Chapelle 82.38 360 *e*P **P 00 45 32.9 +0.4**
comp=Z,20nm,1.2s,mb4.9
CABF La Chapelle 82.38 360 *e*P **P 00 45 32.9 +0.4**
CABF pmax pmax
comp=Z,21nm,1.2s,mb4.9
BGF Bois d'Agland 82.40 2 *e*P **P 00 45 32.5 -0.1**
comp=Z,20nm,1.0s,mb4.7
BGF Bois d'Agland 82.40 2 *e*P **P 00 45 32.5 -0.1**
comp=Z,10nm,1.0s,mb4.7
BGF Bois d'Agland 82.40 2 *e*P **P 00 45 32.5 -0.1**
BGF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
TCF Toulx Ste Croi 82.65 2 *e*P **P 00 45 33.6 -0.4**
comp=Z,18nm,1.0s,mb4.8
TCF Toulx Ste Croi 82.65 2 *e*P **P 00 45 33.6 -0.4**
comp=Z,8.9nm,1.0s,mb4.8
TCF Toulx Ste Croi 82.65 2 *e*P **P 00 45 33.6 -0.4**
TCF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
LPL La Plagne 83.47 359 *e*P **P 00 45 38.2 0.0**
LPL La Plagne 83.47 359 *e*P **P 00 45 38.2 0.0**
LPL La Plagne 83.47 359 *e*P **P 00 45 38.2 0.0**
RJF Les Rejaudoux 83.61 3 *e*P **P 00 45 38.6 -0.3**
comp=Z,17nm,1.1s,mb4.8
RJF Les Rejaudoux 83.61 3 *e*P **P 00 45 38.6 -0.3**
comp=Z,8.5nm,1.1s,mb4.8
RJF Les Rejaudoux 83.61 3 *e*P **P 00 45 38.6 -0.3**
RJF pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
LFF La Frestale 83.95 4 *e*P **P 00 45 40.7 0.0**
comp=Z,24nm,0.9s,mb5.0
LFF La Frestale 83.95 4 *e*P **P 00 45 40.7 0.0**
comp=Z,12nm,0.9s,mb5.0
LFF La Frestale 83.95 4 *e*P **P 00 45 40.7 0.0**
LFF pmax pmax
comp=Z,12nm,0.9s,mb5.0
CAF Calviac 84.01 3 *e*P **P 00 45 41.1 +0.1**
comp=Z,17nm,1.0s,mb4.8
CAF Calviac 84.01 3 *e*P **P 00 45 41.1 +0.1**
comp=Z,8.3nm,1.0s,mb4.8
CAF Calviac 84.01 3 *e*P **P 00 45 41.1 +0.1**
CAF pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
WRA Warramunga Arr 84.06 228 P **P 00 45 40.2 -1.2**
comp=Z,0.7nm,0.9s,mb3.8,baz=42,slow=6.5,SNR=5.0
WRA pP pP 00 45 53.8 +1.3
comp=Z,0.4nm,0.6s,baz=32,slow=5.8,SNR=3.6
WRA Warramunga Arr 84.06 228 P **P 00 45 40.2 -1.2**
WRA pP pP 00 45 53.8 +1.3
WRA Warramunga Arr 84.06 228 P **P 00 45 40.2 -1.2**
WRA *PP pP 00 45 53.8 +1.3
ORIF Oris-en-Rattie 84.07 360 *e*P **P 00 45 42.0 +0.7**
comp=Z,26nm,1.2s,mb4.9
ORIF Oris-en-Rattie 84.07 360 *e*P **P 00 45 42.0 +0.7**
comp=Z,13nm,1.2s,mb4.9
ORIF Oris-en-Rattie 84.07 360 *e*P **P 00 45 42.0 +0.7**
ORIF pmax pmax
comp=Z,13nm,1.2s,mb4.9
MTLF Montolieu 85.60 3 *e*P **P 00 45 49.1 +0.1**
comp=Z,16nm,1.1s,mb4.9
MTLF Montolieu 85.60 3 *e*P **P 00 45 49.1 +0.1**
comp=Z,8.0nm,1.0s,mb4.9
MTLF Montolieu 85.60 3 *e*P **P 00 45 49.1 +0.1**
MTLF pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
EPF Esparros 85.84 4 *e*P **P 00 45 49.5 -0.7**
comp=Z,22nm,1.2s,mb5.0
EPF Esparros 85.84 4 *e*P **P 00 45 49.5 -0.7**
comp=Z,11nm,1.2s,mb5.0
EPF Esparros 85.84 4 *e*P **P 00 45 49.5 -0.7**
EPF pmax pmax
comp=Z,11nm,1.2s,mb5.0
BR131 Keskin Array S 86.03 339 *e*P **P 00 45 51.5 +0.2**
comp=Z,1.5nm,0.9s,mb4.2
BRTR Keskin Array B 86.03 339 P **P 00 45 51.3 +0.1**
comp=Z,1.7nm,0.9s,mb4.3,baz=53,slow=3.6,SNR=13
BRTR Keskin Array B 86.03 339 P **P 00 45 51.3 +0.1**
BRTR pmax pmax
comp=Z,2.0nm,0.9s
ASAR Alice Springs 87.48 226 P **P 00 45 58.0 -0.2**
comp=Z,1.1nm,0.9s,mb4.1,baz=32,slow=5.3,SNR=10
ASAR pP pP 00 46 12.0 +2.5
comp=Z,0.9nm,0.9s,baz=32,slow=4.6,SNR=5.2
ASAR Alice Springs 87.48 226 P **P 00 45 58.0 -0.2**
ASAR pP pP 00 46 12.0 +2.5
ASAR Alice Springs 87.48 226 P **P 00 45 58.1 -0.2**
ASAR *PP pP 00 46 12.0 +2.5
ESDC Sonseca Array 88.92 7 P **P 00 46 04.1 -1.0**
comp=Z,0.9nm,0.7s,mb4.2,baz=348,slow=3.7,SNR=7.4
ESDC Sonseca Array 88.92 7 P **P 00 46 04.1 -1.0**
ASF Jabal al Asfar 92.39 334 LR LR 01 30 34.3
comp=Z,36nm,18.1s,MS3.9,baz=72,slow=37
LBTB Lobatse 149.58 322 PKPbc PKPbc 00 52 59.8 -0.2
comp=Z,4.9nm,0.9s,baz=59,slow=5.5,SNR=5.4
LBTB PKPab PKPab 00 53 06.4 +1.3
comp=Z,6.1nm,0.8s,baz=353,slow=3.4,SNR=6.7
LBTB Lobatse 149.58 322 *e*PKPdf PKPbc 00 53 00.7 +0.7
LBTB Lobatse 149.58 322 PKP2 PKPbc 00 52 59.8 -0.2
LBTB pmax pmax
comp=Z,5.0nm,0.9s
LBTB pmax pmax
comp=Z,6.0nm,0.8s
BOSA Boshof 152.93 320 PKPbc PKPbc 00 53 07.3 -0.4
comp=Z,2.4nm,0.9s,baz=157,slow=12,SNR=2.9
BOSA PKPab PKPab 00 53 19.7 +0.7
comp=Z,5.0nm,1.0s,baz=52,slow=6.8,SNR=5.7
BOSA Boshof 152.93 320 PKPbc PKPbc 00 53 07.3 -0.4
BOSA PKPab PKPab 00 53 19.7 +0.7
BOSA Boshof 152.93 320 PKIKP PKPbc 00 53 07.3 -0.4
BOSA 00 53 19.7

*BJI **02** 00:39:39.8, 12°.65N×50°.15E, h10km, mB4.9/13, mb4.8/20, Ms4.7/10, Ms7 4.4/10*
*ISCJB **02** 00:39:46.4±0.4, 13°.19N±0°.05×50°.76E±0°.04, h10km, mb4.5/53, MS3.9/16, Error ellipse: s-maj=7.3km s-min=5.5km az=166.8*
*MOS **02** 00:39:47.2±0.9, 13°.30N×50°.80E, h10km, mb4.8/21, Error ellipse: s-maj=12.5km s-min=7.1km az=99.0*
*CSEM **02** 00:39:47.5±0.3, 13°.25N×50°.74E, h2km, mb4.5/16, Error ellipse: s-maj=10.0km s-min=7.9km az=138.0*
*IDC **02** 00:39:47.0±0.6, 13°.23N×50°.88E, h0km, mb4.1/22, mb1 4.2/24, mb1mx4.1/32, mbtmp4.1/24, ML3.7/2, MS3.7/10, Ms1 3.8/10, ms1mx3.4/33, Error ellipse: s-maj=15.7km s-min=14.0km az=179.0*
*NEIC **02** 00:39:48.5±0.4, 13°.31N×50°.82E, h10km, mb4.7/13, Error ellipse: s-maj=10.6km s-min=9.1km az=171.0*
*TEH **02** 00:39:49.0, 13°.36N×50°.87E, h10km*
*DHMR **02** 00:39:51.5±1.7, 13°.40N×50°.21E, h2km±999km, ML3.6*
ISC 02 00:39:48.2±0.4, 13°.19N±0°.05×50°.75E±0°.04, h10km, (h17km±2.4km:pP-P),n227,σ1§18/224,mb4.5/53,MS3.9/16, 7C-2D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**2.10**	**308**	*i* P		**Pn**	**00 40 19.6**	**-3.9**
MUKL				*i* S		**Sn**	**00 40 43.0**	**-6.7**
MUKL				AML		AML	00 40 46.0	
	comp=N,969nm,0.5s							
BDHA	**Al Bayda'**	**5.10**	**279**	*i* P		**Pn**	**00 41 04.5**	**-0.3**
BDHA				*i* S		**Sn**	**00 41 59.5**	**-4.3**
BDHA	**Al Bayda'**	**5.10**	**279**	*i* P		**Pn**	**00 41 04.5**	**-0.3**
BDHA				*i* S		**Sn**	**00 41 59.5**	**-4.3**
LBOS		**5.40**	**278**	*i* P		**Pn**	**00 41 08.4**	**-0.4**
LBOS				*i* S		**Sn**	**00 42 07.7**	**-3.3**
TRBA	**At Turbah**	**6.47**	**271**	*i* P		**Pn**	**00 41 21.7**	**-1.9**
TRBA				AML		AML	00 41 41.9	
	comp=E,32nm,0.7s							
TRBA	**At Turbah**	**6.47**	**271**	*i* P		**Pn**	**00 41 21.7**	**-1.8**
	comp=E,16nm,0.7s							
ATD	**Arta Tunnel**	**7.90**	**259**	Pn		**Pn**	**00 41 44.6**	**+1.4**
	comp=E,4.0nm,0.3s,baz=227,slow=21,SNR=9.4							
ATD				LR		LR	00 44 06.4	
	comp=E,742nm,19.1s,baz=356,slow=32							
ATD	**Arta Tunnel**	**7.90**	**259**	Pn		**Pn**	**00 41 44.6**	**+1.4**
ATD				LR		LR	00 44 06.4	
ATD	**Arta Tunnel**	**7.90**	**259**	Pn		**Pn**	**00 41 44.6**	**+1.4**
RDF	**Al-Radifah**	**15.94**	**350**	*e*P		**Pn**	**00 43 35.6**	**+2.9**
RDF				AMb		AMB	00 43 41.1	
	comp=Z,82nm,1.8s							
RDF	**Al-Radifah**	**15.94**	**350**	*e*P		**Pn**	**00 43 35.6**	**+2.9**
	comp=Z,82nm,1.8s							
NAY	**Al-Naaiem**	**16.31**	**349**	*e*P		**Pn**	**00 43 40.0**	**+2.5**
NAY				AMb		AMB	00 43 43.5	
	comp=Z,43nm,1.6s							
NAY	**Al-Naaiem**	**16.31**	**349**	*e*P		**Pn**	**00 43 40.0**	**+2.5**
	comp=Z,43nm,1.6s							
IPAR	**Pars**	**16.71**	**7**	*e*P		**Pn**	**00 43 42.1**	**-0.4**
MIB	**Mutribah**	**16.83**	**350**	*e*P		**Pn**	**00 43 46.7**	**+2.6**
MIB				AMb		AMB	00 43 49.4	
	comp=Z,99nm,1.9s							
MIB	**Mutribah**	**16.83**	**350**	*e*P		**Pn**	**00 43 46.7**	**+2.6**
	comp=Z,99nm,1.9s							
IMEH	**Mehriz**	**18.46**	**10**	*e*P		**Pn**	**00 44 02.4**	**-1.9**
IMEH	**Mehriz**	**18.46**	**10**	*e*P		**Pn**	**00 44 02.4**	**-1.9**
IGAR	**Gharneh**	**19.16**	**3**	*e*P		**Pn**	**00 44 12.3**	**-0.5**
ICHK	**Chekchek**	**19.26**	**9**	*e*P		**Pn**	**00 44 13.8**	**-0.1**
ICHK	**Chekchek**	**19.26**	**9**	*e*P		**Pn**	**00 44 13.8**	**-0.1**
KMBO	**Kilima Mbogo**	**19.54**	**224**	*e*P		**Pn**	**00 44 17.9**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=360,slow=24,SNR=5.3							
KMBO				LR		LR	00 52 34.1	
	comp=Z,321nm,18.0s,baz=89,slow=39							
KMBO	**Kilima Mbogo**	**19.54**	**224**	*e*P		**Pn**	**00 44 19.3**	**+2.0**
	comp=Z,23nm,1.8s							
KMBO	**Kilima Mbogo**	**19.54**	**224**	*e*P		**Pn**	**00 44 19.3**	**+1.9**
KMBO				pmax		pmax		
	comp=Z,23nm,1.8s							
KMBO	**Kilima Mbogo**	**19.54**	**224**	*e*P		**Pn**	**00 44 19.3**	**+1.9**
	comp=Z,23nm,1.8s							
IZEF	**Zefreh**	**19.67**	**4**	*e*P		**Pn**	**00 44 17.2**	**-1.6**
IZEF	**Zefreh**	**19.67**	**4**	*e*P		**Pn**	**00 44 17.2**	**-1.6**
IKLH	**Kolahrood**	**20.05**	**2**	*e*P		**P**	**00 44 21.3**	**-0.3**
IKLH	**Kolahrood**	**20.05**	**2**	*e*P		**P**	**00 44 21.3**	**-0.3**
IKOO	**Kooshah**	**20.58**	**20**	*e*P		**P**	**00 44 23.5**	**-3.9**
BHD	**Baghdad**	**20.82**	**345**	*ex*		**P**	**00 44 32.0**	**+2.1**
BHD				*ex*		**S**	**00 48 30.0**	**+7.7**
BHD	**Baghdad**	**20.82**	**345**	*e*P		**P**	**00 44 32.0**	**+2.1**
ISFB	**Sefidab**	**21.11**	**3**	*e*P		**P**	**00 44 32.6**	**-0.5**
ISFB	**Sefidab**	**21.11**	**3**	*e*P		**P**	**00 44 32.6**	**-0.5**
IGHG	**Ghaleghazi**	**21.39**	**350**	*e*P		**P**	**00 44 35.0**	**-1.1**
IGHG	**Ghaleghazi**	**21.39**	**350**	*e*P		**P**	**00 44 35.0**	**-1.1**
IMON	**Monand**	**21.51**	**21**	*e*P		**P**	**00 44 39.1**	**+1.7**
IMON	**Monand**	**21.51**	**21**	*e*P		**P**	**00 44 39.1**	**+1.7**
IVIS	**Veis**	**21.54**	**351**	*e*P		**P**	**00 44 35.4**	**-2.3**
IVIS	**Veis**	**21.54**	**351**	*e*P		**P**	**00 44 35.4**	**-2.3**
IDHR	**Dehrash**	**21.78**	**350**	*e*P		**P**	**00 44 39.0**	**-1.3**
IDHR	**Dehrash**	**21.78**	**350**	*e*P		**P**	**00 44 39.0**	**-1.3**
EIL	**Elat**	**21.99**	**321**	P		**P**	**00 44 44.5**	**+1.9**
	comp=Z,2.8nm,0.8s,mb3.8,baz=83,slow=22,SNR=3.2							
EIL				LR		LR	00 52 40.1	
	comp=Z,171nm,19.5s,MS3.5,baz=274,slow=35							
EIL	**Elat**	**21.99**	**321**	P		**P**	**00 44 44.5**	**+1.9**
EIL				LR		LR	00 52 40.1	
EIL	**Elat**	**21.99**	**321**	P		**P**	**00 44 44.5**	**+2.0**
ILAS	**Lasjerd**	**22.19**	**5**	*e*P		**P**	**00 44 50.0**	**+5.4**
IR3	**Iran Long-Peri**	**22.19**	**1**	*e*P		**P**	**00 44 44.5**	**-0.2**
IR3	**Iran Long-Peri**	**22.19**	**1**	*e*P		**P**	**00 44 44.5**	**-0.2**
IANJ	**Anjilo**	**22.36**	**7**	*e*P		**P**	**00 44 48.8**	**+2.3**
IANJ	**Anjilo**	**22.36**	**7**	*e*P		**P**	**00 44 48.8**	**+2.3**
ISHM	**Shahmirzad**	**22.64**	**5**	*e*P		**P**	**00 44 49.8**	**+0.4**
ISHM	**Shahmirzad**	**22.64**	**5**	*e*P		**P**	**00 44 49.8**	**+0.4**
ASF	**Jabal al Asfar**	**22.77**	**328**	P		**P**	**00 44 51.0**	**+0.2**
	comp=Z,3.7nm,1.0s,mb3.8,baz=355,slow=8.7,SNR=5.6							
ASF				LR		LR	00 53 50.9	
	comp=Z,113nm,21.6s,MS3.3,baz=210,slow=37							
ASF	**Jabal al Asfar**	**22.77**	**328**	P		**P**	**00 44 51.0**	**+0.2**
ASF				LR		LR	00 53 50.9	
ASF	**Jabal al Asfar**	**22.77**	**328**	P		**P**	**00 44 51.0**	**+0.1**
IGLO	**Ghalooghah**	**23.38**	**6**	*e*P		**P**	**00 44 58.0**	**+0.8**
MMAI	**Mount Meron Ar**	**24.21**	**327**	P		**P**	**00 45 06.1**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=133,slow=10.0,SNR=3.9							
MMAI				LR		LR	00 54 47.3	
	comp=Z,125nm,19.2s,MS3.4,baz=120,slow=37							
IPAY	**Payeh**	**24.32**	**16**	*e*P		**P**	**00 45 06.1**	**+0.1**
IPAY	**Payeh**	**24.32**	**16**	*e*P		**P**	**00 45 06.1**	**+0.1**
ISRO	**Mashad**	**24.32**	**17**	*e*P		**P**	**00 45 06.2**	**+0.2**
ISRO	**Mashad**	**24.32**	**17**	*e*P		**P**	**00 45 06.2**	**+0.2**
IKRD	**Kardeh**	**24.50**	**15**	*e*P		**P**	**00 45 11.1**	**+3.4**
IMYA	**Miami**	**24.54**	**18**	*e*P		**P**	**00 45 08.4**	**+0.4**
IMYA	**Miami**	**24.54**	**18**	*e*P		**P**	**00 45 08.4**	**+0.4**
IHRS	**Heris**	**25.25**	**353**	*e*P		**P**	**00 45 14.7**	**+0.2**
IHRS	**Heris**	**25.25**	**353**	*e*P		**P**	**00 45 14.7**	**+0.2**
ISHB	**Shabestar**	**25.41**	**351**	*e*P		**P**	**00 45 16.6**	**+0.7**
ISHB	**Shabestar**	**25.41**	**351**	*e*P		**P**	**00 45 16.6**	**+0.7**
GNI	**Garni**	**27.37**	**350**	P		**P**	**00 45 35.8**	**+2.1**
	comp=Z,9.4nm,0.7s,mb4.5,baz=123,slow=4.7,SNR=10							
GNI				LR		LR	00 58 08.4	
	comp=Z,214nm,21.6s,MS3.7,baz=162,slow=40							
GNI	**Garni**	**27.37**	**350**	*e*P		**P**	**00 45 35.7**	**+2.0**
GNI	**Garni**	**27.37**	**350**	*i* P		**P**	**00 45 34.2**	**+0.5**
	comp=Z,24nm,1.7s,mb4.5							
ZEI	**Tsey**	**30.07**	**350**	*e*P		**P**	**00 45 56.8**	**-0.8**
ZEI				pmax		pmax		
	comp=Z,12nm,1.5s,mb4.4							
ZEI	**Tsey**	**30.07**	**350**	*e*P		**P**	**00 45 56.8**	**-0.8**
	comp=Z,12nm,1.5s,mb4.4							
BRTR	**Keskin Array B**	**30.44**	**333**	P		**P**	**00 46 01.7**	**+0.8**
	comp=Z,0.9nm,1.0s,mb3.5,baz=156,slow=6.7,SNR=4.1							
BRTR				PcP		PcP	00 49 01.2	+0.8
	comp=Z,0.7nm,0.8s,baz=146,slow=5.0,SNR=4.8							
BRTR	**Keskin Array B**	**30.44**	**333**	P		**P**	**00 46 01.7**	**+0.8**
BRTR				PcP		PcP	00 49 01.2	+0.8
BRTR	**Keskin Array B**	**30.44**	**333**	P		**P**	**00 46 01.7**	**+0.8**
BRTR							00 49 01.2	
BRTR	**Keskin Array B**	**30.44**	**333**	P		**P**	**00 46 01.7**	**+0.8**
BRTR	**Keskin Array B**	**30.44**	**333**	PcP		PcP	00 49 01.2	+0.8
KIV	**Kislovodsk**	**31.43**	**349**	*e*P		**P**	**00 46 11.0**	**+1.3**
	comp=Z,13nm,1.2s,mb4.6							
KIV	**Kislovodsk**	**31.43**	**349**	α*e*P		**P**	**00 46 10.9**	**+1.2**
KIV				pmax		pmax		
	comp=Z,18nm,1.7s,mb4.6							
KIV				MLR		MLR		
	comp=Z,100nm,16.0s,MS3.6							
KIV	**Kislovodsk**	**31.43**	**349**	*e*P		**P**	**00 46 10.9**	**+1.2**
	comp=Z,100nm,16.0s							
SOC	**Sochi**	**31.74**	**345**	*e*P		**P**	**00 46 12.4**	**0.0**
SOC				pmax		pmax		
	comp=Z,18nm,1.3s,mb4.7							
SOC				MLR		MLR		
	comp=Z,227nm,15.0s,MS4.0							
SOC	**Sochi**	**31.74**	**345**	*e*P		**P**	**00 46 12.4**	**0.0**
	comp=Z,227nm,15.0s							
AAK	**Ala-Archa**	**35.81**	**31**↑	*e*P		**P**	**00 46 48.4**	**+0.6**
AAK				pmax		pmax		
	comp=Z,4.0nm,1.7s,mb4.1							
AAK	**Ala-Archa**	**35.81**	**31**	*e*P		**P**	**00 46 48.4**	**+0.6**
	comp=Z,4.0nm,1.7s,mb4.1							
AKTK	**Aktyubinsk**	**37.61**	**8**	P		**P**	**00 47 02.8**	**-0.2**
AKTK				PcP		PcP	00 49 20.1	-0.5
AKTK	**Aktyubinsk**	**37.61**	**8**	P		**P**	**00 47 02.8**	**-0.2**
AKTO	**Aktyubinsk**	**37.61**	**8**	P		**P**	**00 47 02.8**	**-0.2**
	comp=Z,3.6nm,0.7s,mb4.2,baz=197,slow=9.3,SNR=10							
AKTO				PcP		PcP	00 49 20.1	-0.5
	comp=Z,0.9nm,0.8s,baz=297,slow=4.5,SNR=3.2							
VRHR	**Novokhopersk**	**38.52**	**351**	*e*P		**P**	**00 47 10.7**	**0.0**
VRHR				pmax		pmax		
	comp=Z,10.0nm,0.7s,mb4.7							
VRHR				pmax		pmax		
	comp=N,30nm,0.6s							
VRHR				pmax		pmax		
	comp=E,30nm,0.6s							
VRHR	**Novokhopersk**	**38.52**	**351**	*e*P		**P**	**00 47 10.7**	**0.0**
	comp=E,10.0nm,0.7s,mb4.7							
VSR	**Storozhevoye**	**39.07**	**348**	*e*P		**P**	**00 47 14.2**	**-1.1**
VSR				*e**PP		pP	00 47 21.7	+3.3
VSR				pmax		pmax		
	comp=Z,10.0nm,0.7s,mb4.7							
VSR				pmax		pmax		
	comp=N,10.0nm,0.9s							
VSR				pmax		pmax		
	comp=E,3.0nm,0.6s							
VSR	**Storozhevoye**	**39.07**	**348**	*e*P		**P**	**00 47 14.2**	**-1.1**
	comp=E,10.0nm,0.9s,mb4.5							
AKASG	**Malin Array Be**	**41.31**	**339**	P		**P**	**00 47 33.8**	**-0.1**
	comp=E,4.0nm,0.7s,mb4.2,baz=152,slow=7.5,SNR=13							
AKASG	**Malin Array Be**	**41.31**	**339**	P		**P**	**00 47 33.8**	**-0.1**
AKASG	**Malin Array Be**	**41.31**	**339**	P		**P**	**00 47 33.8**	**-0.1**
KIEV	**Kiev**	**41.31**	**339**	*e*P		**P**	**00 47 33.3**	**-0.7**
	comp=E,7.6nm,0.8s,mb4.4							
KIEV	**Kiev**	**41.31**	**339**	*e*P		**P**	**00 47 33.3**	**-0.6**
KIEV				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.4							
MK31	**Makanchi Array**	**42.69**	**32**	*e*P		**P**	**00 47 45.0**	**-0.2**
MK31	**Makanchi Array**	**42.69**	**32**	*e*P		**P**	**00 47 45.0**	**-0.2**
MKAR	**Makanchi Array**	**42.69**	**32**	P		**P**	**00 47 45.0**	**-0.2**
	comp=Z,1.6nm,0.9s,mb3.7,baz=219,slow=8.6,SNR=9.9							
MKAR				PcP		PcP	00 49 37.3	+0.3
	comp=Z,0.3nm,0.6s,baz=239,slow=2.1,SNR=2.6							
MKAR	**Makanchi Array**	**42.69**	**32**	P		**P**	**00 47 45.0**	**-0.2**
MKAR				PcP		PcP	00 49 37.3	+0.3
MKAR	**Makanchi Array**	**42.69**	**32**	P		**P**	**00 47 45.0**	**-0.2**
MKAR							00 49 37.3	
MKAR	**Makanchi Array**	**42.69**	**32**	PcP		PcP	00 49 37.3	+0.3
KOLS	**Kolonicke sedl**	**42.70**	**332**	*e*P		**P**	**00 47 46.3**	**+1.1**
KOLS				pmax		pmax		
	comp=Z,39nm,2.3s,mb4.7							
KOLS	**Kolonicke sedl**	**42.70**	**332**	*e*P		**P**	**00 47 46.3**	**+1.1**
KOLS	**Kolonicke sedl**	**42.70**	**332**	*e*P		**P**	**00 47 46.3**	**+1.1**
	comp=Z,39nm,2.3s,mb4.7							
BRVK	**Borovoye**	**42.71**	**17**	*e*P		**P**	**00 47 45.0**	**-0.3**
	comp=Z,4.1nm,0.7s,mb4.3							
BRVK	**Borovoye**	**42.71**	**17**	*c i*P		**P**	**00 47 45.3**	**0.0**
BRVK				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.3							
BVAR	**Borovoye Array**	**42.71**	**17**	P		**P**	**00 47 45.2**	**-0.1**
	comp=Z,3.0nm,0.6s,mb4.2,baz=206,slow=7.8,SNR=21							
BVAR				PcP		PcP	00 49 37.0	+0.1
	comp=Z,2.7nm,0.8s,baz=204,slow=3.3,SNR=9.0							
BVAR	**Borovoye Array**	**42.71**	**17**	P		**P**	**00 47 45.2**	**-0.1**
BVAR				PcP		PcP	00 49 37.0	+0.1
BVAR	**Borovoye Array**	**42.71**	**17**	P		**P**	**00 47 45.2**	**-0.1**
BVAR							00 49 37.0	
BVAR	**Borovoye Array**	**42.71**	**17**	PcP		PcP	00 49 37.0	+0.1
CRVS	**Cervenica-Dubn**	**43.04**	**332**	*e*P		**P**	**00 47 48.8**	**+0.7**
CRVS				pmax		pmax		
	comp=Z,12nm,1.5s,mb4.4							
CRVS	**Cervenica-Dubn**	**43.04**	**332**	*e*P		**P**	**00 47 48.8**	**+0.7**
CRVS	**Cervenica-Dubn**	**43.04**	**332**	*e*P		**P**	**00 47 48.8**	**+0.7**
	comp=Z,12nm,1.5s,mb4.4							
KECS	**Kecovo**	**43.20**	**331**	*e*P		**P**	**00 47 52.4**	**+3.0**
KECS	**Kecovo**	**43.20**	**331**	*e*P		**P**	**00 47 52.4**	**+3.0**
OBN	**Obninsk**	**43.27**	**348**	P		**P**	**00 47 50.0**	**+0.2**
OBN				S		**S**	**00 50 18.5**	**+1.6**
OBN				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.4							
OBN				MLR		MLR		
	comp=Z,100nm,16.0s,MS3.8							
STHS	**Stebnicka Huta**	**43.51**	**332**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,159nm,18.2s,MS4.0,baz=342,slow=38						
FRF	**La Foret Royal**	**48.39**	**317**	*e*P	**P**	**00 48 28.1**	**-2.3**
	comp=Z,21nm,0.9s,mb4.8						
FRF	**La Foret Royal**	**48.39**	**317**	*e*P	**P**	**00 48 28.1**	**-2.3**
	comp=Z,10nm,0.9s,mb4.9						
FRF	**La Foret Royal**	**48.39**	**317**	*e*P	**P**	**00 48 28.1**	**-2.3**
FRF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
ZAA0	**Zalesovo Array**	**48.72**	**26**	*e*P	**P**	**00 48 31.5**	**-1.2**
ZAA0	**Zalesovo Array**	**48.72**	**26**	*e*P	**P**	**00 48 31.5**	**-1.3**
ZALV	**Zalesovo Beam**	**48.72**	**26**	P	**P**	**00 48 31.5**	**-1.3**
	comp=Z,2.9nm,0.6s,mb4.5,baz=234,slow=7.6,SNR=23						
ZALV				PcP	PcP	00 49 56.9	-0.9
	comp=Z,0.2nm,0.3s,baz=326,slow=43,SNR=2.5						
ZALV	**Zalesovo Beam**	**48.72**	**26**	P	**P**	**00 48 31.5**	**-1.3**
ZALV				PcP	PcP	00 49 56.9	-0.9
ZALV	**Zalesovo Beam**	**48.72**	**26**	P	**P**	**00 48 31.5**	**-1.3**
ZALV						00 49 56.9	
ZALV	**Zalesovo Beam**	**48.72**	**26**	P	**P**	**00 48 31.5**	**-1.3**
MBDF	**Montbardon**	**48.81**	**319**	*e*P	**P**	**00 48 31.6**	**-2.1**
MBDF	**Montbardon**	**48.81**	**319**	*e*P	**P**	**00 48 31.6**	**-2.1**
MBDF	**Montbardon**	**48.81**	**319**	*e*P	**P**	**00 48 31.6**	**-2.1**
KMI	**Kunming**	**50.25**	**68**	P	**P**	**00 48 44.4**	**-0.6**
KMI				pP	pP	00 48 49.7	+1.6
KMI				sP	sP	00 48 51.7	+2.3
KMI				PP	PP	00 50 41.7	+1.3
KMI				S	**S**	**00 55 54.0**	**-3.6**
KMI				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
KMI				pmax	pmax		
	comp=Z,80nm,4.6s						
KMI				LR	LR		
	comp=N,94nm,18.5s,MS4.0						
KMI				LR	LR		
	comp=E,90nm,17.3s,MS4.0						
FINES	**FINESS Array B**	**51.39**	**345**	P	**P**	**00 48 52.4**	**-0.5**
	comp=E,1.2nm,0.6s,mb4.0,baz=144,slow=23,SNR=4.5						
FINES	**FINESS Array B**	**51.39**	**345**	P	**P**	**00 48 52.4**	**-0.5**
FINES	**FINESS Array B**	**51.39**	**345**	P	**P**	**00 48 52.4**	**-0.5**
FINES	**FINESS Array B**	**51.39**	**345**	P	**P**	**00 48 52.4**	**-0.5**
CD2	**Chengdu**	**51.71**	**61**	P	**P**	**00 48 56.9**	**+1.0**
CD2				pP	pP	00 49 01.5	+2.4
CD2				sP	sP	00 49 03.6	+3.3
CD2				PP	PP	00 50 55.1	+1.6
CD2				S	**S**	**00 56 15.8**	**-1.9**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.0						
CD2				pmax	pmax		
	comp=Z,150nm,5.3s						
CD2				LR	LR		
	comp=N,180nm,8.3s						
CD2				LR	LR		
	comp=Z,190nm,8.3s						
SSF	**Saint Saulge**	**51.87**	**320**	*e*P	**P**	**00 48 55.8**	**-1.0**
	comp=Z,23nm,1.2s,mb4.7						
SSF	**Saint Saulge**	**51.87**	**320**	*e*P	**P**	**00 48 55.8**	**-1.0**
	comp=Z,12nm,1.2s,mb4.7						
SSF	**Saint Saulge**	**51.87**	**320**	*e*P	**P**	**00 48 55.8**	**-1.0**
SSF				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
SSF	**Saint Saulge**	**51.87**	**320**	*e*P	**P**	**00 48 55.8**	**-1.0**
	comp=Z,12nm,1.2s,mb4.7						
BGF	**Bois d'Agland**	**52.08**	**320**	*e*P	**P**	**00 48 55.8**	**-2.6**
	comp=Z,17nm,1.0s,mb4.6						
BGF	**Bois d'Agland**	**52.08**	**320**	*e*P	**P**	**00 48 55.8**	**-2.6**
	comp=Z,8.6nm,1.0s,mb4.6						
BGF	**Bois d'Agland**	**52.08**	**320**	*e*P	**P**	**00 48 55.8**	**-2.6**
BGF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
LZH	**Lanzhou**	**52.65**	**55**	*e*P	**P**	**00 49 04.1**	**+1.3**
LZH				pP	pP	00 49 07.3	+1.3
LZH				sP	sP	00 49 11.2	+4.0
LZH				PP	PP	00 51 03.5	+1.6
LZH				pmax	pmax		
	comp=Z,19nm,1.1s,mb4.9						
LZH				pmax	pmax		
	comp=Z,65nm,6.5s						
LZH				LR	LR		
	comp=N,360nm,15.0s,MS4.6						
LZH				LR	LR		
	comp=E,300nm,16.5s,MS4.6						
LZH				LR	LR		
	comp=Z,420nm,19.0s,MS4.5						
LFF	**La Frestale**	**52.84**	**317**	*e*P	**P**	**00 49 01.5**	**-2.5**
LFF	**La Frestale**	**52.84**	**317**	*e*P	**P**	**00 49 01.5**	**-2.5**
LFF	**La Frestale**	**52.84**	**317**	*e*P	**P**	**00 49 01.5**	**-2.5**
GYA	**Guiyang**	**53.85**	**67**	P	**P**	**00 49 12.3**	**+0.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
ESDC	**Sonseca Array**	**54.67**	**309**	P	**P**	**00 49 18.2**	**+0.7**
	comp=Z,1.4nm,0.6s,mb4.2,baz=101,slow=6.5,SNR=16						
ESDC	**Sonseca Array**	**54.67**	**309**	P	**P**	**00 49 18.2**	**+0.7**
ESDC	**Sonseca Array**	**54.67**	**309**	P	**P**	**00 49 18.2**	**+0.7**
DBIC	**Dimbokro**	**55.07**	**269**	P	**P**	**00 49 22.2**	**+1.4**
	comp=Z,2.3nm,0.7s,mb4.3,baz=89,slow=8.0,SNR=4.5						
DBIC	**Dimbokro**	**55.07**	**269**	P	**P**	**00 49 22.2**	**+1.4**
DBIC	**Dimbokro**	**55.07**	**269**	P	**P**	**00 49 22.2**	**+1.4**
DBIC	**Dimbokro**	**55.07**	**269**	P	**P**	**00 49 22.2**	**+1.4**
APA	**Apatity**	**55.52**	**352**	⇓*e*P	**P**	**00 49 28.0**	**+4.8**
APA				MLR	MLR		
	comp=Z,2µm,16.0s,MS5.2						
NOA	**NORSAR Array B**	**55.70**	**338**	LR	LR	01 16 17.3	
	comp=Z,33nm,18.1s,MS3.5,baz=105,slow=39						
SONM	**Songino Array**	**57.46**	**41**	P	**P**	**00 49 38.0**	**+0.6**
	comp=Z,2.3nm,1.0s,mb4.2,baz=246,slow=7.7,SNR=11						
SONM	**Songino Array**	**57.46**	**41**	P	**P**	**00 49 38.0**	**+0.6**
SONM	**Songino Array**	**57.46**	**41**	P	**P**	**00 49 38.0**	**+0.6**
SONM	**Songino Array**	**57.46**	**41**	P	**P**	**00 49 38.0**	**+0.6**
EVO	**Evora**	**57.54**	**307**	*e*P	**P**	**00 49 37.8**	**-0.3**
	comp=Z,118nm,1.7s,mb5.3						
EVOP	**Sao Brissos**	**57.62**	**307**	*e*P	**P**	**00 49 37.8**	**-0.9**
	comp=Z,118nm,1.7s,mb5.6						
EVOP	**Sao Brissos**	**57.62**	**307**	*e*P	**P**	**00 49 37.8**	**-0.9**
EVOP				pmax	pmax		
	comp=Z,118nm,1.7s,mb5.6						
EVOP	**Sao Brissos**	**57.62**	**307**	*e*P	**P**	**00 49 37.8**	**-0.9**
	comp=Z,118nm,1.7s,mb5.6						
ARCES	**ARCESS Array B**	**58.53**	**350**	LR	LR	01 17 40.0	
	comp=Z,175nm,19.2s,MS4.2,baz=156,slow=39						
HHC	**Hu-ho-hao-te**	**59.47**	**50**	*e*P	**P**	**00 49 51.4**	**-0.1**
HHC				pP	pP	00 49 55.9	+1.2
HHC				sP	sP	00 49 58.6	+2.7
HHC				PP	PP	00 52 04.1	+1.3
HHC				S	**S**	**00 57 56.8**	**-4.2**
HHC				ScS	ScS	00 59 36.9	-5.2
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
HHC				pmax	pmax		
	comp=Z,100nm,5.6s						
HHC				LR	LR		
	comp=N,73nm,14.3s,MS4.4						
HHC				LR	LR		
	comp=E,170nm,13.1s,MS4.4						
HHC				LR	LR		
	comp=Z,110nm,15.5s,MS4.1						
BJI	**Beijing**	**62.85**	**52**	P	**P**	**00 50 11.8**	**-2.7**
BJI				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.2						
BJI				pmax	pmax		
	comp=Z,42nm,3.6s						
BJI				LR	LR		
	comp=N,220nm,19.2s						
BJI				LR	LR		
	comp=E,120nm,24.3s						
BJI				LR	LR		
	comp=Z,110nm,19.2s,MS4.0						
NJ2	**Nanjing**	**64.65**	**61**	*e*P	**P**	**00 50 33.1**	**+6.6**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s,mb5.4						
CN2	**Changchun**	**69.97**	**48**	*e*P	**P**	**00 50 58.9**	**-1.1**
KAPI	**Kappang**	**70.85**	**100**	*e*P	**P**	**00 51 04.3**	**-1.6**
	comp=Z,26nm,1.5s,mb4.9						
KAPI	**Kappang**	**70.85**	**100**	*e*P	**P**	**00 51 04.3**	**-1.6**
	comp=Z,26nm,1.5s,mb4.9						
KSRS	**Korea Array**	**71.98**	**55**	P	**P**	**00 51 11.1**	**-1.2**
	comp=Z,1.1nm,0.7s,mb3.9,baz=256,slow=7.8,SNR=3.9						
KLR	**Kul'dur**	**74.27**	**42**	*e*P	**P**	**00 51 20.4**	**-5.3**
MAW	**Mawson**	**81.05**	**175**	P	**P**	**00 52 04.0**	**+1.0**
	comp=Z,1.8nm,0.8s,mb4.0,baz=32,slow=9.5,SNR=4.3						
MAW	**Mawson**	**81.05**	**175**	P	**P**	**00 52 04.7**	**+1.7**
	comp=Z,2.0nm,1.5s,mb3.8						
MAW	**Mawson**	**81.05**	**175**	P	**P**	**00 52 04.7**	**+1.7**
MAW				pmax	pmax		
	comp=Z,2.0nm,1.5s						
MAW	**Mawson**	**81.05**	**175**	P	**P**	**00 52 04.7**	**+1.7**
	comp=Z,2.0nm,1.5s,mb3.8						
SEY	**Seymchan**	**83.58**	**27**	⇑*i*P	**P**	**00 52 16.9**	**+0.4**
SEY	**Seymchan**	**83.58**	**27**	*i* P	**P**	**00 52 16.9**	**+0.4**
BILL	**Bilibino**	**87.01**	**20**	⇑*i*P	**P**	**00 52 33.4**	**-0.1**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb4.6						
BILL	**Bilibino**	**87.01**	**20**	*i* P	**P**	**00 52 33.4**	**-0.1**
	comp=Z,6.0nm,1.6s,mb4.6						
WRA	**Warramunga Arr**	**88.54**	**111**	P	**P**	**00 52 41.8**	**+0.1**
	comp=Z,3.2nm,0.7s,mb4.8,baz=299,slow=3.8,SNR=33						
WRA	**Warramunga Arr**	**88.54**	**111**	P	**P**	**00 52 41.8**	**+0.1**
WRA	**Warramunga Arr**	**88.54**	**111**	P	**P**	**00 52 41.8**	**0.0**
WRA	**Warramunga Arr**	**88.54**	**111**	P	**P**	**00 52 41.8**	**0.0**
WRAB	**Tennant Creek**	**88.55**	**111**	*e*P	**P**	**00 52 42.1**	**+0.3**
	comp=Z,4.5nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**88.55**	**111**	*e*P	**P**	**00 52 42.1**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.9						
WRAB	**Tennant Creek**	**88.55**	**111**	*e*P	**P**	**00 52 42.1**	**+0.3**
	comp=Z,4.5nm,0.8s,mb4.8						
ASAR	**Alice Springs**	**89.08**	**114**	P	**P**	**00 52 44.4**	**+0.1**
	comp=Z,2.7nm,0.8s,mb4.6,baz=288,slow=4.9,SNR=27						
ASAR	**Alice Springs**	**89.08**	**114**	P	**P**	**00 52 44.4**	**+0.1**
ASAR	**Alice Springs**	**89.08**	**114**	P	**P**	**00 52 44.4**	**+0.1**
ASAR	**Alice Springs**	**89.08**	**114**	P	**P**	**00 52 44.4**	**+0.1**
PDAR	**Pinedale Array**	**121.46**	**343**	PKP	PKPdf	00 58 42.7	+0.4
	comp=Z,0.6nm,0.7s,baz=62,slow=3.4,SNR=7.1						
PDAR	**Pinedale Array**	**121.46**	**343**	PKP	PKPdf	00 58 42.7	+0.4
NVAR	**Mina Array Bea**	**127.64**	**349**	PKP	PKPdf	00 58 56.5	+2.2
	comp=Z,1.8nm,0.7s,baz=22,slow=1.0,SNR=13						
NVAR	**Mina Array Bea**	**127.64**	**349**	PKP	PKPdf	00 58 56.5	+2.2
TXAR	**Lajitas Array**	**131.04**	**330**	PKP	PKPdf	00 59 01.5	+0.5
	comp=Z,0.8nm,1.0s,baz=119,slow=1.6,SNR=5.5						
TXAR	**Lajitas Array**	**131.04**	**330**	PKP	PKPdf	00 59 01.5	+0.5
TXAR	**Lajitas Array**	**131.04**	**330**	PKIKP	PKPdf	00 59 01.5	+0.5

IDC 02 00:52:13.1±3.5**, 4°.91S**×**151°.92E, h0^{km}, mb3.5**/3**, mb1 3.8**/3**, mb1mx3.4**/18**, mbtmp3.6**/3**, Error ellipse: s-maj=118.1km s-min=49.4km az=122.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.72**	**227**	P	P	00 57 16.2	-0.7
	0.9nm,0.5s,baz=53,slow=10.0,SNR=13						
ASAR	**Alice Springs**	**25.49**	**221**	P	P	00 57 43.8	+0.5
	0.3nm,0.4s,baz=57,slow=9.1,SNR=8.7						
FITZ	**Fitzroy Crossi**	**28.84**	**241**	P	P	00 58 13.4	-0.1
	1.5nm,0.9s,baz=39,slow=15,SNR=2.9						
TORD	**Torodi Ar. Bea**	**149.50**	**288**	PKPbc	PKPbc	01 12 05.4	-0.2
	0.2nm,0.7s,baz=88,slow=2.0,SNR=3.2						

MEX 02 00:53:19.5±0.8**, 15°.43N**×**95°.68W, h10^{km}, MD3.9, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.54**	**310**	*e*P	Pg	00 53 29.0	-1.0
HUIG				*i* S	Sg	00 53 35.7	-1.3
CMIG	**Matias Romero**	**1.82**	**25**	*e*P	Pn	00 53 46.7	-4.2
CMIG				*i* S	Sn	00 54 09.6	-4.5
VHO	**Vista Hermosa**	**1.93**	**328**	*i* P	Pn	00 53 49.4	-3.0
VHO				*i* S	Sn	00 54 13.2	-3.4
PCIG		**2.39**	**83**	*i* P	Pn	00 53 56.3	-2.4
PCIG				*i* S	Sn	00 54 23.7	-4.3
PNIG	**Pinotepa**	**2.54**	**293**	*i* P	Pn	00 53 58.8	-2.0
PNIG				*i* S	Sn	00 54 26.4	-5.5
TGIG		**2.80**	**61**	*i* P	Pn	00 54 02.8	-1.6
TGIG				*i* S	Sn	00 54 34.5	-3.7
UTMO	**Huajuapan**	**3.14**	**320**	*i* P	Pn	00 54 06.7	-2.3
UTMO				*i* S	Sn	00 54 43.4	-3.2
TPIG	**Tehuac#an**	**3.38**	**332**	*i* S	Sn	00 54 49.5	-3.2
CCIG	**Comitan**	**3.51**	**75**	*i* P	Pn	00 54 12.6	-1.6
CCIG				*i* S	Sn	00 54 52.2	-3.6

*CSEM **02** 00:58:25.6, 37°.60N×24°.91W, h5^{km}, ML2.6, After PDA*
PDA 02 00:58:25.6±1.1**, 37°.60N**×**24°.91W, h5^{km}**±7^{km}**, MD3.7, ML2.6, Error ellipse: s-maj=14.2km s-min=2.3km az=66.0, Azores Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BART	**Pico Bartolome**	**0.27**	**312**	*e*P	Pg	00 58 30.7	-0.2
BART				*e*S	Sg	00 58 34.5	+0.1
BART				A		00 58 35.5	
	2µm,0.2s						
BART	**Pico Bartolome**	**0.27**	**312**	*e*S	Sg	00 58 59.2	+25
BART				A		00 59 00.1	
	128nm,0.3s						
BART	**Pico Bartolome**	**0.27**	**312**	*e*P	Pg	00 58 30.7	-0.2
BART				*e*S	Sg	00 58 34.5	+0.1
GRON	**Grota Negra**	**0.52**	**289**	*e*P	Pg	00 58 32.8	-2.8
GRON				*e*S	Sg	00 58 38.2	-4.2
GRON				A		00 58 39.8	
	130nm,0.1s						
GRON	**Grota Negra**	**0.52**	**289**	*e*S	Sg	00 59 02.5	+20
GRON				A		00 59 04.9	
	21nm,0.2s						
PSMN	**Pico do Norte,**	**0.60**	**192**	*e*S	Sg	00 58 43.3	-1.7
PSMN	**Pico do Norte,**	**0.60**	**192**	*e*S	Sg	00 58 43.3	-1.7
PDA	**Ponta Delgada**	**0.61**	**284**	*e*P	Pg	00 58 35.9	-1.5
PDA				*e*S	Sg	00 58 43.5	-1.8
PDA				A		00 58 44.7	
	275nm,0.1s						
PDA	**Ponta Delgada**	**0.61**	**284**	*e*S	Sg	00 59 08.7	+23
PDA				A		00 59 08.9	
	32nm,0.1s						
PDA	**Ponta Delgada**	**0.61**	**284**	*e*P	Pg	00 58 35.9	-1.5
PDA				*e*S	Sg	00 58 43.5	-1.8
PSMA	**Santa Maria**	**0.62**	**196**	*e*P	Pg	00 58 36.3	-1.3
PSMA				*e*S	Sg	00 58 44.4	-1.3
PSMA				A		00 58 46.7	
	114nm,0.2s						
PSMA	**Santa Maria**	**0.62**	**196**	*e*S	Sg	00 59 20.0	+34
PSMA				A		00 59 20.6	
	30nm,0.2s						
PSET	**Sete Cidades**	**0.68**	**290**	*e*P	Pg	00 58 37.0	-1.6
PSET				*e*S	Sg	00 58 45.5	-2.0
PSET				A		00 58 47.1	
	29nm,0.2s						
PSET	**Sete Cidades**	**0.68**	**290**	*e*P	Pg	00 58 37.0	-1.6
PSET				*e*S	Sg	00 58 45.5	-2.0
ADH	**Angra Heroismo**	**2.11**	**301**	*e*S	Sn	00 59 20.0	-8.3
ADH				A		00 59 22.1	
	26nm,0.3s						
ADH	**Angra Heroismo**	**2.11**	**301**	*e*S	Sn	00 59 20.0	-8.3
PICO	**Pico**	**2.92**	**289**	*e*P	Pn	00 59 07.9	-4.7
PICO				*e*S	Sn	00 59 40.5	-7.6
PICO	**Pico**	**2.92**	**289**	*e*P	Pn	00 59 07.9	-4.7
PICO				*e*S	Sn	00 59 40.5	-7.6

IDC 02 01:00:13.1±38.0**, 28°.27N**×**69°.35E, h0^{km}, mb3.4**/3**, mb1 3.5**/3**, mb1mx3.2**/26**, mbtmp3.5**/3**, Error ellipse: s-maj=1246.0km s-min=34.7km az=139.0, Pakistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**21.10**	**25**	P	P	01 04 59.2	+0.2
	0.3nm,0.4s,baz=211,slow=11,SNR=10						
ZALV	**Zalesovo Beam**	**28.06**	**20**	P	P	01 06 05.8	-0.1
	0.3nm,0.3s,baz=224,slow=6.0,SNR=3.3						
TORD	**Torodi Ar. Bea**	**64.33**	**272**	P	P	01 10 51.0	0.0
	0.5nm,0.8s,baz=54,slow=6.9,SNR=3.1						

*THR **02** 01:20:53.8±0.3, 26°.35N×54°.92E, h14^{km}±9^{km}, ML3.5*
*IDC **02** 01:20:55.7±1.6, 26°.58N×54°.94E, h0^{km}, mb3.8/13, mb1 3.9/14, mb1mx3.7/31, mbtmp3.8/14, ML3.5/1, Error ellipse: s-maj=40.0km s-min=16.1km az=156.0*
*KISR **02** 01:20:58.7±0.8, 26°.77N×54°.45E, h34^{km}±999^{km}, ML3.7*
*TEH **02** 01:20:59.8, 26°.46N×55°.04E, h30^{km}*
*ISCJB **02** 01:20:59.7±0.5, 26°.65N±0°.04×54°.87E±0°.03, h40^{km}±6^{km}, mb3.8/15, Error ellipse: s-maj=6.7km s-min=4.8km az=24.5*
*OMAN **02** 01:21:00.4±0.1, 26°.71N×55°.16E, h76^{km}±89^{km}, Error ellipse: s-maj=60.5km s-min=17.0km az=301.0*
*NEIC **02** 01:21:00.0, 26°.47N×55°.05E, h32^{km}, mb3.7/6, ML3.5(THR), MN3.3(TEH), After TEH.*
*CSEM **02** 01:21:01.1±0.4, 26°.63N×54°.99E, h37^{km}±4^{km}, mb3.6/5, Error ellipse: s-maj=5.8km s-min=4.7km az=36.0*
ISC 02 01:21:01.4±0.5**, 26°.62N**±0°.04×**54°.94E**±0°.03**, h40^{km}**±6^{km}**, n90, σ0^s.87**/102**, mb3.8**/15**, 2C-3D, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.35**	**55**	Pg	**Pn**	**01 21 22.0**	**-1.7**
BNDS				Sg	**Sn**	**01 21 42.0**	**+1.6**
BNDS	**Bandar-Abbas**	**1.35**	**55**	*e*Pg	**Pn**	**01 21 22.1**	**-1.7**
BNDS				*e*Sg	**Sn**	**01 21 42.8**	**+2.3**
BNDS				AML	AML	01 21 49.6	
	comp=E,823nm,0.4s						
BNDS				AML	AML	01 21 51.9	
	comp=N,960nm,0.6s						
BANOM	**Banah**	**1.41**	**119**	⇓P	**Pn**	**01 21 22.8**	**-1.8**
	SNR=272						
BANOM				⇑S	**Sn**	**01 21 41.6**	**-0.3**
BANOM	**Banah**	**1.41**	**119**	P	**Pn**	**01 21 22.8**	**-1.7**
	SNR=272						
BANOM				S	**Sn**	**01 21 41.6**	**-0.3**
IBND	**Bandar-abas**	**1.65**	**60**	*e*Pn	**Pn**	**01 21 26.7**	**-1.2**
IBND				*e*Sg	**Sn**	**01 21 52.3**	**+4.4**
IBND				*e*		01 22 01.8	
	comp=Z,11µm,0.2s						
ASUD	**Al Ashush, Dub**	**2.02**	**170**	⇓P	**Pn**	**01 21 33.4**	**+0.5**
	SNR=21						
ASUD				⇑S	**Sn**	**01 21 58.9**	**+2.0**
ASUD	**Al Ashush, Dub**	**2.02**	**170**	P	**Pn**	**01 21 33.4**	**+0.5**
	SNR=21						
ASUD				S	**Sn**	**01 21 58.9**	**+2.0**
ASHO	**Ashiyiah**	**2.18**	**152**	⇓P	**Pn**	**01 21 34.3**	**-0.8**
	SNR=15						
ASHO	**Ashiyiah**	**2.18**	**152**	P	**Pn**	**01 21 34.3**	**-0.8**
	SNR=15						
IPAR	**Pars**	**3.62**	**333**	Pn	**Pn**	**01 21 56.4**	**+1.5**
IPAR	**Pars**	**3.62**	**333**	*e*Pn	**Pn**	**01 21 56.1**	**+1.2**
IPAR				*e*		01 23 09.4	
	comp=Z,565nm,0.4s						
IPAR	**Pars**	**3.62**	**333**	Pn	**Pn**	**01 21 56.4**	**+1.5**
KRBR	**Kerman**	**3.72**	**25**	Pn	**Pn**	**01 21 56.0**	**-0.3**
KRBR	**Kerman**	**3.72**	**25**	*e*Pn	**Pn**	**01 21 56.7**	**+0.4**
KRBR				AML	AML	01 22 46.3	
	comp=E,46nm,0.7s						
KRBR				AML	AML	01 22 59.3	
	comp=N,40nm,0.7s						
KRBR	**Kerman**	**3.72**	**25**	Pn	**Pn**	**01 21 56.0**	**-0.3**
IMEH	**Mehriz**	**4.76**	**357**	Pn	**Pn**	**01 22 11.2**	**+0.6**
IMEH	**Mehriz**	**4.76**	**357**	*e*Pn	**Pn**	**01 22 11.3**	**+0.7**
IMEH				*e*		01 22 17.4	
	comp=Z,134nm,0.1s						
IMEH	**Mehriz**	**4.76**	**357**	Pn	**Pn**	**01 22 11.2**	**+0.6**
ICHK	**Chekchek**	**5.62**	**355**	Pn	**Pn**	**01 22 22.9**	**+0.4**
ICHK	**Chekchek**	**5.62**	**355**	*e*Pn	**Pn**	**01 22 22.7**	**+0.2**
ICHK				*e*		01 22 29.2	
	comp=Z,135nm,0.3s						
ICHK	**Chekchek**	**5.62**	**355**	Pn	**Pn**	**01 22 22.9**	**+0.4**
NASN	**Na'in**	**6.43**	**344**	Pn	**Pn**	**01 22 34.0**	**+0.5**
NASN	**Na'in**	**6.43**	**344**	*e*Pn	**Pn**	**01 22 34.1**	**+0.6**
NASN	**Na'in**	**6.43**	**344**	Pn	**Pn**	**01 22 34.0**	**+0.5**
QRN	**Al-Qurain**	**6.57**	**290**	*e*P	**Pn**	**01 22 35.6**	**0.0**
QRN				*e*S	**Sn**	**01 23 48.5**	**-0.7**
QRN				AML	AML	01 23 50.2	
	comp=Z,20nm,0.3s						
IZEF	**Zefreh**	**6.65**	**341**	Pn	**Pn**	**01 22 37.1**	**+0.5**
IZEF	**Zefreh**	**6.65**	**341**	*e*Pn	**Pn**	**01 22 37.1**	**+0.5**
IZEF				*e*		01 22 42.9	
	comp=Z,54nm,0.2s						
IZEF	**Zefreh**	**6.65**	**341**	Pn	**Pn**	**01 22 37.1**	**+0.5**
IKLH	**Kolahrood**	**7.28**	**337**	Pn	**Pn**	**01 22 45.6**	**+0.3**
IKLH	**Kolahrood**	**7.28**	**337**	*e*Pn	**Pn**	**01 22 45.6**	**+0.3**
IKLH				*e*		01 24 37.3	
	comp=Z,78nm,0.3s						
IKLH	**Kolahrood**	**7.28**	**337**	Pn	**Pn**	**01 22 45.6**	**+0.3**
NAY	**Al-Naaiem**	**7.29**	**293**	*e*P	**Pn**	**01 22 45.6**	**+0.2**
NAY				*e*S	**Sn**	**01 24 05.6**	**-1.3**
NAY				AML	AML	01 24 07.2	
	comp=Z,18nm,0.6s						
NAY	**Al-Naaiem**	**7.29**	**293**	*e*P	**Pn**	**01 22 45.6**	**+0.2**
NAY				*e*S	**Sn**	**01 24 05.6**	**-1.3**
MIB	**Mutribah**	**7.41**	**297**	*e*P	**Pn**	**01 22 47.6**	**+0.5**
MIB				*e*S	**Sn**	**01 24 09.3**	**-0.6**
MIB				AML	AML	01 24 11.1	
	comp=Z,12nm,0.5s						
MIB	**Mutribah**	**7.41**	**297**	*e*P	**Pn**	**01 22 47.6**	**+0.5**
MIB				*e*S	**Sn**	**01 24 09.3**	**-0.6**
IMON	**Monand**	**7.73**	**31**	*e*Pn	**Pn**	**01 22 50.6**	**-0.8**
GNI	**Garni**	**15.94**	**330**	Pn	**Pn**	**01 24 46.9**	**+4.2**
	comp=Z,0.5nm,0.3s,baz=159,slow=2.3,SNR=5.4						
GNI	**Garni**	**15.94**	**330**	Pn	**Pn**	**01 24 46.9**	**+4.2**
MMAI	**Mount Meron Ar**	**18.10**	**295**	P	**Pn**	**01 25 09.6**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=94,slow=13,SNR=3.5						
KIV	**Kislovodsk**	**19.94**	**333**	*e*P	**Pn**	**01 25 31.9**	**+0.1**
	comp=Z,12nm,1.2s						
KIV	**Kislovodsk**	**19.94**	**333**	*e*P	**Pn**	**01 25 31.9**	**+0.2**
	comp=Z,11nm,1.2s						
BR131	**Keskin Array S**	**22.04**	**312**	*e*P	**P**	**01 25 53.1**	**+0.6**
	comp=Z,1.8nm,0.6s,mb3.7						
BR131	**Keskin Array S**	**22.04**	**312**	*e*P	**P**	**01 25 53.1**	**+0.6**
	comp=Z,1.8nm,0.6s,mb3.7						
BRTR	**Keskin Array B**	**22.04**	**312**	P	**P**	**01 25 53.4**	**+0.9**
	comp=Z,2.8nm,0.8s,mb3.8,baz=129,slow=13,SNR=22						
BRTR	**Keskin Array B**	**22.04**	**312**	P	**P**	**01 25 53.4**	**+0.9**
BRTR	**Keskin Array B**	**22.04**	**312**	P	**P**	**01 25 53.4**	**+0.9**
EKS2	**Erkin-Say**	**22.20**	**39**	*e*P	**P**	**01 25 53.8**	**-0.4**
	comp=Z,1.2nm,0.6s,mb3.5						
EKS2	**Erkin-Say**	**22.20**	**39**	*e*P	**P**	**01 25 53.8**	**-0.4**
	comp=Z,1.2nm,0.6s,mb3.5						
AAK	**Ala-Archa**	**22.59**	**40**	P	**P**	**01 25 59.6**	**+1.2**
	comp=Z,1.1nm,0.4s,mb3.6,baz=224,slow=6.1,SNR=5.3						
AAK	**Ala-Archa**	**22.59**	**40**	*e*P	**P**	**01 26 00.1**	**+1.8**
	comp=Z,1.1nm,0.6s,mb3.5						
AAK	**Ala-Archa**	**22.59**	**40**	*e*P	**P**	**01 26 00.1**	**+1.7**
	comp=Z,1.1nm,0.6s,mb3.5						
ABKAR	**Akbulak array**	**22.93**	**8**	*e*P	**P**	**01 26 01.2**	**-0.6**
	comp=Z,2.6nm,0.9s,mb3.7						
ABKAR	**Akbulak array**	**22.93**	**8**	*e*P	**P**	**01 26 01.2**	**-0.7**
	comp=Z,2.6nm,0.9s,mb3.7						
AKTK	**Aktyubinsk**	**23.90**	**5**	P	**P**	**01 26 12.4**	**+1.1**
AKTK	**Aktyubinsk**	**23.90**	**5**	P	**P**	**01 26 12.4**	**+1.2**
AKTO	**Aktyubinsk**	**23.90**	**5**	P	**P**	**01 26 12.4**	**+1.1**
	comp=Z,1.6nm,0.5s,mb3.7,baz=310,slow=8.1,SNR=4.2						
BVAR	**Borovoye Array**	**28.79**	**20**	P	**P**	**01 26 54.9**	**-0.5**
	comp=Z,0.7nm,0.7s,mb3.5,baz=203,slow=11,SNR=5.5						
BVAR	**Borovoye Array**	**28.79**	**20**	P	**P**	**01 26 54.9**	**-0.5**
BVAR	**Borovoye Array**	**28.79**	**20**	P	**P**	**01 26 54.9**	**-0.5**
MK31	**Makanchi Array**	**29.53**	**40**	*e*P	**P**	**01 27 01.5**	**-0.5**
MK31	**Makanchi Array**	**29.53**	**40**	*e*P	**P**	**01 27 01.5**	**-0.5**
MKAR	**Makanchi Array**	**29.53**	**40**	P	**P**	**01 27 01.6**	**-0.3**
	comp=Z,0.4nm,0.5s,mb3.4,baz=224,slow=8.3,SNR=6.2						
MKAR	**Makanchi Array**	**29.53**	**40**	P	**P**	**01 27 01.6**	**-0.3**
MKAR	**Makanchi Array**	**29.53**	**40**	P	**P**	**01 27 01.6**	**-0.4**
KURK	**Kurchatov**	**30.10**	**31**	P	**P**	**01 27 06.5**	**-0.4**
	comp=Z,1.2nm,1.0s,mb3.6,baz=231,slow=8.6,SNR=4.4						
KURK	**Kurchatov**	**30.10**	**31**	*e*P	**P**	**01 27 07.2**	**+0.2**
	comp=Z,1.7nm,0.8s,mb3.8						
KURK	**Kurchatov**	**30.10**	**31**	*e*P	**P**	**01 27 07.2**	**+0.3**
	comp=Z,1.7nm,0.8s,mb3.8						
ZAA0	**Zalesovo Array**	**35.09**	**31**	*e*P	**P**	**01 27 49.2**	**-1.3**
ZAA0	**Zalesovo Array**	**35.09**	**31**	*e*P	**P**	**01 27 49.2**	**-1.3**
ZALV	**Zalesovo Beam**	**35.09**	**31**	P	**P**	**01 27 50.0**	**-0.5**
	comp=Z,2.0nm,0.5s,mb4.3,baz=237,slow=8.8,SNR=12						
ZALV	**Zalesovo Beam**	**35.09**	**31**	P	**P**	**01 27 50.0**	**-0.5**
ZALV	**Zalesovo Beam**	**35.09**	**31**	P	**P**	**01 27 50.0**	**-0.5**
FINES	**FINESS Array B**	**39.86**	**339**	P	**P**	**01 28 30.6**	**-0.3**
	comp=Z,3.0nm,0.9s,mb4.0,baz=156,slow=9.5,SNR=8.9						
FINES	**FINESS Array B**	**39.86**	**339**	P	**P**	**01 28 30.6**	**-0.3**
FINES	**FINESS Array B**	**39.86**	**339**	P	**P**	**01 28 30.6**	**-0.2**
SONM	**Songino Array**	**45.16**	**48**	P	**P**	**01 29 14.7**	**+0.6**
	comp=Z,0.7nm,0.8s,mb3.5,baz=253,slow=8.9,SNR=3.4						
SONM	**Songino Array**	**45.16**	**48**	P	**P**	**01 29 14.7**	**+0.6**
SONM	**Songino Array**	**45.16**	**48**	P	**P**	**01 29 14.7**	**+0.6**
NOA	**NORSAR Array B**	**45.24**	**332**	P	**P**	**01 29 13.8**	**-0.7**
	comp=Z,0.6nm,0.7s,mb3.5,baz=302,slow=7.6,SNR=2.8						
NOA	**NORSAR Array B**	**45.24**	**332**	P	**P**	**01 29 13.8**	**-0.7**
NOA	**NORSAR Array B**	**45.24**	**332**	P	**P**	**01 29 13.8**	**-0.7**
ESDC	**Sonseca Array**	**50.19**	**301**	P	**P**	**01 29 53.1**	**-0.1**
	comp=Z,0.9nm,0.6s,mb4.0,baz=64,slow=7.7,SNR=12						
ESDC	**Sonseca Array**	**50.19**	**301**	P	**P**	**01 29 53.1**	**-0.1**
ESDC	**Sonseca Array**	**50.19**	**301**	P	**P**	**01 29 53.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**51.49**	**266**	P	**P**	**01 30 03.5**	**+0.1**
	comp=Z,0.9nm,0.6s,mb3.9,baz=64,slow=7.8,SNR=18						
TORD	**Torodi Ar. Bea**	**51.49**	**266**	P	**P**	**01 30 03.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**51.49**	**266**	P	**P**	**01 30 03.5**	**+0.2**
DBIC	**Dimbokro**	**60.08**	**262**	P	**P**	**01 31 05.2**	**+0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,2.3nm,0.7s,mb4.3,baz=76,slow=7.8,SNR=6.0						
DBIC	**Dimbokro**	**60.08**	**262**	P	**P**	**01 31 05.2**	**+0.3**
DBIC	**Dimbokro**	**60.08**	**262**	P	**P**	**01 31 05.2**	**+0.3**

IDC 02 01:40:08.6±71.0**, 18.49S×168.59E, h0km, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.5**/16**, mbtmp3.5**/3**, Error ellipse: s-maj=1190.0km s-min=126.1km az=73.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**27.74**	**236**	P	P	01 45 58.6	-0.3
	1.0nm,0.6s,baz=60,slow=8.1,SNR=2.8						
WRA	**Warramunga Arr**	**32.34**	**262**	P	P	01 46 39.7	-0.2
	0.1nm,0.3s,baz=91,slow=9.3,SNR=5.1						
ASAR	**Alice Springs**	**32.72**	**255**	P	P	01 46 43.5	+0.4
	0.6nm,0.5s,baz=82,slow=8.9,SNR=13						

*SZGRF **02** 01:45:46.7, 50.74N×170.95W, h61km, mb4.9, MS4.0, South of Aleutian Islands*

*BJI **02** 01:45:47.7, 51.50N×174.30W, h43km, mB4.9/21, mb4.8/33, Ms4.6/21, Ms7 4.3/22*

*MOS **02** 01:45:49.4±0.9, 51.44N×174.28W, h42km, mb5.1/36, MS4.0/7, Error ellipse: s-maj=10.3km s-min=5.7km az=90.6*

*ISCJB **02** 01:45:49.3±0.3, 51.41N±0.05×174.26W±0.04, h43km, mb4.6/103, MS4.1/34, Error ellipse: s-maj=7.3km s-min=3.3km az=173.4*

*NEIC **02** 01:45:50.4±0.6, 51.43N×174.29W, h38km±4km, mb4.6/58, Error ellipse: s-maj=6.8km s-min=3.0km az=177.0*

*IDC **02** 01:45:50.7±0.6, 51.43N×174.33W, h43km±5km, mb3.9/22, mb1 4.2/25, mb1mx4.1/30, mbtmp4.0/25, MS4.0/23, Ms1 4.0/23, ms1mx3.7/56, Error ellipse: s-maj=18.3km s-min=11.5km az=165.0*

ISC 02 01:45:51.5±0.3**, 51.47N**±0.05×**174.28W**±0.04**, h46km, h46km**±1.8km**:pP-P, n350, σ0.86**/346**, mb4.6**/103**, MS4.1**/34**, 3C-2D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.74**	**4**	P	**Pn**	**01 46 04.8**	**-0.8**
ATKA				S	**Sn**	**01 46 17.7**	**+1.9**
GSTR	**Great Sitkin T**	**1.27**	**300**	*e*Pn	**Pn**	**01 46 11.7**	**-1.1**
ADK	**Adak**	**1.55**	**286**	P	**Pn**	**01 46 14.9**	**-1.8**
ADK				S	**Sn**	**01 46 35.8**	**+0.2**
ADK	**Adak**	**1.55**	**286**	P	**Pn**	**01 46 14.8**	**-1.8**
ADK				S	**Sn**	**01 46 35.7**	**+0.1**
NIKO	**Nikolski**	**3.66**	**64**	*e*Pn	**Pn**	**01 46 48.2**	**+2.7**
NIKO				S	**Sn**	**01 47 25.4**	**-2.0**
UNV	**Unalaska Valle**	**5.30**	**60**	P	**Pn**	**01 47 07.2**	**-0.8**
AKUT	**Akutan**	**5.81**	**59**	*e*Pn	**Pn**	**01 47 15.0**	**0.0**
FALS	**False Pass**	**7.36**	**58**	*e*Pn	**Pn**	**01 47 36.8**	**+0.5**
FX1	**Attu Island--F**	**7.85**	**285**	P	**Pn**	**01 47 41.7**	**-1.3**
	1.8nm,0.3s,baz=320,slow=22,SNR=14						
FX1	**Attu Island--F**	**7.85**	**285**	P	**Pn**	**01 47 41.7**	**-1.3**
FX1	**Attu Island--F**	**7.85**	**285**	P	**Pn**	**01 47 41.7**	**-1.3**
KDAK	**Kodiak Island**	**14.03**	**55**	P	**Pn**	**01 49 05.2**	**-2.1**
	0.8nm,0.3s,baz=246,slow=9.7,SNR=20						
KDAK				S	**Sn**	**01 51 51.8**	**+10**
	0.1nm,0.3s,baz=144,slow=19,SNR=2.4						
KDAK	**Kodiak Island**	**14.03**	**55**	*e*Pn	**Pn**	**01 49 09.0**	**+1.7**
KDAK				S	**Sn**	**01 51 51.8**	**+10**
KDAK	**Kodiak Island**	**14.03**	**55**	*e*P	**Pn**	**01 49 09.0**	**+1.7**
KDAK				S	**Sn**	**01 51 51.8**	**+10**
SLKM	**Skilak Lake**	**16.13**	**47**	*e*Pn	**Pn**	**01 49 33.1**	**-1.6**
SLKM	**Skilak Lake**	**16.13**	**47**	*e*P	**Pn**	**01 49 33.2**	**-1.5**
SEW	**Seward**	**16.33**	**48**	*e*Pn	**Pn**	**01 49 33.8**	**-3.5**
PPLA	**Purkeypile**	**16.46**	**37**	*e*P	**Pn**	**01 49 41.6**	**+2.8**
	34nm,1.1s						
PETK	**Petropavlovsk-**	**17.18**	**286**	P	**Pn**	**01 49 48.1**	**+0.2**
	0.7nm,0.3s,baz=91,slow=13,SNR=13						
PETK				LR	LR	01 56 06.9	
	comp=Z,208nm,21.9s,baz=282,slow=36						
PETK	**Petropavlovsk-**	**17.18**	**286**	P	**Pn**	**01 49 48.1**	**+0.2**
PETK				LR	LR	01 56 06.9	
PETK	**Petropavlovsk-**	**17.18**	**286**	P	**Pn**	**01 49 48.1**	**+0.2**
TRF	**Thorofare Moun**	**17.48**	**37**	*e*Pn	**Pn**	**01 49 52.4**	**+0.8**
SML	**Sawmill**	**17.50**	**44**	*e*Pn	**Pn**	**01 49 50.2**	**-1.6**
SML	**Sawmill**	**17.50**	**44**	*e*P	**Pn**	**01 49 50.2**	**-1.6**
BPAW	**Bear Paw Mtn.**	**17.59**	**35**	*e*Pn	**Pn**	**01 49 53.4**	**+0.6**
	49nm,1.3s						
MCK	**McKinley**	**18.15**	**38**	*e*Pn	**Pn**	**01 49 58.6**	**-1.1**
	34nm,1.0s						
MCK	**McKinley**	**18.15**	**38**	*e*P	**Pn**	**01 49 58.6**	**-1.1**
MCK				pmax	pmax		
	comp=Z,34nm,1.0s						
DIV	**Divide**	**18.39**	**47**	*e*P	**Pn**	**01 50 02.1**	**-0.5**
	comp=Z,10nm,0.5s						
SKR	**Severo-Kuril's**	**18.57**	**279**	*e*P	**Pn**	**01 50 14.4**	**+10**
BMRM	**Bremner River**	**18.88**	**48**	*e*P	**Pn**	**01 50 06.7**	**-1.9**
	comp=Z,19nm,0.9s						
BILL	**Bilibino**	**19.13**	**338**	*e*P	**Pn**	**01 50 10.9**	**-0.6**
	comp=Z,89nm,1.4s						
BILL	**Bilibino**	**19.13**	**338**	*e*P	**Pn**	**01 50 11.3**	**-0.2**
BILL				pmax	pmax		
	comp=Z,21nm,1.6s						
BILL				MLR	MLR		
	comp=Z,300nm,18.0s						
COLA	**College**	**19.15**	**35**	*e*P	**Pn**	**01 50 11.3**	**-0.4**
	comp=Z,21nm,1.1s						
COLA	**College**	**19.15**	**35**	*e*P	**Pn**	**01 50 11.4**	**-0.3**
COLA				pmax	pmax		
	comp=Z,21nm,1.1s						
PAX	**Paxson**	**19.19**	**42**	*e*P	**Pn**	**01 50 11.0**	**-1.3**
	comp=Z,5.5nm,0.9s						
PAX	**Paxson**	**19.19**	**42**	*e*P	**Pn**	**01 50 11.0**	**-1.3**
PAX				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ILAR	**Eielson Array**	**19.45**	**36**	P	**Pn**	**01 50 10.8**	**-4.5**
	comp=Z,2.0nm,0.3s,baz=238,slow=9.8,SNR=76						
ILAR				LR	LR	01 58 25.3	
	comp=Z,335nm,18.9s,baz=66,slow=39						
ILAR	**Eielson Array**	**19.45**	**36**	P	**Pn**	**01 50 10.8**	**-4.5**
ILAR				LR	LR	01 58 25.3	
ILAR	**Eielson Array**	**19.45**	**36**	P	**Pn**	**01 50 10.9**	**-4.4**
COLD	**Coldfoot**	**19.78**	**28**	*e*Pn	**Pn**	**01 50 18.4**	**-0.9**
	comp=Z,16nm,1.1s						
DOT	**Dot Lake**	**20.04**	**41**	*e*P	**P**	**01 50 19.4**	**-0.9**
SEY	**Seymchan**	**21.12**	**316**⇑	*e*P	**P**	**01 50 33.2**	**+1.3**
EGAK	**Eagle**	**21.65**	**39**	*e*P	**P**	**01 50 36.6**	**-1.0**
	comp=Z,49nm,0.8s,mb5.0						
DAWY	**Dawson**	**22.13**	**42**	*e*P	**P**	**01 50 42.4**	**-0.3**
INK	**Inuvik**	**25.78**	**34**	P	**P**	**01 51 17.3**	**-0.3**
	comp=Z,7.2nm,1.1s,mb4.1,baz=228,slow=5.4,SNR=14						
INK				LR	LR	02 02 25.7	
	comp=Z,249nm,20.1s,MS3.7,baz=354,slow=38						
INK	**Inuvik**	**25.78**	**34**	P	**P**	**01 51 17.3**	**-0.3**
INK				LR	LR	02 02 25.6	
INK	**Inuvik**	**25.78**	**34**	P	**P**	**01 51 17.3**	**-0.3**
DLBC	**Dease Lake**	**25.94**	**57**	P	**P**	**01 51 20.6**	**+1.5**
	comp=Z,8.1nm,0.9s,mb4.2,baz=278,slow=11,SNR=9.2						
DLBC	**Dease Lake**	**25.94**	**57**	P	**P**	**01 51 20.6**	**+1.5**
ASAJ	**Asahikawa**	**29.53**	**273**	LR	LR	02 04 59.9	
	comp=Z,122nm,18.6s,MS3.6,baz=88,slow=39						
YKA	**Yellowknife Ar**	**33.11**	**47**	P	**P**	**01 52 23.6**	**+1.0**
	comp=Z,1.6nm,0.8s,mb4.0,baz=280,slow=6.9,SNR=5.1						
YKA				LR	LR	02 07 38.8	
	comp=Z,56nm,18.6s,MS3.3,baz=230,slow=40						
YKA	**Yellowknife Ar**	**33.11**	**47**	P	**P**	**01 52 23.6**	**+1.0**
YKA				LR	LR	02 07 38.8	
YKA	**Yellowknife Ar**	**33.11**	**47**	P	**P**	**01 52 23.6**	**+1.0**
KLR	**Kul'dur**	**33.86**	**288**	*e*P	**P**	**01 52 24.8**	**-4.5**
YBH	**Yreka Blue Hor**	**36.06**	**85**	LR	LR	02 05 03.4	
	comp=Z,170nm,20.0s,MS3.8,baz=329,slow=32						
MJAR	**Matsushiro Arr**	**36.60**	**265**	P	**P**	**01 52 52.9**	**-0.1**
	comp=Z,1.1nm,0.6s,mb3.8,baz=257,slow=40,SNR=4.4						
MJAR				LR	LR	02 06 02.8	
	comp=Z,153nm,21.4s,MS3.8,baz=65,slow=33						
MJAR	**Matsushiro Arr**	**36.60**	**265**	P	**P**	**01 52 52.9**	**-0.1**
MJAR				LR	LR	02 06 02.8	
MJAR	**Matsushiro Arr**	**36.60**	**265**	P	**P**	**01 52 52.9**	**-0.1**
VLA	**Vladivostok**	**36.71**	**279**	*i* P	**P**	**01 52 48.0**	**-5.8**
MDJ	**Mudanjiang**	**37.34**	**282**	P	**P**	**01 52 57.9**	**-1.2**
MDJ				pP	pP	01 53 08.8	-2.6
MDJ				sP	sP	01 53 14.1	-2.8
MDJ				PP	PP	01 54 23.1	-1.6
MDJ				S	**S**	**01 58 49.2**	**+5.7**
MDJ				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.3						
MDJ				pmax	pmax		
	comp=Z,66nm,4.5s						
MDJ				LR	LR		
	comp=E,160nm,20.7s						
MDJ				LR	LR		
	comp=Z,220nm,20.7s,MS3.9						
BSMT	**Bassoo Peak**	**37.76**	**71**	*e*P	**P**	**01 53 02.0**	**-0.6**
	comp=Z,6.3nm,1.0s,mb4.3						
JTMT	**Jette**	**38.11**	**71**	*e*P	**P**	**01 53 06.0**	**+0.4**
SLMT	**Seeley Lake**	**38.82**	**72**	*e*P	**P**	**01 53 12.5**	**+0.9**
	comp=Z,9.6nm,1.2s,mb4.4						
BOD	**Bodaibo**	**40.17**	**308**	*e*P	**P**	**01 53 21.7**	**-1.0**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.6s,mb3.9						
CN2	**Changchun**	**40.30**	**284**	*e*P	**P**	**01 53 22.4**	**-1.5**
MCMT	**McKenzie Canyo**	**40.45**	**74**	*e*P	**P**	**01 53 24.9**	**-0.2**
	comp=Z,1.6nm,0.5s,mb4.0						
EGMT	**Eagleton**	**40.63**	**69**	*e*P	**P**	**01 53 27.0**	**+0.3**
	comp=Z,5.3nm,0.7s,mb4.3						
NVAR	**Mina Array Bea**	**40.73**	**86**	P	**P**	**01 53 27.9**	**+0.3**
	comp=Z,1.6nm,0.9s,mb3.6,baz=288,slow=7.7,SNR=7.0						
NVAR	**Mina Array Bea**	**40.73**	**86**	P	**P**	**01 53 27.9**	**+0.3**
FFC	**Flin Flon**	**41.77**	**56**	*i* P	**P**	**01 53 36.5**	**+0.6**
RLMT	**Red Lodge**	**42.43**	**72**	*e*P	**P**	**01 53 41.8**	**+0.4**
	comp=Z,8.9nm,1.0s,mb4.3						
KSRS	**Korea Array**	**42.46**	**274**	P	**P**	**01 53 43.9**	**+2.1**
	comp=Z,1.1nm,0.5s,mb3.8,baz=54,slow=7.8,SNR=6.0						
KSRS				LR	LR	02 10 57.9	
	comp=Z,94nm,18.6s,MS3.7,baz=26,slow=36						
KSRS	**Korea Array**	**42.46**	**274**	P	**P**	**01 53 43.9**	**+2.1**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7						
KSRS				MLR	MLR		
	comp=Z,94nm,18.6s,MS3.7						
DUG	**Dugway**	**43.08**	**80**	*e*P	**P**	**01 53 47.1**	**+0.4**
	comp=Z,8.5nm,1.0s,mb4.4						
DUG	**Dugway**	**43.08**	**80**	*e*P	**P**	**01 53 47.1**	**+0.4**
DUG				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
PD01	**Pinedale Array**	**43.55**	**75**	*e*P	**P**	**01 53 50.3**	**-0.2**
PD02	**Pinedale Array**	**43.56**	**75**	*e*P	**P**	**01 53 50.2**	**-0.3**
BW06	**Boulder Array**	**43.57**	**75**	*e*P	**P**	**01 53 50.5**	**-0.2**
	comp=Z,6.0nm,0.8s,mb4.4						
PDAR	**Pinedale Array**	**43.57**	**75**	P	**P**	**01 53 50.6**	**0.0**
	comp=Z,2.8nm,0.8s,mb4.0,baz=306,slow=4.7,SNR=20						
PDAR	**Pinedale Array**	**43.57**	**75**	P	**P**	**01 53 50.6**	**0.0**
GSC	**Goldstone**	**43.62**	**89**	*e*P	**P**	**01 53 51.4**	**+0.3**
	comp=Z,7.4nm,0.8s,mb4.5						
GSC	**Goldstone**	**43.62**	**89**	*e*P	**P**	**01 53 51.4**	**+0.3**
GSC				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
SRU	**San Rafael**	**45.14**	**80**	*e*P	**P**	**01 54 03.0**	**-0.2**
	comp=Z,2.1nm,0.9s,mb4.0						
SRU	**San Rafael**	**45.14**	**80**	*e*P	**P**	**01 54 03.1**	**-0.1**
SRU				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
WUAZ	**Wupatki**	**46.87**	**84**	*e*P	**P**	**01 54 17.2**	**+0.3**
	comp=Z,4.0nm,0.8s,mb4.4						
PV01	**Paradox Valley**	**46.95**	**80**	*e*P	**P**	**01 54 16.8**	**-0.7**
	comp=Z,380nm,0.7s						
ULM	**Lac du Bonnet**	**47.24**	**59**	P	**P**	**01 54 18.8**	**-0.8**
	comp=Z,1.6nm,0.4s,mb4.3,baz=318,slow=12,SNR=4.7						
ULM	**Lac du Bonnet**	**47.24**	**59**	P	**P**	**01 54 18.8**	**-0.8**
ULM	**Lac du Bonnet**	**47.24**	**59**	P	**P**	**01 54 18.8**	**-0.8**
BJI	**Beijing**	**48.10**	**285**	P	**P**	**01 54 27.0**	**+0.6**
BJI				S	**S**	**02 01 20.2**	**-1.4**
BJI				pmax	pmax		
	comp=Z,17nm,0.5s,mb5.3						
BJI				pmax	pmax		
	comp=Z,67nm,3.3s						
BJI				LR	LR		
	comp=N,260nm,22.1s,MS4.3						
BJI				LR	LR		
	comp=E,170nm,20.1s,MS4.3						
BJI				LR	LR		
	comp=Z,210nm,18.1s,MS4.2						
TLY	**Talaya**	**48.38**	**304**	*e*P	**P**	**01 54 25.4**	**-3.0**
TLY				*e*S	**S**	**02 01 41.9**	**+17**
TLY				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
TLY				MLR	MLR		
	comp=Z,138nm,18.0s,MS4.0						
SONM	**Songino Array**	**49.11**	**299**	P	**P**	**01 54 34.3**	**+0.2**
	comp=Z,1.3nm,0.5s,mb4.2,baz=52,slow=7.3,SNR=11						
SONM				LR	LR	02 16 36.7	
	comp=Z,242nm,18.7s,MS4.2,baz=174,slow=38						
SONM	**Songino Array**	**49.11**	**299**	P	**P**	**01 54 34.3**	**+0.2**
SONM				LR	LR	02 16 36.7	
SONM	**Songino Array**	**49.11**	**299**	P	**P**	**01 54 34.3**	**+0.3**
ZAK	**Zakamensk**	**49.30**	**303**⇑	*i*P	**P**	**01 54 35.6**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.4						
LAZ	**Ladron**	**50.23**	**82**	*e*P	**P**	**01 54 43.7**	**+1.0**
	comp=Z,4.6nm,1.3s,mb4.3						
HHC	**Hu-ho-hao-te**	**50.37**	**289**	*e*P	**P**	**01 54 43.2**	**-0.5**
HHC				pP	pP	01 54 53.0	-3.4
HHC				sP	sP	01 54 57.2	-4.5
HHC				PP	PP	01 56 38.7	-0.5
HHC				S	**S**	**02 01 52.0**	**-1.3**
HHC				sS	sS	02 02 08.5	-6.0
HHC				SS	SS	02 05 21.3	-5.6
HHC				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
HHC				pmax	pmax		
	comp=Z,110nm,3.9s						
HHC				LR	LR		
	comp=N,160nm,17.8s,MS4.2						
HHC				LR	LR		
	comp=E,170nm,17.8s,MS4.2						
HHC				LR	LR		
	comp=Z,88nm,16.7s,MS3.9						
BNM	**Barren Site**	**50.71**	**82**	*e*P	**P**	**01 54 46.1**	**-0.3**
NJ2	**Nanjing**	**51.63**	**275**	*e*P	**P**	**01 54 57.2**	**+3.9**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.2						
WMOK	**Wichita Mounta**	**55.14**	**76**	*e*P	**P**	**01 55 17.7**	**-1.3**
	comp=Z,2.4nm,0.8s,mb4.3						
WMOK	**Wichita Mounta**	**55.14**	**76**	*e*P	**P**	**01 55 17.7**	**-1.3**
WMOK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
TXAR	**Lajitas Array**	**55.84**	**85**	P	**P**	**01 55 23.5**	**-0.6**
	comp=Z,0.5nm,0.6s,mb3.7,baz=297,slow=5.6,SNR=7.8						
TXAR	**Lajitas Array**	**55.84**	**85**	P	**P**	**01 55 23.5**	**-0.6**
TXAR	**Lajitas Array**	**55.84**	**85**	P	**P**	**01 55 23.5**	**-0.6**
ZALV	**Zalesovo Beam**	**55.99**	**316**	P	**P**	**01 55 23.6**	**-1.1**
	comp=Z,0.4nm,0.4s,mb3.8,baz=58,slow=8.9,SNR=2.3						
ZALV				PcP	PcP	01 56 23.1	+0.4
	comp=Z,0.8nm,0.5s,baz=37,slow=4.7,SNR=4.1						
ZALV				LR	LR	02 21 03.8	
	comp=Z,98nm,18.7s,MS3.9,baz=89,slow=38						
ZALV	**Zalesovo Beam**	**55.99**	**316**	P	**P**	**01 55 23.6**	**-1.1**
ZALV				PcP	PcP	01 56 23.1	+0.4
ZALV				LR	LR	02 21 03.8	
ZALV	**Zalesovo Beam**	**55.99**	**316**	P	**P**	**01 55 23.6**	**-1.2**
ZALV						01 56 23.1	
XAN	**Xi'an**	**56.40**	**284**	P	**P**	**01 55 27.5**	**-0.6**
XAN				pP	pP	01 55 39.0	-1.9
XAN				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb4.0						
XAN				pmax	pmax		
	comp=Z,22nm,4.1s						
XAN				LR	LR		
	comp=N,78nm,11.6s						
XAN				LR	LR		
	comp=E,32nm,18.9s						
XAN				LR	LR		
	comp=Z,47nm,17.1s						
LZH	**Lanzhou**	**58.05**	**289**	*e*P	**P**	**01 55 40.0**	**+0.3**
LZH				pP	pP	01 55 52.5	-0.1
LZH				sP	sP	01 55 58.0	+0.1
LZH				PP	PP	01 57 50.2	+1.9
LZH				pmax	pmax		
	comp=Z,20nm,1.3s,mb5.0						
LZH				pmax	pmax		
	comp=Z,72nm,5.6s						
LZH				LR	LR		
	comp=N,280nm,17.0s,MS4.5						
LZH				LR	LR		
	comp=E,230nm,18.2s,MS4.5						
LZH				LR	LR		
	comp=Z,360nm,19.3s,MS4.5						
GTA	**Gaotai**	**58.13**	**295**	*e*P	**P**	**01 55 40.1**	**-0.1**
GTA				pP	pP	01 55 51.5	-1.6
GTA				sP	sP	01 55 55.4	-3.0
GTA				S	**S**	**02 03 35.9**	**-2.0**
GTA				sS	sS	02 03 56.1	-3.4
GTA				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
GTA				LR	LR		
	comp=N,150nm,14.7s,MS4.4						
GTA				LR	LR		
	comp=E,190nm,18.5s,MS4.4						
GTA				LR	LR		
	comp=Z,240nm,16.6s,MS4.4						
MIAR	**Mount Ida**	**58.41**	**73**	*e*P	**P**	**01 55 41.5**	**-0.7**
	comp=Z,11nm,1.2s,mb4.8						
MIAR	**Mount Ida**	**58.41**	**73**	*e*P	**P**	**01 55 41.5**	**-0.7**
MIAR				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.8						
ARCES	**ARCESS Array B**	**58.44**	**352**	P	**P**	**01 55 41.0**	**-0.8**
	comp=Z,14nm,1.1s,mb4.9,baz=30,slow=6.4,SNR=20						
ARCES				PcP	PcP	01 56 31.9	-0.2
	comp=Z,2.0nm,0.8s,baz=5.7,slow=4.9,SNR=4.4						
ARCES				LR	LR	02 22 37.9	
	comp=Z,124nm,18.4s,MS4.1,baz=349,slow=38						
ARCES	**ARCESS Array B**	**58.44**	**352**	P	**P**	**01 55 41.0**	**-0.8**
ARCES				PcP	PcP	01 56 31.9	-0.2
ARCES				LR	LR	02 22 37.9	
ARCES	**ARCESS Array B**	**58.44**	**352**	P	**P**	**01 55 41.1**	**-0.8**
ARCES						01 56 31.9	
OLIL	**Olney**	**58.75**	**66**	*e*P	**P**	**01 55 43.6**	**-0.9**
KURK	**Kurchatov**	**60.97**	**316**	*e*P	**P**	**01 55 58.8**	**-0.7**
	comp=Z,8.2nm,1.1s,mb4.8						
KURK	**Kurchatov**	**60.97**	**316**⇓	*e*P	**P**	**01 55 59.3**	**-0.2**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
MSNY	**Massena**	**61.50**	**53**	*e*P	**P**	**01 56 02.6**	**-0.6**
	comp=Z,311nm,0.9s						
WMQ	**Urumqi**	**61.63**	**305**	P	**P**	**01 56 05.0**	**+0.9**
WMQ				pP	pP	01 56 17.8	+0.6
WMQ				sP	sP	01 56 23.1	+0.7
WMQ				PP	PP	01 58 23.1	+3.4
WMQ				S	**S**	**02 04 22.1**	**-0.7**
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb5.1						
WMQ				pmax	pmax		
	comp=Z,210nm,4.2s						
WMQ				LR	LR		
	comp=N,230nm,21.0s,MS4.4						
WMQ				LR	LR		
	comp=E,140nm,21.0s,MS4.4						
WMQ				LR	LR		
	comp=Z,110nm,22.5s,MS4.0						
CD2	**Chengdu**	**61.71**	**285**	P	**P**	**01 56 04.5**	**-0.3**
CD2				pP	pP	01 56 17.3	-0.6
CD2				sP	sP	01 56 22.6	-0.5
CD2				PP	PP	01 58 22.5	+1.8
CD2				S	**S**	**02 04 21.0**	**-3.1**
CD2				sS	sS	02 04 43.6	-2.2
CD2				SS	SS	02 08 24.8	-0.9
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.1						
CD2				pmax	pmax		
	comp=Z,120nm,5.4s						
CD2				LR	LR		
	comp=N,140nm,7.1s						
CD2				LR	LR		
	comp=Z,170nm,8.9s						
MK31	**Makanchi Array**	**62.16**	**311**	*e*P	**P**	**01 56 06.8**	**-0.8**
MK31	**Makanchi Array**	**62.16**	**311**	*e*P	**P**	**01 56 06.8**	**-0.8**
MKAR	**Makanchi Array**	**62.16**	**311**	P	**P**	**01 56 06.6**	**-1.0**
	comp=Z,0.9nm,0.3s,mb4.3,baz=48,slow=5.9,SNR=39						
MKAR				LR	LR	02 23 34.8	
	comp=Z,108nm,18.1s,MS4.0,baz=210,slow=36						
MKAR	**Makanchi Array**	**62.16**	**311**	P	**P**	**01 56 06.6**	**-1.0**
MKAR				LR	LR	02 23 34.8	
MKAR	**Makanchi Array**	**62.16**	**311**	P	**P**	**01 56 06.6**	**-1.0**
BRVK	**Borovoye**	**62.62**	**322**	*e*P	**P**	**01 56 10.4**	**-0.2**
	comp=Z,2.7nm,0.6s,mb4.5						
BRVK	**Borovoye**	**62.62**	**322**⇑	*e*P	**P**	**01 56 10.8**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.5						
BINY	**Binghamton**	**62.93**	**56**	*e*P	**P**	**01 56 13.3**	**+0.5**
	comp=Z,58nm,1.5s,mb5.5						
GYA	**Guiyang**	**63.12**	**279**	*e*P	**P**	**01 56 15.0**	**+0.7**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.9						
JOF	**Joensuu**	**64.18**	**347**	*e*P	**P**	**01 56 20.4**	**-0.4**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
JOF	**Joensuu**	**64.18**	**347**	*e*p	**P**	**01 56 20.4**	**-0.4**
	comp=Z,2.2nm,0.5s,mb4.4						
KAF	**Kangasniemi**	**65.59**	**350**	*e*P	**P**	**01 56 29.1**	**-0.8**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
KAF	**Kangasniemi**	**65.59**	**350**	*e*p	**P**	**01 56 29.1**	**-0.8**
	comp=Z,1.8nm,0.4s,mb4.5						
FINES	**FINESS Array B**	**66.27**	**349**	P	**P**	**01 56 33.2**	**-1.1**
	comp=Z,2.2nm,0.7s,mb4.3,baz=349,slow=7.8,SNR=12						
FINES				PcP	PcP	01 57 04.1	+0.1
	comp=Z,1.9nm,0.5s,baz=96,slow=3.0,SNR=8.8						
FINES				LR	LR	02 29 52.8	
	comp=Z,150nm,18.1s,MS4.2,baz=135,slow=40						
FINES	**FINESS Array B**	**66.27**	**349**	P	**P**	**01 56 33.2**	**-1.1**
FINES				PcP	PcP	01 57 04.1	+0.1
FINES				LR	LR	02 29 52.8	
FINES	**FINESS Array B**	**66.27**	**349**	P	**P**	**01 56 33.2**	**-1.1**
FINES						01 57 04.1	
KMI	**Kunming**	**66.50**	**281**	P	**P**	**01 56 37.7**	**+1.4**
KMI				pP	pP	01 56 49.6	+0.1
KMI				sP	sP	01 56 54.0	-0.7
KMI				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
KMI				LR	LR		
	comp=Z,39nm,21.8s,MS3.6						
NOA	**NORSAR Array B**	**67.76**	**357**	P	**P**	**01 56 42.9**	**-0.9**
	comp=Z,4.0nm,1.0s,mb4.4,baz=3.9,slow=6.4,SNR=9.5						
NOA				pP	pP	01 56 56.8	-0.1
	comp=Z,0.9nm,0.5s,baz=5.7,slow=6.6,SNR=3.0						
NOA				LR	LR	02 27 03.2	
	comp=Z,73nm,18.1s,MS4.0,baz=350,slow=36						
NOA	**NORSAR Array B**	**67.76**	**357**	P	**P**	**01 56 42.9**	**-0.9**
NOA				pP	pP	01 56 56.8	-0.1
NOA				LR	LR	02 27 03.2	
NOA	**NORSAR Array B**	**67.76**	**357**	P	**P**	**01 56 42.9**	**-0.8**
NOA				*PP	pP	01 56 56.8	-0.1
HFS	**Hagfors**	**68.57**	**356**	LR	LR	02 25 28.5	
	comp=Z,86nm,18.3s,MS4.0,baz=75,slow=35						
AAK	**Ala-Archa**	**68.94**	**313**	LR	LR	02 29 51.2	
	comp=Z,159nm,18.9s,MS4.3,baz=23,slow=38						
AAK	**Ala-Archa**	**68.94**	**313**	*e*P	**P**	**01 56 51.9**	**+0.4**
	comp=Z,2.4nm,0.5s,mb4.4						
AAK	**Ala-Archa**	**68.94**	**313**⇓	*i*P	**P**	**01 56 52.1**	**+0.7**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb4.1						
AKTO	**Aktyubinsk**	**69.20**	**327**	LR	LR	02 30 55.7	
	comp=Z,147nm,18.5s,MS4.2,baz=242,slow=39						
AKTO	**Aktyubinsk**	**69.20**	**327**	P	**P**	**01 56 52.2**	**-0.7**
EKS2	**Erkin-Say**	**69.25**	**313**	*e*P	**P**	**01 56 53.9**	**+0.6**
	comp=Z,33nm,1.7s,mb5.0						
EKS2	**Erkin-Say**	**69.25**	**313**	*e*P	**P**	**01 56 53.9**	**+0.6**
EKS2				pmax	pmax		
	comp=Z,33nm,1.7s,mb5.0						
AB31	**Akbulak array**	**69.53**	**325**	*e*P	**P**	**01 56 54.5**	**-0.4**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
ABKAR	**Akbulak array**	**69.53**	**325**	*e*P	**P**	**01 56 54.4**	**-0.6**
	comp=Z,1.3nm,0.5s,mb4.1						
LSA	**Lhasa**	**70.05**	**293**	P	**P**	**01 57 00.5**	**+2.0**
LSA	**Lhasa**	**70.05**	**293**	*e*P	**P**	**01 56 58.8**	**+0.3**
	comp=Z,9.3nm,0.8s,mb4.8						
LSA	**Lhasa**	**70.05**	**293**	*e*P	**P**	**01 56 58.8**	**+0.3**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
KK31	**Karatay Array**	**70.36**	**315**	*i* P	**P**	**01 57 00.0**	**-0.2**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
KKAR	**Karatay Array**	**70.36**	**315**	*e*P	**P**	**01 56 59.6**	**-0.6**
	comp=Z,2.1nm,0.4s,mb4.4						
KKAR	**Karatay Array**	**70.36**	**315**	*e*P	**P**	**01 56 59.6**	**-0.6**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
KSH	**Kashi**	**70.67**	**310**	P	**P**	**01 57 05.8**	**+3.7**
KSH				pP	pP	01 57 18.8	+3.4
KSH				sP	sP	01 57 24.2	+3.6
KSH				PcP	PcP	01 57 25.7	+2.8
KSH				PP	PP	01 59 46.0	+7.5
KSH				S	S	02 06 16.0	+3.3
KSH				sS	sS	02 06 40.1	+5.3
KSH				SKS		02 07 00.3	
KSH				ScS	ScS	02 07 02.7	+1.1
KSH				SS	SS	02 10 54.5	+10

KSH pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
KSH pmax pmax
comp=Z,100nm,6.1s
KSH LR LR
comp=N,130nm,6.2s
KSH LR LR
comp=E,72nm,4.4s
KSH LR LR
comp=Z,88nm,4.3s
PPT Papeete 72.06 155 LR LR 02 23 17.7
comp=Z,268nm,18.5s,MS4.5,baz=12,slow=31
SHL Shillong 72.72 289 *e*PKP **P** **01 57 14.5 -0.2**
RAR Rarotonga 73.48 166 LR LR 02 21 38.1
comp=Z,175nm,19.9s,MS4.3,baz=91,slow=29
CMAR Chiang Mai Arr 73.81 279 P **P** **01 57 21.7 +0.6**
comp=Z,1.1nm,0.3s,mb4.2,baz=26,slow=6.0,SNR=6.1
CMAR LR LR 02 32 41.6
comp=Z,82nm,18.8s,MS4.0,baz=15,slow=38
CMAR Chiang Mai Arr 73.81 279 P **P** **01 57 21.7 +0.6**
CMAR LR LR 02 32 41.6
CMAR Chiang Mai Arr 73.81 279 P **P** **01 57 21.7 +0.6**
GUN Gumba 74.41 295 *e*P **P** **01 57 25.6 +1.0**
comp=Z,21nm,0.5s,mb5.3
GUN Gumba 74.41 295 *e*P **P** **01 57 25.6 +1.0**
comp=Z,21nm,0.5s,mb5.3
KKN Kakani 74.85 295 *e*P **P** **01 57 27.9 +0.8**
KKN Kakani 74.85 295 *e*P **P** **01 57 27.9 +0.8**
KKN Kakani 74.85 295 *e*P **P** **01 57 27.9 +0.8**
BSEG Bad Segeberg 74.90 357 *e*P **P** **01 57 27.7 +0.8**
comp=Z,40nm,1.2s,mb5.2
BSEG Bad Segeberg 74.90 357 *e*P **P** **01 57 27.7 +0.8**
BSEG pmax pmax
comp=Z,40nm,1.2s,mb5.2
PKI Pulchoki 74.94 295 *e*P **P** **01 57 28.1 +0.5**
comp=Z,76nm,1.3s,mb5.5
PKI Pulchoki 74.94 295 *e*P **P** **01 57 28.1 +0.5**
comp=Z,76nm,1.3s,mb5.5
PKI Pulchoki 74.94 295 *e*P **P** **01 57 28.1 +0.5**
PKI pmax pmax
comp=Z,76nm,1.3s,mb5.5
PKIN Phulchoki 74.94 295 *e*P **P** **01 57 28.0 +0.4**
comp=Z,14nm,0.7s,mb5.0
GKN Gorkha 75.04 296 *e*P **P** **01 57 28.7 +0.5**
GKN Gorkha 75.04 296 *e*P **P** **01 57 28.7 +0.5**
DMN Daman 75.08 295 *e*P **P** **01 57 29.3 +0.8**
DMN Daman 75.08 295 *e*P **P** **01 57 29.3 +0.8**
DANN Dangsing 75.27 297 *e*P **P** **01 57 30.4 +0.9**
DANN Dangsing 75.27 297 *e*P **P** **01 57 30.4 +0.9**
KOLN Koldanda 75.81 297 *e*P **P** **01 57 33.0 +0.4**
comp=Z,29nm,1.0s,mb5.2
KOLN Koldanda 75.81 297 *e*P **P** **01 57 33.0 +0.4**
comp=Z,29nm,1.0s,mb5.2
AKASG Malin Array Be 76.27 345 P **P** **01 57 34.0 -0.8**
comp=Z,1.0nm,0.3s,mb4.2,baz=15,slow=5.6,SNR=4.6
AKASG Malin Array Be 76.27 345 P **P** **01 57 34.0 -0.8**
AKASG Malin Array Be 76.27 345 P **P** **01 57 34.0 -0.8**
NRDL Niedersach Rie 76.35 357 *e*P **P** **01 57 34.8 -0.4**
comp=Z,10.0nm,1.2s,mb4.6
IBBN Ibbenburen 76.58 359 *e*P **P** **01 57 37.1 +0.5**
comp=Z,28nm,1.4s,mb5.0
CLZ Clausthal 76.99 357 *e*P **P** **01 57 40.0 +1.1**
comp=Z,26nm,1.3s,mb5.0
CLZ Clausthal 76.99 357 *e*P **P** **01 57 40.0 +1.1**
CLZ pmax pmax
comp=Z,26nm,1.3s,mb5.0
CLL Collm 77.42 355 *e*P **P** **01 57 41.2 -0.1**
comp=Z,6.0nm,0.8s,mb4.6
CLL *e*pP pP 01 57 58.1 +3.4
CLL Collm 77.42 355 *i* P **P** **01 57 40.7 -0.6**
CLL pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CLL Collm 77.42 355 *i* P **P** **01 57 40.7 -0.6**
comp=Z,6.0nm,0.8s,mb4.6
CLL *e*PPS 02 08 25.0
CLL *e*(SS) 02 12 55.0
CLL *e* 02 13 39.0
NEUB Neuenburg 77.57 356 *e*P **P** **01 57 42.9 +0.8**
comp=Z,27nm,1.2s,mb5.0
BRG Berggiesshubel 77.80 355 *e*P **P** **01 57 43.5 +0.1**
comp=Z,22nm,1.5s,mb4.9
BRG Berggiesshubel 77.80 355 *e*P **P** **01 57 43.5 +0.1**
BRG *e* pP 01 58 01.2 +4.4
BRG pmax pmax
comp=Z,22nm,1.5s,mb4.9
BRG pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
KBL Kabul 77.96 311 *e*P **P** **01 57 44.1 -0.5**
comp=Z,5.9nm,0.9s,mb4.5
KBL Kabul 77.96 311 *e*P **P** **01 57 44.1 -0.5**
KBL pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MOX Moxa 78.14 356 *e*P **P** **01 57 45.9 +0.6**
comp=Z,12nm,1.3s,mb4.7
MOX Moxa 78.14 356 *e*P **P** **01 57 45.9 +0.6**
MOX pmax pmax
comp=Z,12nm,1.3s,mb4.7
DPC Dobruska-Polom 78.16 353 *e*P **P** **01 57 45.4 0.0**
DPC Dobruska-Polom 78.16 353 *e*P **P** **01 57 45.4 0.0**
KWP Kalwaria Pacla 78.24 349 *e*P **P** **01 57 45.5 -0.4**
comp=Z,4.1nm,0.5s,mb4.6
KWP Kalwaria Pacla 78.24 349 *e*P **P** **01 57 45.5 -0.4**
KWP pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
NKC Novy Kostel 78.52 356 *e*P **P** **01 57 47.5 +0.1**
NKC Novy Kostel 78.52 356 *e*P **P** **01 57 47.5 +0.1**
PRU Pruhonice 78.64 354 *e*P **P** **01 57 49.1 +1.0**
PRU Pruhonice 78.64 354 *e*P **P** **01 57 49.1 +1.0**
TNS Taunus Mts 78.66 358 *e*P **P** **01 57 48.8 +0.6**
comp=Z,7.0nm,0.9s,mb4.6
TNS Taunus Mts 78.66 358 *e*P **P** **01 57 48.8 +0.6**
TNS pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
GIVF Givet 78.81 1 *e*P **P** **01 57 49.5 +0.5**
GIVF Givet 78.81 1 *e*P **P** **01 57 49.5 +0.5**
GIVF Givet 78.81 1 *e*P **P** **01 57 49.5 +0.5**
BAIF Baives 78.84 1 *e*P **P** **01 57 49.6 +0.4**
comp=Z,40nm,1.1s,mb4.9
BAIF Baives 78.84 1 *e*P **P** **01 57 49.6 +0.4**
comp=Z,20nm,1.1s,mb5.0
BAIF Baives 78.84 1 *e*P **P** **01 57 49.6 +0.4**
BAIF pmax pmax
comp=Z,20nm,1.1s,mb5.0
KOLS Kolonicke sedl 78.98 349 *e*P **P** **01 57 49.7 -0.3**
KOLS Kolonicke sedl 78.98 349 *e*P **P** **01 57 49.7 -0.3**
ROTZ Rotzenmuhle 78.99 356 *e*P **P** **01 57 50.3 +0.3**
comp=Z,7.0nm,1.2s,mb4.5
CRVS Cervenica-Dubn 79.11 349 *e*P **P** **01 57 52.1 +1.4**
CRVS Cervenica-Dubn 79.11 349 *e*P **P** **01 57 52.1 +1.4**
GRF Grafenberg Arr 79.11 356 *e*P **P** **01 57 50.8 +0.1**
comp=Z,31nm,1.5s,mb5.0
GRF *e*L 02 53 13.6
comp=Z,68nm,19.4s
GRF Grafenberg Arr 79.11 356 *e*P **P** **01 57 50.8 +0.1**
GRF pmax pmax
comp=Z,31nm,1.5s,mb5.0
WLF Walferdange 79.25 360 *e*P **P** **01 57 49.7 -1.7**
comp=Z,8.0nm,1.1s,mb4.6
KHC Kasperske Hory 79.56 355 *e*P **P** **01 57 52.9 -0.2**
comp=Z,18nm,1.5s,mb4.8
KHC Kasperske Hory 79.56 355 *e*P **P** **01 57 53.7 +0.6**
KHC Kasperske Hory 79.56 355 *e*P **P** **01 57 53.7 +0.6**
KHC *e*pP pP 01 58 06.5 -0.1
WET Wettzell 79.58 355 *e*P **P** **01 57 53.9 +0.7**
comp=Z,5.0nm,1.1s,mb4.4
WET Wettzell 79.58 355 *e*P **P** **01 57 53.9 +0.7**
WET pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
KECS Kecovo 79.63 350 *e*P **P** **01 57 54.2 +0.7**
KECS Kecovo 79.63 350 *e*P **P** **01 57 54.2 +0.7**
GEC2 GERESS Array S 79.83 355 *e*P **P** **01 57 55.1 +0.5**
comp=Z,23nm,1.8s,mb4.8
GEC2 GERESS Array S 79.83 355 *e*P **P** **01 57 55.1 +0.5**
GEC2 pmax pmax
comp=Z,23nm,1.8s,mb4.8
GERES GERESS Array B 79.83 355 P **P** **01 57 54.8 +0.1**
comp=Z,1.9nm,0.9s,mb4.0,baz=20,slow=4.3,SNR=12
GERES GERESS Array B 79.83 355 P **P** **01 57 54.8 +0.1**
GERES GERESS Array B 79.83 355 P **P** **01 57 54.8 +0.2**
FLN La Foliniere 80.01 4 *e*P **P** **01 57 55.7 +0.1**
FLN *e*MLR MLR
comp=Z,96nm,19.8s,MS3.8
FLN La Foliniere 80.01 4 *e*P **P** **01 57 55.7 +0.1**
FLN LR LR
comp=Z,100nm,19.8s,MS4.2
comp=Z,100nm,19.8s,MS4.2
FLN MLR MLR
comp=Z,7.9nm,0.5s,mb4.6
LDF La Druitiere 80.19 4 *e*P **P** **01 57 56.3 -0.3**
comp=Z,4.0nm,0.5s,mb4.6
LDF La Druitiere 80.19 4 *e*P **P** **01 57 56.3 -0.3**
comp=Z,4.0nm,0.5s,mb4.6
LDF La Druitiere 80.19 4 *e*P **P** **01 57 56.3 -0.3**
LDF pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
ROSF Rostrenen 80.28 6 *e*P **P** **01 57 57.1 +0.1**
ROSF Rostrenen 80.28 6 *e*P **P** **01 57 57.1 +0.1**
ROSF Rostrenen 80.28 6 *e*P **P** **01 57 57.1 +0.1**
GRR Gorron 80.36 4 *e*P **P** **01 57 57.8 +0.3**
GRR Gorron 80.36 4 *e*P **P** **01 57 57.8 +0.3**
GRR Gorron 80.36 4 *e*P **P** **01 57 57.8 +0.3**
SGMF Saint Gilles 80.41 6 *e*P **P** **01 57 57.9 +0.2**
SGMF Saint Gilles 80.41 6 *e*P **P** **01 57 57.9 +0.2**
SGMF Saint Gilles 80.41 6 *e*P **P** **01 57 57.9 +0.2**
MEZF Maizieres J'vi 80.41 0 *e*P **P** **01 57 58.2 +0.5**
MEZF Maizieres J'vi 80.41 0 *e*P **P** **01 57 58.2 +0.5**
CDF Champ du Feu 80.49 359 *e*P **P** **01 57 58.6 +0.4**
comp=Z,10nm,0.7s,mb4.5
CDF Champ du Feu 80.49 359 *e*P **P** **01 57 58.6 +0.4**
comp=Z,5.1nm,0.7s,mb4.6
CDF Champ du Feu 80.49 359 *e*P **P** **01 57 58.6 +0.4**
CDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ECH Echery 80.69 359 *e*P **P** **01 57 59.0 -0.3**
comp=Z,10nm,1.0s,mb4.7
ECH Echery 80.69 359 *e*P **P** **01 57 59.0 -0.2**
ECH pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
SFTF Sexfontaines 80.70 0 *e*P **P** **01 57 59.8 +0.5**
comp=Z,62nm,1.1s,mb5.1
SFTF Sexfontaines 80.70 0 *e*P **P** **01 57 59.8 +0.5**
comp=Z,62nm,1.1s,mb5.5
HAU Haudompre 80.91 360 *e*P **P** **01 58 00.8 +0.4**
comp=Z,22nm,1.0s,mb4.7
HAU *e*MLR MLR
comp=Z,90nm,17.2s,MS3.9
HAU Haudompre 80.91 360 *e*P **P** **01 58 00.8 +0.4**
comp=Z,11nm,1.0s,mb4.8
HAU LR LR
comp=Z,90nm,17.3s,MS4.2
HAU Haudompre 80.91 360 *e*P **P** **01 58 00.8 +0.4**
HAU pmax pmax
comp=Z,11nm,1.0s,mb4.7
HAU MLR MLR
comp=Z,90nm,17.3s,MS4.2
HINF Hinteralfeld 81.09 359 *e*P **P** **01 58 01.6 +0.2**
comp=Z,12nm,0.7s,mb4.7
HINF Hinteralfeld 81.09 359 *e*P **P** **01 58 01.6 +0.2**
comp=Z,6.3nm,0.7s,mb4.7
HINF Hinteralfeld 81.09 359 *e*P **P** **01 58 01.6 +0.2**
HINF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
HYF Humbligny 81.61 2 *e*P **P** **01 58 04.8 +0.7**
HYF Humbligny 81.61 2 *e*P **P** **01 58 04.8 +0.7**
LOR Lormes 81.63 1 *e*P **P** **01 58 04.7 +0.4**
comp=Z,46nm,1.2s,mb5.0
LOR *e*MLR MLR
comp=Z,84nm,20.0s,MS3.8
LOR Lormes 81.63 1 *e*P **P** **01 58 04.7 +0.4**
comp=Z,23nm,1.2s,mb5.0
LOR LR LR
comp=Z,80nm,20.0s,MS4.1
LOR Lormes 81.63 1 *e*P **P** **01 58 04.7 +0.4**
LOR pmax pmax
comp=Z,23nm,1.2s,mb5.0
LOR MLR MLR
comp=Z,80nm,20.0s,MS4.1
SSF Saint Saulge 81.83 2 *e*P **P** **01 58 05.7 +0.4**
SSF Saint Saulge 81.83 2 *e*P **P** **01 58 05.7 +0.4**
SSF Saint Saulge 81.83 2 *e*P **P** **01 58 05.7 +0.4**
AVF Avril sur Loir 82.10 2 *e*P **P** **01 58 07.1 +0.4**
AVF Avril sur Loir 82.10 2 *e*P **P** **01 58 07.1 +0.4**
AVF Avril sur Loir 82.10 2 *e*P **P** **01 58 07.1 +0.4**
MFF Saint Martin d 82.18 4 *e*P **P** **01 58 07.6 +0.4**
comp=Z,26nm,1.1s,mb4.8
MFF Saint Martin d 82.18 4 *e*P **P** **01 58 07.6 +0.4**
comp=Z,13nm,1.1s,mb4.8
MFF Saint Martin d 82.18 4 *e*P **P** **01 58 07.6 +0.4**
MFF pmax pmax
comp=Z,13nm,1.1s,mb4.8
SMF Signal de Mont 82.25 1 *e*P **P** **01 58 07.9 +0.4**
comp=Z,46nm,1.1s,mb5.0
SMF Signal de Mont 82.25 1 *e*P **P** **01 58 07.9 +0.4**
comp=Z,23nm,1.1s,mb5.0
SMF Signal de Mont 82.25 1 *e*P **P** **01 58 07.9 +0.4**
SMF pmax pmax
comp=Z,23nm,1.1s,mb5.0
CABF La Chapelle 82.30 360 *e*P **P** **01 58 08.8 +1.0**
comp=Z,53nm,1.2s,mb5.0
CABF La Chapelle 82.30 360 *e*P **P** **01 58 08.8 +1.0**
comp=Z,26nm,1.2s,mb5.0
CABF La Chapelle 82.30 360 *e*P **P** **01 58 08.8 +1.0**
CABF pmax pmax
comp=Z,26nm,1.2s,mb5.0
BGF Bois d'Agland 82.32 2 *e*P **P** **01 58 08.3 +0.4**
comp=Z,55nm,1.3s,mb5.0
BGF Bois d'Agland 82.32 2 *e*P **P** **01 58 08.3 +0.4**
comp=Z,27nm,1.3s,mb5.0
BGF Bois d'Agland 82.32 2 *e*P **P** **01 58 08.3 +0.4**
BGF pmax pmax
comp=Z,27nm,1.3s,mb5.0
TUE Stuetta 82.39 357 *e*P **P** **01 58 08.2 -0.1**
comp=Z,4.5nm,1.0s,mb4.3
TCF Toulx Ste Croi 82.58 2 *e*P **P** **01 58 09.5 +0.3**
TCF Toulx Ste Croi 82.58 2 *e*P **P** **01 58 09.5 +0.3**
TCF Toulx Ste Croi 82.58 2 *e*P **P** **01 58 09.5 +0.3**
LPL La Plagne 83.39 359 *e*P **P** **01 58 14.1 +0.6**
LPL La Plagne 83.39 359 *e*P **P** **01 58 14.1 +0.6**
LPL La Plagne 83.39 359 *e*P **P** **01 58 14.1 +0.6**
LPG La Plagne 83.41 359 *e*P **P** **01 58 14.1 +0.5**
LPG La Plagne 83.41 359 *e*P **P** **01 58 14.1 +0.5**
LPG La Plagne 83.41 359 *e*P **P** **01 58 14.1 +0.5**
RJF Les Rejaudoux 83.54 3 *e*P **P** **01 58 14.7 +0.5**
RJF *e*MLR MLR
comp=Z,151nm,18.2s,MS4.1
RJF Les Rejaudoux 83.54 3 *e*P **P** **01 58 14.7 +0.5**
RJF LR LR
comp=Z,150nm,18.3s,MS4.4
RJF Les Rejaudoux 83.54 3 *e*P **P** **01 58 14.7 +0.5**
RJF MLR MLR
comp=Z,150nm,18.3s,MS4.4
BNI Bardonecchia 83.86 359 *e*P **P** **01 58 15.9 0.0**
comp=Z,33nm,1.5s,mb5.2
BNI Bardonecchia 83.86 359 *e*P **P** **01 58 15.9 0.0**
BNI pmax pmax
comp=Z,33nm,1.5s,mb5.2
LFF La Frestale 83.88 4 *e*P **P** **01 58 16.8 +0.8**
comp=Z,54nm,1.2s,mb5.2
LFF La Frestale 83.88 4 *e*P **P** **01 58 16.8 +0.8**
comp=Z,27nm,1.2s,mb5.2
LFF La Frestale 83.88 4 *e*P **P** **01 58 16.8 +0.8**
LFF pmax pmax
comp=Z,27nm,1.2s,mb5.2
CAF Calviac 83.94 3 *e*P **P** **01 58 17.1 +0.8**
comp=Z,47nm,1.4s,mb5.1
CAF Calviac 83.94 3 *e*P **P** **01 58 17.1 +0.8**
comp=Z,23nm,1.4s,mb5.1
CAF Calviac 83.94 3 *e*P **P** **01 58 17.1 +0.8**
CAF pmax pmax
comp=Z,23nm,1.4s,mb5.1
ORIF Oris-en-Rattie 84.00 360 *e*P **P** **01 58 18.0 +1.4**
comp=Z,5.0nm,0.6s,mb4.5
ORIF *e*MLR MLR
comp=Z,86nm,18.2s,MS3.9
ORIF Oris-en-Rattie 84.00 360 *e*P **P** **01 58 18.0 +1.4**
comp=Z,2.5nm,0.6s,mb4.5
ORIF Oris-en-Rattie 84.00 360 *e*P **P** **01 58 18.0 +1.4**
ORIF pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
WRA Warramunga Arr 84.10 228 P **P** **01 58 15.5 -1.8**
comp=Z,0.4nm,0.6s,mb3.7,baz=34,slow=5.8,SNR=8.2
WRA pP pP 01 58 28.6 -2.2
comp=Z,0.8nm,0.6s,baz=34,slow=5.8,SNR=6.8
WRA Warramunga Arr 84.10 228 P **P** **01 58 15.5 -1.8**
WRA pP pP 01 58 28.6 -2.2
WRA Warramunga Arr 84.10 228 P **P** **01 58 15.5 -1.8**
WRA *PP pP 01 58 28.6 -2.2
MBDF Montbardon 84.18 359 *e*P **P** **01 58 18.3 +0.8**
comp=Z,14nm,1.0s,mb4.7
MBDF Montbardon 84.18 359 *e*P **P** **01 58 18.3 +0.8**
comp=Z,6.8nm,1.0s,mb4.7
MBDF Montbardon 84.18 359 *e*P **P** **01 58 18.3 +0.8**
MBDF pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
MTLF Montolieu 85.52 3 *e*P **P** **01 58 25.0 +0.7**
MTLF Montolieu 85.52 3 *e*P **P** **01 58 25.0 +0.7**
MTLF Montolieu 85.52 3 *e*P **P** **01 58 25.0 +0.7**
LMR La Mourre 85.58 359 *e*P **P** **01 58 24.1 -0.4**
LMR La Mourre 85.58 359 *e*P **P** **01 58 24.1 -0.4**
LMR La Mourre 85.58 359 *e*P **P** **01 58 24.1 -0.4**
SJPF Ste Jean 85.61 5 *e*P **P** **01 58 25.8 +1.1**
comp=Z,84nm,1.5s,mb5.5
SJPF Ste Jean 85.61 5 *e*P **P** **01 58 25.8 +1.1**
comp=Z,42nm,1.5s,mb5.5
SJPF Ste Jean 85.61 5 *e*P **P** **01 58 25.8 +1.1**
SJPF pmax pmax
comp=Z,42nm,1.5s,mb5.5
BR131 Keskin Array S 85.96 339 *e*P **P** **01 58 26.9 +0.3**
comp=Z,0.6nm,0.5s,mb4.1
BRTR Keskin Array B 85.96 339 P **P** **01 58 26.4 -0.1**
comp=Z,0.7nm,0.5s,mb4.2,baz=23,slow=2.0,SNR=9.9
BRTR Keskin Array B 85.96 339 P **P** **01 58 26.4 -0.1**
BRTR Keskin Array B 85.96 339 P **P** **01 58 26.5 0.0**
SJG San Juan 86.79 65 LR LR 02 40 43.6
comp=Z,110nm,19.8s,MS4.3,baz=277,slow=38
FITZ Fitzroy Crossi 86.80 236 P **P** **01 58 29.9 -0.8**
comp=Z,1.5nm,0.6s,mb4.4,baz=61,slow=5.3,SNR=7.3
FITZ pP pP 01 58 43.2 -1.1
comp=Z,4.2nm,0.9s,baz=359,slow=3.2,SNR=5.8
FITZ Fitzroy Crossi 86.80 236 *e*P **P** **01 58 30.0 -0.8**
comp=Z,5.6nm,1.0s,mb4.8
ASAR Alice Springs 87.53 226 P **P** **01 58 33.4 -0.8**
comp=Z,1.7nm,1.1s,mb4.2,baz=20,slow=5.0,SNR=6.7
ASAR pP pP 01 58 46.4 -1.4
comp=Z,1.0nm,0.5s,baz=24,slow=5.0,SNR=7.1
ASAR Alice Springs 87.53 226 P **P** **01 58 33.4 -0.8**
ASAR pP pP 01 58 46.4 -1.4
ASAR Alice Springs 87.53 226 P **P** **01 58 33.4 -0.8**
ASAR *PP pP 01 58 46.4 -1.4
ESDC Sonseca Array 88.84 7 P **P** **01 58 40.2 -0.1**
comp=Z,1.2nm,0.9s,mb4.2,baz=7,9,slow=4.5,SNR=5.7
ESDC Sonseca Array 88.84 7 P **P** **01 58 40.2 -0.1**
URZ Urewera 89.67 187 LR LR 02 33 07.6
comp=Z,136nm,18.3s,MS4.4,baz=103,slow=32
STKA Stephens Creek 91.61 216 LR LR 02 35 52.0
comp=Z,109nm,19.4s,MS4.3,baz=26,slow=33
TORD Torodi Ar. Bea 115.56 4 PKP PKPdf 02 04 27.5 -1.0
comp=Z,0.2nm,0.7s,baz=349,slow=2.0,SNR=2.8
TORD pPKP pPKPdf 02 04 42.1 -0.6
comp=Z,0.2nm,0.5s,baz=1.2,slow=2.7,SNR=1.8
TORD Torodi Ar. Bea 115.56 4 PKP PKPdf 02 04 27.5 -1.0
TORD pPKP pPKPdf 02 04 42.1 -0.6
TSUM Tsumeb 146.47 339 *e*PKPbc PKPbc 02 05 26.9 -0.6
LBTB Lobatse 149.52 323 *e*PKPbc PKPbc 02 05 35.2 -0.2
LBTB Lobatse 149.52 323 *e*PKP2 PKPbc 02 05 35.2 -0.3
BOSA Boshof 152.87 320 PKPbc PKPbc 02 05 43.3 +0.1
comp=Z,1.2nm,0.4s,baz=238,slow=13,SNR=3.8
BOSA PKPab PKPab 02 05 54.9 +0.6
comp=Z,7.1nm,1.0s,baz=127,slow=4.0,SNR=7.4
BOSA Boshof 152.87 320 PKPbc PKPbc 02 05 43.3 +0.1
BOSA PKPab PKPab 02 05 54.9 +0.6
BOSA Boshof 152.87 320 PKIKP PKPbc 02 05 43.3 +0.1
BOSA 02 05 54.9

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*SKO **02** 01:49:57.5, 42°.12N×20°.52E, h15km, M1.9, ML2.3*
*ISCJB **02** 01:49:58.5±0.4, 42°.08N±0°.02×20°.63E±0°.03, h0km±4km, Error ellipse: s-maj=3.6km s-min=2.9km az=34.2*
*TIR **02** 01:49:59.2±3.5, 42°.15N×20°.59E, h40km±24km, ML2.5*
*CSEM **02** 01:49:59.0±0.2, 42°.07N×20°.59E, h5km, ML2.5, Error ellipse: s-maj=4.5km s-min=3.3km az=38.0*
*PDG **02** 01:50:00.4±0.2, 42°.18N×20°.56E, h5km±1km, ML2.5/9, Error ellipse: s-maj=0.7km s-min=1.1km az=0.0*
ISC 02 01:49:59.6±0.4, **42°.08N**±0°.02×**20°.63E**±0°.02, **h8**km±4km, **n47**,σ1s**23**/87, **10C-7D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCI	**Bajram Curri**	**0.51**	**305**	*i* PG	**Pg**	**01 50 08.3**	**-1.1**
BCI				*i* SG	**Sg**	**01 50 16.8**	**+0.7**
BCI	**Bajram Curri**	**0.51**	**305**	*i* Pg	**Pg**	**01 50 08.3**	**-1.1**
BCI				*i* Sg	**Sg**	**01 50 16.8**	**+0.8**
PUK	**Puka**	**0.55**	**267**	*i* PG	**Pg**	**01 50 08.5**	**-1.7**
PUK				*i* SG	**Sg**	**01 50 17.1**	**-0.2**
PUK	**Puka**	**0.55**	**267**	*i* Pg	**Pg**	**01 50 08.5**	**-1.6**
PUK				*i* Sg	**Sg**	**01 50 17.1**	**-0.2**
SKO	**Skopje**	**0.61**	**99**	*i* Pg	**Pg**	**01 50 12.2**	**+0.7**
SKO				*e*Sg	**Sg**	**01 50 23.3**	**+3.8**
SKO				*e*Lg		01 50 23.9	
	comp=E,104nm,0.3s						
SKO				*e*Lg		01 50 24.4	
	comp=N,188nm,0.3s						
SKO	**Skopje**	**0.61**	**99**	*i* Pg	**Pg**	**01 50 12.1**	**+0.7**
SKO				*e*Sg	**Sg**	**01 50 23.2**	**+3.7**
SKO				*e*Lg		01 50 23.9	
	comp=N,104nm,0.3s						
PVY	**Plav**	**0.72**	**317**	⇑*i* Pg	**Pg**	**01 50 11.4**	**-2.0**
PVY				*e*Sg	**Sg**	**01 50 20.9**	**-1.8**
PVY	**Plav**	**0.72**	**317**	*i* PG	**Pg**	**01 50 11.4**	**-2.0**
PVY				*i* SG	**Sg**	**01 50 20.9**	**-1.8**
PVY	**Plav**	**0.72**	**317**	*i* Pg	**Pg**	**01 50 11.4**	**-2.0**
PVY				*i* Sg	**Sg**	**01 50 20.9**	**-1.8**
KRUS	**Krusevo**	**0.85**	**146**	*i* Pg	**Pg**	**01 50 15.3**	**-0.6**
KRUS	**Krusevo**	**0.85**	**146**	*i* Pg	**Pg**	**01 50 15.2**	**-0.6**
TIR	**Tirane**	**0.92**	**218**	*i* PG	**Pg**	**01 50 16.7**	**-0.6**
TIR				*i* SG	**Sg**	**01 50 31.5**	**+2.2**
TIR	**Tirane**	**0.92**	**218**	*i* Pg	**Pg**	**01 50 16.7**	**-0.6**
IVA	**Berane**	**0.96**	**326**	⇑*i* Pg	**Pg**	**01 50 16.6**	**-1.4**
IVA				*e*Sg	**Sg**	**01 50 29.6**	**-0.9**
BEY	**Berane**	**0.96**	**326**	*i* PG	**Pg**	**01 50 16.6**	**-1.5**
BEY				*i* SG	**Sg**	**01 50 29.6**	**-1.0**
BEY	**Berane**	**0.96**	**326**	*i* Pg	**Pg**	**01 50 16.6**	**-1.5**
BEY				*i* Sg	**Sg**	**01 50 29.6**	**-1.0**
ULC	**Ulcinj**	**1.03**	**264**	⇑*i* Pg	**Pg**	**01 50 18.3**	**-1.1**
ULC				*e*Sg	**Sn**	**01 50 34.5**	**-0.5**
ULC	**Ulcinj**	**1.03**	**264**	*i* PN	**Pg**	**01 50 18.3**	**-1.1**
ULC				*i* SN	**Sn**	**01 50 34.5**	**-0.5**
ULC	**Ulcinj**	**1.03**	**264**	⇑*i* Pg	**Pg**	**01 50 18.3**	**-1.1**
ULC				*e*Sg	**Sn**	**01 50 34.5**	**-0.5**
TTG	**Podgorica**	**1.07**	**290**	⇓*i* Pg	**Pg**	**01 50 18.2**	**-2.0**
TTG				*e*Sg	**Sg**	**01 50 34.3**	**+0.2**
PDG	**Podgorica**	**1.08**	**290**	*i* PG	**Pg**	**01 50 18.2**	**-2.1**
PDG				*i* SG	**Sg**	**01 50 34.3**	**+0.1**
PDG	**Podgorica**	**1.08**	**290**	*i* Pg	**Pg**	**01 50 18.2**	**-2.1**
PDG				*i* Sg	**Sg**	**01 50 34.3**	**+0.1**
BARS	**Barje**	**1.15**	**50**	*e*Pg	**Pg**	**01 50 21.8**	**+0.1**
BARS				*e*Sg	**Sg**	**01 50 37.5**	**+0.9**
BIA	**Bitola**	**1.18**	**153**	*e*Pg	**Pn**	**01 50 21.1**	**-1.2**
BIA				*e*Sg	**Sg**	**01 50 38.9**	**+1.5**
BIA				*e*Lg		01 50 40.2	
	comp=N,13nm,0.2s						
BIA				*e*Lg		01 50 40.4	
	comp=E,17nm,0.2s						
BIA	**Bitola**	**1.18**	**153**	*e*Pg	**Pn**	**01 50 21.0**	**-1.3**
BIA				*e*Sg	**Sg**	**01 50 38.9**	**+1.4**
BIA				*e*Lg		01 50 40.1	
	comp=E,13nm,0.2s						
BUM	**Brajici-Budva**	**1.31**	**280**	⇓*i* Pg	**Pn**	**01 50 23.5**	**-0.6**
BUM				*e*Sg	**Sg**	**01 50 42.9**	**+1.3**
BUM	**Brajici-Budva**	**1.31**	**280**	⇓*i* Pg	**Pn**	**01 50 23.5**	**-0.6**
BUM				*e*Sg	**Sg**	**01 50 42.9**	**+1.3**
NKY	**Niksic**	**1.42**	**302**	⇑*i* Pg	**Pn**	**01 50 24.5**	**-1.1**
NKY				*e*Sg	**Sg**	**01 50 45.4**	**+0.3**
NKY	**Niksic**	**1.42**	**302**	⇑*i* Pg	**Pn**	**01 50 24.5**	**-1.1**
NKY				*e*Sg	**Sg**	**01 50 45.4**	**+0.3**
KBN	**Korca**	**1.46**	**175**	*i* PG	**Pg**	**01 50 28.8**	**+1.3**
KBN	**Korca**	**1.46**	**175**	*i* Pg	**Pg**	**01 50 28.8**	**+1.3**
IVAS	**Ivanjica**	**1.54**	**347**	*e*Pn	**Pn**	**01 50 26.9**	**-0.4**
IVAS				*e*Sg	**Sg**	**01 50 30.3**	**+1.2**
PLE	**Pljevlja**	**1.55**	**324**	⇓*i* Pg	**Pn**	**01 50 26.9**	**-0.5**
PLE				*e*Sg	**Sg**	**01 50 49.8**	**+0.4**
PLE	**Pljevlja**	**1.55**	**324**	⇓*i* Pg	**Pn**	**01 50 26.9**	**-0.5**
PLE				*e*Sg	**Sg**	**01 50 49.8**	**+0.4**
HCY	**Herceg Novi**	**1.62**	**284**	⇑*i* Pg	**Pn**	**01 50 29.1**	**+0.6**
HCY				*e*Sg	**Sg**	**01 50 53.1**	**+1.3**
HCY	**Herceg Novi**	**1.62**	**284**	⇑*i* Pg	**Pn**	**01 50 29.1**	**+0.6**
HCY				*e*Sg	**Sg**	**01 50 53.1**	**+1.3**
VAY	**Valandovo**	**1.64**	**117**	*e*Pn	**Pn**	**01 50 27.4**	**-1.3**
VAY				*e*Sg	**Sg**	**01 50 53.3**	**+1.0**
VAY				*e*Lg		01 50 53.6	
	comp=E,14nm,0.7s						
VAY				*e*Lg		01 50 54.1	
	comp=N,22nm,0.9s						

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
VAY	**Valandovo**	**1.64**	**117**	*e*Pn	**Pn**	**01 50 27.3**	**-1.3**
VAY				*e*Sg	**Sg**	**01 50 53.2**	**+0.9**
VAY				*e*Lg		01 50 53.5	
	comp=N,14nm,0.7s						
UPM	**Unac-Piva**	**1.70**	**312**	⇑*i*Pn	**Pn**	**01 50 29.6**	**+0.2**
UPM				*e*Sn	**Sn**	**01 50 54.4**	**+3.1**
UPM	**Unac-Piva**	**1.70**	**312**	⇑*i*Pn	**Pn**	**01 50 29.6**	**+0.2**
UPM				*e*Sn	**Sn**	**01 50 54.4**	**+3.1**
BRY	**Bratogost**	**1.75**	**299**	⇓*i*Pn	**Pn**	**01 50 30.7**	**+0.5**
BRY				*e*Sn	**Sn**	**01 50 56.5**	**+3.9**
BRY	**Bratogost**	**1.75**	**299**	⇓*i*Pn	**Pn**	**01 50 30.7**	**+0.5**
BRY				*e*Sn	**Sn**	**01 50 56.5**	**+3.9**
GRUS	**Gruza**	**1.81**	**2**	*e*Pn	**Pn**	**01 50 31.8**	**+0.8**
GRUS				*e*Sg	**Sg**	**01 50 59.9**	**+2.1**
ZAPS	**Zavoj**	**1.90**	**50**	*e*Pn	**Pn**	**01 50 31.7**	**-0.6**
ZAPS				*e*Sg	**Sg**	**01 50 59.0**	**-1.8**
VTS	**Vitosha**	**1.98**	**74**	*e*Sg	**Sg**	**01 51 00.3**	**-3.0**
BBLS	**Lazići**	**2.00**	**334**	*e*Pn	**Pn**	**01 50 34.7**	**+1.1**
DIVS	**Divibare**	**2.07**	**347**	*e*Pn	**Pn**	**01 50 35.3**	**+0.7**
DIVS				*e*Sg	**Sg**	**01 51 08.6**	**+2.4**

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*IDC **02** 02:32:44.2±2.1, 24°.35S×179°.93E, h498^{km}±22^{km}, mb3.5/12, mb1 3.7/13, mb1mx3.6/20, mbtmp3.5/13, Error ellipse: s-maj=19.1km s-min=16.0km az=172.0*

*ISCJB **02** 02:32:45.7±1.2, 24°.35S±0°.07×179°.79E±0°.09, h526^{km}±14^{km}, mb3.9/20, Error ellipse: s-maj=13.6km s-min=10.8km az=22.7*

*NEIC **02** 02:32:46.0±1.0, 24°.38S×179°.87E, h522^{km}±11^{km}, mb4.1/12, Error ellipse: s-maj=12.7km s-min=9.6km az=146.0*

ISC 02 02:32:45.8±1.1**, 24°.44S**±0°.07×**179°.91E**±0°.08**, h517**^{km}±13^{km}**, n56,** σ0^s.**84**/48**, mb3.9**/20**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.89**	**345**	*e*P	**P**	**02 34 30.3**	**-1.4**
	7.4nm,0.5s						
DZM	**Mont Dzumac**	**12.60**	**278**	*e*P	**P**	**02 35 31.8**	**+1.2**
DZM				*e*S	**S**	**02 37 48.2**	**-6.6**
DZM	**Mont Dzumac**	**12.60**	**278**	*e*P	**P**	**02 35 31.9**	**+1.2**
	22nm,0.8s						
URZ	**Urewera**	**13.98**	**189**	P	**P**	**02 35 45.2**	**+0.3**
	0.9nm,0.3s,baz=331,slow=5.6,SNR=4.5						
URZ				S	**S**	**02 38 12.1**	**-0.5**
	0.4nm,0.3s,baz=198,slow=22,SNR=4.4						
URZ	**Urewera**	**13.98**	**189**	P	**P**	**02 35 45.2**	**+0.3**
URZ				S	**S**	**02 38 12.1**	**-0.5**
EIDS	**Eidsvold**	**26.14**	**262**	*e*P	**P**	**02 37 38.9**	**+0.4**
CMSA	**Cobar Meteorol**	**30.94**	**249**	*e*P	**P**	**02 38 20.5**	**+0.3**
CTA	**Charters Tower**	**31.40**	**271**	P	**P**	**02 38 24.9**	**+0.6**
	16nm,0.5s,mb4.8,baz=94,slow=10,SNR=14						
CTA	**Charters Tower**	**31.40**	**271**	*e*P	**P**	**02 38 24.5**	**+0.2**
	13nm,0.5s,mb4.7						
CTA	**Charters Tower**	**31.40**	**271**	P	**P**	**02 38 24.9**	**+0.6**
CTAO	**Charters Tower**	**31.40**	**271**	*e*P	**P**	**02 38 24.2**	**0.0**
	11nm,0.4s,mb4.8						
STKA	**Stephens Creek**	**34.45**	**249**	P	**P**	**02 38 50.5**	**+0.5**
	3.3nm,0.5s,mb4.1,baz=96,slow=11,SNR=12						
STKA	**Stephens Creek**	**34.45**	**249**	*e*P	**P**	**02 38 50.2**	**+0.2**
	3.1nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**34.45**	**249**	P	**P**	**02 38 50.5**	**+0.5**
PMG	**Port Moresby**	**34.59**	**290**	P	**P**	**02 38 51.2**	**-0.2**
	7.5nm,0.5s,mb4.5,baz=137,slow=4.9,SNR=5.5						
PMG	**Port Moresby**	**34.59**	**290**	*e*P	**P**	**02 38 51.0**	**-0.4**
	14nm,0.7s,mb4.6						
COEN	**Coen**	**36.12**	**280**	*e*P	**P**	**02 39 05.3**	**+1.1**
ASAR	**Alice Springs**	**41.87**	**261**	P	**P**	**02 39 50.2**	**-0.3**
	2.1nm,0.5s,mb3.9,baz=95,slow=7.2,SNR=36						
ASAR				ScP	ScP	02 44 37.1	+1.7
	1.3nm,1.1s,baz=127,slow=4.4,SNR=4.5						
ASAR	**Alice Springs**	**41.87**	**261**	P	**P**	**02 39 50.2**	**-0.3**
ASAR				ScP	ScP	02 44 37.1	+1.7
WB2	**Warramunga Arr**	**42.28**	**267**	*e*P	**P**	**02 39 52.6**	**-1.2**
WRAB	**Tennant Creek**	**42.28**	**267**	*e*P	**P**	**02 39 52.7**	**-1.1**
	2.2nm,0.3s,mb4.2						
WRA	**Warramunga Arr**	**42.29**	**267**	P	**P**	**02 39 53.0**	**-0.9**
	6.0nm,0.5s,mb4.4,baz=101,slow=8.2,SNR=162						
WRA				ScP	ScP	02 44 40.4	+3.3
	3.0nm,0.9s,baz=101,slow=4.1,SNR=16						
WRA	**Warramunga Arr**	**42.29**	**267**	P	**P**	**02 39 53.0**	**-0.9**
WRA				ScP	ScP	02 44 40.4	+3.3
FORT	**Forrest**	**46.05**	**250**	*e*P	**P**	**02 40 21.9**	**-0.9**
	12nm,0.5s,mb4.7						
FITZ	**Fitzroy Crossi**	**50.70**	**266**	P	**P**	**02 40 57.6**	**-0.1**
	4.7nm,0.6s,mb4.0,baz=110,slow=8.8,SNR=14						
FITZ	**Fitzroy Crossi**	**50.70**	**266**	*e*P	**P**	**02 40 57.5**	**-0.3**
	8.8nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**50.70**	**266**	P	**P**	**02 40 57.6**	**-0.1**
VNDA	**Vanda**	**53.84**	**185**	P	**P**	**02 41 19.8**	**+0.5**
	0.4nm,0.6s,mb2.9,baz=7.0,slow=7.2,SNR=3.6						
VNDA	**Vanda**	**53.84**	**185**	P	**P**	**02 41 19.8**	**+0.5**
MBWA	**Marble Bar**	**55.20**	**260**	*e*P	**P**	**02 41 28.8**	**-1.0**
	1.9nm,0.4s,mb3.7						
CASY	**Casey**	**59.59**	**206**	*e*P	**P**	**02 41 58.4**	**-0.6**
	2.1nm,0.7s,mb3.6						
KKM	**Kota Kinabalu**	**68.98**	**287**	*e*P	**P**	**02 42 59.0**	**-0.5**
	4.0nm,0.5s,mb4.2						
MAW	**Mawson**	**77.22**	**200**	P	**P**	**02 43 46.6**	**+0.8**
	1.2nm,0.5s,mb3.6,baz=152,slow=3.8,SNR=7.6						
MAW	**Mawson**	**77.22**	**200**	P	**P**	**02 43 46.6**	**+0.8**
NVAR	**Mina Array Bea**	**85.20**	**44**	P	**P**	**02 44 28.2**	**+0.9**
	0.4nm,0.5s,mb3.2,baz=234,slow=10,SNR=4.0						
NVAR	**Mina Array Bea**	**85.20**	**44**	P	**P**	**02 44 28.2**	**+0.8**
TUC	**Tucson**	**86.91**	**52**	*e*P	**P**	**02 44 37.0**	**+1.3**
	0.9nm,0.6s,mb3.6						
TXAR	**Lajitas Array**	**90.79**	**58**	P	**P**	**02 44 54.5**	**+0.8**
	1.8nm,0.8s,mb4.1,baz=214,slow=6.4,SNR=25						
TXAR	**Lajitas Array**	**90.79**	**58**	P	**P**	**02 44 54.5**	**+0.8**
ANMO	**Albuquerque**	**91.36**	**52**	*e*P	**P**	**02 44 56.4**	**+0.2**
	1.1nm,0.8s,mb3.8						
ILAR	**Eielson Array**	**92.57**	**14**	P	**P**	**02 44 59.0**	**-2.1**
	0.3nm,0.6s,mb3.5,baz=221,slow=3.6,SNR=2.9						
ILAR	**Eielson Array**	**92.57**	**14**	P	**P**	**02 44 59.0**	**-2.1**
PDAR	**Pinedale Array**	**93.14**	**44**	P	**P**	**02 45 04.5**	**+0.3**
	0.2nm,0.4s,mb3.5,baz=164,slow=2.9,SNR=4.9						
PDAR	**Pinedale Array**	**93.14**	**44**	P	**P**	**02 45 04.5**	**+0.3**
SDCO	**Great Sand Dun**	**93.37**	**50**	*e*P	**P**	**02 45 05.7**	**+0.2**
	0.4nm,0.6s,mb3.6						
FINES	**FINESS Array B**	**138.93**	**341**	PKhKP	PKPpre	02 51 04.5	
	0.8nm,0.7s,baz=64,slow=4.4,SNR=3.8						
FINES	**FINESS Array B**	**138.93**	**341**	PKP	PKPpre	02 51 04.5	
NOA	**NORSAR Array B**	**142.60**	**351**	PKhKP	PKPpre	02 51 15.3	
	0.8nm,0.7s,baz=8.5,slow=1.6,SNR=3.2						
NOA	**NORSAR Array B**	**142.60**	**351**	PKP	PKPpre	02 51 15.3	
AKASG	**Malin Array Be**	**145.38**	**327**	PKPbc	PKPbc	02 51 24.4	-1.0
	0.3nm,0.3s,baz=63,slow=36,SNR=4.3						
AKASG	**Malin Array Be**	**145.38**	**327**	PKPbc	PKPbc	02 51 24.4	-1.0
BRTR	**Keskin Array B**	**147.83**	**306**	PKPbc	PKPbc	02 51 32.2	-0.3
	0.6nm,0.6s,baz=152,slow=5.6,SNR=5.2						
BRTR	**Keskin Array B**	**147.83**	**306**	PKPbc	PKPbc	02 51 32.2	-0.3
CLL	**Collm**	**151.34**	**343**	*i* PKPbc	PKPbc	02 51 40.2	-0.3
	comp=Z,4.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**168.64**	**189**	PKP	PKPdf	02 51 52.1	-1.8
	comp=Z,0.8nm,1.0s,baz=329,slow=0.9,SNR=3.4						
TORD				PKPab	PKPab	02 53 07.1	0.0
	comp=Z,0.4nm,0.7s,baz=190,slow=3.5,SNR=5.9						
TORD	**Torodi Ar. Bea**	**168.64**	**189**	PKP	PKPdf	02 51 52.1	-1.8
TORD				PKPab	PKPab	02 53 07.1	0.0

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*NIED **02** 02:35:00, 45°.00N×150°.90E, h8^{km}, Mw4.6 Best double couple: M₀1.03000×10^{16} NP1:ϕ_s78.00000°, δ72.00000°, λ96.00000°. NP2:ϕ_s239.00000°, δ18.00000°, λ73.00000°.*

*BGS **02** 02:35:44.4±2.1, 42°.68N×156°.52E, h33^{km}, mb5.0*

*IDC **02** 02:35:56.7±0.5, 45°.00N×150°.70E, h0^{km}, mb4.4/28, mb1 4.5/32, mb1mx4.5/34, mbtmp4.3/32, ML3.9/4, MS3.7/14, Ms1 3.6/14, ms1mx3.4/42, Error ellipse: s-maj=14.9km s-min=11.1km az=141.0*

*JMA **02** 02:35:59.4±0.5, 44°.99N×150°.91E, h30^{km}, M4.7*

*ISCJB **02** 02:36:00.7±0.2, 44°.83N±0°.04×150°.77E±0°.03, h41^{km}, mb4.7/160, MS4.0/26, Error ellipse: s-maj=6.3km s-min=2.2km az=153.7*

*MOS **02** 02:36:00.6±0.8, 45°.01N×150°.75E, h35^{km}, mb5.0/67, MS4.0/8, Error ellipse: s-maj=7.3km s-min=4.6km az=106.5*

*NEIC **02** 02:36:01.9±1.2, 44°.98N×150°.76E, h33^{km}±8^{km}, mb4.8/75, Error ellipse: s-maj=5.7km s-min=3.0km az=155.0*

*BJI **02** 02:36:01.4, 45°.26N×150°.84E, h45^{km}, mB4.8/28, mb4.7/39, Ms4.2/29, Ms7 4.0/30*

*TEH **02** 02:36:03.0, 45°.00N×150°.72E, h36^{km}*

*SKHL **02** 02:36:03.2±1.2, 44°.99N×150°.73E, h49^{km}±13^{km}, mb4.9/5, Ms4.1/1, msh5.3/1*

*SZGRF **02** 02:36:08.6, 47°.34N×150°.30E, h46^{km}, mb4.9, MS4.1, Kuril Islands, Russia*

ISC 02 02:36:02.8±0.2**, 44°.89N**±0°.04×**150°.77E**±0°.04**, h43**^{km}±1.7^{km}**:pP-P, n544,** σ0^s.**96**/567**, mb4.7**/160**, MS4.0**/26**, 49C-21D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.09**	**280**	⇓*i*PN	**Pn**	**02 36 34.5**	**-0.7**
KUR				S	**Sn**	**02 37 05.0**	**+5.0**
KUR				pmax	pmax		
	comp=Z,860nm,0.7s						
KUR				pmax	pmax		
	comp=N,150nm,0.6s						
KUR				pmax	pmax		
	comp=E,220nm,0.8s						
KUR				smax			
	comp=N,5μm,1.2s						
KUR				smax			
	comp=E,4μm,2.0s						
KUR				smax			
	comp=N,3μm,0.9s						
KUR				smax			
	comp=E,550nm,0.8s						
KUR	**Kuril'sk**	**2.09**	**280**	⇓*i*P	**Pn**	**02 36 34.5**	**-0.7**
KUR				AMB	AMB	02 36 42.0	
	comp=E,860nm,0.7s						
KUR				AMB	AMB	02 36 42.0	
	comp=E,220nm,0.8s						
KUR				AMB	AMB	02 36 42.0	
	comp=E,150nm,0.6s						
KUR				*e*rx	rx	02 37 05.0	
KUR				A		02 37 21.0	
	comp=E,4μm,2.0s						
KUR				A		02 37 21.0	
	comp=E,5μm,1.2s						
KUR				A		02 37 26.5	
	comp=E,3μm,0.9s						
KUR				A		02 37 26.5	
	comp=E,550nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**3.62**	**258**	⇓*i*PN	**Pn**	**02 36 56.9**	**+0.6**
YUK				pmax	pmax		
	comp=Z,690nm,1.2s						
YUK				pmax	pmax		
	comp=N,188nm,0.4s						
YUK				pmax	pmax		
	comp=E,178nm,0.4s						
YUK				pmax	pmax		
	comp=Z,303nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**3.62**	**258**	⇓*i*P	**Pn**	**02 36 56.9**	**+0.6**
YUK				AMB	AMB	02 37 09.5	
	comp=Z,200nm,0.5s						
YUK				AMB	AMB	02 37 09.5	
	comp=Z,220nm,0.5s						
YUK				AMB	AMB	02 37 09.5	
	comp=Z,360nm,0.5s						
YUK				*i* S	**Sn**	**02 37 36.3**	**-1.4**
YUK				A		02 37 39.6	
	comp=Z,425nm,0.5s						
YUK				A		02 37 39.6	
	comp=Z,849nm,0.5s						
YUK				A		02 37 47.9	
	comp=Z,2μm,0.7s						
YUK				A		02 37 47.9	
	comp=Z,3μm,0.7s						
NEM2	**Nemuro 2**	**3.93**	**249**	P	**Pn**	**02 36 58.7**	**-1.8**
NEM2				*e*S	**Sn**	**02 37 41.8**	**-3.6**
JRA	**Rausu**	**4.16**	**259**	P	**Pn**	**02 37 04.1**	**+0.4**
JRA				*e*S	**Sn**	**02 37 52.0**	**+1.0**
JNK	**Nakash**	**4.54**	**255**	P	**Pn**	**02 37 08.2**	**-0.7**
JNK				*e*S	**Sn**	**02 37 59.2**	**-1.2**
JAK	**Akkeshi**	**4.78**	**249**	P	**Pn**	**02 37 10.3**	**-1.9**
JAK				*e*S	**Sn**	**02 38 03.4**	**-2.9**
JTKR	**Abashiri--Toko**	**5.00**	**262**	P	**Pn**	**02 37 15.7**	**+0.5**
JTKR				*e*S	**Sn**	**02 38 14.8**	**+3.1**
JAR	**Ashorobuto**	**5.29**	**255**	P	**Pn**	**02 37 19.5**	**+0.3**
JAR				*e*S	**Sn**	**02 38 19.2**	**+0.4**
JMP	**Maruseppu**	**5.38**	**263**	P	**Pn**	**02 37 21.4**	**+1.0**
JMP				*e*S	**Sn**	**02 38 23.6**	**+2.5**
JOB	**Onbets**	**5.39**	**251**	P	**Pn**	**02 37 19.5**	**-1.1**
JOB				*e*S	**Sn**	**02 38 19.7**	**-1.7**
JSE	**Soyaes**	**5.81**	**274**	P	**Pn**	**02 37 27.5**	**+1.1**
JCH	**Churui**	**5.83**	**250**	P	**Pn**	**02 37 25.4**	**-1.2**
JCH				*e*S	**Sn**	**02 38 29.9**	**-2.2**
JKK2	**Kamakawa 2**	**5.84**	**263**	P	**Pn**	**02 37 27.8**	**+1.0**
JKK2				*e*S	**Sn**	**02 38 35.5**	**+3.1**
ASAJ	**Asahikawa**	**5.90**	**265**	Pn	**Pn**	**02 37 29.0**	**+1.4**
	comp=Z,13nm,0.3s,baz=75,slow=20,SNR=64						
ASAJ				LR	LR	02 39 50.8	
	comp=Z,637nm,20.7s,baz=151,slow=40						
ASAJ	**Asahikawa**	**5.90**	**265**	*e*Pn	**Pn**	**02 37 29.1**	**+1.5**
ASAJ	**Asahikawa**	**5.90**	**265**	PN	**Pn**	**02 37 29.0**	**+1.4**
ASAJ				pmax	pmax		
	comp=Z,13nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,637nm,20.7s						
ASAJ	**Asahikawa**	**5.90**	**265**	P	**Pn**	**02 37 28.9**	**+1.3**
YSS	**Yuzh-Sakhalins**	**5.96**	**293**	*e*Pn	**Pn**	**02 37 28.2**	**-0.2**
YSS	**Yuzh-Sakhalins**	**5.96**	**293**	*e*PN	**Pn**	**02 37 29.0**	**+0.6**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS				MLR	MLR		
	comp=N,700nm,15.0s						
YSS				MLR	MLR		
	comp=E,1μm,15.0s						
YSS				MLR	MLR		
	comp=Z,1μm,15.0s						
YSS	**Yuzh-Sakhalins**	**5.96**	**293**	*e*P	**Pn**	**02 37 29.0**	**+0.6**
YSS				AMB	AMB	02 37 30.0	
	comp=Z,40nm,1.0s						
YSS				*e*LQ		02 38 47.0	
YSS				AMS	AMS	02 40 05.0	
	comp=Z,1μm,15.0s						
YSS				AMS	AMS	02 40 05.0	
	comp=Z,700nm,15.0s						
YSS				AMS	AMS	02 40 05.0	
	comp=Z,1μm,15.0s						
JFR	**Furan**	**6.14**	**257**	P	**Pn**	**02 37 31.5**	**+0.6**
JFR				*e*S	**Sn**	**02 38 40.6**	**+0.7**
JEM	**Erimo**	**6.24**	**245**	P	**Pn**	**02 37 32.7**	**+0.4**
ERM	**Erimo**	**6.24**	**245**	*e*Pn	**Pn**	**02 37 33.0**	**+0.7**
ERM	**Erimo**	**6.24**	**245**	*e*PN	**Pn**	**02 37 33.0**	**+0.7**
JWK2	**Keihoku**	**6.30**	**277**	P	**Pn**	**02 37 35.9**	**+2.9**
JAB	**Ashibetsu**	**6.30**	**260**	P	**Pn**	**02 37 34.7**	**+1.6**
JNBK	**Urakawa-nobuka**	**6.38**	**249**	P	**Pn**	**02 37 32.7**	**-1.5**
JBT2	**Biratori 2**	**6.44**	**254**	P	**Pn**	**02 37 34.1**	**-0.9**
SKR	**Severo-Kuril's**	**6.82**	**30**	*e*PN	**Pn**	**02 37 40.0**	**-0.1**
SKR				pmax	pmax		
	comp=Z,150nm,0.5s						
SKR				pmax	pmax		
	comp=N,50nm,0.4s						
SKR				pmax	pmax		
	comp=E,40nm,0.4s						
SKR				MLR	MLR		
	comp=Z,2μm,14.0s						
SKR				MLR	MLR		
	comp=E,2μm,16.0s						
SKR	**Severo-Kuril's**	**6.82**	**30**	*e*P	**Pn**	**02 37 40.0**	**-0.1**
SKR				AMB	AMB	02 37 42.0	
	comp=E,150nm,0.5s						
SKR				AMB	AMB	02 37 42.0	
	comp=E,50nm,0.4s						
SKR				AMB	AMB	02 37 42.0	
	comp=E,40nm,0.4s						
SKR				A		02 38 28.5	
	comp=E,360nm,1.0s						
SKR				A		02 38 28.5	
	comp=E,110nm,1.0s						
SKR				A		02 38 28.5	
	comp=E,50nm,0.7s						
SKR				*e*S	**Sn**	**02 38 53.5**	**-2.9**
SKR				AMS	AMS	02 40 35.0	
	comp=E,2μm,14.0s						
SKR				AMS	AMS	02 40 35.0	
	comp=E,2μm,16.0s						
JNB	**Noboribetsu**	**7.46**	**254**	P	**Pn**	**02 37 48.2**	**-0.8**
JNB				*e*S	**Sn**	**02 39 10.4**	**-1.8**
JKB	**Kayabe**	**7.70**	**250**	P	**Pn**	**02 37 50.7**	**-1.6**
JKB				*e*S	**Sn**	**02 39 13.0**	**-5.2**
JYM2	**Yakumo 2**	**8.05**	**253**	P	**Pn**	**02 37 56.0**	**-1.1**
JSH	**Shimam**	**8.08**	**258**	P	**Pn**	**02 37 58.8**	**+1.3**
TYV	**Tymovskoe**	**8.09**	**320**	*e*P	**Pn**	**02 37 59.0**	**+1.5**
TYV				AMB	AMB	02 38 02.0	
	comp=E,11nm,0.8s						
TYV				AMB	AMB	02 38 02.0	
	comp=E,22nm,0.8s						
TYV				AMB	AMB	02 38 02.0	
	comp=E,31nm,0.8s						
JANG	**Nango**	**8.18**	**240**	P	**Pn**	**02 37 55.2**	**-3.7**
JANG				*e*S	**Sn**	**02 39 21.6**	**-8.4**
JTM	**Tenmabayashi**	**8.22**	**243**	P	**Pn**	**02 37 56.8**	**-2.7**
JTM				*e*S	**Sn**	**02 39 24.4**	**-6.6**
JOSM	**Okushiri--Mats**	**8.68**	**255**	P	**Pn**	**02 38 04.8**	**-0.9**
OFUJ	**Ofunato**	**8.92**	**233**	P	**Pn**	**02 38 05.7**	**-3.3**
OFUJ				*e*S	**Sn**	**02 39 39.4**	**-8.8**
JRG	**Rokugo**	**9.32**	**237**	P	**Pn**	**02 38 13.0**	**-1.4**
JRG				*e*S	**Sn**	**02 39 51.8**	**-6.0**
PEA0B	**Petropavlovsk-**	**9.39**	**26**	*e*Pn	**Pn**	**02 38 13.4**	**-2.0**
PETK	**Petropavlovsk-**	**9.39**	**26**	Pn	**Pn**	**02 38 13.2**	**-2.2**
	comp=E,1.8nm,0.3s,baz=179,slow=14,SNR=8.0						
PETK				LR	LR	02 41 57.4	
	comp=E,211nm,19.1s,baz=35,slow=39						
PETK	**Petropavlovsk-**	**9.39**	**26**	Pn	**Pn**	**02 38 13.2**	**-2.2**
PETK				LR	LR	02 41 57.4	
PETK	**Petropavlovsk-**	**9.39**	**26**	PN	**Pn**	**02 38 13.2**	**-2.2**
JIO	**Ouri**	**9.54**	**231**	P	**Pn**	**02 38 13.6**	**-3.9**
JIO				*e*S	**Sn**	**02 39 52.7**	**-11**
MAJO	**Matsushiro**	**12.65**	**233**	*e*Pn	**Pn**	**02 38 58.1**	**-1.9**
MAJO	**Matsushiro**	**12.65**	**233**	*e*PN	**Pn**	**02 38 58.1**	**-2.0**
MAT	**Matsushiro**	**12.65**	**233**	P	**Pn**	**02 38 57.9**	**-2.2**
MAT				*e*S	**Sn**	**02 41 21.2**	**+1.7**
MJAR	**Matsushiro Arr**	**12.65**	**233**	Pn	**Pn**	**02 38 58.5**	**-1.6**
	comp=E,0.5nm,0.3s,baz=30,slow=12,SNR=8.5						
MJAR	**Matsushiro Arr**	**12.65**	**233**	Pn	**Pn**	**02 38 58.5**	**-1.6**
MJAR	**Matsushiro Arr**	**12.65**	**233**	PN	**Pn**	**02 38 58.5**	**-1.6**
KLR	**Kul'dur**	**13.67**	**295**	*e*P	**Pn**	**02 39 14.8**	**+1.0**
KLR				MLR	MLR		
	comp=E,500nm,14.0s						
KLR				MLR	MLR		
	comp=Z,1μm,14.0s						
MDJ	**Mudanjiang**	**15.05**	**276**	P	**Pn**	**02 39 32.2**	**-0.2**
MDJ				S	**S**	**02 42 18.2**	**-15**
MDJ				pmax	pmax		
	comp=Z,14nm,2.0s						
MDJ				pmax	pmax		
	comp=Z,75nm,3.7s						
MDJ				LR	LR		
	comp=N,250nm,21.6s						
MDJ				LR	LR		
	comp=Z,140nm,22.2s						
FX1	**Attu Island--F**	**16.70**	**53**	Pn	**Pn**	**02 39 52.0**	**-1.5**
	comp=Z,2.0nm,0.3s,baz=145,slow=4.3,SNR=9.2						
FX1				Sn	**Sn**	**02 42 41.5**	**-16**
	comp=Z,0.7nm,0.3s,baz=51,slow=22,SNR=5.6						
FX1	**Attu Island--F**	**16.70**	**53**	Pn	**Pn**	**02 39 52.0**	**-1.5**
FX1				Sn	**Sn**	**02 42 41.5**	**-16**
FX1	**Attu Island--F**	**16.70**	**53**	P	**Pn**	**02 39 52.0**	**-1.5**
ZEA	**Zeya**	**17.64**	**309**	*e*P	**Pn**	**02 40 03.7**	**-1.3**
ZEA				AMB	AMB	02 40 05.1	
	comp=Z,21nm,1.2s						
SEY	**Seymchan**	**18.10**	**2**	⇑*e*P	**Pn**	**02 40 09.6**	**-1.0**
CN2	**Changchun**	**18.13**	**276**	*e*P	**Pn**	**02 40 12.0**	**+0.9**
KSRS	**Korea Array**	**18.70**	**255**	P	**Pn**	**02 40 16.6**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=58,slow=12,SNR=4.0						
KSRS	**Korea Array**	**18.70**	**255**	P	**Pn**	**02 40 16.6**	**-1.5**
CBIJ	**Chichi jima**	**19.05**	**204**	LR	LR	02 48 01.8	
	comp=Z,31nm,19.1s,baz=323,slow=38						
SNY	**Shenyang**	**19.97**	**271**	⇓P	**Pn**	**02 40 36.7**	**+3.4**
SNY				S	**S**	**02 44 06.8**	**-6.7**
SNY				pmax	pmax		
	comp=Z,14nm,0.7s						
SNY				LR	LR		
	comp=N,230nm,17.1s						
SNY				LR	LR		
	comp=E,250nm,21.9s						
SNY				LR	LR		
	comp=Z,210nm,22.8s						
YAK	**Yakutsk**	**21.10**	**332**	*e*P	**P**	**02 40 41.9**	**-1.3**
YAK	**Yakutsk**	**21.10**	**332**	*e*P	**P**	**02 40 41.3**	**-1.9**
YAK				*e*S	**S**	**02 44 32.5**	**-2.8**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.3						
YAK				pmax	pmax		
	comp=N,4.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,5.0nm,0.7s						
YAK				smax			
	comp=N,24nm,1.5s						
YAK				MLR	MLR		
	comp=E,217nm,15.0s,MS3.7						
YAK				MLR	MLR		
	comp=Z,286nm,16.0s,MS3.8						
YAK				MLR	MLR		
	comp=N,107nm,14.0s,MS3.7						
BILL	**Bilibino**	**24.58**	**14**	*e*P	**P**	**02 41 18.0**	**-0.3**
	comp=N,7.0nm,0.5s,mb4.5						
BILL	**Bilibino**	**24.58**	**14**	*e*P	**P**	**02 41 18.5**	**+0.2**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2						
BILL				MLR	MLR		
	comp=Z,300nm,17.0s,MS3.9						
BJI	**Beijing**	**25.85**	**271**	P	**P**	**02 41 31.0**	**+0.9**
BJI				S	**S**	**02 45 58.7**	**+2.0**
BJI				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.5						
BJI				LR	LR		
	comp=N,92nm,21.6s,MS3.6						
BJI				LR	LR		
	comp=E,170nm,20.4s,MS3.6						
BJI				LR	LR		
	comp=Z,130nm,22.3s,MS3.4						
BOD	**Bodaibo**	**25.98**	**313**	*e*P	**P**	**02 41 27.5**	**-3.6**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.8						
NJ2	**Nanjing**	**27.89**	**254**	*e*P	**P**	**02 41 45.1**	**-3.4**
NJ2				S	**S**	**02 46 19.0**	**-10**
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.7						
NJ2				LR	LR		
	comp=N,160nm,12.8s,MS4.2						
NJ2				LR	LR		
	comp=E,340nm,13.7s,MS4.2						
NJ2				LR	LR		
	comp=Z,750nm,14.6s,MS4.4						
HHC	**Hu-ho-hao-te**	**28.82**	**276**	*e*P	**P**	**02 41 58.1**	**+1.4**
HHC				pP	pP	02 42 07.8	-0.5
HHC				sP	sP	02 42 12.2	-1.2
HHC				PP	PP	02 42 51.2	-11
HHC				S	**S**	**02 46 43.7**	**+0.1**
HHC				sS	sS	02 47 00.7	-2.2
HHC				SS	SS	02 48 12.6	-34
HHC				pmax	pmax		
	comp=Z,17nm,0.7s,mb4.9						
HHC				pmax	pmax		
	comp=Z,84nm,5.6s						
HHC				LR	LR		
	comp=N,160nm,10.4s,MS4.1						
HHC				LR	LR		
	comp=E,230nm,14.5s,MS4.1						
HHC				LR	LR		
	comp=Z,240nm,14.2s,MS4.0						
ULN	**Ulaanbaatar**	**30.01**	**291**	*e*P	**P**	**02 42 06.7**	**-0.5**
ULN	**Ulaanbaatar**	**30.01**	**291**	*e*P	**P**	**02 42 06.7**	**-0.5**
SONM	**Songino Array**	**30.45**	**292**	P	**P**	**02 42 11.1**	**0.0**
	comp=Z,2.8nm,0.6s,mb4.2,baz=81,slow=8.3,SNR=17						
SONM				LR	LR	02 55 08.9	
	comp=Z,150nm,19.8s,MS3.6,baz=22,slow=38						
SONM	**Songino Array**	**30.45**	**292**	P	**P**	**02 42 11.1**	**0.0**
SONM				LR	LR	02 55 08.9	
SONM	**Songino Array**	**30.45**	**292**	P	**P**	**02 42 11.1**	**+0.1**
LZH	**Lanzhou**	**36.33**	**273**	*e*P	**P**	**02 43 07.0**	**+4.7**
LZH				pP	pP	02 43 17.5	+3.5
LZH				sP	sP	02 43 21.1	+2.0
LZH				PP	PP	02 44 30.2	+4.9
LZH				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.9						
LZH				pmax	pmax		
	comp=Z,62nm,5.3s						
LZH				LR	LR		
	comp=N,330nm,13.0s,MS4.4						
LZH				LR	LR		
	comp=E,210nm,13.5s,MS4.4						
LZH				LR	LR		
	comp=Z,400nm,16.7s,MS4.3						
KDAK	**Kodiak Island**	**36.55**	**49**	P	**P**	**02 43 01.8**	**-2.2**
	comp=Z,3.3nm,0.7s,mb4.3,baz=146,slow=19,SNR=4.3						
KDAK	**Kodiak Island**	**36.55**	**49**	P	**P**	**02 43 01.8**	**-2.2**

KDAK **Kodiak Island** 36.55 49 P P 02 43 01.8 -2.2
PPLA **Purkeypile** 36.64 40 eP P 02 43 05.0 +0.3
comp=Z,18nm,1.2s,mb4.8
TRF **Thorofare Moun** 37.52 39 eP P 02 43 12.4 +0.3
GTA **Gaotai** 37.66 280 eP P 02 43 14.3 +0.7
GTA pP pP 02 43 24.8 -0.6
GTA sP sP 02 43 29.0 -1.5
GTA PP PP 02 44 43.8 +3.8
GTA PcP PcP 02 45 34.0 +3.8
GTA S S 02 49 01.8 +1.4
GTA SS SS 02 51 35.3 -11
GTA pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
GTA pmax pmax
comp=Z,74nm,6.2s
GTA LR LR
comp=N,240nm,17.6s,MS4.2
GTA LR LR
comp=E,180nm,14.2s,MS4.2
GTA LR LR
comp=Z,120nm,15.7s,MS3.8
COLD **Coldfoot** 37.78 33 eP P 02 43 15.1 +0.8
MCK **McKinley** 38.12 39 eP P 02 43 17.2 0.0
MCK **McKinley** 38.12 39 eP P 02 43 17.2 0.0
SML **Sawmill** 38.45 42 eP P 02 43 19.5 -0.4
SML **Sawmill** 38.45 42 eP P 02 43 19.5 -0.4
COLA **College** 38.61 37 eP P 02 43 21.3 +0.1
comp=Z,9.4nm,0.6s,mb4.7
COLA **College** 38.61 37 eP P 02 43 21.3 +0.1
COLA pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
ILAR **Eielson Array** 39.02 37 P P 02 43 23.9 -0.8
comp=Z,2.8nm,0.7s,mb4.1,baz=262,slow=7.6,SNR=53
ILAR **Eielson Array** 39.02 37 P P 02 43 23.9 -0.8
ILAR **Eielson Array** 39.02 37 P P 02 43 23.9 -0.8
CD2 **Chengdu** 39.10 266 P P 02 43 25.7 -0.1
CD2 pP pP 02 43 35.5 -2.0
CD2 sP sP 02 43 39.3 -3.3
CD2 PP PP 02 45 00.0 +4.2
CD2 S S 02 49 22.2 -0.1
CD2 SS SS 02 52 06.8 -8.9
CD2 pmax pmax
comp=Z,40nm,0.5s,mb5.4
CD2 pmax pmax
comp=Z,150nm,6.5s
CD2 LR LR
comp=N,160nm,6.5s
CD2 LR LR
comp=Z,150nm,8.3s
GYA **Guiyang** 39.72 258 eP P 02 43 32.6 +1.7
GYA pP pP 02 43 42.4 -0.4
GYA sP sP 02 43 49.0 +1.2
GYA PP PP 02 45 07.2 +4.6
GYA PcP PcP 02 45 39.6 +2.7
GYA ScP ScP 02 49 23.0 +1.0
GYA S S 02 49 33.0 +1.4
GYA sS sS 02 49 51.8 +0.5
GYA SS SS 02 52 22.0 -6.2
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
GYA pmax pmax
comp=Z,90nm,5.0s
GYA LR LR
comp=N,430nm,17.9s,MS4.4
GYA LR LR
comp=E,370nm,18.9s,MS4.4
GYA LR LR
comp=Z,450nm,18.2s,MS4.3
EGAK **Eagle** 41.47 37 eP P 02 43 44.5 -0.5
comp=Z,7.1nm,0.6s,mb4.5
ZALV **Zalesovo Beam** 42.39 307 P P 02 43 50.3 -2.3
comp=Z,1.2nm,0.4s,mb3.9,baz=64,slow=6.9,SNR=6.5
ZALV PcP PcP 02 45 45.2 +0.1
comp=Z,1.2nm,0.5s,baz=75,slow=3.9,SNR=4.8
ZALV LR LR 03 02 32.2
comp=Z,95nm,18.2s,MS3.7,baz=76,slow=38
ZALV **Zalesovo Beam** 42.39 307 P P 02 43 50.3 -2.3
ZALV PcP PcP 02 45 45.2 +0.1
ZALV LR LR 03 02 32.2
ZALV **Zalesovo Beam** 42.39 307 P P 02 43 50.3 -2.3
ZALV 02 45 45.2
KMI **Kunming** 43.29 259 P P 02 44 01.3 +1.0
KMI pP pP 02 44 13.3 +1.1
KMI sP sP 02 44 17.2 0.0
KMI S S 02 50 27.2 +2.6
KMI SS SS 02 53 32.5 -6.5
KMI pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
KMI pmax pmax
comp=Z,69nm,4.2s
KMI LR LR
comp=N,110nm,18.7s,MS3.9
KMI LR LR
comp=E,110nm,18.7s,MS3.9
KMI LR LR
comp=Z,110nm,16.3s,MS3.9
WMQ **Urumqi** 44.09 292 P P 02 44 07.9 +1.5
INK **Inuvik** 44.09 31 P P 02 44 06.7 +0.6
comp=Z,5.9nm,0.5s,mb4.6,baz=298,slow=6.1,SNR=45
INK LR LR 03 06 45.3
comp=Z,69nm,18.3s,MS3.6,baz=346,slow=42
INK **Inuvik** 44.09 31 eP P 02 44 06.4 +0.2
comp=Z,8.0nm,0.7s,mb4.6
INK **Inuvik** 44.09 31 eP P 02 44 06.4 +0.2
INK pmax pmax
comp=Z,8.0nm,0.7s
MK31 **Makanchi Array** 46.35 298 eP P 02 44 23.4 -0.9
MK31 **Makanchi Array** 46.35 298 i P P 02 44 23.7 -0.7
MK31 pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
MKAR **Makanchi Array** 46.35 298 P P 02 44 24.0 -0.4
comp=Z,9.4nm,0.6s,mb4.9,baz=73,slow=7.8,SNR=119
MKAR PcP PcP 02 45 59.0 +0.2
comp=Z,0.5nm,0.5s,baz=94,slow=1.8,SNR=3.2
MKAR LR LR 03 05 03.6
comp=Z,274nm,18.6s,MS4.2,baz=46,slow=38
MKAR **Makanchi Array** 46.35 298 P P 02 44 24.0 -0.4
MKAR PcP PcP 02 45 59.0 +0.2
MKAR LR LR 03 05 03.6
MKAR **Makanchi Array** 46.35 298 P P 02 44 24.0 -0.4
MKAR 02 45 59.1
KURK **Kurchatov** 47.04 304 P P 02 44 29.1 -0.5
comp=Z,8.4nm,0.5s,mb4.9,baz=70,slow=8.7,SNR=51
KURK **Kurchatov** 47.04 304 eP P 02 44 28.6 -1.1
comp=Z,10nm,0.6s,mb4.9
KURK **Kurchatov** 47.04 304 d iP P 02 44 28.3 -1.4
KURK pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
DLBC **Dease Lake** 48.07 44 P P 02 44 38.9 +1.4
comp=Z,2.7nm,0.9s,mb4.3,baz=221,slow=9.3,SNR=3.7
DLBC **Dease Lake** 48.07 44 P P 02 44 38.9 +1.4
CHTO **Chiang Mai** 50.09 256 eP P 02 44 53.7 +0.2
comp=Z,3.0nm,0.8s,mb4.4
CHTO **Chiang Mai** 50.09 256 eP P 02 44 53.7 +0.2
CHTO pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
CMAR **Chiang Mai Arr** 50.33 256 P P 02 44 56.3 +0.9
comp=Z,0.4nm,0.3s,mb3.9,baz=216,slow=28,SNR=2.8
CMAR **Chiang Mai Arr** 50.33 256 P P 02 44 56.3 +0.9
CMAR **Chiang Mai Arr** 50.33 256 P P 02 44 56.3 +0.9
VOSK **Vostochnaya** 50.59 309 P P 02 44 54.8 -2.0
VOSK pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
SHL **Shillong** 50.68 268 ePKP P 02 44 57.5 -0.4
BVAR **Borovoye Array** 50.78 310 P P 02 44 57.8 -0.4
comp=Z,2.2nm,0.7s,mb4.2,baz=78,slow=14,SNR=7.1
BVAR PcP PcP 02 46 14.9 +0.3
comp=Z,1.4nm,0.4s,baz=88,slow=5.0,SNR=4.9
BVAR **Borovoye Array** 50.78 310 P P 02 44 57.9 -0.4
BVAR PcP PcP 02 46 14.9 +0.3
BVAR **Borovoye Array** 50.78 310 P P 02 44 57.8 -0.5
BVAR 02 46 14.9
BVAR pmax pmax
comp=Z,2.0nm,0.7s
BRVK **Borovoye** 50.82 310 eP P 02 44 58.7 +0.1
comp=Z,4.0nm,0.7s,mb4.5
BRVK **Borovoye** 50.82 310↓ eP P 02 44 58.6 0.0
BRVK pmax pmax
comp=Z,7.0nm,1.7s,mb4.3
ZRNK **Zerenda** 51.57 310 P P 02 45 02.7 -1.5
ZRNK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
ULHL **Ulahol** 52.27 295 P P 02 45 10.8 +1.2
SNR=6.4
TKM2 **Tokmak 2** 52.35 296 eP P 02 45 11.2 +1.1
comp=Z,5.6nm,0.6s,mb4.7
TKM2 **Tokmak 2** 52.35 296 eP P 02 45 11.2 +1.0
TKM2 pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
CHMS **Chumysh** 52.85 297 eP P 02 45 13.4 -0.4
comp=Z,5.0nm,0.6s,mb4.6
CHMS **Chumysh** 52.85 297 eP P 02 45 13.4 -0.4
CHMS pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
USP **Ospenovka** 52.87 297 P P 02 45 14.5 +0.5
SNR=10.0
KBK **Karagaybulak** 52.89 296 P P 02 45 12.5 +1.0
SNR=8.3
KBK **Karagaybulak** 52.89 296 eP P 02 45 15.2 +1.0
KBK **Karagaybulak** 52.89 296 eP P 02 45 15.2 +1.0
KZA **Kyzart** 52.99 295 P P 02 45 16.0 +1.0
SNR=7.0
RES **Resolute Bay** 53.11 18 P P 02 45 15.5 +0.1
comp=Z,7.6nm,0.6s,mb4.8,baz=320,slow=6.4,SNR=21
RES **Resolute Bay** 53.11 18 eP P 02 45 14.9 -0.5
comp=Z,9.3nm,0.7s,mb4.8
RES **Resolute Bay** 53.11 18 eP P 02 45 14.9 -0.4
RES pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
AAK **Ala-Archa** 53.20 296 eP P 02 45 16.4 -0.1
comp=Z,8.9nm,0.7s,mb4.8
AAK **Ala-Archa** 53.20 296 c iP P 02 45 16.6 +0.2
AAK pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
YKA **Yellowknife Ar** 53.39 35 P P 02 45 17.6 +0.1
comp=Z,1.9nm,0.7s,mb4.2,baz=296,slow=7.3,SNR=3.7
YKA LR LR 03 08 21.5
comp=Z,7.1nm,18.5s,baz=50,slow=36
YKA **Yellowknife Ar** 53.39 35 P P 02 45 17.6 +0.1
YKA LR LR 03 08 21.5
YKA **Yellowknife Ar** 53.39 35 P P 02 45 17.6 +0.1
GUN **Gumba** 53.53 275 eP P 02 45 19.8 +0.7
comp=Z,21nm,0.4s,mb5.4
GUN **Gumba** 53.53 275 eP P 02 45 19.8 +0.7
comp=Z,21nm,0.4s,mb5.4
EKS2 **Erkin-Say** 53.64 297 P P 02 45 20.1 +0.5
SNR=8.0
EKS2 **Erkin-Say** 53.64 297 eP P 02 45 20.5 +0.9
comp=Z,11nm,0.6s,mb5.0
EKS2 **Erkin-Say** 53.64 297 eP P 02 45 20.5 +0.9
EKS2 pmax pmax
comp=Z,11nm,0.6s,mb5.0
KSH **Kashi** 53.85 292 eP P 02 45 25.5 +4.3
KSH pP pP 02 45 35.5 +2.0
KSH sP sP 02 45 39.4 +1.0
KSH PcP PcP 02 46 30.2 +3.7
KSH PP PP 02 47 28.3 +5.9
KSH ScP ScP 02 50 24.2 +3.4
KSH PcS PcS 02 50 28.1 +2.4
KSH S S 02 52 57.3 +4.3
KSH sS sS 02 53 14.1 +0.8
KSH ScS ScS 02 55 08.6 +1.8
KSH SS SS 02 56 38.3 +4.4
KSH pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
KSH pmax pmax
comp=Z,88nm,6.3s
KSH LR LR
comp=N,77nm,5.7s
KSH LR LR
comp=E,87nm,5.2s
KSH LR LR
comp=Z,160nm,5.7s
KKN **Kakani** 54.02 275 eP P 02 45 23.7 +1.0
comp=Z,16nm,0.5s,mb5.2
KKN **Kakani** 54.02 275 eP P 02 45 23.7 +1.0
comp=Z,16nm,0.5s,mb5.2
KKN **Kakani** 54.02 275 eP P 02 45 23.7 +1.0
KKN pmax pmax
comp=Z,16nm,0.5s,mb5.2
PKI **Pulchoki** 54.06 275 eP P 02 45 23.5 +0.5
comp=Z,11nm,0.6s,mb5.0
PKI **Pulchoki** 54.06 275 eP P 02 45 23.8 +0.8
comp=Z,15nm,0.6s,mb5.1
PKI **Pulchoki** 54.06 275 eP P 02 45 23.8 +0.8
PKI pmax pmax
comp=Z,15nm,0.6s,mb5.1
PKIN **Phulchoki** 54.07 275 eP P 02 45 23.8 +0.8
comp=Z,15nm,0.6s,mb5.1
DMN **Daman** 54.26 275 eP P 02 45 25.2 +0.8
comp=Z,18nm,0.5s,mb5.3
DMN **Daman** 54.26 275 eP P 02 45 25.2 +0.8
comp=Z,18nm,0.5s,mb5.3
GKN **Gorkha** 54.35 276 eP P 02 45 25.6 +0.5
comp=Z,7.8nm,0.5s,mb4.9
GKN **Gorkha** 54.35 276 eP P 02 45 25.6 +0.5
comp=Z,7.8nm,0.5s,mb4.9
HNR **Honiara** 54.70 169 LR LR 03 06 43.1
comp=Z,98nm,18.4s,MS3.9,baz=129,slow=34
DANN **Dangsing** 54.77 277 eP P 02 45 29.3 +1.2
comp=Z,14nm,0.5s,mb5.3
DANN **Dangsing** 54.77 277 eP P 02 45 29.3 +1.2
comp=Z,14nm,0.5s,mb5.2
KOLN **Koldanda** 55.23 276 eP P 02 45 32.1 +0.7
comp=Z,9.4nm,0.6s,mb5.0
KOLN **Koldanda** 55.23 276 eP P 02 45 32.1 +0.7
comp=Z,9.4nm,0.6s,mb5.0
ARU **Arti** 55.27 318 eP P 02 45 27.9 -3.5
ARU **Arti** 55.27 318 d iP P 02 45 28.0 -3.3
ARU S S 02 53 08.9 -2.8
ARU SS SS 02 56 50.1 -5.6
ARU pmax pmax
comp=Z,11nm,1.2s,mb4.8
KK31 **Karatay Array** 55.46 299 i P P 02 45 32.5 -0.4
KK31 pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
KKAR **Karatay Array** 55.46 299 eP P 02 45 33.0 +0.2
KKAR **Karatay Array** 55.46 299 eP P 02 45 33.1 +0.2
AB31 **Akbulak array** 58.36 310 eP P 02 45 52.7 -0.6
AB31 pmax pmax
comp=Z,9.0nm,0.4s,mb5.2
ABKAR **Akbulak array** 58.36 310 eP P 02 45 52.3 -0.9
comp=Z,15nm,0.4s,mb5.4
APA **Apatity** 58.39 336↑ eP P 02 45 54.0 +0.8
APA pmax pmax
comp=Z,50nm,1.4s,mb5.3
APA MLR MLR
comp=Z,2µm,20.0s
DAG **Damaks Havn** 58.43 357 i P pP 02 46 09.6 +3.9
comp=Z,5.0nm,0.8s
AKTO **Aktyubinsk** 58.74 312 P P 02 45 55.4 -0.5
AKTO pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
ARCES **ARCESS Array B** 59.06 340 P P 02 45 56.6 -1.3
comp=Z,3.7nm,0.9s,mb4.4,baz=14,slow=5.4,SNR=6.5
ARCES **ARCESS Array B** 59.06 340 P P 02 45 56.6 -1.3
ARCES **ARCESS Array B** 59.06 340 P P 02 45 56.6 -1.3
KBL **Kabul** 61.22 291 eP P 02 46 12.7 -0.5
comp=Z,16nm,0.8s,mb5.2
KBL **Kabul** 61.22 291 eP P 02 46 12.7 -0.5
KBL pmax pmax
comp=Z,16nm,0.8s,mb5.2
SWMT **Swartz Lake** 61.76 50 eP P 02 46 17.1 +0.5
comp=Z,6.5nm,1.1s,mb4.7
SWMT epP pP 02 46 30.8 +1.7
JOF **Joensuu** 62.27 333 eP P 02 46 18.5 -1.2
JOF pmax pmax
comp=Z,8.0nm,0.5s,mb5.1
JOF **Joensuu** 62.27 333 ep P 02 46 18.5 -1.2
comp=Z,8.1nm,0.5s,mb5.1
SUMG **Summit** 62.66 3 eP P 02 46 22.1 -0.1
comp=Z,25nm,0.8s,mb5.4
SUMG **Summit** 62.66 3 eP P 02 46 22.1 -0.1
SUMG pmax pmax
comp=Z,25nm,0.8s
SUMG **Summit** 62.66 3 i P P 02 46 22.3 +0.1
comp=Z,20nm,0.7s,mb5.4
SUMG i pP 02 46 33.9 -0.8
LRM **Limekiln Ridge** 63.63 51 eP P 02 46 29.8 +0.7
comp=Z,36nm,0.9s,mb5.4
KAF **Kangasniemi** 64.43 335 eP P 02 46 32.5 -1.6
KAF pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
KAF **Kangasniemi** 64.43 335 ep P 02 46 32.5 -1.6
comp=Z,4.3nm,0.5s,mb4.7
NVAR **Mina Array Bea** 64.76 60 P P 02 46 37.3 +0.7
comp=Z,1.1nm,0.6s,mb4.0,baz=302,slow=7.9,SNR=5.9
NVAR **Mina Array Bea** 64.76 60 P P 02 46 37.3 +0.7
FINES **FINESS Array B** 65.01 334 P P 02 46 36.2 -1.6
comp=Z,9.5nm,0.5s,mb5.0,baz=36,slow=8.5,SNR=96
FINES LR LR 03 18 39.2
comp=Z,162nm,18.4s,MS4.3,baz=308,slow=40
FINES **FINESS Array B** 65.01 334 P P 02 46 36.2 -1.6
FINES LR LR 03 18 39.2
FINES **FINESS Array B** 65.01 334 P P 02 46 36.3 -1.6
LKWY **Lake** 65.55 51 eP P 02 46 43.2 +1.5
comp=Z,2.6nm,0.7s,mb4.4
LKWY **Lake** 65.55 51 eP P 02 46 43.2 +1.6
LKWY pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
MOOW **Moose Ponds** 65.88 52 eP P 02 46 45.1 +1.3
comp=Z,4.4nm,1.2s,mb4.4
IMYA **Miami** 65.90 298 eP P 02 46 44.3 +0.2
REDW **Red Top Meadow** 66.06 52 eP P 02 46 45.5 +0.6
comp=Z,6.9nm,1.2s,mb4.6
WRA **Warramunga Arr** 66.24 197 P P 02 46 45.8 -0.4
comp=Z,1.5nm,0.7s,mb4.1,baz=13,slow=6.5,SNR=10.0
WRA **Warramunga Arr** 66.24 197 P P 02 46 45.8 -0.4
WRA **Warramunga Arr** 66.24 197 P P 02 46 45.8 -0.4
IPAY **Payeh** 66.53 299 eP P 02 46 48.6 +0.5
IKRD **Kardeh** 66.62 299 eP P 02 46 45.7 -3.0
FITZ **Fitzroy Crossi** 66.75 206 P P 02 46 49.8 +0.3
comp=Z,3.7nm,0.9s,mb4.4,baz=152,slow=4.4,SNR=7.0
FITZ **Fitzroy Crossi** 66.75 206 P P 02 46 49.8 +0.3
DUG **Dugway** 66.96 56 eP P 02 46 51.7 +0.9
comp=Z,5.5nm,1.1s,mb4.5
DUG **Dugway** 66.96 56 eP P 02 46 51.7 +0.9
DUG pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
PD01 **Pinedale Array** 67.15 52 eP P 02 46 51.8 -0.1
PD01 epP pP 02 47 02.8 -1.6
PD02 **Pinedale Array** 67.16 52 eP P 02 46 50.7 -1.3
BW06 **Boulder Array** 67.17 52 eP P 02 46 51.5 -0.5
comp=Z,2.4nm,0.9s,mb4.2
PDAR **Pinedale Array** 67.17 52 P P 02 46 52.6 +0.5
comp=Z,1.5nm,0.8s,mb4.1,baz=334,slow=1.4,SNR=9.3
PDAR **Pinedale Array** 67.17 52 P P 02 46 52.6 +0.5
IMON **Monand** 68.18 295 eP P 02 46 59.3 +0.8
ULM **Lac du Bonnet** 69.00 39 P P 02 47 02.6 -0.8
comp=Z,2.3nm,0.6s,mb4.3,baz=350,slow=11,SNR=3.7
ULM **Lac du Bonnet** 69.00 39 P P 02 47 02.6 -0.8
ULM **Lac du Bonnet** 69.00 39 P P 02 47 02.6 -0.8
RSSD **Black Hills** 69.28 48 eP P 02 47 05.3 +0.1
comp=Z,9.6nm,1.0s,mb4.7
RSSD **Black Hills** 69.28 48 eP P 02 47 05.3 +0.1
RSSD pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
NB2 **NORSAR Subarra** 69.44 340 P P 02 47 04.8 -1.1
comp=Z,2.0nm,0.5s,mb4.3,baz=28,slow=6.5
NOA **NORSAR Array B** 69.44 340 P P 02 47 04.9 -1.0
comp=Z,2.7nm,0.6s,mb4.4,baz=28,slow=6.5,SNR=29
NOA LR LR 03 22 12.5
comp=Z,72nm,20.4s,MS3.9,baz=20,slow=40
NOA **NORSAR Array B** 69.44 340 P P 02 47 04.9 -1.0
NOA LR LR 03 22 12.5
NOA **NORSAR Array B** 69.44 340 P P 02 47 04.9 -1.0
HFS **Hagfors** 69.61 339 LR LR 03 21 14.3
comp=Z,64nm,18.8s,MS3.9,baz=252,slow=39
ASAR **Alice Springs** 69.94 196 P P 02 47 10.9 +1.5
comp=Z,2.3nm,0.8s,mb4.1,baz=16,slow=5.7,SNR=18
ASAR **Alice Springs** 69.94 196 P P 02 47 10.9 +1.5
ASAR **Alice Springs** 69.94 196 P P 02 47 10.9 +1.5
IANJ **Anjilo** 70.30 301 eP P 02 47 12.8 +1.1
ISHM **Shahmirzad** 70.46 301 eP P 02 47 13.9 +1.3
BORG **Borgarnes** 70.53 356 eP P 02 47 07.4 -5.1
comp=Z,97nm,0.8s,mb5.8
BORG **Borgarnes** 70.53 356 eP P 02 47 07.4 -5.1
BORG pmax pmax
comp=Z,97nm,0.8s
KIV **Kislovodsk** 70.90 313 eP P 02 47 16.1 +0.9
comp=Z,11nm,0.7s,mb4.9
KIV **Kislovodsk** 70.90 313 ceP P 02 47 15.7 +0.5
KIV e 02 47 21.9
KIV e pP 02 47 29.1 +1.3
KIV e 02 47 36.0
KIV pmax pmax
comp=Z,23nm,1.0s,mb5.1
KIV MLR MLR
comp=Z,100nm,17.0s,MS4.1
ILAS **Lasjerd** 70.94 301 eP P 02 47 16.9 +1.3
SMCO **Snowmass** 71.02 53 eP P 02 47 16.8 +0.9
comp=Z,3.4nm,0.9s,mb4.3
SMCO epP pP 02 47 30.6 +2.0
ZEI **Tsey** 71.10 312 eP P 02 47 15.4 -1.0
ZEI pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
DGRG **David-gareji** 71.22 310 P P 02 47 17.1 0.0
ISCO **Idaho Springs** 71.36 52 eP P 02 47 19.1 +1.0
comp=Z,4.8nm,1.0s,mb4.4
ISCO **Idaho Springs** 71.36 52 eP P 02 47 19.1 +1.1
ISCO pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
MTA **Mtatsminda** 71.36 311 P P 02 47 18.9 +0.9
TBLG **Delisi** 71.37 311 eP P 02 47 18.6 +0.6
TBLG **Delisi** 71.37 311 P P 02 47 18.7 +0.7
ONI **Oni** 71.46 312 P P 02 47 19.8 +1.2
IMHD **Mahdasht** 72.12 303 eP P 02 47 23.6 +0.9
AKASG **Malin Array Be** 72.16 325 P P 02 47 21.8 -0.9
comp=Z,2.6nm,0.4s,mb4.5,baz=34,slow=6.1,SNR=13
AKASG **Malin Array Be** 72.16 325 P P 02 47 21.8 -0.8
AKASG **Malin Array Si** 72.16 325 P P 02 47 21.8 -0.8
AKBB **Malin Array Si** 72.16 325 eP P 02 47 21.8 -0.8
AKBB **Malin Array Si** 72.16 325 eP P 02 47 21.8 -0.8
KIEV **Kiev** 72.17 325 eP P 02 47 21.7 -1.0
comp=Z,10nm,1.1s,mb4.7
KIEV **Kiev** 72.17 325 eP P 02 47 21.7 -1.0
KIEV pmax pmax
comp=Z,11nm,1.1s,mb4.7
IHRS **Heris** 72.45 307 eP P 02 47 25.6 +1.0
GNI **Garni** 72.47 309 eP P 02 47 25.5 +0.9
comp=Z,8.3nm,0.6s,mb4.8
GNI **Garni** 72.47 309 ceP P 02 47 26.8 +2.2
GNI pmax pmax
comp=Z,22nm,1.7s
IZEF **Zefreh** 73.00 300 eP P 02 47 29.2 +1.3
IKLH **Kolahrood** 73.17 300 eP P 02 47 29.7 +0.7
ISHB **Shabestar** 73.28 308 eP P 02 47 30.7 +1.2
ECSD **EROS Data Cent** 73.36 44 eP P 02 47 28.9 -1.0
comp=Z,11nm,1.0s,mb4.8
ECSD epP pP 02 47 42.9 +0.4
IAZR **Azarshahr** 73.49 307 eP P 02 47 32.2 +1.4
GKP **Gorka Klasztor** 74.44 333 eP P 02 47 35.8 -0.2
GKP **Gorka Klasztor** 74.44 333 eP P 02 47 35.8 -0.2
BEL **Belsk** 74.44 330 eP P 02 47 36.7 +0.7
BEL **Belsk** 74.44 330 eP P 02 47 36.7 +0.7
IPAR **Pars** 74.62 297 eP P 02 47 38.2 +0.7
IDHR **Dehrash** 75.34 304 eP P 02 47 41.5 0.0
KWP **Kalwaria Pacla** 75.56 328 eP P 02 47 43.2 +0.7
KWP **Kalwaria Pacla** 75.56 328 eP P 02 47 42.5 0.0
comp=Z,42nm,1.1s,mb5.3
KWP **Kalwaria Pacla** 75.56 328 ↑P P 02 47 42.3 -0.2
KWP **Kalwaria Pacla** 75.56 328 ↑i P 02 47 42.3 -0.2
SCHQ **Schefferville** 75.65 21 P P 02 47 42.9 -0.1
comp=Z,3.8nm,0.6s,mb4.5,baz=12,slow=8.5,SNR=5.1
SCHQ **Schefferville** 75.65 21 P P 02 47 42.9 -0.1
LEOM **Leova** 75.86 323 ↓P P 02 47 43.2 -1.1
LEOM **Leova** 75.86 323 ↓i P 02 47 43.2 -1.1
BSEG **Bad Segeberg** 75.93 337 eP P 02 47 44.3 -0.2
comp=Z,14nm,0.8s,mb4.9
BSEG **Bad Segeberg** 75.93 337 eP P 02 47 44.3 -0.2
BSEG pmax pmax
comp=Z,14nm,0.8s,mb4.9
KAC **Achnashellach** 76.04 347↑ eP P 02 47 44.4 -0.7
OJC **Ojcow** 76.13 330 eP P 02 47 45.8 0.0
OJC **Ojcow** 76.13 330 eP P 02 47 45.8 0.0
BURAR **Bucovina Array** 76.21 325 ↑P P 02 47 46.2 -0.1
BURAR **Bucovina Array** 76.21 325 ↑i P 02 47 46.2 -0.1
KPL **Plockton** 76.25 347 eP P 02 47 45.9 -0.4
KPL AMB AMB 02 47 47.2
comp=Z,37nm,2.3s,mb4.9
STHS **Stebnicka Huta** 76.28 329 eP P 02 47 47.0 +0.4
STHS pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
STHS **Stebnicka Huta** 76.28 329 eP P 02 47 47.0 +0.4
KOLS **Kolonicke sedl** 76.29 328 eP P 02 47 46.6 -0.1
KOLS pmax pmax
comp=Z,13nm,1.5s,mb4.6
KOLS **Kolonicke sedl** 76.29 328 eP P 02 47 46.6 -0.1
KSB **Sheil Bridge** 76.33 347 eP P 02 47 46.5 -0.3
TESR 76.51 324 ↑i P P 02 47 47.6 -0.4
NIE **Niedzica** 76.62 329 eP P 02 47 49.2 +0.7
NIE **Niedzica** 76.62 329 eP P 02 47 49.2 +0.7
CRVS **Cervenica-Dubn** 76.62 328 eP P 02 47 48.6 0.0
CRVS pmax pmax
comp=Z,42nm,2.4s,mb4.9

CRVS Cervenica-Dubn 76.62 328 *e*P P **02 47 48.6 0.0**
TLCR 76.63 322 ⇑P P **02 47 49.0 +0.3**
TLCR 76.63 322 ⇑*i*P P **02 47 49.0 +0.3**
KSP Ksiaz 76.81 332 *e*P P **02 47 49.8 +0.2**
TRPA Tarpa 76.85 327 ⇑*i*P P **02 47 50.3 +0.4**
STKA Stephens Creek 76.86 188 P P **02 47 51.3 +1.4**
comp=Z,1.0nm,0.7s,mb3.9,baz=341,slow=12,SNR=3.1
STKA Stephens Creek 76.86 188 P P **02 47 51.3 +1.4**
STKA Stephens Creek 76.86 188 P P **02 47 51.3 +1.4**
PETR 76.89 323 ⇑*i*P P **02 47 52.2 +2.0**
EBH Black Hill 76.93 346 *e*P P **02 47 49.6 -0.5**
CFR Carcaliu 76.93 322 ⇑P P **02 47 49.4 -1.0**
CFR Carcaliu 76.93 322 ⇑*i*P P **02 47 49.4 -1.0**
VRI Vrincioaia 76.99 324 ⇑P P **02 47 51.7 +1.0**
VRI Vrincioaia 76.99 324 ⇑*i*P P **02 47 51.7 +1.0**
OKC Ostrava-Krasne 77.03 331 *e*P P **02 47 50.7 -0.2**
OKC Ostrava-Krasne 77.03 331 *e*P P **02 47 50.7 -0.2**
PLOR Plostina 77.03 324 ⇓P P **02 47 54.9 +3.9**
PLOR Plostina 77.03 324 ⇓*i*P P **02 47 54.9 +3.9**
AMTX Amarillo 77.04 54 *e*P P **02 47 52.4 +1.2**
comp=Z,5.3nm,0.8s,mb4.5
ESY Stoneypath 77.08 345 *e*P P **02 47 50.4 -0.6**
UPC Upice 77.19 332 *e*P P **02 47 51.8 +0.1**
UPC Upice 77.19 332 *e*P P **02 47 51.8 +0.1**
DPC Dobruska-Polom 77.22 332 *e*P P **02 47 52.3 +0.4**
DPC *e* 02 47 57.7
DPC Dobruska-Polom 77.22 332 *e*P P **02 47 52.3 +0.4**
DPC *ex* x 02 47 57.7
NRDL Niedersach Rie 77.26 337 *e*P P **02 47 51.8 -0.3**
comp=Z,53nm,2.1s,mb5.1
NRDL *ep*P pP 02 48 04.0 -0.9
GRER 77.27 323 ⇑*i*P P **02 47 53.9 +1.6**
MORC Moravsky Berou 77.30 331 *e*P P **02 47 52.3 -0.1**
comp=Z,14nm,1.1s,mb4.8
MORC Moravsky Berou 77.30 331 ⇓P P **02 47 52.2 -0.2**
MORC Moravsky Berou 77.30 331 ⇓*i*P P **02 47 52.2 -0.2**
EBL Broad Law 77.30 345 *e*P P **02 47 52.3 0.0**
EAU Auchinoon 77.30 345⇑*e*P P **02 47 52.4 +0.2**
KECS Kecovo 77.33 329 *e*P P **02 47 53.1 +0.5**
KECS pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
KECS Kecovo 77.33 329 *e*P P **02 47 53.1 +0.5**
CLL Collm 77.46 334 *e*P P **02 47 52.3 -0.9**
comp=Z,12nm,0.8s,mb4.9
CLL Collm 77.46 334 ⇑*i*P P **02 47 52.5 -0.7**
CLL *i* 02 47 59.4
CLL *i* pP 02 48 05.8 -0.2
CLL pmax pmax
comp=Z,12nm,0.9s,mb4.8
CLL Collm 77.46 334 ⇑*i*P P **02 47 52.5 -0.7**
comp=Z,12nm,0.9s,mb4.8
CLL *i* pP pP 02 47 59.4 -6.6
CLL *i* PcP PcP 02 48 05.8 +2.3
CLL Lm 03 26 00.0
comp=Z,100nm,18.5s
DOPR Dopca 77.47 324 ⇑*i*P P **02 47 55.1 +1.7**
PGBU Glenifferbraes 77.52 346 *e*P P **02 47 52.3 -1.2**
PGBU AMB AMB 02 47 53.3
comp=Z,60nm,3.1s
BRG Berggiesshubel 77.54 334 *e*P P **02 47 53.4 -0.3**
comp=Z,5.0nm,1.0s,mb4.4
BRG Berggiesshubel 77.54 334 *e*P P **02 47 53.0 -0.7**
BRG pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
MLR Muntele Rosu 77.62 324 LR LR 03 25 41.0
comp=Z,27nm,18.6s,MS3.6,baz=243,slow=38
MLR Muntele Rosu 77.62 324 ⇑P P **02 47 54.6 +0.3**
MLR Muntele Rosu 77.62 324 ⇑*i*P P **02 47 54.6 +0.3**
PVCC Panska Ves 77.64 333 *e*P P **02 47 52.0 -2.3**
PVCC Panska Ves 77.64 333 *e*P P **02 47 52.0 -2.3**
PGOR Pogoanele 77.64 323 ⇑*i*P P **02 47 56.8 +2.4**
CVD Cernavoda 77.66 322 ⇑P P **02 47 55.1 +0.6**
CVD Cernavoda 77.66 322 ⇑*i*P P **02 47 55.1 +0.6**
ISR Istrita 77.66 323 ⇑P P **02 47 54.7 +0.2**
ISR Istrita 77.66 323 ⇑*i*P P **02 47 54.7 +0.2**
ESK Eskdalemuir 77.76 345 *e*P P **02 47 53.2 -1.6**
ESK AMB AMB 02 47 53.9
comp=Z,45nm,2.4s,mb5.0
CLZ Clausthal 77.77 336 *e*P P **02 47 54.7 -0.3**
comp=Z,22nm,1.5s,mb4.9
CLZ *ep*P pP 02 48 08.6 +0.9
CLZ Clausthal 77.77 336 *e*P P **02 47 54.7 -0.3**
CLZ *e**PP pP 02 48 08.6 +0.9
CLZ pmax pmax
comp=Z,22nm,1.5s,mb4.9
ECK Cauldkaine Hil 77.87 345 *e*P P **02 47 55.7 +0.2**
DRGR 77.88 326 ⇑P P **02 47 55.5 -0.2**
DRGR 77.88 326 ⇑*i*P P **02 47 55.5 -0.2**
NEUB Neuenburg 77.92 335 *e*P P **02 47 55.6 -0.2**
comp=Z,18nm,1.1s,mb4.9
VYHS Vyhne 77.92 330 *e*P P **02 47 56.1 +0.2**
VYHS pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
VYHS Vyhne 77.92 330 *e*P P **02 47 56.1 +0.2**
PSZ Piszkesteto 78.02 329 *e*P P **02 47 56.1 -0.4**
comp=Z,8.6nm,1.1s,mb4.6
PSZ Piszkesteto 78.02 329 ⇓P P **02 47 56.0 -0.4**
PSZ Piszkesteto 78.02 329 ⇓*i*P P **02 47 56.0 -0.4**
VOIR 78.04 324 ⇑P P **02 47 57.6 +1.0**
VOIR 78.04 324 ⇑*i*P P **02 47 57.6 +1.0**
IBBN Ibbenburen 78.08 338 *e*P P **02 47 55.7 -1.0**
comp=Z,6.0nm,0.6s,mb4.7
PRU Pruhonice 78.12 333 *e*P P **02 47 57.3 +0.4**
PRU Pruhonice 78.12 333 *e*P P **02 47 57.3 +0.4**
UMR Umm Al-Rimmam 78.16 300 *e*P P **02 47 57.1 -0.4**
MIB Mutribah 78.21 300 *e*P P **02 47 57.9 +0.1**
MIB AMb AMB 02 47 58.9
comp=Z,29nm,0.8s,mb5.3
TREC Trest 78.41 332 *e*P P **02 47 58.5 0.0**
TREC Trest 78.41 332 *e*P P **02 47 58.5 0.0**
SMOL Smolenice 78.41 330 *e*P P **02 47 59.3 +0.7**
SMOL Smolenice 78.41 330 *e*P P **02 47 59.3 +0.7**
GAL1 Galloway 78.46 346 *e*P P **02 47 57.7 -1.0**
GAL1 AMB AMB 02 47 59.5
comp=Z,40nm,2.2s,mb5.0
MOX Moxa 78.46 335 *e*P P **02 47 58.6 -0.2**
comp=Z,6.0nm,0.7s,mb4.6
MOX Moxa 78.46 335 *e*P P **02 47 58.6 -0.2**
MOX pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
LOT Lotru 78.56 325 ⇑*i*P P **02 47 58.3 -1.1**
NKC Novy Kostel 78.57 334 *e*P P **02 47 59.6 +0.2**
NKC Novy Kostel 78.57 334 *e*P P **02 47 59.6 +0.2**
BR131 Keskin Array S 78.59 316 *e*P P **02 48 00.1 +0.4**
comp=Z,2.3nm,0.6s,mb4.3
BRTR Keskin Array B 78.59 316 P P **02 48 00.3 +0.6**
comp=Z,3.6nm,0.7s,mb4.4,baz=86,slow=4.1,SNR=33
BRTR Keskin Array B 78.59 316 P P **02 48 00.3 +0.6**
BRTR Keskin Array B 78.59 316 P P **02 48 00.4 +0.6**
NAY Al-Naaiem 78.66 300 *e*P P **02 48 00.2 -0.1**
NAY AMb AMB 02 48 00.5
comp=Z,11nm,1.0s,mb4.7
UBBA Unterbreizbach 78.78 336 *e*P P **02 48 00.3 -0.3**
comp=Z,4.0nm,0.6s,mb4.5
WMOK Wichita Mounta 78.78 52 *e*P P **02 48 01.5 +0.6**
comp=Z,3.5nm,0.9s,mb4.3
WMOK Wichita Mounta 78.78 52 *e*P P **02 48 01.5 +0.6**
WMOK pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
ZST Bratislava 78.79 330 *e*P P **02 48 00.7 0.0**
ZST Bratislava 78.79 330 *e*P P **02 48 00.7 0.0**
GZR Gura Zlata 79.00 326 ⇓P P **02 48 00.8 -1.1**
GZR Gura Zlata 79.00 326 ⇓*i*P P **02 48 00.8 -1.1**
ROTZ Rotzenmuhle 79.05 334 *e*P P **02 48 02.0 -0.1**
comp=Z,20nm,1.9s,mb4.7
KHC Kasperske Hory 79.17 333 *e*P P **02 48 02.2 -0.5**
comp=Z,8.1nm,0.6s,mb4.8
KHC Kasperske Hory 79.17 333 *e*P P **02 48 02.7 -0.1**
KHC *e* pP 02 48 16.0 +0.5
KHC Kasperske Hory 79.17 333 *e*P P **02 48 02.7 -0.1**
KHC *ep*P pP 02 48 16.0 +0.5
BZS Buzias 79.28 326 ⇑P P **02 48 03.8 +0.4**
BZS Buzias 79.28 326 ⇑*i*P P **02 48 03.8 +0.4**
GEC2 GERESS Array S 79.38 333 *e*P P **02 48 03.8 -0.1**
comp=Z,6.0nm,0.7s,mb4.6
GEC2 GERESS Array S 79.38 333 *e*P P **02 48 03.8 -0.1**
GEC2 pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
GERES GERESS Array B 79.38 333 P P **02 48 03.8 -0.2**
comp=Z,3.9nm,0.6s,mb4.5,baz=36,slow=5.5,SNR=56
GERES GERESS Array B 79.38 333 P P **02 48 03.8 -0.2**
GERES GERESS Array B 79.38 333 P P **02 48 03.8 -0.1**
WET Wettzell 79.39 333 *e*P P **02 48 04.4 +0.5**
comp=Z,7.0nm,0.9s,mb4.6
WET Wettzell 79.39 333 *e*P P **02 48 04.4 +0.5**
WET pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
KBI1 Birley Grange 79.39 343 *e*P P **02 48 04.0 +0.1**
GRF Grafenberg Arr 79.42 335 *e*P P **02 48 04.6 +0.5**
comp=Z,16nm,0.7s,mb5.1
GRF *e*L 03 27 06.8
comp=Z,86nm,19.0s
GRF Grafenberg Arr 79.42 335 *e*P P **02 48 04.6 +0.5**
GRF pmax pmax
comp=Z,16nm,0.7s,mb5.1
GRF MLR MLR
comp=Z,100nm,19.0s,MS4.2
CONA Conrad Observa 79.45 331 ⇑*i*P P **02 48 04.8 +0.5**
comp=Z,9.1nm,0.6s,mb4.9
CSNA Conrad Observa 79.45 331 ⇑*i*P P **02 48 04.7 +0.4**
comp=Z,8.7nm,0.6s,mb4.9
TXAR Lajitas Array 79.84 59 P P **02 48 06.6 -0.2**
comp=Z,0.6nm,0.5s,mb3.8,baz=294,slow=3.9,SNR=11
TXAR Lajitas Array 79.84 59 P P **02 48 06.6 -0.2**
TXAR Lajitas Array 79.84 59 P P **02 48 06.6 -0.2**
PKSM Moragy 79.92 328 ⇓P P **02 48 06.0 -0.9**
PKSM Moragy 79.92 328 ⇓*i*P P **02 48 06.0 -0.9**
MOA Molln 80.06 332 ⇑*i*P P **02 48 08.2 +0.6**
comp=Z,4.5nm,0.7s,mb4.5
MEM Membach 80.08 338 P P **02 48 08.4 +0.7**
BCLA Clavier 80.44 338 P P **02 48 09.2 -0.4**
comp=Z,23nm,2.1s,mb4.7
SNF Seneffe 80.62 339 P P **02 48 10.8 +0.3**
RJOB Jochberg 80.65 333 *e*P P **02 48 11.0 +0.3**
comp=Z,4.0nm,0.8s,mb4.4
SOKA Soboth 80.82 331 ⇓*i*P P **02 48 11.8 +0.2**
comp=Z,4.1nm,0.5s,mb4.6
GIVF Givet 80.86 339 *e*P P **02 48 12.0 +0.2**
GIVF Givet 80.86 339 *e*P P **02 48 12.0 +0.2**
GIVF Givet 80.86 339 *e*P P **02 48 12.0 +0.2**
DOU Dourbes 80.92 339 P P **02 48 11.7 -0.5**
comp=Z,25nm,2.8s,mb4.7
KBA Koelnbreinsper 81.04 332 ⇑*i*P P **02 48 13.4 +0.5**
comp=Z,12nm,0.6s,mb5.0,SNR=17
BAIF Baives 81.06 339 *e*P P **02 48 12.5 -0.4**
BAIF Baives 81.06 339 *e*P P **02 48 12.5 -0.4**
BAIF Baives 81.06 339 *e*P P **02 48 12.5 -0.4**
VTS Vitosha 81.12 324 ⇑*i*P P **02 48 13.7 +0.3**
OBKA Obir 81.13 331 ⇑*i*P P **02 48 13.6 +0.3**
comp=Z,7.2nm,0.6s,mb4.8
WOL Wolverton 81.16 343 *e*P P **02 48 12.9 -0.5**
WOL AMB AMB 02 48 16.6
comp=Z,126nm,1.8s,mb5.5
WATA Walderalm 81.39 333 ⇑*i*P P **02 48 14.7 0.0**
comp=Z,13nm,0.5s,mb5.1,SNR=16
WTTA Wattenberg 81.44 333 ⇑*i*P P **02 48 15.3 +0.3**
comp=Z,30nm,0.9s,mb5.2,SNR=29
BFO Black Forest 81.50 336 *e*P P **02 48 15.6 +0.3**
comp=Z,4.0nm,0.7s,mb4.5
BFO Black Forest 81.50 336 *e*P P **02 48 15.3 +0.1**
comp=Z,5.0nm,0.8s,mb4.5
BFO Black Forest 81.50 336 *e*P P **02 48 15.6 +0.3**
BFO pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
RETA Reutte 81.52 334 ⇑*i*P P **02 48 16.1 +0.7**
comp=Z,4.7nm,0.7s,mb4.5,SNR=6,0
MOTA Moosalm 81.53 334 ⇑*i*P P **02 48 15.5 0.0**
comp=Z,7.4nm,0.6s,mb4.8,SNR=19
CDF Champ du Feu 81.73 336 *e*P P **02 48 16.1 -0.4**
comp=Z,12nm,0.8s,mb4.6
CDF Champ du Feu 81.73 336 *e*P P **02 48 16.1 -0.4**
comp=Z,6.3nm,0.8s,mb4.6
CDF Champ du Feu 81.73 336 *e*P P **02 48 16.1 -0.4**
comp=Z,6.0nm,0.8s,mb4.6
CDF pmax pmax
DAVA Damuels 81.97 334 ⇑*i*P P **02 48 18.3 +0.6**
comp=Z,4.5nm,0.6s,mb4.6
MEZF Maizieres J'vi 82.26 338 *e*P P **02 48 19.2 -0.1**
comp=Z,20nm,0.6s,mb4.9
MEZF Maizieres J'vi 82.26 338 *e*P P **02 48 19.2 -0.1**
comp=Z,20nm,0.6s,mb5.2
HAU Haudompre 82.36 337 *e*P P **02 48 19.3 -0.5**
comp=Z,12nm,0.9s,mb4.5
HAU *e*MLR MLR
comp=Z,71nm,18.5s,MS3.8
HAU Haudompre 82.36 337 *e*P P **02 48 19.3 -0.5**
comp=Z,6.1nm,0.9s,mb4.5
HAU LR LR
comp=Z,70nm,18.5s,MS4.1
HAU Haudompre 82.36 337 *e*P P **02 48 19.3 -0.5**
HAU pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
HAU MLR MLR
comp=Z,70nm,18.5s,MS4.1
HINF Hinteralfeld 82.39 336 *e*P P **02 48 19.9 -0.1**
comp=Z,7.2nm,0.9s,mb4.3
HINF Hinteralfeld 82.39 336 *e*P P **02 48 19.9 -0.1**
comp=Z,3.6nm,0.9s,mb4.3
HINF Hinteralfeld 82.39 336 *e*P P **02 48 19.9 -0.1**
HINF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
CSS Prodhromos 82.40 313 *e*P P **02 48 20.3 0.0**
comp=Z,9.1nm,0.7s,mb4.8
DAVOX Davos/Dischmat 82.42 334 LR LR 03 28 27.7
comp=Z,72nm,18.8s,MS4.1,baz=37,slow=38
SFTF Sexfontaines 82.54 338 *e*P P **02 48 20.5 -0.2**
comp=Z,19nm,0.6s,mb5.0
SFTF Sexfontaines 82.54 338 *e*P P **02 48 20.5 -0.2**
comp=Z,19nm,0.6s,mb5.3
TUE Stuetta 82.86 334 *e*P P **02 48 22.6 +0.2**
comp=Z,5.2nm,0.6s,mb4.7
FLN La Foliniere 83.39 341 *e*P P **02 48 24.7 -0.4**
FLN *e*MLR MLR
comp=Z,73nm,17.8s,MS3.8
FLN La Foliniere 83.39 341 *e*P P **02 48 24.7 -0.4**
FLN LR LR
comp=Z,70nm,17.8s,MS4.1
FLN La Foliniere 83.39 341 *e*P P **02 48 24.7 -0.4**
FLN MLR MLR
comp=Z,70nm,17.8s,MS4.1
LDF La Druitiere 83.47 341 *e*P P **02 48 25.0 -0.5**
comp=Z,4.6nm,0.5s,mb4.5
LDF La Druitiere 83.47 341 *e*P P **02 48 25.0 -0.5**
comp=Z,2.3nm,0.5s,mb4.5
LDF La Druitiere 83.47 341 *e*P P **02 48 25.0 -0.5**
LDF pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
CABF La Chapelle 83.70 336 *e*P P **02 48 27.1 +0.3**
comp=Z,8.7nm,0.8s,mb4.6
CABF La Chapelle 83.70 336 *e*P P **02 48 27.1 +0.3**
comp=Z,4.3nm,0.8s,mb4.6
CABF La Chapelle 83.70 336 *e*P P **02 48 27.1 +0.3**
CABF pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
LOR Lormes 83.72 338 *e*P P **02 48 26.5 -0.3**
comp=Z,11nm,0.6s,mb4.9
LOR *e*MLR MLR
comp=Z,77nm,19.8s,MS3.8
LOR Lormes 83.72 338 *e*P P **02 48 26.5 -0.3**
comp=Z,5.4nm,0.6s,mb4.8
LOR LR LR
comp=Z,80nm,19.8s,MS4.1
LOR Lormes 83.72 338 *e*P P **02 48 26.5 -0.3**
LOR pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
LOR MLR MLR
comp=Z,80nm,19.8s,MS4.1
GRR Gorron 83.83 341 *e*P P **02 48 27.3 -0.1**
comp=Z,33nm,0.7s,mb5.2
GRR Gorron 83.83 341 *e*P P **02 48 27.3 -0.1**
comp=Z,16nm,0.7s,mb5.3
GRR Gorron 83.83 341 *e*P P **02 48 27.3 -0.1**
GRR pmax pmax
comp=Z,17nm,0.7s,mb5.3
SSF Saint Saulge 84.00 338 *e*P P **02 48 28.0 -0.3**
comp=Z,7.4nm,0.5s,mb4.7
SSF Saint Saulge 84.00 338 *e*P P **02 48 28.0 -0.3**
comp=Z,3.7nm,0.5s,mb4.8
SSF Saint Saulge 84.00 338 *e*P P **02 48 28.0 -0.3**
SSF pmax pmax
comp=Z,4.0nm,0.5s,mb4.8
HYF Humbligny 84.03 339 *e*P P **02 48 28.0 -0.4**
HYF Humbligny 84.03 339 *e*P P **02 48 28.0 -0.4**
AVF Avril sur Loir 84.29 338 *e*P P **02 48 29.6 -0.2**
comp=Z,9.5nm,0.7s,mb4.7
AVF Avril sur Loir 84.29 338 *e*P P **02 48 29.6 -0.2**
comp=Z,4.8nm,0.7s,mb4.7
AVF Avril sur Loir 84.29 338 *e*P P **02 48 29.6 -0.2**
AVF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
SMF Signal de Mont 84.29 338 *e*P P **02 48 29.6 -0.2**
SMF Signal de Mont 84.29 338 *e*P P **02 48 29.6 -0.2**
SMF Signal de Mont 84.29 338 *e*P P **02 48 29.6 -0.2**
SGMF Saint Gilles 84.33 342 *e*P P **02 48 29.9 0.0**
comp=Z,44nm,0.8s,mb5.3
SGMF Saint Gilles 84.33 342 *e*P P **02 48 29.9 0.0**
comp=Z,22nm,0.8s,mb5.3
SGMF Saint Gilles 84.33 342 *e*P P **02 48 29.9 0.0**
SGMF pmax pmax
comp=Z,22nm,0.8s,mb5.3
ROSF Rostrenen 84.41 343 *e*P P **02 48 29.7 -0.6**
comp=Z,22nm,0.7s,mb5.1
ROSF Rostrenen 84.41 343 *e*P P **02 48 29.7 -0.6**
comp=Z,11nm,0.7s,mb5.1
ROSF Rostrenen 84.41 343 *e*P P **02 48 29.7 -0.6**
ROSF pmax pmax
comp=Z,11nm,0.7s,mb5.1
LPL La Plagne 84.51 335 *e*P P **02 48 31.4 +0.5**
comp=Z,5.5nm,0.5s,mb4.6
LPL La Plagne 84.51 335 *e*P P **02 48 31.4 +0.5**
comp=Z,2.8nm,0.5s,mb4.7
LPL La Plagne 84.51 335 *e*P P **02 48 31.4 +0.5**
LPL pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
LPG La Plagne 84.52 335 *e*P P **02 48 31.6 +0.6**
comp=Z,13nm,0.8s,mb4.8
LPG La Plagne 84.52 335 *e*P P **02 48 31.6 +0.6**
comp=Z,6.6nm,0.8s,mb4.8
LPG La Plagne 84.52 335 *e*P P **02 48 31.6 +0.6**
LPG pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
BGF Bois d'Agland 84.64 338 *e*P P **02 48 32.2 +0.7**
comp=Z,16nm,0.7s,mb4.9
BGF Bois d'Agland 84.64 338 *e*P P **02 48 32.2 +0.7**
comp=Z,7.8nm,0.7s,mb5.0
BGF Bois d'Agland 84.64 338 *e*P P **02 48 32.2 +0.7**
BGF pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
QUIF Quistinic 84.78 343 *e*P P **02 48 31.8 -0.4**
QUIF Quistinic 84.78 343 *e*P P **02 48 31.8 -0.4**
QUIF Quistinic 84.78 343 *e*P P **02 48 31.8 -0.4**
TCF Toulx Ste Croi 85.05 339 *e*P P **02 48 33.8 +0.2**
comp=Z,11nm,0.7s,mb4.8
TCF Toulx Ste Croi 85.05 339 *e*P P **02 48 33.8 +0.2**
comp=Z,5.6nm,0.7s,mb4.8
TCF Toulx Ste Croi 85.05 339 *e*P P **02 48 33.8 +0.2**
TCF pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
SWET Sewanee 85.16 43 *e*P P **02 48 34.3 -0.1**
comp=Z,6.7nm,0.8s,mb4.8
SWET *ep*P pP 02 48 46.4 -0.9
MBDF Montbardon 85.22 335 *e*P P **02 48 34.2 -0.3**
comp=Z,9.5nm,0.6s,mb4.8
MBDF Montbardon 85.22 335 *e*P P **02 48 34.2 -0.3**
comp=Z,4.8nm,0.6s,mb4.8
MBDF Montbardon 85.22 335 *e*P P **02 48 34.2 -0.3**
MBDF pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
ORIF Oris-en-Rattie 85.31 336 *e*P P **02 48 35.3 +0.4**
comp=Z,10.0nm,0.5s,mb4.9
ORIF *e*MLR MLR
comp=Z,71nm,21.8s,MS3.7
ORIF Oris-en-Rattie 85.31 336 *e*P P **02 48 35.3 +0.4**
comp=Z,5.0nm,0.5s,mb4.9
ORIF Oris-en-Rattie 85.31 336 *e*P P **02 48 35.3 +0.4**
ORIF pmax pmax
comp=Z,5.0nm,0.5s,mb4.9
MFF Saint Martin d 85.35 340 *e*P P **02 48 35.2 +0.1**
comp=Z,23nm,0.7s,mb5.1
MFF Saint Martin d 85.35 340 *e*P P **02 48 35.2 +0.1**
comp=Z,12nm,0.7s,mb5.1
MFF Saint Martin d 85.35 340 *e*P P **02 48 35.2 +0.1**
MFF pmax pmax
comp=Z,12nm,0.7s,mb5.1
SBF Sospel 85.80 334 *e*P P **02 48 37.2 -0.2**
comp=Z,16nm,0.6s,mb5.2
SBF Sospel 85.80 334 *e*P P **02 48 37.2 -0.2**
comp=Z,8.3nm,0.6s,mb5.1
SBF Sospel 85.80 334 *e*P P **02 48 37.2 -0.2**
SBF pmax pmax
comp=Z,8.0nm,0.6s,mb5.1
RJF Les Rejaudoux 86.15 339 *e*P P **02 48 38.7 -0.4**
comp=Z,11nm,0.8s,mb4.8
RJF *e*MLR MLR
comp=Z,113nm,17.0s,MS4.0
RJF Les Rejaudoux 86.15 339 *e*P P **02 48 38.7 -0.4**
comp=Z,5.3nm,0.8s,mb4.8
RJF LR LR
comp=Z,110nm,17.0s,MS4.3
RJF Les Rejaudoux 86.15 339 *e*P P **02 48 38.7 -0.4**
RJF pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
RJF MLR MLR
comp=Z,110nm,17.0s,MS4.3
CAF Calviac 86.36 338 *e*P P **02 48 40.0 -0.1**
comp=Z,8.1nm,0.6s,mb4.9
CAF Calviac 86.36 338 *e*P P **02 48 40.0 -0.1**
comp=Z,4.1nm,0.6s,mb4.8
CAF Calviac 86.36 338 *e*P P **02 48 40.0 -0.1**
CAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.8
PGF Pioggiola 86.49 333 *e*P P **02 48 41.0 +0.2**
comp=Z,37nm,1.0s,mb5.3
PGF Pioggiola 86.49 333 *e*P P **02 48 41.0 +0.2**
comp=Z,18nm,1.0s,mb5.3
PGF Pioggiola 86.49 333 *e*P P **02 48 41.0 +0.2**
PGF pmax pmax
comp=Z,19nm,1.0s,mb5.3
LMR La Mourre 86.56 335 *e*P P **02 48 41.0 -0.1**
comp=Z,19nm,0.8s,mb5.1
LMR La Mourre 86.56 335 *e*P P **02 48 41.0 -0.1**
comp=Z,9.4nm,0.8s,mb5.1
LMR La Mourre 86.56 335 *e*P P **02 48 41.0 -0.1**
LMR pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
LASF Ste Croix 86.66 337 *e*P P **02 48 41.3 -0.3**
LASF Ste Croix 86.66 337 *e*P P **02 48 41.3 -0.3**
LFF La Frestale 86.69 339 *e*P P **02 48 41.2 -0.5**
comp=Z,21nm,0.6s,mb5.3
LFF La Frestale 86.69 339 *e*P P **02 48 41.2 -0.5**
comp=Z,11nm,0.6s,mb5.2
LFF La Frestale 86.69 339 *e*P P **02 48 41.2 -0.5**
LFF pmax pmax
comp=Z,11nm,0.6s,mb5.3
MTLF Montolieu 87.79 338 *e*P P **02 48 47.3 +0.2**
MTLF Montolieu 87.79 338 *e*P P **02 48 47.3 +0.2**
MTLF Montolieu 87.79 338 *e*P P **02 48 47.3 +0.2**
EPF Esparros 88.57 339 *e*P P **02 48 49.6 -1.2**
EPF Esparros 88.57 339 *e*P P **02 48 49.6 -1.2**
EPF Esparros 88.57 339 *e*P P **02 48 49.6 -1.2**
ETSF Etsaut 88.92 339 *e*P P **02 48 52.1 -0.4**
comp=Z,8.9nm,0.7s,mb4.9
ETSF Etsaut 88.92 339 *e*P P **02 48 52.1 -0.4**
comp=Z,4.4nm,0.7s,mb4.9
ETSF Etsaut 88.92 339 *e*P P **02 48 52.1 -0.4**
ETSF pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
ESDC Sonseca Array 92.80 341 P P **02 49 11.3 +0.7**
comp=Z,0.2nm,0.4s,mb3.9,baz=13,slow=4.4,SNR=4.4
ESDC Sonseca Array 92.80 341 P P **02 49 11.3 +0.7**
TORD Torodi Ar. Bea 115.79 326 PKP PKPdf 02 54 39.8 -1.0
comp=Z,0.2nm,0.4s,baz=1.3,slow=2.1,SNR=7.5
TORD Torodi Ar. Bea 115.79 326 PKP PKPdf 02 54 39.8 -1.0
MAW Mawson 129.77 210 PKP PKPdf 02 55 07.2 +1.3
comp=Z,0.6nm,0.5s,baz=63,slow=11,SNR=3.9
MAW Mawson 129.77 210 PKP PKPdf 02 55 07.2 +1.3
MAW Mawson 129.77 210 PKIKP PKPdf 02 55 07.2 +1.3
PLCA Paso Flores 149.64 97 PKPbc PKPbc 02 55 47.5 +0.4
comp=Z,1.8nm,0.7s,baz=214,slow=21,SNR=7.1
PLCA Paso Flores 149.64 97 PKPbc PKPbc 02 55 47.5 +0.4

IDC 02 02:38:06.6±7.2**,30.92S**×**179.88W,h419**km±78km**,**
mb2.9/3**,mb1 3.2**/4**,mb1mx3.0**/18**,mbtmp3.1**/4**,Error**
ellipse: s-maj=77.9km s-min=34.1km az=14.0,
Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.74**	**198**	P	P	P	02 39 59.4	+0.8
	4.2nm,0.3s,baz=353,slow=1.0,SNR=34					S		
URZ						S	02 41 29.4	-1.0
	3.8nm,0.3s,baz=260,slow=22,SNR=16							
ASAR	**Alice Springs**	**41.47**	**268**	P		P	02 45 15.3	+0.1
	0.3nm,0.3s,baz=106,slow=7.4,SNR=7.6							
WRA	**Warramunga Arr**	**42.51**	**274**	P		P	02 45 23.2	-0.2

0.8nm,0.3s,baz=111,slow=8.0,SNR=23
FITZ Fitzroy Crossi 50.75 271 P P 02 46 26.8 +0.4
1.0nm,0.9s,baz=119,slow=10,SNR=3.6
FINES FINESS Array B 145.05 338 PKPbc PKPbc 02 56 54.0 -0.7
1.4nm,0.5s,baz=67,slow=4.4,SNR=13
BRTR Keskin Array B 151.41 297 PKPbc PKPbc 02 57 11.6 -0.1
0.4nm,0.5s,baz=132,slow=2.1,SNR=4.8
BRTR PKPab PKPab 02 57 21.1 -0.8
0.3nm,0.8s,baz=104,slow=6.1,SNR=3.2

NNC 02 03:24:02.6±1.9, 42.46N×80.76E, h0km, mb3.7, mpv3.4, 7C-3D, Error ellipse: s-maj=18.3km s-min=6.7km az=147.0, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**2.90**	**287**	⇑Pg	Pg	03 24 55.1	-3.0
	20nm,0.5s						
KNDC				⇑Lg		03 25 35.1	
	80nm,0.7s						
TKM2	**Tokmak 2**	**3.84**	**279**	⇑Pn	Pn	03 25 03.7	+0.8
	4.7nm,0.6s						
TKM2				⇓Lg		03 26 03.0	
	17nm,0.6s						
MK31	**Makanchi Array**	**4.47**	**14**	⇓Pn	Pn	03 25 10.6	-1.0
	1.1nm,0.3s,baz=203,slow=14,SNR=44						
MK31				⇑Sn	Sn	03 26 06.9	+2.6
	1.5nm,0.3s,baz=188,slow=24,SNR=6.6						
MK31				⇓Lg		03 26 23.2	
	4.6nm,0.5s,baz=192,slow=29,SNR=5.8						
KK31	**Karatay Array**	**7.57**	**278**	Pg	Pg	03 26 22.2	-5.4
	0.9nm,0.6s,baz=95,slow=14,SNR=4.6						
KK31				⇑Lg		03 28 02.7	
	1.2nm,0.6s,baz=89,slow=27,SNR=4.1						
KURBB	**Kurchatov Arra**	**8.31**	**350**	⇑Lg		03 28 25.6	
	1.5nm,0.8s						
KURK	**Kurchatov**	**8.39**	**351**	⇑Lg		03 28 28.2	
	6.0nm,0.8s						

*IDC **02** 03:42:31.1±36.0, 28.33N×69.26E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.2/26, mbtmp3.6/3, MS3.0/1, Ms1 3.0/1, ms1mx2.2/38, Error ellipse: s-maj=1194.0km s-min=32.1km az=139.0*
*NEIC **02** 03:42:39.6±2.4, 29.92N×67.91E, h10km, mb3.5/2, Error ellipse: s-maj=51.0km s-min=19.1km az=136.0*
ISC 02 03:42:47.1±2.2, 30.4N±0.2×67.4E±0.3, h35km, n16, σ1°15/16, mb3.5/3, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**4.34**	**18**	*e*Pn	**Pn**	**03 43 55.0**	**+4.5**
AML	**Almayashu**	**12.73**	**22**	*e*Pn	**Pn**	**03 45 45.9**	**+0.3**
	122nm,0.6s						
KKAR	**Karatay Array**	**12.90**	**10**	*e*Pn	**Pn**	**03 45 49.3**	**+1.4**
EKS2	**Erkin-Say**	**13.24**	**21**	*e*Pn	**Pn**	**03 45 51.0**	**-1.5**
AAK	**Ala-Archa**	**13.45**	**23**	*e*Pn	**Pn**	**03 45 56.1**	**+0.9**
	2.7nm,0.4s						
CHMS	**Chumysh**	**13.86**	**23**	*e*Pn	**Pn**	**03 46 01.4**	**+0.6**
TKM2	**Tokmak 2**	**14.09**	**25**	*e*Pn	**Pn**	**03 46 02.7**	**-1.3**
ABKAR	**Akbulak array**	**19.67**	**345**	*e*P	**Pn**	**03 47 13.6**	**-0.8**
	2.9nm,0.9s						
MK31	**Makanchi Array**	**20.00**	**31**	*e*P	**P**	**03 47 12.3**	**-4.2**
MKAR	**Makanchi Array**	**20.00**	**31**	P	**P**	**03 47 15.6**	**-0.9**
	0.4nm,0.4s,baz=202,slow=9.8,SNR=4.1						
MKAR				LR	LR	03 56 28.4	
	comp=Z,43nm,20.2s,baz=253,slow=40						
MKAR	**Makanchi Array**	**20.00**	**31**	P	**P**	**03 47 15.6**	**-0.9**
MKAR				LR	LR	03 56 28.4	
KURK	**Kurchatov**	**21.94**	**19**	*e*P	**P**	**03 47 32.5**	**-4.9**
	0.9nm,0.5s,mb3.5						
ZALV	**Zalesovo Beam**	**26.67**	**23**	P	**P**	**03 48 24.6**	**+2.1**
	0.9nm,0.5s,mb3.6,baz=224,slow=12,SNR=6.3						
ZALV	**Zalesovo Beam**	**26.67**	**23**	P	**P**	**03 48 24.6**	**+2.1**
TORD	**Torodi Ar. Bea**	**62.65**	**270**	P	**P**	**03 53 08.4**	**0.0**
	0.3nm,0.6s,mb3.6,baz=57,slow=6.2,SNR=5.7						
TORD	**Torodi Ar. Bea**	**62.65**	**270**	P	**P**	**03 53 08.4**	**-0.1**

*ISCJB **02** 03:48:40.8±0.5, 13.33N±0.08×50.65E±0.04, h10km, mb3.9/19, MS3.4/9, Error ellipse: s-maj=11.1km s-min=5.7km az=180.0*
*IDC **02** 03:48:41.1±0.8, 13.27N×50.88E, h0km, mb3.8/14, mb1 4.0/15, mb1mx3.9/28, mbtmp3.9/15, ML4.2/1, MS3.5/10, Ms1 3.5/10, ms1mx3.2/43, Error ellipse: s-maj=22.9km s-min=18.3km az=10.0*
*CSEM **02** 03:48:42.7±0.3, 13.33N×50.71E, h10km, mb4.1/5, Error ellipse: s-maj=13.4km s-min=8.4km az=174.0*
*NEIC **02** 03:48:42.6±0.5, 13.29N×50.86E, h10km, mb4.0/6, Error ellipse: s-maj=14.2km s-min=10.4km az=150.0*
*DHMR **02** 03:48:45.3±2.4, 13.46N×50.37E, h14km±253km, ML3.0*
ISC 02 03:48:42.3±0.6, 13.28N±0.09×50.68E±0.04, h10km, n75, σ1°09/66, mb3.9/19, MS3.4/9, 1C, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**1.99**	**307**	*i* P	**Pn**	**03 49 14.0**	**-2.0**
MUKL				*e*		03 49 14.1	
	baz=110,slow=5.3						
MUKL				*i* S	**Sn**	**03 49 37.4**	**-3.6**
MUKL				AML	AML	03 49 39.4	
	comp=E,205nm,0.5s						
BDHA	**Al Bayda'**	**5.01**	**278**	*i* P	**Pn**	**03 49 58.5**	**+0.8**
BDHA				AML	AML	03 50 03.6	
	comp=Z,20nm,0.3s						
BDHA				*i* S	**Sn**	**03 50 55.1**	**-0.7**
BDHA	**Al Bayda'**	**5.01**	**278**	*i* P	**Pn**	**03 49 58.5**	**+0.8**
	comp=Z,9.9nm,0.3s						
BDHA				*i* S	**Sn**	**03 50 55.1**	**-0.6**
LBOS		**5.31**	**277**	⇑*i* P	**Pn**	**03 50 02.5**	**+0.8**
LBOS				*i* S	**Sn**	**03 51 01.7**	**-1.4**
ATD	**Arta Tunnel**	**7.84**	**258**	Pn	**Pn**	**03 50 41.1**	**+4.6**
	comp=Z,3.0nm,0.3s,baz=253,slow=21,SNR=3.1						
ATD				LR	LR	03 53 00.5	
	comp=Z,448nm,19.7s,baz=105,slow=32						
ATD	**Arta Tunnel**	**7.84**	**258**	Pn	**Pn**	**03 50 41.1**	**+4.6**
ATD				LR	LR	03 53 00.5	
KMBO	**Kilima Mbogo**	**19.55**	**224**	*e*P	**Pn**	**03 53 11.7**	**0.0**
	comp=Z,2.9nm,1.0s						
KMBO	**Kilima Mbogo**	**19.55**	**224**	*e*P	**Pn**	**03 53 11.7**	**0.0**
	comp=Z,2.9nm,1.0s						
EIL	**Elat**	**21.87**	**321**	LR	LR	04 02 06.7	
	comp=Z,137nm,18.7s,MS3.4,baz=273,slow=37						
ASF	**Jabal al Asfar**	**22.65**	**328**	LR	LR	04 03 09.4	
	comp=Z,71nm,18.9s,MS3.1,baz=201,slow=38						
CSS	**Prodhromos**	**26.68**	**327**	*e*P	**P**	**03 54 20.3**	**-1.3**
	comp=Z,6.8nm,1.0s,mb4.1						
CSS	**Prodhromos**	**26.68**	**327**	*e*P	**P**	**03 54 20.3**	**-1.3**
	comp=Z,6.8nm,1.0s,mb4.1						
GNI	**Garni**	**27.27**	**350**	LR	LR	04 07 02.1	
	comp=Z,162nm,19.7s,MS3.6,baz=152,slow=40						
GNI	**Garni**	**27.27**	**350**	*e*P	**P**	**03 54 27.2**	**+0.4**
	comp=Z,11nm,1.0s,mb4.4						
GNI	**Garni**	**27.27**	**350**	*e*P	**P**	**03 54 27.2**	**+0.4**
	comp=Z,11nm,1.0s,mb4.4						
BRTR	**Keskin Array B**	**30.32**	**333**	P	**P**	**03 54 56.3**	**+2.3**
	comp=Z,0.2nm,0.6s,mb3.0,baz=146,slow=10,SNR=3.2						
BRTR	**Keskin Array B**	**30.32**	**333**	P	**P**	**03 54 56.3**	**+2.3**
BRTR	**Keskin Array B**	**30.32**	**333**	P	**P**	**03 54 56.3**	**+2.3**
AAK	**Ala-Archa**	**35.77**	**31**	LR	LR	04 12 19.6	
	comp=Z,96nm,19.2s,MS3.6,baz=200,slow=40						
ABKAR	**Akbulak array**	**36.67**	**10**	*e*P	**P**	**03 55 49.3**	**+0.1**
	comp=Z,0.5nm,0.5s,mb3.6						
ABKAR	**Akbulak array**	**36.67**	**10**	*e*P	**P**	**03 55 49.3**	**+0.1**
	comp=Z,0.5nm,0.5s,mb3.6						
AKTK	**Aktyubinsk**	**37.53**	**8**	P	**P**	**03 55 57.0**	**+0.6**
AKTK	**Aktyubinsk**	**37.53**	**8**	P	**P**	**03 55 57.0**	**+0.5**
AKTO	**Aktyubinsk**	**37.53**	**8**	P	**P**	**03 55 57.0**	**+0.6**
	comp=Z,0.6nm,0.3s,mb3.8,baz=220,slow=9.0,SNR=4.2						
AKASG	**Malin Array Be**	**41.20**	**339**	P	**P**	**03 56 26.6**	**-0.4**
	comp=Z,0.4nm,0.3s,mb3.5,baz=140,slow=7.5,SNR=5.7						
AKASG	**Malin Array Be**	**41.20**	**339**	P	**P**	**03 56 26.6**	**-0.4**
AKASG	**Malin Array Be**	**41.20**	**339**	P	**P**	**03 56 26.6**	**-0.5**
BRVK	**Borovoye**	**42.64**	**17**	*e*P	**P**	**03 56 39.9**	**+1.1**
	comp=Z,2.1nm,0.7s,mb4.0						
BRVK	**Borovoye**	**42.64**	**17**	*e*P	**P**	**03 56 39.9**	**+1.0**
	comp=Z,2.1nm,0.7s,mb4.0						
BVAR	**Borovoye Array**	**42.64**	**18**	P	**P**	**03 56 38.0**	**-0.8**
	comp=Z,0.8nm,0.6s,mb3.6,baz=202,slow=6.4,SNR=5.9						
BVAR				PcP	PcP	03 58 31.3	+0.5
	comp=Z,0.8nm,0.7s,baz=180,slow=2.8,SNR=4.9						
BVAR	**Borovoye Array**	**42.64**	**18**	P	**P**	**03 56 38.0**	**-0.8**
BVAR				PcP	PcP	03 58 31.3	+0.5
BVAR	**Borovoye Array**	**42.64**	**18**	P	**P**	**03 56 38.0**	**-0.9**
BVAR	**Borovoye Array**	**42.64**	**18**	PcP	PcP	03 58 31.3	+0.5
MK31	**Makanchi Array**	**42.65**	**32**	*e*P	**P**	**03 56 39.4**	**+0.4**
MK31	**Makanchi Array**	**42.65**	**32**	*e*P	**P**	**03 56 39.4**	**+0.4**
MKAR	**Makanchi Array**	**42.65**	**32**	P	**P**	**03 56 38.8**	**-0.2**
	comp=Z,0.3nm,0.7s,mb3.1,baz=221,slow=11,SNR=4.3						
MKAR				LR	LR	04 15 37.2	
	comp=Z,49nm,20.7s,MS3.4,baz=190,slow=38						
MKAR	**Makanchi Array**	**42.65**	**32**	P	**P**	**03 56 38.8**	**-0.2**
MKAR				LR	LR	04 15 37.2	
MKAR	**Makanchi Array**	**42.65**	**32**	P	**P**	**03 56 38.8**	**-0.2**
KURK	**Kurchatov**	**43.70**	**26**	P	**P**	**03 56 46.7**	**-0.8**
	comp=Z,0.7nm,0.8s,mb3.4,baz=230,slow=7.4,SNR=5.0						
KURK	**Kurchatov**	**43.70**	**26**	P	**P**	**03 56 46.7**	**-0.8**
KURK	**Kurchatov**	**43.70**	**26**	P	**P**	**03 56 46.7**	**-0.7**
TAM	**Tamanrasset**	**43.82**	**289**	*e*P	**P**	**03 56 50.8**	**+1.9**
	comp=Z,3.3nm,1.1s,mb4.0						
TAM	**Tamanrasset**	**43.82**	**289**	*e*P	**P**	**03 56 50.8**	**+2.0**
	comp=Z,3.3nm,1.1s,mb4.0						
CMAR	**Chiang Mai Arr**	**46.61**	**77**	P	**P**	**03 57 10.8**	**-0.3**
	comp=Z,1.5nm,0.6s,mb4.1,baz=273,slow=8.7,SNR=11						
CMAR	**Chiang Mai Arr**	**46.61**	**77**	P	**P**	**03 57 10.8**	**-0.3**
CMAR	**Chiang Mai Arr**	**46.61**	**77**	P	**P**	**03 57 10.8**	**-0.3**
TORD	**Torodi Ar. Bea**	**47.62**	**276**	P	**P**	**03 57 20.6**	**+1.6**
	comp=Z,1.5nm,0.9s,mb4.0,baz=92,slow=7.8,SNR=14						
TORD	**Torodi Ar. Bea**	**47.62**	**276**	P	**P**	**03 57 20.6**	**+1.6**
TORD	**Torodi Ar. Bea**	**47.62**	**276**	P	**P**	**03 57 20.6**	**+1.6**
BOSA	**Boshof**	**48.37**	**210**	LR	LR	04 19 15.0	
	comp=Z,67nm,18.1s,MS3.7,baz=235,slow=38						
ZALV	**Zalesovo Beam**	**48.67**	**26**	P	**P**	**03 57 25.3**	**-1.2**
	comp=Z,1.0nm,0.7s,mb4.0,baz=248,slow=7.8,SNR=5.5						
ZALV				LR	LR	04 18 47.7	
	comp=Z,16nm,20.4s,MS3.0,baz=104,slow=37						
ZALV	**Zalesovo Beam**	**48.67**	**26**	P	**P**	**03 57 25.3**	**-1.2**
ZALV				LR	LR	04 18 47.7	
ZALV	**Zalesovo Beam**	**48.67**	**26**	P	**P**	**03 57 25.3**	**-1.2**
FINES	**FINESS Array B**	**51.28**	**345**	LR	LR	04 19 47.0	
	comp=Z,95nm,18.1s,MS3.9,baz=317,slow=36						
ESDC	**Sonseca Array**	**54.55**	**309**	P	**P**	**03 58 12.5**	**+1.7**
	comp=Z,0.8nm,0.7s,mb3.9,baz=88,slow=7.9,SNR=5.3						
ESDC	**Sonseca Array**	**54.55**	**309**	P	**P**	**03 58 12.4**	**+1.7**
ESDC	**Sonseca Array**	**54.55**	**309**	P	**P**	**03 58 12.4**	**+1.6**
NOA	**NORSAR Array B**	**55.58**	**338**	LR	LR	04 25 22.0	
	comp=Z,18nm,21.4s,MS3.1,baz=120,slow=40						
SONM	**Songino Array**	**57.44**	**41**	P	**P**	**03 58 31.5**	**+0.1**
	comp=Z,0.4nm,0.3s,mb3.9,baz=235,slow=7.0,SNR=6.2						
SONM	**Songino Array**	**57.44**	**41**	P	**P**	**03 58 31.5**	**+0.1**
SONM	**Songino Array**	**57.44**	**41**	P	**P**	**03 58 31.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**80.23**	**111**	P	**P**	**04 00 52.1**	**-1.7**
	comp=Z,3.2nm,1.0s,mb4.2,baz=280,slow=4.3,SNR=4.5						
FITZ	**Fitzroy Crossi**	**80.23**	**111**	P	**P**	**04 00 52.1**	**-1.7**
FITZ	**Fitzroy Crossi**	**80.23**	**111**	P	**P**	**04 00 52.1**	**-1.7**
WRA	**Warramunga Arr**	**88.64**	**111**	P	**P**	**04 01 35.9**	**-0.5**
	comp=Z,1.9nm,0.8s,mb4.5,baz=300,slow=3.9,SNR=12						
WRA	**Warramunga Arr**	**88.64**	**111**	P	**P**	**04 01 35.9**	**-0.4**
WRA	**Warramunga Arr**	**88.64**	**111**	P	**P**	**04 01 35.9**	**-0.5**
ASAR	**Alice Springs**	**89.19**	**114**	P	**P**	**04 01 38.4**	**-0.5**
	comp=Z,1.2nm,0.8s,mb4.3,baz=285,slow=4.2,SNR=9.8						
ASAR	**Alice Springs**	**89.19**	**114**	P	**P**	**04 01 38.4**	**-0.5**
ASAR	**Alice Springs**	**89.19**	**114**	P	**P**	**04 01 38.4**	**-0.5**
PDAR	**Pinedale Array**	**121.35**	**343**	PKP	PKPdf	04 07 34.5	-1.7
	comp=Z,0.2nm,0.5s,baz=38,slow=5.1,SNR=2.6						
PDAR	**Pinedale Array**	**121.35**	**343**	PKP	PKPdf	04 07 34.5	-1.7
PDAR	**Pinedale Array**	**121.35**	**343**	PKIKP	PKPdf	04 07 34.5	-1.7
NVAR	**Mina Array Bea**	**127.54**	**349**	PKP	PKPdf	04 07 51.0	+2.9
	comp=Z,0.6nm,0.6s,baz=331,slow=3.3,SNR=4.0						
NVAR	**Mina Array Bea**	**127.54**	**349**	PKP	PKPdf	04 07 51.0	+2.9

*ISCJB **02** 03:51:14.3±1.4, 13.85N±0.04×92.40W±0.03, h22km±11km, mb4.0/24, MS3.6/8, Error ellipse: s-maj=7.5km s-min=4.0km az=22.7*
*CASC **02** 03:51:16.3±1.8, 13.88N×92.30W, h66km±52km, MD3.7, ML3.8, mb4.1(NEIC)*
*MEX **02** 03:51:17.8±1.4, 13.90N×92.55W, h5km±42km, MD4.4*
*IDC **02** 03:51:19.2±2.2, 13.98N×92.22W, h44km±19km, mb3.7/8, mb1 4.0/12, mb1mx3.8/27, mbtmp3.8/12, ML3.7/3, MS3.5/10, Ms1 3.5/10, ms1mx3.2/36, Error ellipse: s-maj=24.9km s-min=13.0km az=44.0*
*NEIC **02** 03:51:19.8±1.2, 14.03N×92.17W, h44km±11km, mb4.1/17, Error ellipse: s-maj=15.6km s-min=7.3km az=47.0*
ISC 02 03:51:16.8±1.1, 13.91N±0.04×92.32W±0.03, h25km±8km, n82, σ1°21/90, mb4.0/24, MS3.6/8, 1D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.78**	**59**	‖*i* P	**Pb**	**03 51 32.4**	**+0.7**
THIG		**0.99**	**3**	*e*P	**Pn**	**03 51 33.9**	**-1.2**
THIG				*i* S	**Sb**	**03 51 49.0**	**+1.1**
FUG	**Fuego 3**	**1.53**	**70**	*e*P	**Pn**	**03 51 41.6**	**-1.0**
FUG				*e*S	**Sn**	**03 52 03.6**	**+1.9**
FG6		**1.54**	**65**	*e*P	**Pn**	**03 51 42.1**	**-0.5**
PCG	**Pacaya**	**1.73**	**74**	*e*P	**Pn**	**03 51 44.9**	**-0.4**
GCG	**Guatemala City**	**1.86**	**69**	*e*P	**Pn**	**03 51 46.5**	**-0.6**
GCG				*e*S	**Sn**	**03 52 10.3**	**+0.4**
PCIG		**1.98**	**334**	*e*P	**Pn**	**03 51 46.9**	**-1.8**
PCIG				*i* S	**Sn**	**03 52 11.2**	**-1.6**
NBG	**Las Nubes**	**2.03**	**70**	*e*P	**Pn**	**03 51 50.3**	**+0.9**
CCIG	**Comitan**	**2.36**	**4**	*e*P	**Pn**	**03 51 56.3**	**+2.3**
CCIG				*i* S	**Sn**	**03 52 22.7**	**+0.5**
RBDL	**Robledal**	**2.57**	**85**	*e*P	**Pn**	**03 51 56.0**	**-0.8**
SBLS	**San Blas**	**2.62**	**91**	*e*P	**Pn**	**03 51 57.0**	**-0.6**
SNJE	**San Jose**	**2.64**	**91**	*e*P	**Pn**	**03 51 56.9**	**-0.9**
SCX	**San Cristobal**	**2.82**	**354**	*i* P	**Pn**	**03 52 01.8**	**+1.5**
MTO2	**Montecristo 2**	**2.91**	**80**	*e*P	**Pn**	**03 52 00.7**	**-0.9**
TGIG		**2.95**	**345**	*e*P	**Pn**	**03 52 02.2**	**+0.1**
TGIG				*i* S	**Sn**	**03 52 35.9**	**-0.9**
BOQS	**Boqueron**	**2.96**	**93**	*e*P	**Pn**	**03 52 02.3**	**+0.1**
SNET	**Serv Nac Est T**	**3.01**	**94**	*e*P	**Pn**	**03 52 02.5**	**-0.5**
SNET				*e*S	**Sn**	**03 52 36.0**	**-2.3**
SNET				AML	AML	03 52 49.5	
	comp=Z,488nm,0.3s						
LFRS	**El Faro**	**3.18**	**95**	*e*P	**Pn**	**03 52 04.0**	**-1.3**
CMIG	**Matias Romero**	**4.01**	**322**	P	**Pn**	**03 52 16.7**	**+0.1**
	comp=Z,4.7nm,0.3s,baz=128,slow=10,SNR=72						
CMIG				S	**Sn**	**03 53 03.9**	**+1.0**
	comp=Z,17nm,0.3s,baz=88,slow=13,SNR=4.9						
CMIG	**Matias Romero**	**4.01**	**322**	P	**Pn**	**03 52 16.7**	**+0.1**
CMIG				S	**Sn**	**03 53 03.9**	**+1.0**
CMIG	**Matias Romero**	**4.01**	**322**	*e*P	**Pn**	**03 52 16.7**	**0.0**
CMIG				*i* S	**Sn**	**03 52 59.8**	**-3.1**
HUIG	**Huatulco**	**4.10**	**297**	*e*P	**Pn**	**03 52 16.4**	**-1.5**
HUIG				*i* S	**Sn**	**03 53 01.0**	**-4.1**
TGUH	**Tegucigalpa,Un**	**4.91**	**88**	*e*Pn	**Pn**	**03 52 28.6**	**-0.3**
VHO	**Vista Hermosa**	**5.29**	**307**	*i* P	**Pn**	**03 52 33.5**	**-0.7**
VHO				*i* S	**Sn**	**03 53 32.2**	**-2.1**
PNIG	**Pinotepa**	**6.12**	**294**	*i* P	**Pn**	**03 52 45.3**	**-0.4**
PNIG				*i* S	**Sn**	**03 53 52.9**	**-2.1**
UTMO	**Huajuapan**	**6.55**	**307**	*i* P	**Pn**	**03 52 51.8**	**+0.1**
UTMO				*i* S	**Sn**	**03 54 04.3**	**-1.3**
TPIG	**Tehuac#an**	**6.59**	**313**	*i* P	**Pn**	**03 52 48.3**	**-3.9**
TPIG				*i* S	**Sn**	**03 54 03.3**	**-3.3**
TEIG	**Tepich**	**7.37**	**31**	P	**Pn**	**03 53 03.6**	**+0.7**
	comp=Z,23nm,0.3s,baz=224,slow=1.2,SNR=68						
TEIG				S	**Sn**	**03 54 24.0**	**-1.9**
	baz=35,slow=20,SNR=2.8						
TEIG	**Tepich**	**7.37**	**31**	P	**Pn**	**03 53 03.6**	**+0.7**
TEIG				S	**Sn**	**03 54 24.0**	**-1.9**
JTS	**JuntasAbangare**	**8.06**	**116**	P	**Pn**	**03 53 13.3**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=320,slow=22,SNR=3.3						
JTS				S	**Sn**	**03 54 35.9**	**-6.8**
	comp=Z,0.3nm,0.3s,baz=76,slow=23,SNR=1.4						
JTS				LR	LR	03 56 30.3	
	comp=Z,225nm,21.0s,baz=156,slow=39						
JTS	**JuntasAbangare**	**8.06**	**116**	*e*Pn	**Pn**	**03 53 14.1**	**+1.8**
JTS				S	**Sn**	**03 54 35.9**	**-6.8**
JTS				LR	LR	03 56 30.3	
TXAR	**Lajitas Array**	**18.60**	**327**	P	**Pn**	**03 55 34.4**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=155,slow=9.6,SNR=19						
TXAR				LR	LR	04 04 03.0	
	comp=Z,51nm,19.1s,baz=185,slow=41						
TXAR	**Lajitas Array**	**18.60**	**327**	P	**Pn**	**03 55 34.4**	**+1.8**
TXAR				LR	LR	04 04 03.0	
ROSC	**El Rosal**	**19.89**	**115**	P	**Pn**	**03 55 48.4**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=90,slow=20,SNR=5.8						
ROSC	**El Rosal**	**19.89**	**115**	*e*P	**Pn**	**03 55 48.0**	**-0.3**
MIAR	**Mount Ida**	**20.57**	**357**	*e*P	**P**	**03 55 54.4**	**+0.6**
	comp=Z,6.6nm,1.0s						
WMOK	**Wichita Mounta**	**21.54**	**345**	*e*P	**P**	**03 56 03.9**	**-0.4**
	comp=Z,8.2nm,1.3s,mb4.0						
SWET	**Sewanee**	**21.98**	**14**	*e*P	**P**	**03 56 07.5**	**-1.4**
AMTX	**Amarillo**	**22.52**	**340**	*e*P	**P**	**03 56 14.2**	**-0.6**
	comp=Z,8.6nm,0.5s,mb4.4						
TKL	**Tuckaleechee C**	**22.98**	**18**	P	**P**	**03 56 18.1**	**-1.5**
	comp=Z,1.4nm,0.4s,mb3.8,baz=164,slow=10.0,SNR=5.8						
TKL				LR	LR	04 06 25.3	
	comp=Z,176nm,18.8s,MS3.5,baz=253,slow=40						
TKL	**Tuckaleechee C**	**22.98**	**18**	P	**P**	**03 56 18.1**	**-1.5**
TKL				LR	LR	04 06 25.3	
ANMO	**Albuquerque**	**24.53**	**331**	P	**P**	**03 56 36.3**	**+1.9**
	comp=Z,1.6nm,0.7s,mb3.6,baz=155,slow=11,SNR=5.3						
ANMO	**Albuquerque**	**24.53**	**331**	*e*P	**P**	**03 56 35.6**	**+1.2**
	comp=Z,1.6nm,0.8s,mb3.6						
WCI	**Wyandotte Cave**	**24.80**	**11**	*e*P	**P**	**03 56 34.3**	**-2.6**
	comp=Z,6.1nm,0.8s,mb4.2						
TUC	**Tucson**	**24.90**	**320**	*e*P	**P**	**03 56 38.4**	**+0.5**
	comp=Z,2.5nm,1.0s,mb3.7						
SJG	**San Juan**	**25.49**	**77**	LR	LR	04 06 45.3	
	comp=Z,78nm,20.0s,MS3.2,baz=270,slow=36						
CBKS	**Cedar Bluff**	**25.65**	**347**	*e*P	**P**	**03 56 45.1**	**+0.6**
	comp=Z,7.1nm,0.9s,mb4.2						
SDCO	**Great Sand Dun**	**26.47**	**336**	*e*P	**P**	**03 56 52.9**	**+0.9**
	comp=Z,1.1nm,0.9s,mb3.4						
MVCO	**Mesa Verde**	**27.32**	**331**	*e*P	**P**	**03 57 01.4**	**+1.8**
	comp=Z,11nm,1.3s,mb4.2						
ARUT	**Antelope Range**	**30.29**	**326**	*e*P	**P**	**03 57 28.4**	**+2.4**
	comp=Z,3.0nm,0.9s,mb4.0						
DUG	**Dugway**	**31.75**	**329**	*e*P	**P**	**03 57 39.9**	**+0.9**
	comp=Z,4.6nm,1.3s,mb4.2						
HWUT	**Hardware Ranch**	**32.27**	**332**	*e*P	**P**	**03 57 45.0**	**+1.5**
	comp=Z,1.1nm,0.5s,mb3.9						
PDAR	**Pinedale Array**	**32.37**	**336**	P	**P**	**03 57 44.7**	**+0.4**
	comp=Z,0.6nm,0.9s,mb3.4,baz=162,slow=6.2,SNR=3.7						
PDAR	**Pinedale Array**	**32.37**	**336**	P	**P**	**03 57 44.7**	**+0.4**
SNOW	**Snow King Moun**	**33.43**	**335**	*e*P	**P**	**03 57 54.5**	**+0.9**
	comp=Z,7.8nm,1.0s,mb4.6						
LOHW	**Long Hollow**	**33.49**	**336**	*e*P	**P**	**03 57 55.1**	**+0.9**
	comp=Z,1.3nm,0.7s,mb4.0						
TPAW	**Teton Pass**	**33.53**	**335**	*e*P	**P**	**03 57 56.0**	**+1.5**
	comp=Z,5.6nm,1.1s,mb4.4						
NVAR	**Mina Array Bea**	**33.54**	**321**	P	**P**	**03 57 56.8**	**+2.1**
	comp=Z,1.3nm,0.7s,mb4.0,baz=143,slow=8.9,SNR=6.6						
NVAR	**Mina Array Bea**	**33.54**	**321**	P	**P**	**03 57 56.8**	**+2.1**
HLID	**Hailey**	**35.10**	**332**	*e*P	**P**	**03 58 08.8**	**+0.7**
MCMT	**McKenzie Canyo**	**35.41**	**334**	*e*P	**P**	**03 58 12.8**	**+2.0**
	comp=Z,2.3nm,0.8s,mb4.2						
ULM	**Lac du Bonnet**	**36.35**	**356**	LR	LR	04 13 31.6	
	comp=Z,54nm,19.9s,MS3.3,baz=353,slow=37						
WVOR	**Wild Horse Val**	**36.39**	**326**	*e*P	**P**	**03 58 20.2**	**+1.1**
	comp=Z,3.2nm,1.0s,mb4.2						
LPAZ	**La Paz**	**38.37**	**141**	LR	LR	04 13 37.7	
	comp=Z,35nm,18.7s,MS3.2,baz=34,slow=35						
SCHQ	**Schefferville**	**45.41**	**20**	LR	LR	04 19 32.0	
	comp=Z,185nm,18.1s,MS4.1,baz=140,slow=37						
CFAA	**Coronel Fontan**	**50.82**	**153**	P	**P**	**04 00 14.8**	**-0.5**
	comp

IDC 02 04:07:05.4±4.3, 11°31'S×116°30'E, h0km, mb3.2/2, mb1 3.3/4, mb1mx3.2/19, mbtmp3.2/4, ML3.1/2, Error ellipse: s-maj=271.6km s-min=24.4km az=46.0, South of Sunbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.28**	**128**	Pn	Pn	04 09 46.0	-1.9
	0.1nm,0.3s,baz=308,slow=12,SNR=6.9						
FITZ				Sn	Sn	04 11 44.8	-10
	0.2nm,0.3s,baz=352,slow=20,SNR=6.6						
WRA	**Warramunga Arr**	**19.36**	**119**	P	Pn	04 11 32.2	-1.6
	0.0nm,0.3s,baz=286,slow=14,SNR=3.0						
WRA				S	Sn	04 14 55.2	-17
	0.0nm,0.3s,baz=280,slow=32,SNR=3.3						
ASAR	**Alice Springs**	**20.78**	**129**	P	P	04 11 49.8	+1.6
	0.6nm,0.7s,baz=311,slow=10,SNR=12						
MKAR	**Makanchi Array**	**65.35**	**335**	P	P	04 17 49.5	0.0
	0.2nm,0.4s,baz=151,slow=7.9,SNR=2.9						

*NEIC **02** 04:07:20.1, 19°.00N×69°.42W, h138km, MD4.0(RSPR), After RSPR.*

RSPR 02 04:07:20.1, 19°.00N×69°.42W, h138km±6km, MD4.0/4, 18C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.77**	**270**	⇑eP	Pn	04 07 52.5	+0.7
SDDR	**Presa de Saban**	**1.77**	**270**	⇑eP	Pn	04 07 52.5	+0.7
SDDR				eS	Sn	04 08 15.8	-0.2
AGPR	**Aguadilla, PR**	**2.25**	**103**	⇑eP	Pn	04 07 57.3	-0.3
AGPR	**Aguadilla, PR**	**2.25**	**103**	⇑eP	Pn	04 07 57.3	-0.3
AGPR				eS	Sn	04 08 26.2	-0.1
LSP	**Las Mesas**	**2.36**	**110**	⇑eP	Pn	04 07 57.8	-1.1
LSP				eS	Sn	04 08 28.9	+0.1
LSP	**Las Mesas**	**2.36**	**110**	⇑eP	Pn	04 07 57.8	-1.1
LSP				eS	Sn	04 08 28.9	+0.1
LRS	**Lares**	**2.54**	**106**	⇑eP	Pn	04 08 00.8	-0.3
LRS				eS	Sn	04 08 34.8	+2.0
LRS	**Lares**	**2.54**	**106**	⇑eP	Pn	04 08 00.8	-0.3
LRS				eS	Sn	04 08 34.8	+2.0
AOPR	**Arecibo Observ**	**2.61**	**104**	⇑eP	Pn	04 08 02.2	+0.2
AOPR	**Arecibo Observ**	**2.61**	**104**	⇑eP	Pn	04 08 02.2	+0.2
AOPR				eS	Sn	04 08 34.7	+0.4
CELP	**Cerrillos**	**2.85**	**108**	⇑eP	Pn	04 08 06.0	+0.9
CELP	**Cerrillos**	**2.85**	**108**	⇑eP	Pn	04 08 06.0	+0.9
SJG	**San Juan**	**3.22**	**105**	eS	Sn	04 08 49.0	+0.6
SJG	**San Juan**	**3.22**	**105**	⇑eP	Pn	04 08 10.7	+0.8
SJG	**San Juan**	**3.22**	**105**	⇑eP	Pn	04 08 10.7	+0.8
CBYP	**Canovanas**	**3.45**	**102**	⇓eP	Pn	04 08 11.4	-1.5
CBYP	**Canovanas**	**3.45**	**102**	⇓eP	Pn	04 08 11.4	-1.5
HUMP	**Col San Antoni**	**3.49**	**104**	⇑eP	Pn	04 08 12.6	-0.8
HUMP	**Col San Antoni**	**3.49**	**104**	⇑eP	Pn	04 08 12.6	-0.8
MTP	**Monte Pirata**	**3.78**	**103**	⇑eP	Pn	04 08 16.8	-0.3
MTP	**Monte Pirata**	**3.78**	**103**	⇑eP	Pn	04 08 16.8	-0.3

*ISCJB **02** 04:30:10.8±1.9, 17°.9S±0°.5×177°.9W±0°.3, h651km±16km, mb3.5/9, Error ellipse: s-maj=88.6km s-min=20.9km az=156.5*
*IDC **02** 04:30:12.0±6.7, 17°.48S×178°.12W, h642km±91km, mb2.8/6, mb1 3.2/6, mb1mx3.0/18, mbtmp2.8/6, Error ellipse: s-maj=107.4km s-min=29.1km az=159.0*
*NEIC **02** 04:30:11.4±1.5, 17°.85S×177°.86W, h643km±11km, mb4.1/3, Error ellipse: s-maj=67.5km s-min=15.9km az=156.0*

ISC 02 04:30:11.7±1.9, 17°.8S±0°.5×177°.9W±0°.3, h642km±15km, n20, σ0s67/16, mb3.5/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.87**	**271**	eP	**P**	**04 31 39.4**	**0.0**
COEN	**Coen**	**37.60**	**270**	eP	**P**	**04 36 35.1**	**+0.4**
	23nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**45.14**	**259**	P	**P**	**04 37 32.9**	**-0.8**
	0.4nm,0.4s,mb3.1,baz=96,slow=7.1,SNR=26						
WRA	**Warramunga Arr**	**45.14**	**259**	P	**P**	**04 37 32.9**	**-0.8**
ASAR	**Alice Springs**	**45.29**	**254**	P	**P**	**04 37 34.4**	**-0.5**
	0.2nm,0.3s,mb2.9,baz=86,slow=8.5,SNR=10						
ASAR	**Alice Springs**	**45.29**	**254**	P	**P**	**04 37 34.4**	**-0.5**
KKM	**Kota Kinabalu**	**69.20**	**284**	eP	**P**	**04 40 18.1**	**+1.4**
	4.5nm,0.7s,mb3.9						
NVAR	**Mina Array Bea**	**79.01**	**44**	P	**P**	**04 41 11.5**	**+0.3**
	0.9nm,0.7s,mb3.4,baz=228,slow=9.9,SNR=4.4						
NVAR	**Mina Array Bea**	**79.01**	**44**	P	**P**	**04 41 11.5**	**+0.3**
MCK	**McKinley**	**84.34**	**13**	eP	**P**	**04 41 37.0**	**-0.6**
	1.6nm,0.6s,mb3.7						
TXAR	**Lajitas Array**	**85.53**	**57**	P	**P**	**04 41 44.8**	**+0.7**
	0.8nm,0.7s,mb3.5,baz=208,slow=5.1,SNR=11						
TXAR	**Lajitas Array**	**85.53**	**57**	P	**P**	**04 41 44.8**	**+0.7**
ILAR	**Eielson Array**	**85.69**	**13**	P	**P**	**04 41 43.1**	**-0.8**
	0.4nm,0.4s,mb3.4,baz=218,slow=5.0,SNR=18						
ILAR	**Eielson Array**	**85.69**	**13**	P	**P**	**04 41 43.1**	**-0.8**
PDAR	**Pinedale Array**	**86.94**	**43**	P	**P**	**04 41 50.2**	**-0.2**
	0.6nm,0.8s,mb3.3,baz=254,slow=2.6,SNR=4.0						
PDAR	**Pinedale Array**	**86.94**	**43**	P	**P**	**04 41 50.2**	**-0.2**
GERES	**GERESS Array B**	**147.65**	**346**	PKPbc	PKPbc	04 48 44.5	-1.1
	0.4nm,0.5s,baz=44,slow=4.1,SNR=6.9						
GERES	**GERESS Array B**	**147.65**	**346**	PKPbc	PKPbc	04 48 44.5	-1.1
DAVOX	**Davos/Dischmat**	**150.41**	**349**	PKPbc	PKPbc	04 48 52.0	-0.3
	baz=185,slow=11						
DAVOX	**Davos/Dischmat**	**150.41**	**349**	PKPbc	PKPbc	04 48 52.0	-0.3

*PGC **02** 04:44:57.6±0.0, 66°.12N×135°.20W, h5km, ML3.7/2, 150km Ssw of Fort McPherson, Nt Northern Yukon Territory, Canada*

NEIC 02 04:44:57.6, 66°.12N×135°.20W, h5km, ML3.7(PGC), **ML3.5**(AEIC), **14D, After PGC., Northern Yukon Territory**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**2.29**	**16**	ePn	Pn	04 45 35.8	-0.2
INK				ePg	Pg	04 45 39.4	-2.0
INK				eSn	Sn	04 46 03.3	-1.1
INK				eSg	Sg	04 46 09.6	-1.5
INK	**Inuvik**	**2.29**	**16**	⇑Pn	Pn	04 45 36.0	+0.1
INK				⇓Pg	Pg	04 45 39.0	-2.4
INK				⇑Sn	Sn	04 46 03.5	-1.0
DAWY	**Dawson**	**2.72**	**223**	P	Pn	04 45 41.5	-0.4
DAWY	**Dawson**	**2.72**	**223**	⇑Pn	Pn	04 45 41.5	-0.4
DAWY				⇓Sn	Sn	04 46 14.2	-0.9
DAWY				⇑Sg	Sg	04 46 20.9	-4.0
EGAK	**Eagle**	**2.83**	**244**	P	Pn	04 45 42.2	-1.1
EGAK				S	Sn	04 46 15.3	-2.5
BM3	**Burnt Mountain**	**3.95**	**294**	P	Pn	04 45 58.7	0.0
BCA3	**Beaver Creek A**	**4.18**	**226**	P	Pn	04 46 01.5	-0.4
DOT	**Dot Lake**	**4.52**	**241**	P	Pn	04 46 06.0	-0.5
MENT	**Mentasta**	**4.87**	**233**	P	Pn	04 46 09.2	-1.2
IL1	**Eielson Array**	**5.06**	**260**	P	Pn	04 46 12.9	-1.1
PAX	**Paxson**	**5.44**	**239**	P	Pn	04 46 19.7	+0.5
WHY	**Whitehorse**	**5.49**	**178**	Pn	Pn	04 46 19.4	-0.4
WHY				Sg	Sg	04 47 46.8	-6.8
WHY	**Whitehorse**	**5.49**	**178**	⇑Pn	Pn	04 46 19.4	-0.4
WHY				⇑Sg	Sg	04 47 46.8	-6.8
COLD	**Coldfoot**	**6.06**	**287**	ePn	Pn	04 46 27.3	-0.4
	3.8nm,0.4s						
MCK	**McKinley**	**6.31**	**254**	ePn	Pn	04 46 30.0	-1.1
	3.6nm,0.5s						
MCK				eSg	Sg	04 48 16.8	-3.2
PLBC	**Pleasant Camp**	**6.71**	**185**	Pn	Pn	04 46 37.5	+0.8
PLBC				Sg	Sg	04 48 24.5	-8.4
PLBC	**Pleasant Camp**	**6.71**	**185**	⇓Pn	Pn	04 46 37.5	+0.8
PLBC				⇓Sg	Sg	04 48 24.5	-8.4
TRF	**Thorofare Moun**	**6.98**	**254**	ePn	Pn	04 46 39.7	-0.6
	3.7nm,0.5s						
TRF				eSg	Sg	04 48 38.0	-3.3
GALN	**Gameti Lake**	**7.80**	**97**	Pn	Pn	04 46 50.0	-1.5
GALN				Sn	Sn	04 48 13.6	-6.4
GALN	**Gameti Lake**	**7.80**	**97**	⇓Pn	Pn	04 46 50.0	-1.5
GALN				⇓Sn	Sn	04 48 13.6	-6.4
DLBC	**Dease Lake**	**8.08**	**160**	⇑Pn	Pn	04 46 54.9	-0.4
CTLN	**Castor Lake**	**8.21**	**93**	Pn	Pn	04 46 54.9	-2.3
CTLN				Sn	Sn	04 48 22.6	-7.5
CTLN	**Castor Lake**	**8.21**	**93**	⇓Pn	Pn	04 46 54.9	-2.3
CTLN				⇓Sn	Sn	04 48 22.6	-7.5
FNBB	**Fort Nelson**	**9.17**	**137**	⇑Pn	Pn	04 47 10.3	0.0
YKW3	**Yellowknife Ar**	**9.59**	**102**	⇓Pn	Pn	04 47 14.3	-1.7
YKW3				⇓Sn	Sn	04 48 55.2	-8.9
JERN	**Jeri Cho Mine,**	**9.62**	**80**	⇓Pn	Pn	04 47 14.3	-2.1
JERN				⇓Sn	Sn	04 48 54.1	-11
RES	**Resolute Bay**	**15.62**	**40**	⇓Pn	Pn	04 48 36.0	-2.0
RES				⇓Sn	Sn	04 51 17.5	-14

*ISCJB **02** 04:45:28.4±0.3, 35°.96N±0°.05×137°.33E±0°.05, h250km±3km, mb3.6/11, Error ellipse: s-maj=8.3km s-min=5.1km az=145.4*
*IDC **02** 04:45:29.1±0.7, 35°.86N×137°.24E, h243km±6km, mb3.4/10, mb1 3.6/10, mb1mx3.3/27, mbtmp3.4/10, Error ellipse: s-maj=23.7km s-min=13.5km az=83.0*
*JMA **02** 04:45:29.4±0.1, 35°.95N×137°.33E, h244km±1km, M3.4*
*NEIC **02** 04:45:29.2±0.7, 35°.93N×137°.27E, h243km±6km, mb3.7/2, Error ellipse: s-maj=19.8km s-min=13.4km az=96.0*

ISC 02 04:45:29.3±0.3, 35°.94N±0°.05×137°.33E±0°.05, h245km±3km, n53, σ0s79/72, mb3.6/11, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.28**	**357**	P	**Pn**	**04 46 01.3**	**+0.3**
JGN				eS	**S**	**04 46 25.6**	**-0.4**
JGM	**Miyama**	**0.56**	**244**	P	**Pn**	**04 46 01.7**	**-0.1**
JGM				eS	**S**	**04 46 27.2**	**0.0**
JAO	**Obara**	**0.68**	**185**	P	**Pn**	**04 46 02.2**	**-0.1**
JNY	**Yasuok**	**0.73**	**143**	P	**Pn**	**04 46 02.2**	**-0.3**
JKG	**Kaga**	**0.88**	**293**	P	**Pn**	**04 46 03.5**	**+0.4**
MAJO	**Matsushiro**	**0.93**	**50**	ePn	**Pn**	**04 46 03.6**	**+0.3**
MAT	**Matsushiro**	**0.93**	**50**	P	**Pn**	**04 46 03.6**	**+0.3**
MAT				S	**S**	**04 46 30.1**	**0.0**
MAT	**Matsushiro**	**0.93**	**50**	P	**Pn**	**04 46 03.8**	**+0.5**
MAT				S	**S**	**04 46 30.4**	**+0.3**
MJAR	**Matsushiro Arr**	**0.93**	**50**	P	**Pn**	**04 46 03.8**	**+0.5**
	16nm,0.3s,baz=270,slow=7.6,SNR=176						
MJAR				S	**S**	**04 46 31.1**	**+1.0**
	1.2nm,0.3s,baz=333,slow=29,SNR=11						
MJAR	**Matsushiro Arr**	**0.93**	**50**	P	**Pn**	**04 46 03.8**	**+0.5**
MJAR				S	**S**	**04 46 31.1**	**+1.0**
JYN	**Shimob**	**1.08**	**114**	P	**Pn**	**04 46 04.3**	**0.0**
JEG	**Eigenji**	**1.11**	**224**	P	**Pn**	**04 46 04.8**	**+0.3**
HMMJ	**Hamamatsu 2**	**1.13**	**164**	P	**Pn**	**04 46 04.8**	**+0.2**
HMMJ				S	**S**	**04 46 32.5**	**+0.2**
JRY	**Ryogami san**	**1.28**	**86**	P	**Pn**	**04 46 05.8**	**+0.3**
JRY				eS	**S**	**04 46 35.4**	**+1.6**
JOD2	**Odawara 2**	**1.58**	**115**	P	**Pn**	**04 46 08.4**	**+0.6**
JOD2				eS	**S**	**04 46 40.6**	**+2.6**
JHU	**Hanno**	**1.59**	**93**	P	**Pn**	**04 46 08.3**	**+0.5**
JHU				S	**S**	**04 46 38.5**	**+0.5**
JIE	**Ise**	**1.63**	**198**	P	**Pn**	**04 46 08.7**	**+0.5**
JIE				eS	**S**	**04 46 38.1**	**-0.7**
JWT	**Wachi**	**1.71**	**248**	P	**Pn**	**04 46 08.9**	**+0.1**
JWT				eS	**S**	**04 46 38.5**	**-1.2**
JAG	**Ashikaga**	**1.78**	**74**	P	**Pn**	**04 46 09.3**	**-0.1**
JKN2	**Miekihoku**	**1.91**	**207**	P	**Pn**	**04 46 10.9**	**+0.3**
JKN2				S	**S**	**04 46 42.5**	**-0.5**
TKD2	**Tokai 2**	**2.02**	**170**	P	**Pn**	**04 46 12.1**	**+0.5**
JSD	**Sado**	**2.22**	**19**	P	**Pn**	**04 46 13.6**	**+0.3**
JWY	**Kouya**	**2.23**	**220**	P	**Pn**	**04 46 14.0**	**+0.4**
JWY				eS	**S**	**04 46 47.9**	**-0.5**
JYT	**Yasato**	**2.34**	**82**	P	**Pn**	**04 46 14.0**	**-0.5**
JYT				eS	**S**	**04 46 47.9**	**-2.2**
TTO1	**TONANKAI O.B.S**	**2.36**	**191**	P	**Pn**	**04 46 15.7**	**+0.9**
BSO4	**Boso 4**	**2.63**	**110**	P	**Pn**	**04 46 17.1**	**-0.4**
BSO4				eS	**S**	**04 46 55.6**	**0.0**
JHO	**Hitachi**	**2.70**	**75**	P	**Pn**	**04 46 17.7**	**-0.5**
JWZ	**Kozaga**	**2.75**	**209**	P	**Pn**	**04 46 18.6**	**-0.2**
JWZ				S	**S**	**04 46 57.1**	**-0.8**
BSO3	**Boso 3**	**2.84**	**113**	P	**Pn**	**04 46 18.8**	**-0.9**
BSO3				eS	**S**	**04 46 58.8**	**-0.7**
JFK	**Kawauchi**	**3.18**	**62**	P	**Pn**	**04 46 23.4**	**0.0**
JFK				eS	**S**	**04 47 04.4**	**-1.8**
ASAJ	**Asahikawa**	**9.11**	**25**	P	**Pn**	**04 47 34.3**	**-2.1**
	3.1nm,0.3s,baz=242,slow=11,SNR=16						
YSS	**Yuzh-Sakhalins**	**11.72**	**19**	ePn	**Pn**	**04 48 07.4**	**-1.9**
MKAR	**Makanchi Array**	**41.92**	**303**	P	**P**	**04 52 56.0**	**+0.1**
	0.4nm,0.5s,mb3.1,baz=94,slow=9.8,SNR=3.5						
MKAR	**Makanchi Array**	**41.92**	**303**	P	**P**		
KURK	**Kurchatov**	**44.03**	**309**	P	**P**	**04 52 56.0**	**+0.1**
	0.9nm,0.3s,mb3.6,baz=85,slow=7.6,SNR=6.3					**04 53 13.0**	**+0.3**
KURK	**Kurchatov**	**44.03**	**309**	eP	**P**	**04 53 12.4**	**-0.3**
	2.8nm,0.6s,mb3.8						
ILAR	**Eielson Array**	**52.16**	**32**	P	**P**	**04 54 15.4**	**+1.0**
	0.4nm,0.6s,mb3.0,baz=256,slow=5.1,SNR=6.0						
ILAR	**Eielson Array**	**52.16**	**32**	P	**P**	**04 54 15.4**	**+1.0**
WRA	**Warramunga Arr**	**55.65**	**183**	P	**P**	**04 54 39.1**	**-1.1**
	1.5nm,0.3s,mb4.0,baz=0.1,slow=7.6,SNR=47						
WRA	**Warramunga Arr**	**55.65**	**183**	P	**P**	**04 54 39.1**	**-1.1**
INK	**Inuvik**	**56.84**	**26**	eP	**P**	**04 54 49.3**	**+1.3**
	1.9nm,0.9s,mb3.7						
ASAR	**Alice Springs**	**59.37**	**184**	P	**P**	**04 55 05.8**	**-0.2**
	0.4nm,0.3s,mb3.5,baz=359,slow=5.5,SNR=4.4						
ASAR	**Alice Springs**	**59.37**	**184**	P	**P**	**04 55 05.8**	**-0.2**
ARCES	**ARCESS Array B**	**63.84**	**339**	P	**P**	**04 55 35.4**	**+0.2**
	3.6nm,0.9s,mb4.0,baz=54,slow=7.4,SNR=5.0						
ARCES	**ARCESS Array B**	**63.84**	**339**	P	**P**	**04 55 35.4**	**+0.2**
RES	**Resolute Bay**	**64.45**	**13**	P	**P**	**04 55 39.5**	**+0.4**
	0.7nm,0.3s,mb3.7,baz=245,slow=11,SNR=4.1						
RES	**Resolute Bay**	**64.45**	**13**	P	**P**	**04 55 39.5**	**+0.4**
FINES	**FINESS Array B**	**68.21**	**331**	P	**P**	**04 56 02.9**	**-0.1**
	1.1nm,0.4s,mb3.8,baz=76,slow=7.4,SNR=6.2						
FINES	**FINESS Array B**	**68.21**	**331**	P	**P**	**04 56 02.9**	**-0.1**
NOA	**NORSAR Array B**	**73.88**	**336**	P	**P**	**04 56 37.1**	**+0.1**
	0.8nm,0.8s,mb3.4,baz=44,slow=5.6,SNR=3.0						
NOA	**NORSAR Array B**	**73.88**	**336**	P	**P**	**04 56 37.1**	**+0.1**
TXAR	**Lajitas Array**	**93.37**	**50**	P	**P**	**04 58 17.6**	**+0.8**
	0.3nm,0.9s,mb3.3,baz=283,slow=2.5,SNR=5.2						
TXAR	**Lajitas Array**	**93.37**	**50**	P	**P**	**04 58 17.6**	**+0.8**

*ISCJB **02** 04:47:27.9±0.4, 37°.31N±0°.02×72°.15E±0°.06, h155km±6km, mb3.6/11, Error ellipse: s-maj=7.6km s-min=3.5km az=175.6*
*NEIC **02** 04:47:27.9±0.5, 37°.21N×72°.10E, h140km±6km, mb3.7/1, Error ellipse: s-maj=7.3km s-min=4.5km az=66.0*
*IDC **02** 04:47:27.5±3.5, 37°.21N×72°.05E, h133km±28km, mb3.4/11, mb1 3.6/16, mb1mx3.5/30, mbtmp3.5/16, Error ellipse: s-maj=25.6km s-min=16.9km az=173.0*
*NNC **02** 04:47:39.9±3.2, 38°.24N×72°.30E, h195km±28km, mb2.9, mpv4.1, Error ellipse: s-maj=30.2km s-min=15.9km az=11.0*

ISC 02 04:47:28.2±0.4, 37°.26N±0°.02×72°.11E±0°.05, h140km±5km, n88, σ1s16/114, mb3.6/11, 5C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.43**	**183**	P	**Pn**	**04 48 23.5**	**+2.8**
CEP				S	**Sn**	**04 49 06.0**	**+4.6**
KBL	**Kabul**	**3.68**	**223**	ePn	**Pn**	**04 48 24.9**	**+0.9**
KBL				eSn	**Sn**	**04 49 05.1**	**-2.1**
CHCP	**Chirah Chowk**	**3.71**	**165**	P	**Pn**	**04 48 28.1**	**+3.7**
THW	**Thamme Wali**	**4.46**	**184**	P	**Pn**	**04 48 36.6**	**+2.3**
AML	**Almayashu**	**5.02**	**14**	P	**Pn**	**04 48 42.5**	**+0.9**
	SNR=195						
AML	**Almayashu**	**5.02**	**14**	ePn	**Pn**	**04 48 42.3**	**+0.7**
AML				eSn	**Sn**	**04 49 37.7**	**-1.1**
UCH	**Uchtor**	**5.30**	**20**	P	**Pn**	**04 48 46.9**	**+1.6**
	SNR=8.8						
UCH	**Uchtor**	**5.30**	**20**	ePn	**Pn**	**04 48 46.4**	**+1.1**
	47nm,0.5s						
UCH				eSn	**Sn**	**04 49 42.7**	**-2.7**
SARP	**Sargodha**	**5.34**	**175**	P	**Pn**	**04 48 48.0**	**+2.0**
KZA	**Kyzart**	**5.39**	**26**	P	**Pn**	**04 48 47.5**	**+1.0**
	SNR=30						
KZA	**Kyzart**	**5.39**	**26**	ePn	**Pn**	**04 48 47.1**	**+0.6**
	13nm,0.3s						
KZA				eSn	**Sn**	**04 49 48.9**	**+1.2**
EKS2	**Erkin-Say**	**5.55**	**13**	P	**Pn**	**04 48 49.5**	**+0.9**
	SNR=43						
EKS2	**Erkin-Say**	**5.55**	**13**	ePn	**Pn**	**04 48 49.3**	**+0.7**
	14nm,0.3s						
EKS2				eSn	**Sn**	**04 49 48.1**	**-3.3**
AAK	**Ala-Archa**	**5.67**	**18**	P	**Pn**	**04 48 51.8**	**+1.5**
	0.2nm,0.3s,baz=184,slow=5.8,SNR=57						
AAK				S	**Sn**	**04 49 53.4**	**-1.1**
	0.3nm,0.3s,baz=112,slow=23,SNR=20						
AAK	**Ala-Archa**	**5.67**	**18**	P	**Pn**	**04 48 51.8**	**+1.5**
AAK				S	**Sn**	**04 49 53.4**	**-1.1**
KBK	**Karagaybulak**	**5.82**	**21**	P	**Pn**	**04 48 50.8**	**-1.4**
	SNR=7.1						
KBK	**Karagaybulak**	**5.82**	**21**	ePn	**Pn**	**04 48 53.0**	**+0.8**
	11nm,0.4s						
KBK				eSn	**Sn**	**04 49 58.1**	**+0.2**
ULHL	**Ulahol**	**5.91**	**31**	P	**Pn**	**04 48 54.6**	**+1.1**
	SNR=31						
KK31	**Karatay Array**	**5.97**	**349**	P	**Pn**	**04 48 53.9**	**-0.3**
	33nm,0.3s,baz=178,slow=13,SNR=618						
KK31				⇑S	**Sn**	**04 49 55.0**	**-6.4**
	36nm,0.3s,baz=173,slow=22,SNR=20						
KKAR	**Karatay Array**	**5.97**	**349**	ePn	**Pn**	**04 48 53.4**	**-0.9**
	94nm,0.5s						
KKAR				eSn	**Sn**	**04 49 56.2**	**-5.3**
CHMS	**Chumysh**	**6.08**	**19**	P	**Pn**	**04 48 56.9**	**+1.1**
	SNR=12						
CHMS	**Chumysh**	**6.08**	**19**	ePn	**Pn**	**04 48 56.4**	**+0.6**
	17nm,0.5s						
CHMS				eSn	**Sn**	**04 50 03.7**	**-0.5**
TKM2	**Tokmak 2**	**6.26**	**24**	P	**Pn**	**04 48 60.0**	**+1.8**
	SNR=7.9						
TKM2	**Tokmak 2**	**6.26**	**24**	⇑P	**Pn**	**04 48 59.2**	**+1.1**
	4.5nm,0.5s						
TKM2				⇓S	**Sn**	**04 49 59.6**	**-8.8**
	15nm,1.1s						
TKM2	**Tokmak 2**	**6.26**	**24**	ePn	**Pn**	**04 48 58.9**	**+0.7**
	6.4nm,0.4s						
USP	**Ospenovka**	**6.27**	**16**	P	**Pn**	**04 48 59.3**	**+0.9**
	SNR=6.6						
SDNR	**Sundarnagar**	**7.01**	**144**	ePKP	**Pn**	**04 49 11.0**	**+2.7**
SDNR				eS	**Sn**	**04 50 24.6**	**-2.1**
SMLA	**Simla**	**7.41**	**144**	*i* P	**Pn**	**04 49 13.5**	**-0.2**
SMLA				*i* S	**Sn**	**04 50 31.2**	**-5.1**
SMLA				*i* S	**Sn**	**04 50 31.5**	**-4.8**
SMLA				⇓		04 50 36.9	
	comp=N,807nm,0.3s						
SMLA				⇓		04 50 36.9	
	comp=E,1μm,0.5s						
KLP	**Kalpa**	**7.64**	**137**	ePKP	**Pn**	**04 49 16.4**	**-0.4**
KLP				eS	**Sn**	**04 50 33.7**	**-8.1**
KLP				AML	AML	04 50 46.9	
	comp=E,146nm,0.4s						
KLP				AML	AML	04 50 47.2	
	comp=N,111nm,0.4s						
DDI	**Dehra Dun**	**8.50**	**143**	ePKP	**Pn**	**04 49 28.0**	**-0.3**
DDI				ex	x	04 51 04.0	
KHET	**Khetri**	**9.67**	**160**	ePKP	**Pn**	**04 49 43.8**	**-0.2**
KHET				eS	**Sn**	**04 51 23.7**	**-7.3**
KUDL	**Kundal**	**9.81**	**157**	ePKP	**Pn**	**04 49 44.9**	**-0.8**
KUDL				eS	**Sn**	**04 51 24.6**	**-10**
KUDL				AML	AML	04 51 30.4	
	comp=E,19nm,0.7s						
KUDL				AML	AML	04 51 30.6	
	comp=N,7.3nm,0.5s						
MK31	**Makanchi Array**	**12.16**	**35**	⇑P	**Pn**	**04 50 15.1**	**-1.5**
	comp=N,1.7nm,0.9s,baz=218,slow=12,SNR=3.9						
MK31	**Makanchi Array**	**12.16**	**35**	ePn	**Pn**	**04 50 17.7**	**+1.1**
MKAR	**Makanchi Array**	**12.16**	**35**	P	**Pn**	**04 50 18.0**	**+1.4**
	comp=N,0.1nm,0.3s,baz=218,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**12.16**	**35**	P	**Pn**	**04 50 18.0**	**+1.4**
DANN	**Dangsing**	**13.22**	**129**	eP	**Pn**	**04 50 30.0**	**-0.5**
	comp=N,23nm,0.2s						
DANN	**Dangsing**	**13.22**	**129**	eP	**Pn**	**04 50 30.0**	**-0.5**
	comp=N,23nm,0.2s						
KOLN	**Koldanda**	**13.54**	**131**	eP	**Pn**	**04 50 34.2**	**-0.3**
	comp=N,30nm,0.5s						
KOLN	**Koldanda**	**13.54**	**131**	eP	**Pn**	**04 50 34.2**	**-0.3**
	comp=N,30nm,0.5s						
GKN	**Gorkha**	**14.01**	**128**	eP	**Pn**	**04 50 39.7**	**-0.9**
	comp=N,47nm,0.4s						
GKN	**Gorkha**	**14.01**	**128**	eP	**Pn**	**04 50 39.7**	**-0.9**
	comp=N,47nm,0.4s						
KURK	**Kurchatov**	**14.24**	**17**	P	**Pn**	**04 50 43.4**	**+0.2**
	comp=N,0.2nm,0.3s,baz=209,slow=11,SNR=10						
KURK	**Kurchatov**	**14.24**	**17**	ePn	**Pn**	**04 50 43.4**	**+0.1**
KURK				eP		04 50 46.7	
KKN	**Kakani**	**14.56**	**127**	eP	**Pn**	**04 50 46.6**	**-1.0**
KKN	**Kakani**	**14.56**	**127**	eP	**Pn**	**04 50 46.6**	**-1.0**
DMN	**Daman**	**14.58**	**128**	eP	**Pn**	**04 50 47.3**	**-0.5**
	comp=N,35nm,0.5s						
DMN	**Daman**	**14.58**	**128**	eP	**Pn**	**04 50 47.3**	**-0.5**
	comp=N,35nm,0.5s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.18**	**282**	⇑*i*Pg	**Pn**	**04 55 00.7**	**-0.1**
KSH				Sg	**Sn**	**04 55 27.0**	**-0.8**
KSH	comp=N,470nm,0.3s			smax			
KSH	comp=E,670nm,0.3s			smax			
KNDC	**Almaty** comp=E,26nm,0.6s	**4.34**	**343**	⇑P	**Pn**	**04 55 33.2**	**+2.8**
KNDC	comp=E,202nm,0.8s			⇑S	**Sn**	**04 56 19.4**	**-1.6**
TKM2	**Tokmak 2** comp=E,11nm,1.1s	**4.50**	**329**	⇓P	**Pn**	**04 55 36.0**	**+3.2**
TKM2	comp=E,16nm,0.7s			⇑S	**Sn**	**04 56 26.0**	**+0.8**
TKM2	**Tokmak 2** comp=E,10nm,0.6s	**4.50**	**329**	⇑Lg		04 57 58.9	
AAK	**Ala-Archa** comp=E,0.0nm,0.3s,baz=132,slow=14,SNR=9.0	**4.78**	**319**	Pg	**Pn**	**04 55 37.1**	**+0.6**
AAK	comp=E,0.0nm,0.3s,baz=349,slow=20,SNR=8.4			Lg		04 56 30.9	
KK31	**Karatay Array** comp=E,1.0nm,0.9s,baz=118,slow=18,SNR=3.9	**7.39**	**306**	⇓P	**Pn**	**04 56 18.4**	**+6.0**
MK31	**Makanchi Array** comp=E,0.2nm,0.3s,baz=196,slow=11,SNR=16	**8.14**	**18**	Pn	**Pn**	**04 56 22.0**	**-0.6**
MK31	comp=E,1.3nm,0.7s,baz=204,slow=14,SNR=5.8			⇑Sn	**Sn**	**04 57 49.8**	**-4.8**
MK31	comp=E,1.7nm,0.6s			⇑Lg		04 58 31.2	
MKAR	**Makanchi Array** comp=E,0.3nm,0.3s,baz=205,slow=14,SNR=13	**8.14**	**18**	Pn	**Pn**	**04 56 22.2**	**-0.4**
MKAR	comp=E,0.3nm,0.3s,baz=197,slow=22,SNR=3.8			Sn	**Sn**	**04 57 49.0**	**-5.6**
SONM	**Songino Array** comp=E,0.3nm,0.5s,mb3.0,baz=243,slow=9.4,SNR=2.6	**21.81**	**57**	P	**P**	**04 59 22.6**	**+5.9**
TORD	**Torodi Ar. Bea** comp=E,0.5nm,0.5s,mb3.7,baz=47,slow=4.7,SNR=20	**71.81**	**272**	P	**P**	**05 05 44.5**	**-3.2**

WEL 02 04:57:25.4±0.1, 37.77S×176.79E, h5km, ML3.6/10, 2C-1D, Error ellipse: s-maj=1.0km s-min=0.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.20**	**248**	⇓PG	Pg	04 57 29.7	+0.2
OPRZ				SG	Sg	04 57 33.1	+1.0
MARZ	**Manawahe**	**0.24**	**203**	⇑PG	Pg	04 57 30.4	+0.3
MARZ				SG	Sg	04 57 34.2	+1.0
EDRZ	**Edgecumbe**	**0.34**	**187**	⇑PG	Pg	04 57 32.3	+0.3
WIZ	**White Island**	**0.40**	**53**	PG	Pg	04 57 33.4	+0.3
WIZ				SG	Sg	04 57 39.3	+1.0
LIRZ	**Lichensteins R**	**0.40**	**234**	PG	Pg	04 57 33.9	+0.8
TGRZ	**Tauranga**	**0.42**	**275**	PG	Pg	04 57 34.0	+0.4
MKRZ	**Makatiti**	**0.45**	**215**	PG	Pg	04 57 35.0	+0.8
OMRZ	**Omania**	**0.47**	**224**	PG	Pg	04 57 35.0	+0.4
KARZ	**Kaharoa**	**0.50**	**240**	PG	Pg	04 57 35.7	+0.6
TARZ	**Mount Tarawera**	**0.52**	**206**	PG	Pg	04 57 36.1	+0.7
URZ	**Urewera**	**0.55**	**153**	PG	Pg	04 57 35.6	-0.4
RRRZ	**Republican Roa**	**0.61**	**201**	P*	Pg	04 57 37.6	+0.4
MYRZ	**Mayor Island**	**0.66**	**318**	P*	Pb	04 57 38.2	-1.1
PRRZ	**Plateau Road**	**0.79**	**203**	P*	Pb	04 57 41.0	-0.8
MWZ	**Matawai**	**0.81**	**135**	P*	Pb	04 57 40.8	-1.2
MWZ				S*	Sb	04 57 52.2	-1.1
ALRZ	**Allen Road**	**0.87**	**204**	P*	Pb	04 57 42.3	-0.7
TOZ	**Tahuroa Road**	**1.02**	**272**	P*	Pb	04 57 44.2	-1.4
TOZ				S*	Sb	04 57 58.0	-1.4
RAHZ	**Arahi**	**1.17**	**169**	P*	Pb	04 57 46.9	-1.3
MXZ	**Matakaoa Point**	**1.22**	**81**	P*	Pb	04 57 48.1	-0.9
NMHZ	**Naumai**	**1.33**	**180**	P*	Pb	04 57 49.8	-1.1
KUZ	**Kuaotunu**	**1.33**	**320**	P*	Pb	04 57 47.3	-3.6
BKZ	**Black Stump Fm**	**1.42**	**189**	P*	Pb	04 57 50.9	-1.5
KNZ	**Kokohu**	**1.43**	**151**	PN	Pn	04 57 52.5	+0.5
MKAZ	**Moumakai**	**1.45**	**296**	PN	Pn	04 57 49.3	-3.0
MCHZ	**McNeill Hill**	**1.68**	**183**	PN	Pn	04 57 57.3	+1.9
OTAZ	**Otara**	**1.70**	**298**	PN	Pn	04 57 56.9	+1.2

NEIC ***02*** *04:59:52.4, 28.66S×71.44W, h38km, MG3.7(GUC), After GUC.*

GUC 02 04:59:52.4±0.6, 28.66S×71.44W, h38km±3km, ML3.7, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.61**	**82**	⇓*i*P	Pn	05 00 04.4	-0.2
VACH				*i* S	Sn	05 00 13.9	+0.7
VACH	**Vallenar**	**0.61**	**82**	⇓*i*P	Pn	05 00 04.4	-0.2
VACH				*i* S	Sn	05 00 13.9	+0.7
VACH	comp=N,14μm,0.1s			AML	AML	05 00 14.6	
LCO	**Las Campanas**	**0.74**	**118**	*e*Pn	Pn	05 00 06.4	0.0
LCO				*e*Sn	Sn	05 00 16.1	-0.2
TLL	**Tololo Astrono**	**1.60**	**160**	⇑*i*P	Pn	05 00 19.9	+1.8
TLL				*i* S	Sn	05 00 40.9	+3.3
TLL	**Tololo Astrono**	**1.60**	**160**	⇑*i*P	Pn	05 00 19.9	+1.8
TLL				*i* S	Sn	05 00 40.9	+3.3
TLL	comp=N,405nm,0.5s			AML	AML	05 00 48.1	
CPCH	**Copiapo**	**1.62**	**37**	⇑*i*P	Pn	05 00 19.9	+1.5
CPCH				*i* S	Sn	05 00 40.3	+2.3
CPCH	**Copiapo**	**1.62**	**37**	⇑*i*P	Pn	05 00 19.9	+1.5
CPCH				*i* S	Sn	05 00 40.3	+2.3
CPCH	comp=N,2μm,0.1s			AML	AML	05 00 46.3	
CDCH	**Caldera**	**1.68**	**19**	*e*P	Pn	05 00 18.1	-1.2
CDCH				*i* S	Sn	05 00 39.1	-0.5
CDCH	**Caldera**	**1.68**	**19**	*e*P	Pn	05 00 18.1	-1.2
CDCH				*i* S	Sn	05 00 39.1	-0.5

IDC 02 05:05:07.7±4.3, 11.24S×116.36E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/18, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=270.6km s-min=28.4km az=46.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=322,slow=14,SNR=7.7	**11.28**	**128**	Pn	Pn	05 07 45.5	-4.7
FITZ	0.5nm,0.3s,baz=159,slow=13,SNR=8.4			Sn	Sn	05 09 44.3	-13
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=293,slow=15,SNR=4.8	**19.35**	**119**	P	Pn	05 09 34.6	-1.4
WRA	0.1nm,0.3s,baz=290,slow=23,SNR=3.7			S	Sn	05 12 55.8	-18
ASAR	**Alice Springs** 0.9nm,0.5s,baz=301,slow=10.0,SNR=12	**20.78**	**129**	P	P	05 09 51.0	+0.4
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=134,slow=6.2,SNR=4.8	**65.31**	**335**	P	P	05 15 51.6	+0.1

ISCJB ***02*** *05:12:50.6±0.5, 11.27N×62.10W±0.03, h125km±5km, Error ellipse: s-maj=6.4km s-min=3.8km az=36.7*
TRN ***02*** *05:12:51.8, 11.27N×62.06W, h125km, MD3.4*
FUNV ***02*** *05:12:52.7, 11.26N×62.01W, h117km, MW3.2*

ISC 02 05:12:51.4±0.6, 11.27N±0.03×62.09W±0.04, h123km±6km, n29, σ0.86/46, 9C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.63**	**192**	⇑*e*P	**Pn**	**05 13 11.6**	**+1.0**
GUIV				*e*S	**Sn**	**05 13 23.8**	**-1.2**
TRN	**Trinidad (W)**	**0.92**	**132**	⇑*i*P	**Pn**	**05 13 14.0**	**+1.2**
TRN				*e*S	**Sn**	**05 13 28.6**	**-0.5**
GRW	**Mount Saint Ca**	**0.98**	**25**	⇑*i*P	**Pn**	**05 13 13.8**	**+0.4**
GRW				*e*S	**Sn**	**05 13 30.5**	**+0.3**
GRHS	**Sauteurs**	**1.05**	**25**	*e*P	**Pn**	**05 13 14.2**	**0.0**
GRHS				*e*S	**Sn**	**05 13 30.8**	**-0.6**
GRIC	**Isle de Caille**	**1.13**	**26**	*e*P	**Pn**	**05 13 15.1**	**+0.2**
GRIC				*e*S	**Sn**	**05 13 33.0**	**+0.2**
GRSS	**Sisters**	**1.13**	**25**	*e*P	**Pn**	**05 13 15.2**	**+0.2**
GRSS				*e*S	**Sn**	**05 13 33.3**	**+0.5**
CRUV	**Carupano**	**1.27**	**242**	⇑*i*P	**Pn**	**05 13 17.5**	**+1.0**
CRUV				*e*S	**Sn**	**05 13 35.9**	**+0.5**
TBH	**Brigand Hill**	**1.27**	**128**	⇑*i*P	**Pn**	**05 13 17.7**	**+1.3**
TBH				*e*S	**Sn**	**05 13 35.0**	**-0.5**
TPR	**Prospect**	**1.29**	**93**	⇑*e*P	**Pn**	**05 13 16.9**	**+0.3**
TPR				*e*S	**Sn**	**05 13 36.1**	**+0.2**
GUNV	**Guanoco**	**1.38**	**217**	⇑*e*P	**Pn**	**05 13 19.3**	**+1.6**
GUNV				*e*S	**Sn**	**05 13 37.2**	**-0.4**
TOSP	**Speyside**	**1.53**	**89**	*e*P	**Pn**	**05 13 19.1**	**-0.2**
TOSP				*e*S	**Sn**	**05 13 39.5**	**-1.1**
SVB	**Belmont**	**2.15**	**22**	*e*P	**Pn**	**05 13 26.7**	**-0.2**
SVB				*e*S	**Sn**	**05 13 53.7**	**-0.4**
SVV	**Soufriere Volc**	**2.21**	**23**	*e*P	**Pn**	**05 13 29.3**	**+1.7**
IBAV	**Isla La Blanqu**	**2.50**	**283**	*e*P	**Pn**	**05 13 31.9**	**+0.6**
ORIV	**Orítupano**	**2.54**	**211**	*e*P	**Pn**	**05 13 32.5**	**+0.7**
ORIV				*e*S	**Sn**	**05 14 01.5**	**-1.4**
MCLT	**Moule a Chique**	**2.67**	**25**	*e*P	**Pn**	**05 13 33.1**	**-0.4**
MCLT				*e*S	**Sn**	**05 14 04.3**	**-1.7**
PCRV	**Puerto La Cruz**	**2.73**	**247**	⇑*e*P	**Pn**	**05 13 35.5**	**+1.3**
PCRV				*e*S	**Sn**	**05 14 06.5**	**-0.7**
SLB	**Belfond**	**2.74**	**22**	*e*P	**Pn**	**05 13 35.0**	**+0.6**
SLB				*e*S	**Sn**	**05 14 06.7**	**-0.9**
RIOV	**Rio Grande**	**3.19**	**175**	*e*P	**Pn**	**05 13 41.0**	**+0.7**
GURV	**El Guri**	**3.62**	**196**	⇑*e*P	**Pn**	**05 13 46.7**	**+0.6**
CUPV	**Cœpira**	**3.83**	**252**	*e*P	**Pn**	**05 13 49.6**	**+0.8**
CUPV				*e*S	**Sn**	**05 14 32.3**	**-0.8**
BIRV	**Birongo**	**4.18**	**260**	*e*P	**Pn**	**05 13 53.9**	**+0.4**
MERV	**Las Mercedes**	**4.60**	**245**	*e*P	**Pn**	**05 13 58.7**	**-0.3**
LUEV	**Luepa**	**5.43**	**173**	*e*P	**Pn**	**05 14 08.7**	**-1.5**
CAOV	**Caicara del Or**	**5.72**	**227**	*e*P	**Pn**	**05 14 13.7**	**-0.5**
BAUV	**El Baul**	**6.30**	**249**	*e*P	**Pn**	**05 14 21.0**	**-0.9**
TEPV	**Terepaima**	**7.10**	**260**	*e*P	**Pn**	**05 14 32.7**	**-0.1**
SANV	**Sanarito**	**7.53**	**257**	*e*P	**Pn**	**05 14 38.6**	**-0.1**
SOCV	**Socops**	**9.13**	**252**	*e*P	**Pn**	**05 14 57.9**	**-2.4**

TRN ***02*** *05:16:17.3, 17.08N×62.37W, h8km, MD3.5*
ISCJB ***02*** *05:16:19.6±0.5, 17.04N±0.05×62.40W±0.04, h12km±5km, Error ellipse: s-maj=9.5km s-min=4.8km az=38.8*
NEIC ***02*** *05:16:20.1±1.5, 17.09N×62.36W, h9km±13km, MD3.9(RSPR), Error ellipse: s-maj=19.2km s-min=8.7km az=197.0*
NEIC Felt at Fig Tree, Nevis.
RSPR ***02*** *05:16:23.0, 17.21N×62.39W, h7km±31km, MD3.9/5*

ISC 02 05:16:20.2±0.5, 17.04N±0.05×62.39W±0.04, h10km±5km, n25, σ0.68/33, 11C-8D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBRV		**0.29**	**140**	*i* P	**Pg**	**05 16 25.5**	**-0.5**
MBGB		**0.34**	**153**	⇑*i*P	**Pg**	**05 16 26.8**	**-0.1**
MBWH		**0.35**	**147**	*i* P	**Pg**	**05 16 26.7**	**-0.4**
MBWH				*i* S	**Sg**	**05 16 32.0**	**+0.3**
MLYT	**Lee's Yard**	**0.37**	**149**	⇑*i*P	**Pg**	**05 16 27.2**	**-0.2**
SKI	**Saint Kitts**	**0.44**	**311**	⇓*i*P	**Pg**	**05 16 28.7**	**-0.2**
SKI				*e*S	**Sg**	**05 16 35.2**	**+0.4**
BPA	**Boggy Peak**	**0.51**	**89**	⇓*e*P	**Pg**	**05 16 30.3**	**+0.2**
BPA				*e*S	**Sg**	**05 16 37.6**	**+0.8**
SEUS	**St. Eustatius**	**0.72**	**309**	⇓*e*P	**Pg**	**05 16 33.3**	**-0.8**
SEUS	**St. Eustatius**	**0.72**	**309**	⇓*e*P	**Pg**	**05 16 33.3**	**-0.8**
SEUS				*e*S	**Sg**	**05 16 44.2**	**+0.5**
SEUS	**St. Eustatius**	**0.72**	**309**	⇓*e*P	**Pg**	**05 16 33.3**	**-0.8**
SEUS				*e*S	**Sg**	**05 16 44.2**	**+0.5**
ANWB	**Willy Bob**	**0.85**	**43**	*e*Pg	**Pg**	**05 16 35.3**	**-1.4**
SABA	**Saba**	**1.00**	**306**	⇑*e*P	**Pg**	**05 16 40.2**	**+0.8**
SABA	**Saba**	**1.00**	**306**	⇑*e*P	**Pg**	**05 16 40.2**	**+0.8**
SABA	**Saba**	**1.00**	**306**	⇑*e*P	**Pg**	**05 16 40.2**	**+0.8**
FDF	**Fort de France**	**2.58**	**152**	*e*Pn	**Pn**	**05 17 02.9**	**+0.8**
STVI	**Saint Thomas**	**2.77**	**299**	*e*Pn	**Pn**	**05 17 06.3**	**+1.6**
STVI				*e*Sn	**Sn**	**05 17 37.8**	**-0.5**
MTP	**Monte Pirata**	**3.19**	**290**	⇑*e*P	**Pn**	**05 17 10.5**	**0.0**
MTP	**Monte Pirata**	**3.19**	**290**	⇑*e*P	**Pn**	**05 17 10.5**	**0.0**
MTP	**Monte Pirata**	**3.19**	**290**	⇑*e*P	**Pn**	**05 17 10.5**	**0.0**
HUMP	**Col San Antoni**	**3.48**	**289**	⇓*e*P	**Pn**	**05 17 14.3**	**-0.1**
HUMP	**Col San Antoni**	**3.48**	**289**	⇓*e*P	**Pn**	**05 17 14.3**	**-0.1**
HUMP				*e*S	**Sn**	**05 17 55.0**	**-0.7**
HUMP	**Col San Antoni**	**3.48**	**289**	⇓*e*P	**Pn**	**05 17 14.3**	**-0.1**
HUMP				*e*S	**Sn**	**05 17 55.3**	**-0.4**
CBYP	**Canovanas**	**3.52**	**291**	⇑*e*P	**Pn**	**05 17 15.6**	**+0.5**
CBYP	**Canovanas**	**3.52**	**291**	⇑*e*P	**Pn**	**05 17 15.6**	**+0.5**
CBYP	**Canovanas**	**3.52**	**291**	⇑*e*P	**Pn**	**05 17 15.6**	**+0.5**
CRPR	**Cabo Rojo, PR**	**4.61**	**283**	*e*Pn	**Pn**	**05 17 28.9**	**-1.0**

IDC 02 05:25:38.4±1.8, 29.72N×90.50E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.3/26, mbtmp3.4/5, Error ellipse: s-maj=70.3km s-min=22.6km az=68.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**4.32**	**163**	*e*PKP	Pn	05 26 53.0	+7.8
MKAR	**Makanchi Array** 1.3nm,0.8s,baz=211,slow=12,SNR=5.6	**18.20**	**342**	P	Pn	05 29 52.7	+0.3
SONM	**Songino Array** 1.4nm,0.8s,baz=156,slow=9.7,SNR=6.4	**21.85**	**30**	P	P	05 30 32.6	+0.3
KURK	**Kurchatov** 0.5nm,0.8s,baz=328,slow=6.1,SNR=4.4	**22.79**	**340**	P	P	05 30 41.7	-0.7
WRA	**Warramunga Arr** 0.4nm,0.7s,baz=326,slow=6.1,SNR=4.8	**64.97**	**134**	P	P	05 36 20.1	0.0
ASAR	**Alice Springs**	**67.50**	**137**	P	P	05 36 36.5	+0.2

BJI ***02*** *05:33:51.9, 13.33N×145.60E, h37km, mB4.9/21, mb4.7/23, Ms4.5/22, Ms7 4.2/24*
MOS ***02*** *05:33:53.9±1.1, 13.55N×145.06E, h26km, mb5.0/15, Error ellipse: s-maj=12.0km s-min=7.5km az=94.6*
ISCJB ***02*** *05:33:56.1±0.5, 13.50N±0.03×144.96E±0.04, h43km±4km, mb4.8/96, MS4.1/41, Error ellipse: s-maj=7.1km s-min=5.5km az=9.2*
IDC ***02*** *05:33:58.0±1.5, 13.55N×144.98E, h47km±13km, mb4.3/27, mb1 4.4/27, mb1mx4.3/34, mbtmp4.3/27, MS4.0/29, Ms1 4.1/29, ms1mx3.9/44, Error ellipse: s-maj=16.3km s-min=9.9km az=100.0*
NEIC ***02*** *05:33:57.0±0.7, 13.54N×144.96E, h38km±6km, mb5.1/44, Error ellipse: s-maj=7.5km s-min=4.8km az=108.0*
NEIC Felt [IV] at Barrigada, Hagatna and Santa Rita. Also felt at Mangil and Yona.
GCMT ***02*** *05:34:01.8±0.3, 13.39N×144.76E, h43km±2km, MW5.0, Moment Tensor Solution. s27,c32; s61,c85; Moment tensor: Scale 10^16 Nm; Mrr 0.02±.21; Mθθ 2.98±.17; Mφφ -3.00±.17; Mrθ 0.89±.20; Mrφ -3.34±.15; Mθφ -0.46±.24; Best double couple: M=0.4.60000×10^16 . NP1:φ=68.00000°, δ=81.00000°, λ=172.00000°. NP2:φ=160.00000°, δ=82.00000°, λ=9.00000°. Principal axes: T 4.6900, Plg=12.0000°, Azm=24.0000°; N -0.1900, Plg=78.0000°, Azm=201.0000°; P -4.4900, Plg=1.0000°, Azm=294.0000°; Data Used: II IU IC G CN.*
DJA ***02*** *05:34:03, 13.87N×145.11E, h135km, mb4.9/15*

ISC 02 05:33:57.3±0.5, 13.52N±0.03×144.98E±0.04, h38km±4km, h31km±2.2km: pP-P, n227, σ0.97/212, mb4.8/96, MS4.1/41, 5C-1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam** 14μm,0.3s,baz=255,slow=3.4,SNR=7896	**0.12**	**302**	P	**Pn**	**05 34 03.9**	**+0.1**
GUMO				S	**Sn**	**05 34 08.9**	**+0.5**
GUMO	**Guam**	**0.12**	**302**	*e*Pn	**Pn**	**05 34 03.8**	**0.0**
GUMO				*e*Sn	**Sn**	**05 34 08.6**	**+0.2**
GUMO	**Guam**	**0.12**	**302**	*e*P	**Pn**	**05 34 03.8**	**-0.1**
GUMO				*e*		05 34 08.6	
JAY	**Jayapura** 7μm66nm,1.4s	**16.49**	**195**	P	**Pn**	**05 37 49.7**	**+3.8**
SMPI	**Sarmi** 1μm89nm,1.6s	**16.62**	**202**	P	**Pn**	**05 37 51.3**	**+3.8**
JHJ	**Hachijo jima 2** comp=Z,525nm,21.8s,MS3.8,baz=184,slow=32	**20.07**	**347**	LR	LR	05 44 31.1	
JOW	**Kunigami** 30nm,0.8s,baz=138,slow=9.7,SNR=6.3	**20.49**	**313**	P	**P**	**05 38 35.0**	**+3.0**
JOW	**Kunigami** 53nm,1.3s	**20.49**	**313**	*e*P	**P**	**05 38 35.1**	**+3.1**
LBMI	**Labuha** 1μm52nm,1.4s,mb4.8	**22.32**	**232**	P	**P**	**05 38 55.0**	**+3.3**
PMG	**Port Moresby** 21nm,0.8s,mb4.6,baz=1.9,slow=7.9,SNR=5.5	**22.88**	**174**	P	**P**	**05 38 58.4**	**+0.7**
PMG	**Port Moresby**	**22.88**	**174**	P	**P**	**05 38 58.4**	**+0.7**
PMG	**Port Moresby**	**22.88**	**174**	P	**P**	**05 38 58.4**	**+0.7**
MSAI	**Masohi** 27nm,1.1s,mb4.6	**23.12**	**225**	P	**P**	**05 39 00.8**	**+0.6**
JNU	**Nakatsue** 13nm,0.9s,mb4.4	**23.36**	**329**	*e*P	**P**	**05 39 03.0**	**+0.4**
MJAR	**Matsushiro Arr** 4.4nm,0.5s,mb4.1,baz=165,slow=4.5,SNR=15	**23.71**	**346**	P	**P**	**05 39 04.7**	**-1.1**
MJAR	comp=Z,266nm,19.4s,MS3.7,baz=205,slow=33			LR	LR	05 46 56.0	
MJAR	**Matsushiro Arr**	**23.71**	**346**	P	**P**	**05 39 04.7**	**-1.1**
MJAR				LR	LR	05 46 56.0	
MJAR	**Matsushiro Arr** 27nm,0.9s,mb4.7	**23.71**	**346**	P	**P**	**05 39 04.7**	**-1.1**
MAJO	**Matsushiro**	**23.71**	**346**	*e*P	**P**	**05 39 04.9**	**-0.9**
MAJO	comp=Z,27nm,0.9s,mb4.7			pmax	pmax		
MAT	**Matsushiro**	**23.71**	**346**	P	**P**	**05 39 04.0**	**-1.8**
MAT				S	**S**	**05 43 17.0**	**-1.2**
AAI	**Ambon** comp=Z,122nm,1.2s,mb5.2	**23.87**	**225**	P	**P**	**05 39 06.9**	**-0.5**
YULB	**Yu-li** comp=Z,171nm,1.7s,mb5.2	**24.48**	**297**	*e*P	**P**	**05 39 12.9**	**0.0**
SSLB	**Suanglung** comp=Z,172nm,1.2s,mb5.5	**24.91**	**298**	*e*P	**P**	**05 39 16.7**	**-0.1**
MRSI	**Marisa** comp=Z,47nm,1.0s,mb5.0	**26.24**	**242**	P	**P**	**05 39 28.6**	**-0.4**
LUWI	**Luwuk** comp=Z,939nmcomp=Z,116nm,1.2s,mb5.3	**26.34**	**238**	P	**P**	**05 39 29.0**	**-0.9**
HNR	**Honiara** comp=Z,371nm,19.2s,MS4.0,baz=347,slow=34	**27.22**	**146**	LR	LR	05 49 14.3	
COEN	**Coen** comp=Z,92nm,1.0s,mb5.3	**27.36**	**184**	*e*P	**P**	**05 39 39.2**	**+0.2**
COEN	**Coen** comp=Z,16nm,1.0s,mb4.5	**27.36**	**184**	P	**P**	**05 39 39.7**	**+0.7**
KSRS	**Korea Array** comp=Z,3.4nm,0.5s,mb4.2,baz=150,slow=10.0,SNR=10	**28.27**	**330**	P	**P**	**05 39 46.9**	**-0.1**
KSRS				ScP	ScP	05 46 36.5	-1.4
KSRS	comp=Z,0.7nm,0.7s,baz=126,slow=1.7,SNR=4.2			LR	LR	05 50 21.5	
KAKA	**Kakadu** comp=Z,169nm,19.0s,MS3.7,baz=130,slow=35	**28.88**	**206**	*e*P	**P**	**05 39 51.6**	**-0.9**
KAKA	**Kakadu** comp=Z,20nm,0.6s,mb5.0	**28.88**	**206**	*e*P	**P**	**05 39 51.7**	**-0.9**
KAKA	**Kakadu** comp=Z,66nm,0.7s,mb5.5	**28.88**	**206**	P	**P**	**05 39 52.0**	**-0.5**
KAKA	**Kakadu** comp=Z,603nmcomp=Z,73nm,0.7s,mb5.5	**28.88**	**206**	P	**P**	**05 39 52.0**	**-0.5**
NJ2	**Nanjing** comp=Z,10.0nm,0.7s,mb4.7	**30.20**	**312**	*e*P	**P**	**05 40 03.6**	**-0.6**
NJ2				pmax	pmax		
ASAJ	**Asahikawa** comp=Z,6.8nm,0.7s,mb4.6,baz=225,slow=22,SNR=5.3	**30.56**	**357**	P	**P**	**05 40 06.2**	**-0.9**
ASAJ	comp=Z,355nm,22.0s,MS4.0,baz=186,slow=33			LR	LR	05 50 51.9	
KAPI	**Kappang** comp=Z,3.1nm,0.3s,mb4.6,baz=80,slow=7.6,SNR=5.1	**31.09**	**235**	P	**P**	**05 40 10.3**	**-1.9**
KAPI	**Kappang**	**31.09**	**235**	P	**P**	**05 40 10.3**	**-1.9**
VLA	**Vladivostok**	**31.58**	**342**	⇑*e*P	**P**	**05 40 16.9**	**+0.7**
VLA	comp=Z,86nm,1.7s,mb5.3			pmax	pmax		
CTA	**Charters Tower** comp=Z,4.9nm,0.5s,mb4.7,baz=1.2,slow=10,SNR=8.0	**33.42**	**178**	P	**P**	**05 40 33.0**	**+0.4**
CTA	comp=Z,270nm,21.5s,MS3.9,baz=18,slow=31			LR	LR	05 51 22.9	
CTA	**Charters Tower** comp=Z,3.8nm,0.5s,mb4.6	**33.42**	**178**	*e*P	**P**	**05 40 31.4**	**-1.1**
CTA	**Charters Tower**	**33.42**	**178**	P	**P**	**05 40 33.0**	**+0.4**
CTA				LR	LR	05 51 22.9	
CTA	**Charters Tower**	**33.42**	**178**	P	**P**	**05 40 33.0**	**+0.5**
MDJ	**Mudanjiang**	**33.66**	**340**	P	**P**	**05 40 35.1**	**+0.8**
MDJ				pP	pP	05 40 42.5	-2.6
MDJ				sP	sP	05 40 46.6	-3.1
MDJ				PcP	PcP	05 43 11.9	-1.8
MDJ				S	**S**	**05 45 59.1**	**+4.5**
MDJ	comp=Z,10.0nm,1.9s,mb4.4			pmax	pmax		
MDJ	comp=Z,97nm,4.6s			pmax	pmax		
MDJ	comp=N,270nm,35.7s,MS4.0			LR	LR		
MDJ	comp=E,470nm,34.6s,MS4.0			LR	LR		
MDJ	comp=Z,210nm,27.7s			LR	LR		
QIZ	**Qiongzhong**	**34.13**	**284**	P	**P**	**05 40 39.5**	**+0.7**
QIZ				pP	pP	05 40 46.1	-3.5
QIZ				sP	sP	05 40 51.3	-2.9
QIZ				S	**S**	**05 45 58.2**	**-4.3**
QIZ				sS	sS	05 46 19.3	-1.1
QIZ	comp=E,130nm,17.1s			LR	LR		
QIZ	comp=Z,290nm,20.4s,MS4.0			LR	LR		
CN2	**Changchun**	**34.51**	**335**	*e*P	**P**	**05 40 42.0**	**+0.2**
CN2				*e*pP	pP	05 40 51.8	-0.8
CN2				*e*S	**S**	**05 46 08.3**	**+0.4**
CN2	comp=Z,10.0nm,0.8s,mb4.8			pmax	pmax		
CN2	comp=Z,200nm,3.0s			pmax	pmax		
CN2	comp=N,500nm,20.0s,MS4.3			LR	LR		
CN2	comp=E,300nm,20.0s,MS4.3			LR	LR		
CN2	comp=Z,200nm,21.0s,MS3.8			LR	LR		
WRAB	**Tennant Creek** comp=Z,18nm,0.9s,mb5.0	**34.85**	**198**	*e*P	**P**	**05 40 44.5**	**-0.5**
WRAB	**Tennant Creek**	**34.85**	**198**	*e*P	**P**	**05 40 44.5**	**-0.4**
WRAB	comp=Z,18nm,0.9s,mb5.0			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,116nm,0.8s,mb5.9,SNR=10	**34.85**	**198**	P	**P**	**05 40 44.5**	**-0.4**
WRAB	**Tennant Creek** comp=Z,40nm,0.8s,mb5.4	**34.85**	**198**	P	**P**	**05 40 44.7**	**-0.2**
WB2	**Warramunga Arr**	**34.86**	**198**	*e*P	**P**	**05 40 44.9**	**-0.1**
WRA	**Warramunga Arr** comp=Z,9.6nm,0.7s,mb4.8,baz=21,slow=9.7,SNR=83	**34.86**	**198**	P	**P**	**05 40 44.8**	**-0.2**
WRA	comp=Z,0.4nm,0.5s,baz=18,slow=3.7,SNR=

HHC pmax pmax
comp=Z,79nm,4.9s
HHC LR LR
comp=N,250nm,17.8s,MS4.4
HHC LR LR
comp=E,380nm,14.3s,MS4.4
HHC LR LR
comp=Z,250nm,13.6s,MS4.2
PETK Petropavlovsk- 40.77 12 P **P** **05 41 33.9 -0.6**
comp=Z,1.8nm,0.7s,mb3.8,baz=186,slow=9.4,SNR=4.7
PETK ScP ScP 05 47 19.1 -2.8
comp=Z,3.8nm,0.9s,baz=193,slow=5.8,SNR=4.2
PETK LR LR 05 55 36.1
comp=Z,106nm,21.0s,MS3.7,baz=203,slow=32
PETK Petropavlovsk- 40.77 12 P **P** **05 41 33.9 -0.6**
PETK ScP ScP 05 47 19.1 -2.8
PETK LR LR 05 55 36.1
PETK Petropavlovsk- 40.77 12 P **P** **05 41 33.9 -0.6**
DZM Mont Dzumac 41.16 149 *e*LR LR 05 53 00.1
comp=Z,316nm,24.4s
DZM Mont Dzumac 41.16 149 *e*P **P** **05 41 38.5 +0.3**
KMI Kunming 41.33 293 P **P** **05 41 43.8 +4.2**
KMI pP pP 05 41 51.8 +1.2
KMI sP sP 05 41 55.4 +0.3
KMI PP PP 05 43 19.9 +4.4
KMI S **S** **05 47 53.8 +2.1**
KMI pmax pmax
comp=Z,4.0nm,1.0s,mb4.0
KMI pmax pmax
comp=Z,32nm,4.1s
KMI LR LR
comp=N,95nm,19.6s,MS4.0
KMI LR LR
comp=E,150nm,18.1s,MS4.0
KMI LR LR
comp=Z,160nm,19.4s,MS3.9
CD2 Chengdu 41.62 301 P **P** **05 41 43.4 +1.5**
CD2 pP pP 05 41 53.2 +0.4
CD2 sP sP 05 41 57.3 -0.1
CD2 PP PP 05 43 23.5 +5.0
CD2 S **S** **05 47 57.2 +1.4**
CD2 pmax pmax
comp=Z,20nm,0.5s,mb5.0
CD2 pmax pmax
comp=Z,180nm,4.9s
CD2 LR LR
comp=N,230nm,8.3s
CD2 LR LR
comp=Z,260nm,14.2s,MS4.2
MBWA Marble Bar 42.46 216 *e*P **P** **05 41 48.8 0.0**
comp=Z,18nm,0.6s,mb4.9
MBWA Marble Bar 42.46 216 P **P** **05 41 48.8 0.0**
comp=Z,34nm,0.8s,mb5.0
LZH Lanzhou 43.14 309 *e*P **P** **05 42 04.5 +10**
LZH pP pP 05 42 15.1 +10
LZH sP sP 05 42 19.0 +9.2
LZH PP PP 05 43 47.5 +13
LZH *e*S **S** **05 48 28.3 +10**
LZH sS sS 05 48 45.4 +9.1
LZH *e*SS SS 05 51 35.8 +4.0
LZH pmax pmax
comp=Z,31nm,1.0s,mb5.0
LZH pmax pmax
comp=Z,150nm,5.4s
LZH LR LR
comp=N,320nm,14.0s,MS4.5
LZH LR LR
comp=E,350nm,15.0s,MS4.5
LZH LR LR
comp=Z,550nm,18.2s,MS4.5
ARMA Armidale 44.15 172 *e*P **P** **05 42 02.8 +0.5**
MDSI Maura Dua 44.27 249 P **P** **05 42 02.0 -1.6**
CMAR Chiang Mai Arr 44.44 283 P **P** **05 42 05.2 +0.4**
comp=Z,2.0nm,0.5s,mb4.1,baz=82,slow=6.5,SNR=16
CMAR ScP ScP 05 47 37.0 -0.5
comp=Z,0.6nm,0.4s,baz=102,slow=2.1,SNR=5.1
CMAR LR LR 05 58 43.7
comp=Z,178nm,19.5s,MS4.0,baz=98,slow=33
CMAR Chiang Mai Arr 44.44 283 P **P** **05 42 05.2 +0.4**
CMAR ScP ScP 05 47 37.0 -0.5
CMAR LR LR 05 58 43.7
CMAR Chiang Mai Arr 44.44 283 P **P** **05 42 05.2 +0.4**
MSVF Nonsavu 45.05 133 *e*P **P** **05 42 09.5 -0.1**
comp=Z,55nm,1.5s,mb5.2
MSVF Nonsavu 45.05 133 *e*P **P** **05 42 09.5 -0.2**
MSVF pmax pmax
comp=Z,55nm,1.5s,mb5.2
FX1 Attu Island--F 45.22 24 P **P** **05 42 10.7 +0.2**
comp=Z,25nm,0.6s,mb5.2,baz=190,slow=2.4,SNR=13
FX1 LR LR 05 59 25.7
comp=Z,140nm,18.2s,MS3.9,baz=243,slow=34
FX1 Attu Island--F 45.22 24 P **P** **05 42 10.7 +0.2**
FX1 LR LR 05 59 25.7
FX1 Attu Island--F 45.22 24 P **P** **05 42 10.7 +0.2**
STKA Stephens Creek 45.26 184 P **P** **05 42 10.2 -0.9**
comp=Z,4.1nm,0.7s,mb4.4,baz=5.6,slow=8.0,SNR=8.5
STKA LR LR 06 01 21.8
comp=Z,174nm,19.5s,MS4.0,baz=196,slow=36
STKA Stephens Creek 45.26 184 *e*P **P** **05 42 10.5 -0.5**
comp=Z,2.8nm,0.6s,mb4.3
STKA Stephens Creek 45.26 184 P **P** **05 42 10.2 -0.9**
STKA LR LR 06 01 21.8
STKA Stephens Creek 45.26 184 P **P** **05 42 10.2 -0.8**
PSI Prapat 46.73 261 LR LR 05 59 23.9
comp=Z,139nm,20.6s,MS3.9,baz=187,slow=33
SONM Songino Array 46.85 325 P **P** **05 42 23.9 +0.4**
comp=Z,0.9nm,0.4s,mb4.1,baz=137,slow=8.1,SNR=8.1
SONM ScP ScP 05 47 44.2 -2.6
comp=Z,0.8nm,0.7s,baz=90,slow=2.2,SNR=3.7
SONM LR LR 06 02 09.2
comp=Z,215nm,18.6s,MS4.1,baz=48,slow=36
SONM Songino Array 46.85 325 P **P** **05 42 23.9 +0.4**
SONM ScP ScP 05 47 44.2 -2.6
SONM LR LR 06 02 09.2
SONM Songino Array 46.85 325 P **P** **05 42 23.9 +0.5**
BBOO Buckleboo 46.85 190 *e*P **P** **05 42 22.9 -0.7**
comp=Z,35nm,0.6s,mb5.5
FORT Forrest 46.96 200 *e*P **P** **05 42 23.5 -1.0**
comp=Z,25nm,1.6s,mb4.9
GTA Gaotai 47.30 312 P **P** **05 42 39.0 +12**
GTA pP pP 05 42 49.4 +11
GTA sP sP 05 42 53.5 +11
GTA S **S** **05 49 36.7 +19**
GTA sS sS 05 49 54.7 +18
GTA pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
GTA pmax pmax
comp=Z,76nm,8.1s
GTA LR LR
comp=N,190nm,18.0s,MS4.2
GTA LR LR
comp=E,160nm,19.0s,MS4.2
GTA LR LR
comp=Z,170nm,20.9s,MS4.0
ADK Adak 49.06 31 *e*P **P** **05 42 40.3 -0.2**
comp=Z,56nm,1.0s,mb5.5
ADK Adak 49.06 31 *e*P **P** **05 42 40.3 -0.2**
ADK pmax pmax
comp=Z,56nm,1.0s,mb5.5
SEY Seymchan 49.62 4⇑ *e*P **P** **05 42 44.3 -0.3**
ZAK Zakamensk 49.95 326 *e*P **P** **05 42 49.8 +2.5**
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
BOD Bodaibo 50.02 339 *e*P **P** **05 42 44.8 -2.9**
BOD pmax pmax
comp=Z,4.0nm,1.6s,mb4.2
TLY Talaya 50.47 328 *e*P pP 05 43 06.8 +4.4
TLY *e*S **S** **05 49 58.2 -4.0**
TLY pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
TLY MLR MLR
comp=Z,124nm,19.0s,MS3.9
AFI Afiamalu 50.77 121 LR LR 06 03 43.1
comp=Z,200nm,18.6s,MS4.2,baz=18,slow=35
TOO Toolangi 50.82 179 *e*P **P** **05 42 54.6 +0.6**
NIKO Nikolski 53.67 33 *e*P **P** **05 43 13.8 -1.2**
comp=Z,69nm,0.8s,mb5.6
UNV Unalaska Valle 55.33 33 *e*P **P** **05 43 26.0 -1.0**
comp=Z,35nm,0.7s,mb5.5
BILL Bilibino 56.21 9 *e*P **P** **05 43 32.0 -1.1**
BILL *i* 05 44 33.4
BILL pmax pmax
comp=Z,10.0nm,1.6s,mb4.6
BILL MLR MLR
comp=Z,100nm,16.0s,MS4.0

WMQ Urumqi 57.26 314 P **P** **05 43 43.5 +2.5**
WMQ S **S** **05 51 35.6 +1.2**
WMQ pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
WMQ pmax pmax
comp=Z,11nm,4.4s
WMQ LR LR
comp=Z,160nm,31.5s,MS3.9
SDPT Sand Point 59.14 33 *e*P **P** **05 43 53.2 -0.8**
comp=Z,86nm,0.8s,mb5.8
URZ Urewera 59.66 151 LR LR 06 06 42.4
comp=Z,158nm,19.6s,MS4.2,baz=330,slow=33
MK31 Makanchi Array 61.61 316 *e*P **P** **05 44 11.1 +0.1**
MK31 Makanchi Array 61.61 316 *e*P **P** **05 44 11.1 +0.1**
MKAR Makanchi Array 61.61 316 P **P** **05 44 11.1 +0.1**
comp=Z,1.1nm,0.5s,mb4.3,baz=94,slow=8.6,SNR=18
MKAR ScP ScP 05 48 47.8 -3.4
comp=Z,0.7nm,0.8s,baz=104,slow=5.1,SNR=3.6
MKAR LR LR 06 11 41.3
comp=Z,102nm,19.4s,MS4.0,baz=306,slow=37
MKAR Makanchi Array 61.61 316 P **P** **05 44 11.1 +0.1**
MKAR ScP ScP 05 48 47.8 -3.4
MKAR LR LR 06 11 41.3
MKAR Makanchi Array 61.61 316 P **P** **05 44 11.1 +0.1**
ZALV Zalesovo Beam 61.74 324 P **P** **05 44 14.3 +2.6**
comp=Z,0.5nm,0.3s,mb4.1,baz=123,slow=5.3,SNR=2.9
ZALV LR LR 06 12 08.7
comp=Z,80nm,19.4s,MS3.9,baz=31,slow=37
ZALV Zalesovo Beam 61.74 324 P **P** **05 44 14.3 +2.6**
ZALV LR LR 06 12 08.7
ZALV Zalesovo Beam 61.74 324 P **P** **05 44 14.3 +2.6**
KDAK Kodiak Island 64.07 32 P **P** **05 44 26.6 -0.5**
comp=Z,8.9nm,0.7s,mb4.9,baz=295,slow=7.8,SNR=11
KDAK LR LR 06 07 48.8
comp=Z,99nm,19.8s,MS4.0,baz=95,slow=32
KDAK Kodiak Island 64.07 32 P **P** **05 44 26.6 -0.5**
KDAK LR LR 06 07 48.8
KDAK Kodiak Island 64.07 32 *i*P **P** **05 44 27.3 +0.2**
KURK Kurchatov 64.70 320 P **P** **05 44 31.1 -0.3**
comp=Z,2.0nm,0.3s,mb4.6,baz=102,slow=6.7,SNR=18
KURK LR LR 06 12 31.9
comp=Z,201nm,20.9s,MS4.3,baz=110,slow=36
KURK Kurchatov 64.70 320 *e*P **P** **05 44 31.0 -0.4**
comp=Z,13nm,1.0s,mb4.9
KURK Kurchatov 64.70 320⇑ *i*P **P** **05 44 31.2 -0.2**
KURK pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
RSO Redoubt South 64.78 29 *e*P **P** **05 44 31.3 -0.4**
PPLA Purkeypile 65.80 27 *e*P **P** **05 44 38.8 +0.5**
comp=Z,12nm,0.7s,mb5.0
SEW Seward 66.26 30 *e*P **P** **05 44 40.5 -0.8**
comp=Z,17nm,0.8s,mb5.1
AAK Ala-Archa 66.63 311 LR LR 06 17 30.0
comp=Z,120nm,19.3s,MS4.1,baz=303,slow=39
BPAW Bear Paw Mtn. 66.69 25 *e*P **P** **05 44 43.6 -0.3**
comp=Z,10nm,0.8s,mb4.9
TRF Thorofare Moun 66.79 26 *e*P **P** **05 44 44.2 -0.5**
comp=Z,14nm,1.1s,mb4.9
PMR Palmer 66.79 28 *e*P **P** **05 44 43.0 -1.7**
comp=Z,12nm,0.7s,mb5.0
PMR Palmer 66.79 28 *e*P **P** **05 44 43.0 -1.7**
PMR pmax pmax
comp=Z,11nm,0.7s,mb5.0
SML Sawmill 67.22 28 *e*P **P** **05 44 47.2 -0.2**
comp=Z,7.5nm,0.8s,mb4.8
SML Sawmill 67.22 28 *e*P **P** **05 44 47.2 -0.1**
SML pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
MCK McKinley 67.45 26 *e*P **P** **05 44 47.6 -1.2**
comp=Z,141nm,2.8s,mb5.5
MCK McKinley 67.45 26 *e*P **P** **05 44 47.6 -1.2**
MCK pmax pmax
comp=Z,141nm,2.8s,mb5.5
COLD Coldfoot 67.97 22 *e*P **P** **05 44 52.8 +0.8**
comp=Z,5.7nm,0.7s,mb4.7
COLA College 68.21 25 *e*P **P** **05 44 52.8 -0.7**
comp=Z,6.5nm,0.9s,mb4.7
COLA College 68.21 25 *e*P **P** **05 44 52.8 -0.8**
COLA pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
ILAR Eielson Array 68.58 25 P **P** **05 44 53.0 -2.8**
comp=Z,5.6nm,0.6s,mb4.7,baz=250,slow=5.5,SNR=93
ILAR LR LR 06 13 26.0
comp=Z,102nm,18.0s,MS4.1,baz=290,slow=34
ILAR Eielson Array 68.58 25 P **P** **05 44 53.0 -2.8**
ILAR LR LR 06 13 26.0
ILAR Eielson Array 68.58 25 P **P** **05 44 53.1 -2.8**
DOT Dot Lake 69.54 27 *e*P **P** **05 44 60.0 -1.9**
comp=Z,39nm,0.9s,mb5.3
MENT Mentasta 69.56 28 *e*P **P** **05 45 02.7 +0.7**
KKAR Karatay Array 69.58 311 *e*P **P** **05 45 02.7 +0.2**
KKAR Karatay Array 69.58 311 *e*P **P** **05 45 02.7 +0.2**
BVAR Borovoye Array 70.04 322 P **P** **05 45 05.0 -0.2**
comp=Z,7.0nm,0.4s,mb4.3,baz=106,slow=6.9,SNR=9.6
BVAR Borovoye Array 70.04 322 P **P** **05 45 05.0 -0.2**
BVAR Borovoye Array 70.04 322 P **P** **05 45 05.0 -0.2**
BRVK Borovoye 70.11 322⇑ *e*P **P** **05 45 05.4 -0.2**
BRVK pmax pmax
comp=Z,5.0nm,1.7s,mb4.2
EGAK Eagle 70.99 26 *e*P **P** **05 45 12.1 +1.4**
comp=Z,74nm,2.3s,mb5.2
PPT Papeete 71.59 114 *e*LR LR 06 07 09.1
comp=Z,242nm,22.8s,baz=290
PPT Papeete 71.59 114 LR LR 06 09 01.7
comp=Z,234nm,20.5s,MS4.4,baz=172,slow=29
DAWY Dawson 71.65 27 *e*P **P** **05 45 15.4 +0.7**
PMOR Pomariorio Ree 72.21 111 *e*T 07 04 05.2
comp=Z,6.1nm,0.2s
TBI Tubuai 73.84 119 *e*T 07 06 07.4
comp=Z,6.2nm,0.3s
INK Inuvik 74.39 22 P **P** **05 45 29.2 -1.7**
comp=Z,3.0nm,0.8s,mb4.3,baz=255,slow=12,SNR=8.6
INK Inuvik 74.39 22 P **P** **05 45 29.2 -1.7**
INK Inuvik 74.39 22 P **P** **05 45 29.2 -1.6**
DLBC Dease Lake 75.98 33 P **P** **05 45 40.4 +0.2**
comp=Z,7.2nm,0.9s,mb4.6,baz=274,slow=8.3,SNR=9.2
DLBC Dease Lake 75.98 33 P **P** **05 45 40.4 +0.2**
ABKAR Akbulak array 76.66 318 *e*P **P** **05 45 43.6 -0.6**
ARU Arti 76.88 325*d* *i*P **P** **05 45 45.2 -0.1**
ARU 05 48 37.1
ARU S S 05 55 32.8 +2.5
ARU SS SS 06 00 22.8 -4.0
ARU pmax pmax
comp=Z,8.0nm,1.7s,mb4.4
JCW Jim Creek 82.09 42 *e*P **P** **05 46 14.5 +0.7**
RPW Rockport 82.31 42 *e*P **P** **05 46 20.7 +5.7**
YBH Yreka Blue Hor 82.83 49 P **P** **05 46 17.9 +0.1**
comp=Z,9.0nm,0.7s,mb4.9,baz=270,slow=1.7,SNR=21
YBH Yreka Blue Hor 82.83 49 P **P** **05 46 17.9 +0.1**
YBH Yreka Blue Hor 82.83 49 P **P** **05 46 17.9 0.0**
YKA Yellowknife Ar 82.87 27 P **P** **05 46 16.3 -1.3**
comp=Z,2.5nm,0.7s,mb4.3,baz=283,slow=5.0,SNR=5.2
YKA Yellowknife Ar 82.87 27 P **P** **05 46 16.3 -1.3**
YKA Yellowknife Ar 82.87 27 P **P** **05 46 16.3 -1.3**
ETW Entiat 83.27 43 *e*P **P** **05 46 21.1 +1.2**
HAWA Hanford 84.07 44 *e*P **P** **05 46 25.5 +1.4**
comp=Z,126nm,2.8s,mb5.5
OHCM Honcut 84.25 51 *e*P **P** **05 46 25.4 +0.1**
RES Resolute Bay 84.59 13 P **P** **05 46 26.9 +0.7**
comp=Z,2.1nm,0.9s,mb4.3,baz=116,slow=1.2,SNR=4.6
RES Resolute Bay 84.59 13 P **P** **05 46 26.9 +0.7**
RES Resolute Bay 84.59 13 P **P** **05 46 27.0 +0.8**
NEW Newport 85.21 42 *e*P **P** **05 46 29.8 0.0**
comp=Z,163nm,2.9s,mb5.7
NEW Newport 85.21 42 *e*P **P** **05 46 29.8 0.0**
NEW pmax pmax
comp=Z,163nm,2.9s
APA Apatity 85.57 339⇑ *e*P **P** **05 46 36.0 +4.8**
APA MLR MLR
comp=Z,1μm,25.0s,MS5.2
RKT Rikitea 86.33 115 *e*LR LR 06 14 02.0
comp=Z,209nm,28.5s
BSMT Bassoo Peak 86.83 42 *e*P **P** **05 46 38.8 +0.9**
NVAR Mina Array Bea 86.88 51 P **P** **05 46 39.2 +0.9**
comp=Z,2.5nm,0.5s,mb4.7,baz=269,slow=5.6,SNR=13
NVAR Mina Array Bea 86.88 51 P **P** **05 46 39.2 +0.9**
ARCES ARCESS Array B 87.18 342 P **P** **05 46 38.0 -1.1**
comp=Z,1.6nm,0.7s,mb4.4,baz=78,slow=6.3,SNR=4.7
ARCES LR LR 06 28 48.2
comp=Z,150nm,18.4s,MS4.4,baz=14,slow=38
ARCES ARCESS Array B 87.18 342 P **P** **05 46 38.0 -1.1**
ARCES LR LR 06 28 48.2
ARCES ARCESS Array B 87.18 342 P **P** **05 46 38.0 -1.1**
YBMT Yellow Bay 87.32 41 *e*P **P** **05 46 40.6 +0.3**
comp=Z,4.2nm,1.0s,mb4.6

MFID Camas Ranch 87.37 46 *e*P **P** **05 46 41.0 +0.4**
comp=Z,10nm,0.8s,mb5.1
HLID Hailey 88.32 46 *e*P **P** **05 46 45.3 +0.2**
comp=Z,26nm,1.6s,mb5.2
GSC Goldstone 88.86 54 *e*P **P** **05 46 48.3 +0.5**
comp=Z,6.0nm,0.9s,mb4.9
GSC Goldstone 88.86 54 *e*P **P** **05 46 48.3 +0.5**
GSC pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
BAR Barrett 89.67 57 *e*P **P** **05 46 52.1 +0.4**
comp=Z,6.3nm,0.8s,mb5.0
SHPR Sheep Range 89.81 53 *e*P **P** **05 46 53.5 +1.2**
HVU Hansel Valley 90.00 47 *e*P **P** **05 46 54.2 +1.2**
comp=Z,6.1nm,0.9s,mb4.9
HVU Hansel Valley 90.00 47 *e*P **P** **05 46 54.2 +1.2**
HVU pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
DUG Dugway 90.47 48 *e*P **P** **05 46 55.9 +0.7**
comp=Z,5.1nm,0.8s,mb4.9
DUG Dugway 90.47 48 *e*P **P** **05 46 55.9 +0.7**
DUG pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
RRI2 Red Ridge 90.52 45 *e*P **P** **05 46 55.5 +0.1**
comp=Z,17nm,1.5s,mb5.1
FLWY Flagg Ranch 90.71 44 *e*P **P** **05 46 58.1 +1.8**
comp=Z,8.2nm,1.0s,mb5.0
HWUT Hardware Ranch 90.92 47 *e*P **P** **05 46 57.9 +0.6**
comp=Z,4.5nm,0.9s,mb4.8
FINES FINESS Array B 91.27 335 P **P** **05 46 57.8 -0.7**
comp=Z,1.0nm,0.4s,mb4.5,baz=53,slow=4.2,SNR=15
FINES LR LR 06 32 33.4
comp=Z,119nm,18.2s,MS4.4,baz=92,slow=38
FINES FINESS Array B 91.27 335 P **P** **05 46 57.8 -0.7**
FINES LR LR 06 32 33.4
FINES FINESS Array B 91.27 335 P **P** **05 46 57.8 -0.7**
RLMT Red Lodge 91.31 43 *e*P **P** **05 46 59.4 +0.4**
comp=Z,6.6nm,1.3s,mb4.8
JLU Jordanelle 91.33 48 *e*P **P** **05 46 59.6 +0.4**
comp=Z,35nm,2.1s,mb5.3
PDAR Pinedale Array 91.94 45 P **P** **05 47 01.8 -0.2**
comp=Z,1.1nm,0.6s,mb4.4,baz=238,slow=3.1,SNR=9.6
PDAR LR LR 06 25 04.7
comp=Z,78nm,18.4s,MS4.2,baz=103,slow=33
PDAR Pinedale Array 91.94 45 P **P** **05 47 01.8 -0.2**
PDAR LR LR 06 25 04.7
SRU San Rafael 92.49 49 *e*P **P** **05 47 05.3 +0.7**
comp=Z,3.1nm,0.8s,mb4.7
SRU San Rafael 92.49 49 *e*P **P** **05 47 05.4 +0.8**
SRU pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
AKASG Malin Array Be 95.13 325 LR LR 06 32 47.5
comp=Z,126nm,18.1s,MS4.4,baz=75,slow=37
NOA NORSAR Array B 97.15 339 LR LR 06 33 46.0
comp=Z,58nm,18.5s,MS4.1,baz=60,slow=37
MAW Mawson 99.41 203 LR LR 06 31 03.8
comp=Z,163nm,20.8s,MS4.5,baz=222,slow=34
UZH Uzhgorod 100.06 325 *e*P Pdif 05 47 37.7 -0.9
BOSA Boshof 122.32 245 PKP PKPdf 05 52 51.0 +2.1
comp=Z,35nm,2.6nm,0.9s,baz=185,slow=19,SNR=3.9
BOSA Boshof 122.32 245 PKP PKPdf 05 52 51.0 +2.1
BOSA Boshof 122.32 245 PKIKP PKPdf 05 52 51.0 +2.1
TORD Torodi Ar. Bea 134.99 305 PKP PKPdf 05 53 13.8 +0.4
comp=Z,0.7nm,0.5s,baz=29,slow=1.9,SNR=7.8
TORD Torodi Ar. Bea 134.99 305 PKP PKPdf 05 53 13.8 +0.4
PLCA Paso Flores 138.81 138 PKP PKPdf 05 53 20.6 +1.0
comp=Z,0.9nm,0.7s,baz=231,slow=6.5,SNR=2.1
PLCA Paso Flores 138.81 138 PKP PKPdf 05 53 20.6 +1.0
PLCA Paso Flores 138.81 138 PKIKP PKPdf 05 53 20.7 +1.0
DBIC Dimbokro 143.95 302 PKP PKPdf 05 53 27.4 -2.3
comp=Z,1.7nm,0.3s,baz=9.3,slow=2.2,SNR=11
DBIC Dimbokro 143.95 302 PKP PKPdf 05 53 27.4 -2.3
DBIC Dimbokro 143.95 302 PKIKP PKPdf 05 53 27.4 -2.3
LPAZ La Paz 147.91 99 PKPbc PKPbc 05 53 38.5 -0.8
comp=Z,5.9nm,0.7s,baz=298,slow=2.5,SNR=23
LPAZ La Paz 147.91 99 PKPbc PKPbc 05 53 38.5 -0.8

ATH ***02*** *05:38:33.3,34.˚84N×27.˚24E,h15km±4km,MD3.5/8*
CSEM ***02*** *05:38:34.6±0.7,34.˚92N×27.˚16E,h2km, ML2.6/1, Error ellipse: s-maj=17.6km s-min=6.0km az=156.0*
ISCJB ***02*** *05:38:35.1±0.9, 34.˚95N±0.˚07×27.˚18E±0.˚05,h10km, Error ellipse: s-maj=10.5km s-min=3.9km az=155.2*
THE ***02*** *05:38:38.1, 35.˚22N×26.˚90E,h0km±3km, ML2.6/1, Error ellipse: s-maj=11.5km s-min=1.1km az=147.0*
DDA ***02*** *05:38:41.0, 35.˚51N×27.˚37E, h6km±3km, Md3.6*
ISC 02 05:38:35.4±0.9, 34.˚89N±0.˚07×27.˚16E±0.˚05, h10km, n41, σ1°22/57, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
KARP	**Karpathos**	**0.66**	**0**	*e*PB	**Pg**	**05 38 46.1**	**-2.0**
KARP				*e*SN	**Sg**	**05 38 57.2**	**+0.5**
KARP	**Karpathos**	**0.66**	**0**	P	**Pg**	**05 38 45.8**	**-2.3**
KARP				S	**Sg**	**05 38 53.0**	**-3.7**
KARP	**Karpathos**	**0.66**	**0**	*e*Pb	**Pg**	**05 38 46.1**	**-2.0**
ZKR	**Zakros**	**0.81**	**286**	*e*PB	**Pg**	**05 38 49.7**	**-1.2**
ZKR				*e*SN	**Sg**	**05 39 02.4**	**+0.9**
ZKR	**Zakros**	**0.81**	**286**	P	**Pg**	**05 38 49.5**	**-1.4**
ZKR				S	**Sg**	**05 38 58.9**	**-2.6**
ZKR	**Zakros**	**0.81**	**286**	*e*Pb	**Pg**	**05 38 49.7**	**-1.2**
ZKR				S	**Sg**	**05 38 58.9**	**-2.6**
XRY	**Khrisi**	**1.21**	**270**	*e*PN	**Pn**	**05 38 57.2**	**-1.1**
XRY	**Khrisi**	**1.21**	**270**	*e*Pn	**Pn**	**05 38 57.2**	**-1.1**
NPS	**Neapolis**	**1.32**	**287**	*e*PN	**Pn**	**05 38 59.9**	**0.0**
NPS				*e*SN	**Sn**	**05 39 19.1**	**+1.5**
NPS	**Neapolis**	**1.32**	**287**	P	**Pn**	**05 38 59.3**	**-0.6**
NPS	**Neapolis**	**1.32**	**287**	P	**Pn**	**05 38 59.3**	**-0.6**
NPS	**Neapolis**	**1.32**	**287**	*e*Pn	**Pn**	**05 38 59.9**	**0.0**
NPS				*e*Sn	**Sn**	**05 39 19.1**	**+1.5**
LAST	**Lasithi**	**1.41**	**282**	*e*PN	**Pn**	**05 39 01.0**	**-0.1**
LAST	**Lasithi**	**1.41**	**282**	P	**Pn**	**05 39 01.0**	**-0.1**
LAST	**Lasithi**	**1.41**	**282**	P	**Pn**	**05 39 01.0**	**-0.1**
ARG	**Arkhangelos**	**1.54**	**31**	*e*PN	**Pn**	**05 39 03.7**	**+0.8**
ARG	**Arkhangelos**	**1.54**	**31**	P	**Pn**	**05 39 03.7**	**+0.8**
ARG	**Arkhangelos**	**1.54**	**31**	P	**Pn**	**05 39 03.7**	**+0.8**
SIVA	**Sivas**	**1.93**	**274**	*e*PN	**Pn**	**05 39 09.5**	**+1.2**
SIVA	**Sivas**	**1.93**	**274**	*e*Pn	**Pn**	**05 39 09.5**	**+1.2**
TURN	**Turunc**	**2.30**	**30**	*e*P	**Pn**	**05 39 11.0**	**-2.4**
TURN				*e*S	**Sn**	**05 39 40.2**	**-1.5**
TURN	**Turunc**	**2.30**	**30**	*e*P	**Pn**	**05 39 11.0**	**-2.4**
TURN				*e*S	**Sn**	**05 39 40.2**	**-1.5**
AKAS	**Kas**	**2.40**	**55**	*e*P	**Pn**	**05 39 14.1**	**-0.7**
AKAS				*e*S	**Sn**	**05 39 44.7**	**+0.4**
AKAS	**Kas**	**2.40**	**55**	*e*P	**Pn**	**05 39 14.1**	**-0.7**
AKAS				*e*S	**Sn**	**05 39 44.7**	**+0.5**
VAM	**Vamos**	**2.48**	**283**	*e*PN	**Pn**	**05 39 17.4**	**+1.6**
VAM	**Vamos**	**2.48**	**283**	*e*Pn	**Pn**	**05 39 17.4**	**+1.6**
GCAM	**G?zelcaml?**	**2.80**	**1**	*e*P	**Pn**	**05 39 22.1**	**+1.8**
GCAM	**G?zelcaml?**	**2.80**	**1**	*e*P	**Pn**	**05 39 22.1**	**+1.8**
SMG	**Samos**	**2.82**	**355**	*e*PN	**Pn**	**05 39 20.7**	**+0.1**
SMG	**Samos**	**2.82**	**355**	*e*Pn	**Pn**	**05 39 20.7**	**+0.1**
AYDN	**Tasoluk**	**2.83**	**12**	*e*P	**Pn**	**05 39 19.7**	**-0.9**
AYDN				*e*S	**Sn**	**05 39 58.0**	**+3.3**
AYDN	**Tasoluk**	**2.83**	**12**	*e*P	**Pn**	**05 39 19.7**	**-0.9**
AYDN				*e*S	**Sn**	**05 39 58.0**	**+3.3**
GOLH	**Golhisar**	**3.04**	**39**	*e*P	**Pn**	**05 39 23.7**	**+0.1**
GOLH				*e*S	**Sg**	**05 40 13.7**	**+0.5**
GOLH	**Golhisar**	**3.04**	**39**	*e*P	**Pn**	**05 39 23.7**	**+0.1**
DNZL	**Cakiroluk**	**3.18**	**28**	*e*P	**Pn**	**05 39 26.4**	**+0.9**
DNZL				*e*S	**Sn**	**05 40 07.6**	**+4.1**
DNZL	**Cakiroluk**	**3.18**	**28**	*e*P	**Pn**	**05 39 26.4**	**+0.9**
DNZL				*e*S	**Sn**	**05 40 07.6**	**+4.1**
CHOS	**Chios island**	**3.60**	**346**	*e*PN	**Pn**	**05 39 31.6**	**+0.4**
CHOS	**Chios island**	**3.60**	**346**	*e*Pn	**Pn**	**05 39 31.6**	**+0.4**
KYTH	**Kithira**	**3.63**	**294**	P	**Pn**	**05 39 31.4**	**-0.3**
KYTH	**Kithira**	**3.63**	**294**	P	**Pn**	**05 39 31.4**	**-0.3**

IDC ***02*** *05:52:08.1±1.8,6.˚17S×152.˚13E,h0km,mb3.8/7, mb1 4.1/8,mb1mx3.9/18,mbtmp3.9/8,ML3.3/1,MS3.1/1, Ms1 3.1/1,ms1mx2.6/29, Error ellipse: s-maj=63.3km s-min=19.3km az=124.0*
ISCJB ***02*** *05:52:12.7±4.7,6.˚2S±0.˚2×152.˚0E±0.˚3,h39km±37km, mb3.8/8, Error ellipse: s-maj=54.8km s-min=23.9km az=33.8*
NEIC ***02*** *05:52:14.4±3.5,6.˚24S×152.˚09E,h44km±25km,mb3.9/1, Error ellipse: s-maj=49.2km s-min=17.4km az=114.0*
ISC 02 05:52:13.9±4.2, 6.˚3S±0.˚2×152.˚1E±0.˚3, h41km±33km, n20, σ0°51/19, mb3.8/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.85**	**237**	Pn	**Pn**	**05 53 38.0**	**-0.2**
	5.2nm,0.3s,baz=91,slow=8.8,SNR=11						
PMG				Sn	**Sn**	**05 54 44.2**	**+0.2**
	5.0nm,0.3s,baz=114,slow=19,SNR=6.0						
PMG	**Port Moresby**	**5.85**	**237**	Pn	**Pn**	**05 53 38.0**	**-0.2**
PMG				Sn	**Sn**	**05 54 44.2**	**+0.2**
CTA	**Charters Tower**	**14.89**	**202**	LR	LR	05 59 53.3	
	comp=Z,81nm,20.8s,baz=52,slow=31						
WRAB	**Tennant Creek**	**21.99**	**230**	*e*P	**P**	**05 57 04.6**	**-0.1**
	5.5nm,1.0s,mb3.9						
WRA	**Warramunga Arr**	**22.01**	**230**	P	**P**	**05 57 04.7**	**-0.1**
	1.4nm,0.7s,mb3.5,baz=55,slow=9.6,SNR=12						
WRA	**Warramunga Arr**	**22.01**	**230**	P	**P**	**05 57 04.8**	**-0.1**
ASAR	**Alice Springs**	**24.65**	**223**	P	**P**	**05 57 31.4**	**+0.5**
	1.0nm,0.6s,mb3.5,baz=57,slow=9.6,SNR=13						
ASAR	**Alice Springs**	**24.65**	**223**	P	**P**	**05 57 31.4**	**+0.5**
FITZ	**Fitzroy Crossi**	**28.41**	**243**	P	**P**	**05 58 04.3**	**-0.5**
	4.3nm,0.5s,mb4.3,baz=68,slow=7.8,SNR=17						
FITZ	**Fitzroy Crossi**	**28.41**	**243**	P	**P**	**05 58 04.3**	**-0.5**
SONM	**Songino Array**	**67.21**	**328**	P	**P**	**06 03 04.8**	**+0.9**
	0.4nm,0.5s,mb3.7,baz=114,slow=3.6,SNR=2.7						
SONM	**Songino Array**	**67.21**	**328**	P	**P**	**06 03 04.8**	**+0.9**
MKAR	**Makanchi Array**	**80.99**	**319**	P	**P**	**06 04 24.5**	**+0.1**
	0.2nm,0.6s,mb3.2,baz=90,slow=6.4,SNR=2.7						
MKAR	**Makanchi Array**	**80.99**	**319**	P	**P**	**06 04 24.5**	**+0.1**
ZALV	**Zalesovo Beam**	**82.00**	**327**	P	**P**	**06 04 28.5**	**-1.0**
	0.7nm,0.3s,mb4.0,baz=115,slow=6.8,SNR=2.6						
ZALV	**Zalesovo Beam**	**82.00**	**327**	P	**P**	**06 04 28.4**	**-1.0**
ILAR	**Eielson Array**	**83.74**	**22**	P	**P**	**06 04 38.5**	**+0.2**
	0.7nm,0.8s,mb3.9,baz=243,slow=5.1,SNR=9.5						
ILAR	**Eielson Array**	**83.74**	**22**	P	**P**	**06 04 38.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**150.10**	**285**	PKPbc	PKPbc	06 12 01.2	-0.1
	0.5nm,0.6s,baz=104,slow=2.8,SNR=6.0						
TORD	**Torodi Ar. Bea**	**150.10**	**285**	PKPbc	PKPbc	06 12 01.2	-0.1

TRN 02 05:58:12.3,17.08N×62.37W,h13km,MD3.5,M3.7(FDD), 3C,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBRV		**0.32**	**148**	⇑*i*P	Pg	05 58 20.6	+1.7
MBGB		**0.37**	**159**	⇑*i*P	Pg	05 58 21.9	+2.0
MBWH		**0.38**	**153**	*i* P	Pg	05 58 21.8	+1.8
MLYT	**Lee's Yard**	**0.40**	**154**	⇑*i*P	Pg	05 58 22.2	+1.9
SKI	**Saint Kitts**	**0.43**	**305**	*e*P	Pg	05 58 23.6	+2.7
SKI				*e*S	Sg	05 58 30.2	+3.5
BPA	**Boggy Peak**	**0.49**	**94**	*e*P	Pg	05 58 25.5	+3.5
BPA				*e*S	Sg	05 58 32.1	+3.5
BCG	**Bois Riant Cap**	**1.23**	**144**	*e*P	Pn	05 58 36.7	+1.6
SCG	**Saint Claude**	**1.24**	**148**	*e*P	Pn	05 58 36.9	+1.6
HMG	**Houelmont**	**1.27**	**149**	*e*P	Pn	05 58 37.1	+1.4
DOG	**Dongo Capester**	**1.27**	**145**	*e*P	Pn	05 58 37.3	+1.5
PHG	**Guadaloupe-2**	**1.27**	**147**	*e*P	Pn	05 58 37.8	+2.0
DEG	**La Desirade**	**1.47**	**121**	*e*P	Pn	05 58 40.3	+1.8
DEG				*e*S	Sn	05 58 59.3	+1.7
MGG	**Marie-Galante**	**1.54**	**139**	*e*P	Pn	05 58 42.3	+2.8

*ISCJB **02** 06:06:43.4±1.2,1.7N±0.2×123.6E±0.2,h142km±14km, mb3.2/3,Error ellipse: s-maj=33.5km s-min=12.2km az=135.3*
*DJA **02** 06:06:45,1.60N×123.58E,h111km,MLv4.1/7*
*IDC **02** 06:07:11.6±15.0,1.77S×126.41E,h0km,mb3.5/2, mb1 3.7/4,mb1mx3.5/21,mbtmp3.6/4,ML3.2/2,MS2.8/1, Ms1 2.8/1,ms1mx2.4/22,Error ellipse: s-maj=234.9km s-min=105.1km az=143.0*
ISC 02 06:06:44.6±1.3,1.7N±0.2×123.5E±0.2,h126km±15km,n12, σ0$86/12,mb3.2/3,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.22**	**158**	P	**Pn**	**06 07 08.7**	**-0.6**
MRSI	**Marisa**	**1.99**	**232**	P	**Pn**	**06 07 16.8**	**-1.5**
SGSI	**Sangihe**	**2.81**	**46**	P	**Pn**	**06 07 29.4**	**+0.7**
LUWI	**Luwuk**	**2.83**	**195**	P	**Pn**	**06 07 24.3**	**-4.6**
APSI	**Ampana**	**3.20**	**216**	P	**Pn**	**06 07 34.8**	**+1.1**
APSI				S	**Sn**	**06 08 12.8**	**+1.1**
TTSI	**Tana Toraja**	**5.99**	**218**	P	**Pn**	**06 08 10.7**	**-0.4**
	0.2nm48nm,0.8s						
SPSI	**Sidrap Palu**	**6.76**	**214**	P	**Pn**	**06 08 21.1**	**-0.3**
KAPI	**Kappang**	**7.66**	**209**	LR	LR	06 12 11.3	
	comp=Z,72nm,20.9s,baz=207,slow=41						
FITZ	**Fitzroy Crossi**	**19.79**	**174**	Pn	**Pn**	**06 11 01.3**	**-6.6**
	0.0nm,0.3s,baz=356,slow=19,SNR=3.2						
WRA	**Warramunga Arr**	**23.99**	**154**	P	**P**	**06 11 42.2**	**-5.4**
	0.1nm,0.3s,mb2.6,baz=336,slow=11,SNR=11						
ASAR	**Alice Springs**	**27.17**	**159**	P	**P**	**06 12 16.2**	**-0.1**
	0.4nm,0.7s,mb3.1,baz=341,slow=10,SNR=5.8						
STKA	**Stephens Creek**	**37.54**	**154**	P	**P**	**06 13 51.4**	**+4.8**
	0.7nm,0.3s,mb3.9,baz=6.3,slow=9.2,SNR=3.8						

IDC 02 06:11:44.6±1.7,24.08N×108.92W,h0km,mb3.4/2, mb1 3.7/4,mb1mx3.6/20,mbtmp3.3/4,ML3.3/2,MS2.8/1, Ms1 2.8/1,ms1mx2.4/20,Error ellipse: s-maj=29.4km s-min=23.5km az=110.0,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**7.03**	**41**	Pn	Pn	06 13 31.2	+2.4
	0.1nm,0.3s,baz=225,slow=13,SNR=6.9						
TXAR				Pg	Pg	06 13 50.2	-9.2
	0.2nm,0.3s,baz=226,slow=14,SNR=6.3						
TXAR				Sn	Sn	06 14 49.3	-0.3
	0.4nm,0.3s,baz=202,slow=20,SNR=3.9						
TXAR				Lg		06 15 25.2	
	0.9nm,0.3s,baz=228,slow=30,SNR=9.4						
CMIG	**Matias Romero**	**14.86**	**115**	LR	LR	06 20 55.4	
	comp=Z,33nm,19.6s,baz=109,slow=37						
NVAR	**Mina Array Bea**	**16.39**	**333**	Pn	Pn	06 15 38.5	+2.5
	0.1nm,0.3s,baz=158,slow=12,SNR=3.9						
ILAR	**Eielson Array**	**47.52**	**339**	P	P	06 20 21.4	0.0
	0.2nm,0.8s,baz=143,slow=7.4,SNR=3.5						
LPAZ	**La Paz**	**56.52**	**131**	P	P	06 21 29.5	+0.5
	0.8nm,0.7s,baz=327,slow=13,SNR=6.0						

*TIR **02** 06:20:58.8±2.2,39.90N×20.05E,h2km±17km,ML3.3*
*ISCJB **02** 06:20:59.5±0.4,39.78N±0.02×20.04E±0.03,h10km,Error ellipse: s-maj=3.4km s-min=3.0km az=179.2*
*CSEM **02** 06:20:59.2±0.2,39.78N×20.06E,h2km,ML3.3,Error ellipse: s-maj=5.4km s-min=3.4km az=80.0*
*THE **02** 06:20:59.1,39.83N×20.07E,h0km±2km,ML2.9/2,Error ellipse: s-maj=2.9km s-min=0.9km az=212.0*
*ATH **02** 06:20:59.1,39.74N×20.03E,h19km±1km,MD3.4/13*
ISC 02 06:20:59.6±0.5,39.78N±0.02×20.06E±0.03,h3km±4km, n70,σ1$04/101,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.11**	**338**	*i* PG	**Pg**	**06 21 00.9**	**-1.0**
SRN				*i* SG	**Sg**	**06 21 03.9**	**+0.5**
SRN	**Sarande**	**0.11**	**338**	*i* Pg	**Pg**	**06 21 00.9**	**-1.0**
SRN				*i* Sg	**Sg**	**06 21 03.9**	**+0.5**
KEK	**Kerkira**	**0.21**	**253**	*e*PB	**Pg**	**06 21 03.4**	**-0.2**
KEK				*e*SB	**Sg**	**06 21 07.8**	**+1.4**
KEK	**Kerkira**	**0.21**	**253**	P	**Pg**	**06 21 03.4**	**-0.2**
KEK				S	**Sg**	**06 21 07.6**	**+1.2**
KEK	**Kerkira**	**0.21**	**253**	P	**Pg**	**06 21 03.4**	**-0.2**
KEK				S	**Sg**	**06 21 07.6**	**+1.2**
IGT	**Igoumenitsa**	**0.32**	**139**	P	**Pg**	**06 21 05.4**	**-0.4**
IGT				S	**Sg**	**06 21 11.5**	**+1.5**
IGT	**Igoumenitsa**	**0.32**	**139**	P	**Pg**	**06 21 05.4**	**-0.4**
IGT				S	**Sg**	**06 21 11.5**	**+1.5**
LSK	**Leskovik**	**0.56**	**48**	*i* PG	**Pg**	**06 21 08.9**	**-1.5**
LSK				*i* SG	**Sg**	**06 21 17.6**	**-0.1**
LSK	**Leskovik**	**0.56**	**48**	*i* Pg	**Pg**	**06 21 08.9**	**-1.5**
LSK				*i* Sg	**Sg**	**06 21 17.6**	**-0.1**
JAN	**Janina**	**0.62**	**101**	*e*PB	**Pg**	**06 21 10.6**	**-1.0**
JAN				*e*SN	**Sg**	**06 21 20.7**	**+1.0**
JAN	**Janina**	**0.62**	**101**	P	**Pg**	**06 21 10.4**	**-1.2**
JAN				S	**Sg**	**06 21 20.1**	**+0.4**
JAN	**Janina**	**0.62**	**101**	*e*Pb	**Pg**	**06 21 10.6**	**-1.0**
JAN				S	**Sg**	**06 21 20.1**	**+0.4**
KBN	**Korca**	**1.02**	**33**	*i* PG	**Pg**	**06 21 18.6**	**-0.5**
KBN	**Korca**	**1.02**	**33**	*i* Pg	**Pg**	**06 21 18.6**	**-0.5**
LKD2	**Lefkada island**	**1.09**	**154**	P	**Pg**	**06 21 20.7**	**+0.2**
LKD2				S	**Sg**	**06 21 37.3**	**+2.7**
LKD2	**Lefkada island**	**1.09**	**154**	P	**Pg**	**06 21 20.7**	**+0.2**
LKD2				S	**Sg**	**06 21 37.3**	**+2.7**
KZN	**Kozani**	**1.42**	**67**	*e*PN	**Pn**	**06 21 26.2**	**-0.2**
KZN				*e*SN	**Sn**	**06 21 47.2**	**+1.6**
KZN	**Kozani**	**1.42**	**67**	*e*Pn	**Pn**	**06 21 26.2**	**-0.2**
KZN				*e*Sn	**Sn**	**06 21 47.2**	**+1.6**
FNA	**Florina**	**1.43**	**45**	P	**Pn**	**06 21 25.0**	**-1.5**
FNA				S	**Sg**	**06 21 45.6**	**+0.1**
FNA	**Florina**	**1.43**	**45**	P	**Pn**	**06 21 25.0**	**-1.5**
FNA				S	**Sg**	**06 21 45.6**	**+0.1**
THL	**Klokotos Trika**	**1.53**	**97**	*e*PN	**Pn**	**06 21 27.4**	**-0.4**
THL				*e*SN	**Sn**	**06 21 48.7**	**+0.5**
THL	**Klokotos Trika**	**1.53**	**97**	*e*Pn	**Pn**	**06 21 27.4**	**-0.4**
THL				*e*Sn	**Sn**	**06 21 48.7**	**+0.5**
BIA	**Bitola**	**1.57**	**37**	*e*Pn	**Pn**	**06 21 27.1**	**-1.4**
BIA				*e*Sg	**Sg**	**06 21 51.8**	**+1.5**
BIA	**Bitola**	**1.57**	**37**	*e*Pn	**Pn**	**06 21 27.1**	**-1.4**
BIA				*e*Sg	**Sg**	**06 21 51.7**	**+1.4**
TIR	**Tirane**	**1.58**	**355**	*i* PN	**Pn**	**06 21 29.6**	**+1.0**
TIR				*i* SN	**Sn**	**06 21 50.2**	**+0.7**
TIR	**Tirane**	**1.58**	**355**	*i* Pn	**Pn**	**06 21 29.6**	**+1.1**
TIR				*i* Sn	**Sn**	**06 21 50.2**	**+0.7**
EVR	**Evrytania**	**1.61**	**122**	*e*PN	**Pn**	**06 21 28.2**	**-0.7**
EVR				*e*SN	**Sn**	**06 21 51.2**	**+1.0**
EVR	**Evrytania**	**1.61**	**122**	*e*Pn	**Pn**	**06 21 28.2**	**-0.7**
EVR				*e*Sn	**Sn**	**06 21 51.2**	**+1.0**
VLS	**Valsamata**	**1.65**	**165**	*e*PN	**Pn**	**06 21 29.4**	**-0.1**
VLS				*e*SN	**Sn**	**06 21 50.5**	**-0.7**
VLS	**Valsamata**	**1.65**	**165**	*e*PN	**Pn**	**06 21 29.7**	**+0.2**
VLS	**Valsamata**	**1.65**	**165**	*e*Pn	**Pn**	**06 21 29.7**	**+0.2**
VLS				*e*Sn	**Sn**	**06 21 50.5**	**-0.7**
KRUS	**Krusevo**	**1.83**	**29**	*e*Pn	**Pn**	**06 21 31.1**	**-1.0**
KRUS	**Krusevo**	**1.83**	**29**	*e*Pn	**Pn**	**06 21 31.0**	**-1.0**
LIT	**Litokhoron**	**1.90**	**79**	*e*PN	**Pn**	**06 21 33.1**	**+0.2**
LIT	**Litokhoron**	**1.90**	**79**	*e*Pn	**Pn**	**06 21 33.1**	**+0.2**
AGG	**Agios Georgios**	**1.92**	**112**	*e*PN	**Pn**	**06 21 33.3**	**+0.1**
AGG				*e*SN	**Sn**	**06 21 58.6**	**+0.8**
AGG	**Agios Georgios**	**1.92**	**112**	P	**Pn**	**06 21 31.5**	**-1.7**
AGG	**Agios Georgios**	**1.92**	**112**	P	**Pn**	**06 21 31.5**	**-1.7**
AGG	**Agios Georgios**	**1.92**	**112**	*e*Pn	**Pn**	**06 21 33.3**	**+0.1**
AGG				*e*Sn	**Sn**	**06 21 58.6**	**+0.8**
EFP	**Efpalio**	**1.97**	**133**	*e*PN	**Pn**	**06 21 34.3**	**+0.4**
EFP	**Efpalio**	**1.97**	**133**	*e*Pn	**Pn**	**06 21 34.3**	**+0.4**
RLS	**Riolos of Patr**	**2.04**	**147**	*e*PN	**Pn**	**06 21 35.0**	**+0.2**
RLS	**Riolos of Patr**	**2.04**	**147**	*e*Pn	**Pn**	**06 21 35.0**	**+0.2**
PUK	**Puka**	**2.27**	**357**	*i* PN	**Pn**	**06 21 41.0**	**+2.9**
PUK				*i* SN	**Sn**	**06 22 10.9**	**+4.4**
NEO	**Neokhori**	**2.49**	**100**	*e*PN	**Pn**	**06 21 41.5**	**+0.4**
NEO	**Neokhori**	**2.49**	**100**	P	**Pn**	**06 21 39.9**	**-1.2**
NEO	**Neokhori**	**2.49**	**100**	P	**Pn**	**06 21 39.9**	**-1.2**
NEO	**Neokhori**	**2.49**	**100**	*e*Pn	**Pn**	**06 21 41.5**	**+0.4**
LKR	**Lokris**	**2.55**	**115**	*e*PB	**Pb**	**06 21 42.2**	**-3.8**
LKR	**Lokris**	**2.55**	**115**	*e*Pb	**Pb**	**06 21 42.2**	**-3.8**
GUR	**Goura**	**2.56**	**135**	*e*PB	**Pb**	**06 21 42.5**	**-3.7**
GUR	**Goura**	**2.56**	**135**	*e*Pb	**Pb**	**06 21 42.5**	**-3.7**
PLG	**Polygyros**	**2.67**	**76**	*e*PN	**Pn**	**06 21 43.3**	**-0.2**
PLG	**Polygyros**	**2.67**	**76**	*e*Pn	**Pn**	**06 21 43.3**	**-0.2**
SOH	**Sokhos**	**2.73**	**66**	*e*PN	**Pn**	**06 21 44.5**	**+0.1**
SOH	**Sokhos**	**2.73**	**66**	*e*Pn	**Pn**	**06 21 44.5**	**+0.1**
LTK	**Loutraki**	**2.87**	**127**	*e*PN	**Pn**	**06 21 46.4**	**+0.2**
LTK	**Loutraki**	**2.87**	**127**	*e*Pn	**Pn**	**06 21 46.4**	**+0.2**
ITM	**Ithomi**	**2.98**	**150**	*e*PN	**Pn**	**06 21 46.5**	**-1.3**
ITM	**Ithomi**	**2.98**	**150**	*e*Pn	**Pn**	**06 21 46.5**	**-1.3**
PYL	**PYLOS**	**3.17**	**155**	*e*PN	**Pn**	**06 21 49.3**	**-1.1**
PYL	**PYLOS**	**3.17**	**155**	*e*Pn	**Pn**	**06 21 49.3**	**-1.1**
BARS	**Barje**	**3.31**	**23**	*e*Pn	**Pn**	**06 21 51.1**	**-1.3**
DID	**Didima**	**3.37**	**131**	*e*PN	**Pn**	**06 21 52.5**	**-0.6**
DID	**Didima**	**3.37**	**131**	*e*Pn	**Pn**	**06 21 52.5**	**-0.6**
VLY	**Voula,Athens**	**3.49**	**122**	*e*PN	**Pn**	**06 21 54.2**	**+0.7**
VLY	**Voula,Athens**	**3.49**	**122**	*e*Pn	**Pn**	**06 21 54.2**	**+0.7**
GRUS	**Gruza**	**4.14**	**7**	*e*Pn	**Pn**	**06 22 06.5**	**+2.8**
KYTH	**Kithira**	**4.21**	**145**	P	**Pn**	**06 22 05.2**	**+0.5**
KYTH	**Kithira**	**4.21**	**145**	P	**Pn**	**06 22 05.2**	**+0.5**

*PDA **02** 06:31:33.2±1.0,38.11N×26.32W,h2km±4km,MD3.6, ML2.3,Error ellipse: s-maj=7.6km s-min=1.4km az=33.0*
CSEM 02 06:31:33.2,38.11N×26.32W,h2km,ML2.3,After PDA, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSET	**Sete Cidades**	**0.55**	**121**	*e*P	Pg	06 31 43.1	-0.7
PSET				*e*S	Sg	06 31 50.1	-0.9
PSET				A		06 31 52.3	
	26nm,0.2s						
PSET	**Sete Cidades**	**0.55**	**121**	*e*P	Pg	06 31 43.1	-0.7
PSET				*e*S	Sg	06 31 50.1	-0.9
PDA	**Ponta Delgada**	**0.63**	**125**	*e*P	Pg	06 31 44.2	-1.1
PDA				*e*S	Sg	06 31 52.4	-1.1
PDA				A		06 31 54.3	
	63nm,0.1s						
PDA	**Ponta Delgada**	**0.63**	**125**	*e*P	Pg	06 31 44.2	-1.1
PDA				*e*S	Sg	06 31 52.4	-1.1
GRON	**Grota Negra**	**0.71**	**119**	*e*P	Pg	06 31 47.0	+0.2
GRON				*e*S	Sg	06 31 56.7	+0.7
GRON				A		06 31 59.7	
	10nm,0.1s						
ADH	**Angra Heroismo**	**0.90**	**307**	*e*P	Pg	06 31 47.5	-3.0
ADH				*e*S	Sg	06 31 58.6	-3.6
ADH				A		06 32 00.6	
	41nm,0.3s						
ADH	**Angra Heroismo**	**0.90**	**307**	*e*P	Pg	06 31 47.5	-3.0
ADH				*e*S	Sg	06 31 58.6	-3.6
BART	**Pico Bartolome**	**0.97**	**110**	*e*P	Pg	06 31 48.6	-3.1
BART				*e*S	Sg	06 32 01.0	-3.3
BART				A		06 32 02.8	
	16nm,0.1s						
BART	**Pico Bartolome**	**0.97**	**110**	*e*P	Pg	06 31 48.6	-3.1
BART				*e*S	Sg	06 32 01.0	-3.3
PID	**Ribeirinha**	**1.46**	**284**	*e*P	Pn	06 31 55.8	-4.7
PID				*e*S	Sb	06 32 12.7	-7.2
PID	**Ribeirinha**	**1.46**	**284**	*e*P	Pn	06 31 55.8	-4.7
PID				*e*S	Sb	06 32 12.7	-7.2
PSMA	**Santa Maria**	**1.46**	**139**	*e*S	Sb	06 32 12.1	-8.0
PSMA				A		06 32 14.1	
	31nm,0.2s						
PSMN	**Pico do Norte,**	**1.49**	**138**	*e*S	Sb	06 32 13.1	-7.8
PSMN	**Pico do Norte,**	**1.49**	**138**	*e*S	Sb	06 32 13.1	-7.8
ROSA	**Rosais**	**1.63**	**292**	*e*P	Pn	06 31 58.1	-4.7
ROSA				*e*S	Sn	06 32 16.4	-8.0
ROSA	**Rosais**	**1.63**	**292**	*e*P	Pn	06 31 58.1	-4.7
ROSA				*e*S	Sn	06 32 16.4	-8.0
PICO	**Pico**	**1.70**	**284**	*e*P	Pn	06 31 58.8	-5.1
PICO				*e*S	Sn	06 32 18.3	-7.9
PICO	**Pico**	**1.70**	**284**	*e*P	Pn	06 31 58.8	-5.1
PICO				*e*S	Sn	06 32 18.3	-7.9
PCAN	**Candelaria**	**1.74**	**282**	*e*P	Pn	06 31 59.5	-4.9
PCAN				*e*S	Sn	06 32 19.4	-7.7
PCAN				A		06 32 21.6	
	7.8nm,0.1s						
PCAN	**Candelaria**	**1.74**	**282**	*e*P	Pn	06 31 59.5	-4.9
PCAN				*e*S	Sn	06 32 19.4	-7.7
CALA	**Caldeira**	**1.93**	**285**	*e*S	Sn	06 32 24.4	-7.5
CALA	**Caldeira**	**1.93**	**285**	*e*S	Sn	06 32 24.4	-7.5
PCED	**Cedros**	**1.94**	**286**	*e*S	Sn	06 32 24.4	-7.7
PCED				A		06 32 26.8	
	69nm,0.3s						
PCED	**Cedros**	**1.94**	**286**	*e*S	Sn	06 32 24.4	-7.7

*ISCJB **02** 06:34:31.0±0.9,11.24S±0.07×116.4E±0.1,h10km, mb4.0/4,Error ellipse: s-maj=17.0km s-min=9.4km az=1.5*
*IDC **02** 06:34:31.6±1.2,11.32S×116.26E,h0km,mb3.8/4, mb1 3.9/5,mb1mx3.6/19,mbtmp3.8/5,ML3.6/1,Error ellipse: s-maj=55.6km s-min=21.4km az=58.0*
*NEIC **02** 06:34:39.0±2.2,11.39S×116.34E,h58km±22km,mb3.9/2, Error ellipse: s-maj=22.2km s-min=9.2km az=68.0*
ISC 02 06:34:33.2±0.9,11.28S±0.06×116.4E±0.1,h10km,n20, σ0$46/21,mb4.0/4,South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**7.05**	**28**	*e*Pn	**Pn**	**06 36 21.4**	**+4.8**
KAPI				*e*Sn	**Sn**	**06 37 36.7**	**-0.1**
MBWA	**Marble Bar**	**10.33**	**162**	*e*P	**Pn**	**06 36 53.8**	**-7.7**
MBWA				*e*S	Sx	06 38 37.1	
MBWA	**Marble Bar**	**10.33**	**162**	*e*Pn	**Pn**	**06 36 53.8**	**-7.7**
	8.4nm,0.3s						
FITZ	**Fitzroy Crossi**	**11.21**	**128**	Pn	**Pn**	**06 37 09.6**	**-4.0**
	0.5nm,0.3s,baz=305,slow=10,SNR=24						
FITZ				Sn	Sx	06 39 08.5	
	0.7nm,0.3s,baz=177,slow=21,SNR=6.3						
FITZ	**Fitzroy Crossi**	**11.21**	**128**	*e*P	**Pn**	**06 37 10.0**	**-3.6**
	3.7nm,0.5s						
FITZ				*e*S	Sx	06 39 08.5	
FITZ	**Fitzroy Crossi**	**11.21**	**128**	Pn	**Pn**	**06 37 09.6**	**-4.0**
FITZ				Sn	Sx	06 39 08.5	
MEEK	**Meekatharra**	**15.42**	**173**	*e*P	**Pn**	**06 38 03.2**	**-7.7**
MEEK				*e*S	Sx	06 40 37.3	
WRA	**Warramunga Arr**	**19.28**	**119**	P	**Pn**	**06 38 59.4**	**+0.1**
	0.2nm,0.3s,baz=291,slow=15,SNR=12						
WRA				S	Sx	06 42 20.4	
	0.1nm,0.3s,baz=293,slow=23,SNR=4.4						
WRA	**Warramunga Arr**	**19.28**	**119**	P	**Pn**	**06 38 59.4**	**+0.1**
WRA				S	Sx	06 42 20.4	
WRAB	**Tennant Creek**	**19.29**	**119**	*e*P	**Pn**	**06 38 59.1**	**-0.3**
	1.5nm,0.5s						
WB2	**Warramunga Arr**	**19.29**	**119**	*e*P	**Pn**	**06 38 59.8**	**+0.3**
WB2				*e*Sn	Sx	06 42 18.8	
ASAR	**Alice Springs**	**20.71**	**129**	P	**P**	**06 39 14.4**	**+0.6**
	1.9nm,0.6s,baz=304,slow=8.9,SNR=11						
ASAR	**Alice Springs**	**20.71**	**129**	P	**P**	**06 39 14.4**	**+0.6**
NWAO	**Narrogin (SRO)**	**21.56**	**178**	P	**P**	**06 39 22.8**	**-0.1**
	4.9nm,0.5s,mb4.2,baz=355,slow=8.5,SNR=7.9						
NWAO	**Narrogin (SRO)**	**21.56**	**178**	P	**P**	**06 39 22.8**	**-0.1**
FORT	**Forrest**	**22.21**	**153**	*e*P	**P**	**06 39 29.6**	**-0.3**
	8.7nm,0.7s,mb4.3						
MKAR	**Makanchi Array**	**65.37**	**335**	P	**P**	**06 45 15.5**	**-0.2**
	0.5nm,0.5s,mb3.8,baz=145,slow=5.3,SNR=7.8						
MKAR	**Makanchi Array**	**65.37**	**335**	P	**P**	**06 45 15.5**	**-0.2**
ZALV	**Zalesovo Beam**	**70.30**	**341**	P	**P**	**06 45 46.9**	**+0.3**
	0.4nm,0.4s,mb3.7,baz=140,slow=7.2,SNR=3.0						
ZALV	**Zalesovo Beam**	**70.30**	**341**	P	**P**	**06 45 46.9**	**+0.3**

*THE **02** 06:46:33.0,37.61N×15.71E,h7km±39km,Error ellipse: s-maj=39.9km s-min=3.2km az=260.0*
*ROM **02** 06:46:43.6±0.3,37.64N×16.49E,h37km±2km,MI3.4/33, Error ellipse: s-maj=3.7km s-min=1.9km az=131.0*
*NEIC **02** 06:46:43.0,37.66N×16.48E,h36km,MG3.4(ROM),After ROM.*
*CSEM **02** 06:46:43.7±0.1,37.70N×16.49E,h30km,ML4.3/16,Error ellipse: s-maj=3.6km s-min=2.6km az=164.0*
*IDC **02** 06:46:47.0±3.4,37.79N×16.27E,h56km±36km,mb3.4/4, mb1 3.4/8,mb1mx3.2/28,mbtmp3.3/8,ML3.5/4,MS3.2/1, Ms1 3.2/1,ms1mx2.1/28,Error ellipse: s-maj=44.0km s-min=19.0km az=142.0*
*BEO **02** 06:46:47.0±0.8,38.16N×16.65E,h0km,ML3.7/7*
ISC 02 06:46:44.3±0.3,37.68N±0.02×16.49E±0.02,h37km±8km, n178,σ1$04/230,mb3.7/4,46C-13D,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAZ	**Palizzi**	**0.47**	**305**	⇓*i*Pg	Pn	**06 46 54.7**	**+0.1**
MPAZ				Sg	**Sn**	**06 47 02.2**	**+0.5**
	2µm,0.4s						
MPAZ	**Palizzi**	**0.47**	**305**	⇓*i*Pg	Pn	**06 46 54.7**	**+0.1**
MPAZ				Sg	**Sn**	**06 47 02.2**	**+0.5**
	2µm,0.4s						
SOI	**Samo**	**0.52**	**318**	⇓*e*Pg	Pn	**06 46 55.5**	**+0.2**
SOI				Sg	**Sn**	**06 47 03.3**	**+0.3**
	1µm,0.5s						
SOI	**Samo**	**0.52**	**318**	⇓*e*Pg	Pn	**06 46 55.5**	**+0.2**
SOI				Sg	**Sn**	**06 47 03.3**	**+0.3**
	1µm,0.5s						
MTTG	**Motta San Giov**	**0.71**	**297**	⇑*e*Pg	Pn	**06 46 58.1**	**+0.3**
	836nm,0.5s						
MTTG	**Motta San Giov**	**0.71**	**297**	⇑*e*Pg	Pn	**06 46 58.1**	**+0.3**
	836nm,0.5s					

3µm,0.4s
HVZN Vizzini 1.50 251 ⇑*i*Pn Pn 06 47 08.5 -0.2
HVZN Sn **Sn** 06 47 26.2 -0.9
3µm,0.4s
GALF Gagliano Caste 1.53 272 ⇑*i*Pn Pn 06 47 10.1 +1.0
GALF Sn **Sn** 06 47 28.5 +0.8
350nm,0.5s
GALF Gagliano Caste 1.53 272 ⇑*i*Pn Pn 06 47 10.1 +1.0
GALF Sn **Sn** 06 47 28.5 +0.8
350nm,0.5s
HMDC Modica 1.54 243 ⇑*i*Pn Pn 06 47 09.1 -0.2
HMDC Sn **Sn** 06 47 26.9 -1.2
1µm,0.5s
HMDC Modica 1.54 243 ⇑*i*Pn Pn 06 47 09.1 -0.2
HMDC Sn **Sn** 06 47 26.9 -1.2
1µm,0.5s
CARO Carolei 1.58 352 ⇑*i*Pn Pn 06 47 10.3 +0.4
295nm,0.4s
CARO Carolei 1.58 352 ⇑*i*Pn Pn 06 47 10.3 +0.4
295nm,0.4s
LADO San Nicola del 1.65 13 Pn Pn 06 47 11.4 +0.7
242nm,0.3s
LADO San Nicola del 1.65 13 Pn Pn 06 47 11.4 +0.7
242nm,0.3s
RAFF Raffo Rosso 1.76 256 ⇑*i*Pn Pn 06 47 12.6 +0.4
438nm,0.4s
RAFF Raffo Rosso 1.76 256 ⇑*i*Pn Pn 06 47 12.6 +0.4
436nm,0.4s
PIPA Pietrapaola 1.82 8 Pn Pn 06 47 14.2 +1.1
381nm,0.2s
PIPA Pietrapaola 1.82 8 Pn Pn 06 47 14.2 +1.1
381nm,0.2s
IACL Alicudi 1.89 297 Pn Pn 06 47 14.8 +0.8
IACL Alicudi 1.89 297 Pn Pn 06 47 14.8 +0.8
CUC Castrocucco 2.37 347 *e*Pn Pn 06 47 20.0 -0.7
CUC Castrocucco 2.37 347 Pn Pn 06 47 20.6 0.0
68nm,0.5s
CUC Castrocucco 2.37 347 Pn Pn 06 47 20.6 0.0
68nm,0.5s
WDD Wield Dalam 2.41 222 Pn Pn 06 47 22.5 +1.4
286nm,0.3s
WDD Wield Dalam 2.41 222 Pn Pn 06 47 22.5 +1.4
286nm,0.3s
BULG Bulgheria - Ca 2.55 340 Pn Pn 06 47 23.4 +0.3
BULG Bulgheria - Ca 2.55 340 Pn Pn 06 47 23.4 +0.3
SCTE Santa Cesarea 2.84 32 ⇑*i*Pn Pn 06 47 26.0 -1.1
154nm,0.2s
SCTE Santa Cesarea 2.84 32 ⇑*i*Pn Pn 06 47 26.0 -1.1
154nm,0.2s
PTRP Pietrapertosa 2.86 353 Pn Pn 06 47 29.7 +2.4
30µm,12.0s
TAR1 Taranto 2.91 12 *e*Pn Pn 06 47 25.9 -2.1
TAR1 *e*Sn **Sn** 06 47 57.3 -4.4
MATE Matera 2.97 3 Pn Pn 06 47 28.2 -0.7
82nm,0.5s
MATE Matera 2.97 3 Pn Pn 06 47 28.2 -0.7
82nm,0.5s
NOCI Noci 3.13 8 ⇑*i*Pn Pn 06 47 30.0 -1.2
138nm,0.2s
NOCI Noci 3.13 8 ⇑*i*Pn Pn 06 47 30.0 -1.2
138nm,0.2s
SG1 Sgolgore (BA) 3.16 3 *e*Pn Pn 06 47 31.1 -0.4
SG1 *e*Sn **Sn** 06 48 04.2 -3.7
AMUR Altamura 3.22 1 Pn Pn 06 47 31.7 -0.7
AMUR Altamura 3.22 1 Pn Pn 06 47 31.7 -0.7
MCRV Calabrutti - M 3.26 342 Pn Pn 06 47 33.8 +0.9
MCRV Calabrutti - M 3.26 342 Pn Pn 06 47 33.8 +0.9
VLS Valsamata 3.28 80 P Pn 06 47 33.0 -0.1
VLS Valsamata 3.28 80 P Pn 06 47 33.0 -0.1
KEK Kerkira 3.29 51 P Pn 06 47 32.1 -1.1
KEK Kerkira 3.29 51 P Pn 06 47 32.1 -1.1
MRVN Minervino Murg 3.38 356 Pn Pn 06 47 34.4 -0.2
51nm,0.4s
MRVN Minervino Murg 3.38 356 Pn Pn 06 47 34.4 -0.2
51nm,0.4s
KFL Anninata 3.42 82 P Pn 06 47 34.7 -0.4
KFL Anninata 3.42 82 P Pn 06 47 34.7 -0.4
BAI Bari 3.43 5 ⇓*i*Pn Pn 06 47 34.2 -1.1
BAI *e*Sn **Sn** 06 48 11.3 -3.4
LKD2 Lefkada island 3.46 70 P Pn 06 47 35.7 +0.1
LKD2 Lefkada island 3.46 70 P Pn 06 47 35.7 +0.1
IGT Igoumenitsa 3.53 57 P Pn 06 47 36.0 -0.6
IGT Igoumenitsa 3.53 57 P Pn 06 47 36.0 -0.6
JAN Janina 3.94 59 P Pn 06 47 42.2 0.0
JAN Janina 3.94 59 P Pn 06 47 42.2 0.0
RGNG Rignano Grg 4.05 350 Pn Pn 06 47 43.4 -0.3
RGNG Rignano Grg 4.05 350 Pn Pn 06 47 43.4 -0.3
ITM Ithomi 4.35 95 P Pn 06 47 48.9 +1.0
ITM Ithomi 4.35 95 P Pn 06 47 48.9 +1.0
AGG Agios Georgios 4.78 72 P Pn 06 47 54.7 +1.0
AGG Agios Georgios 4.78 72 P Pn 06 47 54.7 +1.0
DSF Desfina 4.82 79 P Pn 06 47 55.5 +1.2
DSF Desfina 4.82 79 P Pn 06 47 55.5 +1.2
FNA Florina 4.89 49 P Pn 06 47 55.3 0.0
BIA Bitola 5.01 47 *e*Pn Pn 06 47 57.0 0.0
BIA *e*Sg **Sn** 06 48 50.4 -3.2
KRUS Krusevo 5.20 43 *e*Pn Pn 06 47 57.4 -2.1
LKR Lokris 5.22 77 P Pn 06 48 01.1 +1.3
VLI Veliai 5.23 99 P Pn 06 48 01.8 +1.8
LIT Litokhoron 5.26 61 P Pn 06 48 00.2 -0.2
DID Didima 5.36 90 P Pn 06 48 02.4 +0.7
KYTH Kithira 5.42 103 P Pn 06 48 03.7 +1.1
KYTH Kithira 5.42 103 P Pn 06 48 03.7 +1.1
VLY Voula,Athens 5.79 86 P Pn 06 48 08.5 +0.9
KEST Kesra 6.06 253 P Pn 06 48 13.1 +1.7
0.4nm,0.3s,baz=3.9,slow=3.6,SNR=14
KEST S **Sn** 06 49 19.1 -0.4
0.2nm,0.3s,baz=182,slow=23,SNR=3.3
KEST Kesra 6.06 253 P Pn 06 48 13.1 +1.7
KEST S **Sn** 06 49 19.1 -0.4
KEST Kesra 6.06 253 P Pn 06 48 13.1 +1.7
KEST S **Sn** 06 49 19.1 -0.4
SJES Sjenica 6.17 24 *e*Pn Pn 06 48 13.5 +0.6
SJES *e*Sn **Sn** 06 49 16.5 -5.6
SJES Sjenica 6.17 24 *e*Pn Pn 06 48 13.5 +0.6
KARN Karanos 6.39 109 P Pn 06 48 16.2 +0.3
KARN Karanos 6.39 109 P Pn 06 48 16.2 +0.3
IVAS Ivanjica 6.51 24 *e*Pn Pn 06 48 16.6 -0.9
BARS Barje 6.55 37 *e*Pn Pn 06 48 16.6 -1.4
BARS *e*Sn **Sn** 06 49 25.4 -6.0
BARS Barje 6.55 37 *e*Pn Pn 06 48 16.6 -1.4
SELS Selova 6.56 31 *e*Pn Pn 06 48 18.4 +0.2
SELS *e*Sn **Sn** 06 49 24.1 -7.6
BBLS Lazići 6.56 19 *e*Pn Pn 06 48 17.6 -0.6
BBLS *e*Sn **Sn** 06 49 26.0 -5.7
BBLS Lazići 6.56 19 *e*Pn Pn 06 48 17.6 -0.6
DIVS Divibare 6.94 21 *e*Pn Pn 06 48 21.9 -1.4
DIVS *e*Sn **Sn** 06 49 33.4 -7.5
DIVS Divibare 6.94 21 *e*Pn Pn 06 48 21.9 -1.4
GRUS Gruza 6.98 26 *e*Pn Pn 06 48 23.2 -0.7
BLY Banja Luka 7.08 4 *e*Pn Pn 06 48 25.1 -0.2
BLY Banja Luka 7.08 4 *e*Pn Pn 06 48 25.1 -0.2
VTS Vitosha 7.11 44 *e*Pn Pn 06 48 25.6 -0.1
VTS *e*Sn **Sn** 06 49 40.2 -4.9
VTS Vitosha 7.11 44 ⇓*i*P Pn 06 48 25.9 +0.2
VTS Vitosha 7.11 44 S **Sn** 06 49 41.5 -3.6
VTS Vitosha 7.11 44 *e*Pn Pn 06 48 25.6 -0.1
VTS Vitosha 7.11 44 ⇓*i*P Pn 06 48 25.9 +0.2
TRUS Trudelj 7.17 23 *e*Pn Pn 06 48 24.5 -2.1
TRUS Trudelj 7.17 23 *e*Pn Pn 06 48 24.5 -2.1
APE Apeiranthos 7.22 92 ⇑*i*P Pn 06 48 27.5 +0.2
APE Apeiranthos 7.22 92 ⇑*i*P Pn 06 48 27.5 +0.2
ZAPS Zavoj 7.29 38 *e*Pn Pn 06 48 27.7 -0.4
ZAPS *e*Sn **Sn** 06 49 44.1 -5.4
ZAPS Zavoj 7.29 38 *e*Pn Pn 06 48 27.7 -0.4
LAST Lasithi 7.67 106 P Pn 06 48 34.4 +1.0
LAST Lasithi 7.67 106 P Pn 06 48 34.4 +1.0
BOJS Bojanci 7.87 354 *i*Pn Pn 06 48 36.4 +0.3
BOJS *i*Sn **Sn** 06 49 57.8 -6.2
BOJS Bojanci 7.87 354 *i*Pn Pn 06 48 36.4 +0.2
VISS Visnje 8.21 352 *i*Pn Pn 06 48 40.9 +0.1
VISS *i*Sn **Sn** 06 50 07.8 -4.4
VISS Visnje 8.21 352 *i*Pn Pn 06 48 40.9 +0.1
PKSM Moragy 8.67 10 ⇓*i*P Pn 06 48 45.1 -2.0
PKSM Moragy 8.67 10 ⇓*i*P Pn 06 48 45.1 -2.0
BZS Buzias 8.80 24 *e*Pn Pn 06 48 47.2 -1.8
BZS Buzias 8.80 24 ⇑*i*P Pn 06 48 47.3 -1.7
BZS Buzias 8.80 24 ⇑*i*P Pn 06 48 47.3 -1.7
PERS Pernice 9.01 354 *i*Pn Pn 06 48 51.4 -0.3
PERS *i*Sn **Sn** 06 50 27.9 -3.9
PERS Pernice 9.01 354 *i*Pn Pn 06 48 51.4 -0.3
GZR Gura Zlata 9.03 29 ⇓*i*P Pn 06 48 51.9 -0.1
GZR Gura Zlata 9.03 29 ⇓*i*P Pn 06 48 51.9 -0.1
VOIR 10.05 37 ⇓*i*P Pn 06 49 05.8 -0.2
VOIR 10.05 37 ⇓*i*P Pn 06 49 05.8 -0.2
DRGR 10.20 25 ⇑*i*P Pn 06 49 06.8 -1.3
DRGR 10.20 25 ⇑*i*P Pn 06 49 06.8 -1.3
MLR Muntele Rosu 10.53 39 P Pn 06 49 15.4 +2.9
0.1nm,0.3s,baz=119,slow=19,SNR=4.3
MLR Muntele Rosu 10.53 39 P Pn 06 49 15.4 +2.9
GERES GERESS Array B 11.34 351 P Pn 06 49 22.5 -1.2
0.1nm,0.3s,baz=167,slow=13,SNR=4.1
GERES GERESS Array B 11.34 351 P Pn 06 49 22.5 -1.2
GERES GERESS Array B 11.34 351 P Pn 06 49 22.5 -1.2
AKASG Malin Array Be 15.87 31 P Pn 06 50 27.8 +3.1
1.1nm,0.3s,baz=223,slow=10,SNR=12
AKASG Malin Array Be 15.87 31 P Pn 06 50 27.8 +3.1
AKASG Malin Array Be 15.87 31 P Pn 06 50 27.8 +3.1
HFS Hagfors 22.54 356 P P 06 51 42.0 +1.3
2.3nm,0.9s,mb3.6,baz=185,slow=14,SNR=3.1
HFS LR LR 07 01 21.8
comp=Z,57nm,18.7s,baz=252,slow=39
HFS Hagfors 22.54 356 P P 06 51 42.0 +1.3
HFS LR LR 07 01 21.8
HFS Hagfors 22.54 356 P P 06 51 42.0 +1.3
FINES FINESS Array B 24.53 11 P P 06 51 59.6 -0.4
1.1nm,0.5s,mb3.7,baz=181,slow=11,SNR=8.7
FINES FINESS Array B 24.53 11 P P 06 51 59.6 -0.4
FINES FINESS Array B 24.53 11 P P 06 51 59.6 -0.4
MKAR Makanchi Array 48.26 57 P P 06 55 22.7 +1.3
0.2nm,0.3s,mb3.7,baz=273,slow=7.2,SNR=3.0
MKAR Makanchi Array 48.26 57 P P 06 55 22.7 +1.3
MKAR Makanchi Array 48.26 57 P P 06 55 22.7 +1.3
ZALV Zalesovo Beam 48.38 47 P P 06 55 23.2 +1.0
0.3nm,0.3s,mb3.8,baz=248,slow=7.6,SNR=2.6
ZALV Zalesovo Beam 48.38 47 P P 06 55 23.2 +1.0
ZALV Zalesovo Beam 48.38 47 P P 06 55 23.2 +1.0

IDC ***02*** *07:16:17.0±3.5, 16°.90S×175°.52W, h412km±39km, mb3.4/3, mb1 3.7/4, mb1mx3.1/19, mbtmp3.5/4, Error ellipse: s-maj=262.6km s-min=23.2km az=142.0*
ISCJB ***02*** *07:16:18.1±0.8, 15°.0S±0°.4×176°.5W±0°.2, h397km±21km, mb4.1/5, Error ellipse: s-maj=66.6km s-min=14.7km az=149.3*
NEIC ***02*** *07:16:18.3±0.9, 15°.20S×176°.37W, h392km±17km, mb4.0/3, Error ellipse: s-maj=57.4km s-min=13.2km az=146.0*
ISC 02 07:16:18.8±0.8, 15°.1S±0°.4×176°.5W±0°.2, h390km±20km, n12, σ0°82/14, mb4.1/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.71**	**76**	P	**Pn**	**07 17 36.2**	**-1.1**
	9.2nm,0.3s,baz=135,slow=4.3,SNR=13						
AFI				S	**S**	**07 18 41.6**	**+0.7**
	1.3nm,0.3s,baz=346,slow=18,SNR=1.9						
AFI	**Afiamalu**	**4.71**	**76**	P	**Pn**	**07 17 36.2**	**-1.1**
AFI				S	**S**	**07 18 41.6**	**+0.7**
MSVF	**Nonsavu**	**5.86**	**243**	*e*P	**Pn**	**07 17 49.4**	**-0.2**
	34nm,0.9s						
DZM	**Mont Dzumac**	**17.60**	**244**	*e*P	**P**	**07 20 01.0**	**+1.4**
	5.5nm,0.7s						
JOHN	**Johnston Islan**	**32.38**	**12**	*e*P	**P**	**07 22 14.1**	**0.0**
	259nm,1.1s,mb5.5						
WRAB	**Tennant Creek**	**47.01**	**257**	*e*P	**P**	**07 24 12.7**	**-0.3**
	7.6nm,1.3s,mb3.9						
WRA	**Warramunga Arr**	**47.02**	**257**	P	**P**	**07 24 12.7**	**-0.4**
	0.9nm,0.5s,mb3.4,baz=96,slow=6.8,SNR=29						
WRA	**Warramunga Arr**	**47.02**	**257**	P	**P**	**07 24 12.7**	**-0.4**
ASAR	**Alice Springs**	**47.38**	**252**	P	**P**	**07 24 15.3**	**-0.5**
	7.9nm,0.4s,mb4.4,baz=87,slow=7.9,SNR=155						
ASAR	**Alice Springs**	**47.38**	**252**	P	**P**	**07 24 15.3**	**-0.5**
ILAR	**Eielson Array**	**82.78**	**12**	P	**P**	**07 28 03.5**	**+3.7**
	0.4nm,0.6s,mb3.3,baz=214,slow=5.4,SNR=11						
ILAR	**Eielson Array**	**82.78**	**12**	P	**P**	**07 28 03.5**	**+3.7**

IDC 02 07:25:05.6±1.1, 15°.08S×174°.27W, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.9/20, mbtmp4.0/6, Error ellipse: s-maj=44.8km s-min=21.2km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.68**	**65**	Pn	Pn	07 25 51.9	+1.9
	53nm,0.3s,baz=41,slow=2.9,SNR=72						
AFI				Sn	Sn	07 26 18.4	-4.8
	56nm,0.3s,baz=43,slow=22,SNR=12						
URZ	**Urewera**	**24.31**	**197**	P	P	07 30 24.3	-0.6
	6.7nm,1.0s,baz=124,slow=15,SNR=4.0						
STKA	**Stephens Creek**	**43.48**	**239**	P	P	07 33 11.1	+0.3
	2.1nm,0.7s,baz=98,slow=16,SNR=4.2						
WRA	**Warramunga Arr**	**49.10**	**257**	P	P	07 33 55.9	+0.6
	1.5nm,0.5s,baz=92,slow=6.6,SNR=58						
ASAR	**Alice Springs**	**49.42**	**252**	P	P	07 33 58.0	+0.4
	3.5nm,0.6s,baz=89,slow=7.7,SNR=63						
ILAR	**Eielson Array**	**82.30**	**11**	P	P	07 37 28.8	+0.1
	0.1nm,0.5s,baz=224,slow=5.7,SNR=6.0						
BRTR	**Keskin Array B**	**145.38**	**321**	PKPbc	PKPbc	07 44 44.7	-1.0
	1.4nm,0.8s,baz=98,slow=2.5,SNR=6.0						
GERES	**GERESS Array B**	**145.70**	**351**	PKPbc	PKPbc	07 44 44.2	-2.2
	0.1nm,0.3s,baz=2.9,slow=3.9,SNR=3.4						

NEIC ***02*** *07:26:27.0, 47°.43N×71°.44W, h18km, MN3.6(OTT), After OTT.*
NEIC Felt lightly in the epicentral area.
OTT 02 07:26:27.2±0.1, 47°.43N×71°.44W, h18km, MN3.6/17, 3D, Southern Quebec

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
A54	**Misere**	**0.70**	**88**	⇓P	Pg	07 26 39.9	-1.0
A54				SG	Sg	07 26 49.5	-0.7
A54				Trac		07 26 50.6	
	comp=Z,166nm,0.0s						
LATQ	**La Tuque**	**0.91**	**268**	⇓P	Pg	07 26 43.7	-1.3
LATQ				SG	Sg	07 26 56.1	-0.9
LATQ				Trac		07 26 58.1	
	comp=Z,812nm,0.0s						
A16	**Riviere Ouelle**	**0.97**	**87**	⇓P	Pg	07 26 44.6	-1.5
A16				SG	Sg	07 26 57.9	-1.0
A16				Trac		07 27 01.9	
	comp=Z,214nm,0.1s						
DPQ	**Saint Jean**	**1.18**	**231**	PG	Pg	07 26 47.6	-2.5
DPQ				Trac		07 27 08.1	
	comp=Z,190nm,0.1s						
MOQ	**Mont Orford**	**2.19**	**195**	PN	Pn	07 27 02.7	0.0
MOQ				SN	Sn	07 27 29.8	+0.4
MOQ				Trac		07 27 36.5	
	comp=Z,53nm,0.2s						
MNT	**Montreal**	**2.45**	**219**	PN	Pn	07 27 07.0	+0.8
MNT				SG	Sg	07 27 38.9	-7.0
MNT				Trac		07 27 42.1	
	comp=Z,81nm,0.1s						
TRQ	**Mont Tremblant**	**2.46**	**242**	SN	Sn	07 27 34.6	-1.3
TRQ				Trac		07 27 44.9	
	comp=Z,38nm,0.1s						
PQI	**Presque Isle**	**2.46**	**107**	*e*Pn	Pn	07 27 07.9	+1.5
PQI				*e*Sn	Sn	07 27 36.7	+0.8
FRNY	**Flat Rock**	**3.00**	**211**	*e*Pn	Pn	07 27 14.2	+0.5
FRNY				*e*Sn	Sn	07 27 47.8	-1.3
WVL	**Waterville**	**3.12**	**156**	PN	Pn	07 27 15.4	-0.1
WVL				LG		07 27 57.7	
GRQ	**Grand Remous**	**3.13**	**256**	PN	Pn	07 27 15.0	-0.6
GRQ				SN	Sn	07 27 52.7	+0.1
GRQ				LG		07 28 05.4	
GRQ				Trac		07 28 07.8	
	comp=Z,106nm,0.2s						
LBNH	**Lisbon**	**3.21**	**186**	PN	Pn	07 27 16.9	+0.2
LBNH				Trac		07 28 05.9	
	comp=Z,37nm,0.2s						
GSQ	**Grosses Roches**	**3.25**	**61**	PN	Pn	07 27 19.1	+1.9
GSQ				Trac		07 28 11.6	
GAC	**Glen Almond**	**3.28**	**240**	PN	Pn	07 27 17.2	-0.4
GAC				Trac		07 28 08.5	
	comp=Z,45nm,0.1s						
ICQ	**Pointe Anglais**	**3.47**	**51**	PN	Pn	07 27 21.1	+0.8
ICQ				SN	Sn	07 28 01.2	+0.3
ICQ				LG		07 28 13.5	
ICQ				Trac		07 28 17.6	
	comp=Z,109nm,0.4s						
LONY	**Lake Ozonia**	**3.56**	**219**	Pn	Pn	07 27 22.1	+0.5
LONY				*e*Sn	Sn	07 28 11.2	+8.0
MNQ	**Manicouagan**	**3.57**	**28**	PN	Pn	07 27 22.1	+0.5
MNQ				SN	Sn	07 28 06.5	+3.3
MNQ				Trac		07 28 22.1	
	comp=Z,48nm,0.2s						
OTT	**Ottawa**	**3.59**	**237**	PN	Pn	07 27 24.9	+3.0
OTT				LG		07 28 15.0	
OTT				Trac		07 28 20.6	
	comp=Z,55nm,0.2s						
MDV	**Middlebury**	**3.64**	**200**	*e*Pn	Pn	07 27 21.0	-1.6
MDV				Sn	Sn	07 28 04.3	-0.8
PTN	**Potsdam (NY)**	**3.78**	**222**	PN	Pn	07 27 24.2	-0.3
PTN				SN	Sn	07 28 07.0	-1.5
PTN				LG		07 28 22.6	
GGN	**Saint George**	**3.94**	**124**	PN	Pn	07 27 26.4	-0.3
GGN				SN	Sn	07 28 08.6	-3.8
GGN				Trac		07 28 35.6	
	comp=Z,45nm,0.3s						
FFD	**Franklin Falls**	**3.96**	**182**	*e*Pn	Pn	07 27 26.9	-0.2
FFD				*e*Sn	Sn	07 28 14.4	+1.3
VLDQ	**Val d'Or**	**4.11**	**282**	PN	Pn	07 27 31.1	+2.0
VLDQ				SN	Sn	07 28 20.1	+3.4
VLDQ				LG		07 28 40.6	
VLDQ				Trac		07 28 44.1	
	comp=Z,48nm,0.5s						
SMQ	**Clarke City**	**4.20**	**46**	PN	Pn	07 27 30.0	-0.2
SMQ				SN	Sn	07 28 17.9	-0.8
SMQ				Trac		07 28 43.2	
	comp=Z,25nm,0.2s						
CRLO	**Chalk River**	**4.32**	**253**	PN	Pn	07 27 30.1	-1.7
CRLO				SN	Sn	07 28 17.7	-4.0
CRLO				Trac		07 28 39.3	
	comp=Z,48nm,0.2s						
PLVO	**Plevna**	**4.58**	**241**	PN	Pn	07 27 35.5	0.0
PLVO				SN	Sn	07 28 26.1	-2.2
LMN	**Caledonia Moun**	**4.83**	**107**	PN	Pn	07 27 38.0	-1.0
LMN				SN	Sn	07 28 31.4	-3.1
WES	**Weston**	**5.05**	**179**	*e*Pn	Pn	07 27 41.5	-0.4
	46nm,0.6s						
WES				*e*Sn	Sn	07 28 55.2	+15
EEO	**Eldee**	**5.28**	**264**	PN	Pn	07 27 43.4	-1.7
EEO				SN	Sn	07 28 42.9	-2.5
EEO				Trac		07 29 17.4	
	comp=Z,46nm,0.3s						
BINY	**Binghamton**	**6.15**	**213**	*e*Pn	Pn	07 27 55.6	-1.5
	19nm,0.6s						
BINY				*e*Sn	Sn	07 29 26.2	+19

ISK ***02*** *07:54:25.4, 37°.06N×28°.50E, h6km, MD2.0*
ISCJB ***02*** *07:54:28.5±0.6, 37°.07N±0°.05×28°.30E±0°.07, h10km, Error ellipse: s-maj=10.0km s-min=4.4km az=43.5*
CSEM ***02*** *07:54:28.5±0.2, 37°.07N×28°.32E, h2km, MD2.0, Error ellipse: s-maj=8.3km s-min=4.3km az=40.0*
DDA ***02*** *07:54:28.0, 37°.08N×28°.30E, h7km±2km, Md2.7*
ISC 02 07:54:29.0±0.6, 37°.07N±0°.05×28°.31E±0°.06, h9km±11km, n17, σ0°94/27, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.07**	**343**	*e*PG	**Pg**	**07 54 29.8**	**-1.3**
YER				*e*SG	**Sg**	**07 54 32.8**	**+0.2**
YER	**Yerkesik**	**0.07**	**343**	*e*Pg	**Pg**	**07 54 29.8**	**-1.3**
YER				*e*Sg	**Sg**	**07 54 32.8**	**+0.2**
TURN	**Turunc**	**0.31**	**130**	*i*P	**Pg**	**07 54 33.6**	**-1.5**
TURN				*i*S	**Sg**	**07 54 39.5**	**+0.3**
TURN	**Turunc**	**0.31**	**130**	*i*P	**Pg**	**07 54 33.6**	**-1.5**
TURN				*i*S	**Sg**	**07 54 39.5**	**+0.3**
MLSB	**Milas**	**0.48**	**298**	*e*PG	**Pg**	**07 54 38.0**	**-0.4**
MLSB	**Milas**	**0.48**	**298**	*e*Pg	**Pg**	**07 54 38.0**	**-0.4**
DAT	**Datca**	**0.68**	**240**	*e*PG	**Pg**	**07 54 41.5**	**-0.6**
DAT	**Datca**	**0.68**	**240**	*e*Pg	**Pg**	**07 54 41.5**	**-0.6**
AYDN	**Tasoluk**	**0.68**	**330**	*i*P	**Pg**	**07 54 41.3**	**-0.9**
AYDN				*i*S	**Sg**	**07 54 50.8**	**-0.3**
AYDN	**Tasoluk**	**0.68**	**330**	*i*P	**Pg**	**07 54 41.3**	**-0.9**
AYDN				*i*S	**Sg**	**07 54 50.8**	**-0.3**
FETY	**Fethiye**	**0.76**	**125**	*e*PG	**Pg**	**07 54 38.0**	**-5.5**
BODT	**Bodrum**	**0.80**	**270**	*e*PG	**Pg**	**07 54 44.2**	**-0.2**
BODT	**Bodrum**	**0.80**	**270**	*e*Pg	**Pg**	**07 54 44.2**	**-0.2**
GCAM	**G?zelcaml?**	**1.06**	**307**	*i*P	**Pg**	**07 54 49.8**	**+0.4**
GCAM				*i*S	**Sg**	**07 55 05.4**	**+2.2**
GCAM	**G?zelcaml?**	**1.06**	**307**	*i*P	**Pg**	**07 54 49.8**	**+0.4**
GCAM				*i*S	**Sg**	**07 55 05.4**	**+2.2**
AKAS	**Kas**	**1.33**	**128**	*i*P	**Pn**	**07 54 53.6**	**-0.1**
AKAS				*i*S	**Sg**	**07 55 13.4**	**+1.5**
AKAS	**Kas**	**1.33**	**128**	*i*P	**Pn**	**07 54 53.6**	**-0.1**
AKAS				*i*S	**Sg**	**07 55 13.4**	**+1.5**

IDC ***02*** *08:00:17.5±1.2, 51°.40N×173°.78W, h0km, mb3.9/14, mb1 4.1/17, mb1mx3.9/31, mbtmp3.9/17, ML3.6/3, Error ellipse: s-maj=32.0km s-min=14.0km az=176.0*
ISCJB ***02*** *08:00:20.8±0.5, 51°.24N±0°.07×174°.12W±0°.08, h33km, mb4.1/21, Error ellipse: s-maj=10.7km s-min=6.9km az=2.1*
NEIC ***02*** *08:00:21.0, 51°.17N×174°.20W, h10km, ML3.4(AEIC), After AEIC.*
ISC 02 08:00:22.9±0.6, 51°.31N±0°.08×174°.13W±0°.08, h35km, n44, σ0°87/46, mb4.1/21, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.89**	**358**	P	**Pn**	**08 00 38.2**	**-0.7**
ATKA				S	**Sn**	**08 00 51.4**	**+0.8**
ADK	**Adak**	**1.69**	**291**	P	**Pn**	**08 00 48.3**	**-1.6**
ADK				S	**Sn**	**08 01 09.6**	**-0.6**
NIKO	**Nikolski**	**3.65**	**61**	P	**Pn**	**08 01 17.2**	**+0.4**
UNV	**Unalaska Valle**	**5.30**	**58**	P	**Pn**	**08 01 41.5**	**+2.1**
FX1	**Attu Island--F**	**7.98**	**286**	Pn	**Pn**	**08 02 18.1**	**+1.9**
	0.8nm,0.3s,baz=271,slow=19,SNR=9.4						
FX1	**Attu Island--F**	**7.98**	**286**	Pn	**Pn**	**08 02 18.1**	**+1.9**
KDAK	**Kodiak Island**	**14.05**	**54**	Pn	**Pn**	**08 03 37.1**	**-2.0**
	0.5nm,0.3s,baz=321,slow=12,SNR=7.8						
KDAK	**Kodiak Island**	**14.05**	**54**	Pn	**Pn**	**08 03 37.1**	**-2.0**
ILAR	**Eielson Array**	**19.52**	**36**	P	**Pn**	**08 04 44.5**	**-3.8**
	0.5nm,0.3s,baz=238,slow=8.8,SNR=47						
ILAR	**Eielson Array**	**19.52**	**36**	P	**Pn**	**08 04 44.5**	**-3.8**
EGAK	**Eagle**	**21.71**	**39**	*e*P	**P**	**08 05 09.9**	**-0.6**
	18nm,0.8s,mb4.5						
INK	**Inuvik**	**25.86**	**34**	P	**P**	**08 05 49.5**	**-1.2**
	1.2nm,0.7s,mb3.5,baz=212,slow=7.4,SNR=6.1						
INK	**Inuvik**	**25.86**	**34**	P	**P**	**08 05 49.5**	**-1.2**
PDAR	**Pinedale Array**	**42.52**	**75**	P	**P**	**08 08 22.4**	**-0.4**
	1.1nm,0.9s,mb3.6,baz=299,slow=3.6,SNR=7.5						
PDAR	**Pinedale Array**	**43.52**	**75**	P	**P**	**08 08 22.4**	**-0.4**
SONM	**Songino Array**	**49.27**	**299**	P	**P**	**08 09 07.8**	**+0.1**
	1.0nm,0.9s,mb3.9,baz=49,slow=9.7,SNR=5.1						
SONM	**Songino Array**	**49.27**	**299**	P	**P**	**08 09 07.8**	**+0.1**
TXAR	**Lajitas Array**	**55.76**	**85**	P	**P**	**08 09 55.5**	**-0.6**
	0.3nm,0.7s,mb3.4,baz=316,slow=3.5,SNR

EPF	Esparros	85.91	4	*e*P		P		08 12 58.9	0.0
BRTR	Keskin Array B	86.14	339	P		P		08 13 00.3	+0.2
	0.5nm,0.6s,mb3.9,baz=343,slow=4.5,SNR=3.6								
ASAR	Alice Springs	87.49	226	P		P		08 13 06.8	+0.2
	0.5nm,0.7s,mb3.9,baz=18,slow=5.5,SNR=5.9								
ESDC	Sonseca Array	88.98	8	P		P		08 13 12.0	-1.7
	0.2nm,0.5s,mb3.7,baz=156,slow=26,SNR=3.5								

ISCJB ***02*** *08:02:10.4±2.3,51°.25N±0°.07×174°.17W±0°.07, h18km±15km, mb4.2/34, Error ellipse: s-maj=12.4km s-min=7.5km az=170.8*

NEIC ***02*** *08:02:14.8±1.3,51°.40N×174°.23W, h36km±10km, ML3.5(AEIC), Error ellipse: s-maj=20.3km s-min=6.1km az=168.0*

IDC ***02*** *08:02:16.3±3.0,51°.51N×174°.25W, h49km±28km, mb3.7/20, mb1 3.9/24, mb1mx3.8/33, mbtmp3.7/24, ML3.7/4, Error ellipse: s-maj=25.3km s-min=13.8km az=165.0*

SZGRF ***02*** *08:02:21.7, 52°.50N×176°.50W, h33km, mb4.6, Andreanof Islands, Aleutian Islands, United States*

ISC 02 08:02:14.7±2.3, 51°.35N±0°.10×174°.21W±0°.07, h34km±13km, n66, σ0°83/68, mb4.2/34, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
ATKA	Atka Island	0.85	0	P		Pn	08 02 29.9	-0.3
ATKA				S		Sb	08 02 43.2	+1.0
ADK	Adak	1.63	290	P		Pn	08 02 40.0	-0.9
ADK				S		Sn	08 03 00.6	-0.1
NIKO	Nikolski	3.67	62	P		Pn	08 03 09.5	+0.6
FX1	Attu Island--F	7.93	286	P		Pn	08 04 07.4	+0.1
	0.6nm,0.3s,baz=98,slow=18,SNR=1.9							
FX1	Attu Island--F	7.93	286	P		Pn	08 04 07.4	+0.1
KDAK	Kodiak Island	14.06	54	P		Pn	08 05 30.1	-1.0
	0.5nm,0.3s,baz=270,slow=20,SNR=5.8							
KDAK	Kodiak Island	14.06	54	P		Pn	08 05 30.1	-1.0
PETK	Petropavlovsk-	17.26	287	P		Pn	08 06 12.8	+0.1
	0.3nm,0.3s,baz=98,slow=13,SNR=5.4							
PETK	Petropavlovsk-	17.26	287	P		Pn	08 06 12.8	+0.1
ILAR	Eielson Array	19.51	36	P		Pn	08 06 38.3	-1.7
	0.9nm,0.3s,baz=236,slow=8.6,SNR=20							
ILAR	Eielson Array	19.51	36	P		Pn	08 06 38.3	-1.7
DOT	Dot Lake	20.10	41	*e*P		P	08 06 43.9	-1.1
	7.9nm,0.5s							
EGAK	Eagle	21.71	39	*e*P		P	08 07 02.3	-0.1
	14nm,0.6s,mb4.6							
INK	Inuvik	25.86	34	P		P	08 07 42.1	-0.4
	1.2nm,0.5s,mb3.7,baz=231,slow=7.8,SNR=5.8							
INK	Inuvik	25.86	34	P		P	08 07 42.1	-0.4
MJAR	Matsushiro Arr	36.64	265	P		P	08 09 16.5	-1.2
	1.3nm,0.8s,mb3.8,baz=46,slow=7.6,SNR=3.7							
MJAR	Matsushiro Arr	36.64	265	P		P	08 09 16.5	-1.2
KSRS	Korea Array	42.52	274	P		P	08 10 07.8	+1.2
	0.7nm,0.5s,mb3.6,baz=46,slow=10,SNR=3.1							
PDAR	Pinedale Array	43.55	75	P		P	08 10 15.8	+1.0
	0.6nm,0.7s,mb3.4,baz=298,slow=3.2,SNR=3.6							
PDAR	Pinedale Array	43.55	75	P		P	08 10 15.8	+1.0
ULM	Lac du Bonnet	47.26	59	P		P	08 10 43.8	-0.3
	2.7nm,0.8s,mb4.2,baz=309,slow=6.5,SNR=3.9							
ULM	Lac du Bonnet	47.26	59	P		P	08 10 43.8	-0.3
SONM	Songino Array	49.21	299	P		P	08 10 59.7	+0.6
	1.3nm,0.8s,mb4.0,baz=43,slow=6.7,SNR=5.6							
SONM	Songino Array	49.21	299	P		P	08 10 59.7	+0.6
TXAR	Lajitas Array	55.80	85	P		P	08 11 48.7	+0.5
	0.4nm,0.8s,mb3.5,baz=285,slow=3.5,SNR=2.3							
TXAR	Lajitas Array	55.80	85	P		P	08 11 48.7	+0.4
ARCES	ARCESS Array B	59.56	352	P		P	08 12 06.2	-0.9
	3.1nm,0.8s,mb4.4,baz=31,slow=6.3,SNR=7.3							
KURK	Kurchatov	61.08	316	P		P	08 12 25.4	+0.6
	0.6nm,0.4s,mb4.1,baz=42,slow=6.8,SNR=3.0							
MKAR	Makanchi Array	62.27	311	P		P	08 12 31.8	-1.0
	0.6nm,0.3s,mb4.2,baz=48,slow=5.7,SNR=12							
BVAR	Borovoye Array	62.73	322	P		P	08 12 33.8	-1.9
	1.5nm,0.5s,mb4.4,baz=74,slow=5.1,SNR=6.7							
FINES	FINESS Array B	66.39	350	P		P	08 12 58.0	-1.6
	2.3nm,0.9s,mb4.2,baz=335,slow=9.5,SNR=3.6							
NB2	NORSAR Subarra	67.88	357	P		P	08 13 08.1	-0.8
	comp=Z,0.9nm,0.6s,mb4.0,baz=2.1,slow=6.5							
NOA	NORSAR Array B	67.88	357	P		P	08 13 07.6	-1.3
	comp=Z,1.9nm,0.8s,mb4.2,baz=1.8,slow=6.5,SNR=5.2							
AAK	Ala-Archa	69.05	313	P		P	08 13 17.3	+0.7
	comp=Z,0.7nm,0.4s,mb3.9,baz=146,slow=11,SNR=3.0							
CMAR	Chiang Mai Arr	73.87	279	P		P	08 13 47.1	+1.1
	comp=Z,0.8nm,0.3s,mb4.1,baz=10,slow=8.7,SNR=4.7							
AKASG	Malin Array Be	76.39	345	P		P	08 13 57.9	-2.1
	comp=Z,0.8nm,0.5s,mb3.9,baz=15,slow=5.6,SNR=2.8							
NRDL	Niedersach Rie	76.47	357	*e*P		P	08 14 01.1	+0.7
IBBN	Ibbenburen	76.70	359	*e*P		P	08 14 02.7	+0.9
CLZ	Clausthal	77.11	357	*e*P		P	08 14 05.3	+1.2
	comp=Z,6.0nm,0.9s,mb4.5							
BRG	Berggiesshubel	77.92	355	*e*P		P	08 14 09.0	+0.4
MOX	Moxa	78.26	356	*e*P		P	08 14 11.3	+0.8
	comp=Z,7.0nm,1.1s,mb4.5							
TNS	Taunus Mts	78.78	358	*e*P		P	08 14 14.3	+0.9
	comp=Z,8.0nm,0.9s,mb4.7							
BAIF	Baives	78.96	1	*e*P		P	08 14 14.5	+0.2
GRF	Grafenberg Arr	79.23	356	*e*P		P	08 14 17.1	+1.3
	comp=Z,9.0nm,0.8s,mb4.8							
WET	Wettzell	79.70	355	*e*P		P	08 14 19.2	+0.8
	comp=Z,7.0nm,1.5s,mb4.4							
GEC2	GERESS Array S	79.95	355	*e*P		P	08 14 20.4	+0.6
	comp=Z,3.0nm,1.0s,mb4.2							
GERES	GERESS Array B	79.95	355	P		P	08 14 19.4	-0.4
	comp=Z,0.6nm,0.7s,mb3.6,baz=15,slow=5.5,SNR=8.3							
FLN	La Foliniere	80.12	4	*e*P		P	08 14 20.8	+0.1
LDF	La Druitiere	80.31	4	*e*P		P	08 14 21.2	-0.5
	comp=Z,6.8nm,0.7s,mb4.4							
GRR	Gorron	80.48	4	*e*P		P	08 14 22.7	+0.1
MEZF	Maizieres J'vi	80.53	1	*e*P		P	08 14 23.2	+0.3
CDF	Champ du Feu	80.61	359	*e*P		P	08 14 23.4	+0.1
	comp=Z,13nm,1.1s,mb4.5							
SFTF	Sexfontaines	80.82	1	*e*P		P	08 14 24.7	+0.2
	comp=Z,24nm,0.9s,mb4.8							
HAU	Haudompre	81.02	360	*e*P		P	08 14 25.6	+0.1
	comp=Z,11nm,0.9s,mb4.5							
HINF	Hinteralfeld	81.21	359	*e*P		P	08 14 26.5	0.0
	comp=Z,3.7nm,0.6s,mb4.2							
LOR	Lormes	81.75	1	*e*P		P	08 14 29.5	+0.1
SSF	Saint Saulge	81.95	2	*e*P		P	08 14 30.7	+0.3
	comp=Z,5.0nm,0.6s,mb4.3							
AVF	Avril sur Loir	82.22	2	*e*P		P	08 14 31.9	0.0
	comp=Z,2.9nm,0.6s,mb4.1							
MFF	Saint Martin d	82.29	4	*e*P		P	08 14 32.4	+0.1
SMF	Signal de Mont	82.37	1	*e*P		P	08 14 32.8	+0.1
CABF	La Chapelle	82.42	360	*e*P		P	08 14 33.7	+0.8
	comp=Z,13nm,0.9s,mb4.6							
BGF	Bois d'Agland	82.44	2	*e*P		P	08 14 33.2	+0.2
TCF	Toulx Ste Croi	82.69	3	*e*P		P	08 14 34.4	+0.1
WRA	Warramunga Arr	84.06	228	P		P	08 14 40.6	-0.9
	comp=Z,0.2nm,0.6s,mb3.5,baz=34,slow=5.9,SNR=3.7							
BRTR	Keskin Array B	86.09	339	P		P	08 14 49.9	-1.8
	comp=Z,0.5nm,0.3s,mb4.2,baz=160,slow=9.2,SNR=6.6							
ASAR	Alice Springs	87.48	226	P		P	08 14 58.9	+0.4
	comp=Z,0.6nm,0.7s,mb3.9,baz=27,slow=5.3,SNR=4.9							

TRN ***02*** *08:05:15.9, 17°.05N×62°.36W, h1km*

RSPR ***02*** *08:05:15.9, 16°.92N×61°.95W, h7km±7km, MD4.3/8*

ISCJB ***02*** *08:05:20.9±0.3, 17°.00N±0°.04×62°.42W±0°.03, h10km, mb4.5/63, MS4.0/24, Error ellipse: s-maj=5.8km s-min=3.8km az=2.3*

IDC ***02*** *08:05:20.6±0.5, 17°.04N×62°.36W, h0km, mb4.2/20, mb1 4.3/21, mb1mx4.2/28, mbtmp4.2/21, MS3.9/22, Ms1 3.9/22, ms1mx3.7/41, Error ellipse: s-maj=15.2km s-min=10.9km az=43.0*

NEIC ***02*** *08:05:21.4±0.7, 17°.14N×62°.38W, h10km, mb4.8/44, MD4.5(TRN), Error ellipse: s-maj=9.6km s-min=9.0km az=219.0*

NEIC Felt on Saint Kitts and Nevis.

BJI ***02*** *08:05:22.0, 17°.30N×62°.40W, h10km, mB5.4/2, Ms7 4.4/4*

ISC 02 08:05:22.8±0.3, 17°.03N±0°.04×62°.40W±0°.03, h10km, n150, σ1°53/141, mb4.5/63, MS4.0/24, 12C-5D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
ANWB	Willy Bob	0.87	43	*e*Pg		Pg	08 05 35.2	-4.5
ANWB				*e*Sg		Sg	08 05 49.8	-1.2
FDF	Fort de France	2.58	152	*e*Pn		Pn	08 06 03.2	-1.5
STVI	Saint Thomas	2.77	299	*e*P		Pn	08 06 04.0	-3.2
STVI	Saint Thomas	2.77	299	*e*P		Pn	08 06 04.0	-3.2
MTP	Monte Pirata	3.19	290	*e*P		Pn	08 06 09.9	-3.1
MTP	Monte Pirata	3.19	290	*e*P		Pn	08 06 09.9	-3.1
HUMP	Col San Antoni	3.47	289	*e*P		Pn	08 06 14.1	-2.8
HUMP	Col San Antoni	3.47	289	*e*P		Pn	08 06 14.1	-2.8
HUMP				*e*S		Sn	08 06 58.7	+0.6
CBYP	Canovanas	3.52	291	*e*Pn		Pn	08 06 15.1	-2.5
CBYP				*e*Sn		Sn	08 06 57.7	-1.6
SJG	San Juan	3.73	287	*e*P		Pn	08 06 17.9	-2.7
SJG	San Juan	3.73	287	*e*P		Pn	08 06 17.9	-2.7
SJG	San Juan	3.73	287	Pn		Pn	08 06 18.1	-2.5
	25nm,0.3s,baz=109,slow=11,SNR=57							
SJG				Sn		Sn	08 07 05.2	+0.6
	84nm,0.3s,baz=290,slow=20,SNR=5.0							
SJG				LR		LR	08 07 06.4	
	comp=Z,307nm,20.4s,baz=292,slow=28							
SJG	San Juan	3.73	287	*e*P		Pn	08 06 17.9	-2.7
ICM	Isla Caja Muer	4.02	283	*e*P		Pn	08 06 21.4	-3.2
ICM	Isla Caja Muer	4.02	283	*e*P		Pn	08 06 21.4	-3.2
CELP	Cerrillos	4.12	285	*e*P		Pn	08 06 23.4	-2.5
CELP				*e*S		Sn	08 07 15.9	+1.8
CELP	Cerrillos	4.12	285	*e*P		Pn	08 06 23.4	-2.5
CELP				*e*S		Sn	08 07 15.9	+1.8
OBIP	Obispado Ponce	4.14	285	*e*Pn		Pn	08 06 23.0	-3.1
OBIP				Sn		Sn	08 07 19.8	+5.3
AOPR	Arecibo Observ	4.35	288	*e*P		Pn	08 06 26.7	-2.4
AOPR	Arecibo Observ	4.35	288	*e*P		Pn	08 06 26.7	-2.4
AOPR				*e*S		Sn	08 07 20.6	+0.8
LRS	Lares	4.42	287	*e*P		Pn	08 06 27.6	-2.3
LRS	Lares	4.42	287	*e*P		Pn	08 06 27.6	-2.3
CRPR	Cabo Rojo, PR	4.60	283	*e*Pn		Pn	08 06 29.6	-2.8
CRPR				*e*Sn		Sn	08 07 24.3	-1.6
LSP	Las Mesas	4.61	285	*e*Pn		Pn	08 06 30.9	-1.7
MPR	Mayaguez	4.67	285	*e*Pn		Pn	08 06 34.2	+0.7
AGPR	Aguadilla, PR	4.71	288	Pn		Pn	08 06 31.1	-2.9
AGP	Aguadilla	4.72	288	*e*Pn		Pn	08 06 34.1	0.0
BBGH	Gun Hill	4.74	144	*e*Pn		Pn	08 06 38.2	+3.8
BBGH				*e*Sn		Sn	08 07 37.4	+8.0
GRGR	Grenville	4.92	171	*e*Pn		Pn	08 06 35.3	-1.5
SDDR	Presa de Saban	8.68	284	*e*Pn		Pn	08 07 28.6	+0.1
SDV	Santo Domingo	11.39	226	*e*Pn		Pn	08 08 06.5	+0.8
BBSR	BB Station	15.42	353	*e*Pn		Pn	08 08 57.2	-3.3
	457nm,2.6s							
ROSC	El Rosal	16.82	225	Pn		Pn	08 09 18.9	+0.2
	0.2nm,0.3s,baz=106,slow=7.6,SNR=9.1							
ROSC				LR		LR	08 16 31.0	
	comp=Z,213nm,19.3s,baz=14,slow=40							
ROSC	El Rosal	16.82	225	*e*Pn		Pn	08 09 20.2	+1.6
BCIP	Isla Barro Col	18.68	247	*e*P		Pn	08 09 40.1	-1.6
	121nm,0.8s							
JTS	JuntasAbangare	22.90	256	P		P	08 10 31.2	+4.3
	8.9nm,0.9s,mb4.2,baz=17,slow=12,SNR=4.1							
JTS				LR		LR	08 18 29.3	
	comp=Z,205nm,19.9s,MS3.6,baz=177,slow=34							
JTS	JuntasAbangare	22.90	256	*e*P		P	08 10 31.4	+4.4
	24nm,1.2s,mb4.5							
OTAV	Otavalo	22.98	225	*e*P		P	08 10 30.5	+2.7
	9.6nm,0.8s,mb4.3							
TEIG	Tepich	24.71	281	P		P	08 10 43.6	-0.8
	8.4nm,0.4s,mb4.6,baz=100,slow=6.5,SNR=5.6							
TEIG	Tepich	24.71	281	P		P	08 10 43.6	-0.8
BLA	Blacksburg	25.63	325	*e*P		P	08 10 52.9	+0.3
	19nm,0.8s,mb4.7							
TKL	Tkalaechee C	26.56	318	LR		LR	08 20 37.3	
	comp=Z,284nm,20.4s,MS3.8,baz=119,slow=34							
ATAH	Atahualpa	28.75	215	P		P	08 11 22.4	+1.7
	4.0nm,1.0s,mb4.1,baz=30,slow=9.2,SNR=3.6							
PLAL	Pickwick Lake	29.06	313	*e*P		P	08 11 22.6	-0.8
	14nm,0.9s,mb4.7							
OXF	Oxford	29.77	311	*e*P		P	08 11 29.2	-0.5
	36nm,1.1s,mb5.0							
UTMT	University of	30.32	315	*e*P		P	08 11 34.9	+0.3
	56nm,0.9s,mb5.3							
SIUC	Southern Illin	31.30	316	*e*P		P	08 11 42.1	-1.2
	318nm,3.0s							
NATX	Nacogdoches	32.69	303	*e*P		P	08 11 57.5	+2.0
	56nm,1.3s,mb5.3							
CCM	Cathedral Cave	32.84	315	*e*P		P	08 11 53.7	-3.0
	16nm,1.2s,mb4.8							
LPAZ	La Paz	33.58	190	LR		LR	08 26 34.0	
	comp=Z,419nm,18.1s,MS4.2,baz=215,slow=38							
JCT	Junction City	36.58	298	*e*P		P	08 12 29.8	+0.6
	17nm,1.1s,mb4.8							
WMOK	Wichita Mounta	36.92	306	*e*P		P	08 12 33.1	+1.1
	9.5nm,1.3s,mb4.5							
SCHQ	Schefferville	37.89	356	P		P	08 12 40.9	+1.0
	8.5nm,1.1s,mb4.4,baz=133,slow=6.6,SNR=5.2							
SCHQ				LR		LR	08 27 02.9	
	comp=Z,356nm,18.2s,MS4.2,baz=188,slow=34							
SCHQ	Schefferville	37.89	356	P		P	08 12 40.9	+1.0
SCHQ				LR		LR	08 27 02.9	
AMTX	Amarillo	39.24	305	*e*P		P	08 12 52.0	+0.4
	16nm,1.2s,mb4.6							
ECSD	EROS Data Cent	39.29	320	*e*P		P	08 12 50.5	-1.3
TXAR	Lajitas Array	39.67	296	P		P	08 12 55.6	+0.4
	0.9nm,0.7s,mb3.6,baz=117,slow=6.0,SNR=17							
TXAR	Lajitas Array	39.67	296	P		P	08 12 55.6	+0.4
AGMN	Agassiz Nation	41.44	326	*e*P		P	08 13 10.4	+0.8
	84nm,2.3s,mb5.0							
ULM	Lac du Bonnet	42.65	328	P		P	08 13 19.2	-0.3
	4.0nm,0.7s,mb4.3,baz=145,slow=6.8,SNR=6.3							
ULM				LR		LR	08 29 44.9	
	comp=Z,200nm,21.3s,MS4.0,baz=29,slow=34							
ULM	Lac du Bonnet	42.65	328	P		P	08 13 19.2	-0.3
ULM				LR		LR	08 29 44.9	
BNM	Barren Site	43.02	302	*e*P		P	08 13 21.7	-1.0
	16nm,1.1s,mb4.7							
SDCO	Great Sand Dun	43.02	307	*e*P		P	08 13 23.7	+1.1
	5.2nm,1.0s,mb4.2							
ANMO	Albuquerque	43.05	303	P		P	08 13 23.2	+0.2
	3.9nm,0.9s,mb4.1,baz=115,slow=9.8,SNR=14							
ANMO	Albuquerque	43.05	303	*e*P		P	08 13 25.4	+2.4
	5.7nm,1.0s,mb4.3							
LPM	Los Pinos Moun	43.05	302	*e*P		P	08 13 24.2	+1.2
LENM	Lemitar	43.30	302	*e*P		P	08 13 29.5	+4.5
	4.6nm,0.8s,mb4.3							
ISCO	Idaho Springs	43.72	310	*e*P		P	08 13 30.1	+1.8
	37nm,2.5s,mb4.7							
SMCO	Snowmass	44.53	309	*e*P		P	08 13 35.9	+1.1
	5.1nm,1.1s,mb4.3							
TUC	Tucson	46.14	299	*e*P		P	08 13 49.2	+1.5
	4.8nm,1.0s,mb4.4							
FRB	Frobisher Bay	46.87	356	P		P	08 13 52.7	-0.2
	15nm,1.0s,mb4.9,baz=111,slow=17,SNR=5.7							
FRB	Frobisher Bay	46.87	356	P		P	08 13 52.7	-0.2
WUAZ	Wupatki	47.11	303	*e*P		P	08 13 58.5	+3.3
SRU	San Rafael	47.18	308	*e*P		P	08 13 57.7	+2.0
	61nm,3.0s							
BW06	Boulder Array	47.47	313	*e*P		P	08 13 59.3	+1.4
	11nm,1.1s,mb4.7							
PDAR	Pinedale Array	47.47	313	P		P	08 13 56.8	-1.2
	5.2nm,0.8s,mb4.5,baz=118,slow=9.9,SNR=13							
PDAR				LR		LR	08 35 22.6	
	comp=Z,130nm,19.1s,MS3.9,baz=119,slow=38							
PDAR	Pinedale Array	47.47	313	P		P	08 13 56.8	-1.2
PDAR				LR		LR	08 35 22.6	
PD02	Pinedale Array	47.48	313	*e*P		P	08 13 57.2	-0.8
PD01	Pinedale Array	47.49	313	*e*P		P	08 13 56.7	-1.4
RLMT	Red Lodge	48.04	316	*e*P		P	08 14 03.6	+1.3
	11nm,1.0s,mb4.8							
MPU	Maple Canyon	48.23	309	*e*P		P	08 14 04.1	+0.2
	7.9nm,1.1s,mb4.7							
JLU	Jordanelle	48.23	310	*e*P		P	08 14 05.0	+1.1
	14nm,1.4s,mb4.8							
LOHW	Long Hollow	48.46	314	*e*P		P	08 14 07.3	+1.8
	6.1nm,1.0s,mb4.6							
SNOW	Snow King Moun	48.52	313	*e*P		P	08 14 08.6	+2.6
	8.0nm,1.2s,mb4.6							
REDW	Red Top Meadow	48.55	313	*e*P		P	08 14 08.0	+1.7
	13nm,1.4s,mb4.8							
HWUT	Hardware Ranch	48.57	311	*e*P		P	08 14 08.3	+1.8
	8.1nm,1.0s,mb4.7							
TPAW	Teton Pass	48.66	313	*e*P		P	08 14 09.1	+2.0
	63nm,2.6s,mb5.2							
CFAA	Coronel Fontan	48.67	187	P		P	08 14 06.3	-0.9
	0.4nm,0.8s,mb3.5,baz=350,slow=6.3,SNR=6.7							
CFAA	Coronel Fontan	48.67	187	P		P	08 14 06.3	-0.9
RRI2	Red Ridge	48.88	313	*e*P		P	08 14 11.7	+2.9
	10nm,1.1s,mb4.8							
CCUT	Cedar City	49.04	305	*e*P		P	08 14 14.2	+4.1
	6.4nm,1.2s,mb4.5							
DUG	Dugway	49.15	309	*e*P		P	08 14 14.8	+3.8
	6.1nm,1.0s,mb4.6							
QLMT	Earthquake Lak	49.40	315	*e*P		P	08 14 13.3	+0.6
BGU	Big Grassy Mou	49.48	310	*e*P		P	08 14 13.5	+0.1
	17nm,1.1s,mb5.0							
BGU				*e*PP		PP	08 16 03.1	-4.5
HVU	Hansel Valley	49.49	311	*e*P		P	08 14 15.6	+2.1
	6.0nm,0.9s,mb4.6							
LDFC	Landfair	50.06	302	*e*P		P	08 14 21.9	+3.9
	8.9nm,1.0s,mb4.8							
DLMT	Dillon	50.34	315	*e*P		P	08 14 24.1	+4.2
	6.2nm,1.0s,mb4.6							
HLID	Hailey	51.10	313	*e*P		P	08 14 27.8	+2.1
	32nm,2.2s,mb4.9							
YBMT	Yellow Bay	52.03	318	*e*P		P	08 14 37.3	+4.8
NVAR	Mina Array Bea	53.03	306	P		P	08 14 43.0	+2.8
	2.6nm,1.0s,mb4.1,baz=94,slow=5.4,SNR=12							
NVAR	Mina Array Bea	53.03	306	P		P	08 14 43.0	+2.8
MDT	Midelt	54.10	62	LR		LR	08 31 38.1	
	comp=Z,106nm,18.9s,MS3.9,baz=339,slow=29							
NEW	Newport	54.15	318	*e*P		P	08 14 49.4	+1.3
	8.0nm,1.1s,mb4.6							
OD2	Odessa Site #2	54.96	316	*e*P		P	08 14 55.4	+1.3
	13nm,1.1s,mb4.9							
DBIC	Dimbokro	57.08	93	P		P	08 15 08.8	-0.9
	4.3nm,0.7s,mb4.6,baz=204,slow=6.0,SNR=5.5							
DBIC				LR		LR	08 34 53.7	
	comp=Z,160nm,21.4s,MS4.1,baz=267,slow=31							
DBIC	Dimbokro	57.08	93	P		P	08 15 08.8	-0.9
DBIC				LR		LR	08 34 53.7	
PLCA	Paso Flores	57.96	187	P		P	08 15 14.8	-0.6
	3.4nm,0.9s,mb4.4,baz=10,slow=7.4,SNR=6.9							
PLCA				LR		LR	08 42 44.1	
	comp=Z,223nm,19.3s,MS4.3,baz=99,slow=39							
PLCA	Paso Flores	57.96	187	P		P	08 15 14.8	-0.6
PLCA				LR		LR	08 42 44.1	
YKA	Yellowknife Ar	58.00	334	P		P	08 15 13.4	-2.1
	2.1nm,0.5s,mb4.4,baz=103,slow=7.4,SNR=7.3							
YKA				LR		LR	08 39 54.6	
	comp=Z,26nm,18.4s,MS3.4,baz=20,slow=36							
YKA	Yellowknife Ar	58.00	334	P		P	08 15 13.4	-2.1
YKA				LR		LR	08 39 54.6	
RES	Resolute Bay	60.33	351	P		P	08 15 31.7	+0.2
	2.3nm,1.0s,mb4.2,baz=101,slow=16,SNR=4.3							
RES	Resolute Bay	60.33	351	P		P	08 15 31.7	+0.2
TORD	Torodi Ar. Bea	61.78	84	P		P	08 15 40.6	-1.7
	1.8nm,0.8s,mb4.2,baz=291,slow=5.9,SNR=6.8							
TORD				LR		LR	08 37 59.1	
	comp=Z,172nm,21.1s,MS4.2,baz=285,slow=32							
TORD	Torodi Ar. Bea	61.78	84	P		P	08 15 40.6	-1.7
TORD				LR		LR	08 37 59.1	
DLBC	Dease Lake	63.96	327	P		P	08 15 57.0	+1.0
	1.9nm,0.6s,mb4.3,baz=186,slow=5.2,SNR=4.7							
DLBC	Dease Lake	63.96	327	P		P	08 15 57.0	+1.0
KEST	Kesra	65.61	58	LR		LR	08 38 28.9	
	comp=Z,31nm,18.4s,MS3.5,baz=204,slow=30							
DAVOX	Davos/Dischmat	65.70	46	LR		LR	08 39 05.4	
	comp=Z,82nm,21.3s,MS3.9,baz=264,slow=31							
NB2	NORSAR Subarra	67.32	30	P		P	08 16 19.3	+1.6
	comp=Z,9.0nm,1.4s,mb4.6,baz=268,slow=6.5							
NOA	NORSAR Array B	67.32	30	LR		LR	08 38 35.9	
	comp=Z,69nm,20.2s,MS3.9,baz=260,slow=30							
INK	Inuvik	67.34	338	P		P	08 16 16.0	-1.8
	comp=Z,3.6nm,0.8s,mb4.5,baz=105,slow=6.8,SNR=12							
INK	Inuvik	67.34	338	P		P	08 16 16.0

ASAR				S		S	08 22 42.0	-4.1	
	0.9nm,0.8s,baz=92,slow=16,SNR=7.6								
ASAR	**Alice Springs**	**44.01**	**257**	P		P	08 16 52.5	-0.1	
ASAR				S		S	08 22 42.0	-4.1	
WRA	**Warramunga Arr**	**44.12**	**262**	P		P	08 16 52.9	-0.6	
	1.5nm,0.3s,mb4.0,baz=97,slow=7.3,SNR=104								
WRA				S		S	08 22 41.6	-5.9	
	0.6nm,0.8s,baz=102,slow=14,SNR=4.6								
WRA	**Warramunga Arr**	**44.12**	**262**	P		P	08 16 52.9	-0.6	
WRA				S		S	08 22 41.6	-5.9	
KAKA	**Kakadu**	**47.53**	**272**	*e*P		P	08 17 19.0	-0.6	
	3.4nm,0.4s,mb4.2								
KAKA	**Kakadu**	**47.53**	**272**	*e*P		P	08 17 18.9	-0.7	
	7.9nm,0.3s,mb4.7								
FITZ	**Fitzroy Crossi**	**52.54**	**263**	*e*P		P	08 17 56.0	-0.3	
	3.7nm,0.5s,mb4.0								
VNDA	**Vanda**	**57.56**	**185**	P		P	08 18 30.9	+0.6	
	0.3nm,0.7s,mb2.6,baz=346,slow=5.2,SNR=5.7								
VNDA	**Vanda**	**57.56**	**185**	P		P	08 18 30.9	+0.6	
MJAR	**Matsushiro Arr**	**70.20**	**324**	P		P	08 19 50.8	-0.6	
	1.2nm,0.5s,mb3.7,baz=157,slow=6.1,SNR=5.9								
MJAR	**Matsushiro Arr**	**70.20**	**324**	P		P	08 19 50.8	-0.6	
NVAR	**Mina Array Bea**	**81.56**	**44**	P		P	08 20 55.0	+0.8	
	0.4nm,0.8s,mb2.9,baz=225,slow=6.2,SNR=3.7								
NVAR	**Mina Array Bea**	**81.56**	**44**	P		P	08 20 55.0	+0.8	
TXAR	**Lajitas Array**	**87.60**	**58**	P		P	08 21 24.3	+0.4	
	0.2nm,0.7s,mb3.0,baz=205,slow=8.4,SNR=2.9								
TXAR	**Lajitas Array**	**87.60**	**58**	P		P	08 21 24.3	+0.4	
ILAR	**Eielson Array**	**88.72**	**13**	P		P	08 21 27.0	-1.2	
	0.2nm,0.4s,mb3.3,baz=216,slow=5.3,SNR=12								
ILAR	**Eielson Array**	**88.72**	**13**	P		P	08 21 27.0	-1.2	
PDAR	**Pinedale Array**	**89.49**	**43**	P		P	08 21 32.5	+0.1	
	0.3nm,0.5s,mb3.3,baz=198,slow=5.5,SNR=3.0								
PDAR	**Pinedale Array**	**89.49**	**43**	P		P	08 21 32.5	+0.1	
CMAR	**Chiang Mai Arr**	**89.80**	**290**	P		P	08 21 35.1	+0.7	
	0.9nm,0.6s,mb3.8,baz=122,slow=3.4,SNR=6.8								
CMAR	**Chiang Mai Arr**	**89.80**	**290**	P		P	08 21 35.1	+0.7	
AKASG	**Malin Array Be**	**143.07**	**331**	PKP		PKPdf	08 28 01.2	-3.9	
	2.8nm,0.5s,baz=43,slow=4.2,SNR=11								
AKASG	**Malin Array Be**	**143.07**	**331**	PKP		PKPdf	08 28 01.2	-3.9	
GERES	**GERESS Array B**	**150.38**	**344**	PKPbc		PKPbc	08 28 19.9	-3.3	
	0.1nm,0.3s,baz=350,slow=3.0,SNR=4.0								
GERES	**GERESS Array B**	**150.38**	**344**	PKPbc		PKPbc	08 28 19.9	-3.3	

DJA ***02*** *08:25:12.6˚47N×124˚45E,h480km,mb4.4/5*
IDC ***02*** *08:25:19.4±11.0,5˚75N×123˚95E,h526km±100km, mb2.7/3,mb1 3.0/4,mb1mx2.6/24,mbtmp2.8/4,Error ellipse: s-maj=137.6km s-min=40.4km az=40.0*
ISC 02 08:25:21.7±4.3,5˚5N±0˚4×124˚2E±0˚2,h522km±17km,n12, σ0s73/13,mb3.5/3,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**5.47**	**204**	P		P	**08 26 53.3**	**-0.9**
TNTI	**Ternate**	**5.70**	**146**	P		P	**08 26 48.1**	**-8.2**
	0.8nm37nm,0.6s							
TNTI				S		S	**08 28 13.3**	**-0.2**
	0.8nm37nm,0.6s							
LUWI	**Luwuk**	**6.66**	**192**	P		P	**08 27 04.6**	**-0.8**
	0.3nm1μm63nm,0.7s							
LBMI	**Labuha**	**6.97**	**151**	P		P	**08 27 09.3**	**+0.9**
	0.7nm968nm46nm,1.0s							
LBMI				S		S	**08 28 35.8**	**+0.1**
	0.7nm968nm46nm,1.0s							
NLAI	**Namlea**	**9.18**	**161**	P		S	**08 29 27.2**	**+10**
TTSI	**Tana Toraja**	**9.54**	**207**	P		P	**08 27 36.2**	**+1.6**
	2μm52nm,0.8s							
SPSI	**Sidrap Palu**	**10.38**	**205**	P		P	**08 27 43.8**	**+0.4**
KAPI	**Kappang**	**11.35**	**203**	P		P	**08 27 53.2**	**-0.3**
	0.6nm,0.3s,baz=68,slow=8.5,SNR=6.2							
FITZ	**Fitzroy Crossi**	**23.51**	**176**	P		P	**08 29 50.1**	**-0.7**
	0.3nm,0.3s,mb3.4,baz=5.2,slow=11,SNR=4.0							
WRA	**Warramunga Arr**	**27.21**	**159**	P		P	**08 30 23.1**	**-0.4**
	0.6nm,0.3s,mb3.6,baz=338,slow=9.6,SNR=16							
ASAR	**Alice Springs**	**30.52**	**162**	P		P	**08 30 52.9**	**+0.5**
	0.6nm,0.5s,mb3.4,baz=340,slow=7.3,SNR=16							
ASAR				PcP		PcP	08 33 33.8	-1.5	
	0.3nm,0.5s,baz=343,slow=2.9,SNR=4.6								
TORD	**Torodi Ar. Bea**	**119.92**	**288**	PKP		PKPdf	08 43 10.0	-3.7	
	0.3nm,0.5s,baz=51,slow=0.9,SNR=2.6								

IDC ***02*** *08:27:23.4±1.1,34˚56N×32˚15E,h0km,mb3.8/6, mb1 3.9/11,mb1mx3.7/25,mbtmp3.8/11,ML3.9/5,Error ellipse: s-maj=24.2km s-min=18.2km az=58.0*
DDA ***02*** *08:27:24.3,34˚58N×32˚07E,h13km±3km,Ml3.6*
ISK ***02*** *08:27:25.0,34˚36N×32˚03E,h31km,MD4.2,ML3.9*
NIC ***02*** *08:27:26.5±0.2,34˚57N×31˚99E,h32km,ML3.5,MW3.6*
ISCJB ***02*** *08:27:26.1±0.3,34˚42N±0˚02×32˚09E±0˚03,h44km±6km, mb3.7/6,Error ellipse: s-maj=4.0km s-min=2.8km az=152.3*
CSEM ***02*** *08:27:26.4±0.1,34˚48N×32˚12E,h20km,Mw3.6,Error ellipse: s-maj=3.9km s-min=3.4km az=62.0*
HLW ***02*** *08:27:26.8,34˚51N×32˚11E,h34km±23km,Md3.5,Ml3.2*
NEIC ***02*** *08:27:27.3,34˚63N×32˚01E,h32km,mb3.7/1,ML3.5(NIC), After NIC.*
ISC 02 08:27:27.2±0.8,34˚46N±0˚02×32˚13E±0˚03,h30km±7km, n124,σ0s97/156,mb3.7/6,Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PPCY	**Paphos**	**0.46**	**22**	P		Pb	**08 27 36.0**	**-1.0**
PPCY	**Paphos**	**0.46**	**22**	P		Pb	**08 27 36.0**	**-1.0**
ALFC	**Alevga**	**0.80**	**29**	P		Pn	**08 27 41.1**	**-1.3**
	54nm,0.2s							
ALFC				S		Sb	**08 27 51.9**	**-1.2**
ALFC	**Alevga**	**0.80**	**29**	P		Pn	**08 27 41.1**	**-1.3**
	54nm,0.2s							
ALFC				S		Sb	**08 27 51.9**	**-1.2**
LEF	**Lefka**	**0.91**	**43**	*e*PG		Pn	**08 27 42.8**	**-1.1**
LEF				*e*SG		Sn	**08 27 56.6**	**+0.6**
LEF	**Lefka**	**0.91**	**43**	*e*Pg		Pn	**08 27 42.8**	**-1.1**
LEF				*e*Sg		Sn	**08 27 56.6**	**+0.6**
CSS	**Prodhromos**	**1.11**	**63**	P		Pn	**08 27 46.3**	**-0.4**
	18nm,0.2s							
CSS				S		Sn	**08 28 02.2**	**+1.2**
CSS	**Prodhromos**	**1.11**	**63**	*e*PN		Pn	**08 27 46.0**	**-0.7**
CSS	**Prodhromos**	**1.11**	**63**	*e*Pg		Pn	**08 27 46.3**	**-0.4**
CSS				*e*Sg		Sn	**08 28 01.7**	**+0.7**
CSS	**Prodhromos**	**1.11**	**63**	*e*Pn		Pn	**08 27 46.0**	**-0.7**
CSS	**Prodhromos**	**1.11**	**63**	P		Pn	**08 27 46.3**	**-0.4**
	18nm,0.2s							
CSS				S		Sn	**08 28 02.2**	**+1.2**
MAMC	**Mammari**	**1.14**	**51**	P		Pn	**08 27 47.0**	**-0.2**
MAMC	**Mammari**	**1.14**	**51**	P		Pn	**08 27 47.0**	**-0.2**
LFK	**Lefkose**	**1.42**	**54**	*e*PN		Pn	**08 27 51.2**	**+0.3**
LFK	**Lefkose**	**1.42**	**54**	*e*Pn		Pn	**08 27 51.2**	**+0.3**
PHNC	**Paralimni**	**1.66**	**70**	P		Pn	**08 27 55.1**	**+0.9**
	8.6nm,0.5s							
PHNC				S		Sn	**08 28 16.8**	**+2.3**
PHNC	**Paralimni**	**1.66**	**70**	P		Pn	**08 27 55.1**	**+0.9**
	8.6nm,0.5s							
PHNC				S		Sn	**08 28 16.8**	**+2.3**
GAZI	**Gazipasa**	**1.78**	**5**	*i* P		Pn	**08 27 55.0**	**-0.9**
GAZI				*i* S		Sn	**08 28 13.1**	**-4.4**
GAZI	**Gazipasa**	**1.78**	**5**	*i* P		Pn	**08 27 55.0**	**-0.9**
GAZI				*i* S		Sn	**08 28 13.1**	**-4.5**
EREN	**Erenkoy**	**1.99**	**57**	*e*PN		Pn	**08 27 59.3**	**+0.5**
EREN	**Erenkoy**	**1.99**	**57**	*e*Pn		Pn	**08 27 59.3**	**+0.5**
ERMK	**Ermenek**	**2.27**	**16**	*i* P		Pn	**08 27 52.7**	**-10**
HDMB	**Hadim**	**2.52**	**6**	*e*PN		Pn	**08 28 06.3**	**+0.2**
HDMB	**Hadim**	**2.52**	**6**	*e*Pn		Pn	**08 28 06.3**	**+0.2**
AKAS	**Kas**	**2.72**	**311**	*i* P		Pn	**08 28 08.3**	**-0.6**
AKAS				*e*S		Sn	**08 28 38.5**	**-2.3**
ELL	**Elmali**	**2.92**	**322**	*e*PN		Pn	**08 28 11.0**	**-0.6**
MMAI	**Mount Meron Ar**	**3.08**	**117**	Pn		Pn	**08 28 13.9**	**+0.1**
	14nm,0.3s,baz=310,slow=12,SNR=14							
MMAI						Sn	**08 28 47.0**	**-2.7**
	44nm,0.3s,baz=307,slow=25,SNR=12							
SUTC	**Sutluce-Ispart**	**3.15**	**343**	*e*PN		Pn	**08 28 15.3**	**+0.5**
HWQ	**Hawqa**	**3.16**	**92**	*e*P		Pn	**08 28 15.0**	**+0.1**
HWQ	**Hawqa**	**3.16**	**92**	*e*P		Pn	**08 28 15.0**	**+0.1**
RCY	**Rachaya**	**3.22**	**106**	*e*P		Pn	**08 28 15.4**	**-0.3**
RCY	**Rachaya**	**3.22**	**106**	*e*P		Pn	**08 28 15.4**	**-0.3**
FETY	**Fethiye**	**3.30**	**312**	*e*PN		Pn	**08 28 16.0**	**-0.9**
FETY	**Fethiye**	**3.30**	**312**	*e*Pn		Pn	**08 28 16.0**	**-0.8**
GLHS	**Glhisar (BURDU**	**3.44**	**322**	*e*PN		Pn	**08 28 18.5**	**-0.3**
GLHS	**Glhisar (BURDU**	**3.44**	**322**	*e*Pn		Pn	**08 28 18.5**	**-0.2**
GOLH	**Golhisar**	**3.47**	**324**	*i* P		Pn	**08 28 20.5**	**+1.3**
GOLH				*i* S		Sn	**08 28 59.9**	**+0.6**
GOLH	**Golhisar**	**3.47**	**324**	*i* P		Pn	**08 28 20.5**	**+1.3**
GOLH				*i* S		Sn	**08 28 59.9**	**+0.6**
GULE	**Gulek**	**3.55**	**37**	*i* P		Pn	**08 28 22.8**	**+2.6**
GULE	**Gulek**	**3.55**	**37**	*i* P		Pn	**08 28 22.8**	**+2.6**
YAYL	**Yayladag**	**3.62**	**63**	*i* P		Pn	**08 28 21.4**	**+0.3**
YAYL				*i* S		Sn	**08 29 02.0**	**-0.8**
YAYL	**Yayladag**	**3.62**	**63**	*i* P		Pn	**08 28 21.4**	**+0.3**
YAYL				*i* S		Sn	**08 29 02.0**	**-0.8**
KARA	**Karaisali**	**3.67**	**39**	*e*PN		Pn	**08 28 23.3**	**+1.4**
KARA	**Karaisali**	**3.67**	**39**	*e*Pn		Pn	**08 28 23.3**	**+1.4**
RSH		**3.73**	**159**	P		Pn	**08 28 23.5**	**+0.7**
TURN	**Turunc**	**3.75**	**311**	*i* P		Pn	**08 28 25.7**	**+2.7**
TURN				*i* S		Sn	**08 29 08.0**	**+1.9**
TURN	**Turunc**	**3.75**	**311**	*i* P		Pn	**08 28 25.7**	**+2.7**
TURN				*i* S		Sn	**08 29 08.0**	**+1.9**
AMAG	**Maghara**	**3.91**	**166**	P		Pn	**08 28 25.4**	**+0.3**
	baz=166							
AMAG				S		Sn	**08 29 09.1**	**-0.9**
	baz=166							
AMAG	**Maghara**	**3.91**	**166**	P		Pn	**08 28 25.6**	**+0.4**
DNZL	**Cakiroluk**	**4.08**	**323**	*i* P		Pn	**08 28 28.6**	**+1.0**
DNZL				*i* S		Sn	**08 29 14.3**	**0.0**
DNZL	**Cakiroluk**	**4.08**	**323**	*i* P		Pn	**08 28 28.6**	**+1.1**
DNZL				*i* S		Sn	**08 29 14.3**	**0.0**
YER	**Yerkesik**	**4.12**	**312**	*e*PN		Pn	**08 28 27.6**	**-0.4**
YER	**Yerkesik**	**4.12**	**312**	*e*Pn		Pn	**08 28 27.6**	**-0.4**
DENT	**Denizli**	**4.14**	**324**	*e*PN		Pn	**08 28 28.4**	**0.0**
DENT	**Denizli**	**4.14**	**324**	*e*Pn		Pn	**08 28 28.4**	**+0.1**
DAT	**Datca**	**4.35**	**303**	*e*PN		Pn	**08 28 31.0**	**-0.2**
KIZT	**Kizilcal**	**4.42**	**357**	*e*PN		Pn	**08 28 33.4**	**+1.2**
KIZT	**Kizilcal**	**4.42**	**357**	*e*Pn		Pn	**08 28 33.4**	**+1.2**
KHAL	**Karahalli**	**4.45**	**332**	*i* P		Pn	**08 28 33.4**	**+0.8**
KHAL				*i* S		Sn	**08 29 21.4**	**-2.0**
KHAL	**Karahalli**	**4.45**	**332**	*i* P		Pn	**08 28 33.4**	**+0.8**
KHAL				*i* S		Sn	**08 29 21.4**	**-1.9**
HHAG	**Hagoal**	**4.49**	**180**	P		Pn	**08 28 33.4**	**+0.2**
	baz=181							
HHAG	**Hagoal**	**4.49**	**180**	P		Pn	**08 28 34.2**	**+1.0**
KOT	**Kottamia**	**4.52**	**183**	P		Pn	**08 28 34.0**	**+0.4**
MLSB	**Milas**	**4.53**	**310**	*e*PN		Pn	**08 28 33.5**	**-0.2**
ASF	**Jabal al Asfar**	**4.59**	**118**	Pn		Pn	**08 28 36.1**	**+1.5**
	1.8nm,0.3s,baz=242,slow=2.1,SNR=11							
ASF				Sn		Sn	**08 29 25.6**	**-1.3**
	1.0nm,0.3s,baz=185,slow=18,SNR=2.2							
ASF	**Jabal al Asfar**	**4.59**	**118**	Pn		Pn	**08 28 36.1**	**+1.5**
ASF				Sn		Sn	**08 29 25.6**	**-1.3**
SUZ		**4.64**	**172**	P		Pn	**08 28 35.8**	**+0.6**
	baz=172							
SUZ		**4.64**	**172**	P		Pn	**08 28 35.8**	**+0.6**
AYDN	**Tasoluk**	**4.70**	**314**	*i* P		Pn	**08 28 36.3**	**+0.2**
AYDN				*i* S		Sn	**08 29 23.4**	**-6.2**
BODT	**Bodrum**	**4.71**	**305**	*e*PN		Pn	**08 28 35.1**	**-1.0**
BODT	**Bodrum**	**4.71**	**305**	*e*Pn		Pn	**08 28 35.1**	**-1.0**
HNKL	**Nakhl**	**4.78**	**160**	P		Pn	**08 28 37.5**	**+0.4**
	baz=160							
HNKL				S		Sn	**08 29 30.5**	**-1.0**
	baz=160							
HNKL	**Nakhl**	**4.78**	**160**	P		Pn	**08 28 37.5**	**+0.4**
HSAF	**As Saff**	**4.85**	**186**	P		Pn	**08 28 38.5**	**+0.4**
	baz=186							
GLL	**Jalalah**	**4.88**	**184**	P		Pn	**08 28 38.6**	**+0.1**
	baz=185							
GLL				S		Sn	**08 29 32.9**	**-1.1**
	baz=185							
KULA	**Kula-Manisa**	**4.92**	**326**	*e*PN		Pn	**08 28 39.0**	**-0.1**
EIL	**Elat**	**5.34**	**153**	*e*PN		Pn	**08 28 44.8**	**0.0**
EIL	**Elat**	**5.34**	**153**	Pn		Pn	**08 28 45.4**	**+0.6**
	4.8nm,0.3s,baz=340,slow=9.0,SNR=15							
EIL				Sn		Sn	**08 29 45.2**	**-0.1**
	9.6nm,0.3s,baz=28,slow=11,SNR=7.7							
EIL	**Elat**	**5.34**	**153**	Pn		Pn	**08 28 45.4**	**+0.6**
EIL				Sn		Sn	**08 29 45.2**	**-0.1**
EIL	**Elat**	**5.34**	**153**	Pn		Pn	**08 28 45.4**	**+0.6**
BRTR	**Keskin Array B**	**5.40**	**12**	Pn		Pn	**08 28 44.6**	**-1.0**
	0.1nm,0.3s,baz=28,slow=43,SNR=2.5							
BRTR	**Keskin Array B**	**5.40**	**12**	Pn		Pn	**08 28 44.6**	**-1.0**
BRTR	**Keskin Array B**	**5.40**	**12**	Pn		Pn	**08 28 44.6**	**-1.0**
HMAT	**Matruh**	**5.41**	**233**	P		Pn	**08 28 45.5**	**-0.3**
	baz=233							
HMAT	**Matruh**	**5.41**	**233**	P		Pn	**08 28 45.4**	**-0.4**
IZM	**Izmir**	**5.56**	**316**	*e*PN		Pn	**08 28 47.9**	**0.0**
IZM	**Izmir**	**5.56**	**316**	*e*Pn		Pn	**08 28 47.9**	**+0.1**
BLCB	**Balcova**	**5.68**	**315**	*e*PN		Pn	**08 28 49.5**	**+0.1**
BLCB	**Balcova**	**5.68**	**315**	*e*Pn		Pn	**08 28 49.5**	**+0.1**
APE	**Apeiranthos**	**5.97**	**298**	*e*PN		Pn	**08 28 54.1**	**+0.6**
APE	**Apeiranthos**	**5.97**	**298**	*e*Pn		Pn	**08 28 54.1**	**+0.7**
HDHB	**Dhahab**	**6.10**	**159**	P		Pn	**08 28 55.8**	**+0.5**
	baz=158							
HDHB				S		Sn	**08 30 03.0**	**-1.0**
	baz=158							
HDHB	**Dhahab**	**6.10**	**159**	P		Pn	**08 28 55.8**	**+0.5**
HKAT	**Jabal Katrina**	**6.12**	**164**	P		Pn	**08 28 56.2**	**+0.5**
	baz=164							
HKAT	**Jabal Katrina**	**6.12**	**164**	P		Pn	**08 28 56.0**	**+0.4**
TR2		**6.20**	**167**	P		Pn	**08 28 56.8**	**+0.1**
	baz=166							
SWA2		**7.70**	**229**	P		Pn	**08 29 18.1**	**+0.9**
	baz=229							
SWA2				AMP			08 30 00.0	
	comp=E,10μm,0.5s,logA/T=4.3,baz=229							
KIEV	**Kiev**	**16.37**	**353**	*e*P		Pn	**08 31 16.2**	**+1.6**
	comp=E,5.1nm,0.9s							
KIEV	**Kiev**	**16.37**	**353**	*e*P		Pn	**08 31 16.2**	**+1.6**
	comp=E,5.1nm,0.9s							
AKASG	**Malin Array Be**	**16.38**	**353**	Pn		Pn	**08 31 13.5**	**-1.2**
	comp=E,0.9nm,0.3s,baz=173,slow=10.0,SNR=9.3							
AKASG	**Malin Array Be**	**16.38**	**353**	Pn		Pn	**08 31 13.5**	**-1.2**
AKASG	**Malin Array Be**	**16.38**	**353**	Pn		Pn	**08 31 13.5**	**-1.2**
GERES	**GERESS Array B**	**19.84**	**322**	P		Pn	**08 31 55.5**	**-1.6**
	comp=E,0.1nm,0.3s,baz=129,slow=10,SNR=12							
GERES	**GERESS Array B**	**19.84**	**322**	P		Pn	**08 31 55.5**	**-1.6**
GERES	**GERESS Array B**	**19.84**	**322**	P		Pn	**08 31 55.5**	**-1.6**
KHC	**Kasperske Hory**	**20.08**	**323**	*e*P		P	**08 31 57.5**	**-0.5**
FINES	**FINESS Array B**	**27.28**	**354**	P		P	**08 33 07.1**	**-1.5**
	comp=E,2.5nm,0.7s,mb3.8,baz=148,slow=11,SNR=10							
FINES	**FINESS Array B**	**27.28**	**354**	P		P	**08 33 07.1**	**-1.5**
FINES	**FINESS Array B**	**27.28**	**354**	P		P	**08 33 07.1**	**-1.6**
TORD	**Torodi Ar. Bea**	**34.78**	**240**	P		P	**08 34 16.3**	**+1.1**
	comp=E,0.4nm,0.7s,mb3.5,baz=25,slow=8.7,SNR=4.0							
TORD	**Torodi Ar. Bea**	**34.78**	**240**	P		P	**08 34 16.3**	**+1.1**
TORD	**Torodi Ar. Bea**	**34.78**	**240**	P		P	**08 34 16.3**	**+1.1**
ARCES	**ARCESS Array B**	**35.33**	**356**	P		P	**08 34 18.8**	**-0.5**
	comp=E,2.8nm,1.0s,mb4.2,baz=161,slow=11,SNR=3.7							
ARCES	**ARCESS Array B**	**35.33**	**356**	P		P	**08 34 18.8**	**-0.5**
ARCES	**ARCESS Array B**	**35.33**	**356**	P		P	**08 34 18.8**	**-0.5**
MKAR	**Makanchi Array**	**39.38**	**56**	P		P	**08 34 52.8**	**-1.1**
	comp=E,0.3nm,0.2s,mb3.6,baz=267,slow=8.9,SNR=6.0							
MKAR	**Makanchi Array**	**39.38**	**56**	P		P	**08 34 52.8**	**-1.1**
MKAR	**Makanchi Array**	**39.38**	**56**	P		P	**08 34 52.8**	**-1.1**
ZALV	**Zalesovo Beam**	**41.38**	**45**	P		P	**08 35 10.5**	**+0.1**
	comp=E,0.6nm,0.3s,mb3.6,baz=243,slow=11,SNR=2.9							
ZALV	**Zalesovo Beam**	**41.38**	**45**	P		P	**08 35 10.5**	**+0.1**
ZALV	**Zalesovo Beam**	**41.38**	**45**	P		P	**08 35 10.5**	**+0.1**
SONM	**Songino Array**	**55.45**	**52**	P		P	**08 36 59.8**	**+1.0**
	comp=E,0.4nm,0.7s,mb3.6,baz=286,slow=6.5,SNR=2.6							
SONM	**Songino Array**	**55.45**	**52**	P		P	**08 36 59.8**	**+1.0**
SONM	**Songino Array**	**55.45**	**52**	P		P	**08 36 59.8**	**+1.0**

IDC 02 08:39:48.1±17.0,29˚68N×90˚72E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.4/24,mbtmp3.6/3,MS3.3/2,Ms1 3.3/2, ms1mx2.5/37,Error ellipse: s-maj=518.7km s-min=34.5km az=93.0,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SHL	**Shillong**	**4.22**	**166**	*e*PKP		Pn	08 40 57.5	+3.8
SHL				eS		Sn	08 42 08.0	+24
SONM	**Songino Array**	**21.79**	**29**	P		P	08 44 41.8	+0.3
	1.7nm,0.9s,baz=221,slow=12,SNR=9.6							
KSRS	**Korea Array**	**31.80**	**66**	LR		LR	08 58 40.5	
	comp=Z,12nm,18.1s,baz=335,slow=36							
WRA	**Warramunga Arr**	**64.81**	**134**	P		P	08 50 28.7	-0.1
	0.6nm,0.6s,baz=326,slow=6.4,SNR=11							
ASAR	**Alice Springs**	**67.34**	**137**	P		P	08 50 45.3	+0.2
	0.6nm,0.8s,baz=321,slow=6.8,SNR=6.1							
TORD	**Torodi Ar. Bea**	**82.78**	**281**	LR		LR	09 35 39.8	
	comp=Z,54nm,19.3s,baz=235,slow=40							

ISCJB ***02*** *08:53:54.0±0.3,35˚13N±0˚03×54˚88E±0˚03,h10km,Error ellipse: s-maj=4.7km s-min=3.0km az=17.2*
CSEM ***02*** *08:53:53.8±0.1,35˚13N×54˚86E,h2km,ML3.7,Error ellipse: s-maj=2.7km s-min=2.0km az=9.0*

THR ***02*** *08:53:53.7±0.7,35˚12N×54˚86E,h15km,ML3.5*
TEH ***02*** *08:53:55.3,35˚14N×54˚88E,h12km*
ISC 02 08:53:55.0±0.3,35˚15N±0˚03×54˚88E±0˚03,h10km,n71, σ0s51/96,3C-5D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IANJ	**Anjilo**	**0.85**	**292**	⇑*e*Pg		Pg	**08 54 10.7**	**-0.8**
IANJ				*e*Sg		Sg	**08 54 22.8**	**+0.2**
IKIA				*e*			08 54 26.9	
	comp=Z,32μm,0.1s							
IANJ	**Anjilo**	**0.85**	**292**	⇑*e*Pg		Pg	**08 54 10.7**	**-0.8**
IANJ				*e*Sg		Sg	**08 54 22.8**	**+0.2**
IKIA	**Kiasar**	**1.44**	**318**	*e*Pn		Pn	**08 54 20.4**	**-0.7**
IKIA				*e*Sg		Sn	**08 54 39.6**	**-0.5**
IKIA				*e*			08 54 43.4	
	comp=Z,11μm,0.1s							
IKIA	**Kiasar**	**1.44**	**318**	*e*Pn		Pn	**08 54 20.4**	**-0.7**
IKIA				*e*Sg		Sn	**08 54 39.6**	**-0.5**
ISHM	**Shahmirzad**	**1.46**	**297**	⇓*e*Pn		Pn	**08 54 21.4**	**0.0**
ISHM				*e*Sg		Sg	**08 54 41.6**	**-0.3**
ISHM				*e*			08 54 44.7	
	comp=Z,47μm,0.3s							
ISHM	**Shahmirzad**	**1.46**	**297**	⇓*e*Pn		Pn	**08 54 21.4**	**0.0**
ISHM				*e*Sg		Sg	**08 54 41.6**	**-0.3**
ILAS	**Lasjerd**	**1.59**	**279**	*e*Pn		Pn	**08 54 23.6**	**+0.4**
ILAS				*e*Sg		Sg	**08 54 46.8**	**+0.6**
ILAS				*e*			08 54 52.0	
	comp=Z,17μm,0.2s							
ILAS	**Lasjerd**	**1.59**	**279**	*e*Pn		Pn	**08 54 23.6**	**+0.4**
ILAS				*e*Sg		Sg	**08 54 46.8**	**+0.6**
IGLO	**Ghaloghah**	**1.60**	**328**	*e*Sg		Sn	**08 54 45.4**	**+1.3**
IGLO	**Ghaloghah**	**1.60**	**328**	*e*Sg		Sn	**08 54 45.4**	**+1.3**
IFIR	**Firoozkooh**	**1.81**	**286**	*e*Pn		Pn	**08 54 26.1**	**-0.1**
IFIR				*e*Sg		Sg	**08 54 52.5**	**-0.7**
IFIR				*e*			08 54 57.5	
	comp=Z,12μm,0.1s							
IFIR	**Firoozkooh**	**1.81**	**286**	*e*Pn		Pn	**08 54 26.1**	**-0.1**
IFIR				*e*Sg		Sg	**08 54 52.5**	**-0.7**
ISFB	**Sefidab**	**2.32**	**251**	*e*Pn		Pn	**08 54 33.3**	**+0.1**
ISFB	**Sefidab**	**2.32**	**251**	*e*Pn		Pn	**08 54 33.3**	**+0.1**
IPRN	**Peran**	**2.34**	**299**	⇓*e*Pn		Pn	**08 54 34.1**	**+0.6**
IPRN				*e*			08 54 44.8	
	comp=Z,6μm,0.1s							
IDMV	**Damavand**	**2.37**	**281**	*e*Pn		Pn	**08 54 34.2**	**+0.3**
IDMV				*e*Sg		Sn	**08 55 08.8**	**+5.8**
IDMV				*e*			08 55 15.0	
	comp=Z,4μm,0.2s							
IDMV	**Damavand**	**2.37**	**281**	*e*Pn		Pn	**08 54 34.2**	**+0.3**
IDMV				*e*Sg		Sn	**08 55 08.8**	**+5.8**
TABS	**Tabas**

SHRT	Shahrakht	4.71	107	*e*Pn	Pn	08 55 06.5 +0.4
SHRT	Shahrakht	4.71	107	*e*Pn	Pn	08 55 06.6 +0.4
IDAH	Dahanechah	4.79	119	*e*Pn	Pn	08 55 07.1 -0.1
IDAH	Dahanechah	4.79	119	*e*Pn	Pn	08 55 07.1 -0.1

IDC 02 08:55:13.8±1.2, 27°91′S×65°04′E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.8/25, mbtmp4.0/8, Error ellipse: s-maj=44.0km s-min=24.8km az=77.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**56.59**	**39**	P	P	09 04 59.0	+0.5
	1.3nm,0.6s,baz=234,slow=6.6,SNR=7.0						
ASAR	**Alice Springs**	**61.42**	**103**	P	P	09 05 31.8	-0.4
	0.9nm,0.9s,baz=246,slow=6.4,SNR=9.8						
QSPA	**South Pole Qui**	**62.24**	**180**	P	P	09 05 37.5	+0.7
	2.3nm,0.9s,baz=265,slow=3.9,SNR=5.6						
WRA	**Warramunga Arr**	**63.12**	**99**	P	P	09 05 43.9	+0.2
	1.4nm,1.0s,baz=248,slow=5.9,SNR=5.7						
MKAR	**Makanchi Array**	**75.97**	**12**	P	P	09 07 02.2	-0.1
	0.9nm,0.8s,baz=205,slow=5.4,SNR=7.7						
KURK	**Kurchatov**	**79.20**	**9**	P	P	09 07 20.0	-0.2
	1.2nm,0.7s,baz=208,slow=6.4,SNR=7.1						
BVAR	**Borovoye Array**	**80.72**	**3**	P	P	09 07 28.3	-0.2
	1.3nm,0.7s,baz=192,slow=4.8,SNR=7.1						
ZALV	**Zalesovo Beam**	**83.30**	**12**	P	P	09 07 42.0	+0.1
	1.3nm,0.6s,baz=201,slow=5.0,SNR=5.6						

IDC 02 08:55:10.3±1.1, 30°29N×67°32E, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.8/32, mbtmp3.9/12, ML3.4/1, MS3.1/4, Ms1 3.1/4, ms1mx2.7/40, Error ellipse: s-maj=27.4km s-min=21.0km az=88.0
NEIC 02 08:55:11.9±0.9, 30°27N×67°44E, h10km, mb3.4/1, Error ellipse: s-maj=17.1km s-min=16.0km az=99.0
ISCJB 02 08:55:12.0±3.4, 30°42N±0°08×67°59E±0°08, h15km±22km, mb3.8/10, MS3.2/3, Error ellipse: s-maj=14.9km s-min=10.8km az=27.8
ISC 02 08:55:14.9±3.8, 30°35N±0°08×67°48E±0°07, h28km±27km, n32, σ0s94/31, mb3.8/10, MS3.2/3, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**4.39**	**17**	*e*Pn	Pn	08 56 21.6	+1.9
DDI	**Dehra Dun**	**9.14**	**87**	*e*PKP	Pn	08 57 24.5	-0.5
DDI				*e*S	Sn	08 59 07.0	0.0
AAK	**Ala-Archa**	**13.49**	**23**	Pn	Pn	08 58 24.1	-0.3
	0.0nm,0.3s,baz=199,slow=5.2,SNR=14						
AAK				Sn	Sn	09 00 53.2	-0.1
	0.0nm,0.3s,baz=324,slow=19,SNR=3.8						
AAK				LR	LR	09 03 17.1	
	comp=Z,32nm,18.7s,baz=188,slow=36						
ABKAR	**Akbulak array**	**19.73**	**345**	*e*P	Pn	08 59 42.8	-1.0
	1.4nm,0.6s						
MKAR	**Makanchi Array**	**20.04**	**31**	P	P	08 59 44.6	-1.0
	1.8nm,0.6s,baz=199,slow=7.2,SNR=14						
MKAR	**Makanchi Array**	**20.04**	**31**	P	P	08 59 44.6	-1.0
GNI	**Garni**	**20.93**	**304**	P	P	08 59 57.1	+1.7
	6.1nm,0.4s,baz=354,slow=10.0,SNR=3.5						
GNI	**Garni**	**20.93**	**304**	P	P	08 59 57.1	+1.7
AKTK	**Aktyubinsk**	**21.29**	**343**	P	P	08 59 59.0	-0.1
AKTO	**Aktyubinsk**	**21.29**	**343**	P	P	08 59 59.0	-0.1
	2.1nm,0.9s,mb3.5,baz=163,slow=14,SNR=2.8						
KURK	**Kurchatov**	**21.99**	**19**	P	P	09 00 05.6	-1.0
	1.9nm,0.6s,mb3.7,baz=210,slow=8.9,SNR=6.8						
KURK	**Kurchatov**	**21.99**	**19**	P	P	09 00 05.6	-1.0
BVAR	**Borovoye Array**	**22.76**	**5**	P	P	09 00 14.2	-0.5
	2.9nm,0.6s,mb3.9,baz=171,slow=10,SNR=8.6						
BVAR	**Borovoye Array**	**22.76**	**5**	P	P	09 00 14.2	-0.5
ASF	**Jabal al Asfar**	**26.16**	**282**	LR	LR	09 11 58.1	
	comp=Z,34nm,19.1s,MS2.9,baz=246,slow=39						
ZAA0	**Zalesovo Array**	**26.72**	**23**	*e*P	P	09 00 51.5	-0.2
ZALV	**Zalesovo Beam**	**26.72**	**23**	P	P	09 00 53.5	+1.9
	3.8nm,0.6s,mb4.1,baz=224,slow=10,SNR=16						
ZALV	**Zalesovo Beam**	**26.72**	**23**	P	P	09 00 53.5	+1.9
FINES	**FINESS Array B**	**41.20**	**331**	P	P	09 02 56.4	-0.4
	1.4nm,0.8s,mb3.6,baz=115,slow=6.7,SNR=5.1						
FINES	**FINESS Array B**	**41.20**	**331**	P	P	09 02 56.4	-0.4
ARCES	**ARCESS Array B**	**45.84**	**341**	P	P	09 03 34.6	+0.5
	4.9nm,0.9s,mb4.5,baz=99,slow=7.5,SNR=5.0						
ARCES	**ARCESS Array B**	**45.84**	**341**	P	P	09 03 34.6	+0.5
NOA	**NORSAR Array B**	**47.71**	**327**	LR	LR	09 28 19.6	
	comp=Z,24nm,18.3s,MS3.2,baz=355,slow=42						
TORD	**Torodi Ar. Bea**	**62.67**	**270**	P	P	09 05 35.4	-2.1
	0.7nm,0.9s,mb3.8,baz=63,slow=6.2,SNR=3.8						
TORD	**Torodi Ar. Bea**	**62.67**	**270**	P	P	09 05 35.4	-2.1
PETK	**Petropavlovsk-**	**66.48**	**41**	LR	LR	09 36 29.3	
	comp=Z,27nm,20.7s,MS3.4,baz=266,slow=37						
INK	**Inuvik**	**80.41**	**8**	P	P	09 07 23.7	+0.3
	1.4nm,0.7s,mb4.0,baz=12,slow=6.4,SNR=5.3						
INK	**Inuvik**	**80.41**	**8**	P	P	09 07 23.7	+0.3
WRA	**Warramunga Arr**	**81.42**	**119**	P	P	09 07 29.9	+0.3
	0.2nm,0.5s,mb3.3,baz=322,slow=5.2,SNR=4.7						
WRA	**Warramunga Arr**	**81.42**	**119**	P	P	09 07 29.9	+0.3
ASAR	**Alice Springs**	**83.32**	**122**	P	P	09 07 40.2	+0.8
	0.6nm,0.8s,mb3.7,baz=307,slow=5.3,SNR=6.5						
ASAR	**Alice Springs**	**83.32**	**122**	P	P	09 07 40.2	+0.8

FUNV 02 09:12:13.8, 5°74N×73°83W, h147km, MW3.5, 1C-2D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**2.59**	**35**	⇓*i*P	Pn	09 12 55.1	-0.8
CAPV				*e*S	Sn	09 13 26.2	-2.2
SOCV	**Socops**	**3.89**	**49**	*e*P	Pn	09 13 10.7	-1.8
SOCV				*e*S	Sn	09 13 53.3	-4.8
VIGV	**El Vigia**	**3.93**	**38**	*e*P	Pn	09 13 11.5	-1.6
VIGV				*e*S	Sn	09 13 54.6	-4.6
ELOV	**Elorza**	**4.50**	**74**	⇓*e*P	Pn	09 13 19.3	-1.2
VIRV	**Villa del Rosa**	**4.94**	**16**	*e*P	Pn	09 13 24.5	-1.9
VIRV				*e*S	Sn	09 14 17.1	-5.9
QARV	**Quebrada Arrib**	**5.52**	**36**	*e*P	Pn	09 13 32.0	-2.1
SANV	**Sanarito**	**5.66**	**48**	*e*P	Pn	09 13 33.8	-2.3
CURV	**Curarigua**	**5.72**	**42**	*e*P	Pn	09 13 34.7	-2.1
TEPV	**Terepaima**	**6.22**	**47**	*e*P	Pn	09 13 41.5	-2.0
SIQV	**Siquisique**	**6.30**	**39**	*e*P	Pn	09 13 42.1	-2.4
BAUV	**El Baul**	**6.56**	**61**	⇑*e*P	Pn	09 13 45.1	-2.9
MAPV	**Macapo**	**6.70**	**52**	*e*P	Pn	09 13 47.8	-2.0
IMOV	**Isla Los Monje**	**7.19**	**23**	*e*P	Pn	09 13 54.5	-1.9
MONV	**Montecano**	**7.26**	**31**	*e*P	Pn	09 13 54.9	-2.5
TURV	**Turiamo**	**7.55**	**51**	*e*P	Pn	09 13 58.4	-2.9
CAOV	**Caicara del Or**	**7.62**	**78**	*e*P	Pn	09 13 59.4	-2.8
CUPV	**Cepira**	**9.04**	**61**	*e*P	Pn	09 14 18.6	-2.6
PCRV	**Puerto La Cruz**	**10.11**	**64**	*e*P	Pn	09 14 33.2	-2.2

TRN 02 09:24:05.2, 17°07N×62°35W, h12km, MD3.3, M3.4(FDF)
ISCJB 02 09:24:07.4±0.5, 17°02N±0°05×62°38W±0°05, h12km±5km, Error ellipse: s-maj=11.3km s-min=3.9km az=39.3
RSPR 02 09:24:11.6, 17°15N×62°47W, h7km±31km, MD3.5/4
ISC 02 09:24:07.7±0.5, 17°01N±0°06×62°38W±0°05, h14km±5km, n23, σ0s48/27, 6C-4D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBRV		**0.26**	**139**	⇑*i*P	Pg	09 24 13.1	-0.2
MBGB		**0.31**	**153**	*i* P	Pg	09 24 14.4	+0.3
MBWH		**0.32**	**146**	*i* P	Pg	09 24 14.3	0.0
MLYT	**Lee's Yard**	**0.34**	**148**	*i* P	Pg	09 24 14.8	+0.1
SKI	**Saint Kitts**	**0.47**	**313**	*e*P	Pg	09 24 16.4	-0.7
SKI				*e*S	Sg	09 24 24.0	+0.6
BPA	**Boggy Peak**	**0.50**	**86**	*e*P	Pg	09 24 17.7	+0.2
BPA				*e*S	Sg	09 24 24.6	+0.4
SEUS	**St. Eustatius**	**0.75**	**310**	⇑*e*P	Pg	09 24 22.0	-0.3
SEUS	**St. Eustatius**	**0.75**	**310**	⇑*e*P	Pg	09 24 22.0	-0.3
SEUS				*e*S	Sg	09 24 31.6	+0.6
SABA	**Saba**	**1.02**	**306**	⇑*e*P	Pb	09 24 27.7	+0.4
SABA	**Saba**	**1.02**	**306**	⇑*e*P	Pb	09 24 27.7	+0.4
BCG	**Bois Riant Cap**	**1.17**	**142**	*e*P	Pn	09 24 29.6	-0.1
BCG				*e*S	Sb	09 24 45.5	+0.7
SCG	**Saint Claude**	**1.18**	**146**	*e*P	Pn	09 24 29.3	-0.6
HMG	**Houelmont**	**1.21**	**148**	*e*P	Pn	09 24 29.8	-0.5
DOG	**Dongo Capester**	**1.22**	**143**	*e*P	Pn	09 24 30.0	-0.3
PHG	**Guadaloupe-2**	**1.22**	**145**	*e*P	Pn	09 24 30.3	0.0
DEG	**La Desirade**	**1.44**	**119**	*e*P	Pn	09 24 32.3	-1.1
MGG	**Marie-Galante**	**1.49**	**137**	*e*P	Pn	09 24 34.5	+0.4
MTP	**Monte Pirata**	**3.22**	**290**	⇓*e*P	Pn	09 24 57.9	0.0
MTP	**Monte Pirata**	**3.22**	**290**	⇓*e*P	Pn	09 24 57.9	0.0
HUMP	**Col San Antoni**	**3.50**	**289**	⇑*i*P	Pn	09 25 01.9	+0.2
HUMP	**Col San Antoni**	**3.50**	**289**	⇑*i*P	Pn	09 25 01.9	+0.2
CBYP	**Canovanas**	**3.55**	**291**	⇓*e*P	Pn	09 25 03.3	+1.0
CBYP	**Canovanas**	**3.55**	**291**	⇓*e*P	Pn	09 25 03.3	+1.0

ISCJB 02 09:26:01.3±0.7, 40°22N±0°02×25°20E±0°03, h3km±5km, Error ellipse: s-maj=4.1km s-min=3.3km az=12.9
ATH 02 09:26:01.5, 40°21N×25°16E, h26km±2km, MD3.1/7
CSEM 02 09:26:02.4±0.2, 40°23N×25°23E, h10km, MD2.9, Error ellipse: s-maj=4.6km s-min=3.1km az=12.0
THE 02 09:26:03.3, 40°21N×25°21E, h16km±2km, ML2.7/3, Error ellipse: s-maj=2.5km s-min=1.0km az=136.0
SOF 02 09:26:03.8, 40°37N×24°99E, h5km, MD2.7
DDA 02 09:26:03.5, 40°28N×25°37E, h7km±3km, Md2.9
ISK 02 09:26:06.7, 40°26N×25°63E, h19km, MD2.9
ISC 02 09:26:02.5±0.4, 40°23N±0°02×25°20E±0°03, h12km±3km, n73, σ1s00/99, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.33**	**183**	*e*PB	Pg	09 26 09.9	+0.8
LIA				*e*SB	Sg	09 26 14.4	+0.8
LIA	**Limnos Island**	**0.33**	**183**	P	Pg	09 26 09.9	+0.8
LIA				S	Sg	09 26 14.4	+0.8
LIA	**Limnos Island**	**0.33**	**183**	P	Pg	09 26 09.9	+0.8
LIA				S	Sg	09 26 14.4	+0.8
GADA	**Gvkgeada**	**0.53**	**94**	*e*PG	Pg	09 26 12.5	-0.5
GADA				*e*SG	Sg	09 26 16.6	-3.4
GADA	**Gvkgeada**	**0.53**	**94**	*e*Pg	Pg	09 26 12.5	-0.5
BOZC	**Bozcaada**	**0.76**	**120**	*i* P	Pg	09 26 17.1	-0.1
BOZC				*i* S	Sg	09 26 26.8	-0.2
ALN	**Alexandroupoli**	**0.93**	**44**	*e*PN	Pg	09 26 19.9	-0.5
ALN				*e*SN	Sn	09 26 33.2	-1.4
ALN	**Alexandroupoli**	**0.93**	**44**	P	Pg	09 26 19.9	-0.5
ALN				S	Sg	09 26 33.5	+1.0
ALN	**Alexandroupoli**	**0.93**	**44**	P	Pg	09 26 19.9	-0.5
ALN				*e*Sn	Sn	09 26 33.2	-1.4
ALN				S	Sg	09 26 33.5	+1.0
KAVA	**Kavala**	**0.93**	**326**	P	Pg	09 26 21.1	+0.6
KAVA				S	Sg	09 26 33.8	+1.2
KAVA	**Kavala**	**0.93**	**326**	P	Pg	09 26 21.1	+0.6
KAVA				S	Sg	09 26 33.8	+1.2
OUR	**Ouranopolis**	**0.94**	**277**	P	Pg	09 26 21.1	+0.5
OUR	**Ouranopolis**	**0.94**	**277**	P	Pg	09 26 21.1	+0.5
EZN	**Ezine**	**0.95**	**115**	*e*PG	Pg	09 26 20.6	-0.2
EZN	**Ezine**	**0.95**	**115**	*e*Pg	Pg	09 26 20.6	-0.2
GELI	**Tayfur-Gelibol**	**0.99**	**80**	*e*PG	Pg	09 26 20.5	-1.0
GELI	**Tayfur-Gelibol**	**0.99**	**80**	*e*Pg	Pg	09 26 20.5	-1.0
ERIK	**Erikli-Kesan**	**1.09**	**66**	*e*PG	Pg	09 26 22.3	-1.3
ERIK	**Erikli-Kesan**	**1.09**	**66**	*e*Pg	Pg	09 26 22.3	-1.3
LPK	**Lapseki**	**1.20**	**83**	*e*PG	Pg	09 26 23.9	-1.7
LPK	**Lapseki**	**1.20**	**83**	*e*Pg	Pg	09 26 23.9	-1.7
PRK	**Paraskevi**	**1.28**	**140**	*e*PN	Pn	09 26 26.2	0.0
PRK				*e*SN	Sn	09 26 43.5	+0.2
PRK	**Paraskevi**	**1.28**	**140**	P	Pn	09 26 26.4	+0.2
PRK	**Paraskevi**	**1.28**	**140**	*e*Pn	Pn	09 26 26.2	0.0
PRK				*e*Sn	Sn	09 26 43.5	+0.2
PLG	**Polygyros**	**1.35**	**277**	*e*PN	Pn	09 26 27.3	+0.1
PLG				*e*SN	Sn	09 26 44.8	-1.3
PLG	**Polygyros**	**1.35**	**277**	P	Pn	09 26 27.3	+0.1
PLG				S	Sb	09 26 44.6	-0.4
PLG	**Polygyros**	**1.35**	**277**	P	Pn	09 26 27.3	+0.1
PLG				*e*Sn	Sn	09 26 43.8	-1.3
PLG				S	Sb	09 26 44.6	-0.4
KDZ	**Kurdzhali**	**1.43**	**6**	*i* P	Pn	09 26 28.8	+0.5
KDZ	**Kurdzhali**	**1.43**	**6**	*i* P	Pn	09 26 28.8	+0.5
AOS	**Alonnisos**	**1.47**	**224**	P	Pn	09 26 28.6	-0.2
AOS				S	Sn	09 26 47.2	-0.7
AOS	**Alonnisos**	**1.47**	**224**	P	Pn	09 26 28.6	-0.2
AOS				S	Sn	09 26 47.2	-0.7
RZN	**Rozhen**	**1.50**	**346**	*i* P	Pn	09 26 29.7	+0.4
RZN	**Rozhen**	**1.50**	**346**	*i* P	Pn	09 26 29.7	+0.4
SRS	**Serrai**	**1.51**	**307**	P	Pn	09 26 29.4	0.0
SRS	**Serrai**	**1.51**	**307**	P	Pn	09 26 29.4	0.0
NVR	**Nevrokopi**	**1.52**	**318**	*e*PN	Pn	09 26 28.5	-1.0
NVR	**Nevrokopi**	**1.52**	**318**	*e*Pn	Pn	09 26 28.5	-1.0
SOH	**Sokhos**	**1.53**	**293**	*e*PN	Pn	09 26 29.0	+0.3
SOH				*e*SN	Sn	09 26 49.1	-0.4
SOH	**Sokhos**	**1.53**	**293**	P	Pn	09 26 29.9	+0.2
SOH	**Sokhos**	**1.53**	**293**	P	Pn	09 26 29.9	+0.2
SOH				*e*Sn	Sn	09 26 49.1	-0.4
RKY	**Sarkoy-Tekirda**	**1.58**	**72**	*e*PN	Pn	09 26 29.9	-0.4
RKY	**Sarkoy-Tekirda**	**1.58**	**72**	*e*Pn	Pn	09 26 29.9	-0.4
SART	**Tekirdag**	**1.58**	**72**	*i* P	Pn	09 26 28.2	-2.1
SART				*i* S	Sn	09 26 51.3	+0.6
SART	**Tekirdag**	**1.58**	**72**	*i* P	Pn	09 26 28.2	-2.1
SART				*i* S	Sn	09 26 51.3	+0.6
KRBG	**Karabiga-Canak**	**1.61**	**83**	*e*PN	Pn	09 26 30.3	-0.5
KRBG	**Karabiga-Canak**	**1.61**	**83**	*e*Pn	Pn	09 26 30.3	-0.5
MFT	**Murefte**	**1.68**	**70**	*e*PN	Pn	09 26 31.6	-0.1
MFT	**Murefte**	**1.68**	**70**	*e*Pn	Pn	09 26 31.6	-0.1
MMB	**Musomiste**	**1.76**	**321**	*i* P	Pn	09 26 32.8	-0.1
MMB	**Musomiste**	**1.76**	**321**	*i* P	Pn	09 26 32.8	-0.1
NEO	**Neokhori**	**1.78**	**240**	*e*PB	Pn	09 26 31.3	-1.8
NEO	**Neokhori**	**1.78**	**240**	*e*Pb	Pn	09 26 31.3	-1.8
DIM	**Dimitrovgrad**	**1.84**	**8**	*i* P	Pn	09 26 36.7	+2.8
DIM	**Dimitrovgrad**	**1.84**	**8**	*i* P	Pn	09 26 36.7	+2.8
GONE	**Gonen-Balikesi**	**1.91**	**95**	*e*PN	Pn	09 26 34.7	-0.2
GONE	**Gonen-Balikesi**	**1.91**	**95**	*e*PN	Pn	09 26 34.7	-0.2
BALY	**Balya**	**1.92**	**104**	*i* P	Pn	09 26 37.2	+2.2
BALY				*i* S	Sn	09 27 01.2	+2.1
BALY	**Balya**	**1.92**	**104**	*i* P	Pn	09 26 37.2	+2.2
BALY				*i* S	Sn	09 27 01.2	+2.1
CHOS	**Chios island**	**1.95**	**160**	*e*PN	Pn	09 26 35.6	+0.1
CHOS	**Chios island**	**1.95**	**160**	*e*Pn	Pn	09 26 35.6	+0.1
EDRB	**Edirne**	**2.00**	**35**	*e*PN	Pn	09 26 37.4	+1.3
EDRB	**Edirne**	**2.00**	**35**	*e*Pn	Pn	09 26 37.4	+1.3
BNT	**Bandirma**	**2.08**	**86**	*e*PN	Pn	09 26 36.6	-0.6
BNT	**Bandirma**	**2.08**	**86**	*e*Pn	Pn	09 26 36.7	-0.6
CRLT	**Corlu**	**2.13**	**64**	*e*PN	Pn	09 26 37.8	0.0
CRLT	**Corlu**	**2.13**	**64**	*e*Pn	Pn	09 26 37.8	-0.1
BALB	**Balikesir**	**2.14**	**105**	*e*PN	Pn	09 26 38.2	+0.1
BALB	**Balikesir**	**2.14**	**105**	*e*Pn	Pn	09 26 38.2	+0.1
DURS	**Dursunbey**	**2.59**	**103**	*i* P	Pn	09 26 47.1	+2.8
DURS				*i* S	Sn	09 27 21.1	+5.4
DURS	**Dursunbey**	**2.59**	**103**	*i* P	Pn	09 26 47.1	+2.8
SMG	**Samos**	**2.82**	**153**	*e*PB	Pn	09 26 48.5	+1.1
SMG	**Samos**	**2.82**	**153**	*e*Pb	Pn	09 26 48.5	+1.1
BARS	**Barje**	**3.63**	**317**	*e*Pn	Pn	09 26 59.3	+0.8

IDC 02 09:31:59.9±0.6, 5°88S×103°76E, h27km±3km, mb4.2/17, mb1 4.3/18, mb1mx4.2/23, mbtmp4.2/18, ML3.8/1, MS3.6/6, Ms1 3.7/6, ms1mx3.1/36, Error ellipse: s-maj=24.0km s-min=12.2km az=57.0
MOS 02 09:31:59.3±1.1, 5°73S×104°00E, h33km, mb5.0/19, Error ellipse: s-maj=17.8km s-min=6.6km az=115.8
ISCJB 02 09:32:00.3±0.7, 6°03S±0°04×103°67E±0°04, h48km±5km, mb4.8/62, MS3.9/12, Error ellipse: s-maj=8.3km s-min=5.3km az=143.0
DJA 02 09:32:00, 6°02S×103°69E, h12km, MLv4.5/15
BJI 02 09:32:01.9, 6°00S×103°70E, h47km, mB5.0/17, mb4.9/27, Ms4.6/15, Ms7 4.3/17
NEIC 02 09:32:01.5±0.8, 5°92S×103°74E, h42km±8km, mb4.9/23, Error ellipse: s-maj=9.7km s-min=4.9km az=50.0
NEIC Felt [III] at Liwa.
ISC 02 09:32:01.7±0.6, 6°01S±0°04×103°70E±0°04, h43km±5km, h39km±2.7km: pP-P, n189, σ1s13/187, mb4.8/62, MS3.9/12, 8C-15D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.93**	**59**	P	Pn	09 32 17.1	-1.3
KASI				S	Sn	09 32 29.0	-1.5
LWLI	**Liwa**	**1.05**	**20**	P	Pn	09 32 19.9	-0.1
LWLI				S	Sn	09 32 33.9	+0.5
MDSI	**Maura Dua**	**1.59**	**18**	P	Pn	09 32 27.7	+0.3
MDSI				S	Sn	09 32 48.5	+1.8
KLI	**Kotabumi**	**1.62**	**45**	P	Pn	09 32 28.8	+0.4
KLSI		**1.67**	**38**	P	Pn	09 32 28.8	+0.4
BLSI	**Bandar Lampung**	**1.67**	**68**	P	Pn	09 32 27.4	-1.1
MNAI	**Manna**	**1.80**	**336**	P	Pn	09 32 30.7	+0.5
RBSI	**Rajabasa**	**2.04**	**86**	P	Pn	09 32 34.5	+0.9
CGJI	**Cibinong**	**2.07**	**107**	P	Pn	09 32 32.6	-1.4
SBJI	**Serang**	**2.42**	**93**	P	Pn	09 32 43.3	+4.5
DBJI	**Dramaga**	**3.08**	**100**	P	Pn	09 32 48.9	+1.0
CBJI	**Citeko**	**3.16**	**98**	P	Pn	09 32 52.1	+3.1
CISI	**Cisompet, Garu**	**4.37**	**111**	P	Pn	09 33 05.1	-0.5
PPBI	**Pangkal Pinang**	**4.53**	**33**	P	Pn	09 33 10.3	+2.5
XMIS	**Christmas Isla**	**4.85**	**157**	*e*Pn	Pn	09 33 05.0	-7.2
XMIS				*e*Sn	Sn	09 33 56.4	-11
PDSI	**Padang**	**6.00**	**327**	P	Pn	09 33 27.1	-1.0
	0.9nm9µm137nm,0.5s						
UGM	**Wanagama**	**7.04**	**106**	*e*Pn	Pn	09 33 43.6	+1.4
MYKOM	**Kota Tinggi**	**7.75**	**1**	P	Pn	09 33 54.0	+2.0
	576nm50nm,1.0s						
MNSI	**Mandailing Nat**	**7.91**	**329**	P	Pn	09 33 53.8	-0.4
COCO	**West Island**	**9.14**	**227**	*e*Pn	Pn	09 34 11.0	-0.1
COCO	**West Island**	**9.14**	**227**	*e*P	Pn	09 34 11.0	-0.1
PSI	**Prapat**	**9.96**	**331**	Pn	Pn	09 34 19.6	-2.9
	0.8nm,0.3s,baz=188,slow=7.1,SNR=2.6						
PSI				LR	LR	09 38 29.3	
	comp=Z,295nm,20.1s,baz=354,slow=40						
PSI	**Prapat**	**9.96**	**331**	Pn	Pn	09 34 19.6	-2.9
PSI				LR	LR	09 38 29.3	
PSI	**Prapat**	**9.96**	**331**	P	Pn	09 34 19.6	-2.8
MBWA	**Marble Bar**	**21.64**	**136**	*e*P	P	09 36 50.8	+2.3
	5.4nm,0.7s,mb4.1						
MBWA				*e*S	S	09 40 40.7	-5.1
FITZ	**Fitzroy Crossi**	**24.56**	**121**	P	P	09 37 17.7	0.0
	2.7nm,0.8s,mb3.8,baz=281,slow=9.6,SNR=7.8						
FITZ	**Fitzroy Crossi**	**24.56**	**121**	*e*P	P	09 37 16.9	-0.8
	4.5nm,0.8s,mb4.0						
CM31	**Chiang Mai Arr**	**24.76**	**349**	*e*P	P	09 37 18.3	-1.2
	12nm,0.6s,mb4.6						
CM31				*e*		09 37 30.3	
CMAR	**Chiang Mai Arr**	**24.76**	**349**	P	P	09 37 17.9	-1.5
	13nm,0.6s,mb4.6,baz=182,slow=9.1,SNR=75						
CMAR				PcP	PcP	09 40 55.6	+0.1
	0.4nm,0.4s,baz=211,slow=3.3,SNR=4.6						
CMAR				LR	LR	09 47 50.8	
	comp=Z,69nm,19.4s,MS3.2,baz=44,slow=39						
CMAR	**Chiang Mai Arr**	**24.76**	**349**	P	P	09 37 17.9	-1.5
CMAR				PcP	PcP	09 40 55.6	+0.1
CMAR				LR	LR	09 47 50.8	
CMAR	**Chiang Mai Arr**	**24.76**	**349**	P	P	09 37 18.0	-1.4
CMAR						09 40 55.7	
CHTO	**Chiang Mai**	**25.11**	**349**	*e*P	P	09 37 20.7	-1.9
	13nm,0.9s,mb4.5						
CHTO				*e*	pP	09 37 32.9	-1.3
CHTO	**Chiang Mai**	**25.11**	**349**	*e*P	P	09 37 20.7	-1.9
CHTO				*e*	pP	09 37 32.9	-1.2
CHTO				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.5						
QIZ	**Qiongzhong**	**25.61**	**14**	P	P	09 37 28.5	+1.4
QIZ				S	S	09 41 55.3	+2.9
QIZ				LR	LR		
	comp=Z,180nm,19.9s,MS3.6						
NWAO	**Narrogin (SRO)**	**29.60**	**157**	LR	LR	09 49 04.4	
	comp=Z,111nm,21.6s,MS3.5,baz=95,slow=34						
KMI	**Kunming**	**30.96**	**358**	P	P	09 38 14.6	-0.2
KMI				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.8						
KMI				LR	LR		
	comp=N,150nm,12.7s,MS3.9						
KMI				LR	LR		
	comp=E,98nm,13.4s,MS3.9						
KMI				LR	LR		
	comp=Z,160nm,16.1s,MS3.8						
WRA	**Warramunga Arr**	**32.83**	**118**	P	P	09 38 30.8	-0.6
	comp=Z,1.0nm,0.5s,mb4.0,baz=289,slow=12,SNR=22						
WRA	

STKA	**Stephens Creek**	**43.75**	**131**	*e*P		**P**	**09 40 03.7**	**+0.6**
STKA				*e*		pP	09 40 13.4	-1.7
STKA					pmax	pmax		
	comp=Z,1.0nm,0.5s							
KKR	**Kurukshetra**	**44.09**	**326**	*e*PKP		**P**	**09 40 04.7**	**-1.1**
KLP	**Kalpa**	**44.54**	**328**	*e*PKP		**P**	**09 40 09.1**	**-0.3**
KLP				AMb		AMB	09 40 14.4	
	comp=Z,17nm,0.4s,mb5.2							
GTA	**Gaotai**	**45.33**	**356**	*e*P		**P**	**09 40 16.3**	**+0.8**
GTA				pP		pP	09 40 26.6	-1.0
GTA				sP		sP	09 40 30.6	-2.1
GTA				pmax		pmax		
	comp=Z,8.0nm,0.6s,mb4.7							
HHC	**Hu-ho-hao-te**	**47.18**	**8**	*e*P		**P**	**09 40 32.4**	**+2.3**
HHC				pP		pP	09 40 41.0	-1.2
HHC				sP		sP	09 40 46.7	-0.5
HHC				PP		PP	09 42 22.7	+1.3
HHC				S		**S**	**09 47 22.1**	**+2.3**
HHC				sS		sS	09 47 38.7	-1.2
HHC				SS		SS	09 50 42.8	-4.9
HHC				pmax		pmax		
	comp=Z,23nm,0.8s,mb5.2							
HHC				pmax		pmax		
	comp=Z,77nm,3.9s							
HHC				LR		LR		
	comp=N,110nm,13.1s,MS4.2							
HHC				LR		LR		
	comp=E,140nm,15.5s,MS4.2							
HHC				LR		LR		
	comp=Z,97nm,11.9s,MS4.0							
KSRS	**Korea Array**	**48.79**	**26**	P		**P**	**09 40 42.4**	**-0.2**
	comp=Z,4.8nm,0.7s,mb4.7,baz=222,slow=7.4,SNR=19							
WMQ	**Urumqi**	**51.66**	**345**	P		**P**	**09 41 04.6**	**+0.4**
WMQ				pP		pP	09 41 14.7	-1.7
WMQ				pmax		pmax		
	comp=Z,22nm,1.0s,mb5.0							
WMQ				pmax		pmax		
	comp=Z,190nm,5.0s							
WMQ				LR		LR		
	comp=Z,37nm,19.0s,MS3.4							
KSH	**Kashi**	**52.04**	**333**	P		**P**	**09 41 05.4**	**-1.7**
KSH				pP		pP	09 41 17.8	-1.5
KSH				sP		sP	09 41 23.1	-1.2
KSH				PcP		PcP	09 42 18.8	-0.1
KSH				PP		PP	09 43 03.8	-1.9
KSH				PcS		PcS	09 46 15.3	-1.7
KSH				S		**S**	**09 48 21.3**	**-6.5**
KSH				ScS		ScS	09 50 48.4	-5.2
KSH				SS		SS	09 51 55.9	-10
KSH				pmax		pmax		
	comp=Z,20nm,0.6s,mb5.2							
KSH				pmax		pmax		
	comp=Z,100nm,5.0s							
KSH				LR		LR		
	comp=N,110nm,4.8s							
KSH				LR		LR		
	comp=E,160nm,5.1s							
KSH				LR		LR		
	comp=Z,100nm,4.9s							
MJAR	**Matsushiro Arr**	**53.25**	**35**	P		**P**	**09 41 13.6**	**-2.5**
	comp=Z,1.8nm,0.9s,mb4.0,baz=229,slow=9.9,SNR=4.0							
MJAR	**Matsushiro Arr**	**53.25**	**35**	P		**P**	**09 41 13.6**	**-2.5**
MJAR	**Matsushiro Arr**	**53.25**	**35**	P		**P**	**09 41 13.6**	**-2.5**
CN2	**Changchun**	**53.33**	**20**	*e*P		**P**	**09 41 14.4**	**-2.2**
CN2				*e*pP		pP	09 41 26.5	-2.3
CN2				*e*S		**S**	**09 48 43.5**	**-1.8**
CN2				SS		SS	09 52 22.2	-3.7
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s,mb4.9							
CN2				pmax		pmax		
	comp=Z,200nm,4.0s							
CN2				LR		LR		
	comp=N,300nm,18.0s,MS4.5							
CN2				LR		LR		
	comp=E,200nm,18.0s,MS4.5							
CN2				LR		LR		
	comp=Z,200nm,18.0s,MS4.2							
SONM	**Songino Array**	**53.66**	**2**	P		**P**	**09 41 19.0**	**+0.1**
	comp=Z,6.5nm,0.7s,mb4.7,baz=182,slow=9.0,SNR=50							
SONM				sP		sP	09 41 30.6	-5.6
	comp=Z,3.5nm,0.7s,baz=180,slow=9.2,SNR=9.1							
SONM				PcP		PcP	09 42 24.9	+0.1
	comp=Z,2.5nm,0.6s,baz=184,slow=4.4,SNR=8.0							
SONM				LR		LR	10 07 24.1	
	comp=Z,70nm,18.0s,MS3.8,baz=218,slow=40							
SONM	**Songino Array**	**53.66**	**2**	P		**P**	**09 41 19.0**	**+0.1**
SONM				sP		sP	09 41 30.6	-5.6
SONM				PcP		PcP	09 42 24.9	+0.1
SONM				LR		LR	10 07 24.1	
SONM	**Songino Array**	**53.66**	**2**	P		**P**	**09 41 19.0**	**+0.1**
SONM				*SP		sP	09 41 30.6	-5.6
SONM							09 42 24.9	
ULN	**Ulaanbaatar**	**53.72**	**3**	*e*P		**P**	**09 41 19.1**	**-0.2**
	comp=Z,1.7nm,0.5s,mb4.2							
ULN	**Ulaanbaatar**	**53.72**	**3**	*e*P		**P**	**09 41 19.1**	**-0.2**
ULN				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.3							
TKM2	**Tokmak 2**	**54.98**	**335**	*e*P		**P**	**09 41 28.7**	**+0.2**
	comp=Z,20nm,0.7s,mb5.3							
TKM2				*e*		pP	09 41 40.6	-0.2
TKM2	**Tokmak 2**	**54.98**	**335**	*e*P		**P**	**09 41 28.7**	**+0.2**
TKM2				*e*		pP	09 41 40.6	-0.3
TKM2				pmax		pmax		
	comp=Z,20nm,0.7s,mb5.3							
KBK	**Karagaybulak**	**55.04**	**334**	*e*P		**P**	**09 41 29.0**	**0.0**
	comp=Z,13nm,0.7s,mb5.1							
KBK	**Karagaybulak**	**55.04**	**334**	*e*P		**P**	**09 41 29.0**	**0.0**
KBK				pmax		pmax		
	comp=Z,13nm,0.7s,mb5.1							
AML	**Almayashu**	**55.17**	**333**	*e*P		**P**	**09 41 30.3**	**+0.4**
	comp=Z,12nm,0.7s,mb5.0							
AML	**Almayashu**	**55.17**	**333**	*e*P		**P**	**09 41 30.3**	**+0.4**
AML				pmax		pmax		
	comp=Z,12nm,0.7s,mb5.0							
AAK	**Ala-Archa**	**55.21**	**334**	*e*P		**P**	**09 41 30.0**	**-0.3**
	comp=Z,17nm,1.4s,mb4.9							
AAK	**Ala-Archa**	**55.21**	**334**	⇓*i*P		**P**	**09 41 29.7**	**-0.6**
AAK				pmax		pmax		
	comp=Z,4.0nm,1.1s,mb4.4							
EKS2	**Erkin-Say**	**55.55**	**334**	*e*P		**P**	**09 41 33.2**	**+0.5**
	comp=Z,20nm,0.8s,mb5.2							
EKS2	**Erkin-Say**	**55.55**	**334**	*e*P		**P**	**09 41 33.2**	**+0.5**
EKS2				pmax		pmax		
	comp=Z,20nm,0.8s,mb5.2							
MK31	**Makanchi Array**	**55.90**	**342**	*e*P		**P**	**09 41 34.5**	**-0.6**
MK31	**Makanchi Array**	**55.90**	**342**	*e*P		**P**	**09 41 34.5**	**-0.6**
MKAR	**Makanchi Array**	**55.90**	**342**	P		**P**	**09 41 34.3**	**-0.8**
	comp=Z,10nm,0.6s,mb5.0,baz=147,slow=7.9,SNR=76							
MKAR	**Makanchi Array**	**55.90**	**342**	P		**P**	**09 41 34.3**	**-0.8**
MKAR	**Makanchi Array**	**55.90**	**342**	P		**P**	**09 41 34.3**	**-0.8**
ZAK	**Zakamensk**	**56.16**	**360**	*e*P		**P**	**09 41 36.9**	**0.0**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.0s,mb4.1							
KK31	**Karatay Array**	**57.40**	**332**	*e*P		**P**	**09 41 43.9**	**-1.9**
KK31				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb4.1							
KKAR	**Karatay Array**	**57.40**	**332**	*e*P		**P**	**09 41 44.3**	**-1.6**
KKAR	**Karatay Array**	**57.40**	**332**	*e*P		**P**	**09 41 44.3**	**-1.5**
TLY	**Talaya**	**57.46**	**360**	*e*P		**P**	**09 41 46.8**	**+0.7**
	comp=Z,4.9nm,0.7s,mb4.7							
TLY	**Talaya**	**57.46**	**360**	*e*P		**P**	**09 41 46.2**	**+0.1**
TLY				pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.7							
KURK	**Kurchatov**	**60.50**	**342**	*e*P		**P**	**09 42 06.5**	**-0.7**
	comp=Z,4.9nm,0.6s,mb4.8							
KURK	**Kurchatov**	**60.50**	**342**	⇓*e*P		**P**	**09 42 05.8**	**-1.4**
KURK				pmax		pmax		
	comp=Z,19nm,0.9s,mb5.2							
ZAA0	**Zalesovo Array**	**61.81**	**347**	*e*P		**P**	**09 42 14.5**	**-1.4**
ZAA0				*e*		pP	09 42 27.2	-1.3
ZALV	**Zalesovo Beam**	**61.81**	**347**	P		**P**	**09 42 14.8**	**-1.2**
	comp=Z,13nm,0.4s,mb5.4,baz=160,slow=5.2,SNR=30							
ZALV				pP		pP	09 42 22.4	-6.1
	comp=Z,5.5nm,0.3s,baz=157,slow=5.3,SNR=6.9							
ZALV				sP		sP	09 42 27.5	-5.9
	comp=Z,9.3nm,0.4s,baz=158,slow=5.6,SNR=11							
ZALV	**Zalesovo Beam**	**61.81**	**347**	P		**P**	**09 42 14.8**	**-1.2**
ZALV				pP		pP	09 42 22.4	-6.1
ZALV				sP		sP	09 42 27.5	-5.9
ZALV	**Zalesovo Beam**	**61.81**	**347**	P		**P**	**09 42 14.8**	**-1.2**
ZALV				*PP		pP	09 42 22.4	-6.1
ZALV				*SP		sP	09 42 27.5	-6.0
BOD	**Bodaibo**	**64.16**	**6**	*e*P		**P**	**09 42 27.3**	**-4.2**
BOD				pmax		pmax		
	comp=Z,4.0nm,1.1s,mb4.4							

BRVK	**Borovoye**	**65.28**	**339**	*e*P		**P**	**09 42 38.3**	**-0.6**
	comp=Z,3.9nm,0.8s,mb4.5								
BRVK	**Borovoye**	**65.28**	**339**	⇓*i*P		**P**	**09 42 37.4**	**-1.5**
BRVK					pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.7								
AB31	**Akbulak array**	**66.91**	**330**	P		**P**	**09 42 48.8**	**-0.7**
AB31					pmax	pmax			
	comp=Z,5.0nm,0.4s,mb4.9								
ABKAR	**Akbulak array**	**66.91**	**330**	*e*P		**P**	**09 42 48.8**	**-0.6**
	comp=Z,14nm,0.6s,mb5.2								
ABKAR				*e*		pP	09 43 01.1	-1.0	
MAW	**Mawson**	**67.39**	**196**	P		**P**	**09 42 52.9**	**+0.7**	
	comp=Z,2.2nm,0.9s,mb4.2,baz=80,slow=6.1,SNR=3.5								
MAW					LR	LR	10 08 10.3		
	comp=Z,126nm,18.4s,MS4.2,baz=228,slow=32								
MAW	**Mawson**	**67.39**	**196**	P		**P**	**09 42 52.9**	**+0.7**	
MAW					LR	LR	10 08 10.3		
MAW	**Mawson**	**67.39**	**196**	P		**P**	**09 42 52.9**	**+0.7**	
GNI	**Garni**	**70.95**	**316**	⇓*e*P		**P**	**09 43 16.2**	**+1.4**	
GNI					pmax	pmax			
	comp=Z,17nm,1.7s								
SVE	**Sverdlovsk**	**71.78**	**337**	*e*P		**P**	**09 43 19.6**	**+0.2**	
SVE					pmax	pmax			
	comp=Z,27nm,1.2s,mb5.0								
ARU	**Arti**	**72.34**	**336**	*e*P		**P**	**09 43 22.1**	**-0.7**	
	comp=Z,5.7nm,0.3s,mb5.0								
ARU				*e*		pP	09 43 34.9	-0.7	
ARU	**Arti**	**72.34**	**336**	*e* *i*P		**P**	**09 43 22.4**	**-0.4**	
ARU				*e**PP		pP	09 43 33.7	-1.9	
ARU							09 45 59.0		
ARU					S	S	09 52 43.8	+0.9	
ARU					pmax	pmax			
	comp=Z,26nm,1.7s,mb4.9								
KIV	**Kislovodsk**	**73.97**	**319**	⇑*e*P		**P**	**09 43 34.1**	**+1.4**	
KIV					pmax	pmax			
	comp=Z,11nm,1.2s,mb4.7								
PETK	**Petropavlovsk-**	**74.37**	**30**	P		**P**	**09 43 33.8**	**-1.0**	
	comp=Z,0.9nm,0.6s,mb3.9,baz=234,slow=3.8,SNR=4.8								
PETK	**Petropavlovsk-**	**74.37**	**30**	P		**P**	**09 43 33.8**	**-1.0**	
PETK	**Petropavlovsk-**	**74.37**	**30**	P		**P**	**09 43 33.8**	**-1.0**	
SEY	**Seymchan**	**78.00**	**21**	⇑*e*P		**P**	**09 43 54.6**	**-0.6**	
BR131	**Keskin Array S**	**78.73**	**312**	*e*P		**P**	**09 43 59.9**	**0.0**	
	comp=Z,5.5nm,0.7s,mb4.6								
BRTR	**Keskin Array B**	**78.73**	**312**	P		**P**	**09 44 00.1**	**+0.3**	
	comp=Z,7.5nm,0.8s,mb4.7,baz=129,slow=5.4,SNR=14								
BRTR	**Keskin Array B**	**78.73**	**312**	P		**P**	**09 44 00.1**	**+0.3**	
BRTR	**Keskin Array B**	**78.73**	**312**	P		**P**	**09 44 00.1**	**+0.3**	
OBN	**Obninsk**	**82.13**	**328**	P		**P**	**09 44 18.0**	**+0.3**	
OBN					pmax	pmax			
	comp=Z,28nm,1.6s,mb4.9								
AKASG	**Malin Array Be**	**84.89**	**322**	P		**P**	**09 44 31.9**	**-0.1**	
	comp=Z,2.2nm,0.6s,mb4.5,baz=87,slow=4.8,SNR=9.4								
AKASG	**Malin Array Be**	**84.89**	**322**	P		**P**	**09 44 31.9**	**-0.1**	
AKASG	**Malin Array Be**	**84.89**	**322**	P		**P**	**09 44 31.9**	**-0.1**	
VRI	**Vrincioaia**	**85.28**	**317**	⇓P		**P**	**09 44 35.6**	**+1.6**	
VRI	**Vrincioaia**	**85.28**	**317**	⇓*i*P		**P**	**09 44 35.6**	**+1.6**	
PLOR	**Plostina**	**85.33**	**317**	⇓P		**P**	**09 44 35.1**	**+0.8**	
PLOR	**Plostina**	**85.33**	**317**	⇓*i*P		**P**	**09 44 35.1**	**+0.8**	
TESR		**85.48**	**318**	⇓*i*P		**P**	**09 44 36.1**	**+1.1**	
BILL	**Bilibino**	**85.64**	**20**	*e*P		**P**	**09 44 33.6**	**-1.8**	
BILL					pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.6								
MLR	**Muntele Rosu**	**85.73**	**316**	⇑P		**P**	**09 44 37.6**	**+1.3**	
MLR	**Muntele Rosu**	**85.73**	**316**	⇑*i*P		**P**	**09 44 37.6**	**+1.3**	
BURAR	**Bucovina Array**	**86.69**	**318**	⇓P		**P**	**09 44 42.8**	**+1.8**	
BURAR	**Bucovina Array**	**86.69**	**318**	⇓*i*P		**P**	**09 44 42.8**	**+1.8**	
BUR08	**Bucovina Ar. S**	**86.70**	**318**	*e*P		**P**	**09 44 42.7**	**+1.6**	
VTS	**Vitosha**	**87.06**	**313**	⇓P		**P**	**09 44 43.8**	**+0.9**	
VTS	**Vitosha**	**87.06**	**313**	⇓*i*P		**P**	**09 44 43.8**	**+0.9**	
JOF	**Joensuu**	**87.40**	**334**	*e*P		**P**	**09 44 44.5**	**+0.4**	
JOF	**Joensuu**	**87.40**	**334**	*e*p		**P**	**09 44 44.5**	**+0.4**	
APA	**Apatity**	**88.13**	**339**	⇑*e*P		**P**	**09 44 47.0**	**-0.4**	
APA					MLR	MLR			
	comp=Z,1μm,22.0s,MS5.3								
DRGR		**88.19**	**317**	⇓P		**P**	**09 44 49.3**	**+1.1**	
DRGR		**88.19**	**317**	⇓*i*P		**P**	**09 44 49.3**	**+1.1**	
BZS	**Buzias**	**88.73**	**316**	⇑P		**P**	**09 44 51.7**	**+0.9**	
BZS	**Buzias**	**88.73**	**316**	⇑*i*P		**P**	**09 44 51.7**	**+0.9**	
KOLS	**Kolonicke sedl**	**88.88**	**319**	*e*P		**P**	**09 44 52.7**	**+1.3**	
KOLS					pmax	pmax			
	comp=Z,16nm,1.2s,mb5.2								
KOLS	**Kolonicke sedl**	**88.88**	**319**	*e*P		**P**	**09 44 52.7**	**+1.3**	
KOLS				*e*pP		pP	09 45 06.4	+1.9	
FINES	**FINESS Array B**	**89.35**	**332**	P		**P**	**09 44 53.7**	**+0.3**	
	comp=Z,3.5nm,0.6s,mb4.9,baz=109,slow=7.1,SNR=20								
FINES				pP		pP	09 45 02.2	-4.2	
	comp=Z,2.1nm,0.4s,baz=103,slow=2.7,SNR=1.9								
FINES				sP		sP	09 45 06.3	-5.0	
	comp=Z,5.3nm,0.8s,baz=109,slow=5.0,SNR=4.3								
FINES	**FINESS Array B**	**89.35**	**332**	P		**P**	**09 44 53.7**	**+0.3**	
FINES				pP		pP	09 45 02.2	-4.2	
FINES				sP		sP	09 45 06.3	-5.0	
FINES	**FINESS Array B**	**89.35**	**332**	P		**P**	**09 44 53.7**	**+0.3**	
FINES				*PP		pP	09 45 02.3	-4.1	
FINES				*SP		sP	09 45 06.3	-5.0	
CRVS	**Cervenica-Dubn**	**89.40**	**319**	*e*P		**P**	**09 44 57.8**	**+4.0**	
CRVS					pmax	pmax			
	comp=Z,97nm,3.4s								
CRVS	**Cervenica-Dubn**	**89.40**	**319**	*e*P		**P**	**09 44 57.8**	**+4.0**	
CRVS				*e*pP		pP	09 45 08.3	+1.4	
KAF	**Kangasniemi**	**89.41**	**333**	*e*P		**P**	**09 44 53.5**	**-0.1**	
KAF					pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.9								
KAF	**Kangasniemi**	**89.41**	**333**	*e*p		**P**	**09 44 53.5**	**-0.1**	
	comp=Z,4.0nm,0.6s,mb4.9								
STHS	**Stebnicka Huta**	**89.62**	**320**	*e*P		**P**	**09 44 56.7**	**+1.8**	
STHS	**Stebnicka Huta**	**89.62**	**320**	*e*P		**P**	**09 44 56.7**	**+1.8**	
ARCES	**ARCESS Array B**	**91.48**	**340**	P		**P**	**09 45 02.6**	**-0.5**	
	comp=Z,4.2nm,0.8s,mb4.8,baz=92,slow=6.6,SNR=11								
ARCES	**ARCESS Array B**	**91.48**	**340**	P		**P**	**09 45 02.6**	**-0.5**	
ARCES	**ARCESS Array B**	**91.48**	**340**	P		**P**	**09 45 02.6**	**-0.5**	
GERES	**GERESS Array B**	**94.47**	**318**	P		**P**	**09 45 17.6**	**+0.3**	
	comp=Z,0.5nm,0.7s,mb4.1,baz=77,slow=1.8,SNR=4.6								
GERES	**GERESS Array B**	**94.47**	**318**	P		**P**	**09 45 17.6**	**+0.3**	
GERES	**GERESS Array B**	**94.47**	**318**	P		**P**	**09 45 17.7**	**+0.3**	
NOA	**NORSAR Array B**	**96.42**	**331**	LR		LR	10 35 24.5		
	comp=Z,20nm,18.4s,MS3.6,baz=325,slow=40								
ULM	**Lac du Bonnet**	**132.95**	**17**	PKP		PKPdf	09 51 12.3	-0.1	
	comp=Z,2.3nm,0.8s,baz=122,slow=15,SNR=3.2								
PDAR	**Pinedale Array**	**133.06**	**34**	PKP		PKPdf	09 51 12.9	+0.1	
	comp=Z,0.3nm,0.6s,baz=90,slow=1.8,SNR=3.5								
TXAR	**Lajitas Array**	**145.28**	**45**	PKPbc		PKPbc	09 51 35.7	+0.5	
	comp=Z,6.7nm,0.5s,baz=278,slow=1.3,SNR=121								
TXAR					pPKPbc	pPKPbc	09 51 42.9	-5.7	
	comp=Z,1.8nm,0.6s,baz=251,slow=1.5,SNR=5.9								
TXAR					sPKPbc		09 51 49.1		
	comp=Z,3.3nm,0.6s,baz=281,slow=1.6,SNR=9.2								
ACSO	**Alum Creek Sta**	**145.40**	**9**	*e*PKPdf		PKPdf	09 51 34.6	-0.7	
WCI	**Wyandotte Cave**	**146.67**	**14**	*e*PKPdf		PKPdf	09 51 38.5	+1.0	
JCT	**Junction City**	**147.13**	**39**	*e*PKPbc		PKPbc	09 51 40.9	+0.1	
MIAR	**Mount Ida**	**147.42**	**27**	*e*PKPbc		PKPbc	09 51 40.7	-0.7	
PLAL	**Pickwick Lake**	**149.19**	**19**	*e*PKPbc		PKPbc	09 51 45.0	-1.0	
SWET	**Sewanee**	**149.61**	**16**	*e*PKPbc		PKPbc	09 51 45.8	-1.3	
TKL	**Tuckaleechee C**	**149.70**	**12**	*e*PKPbc		PKPbc	09 51 46.7	-0.6	

MEX 02 09:44:09.3±0.9, 14°.82N×93°.19W, h31km±12km, MD4.2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.88**	**358**	*e*P	Pn	09 44 23.5	-2.2
PCIG				*i* S	Sn	09 44 34.5	-2.9
THIG		**0.90**	**84**	*e*P	Pn	09 44 22.7	-3.1
THIG				*i* S	Sn	09 44 34.9	-2.9
CCIG	**Comitan**	**1.77**	**35**	*e*P	Pn	09 44 37.0	-0.9
CCIG				*i* S	Sn	09 44 57.2	-2.2
TGIG		**1.95**	**2**	*i* P	Pn	09 44 38.3	-2.0
TGIG				*i* S	Sn	09 45 00.5	-3.3
SCX	**San Cristobal**	**1.98**	**16**	*i* P	Pn	09 44 41.1	+0.4
CMIG	**Matias Romero**	**2.79**	**324**	*e*P	Pn	09 44 50.3	-1.5
CMIG				*i* S	Sn	09 45 22.8	-1.6
HUIG	**Huatulco**	**2.97**	**289**	*i* P	Pn	09 44 52.8	-1.5
HUIG				*i* S	Sn	09 45 26.0	-3.0
VHO	**Vista Hermosa**	**4.08**	**304**	*i* P	Pn	09 45 08.9	-0.7
VHO				*i* S	Sn	09 45 54.4	-2.0
PNIG	**Pinotepa**	**5.01**	**289**	*i* P	Pn	09 45 22.0	-0.4
PNIG				*i* S	Sn	09 46 16.8	-2.5
UTMO	**Huajuapan**	**5.35**	**305**	*i* P	Pn	09 45 26.3	-0.7
UTMO				*i* S	Sn	09 46 25.1	-2.5

*IDC **02** 09:48:36.1±1.1, 35°.75N×70°.95E, h0km, mb3.9/11,*

mb1 4.0/16, mb1mx3.8/32, mbtmp3.9/16, ML3.6/5, Error ellipse: s-maj=25.6km s-min=21.6km az=142.0

*ISCJB **02** 09:48:46.3±0.8, 36°.07N×0°.03×71°.11E±0°.08, h86km±9km, mb3.7/10, Error ellipse: s-maj=10.7km s-min=4.5km az=165.4*

*NEIC **02** 09:48:48.4±0.7, 36°.02N×71°.19E, h94km±8km, mb3.8/1, Error ellipse: s-maj=10.0km s-min=6.1km az=65.0*

*NNC **02** 09:48:53.5±3.9, 36°.53N×70°.73E, h64km±63km, mb3.5, mpv4.3, Error ellipse: s-maj=31.0km s-min=27.2km az=134.0*

ISC 02 09:48:48.1±0.7, 36°.05N±0°.03×71°.11E±0°.08, h90km±8km, n77, σ1°.19/90, mb3.7/10, 2C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.26**	**229**	*e*Pn	**Pn**	**09 49 26.8**	**+3.2**
AML	**Almayashu**	**6.40**	**18**	P	**Pn**	**09 50 20.8**	**+1.1**
	SNR=137						
AML	**Almayashu**	**6.40**	**18**	*e*Pn	**Pn**	**09 50 20.6**	**+0.9**
	54nm,0.5s						
AML				*e*S	**Sn**	**09 51 30.8**	**-0.5**
SDNR	**Sundarnagar**	**6.66**	**131**	*e*PKP	**Pn**	**09 50 25.0**	**+1.7**
SDNR				*e*x	x	09 51 37.4	
UCH	**Uchtor**	**6.72**	**22**	P	**Sn**	**09 51 38.0**	**-0.9**
	SNR=12						
KZA	**Kyzart**	**6.83**	**27**	P	**Pn**	**09 50 27.1**	**+1.6**
	SNR=11						
KZA	**Kyzart**	**6.83**	**27**	*e*Pn	**Pn**	**09 50 27.0**	**+1.4**
	10nm,0.4s						
EKS2	**Erkin-Say**	**6.92**	**17**	P	**Pn**	**09 50 28.1**	**+1.3**
	SNR=7.2						
EKS2	**Erkin-Say**	**6.92**	**17**	*e*Pn	**Pn**	**09 50 27.5**	**+0.7**
	19nm,0.6s						
EKS2				*e*Sn	**Sn**	**09 51 43.0**	**-1.0**
SMLA	**Simla**	**7.04**	**132**	*i* P	**Pn**	**09 50 28.9**	**+0.4**
SMLA				*i* x	x	09 51 45.6	
SMLA				⇓		09 51 48.0	
	comp=E,705nm,0.2s						
SMLA				⇓		09 51 49.7	
	comp=N,816nm,0.2s						
KK31	**Karatay Array**	**7.07**	**356**	⇓P	**Pn**	**09 50 28.2**	**-0.5**
	comp=N,8.2nm,0.3s,baz=182,slow=13,SNR=291						
KK31				⇓S	**Sn**	**09 51 41.5**	**-5.9**
	comp=N,11nm,0.6s,baz=188,slow=26,SNR=6.4						
KKAR	**Karatay Array**	**7.07**	**356**	*e*Pn	**Pn**	**09 50 28.0**	**-0.7**
	comp=N,20nm,0.3s						
KKAR				*e*Sn	**Sn**	**09 51 41.1**	**-6.3**
AAK	**Ala-Archa**	**7.08**	**21**	P	**Pn**	**09 50 30.3**	**+1.4**
	SNR=16						
AAK	**Ala-Archa**	**7.08**	**21**	Pn	**Pn**	**09 50 30.6**	**+1.6**
	comp=N,0.2nm,0.3s,baz=160,slow=3.2,SNR=88						
AAK				Sn	**Sn**	**09 51 47.7**	**-0.2**
	comp=N,0.0nm,0.3s,baz=123,slow=22,SNR=9.9						
AAK	**Ala-Archa**	**7.08**	**21**	*e*Pn	**Pn**	**09 50 30.2**	**+1.3**
AAK				*e*Sn	**Sn**	**09 51 50.1**	**+2.3**
KBK	**Karagaybulak**	**7.24**	**23**	*e*Pn	**Pn**	**09 50 32.4**	**+1.3**
	comp=N,9.2nm,0.5s						
KBK				*e*Sn	**Sn**	**09 51 49.5**	**-2.3**
KLP	**Kalpa**	**7.46**	**125**	*e*PKP	**Pn**	**09 50 34.5**	**+0.3**
KLP				*e*x	x	09 51 55.3	
KLP				AML	AML	09 52 04.7	
	comp=N,138nm,1.0s						
KLP				AML	AML	09 52 08.2	
	comp=E,170nm,0.6s						
CHMS	**Chumysh**	**7.49**	**21**	P	**Pn**	**09 50 35.6**	**+1.0**
	SNR=12						
CHMS	**Chumysh**	**7.49**	**21**	*e*Pn	**Pn**	**09 50 35.4**	**+0.8**
	comp=E,26nm,0.3s						
USP	**Ospenovka**	**7.67**	**19**	P	**Pn**	**09 50 37.9**	**+0.9**
	SNR=9.1						
TKM2	**Tokmak 2**	**7.69**	**25**	P	**Pn**	**09 50 39.1**	**+1.8**
	SNR=5.5						
TKM2	**Tokmak 2

	comp=Z,0.2nm,0.4s,mb3.3,baz=326,slow=4.9,SNR=5.1						
WRA	**Warramunga Arr**	**81.68**	**122**	P	**P**	**10 00 57.2**	**+0.6**
YKA	**Yellowknife Ar**	**81.70**	**3**	P	**P**	**10 00 56.5**	**+0.4**
	comp=Z,0.5nm,0.4s,mb3.7,baz=349,slow=5.3,SNR=5.0						
YKA	**Yellowknife Ar**	**81.70**	**3**	P	**P**	**10 00 56.5**	**+0.4**

ISCJB ***02*** *10:14:36.9±1.0, 17°.41N±0°.05×61°.98W±0°.06, h10km, Error ellipse: s-maj=10.0km s-min=4.4km az=135.3*
TRN ***02*** *10:14:37.2, 17°.28N×62°.08W, h21km, MD2.7*
RSPR ***02*** *10:14:38.6, 19°.47N×62°.10W, h143km±23km, MD4.0/3*

ISC 02 10:14:37.5±0.9, 17°.39N±0°.05×61°.96W±0°.05, h10km, n18, σ0°78/23, 6C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPA	**Boggy Peak**	**0.36**	**164**	⇓*e*P	**Pg**	**10 14 46.2**	**+1.7**
BPA				*e*S	**Sg**	**10 14 51.1**	**+1.8**
MBRV		**0.62**	**202**	*i* P	**Pg**	**10 14 49.2**	**-0.3**
MBWH		**0.68**	**199**	*i* P	**Pg**	**10 14 50.5**	**-0.2**
MBWH				*i* S	**Sg**	**10 14 59.0**	**-0.6**
MLYT	**Lee's Yard**	**0.70**	**199**	*i* P	**Pg**	**10 14 51.0**	**-0.1**
MBGB		**0.70**	**202**	*i* P	**Pg**	**10 14 50.9**	**-0.2**
MBGB				*i* S	**Sg**	**10 15 00.1**	**-0.2**
SKI	**Saint Kitts**	**0.75**	**266**	⇓*e*P	**Pg**	**10 14 52.1**	**+0.2**
SKI				*e*S	**Sg**	**10 15 01.6**	**-0.1**
BCG	**Bois Riant Cap**	**1.34**	**166**	*e*P	**Pn**	**10 15 01.3**	**-0.9**
DEG	**La Desirade**	**1.37**	**141**	*e*P	**Pn**	**10 15 01.9**	**-0.9**
SCG	**Saint Claude**	**1.38**	**169**	*e*P	**Pn**	**10 15 02.2**	**-0.7**
DOG	**Dongo Capester**	**1.39**	**166**	*e*P	**Pn**	**10 15 02.7**	**-0.2**
STVI	**Saint Thomas**	**3.01**	**289**	⇑*e*P	**Pn**	**10 15 25.4**	**+0.2**
STVI	**Saint Thomas**	**3.01**	**289**	⇑*e*P	**Pn**	**10 15 25.4**	**+0.2**
MTP	**Monte Pirata**	**3.50**	**282**	⇑*e*P	**Pn**	**10 15 33.0**	**+1.1**
MTP	**Monte Pirata**	**3.50**	**282**	⇑*e*P	**Pn**	**10 15 33.4**	**+1.4**
CBYP	**Canovanas**	**3.81**	**284**	⇑*e*P	**Pn**	**10 15 35.2**	**-1.1**
CBYP	**Canovanas**	**3.81**	**284**	⇑*e*P	**Pn**	**10 15 35.2**	**-1.1**
CBYP				*e*S	**Sn**	**10 16 21.4**	**+0.1**
SJG	**San Juan**	**4.06**	**281**	*e*S	**Sn**	**10 16 27.8**	**+0.5**
SJG	**San Juan**	**4.06**	**281**	*e*S	**Sn**	**10 16 28.0**	**+0.7**

ATH ***02*** *10:21:28.4, 40°.22N×25°.20E, h25km±1km, MD3.0/5*
THE ***02*** *10:21:29.6, 40°.23N×25°.22E, h2km±2km, ML2.3/2, Error ellipse: s-maj=2.7km s-min=0.9km az=126.0*
CSEM ***02*** *10:21:29.6±0.2, 40°.23N×25°.28E, h19km, MD2.8, Error ellipse: s-maj=6.1km s-min=4.2km az=4.0*
ISCJB ***02*** *10:21:29.7±0.4, 40°.21N±0°.03×25°.24E±0°.03, h16km±6km, Error ellipse: s-maj=5.2km s-min=3.9km az=19.9*
DDA ***02*** *10:21:30.4, 40°.30N×25°.43E, h6km±3km, Md2.8*
ISK ***02*** *10:21:32.8, 40°.24N×25°.59E, h13km, MD2.8*

ISC 02 10:21:29.3±0.4, 40°.23N±0°.03×25°.25E±0°.03, h12km±4km, n37, σ1°04/58, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.34**	**189**	*e*PB	**Pg**	**10 21 36.5**	**+0.5**
LIA				*e*SB	**Sg**	**10 21 40.8**	**+0.3**
LIA	**Limnos Island**	**0.34**	**189**	P	**Pg**	**10 21 36.4**	**+0.4**
LIA				S	**Sg**	**10 21 41.0**	**+0.5**
LIA	**Limnos Island**	**0.34**	**189**	P	**Pg**	**10 21 36.4**	**+0.4**
LIA				*e*Sb	**Sg**	**10 21 40.8**	**+0.3**
GADA	**Gvkgeada**	**0.50**	**94**	*e*PG	**Pg**	**10 21 38.5**	**-0.5**
GADA				*e*SG	**Sg**	**10 21 42.5**	**-3.1**
GADA	**Gvkgeada**	**0.50**	**94**	*e*Pg	**Pg**	**10 21 38.5**	**-0.5**
BOZC	**Bozcaada**	**0.73**	**122**	*i* P	**Pg**	**10 21 43.4**	**+0.1**
BOZC				*i* S	**Sg**	**10 21 53.2**	**+0.4**
ENEZ	**Enez**	**0.85**	**53**	*e*PG	**Pg**	**10 21 46.0**	**+0.2**
ENEZ	**Enez**	**0.85**	**53**	*e*Pg	**Pg**	**10 21 46.0**	**+0.3**
ALN	**Alexandroupoli**	**0.90**	**42**	*e*PN	**Pn**	**10 21 46.3**	**-1.4**
ALN				*e*SN	**Sn**	**10 21 59.3**	**-1.4**
ALN	**Alexandroupoli**	**0.90**	**42**	P	**Pg**	**10 21 46.5**	**-0.1**
ALN				S	**Sg**	**10 21 59.9**	**+1.6**
ALN	**Alexandroupoli**	**0.90**	**42**	P	**Pg**	**10 21 46.5**	**-0.1**
ALN				*e*Sn	**Sn**	**10 21 59.3**	**-1.4**
ALN				S	**Sg**	**10 21 59.9**	**+1.6**
EZN	**Ezine**	**0.92**	**116**	*e*PG	**Pg**	**10 21 46.7**	**-0.2**
EZN	**Ezine**	**0.92**	**116**	*e*Pg	**Pg**	**10 21 46.7**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.95**	**79**	*e*PG	**Pg**	**10 21 46.8**	**-0.7**
GELI	**Tayfur-Gelibol**	**0.95**	**79**	*e*Pg	**Pg**	**10 21 46.8**	**-0.7**
KAVA	**Kavala**	**0.95**	**324**	P	**Pg**	**10 21 47.6**	**0.0**
KAVA				S	**Sg**	**10 22 01.4**	**+1.5**
KAVA	**Kavala**	**0.95**	**324**	P	**Pg**	**10 21 47.6**	**0.0**
KAVA				S	**Sg**	**10 22 01.4**	**+1.5**
OUR	**Ouranopolis**	**0.98**	**276**	P	**Pg**	**10 21 47.8**	**-0.3**
OUR				S	**Sg**	**10 22 00.7**	**-0.1**
OUR	**Ouranopolis**	**0.98**	**276**	P	**Pg**	**10 21 47.8**	**-0.3**
OUR				S	**Sg**	**10 22 00.7**	**-0.1**
ERIK	**Erikli-Kesan**	**1.06**	**65**	*e*PG	**Pg**	**10 21 49.2**	**-0.4**
ERIK	**Erikli-Kesan**	**1.06**	**65**	*e*Pg	**Pg**	**10 21 49.2**	**-0.4**
LPK	**Lapseki**	**1.16**	**83**	*e*PG	**Pg**	**10 21 50.5**	**-1.1**
LPK	**Lapseki**	**1.16**	**83**	*e*Pg	**Pg**	**10 21 50.5**	**-1.1**
PRK	**Paraskevi**	**1.26**	**141**	*e*Pn	**Pn**	**10 21 52.7**	**0.0**
PRK				*e*SN	**Sn**	**10 22 09.9**	**+0.3**
PRK	**Paraskevi**	**1.26**	**141**	*e*Pn	**Pn**	**10 21 52.7**	**0.0**
PRK				*e*Sn	**Sn**	**10 22 09.9**	**+0.3**
PLG	**Polygyros**	**1.39**	**276**	*e*PN	**Pn**	**10 21 53.7**	**-0.8**
PLG				*e*SN	**Sn**	**10 22 10.8**	**-2.0**
PLG	**Polygyros**	**1.39**	**276**	*e*Pn	**Pn**	**10 21 53.7**	**-0.8**
PLG				*e*Sn	**Sn**	**10 22 10.8**	**-2.0**
SRS	**Serrai**	**1.54**	**306**	P	**Pn**	**10 21 56.1**	**-0.5**
SRS				S	**Sn**	**10 22 18.4**	**+1.8**
SRS	**Serrai**	**1.54**	**306**	P	**Pn**	**10 21 56.1**	**-0.5**
SRS				S	**Sn**	**10 22 18.4**	**+1.8**
KRBG	**Karabiga-Canak**	**1.57**	**83**	*e*PN	**Pn**	**10 21 57.4**	**+0.4**
KRBG	**Karabiga-Canak**	**1.57**	**83**	*e*Pn	**Pn**	**10 21 57.4**	**+0.4**
GONE	**Gonen-Balikesi**	**1.87**	**95**	*e*PN	**Pn**	**10 22 01.9**	**+0.8**
GONE	**Gonen-Balikesi**	**1.87**	**95**	*e*Pn	**Pn**	**10 22 01.9**	**+0.7**
BALY	**Balya**	**1.88**	**104**	*i* P	**Pn**	**10 22 04.0**	**+2.7**
BALY				*i* S	**Sn**	**10 22 28.0**	**+3.1**
BALY	**Balya**	**1.88**	**104**	*i* P	**Pn**	**10 22 04.0**	**+2.7**
BALY				*i* S	**Sn**	**10 22 28.0**	**+3.0**
CHOS	**Chios island**	**1.94**	**161**	*e*PN	**Pn**	**10 22 02.0**	**-0.1**
CHOS	**Chios island**	**1.94**	**161**	*e*Pn	**Pn**	**10 22 02.0**	**-0.1**

ISCJB ***02*** *10:34:24.7±0.8, 38°.86N±0°.04×26°.07E±0°.06, h6km±7km, Error ellipse: s-maj=8.1km s-min=6.6km az=141.3*
DDA ***02*** *10:34:24.6, 38°.88N×26°.07E, h12km±3km, Md2.9*
CSEM ***02*** *10:34:25.0±0.2, 38°.86N×26°.08E, h5km, ML2.3/2, Error ellipse: s-maj=5.9km s-min=4.1km az=72.0*
THE ***02*** *10:34:25.5, 38°.88N×26°.05E, h11km±1km, ML2.3/2, Error ellipse: s-maj=2.3km s-min=0.8km az=77.0*

ISC 02 10:34:25.0±0.8, 38°.87N±0°.04×26°.07E±0°.07, h4km±10km, n15, σ0°59/24, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.38**	**334**	P	**Pg**	**10 34 33.0**	**+0.6**
SIGR				S	**Sg**	**10 34 38.2**	**+0.8**
SIGR	**SIGRI**	**0.38**	**334**	P	**Pg**	**10 34 33.0**	**+0.6**
SIGR				S	**Sg**	**10 34 38.2**	**+0.8**
PRK	**Paraskevi**	**0.41**	**22**	P	**Pg**	**10 34 33.4**	**+0.5**
PRK	**Paraskevi**	**0.41**	**22**	P	**Pg**	**10 34 33.4**	**+0.5**
CHOS	**Chios island**	**0.48**	**181**	P	**Pg**	**10 34 34.9**	**+0.8**
CHOS	**Chios island**	**0.48**	**181**	P	**Pg**	**10 34 34.9**	**+0.8**
URLA	**Izmir**	**0.65**	**141**	*i* P	**Pg**	**10 34 36.9**	**-0.6**
URLA	**Izmir**	**0.65**	**141**	*i* P	**Pg**	**10 34 36.8**	**-0.6**
AYVA	**Ayvalik**	**0.65**	**47**	*i* P	**Pg**	**10 34 37.5**	**0.0**
AYVA				*i* S	**Sg**	**10 34 45.9**	**-0.1**
AYVA	**Ayvalik**	**0.65**	**47**	*i* P	**Pg**	**10 34 37.5**	**0.0**
AYVA				*i* S	**Sg**	**10 34 45.9**	**-0.1**
BOZC	**Bozcaada**	**0.97**	**359**	*i* P	**Pg**	**10 34 42.8**	**-0.8**
BOZC				*i* S	**Sg**	**10 34 56.5**	**+0.2**
LIA	**Limnos Island**	**1.24**	**327**	P	**Pg**	**10 34 47.8**	**-0.9**
LIA				S	**Sg**	**10 35 04.3**	**-0.5**
LIA	**Limnos Island**	**1.24**	**327**	P	**Pg**	**10 34 47.8**	**-0.9**
LIA				S	**Sg**	**10 35 04.3**	**-0.5**
BALY	**Balya**	**1.49**	**53**	*i* P	**Pn**	**10 34 52.1**	**-0.4**
BALY				*i* S	**Sn**	**10 35 12.8**	**+0.4**
BALY	**Balya**	**1.49**	**53**	*i* P	**Pn**	**10 34 52.1**	**-0.4**
BALY				*i* S	**Sn**	**10 35 12.8**	**+0.5**

IDC ***02*** *10:37:58.6±0.6, 21°.47S×174°.09W, h0km, mb4.2/14, mb1 4.3/15, mb1mx4.2/23, mbtmp4.2/15, MS3.8/5, Ms1 3.8/5, ms1mx3.3/26, Error ellipse: s-maj=25.0km s-min=16.5km az=137.0*
ISCJB ***02*** *10:38:02.2±0.5, 21°.46S±0°.09×174°.2W±0°.1, h33km, mb4.2/18, MS3.8/4, Error ellipse: s-maj=16.5km s-min=12.1km az=32.0*
NEIC ***02*** *10:38:04.2±0.4, 21°.45S×174°.16W, h35km, mb4.4/7, Error ellipse: s-maj=14.1km s-min=10.4km az=127.0*

ISC 02 10:38:04.2±0.5, 21°.43S±0°.09×174°.2W±0°.1, h35km, n64, σ0°72/43, mb4.2/18, MS3.8/4, 1C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.83**	**18**	Pn	**Pn**	**10 39 49.1**	**-6.6**
	7.5nm,0.3s,baz=197,slow=21,SNR=12						
AFI				Sn	**Sn**	**10 41 08.6**	**-15**
	4.2nm,0.3s,baz=204,slow=20,SNR=4.0						
AFI	**Afiamalu**	**7.83**	**18**	Pn	**Pn**	**10 39 49.1**	**-6.6**
AFI				Sn	**Sn**	**10 41 08.6**	**-15**
MSVF	**Nonsavu**	**8.16**	**295**	*e*Pn	**Pn**	**10 40 07.7**	**+7.4**
	45nm,1.0s						
RAR	**Rarotonga**	**13.46**	**92**	Pn	**Pn**	**10 40 58.3**	**-15**
	6.2nm,0.3s,baz=239,slow=7.6,SNR=17						
RAR				Sn	Sn	10 43 10.5	-31
	2.0nm,0.3s,baz=119,slow=19,SNR=3.6						
RAR				LR	LR	10 44 31.5	
	comp=Z,360nm,19.6s,baz=119,slow=29						
RAR	**Rarotonga**	**13.46**	**92**	*e*Pn	**Pn**	**10 40 59.2**	**-14**
RAR				Sn	Sn	10 43 10.5	-31
RAR				LR	LR	10 44 31.5	
DZM	**Mont Dzumac**	**17.98**	**264**	*e*LR	LR	10 46 31.6	
	163nm,26.6s						
URZ	**Urewera**	**18.37**	**202**	P	**Pn**	**10 42 15.5**	**-0.6**
	0.7nm,0.3s,baz=308,slow=8.3,SNR=6.3						
URZ				S	S	10 45 23.1	-21
	0.3nm,0.3s,baz=127,slow=20,SNR=4.5						
URZ	**Urewera**	**18.37**	**202**	*e*P	**Pn**	**10 42 16.0**	**-0.1**
	10nm,0.8s						
URZ				S	S	10 45 23.1	-21
TBI	**Tubuai**	**22.96**	**99**	*e*LR	LR	10 47 59.6	
	225nm,28.8s						
PPT	**Papeete**	**23.53**	**85**	*e*LR	LR	10 48 27.1	
	211nm,25.2s,baz=256						
PPT	**Papeete**	**23.53**	**85**	LR	LR	10 49 30.7	
	comp=Z,272nm,18.6s,MS3.7,baz=272,slow=30						
HNR	**Honiara**	**27.56**	**292**	LR	LR	10 53 03.0	
	comp=Z,86nm,19.4s,MS3.3,baz=110,slow=33						
RKT	**Rikitea**	**36.28**	**100**	*e*LR	LR	10 54 15.4	
	157nm,28.0s						
CTA	**Charters Tower**	**36.92**	**265**	P	**P**	**10 45 10.6**	**+0.5**
	4.0nm,0.6s,mb4.4,baz=60,slow=6.7,SNR=7.6						
CTA	**Charters Tower**	**36.92**	**265**	P	**P**	**10 45 10.6**	**+0.5**
CTAO	**Charters Tower**	**36.92**	**265**	*e*P	**P**	**10 45 12.0**	**+2.0**
	4.8nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**40.60**	**246**	P	**P**	**10 45 40.6**	**-0.1**
	3.2nm,0.7s,mb4.0,baz=93,slow=13,SNR=6.6						
STKA				LR	LR	10 59 29.2	
	comp=Z,76nm,20.7s,MS3.5,baz=31,slow=32						
STKA	**Stephens Creek**	**40.60**	**246**	*e*P	**P**	**10 45 41.0**	**+0.2**
	0.8nm,0.9s,mb3.4						
STKA				LR	LR	10 59 29.2	
ASAR	**Alice Springs**	**47.75**	**257**	P	**P**	**10 46 38.2**	**+0.1**
	5.3nm,0.9s,mb4.5,baz=90,slow=8.6,SNR=32						
ASAR	**Alice Springs**	**47.75**	**257**	P	**P**	**10 46 38.2**	**+0.1**
WB2	**Warramunga Arr**	**47.96**	**262**	*e*P	**P**	**10 46 38.6**	**-1.2**
WRAB	**Tennant Creek**	**47.97**	**262**	*e*P	**P**	**10 46 39.1**	**-0.7**
	4.9nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**47.98**	**262**	P	**P**	**10 46 39.5**	**-0.4**
	2.0nm,0.4s,mb4.5,baz=92,slow=8.3,SNR=66						
WRA	**Warramunga Arr**	**47.98**	**262**	P	**P**	**10 46 39.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**56.41**	**262**	P	**P**	**10 47 42.7**	**+0.1**
	2.8nm,0.9s,mb4.3,baz=124,slow=8.7,SNR=4.4						
FITZ	**Fitzroy Crossi**	**56.41**	**262**	P	**P**	**10 47 42.7**	**+0.1**
SBA	**Scott Base**	**57.21**	**185**	*e*P	**P**	**10 47 48.5**	**+1.1**
	2.8nm,0.8s,mb4.3						
VNDA	**Vanda**	**57.33**	**186**	P	**P**	**10 47 48.8**	**+0.5**
	1.1nm,0.8s,mb3.9,baz=351,slow=5.0,SNR=7.5						
VNDA	**Vanda**	**57.33**	**186**	P	**P**	**10 47 48.8**	**+0.5**
CASY	**Casey**	**64.65**	**206**	*e*P	**P**	**10 48 38.1**	**0.0**
	4.6nm,0.8s,mb4.6						
QSPA	**South Pole Qui**	**68.65**	**180**	*e*P	**P**	**10 49 02.8**	**-0.6**
	4.3nm,1.0s,mb4.3						
MJAR	**Matsushiro Arr**	**73.09**	**322**	P	**P**	**10 49 33.0**	**+2.1**
	1.3nm,0.7s,mb4.0,baz=158,slow=6.3,SNR=4.5						
MJAR	**Matsushiro Arr**	**73.09**	**322**	P	**P**	**10 49 33.0**	**+2.1**
PETK	**Petropavlovsk-**	**78.12**	**343**	P	**P**	**10 49 59.4**	**0.0**
	4.1nm,0.8s,mb4.4,baz=131,slow=9.8,SNR=5.3						
PETK	**Petropavlovsk-**	**78.12**	**343**	P	**P**	**10 49 59.4**	**0.0**
YBH	**Yreka Blue Hor**	**78.86**	**37**	P	**P**	**10 50 03.8**	**+0.1**
	1.9nm,0.9s,mb4.0,baz=235,slow=16,SNR=3.5						
YBH	**Yreka Blue Hor**	**78.86**	**37**	P	**P**	**10 50 03.8**	**0.0**
NVAR	**Mina Array Bea**	**79.32**	**41**	P	**P**	**10 50 06.1**	**-0.2**
	0.9nm,0.7s,mb3.8,baz=218,slow=8.5,SNR=6.6						
NVAR	**Mina Array Bea**	**79.32**	**41**	P	**P**	**10 50 06.1**	**-0.2**
USHA	**Ushuaia**	**81.39**	**146**	LR	LR	11 18 00.5	
	comp=Z,173nm,18.6s,MS4.4,baz=52,slow=30						
MAW	**Mawson**	**81.87**	**199**	P	**P**	**10 50 19.9**	**+0.3**
	3.3nm,0.9s,mb4.2,baz=102,slow=10,SNR=4.8						
MAW	**Mawson**	**81.87**	**199**	P	**P**	**10 50 19.9**	**+0.3**
TXAR	**Lajitas Array**	**84.61**	**56**	P	**P**	**10 50 33.6**	**-0.7**
	0.1nm,0.6s,mb3.1,baz=108,slow=2.9,SNR=3.3						
TXAR	**Lajitas Array**	**84.61**	**56**	P	**P**	**10 50 33.6**	**-0.7**
ILAR	**Eielson Array**	**88.48**	**11**	P	**P**	**10 50 52.2**	**-0.2**
	0.7nm,1.0s,mb3.8,baz=231,slow=5.9,SNR=7.5						
ILAR	**Eielson Array**	**88.48**	**11**	P	**P**	**10 50 52.2**	**-0.2**
CMAR	**Chiang Mai Arr**	**93.76**	**288**	P	**P**	**10 51 17.6**	**-0.5**
	0.4nm,0.3s,mb4.3,baz=100,slow=2.1,SNR=2.5						
CMAR	**Chiang Mai Arr**	**93.76**	**288**	P	**P**	**10 51 17.6**	**-0.5**
AKASG	**Malin Array Be**	**145.48**	**333**	PKPbc	PKPbc	10 57 38.6	+0.1
	1.4nm,0.5s,baz=38,slow=4.0,SNR=11						
AKASG	**Malin Array Be**	**145.48**	**333**	PKPbc	PKPbc	10 57 38.6	+0.1
BUR08	**Bucovina Ar. S**	**149.52**	**334**	*e*PKPbc	PKPbc	10 57 51.8	+2.1
KOLS	**Kolonicke sedl**	**149.56**	**338**	*e*PKP	PKPab	10 57 56.1	+1.3
CLL	**Collm**	**149.65**	**351**	⇓*i*PKPbc	PKPbc	10 57 50.4	+0.5
	comp=Z,5.0nm,0.7s						
BR131	**Keskin Array S**	**150.06**	**314**	*e*PKPbc	PKPbc	10 57 51.9	+0.6
BRTR	**Keskin Array B**	**150.06**	**314**	PKPbc	PKPbc	10 57 51.9	+0.5
	comp=Z,1.9nm,0.8s,baz=116,slow=2.9,SNR=10						
BRTR	**Keskin Array B**	**150.06**	**314**	PKPbc	PKPbc	10 57 51.9	+0.5
KECS	**Kecovo**	**150.55**	**340**	*e*PKP	PKPbc	10 57 53.9	+1.7
VYHS	**Vyhne**	**151.04**	**342**	*e*PKP	PKPbc	10 57 54.4	+1.1
KHC	**Kasperske Hory**	**151.67**	**349**	⇑*e*PKP	PKPbc	10 57 55.0	+0.2
GERES	**GERESS Array B**	**151.92**	**349**	PKPbc	PKPbc	10 57 55.7	+0.3
	comp=Z,0.8nm,0.7s,baz=330,slow=1.9,SNR=9.0						
GERES	**GERESS Array B**	**151.92**	**349**	PKPbc	PKPbc	10 57 55.7	+0.3
TORD	**Torodi Ar. Bea**	**170.89**	**154**	PKP	PKPdf	10 58 07.7	-1.9
	comp=Z,0.2nm,0.5s,baz=39,slow=1.2,SNR=4.0						
TORD				PKPab	PKPab	10 59 25.6	-2.3
	comp=Z,0.9nm,0.9s,baz=233,slow=3.0,SNR=4.3						
TORD	**Torodi Ar. Bea**	**170.89**	**154**	PKP	PKPdf	10 58 07.7	-1.9
TORD				PKPab	PKPab	10 59 25.6	-2.3

GUC 02 10:51:48.2±0.6, 30°.98S×71°.11W, h66km±3km, MD3.5, ML3.2, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.22**	**155**	⇑*i*P	Pn	10 51 58.7	+0.3
CMCH				*i* S	Sn	10 52 06.7	+0.9
CMCH				AML	AML	10 52 08.2	
	comp=E,8μm,0.5s						
CHNG	**Los Chungos**	**0.96**	**200**	⇓*i*P	Pn	10 52 06.5	+0.4
CHNG				*i* S	Sn	10 52 19.7	+0.5
CHNG				AML	AML	10 52 20.8	
	comp=E,487nm,0.2s						
ROCH	**El Roble**	**1.99**	**178**	*e*P	Pn	10 52 20.7	+1.0
ROCH				*e*S	Sn	10 52 45.5	+1.9
ROCH				AML	AML	10 52 50.6	
	comp=N,150nm,0.4s						
PEL	**Peldehue**	**2.19**	**171**	⇑*i*P	Pn	10 52 23.0	+0.6
PEL				*i* S	Sn	10 52 49.1	+0.7
PEL				AML	AML	10 52 55.5	
	comp=N,254nm,0.6s						
VACH	**Vallenar**	**2.41**	**7**	*e*P	Pn	10 52 25.3	0.0
VACH				*i* S	Sn	10 52 54.6	+0.8
FCH	**Farellones**	**2.45**	**164**	*e*P	Pn	10 52 27.2	+1.4
FCH				*e*S	Sn	10 52 56.5	+1.9
FCH				AML	AML	10 53 07.1	
	comp=E,90nm,0.2s						
CLCH	**Cerro Calan**	**2.46**	**169**	*e*S	Sn	10 52 56.2	+1.2
CLCH				AML	AML	10 53 07.4	
	comp=E,200nm,0.4s						

IDC 02 10:56:36.3±3.9, 30°.41N×67°.84E, h0km, mb3.6/4, mb1 3.8/6, mb1mx3.4/28, mbtmp3.7/6, ML3.4/2, Error ellipse: s-maj=124.3km s-min=25.8km az=84.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**13.31**	**22**	Pn	Pn	10 59 47.8	+1.4
	0.0nm,0.3s,baz=212,slow=3.2,SNR=6.0						
MKAR	**Makanchi Array**	**19.82**	**30**	P	Pn	11 01 08.1	-1.7
	0.1nm,0.3s,baz=218,slow=12,SNR=3.5						
BVAR	**Borovoye Array**	**22.67**	**4**	P	P	11 01 38.4	-0.6
	1.3nm,0.7s,baz=181,slow=12,SNR=8.0						
ZALV	**Zalesovo Beam**	**26.54**	**23**	P	P	11 02 16.8	+1.3
	0.9nm,0.6s,baz=229,slow=11,SNR=4.1						
WRA	**Warramunga Arr**	**81.19**	**119**	P	P	11 08 54.0	-0.1
	0.5nm,0.9s,baz=322,slow=5.0,SNR=3.9						
ASAR	**Alice Springs**	**83.09**	**122**	P	P	11 09 04.3	+0.2
	0.2nm,0.7s,baz=309,slow=5.3,SNR=4.9						

IDC ***02*** *10:59:05.7±3.1, 37°.87S×177°.00E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/15, mbtmp4.0/3, Error ellipse: s-maj=84.8km s-min=13.1km az=59.0*
ISCJB ***02*** *10:59:07.6±0.4, 37°.75S±0°.03×176°.77E±0°.03, h19km±3km, mb3.9/4, Error ellipse: s-maj=4.5km s-min=4.3km az=140.2*
WEL ***02*** *10:59:08.0±0.1, 37°.77S×176°.80E, h5km, ML4.3/33, Error ellipse: s-maj=0.7km s-min=0.7km az=0.0*
WEL Felt in the Bay of Plenty region, maximum reported intensity MM 5.
NEIC ***02*** *10:59:08.0, 37°.77S×176°.80E, h5km, mb4.1/1, ML4.3(WEL), After WEL.*
NEIC Felt in the Bay of Plenty area.

ISC 02 10:59:07.7±0.4, 37°.76S±0°.03×176°.77E±0°.03, h15km±3km, n68, σ0°88/70, mb3.9/4, 5C-1D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.19**	**241**	⇓PG	**Pg**	**10 59 12.3**	**+0.1**
OPRZ				SG	**Sg**	**10 59 15.3**	**0.0**
MARZ	**Manawahe**	**0.24**	**197**	⇑PG	**Pg**	**10 59 13.0**	**0.0**
MARZ				SG	**Sg**	**10 59 16.7**	**0.0**
EDRZ	**Edgecumbe**	**0.35**	**184**	⇑PG	**Pg**	**10 59 14.9**	**0.0**
LIRZ	**Lichensteins R**	**0.39**	**230**	PG	**Pg**	**10 59 16.4**	**+0.8**
TGRZ	**Tauranga**	**0.40**	**273**	PG	**Pg**	**10 59 16.6**	**+0.8**
WIZ	**White Island**	**0.40**	**56**	⇑PG	**Pg**	**10 59 16.0**	**+0.2**
WIZ				SG	**Sg**	**10 59 21.2**	**-0.1**
MKRZ	**Makatiti**	**0.45**	**212**	PG	**Pg**	**10 59 17.6**	**+0.9**
OMRZ	**Omania**	**0.47**	**221**	PG	**Pg**	**10 59 17.6**	**+0.5**
KARZ	**Kaharoa**	**0.49**	**237**	PG	**Pg**	**10 59 18.3**	**+0.8**
TARZ	**Mount Tarawera**	**0.52**	**203**	PG	**Pg**	**10 59 18.7**	**+0.7**
URZ	**Urewera**	**0.57**	**152**	PG	**Pg**	**10 59 18.5**	**-0.5**
URZ	**Urewera**	**0.57**	**152**	Pn	**Pg**	**10 59 18.5**	**-0.5**
	326nm,0.3s,baz=285,slow=9.2,SNR=2088						
URZ				Sn	**Sg**	**10 59 26.7**	**0.0**
	491nm,0.3s,baz=156,slow=18,SNR=28						
URZ	**Urewera**	**0.57**	**152**	*e*Pg	**Pg**	**10 59 18.3**	**-0.7**
RRRZ	**Republican Roa**	**0.62**	**199**	P*	**Pb**	**10 59 19.9**	**-0.3**
UTU	**Utuhina**	**0.62**	**227**	P*	**Pb**	**10 59 20.8**	**+0.6**
MYRZ	**Mayor Island**	**0.63**	**318**	⇑P*	**Pb**	**10 59 20.9**	**+0.5**
HRRZ	**Handcock Road**	**0.74**	**211**	P*	**Pb**	**10 59 22.7**	**+0.4**
PRRZ	**Plateau Road**	**0.80**	**202**	P*	**Pb**	**10 59 23

WCZ	**Waipu Caves**	**2.68**	**312**	PN	Pn	11 03 49.1	-2.3

*NNC **02** 11:05:14.9±2.0, 39.80N×73.49E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=16.2km s-min=7.1km az=6.0*
ISC 02 11:05:38.6±3.3, **41.3N**±0.2×**74.02E**±0.10, **h10**km, **n12**, σ0:**96**/13, **5C-3D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=67	**0.89**	**344**	P	**Pg**	**11 05 56.0**	**+0.3**
UCH	**Uchtor** SNR=8.9	**1.02**	**21**	P	**Pg**	**11 06 03.0**	**+4.7**
KZA	**Kyzart** SNR=7.5	**1.22**	**48**	P	**Pn**	**11 06 03.1**	**+1.4**
EKS2	**Erkin-Say** SNR=12	**1.40**	**353**	P	**Pn**	**11 06 05.4**	**+1.3**
AAK	**Ala-Archa** SNR=19	**1.40**	**14**	P	**Pn**	**11 06 03.5**	**-0.6**
KBK	**Karagaybulak** SNR=20	**1.54**	**26**	P	**Pn**	**11 06 05.6**	**-0.5**
CHMS	**Chumysh** SNR=7.4	**1.81**	**17**	P	**Pn**	**11 06 10.9**	**+1.1**
ULHL	**Ulahol** SNR=5.8	**1.92**	**59**	P	**Pn**	**11 06 11.4**	**0.0**
TKM2	**Tokmak 2**	**2.02**	**35**	⇑Pn	**Pn**	**11 06 11.1**	**-1.6**
TKM2				⇑Pg	**Pg**	**11 06 17.7**	**+0.4**
TKM2				⇑Lg		11 07 06.5	
USP	**Ospenovka** SNR=11	**2.02**	**10**	P	Px	11 05 56.9	
KNDC	**Almaty** 30nm,0.6s	**2.92**	**47**	⇓Pg	**Pg**	**11 06 33.4**	**-1.2**
KNDC				⇑Lg		11 07 33.0	
KK31	**Karatay Array** 4.5nm,0.4s,baz=142,slow=13,SNR=45	**3.19**	**306**	⇑Pn	**Pn**	**11 06 17.5**	**-11**
KK31				⇓Sn	**Sn**	**11 07 06.0**	**-0.7**
	5.6nm,0.2s,baz=166,slow=22,SNR=3.8						
KK31				⇓Lg		11 07 21.1	
	11nm,0.3s,baz=136,slow=30,SNR=7.1						

*ATH **02** 11:07:32.3, 40.23N×25.17E, h23km±2km, MD2.9/5*
*ISCJB **02** 11:07:33.6±1.0, 40.22N±0.03×25.18E±0.04, h14km±7km, Error ellipse: s-maj=6.2km s-min=5.1km az=43.0*
*CSEM **02** 11:07:33.5±0.2, 40.20N×25.24E, h20km, MD2.9, Error ellipse: s-maj=7.1km s-min=6.1km az=73.0*
*THE **02** 11:07:34.0, 40.22N×25.26E, h7km±18km, ML2.2/2, Error ellipse: s-maj=18.7km s-min=0.6km az=158.0*
*DDA **02** 11:07:35.4, 40.29N×25.53E, h5km±2km, Md2.8*
ISC 02 11:07:33.4±0.6, **40.24N**±0.03×**25.19E**±0.04, **h13**km±5km, **n21**, σ1:**23**/35, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.34**	**181**	*e*PB	**Pg**	**11 07 40.6**	**+0.3**
LIA				*e*SB	**Sg**	**11 07 45.1**	**+0.1**
LIA	**Limnos Island**	**0.34**	**181**	P	**Pg**	**11 07 40.6**	**+0.3**
LIA				S	**Sg**	**11 07 45.4**	**+0.4**
LIA	**Limnos Island**	**0.34**	**181**	P	**Pg**	**11 07 40.6**	**+0.3**
LIA				*e*Sb	**Sg**	**11 07 45.1**	**+0.1**
LIA				S	**Sg**	**11 07 45.4**	**+0.4**
BOZC	**Bozcaada**	**0.77**	**121**	*i* P	**Pg**	**11 07 47.4**	**-1.0**
BOZC				*i* S	**Sg**	**11 07 57.5**	**-1.0**
KAVA	**Kavala**	**0.91**	**326**	P	**Pg**	**11 07 52.3**	**+1.2**
KAVA	**Kavala**	**0.91**	**326**	P	**Pg**	**11 07 52.3**	**+1.2**
ALN	**Alexandroupoli**	**0.92**	**45**	*e*PN	**Pg**	**11 07 50.6**	**-0.6**
ALN				*e*SN	**Sn**	**11 08 03.0**	**-2.2**
ALN	**Alexandroupoli**	**0.92**	**45**	P	**Pg**	**11 07 50.6**	**-0.6**
ALN				S	**Sg**	**11 08 03.9**	**+0.6**
ALN	**Alexandroupoli**	**0.92**	**45**	P	**Pg**	**11 07 50.6**	**-0.6**
ALN				*e*Sn	**Sn**	**11 08 03.0**	**-2.2**
OUR	**Ouranopolis**	**0.93**	**276**	P	**Pg**	**11 07 52.1**	**+0.7**
OUR	**Ouranopolis**	**0.93**	**276**	P	**Pg**	**11 07 52.1**	**+0.7**
PRK	**Paraskevi**	**1.30**	**140**	*e*PN	**Pn**	**11 07 56.3**	**-0.9**
PRK				*e*SN	**Sn**	**11 08 15.5**	**+1.1**
PRK	**Paraskevi**	**1.30**	**140**	*e*Pn	**Pn**	**11 07 56.3**	**-0.9**
PLG	**Polygyros**	**1.34**	**276**	*e*PN	**Pn**	**11 07 56.5**	**-1.4**
PLG				*e*SN	**Sn**	**11 08 15.2**	**-0.4**
PLG	**Polygyros**	**1.34**	**276**	*e*Pn	**Pn**	**11 07 56.5**	**-1.4**
PLG				*e*Sn	**Sn**	**11 08 15.2**	**-0.4**
NVR	**Nevrokopi**	**1.50**	**318**	*e*PN	**Pn**	**11 08 00.2**	**+0.2**
NVR	**Nevrokopi**	**1.50**	**318**	*e*Pn	**Pn**	**11 08 00.2**	**+0.2**
BALY	**Balya**	**1.93**	**104**	*i* P	**Pn**	**11 08 08.6**	**+2.6**
BALY				*i* S	**Sn**	**11 08 31.9**	**+1.8**
BALY	**Balya**	**1.93**	**104**	*i* P	**Pn**	**11 08 08.6**	**+2.6**
BALY				*i* S	**Sn**	**11 08 31.9**	**+1.8**
CHOS	**Chios island**	**1.97**	**160**	*e*PB	**Pb**	**11 08 06.1**	**-3.0**
DURS	**Dursunbey**	**2.60**	**103**	*i* P	**Pn**	**11 08 20.6**	**+5.4**
DURS				*i* S	**Sn**	**11 08 52.5**	**+5.8**

TRN 02 11:13:14.6, 17.08N×62.37W, h13km, **MD2.9, M3.5**(FDF), **Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBRV		**0.31**	**147**	*e*P	Pg	11 13 22.7	+1.7
MBGB		**0.37**	**158**	*i* P	Pg	11 13 24.0	+2.0
MBWH		**0.38**	**152**	*i* P	Pg	11 13 23.8	+1.7
MLYT	**Lee's Yard**	**0.39**	**154**	*i* P	Pg	11 13 24.3	+1.9
SKI	**Saint Kitts**	**0.43**	**306**	*e*P	Pg	11 13 25.9	+2.8
SKI				*e*S	Sg	11 13 32.5	+3.5
BPA	**Boggy Peak**	**0.49**	**93**	*e*P	Pg	11 13 27.5	+3.1
BPA				*e*S	Sg	11 13 34.8	+3.8
BCG	**Bois Riant Cap**	**1.22**	**144**	*e*P	Pn	11 13 39.2	+1.8
DOG	**Dongo Capester**	**1.27**	**145**	*e*P	Pn	11 13 40.0	+2.0
DEG	**La Desirade**	**1.47**	**121**	*e*P	Pn	11 13 42.4	+1.6
DEG				*e*S	Sn	11 14 01.1	+1.3

*ISCJB **02** 11:20:24.7±0.5, 40.89N±0.03×28.74E±0.04, h4km±7km, Error ellipse: s-maj=6.1km s-min=4.6km az=144.1*
*DDA **02** 11:20:24.4, 40.92N×28.75E, h7km±2km, Md2.7*
*ISK **02** 11:20:24.4, 40.87N×28.75E, h16km, MD2.7*
*CSEM **02** 11:20:25.1±0.2, 40.89N×28.74E, h5km, MD2.7, Error ellipse: s-maj=4.0km s-min=3.3km az=83.0*
ISC 02 11:20:25.1±0.5, **40.89N**±0.03×**28.73E**±0.04, **h7**km±6km, **n34**, σ0:**64**/44, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGKT	**Bogazkoy**	**0.30**	**7**	*e*PG	**Pg**	**11 20 31.5**	**+0.6**
BGKT	**Bogazkoy**	**0.30**	**7**	*e*Pg	**Pg**	**11 20 31.5**	**+0.6**
BUY	**Buyukada**	**0.30**	**96**	*i* P	**Pg**	**11 20 30.7**	**-0.2**
BUY	**Buyukada**	**0.30**	**96**	*i* P	**Pg**	**11 20 30.7**	**-0.2**
ARMT	**Armutlu**	**0.34**	**162**	PG	**Pg**	**11 20 31.5**	**-0.1**
ARMT				*e*SG	**Sg**	**11 20 36.4**	**+0.4**
ARMT	**Armutlu**	**0.34**	**162**	*i* Pg	**Pg**	**11 20 31.5**	**-0.1**
ARMT				*e*Sg	**Sg**	**11 20 36.4**	**+0.4**
ELBA	**Catalca**	**0.34**	**319**	*i* P	**Pg**	**11 20 31.1**	**-0.7**
ELBA				*i* S	**Sg**	**11 20 36.2**	**-0.2**
ELBA	**Catalca**	**0.34**	**319**	*i* P	**Pg**	**11 20 31.1**	**-0.7**
ELBA				*i* S	**Sg**	**11 20 36.2**	**-0.2**
CTKS	**Kestanelik-??a**	**0.39**	**335**	*e*PG	**Pg**	**11 20 32.8**	**+0.1**
CTKS	**Kestanelik-??a**	**0.39**	**335**	*e*Pg	**Pg**	**11 20 32.8**	**+0.1**
KLYT	**Kilyos**	**0.44**	**33**	*e*PG	**Pg**	**11 20 33.6**	**0.0**
KLYT	**Kilyos**	**0.44**	**33**	*e*Pg	**Pg**	**11 20 33.6**	**0.0**
SLVT	**Silivri**	**0.52**	**312**	*e*PG	**Pg**	**11 20 35.6**	**+0.4**
SLVT	**Silivri**	**0.52**	**312**	*e*Pg	**Pg**	**11 20 35.6**	**+0.4**
MDNY	**Mudanya-Bursa**	**0.53**	**167**	*e*PG	**Pg**	**11 20 35.0**	**-0.3**
MDNY	**Mudanya-Bursa**	**0.53**	**167**	*e*Pg	**Pg**	**11 20 35.0**	**-0.3**
GEMT	**Gemlik**	**0.57**	**142**	*e*PG	**Pg**	**11 20 35.6**	**-0.5**
GEMT	**Gemlik**	**0.57**	**142**	*e*Pg	**Pg**	**11 20 35.6**	**-0.5**
KCTX	**Karacabey (Bur**	**0.68**	**205**	*e*PG	**Pg**	**11 20 38.1**	**0.0**
KCTX	**Karacabey (Bur**	**0.68**	**205**	*e*Pg	**Pg**	**11 20 38.2**	**0.0**
HRT	**Hereke**	**0.72**	**95**	*e*PG	**Pg**	**11 20 38.3**	**-0.5**
HRT	**Hereke**	**0.72**	**95**	*e*Pg	**Pg**	**11 20 38.3**	**-0.5**
SILT	**Sile**	**0.74**	**69**	*e*PG	**Pg**	**11 20 38.9**	**-0.5**
SILT	**Sile**	**0.74**	**69**	*e*Pg	**Pg**	**11 20 38.9**	**-0.5**
BNT	**Bandirma**	**0.81**	**230**	*e*PG	**Pg**	**11 20 41.1**	**+0.4**
BNT	**Bandirma**	**0.81**	**230**	*e*Pg	**Pg**	**11 20 41.1**	**+0.4**
KRBG	**Karabiga-Canak**	**1.19**	**246**	*e*PN	**Pn**	**11 20 47.2**	**-1.1**
KRBG	**Karabiga-Canak**	**1.19**	**246**	*e*Pn	**Pn**	**11 20 47.2**	**-1.0**
DURS	**Dursunbey**	**1.30**	**189**	*i* P	**Pg**	**11 20 51.6**	**+1.6**
DURS				*i* S	**Sg**	**11 21 05.9**	**-0.9**
DURS	**Dursunbey**	**1.30**	**189**	*i* P	**Pg**	**11 20 51.6**	**+1.6**
DURS				*i* S	**Sg**	**11 21 05.9**	**-0.9**
BALY	**Balya**	**1.42**	**217**	*i* P	**Pn**	**11 20 52.0**	**+0.6**
BALY				*i* S	**Sb**	**11 21 09.8**	**-0.5**
BORA	**Eskisehir**	**1.66**	**127**	*i* P	**Pn**	**11 20 55.9**	**+1.3**
BORA				*i* S	**Sn**	**11 21 15.9**	**-0.2**
BORA	**Eskisehir**	**1.66**	**127**	*i* P	**Pn**	**11 20 55.9**	**+1.3**
BORA				*i* S	**Sn**	**11 21 15.9**	**-0.2**

*ISCJB **02** 11:31:09.5±0.4, 40.39N±0.02×27.43E±0.04, h7km±5km, Error ellipse: s-maj=4.7km s-min=3.9km az=158.4*
*CSEM **02** 11:31:09.7±0.1, 40.40N×27.44E, h8km±1km, MD2.7, Error ellipse: s-maj=2.0km s-min=1.5km az=49.0*
*DDA **02** 11:31:09.4, 40.39N×27.43E, h7km±3km, Md2.7*
*ISK **02** 11:31:09.5, 40.40N×27.43E, h6km, MD2.7*
ISC 02 11:31:09.7±0.4, **40.39N**±0.02×**27.43E**±0.03, **h10**km±4km, **n44**, σ0:**43**/57, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBG	**Karabiga-Canak**	**0.10**	**269**	*e*Pg	**Pg**	**11 31 12.3**	**0.0**
RKY	**Sarkoy-Tekirda**	**0.35**	**327**	*e*PG	**Pg**	**11 31 16.6**	**0.0**
RKY				*e*SG	**Sg**	**11 31 22.1**	**+0.7**
RKY	**Sarkoy-Tekirda**	**0.35**	**327**	*e*Pg	**Pg**	**11 31 16.6**	**-0.1**
RKY				*e*Sg	**Sg**	**11 31 22.1**	**+0.7**
SART	**Tekirdag**	**0.35**	**327**	*i* P	**Pg**	**11 31 16.4**	**-0.2**
SART				*i* S	**Sg**	**11 31 21.4**	**0.0**
SART	**Tekirdag**	**0.35**	**327**	*i* P	**Pg**	**11 31 16.4**	**-0.3**
SART				*i* S	**Sg**	**11 31 21.4**	**0.0**
GONE	**Gonen-Balikesi**	**0.40**	**151**	*e*PG	**Pg**	**11 31 17.9**	**+0.4**
GONE	**Gonen-Balikesi**	**0.40**	**151**	*e*Pg	**Pg**	**11 31 17.9**	**+0.4**
MFT	**Murefte**	**0.41**	**344**	*e*PG	**Pg**	**11 31 18.1**	**+0.4**
MFT	**Murefte**	**0.41**	**344**	*e*Pg	**Pg**	**11 31 18.1**	**+0.3**
LPK	**Lapseki**	**0.51**	**268**	*e*PG	**Pg**	**11 31 19.9**	**+0.2**
LPK	**Lapseki**	**0.51**	**268**	*e*Pg	**Pg**	**11 31 19.9**	**+0.2**
BALY	**Balya**	**0.67**	**167**	*i* P	**Pg**	**11 31 22.6**	**-0.1**
BALY				*i* S	**Sg**	**11 31 31.6**	**+0.2**
BALY	**Balya**	**0.67**	**167**	*i* P	**Pg**	**11 31 22.6**	**-0.1**
BALY				*i* S	**Sg**	**11 31 31.6**	**+0.2**
KCTX	**Karacabey (Bur**	**0.72**	**100**	*e*PG	**Pg**	**11 31 23.5**	**-0.1**
KCTX	**Karacabey (Bur**	**0.72**	**100**	*e*Pg	**Pg**	**11 31 23.5**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.73**	**271**	*e*PG	**Pg**	**11 31 23.9**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.73**	**271**	*e*Pg	**Pg**	**11 31 23.9**	**+0.1**
ERIK	**Erikli-Kesan**	**0.75**	**292**	*e*PG	**Pg**	**11 31 24.1**	**-0.1**
ERIK	**Erikli-Kesan**	**0.75**	**292**	*e*Pg	**Pg**	**11 31 24.1**	**-0.1**
BALB	**Balikesir**	**0.83**	**155**	*e*PG	**Pg**	**11 31 26.1**	**+0.4**
BALB	**Balikesir**	**0.83**	**155**	*e*Pg	**Pg**	**11 31 26.1**	**+0.4**
ENEZ	**Enez**	**1.03**	**290**	*e*PG	**Pg**	**11 31 29.5**	**0.0**
ENEZ	**Enez**	**1.03**	**290**	*e*Pg	**Pg**	**11 31 29.5**	**-0.1**
ELBA	**Catalca**	**1.07**	**45**	*i* P	**Pg**	**11 31 29.7**	**-0.6**
ELBA				*i* S	**Sg**	**11 31 43.1**	**-1.1**
ELBA	**Catalca**	**1.07**	**45**	*i* P	**Pg**	**11 31 29.7**	**-0.6**
ELBA				*i* S	**Sg**	**11 31 43.1**	**-1.1**
ARMT	**Armutlu**	**1.10**	**81**	*e*PN	**Pn**	**11 31 30.9**	**-0.4**
ARMT	**Armutlu**	**1.10**	**81**	*e*Pn	**Pn**	**11 31 30.9**	**-0.4**
MDNY	**Mudanya-Bursa**	**1.11**	**91**	*e*PN	**Pn**	**11 31 31.2**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.11**	**91**	*e*Pn	**Pn**	**11 31 31.2**	**-0.2**
DURS	**Dursunbey**	**1.13**	**134**	*i* P	**Pb**	**11 31 31.1**	**-0.2**
DURS				*i* S	**Sb**	**11 31 46.7**	**+0.7**
DURS	**Dursunbey**	**1.13**	**134**	*i* P	**Pb**	**11 31 31.1**	**-0.2**
DURS				*i* S	**Sb**	**11 31 46.7**	**+0.7**
GADA	**Gvkgeada**	**1.19**	**261**	*e*PN	**Pn**	**11 31 32.6**	**+0.2**
GADA	**Gvkgeada**	**1.19**	**261**	*e*Pn	**Pn**	**11 31 32.6**	**+0.2**
BOZC	**Bozcaada**	**1.19**	**243**	*i* P	**Pb**	**11 31 31.9**	**-0.6**
BOZC				*i* S	**Sb**	**11 31 47.2**	**-0.7**
DST	**Dursunbey**	**1.21**	**130**	*e*PN	**Pn**	**11 31 32.8**	**+0.1**
DST	**Dursunbey**	**1.21**	**130**	*e*Pn	**Pn**	**11 31 32.8**	**+0.1**
AYVA	**Ayvalik**	**1.23**	**208**	*i* P	**Pn**	**11 31 32.6**	**-0.3**
AYVA				*i* S	**Sb**	**11 31 48.6**	**-0.3**
AYVA	**Ayvalik**	**1.23**	**208**	*i* P	**Pn**	**11 31 32.7**	**-0.2**
AYVA				*i* S	**Sb**	**11 31 48.6**	**-0.3**
CTYL	**Yal??k??y-??at**	**1.26**	**31**	*e*PN	**Pn**	**11 31 33.5**	**+0.1**
CTYL	**Yal??k??y-??at**	**1.26**	**31**	*e*Pn	**Pn**	**11 31 33.6**	**+0.2**
BGKT	**Bogazkoy**	**1.29**	**52**	*e*PN	**Pn**	**11 31 34.5**	**+0.7**
BGKT	**Bogazkoy**	**1.29**	**52**	*e*Pn	**Pn**	**11 31 34.5**	**+0.7**
EDRB	**Edirne**	**1.54**	**341**	*e*PN	**Pn**	**11 31 38.2**	**+0.9**
EDRB	**Edirne**	**1.54**	**341**	*e*Pn	**Pn**	**11 31 38.2**	**+0.9**

IDC 02 11:44:52.5±1.1, **32.79N**×**90.18E, h0**km, **mb3.6**/5, **mb1 3.8**/8, **mb1mx3.6**/25, **mbtmpg3.6**/8, **ML3.5/2, Error ellipse: s-maj=51.5km s-min=20.0km az=63.0, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**15.23**	**339**	Pn	Pn	11 48 25.5	-3.3
	0.2nm,0.3s,baz=143,slow=12,SNR=8.5						
CMAR	**Chiang Mai Arr**	**16.30**	**149**	Pn	Pn	11 48 44.5	+1.7
	0.1nm,0.3s,baz=333,slow=11,SNR=3.1						
KURK	**Kurchatov**	**19.84**	**338**	P	Pn	11 49 24.5	-1.8
	baz=149,slow=11,SNR=2.3						
ZALV	**Zalesovo Beam**	**21.49**	**351**	P	P	11 49 43.9	+1.2
	0.4nm,0.3s,baz=180,slow=5.8,SNR=3.3						
WRA	**Warramunga Arr**	**67.31**	**135**	P	P	11 55 49.1	-0.2
	1.0nm,1.0s,baz=324,slow=5.9,SNR=5.8						
ASAR	**Alice Springs**	**69.94**	**138**	P	P	11 56 06.2	+0.5
	0.5nm,0.7s,baz=320,slow=6.2,SNR=7.5						
ILAR	**Eielson Array**	**73.10**	**22**	P	P	11 56 23.5	-0.7
	0.2nm,0.5s,baz=280,slow=4.8,SNR=4.4						
TORD	**Torodi Ar. Bea**	**81.75**	**280**	P	P	11 57 13.3	-0.2
	0.6nm,0.6s,baz=49,slow=5.4,SNR=4.7						

*NIED **02** 11:45:00, 35.80N×141.00E, h23km, Mw3.6 Best double couple: M0 2.82000×10^14 NP1:φs=39.00000°, δ65.00000°, λ=-131.00000°. NP2:φs=283.00000°, δ47.00000°, λ=-35.00000°.*
*IDC **02** 11:45:35.4±2.1, 35.87N×141.30E, h0km, mb3.6/2, mb1 3.6/5, mb1mx3.3/27, mbtmp3.6/5, ML3.0/3, Error ellipse: s-maj=47.2km s-min=26.1km az=79.0*
*ISCJB **02** 11:45:37.4±1.1, 35.86N±0.04×141.20E±0.08, h27km±6km, mb3.6/2, Error ellipse: s-maj=11.2km s-min=6.3km az=175.4*
*JMA **02** 11:45:39.5±0.2, 35.82N×141.04E, h25km±1km, M3.4*
JMA Felt I J1.
ISC 02 11:45:38.2±1.2, **35.86N**±0.04×**141.16E**±0.07, **h19**km±5km, **n11**, σ0:**83**/19, **mb3.6**/2, **2C-2D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.28**	**238**	⇓P	**Pg**	**11 45 44.8**	**+0.2**
CHOJ				S	**Sg**	**11 45 48.3**	**-0.6**
JYT	**Yasato**	**0.86**	**296**	⇑P	**Pb**	**11 45 53.9**	**-0.7**
JYT				S	**Sb**	**11 46 05.4**	**-0.3**
JHO	**Hitachi**	**0.89**	**328**	⇑P	**Pb**	**11 45 55.4**	**+0.4**
JHO				S	**Sb**	**11 46 06.9**	**+0.4**
JCN	**Nagara**	**0.89**	**241**	⇓P	**Pb**	**11 45 55.4**	**+0.4**
JCN				S	**Sb**	**11 46 07.8**	**+1.3**
BSO3	**Boso 3**	**1.18**	**207**	P	**Pn**	**11 45 58.7**	**-0.9**
BSO3				S	**Sb**	**11 46 15.2**	**+0.5**
MJAR	**Matsushiro Arr**	**2.48**	**287**	Pn	**Pn**	**11 46 17.2**	**-0.3**
	2.6nm,0.3s,baz=206,slow=2.7,SNR=42						
MJAR				Sn	**Sn**	**11 46 46.9**	**-0.4**
	3.2nm,0.3s,baz=171,slow=39,SNR=5.7						
MAT	**Matsushiro**	**2.48**	**287**	P	**Pn**	**11 46 17.7**	**+0.1**
MAT				S	**Sn**	**11 46 46.9**	**-0.4**
JHJ	**Hachijo jima 2**	**2.96**	**203**	Pn	**Pn**	**11 46 25.7**	**+1.6**
	3.9nm,0.3s,baz=56,slow=18,SNR=4.6						
JHJ				Sn	**Sn**	**11 46 57.0**	**-2.1**
	9.9nm,0.3s,baz=252,slow=20,SNR=3.3						
ASAJ	**Asahikawa**	**8.32**	**7**	Pn	**Pn**	**11 47 37.0**	**-0.8**
	0.2nm,0.3s,baz=192,slow=19,SNR=3.1						
MKAR	**Makanchi Array**	**44.58**	**303**	P	**P**	**11 53 50.2**	**+1.4**
	0.4nm,0.2s,mb3.8,baz=91,slow=8.5,SNR=6.4						
WRA	**Warramunga Arr**	**55.87**	**188**	P	**P**	**11 55 14.5**	**-0.1**
	0.2nm,0.5s,mb3.4,baz=6.4,slow=7.8,SNR=5.3						

*IDC **02** 11:57:10.0±2.0, 18.34S×169.41E, h0km, mb4.0/7, mb1 4.1/7, mb1mx4.0/17, mbtmp3.9/7, Error ellipse: s-maj=67.1km s-min=26.9km az=141.0*
ISC 02 11:57:13.1±4.8, **18.4S**±0.3×**169.4E**±0.3, **h19**km±32km, **n8**, σ0:**52**/9, **mb3.9**/7, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOUC	**Port Laguerre**	**4.71**	**218**	*e*P	**Pg**	**11 58 43.4**	**-0.1**
NOUC				*e*S	**Sg**	**11 59 52.7**	**+8.2**
STKA	**Stephens Creek**	**28.45**	**236**	P	**P**	**12 03 07.4**	**+0.5**
	1.3nm,0.7s,mb3.7,baz=104,slow=9.9,SNR=3.9						
WRA	**Warramunga Arr**	**33.14**	**262**	P	**P**	**12 03 48.1**	**-0.3**
	0.3nm,0.3s,mb3.8,baz=82,slow=6.6,SNR=16						
ASAR	**Alice Springs**	**33.51**	**255**	P	**P**	**12 03 51.8**	**+0.2**
	1.8nm,0.7s,mb4.1,baz=83,slow=8.8,SNR=41						
PETK	**Petropavlovsk-**	**71.91**	**353**	P	**P**	**12 08 35.7**	**+1.0**
	2.7nm,0.8s,mb4.2,baz=134,slow=4.3,SNR=4.7						
CMAR	**Chiang Mai Arr**	**78.31**	**294**	P	**P**	**12 09 11.7**	**-0.7**
	0.8nm,0.8s,mb3.7,baz=126,slow=5.2,SNR=5.7						
SONM	**Songino Array**	**86.64**	**323**	P	**P**	**12 09 54.8**	**-0.4**
	0.5nm,0.6s,mb3.9,baz=38,slow=7.3,SNR=5.0						
TXAR	**Lajitas Array**	**96.21**	**61**	P	**P**	**12 10 40.0**	**-0.3**
	0.4nm,0.9s,mb3.9,baz=280,slow=7.2,SNR=3.5						

*ISK **02** 12:02:58.2, 40.10N×30.54E, h4km, MD2.7*
*ISCJB **02** 12:02:59.1±0.5, 40.11N±0.03×30.54E±0.04, h3km±8km, Error ellipse: s-maj=5.1km s-min=4.1km az=25.2*
*CSEM **02** 12:02:59.0±0.2, 40.13N×30.57E, h0km±3km, MD2.8, Error ellipse: s-maj=4.2km s-min=3.7km az=129.0*
*DDA **02** 12:02:59.5, 40.10N×30.54E, h7km±5km, Md2.8*
ISC 02 12:02:59.6±0.5, **40.12N**±0.03×**30.55E**±0.04, **h10**km±6km, **n27**, σ0:**85**/42, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GPA	**Golpazari**	**0.25**	**312**	PG	**Pg**	**12 03 04.1**	**-0.6**
GPA	**Golpazari**	**0.25**	**312**	*i* Pg	**Pg**	**12 03 04.1**	**-0.6**
BORA	**Eskisehir**	**0.25**	**197**	*i* P	**Pg**	**12 03 04.5**	**-0.3**
BORA				*i* S	**Sg**	**12 03 08.4**	**+0.1**
BORA	**Eskisehir**	**0.25**	**197**	*i* P	**Pg**	**12 03 04.5**	**-0.3**
BORA				*i* S	**Sg**	**12 03 08.4**	**+0.2**
GULT	**Gulveren**	**0.31**	**355**	*e*PG	**Pg**	**12 03 05.6**	**-0.2**
GULT				*e*SG	**Sg**	**12 03 10.9**	**+0.9**
GULT	**Gulveren**	**0.31**	**355**	*e*Pg	**Pg**	**12 03 05.6**	**-0.2**
GULT				*e*Sg	**Sg**	**12 03 10.9**	**+0.9**
CAVI	**Cavuskoy**	**0.55**	**279**	*e*PG	**Pg**	**12 03 09.6**	**-0.7**
CAVI				*e*SG	**Sg**	**12 03 17.9**	**+0.4**
CAVI	**Cavuskoy**	**0.55**	**279**	*e*Pg	**Pg**	**12 03 09.6**	**-0.7**
CAVI				*e*Sg	**Sg**	**12 03 17.9**	**+0.4**
MDU	**Mudurnu**	**0.61**	**56**	*e*PG	**Pg**	**12 03 11.1**	**-0.4**
MDU	**Mudurnu**	**0.61**	**56**	*e*Pg	**Pg**	**12 03 11.1**	**-0.4**
HENT	**Hendek**	**0.75**	**21**	*i* P	**Pg**	**12 03 12.4**	**-1.7**
HENT				*i* S	**Sg**	**12 03 26.3**	**+2.5**
HENT	**Hendek**	**0.75**	**21**	*i* P	**Pg**	**12 03 12.4**	**-1.7**
HRT	**Hereke**	**0.97**	**316**	*e*PG	**Pg**	**12 03 17.8**	**-0.5**
HRT	**Hereke**	**0.97**	**316**	*e*Pg	**Pg**	**12 03 17.8**	**-0.5**
ULDT	**Uludag**	**1.08**	**271**	*i* P	**Pg**	**12 03 19.6**	**-0.9**
ULDT				*i* S	**Sg**	**12 03 35.1**	**+0.6**
ULDT	**Uludag**	**1.08**	**271**	*i* P	**Pg**	**12 03 19.6**	**-0.9**
ULDT				*i* S	**Sg**	**12 03 35.1**	**+0.6**
SGKT	**Sivrigoynuk**	**1.24**	**68**	*i* P	**Pn**	**12 03 22.3**	**-0.5**
SGKT	**Sivrigoynuk**	**1.24**	**68**	*i* P	**Pn**	**12 03 22.3**	**-0.6**
GDZ	**Gediz**	**1.32**	**219**	*i* P	**Pn**	**12 03 23.6**	**-0.5**
GDZ				*i* S	**Sb**	**12 03 41.0**	**-0.4**
GDZ	**Gediz**	**1.32**	**219**	*i* P	**Pn**	**12 03 23.6**	**-0.5**
GDZ				*i* S	**Sb**	**12 03 41.0**	**-0.4**
BOLV	**Bolvadin**	**1.44**	**167**	*i* P	**Pg**	**12 03 27.4**	**+0.2**
BOLV				*i* S	**Sg**	**12 03 46.5**	**+0.7**
BOLV	**Bolvadin**	**1.44**	**167**	*i* P	**Pg**	**12 03 27.4**	**+0.2**
BOLV				*i* S	**Sg**	**12 03 46.5**	**+0.7**
KIZT	**Kizilcal**	**1.61**	**140**	*e*PN	**Pn**	**12 03 28.1**	**0.0**
KIZT	**Kizilcal**	**1.61**	**140**	*e*Pn	**Pn**	**12 03 28.1**	**+0.1**
DURS	**Dursunbey**	**1.68**	**253**	*i* P	**Pn**	**12 03 30.1**	**+1.1**
DURS		

0.8nm,0.7s,mb3.0,baz=111,slow=7.9,SNR=10
WRA Warramunga Arr 42.43 278 P **P** **12 16 53.8 +0.6**
1.0nm,0.7s,mb3.0,baz=120,slow=7.5,SNR=8.6
FINES FINESS Array B 148.50 336 PKPbc PKPbc 12 28 34.8 -2.3
2.6nm,0.9s,baz=31,slow=4.1,SNR=2.7

*ISCJB **02** 12:21:25.2±1.5,21°.95N±0°.08×143°.3E±0°.1, h199km±13km, mb3.8/19, Error ellipse: s-maj=22.0km s-min=12.8km az=173.2*
*IDC **02** 12:21:25.5±1.9,21°.93N×143°.30E, h189km±16km, mb3.5/14, mb1 3.7/16, mb1mx3.6/25, mbtmp3.5/16, Error ellipse: s-maj=18.9km s-min=11.7km az=85.0*
*NEIC **02** 12:21:25.9±2.6,21°.96N×143°.31E, h191km±24km, mb4.4/5, Error ellipse: s-maj=16.1km s-min=10.4km az=83.0*
ISC 02 12:21:26.1±1.5,21°.97N±0°.08×143°.3E±0°.1, h192km±13km, n45, σ0°92/40, mb3.8/19, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.21**	**349**	P	**Pn**	**12 22 44.1**	**+1.1**
	11nm,0.3s,baz=275,slow=23,SNR=7.7						
CBIJ				S	**Sn**	**12 23 42.6**	**-1.1**
	19nm,0.3s,baz=104,slow=18,SNR=10						
MJAR	**Matsushiro Arr**	**15.20**	**344**	P	**Pn**	**12 24 50.4**	**-0.5**
	0.4nm,0.3s,baz=158,slow=11,SNR=7.4						
MJAR	**Matsushiro Arr**	**15.20**	**344**	P	**Pn**	**12 24 50.5**	**-0.5**
JNU	**Nakatsue**	**15.66**	**318**	*e*P	**Pn**	**12 24 47.9**	**-8.7**
	3.4nm,0.6s						
KSRS	**Korea Array**	**20.39**	**323**	P	**P**	**12 25 50.9**	**+2.8**
	5.5nm,0.6s,baz=149,slow=9.0,SNR=28						
SONM	**Songino Array**	**39.23**	**320**	P	**P**	**12 28 36.3**	**+0.7**
	0.8nm,0.4s,mb3.6,baz=137,slow=7.5,SNR=11						
SONM	**Songino Array**	**39.23**	**320**	P	**P**	**12 28 36.3**	**+0.7**
WRAB	**Tennant Creek**	**42.56**	**193**	*e*P	**P**	**12 29 04.4**	**+1.4**
	1.4nm,0.3s,mb3.9						
WRA	**Warramunga Arr**	**42.57**	**193**	P	**P**	**12 29 03.0**	**-0.2**
	0.7nm,0.5s,mb3.4,baz=17,slow=9.0,SNR=8.5						
WRA				PcP	PcP	12 30 52.1	+0.2
	0.3nm,0.5s,baz=360,slow=3.0,SNR=4.7						
WRA				ScP	ScP	12 34 23.0	-1.5
	0.7nm,0.9s,baz=5.5,slow=4.9,SNR=4.5						
WRA	**Warramunga Arr**	**42.57**	**193**	P	**P**	**12 29 03.0**	**-0.2**
WRA				PcP	PcP	12 30 52.1	+0.2
WRA				ScP	ScP	12 34 23.0	-1.5
ASAR	**Alice Springs**	**46.28**	**192**	P	**P**	**12 29 30.6**	**-1.8**
	0.2nm,0.4s,mb2.8,baz=8.8,slow=6.5,SNR=9.6						
ASAR	**Alice Springs**	**46.28**	**192**	P	**P**	**12 29 30.6**	**-1.8**
STKA	**Stephens Creek**	**53.56**	**182**	P	**P**	**12 30 26.8**	**-0.3**
	2.0nm,0.8s,mb3.7,baz=352,slow=13,SNR=2.9						
ZALV	**Zalesovo Beam**	**54.09**	**322**	P	**P**	**12 30 30.4**	**-0.4**
	3.1nm,0.5s,mb4.1,baz=108,slow=7.9,SNR=15						
ZALV	**Zalesovo Beam**	**54.09**	**322**	P	**P**	**12 30 30.4**	**-0.4**
MK31	**Makanchi Array**	**54.62**	**312**	*e*P	**P**	**12 30 35.2**	**+0.5**
MKAR	**Makanchi Array**	**54.62**	**312**	P	**P**	**12 30 35.5**	**+0.8**
	1.4nm,0.5s,mb3.8,baz=91,slow=9.0,SNR=20						
MKAR				PcP	PcP	12 31 35.1	-0.1
	0.8nm,0.4s,baz=84,slow=3.4,SNR=10						
MKAR	**Makanchi Array**	**54.62**	**312**	P	**P**	**12 30 35.5**	**+0.8**
MKAR				PcP	PcP	12 31 35.1	-0.1
KURK	**Kurchatov**	**57.38**	**317**	*e*P	**P**	**12 30 54.0**	**-0.2**
	5.7nm,0.8s,mb4.2						
ILAR	**Eielson Array**	**61.74**	**27**	P	**P**	**12 31 23.2**	**-0.5**
	0.2nm,0.5s,mb3.0,baz=265,slow=4.8,SNR=3.9						
ILAR	**Eielson Array**	**61.74**	**27**	P	**P**	**12 31 23.2**	**-0.5**
BRVK	**Borovoye**	**62.63**	**319**	*e*P	**P**	**12 31 30.0**	**+0.1**
	7.4nm,0.9s,mb4.3						
KKAR	**Karatay Array**	**63.00**	**308**	*e*P	**P**	**12 31 33.2**	**+0.6**
ABKAR	**Akbulak array**	**69.46**	**316**	*e*P	**P**	**12 32 13.0**	**-0.4**
	5.3nm,0.5s,mb4.4						
YKA	**Yellowknife Ar**	**76.15**	**28**	P	**P**	**12 32 53.0**	**+0.5**
	2.3nm,0.5s,mb4.1,baz=291,slow=5.8,SNR=13						
YKA	**Yellowknife Ar**	**76.15**	**28**	P	**P**	**12 32 53.0**	**+0.5**
ARCES	**ARCESS Array B**	**78.72**	**342**	P	**P**	**12 33 06.4**	**-0.2**
	1.4nm,0.4s,mb3.9,baz=72,slow=8.1,SNR=19						
ARCES	**ARCESS Array B**	**78.72**	**342**	P	**P**	**12 33 06.4**	**-0.2**
JOF	**Joensuu**	**80.14**	**334**	*e*p	**P**	**12 33 13.7**	**-0.7**
	2.2nm,0.3s,mb4.3						
NVAR	**Mina Array Bea**	**82.86**	**52**	P	**P**	**12 33 30.4**	**+1.2**
	1.4nm,0.6s,mb3.9,baz=283,slow=5.4,SNR=16						
NVAR	**Mina Array Bea**	**82.86**	**52**	P	**P**	**12 33 30.4**	**+1.2**
FINES	**FINESS Array B**	**83.00**	**335**	P	**P**	**12 33 28.4**	**-1.1**
	1.8nm,0.3s,mb4.2,baz=64,slow=4.9,SNR=34						
FINES	**FINESS Array B**	**83.00**	**335**	P	**P**	**12 33 28.4**	**-1.1**
PDAR	**Pinedale Array**	**87.10**	**45**	P	**P**	**12 33 51.1**	**+0.8**
	0.2nm,0.4s,mb3.2,baz=294,slow=6.8,SNR=3.0						
PDAR	**Pinedale Array**	**87.10**	**45**	P	**P**	**12 33 51.1**	**+0.8**
AKASG	**Malin Array Be**	**87.38**	**324**	P	**P**	**12 33 49.8**	**-1.5**
	0.9nm,0.4s,mb3.8,baz=55,slow=4.9,SNR=3.2						
AKASG	**Malin Array Be**	**87.38**	**324**	P	**P**	**12 33 49.8**	**-1.5**
TXAR	**Lajitas Array**	**97.78**	**54**	P	**P**	**12 34 39.5**	**-0.3**
	0.1nm,0.6s,mb3.3,baz=236,slow=1.0,SNR=3.1						
TXAR	**Lajitas Array**	**97.78**	**54**	P	**P**	**12 34 39.5**	**-0.3**
TORD	**Torodi Ar. Bea**	**128.69**	**309**	PKP	PKPdf	12 40 10.6	-0.6
	0.4nm,0.4s,baz=30,slow=2.4,SNR=11						
TORD	**Torodi Ar. Bea**	**128.69**	**309**	PKP	PKPdf	12 40 10.6	-0.6
PLCA	**Paso Flores**	**145.82**	**131**	PKPbc	PKPbc	12 40 42.4	-0.3
	1.4nm,0.4s,baz=238,slow=3.3,SNR=11						
PLCA	**Paso Flores**	**145.82**	**131**	*e*PKPdf	PKPdf	12 40 43.0	+1.1
LPAZ	**La Paz**	**149.77**	**85**	PKPbc	PKPbc	12 40 54.2	+0.2
	3.1nm,0.7s,baz=288,slow=2.5,SNR=14						
LPAZ	**La Paz**	**149.77**	**85**	*e*PKPbc	PKPbc	12 40 55.1	+1.2

SKHL 02 12:24:16.3±0.4, 55°.27N×124°.00E, h8km±1km, mb4.0/4, 1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNDR	**Tynda**	**0.43**	**106**	*e*Pg	Pg	12 24 24.8	+0.1
TNDR				*e*Sg	Sg	12 24 30.3	0.0
CLNS	**Chul'man**	**1.65**	**17**	*e*Pg	Pg	12 24 47.5	-0.4
CLNS				*e*Sg	Sg	12 25 10.2	+1.0
KROS	**Kirovskiy**	**1.91**	**115**	*e*Pn	Pn	12 24 49.4	+0.3
KROS				⇓*i*Pg	Pg	12 24 50.3	-2.6
KROS				AMB	AMB	12 24 51.6	
	11nm,0.4s						
KROS				AMB	AMB	12 24 51.6	
	32nm,0.4s						
KROS				AMB	AMB	12 24 51.6	
	37nm,0.4s						
KROS				pPg		12 24 53.1	
KROS				A		12 25 14.3	
	85nm,0.4s						
KROS				A		12 25 14.3	
	200nm,0.4s						
KROS				A		12 25 14.3	
	130nm,0.4s						
KROS				*e*Sg	Sg	12 25 14.6	-3.1
ZEA	**Zeya**	**2.44**	**128**	*e*Pg	Pg	12 25 00.4	-2.6
ZEA				AMB	AMB	12 25 01.6	
	20nm,0.3s						
ZEA				*e*Sg	Sg	12 25 32.2	-2.4
ZEA				A		12 25 34.4	
	110nm,0.4s						
TUP	**Tupik**	**2.49**	**252**	*e*Pn	Pn	12 24 57.9	+0.9
TUP				*e*Pg	Pg	12 25 01.5	-2.4
TUP				AMB	AMB	12 25 06.5	
	15nm,0.3s						
TUP				*e*Sn	Sn	12 25 27.7	+0.2
TUP				*e*Sg	Sg	12 25 33.1	-3.0
TUP				A		12 25 36.7	
	56nm,0.6s						
BMKR	**Bomnak**	**2.85**	**99**	*e*Pn	Pn	12 25 02.3	+0.4
BMKR				*e*Pg	Pg	12 25 07.4	-3.4
BMKR				AMB	AMB	12 25 07.7	
	14nm,0.4s						
BMKR				AMB	AMB	12 25 07.7	
	38nm,0.4s						
BMKR				pPg		12 25 10.1	
BMKR				*e*Sn	Sn	12 25 36.9	+0.6
BMKR				*e*Sg	Sg	12 25 44.3	-3.3
BMKR				A		12 25 52.8	
	105nm,0.5s						
BMKR				A		12 25 52.8	
	80nm,0.5s						
KHN	**Khani**	**2.88**	**307**	*e*Sg	Sg	12 25 43.3	-5.5
CRS	**Chara**	**3.60**	**299**	*e*Pn	Pn	12 25 14.7	+2.4
CRS				*e*Sg	Sg	12 26 08.8	-3.1
CRS				A		12 26 14.8	
	49nm,0.9s						
EKMR	**Ekimchan**	**5.70**	**109**	*e*Pn	Pn	12 25 41.7	+0.6
EKMR				*e*Sg	Sg	12 27 13.3	-5.8
EKMR				A		12 27 26.5	
	5.0nm,0.5s						
EKMR				A		12 27 26.5	
	3.0nm,0.5s						
EKMR				A		12 27 26.5	
	4.0nm,0.5s						

*TRN **02** 12:29:12.4, 17°.07N×62°.36W, h10km, MD3.4*
*RSPR **02** 12:29:12.0, 17°.17N×61°.92W, h8km±27km, MD3.7/5*
*NEIC **02** 12:29:12.0, 17°.17N×61°.92W, h8km, MD3.7(RSPR), After RSPR.*
*ISCJB **02** 12:29:14.8±0.5, 17°.02N±0°.05×62°.39W±0°.05, h12km±4km, Error ellipse: s-maj=10.9km s-min=3.8km az=37.3*
ISC 02 12:29:15.1±0.5, 17°.00N±0°.06×62°.39W±0°.05, h12km±4km, n30, σ0°65/37, 9C-6D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBRV		**0.26**	**135**	⇑*i*P	**Pg**	**12 29 20.8**	**+0.2**
MBGB		**0.30**	**150**	*i* P	**Pg**	**12 29 22.1**	**+0.7**
MBWH		**0.32**	**143**	*i* P	**Pg**	**12 29 21.9**	**+0.4**
MLYT	**Lee's Yard**	**0.33**	**146**	*i* P	**Pg**	**12 29 21.4**	**-0.5**
MLYT	**Lee's Yard**	**0.33**	**146**	*i* P	**Pg**	**12 29 22.4**	**+0.5**
SKI	**Saint Kitts**	**0.47**	**315**	*e*P	**Pg**	**12 29 23.8**	**-0.6**
SKI				*e*S	**Sg**	**12 29 30.4**	**-0.4**
BPA	**Boggy Peak**	**0.51**	**85**	*e*P	**Pg**	**12 29 25.2**	**+0.1**
BPA				*e*S	**Sg**	**12 29 32.5**	**+0.6**
SEUS	**St. Eustatius**	**0.75**	**311**	⇓*e*P	**Pg**	**12 29 29.1**	**-0.6**
SEUS	**St. Eustatius**	**0.75**	**311**	⇓*e*P	**Pg**	**12 29 29.1**	**-0.6**
SEUS				*e*S	**Sg**	**12 29 39.4**	**-0.2**
SEUS	**St. Eustatius**	**0.75**	**311**	⇓*e*P	**Pg**	**12 29 29.1**	**-0.6**
SEUS				*e*S	**Sg**	**12 29 39.4**	**-0.2**
SABA	**Saba**	**1.02**	**307**	⇑*e*P	**Pb**	**12 29 34.0**	**-0.8**
SABA	**Saba**	**1.02**	**307**	⇑*e*P	**Pb**	**12 29 34.0**	**-0.8**
SABA				*e*S	**Sb**	**12 29 50.9**	**+2.7**
SABA	**Saba**	**1.02**	**307**	⇑*e*P	**Pb**	**12 29 34.2**	**-0.6**
SABA				*e*S	**Sb**	**12 29 50.9**	**+2.7**
BCG	**Bois Riant Cap**	**1.17**	**141**	*e*P	**Pb**	**12 29 36.9**	**-0.3**
SCG	**Saint Claude**	**1.18**	**145**	*e*P	**Pn**	**12 29 37.0**	**-0.4**
HMG	**Houelmont**	**1.21**	**147**	*e*P	**Pn**	**12 29 37.5**	**-0.3**
DOG	**Dongo Capester**	**1.21**	**142**	*e*P	**Pn**	**12 29 37.7**	**-0.2**
PHG	**Guadaloupe-2**	**1.21**	**144**	*e*P	**Pn**	**12 29 37.4**	**-0.4**
TBG	**Guadaloupe-3**	**1.34**	**148**	*e*P	**Pn**	**12 29 39.5**	**-0.1**
DEG	**La Desirade**	**1.44**	**118**	*e*P	**Pn**	**12 29 40.1**	**-1.0**
DEG				*e*S	**Sn**	**12 29 59.8**	**-0.1**
MGG	**Marie-Galante**	**1.49**	**136**	*e*P	**Pn**	**12 29 42.2**	**+0.5**
MTP	**Monte Pirata**	**3.21**	**290**	⇑*e*P	**Pn**	**12 30 05.6**	**+0.2**
MTP	**Monte Pirata**	**3.21**	**290**	⇑*e*P	**Pn**	**12 30 05.6**	**+0.2**
MTP	**Monte Pirata**	**3.21**	**290**	⇑*e*P	**Pn**	**12 30 05.6**	**+0.2**
HUMP	**Col San Antoni**	**3.49**	**290**	⇑*i*P	**Pn**	**12 30 09.4**	**+0.2**
HUMP	**Col San Antoni**	**3.49**	**290**	⇑*i*P	**Pn**	**12 30 09.4**	**+0.2**
HUMP	**Col San Antoni**	**3.49**	**290**	⇑*i*P	**Pn**	**12 30 09.4**	**+0.2**
CBYP	**Canovanas**	**3.54**	**291**	⇓*e*P	**Pn**	**12 30 10.9**	**+1.0**
CBYP	**Canovanas**	**3.54**	**291**	⇓*e*P	**Pn**	**12 30 10.9**	**+1.0**
CBYP	**Canovanas**	**3.54**	**291**	⇓*e*P	**Pn**	**12 30 10.9**	**+1.0**

IDC 02 12:33:25.8±46.0, 18°.76S×173°.17W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/20, mbtmp3.8/3, MS3.3/1, Ms1 3.3/1, ms1mx2.6/30, Error ellipse: s-maj=884.3km s-min=182.0km az=82.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**12.83**	**103**	LR	LR	12 40 00.4	
	comp=Z,132nm,21.5s,baz=263,slow=31						
STKA	**Stephens Creek**	**42.63**	**243**	P	P	12 41 23.8	-0.4
	1.0nm,0.7s,baz=97,slow=8.1,SNR=2.5						
ASAR	**Alice Springs**	**49.36**	**255**	P	P	12 42 17.2	-0.1
	1.1nm,0.8s,baz=92,slow=8.2,SNR=22						
WRA	**Warramunga Arr**	**49.37**	**260**	P	P	12 42 17.7	+0.2
	0.4nm,0.3s,baz=96,slow=7.0,SNR=37						

*IDC **02** 13:02:41.0±2.2, 30°.92N×50°.56E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/24, mbtmp3.7/6, Error ellipse: s-maj=56.9km s-min=28.1km az=155.0*
*KISR **02** 13:02:41.5±0.3, 30°.39N×50°.85E, h34km±53km, ML3.3*
*CSEM **02** 13:02:43.2±0.3, 30°.54N×50°.96E, h20km, ML3.3, Error ellipse: s-maj=10.8km s-min=6.8km az=134.0*
*TEH **02** 13:02:45.1, 30°.64N×50°.88E, h15km*
ISC 02 13:02:42.2±1.2, 30°.61N±0°.03×50°.81E±0°.04, h2km±9km, n34, σ0°94/45, mb3.7/6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHI	**Shiraz**	**1.77**	**123**	*e*Sg	**Sg**	**13 03 40.1**	**+1.1**
IPIR	**Pirpir**	**2.07**	**2**	*e*Pn	**Pn**	**13 03 19.5**	**+1.5**
IPIR				*e*Sg	**Sg**	**13 03 48.9**	**+0.2**
IPIR				*e*		13 03 56.9	
	comp=Z,5μm,0.3s						
IGAR	**Gharneh**	**2.07**	**30**	*e*Pn	**Pn**	**13 03 19.2**	**+1.1**
IGAR				*e*Sg	**Sg**	**13 03 48.0**	**-0.9**
IGAR				*e*		13 03 56.4	
	comp=Z,2μm,0.4s						
IPAR	**Pars**	**2.08**	**111**	*e*Pn	**Pn**	**13 03 18.6**	**+0.3**
IPAR				*e*		13 04 15.7	
	comp=Z,2μm,0.5s						
ISRV	**Sarvestan**	**2.34**	**121**	*e*Pn	**Pn**	**13 03 21.9**	**+0.1**
ISRV				*e*Sg	**Sg**	**13 03 56.5**	**-1.1**
ISRV				*e*		13 04 12.8	
	comp=Z,3μm,0.3s						
IZEF	**Zefreh**	**2.62**	**29**	*e*Pn	**Pn**	**13 03 26.5**	**+0.9**
IZEF				*e*		13 03 40.5	
	comp=Z,1μm,0.4s						
NASN	**Na'in**	**2.77**	**37**	*e*Pn	**Pn**	**13 03 27.9**	**+0.3**
IKLH	**Kolahrood**	**2.78**	**13**	*e*Pn	**Pn**	**13 03 28.5**	**+0.7**
IKLH				*e*Sg	**Sg**	**13 04 10.4**	**-1.1**
IKLH				*e*		13 04 24.6	
	comp=Z,1μm,0.3s						
ISAD	**Sadrabad**	**2.78**	**61**	*e*Pn	**Pn**	**13 03 28.8**	**+0.9**
ISAD				*e*		13 04 16.9	
	comp=Z,2μm,0.4s						
KBD	**Kabd**	**3.06**	**243**	*e*P	**Pn**	**13 03 31.8**	**+0.1**
KBD				*e*S	**Sn**	**13 04 09.5**	**+0.5**
KBD				AML	AML	13 04 14.7	
	comp=Z,68nm,0.6s						
KBD	**Kabd**	**3.06**	**243**	*e*P	**Pn**	**13 03 31.8**	**+0.1**
KBD				*e*S	**Sn**	**13 04 09.5**	**+0.6**
QRN	**Al-Qurain**	**3.13**	**234**	*e*P	**Pn**	**13 03 32.3**	**-0.4**
QRN				*e*S	**Sn**	**13 04 10.3**	**-0.3**
QRN				AML	AML	13 04 12.5	
	comp=Z,101nm,0.5s						
IMEH	**Mehriz**	**3.36**	**76**	*e*Pn	**Pn**	**13 03 36.2**	**+0.4**
IMEH				*e*		13 04 36.2	
	comp=Z,700nm,0.6s						
NAY	**Al-Naaiem**	**3.38**	**247**	*e*P	**Pn**	**13 03 36.2**	**+0.1**
NAY				*e*S	**Sn**	**13 04 17.4**	**+0.6**
NAY				AML	AML	13 04 21.9	
	comp=Z,32nm,0.6s						
NAY	**Al-Naaiem**	**3.38**	**247**	*e*P	**Pn**	**13 03 36.2**	**+0.1**
NAY				*e*S	**Sn**	**13 04 17.4**	**+0.6**
ICHK	**Chekchek**	**3.48**	**61**	*e*Pn	**Pn**	**13 03 37.8**	**+0.4**
ICHK				*e*		13 04 27.3	
	comp=Z,652nm,0.3s						
GHVR	**GHOM**	**3.88**	**6**	*e*Pn	**Pn**	**13 03 43.0**	**+0.1**
ISFB	**Sefidab**	**3.92**	**18**	*e*Pn	**Pn**	**13 03 43.6**	**+0.1**
ISFB				*e*		13 05 03.0	
	comp=Z,380nm,0.4s						
ASAO	**Ashtian**	**3.98**	**351**	*e*Pn	**Pn**	**13 03 44.6**	**+0.3**
IBAF	**Bafgh**	**4.20**	**75**	*e*Pn	**Pn**	**13 03 47.4**	**+0.1**
IBAF				*e*		13 04 05.5	
	comp=Z,212nm,0.2s						
IVRN	**Varamin**	**4.44**	**10**	*e*Pn	**Pn**	**13 03 50.7**	**+0.1**
IRAZ	**Razeghan**	**4.84**	**351**	*e*Pn	**Pn**	**13 03 56.9**	**+0.8**
IRAZ				*e*		13 05 13.8	
	comp=Z,321nm,0.3s						
IDMV	**Damavand**	**5.06**	**11**	*e*Pn	**Pn**	**13 03 59.9**	**+0.8**
IDMV				*e*		13 04 06.2	
	comp=Z,168nm,0.3s						
IFIR	**Firoozkooh**	**5.27**	**17**	*e*	**Pn**	**13 04 04.9**	**+2.8**
	comp=Z,129nm,0.2s						
IFIR				*e*Pn	**Pn**	**13 04 02.4**	**+0.3**
SNGE	**Sanandaj**	**5.33**	**328**	*e*Pn	**Pn**	**13 04 02.4**	**-0.5**
IANJ	**Anjilo**	**5.50**	**27**	*e*	**Pg**	**13 04 32.5**	**+4.9**
	comp=Z,132nm,0.3s						
IANJ				*e*Pn	**Pn**	**13 04 04.8**	**-0.4**
ISHM	**Shahmirzad**	**5.58**	**21**	*e*Pn	**Pn**	**13 04 05.8**	**-0.5**
BNDS	**Bandar-Abbas**	**5.68**	**123**	*e*Pn	**Pn**	**13 04 04.0**	**-3.7**
AKASG	**Malin Array Be**	**25.73**	**327**	P	**P**	**13 08 09.5**	**-4.5**
	comp=Z,0.5nm,0.4s,mb3.4,baz=129,slow=8.5,SNR=5.0						
MKAR	**Makanchi Array**	**29.16**	**47**	P	**P**	**13 08 43.5**	**-1.2**
	comp=Z,0.3nm,0.2s,mb3.6,baz=239,slow=7.3,SNR=2.8						

ZALV Zalesovo Beam 33.79 36 P **P** **13 09 23.3 -2.1**
comp=Z,0.4nm,0.4s,mb3.8,baz=253,slow=8.8,SNR=4.4
FINES FINESS Array B 34.85 339 P **P** **13 09 30.5 -4.0**
comp=Z,1.5nm,0.8s,mb4.0,baz=145,slow=11,SNR=3.4
TORD Torodi Ar. Bea 48.38 260 P **P** **13 11 23.6 -2.3**
comp=Z,0.9nm,0.9s,mb3.8,baz=54,slow=8.2,SNR=6.7
ILAR Eielson Array 83.93 8 P **P** **13 15 11.0 -2.5**
comp=Z,0.3nm,0.8s,mb3.5,baz=330,slow=4.7,SNR=3.9

DDA 02 13:05:49.9, 38°.11N×39°.06E, h4km±4km, Md2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.40**	**351**	*i* P	Pg	13 05 57.1	-0.4
ELZG				*i* S	Sg	13 06 04.0	+1.3
ATAB	**Bozova**	**0.88**	**224**	*i* P	Pg	13 06 07.3	+0.5
ATAB				*i* S	Sg	13 06 18.9	+0.7
KEMA	**Kemaliye**	**1.24**	**339**	*i* P	Pg	13 06 14.6	+0.8
KEMA				*i* S	Sg	13 06 30.8	+0.9

*RSPR **02** 13:18:11.6, 17°.09N×61°.88W, h15km±8km, MD3.1/8*
*TRN **02** 13:18:12.4, 17°.07N×62°.33W, h11km, MD3.2, M3.6(FDF)*
*ISCJB **02** 13:18:14.4±0.5, 17°.03N±0°.05×62°.37W±0°.04, h10km±4km, Error ellipse: s-maj=10.7km s-min=3.4km az=38.8*
ISC 02 13:18:14.9±0.5, 17°.02N±0°.05×62°.36W±0°.04, h11km±4km, n34, σ0°88/42, 8C-8D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBRV		**0.26**	**143**	*i* P	**Pg**	**13 18 20.4**	**+0.3**
MBGB		**0.31**	**157**	*i* P	**Pg**	**13 18 21.7**	**+0.5**
MBWH		**0.32**	**150**	*i* P	**Pg**	**13 18 21.6**	**+0.3**
MLYT	**Lee's Yard**	**0.33**	**152**	*i* P	**Pg**	**13 18 22.0**	**+0.4**
BPA	**Boggy Peak**	**0.48**	**87**	*e*P	**Pg**	**13 18 24.5**	**+0.2**
BPA				*e*S	**Sg**	**13 18 31.5**	**+0.9**
SKI	**Saint Kitts**	**0.48**	**311**	*e*P	**Pg**	**13 18 23.5**	**-0.9**
SKI				*e*S	**Sg**	**13 18 30.1**	**-0.7**
SEUS	**St. Eustatius**	**0.76**	**308**	⇑*e*P	**Pg**	**13 18 29.7**	**0.0**
SEUS	**St. Eustatius**	**0.76**	**308**	⇑*e*P	**Pg**	**13 18 29.7**	**0.0**
SABA	**Saba**	**1.04**	**305**	⇓*e*P	**Pg**	**13 18 33.7**	**-1.2**
SABA	**Saba**	**1.04**	**305**	⇓*e*P	**Pg**	**13 18 33.7**	**-1.2**
SABA	**Saba**	**1.04**	**305**	*i* P	**Pg**	**13 18 34.8**	**-0.1**
SABA				*e*S	**Sg**	**13 18 51.0**	**+2.5**
BCG	**Bois Riant Cap**	**1.17**	**143**	*e*P	**Pb**	**13 18 36.8**	**-0.3**
SCG	**Saint Claude**	**1.18**	**147**	*e*P	**Pb**	**13 18 36.6**	**-0.7**
HMG	**Houelmont**	**1.21**	**148**	*e*P	**Pn**	**13 18 37.1**	**-0.7**
DOG	**Dongo Capester**	**1.21**	**144**	*e*P	**Pn**	**13 18 37.1**	**-0.6**
PHG	**Guadaloupe-2**	**1.21**	**145**	*e*P	**Pn**	**13 18 37.4**	**-0.4**
TBG	**Guadaloupe-3**	**1.34**	**149**	*e*P	**Pn**	**13 18 39.1**	**-0.6**
DEG	**La Desirade**	**1.43**	**119**	*e*P	**Pn**	**13 18 39.9**	**-0.8**
DEG				*e*S	**Sn**	**13 18 59.1**	**-0.4**
MGG	**Marie-Galante**	**1.48**	**138**	*e*P	**Pn**	**13 18 42.1**	**+0.6**
DWS	**Wesley**	**1.75**	**145**	*e*P	**Pn**	**13 18 45.6**	**+0.3**
DWS				*e*S	**Sn**	**13 19 09.5**	**+1.8**
ABV	**Anegada**	**2.54**	**312**	⇓*e*P	**Pn**	**13 18 54.2**	**-1.9**
ABV				*e*S	**Sn**	**13 19 27.4**	**+0.4**
ABV	**Anegada**	**2.54**	**312**	⇓*e*P	**Pn**	**13 18 54.2**	**-1.9**
ABV				*e*S	**Sn**	**13 19 27.4**	**+0.4**
TBVI	**Tortola**	**2.57**	**303**	*e*S	**Sn**	**13 19 29.1**	**+1.4**
TBVI	**Tortola**	**2.57**	**303**	*e*S	**Sn**	**13 19 29.9**	**+2.2**
STVI	**Saint Thomas**	**2.81**	**299**	⇑*e*P	**Pn**	**13 18 58.9**	**-1.0**
STVI	**Saint Thomas**	**2.81**	**299**	⇑*e*P	**Pn**	**13 18 58.9**	**-1.0**
STVI				*e*S	**Sn**	**13 19 34.8**	**+1.0**
MTP	**Monte Pirata**	**3.23**	**290**	⇑*e*P	**Pn**	**13 19 05.2**	**-0.5**
MTP	**Monte Pirata**	**3.23**	**290**	⇑*e*P	**Pn**	**13 19 05.2**	**-0.5**
CBYP	**Canovanas**	**3.56**	**291**	⇑*e*P	**Pn**	**13 19 10.3**	**+0.1**
CBYP	**Canovanas**	**3.56**	**291**	⇑*e*P	**Pn**	**13 19 10.3**	**+0.1**
SJG	**San Juan**	**3.78**	**287**	⇓*e*P	**Pn**	**13 19 13.0**	**-0.2**
SJG	**San Juan**	**3.78**	**287**	⇓*e*P	**Pn**	**13 19 13.1**	**-0.1**
SJG	**San Juan**	**3.78**	**287**	⇓*e*

comp=Z,6.0nm,1.0s
COLA College 19.00 36 *e*P **Pn 13 44 14.3 -2.6**
comp=Z,8.1nm,0.8s
COLA College 19.00 36 *e*P **Pn 13 44 14.3 -2.6**
COLA pmax pmax
comp=Z,8.0nm,0.8s
PAX Paxson 19.06 42 *e*P **Pn 13 44 16.4 -1.2**
comp=Z,12nm,0.8s
PAX Paxson 19.06 42 *e*P **Pn 13 44 16.4 -1.2**
PAX pmax pmax
comp=Z,12nm,0.8s
ILAR Eielson Array 19.31 37 P **Pn 13 44 17.3 -3.2**
comp=Z,3.7nm,0.3s,baz=238,slow=9.4,SNR=104
ILAR S **S 13 47 51.9 -3.1**
baz=245,slow=17,SNR=2.7
ILAR Eielson Array 19.31 37 P **Pn 13 44 17.3 -3.2**
ILAR S **S 13 47 51.9 -3.1**
ILAR Eielson Array 19.31 37 P **Pn 13 44 17.3 -3.2**
ILAR S **S 13 47 51.9 -3.1**
COLD Coldfoot 19.63 28 *e*P **Pn 13 44 23.5 -0.7**
comp=Z,19nm,1.0s
DOT Dot Lake 19.91 41 *e*P **Pn 13 44 25.2 -2.4**
comp=Z,45nm,0.6s
EGAK Eagle 21.52 40 *e*P **P 13 44 42.2 -0.9**
comp=Z,59nm,0.7s,mb5.1
DAWY Dawson 22.00 42 *e*P **P 13 44 47.7 -0.5**
SKAG Skagway 23.09 55 *e*P **P 13 44 58.9 -0.8**
comp=Z,9.5nm,0.8s,mb4.3
INK Inuvik 25.64 34 P **P 13 45 23.6 +0.4**
comp=Z,2.9nm,0.4s,mb4.2,baz=239,slow=10,SNR=32
INK Inuvik 25.64 34 *e*P **P 13 45 23.3 +0.1**
comp=Z,7.7nm,0.8s,mb4.3
INK Inuvik 25.64 34 P **P 13 45 23.6 +0.4**
INK pmax pmax
comp=Z,3.0nm,0.4s
DLBC Dease Lake 25.85 57 P **P 13 45 24.9 -0.3**
comp=Z,7.6nm,0.9s,mb4.2,baz=290,slow=7.9,SNR=9.2
DLBC Dease Lake 25.85 57 P **P 13 45 24.9 -0.3**
YKA Yellowknife Ar 32.99 47 P **P 13 46 28.4 -0.1**
comp=Z,0.5nm,0.5s,mb3.7,baz=276,slow=9.0,SNR=5.8
YKA Yellowknife Ar 32.99 47 P **P 13 46 28.4 0.0**
YKA Yellowknife Ar 32.99 47 P **P 13 46 28.4 0.0**
YBH Yreka Blue Hor 36.05 85 P **P 13 46 53.6 -1.5**
comp=Z,1.7nm,0.9s,mb4.0,baz=315,slow=10.0,SNR=1.9
YBH Yreka Blue Hor 36.05 85 P **P 13 46 53.6 -1.5**
YBH Yreka Blue Hor 36.05 85 P **P 13 46 53.6 -1.5**
NEW Newport 36.13 72 *e*P **P 13 46 56.6 +0.9**
comp=Z,4.9nm,0.8s,mb4.5
NEW Newport 36.13 72 *e*P **P 13 46 56.6 +0.8**
NEW pmax pmax
comp=Z,5.0nm,0.8s
MJAR Matsushiro Arr 36.61 265 P **P 13 46 59.8 -0.2**
comp=Z,0.9nm,0.4s,mb4.0,baz=43,slow=8.3,SNR=8.7
MJAR Matsushiro Arr 36.61 265 P **P 13 46 59.8 -0.2**
MJAR Matsushiro Arr 36.61 265 P **P 13 46 59.8 -0.2**
BSMT Bassoo Peak 37.71 72 *e*P **P 13 47 10.6 +1.5**
comp=Z,4.9nm,0.8s,mb4.3
RES Resolute Bay 38.32 25 P **P 13 47 13.8 -0.2**
comp=Z,1.0nm,0.4s,mb3.9,baz=236,slow=22,SNR=6.5
RES Resolute Bay 38.32 25 P **P 13 47 13.8 -0.2**
RES Resolute Bay 38.32 25 P **P 13 47 13.8 -0.2**
HRY Holter Researc 40.02 72 *e*P **P 13 47 29.2 +0.7**
comp=Z,4.0nm,0.6s,mb4.3
BOD Bodaibo 40.06 308 *e*P **P 13 47 27.4 -1.3**
BOD pmax pmax
comp=Z,3.0nm,1.3s,mb3.9
MCMT McKenzie Canyo 40.40 75 *e*P **P 13 47 32.3 +0.6**
comp=Z,2.9nm,0.6s,mb4.2
EGMT Eagleton 40.57 69 *e*P **P 13 47 34.3 +1.2**
comp=Z,11nm,0.8s,mb4.5
NVAR Mina Array Bea 40.72 86 P **P 13 47 35.1 +0.8**
comp=Z,1.4nm,0.9s,mb3.6,baz=296,slow=8.3,SNR=6.4
NVAR PcP PcP 13 49 35.3 +0.2
comp=Z,0.9nm,0.8s,baz=277,slow=3.1,SNR=3.5
NVAR Mina Array Bea 40.72 86 P **P 13 47 35.1 +0.8**
NVAR PcP PcP 13 49 35.3 +0.2
RRI2 Red Ridge 42.14 76 P **P 13 47 48.3 +2.4**
comp=Z,6.1nm,0.9s,mb4.2
RLMT Red Lodge 42.38 72 *e*P **P 13 47 48.0 +0.1**
comp=Z,10nm,1.1s,mb4.4
KSRS Korea Array 42.44 274 P **P 13 47 47.9 -0.6**
comp=Z,1.5nm,0.6s,mb3.8,baz=58,slow=7.5,SNR=6.2
KSRS Korea Array 42.44 274 P **P 13 47 47.9 -0.6**
KSRS pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
SNY Shenyang 42.49 282 ||P **P 13 47 48.9 0.0**
SNY S **S 13 54 05.7 -2.0**
SNY pmax pmax
comp=Z,15nm,1.2s,mb4.5
SNY LR LR
comp=N,3μm,28.2s
SNY LR LR
comp=E,3μm,20.7s
SNY LR LR
comp=Z,2μm,17.4s
PD01 Pinedale Array 43.51 75 *e*P **P 13 47 57.1 +0.1**
PD02 Pinedale Array 43.52 75 *e*P **P 13 47 57.0 -0.1**
PDAR Pinedale Array 43.53 75 P **P 13 47 57.1 -0.1**
comp=Z,2.0nm,0.8s,mb3.9,baz=302,slow=4.0,SNR=16
PDAR Pinedale Array 43.53 75 P **P 13 47 57.1 -0.1**
PV01 Paradox Valley 46.92 80 *e*P **P 13 48 23.7 -0.4**
comp=Z,367nm,0.6s
ULM Lac du Bonnet 47.15 59 P **P 13 48 25.6 -0.2**
comp=Z,7.3nm,0.7s,mb4.7,baz=305,slow=6.9,SNR=12
ULM Lac du Bonnet 47.15 59 P **P 13 48 25.6 -0.2**
ULM Lac du Bonnet 47.15 59 P **P 13 48 25.6 -0.2**
SONM Songino Array 49.02 299 P **P 13 48 40.6 +0.3**
comp=Z,0.8nm,0.6s,mb4.0,baz=56,slow=6.0,SNR=9.4
SONM PcP PcP 13 50 03.1 -0.4
comp=Z,1.7nm,1.0s,baz=49,slow=3.2,SNR=5.1
SONM Songino Array 49.02 299 P **P 13 48 40.6 +0.3**
SONM PcP PcP 13 50 03.1 -0.4
SONM Songino Array 49.02 299 P **P 13 48 40.6 +0.4**
SONM 13 50 03.1
ZAK Zakamensk 49.20 303 *e*P **P 13 48 41.3 -0.3**
ZAK *e* 13 50 03.6
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
SPITS Spitsbergen Ar 50.28 357 P **P 13 48 49.2 -0.3**
comp=Z,12nm,1.0s,mb4.9,baz=35,slow=10,SNR=6.1
SPITS Spitsbergen Ar 50.28 357 P **P 13 48 49.1 -0.3**
SPITS Spitsbergen Ar 50.28 357 P **P 13 48 49.2 -0.2**
HHC Hu-ho-hao-te 50.30 288 *e*P **P 13 48 50.4 +0.3**
HHC pP pP 13 49 02.6 +0.2
HHC sP sP 13 49 08.2 +0.7
HHC PP PP 13 50 46.7 +1.2
HHC S **S 13 55 56.9 -2.5**
HHC sS sS 13 56 17.6 -2.3
HHC SS SS 13 59 26.7 -6.2
HHC pmax pmax
comp=Z,13nm,0.7s,mb5.1
HHC pmax pmax
comp=Z,110nm,5.5s
FRB Frobisher Bay 51.29 33 P **P 13 48 57.2 +0.1**
comp=Z,42nm,1.1s,mb5.3,baz=281,slow=6.0,SNR=6.0
FRB Frobisher Bay 51.29 33 P **P 13 48 57.2 +0.1**
FRB Frobisher Bay 51.29 33 P **P 13 48 57.3 +0.1**
NJ2 Nanjing 51.61 275 *e*P **P 13 49 05.2 +5.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
WMOK Wichita Mounta 55.10 76 *e*P **P 13 49 25.0 -0.6**
comp=Z,4.1nm,0.9s,mb4.5
WMOK Wichita Mounta 55.10 76 *e*P **P 13 49 25.0 -0.7**
WMOK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
TXAR Lajitas Array 55.82 85 P **P 13 49 30.4 -0.5**
comp=Z,1.0nm,0.8s,mb3.9,baz=298,slow=5.4,SNR=7.1
TXAR Lajitas Array 55.82 85 P **P 13 49 30.4 -0.5**
TXAR Lajitas Array 55.82 85 P **P 13 49 30.4 -0.5**
ZALV Zalesovo Beam 55.85 315 PcP PcP 13 50 29.2 +0.1
comp=Z,1.8nm,0.9s,baz=23,slow=4.8,SNR=6.6
XAN Xi'an 56.35 284 P **P 13 49 33.9 -0.7**
XAN pP pP 13 49 43.7 -3.4
XAN sP sP 13 49 47.9 -4.2
XAN pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
LZH Lanzhou 57.99 289 *e*P **P 13 49 45.0 -1.1**
LZH pP pP 13 49 58.5 -0.1
LZH sP sP 13 50 03.7 0.0
LZH *e*PP PP 13 51 55.2 +0.6
LZH pmax pmax
comp=Z,16nm,1.5s,mb4.8
LZH pmax pmax
comp=Z,47nm,5.0s
LZH LR LR
comp=N,140nm,16.2s,MS4.3
LZH LR LR
comp=E,160nm,17.5s,MS4.3
LZH LR LR
comp=Z,200nm,19.3s,MS4.2
SCHQ Schefferville 58.01 41 P **P 13 49 46.4 +0.4**
comp=Z,5.0nm,0.8s,mb4.6,baz=323,slow=10,SNR=3.6
SCHQ Schefferville 58.01 41 P **P 13 49 46.4 +0.4**
GTA Gaotai 58.05 294 *e*P **P 13 49 46.9 +0.4**
GTA pP pP 13 50 00.8 +1.8
GTA pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
ARCES ARCESS Array B 58.26 352 P **P 13 49 47.1 -0.4**
comp=Z,2.9nm,0.7s,mb4.4,baz=19,slow=9.0,SNR=13
ARCES PcP PcP 13 50 38.3 0.0
comp=Z,3.3nm,0.7s,baz=2.9,slow=4.9,SNR=4.6
ARCES ARCESS Array B 58.26 352 P **P 13 49 47.1 -0.4**
ARCES PcP PcP 13 50 38.3 0.0
ARCES ARCESS Array B 58.26 352 P **P 13 49 47.2 -0.4**
ARCES 13 50 38.3
MIAR Mount Ida 58.37 73 P **P 13 49 49.7 +0.9**
comp=Z,12nm,1.0s,mb4.9
MIAR Mount Ida 58.37 73 P **P 13 49 49.7 +0.9**
MIAR pmax pmax
comp=Z,12nm,1.0s,mb4.9
KURK Kurchatov 60.83 316 *e*P **P 13 50 04.8 -0.7**
comp=Z,2.7nm,0.4s,mb4.7
KURK Kurchatov 60.83 316 *e*P **P 13 50 04.8 -0.7**
KURK pmax pmax
comp=Z,3.0nm,0.4s,mb4.8
ALLY Alegheny Colle 61.05 59 *e*P **P 13 50 07.4 +0.3**
MSNY Massena 61.39 53 *e*P **P 13 50 09.4 0.0**
comp=Z,345nm,0.9s
WMQ Urumqi 61.52 305 *e*P **P 13 50 13.5 +3.2**
CD2 Chengdu 61.66 285 P **P 13 50 11.9 +0.5**
CD2 pP pP 13 50 24.7 +0.7
CD2 sP sP 13 50 30.0 +1.0
CD2 PP PP 13 52 29.5 +2.4
CD2 S **S 13 58 27.8 -2.7**
CD2 sS sS 13 58 49.4 -2.1
CD2 SS SS 14 02 30.3 -1.6
CD2 pmax pmax
comp=Z,20nm,0.5s,mb5.5
CD2 pmax pmax
comp=Z,160nm,5.9s
CD2 LR LR
comp=N,2μm,20.2s
CD2 LR LR
comp=Z,1μm,16.6s,MS5.1
MK31 Makanchi Array 62.03 311 *e*P **P 13 50 13.5 -0.2**
MK31 Makanchi Array 62.03 311 *e*P **P 13 50 13.5 -0.2**
MKAR Makanchi Array 62.03 311 P **P 13 50 12.9 -0.8**
comp=Z,0.6nm,0.3s,mb4.2,baz=47,slow=5.5,SNR=7.8
MKAR Makanchi Array 62.03 311 P **P 13 50 12.9 -0.8**
MKAR Makanchi Array 62.03 311 P **P 13 50 12.9 -0.8**
SSPA Standing Stone 62.97 58 *e*P **P 13 50 19.9 -0.1**
comp=Z,6.1nm,0.6s,mb4.9
JSC Jenkinsville 65.72 65 P **P 13 50 38.0 -0.1**
JSC Jenkinsville 65.72 65 P **P 13 50 38.0 -0.1**
FINES FINESS Array B 66.09 349 P **P 13 50 39.6 -0.5**
comp=Z,1.5nm,0.6s,mb4.2,baz=357,slow=7.0,SNR=9.5
FINES PcP PcP 13 51 10.1 -0.1
comp=Z,1.5nm,0.6s,baz=2.9,slow=3.8,SNR=4.0
FINES FINESS Array B 66.09 349 P **P 13 50 39.6 -0.5**
FINES PcP PcP 13 51 10.1 -0.1
FINES FINESS Array B 66.09 349 P **P 13 50 39.6 -0.5**
FINES 13 51 10.1
DAV Davao City (W) 66.20 250 *e*P **P 13 50 41.8 +0.4**
comp=Z,130nm,0.4s
KMI Kunming 66.46 281 P **P 13 50 43.7 +0.7**
KMI pP pP 13 50 56.7 +1.0
KMI pmax pmax
comp=Z,4.0nm,1.6s,mb4.2
KMI pmax pmax
comp=Z,70nm,6.2s
NB2 NORSAR Subarra 67.58 357 P **P 13 50 49.1 -0.4**
comp=Z,1.0nm,0.5s,mb4.1,baz=4.9,slow=6.5
NOA NORSAR Array B 67.58 357 P **P 13 50 49.7 +0.2**
comp=Z,1.9nm,0.8s,mb4.2,baz=2.9,slow=6.5,SNR=6.2
NOA NORSAR Array B 67.58 357 P **P 13 50 49.7 +0.2**
NOA NORSAR Array B 67.58 357 P **P 13 50 49.7 +0.2**
ABKAR Akbulak array 69.37 325 *e*P **P 13 51 01.5 +0.5**
comp=Z,0.9nm,0.5s,mb4.0
KKAR Karatay Array 70.23 315 *e*P **P 13 51 06.3 0.0**
comp=Z,1.7nm,0.4s,mb4.3
KKAR Karatay Array 70.23 315 *e*P **P 13 51 06.3 0.0**
KKAR pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
KSH Kashi 70.55 309 *e*P **P 13 51 08.1 -0.2**
KSH pP pP 13 51 21.1 0.0
KSH sP sP 13 51 26.5 +0.4
KSH PcP PcP 13 51 29.9 +0.6
KSH PP PP 13 53 45.7 +1.3
KSH S S 14 00 13.6 -4.8
KSH sS sS 14 00 36.8 -2.9
KSH SKS 14 01 01.3
KSH ScS ScS 14 01 03.2 -4.6
KSH SS SS 14 04 47.1 -2.3
KSH pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
KSH pmax pmax
comp=Z,61nm,4.3s
CMAR Chiang Mai Arr 73.77 279 P **P 13 51 28.1 +0.2**
comp=Z,3.9nm,0.9s,mb4.3,baz=26,slow=7.3,SNR=19
CMAR Chiang Mai Arr 73.77 279 P **P 13 51 28.1 +0.2**
CMAR Chiang Mai Arr 73.77 279 P **P 13 51 28.1 +0.3**
GUN Gumba 74.33 295 *e*P **P 13 51 32.3 +1.3**
GUN Gumba 74.33 295 *e*P **P 13 51 32.3 +1.3**
KKN Kakani 74.76 295 *e*P **P 13 51 34.2 +0.7**
KKN Kakani 74.76 295 *e*P **P 13 51 34.2 +0.7**
KKN Kakani 74.76 295 *e*P **P 13 51 34.2 +0.7**
GKN Gorkha 74.96 296 *e*P **P 13 51 35.3 +0.6**
comp=Z,17nm,0.6s,mb5.1
GKN Gorkha 74.96 296 *e*P **P 13 51 35.3 +0.6**
comp=Z,17nm,0.6s,mb5.1
DMN Daman 75.00 295 *e*P **P 13 51 35.8 +0.9**
DMN Daman 75.00 295 *e*P **P 13 51 35.8 +0.9**
DANN Dangsing 75.18 297 *e*P **P 13 51 37.1 +1.2**
comp=Z,45nm,0.7s,mb5.5
DANN Dangsing 75.18 297 *e*P **P 13 51 37.1 +1.2**
comp=Z,45nm,0.7s,mb5.5
KOLN Koldanda 75.72 297 *e*P **P 13 51 39.6 +0.6**
comp=Z,24nm,1.0s,mb5.1
KOLN Koldanda 75.72 297 *e*P **P 13 51 39.6 +0.6**
comp=Z,24nm,1.0s,mb5.1
AKASG Malin Array Be 76.09 345 P **P 13 51 40.2 -0.5**
comp=Z,1.7nm,0.4s,mb4.3,baz=17,slow=6.1,SNR=5.1
AKASG Malin Array Be 76.09 345 P **P 13 51 40.2 -0.5**
AKASG Malin Array Be 76.09 345 P **P 13 51 40.2 -0.6**
CLL Collm 77.24 355 ||*i*P **P 13 51 47.6 +0.4**
comp=Z,6.0nm,0.9s,mb4.5
BRG Berggiesshubel 77.62 355 *e*P **P 13 51 49.5 +0.2**
BRG pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
KBL Kabul 77.84 311 *e*P **P 13 51 50.1 -0.8**
comp=Z,7.5nm,0.9s,mb4.6
KBL Kabul 77.84 311 *e*P **P 13 51 50.1 -0.8**
KBL pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
DPC Dobruska-Polom 77.98 353 *e*P **P 13 51 52.4 +1.0**
DPC Dobruska-Polom 77.98 353 *e*P **P 13 51 52.4 +1.0**
MEM Membach 78.12 360 P **P 13 51 53.0 +0.9**
comp=Z,12nm,2.3s,mb4.4
BCLA Clavier 78.31 0 P **P 13 51 53.4 +0.2**
comp=Z,16nm,2.2s,mb4.6
NKC Novy Kostel 78.34 356 *e*P **P 13 51 54.2 +0.9**
NKC Novy Kostel 78.34 356 *e*P **P 13 51 54.2 +0.9**
PRU Pruhonice 78.46 354 *e*P **P 13 51 55.4 +1.4**
PRU Pruhonice 78.46 354 *e*P **P 13 51 55.4 +1.4**
GIVF Givet 78.63 1 *e*P **P 13 51 54.9 0.0**
GIVF Givet 78.63 1 *e*P **P 13 51 54.9 0.0**
GIVF Givet 78.63 1 *e*P **P 13 51 54.9 0.0**
BAIF Baives 78.66 1 *e*P **P 13 51 55.3 +0.2**
comp=Z,13nm,1.0s,mb4.5
BAIF Baives 78.66 1 *e*P **P 13 51 55.3 +0.2**
comp=Z,6.3nm,1.0s,mb4.5
BAIF Baives 78.66 1 *e*P **P 13 51 55.3 +0.2**
BAIF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
KOLS Kolonicke sedl 78.81 349 *e*P **P 13 51 58.7 +2.8**
KOLS Kolonicke sedl 78.81 349 *e*P **P 13 51 58.7 +2.8**
GRFO Grafenberg 78.93 356 *e*P **P 13 51 57.8 +1.2**
comp=Z,8.1nm,0.9s,mb4.7
GRFO Grafenberg 78.93 356 *e*P **P 13 51 57.8 +1.2**
GRFO pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
KHC Kasperske Hory 79.38 355 *e*P **P 13 51 58.9 -0.1**
comp=Z,4.9nm,1.0s,mb4.4
KHC Kasperske Hory 79.38 355 *e*P **P 13 51 59.9 +0.8**
KHC Kasperske Hory 79.38 355 *e*P **P 13 51 59.9 +0.8**
KECS Kecovo 79.45 350 *e*P **P 13 52 01.9 +2.4**
KECS Kecovo 79.45 350 *e*P **P 13 52 01.9 +2.4**
VYHS Vyhne 79.61 351 *e*P **P 13 52 01.5 +1.2**
VYHS Vyhne 79.61 351 *e*P **P 13 52 01.5 +1.2**
GERES GERESS Array B 79.66 355 P **P 13 52 01.3 +0.8**
comp=Z,2.0nm,0.8s,mb4.1,baz=19,slow=4.5,SNR=19
GERES GERESS Array B 79.66 355 P **P 13 52 01.3 +0.8**
GERES GERESS Array B 79.66 355 P **P 13 52 01.3 +0.7**
FLN La Foliniere 79.83 4 *e*P **P 13 52 01.1 -0.4**
FLN La Foliniere 79.83 4 *e*P **P 13 52 01.1 -0.4**
FLN La Foliniere 79.83 4 *e*P **P 13 52 01.1 -0.4**
LDF La Druitiere 80.01 4 *e*P **P 13 52 01.9 -0.6**
comp=Z,12nm,0.7s,mb4.6
LDF La Druitiere 80.01 4 *e*P **P 13 52 01.9 -0.6**
comp=Z,6.1nm,0.7s,mb4.6
LDF La Druitiere 80.01 4 *e*P **P 13 52 01.9 -0.6**
LDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
GRR Gorron 80.19 4 *e*P **P 13 52 03.1 -0.4**
GRR Gorron 80.19 4 *e*P **P 13 52 03.1 -0.4**
GRR Gorron 80.19 4 *e*P **P 13 52 03.1 -0.4**
MEZF Maizieres J'vi 80.23 0 *e*P **P 13 52 04.1 +0.4**
MEZF Maizieres J'vi 80.23 0 *e*P **P 13 52 04.1 +0.4**
CDF Champ du Feu 80.31 359 *e*P **P 13 52 04.2 +0.1**
comp=Z,7.3nm,0.5s,mb4.5
CDF Champ du Feu 80.31 359 *e*P **P 13 52 04.2 +0.1**
comp=Z,3.7nm,0.5s,mb4.6
CDF Champ du Feu 80.31 359 *e*P **P 13 52 04.2 +0.1**
CDF pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
ECH Echery 80.51 359 *e*P **P 13 52 05.9 +0.7**
comp=Z,9.6nm,0.9s,mb4.7
ECH Echery 80.51 359 *e*P **P 13 52 05.9 +0.7**
ECH pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SFTF Sexfontaines 80.53 0 *e*P **P 13 52 05.4 +0.1**
comp=Z,32nm,0.8s,mb5.0
SFTF Sexfontaines 80.53 0 *e*P **P 13 52 05.4 +0.1**
comp=Z,32nm,0.8s,mb5.3
HAU Haudompre 80.73 360 *e*P **P 13 52 06.4 0.0**
comp=Z,14nm,0.7s,mb4.7
HAU Haudompre 80.73 360 *e*P **P 13 52 06.4 0.0**
comp=Z,6.8nm,0.7s,mb4.7
HAU Haudompre 80.73 360 *e*P **P 13 52 06.4 0.0**
HAU pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
HINF Hinteralfeld 80.91 359 *e*P **P 13 52 07.2 -0.2**
comp=Z,13nm,0.8s,mb4.6
HINF Hinteralfeld 80.91 359 *e*P **P 13 52 07.2 -0.2**
comp=Z,6.7nm,0.8s,mb4.6
HINF Hinteralfeld 80.91 359 *e*P **P 13 52 07.2 -0.2**
HINF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LOR Lormes 81.45 1 *e*P **P 13 52 10.3 +0.1**
comp=Z,13nm,0.8s,mb4.6
LOR Lormes 81.45 1 *e*P **P 13 52 10.3 +0.1**
comp=Z,6.4nm,0.8s,mb4.6
LOR Lormes 81.45 1 *e*P **P 13 52 10.3 +0.1**
LOR pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
SSF Saint Saulge 81.65 2 *e*P **P 13 52 11.3 0.0**
comp=Z,16nm,0.7s,mb4.7
SSF Saint Saulge 81.65 2 *e*P **P 13 52 11.3 0.0**
comp=Z,8.0nm,0.7s,mb4.8
SSF Saint Saulge 81.65 2 *e*P **P 13 52 11.3 0.0**
SSF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
AVF Avril sur Loir 81.92 2 *e*P **P 13 52 12.6 -0.1**
comp=Z,16nm,0.8s,mb4.7
AVF Avril sur Loir 81.92 2 *e*P **P 13 52 12.6 -0.1**
comp=Z,7.8nm,0.8s,mb4.7
AVF Avril sur Loir 81.92 2 *e*P **P 13 52 12.6 -0.1**
AVF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
MFF Saint Martin d 82.00 4 *e*P **P 13 52 13.2 +0.1**
MFF Saint Martin d 82.00 4 *e*P **P 13 52 13.2 +0.1**
MFF Saint Martin d 82.00 4 *e*P **P 13 52 13.2 +0.1**
SMF Signal de Mont 82.08 1 *e*P **P 13 52 13.5 0.0**
comp=Z,24nm,0.8s,mb4.8
SMF Signal de Mont 82.08 1 *e*P **P 13 52 13.5 0.0**
comp=Z,12nm,0.8s,mb4.9
SMF Signal de Mont 82.08 1 *e*P **P 13 52 13.5 0.0**
SMF pmax pmax
comp=Z,12nm,0.8s,mb4.9
CABF La Chapelle 82.12 360 *e*P **P 13 52 14.3 +0.5**
comp=Z,28nm,0.9s,mb4.9
BGF Bois d'Agland 82.14 2 *e*P **P 13 52 13.7 -0.2**
BGF Bois d'Agland 82.14 2 *e*P **P 13 52 13.7 -0.2**
BGF Bois d'Agland 82.14 2 *e*P **P 13 52 13.7 -0.2**
TCF Toulx Ste Croi 82.40 2 *e*P **P 13 52 15.0 -0.2**
comp=Z,26nm,1.0s,mb4.7
TCF Toulx Ste Croi 82.40 2 *e*P **P 13 52 15.0 -0.2**
comp=Z,9.8nm,1.0s,mb4.7
TCF Toulx Ste Croi 82.40 2 *e*P **P 13 52 15.0 -0.2**
TCF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
LFF La Frestale 83.70 4 *e*P **P 13 52 22.1 +0.1**
LFF La Frestale 83.70 4 *e*P **P 13 52 22.1 +0.1**
LFF La Frestale 83.70 4 *e*P **P 13 52 22.1 +0.1**
CAF Calviac 83.76 3 *e*P **P 13 52 22.5 +0.2**
comp=Z,24nm,1.1s,mb4.9
MBDF Montbardon 84.00 359 *e*P **P 13 52 23.8 +0.3**
WRA Warramunga Arr 84.22 228 P **P 13 52 22.6 -2.2**
comp=Z,0.6nm,0.7s,mb3.9,baz=34,slow=5.9,SNR=3.6
WRA Warramunga Arr 84.22 228 P **P 13 52 22.6 -2.2**
WRA Warramunga Arr 84.22 228 P **P 13 52 22.6 -2.2**
SMRF Simiane la Rot 84.76 0 *e*P **P 13 52 26.9 -0.5**
SBF Sospel 84.86 359 *e*P **P 13 52 26.9 -1.0**
FRF La Foret Royal 85.17 359 *e*P **P 13 52 29.0 -0.4**
MTLF Montolieu 85.34 3 *e*P **P 13 52 30.5 +0.2**
MTLF Montolieu 85.34 3 *e*P **P 13 52 30.5 +0.2**
MTLF Montolieu 85.34 3 *e*P **P 13 52 30.5 +0.2**
SJPF Ste Jean 85.43 5 *e*P **P 13 52 30.6 -0.1**
SJPF Ste Jean 85.43 5 *e*P **P 13 52 30.6 -0.1**
SJPF Ste Jean 85.43 5 *e*P **P 13 52 30.6 -0.1**
EPF Esparros 85.59 4 *e*P **P 13 52 31.1 -0.4**
EPF Esparros 85.59 4 *e*P **P 13 52 31.1 -0.4**
EPF Esparros 85.59 4 *e*P **P 13 52 31.1 -0.4**
ETSF Etsaut 85.68 5 *e*P **P 13 52 31.9 -0.1**
ETSF Etsaut 85.68 5 *e*P **P 13 52 31.9 -0.1**
ETSF Etsaut 85.68 5 *e*P **P 13 52 31.9 -0.1**
BRTR Keskin Array B 85.80 339 P **P 13 52 33.2 +0.6**
comp=Z,0.4nm,0.4s,mb4.0,baz=35,slow=5.3,SNR=3.1
BRTR Keskin Array B 85.80 339 P **P 13 52 33.2 +0.6**
BRTR Keskin Array B 85.80 339 P **P 13 52 33.2 +0.6**
PSI Prapat 85.82 269 P **P 13 52 32.8 -0.3**
comp=Z,2.6nm,0.4s,mb4.8,baz=114,slow=10.0,SNR=3.4
PSI Prapat 85.82 269 P **P 13 52 32.8 -0.3**
PSI Prapat 85.82 269 P **P 13 52 32.8 -0.3**
PGF Pioggiola 86.14 358 *e*P **P 13 52 34.1 -0.2**
FITZ Fitzroy Crossi 86.90 236 P **P 13 52 36.6 -1.5**
comp=Z,1.8nm,0.7s,mb4.4,baz=62,slow=5.8,SNR=4.6
FITZ Fitzroy Crossi 86.90 236 P **P 13 52 36.6 -1.5**
ASAR Alice Springs 87.65 226 P **P 13 52 40.2 -1.4**
comp=Z,0.9nm,0.8s,mb4.0,baz=24,slow=5.5,SNR=12
ASAR Alice Springs 87.65 226 P **P 13 52 40.2 -1.4**
ASAR Alice Springs 87.65 226 P **P 13 52 40.3 -1.4**
ESDC Sonseca Array 88.66 7 P **P 13 52 46.5 0.0**
comp=Z,2.6nm,1.0s,mb4.5,baz=344,slow=4.2,SNR=7.1
ESDC Sonseca Array 88.66 7 P **P 13 52 46.5 0.0**
TORD Torodi Ar. Bea 115.38 4 PKP PKPdf 13 58 35.4 +0.3
comp=Z,0.2nm,0.5s,baz=0.4,slow=3.3,SNR=3.1
TORD Torodi Ar. Bea 115.38 4 PKP PKPdf 13 58 35.4 +0.3
TSUM Tsumeb 146.30 339 *e*PKPdf PKPdf 13 59 34.0 +1.3
MAW Mawson 148.42 218 PKPbc PKPbc 13 59 38.1 -0.2
comp=Z,0.7nm,0.7s,baz=75,slow=20,SNR=1.9
MAW Mawson 148.42 218 PKPbc PKPbc 13 59 38.1 -0.2
LBTB Lobatse 149.37 323 *e*PKPbc PKPbc 13 59 42.3 +0.3
BOSA Boshof 152.73 320 PKPbc PKPbc 13 59 49.0 -0.8
comp=Z,2.0nm,0.4s,baz=101,slow=14,SNR=9.3
BOSA Boshof 152.73 320 PKPbc PKPbc 13 59 49.0 -0.8

*BGS **02** 13:48:33.8± 1.8, 49°.89N × 172°.03W, h33km, mb5.3, MS5.7*
*IDC **02** 13:48:39.2± 1.5, 51°.57N × 174°.24W, h14km ± 9km, mb5.3/42, mb1 5.3/44, mb1mx5.3/46, mbtmp5.2/44, ML3.9/2, MS5.7/43, Ms1 5.7/43, ms1mx5.6/54, Error ellipse: s-maj=10.2km*

s-min=6.7km az=160.0
DJA ***02*** *13:48:40,51˚.50N×173˚.89W,h20km,Mw6.3/51*
MOS ***02*** *13:48:40.8±1.0,51˚.66N×174˚.35W,h33km,mb5.8/139, MS5.7/88,Error ellipse: s-maj=6.1km s-min=5.1km az=84.9*
BJI ***02*** *13:48:41.5,51˚.79N×174˚.66W,h36km,mB6.0/58, mb5.8/61,Ms6.1/79,Ms7 5.9/72*
ISCJB ***02*** *13:48:42.7±0.1,51˚.54N±0˚.02×174˚.34W±0˚.02,h48km, mb5.7/507,MS5.8/286,Error ellipse: s-maj=3.3km s-min=1.7km az=172.6*
NEIC ***02*** *13:48:42.8±0.1,51˚.55N×174˚.37W,h36km,mb5.7/281, ME5.6,MS5.8/191,MW6.1,ML5.5(AEIC),Error ellipse: s-maj=4.0km s-min=2.0km az=177.0,Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
GCMT ***02*** *13:48:44.2±0.1,51˚.38N×174˚.49W,h20km,MW6.1, Moment Tensor Solution. s105,c244; s83,c128; Moment tensor: Scale 10¹⁸Nm; Mrr1.16±.01; Mθθ-1.03±.01; Mϕϕ-0.13±.01; Mrθ0.88±.02; Mrϕ-0.42±.01; Mθϕ0.43±.02; Best double couple: M₀1.50000×10¹⁸ NP1:ϕs251.00000°,δ25.00000°,λ95.00000°. NP2: ϕs66.00000°,δ65.00000°,λ88.00000°. Principal axes: T 1.5200, Plg70.0000°, Azm330.0000°; N 0.0400, Plg2.0000°, Azm67.0000°; P -1.5500, Plg20.0000°, Azm157.0000°; Data Used: II UU CN IC G. Surface waves: sta=105, comp=252, per= 50.*
SZGRF ***02*** *13:48:47.8,51˚.50N×174˚.50W,h57km,mb5.9,MS5.9, Andreanof Islands, Aleutian Islands, United States*
ISC 02 13:48:44.7±0.1,51˚.60N±0˚.02×174˚.36W±0˚.02,h50km, h50km±1.8km:pP-P,n1498,σ0s91/1388,mb5.7/507, MS5.8/286,225C-24D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.61**	**9**	P		**Pn**	**13 48 56.3**	**-1.0**
ATKA				S		**Sn**	**13 49 07.5**	**+1.0**
GSTR	**Great Sitkin T**	**1.17**	**296**	*e*P		**Pn**	**13 49 03.4**	**-1.3**
ADK	**Adak**	**1.48**	**282**	P		**Pn**	**13 49 06.6**	**-2.2**
ADK				S		**Sn**	**13 49 25.7**	**-1.3**
ADK	**Adak**	**1.48**	**282**	P		**Pn**	**13 49 06.6**	**-2.2**
ADK				S		**Sn**	**13 49 25.7**	**-1.3**
NIKO	**Nikolski**	**3.65**	**66**	P		**Pn**	**13 49 37.2**	**-1.3**
UNV	**Unalaska Valle**	**5.28**	**62**	P		**Pn**	**13 50 00.9**	**0.0**
AKUT	**Akutan**	**5.79**	**61**	P		**Pn**	**13 50 09.3**	**+1.5**
SPIA	**Saint Paul Isl**	**6.08**	**22**	P		**Pn**	**13 50 14.6**	**+2.8**
SMY	**Shemya**	**7.19**	**284**	P		**Pn**	**13 50 25.7**	**-1.4**
SMY	**Shemya**	**7.19**	**284**	P		**Pn**	**13 50 25.7**	**-1.4**
FALS	**False Pass**	**7.33**	**59**	P		**Pn**	**13 50 29.5**	**+0.5**
FX1	**Attu Island--F**	**7.77**	**284**	Pn		**Pn**	**13 50 33.2**	**-1.8**
	2.6nm,0.3s,baz=106,slow=18,SNR=11							
FX1				Sn		**Sn**	**13 52 03.1**	**+1.6**
	18nm,0.3s,baz=77,slow=19,SNR=1.5							
FX1				LR		LR	13 53 27.2	
	comp=Z,76μm,21.6s,baz=113,slow=37							
FX1	**Attu Island--F**	**7.77**	**284**	Pn		**Pn**	**13 50 33.2**	**-1.8**
FX1				Sn		**Sn**	**13 52 03.1**	**+1.6**
FX1				LR		LR	13 53 27.2	
FX1	**Attu Island--F**	**7.77**	**284**	P		**Pn**	**13 50 33.2**	**-1.8**
FX1							13 52 03.2	
SDPT	**Sand Point**	**9.09**	**60**	P		**Pn**	**13 50 51.5**	**-1.5**
CHGN	**Chignik**	**10.50**	**57**	*e*P		**Pn**	**13 51 12.3**	**0.0**
OHAK	**Old Harbor**	**13.47**	**57**	*e*P		**Pn**	**13 51 49.5**	**-3.3**
	20nm,0.3s							
KDAK	**Kodiak Island**	**13.99**	**55**	Pn		**Pn**	**13 51 54.5**	**-5.5**
	3.3nm,0.3s,baz=248,slow=8.1,SNR=50							
KDAK				Sn		**Sn**	**13 54 34.8**	**+1.3**
	1.2nm,0.3s,baz=202,slow=15,SNR=2.4							
KDAK	**Kodiak Island**	**13.99**	**55**	*e*P		**Pn**	**13 51 57.0**	**-2.9**
	186nm,0.5s							
KDAK	**Kodiak Island**	**13.99**	**55**	P		**Pn**	**13 51 54.5**	**-5.4**
KDAK							13 54 34.8	
KDAK				pmax		pmax		
	comp=Z,3.0nm,0.3s							
KDAK				smax				
	comp=N,1.0nm,0.3s							
KDAK	**Kodiak Island**	**13.99**	**55**	Pn		**Pn**	**13 51 57.0**	**-2.9**
	comp=N,1μm,0.6s,SNR=17							
SVW2	**Sparrevohn**	**14.05**	**40**	*e*P		**Pn**	**13 52 01.0**	**+0.4**
	comp=N,174nm,2.4s							
TNA	**Tin City**	**14.38**	**11**	*e*P		**Pn**	**13 52 08.7**	**+3.6**
	comp=N,720nm,1.6s							
RSO	**Redoubt South**	**14.92**	**45**	P		**Pn**	**13 52 07.5**	**-4.6**
	comp=N,1μm,0.5s							
SLKM	**Skilak Lake**	**16.07**	**47**	*e*P		**Pn**	**13 52 25.5**	**-1.5**
SLKM	**Skilak Lake**	**16.07**	**47**	*e*P		**Pn**	**13 52 25.5**	**-1.5**
SEW	**Seward**	**16.28**	**49**	*e*P		**Pn**	**13 52 26.1**	**-3.5**
	comp=N,191nm,0.7s							
PPLA	**Purkeypile**	**16.38**	**38**	*e*P		**Pn**	**13 52 32.6**	**+1.7**
	comp=N,36nm,1.0s							
PET	**Petropavlovsk**	**16.54**	**286**	*e*P		**Pn**	**13 52 32.4**	**-0.5**
	comp=N,246nm,1.1s							
PET	**Petropavlovsk**	**16.54**	**286**	*c i*P		**Pn**	**13 52 31.0**	**-1.8**
PET				*e*S		**Sn**	**13 55 31.8**	**-3.4**
PET				pmax		pmax		
	comp=Z,6μm,11.7s							
PET				pmax		pmax		
	comp=Z,255nm,1.3s							
PET				pmax		pmax		
	comp=Z,7μm,11.9s							
PET				MLR		MLR		
	comp=Z,25μm,22.0s							
PET				MLR		MLR		
	comp=Z,20μm,21.0s							
PMR	**Palmer**	**17.00**	**44**	*e*P		**Pn**	**13 52 38.6**	**+0.1**
	comp=Z,14nm,0.3s							
PMR	**Palmer**	**17.00**	**44**	*e*P		**Pn**	**13 52 38.6**	**+0.1**
PMR				pmax		pmax		
	comp=Z,14nm,0.3s							
PEA0B	**Petropavlovsk-**	**17.10**	**286**	*e*P		**Pn**	**13 52 39.6**	**-0.2**
PETK	**Petropavlovsk-**	**17.10**	**286**	P		**Pn**	**13 52 38.7**	**-1.1**
	comp=Z,3.4nm,0.3s,baz=84,slow=14,SNR=39							
PETK				ScP		ScP	14 00 55.3	+3.1
	comp=Z,0.1nm,0.3s,baz=100,slow=5.0,SNR=2.6							
PETK	**Petropavlovsk-**	**17.10**	**286**	P		**Pn**	**13 52 38.7**	**-1.1**
PETK				ScP		ScP	14 00 55.3	+3.1
PETK	**Petropavlovsk-**	**17.10**	**286**	P		**Pn**	**13 52 38.7**	**-1.1**
TRF	**Thorofare Moun**	**17.41**	**38**	*e*P		**Pn**	**13 52 44.5**	**+0.9**
	comp=Z,1.2nm,0.9s							
SML	**Sawmill**	**17.43**	**44**	*e*P		**Pn**	**13 52 42.8**	**-1.2**
	comp=Z,13nm,0.2s							
SML	**Sawmill**	**17.43**	**44**	*e*P		**Pn**	**13 52 42.8**	**-1.1**
SML				pmax		pmax		
	comp=Z,13nm,0.2s							
BPAW	**Bear Paw Mtn.**	**17.51**	**35**	*e*P		**Pn**	**13 52 45.4**	**+0.6**
	comp=Z,72nm,0.9s							
MID	**Middleton Isla**	**17.58**	**53**	*e*P		**Pn**	**13 52 45.8**	**0.0**
MID	**Middleton Isla**	**17.58**	**53**	*e*P		**Pn**	**13 52 45.8**	**0.0**
MCK	**McKinley**	**18.07**	**38**	*e*P		**Pn**	**13 52 49.8**	**-1.9**
	comp=Z,98nm,1.0s							
MCK	**McKinley**	**18.07**	**38**	*e*P		**Pn**	**13 52 49.8**	**-1.9**
MCK				pmax		pmax		
	comp=Z,98nm,1.0s							
DIV	**Divide**	**18.34**	**48**	*e*P		**Pn**	**13 52 52.7**	**-2.2**
	comp=Z,162nm,0.9s							
SKR	**Severo-Kuril's**	**18.50**	**279**	⇓*i*P		**Pn**	**13 52 57.0**	**0.0**
SKR				pmax		pmax		
	comp=Z,480nm,1.2s							
SKR				pmax		pmax		
	comp=N,560nm,1.5s							
SKR				pmax		pmax		
	comp=E,480nm,1.5s							
SKR				pmax		pmax		
	comp=N,4μm,6.0s							
SKR				pmax		pmax		
	comp=E,10μm,6.0s							
SKR				pmax		pmax		
	comp=Z,10μm,6.0s							
SKR				MLR		MLR		
	comp=Z,29μm,20.0s							
SKR				MLR		MLR		
	comp=N,16μm,14.0s							
SKR				MLR		MLR		
	comp=E,28μm,20.0s							
BMRM	**Bremner River**	**18.83**	**49**	P		**Pn**	**13 52 59.6**	**-1.3**
	comp=E,296nm,1.1s							
BILL	**Bilibino**	**18.99**	**337**	*e*P		**Pn**	**13 53 03.1**	**+0.3**
	comp=E,2μm,1.4s							
BILL	**Bilibino**	**18.99**	**337**	⇑*i*P		**Pn**	**13 53 00.4**	**-2.4**
BILL				pmax		pmax		
	comp=Z,363nm,1.0s							
BILL				MLR		MLR		
	comp=Z,30μm,18.0s							
COLA	**College**	**19.07**	**36**	*e*P		**Pn**	**13 53 00.8**	**-2.9**
	comp=Z,255nm,0.4s							
COLA	**College**	**19.07**	**36**	*e*P		**Pn**	**13 53 00.8**	**-2.9**
COLA				pmax		pmax		
	comp=Z,255nm,0.4s							
PAX	**Paxson**	**19.12**	**42**	*e*P		**Pn**	**13 53 03.2**	**-1.2**
	comp=Z,76nm,0.7s							
PAX	**Paxson**	**19.12**	**42**	*e*P		**Pn**	**13 53 03.2**	**-1.2**
PAX				pmax		pmax		
	comp=Z,76nm,0.7s							
ILAR	**Eielson Array**	**19.37**	**37**	P		**Pn**	**13 53 03.0**	**-4.2**
	comp=Z,9.4nm,0.3s,baz=240,slow=9.9,SNR=183							
ILAR				S		**S**	**13 56 40.9**	**-1.0**
	baz=250,slow=13,SNR=2.9							
ILAR				ScP		ScP	14 00 59.2	+2.3
	baz=250,slow=3.4,SNR=2.3							
ILAR				LR		LR	14 01 16.4	
	comp=Z,40μm,18.3s,baz=39,slow=39							
ILAR				P3KPbc			14 27 31.4	
	baz=39,slow=3.7,SNR=11							
ILAR	**Eielson Array**	**19.37**	**37**	P		**Pn**	**13 53 03.0**	**-4.2**
ILAR				S		**S**	**13 56 40.9**	**-1.0**
ILAR				ScP		ScP	14 00 59.2	+2.3
ILAR				LR		LR	14 01 16.4	
ILAR	**Eielson Array**	**19.37**	**37**	P		**Pn**	**13 53 03.1**	**-4.2**
ILAR				*S*		**S**	**13 56 40.9**	**-1.0**
COLD	**Coldfoot**	**19.69**	**28**	*e*P		**Pn**	**13 53 09.8**	**-1.2**
	comp=Z,74nm,0.3s							
MENT	**Mentasta**	**19.86**	**43**	*e*P		**Pn**	**13 53 11.5**	**-1.6**
DOT	**Dot Lake**	**19.98**	**41**	*e*P		**Pn**	**13 53 11.2**	**-3.3**
	comp=Z,206nm,1.1s							
SEY	**Seymchan**	**20.99**	**316**	⇓*i*P		**P**	**13 53 22.8**	**-0.6**
EGAK	**Eagle**	**21.58**	**40**	*e*P		**P**	**13 53 28.5**	**-1.2**
	comp=Z,433nm,0.6s,mb6.1							
EGAK				LR		LR		
	comp=Z,50μm,19.0s,MS5.9							
DAWY	**Dawson**	**22.06**	**42**	*e*P		**P**	**13 53 33.7**	**-1.1**
SKAG	**Skagway**	**23.15**	**55**	*e*P		**P**	**13 53 47.5**	**+1.2**
	comp=Z,88nm,1.1s,mb5.1							
SIT	**Sitka**	**23.16**	**61**	*e*P		**P**	**13 53 46.7**	**+0.2**
SIT				LR		LR		
	comp=Z,13μm,21.0s,MS5.4							
SIT	**Sitka**	**23.16**	**61**	*e*P		**P**	**13 53 46.7**	**+0.2**
SIT				MLR		MLR		
	comp=Z,13μm,21.0s,MS5.4							
MIDW	**Midway**	**23.47**	**187**	PFAKE				
MIDW				LR		LR	13 54 00.0	+10
	comp=Z,21μm,19.0s,MS5.6							
WRAK	**Wrangell Islan**	**24.85**	**62**	*e*P		**P**	**13 54 03.5**	**+1.4**
	comp=Z,494nm,1.2s,mb5.9							
WRAK				LR		LR		
	comp=Z,15μm,20.0s,MS5.5							
INK	**Inuvik**	**25.70**	**34**	P		**P**	**13 54 07.8**	**-1.8**
	comp=Z,38nm,0.5s,mb5.2,baz=231,slow=8.3,SNR=85							
INK				PcP		PcP	13 57 37.8	-0.6
	comp=Z,12nm,0.8s,baz=284,slow=5.0,SNR=4.1							
INK				LR		LR	14 05 24.7	
	comp=Z,30μm,18.4s,MS5.8,baz=234,slow=39							
INK	**Inuvik**	**25.70**	**34**	*e*P		**P**	**13 54 08.3**	**-1.3**
	comp=Z,177nm,1.2s,mb5.5							
INK	**Inuvik**	**25.70**	**34**	P		**P**	**13 54 07.8**	**-1.8**
INK							13 57 37.8	
INK				pmax		pmax		
	comp=Z,38nm,0.5s							
INK				pmax		pmax		
	comp=Z,13nm,0.8s							
INK				MLR		MLR		
	comp=Z,30μm,18.4s							
DLBC	**Dease Lake**	**25.91**	**57**	P		**P**	**13 54 10.8**	**-0.8**
	comp=Z,100nm,0.8s,mb5.4,baz=283,slow=8.5,SNR=56							
DLBC				LR		LR	14 03 43.5	
	comp=Z,11μm,19.9s,MS5.4,baz=284,slow=35							
DLBC	**Dease Lake**	**25.91**	**57**	*e*P		**P**	**13 54 12.9**	**+1.3**
YUK	**Yuzh-Kuril'sk**	**27.49**	**270**	⇑*i*P		**P**	**13 54 16.9**	**-9.0**
YUK				*i* S		**S**	**13 58 57.3**	**-5.7**
YUK				*i* SSS			14 00 28.7	
YUK				pmax		pmax		
	comp=Z,2μm,1.9s,mb6.4							
YUK				pmax		pmax		
	comp=Z,2μm,1.9s,mb6.3							
YUK				pmax		pmax		
	comp=N,961nm,1.9s							
YUK				pmax		pmax		
	comp=E,761nm,1.9s							
YUK				smax				
	comp=E,2μm,2.4s							
YUK				smax				
	comp=N,5μm,3.9s							
YUK				MLR		MLR		
	comp=N,2μm,20.0s,MS5.1							
YUK				MLR		MLR		
	comp=E,5μm,20.0s,MS5.1							
YUK				MLR		MLR		
	comp=Z,10μm,20.0s,MS5.4							
YSS	**Yuzh-Sakhalins**	**28.06**	**278**	*e*P		**P**	**13 54 31.3**	**+0.4**
	comp=Z,785nm,1.4s,mb6.2							
YSS				LR		LR		
	comp=Z,12μm,21.0s,MS5.5							
YSS	**Yuzh-Sakhalins**	**28.06**	**278**	*e*P		**P**	**13 54 31.3**	**+0.3**
YSS				pmax		pmax		
	comp=Z,785nm,1.4s,mb6.2							
YSS				MLR		MLR		
	comp=Z,12μm,21.0s,MS5.5							
BBB	**Bella Bella**	**28.17**	**70**	P		**P**	**13 54 30.2**	**-1.8**
	comp=Z,39nm,1.0s,mb5.0,baz=275,slow=10,SNR=2.2							
BBB				LR		LR	14 05 50.9	
	comp=Z,14μm,18.1s,MS5.6,baz=292,slow=37							
BBB	**Bella Bella**	**28.17**	**70**	P		**P**	**13 54 30.2**	**-1.8**
BBB				LR		LR	14 05 50.9	
ASAJ	**Asahikawa**	**29.48**	**272**	P		**P**	**13 54 43.2**	**-0.4**
	comp=Z,120nm,1.0s,mb5.6,baz=31,slow=7.3,SNR=21							
ASAJ				LR		LR	14 07 12.7	
	comp=Z,12μm,19.2s,MS5.5,baz=72,slow=38							
ASAJ	**Asahikawa**	**29.48**	**272**	*e*P		**P**	**13 54 44.0**	**+0.4**
	comp=Z,90nm,0.8s,mb5.5							
ASAJ	**Asahikawa**	**29.48**	**272**	P		**P**	**13 54 43.2**	**-0.4**
ASAJ				pmax		pmax		
	comp=Z,120nm,1.0s							
ASAJ				MLR		MLR		
	comp=Z,12μm,19.2s							
ERM	**Erimo**	**30.23**	**268**	*e*P		**P**	**13 54 51.6**	**+1.3**
	comp=Z,133nm,1.1s,mb5.6							
ERM				LR		LR		
	comp=Z,11μm,20.0s,MS5.5							
ERM	**Erimo**	**30.23**	**268**	*e*P		**P**	**13 54 51.6**	**+1.3**
ERM				pmax		pmax		
	comp=Z,133nm,1.1s,mb5.6							
ERM				MLR		MLR		
	comp=Z,11μm,20.0s,MS5.5							
YAK	**Yakutsk**	**31.36**	**311**	*e*P		**P**	**13 54 59.4**	**-0.6**
	comp=Z,92nm,0.8s,mb5.7							
YAK				LR		LR		
	comp=Z,37μm,20.0s,MS6.0							
YAK	**Yakutsk**	**31.36**	**311**	*e*P		**P**	**13 54 59.4**	**-0.6**
YAK				pmax		pmax		
	comp=Z,92nm,0.8s,mb5.7							
YAK				MLR		MLR		
	comp=Z,37μm,20.0s,MS6.0							
NLWA	**Neilton Lookou**	**32.52**	**77**	*e*P		**P**	**13 55 11.6**	**+1.2**
	comp=Z,50nm,1.0s,mb5.4							
KIP	**Kipapa**	**32.70**	**151**	PFAKE			13 55 20.0	+7.8
KIP				LR		LR		
	comp=Z,16μm,19.0s,MS5.8							
VDB	**Vedder Mountai**	**32.88**	**73**	P		**P**	**13 55 14.6**	**+1.0**
YKA	**Yellowknife Ar**	**33.05**	**47**	P		**P**	**13 55 13.7**	**-1.1**
	comp=Z,4.0nm,0.5s,mb4.7,baz=273,slow=9.0,SNR=36							
YKA				PcP		PcP	13 57 57.4	+0.3
	comp=Z,7.0nm,0.7s,baz=285,slow=3.5,SNR=5.9							
YKA				ScP		ScP	14 01 41.8	+4.9
	comp=Z,3.0nm,0.9s,baz=282,slow=3.6,SNR=3.9							
YKA				LR		LR	14 10 20.5	
	comp=Z,2μm,18.9s,MS4.9,baz=115,slow=39							
YKA	**Yellowknife Ar**	**33.05**	**47**	P		**P**	**13 55 13.7**	**-1.1**
YKA				PcP		PcP	13 57 57.4	+0.3
YKA				ScP		ScP	14 01 41.8	+4.9
YKA				LR		LR	14 10 20.5	
YKA	**Yellowknife Ar**	**33.05**	**47**	P		**P**	**13 55 13.7**	**-1.2**
YKA							13 57 57.4	
GNW	**Green Mountain**	**33.08**	**76**	*e*P		**P**	**13 55 17.1**	**+1.8**
	comp=Z,137nm,1.6s,mb5.6							
JCW	**Jim Creek**	**33.34**	**75**	P		**P**	**13 55 19.0**	**+1.4**
RPW	**Rockport**	**33.48**	**74**	*e*P		**P**	**13 55 19.3**	**+0.5**
	comp=Z,50nm,1.1s,mb5.3							
HTW	**Haystack Looko**	**33.61**	**75**	P		**P**	**13 55 21.2**	**+1.3**
RMW	**Rattlesnake Mo**	**33.75**	**76**	P		**P**	**13 55 23.8**	**+2.7**
RMW	**Rattlesnake Mo**	**33.75**	**76**	P		**P**	**13 55 23.8**	**+2.7**
KLR	**Kul'dur**	**33.78**	**288**	⇓*i*P		**P**	**13 55 16.0**	**-5.3**
KLR				pmax		pmax		
	comp=E,43nm,1.2s							
KLR				pmax		pmax		
	comp=Z,280nm,1.2s,mb6.1							
KLR				pmax		pmax		
	comp=Z,4μm,11.0s							
KLR				MLR		MLR		
	comp=Z,15μm,13.5s,MS5.9							
LON	**Longmire**	**34.07**	**77**	*e*P		**P**	**13 55 25.2**	**+1.3**
	comp=Z,34nm,0.8s,mb5.3							
LON	**Longmire**	**34.07**	**77**	*e*P		**P**	**13 55 25.2**	**+1.3**
LON				pmax		pmax		
	comp=Z,34nm,0.8s,mb5.3							
ETW	**Entiat**	**34.57**	**75**	P		**P**	**13 55 29.4**	**+1.3**
WTV	**Waterville**	**34.75**	**74**	P		**P**	**13 55 31.7**	**+1.9**
CLNS	**Chul'man**	**34.87**	**303**	*e*P		**P**	**13 55 27.2**	**-3.4**
CLNS				*e*PP		pP	13 55 39.0	-4.7
CLNS				*e*			13 56 47.5	
CLNS				*e*			13 58 01.6	
CLNS				*e*S		**S**	**14 00 53.1**	**-4.7**
CLNS				*e*SS		SS	14 03 14.6	-16
CLNS				pmax		pmax		
	comp=Z,50nm,1.6s,mb5.2							
CLNS				pmax		pmax		
	comp=N,15nm,1.4s							
CLNS				pmax		pmax		
	comp=E,44nm,1.6s							
CLNS				pmax		pmax		
	comp=Z,53nm,1.8s,mb5.2							
CLNS				pmax		pmax		
	comp=N,17nm,1.2s							
CLNS				pmax		pmax		
	comp=E,26nm,1.5s							
CLNS				smax				
	comp=N,404nm,12.8s							
CLNS				smax				
	comp=E,1μm,16.5s							
CLNS				MLR		MLR		
	comp=Z,13μm,16.0s,MS5.8							
CLNS				MLR		MLR		
	comp=N,10μm,16.0s,MS5.8							
CLNS				MLR		MLR		
	comp=E,11μm,17.0s,MS5.8							
BROR	**Big Rock Looko**	**34.90**	**81**	P		**P**	**13 55 32.5**	**+1.4**
JOHN	**Johnston Islan**	**35.00**	**172**	PFAKE			13 55 40.0	+7.9
JOHN				LR		LR		
	comp=Z,7μm,22.0s,MS5.3							
HUMO	**Hull Mountain**	**35.46**	**84**	*e*P		**P**	**13 55 36.2**	**+0.3**
	comp=Z,66nm,1.3s,mb5.4							
RSW	**Rattlesnake Hi**	**35.59**	**76**	*e*P		**P**	**13 55 38.0**	**+1.0**
	comp=Z,76nm,0.6s,mb5.8							
HAWA	**Hanford**	**35.62**	**76**	*e*P		**P**	**13 55 37.2**	**-0.1**
	comp=Z,79nm,0.8s,mb5.7							
HAWA				LR		LR		
	comp=Z,12μm,19.0s,MS5.7							
OD2	**Odessa Site #2**	**35.64**	**74**	P		**P**	**13 55 38.1**	**+0.7**
VIPM	**Ingram Point**	**35.90**	**80**	P		**P**	**13 55 40.9**	**+1.3**
VIPM	**Ingram Point**	**35.90**	**80**	P		**P**	**13 55 40.9**	**+1.2**
KHMM	**Horse Mountain**	**35.94**	**87**	*e*P		**P**	**13 55 41.6**	**+1.5**
	comp=Z,213nm,1.4s,mb5.9							
YBH	**Yreka Blue Hor**	**36.09**	**85**	P		**P**	**13 55 41.0**	**-0.4**
	comp=Z,15nm,0.9s,mb4.9,baz=272,slow=4.2,SNR=20							
YBH				LR		LR	14 07 01.7	
	comp=Z,6μm,19.0s,MS5.4,baz=307,slow=31							
YBH	**Yreka Blue Hor**	**36.09**	**85**	*e*P		**P**	**13 55 42.7**	**+1.3**
	comp=Z,47nm,1.0s,mb5.4							
YBH	**Yreka Blue Hor**	**36.09**	**85**	*e*P		**P**	**13 55 42.7**	**+1.3**
YBH				pmax		pmax		
	comp=Z,47nm,1.0s							
NEW	**Newport**	**36.19**	**72**	*e*P		**P**	**13 55 42.0**	**0.0**
	comp=Z,78nm,0.8s,mb5.7							
NEW				LR		LR		
	comp=Z,8μm,19.0s,MS5.5							
NEW	**Newport**	**36.19**	**72**	*e*P		**P**	**13 55 42.0**	**-0.1**
NEW				pmax		pmax		
	comp=Z,78nm,0.8s							
NEW				MLR		MLR		
	comp=Z,8μm,19.0s							
MJAR	**Matsushiro Arr**	**36.57**	**265**	P		**P**	**13 55 45.5**	**0.0**
	comp=Z,68nm,1.0s,mb5.4,baz=50,slow=7.3,SNR=83							
MJAR				PcP		PcP	13 58 09.0	+1.2
	comp=Z,14nm,1.0s,baz=39,slow=0.8,SNR=4.2							
MJAR				ScP		ScP	14 01 55.2	+5.3
	comp=Z,3.2nm,1.1s,baz=36,slow=2.7,SNR=4.5							
MJAR				LR		LR	14 09 37.4	
	comp=Z,12μm,19.8s,MS5.7,baz=60,slow=34							
MJAR	**Matsushiro Arr**	**36.57**	**265**	P		**P**	**13 55 45.5**	**0.0**
MJAR				PcP		PcP	13 58 09.0	+1.2
MJAR				ScP		ScP	14 01 55.2	+5.3
MJAR				LR		LR	14 09 37.4	
MJAR	**Matsushiro Arr**	**36.57**	**265**	P		**P**	**13 55 45.5**	**0.0**
MJAR							13 58 09.0	
MAJO	**Matsushiro**	**36.57**	**265**	*e*P		**P**	**13 55 44.9**	**-0.6**
	comp=Z,530nm,1.4s,mb6.2							
MAJO	**Matsushiro**	**36.57**	**265**	*e*P		**P**	**13 55 44.9**	**-0.6**
MAJO				pmax		pmax		
	comp=Z,530nm,1.4s,mb6.2							
MAT	**Matsushiro**	**36.57**	**265**	P		**P**	**13 55 45.1**	**-0.4**
MAT				S		**S**	**14 01 23.0**	**-1.3**
LNOR	**Lincton Mounta**	**36.63**	**76**	*e*P		**P**	**13 55 45.5**	**-0.4**
	comp=Z,25nm,0.9s,mb5.0							
LNOR	**Lincton Mounta**	**36.63**	**76**	*e*P		**P**	**13 55 45.5**	**-0.4**
LNOR				pmax		pmax		
	comp=Z,25nm,0.9s,mb5.0							
VLA	**Vladivostok**	**36.64**	**278**	*c i*P		**P**	**13 55 46.2**	**+0.2**
VLA				pmax		pmax		
	comp=Z,671nm,1.3s,mb6.3							
VLA				MLR		MLR		
	comp=Z,12μm,21.0s,MS5.7							
KIPM	**Iron Peak**	**36.72**	**88**	*e*P		**P**	**13 55 48.5**	**+1.8**
	comp=Z,134nm,1.1s,mb5.7							
KCPM	**Cahto Peak**	**36.72**	**89**	*e*P		**P**	**13 55 48.5**	**+1.7**
	comp=Z,117nm,1.3s,mb5.5							
WDC	**Whiskeytown Da**	**36.85**	**87**	*e*P		**P**	**13 55 48.7**	**+0.9**
	comp=Z,97nm,1.3s,mb5.5							
WD

WVOR LR LR
comp=Z,9µm,19.0s,MS5.6
RES Resolute Bay 38.38 25 P **P 13 55 59.7 -0.7**
comp=Z,8.3nm,0.6s,mb4.7,baz=241,slow=8.7,SNR=23
RES PcP PcP 13 58 13.7 +0.9
comp=Z,15nm,0.8s,baz=321,slow=2.3,SNR=5.6
RES LR LR 14 15 02.7
comp=Z,18µm,18.6s,MS5.9,baz=145,slow=41
RES Resolute Bay 38.38 25 *eP* **P 13 55 59.8 -0.5**
comp=Z,37nm,1.2s,mb5.0
RES Resolute Bay 38.38 25 P **P 13 55 59.7 -0.7**
RES 13 58 13.7
RES pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
RES pmax pmax
comp=Z,15nm,0.8s,mb4.8
RES MLR MLR
comp=Z,18µm,18.6s,MS5.9
SWMT Swartz Lake 38.40 72 *eP* **P 13 56 01.3 +0.5**
comp=Z,44nm,1.1s,mb5.1
MSO Missoula 38.77 72 *eP* **P 13 56 03.5 -0.4**
comp=Z,128nm,1.4s,mb5.5
MSO LR LR
comp=Z,4µm,21.0s,MS5.2
SLMT Seeley Lake 38.83 72 *eP* **P 13 56 04.9 +0.5**
comp=Z,201nm,1.3s,mb5.7
CHMT Chamberlain Mo 39.13 72 *eP* **P 13 56 07.2 +0.3**
comp=Z,24nm,0.8s,mb5.0
PAHR Pah Rah Range 39.33 85 *eP* **P 13 56 08.9 +0.2**
comp=Z,178nm,1.3s,mb5.6
WCN Washoe City 39.34 86 *eP* **P 13 56 08.9 +0.1**
comp=Z,98nm,1.1s,mb5.5
WCN Washoe City 39.34 86 *eP* **P 13 56 08.9 +0.2**
WCN pmax pmax
comp=Z,97nm,1.1s,mb5.5
MFID Camas Ranch 39.41 78 *eP* **P 13 56 09.7 +0.4**
comp=Z,43nm,0.9s,mb5.2
CMB Columbia Colle 39.71 88 *eP* **P 13 56 12.5 +0.6**
comp=Z,59nm,1.1s,mb5.2
CMB LR LR
comp=Z,6µm,20.0s,MS5.5
CMB Columbia Colle 39.71 88 *eP* **P 13 56 12.5 +0.6**
CMB pmax pmax
comp=Z,59nm,1.1s,mb5.2
CMB MLR MLR
comp=Z,6µm,20.0s,MS5.5
SAO San Andreas Ge 39.84 91 *eP* **P 13 56 13.7 +0.8**
comp=Z,44nm,1.0s,mb5.1
SAO LR LR
comp=Z,7µm,21.0s,MS5.5
SAO San Andreas Ge 39.84 91 *eP* **P 13 56 13.7 +0.8**
SAO pmax pmax
comp=Z,43nm,1.0s,mb5.1
SAO MLR MLR
comp=Z,7µm,21.0s,MS5.5
BOD Bodaibo 40.05 308 *eP* **P 13 56 12.9 -1.6**
BOD *e* 14 06 15.0
BOD pmax pmax
comp=Z,87nm,2.0s,mb5.1
HRY Holter Researc 40.08 71 *eP* **P 13 56 15.0 +0.2**
comp=Z,79nm,0.9s,mb5.4
LRM Limekiln Ridge 40.17 73 *eP* **P 13 56 16.1 +0.6**
comp=Z,200nm,0.8s,mb5.9
HLID Hailey 40.19 77 *eP* **P 13 56 15.7 -0.1**
comp=Z,70nm,0.4s,mb5.7
HLID LR LR
comp=Z,8µm,21.0s,MS5.6
CN2 Changchun 40.22 283 ⇑P **P 13 56 15.2 -0.8**
CN2 PP PP 13 57 51.4 +2.3
CN2 *eS* **S 14 02 20.7 +1.5**
CN2 SS SS 14 05 10.8 -7.7
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,24µm,21.0s,MS6.2
CN2 LR LR
comp=E,22µm,21.0s,MS6.2
CN2 LR LR
comp=Z,30µm,22.0s,MS6.1
DLMT Dillon 40.32 74 *eP* **P 13 56 17.2 +0.3**
comp=Z,56nm,1.1s,mb5.2
MCMT McKenzie Canyo 40.45 75 *eP* **P 13 56 17.6 -0.4**
comp=Z,31nm,0.6s,mb5.2
EGMT Eagleton 40.63 69 *eP* **P 13 56 18.5 -0.8**
comp=Z,2µm,1.0s,mb6.7
EGMT LR LR
comp=Z,9µm,20.0s,MS5.6
CBIJ Chichi jima 40.74 250 P **P 13 56 19.7 -0.8**
comp=Z,256nm,0.9s,mb5.9,baz=38,slow=6.2,SNR=13
CBIJ LR LR 14 10 01.7
comp=Z,4µm,21.1s,MS5.2,baz=205,slow=31
BOZ Bozeman (W) 40.75 73 *eP* **P 13 56 20.3 -0.1**
comp=Z,113nm,1.2s,mb5.4
BOZ LR LR
comp=Z,8µm,19.0s,MS5.6
BOZ Bozeman (W) 40.75 73 *eP* **P 13 56 20.3 -0.1**
BOZ pmax pmax
comp=Z,113nm,1.2s,mb5.4
BOZ MLR MLR
comp=Z,8µm,19.0s,MS5.6
HIA Hailar 40.76 294 *eP* **P 13 56 19.7 -0.8**
comp=Z,63nm,0.9s,mb5.2
HIA LR LR
comp=Z,11µm,19.0s,MS5.8
HIA Hailar 40.76 294 *eP* **P 13 56 19.7 -0.7**
HIA pmax pmax
comp=Z,63nm,0.9s
HIA MLR MLR
comp=Z,11µm,19.0s
NVAR Mina Array Bea 40.77 86 P **P 13 56 20.4 -0.2**
comp=Z,16nm,0.9s,mb4.7,baz=292,slow=7.8,SNR=47
NVAR PcP PcP 13 58 20.5 -0.4
comp=Z,3.7nm,0.7s,baz=308,slow=4.6,SNR=2.9
NVAR ScP ScP 14 02 08.9 +2.9
comp=Z,3.1nm,0.9s,baz=299,slow=4.0,SNR=3.7
NVAR LR LR 14 12 13.1
comp=Z,5µm,18.1s,MS5.4,baz=270,slow=35
NVAR PKP2bc 14 28 59.2
comp=Z,0.3nm,0.6s,baz=226,slow=4.8,SNR=2.7
NVAR PKP2ab 14 29 55.8
comp=Z,0.3nm,0.4s,baz=204,slow=2.0,SNR=3.6
NVAR Mina Array Bea 40.77 86 P **P 13 56 20.4 -0.2**
NVAR PcP PcP 13 58 20.5 -0.4
NVAR ScP ScP 14 02 08.9 +2.9
NVAR LR LR 14 12 13.1
NVAR ⇑*e* 14 28 59.2
QLMT Earthquake Lak 41.30 74 *eP* **P 13 56 25.2 +0.3**
comp=Z,4.6nm,0.9s
TPH Tonopah 41.66 86 PFAKE 13 56 40.0 +12
TPH LR LR
comp=Z,4µm,19.0s,MS5.3
YMR Madison River 41.67 74 *eP* **P 13 56 28.5 +0.6**
comp=Z,109nm,0.9s,mb5.5
FFC Flin Flon 41.73 56 *eP* **P 13 56 28.1 -0.2**
comp=Z,74nm,0.9s,mb5.3
FFC LR LR
comp=Z,12µm,20.0s,MS5.8
FFC Flin Flon 41.73 56 *i* P **P 13 56 28.6 +0.3**
FFC Flin Flon 41.73 56 P **P 13 56 28.2 -0.1**
comp=Z,454nm,0.9s,mb6.1,SNR=12
YNR Norris Junctio 41.82 73 *eP* **P 13 56 29.7 +0.5**
comp=Z,280nm,1.4s,mb5.7
GCMT Greycliff 41.84 71 *eP* **P 13 56 29.5 +0.2**
comp=Z,49nm,1.0s,mb5.1
YFT Old Faithful 41.87 74 *eP* **P 13 56 30.3 +0.7**
comp=Z,154nm,1.3s,mb5.5
ALE Alert 41.91 11 P **P 13 56 30.0 +0.5**
comp=Z,121nm,0.6s,mb5.7,SNR=10.0
LKWY Lake 42.07 73 *eP* **P 13 56 33.3 +2.1**
comp=Z,56nm,0.8s,mb5.2
LKWY LR LR
comp=Z,7µm,19.0s,MS5.6
LKWY Lake 42.07 73 *eP* **P 13 56 33.3 +2.1**
LKWY pmax pmax
comp=Z,56nm,0.8s,mb5.2
LKWY MLR MLR
comp=Z,7µm,19.0s,MS5.6
IMW Indian Meadow 42.11 75 *eP* **P 13 56 31.7 +0.1**
comp=Z,93nm,1.2s,mb5.3
DCID1 Drake Creek 42.13 75 *eP* **P 13 56 31.9 +0.2**
comp=Z,70nm,0.9s,mb5.3
FLWY Flagg Ranch 42.15 74 *eP* **P 13 56 32.0 +0.2**
comp=Z,248nm,1.5s,mb5.6
RRI2 Red Ridge 42.19 76 *eP* **P 13 56 33.0 +0.8**
comp=Z,308nm,1.5s,mb5.7
HVU Hansel Valley 42.20 78 *eP* **P 13 56 32.7 +0.4**
comp=Z,36nm,0.7s,mb5.1
HVU Hansel Valley 42.20 78 *eP* **P 13 56 32.7 +0.4**
HVU pmax pmax
comp=Z,36nm,0.7s,mb5.1
MOOW Moose Ponds 42.31 75 *eP* **P 13 56 33.2 0.0**
comp=Z,123nm,1.9s,mb5.2
TPAW Teton Pass 42.33 75 *eP* **P 13 56 34.3 +0.9**
comp=Z,159nm,1.5s,mb5.4
ISA Isabella 42.39 90 *eP* **P 13 56 33.1 -0.8**
comp=Z,47nm,1.0s,mb5.1
ISA Isabella 42.39 90 *eP* **P 13 56 33.1 -0.8**
ISA pmax pmax
comp=Z,47nm,1.0s,mb5.1
KSRS Korea Array 42.41 274 P **P 13 56 34.6 +0.6**
comp=Z,63nm,1.0s,mb5.2,baz=59,slow=7.5,SNR=66
KSRS LR LR 14 14 00.8
comp=Z,9µm,19.7s,MS5.7,baz=47,slow=36
KSRS Korea Array 42.41 274 P **P 13 56 34.6 +0.6**
KSRS pmax pmax
comp=Z,63nm,1.0s,mb5.2
KSRS MLR MLR
comp=Z,9µm,19.7s,MS5.7
RLMT Red Lodge 42.44 72 *eP* **P 13 56 34.3 +0.1**
comp=Z,42nm,2.1s,mb4.7
RLMT LR LR
comp=Z,6µm,19.0s,MS5.5
REDW Red Top Meadow 42.46 75 *eP* **P 13 56 34.8 +0.4**
comp=Z,85nm,1.2s,mb5.2
SNOW Snow King Moun 42.46 75 *eP* **P 13 56 33.4 -1.1**
comp=Z,212nm,1.7s,mb5.5
SNY Shenyang 42.47 282 ⇑P **P 13 56 34.9 +0.4**
SNY sP sP 13 56 48.4 -5.3
SNY PP PP 13 58 15.7 +2.3
SNY S **S 14 02 51.2 -1.4**
SNY pmax pmax
comp=Z,660nm,1.7s,mb6.0
SNY LR LR
comp=N,9µm,22.2s,MS5.8
SNY LR LR
comp=E,9µm,20.1s,MS5.8
SNY LR LR
comp=Z,15µm,18.9s,MS5.9
LOHW Long Hollow 42.47 75 *eP* **P 13 56 34.2 -0.2**
comp=Z,18nm,0.8s,mb4.7
BGU Big Grassy Mou 42.54 80 *eP* **P 13 56 35.3 +0.3**
comp=Z,96nm,1.4s,mb5.3
AHID Auburn Hatcher 42.65 76 *eP* **P 13 56 35.6 -0.3**
comp=Z,163nm,1.5s,mb5.5
AHID LR LR
comp=Z,12µm,19.0s,MS5.8
CIT Chita 42.86 300 *eP* **P 13 56 37.6 +0.1**
CIT *e* pP 13 56 48.1 -2.8
CIT *e* 13 58 28.4
CIT *e* 13 59 00.6
CIT pmax pmax
comp=Z,263nm,1.8s,mb5.7
HWUT Hardware Ranch 43.03 78 *eP* **P 13 56 38.8 -0.2**
comp=Z,26nm,0.8s,mb5.0
HWUT LR LR
comp=Z,5µm,21.0s,MS5.4
DUG Dugway 43.10 80 *eP* **P 13 56 39.3 -0.3**
comp=Z,135nm,1.1s,mb5.6
DUG LR LR
comp=Z,7µm,19.0s,MS5.6
DUG Dugway 43.10 80 *eP* **P 13 56 39.3 -0.3**
DUG pmax pmax
comp=Z,135nm,1.1s,mb5.6
DUG MLR MLR
comp=Z,7µm,19.0s,MS5.6
INCN Inchon 43.19 275 *eP* **P 13 56 40.1 -0.3**
comp=Z,153nm,0.9s,mb5.7
INCN LR LR
comp=Z,6µm,22.0s,MS5.5
INCN Inchon 43.19 275 P **P 13 56 41.2 +0.8**
SNR=14
NOQ North Oquirrh 43.26 79 P **P 13 56 42.5 +1.6**
comp=Z,164nm,1.2s,mb5.6
JNU Nakatsue 43.36 267 *eP* **P 13 56 42.0 +0.2**
comp=Z,123nm,1.2s,mb5.5
LAO LASA Array 43.38 68 *eP* **P 13 56 41.9 +0.1**
comp=Z,651nm,1.7s,mb6.1
LAO LR LR
comp=Z,12µm,22.0s,MS5.7
CTU Camp Tracy 43.46 79 *eP* **P 13 56 43.8 +1.3**
comp=Z,46nm,1.0s,mb5.2
PASC Pasadena Art C 43.54 91 *eP* **P 13 56 42.3 -1.0**
comp=Z,75nm,1.3s,mb5.3
PD01 Pinedale Array 43.56 75 *eP* **P 13 56 42.8 -0.5**
PD02 Pinedale Array 43.57 75 *eP* **P 13 56 43.0 -0.4**
BW06 Boulder Array 43.58 75 *eP* **P 13 56 43.1 -0.4**
comp=Z,362nm,1.5s,mb5.9
PDAR Pinedale Array 43.58 75 P **P 13 56 43.2 -0.3**
comp=Z,36nm,0.9s,mb5.1,baz=304,slow=3.9,SNR=98
PDAR LR LR 14 14 43.6
comp=Z,9µm,18.7s,MS5.7,baz=309,slow=36
PDAR PKPPKP 14 28 28.2
comp=Z,0.8nm,0.9s,baz=183,slow=3.0,SNR=4.3
PDAR Pinedale Array 43.58 75 P **P 13 56 43.2 -0.3**
PDAR LR LR 14 14 43.6
PDAR P'P' 14 28 28.2
MWC Mount Wilson 43.58 91 *eP* **P 13 56 44.0 +0.4**
comp=Z,175nm,1.3s,mb5.6
MWC Mount Wilson 43.58 91 *eP* **P 13 56 44.0 +0.4**
MWC pmax pmax
comp=Z,175nm,1.3s,mb5.6
DGMT Dagmar 43.59 65 *eP* **P 13 56 43.1 -0.4**
comp=Z,619nm,1.7s,mb6.1
DGMT LR LR
comp=Z,14µm,20.0s,MS5.9
GSC Goldstone 43.66 89 *eP* **P 13 56 44.0 -0.2**
comp=Z,72nm,0.9s,mb5.4
GSC Goldstone 43.66 89 *eP* **P 13 56 44.0 -0.2**
GSC pmax pmax
comp=Z,72nm,0.9s,mb5.4
JLU Jordanelle 43.70 79 *eP* **P 13 56 44.2 -0.2**
comp=Z,111nm,1.2s,mb5.5
NLU North Lily Min 43.70 80 *eP* **P 13 56 44.5 +0.1**
comp=Z,84nm,0.9s,mb5.5
SHPR Sheep Range 43.92 86 *eP* **P 13 56 46.8 +0.6**
comp=Z,59nm,1.2s,mb5.2
DAU Daniels Canyon 43.93 79 *eP* **P 13 56 46.9 +0.6**
comp=Z,7.3nm,0.6s,mb4.6
DAU Daniels Canyon 43.93 79 *eP* **P 13 56 46.9 +0.6**
DAU pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
MPU Maple Canyon 43.93 80 *eP* **P 13 56 46.6 +0.3**
comp=Z,62nm,1.0s,mb5.3
CCUT Cedar City 44.38 84 *eP* **P 13 56 50.5 +0.6**
comp=Z,66nm,1.2s,mb5.2
MSU Marysvale 44.51 82 *eP* **P 13 56 50.9 -0.1**
comp=Z,27nm,0.7s,mb5.2
MSU Marysvale 44.51 82 *eP* **P 13 56 50.9 -0.1**
MSU pmax pmax
comp=Z,27nm,0.7s,mb5.2
TMUT Trail Mountain 44.63 80 *eP* **P 13 56 52.1 +0.2**
comp=Z,129nm,0.9s,mb5.8
LDFC Landfair 44.87 88 *eP* **P 13 56 53.1 -0.7**
comp=Z,168nm,1.1s,mb5.8
PFO Pinyon Flat Ob 44.99 90 *eP* **P 13 56 54.2 -0.6**
comp=Z,252nm,2.0s,mb5.7
PFO LR LR
comp=Z,8µm,22.0s,MS5.6
PFO Pinyon Flat Ob 44.99 90 *eP* **P 13 56 54.2 -0.6**
PFO pmax pmax
comp=Z,252nm,2.0s,mb5.7
PFO MLR MLR
comp=Z,8µm,22.0s,MS5.6
PFO Pinyon Flat Ob 44.99 90 P **P 13 56 55.1 +0.3**
comp=Z,92nm,1.4s,mb5.4,SNR=5.7
SRU San Rafael 45.16 80 *eP* **P 13 56 55.2 -0.9**
comp=Z,98nm,1.0s,mb5.6
SRU San Rafael 45.16 80 *eP* **P 13 56 55.2 -0.9**
SRU pmax pmax
comp=Z,98nm,1.0s,mb5.6
DL2 Dalian 45.40 280 ⇑*i* P **P 13 56 58.6 +0.6**
DL2 S **S 14 03 36.2 +0.8**
DL2 pmax pmax
comp=Z,180nm,1.2s,mb5.8
DL2 pmax pmax
comp=Z,1µm,10.2s
DL2 LR LR
comp=N,4µm,20.1s,MS5.5
DL2 LR LR
comp=E,3µm,19.3s,MS5.5
DL2 LR LR
comp=Z,3µm,17.0s,MS5.4
BAR Barrett 45.47 91 *eP* **P 13 56 58.8 +0.1**
comp=Z,58nm,1.1s,mb5.3
RWWY Rawlins 45.62 75 *eP* **P 13 56 59.9 +0.1**
comp=Z,174nm,1.4s,mb5.8
RSSD Black Hills 46.09 70 *eP* **P 13 57 03.4 0.0**
comp=Z,27nm,0.7s,mb5.3
RSSD Black Hills 46.09 70 *eP* **P 13 57 03.4 0.0**
RSSD pmax pmax
comp=Z,27nm,0.7s,mb5.3
GLA Glamis 46.38 90 *eP* **P 13 57 05.4 -0.4**
comp=Z,81nm,1.3s,mb5.5
GLA Glamis 46.38 90 *eP* **P 13 57 05.4 -0.4**
GLA pmax pmax
comp=Z,81nm,1.3s,mb5.5
PV04 Paradox Valley 46.60 80 *eP* **P 13 57 07.2 -0.3**
WUAZ Wupatki 46.91 84 *eP* **P 13 57 08.8 -1.1**
comp=Z,88nm,1.1s,mb5.6
WUAZ LR LR
comp=Z,9µm,20.0s,MS5.7
PHWY Pilot Hill 46.91 74 *eP* **P 13 57 09.5 -0.3**
comp=Z,14nm,0.8s,mb4.9
PV01 Paradox Valley 46.97 80 *eP* **P 13 57 09.7 -0.6**
comp=Z,8µm,0.9s
ULM Lac du Bonnet 47.21 59 P **P 13 57 11.5 -0.6**
comp=Z,43nm,0.6s,mb5.5,baz=306,slow=7.6,SNR=58
ULM LR LR 14 18 06.5
comp=Z,12µm,19.9s,MS5.9,baz=317,slow=38
ULM Lac du Bonnet 47.21 59 *eP* **P 13 57 11.4 -0.7**
comp=Z,353nm,1.5s,mb6.1
ULM Lac du Bonnet 47.21 59 *eP* **P 13 57 11.4 -0.7**
ULM pmax pmax
comp=Z,353nm,1.5s
SMCO Snowmass 47.29 78 *eP* **P 13 57 12.8 0.0**
comp=Z,40nm,1.1s,mb5.3
MVCO Mesa Verde 47.60 81 *eP* **P 13 57 14.4 -0.9**
comp=Z,97nm,1.1s,mb5.8
MVCO LR LR
comp=Z,7µm,22.0s,MS5.6
IRK Irkutsk 47.63 305 *eP* **P 13 57 13.9 -1.4**
IRK *e* 13 59 01.8
IRK *e* 14 07 03.9
IRK pmax pmax
comp=Z,276nm,1.8s,mb6.0
ISCO Idaho Springs 47.73 76 *eP* **P 13 57 16.8 +0.5**
comp=Z,2µm,1.0s,mb7.0
ISCO LR LR
comp=Z,11µm,19.0s,MS5.9
ISCO Idaho Springs 47.73 76 *eP* **P 13 57 16.8 +0.5**
ISCO pmax pmax
comp=Z,2µm,1.0s,mb7.0
ISCO MLR MLR
comp=Z,11µm,19.0s,MS5.9
BJI Beijing 48.03 285 P **P 13 57 18.7 +0.2**
BJI pP pP 13 57 30.7 -1.4
BJI sP sP 13 57 35.0 -2.9
BJI PcP PcP 13 58 44.5 -1.3
BJI PP PP 13 59 11.2 +0.5
BJI ScP ScP 14 02 34.4 -1.3
BJI S **S 14 04 11.5 -1.3**
BJI pmax pmax
comp=Z,170nm,1.6s,mb5.8
BJI pmax pmax
comp=Z,1µm,3.8s
BJI LR LR
comp=N,20µm,20.7s,MS6.2
BJI LR LR
comp=E,19µm,21.3s,MS6.2
BJI LR LR
comp=Z,22µm,22.5s,MS6.1
BJT Baijiatuau 48.04 285 PFAKE 13 57 30.0 +11
BJT LR LR
comp=Z,27µm,20.0s,MS6.2
TLY Talaya 48.26 304 *eP* **P 13 57 20.1 -0.1**
comp=Z,296nm,1.6s,mb6.1
TLY LR LR
comp=Z,12µm,19.0s,MS5.9
TLY Talaya 48.26 304*c i* P **P 13 57 19.7 -0.5**
TLY *e* 13 58 47.1
TLY *eS* **S 14 04 24.1 +8.2**
TLY *e* 14 07 11.3
TLY pmax pmax
comp=Z,79nm,1.1s,mb5.7
TLY MLR MLR
comp=Z,11µm,18.0s,MS5.9
TLY Talaya 48.26 304 P **P 13 57 20.5 +0.3**
comp=Z,375nm,1.6s,mb6.2,SNR=34
TLY Talaya 48.26 304 P **P 13 57 20.5 +0.3**
SNR=52
AGMN Agassiz Nation 48.32 61 P **P 13 57 19.7 -1.0**
comp=Z,437nm,1.5s,mb6.3
AGMN LR LR
comp=Z,13µm,19.0s,MS6.0
ULN Ulaanbaatar 48.63 298 *eP* **P 13 57 22.4 -0.6**
comp=Z,139nm,1.5s,mb5.8
ULN LR LR
comp=Z,21µm,19.0s,MS6.2
ULN Ulaanbaatar 48.63 298 *eP* **P 13 57 22.4 -0.6**
ULN pmax pmax
comp=Z,139nm,1.5s,mb5.8
ULN MLR MLR
comp=Z,21µm,19.0s,MS6.2
ULN Ulaanbaatar 48.63 298 P **P 13 57 23.2 +0.2**
comp=Z,2µmcomp=Z,54nm,1.6s,mb5.3
ULN Ulaanbaatar 48.63 298 P **P 13 57 23.0 -0.1**
SNR=51
SONM Songino Array 49.01 299 P **P 13 57 25.9 -0.1**
comp=Z,17nm,0.9s,mb5.1,baz=48,slow=4.6,SNR=94
SONM PcP PcP 13 58 47.3 -1.8
comp=Z,21nm,1.0s,baz=62,slow=4.3,SNR=5.7
SONM ScP ScP 14 02 43.4 +3.7
comp=Z,12nm,1.1s,baz=69,slow=3.1,SNR=3.2
SONM LR LR 14 19 18.1
comp=Z,22µm,19.3s,MS6.2,baz=56,slow=38
SONM P4KPbc 14 35 03.8
comp=Z,0.6nm,1.0s,baz=145,slow=5.4,SNR=4.0
SONM Songino Array 49.01 299 P **P 13 57 25.9 -0.1**
SONM PcP PcP 13 58 47.3 -1.8
SONM ScP ScP 14 02 43.4 +3.7
SONM LR LR 14 19 18.1
SONM Songino Array 49.01 299 P **P 13 57 25.9 0.0**
SONM 13 58 47.3
SDCO Great Sand Dun 49.09 78 *eP* **P 13 57 26.5 -0.3**
comp=Z,107nm,1.3s,mb5.7
SDCO LR LR
comp=Z,4µm,22.0s,MS5.4
OGNE Ogallala 49.17 73 *eP* **P 13 57 27.7 +0.4**
comp=Z,96nm,0.9s,mb5.8
OGNE LR LR
comp=Z,4µm,21.0s,MS5.4
ZAK Zakamensk 49.19 303 *eP* **P 13 57 27.6 +0.3**
ZAK *e* 13 58 51.0
ZAK *e* 14 04 29.6
ZAK pmax pmax
comp=Z,56nm,1.5s,mb5.4
JOW Kunigami 49.35 263 P **P 13 57 28.6 -0.2**
comp=Z,83nm,1.0s,mb5.7,baz=60,slow=6.7,SNR=11
JOW Kunigami 49.35 263 *eP* **P 13 57 29.2 +0.4**
comp=Z,42nm,1.1s,mb5.4
TUC Tucson 49.39 87 *eP* **P 13 57 27.7 -1.4**
comp=Z,27nm,0.9s,mb5.3
TUC LR LR
comp=Z,4µm,19.0s,MS5.4
TUC Tucson 49.39 87 *eP* **P 13 57 27.7 -1.4**
TUC pmax pmax
comp=Z,27nm,0.9s,mb5.3
TUC MLR MLR
comp=Z,4µm,19.0s,MS5.4
MOY Mondy 49.63 306 *eP* **P 13 57 30.2 -0.4**
MOY pmax pmax
comp=Z,276nm,2.3s,mb5.9
KBS Kingsbay 49.68 358 PFAKE 13 57 40.0 +9.3
KBS LR LR
comp=Z,15µm,20.0s,MS6.0
TIA Tai'an 49.88 280 ⇑P **P 13 57 32.7 0.0**
TIA sP sP 13 57 45.7 -6.5
TIA PP PP 13 59 30.0 +2.4
TIA S **S 14 04 39.1 +0.2**
TIA sS sS 14 04 57.1 -4.7
TIA pmax pmax
comp=Z,320nm,1.5s,mb6.1
TIA pmax pmax
comp=Z,3µm,12.1s
TIA LR LR
comp=N,8µm,22.6s,MS5.8
TIA LR LR
comp=E,8µm,22.0s,MS5.8
TIA LR LR
comp=Z,4µm,20.8s,MS5.4

GUMO Guam 50.08 236 P **P** **13 57 32.3 -2.1**
comp=Z,182nm,0.8s,mb6.2,baz=51,slow=5.2,SNR=7.5
GUMO LR LR 14 18 05.3
comp=Z,2μm,19.5s,MS5.2,baz=199,slow=35
GUMO Guam 50.08 236 *eP* **P** **13 57 31.7 -2.7**
comp=Z,284nm,1.0s,mb6.2
GUMO Guam 50.08 236 P **P** **13 57 32.3 -2.1**
GUMO pmax pmax
comp=Z,182nm,0.8s,mb6.2
LAZ Ladron 50.26 82 *eP* **P** **13 57 35.5 -0.1**
comp=Z,131nm,1.7s,mb5.7
HHC Hu-ho-hao-te 50.28 288 *eP* **P** **13 57 36.4 +0.7**
HHC pP pP 13 57 48.8 -0.6
HHC PP PP 13 59 32.4 +1.2
HHC S **S** **14 04 42.8 -1.6**
HHC sS sS 14 05 04.0 -3.3
HHC SS SS 14 08 13.3 -4.6
HHC pmax pmax
comp=Z,110nm,1.2s,mb5.8
HHC pmax pmax
comp=Z,2μm,8.8s
HHC LR LR
comp=N,4μm,16.4s,MS5.9
HHC LR LR
comp=E,10μm,17.9s,MS5.9
HHC LR LR
comp=Z,11μm,20.3s,MS5.8
ANMO Albuquerque 50.32 81 P **P** **13 57 36.4 +0.3**
comp=Z,4.4nm,0.9s,mb4.5,baz=315,slow=7.8,SNR=14
ANMO Albuquerque 50.32 81 *eP* **P** **13 57 36.2 +0.1**
comp=Z,84nm,1.5s,mb5.5
ANMO LR LR
comp=Z,5μm,19.0s,MS5.6
ANMO Albuquerque 50.32 81 P **P** **13 57 36.4 +0.3**
ANMO pmax pmax
comp=Z,4.0nm,0.9s
SPB4 Spitsbergen Ar 50.32 357 *eP* **P** **13 57 35.9 +0.4**
SPITS Spitsbergen Ar 50.32 357 P **P** **13 57 34.0 -1.5**
comp=Z,8.5nm,0.3s,mb5.2,baz=48,slow=8.7,SNR=34
SPITS LR LR 14 18 00.9
comp=Z,13μm,21.8s,MS5.9,baz=5.0,slow=35
SPITS Spitsbergen Ar 50.32 357 P **P** **13 57 34.0 -1.5**
SPITS LR LR 14 18 00.9
SPITS Spitsbergen Ar 50.32 357 P **P** **13 57 34.0 -1.6**
LENM Lemitar 50.52 83 *eP* **P** **13 57 39.6 +2.0**
comp=Z,57nm,1.3s,mb5.3
ECSD EROS Data Cent 50.62 66 *eP* **P** **13 57 36.5 -1.7**
comp=Z,5.3nm,0.2s,mb5.1
ECSD LR LR
comp=Z,12μm,21.0s,MS5.9
LPM Los Pinos Moun 50.63 82 *eP* **P** **13 57 38.7 +0.2**
comp=Z,49nm,1.3s,mb5.3
BNM Barren Site 50.74 82 *eP* **P** **13 57 39.2 -0.1**
comp=Z,105nm,1.5s,mb5.5
SSE Sheshan 50.77 272 P **P** **13 57 40.2 +0.6**
SSE PP PP 13 59 37.2 +1.3
SSE S **S** **14 04 50.6 -0.9**
SSE pmax pmax
comp=Z,190nm,1.2s,mb5.9
SSE pmax pmax
comp=Z,3μm,5.0s
SSE LR LR
comp=N,3μm,18.8s,MS5.5
SSE LR LR
comp=E,3μm,18.8s,MS5.5
SSE LR LR
comp=Z,5μm,18.9s,MS5.5
EYMN Ely 50.90 59 *eP* **P** **13 57 39.1 -1.2**
comp=Z,192nm,1.2s,mb5.9
EYMN LR LR
comp=Z,11μm,19.0s,MS5.9
DAG Danmarks Havn 50.97 7 *i* P **P** **13 57 40.6 +0.1**
comp=Z,18nm,0.8s,mb5.0
DAG *i* 13 58 57.6
DAG *e* 14 08 52.2
DAG
comp=Z,10μm,19.0s
TARA Tarawa 51.20 196 PFAKE 13 57 50.0 +7.1
TARA LR LR
comp=Z,3μm,21.0s,MS5.3
BTO Baotou 51.34 289 *i* P **P** **13 57 43.9 +0.2**
BTO S **S** **14 05 01.0 +1.9**
XMAS Kiritimati 51.38 158 PFAKE 13 58 00.0 +16
XMAS LR LR
comp=Z,15μm,20.0s,MS6.0
NJ2 Nanjing 51.57 275 *eP* **P** **13 57 44.1 -1.5**
NJ2 pP pP 13 57 54.1 -5.2
NJ2 sP sP 13 57 58.0 -7.1
NJ2 PP PP 13 59 42.3 -0.8
NJ2 S **S** **14 04 59.0 -3.5**
NJ2 sS sS 14 05 17.0 -8.5
NJ2 pmax pmax
comp=Z,2μm,11.1s
NJ2 LR LR
comp=N,6μm,18.1s,MS5.8
NJ2 LR LR
comp=E,8μm,20.1s,MS5.8
NJ2 LR LR
comp=Z,9μm,22.8s,MS5.7
TIY Taiyuan 51.76 285 *eP* **P** **13 57 46.9 0.0**
TIY sP sP 13 58 00.7 -5.7
TIY PP PP 13 59 42.8 -1.8
TIY S **S** **14 05 00.5 -4.4**
TIY pmax pmax
comp=Z,3μm,3.9s
TIY LR LR
comp=N,8μm,15.5s,MS5.9
TIY LR LR
comp=E,4μm,15.9s,MS5.9
TIY LR LR
comp=Z,16μm,21.0s
CBKS Cedar Bluff 51.89 73 *eP* **P** **13 57 48.1 +0.3**
comp=Z,82nm,0.7s,mb5.8
CBKS LR LR
comp=Z,4μm,20.0s,MS5.4
CBKS Cedar Bluff 51.89 73 *eP* **P** **13 57 48.1 +0.3**
CBKS pmax pmax
comp=Z,82nm,0.7s,mb5.8
CBKS MLR MLR
comp=Z,4μm,20.0s,MS5.4
SUMG Summit 52.38 15 *eP* **P** **13 57 51.2 +0.1**
comp=Z,36nm,0.9s,mb5.3
SUMG Summit 52.38 15 *eP* **P** **13 57 51.2 +0.2**
SUMG pmax pmax
comp=Z,36nm,0.9s
SUMG Summit 52.38 15 *i* P **P** **13 57 51.5 +0.5**
comp=Z,13nm,0.7s,mb5.0
SUMG *i* 14 09 05.6
SUMG
comp=Z,7μm,18.0s
CPRX Cap Rock 53.20 81 *eP* **P** **13 57 58.0 +0.4**
comp=Z,87nm,0.9s,mb5.7
AMTX Amarillo 53.29 78 *eP* **P** **13 57 57.3 -1.0**
comp=Z,44nm,0.7s,mb5.5
AMTX LR LR
comp=Z,6μm,19.0s,MS5.7
COWI Conover 53.30 60 *eP* **P** **13 57 57.1 -1.1**
comp=Z,82nm,1.0s,mb5.6
COWI LR LR
comp=Z,11μm,20.0s,MS5.9
KSU1 Kansas State U 53.56 71 *eP* **P** **13 57 58.7 -1.4**
comp=Z,52nm,0.7s,mb5.6
KSU1 LR LR
comp=Z,7μm,20.0s,MS5.7
CLNB Carlsbad 53.71 82 *eP* **P** **13 58 01.8 +0.4**
comp=Z,28nm,1.6s,mb5.0
SCIA State Center 53.71 66 *eP* **P** **13 58 00.5 -0.8**
comp=Z,143nm,1.0s,mb5.9
SCIA LR LR
comp=Z,13μm,22.0s,MS5.9
SFJD Kangerlussuaq 54.37 24 *eP* **P** **13 58 05.8 +0.1**
SFJD LR LR
comp=Z,10μm,20.0s,MS5.9
SFJD Kangerlussuaq 54.37 24 *eP* **P** **13 58 05.8 +0.2**
SFJD MLR MLR
comp=Z,10μm,20.0s,MS5.9
SFJD Kangerlussuaq 54.37 24 *i* P **P** **13 58 05.8 +0.2**
comp=Z,13nm,0.7s,mb5.0
SFJD
comp=Z,7μm,22.0s
JFWS Jewell Farm 54.74 64 *eP* **P** **13 58 06.5 -2.2**
comp=Z,81nm,0.8s,mb5.8
JFWS LR LR
comp=Z,19μm,20.0s,MS6.2
JFWS Jewell Farm 54.74 64 *eP* **P** **13 58 06.5 -2.2**
JFWS pmax pmax
comp=Z,81nm,0.8s,mb5.8
JFWS MLR MLR
comp=Z,19μm,20.0s,MS6.2
TATO Taipei 54.90 267 PFAKE 13 58 20.0 +10
TATO LR LR
comp=Z,11μm,22.0s,MS5.9
WMOK Wichita Mounta 55.16 76 *eP* **P** **13 58 10.9 -0.9**
comp=Z,2μm,1.0s,mb7.0
WMOK LR LR
comp=Z,8μm,19.0s,MS5.8
WMOK Wichita Mounta 55.16 76 *eP* **P** **13 58 10.9 -0.9**
WMOK pmax pmax
comp=Z,2μm,1.0s,mb7.0
WMOK MLR MLR
comp=Z,8μm,19.0s,MS5.8
YHNB Yeheng 55.20 267 *eP* **P** **13 58 11.7 -0.5**
comp=Z,45nm,0.8s,mb5.5
YHNB LR LR
comp=Z,3μm,20.0s,MS5.4
WHN Wuhan 55.40 277 ⇑P **P** **13 58 13.0 -0.6**
WHN pP pP 13 58 27.8 +0.3
WHN S **S** **14 05 54.0 -0.4**
WHN pmax pmax
comp=Z,1μm,1.9s,mb6.6
WHN pmax pmax
comp=Z,7μm,5.4s
WHN LR LR
comp=N,9μm,17.4s,MS6.1
WHN LR LR
comp=E,12μm,18.1s,MS6.1
WHN LR LR
comp=Z,12μm,18.4s,MS6.0
NACB Ninganchiao 55.42 266 *eP* **P** **13 58 12.5 -1.4**
comp=Z,185nm,1.1s,mb6.0
ZAA0 Zalesovo Array 55.86 315 P **P** **13 58 13.7 -2.8**
ZALV Zalesovo Beam 55.86 315 P **P** **13 58 16.0 -0.6**
comp=Z,3.6nm,0.4s,mb4.8,baz=33,slow=7.3,SNR=14
ZALV PcP PcP
comp=Z,20nm,0.7s,baz=32,slow=5.5,SNR=10
ZALV ScP ScP 14 03 12.0 +2.6
comp=Z,1.2nm,0.5s,baz=47,slow=4.7,SNR=2.4
ZALV LR LR 14 23 53.3
comp=Z,10μm,18.3s,MS5.9,baz=46,slow=38
ZALV Zalesovo Beam 55.86 315 P **P** **13 58 16.0 -0.6**
ZALV PcP PcP 13 59 15.2 +0.4
ZALV ScP ScP 14 03 12.0 +2.6
ZALV LR LR 14 23 53.3
ZALV Zalesovo Beam 55.86 315 P **P** **13 58 16.0 -0.6**
ZALV 13 59 15.3
TXAR Lajitas Array 55.87 85 P **P** **13 58 16.1 -1.0**
comp=Z,8.8nm,0.9s,mb4.8,baz=296,slow=4.9,SNR=41
TXAR ScP ScP 14 03 10.2 +0.4
comp=Z,1.8nm,0.8s,baz=305,slow=3.2,SNR=2.5
TXAR LR LR 14 22 53.8
comp=Z,5μm,18.5s,MS5.6,baz=10.0,slow=37
TXAR PKPPKP 14 28 13.6
comp=Z,0.4nm,0.7s,baz=165,slow=3.7,SNR=3.1
TXAR PKP2bc 14 28 25.8
comp=Z,1.2nm,1.0s,baz=130,slow=2.0,SNR=4.7
TXAR P4KPbc 14 35 37.8
comp=Z,0.1nm,0.3s,baz=186,slow=0.9,SNR=2.3
TXAR Lajitas Array 55.87 85 P **P** **13 58 16.1 -1.0**
TXAR ScP ScP 14 03 10.2 +0.4
TXAR LR LR 14 22 53.8
TXAR P'P' 14 28 13.6
TXAR ⇑*e* 14 28 25.8
TXAR Lajitas Array 55.87 85 P **P** **13 58 16.1 -0.9**
NVS Novosibirsk 55.94 317 *eP* **P** **13 58 13.6 -3.5**
NVS *e* 13 59 14.4
NVS *e* 14 00 16.9
NVS *eS* **S** **14 06 01.2 +0.3**
NVS *e* 14 08 00.3
NVS pmax pmax
comp=N,123nm,3.2s
NVS pmax pmax
comp=Z,400nm,3.2s
NVS pmax pmax
comp=E,314nm,3.5s
NVS pmax pmax
comp=N,38nm,2.0s
NVS pmax pmax
comp=Z,187nm,2.0s,mb5.8
NVS pmax pmax
comp=E,134nm,2.1s
NVS smax
comp=E,91nm,2.5s
SSLB Suanglung 56.10 266 *eP* **P** **13 58 18.0 -0.7**
comp=E,436nm,1.0s,mb6.4
YULB Yu-li 56.17 266 *eP* **P** **13 58 18.3 -1.0**
comp=E,186nm,1.1s,mb6.0
XAN Xi'an 56.33 284 P **P** **13 58 19.8 -0.4**
XAN pP pP 13 58 29.9 -4.2
XAN PP PP 14 00 23.2 -2.5
XAN S **S** **14 06 04.8 -1.8**
XAN sS sS 14 06 26.0 -3.9
XAN ScS ScS 14 08 04.1 -0.8
XAN SS SS 14 09 53.6 0.0
XAN pmax pmax
comp=Z,84nm,1.7s,mb5.5
XAN pmax pmax
comp=Z,570nm,10.7s
XAN LR LR
comp=N,5μm,19.5s,MS5.7
XAN LR LR
comp=E,3μm,19.5s,MS5.7
XAN LR LR
comp=Z,4μm,20.0s,MS5.5
GLMI Grayling 56.55 59 *eP* **P** **13 58 20.6 -1.1**
comp=Z,348nm,1.1s,mb6.3
GLMI LR LR
comp=Z,7μm,20.0s,MS5.7
TPUB Ta-pu 56.66 266 *eP* **P** **13 58 22.8 +0.1**
comp=Z,206nm,1.0s,mb6.1
QZH Quanzhou 56.73 269 ⇑*i*P **P** **13 58 21.4 -1.8**
QZH pP pP 13 58 36.1 -1.0
QZH S **S** **14 06 16.0 +3.8**
QZH pmax pmax
comp=Z,430nm,1.3s,mb6.3
QZH pmax pmax
comp=Z,4μm,4.8s
QZH LR LR
comp=N,5μm,17.7s,MS5.8
QZH LR LR
comp=E,2μm,13.1s,MS5.8
QZH LR LR
comp=Z,8μm,20.6s
TWG Pinlang 56.73 265 *eP* **P** **13 58 22.1 -1.2**
comp=Z,96nm,1.0s,mb5.8
HDIL Hopedale 56.83 65 *eP* **P** **13 58 21.9 -1.7**
comp=Z,98nm,0.8s,mb5.9
HDIL LR LR
comp=Z,12μm,20.0s,MS6.0
CCM Cathedral Cave 57.39 68 *eP* **P** **13 58 25.6 -2.1**
comp=Z,80nm,1.1s,mb5.7
CCM Cathedral Cave 57.39 68 *eP* **P** **13 58 25.6 -2.1**
CCM pmax pmax
comp=Z,80nm,1.1s,mb5.7
JCT Junction City 57.46 81 *eP* **P** **13 58 27.6 -0.7**
comp=Z,2μm,1.0s,mb7.0
JCT LR LR
comp=Z,7μm,21.0s,MS5.7
JCT Junction City 57.46 81 *eP* **P** **13 58 27.6 -0.7**
JCT pmax pmax
comp=Z,2μm,1.0s,mb7.0
JCT MLR MLR
comp=Z,7μm,21.0s,MS5.7
SLM Saint Louis 57.58 67 *eP* **P** **13 58 28.3 -0.8**
comp=Z,79nm,0.9s,mb5.7
SLM Saint Louis 57.58 67 *eP* **P** **13 58 28.3 -0.7**
SLM pmax pmax
comp=Z,79nm,0.9s,mb5.7
FVM French Village 57.92 68 *eP* **P** **13 58 29.8 -1.6**
comp=Z,122nm,0.9s,mb5.9
FVM French Village 57.92 68 *eP* **P** **13 58 29.8 -1.6**
FVM pmax pmax
comp=Z,122nm,0.9s,mb5.9
KEV Kevo 57.96 351 *eP* **P** **13 58 31.0 -0.2**
comp=Z,45nm,0.7s,mb5.6
KEV LR LR
comp=Z,4μm,19.0s,MS5.6
KEV Kevo 57.96 351 *eP* **P** **13 58 31.0 -0.2**
KEV pmax pmax
comp=Z,45nm,0.7s,mb5.6
KEV MLR MLR
comp=Z,4μm,19.0s,MS5.6
LZH Lanzhou 57.97 289 ⇑P **P** **13 58 32.7 +0.9**
LZH PP PP 14 00 42.5 +2.2
LZH S **S** **14 06 28.0 -0.2**
LZH SS SS 14 10 20.6 +1.4
LZH pmax pmax
comp=Z,370nm,1.3s,mb6.2
LZH pmax pmax
comp=Z,3μm,4.6s
LZH LR LR
comp=N,12μm,18.0s,MS6.3
LZH LR LR
comp=E,19μm,18.6s,MS6.3
LZH LR LR
comp=Z,25μm,19.0s,MS6.3
GTA Gaotai 58.04 294 ⇑P **P** **13 58 32.0 -0.2**
GTA pP pP 13 58 40.2 -5.9
GTA sP sP 13 58 44.3 -7.6
GTA S **S** **14 06 28.0 -1.0**
GTA sS sS 14 06 43.3 -9.0
GTA ScS ScS 14 08 17.0 -0.2
GTA SS SS 14 10 21.5 +1.3
GTA pmax pmax
comp=Z,69nm,1.5s,mb5.5
GTA pmax pmax
comp=Z,2μm,11.4s
GTA LR LR
comp=N,10μm,15.7s,MS6.2
GTA LR LR
comp=E,11μm,18.5s,MS6.2
GTA LR LR
comp=Z,13μm,19.0s,MS6.1
SCHQ Schefferville 58.07 41 P **P** **13 58 30.9 -1.3**
comp=Z,38nm,0.8s,mb5.5,baz=314,slow=7.9,SNR=23
SCHQ LR LR 14 26 10.7
comp=Z,21μm,18.3s,MS6.3,baz=317,slow=39
SCHQ Schefferville 58.07 41 *eP* **P** **13 58 32.0 -0.2**
comp=Z,38nm,0.8s,mb5.5
SCHQ LR LR
comp=Z,4μm,20.0s,MS5.5
ARCES ARCESS Array B 58.31 352 P **P** **13 58 32.8 -0.9**
comp=Z,35nm,0.7s,mb5.5,baz=27,slow=7.0,SNR=65
ARCES PcP PcP 13 59 24.6 +0.4
comp=Z,51nm,0.7s,baz=0.0,slow=5.5,SNR=10
ARCES LR LR 14 26 20.1
comp=Z,9μm,18.1s,MS5.9,baz=7.2,slow=39
ARCES ARCESS Array B 58.31 352 P **P** **13 58 32.8 -0.9**
ARCES PcP PcP 13 59 24.6 +0.4
ARCES LR LR 14 26 20.1
ARCES ARCESS Array B 58.31 352 P **P** **13 58 32.8 -0.8**
ARCES 13 59 24.6
ARE0 ARCESS Array S 58.31 352 *eP* **P** **13 58 33.6 0.0**
ARE0 ARCESS Array S 58.31 352 *eP* **P** **13 58 32.9 -0.7**
MIAR Mount Ida 58.42 73 *eP* **P** **13 58 33.8 -1.1**
comp=Z,6.5nm,0.3s,mb5.1
MIAR LR LR
comp=Z,8μm,19.0s,MS5.8
MIAR Mount Ida 58.42 73 *eP* **P** **13 58 33.8 -1.1**
MIAR pmax pmax
comp=Z,6.0nm,0.3s,mb5.1
MIAR MLR MLR
comp=Z,8μm,19.0s,MS5.8
ENH Enshi 58.59 280 PFAKE 13 58 50.0 +14
ENH LR LR
comp=Z,4μm,21.0s,MS5.5
TRO Tromso 58.69 355 *eP* **P** **13 58 36.9 +0.6**
AAM Ann Arbor 58.77 60 *eP* **P** **13 58 37.0 -0.3**
comp=Z,32nm,0.5s,mb5.6
AAM LR LR
comp=Z,10μm,20.0s,MS5.9
AAM Ann Arbor 58.77 60 *eP* **P** **13 58 37.0 -0.3**
AAM pmax pmax
comp=Z,33nm,0.5s,mb5.6
AAM MLR MLR
comp=Z,10μm,20.0s,MS5.9
SIUC Southern Illin 58.80 67 *eP* **P** **13 58 35.3 -2.2**
comp=Z,80nm,0.9s,mb5.8
LVZ Lovozero 58.86 348 *eP* **P** **13 58 37.0 -0.6**
comp=Z,88nm,0.8s,mb5.8
LVZ LR LR
comp=Z,6μm,20.0s,MS5.7
LVZ Lovozero 58.86 348 *eP* **P** **13 58 36.9 -0.6**
LVZ pmax pmax
comp=Z,121nm,1.0s,mb5.9
LVZ MLR MLR
comp=Z,5μm,20.0s,MS5.7
LVZ Lovozero 58.86 348 P **P** **13 58 37.7 +0.2**
comp=Z,657nm,0.9s,mb6.7,SNR=12
UALR University of 58.99 72 *eP* **P** **13 58 38.0 -0.9**
comp=Z,39nm,0.9s,mb5.4
KTK1 Kautokeino 59.01 353 *eP* **P** **13 58 38.2 -0.3**
PARMO Parma 59.21 69 *eP* **P** **13 58 39.5 -0.9**
BLO Bloomington 59.33 65 *eP* **P** **13 58 40.5 -0.7**
comp=Z,141nm,1.1s,mb5.9
BLO Bloomington 59.33 65 *eP* **P** **13 58 40.5 -0.7**
BLO pmax pmax
comp=Z,141nm,1.1s,mb5.9
APA Apatity 59.34 348 ⇑*i*P **P** **13 58 40.6 -0.2**
APA *i* 14 01 00.0
APA *i* PPP 14 02 14.0
APA *eS* **S** **14 06 38.0 -7.1**
APA *e*PS 14 06 55.0
APA *i* SS SS 14 10 40.0 +0.6
APA pmax pmax
comp=Z,120nm,1.6s,mb5.7
APA pmax pmax
comp=Z,2μm,9.7s
APA MLR MLR
comp=Z,9μm,18.0s,MS6.0
HBAR Harrisburg 59.45 70 P **P** **13 58 40.2 -1.9**
USIN University of 59.52 66 *eP* **P** **13 58 42.0 -0.5**
comp=Z,146nm,0.7s,mb6.1
NATX Nacogdoches 59.70 76 *eP* **P** **13 58 44.7 +0.8**
comp=Z,83nm,1.0s,mb5.7
NATX LR LR
comp=Z,9μm,21.0s,MS5.9
GLAT Glass 59.75 69 *eP* **P** **13 58 44.2 +0.1**
UTMT University of 59.95 68 *eP* **P** **13 58 45.9 +0.4**
comp=Z,246nm,1.0s,mb6.2
HALT Halls 59.97 69 *eP* **P** **13 58 45.8 +0.1**
WCI Wyandotte Cave 60.11 65 *eP* **P** **13 58 45.4 -1.1**
comp=Z,76nm,0.8s,mb5.8
WCI Wyandotte Cave 60.11 65 *eP* **P** **13 58 45.4 -1.2**
WCI pmax pmax
comp=Z,76nm,0.8s,mb5.8
FUNA Funafuti 60.14 187 PFAKE 13 59 00.0 +13
FUNA LR LR
comp=Z,13μm,19.0s,MS6.1
APYP Conner 60.33 261 *eP* **P** **13 58 48.1 -0.3**
ACSO Alum Creek Sta 60.57 61 *eP* **P** **13 58 49.0 -0.6**
comp=Z,116nm,1.2s,mb5.9
ACSO LR LR
comp=Z,4μm,20.0s,MS5.5
STEI Steigen 60.58 356 *eP* **P** **13 58 49.3 0.0**
CAUP Cauayan 60.67 260 *eP* **P** **13 58 52.2 +1.5**
KVTX Kingsville 60.71 82 PFAKE 13 59 00.0 +9.2
KVTX LR LR
comp=Z,5μm,19.0s,MS5.7
ABRA Dolores 60.82 262 *eP* **P** **13 58 52.3 +0.6**
KURK Kurchatov 60.84 316 P **P** **13 58 51.7 +0.4**
comp=Z,22nm,0.6s,mb5.5,baz=45,slow=6.7,SNR=176
KURK S **S** **14 07 11.3 +6.6**
comp=Z,0.9nm,0.4s,baz=41,slow=11,SNR=8.4
KURK LR LR 14 27 05.9
comp=Z,19μm,18.4s,MS6.3,baz=50,slow=38
KURK PKPPKP 14 28 05.3
comp=Z,1.5nm,0.2s,baz=270,slow=3.3,SNR=4.3
KURK PKP2bc 14 28 14.1
comp=Z,2.4nm,0.2s,baz=243,slow=3.1,SNR=6.4
KURK Kurchatov 60.84 316 *eP* **P** **13 58 50.5 -0.8**
comp=Z,46nm,0.6s,mb5.8
KURK LR LR
comp=Z,11μm,19.0s,MS6.0
KURK Kurchatov 60.84 316 P **P** **13 58 51.7 +0.4**
KURK S **S** **14 07 11.4 +6.6**
KURK pmax pmax
comp=Z,22nm,0.6s,mb5.5
KURK smax
comp=N,1.0nm,0.4s
KURK MLR MLR
comp=Z,19μm,18.4s,MS6.3
KURK pmax pmax
comp=Z,2.0nm,0.2s,mb4.9
KURK pmax pmax
comp=Z,2.0nm,0.3s,mb4.7
KURK Kurchatov 60.84 316 P **P** **13 58 51.9 +0.6**
comp=Z,475nm,0.7s,mb6.7,SNR=38
KURK Kurchatov 60.84 316 P **P** **13 58 51.2 -0.1**

SNR=17
ERPA Erie 60.86 58 *e*P **P 13 58 51.1 -0.6**
comp=Z,665nm,1.5s,mb6.5
ERPA LR LR
comp=Z,16μm,19.0s,MS6.2
OXF Oxford 60.91 70 *e*P **P 13 58 50.1 -2.0**
comp=Z,291nm,0.9s,mb6.4
OXF LR LR
comp=Z,7μm,20.0s,MS5.8
OXF Oxford 60.91 70 *e*P **P 13 58 50.1 -2.0**
OXF pmax pmax
comp=Z,291nm,0.9s,mb6.4
OXF MLR MLR
comp=Z,7μm,20.0s,MS5.8
ALLY Alegheny Colle 61.11 59 *e*P **P 13 58 52.5 -0.8**
comp=Z,371nm,1.1s,mb6.4
GZH Guangzhou 61.36 272 P **P 13 58 51.9 -3.3**
GZH S **S 14 07 04.2 -7.9**
GZH LR LR
comp=N,4μm,16.3s,MS5.9
GZH LR LR
comp=E,6μm,16.3s,MS5.9
GZH LR LR
comp=Z,4μm,19.6s,MS5.6
PLAL Pickwick Lake 61.36 69 *e*P **P 13 58 52.8 -2.3**
comp=Z,82nm,0.8s,mb5.9
HKC Hong Kong Obse 61.41 270⇑*i*P **P 13 58 56.0 +0.4**
MSNY Massena 61.46 53 *e*P **P 13 58 54.8 -0.9**
comp=Z,2μm,0.8s
WMQ Urumqi 61.52 305 P **P 13 58 56.0 0.0**
WMQ PP PP 14 01 14.0 +2.6
WMQ S **S 14 07 11.2 -2.4**
WMQ ScS ScS 14 08 38.2 -4.7
WMQ pmax pmax
comp=Z,75nm,1.7s,mb5.5
WMQ pmax pmax
comp=Z,2μm,8.9s
WMQ LR LR
comp=N,15μm,21.2s,MS6.2
WMQ LR LR
comp=E,13μm,22.4s,MS6.2
WMQ LR LR
comp=Z,8μm,25.6s,MS5.8
CD2 Chengdu 61.63 285 P **P 13 58 57.5 +0.5**
CD2 pP pP 13 59 11.8 +0.8
CD2 PP PP 14 01 15.2 +2.4
CD2 S **S 14 07 12.6 -2.8**
CD2 SS SS 14 11 15.4 -1.5
CD2 pmax pmax
comp=Z,360nm,1.6s,mb6.2
CD2 pmax pmax
comp=Z,2μm,11.6s
CD2 LR LR
comp=N,2μm,20.2s
CD2 LR LR
comp=Z,1μm,16.6s,MS5.1
SOKR Solikamsk 61.73 333*c i*P **P 13 58 57.2 0.0**
SOKR S **S 14 07 17.1 +1.3**
SOKR SS SS 14 11 21.6 +4.5
SOKR pmax pmax
comp=Z,30nm,1.3s,mb5.3
BALP Baler 61.75 259 *e*P **P 13 58 58.7 +0.7**
PVCP Virac 61.83 256 *e*P **P 13 58 59.2 +0.7**
LONY Lake Ozonia 61.87 53 *e*P **P 13 58 57.4 -1.0**
comp=Z,128nm,0.9s,mb6.0
LONY LR LR
comp=Z,6μm,20.0s,MS5.8
VBMS Vicksburg 61.87 73 *e*PKPdf **P 13 58 58.7 +0.1**
comp=Z,106nm,0.9s,mb6.0
VBMS LR LR
comp=Z,8μm,20.0s,MS5.9
MK31 Makanchi Array 62.03 311 P **P 13 58 59.2 -0.3**
MK31 pmax pmax
comp=Z,4.0nm,0.2s,mb5.2
MKAR Makanchi Array 62.03 311 P **P 13 58 58.7 -0.7**
comp=Z,7.2nm,0.3s,mb5.3,baz=46,slow=6.9,SNR=51
MKAR S **S 14 07 25.4 +5.4**
comp=Z,0.9nm,0.5s,baz=61,slow=15,SNR=5.1
MKAR LR LR 14 26 25.0
comp=Z,11μm,21.2s,MS6.0,baz=39,slow=36
MKAR PKPPKP 14 28 04.3
comp=Z,0.2nm,0.2s,baz=232,slow=3.5,SNR=3.0
MKAR PKP2bc 14 28 10.6
comp=Z,0.3nm,0.2s,baz=146,slow=2.4,SNR=3.9
MKAR Makanchi Array 62.03 311 P **P 13 58 58.7 -0.7**
MKAR S **S 14 07 25.4 +5.4**
MKAR LR LR 14 26 25.0
MKAR P'P' 14 28 04.3
MKAR ⇑*e* 14 28 10.6
MKAR Makanchi Array 62.03 311 P **P 13 58 58.7 -0.8**
MKAR S **S 14 07 25.5 +5.4**
KONS Konsvik 62.09 357 *e*P **P 13 59 00.2 +0.7**
BORG Borgarnes 62.12 13 PFAKE 13 59 10.0 +10
BORG LR LR
comp=Z,6μm,20.0s,MS5.8
FRNY Flat Rock 62.20 52 *e*P **P 13 58 59.2 -1.4**
comp=Z,85nm,1.1s,mb5.8
FRNY *e* pP 13 59 15.7 +1.0
FLOS Flostrand 62.25 356 *e*P **P 13 59 02.1 +1.5**
STOK Stokkvaagen 62.26 357 *e*P **P 13 59 01.0 +0.3**
BOLP Bolinao 62.28 261 *e*P **P 13 59 01.1 -0.4**
MOR8 Moi Rana 62.37 356 *e*P **P 13 59 00.1 -1.3**
MOR8 *e*pP pP 13 59 10.4 -5.0
MOR8 AMB AMB 13 59 15.7
comp=Z,114nm,2.4s,mb5.6
SWET Sewanee 62.43 67 *e*P **P 13 59 00.2 -2.1**
comp=Z,35nm,0.7s,mb5.6
BVAR Borovoye Array 62.47 322 P **P 13 59 01.8 -0.5**
comp=Z,20nm,0.5s,mb5.5,baz=58,slow=7.1,SNR=80
BVAR PcP PcP 13 59 40.6 -0.6
comp=Z,44nm,0.6s,baz=55,slow=3.7,SNR=9.3
BVAR PKPPKP 14 28 02.0
comp=Z,0.8nm,0.8s,baz=174,slow=2.9,SNR=3.2
BVAR PKP2bc 14 28 09.4
comp=Z,0.7nm,0.6s,baz=198,slow=4.4,SNR=5.4
BVAR LR LR 14 29 29.2
comp=Z,2.4nm,19.8s,baz=166,slow=39
BVAR Borovoye Array 62.47 322 P **P 13 59 01.8 -0.4**
BVAR PcP PcP 13 59 40.6 -0.6
BVAR P'P' 14 28 02.0
BVAR ⇑*e* 14 28 09.4
BVAR LR LR 14 29 29.2
BVAR Borovoye Array 62.47 322 P **P 13 59 01.8 -0.5**
BVAR 13 59 40.6
BRVK Borovoye 62.49 322 *e*P **P 13 59 01.9 -0.5**
comp=Z,230nm,1.5s,mb6.1
BRVK LR LR
comp=Z,29μm,19.0s,MS6.5
BRVK Borovoye 62.49 322*c i*P **P 13 59 02.2 -0.2**
BRVK pmax pmax
comp=Z,52nm,1.7s,mb5.4
BRVK MLR MLR
comp=Z,30μm,20.0s,MS6.5
BRVK Borovoye 62.49 322 P **P 13 59 02.3 -0.1**
comp=Z,204nm,0.7s,mb6.4,SNR=16
BRVK Borovoye 62.49 322 P **P 13 59 02.5 +0.1**
SNR=15
NCB Newcomb 62.51 53 *e*P **P 13 59 02.1 -0.6**
comp=Z,466nm,1.6s,mb6.4
NCB LR LR
comp=Z,8μm,19.0s,MS5.9
MCWV Mont Chateau 62.68 60 *e*P **P 13 59 03.5 -0.4**
comp=Z,137nm,1.0s,mb6.0
MCWV LR LR
comp=Z,13μm,19.0s,MS6.1
SCZP Santa Cruz 62.74 261 *e*P **P 13 59 04.6 0.0**
SVE Sverdlovsk 62.86 330⇓*e*P **P 13 59 04.8 0.0**
SVE *e*PPP 14 02 55.4
SVE eS **S 14 07 35.6 +5.5**
SVE *e*SS SS 14 11 40.4 +5.6
SVE *e*SSS 14 14 23.2
SVE pmax pmax
comp=Z,60nm,1.9s,mb5.4
SVE MLR MLR
comp=Z,19μm,18.0s,MS6.3
BINY Binghamton 62.89 56 *e*P **P 13 59 05.5 +0.2**
comp=Z,603nm,1.2s,mb6.6
BINY LR LR
comp=Z,9μm,20.0s,MS5.9
MDV Middlebury 63.01 53 *e*P **P 13 59 04.7 -1.3**
comp=Z,8μm,0.8s
SSPA Standing Stone 63.02 58 *e*P **P 13 59 05.7 -0.4**
comp=Z,415nm,1.4s,mb6.4
GYA Guiyang 63.05 279⇑*i*P **P 13 59 06.5 0.0**
GYA pP pP 13 59 21.2 +0.6
GYA PcP PcP 13 59 44.0 0.0
GYA PP PP 14 01 27.4 +2.0
GYA ScP ScP 14 03 40.0 -1.7
GYA S **S 14 07 34.5 +1.2**
GYA SKS 14 08 50.7
GYA SS SS 14 11 38.2 -1.0
GYA pmax pmax
comp=Z,170nm,1.0s,mb6.1
GYA pmax pmax
comp=Z,320nm,5.8s
GYA LR LR
comp=N,3μm,22.6s,MS5.6
GYA LR LR
comp=E,4μm,24.2s,MS5.6
GYA LR LR
comp=Z,3μm,22.9s,MS5.4
ZRNK Zerenda 63.06 323 P **P 13 59 06.2 0.0**
ZRNK pmax pmax
comp=Z,29nm,0.7s,mb5.5
CPCT Cooper Cave 63.08 66 *e*P **P 13 59 04.8 -1.8**
ACCN Adirondack Com 63.21 53 *e*P **P 13 59 06.6 -0.8**
comp=Z,338nm,1.4s,mb6.3
BOAC Boac 63.34 258 *e*P **P 13 59 09.5 +0.9**
TKL Tuckaleechee C 63.35 66 P **P 13 59 07.3 -1.1**
comp=Z,9.7nm,0.6s,mb5.1,baz=317,slow=4.5
TKL Tuckaleechee C 63.35 66 *e*P **P 13 59 07.4 -1.0**
TKL Tuckaleechee C 63.35 66 *e*P **P 13 59 07.4 -1.0**
LRAL Lakeview Retre 63.37 70 *e*P **P 13 59 06.5 -2.1**
comp=Z,15nm,0.6s,mb5.3
LRAL LR LR
comp=Z,5μm,20.0s,MS5.7
TGY Tagaytay City 63.40 259 P **P 13 59 10.0 +1.1**
comp=Z,756nm,0.9s,mb6.8,baz=301,slow=8.0,SNR=47
TGY Tagaytay City 63.40 259 P **P 13 59 10.0 +1.1**
TGY Tagaytay City 63.40 259 P **P 13 59 10.0 +1.1**
LBNH Lisbon 63.45 52 *e*P **P 13 59 08.9 0.0**
comp=Z,232nm,1.4s,mb6.1
LBNH LR LR
comp=Z,15μm,19.0s,MS6.2
LBNH Lisbon 63.45 52 *e*P **P 13 59 09.0 +0.1**
LBNH pmax pmax
comp=Z,232nm,1.4s,mb6.1
LBNH MLR MLR
comp=Z,15μm,19.0s,MS6.2
PQI Presque Isle 63.52 48 *e*P **P 13 59 08.8 -0.6**
comp=Z,112nm,0.8s,mb6.0
HNH Hanover 63.67 52 *e*P **P 13 59 08.9 -1.4**
comp=Z,344nm,1.4s,mb6.2
TRY Troy 63.69 54 *e*P **P 13 59 09.5 -1.1**
comp=Z,462nm,1.3s,mb6.3
ARU Arti 63.83 330 *e*P **P 13 59 10.6 -0.6**
comp=Z,20nm,0.3s,mb5.6
ARU LR LR
comp=Z,14μm,21.0s,MS6.1
ARU Arti 63.83 330*c i*P **P 13 59 10.8 -0.4**
ARU 13 59 43.8
ARU *e* 14 01 33.8
ARU S **S 14 07 43.2 +1.0**
ARU 14 08 56.0
ARU pmax pmax
comp=Z,24nm,1.1s,mb5.1
ARU MLR MLR
comp=Z,13μm,19.0s,MS6.1
ARU Arti 63.83 330 P **P 13 59 11.9 +0.7**
comp=Z,256nm,0.4s,mb6.6,SNR=10
ELN Prospectdale 63.92 62 *e*P **P 13 59 11.6 -0.6**
OTRP Odiongan 64.09 257 *e*P **P 13 59 15.3 +1.8**
NSS Namsos 64.10 357 *e*P **P 13 59 12.5 -0.4**
BLA Blacksburg 64.12 62 *e*P **P 13 59 13.4 -0.1**
comp=Z,100nm,0.8s,mb5.9
BLA LR LR
comp=Z,12μm,20.0s,MS6.1
BLA Blacksburg 64.12 62 *e*P **P 13 59 13.4 0.0**
BLA pmax pmax
comp=Z,100nm,0.8s,mb5.9
BLA MLR MLR
comp=Z,12μm,20.0s,MS6.1
MSLP Maasin 64.13 253 *e*P **P 13 59 13.4 -0.3**
FFD Franklin Falls 64.15 52 P **P 13 59 12.1 -1.5**
comp=Z,272nm,1.2s,mb6.2
RCP Roxas 64.27 256⇑*e*P **P 13 59 15.2 +0.5**
WVL Waterville 64.31 50 *e*P **P 13 59 12.4 -2.2**
comp=Z,437nm,1.4s,mb6.3
VWCC Virginia Weste 64.34 62 *e*P **P 13 59 14.9 0.0**
KLMR Klimovskoe 64.66 342 *e*P **P 13 59 14.7 -1.8**
KLMR pmax pmax
comp=Z,80nm,1.5s,mb5.5
QUA2 Belchertown 64.68 53 *e*P **P 13 59 16.5 -0.5**
comp=Z,446nm,1.4s,mb6.3
HNR Honiara 64.70 208 P **P 13 59 17.3 -0.1**
comp=Z,44nm,0.9s,mb5.5,baz=45,slow=19,SNR=3.7
HNR LR LR 14 22 25.6
comp=Z,6μm,20.3s,MS5.8,baz=192,slow=31
HNR Honiara 64.70 208 P **P 13 59 17.3 -0.1**
HNR LR LR 14 22 25.6
HNR Honiara 64.70 208 P **P 13 59 17.3 -0.1**
BRNJ Basking Ridge 64.73 56 *e*P **P 13 59 17.3 -0.1**
BRAL Brewton 64.79 71 *e*P **P 13 59 17.6 -0.3**
comp=Z,109nm,0.9s,mb5.9
BRAL LR LR
comp=Z,6μm,21.0s,MS5.8
PAL Palisades 64.83 55 *e*P **P 13 59 18.2 +0.2**
comp=Z,450nm,1.1s,mb6.4
PAL Palisades 64.83 55 *e*P **P 13 59 18.2 +0.2**
PAL pmax pmax
comp=Z,450nm,1.1s,mb6.4
HRV Adam Dziewonsk 64.91 53 *e*P **P 13 59 17.6 -0.9**
comp=Z,231nm,1.4s,mb6.0
HRV Adam Dziewonsk 64.91 53 *e*P **P 13 59 17.6 -0.9**
HRV pmax pmax
comp=Z,231nm,1.4s,mb6.0
CPNY Central Park 64.96 56 *e*P **P 13 59 19.1 +0.3**
comp=Z,788nm,1.4s,mb6.5
CBN Corbin 65.06 60 *e*P **P 13 59 19.9 +0.4**
comp=Z,212nm,1.1s,mb6.1
CBN LR LR
comp=Z,10μm,19.0s,MS6.0
YLE Yale 65.10 54 *e*P **P 13 59 18.6 -1.1**
comp=Z,1μm,1.6s,mb6.7
GUIM Jordan 65.10 255 *e*P **P 13 59 19.7 -0.4**
WES Weston 65.12 53 *e*P **P 13 59 18.0 -1.9**
comp=Z,155nm,0.8s,mb6.1
WES Weston 65.12 53 *e*P **P 13 59 18.0 -1.9**
WES pmax pmax
comp=Z,155nm,0.8s,mb6.1
GOGA Godfrey 65.15 67 *e*P **P 13 59 19.0 -1.2**
comp=Z,51nm,0.8s,mb5.6
GOGA LR LR
comp=Z,13μm,19.0s,MS6.2
GOGA Godfrey 65.15 67 *e*P **P 13 59 19.0 -1.2**
GOGA pmax pmax
comp=Z,51nm,0.8s,mb5.6
GOGA MLR MLR
comp=Z,13μm,19.0s,MS6.2
EMMW East Machias 65.24 49 *e*P **P 13 59 19.1 -1.5**
comp=Z,126nm,0.8s,mb6.0
AFI Afiamalu 65.27 177 LR LR 14 26 01.5
comp=Z,4μm,18.6s,MS5.6,baz=352,slow=34
BRYW Bryant College 65.36 53 *e*P **P 13 59 19.7 -1.7**
comp=Z,589nm,1.4s,mb6.4
BUSP Coron 65.47 258 *e*P **P 13 59 23.6 +1.1**
JSC Jenkinsville 65.77 65 *e*P **P 13 59 24.1 -0.1**
JSC Jenkinsville 65.77 65 *e*P **P 13 59 24.1 -0.1**
BUKP Musuan 65.80 251 *e*P **P 13 59 24.9 +0.3**
JAY Jayapura 65.98 231 P **P 13 59 26.8 +1.1**
comp=Z,1μmcomp=Z,48nm,1.6s,mb5.3
FINES FINESS Array B 66.13 349 P **P 13 59 25.3 -0.8**
comp=Z,22nm,0.7s,mb5.3,baz=9.6,slow=6.5,SNR=51
FINES PKP2bc 14 27 58.1
comp=Z,2.7nm,0.8s,baz=170,slow=5.8,SNR=4.3
FINES LR LR 14 33 01.0
comp=Z,8μm,19.3s,MS5.9,baz=19,slow=40
FINES FINESS Array B 66.13 349 P **P 13 59 25.3 -0.8**
FINES ⇑*e* 14 27 58.1
FINES LR LR 14 33 01.1
FINES FINESS Array B 66.13 349 P **P 13 59 25.3 -0.8**
DAV Davao City (W) 66.14 250 P **P 13 59 26.3 -0.5**
comp=Z,96nm,0.4s,mb6.2,baz=41,slow=3.8,SNR=13
DAV LR LR 14 23 17.3
comp=Z,4μm,20.8s,MS5.6,baz=264,slow=31
DAV Davao City (W) 66.14 250 P **P 13 59 26.3 -0.5**
DAV LR LR 14 23 17.3
DAV Davao City (W) 66.14 250 P **P 13 59 27.5 +0.7**
SNR=12
MOL Molde 66.17 359 *e*P **P 13 59 25.3 -1.0**
KMI Kunming 66.43 281 P **P 13 59 29.0 +0.4**
KMI pP pP 13 59 39.8 -2.9
KMI PcP PcP 13 59 58.4 +0.5
KMI PP PP 14 01 55.0 0.0
KMI S S 14 08 14.9 -0.1
KMI sS sS 14 08 33.0 -5.7
KMI SKS 14 09 18.8
KMI SS SS 14 12 32.1 +0.2
KMI pmax pmax
comp=Z,180nm,1.8s,mb5.8
KMI pmax pmax
comp=Z,4μm,4.3s
KMI LR LR
comp=N,5μm,19.7s,MS5.9
KMI LR LR
comp=E,4μm,18.8s,MS5.9
KMI LR LR
comp=Z,5μm,18.0s,MS5.8
QIZ Qiongzhong 66.54 271 P **P 13 59 29.7 +0.4**
QIZ pP pP 13 59 37.8 -5.7
QIZ sP sP 13 59 44.1 -5.1
QIZ S S 14 08 18.1 +1.6
QIZ SS SS 14 12 34.0 +0.1
QIZ pmax pmax
comp=Z,79nm,1.7s,mb5.5
QIZ pmax pmax
comp=Z,2μm,12.2s
QIZ LR LR
comp=N,3μm,20.8s
QIZ LR LR
comp=Z,4μm,20.6s,MS5.6
QIZ Qiongzhong 66.54 271 *e*P **P 13 59 29.9 +0.5**
comp=Z,146nm,1.4s,mb5.8
QIZ LR LR
comp=Z,4μm,21.0s,MS5.6
ENPP El Nido 66.57 258 *e*P **P 13 59 30.7 +1.2**
COW Cow Castle Cre 66.75 65 *e*P **P 13 59 30.2 -0.2**
CNNC Cliffs of the 66.95 62 *e*P **P 13 59 31.6 -0.1**
comp=Z,51nm,0.8s,mb5.6
CNNC LR LR
comp=Z,14μm,20.0s,MS6.2
TAOE Nuku Hiva Isla 67.03 143 *e*S S 14 08 28.9 +6.7
comp=Z,14μm,26.8s
TAOE *e*SS SS 14 12 41.7 -0.4
comp=Z,2μm,24.7s
TAOE *e*LR LR 14 19 37.4
comp=Z,7μm,22.7s
PUL Pulkovo 67.21 347 *e*P **P 13 59 33.5 +0.5**
PUL pmax pmax
comp=Z,60nm,0.7s,mb5.7
PUL MLR MLR
comp=Z,10μm,19.0s,MS6.1
NHSC New Hope 67.25 65 *e*P **P 13 59 33.6 0.0**
comp=Z,256nm,1.1s,mb6.2
NHSC LR LR
comp=Z,14μm,21.0s,MS6.2
HYA Hoyanger 67.58 360 *e*P **P 13 59 37.5 +2.2**
NB2 NORSAR Subarra 67.62 357 P **P 13 59 35.2 -0.4**
comp=Z,228nm,2.0s,mb5.9,baz=2.9,slow=6.5
NOA NORSAR Array B 67.62 357 P **P 13 59 35.1 -0.4**
comp=Z,27nm,0.8s,mb5.3,baz=3.2,slow=6.5,SNR=67
NOA PKP2bc 14 27 58.1
comp=Z,1.2nm,0.8s,baz=180,slow=3.8,SNR=2.9
NOA LR LR 14 30 02.9
comp=Z,4μm,18.7s,MS5.7,baz=5.0,slow=37
NOA NORSAR Array B 67.62 357 P **P 13 59 35.1 -0.4**
NOA ⇑*e* 14 27 58.1
NOA LR LR 14 30 02.9
NOA NORSAR Array B 67.62 357 P **P 13 59 35.1 -0.5**
NAO01 NORSAR Array S 67.83 357 *e*P **P 13 59 36.1 -0.8**
comp=Z,17nm,0.9s,mb5.1
NAO01 LR LR
comp=Z,9μm,22.0s,MS5.9
NC602 NORSAR Array S 67.92 357 *e*P **P 13 59 37.7 +0.3**
TKM2 Tokmak 2 68.08 312 P **P 13 59 40.0 +1.3**
SNR=6.6
TKM2 Tokmak 2 68.08 312 *e*P **P 13 59 39.6 +0.9**
comp=Z,250nm,1.9s,mb5.9
TKM2 LR LR
comp=Z,12μm,20.0s,MS6.1
TKM2 Tokmak 2 68.08 312 *e*P **P 13 59 39.6 +0.8**
TKM2 pmax pmax
comp=Z,250nm,1.9s,mb5.9
TKM2 MLR MLR
comp=Z,12μm,20.0s,MS6.1
ASK Askoy 68.27 0 *e*P **P 13 59 39.1 -0.5**
ULHL Ulahol 68.30 311 P **P 13 59 42.2 +2.0**
SNR=7.0
USP Ospenovka 68.32 313 P **P 13 59 41.5 +1.3**
SNR=18
RUND Rundenannen 68.34 0 *e*P **P 13 59 40.4 +0.3**
BER Bergen 68.37 0 *e*P **P 13 59 40.1 -0.1**
CHMS Chumysh 68.41 313 P **P 13 59 41.3 +0.5**
SNR=13
CHMS Chumysh 68.41 313 *e*P **P 13 59 40.8 0.0**
comp=Z,291nm,1.9s,mb6.0
CHMS Chumysh 68.41 313 *e*P **P 13 59 40.8 0.0**
CHMS pmax pmax
comp=Z,291nm,1.9s,mb6.0
LRW Lerwick 68.48 4 *e*P **P 13 59 41.2 +0.2**
LRW AMB AMB 13 59 42.0
comp=Z,153nm,4.8s
LRW AMS AMS 14 28 19.8
comp=Z,3μm,15.4s,MS5.6
LRW Lerwick 68.48 4 P **P 13 59 41.2 +0.2**
LRW AMB AMB 13 59 42.0
comp=Z,153nm,4.8s
LRW AMS AMS 14 28 19.8
comp=Z,3μm,15.4s
OSL Oslo 68.74 357 *e*P **P 13 59 42.5 -0.1**
AAK Ala-Archa 68.81 312 P **P 13 59 44.7 +1.3**
SNR=12
AAK Ala-Archa 68.81 312 P **P 13 59 43.0 -0.3**
comp=Z,15nm,0.5s,mb5.2,baz=108,slow=4.0,SNR=30
AAK Ala-Archa 68.81 312 *e*P **P 13 59 43.6 +0.3**
comp=Z,583nm,2.1s,mb6.1
AAK LR LR
comp=Z,13μm,20.0s,MS6.2
AAK Ala-Archa 68.81 312 *i*P **P 13 59 44.6 +1.3**
AAK pmax pmax
comp=Z,80nm,2.4s,mb5.2
AAK MLR MLR
comp=Z,7μm,20.0s,MS5.9
AAK Ala-Archa 68.81 312 P **P 13 59 44.8 +1.5**
comp=Z,241nm,1.5s,mb5.9,SNR=7.3
AAK Ala-Archa 68.81 312 P **P 13 59 44.4 +1.1**
comp=Z,2μmcomp=Z,76nm,2.6s,mb5.2
AAK Ala-Archa 68.81 312 P **P 13 59 45.1 +1.8**
SNR=9.5
KZA Kyzart 68.90 312 *e*P **P 13 59 45.6 +1.7**
comp=Z,157nm,1.6s,mb5.7
KZA Kyzart 68.90 312 *e*P **P 13 59 45.6 +1.7**
KZA pmax pmax
comp=Z,157nm,1.6s,mb5.7
AKTO Aktyubinsk 69.06 327 LR LR 14 33 35.8
comp=Z,11μm,18.9s,MS6.1,baz=251,slow=39
KONO Kongsberg 69.06 358 *e*P **P 13 59 45.1 +0.5**
KONO Kongsberg 69.06 358 *e*P **P 13 59 43.8 -0.8**
comp=Z,45nm,0.9s,mb5.4
KONO LR LR
comp=Z,7μm,21.0s,MS5.9
KONO Kongsberg 69.06 358 *e*P **P 13 59 43.8 -0.8**
KONO pmax pmax
comp=Z,45nm,0.9s,mb5.4
KONO MLR MLR
comp=Z,7μm,21.0s,MS5.9
EKS2 Erkin-Say 69.12 313 P **P 13 59 46.0 +0.7**
SNR=10
EKS2 Erkin-Say 69.12 313 *e*P **P 13 59 45.9 +0.6**
comp=Z,138nm,1.5s,mb5.7
EKS2 LR LR
comp=Z,9μm,20.0s,MS6.0
EKS2 Erkin-Say 69.12 313 *e*P **P 13 59 45.9 +0.7**
EKS2 pmax pmax
comp=Z,138nm,1.5s,mb5.7
EKS2 MLR MLR
comp=Z,9μm,20.0s,MS6.0
PMG Port Moresby 69.22 221 P **P 13 59 44.6 -1.5**
comp=Z,29nm,1.0s,mb5.2,baz=9.0,slow=5.2,SNR=6.6
PMG LR LR 14 25 06.7
comp=Z,4μm,20.3s,MS5.7,baz=83,slow=32
PMG Port Moresby 69.22 221 *e*P **P 13 59 45.4 -0.7**
comp=Z,50nm,1.0s,mb5.4
PMG LR LR
comp=Z,5μm,22.0s,MS5.8
PMG Port Moresby 69.22 221 *e*P **P 13 59 45.4 -0.7**
PMG pmax pmax
comp=Z,50nm,1.0s

PMG MLR MLR
comp=Z,5µm,22.0s
BLS5 Blasjo 69.33 360 *e*P **P** **13 59 46.9 +0.6**
BLS5 AMB AMB 13 59 51.6
comp=Z,28nm,0.8s,mb5.2
MSVF Nonsavu 69.35 188 PFAKE 14 00 00.0 +13
MSVF LR LR
comp=Z,8µm,20.0s,MS6.0
AB31 Akbulak array 69.39 325 *e*P **P** **13 59 46.8 0.0**
AB31 pmax pmax
comp=Z,4.0nm,0.3s,mb4.8
ABKAR Akbulak array 69.39 325 *e*P **P** **13 59 46.2 -0.5**
comp=Z,23nm,0.8s,mb5.2
BATP Bataraza 69.44 258 *e*P **P** **13 59 48.5 +0.9**
AML Almayashu 69.58 313 P **P** **13 59 50.0 +2.0**
SNR=9.7
AML Almayashu 69.58 313 *e*P **P** **13 59 49.5 +1.4**
comp=Z,44nm,1.0s,mb5.3
AML Almayashu 69.58 313 *e*P **P** **13 59 49.5 +1.4**
AML pmax pmax
comp=Z,43nm,1.0s,mb5.3
MOS Moscow 69.79 341 *e*P **P** **13 59 47.3 -1.9**
MOS *e* pP 14 00 02.9 -0.5
MOS *e* 14 00 09.2
MOS *e* 14 02 20.8
MOS *e*PPP 14 04 04.7
MOS *e*S S 14 08 54.7 +0.5
MOS pmax pmax
comp=Z,70nm,0.8s,mb5.6
LSA Lhasa 69.95 293 P **P** **13 59 51.3 +0.7**
LSA LR LR
comp=N,3µm,22.6s,MS5.9
LSA LR LR
comp=E,7µm,19.5s,MS5.9
LSA LR LR
comp=Z,9µm,21.2s,MS6.0
LSA Lhasa 69.95 293 PFAKE 14 00 00.0 +9.4
LSA LR LR
comp=Z,9µm,19.0s,MS6.0
TNTI Ternate 70.22 245 P **P** **13 59 51.9 -0.5**
comp=Z,5µmcomp=Z,186nm,2.2s,mb5.6
KK31 Karatay Array 70.23 315 *e*P **P** **13 59 52.6 +0.5**
KK31 pmax pmax
comp=Z,14nm,0.5s,mb5.2
KKAR Karatay Array 70.23 315 *e*P **P** **13 59 51.5 -0.6**
comp=Z,15nm,0.6s,mb5.1
KKAR Karatay Array 70.23 315 *e*P **P** **13 59 51.5 -0.6**
KKAR pmax pmax
comp=Z,15nm,0.6s,mb5.1
SNART Snartemo 70.42 359 *e*P **P** **13 59 53.7 +0.8**
MVH1 Achvaich 70.54 6⇑ *i*P **P** **13 59 54.3 +0.6**
MVH1 Achvaich 70.54 6 P **P** **13 59 54.3 +0.6**
KSH Kashi 70.55 309⇑ *i*P **P** **13 59 57.7 +3.6**
KSH PcP PcP 14 00 17.8 +2.8
KSH PP PP 14 02 37.8 +7.6
KSH S S 14 09 05.3 +1.7
KSH SKS 14 09 50.3
KSH ScS ScS 14 09 52.7 -0.2
KSH SS SS 14 13 43.6 +8.9
KSH pmax pmax
comp=Z,200nm,1.3s,mb5.9
KSH pmax pmax
comp=Z,2µm,4.8s
KSH LR LR
comp=N,10µm,18.5s,MS6.2
KSH LR LR
comp=E,6µm,15.3s,MS6.2
KSH LR LR
comp=Z,14µm,21.3s
OBN Obninsk 70.59 342 PFAKE 14 00 10.0 +16
OBN LR LR
comp=Z,7µm,19.0s,MS5.9
OBN Obninsk 70.59 342⇑ *e*P **P** **13 59 53.2 -0.8**
OBN *e**PP pP 14 00 07.3 -1.0
OBN *e* 14 00 15.3
OBN *e*PPP 14 04 19.3
OBN *i* 14 09 24.7
OBN pmax pmax
comp=Z,79nm,1.7s,mb5.4
OBN MLR MLR
comp=Z,7µm,24.0s,MS5.8
MCD Coleburn Disti 70.94 5⇑ *i*P **P** **13 59 56.2 +0.1**
MCD Coleburn Disti 70.94 5 P **P** **13 59 56.2 +0.1**
MDO Dochfour 71.01 6⇑ *i*P **P** **13 59 56.4 -0.1**
MDO Dochfour 71.01 6 P **P** **13 59 56.4 -0.1**
KPL Plockton 71.03 6 *e*P **P** **13 59 56.9 +0.2**
KPL AMB AMB 13 59 58.3
comp=Z,56nm,2.1s,mb5.1
KPL Plockton 71.03 6 P **P** **13 59 56.9 +0.2**
KPL AMB AMB 13 59 58.3
comp=Z,56nm,2.1s,mb5.1
MME1 Meikle Cairn 71.22 5⇑ *e*P **P** **13 59 57.9 +0.1**
MME1 Meikle Cairn 71.22 5 P **P** **13 59 57.9 +0.1**
LBMI Labuha 71.31 244 P **P** **13 59 59.8 +0.9**
comp=Z,4µmcomp=Z,189nm,2.1s,mb5.7
KDM Kudat 71.50 257 P **P** **14 00 01.6 +1.5**
IZAR Zarasai 71.66 348 *e*P **P** **14 00 00.6 +0.1**
IZAR AMB AMB 14 00 03.9
comp=Z,16nm,1.0s,mb4.9
ISAL Salakas 71.85 348 *e*P **P** **14 00 01.7 0.0**
ISAL AMB AMB 14 00 05.4
comp=Z,22nm,1.3s,mb5.0
MYLDM Lahad Datu 71.86 255 P **P** **14 00 03.8 +1.6**
MYLDM Lahad Datu 71.86 255 P **P** **14 00 03.3 +1.0**
comp=Z,6µmcomp=Z,302nm,1.4s,mb6.0
TEIG Tepich 72.02 80 PFAKE 14 00 10.0 +6.8
TEIG LR LR
comp=Z,3µm,20.0s,MS5.5
IIGN Ignalina 72.06 348 *e*P **P** **14 00 03.0 +0.1**
IIGN AMB AMB 14 00 07.5
comp=Z,23nm,0.7s,mb5.2
CHRT Chiangrai 72.15 280⇑ P **P** **14 00 03.5 -0.5**
comp=Z,526nm,0.9s,mb6.5
PPT Papeete 72.20 155 *e*S S 14 09 27.8 +5.1
comp=Z,16µm,28.2s
PPT *e*SS SS 14 14 08.4 +6.7
comp=Z,2µm,26.2s
PPT *e*LR LR 14 22 08.2
comp=Z,11µm,21.5s,baz=347
PPT Papeete 72.20 155 LR LR 14 27 06.4
comp=Z,7µm,18.9s,MS6.0,baz=283,slow=32
EBH Black Hill 72.25 5⇑ *i*P **P** **14 00 04.7 +0.6**
EBH Black Hill 72.25 5 P **P** **14 00 04.7 +0.6**
EAB Aberfoyle 72.26 6⇑ *e* **P** **14 00 04.2 +0.1**
EAB ⇑ *i*P 14 00 04.2
EAB Aberfoyle 72.26 6 P **P** **14 00 04.2 +0.1**
EAB Aberfoyle 72.26 6 **P** **14 00 04.2 +0.1**
MUD Monsted U'grnd 72.27 358 *i* P **P** **14 00 04.9 +0.8**
comp=Z,37nm,0.9s,mb5.3
MUD
comp=Z,4µm,18.0s
SDKM Sandakan 72.28 256 P **P** **14 00 04.7 -0.1**
UBT Ubonrachathani 72.40 272 P **P** **14 00 07.0 +1.5**
NACGM Naroch 72.42 347 *e*P **P** **14 00 03.0 -2.1**
KKM Kota Kinabalu 72.56 257 P **P** **14 00 07.1 +0.7**
KKM Kota Kinabalu 72.56 257 *e*P **P** **14 00 06.1 -0.4**
comp=Z,322nm,1.4s,mb6.1
KKM LR LR
comp=Z,3µm,22.0s,MS5.6
KKM Kota Kinabalu 72.56 257 P **P** **14 00 06.9 +0.4**
comp=Z,4µmcomp=Z,175nm,1.9s,mb5.7
PMSU Muirshiel 72.58 6 *e*P **P** **14 00 05.9 -0.1**
PMSU Muirshiel 72.58 6 P **P** **14 00 05.9 -0.1**
PGBU Glenifferbraes 72.63 6 *e*P **P** **14 00 05.9 -0.4**
PGBU AMB AMB 14 00 09.1
comp=Z,87nm,1.7s,mb5.4
PGBU AMS AMS 14 32 17.3
comp=Z,4µm,20.4s,MS5.7
PGBU Glenifferbraes 72.63 6 P **P** **14 00 05.9 -0.4**
PGBU AMB AMB 14 00 09.1
comp=Z,87nm,1.7s,mb5.4
PGBU AMS AMS 14 32 17.3
comp=Z,4µm,20.4s
SHL Shillong 72.63 289⇑ *i*P **P** **14 00 07.8 +1.0**
SHL *i* S S 14 09 31.5 +3.6
ESY Stoneypath 72.63 5⇑ *e*P **P** **14 00 06.6 +0.3**
ESY Stoneypath 72.63 5 P **P** **14 00 06.6 +0.3**
MICGM Minsk 72.65 347 *e*P **P** **14 00 06.0 -0.5**
EAU Auchinoon 72.66 5⇑ *e*P **P** **14 00 06.6 +0.1**
EAU Auchinoon 72.66 5 P **P** **14 00 06.6 +0.1**
MNK Minsk 72.66 347 *e*P **P** **14 00 06.0 -0.5**
MNK pmax pmax
comp=Z,170nm,1.5s,mb5.8
MSAI Masohi 72.76 241 P **P** **14 00 09.1 +1.5**
comp=Z,599nmcomp=Z,41nm,1.2s,mb5.2

TSM Tawau 72.94 255 P **P** **14 00 08.7 0.0**
ESK Eskdalemuir 73.20 5 *e*P **P** **14 00 08.2 -1.4**
ESK AMB AMB 14 00 09.9
comp=Z,85nm,2.3s,mb5.3
ESK AMS AMS 14 30 11.5
comp=Z,3µm,22.0s,MS5.6
ESK Eskdalemuir 73.20 5 P **P** **14 00 08.2 -1.4**
ESK AMB AMB 14 00 09.9
comp=Z,85nm,2.3s,mb5.3
ESK AMS AMS 14 30 11.5
comp=Z,3µm,22.0s
ESK Eskdalemuir 73.20 5 *e*P **P** **14 00 09.4 -0.2**
comp=Z,47nm,1.1s,mb5.3
ESK LR LR
comp=Z,4µm,20.0s,MS5.7
ESK Eskdalemuir 73.20 5 *i* P **P** **14 00 11.4 +1.7**
ESK Eskdalemuir 73.20 5 P **P** **14 00 10.8 +1.1**
comp=Z,177nm,1.0s,mb6.0,SNR=6.0
VOR Voronezh 73.21 339 P **P** **14 00 08.0 -1.8**
VOR pmax pmax
comp=Z,260nm,2.0s,mb5.8
VRHR Novokhopersk 73.24 337 *e*P **P** **14 00 09.3 -0.7**
VRHR *e**PP pP 14 00 18.1 -6.2
VRHR pmax pmax
comp=Z,40nm,0.8s,mb5.4
VRHR pmax pmax
comp=N,40nm,1.8s
VRHR pmax pmax
comp=E,20nm,0.8s
LLD Lille Linde 73.30 356 *i* P **P** **14 00 10.5 +0.3**
comp=E,12nm,0.8s,mb4.9
LLD
comp=Z,4µm,24.0s
ECK Cauldkaine Hil 73.34 5⇑ *e*P **P** **14 00 11.0 +0.5**
ECK Cauldkaine Hil 73.34 5 P **P** **14 00 11.0 +0.5**
AAI Ambon 73.44 241 P **P** **14 00 11.3 -0.4**
comp=Z,3µmcomp=Z,192nm,1.7s,mb5.8
CHG Chiang Mai 73.47 279⇑ P **P** **14 00 12.0 +0.2**
comp=Z,47nm,1.3s,mb5.3
CHTO Chiang Mai 73.47 279 *e*P **P** **14 00 11.5 -0.3**
comp=Z,262nm,0.4s,mb6.5
CHTO LR LR
comp=Z,6µm,21.0s,MS5.8
CHTO Chiang Mai 73.47 279 *e*P **P** **14 00 11.5 -0.3**
CHTO pmax pmax
comp=Z,262nm,0.4s,mb6.5
CHTO MLR MLR
comp=Z,6µm,21.0s,MS5.8
CHTO Chiang Mai 73.47 279 P **P** **14 00 11.8 0.0**
comp=Z,5µmcomp=Z,107nm,1.5s,mb5.6
CHTO Chiang Mai 73.47 279 P **P** **14 00 12.1 +0.3**
SNR=57
GAL1 Galloway 73.55 6 *e*P **P** **14 00 10.9 -0.9**
GAL1 AMB AMB 14 00 13.4
comp=Z,54nm,2.1s,mb5.1
GAL1 AMS AMS 14 33 13.7
comp=Z,4µm,22.8s,MS5.7
GAL1 Galloway 73.55 6 P **P** **14 00 10.9 -0.9**
GAL1 AMB AMB 14 00 13.4
comp=Z,54nm,2.1s,mb5.1
GAL1 AMS AMS 14 33 13.7
comp=Z,4µm,22.8s
MRSI Marisa 73.58 249 P **P** **14 00 11.8 -0.7**
comp=Z,4µmcomp=Z,330nm,1.3s,mb6.1
RAR Rarotonga 73.62 166 LR LR 14 27 15.1
comp=Z,7µm,19.4s,MS5.9,baz=46,slow=32
RAR Rarotonga 73.62 166 PFAKE 14 00 20.0 +7.6
RAR LR LR
comp=Z,8µm,20.0s,MS6.0
NLAI Namlea 73.67 243 P **P** **14 00 14.4 +1.4**
comp=Z,2µmcomp=Z,74nm,1.9s,mb5.3
VSR Storozhevoye 73.70 339 *e*P **P** **14 00 12.3 -0.4**
VSR *e**PP pP 14 00 21.0 -6.0
VSR *e*S S 14 09 30.6 -8.6
VSR pmax pmax
comp=Z,50nm,0.5s,mb5.7
VSR pmax pmax
comp=N,70nm,1.4s
VSR pmax pmax
comp=E,30nm,1.3s
VSR smax
comp=N,260nm,4.1s
VSR smax
comp=Z,140nm,4.9s
VSR smax
comp=E,230nm,2.8s
VSR MLR MLR
comp=N,7µm,19.0s,MS6.0
VSR MLR MLR
comp=Z,13µm,19.0s,MS6.2
VSR MLR MLR
comp=E,5µm,17.0s,MS6.0
XAL Allendale 73.71 5 *e*P **P** **14 00 12.8 +0.1**
XAL Allendale 73.71 5 P **P** **14 00 12.8 +0.1**
CM31 Chiang Mai Arr 73.74 279 *e*P **P** **14 00 14.5 +1.1**
comp=E,0.3nm,0.4s
CM31 LR LR
comp=Z,5µm,19.0s,MS5.8
CMAR Chiang Mai Arr 73.74 279 P **P** **14 00 13.5 +0.1**
comp=Z,38nm,0.9s,mb5.3,baz=27,slow=5.6,SNR=84
CMAR P4KPbc 14 36 52.3
comp=Z,0.3nm,0.6s,baz=64,slow=4.1,SNR=2.6
CMAR LR LR 14 37 59.4
comp=Z,6µm,18.4s,MS5.9,baz=30,slow=40
CMAR Chiang Mai Arr 73.74 279 P **P** **14 00 13.5 +0.1**
CMAR LR LR 14 37 59.4
CMAR Chiang Mai Arr 73.74 279 P **P** **14 00 13.5 +0.1**
SUW Suwalki 73.74 349 *e*P **P** **14 00 11.8 -1.0**
SUW LMZ 14 34 38.6
comp=Z,8µm,20.2s
SUW Suwalki 73.74 349 *e*P **P** **14 00 11.0 -1.8**
comp=Z,65nm,0.8s,mb5.6
SUW Suwalki 73.74 349 *e*P **P** **14 00 11.8 -1.1**
SUW MLR MLR
comp=Z,8µm,20.2s,MS6.0
KESW Keswick, Cumbr 73.93 5 *e*P **P** **14 00 13.4 -0.6**
KESW AMB AMB 14 00 14.9
comp=Z,114nm,2.4s,mb5.4
KESW Keswick, Cumbr 73.93 5 P **P** **14 00 13.4 -0.6**
KESW AMB AMB 14 00 14.9
comp=Z,114nm,2.4s,mb5.4
XDE Dent Fell 73.99 6 *e*P **P** **14 00 14.7 +0.4**
XDE Dent Fell 73.99 6 P **P** **14 00 14.7 +0.4**
AGT Agartala 74.28 289 *e*PKP **P** **14 00 15.0 -1.5**
AGT *ex* x 14 00 54.0
GUN Gumba 74.32 295 *e*P **P** **14 00 17.9 +1.2**
GUN Gumba 74.32 295 *e*P **P** **14 00 17.9 +1.2**
LUWI Luwuk 74.32 248 P **P** **14 00 15.9 -0.9**
comp=Z,6µmcomp=Z,554nm,1.4s,mb6.3
KKN Kakani 74.75 295 *e*P **P** **14 00 19.8 +0.6**
KKN Kakani 74.75 295 *e*P **P** **14 00 19.8 +0.6**
KKN Kakani 74.75 295 *e*P **P** **14 00 19.8 +0.6**
BSEG Bad Segeberg 74.76 357 *e*P **P** **14 00 19.4 +0.6**
comp=Z,127nm,0.9s,mb5.8
BSEG Bad Segeberg 74.76 357 *e*P **P** **14 00 19.4 +0.6**
BSEG pmax pmax
comp=Z,127nm,0.9s,mb5.8
PKI Pulchoki 74.84 295 *e*P **P** **14 00 20.6 +0.9**
comp=Z,2µm,1.6s,mb6.7
PKI Pulchoki 74.84 295 *e*P **P** **14 00 21.2 +1.5**
comp=Z,359nm,0.9s,mb6.3
PKI Pulchoki 74.84 295 *e*P **P** **14 00 21.2 +1.5**
PKI pmax pmax
comp=Z,359nm,0.9s,mb6.3
PKIN Phulchoki 74.84 295 *e*P **P** **14 00 21.2 +1.5**
comp=Z,359nm,0.9s,mb6.3
GKN Gorkha 74.94 296 *e*P **P** **14 00 20.9 +0.6**
comp=Z,2µm,1.6s,mb6.8
GKN Gorkha 74.94 296 *e*P **P** **14 00 20.9 +0.6**
comp=Z,2µm,1.6s,mb6.8
COEN Coen 74.97 223 *e*P **P** **14 00 19.9 -0.5**
comp=Z,525nm,1.4s,mb6.3
COEN Coen 74.97 223 P **P** **14 00 20.2 -0.2**
comp=Z,1µmcomp=Z,48nm,2.4s,mb5.0
DLF Lyons Farm 74.98 8‖ *i*P **P** **14 00 20.9 +0.8**
DMN Daman 74.98 295 *e*P **P** **14 00 21.5 +1.0**
comp=Z,2µm,1.7s,mb6.8
DMN Daman 74.98 295 *e*P **P** **14 00 21.5 +1.0**
comp=Z,2µm,1.7s,mb6.8
GKP Gorka Klasztor 75.05 353 *e*P **P** **14 00 20.3 -0.2**
GKP LMZ 14 31 46.0
comp=Z,11µm,23.1s
GKP Gorka Klasztor 75.05 353 *e*P **P** **14 00 20.3 -0.2**
NST Nakhon Sawan 75.12 276 P **P** **14 00 19.0 -2.4**
comp=Z,58nm,1.0s,mb5.5
WLF1 Llynfaes 75.14 6 AMS AMS 14 31 33.1
comp=Z,4µm,22.8s,MS5.7
DANN Dangsing 75.17 297 *e*P **P** **14 00 22.6 +1.0**
comp=Z,388nm,0.7s,mb6.4
DANN Dangsing 75.17 297 *e*P **P** **14 00 22.6 +1.0**
comp=Z,388nm,0.7s,mb6.4
DZM Mont Dzumac 75.26 198 *e*S S 14 10 03.7 +6.6
comp=Z,5µm,27.0s
DZM *e*LQ 14 20 06.1
comp=Z,6µm,29.0s
DZM *e*LR LR 14 23 33.9
comp=Z,7µm,21.5s
DZM Mont Dzumac 75.26 198 *e*P **P** **14 00 21.8 -0.2**
KBI1 Birley Grange 75.35 4 *e*P **P** **14 00 22.4 +0.2**
KBI1 Birley Grange 75.35 4 P **P** **14 00 22.4 +0.2**
STNC Stoke 75.47 5 AMS AMS 14 40 51.0
comp=Z,3µm,17.5s,MS5.6
SBD1 Bryn Du 75.60 6 AMS AMS 14 39 04.3
comp=Z,5µm,17.5s,MS5.8
KLP Kalpa 75.67 303 *e*PKP **P** **14 00 24.8 +0.4**
KOLN Koldanda 75.70 297 *e*P **P** **14 00 25.2 +0.5**
comp=Z,1µm,1.7s,mb6.6
KOLN Koldanda 75.70 297 *e*P **P** **14 00 25.2 +0.5**
comp=Z,1µm,1.7s,mb6.6
CWF Charnwood Fore 75.87 4⇑ *e*P **P** **14 00 24.2 -1.0**
CWF AMB AMB 14 00 25.0
comp=Z,82nm,2.3s,mb5.2
CWF AMS AMS 14 42 21.9
comp=Z,3µm,18.0s,MS5.6
CWF Charnwood Fore 75.87 4 P **P** **14 00 24.2 -1.0**
CWF AMB AMB 14 00 25.0
comp=Z,82nm,2.3s,mb5.2
CWF AMS AMS 14 42 21.9
comp=Z,3µm,18.0s
VAL Valentia 75.97 10 *e*P **P** **14 00 19.2 -6.6**
VAL Valentia 75.97 10‖ *i*S 14 10 57.6
VAL *e*SS SS 14 15 36.0 +40
RUE Ruedersdorf 76.07 355 *e*P **P** **14 00 26.2 -0.1**
comp=Z,54nm,0.9s,mb5.5
AKASG Malin Array Be 76.13 345 P **P** **14 00 25.7 -1.0**
comp=Z,18nm,0.5s,mb5.2,baz=17,slow=6.0,SNR=36
AKASG LR LR 14 36 37.9
comp=Z,9µm,20.5s,MS6.1,baz=20,slow=38
AKASG Malin Array Be 76.13 345 P **P** **14 00 25.7 -1.0**
AKASG LR LR 14 36 37.9
AKASG Malin Array Be 76.13 345 P **P** **14 00 25.7 -1.0**
AKBB Malin Array Si 76.13 345 *e*P **P** **14 00 25.6 -1.1**
AKBB Malin Array Si 76.13 345 *e*P **P** **14 00 25.6 -1.1**
KIEV Kiev 76.14 345 *e*P **P** **14 00 25.3 -1.5**
comp=Z,16nm,0.6s,mb5.1
KIEV LR LR
comp=Z,8µm,20.0s,MS6.0
KIEV Kiev 76.14 345 *e*P **P** **14 00 25.3 -1.5**
KIEV pmax pmax
comp=Z,16nm,0.6s,mb5.1
KIEV MLR MLR
comp=Z,8µm,20.0s,MS6.0
BEL Belsk 76.15 350 *e*P **P** **14 00 27.8 +1.0**
BEL LMZ 14 33 53.3
comp=Z,8µm,22.3s
BEL Belsk 76.15 350 *e*P **P** **14 00 27.8 +1.0**
BEL MLR MLR
comp=Z,8µm,22.3s,MS6.0
BBSR BB Station 76.18 55 *e*P **P** **14 00 26.7 -0.6**
comp=Z,389nm,1.7s,mb6.1
BBSR LR LR
comp=Z,6µm,19.0s,MS5.9
NRDL Niedersach Rie 76.21 357 *e*P **P** **14 00 27.0 -0.1**
comp=Z,242nm,2.0s,mb5.8
IBBN Ibbenburen 76.45 359 *e*P **P** **14 00 29.1 +0.6**
comp=Z,152nm,1.0s,mb5.9
MCH1 Michaelchurch 76.52 5 AMB AMB 14 00 36.0
comp=Z,111nm,2.5s,mb5.3
MCH1 AMS AMS 14 32 17.5
comp=Z,3µm,21.3s,MS5.6
MCH1 Michaelchurch 76.52 5 AMB AMB 14 00 36.0
comp=Z,111nm,2.5s,mb5.3
MCH1 AMS AMS 14 32 17.5
comp=Z,3µm,21.3s
SMLA Simla 76.55 303 *i* P **P** **14 00 28.5 -0.9**
SMLA *i* S S 14 10 14.2 +2.6
BTM Bintulu 76.70 258 P **P** **14 00 30.3 -0.2**
BHK Bhakra 76.71 304 *e*PKP **P** **14 00 30.0 -0.4**
DDI Dehra Dun 76.72 302⇑ *i*P **P** **14 00 29.0 -1.4**
DDI *ex* x 14 10 34.0
CLZ Clausthal 76.86 357 *e*P **P** **14 00 31.6 +0.8**
comp=Z,116nm,1.0s,mb5.8
CLZ Clausthal 76.86 357 *e*P **P** **14 00 31.6 +0.8**
CLZ pmax pmax
comp=Z,116nm,1.0s,mb5.8
HGH Gray Hill 76.89 5 *e*P **P** **14 00 30.9 -0.1**
HGH Gray Hill 76.89 5 P **P** **14 00 30.9 -0.1**
MSSI Masamba 76.96 249 P **P** **14 00 33.1 +1.2**
comp=Z,6µmcomp=Z,263nm,1.2s,mb6.1
CAL Calcutta 77.03 290⇑ *i*P **P** **14 00 32.5 +0.3**
CAL *ex* x 14 10 22.5
SWN1 Swindon 77.07 5 *e*P **P** **14 00 32.5 +0.5**
SWN1 AMB AMB 14 00 33.7
comp=Z,164nm,1.4s,mb5.8
SWN1 AMS AMS 14 38 55.6
comp=Z,3µm,18.7s,MS5.6
SWN1 Swindon 77.07 5 P **P** **14 00 32.5 +0.5**
SWN1 AMB AMB 14 00 33.7
comp=Z,164nm,1.4s,mb5.8
SWN1 AMS AMS 14 38 55.6
comp=Z,3µm,18.7s
SMKI Samarinda 77.10 253 P **P** **14 00 34.9 +2.2**
comp=Z,4µmcomp=Z,176nm,1.6s,mb5.8
CLL Collm 77.28 355 *e*P **P** **14 00 32.9 -0.3**
comp=Z,428nm,2.2s,mb6.0
CLL *e*pP pP 14 00 49.9 +2.3
CLL Collm 77.28 355⇑ *i*P **P** **14 00 33.0 -0.2**
CLL *e* 14 00 38.0
CLL *e* pP 14 00 50.0 +2.4
CLL *e*S S 14 10 22.0 +3.2
CLL pmax pmax
comp=Z,425nm,2.2s,mb6.0
CLL MLR MLR
comp=Z,6µm,18.9s,MS5.9
CLL Collm 77.28 355⇑ *i*P **P** **14 00 33.0 -0.2**
comp=Z,425nm,2.2s,mb6.0
CLL *e*sP sP 14 00 50.0 -3.3
CLL *e*PP PP 14 03 31.0 +4.1
CLL *e*PPP 14 05 24.0
CLL *e*S S 14 10 22.0 +3.2
CLL *e*SKSac SKSac 14 10 43.0 +1.6
CLL *e*PS 14 11 05.0
CLL *e*PPS 14 11 18.0
CLL *e*SS SS 14 15 28.0 +12
CLL *e*SSS 14 18 48.0
CLL LmH 14 36 00.0
comp=N,4µm,20.1s
CLL LmH 14 36 00.0
comp=E,4µm,20.7s
CLL LmV 14 40 00.0
comp=Z,6µm,18.9s
WOL Wolverton 77.30 4 *e*P **P** **14 00 33.1 -0.1**
WOL AMB AMB 14 00 35.2
comp=Z,112nm,1.2s,mb5.7
WOL AMS AMS 14 42 18.0
comp=Z,3µm,18.0s,MS5.7
WOL Wolverton 77.30 4 P **P** **14 00 33.1 -0.1**
WOL AMB AMB 14 00 35.2
comp=Z,112nm,1.2s,mb5.7
WOL AMS AMS 14 42 18.0
comp=Z,3µm,18.0s
TGUH Tegucigalpa,Un 77.32 83 *e*P **P** **14 00 35.4 +1.4**
comp=Z,123nm,1.5s,mb5.6
TGUH LR LR
comp=Z,4µm,22.0s,MS5.7
BUG Bochum--Univer 77.33 359 *e*P **P** **14 00 33.6 +0.2**
comp=Z,64nm,1.0s,mb5.5
HTL Hartland 77.42 7 *e*P **P** **14 00 33.6 -0.3**
HTL AMB AMB 14 00 38.3
comp=Z,85nm,1.0s,mb5.6
HTL AMS AMS 14 37 34.8
comp=Z,4µm,16.2s,MS5.8
HTL Hartland 77.42 7 P **P** **14 00 33.6 -0.3**
HTL AMB AMB 14 00 38.3
comp=Z,85nm,1.0s,mb5.6
HTL AMS AMS 14 37 34.8
comp=Z,4µm,16.2s
NEUB Neuenburg 77.44 356 *e*P **P** **14 00 34.2 +0.1**
comp=Z,151nm,1.2s,mb5.8
KSP Ksiaz 77.54 353 *e*P **P** **14 00 34.6 0.0**
KSP LMZ 14 31 18.7
comp=Z,7µm,24.7s

FBE Freiberg 77.65 355 *e*P **P** **14 00 35.7 +0.5**
comp=Z,135nm,1.3s,mb5.7
FBE *e*pP pP 14 00 52.7 +3.0
TTSI Tana Toraja 77.65 249 P **P** **14 00 35.9 +0.1**
comp=Z,4µmcomp=Z,260nm,1.8s,mb5.9
BRG Berggiesshubel 77.66 355 *e*P **P** **14 00 35.1 -0.2**
comp=Z,74nm,1.3s,mb5.5
BRG Berggiesshubel 77.66 355 *i* P **P** **14 00 35.3 0.0**
BRG *i* pP 14 00 45.1 -4.7
BRG pmax pmax
comp=Z,75nm,1.3s,mb5.5
BRG pmax pmax
comp=Z,38nm,0.9s,mb5.3
NNT Nongplab 77.72 275 P **P** **14 00 37.4 +1.2**
LVV L'vov 77.75 348 *e*P **P** **14 00 35.5 -0.3**
LVV *e* 14 05 27.3
LVV *e*S S 14 10 23.1 -0.9
LVV *e* 14 11 16.9
LVV MLR MLR
comp=Z,6µm,19.0s,MS6.0
LVV MLR MLR
comp=E,3µm,21.0s,MS5.9
LVV MLR MLR
comp=N,5µm,18.0s,MS5.9
TBI Tubuai 77.76 157 *e*S S 14 10 27.4 +3.0
comp=N,7µm,32.0s
TBI *e*SS SS 14 15 29.2 +3.0
comp=N,2µm,27.5s
TBI *e*LR LR 14 24 48.7
comp=N,10µm,24.0s,baz=343
SBUM Sibu 77.82 258 P **P** **14 00 37.2 +0.4**
SBUM Sibu 77.82 258 P **P** **14 00 37.0 +0.3**
comp=N,3µmcomp=N,113nm,2.2s,mb5.4
KBL Kabul 77.84 311 *e*P **P** **14 00 35.8 -0.8**
comp=N,207nm,1.3s,mb5.9
KBL Kabul 77.84 311 *e*P **P** **14 00 35.8 -0.8**
KBL pmax pmax
comp=Z,207nm,1.3s,mb5.9
OJC Ojcow 77.85 351 *e*P **P** **14 00 35.8 -0.6**
OJC Ojcow 77.85 351 *e*P **P** **14 00 35.8 -0.6**
UPC Upice 77.89 353 *e*P **P** **14 00 36.5 -0.1**
UPC *e* pP 14 00 54.7 +3.7
UPC Upice 77.89 353⇑ *e*P **P** **14 00 36.5 -0.1**
UPC *e*sP sP 14 00 54.7 -2.0
UBBA Unterbreizbach 77.89 357 *e*P **P** **14 00 36.8 +0.2**
comp=Z,236nm,2.0s,mb5.8
PVCC Panska Ves 77.97 354 *e*P **P** **14 00 37.6 +0.6**
PVCC MLR MLR
comp=Z,7µm,20.1s,MS6.0
PVCC Panska Ves 77.97 354⇑ *e*P **P** **14 00 37.6 +0.6**
PVCC *ex* x 14 15 46.0
PVCC AMS AMS 14 40 20.0
comp=Z,7µm,20.1s
BEBN Eben Emael 77.98 360 P **P** **14 00 37.5 +0.4**
BEBN XP sP 14 00 51.7 -5.5
MOX Moxa 78.01 356 *e*P **P** **14 00 37.2 0.0**
comp=Z,424nm,2.2s,mb6.0
MOX *e*pP pP 14 00 54.2 +2.5
MOX Moxa 78.01 356 *e*P **P** **14 00 37.2 0.0**
MOX *e**PP pP 14 00 54.2 +2.5
MOX pmax pmax
comp=Z,424nm,2.2s,mb6.0
DYA Yadsworthy 78.02 6 *e*P **P** **14 00 35.5 -1.9**
DYA AMB AMB 14 00 37.0
comp=Z,149nm,2.4s,mb5.5
DYA AMS AMS 14 33 09.3
comp=Z,3µm,20.0s,MS5.6
DYA Yadsworthy 78.02 6 P **P** **14 00 35.5 -1.9**
DYA AMB AMB 14 00 37.0
comp=Z,149nm,2.4s,mb5.5
DYA AMS AMS 14 33 09.3
comp=Z,3µm,20.0s
DPC Dobruska-Polom 78.02 353⇑ *i*P **P** **14 00 37.7 +0.4**
DPC *e*S S 14 10 26.7 -0.2
DPC MLR MLR
comp=Z,5µm,16.8s,MS5.9
DPC Dobruska-Polom 78.02 353⇑ *i*P **P** **14 00 37.7 +0.4**
DPC *e*S S 14 10 26.7 -0.2
DPC *ex* x 14 15 47.6
DPC AMS AMS 14 45 30.0
comp=Z,5µm,16.8s
BBSI Bau Bau 78.06 245 P **P** **14 00 40.5 +2.5**
comp=Z,3µmcomp=Z,146nm,1.6s,mb5.7
KWP Kalwaria Pacla 78.11 349 *e*P **P** **14 00 38.0 +0.2**
KWP LMZ 14 37 27.2
comp=Z,9µm,20.8s
KWP Kalwaria Pacla 78.11 349 *e*P **P** **14 00 37.5 -0.3**
comp=Z,159nm,1.3s,mb5.8
KWP LR LR
comp=Z,9µm,20.0s,MS6.1
KWP Kalwaria Pacla 78.11 349⇓ P **P** **14 00 38.2 +0.4**
KWP Kalwaria Pacla 78.11 349⇓ *i*P **P** **14 00 38.2 +0.4**
PLN Plauen 78.14 356 *e*P **P** **14 00 38.3 +0.3**
comp=Z,1µm,2.2s,mb6.5
MEM Membach 78.17 360 P **P** **14 00 38.5 +0.4**
comp=Z,38nm,1.2s,mb5.2
WERD Werda 78.17 356 *e*P **P** **14 00 38.5 +0.3**
comp=Z,274nm,2.1s,mb5.8
WERD *e*pP pP 14 00 55.5 +2.9
TANN Tannenbergstha 78.20 356 *e*P **P** **14 00 38.6 +0.3**
comp=Z,272nm,2.1s,mb5.8
TANN *e*pP pP 14 00 53.8 +1.0
GUNZ Gunzen 78.26 356 *e*P **P** **14 00 39.0 +0.4**
comp=Z,364nm,2.1s,mb5.9
SNF Seneffe 78.26 1 P **P** **14 00 38.9 +0.3**
comp=Z,74nm,2.5s,mb5.2
WERN Wernitzgruen 78.33 356 *e*P **P** **14 00 39.5 +0.5**
comp=Z,86nm,1.2s,mb5.6
BCLA Clavier 78.36 0 P **P** **14 00 39.5 +0.3**
comp=Z,48nm,1.7s,mb5.2
NKC Novy Kostel 78.38 356⇑ *i*P **P** **14 00 40.0 +0.7**
NKC MLR MLR
comp=Z,6µm,18.0s,MS5.9
NKC Novy Kostel 78.38 356⇑ *i*P **P** **14 00 40.0 +0.7**
NKC *ex* x 14 15 52.8
NKC AMS AMS 14 40 40.0
comp=Z,6µm,18.0s
OKC Ostrava-Krasne 78.38 352 *e*P **P** **14 00 39.5 +0.2**
OKC *e* pP 14 00 57.6 +3.8
OKC *e*S S 14 10 44.5 +14
OKC MLR MLR
comp=Z,8µm,22.4s,MS6.0
OKC Ostrava-Krasne 78.38 352⇑ *e*P **P** **14 00 39.5 +0.2**
OKC *e*sP sP 14 00 57.6 -1.8
OKC *ex* x 14 10 44.5
OKC AMS AMS 14 34 10.0
comp=Z,8µm,22.4s
SPSI Sidrap Palu 78.43 248 P **P** **14 00 39.7 -0.4**
comp=Z,2µmcomp=Z,81nm,1.9s,mb5.3
PRA Prague 78.43 354 ⇑P **P** **14 00 40.0 +0.4**
PRA AMS AMS 14 41 00.0
GOF Gofitskoye 78.45 334 *e*P **P** **14 00 36.9 -2.9**
GOF *e*S S 14 10 33.2 +1.5
GOF pmax pmax
comp=Z,270nm,2.1s,mb5.8
GOF smax
comp=N,130nm,1.8s
GOF smax
comp=E,110nm,1.8s
NDI New Delhi 78.46 302 *e*PKP **P** **14 00 38.5 -1.7**
NDI *e*S S 14 10 35.0 +2.7
STHS Stebnicka Huta 78.49 350 *e*P **P** **14 00 40.6 +0.7**
STHS pmax pmax
comp=Z,57nm,2.0s,mb5.2
STHS Stebnicka Huta 78.49 350 *e*P **P** **14 00 40.6 +0.7**
MORC Moravsky Berou 78.50 352 P **P** **14 00 40.4 +0.4**
MORC Moravsky Berou 78.50 352⇑ *i*P **P** **14 00 39.9 -0.1**
PRU Pruhonice 78.51 354⇑ *i*P **P** **14 00 40.9 +0.9**
PRU *e* pP 14 00 58.7 +4.2
PRU *e*S S 14 10 34.9 +2.8
PRU MLR MLR
comp=Z,7µm,19.2s,MS6.0
PRU Pruhonice 78.51 354⇑ *i*P **P** **14 00 40.9 +0.9**
PRU *e*sP sP 14 00 58.7 -1.4
PRU *e*S S 14 10 34.9 +2.8
PRU *ex* x 14 15 53.9
PRU AMS AMS 14 40 50.0
comp=Z,7µm,19.2s
TNS Taunus Mts 78.53 358 *e*P **P** **14 00 40.7 +0.6**
comp=Z,78nm,0.9s,mb5.6
TNS *e*pP pP 14 00 56.0 +1.4
TNS Taunus Mts 78.53 358 *e*P **P** **14 00 40.7 +0.6**
TNS *e**PP pP 14 00 56.0 +1.4
TNS pmax pmax
comp=Z,78nm,0.9s,mb5.6

NIE Niedzica 78.59 350 *e*P **P** **14 00 40.7 +0.2**
NIE Niedzica 78.59 350 *e*P **P** **14 00 40.7 +0.2**
AYAN Aya Nagar 78.67 302 *e*PKP **P** **14 00 40.8 -0.5**
AYAN AMb AMB 14 00 44.2
comp=Z,112nm,1.2s,mb5.7
GIVF Givet 78.67 1⇑ *i*P **P** **14 00 41.2 +0.3**
comp=Z,120nm,0.9s,mb5.5
GIVF Givet 78.67 1⇑ *i*P **P** **14 00 41.2 +0.3**
comp=Z,60nm,0.9s,mb5.5
GIVF Givet 78.67 1⇑ *i*P **P** **14 00 41.2 +0.3**
GIVF pmax pmax
comp=Z,60nm,0.9s,mb5.5
DOU Dourbes 78.68 1 P **P** **14 00 41.2 +0.3**
comp=Z,36nm,1.3s,mb5.1
BAIF Baives 78.71 1⇑ *i*P **P** **14 00 41.8 +0.7**
comp=Z,158nm,1.1s,mb5.6
BAIF Baives 78.71 1⇑ *i*P **P** **14 00 41.8 +0.7**
comp=Z,79nm,1.1s,mb5.6
BAIF Baives 78.71 1⇑ *i*P **P** **14 00 41.8 +0.7**
BAIF pmax pmax
comp=Z,79nm,1.1s,mb5.6
KAKA Kakadu 78.83 233 *e*P **P** **14 00 40.2 -2.0**
comp=Z,98nm,0.9s,mb5.7
KAKA Kakadu 78.83 233 P **P** **14 00 42.0 -0.2**
comp=Z,2µmcomp=Z,231nm,0.9s,mb6.1
KOLS Kolonicke sedl 78.84 349 *e*P **P** **14 00 41.8 -0.1**
KOLS pmax pmax
comp=Z,61nm,1.9s,mb5.2
KOLS Kolonicke sedl 78.84 349 *e*P **P** **14 00 41.8 -0.1**
KOLS *e* 14 11 01.9
KOLS *e* 14 16 26.9
ROTZ Rotzenmuhle 78.86 356 *e*P **P** **14 00 42.5 +0.6**
comp=Z,297nm,2.2s,mb5.8
ROTZ *e*pP pP 14 00 57.2 +0.8
SONA Sohna 78.88 302 *e*PKP **P** **14 00 41.9 -0.5**
SONA AMb AMB 14 00 45.5
comp=Z,130nm,1.2s,mb5.7
ABH Alteburg 78.88 359 *e*P **P** **14 00 42.5 +0.4**
CRVS Cervenica-Dubn 78.97 349 *e*P **P** **14 00 42.6 0.0**
CRVS pmax pmax
comp=Z,99nm,2.2s,mb5.3
CRVS Cervenica-Dubn 78.97 349 *e*P **P** **14 00 42.6 0.0**
CRVS Cervenica-Dubn 78.97 349 *e*S S 14 10 44.7 +7.7
CRVS *e* 14 16 10.4
GRF Grafenberg Arr 78.97 356 *e*P **P** **14 00 43.5 +0.9**
comp=Z,187nm,1.1s,mb5.9
GRF *e*L 14 46 00.6
comp=Z,5µm,18.5s
GRF Grafenberg Arr 78.97 356 *e*P **P** **14 00 43.5 +0.9**
GRF pmax pmax
comp=Z,187nm,1.1s,mb5.9
GRFO Grafenberg 78.98 356 *e*P **P** **14 00 43.3 +0.7**
comp=Z,78nm,0.8s,mb5.7
GRFO Grafenberg 78.98 356 *e*P **P** **14 00 43.3 +0.7**
GRFO pmax pmax
comp=Z,79nm,0.8s,mb5.7
VRAC Vranov 79.04 353⇑ P **P** **14 00 43.2 +0.3**
VRAC Vranov 79.04 353⇑ *i*P **P** **14 00 43.2 +0.3**
MAK Makhachkala 79.06 330 *e*P **P** **14 00 43.0 -0.2**
MAK *e* pP 14 00 53.1 -4.6
MAK *e* 14 03 40.5
MAK *e*PPP 14 05 30.5
MAK *e*S S 14 10 44.6 +6.4
MAK *e*SS SS 14 15 43.1 -0.3
MAK pmax pmax
comp=Z,270nm,1.6s,mb5.9
RUP Ruppelstein 79.07 359 *e*P **P** **14 00 43.6 +0.5**
RUP Ruppelstein 79.07 359 *e*P **P** **14 00 43.6 +0.5**
LIKS Likavka 79.07 351 *e*P **P** **14 00 44.9 +1.8**
LIKS Likavka 79.07 351 *e*P **P** **14 00 44.9 +1.8**
WLF Walferdange 79.11 360 P **P** **14 00 44.2 +0.8**
comp=Z,108nm,2.5s,mb5.3
WLF Walferdange 79.11 360 *e*P **P** **14 00 44.1 +0.7**
comp=Z,371nm,2.1s,mb6.0
WLF *e*pP pP 14 00 59.1 +1.3
WLF Walferdange 79.11 360 *e*P **P** **14 00 43.9 +0.5**
comp=Z,61nm,0.8s,mb5.6
WLF LR LR
comp=Z,6µm,19.0s,MS5.9
WLF Walferdange 79.11 360 *e*P **P** **14 00 43.9 +0.5**
WLF pmax pmax
comp=Z,61nm,0.8s,mb5.6
WLF MLR MLR
comp=Z,6µm,19.0s,MS5.9
TREC Trest 79.13 353⇑ *i*P **P** **14 00 43.6 +0.1**
TREC *e*S S 14 10 55.1 +16
TREC MLR MLR
comp=Z,5µm,17.2s,MS5.9
TREC Trest 79.13 353⇑ *i*P **P** **14 00 43.6 +0.1**
TREC *e*SKS 14 10 55.1
TREC *ex* x 14 16 10.4
TREC AMS AMS 14 45 00.0
comp=Z,5µm,17.2s
TOD Tromm 79.14 358 *e*P **P** **14 00 43.9 +0.4**
TOD Tromm 79.14 358 *e*P **P** **14 00 43.9 +0.4**
UZH Uzhgorod 79.14 349 *c i*P **P** **14 00 42.6 -0.9**
UZH *i* pP 14 00 56.4 -1.6
UZH *i* pP 14 01 01.2 +3.2
UZH *e*PPP 14 05 41.0
UZH *e*S S 14 10 35.6 -3.2
UZH *e*SS SS 14 15 55.0 +11
AGRA Agra 79.23 300 *e*PKP **P** **14 00 43.7 -0.7**
AGRA AMb AMB 14 00 47.6
comp=Z,178nm,0.8s,mb6.0
CTA Charters Tower 79.27 217 P **P** **14 00 44.3 -0.1**
comp=Z,38nm,0.9s,mb5.3,baz=16,slow=6.3,SNR=21
CTA Charters Tower 79.27 217 *e*P **P** **14 00 42.9 -1.5**
comp=Z,30nm,0.9s,mb5.2
CTA *e*S S 14 10 38.9 -1.8
CTA Charters Tower 79.27 217 P **P** **14 00 44.3 -0.1**
CTA Charters Tower 79.27 217 P **P** **14 00 44.3 -0.1**
CTAO Charters Tower 79.27 217 *e*P **P** **14 00 43.8 -0.6**
comp=Z,49nm,1.0s,mb5.4
CTAO LR LR
comp=Z,2µm,20.0s,MS5.5
CTAO Charters Tower 79.27 217 *e*P **P** **14 00 43.8 -0.6**
CTAO pmax pmax
comp=Z,49nm,1.0s,mb5.4
CTAO MLR MLR
comp=Z,2µm,20.0s,MS5.5
CTAO Charters Tower 79.27 217 P **P** **14 00 44.5 +0.1**
comp=Z,1µmcomp=Z,60nm,1.1s,mb5.4
KUDL Kundal 79.28 302 *e*PKP **P** **14 00 44.5 -0.1**
KUDL AMb AMB 14 00 48.0
comp=Z,278nm,1.5s,mb6.0
KAPI Kappang 79.28 248 *e*P **P** **14 00 44.4 -0.4**
comp=Z,721nm,1.9s,mb6.3
KAPI LR LR
comp=Z,1µm,21.0s,MS5.2
KAPI Kappang 79.28 248 P **P** **14 00 44.5 -0.3**
comp=Z,4µmcomp=Z,175nm,2.1s,mb5.6
KAPI Kappang 79.28 248 P **P** **14 00 44.3 -0.4**
SNR=38
BKSI Bulukumba 79.32 247 P **P** **14 00 44.7 -0.2**
comp=Z,3µmcomp=Z,227nm,1.3s,mb5.9
JSA Saint Aubin 79.37 5 *e*P **P** **14 00 43.5 -1.3**
JSA AMB AMB 14 00 44.6
comp=Z,146nm,2.3s,mb5.5
JSA AMS AMS 14 33 38.1
comp=Z,3µm,20.8s,MS5.6
JSA Saint Aubin 79.37 5 P **P** **14 00 43.5 -1.3**
JSA AMB AMB 14 00 44.6
comp=Z,146nm,2.3s,mb5.5
JSA AMS AMS 14 33 38.1
comp=Z,3µm,20.8s
KHC Kasperske Hory 79.42 355 *e*P **P** **14 00 45.1 0.0**
comp=Z,26nm,1.8s,mb4.9
KHC Kasperske Hory 79.42 355⇑ *i*P **P** **14 00 45.6 +0.6**
KHC *e*S S 14 10 43.5 +1.7
KHC MLR MLR
comp=Z,5µm,20.0s,MS5.8
KHC Kasperske Hory 79.42 355⇑ *i*P **P** **14 00 45.6 +0.6**
KHC *e*pP pP 14 00 57.0 -2.5
KHC *ex* x 14 01 10.0
KHC *e*S S 14 10 43.5 +1.7
KHC *ex* x 14 16 04.9
KHC AMS AMS 14 42 00.0
comp=Z,5µm,20.0s
KTD Kalmit 79.44 358 *e*P **P** **14 00 45.6 +0.5**
KTD Kalmit 79.44 358 *e*P **P** **14 00 45.6 +0.5**
WET Wettzell 79.45 355 *e*P **P** **14 00 45.6 +0.4**
comp=Z,158nm,2.0s,mb5.6
WET Wettzell 79.45 355 *e*P **P** **14 00 45.6 +0.4**
WET pmax pmax
comp=Z,158nm,2.0s,mb5.6

KECS Kecovo 79.49 350 *e*P **P** **14 00 44.8 -0.6**
KECS pmax pmax
comp=Z,38nm,2.3s,mb4.9
KECS Kecovo 79.49 350 *e*P **P** **14 00 44.8 -0.6**
KIV Kislovodsk 79.57 334 *e*P **P** **14 00 45.2 -0.7**
comp=Z,32nm,0.9s,mb5.2
KIV LR LR
comp=Z,6µm,20.0s,MS6.0
KIV Kislovodsk 79.57 334 *c i*P **P** **14 00 46.2 +0.3**
KIV *e* pP 14 00 57.1 -3.3
KIV *i**PP pP 14 01 00.4 0.0
KIV *e* 14 03 49.1
KIV *i* 14 10 51.1
KIV *i* 14 11 03.3
KIV *i* PS 14 11 38.5
KIV SS SS 14 15 50.0 -0.9
KIV pmax pmax
comp=Z,71nm,2.7s,mb5.1
KIV MLR MLR
comp=Z,5µm,21.0s,MS5.8
KIV Kislovodsk 79.57 334 P **P** **14 00 46.0 +0.1**
comp=Z,136nm,0.6s,mb6.1,SNR=7.8
KIV Kislovodsk 79.57 334 P **P** **14 00 46.3 +0.3**
SNR=8.8
TRPA Tarpa 79.60 349⇑ *i*P **P** **14 00 46.2 +0.2**
VYHS Vyhne 79.65 351 *e*P **P** **14 00 46.5 +0.2**
VYHS pmax pmax
comp=Z,57nm,2.1s,mb5.1
VYHS Vyhne 79.65 351 *e*P **P** **14 00 46.5 +0.2**
VYHS *e* 14 11 07.7
VYHS *e*SS SS 14 16 08.3 +17
KHET Khetri 79.70 302 *e*PKP **P** **14 00 47.3 +0.4**
KHET AMb AMB 14 00 49.6
comp=Z,170nm,1.1s,mb5.9
GEC2 GERESS Array S 79.70 355 *e*P **P** **14 00 46.6 +0.1**
comp=Z,166nm,2.0s,mb5.6
GEC2 *e*pP pP 14 01 01.8 +0.8
GEC2 GERESS Array S 79.70 355 *e*P **P** **14 00 46.6 +0.1**
GEC2 *e**PP pP 14 01 01.8 +0.8
GEC2 pmax pmax
comp=Z,166nm,2.0s,mb5.6
GERES GERESS Array B 79.70 355 P **P** **14 00 46.0 -0.6**
comp=Z,15nm,0.8s,mb5.0,baz=18,slow=4.5,SNR=75
GERES PKKPbc PKKPbc 14 19 31.2 +0.1
comp=Z,0.3nm,0.4s,baz=202,slow=1.4,SNR=4.4
GERES PKPPKP 14 27 34.6
comp=Z,0.4nm,0.8s,baz=232,slow=2.4,SNR=3.2
GERES LR LR 14 37 41.1
comp=Z,5µm,19.9s,MS5.8,baz=7.3,slow=37
GERES GERESS Array B 79.70 355 P **P** **14 00 46.0 -0.6**
GERES PKKPbc PKKPbc 14 19 31.2 +0.1
GERES P'P' 14 27 34.6
GERES LR LR 14 37 41.1
GERES GERESS Array B 79.70 355 P **P** **14 00 46.0 -0.5**
ABKT Ailbek 79.75 320 P **P** **14 00 42.9 -4.1**
comp=Z,273nm,1.6s,mb5.9,SNR=21
BURAR Bucovina Array 79.75 347 P **P** **14 00 47.2 +0.4**
BURAR Bucovina Array 79.75 347⇓ *i*P **P** **14 00 47.2 +0.4**
KSM Kuching 79.76 259 P **P** **14 00 47.9 +0.5**
KSM Kuching 79.76 259 *e*P **P** **14 00 46.9 -0.5**
comp=Z,213nm,1.3s,mb5.9
KSM LR LR
comp=Z,2µm,21.0s,MS5.4
KSM Kuching 79.76 259 P **P** **14 00 47.6 +0.2**
comp=Z,3µmcomp=Z,137nm,1.8s,mb5.6
SMOL Smolenice 79.76 352 *e*P **P** **14 00 48.4 +1.5**
SMOL Smolenice 79.76 352 *e*P **P** **14 00 48.3 +1.4**
LANF Langenberg 79.78 359 *e*P **P** **14 00 47.5 +0.5**
LANF Langenberg 79.78 359 *e*P **P** **14 00 47.5 +0.5**
LANF Langenberg 79.78 359 *e*P **P** **14 00 47.5 +0.5**
KIS Kishinev 79.78 344⇑ *i*P **P** **14 00 46.0 -1.0**
comp=Z,400nm,2.0s,mb6.0
KIS Kishinev 79.78 344 *i* PcP PcP 14 00 57.0 +2.4
KIS *e*S S 14 11 00.0 +14
KIS Kishinev 79.78 344α *i*P **P** **14 00 46.0 -1.0**
KIS *i* pP 14 00 57.0 -4.5
KIS *e* 14 03 48.0
KIS *e* 14 05 46.0
KIS *e*S S 14 11 00.0 +14
KIS *e*PS 14 11 56.0
KIS pmax pmax
comp=Z,400nm,2.0s,mb6.0
KIS pmax pmax
comp=Z,2µm,12.0s
KIS MLR MLR
comp=Z,8µm,18.0s,MS6.1
KIS MLR MLR
comp=N,7µm,20.0s,MS6.1
KIS MLR MLR
comp=E,6µm,20.0s,MS6.1
KIS MLR MLR
comp=Z,8µm,20.0s
IAS Iasi 79.80 345 P **P** **14 00 47.3 +0.2**
FLN La Foliniere 79.88 4⇑ *i*P **P** **14 00 47.6 +0.1**
comp=Z,102nm,0.8s,mb5.5
FLN *e*MLR MLR
comp=Z,5µm,18.8s,MS5.6
FLN La Foliniere 79.88 4⇑ *i*P **P** **14 00 47.6 +0.1**
comp=Z,51nm,0.8s,mb5.5
FLN LR LR
comp=Z,5µm,18.8s,MS5.9
FLN La Foliniere 79.88 4⇑ *i*P **P** **14 00 47.6 +0.1**
FLN pmax pmax
comp=Z,51nm,0.8s,mb5.5
FLN MLR MLR
comp=Z,5µm,18.8s,MS5.9
STU Stuttgart 79.96 358 *e*P **P** **14 00 48.3 +0.3**
comp=Z,85nm,1.1s,mb5.6
STU Stuttgart 79.96 358 *e*P **P** **14 00 48.1 +0.1**
comp=Z,40nm,0.8s,mb5.4
STU Stuttgart 79.96 358 *e*P **P** **14 00 48.1 +0.1**
STU pmax pmax
comp=Z,40nm,0.8s,mb5.4
KBKI Kotabaru 80.00 252 P **P** **14 00 48.3 -0.4**
comp=Z,3µmcomp=Z,85nm,1.2s,mb5.6
MTDJ Mount Denham 80.06 73 P **P** **14 00 50.4 +1.4**
comp=Z,103nm,1.1s,mb5.7
MTDJ LR LR
comp=Z,4µm,19.0s,MS5.8
LDF La Druitiere 80.06 4⇑ *i*P **P** **14 00 48.4 -0.1**
comp=Z,81nm,0.6s,mb5.5
LDF La Druitiere 80.06 4⇑ *i*P **P** **14 00 48.4 -0.1**
comp=Z,40nm,0.6s,mb5.5
LDF La Druitiere 80.06 4⇑ *i*P **P** **14 00 48.4 -0.1**
LDF pmax pmax
comp=Z,40nm,0.6s,mb5.5
ZST Bratislava 80.10 352 *e*P **P** **14 00 50.0 +1.3**
ZST pmax pmax
comp=Z,15nm,0.9s,mb4.9
ZST Bratislava 80.10 352 *e*P **P** **14 00 50.0 +1.3**
ZST Bratislava 80.10 352 *e*S S 14 11 02.9 +14
PSZ Piszkesteto 80.11 350 *e*P **P** **14 00 48.9 +0.1**
comp=Z,42nm,1.4s,mb5.2
PSZ LR LR
comp=Z,9µm,22.0s,MS6.1
PSZ Piszkesteto 80.11 350⇓ P **P** **14 00 49.3 +0.5**
PSZ Piszkesteto 80.11 350⇑ *e*P **P** **14 00 49.3 +0.5**
PSZ Piszkesteto 80.11 350⇓ *i*P **P** **14 00 49.3 +0.5**
ANN Anapa 80.13 338 *c i*P **P** **14 00 48.0 -0.9**
ANN *e* 14 03 48.2
ANN *e*S S 14 10 49.0 -0.4
ANN *e*SS SS 14 16 07.4 +8.2
ANN pmax pmax
comp=Z,73nm,2.2s,mb5.2
BST Brest 80.13 7 *e*P **P** **14 00 49.4 +0.5**
BST Brest 80.13 7 *e*P **P** **14 00 49.4 +0.5**
STKI Sintang 80.15 258 P **P** **14 00 49.7 +0.2**
comp=Z,6µmcomp=Z,133nm,1.8s,mb5.6
ROSF Rostrenen 80.15 6⇑ *i*P **P** **14 00 49.1 +0.1**
comp=Z,37nm,0.6s,mb5.2
ROSF Rostrenen 80.15 6⇑ *i*P **P** **14 00 49.1 +0.1**
comp=Z,18nm,0.6s,mb5.2
ROSF Rostrenen 80.15 6⇑ *i*P **P** **14 00 49.1 +0.1**
ROSF pmax pmax
comp=Z,19nm,0.6s,mb5.2
GTBY Guantanamo Bay 80.18 70 PFAKE 14 01 00.0 +10
GTBY LR LR
comp=Z,8µm,20.0s,MS6.0
GRR Gorron 80.24 4⇑ *i*P **P** **14 00 49.7 +0.2**
comp=Z,158nm,0.9s,mb5.6
GRR Gorron 80.24 4⇑ *i*P **P** **14 00 49.7 +0.2**
comp=Z,79nm,0.9s,mb5.6
GRR Gorron 80.24 4⇑ *i*P **P** **14 00 49.7 +0.2**
GRR pmax pmax
comp=Z,79nm,0.9s,mb5.6

BWNR Bhubaneshwar 80.24 290 *ex* **P 14 00 47.0 -2.9**
MEZF Maizieres J'vi 80.28 0⇑*iP* **P 14 00 50.3 +0.6**
comp=Z,211nm,1.1s,mb5.7
MEZF Maizieres J'vi 80.28 0⇑*iP* **P 14 00 50.3 +0.6**
comp=Z,211nm,1.1s,mb6.0
SGMF Saint Gilles 80.28 6⇑*iP* **P 14 00 50.0 +0.3**
comp=Z,62nm,0.6s,mb5.5
SGMF Saint Gilles 80.28 6⇑*iP* **P 14 00 50.0 +0.3**
comp=Z,31nm,0.6s,mb5.4
SGMF Saint Gilles 80.28 6⇑*iP* **P 14 00 50.0 +0.3**
SGMF pmax pmax
comp=Z,31nm,0.6s,mb5.4
ZEI Tsey 80.32 332 *eP* **P 14 00 50.0 0.0**
ZEI *e* 14 03 54.1
ZEI *eS* S 14 10 54.3 +2.8
ZEI *eSS* SS 14 16 05.2 +3.1
ZEI pmax pmax
comp=Z,50nm,1.7s,mb5.2
CDF Champ du Feu 80.36 359⇑*iP* **P 14 00 50.7 +0.6**
comp=Z,147nm,0.8s,mb5.7
CDF Champ du Feu 80.36 359⇑*iP* **P 14 00 50.7 +0.6**
comp=Z,73nm,0.8s,mb5.7
CDF Champ du Feu 80.36 359⇑*iP* **P 14 00 50.7 +0.6**
CDF pmax pmax
comp=Z,73nm,0.8s,mb5.7
LEOM Leova 80.39 344 P **P 14 00 50.9 +0.6**
BFO Black Forest 80.42 358 *eP* **P 14 00 50.6 +0.1**
comp=Z,110nm,1.4s,mb5.6
BFO Black Forest 80.42 358 PFAKE 14 01 00.0 +10
BFO LR LR
comp=Z,4µm,20.0s,MS5.8
BFO Black Forest 80.42 358 *eP* **P 14 00 50.6 +0.1**
BFO pmax pmax
comp=Z,110nm,1.4s,mb5.6
BFO Black Forest 80.42 358 P **P 14 00 50.3 -0.2**
comp=Z,268nm,0.8s,mb6.2,SNR=22
CONA Conrad Observa 80.47 353⇑*iP* **P 14 00 51.6 +0.9**
comp=Z,64nm,1.6s,mb5.3,SNR=19
CSNA Conrad Observa 80.47 353⇑*iP* **P 14 00 51.3 +0.6**
comp=Z,55nm,1.5s,mb5.3
FUR Furstenfeldbru 80.50 356 *eP* **P 14 00 51.2 +0.3**
comp=Z,439nm,2.2s,mb6.0
FUR *ep*P pP 14 01 06.5 +1.1
FUR Furstenfeldbru 80.50 356 *eP* **P 14 00 51.2 +0.3**
FUR *e**PP pP 14 01 06.5 +1.1
FUR pmax pmax
comp=Z,439nm,2.2s,mb6.0
THEF They Montfort 80.55 360 *eP* **P 14 00 51.9 +0.7**
THEF They Montfort 80.55 360 *eP* **P 14 00 51.9 +0.7**
THEF They Montfort 80.55 360 *eP* **P 14 00 51.9 +0.7**
ECH Echery 80.56 359 *eP* **P 14 00 51.6 +0.4**
ECH LR LR
comp=Z,5µm,19.0s,MS5.8
ECH Echery 80.56 359 *eP* **P 14 00 51.6 +0.4**
ECH MLR MLR
comp=Z,5µm,19.0s,MS5.8
ECH Echery 80.56 359 *eP* **P 14 00 51.6 +0.4**
RAO Raoul Island 80.56 183 PFAKE 14 01 00.0 +8.8
RAO LR LR
comp=Z,8µm,20.0s,MS6.1
SFTF Sexfontaines 80.57 0⇑*iP* **P 14 00 51.8 +0.5**
comp=Z,363nm,0.9s,mb6.0
SFTF Sexfontaines 80.57 0⇑*iP* **P 14 00 51.8 +0.5**
comp=Z,363nm,0.9s,mb6.3
QUIF Quistinic 80.58 6⇑*iP* **P 14 00 51.8 +0.5**
comp=Z,70nm,0.9s,mb5.3
QUIF Quistinic 80.58 6⇑*iP* **P 14 00 51.8 +0.5**
comp=Z,35nm,0.9s,mb5.3
QUIF Quistinic 80.58 6⇑*iP* **P 14 00 51.8 +0.5**
QUIF pmax pmax
comp=Z,35nm,0.9s,mb5.3
ONI Oni 80.61 333 P **P 14 00 51.4 -0.2**
TESR 80.61 345⇓*iP* **P 14 00 52.9 +1.4**
LIBD Limburg 80.62 359 *eP* **P 14 00 52.1 +0.6**
LIBD Limburg 80.62 359 *eP* **P 14 00 52.1 +0.6**
BUD Budapest 80.63 351⇑*eP* **P 14 00 52.3 +0.7**
SPAK Spaichingen-Ko 80.64 358 *eP* **P 14 00 52.1 +0.5**
SOP Sopron 80.66 353⇑*eP* **P 14 00 52.6 +0.9**
MOA Molln 80.66 354⇑*iP* **P 14 00 52.0 +0.3**
comp=Z,42nm,2.2s,mb5.0,SNR=7.6
SOC Sochi 80.70 336*c iP* **P 14 00 51.9 -0.2**
SOC *e**SP sP 14 01 05.9 -6.3
SOC *e* 14 03 55.4
SOC *eS* S 14 10 58.6 +3.1
SOC *eSS* SS 14 16 07.4 -0.4
SOC pmax pmax
comp=Z,35nm,0.9s,mb5.3
SIM Simferopol' 80.73 340*c iP* **P 14 00 52.8 +0.6**
SIM *i* pP 14 01 06.0 -0.7
SIM *eS* S 14 10 55.8 0.0
SIM pmax pmax
comp=Z,104nm,1.7s,mb5.5
HAU Haudompre 80.77 360⇑*iP* **P 14 00 52.8 +0.5**
comp=Z,160nm,0.9s,mb5.7
HAU *e*MLR MLR
comp=Z,7µm,19.5s,MS5.8
HAU Haudompre 80.77 360⇑*iP* **P 14 00 52.8 +0.5**
comp=Z,80nm,0.9s,mb5.7
HAU LR LR
comp=Z,7µm,19.5s,MS6.0
HAU Haudompre 80.77 360⇑*iP* **P 14 00 52.8 +0.5**
HAU pmax pmax
comp=Z,80nm,0.9s,mb5.7
HAU MLR MLR
comp=Z,7µm,19.5s,MS6.0
MMRI Maumere 80.82 244 P **P 14 00 52.0 -1.0**
comp=Z,3µmcomp=Z,124nm,1.4s,mb5.7
RJOB Jochberg 80.85 355 *eP* **P 14 00 53.1 +0.3**
comp=Z,33nm,0.8s,mb5.5
FELD Feldberg im Sc 80.88 358 *eP* **P 14 00 53.1 +0.2**
DRGR 80.90 348⇓*iP* **P 14 00 53.2 +0.2**
DRGR 80.90 348⇓*iP* **P 14 00 53.2 +0.2**
BBKI Banjar Baru 80.92 253 P **P 14 00 54.3 +0.7**
comp=Z,139nm,2.3s,mb5.5
MOF Molkenrain 80.92 359 *eP* **P 14 00 53.4 +0.3**
MOF Molkenrain 80.92 359 *eP* **P 14 00 53.4 +0.3**
MOF Molkenrain 80.92 359 *eP* **P 14 00 53.4 +0.3**
HINF Hinteralfeld 80.96 359⇑*iP* **P 14 00 53.5 +0.2**
comp=Z,123nm,0.8s,mb5.6
HINF Hinteralfeld 80.96 359⇑*iP* **P 14 00 53.5 +0.2**
comp=Z,62nm,0.8s,mb5.6
HINF Hinteralfeld 80.96 359⇑*iP* **P 14 00 53.5 +0.2**
HINF pmax pmax
comp=Z,62nm,0.8s,mb5.6
TBLG Delisi 81.03 331 *eP* **P 14 00 53.7 -0.1**
TBLG Delisi 81.03 331 P **P 14 00 53.8 0.0**
MTA Mtatsminda 81.04 331 P **P 14 00 53.8 -0.1**
DGRG David-gareji 81.09 331 P **P 14 00 52.3 -1.9**
ARSA Arzberg 81.17 353⇑*iP* **P 14 00 55.1 +0.7**
comp=Z,43nm,1.8s,mb5.1,SNR=17
RETA Reutte 81.20 356⇑*iP* **P 14 00 55.1 +0.5**
comp=Z,57nm,1.9s,mb5.2,SNR=15
KTGM Kuala Trenggan 81.20 267 P **P 14 00 56.4 +1.3**
VRI Vrincioaia 81.23 345 P **P 14 00 55.2 +0.4**
VRI Vrincioaia 81.23 345⇓*iP* **P 14 00 55.2 +0.4**
PLOR Plostina 81.25 345⇑*iP* **P 14 00 56.2 +1.2**
PLOR Plostina 81.25 345⇑*iP* **P 14 00 56.2 +1.2**
BBS Basel-Blauen 81.30 359 *eP* **P 14 00 55.3 +0.1**
BBS Basel-Blauen 81.30 359 *eP* **P 14 00 55.3 +0.1**
WATA Walderalm 81.31 356⇑*iP* **P 14 00 55.8 +0.6**
comp=Z,56nm,1.1s,mb5.4,SNR=18
MOTA Moosalm 81.33 356⇑*iP* **P 14 00 55.8 +0.5**
comp=Z,88nm,1.3s,mb5.5,SNR=14
DOPR Dopca 81.33 346⇑*iP* **P 14 00 57.0 +1.6**
SNG Songkhla 81.34 271 P **P 14 00 56.0 +0.2**
comp=Z,220nm,0.8s,mb6.1
WTTA Wattenberg 81.38 356⇑*iP* **P 14 00 56.3 +0.7**
comp=Z,72nm,1.1s,mb5.5,SNR=27
LOMF Lomont 81.42 359 *eP* **P 14 00 56.4 +0.6**
LOMF Lomont 81.42 359 *eP* **P 14 00 56.4 +0.6**
LOMF Lomont 81.42 359 *eP* **P 14 00 56.4 +0.6**
DAVA Damuels 81.43 357⇑*iP* **P 14 00 56.5 +0.7**
comp=Z,76nm,2.1s,mb5.3,SNR=12
HYF Humbligny 81.48 2 *eP* **P 14 00 56.8 +0.7**
HYF Humbligny 81.48 2 *eP* **P 14 00 56.8 +0.7**
KBA Koelnbreinsper 81.48 355⇑*iP* **P 14 00 57.2 +1.1**
comp=Z,135nm,0.9s,mb5.9,SNR=108
LOR Lormes 81.50 1⇑*iP* **P 14 00 56.7 +0.5**
comp=Z,207nm,0.9s,mb5.8
LOR *e*MLR MLR
comp=Z,6µm,18.8s,MS5.7
LOR Lormes 81.50 1⇑*iP* **P 14 00 56.7 +0.5**
comp=Z,103nm,0.9s,mb5.8
LOR LR LR
comp=Z,6µm,18.8s,MS6.0
LOR Lormes 81.50 1⇑*iP* **P 14 00 56.7 +0.5**
LOR pmax pmax
comp=Z,103nm,0.9s,mb5.8
LOR MLR MLR
comp=Z,6µm,18.8s,MS6.0
TLCR 81.54 344⇑P **P 14 00 57.3 +0.8**
TLCR 81.54 344⇑*iP* **P 14 00 57.3 +0.8**
AJM Ajmer 81.59 302 *ex* **P 14 00 55.0 -2.1**
JTS JuntasAbangare 81.66 84 PFAKE 14 01 10.0 +12
JTS LR LR
comp=Z,2µm,20.0s,MS5.5
FETA Feichten 81.66 356⇑*iP* **P 14 00 58.1 +1.0**
comp=Z,52nm,0.9s,mb5.5,SNR=46
AKH Akhalkalaki 81.69 332 P **P 14 00 56.9 -0.4**
SSF Saint Saulge 81.70 1⇑*iP* **P 14 00 57.8 +0.5**
comp=Z,168nm,0.7s,mb5.8
SSF Saint Saulge 81.70 1⇑*iP* **P 14 00 57.8 +0.5**
comp=Z,84nm,0.7s,mb5.8
SSF Saint Saulge 81.70 1⇑*iP* **P 14 00 57.8 +0.5**
SSF pmax pmax
comp=Z,84nm,0.7s,mb5.8
MLR Muntele Rosu 81.72 346 P **P 14 00 59.1 +1.7**
MLR Muntele Rosu 81.72 346⇓*iP* **P 14 00 59.1 +1.7**
SOKA Soboth 81.77 353⇑*iP* **P 14 00 58.1 +0.5**
comp=Z,132nm,1.9s,mb5.5
PERS Pernice 81.81 353 *i* P **P 14 00 58.2 +0.4**
PERS *i* pP pP 14 01 12.2 -0.2
ABTA Abfaltersbach 81.86 355⇑*iP* **P 14 00 58.5 +0.4**
comp=Z,52nm,1.3s,mb5.3,SNR=15
VOIR 81.90 346⇓P **P 14 01 00.1 +1.7**
VOIR 81.90 346⇓*iP* **P 14 01 00.1 +1.7**
PKSM Moragy 81.93 351 P **P 14 00 58.3 -0.2**
PKSM Moragy 81.93 351⇑*iP* **P 14 00 57.8 -0.7**
AVF Avril sur Loir 81.97 2⇑*iP* **P 14 00 59.1 +0.4**
comp=Z,93nm,0.6s,mb5.6
AVF Avril sur Loir 81.97 2⇑*iP* **P 14 00 59.1 +0.4**
comp=Z,46nm,0.6s,mb5.6
AVF Avril sur Loir 81.97 2⇑*iP* **P 14 00 59.1 +0.4**
AVF pmax pmax
comp=Z,46nm,0.6s,mb5.6
OBKA Obir 81.97 354⇑*iP* **P 14 00 59.0 +0.2**
comp=Z,54nm,0.9s,mb5.5,SNR=22
ISR Istrita 81.98 345⇓P **P 14 01 00.4 +1.6**
ISR Istrita 81.98 345⇓*iP* **P 14 01 00.4 +1.6**
RKT Rikitea 82.03 144 *eS* S 14 11 14.5 +5.1
comp=Z,4µm,35.2s
RKT *eSS* SS 14 16 31.6 +1.6
comp=Z,2µm,26.5s
RKT *eLR* LR 14 26 43.1
comp=Z,8µm,24.0s,baz=333
MFF Saint Martin d 82.05 4⇑*iP* **P 14 00 59.6 +0.5**
comp=Z,178nm,0.8s,mb5.7
MFF Saint Martin d 82.05 4⇑*iP* **P 14 00 59.6 +0.5**
comp=Z,89nm,0.8s,mb5.8
MFF Saint Martin d 82.05 4⇑*iP* **P 14 00 59.6 +0.5**
MFF pmax pmax
comp=Z,89nm,0.8s,mb5.8
SMF Signal de Mont 82.12 1⇑*iP* **P 14 00 59.9 +0.4**
comp=Z,228nm,0.9s,mb5.8
SMF Signal de Mont 82.12 1⇑*iP* **P 14 00 59.9 +0.4**
comp=Z,114nm,0.9s,mb5.8
SMF Signal de Mont 82.12 1⇑*iP* **P 14 00 59.9 +0.4**
SMF pmax pmax
comp=Z,114nm,0.9s,mb5.8
CABF La Chapelle 82.17 360⇑*iP* **P 14 01 00.7 +0.9**
comp=Z,255nm,1.0s,mb5.8
CABF La Chapelle 82.17 360⇑*iP* **P 14 01 00.7 +0.9**
comp=Z,128nm,1.0s,mb5.8
CABF La Chapelle 82.17 360⇑*iP* **P 14 01 00.7 +0.9**
CABF pmax pmax
comp=Z,128nm,1.0s,mb5.8
BZS Buzias 82.19 349⇑P **P 14 00 59.8 -0.1**
BZS Buzias 82.19 349⇑*iP* **P 14 00 59.8 -0.1**
BGF Bois d'Agland 82.19 2⇑*iP* **P 14 01 00.3 +0.4**
comp=Z,225nm,1.1s,mb5.7
BGF Bois d'Agland 82.19 2⇑*iP* **P 14 01 00.3 +0.4**
comp=Z,113nm,1.1s,mb5.7
BGF Bois d'Agland 82.19 2⇑*iP* **P 14 01 00.3 +0.4**
BGF pmax pmax
comp=Z,113nm,1.1s,mb5.7
PBKI Pangkalan Bun 82.22 256 P **P 14 01 01.3 +0.8**
comp=Z,4µmcomp=Z,320nm,1.2s,mb6.1
TUE Stuetta 82.26 357 PFAKE 14 01 10.0 +10
TUE LR LR
comp=Z,4µm,21.0s,MS5.8
GZR Gura Zlata 82.26 348⇓P **P 14 01 00.7 +0.4**
GZR Gura Zlata 82.26 348⇓*iP* **P 14 01 00.7 +0.4**
TIRR Tirgusor 82.32 344 *eP* **P 14 01 00.9 +0.3**
comp=Z,42nm,0.8s,mb5.4
TIRR Tirgusor 82.32 344⇑P **P 14 01 01.0 +0.4**
TIRR Tirgusor 82.32 344⇑*iP* **P 14 01 01.0 +0.4**
EIDS Eidsvold 82.44 211 *eP* **P 14 01 01.4 +0.2**
comp=Z,45nm,1.2s,mb5.3
LJU Ljubljana 82.44 354 *i* P **P 14 01 01.0 -0.2**
LJU *i* pP pP 14 01 15.4 -0.3
LJU *eS* ScS 14 11 36.7 +8.1
LJU *eSKSac* 14 11 50.9
LJU *eSS* SS 14 17 10.4 +37
TCF Toulx Ste Croi 82.45 2⇑*iP* **P 14 01 01.5 +0.3**
comp=Z,95nm,0.8s,mb5.5
TCF Toulx Ste Croi 82.45 2⇑*iP* **P 14 01 01.5 +0.3**
comp=Z,48nm,0.8s,mb5.5
TCF Toulx Ste Croi 82.45 2⇑*iP* **P 14 01 01.5 +0.3**
TCF pmax pmax
comp=Z,47nm,0.8s,mb5.5
GNI Garni 82.47 331 *eP* **P 14 01 03.4 +2.0**
comp=Z,101nm,1.3s,mb5.6
GNI LR LR
comp=Z,7µm,20.0s,MS6.0
GNI Garni 82.47 331*c iP* **P 14 01 02.6 +1.1**
GNI pmax pmax
comp=Z,170nm,2.3s
GNI Garni 82.47 331 P **P 14 01 03.0 +1.6**
SNR=23
JAVS Javornik 82.62 354 *i* P **P 14 01 01.5 -0.6**
JAVS *ep*P pP 14 01 15.5 -1.2
BHPL Bhopal 82.69 298 *eP*KP **P 14 01 02.4 -0.5**
BHPL *ex* x 14 11 20.8
AGO Saint Agoulin 82.70 2 *eP* **P 14 01 03.6 +1.0**
AGO Saint Agoulin 82.70 2 *eP* **P 14 01 03.6 +1.0**
OG35 Corcelles 82.74 0 *eP* **P 14 01 01.3 -1.4**
BMNI Bima 82.75 247 P **P 14 01 01.1 -2.1**
comp=Z,1µmcomp=Z,35nm,1.2s,mb5.3
KULM Kulim 82.78 269 P **P 14 01 03.4 0.0**
KULM Kulim 82.78 269 PFAKE 14 01 10.0 +6.6
KULM LR LR
comp=Z,3µm,20.0s,MS5.6
KULM Kulim 82.78 269 P **P 14 01 03.4 0.0**
comp=Z,2µmcomp=Z,103nm,1.2s,mb5.8
PLDF La Plantade 82.80 1 *eP* **P 14 01 04.3 +1.3**
PLDF La Plantade 82.80 1 *eP* **P 14 01 04.3 +1.3**
PLDF La Plantade 82.80 1 *eP* **P 14 01 04.3 +1.3**
MANR Mangalia 82.91 343⇓*iP* **P 14 01 05.4 +1.8**
BOJS Bojanci 82.92 353 *eP* **P 14 01 03.6 -0.1**
BOJS *ep*P pP 14 01 17.8 -0.4
BOJS *eS* S 14 11 08.0 -10
BOJS *eSKSac* SKSac 14 11 23.6 +2.7
PYM Petit Puy Mans 83.00 2 *eP* **P 14 01 04.8 +0.7**
PYM Petit Puy Mans 83.00 2 *eP* **P 14 01 04.8 +0.7**
PYM Petit Puy Mans 83.00 2 *eP* **P 14 01 04.8 +0.7**
PSN Preselentsi 83.11 344 *i* P **P 14 01 05.3 +0.6**
PSN Preselentsi 83.11 344 *i* P **P 14 01 05.3 +0.6**
SDDR Presa de Saban 83.15 68 *eP* **P 14 01 06.6 +1.3**
comp=Z,25nm,0.8s,mb5.3
SDDR LR LR
comp=Z,5µm,21.0s,MS5.9
IPM Ipoh 83.17 269 P **P 14 01 05.5 +0.1**
IPM Ipoh 83.17 269 P **P 14 01 05.5 +0.1**
comp=Z,2µmcomp=Z,86nm,1.2s,mb5.6
LPL La Plagne 83.26 359⇑*iP* **P 14 01 07.0 +1.6**
LPL La Plagne 83.26 359⇑*iP* **P 14 01 07.0 +1.6**
LPL La Plagne 83.26 359⇑*iP* **P 14 01 07.0 +1.6**
LPG La Plagne 83.28 359⇑*iP* **P 14 01 07.3 +1.8**
LPG La Plagne 83.28 359⇑*iP* **P 14 01 07.3 +1.8**
LPG La Plagne 83.28 359⇑*iP* **P 14 01 07.3 +1.8**
FRNF Fournols 83.36 2 *eP* **P 14 01 06.5 +0.6**
FRNF Fournols 83.36 2 *eP* **P 14 01 06.5 +0.6**
RJF Les Rejaudoux 83.41 3⇑*iP* **P 14 01 06.4 +0.2**
comp=Z,169nm,1.0s,mb5.7
RJF *e*MLR MLR
comp=Z,9µm,19.8s,MS5.8
RJF Les Rejaudoux 83.41 3⇑*iP* **P 14 01 06.4 +0.2**
comp=Z,85nm,1.0s,mb5.7
RJF LR LR
comp=Z,9µm,19.8s,MS6.1
RJF Les Rejaudoux 83.41 3⇑*iP* **P 14 01 06.4 +0.2**
RJF pmax pmax
comp=Z,85nm,1.0s,mb5.7
RJF MLR MLR
comp=Z,9µm,19.8s,MS6.1
SSB Saint Sauveur 83.50 1 *eP* **P 14 01 07.1 +0.4**
comp=Z,164nm,1.4s,mb5.9
SSB LR LR
comp=Z,4µm,19.0s,MS5.8
SSB Saint Sauveur 83.50 1 *eP* **P 14 01 07.1 +0.4**
SSB pmax pmax
comp=Z,164nm,1.4s,mb5.9
SSB MLR MLR
comp=Z,4µm,19.0s,MS5.8
SSB Saint Sauveur 83.50 1 *eP* **P 14 01 07.4 +0.7**
MYKOM Kota Tinggi 83.50 265 P **P 14 01 07.9 +0.7**
MYKOM Kota Tinggi 83.50 265 P **P 14 01 07.4 +0.3**
comp=Z,2µmcomp=Z,66nm,1.2s,mb5.5
LBL Lubilhac 83.53 2 *eP* **P 14 01 07.8 +1.0**
LBL Lubilhac 83.53 2 *eP* **P 14 01 07.8 +1.0**
LBL Lubilhac 83.53 2 *eP* **P 14 01 07.8 +1.0**
GRN Grenoble 83.54 360 *eP* **P 14 01 08.0 +1.1**
GRN Grenoble 83.54 360 *eP* **P 14 01 08.0 +1.1**
GRN Grenoble 83.54 360 *eP* **P 14 01 08.0 +1.1**
GDM Grand'Maison 83.58 360 *eP* **P 14 01 08.4 +1.3**
GDM Grand'Maison 83.58 360 *eP* **P 14 01 08.4 +1.3**
ZIMR 83.60 346⇑P **P 14 01 07.7 +0.5**
ZIMR 83.60 346⇑*iP* **P 14 01 07.7 +0.5**
KGM Kluang 83.65 265 P **P 14 01 08.9 +1.0**
VIS Vishakhapatnam 83.70 290 *eP*KP **P 14 01 08.2 0.0**
PRD Provadia 83.71 344 *i* P **P 14 01 08.2 +0.4**
PRD Provadia 83.71 344 *i* P **P 14 01 08.2 +0.4**
BNI Bardonecchia 83.72 359 *eP* **P 14 01 09.4 +1.5**
comp=Z,87nm,0.9s,mb5.9
BNI LR LR
comp=Z,6µm,20.0s,MS5.9
BNI Bardonecchia 83.72 359 *eP* **P 14 01 09.4 +1.6**
BNI pmax pmax
comp=Z,87nm,0.9s,mb5.9
BNI MLR MLR
comp=Z,6µm,20.0s,MS5.9
LFF La Frestale 83.75 4⇑*iP* **P 14 01 08.5 +0.5**
LFF La Frestale 83.75 4⇑*iP* **P 14 01 08.5 +0.5**
LFF La Frestale 83.75 4⇑*iP* **P 14 01 08.5 +0.5**
FRIM Kepong 83.76 267 P **P 14 01 09.5 +1.0**
CAF Calviac 83.81 3⇑*iP* **P 14 01 09.0 +0.8**
CAF Calviac 83.81 3⇑*iP* **P 14 01 09.0 +0.8**
CAF Calviac 83.81 3⇑*iP* **P 14 01 09.0 +0.8**
ORIF Oris-en-Rattie 83.86 360⇑*iP* **P 14 01 10.1 +1.6**
comp=Z,117nm,1.1s,mb5.6
ORIF *e*MLR MLR
comp=Z,5µm,20.5s,MS5.5
ORIF Oris-en-Rattie 83.86 360⇑*iP* **P 14 01 10.1 +1.6**
comp=Z,58nm,1.1s,mb5.6
ORIF Oris-en-Rattie 83.86 360⇑*iP* **P 14 01 10.1 +1.6**
ORIF pmax pmax
comp=Z,58nm,1.1s,mb5.6
DIVS Divibare 83.88 350 P **P 14 01 08.2 -0.4**
SZH Strazhica 83.89 345 *i* P **P 14 01 07.5 -1.2**
SZH Strazhica 83.89 345 *i* P **P 14 01 07.5 -1.2**
VIVF Saint-Julien-l 83.92 1 *eP* **P 14 01 08.9 +0.1**
VIVF Saint-Julien-l 83.92 1 *eP* **P 14 01 08.9 +0.1**
VIVF Saint-Julien-l 83.92 1 *eP* **P 14 01 08.9 +0.1**
OG22 Abries 83.95 359 *eP* **P 14 01 10.7 +1.7**
OG22 Abries 83.95 359 *eP* **P 14 01 10.7 +1.7**
PVL Pavlikeni 84.03 346 *i* P **P 14 01 10.0 +0.6**
PVL Pavlikeni 84.03 346 *i* P **P 14 01 10.0 +0.6**
MBDF Montbardon 84.05 359⇑*iP* **P 14 01 11.0 +1.5**
comp=Z,74nm,0.6s,mb5.7
MBDF Montbardon 84.05 359⇑*iP* **P 14 01 11.0 +1.5**
comp=Z,37nm,0.6s,mb5.7
MBDF Montbardon 84.05 359⇑*iP* **P 14 01 11.0 +1.5**
MBDF pmax pmax
comp=Z,37nm,0.6s,mb5.7
MPEP Malo Peshtene 84.13 347 P **P 14 01 09.2 -0.7**
MPEP Malo Peshtene 84.13 347 P **P 14 01 09.2 -0.7**
WRAB Tennant Creek 84.14 228 *eP* **P 14 01 08.1 -2.0**
comp=Z,81nm,1.3s,mb5.7
WRAB LR LR
comp=Z,4µm,20.0s,MS5.8
WRAB Tennant Creek 84.14 228 *eP* **P 14 01 08.1 -2.0**
WRAB pmax pmax
comp=Z,81nm,1.3s,mb5.7
WRAB MLR MLR
comp=Z,4µm,20.0s,MS5.8
WRAB Tennant Creek 84.14 228 P **P 14 01 08.6 -1.5**
comp=Z,266nm,1.5s,mb6.2,SNR=11
WRAB Tennant Creek 84.14 228 P **P 14 01 09.2 -0.9**
comp=Z,2µmcomp=Z,99nm,1.8s,mb5.7
WRA Warramunga Arr 84.16 228 P **P 14 01 08.7 -1.5**
comp=Z,26nm,0.9s,mb5.4,baz=34,slow=5.6,SNR=112
WRA LR LR 14 35 14.4
comp=Z,4µm,20.4s,MS5.8,baz=35,slow=33
WRA Warramunga Arr 84.16 228 P **P 14 01 08.7 -1.5**
WRA LR LR 14 35 14.4
WRA Warramunga Arr 84.16 228 P **P 14 01 08.7 -1.5**
OCF Saint Nazaire 84.20 0 *eP* **P 14 01 11.3 +1.0**
OG26 St.-Nazaire-De 84.20 0 *eP* **P 14 01 11.3 +1.0**
MTNI Mataram 84.28 249 P **P 14 01 08.5 -2.5**
comp=Z,7µmcomp=Z,143nm,1.5s,mb5.9
SURF Saint Ours 84.30 359 *eP* **P 14 01 12.7 +2.0**
SURF Saint Ours 84.30 359 *eP* **P 14 01 12.7 +2.0**
KMMI Kalianget 84.30 251 P **P 14 01 12.4 +1.3**
comp=Z,4µmcomp=Z,143nm,2.0s,mb5.8
SRBI Singaraja 84.40 250 P **P 14 01 11.0 -0.6**
comp=Z,2µmcomp=Z,87nm,1.3s,mb5.7
JMB Yambol 84.56 345 P **P 14 01 12.9 +0.8**
JMB Yambol 84.56 345 *i* P **P 14 01 12.3 +0.2**
JMB Yambol 84.56 345 *i* P **P 14 01 12.3 +0.2**
LASF Ste Croix 84.69 1⇑*iP* **P 14 01 13.8 +1.0**
comp=Z,122nm,1.1s,mb5.7
LASF Ste Croix 84.69 1⇑*iP* **P 14 01 13.8 +1.0**
PLE Pljevlja 84.70 350⇑*iP* **P 14 01 13.6 +0.8**
TOUF Mont Tournerai 84.76 359 *eP* **P 14 01 13.9 +0.8**
TOUF Mont Tournerai 84.76 359 *eP* **P 14 01 13.9 +0.8**
TOUF Mont Tournerai 84.76 359 *eP* **P 14 01 13.9 +0.8**
AUTN L'Aution 84.77 359 *eP* **P 14 01 13.9 +0.7**
AUTN L'Aution 84.77 359 *eP* **P 14 01 13.9 +0.7**
AUTN L'Aution 84.77 359 *eP* **P 14 01 13.9 +0.7**
SAOF Saorge 84.78 359 *eP* **P 14 01 13.6 +0.4**
SAOF Saorge 84.78 359 *eP* **P 14 01 13.6 +0.4**
SAOF Saorge 84.78 359 *eP* **P 14 01 13.6 +0.4**
STOF St-Etienne Org 84.78 360 *eP* **P 14 01 14.3 +1.1**
STOF St-Etienne Org 84.78 360 *eP* **P 14 01 14.3 +1.1**
SMRF Simiane la Rot 84.81 0⇑*iP* **P 14 01 14.9 +1.6**
comp=Z,717nm,1.5s,mb6.3
SMRF Simiane la Rot 84.81 0⇑*iP* **P 14 01 14.9 +1.6**
comp=Z,717nm,1.5s,mb6.6
PGB Panagyurishte 84.86 346 *i* P **P 14 01 13.8 +0.2**
PGB Panagyurishte 84.86 346 *i* P **P 14 01 13.8 +0.2**
UPM Unac-Piva 84.88 350⇑*iP* **P 14 01 13.5 -0.2**
SBF Sospel 84.91 359⇑*iP* **P 14 01 13.2 -0.6**
comp=Z,170nm,0.9s,mb5.9
SBF Sospel 84.91 359⇑*iP* **P 14 01 13.2 -0.6**
comp=Z,85nm,0.9s,mb5.9
SBF Sospel 84.91 359⇑*iP* **P 14 01 13.2 -0.6**
SBF pmax pmax
comp=Z,85nm,0.9s,mb5.9
VILF Villemus 84.93 360 *eP* **P 14 01 15.4 +1.4**
VILF Villemus 84.93 360 *eP* **P 14 01 15.4 +1.4**
AKL Akola 84.94 297 *eP*KP **P 14 01 14.8 +0.5**
AKL *i* x x 14 11 34.3
VTS Vitosha 84.95 347 P **P 14 01 14.2 +0.1**
VTS Vitosha 84.95 347⇑P **P 14 01 14.1 0.0**
VTS Vitosha 84.95 347⇑*iP* **P 14 01 14.1 0.0**
VTS Vitosha 84.95 347 *i* P **P 14 01 14.0 -0.1**
VTS Vitosha 84.95 347 *i* P **P 14 01 14.0 -0.1**
PRAF Pradon 84.98 0 *eP* **P 14 01 15.2 +1.0**
PRAF Pradon 84.98 0 *eP* **P 14 01 15.2 +1.0**
IVA Berane 85.10 350⇑*iP* **P 14 01 15.2 +0.4**
DIM Dimitrovgrad 85.14 345 P **P 14 01 15.0 0.0**
DIM Dimitrovgrad 85.14 345 P **P 14 01 15.0 0.0**
TAVF Tavernes 85.16 360 *eP* **P 14 01 15.9 +0.8**
TAVF Tavernes 85.16 360 *eP* **P 14 01 15.9 +0.8**
PPBI Pangkal Pinang 85.17 260 P **P 14 01 15.7 +0.1**
comp=Z,2µmcomp=Z,87nm,1.9s,mb5.6
PLD Plovdiv 85.21 346 P **P 14 01 15.6 +0.2**
PLD Plovdiv 85.21 346 *i* P **P 14 01 15.0 -0.4**
PLD Plovdiv 85.21 346 *i* P **P 14 01 15.0 -0.4**
BRY Bratogost 85.22 351⇑*iP* **P 14 01 14.6 -0.8**
FRF La Foret Royal 85.22 359⇑*iP* **P 14 01 15.8 +0.4**
comp=Z,216nm,1.2s,mb5.8
FRF La Foret Royal 85.22 359⇑*iP* **P 14 01 15.8 +0.4**

comp=Z,108nm,1.2s,mb5.8
FRF La Foret Royal 85.22 359 ⇑*i*P **P 14 01 15.8 +0.4**
FRF pmax pmax
comp=Z,108nm,1.2s,mb5.8
NKY Niksic 85.26 350 ⇑*i*P **P 14 01 15.2 -0.4**
PVY Plav 85.36 349 ⇑*i*P **P 14 01 16.2 0.0**
MTLF Montolieu 85.39 3 ⇑*i*P **P 14 01 17.2 +0.9**
comp=Z,374nm,1.5s,mb6.0
MTLF Montolieu 85.39 3 ⇑*i*P **P 14 01 17.2 +0.9**
comp=Z,187nm,1.5s,mb6.0
MTLF Montolieu 85.39 3 ⇑*i*P **P 14 01 17.2 +0.9**
MTLF pmax pmax
comp=Z,187nm,1.5s,mb6.0
GELF Grande-Etoile 85.40 0 *e*P **P 14 01 15.2 -1.1**
GELF Grande-Etoile 85.40 0 *e*P **P 14 01 15.2 -1.1**
LMR La Mourre 85.44 359 ⇑*i*P **P 14 01 17.1 +0.6**
comp=Z,588nm,1.7s,mb6.2
LMR La Mourre 85.44 359 ⇑*i*P **P 14 01 17.1 +0.6**
comp=Z,294nm,1.7s,mb6.1
LMR La Mourre 85.44 359 ⇑*i*P **P 14 01 17.1 +0.6**
LMR pmax pmax
comp=Z,294nm,1.7s,mb6.1
TSI Tuntungan 85.46 270 P **P 14 01 17.5 +0.4**
comp=Z,6µmcomp=Z,242nm,1.1s,mb6.3
BERF Bertagne 85.47 360 *e*P **P 14 01 18.5 +1.8**
BERF Bertagne 85.47 360 *e*P **P 14 01 18.5 +1.8**
SJPF Ste Jean 85.48 5 *e*P **P 14 01 17.2 +0.5**
comp=Z,60nm,0.7s,mb5.5
SJPF Ste Jean 85.48 5 *e*P **P 14 01 17.2 +0.5**
comp=Z,30nm,0.7s,mb5.5
SJPF Ste Jean 85.48 5 *e*P **P 14 01 17.2 +0.5**
SJPF pmax pmax
comp=Z,30nm,0.7s,mb5.5
KDZ Kurdzhali 85.55 345 *i*P **P 14 01 17.5 +0.4**
KDZ Kurdzhali 85.55 345 *i*P **P 14 01 17.5 +0.4**
BCI Bajram Curri 85.58 349 *i*P **P 14 01 17.7 +0.5**
GMJI Gumukmas 85.59 251 P **P 14 01 14.9 -2.7**
comp=Z,57nm,1.7s,mb5.5
TTG Podgorica 85.61 350 *e*P **P 14 01 17.0 -0.4**
RZN Rozhen 85.62 346 *i*P **P 14 01 17.5 +0.1**
RZN Rozhen 85.62 346 *i*P **P 14 01 17.5 +0.1**
EPF Esparros 85.64 4 ⇑*i*P **P 14 01 17.5 0.0**
comp=Z,71nm,0.8s,mb5.6
EPF Esparros 85.64 4 ⇑*i*P **P 14 01 17.5 0.0**
comp=Z,35nm,0.8s,mb5.7
EPF Esparros 85.64 4 ⇑*i*P **P 14 01 17.5 0.0**
EPF pmax pmax
comp=Z,35nm,0.8s,mb5.6
HCY Herceg Novi 85.67 350 ⇑*i*P **P 14 01 17.5 -0.2**
KKB Krupnik 85.68 347 *i*P **P 14 01 17.8 0.0**
KKB Krupnik 85.68 347 *i*P **P 14 01 17.8 0.0**
BCIP Isla Barro Col 85.69 81 PFAKE 14 01 30.0 +12
BCIP LR LR
comp=Z,2µm,22.0s,MS5.5
ETSF Etsaut 85.73 5 ⇑*i*P **P 14 01 19.1 +1.1**
comp=Z,120nm,0.9s,mb5.8
ETSF Etsaut 85.73 5 ⇑*i*P **P 14 01 19.1 +1.1**
comp=Z,60nm,0.9s,mb5.8
ETSF Etsaut 85.73 5 ⇑*i*P **P 14 01 19.1 +1.1**
ETSF pmax pmax
comp=Z,60nm,0.9s,mb5.8
MLS Moulis 85.74 3 *e*P **P 14 01 18.0 0.0**
MLS Moulis 85.74 3 *e*P **P 14 01 18.0 0.0**
VIEF Viey 85.77 4 *e*P **P 14 01 19.1 +0.9**
VIEF Viey 85.77 4 *e*P **P 14 01 19.1 +0.9**
BUM Brajici-Budva 85.77 350 ⇑*i*P **P 14 01 18.2 0.0**
PSI Prapat 85.78 269 LR LR 14 39 32.1
comp=Z,2µm,20.8s,MS5.5,baz=8.9,slow=36
SKO Skopje 85.80 348 *i*P **P 14 01 19.0 +0.7**
BR131 Keskin Array S 85.83 339 *e*P **P 14 01 18.5 0.0**
comp=Z,53nm,0.9s,mb5.8
BRTR Keskin Array B 85.83 339 P **P 14 01 18.6 +0.2**
comp=Z,11nm,1.0s,mb5.0,baz=62,slow=2.4,SNR=25
BRTR PKKPbc PKKPbc 14 19 17.4 +0.3
comp=Z,0.6nm,0.5s,baz=152,slow=5.6,SNR=3.5
BRTR PKPPKP' 14 27 24.6
comp=Z,0.6nm,0.3s,baz=195,slow=10,SNR=4.6
BRTR LR LR 14 46 52.7
comp=Z,5µm,20.4s,MS5.9,baz=29,slow=41
BRTR Keskin Array B 85.83 339 P **P 14 01 18.6 +0.2**
BRTR PKKPbc PKKPbc 14 19 17.4 +0.3
BRTR P'P' 14 27 24.6
BRTR LR LR 14 46 52.7
BRTR Keskin Array B 85.83 339 P **P 14 01 18.7 +0.2**
RESF Ens 85.86 4 *e*P **P 14 01 19.2 +0.6**
RESF Ens 85.86 4 *e*P **P 14 01 19.2 +0.6**
MMB Musomiste 85.86 346 *i*P **P 14 01 18.4 -0.3**
MMB Musomiste 85.86 346 *i*P **P 14 01 18.4 -0.3**
PUK Puka 85.92 349 *i*P **P 14 01 19.2 +0.3**
PGAV Gavieira, Arco 86.03 10 *e*P **P 14 01 19.7 +0.2**
comp=Z,94nm,2.0s,mb5.7
PGAV Gavieira, Arco 86.03 10 *e*LR LR 14 30 18.4
comp=Z,4µm,20.0s
NGJI Ngawi 86.04 253 P **P 14 01 20.9 +1.1**
comp=Z,134nm,0.9s,mb6.2
ULC Ulcinj 86.07 350 ⇑*i*P **P 14 01 19.6 -0.1**
NVR Nevrokopi 86.08 346 *e*P **P 14 01 20.3 +0.6**
NVR Nevrokopi 86.08 346 P **P 14 01 20.3 +0.6**
KRKI Karangkates 86.08 252 P **P 14 01 19.6 -0.4**
comp=Z,320nm,1.2s,mb6.4
RGRI Rengat 86.11 265 P **P 14 01 26.7 +6.5**
SJI Sawahan 86.15 253 P **P 14 01 19.2 -1.2**
comp=Z,2µmcomp=Z,80nm,1.9s,mb5.6
ALN Alexandroupoli 86.18 345 *e*P **P 14 01 20.9 +0.6**
ALN Alexandroupoli 86.18 345 P **P 14 01 20.0 -0.2**
AQU L'Aquila 86.18 354 PFAKE 14 01 30.0 +10
AQU LR LR
comp=Z,5µm,20.0s,MS5.9
PGF Pioggiola 86.19 358 ⇑*i*P **P 14 01 20.6 +0.4**
comp=Z,966nm,1.9s,mb6.4
PGF Pioggiola 86.19 358 ⇑*i*P **P 14 01 20.6 +0.4**
comp=Z,483nm,1.9s,mb6.4
PGF Pioggiola 86.19 358 ⇑*i*P **P 14 01 20.6 +0.4**
PGF pmax pmax
comp=Z,483nm,1.9s,mb6.4
VAY Valandovo 86.29 347 P **P 14 01 20.9 +0.1**
VAY Valandovo 86.29 347 *i*P **P 14 01 20.5 -0.3**
KAVA Kavala 86.33 346 P **P 14 01 20.6 -0.4**
SRS Serrai 86.35 347 P **P 14 01 21.1 +0.1**
PBRG Braganca 86.35 9 *e*P **P 14 01 20.8 -0.3**
comp=Z,115nm,1.4s,mb5.9
PBRG *e*pP pP 14 01 35.9 +0.2
PBRG Braganca 86.35 9 *e*LQ 14 25 47.8
PBRG *e*LR LR 14 30 55.9
comp=Z,4µm,22.0s
PWJI Pagerwojo 86.36 252 P **P 14 01 20.1 -1.3**
comp=Z,2µmcomp=Z,142nm,1.3s,mb6.0
BKNI Bangkinang 86.39 266 P **P 14 01 22.1 +0.5**
comp=Z,3µmcomp=Z,161nm,1.2s,mb6.1
SMRI Semarang 86.40 254 P **P 14 01 21.7 +0.1**
comp=Z,144nm,2.2s,mb5.8
KNT Kendrikon 86.40 347 P **P 14 01 21.8 +0.5**
KRUS Krusevo 86.42 348 *e*P **P 14 01 20.5 -0.9**
CELP Cerrillos 86.57 65 *e*P **P 14 01 22.0 -0.5**
OBIP Obispado Ponce 86.58 65 *e*P **P 14 01 23.0 +0.5**
comp=Z,61nm,1.1s,mb5.8
TIR Tirane 86.61 349 *i*P **P 14 01 23.4 +1.1**
TIR Tirane 86.61 349 *e*P **P 14 01 22.2 -0.1**
comp=Z,222nm,1.4s,mb6.2
TIR LR LR
comp=Z,11µm,22.0s,MS6.2
TIR Tirane 86.61 349 *e*P **P 14 01 22.2 -0.1**
TIR pmax pmax
comp=Z,222nm,1.4s,mb6.2
TIR MLR MLR
comp=Z,11µm,22.0s,MS6.2
SOH Sokhos 86.67 347 *e*P **P 14 01 23.3 +0.7**
GRG Griva 86.67 347 P **P 14 01 22.9 +0.3**
HYB Hyderabad 86.70 294 ⇑*i*P **P 14 01 22.5 -0.6**
HYB *e*pP pP 14 01 35.0 -2.8
HYB *e*sP sP 14 01 40.0 -3.4
HYB *e*PP PP 14 04 48.0 +2.6
HYB *e*S S 14 11 58.0 +1.4
HYB *e*ScS ScS 14 12 04.0 -0.5
HYB LR LR 14 43 00.0
comp=Z,6.0nm,12.0s
PVRL Vila Real 86.77 10 *e*P **P 14 01 23.4 +0.3**
comp=Z,122nm,1.6s,mb5.9
SJG San Juan 86.78 65 *e*P **P 14 01 23.3 -0.2**
comp=Z,101nm,1.4s,mb5.9
SJG LR LR
comp=Z,7µm,20.0s,MS6.1
SJG San Juan 86.78 65 *e*P **P 14 01 23.3 -0.2**
SJG pmax pmax
comp=Z,101nm,1.4s
SJG MLR MLR
comp=Z,7µm,20.0s
BHJ Bhuj 86.82 304 *e*PKP **P 14 01 23.3 -0.3**
PAYG Puerto Ayora 86.83 95 PFAKE 14 01 30.0 +6.2
PAYG LR LR
comp=Z,3µm,19.0s,MS5.8
FITZ Fitzroy Crossi 86.84 236 P **P 14 01 22.9 -0.7**
comp=Z,66nm,0.8s,mb5.9,baz=27,slow=4.6,SNR=89
FITZ Fitzroy Crossi 86.84 236 *e*P **P 14 01 22.7 -0.9**
comp=Z,120nm,0.9s,mb6.1
FITZ *e*S S 14 11 55.8 -1.7
FITZ Fitzroy Crossi 86.84 236 *e*P **P 14 01 22.8 -0.8**
comp=Z,114nm,2.3s,mb5.7
FITZ Fitzroy Crossi 86.84 236 P **P 14 01 23.4 -0.2**
comp=Z,1µmcomp=Z,115nm,1.1s,mb6.0
PDA Ponta Delgada 86.90 24 *e*P **P 14 01 21.1 -2.7**
comp=Z,642nm,1.1s,mb6.8
MNSI Mandailing Nat 86.93 267 P **P 14 01 26.8 +2.5**
comp=Z,1µmcomp=Z,34nm,1.0s,mb5.5
MVO Moncorvo 86.96 10 *e*P **P 14 01 24.2 +0.2**
comp=Z,89nm,0.9s,mb6.0
MVO Moncorvo 86.96 10 *e*S S 14 11 57.2 -1.2
MVO Moncorvo 86.96 10 *e*LQ 14 24 43.8
MVO *e*LR LR 14 31 15.4
comp=Z,3µm,20.0s
ARMA Armidale 86.97 209 *e*P **P 14 01 23.3 -0.6**
ARMA Armidale 86.97 209 *e*P **P 14 01 24.9 +0.9**
comp=Z,90nm,1.4s,mb5.8
FNA Florina 86.98 348 P **P 14 01 23.2 -0.9**
BART Pico Bartolome 87.00 24 *e*P **P 14 01 24.8 +0.5**
comp=Z,466nm,1.7s,mb6.4
LATR Latur 87.03 296 *e*PKP **P 14 01 24.9 +0.2**
OUR Ouranopolis 87.06 346 P **P 14 01 23.6 -0.9**
PLG Polygyros 87.10 346 *e*P **P 14 01 23.9 -0.9**
KBN Korca 87.21 349 *i*P **P 14 01 26.2 +1.0**
LIA Limnos Island 87.30 345 *e*P **P 14 01 26.1 +0.4**
PVIS Viseu 87.31 10 *e*P **P 14 01 26.0 +0.3**
comp=Z,122nm,1.3s,mb6.0
KZN Kozani 87.40 348 *e*P **P 14 01 25.9 -0.3**
LIT Litokhoron 87.50 347 *e*P **P 14 01 26.5 -0.2**
LIT Litokhoron 87.50 347 P **P 14 01 26.2 -0.5**
ASAR Alice Springs 87.58 226 P **P 14 01 26.0 -1.1**
comp=Z,1.3nm,0.9s,mb4.2,baz=20,slow=5.0,SNR=5.6
ASAR PKKPbc PKKPbc 14 19 15.0 +0.9
comp=Z,0.5nm,0.8s,baz=206,slow=2.7,SNR=4.5
ASAR Alice Springs 87.58 226 P **P 14 01 26.0 -1.1**
ASAR PKKPbc PKKPbc 14 19 15.0 +0.9
ASAR Alice Springs 87.58 226 P **P 14 01 26.0 -1.1**
MTE Manteigas 87.66 10 P **P 14 01 26.8 -0.6**
comp=Z,43nm,0.9s,mb5.7
MTE LR LR
comp=Z,4µm,20.0s,MS5.8
MTE Manteigas 87.66 10 *e*P **P 14 01 26.8 -0.6**
comp=Z,82nm,1.0s,mb5.9
MTE Manteigas 87.66 10 *e*S S 14 12 04.1 -1.1
MTE Manteigas 87.66 10 *e*LQ 14 24 58.0
MTE *e*LR LR 14 31 22.4
comp=Z,3µm,20.0s
PSMA Santa Maria 87.75 24 *e*P **P 14 01 28.4 +0.5**
comp=Z,392nm,1.6s,mb6.4
KLSI 88.01 260 P **P 14 01 29.4 0.0**
comp=Z,3µmcomp=Z,83nm,1.9s,mb5.6
SRN Sarande 88.04 349 *i*P **P 14 01 29.1 -0.1**
THL Klokotos Trika 88.09 347 *e*P **P 14 01 27.8 -1.7**
THL Klokotos Trika 88.09 347 P **P 14 01 27.6 -1.9**
JAN Janina 88.16 348 *e*P **P 14 01 30.1 +0.3**
MDSI Maura Dua 88.19 261 P **P 14 01 29.0 -1.3**
comp=Z,1µmcomp=Z,31nm,2.8s,mb5.0
PCBR Castelo Branco 88.22 10 *e*P **P 14 01 30.0 -0.1**
comp=Z,78nm,1.1s,mb5.8
KEK Kerkira 88.23 349 *e*P **P 14 01 30.9 +0.7**
DBJI Dramaga 88.24 257 P **P 14 01 28.9 -1.6**
comp=Z,2µmcomp=Z,59nm,1.8s,mb5.5
PTOM Tomar 88.33 11 *e*P **P 14 01 30.8 +0.2**
comp=Z,134nm,1.3s,mb6.0
IGT Igoumenitsa 88.34 349 P **P 14 01 29.0 -1.7**
CUC Castrocucco 88.35 352 PFAKE 14 01 40.0 +9.3
CUC LR LR
comp=Z,4µm,20.0s,MS5.8
POO Poona 88.44 298 *e*PKP **P 14 01 32.0 +0.5**
AGG Agios Georgios 88.58 347 *e*P **P 14 01 31.8 -0.1**
PMRV Marv??o 88.64 10 *e*P **P 14 01 31.3 -0.8**
comp=Z,98nm,1.4s,mb6.0
PMRV *e*pP pP 14 01 45.7 -1.1
PMRV Marv??o 88.64 10 *e*S S 14 12 13.5 -1.0
PMRV Marv??o 88.64 10 *e*LQ 14 25 26.7
PMRV *e*LR LR 14 31 34.4
comp=Z,4µm,20.0s
ESDC Sonseca Array 88.72 7 P **P 14 01 32.2 -0.3**
comp=Z,20nm,0.9s,mb5.5,baz=350,slow=4.6,SNR=42
ESDC LR LR 14 45 20.7
comp=Z,3µm,20.0s,MS5.6,baz=60,slow=38
ESDC Sonseca Array 88.72 7 P **P 14 01 32.2 -0.3**
ESDC LR LR 14 45 20.7
ESLA Sonseca Array 88.72 7 *e*P **P 14 01 32.4 -0.1**
comp=Z,12nm,1.0s,mb5.2
ESLA LR LR
comp=Z,18µm,19.0s,MS6.5
EVR Evrytania 88.76 347 *e*P **P 14 01 34.1 +1.5**
PAB San Pablo 88.81 8 *e*P **P 14 01 32.4 -0.5**
comp=Z,26nm,1.1s,mb5.5
PAB LR LR
comp=Z,5µm,20.0s,MS5.9
PAB San Pablo 88.81 8 *e*P **P 14 01 32.4 -0.5**
PAB pmax pmax
comp=Z,26nm,1.1s,mb5.5
PAB MLR MLR
comp=Z,5µm,20.0s,MS5.9
LKR Lokris 88.85 346 *e*P **P 14 01 32.6 -0.5**
PMAFR Mafra 88.88 12 *e*P **P 14 01 33.4 +0.2**
comp=Z,209nm,1.4s,mb6.3
PMAFR Mafra 88.88 12 *e*S S 14 12 12.8 -4.0
PMAFR Mafra 88.88 12 *e*LQ 14 26 14.3
PMAFR *e*LR LR 14 32 07.0
comp=Z,3µm,18.0s
PMTG Montargil 88.90 11 *e*P **P 14 01 32.9 -0.4**
comp=Z,85nm,1.7s,mb5.8
PMTG Montargil 88.90 11 *e*S S 14 12 13.5 -3.4
PMTG Montargil 88.90 11 *e*LQ 14 26 33.7
PMTG *e*LR LR 14 31 32.2
comp=Z,4µm,20.0s
BHD Baghdad 88.90 328 *i*x **P 14 01 30.0 -3.4**
BHD *i*x x 14 05 00.0
BHD *i*x x 14 11 56.0
BHD *i*x x 14 12 11.0
BHD *i*x x 14 12 55.0
BHD *i*x x 14 13 06.0
BHD *i*x x 14 13 22.0
LIS Lisbon 89.13 12 *e*P **P 14 01 35.0 +0.6**
LIS *e*S SKSac 14 11 59.9 0.0
LIS *e*SS SS 14 18 15.9 +4.1
LIS *e*SS SS 14 18 16.6 +4.9
LIS AMS AMS 14 42 47.6
comp=Z,4µm,18.6s,MS5.9
LIS Lisbon 89.13 12 *e*P **P 14 01 35.2 +0.8**
LIS *e*S SKSac 14 11 59.2 -0.7
PESTR Estremoz 89.17 10 *e*P **P 14 01 34.4 -0.2**
comp=Z,120nm,1.4s,mb6.0
PESTR Estremoz 89.17 10 *e*S S 14 12 24.4 +4.9
PESTR Estremoz 89.17 10 *e*LQ 14 25 06.4
PESTR *e*LR LR 14 31 49.6
comp=Z,3µm,18.0s
MDRS Chennai 89.19 290 *ex* x 14 01 45.4
MDRS AMb AMB 14 01 46.6
comp=Z,35nm,0.3s,mb6.2
MDRS Chennai 89.19 290 *ex* x 14 01 57.2
MDRS *ex* x 14 10 45.2
MDRS *ex* x 14 19 09.2
MDRS *ex* x 14 27 49.2
MDRS *ex* x 14 35 17.2
MDRS *ex* x 14 44 10.2
MDRS *ex* x 14 53 52.2
VSL Villasalto 89.22 357 PFAKE 14 01 50.0 +15
VSL LR LR
comp=Z,2µm,20.0s,MS5.6
EFP Efpalio 89.23 347 *e*P **P 14 01 36.0 +1.1**
EFP Efpalio 89.23 347 P **P 14 01 34.8 -0.1**
KAD Karad 89.25 297 *e*PKP **P 14 01 34.8 -0.5**
KAD *ex* x 14 11 59.2
PTL Penteli 89.31 346 *e*P **P 14 01 33.3 -2.0**
EVOP Sao Brissos 89.44 11 ⇑*i*P **P 14 01 35.1 -0.8**
comp=Z,131nm,1.6s,mb6.0
EVOP LR LR
comp=Z,5672µm,19.5s
EVOP Sao Brissos 89.44 11 ⇑*i*P **P 14 01 35.1 -0.8**
EVOP pmax pmax
comp=Z,131nm,1.6s,mb6.0
EVOP MLR MLR
comp=Z,5672µm,19.5s
EVO Evora 89.45 11 ⇑*i*P **P 14 01 35.1 -0.8**
comp=Z,131nm,1.6s,mb5.7
EVO *e*MLR MLR
comp=Z,6µm,19.5s,MS5.7
EVO Evora 89.45 11 *e*P **P 14 01 35.0 -0.9**
comp=Z,76nm,1.9s,mb5.7
LTK Loutraki 89.47 346 *e*P **P 14 01 34.6 -1.4**
ANWB Willy Bob 89.57 62 PFAKE 14 01 50.0 +13
ANWB LR LR
comp=Z,6µm,20.0s,MS6.0
VLS Valsamata 89.65 348 *e*P **P 14 01 36.2 -0.7**
GUR Goura 89.65 347 *e*P **P 14 01 36.1 -0.7**
RLS Riolos of Patr 89.65 348 *e*P **P 14 01 36.6 -0.3**
PNCL Nicolau / Gran 89.81 11 *e*P **P 14 01 38.3 +0.7**
comp=Z,78nm,1.7s,mb5.8
PNCL Nicolau / Gran 89.81 11 *e*S S 14 12 24.1 -1.4
PNCL Nicolau / Gran 89.81 11 *e*LQ 14 24 23.1
PNCL *e*LR LR 14 32 23.4
comp=Z,4µm,18.0s
PBAR Barrancos 89.91 10 *e*P **P 14 01 37.2 -0.9**
comp=Z,144nm,1.4s,mb6.1
PBAR Barrancos 89.91 10 *e*S S 14 12 21.5 -5.0
DID Didima 89.94 346 *e*P **P 14 01 37.5 -0.7**
PBEJ Beja 89.97 11 *e*P **P 14 01 38.4 +0.1**
comp=Z,60nm,1.5s,mb5.7
CEL Celeste 90.07 352 PFAKE 14 01 50.0 +11
CEL LR LR
comp=Z,3µm,21.0s,MS5.7
MESJ Messejana 90.11 11 *e*P **P 14 01 39.1 0.0**
MESJ *e*S SKSac 14 12 07.0 +1.4
MESJ *e*SS SS 14 18 29.5 +3.6
MESJ AMS AMS 14 50 31.8
comp=Z,4µm,18.3s,MS5.9
MESJ Messejana 90.11 11 *e*P **P 14 01 39.0 0.0**
MESJ *e*S SKSac 14 12 07.0 +1.4
MESJ *e*SS SS 14 18 29.5 +3.5
VLX Vlachokerasia 90.20 347 *e*P **P 14 01 39.8 +0.3**
RIV Riverview 90.30 208 *e*P **P 14 01 40.8 +1.2**
PCVE Castro Verde 90.34 11 *e*P **P 14 01 40.1 0.0**
comp=Z,72nm,1.2s,mb5.9
PCVE Castro Verde 90.34 11 *e*S SKSac 14 12 18.3 +11
PCVE Castro Verde 90.34 11 *e*LQ 14 25 28.7
PCVE *e*LR LR 14 32 30.9
comp=Z,4µm,20.0s
CSS Prodhromos 90.44 338 *e*P **P 14 01 39.4 -1.2**
comp=Z,142nm,1.7s,mb6.0
CSS LR LR
comp=Z,4µm,20.0s,MS5.8
CSS Prodhromos 90.44 338 P **P 14 01 40.0 -0.6**
ITM Ithomi 90.45 347 *e*P **P 14 01 40.8 +0.1**
MORF Marmelete 90.59 11 *e*P **P 14 01 41.7 +0.5**
MORF *e*S SKSac 14 12 07.5 -0.9
MORF *e*SS SS 14 18 36.7 +3.9
MORF Marmelete 90.59 11 *e*S S 14 12 39.9 +7.2
MORF Marmelete 90.59 11 *e*LR LR 14 33 47.6
comp=Z,4µm,20.0s
PVAQ Vaqueiros 90.60 11 *e*P **P 14 01 41.5 +0.2**
comp=Z,104nm,1.9s,mb5.8
PVAQ Vaqueiros 90.60 11 *e*S S 14 12 32.5 -0.3
PVAQ Vaqueiros 90.60 11 *e*LQ 14 25 17.5
PVAQ *e*LR LR 14 32 31.8
comp=Z,3µm,20.0s
PBDV Barranco-do-Ve 90.73 11 *e*P **P 14 01 41.8 -0.1**
comp=Z,104nm,1.7s,mb5.9
PBDV Barranco-do-Ve 90.73 11 *e*S S 14 12 39.3 +5.3
PBDV Barranco-do-Ve 90.73 11 *e*LQ 14 25 33.8
PBDV *e*LR LR 14 32 53.2
comp=Z,5µm,20.0s
PFVI Vila Bisbo 90.73 12 *e*P **P 14 01 40.0 -1.9**
comp=Z,116nm,1.5s,mb6.0
PFVI Vila Bisbo 90.73 12 *e*S SKSac 14 12 15.4 +6.1
PFVI Vila Bisbo 90.73 12 *e*LR LR 14 34 00.2
comp=Z,5µm,18.0s
PYL PYLOS 90.75 347 *e*P **P 14 01 41.2 -0.9**
VLI Veliai 90.76 346 *e*P **P 14 01 40.5 -1.5**
GOA Goa 90.92 296 *e*PKP **P 14 01 41.4 -1.7**
BANOM Banah 90.93 316 P **P 14 01 42.7 -0.3**
SNR=10
MIB Mutribah 91.05 325 *e*P **P 14 01 42.0 -1.5**
MIB AMb AMB 14 01 45.6
comp=Z,113nm,1.3s,mb6.0
KBD Kabd 91.49 324 *e*P **P 14 01 44.7 -0.8**
KBD AMb AMB 14 01 47.8
comp=Z,62nm,1.3s,mb5.8
SDV Santo Domingo 91.50 74 *e*P **P 14 01 45.7 -0.1**
comp=Z,1µm,3.8s
SDV LR LR
comp=Z,1µm,19.0s,MS5.4
NAY Al-Naaiem 91.58 325 *e*P **P 14 01 44.5 -1.5**
NAY AMb AMB 14 01 47.9
comp=Z,59nm,1.6s,mb5.7
STKA Stephens Creek 91.68 216 P **P 14 01 45.0 -1.0**
comp=Z,32nm,0.9s,mb5.6,baz=0.2,slow=5.9,SNR=34
STKA LR LR 14 41 08.5
comp=Z,6µm,19.3s,MS6.0,baz=26,slow=34
STKA Stephens Creek 91.68 216 *e*P **P 14 01 45.7 -0.4**
comp=Z,26nm,0.9s,mb5.5
STKA Stephens Creek 91.68 216 *e*P **P 14 01 46.2 +0.1**
comp=Z,0.3nm,0.6s
STKA Stephens Creek 91.68 216 *e*P **P 14 01 46.2 +0.1**
SFS San Fernando 91.69 10 PFAKE 14 02 00.0 +14
SFS LR LR
comp=Z,8µm,20.0s,MS6.1
RDF Al-Radifah 91.77 324 *e*P **P 14 01 45.1 -1.7**
RDF AMb AMB 14 01 49.5
comp=Z,95nm,1.4s,mb5.9
ZKR Zakros 91.78 343 *e*P **P 14 01 42.9 -3.9**
LAST Lasithi 91.87 344 *e*P **P 14 01 45.7 -1.5**
LAST Lasithi 91.87 344 P **P 14 01 45.3 -1.9**
KARN Karanos 91.89 345 *e*P **P 14 01 44.7 -2.6**
HATD Hatta, Dubai 91.96 315 P **P 14 01 47.3 -0.5**
SNR=10.0
ASHO Ashiyiah 92.12 315 P **P 14 01 47.5 -1.0**
SNR=13
FDF Fort de France 92.31 63 PFAKE 14 02 00.0 +10
FDF LR LR
comp=Z,6µm,19.0s,MS6.0
CAN Canberra 92.33 209 PFAKE 14 02 00.0 +11
CAN LR LR
comp=Z,3µm,22.0s,MS5.7
EBNR Beni Rached 92.41 3 P **P 14 01 51.5 +1.8**
ROSC El Rosal 92.43 79 LR LR 14 43 31.0
comp=Z,1µm,21.7s,MS5.4,baz=355,slow=36
MBWA Marble Bar 92.46 239 *e*P **P 14 01 48.4 -1.5**
MBWA Marble Bar 92.46 239 *e*P **P 14 01 49.6 -0.3**
comp=Z,65nm,1.1s,mb5.9
MBWA LR LR
comp=Z,2µm,20.0s,MS5.6
MBWA Marble Bar 92.46 239 P **P 14 01 50.0 +0.1**
comp=Z,79nm,1.2s,mb5.9
MBWA Marble Bar 92.46 239 P **P 14 01 49.7 -0.2**
SNR=6.9
HOQ Hoqain 92.52 314 P **P 14 01 50.0 -0.4**
SNR=7.5
EMHD Djebel Mahouad 92.54 2 P **P 14 01 51.8 +1.5**
WDD Wield Dalam 92.56 353 PFAKE 14 02 00.0 +10
WDD LR LR
comp=Z,2µm,20.0s,MS5.6
WBK Wadi Bani Khal 92.61 312 P **P 14 01 51.3 +0.5**
SNR=26
SMDO Samad 92.64 313 P **P 14 01 50.6 -0.4**
SNR=21
EANR 'Ain N'Sour 92.73 4 P **P 14 01 51.7 +0.5**
KEST Kesra 92.98 357 P **P 14 01 52.1 -0.2**
comp=Z,3.6nm,0.9s,mb4.8,baz=276,slow=1.4,SNR=6.6
KEST Kesra 92.98 357 *e*P **P 14 01 53.1 +0.8**
SNZO South Karori 93.02 188 PFAKE 14 02 00.0 +8.0
SNZO LR LR
comp=Z,6µm,20.0s,MS6.0
ARQ Araqi 93.09 314 P **P 14 01 53.1 +0.1**
SNR=21
JMDO Jabal Madar 93.21 313 P **P 14 01 53.2 -0.4**
SNR=40
ETRT Tiaret 93.30 4 P **P 14 01 55.8 +2.0**
OTAV Otavalo 93.49 85 *e*P **P 14 01 54.9 -0.1**
comp=Z,14nm,1.0s,mb5.3
OTAV LR LR
comp=Z,1µm,19.0s,MS5.4
PALK Pallekele 93.51 286 P **P 14 01 57.0 +1.9**
comp=Z,2µmcomp=Z,66nm,1.9s,mb5.7

GRGR	**Grenville**	**94.14**	**65**	PFAKE			14 02 10.0	+12
GRGR				LR	LR				
	comp=Z,6μm,21.0s,MS6.0								
BBGH	**Gun Hill**	**94.49**	**63**	PFAKE			14 02 10.0	+10
BBGH				LR	LR				
	comp=Z,7μm,20.0s,MS6.1								
TRD	**Trivandrum**	**94.75**	**290**	*e*PKP	**P**		**14 02 00.7**	**0.0**
TRD				AMb	AMB		14 02 20.8		
	comp=Z,58nm,1.8s,mb5.7								
TRD				*ex*	x		14 06 03.7		
RPN	**Rapa Nui**	**96.88**	**126**	PFAKE			14 02 20.0	+10
RPN				LR	LR				
	comp=Z,3μm,21.0s,MS5.8								
HMDM	**Hanimaadhoo**	**98.34**	**292**	P	**P**		**14 02 18.9**	**+1.8**
COCO	**West Island**	**98.70**	**261**	PFAKE			14 02 30.0	+11
COCO				LR	LR				
	comp=Z,1μm,20.0s,MS5.4								
TAU	**Tasmania Unive**	**99.83**	**208**	PFAKE			14 02 30.0	+6.4
TAU				LR	LR				
	comp=Z,3μm,20.0s,MS5.8								
NWAO	**Narrogin (SRO)**	**103.29**	**233**	PFAKE			14 02 50.0	+11
NWAO				LR	LR				
	comp=Z,3μm,22.0s,MS5.7								
NNA	**Nana**	**103.95**	**92**	PFAKE			14 02 50.0	+8.1
NNA				LR	LR				
	comp=Z,2μm,19.0s,MS5.8								
TAM	**Tamanrasset**	**105.93**	**0**	PFAKE			14 07 10.0	+7.2
TAM				LR	LR				
	comp=Z,3μm,19.0s,MS5.8								
DGAR	**Diego Garcia**	**110.11**	**284**	PFAKE			14 07 20.0	+9.2
DGAR				LR	LR				
	comp=Z,3μm,19.0s,MS5.8								
LPAZ	**La Paz**	**112.66**	**88**	PFAKE			14 07 30.0	+15
LPAZ				LR	LR				
	comp=Z,2μm,21.0s,MS5.8								
TORD	**Torodi Ar. Bea**	**115.43**	**4**	PKP	PKPdf		14 07 20.2	-0.7
	comp=Z,2.4nm,0.8s,baz=344,slow=2.3,SNR=18								
TORD				SKP			14 10 53.7		
	comp=Z,1.1nm,0.8s,baz=353,slow=3.4,SNR=3.7								
TORD				PKKPbc	PKKPbc		14 17 51.9	-0.7	
	comp=Z,1.8nm,1.0s,baz=173,slow=2.2,SNR=4.4								
TORD	**Torodi Ar. Bea**	**115.43**	**4**	PKP	PKPdf		14 07 20.2	-0.7	
TORD				SKP			14 10 53.7		
TORD				PKKPbc	PKKPbc		14 17 51.9	-0.7	
MSEY	**Mahe Island**	**117.66**	**301**	PFAKE			14 07 40.0	+15	
MSEY				LR	LR				
	comp=Z,3μm,21.0s,MS5.9								
LCO	**Las Campanas**	**120.40**	**99**	PFAKE			14 07 40.0	+10	
LCO				LR	LR				
	comp=Z,2μm,20.0s,MS5.8								
DBIC	**Dimbokro**	**121.27**	**12**	PKP	PKPdf		14 07 32.3	+0.1	
	comp=Z,3.1nm,0.5s,baz=63,slow=4.3,SNR=9.7								
DBIC	**Dimbokro**	**121.27**	**12**	PKP	PKPdf		14 07 32.3	+0.1	
DBIC				LR	LR				
	comp=Z,5μm,19.0s,MS6.2								
DBIC	**Dimbokro**	**121.27**	**12**	PKIKP	PKPdf		14 07 32.3	+0.1	
DBIC				MLR	MLR				
	comp=Z,5μm,19.0s								
LIC	**Lamto**	**121.68**	**12**	*e*PKIKP	PKPdf		14 07 33.7	+0.7	
LIC				*e*MLR	MLR				
	comp=Z,7μm,22.2s,MS5.9								
LIC	**Lamto**	**121.68**	**12**	*e*PKPdf	PKPdf		14 07 33.7	+0.7	
LIC				LR	LR				
	comp=Z,3μm,22.3s,MS5.9								
DRV	**Dumont d'Urvil**	**122.90**	**200**	PP	PP		14 09 14.0	+0.2	
DRV				SP	SP		14 19 12.0	+9.3	
DRV				SS	SS		14 26 00.0	+6.8	
DRV				L			14 40 00.0		
DRV				R			14 48 00.0		
RCBR	**Riachuelo**	**122.91**	**52**	PFAKE			14 07 50.0	+15	
RCBR				LR	LR				
	comp=Z,3μm,20.0s,MS6.0								
KMBO	**Kilima Mbogo**	**123.12**	**321**	*e*PKPdf	PKPdf		14 07 36.4	+0.7	
KMBO				LR	LR				
	comp=Z,3μm,19.0s,MS5.9								
KMBO	**Kilima Mbogo**	**123.12**	**321**	*e*PKIKP	PKPdf		14 07 36.4	+0.7	
KMBO				MLR	MLR				
	comp=Z,3μm,19.0s								
CFAA	**Coronel Fontan**	**123.74**	**100**	PKP	PKPdf		14 07 35.4	-0.9	
	comp=Z,0.4nm,0.6s,baz=254,slow=1.8,SNR=8.4								
CFAA	**Coronel Fontan**	**123.74**	**100**	PKP	PKPdf		14 07 35.4	-0.9	
MBAR	**Mbarara**	**124.96**	**329**	PFAKE			14 07 50.0	+11	
MBAR				LR	LR				
	comp=Z,765nm,21.0s,MS5.3								
CPUP	**Villa Florida**	**126.81**	**87**	PKP	PKPdf		14 07 41.9	-0.5	
	comp=Z,1.8nm,0.5s,baz=270,slow=20,SNR=7.3								
CPUP	**Villa Florida**	**126.81**	**87**	PKP	PKPdf		14 07 41.9	-0.5	
CPUP	**Villa Florida**	**126.81**	**87**	PKIKP	PKPdf		14 07 41.9	-0.5	
PLCA	**Paso Flores**	**128.40**	**110**	PKP	PKPdf		14 07 43.9	-1.1	
	comp=Z,14nm,1.1s,baz=284,slow=2.9,SNR=9.4								
PLCA				SKP			14 11 13.9		
	comp=Z,7.5nm,1.1s,baz=326,slow=3.6,SNR=3.9								
PLCA	**Paso Flores**	**128.40**	**110**	PKP	PKPdf		14 07 43.9	-1.1	
PLCA				SKP			14 11 13.9		
PLCA				LR	LR				
	comp=Z,2μm,20.0s,MS5.7								
PLCA	**Paso Flores**	**128.40**	**110**	PKIKP	PKPdf		14 07 43.9	-1.0	
PLCA				MLR	MLR				
	comp=Z,2μm,20.0s								
VNDA	**Vanda**	**129.70**	**187**	PKP	PKPdf		14 07 44.7	-1.6	
	comp=Z,1.8nm,0.9s,baz=320,slow=2.4,SNR=9.6								
VNDA				SKPbc			14 11 05.4		
	comp=Z,3.6nm,0.8s,baz=333,slow=3.2,SNR=5.9								
VNDA	**Vanda**	**129.70**	**187**	PKP	PKPdf		14 07 44.7	-1.6	
VNDA				SKPbc			14 11 05.4		
VNDA				LR	LR				
	comp=Z,4μm,19.0s,MS6.1								
VNDA	**Vanda**	**129.70**	**187**	PKIKP	PKPdf		14 07 44.7	-1.6	
VNDA				MLR	MLR				
	comp=Z,4μm,19.0s								
SBA	**Scott Base**	**129.71**	**185**	*e*PKPdf	PKPdf		14 07 46.0	-0.3	
SBA				LR	LR				
	comp=Z,4μm,21.0s,MS6.1								
SBA	**Scott Base**	**129.71**	**185**	*e*PKIKP	PKPdf		14 07 46.0	-0.4	
SBA				MLR	MLR				
	comp=Z,4μm,21.0s,MS6.1								
CASY	**Casey**	**130.54**	**211**	*e*PKPdf	PKPdf		14 07 47.7	-0.5	
CASY				LR	LR				
	comp=Z,2μm,20.0s,MS5.9								
RER	**Riviere de l'E**	**130.84**	**289**	PFAKE			14 08 00.0	+10	
RER				LR	LR				
	comp=Z,978nm,19.0s,MS5.5								
SPB	**Sao Paulo**	**130.91**	**76**	PFAKE			14 08 00.0	+10	
SPB				LR	LR				
	comp=Z,4μm,19.0s,MS6.1								
TRQA	**Tornquist**	**131.86**	**101**	PFAKE			14 08 00.0	+8.4	
TRQA				LR	LR				
	comp=Z,3μm,19.0s,MS6.0								
ABPO	**Ambohimpanom**	**133.99**	**299**	PFAKE			14 08 10.0	+14	
ABPO				LR	LR				
	comp=Z,3μm,19.0s,MS6.0								
LSZ	**Lusaka**	**139.52**	**325**	*e*PKPpre	PKPpre		14 07 57.4		
LSZ				LR	LR				
	comp=Z,3μm,20.0s,MS6.0								
LSZ	**Lusaka**	**139.52**	**325**	*e*PKHKP	PKPpre		14 07 57.4		
LSZ				MLR	MLR				
	comp=Z,3μm,20.0s,MS6.0								
QSPA	**South Pole Qui**	**141.36**	**180**	PKhKP	PKPpre		14 07 59.7		
	comp=Z,7.6nm,0.8s,baz=42,slow=1.0,SNR=28								
QSPA	**South Pole Qui**	**141.36**	**180**	*e*PKPpre	PKPpre		14 08 01.9		
QSPA				*e*PKPdf	PKPdf		14 08 08.9	+1.0	
QSPA				LR	LR				
	comp=Z,4μm,20.0s,MS6.2								
EFI	**East Falkland**	**141.59**	**116**	PFAKE			14 08 20.0	+11	
EFI				LR	LR				
	comp=Z,4μm,19.0s,MS6.2								
PMSA	**Palmer Station**	**143.03**	**138**	PFAKE			14 08 20.0	+8.7	
PMSA				LR	LR				
	comp=Z,9μm,20.0s,MS6.5								
SHEL	**Horse Pasture**	**143.30**	**19**	PFAKE			14 08 30.0	+17	
SHEL				LR	LR				
	comp=Z,2μm,21.0s,MS5.9								
TSUM	**Tsumeb**	**146.33**	**339**	*e*PKPbc	PKPbc		14 08 19.6	-0.1	
TSUM				LR	LR				
	comp=Z,4μm,22.0s,MS6.1								
MAW	**Mawson**	**148.36**	**218**	PKPbc	PKPbc		14 08 23.3	-0.6	
	comp=Z,49nm,0.9s,baz=86,slow=2.4,SNR=53								
MAW	**Mawson**	**148.36**	**218**	*e*P	PKPdf		14 08 16.7	-3.6	
	comp=Z,46nm,1.0s								
MAW	**Mawson**	**148.36**	**218**	*e*PKPdf	PKPdf		14 08 17.9	-2.4	
MAW				PKPbc	PKPbc		14 08 23.3	-0.6	
MAW				*e*PKPbc	PKPbc		14 08 24.3	+0.5	
MAW				LR	LR				
	comp=Z,6μm,21.0s,MS6.3								
MAW	**Mawson**	**148.36**	**218**	*e*PKHKP	PKPdf		14 08 17.9	-2.4	
MAW				*e*			14 08 24.3		
MAW				MLR	MLR				
	comp=Z,6μm,21.0s								
LBTB	**Lobatse**	**149.39**	**323**	PFAKE			14 08 30.0	+6.7	
LBTB				LR	LR				
	comp=Z,3μm,19.0s,MS6.1								
BOSA	**Boshof**	**152.74**	**320**	PKPbc	PKPbc		14 08 34.9	-0.6	
	comp=Z,20nm,0.6s,baz=36,slow=2.0,SNR=18								
BOSA	**Boshof**	**152.74**	**320**	PKPbc	PKPbc		14 08 34.9	-0.6	
BOSA				LR	LR				
	comp=Z,6μm,19.0s,MS6.5								
SYO	**Syowa Base**	**156.29**	**210**	*e*X	PKPdf		14 08 29.6	-2.4	
SYO	**Syowa Base**	**156.29**	**210**	*e*PKPdf	pPKPdf		14 08 42.8	-4.5	
SUR	**Sutherland**	**157.81**	**324**	PFAKE			14 08 50.0	+15	
SUR				LR	LR				
	comp=Z,6μm,19.0s,MS6.4								
SNAA	**Sanae**	**159.50**	**172**	PKP	PKPdf		14 08 33.5	-2.4	
	comp=Z,2.8nm,1.2s,baz=107,slow=20,SNR=13								
SNAA				PKPab	PKPab		14 09 13.4	-0.9	
	comp=Z,3.4nm,0.8s,baz=213,slow=6.0,SNR=9.0								
SNAA	**Sanae**	**159.50**	**172**	PKP	PKPdf		14 08 33.5	-2.4	
SNAA				PKPab	PKPab		14 09 13.4	-0.9	
SNAA	**Sanae**	**159.50**	**172**	PKIKP	PKPdf		14 08 33.5	-2.4	
SNAA							14 09 13.4		
VNA2	**Neumayer--Watz**	**159.71**	**168**	*e*PKPdf	PKPdf		14 08 34.5	-1.6	
	baz=278,slow=1.7								
VNA2				*e*			14 09 26.6		
VNA1	**Neumayer--Stat**	**159.84**	**167**	*e*PKPdf	PKPab		14 09 13.1	-2.7	
MAIT	**Maitri**	**160.55**	**186**	*e*P	PKPab		14 09 17.7	-1.2	
MAIT				*e*			14 09 31.1		
NVL	**N'lazarevskaya**	**160.56**	**186**	*e*PKP2	PKPab		14 09 17.9	-1.0	
NVL				*e*			14 26 20.4		

IDC ***02*** *13:52:31.4±0.8,51°.48N×174°.21W,h0km,mb4.3/12, mb1 4.5/14,mb1mx4.4/29,mbtmp4.3/14,ML5.0/1,Error ellipse: s-maj=25.6km s-min=16.2km az=166.0*
ISCJB ***02*** *13:52:34.4±0.5,51°.27N±0°.07×174°.20W±0°.08,h33km, mb4.5/26,Error ellipse: s-maj=9.7km s-min=7.1km az=179.4*
NEIC ***02*** *13:52:37.3±0.8,51°.45N×174°.29W,h39km±5km,mb4.7/13, ML4.0(AEIC),Error ellipse: s-maj=11.9km s-min=5.9km az=170.0*
MOS ***02*** *13:52:39.5±0.7,52°.25N×174°.53W,h33km,mb5.0/12, Error ellipse: s-maj=23.4km s-min=9.6km az=85.2*

ISC 02 13:52:36.6±0.5,**51°.35N**±0°.07×**174°.25W**±0°.08,**h35**km, **n124,**σ0**°71**/122,**mb4.5**/26,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.85**	**2**	P	**Pn**	**13 52 51.5**	**-0.5**
ATKA				S	**Sn**	**13 53 04.2**	**+0.9**
GSTR	**Great Sitkin T**	**1.35**	**304**	*e*P	**Pn**	**13 52 59.1**	**+0.3**
ADK	**Adak**	**1.61**	**290**	P	**Pn**	**13 53 01.9**	**-0.5**
ADK				S	**Sn**	**13 53 22.1**	**+0.2**
ADK	**Adak**	**1.61**	**290**	P	**Pn**	**13 53 01.9**	**-0.5**
NIKO	**Nikolski**	**3.70**	**62**	P	**Pn**	**13 53 33.4**	**+2.3**
KDAK	**Kodiak Island**	**14.08**	**54**	Pn	**Pn**	**13 55 52.3**	**-0.9**
	baz=165,slow=20,SNR=1.2						
KDAK	**Kodiak Island**	**14.08**	**54**	Pn	**Pn**	**13 55 52.3**	**-0.9**
KDAK	**Kodiak Island**	**14.08**	**54**	P	**Pn**	**13 55 52.3**	**-0.9**
ILAR	**Eielson Array**	**19.53**	**36**	P	**Pn**	**13 56 59.6**	**-2.4**
	1.9nm,0.3s,baz=235,slow=9.1,SNR=5.7						
ILAR	**Eielson Array**	**19.53**	**36**	P	**Pn**	**13 56 59.6**	**-2.4**
ILAR	**Eielson Array**	**19.53**	**36**	P	**Pn**	**13 56 59.6**	**-2.4**
MJAR	**Matsushiro Arr**	**36.61**	**265**	P	**P**	**13 59 39.5**	**+0.3**
	1.7nm,0.7s,mb4.0,baz=57,slow=6.9,SNR=2.8						
MJAR	**Matsushiro Arr**	**36.61**	**265**	P	**P**	**13 59 39.5**	**+0.3**
KSRS	**Korea Array**	**42.49**	**274**	P	**P**	**14 00 28.4**	**+0.2**
	1.8nm,0.7s,mb3.8,baz=50,slow=8.1,SNR=4.6						
PDAR	**Pinedale Array**	**43.58**	**75**	P	**P**	**14 00 37.6**	**+0.7**
	3.4nm,0.9s,mb4.1,baz=305,slow=3.2,SNR=2.7						
PDAR	**Pinedale Array**	**43.58**	**75**	P	**P**	**14 00 37.6**	**+0.7**
SONM	**Songino Array**	**49.19**	**299**	P	**P**	**14 01 20.6**	**-0.1**
	2.4nm,0.7s,mb4.4,baz=72,slow=6.7,SNR=4.0						
SONM	**Songino Array**	**49.19**	**299**	P	**P**	**14 01 20.6**	**-0.1**
SONM	**Songino Array**	**49.19**	**299**	P	**P**	**14 01 20.6**	**-0.2**
SPITS	**Spitsbergen Ar**	**50.57**	**357**	P	**P**	**14 01 29.9**	**-1.1**
	11nm,0.8s,mb4.8,baz=0.0,slow=5.8,SNR=2.7						
SPITS	**Spitsbergen Ar**	**50.57**	**357**	P	**P**	**14 01 29.9**	**-1.1**
SPITS	**Spitsbergen Ar**	**50.57**	**357**	P	**P**	**14 01 29.9**	**-1.0**
TXAR	**Lajitas Array**	**55.83**	**84**	P	**P**	**14 02 09.9**	**-0.3**
	2.8nm,1.0s,mb4.3,baz=334,slow=10.0,SNR=2.3						
TXAR	**Lajitas Array**	**55.83**	**84**	P	**P**	**14 02 09.9**	**-0.3**
TXAR	**Lajitas Array**	**55.83**	**84**	P	**P**	**14 02 09.9**	**-0.3**
ARCES	**ARCESS Array B**	**58.56**	**352**	P	**P**	**14 02 27.4**	**-1.6**
	1.7nm,0.7s,mb4.2,baz=30,slow=7.4,SNR=4.2						
ARCES	**ARCESS Array B**	**58.56**	**352**	P	**P**	**14 02 27.4**	**-1.6**
ARCES	**ARCESS Array B**	**58.56**	**352**	P	**P**	**14 02 27.4**	**-1.5**
KURK	**Kurchatov**	**61.06**	**316**	P	**P**	**14 02 47.0**	**+0.6**
	3.1nm,0.7s,mb4.5,baz=45,slow=6.7,SNR=5.2						
KURK	**Kurchatov**	**61.06**	**316**	P	**P**	**14 02 47.0**	**+0.6**
KURK	**Kurchatov**	**61.06**	**316**	P	**P**	**14 02 47.0**	**+0.6**
MKAR	**Makanchi Array**	**62.25**	**311**	P	**P**	**14 02 54.6**	**+0.2**
	1.7nm,0.7s,mb4.3,baz=47,slow=5.1,SNR=2.2						
MKAR	**Makanchi Array**	**62.25**	**311**	P	**P**	**14 02 54.6**	**+0.2**
MKAR	**Makanchi Array**	**62.25**	**311**	P	**P**	**14 02 54.6**	**+0.2**
NOA	**NORSAR Array B**	**67.88**	**357**	P	**P**	**14 03 30.0**	**-0.7**
	3.2nm,0.9s,mb4.3,baz=4.2,slow=6.6,SNR=4.1						
NOA	**NORSAR Array B**	**67.88**	**357**	P	**P**	**14 03 30.0**	**-0.7**
NOA	**NORSAR Array B**	**67.88**	**357**	P	**P**	**14 03 30.0**	**-0.7**
AKTK	**Aktyubinsk**	**69.31**	**327**	P	**P**	**14 03 39.4**	**-0.4**
AKTO	**Aktyubinsk**	**69.31**	**327**	P	**P**	**14 03 39.4**	**-0.4**
	baz=70,slow=7.3						
AKTO	**Aktyubinsk**	**69.31**	**327**	P	**P**	**14 03 39.4**	**-0.4**
CLL	**Collm**	**77.53**	**355**	*e*P	**P**	**14 04 28.0**	**-0.2**
BAIF	**Baives**	**78.96**	**1**	*e*P	**P**	**14 04 36.2**	**+0.1**
	20nm,1.0s,mb4.7						
BAIF	**Baives**	**78.96**	**1**	*e*P	**P**	**14 04 36.2**	**+0.1**
	9.9nm,1.0s,mb4.7						
BAIF	**Baives**	**78.96**	**1**	*e*P	**P**	**14 04 36.2**	**+0.1**
BAIF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
GERES	**GERESS Array B**	**79.95**	**355**	P	**P**	**14 04 41.5**	**0.0**
	comp=Z,1.8nm,0.7s,mb4.1,baz=15,slow=5.5,SNR=3.9						
GERES	**GERESS Array B**	**79.95**	**355**	P	**P**	**14 04 41.5**	**0.0**
GERES	**GERESS Array B**	**79.95**	**355**	P	**P**	**14 04 41.6**	**+0.1**
FLN	**La Foliniere**	**80.12**	**4**	*e*P	**P**	**14 04 42.2**	**-0.3**
FLN	**La Foliniere**	**80.12**	**4**	*e*P	**P**	**14 04 42.2**	**-0.3**
FLN	**La Foliniere**	**80.12**	**4**	*e*P	**P**	**14 04 42.2**	**-0.3**
LDF	**La Druitiere**	**80.31**	**4**	*e*P	**P**	**14 04 42.8**	**-0.7**
	comp=Z,5.6nm,0.6s,mb4.4						
LDF	**La Druitiere**	**80.31**	**4**	*e*P	**P**	**14 04 42.8**	**-0.7**
	comp=Z,2.8nm,0.6s,mb4.4						
LDF	**La Druitiere**	**80.31**	**4**	*e*P	**P**	**14 04 42.8**	**-0.7**
LDF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ROSF	**Rostrenen**	**80.39**	**6**	*e*P	**P**	**14 04 43.3**	**-0.6**
ROSF	**Rostrenen**	**80.39**	**6**	*e*P	**P**	**14 04 43.3**	**-0.6**
ROSF	**Rostrenen**	**80.39**	**6**	*e*P	**P**	**14 04 43.3**	**-0.6**
GRR	**Gorron**	**80.48**	**4**	*e*P	**P**	**14 04 44.2**	**-0.2**
GRR	**Gorron**	**80.48**	**4**	*e*P	**P**	**14 04 44.2**	**-0.2**
GRR	**Gorron**	**80.48**	**4**	*e*P	**P**	**14 04 44.2**	**-0.2**
SGMF	**Saint Gilles**	**80.52**	**6**	*e*P	**P**	**14 04 44.2**	**-0.4**
SGMF	**Saint Gilles**	**80.52**	**6**	*e*P	**P**	**14 04 44.2**	**-0.4**
SGMF	**Saint Gilles**	**80.52**	**6**	*e*P	**P**	**14 04 44.2**	**-0.4**
MEZF	**Maizieres J'vi**	**80.53**	**0**	*e*P	**P**	**14 04 44.8**	**+0.2**
MEZF	**Maizieres J'vi**	**80.53**	**0**	*e*P	**P**	**14 04 44.8**	**+0.2**
CDF	**Champ du Feu**	**80.61**	**359**	*e*P	**P**	**14 04 45.1**	**0.0**
	comp=Z,6.7nm,0.6s,mb4.5						
CDF	**Champ du Feu**	**80.61**	**359**	*e*P	**P**	**14 04 45.1**	**0.0**
	comp=Z,3.3nm,0.6s,mb4.4						
CDF	**Champ du Feu**	**80.61**	**359**	*e*P	**P**	**14 04 45.1**	**0.0**
CDF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
QUIF	**Quistinic**	**80.82**	**6**	*e*P	**P**	**14 04 46.7**	**+0.5**
QUIF	**Quistinic**	**80.82**	**6**	*e*P	**P**	**14 04 46.7**	**+0.5**
QUIF	**Quistinic**	**80.82**	**6**	*e*P	**P**	**14 04 46.7**	**+0.5**
SFTF	**Sexfontaines**	**80.82**	**0**	*e*P	**P**	**14 04 46.4**	**+0.2**
	comp=Z,30nm,0.8s,mb5.0						
SFTF	**Sexfontaines**	**80.82**	**0**	*e*P	**P**	**14 04 46.4**	**+0.2**
	comp=Z,30nm,0.8s,mb5.3						
HAU	**Haudompre**	**81.02**	**360**	*e*P	**P**	**14 04 47.3**	**0.0**
	comp=Z,12nm,0.7s,mb4.6						
HAU	**Haudompre**	**81.02**	**360**	*e*P	**P**	**14 04 47.3**	**0.0**
	comp=Z,6.0nm,0.7s,mb4.6						
HAU	**Haudompre**	**81.02**	**360**	*e*P	**P**	**14 04 47.3**	**0.0**
HAU				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
HINF	**Hinteralfeld**	**81.21**	**359**	*e*P	**P**	**14 04 48.1**	**-0.2**
	comp=Z,8.6nm,0.6s,mb4.6						
HINF	**Hinteralfeld**	**81.21**	**359**	*e*P	**P**	**14 04 48.1**	**-0.2**
	comp=Z,4.3nm,0.6s,mb4.6						
HINF	**Hinteralfeld**	**81.21**	**359**	*e*P	**P**	**14 04 48.1**	**-0.2**
HINF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
LOR	**Lormes**	**81.75**	**1**	*e*P	**P**	**14 04 51.2**	**0.0**
	comp=Z,12nm,0.7s,mb4.6						
LOR	**Lormes**	**81.75**	**1**	*e*P	**P**	**14 04 51.2**	**0.0**
	comp=Z,6.3nm,0.7s,mb4.7						
LOR	**Lormes**	**81.75**	**1**	*e*P	**P**	**14 04 51.2**	**0.0**
LOR				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
SSF	**Saint Saulge**	**81.95**	**2**	*e*P	**P**	**14 04 52.3**	**+0.1**
	comp=Z,13nm,0.7s,mb4.7						
SSF	**Saint Saulge**	**81.95**	**2**	*e*P	**P**	**14 04 52.3**	**+0.1**
	comp=Z,6.7nm,0.7s,mb4.7						
SSF	**Saint Saulge**	**81.95**	**2**	*e*P	**P**	**14 04 52.3**	**+0.1**
SSF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
AVF	**Avril sur Loir**	**82.22**	**2**	*e*P	**P**	**14 04 53.6**	**0.0**
	comp=Z,10.0nm,0.6s,mb4.6						
AVF	**Avril sur Loir**	**82.22**	**2**	*e*P	**P**	**14 04 53.6**	**0.0**
	comp=Z,5.0nm,0.6s,mb4.6						
AVF	**Avril sur Loir**	**82.22**	**2**	*e*P	**P**	**14 04 53.6**	**0.0**
AVF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
MFF	**Saint Martin d**	**82.30**	**4**	*e*P	**P**	**14 04 54.1**	**+0.1**
MFF	**Saint Martin d**	**82.30**	**4**	*e*P	**P**	**14 04 54.1**	**+0.1**
MFF	**Saint Martin d**	**82.30**	**4**	*e*P	**P**	**14 04 54.1**	**+0.1**
SMF	**Signal de Mont**	**82.37**	**1**	*e*P	**P**	**14 04 54.5**	**+0.1**
	comp=Z,16nm,0.7s,mb4.7						
SMF	**Signal de Mont**	**82.37**	**1**	*e*P	**P**	**14 04 54.5**	**+0.1**
	comp=Z,7.9nm,0.7s,mb4.8						
SMF	**Signal de Mont**	**82.37**	**1**	*e*P	**P**	**14 04 54.5**	**+0.1**
SMF				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
CABF	**La Chapelle**	**82.42**	**360**	*e*P	**P**	**14 04 55.3**	**+0.6**
CABF	**La Chapelle**	**82.42**	**360**	*e*P	**P**	**14 04 55.3**	**+0.6**
CABF	**La Chapelle**	**82.42**	**360**	*e*P	**P**	**14 04 55.3**	**+0.6**
BGF	**Bois d'Agland**	**82.44**	**2**	*e*P	**P**	**14 04 54.8**	**0.0**
BGF	**Bois d'Agland**	**82.44**	**2**	*e*P	**P**	**14 04 54.8**	**0.0**
BGF	**Bois d'Agland**	**82.44**	**2**	*e*P	**P**	**14 04 54.8**	**0.0**
TCF	**Toulx Ste Croi**	**82.69**	**2**	*e*P	**P**	**14 04 56.0**	**-0.1**
	comp=Z,16nm,0.9s,mb4.7						
TCF	**Toulx Ste Croi**	**82.69**	**2**	*e*P	**P**	**14 04 56.0**	**-0.1**
	comp=Z,8.1nm,0.9s,mb4.8						
TCF	**Toulx Ste Croi**	**82.69**	**2**	*e*P	**P**	**14 04 56.0**	**-0.1**
TCF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
LPL	**La Plagne**	**83.51**	**359**	*e*P	**P**	**14 05 01.4**	**+1.0**
LPL	**La Plagne**	**83.51**	**359**	*e*P	**P**	**14 05 01.4**	**+1.0**
LPL	**La Plagne**	**83.51**	**359**	*e*P	**P**	**14 05 01.4**	**+1.0**
ORIF	**Oris-en-Ratie**	**84.11**	**360**	*e*P	**P**	**14 05 04.2**	**+0.8**
VIVF	**Saint-Julien-l**	**84.17**	**1**	*e*P	**P**	**14 05 03.5**	**-0.2**
VIVF	**Saint-Julien-l**	**84.17**	**1**	*e*P	**P**	**14 05 03.5**	**-0.2**
VIVF	**Saint-Julien-l**	**84.17**	**1**	*e*P	**P**	**14 05 03.5**	**-0.2**
MBDF	**Montbardon**	**84.30**	**359**	*e*P	**P**	**14 05 06.4**	**+2.0**
	comp=Z,10nm,0.7s,mb4.7	

DLBC	Dease Lake	25.95	57	P	P	14 00 45.3	-2.4
YKA	Yellowknife Ar	33.10	47	P	P	14 01 50.4	-0.6
	comp=Z,2.8nm,0.7s,mb4.3,baz=273,slow=9.0,SNR=7.6						
YKA	Yellowknife Ar	33.10	47	P	P	14 01 50.4	-0.6
YKA	Yellowknife Ar	33.10	47	P	P	14 01 50.4	-0.6
MCMT	McKenzie Canyo	40.48	74	*eP*	P	14 02 54.7	+0.7
KSRS	Korea Array	42.40	274	P	P	14 03 10.7	+1.0
	comp=Z,2.6nm,0.9s,mb3.8,baz=60,slow=7.2,SNR=3.1						
KSRS	Korea Array	42.40	274	P	P	14 03 10.7	+1.0
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.9						
BW06	Boulder Array	43.61	75	*eP*	P	14 03 20.1	+0.7
PDAR	Pinedale Array	43.61	75	P	P	14 03 19.6	+0.2
	comp=Z,2.7nm,0.5s,mb4.2,baz=322,slow=2.4,SNR=6.9						
PDAR	Pinedale Array	43.61	75	P	P	14 03 19.6	+0.2
ULM	Lac du Bonnet	47.26	59	P	P	14 03 47.8	-0.4
	comp=Z,9.5nm,0.7s,mb4.9,baz=305,slow=7.0,SNR=7.3						
ULM	Lac du Bonnet	47.26	59	P	P	14 03 47.8	-0.4
ULM	Lac du Bonnet	47.26	59	P	P	14 03 47.8	-0.4
SONM	Songino Array	49.02	299	P	P	14 04 01.8	-0.1
	comp=Z,2.1nm,0.9s,mb4.2,baz=56,slow=5.7,SNR=4.0						
SONM	Songino Array	49.02	299	P	P	14 04 01.8	-0.1
SONM	Songino Array	49.02	299	P	P	14 04 01.8	-0.1
SPITS	Spitsbergen Ar	50.38	357	P	P	14 04 10.4	-1.4
	comp=Z,29nm,0.9s,mb5.3,baz=20,slow=6.2,SNR=5.7						
SPITS	Spitsbergen Ar	50.38	357	P	P	14 04 10.4	-1.4
SPITS	Spitsbergen Ar	50.38	357	P	P	14 04 10.4	-1.4
TXAR	Lajitas Array	55.89	85	P	P	14 04 52.8	-0.1
	comp=Z,1.1nm,0.7s,mb4.0,baz=326,slow=7.9,SNR=3.3						
TXAR	Lajitas Array	55.89	85	P	P	14 04 52.8	-0.1
TXAR	Lajitas Array	55.89	85	P	P	14 04 52.8	-0.2
ZALV	Zalesovo Beam	55.89	315	PcP	PcP	14 05 49.1	-1.8
	comp=Z,2.3nm,0.7s,baz=64,slow=3.4,SNR=3.8						
ARCES	ARCESS Array B	58.36	352	P	P	14 05 08.0	-1.8
	comp=Z,2.7nm,0.7s,mb4.4,baz=7.3,slow=7.2,SNR=6.9						
ARCES				PcP	PcP	14 05 59.9	-0.4
	comp=Z,3.3nm,0.6s,baz=26,slow=6.3,SNR=3.8						
ARCES	ARCESS Array B	58.36	352	P	P	14 05 08.0	-1.8
ARCES				PcP	PcP	14 05 59.9	-0.4
ARCES	ARCESS Array B	58.36	352	P	P	14 05 08.0	-1.9
ARCES						14 05 59.9	
KURK	Kurchatov	60.87	316	P	P	14 05 26.6	-0.8
	comp=Z,1.9nm,0.5s,mb4.5,baz=44,slow=6.4,SNR=4.8						
KURK	Kurchatov	60.87	316	*eP*	P	14 05 27.8	+0.4
KURK	Kurchatov	60.87	316	*eP*	P	14 05 27.8	+0.4
MKAR	Makanchi Array	62.06	311	P	P	14 05 34.6	-0.9
	comp=Z,0.7nm,0.3s,mb4.3,baz=51,slow=7.7,SNR=3.2						
MKAR	Makanchi Array	62.06	311	P	P	14 05 34.6	-0.9
MKAR	Makanchi Array	62.06	311	P	P	14 05 34.6	-0.9
BVAR	Borovoye Array	62.51	322	P	P	14 05 38.0	-0.4
	comp=Z,1.2nm,0.4s,mb4.4,baz=55,slow=7.8,SNR=5.1						
BVAR				PcP	PcP	14 06 14.4	-2.9
	comp=Z,5.3nm,0.7s,baz=54,slow=4.0,SNR=6.7						
BVAR	Borovoye Array	62.51	322	P	P	14 05 38.0	-0.4
BVAR				PcP	PcP	14 06 14.4	-2.9
BVAR	Borovoye Array	62.51	322	P	P	14 05 38.0	-0.4
BVAR						14 06 14.4	
FINES	FINESS Array B	66.19	349	P	P	14 06 00.3	-2.0
	comp=Z,2.0nm,0.6s,mb4.3,baz=26,slow=7.5,SNR=5.7						
FINES	FINESS Array B	66.19	349	P	P	14 06 00.3	-2.0
FINES	FINESS Array B	66.19	349	P	P	14 06 00.3	-2.0
NB2	NORSAR Subarra	67.68	357	P	P	14 06 11.2	-0.6
	comp=Z,1.6nm,0.6s,mb4.2,baz=3.1,slow=6.5						
NOA	NORSAR Array B	67.68	357	P	P	14 06 11.3	-0.5
	comp=Z,4.3nm,0.9s,mb4.5,baz=2.7,slow=6.3,SNR=6.1						
NOA	NORSAR Array B	67.68	357	P	P	14 06 11.3	-0.5
NOA	NORSAR Array B	67.68	357	P	P	14 06 11.3	-0.5
AAK	Ala-Archa	68.84	312	P	P	14 06 17.8	-1.6
	comp=Z,2.1nm,0.7s,mb4.2,baz=17,slow=11,SNR=3.1						
AAK	Ala-Archa	68.84	312	P	P	14 06 17.8	-1.6
AAK	Ala-Archa	68.84	312	P	P	14 06 17.8	-1.6
AKTK	Aktyubinsk	69.10	327	P	P	14 06 20.4	-0.5
AKTO	Aktyubinsk	69.10	327	P	P	14 06 20.4	-0.5
	comp=Z,2.9nm,0.6s,mb4.4,baz=35,slow=7.8,SNR=5.2						
AKTO	Aktyubinsk	69.10	327	P	P	14 06 20.4	-0.5
TAPN	Taplejung	73.72	293	*eP*	P	14 06 49.7	+0.6
TAPN	Taplejung	73.72	293	*eP*	P	14 06 49.7	+0.6
CMAR	Chiang Mai Arr	73.73	279	P	P	14 06 49.2	-0.1
	comp=Z,3.5nm,0.9s,mb4.3,baz=22,slow=7.0,SNR=6.5						
CMAR	Chiang Mai Arr	73.73	279	P	P	14 06 49.2	-0.1
CMAR	Chiang Mai Arr	73.73	279	P	P	14 06 49.2	-0.1
GUN	Gumba	74.33	295	*eP*	P	14 06 53.4	+0.8
	comp=Z,63nm,0.8s,mb5.6						
GUN	Gumba	74.33	295	*eP*	P	14 06 53.4	+0.8
	comp=Z,63nm,0.8s,mb5.6						
KKN	Kakani	74.76	295	*eP*	P	14 06 55.7	+0.6
	comp=Z,18nm,0.6s,mb5.2						
KKN	Kakani	74.76	295	*eP*	P	14 06 55.7	+0.6
	comp=Z,18nm,0.6s,mb5.2						
KKN	Kakani	74.76	295	*eP*	P	14 06 55.7	+0.6
KKN				pmax	pmax		
	comp=Z,18nm,0.6s,mb5.2						
BSEG	Bad Segeberg	74.82	357	*eP*	P	14 06 55.9	+0.8
	comp=Z,20nm,1.0s,mb5.0						
BSEG	Bad Segeberg	74.82	357	*eP*	P	14 06 55.9	+0.8
BSEG				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
PKI	Pulchoki	74.86	295	*eP*	P	14 06 56.8	+1.1
	comp=Z,42nm,1.1s,mb5.3						
PKI	Pulchoki	74.86	295	*eP*	P	14 06 56.8	+1.1
	comp=Z,42nm,1.1s,mb5.3						
PKI	Pulchoki	74.86	295	*eP*	P	14 06 56.8	+1.1
PKI				pmax	pmax		
	comp=Z,42nm,1.1s,mb5.3						
GKN	Gorkha	74.96	296	*eP*	P	14 06 56.6	+0.3
	comp=Z,42nm,1.0s,mb5.3						
GKN	Gorkha	74.96	296	*eP*	P	14 06 56.6	+0.3
	comp=Z,42nm,1.0s,mb5.3						
DMN	Daman	75.00	295	*eP*	P	14 06 57.5	+1.0
	comp=Z,26nm,0.8s,mb5.2						
DMN	Daman	75.00	295	*eP*	P	14 06 57.5	+1.0
	comp=Z,26nm,0.8s,mb5.2						
DANN	Dangsing	75.18	297	*eP*	P	14 06 58.8	+1.2
	comp=Z,56nm,0.8s,mb5.6						
DANN	Dangsing	75.18	297	*eP*	P	14 06 58.8	+1.2
	comp=Z,56nm,0.8s,mb5.5						
KOLN	Koldanda	75.72	297	*eP*	P	14 07 01.4	+0.7
	comp=Z,36nm,1.1s,mb5.2						
KOLN	Koldanda	75.72	297	*eP*	P	14 07 01.4	+0.7
	comp=Z,36nm,1.1s,mb5.3						
AKASG	Malin Array Be	76.18	345	P	P	14 07 00.6	-2.3
	comp=Z,1.1nm,0.4s,mb4.2,baz=17,slow=6.2,SNR=3.6						
AKASG	Malin Array Be	76.18	345	P	P	14 07 00.6	-2.3
AKASG	Malin Array Be	76.18	345	P	P	14 07 00.6	-2.3
NRDL	Niedersach Rie	76.27	357	*eP*	P	14 07 03.7	+0.3
	comp=Z,24nm,1.6s,mb4.9						
IBBN	Ibbenburen	76.51	359	*eP*	P	14 07 05.5	+0.8
	comp=Z,28nm,1.0s,mb5.2						
CLZ	Clausthal	76.92	357	*eP*	P	14 07 07.9	+0.9
	comp=Z,14nm,1.1s,mb4.8						
CLZ	Clausthal	76.92	357	*eP*	P	14 07 07.9	+0.9
CLZ				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
CLL	Collm	77.34	355	*eP*	P	14 07 09.3	-0.1
	comp=Z,6.0nm,1.0s,mb4.5						
CLL	Collm	77.34	355	*i* P	P	14 07 09.0	-0.4
CLL				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
CLL	Collm	77.34	355	*i* P	P	14 07 09.0	-0.4
	comp=Z,6.0nm,0.9s,mb4.5						
NEUB	Neuenburg	77.50	356	*eP*	P	14 07 10.9	+0.6
	comp=Z,22nm,0.9s,mb5.1						
BRG	Berggiesshubel	77.72	355	*eP*	P	14 07 11.7	+0.2
	comp=Z,9.0nm,1.1s,mb4.6						
BRG	Berggiesshubel	77.72	355	*eP*	P	14 07 11.2	-0.3
BRG				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
BRG				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4						
BRG				MLR	MLR		
	comp=N,4μm,28.5s						
BRG				MLR	MLR		
	comp=E,2μm,26.3s						
BRG				MLR	MLR		
	comp=Z,6μm,19.0s						
PVCC	Panska Ves	78.03	354	*eP*	P	14 07 14.0	+0.7
PVCC	Panska Ves	78.03	354	*eP*	P	14 07 14.0	+0.7
MOX	Moxa	78.07	356	*eP*	P	14 07 13.9	+0.4
	comp=Z,8.0nm,1.0s,mb4.6						
MOX	Moxa	78.07	356	*eP*	P	14 07 13.9	+0.4
MOX				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
DPC	Dobruska-Polom	78.08	353	*eP*	P	14 07 13.9	+0.3
DPC	Dobruska-Polom	78.08	353	*eP*	P	14 07 13.9	+0.3
TANN	Tannenbergstha	78.26	356	*eP*	P	14 07 14.7	+0.2
	comp=Z,7.0nm,1.2s,mb4.5						
NKC	Novy Kostel	78.44	356	*eP*	P	14 07 16.0	+0.5
NKC	Novy Kostel	78.44	356	*eP*	P	14 07 16.0	+0.5
PRU	Pruhonice	78.57	354	*eP*	P	14 07 17.2	+1.0
PRU	Pruhonice	78.57	354	*eP*	P	14 07 17.2	+1.0
GIVF	Givet	78.73	1	*eP*	P	14 07 17.1	-0.1
	comp=Z,23nm,1.0s,mb4.8						
GIVF	Givet	78.73	1	*eP*	P	14 07 17.1	-0.1
	comp=Z,11nm,1.0s,mb4.8						
GIVF	Givet	78.73	1	*eP*	P	14 07 17.1	-0.1
GIVF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
BAIF	Baives	78.77	1	⇑*iP*	P	14 07 17.6	+0.2
	comp=Z,16nm,0.9s,mb4.6						
BAIF	Baives	78.77	1	⇑*iP*	P	14 07 17.6	+0.2
	comp=Z,7.8nm,0.9s,mb4.6						
BAIF	Baives	78.77	1	⇑*iP*	P	14 07 17.6	+0.2
BAIF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
ROTZ	Rotzenmuhle	78.92	356	*eP*	P	14 07 18.2	0.0
	comp=Z,10.0nm,1.4s,mb4.5						
GRF	Grafenberg Arr	79.03	356	*eP*	P	14 07 19.9	+1.1
GRF	Grafenberg Arr	79.03	356	*eP*	P	14 07 19.9	+1.1
WLF	Walferdange	79.17	360	*eP*	P	14 07 20.5	+0.9
	comp=Z,15nm,1.0s,mb4.9						
KHC	Kasperske Hory	79.48	355	*eP*	P	14 07 21.9	+0.6
KHC	Kasperske Hory	79.48	355	*eP*	P	14 07 21.9	+0.6
GEC2	GERESS Array S	79.76	355	*eP*	P	14 07 22.8	0.0
	comp=Z,6.0nm,1.1s,mb4.4						
GEC2	GERESS Array S	79.76	355	*eP*	P	14 07 22.8	0.0
GEC2				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
GERES	GERESS Array B	79.76	355	P	P	14 07 21.0	-1.7
	comp=Z,2.6nm,0.8s,mb4.2,baz=20,slow=4.4,SNR=7.1						
GERES	GERESS Array B	79.76	355	P	P	14 07 21.0	-1.7
GERES	GERESS Array B	79.76	355	P	P	14 07 21.0	-1.8
FLN	La Foliniere	79.94	4	*eP*	P	14 07 23.4	-0.4
	comp=Z,39nm,1.1s,mb5.0						
FLN	La Foliniere	79.94	4	*eP*	P	14 07 23.4	-0.4
	comp=Z,20nm,1.1s,mb5.0						
FLN	La Foliniere	79.94	4	*eP*	P	14 07 23.4	-0.4
FLN				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
STU	Stuttgart	80.02	358	*eP*	P	14 07 24.9	+0.7
	comp=Z,12nm,0.5s,mb5.1						
LDF	La Druitiere	80.12	4	⇑*iP*	P	14 07 24.2	-0.6
	comp=Z,9.4nm,0.8s,mb4.5						
LDF	La Druitiere	80.12	4	⇑*iP*	P	14 07 24.2	-0.6
	comp=Z,4.7nm,0.8s,mb4.5						
LDF	La Druitiere	80.12	4	⇑*iP*	P	14 07 24.2	-0.6
LDF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
GRR	Gorron	80.30	4	*eP*	P	14 07 25.5	-0.2
	comp=Z,76nm,1.3s,mb5.2						
GRR	Gorron	80.30	4	*eP*	P	14 07 25.5	-0.2
	comp=Z,38nm,1.3s,mb5.2						
GRR	Gorron	80.30	4	*eP*	P	14 07 25.5	-0.2
GRR				pmax	pmax		
	comp=Z,38nm,1.3s,mb5.2						
MEZF	Maizieres J'vi	80.34	0	⇑*iP*	P	14 07 26.2	+0.3
	comp=Z,26nm,1.0s,mb4.8						
MEZF	Maizieres J'vi	80.34	0	⇑*iP*	P	14 07 26.2	+0.3
	comp=Z,26nm,1.0s,mb5.1						
SGMF	Saint Gilles	80.34	6	*eP*	P	14 07 26.2	+0.3
	comp=Z,74nm,1.2s,mb5.2						
SGMF	Saint Gilles	80.34	6	*eP*	P	14 07 26.2	+0.3
	comp=Z,37nm,1.2s,mb5.2						
SGMF	Saint Gilles	80.34	6	*eP*	P	14 07 26.2	+0.3
SGMF				pmax	pmax		
	comp=Z,37nm,1.2s,mb5.2						
CDF	Champ du Feu	80.42	359	⇑*iP*	P	14 07 26.4	+0.1
	comp=Z,15nm,0.9s,mb4.6						
CDF	Champ du Feu	80.42	359	⇑*iP*	P	14 07 26.4	+0.1
	comp=Z,7.6nm,0.9s,mb4.6						
CDF	Champ du Feu	80.42	359	⇑*iP*	P	14 07 26.4	+0.1
CDF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
BFO	Black Forest	80.48	358	*eP*	P	14 07 27.1	+0.4
	comp=Z,17nm,1.7s,mb4.7						
BFO	Black Forest	80.48	358	*eP*	P	14 07 27.1	+0.4
BFO				pmax	pmax		
	comp=Z,17nm,1.7s,mb4.7						
SFTF	Sexfontaines	80.63	0	⇑*iP*	P	14 07 27.7	+0.2
	comp=Z,42nm,0.9s,mb5.1						
SFTF	Sexfontaines	80.63	0	⇑*iP*	P	14 07 27.7	+0.2
	comp=Z,42nm,0.9s,mb5.4						
QUIF	Quistinic	80.64	6	*eP*	P	14 07 27.3	-0.2
	comp=Z,139nm,1.5s,mb5.4						
QUIF	Quistinic	80.64	6	*eP*	P	14 07 27.3	-0.2
	comp=Z,70nm,1.5s,mb5.4						
QUIF	Quistinic	80.64	6	*eP*	P	14 07 27.3	-0.2
QUIF				pmax	pmax		
	comp=Z,70nm,1.5s,mb5.4						
HAU	Haudompre	80.83	360	⇑*iP*	P	14 07 28.6	0.0
	comp=Z,38nm,1.0s,mb5.0						
HAU	Haudompre	80.83	360	⇑*iP*	P	14 07 28.6	0.0
	comp=Z,19nm,1.0s,mb5.0						
HAU	Haudompre	80.83	360	⇑*iP*	P	14 07 28.6	0.0
HAU				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0						
RJOB	Jochberg	80.91	355	*eP*	P	14 07 29.5	+0.5
	comp=Z,10.0nm,1.3s,mb4.6						
HINF	Hinteralfeld	81.02	359	*eP*	P	14 07 29.3	-0.3
	comp=Z,12nm,0.8s,mb4.6						
HINF	Hinteralfeld	81.02	359	*eP*	P	14 07 29.3	-0.3
	comp=Z,5.8nm,0.8s,mb4.6						
HINF	Hinteralfeld	81.02	359	*eP*	P	14 07 29.3	-0.3
HINF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
LOR	Lormes	81.56	1	*eP*	P	14 07 32.5	0.0
	comp=Z,33nm,1.1s,mb4.9						
LOR	Lormes	81.56	1	*eP*	P	14 07 32.5	0.0
	comp=Z,16nm,1.1s,mb4.9						
LOR	Lormes	81.56	1	*eP*	P	14 07 32.5	0.0
LOR				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
SSF	Saint Saulge	81.76	1	*iP*	P	14 07 33.6	+0.1
	comp=Z,20nm,0.8s,mb4.8						
SSF	Saint Saulge	81.76	1	*iP*	P	14 07 33.6	+0.1
	comp=Z,9.9nm,0.8s,mb4.8						
SSF	Saint Saulge	81.76	1	*iP*	P	14 07 33.6	+0.1
SSF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
AVF	Avril sur Loir	82.03	2	⇑*iP*	P	14 07 34.9	0.0
	comp=Z,22nm,0.9s,mb4.8						
AVF	Avril sur Loir	82.03	2	⇑*iP*	P	14 07 34.9	0.0
	comp=Z,11nm,0.9s,mb4.8						
AVF	Avril sur Loir	82.03	2	⇑*iP*	P	14 07 34.9	0.0
AVF				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
MFF	Saint Martin d	82.11	4	⇑*iP*	P	14 07 35.5	+0.1
	comp=Z,21nm,0.9s,mb4.8						
MFF	Saint Martin d	82.11	4	⇑*iP*	P	14 07 35.5	+0.1
	comp=Z,11nm,0.9s,mb4.8						
MFF	Saint Martin d	82.11	4	⇑*iP*	P	14 07 35.5	+0.1
MFF				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
SMF	Signal de Mont	82.18	1	⇑*iP*	P	14 07 35.8	+0.1
	comp=Z,16nm,0.7s,mb4.8						
SMF	Signal de Mont	82.18	1	⇑*iP*	P	14 07 35.8	+0.1
	comp=Z,8.8nm,0.7s,mb4.8						
SMF	Signal de Mont	82.18	1	⇑*iP*	P	14 07 35.8	+0.1
SMF				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
CABF	La Chapelle	82.23	360	⇑*iP*	P	14 07 36.6	+0.6
	comp=Z,76nm,1.2s,mb5.2						
CABF	La Chapelle	82.23	360	⇑*iP*	P	14 07 36.6	+0.6
	comp=Z,38nm,1.2s,mb5.2						
CABF	La Chapelle	82.23	360	⇑*iP*	P	14 07 36.6	+0.6
CABF				pmax	pmax		
	comp=Z,38nm,1.2s,mb5.2						
BGF	Bois d'Agland	82.25	2	*eP*	P	14 07 36.2	+0.1
	comp=Z,45nm,1.1s,mb5.0						
BGF	Bois d'Agland	82.25	2	*eP*	P	14 07 36.2	+0.1
	comp=Z,22nm,1.1s,mb5.0						
BGF	Bois d'Agland	82.25	2	*eP*	P	14 07 36.2	+0.1
BGF				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.0						
TCF	Toulx Ste Croi	82.51	2	*eP*	P	14 07 37.4	-0.1
	comp=Z,17nm,1.0s,mb4.7						
TCF	Toulx Ste Croi	82.51	2	*eP*	P	14 07 37.4	-0.1
	comp=Z,8.6nm,1.0s,mb4.7						
TCF	Toulx Ste Croi	82.51	2	*eP*	P	14 07 37.4	-0.1
TCF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
LPL	La Plagne	83.32	359	*eP*	P	14 07 42.7	+1.0
LPL	La Plagne	83.32	359	*eP*	P	14 07 42.7	+1.0
LPL	La Plagne	83.32	359	*eP*	P	14 07 42.7	+1.0
RJF	Les Rejaudoux	83.47	3	*eP*	P	14 07 42.3	-0.2
RJF	Les Rejaudoux	83.47	3	*eP*	P	14 07 42.3	-0.2
RJF	Les Rejaudoux	83.47	3	*eP*	P	14 07 42.3	-0.2
LFF	La Frestale	83.81	3	⇑*iP*	P	14 07 44.3	+0.1
	comp=Z,66nm,1.1s,mb5.4						
LFF	La Frestale	83.81	3	⇑*iP*	P	14 07 44.3	+0.1
	comp=Z,33nm,1.1s,mb5.4						
LFF	La Frestale	83.81	3	⇑*iP*	P	14 07 44.3	+0.1
LFF				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.4						
CAF	Calviac	83.87	3	*eP*	P	14 07 44.8	+0.3
	comp=Z,23nm,1.0s,mb5.0						
CAF	Calviac	83.87	3	*eP*	P	14 07 44.8	+0.3
	comp=Z,12nm,1.0s,mb5.0						
CAF	Calviac	83.87	3	*eP*	P	14 07 44.8	+0.3
CAF				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.0						
VIVF	Saint-Julien-l	83.98	1	*eP*	P	14 07 44.6	-0.5
VIVF	Saint-Julien-l	83.98	1	*eP*	P	14 07 44.6	-0.5
VIVF	Saint-Julien-l	83.98	1	*eP*	P	14 07 44.6	-0.5
WRA	Warramunga Arr	84.11	228	P	P	14 07 45.0	-0.8
	comp=Z,1.4nm,0.7s,mb4.2,baz=34,slow=5.9,SNR=5.4						
WRA	Warramunga Arr	84.11	228	P	P	14 07 45.0	-0.8
WRA	Warramunga Arr	84.11	228	P	P	14 07 45.0	-0.9
MBDF	Montbardon	84.11	359	*eP*	P	14 07 46.7	+1.0
MBDF	Montbardon	84.11	359	*eP*	P	14 07 46.7	+1.0
MBDF	Montbardon	84.11	359	*eP*	P	14 07 46.7	+1.0
FRF	La Foret Royal	85.28	359	*eP*	P	14 07 51.8	+0.2
	comp=Z,26nm,0.9s,mb5.1						
FRF	La Foret Royal	85.28	359	*eP*	P	14 07 51.8	+0.2
	comp=Z,13nm,0.9s,mb5.1						
FRF	La Foret Royal	85.28	359	*eP*	P	14 07 51.8	+0.2
FRF				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.1						
MTLF	Montolieu	85.45	2	*eP*	P	14 07 52.6	+0.1
	comp=Z,99nm,1.5s,mb5.4						
MTLF	Montolieu	85.45	2	*eP*	P	14 07 52.6	+0.1
	comp=Z,49nm,1.5s,mb5.4						
MTLF	Montolieu	85.45	2	*eP*	P	14 07 52.6	+0.1
MTLF				pmax	pmax		
	comp=Z,49nm,1.5s,mb5.4						
SJPF	Ste Jean	85.54	5	*eP*	P	14 07 52.7	-0.2
SJPF	Ste Jean	85.54	5	*eP*	P	14 07 52.7	-0.2
SJPF	Ste Jean	85.54	5	*eP*	P	14 07 52.7	-0.2
EPF	Esparros	85.70	4	*eP*	P	14 07 53.4	-0.3
	comp=Z,18nm,0.9s,mb5.0						
EPF	Esparros	85.70	4	*eP*	P	14 07 53.4	-0.3
	comp=Z,9.0nm,0.9s,mb5.0						
EPF	Esparros	85.70	4	*eP*	P	14 07 53.4	-0.3
EPF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb5.0						
ETSF	Etsaut	85.79	5	*eP*	P	14 07 54.8	+0.6
	comp=Z,90nm,1.6s,mb5.5						
ETSF	Etsaut	85.79	5	*eP*	P	14 07 54.8	+0.6
	comp=Z,45nm,1.6s,mb5.5						
ETSF	Etsaut	85.79	5	*eP*	P	14 07 54.8	+0.6
ETSF				pmax	pmax		
	comp=Z,45nm,1.6s,mb5.5						
BRTR	Keskin Array B	85.88	339	P	P	14 07 54.2	-0.5
	comp=Z,0.4nm,0.4s,mb4.0,baz=46,slow=4.2,SNR=2.7						
BRTR	Keskin Array B	85.88	339	P	P	14 07 54.2	-0.4
BRTR	Keskin Array B	85.88	339	P	P	14 07 54.2	-0.5
HYB	Hyderabad	86.72	294	*i* P	P	14 07 59.0	-0.1
ASAR	Alice Springs	87.53	226	P	P	14 08 01.8	-1.0
	comp=Z,2.2nm,0.7s,mb4.5,baz=30,slow=4.5,SNR=6.4						
ASAR	Alice Springs	87.53	226	P	P	14 08 01.8	-1.0
ASAR	Alice Springs	87.53	226	P	P	14 08 01.8	-1.0
ESDC	Sonseca Array	88.78	7	P	P	14 08 06.7	-1.9
	comp=Z,2.8nm,0.9s,mb4.6,baz=355,slow=5.1,SNR=6.5						
ESDC	Sonseca

BALP	**Baler**	**1.12**	**350**	*e*P	Pg	14 12 29.2	-0.3
PCPH	**Palayan**	**1.14**	**324**⇑	*e*P	Pg	14 12 29.1	-0.8
PCPH				*e*S	Sg	14 12 44.2	-0.6
BOAC	**Boac**	**1.17**	**177**	*e*P	Pg	14 12 30.9	+0.5
AUQP	**San Andres**	**1.56**	**146**	*e*P	Pn	14 12 39.0	+2.4
LUBP	**Lubang**	**1.74**	**239**	*e*P	Pn	14 12 39.0	-0.1
BCPH	**Baguio City Da**	**2.09**	**326**⇓	*i*P	Pn	14 12 45.5	+1.5
BCPH				*i*S	Sn	14 13 12.6	+2.0
SCZP	**Santa Cruz**	**2.14**	**302**	*e*P	Pn	14 12 46.2	+1.5
OTRP	**Odiongan**	**2.27**	**174**	*e*P	Pn	14 12 48.0	+1.7
CAUP	**Cauayan**	**2.30**	**1**	*e*P	Pn	14 12 47.4	+0.5
PALP	**Palanan**	**2.50**	**14**	*e*P	Pn	14 12 49.0	-0.5
PVCP	**Virac**	**2.52**	**114**	*e*P	Pn	14 12 51.5	+1.7
ABRA	**Dolores**	**3.17**	**341**	*e*P	Pn	14 13 01.6	+2.8
APYP	**Conner**	**3.25**	**351**	*e*P	Pn	14 13 01.6	+1.6

IDC 02 14:16:18.0±2.0, 6°90'S×129°34'E, *h*0km, mb3.5/1, mb1 3.5/3, mb1mx3.3/16, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=111.4km s-min=20.7km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.84**	**160**	Pn	Pn	14 19 36.4	+0.8
	0.2nm,0.3s,baz=343,slow=12,SNR=4.3						
WRA				Sn	Sn	14 22 09.8	-0.3
	0.3nm,0.3s,baz=337,slow=22,SNR=5.0						
ASAR	**Alice Springs**	**17.23**	**166**	P	Pn	14 20 21.0	+0.7
	0.0nm,0.3s,baz=346,slow=11,SNR=5.3						
ASAR				S	Sn	14 23 33.5	+0.8
	0.1nm,0.3s,baz=346,slow=26,SNR=4.6						
MKAR	**Makanchi Array**	**67.79**	**327**	P	P	14 27 17.8	0.0
	0.1nm,0.3s,baz=122,slow=7.0,SNR=2.8						

*IDC **02** 14:21:03.9±0.9, 51°.47N×174°.32W, h0km, mb3.9/15, mb1 4.1/17, mb1mx3.9/30, mbtmp3.9/17, ML4.5/1, Error ellipse: s-maj=26.2km s-min=19.0km az=159.0*
*ISCJB **02** 14:21:06.3±0.6, 51°.30N±0°.07×174°.14W±0°.09, h33km, mb3.9/15, Error ellipse: s-maj=9.9km s-min=7.7km az=174.0*
*NEIC **02** 14:21:09.0±0.7, 51°.42N×174°.18W, h35km, mb3.5/3, ML3.3(AEIC), Error ellipse: s-maj=15.3km s-min=9.0km az=166.0*
ISC 02 14:21:08.8±0.6, 51°.38N±0°.07×174°.18W±0°.09, h35km, n43, σ1℗12/45, mb3.9/15, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.83**	**359**	P	Pn	14 21 24.1	+0.3
ATKA				S	Sn	14 21 36.4	+1.6
ADK	**Adak**	**1.64**	**289**	P	Pn	14 21 34.2	-0.9
ADK				S	Sn	14 21 54.7	-0.2
AKUT	**Akutan**	**5.80**	**58**	*e*P	Pn	14 22 40.7	+8.5
FX1	**Attu Island--F**	**7.94**	**286**	Pn	Pn	14 23 01.1	-0.4
	2.6nm,0.3s,baz=76,slow=5.2,SNR=18						
FX1	**Attu Island--F**	**7.94**	**286**	Pn	Pn	14 23 01.1	-0.4
KDAK	**Kodiak Island**	**14.03**	**54**	Pn	Pn	14 24 22.8	-2.0
	0.2nm,0.3s,baz=282,slow=20,SNR=2.8						
KDAK	**Kodiak Island**	**14.03**	**54**	Pn	Pn	14 24 22.8	-1.9
PETK	**Petropavlovsk-**	**17.27**	**287**	P	Pn	14 25 03.0	-3.8
	baz=96,slow=14,SNR=2.0						
PETK	**Petropavlovsk-**	**17.27**	**287**	P	Pn	14 25 03.0	-3.8
COLA	**College**	**19.18**	**35**	*e*P	Pn	14 25 28.1	-2.0
	1.8nm,0.8s						
BILL	**Bilibino**	**19.24**	**338**	*e*P	Pn	14 25 31.5	+0.8
	2.7nm,0.5s						
ILAR	**Eielson Array**	**19.48**	**36**	P	Pn	14 25 31.1	-2.6
	0.7nm,0.3s,baz=234,slow=8.0,SNR=63						
ILAR	**Eielson Array**	**19.48**	**36**	P	Pn	14 25 31.1	-2.6
INK	**Inuvik**	**25.82**	**34**	P	P	14 26 36.7	+0.4
	0.7nm,0.5s,mb3.5,baz=212,slow=6.3,SNR=6.9						
INK	**Inuvik**	**25.82**	**34**	*e*P	P	14 26 37.9	+1.6
	0.9nm,0.6s,mb3.5						
PDAR	**Pinedale Array**	**43.53**	**75**	P	P	14 29 10.5	+1.8
	0.6nm,0.8s,mb3.4,baz=299,slow=4.0,SNR=2.8						
PDAR	**Pinedale Array**	**43.53**	**75**	P	P	14 29 10.5	+1.8
SONM	**Songino Array**	**49.21**	**299**	P	P	14 29 53.6	+0.5
	1.8nm,1.2s,mb4.0,baz=46,slow=6.9,SNR=4.9						
SONM	**Songino Array**	**49.21**	**299**	P	P	14 29 53.6	+0.5
TXAR	**Lajitas Array**	**55.78**	**85**	P	P	14 30 43.4	+1.3
	0.1nm,0.4s,mb3.2,baz=303,slow=3.9,SNR=2.7						
TXAR	**Lajitas Array**	**55.78**	**85**	P	P	14 30 43.4	+1.3
ARCES	**ARCESS Array B**	**58.54**	**352**	P	P	14 31 00.4	-0.6
	5.3nm,1.0s,mb4.5,baz=17,slow=8.9,SNR=4.0						
ARCES	**ARCESS Array B**	**58.54**	**352**	P	P	14 31 00.4	-0.6
KURK	**Kurchatov**	**61.08**	**316**	P	P	14 31 19.5	+0.8
	0.8nm,0.4s,mb4.2,baz=39,slow=7.3,SNR=5.3						
KURK	**Kurchatov**	**61.08**	**316**	P	P	14 31 19.5	+0.8
MKAR	**Makanchi Array**	**62.26**	**311**	P	P	14 31 26.3	-0.5
	0.6nm,0.3s,mb4.3,baz=49,slow=4.8,SNR=3.6						
MKAR	**Makanchi Array**	**62.26**	**311**	P	P	14 31 26.3	-0.5
BVAR	**Borovoye Array**	**62.72**	**322**	P	P	14 31 30.1	+0.4
	1.4nm,0.5s,mb4.4,baz=59,slow=4.8,SNR=12						
BVAR				PcP	PcP	14 32 08.5	+0.4
	1.3nm,0.6s,baz=58,slow=2.2,SNR=4.7						
BVAR	**Borovoye Array**	**62.72**	**322**	P	P	14 31 30.1	+0.4
BVAR				PcP	PcP	14 32 08.5	+0.4
FINES	**FINESS Array B**	**66.37**	**350**	P	P	14 31 52.1	-1.3
	3.2nm,1.0s,mb4.3,baz=15,slow=5.8,SNR=4.5						
FINES				PcP	PcP	14 32 23.4	+0.4
	1.9nm,0.8s,baz=2.8,slow=5.7,SNR=4.9						
FINES	**FINESS Array B**	**66.37**	**350**	P	P	14 31 52.1	-1.3
FINES				PcP	PcP	14 32 23.4	+0.4
NOA	**NORSAR Array B**	**67.85**	**357**	P	P	14 32 02.9	+0.1
	1.0nm,0.8s,mb3.9,baz=6.2,slow=6.1,SNR=2.7						
NOA	**NORSAR Array B**	**67.85**	**357**	P	P	14 32 02.9	+0.1
CMAR	**Chiang Mai Arr**	**73.88**	**279**	P	P	14 32 41.4	+1.3
	0.2nm,0.3s,mb3.5,baz=48,slow=5.4,SNR=4.8						
CMAR	**Chiang Mai Arr**	**73.88**	**279**	P	P	14 32 41.4	+1.3
AKASG	**Malin Array Be**	**76.37**	**345**	P	P	14 32 53.6	-0.3
	0.5nm,0.3s,mb3.9,baz=18,slow=5.9,SNR=3.4						
AKASG	**Malin Array Be**	**76.37**	**345**	P	P	14 32 53.6	-0.3
GERES	**GERESS Array B**	**79.93**	**355**	P	P	14 33 13.2	-0.5
	0.6nm,0.7s,mb3.6,baz=19,slow=6.2,SNR=4.7						
GERES	**GERESS Array B**	**79.93**	**355**	P	P	14 33 13.2	-0.5
WRA	**Warramunga Arr**	**84.09**	**228**	P	P	14 33 34.9	-0.8
	0.5nm,0.5s,mb3.9,baz=30,slow=5.6,SNR=6.4						
WRA	**Warramunga Arr**	**84.09**	**228**	P	P	14 33 34.9	-0.8
ASAR	**Alice Springs**	**87.51**	**226**	P	P	14 33 53.6	+1.0
	0.6nm,0.8s,mb3.9,baz=19,slow=5.0,SNR=10.0						
ASAR	**Alice Springs**	**87.51**	**226**	P	P	14 33 53.6	+1.0

*ISK **02** 14:25:11.6, 37°.30N×28°.21E, h5km, MD2.6*
*DDA **02** 14:25:12.9, 37°.20N×28°.14E, h7km±3km, Md2.8*
*ISCJB **02** 14:25:13.0±0.5, 37°.25N±0°.04×28°.19E±0°.04, h10km, Error ellipse: s-maj=6.2km s-min=3.9km az=20.8*
*CSEM **02** 14:25:13.2±0.2, 37°.24N×28°.21E, h2km, MD2.6, Error ellipse: s-maj=5.6km s-min=4.2km az=11.0*
ISC 02 14:25:13.4±0.5, 37°.23N±0°.04×28°.19E±0°.04, h10km, n24, σ1℗02/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.12**	**141**	Pg	Pg	14 25 15.7	-0.6
YER	**Yerkesik**	**0.12**	**141**	*i* Pg	Pg	14 25 15.7	-0.6
MLSB	**Milas**	**0.34**	**282**	*e*PG	Pg	14 25 19.8	-0.3
MLSB				*e*SG	Sg	14 25 25.2	+0.6
MLSB	**Milas**	**0.34**	**282**	*e*Pg	Pg	14 25 19.8	-0.3
MLSB				*e*Sg	Sg	14 25 25.2	+0.6
TURN	**Turunc**	**0.48**	**137**	*i* P	Pg	14 25 21.8	-1.1
TURN	**Turunc**	**0.48**	**137**	*i* P	Pg	14 25 21.8	-1.1
AYDN	**Tasoluk**	**0.50**	**330**	*i* P	Pg	14 25 23.2	0.0
AYDN				*i* S	Sg	14 25 29.9	+0.2
AYDN	**Tasoluk**	**0.50**	**330**	*i* P	Pg	14 25 23.2	+0.1
AYDN				*i* S	Sg	14 25 29.9	+0.2
DAT	**Datca**	**0.70**	**225**	*e*PG	Pg	14 25 27.6	+0.7
DAT	**Datca**	**0.70**	**225**	*e*Pg	Pg	14 25 27.6	+0.7
BODT	**Bodrum**	**0.72**	**257**	*e*PG	Pg	14 25 26.6	-0.8
BODT	**Bodrum**	**0.72**	**257**	*e*Pg	Pg	14 25 26.6	-0.8
DNZL	**Cakiroluk**	**0.82**	**56**	*i* P	Pg	14 25 29.0	-0.3
DNZL	**Cakiroluk**	**0.82**	**56**	*i* P	Pg	14 25 29.0	-0.3
DENT	**Denizli**	**0.85**	**52**	*e*PG	Pg	14 25 28.0	-1.9
DENT	**Denizli**	**0.85**	**52**	*e*Pg	Pg	14 25 28.0	-1.9
FETY	**Fethiye**	**0.93**	**129**	*e*PG	Pg	14 25 31.4	+0.1
FETY	**Fethiye**	**0.93**	**129**	*e*Pg	Pg	14 25 31.4	+0.1
GOLH	**Golhisar**	**1.09**	**89**	*i* P	Pg	14 25 33.1	-1.3
GOLH				*i* S	Sg	14 25 50.8	+2.1
GOLH	**Golhisar**	**1.09**	**89**	*i* P	Pg	14 25 33.2	-1.3
GOLH				*i* S	Sg	14 25 50.8	+2.1
AKAS	**Kas**	**1.51**	**131**	*i* P	Pn	14 25 41.9	+1.4
AKAS				*i* S	Sg	14 26 06.4	+4.4
AKAS	**Kas**	**1.51**	**131**	*i* P	Pn	14 25 41.9	+1.4
KHAL	**Karahalli**	**1.54**	**42**	*i* P	Pn	14 25 42.1	+1.2
KHAL	**Karahalli**	**1.54**	**42**	*i* P	Pn	14 25 42.1	+1.2

TRN 02 14:41:22.3, 17°.06N×62°.36W, h9km, MD3.5, M4.1(FDF), 2C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBRV		**0.29**	**147**	*i* P	Pg	14 41 30.6	+2.4
MBGB		**0.35**	**158**	*i* P	Pg	14 41 31.9	+2.7
MBGB				*e*S	Sg	14 41 37.2	+3.4
MBWH		**0.36**	**153**⇑	*i*P	Pg	14 41 31.7	+2.4
MLYT	**Lee's Yard**	**0.37**	**154**	*i* P	Pg	14 41 31.1	+1.4
MLYT	**Lee's Yard**	**0.37**	**154**	*i* P	Pg	14 41 32.2	+2.5
SKI	**Saint Kitts**	**0.45**	**307**	*e*P	Pg	14 41 33.7	+2.6
SKI				*e*S	Sg	14 41 40.8	+3.7
BPA	**Boggy Peak**	**0.48**	**92**⇑	*i*P	Pg	14 41 35.1	+3.4
BPA				*e*S	Sg	14 42 43.2	+4.2
SABA	**Saba**	**1.01**	**304**	*e*P	Pg	14 41 45.6	+3.8
BCG	**Bois Riant Cap**	**1.20**	**144**	*e*P	Pb	14 41 47.0	+1.7
SCG	**Saint Claude**	**1.22**	**147**	*e*P	Pb	14 41 46.9	+1.4
HMG	**Houelmont**	**1.25**	**149**	*e*P	Pn	14 41 47.3	+1.4
DOG	**Dongo Capester**	**1.25**	**145**	*e*P	Pn	14 41 47.4	+1.5
PHG	**Guadaloupe-2**	**1.25**	**146**	*e*P	Pn	14 41 47.5	+1.6
TBG	**Guadaloupe-3**	**1.38**	**150**	*e*P	Pn	14 41 49.2	+1.4
DEG	**La Desirade**	**1.45**	**121**	*e*P	Pn	14 41 49.9	+1.1
MGG	**Marie-Galante**	**1.52**	**138**	*e*P	Pn	14 41 52.3	+2.7
DWS	**Wesley**	**1.79**	**146**	*e*S	Sn	14 42 20.5	+4.1
FDF	**Fort de France**	**2.59**	**153**	*e*P	Pn	14 42 07.3	+2.9
FDF				*e*S	Sn	14 42 41.0	+4.9
BIM	**Bigot**	**2.82**	**154**	*e*P	Pn	14 42 09.3	+1.7
MVM	**Montagne Vaucl**	**2.86**	**150**	*e*P	Pn	14 42 10.9	+2.7

*ISCJB **02** 14:42:52.7±0.5, 39°.41N±0°.02×25°.86E±0°.03, h11km±3km, Error ellipse: s-maj=4.5km s-min=3.1km az=167.8*
*ATH **02** 14:42:52.5, 39°.41N×25°.91E, h28km±1km, MD2.9/5*
*DDA **02** 14:42:52.4, 39°.40N×25°.89E, h34km±1km, Md2.9*
*THE **02** 14:42:53.5, 39°.39N×25°.87E, h2km±2km, ML2.6/2, Error ellipse: s-maj=2.9km s-min=0.4km az=213.0*
*CSEM **02** 14:42:53.0±0.1, 39°.40N×25°.87E, h10km, ML2.6/2, Error ellipse: s-maj=3.6km s-min=2.5km az=75.0*
*ISK **02** 14:42:54.3, 39°.50N×25°.96E, h12km, MD3.0*
ISC 02 14:42:53.2±0.4, 39°.40N±0°.02×25°.87E±0°.04, h12km±3km, n63, σ0℗77/92, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIGR	**SIGRI**	**0.19**	**183**	P	Pg	14 42 57.3	0.0
SIGR				S	Sg	14 43 00.0	-0.2
SIGR	**SIGRI**	**0.19**	**183**	P	Pg	14 42 57.3	0.0
SIGR				S	Sg	14 43 00.0	-0.2
PRK	**Paraskevi**	**0.35**	**116**	*e*PB	Pg	14 43 00.2	0.0
PRK	**Paraskevi**	**0.35**	**116**	P	Pg	14 43 00.2	0.0
PRK				S	Sg	14 43 05.2	+0.3
PRK	**Paraskevi**	**0.35**	**116**	P	Pg	14 43 00.2	0.0
PRK				S	Sg	14 43 05.2	+0.3
BOZC	**Bozcaada**	**0.47**	**18**	*i* P	Pg	14 43 02.0	-0.3
BOZC				*i* S	Sg	14 43 09.2	+0.7
EZN	**Ezine**	**0.55**	**40**	*e*PG	Pg	14 43 03.3	-0.7
EZN				*e*SG	Sg	14 43 09.8	-1.5
EZN	**Ezine**	**0.55**	**40**	*e*Pg	Pg	14 43 03.3	-0.7
EZN				*e*Sg	Sg	14 43 09.8	-1.5
AYVA	**Ayvalik**	**0.65**	**98**	*i* P	Pg	14 43 05.5	-0.2
AYVA				*i* S	Sg	14 43 14.8	+0.6
AYVA	**Ayvalik**	**0.65**	**98**	*i* P	Pg	14 43 05.5	-0.2
AYVA				*i* S	Sg	14 43 14.8	+0.6
LIA	**Limnos Island**	**0.72**	**314**	*e*PN	Pn	14 43 07.7	-1.5
LIA				*e*SN	Sg	14 43 17.6	+0.8
LIA	**Limnos Island**	**0.72**	**314**	P	Pg	14 43 07.6	+0.4
LIA				S	Sg	14 43 17.9	+1.1
LIA	**Limnos Island**	**0.72**	**314**	P	Pg	14 43 07.6	+0.4
LIA				*e*Sn	Sg	14 43 17.6	+0.8
LIA				S	Sg	14 43 17.9	+1.1
GADA	**Gvkgeada**	**0.79**	**2**	*e*PG	Pg	14 43 08.1	-0.4
GADA	**Gvkgeada**	**0.79**	**2**	*e*Pg	Pg	14 43 08.1	-0.4
CHOS	**Chios island**	**1.02**	**172**	*e*PN	Pb	14 43 12.6	-0.1
CHOS				*e*SN	Sn	14 43 26.2	-1.2
CHOS	**Chios island**	**1.02**	**172**	P	Pb	14 43 27.3	-0.1
CHOS				S	Sb	14 43 27.3	+1.2
CHOS	**Chios island**	**1.02**	**172**	P	Pb	14 43 12.6	-0.1
CHOS				*e*Sn	Sn	14 43 26.2	-1.2
CHOS				S	Sb	14 43 27.3	+1.2
GELI	**Tayfur-Gelibol**	**1.10**	**25**	*e*PG	Pg	14 43 13.6	-0.8
GELI	**Tayfur-Gelibol**	**1.10**	**25**	*e*Pg	Pg	14 43 13.6	-0.8
URLA	**Izmir**	**1.18**	**151**	*i* P	Pn	14 43 13.9	-1.5
URLA				*i* S	Sb	14 43 29.8	-0.9
URLA	**Izmir**	**1.18**	**151**	*i* P	Pn	14 43 13.9	-1.6
URLA				*i* S	Sb	14 43 29.8	-0.9
ENEZ	**Enez**	**1.35**	**9**	*e*PN	Pn	14 43 18.2	+0.4
ENEZ	**Enez**	**1.35**	**9**	*e*Pn	Pn	14 43 18.2	+0.4
ERIK	**Erikli-Kesan**	**1.36**	**21**	*e*PN	Pn	14 43 17.8	-0.2
ERIK	**Erikli-Kesan**	**1.36**	**21**	*e*Pn	Pn	14 43 17.8	-0.1
BALY	**Balya**	**1.40**	**75**	*i* P	Pn	14 43 18.0	-0.4
BALY				*i* S	Sn	14 43 36.1	-0.6
BALY	**Balya**	**1.40**	**75**	*i* P	Pn	14 43 18.0	-0.4
BALY				*i* S	Sn	14 43 36.1	-0.6
IZM	**Izmir**	**1.48**	**132**	*e*PN	Pn	14 43 21.4	+1.9
IZM	**Izmir**	**1.48**	**132**	*e*Pn	Pn	14 43 21.4	+1.9
KRBG	**Karabiga-Canak**	**1.48**	**48**	*e*PN	Pn	14 43 19.5	-0.1
KRBG	**Karabiga-Canak**	**1.48**	**48**	*e*Pn	Pn	14 43 19.5	-0.1
ALN	**Alexandroupoli**	**1.50**	**5**	*e*PN	Pn	14 43 20.1	+0.3
ALN				*e*SN	Sn	14 43 38.0	-1.3
ALN	**Alexandroupoli**	**1.50**	**5**	P	Pn	14 43 20.6	+0.8
ALN	**Alexandroupoli**	**1.50**	**5**	*e*Pn	Pn	14 43 20.1	+0.3
ALN	**Alexandroupoli**	**1.50**	**5**	P	Pn	14 43 20.6	+0.8
ALN				*e*Sn	Sn	14 43 38.0	-1.3
GONE	**Gonen-Balikesi**	**1.54**	**65**	*e*PN	Pn	14 43 21.0	+0.5
GONE	**Gonen-Balikesi**	**1.54**	**65**	*e*Pn	Pn	14 43 21.0	+0.6
BALB	**Balikesir**	**1.58**	**81**	*e*PN	Pn	14 43 21.4	+0.6
BALB	**Balikesir**	**1.58**	**81**	*e*Pn	Pn	14 43 21.4	+0.5
AKS	**Akhisar**	**1.60**	**108**	*e*PN	Pn	14 43 22.6	+1.4
AKS	**Akhisar**	**1.60**	**108**	*e*Pn	Pn	14 43 22.6	+1.4
RKY	**Sarkoy-Tekirda**	**1.63**	**38**	*e*PN	Pn	14 43 22.4	+0.7
RKY	**Sarkoy-Tekirda**	**1.63**	**38**	*e*Pn	Pn	14 43 22.4	+0.8
SART	**Tekirdag**	**1.64**	**38**	*i* P	Pn	14 43 21.9	+0.2
SART				*i* S	Sn	14 43 44.0	+1.4
SART	**Tekirdag**	**1.64**	**38**	*i* P	Pn	14 43 21.9	+0.2
SART				*i* S	Sn	14 43 44.0	+1.4
OUR	**Ouranopolis**	**1.73**	**303**	P	Pn	14 43 13.6	-9.3
MFT	**Murefte**	**1.76**	**38**	*e*PN	Pn	14 43 24.2	+0.8
MFT	**Murefte**	**1.76**	**38**	*e*Pn	Pn	14 43 24.2	+0.8
BNT	**Bandirma**	**1.85**	**58**	*e*PN	Pn	14 43 24.9	+0.3
BNT	**Bandirma**	**1.85**	**58**	*e*Pn	Pn	14 43 24.9	+0.3
SMG	**Samos**	**1.85**	**155**	*e*PN	Pn	14 43 25.0	+0.4
SMG				*e*SN	Sn	14 43 47.7	-0.2
SMG	**Samos**	**1.85**	**155**	*e*Pn	Pn	14 43 25.0	+0.4
SMG				*e*Sn	Sn	14 43 47.7	-0.2
DURS	**Dursunbey**	**2.03**	**83**	*i* P	Pn	14 43 27.1	0.0
DURS				*i* S	Sn	14 43 51.6	-0.6
DURS	**Dursunbey**	**2.03**	**83**	*i* P	Pn	14 43 27.1	0.0
DURS				*i* S	Sn	14 43 51.6	-0.7
PLG	**Polygyros**	**2.10**	**298**	*e*PN	Pn	14 43 27.6	-0.5
PLG	**Polygyros**	**2.10**	**298**	*e*Pn	Pn	14 43 27.6	-0.5
APE	**Apeiranthos**	**2.34**	**187**	*e*PN	Pn	14 43 31.4	0.0
APE	**Apeiranthos**	**2.34**	**187**	*e*Pn	Pn	14 43 31.4	0.0
AYDN	**Tasoluk**	**2.35**	**137**	*e*P	Pn	14 43 31.5	0.0
AYDN	**Tasoluk**	**2.35**	**137**	*e*P	Pn	14 43 31.5	+0.1
NVR	**Nevrokopi**	**2.48**	**322**	*e*PN	Pn	14 43 33.4	+0.1
NVR	**Nevrokopi**	**2.48**	**322**	*e*Pn	Pn	14 43 33.4	+0.1

JMA 02 14:44:15.3, 37°.26N×136°.69E, h8km±1km, M3.5, 1C-2D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JJH	**Hakui**	**0.34**	**168**	⇑P	Pg	14 44 22.3	+0.3
JJH				S	Sg	14 44 27.4	+0.9
JSZ	**Suzu**	**0.57**	**70**	⇓P	Pg	14 44 26.1	-0.2
JSZ				S	Sg	14 44 34.0	+0.3
JHG	**Hegura jima**	**0.61**	**17**	P	Pg	14 44 27.2	0.0
JTT	**Ttatey**	**0.83**	**142**	⇓P	Pg	14 44 31.1	-0.2
JTT				S	Sg	14 44 42.8	+0.7
MAT	**Matsushiro**	**1.41**	**120**	P	Pn	14 44 40.0	-1.3
MAT				S	Sb	14 45 00.2	+0.2

IDC 02 14:54:57.4±7.0, 7°.26N×102°.54W, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.8/19, mbtmp3.6/5, Error ellipse: s-maj=195.1km s-min=101.6km az=105.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**21.98**	**357**	P	P	14 59 53.1	0.0
	0.3nm,0.7s,baz=165,slow=10,SNR=3.4						
NVAR	**Mina Array Bea**	**34.14**	**338**	P	P	15 01 44.2	-0.1
	0.3nm,0.7s,baz=150,slow=9.3,SNR=2.3						
PDAR	**Pinedale Array**	**35.90**	**351**	P	P	15 01 60.0	+0.7
	1.2nm,0.9s,baz=145,slow=6.4,SNR=6.1						
INK	**Inuvik**	**64.35**	**348**	P	P	15 05 34.8	+0.1
	1.4nm,0.7s,baz=129,slow=3.6,SNR=5.0						
ILAR	**Eielson Array**	**65.32**	**341**	P	P	15 05 41.0	0.0
	1.3nm,0.7s,baz=149,slow=4.2,SNR=14						

*IDC **02** 14:58:34.2±1.7, 51°.67N×174°.25W, h0km, mb3.4/6, mb1 3.8/9, mb1mx3.6/29, mbtmp3.6/9, ML2.6/1, Error ellipse: s-maj=52.8km s-min=16.4km az=175.0*
*ISCJB **02** 14:58:35.8±0.9, 51°.29N±0°.08×174°.19W±0°.09, h33km, mb3.4/7, Error ellipse: s-maj=12.1km s-min=8.2km az=3.3*
*NEIC **02** 14:58:35.9±7.0, 51°.40N×174°.31W, h18km±42km, mb4.1/1, Error ellipse: s-maj=36.1km s-min=10.4km az=170.0*
ISC 02 14:58:37.7±0.9, 51°.36N±0°.09×174°.28W±0°.09, h35km, n21, σ1℗09/23, mb3.4/7, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.84**	**4**	P	Pn	14 58 52.5	-0.5
ATKA				S	Sn	14 59 05.2	+1.0
ADK	**Adak**	**1.59**	**290**	P	Pn	14 59 02.9	-0.4
ADK				S	Sn	14 59 23.4	+0.9
FX1	**Attu Island--F**	**7.88**	**286**	Pn	Pn	15 00 27.6	-1.9
	0.3nm,0.3s,baz=130,slow=16,SNR=2.1						
FX1	**Attu Island--F**	**7.88**	**286**	Pn	Pn	15 00 27.6	-1.9
KDAK	**Kodiak Island**	**14.09**	**54**	Pn	Pn	15 01 54.2	-0.3
	0.2nm,0.3s,baz=281,slow=17,SNR=1.9						
KDAK	**Kodiak Island**	**14.09**	**54**	Pn	Pn	15 01 54.2	-0.3
ILAR	**Eielson Array**	**19.54**	**36**	P	Pn	15 03 01.4	-1.8
	0.7nm,0.3s,baz=237,slow=9.1,SNR=49						
ILAR	**Eielson Array**	**19.54**	**36**	P	Pn	15 03 01.4	-1.8
EGAK	**Eagle**	**21.74**	**39**	*e*P	P	15 03 25.2	-0.4
	7.8nm,0.9s,mb4.1						
INK	**Inuvik**	**25.87**	**34**	P	P	15 04 05.3	-0.3
	1.0nm,0.9s,mb3.4,baz=239,slow=6.8,SNR=2.8						
INK	**Inuvik**	**25.87**	**34**	*e*P	P	15 04 05.7	+0.1
NVAR	**Mina Array Bea**	**40.73**	**86**	P	P	15 06 15.4	+0.6
	0.1nm,0.3s,mb3.0,baz=319,slow=11,SNR=2.6						
NVAR	**Mina Array Bea**	**40.73**	**86**	P	P	15 06 15.4	+0.6
PDAR	**Pinedale Array**	**43.60**	**75**	P	P	15 06 39.8	+1.7
	0.2nm,0.6s,mb3.1,baz=305,slow=3.2,SNR=2.9						
PDAR	**Pinedale Array**	**43.60**	**75**	P	P	15 06 39.8	+1.7
SONM	**Songino Array**	**49.16**	**299**	P	P	15 07 22.6	+0.9
	0.4nm,0.6s,mb3.6,baz=42,slow=8.7,SNR=3.8						
SONM	**Songino Array**	**49.16**	**299**	P

HOWZ	Holdsworth Sta	12.16	208	SN		Sn	15 06 03.0	-0.3	
OGWZ	Otaki Gorge	12.23	209	ePN		Pn	15 03 47.5	-2.5	
TCW	Tory Channel	12.94	211	SN		Sn	15 06 20.2	-2.3	
TUWZ	Tuamarina	13.27	211	ePN		Pn	15 04 00.2	-4.0	
MSVF	Nonsavu	13.34	339	eP		Pn	15 03 59.1	-6.2	
	225nm,1.5s								
MSVF	Nonsavu	13.34	339	eP		Pn	15 03 59.1	-6.2	
MSVF				pmax	pmax				
	comp=Z,225nm,1.5s								
NNZ	Nelson	13.36	213	ePN		Pn	15 04 03.0	-2.5	
QRZ	Quartz Range	13.48	216	ePN		Pn	15 04 09.7	+2.6	
THZ	Tophouse	14.00	213	PN		Pn	15 04 11.6	-2.7	
THZ				SN		Sn	15 06 45.6	-2.8	
KHZ	Kahutara	14.24	210	eP		Pn	15 04 13.7	-3.8	
	comp=Z,118nm,0.8s								
KHZ	Kahutara	14.24	210	ePN		Pn	15 04 15.5	-2.0	
KHZ				SN		Sn	15 06 52.7	-1.5	
LTZ	Lake Taylor	15.10	212	ePN		Pn	15 04 28.0	-1.0	
MQZ	McQueen's Vall	15.67	209	SN		Sn	15 07 22.0	-6.9	
RPZ	Rata Peaks	16.38	212	Pn		Pn	15 04 46.2	+0.6	
	comp=Z,3.6nm,0.3s,baz=34,slow=7.3,SNR=13								
RPZ				Sn		Sn	15 07 40.5	-5.6	
	comp=Z,1.0nm,0.3s,baz=336,slow=17,SNR=4.2								
RPZ	Rata Peaks	16.38	212	eP		Pn	15 04 44.9	-0.7	
	comp=Z,52nm,0.7s								
RPZ	Rata Peaks	16.38	212	ePN		Pn	15 04 44.4	-1.2	
FOZ	Fox Glacier	16.92	215	ePN		Pn	15 04 52.1	-0.2	
DZM	Mont Dzumac	16.97	295	eP		Pn	15 04 57.0	+3.9	
	comp=Z,521nm,1.5s								
DZM				eLR		LR	15 08 36.6		
	comp=Z,30µm,26.3s								
DZM	Mont Dzumac	16.97	295	eP		Pn	15 04 57.5	+4.4	
AFI	Afiamalu	17.05	18	Pn		Pn	15 04 44.1	-10	
	comp=Z,2.9nm,0.3s,baz=160,slow=12,SNR=6.2								
AFI				Sn		Sn	15 07 33.2	-30	
	comp=Z,1.8nm,0.3s,baz=221,slow=20,SNR=5.0								
AFI	Afiamalu	17.05	18	Pn		Pn	15 04 44.1	-10	
AFI				Sn		Sn	15 07 33.2	-30	
AFI	Afiamalu	17.05	18	P		Pn	15 04 44.1	-10	
NOUC	Port Laguerre	17.06	295	eP		Pn	15 04 58.0	+3.7	
ODZ	Otahua Downs	17.60	210	eP		Pn	15 05 04.2	+3.3	
	comp=Z,375nm,0.8s								
ODZ	Otahua Downs	17.60	210	ePN		Pn	15 05 00.1	-0.8	
ODZ				SN		Sn	15 08 10.3	-5.4	
JCZ	Jackson Bay	17.75	216	ePN		Pn	15 05 03.3	+0.6	
RAR	Rarotonga	17.97	64	P		Pn	15 04 57.5	-8.1	
	comp=Z,2.2nm,0.3s,baz=155,slow=18,SNR=5.2								
RAR				S		S	15 07 52.6	-38	
	comp=Z,1.7nm,0.3s,baz=63,slow=17,SNR=2.7								
RAR				LR		LR	15 10 37.9		
	comp=Z,23µm,19.4s,baz=219,slow=33								
RAR	Rarotonga	17.97	64	P		Pn	15 04 57.5	-8.1	
RAR				S		S	15 07 52.6	-38	
RAR				LR		LR	15 10 37.9		
RAR	Rarotonga	17.97	64	P		Pn	15 04 57.5	-8.1	
FUNA	Funafuti	21.99	350	PFAKE			15 06 00.0	+10	
FUNA				LR		LR			
	comp=Z,15µm,21.0s,MS5.4								
TBI	Tubuai	25.51	81	eLQ			15 11 07.6		
	comp=Z,9µm,27.5s								
TBI				eLR		LR	15 12 26.1		
	comp=Z,14µm,21.0s,baz=252								
ARMA	Armidale	27.01	262	eP		P	15 06 42.5	+5.3	
ARMA	Armidale	27.01	262	eP		P	15 06 42.5	+5.3	
	comp=Z,23nm,0.9s,mb4.7								
PPT	Papeete	28.03	69	eLQ			15 12 16.8		
	comp=Z,11µm,23.8s								
PPT				eLR		LR	15 13 31.3		
	comp=Z,10µm,21.0s,baz=237								
PPT	Papeete	28.03	69	LR		LR	15 15 28.2		
	comp=Z,10µm,18.9s,MS5.4,baz=251,slow=32								
EIDS	Eidsvold	28.59	272	eP		P	15 06 53.7	+2.3	
	comp=Z,36nm,1.2s,mb5.0								
CAN	Canberra	28.90	251	P		P	15 06 58.0	+3.9	
	comp=Z,66nm,1.4s,mb5.2								
CAN				LR		LR			
	comp=Z,8µm,19.0s,MS5.3								
CAN	Canberra	28.90	251	P		P	15 06 58.0	+3.9	
CAN				pmax	pmax				
	comp=Z,66nm,1.4s,mb5.2								
CAN				MLR		MLR			
	comp=Z,8µm,19.0s,MS5.3								
HNR	Honiara	29.92	309	P		P	15 07 02.7	-0.5	
	comp=Z,22nm,0.4s,mb5.2,baz=120,slow=8.1,SNR=4.0								
HNR	Honiara	29.92	309	eP		P	15 07 04.0	+0.8	
	comp=Z,46nm,0.9s,mb5.2								
HNR	Honiara	29.92	309	eP		P	15 07 04.0	+0.8	
HNR				pmax	pmax				
	comp=Z,47nm,0.9s,mb5.2								
TOO	Toolangi	31.77	247	eP		P	15 07 23.7	+4.3	
CMSA	Cobar Meteorol	31.92	258	eP		P	15 07 24.8	+4.1	
CTA	Charters Tower	34.63	278	eP		P	15 07 46.7	+2.2	
	comp=Z,16nm,0.6s,mb5.1								
CTAO	Charters Tower	34.63	278	eP		P	15 07 45.6	+1.0	
	comp=Z,48nm,1.0s,mb5.4								
CTAO				LR		LR			
	comp=Z,16µm,19.0s,MS5.8								
CTAO	Charters Tower	34.63	278	eP		P	15 07 45.6	+1.1	
CTAO				pmax	pmax				
	comp=Z,48nm,1.0s,mb5.4								
CTAO				MLR		MLR			
	comp=Z,16µm,19.0s,MS5.8								
CTAO	Charters Tower	34.63	278	P		P	15 07 47.1	+2.6	
	comp=Z,2µmcomp=Z,57nm,1.2s,mb5.4								
STKA	Stephens Creek	35.33	257	P		P	15 07 53.3	+2.9	
	comp=Z,10nm,0.7s,mb4.9,baz=96,slow=11,SNR=18								
STKA				LR		LR	15 21 09.9		
	comp=Z,7µm,19.2s,MS5.5,baz=93,slow=34								
STKA	Stephens Creek	35.33	257	eP		P	15 07 53.3	+2.9	
	comp=Z,24nm,1.2s,mb5.0								
STKA				eS		S	15 13 30.0	+7.7	
STKA	Stephens Creek	35.33	257	eP		P	15 07 52.3	+1.9	
	comp=Z,13nm,1.3s,mb4.7								
STKA	Stephens Creek	35.33	257	eP		P	15 07 52.3	+1.9	
STKA				pmax	pmax				
	comp=Z,13nm,1.3s								
RKT	Rikitea	38.06	89	eS		S	15 13 57.7	-6.5	
	comp=Z,1µm,28.0s								
RKT				eLQ			15 16 56.6		
	comp=Z,2µm,27.8s								
RKT				eLR		LR	15 18 18.7		
	comp=Z,7µm,21.5s,baz=254								
BBOO	Buckleboo	39.81	254	eP		P	15 08 29.1	+0.8	
	comp=Z,214nm,1.4s,mb5.7								
TAOE	Nuku Hiva Isla	40.50	66	eS		S	15 14 31.9	-9.1	
	comp=Z,1µm,24.7s								
TAOE				eLR		LR	15 19 27.9		
	comp=Z,9µm,21.1s								
ASAR	Alice Springs	43.97	266	P		P	15 09 02.3	-0.1	
	comp=Z,6.4nm,0.6s,mb4.5,baz=105,slow=6.8,SNR=57								
ASAR				PcP		PcP	15 10 48.9	+1.0	
	comp=Z,4.3nm,0.8s,baz=112,slow=5.2,SNR=5.3								
ASAR				ScP		ScP	15 14 43.3	+6.3	
	comp=Z,1.7nm,1.0s,baz=140,slow=2.6,SNR=4.0								
ASAR				S		S	15 15 31.5	-0.5	
	comp=Z,0.6nm,1.0s,baz=115,slow=15,SNR=3.0								
ASAR	Alice Springs	43.97	266	P		P	15 09 02.3	-0.1	
ASAR				PcP		PcP	15 10 48.9	+1.0	
ASAR				ScP		ScP	15 14 43.3	+6.3	
ASAR				S		S	15 15 31.4	-0.5	
ASAR	Alice Springs	43.97	266	P		P	15 09 02.3	-0.1	
ASAR							15 10 48.9		
ASAR				S		S	15 15 31.5	-0.5	
WRAB	Tennant Creek	44.95	272	eP		P	15 09 10.0	-0.2	
	comp=Z,24nm,0.8s,mb5.1								
WRAB				LR		LR			
	comp=Z,9µm,19.0s,MS5.7								
WRAB	Tennant Creek	44.95	272	eP		P	15 09 10.0	-0.2	
WRAB				pmax	pmax				
	comp=Z,24nm,0.8s,mb5.1								
WRAB				MLR		MLR			
	comp=Z,9µm,19.0s,MS5.7								
WRAB	Tennant Creek	44.95	272	P		P	15 09 10.2	0.0	
	comp=Z,171nm,0.7s,mb6.0,SNR=23								
WRAB	Tennant Creek	44.95	272	P		P	15 09 10.3	+0.1	
	comp=Z,3µmcomp=Z,57nm,1.0s,mb5.4								
WRA	Warramunga Arr	44.95	272	P		P	15 09 10.2	-0.1	
	comp=Z,17nm,0.8s,mb5.0,baz=110,slow=7.8,SNR=56								
WRA				S		S	15 15 46.4	0.0	
	comp=Z,1.1nm,0.8s,baz=108,slow=14,SNR=2.8								
WRA				LR		LR	15 28 06.3		
	comp=Z,9µm,18.5s,MS5.8,baz=105,slow=36								
WRA	Warramunga Arr	44.95	272	P		P	15 09 10.2	-0.1	
WRA				S		S	15 15 46.4	0.0	
WRA				LR		LR	15 28 06.3		
WRA	Warramunga Arr	44.95	272	P		P	15 09 10.2	-0.1	
WRA				S		S	15 15 46.4	0.0	
FORT	Forrest	46.89	255	eP		P	15 09 26.6	+1.1	
	comp=Z,33nm,0.6s,mb5.4								
FORT	Forrest	46.89	255	eP		P	15 09 25.9	+0.4	
	comp=Z,34nm,0.7s,mb5.4								
SBA	Scott Base	48.16	185	eP		P	15 09 40.5	+5.8	
	comp=Z,63nm,1.5s,mb5.4								
SBA	Scott Base	48.16	185	eP		P	15 09 40.5	+5.8	
SBA				pmax	pmax				
	comp=Z,63nm,1.5s,mb5.4								
VNDA	Vanda	48.24	186	P		P	15 09 41.0	+5.7	
	comp=Z,4.0nm,0.9s,mb4.5,baz=30,slow=4.4,SNR=13								
VNDA				LR		LR	15 26 15.9		
	comp=Z,4µm,19.2s,MS5.4,baz=18,slow=31								
VNDA	Vanda	48.24	186	P		P	15 09 41.0	+5.7	
VNDA				LR		LR	15 26 15.9		
VNDA	Vanda	48.24	186	P		P	15 09 41.1	+5.8	
JAY	Jayapura	48.63	296	P		P	15 09 37.4	-1.8	
	comp=Z,2µmcomp=Z,16nm,1.1s,mb5.0								
KAKA	Kakadu	49.77	279	eP		P	15 09 47.5	-0.3	
	comp=Z,14nm,0.7s,mb5.1								
KAKA	Kakadu	49.77	279	eP		P	15 09 47.2	-0.6	
	comp=Z,99nm,1.1s,mb5.8								
KAKA	Kakadu	49.77	279	P		P	15 09 47.8	0.0	
	comp=Z,406nmcomp=Z,55nm,1.1s,mb5.5								
SMPI	Sarmi	50.51	295	P		P	15 09 49.7	-3.8	
	comp=Z,2µmcomp=Z,20nm,1.5s,mb4.8								
KMBL	Kambalda	51.86	252	eP		P	15 10 04.2	+0.8	
	comp=Z,100nm,1.6s,mb5.5								
FITZ	Fitzroy Crossi	53.22	269	eP		P	15 10 14.3	+0.7	
	comp=Z,13nm,0.8s,mb4.9								
FITZ				eS		S	15 17 49.4	+6.9	
FITZ	Fitzroy Crossi	53.22	269	eP		P	15 10 14.3	+0.7	
	comp=Z,14nm,1.0s,mb4.8								
FITZ	Fitzroy Crossi	53.22	269	P		P	15 10 14.6	+1.0	
	comp=Z,900nmcomp=Z,17nm,1.8s,mb4.7								
CASY	Casey	55.59	208	eP		P	15 10 33.6	+3.4	
CASY				eS		S	15 18 15.2	+2.0	
CASY	Casey	55.59	208	eP		P	15 10 33.6	+3.5	
	comp=Z,26nm,0.7s,mb5.4								
CASY				LR		LR			
	comp=Z,3µm,19.0s,MS5.4								
BNDI	Bandanaira	56.15	286	P		P	15 10 34.7	-0.2	
	comp=Z,2µmcomp=Z,85nm,1.2s,mb5.6								
AAI	Ambon	58.03	286	P		P	15 10 48.0	-0.2	
	comp=Z,2µmcomp=Z,27nm,1.4s,mb5.1								
QSPA	South Pole Qui	59.77	180	P		P	15 11 04.3	+5.0	
	comp=Z,22nm,1.0s,mb5.1,baz=42,slow=3.3,SNR=23								
QSPA	South Pole Qui	59.77	180	P		P	15 11 04.3	+5.0	
LBMI	Labuha	60.31	288	P		P	15 11 03.9	-0.1	
	comp=Z,970nmcomp=Z,29nm,1.5s,mb5.1								
TNTI	Ternate	61.23	290	P		P	15 11 05.5	-4.8	
	comp=Z,1µmcomp=Z,38nm,2.1s,mb5.2								
KMSI	Cibinong	63.89	287	P		P	15 11 28.2	+0.2	
	comp=Z,1µmcomp=Z,83nm,1.2s,mb5.6								
KAPI	Kappang	64.44	280	eP		P	15 11 31.1	-0.6	
	comp=Z,20nm,1.3s,mb5.0								
KAPI	Kappang	64.44	280	P		P	15 11 31.2	-0.5	
	comp=Z,882nmcomp=Z,17nm,1.8s,mb4.8								
SPSI	Sidrap Palu	64.97	281	P		P	15 11 35.0	-0.1	
	comp=Z,558nmcomp=Z,12nm,1.3s,mb4.8								
DAV	Davao City (W)	66.38	294	PFAKE			15 12 00.0	+16	
DAV				LR		LR			
	comp=Z,1µm,19.0s,MS5.1								
MYLDM	Lahad Datu	70.99	288	P		P	15 12 15.5	+2.6	
	comp=Z,21nm,1.9s,mb4.8								
PMSA	Palmer Station	71.97	155	eP		P	15 12 12.0	-6.0	
	comp=Z,113nm,0.8s,mb5.8								
MAW	Mawson	72.66	200	P		P	15 12 25.7	+3.6	
	comp=Z,9.6nm,0.8s,mb4.8,baz=133,slow=8.8,SNR=9.2								
MAW	Mawson	72.66	200	eP		P	15 12 25.5	+3.4	
	comp=Z,7.8nm,0.8s,mb4.7								
MAW				eS		S	15 21 51.0	+6.6	
MAW	Mawson	72.66	200	P		P	15 12 25.7	+3.6	
MAW	Mawson	72.66	200	P		P	15 12 25.7	+3.6	
KKM	Kota Kinabalu	73.35	287	eP		P	15 12 27.2	+0.1	
	comp=Z,23nm,1.4s,mb4.9								
KKM	Kota Kinabalu	73.35	287	P		P	15 12 27.1	0.0	
	comp=Z,896nmcomp=Z,20nm,1.6s,mb4.8								
STKI	Sintang	74.12	280	P		P	15 12 32.4	+0.8	
	comp=Z,7µmcomp=Z,25nm,1.0s,mb5.1								
SBUM	Sibu	74.74	282	P		P	15 12 35.6	+0.4	
	comp=Z,776nmcomp=Z,16nm,1.5s,mb4.7								
KSM	Kuching	75.85	280	eP		P	15 12 41.6	0.0	
	comp=Z,36nm,1.4s,mb5.1								
KSM	Kuching	75.85	280	P		P	15 12 41.6	0.0	
	comp=Z,833nmcomp=Z,19nm,1.6s,mb4.8								
JOW	Kunigami	77.26	312	LR		LR	15 42 01.8		
	comp=Z,2µm,22.0s,MS5.4,baz=276,slow=32								
SYO	Syowa Base	77.36	193	eP		P	15 12 50.7	+1.5	
SYO	Syowa Base	77.36	193	eP	cP	PcP	15 13 00.0	+0.4	
PPBI	Pangkal Pinang	77.57	275	P		P	15 12 51.8	+0.5	
	comp=Z,700nmcomp=Z,13nm,1.6s,mb4.6								
MDSI	Maura Dua	78.09	272	P		P	15 12 53.7	-0.6	
	comp=Z,22nm,1.2s,mb5.0								
VNA3	Neumayer Olymp	78.31	176	eP		P	15 12 55.2	+0.8	
MJAR	Matsushiro Arr	78.68	325	P		P	15 12 55.4	-1.5	
	comp=Z,13nm,0.8s,mb4.9,baz=162,slow=5.6,SNR=23								
MJAR	Matsushiro Arr	78.68	325	P		P	15 12 55.4	-1.5	
MJAR	Matsushiro Arr	78.68	325	P		P	15 12 55.4	-1.5	
MAJO	Matsushiro	78.69	325	eP		P	15 12 55.7	-1.2	
	comp=Z,90nm,1.4s,mb5.5								
MAJO	Matsushiro	78.69	325	eP		P	15 12 55.7	-1.2	
MAJO				pmax	pmax				
	comp=Z,90nm,1.4s,mb5.5								
MAT	Matsushiro	78.69	325	P		P	15 12 55.5	-1.4	
MAT				S		S	15 22 49.0	-2.6	
VNA2	Neumayer--Watz	78.75	177	eP		P	15 12 57.1	+0.2	
	baz=165,slow=3.6								
VNA1	Neumayer--Stat	78.97	176	eP		P	15 12 59.4	+1.3	
MAIT	Maitri	78.98	183	eP		P	15 13 02.0	+3.9	
JNU	Nakatsue	80.08	318	eP		P	15 13 03.5	-1.1	
	comp=Z,27nm,1.2s,mb5.0								
COCO	West Island	80.67	261	PFAKE			15 13 20.0	+12	
COCO				LR		LR			
	comp=Z,3µm,21.0s,MS5.6								
ERM	Erimo	80.82	331	PFAKE			15 13 20.0	+12	
ERM				LR		LR			
	comp=Z,4µm,20.0s,MS5.8								
ADK	Adak	81.87	0	PFAKE			15 13 20.0	+6.4	
ADK				LR		LR			
	comp=Z,3µm,20.0s,MS5.7								
PLCA	Paso Flores	81.92	133	P		P	15 13 16.3	+1.8	
	comp=Z,6.4nm,0.9s,mb4.5,baz=222,slow=6.7,SNR=12								
PLCA				LR		LR	15 42 16.4		
	comp=Z,3µm,18.7s,MS5.7,baz=185,slow=30								
PLCA	Paso Flores	81.92	133	P		P	15 13 16.3	+1.8	
PLCA				LR		LR	15 42 16.4		
PLCA	Paso Flores	81.92	133	P		P	15 13 16.3	+1.8	
EFI	East Falkland	82.37	147	PFAKE			15 13 30.0	+13	
EFI				LR		LR			
	comp=Z,5µm,21.0s,MS5.8								
QZH	Quanzhou	82.63	304	P		P	15 13 18.0	-0.3	
QZH				S		S	15 23 34.0	+0.7	
QZH				pmax	pmax				
	comp=Z,1µm,9.0s								
QZH				LR		LR			
	comp=N,2µm,19.0s,MS5.6								
QZH				LR		LR			
	comp=E,2µm,16.7s,MS5.6								
QZH				LR		LR			
	comp=Z,3µm,23.2s								
ASAJ	Asahikawa	82.79	332	P		P	15 13 17.6	-1.0	
	comp=Z,16nm,1.0s,mb5.0,baz=72,slow=3.2,SNR=3.0								
KSRS	Korea Array	84.86	319	P		P	15 13 29.5	+0.1	
	comp=Z,9.3nm,0.9s,mb4.9,baz=140,slow=6.0,SNR=18								
KSRS				LR		LR	15 46 25.8		
	comp=Z,938nm,21.9s,MS5.1,baz=135,slow=32								
YSS	Yuzh-Sakhalins	85.07	334	eP		P	15 13 30.5	+0.3	
	comp=Z,35nm,0.9s,mb5.5								
YSS	Yuzh-Sakhalins	85.07	334	eP		P	15 13 31.8	+1.6	
YSS				eSP		sP	15 13 47.2	+1.9	
YSS				ePS			15 24 48.0		
YSS				pmax	pmax				
	comp=Z,30nm,1.0s,mb5.4								
YSS				MLR		MLR			
	comp=Z,2µm,17.0s,MS5.5								
YSS				MLR		MLR			
	comp=N,1µm,18.0s,MS5.4								
YSS				MLR		MLR			
	comp=E,1µm,18.0s,MS5.4								
HOPS	Hopland	85.32	39	PFAKE			15 13 40.0	+8.3	
HOPS				LR		LR			
	comp=Z,8µm,19.0s,MS6.1								
IPM	Ipoh	85.33	278	eP		P	15 13 32.4	+0.1	
	comp=Z,24nm,1.0s,mb5.3								
WRA				S		S	15 15 46.4	0.0	
FORT	Forrest	46.89	255	eP		P	15 09 26.6	+1.1	
	comp=Z,33nm,0.6s,mb5.4								
FORT	Forrest	46.89	255	eP		P	15 09 25.9	+0.4	
	comp=Z,34nm,0.7s,mb5.4								
SBA	Scott Base	48.16	185	eP		P	15 09 40.5	+5.8	
	comp=Z,63nm,1.5s,mb5.4								
SBA	Scott Base	48.16	185	eP		P	15 09 40.5	+5.8	
SBA				pmax	pmax				
	comp=Z,63nm,1.5s,mb5.4								
VNDA	Vanda	48.24	186	P		P	15 09 41.0	+5.7	
	comp=Z,4.0nm,0.9s,mb4.5,baz=30,slow=4.4,SNR=13								
VNDA				LR		LR	15 26 15.9		
	comp=Z,4µm,19.2s,MS5.4,baz=18,slow=31								
VNDA	Vanda	48.24	186	P		P	15 09 41.0	+5.7	
VNDA				LR		LR	15 26 15.9		
VNDA	Vanda	48.24	186	P		P	15 09 41.1	+5.8	
JAY	Jayapura	48.63	296	P		P	15 09 37.4	-1.8	
	comp=Z,2µmcomp=Z,16nm,1.1s,mb5.0								
KAKA	Kakadu	49.77	279	eP		P	15 09 47.5	-0.3	
	comp=Z,14nm,0.7s,mb5.1								
KAKA	Kakadu	49.77	279	eP		P	15 09 47.2	-0.6	
	comp=Z,99nm,1.1s,mb5.8								
KAKA	Kakadu	49.77	279	P		P	15 09 47.8	0.0	
	comp=Z,406nmcomp=Z,55nm,1.1s,mb5.5								
SMPI	Sarmi	50.51	295	P		P	15 09 49.7	-3.8	
	comp=Z,2µmcomp=Z,20nm,1.5s,mb4.8								
KMBL	Kambalda	51.86	252	eP		P	15 10 04.2	+0.8	
	comp=Z,100nm,1.6s,mb5.5								
FITZ	Fitzroy Crossi	53.22	269	eP		P	15 10 14.3	+0.7	
	comp=Z,13nm,0.8s,mb4.9								
FITZ				eS		S	15 17 49.4	+6.9	
FITZ	Fitzroy Crossi	53.22	269	eP		P	15 10 14.3	+0.7	
	comp=Z,14nm,1.0s,mb4.8								
FITZ	Fitzroy Crossi	53.22	269	P		P	15 10 14.6	+1.0	
	comp=Z,900nmcomp=Z,17nm,1.8s,mb4.7								
CASY	Casey	55.59	208	eP		P	15 10 33.6	+3.4	
CASY				eS		S	15 18 15.2	+2.0	
CASY	Casey	55.59	208	eP		P	15 10 33.6	+3.5	
	comp=Z,26nm,0.7s,mb5.4								
CASY				LR		LR			
	comp=Z,3µm,19.0s,MS5.4								
BNDI	Bandanaira	56.15	286	P		P	15 10 34.7	-0.2	
	comp=Z,2µmcomp=Z,85nm,1.2s,mb5.6								
AAI	Ambon	58.03	286	P		P	15 10 48.0	-0.2	
	comp=Z,2µmcomp=Z,27nm,1.4s,mb5.1								
QSPA	South Pole Qui	59.77	180	P		P	15 11 04.3	+5.0	
	comp=Z,22nm,1.0s,mb5.1,baz=42,slow=3.3,SNR=23								
QSPA	South Pole Qui	59.77	180	P		P	15 11 04.3	+5.0	
LBMI	Labuha	60.31	288	P		P	15 11 03.9	-0.1	
	comp=Z,970nmcomp=Z,29nm,1.5s,mb5.1								
TNTI	Ternate	61.23	290	P		P	15 11 05.5	-4.8	
	comp=Z,1µmcomp=Z,38nm,2.1s,mb5.2								
KMSI	Cibinong	63.89	287	P		P	15 11 28.2	+0.2	
	comp=Z,1µmcomp=Z,83nm,1.2s,mb5.6								
KAPI	Kappang	64.44	280	eP		P	15 11 31.1	-0.6	
	comp=Z,20nm,1.3s,mb5.0								
KAPI	Kappang	64.44	280	P		P	15 11 31.2	-0.5	
	comp=Z,882nmcomp=Z,17nm,1.8s,mb4.8								
SPSI	Sidrap Palu	64.97	281	P		P	15 11 35.0	-0.1	
	comp=Z,558nmcomp=Z,12nm,1.3s,mb4.8								
DAV	Davao City (W)	66.38	294	PFAKE			15 12 00.0	+16	
DAV				LR		LR			
	comp=Z,1µm,19.0s,MS5.1								
MYLDM	Lahad Datu	70.99	288	P		P	15 12 15.5	+2.6	
	comp=Z,21nm,1.9s,mb4.8								
PMSA	Palmer Station	71.97	155	eP		P	15 12 12.0	-6.0	
	comp=Z,113nm,0.8s,mb5.8								
MAW	Mawson	72.66	200	P		P	15 12 25.7	+3.6	
	comp=Z,9.6nm,0.8s,mb4.8,baz=133,slow=8.8,SNR=9.2								
MAW	Mawson	72.66	200	eP		P	15 12 25.5	+3.4	
	comp=Z,7.8nm,0.8s,mb4.7								
MAW				eS		S	15 21 51.0	+6.6	
MAW	Mawson	72.66	200	P		P	15 12 25.7	+3.6	
MAW	Mawson	72.66	200	P		P	15 12 25.7	+3.6	
KKM	Kota Kinabalu	73.35	287	eP		P	15 12 27.2	+0.1	
	comp

BJI LR LR
comp=Z,780nm,21.6s,MS5.1
HWUT Hardware Ranch 93.61 43 PFAKE 15 14 20.0 +9.1
HWUT LR LR
comp=Z,6μm,19.0s,MS6.1
CM31 Chiang Mai Arr 94.19 289 PFAKE 15 14 30.0 +16
CM31 LR LR
comp=Z,954nm,21.0s,MS5.2
CMAR Chiang Mai Arr 94.19 289 P **P** **15 14 15.4 +1.3**
comp=Z,1.7nm,0.8s,mb4.5,baz=133,slow=3.0,SNR=16
CMAR PP PP 15 17 59.2 -2.1
comp=Z,0.4nm,0.6s,baz=128,slow=4.7,SNR=4.4
CMAR Chiang Mai Arr 94.19 289 P **P** **15 14 15.4 +1.3**
CMAR PP PP 15 17 59.2 -2.1
CMAR Chiang Mai Arr 94.19 289 P **P** **15 14 15.4 +1.3**
CMAR 15 17 59.2
CHTO Chiang Mai 94.37 289 PFAKE 15 14 30.0 +15
CHTO LR LR
comp=Z,1μm,20.0s,MS5.3
KMI Kunming 94.56 296 P **P** **15 14 15.0 -0.6**
KMI SKS 15 24 49.5
KMI S S 15 25 23.7 -2.3
KMI pmax pmax
comp=Z,4.0nm,1.1s,mb4.8
KMI LR LR
comp=N,710nm,17.3s,MS5.3
KMI LR LR
comp=E,700nm,17.9s,MS5.3
KMI LR LR
comp=Z,1μm,18.6s,MS5.3
AHID Auburn Hatcher 94.60 42 PFAKE 15 14 30.0 +15
AHID LR LR
comp=Z,5μm,20.0s,MS5.9
XAN Xi'an 94.76 307 P **P** **15 14 17.0 +0.7**
XAN pP pP 15 14 29.8 +2.3
XAN pmax pmax
comp=Z,2.0nm,1.6s,mb4.3
XAN pmax pmax
comp=Z,140nm,11.0s
XAN LR LR
comp=N,520nm,24.5s
MCMT McKenzie Canyo 94.88 40 *e*P **P** **15 14 15.9 -0.7**
comp=N,2.6nm,1.0s,mb4.6
BW06 Boulder Array 95.50 43 PFAKE 15 14 30.0 +10
BW06 LR LR
comp=Z,6μm,19.0s,MS6.1
PDAR Pinedale Array 95.50 43 P **P** **15 14 19.4 -0.1**
comp=Z,1.5nm,1.0s,mb4.4,baz=261,slow=4.5,SNR=7.3
PDAR PKKP PKKPbc 15 31 12.8 +0.8
comp=Z,0.8nm,0.7s,baz=77,slow=4.0,SNR=5.5
PDAR LR LR 15 53 15.8
comp=Z,5μm,18.6s,MS6.0,baz=288,slow=33
PDAR Pinedale Array 95.50 43 P **P** **15 14 19.4 -0.1**
PDAR PKKP PKKPbc 15 31 12.8 +0.8
PDAR LR LR 15 53 15.8
PD02 Pinedale Array 95.51 43 P **P** **15 14 17.9 -1.7**
FLWY Flagg Ranch 95.63 42 *e*P **P** **15 14 21.0 +1.0**
comp=Z,15nm,1.4s,mb5.2
QLMT Earthquake Lak 95.67 41 P **P** **15 14 21.1 +0.9**
comp=Z,1.1nm,1.1s,mb4.2
TRF Thorofare Moun 95.86 12 *e*P **P** **15 14 19.8 -0.8**
comp=Z,6.4nm,0.8s,mb5.1
BOZ Bozeman (W) 96.06 40 PFAKE 15 14 30.0 +8.0
BOZ LR LR
comp=Z,3μm,20.0s,MS5.8
AMTX Amarillo 96.09 53 PFAKE 15 14 30.0 +7.6
AMTX LR LR
comp=Z,3μm,20.0s,MS5.8
SEY Seymchan 96.12 346 ⇓ *i*P **P** **15 14 20.1 -1.7**
MCK McKinley 96.36 12 P **P** **15 14 22.7 -0.2**
comp=Z,7.4nm,0.9s,mb5.1
MCK McKinley 96.36 12 P **P** **15 14 22.7 -0.1**
MCK pmax pmax
comp=Z,7.0nm,0.9s,mb5.1
CD2 Chengdu 96.78 302 P **P** **15 14 27.2 +1.6**
CD2 pP pP 15 14 40.7 +3.9
CD2 sP sP 15 14 45.9 +5.1
CD2 PP PP 15 18 25.2 +3.9
CD2 SKS 15 24 59.0
CD2 S S 15 25 42.1 -2.9
CD2 sS sS 15 26 05.1 +1.5
CD2 SS SS 15 32 22.0 +0.6
CD2 pmax pmax
comp=Z,10.0nm,0.5s,mb5.5
CD2 pmax pmax
comp=Z,560nm,11.7s
CD2 LR LR
comp=N,920nm,19.6s
CD2 LR LR
comp=Z,1μm,20.2s,MS5.3
HHC Hu-ho-hao-te 96.81 314 *e*P **P** **15 14 27.8 +2.3**
HHC pP pP 15 14 37.9 +1.2
HHC sP sP 15 14 42.5 +1.9
HHC PP PP 15 18 25.2 +3.9
HHC SKS 15 25 00.8
HHC S S 15 25 44.3 -0.5
HHC sS sS 15 26 01.2 -2.2
HHC pmax pmax
comp=Z,16nm,0.9s,mb5.5
HHC pmax pmax
comp=Z,370nm,5.4s
HHC LR LR
comp=N,980nm,17.6s,MS5.6
HHC LR LR
comp=E,1μm,19.8s,MS5.6
HHC LR LR
comp=Z,2μm,18.6s,MS5.7
JTS JuntasAbangare 96.88 82 PFAKE 15 14 40.0 +14
JTS LR LR
comp=Z,5μm,19.0s,MS6.0
LPAZ La Paz 97.39 114 P **P** **15 14 30.4 +1.7**
comp=Z,2.6nm,0.8s,mb4.7,baz=240,slow=4.5,SNR=12
LPAZ LR LR 15 52 12.1
comp=Z,2μm,19.1s,MS5.6,baz=149,slow=32
LPAZ La Paz 97.39 114 P **P** **15 14 30.4 +1.7**
LPAZ LR LR 15 52 12.1
LPAZ La Paz 97.39 114 P **P** **15 14 30.5 +1.7**
COLA College 97.59 12 *e*P **P** **15 14 27.2 -1.2**
comp=Z,5.1nm,0.8s,mb5.1
COLA LR LR
comp=Z,3μm,20.0s,MS5.7
COLA College 97.59 12 *e*P **P** **15 14 27.2 -1.2**
COLA pmax pmax
comp=Z,5.0nm,0.8s,mb5.1
COLA MLR MLR
comp=Z,3μm,20.0s,MS5.7
ILAR Eielson Array 97.68 13 P **P** **15 14 26.5 -2.4**
comp=Z,1.9nm,0.8s,mb4.7,baz=216,slow=5.8,SNR=11
ILAR LR LR 15 59 35.4
comp=Z,2μm,18.2s,MS5.7,baz=206,slow=36
ILAR Eielson Array 97.68 13 P **P** **15 14 26.5 -2.4**
ILAR LR LR 15 59 35.4
ILAR Eielson Array 97.68 13 P **P** **15 14 26.5 -2.3**
EGMT Eagleton 98.52 39 PFAKE 15 14 40.0 +7.0
EGMT LR LR
comp=Z,7μm,19.0s,MS6.2
EGAK Eagle 98.85 15 PFAKE 15 14 40.0 +5.9
EGAK LR LR
comp=Z,3μm,19.0s,MS5.9
BILL Bilibino 98.87 354 PFAKE 15 14 40.0 +5.9
BILL LR LR
comp=Z,3μm,21.0s,MS5.8
BILL Bilibino 98.87 354 *e*P **P** **15 14 35.3 +1.2**
BILL pmax pmax
comp=Z,7.0nm,1.6s,mb4.9
BILL MLR MLR
comp=Z,3μm,18.0s,MS5.8
CPUP Villa Florida 99.35 128 LR LR 15 54 25.9
comp=Z,4μm,19.1s,MS5.9,baz=174,slow=32
CPUP Villa Florida 99.35 128 PFAKE 15 14 50.0 +13
CPUP LR LR
comp=Z,651nm,19.0s,MS5.2
LZH Lanzhou 99.37 306 *e*P **P** **15 14 38.3 +1.1**
LZH pP pP 15 14 51.8 +3.5
LZH sP sP 15 14 57.0 +4.7
LZH *e*PP PP 15 18 43.5 +2.4
LZH pmax pmax
comp=Z,19nm,1.5s,mb5.4
LZH pmax pmax
comp=Z,120nm,8.9s
LZH LR LR
comp=N,600nm,18.7s,MS5.3
LZH LR LR
comp=E,510nm,16.3s,MS5.3
LZH LR LR
comp=Z,1μm,19.8s,MS5.3
CBKS Cedar Bluff 99.49 51 PFAKE 15 14 50.0 +12
CBKS LR LR
comp=Z,4μm,19.0s,MS5.9
BCIP Isla Barro Col 100.73 86 PFAKE 15 15 00.0 +17
BCIP LR LR
comp=Z,2μm,19.0s,MS5.7
DGMT Dagmar 101.84 41 PFAKE 15 15 00.0 +12
DGMT LR LR
comp=Z,3μm,20.0s,MS5.8
DGAR Diego Garcia 103.67 253 PFAKE 15 15 10.0 +14
DGAR LR LR
comp=Z,2μm,20.0s,MS5.7
SONM Songino Array 103.67 318 Pdiff Pdif 15 14 54.1 -2.1
comp=Z,0.2nm,0.4s,baz=52,slow=2.4,SNR=2.7
SONM Songino Array 103.67 318 Pdif Pdif 15 14 54.1 -2.1
SONM Songino Array 103.67 318 P Pdif 15 14 54.1 -2.2
ECSD EROS Data Cent 103.99 47 PFAKE 15 15 10.0 +12
ECSD LR LR
comp=Z,3μm,19.0s,MS5.9
BRAL Brewton 104.90 63 PFAKE 15 15 10.0 +8.3
BRAL LR LR
comp=Z,3μm,20.0s,MS5.8
FFC Flin Flon 106.25 36 PFAKE 15 19 30.0 +11
FFC LR LR
comp=Z,4μm,20.0s,MS6.0
AGMN Agassiz Nation 106.58 44 PFAKE 15 19 30.0 +11
AGMN LR LR
comp=Z,4μm,20.0s,MS6.0
ZAK Zakamensk 106.69 319 *e*P Pdif 15 15 19.5 +10
ZAK pmax pmax
comp=Z,2.0nm,1.2s
EYMN Ely 109.06 45 PFAKE 15 19 40.0 +16
EYMN LR LR
comp=Z,4μm,20.0s,MS6.0
ACSO Alum Creek Sta 111.71 55 PFAKE 15 19 40.0 +11
ACSO LR LR
comp=Z,6μm,19.0s,MS6.2
AAM Ann Arbor 112.00 53 PFAKE 15 19 40.0 +10
AAM LR LR
comp=Z,2μm,19.0s,MS5.8
GLMI Grayling 112.26 50 PFAKE 15 19 40.0 +10
GLMI LR LR
comp=Z,3μm,19.0s,MS5.8
BLA Blacksburg 112.45 59 PFAKE 15 19 40.0 +9.2
BLA LR LR
comp=Z,3μm,19.0s,MS5.9
CNNC Cliffs of the 113.63 62 PFAKE 15 19 50.0 +17
CNNC LR LR
comp=Z,2μm,19.0s,MS5.7
WMQ Urumqi 113.86 308 PKP PKiKP 15 19 33.4 +0.1
WMQ PP PP 15 20 30.7 +3.2
WMQ AMB AMB
comp=Z,170nm,9.6s
WMQ LR LR
comp=Z,1μm,16.4s,MS5.5
ERPA Erie 114.48 54 PFAKE 15 19 50.0 +15
ERPA LR LR
comp=Z,2μm,20.0s,MS5.8
ABPO Ambohimpanom 115.04 227 PFAKE 15 19 50.0 +14
ABPO LR LR
comp=Z,2μm,19.0s,MS5.8
CBN Corbin 115.06 59 PFAKE 15 19 50.0 +14
CBN LR LR
comp=Z,3μm,20.0s,MS6.0
BINY Binghamton 117.33 55 PFAKE 15 19 50.0 +10
BINY LR LR
comp=Z,5μm,19.0s,MS6.1
BOSA Boshof 117.64 202 PKP PKPdf 15 19 44.0 +2.7
comp=Z,7.1nm,1.0s,baz=157,slow=3.9,SNR=4.0
BOSA Boshof 117.64 202 PKP PKPdf 15 19 44.0 +2.7
BOSA LR LR
comp=Z,2μm,19.0s,MS5.8
BOSA Boshof 117.64 202 PKIKP PKPdf 15 19 44.0 +2.8
BOSA MLR MLR
comp=Z,2μm,19.0s,MS5.8
MK31 Makanchi Array 118.39 310 *e*PKPdf PKPdf 15 19 41.5 -0.4
MK31 Makanchi Array 118.39 310 *e*PKIKP PKPdf 15 19 41.5 -0.4
MKAR Makanchi Array 118.39 310 PKP PKPdf 15 19 41.6 -0.3
comp=Z,1.9nm,0.7s,baz=70,slow=1.6,SNR=8.3
MKAR PKKPbc PKKPbc 15 30 02.6 +2.4
comp=Z,1.0nm,1.0s,baz=280,slow=4.3,SNR=4.8
MKAR Makanchi Array 118.39 310 PKP PKPdf 15 19 41.6 -0.3
MKAR PKKPbc PKKPbc 15 30 02.6 +2.4
MKAR Makanchi Array 118.39 310 PKIKP PKPdf 15 19 41.6 -0.3
ZALV Zalesovo Beam 118.56 318 PKP PKPdf 15 19 40.7 -1.2
comp=Z,2nm,0.7s,baz=119,slow=2.6,SNR=8.7
ZALV Zalesovo Beam 118.56 318 PKP PKPdf 15 19 40.7 -1.2
ZALV Zalesovo Beam 118.56 318 PKIKP PKPdf 15 19 40.7 -1.3
FDF Fort de France 119.46 90 PFAKE 15 20 00.0 +15
FDF LR LR
comp=Z,2μm,19.0s,MS5.7
NVS Novosibirsk 119.65 319 *e*PKIKP PKPdf 15 19 41.3 -2.8
BBGH Gun Hill 120.12 92 PFAKE 15 20 00.0 +14
BBGH LR LR
comp=Z,2μm,19.0s,MS5.7
ANWB Willy Bob 120.19 86 PFAKE 15 20 00.0 +14
ANWB LR LR
comp=Z,2μm,20.0s,MS5.7
KSH Kashi 120.95 300 *e*PKP PKPdf 15 19 49.4 +2.3
KSH sPKP 15 20 03.7
KSH PKS 15 23 24.9
KSH SKS SKSdf 15 26 56.7 +0.4
KSH AMB AMB
comp=Z,380nm,11.7s
KSH LR LR
comp=N,120nm,6.4s
KSH LR LR
comp=E,79nm,6.0s
KSH LR LR
comp=Z,120nm,4.9s
KURK Kurchatov 121.63 314 *e*PKPdf PKPdf 15 19 46.0 -2.0
KURK Kurchatov 121.63 314 ⇓ *i*PKIKP PKPdf 15 19 48.0 0.0
AAK Ala-Archa 122.79 304 PFAKE 15 20 00.0 +10
AAK LR LR
comp=Z,935nm,20.0s,MS5.4
BBSR BB Station 123.06 69 PFAKE 15 20 00.0 +8.6
BBSR LR LR
comp=Z,2μm,20.0s,MS5.7
AML Almayashu 123.26 303 *e*PKPdf PKPdf 15 19 52.5 +1.1
AML Almayashu 123.26 303 *e*PKIKP PKPdf 15 19 52.5 +1.1
EKS2 Erkin-Say 123.31 304 PFAKE 15 20 00.0 +8.5
EKS2 LR LR
comp=Z,1μm,21.0s,MS5.5
KBL Kabul 124.98 293 *e*PKPdf PKPdf 15 19 55.4 +0.4
KBL Kabul 124.98 293 *e*PKIKP PKPdf 15 19 55.4 +0.4
KKAR Karatay Array 125.75 303 *e*PKPdf PKPdf 15 19 56.2 +0.1
KKAR Karatay Array 125.75 303 *e*PKIKP PKPdf 15 19 56.2 0.0
BRVK Borovoye 127.03 316 *e*PKPdf PKPdf 15 19 58.4 +0.1
BRVK LR LR
comp=Z,1μm,19.0s,MS5.7
BRVK Borovoye 127.03 316 ⇑ *i*PKIKP PKPdf 15 19 58.3 0.0
ABKAR Abkulak array 133.52 311 *e*PKPdf PKPdf 15 20 12.1 +1.4
ARU Arti 133.59 321 PFAKE 15 20 20.0 +9.4
ARU LR LR
comp=Z,2μm,20.0s,MS5.9
ARU Arti 133.59 321 *i* PKIKP PKPdf 15 20 11.5 +0.9
ARU 15 22 37.5
ARU SS SS 15 40 14.3 -8.6
ARU MLR MLR
comp=Z,2μm,21.0s,MS5.8
SOKR Solikamsk 133.83 325 *i* PKIKP PKPdf 15 20 12.0 +1.0
SOKR pmax pmax
comp=Z,10.0nm,1.0s
SOKR MLR MLR
comp=Z,2μm,20.0s,MS5.8
ARCES ARCESS Array B 138.71 348 PKhKP PKPpre 15 20 16.7
comp=Z,4.3nm,1.0s,baz=27,slow=1.0,SNR=4.0
ARCES ARCESS Array B 138.71 348 PKP PKPpre 15 20 16.7
ARCES ARCESS Array B 138.71 348 PKIKP PKPdf 15 20 16.7 -3.1
KLMR Klimovskoe 141.11 332 *e*PKIKP PKPdf 15 20 21.5 -2.8
KLMR pmax pmax
comp=Z,12nm,1.1s
JOF Joensuu 142.67 339 *e*PKIKP PKPdf 15 20 22.6 -4.5
JOF pmax pmax
comp=Z,6.0nm,0.7s
JOF Joensuu 142.67 339 *e*p PKPdf 15 20 22.6 -4.5
comp=Z,6.3nm,0.7s
DGRG David-gareji 144.24 300 P PKPdf 15 20 29.6 -1.0
MTA Mtatsminda 144.66 300 P PKPdf 15 20 30.8 -0.4
VRHR Novokhopersk 144.68 317 *e*PKIKP PKPdf 15 20 29.3 -1.7
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,1.3s
VRHR pmax pmax
comp=E,10.0nm,0.7s
TBLG Delisi 144.69 300 *e*PKIKP PKPdf 15 20 31.0 -0.3
TBLG Delisi 144.69 300 P PKPdf 15 20 31.1 -0.2
MOS Moscow 144.77 326 *e*PKIKP PKPdf 15 20 29.1 -1.9
KAF Kangasniemi 144.77 341 *e*PKIKP PKPdf 15 20 28.5 -2.3
KAF pmax pmax
comp=Z,25nm,0.9s
KAF Kangasniemi 144.77 341 *e*p PKPdf 15 20 28.5 -2.3
comp=Z,25nm,0.9s
GNI Garni 144.80 298 *e*PKPdf PKPdf 15 20 31.8 +0.2
GNI LR LR
comp=Z,1μm,22.0s,MS5.6
GNI Garni 144.80 298 ⇑ *i*PKIKP PKPdf 15 20 31.9 +0.3
BHD Baghdad 144.87 286 *i* x x 15 20 28.0
ZEI Tsey 145.20 302 *i* PKIKP PKPdf 15 20 32.9 +0.7
ZEI pmax pmax
comp=Z,74nm,1.0s
PUL Pulkovo 145.30 336 ⇑ *i*PKIKP PKPdf 15 20 32.2 +0.4
FINES FINESS Array B 145.38 341 PKP PKPdf 15 20 30.2 -1.6
comp=Z,98nm,0.9s,baz=46,slow=3.8,SNR=111
FINES FINESS Array B 145.38 341 PKP PKPdf 15 20 30.2 -1.6
FINES FINESS Array B 145.38 341 PKIKP PKPdf 15 20 30.2 -1.6
GOF Gofitskoye 145.45 306 *e*PKP2 PKPdf 15 20 29.7 -2.8
GOF pmax pmax
comp=Z,210nm,1.4s
ONI Oni 145.55 302 P PKPdf 15 20 34.2 +1.5
OBN Obninsk 145.61 326 *e*PKP PKPdf 15 20 32.3 -0.2
OBN LR LR
comp=Z,1μm,20.0s,MS5.7
OBN Obninsk 145.61 326 α *i*PKIKP PKPdf 15 20 32.3 -0.1
OBN *i* 15 20 48.8
OBN pmax pmax
comp=Z,158nm,1.0s
OBN MLR MLR
comp=Z,1μm,19.0s,MS5.7
DYDN Diyadin 145.64 297 *i* P PKPdf 15 20 35.1 +2.0
AKH Akhalkalaki 145.66 300 P PKPdf 15 20 34.7 +1.7
HAKT HAKKARI 145.67 293 *i* P PKPdf 15 20 33.3 +0.2
DIGO Kars 145.83 298 *i* P PKPdf 15 20 33.4 +0.1
VOR Voronezh 145.83 319 *e*PKIKP PKPdf 15 20 33.0 +0.1
VOR pmax pmax
comp=Z,260nm,1.2s
KIV Kislovodsk 145.90 305 *e*PKPbc PKPbc 15 20 35.0 +1.0
KIV Kislovodsk 145.90 305 α *i*PKP2 PKPab 15 20 34.7 +0.2
KIV pmax pmax
comp=Z,38nm,1.2s
VSR Storozhevoye 146.06 318 *e*PKP2 PKPdf 15 20 33.6 +0.3
VSR pmax pmax
comp=Z,140nm,1.0s
VSR pmax pmax
comp=N,30nm,0.8s
VSR pmax pmax
comp=E,80nm,1.0s
ARTV Artvin 146.85 300 *i* P PKPdf 15 20 36.8 +1.8
DAGI Agillar 146.87 300 *i* P PKPbc 15 20 38.4 +1.4
HOMI Horasan 146.98 298 *i* P PKPbc 15 20 39.8 +2.4
DBOC Borcka 147.03 300 *i* P PKPbc 15 20 38.5 +1.1
ERZM Erzurum 147.41 298 *i* P PKPbc 15 20 39.8 +1.3
BEST Besiri 147.60 294 *i* P PKPbc 15 20 39.0 -0.1
BNGL BINGOL 147.64 296 *i* P PKPbc 15 20 40.4 +1.2
MARD Mardin 148.00 293 *i* P PKPbc 15 20 39.4 -0.8
KOPT Kop Dagi 148.06 298 *i* P PKPbc 15 20 41.6 +1.4
SOC Sochi 148.08 305 *i* PKIKP PKPdf 15 20 37.5 +0.5
SOC *e* 15 27 42.7
SOC pmax pmax
comp=Z,37nm,1.0s
SOC MLR MLR
comp=Z,1μm,20.0s,MS5.7
DIYA Diyarbakir 148.51 294 *i* P PKPbc 15 20 42.7 +1.2
NOA NORSAR Array B 148.81 352 PKPbc PKPbc 15 20 41.0 -0.6
comp=Z,21nm,0.9s,baz=15,slow=4.4,SNR=22
NOA NORSAR Array B 148.81 352 PKPbc PKPbc 15 20 41.0 -0.6
NOA NORSAR Array B 148.81 352 PKP2 PKPbc 15 20 41.0 -0.5
KELT Kelkit 148.99 298 *i* P PKPbc 15 20 42.5 -0.1
NAO01 NORSAR Array S 149.04 352 *e*PKPbc PKPbc 15 20 42.1 0.0
ELZG Elazig 149.36 295 *i* P PKPbc 15 20 46.1 +2.5
ANN Anapa 149.38 308 *i* PKP2 PKPbc 15 20 42.9 -0.6
ANN pmax pmax
comp=Z,71nm,1.4s
ANN MLR MLR
comp=N,1μm,24.0s,MS5.8
ANN MLR MLR
comp=E,1μm,24.0s,MS5.8
ANN MLR MLR
comp=Z,1μm,24.0s,MS5.7
GRSN GIRESUNGRSN 149.63 300 *i* P PKPbc 15 20 42.9 -1.4
KEMA Kemaliye 149.68 297 *i* P PKPbc 15 20 46.0 +1.7
IZAR Zarasai 149.73 334 *e*P PKPbc 15 20 44.8 +0.9
IZAR AMB AMB 15 20 47.9
comp=Z,16nm,1.3s
SUSE Susehri 149.78 299 *i* P PKPbc 15 20 43.5 -1.1
ISAL Salakas 149.91 334 *e*P PKPbc 15 20 45.1 +0.8
ISAL AMB AMB 15 20 50.9
comp=Z,23nm,1.2s
MICGM Minsk 149.96 331 *e*P PKPdf 15 20 34.0 -5.6
MNK Minsk 149.98 331 *e*PKHKP PKPpre 15 20 39.0
IIGN Ignalina 150.03 333 *e*P PKPbc 15 20 45.5 +0.8
IIGN AMB AMB 15 20 51.3
comp=Z,22nm,1.1s
NACGM Naroch 150.14 332 *e*P PKPdf 15 20 42.0 +2.1
AKCD Akcadag 150.21 295 *i* P PKPbc 15 20 46.7 +0.9
KONO Kongsberg 150.35 353 *e*PKPbc PKPbc 15 20 44.2 -1.1
KONO Kongsberg 150.35 353 *e*PKP2 PKPbc 15 20 44.2 -1.1
GZT Gaziantep 150.56 293 *i* P PKPbc 15 20 47.2 +0.6
SCER sogukcermik 150.65 298 *i* P PKPbc 15 20 48.0 +1.3
ERBA Erbaa 150.80 300 *i* P PKPab 15 20 56.2 +1.9
KUZU Kuzuini 150.99 292 *i* P PKPbc 15 20 49.1 +1.5
PINB Pinarbasi 151.36 296 *i* P PKPbc 15 20 49.4 +0.9
ANDN Andirin 151.51 294 *i* P PKPbc 15 20 50.3 +1.5
SIM Simferopol' 151.57 310 *i* PKIKP PKPbc 15 20 50.3 +1.6
SIM pmax pmax
comp=Z,29nm,1.0s
AKASG Malin Array Be 151.77 324 PKPbc PKPbc 15 20 48.5 -0.4
comp=Z,28nm,0.7s,baz=47,slow=2.9,SNR=57
AKASG Malin Array Be 151.77 324 PKPbc PKPbc 15 20 48.5 -0.4
AKASG Malin Array Be 151.77 324 PKIKP PKPbc 15 20 48.5 -0.4
AKBB Malin Array Si 151.77 324 *e*PKPbc PKPbc 15 20 48.2 -0.7
AKBB Malin Array Si 151.77 324 *e*PKIKP PKPbc 15 20 48.2 -0.7
KIEV Kiev 151.78 324 *e*PKPbc PKPbc 15 20 48.0 -0.9
KIEV Kiev 151.78 324 *e*PKIKP PKPbc 15 20 48.0 -1.0
YAYL Yayladag 151.80 290 *i* P PKPbc 15 20 50.4 +0.9
SUW Suwalki 152.21 334 *e*PKPbc PKPbc 15 20 49.9 +0.1
SUW Suwalki 152.21 334 *e*PKIKP PKPbc 15 20 49.9 +0.1
CTKT Corum 152.28 300 *i* P PKPbc 15 20 51.2 +0.8
CDAG Cicekdag 152.78 298 *i* P PKPbc 15 20 59.3 +7.7
GULE Gulek 152.78 293 *i* P PKPbc 15 20 53.4 +1.7
ILGA Ilgaz 152.98 302 *i* P PKPbc 15 20 53.7 +1.7
BR131 Keskin Array S 153.32 299 *e*PKPbc PKPbc 15 20 53.4 +0.6
BR131 LR LR
comp=Z,776nm,19.0s,MS5.5
BRTR Keskin Array B 153.32 299 PKP PKPdf 15 20 46.2 +1.0
comp=Z,0.9nm,1.0s,baz=71,slow=5.4,SNR=4.1
BRTR PKPbc PKPbc 15 20 53.2 +0.5
comp=Z,4.3nm,1.0s,baz=115,slow=3.2,SNR=17
BRTR PKPab PKPab 15 21 04.5 -0.4
comp=Z,5.1nm,1.0s,baz=130,slow=5.0,SNR=8.5
BRTR Keskin Array B 153.32 299 PKP PKPdf 15 20 46.2 +1.0
BRTR PKPbc PKPbc 15 20 53.2 +0.5
BRTR PKPab PKPab 15 21 04.5 -0.4
BRTR Keskin Array B 153.32 299 PKIKP PKPdf 15 20 46.2 +1.0
BRTR 15 20 53.3
BRTR 15 21 04.5
BBAL Bala 153.75 299 *i* P PKPab 15 21 08.9 +2.2
CSS Prodhromos 154.09 288 PFAKE 15 21 00.0 +14
CSS LR LR
comp=Z,1μm,19.0s,MS5.8
SGKT Sivrigoynuk 154.32 301 *i* P PKPab 15 21 03.5 -5.6
ESK Eskdalemuir 154.65 8 PFAKE 15 21 00.0 +13
ESK LR LR
comp=Z,2μm,19.0s,MS6.0
KDHN Kadinhani 154.71 297 *i* P PKPab 15 21 06.7 -4.1
LVV L'vov 154.90 327 *e*PKP2 PKPab 15 21 12.1 +0.9
LVV MLR MLR
comp=Z,2μm,20.0s,MS6.0
LVV MLR MLR
comp=E,900nm,22.0s,MS5.8
LVV MLR MLR
comp=N,1μm,21.0s,MS5.8
DBIC Dimbokro 155.32 161 PKPab PKPab 15 21 16.8 +2.9
comp=N,9.6nm,1.0s,baz=188,slow=2.0,SNR=5.0
DBIC Dimbokro 155.32 161 PKPab PKPab 15 21 16.8 +2.9
DBIC LR LR

comp=Z,3μm,19.0s,MS6.1
DBIC Dimbokro 155.32 161 PKP2 PKPab 15 21 16.8 +2.9
DBIC MLR MLR
comp=Z,3μm,19.0s
TESR 155.56 318 ⇓*i*P PKPab 15 21 15.8 +1.7
KWP Kalwaria Pacla 155.65 328 *e*PKP PKPab 15 21 14.3 -0.1
KWP Kalwaria Pacla 155.65 328 ⇓PKP2 PKPab 15 21 15.9 +1.5
KWP Kalwaria Pacla 155.65 328 ⇓*i*P PKPab 15 21 15.9 +1.5
BORA Eskisehir 155.68 300 *i* P PKPdf 15 20 58.0 +9.5
BUR08 Bucovina Ar. S 155.71 322 *e*PKPab PKPab 15 21 14.7 -0.1
BURAR Bucovina Array 155.72 322 ⇓PKP2 PKPab 15 21 15.0 +0.2
BURAR Bucovina Array 155.72 322 ⇓*i*P PKPab 15 21 15.0 +0.2
BSEG Bad Segeberg 155.83 349 *e*PKPab PKPab 15 21 14.0 -1.0
BSEG Bad Segeberg 155.83 349 *e*PKP2 PKPab 15 21 14.0 -1.0
VRI Vrincioaia 155.86 317 ⇓PKP2 PKPab 15 21 16.6 +1.1
VRI Vrincioaia 155.86 317 ⇓*i*P PKPab 15 21 16.6 +1.1
KOLS Kolonicke sedl 156.34 327 *e*PKIKP PKPdf 15 20 49.1 0.0
KOLS *e* 15 21 16.3
KOLS Kolonicke sedl 156.34 327 *e*PKP PKPdf 15 20 49.1 0.0
KOLS *e* 15 21 16.3
BUY Buyukada 156.39 303 *i* P PKPab 15 21 18.1 +0.2
STHS Stebnicka Huta 156.46 329 *e*PKP2 PKPab 15 21 19.3 +1.4
STHS Stebnicka Huta 156.46 329 *e*PKP PKPab 15 21 19.3 +1.4
MLR Muntele Rosu 156.52 316 ⇓PKP2 PKPab 15 21 19.5 +1.2
MLR Muntele Rosu 156.52 316 ⇓*i*P PKPab 15 21 19.5 +1.2
UZH Uzhgorod 156.54 327 *e* PKPab 15 21 16.6 -1.7
UZH *e* 15 21 20.2
UZH *e* 15 38 02.0
UZH eSS SS 15 44 37.0 -7.7
UZH MLR MLR
comp=N,800nm,19.0s,MS5.8
UZH MLR MLR
comp=E,1μm,19.0s,MS5.8
UZH MLR MLR
comp=Z,900nm,19.0s,MS5.6
CRVS Cervenica-Dubn 156.74 328 *e*PKP2 PKPab 15 21 18.6 -0.5
CRVS Cervenica-Dubn 156.74 328 *e*PKP PKPab 15 21 18.6 -0.5
TRPA Tarpa 156.77 325 ⇑*i*P PKPab 15 21 19.2 -0.1
VOIR 157.08 317 ⇑⇑PKP2 PKPab 15 21 23.2 +2.5
VOIR 157.08 317 ⇑*i*P PKPab 15 21 23.2 +2.5
KSP Ksiaz 157.23 338 *e*PKP PKPab 15 21 20.9 -0.2
OKC Ostrava-Krasne 157.42 334 AMS AMS 16 35 50.0
comp=Z,2μm,17.2s
KECS Kecovo 157.49 329 *e*PKP2 PKPab 15 21 22.4 +0.1
KECS Kecovo 157.49 329 *e*PKP PKPab 15 21 22.4 +0.1
DRGR 157.57 323 ⇓PKP2 PKPab 15 21 23.1 +0.3
DRGR 157.57 323 ⇓*i*P PKPab 15 21 23.1 +0.3
UPC Upice 157.61 338 *e*PKP2 PKPab 15 21 23.0 +0.2
UPC Upice 157.61 338 *e*PKPAB PKPab 15 21 23.0 +0.2
UPC *ex* x 15 21 38.9
DPC Dobruska-Polom 157.65 337 *e*PKP2 PKPab 15 21 22.5 -0.4
DPC MLR MLR
comp=Z,1μm,17.9s,MS5.8
DPC Dobruska-Polom 157.65 337 *e*PKPAB PKPab 15 21 22.5 -0.4
DPC *ex* x 15 21 39.4
DPC AMS AMS 16 33 50.0
comp=Z,1μm,17.9s
MORC Moravsky Berou 157.69 335 ⇓PKP2 PKPab 15 21 23.2 0.0
MORC Moravsky Berou 157.69 335 ⇓*i*P PKPab 15 21 23.2 0.0
CLL Collm 157.77 343 *e*PKPab PKPab 15 21 22.2 -1.2
CLL Collm 157.77 343 *i* PKP2 PKPab 15 21 22.1 -1.3
CLL pmax pmax
comp=Z,17nm,1.0s
CLL MLR MLR
comp=Z,2μm,19.0s,MS5.9
CLL Collm 157.77 343 *i* PKPab PKPab 15 21 22.1 -1.3
comp=Z,17nm,1.0s
CLL *i* pPKPab pPKPab 15 21 24.8 -10
CLL *i* 15 21 28.0
CLL *e*(PP) 15 25 12.0
CLL *e*SS SS 15 45 06.0 +9.0
CLL *e*SSS 15 51 00.0
CLL *e*SSSS 15 55 18.0
CLL LmV 16 39 00.0
comp=Z,2μm,19.0s
CLL LmH 16 40 00.0
comp=N,1μm,19.0s
CLL LmH 16 40 00.0
comp=E,800nm,18.1s
IBBN Ibbenburen 157.77 352 *e*PKPab PKPab 15 21 22.3 -1.1
SART Tekirdag 157.83 304 *i* P PKPab 15 21 19.8 -4.4
CLZ Clausthal 157.83 348 *e*PKPab PKPab 15 21 22.8 -0.9
CLZ Clausthal 157.83 348 *e*PKP2 PKPab 15 21 22.8 -0.9
BRG Berggiesshubel 157.91 341 *e*PKPab PKPab 15 21 23.1 -1.0
BRG Berggiesshubel 157.91 341 *e*PKIKP PKPdf 15 20 50.6 -0.4
BRG *e* 15 21 20.9
BRG pmax pmax
comp=Z,12nm,1.5s
BRG pmax pmax
comp=Z,19nm,1.2s
FBE Freiberg 158.03 342 *e*PKPab PKPab 15 21 23.9 -0.7
PVCC Panska Ves 158.04 340 *e*PKP2 PKPab 15 21 24.2 -0.4
PVCC MLR MLR
comp=Z,2μm,17.9s,MS6.0
PVCC Panska Ves 158.04 340 *e*PKPAB PKPab 15 21 24.2 -0.4
PVCC AMS AMS 16 35 00.0
comp=Z,2μm,17.9s
NEUB Neuenburg 158.15 345 *e*PKPab PKPab 15 21 23.8 -1.3
PSZ Piszkesteto 158.17 328 ⇑PKP2 PKPab 15 21 24.9 -0.4
PSZ Piszkesteto 158.17 328 ⇓*e*PKP PKPab 15 21 25.4 +0.1
PSZ Piszkesteto 158.17 328 ⇑*i*P PKPab 15 21 24.9 -0.4
VYHS Vyhne 158.20 331 *e*PKIKP PKPdf 15 20 55.8 +4.4
VYHS *e* 15 21 25.5
VYHS Vyhne 158.20 331 *e*PKP PKPdf 15 20 55.8 +4.4
VYHS 15 21 25.5
VRAC Vranov 158.43 335 ⇑⇑PKP2 PKPab 15 21 27.3 +0.9
VRAC Vranov 158.43 335 ⇑⇑*i*P PKPab 15 21 27.3 +0.9
PRU Pruhonice 158.53 339 *e*PKP2 PKPab 15 21 27.2 +0.4
PRU MLR MLR
comp=Z,2μm,19.0s,MS6.0
PRU Pruhonice 158.53 339 *e*PKPAB PKPab 15 21 27.2 +0.4
PRU *ex* x 15 21 44.6
PRU AMS AMS 16 35 20.0
comp=Z,2μm,19.0s
MOX Moxa 158.71 345 *e*PKPab PKPab 15 21 26.5 -1.0
MOX Moxa 158.71 345 *e*PKP2 PKPab 15 21 26.5 -1.0
TANN Tannenbergstha 158.72 343 *e*PKPab PKPab 15 21 26.7 -0.9
WERD Werda 158.73 343 *e*PKPab PKPab 15 21 26.4 -1.2
PLN Plauen 158.73 344 *e*PKPab PKPab 15 21 26.7 -0.9
SMOL Smolenice 158.76 333 *e*PKP2 PKPab 15 21 28.0 +0.2
SMOL Smolenice 158.76 333 *e*PKP PKPab 15 21 28.0 +0.2
GUNZ Gunzen 158.80 343 *e*PKPab PKPab 15 21 27.3 -0.6
TREC Trest 158.83 337 *e*PKP2 PKPab 15 21 28.7 +0.6
TREC MLR MLR
comp=Z,2μm,19.4s,MS5.9
TREC Trest 158.83 337 *e*PKPAB PKPab 15 21 28.7 +0.6
TREC AMS AMS 16 40 40.0
comp=Z,2μm,19.4s
WERN Wernitzgruen 158.86 343 *e*PKPab PKPab 15 21 27.6 -0.6
NKC Novy Kostel 158.90 343 *e*PKP2 PKPab 15 21 27.4 -0.9
NKC MLR MLR
comp=Z,2μm,19.4s,MS6.0
NKC Novy Kostel 158.90 343 *e*PKPAB PKPab 15 21 27.4 -0.9
NKC AMS AMS 16 39 40.0
comp=Z,2μm,19.4s
ROTZ Rotzenmuhle 159.38 343 *e*PKPab PKPab 15 21 30.0 -0.5
KHC Kasperske Hory 159.58 340 *e*PKP2 PKPab 15 21 31.1 -0.3
KHC MLR MLR
comp=Z,2μm,18.0s,MS6.0
KHC Kasperske Hory 159.58 340 *e*PKPAB PKPab 15 21 31.1 -0.3
KHC *ex* x 15 21 38.0
KHC *ex* x 15 21 46.0
KHC AMS AMS 16 40 00.0
comp=Z,2μm,18.0s
MEM Membach 159.63 354 PKPab PKPab 15 21 30.0 -1.5
GRF Grafenberg Arr 159.69 344 *e*PKPab PKPab 15 21 31.3 -0.5
GRF *eL* 16 33 56.1
comp=Z,2μm,21.7s
GRF Grafenberg Arr 159.69 344 *e*PKP2 PKPab 15 21 31.3 -0.5
GRF MLR MLR
comp=Z,2μm,21.7s,MS5.8
VTS Vitosha 159.72 313 ⇑⇑PKP2 PKPab 15 21 33.1 +0.8
VTS Vitosha 159.72 313 ⇑⇑*i*P PKPab 15 21 33.1 +0.8
WET Wettzell 159.77 341 *e*PKPab PKPab 15 21 31.9 -0.3
WET Wettzell 159.77 341 *e*PKP2 PKPab 15 21 31.8 -0.4
GEC2 GERESS Array S 159.80 339 *e*PKPab PKPab 15 21 31.7 -0.6
GEC2 GERESS Array S 159.80 339 *e*PKP2 PKPab 15 21 31.7 -0.6
GERES GERESS Array B 159.80 339 PKPab PKPab 15 21 30.9 -1.4
comp=Z,3.5nm,0.9s,baz=35,slow=3.6,SNR=14
SNF Seneffe 159.83 358 PKPab PKPab 15 21 32.2 -0.1
CONA Conrad Observa 159.85 334 ⇓*i*PKPab PKPab 15 21 32.6 +0.1
comp=Z,13nm,1.1s
CSNA Conrad Observa 159.85 334 ⇓*i*PKPab PKPab 15 21 32.5 0.0
comp=Z,12nm,1.1s
BAIF Baives 160.28 358 *e*PKP2 PKPab 15 21 33.5 -0.8
MOA Molln 160.49 337 ⇓*i*PKPab PKPab 15 21 35.2 -0.2
comp=Z,14nm,1.2s
ARSA Arzberg 160.54 334 ⇑*i*PKPab PKPab 15 21 35.2 -0.4
comp=Z,5.0nm,1.0s
WLF Walferdange 160.55 354 PKPab PKPab 15 21 35.6 +0.1
VAY Valandovo 160.75 310 *e*PKP PKPab 15 21 36.3 -0.5
STU Stuttgart 160.99 347 *e*PKPab PKPab 15 21 36.3 -1.2
RJOB Jochberg 161.06 339 *e*PKPab PKPab 15 21 37.6 -0.2
SKO Skopje 161.16 313 *e*PKP PKPab 15 21 40.2 +1.7
SOKA Soboth 161.20 334 ⇓⇓PKPab PKPab 15 21 37.9 -0.6
comp=Z,11nm,1.1s
PERS Pernice 161.20 333 *i* PKPdf PKPab 15 21 39.1 +0.6
FLN La Foliniere 161.41 7 *e*PKP2 PKPab 15 21 38.0 -1.3
comp=Z,64nm,1.0s
BFO Black Forest 161.58 349 PFAKE 15 21 10.0 +15
BFO LR LR
comp=Z,2μm,21.0s
KRUS Krusevo 161.60 312 *e*PKP PKPab 15 21 40.0 -0.5
LDF La Druitiere 161.62 7 *e*PKP2 PKPab 15 21 38.7 -1.5
comp=Z,13nm,0.8s
CDF Champ du Feu 161.66 351 *e*PKP2 PKPab 15 21 39.6 -0.8
comp=Z,77nm,1.8s
GRR Gorron 161.74 8 *e*PKP2 PKPab 15 21 39.6 -1.1
comp=Z,66nm,1.2s
MEZF Maizieres J'vi 161.79 356 *e*PKP2 PKPab 15 21 40.3 -0.7
comp=Z,91nm,1.6s
WTTA Wattenberg 161.83 341 ⇓⇓*i*PKPab PKPab 15 21 41.2 0.0
comp=Z,30nm,1.3s
RETA Rette 161.86 343 ⇓⇓*i*PKPab PKPab 15 21 40.3 -1.1
comp=Z,18nm,1.2s
ECH Echery 161.87 351 PFAKE 15 21 10.0 +14
ECH LR LR
comp=Z,2μm,19.0s
MOTA Moosalm 161.90 342 ⇓⇓*i*PKPab PKPab 15 21 40.9 -0.6
comp=Z,17nm,1.1s
VISS Visnje 162.00 332 *i* PKPdf PKPab 15 21 42.2 +0.2
BOJS Bojanci 162.07 331 *i* PKPdf PKPab 15 21 43.8 +1.4
SFTF Sexfontaines 162.09 356 *e*PKP2 PKPab 15 21 41.5 -0.8
comp=Z,17nm,1.2s
HAU Haudompre 162.17 353 *e*PKP2 PKPab 15 21 41.8 -0.9
comp=Z,41nm,1.2s
JAVS Javornik 162.22 334 *i* PKPdf PKPab 15 21 42.5 -0.5
HINF Hinteralfeld 162.30 351 *e*PKP2 PKPab 15 21 42.1 -1.1
comp=Z,48nm,1.6s
TORD Torodi Ar. Bea 162.85 176 PKP PKPdf 15 20 59.2 +1.7
comp=Z,3.6nm,1.1s,baz=198,slow=0.7,SNR=10
TORD PKPab PKPab 15 21 49.6 +3.2
comp=Z,5.0nm,0.9s,baz=186,slow=3.9,SNR=9.1
TORD Torodi Ar. Bea 162.85 176 PKP PKPdf 15 20 59.2 +1.7
TORD PKPab PKPab 15 21 49.6 +3.2
LOR Lormes 163.08 358 *e*PKP2 PKPab 15 21 45.6 -1.1
comp=Z,20nm,1.1s
SSF Saint Saulge 163.30 359 *e*PKP2 PKPab 15 21 46.6 -1.0
comp=Z,32nm,1.3s
AVF Avril sur Loir 163.57 359 *e*PKP2 PKPab 15 21 47.5 -1.3
CABF La Chapelle 163.58 352 *e*PKP2 PKPab 15 21 48.2 -0.7
MFF Saint Martin d 163.58 8 *e*PKP2 PKPab 15 21 47.7 -1.2
comp=Z,64nm,1.2s
SMF Signal de Mont 163.71 358 *e*PKP2 PKPab 15 21 48.4 -1.0
comp=Z,51nm,1.2s
TCF Toulx Ste Croi 164.07 2 *e*PKP2 PKPab 15 21 50.6 -0.4
comp=Z,90nm,1.8s
LPL La Plagne 164.57 350 *e*PKP2 PKPab 15 21 53.4 +0.2
comp=Z,33nm,1.2s
LPG La Plagne 164.58 350 *e*PKP2 PKPab 15 21 53.7 +0.4
comp=Z,66nm,1.5s
RJF Les Rejaudoux 165.02 4 *e*PKP2 PKPab 15 21 54.0 -1.2
comp=Z,46nm,1.3s
BNI Bardonecchia 165.03 350 PFAKE 15 21 10.0 +11
BNI LR LR
comp=Z,2μm,20.0s
AQU L'Aquila 165.38 328 PFAKE 15 21 10.0 +11
AQU LR LR
comp=Z,3μm,21.0s
CUC Castrocucco 165.78 316 PFAKE 15 21 10.0 +11
CUC LR LR
comp=Z,1μm,19.0s
FRF La Foret Royal 166.49 349 *e*PKP2 PKPab 15 22 00.7 -1.1
CEL Celeste 166.74 310 PFAKE 15 21 10.0 +10
CEL LR LR
comp=Z,2μm,20.0s
ESDC Sonseca Array 169.09 30 PKPab PKPab 15 22 13.5 +0.1
comp=Z,0.9nm,0.8s,baz=297,slow=3.2,SNR=4.1
ESLA Sonseca Array 169.09 30 PFAKE 15 21 10.0 +8.2
ESLA LR LR
comp=Z,15μm,19.0s

ISCJB ***02*** *15:06:56.3±1.1, 51.48N±0.09×174.36W±0.07, h44km±7km, mb4.4/36, Error ellipse: s-maj=15.0km s-min=6.7km az=166.1*
NEIC ***02*** *15:06:57.0±0.4, 51.51N×174.33W, h35km, mb4.8/18, Error ellipse: s-maj=10.1km s-min=5.3km az=168.0*
IDC ***02*** *15:06:57.9±0.8, 51.55N×174.40W, h46km±7km, mb3.8/17, mb1 4.0/20, mb1mx3.9/28, mbtmp3.8/20, ML3.8/3, Error ellipse: s-maj=20.8km s-min=14.4km az=159.0*
MOS ***02*** *15:06:58.8±0.9, 52.22N×174.61W, h33km, mb4.9/11, Error ellipse: s-maj=16.0km s-min=9.8km az=88.9*
ISC 02 15:06:57.0±1.1, 51.49N±0.08×174.32W±0.07, h36km±7km, h51km±1.0km; pP-P, n153, σ06.92/155, mb4.4/36, 1C, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
ATKA	**Atka Island**	**0.72**	**6**	P	**Pn**	**15 07 10.5**	**-0.1**
ATKA				S	**Sn**	**15 07 22.1**	**+1.6**
GSTR	**Great Sitkin T**	**1.24**	**300**	*e*P	**Pn**	**15 07 17.1**	**-0.6**
ADK	**Adak**	**1.52**	**286**	P	**Pn**	**15 07 20.5**	**-1.2**
ADK				S	**Sn**	**15 07 40.0**	**-0.2**
ADK	**Adak**	**1.52**	**286**	P	**Pn**	**15 07 20.5**	**-1.2**
ADK				S	**Sn**	**15 07 40.0**	**-0.2**
NIKO	**Nikolski**	**3.68**	**64**	*e*P	**Pn**	**15 07 52.0**	**+0.7**
UNV	**Unalaska Valle**	**5.31**	**61**	*e*P	**Pn**	**15 08 17.6**	**+3.8**
AKUT	**Akutan**	**5.82**	**60**	*e*P	**Pn**	**15 08 29.0**	**+8.2**
FX1	**Attu Island--F**	**7.82**	**285**	P	**Pn**	**15 08 49.2**	**+1.1**
	1.6nm,0.3s,baz=80,slow=22,SNR=22						
FX1				S	**Sn**	**15 10 24.5**	**+9.2**
	0.9nm,0.3s,baz=356,slow=19,SNR=2.3						
FX1	**Attu Island--F**	**7.82**	**285**	P	**Pn**	**15 08 49.2**	**+1.1**
FX1				S	**Sn**	**15 10 24.5**	**+9.2**
FX1	**Attu Island--F**	**7.82**	**285**	P	**Pn**	**15 08 49.3**	**+1.2**
KDAK	**Kodiak Island**	**14.04**	**55**	P	**Pn**	**15 10 10.8**	**-2.3**
	0.5nm,0.3s,baz=212,slow=4.6,SNR=9.8						
KDAK	**Kodiak Island**	**14.04**	**55**	P	**Pn**	**15 10 10.8**	**-2.3**
KDAK	**Kodiak Island**	**14.04**	**55**	P	**Pn**	**15 10 10.9**	**-2.2**
PETK	**Petropavlovsk-**	**17.15**	**286**	P	**Pn**	**15 10 53.9**	**+0.3**
	0.2nm,0.3s,baz=101,slow=14,SNR=8.7						
PETK	**Petropavlovsk-**	**17.15**	**286**	P	**Pn**	**15 10 53.9**	**+0.3**
PETK	**Petropavlovsk-**	**17.15**	**286**	P	**Pn**	**15 10 53.9**	**+0.3**
MCK	**McKinley**	**18.15**	**38**	*e*P	**Pn**	**15 11 04.3**	**-1.5**
MCK	**McKinley**	**18.15**	**38**	*e*P	**Pn**	**15 11 04.3**	**-1.5**
BILL	**Bilibino**	**19.10**	**338**	*e*P	**Pn**	**15 11 18.1**	**+0.8**
	22nm,1.3s						
BILL	**Bilibino**	**19.10**	**338**	⇑*i*P	**Pn**	**15 11 17.9**	**+0.6**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.1s						
ILAR	**Eielson Array**	**19.45**	**36**	P	**Pn**	**15 11 18.3**	**-3.2**
	comp=Z,0.7nm,0.3s,baz=230,slow=8.2,SNR=62						
ILAR	**Eielson Array**	**19.45**	**36**	P	**Pn**	**15 11 18.3**	**-3.2**
ILAR	**Eielson Array**	**19.45**	**36**	P	**Pn**	**15 11 18.3**	**-3.2**
INK	**Inuvik**	**25.78**	**34**	P	**P**	**15 12 24.2**	**+0.1**
	comp=Z,2.6nm,0.9s,mb3.8,baz=260,slow=7.0,SNR=7.7						
INK	**Inuvik**	**25.78**	**34**	*e*P	**P**	**15 12 24.5**	**+0.5**
INK	**Inuvik**	**25.78**	**34**	*e*P	**P**	**15 12 24.5**	**+0.4**
DLBC	**Dease Lake**	**25.96**	**57**	P	**P**	**15 12 26.7**	**+1.0**
	comp=Z,4.4nm,0.9s,mb4.0,baz=282,slow=9.3,SNR=5.8						
DLBC	**Dease Lake**	**25.96**	**57**	P	**P**	**15 12 26.7**	**+1.0**
MDJ	**Mudanjiang**	**37.30**	**282**	P	**P**	**15 14 03.0**	**-2.4**
MDJ				pmax	pmax		
	comp=Z,24nm,1.9s,mb4.7						
MDJ				pmax	pmax		
	comp=Z,310nm,5.7s						
KSRS	**Korea Array**	**42.43**	**274**	P	**P**	**15 14 51.8**	**+3.8**
	comp=Z,2.0nm,0.9s,mb3.7,baz=280,slow=5.3,SNR=2.3						
KSRS	**Korea Array**	**42.43**	**274**	P	**P**	**15 14 51.8**	**+3.8**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.8						
PDAR	**Pinedale Array**	**43.59**	**75**	P	**P**	**15 14 58.5**	**+1.1**
	comp=Z,0.8nm,0.6s,mb3.6,baz=317,slow=4.9,SNR=5.0						
PDAR	**Pinedale Array**	**43.59**	**75**	P	**P**	**15 14 58.5**	**+1.1**
ULM	**Lac du Bonnet**	**47.26**	**59**	P	**P**	**15 15 25.9**	**-0.3**
	comp=Z,2.4nm,0.6s,mb4.3,baz=333,slow=14,SNR=3.7						
ULM	**Lac du Bonnet**	**47.26**	**59**	P	**P**	**15 15 25.9**	**-0.3**
SONM	**Songino Array**	**49.08**	**299**	P	**P**	**15 15 40.4**	**+0.1**
	comp=Z,1.0nm,0.8s,mb3.9,baz=57,slow=7.7,SNR=4.4						
SONM				PcP	PcP	15 17 03.0	-0.5
	comp=Z,0.8nm,0.8s,baz=57,slow=2.1,SNR=4.2						
SONM	**Songino Array**	**49.08**	**299**	P	**P**	**15 15 40.4**	**+0.1**
SONM				PcP	PcP	15 17 03.0	-0.5
SONM	**Songino Array**	**49.08**	**299**	P	**P**	**15 15 40.4**	**+0.1**
SONM						15 17 03.0	
TXAR	**Lajitas Array**	**55.86**	**85**	P	**P**	**15 16 31.6**	**+0.7**
	comp=Z,0.4nm,0.7s,mb3.6,baz=294,slow=6.8,SNR=2.8						
TXAR	**Lajitas Array**	**55.86**	**85**	P	**P**	**15 16 31.6**	**+0.7**
TXAR	**Lajitas Array**	**55.86**	**85**	P	**P**	**15 16 31.6**	**+0.8**
ZALV	**Zalesovo Beam**	**55.95**	**316**	PcP	PcP	15 17 29.2	-0.1
	comp=Z,0.7nm,0.6s,baz=56,slow=3.6,SNR=5.2						
ARCES	**ARCESS Array B**	**58.42**	**352**	P	**P**	**15 16 46.5**	**-1.8**
	comp=Z,3.4nm,0.8s,mb4.4,baz=15,slow=7.5,SNR=5.6						
ARCES	**ARCESS Array B**	**58.42**	**352**	P	**P**	**15 16 46.5**	**-1.8**
ARCES	**ARCESS Array B**	**58.42**	**352**	P	**P**	**15 16 46.5**	**-1.8**
KURK	**Kurchatov**	**60.93**	**316**	*e*P	**P**	**15 17 05.3**	**-0.6**
KURK	**Kurchatov**	**60.93**	**316**	*e*P	**P**	**15 17 05.3**	**-0.6**
MKAR	**Makanchi Array**	**62.12**	**311**	P	**P**	**15 17 12.9**	**-1.1**
	comp=Z,0.5nm,0.3s,mb4.1,baz=45,slow=6.5,SNR=25						
MKAR				pP	pP	15 17 27.0	+2.2
	comp=Z,0.8nm,0.7s,baz=58,slow=6.3,SNR=4.7						
MKAR	**Makanchi Array**	**62.12**	**311**	P	**P**	**15 17 12.9**	**-1.1**
MKAR				pP	pP	15 17 27.0	+2.2
MKAR	**Makanchi Array**	**62.12**	**311**	P	**P**	**15 17 12.9**	**-1.1**
MKAR				*PP	pP	15 17 27.0	+2.2
FINES	**FINESS Array B**	**66.24**	**349**	P	**P**	**15 17 39.4**	**-1.3**
	comp=Z,1.7nm,0.7s,mb4.2,baz=14,slow=7.1,SNR=3.7						
FINES	**FINESS Array B**	**66.24**	**349**	P	**P**	**15 17 39.4**	**-1.3**
FINES	**FINESS Array B**	**66.24**	**349**	P	**P**	**15 17 39.4**	**-1.3**
NOA	**NORSAR Array B**	**67.74**	**357**	P	**P**	**15 17 49.6**	**-0.6**
	comp=Z,2.5nm,0.9s,mb4.2,baz=2.9,slow=6.5,SNR=4.1						
NOA	**NORSAR Array B**	**67.74**	**357**	P	**P**	**15 17 49.6**	**-0.6**
NOA	**NORSAR Array B**	**67.74**	**357**	P	**P**	**15 17 49.6**	**-0.6**
LSA	**Lhasa**	**70.02**	**293**	*e*P	**P**	**15 18 06.8**	**+1.8**
	comp=Z,3.3nm,0.6s,mb4.4						
LSA	**Lhasa**	**70.02**	**293**	*e*P	**P**	**15 18 06.8**	**+1.9**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
TAPN	**Taplejung**	**73.77**	**293**	*e*P	**P**	**15 18 28.3**	**+0.9**
	comp=Z,24nm,0.7s,mb5.2						
TAPN	**Taplejung**	**73.77**	**293**	*e*P	**P**	**15 18 28.3**	**+0.9**
	comp=Z,24nm,0.7s,mb5.2						
CMAR	**Chiang Mai Arr**	**73.78**	**279**	P	**P**	**15 18 28.0**	**+0.4**
	comp=Z,0.7nm,0.6s,mb3.8,baz=26,slow=5.9,SNR=6.8						
CMAR	**Chiang Mai Arr**	**73.78**	**279**	P	**P**	**15 18 28.0**	**+0.4**
CMAR	**Chiang Mai Arr**	**73.78**	**279**	P	**P**	**15 18 28.0**	**+0.4**
ODAN	**Odare**	**74.32**	**293**	*e*P	**P**	**15 18 31.4**	**+0.7**
ODAN	**Odare**	**74.32**	**293**	*e*P	**P**	**15 18 31.4**	**+0.7**
GUN	**Gumba**	**74.38**	**295**	*e*P	**P**	**15 18 31.6**	**+0.6**
	comp=Z,32nm,0.7s,mb5.4						
GUN	**Gumba**	**74.38**	**295**	*e*P	**P**	**15 18 31.6**	**+0.6**
	comp=Z,32nm,0.7s,mb5.4						
KKN	**Kakani**	**74.81**	**295**	*e*P	**P**	**15 18 34.0**	**+0.5**
	comp=Z,9.9nm,0.7s,mb4.9						
KKN	**Kakani**	**74.81**	**295**	*e*P	**P**	**15 18 34.0**	**+0.5**
	comp=Z,9.9nm,0.7s,mb4.8						
KKN	**Kakani**	**74.81**	**295**	*e*P	**P**	**15 18 34.0**	**+0.5**
KKN				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
PKI	**Pulchoki**	**74.91**	**295**	*e*P	**P**	**15 18 34.6**	**+0.5**
PKI	**Pulchoki**	**74.91**	**295**	*e*P	**P**	**15 18 34.6**	**+0.5**
PKI	**Pulchoki**	**74.91**	**295**	*e*P	**P**	**15 18 34.6**	**+0.5**
GKN	**Gorkha**	**75.01**	**296**	*e*P	**P**	**15 18 35.1**	**+0.4**
	comp=Z,22nm,0.8s,mb5.1						
GKN	**Gorkha**	**75.01**	**296**	*e*P	**P**	**15 18 35.1**	**+0.4**
	comp=Z,22nm,0.8s,mb5.1						
DMN	**Daman**	**75.05**	**295**	*e*P	**P**	**15 18 35.8**	**+0.9**
DMN	**Daman**	**75.05**	**295**	*e*P	**P**	**15 18 35.8**	**+0.9**
DANN	**Dangsing**	**75.23**	**297**	*e*P	**P**	**15 18 37.0**	**+1.0**
	comp=Z,33nm,0.7s,mb5.4						
DANN	**Dangsing**	**75.23**	**297**	*e*P	**P**	**15 18 37.0**	**+1.0**
	comp=Z,33nm,0.7s,mb5.4						
KOLN	**Koldanda**	**75.77**	**297**	*e*P	**P**	**15 18 39.3**	**+0.3**
	comp=Z,23nm,1.0s,mb5.1						
KOLN	**Koldanda**	**75.77**	**297**	*e*P	**P**	**15 18 39.3**	**+0.3**
	comp=Z,23nm,1.0s,mb5.1						
AKASG	**Malin Array Be**	**76.24**	**345**	P	**P**	**15 18 40.0**	**-1.3**
	comp=Z,1.0nm,0.5s,mb4.0,baz=18,slow=5.9,SNR=3.6						
AKASG	**Malin Array Be**	**76.24**	**345**	P	**P**	**15 18 40.0**	**-1.3**
AKASG	**Malin Array Be**	**76.24**	**345**	P	**P**	**15 18 40.0**	**-1.3**
CLL	**Collm**	**77.39**	**355**	*e*P	**P**	**15 18 48.0**	**+0.2**
KBL	**Kabul**	**77.93**	**311**	*e*P	**P**	**15 18 50.7**	**-0.4**
	comp=Z,7.7nm,1.3s,mb4.5						
KBL	**Kabul**	**77.93**	**311**	*e*P	**P**	**15 18 50.7**	**-0.4**
KBL				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
GIVF	**Givet**	**78.78**	**1**	*e*P	**P**	**15 18 55.5**	**0.0**
GIVF	**Givet**	**78.78**	**1**	*e*P	**P**	**15 18 55.5**	**0.0**
GIVF	**Givet**	**78.78**	**1**	*e*P	**P**	**15 18 55.5**	**0.0**
BAIF	**Baives**	**78.82**	**1**	*e*P	**P**	**15 18 56.0**	**+0.2**
BAIF	**Baives**	**78.82**	**1**	*e*P	**P**	**15 18 56.0**	**+0.2**
BAIF	**Baives**	**78.82**	**1**	*e*P	**P**	**15 18 56.0**	**+0.2**
GERES	**GERESS Array B**	**79.81**	**355**	P	**P**	**15 19 01.1**	**-0.1**
	comp=Z,0.8nm,0.8s,mb3.7,baz=354,slow=4.9,SNR=7.2						
GERES	**GERESS Array B**	**79.81**	**355**	P	**P**	**15 19 01.1**	**-0.1**
GERES	**GERESS Array B**	**79.81**	**355**	P	**P**	**15 19 01.1**	**-0.1**
LDF	**La Druitiere**	**80.17**	**4**	*e*P	**P**	**15 19 02.7**	**-0.4**
	comp=Z,4.9nm,0.7s,mb4.3						
LDF	**La Druitiere**	**80.17**	**4**	*e*P	**P**	**15 19 02.7**	**-0.4**
	comp=Z,2.5nm,0.7s,mb4.2						
LDF	**La Druitiere**	**80.17**	**4**	*e*P	**P**	**15 19 02.7**	**-0.4**
LDF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
GRR	**Gorron**	**80.35**	**4**	*e*P	**P**	**15 19 04.0**	**-0.1**
GRR	**Gorron**	**80.35**	**4**	*e*P	**P**	**15 19 04.0**	**-0.1**
GRR	**Gorron**	**80.35**	**4**	*e*P	**P**	**15 19 04.0**	**-0.1**
CDF	**Champ du Feu**	**80.47**	**359**	*e*P	**P**	**15 19 04.9**	**+0.2**
CDF	**Champ du Feu**	**80.47**	**359**	*e*P	**P**	**15 19 04.9**	**+0.2**
CDF	**Champ du Feu**

TCF	**Toulx Ste Croi**	**82.56**	**2**	*e*P		**P**	**15 19 15.8**	**0.0**	
	comp=Z,3.5nm,0.5s,mb4.3								
TCF	**Toulx Ste Croi**	**82.56**	**2**	*e*P		**P**	**15 19 15.8**	**0.0**	
	comp=Z,1.8nm,0.5s,mb4.4								
TCF	**Toulx Ste Croi**	**82.56**	**2**	*e*P		**P**	**15 19 15.8**	**0.0**	
TCF				pmax	pmax				
	comp=Z,2.0nm,0.5s,mb4.4								
RJF	**Les Rejaudoux**	**83.52**	**3**	*e*P		**P**	**15 19 20.6**	**-0.2**	
	comp=Z,5.8nm,0.8s,mb4.5								
RJF	**Les Rejaudoux**	**83.52**	**3**	*e*P		**P**	**15 19 20.6**	**-0.2**	
	comp=Z,2.9nm,0.8s,mb4.5								
RJF	**Les Rejaudoux**	**83.52**	**3**	*e*P		**P**	**15 19 20.6**	**-0.2**	
RJF				pmax	pmax				
	comp=Z,3.0nm,0.8s,mb4.5								
WRA	**Warramunga Arr**	**84.10**	**228**	P		**P**	**15 19 22.1**	**-1.8**	
	comp=Z,0.6nm,0.7s,mb3.9,baz=36,slow=6.2,SNR=3.9								
WRA				pP	pP		15 19 36.3	+1.1	
	comp=Z,0.6nm,0.7s,baz=34,slow=5.8,SNR=3.0								
WRA	**Warramunga Arr**	**84.10**	**228**	P		**P**	**15 19 22.1**	**-1.8**	
WRA				pP	pP		15 19 36.3	+1.1	
WRA	**Warramunga Arr**	**84.10**	**228**	P		**P**	**15 19 22.1**	**-1.8**	
WRA				*PP	pP		15 19 36.3	+1.2	
ASAR	**Alice Springs**	**87.52**	**226**	P		**P**	**15 19 39.9**	**-0.9**	
	comp=Z,0.9nm,0.8s,mb4.1,baz=28,slow=4.5,SNR=9.8								
ASAR				pP	pP		15 19 54.2	+2.1	
	comp=Z,0.6nm,0.6s,baz=23,slow=4.8,SNR=4.7								
ASAR				PKiKP	PKiKP		15 24 42.6	-1.8	
	comp=Z,0.4nm,0.7s,baz=32,slow=3.6,SNR=6.0								
ASAR	**Alice Springs**	**87.52**	**226**	P		**P**	**15 19 39.9**	**-0.9**	
ASAR				pP	pP		15 19 54.2	+2.1	
ASAR	**Alice Springs**	**87.52**	**226**	P		**P**	**15 19 39.9**	**-0.9**	
ASAR				*PP	pP		15 19 54.2	+2.1	
ESDC	**Sonseca Array**	**88.83**	**7**	P		**P**	**15 19 45.7**	**-1.3**	
	comp=Z,0.8nm,0.7s,mb4.2,baz=353,slow=5.4,SNR=5.3								
ESDC	**Sonseca Array**	**88.83**	**7**	P		**P**	**15 19 45.7**	**-1.3**	
STKA	**Stephens Creek**	**91.61**	**216**	P		**P**	**15 20 01.1**	**+1.3**	
	comp=Z,2.5nm,0.9s,mb4.6,baz=27,slow=6.8,SNR=3.5								
STKA	**Stephens Creek**	**91.61**	**216**	P		**P**	**15 20 01.1**	**+1.3**	
STKA	**Stephens Creek**	**91.61**	**216**	P		**P**	**15 20 01.1**	**+1.3**	
BOSA	**Boshof**	**152.84**	**320**	PKPab		PKPab	15 27 01.0	+0.1	
	comp=Z,3.0nm,0.7s,baz=341,slow=5.2,SNR=4.6								
BOSA	**Boshof**	**152.84**	**320**	PKPab		PKPab	15 27 01.0	+0.1	

TRN 02 15:12:55.1, 17°.08N×62°.37W, h17km, MD3.4, M3.5 (FDF), **1C, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBRV		**0.31**	**147**	*i* P	Pg	15 13 03.2	+1.4
MBGB		**0.37**	**158**	*i* P	Pg	15 13 04.5	+1.8
MBGB				*i* S	Sg	15 13 09.7	+1.8
MBWH		**0.38**	**152**	*i* P	Pg	15 13 04.3	+1.5
MBWH				*i* S	Sg	15 13 09.4	+1.4
MLYT	**Lee's Yard**	**0.40**	**154**	*i* P	Pg	15 13 04.8	+1.6
MLYT				*i* S	Sg	15 13 10.3	+1.6
SKI	**Saint Kitts**	**0.43**	**306**	⇑*i*P	Pg	15 13 06.3	+2.4
SKI				*e*S	Sg	15 13 12.9	+3.1
BPA	**Boggy Peak**	**0.49**	**93**	*e*P	Pg	15 13 08.0	+3.0
BPA				*e*S	Sg	15 13 15.3	+3.6
DOG	**Dongo Capester**	**1.27**	**145**	*e*P	Pn	15 13 20.0	+2.0
PHG	**Guadaloupe-2**	**1.27**	**146**	*e*P	Pn	15 13 20.0	+2.0
TBG	**Guadaloupe-3**	**1.40**	**150**	*e*P	Pn	15 13 22.2	+2.4
DEG	**La Desirade**	**1.47**	**121**	*e*P	Pn	15 13 22.5	+1.7
DEG				*e*S	Sn	15 13 42.0	+2.3
MGG	**Marie-Galante**	**1.54**	**138**	*e*P	Pn	15 13 23.5	+1.8

JMA ***02*** *15:25:04.4±0.9, 46°.54N×153°.06E, h30km, M4.5*
SKHL ***02*** *15:25:04.5±2.0, 45°.92N×153°.38E, h46km±14km, mb4.9/3*
ISCJB ***02*** *15:25:06.1±0.8, 46°.51N±0°.09×152°.8E±0°.1, h63km±7km, mb3.8/13, Error ellipse: s-maj=18.2km s-min=5.7km az=140.3*
MOS ***02*** *15:25:07.9±1.1, 46°.64N×152°.69E, h74km, mb4.5/1, Error ellipse: s-maj=14.8km s-min=10.7km az=64.4*
IDC ***02*** *15:25:08.6±4.2, 46°.74N×152°.58E, h55km±38km, mb3.5/12, mb1 3.7/14, mb1mx3.6/25, mbtmp3.6/14, ML3.6/2, Error ellipse: s-maj=24.9km s-min=21.9km az=133.0*
NEIC ***02*** *15:25:11.6±1.0, 46°.87N×152°.71E, h81km±10km, mb4.1/2, Error ellipse: s-maj=17.2km s-min=8.2km az=141.0*
ISC 02 15:25:08.2±0.7, 46°.53N±0°.08×152°.8E±0°.1, h62km±6km, n89, σ1°.9 26/104, mb3.8/13, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.67**	**251**	*e*PN	**Pn**	**15 26 02.5**	**+0.1**
KUR				*e*S	**Sn**	**15 26 45.0**	**+0.5**
KUR				pmax	pmax		
	comp=N,90nm,0.3s						
KUR				pmax	pmax		
	comp=Z,160nm,0.3s						
KUR				smax			
	comp=N,270nm,0.3s						
KUR				smax			
	comp=E,340nm,0.5s						
KUR	**Kuril'sk**	**3.67**	**251**	*e*P	**Pn**	**15 26 02.5**	**+0.1**
KUR				AMB	AMB	15 26 08.0	
	comp=E,90nm,0.3s						
KUR				AMB	AMB	15 26 08.0	
	comp=E,120nm,0.3s						
KUR				*e*S	**Sn**	**15 26 45.0**	**+0.5**
KUR				A		15 27 01.5	
	comp=E,230nm,0.5s						
KUR				A		15 27 01.5	
	comp=E,330nm,0.5s						
SKR	**Severo-Kuril's**	**4.70**	**27**	*e*PN	**Pn**	**15 26 19.0**	**+2.5**
SKR				*e*S	**Sn**	**15 27 08.2**	**-1.5**
SKR				pmax	pmax		
	comp=Z,20nm,0.5s						
SKR				pmax	pmax		
	comp=N,40nm,0.3s						
SKR				pmax	pmax		
	comp=E,30nm,0.3s						
SKR				smax			
	comp=N,60nm,0.2s						
SKR				smax			
	comp=E,90nm,0.2s						
SKR	**Severo-Kuril's**	**4.70**	**27**	*e*P	**Pn**	**15 26 19.0**	**+2.5**
SKR				AMB	AMB	15 26 23.2	
	comp=E,40nm,0.3s						
SKR				AMB	AMB	15 26 23.2	
	comp=E,30nm,0.3s						
SKR				AMB	AMB	15 26 23.2	
	comp=E,20nm,0.5s						
SKR				*e*S	**Sn**	**15 27 08.2**	**-1.5**
SKR				A		15 27 14.0	
	comp=E,60nm,0.2s						
SKR				A		15 27 14.0	
	comp=E,90nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**5.49**	**245**	⇓*i*P	**Pn**	**15 26 28.2**	**+1.0**
YUK				AMB	AMB	15 26 30.7	
	comp=E,124nm,0.3s						
YUK				AMB	AMB	15 26 30.7	
	comp=E,177nm,0.3s						
YUK				*i* S	**Sn**	**15 27 32.7**	**+3.7**
YUK				A		15 27 52.0	
	comp=E,410nm,0.5s						
YUK				A		15 27 52.0	
	comp=E,180nm,0.3s						
NEM2	**Nemuro 2**	**5.92**	**240**	P	**Pn**	**15 26 31.2**	**-1.9**
NEM2				*e*S	**Sn**	**15 27 34.5**	**-5.0**
JRA	**Rausu**	**6.00**	**247**	P	**Pn**	**15 26 35.3**	**+1.0**
JNK	**Nakash**	**6.43**	**246**	P	**Pn**	**15 26 40.6**	**+0.5**
JAK	**Akkeshi**	**6.76**	**241**	P	**Pn**	**15 26 42.9**	**-1.7**
JAK				*e*S	**Sn**	**15 27 56.0**	**-4.1**
JTKR	**Abashiri--Toko**	**6.77**	**251**	P	**Pn**	**15 26 46.1**	**+1.3**
YSS	**Yuzh-Sakhalins**	**6.91**	**277**	P	**Pn**	**15 26 48.2**	**+1.6**
YSS	**Yuzh-Sakhalins**	**6.91**	**277**	PN	**Pn**	**15 26 48.2**	**+1.6**
JMP	**Maruseppu**	**7.12**	**253**	P	**Pn**	**15 26 51.7**	**+2.2**
JAR	**Ashorobuto**	**7.17**	**246**	P	**Pn**	**15 26 50.6**	**+0.3**
JAR				*e*S	**Sn**	**15 28 10.8**	**+0.5**
PEA0B	**Petropavlovsk-**	**7.31**	**24**	*e*P	**Pn**	**15 26 52.2**	**+0.1**
PETK	**Petropavlovsk-**	**7.31**	**24**	P	**Pn**	**15 26 52.0**	**0.0**
	comp=E,0.3nm,0.3s,baz=183,slow=12,SNR=13						
PETK	**Petropavlovsk-**	**7.31**	**24**	P	**Pn**	**15 26 52.0**	**0.0**
PETK	**Petropavlovsk-**	**7.31**	**24**	PN	**Pn**	**15 26 52.1**	**0.0**
JKK2	**Kamakawa 2**	**7.57**	**253**	P	**Pn**	**15 26 57.5**	**+1.7**
ASAJ	**Asahikawa**	**7.58**	**255**	P	**Pn**	**15 26 58.1**	**+2.3**
	comp=E,1.3nm,0.3s,baz=76,slow=14,SNR=10						
ASAJ	**Asahikawa**	**7.58**	**255**	*e*P	**Pn**	**15 26 58.2**	**+2.4**
ASAJ	**Asahikawa**	**7.58**	**255**	PN	**Pn**	**15 26 58.2**	**+2.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**7.58**	**255**	P	**Pn**	**15 26 58.4**	**+2.6**
JCH	**Churui**	**7.79**	**243**	P	**Pn**	**15 26 57.8**	**-0.9**
JCH				*e*S	**Sn**	**15 28 20.7**	**-4.6**
JFR	**Furan**	**7.99**	**249**	P	**Pn**	**15 27 02.4**	**+1.0**
ERM	**Erimo**	**8.25**	**240**	*e*P	**Pn**	**15 27 06.1**	**+1.1**
ERM	**Erimo**	**8.25**	**240**	*e*PN	**Pn**	**15 27 06.1**	**+1.0**
JBT2	**Biratori 2**	**8.32**	**247**	P	**Pn**	**15 27 05.4**	**-0.6**
JNBK	**Urakawa-nobuka**	**8.35**	**243**	P	**Pn**	**15 27 04.9**	**-1.4**
JNBK				*e*S	**Sn**	**15 28 35.1**	**-3.9**
JEW	**Eniwo**	**8.88**	**250**	P	**Pn**	**15 27 13.4**	**-0.2**
JNB	**Noboribetsu**	**9.32**	**248**	P	**Pn**	**15 27 19.0**	**-0.7**
JKB	**Kayabe**	**9.63**	**245**	P	**Pn**	**15 27 22.1**	**-1.8**
JKB				*e*S	**Sn**	**15 29 03.8**	**-6.7**
JYM2	**Yakumo 2**	**9.93**	**248**	P	**Pn**	**15 27 27.2**	**-0.8**
JANG	**Nango**	**10.24**	**237**	P	**Pn**	**15 27 28.4**	**-3.9**
JANG				*e*S	**Sn**	**15 29 15.3**	**-10**
JTM	**Tenmabayashi**	**10.25**	**240**	P	**Pn**	**15 27 29.8**	**-2.5**
JTH	**Tanohata**	**10.34**	**234**	*e*S	**Sn**	**15 29 15.9**	**-12**
JRG	**Rokugo**	**11.40**	**236**	P	**Pn**	**15 27 45.9**	**-2.2**
JRG				*e*S	**Sn**	**15 29 46.8**	**-6.9**
JIO	**Ouri**	**11.67**	**230**	*e*S	**Sn**	**15 29 50.1**	**-10**
FX1	**Attu Island--F**	**14.61**	**57**	P	**Pn**	**15 28 30.1**	**-1.0**
	comp=Z,1.5nm,0.3s,baz=245,slow=16,SNR=11						
FX1				S	**Sn**	**15 30 59.4**	**-12**
	comp=Z,0.8nm,0.3s,baz=253,slow=19,SNR=8.4						
FX1	**Attu Island--F**	**14.61**	**57**	P	**Pn**	**15 28 30.1**	**-1.0**
FX1				S	**Sn**	**15 30 59.4**	**-12**
FX1	**Attu Island--F**	**14.61**	**57**	P	**Pn**	**15 28 30.1**	**-1.1**
MJAR	**Matsushiro Arr**	**14.77**	**233**	P	**Pn**	**15 28 40.0**	**+6.6**
	comp=Z,0.4nm,0.3s,baz=45,slow=8.3,SNR=11						
MJAR	**Matsushiro Arr**	**14.77**	**233**	P	**Pn**	**15 28 40.0**	**+6.6**
MJAR	**Matsushiro Arr**	**14.77**	**233**	P	**Pn**	**15 28 40.0**	**+6.6**
MAJO	**Matsushiro**	**14.77**	**233**	*e*P	**Pn**	**15 28 40.1**	**+6.8**
MAJO	**Matsushiro**	**14.77**	**233**	*e*P	**Pn**	**15 28 40.1**	**+6.7**
YAK	**Yakutsk**	**20.39**	**328**	*e*P	**P**	**15 29 39.7**	**+0.2**
	comp=Z,4.7nm,0.3s						
YAK	**Yakutsk**	**20.39**	**328**	*e*P	**P**	**15 29 39.7**	**+0.3**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
KSRS	**Korea Array**	**20.52**	**253**	P	**P**	**15 29 48.5**	**+7.4**
	comp=Z,0.7nm,0.6s,baz=57,slow=11,SNR=5.0						
KSRS	**Korea Array**	**20.52**	**253**	P	**P**	**15 29 48.5**	**+7.4**
ILAR	**Eielson Array**	**36.86**	**38**	P	**P**	**15 32 10.6**	**+0.6**
	comp=Z,0.6nm,1.0s,mb3.4,baz=276,slow=8.1,SNR=5.3						
ILAR	**Eielson Array**	**36.86**	**38**	P	**P**	**15 32 10.6**	**+0.6**
ILAR	**Eielson Array**	**36.86**	**38**	P	**P**	**15 32 10.6**	**+0.6**
ZALV	**Zalesovo Beam**	**42.56**	**306**	P	**P**	**15 32 56.1**	**-1.3**
	comp=Z,0.6nm,0.4s,mb3.7,baz=61,slow=6.1,SNR=4.6						
ZALV	**Zalesovo Beam**	**42.56**	**306**	P	**P**	**15 32 56.1**	**-1.3**
ZALV	**Zalesovo Beam**	**42.56**	**306**	P	**P**	**15 32 56.1**	**-1.3**
MK31	**Makanchi Array**	**46.84**	**297**	*e*P	**P**	**15 33 30.5**	**-1.0**
MK31	**Makanchi Array**	**46.84**	**297**	*e*P	**P**	**15 33 30.5**	**-1.1**
MKAR	**Makanchi Array**	**46.84**	**297**	P	**P**	**15 33 30.1**	**-1.4**
	comp=Z,0.3nm,0.5s,mb3.5,baz=68,slow=7.2,SNR=12						
MKAR				PcP	PcP	15 35 04.5	+0.9
	comp=Z,0.3nm,0.5s,baz=71,slow=4.1,SNR=4.8						
MKAR	**Makanchi Array**	**46.84**	**297**	P	**P**	**15 33 30.1**	**-1.4**
MKAR				PcP	PcP	15 35 04.5	+0.9
MKAR	**Makanchi Array**	**46.84**	**297**	P	**P**	**15 33 30.2**	**-1.4**
MKAR						15 35 04.5	
CMAR	**Chiang Mai Arr**	**52.10**	**256**	P	**P**	**15 34 13.5**	**+1.6**
	comp=Z,0.8nm,1.0s,mb3.6,baz=29,slow=9.6,SNR=5.5						
CMAR	**Chiang Mai Arr**	**52.10**	**256**	P	**P**	**15 34 13.5**	**+1.6**
CMAR	**Chiang Mai Arr**	**52.10**	**256**	P	**P**	**15 34 13.5**	**+1.6**
ARCES	**ARCESS Array B**	**57.98**	**341**	P	**P**	**15 34 53.6**	**0.0**
	comp=Z,3.3nm,0.9s,mb4.4,baz=27,slow=6.1,SNR=2.8						
ARCES	**ARCESS Array B**	**57.98**	**341**	P	**P**	**15 34 53.6**	**0.0**
ARCES	**ARCESS Array B**	**57.98**	**341**	P	**P**	**15 34 53.6**	**-0.1**
ABKAR	**Akbulak array**	**58.39**	**310**	*e*P	**P**	**15 34 56.1**	**-0.7**
	comp=Z,0.6nm,0.4s,mb4.0						
NVAR	**Mina Array Bea**	**62.73**	**62**	P	**P**	**15 35 28.4**	**+1.9**
	comp=Z,0.2nm,0.5s,mb3.5,baz=299,slow=4.0,SNR=2.8						
NVAR	**Mina Array Bea**	**62.73**	**62**	P	**P**	**15 35 28.4**	**+1.9**
FINES	**FINESS Array B**	**64.14**	**335**	P	**P**	**15 35 34.7**	**-0.7**
	comp=Z,1.3nm,0.5s,mb4.2,baz=30,slow=6.7,SNR=14						
FINES	**FINESS Array B**	**64.14**	**335**	P	**P**	**15 35 34.7**	**-0.7**
FINES	**FINESS Array B**	**64.14**	**335**	P	**P**	**15 35 34.7**	**-0.7**
NOA	**NORSAR Array B**	**68.36**	**341**	P	**P**	**15 36 02.6**	**+0.2**
	comp=Z,1.0nm,0.8s,mb3.9,baz=28,slow=6.4,SNR=11						
NOA	**NORSAR Array B**	**68.36**	**341**	P	**P**	**15 36 02.6**	**+0.2**
NOA	**NORSAR Array B**	**68.36**	**341**	P	**P**	**15 36 02.7**	**+0.3**
AKASG	**Malin Array Be**	**71.60**	**326**	P	**P**	**15 36 21.4**	**-1.0**
	comp=Z,1.1nm,0.4s,mb4.2,baz=35,slow=6.4,SNR=4.4						
AKASG	**Malin Array Be**	**71.60**	**326**	P	**P**	**15 36 21.4**	**-1.0**
AKASG	**Malin Array Be**	**71.60**	**326**	P	**P**	**15 36 21.5**	**-1.0**
ASAR	**Alice Springs**	**71.93**	**198**	P	**P**	**15 36 26.4**	**+1.8**
	comp=Z,0.3nm,0.6s,mb3.4,baz=9.4,slow=5.8,SNR=9.6						
ASAR	**Alice Springs**	**71.93**	**198**	P	**P**	**15 36 26.4**	**+1.8**
ASAR	**Alice Springs**	**71.93**	**198**	P	**P**	**15 36 26.5**	**+1.9**
CLL	**Collm**	**76.57**	**335**	*e*P	**P**	**15 36 52.0**	**+0.6**
BRTR	**Keskin Array B**	**78.39**	**317**	P	**P**	**15 37 03.0**	**+1.1**
	comp=Z,1.0nm,0.9s,mb3.7,baz=29,slow=6.6,SNR=4.1						
BRTR	**Keskin Array B**	**78.39**	**317**	P	**P**	**15 37 03.0**	**+1.1**
BRTR	**Keskin Array B**	**78.39**	**317**	P	**P**	**15 37 03.0**	**+1.2**
GERES	**GERESS Array B**	**78.55**	**334**	P	**P**	**15 37 01.9**	**-0.6**
	comp=Z,0.4nm,0.5s,mb3.6,baz=46,slow=5.6,SNR=5.4						
GERES	**GERESS Array B**	**78.55**	**334**	P	**P**	**15 37 01.9**	**-0.6**
GERES	**GERESS Array B**	**78.55**	**334**	P	**P**	**15 37 01.9**	**-0.6**

TRN 02 15:52:52.9, 17°.10N×62°.34W, h15km, MD3.0, M3.6 (FDF), **2C, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBRV		**0.32**	**154**	*i* P	Pg	15 53 01.5	+1.9
MBGB		**0.38**	**163**	*i* P	Pg	15 53 02.8	+2.1
MBWH		**0.39**	**158**	*i* P	Pg	15 53 02.6	+1.9
MLYT	**Lee's Yard**	**0.41**	**159**	*i* P	Pg	15 53 02.0	+0.9
MLYT	**Lee's Yard**	**0.41**	**159**	⇑*i*P	Pg	15 53 03.0	+1.9
SKI	**Saint Kitts**	**0.44**	**301**	*e*P	Pg	15 53 04.7	+2.9
SKI				*e*S	Sg	15 53 10.9	+3.1
BPA	**Boggy Peak**	**0.47**	**97**	⇑*i*P	Pg	15 53 05.1	+2.9
BPA				*i* S	Sg	15 53 12.0	+3.5
BCG	**Bois Riant Cap**	**1.23**	**145**	*e*P	Pn	15 53 17.9	+2.3
SCG	**Saint Claude**	**1.24**	**149**	*e*P	Pn	15 53 17.7	+1.9
HMG	**Houelmont**	**1.27**	**151**	*e*P	Pn	15 53 18.1	+1.9
DEG	**La Desirade**	**1.46**	**122**	*e*P	Pn	15 53 20.9	+2.2
DEG				*e*S	Sn	15 53 40.1	+2.5

BJI ***02*** *16:00:15.6, 51°.22N×89°.29E, h11km, mB4.8/6, mb4.2/21, ML5.0/4, Ms4.7/14, Ms7 4.5/12*
IDC ***02*** *16:00:16.1±0.6, 51°.12N×89°.50E, h0km, mb4.0/13, mb1 4.3/19, mb1mx4.2/31, mbtmp4.1/19, ML4.3/5, MS3.3/2, Ms1 3.3/2, ms1mx2.8/41, Error ellipse: s-maj=15.0km s-min=9.7km az=171.0*
ISCJB ***02*** *16:00:16.9±0.2, 51°.10N±0°.03×89°.50E±0°.04, h10km, mb4.5/57, MS4.3/2, Error ellipse: s-maj=3.9km s-min=3.4km az=25.4*
ASRS ***02*** *16:00:17.2±0.8, 51°.27N×89°.38E, h15km, Ms4.3*
LDG ***02*** *16:00:17.6±0.1, 51°.02N×89°.32E, h10km, Mb4.9/12, Error ellipse: s-maj=6.4km s-min=3.5km az=33.0*
MOS ***02*** *16:00:18.2±1.4, 51°.11N×89°.66E, h23km, mb4.8/25, Error ellipse: s-maj=6.9km s-min=5.7km az=130.3*
NEIC ***02*** *16:00:18.7±0.3, 51°.22N×89°.65E, h10km, mb4.8/28, Error ellipse: s-maj=8.2km s-min=7.0km az=209.0*
NNC ***02*** *16:00:23.3±1.6, 51°.25N×88°.47E, h0km, mb4.9, mpv5.0, Error ellipse: s-maj=16.1km s-min=9.1km az=66.0*
ISC 02 16:00:18.8±0.2, 51°.13N±0°.03×89°.54E±0°.04, h10km, n267, σ1°.41/284, mb4.5/57, MS4.3/2, 19C-8D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAR	**Aktash**	**1.47**	**237**	*e*Pg	**Pg**	**16 00 43.0**	**-4.0**
AKAR				*e*Sg	**Sg**	**16 01 02.6**	**-3.4**
AKAR	**Aktash**	**1.47**	**237**	*e*PG	**Pg**	**16 00 43.0**	**-4.0**
TASR	**Tashtagol**	**1.93**	**328**	*e*Pg	**Pn**	**16 00 49.6**	**-2.0**
TASR				*e*Sg	**Sn**	**16 01 13.6**	**-2.3**
TASR	**Tashtagol**	**1.93**	**328**	*e*PN	**Pn**	**16 00 49.6**	**-2.0**
CERR	**Cheremushki**	**2.08**	**33**	*e*Pg	**Pn**	**16 00 53.4**	**-0.2**
CERR				*e*Sg	**Sn**	**16 01 20.9**	**+1.4**
CERR	**Cheremushki**	**2.08**	**33**	*e*PN	**Pn**	**16 00 53.4**	**-0.2**
CERR				*e*		16 01 20.9	
ELT	**Yel'tsovka**	**2.95**	**318**	*e*Pg	**Pn**	**16 01 05.1**	**-0.5**
ELT				*e*Sg	**Sn**	**16 01 42.8**	**+1.8**
ELT	**Yel'tsovka**	**2.95**	**318**	*e*PN	**Pn**	**16 01 05.1**	**-0.5**
ELT				*e*		16 01 42.8	
UKR	**Ust'-Kan**	**3.02**	**268**	*e*Pn	**Pn**	**16 01 06.2**	**-0.4**
UKR				*e*Pg	**Pg**	**16 01 11.2**	**-5.4**
UKR				*e*Sg	**Sg**	**16 01 49.1**	**-6.6**
UKR	**Ust'-Kan**	**3.02**	**268**	*e*PN	**Pn**	**16 01 06.2**	**-0.4**
UKR				*e*		16 01 49.1	
ZAA0	**Zalesovo Array**	**4.03**	**316**	*e*P	**Pn**	**16 01 18.6**	**-1.9**
ZAA0				*e*S	**Sn**	**16 02 05.4**	**-2.3**
ZALV	**Zalesovo Beam**	**4.03**	**316**	Pn	**Pn**	**16 01 18.0**	**-2.6**
	17nm,0.3s,baz=132,slow=13,SNR=146						
ZALV				Sn	**Sn**	**16 02 06.3**	**-1.4**
	176nm,0.3s,baz=118,slow=13,SNR=6.2						
ZALV				LR	LR	16 03 08.1	
	comp=Z,443nm,21.1s,baz=136,slow=43						
ZALV	**Zalesovo Beam**	**4.03**	**316**	Pn	**Pn**	**16 01 18.0**	**-2.5**
ZALV				Sn	**Sn**	**16 02 06.3**	**-1.4**
ZALV				LR	LR	16 03 08.1	
ZALV	**Zalesovo Beam**	**4.03**	**316**	PN	**Pn**	**16 01 18.0**	**-2.5**
ORY	**Orie**	**5.13**	**39**	⇓*i*PN	**Pn**	**16 01 33.8**	**-1.7**
ORY				*i*		16 01 49.7	
ORY						16 02 57.2	
NVS	**Novosibirsk**	**5.32**	**317**	*e*Pn	**Pn**	**16 01 36.0**	**-2.2**
NVS				*e*Pg	**Pg**	**16 01 52.4**	**-8.2**
NVS				*e*Sn	**Sn**	**16 02 31.9**	**-7.6**
NVS				*e*Sg	**Sg**	**16 02 56.4**	**-13**
NVS	**Novosibirsk**	**5.32**	**317**	*e*PN	**Pn**	**16 01 36.0**	**-2.2**
NVS				*e*		16 02 56.4	
MK31	**Makanchi Array**	**6.45**	**231**	⇑Pn	**Pn**	**16 01 53.8**	**0.0**
	40nm,0.5s,baz=60,slow=12,SNR=934						
MK31				⇓Pg	**Pg**	**16 02 12.5**	**-10**
	154nm,0.7s,baz=48,slow=13,SNR=7.2						
MK31				⇑Lg		16 03 35.7	
	1μm,1.2s,baz=333,slow=40,SNR=5.5						
MK31	**Makanchi Array**	**6.45**	**231**	*e*PN	**Pn**	**16 01 53.7**	**-0.1**
MK31				pmax	pmax		
	comp=Z,26nm,0.3s						
MKAR	**Makanchi Array**	**6.45**	**231**	Pn	**Pn**	**16 01 53.5**	**-0.3**
	comp=Z,6.8nm,0.3s,baz=56,slow=13,SNR=124						
MKAR				Lg		16 03 40.5	
	comp=Z,36nm,0.3s,baz=46,slow=29,SNR=5.1						
MKAR				LR	LR	16 04 50.9	
	comp=Z,268nm,21.0s,baz=33,slow=43						
MKAR	**Makanchi Array**	**6.45**	**231**	Pn	**Pn**	**16 01 53.5**	**-0.3**
MKAR				Lg		16 03 40.5	
MKAR				LR	LR	16 04 50.9	
MKAR	**Makanchi Array**	**6.45**	**231**	PN	**Pn**	**16 01 53.5**	**-0.3**
MKAR						16 03 40.5	
KURK	**Kurchatov**	**6.92**	**271**	Pn	**Pn**	**16 01 57.4**	**-2.7**
	comp=Z,186nm,0.9s						
KURK	**Kurchatov**	**6.92**	**271**	Pn	**Pn**	**16 01 59.1**	**-1.0**
	comp=Z,2.9nm,0.3s,baz=84,slow=15,SNR=45						
KURK				Sn	**Sn**	**16 03 16.8**	**-2.1**
	comp=Z,7.8nm,0.3s,baz=81,slow=26,SNR=8.3						
KURK				Lg		16 03 52.1	
	comp=Z,6.2nm,0.3s,baz=79,slow=33,SNR=8.1						
KURK	**Kurchatov**	**6.92**	**271**	*e*P	**Pn**	**16 01 58.3**	**-1.8**
KURK				Sn	**Sn**	**16 03 16.8**	**-2.1**
KURK				*e*Sg	**Sg**	**16 03 51.9**	**-8.8**
KURK				Lg		16 03 52.1	
KURK	**Kurchatov**	**6.92**	**271**	PN	**Pn**	**16 02 02.8**	**+2.6**
KURK				pmax	pmax		
	comp=Z,186nm,0.9s						
MOY	**Mondy**	**7.18**	**81**	*e*PN	**Pn**	**16 02 00.2**	**-3.6**
MOY				*e*		16 02 23.9	
MOY				*e*		16 03 55.8	
MOY				pmax	pmax		
	comp=Z,112nm,1.3s						
MOY				smax			
	comp=N,3μm,1.5s						
WMQ	**Urumqi**	**7.42**	**190**	*e*Pn	**Pn**	**16 02 07.0**	**-0.1**

GTA	**Gaotai**	**13.76**	**144**	*e*P	**Pn**	**16 03 40.2**	**+6.5**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
GTA				LR	LR		
	comp=N,1μm,11.4s						
GTA				LR	LR		
	comp=E,3μm,11.4s						
GTA				LR	LR		
	comp=Z,1μm,10.4s						
KK31	**Karatay Array**	**15.21**	**246**	⇑Pn	**Pn**	**16 03 48.6**	**-4.8**
	comp=Z,12nm,0.7s						
KK31				⇓Lg		16 08 10.5	
	comp=Z,152nm,1.3s,baz=40,slow=27,SNR=4.1						
KK31	**Karatay Array**	**15.21**	**246**	P	**Pn**	**16 03 49.6**	**-3.9**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KKAR	**Karatay Array**	**15.21**	**246**	*e*P	**Pn**	**16 03 48.5**	**-4.9**
	comp=Z,0.1nm,1.1s						
KKAR	**Karatay Array**	**15.21**	**246**	*e*P	**Pn**	**16 03 48.6**	**-4.9**
BOD	**Bodaibo**	**15.65**	**55**	*e*P	**Pn**	**16 03 49.2**	**-10**
BOD				pmax	pmax		
	comp=Z,31nm,1.3s						
SVE	**Sverdlovsk**	**17.84**	**300**	⇓*i*P	**Pn**	**16 04 25.9**	**-1.0**
SVE				pmax	pmax		
	comp=Z,50nm,1.0s						
SVE				MLR	MLR		
	comp=Z,902nm,14.0s						
LZH	**Lanzhou**	**18.21**	**140**	*e*P	**Pn**	**16 04 30.0**	**-1.5**
LZH				pP	pP	16 04 36.2	+1.7
LZH				sP	sP	16 04 40.1	+4.3
LZH				PP		16 04 46.3	
LZH				*e*S	**Sn**	**16 07 53.1**	**-1.5**
LZH				sS	sS	16 08 02.9	-1.6
LZH				*e*SS		16 08 17.8	
LZH				pmax	pmax		
	comp=Z,27nm,1.0s						
LZH				pmax	pmax		
	comp=Z,380nm,7.5s						
LZH				LR	LR		
	comp=N,2μm,12.4s						
LZH				LR	LR		
	comp=E,1μm,11.2s						
LZH				LR	LR		
	comp=Z,2μm,13.5s						
ARU	**Arti**	**18.95**	**298**	*e*P	**Pn**	**16 04 35.0**	**-5.4**
	comp=Z,29nm,0.8s						
ARU	**Arti**	**18.95**	**298**	*c i*P	**Pn**	**16 04 35.3**	**-5.1**
ARU				S	**Sn**	**16 08 06.7**	**-5.7**
ARU				pmax	pmax		
	comp=Z,11nm,1.2s						
AB31	**Akbulak array**	**18.99**	**276**	⇑P	**Pn**	**16 04 38.9**	**-2.0**
	comp=Z,16nm,0.8s						
AB31	**Akbulak array**	**18.99**	**276**	P	**Pn**	**16 04 40.4**	**-0.5**
AB31				pmax	pmax		
	comp=Z,7.0nm,0.5s						
ABKAR	**Akbulak array**	**18.99**	**276**	*e*P	**Pn**	**16 04 35.4**	**-5.6**
	comp=Z,0.1nm,1.1s						
HIA	**Hailar**	**19.36**	**84**	*e*P	**Pn**	**16 04 44.1**	**-1.3**
	comp=Z,14nm,0.8s						
HIA	**Hailar**	**19.36**	**84**	*e*P	**Pn**	**16 04 44.1**	**-1.3**
HIA				pmax	pmax		
	comp=Z,14nm,0.8s						
AKTK	**Aktyubinsk**	**19.87**	**280**	P	**Pn**	**16 04 49.8**	**-1.7**
AKTO	**Aktyubinsk**	**19.87**	**280**	⇑P	**Pn**	**16 04 48.9**	**-2.6**
	comp=Z,5.3nm,0.9s						
AKTO	**Aktyubinsk**	**19.87**	**280**	P	**Pn**	**16 04 49.8**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=68,slow=11,SNR=17						
AKTO	**Aktyubinsk**	**19.87**	**280**	P	**Pn**	**16 04 49.8**	**-1.7**
SOKR	**Solikamsk**	**20.26**	**307**	*e*P	**P**	**16 04 58.6**	**+4.6**
SOKR				S	**S**	**16 08 41.5**	**+0.6**
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
LSA	**Lhasa**	**21.44**	**176**	P	**P**	**16 05 08.2**	**+1.2**
LSA	**Lhasa**	**21.44**	**176**	*e*P	**P**	**16 05 08.2**	**+1.2**
	comp=Z,19nm,0.9s,mb4.4						
LSA	**Lhasa**	**21.44**	**176**	*e*P	**P**	**16 05 08.2**	**+1.2**
LSA				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.4						
XAN	**Xi'an**	**22.14**	**133**	P	**P**	**16 05 12.9**	**-1.6**
XAN				pP		16 05 22.8	
XAN				pmax	pmax		
	comp=Z,3.0nm,1.6s,mb3.5						
KBL	**Kabul**	**22.26**	**230**	*e*P	**P**	**16 05 13.4**	**-2.3**
	comp=Z,23nm,1.0s,mb4.6						
KBL	**Kabul**	**22.26**	**230**	*e*P	**P**	**16 05 13.5**	**-2.2**
KBL				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.6						
DDI	**Dehra Dun**	**22.49**	**207**	*e*PKP	**P**	**16 05 21.5**	**+3.4**
DANN	**Dangsing**	**23.17**	**193**	*e*P	**P**	**16 05 30.4**	**+5.0**
	comp=Z,66nm,1.2s,mb4.9						
DANN	**Dangsing**	**23.17**	**193**	*e*P	**P**	**16 05 30.4**	**+5.0**
	comp=Z,66nm,1.2s,mb4.9						
GUN	**Gumba**	**23.36**	**188**	*e*P	**P**	**16 05 30.9**	**+3.5**
	comp=Z,44nm,1.1s,mb4.8						
GUN	**Gumba**	**23.36**	**188**	*e*P	**P**	**16 05 30.9**	**+3.5**
	comp=Z,44nm,1.1s,mb4.8						
GKN	**Gorkha**	**23.40**	**191**	*e*P	**P**	**16 05 32.9**	**+5.1**
	comp=Z,165nm,1.4s,mb5.3						
GKN	**Gorkha**	**23.40**	**191**	*e*P	**P**	**16 05 32.9**	**+5.1**
	comp=Z,165nm,1.4s,mb5.3						
KKN	**Kakani**	**23.54**	**189**	*e*P	**P**	**16 05 32.4**	**+3.2**
	comp=Z,37nm,1.0s,mb4.8						
KKN	**Kakani**	**23.54**	**189**	*e*P	**P**	**16 05 32.4**	**+3.2**
	comp=Z,37nm,1.0s,mb4.8						
KKN	**Kakani**	**23.54**	**189**	*e*P	**P**	**16 05 32.4**	**+3.2**
KKN				pmax	pmax		
	comp=Z,37nm,1.0s,mb4.8						
DMN	**Daman**	**23.73**	**190**	*e*P	**P**	**16 05 34.1**	**+3.0**
DMN	**Daman**	**23.73**	**190**	*e*P	**P**	**16 05 34.1**	**+3.0**
KOLN	**Koldanda**	**23.76**	**193**	*e*P	**P**	**16 05 36.7**	**+5.4**
	comp=Z,47nm,1.2s,mb4.8						
KOLN	**Koldanda**	**23.76**	**193**	*e*P	**P**	**16 05 36.7**	**+5.4**
	comp=Z,47nm,1.2s,mb4.8						
TAPN	**Taplejung**	**23.79**	**184**	*e*P	**P**	**16 05 30.4**	**-1.2**
	comp=Z,122nm,1.5s,mb5.1						
TAPN	**Taplejung**	**23.79**	**184**	*e*P	**P**	**16 05 30.4**	**-1.2**
	comp=Z,122nm,1.5s,mb5.1						
YAK	**Yakutsk**	**24.23**	**48**	*e*P	**P**	**16 05 33.1**	**-2.2**
	comp=Z,26nm,0.8s,mb4.7						
YAK	**Yakutsk**	**24.23**	**48**	*e*P	**P**	**16 05 33.1**	**-2.2**
YAK				pmax	pmax		
	comp=Z,26nm,0.8s,mb4.7						
ODAN	**Odare**	**24.30**	**185**	*e*P	**P**	**16 05 34.6**	**-1.6**
	comp=Z,57nm,1.3s,mb4.8						
ODAN	**Odare**	**24.30**	**185**	*e*P	**P**	**16 05 34.6**	**-1.6**
	comp=Z,57nm,1.3s,mb4.8						
KLMR	**Klimovskoe**	**28.92**	**309**	*e*P	**P**	**16 06 17.3**	**-0.3**
KLMR				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.7						
VRHR	**Novokhopersk**	**29.66**	**289**	*e*P	**P**	**16 06 22.9**	**-1.4**
VRHR				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
VRHR				pmax	pmax		
	comp=N,20nm,0.8s						
VRHR				pmax	pmax		
	comp=E,20nm,0.6s						
VSR	**Storozhevoye**	**31.08**	**290**	*e*P	**P**	**16 06 36.8**	**0.0**
VSR				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.8						
VSR				pmax	pmax		
	comp=N,10.0nm,1.1s						
VSR				pmax	pmax		
	comp=E,20nm,1.1s						
OBN	**Obninsk**	**31.40**	**298**	⇑*e*P	**P**	**16 06 40.0**	**+0.5**
OBN				*e*		16 07 47.4	
OBN				*e*		16 08 04.6	
OBN				*e*		16 13 38.3	
OBN				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.6						
OBN				MLR	MLR		
	comp=Z,700nm,19.0s,MS4.3						
ZEI	**Tsey**	**31.82**	**273**	*e*P	**P**	**16 06 44.0**	**+0.7**
ZEI				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb4.3						
KIV	**Kislovodsk**	**31.98**	**276**	P	**P**	**16 06 44.0**	**-0.7**
KIV				*e*		16 07 46.4	
KIV				*e*		16 08 02.7	
KIV				*e*		16 13 46.4	
KIV				MLR	MLR		
	comp=Z,700nm,20.0s,MS4.3						
JOF	**Joensuu**	**32.62**	**314**	*e*P	Px	16 06 57.4	
JOF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
JOF	**Joensuu**	**32.62**	**314**	*e*p	Px	16 06 57.4	
	comp=Z,3.0nm,0.6s						
GNI	**Garni**	**32.71**	**268**	*e*P	**P**	**16 06 51.1**	**-0.1**
GNI				pmax	pmax		
	comp=Z,21nm,1.3s						
CMAR	**Chiang Mai Arr**	**33.45**	**164**	P	**P**	**16 06 59.1**	**+1.4**
	comp=Z,2.9nm,1.2s,mb4.1,baz=347,slow=7.7,SNR=11						
CMAR	**Chiang Mai Arr**	**33.45**	**164**	P	**P**	**16 06 59.1**	**+1.4**
CMAR	**Chiang Mai Arr**	**33.45**	**164**	P	**P**	**16 06 59.2**	**+1.4**
KEV	**Kevo**	**33.99**	**326**	*e*P	**P**	**16 07 05.2**	**+3.1**
KEV	**Kevo**	**33.99**	**326**	*e*p	**P**	**16 07 05.2**	**+3.1**
ANN	**Anapa**	**34.84**	**280**	*e*P	**P**	**16 07 08.7**	**-0.9**
ANN				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
KAF	**Kangasniemi**	**35.04**	**313**	*e*P	Px	16 07 18.4	
KAF	**Kangasniemi**	**35.04**	**313**	*e*p	Px	16 07 18.4	
FINES	**FINESS Array B**	**35.29**	**312**	P	**P**	**16 07 11.2**	**-2.2**
	comp=Z,3.2nm,0.7s,mb4.3,baz=79,slow=10,SNR=3.7						
FINES	**FINESS Array B**	**35.29**	**312**	P	**P**	**16 07 11.2**	**-2.2**
FINES	**FINESS Array B**	**35.29**	**312**	P	**P**	**16 07 11.2**	**-2.2**
AKASG	**Malin Array Be**	**37.09**	**294**	*e*P	**P**	**16 07 26.8**	**-2.1**
	comp=Z,3.7nm,0.7s,mb4.3,baz=60,slow=7.8,SNR=10						
AKASG	**Malin Array Be**	**37.09**	**294**	P	**P**	**16 07 26.8**	**-2.1**
AKASG	**Malin Array Be**	**37.09**	**294**	P	**P**	**16 07 26.8**	**-2.1**
KIEV	**Kiev**	**37.10**	**294**	*e*P	**P**	**16 07 27.4**	**-1.6**
	comp=Z,16nm,1.5s,mb4.6						
KIEV	**Kiev**	**37.10**	**294**	*e*P	**P**	**16 07 27.4**	**-1.6**
KIEV				pmax	pmax		
	comp=Z,16nm,1.5s,mb4.6						
BILL	**Bilibino**	**39.29**	**35**	*e*P	**P**	**16 07 47.8**	**+0.6**
BILL				*i*		16 09 26.9	
BILL				*i*		16 09 53.8	
BILL				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.0						
BR131	**Keskin Array S**	**39.94**	**276**	*e*P	**P**	**16 07 55.2**	**+2.2**
	comp=Z,3.2nm,0.8s,mb4.1						
BRTR	**Keskin Array B**	**39.94**	**276**	P	**P**	**16 07 51.9**	**-1.1**
	comp=Z,3.9nm,0.8s,mb4.2,baz=75,slow=6.9,SNR=12						
BRTR	**Keskin Array B**	**39.94**	**276**	P	**P**	**16 07 51.9**	**-1.1**
BRTR	**Keskin Array B**	**39.94**	**276**	P	**P**	**16 07 51.9**	**-1.1**
BUR08	**Bucovina Ar. S**	**40.84**	**291**	*e*P	**P**	**16 08 00.0**	**-0.3**
KOLS	**Kolonicke sedl**	**41.90**	**294**	*e*P	**P**	**16 08 10.6**	**+1.6**
KOLS				pmax	pmax		
	comp=Z,8.0nm,1.5s,mb4.1						
KOLS	**Kolonicke sedl**	**41.90**	**294**	*e*P	**P**	**16 08 10.6**	**+1.6**
KOLS				*e*PP	PP	16 09 50.0	+4.3
NOA	**NORSAR Array B**	**42.24**	**315**	P	**P**	**16 08 11.4**	**-0.2**
	comp=Z,3.9nm,0.7s,mb4.2,baz=62,slow=7.7,SNR=16						
NOA	**NORSAR Array B**	**42.24**	**315**	P	**P**	**16 08 11.4**	**-0.1**
NOA	**NORSAR Array B**	**42.24**	**315**	P	**P**	**16 08 11.4**	**-0.2**
CRVS	**Cervenica-Dubn**	**42.38**	**295**	*e*P	**P**	**16 08 14.2**	**+1.3**
CRVS				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb3.9						
CRVS	**Cervenica-Dubn**	**42.38**	**295**	*e*P	**P**	**16 08 14.2**	**+1.3**
CRVS				*e*PP	PP	16 09 52.9	+2.0
NAO01	**NORSAR Array S**	**42.46**	**315**	P	**P**	**16 08 09.6**	**-3.8**
OJC	**Ojcow**	**42.67**	**297**	*e*P	**P**	**16 08 16.7**	**+1.4**
OJC	**Ojcow**	**42.67**	**297**	*e*P	**P**	**16 08 16.7**	**+1.4**
KECS	**Kecovo**	**43.15**	**295**	*e*P	**P**	**16 08 20.3**	**+1.1**
KECS				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.0						
KECS	**Kecovo**	**43.15**	**295**	*e*P	**P**	**16 08 20.3**	**+1.1**
VYHS	**Vyhne**	**44.09**	**296**	*e*P	**P**	**16 08 28.9**	**+2.2**
VYHS				pmax	pmax		
	comp=Z,28nm,2.4s,mb4.6						
VYHS	**Vyhne**	**44.09**	**296**	*e*P	**P**	**16 08 28.9**	**+2.2**
VYHS				*e*PP	PP	16 10 10.5	+1.3
DPC	**Dobruska-Polom**	**44.54**	**299**	*e*P	**P**	**16 08 31.9**	**+1.6**
DPC	**Dobruska-Polom**	**44.54**	**299**	*e*P	**P**	**16 08 31.9**	**+1.6**
SMOL	**Smolenice**	**44.88**	**296**	*e*P	**P**	**16 08 35.5**	**+2.5**
SMOL	**Smolenice**	**44.88**	**296**	*e*P	**P**	**16 08 35.5**	**+2.5**
TREC	**Trest**	**45.55**	**298**	*e*P	**P**	**16 08 39.5**	**+1.1**
TREC	**Trest**	**45.55**	**298**	*e*P	**P**	**16 08 39.5**	**+1.1**
CLL	**Collm**	**45.85**	**302**	*i* P	**P**	**16 08 41.9**	**+1.2**
CLL				*e*		16 08 47.0	
CLL				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
CLL	**Collm**	**45.85**	**302**	*i* P	**P**	**16 08 41.9**	**+1.2**
	comp=Z,8.0nm,0.8s,mb4.7						
CLL				*e*		16 08 47.0	
CLL				*e*		16 08 55.0	
CLL				*e*PP	PP	16 10 28.0	+0.2
KHC	**Kasperske Hory**	**46.70**	**299**	*e*P	**P**	**16 08 49.1**	**+1.7**
KHC	**Kasperske Hory**	**46.70**	**299**	*e*P	**P**	**16 08 49.1**	**+1.7**
KHC				*ex*	x	16 09 07.0	
GERES	**GERESS Array B**	**46.78**	**298**	P	**P**	**16 08 48.6**	**+0.6**
	comp=Z,0.8nm,0.7s,mb3.8,baz=51,slow=7.7,SNR=8.2						
GERES	**GERESS Array B**	**46.78**	**298**	P	**P**	**16 08 48.6**	**+0.6**
GERES	**GERESS Array B**	**46.78**	**298**	P	**P**	**16 08 48.6**	**+0.5**
OBKA	**Obir**	**47.61**	**295**	⇑*i*pP	**P**	**16 08 56.6**	**+2.1**
	comp=Z,3.5nm,0.6s,mb4.6						
KBA	**Koelnbreinsper**	**47.97**	**297**	⇑*i*sP	**P**	**16 09 00.2**	**+2.9**
	comp=Z,13nm,1.1s,mb4.9						
WTTA	**Wattenberg**	**48.82**	**298**	⇑*i*pP	**P**	**16 09 06.3**	**+2.4**
	comp=Z,10.0nm,1.4s,mb4.7						
MOTA	**Moosalm**	**49.07**	**298**	⇑*i*pP	**P**	**16 09 07.8**	**+2.1**
	comp=Z,2.6nm,0.7s,mb4.4						
RETA	**Reutte**	**49.17**	**298**	⇑*i*pP	**P**	**16 09 08.9**	**+2.4**
	comp=Z,3.3nm,0.8s,mb4.4						
CDF	**Champ du Feu**	**50.54**	**301**	*e*P	**P**	**16 09 18.3**	**+1.4**
CDF	**Champ du Feu**	**50.54**	**301**	*e*P	**P**	**16 09 18.3**	**+1.4**
CDF	**Champ du Feu**	**50.54**	**301**	*e*P	**P**	**16 09 18.3**	**+1.4**
GIVF	**Givet**	**50.84**	**304**	*e*P	**P**	**16 09 21.0**	**+1.8**
GIVF	**Givet**	**50.84**	**304**	*e*P	**P**	**16 09 21.0**	**+1.8**
GIVF	**Givet**	**50.84**	**304**	*e*P	**P**	**16 09 21.0**	**+1.8**
HINF	**Hinteralfeld**	**51.12**	**301**	*e*P	**P**	**16 09 22.5**	**+1.2**
HINF	**Hinteralfeld**	**51.12**	**301**	*e*P	**P**	**16 09 22.5**	**+1.2**
HINF	**Hinteralfeld**	**51.12**	**301**	*e*P	**P**	**16 09 22.5**	**+1.2**
BAIF	**Baives**	**51.19**	**304**	*e*P	**P**	**16 09 22.2**	**+0.4**
BAIF	**Baives**	**51.19**	**304**	*e*P	**P**	**16 09 22.2**	**+0.4**
BAIF	**Baives**	**51.19**	**304**	*e*P	**P**	**16 09 22.2**	**+0.4**
HAU	**Haudompre**	**51.28**	**301**	*e*P	**P**	**16 09 23.7**	**+1.2**
HAU	**Haudompre**	**51.28**	**301**	*e*P	**P**	**16 09 23.7**	**+1.2**
HAU	**Haudompre**	**51.28**	**301**	*e*P	**P**	**16 09 23.7**	**+1.2**
MEZF	**Maizieres J'vi**	**51.68**	**302**	*e*P	**P**	**16 09 26.8**	**+1.3**
	comp=Z,27nm,0.9s,mb4.9						
MEZF	**Maizieres J'vi**	**51.68**	**302**	*e*P	**P**	**16 09 26.8**	**+1.3**
	comp=Z,27nm,0.9s,mb5.2						
SFTF	**Sexfontaines**	**51.86**	**302**	*e*P	**P**	**16 09 28.1**	**+1.2**
SFTF	**Sexfontaines**	**51.86**	**302**	*e*P	**P**	**16 09 28.1**	**+1.2**
CABF	**La Chapelle**	**52.27**	**300**	*e*P	**P**	**16 09 30.3**	**+0.4**
CABF	**La Chapelle**	**52.27**	**300**	*e*P	**P**	**16 09 30.3**	**+0.4**
CABF	**La Chapelle**	**52.27**	**300**	*e*P	**P**	**16 09 30.3**	**+0.4**
LPL	**La Plagne**	**52.58**	**299**	*e*P	**P**	**16 09 33.7**	**+1.4**
	comp=Z,9.5nm,0.5s,mb4.7						
LPL	**La Plagne**	**52.58**	**299**	*e*P	**P**	**16 09 33.7**	**+1.4**
	comp=Z,4.8nm,0.5s,mb4.7						
LPL	**La Plagne**	**52.58**	**299**	*e*P	**P**	**16 09 33.7**	**+1.4**
LPL				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
MBDF	**Montbardon**	**53.05**	**298**	*e*P	**P**	**16 09 36.8**	**+1.1**
	comp=Z,37nm,0.7s,mb5.1						
MBDF	**Montbardon**	**53.05**	**298**	*e*P	**P**	**16 09 36.8**	**+1.1**
	comp=Z,18nm,0.7s,mb5.1						
MBDF	**Montbardon**	**53.05**	**298**	*e*P	**P**	**16 09 36.8**	**+1.1**
MBDF				pmax	pmax		
	comp=Z,19nm,0.7s,mb5.1						
LOR	**Lormes**	**53.06**	**302**	*e*P	**P**	**16 09 36.6**	**+0.8**
	comp=Z,22nm,1.1s,mb4.7						
LOR	**Lormes**	**53.06**	**302**	*e*P	**P**	**16 09 36.6**	**+0.8**
	comp=Z,11nm,1.1s,mb4.7						
LOR	**Lormes**	**53.06**	**302**	*e*P	**P**	**16 09 36.6**	**+0.8**
LOR				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
SSF	**Saint Saulge**	**53.38**	**302**	*e*P	**P**	**16 09 39.1**	**+0.9**
	comp=Z,15nm,1.0s,mb4.6						
SSF	**Saint Saulge**	**53.38**	**302**	*e*P	**P**	**16 09 39.1**	**+0.9**
	comp=Z,7.4nm,1.0s,mb4.6						
SSF	**Saint Saulge**	**53.38**	**302**	*e*P	**P**	**16 09 39.1**	**+0.9**
SSF				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ORIF	**Oris-en-Rattie**	**53.43**	**298**	*e*P	**P**	**16 09 39.2**	**+0.7**
	comp=Z,15nm,0.7s,mb4.7						
ORIF	**Oris-en-Rattie**	**53.43**	**298**	*e*P	**P**	**16 09 39.2**	**+0.7**
	comp=Z,7.6nm,0.7s,mb4.7						
ORIF	**Oris-en-Rattie**	**53.43**	**298**	*e*P	**P**	**16 09 39.2**	**+0.7**
ORIF				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
SMF	**Signal de Mont**	**53.46**	**301**	*e*P	**P**	**16 09 39.7**	**+1.0**
SMF	**Signal de Mont**	**53.46**	**301**	*e*P	**P**	**16 09 39.7**	**+1.0**
SMF	**Signal de Mont**	**53.46**	**301**	*e*P	**P**	**16 09 39.7**	**+1.0**
AVF	**Avril sur Loir**	**53.63**	**302**	*e*P	**P**	**16 09 40.4**	**+0.4**
AVF	**Avril sur Loir**	**53.63**	**302**	*e*P	**P**	**16 09 40.4**	**+0.4**
AVF	**Avril sur Loir**	**53.63**	**302**	*e*P	**P**	**16 09 40.4**	**+0.4**
COLD	**Coldfoot**	**53.72**	**25**	P	**P**	**16 09 40.3**	**-0.1**
	comp=Z,4.7nm,0.8s,mb4.5						
LDF	**La Druitiere**	**54.33**	**305**	*e*P	**P**	**16 09 46.2**	**+1.2**
	comp=Z,9.8nm,0.7s,mb4.5						
LDF	**La Druitiere**	**54.33**	**305**	*e*P	**P**	**16 09 46.2**	**+1.2**
	comp=Z,4.9nm,0.7s,mb4.5						
LDF	**La Druitiere**	**54.33**	**305**	*e*P	**P**	**16 09 46.2**	**+1.2**
LDF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
FLN	**La Foliniere**	**54.41**	**306**	*e*P	**P**	**16 09 46.8**	**+1.2**
FLN	**La Foliniere**	**54.41**	**306**	*e*P	**P**	**16 09 46.8**	**+1.2**
FLN	**La Foliniere**	**54.41**	**306**	*e*P	**P**	**16 09 46.8**	**+1.2**
TCF	**Toulx Ste Croi**	**54.56**	**302**	*e*P	**P**	**16 09 48.1**	**+1.3**
TCF	**Toulx Ste Croi**	**54.56**	**302**	*e*P	**P**	**16 09 48.1**	**+1.3**
TCF	**Toulx Ste Croi**	**54.56**	**302**	*e*P	**P**	**16 09 48.1**	**+1.3**
GRR	**Gorron**	**54.84**	**305**	*e*P	**P**	**16 09 49.7**	**+1.0**
GRR	**Gorron**	**54.84**	**305**	*e*P	**P**	**16 09 49.7**	**+1.0**
GRR	**Gorron**	**54.84**	**305**	*e*P	**P**	**16 09 49.7**	**+1.0**
CAF	**Calviac**	**55.51**	**301**	*e*P	**P**	**16 09 55.1**	**+1.4**
CAF	**Calviac**	**55.51**	**301**	*e*P	**P**	**16 09 55.1**	**+1.4**
CAF	**Calviac**	**55.51**	**301**	*e*P	**P**	**16 09 55.1**	**+1.4**
RJF	**Les Rejaudoux**	**55.57**	**301**	*e*P	**P**	**16 09 55.0**	**+1.0**
RJF	**Les Rejaudoux**	**55.57**	**301**	*e*P	**P**	**16 09 55.0**	**+1.0**
RJF	**Les Rejaudoux**	**55.57**	**301**	*e*P	**P**	**16 09 55.0**	**+1.0**
MFF	**Saint Martin d**	**55.61**	**303**	*e*P	**P**	**16 09 55.8**	**+1.4**
MFF	**Saint Martin d**	**55.61**	**303**	*e*P	**P**	**16 09 55.8**	**+1.4**
MFF	**Saint Martin d**	**55.61**	**303**	*e*P	**P**	**16 09 55.8**	**+1.4**
COLA	**College**	**56.14**	**26**	*e*P	**P**	**16 09 53.2**	**-4.6**
ILAR	**Eielson Array**	**56.48**	**25**	P	**P**	**16 09 57.4**	**-2.9**
	comp=Z,3.8nm,0.9s,mb4.4,baz=321,slow=4.8,SNR=8.1						
ILAR	**Eielson Array**	**56.48**	**25**	P	**P**	**16 09 57.4**	**-2.9**
ILAR	**Eielson Array**	**56.48**	**25**	P	**P**	**16 09 57.4**	**-2.9**
INK	**Inuvik**	**56.65**	**18**	P	**P**	**16 10 01.4**	**0.0**
	comp=Z,5.2nm,0.9s,mb4.5,baz=340,slow=9.3,SNR=6.2						
INK	**Inuvik**	**56.65**	**18**	*e*P	**P**	**16 10 01.3**	**-0.2**
	comp=Z,6.0nm,1.0s,mb4.6						
INK	**Inuvik**	**56.65**	**18**	P	**P**	**16 10 01.5**	**0.0**
INK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ESDC	**Sonseca Array**	**62.35**	**300**	P	**P**	**16 10 41.1**	**-0.1**
	comp=Z,2.1nm,0.9s,mb4.3,baz=52,slow=6.0,SNR=7.7						
ESDC	**Sonseca Array**	**62.35**	**300**	P	**P**	**16 10 41.1**	**-0.1**
YKA	**Yellowknife Ar**	**65.11**	**12**	P	**P**	**16 10 58.2**	**-0.9**
	comp=Z,1.3nm,0.7s,mb4.1,baz=342,slow=6.9,SNR=3.8						
YKA	**Yellowknife Ar**	**65.11**	**12**	P	**P**	**16 10 58.2**	**-0.9**
YKA	**Yellowknife Ar**	**65.11**	**12**	P	**P**	**16 10 58.2**	**-0.9**
EVO	**Evora**	**65.37**	**301**	*e*P	**P**	**16 11 01.6**	**+0.5**
	comp=Z,80nm,1.6s,mb5.2						
EVOP	**Sao Brissos**	**65.43**	**301**	*e*P	**P**	**16 11 01.6**	**+0.1**
	comp=Z,80nm,1.6s,mb5.5						
EVOP	**Sao Brissos**	**65.43**	**301**	*e*P	**P**	**16 11 01.6**	**+0.1**
TAM	**Tamanrasset**	**68.92**	**280**	P	**P**	**16 11 24.3**	**+0.4**
	comp=Z,5.4nm,1.1s,mb4.4						
TAM	**Tamanrasset**	**68.92**	**280**	P	**P**	**16 11 24.3**	**+0.4**
TAM				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
TORD	**Torodi Ar. Bea**	**78.55**	**277**	P	**P**	**16 12 19.8**	**-0.7**
	comp=Z,2.2nm,0.9s,mb4.1,baz=41,slow=6.0,SNR=13						
TORD	**Torodi Ar. Bea**	**78.55**	**277**	P	**P**	**16 12 19.8**	**-0.7**
BSMT	**Bassoo Peak**	**79.21**	**16**	*e*P	**P**	**16 12 21.6**	**-2.0**
	comp=Z,7.8nm,0.9s,mb4.6						
JTMT	**Jette**	**79.40**	**16**	P	**P**	**16 12 24.6**	**0.0**
	comp=Z,4.4nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**80.95**	**138**	P	**P**	**16 12 32.8**	**-0.4**
	comp=Z,0.5nm,0.5s,mb3.7,baz=342,slow=5.7,SNR=3.6	

ISC 02 16:32:06.3±0.9, 19°25.0′S±0.1′×177°5.5′W±0.1′, h563km±14km, n33, σ1°25/27, mb3.5/10, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.43**	**288**	*eP*	**P**	**16 33 35.4**	**+3.0**
AFI	**Afiamalu**	**7.58**	**47**	P	**P**	**16 34 01.0**	**+0.5**
	3.3nm,0.3s,baz=25,slow=23,SNR=7.1						
AFI				S	**S**	**16 35 31.8**	**-2.1**
	3.9nm,0.3s,baz=197,slow=19,SNR=4.3						
AFI	**Afiamalu**	**7.58**	**47**	P	**P**	**16 34 01.0**	**+0.5**
AFI				S	**S**	**16 35 31.8**	**-2.1**
URZ	**Urewera**	**19.61**	**193**	P	**P**	**16 35 55.8**	**-2.2**
	2.2nm,0.3s,baz=324,slow=2.3,SNR=11						
URZ	**Urewera**	**19.61**	**193**	*eP*	**P**	**16 35 55.7**	**-2.3**
CTA	**Charters Tower**	**34.09**	**262**	P	**P**	**16 38 05.0**	**+0.1**
	2.8nm,0.5s,mb4.1,baz=84,slow=9.2,SNR=3.3						
CTA	**Charters Tower**	**34.09**	**262**	P	**P**	**16 38 05.0**	**+0.1**
CTAO	**Charters Tower**	**34.09**	**262**	P	**P**	**16 38 05.6**	**+0.7**
WB2	**Warramunga Arr**	**45.24**	**261**	*eP*	**P**	**16 39 33.3**	**-0.9**
WRAB	**Tennant Creek**	**45.24**	**261**	*eP*	**P**	**16 39 33.8**	**-0.4**
	0.7nm,0.3s,mb3.7						
WRA	**Warramunga Arr**	**45.25**	**261**	P	**P**	**16 39 33.3**	**-1.0**
	0.8nm,0.4s,mb3.6,baz=97,slow=8.2,SNR=23						
WRA				PcP	PcP	16 41 02.0	-0.2
	0.3nm,0.4s,baz=92,slow=3.6,SNR=3.6						
WRA	**Warramunga Arr**	**45.25**	**261**	P	**P**	**16 39 33.3**	**-1.0**
WRA				PcP	PcP	16 41 02.0	-0.2
ASAR	**Alice Springs**	**45.28**	**255**	P	**P**	**16 39 33.8**	**-0.6**
	1.2nm,0.4s,mb3.8,baz=87,slow=8.2,SNR=66						
ASAR				PcP	PcP	16 41 01.6	-0.7
	0.7nm,0.7s,baz=102,slow=4.4,SNR=7.7						
ASAR	**Alice Springs**	**45.28**	**255**	P	**P**	**16 39 33.8**	**-0.6**
ASAR				PcP	PcP	16 41 01.6	-0.7
FITZ	**Fitzroy Crossi**	**53.66**	**261**	P	**P**	**16 40 36.3**	**+0.1**
	1.9nm,0.9s,mb3.4,baz=157,slow=7.7,SNR=6.1						
FITZ	**Fitzroy Crossi**	**53.66**	**261**	*eP*	**P**	**16 40 36.3**	**+0.1**
SBA	**Scott Base**	**59.24**	**184**	*eP*	**P**	**16 41 15.2**	**+1.8**
	1.7nm,0.8s,mb3.3						
VNDA	**Vanda**	**59.28**	**185**	P	**P**	**16 41 14.5**	**+0.8**
	0.5nm,0.6s,mb3.0,baz=22,slow=5.1,SNR=3.8						
VNDA	**Vanda**	**59.28**	**185**	*eP*	**P**	**16 41 14.4**	**+0.7**
	0.5nm,0.6s,mb2.9						
MAW	**Mawson**	**82.98**	**200**	P	**P**	**16 43 31.7**	**-0.7**
	0.8nm,0.4s,mb3.6,baz=120,slow=6.8,SNR=3.5						
MAW	**Mawson**	**82.98**	**200**	P	**P**	**16 43 31.7**	**-0.7**
TXAR	**Lajitas Array**	**85.95**	**57**	P	**P**	**16 43 49.7**	**+2.1**
	0.4nm,0.6s,mb3.2,baz=235,slow=6.3,SNR=5.3						
TXAR	**Lajitas Array**	**85.95**	**57**	P	**P**	**16 43 49.7**	**+2.1**
ILAR	**Eielson Array**	**86.91**	**13**	P	**P**	**16 43 51.2**	**0.0**
	0.1nm,0.3s,mb2.9,baz=217,slow=4.3,SNR=12						
ILAR	**Eielson Array**	**86.91**	**13**	P	**P**	**16 43 51.2**	**0.0**
ARCES	**ARCESS Array B**	**127.68**	**350**	PKP	PKPdf	16 50 07.1	-0.2
	2.4nm,0.9s,baz=63,slow=0.2,SNR=5.7						
ARCES	**ARCESS Array B**	**127.68**	**350**	PKP	PKPdf	16 50 07.1	-0.2
BR131	**Keskin Array S**	**146.25**	**314**	*e*PKPbc	PKPbc	16 50 44.7	+0.3
BRTR	**Keskin Array B**	**146.25**	**314**	PKPbc	PKPbc	16 50 44.4	0.0
	0.5nm,0.4s,baz=45,slow=0.6,SNR=3.9						
BRTR	**Keskin Array B**	**146.25**	**314**	PKPbc	PKPbc	16 50 44.4	0.0
KHC	**Kasperske Hory**	**148.78**	**346**↑	*e*PKP	PKPbc	16 50 51.0	+0.4
GERES	**GERESS Array B**	**149.02**	**346**	PKPbc	PKPbc	16 50 50.6	-0.6
	0.8nm,0.6s,baz=36,slow=3.7,SNR=7.2						
GERES	**GERESS Array B**	**149.02**	**346**	PKPbc	PKPbc	16 50 50.6	-0.6

*ISCJB **02** 16:50:39.8±1.5, 7.1°S±0.1′×155.42°E±0.06, h129km±16km, mb3.7/13, Error ellipse: s-maj=19.3km s-min=8.9km az=172.8*

*NEIC **02** 16:50:40.7±1.2, 7.13°S×155.41°E, h123km±13km, mb3.9/3, Error ellipse: s-maj=15.5km s-min=10.0km az=146.0*

*IDC **02** 16:50:41.1±2.1, 7.17°S×155.40°E, h126km±23km, mb3.5/11, mb1 3.7/14, mb1mx3.6/22, mbtmp3.6/14, MS3.5/3, Ms1 3.4/3, ms1mx3.1/24, Error ellipse: s-maj=20.7km s-min=13.4km az=159.0*

ISC 02 16:50:41.0±1.2, 7.1°S±0.1′×155°42.E±0.06, h126km±13km, n31, σ0°89/36, mb3.7/13, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.02**	**117**	P	**Pn**	**16 51 53.3**	**-1.1**
	5.3nm,0.3s,baz=270,slow=5.1,SNR=6.0						
HNR				S	**Sn**	**16 52 53.7**	**+2.2**
	4.7nm,0.3s,baz=99,slow=19,SNR=4.8						
HNR				LR	LR	16 53 42.1	
	comp=Z,254nm,19.3s,baz=352,slow=36						
HNR	**Honiara**	**5.02**	**117**	*eP*	**Pn**	**16 51 54.3**	**-0.1**
HNR				S	**Sn**	**16 52 49.6**	**-1.9**
HNR				S	**Sn**	**16 52 53.8**	**+2.2**
HNR				LR	LR	16 53 42.1	
PMG	**Port Moresby**	**8.48**	**254**	P	**Pn**	**16 52 40.5**	**-0.6**
	1.9nm,0.3s,baz=78,slow=9.8,SNR=8.1						
PMG				S	**Sn**	**16 54 15.4**	**+0.4**
	0.5nm,0.3s,baz=234,slow=19,SNR=2.5						
PMG	**Port Moresby**	**8.48**	**254**	P	**Pn**	**16 52 40.5**	**-0.6**
PMG				S	**Sn**	**16 54 15.4**	**+0.4**
CTA	**Charters Tower**	**15.64**	**214**	P	**Pn**	**16 54 15.8**	**+1.2**
	0.2nm,0.3s,baz=21,slow=12,SNR=3.8						
CTA				LR	LR	16 59 24.4	
	comp=Z,142nm,18.8s,baz=296,slow=34						
CTA	**Charters Tower**	**15.64**	**214**	P	**Pn**	**16 54 15.8**	**+1.2**
CTA				LR	LR	16 59 24.4	
KAKA	**Kakadu**	**23.29**	**254**	*eP*	**P**	**16 55 37.7**	**-0.1**
	18nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**24.07**	**236**	*eP*	**P**	**16 55 44.6**	**-0.2**
	2.4nm,0.6s,mb3.7						
WB2	**Warramunga Arr**	**24.07**	**236**	*eP*	**P**	**16 55 44.9**	**0.0**
WRA	**Warramunga Arr**	**24.08**	**236**	P	**P**	**16 55 45.0**	**0.0**
	2.3nm,0.6s,mb3.7,baz=61,slow=9.7,SNR=31						
WRA	**Warramunga Arr**	**24.08**	**236**	P	**P**	**16 55 45.0**	**+0.1**
ASAR	**Alice Springs**	**26.39**	**229**	P	**P**	**16 56 04.9**	**-1.0**
	0.6nm,0.8s,mb3.1,baz=58,slow=9.9,SNR=8.8						
ASAR	**Alice Springs**	**26.39**	**229**	P	**P**	**16 56 04.9**	**-1.0**
STKA	**Stephens Creek**	**27.79**	**206**	P	**P**	**16 56 16.9**	**-1.3**
	1.5nm,0.6s,mb3.7,baz=38,slow=13,SNR=5.8						
STKA				LR	LR	17 06 26.5	
	comp=Z,154nm,18.3s,baz=24,slow=34						
STKA	**Stephens Creek**	**27.79**	**206**	*eP*	**P**	**16 56 17.5**	**-0.7**
	0.4nm,0.6s,mb3.1						
STKA				LR	LR	17 06 26.5	
FITZ	**Fitzroy Crossi**	**30.98**	**247**	P	**P**	**16 56 46.4**	**-0.3**
	2.5nm,0.6s,mb4.1,baz=88,slow=10,SNR=12						
FITZ	**Fitzroy Crossi**	**30.98**	**247**	P	**P**	**16 56 46.4**	**-0.3**
MJAR	**Matsushiro Arr**	**46.36**	**341**	P	**P**	**16 58 52.8**	**-1.8**
	1.2nm,0.6s,mb3.8,baz=162,slow=7.9,SNR=5.3						
MJAR	**Matsushiro Arr**	**46.36**	**341**	P	**P**	**16 58 52.8**	**-1.8**
CMAR	**Chiang Mai Arr**	**61.23**	**295**	P	**P**	**17 00 44.8**	**+1.7**
	1.2nm,0.8s,mb4.0,baz=126,slow=4.6,SNR=11						
CMAR	**Chiang Mai Arr**	**61.23**	**295**	P	**P**	**17 00 44.9**	**+1.7**
SONM	**Songino Array**	**69.69**	**327**	P	**P**	**17 01 37.6**	**+0.6**
	1.3nm,0.7s,mb3.9,baz=141,slow=7.1,SNR=9.9						
SONM	**Songino Array**	**69.69**	**327**	P	**P**	**17 01 37.6**	**+0.6**
ILAR	**Eielson Array**	**83.35**	**21**	P	**P**	**17 02 53.5**	**-0.2**
	0.2nm,0.5s,mb3.2,baz=244,slow=5.0,SNR=6.5						
ILAR	**Eielson Array**	**83.35**	**21**	P	**P**	**17 02 53.5**	**-0.2**
MKAR	**Makanchi Array**	**83.79**	**319**	P	**P**	**17 02 56.8**	**+0.6**
	0.4nm,0.2s,mb3.8,baz=102,slow=6.0,SNR=6.5						
MKAR	**Makanchi Array**	**83.79**	**319**	P	**P**	**17 02 56.8**	**+0.6**
ZALV	**Zalesovo Beam**	**84.54**	**326**	P	**P**	**17 03 00.0**	**+0.2**
	0.5nm,0.4s,mb3.8,baz=108,slow=6.9,SNR=3.6						
ZALV	**Zalesovo Beam**	**84.54**	**326**	P	**P**	**17 03 00.0**	**+0.2**
KURK	**Kurchatov**	**87.21**	**322**	P	**P**	**17 03 13.5**	**+0.4**
	0.2nm,0.5s,mb3.3,baz=94,slow=5.4,SNR=4.2						
KURK	**Kurchatov**	**87.21**	**322**	P	**P**	**17 03 13.5**	**+0.4**

*IDC **02** 17:01:45.5±0.6, 31.89°N×104.39°E, h0km, mb4.2/18, mb1 4.3/20, mb1mx4.2/28, mbtmp4.1/20, ML3.7/2, Error ellipse: s-maj=20.5km s-min=12.8km az=52.0*

*BJI **02** 17:01:48.2, 31.90°N×104.40°E, h15km, mB4.8/6, mb4.4/15, ML4.1/18, Ms4.0/12, Ms7 3.7/10*

*MOS **02** 17:01:48.5±0.8, 31.86°N×104.40°E, h33km, mb4.6/10, Error ellipse: s-maj=9.9km s-min=6.7km az=116.9*

*NEIC **02** 17:01:51.4±0.8, 31.84°N×104.28°E, h41km±9km, mb4.3/14, Error ellipse: s-maj=7.0km s-min=6.2km az=196.0*

ISC 02 17:01:47.7±0.9, 31.87N±0.02×104.36E±0.04, h12km±6km, n127, σ1°04/140, mb4.2/31, MS4.0/2, 1C-2D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.08**	**208**	Pg	**Pg**	**17 02 08.1**	**-0.5**
CD2				Sg	**Sg**	**17 02 23.7**	**+0.9**
CD2				smax			
	comp=N,16μm,0.6s						
CD2				smax			
	comp=E,6μm,0.7s						
LZH	**Lanzhou**	**4.23**	**354**	Pn	**Pn**	**17 02 55.0**	**+3.1**
LZH				Sn	**Sn**	**17 03 43.5**	**+2.3**
LZH				Sg	**Sg**	**17 04 02.1**	**-1.4**
LZH				smax			
	comp=N,380nm,1.0s						
LZH				smax			
	comp=E,530nm,1.0s						
LZH				LR	LR		
	comp=N,1μm,6.6s						
LZH				LR	LR		
	comp=E,380nm,6.1s						
LZH				LR	LR		
	comp=Z,860nm,7.0s						
XAN	**Xi'an**	**4.41**	**59**	Pg	**Pg**	**17 03 07.3**	**-4.8**
XAN				Sn	**Sn**	**17 03 50.4**	**+4.8**
XAN				Sg	**Sg**	**17 04 03.1**	**-6.1**
XAN				smax			
	comp=N,560nm,0.8s						
XAN				smax			
	comp=E,300nm,0.7s						
XAN				LR	LR		
	comp=N,350nm,6.1s						
XAN				LR	LR		
	comp=E,120nm,4.9s						
ENH	**Enshi**	**4.68**	**109**	*eP*	**Pn**	**17 03 00.4**	**+2.3**
GYA	**Guiyang**	**5.75**	**159**	Pn	**Pn**	**17 03 14.6**	**+1.7**
GYA				Sn	**Sn**	**17 04 19.2**	**+0.3**
GYA				Sg	**Sg**	**17 04 51.2**	**-1.3**
GYA				smax			
	comp=N,230nm,0.8s						
GYA				smax			
	comp=E,270nm,0.8s						
KMI	**Kunming**	**6.87**	**192**	Pn	**Pn**	**17 03 32.2**	**+4.0**
KMI				Sn	**Sn**	**17 04 41.9**	**-4.4**
KMI				smax			
	comp=N,31nm,0.8s						
KMI				smax			
	comp=E,65nm,0.8s						
KMI				LR	LR		
	comp=N,380nm,10.6s						
KMI				LR	LR		
	comp=E,370nm,7.1s						
KMI				LR	LR		
	comp=Z,470nm,13.8s						
GTA	**Gaotai**	**8.38**	**335**	*eP*	**Pn**	**17 03 52.2**	**+3.2**
GTA				pP		17 03 55.8	
GTA				S	**Sn**	**17 05 22.8**	**-0.7**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GTA				LR	LR		
	comp=N,360nm,11.9s						
GTA				LR	LR		
	comp=E,260nm,11.9s						
GTA				LR	LR		
	comp=Z,380nm,14.2s						
WHN	**Wuhan**	**8.66**	**96**	P	**Pn**	**17 03 55.0**	**+2.2**
WHN				S	**Sn**	**17 05 25.2**	**-5.2**
WHN				LR	LR		
	comp=N,1μm,6.6s						
WHN				LR	LR		
	comp=E,770nm,8.7s						
LSA	**Lhasa**	**11.56**	**263**	P	**Pn**	**17 04 35.4**	**+2.9**
	comp=E,5.3nm,0.8s						
LSA	**Lhasa**	**11.56**	**263**	P	**Pn**	**17 04 35.4**	**+2.8**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NJ2	**Nanjing**	**12.31**	**85**	*eP*	**Pn**	**17 04 49.5**	**+6.7**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
QIZ	**Qiongzhong**	**13.71**	**158**	P	**Pn**	**17 05 00.5**	**-1.4**
QIZ				S	**Sn**	**17 07 33.4**	**-0.7**
QIZ				LR	LR		
	comp=Z,230nm,12.8s						
CHTO	**Chiang Mai**	**13.88**	**202**	*eP*	**Pn**	**17 05 05.8**	**+1.4**
	comp=Z,3.3nm,0.7s						
CHTO	**Chiang Mai**	**13.88**	**202**	*eP*	**Pn**	**17 05 05.8**	**+1.4**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**14.22**	**201**	Pn	**Pn**	**17 05 09.9**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=11,slow=12,SNR=6.3						
CMAR	**Chiang Mai Arr**	**14.22**	**201**	Pn	**Pn**	**17 05 09.9**	**+1.0**
CMAR	**Chiang Mai Arr**	**14.22**	**201**	P	**Pn**	**17 05 09.9**	**+1.0**
SONM	**Songino Array**	**16.02**	**5**	Pn	**Pn**	**17 05 33.6**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=180,slow=10,SNR=17						
SONM				Lg		17 10 15.0	
	comp=Z,0.1nm,0.3s,baz=193,slow=26,SNR=4.1						
SONM	**Songino Array**	**16.02**	**5**	Pn	**Pn**	**17 05 33.6**	**+0.9**
SONM				Lg		17 10 15.0	
SONM	**Songino Array**	**16.02**	**5**	P	**Pn**	**17 05 33.6**	**+0.9**
ULN	**Ulaanbaatar**	**16.11**	**7**	*eP*	**Pn**	**17 05 34.9**	**+1.1**
	comp=Z,7.1nm,1.3s						
ULN	**Ulaanbaatar**	**16.11**	**7**	*eP*	**Pn**	**17 05 34.9**	**+1.0**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.3s						
GUN	**Gumba**	**16.50**	**261**	*eP*	**Pn**	**17 05 38.7**	**-0.3**
	comp=Z,25nm,0.8s						
GUN	**Gumba**	**16.50**	**261**	*eP*	**Pn**	**17 05 38.7**	**-0.3**
	comp=Z,25nm,0.8s						
PKI	**Pulchoki**	**17.00**	**260**	*eP*	**Pn**	**17 05 45.2**	**-0.2**
PKI	**Pulchoki**	**17.00**	**260**	*eP*	**Pn**	**17 05 45.2**	**-0.2**
	comp=Z,24nm,0.7s						
PKI	**Pulchoki**	**17.00**	**260**	*eP*	**Pn**	**17 05 45.2**	**-0.2**
PKI				pmax	pmax		
	comp=Z,24nm,0.7s						
PKIN	**Phulchoki**	**17.01**	**260**	*eP*	**Pn**	**17 05 45.2**	**-0.3**
	comp=Z,24nm,0.7s						
KKN	**Kakani**	**17.04**	**261**	*eP*	**Pn**	**17 05 45.5**	**-0.4**
	comp=Z,8.4nm,0.6s						
KKN	**Kakani**	**17.04**	**261**	*eP*	**Pn**	**17 05 45.5**	**-0.4**
	comp=Z,8.4nm,0.6s						
KKN	**Kakani**	**17.04**	**261**	*eP*	**Pn**	**17 05 45.5**	**-0.4**
KKN				pmax	pmax		
	comp=Z,8.0nm,0.6s						
DMN	**Daman**	**17.25**	**261**	*eP*	**Pn**	**17 05 48.2**	**-0.2**
	comp=Z,14nm,0.7s						
DMN	**Daman**	**17.25**	**261**	*eP*	**Pn**	**17 05 48.2**	**-0.2**
	comp=Z,14nm,0.7s						
GKN	**Gorkha**	**17.52**	**262**	*eP*	**Pn**	**17 05 50.7**	**-1.1**
	comp=Z,14nm,0.7s						
GKN	**Gorkha**	**17.52**	**262**	*eP*	**Pn**	**17 05 50.7**	**-1.1**
	comp=Z,14nm,0.7s						
DANN	**Dangsing**	**18.16**	**264**	*eP*	**Pn**	**17 05 58.3**	**-1.4**
DANN	**Dangsing**	**18.16**	**264**	*eP*	**Pn**	**17 05 58.3**	**-1.4**
SNY	**Shenyang**	**18.28**	**52**	↓P	**Pn**	**17 05 59.6**	**-1.5**
SNY				S	**Sn**	**17 09 21.0**	**-4.0**
SNY				pmax	pmax		
	comp=Z,5.0nm,0.3s						
SNY				LR	LR		
	comp=N,230nm,15.0s						
SNY				LR	LR		
	comp=E,140nm,12.3s						
SNY				LR	LR		
	comp=Z,240nm,15.6s						
KOLN	**Koldanda**	**18.46**	**263**	*eP*	**Pn**	**17 06 01.0**	**-2.5**
	comp=Z,20nm,0.8s						
KOLN	**Koldanda**	**18.46**	**263**	*eP*	**Pn**	**17 06 01.0**	**-2.5**
	comp=Z,20nm,0.8s						
ZAK	**Zakamensk**	**18.51**	**358**	*eP*	**Pn**	**17 05 57.4**	**-6.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KSRS	**Korea Array**	**20.15**	**67**	P	**P**	**17 06 20.9**	**-0.8**
	comp=Z,2.3nm,0.7s,baz=254,slow=11,SNR=5.5						
KSRS	**Korea Array**	**20.15**	**67**	P	**P**	**17 06 20.9**	**-0.8**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MK31	**Makanchi Array**	**22.55**	**318**	*eP*	**P**	**17 06 48.4**	**+0.9**
MK31	**Makanchi Array**	**22.55**	**318**	*eP*	**P**	**17 06 48.4**	**+0.9**
MKAR	**Makanchi Array**	**22.55**	**318**	P	**P**	**17 06 48.3**	**+0.8**
	comp=Z,4.7nm,0.8s,mb4.0,baz=115,slow=12,SNR=38						
MKAR	**Makanchi Array**	**22.55**	**318**	P	**P**	**17 06 48.3**	**+0.8**
MKAR	**Makanchi Array**	**22.55**	**318**	P	**P**	**17 06 48.3**	**+0.8**
TKM2	**Tokmak 2**	**25.26**	**304**	*eP*	**P**	**17 07 14.0**	**+0.5**
TKM2	**Tokmak 2**	**25.26**	**304**	*eP*	**P**	**17 07 14.0**	**+0.4**
ZAA0	**Zalesovo Array**	**26.13**	**333**	*eP*	**P**	**17 07 21.8**	**+0.4**
ZALV	**Zalesovo Beam**	**26.13**	**333**	P	**P**	**17 07 21.2**	**-0.2**
	comp=Z,3.2nm,0.6s,mb4.0,baz=129,slow=10,SNR=19						
ZALV	**Zalesovo Beam**	**26.13**	**333**	P	**P**	**17 07 21.2**	**-0.2**
ZALV	**Zalesovo Beam**	**26.13**	**333**	P	**P**	**17 07 21.2**	**-0.2**
AML	**Almayashu**	**26.42**	**302**	*eP*	**P**	**17 07 26.0**	**+1.8**
AML	**Almayashu**	**26.42**	**302**	*eP*	**P**	**17 07 26.0**	**+1.9**
KURK	**Kurchatov**	**26.77**	**322**	P	**P**	**17 07 27.4**	**+0.1**
	comp=Z,3.0nm,0.7s,mb3.9,baz=126,slow=8.5,SNR=38						
KURK				PcP	PcP	17 10 49.5	-0.4
	comp=Z,0.7nm,1.0s,baz=114,slow=1.9,SNR=4.7						
KURK	**Kurchatov**	**26.77**	**322**	*eP*	**P**	**17 07 26.1**	**-1.1**
	comp=Z,3.4nm,0.8s,mb3.9						
KURK				PcP	PcP	17 10 49.5	-0.4
KURK	**Kurchatov**	**26.77**	**322**	P	**P**	**17 07 27.4**	**+0.2**
KURK						17 10 49.6	
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.9						
KURK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.3						
MJAR	**Matsushiro Arr**	**28.29**	**71**	P	**P**	**17 07 40.8**	**-0.2**
	comp=Z,0.7nm,0.4s,mb3.6,baz=140,slow=11,SNR=4.8						
MJAR	**Matsushiro Arr**	**28.29**	**71**	P	**P**	**17 07 40.8**	**-0.2**
MJAR	**Matsushiro Arr**	**28.29**	**71**	P	**P**	**17 07 40.8**	**-0.2**
KK31	**Karatay Array**	**28.92**	**302**	P	**P**	**17 07 45.8**	**-0.7**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
VOSK	**Vostochnaya**	**31.87**	**321**	P	**P**	**17 08 12.7**	**+0.2**
VOSK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.3						
BRVK	**Borovoye**	**32.40**	**321**	*eP*	**P**	**17 08 17.7**	**+0.5**
	comp=Z,2.5nm,0.6s,mb4.2						
BRVK	**Borovoye**	**32.40**	**321**	*eP*	**P**	**17 08 17.7**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
ZRNK	**Zerenda**	**33.05**	**320**	P	**P**	**17 08 23.1**	**+0.3**
ZRNK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
AB31	**Akbulak array**	**37.33**	**311**	P	**P**	**17 09 00.2**	**+0.5**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.1						
ABKAR	**Akbulak array**	**37.33**	**311**	*eP*	**P**	**17 09 00.3**	**+0.6**
	comp=Z,1.8nm,0.7s,mb4.0						
SVE	**Sverdlovsk**	**39.02**	**323**↑	*eP*	**P**	**17 09 15.1**	**+1.3**
SVE				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
ARU	**Arti**	**39.97**	**322**	*eP*	**P**	**17 09 22.0**	**+0.2**
	comp=Z,9.7nm,0.6s,mb4.7						
ARU	**Arti**	**39.97**	**322**	*d iP*	**P**	**17 09 20.7**	**-1.0**
ARU				*e*		17 10 50.9	
ARU				*e*PPP		17 11 18.1	
ARU				S	**S**	**17 15 24.3**	**-2.3**
ARU				SS	SS	17 18 18.6	-4.6
ARU				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.7						
PETK	**Petropavlovsk-**	**43.49**	**45**	P	**P**	**17 09 49.6**	**-1.0**
	comp=Z,4.3nm,0.8s,mb4.2,baz=226,slow=1.9,SNR=6.7						
PETK	**Petropavlovsk-**	**43.49**	**45**	P	**P**	**17 09 49.6**	**-1.0**
PETK	**Petropavlovsk-**	**43.49**	**45**	P	**P**	**17 09 49.6**	**-1.1**
GOF	**Gofitskoye**	**48.70**	**304**	*eP*	**P**	**17 10 30.3**	**-1.5**
KIV	**Kislovodsk**	**49.08**	**303**	P	**P**	**17 10 32.2**	**-2.5**
	comp=Z,6.3nm,0.4s,mb5.0						
KIV	**Kislovodsk**	**49.08**	**303**	P	**P**	**17 10 34.0**	**-0.7**
KIV				*e*		17 10 51.4	
KIV						17 12 29.0	
KIV				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
KIV				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.9						
OBN	**Obninsk**	**52.06**	**318**	P	**P**	**17 10 57.0**	**-0.1**
OBN				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.2						
JOF	**Joensuu**	**54.50**	**327**	*eP*	**P**	**17 11 14.7**	**-0.2**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
JOF	**Joensuu**	**54.50**	**327**	*ep*	**P**	**17 11 14.7**	**-0.2**
	comp=Z,1.3nm,0.4s,mb4.2						
KEV	**Kevo**	**56.12**	**336**	*eP*	**P**	**17 11 26.4**	**-0.1**
KEV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
KEV	**Kevo**	**56.12**	**336**	*ep*	**P**	**17 11 26.4**	**-0.1**
	comp=Z,0.9nm,0.4s,mb4.2						
BRTR	**Keskin Array B**	**56.55**	**299**	P	**P**	**17 11 30.2**	**+0.2**
	comp=Z,0.9nm,0.7s,mb3.9,baz=114,slow=5.5,SNR=4.1						
BRTR	**Keskin Array B**	**56.55**	**299**	P	**P**	**17 11 30.2**	**+0.2**
BRTR	**Keskin Array B**	**56.55**	**299**	P	**P**	**17 11 30.3**	**+0.2**
ARCES	**ARCESS Array B**	**56.65**	**336**	P	**P**	**17 11 30.2**	**0.0**
	comp=Z,1.4nm,0.5s,mb4.2,baz=81,slow=6.8,SNR=15						
ARCES	**ARCESS Array B**	**56.65**	**336**	P	**P**	**17 11 30.2**	**0.0**
ARCES	**ARCESS Array B**	**56.65**	**336**	P	**P**	**17 11 30.3**	**0.0**
KAF	**Kangasniemi**	**56.87**	**327**	*eP*	**P**	**17 11 31.8**	**-0.1**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
KAF	**Kangasniemi**	**56.87**	**327**	*ep*	**P**	**17 11 31.8**	**-0.1**
	comp=Z,1.4nm,0.4s,mb4.3						
AKASG	**Malin Array Be**	**57.02**	**313**	P	**P**	**17 11 32.8**	**-0.4**
	comp=Z,2.0nm,0.4s,mb4.5,baz=67,slow=7.5,SNR=7.1						
AKASG	**Malin Array Be**	**57.02**	**313**	P	**P**	**17

BODT	**Bodrum**	**1.01**	**340**	*e*PG	**Pg**	**17 02 59.5**	**+0.5**
BODT	**Bodrum**	**1.01**	**340**	*e*Pg	**Pg**	**17 02 59.5**	**+0.5**
TURN	**Turunc**	**1.02**	**42**	*i* P	**Pg**	**17 02 53.1**	**-6.1**
TURN				*i* S	**Sg**	**17 03 04.2**	**-8.3**
YER	**Yerkesik**	**1.10**	**23**	*e*PG	**Pg**	**17 02 59.2**	**-1.6**
YER				*e*SG	**Sg**	**17 03 13.0**	**-2.2**
YER	**Yerkesik**	**1.10**	**23**	*e*Pg	**Pg**	**17 02 59.2**	**-1.6**
YER				*e*Sg	**Sg**	**17 03 13.0**	**-2.2**
MLSB	**Milas**	**1.18**	**1**	*e*PN	**Pn**	**17 03 01.5**	**-1.0**
MLSB	**Milas**	**1.18**	**1**	*e*Pn	**Pn**	**17 03 01.5**	**-1.0**
FETY	**Fethiye**	**1.20**	**64**	*e*PG	**Pn**	**17 03 00.0**	**-2.7**
FETY	**Fethiye**	**1.20**	**64**	*e*Pg	**Pn**	**17 03 00.0**	**-2.7**
AKAS	**Kas**	**1.50**	**85**	*i* P	**Pn**	**17 03 06.5**	**-0.5**
AKAS				*i* S	**Sn**	**17 03 26.0**	**-0.8**
AKAS	**Kas**	**1.50**	**85**	*i* P	**Pn**	**17 03 06.5**	**-0.5**
AKAS				*i* S	**Sn**	**17 03 26.0**	**-0.8**
ZKR	**Zakros**	**1.60**	**232**	*e*PB	**Pb**	**17 03 09.1**	**-0.3**
ZKR	**Zakros**	**1.60**	**232**	*e*Pb	**Pb**	**17 03 09.1**	**-0.3**
GOLH	**Golhisar**	**1.84**	**52**	*i* P	**Pn**	**17 03 12.1**	**+0.6**
GOLH				*i* S	**Sn**	**17 03 36.9**	**+1.9**
GOLH	**Golhisar**	**1.84**	**52**	*i* P	**Pn**	**17 03 12.1**	**+0.6**
GOLH				*i* S	**Sn**	**17 03 36.9**	**+1.9**
ELL	**Elmali**	**1.85**	**69**	*e*PN	**Pn**	**17 03 10.8**	**-0.9**
ELL	**Elmali**	**1.85**	**69**	*e*Pn	**Pn**	**17 03 10.8**	**-0.9**
DNZL	**Cakiroluk**	**1.89**	**33**	*i* P	**Pn**	**17 03 14.1**	**+1.9**
DNZL				*i* S	**Sn**	**17 03 38.5**	**+2.4**
DNZL	**Cakiroluk**	**1.89**	**33**	*i* P	**Pn**	**17 03 14.1**	**+1.9**
DNZL				*i* S	**Sn**	**17 03 38.5**	**+2.3**
NPS	**Neapolis**	**1.94**	**245**	*e*PN	**Pn**	**17 03 12.2**	**-0.7**
NPS	**Neapolis**	**1.94**	**245**	*e*Pn	**Pn**	**17 03 12.2**	**-0.7**
APE	**Apeiranthos**	**2.02**	**299**	*e*PN	**Pn**	**17 03 10.7**	**-3.4**
LAST	**Lasithi**	**2.08**	**243**	*e*PN	**Pn**	**17 03 14.9**	**0.0**
LAST	**Lasithi**	**2.08**	**243**	*e*Pn	**Pn**	**17 03 14.9**	**0.0**

*ISCJB **02** 17:08:10.9±1.5,51°.7N±0°.2×174°.2W±0°.1,h70km±10km, mb3.6/9,Error ellipse: s-maj=27.0km s-min=11.0km az=168.5*
*IDC **02** 17:08:10.7±3.8,51°.52N×174°.12W,h53km±33km,mb3.4/7, mb1 3.7/11,mb1mx3.5/29,mbtmp3.5/11,ML3.6/4,Error ellipse: s-maj=30.9km s-min=18.7km az=169.0*
*NEIC **02** 17:08:10.3±1.6,51°.52N×174°.14W,h48km±13km,mb4.0/1, ML3.4(AEIC),Error ellipse: s-maj=22.8km s-min=8.7km az=164.0*

ISC 02 17:08:11.8±1.6,**51°.6N**±0°.2×**174°.2W**±0°.1,**h62**km±12km,**n28, σ1°20/29, mb3.7/9, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.59**	**359**	P	**Pn**	**17 08 23.3**	**-1.5**
ATKA				S	**Sn**	**17 08 35.2**	**+0.9**
NIKO	**Nikolski**	**3.54**	**65**	P	**Pn**	**17 09 06.7**	**+2.6**
FX1	**Attu Island--F**	**7.88**	**284**	P	**Pn**	**17 10 03.6**	**+0.1**
	1.2nm,0.3s,baz=238,slow=19,SNR=11						
FX1	**Attu Island--F**	**7.88**	**284**	P	**Pn**	**17 10 03.6**	**+0.2**
KDAK	**Kodiak Island**	**13.89**	**55**	P	**Pn**	**17 11 25.1**	**-0.2**
	0.2nm,0.3s,baz=194,slow=12,SNR=4.3						
KDAK	**Kodiak Island**	**13.89**	**55**	P	**Pn**	**17 11 25.1**	**-0.2**
PETK	**Petropavlovsk-**	**17.20**	**286**	P	**Pn**	**17 12 06.7**	**-0.9**
	0.1nm,0.3s,baz=92,slow=14,SNR=4.8						
PETK	**Petropavlovsk-**	**17.20**	**286**	P	**Pn**	**17 12 06.7**	**-0.9**
ILAR	**Eielson Array**	**19.29**	**36**	P	**Pn**	**17 12 31.4**	**-1.3**
	0.4nm,0.3s,baz=237,slow=9.1,SNR=36						
ILAR	**Eielson Array**	**19.29**	**36**	P	**Pn**	**17 12 31.4**	**-1.3**
DOT	**Dot Lake**	**19.89**	**41**	*e*P	**Pn**	**17 12 37.7**	**-2.2**
EGAK	**Eagle**	**21.50**	**40**	*e*P	**P**	**17 12 55.9**	**+0.9**
	5.5nm,0.8s,mb3.9						
PDAR	**Pinedale Array**	**43.47**	**75**	P	**P**	**17 16 13.9**	**+5.4**
	0.4nm,0.7s,mb3.2,baz=318,slow=3.6,SNR=3.2						
PDAR	**Pinedale Array**	**43.47**	**75**	P	**P**	**17 16 13.9**	**+5.4**
SONM	**Songino Array**	**49.10**	**299**	P	**P**	**17 16 53.5**	**+1.0**
	0.5nm,1.0s,mb3.5,baz=28,slow=10.0,SNR=2.5						
SONM	**Songino Array**	**49.10**	**299**	P	**P**	**17 16 53.5**	**+1.0**
TXAR	**Lajitas Array**	**55.76**	**85**	P	**P**	**17 17 42.3**	**+0.3**
	0.1nm,0.4s,mb3.2,baz=340,slow=5.1,SNR=2.9						
TXAR	**Lajitas Array**	**55.76**	**85**	P	**P**	**17 17 42.3**	**+0.3**
ARCES	**ARCESS Array B**	**58.31**	**352**	P	**P**	**17 17 59.6**	**+0.1**
	5.4nm,0.8s,mb4.6,baz=21,slow=8.7,SNR=3.1						
ARCES	**ARCESS Array B**	**58.31**	**352**	P	**P**	**17 17 59.6**	**+0.1**
KURK	**Kurchatov**	**60.91**	**316**	P	**P**	**17 18 18.1**	**+0.4**
	0.6nm,0.7s,mb3.9,baz=46,slow=6.5,SNR=7.0						
KURK	**Kurchatov**	**60.91**	**316**	P	**P**	**17 18 18.1**	**+0.4**
CMAR	**Chiang Mai Arr**	**73.85**	**279**	P	**P**	**17 19 42.1**	**+2.3**
	0.4nm,0.5s,mb3.6,baz=17,slow=6.6,SNR=4.5						
CMAR	**Chiang Mai Arr**	**73.85**	**279**	P	**P**	**17 19 42.1**	**+2.3**
WRA	**Warramunga Arr**	**84.25**	**228**	P	**P**	**17 20 34.8**	**-1.6**
	0.4nm,0.8s,mb3.6,baz=29,slow=5.2,SNR=2.9						
WRA	**Warramunga Arr**	**84.25**	**228**	P	**P**	**17 20 34.8**	**-1.6**
ASAR	**Alice Springs**	**87.68**	**226**	P	**P**	**17 20 53.1**	**-0.1**
	0.4nm,0.8s,mb3.7,baz=22,slow=5.3,SNR=6.9						
ASAR	**Alice Springs**	**87.68**	**226**	P	**P**	**17 20 53.1**	**-0.1**

*ISCJB **02** 17:27:17.5±0.5,41°.80N±0°.03×16°.01E±0°.03,h27km±3km, Error ellipse: s-maj=4.9km s-min=3.4km az=35.0*
*CSEM **02** 17:27:17.0±0.2,41°.75N×16°.04E,h20km,ML3.7/14,Error ellipse: s-maj=4.8km s-min=3.1km az=29.0*
*ROM **02** 17:27:17.3±0.2,41°.76N×16°.01E,h28km±1km,Ml2.8/33, Error ellipse: s-maj=2.7km s-min=1.7km az=29.0*

ISC 02 17:27:17.9±0.5,**41°.78N**±0°.03×**16°.00E**±0°.03,**h26**km±3km, **n83, σ0°84/121, 8C-8D, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAG	**Monte S. Angel**	**0.10**	**224**	⇑*i*Pg	**Pb**	**17 27 22.7**	**+0.1**
MSAG				Sg	**Sb**	**17 27 25.8**	**+0.1**
	3µm,0.3s						
MSAG	**Monte S. Angel**	**0.10**	**224**	⇑*i*Pg	**Pb**	**17 27 22.7**	**+0.1**
MSAG				Sg	**Sb**	**17 27 25.8**	**+0.1**
	3µm,0.3s						
SGRT	**San Giovanni R**	**0.19**	**262**	⇓*i*Pg	**Pb**	**17 27 23.6**	**+0.1**
SGRT				Sg	**Sb**	**17 27 27.3**	**0.0**
	2µm,0.1s						
SGRT	**San Giovanni R**	**0.19**	**262**	⇓*i*Pg	**Pb**	**17 27 23.6**	**+0.1**
SGRT				Sg	**Sb**	**17 27 27.3**	**0.0**
	2µm,0.1s						
RGNG	**Rignano Grg**	**0.33**	**251**	⇓*i*Pg	**Pb**	**17 27 25.0**	**-0.3**
RGNG				Sg	**Sb**	**17 27 29.8**	**-0.6**
RGNG	**Rignano Grg**	**0.33**	**251**	⇓*i*Pg	**Pb**	**17 27 25.0**	**-0.3**
RGNG				Sg	**Sb**	**17 27 29.8**	**-0.6**
FG2	**Serracapriola**	**0.63**	**273**	Pg	**Pb**	**17 27 30.2**	**0.0**
FG2				Sg	**Sb**	**17 27 38.9**	**+0.3**
	753nm,0.2s						
FG2	**Serracapriola**	**0.63**	**273**	Pg	**Pb**	**17 27 30.2**	**0.0**
FG2				Sg	**Sb**	**17 27 38.9**	**+0.3**
	753nm,0.2s						
MELA	**Melanico ??? S**	**0.66**	**264**	Pg	**Pb**	**17 27 30.8**	**+0.1**
MELA				Sg	**Sb**	**17 27 39.6**	**+0.1**
	1µm,0.3s						
MELA	**Melanico ??? S**	**0.66**	**264**	Pg	**Pb**	**17 27 30.8**	**+0.1**
MELA				Sg	**Sb**	**17 27 39.6**	**+0.1**
	1µm,0.3s						
MRVN	**Minervino Murg**	**0.73**	**168**	Pg	**Pb**	**17 27 31.1**	**-0.9**
MRVN				Sg	**Sb**	**17 27 41.3**	**-0.3**
	343nm,0.3s						
MRVN	**Minervino Murg**	**0.73**	**168**	Pg	**Pb**	**17 27 31.1**	**-0.9**
MRVN				Sg	**Sb**	**17 27 41.3**	**-0.3**
	343nm,0.3s						
FG5	**Orsara di Pugl**	**0.74**	**228**	⇑*i*Pg	**Pb**	**17 27 32.0**	**-0.1**
FG5				Sg	**Sb**	**17 27 42.5**	**+0.7**
	260nm,0.4s						
FG5	**Orsara di Pugl**	**0.74**	**228**	⇑*i*Pg	**Pb**	**17 27 32.0**	**-0.1**
FG5				Sg	**Sb**	**17 27 42.5**	**+0.7**
	260nm,0.4s						
MOCO	**Biccari - m.te**	**0.75**	**237**	Pg	**Pb**	**17 27 32.1**	**-0.2**
MOCO				Sg	**Sb**	**17 27 43.1**	**+0.9**
	162nm,0.5s						
SGTA	**Sant Agata di**	**0.80**	**217**	Pg	**Pb**	**17 27 32.4**	**-0.8**
SGTA				Sg	**Sb**	**17 27 43.8**	**+0.2**
	397nm,0.5s						
SGTA	**Sant Agata di**	**0.80**	**217**	Pg	**Pb**	**17 27 32.4**	**-0.8**
SGTA				Sg	**Sb**	**17 27 43.8**	**+0.2**
	397nm,0.5s						
CIGN	**Sant'Elia a Pi**	**0.83**	**262**	⇑*i*Pg	**Pb**	**17 27 33.4**	**-0.2**
CIGN				Sg	**Sb**	**17 27 44.5**	**+0.1**
	192nm,0.4s						
CIGN	**Sant'Elia a Pi**	**0.83**	**262**	⇑*i*Pg	**Pb**	**17 27 33.4**	**-0.2**
CIGN				Sg	**Sb**	**17 27 44.5**	**+0.1**
	192nm,0.4s						
PALZ	**Palazzo San Ge**	**0.84**	**182**	Pg	**Pb**	**17 27 33.2**	**-0.5**
PALZ				Sg	**Sb**	**17 27 44.4**	**-0.2**
	415nm,0.7s						
VULT	**Monte Vulture**	**0.87**	**199**	⇑*i*Pg	**Pb**	**17 27 33.9**	**-0.5**
VULT				Sg	**Sb**	**17 27 45.7**	**+0.1**
	694nm,0.4s						
VULT	**Monte Vulture**	**0.87**	**199**	⇑*i*Pg	**Pb**	**17 27 33.9**	**-0.5**
VULT				Sg	**Sb**	**17 27 45.7**	**+0.1**
	694nm,0.4s						
BAI	**Bari**	**0.94**	**135**	*e*Pg	**Pn**	**17 27 34.9**	**-0.6**
BAI				*e*Sg	**Sb**	**17 27 48.7**	**+1.1**
CAFE	**Carife**	**0.94**	**218**	Pg	**Pn**	**17 27 35.1**	**-0.4**
CAFE				Sg	**Sb**	**17 27 48.8**	**+1.1**
	83nm,0.5s						
CAFE	**Carife**	**0.94**	**218**	Pg	**Pn**	**17 27 35.1**	**-0.4**
CAFE				Sg	**Sb**	**17 27 48.8**	**+1.1**
	83nm,0.5s						
AMUR	**Altamura**	**0.98**	**152**	⇓*i*Pg	**Pn**	**17 27 35.1**	**-0.9**
AMUR				Sg	**Sb**	**17 27 49.5**	**+0.7**
	187nm,0.4s						
AMUR	**Altamura**	**0.98**	**152**	⇓*i*Pg	**Pn**	**17 27 35.1**	**-0.9**
AMUR				Sg	**Sb**	**17 27 49.5**	**+0.7**
	187nm,0.4s						
FRES	**Fresagrandinar**	**1.01**	**281**	Pn	**Pn**	**17 27 36.8**	**+0.4**
	235nm,0.6s						
FRES	**Fresagrandinar**	**1.01**	**281**	Pn	**Pn**	**17 27 36.8**	**+0.4**
	235nm,0.6s						
MRB1	**Monte Rocchett**	**1.01**	**230**	Pn	**Pn**	**17 27 36.7**	**+0.3**
MRB1				Sn	**Sn**	**17 27 52.2**	**+2.5**
	182nm,0.4s						
MRB1	**Monte Rocchett**	**1.01**	**230**	Pn	**Pn**	**17 27 36.7**	**+0.3**
MRB1				Sn	**Sn**	**17 27 52.2**	**+2.5**
	182nm,0.4s						
SNAL	**S. Angelo Dei**	**1.04**	**215**	Pn	**Pn**	**17 27 35.5**	**-1.3**
SNAL	**S. Angelo Dei**	**1.04**	**215**	Pn	**Pn**	**17 27 35.5**	**-1.3**
SACR	**S. Croce Del S**	**1.04**	**249**	Pg	**Pn**	**17 27 36.4**	**-0.4**
	105nm,0.3s						
SACR	**S. Croce Del S**	**1.04**	**249**	Pg	**Pn**	**17 27 36.4**	**-0.4**
	105nm,0.3s						
PSB1	**Pescosannita**	**1.05**	**238**	Pg	**Pn**	**17 27 36.6**	**-0.3**
	54nm,0.4s						
PSB1	**Pescosannita**	**1.05**	**238**	Pg	**Pn**	**17 27 36.6**	**-0.3**
	54nm,0.4s						
SG1	**Sgolgore (BA)**	**1.07**	**151**	*e*Pg	**Pn**	**17 27 36.2**	**-1.0**
SG1				*e*Sg	**Sb**	**17 27 52.5**	**+1.2**
BSSO	**Busso**	**1.08**	**258**	Pg	**Pn**	**17 27 37.6**	**+0.3**
	95nm,0.5s						
BSSO	**Busso**	**1.08**	**258**	Pg	**Pn**	**17 27 37.6**	**+0.3**
	95nm,0.5s						
MRLC	**Muro Lucano**	**1.09**	**201**	Pg	**Pn**	**17 27 36.1**	**-1.4**
MRLC				Sn	**Sn**	**17 27 52.6**	**+0.8**
	237nm,0.4s						
MRLC	**Muro Lucano**	**1.09**	**201**	Pg	**Pn**	**17 27 36.1**	**-1.4**
MRLC				Sn	**Sn**	**17 27 52.6**	**+0.8**
	237nm,0.4s						
CSSN	**Cassano Irpino**	**1.18**	**219**	Pn	**Pn**	**17 27 38.0**	**-0.7**
	40nm,0.3s						
CSSN	**Cassano Irpino**	**1.18**	**219**	Pn	**Pn**	**17 27 38.0**	**-0.7**
	40nm,0.3s						
MCRV	**Calabrutti - M**	**1.18**	**212**	Pg	**Pn**	**17 27 37.0**	**-1.7**
	121nm,0.3s						
PTRJ	**Pietraroja**	**1.18**	**250**	Pn	**Pn**	**17 27 38.3**	**-0.4**
	179nm,0.4s						
PTRJ	**Pietraroja**	**1.18**	**250**	Pn	**Pn**	**17 27 38.3**	**-0.4**
	179nm,0.4s						
MIGL	**Miglionico**	**1.22**	**164**	Pg	**Pn**	**17 27 38.5**	**-0.8**
	342nm,0.3s						
MIGL	**Miglionico**	**1.22**	**164**	Pg	**Pn**	**17 27 38.5**	**-0.8**
	342nm,0.3s						
MATE	**Matera**	**1.25**	**155**	Pn	**Pn**	**17 27 38.9**	**-0.8**
	154nm,0.3s						
MATE	**Matera**	**1.25**	**155**	Pn	**Pn**	**17 27 38.9**	**-0.8**
	154nm,0.3s						
PTRP	**Pietrapertosa**	**1.26**	**178**	Pn	**Pn**	**17 27 41.6**	**+1.8**
	3µm,3.1s						
PTRP	**Pietrapertosa**	**1.26**	**178**	Pn	**Pn**	**17 27 41.6**	**+1.8**
	3µm,3.1s						
NOCI	**Noci**	**1.27**	**141**	⇓*i*Pg	**Pn**	**17 27 39.3**	**-0.7**
	183nm,0.2s						
NOCI	**Noci**	**1.27**	**141**	⇓*i*Pg	**Pn**	**17 27 39.3**	**-0.7**
	183nm,0.2s						
SGG	**Gregorio Mates**	**1.28**	**253**	Pn	**Pn**	**17 27 39.9**	**-0.1**
	67nm,0.4s						
SGG	**Gregorio Mates**	**1.28**	**253**	Pn	**Pn**	**17 27 39.9**	**-0.1**
	67nm,0.4s						
VAGA	**Valle Agricola**	**1.37**	**255**	Pn	**Pn**	**17 27 41.6**	**+0.2**
	114nm,0.7s						
VAGA	**Valle Agricola**	**1.37**	**255**	Pn	**Pn**	**17 27 41.6**	**+0.2**
	114nm,0.7s						
LPEL	**Lama dei Pelig**	**1.38**	**282**	Pn	**Pn**	**17 27 42.7**	**+1.2**
	95nm,0.2s						
LPEL	**Lama dei Pelig**	**1.38**	**282**	Pn	**Pn**	**17 27 42.7**	**+1.2**
	95nm,0.2s						
CDRU	**Civita di Ruta**	**1.39**	**202**	Pn	**Pn**	**17 27 40.3**	**-1.3**
	70nm,0.3s						
CDRU	**Civita di Ruta**	**1.39**	**202**	Pn	**Pn**	**17 27 40.3**	**-1.3**
	70nm,0.3s						
PE1	**Pezze di Greco**	**1.45**	**132**	*e*Pg	**Pn**	**17 27 42.0**	**-0.4**
PE1				*e*Sg	**Sn**	**17 28 02.1**	**+1.5**
CRAC	**Craco**	**1.45**	**167**	Pn	**Pn**	**17 27 43.8**	**+1.4**
	237nm,0.2s						
CRAC	**Craco**	**1.45**	**167**	Pn	**Pn**	**17 27 43.8**	**+1.4**
	237nm,0.2s						
MCEL	**Monticello**	**1.46**	**186**	Pn	**Pn**	**17 27 42.6**	**0.0**
	91nm,0.4s						
MCEL	**Monticello**	**1.46**	**186**	Pn	**Pn**	**17 27 42.6**	**0.0**
	91nm,0.4s						
CERA	**Filignano**	**1.49**	**264**	Pn	**Pn**	**17 27 43.5**	**+0.5**
CERA	**Filignano**	**1.49**	**264**	Pn	**Pn**	**17 27 43.5**	**+0.5**
CMPR	**Campora**	**1.55**	**200**	Pn	**Pn**	**17 27 42.6**	**-1.2**
	51nm,0.3s						
CMPR	**Campora**	**1.55**	**200**	Pn	**Pn**	**17 27 42.6**	**-1.2**
	51nm,0.3s						
SCHR	**S. Chirico Rap**	**1.58**	**178**	Pn	**Pn**	**17 27 45.9**	**+1.7**
	27nm,0.4s						
TAR1	**Taranto**	**1.58**	**142**	*e*Pn	**Pn**	**17 27 42.8**	**-1.5**
SIRI	**Monte Sirino -**	**1.60**	**184**	Pn	**Pn**	**17 27 45.3**	**+0.8**
	83nm,0.4s						
SIRI	**Monte Sirino -**	**1.60**	**184**	Pn	**Pn**	**17 27 45.3**	**+0.8**
	83nm,0.4s						
STON	**Ston**	**1.67**	**49**	*i* Pg	**Pn**	**17 27 49.9**	**+4.4**
STON				Sg	**Sn**	**17 28 07.7**	**+1.7**
STON	**Ston**	**1.67**	**49**	*i* Pg	**Pn**	**17 27 49.8**	**+4.4**
STON				Sg	**Sn**	**17 28 07.6**	**+1.6**
CUC	**Castrocucco**	**1.79**	**185**	Pn	**Pn**	**17 27 46.4**	**-0.7**
	35nm,0.3s						
CUC	**Castrocucco**	**1.79**	**185**	Pn	**Pn**	**17 27 46.4**	**-0.7**
	35nm,0.3s						
NVLJ	**Novalja**	**2.90**	**344**	*e*Pn	**Pn**	**17 28 02.7**	**+0.3**
NVLJ				Sn	**Sn**	**17 28 36.2**	**-0.2**
NVLJ	**Novalja**	**2.90**	**344**	*e*Pn	**Pn**	**17 28 02.6**	**+0.2**
NVLJ				Sn	**Sn**	**17 28 36.2**	**-0.2**

*RSPR **02** 17:41:13.3, 19°.05N×64°.02W,h60km,2km,MD3.5/12*
*NEIC **02** 17:41:13.3, 19°.05N×64°.02W,h60km, MD3.5(RSPR), After RSPR.*

ISC 02 17:41:12.4±1.4,**19°.1N**±0°.2×**64°.0W**±0°.1,**h58**km±20km,**n36, σ0°37/61, 28C-5D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.45**	**221**	⇑*i*P	**Pn**	**17 41 24.2**	**+0.5**
ABV				*e*S	**Sn**	**17 41 31.8**	**-0.1**
ABV	**Anegada**	**0.45**	**221**	⇑*i*P	**Pn**	**17 41 24.2**	**+0.5**
ABV				*e*S	**Sn**	**17 41 31.8**	**-0.1**
TBVI	**Tortola**	**0.86**	**221**	⇑*e*P	**Pn**	**17 41 28.7**	**+0.1**
TBVI				*e*S	**Sn**	**17 41 40.1**	**-0.4**
TBVI	**Tortola**	**0.86**	**221**	⇑*e*P	**Pn**	**17 41 28.7**	**+0.1**
TBVI				*e*S	**Sn**	**17 41 40.1**	**-0.4**
TBVI	**Tortola**	**0.86**	**221**	⇑*e*P	**Pn**	**17 41 28.7**	**+0.1**
TBVI				*e*S	**Sn**	**17 41 40.6**	**+0.1**
STVI	**Saint Thomas**	**1.14**	**231**	⇑*e*P	**Pn**	**17 41 31.8**	**-0.4**
STVI	**Saint Thomas**	**1.14**	**231**	⇑*e*P	**Pn**	**17 41 31.8**	**-0.4**
STVI				*e*S	**Sn**	**17 41 46.8**	**-0.1**
STVI	**Saint Thomas**	**1.14**	**231**	⇑*e*P	**Pn**	**17 41 31.8**	**-0.4**
STVI				*e*S	**Sn**	**17 41 46.8**	**-0.1**
MTP	**Monte Pirata**	**1.75**	**237**	⇑*e*P	**Pn**	**17 41 40.8**	**+0.4**
MTP				*e*S	**Sn**	**17 42 01.2**	**-0.4**
MTP	**Monte Pirata**	**1.75**	**237**	⇑*e*P	**Pn**	**17 41 40.8**	**+0.4**
MTP				*e*S	**Sn**	**17 42 01.2**	**-0.4**
MTP	**Monte Pirata**	**1.75**	**237**	⇑*e*P	**Pn**	**17 41 40.8**	**+0.4**
MTP				*e*S	**Sn**	**17 42 01.2**	**-0.4**
CBYP	**Canovanas**	**1.92**	**246**	⇑*e*P	**Pn**	**17 41 42.7**	**+0.1**
CBYP	**Canovanas**	**1.92**	**246**	⇑*e*P	**Pn**	**17 41 42.7**	**+0.1**
CBYP				*e*S	**Sn**	**17 42 05.4**	**-0.3**
CBYP	**Canovanas**	**1.92**	**246**	⇑*e*P	**Pn**	**17 41 42.7**	**+0.1**
CBYP				*e*S	**Sn**	**17 42 05.4**	**-0.3**
HUMP	**Col San Antoni**	**1.97**	**242**	⇑*e*P	**Pn**	**17 41 43.5**	**+0.1**
HUMP	**Col San Antoni**	**1.97**	**242**	⇑*e*P	**Pn**	**17 41 43.5**	**+0.1**
HUMP				*e*S	**Sn**	**17 42 07.5**	**+0.5**
HUMP	**Col San Antoni**	**1.97**	**242**	⇑*e*P	**Pn**	**17 41 43.5**	**+0.1**
HUMP				*e*S	**Sn**	**17 42 07.5**	**+0.5**
SJG	**San Juan**	**2.24**	**245**	⇑*e*P	**Pn**	**17 41 47.2**	**+0.1**
SJG	**San Juan**	**2.24**	**245**	⇓*e*P	**Pn**	**17 41 46.9**	**-0.1**
SJG				*e*S	**Sn**	**17 42 13.9**	**+0.4**
SJG	**San Juan**	**2.24**	**245**	⇑*e*P	**Pn**	**17 41 47.2**	**+0.1**
SJG				*e*S	**Sn**	**17 42 14.2**	**+0.7**
SJG	**San Juan**	**2.24**	**245**	⇓*e*P	**Pn**	**17 41 46.9**	**-0.1**
SJG	**San Juan**	**2.24**	**245**	⇑*e*P	**Pn**	**17 41 47.2**	**+0.1**
SJG				*e*S	**Sn**	**17 42 13.9**	**+0.4**
SJG				*e*S	**Sn**	**17 42 14.2**	**+0.7**
CELP	**Cerrillos**	**2.62**	**248**	⇓*e*P	**Pn**	**17 41 52.3**	**0.0**
CELP				*e*S	**Sn**	**17 42 23.2**	**+0.2**
CELP	**Cerrillos**	**2.62**	**248**	⇓*e*P	**Pn**	**17 41 52.3**	**0.0**
CELP				*e*S	**Sn**	**17 42 23.2**	**+0.2**
CELP	**Cerrillos**	**2.62**	**248**	⇓*e*P	**Pn**	**17 41 52.3**	**0.0**
CELP				*e*S	**Sn**	**17 42 23.2**	**+0.2**
ICM	**Isla Caja Muer**	**2.65**	**244**	⇑*e*P	**Pn**	**17 41 52.4**	**-0.2**
ICM	**Isla Caja Muer**	**2.65**	**244**	⇑*e*P	**Pn**	**17 41 52.4**	**-0.2**
ICM	**Isla Caja Muer**	**2.65**	**244**	⇑*e*P	**Pn**	**17 41 52.4**	**-0.2**
OBIP	**Obispado Ponce**	**2.66**	**248**	⇑*e*P	**Pn**	**17 41 52.5**	**-0.3**
OBIP	**Obispado Ponce**	**2.66**	**248**	⇑*e*P	**Pn**	**17 41 52.5**	**-0.3**
OBIP				*e*S	**Sn**	**17 42 23.9**	**0.0**
OBIP	**Obispado Ponce**	**2.66**	**248**	⇑*e*P	**Pn**	**17 41 52.5**	**-0.3**
OBIP				*e*S	**Sn**	**17 42 23.9**	**0.0**
AOPR	**Arecibo Observ**	**2.69**	**255**	⇑*e*P	**Pn**	**17 41 52.8**	**-0.4**
AOPR	**Arecibo Observ**	**2.69**	**255**	⇑*e*P	**Pn**	**17 41 52.8**	**-0.4**
AOPR				*e*S	**Sn**	**17 42 24.6**	**-0.1**
AOPR	**Arecibo Observ**	**2.69**	**255**	⇑*e*P	**Pn**	**17 41 52.8**	**-0.4**
AOPR				*e*S	**Sn**	**17 42 24.6**	**-0.1**
LRS	**Lares**	**2.79**	**254**	P	**Pn**	**17 41 53.9**	**-0.7**
CRPR	**Cabo Rojo, PR**	**3.12**	**251**	*e*Pn	**Pn**	**17 41 59.9**	**+0.8**

*ISK **02** 17:54:50.6,36°.89N×29°.34E,h4km,MD3.2*
*ISCJB **02** 17:54:51.1±0.6,36°.90N±0°.03×29°.34E±0°.04,h1km±6km, Error ellipse: s-maj=5.0km s-min=4.5km az=173.4*
*CSEM **02** 17:54:51.2±0.1,36°.90N×29°.35E,h2km,MD3.2,Error ellipse: s-maj=3.1km s-min=2.7km az=6.0*
*DDA **02** 17:54:51.5,36°.93N×29°.33E,h7km±4km,Md3.2*

ISC 02 17:54:51.7±0.5,**36°.91N**±0°.03×**29°.34E**±0°.04,**h4**km±5km, **n46, σ0°69/59, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLHS	**Glhisar (BURDU**	**0.28**	**28**	*e*PG	**Pg**	**17 54 56.7**	**-0.5**
GLHS				*e*SG	**Sg**	**17 55 01.9**	**+1.1**
GLHS	**Glhisar (BURDU**	**0.28**	**28**	*e*Pg	**Pg**	**17 54 56.7**	**-0.5**
GLHS				*e*Sg	**Sg**	**17 55 01.9**	**+1.1**
FETY	**Fethiye**	**0.34**	**217**	*e*PG	**Pg**	**17 54 57.5**	**-0.7**
FETY	**Fethiye**	**0.34**	**217**	*e*Pg	**Pg**	**17 54 57.5**	**-0.7**
GOLH	**Golhisar**	**0.38**	**29**	*i* P	**Pg**	**17 54 57

comp=E,644nm,0.3s
TKM2 Tokmak 2 0.69 287 *e*P Pg 17 58 41.0 +0.2
TKM2 *e*S Sg 17 58 51.0 +1.2
TKM2 Tokmak 2 0.69 287 PG Pg 17 58 41.0 +0.2
TKM2 S Sg 17 58 51.2 +1.4
TKM2 pmax pmax
comp=Z,102nm,0.4s
TKM2 smax
comp=Z,644nm,0.3s
KZA Kyzart 1.12 236 P Pg 17 58 48.3 -0.7
comp=Z,74nm,0.2s,SNR=153
KZA ⇓S Sg 17 59 04.0 +0.4
comp=Z,320nm,0.1s
KZA ⇓S Sg 17 59 04.0 +0.4
comp=Z,320nm,0.1s
KZA Kyzart 1.12 236 *e*P Pg 17 58 48.2 -0.8
KZA *e*S Sg 17 59 03.4 -0.2
KZA Kyzart 1.12 236 *e*PG Pg 17 58 48.2 -0.8
KZA *e*S Sg 17 59 03.4 -0.2
CHMS Chumysh 1.31 283 ⇓P Pn 17 58 51.4 -0.6
comp=Z,74nm,0.1s,SNR=41
CHMS ⇓S Sb 17 59 09.5 +0.3
comp=Z,301nm,0.1s
CHMS ⇓S Sb 17 59 09.5 +0.3
comp=Z,301nm,0.1s
CHMS Chumysh 1.31 283 *e*P Pn 17 58 51.3 -0.7
CHMS *e*S Sb 17 59 08.9 -0.3
CHMS Chumysh 1.31 283 *e*PG Pg 17 58 51.3 -1.3
CHMS *e*S Sb 17 59 08.9 -0.4
AAK Ala-Archa 1.48 267 P Pn 17 58 54.6 +0.3
comp=Z,63nm,0.2s,SNR=106
AAK ⇓S Sn 17 59 14.3 +0.5
comp=Z,290nm,0.2s
AAK ⇓S Sn 17 59 14.3 +0.5
comp=Z,290nm,0.2s
AAK Ala-Archa 1.48 267 Pg Pg 17 58 54.6 -1.2
comp=Z,0.7nm,0.3s,baz=105,slow=8.5,SNR=293
AAK Lg 17 59 14.4
comp=Z,1.6nm,0.3s,baz=303,slow=19,SNR=60
AAK Ala-Archa 1.48 267 *e*P Pn 17 58 54.4 +0.1
AAK Pg Pg 17 58 54.6 -1.2
AAK Lg 17 59 14.4
AAK *e*S Sn 17 59 14.8 +1.0
AAK Ala-Archa 1.48 267 *e*PG Pg 17 58 54.4 -1.4
AAK *e*S Sn 17 59 14.8 +1.0
UCH Uchtor 1.55 252 *e*P Pn 17 58 55.3 0.0
UCH Uchtor 1.55 252 *e*PN Pn 17 58 55.3 +0.1
USP Ospenovka 1.56 291 ⇓P Pn 17 58 56.0 +0.5
comp=Z,203nm,0.2s,SNR=80
USP ⇑S Sn 17 59 17.3 +1.4
comp=Z,488nm,0.1s
USP ⇑S Sn 17 59 17.3 +1.4
comp=Z,488nm,0.1s
USP Ospenovka 1.56 291 *i* P* Pb 17 58 56.0 -0.6
EKS2 Erkin-Say 2.00 269 ⇑P Pn 17 59 03.4 +1.9
comp=Z,64nm,0.2s,SNR=212
EKS2 Erkin-Say 2.00 269 *e*P Pn 17 59 03.0 +1.5
EKS2 *e*S Sn 17 59 29.6 +2.8
EKS2 Erkin-Say 2.00 269 *e*PN Pn 17 59 03.1 +1.6
EKS2 *e*S Sn 17 59 29.6 +2.8
AML Almayashu 2.15 255 ⇑P Pn 17 59 06.7 +3.1
comp=Z,186nm,0.3s,SNR=168
AML Almayashu 2.15 255 *e*P Pn 17 59 06.7 +3.0
AML *e*S Sn 17 59 36.0 +5.6
AML Almayashu 2.15 255 *e*PN Pn 17 59 06.7 +3.1
AML *e*S Sn 17 59 36.1 +5.6
KSH Kashi 3.22 187 Pn Pg 17 59 30.8 +1.6
KSH Sn Sg 18 00 19.5 +8.5
KSH smax
comp=N,91nm,0.6s
KSH smax
comp=E,160nm,1.0s
KK31 Karatay Array 4.41 277 ⇑Pn Pn 17 59 35.1 +0.5
comp=E,0.6nm,0.4s,baz=89,slow=14,SNR=26
KK31 ⇑Pg Pg 17 59 46.4 -5.6
comp=E,3.2nm,0.3s,baz=92,slow=16,SNR=25
KK31 ⇑Lg 18 00 47.5
comp=E,28nm,0.4s,baz=90,slow=27,SNR=7.1
KK31 Karatay Array 4.41 277 PN Pg 17 59 46.0 -5.9
KK31 18 00 43.8
KK31 pmax pmax
comp=Z,4.0nm,0.4s
KK31 smax
comp=Z,36nm,0.3s
KKAR Karatay Array 4.41 277 *e*P Pn 17 59 35.0 +0.4
KKAR Karatay Array 4.41 277 *e*PN Pn 17 59 35.0 +0.4
MK31 Makanchi Array 5.80 43 ⇑Pn Pn 17 59 54.3 +0.7
comp=Z,2.6nm,0.6s,baz=222,slow=16,SNR=28
MK31 ⇑Sn Sn 18 01 00.4 +0.1
comp=Z,4.4nm,0.5s,baz=222,slow=28,SNR=3.7
MK31 ⇓Lg 18 01 31.2
comp=Z,5.3nm,0.5s,baz=222,slow=28,SNR=3.7
MK31 Makanchi Array 5.80 43 *e*P Pn 17 59 54.5 +0.8
MK31 Makanchi Array 5.80 43 PN Pn 17 59 55.0 +1.3
MK31 18 01 00.3
MK31 pmax pmax
comp=Z,2.0nm,0.3s
MK31 smax
comp=Z,5.0nm,0.4s
MKAR Makanchi Array 5.80 43 Pn Pn 17 59 55.0 +1.3
comp=Z,0.6nm,0.3s,baz=224,slow=15,SNR=23
MKAR Sn Sn 18 01 00.8 +0.5
comp=Z,1.9nm,0.3s,baz=227,slow=26,SNR=10.0
MKAR Lg 18 01 28.4
comp=Z,1.3nm,0.3s,baz=234,slow=28,SNR=4.4
MKAR Makanchi Array 5.80 43 Pn Pn 17 59 55.0 +1.3
MKAR Sn Sn 18 01 00.8 +0.5
MKAR Lg 18 01 28.4
MKAR Makanchi Array 5.80 43 PN Pn 17 59 55.0 +1.3
MKAR 18 01 00.8
KURBB Kurchatov Arra 8.03 9 ⇓Lg 18 02 42.0
comp=Z,1.6nm,0.6s
KURK Kurchatov 8.13 10 ⇑Lg 18 02 44.7
comp=Z,22nm,0.7s
KURK Kurchatov 8.13 10 Pn Pn 18 00 23.7 -2.0
comp=Z,0.1nm,0.3s,baz=191,slow=13,SNR=3.6
KURK Sn Sn 18 01 51.8 -5.9
comp=Z,0.2nm,0.3s,baz=188,slow=31,SNR=4.4
KURK Lg 18 02 38.8
comp=Z,0.3nm,0.3s,baz=201,slow=32,SNR=6.8
KURK Kurchatov 8.13 10 Pn Pn 18 00 23.7 -2.0
KURK Sn Sn 18 01 51.8 -5.9
KURK Lg 18 02 38.8
KURK Kurchatov 8.13 10 P Pn 18 00 23.7 -2.0
KURK 18 01 51.8
VOSK Vostochnaya 10.67 342 ⇑Pn Pn 18 01 00.1 -0.4
comp=Z,2.5nm,1.1s
VOSK ⇓Sn Sn 18 03 00.1 0.0
comp=Z,1.7nm,0.6s
VOSK ⇑Lg 18 04 05.0
comp=Z,24nm,1.3s
VOSK Vostochnaya 10.67 342 P Pn 18 01 00.1 -0.4
VOSK S Sn 18 03 00.1 +0.1
BVA0 Borovoye Array 11.09 340 Pn Pn 18 01 05.1 -1.1
comp=Z,0.1nm,0.2s,baz=146,slow=14,SNR=5.0
BVA0 Lg 18 04 18.4
comp=Z,0.7nm,0.9s,baz=149,slow=26,SNR=6.9
BVAR Borovoye Array 11.09 340 Pn Pn 18 01 04.2 -2.0
comp=Z,0.2nm,0.3s,baz=148,slow=14,SNR=3.8
BVAR Lg 18 04 17.9
comp=Z,1.1nm,0.3s,baz=163,slow=22,SNR=8.0
BVAR Borovoye Array 11.09 340 Pn Pn 18 01 04.2 -1.9
BVAR Lg 18 04 17.9
BVAR Borovoye Array 11.09 340 P Pn 18 01 04.2 -2.0
BVAR Borovoye Array 11.09 340 P Pn 18 01 04.3 -1.9
BRVK Borovoye 11.15 340 ⇑Pn Pn 18 01 06.3 -0.7
comp=Z,4.5nm,1.0s
BRVK ⇓Sn Sn 18 03 12.0 +0.3
comp=Z,2.3nm,0.5s
BRVK ⇓Lg 18 04 20.2
comp=Z,26nm,1.0s
BRVK Borovoye 11.15 340 *e*P Pn 18 01 10.5 +3.5
BRVK pmax pmax
comp=Z,1.0nm,0.7s
ZRNK Zerenda 11.40 336 ⇓Pn Pn 18 01 10.3 -0.1
comp=Z,3.4nm,1.4s
ZRNK ⇑Sn Sn 18 03 17.6 -0.2
comp=Z,1.5nm,0.4s
ZRNK ⇑Lg 18 04 28.6
comp=Z,20nm,1.2s
ZRNK Zerenda 11.40 336 P Pn 18 01 10.3 -0.1
ZRNK S Sn 18 03 17.6 -0.2
ZALV Zalesovo Beam 12.52 23 Pn Pn 18 01 26.3 +0.6
comp=Z,0.2nm,0.3s,baz=225,slow=16,SNR=2.5
ZALV Zalesovo Beam 12.52 23 Pn Pn 18 01 26.3 +0.6
ZALV Zalesovo Beam 12.52 23 P Pn 18 01 26.3 +0.6
AB31 Akbulak array 13.22 305 P Pn 18 01 34.4 -0.9
ABKAR Akbulak array 13.22 305 *e*P Pn 18 01 34.4 -1.0
ARU Arti 17.91 326 *d* iP Pn 18 02 41.3 +4.7
ARU S Sn 18 06 01.1 +4.9
ARU pmax pmax
comp=Z,1.0nm,0.5s
SONM Songino Array 21.58 66 P P 18 03 17.5 +0.1
comp=Z,0.1nm,0.5s,mb2.5,baz=279,slow=10,SNR=2.2
SONM Songino Array 21.58 66 P P 18 03 17.5 +0.1
SONM Songino Array 21.58 66 P P 18 03 17.5 +0.2
FINES FINESS Array B 35.07 320 P P 18 05 19.6 -0.9
comp=Z,2.5nm,0.9s,mb4.2,baz=64,slow=11,SNR=3.1
FINES FINESS Array B 35.07 320 P P 18 05 19.6 -0.9
FINES FINESS Array B 35.07 320 P P 18 05 19.6 -0.9
ARCES ARCESS Array B 37.26 333 P P 18 05 38.8 -0.4
comp=Z,4.6nm,1.0s,mb4.2,baz=105,slow=9.3,SNR=5.7
ARCES ARCESS Array B 37.26 333 P P 18 05 38.8 -0.4
ARCES ARCESS Array B 37.26 333 P P 18 05 38.8 -0.3
ILAR Eielson Array 67.60 19 P P 18 09 21.2 -2.8
comp=Z,0.2nm,0.7s,mb3.2,baz=335,slow=6.3,SNR=2.7
ILAR Eielson Array 67.60 19 P P 18 09 21.2 -2.8
ILAR Eielson Array 67.60 19 P P 18 09 21.2 -2.8
TORD Torodi Ar. Bea 70.06 270 P P 18 09 37.8 -2.4
comp=Z,0.6nm,0.7s,mb3.6,baz=38,slow=4.2,SNR=4.1
TORD Torodi Ar. Bea 70.06 270 P P 18 09 37.8 -2.4

*DDA **02** 18:00:47.8,40°.38N×27°.24E,h15km±2km,Md2.8*
*ISCJB **02** 18:00:48.2±0.4,40°.36N±0°.02×27°.23E±0°.03,h4km±5km,*
Error ellipse: s-maj=4.3km s-min=3.9km az=176.1
*CSEM **02** 18:00:48.5±0.1,40°.37N×27°.24E,h2km,MD2.7,Error*
ellipse: s-maj=1.7km s-min=1.5km az=39.0
*ISK **02** 18:00:48.1,40°.38N×27°.22E,h5km,MD2.7*
ISC 02 18:00:48.6±0.4,40°.37N±0°.02×27°.24E±0°.03,h4km±6km,
n45,σ0s39/58,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res
KRBG	**Karabiga-Canak**	**0.05**	**62**			**Pg**	**Pg**	**18 00 50.0**	**+0.2**
KRBG	**Karabiga-Canak**	**0.05**	**62**	*i*	Pg	**Pg**	**Pg**	**18 00 50.0**	**+0.2**
RKY	**Sarkoy-Tekirda**	**0.32**	**352**	*e*	PG	**Pg**	**Pg**	**18 00 54.8**	**-0.1**
RKY				*e*	SG	**Sg**	**Sg**	**18 00 59.7**	**+0.7**
RKY	**Sarkoy-Tekirda**	**0.32**	**352**	*e*	Pg	**Pg**	**Pg**	**18 00 54.8**	**0.0**
RKY				*e*	Sg	**Sg**	**Sg**	**18 00 59.7**	**+0.7**
SART	**Tekirdag**	**0.32**	**352**	*i*	P	**Pg**	**Pg**	**18 00 54.5**	**-0.3**
SART				*i*	S	**Sg**	**Sg**	**18 00 59.4**	**+0.3**
SART	**Tekirdag**	**0.32**	**352**	*i*	P	**Pg**	**Pg**	**18 00 54.5**	**-0.3**
SART				*i*	S	**Sg**	**Sg**	**18 00 59.4**	**+0.4**
LPK	**Lapseki**	**0.36**	**271**	*e*	PG	**Pg**	**Pg**	**18 00 55.6**	**0.0**
LPK	**Lapseki**	**0.36**	**271**	*e*	Pg	**Pg**	**Pg**	**18 00 55.6**	**0.0**
MFT	**Murefte**	**0.42**	**5**	*e*	PG	**Pg**	**Pg**	**18 00 57.2**	**+0.5**
MFT	**Murefte**	**0.42**	**5**	*e*	Pg	**Pg**	**Pg**	**18 00 57.2**	**+0.5**
GONE	**Gonen-Balikesi**	**0.47**	**133**	*e*	PG	**Pg**	**Pg**	**18 00 58.0**	**+0.4**
GONE	**Gonen-Balikesi**	**0.47**	**133**	*e*	Pg	**Pg**	**Pg**	**18 00 58.0**	**+0.4**
BNT	**Bandirma**	**0.52**	**91**	*e*	PG	**Pg**	**Pg**	**18 00 58.9**	**+0.2**
BNT	**Bandirma**	**0.52**	**91**	*e*	Pg	**Pg**	**Pg**	**18 00 58.9**	**+0.3**
GELI	**Tayfur-Gelibol**	**0.58**	**273**	*e*	PG	**Pg**	**Pg**	**18 00 59.6**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.58**	**273**	*e*	Pg	**Pg**	**Pg**	**18 00 59.7**	**-0.1**
ERIK	**Erikli-Kesan**	**0.63**	**299**	*e*	PG	**Pg**	**Pg**	**18 01 00.5**	**-0.2**
ERIK	**Erikli-Kesan**	**0.63**	**299**	*e*	Pg	**Pg**	**Pg**	**18 01 00.5**	**-0.1**
BALY	**Balya**	**0.69**	**155**	*i*	P	**Pg**	**Pg**	**18 01 01.9**	**0.0**
BALY				*i*	S	**Sg**	**Sg**	**18 01 11.2**	**+0.4**
BALY	**Balya**	**0.69**	**155**	*i*	P	**Pg**	**Pg**	**18 01 01.9**	**0.0**
BALY				*i*	S	**Sg**	**Sg**	**18 01 11.2**	**+0.3**
KCTX	**Karacabey (Bur**	**0.86**	**96**	*e*	PG	**Pg**	**Pg**	**18 01 05.4**	**+0.2**
KCTX	**Karacabey (Bur**	**0.86**	**96**	*e*	Pg	**Pg**	**Pg**	**18 01 05.4**	**+0.3**
BALB	**Balikesir**	**0.88**	**146**	*e*	PG	**Pg**	**Pg**	**18 01 05.9**	**+0.5**
BALB	**Balikesir**	**0.88**	**146**	*e*	Pg	**Pg**	**Pg**	**18 01 05.9**	**+0.5**
ENEZ	**Enez**	**0.90**	**294**	*e*	PG	**Pg**	**Pg**	**18 01 05.5**	**-0.4**
ENEZ	**Enez**	**0.90**	**294**	*e*	Pg	**Pg**	**Pg**	**18 01 05.5**	**-0.4**
GADA	**Gvkgeada**	**1.04**	**261**	*e*	PG	**Pg**	**Pg**	**18 01 08.3**	**-0.2**
GADA	**Gvkgeada**	**1.04**	**261**	*e*	Pg	**Pg**	**Pg**	**18 01 08.3**	**-0.2**
BOZC	**Bozcaada**	**1.05**	**240**	*i*	P	**Pg**	**Pg**	**18 01 08.2**	**-0.5**
BOZC				*i*	S	**Sg**	**Sg**	**18 01 22.6**	**+0.3**
AYVA	**Ayvalik**	**1.14**	**202**	*i*	P	**Pg**	**Pg**	**18 01 10.6**	**+0.2**
AYVA				*i*	S	**Sg**	**Sg**	**18 01 25.0**	**-0.2**
AYVA	**Ayvalik**	**1.14**	**202**	*i*	P	**Pg**	**Pg**	**18 01 10.6**	**+0.2**
AYVA				*i*	S	**Sg**	**Sg**	**18 01 25.0**	**-0.2**
ELBA	**Catalca**	**1.20**	**49**	*i*	P	**Pg**	**Pg**	**18 01 10.6**	**-0.9**
ELBA				*i*	S	**Sg**	**Sg**	**18 01 26.3**	**-0.7**
ELBA	**Catalca**	**1.20**	**49**	*i*	P	**Pg**	**Pg**	**18 01 10.6**	**-0.9**
ELBA				*i*	S	**Sg**	**Sg**	**18 01 26.3**	**-0.7**
DURS	**Dursunbey**	**1.22**	**128**	*i*	P	**Pg**	**Pg**	**18 01 11.3**	**-0.7**
DURS				*i*	S	**Sg**	**Sg**	**18 01 27.6**	**-0.2**
DURS	**Dursunbey**	**1.22**	**128**	*i*	P	**Pg**	**Pg**	**18 01 11.3**	**-0.7**
DURS				*i*	S	**Sg**	**Sg**	**18 01 27.6**	**-0.2**
ARMT	**Armutlu**	**1.26**	**80**	*e*	PN	**Pn**	**Pn**	**18 01 13.0**	**+0.1**
ARMT	**Armutlu**	**1.26**	**80**	*e*	Pn	**Pn**	**Pn**	**18 01 13.0**	**+0.1**
CTKS	**Kestanelik-??a**	**1.30**	**48**	*e*	PN	**Pn**	**Pn**	**18 01 13.2**	**-0.3**
CTKS	**Kestanelik-??a**	**1.30**	**48**	*e*	Pn	**Pn**	**Pn**	**18 01 13.2**	**-0.3**
CTYL	**Yal??k??y-??at**	**1.36**	**35**	*e*	PN	**Pn**	**Pn**	**18 01 14.6**	**+0.2**
CTYL	**Yal??k??y-??at**	**1.36**	**35**	*e*	Pn	**Pn**	**Pn**	**18 01 14.6**	**+0.2**
EDRB	**Edirne**	**1.52**	**346**	*e*	PN	**Pn**	**Pn**	**18 01 16.5**	**0.0**
EDRB	**Edirne**	**1.52**	**346**	*e*	Pn	**Pn**	**Pn**	**18 01 16.5**	**-0.1**
KLYT	**Kilyos**	**1.63**	**57**	*e*	PN	**Pn**	**Pn**	**18 01 18.5**	**+0.5**
KLYT	**Kilyos**	**1.63**	**57**	*e*	Pn	**Pn**	**Pn**	**18 01 18.5**	**+0.4**

*ISCJB **02** 18:02:14.7±1.1,31°.99N±0°.06×104°.53E±0°.08,h10km,*
mb3.9/3,Error ellipse: s-maj=10.0km s-min=8.7km az=6.4
*IDC **02** 18:02:15.4±1.3,32°.24N×105°.06E,h0km,mb3.8/3,*
mb1 3.9/4,mb1mx3.5/24,mbtmp3.6/4,ML3.7/1,Error
ellipse: s-maj=78.2km s-min=26.3km az=60.0
ISC 02 18:02:17.2±1.1,31°.91N±0°.06×104°.45E±0°.08,h10km,n6,
σ0s87/10,mb3.9/3,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res
LZH	**Lanzhou**	**4.19**	**353**	*e*	Pg	**Pg**	**Pg**	**18 03 44.5**	**+7.0**
LZH					Sg	**Sg**	**Sg**	**18 04 31.9**	**0.0**
LZH					smax				
	comp=N,38nm,0.9s								
LZH					smax				
	comp=E,35nm,1.0s								
XAN	**Xi'an**	**4.32**	**59**		Pn	**Pn**	**Pn**	**18 03 28.1**	**+5.2**
XAN					Pg	**Pg**	**Pg**	**18 03 39.3**	**-0.6**
XAN					Sn	**Sn**	**Sn**	**18 04 15.4**	**+2.1**
XAN					Sg	**Sg**	**Sg**	**18 04 34.8**	**-1.0**
XAN					smax				
	comp=N,55nm,0.7s								
XAN					smax				
	comp=E,31nm,0.7s								
CMAR	**Chiang Mai Arr**	**14.29**	**202**		Pn	**Pn**	**Pn**	**18 05 45.3**	**+5.7**
	comp=E,0.1nm,0.3s,baz=8.6,slow=9.5,SNR=8.8								
FINES	**FINESS Array B**	**57.06**	**326**		P	**P**	**P**	**18 12 03.0**	**-0.1**
	comp=E,2.7nm,0.8s,mb4.3,baz=96,slow=5.7,SNR=8.5								
WRA	**Warramunga Arr**	**58.98**	**147**		P	**P**	**P**	**18 12 16.9**	**-0.2**
	comp=E,0.4nm,0.5s,mb3.7,baz=341,slow=7.6,SNR=13								
ASAR	**Alice Springs**	**62.03**	**149**		P	**P**	**P**	**18 12 38.0**	**+0.1**
	comp=E,0.3nm,0.5s,mb3.7,baz=334,slow=6.6,SNR=9.8								

*IDC **02** 18:07:26.4±0.8,11°.26N×94°.95E,h0km,mb4.0/11,*
mb1 4.1/12,mb1mx3.9/26,mbtmp4.0/12,ML3.2/1,MS3.8/3,
Ms1 3.8/3,ms1mx3.0/49,Error ellipse: s-maj=32.6km
s-min=15.3km az=58.0
*NEIC **02** 18:07:27.9±0.2,11°.27N×95°.03E,h10km,mb4.3/8,Error*
ellipse: s-maj=7.8km s-min=3.4km az=58.0
*ISCJB **02** 18:07:29.3±0.5,11°.34N±0°.06×95°.14E±0°.09,h33km,*
mb4.0/13,MS4.2/2,Error ellipse: s-maj=13.9km
s-min=6.2km az=147.8
ISC 02 18:07:31.4±0.5,11°.31N±0°.06×95°.07E±0°.09,h35km,n56,
σ0s70/53,mb4.0/13,MS4.2/2,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res
CM31	**Chiang Mai Arr**	**8.03**	**27**		P	**Pn**	**Pn**	**18 09 25.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**8.03**	**27**		Pn	**Pn**	**Pn**	**18 09 25.7**	**+0.1**
	0.1nm,0.3s,baz=216,slow=15,SNR=19								
CMAR	**Chiang Mai Arr**	**8.03**	**27**		Pn	**Pn**		**18 09 25.7**	**+0.1**
KULM	**Kulim**	**8.14**	**137**		eP	**Pn**		**18 09 25.9**	**-1.3**
CHTO	**Chiang Mai**	**8.34**	**26**		eP	**Pn**		**18 09 29.7**	**-0.2**
IPM	**Ipoh**	**8.99**	**139**		eP	**Pn**		**18 09 36.5**	**-2.4**
	6.8nm,0.4s								
PSI	**Prapat**	**9.28**	**155**		LR	LR		18 14 00.4	
	comp=Z,118nm,18.2s,baz=162,slow=42								
ODAN	**Odare**	**17.07**	**336**		eP	**Pn**		**18 11 27.7**	**+0.3**
ODAN	**Odare**	**17.07**	**336**		eP	**Pn**		**18 11 27.7**	**+0.3**
TAPN	**Taplejung**	**17.39**	**338**		eP	**Pn**		**18 11 31.2**	**-0.1**
	20nm,0.9s								
TAPN	**Taplejung**	**17.39**	**338**		eP	**Pn**		**18 11 31.2**	**-0.1**
	20nm,0.9s								
PKI	**Pulchoki**	**18.54**	**332**		eP	**Pn**		**18 11 45.9**	**+0.4**
PKI	**Pulchoki**	**18.54**	**332**		eP	**Pn**		**18 11 45.9**	**+0.4**
PKIN	**Phulchoki**	**18.55**	**332**		eP	**Pn**		**18 11 45.6**	**0.0**
	25nm,1.0s								
GUN	**Gumba**	**18.63**	**334**		eP	**Pn**		**18 11 46.6**	**+0.1**
GUN	**Gumba**	**18.63**	**334**		eP	**Pn**		**18 11 46.6**	**+0.1**
LSA	**Lhasa**	**18.66**	**349**		eP	**Pn**		**18 11 46.1**	**-0.8**
	6.2nm,0.9s								
DMN	**Daman**	**18.72**	**331**		eP	**Pn**		**18 11 47.7**	**+0.1**
DMN	**Daman**	**18.72**	**331**		eP	**Pn**		**18 11 47.7**	**+0.1**
KKN	**Kakani**	**18.79**	**332**		eP	**Pn**		**18 11 48.3**	**-0.2**
	13nm,0.9s								
KKN	**Kakani**	**18.79**	**332**		eP	**Pn**		**18 11 48.3**	**-0.2**
	13nm,0.9s								
GKN	**Gorkha**	**19.27**	**331**		eP	**Pn**		**18 11 53.4**	**-0.9**
	7.3nm,0.5s								
GKN	**Gorkha**	**19.27**	**331**		eP	**Pn**		**18 11 53.4**	**-0.9**
	7.3nm,0.5s								
KOLN	**Koldanda**	**19.59**	**328**		eP	**Pn**		**18 11 57.2**	**-0.9**
	16nm,0.6s								
KOLN	**Koldanda**	**19.59**	**328**		eP	**Pn**		**18 11 57.2**	**-0.9**
	16nm,0.6s								
DANN	**Dangsing**	**19.98**	**330**		eP	**Pn**		**18 12 01.5**	**-1.3**
	48nm,0.9s								
DANN	**Dangsing**	**19.98**	**330**		eP	**Pn**		**18 12 01.5**	**-1.3**
	48nm,0.9s								
MK31	**Makanchi Array**	**36.98**	**345**		eP	**P**		**18 14 37.9**	**+0.6**
MKAR	**Makanchi Array**	**36.98**	**345**		P	**P**		**18 14 38.1**	**+0.7**
	2.4nm,0.8s,mb4.1,baz=163,slow=8.6,SNR=19								
MKAR	**Makanchi Array**	**36.98**	**345**		P	**P**		**18 14 38.1**	**+0.7**
SONM	**Songino Array**	**37.63**	**13**		P	**P**		**18 14 43.4**	**+0.6**
	1.6nm,1.0s,mb3.7,baz=198,slow=9.3,SNR=11								
SONM	**Songino Array**	**37.63**	**13**		P	**P**		**18 14 43.4**	**+0.6**
KURK	**Kurchatov**	**41.54**	**344**		P	**P**		**18 15 15.5**	**+0.2**
	2.9nm,0.8s,mb3.9,baz=165,slow=7.7,SNR=27								
KURK	**Kurchatov**	**41.54**	**344**		P	**P**		**18 15 15.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**42.01**	**134**		eP	**P**		**18 15 19.4**	**-0.2**
ZALV	**Zalesovo Beam**	**43.30**	**351**		P	**P**		**18 15 29.7**	**+0.1**
	1.7nm,0.7s,mb3.9,baz=167,slow=7.3,SNR=10								
ZALV	**Zalesovo Beam**	**43.30**	**351**		P	**P**		**18 15 29.7**	**+0.1**
BVAR	**Borovoye Array**	**46.08**	**340**		P	**P**		**18 15 52.2**	**+0.4**
	2.1nm,0.8s,mb4.1,baz=133,slow=8.3,SNR=11								
BVAR	**Borovoye Array**	**46.08**	**340**		P	**P**		**18 15 52.2**	**+0.4**
BRVK	**Borovoye**	**46.14**	**339**		eP	**P**		**18 15 52.3**	**0.0**
	5.1nm,1.2s,mb4.3								
WRA	**Warramunga Arr**	**49.59**	**129**		P	**P**		**18 16 20.2**	**+0.7**
	1.7nm,0.7s,mb4.2,baz=305,slow=8.5,SNR=18								
WRA	**Warramunga Arr**	**49.59**	**129**		P	**P**		**18 16 20.2**	**+0.7**
WRAB	**Tennant Creek**	**49.59**	**129**		eP	**P**		**18 16 20.1**	**+0.6**
	2.2nm,0.7s,mb4.3								
WB2	**Warramunga Arr**	**49.60**	**129**		eP	**P**		**18 16 20.1**	**+0.6**
ASAR	**Alice Springs**	**51.49**	**133**		P	**P**		**18 16 34.4**	**+0.7**
	1.2nm,0.7s,mb3.9,baz=311,slow=6.6,SNR=19								
ASAR	**Alice Springs**	**51.49**	**133**		P	**P**		**18 16 34.4**	**+0.7**
BRTR	**Keskin Array B**	**60.93**	**309**		P	**P**		**18 17 40.1**	**-0.9**
	1.2nm,0.8s,mb4.1,baz=120,slow=7.3,SNR=7.9								
BRTR	**Keskin Array B**	**60.93**	**309**		P	**P**		**18 17 40.1**	**-0.9**
STKA	**Stephens Creek**	**61.86**	**136**		P	**P**		**18 17 48.0**	**+0.7**
	1.6nm,0.7s,mb4.3,baz=294,slow=12,SNR=4.2								
STKA	**Stephens Creek**	**61.86**	**136**		P	**P**		**18 17 48.0**	**+0.7**
GERES	**GERESS Array B**	**75.90**	**318**		P	**P**		**18 19 15.0**	**+0.6**
	1.6nm,0.8s,mb4.0,baz=86,slow=5.5,SNR=13								
GERES	**GERESS Array B**	**75.90**	**318**		P	**P**		**18 19 15.0**	**+0.6**
TORD	**Torodi Ar. Bea**	**90.70**	**283**		P	**P**		**18 20 32.2**	**+0.9**
	0.4nm,0.8s,mb3.8,baz=93,slow=4.5,SNR=2.9								
TORD	**Torodi Ar. Bea**	**90.70**	**283**		P	**P**		**18 20 32.2**	**+0.9**
URZ	**Urewera**	**90.76**	**129**		LR	LR		19 02 41.4	
	comp=Z,125nm,19.2s,MS4.4,baz=45,slow=36								
RES	**Resolute Bay**	**93.95**	**3**		LR	LR		19 09 00.3	
	comp=Z,67nm,18.4s,MS4.1,baz=287,slow=39								

*NEIC **02** 18:09:09.9,19°.17N×64°.89W,h46km,MD3.2(RSPR),*
After RSPR.
RSPR 02 18:09:09.9,19°.17N×64°.89W,h46km±16km,MD3.1/5,17C,
Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res
ABV	**Anegada**	**0.69**	**130**	*e*	P	Pn	18 09 22.8	-0.6
ABV					S	Sn	18 09 32.0	-1.0
ABV	**Anegada**	**0.69**	**130**	*e*	P	Pn	18 09 22.8	-0.6
ABV					S	Sn	18 09 32.4	-0.7
TBVI	**Tortola**	**0.80**	**161**	*e*	P	Pn	18 09 23.1	-1.7
TBVI					S	Sn	18 09 35.5	-0.2
TBVI	**Tortola**	**0.80**	**161**	*e*	P	Pn	18 09 23.1	-1.7
TBVI					S	Sn	18 09 35.5	-0.2
TBVI	**Tortola**	**0.80**	**161**	*e*	P	Pn	18 09 23.1	-1.7
TBVI					S	Sn	18 09 35.5	-0.2
STVI	**Saint Thomas**	**0.82**	**184**	*e*	P	Pn	18 09 23.5	-1.7
STVI	**Saint Thomas**	**0.82**	**184**	*e*	P	Pn	18 09 23.5	-1.7
STVI					S	Sn	18 09 34.9	-1.3
STVI	**Saint Thomas**	**0.82**	**184**	*e*	P	Pn	18 09 23.5	-1.7
STVI					S	Sn	18 09 34.9	-1.3
MTP	**Monte Pirata**	**1.24**	**211**	*e*	P	Pn	18 09 30.2	-0.7
MTP	**Monte Pirata**	**1.24**	**211**	*e*	P	Pn	18 09 30.2	-0.7
MTP					S	Sn	18 09 45.8	-0.7
MTP	**Monte Pirata**	**1.24**	**211**	*e*	P	Pn	18 09 30.2	-0.7
MTP					S	Sn	18 09 45.8

s-min=55.5km az=160.0, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**11.50**	**49**	Pn	Pn	18 48 57.5	+1.3
	0.7nm,0.3s,baz=225,slow=15,SNR=34						
DBIC				Sn	Sn	18 51 05.5	+0.1
	0.4nm,0.3s,baz=102,slow=9.0,SNR=2.9						
DBIC				LR	LR	18 52 50.1	
	comp=Z,120nm,19.5s,baz=198,slow=35						
TORD	**Torodi Ar. Bea**	**20.60**	**47**	P	P	18 50 51.0	-0.4
	2.6nm,0.6s,baz=235,slow=12,SNR=21						
TORD				LR	LR	18 58 43.3	
	comp=Z,76nm,19.3s,baz=180,slow=36						
TSUM	**Tsumeb**	**35.45**	**123**	LR	LR	19 05 08.3	
	comp=Z,240nm,21.7s,baz=159,slow=32						
LBTB	**Lobatse**	**44.69**	**126**	LR	LR	19 11 38.1	
	comp=Z,92nm,19.1s,baz=113,slow=34						
CPUP	**Villa Florida**	**49.08**	**235**	LR	LR	19 13 23.9	
	comp=Z,70nm,18.7s,baz=290,slow=33						
DAVOX	**Davos/Dischmat**	**51.80**	**20**	P	P	18 55 21.2	+1.1
	1.9nm,0.9s,baz=270,slow=20,SNR=2.7						
GERES	**GERESS Array B**	**54.92**	**22**	P	P	18 55 41.9	-1.0
	0.8nm,1.0s,baz=195,slow=7.1,SNR=4.6						
EIL	**Elat**	**55.34**	**52**	LR	LR	19 18 51.3	
	comp=Z,63nm,21.2s,baz=271,slow=35						

DDA 02 18:53:27.9, 42.84N×40.36E, h10km±3km, Md3.2, Black Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBOC	**Borcka**	**1.78**	**146**	*i* P	Pn	18 54 01.3	+2.7
DBOC				*i* S	Sn	18 54 26.3	+5.1
ARTV	**Artvin**	**2.02**	**144**	*i* P	Pn	18 54 03.7	+1.8
ARTV				*i* S	Sn	18 54 31.9	+4.7
DAGI	**Agillar**	**2.10**	**146**	*i* P	Pn	18 54 06.3	+3.2
DAGI				*i* S	Sn	18 54 34.5	+5.2
DDEM	**Demirkent**	**2.20**	**151**	*i* P	Pn	18 54 07.9	+3.5
DDEM				*i* S	Sn	18 54 38.3	+6.6
ONI	**Oni**	**2.29**	**95**	P	Pn	18 54 01.7	-4.0
ONI				S	Sn	18 54 30.2	-3.7

*ISCJB **02** 18:55:57.7±0.3, 40.61N±0.03×122.91E±0.04, h10km, mb4.3/32, MS3.1/4, Error ellipse: s-maj=5.1km s-min=4.1km az=34.7*
*IDC **02** 18:55:57.9±0.6, 40.58N×122.86E, h0km, mb4.0/19, mb1 4.1/22, mb1mx4.0/32, mbtmp4.0/22, ML2.9/3, MS3.1/6, Ms1 3.1/6, ms1mx2.7/43, Error ellipse: s-maj=24.3km s-min=12.0km az=37.0*
*NEIC **02** 18:55:58.1±0.4, 40.60N×123.23E, h10km, mb4.7/8, Error ellipse: s-maj=8.0km s-min=6.7km az=20.0*
*BJI **02** 18:55:59.7, 40.78N×122.80E, h8km, mB4.2/3, mb4.1/11, ML4.1/11, Ms3.8/3, Ms7 3.4/1*
*MOS **02** 18:56:00.9±0.9, 40.63N×122.96E, h33km, mb4.7/6, Error ellipse: s-maj=16.1km s-min=7.3km az=44.4*

ISC 02 18:55:58.9±0.3, 40.60N±0.03×123.09E±0.05, h10km, n122, σ1§15/131, mb4.3/32, MS3.1/4, 2C-1D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNY	**Shenyang**	**1.29**	**17**	⇓Pg	**Pg**	**18 56 23.2**	**-0.3**
SNY				Sg	**Sg**	**18 56 39.9**	**-0.3**
SNY				smax			
	comp=N,2μm,0.7s						
SNY				smax			
	comp=E,1μm,0.8s						
DL2	**Dalian**	**2.03**	**214**	Pg	**Pg**	**18 56 35.7**	**-2.0**
DL2				Sg	**Sg**	**18 57 01.9**	**-2.1**
DL2				smax			
	comp=N,2μm,0.8s						
DL2				smax			
	comp=E,3μm,0.7s						
CN2	**Changchun**	**3.65**	**28**	*e*Pn	**Pn**	**18 56 54.9**	**-0.5**
CN2	**Changchun**	**3.65**	**28**	*e*Pg	**Pg**	**18 57 06.6**	**-2.2**
CN2				*e*Sn	**Sn**	**18 57 44.8**	**+6.3**
CN2				*e*Sg	**Sg**	**18 57 53.7**	**-2.4**
CN2				smax			
	comp=N,100nm,0.8s						
CN2				smax			
	comp=E,100nm,0.8s						
INCN	**Inchon**	**4.16**	**137**	*e*Pg	**Pg**	**18 57 15.2**	**-3.3**
INCN				*e*Sn	**Sn**	**18 57 54.8**	**+3.8**
KSRS	**Korea Array**	**4.90**	**128**	Pn	**Pn**	**18 57 14.4**	**+1.8**
	comp=E,1.2nm,0.3s,baz=312,slow=14,SNR=15						
KSRS				Pg	**Pg**	**18 57 30.9**	**-1.8**
	comp=E,4.5nm,0.3s,baz=312,slow=18,SNR=20						
KSRS				Lg		18 58 37.9	
	comp=E,14nm,0.3s,baz=310,slow=28,SNR=19						
KSRS				LR	LR	18 59 05.0	
	comp=E,106nm,21.0s,baz=310,slow=37						
KSRS	**Korea Array**	**4.90**	**128**	P	**Pn**	**18 57 14.4**	**+1.8**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS				pmax	pmax		
	comp=Z,5.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,106nm,21.0s						
BJI	**Beijing**	**5.31**	**266**	Pn	**Pn**	**18 57 20.6**	**+2.4**
BJI				smax			
	comp=N,73nm,0.5s						
BJI				smax			
	comp=E,150nm,0.6s						
MDJ	**Mudanjiang**	**6.26**	**48**	P	**Pg**	**18 57 53.8**	**-4.9**
MDJ				smax			
	comp=N,160nm,1.2s						
MDJ				smax			
	comp=E,120nm,1.0s						
MDJ	**Mudanjiang**	**6.26**	**48**	*e*Pg	**Pg**	**18 57 54.1**	**-4.6**
	comp=E,14nm,0.7s						
TIA	**Tai'an**	**6.41**	**229**	Pg	**Pn**	**18 57 40.9**	**+7.6**
TIA				Sg	**Sn**	**18 58 45.4**	**-1.0**
TIA				smax			
	comp=N,50nm,1.2s						
TIA				smax			
	comp=E,50nm,1.1s						
TIA				SMZ			
	comp=E,20nm,0.6s						
VLA	**Vladivostok**	**7.04**	**66**	*e*P	**Pn**	**18 57 45.0**	**+3.1**
HHC	**Hu-ho-hao-te**	**8.76**	**275**	*e*P	**Pn**	**18 58 04.0**	**-1.4**
HHC				pP		18 58 07.1	
HHC				sP		18 58 09.9	
HHC				S	**Sn**	**18 59 42.0**	**-2.1**
HHC				sS		18 59 47.1	
HHC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,45nm,4.0s						
HHC				LR	LR		
	comp=N,84nm,4.8s						
HHC				LR	LR		
	comp=E,130nm,4.2s						
HHC				LR	LR		
	comp=Z,130nm,5.7s						
NJ2	**Nanjing**	**9.18**	**203**	*e*P	**Pn**	**18 58 03.8**	**-7.5**
NJ2				S	**Sn**	**18 59 39.6**	**-15**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,50nm,3.5s						
NJ2				smax			
	comp=N,80nm,1.0s						
NJ2				smax			
	comp=E,130nm,1.0s						
NJ2				LR	LR		
	comp=N,150nm,12.6s						
NJ2				LR	LR		
	comp=E,300nm,13.5s						
NJ2				LR	LR		
	comp=Z,310nm,13.6s						
MJAR	**Matsushiro Arr**	**12.51**	**104**	Pn	**Pn**	**18 59 01.6**	**+4.7**
	comp=Z,0.0nm,0.3s,baz=334,slow=14,SNR=3.6						
MJAR	**Matsushiro Arr**	**12.51**	**104**	Pn	**Pn**	**18 59 01.6**	**+4.7**
MJAR	**Matsushiro Arr**	**12.51**	**104**	P	**Pn**	**18 59 01.6**	**+4.8**
ULN	**Ulaanbaatar**	**13.59**	**308**	*e*P	**Pn**	**18 59 12.4**	**+0.9**
	comp=Z,6.0nm,1.3s						
ULN	**Ulaanbaatar**	**13.59**	**308**	*e*P	**Pn**	**18 59 12.4**	**+0.9**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.3s						
SONM	**Songino Array**	**13.97**	**307**	Pn	**Pn**	**18 59 17.1**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=125,slow=11,SNR=9.7						
SONM	**Songino Array**	**13.97**	**307**	Pn	**Pn**	**18 59 17.1**	**+0.3**
SONM	**Songino Array**	**13.97**	**307**	P	**Pn**	**18 59 17.1**	**+0.4**
JOW	**Kunigami**	**14.39**	**161**	LR	LR	19 05 37.7	
	comp=Z,50nm,20.5s,baz=318,slow=40						
ZAK	**Zakamensk**	**16.94**	**312**	*e*P	**Pn**	**18 59 53.5**	**-2.3**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA	**Gaotai**	**17.86**	**274**	*e*P	**Pn**	**19 00 09.7**	**+2.3**
GTA				pP	pP	19 00 13.6	+2.7
GTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KMI	**Kunming**	**22.94**	**234**	P	**P**	**19 01 06.3**	**+3.1**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.1						
ZAA0	**Zalesovo Array**	**28.81**	**311**	*e*P	**P**	**19 01 56.4**	**-0.4**
ZALV	**Zalesovo Beam**	**28.81**	**311**	P	**P**	**19 01 55.8**	**-1.1**
	comp=Z,0.8nm,0.5s,mb3.7,baz=94,slow=11,SNR=5.3						
ZALV				LR	LR	19 13 46.4	
	comp=Z,32nm,21.6s,MS2.9,baz=134,slow=37						
ZALV	**Zalesovo Beam**	**28.81**	**311**	P	**P**	**19 01 55.8**	**-1.1**
ZALV				LR	LR	19 13 46.4	
ZALV	**Zalesovo Beam**	**28.81**	**311**	P	**P**	**19 01 55.8**	**-1.0**
MKAR	**Makanchi Array**	**29.88**	**296**	P	**P**	**19 02 05.9**	**-0.5**
	comp=Z,0.9nm,0.8s,mb3.6,baz=94,slow=9.6,SNR=8.8						
MKAR				LR	LR	19 13 52.1	
	comp=Z,40nm,18.4s,MS3.1,baz=320,slow=36						
MKAR	**Makanchi Array**	**29.88**	**296**	P	**P**	**19 02 05.9**	**-0.5**
MKAR				LR	LR	19 13 52.1	
MKAR	**Makanchi Array**	**29.88**	**296**	*e*P	**P**	**19 02 06.9**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURK	**Kurchatov**	**32.24**	**303**	P	**P**	**19 02 27.7**	**+0.6**
	comp=Z,3.2nm,0.8s,mb4.2,baz=91,slow=9.3,SNR=26						
KURK				LR	LR	19 16 36.8	
	comp=Z,41nm,19.6s,MS3.1,baz=55,slow=38						
KURK	**Kurchatov**	**32.24**	**303**	*e*P	**P**	**19 02 27.2**	**+0.1**
KURK				LR	LR	19 16 36.8	
KURK	**Kurchatov**	**32.24**	**303**	*e*P	**P**	**19 02 27.2**	**+0.1**
ODAN	**Odare**	**32.46**	**256**	*e*P	**P**	**19 02 30.3**	**+1.0**
ODAN	**Odare**	**32.46**	**256**	*e*P	**P**	**19 02 30.3**	**+1.0**
GUN	**Gumba**	**33.01**	**259**	*e*P	**P**	**19 02 34.1**	**-0.1**
	comp=Z,12nm,0.6s,mb5.0						
GUN	**Gumba**	**33.01**	**259**	*e*P	**P**	**19 02 34.1**	**-0.1**
	comp=Z,12nm,0.6s,mb5.0						
KKN	**Kakani**	**33.53**	**260**	*e*P	**P**	**19 02 38.9**	**+0.3**
	comp=Z,7.7nm,0.7s,mb4.8						
KKN	**Kakani**	**33.53**	**260**	*e*P	**P**	**19 02 38.9**	**+0.3**
	comp=Z,7.7nm,0.7s,mb4.7						
KKN	**Kakani**	**33.53**	**260**	*e*P	**P**	**19 02 38.9**	**+0.3**
KKN				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
PKI	**Pulchoki**	**33.55**	**259**	*e*P	**P**	**19 02 39.2**	**+0.4**
PKI	**Pulchoki**	**33.55**	**259**	*e*P	**P**	**19 02 39.2**	**+0.4**
PKI	**Pulchoki**	**33.55**	**259**	*e*P	**P**	**19 02 39.2**	**+0.4**
PKIN	**Phulchoki**	**33.55**	**259**	*e*P	**P**	**19 02 38.8**	**-0.1**
	comp=Z,8.5nm,0.6s,mb4.9						
DMN	**Daman**	**33.75**	**259**	*e*P	**P**	**19 02 41.2**	**+0.6**
	comp=Z,7.7nm,0.7s,mb4.7						
DMN	**Daman**	**33.75**	**259**	*e*P	**P**	**19 02 41.2**	**+0.6**
	comp=Z,7.7nm,0.7s,mb4.7						
GKN	**Gorkha**	**33.90**	**260**	*e*P	**P**	**19 02 41.8**	**-0.1**
	comp=Z,12nm,0.8s,mb4.8						
GKN	**Gorkha**	**33.90**	**260**	*e*P	**P**	**19 02 41.8**	**-0.1**
	comp=Z,12nm,0.8s,mb4.9						
DANN	**Dangsing**	**34.37**	**262**	*e*P	**P**	**19 02 46.2**	**+0.2**
	comp=Z,14nm,0.5s,mb5.1						
DANN	**Dangsing**	**34.37**	**262**	*e*P	**P**	**19 02 46.2**	**+0.2**
	comp=Z,14nm,0.5s,mb5.1						
KOLN	**Koldanda**	**34.80**	**261**	*e*P	**P**	**19 02 49.2**	**-0.5**
	comp=Z,3.1nm,0.4s,mb4.5						
KOLN	**Koldanda**	**34.80**	**261**	*e*P	**P**	**19 02 49.2**	**-0.5**
	comp=Z,3.1nm,0.4s,mb4.6						
TKM2	**Tokmak 2**	**35.14**	**290**	*e*P	**P**	**19 02 53.9**	**+1.4**
TKM2	**Tokmak 2**	**35.14**	**290**	*e*P	**P**	**19 02 53.9**	**+1.5**
AAK	**Ala-Archa**	**35.99**	**290**	P	**P**	**19 02 59.8**	**0.0**
	comp=Z,1.0nm,0.4s,mb4.1,baz=87,slow=7.6,SNR=4.1						
AAK				LR	LR	19 19 05.1	
	comp=Z,43nm,19.1s,MS3.2,baz=209,slow=39						
AAK	**Ala-Archa**	**35.99**	**290**	P	**P**	**19 02 59.8**	**0.0**
AAK				LR	LR	19 19 05.1	
AAK	**Ala-Archa**	**35.99**	**290**	P	**P**	**19 02 59.8**	**0.0**
AML	**Almayashu**	**36.69**	**289**	P	**P**	**19 03 07.1**	**+1.3**
AML	**Almayashu**	**36.69**	**289**	P	**P**	**19 03 07.1**	**+1.3**
BVAR	**Borovoye Array**	**37.31**	**308**	P	**P**	**19 03 11.2**	**+0.3**
	comp=Z,2.8nm,0.6s,mb4.2,baz=91,slow=11,SNR=16						
BVAR	**Borovoye Array**	**37.31**	**308**	P	**P**	**19 03 11.2**	**+0.3**
BVAR	**Borovoye Array**	**37.31**	**308**	P	**P**	**19 03 11.2**	**+0.3**
BRVK	**Borovoye**	**37.38**	**308**	*e*P	**P**	**19 03 10.6**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
KKAR	**Karatay Array**	**38.72**	**292**	*e*P	**P**	**19 03 23.1**	**+0.2**
	comp=Z,0.5nm,0.4s,mb3.6						
KKAR	**Karatay Array**	**38.72**	**292**	*e*P	**P**	**19 03 23.1**	**+0.2**
SVE	**Sverdlovsk**	**42.69**	**314**	*e*P	**P**	**19 03 55.8**	**+0.3**
SVE				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.6						
ARU	**Arti**	**43.87**	**314**	*e*P	**P**	**19 04 04.9**	**-0.1**
	comp=Z,5.1nm,0.6s,mb4.4						
ARU	**Arti**	**43.87**	**314**	*c i*P	**P**	**19 04 04.3**	**-0.7**
ARU						19 05 44.2	
ARU				S	**S**	**19 10 33.9**	**-2.0**
ARU				SS	SS	19 13 53.3	+1.6
ARU				pmax	pmax		
	comp=Z,24nm,2.5s,mb4.5						
ABKAR	**Akbulak array**	**44.35**	**303**	*e*P	**P**	**19 04 09.0**	**0.0**
	comp=Z,2.5nm,0.6s,mb4.1						
AKTK	**Aktyubinsk**	**45.28**	**305**	P	**P**	**19 04 16.0**	**-0.4**
AKTO	**Aktyubinsk**	**45.28**	**305**	P	**P**	**19 04 16.0**	**-0.4**
	comp=Z,0.9nm,0.6s,mb3.8,baz=159,slow=7.7,SNR=4.1						
AKTO	**Aktyubinsk**	**45.28**	**305**	P	**P**	**19 04 16.0**	**-0.4**
ILAR	**Eielson Array**	**54.16**	**32**	P	**P**	**19 05 24.6**	**+0.8**
	comp=Z,2.0nm,0.8s,mb4.1,baz=283,slow=6.5,SNR=33						
ILAR	**Eielson Array**	**54.16**	**32**	P	**P**	**19 05 24.6**	**+0.8**
ILAR	**Eielson Array**	**54.16**	**32**	P	**P**	**19 05 24.7**	**+0.9**
ARCES	**ARCESS Array B**	**55.15**	**335**	P	**P**	**19 05 30.9**	**0.0**
	comp=Z,5.6nm,0.9s,mb4.6,baz=68,slow=9.8,SNR=8.6						
ARCES	**ARCESS Array B**	**55.15**	**335**	P	**P**	**19 05 30.9**	**0.0**
ARCES	**ARCESS Array B**	**55.15**	**335**	P	**P**	**19 05 30.9**	**0.0**
KIV	**Kislovodsk**	**57.31**	**302**	⇑*e*P	**P**	**19 05 47.2**	**+0.5**
KIV				*e*		19 06 02.4	
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
FINES	**FINESS Array B**	**58.41**	**326**	P	**P**	**19 05 53.7**	**-0.5**
	comp=Z,1.4nm,0.4s,mb4.4,baz=72,slow=6.6,SNR=24						
FINES	**FINESS Array B**	**58.41**	**326**	P	**P**	**19 05 53.7**	**-0.5**
FINES	**FINESS Array B**	**58.41**	**326**	P	**P**	**19 05 53.7**	**-0.5**
AKASG	**Malin Array Be**	**62.12**	**314**	P	**P**	**19 06 18.9**	**-0.9**
	comp=Z,2.3nm,0.5s,mb4.5,baz=53,slow=6.9,SNR=9.0						
AKASG	**Malin Array Be**	**62.12**	**314**	P	**P**	**19 06 18.9**	**-0.9**
AKASG	**Malin Array Be**	**62.12**	**314**	P	**P**	**19 06 18.9**	**-0.8**
HFS	**Hagfors**	**64.24**	**328**	P	**P**	**19 06 33.7**	**+0.1**
	comp=Z,2.1nm,0.8s,mb4.2,baz=52,slow=5.8,SNR=5.0						
HFS	**Hagfors**	**64.24**	**328**	P	**P**	**19 06 33.7**	**+0.1**
HFS	**Hagfors**	**64.24**	**328**	P	**P**	**19 06 33.7**	**+0.1**
NOA	**NORSAR Array B**	**64.65**	**330**	P	**P**	**19 06 36.9**	**+0.6**
	comp=Z,0.7nm,0.6s,mb3.9,baz=76,slow=6.0,SNR=6.8						
NOA	**NORSAR Array B**	**64.65**	**330**	P	**P**	**19 06 36.9**	**+0.6**
NOA	**NORSAR Array B**	**64.65**	**330**	P	**P**	**19 06 36.9**	**+0.6**
ASAR	**Alice Springs**	**64.72**	**169**	P	**P**	**19 06 37.1**	**0.0**
	comp=Z,0.4nm,1.0s,mb3.4,baz=352,slow=5.9,SNR=3.3						
ASAR	**Alice Springs**	**64.72**	**169**	P	**P**	**19 06 37.1**	**0.0**
ASAR	**Alice Springs**	**64.72**	**169**	P	**P**	**19 06 37.1**	**0.0**
BRTR	**Keskin Array B**	**65.27**	**302**	P	**P**	**19 06 40.5**	**-0.3**
	comp=Z,1.8nm,0.7s,mb4.2,baz=80,slow=5.6,SNR=13						
BRTR	**Keskin Array B**	**65.27**	**302**	P	**P**	**19 06 40.5**	**-0.3**
BRTR	**Keskin Array B**	**65.27**	**302**	*e*P	**P**	**19 06 40.4**	**-0.3**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MLR	**Muntele Rosu**	**66.79**	**311**	P	**P**	**19 06 50.1**	**-0.2**
	comp=Z,0.6nm,0.4s,mb3.9,baz=347,slow=8.2,SNR=14						
MLR	**Muntele Rosu**	**66.79**	**311**	P	**P**	**19 06 50.1**	**-0.2**
MLR	**Muntele Rosu**	**66.79**	**311**	P	**P**	**19 06 50.1**	**-0.3**
KOLS	**Kolonicke sedl**	**66.86**	**315**	*e*P	**P**	**19 06 50.7**	**0.0**
KOLS	**Kolonicke sedl**	**66.86**	**315**	*e*P	**P**	**19 06 50.7**	**0.0**
CRVS	**Cervenica-Dubn**	**67.31**	**316**	*e*P	**P**	**19 06 55.1**	**+1.5**
CRVS	**Cervenica-Dubn**	**67.31**	**316**	*e*P	**P**	**19 06 55.1**	**+1.5**
YKA	**Yellowknife Ar**	**67.35**	**25**	P	**P**	**19 06 54.6**	**+1.0**
	comp=Z,1.5nm,0.8s,mb4.1,baz=313,slow=6.5,SNR=4.5						
YKA	**Yellowknife Ar**	**67.35**	**25**	P	**P**	**19 06 54.6**	**+1.0**
YKA	**Yellowknife Ar**	**67.35**	**25**	P	**P**	**19 06 54.6**	**+1.0**
OJC	**Ojcow**	**67.40**	**317**	*e*P	**P**	**19 06 54.6**	**+0.5**
OJC	**Ojcow**	**67.40**	**317**	*e*P	**P**	**19 06 54.6**	**+0.5**
VYHS	**Vyhne**	**68.94**	**316**	*e*P	**P**	**19 07 04.6**	**+0.7**
VYHS	**Vyhne**	**68.94**	**316**	*e*P	**P**	**19 07 04.6**	**+0.7**
GERES	**GERESS Array B**	**71.36**	**319**	P	**P**	**19 07 20.3**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=38,slow=6.8,SNR=3.6						
GERES	**GERESS Array B**	**71.36**	**319**	P	**P**	**19 07 20.3**	**+1.6**
GERES	**GERESS Array B**	**71.36**	**319**	P	**P**	**19 07 20.3**	**+1.6**
STKA	**Stephens Creek**	**74.12**	**164**	P	**P**	**19 07 35.9**	**+0.8**
	comp=Z,1.9nm,0.8s,mb4.1,baz=276,slow=10,SNR=3.0						
STKA	**Stephens Creek**	**74.12**	**164**	P	**P**	**19 07 35.9**	**+0.8**
STKA	**Stephens Creek**	**74.12**	**164**	P	**P**	**19 07 35.9**	**+0.9**
NVAR	**Mina Array Bea**	**83.41**	**44**	P	**P**	**19 08 28.8**	**+2.5**
	comp=Z,0.4nm,0.4s,mb3.8,baz=300,slow=6.1,SNR=4.2						
NVAR	**Mina Array Bea**	**83.41**	**44**	P	**P**	**19 08 28.8**	**+2.5**

JMA 02 19:06:43.1±0.3, 40.12N×145.10E, h52km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**2.40**	**323**	*e*S	Sn	19 07 50.0	+2.0
JTH	**Tanohata**	**2.49**	**267**	P	Pn	19 07 22.1	+1.0
JTH				*e*S	Sn	19 07 51.8	+1.5
MIYJ	**Miyakonagasawa**	**2.58**	**259**	P	Pn	19 07 23.9	+1.5
MIYJ				*e*S	Sn	19 07 53.8	+1.2
JANG	**Nango**	**2.75**	**276**	P	Pn	19 07 26.1	+1.3
JANG				*e*S	Sn	19 07 57.8	+1.0
JNBK	**Urakawa-nobuka**	**2.79**	**321**	P	Pn	19 07 27.4	+2.2
JNBK				*e*S	Sn	19 08 00.8	+3.1
JCH	**Churui**	**2.81**	**333**	P	Pn	19 07 26.6	+1.0
JCH				*e*S	Sn	19 07 59.1	+0.9
JAK	**Akkeshi**	**2.89**	**354**	*e*S	Sn	19 07 59.1	-1.0
JMK	**Ichinoseki**	**3.22**	**250**	P	Pn	19 07 32.7	+1.6
JMK				*e*S	Sn	19 08 09.6	+1.4
NEM2	**Nemuro 2**	**3.28**	**8**	P	Pn	19 07 30.1	-1.8
NEM2				*e*S	Sn	19 08 06.4	-3.2
JOT	**Ohata**	**3.33**	**294**	P	Pn	19 07 34.8	+2.2
JOT				*e*S	Sn	19 08 13.3	+2.5
JKB	**Kayabe**	**3.55**	**301**	*e*S	Sn	19 08 18.5	+2.2
JTKR	**Abashiri--Toko**	**3.95**	**347**	P	Pn	19 07 41.7	+0.6
JTKR				*e*S	Sn	19 08 26.3	+0.2

*IDC **02** 19:27:56.1±3.0, 13.90N×92.37W, h0km, mb3.2/1, mb1 3.8/4, mb1mx3.6/23, mbtmp3.6/4, ML4.0/2, Error ellipse: s-maj=55.5km s-min=42.1km az=149.0*
*MEX **02** 19:27:57.5±1.0, 13.65N×92.40W, h16km±4.1km, MD4.3*

ISC 02 19:27:56.3±1.9, 13.80N±0.09×92.45W±0.06, h12km±16km, n15, σ1§13/25, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.12**	**9**	*i* P	**Pb**	**19 28 16.4**	**-1.2**
THIG				*i* S	**Sb**	**19 28 31.6**	**-0.6**
PCIG		**2.04**	**339**	*e*P	**Pn**	**19 28 29.8**	**-0.7**
PCIG				*i* S	**Sn**	**19 28 55.9**	**0.0**
CCIG	**Comitan**	**2.49**	**7**	*i* P	**Pn**	**19 28 37.8**	**+1.2**
CCIG				*i* S	**Sn**	**19 29 05.7**	**-1.4**
SCX	**San Cristobal**	**2.93**	**356**	*i* P	**Pn**	**19 28 42.4**	**-0.4**
SCX				*i* S	**Sn**	**19 29 20.1**	**+2.3**
TGIG		**3.04**	**348**	*i* P	**Pn**	**19 28 45.0**	**+0.8**
TGIG				*i* S	**Sn**	**19 29 21.1**	**+0.6**
CMIG	**Matias Romero**	**4.03**	**325**	Pn	**Pn**	**19 28 59.1**	**+1.2**
	baz=141,slow=6.4						
CMIG				Lg		19 29 53.8	
	6.9nm,0.3s,baz=49,slow=20,SNR=5.2						
CMIG	**Matias Romero**	**4.03**	**325**	*i* P	**Pn**	**19 28 58.9**	**+1.0**
CMIG				*i* S	**Sn**	**19 29 46.7**	**+1.6**
HUIG	**Huatulco**	**4.05**	**299**	*i* P	**Pn**	**19 28 58.9**	**+0.8**
HUIG				*i* S	**Sn**	**19 29 43.5**	**-2.1**
VHO	**Vista Hermosa**	**5.26**	**309**	*i* P	**Pn**	**19 29 12.9**	**-1.9**
VHO				*i* S	**Sn**	**19 30 14.0**	**-1.5**
PNIG	**Pinotepa**	**6.06**	**296**	*i* P	**Pn**	**19 29 25.6**	**-0.2**
PNIG				*i* S	**Sn**	**19 30 34.7**	**-0.6**
UTMO	**Huajuapan**	**6.53**	**309**	*i* P	**Pn**	**19 29 32.2**	**-0.1**
UTMO				*i* S	**Sn**	**19 30 48.1**	**+1.4**
TEIG	**Tepich**	**7.54**	**31**	Pn	**Pn**	**19 29 46.5**	**+0.5**
	7.7nm,0.3s,baz=209,slow=1.8,SNR=18						
TEIG				Sn	**Sn**	**19 31 10.2**	**-1.3**
	1.0nm,0.3s,baz=53,slow=20,SNR=2.7						
TXAR	**Lajitas Array**	**18.63**	**328**	P	**Pn**	**19 32 15.7**	**+1.5**
	0.0nm,0.3s,baz=156,slow=14,SNR=5.6						
ILAR	**Eielson Array**	**62.85**	**337**	P	**P**	**19 38 22.0**	**+0.2**
	0.3nm,0.9s,baz=126,slow=5.9,SNR=4.1						
CMAR	**Chiang Mai Arr**	**146.04**	**340**	PKPbc	PKPbc	19 47 38.3	+1.3
	1.0nm,0.7s,baz=335,slow=3.4,SNR=11						

*ISCJB **02** 19:33:54.6±0.3, 40.87N±0.01×111.60W±0.02, h2km±3km, Error ellipse: s-maj=2.5km s-min=1.9km az=168.8*
*NEIC **02** 19:33:55.0, 40.87N×111.59W

P15A	**Leamington**	**1.40**	**202**	⇓Pb		**Pb**	**19 34 20.9**	**-0.9**
	baz=1.4,SNR=7.4								
P15A				⇑Sn		**Sn**	**19 34 38.7**	**-1.4**
	baz=1.4								
N18A	**Larsen Ranch,**	**1.46**	**85**	⇑Pb		**Pb**	**19 34 22.0**	**-0.7**
	baz=1.5,SNR=27								
P17A	**Butcher Ranch,**	**1.54**	**155**	⇑Pb		**Pb**	**19 34 23.5**	**-0.6**
	baz=1.5								
P17A				⇑Sb		**Sb**	**19 34 43.2**	**-0.7**
	baz=1.5								
L18A	**Fontenelle, Gr**	**1.57**	**47**	⇑Pb		**Pb**	**19 34 24.5**	**-0.3**
	baz=1.6,SNR=44								
L18A				⇑Sb		**Sb**	**19 34 44.9**	**0.0**
	baz=1.6								
TMUT	**Trail Mountain**	**1.60**	**169**	*e*Pn		**Pn**	**19 34 24.1**	**0.0**
TMUT				*e*S		**Sn**	**19 34 47.1**	**+2.1**
L14A	**Malta**	**1.70**	**314**	⇑Sb		**Sb**	**19 34 48.5**	**-0.1**
	baz=1.7								
N19A	**John Jarvie Ra**	**1.83**	**88**	Pb		**Pb**	**19 34 28.1**	**-1.0**
	baz=1.8,SNR=36								
N19A				⇑Sb		**Sb**	**19 34 51.6**	**-0.7**
	baz=1.8								
AHID	**Auburn Hatcher**	**1.93**	**11**	*e*Pn		**Pn**	**19 34 28.7**	**+0.1**
SRU	**San Rafael**	**1.94**	**155**	⇓Pb		**Pb**	**19 34 29.7**	**-1.3**
	baz=1.9,SNR=20								
SRU				⇓Sb		**Sb**	**19 34 55.3**	**-0.1**
	baz=1.9								
SRU	**San Rafael**	**1.94**	**155**	*e*Pn		**Pn**	**19 34 29.0**	**+0.3**
M19A	**Rock Springs**	**1.94**	**70**	⇑Pb		**Pb**	**19 34 30.0**	**-1.1**
	baz=2.0,SNR=12								
M19A				⇓Sb		**Sb**	**19 34 55.5**	**0.0**
	baz=2.0								
K17A	**Gardner Place,**	**1.94**	**15**	⇑Pb		**Pb**	**19 34 31.0**	**-0.1**
	baz=2.0								
K17A				⇑Sb		**Sb**	**19 34 56.5**	**+0.9**
	baz=2.0								
K15A	**Arbon**	**1.95**	**339**	⇑Pb		**Pb**	**19 34 30.3**	**-0.8**
	baz=1.9,SNR=6.4								
K15A				⇑Sb		**Sb**	**19 34 56.3**	**+0.7**
	baz=1.9								
K16A	**Soda Springs**	**1.96**	**0**	⇑Pb		**Pb**	**19 34 30.9**	**-0.5**
	baz=2.0,SNR=18								
O19A	**Miners Draw (B**	**1.96**	**106**	⇑Pb		**Pb**	**19 34 31.1**	**-0.3**
	baz=2.0								
Q16A	**Castle Valley**	**1.98**	**170**	⇑Pb		**Pb**	**19 34 29.7**	**-1.9**
	baz=2.0,SNR=8.5								
L19A	**Farson**	**2.08**	**53**	⇓Pb		**Pb**	**19 34 32.4**	**-1.0**
	baz=2.1,SNR=21								
Q18A	**Rafter H Ranch**	**2.09**	**147**	⇑Sb		**Sb**	**19 35 00.2**	**+0.4**
	baz=2.1								
K18A	**Toltan Ranch,**	**2.11**	**33**	⇓Pb		**Pb**	**19 34 33.5**	**-0.4**
	baz=2.1,SNR=38								
K18A				⇑Sb		**Sb**	**19 35 01.1**	**+0.7**
	baz=2.1								
Q14A	**Sevier Lake (B**	**2.28**	**215**	⇓Pb		**Pb**	**19 34 36.2**	**-0.6**
	baz=2.3,SNR=27								
P19A	**Cripple Cowboy**	**2.35**	**121**	⇑Sb		**Sb**	**19 35 07.4**	**+0.2**
	baz=2.4								
MSU	**Marysvale**	**2.40**	**191**	*e*Pg		**Pg**	**19 34 39.9**	**-1.2**
PD01	**Pinedale Array**	**2.42**	**38**	*e*Pn		**Pn**	**19 34 35.3**	**-0.1**
PD01				*e*Sg		**Sg**	**19 35 08.9**	**-4.2**
PD02	**Pinedale Array**	**2.43**	**38**	*e*Pn		**Pn**	**19 34 35.5**	**-0.1**
PD02				*e*Pg		**Pg**	**19 34 38.3**	**-3.6**
PD02				*e*Sn		**Sn**	**19 35 06.7**	**+1.0**
RRI2	**Red Ridge**	**2.48**	**5**	*e*Pn		**Pn**	**19 34 38.0**	**+1.7**
REDW	**Red Top Meadow**	**2.55**	**12**	*e*Pn		**Pn**	**19 34 36.9**	**-0.2**
REDW				*e*Pg		**Pg**	**19 34 42.9**	**-1.2**
REDW				*e*Sn		**Sn**	**19 35 09.6**	**+1.0**
TPAW	**Teton Pass**	**2.66**	**10**	*e*Pn		**Pn**	**19 34 39.8**	**+1.1**
SNOW	**Snow King Moun**	**2.66**	**13**	*e*Pn		**Pn**	**19 34 37.8**	**-0.9**
SNOW				*e*Pg		**Pg**	**19 34 44.8**	**-1.4**
SNOW				*e*Sg		**Sg**	**19 35 19.3**	**-1.5**
DCID1	**Drake Creek**	**2.74**	**6**	*e*Pg		**Pg**	**19 34 44.5**	**-3.2**
K19A	**Absolon Red Bu**	**2.83**	**45**	⇓Pb		**Pb**	**19 34 44.8**	**-1.3**
	baz=2.8,SNR=37								
LOHW	**Long Hollow**	**2.84**	**15**	*e*Pn		**Pn**	**19 34 42.5**	**+1.5**
LOHW				*e*Pg		**Pg**	**19 34 46.5**	**-3.0**
MOOW	**Moose Ponds**	**2.94**	**12**	*e*Pn		**Pn**	**19 34 43.8**	**+1.2**
IMW	**Indian Meadow**	**3.06**	**9**	Pn		**Pn**	**19 34 46.2**	**+2.0**
FLWY	**Flagg Ranch**	**3.28**	**11**	*e*Pg		**Pg**	**19 34 54.4**	**-3.6**
ARUT	**Antelope Range**	**3.40**	**206**	*e*Pn		**Pn**	**19 34 49.6**	**+0.8**
HLID	**Hailey**	**3.41**	**323**	*e*Pn		**Pn**	**19 34 49.7**	**+0.7**
SMCO	**Snowmass**	**3.93**	**114**	Pn		**Pn**	**19 34 55.7**	**-0.3**
MVCO	**Mesa Verde**	**4.38**	**146**	*e*Pg		**Pg**	**19 35 19.7**	**+0.7**
PHWY	**Pilot Hill**	**4.65**	**83**	*e*Pn		**Pn**	**19 35 08.4**	**+2.3**
ISCO	**Idaho Springs**	**4.69**	**101**	*e*Pg		**Pg**	**19 35 18.9**	**-6.2**

WEL 02 19:35:00.7±0.2, 45°03S×167°46E, h74km±2km, ML3.6/12, Error ellipse: s-maj=2.1km s-min=1.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.49**	**44**	PN	Pn	19 35 13.6	-0.1
MSZ				SN	Sn	19 35 23.3	+0.1
DCZ	**Deep Cove**	**0.50**	**205**	PN	Pn	19 35 13.1	-0.6
DCZ				SN	Sn	19 35 23.0	-0.3
MLZ	**Mavora Lakes**	**0.60**	**122**	PN	Pn	19 35 14.2	-0.5
MLZ				SN	Sn	19 35 24.6	-0.5
WHZ	**Wether Hill Ro**	**0.93**	**158**	PN	Pn	19 35 18.0	-0.5
WHZ				SN	Sn	19 35 31.0	-0.7
WKZ	**Wanaka**	**1.13**	**80**	PN	Pn	19 35 21.2	+0.3
WKZ				SN	Sn	19 35 35.9	-0.1
PYZ	**Puysegur Point**	**1.26**	**205**	PN	Pn	19 35 22.8	+0.2
EAZ	**Earnscleugh**	**1.33**	**99**	PN	Pn	19 35 23.5	0.0
EAZ				SN	Sn	19 35 39.9	-0.7
JCZ	**Jackson Bay**	**1.33**	**45**	PN	Pn	19 35 23.1	-0.5
TUZ	**Tuapeka**	**1.79**	**122**	PN	Pn	19 35 29.1	-0.4
TUZ				SN	Sn	19 35 49.8	-1.7
APZ	**The Paps**	**1.84**	**169**	PN	Pn	19 35 29.9	-0.3
SYZ	**Scrubby Hill**	**1.92**	**143**	PN	Pn	19 35 31.0	-0.2
LBZ	**Lake Benmore**	**2.05**	**73**	PN	Pn	19 35 31.8	-1.2
FOZ	**Fox Glacier**	**2.17**	**48**	PN	Pn	19 35 34.0	-0.7
ODZ	**Otahua Downs**	**2.26**	**92**	PN	Pn	19 35 34.9	-0.9
RPZ	**Rata Peaks**	**2.90**	**64**	*e*PN	Pn	19 35 42.0	-2.5
WVZ	**Waitaha Valley**	**3.07**	**52**	PN	Pn	19 35 44.5	-2.2

*IDC **02** 19:48:32.2±0.7, 28°60S×175°85W, h0km, mb4.2/10, mb1 4.3/11, mb1mx4.2/19, mbtmp4.2/11, ML4.2/1, MS3.7/7, Ms1 3.6/7, ms1mx3.3/28, Error ellipse: s-maj=26.2km s-min=20.4km az=131.0*

*ISCJB **02** 19:48:40.2±2.1, 29°15S±0°1×175°9W±0°2, h79km±17km, mb4.2/12, Error ellipse: s-maj=22.8km s-min=16.7km az=14.2*

*NEIC **02** 19:48:41.6±1.9, 28°63S×176°03W, h69km±15km, mb4.9/4, Error ellipse: s-maj=16.8km s-min=15.6km az=107.0*

ISC 02 19:48:40.9±2.0, 29°18S±0°1×175°8W±0°2, h76km±17km, n49, σ0°78/35, mb4.2/12, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.83**	**267**	*e*P	**Pn**	**19 49 09.8**	**-0.7**
URZ	**Urewera**	**10.79**	**211**	Pn	**Pn**	**19 51 14.3**	**+1.8**
	1.6nm,0.3s,baz=9.2,slow=9.4,SNR=4.2						
URZ				Sn	**Sn**	**19 53 10.9**	**-0.5**
	7.6nm,0.3s,baz=162,slow=17,SNR=14						
URZ	**Urewera**	**10.79**	**211**	Pn	**Pn**	**19 51 14.3**	**+1.8**
URZ				Sn	**Sn**	**19 53 10.9**	**-0.5**
OUZ	**Omahuta**	**10.79**	**233**	*e*P	**Pn**	**19 51 16.4**	**+3.9**
KHZ	**Kahutara**	**15.76**	**210**	*e*Pn	**Pn**	**19 52 17.9**	**-0.3**
	64nm,0.7s						
RPZ	**Rata Peaks**	**17.90**	**212**	P	**Pn**	**19 52 44.0**	**-0.8**
	1.0nm,0.3s,baz=283,slow=18,SNR=4.5						
RPZ				S	**S**	**19 55 52.2**	**-13**
	0.8nm,0.3s,baz=70,slow=15,SNR=5.2						
RPZ	**Rata Peaks**	**17.90**	**212**	P	**Pn**	**19 52 44.0**	**-0.8**
RPZ				S	**S**	**19 55 52.2**	**-13**
CTA	**Charters Tower**	**35.51**	**276**	P	**P**	**19 55 30.9**	**+0.3**
	3.1nm,0.8s,mb4.3,baz=62,slow=9.1,SNR=3.0						
CTA				LR	LR	20 08 18.4	
	comp=Z,127nm,19.0s,baz=72,slow=34						
CTA	**Charters Tower**	**35.51**	**276**	P	**P**	**19 55 30.9**	**+0.3**
CTA				LR	LR	20 08 18.4	
STKA	**Stephens Creek**	**36.61**	**255**	P	**P**	**19 55 41.8**	**+1.9**
	1.9nm,0.8s,mb4.0,baz=112,slow=15,SNR=4.1						
STKA				LR	LR	20 09 37.4	
	comp=Z,94nm,20.2s,baz=204,slow=34						
STKA	**Stephens Creek**	**36.61**	**255**	P	**P**	**19 55 38.8**	**-1.0**
	0.1nm,0.5s						
STKA				LR	LR	20 09 37.4	
ASAR	**Alice Springs**	**45.08**	**265**	P	**P**	**19 56 49.3**	**-0.3**
	0.3nm,0.7s,baz=94,slow=7.1,SNR=4.6						
ASAR	**Alice Springs**	**45.08**	**265**	P	**P**	**19 56 49.3**	**-0.3**
WB2	**Warramunga Arr**	**45.96**	**270**	*e*P	**P**	**19 56 56.5**	**-0.1**
WRAB	**Tennant Creek**	**45.96**	**270**	*e*P	**P**	**19 56 56.7**	**+0.1**
	2.0nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**45.97**	**270**	P	**P**	**19 56 56.8**	**+0.2**
	1.9nm,0.5s,mb4.0,baz=108,slow=7.9,SNR=25						
WRA				LR	LR	20 15 25.2	
	comp=Z,97nm,19.8s,baz=90,slow=35						
WRA	**Warramunga Arr**	**45.97**	**270**	P	**P**	**19 56 56.8**	**+0.2**
WRA				LR	LR	20 15 25.2	
VNDA	**Vanda**	**49.50**	**186**	P	**P**	**19 57 29.6**	**+6.4**
	2.3nm,0.9s,mb4.1,baz=3.4,slow=6.1,SNR=11						
VNDA				LR	LR	20 13 14.9	
	comp=Z,56nm,20.4s,baz=306,slow=30						
VNDA	**Vanda**	**49.50**	**186**	P	**P**	**19 57 29.6**	**+6.4**
VNDA				LR	LR	20 13 14.9	
FITZ	**Fitzroy Crossi**	**54.27**	**268**	LR	LR	20 21 42.0	
	comp=Z,76nm,18.4s,baz=109,slow=37						
GUMO	**Guam**	**57.00**	**313**	LR	LR	20 17 26.9	
	comp=Z,58nm,21.2s,baz=112,slow=31						
CASY	**Casey**	**57.09**	**208**	*e*P	**P**	**19 58 23.2**	**+4.2**
	14nm,1.2s,mb4.9						
QSPA	**South Pole Qui**	**60.92**	**180**	*e*P	**P**	**19 58 51.2**	**+6.0**
	17nm,1.1s,mb5.0						
MAW	**Mawson**	**74.10**	**200**	P	**P**	**20 00 12.9**	**+4.4**
	2.4nm,0.8s,mb4.0,baz=152,slow=6.6,SNR=4.7						
MAW	**Mawson**	**74.10**	**200**	P	**P**	**20 00 12.9**	**+4.4**
KSRS	**Korea Array**	**84.67**	**318**	LR	LR	20 31 50.3	
	comp=Z,26nm,20.8s,baz=160,slow=31						
PETK	**Petropavlovsk-**	**85.13**	**344**	P	**P**	**20 01 08.6**	**+0.5**
	5.1nm,0.9s,mb4.5,baz=119,slow=5.2,SNR=4.4						
PETK	**Petropavlovsk-**	**85.13**	**344**	P	**P**	**20 01 08.6**	**+0.5**
NVAR	**Mina Array Bea**	**86.07**	**42**	P	**P**	**20 01 12.4**	**-0.7**
	1.3nm,0.9s,mb3.9,baz=212,slow=7.8,SNR=5.6						
NVAR	**Mina Array Bea**	**86.07**	**42**	P	**P**	**20 01 12.4**	**-0.7**
TXAR	**Lajitas Array**	**90.14**	**56**	P	**P**	**20 01 32.6**	**-0.2**
	0.8nm,1.0s,mb3.8,baz=219,slow=7.7,SNR=4.8						
TXAR	**Lajitas Array**	**90.14**	**56**	P	**P**	**20 01 32.6**	**-0.1**
ILAR	**Eielson Array**	**96.33**	**12**	P	**P**	**20 02 00.6**	**+0.2**
	0.5nm,1.1s,mb3.9,baz=212,slow=7.1,SNR=4.0						
ILAR	**Eielson Array**	**96.33**	**12**	P	**P**	**20 02 00.6**	**+0.2**
ZALV	**Zalesovo Beam**	**118.38**	**318**	PKP	PKPdf	20 07 19.2	+0.2
	0.2nm,0.3s,baz=195,slow=2.9,SNR=3.5						
ZALV	**Zalesovo Beam**	**118.38**	**318**	PKP	PKPdf	20 07 19.2	+0.2
MKAR	**Makanchi Array**	**118.44**	**310**	PKP	PKPdf	20 07 20.1	+0.7
	0.3nm,0.2s,baz=40,slow=4.3,SNR=3.7						
MKAR	**Makanchi Array**	**118.44**	**310**	PKP	PKPdf	20 07 20.1	+0.7
KURK	**Kurchatov**	**121.57**	**314**	PKP	PKPdf	20 07 25.9	+0.5
	0.8nm,0.9s,baz=89,slow=2.6,SNR=3.3						
KURK	**Kurchatov**	**121.57**	**314**	PKP	PKPdf	20 07 25.9	+0.5
FINES	**FINESS Array B**	**144.62**	**342**	PKP	PKPdf	20 08 07.0	-1.0
	3.7nm,0.9s,baz=32,slow=11,SNR=5.4						
FINES	**FINESS Array B**	**144.62**	**342**	PKP	PKPdf	20 08 07.0	-1.0
NOA	**NORSAR Array B**	**147.80**	**354**	PKPbc	PKPbc	20 08 16.7	+0.3
	2.3nm,0.8s,baz=14,slow=4.5,SNR=5.1						
NOA	**NORSAR Array B**	**147.80**	**354**	PKPbc	PKPbc	20 08 16.7	+0.3
AKASG	**Malin Array Be**	**151.42**	**326**	PKPbc	PKPbc	20 08 26.7	+1.1
	1.9nm,0.6s,baz=47,slow=2.4,SNR=7.7						
AKASG	**Malin Array Be**	**151.42**	**326**	PKPbc	PKPbc	20 08 26.7	+1.1
BRTR	**Keskin Array B**	**153.64**	**301**	PKPab	PKPab	20 08 44.8	+0.9
	0.7nm,0.8s,baz=116,slow=3.9,SNR=3.9						
BRTR	**Keskin Array B**	**153.64**	**301**	PKPab	PKPab	20 08 44.8	+0.9
TORD	**Torodi Ar. Bea**	**163.88**	**171**	PKPab	PKPab	20 09 32.1	+3.5
	5.1nm,0.9s,baz=177,slow=3.9,SNR=24						

*NNC **02** 19:49:31.0±12.0, 36°83N×70°60E, h193km±165km, mb2.6, mpv3.9, Error ellipse: s-maj=156.3km s-min=60.1km az=40.0*

ISC 02 19:49:31.4±2.2, 36°8N±0°2×70°6E±0°2, h200km, n12, σ0°34/13, 4C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.80**	**23**	P	**Pn**	**19 50 56.1**	**+0.2**
	SNR=60						
KK31	**Karatay Array**	**6.27**	**359**	P	**Pn**	**19 51 02.0**	**0.0**
	1.5nm,0.3s,baz=197,slow=10,SNR=36						
KK31				⇑S	**Sn**	**19 52 13.7**	**-0.2**
	3.1nm,0.5s,baz=190,slow=26,SNR=6.9						
EKS2	**Erkin-Say**	**6.31**	**22**	P	**Pn**	**19 51 03.1**	**+0.6**
	SNR=14						
KZA	**Kyzart**	**6.34**	**33**	P	**Pn**	**19 51 02.5**	**-0.4**
	SNR=6.3						
AAK	**Ala-Archa**	**6.52**	**26**	P	**Pn**	**19 51 05.5**	**+0.4**
	SNR=15						
CHMS	**Chumysh**	**6.93**	**26**	P	**Pn**	**19 51 10.6**	**+0.1**
	SNR=5.4						
ULHL	**Ulahol**	**6.93**	**37**	P	**Pn**	**19 51 10.2**	**-0.4**
	SNR=6.7						
USP	**Uspenovka**	**7.08**	**24**	P	**Pn**	**19 51 12.5**	**0.0**
	SNR=5.5						
TKM2	**Tokmak 2**	**7.18**	**31**	P	**Pn**	**19 51 13.6**	**-0.2**
	SNR=6.5						
TKM2	**Tokmak 2**	**7.18**	**31**	⇑P	**Pn**	**19 51 13.4**	**-0.3**
	9.3nm,0.5s						
AB31	**Akbulak array**	**14.66**	**331**	⇑P	**Pn**	**19 52 49.6**	**+0.4**
	0.2nm,0.3s,baz=150,slow=14,SNR=11						
AKTO	**Aktyubinsk**	**16.35**	**330**	⇑P	**P**	**19 53 08.4**	**-0.5**
	0.5nm,0.9s						

*NIED **02** 19:51:00, 43°30N×147°20E, h50km, Mw4.0 Best double couple: Mo9.84000×10^14 NP1:φ±58.00000°, δ55.00000°, λ108.00000°. NP2:φ±208.00000°, δ39.00000°, λ66.00000°.*

*JMA **02** 19:51:23.1±0.2, 43°30N×147°18E, h44km±4km, M4.0*

*ISCJB **02** 19:51:23.4±0.8, 43°39N±0°05×147°19E±0°06, h56km±6km, mb4.0/23, MS3.0/2, Error ellipse: s-maj=9.8km s-min=5.6km az=145.9*

*MOS **02** 19:51:24.5±0.9, 43°61N×147°21E, h59km, mb4.4/4, Error ellipse: s-maj=12.3km s-min=9.1km az=87.8*

*NEIC **02** 19:51:26.4±0.8, 43°63N×147°21E, h60km±7km, mb4.2/4, Error ellipse: s-maj=9.7km s-min=6.7km az=149.0*

*IDC **02** 19:51:27.1±2.4, 43°68N×147°14E, h64km±21km, mb3.7/19, mb1 3.9/23, mb1mx3.8/30, mbtmp3.7/23, MS2.8/5, Ms1 2.8/5, ms1mx2.5/42, Error ellipse: s-maj=16.6km s-min=12.8km az=151.0*

ISC 02 19:51:23.7±0.8, 43°34N±0°06×147°26E±0°06, h45km±6km, n106, σ0°95/118, mb4.0/23, MS3.0/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.10**	**272**	P	**Pn**	**19 51 41.8**	**-0.8**
NEM2				*e*S	**Sn**	**19 51 55.8**	**-0.9**
JRA	**Rausu**	**1.66**	**292**	P	**Pn**	**19 51 50.0**	**-0.2**
JRA				*e*S	**Sn**	**19 52 10.0**	**-0.3**
JNK	**Nakash**	**1.86**	**278**	P	**Pn**	**19 51 52.4**	**-0.6**
JNK				*e*S	**Sn**	**19 52 13.9**	**-1.4**
JAK	**Akkeshi**	**1.90**	**260**	P	**Pn**	**19 51 52.9**	**-0.7**
JAK				*e*S	**Sn**	**19 52 14.6**	**-1.8**
KUR	**Kuril'sk**	**1.94**	**13**	PN	**Pn**	**19 51 54.1**	**0.0**
KUR				*e*S	**Sn**	**19 52 16.7**	**-0.5**
KUR				smax			
	comp=N,3μm,3.0s						
KUR				smax			
	comp=E,2μm,2.0s						
KUR				smax			
	comp=N,1μm,0.8s						
KUR				smax			
	comp=E,610nm,0.6s						
JTKR	**Abashiri--Toko**	**2.51**	**286**	P	**Pn**	**19 52 02.6**	**+0.7**
JTKR				*e*S	**Sn**	**19 52 31.7**	**+0.5**
JOB	**Onbets**	**2.54**	**261**	P	**Pn**	**19 52 02.2**	**-0.2**
JOB				*e*S	**Sn**	**19 52 31.6**	**-0.5**
JAR	**Ashorobuto**	**2.54**	**270**	P	**Pn**	**19 52 02.4**	**0.0**
JAR				*e*S	**Sn**	**19 52 31.9**	**-0.2**
JMP	**Maruseppu**	**2.90**	**285**	P	**Pn**	**19 52 08.2**	**+0.9**
JCH	**Churui**	**2.95**	**257**	P	**Pn**	**19 52 07.7**	**-0.2**
JCH				*e*S	**Sn**	**19 52 40.2**	**-1.9**
ERM	**Erimo**	**3.30**	**248**	*e*P	**Pn**	**19 52 15.9**	**+3.1**
ERM	**Erimo**	**3.30**	**248**	*e*PN	**Pn**	**19 52 15.9**	**+3.1**
JKK2	**Kamakawa 2**	**3.32**	**281**	P	**Pn**	**19 52 14.2**	**+1.2**
JFR	**Furan**	**3.41**	**269**	P	**Pn**	**19 52 15.2**	**+0.9**
JFR				*e*S	**Sn**	**19 52 54.2**	**+0.8**
ASAJ	**Asahikawa**	**3.46**	**284**	P	**Pn**	**19 52 16.3**	**+1.3**
	comp=E,5.6nm,0.3s,baz=87,slow=10,SNR=39						
ASAJ				S	**Sn**	**19 53 01.3**	**+6.5**
	comp=E,4.6nm,0.3s,baz=18,slow=19,SNR=3.7						
ASAJ	**Asahikawa**	**3.46**	**284**	*e*P	**Pn**	**19 52 16.7**	**+1.6**
ASAJ	**Asahikawa**	**3.46**	**284**	PN	**Pn**	**19 52 16.3**	**+1.3**
ASAJ				S	**Sn**	**19 53 01.3**	**+6.5**
ASAJ				smax			
	comp=Z,6.0nm,0.3s						
ASAJ				smax			
	comp=N,5.0nm,0.3s						
ASAJ	**Asahikawa**	**3.46**	**284**	P	**Pn**	**19 52 16.6**	**+1.6**
JNBK	**Urakawa-nobuka**	**3.48**	**254**	P	**Pn**	**19 52 15.2**	**0.0**
JNBK				*e*S	**Sn**	**19 52 53.9**	**-1.2**
JBT2	**Biratori 2**	**3.63**	**263**	P	**Pn**	**19 52 17.5**	**+0.2**
JAB	**Ashibetsu**	**3.67**	**274**	P	**Pn**	**19 52 20.1**	**+2.3**
JAB				*e*S	**Sn**	**19 53 01.9**	**+2.1**
JSE	**Soyaes**	**3.73**	**297**	P	**Pn**	**19 52 19.3**	**+0.6**
YSS	**Yuzh-Sakhalins**	**4.81**	**320**	*e*P	**Pn**	**19 52 34.5**	**+0.9**
YSS	**Yuzh-Sakhalins**	**4.81**	**320**	*e*PN	**Pn**	**19 52 34.1**	**+0.6**
YSS				*e*S	**Sn**	**19 53 29.1**	**+1.2**
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS				smax			
	comp=E,40nm,1.0s						
MJAR	**Matsushiro Arr**	**9.71**	**229**	P	**Pn**	**19 53 45.8**	**+5.1**
	comp=E,0.2nm,0.3s,baz=30,slow=14,SNR=4.2						
MJAR				LR	LR	19 58 32.4	
	comp=E,54nm,18.8s,baz=50,slow=43						
MJAR	**Matsushiro Arr**	**9.71**	**229**	P	**Pn**	**19 53 45.8**	**+5.1**
MJAR				LR	LR	19 58 32.4	
MJAR	**Matsushiro Arr**	**9.71**	**229**	PN	**Pn**	**19 53 45.8**	**+5.1**
PETK	**Petropavlovsk-**	**11.98**	**32**	P	**Pn**	**19 54 09.8**	**-1.9**
	comp=E,0.4nm,0.3s,baz=173,slow=16,SNR=4.7						
PETK				LR	LR	19 59 31.1	
	comp=E,19nm,19.1s,baz=5.4,slow=41						
PETK	**Petropavlovsk-**	**11.98**	**32**	P	**Pn**	**19 54 09.8**	**-1.9**
PETK				LR	LR	19 59 31.1	
PETK	**Petropavlovsk-**	**11.98**	**32**	PN	**Pn**	**19 54 09.8**	**-1.9**
KSRS	**Korea Array**	**15.85**	**255**	LR	LR	20 01 35.7	
	comp=E,18nm,18.0s,baz=230,slow=38						
FX1	**Attu Island--F**	**19.66**	**52**	P	**Pn**	**19 55 49.6**	**-0.6**
	comp=E,1.2nm,0.3s,baz=164,slow=2.9,SNR=5.6						
FX1	**Attu Island--F**	**19.66**	**52**	P	**Pn**	**19 55 49.6**	**-0.6**
FX1	**Attu Island--F**	**19.66**	**52**	P	**Pn**	**19 55 49.6**	**-0.6**
ULN	**Ulaanbaatar**	**28.26**	**293**	*e*P	**P**	**19 57 12.9**	**+0.6**
	comp=E,1.5nm,0.7s,mb3.7						
ULN	**Ulaanbaatar**	**28.26**	**293**	*e*P	**P**	**19 57 12.9**	**+0.6**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
SONM	**Songino Array**	**28.70**	**293**	P	**P**	**19 57 16.7**	**+0.4**
	comp=Z,1.8nm,0.7s,mb3.9,baz=85,slow=8.7,SNR=15						
SONM				LR	LR	20 09 02.9	
	comp=Z,36nm,19.4s,MS3.0,baz=207,slow=37						
SONM	**Songino Array**	**28.70**	**293**	P	**P**	**19 57 16.7**	**+0.4**
SONM				LR	LR	20 09 02.9	
SONM	**Songino Array**	**28.70**	**293**	P	**P**	**19 57 16.7**	**+0.4**
ZAA0	**Zalesovo Array**	**41.31**	**307**	*e*P	**P**	**19 59 03.7**	**-0.8**
ZALV	**Zalesovo Beam**	**41.31**	**307**	P	**P**	**19 59 03.4**	**-1.1**
	comp=Z,0.4nm,0.4s,mb3.4,baz=103,slow=4.7,SNR=5.0						
ZALV				PcP	PcP	20 01 01.5	-0.7
	comp=Z,0.4nm,0.5s,baz=68,slow=3.8,SNR=2.7						
ZALV				pPcP		20 01 16.9	
	comp=Z,1.0nm,0.5s,baz=68,slow=4.0,SNR=5.0						
ZALV	**Zalesovo Beam**	**41.31**	**307**	P	**P**	**19 59 03.4**	**-1.1**
ZALV				PcP	PcP	20 01 01.5	-0.7
ZALV				pPcP		20 01 16.9	
ZALV	**Zalesovo Beam**	**41.31**	**307**	P	**P**	**19 59 03.4**	**-1.0**
ZALV				pPcP		20 01 01.5	
ZALV						20 01 16.9	
ILAR	**Eielson Array**	**41.77**	**36**	P	**P**	**19 59 08.1**	**0.0**
	comp=Z,0.5nm,0.5s,mb3.4,baz=269,slow=9.4,SNR=17						
ILAR	**Eielson Array**	**41.77**	**36**	P	**P**	**19 59 08.1**	**0.0**
ILAR	**Eielson Array**	**41.77**	**36**	P	**P**	**19 59 08.1**	**0.0**
MK31	**Makanchi Array**	**44.84**	**298**	*e*P	**P**	**19 59 33.2**	**+0.1**
MK31	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAK	**Makhachkala**	**0.15**	**78**	*e*PG	Pg	20 07 10.6	-0.7
MAK				*e*		20 07 21.1	
MAK	**Makhachkala**	**0.15**	**78**	*e*Pg	Pg	20 07 10.6	-0.7
MAK				*e*Sg	Sg	20 07 21.1	+7.5
BUJR	**Buynaksk**	**0.18**	**234**	⇑*i*PG	Pg	20 07 12.0	+0.3
BUJR				*e*S	Sg	20 07 16.0	+1.7
BUJR				pmax	pmax		
	comp=Z,107nm,0.2s						
BUJR	**Buynaksk**	**0.18**	**234**	*i* Pg	Pg	20 07 12.0	+0.3
	comp=Z,107nm,0.2s						
BUJR				*e*Sg	Sg	20 07 16.0	+1.7
KRNR	**Karanay**	**0.31**	**251**	⇓*i*PG	Pg	20 07 12.2	-1.9
KRNR				pmax	pmax		
	comp=Z,74nm,0.2s						
KRNR	**Karanay**	**0.31**	**251**	*i* Pg	Pg	20 07 12.2	-1.9
	comp=Z,74nm,0.2s						
UNCR	**Uncukul**	**0.43**	**240**	*e*PG	Pg	20 07 15.0	-1.3
UNCR				pmax	pmax		
	comp=Z,47nm,0.2s						
UNCR	**Uncukul**	**0.43**	**240**	*e*Pg	Pg	20 07 15.0	-1.3
	comp=Z,47nm,0.2s						
DLMR	**Dylym**	**0.51**	**286**	*e*PG	Pg	20 07 14.1	-3.8
DLMR				pmax	pmax		
	comp=Z,187nm,0.3s						
DLMR	**Dylym**	**0.51**	**286**	*e*Pg	Pg	20 07 14.1	-3.8
	comp=Z,187nm,0.3s						
BTLR	**Botlikh**	**0.84**	**252**	*e*PG	Pg	20 07 24.0	-0.1
BTLR				*e*S	Sg	20 07 33.8	-1.2
BTLR	**Botlikh**	**0.84**	**252**	*e*Pg	Pg	20 07 24.0	-0.1
BTLR				*e*Sg	Sg	20 07 33.8	-1.2
GRO	**Groznyy**	**1.20**	**289**	⇑*i*PG	Pg	20 07 28.5	-2.5
GRO	**Groznyy**	**1.20**	**289**	*i* Pg	Pg	20 07 28.5	-2.5
AKT	**Akhty**	**1.48**	**168**	*e*PG	Pg	20 07 38.0	+1.7
AKT				*e*S	Sn	20 08 02.7	+8.7
AKT				pmax	pmax		
	comp=Z,18nm,0.3s						
AKT	**Akhty**	**1.48**	**168**	*e*Pg	Pg	20 07 38.0	+1.7
	comp=Z,18nm,0.3s						
AKT				*e*Sg	Sg	20 08 02.7	+7.2
SNJR	**Sundja**	**1.83**	**275**	*e*PN	Pn	20 07 42.9	+3.5
SNJR				*e*S	Sn	20 08 06.1	+3.4
SNJR	**Sundja**	**1.83**	**275**	*e*Pn	Pn	20 07 42.9	+3.5
SNJR				*e*Sg	Sg	20 08 06.1	-0.7
VLKR	**Vladikavkaz**	**1.93**	**274**	⇑*i*PN	Pn	20 07 43.9	+3.1
VLKR				*i* S	Sn	20 08 08.4	+3.3
VLKR	**Vladikavkaz**	**1.93**	**274**	*i* Pn	Pn	20 07 43.9	+3.1
VLKR				*i* Sg	Sg	20 08 08.4	-1.5
BTKR	**Batakoyurt**	**2.07**	**283**	⇑*i*PN	Pn	20 07 45.8	+3.1
BTKR				*i* S	Sn	20 08 11.4	+2.9
BTKR	**Batakoyurt**	**2.07**	**283**	*i* Pn	Pn	20 07 45.8	+3.1
BTKR				*i* Sb	Sb	20 08 11.4	+0.1
LACR	**Lac**	**2.21**	**268**	⇑*i*PN	Pn	20 07 42.9	-1.7
LACR				*i* S	Sn	20 08 10.7	-1.3
LACR	**Lac**	**2.21**	**268**	*i* Pn	Pn	20 07 42.9	-1.7
LACR				*i* Sn	Sn	20 08 10.7	-1.3
ARNR	**Ardon**	**2.23**	**278**	*e*PN	Pn	20 07 48.0	+3.1
ARNR				*e*S	Sn	20 08 15.6	+3.1
ARNR	**Ardon**	**2.23**	**278**	*e*Pn	Pn	20 07 48.0	+3.1
ARNR				*e*Sn	Sn	20 08 15.6	+3.1
KMSR	**Komsomolskaya**	**2.25**	**282**	⇓*i*PN	Pn	20 07 48.5	+3.4
KMSR				*e*S	Sn	20 08 15.9	+3.0
KMSR	**Komsomolskaya**	**2.25**	**282**	*i* Pn	Pn	20 07 48.5	+3.4
KMSR				*e*Sn	Sn	20 08 15.9	+3.0
PRTR	**Priterechnaya**	**2.35**	**291**	⇓*i*PN	Pn	20 07 49.7	+3.1
PRTR				*i* S	Sn	20 08 18.4	+2.9
PRTR	**Priterechnaya**	**2.35**	**291**	*i* Pn	Pn	20 07 49.7	+3.1
PRTR				*i* Sn	Sn	20 08 18.4	+2.9
KORR	**Kora**	**2.38**	**275**	⇑*i*PN	Pn	20 07 50.5	+3.6
KORR				*i* S	Sn	20 08 19.3	+3.2
KORR	**Kora**	**2.38**	**275**	*i* Pn	Pn	20 07 50.5	+3.6
KORR				*i* Sn	Sn	20 08 19.3	+3.2
ZEI	**Tsey**	**2.51**	**268**	*e*PN	Pn	20 07 50.3	+1.6
ZEI				*i* S	Sn	20 08 21.0	+1.7
ZEI	**Tsey**	**2.51**	**268**	*e*Pn	Pn	20 07 50.3	+1.6
ZEI				*i* Sn	Sn	20 08 21.0	+1.7
LSNR	**Lesken**	**2.58**	**279**	*e*PN	Pn	20 07 53.2	+3.5
LSNR				*e*S	Sn	20 08 24.3	+3.3
LSNR	**Lesken**	**2.58**	**279**	*e*Pn	Pn	20 07 53.2	+3.5
LSNR				*e*Sn	Sn	20 08 24.3	+3.3
DIGR	**Digorskoe uzhe**	**2.73**	**271**	⇓*i*PN	Pn	20 07 54.7	+2.9
DIGR				*i* S	Sn	20 08 27.4	+2.5
DIGR	**Digorskoe uzhe**	**2.73**	**271**	*i* Pn	Pn	20 07 54.7	+2.9
DIGR				*i* Sn	Sn	20 08 27.4	+2.5

WEL 02 20:10:41.8±0.1, 45°.49S×167°.01E, h69km±1km, ML4.0/11, 1C, Error ellipse: s-maj=1.6km s-min=0.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.10**	**83**	PN	Pn	20 10 51.6	-0.3
DCZ				SN	Sn	20 10 58.8	-0.5
PYZ	**Puysegur Point**	**0.71**	**199**	PN	Pn	20 10 56.9	0.0
PYZ				SN	Sn	20 11 07.8	-0.1
WHZ	**Wether Hill Ro**	**0.77**	**122**	PN	Pn	20 10 57.4	0.0
WHZ				SN	Sn	20 11 09.3	+0.3
MLZ	**Mavora Lakes**	**0.83**	**81**	PN	Pn	20 10 57.6	-0.6
MLZ				SN	Sn	20 11 09.6	-0.7
MSZ	**Milford Sound**	**1.04**	**39**	PN	Pn	20 11 00.7	-0.1
APZ	**The Paps**	**1.51**	**153**	PN	Pn	20 11 06.5	-0.3
APZ				SN	Sn	20 11 24.8	-0.8
WKZ	**Wanaka**	**1.57**	**66**	PN	Pn	20 11 07.4	-0.2
EAZ	**Earnscleugh**	**1.64**	**82**	PN	Pn	20 11 08.5	-0.1
SYZ	**Scrubby Hill**	**1.82**	**126**	PN	Pn	20 11 10.3	-0.6
JCZ	**Jackson Bay**	**1.89**	**42**	PN	Pn	20 11 11.3	-0.5
TUZ	**Tuapeka**	**1.90**	**105**	PN	Pn	20 11 11.6	-0.4
LBZ	**Lake Benmore**	**2.51**	**65**	PN	Pn	20 11 18.7	-1.6
ODZ	**Otahua Downs**	**2.60**	**81**	⇑PN	Pn	20 11 20.3	-1.3
FOZ	**Fox Glacier**	**2.72**	**46**	PN	Pn	20 11 22.5	-0.6

IDC 02 20:19:43.1±1.6, 6.74S×129.57E, h0km, mb3.3/2, mb1 3.7/5, mb1mx3.5/18, mbtmp3.5/5, ML3.7/3, Error ellipse: s-maj=75.5km s-min=24.6km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.92**	**198**	Pn	Pn	20 22 36.1	+1.7
	0.2nm,0.3s,baz=18,slow=13,SNR=11						
FITZ				Sn	Sn	20 24 40.1	-8.2
	0.6nm,0.3s,baz=92,slow=20,SNR=8.6						
WRA	**Warramunga Arr**	**13.91**	**161**	Pn	Pn	20 23 00.1	-1.5
	0.5nm,0.3s,baz=338,slow=14,SNR=44						
WRA				Sn	Sn	20 25 22.6	-14
	0.6nm,0.3s,baz=328,slow=24,SNR=11						
ASAR	**Alice Springs**	**17.33**	**167**	P	Pn	20 23 46.4	-0.2
	0.2nm,0.3s,baz=340,slow=9.8,SNR=15						
ASAR				S	Sn	20 26 46.9	-13
	0.2nm,0.3s,baz=349,slow=24,SNR=5.6						
SONM	**Songino Array**	**58.06**	**342**	P	P	20 29 38.0	+0.1
	0.1nm,0.4s,baz=144,slow=6.5,SNR=2.7						
MKAR	**Makanchi Array**	**67.78**	**327**	P	P	20 30 42.9	+0.2
	0.1nm,0.3s,baz=125,slow=7.6,SNR=2.2						

NNC 02 20:39:11.8±6.1, 39°.25N×70°.09E, h0km, mb3.8, mpv3.4, 3C-1D, Error ellipse: s-maj=47.5km s-min=36.8km az=19.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**3.87**	**5**	⇑P	Pn	20 40 12.4	0.0
	2.0nm,0.2s,baz=170,slow=11,SNR=64						
KK31				S	Sn	20 40 59.2	+0.7
	6.3nm,0.2s,baz=174,slow=29,SNR=10						
TKM2	**Tokmak 2**	**5.55**	**47**	⇓P	Pn	20 40 33.9	-1.7
	2.3nm,0.4s						
TKM2				⇑S	Sn	20 41 43.4	+3.4
	18nm,0.9s						
AB31	**Akbulak array**	**12.36**	**327**	⇑P	Pn	20 42 11.7	+2.8
	1.8nm,1.2s,baz=134,slow=12,SNR=2.9						

*TAP **02** 20:40:44.8, 21°.59N×121°.37E, h51km, ML3.2, C*
*JMA **02** 20:40:46.2±0.4, 21°.55N×121°.60E, h134km, M2.9*
ISC 02 20:40:47.1±1.0, 21°.64N±0°.06×121°.35E±0°.03, h41km±15km, n28, σ1s15/47, 2C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.44**	**25**	*i* P	Pn	20 40 56.0	-1.2
	baz=30						
LAY				*e*S	Sn	20 41 04.2	+0.1
	baz=30						
TSEB	**Hengchuen, Pin**	**0.49**	**302**	*e*P	Pn	20 40 57.6	-0.2
	baz=296						
TSEB				S	Sn	20 41 06.9	+1.6
	baz=296						
TWK1	**Hengchun**	**0.59**	**301**	*e*P	Pn	20 40 57.9	-1.1
	baz=298						
TWK1				*e*S	Sn	20 41 08.0	+0.5
	baz=298						
HEN	**Hengchun**	**0.67**	**303**	*e*P	Pn	20 40 59.5	-0.7
	baz=308						
HEN				S	Sn	20 41 10.4	+0.8
	baz=308						
TAW	**Tawu**	**0.83**	**330**	*e*P	Pn	20 41 00.9	-1.4
	baz=339						
TAW				*e*S	Sn	20 41 13.0	-0.4
	baz=339						
EAST	**Anshuo**	**0.87**	**328**	⇑*i*P	Pn	20 41 01.7	-1.2
	baz=336						
EAST				*e*S	Sn	20 41 14.1	-0.3
	baz=336						
SCZT	**Fangliau**	**0.99**	**317**	*i* P	Pn	20 41 04.3	-0.3
	baz=319						
SCZT				*e*S	Sn	20 41 18.5	+1.1
	baz=319						
ECL	**Taimali**	**1.02**	**339**	⇑*i*P	Pn	20 41 03.1	-1.8
	baz=340						
ECL				*e*S	Sn	20 41 17.1	-1.0
	baz=340						
TWG	**Pinlang**	**1.20**	**348**	*e*P	Pn	20 41 05.8	-1.7
	baz=340						
TWG				*e*S	Sn	20 41 20.6	-1.9
	baz=340						
SSD	**Sandimen**	**1.28**	**329**	*e*P	Pn	20 41 08.1	-0.5
	baz=339						
SSD				*e*S	Sn	20 41 23.7	-0.9
	baz=339						
CHKT	**Chengkung**	**1.45**	**1**	*e*P	Pn	20 41 09.9	-1.0
	baz=6.0						
CHKT				*e*S	Sn	20 41 29.0	+0.3
	baz=6.0						
TWM1	**Shoushan**	**1.46**	**324**	*e*P	Pn	20 41 12.6	+1.7
	baz=325						
ELDTW	**Lidau**	**1.57**	**349**	*e*P	Pn	20 41 11.4	-1.1
	baz=354						
ELDTW				*e*S	Sn	20 41 29.9	-1.7
	baz=354						
SGST	**Jiashian**	**1.60**	**334**	*e*P	Pn	20 41 15.2	+2.3
	baz=334						
SGST				*e*S	Sn	20 41 34.8	+2.4
	baz=334						
STYT	**Tauyuan**	**1.61**	**340**	*e*P	Pn	20 41 12.8	-0.2
	baz=346						
TWF1	**Yuli**	**1.70**	**358**	*e*P	Pn	20 41 13.4	-0.9
	baz=351						
CHN1	**Nanshi**	**1.71**	**334**	*e*P	Pn	20 41 16.0	+1.5
	baz=334						
WTP	**Ta-pu**	**1.73**	**337**	P	Pn	20 41 16.5	+1.7
	baz=347						
CHN4	**Tsaushan**	**1.84**	**338**	*e*P	Pn	20 41 17.1	+0.9
	baz=338						
EHY	**Hungye**	**1.85**	**359**	*e*P	Pn	20 41 14.8	-1.6
	baz=352						
CHN5	**Tsauling**	**2.04**	**342**	*e*P	Pn	20 41 21.2	+2.2
	baz=342						
TYC	**Yuchr**	**2.30**	**349**	*e*P	Pn	20 41 23.9	+1.4
	baz=338						
YOJ	**Yonaguni jima**	**3.20**	**28**	P	Pn	20 41 35.8	+0.9
YOJ				*e*S	Sn	20 42 14.2	+2.5
HATJ	**Hateruma jima**	**3.30**	**43**	P	Pn	20 41 36.5	+0.2
HATJ				*e*S	Sn	20 42 14.2	-0.2
IRIF	**Iriomote-Funau**	**3.46**	**39**	P	Pn	20 41 38.8	+0.3
IRIF				*e*S	Sn	20 42 18.8	+0.5
JKRS	**Kuro-shima**	**3.56**	**43**	P	Pn	20 41 39.9	0.0
JKRS				*e*S	Sn	20 42 22.0	+1.3
JIJ	**Ishigaki jima**	**3.74**	**43**	P	Pn	20 41 41.7	-0.6
JIJ				*e*S	Sn	20 42 24.9	-0.2
JTJ	**Tarama**	**4.29**	**45**	P	Pn	20 41 49.6	-0.3
JTJ				*e*S	Sn	20 42 38.8	0.0

*LDG **02** 20:42:32.4±0.7, 19°.58N×66°.36W, h10km, Mb5.3/21, Ms4.9/10, Error ellipse: s-maj=29.3km s-min=9.5km az=49.0*
*IDC **02** 20:42:32.9±0.4, 19°.38N×66°.30W, h0km, mb4.6/25, mb1 4.8/26, mb1mx4.8/28, mbtmp4.7/26, ML3.9/1, MS5.0/35, Ms1 5.0/35, ms1mx4.9/53, Error ellipse: s-maj=12.0km s-min=10.6km az=91.0*
*ISCJB **02** 20:42:33.1±1.1, 19°.47N±0°.02×66°.36W±0°.02, h8km±7km, mb5.1/207, MS5.2/198, Error ellipse: s-maj=4.0km s-min=2.6km az=142.7*
*MOS **02** 20:42:36.4±1.1, 19°.41N×66°.38W, h33km, mb5.3/70, MS5.1/35, Error ellipse: s-maj=6.0km s-min=4.7km az=105.3*
*BJI **02** 20:42:37.1, 19°.40N×66°.40W, h10km, mB5.6/13, Ms5.6/14, Ms7 5.3/13*
*NEIC **02** 20:42:37.1, 19°.43N×66°.38W, h10km, mb5.3/161, MS5.2/146, MW5.4, MW5.3, MD5.5(RSPR), Moment Tensor Solution. s20 Moment tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{r\phi}$0.00; $M_{\theta\phi}$0.00; Best double couple: $M_0$1.60000×10^{17} NP1:ϕ_s322.00000°, δ71.00000°, λ90.00000°. NP2:ϕ_s142.00000°, δ19.00000°, λ90.00000°. Principal axes: T 1.3600, Plg64.0000°, Azm232.0000°; N 0.3300, Plg0.0000°, Azm141.0000°; P -1.7000, Plg25.0000°, Azm51.0000°; After RSPR.*
NEIC Felt [V] at San Juan. Also felt at Caguas, Carolina, Guaynabo and Mayaguez.
*RSPR **02** 20:42:37.1, 19°.43N×66°.38W, h10km±31km, MD5.5/15, MD5.2/15*
ISC 02 20:42:34.0±0.8, 19°.41N±0°.02×66°.37W±0°.02, h5km±5km, h40km±3.9km; pP-P, n688, σ0s94/542, mb5.1/208, MS5.2/198, 45C-28D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.11**	**199**	⇑*e*P	Pg	20 42 56.4	+1.0
AOPR				*e*S	Sg	20 43 12.1	+2.3
AOPR	**Arecibo Observ**	**1.11**	**199**	⇓*i*P	Pg	20 42 55.3	-0.1
AOPR	**Arecibo Observ**	**1.11**	**199**	⇓*i*P	Pg	20 42 55.3	-0.1
AOPR				⇑*e*P		20 42 56.4	
AOPR				*e*S	Sg	20 43 12.1	+2.3
AGPR	**Aguadilla, PR**	**1.17**	**217**	⇓*i*P	Pg	20 42 55.8	-0.6
AGPR	**Aguadilla, PR**	**1.17**	**217**	⇓*i*P	Pg	20 42 55.8	-0.6
LRS	**Lares**	**1.20**	**202**	⇓*e*P	Pg	20 42 56.2	-0.7
LRS	**Lares**	**1.20**	**202**	⇓*e*P	Pg	20 42 56.2	-0.7
CBYP	**Canovanas**	**1.23**	**157**	⇑*e*P	Pg	20 42 57.4	-0.2
CBYP	**Canovanas**	**1.23**	**157**	*e*S	Sg	20 43 14.7	+1.3
CBYP	**Canovanas**	**1.23**	**157**	⇑*e*P	Pg	20 42 57.2	-0.3
CBYP	**Canovanas**	**1.23**	**157**	*e*S	Sg	20 43 14.5	+1.0
CBYP	**Canovanas**	**1.23**	**157**	⇑*e*P	Pg	20 42 57.2	-0.3
CBYP				⇑*e*P		20 42 57.4	
CBYP				*e*S	Sg	20 43 14.5	+1.0
CBYP				*e*S	Sg	20 43 14.7	+1.3
AGP	**Aguadilla**	**1.23**	**217**	*e*Pn	Pn	20 42 56.6	-1.3
SJG	**San Juan**	**1.30**	**171**	⇑*e*P	Pn	20 42 58.3	-0.6
SJG	**San Juan**	**1.30**	**171**	⇓*i*P	Pn	20 42 58.1	-0.8
SJG	**San Juan**	**1.30**	**171**	⇑*e*P	Pn	20 42 58.3	-0.6
SJG	**San Juan**	**1.30**	**171**	*e*S	Sg	20 43 16.9	+1.0
SJG	**San Juan**	**1.30**	**171**	⇓*i*P	Pn	20 42 58.0	-0.8
SJG	**San Juan**	**1.30**	**171**	Pn	Pn	20 42 58.1	-0.8
	2μm,0.3s,baz=356,slow=8.2,SNR=482						
SJG				Sn	Sn	20 43 16.7	0.0
	4μm,0.3s,baz=297,slow=2.3,SNR=23						
SJG	**San Juan**	**1.30**	**171**	⇑*e*P	Pn	20 42 58.3	-0.6
SJG				*e*S	Sg	20 43 16.8	+0.9
SJG				*e*S	Sg	20 43 16.9	+1.0
SJG	**San Juan**	**1.30**	**171**	⇑*e*P	Pn	20 42 58.3	-0.6
SJG				*e*S	Sg	20 43 16.8	+0.9
SJG				*e*S	Sg	20 43 16.9	+1.0
CELP	**Cerrillos**	**1.34**	**189**	⇑*e*P	Pn	20 42 58.6	-0.8
CELP	**Cerrillos**	**1.34**	**189**	⇑*e*P	Pn	20 42 58.6	-0.8
HUMP	**Col San Antoni**	**1.35**	**159**	⇑*e*P	Pn	20 42 59.1	-0.4
HUMP	**Col San Antoni**	**1.35**	**159**	*e*S	Sb	20 43 17.5	+0.1
HUMP	**Col San Antoni**	**1.35**	**159**	⇑*e*P	Pn	20 42 58.9	-0.6
HUMP	**Col San Antoni**	**1.35**	**159**	*e*S	Sb	20 43 17.4	0.0
HUMP	**Col San Antoni**	**1.35**	**159**	⇑*e*P	Pn	20 42 58.9	-0.6
HUMP				⇑*e*P		20 42 59.1	
HUMP				*e*S	Sb	20 43 17.4	0.0
OBIP	**Obispado Ponce**	**1.37**	**189**	⇓*e*P	Pn	20 42 59.1	-0.8
OBIP	**Obispado Ponce**	**1.37**	**189**	⇓*e*P	Pn	20 42 59.1	-0.8
MPR	**Mayaguez**	**1.39**	**212**	⇓*e*P	Pn	20 42 59.8	-0.4
MPR	**Mayaguez**	**1.39**	**212**	⇓*e*P	Pn	20 42 59.8	-0.4
LSP	**Las Mesas**	**1.40**	**209**	⇑*e*P	Pn	20 42 59.5	-0.7
LSP	**Las Mesas**	**1.40**	**209**	⇑*e*P	Pn	20 42 59.5	-0.7
CPD	**Cerro la Pandu**	**1.43**	**162**	⇑*e*P	Pn	20 43 00.5	-0.1
CPD	**Cerro la Pandu**	**1.43**	**162**	⇑*e*P	Pn	20 43 00.3	-0.3
CPD	**Cerro la Pandu**	**1.43**	**162**	*e*S	Sb	20 43 19.4	-0.2
CPD	**Cerro la Pandu**	**1.43**	**162**	⇑*e*P	Pn	20 43 00.5	-0.1
CPD				*e*S	Sb	20 43 19.3	-0.3
CPD				*e*S	Sb	20 43 19.4	-0.2
CPD	**Cerro la Pandu**	**1.43**	**162**	⇑*e*P	Pn	20 43 00.5	-0.1
CPD				*e*S	Sb	20 43 19.3	-0.3
CPD				*e*S	Sb	20 43 19.4	-0.2
GBPR	**Guanica, Bosqu**	**1.50**	**199**	⇓*e*P	Pn	20 43 01.8	+0.2
ICM	**Isla Caja Muer**	**1.51**	**186**	⇑*e*P	Pn	20 43 01.5	-0.2
ICM	**Isla Caja Muer**	**1.51**	**186**	⇑*e*P	Pn	20 43 01.5	-0.2
MTP	**Monte Pirata**	**1.51**	**149**	⇑*e*P	Pn	20 43 01.2	-0.6
MTP	**Monte Pirata**	**1.51**	**149**	*e*S	Sn	20 43 20.2	-1.7
MTP	**Monte Pirata**	**1.51**	**149**	⇑*e*P	Pn	20 43 01.1	-0.7
MTP	**Monte Pirata**	**1.51**	**149**	*e*S	Sn	20 43 17.6	-4.3
MTP	**Monte Pirata**	**1.51**	**149**	⇑*e*P	Pn	20 43 01.1	-0.7
MTP				*e*S	Sn	20 43 17.6	-4.3
MTP				*e*S	Sn	20 43 20.2	-1.7
CRPR	**Cabo Rojo, PR**	**1.56**	**207**	⇓*i*P	Pn	20 43 02.7	+0.3
CRPR	**Cabo Rojo, PR**	**1.56**	**207**	⇓*i*P	Pn	20 43 02.7	+0.3
STVI	**Saint Thomas**	**1.70**	**128**	*e*S	Sn	20 43 25.1	-1.5
STVI	**Saint Thomas**	**1.70**	**128**	⇑*e*P	Pn	20 43 04.7	+0.3
STVI	**Saint Thomas**	**1.70**	**128**	*e*S	Sn	20 43 26.6	+0.1
STVI	**Saint Thomas**	**1.70**	**128**	⇑*e*P	Pn	20 43 03.8	-0.6
STVI	**Saint Thomas**	**1.70**	**128**	⇑*e*P	Pn	20 43 03.8	-0.6
STVI				⇑*e*P		20 43 04.7	
STVI				*e*S	Sn	20 43 25.1	-1.5
STVI				*e*S	Sn	20 43 26.6	+0.1
TBVI	**Tortola**	**1.93**	**120**	⇓*i*P	Pn	20 43 07.0	-0.5
TBVI	**Tortola**	**1.93**	**120**	⇓*i*P	Pn	20 43 06.8	-0.6
TBVI	**Tortola**	**1.93**	**120**	⇓*i*P	Pn	20 43 07.0	-0.5
IMO	**Isla Mona**	**1.95**	**229**	⇓*e*P	Pn	20 43 09.0	+1.2
IMO	**Isla Mona**	**1.95**	**229**	⇓*e*P	Pn	20 43 09.0	+1.2
ABV	**Anegada**	**2.04**	**109**	⇑*e*P	Pn	20 43 09.2	+0.2
ABV	**Anegada**	**2.04**	**109**	⇑*i*P	Pn	20 43 09.2	+0.2
SABA	**Saba**	**3.46**	**120**	⇓*e*P	Pn	20 43 29.2	+0.6
SABA	**Saba**	**3.46**	**120**	⇓*e*P	Pn	20 43 29.2	+0.6
SEUS	**St. Eustatius**	**3.73**	**120**	⇑*e*P	Pn	20 43 33.3	+0.9
SEUS	**St. Eustatius**	**3.73**	**120**	⇑*e*P	Pn	20 43 33.3	+0.9
SDDR	**Presa de Saban**	**4.57**	**266**	⇓*i*P	Pn	20 43 46.5	+1.3
SDDR	**Presa de Saban**	**4.57**	**266**	⇓*i*P	Pn	20 43 46.5	+1.3
ANWB	**Willy Bob**	**4.68**	**111**	*e*P	Pn	20 43 43.5	-1.8
PHG	**Guadaloupe-2**	**5.63**	**126**	*e*P	Pn	20 43 58.6	+0.3
FDF	**Fort de France**	**6.82**	**132**	*e*P	Pn	20 44 15.6	+0.8
	224nm,0.8s						
FDF	**Fort de France**	**6.82**	**132**	*e*P	Pn	20 44 15.6	+0.8
FDF				pmax	pmax		
	comp=Z,224nm,0.8s						
FDF	**Fort de France**	**6.82**	**132**	*e*P	Pn	20 44 14.9	+0.2
GTBY	**Guantanamo Bay**	**8.25**	**275**	*e*P	Pn	20 44 31.4	-3.1
	comp=Z,178nm,0.8s						
BBGH	**Gun Hill**	**9.03**	**133**	*e*P	Pn	20 44 50.1	+5.0
	comp=Z,2μm,1.2s						
MTDJ	**Mount Denham**	**10.64**	**265**	*e*P	Pn	20 45 05.0	-2.2
	comp=Z,145nm,1.0s						
SDV	**Santo Domingo**	**11.24**	**202**	*e*P	Pn	20 45 16.0	+0.5
	comp=Z,84nm,0.7s						
BBSR	**BB Station**	**13.00**	**6**	*e*P	Pn	20 45 36.0	-3.4
	comp=Z,257nm,0.8s						
DWPF	**Disney**	**16.27**	**305**	*e*P	Pn	20 46 23.0	-0.5
	comp=Z,164nm,0.8s						
ROSC	**El Rosal**	**16.41**	**209**	Pn	Pn	20 46 26.9	+1.6
	comp=Z,8.3nm,0.3s,baz=84,slow=10,SNR=39						
ROSC	**El Rosal**	**16.41**	**209**	*e*P	Pn	20 46 28.4	+3.2
NHSC	**New Hope**	**18.40**	**321**	*e*P	Pn	20 46 53.8	+3.8
	comp=Z,245nm,0.6s						
CNNC	**Cliffs of the**	**18.78**	**329**	*e*P	Pn	20 46 58.6	+4.1
	comp=Z,123nm,0.4s						
COW	**Cow Castle Cre**	**18.91**	**320**	*e*P	Pn	20 47 00.6	+4.5
JSC	**Jenkinsville**	**19.86**	**321**	*e*P	Pn	20 47 11.9	+4.2
JSC	**Jenkinsville**	**19.86**	**321**	*e*P	Pn	20 47 11.9	+4.3
JTS	**JuntasAbangare**	**20.10**	**246**	P	P	20 47 08.5	-0.3
	comp=Z,17nm,0.5s,baz=61,slow=5.5,SNR=16						
JTS				LR	LR	20 54 50.2	
	comp=Z,3μm,18.1s,MS4.6,baz=269,slow=37						
JTS	**JuntasAbangare**	**20.10**	**246**	*e*P

MCWV Mont Chateau 23.29 333 *e*P P **20 47 43.3 +0.6**
comp=Z,97nm,0.8s,mb5.3
MCWV *e* 20 48 01.1
MCWV LR LR
comp=Z,6µm,19.0s,MS5.1
WES Weston 23.29 351 *e*P P **20 47 43.8 +1.0**
comp=Z,79nm,0.8s,mb5.2
WES *e* 20 47 57.4
WES Weston 23.29 351 *e*P P **20 47 43.8 +1.1**
WES *e* 20 47 57.4
WES pmax pmax
comp=Z,79nm,0.8s,mb5.2
SSPA Standing Stone 23.35 337 *e*P P **20 47 42.9 -0.5**
comp=Z,46nm,0.8s,mb5.0
QUA2 Belchertown 23.36 349 *e*P P **20 47 46.6 +3.1**
comp=Z,63nm,0.6s,mb5.2
QUA2 *e* 20 48 00.3
SWET Sewanee 23.39 316 *e*P P **20 47 41.8 -2.0**
comp=Z,12nm,0.9s,mb4.3
HRV Adam Dziewonsk 23.45 350 *e*P P **20 47 43.4 -1.0**
comp=Z,48nm,0.4s,mb5.3
HRV *e* 20 48 00.7
HRV Adam Dziewonsk 23.45 350 *e*P P **20 47 43.4 -1.0**
HRV *e* 20 48 00.7
HRV pmax pmax
comp=Z,48nm,0.4s,mb5.3
TRY Troy 24.06 347 P P **20 47 49.5 -0.6**
comp=Z,123nm,0.8s,mb5.4
BINY Binghamton 24.14 342 *e*P P **20 47 49.8 -1.1**
comp=Z,52nm,0.7s,mb5.1
BINY LR LR
comp=Z,4µm,20.0s,MS4.9
ACCN Adirondack Com 24.68 347 *e*P P **20 47 56.5 +0.7**
comp=Z,100nm,0.4s,mb5.7
ACCN *e* 20 48 20.3
PLAL Pickwick Lake 24.69 313 PFAKE 20 48 10.0 +14
PLAL LR LR
comp=Z,4µm,19.0s,MS5.0
HNH Hanover 24.73 350 *e*P P **20 47 55.9 -0.4**
comp=Z,35nm,0.4s,mb5.2
HNH *e* 20 48 17.8
ALLY Alegheny Colle 25.08 335 *e*P P **20 48 00.1 +0.6**
comp=Z,143nm,1.0s,mb5.5
VBMS Vicksburg 25.14 305 P P **20 47 57.4 -2.7**
VBMS LR LR
comp=Z,5µm,21.0s,MS5.0
MDV Middlebury 25.18 348 *e*P P **20 48 00.3 -0.1**
comp=Z,12µm,0.4s
MDV *e* 20 48 25.7
ACSO Alum Creek Sta 25.19 329 *e*P P **20 48 00.9 +0.5**
comp=Z,162nm,1.0s,mb5.5
ACSO LR LR
comp=Z,6µm,20.0s,MS5.1
WVL Waterville 25.24 354 P P **20 48 00.2 -0.7**
comp=Z,132nm,0.9s,mb5.5
EMMW East Machias 25.25 358 *e*P P **20 48 01.1 +0.1**
NCB Newcomb 25.36 347 *e*P P **20 48 01.7 -0.3**
comp=Z,47nm,0.4s,mb5.4
NCB *e* 20 48 27.9
NCB LR LR
comp=Z,3µm,20.0s,MS4.8
OXF Oxford 25.37 311 P P **20 48 02.0 -0.2**
comp=Z,107nm,0.9s,mb5.4
OXF LR LR
comp=Z,3µm,20.0s,MS4.8
OXF Oxford 25.37 311 P P **20 48 02.0 -0.2**
OXF pmax pmax
comp=Z,107nm,0.9s,mb5.4
OXF MLR MLR
comp=Z,3µm,20.0s,MS4.8
ERPA Erie 25.42 336 *e*P P **20 48 00.9 -1.6**
comp=Z,46nm,0.6s,mb5.2
ERPA LR LR
comp=Z,4µm,20.0s,MS5.0
WCI Wyandotte Cave 25.53 321 *e*P P **20 48 04.2 +0.6**
comp=Z,44nm,0.7s,mb5.1
WCI Wyandotte Cave 25.53 321 *e*P P **20 48 04.2 +0.6**
WCI pmax pmax
comp=Z,44nm,0.7s,mb5.1
UTMT University of 25.98 315 *e*P P **20 48 08.7 +1.0**
HALT Halls 26.06 314 P P **20 48 09.7 +1.3**
LONY Lake Ozonia 26.06 347 *e*P P **20 48 09.0 +0.7**
comp=Z,32nm,0.8s,mb4.9
LONY LR LR
comp=Z,3µm,19.0s,MS4.8
FRNY Flat Rock 26.06 348 *e*P P **20 48 09.3 +0.9**
comp=Z,25nm,0.5s,mb5.0
USIN University of 26.18 319 *e*P P **20 48 09.3 -0.2**
comp=Z,94nm,0.8s,mb5.4
GLAT Glass 26.22 315 P P **20 48 12.2 +2.3**
BLO Bloomington 26.29 323 *e*P P **20 48 10.9 +0.4**
comp=Z,17nm,0.6s,mb4.8
BLO Bloomington 26.29 323 *e*P P **20 48 10.9 +0.4**
BLO pmax pmax
comp=Z,17nm,0.6s,mb4.8
OLIL Olney 26.93 320 P P **20 48 14.2 -2.1**
comp=Z,74nm,0.6s,mb5.4
SIUC Southern Illin 27.00 317 *e*P P **20 48 17.5 +0.5**
comp=Z,45nm,0.7s,mb5.1
AAM Ann Arbor 27.12 331 *e*P P **20 48 18.7 +0.7**
comp=Z,110nm,0.5s,mb5.6
AAM *e* 20 48 55.3
AAM LR LR
comp=Z,6µm,20.0s,MS5.1
AAM Ann Arbor 27.12 331 *e*P P **20 48 18.7 +0.8**
AAM pmax pmax
comp=Z,110nm,0.5s,mb5.6
AAM MLR MLR
comp=Z,6µm,20.0s,MS5.1
CMIG Matias Romero 27.17 270 P P **20 48 18.6 0.0**
comp=Z,9nm,0.8s,mb3.8,baz=68,slow=11,SNR=4.2
CMIG Matias Romero 27.17 270 P P **20 48 18.6 0.0**
SADO Sadowa 27.44 340 P P **20 48 19.9 -0.9**
comp=Z,5.7nm,0.7s,mb4.2,baz=200,slow=11,SNR=6.7
SADO Sadowa 27.44 340 P P **20 48 19.9 -0.9**
FVM French Village 27.94 317 P P **20 48 24.9 -0.4**
comp=Z,31nm,0.6s,mb5.1
FVM French Village 27.94 317 P P **20 48 24.9 -0.4**
FVM pmax pmax
comp=Z,31nm,0.6s,mb5.1
NATX Nacogdoches 28.24 301 *e*P P **20 48 28.5 +0.4**
comp=Z,31nm,0.7s,mb5.0
NATX LR LR
comp=Z,3µm,20.0s,MS4.9
MIAR Mount Ida 28.43 308 *e*P P **20 48 31.2 +1.4**
comp=Z,29nm,1.2s,mb4.8
MIAR LR LR
comp=Z,4µm,19.0s,MS5.0
MIAR Mount Ida 28.43 308 *e*P P **20 48 31.2 +1.4**
MIAR pmax pmax
comp=Z,29nm,1.2s,mb4.8
MIAR MLR MLR
comp=Z,4µm,19.0s,MS5.0
CCM Cathedral Cave 28.51 316 *e*P P **20 48 29.3 -1.1**
comp=Z,30nm,0.8s,mb5.1
CCM Cathedral Cave 28.51 316 *e*P P **20 48 29.3 -1.1**
CCM pmax pmax
comp=Z,30nm,0.8s,mb5.1
HDIL Hopedale 28.80 322 *e*P P **20 48 33.8 +0.8**
comp=Z,52nm,1.0s,mb5.2
HDIL LR LR
comp=Z,4µm,20.0s,MS5.0
ATAH Atahualpa 28.91 205 P P **20 48 34.8 +0.6**
comp=Z,11nm,0.8s,mb4.7,baz=13,slow=1.5,SNR=6.5
GLMI Grayling 29.55 333 *e*P P **20 48 40.4 +0.8**
comp=Z,53nm,0.8s,mb5.3
GLMI LR LR
comp=Z,5µm,20.0s,MS5.1
KVTX Kingsville 29.97 292 PFAKE 20 49 00.0 +17
KVTX LR LR
comp=Z,2µm,19.0s,MS4.8
PAYG Puerto Ayora 30.80 232 PFAKE 20 49 10.0 +19
PAYG LR LR
comp=Z,3µm,19.0s,MS5.0
JFWS Jewell Farm 30.89 325 *e*P P **20 48 51.1 -0.4**
comp=Z,137nm,1.1s,mb5.7
JFWS LR LR
comp=Z,4µm,20.0s,MS5.1
JFWS Jewell Farm 30.89 325 *e*P P **20 48 51.1 -0.4**
JFWS pmax pmax
comp=Z,137nm,1.1s,mb5.7
JFWS MLR MLR
comp=Z,4µm,20.0s,MS5.1
SCIA State Center 31.96 320 *e*P P **20 49 01.5 +0.6**
comp=Z,87nm,1.0s,mb5.5
SCIA LR LR
comp=Z,4µm,20.0s,MS5.1

JCT Junction City 32.15 297 *e*P P **20 49 03.1 +0.4**
JCT LR LR
comp=Z,2µm,22.0s,MS4.8
JCT Junction City 32.15 297 *e*P P **20 49 03.1 +0.4**
JCT MLR MLR
comp=Z,2µm,22.0s,MS4.8
WMOK Wichita Mounta 32.48 305 P P **20 49 02.6 -3.0**
comp=Z,11nm,0.8s,mb4.7
WMOK LR LR
comp=Z,4µm,20.0s,MS5.1
WMOK Wichita Mounta 32.48 305 P P **20 49 02.6 -3.0**
WMOK pmax pmax
comp=Z,11nm,0.8s,mb4.7
WMOK MLR MLR
comp=Z,4µm,20.0s,MS5.1
KSU1 Kansas State U 32.65 313 PFAKE 20 49 20.0 +13
KSU1 LR LR
comp=Z,4µm,19.0s,MS5.1
NNA Nana 32.86 199 PFAKE 20 49 20.0 +11
NNA LR LR
comp=Z,2µm,21.0s,MS4.8
CBKS Cedar Bluff 34.72 311 *e*P P **20 49 24.6 -0.4**
comp=Z,52nm,0.9s,mb5.5
CBKS LR LR
comp=Z,3µm,20.0s,MS5.0
CBKS Cedar Bluff 34.72 311 *e*P P **20 49 24.6 -0.4**
CBKS pmax pmax
comp=Z,52nm,0.9s,mb5.5
CBKS MLR MLR
comp=Z,3µm,20.0s,MS5.0
AMTX Amarillo 34.79 304 *e*P P **20 49 26.0 +0.3**
comp=Z,53nm,1.4s,mb5.3
AMTX *e*pP pP 20 49 34.3 +7.1
AMTX LR LR
comp=Z,4µm,19.0s,MS5.1
EYMN Ely 35.01 330 *e*P P **20 49 26.9 -0.5**
comp=Z,132nm,1.6s,mb5.6
EYMN LR LR
comp=Z,6µm,20.0s,MS5.3
ECSD EROS Data Cent 35.06 321 *e*P P **20 49 26.9 -0.9**
comp=Z,79nm,0.9s,mb5.6
ECSD LR LR
comp=Z,4µm,21.0s,MS5.1
TXAR Lajitas Array 35.25 294 P P **20 49 30.5 +0.7**
comp=Z,12nm,0.7s,mb5.0,baz=112,slow=9.3,SNR=95
TXAR PcP PcP 20 52 00.9 +0.2
comp=Z,2.8nm,1.0s,baz=8.5,slow=1.8,SNR=4.1
TXAR LR LR 21 07 00.2
comp=Z,2µm,21.4s,MS4.7,baz=95,slow=42
TXAR Lajitas Array 35.25 294 P P **20 49 30.5 +0.7**
TXAR PcP PcP 20 52 00.9 +0.2
TXAR LR LR 21 07 00.2
TXAR Lajitas Array 35.25 294 P P **20 49 30.5 +0.7**
TXAR 20 52 00.9
SCHQ Schefferville 35.37 360 P P **20 49 30.8 +0.4**
comp=Z,12nm,0.8s,mb4.8,baz=195,slow=9.4,SNR=11
SCHQ Schefferville 35.37 360 P P **20 49 30.8 +0.4**
SCHQ LR LR
comp=Z,3µm,19.0s,MS5.1
LPAZ La Paz 35.51 183 P P **20 49 31.8 -0.2**
comp=Z,15nm,0.8s,mb5.0,baz=0.9,slow=7.1,SNR=21
LPAZ La Paz 35.51 183 *e*P P **20 49 31.1 -0.9**
comp=Z,42nm,1.0s,mb5.3
LPAZ LR LR
comp=Z,2µm,19.0s,MS4.8
LPAZ La Paz 35.51 183 *e*P P **20 49 31.1 -0.9**
LPAZ pmax pmax
comp=Z,42nm,1.0s
LPAZ MLR MLR
comp=Z,2µm,19.0s
OGNE Ogallala 37.20 313 PFAKE 20 50 00.0 +14
OGNE LR LR
comp=Z,3µm,20.0s,MS5.0
AGMN Agassiz Nation 37.40 327 *e*P P **20 49 46.8 -1.0**
comp=Z,45nm,0.8s,mb5.3
AGMN LR LR
comp=Z,3µm,20.0s,MS5.2
BNM Barren Site 38.56 301 *e*P P **20 49 58.2 +0.3**
comp=Z,13nm,0.7s,mb4.8
SDCO Great Sand Dun 38.58 307 *e*P P **20 49 58.1 +0.1**
comp=Z,34nm,0.8s,mb5.1
SDCO LR LR
comp=Z,2µm,19.0s,MS5.0
ANMO Albuquerque 38.60 302 LR LR 21 08 58.4
comp=Z,3µm,18.8s,MS5.1,baz=114,slow=41
ANMO Albuquerque 38.60 302 *e*P P **20 49 58.5 +0.3**
comp=Z,7.0nm,1.0s,mb4.3
ANMO LR LR
comp=Z,3µm,20.0s,MS5.1
ANMO Albuquerque 38.60 302 *e*P P **20 49 58.5 +0.3**
ANMO pmax pmax
comp=Z,7.0nm,1.0s
ANMO MLR MLR
comp=Z,3µm,20.0s
LPM Los Pinos Moun 38.60 301 *e*P P **20 49 58.2 0.0**
comp=Z,9.9nm,0.8s,mb4.6
ULM Lac du Bonnet 38.69 330 P P **20 49 58.3 -0.4**
comp=Z,7.6nm,0.6s,mb4.6,baz=132,slow=8.6,SNR=8.5
ULM LR LR 21 06 53.8
comp=Z,4µm,18.6s,MS5.2,baz=144,slow=38
ULM Lac du Bonnet 38.69 330 *e*P P **20 49 56.6 -2.1**
comp=Z,19nm,0.9s,mb4.8
ULM Lac du Bonnet 38.69 330 *e*P P **20 49 56.6 -2.1**
ULM pmax pmax
comp=Z,19nm,0.9s
LENM Lemitar 38.85 301 *e*P P **20 50 00.8 +0.5**
comp=Z,14nm,1.0s,mb4.6
LAZ Ladron 39.03 301 *e*P P **20 50 02.7 +0.9**
comp=Z,4.4nm,0.9s,mb4.2
RCBR Riachuelo 39.09 127 LR LR 21 05 51.8
comp=Z,820nm,18.4s,MS4.6,baz=319,slow=36
RCBR Riachuelo 39.09 127 PFAKE 20 50 20.0 +17
RCBR LR LR
comp=Z,1µm,19.0s,MS4.8
ISCO Idaho Springs 39.31 310 *e*P P **20 50 04.2 +0.1**
comp=Z,29nm,0.8s,mb5.1
ISCO LR LR
comp=Z,2µm,20.0s,MS5.0
ISCO Idaho Springs 39.31 310 *e*P P **20 50 04.2 +0.1**
ISCO pmax pmax
comp=Z,29nm,0.8s,mb5.1
ISCO MLR MLR
comp=Z,2µm,20.0s,MS5.0
PHWY Pilot Hill 39.72 312 *e*P P **20 50 07.8 +0.3**
comp=Z,39nm,1.0s,mb5.1
RSSD Black Hills 39.89 317 *e*P P **20 50 08.9 0.0**
comp=Z,8.9nm,0.9s,mb4.5
RSSD Black Hills 39.89 317 *e*P P **20 50 08.9 0.0**
RSSD pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
SMCO Snowmass 40.11 308 *e*P P **20 50 10.8 +0.1**
comp=Z,25nm,1.2s,mb4.8
MVCO Mesa Verde 40.73 305 *e*P P **20 50 15.8 -0.1**
comp=Z,18nm,1.1s,mb4.6
MVCO LR LR
comp=Z,3µm,20.0s,MS5.2
PV01 Paradox Valley 41.02 306 *e*P P **20 50 19.4 +1.1**
comp=Z,2µm,1.2s
TUC Tucson 41.70 297 *e*P P **20 50 24.3 +0.3**
comp=Z,189nm,2.8s,mb5.2
TUC Tucson 41.70 297 *e*P P **20 50 24.3 +0.3**
TUC pmax pmax
comp=Z,189nm,2.8s,mb5.2
DGMT Dagmar 42.04 322 PFAKE 20 50 40.0 +14
DGMT LR LR
comp=Z,3µm,21.0s,MS5.1
LAO LASA Array 42.41 319 *e*P P **20 50 29.9 +0.4**
comp=Z,24nm,0.9s,mb4.8
LAO LR LR
comp=Z,4µm,21.0s,MS5.3
WUAZ Wupatki 42.66 302 *e*P P **20 50 32.8 +1.1**
comp=Z,47nm,1.0s,mb5.2
BW06 Boulder Array 43.10 312 *e*P P **20 50 35.2 +0.1**
comp=Z,24nm,1.0s,mb4.9
BW06 LR LR
comp=Z,2µm,19.0s,MS5.1
PDAR Pinedale Array 43.10 312 P P **20 50 35.5 +0.4**
comp=Z,9.1nm,0.8s,mb4.5,baz=118,slow=8.2,SNR=49
PDAR PcP PcP 20 52 24.8 -0.3
comp=Z,2.6nm,0.6s,baz=112,slow=5.1,SNR=5.8
PDAR LR LR 21 08 22.3
comp=Z,2µm,21.1s,MS5.0,baz=118,slow=36
PDAR Pinedale Array 43.10 312 P P **20 50 35.5 +0.4**
PDAR PcP PcP 20 52 24.8 -0.3
PDAR LR LR 21 08 22.3
PD02 Pinedale Array 43.10 312 *e*P P **20 50 34.5 -0.8**
PD01 Pinedale Array 43.12 312 *e*P P **20 50 34.6 -0.7**

TMUT Trail Mountain 43.31 307 *e*P P **20 50 37.3 +0.3**
comp=Z,24nm,0.9s,mb4.9
DAU Daniels Canyon 43.62 309 *e*P P **20 50 39.3 -0.2**
DAU Daniels Canyon 43.62 309 *e*P P **20 50 39.3 -0.2**
RLMT Red Lodge 43.72 316 *e*P P **20 50 40.2 +0.1**
comp=Z,34nm,0.8s,mb5.1
RLMT LR LR
comp=Z,3µm,20.0s,MS5.2
MPU Maple Canyon 43.80 308 *e*P P **20 50 40.2 -0.7**
comp=Z,32nm,1.1s,mb5.0
JLU Jordanelle 43.82 309 *e*P P **20 50 41.1 +0.1**
comp=Z,14nm,0.8s,mb4.8
MSU Marysvale 43.87 306 *e*P P **20 50 42.1 +0.7**
comp=Z,33nm,1.6s,mb4.8
MSU Marysvale 43.87 306 *e*P P **20 50 42.1 +0.6**
MSU pmax pmax
comp=Z,33nm,1.6s,mb4.8
MVU Marysvale 43.89 306 PFAKE 20 51 00.0 +18
MVU LR LR
comp=Z,3µm,21.0s,MS5.2
LOHW Long Hollow 44.09 313 *e*P P **20 50 43.0 -0.2**
comp=Z,94nm,1.0s,mb5.5
SNOW Snow King Moun 44.15 313 *e*P P **20 50 43.5 -0.1**
comp=Z,59nm,1.0s,mb5.3
FCC Fort Churchill 44.17 340 *e*P P **20 50 43.7 +0.2**
comp=Z,3.0nm,1.3s,mb3.9
FCC Fort Churchill 44.17 340 *e*P P **20 50 43.7 +0.2**
FCC pmax pmax
comp=Z,3.0nm,1.3s,mb3.9
HWUT Hardware Ranch 44.17 310 *e*P P **20 50 42.8 -1.0**
comp=Z,21nm,0.8s,mb4.9
HWUT LR LR
comp=Z,2µm,20.0s,MS5.1
AHID Auburn Hatcher 44.17 312 *e*P P **20 50 43.7 -0.2**
comp=Z,44nm,0.9s,mb5.2
AHID LR LR
comp=Z,3µm,19.0s,MS5.3
REDW Red Top Meadow 44.19 313 *e*P P **20 50 43.9 0.0**
comp=Z,93nm,1.1s,mb5.4
GCMT Greycliff 44.23 317 *e*P P **20 50 44.9 +0.7**
comp=Z,21nm,1.0s,mb4.8
MOOW Moose Ponds 44.23 313 *e*P P **20 50 44.7 +0.3**
comp=Z,42nm,0.8s,mb5.2
LKWY Lake 44.27 315 PFAKE 20 51 00.0 +15
LKWY LR LR
comp=Z,5µm,21.0s,MS5.4
TPAW Teton Pass 44.29 313 *e*P P **20 50 44.7 -0.1**
comp=Z,58nm,0.9s,mb5.3
NOQ North Oquirrh 44.32 309 *e*P P **20 50 45.2 +0.2**
comp=Z,80nm,1.1s,mb5.4
FRB Frobisher Bay 44.33 359 LR LR 21 09 29.4
comp=Z,2µm,18.7s,MS5.1,baz=187,slow=36
IMW Indian Meadow 44.41 314 *e*P P **20 50 45.8 0.0**
comp=Z,21nm,0.7s,mb5.0
FFC Flin Flon 44.42 331 PFAKE 20 51 00.0 +14
FFC LR LR
comp=Z,5µm,19.0s,MS5.5
DCID1 Drake Creek 44.49 313 *e*P P **20 50 46.8 +0.5**
comp=Z,89nm,1.3s,mb5.3
RRI2 Red Ridge 44.51 313 *e*P P **20 50 46.2 -0.3**
comp=Z,34nm,0.9s,mb5.2
YNR Norris Junctio 44.51 315 *e*P P **20 50 47.9 +1.4**
comp=Z,18nm,1.1s,mb4.8
YFT Old Faithful 44.53 314 *e*P P **20 50 48.3 +1.7**
comp=Z,20nm,0.9s,mb4.9
CCUT Cedar City 44.59 304 *e*P P **20 50 48.7 +1.4**
comp=Z,16nm,1.2s,mb4.7
YMR Madison River 44.69 315 *e*P P **20 50 49.0 +1.0**
comp=Z,72nm,1.1s,mb5.4
ARUT Antelope Range 44.70 304 *e*P P **20 50 48.2 +0.1**
comp=Z,10nm,0.7s,mb4.8
ARUT Antelope Range 44.70 304 *e*P P **20 50 48.2 +0.1**
ARUT pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
DUG Dugway 44.72 308 PFAKE 20 51 00.0 +12
DUG LR LR
comp=Z,2µm,21.0s,MS5.0
BGU Big Grassy Mou 45.06 309 *e*P P **20 50 50.5 -0.5**
comp=Z,43nm,1.0s,mb5.2
HVU Hansel Valley 45.09 310 *e*P P **20 50 50.8 -0.4**
comp=Z,24nm,1.1s,mb4.9
HVU Hansel Valley 45.09 310 *e*P P **20 50 50.8 -0.4**
HVU pmax pmax
comp=Z,24nm,1.1s,mb4.9
EGMT Eagleton 45.15 319 PFAKE 20 51 10.0 +18
EGMT LR LR
comp=Z,4µm,21.0s,MS5.3
GLA Glamis 45.17 298 *e*P P **20 50 53.6 +1.7**
comp=Z,18nm,0.8s,mb5.0
GLA Glamis 45.17 298 *e*P P **20 50 53.7 +1.7**
GLA pmax pmax
comp=Z,18nm,0.8s,mb5.0
BOZ Bozeman (W) 45.46 316 *e*P P **20 50 54.5 +0.5**
comp=Z,45nm,1.3s,mb5.1
BOZ LR LR
comp=Z,3µm,20.0s,MS5.2
BOZ Bozeman (W) 45.46 316 *e*P P **20 50 54.5 +0.4**
BOZ pmax pmax
comp=Z,45nm,1.3s,mb5.1
BOZ MLR MLR
comp=Z,3µm,20.0s,MS5.2
PMOZ Porto Moniz, M 45.75 63 *e*S S **20 57 36.8 -3.9**
PMOZ *e*LQ 21 01 27.8
PMOZ *e*LR LR 21 03 52.2
SHPR Sheep Range 45.84 302 *e*P P **20 50 57.8 +0.5**
HRY Holter Researc 45.96 317 *e*P P **20 50 57.5 -0.5**
DLMT Dillon 46.01 315 *e*P P **20 50 58.9 +0.5**
comp=Z,102nm,1.1s,mb5.7
MCMT McKenzie Canyo 46.01 314 *e*P P **20 50 59.3 +0.9**
comp=Z,18nm,1.0s,mb5.0
LRM Limekiln Ridge 46.06 316 *e*P P **20 50 58.9 +0.1**
CPUP Villa Florida 46.30 169 P P **20 50 56.8 -4.1**
comp=Z,7.7nm,0.6s,mb4.8,baz=338,slow=7.6,SNR=22
CPUP Villa Florida 46.30 169 *e*P P **20 50 56.5 -4.3**
comp=Z,93nm,1.1s,mb5.6
CPUP Villa Florida 46.30 169 *e*P P **20 50 56.5 -4.3**
CPUP pmax pmax
comp=Z,93nm,1.1s
SPB Sao Paulo 46.56 156 PFAKE 20 51 20.0 +17
SPB LR LR
comp=Z,1µm,20.0s,MS4.9
PFO Pinyon Flat Ob 46.58 298 P P **20 51 03.5 +0.5**
comp=Z,22nm,1.2s,mb5.0
PFO LR LR
comp=Z,1µm,20.0s,MS4.8
PFO Pinyon Flat Ob 46.58 298 P P **20 51 03.6 +0.5**
PFO pmax pmax
comp=Z,23nm,1.2s,mb5.0
PFO MLR MLR
comp=Z,1µm,20.0s,MS4.8
HLID Hailey 46.72 312 *e*P P **20 51 03.6 -0.5**
comp=Z,47nm,1.0s,mb5.4
HLID LR LR
comp=Z,3µm,19.0s,MS5.3
CHMT Chamberlain Mo 46.95 317 *e*P P **20 51 05.8 +0.1**
comp=Z,16nm,1.1s,mb4.8
SLMT Seeley Lake 47.21 317 *e*P P **20 51 07.7 -0.2**
MSO Missoula 47.36 316 *e*P P **20 51 08.4 -0.6**
comp=Z,13nm,1.1s,mb4.8
MSO LR LR
comp=Z,2µm,20.0s,MS5.2
SWMT Swartz Lake 47.62 317 *e*P P **20 51 11.1 +0.1**
MFID Camas Ranch 47.68 312 *e*P P **20 51 11.4 -0.1**
comp=Z,53nm,1.0s,mb5.5
TPH Tonopah 47.69 304 PFAKE 20 51 30.0 +18
TPH LR LR
comp=Z,3µm,19.0s,MS5.2
YBMT Yellow Bay 47.75 318 *e*P P **20 51 12.4 +0.4**
BBTS Babate 47.76 88 LR LR 21 08 47.7
comp=Z,2µm,19.1s,MS5.2,baz=104,slow=33
DAC Darwin (Calif) 47.76 302 PFAKE 20 51 30.0 +18
DAC LR LR
comp=Z,2µm,22.0s,MS5.1
JTMT Jette 47.88 318 *e*P P **20 51 12.9 -0.1**
comp=Z,30nm,1.1s,mb5.2
PASC Pasadena Art C 48.05 299 P P **20 51 13.8 -0.8**
WALA Waterton Lakes 48.10 319 *e*P P **20 51 13.8 -0.8**
comp=Z,0.6nm,0.8s,mb3.7
BSMT Bassoo Peak 48.24 318 *e*P P **20 51 16.1 +0.3**
NVAR Mina Array Bea 48.59 304 P P **20 51 19.1 +0.4**
comp=Z,12nm,0.8s,mb5.0,baz=90,slow=7.7,SNR=53
NVAR Mina Array Bea 48.59 304 P P **20 51 19.1 +0.4**
SFJD Kangerlussuaq 48.64 8 PFAKE 20 51 30.0 +11
SFJD LR LR
comp=Z,3µm,21.0s,MS5.2
BMO Blue Mountains 49.06 313 *e*P P **20 51 20.9 -1.3**
comp=Z,36nm,1.1s,mb5.3

BMO LR LR
comp=Z,2µm,20.0s,MS5.1
BMO Blue Mountains 49.06 313 *eP* **P 20 51 20.9 -1.3**
BMO pmax pmax
comp=Z,36nm,1.1s,mb5.3
BMO MLR MLR
comp=Z,2µm,20.0s,MS5.1
WVOR Wild Horse Val 49.48 310 *eP* **P 20 51 25.8 +0.3**
comp=Z,70nm,1.4s,mb5.5
WVOR Wild Horse Val 49.48 310 *eP* **P 20 51 25.8 +0.3**
WVOR pmax pmax
comp=Z,70nm,1.4s,mb5.5
NEW Newport 49.85 317 *eP* **P 20 51 27.5 -0.6**
comp=Z,90nm,0.8s,mb5.8
NEW LR LR
comp=Z,4µm,20.0s,MS5.4
NEW Newport 49.85 317 *eP* **P 20 51 27.5 -0.7**
NEW pmax pmax
comp=Z,90nm,0.8s
NEW MLR MLR
comp=Z,4µm,20.0s
LNOR Lincton Mounta 49.98 314 P **P 20 51 30.1 +1.0**
LNOR Lincton Mounta 49.98 314 P **P 20 51 30.1 +0.9**
CMB Columbia Colle 50.17 304 *eP* **P 20 51 30.3 -0.4**
comp=Z,11nm,1.0s,mb4.8
CMB LR LR
comp=Z,2µm,20.0s,MS5.2
CMB Columbia Colle 50.17 304 *eP* **P 20 51 30.3 -0.4**
CMB pmax pmax
comp=Z,11nm,1.0s,mb4.8
CMB MLR MLR
comp=Z,2µm,20.0s,MS5.2
MOD Modoc 50.61 309 *eP* **P 20 51 34.5 +0.5**
comp=Z,207nm,2.3s,mb5.7
OD2 Odessa Site #2 50.64 316 *eP* **P 20 51 33.8 -0.4**
comp=Z,112nm,1.1s,mb5.7
REDWA Red Mountain 50.86 314 P **P 20 51 36.4 +0.5**
SAO San Andreas Ge 50.90 302 PFAKE 20 51 50.0 +14
SAO LR LR
comp=Z,2µm,21.0s,MS5.1
HAWA Hanford 50.95 314 *eP* **P 20 51 35.8 -0.6**
comp=Z,36nm,1.2s,mb5.2
HAWA LR LR
comp=Z,2µm,20.0s,MS5.2
RSW Rattlesnake Hi 50.99 314 *eP* **P 20 51 37.3 +0.6**
OHCM Honcut 51.16 305 *eP* **P 20 51 39.7 +1.5**
VIPM Ingram Point 51.30 312 P **P 20 51 40.1 +1.0**
VIPM Ingram Point 51.30 312 P **P 20 51 40.1 +1.0**
VTHM Trough 51.39 313 P **P 20 51 41.3 +1.5**
ETW Entiat 51.76 316 P **P 20 51 42.2 -0.4**
WDC Whiskeytown Da 52.10 307 *epP* pP 20 51 58.7 +12
WDC LR LR
comp=Z,2µm,19.0s,MS5.2
WDC Whiskeytown Da 52.10 307 *eP* **P 20 51 58.7 +13**
WDC MLR MLR
comp=Z,2µm,19.0s,MS5.2
MCCM Marconi Confer 52.14 304 PFAKE 20 52 00.0 +14
MCCM LR LR
comp=Z,2µm,19.0s,MS5.2
HOPS Hopland 52.36 305 PFAKE 20 52 00.0 +13
HOPS LR LR
comp=Z,4µm,19.0s,MS5.4
YBH Yreka Blue Hor 52.37 308 LR LR 21 16 54.3
comp=Z,2µm,19.0s,MS5.1,baz=113,slow=39
YBH Yreka Blue Hor 52.37 308 *eP* **P 20 51 46.1 -1.1**
comp=Z,10nm,0.9s,mb4.8
YBH LR LR
comp=Z,2µm,21.0s,MS5.0
YBH Yreka Blue Hor 52.37 308 *eP* **P 20 51 46.1 -1.1**
YBH pmax pmax
comp=Z,10.0nm,0.9s
YBH MLR MLR
comp=Z,2µm,21.0s
WPW White Pass 52.37 314 P **P 20 51 47.8 +0.7**
LON Longmire 52.56 314 *eP* **P 20 51 48.2 -0.3**
comp=Z,145nm,2.3s,mb5.5
LON Longmire 52.56 314 *eP* **P 20 51 48.2 -0.3**
LON pmax pmax
comp=Z,145nm,2.3s,mb5.5
PMAFR Mafra 52.65 55 *eS* **S 20 59 20.3 +2.9**
PMAFR *eLQ* 21 04 42.2
PMAFR *eLR* LR 21 06 59.3
comp=Z,2µm,18.0s
HUMO Hull Mountain 52.66 309 *eP* **P 20 51 48.0 -1.3**
comp=Z,44nm,1.4s,mb5.2
HUMO LR LR
comp=Z,2µm,21.0s,MS5.0
RPW Rockport 52.73 317 *eP* **P 20 51 48.6 -1.1**
PFVI Vila Bisbo 52.89 58 *eP* **P 20 51 51.2 +0.1**
comp=Z,102nm,1.4s,mb5.6
PFVI *eS* **S 20 59 22.9 +2.1**
PFVI *eLQ* 21 03 14.5
PFVI *eLR* LR 21 06 54.9
comp=Z,3µm,18.0s
JCW Jim Creek 52.94 316 *eP* **P 20 51 50.1 -1.2**
MORF Marmelete 53.04 58 *eP* **P 20 51 56.3 +4.1**
comp=Z,42nm,1.4s,mb5.2
MORF *eS* **S 20 59 25.2 +2.4**
MORF *eLQ* 21 05 00.9
MORF *eLR* LR 21 07 09.8
comp=Z,3µm,18.0s
PNCL Nicolau / Gran 53.18 57 *eP* **P 20 51 55.7 +2.4**
comp=Z,43nm,1.5s,mb5.2
PNCL *eS* **S 20 59 34.1 +9.4**
PNCL *eLQ* 21 04 58.3
PNCL *eLR* LR 21 07 23.5
comp=Z,3µm,18.0s
PMTG Montargil 53.48 55 *eP* **P 20 51 56.9 +1.5**
comp=Z,43nm,1.5s,mb5.2
PMTG *eS* **S 20 59 32.8 +4.0**
PMTG *eLQ* 21 05 12.7
PMTG *eLR* LR 21 07 07.9
comp=Z,1µm,20.0s
EVOP Sao Brissos 53.52 56 *eP* **P 20 51 54.0 -1.8**
comp=Z,39nm,1.2s,mb5.2
EVOP LR LR
comp=Z,2155µm,18.3s
EVOP Sao Brissos 53.52 56 *eP* **P 20 51 54.0 -1.8**
EVOP pmax pmax
comp=Z,39nm,1.2s,mb5.2
EVOP MLR MLR
comp=Z,2155µm,18.3s
PCVE Castro Verde 53.54 57 *eP* **P 20 52 00.0 +4.1**
comp=Z,48nm,2.2s,mb5.0
PCVE *eS* **S 20 59 33.6 +4.0**
PCVE *eLQ* 21 05 27.8
PCVE *eLR* LR 21 07 13.6
comp=Z,3µm,18.0s
PBDV Barranco-do-Ve 53.61 58 *eS* **S 20 59 31.7 +1.1**
PBDV *eLQ* 21 05 42.5
PBDV *eLR* LR 21 07 25.4
comp=Z,3µm,18.0s
EVO Evora 53.61 56 *eP* **P 20 51 54.0 -2.4**
comp=Z,39nm,1.2s,mb4.9
EVO *e*MLR MLR
comp=Z,2µm,18.2s,MS4.9
EVO Evora 53.61 56 *eP* **P 20 51 58.3 +1.9**
comp=Z,33nm,1.9s,mb4.9
PBEJ Beja 53.70 57 *eP* **P 20 51 59.6 +2.5**
comp=Z,22nm,1.3s,mb4.9
PGAV Gavieira, Arco 53.70 52 *eS* **S 20 59 33.6 +1.9**
PGAV *eLQ* 21 05 16.2
PGAV *eLR* LR 21 07 46.4
comp=Z,3µm,18.0s
PVAQ Vaqueiros 53.78 57 *eP* **P 20 52 00.0 +2.3**
comp=Z,36nm,1.5s,mb5.1
PVAQ *eS* **S 20 59 37.4 +4.4**
PVAQ *eLQ* 21 05 26.4
PVAQ *eLR* LR 21 07 25.5
comp=Z,3µm,18.0s
PESTR Estremoz 53.96 56 *eS* **S 20 59 30.6 -4.7**
PESTR *eLQ* 21 05 11.6
PESTR *eLR* LR 21 07 15.0
comp=Z,1µm,18.0s
PGC Sidney 54.03 317 *eP* **P 20 51 59.1 -0.2**
comp=Z,5.7nm,1.2s,mb4.4
NLWA Neilton Lookou 54.06 315 PFAKE 20 52 10.0 +10
NLWA LR LR
comp=Z,3µm,20.0s,MS5.3
MTE Manteigas 54.10 54 PFAKE 20 52 10.0 +10
MTE LR LR
comp=Z,2µm,19.0s,MS5.2
MTE Manteigas 54.10 54 *eP* **P 20 52 02.4 +2.4**
comp=Z,36nm,1.2s,mb5.2
MTE *eS* **S 20 59 42.1 +5.0**
MTE *eLQ* 21 05 24.5

MTE *e*LR LR 21 07 29.6
comp=Z,3µm,18.0s
PCBR Castelo Branco 54.11 54 *eP* **P 20 52 02.1 +2.1**
comp=Z,38nm,1.7s,mb5.0
PMRV Marv??o 54.15 55 *eS* **S 20 59 36.9 -0.9**
PMRV *eLQ* 21 05 23.8
PMRV *eLR* LR 21 07 30.5
comp=Z,1µm,20.0s
YKA Yellowknife Ar 54.24 335 P **P 20 51 59.3 -1.2**
comp=Z,7.6nm,0.6s,mb4.8,baz=106,slow=7.0,SNR=42
YKA LR LR 21 15 29.0
comp=Z,265nm,18.9s,MS4.3,baz=115,slow=36
YKA Yellowknife Ar 54.24 335 P **P 20 51 59.4 -1.2**
YKA LR LR 21 15 29.0
YKA Yellowknife Ar 54.24 335 P **P 20 51 59.4 -1.2**
PBAR Barrancos 54.36 57 *eS* **S 20 59 50.8 +10**
PBAR *eLQ* 21 05 31.1
PBAR *eLR* LR 21 07 33.9
comp=Z,2µm,18.0s
MVO Moncorvo 54.55 53 *eP* **P 20 52 03.6 +0.4**
comp=Z,42nm,1.4s,mb5.3
MVO *eS* **S 20 59 51.8 +8.6**
MVO *eLQ* 21 04 18.0
MVO *eLR* LR 21 07 47.6
comp=Z,2µm,18.0s
PBRG Braganca 54.82 52 *eS* **S 20 59 55.9 +9.1**
PBRG *eLQ* 21 05 21.1
PBRG *eLR* LR 21 08 31.7
comp=Z,3µm,18.0s
SFS San Fernando 54.97 59 PFAKE 20 52 20.0 +14
SFS LR LR
comp=Z,2µm,19.0s,MS5.2
SUMG Summit 55.51 10 *eP* **P 20 52 10.3 +0.6**
comp=Z,52nm,0.9s,mb5.6
SUMG Summit 55.51 10 *eP* **P 20 52 10.3 +0.6**
SUMG pmax pmax
comp=Z,52nm,0.9s
SUMG Summit 55.51 10 *i* P **P 20 52 10.2 +0.5**
SUMG *i* 20 52 24.2
SUMG
comp=Z,3µm,18.0s
MDT Midelt 56.34 63 LR LR 21 13 32.4
comp=Z,2µm,18.9s,MS5.2,baz=278,slow=33
ESDC Sonseca Array 56.81 55 P **P 20 52 18.5 -1.0**
comp=Z,7.6nm,0.8s,mb4.8,baz=272,slow=7.4,SNR=20
ESDC LR LR 21 11 53.1
comp=Z,1µm,19.8s,MS4.9,baz=265,slow=31
ESDC Sonseca Array 56.81 55 P **P 20 52 18.5 -1.0**
ESDC LR LR 21 11 53.1
ESLA Sonseca Array 56.81 55 P **P 20 52 19.4 0.0**
comp=Z,7.3nm,1.2s,mb4.6
ESLA LR LR
comp=Z,8µm,20.0s,MS5.8
RES Resolute Bay 57.40 351 LR LR 21 17 26.4
comp=Z,2µm,18.1s,MS5.3,baz=337,slow=36
BBB Bella Bella 57.63 320 LR LR 21 17 42.6
comp=Z,1µm,18.1s,MS5.1,baz=111,slow=37
ROSF Rostrenen 57.93 45 *eP* **P 20 52 26.7 -0.5**
comp=Z,172nm,1.5s,mb5.6
ROSF Rostrenen 57.93 45 *eP* **P 20 52 26.7 -0.5**
comp=Z,86nm,1.5s,mb5.6
ROSF Rostrenen 57.93 45 *eP* **P 20 52 26.7 -0.5**
ROSF pmax pmax
comp=Z,86nm,1.5s,mb5.6
ESK Eskdalemuir 59.03 37 PFAKE 20 52 50.0 +15
ESK LR LR
comp=Z,2µm,20.0s,MS5.2
FLN La Foliniere 59.81 44 *eP* **P 20 52 38.9 -1.4**
FLN *e*MLR MLR
comp=Z,847nm,17.2s,MS4.6
FLN La Foliniere 59.81 44 *eP* **P 20 52 38.9 -1.4**
FLN LR LR
comp=Z,850nm,17.3s,MS4.9
FLN La Foliniere 59.81 44 *eP* **P 20 52 38.9 -1.4**
FLN MLR MLR
comp=Z,850nm,17.3s,MS4.9
DLBC Dease Lake 59.92 327 LR LR 21 18 22.2
comp=Z,2µm,19.7s,MS5.3,baz=235,slow=36
DLBC Dease Lake 59.92 327 *eP* **P 20 52 40.3 -0.6**
PLCA Paso Flores 59.95 184 P **P 20 52 40.1 -1.1**
comp=Z,3.3nm,0.7s,mb4.5,baz=8.9,slow=7.6,SNR=11
PLCA LR LR 21 21 26.9
comp=Z,687nm,19.5s,MS4.8,baz=205,slow=39
PLCA Paso Flores 59.95 184 P **P 20 52 40.1 -1.1**
PLCA LR LR 21 21 26.9
PLCA Paso Flores 59.95 184 P **P 20 52 40.2 -1.0**
LDF La Druitiere 60.04 45 *eP* **P 20 52 41.0 -0.9**
comp=Z,10nm,0.8s,mb4.6
LDF La Druitiere 60.04 45 *eP* **P 20 52 41.0 -0.9**
comp=Z,5.1nm,0.8s,mb4.6
LDF La Druitiere 60.04 45 *eP* **P 20 52 41.0 -0.9**
LDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
EPF Esparros 60.12 51 *eP* **P 20 52 42.5 0.0**
EPF Esparros 60.12 51 *eP* **P 20 52 42.5 0.0**
EPF Esparros 60.12 51 *eP* **P 20 52 42.5 0.0**
LIC Lamto 60.95 94 *eP* **P 20 52 48.1 -0.6**
comp=Z,88nm,1.1s,mb5.5
LIC *e*MLR MLR
comp=Z,2µm,19.8s,MS5.0
LIC Lamto 60.95 94 *eP* **P 20 52 48.1 -0.6**
comp=Z,44nm,1.1s,mb5.5
LIC LR LR
comp=Z,1µm,19.8s,MS5.0
DBIC Dimbokro 60.97 93 P **P 20 52 47.6 -1.2**
comp=Z,9.9nm,0.6s,mb5.1,baz=273,slow=8.8,SNR=19
DBIC LR LR 21 16 58.3
comp=Z,2µm,19.5s,MS5.3,baz=253,slow=34
DBIC Dimbokro 60.97 93 *eP* **P 20 52 48.3 -0.5**
comp=Z,65nm,1.3s,mb5.6
DBIC LR LR
comp=Z,2µm,20.0s,MS5.3
DBIC Dimbokro 60.97 93 *eP* **P 20 52 48.3 -0.5**
DBIC pmax pmax
comp=Z,65nm,1.3s
DBIC MLR MLR
comp=Z,2µm,20.0s
RJF Les Rejaudoux 61.00 48 *eP* **P 20 52 47.6 -0.9**
comp=Z,50nm,1.2s,mb5.2
RJF *e*MLR MLR
comp=Z,1µm,18.2s,MS4.8
RJF Les Rejaudoux 61.00 48 *eP* **P 20 52 47.6 -0.9**
comp=Z,25nm,1.2s,mb5.2
RJF LR LR
comp=Z,1µm,18.3s,MS5.1
RJF Les Rejaudoux 61.00 48 *eP* **P 20 52 47.6 -0.9**
RJF pmax pmax
comp=Z,25nm,1.2s,mb5.2
RJF MLR MLR
comp=Z,1µm,18.3s,MS5.1
TCF Toulx Ste Croi 61.51 47 *eP* **P 20 52 51.3 -0.7**
comp=Z,52nm,1.3s,mb5.2
TCF Toulx Ste Croi 61.51 47 *eP* **P 20 52 51.3 -0.7**
comp=Z,26nm,1.3s,mb5.2
TCF Toulx Ste Croi 61.51 47 *eP* **P 20 52 51.3 -0.7**
TCF pmax pmax
comp=Z,26nm,1.3s,mb5.2
JMIC Jan Mayen 61.54 18 LR LR 21 15 15.0
comp=Z,2µm,18.0s,MS5.3,baz=81,slow=32
BGF Bois d'Agland 61.95 47 *eP* **P 20 52 54.2 -0.8**
comp=Z,58nm,1.3s,mb5.2
BGF Bois d'Agland 61.95 47 *eP* **P 20 52 54.2 -0.8**
comp=Z,29nm,1.3s,mb5.2
BGF Bois d'Agland 61.95 47 *eP* **P 20 52 54.2 -0.8**
BGF pmax pmax
comp=Z,29nm,1.3s,mb5.2
DAG Danmarks Havn 62.12 11 *i* P **P 20 52 53.3 -2.3**
comp=Z,8.1nm,0.9s,mb4.8
DAG *i* 20 53 10.0
DAG
comp=Z,2µm,17.0s
RPN Rapa Nui 62.24 223 LR LR 21 16 56.6
comp=Z,1µm,18.2s,MS5.0,baz=59,slow=33
AVF Avril sur Loir 62.31 47 *eP* **P 20 52 55.9 -1.4**
comp=Z,99nm,1.7s,mb5.4
AVF Avril sur Loir 62.31 47 *eP* **P 20 52 55.9 -1.4**
comp=Z,50nm,1.7s,mb5.4
AVF Avril sur Loir 62.31 47 *eP* **P 20 52 55.9 -1.4**
AVF pmax pmax
comp=Z,50nm,1.7s,mb5.4
SSF Saint Saulge 62.41 46 *eP* **P 20 52 57.2 -0.8**
comp=Z,19nm,1.1s,mb4.8
SSF Saint Saulge 62.41 46 *eP* **P 20 52 57.2 -0.8**
comp=Z,9.4nm,1.1s,mb4.8
SSF Saint Saulge 62.41 46 *eP* **P 20 52 57.2 -0.8**
SSF pmax pmax

comp=Z,9.0nm,1.1s,mb4.8
SMF Signal de Mont 62.64 47 *eP* **P 20 52 58.3 -1.3**
comp=Z,98nm,1.7s,mb5.4
SMF Signal de Mont 62.64 47 *eP* **P 20 52 58.3 -1.3**
comp=Z,49nm,1.7s,mb5.4
SMF Signal de Mont 62.64 47 *eP* **P 20 52 58.3 -1.3**
SMF pmax pmax
comp=Z,49nm,1.7s,mb5.4
LOR Lormes 62.66 46 *eP* **P 20 52 57.7 -2.0**
comp=Z,32nm,1.2s,mb5.0
LOR *e*MLR MLR
comp=Z,1µm,20.0s,MS4.8
LOR Lormes 62.66 46 *eP* **P 20 52 57.7 -2.0**
comp=Z,16nm,1.2s,mb5.0
LOR LR LR
comp=Z,1µm,20.0s,MS5.2
LOR Lormes 62.66 46 *eP* **P 20 52 57.7 -2.0**
LOR pmax pmax
comp=Z,16nm,1.2s,mb5.0
LOR MLR MLR
comp=Z,1µm,20.0s,MS5.2
BAIF Baives 62.95 43 *eP* **P 20 52 59.9 -1.6**
comp=Z,64nm,1.6s,mb5.2
BAIF Baives 62.95 43 *eP* **P 20 52 59.9 -1.6**
comp=Z,32nm,1.6s,mb5.2
BAIF Baives 62.95 43 *eP* **P 20 52 59.9 -1.6**
BAIF pmax pmax
comp=Z,32nm,1.6s,mb5.2
SSB Saint Sauveur 63.14 48 PFAKE 20 53 20.0 +17
SSB LR LR
comp=Z,842nm,20.0s,MS4.9
ALE Alert 63.19 1 P **P 20 53 02.0 -0.7**
comp=Z,142nm,1.4s,mb5.9,SNR=5.7
SFTF Sexfontaines 63.46 45 *eP* **P 20 53 04.4 -0.6**
comp=Z,69nm,1.4s,mb5.3
SFTF Sexfontaines 63.46 45 *eP* **P 20 53 04.4 -0.6**
comp=Z,69nm,1.4s,mb5.6
MEZF Maizieres J'vi 63.47 45 *eP* **P 20 53 04.3 -0.7**
comp=Z,79nm,1.3s,mb5.4
MEZF Maizieres J'vi 63.47 45 *eP* **P 20 53 04.3 -0.7**
comp=Z,79nm,1.3s,mb5.7
INK Inuvik 63.71 338 LR LR 21 21 28.2
comp=Z,3µm,19.6s,MS5.5,baz=107,slow=37
INK Inuvik 63.71 338 *eP* **P 20 53 04.8 -1.4**
comp=Z,27nm,0.8s,mb5.3
INK Inuvik 63.71 338 *eP* **P 20 53 04.9 -1.4**
INK pmax pmax
comp=Z,27nm,0.8s
WLF Walferdange 64.20 44 PFAKE 20 53 20.0 +10
WLF LR LR
comp=Z,2µm,20.0s,MS5.2
HAU Haudompre 64.34 45 *eP* **P 20 53 07.5 -3.3**
HAU *e*MLR MLR
comp=Z,1µm,17.5s,MS4.9
HAU Haudompre 64.34 45 *eP* **P 20 53 07.5 -3.3**
HAU LR LR
comp=Z,1µm,17.5s,MS5.2
HAU Haudompre 64.34 45 *eP* **P 20 53 07.5 -3.3**
HAU MLR MLR
comp=Z,1µm,17.5s,MS5.2
LMR La Mourre 64.62 51 *eP* **P 20 53 12.1 -0.6**
comp=Z,343nm,1.9s,mb5.8
LMR La Mourre 64.62 51 *eP* **P 20 53 12.1 -0.6**
comp=Z,172nm,1.9s,mb5.8
LMR La Mourre 64.62 51 *eP* **P 20 53 12.1 -0.6**
LMR pmax pmax
comp=Z,172nm,1.9s,mb5.8
BNI Bardonecchia 64.66 49 PFAKE 20 53 30.0 +17
BNI LR LR
comp=Z,924nm,19.0s,MS5.0
LPL La Plagne 64.67 48 *eP* **P 20 53 14.4 +1.4**
comp=Z,32nm,1.2s,mb4.9
LPL La Plagne 64.67 48 *eP* **P 20 53 14.4 +1.4**
comp=Z,16nm,1.2s,mb4.9
LPL La Plagne 64.67 48 *eP* **P 20 53 14.4 +1.4**
LPL pmax pmax
comp=Z,16nm,1.2s,mb4.9
LPG La Plagne 64.69 48 *eP* **P 20 53 13.6 +0.5**
comp=Z,53nm,1.3s,mb5.1
LPG La Plagne 64.69 48 *eP* **P 20 53 13.6 +0.5**
comp=Z,27nm,1.3s,mb5.1
LPG La Plagne 64.69 48 *eP* **P 20 53 13.6 +0.5**
LPG pmax pmax
comp=Z,27nm,1.3s,mb5.1
ECH Echery 64.88 45 PFAKE 20 53 30.0 +16
ECH LR LR
comp=Z,850nm,20.0s,MS4.9
CDF Champ du Feu 64.95 45 *eP* **P 20 53 13.9 -0.9**
comp=Z,59nm,1.5s,mb5.1
CDF Champ du Feu 64.95 45 *eP* **P 20 53 13.9 -0.9**
comp=Z,30nm,1.5s,mb5.1
CDF Champ du Feu 64.95 45 *eP* **P 20 53 13.9 -0.9**
CDF pmax pmax
comp=Z,30nm,1.5s,mb5.1
TORD Torodi Ar. Bea 65.28 84 P **P 20 53 16.5 -1.0**
comp=Z,3.6nm,0.5s,mb4.6,baz=285,slow=6.5,SNR=74
TORD LR LR 21 19 39.7
comp=Z,3µm,19.6s,MS5.5,baz=285,slow=34
TORD Torodi Ar. Bea 65.28 84 P **P 20 53 16.5 -1.0**
TORD LR LR 21 19 39.7
DAWY Dawson 65.30 332 *eP* **P 20 53 16.6 -0.2**
BFO Black Forest 65.66 45 PFAKE 20 53 30.0 +11
BFO LR LR
comp=Z,1µm,20.0s,MS5.1
EGAK Eagle 66.14 333 *eP* **P 20 53 21.3 -0.8**
comp=Z,31nm,1.0s,mb5.3
EGAK LR LR
comp=Z,5µm,20.0s,MS5.7
KONO Kongsberg 66.38 33 PFAKE 20 53 40.0 +16
KONO LR LR
comp=Z,4µm,20.0s,MS5.6
TUE Stuetta 66.44 47 PFAKE 20 53 40.0 +16
TUE LR LR
comp=Z,938nm,19.0s,MS5.0
TAM Tamanrasset 66.55 73 *eP* **P 20 53 27.1 +1.6**
comp=Z,27nm,1.0s,mb5.2
TAM LR LR
comp=Z,2µm,20.0s,MS5.2
TAM Tamanrasset 66.55 73 *eP* **P 20 53 27.1 +1.6**
TAM pmax pmax
comp=Z,27nm,1.0s,mb5.2
TAM MLR MLR
comp=Z,2µm,20.0s,MS5.2
VSL Villasalto 67.11 54 PFAKE 20 53 40.0 +11
VSL LR LR
comp=Z,1µm,21.0s,MS5.1
MENT Mentasta 67.16 331 *eP* **P 20 53 28.6 -0.1**
NB2 NORSAR Subarra 67.21 31 P **P 20 53 29.8 +0.7**
comp=Z,14nm,1.1s,mb4.9,baz=271,slow=6.5
NOA NORSAR Array B 67.21 31 P **P 20 53 29.2 +0.2**
comp=Z,3.2nm,1.0s,mb4.3,baz=270,slow=6.4,SNR=3.9
NOA LR LR 21 19 05.0
comp=Z,2µm,20.3s,MS5.2,baz=275,slow=33
NOA NORSAR Array B 67.21 31 P **P 20 53 29.2 +0.2**
NOA LR LR 21 19 05.0
NOA NORSAR Array B 67.21 31 P **P 20 53 29.3 +0.2**
DOT Dot Lake 67.34 332 *eP* **P 20 53 30.4 +0.6**
comp=Z,233nm,1.2s,mb6.1
BMRM Bremner River 67.53 329 *eP* **P 20 53 31.6 +0.6**
comp=Z,53nm,1.0s,mb5.5
KEST Kesra 67.57 59 P **P 20 53 31.3 -0.5**
comp=Z,3.5nm,0.8s,mb4.4,baz=308,slow=2.8,SNR=6.5
KEST Kesra 67.57 59 *eP* **P 20 53 33.5 +1.6**
PAX Paxson 67.96 331 P **P 20 53 33.6 -0.1**
comp=Z,23nm,1.0s,mb5.2
PAX Paxson 67.96 331 P **P 20 53 33.7 0.0**
PAX pmax pmax
comp=Z,23nm,1.0s,mb5.2
NKC Novy Kostel 68.24 43 *eP* PcP 20 53 51.7 -10
NKC MLR MLR
comp=Z,2µm,18.0s,MS5.4
NKC Novy Kostel 68.24 43 *ex* PcP 20 53 51.7 -10
NKC AMS AMS 21 19 00.0
comp=Z,2µm,18.0s
CLL Collm 68.51 42 *i* P **P 20 53 37.1 -0.3**
CLL *i* 20 53 52.7
CLL *eS* S 21 02 37.0 -3.0
CLL pmax pmax
comp=Z,24nm,1.9s,mb4.8
CLL MLR MLR
comp=Z,2µm,19.9s,MS5.3
CLL Collm 68.51 42 *i* P **P 20 53 37.1 -0.3**
comp=Z,24nm,1.9s,mb4.8
CLL *i* 20 53 52.7
CLL *e* 20 54 08.0
CLL *e* 20 54 27.0

CLL ePP PP 20 56 16.0 +7.7
CLL eS S 21 02 37.0 -3.0
CLL ePPS 21 03 15.0
CLL eSS SS 21 07 00.0 -3.4
CLL e 21 08 42.0
CLL eSSS 21 10 36.0
CLL Lm 21 19 00.0
comp=N,1µm,19.5s
CLL Lm 21 19 00.0
comp=E,2µm,19.9s
CLL Lm 21 19 00.0
comp=Z,2µm,19.9s
ILAR Eielson Array 68.59 333 P **P 20 53 37.0 -0.7**
comp=Z,12nm,0.8s,mb4.9,baz=100,slow=4.6,SNR=61
ILAR LR LR 21 24 25.2
comp=Z,4µm,20.0s,MS5.7,baz=102,slow=37
ILAR Eielson Array 68.59 333 P **P 20 53 37.0 -0.7**
ILAR LR LR 21 24 25.2
ILAR Eielson Array 68.59 333 P **P 20 53 37.0 -0.7**
KBS Kingsbay 68.84 12 PFAKE 20 53 50.0 +11
KBS LR LR
comp=Z,2µm,21.0s,MS5.4
COLA College 69.00 333 *e*P **P 20 53 39.7 -0.5**
comp=Z,20nm,0.8s,mb5.1
COLA LR LR
comp=Z,4µm,20.0s,MS5.7
COLA College 69.00 333 *e*P **P 20 53 39.7 -0.5**
COLA pmax pmax
comp=Z,21nm,0.8s,mb5.1
COLA MLR MLR
comp=Z,4µm,20.0s,MS5.7
KHC Kasperske Hory 69.07 44 *e*P **P 20 53 40.4 -0.5**
KHC *e* 20 53 55.0
KHC MLR MLR
comp=Z,1µm,18.2s,MS5.2
KHC Kasperske Hory 69.07 44 *e*P **P 20 53 40.4 -0.5**
KHC *ex* x 20 53 55.0
KHC AMS AMS 21 27 30.0
comp=Z,1µm,18.2s
BRG Berggiesshubel 69.14 42 *e*P **P 20 53 40.8 -0.5**
BRG *e* 20 53 56.6
BRG pmax pmax
comp=Z,19nm,1.8s,mb4.7
BRG pmax pmax
comp=Z,19nm,1.6s,mb4.8
BRG MLR MLR
comp=N,1µm,21.6s,MS5.2
BRG MLR MLR
comp=E,1µm,18.0s,MS5.2
BRG MLR MLR
comp=Z,2µm,18.7s,MS5.4
GERES GERESS Array B 69.18 44 P **P 20 53 41.0 -0.7**
comp=Z,0.5nm,0.5s,mb3.7,baz=259,slow=3.4,SNR=7.2
GERES LR LR 21 22 01.8
comp=Z,811nm,18.4s,MS5.0,baz=288,slow=34
GERES GERESS Array B 69.18 44 P **P 20 53 41.0 -0.7**
GERES LR LR 21 22 01.8
GERES GERESS Array B 69.18 44 P **P 20 53 41.0 -0.6**
SML Sawmill 69.31 330 *e*P **P 20 53 41.7 -0.5**
comp=Z,7.6nm,0.8s,mb4.7
SML Sawmill 69.31 330 *e*P **P 20 53 41.7 -0.5**
SML pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
MCK McKinley 69.51 332 *e*P **P 20 53 42.7 -0.7**
comp=Z,34nm,1.0s,mb5.2
MCK McKinley 69.51 332 *e*P **P 20 53 42.7 -0.7**
MCK pmax pmax
comp=Z,34nm,1.0s,mb5.2
PRA Prague 69.53 43 P **P 20 53 43.0 -0.7**
PVCC Panska Ves 69.56 42 AMS AMS 21 19 40.0
comp=Z,2µm,19.0s
PRU Pruhonice 69.60 43 *e*P **P 20 53 45.0 +0.8**
PRU *e* 20 53 58.9
PRU MLR MLR
comp=Z,1µm,19.4s,MS5.2
PRU Pruhonice 69.60 43 *e*P **P 20 53 45.0 +0.8**
PRU *ex* x 20 53 58.9
PRU AMS AMS 21 19 10.0
comp=Z,1µm,19.4s
PMR Palmer 69.70 330 *e*P **P 20 53 44.9 +0.3**
comp=Z,27nm,1.0s,mb5.1
PMR Palmer 69.70 330 *e*P **P 20 53 44.9 +0.3**
PMR pmax pmax
comp=Z,27nm,1.0s,mb5.1
AQU L'Aquila 69.76 51 PFAKE 20 54 00.0 +15
AQU LR LR
comp=Z,2µm,19.0s,MS5.4
COLD Coldfoot 69.90 336 *e*P **P 20 53 44.4 -1.3**
comp=Z,20nm,1.0s,mb5.0
TRF Thorofare Moun 70.12 332 *e*P **P 20 53 46.7 -0.5**
comp=Z,40nm,0.9s,mb5.3
TREC Trest 70.29 44 AMS AMS 21 28 50.0
comp=Z,1µm,16.6s
BPAW Bear Paw Mtn. 70.39 332 *e*P **P 20 53 47.2 -1.6**
comp=Z,38nm,0.9s,mb5.3
UPC Upice 70.48 42 *e*P **P 20 53 49.6 0.0**
UPC *e* 20 54 05.5
UPC Upice 70.48 42 *e*P **P 20 53 49.6 0.0**
UPC *ex* x 20 54 05.5
DPC Dobruska-Polom 70.70 42 *e*P **P 20 53 50.5 -0.5**
comp=Z,27nm,1.4s,mb5.0
DPC Dobruska-Polom 70.70 42 *e*P **P 20 53 49.0 -1.9**
DPC *e* 20 54 04.1
DPC MLR MLR
comp=Z,2µm,21.7s,MS5.3
DPC Dobruska-Polom 70.70 42 *e*P **P 20 53 49.0 -1.9**
DPC *ex* x 20 54 04.1
DPC AMS AMS 21 20 00.0
comp=Z,2µm,21.7s
PPLA Purkeypile 71.03 331 *e*P **P 20 53 51.8 -0.9**
comp=Z,35nm,1.1s,mb5.2
EFI East Falkland 71.14 175 PFAKE 20 54 10.0 +17
EFI LR LR
comp=Z,2µm,21.0s,MS5.4
ZST Bratislava 71.50 45 *e*P **P 20 53 55.9 0.0**
ZST pmax pmax
comp=Z,11nm,1.4s,mb4.6
ZST Bratislava 71.50 45 *e*P **P 20 53 55.9 0.0**
MORC Moravsky Berou 71.56 43⇑*i*P **P 20 53 56.7 +0.5**
SMOL Smolenice 71.67 44 *e*P **P 20 53 57.5 +0.6**
WDD Wield Dalam 71.70 58 PFAKE 20 54 10.0 +13
WDD LR LR
comp=Z,705nm,19.0s,MS5.0
OKC Ostrava-Krasne 71.94 43 *e*P **P 20 53 58.6 +0.2**
OKC *e* 20 54 12.5
OKC MLR MLR
comp=Z,900nm,18.1s,MS5.1
OKC Ostrava-Krasne 71.94 43 *e*P **P 20 53 58.6 +0.2**
OKC *ex* x 20 54 12.5
OKC AMS AMS 21 20 40.0
comp=Z,900nm,18.1s
CUC Castrocucco 71.94 53 PFAKE 20 54 10.0 +11
CUC LR LR
comp=Z,1µm,19.0s,MS5.1
KOLL Kolacno 72.30 44 *e*P **P 20 54 01.3 +0.7**
KOLL Kolacno 72.30 44 *e*P **P 20 54 01.3 +0.7**
CEL Celeste 72.32 55 PFAKE 20 54 20.0 +19
CEL LR LR
comp=Z,709nm,19.0s,MS5.0
VYHS Vyhne 72.60 44 *e*P **P 20 54 02.0 -0.4**
VYHS pmax pmax
comp=Z,6.0nm,1.4s,mb4.3
VYHS Vyhne 72.60 44 *e*P **P 20 54 02.0 -0.4**
ARCES ARCESS Array B 72.64 22 P **P 20 54 02.9 +0.6**
comp=Z,9.4nm,1.0s,mb4.7,baz=289,slow=3.7,SNR=18
ARCES LR LR 21 21 12.2
comp=Z,745nm,18.6s,MS5.0,baz=270,slow=32
ARCES ARCESS Array B 72.64 22 P **P 20 54 02.9 +0.6**
ARCES LR LR 21 21 12.2
ARCES ARCESS Array B 72.64 22 P **P 20 54 02.9 +0.6**
PKSM Moragy 72.86 46⇑P **P 20 54 04.3 +0.3**
OJC Ojcow 72.92 42 *e*P **P 20 54 05.3 +1.0**
comp=Z,20nm,1.4s,mb4.9
OJC Ojcow 72.92 42 *e*P **P 20 54 05.3 +1.0**
OJC pmax pmax
comp=Z,21nm,1.4s,mb4.9
PSZ Piszkesteto 73.40 44 PFAKE 20 54 20.0 +13
PSZ LR LR
comp=Z,689nm,21.0s,MS4.9
KECS Kecovo 73.68 44 *e*P **P 20 54 12.8 +4.0**
KECS pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
STHS Stebnicka Huta 73.99 43 *e*P **P 20 54 12.2 +1.6**
CRVS Cervenica-Dubn 74.23 43 *e*P **P 20 54 13.4 +1.4**
CRVS pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
FINES FINESS Array B 74.32 30 P **P 20 54 12.5 +0.2**
comp=Z,4.9nm,0.8s,mb4.5,baz=272,slow=4.2,SNR=6.0
FINES LR LR 21 23 19.8
comp=Z,2µm,19.6s,MS5.3,baz=283,slow=33
FINES FINESS Array B 74.32 30 P **P 20 54 12.5 +0.2**
FINES LR LR 21 23 19.8
FINES FINESS Array B 74.32 30 P **P 20 54 12.5 +0.2**
TIR Tirane 74.69 51 PFAKE 20 54 30.0 +15
TIR LR LR
comp=Z,801nm,19.0s,MS5.0
KOLS Kolonicke sedl 74.75 43 *e*P **P 20 54 15.6 +0.5**
KOLS pmax pmax
comp=Z,37nm,2.3s,mb4.9
UZH Uzhgorod 74.83 43 *e*P **P 20 54 12.8 -2.7**
UZH *i* 20 54 27.6
UZH *e*S S 21 03 41.0 -12
UZH *e*PS 21 04 25.0
UZH MLR MLR
comp=N,800nm,15.0s,MS5.3
UZH MLR MLR
comp=E,1µm,15.0s,MS5.3
UZH MLR MLR
comp=Z,600nm,15.0s,MS5.0
KWP Kalwaria Pacla 74.88 42 *e*P **P 20 54 16.7 +0.9**
comp=Z,28nm,1.1s,mb5.1
KWP LR LR
comp=Z,2µm,19.0s,MS5.4
KWP Kalwaria Pacla 74.88 42⇑P **P 20 54 16.6 +0.8**
BZS Buzias 75.02 47⇑P **P 20 54 17.0 +0.3**
DRGR 75.50 45⇑P **P 20 54 19.8 +0.4**
GZR Gura Zlata 75.86 47⇑P **P 20 54 22.5 +1.0**
APA Apatity 75.91 23⇑*i*P **P 20 54 21.0 -0.4**
APA pmax pmax
comp=Z,32nm,1.2s,mb5.1
APA MLR MLR
comp=Z,2µm,20.0s,MS5.4
NACGM Naroch 76.13 36 *e* **P 20 54 19.0 -3.9**
LVZ Lovozero 76.27 22 PFAKE 20 54 40.0 +17
LVZ LR LR
comp=Z,1µm,20.0s,MS5.2
MNK Minsk 76.83 37 *e*P **P 20 54 29.0 +2.2**
VTS Vitosha 76.83 49⇑P **P 20 54 28.1 +1.0**
BUR08 Bucovina Ar. S 76.95 44 P **P 20 54 27.8 +0.1**
BURAR Bucovina Array 76.97 44⇑P **P 20 54 28.2 +0.4**
BURAR Bucovina Array 76.97 44⇑*i*P **P 20 54 28.2 +0.4**
VOIR 77.40 46⇓P **P 20 54 31.8 +1.5**
TAOE Nuku Hiva Isla 77.88 256 *e*LR LR 21 18 54.8
comp=Z,1µm,36.2s
MLR Muntele Rosu 78.00 46⇑P **P 20 54 34.9 +1.3**
VRI Vrincioaia 78.43 45⇓P **P 20 54 38.0 +2.1**
KIEV Kiev 78.67 40 *e*P **P 20 54 36.9 -0.3**
comp=Z,27nm,1.5s,mb5.0
KIEV LR LR
comp=Z,2µm,20.0s,MS5.5
KIEV Kiev 78.67 40 *e*P **P 20 54 36.9 -0.3**
KIEV pmax pmax
comp=Z,27nm,1.5s,mb5.0
KIEV MLR MLR
comp=Z,2µm,20.0s,MS5.5
AKASG Malin Array Be 78.67 40 P **P 20 54 36.6 -0.6**
comp=Z,2.4nm,0.7s,mb4.3,baz=274,slow=4.6,SNR=17
AKASG LR LR 21 26 08.9
comp=Z,2µm,20.6s,MS5.5,baz=280,slow=33
AKASG Malin Array Be 78.67 40 P **P 20 54 36.6 -0.6**
AKASG LR LR 21 26 08.9
AKASG Malin Array Be 78.67 40 P **P 20 54 36.7 -0.5**
RKT Rikitea 79.16 241 *e*LQ 21 15 59.8
comp=Z,466nm,30.0s
RKT *e*LR LR 21 19 23.1
comp=Z,1µm,31.0s
UNV Unalaska Valle 80.35 324 *e*P **P 20 54 47.2 +0.9**
comp=Z,79nm,1.0s,mb5.6
KLMR Klimovskoe 80.71 28 *e*P **P 20 54 46.8 -1.2**
KLMR pmax pmax
comp=Z,58nm,1.5s,mb5.3
OBN Obninsk 81.44 34 P **P 20 54 51.4 -0.6**
comp=Z,66nm,1.2s,mb5.4
OBN LR LR
comp=Z,2µm,20.0s,MS5.5
OBN Obninsk 81.44 34⇓*i*P **P 20 54 51.9 -0.1**
OBN *e* 20 55 05.1
OBN pmax pmax
comp=Z,41nm,1.2s,mb5.2
SIM Simferopol' 83.65 45 *e*P **P 20 55 03.0 -0.8**
SIM *e* 20 55 18.0
SIM *e*S S 21 05 27.0 0.0
SIM pmax pmax
comp=Z,10.0nm,1.2s,mb4.8
SIM MLR MLR
comp=Z,1µm,19.1s,MS5.4
VSR Storozhevoye 84.39 38 *e*P **P 20 55 06.4 -1.1**
VSR *e**PP pP 20 55 19.7 +11
VSR pmax pmax
comp=Z,20nm,1.1s,mb5.2
VSR pmax pmax
comp=N,10.0nm,0.8s
VSR pmax pmax
comp=E,8.0nm,0.8s
BILL Bilibino 84.81 343 *e*P **P 20 55 08.4 -0.8**
comp=E,46nm,1.0s,mb5.6
BILL LR LR
comp=Z,1µm,20.0s,MS5.2
BILL Bilibino 84.81 343⇓*i*P **P 20 55 08.7 -0.5**
BILL *i* 20 55 18.3
BILL *e*S S 21 05 30.9 -6.8
BILL *e*SS SS 21 11 10.9 +2.3
BILL pmax pmax
comp=Z,19nm,1.1s,mb5.1
BRTR Keskin Array B 85.20 50 P **P 20 55 12.0 +0.2**
comp=Z,7.4nm,0.8s,mb4.8,baz=278,slow=4.3,SNR=30
BRTR Keskin Array B 85.20 50 P **P 20 55 12.0 +0.2**
BRTR Keskin Array B 85.20 50 P **P 20 55 12.0 +0.2**
VRHR Novokhopersk 85.84 37 *e*P **P 20 55 14.7 -0.1**
VRHR *e**PP pP 20 55 27.7 +11
VRHR pmax pmax
comp=Z,40nm,1.2s,mb5.5
VRHR pmax pmax
comp=N,20nm,1.5s
VRHR pmax pmax
comp=E,20nm,0.8s
ANN Anapa 85.89 44 *e*P **P 20 55 10.8 -4.3**
ANN *e*S S 21 05 33.0 -16
ANN pmax pmax
comp=Z,33nm,1.1s,mb5.5
CSS Prodhromos 86.69 54 *e*P **P 20 55 19.6 +0.3**
comp=Z,53nm,1.5s,mb5.5
CSS LR LR
comp=Z,493nm,20.0s,MS4.9
SOC Sochi 87.89 44 *e*P **P 20 55 24.6 -0.3**
SOC *e**SP sP 20 55 39.2 +12
SOC *e* 20 58 52.1
SOC *e*S S 21 05 50.3 -18
SOC pmax pmax
comp=Z,18nm,0.9s,mb5.3
SOKR Solikamsk 88.77 25 *e*P **P 20 55 28.9 +0.2**
SOKR pmax pmax
comp=Z,10.0nm,1.2s,mb5.0
MMAI Mount Meron Ar 89.01 55 LR LR 21 34 49.1
comp=Z,235nm,19.3s,MS4.6,baz=310,slow=35
PPT Papeete 89.58 251 *e*S S 21 06 24.4 -0.9
comp=Z,327nm,26.2s
PPT *e*SS SS 21 12 22.3 +0.7
comp=Z,226nm,29.0s
PPT *e*LR LR 21 24 14.6
comp=Z,985nm,26.2s
PPT Papeete 89.58 251 LR LR 21 30 58.8
comp=Z,558nm,18.9s,MS5.0,baz=29,slow=32
KIV Kislovodsk 89.66 43 *e*P **P 20 55 32.7 -0.6**
comp=Z,22nm,1.1s,mb5.4
KIV LR LR
comp=Z,592nm,20.0s,MS5.0
KIV Kislovodsk 89.66 43 P **P 20 55 33.0 -0.2**
KIV *e* 20 55 47.5
KIV *e* 21 06 13.1
KIV pmax pmax
comp=Z,18nm,1.2s,mb5.3
KIV MLR MLR
comp=Z,500nm,17.0s,MS5.0
EIL Elat 89.92 59 LR LR 21 35 55.3
comp=Z,712nm,20.4s,MS5.1,baz=272,slow=36
ASF Jabal al Asfar 90.50 56 LR LR 21 34 00.2
comp=Z,180nm,18.9s,MS4.5,baz=170,slow=34
ZEI Tsey 90.99 44 *e*P **P 20 55 40.1 +0.6**
ZEI pmax pmax
comp=Z,11nm,1.2s,mb5.1
ARU Arti 91.47 27 *e*P **P 20 55 40.4 -1.0**
comp=Z,14nm,1.0s,mb5.2
ARU LR LR
comp=Z,710nm,20.0s,MS5.1
ARU Arti 91.47 27 P **P 20 55 41.8 +0.4**
ARU 20 59 21.5
ARU S S 21 06 11.8 -30
ARU SP SP 21 07 52.8 +3.6
ARU SS SS 21 12 45.5 -0.5
TBI Tubuai 91.48 246 *e*SS SS 21 12 55.4 +6.4
comp=Z,231nm,29.5s
TBI *e*LR LR 21 25 03.4
comp=Z,735nm,23.5s,baz=64
SVE Sverdlovsk 92.09 26 *e*P **P 20 55 44.8 +0.6**
SVE pmax pmax
comp=Z,31nm,1.1s,mb5.5
SEY Seymchan 92.47 343 *e*P **P 20 55 45.5 -0.4**
GNI Garni 92.78 46 LR LR 21 37 35.7
comp=Z,527nm,19.5s,MS5.0,baz=333,slow=36
GNI Garni 92.78 46 PFAKE 20 56 00.0 +12
GNI LR LR
comp=Z,552nm,20.0s,MS5.0
GNI Garni 92.78 46 *e*P **P 20 55 48.0 +0.2**
GNI pmax pmax
comp=Z,13nm,1.2s
MAK Makhachkala 93.22 42 P **P 20 55 47.1 -2.7**
MAK *e* 20 59 29.1
MAK *e*S S 21 06 17.7 -40
MAK *e*SS SS 21 13 16.8 +4.8
MAK MLR MLR
comp=Z,2µm,20.0s,MS5.5
MBAR Mbarara 96.90 88 PFAKE 20 56 20.0 +13
MBAR LR LR
comp=Z,967nm,21.0s,MS5.3
PET Petropavlovsk 98.04 334 PFAKE 20 56 20.0 +8.5
PET LR LR
comp=Z,836nm,19.0s,MS5.2
PETK Petropavlovsk- 98.36 335 LR LR 21 43 43.0
comp=Z,483nm,20.3s,MS5.0,baz=126,slow=37
BRVK Borovoye 98.68 25 PFAKE 20 56 30.0 +16
BRVK LR LR
comp=Z,939nm,20.0s,MS5.3
BRVK Borovoye 98.68 25 *e*P **P 20 56 13.9 -0.5**
BRVK pmax pmax
comp=Z,2.0nm,1.1s,mb4.6
LSZ Lusaka 99.14 103 PFAKE 20 56 30.0 +13
LSZ LR LR
comp=Z,1µm,20.0s,MS5.4
LBTB Lobatse 99.69 113 PFAKE 20 56 30.0 +11
LBTB LR LR
comp=Z,899nm,19.0s,MS5.3
KMBO Kilima Mbogo 103.22 87 PFAKE 20 56 50.0 +15
KMBO LR LR
comp=Z,704nm,19.0s,MS5.2
KURK Kurchatov 103.68 22 PKKPbc PKKPbc 21 12 39.0 +9.3
comp=Z,0.7nm,0.8s,baz=167,slow=2.5,SNR=6.2
KURK Kurchatov 103.68 22 PFAKE 20 56 50.0 +13
KURK LR LR
comp=Z,764nm,20.0s,MS5.2
EKS2 Erkin-Say 108.15 30 PFAKE 21 01 20.0 +17
EKS2 LR LR
comp=Z,2µm,21.0s,MS5.6
MKAR Makanchi Array 108.30 22 PP PP 21 01 25.8 -0.5
comp=Z,0.3nm,0.2s,baz=326,slow=5.9,SNR=3.6
MKAR PKKPbc PKKPbc 21 12 20.6 +5.1
comp=Z,0.2nm,0.2s,baz=122,slow=4.4,SNR=3.6
AAK Ala-Archa 108.51 29 PFAKE 21 01 20.0 +16
AAK LR LR
comp=Z,2µm,20.0s,MS5.7
TLY Talaya 108.68 7 PFAKE 21 01 20.0 +16
TLY LR LR
comp=Z,979nm,20.0s,MS5.4
TKM2 Tokmak 2 108.78 29 PFAKE 21 01 20.0 +15
TKM2 LR LR
comp=Z,1µm,20.0s,MS5.5
QSPA South Pole Qui 109.35 180 PFAKE 21 01 20.0 +16
QSPA LR LR
comp=Z,693nm,21.0s,MS5.2
HIA Hailar 111.42 356 PFAKE 21 01 20.0 +11
HIA LR LR
comp=Z,1µm,19.0s,MS5.6
WMQ Urumqi 112.74 20 PKP PKiKP 21 01 13.9 +1.9
SONM Songino Array 112.76 5 PKKPbc PKKPbc 21 12 06.2 +5.1
comp=Z,0.8nm,0.7s,baz=164,slow=3.4,SNR=6.6
ERM Erimo 113.07 336 PFAKE 21 01 30.0 +17
ERM LR LR
comp=Z,497nm,19.0s,MS5.1
MDJ Mudanjiang 114.64 348 PFAKE 21 01 30.0 +14
MDJ LR LR
comp=Z,1µm,20.0s,MS5.5
NIL Nilore 114.69 36 PFAKE 21 01 30.0 +14
NIL LR LR
comp=Z,46nm,20.0s,MS4.1
FUNA Funafuti 115.78 270 PFAKE 21 01 30.0 +11
FUNA LR LR
comp=Z,8µm,19.0s,MS6.4
SBA Scott Base 116.28 191 PFAKE 21 01 30.0 +12
SBA LR LR
comp=Z,376nm,20.0s,MS5.0
ABPO Ambohimpanom 117.67 102 PFAKE 21 01 40.0 +18
ABPO LR LR
comp=Z,750nm,20.0s,MS5.3
TARA Tarawa 118.30 283 PFAKE 21 01 40.0 +16
TARA LR LR
comp=Z,3µm,20.0s,MS5.9
MSVF Nonsavu 119.24 260 PFAKE 21 01 40.0 +15
MSVF LR LR
comp=Z,471nm,19.0s,MS5.1
MAJO Matsushiro 119.70 337 PFAKE 21 01 40.0 +14
MAJO LR LR
comp=Z,843nm,20.0s,MS5.4
MJAR Matsushiro Arr 119.70 337 PKP PKPdf 21 01 26.4 +0.8
comp=Z,0.7nm,0.7s,baz=101,slow=1.5,SNR=3.5
MJAR Matsushiro Arr 119.70 337 PKP PKPdf 21 01 26.4 +0.8
MJAR Matsushiro Arr 119.70 337 PKIKP PKPdf 21 01 26.4 +0.7
HHC Hu-ho-hao-te 120.03 2 *e*PKP PKPdf 21 01 24.8 -1.3
HHC PP PP 21 02 52.1 +3.1
HHC PKS 21 05 00.6
HHC SKS SKSdf 21 08 32.4 -6.7
HHC AMB AMB
comp=Z,140nm,5.8s
HHC LR LR
comp=N,610nm,20.6s,MS5.3
HHC LR LR
comp=E,490nm,18.8s,MS5.3
HHC LR LR
comp=Z,650nm,22.6s,MS5.2
GTA Gaotai 120.08 12 PKP PKPdf 21 01 29.6 +3.3
GTA PP PP 21 02 56.6 +7.1
GTA SKKS SKKSac 21 09 48.9 -2.9
GTA SS SS 21 19 22.0 +6.2
GTA LR LR
comp=N,1µm,19.5s,MS5.6
GTA LR LR
comp=E,650nm,21.4s,MS5.6
GTA LR LR
comp=Z,2µm,20.4s,MS5.6
BJI Beijing 120.82 358 PKP PKPdf 21 01 28.8 +1.1
BJI SKS SKSdf 21 08 40.8 +0.2
BJI SS SS 21 19 35.8 +11
BJI AMB AMB
comp=Z,140nm,7.2s
BJI LR LR
comp=N,1µm,19.5s,MS5.5
BJI LR LR
comp=E,250nm,18.8s,MS5.5
BJI LR LR
comp=Z,770nm,20.7s,MS5.3
BJT Baijiatuau 120.84 358 PFAKE 21 01 40.0 +12
BJT LR LR
comp=Z,1µm,21.0s,MS5.5
MSEY Mahe Island 121.54 83 PFAKE 21 01 40.0 +10
MSEY LR LR
comp=Z,828nm,19.0s,MS5.4
KSRS Korea Array 121.87 347 PKP PKPdf 21 01 30.9 +1.1
comp=Z,1.0nm,0.6s,baz=40,slow=2.2,SNR=3.9
INCN Inchon 122.11 348 PFAKE 21 01 40.0 +10
INCN LR LR
comp=Z,643nm,21.0s,MS5.2
MAW Mawson 122.27 159 PKP PKPdf 21 01 29.1 -0.4
comp=Z,2.4nm,0.8s,baz=320,slow=5.3,SNR=4.5
MAW Mawson 122.27 159 PKP PKPdf 21 01 29.1 -0.4
MAW Mawson 122.27 159 PKIKP PKPdf 21 01 29.1 -0.4
LZH Lanzhou 124.04 10 *e*PKP PKPdf 21 01 33.5 -0.5

LZH				sPKP		21 01 38.2	
LZH				PP	PP	21 03 21.1	+4.7
LZH				PKS		21 05 10.2	
LZH				AMB	AMB		
	comp=Z,230nm,9.0s						
LZH				LR	LR		
	comp=N,1μm,19.0s,MS5.6						
LZH				LR	LR		
	comp=E,420nm,18.1s,MS5.6						
LZH				LR	LR		
	comp=Z,2μm,20.0s,MS5.8						
DANN	**Dangsing**	**124.43**	**32**	*e*P	PKPdf	21 01 36.0	+1.0
	comp=Z,47nm,0.9s						
DANN	**Dangsing**	**124.43**	**32**	*e*P	PKPdf	21 01 36.0	+1.0
KOLN	**Koldanda**	**124.82**	**33**	*e*P	PKPdf	21 01 36.0	+0.3
	comp=Z,16nm,0.9s						
KOLN	**Koldanda**	**124.82**	**33**	*e*P	PKPdf	21 01 36.0	+0.3
GKN	**Gorkha**	**125.15**	**32**	*e*P	PKPdf	21 01 36.3	-0.1
	comp=Z,56nm,0.9s						
GKN	**Gorkha**	**125.15**	**32**	*e*P	PKPdf	21 01 36.3	-0.1
KKN	**Kakani**	**125.64**	**31**	*e*P	PKPdf	21 01 37.2	-0.1
	comp=Z,24nm,0.8s						
KKN	**Kakani**	**125.64**	**31**	*e*P	PKPdf	21 01 37.2	-0.1
KKN	**Kakani**	**125.64**	**31**	*e*PKIKP	PKPdf	21 01 37.2	-0.1
DMN	**Daman**	**125.71**	**31**	*e*P	PKPdf	21 01 38.0	+0.6
	comp=Z,21nm,0.9s						
DMN	**Daman**	**125.71**	**31**	*e*P	PKPdf	21 01 38.0	+0.6
GUN	**Gumba**	**125.83**	**31**	*e*P	PKPdf	21 01 38.6	+0.9
GUN	**Gumba**	**125.83**	**31**	*e*P	PKPdf	21 01 38.6	+0.9
PKIN	**Phulchoki**	**125.88**	**31**	*e*P	PKPdf	21 01 38.1	+0.3
PKI	**Pulchoki**	**125.89**	**31**	*e*P	PKPdf	21 01 37.8	0.0
PKI	**Pulchoki**	**125.89**	**31**	*e*P	PKPdf	21 01 38.1	+0.3
PKI	**Pulchoki**	**125.89**	**31**	*e*PKIKP	PKPdf	21 01 38.1	+0.3
LSA	**Lhasa**	**126.59**	**24**	PFAKE		21 01 50.0	+11
LSA				LR	LR		
	comp=Z,745nm,20.0s,MS5.4						
XAN	**Xi'an**	**126.67**	**5**	PKP	PKPdf	21 01 38.9	-0.2
XAN				PP	PP	21 03 39.5	+5.6
XAN				AMB	AMB		
	comp=Z,28nm,7.9s						
XAN				LR	LR		
	comp=N,480nm,19.7s						
XAN				LR	LR		
	comp=Z,170nm,18.1s,MS4.8						
TAPN	**Taplejung**	**127.17**	**29**	*e*P	PKPdf	21 01 39.6	-0.6
	comp=Z,46nm,1.4s						
TAPN	**Taplejung**	**127.17**	**29**	*e*P	PKPdf	21 01 39.6	-0.6
ODAN	**Odare**	**127.44**	**30**	*e*P	PKPdf	21 01 40.0	-0.8
	comp=Z,22nm,1.0s						
ODAN	**Odare**	**127.44**	**30**	*e*P	PKPdf	21 01 40.0	-0.8
NJ2	**Nanjing**	**128.59**	**354**	*e*PKP	PKPdf	21 01 41.7	-1.1
CD2	**Chengdu**	**129.08**	**11**	PKP	PKPdf	21 01 42.6	-1.2
CD2				PKS		21 05 17.5	
CD2				AMB	AMB		
	comp=Z,120nm,5.3s						
CD2				LR	LR		
	comp=N,650nm,21.4s						
CD2				LR	LR		
	comp=Z,480nm,19.0s,MS5.2						
ENH	**Enshi**	**130.45**	**5**	PFAKE		21 02 00.0	+14
ENH				LR	LR		
	comp=Z,1μm,20.0s,MS5.5						
DZM	**Mont Dzumac**	**130.74**	**257**	*e*LR	LR	21 43 21.5	
	comp=Z,428nm,21.4s						
CASY	**Casey**	**133.10**	**178**	PFAKE		21 02 00.0	+10
CASY				LR	LR		
	comp=Z,985nm,21.0s,MS5.5						
HNR	**Honiara**	**134.19**	**276**	PFAKE		21 02 10.0	+16
HNR				LR	LR		
	comp=Z,429nm,19.0s,MS5.2						
KMI	**Kunming**	**134.49**	**14**	PKP	PKPdf	21 01 55.1	+0.9
KMI				sPKP		21 01 59.4	
KMI				PP	PP	21 04 31.1	+6.3
KMI				SS	SS	21 22 18.4	+3.0
KMI				AMB	AMB		
	comp=Z,93nm,6.4s						
KMI				LR	LR		
	comp=N,250nm,19.7s,MS5.2						
KMI				LR	LR		
	comp=E,410nm,18.4s,MS5.2						
KMI				LR	LR		
	comp=Z,590nm,19.7s,MS5.3						
YHNB	**Yeheng**	**135.55**	**350**	PFAKE		21 02 10.0	+14
YHNB				LR	LR		
	comp=Z,713nm,21.0s,MS5.4						
CHTO	**Chiang Mai**	**139.38**	**22**	PFAKE		21 02 20.0	+17
CHTO				LR	LR		
	comp=Z,703nm,20.0s,MS5.4						
CM31	**Chiang Mai Arr**	**139.71**	**22**	PFAKE		21 02 20.0	+16
CM31				LR	LR		
	comp=Z,573nm,19.0s,MS5.3						
CMAR	**Chiang Mai Arr**	**139.71**	**22**	PKP	PKPdf	21 02 03.0	-0.9
	comp=Z,3.0nm,1.0s,baz=312,slow=3.2,SNR=10						
CMAR	**Chiang Mai Arr**	**139.71**	**22**	PKP	PKPdf	21 02 03.0	-0.9
CMAR	**Chiang Mai Arr**	**139.71**	**22**	PKIKP	PKPdf	21 02 03.1	-0.8
QIZ	**Qiongzhong**	**141.62**	**6**	PFAKE		21 02 20.0	+13
QIZ				LR	LR		
	comp=Z,796nm,19.0s,MS5.5						
ARMA	**Armidale**	**143.99**	**245**	PKP	PKPdf	21 02 07.9	-3.3
EIDS	**Eidsvold**	**144.95**	**253**	*e*PKPdf	PKPdf	21 02 11.4	-1.6
CAN	**Canberra**	**145.04**	**236**	PFAKE		21 02 30.0	+18
CAN				LR	LR		
	comp=Z,673nm,21.0s,MS5.4						
PMG	**Port Moresby**	**146.10**	**282**	*e*PKPdf	PKPdf	21 02 16.2	+0.9
PMG				LR	LR		
	comp=Z,431nm,21.0s,MS5.2						
PMG	**Port Moresby**	**146.10**	**282**	*e*PKP2	PKPab	21 02 16.2	-0.6
PMG				MLR	MLR		
	comp=Z,431nm,21.0s						
CTAO	**Charters Tower**	**149.31**	**263**	PFAKE		21 02 30.0	+10
CTAO				LR	LR		
	comp=Z,460nm,20.0s,MS5.3						
DAV	**Davao City (W)**	**151.18**	**335**	PFAKE		21 02 40.0	+16
DAV				LR	LR		
	comp=Z,560nm,19.0s,MS5.4						
COEN	**Coen**	**151.21**	**276**	*e*PKPbc	PKPbc	21 02 29.2	-0.3
STKA	**Stephens Creek**	**151.99**	**238**	PKPbc	PKPbc	21 02 30.0	-0.8
	comp=Z,8.7nm,0.6s,baz=61,slow=3.7,SNR=11						
STKA	**Stephens Creek**	**151.99**	**238**	*e*PKPbc	PKPbc	21 02 30.6	-0.2
STKA	**Stephens Creek**	**151.99**	**238**	*e*PKIKP	PKPdf	21 02 30.6	+6.3
KULM	**Kulim**	**152.33**	**29**	PFAKE		21 02 40.0	+15
KULM				LR	LR		
	comp=Z,490nm,19.0s,MS5.3						
PSI	**Prapat**	**153.62**	**35**	PKP	PKPdf	21 02 25.5	-1.8
	comp=Z,4.0nm,0.7s,baz=292,slow=1.9,SNR=3.8						
PSI	**Prapat**	**153.62**	**35**	PKP	PKPdf	21 02 25.5	-1.8
PSI	**Prapat**	**153.62**	**35**	PKIKP	PKPdf	21 02 25.5	-1.7
KKM	**Kota Kinabalu**	**154.58**	**354**	PFAKE		21 02 40.0	+11
KKM				LR	LR		
	comp=Z,404nm,19.0s,MS5.3						
KSM	**Kuching**	**159.00**	**9**	PFAKE		21 02 50.0	+16
KSM				LR	LR		
	comp=Z,268nm,20.0s,MS5.1						
WRAB	**Tennant Creek**	**160.48**	**265**	PFAKE		21 02 50.0	+14
WRAB				LR	LR		
	comp=Z,726nm,20.0s						
WRA	**Warramunga Arr**	**160.49**	**265**	PKP	PKPdf	21 02 34.1	-1.6
	comp=Z,2.3nm,1.1s,baz=77,slow=0.9,SNR=12						
WRA				PKPab	PKPab	21 03 18.4	+1.5
	comp=Z,3.1nm,0.8s,baz=88,slow=4.2,SNR=4.9						
WRA	**Warramunga Arr**	**160.49**	**265**	PKP	PKPdf	21 02 34.1	-1.6
WRA				PKPab	PKPab	21 03 18.4	+1.5
WRA	**Warramunga Arr**	**160.49**	**265**	PKIKP	PKPdf	21 02 34.1	-1.6
ASAR	**Alice Springs**	**160.68**	**254**	PKP	PKPdf	21 02 34.0	-1.9
	comp=Z,2.5nm,1.1s,baz=116,slow=1.2,SNR=10						
ASAR				PKPab	PKPab	21 03 18.4	+0.8
	comp=Z,3.6nm,0.7s,baz=108,slow=4.3,SNR=12						
ASAR	**Alice Springs**	**160.68**	**254**	PKP	PKPdf	21 02 34.0	-1.9
ASAR				PKPab	PKPab	21 03 18.4	+0.8
ASAR	**Alice Springs**	**160.68**	**254**	PKIKP	PKPdf	21 02 34.0	-1.8
KAPI	**Kappang**	**164.50**	**337**	PFAKE		21 02 50.0	+10
KAPI				LR	LR		
	comp=Z,503nm,20.0s						
MBWA	**Marble Bar**	**174.01**	**252**	PFAKE		21 03 00.0	+14
MBWA				LR	LR		
	comp=Z,962nm,21.0s						

MAN 02 20:42:38, 18°.47N×120°.64E, *h*39km, mb3.9, ML2.7, MS2.3, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.15**	**189**	⇑*i*P	Pn	20 42 46.1	+1.3
PIP				*e*S	Sn	20 42 52.0	+2.6
ABRA	**Dolores**	**0.82**	**175**	*e*P	Pn	20 42 55.1	+2.0
ABRA				*e*S	Sn	20 43 00.7	-3.3
APYP	**Conner**	**0.83**	**137**	*e*P	Pn	20 42 54.4	+1.2
APYP				*e*S	Sn	20 43 03.6	-0.7
CAUP	**Cauayan**	**1.89**	**143**	*e*P	Pn	20 43 09.5	+1.7

*NEIC **02** 20:46:16.9, 19°.52N×66°.29W, *h*9km, MD3.1(RSPR), After RSPR.*

RSPR 02 20:46:16.9, 19°.52N×66°.29W, *h*9km±28km, 16C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.25**	**201**	*e*S	Sb	20 46 52.7	-4.2
AOPR	**Arecibo Observ**	**1.25**	**201**	⇑*e*P	Pn	20 46 36.7	-3.8
AOPR				*e*S	Sb	20 46 52.7	-4.1
AOPR	**Arecibo Observ**	**1.25**	**201**	⇑*e*P	Pn	20 46 36.9	-3.6
AOPR	**Arecibo Observ**	**1.25**	**201**	*e*S	Sb	20 46 52.9	-3.9
AOPR	**Arecibo Observ**	**1.25**	**201**	⇑*e*P	Pn	20 46 36.9	-3.6
AOPR				*e*S	Sb	20 46 52.9	-3.9
CBYP	**Canovanas**	**1.31**	**162**	⇑*e*P	Pn	20 46 38.2	-3.2
CBYP	**Canovanas**	**1.31**	**162**	⇑*e*P	Pn	20 46 38.3	-3.1
CBYP				*e*S	Sb	20 46 55.1	-3.5
CBYP	**Canovanas**	**1.31**	**162**	⇑*e*P	Pn	20 46 38.3	-3.1
SJG	**San Juan**	**1.41**	**174**	⇑*e*P	Pn	20 46 42.9	+0.1
SJG	**San Juan**	**1.41**	**174**	*e*S	Sn	20 46 55.0	-6.4
SJG	**San Juan**	**1.41**	**174**	⇑*e*P	Pn	20 46 40.2	-2.5
SJG				*e*S	Sn	20 46 58.6	-2.9
SJG	**San Juan**	**1.41**	**174**	⇑*e*P	Pn	20 46 40.2	-2.5
SJG				*e*S	Sn	20 46 55.0	-6.4
SJG				*e*S	Sn	20 46 58.6	-2.9
HUMP	**Col San Antoni**	**1.44**	**163**	*e*S	Sn	20 46 57.0	-5.1
HUMP	**Col San Antoni**	**1.44**	**163**	⇑*e*P	Pn	20 46 40.0	-3.1
HUMP	**Col San Antoni**	**1.44**	**163**	*e*S	Sn	20 46 57.0	-5.1
HUMP	**Col San Antoni**	**1.44**	**163**	⇑*e*P	Pn	20 46 40.0	-3.1
HUMP				*e*S	Sn	20 46 57.0	-5.1
OBIP	**Obispado Ponce**	**1.50**	**191**	*e*S	Sn	20 46 58.4	-5.3
LSP	**Las Mesas**	**1.54**	**209**	⇑*e*P	Pn	20 46 41.5	-3.0
LSP				*e*S	Sn	20 47 01.4	-3.1
LSP	**Las Mesas**	**1.54**	**209**	⇑*e*P	Pn	20 46 41.5	-3.0
LSP				*e*S	Sn	20 47 01.4	-3.1
MTP	**Monte Pirata**	**1.58**	**154**	⇑*e*P	Pn	20 46 44.7	-0.4
MTP	**Monte Pirata**	**1.58**	**154**	⇑*e*P	Pn	20 46 42.2	-2.9
MTP	**Monte Pirata**	**1.58**	**154**	⇑*e*P	Pn	20 46 44.7	-0.4
STVI	**Saint Thomas**	**1.72**	**132**	*e*S	Sn	20 47 06.4	-2.8

*ISCJB **02** 20:59:42.3±0.3, 43°.76N±0°.02×105°.28W±0°.03, *h*0km, Error ellipse: s-maj=3.0km s-min=2.8km az=156.4*
*IDC **02** 20:59:42.9±1.6, 43°.84N×105°.52W, *h*0km, mb1 3.8/3, mb1mx3.5/26, mbtmp3.5/3, ML3.4/3, Error ellipse: s-maj=46.5km s-min=8.2km az=149.0*
*NEIC **02** 20:59:43.1±0.4, 43°.80N×105°.26W, *h*0km, ML3.2, Error ellipse: s-maj=6.4km s-min=5.2km az=154.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.

ISC 02 20:59:43.1±0.3, 43°.75N±0°.02×105°.30W±0°.03, *h*0km, n63, σ1s07/77, 22C-12D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I23A	**Meade Ranch, G**	**0.24**	**331**	⇑P	**Pg**	**20 59 49.0**	**+1.2**
	baz=0.2,SNR=87						
I23A				⇑S	**Sg**	**20 59 51.4**	**+0.4**
	baz=0.2						
J23A	**Dilts Ranch, B**	**0.39**	**208**	⇑P	**Pg**	**20 59 51.1**	**+0.6**
	baz=0.4,SNR=58						
J23A				⇓S	**Sg**	**20 59 56.0**	**+0.5**
	baz=0.4						
I24A	**Kuemmerle Ranc**	**0.50**	**77**	⇓P	**Pg**	**20 59 53.5**	**+0.8**
	baz=0.5						
I24A				⇑S	**Sg**	**21 00 01.3**	**+2.0**
	baz=0.5						
J24A	**Dixon Ranch, L**	**0.62**	**132**	⇑P	**Pg**	**20 59 55.3**	**+0.3**
	baz=0.6,SNR=59						
H23A	**Clabaugh Cattl**	**0.82**	**355**	⇓P	**Pg**	**20 59 58.9**	**+0.1**
	baz=0.8,SNR=24						
I22A	**9 Mile Ranch,**	**0.87**	**280**	⇓P	**Pg**	**20 59 60.0**	**+0.2**
	baz=0.9,SNR=307						
J22A	**Midwest**	**0.92**	**249**	⇑P	**Pg**	**21 00 00.3**	**-0.4**
	baz=1.0,SNR=62						
RSSD	**Black Hills**	**0.99**	**67**	*e*Pg	**Pg**	**20 59 59.1**	**-3.0**
RSSD				*e*Pn	**Pn**	**21 00 02.2**	**-2.0**
K24A	**Anderson Ranch**	**1.08**	**161**	⇓P	**Pg**	**21 00 03.8**	**-0.1**
	baz=1.1						
H22A	**Clearmont**	**1.14**	**319**	⇑P	**Pg**	**21 00 04.9**	**0.0**
	baz=1.1,SNR=99						
H24A	**Dirks Ranch, A**	**1.14**	**28**	⇑P	**Pg**	**21 00 04.4**	**-0.5**
	baz=1.1						
K22A	**Casper**	**1.41**	**220**	⇑Pb	**Pb**	**21 00 09.3**	**-1.1**
	baz=1.5						
I21A	**Big Trails, Te**	**1.44**	**273**	⇑Pb	**Pb**	**21 00 09.4**	**-1.5**
	baz=1.5,SNR=65						
I21A				⇑Sb	**Sb**	**21 00 29.3**	**-0.4**
	baz=1.5						
H21A	**Big Horn, Sher**	**1.53**	**306**	⇑Pb	**Pb**	**21 00 11.9**	**-0.5**
	baz=1.5,SNR=83						
J21A	**Lysite**	**1.61**	**256**	⇑Pb	**Pb**	**21 00 12.2**	**-1.5**
	baz=1.6,SNR=12						
L23A	**Garrett**	**1.66**	**190**	⇑Pb	**Pb**	**21 00 13.4**	**-1.1**
	baz=1.7,SNR=144						
L24A	**Wheatland**	**1.72**	**171**	⇓Pb	**Pb**	**21 00 14.7**	**-0.9**
	baz=1.8,SNR=33						
L24A				⇑Sb	**Sb**	**21 00 37.9**	**+0.1**
	baz=1.8						
K21A	**Alcova**	**1.81**	**233**	⇓Pb	**Pb**	**21 00 16.2**	**-0.9**
	baz=1.9,SNR=27						
L22A	**Ellis Ranch, M**	**1.91**	**206**	⇑Pb	**Pb**	**21 00 17.7**	**-1.0**
	baz=2.0,SNR=9.4						
G21A	**Lodge Grass**	**2.01**	**318**	⇓Pb	**Pb**	**21 00 19.1**	**-1.5**
	baz=2.0						
I20A	**Worland**	**2.06**	**277**	⇑Pb	**Pb**	**21 00 19.7**	**-1.6**
	baz=2.1,SNR=100						
I20A				⇑Sb	**Sb**	**21 00 47.1**	**-0.2**
	baz=2.1						
H20A	**Greybull**	**2.08**	**292**	⇑Sb	**Sb**	**21 00 48.0**	**0.0**
	baz=2.1						
M23A	**Laramie**	**2.30**	**188**	⇑Pb	**Pb**	**21 00 24.1**	**-1.3**
	baz=2.4,SNR=28						
M23A				⇓Sb	**Sb**	**21 00 54.2**	**-0.1**
	baz=2.4						
L21A	**Rawlins**	**2.34**	**221**	Pb	**Pb**	**21 00 24.9**	**-1.3**
	baz=2.4,SNR=12						
PHWY	**Pilot Hill**	**2.45**	**183**	*e*Pn	**Pn**	**21 00 24.4**	**+0.2**
K20A	**Yellowstone Ra**	**2.48**	**245**	⇑Pb	**Pb**	**21 00 27.3**	**-1.1**
	baz=2.5						
K20A				⇓Sb	**Sb**	**21 00 59.3**	**-0.1**
	baz=2.5						
RWWY	**Rawlins**	**2.49**	**215**	*e*Pn	**Pn**	**21 00 26.8**	**+1.9**
M22A	**Cedar Creek Ra**	**2.53**	**203**	⇓Pb	**Pb**	**21 00 27.9**	**-1.5**
	baz=2.6,SNR=54						
G20A	**Bridger**	**2.55**	**306**	⇑Sb	**Sb**	**21 01 02.5**	**+0.7**
	baz=2.5						
K19A	**Absolon Red Bu**	**2.75**	**252**	⇓Sb	**Sb**	**21 01 07.5**	**+0.2**
	baz=2.8						
LAO	**LASA Array**	**3.01**	**348**	*e*Pn	**Pn**	**21 00 31.9**	**-0.1**
LAO				*e*Pg	**Pg**	**21 00 40.1**	**-0.7**
RLMT	**Red Lodge**	**3.16**	**297**	*e*P	**Pn**	**21 00 34.0**	**-0.1**
BW06	**Boulder Array**	**3.26**	**254**	*e*P	**Pn**	**21 00 35.1**	**-0.3**
PDAR	**Pinedale Array**	**3.26**	**254**	Pn	**Pn**	**21 00 36.5**	**+1.0**
	5.1nm,0.3s,baz=74,slow=17,SNR=74						
PDAR				Pg	**Pg**	**21 00 41.5**	**-4.1**
	9.7nm,0.3s,baz=72,slow=19,SNR=52						
PDAR				Sn	**Sn**	**21 01 17.2**	**+2.3**
	2.5nm,0.3s,baz=75,slow=21,SNR=4.5						
PDAR				Lg		21 01 22.2	
	13nm,0.3s,baz=77,slow=22,SNR=7.0						
PDAR	**Pinedale Array**	**3.26**	**254**	Pn	**Pn**	**21 00 36.5**	**+1.0**
PDAR				Pg	**Pg**	**21 00 41.5**	**-4.1**
PDAR				Sn	**Sn**	**21 01 17.2**	**+2.3**
PDAR				Lg		21 01 22.2	
PD02	**Pinedale Array**	**3.26**	**254**	*e*P	**Pn**	**21 00 35.8**	**+0.3**
PD01	**Pinedale Array**	**3.27**	**254**	*e*P	**Pn**	**21 00 36.5**	**+0.8**
OGNE	**Ogallala**	**3.70**	**138**	*e*P	**Pn**	**21 00 42.9**	**+1.4**
GCMT	**Greycliff**	**3.72**	**305**	*e*P	**Pn**	**21 00 41.4**	**-0.4**
LOHW	**Long Hollow**	**3.85**	**270**	*e*P	**Pn**	**21 00 44.8**	**+1.2**
FLWY	**Flagg Ranch**	**3.92**	**277**	*e*P	**Pn**	**21 00 45.2**	**+0.8**
ISCO	**Idaho Springs**	**3.95**	**183**	*e*P	**Pn**	**21 00 46.2**	**+1.2**
SNOW	**Snow King Moun**	**3.97**	**268**	*e*Pg	**Pg**	**21 00 52.5**	**-6.8**
REDW	**Red Top Meadow**	**4.05**	**266**	*e*P	**Pn**	**21 00 47.6**	**+1.3**
IMW	**Indian Meadow**	**4.08**	**274**	*e*P	**Pn**	**21 00 48.2**	**+1.4**
TPAW	**Teton Pass**	**4.11**	**268**	*e*P	**Pn**	**21 00 48.8**	**+1.6**
RRI2	**Red Ridge**	**4.39**	**267**	*e*P	**Pn**	**21 00 52.3**	**+1.2**
SMCO	**Snowmass**	**4.73**	**196**	*e*Pg	**Pg**	**21 01 07.5**	**-6.3**
DGMT	**Dagmar**	**4.79**	**9**	*e*Pn	**Pn**	**21 00 57.2**	**+0.8**
BOZ	**Bozeman (W)**	**4.90**	**295**	*e*P	**Pn**	**21 00 57.6**	**-0.3**
HWUT	**Hardware Ranch**	**5.09**	**247**	*e*P	**Pn**	**21 01 01.2**	**+0.6**
	6.5nm,0.4s						
EGMT	**Eagleton**	**5.29**	**326**	*e*P	**Pn**	**21 01 02.8**	**-0.6**
	22nm,0.5s						
LRM	**Limekiln Ridge**	**5.50**	**295**	Pn	**Pn**	**21 01 04.5**	**-1.7**
	22nm,0.3s						
DAU	**Daniels Canyon**	**5.54**	**235**	*e*Pn	**Pn**	**21 01 08.2**	**+1.3**
	8.1nm,0.4s						
JLU	**Jordanelle**	**5.54**	**238**	Pn	**Pn**	**21 01 05.5**	**-1.4**
	5.2nm,0.4s						
SRU	**San Rafael**	**6.07**	**222**	*e*P	**Pn**	**21 01 12.8**	**-1.2**
	12nm,0.3s						
TMUT	**Trail Mountain**	**6.28**	**227**	*e*P	**Pn**	**21 01 18.5**	**+1.6**
	7.5nm,0.5s						
ECSD	**EROS Data Cent**	**6.29**	**87**	*e*Pn	**Pn**	**21 01 17.9**	**+0.7**
	6.1nm,0.4s						
DUG	**Dugway**	**6.63**	**240**	*e*P	**Pn**	**21 01 22.3**	**+0.6**
	2.7nm,0.5s						
ULM	**Lac du Bonnet**	**9.15**	**41**	Pn	**Pn**	**21 01 54.6**	**-1.7**
	1.2nm,0.3s,baz=233,slow=9.8,SNR=10						
ULM				Pg	Pn	21 02 26.6	+30
	1.2nm,0.3s,baz=233,slow=15,SNR=6.0						
ULM				Lg		21 04 26.2	
	0.6nm,0.3s,baz=127,slow=22,SNR=2.5						
ULM	**Lac du Bonnet**	**9.15**	**41**	Pn	**Pn**	**21 01 54.6**	**-1.6**
ULM				Pg	Pn	21 02 26.6	+30
ULM				Lg		21 04 26.2	
NVAR	**Mina Array Bea**	**11.15**	**246**	Pn	**Pn**	**21 02 25.9**	**+2.1**
	0.1nm,0.3s,baz=52,slow=13,SNR=3.0						
NVAR	**Mina Array Bea**	**11.15**	**246**	Pn	**Pn**	**21 02 25.9**	**+2.1**

CASC 02 21:00:09.2±1.5, 12°.12N×87°.91W, *h*38km±17km, MD3.9, ML3.6, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**1.01**	**55**	*e*P	Pn	21 00 27.2	+0.3
CRIN				*e*S	Sn	21 00 42.0	+2.0
CRIN				AML	AML	21 00 44.2	
	comp=N,2μm,0.3s						
TEL3	**Telica 3**	**1.13**	**66**	*e*P	Pn	21 00 26.9	-1.6
CNCH	**Conchagua**	**1.15**	**3**	*e*P	Pn	21 00 29.0	+0.2
CNCH				*e*S	Sn	21 00 44.1	+0.7
MIRN	**Miramar**	**1.21**	**75**	*e*P	Pn	21 00 29.5	-0.1
CNGN	**Cerro Negro**	**1.24**	**72**	*e*P	Pn	21 00 29.8	-0.2
COPN	**Copaltepe**	**1.29**	**87**	*e*P	Pn	21 00 30.8	+0.1
COPN				⇑*e*P		21 00 30.8	
VSM	**San Miguel**	**1.35**	**345**	*e*P	Pn	21 00 32.5	+1.0
BLLM	**Bellamira**	**1.35**	**346**	*e*P	Pn	21 00 31.6	0.0
MOMN	**Momotombo**	**1.36**	**78**	*e*P	Pn	21 00 32.1	+0.4
APYN	**Apoyeque**	**1.52**	**86**	*e*P	Pn	21 00 34.2	+0.3
MGAN	**Managua**	**1.62**	**89**	*e*P	Pn	21 00 35.7	+0.4
MGAN				*e*S	Sn	21 00 55.5	+0.5
TICN	**Ticuantepe**	**1.64**	**93**	*e*P	Pn	21 00 35.7	+0.2
CAHU	**Cacacuatique**	**1.67**	**350**	*e*P	Pn	21 00 37.0	+1.1
CAHU				*e*S	Sn	21 00 57.7	+1.6
CAHU				AML	AML	21 00 59.4	
	comp=Z,498nm,0.4s						
HUEN		**1.71**	**83**	*e*P	Pn	21 00 37.1	+0.6
SNVI	**San Vicente**	**1.74**	**329**	*e*P	Pn	21 00 37.3	+0.4
SNVI				*e*S	Sn	21 00 58.8	+0.9
LFRS	**El Faro**	**1.87**	**323**	*e*P	Pn	21 00 39.0	+0.3
LFRS				*e*S	Sn	21 01 01.9	+0.7
LBRS	**Las Brisas**	**1.95**	**326**	*e*P	Pn	21 00 40.7	+0.8

*ISCJB **02** 21:00:59.4±1.1, 19°.57N±0°.02×66°.34W±0°.03, *h*10km±7km, mb4.5/46, Error ellipse: s-maj=5.1km s-min=3.2km az=161.6*
*IDC **02** 21:01:00.7±0.4, 19°.54N×66°.38W, *h*0km, mb4.2/24, mb1 4.4/25, mb1mx4.3/31, mbtmp4.2/25, ML3.1/1, MS4.1/1, Ms1 4.1/1, ms1mx3.5/40, Error ellipse: s-maj=13.0km s-min=10.4km az=57.0*
*RSPR **02** 21:01:02.2, 19°.65N×66°.28W, *h*21km±28km, MD3.5/10*
*NEIC **02** 21:01:02.2, 19°.65N×66°.28W, *h*21km, mb4.8/27, After RSPR.*

ISC 02 21:00:59.9±1.2, 19°.53N±0°.02×66°.31W±0°.03, *h*5km±7km, n125, σ1s27/143, mb4.5/46, 31C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.25**	**200**	⇑*e*P	**Pg**	**21 01 23.5**	**-0.5**
AOPR	**Arecibo Observ**	**1.25**	**200**	⇑*e*P	**Pg**	**21 01 23.5**	**-0.5**
AGPR	**Aguadilla, PR**	**1.30**	**216**	⇑*e*P	**Pn**	**21 01 23.9**	**-0.9**
AGPR	**Aguadilla, PR**	**1.30**	**216

BLA				eS	S	21 09 45.0	-3.5
ELN	**Prospectdale**	**21.68**	**327**	*e*P	P	21 05 50.3	-1.3
ELN				eS	S	21 09 49.7	-2.3
TKL	**Tuckaleechee C**	**22.25**	**320**	P	P	21 06 06.0	+8.3
	9.2nm,1.0s,mb4.2,baz=140,slow=11,SNR=4.9						
TKL	**Tuckaleechee C**	**22.25**	**320**	*e*P	P	21 05 57.5	-0.2
TKL				*e*		21 06 15.3	
TKL				eS	S	21 10 00.5	-2.7
PAL	**Palisades**	**22.37**	**345**	*e*P	P	21 05 58.7	-0.2
	46nm,1.3s,mb4.8						
OTAV	**Otavalo**	**22.57**	**213**	*e*P	P	21 06 01.8	+0.5
	68nm,1.3s,mb4.9						
OTAV				eS	S	21 10 11.0	+1.4
CPCT	**Cooper Cave**	**22.57**	**318**	*e*P	P	21 06 00.7	-0.5
CPCT				eS	S	21 10 06.9	-2.6
ACSO	**Alum Creek Sta**	**25.11**	**329**	*e*P	P	21 06 25.0	-0.6
	32nm,1.1s,mb4.8						
ACSO				eS	S	21 10 45.8	-5.0
WCI	**Wyandotte Cave**	**25.46**	**321**	*e*P	P	21 06 28.0	-0.9
	11nm,0.8s,mb4.4						
LONY	**Lake Ozonia**	**25.95**	**346**	*e*P	P	21 06 33.1	-0.1
ATAH	**Atahualpa**	**29.05**	**205**	P	P	21 07 04.0	+2.7
	2.9nm,0.6s,mb4.2,baz=290,slow=19,SNR=2.4						
JCT	**Junction City**	**32.14**	**296**	*e*P	P	21 07 28.3	-0.3
	7.4nm,0.8s,mb4.6						
ECSD	**EROS Data Cent**	**34.99**	**320**	*e*P	P	21 07 53.0	-0.2
	36nm,1.4s,mb5.1						
TXAR	**Lajitas Array**	**35.25**	**293**	P	P	21 07 57.1	+1.5
	3.6nm,0.5s,mb4.5,baz=102,slow=9.9,SNR=36						
TXAR	**Lajitas Array**	**35.25**	**293**	P	P	21 07 57.1	+1.5
LPAZ	**La Paz**	**35.64**	**183**	P	P	21 08 01.3	+2.3
	2.2nm,0.7s,mb4.2,baz=355,slow=7.8,SNR=8.4						
LPAZ	**La Paz**	**35.64**	**183**	P	P	21 08 01.3	+2.3
AGMN	**Agassiz Nation**	**37.32**	**327**	*e*P	P	21 08 11.7	-1.4
	5.3nm,0.6s,mb4.5						
ANMO	**Albuquerque**	**38.58**	**302**	P	P	21 08 23.6	-0.4
	1.2nm,0.7s,mb3.7,baz=90,slow=6.2,SNR=3.5						
ANMO	**Albuquerque**	**38.58**	**302**	P	P	21 08 23.6	-0.3
ULM	**Lac du Bonnet**	**38.60**	**329**	P	P	21 08 23.8	-0.1
	3.0nm,0.6s,mb4.2,baz=125,slow=8.0,SNR=3.6						
ULM	**Lac du Bonnet**	**38.60**	**329**	P	P	21 08 23.8	-0.1
ISCO	**Idaho Springs**	**39.27**	**310**	*e*P	P	21 08 29.4	-0.2
	82nm,1.1s,mb5.4						
PDAR	**Pinedale Array**	**43.05**	**312**	P	P	21 09 02.3	+1.6
	1.2nm,0.6s,mb3.8,baz=121,slow=9.2,SNR=10						
PDAR				PcP	PcP	21 10 52.0	+1.2
	1.0nm,0.6s,baz=117,slow=4.8,SNR=5.9						
PDAR	**Pinedale Array**	**43.05**	**312**	P	P	21 09 02.3	+1.6
PDAR				PcP	PcP	21 10 52.0	+1.2
RLMT	**Red Lodge**	**43.66**	**316**	*e*P	P	21 09 05.7	+0.1
REDW	**Red Top Meadow**	**44.14**	**313**	*e*P	P	21 09 08.6	-0.9
	37nm,1.4s,mb4.9						
TPAW	**Teton Pass**	**44.25**	**313**	*e*P	P	21 09 09.8	-0.6
	44nm,1.6s,mb4.9						
QLMT	**Earthquake Lak**	**45.00**	**315**	*e*P	P	21 09 15.6	-0.8
	4.2nm,1.3s,mb4.1						
DLMT	**Dillon**	**45.95**	**315**	*e*P	P	21 09 22.9	-1.0
	31nm,1.4s,mb5.0						
MCMT	**McKenzie Canyo**	**45.96**	**314**	*e*P	P	21 09 23.5	-0.5
	5.5nm,1.3s,mb4.3						
CPUP	**Villa Florida**	**46.42**	**169**	P	P	21 09 29.4	+1.8
	1.3nm,0.6s,mb4.0,baz=3.2,slow=7.4,SNR=3.7						
CPUP	**Villa Florida**	**46.42**	**169**	P	P	21 09 29.4	+1.8
SLMT	**Seeley Lake**	**47.15**	**317**	*e*P	P	21 09 32.4	-0.9
	11nm,1.2s,mb4.7						
SWMT	**Swartz Lake**	**47.57**	**317**	*e*P	P	21 09 35.9	-0.6
	4.3nm,0.8s,mb4.5						
JTMT	**Jette**	**47.82**	**317**	*e*P	P	21 09 38.4	-0.1
	6.7nm,1.2s,mb4.5						
BSMT	**Bassoo Peak**	**48.18**	**317**	*e*P	P	21 09 40.7	-0.6
	3.2nm,0.8s,mb4.4						
NVAR	**Mina Array Bea**	**48.56**	**304**	P	P	21 09 46.5	+2.2
	2.4nm,0.6s,mb4.4,baz=89,slow=7.4,SNR=19						
NVAR	**Mina Array Bea**	**48.56**	**304**	P	P	21 09 46.5	+2.1
NEW	**Newport**	**49.80**	**317**	*e*P	P	21 09 54.0	+0.3
	14nm,0.7s,mb5.1						
LNOR	**Lincton Mounta**	**49.93**	**314**	*e*P	P	21 09 54.0	-0.7
	7.3nm,0.9s,mb4.7						
OD2	**Odessa Site #2**	**50.59**	**316**	*e*P	P	21 09 58.6	-1.1
	16nm,1.0s,mb4.9						
CFAA	**Coronel Fontan**	**50.88**	**182**	P	P	21 10 03.9	+2.0
	0.3nm,0.8s,baz=358,slow=7.6,SNR=4.2						
CFAA	**Coronel Fontan**	**50.88**	**182**	P	P	21 10 03.9	+2.0
YBH	**Yreka Blue Hor**	**52.33**	**308**	P	P	21 10 13.1	+0.2
	1.0nm,0.4s,mb4.1,baz=86,slow=8.5,SNR=3.7						
YBH	**Yreka Blue Hor**	**52.33**	**308**	P	P	21 10 13.1	+0.2
YKA	**Yellowknife Ar**	**54.15**	**335**	P	P	21 10 26.6	+0.8
	2.6nm,0.6s,mb4.4,baz=111,slow=7.5,SNR=12						
YKA	**Yellowknife Ar**	**54.15**	**335**	P	P	21 10 26.6	+0.8
MDT	**Midelt**	**56.23**	**63**	P	P	21 10 44.8	+3.4
	2.7nm,0.8s,mb4.3,baz=324,slow=8.1,SNR=3.7						
MDT	**Midelt**	**56.23**	**63**	P	P	21 10 44.8	+3.4
ESDC	**Sonseca Array**	**56.69**	**55**	P	P	21 10 47.2	+2.6
	1.6nm,0.8s,mb4.1,baz=274,slow=6.7,SNR=6.4						
ESDC	**Sonseca Array**	**56.69**	**55**	P	P	21 10 47.2	+2.6
DLBC	**Dease Lake**	**59.84**	**327**	P	P	21 11 09.0	+2.7
	3.3nm,0.8s,mb4.4,baz=55,slow=23,SNR=4.8						
DLBC	**Dease Lake**	**59.84**	**327**	P	P	21 11 09.0	+2.7
PLCA	**Paso Flores**	**60.08**	**184**	P	P	21 11 08.6	+0.6
	1.8nm,0.9s,mb4.1,baz=0.0,slow=7.1,SNR=2.8						
PLCA	**Paso Flores**	**60.08**	**184**	P	P	21 11 08.6	+0.6
DBIC	**Dimbokro**	**60.92**	**93**	P	P	21 11 16.1	+1.7
	5.5nm,0.8s,mb4.8,baz=244,slow=9.9,SNR=7.4						
DBIC	**Dimbokro**	**60.92**	**93**	P	P	21 11 16.1	+1.7
INK	**Inuvik**	**63.62**	**338**	P	P	21 11 32.3	+0.8
	4.6nm,0.9s,mb4.5,baz=100,slow=8.7,SNR=16						
INK	**Inuvik**	**63.62**	**338**	P	P	21 11 32.3	+0.8
TORD	**Torodi Ar. Bea**	**65.22**	**84**	P	P	21 11 44.3	+1.4
	0.8nm,0.6s,mb4.0,baz=285,slow=7.1,SNR=10						
TORD	**Torodi Ar. Bea**	**65.22**	**84**	P	P	21 11 44.3	+1.4
TAM	**Tamanrasset**	**66.46**	**73**	*e*P	P	21 11 50.2	-0.6
	2.3nm,0.8s,mb4.3						
ILAR	**Eielson Array**	**68.50**	**333**	P	P	21 12 03.8	+0.8
	3.3nm,0.6s,mb4.4,baz=104,slow=4.0,SNR=82						
ILAR	**Eielson Array**	**68.50**	**333**	P	P	21 12 03.8	+0.8
GERES	**GERESS Array B**	**69.05**	**44**	P	P	21 12 09.5	+2.8
	0.1nm,0.4s,baz=258,slow=4.9,SNR=2.4						
GERES	**GERESS Array B**	**69.05**	**44**	P	P	21 12 09.5	+2.8
TRF	**Thorofare Moun**	**70.04**	**332**	*e*P	P	21 12 13.1	+0.5
	40nm,1.6s,mb5.1						
ARCES	**ARCESS Array B**	**72.51**	**22**	P	P	21 12 29.5	+2.1
	2.7nm,0.8s,mb4.2,baz=307,slow=7.8,SNR=3.3						
ARCES	**ARCESS Array B**	**72.51**	**22**	P	P	21 12 29.5	+2.1
AKASG	**Malin Array Be**	**78.54**	**40**	P	P	21 13 03.9	+1.5
	0.2nm,0.3s,mb3.5,baz=305,slow=3.3,SNR=5.2						
AKASG	**Malin Array Be**	**78.54**	**40**	P	P	21 13 03.9	+1.5
BILL	**Bilibino**	**84.70**	**343**	*e*P	P	21 13 33.8	-0.8
	7.2nm,0.9s,mb4.8						
BR131	**Keskin Array S**	**85.07**	**50**	*e*P	P	21 13 36.5	-0.6
	1.8nm,0.8s,mb4.2						
BRTR	**Keskin Array B**	**85.07**	**50**	P	P	21 13 39.5	+2.4
	1.4nm,0.7s,mb4.2,baz=281,slow=2.3,SNR=8.6						
BRTR	**Keskin Array B**	**85.07**	**50**	P	P	21 13 39.5	+2.4
STKA	**Stephens Creek**	**152.10**	**238**	PKPbc	PKPbc	21 20 57.9	+1.0
	5.2nm,0.9s,baz=94,slow=7.2,SNR=3.7						
STKA				PKPab	PKPab	21 21 08.8	+2.3
	9.6nm,0.9s,baz=357,slow=3.7,SNR=5.9						
STKA	**Stephens Creek**	**152.10**	**238**	PKPbc	PKPbc	21 20 57.9	+1.0
STKA				PKPab	PKPab	21 21 08.8	+2.3

*IDC **02** 21:02:32.0±1.0, 19.°40N×66.°25W, h0km, mb3.8/7, mb1 4.2/7, mb1mx3.9/23, mbtmp3.8/7, Error ellipse: s-maj=28.5km s-min=17.1km az=64.0*
*ISCJB **02** 21:02:34.6±2.3, 19.°48N±0.°04×66.°27W±0.°06, h28km±18km, mb3.8/6, Error ellipse: s-maj=9.4km s-min=6.9km az=155.2*
*NEIC **02** 21:02:36.2, 19.°52N×66.°26W, h47km, MD3.2(RSPR), After RSPR.*
*RSPR **02** 21:02:36.2, 19.°52N×66.°26W, h47km±24km, MD3.2/10*
ISC 02 21:02:34.8±2.5, 19.°42N±0.°04×66.°26W±0.°06, h17km±16km, n28, σ0°53/36, mb3.8/6, 20C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.16**	**204**	*e*P	**Pn**	**21 02 55.2**	**-1.1**
AOPR	**Arecibo Observ**	**1.16**	**204**	*e*P	**Pn**	**21 02 55.2**	**-1.1**
CBYP	**Canovanas**	**1.20**	**161**	*e*P	**Pn**	**21 02 56.5**	**-0.3**
CBYP	**Canovanas**	**1.20**	**161**	*e*P	**Pn**	**21 02 56.5**	**-0.3**
CBYP				eS	**Sb**	**21 03 12.6**	**+0.3**
SJG	**San Juan**	**1.30**	**175**	*e*P	**Pn**	**21 02 58.6**	**+0.4**
SJG	**San Juan**	**1.30**	**175**	Pn	**Pn**	**21 02 57.7**	**-0.5**
	75nm,0.3s,baz=7.9,slow=15,SNR=2.9						
SJG				Sn	**Sn**	**21 03 14.1**	**-1.1**
	113nm,0.3s,baz=281,slow=21,SNR=2.8						
SJG	**San Juan**	**1.30**	**175**	*e*P	**Pn**	**21 02 58.6**	**+0.4**
SJG				eS	**Sb**	**21 03 15.9**	**+0.7**
HUMP	**Col San Antoni**	**1.33**	**163**	*e*P	**Pn**	**21 02 58.4**	**-0.1**
HUMP	**Col San Antoni**	**1.33**	**163**	*e*P	**Pn**	**21 02 58.4**	**-0.1**
HUMP				eS	**Sb**	**21 03 16.0**	**+0.1**
OBIP	**Obispado Ponce**	**1.41**	**194**	*e*P	**Pn**	**21 02 59.5**	**-0.1**
OBIP	**Obispado Ponce**	**1.41**	**194**	*e*P	**Pn**	**21 02 59.5**	**-0.1**
LSP	**Las Mesas**	**1.46**	**213**	*e*P	**Pn**	**21 02 59.9**	**-0.6**
LSP				eS	**Sn**	**21 03 19.5**	**+0.3**
LSP	**Las Mesas**	**1.46**	**213**	*e*P	**Pn**	**21 02 59.9**	**-0.6**
LSP				eS	**Sn**	**21 03 19.5**	**+0.3**
MTP	**Monte Pirata**	**1.47**	**153**	*e*P	**Pn**	**21 03 00.4**	**-0.2**
MTP	**Monte Pirata**	**1.47**	**153**	*e*P	**Pn**	**21 03 00.4**	**-0.2**
ICM	**Isla Caja Muer**	**1.54**	**189**	*e*P	**Pn**	**21 03 01.6**	**+0.2**
ICM	**Isla Caja Muer**	**1.54**	**189**	*e*P	**Pn**	**21 03 01.6**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.62**	**210**	*e*P	**Pn**	**21 03 02.8**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.62**	**210**	*e*P	**Pn**	**21 03 02.8**	**+0.3**
CRPR				eS	**Sn**	**21 03 23.4**	**+0.3**
STVI	**Saint Thomas**	**1.63**	**130**	*e*P	**Pn**	**21 03 03.2**	**+0.6**
STVI	**Saint Thomas**	**1.63**	**130**	*e*P	**Pn**	**21 03 03.2**	**+0.6**
STVI				eS	**Sn**	**21 03 23.1**	**-0.1**
TEIG	**Tepich**	**20.73**	**276**	P	**P**	**21 07 14.6**	**0.0**
	2.5nm,0.5s,baz=331,slow=16,SNR=2.5						
TXAR	**Lajitas Array**	**35.34**	**294**	P	**P**	**21 09 29.6**	**+0.1**
	1.2nm,0.6s,mb4.0,baz=114,slow=9.9,SNR=4.9						
PDAR	**Pinedale Array**	**43.16**	**312**	P	**P**	**21 10 35.1**	**+0.6**
	0.6nm,0.7s,mb3.5,baz=114,slow=11,SNR=3.1						
NVAR	**Mina Array Bea**	**48.66**	**304**	P	**P**	**21 11 19.1**	**+1.0**
	0.5nm,0.6s,mb3.8,baz=91,slow=7.5,SNR=3.2						
YKA	**Yellowknife Ar**	**54.27**	**335**	P	**P**	**21 11 59.0**	**-0.7**
	1.1nm,0.7s,mb3.9,baz=111,slow=7.8,SNR=2.9						
TORD	**Torodi Ar. Bea**	**65.18**	**84**	P	**P**	**21 13 15.9**	**+0.4**
	0.4nm,0.5s,mb3.7,baz=293,slow=7.0,SNR=5.6						
ILAR	**Eielson Array**	**68.63**	**333**	P	**P**	**21 13 36.0**	**-0.7**
	0.9nm,0.6s,mb3.9,baz=105,slow=4.3,SNR=4.5						

*IDC **02** 21:05:17.2±0.9, 19.°51N×66.°21W, h0km, mb3.9/9, mb1 4.2/9, mb1mx3.9/24, mbtmp3.9/9, Error ellipse: s-maj=31.1km s-min=14.8km az=73.0*
*ISCJB **02** 21:05:18.9±1.2, 19.°48N±0.°03×66.°36W±0.°04, h23km±9km, mb4.0/10, Error ellipse: s-maj=7.3km s-min=5.2km az=160.4*
*NEIC **02** 21:05:20.7, 19.°51N×66.°37W, h49km, MD3.6(RSPR), After RSPR.*
*RSPR **02** 21:05:20.7, 19.°51N×66.°37W, h49km±21km, MD3.6/15*
ISC 02 21:05:18.6±1.4, 19.°42N±0.°03×66.°36W±0.°04, h10km±8km, n46, σ0°89/61, mb4.0/10, 18C-10D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.13**	**199**	*e*P	**Pb**	**21 05 39.9**	**-0.2**
AOPR	**Arecibo Observ**	**1.13**	**199**	*e*P	**Pb**	**21 05 39.9**	**-0.2**
AOPR				eS	**Sg**	**21 05 55.1**	**+0.2**
LRS	**Lares**	**1.21**	**202**	*e*P	**Pb**	**21 05 41.0**	**-0.5**
LRS	**Lares**	**1.21**	**202**	*e*P	**Pb**	**21 05 41.0**	**-0.5**
CBYP	**Canovanas**	**1.23**	**157**	*e*P	**Pn**	**21 05 41.6**	**-0.3**
CBYP	**Canovanas**	**1.23**	**157**	*e*P	**Pn**	**21 05 41.6**	**-0.3**
CBYP				eS	**Sb**	**21 05 59.1**	**+1.1**
SJG	**San Juan**	**1.31**	**171**	*e*P	**Pn**	**21 05 42.7**	**-0.3**
SJG	**San Juan**	**1.31**	**171**	*i*P	**Pn**	**21 05 42.8**	**-0.2**
SJG	**San Juan**	**1.31**	**171**	Pn	**Pn**	**21 05 42.3**	**-0.7**
	146nm,0.3s,baz=8.7,slow=11,SNR=10						
SJG				Sn	**Sn**	**21 06 02.3**	**+1.8**
	329nm,0.3s,baz=310,slow=18,SNR=9.2						
SJG	**San Juan**	**1.31**	**171**	*e*P	**Pn**	**21 05 42.7**	**-0.3**
SJG				eS	**Sb**	**21 06 00.3**	**+0.1**
CELP	**Cerrillos**	**1.35**	**189**	*e*P	**Pn**	**21 05 43.3**	**-0.2**
CELP				eS	**Sb**	**21 06 00.6**	**-0.7**
CELP	**Cerrillos**	**1.35**	**189**	*i*P	**Pn**	**21 05 43.3**	**-0.2**
CELP				eS	**Sb**	**21 06 00.6**	**-0.7**
HUMP	**Col San Antoni**	**1.36**	**159**	*e*P	**Pn**	**21 05 43.0**	**-0.6**
HUMP	**Col San Antoni**	**1.36**	**159**	*i*P	**Pn**	**21 05 43.0**	**-0.6**
HUMP				eS	**Sb**	**21 06 01.6**	**+0.1**
OBIP	**Obispado Ponce**	**1.39**	**190**	*e*P	**Pn**	**21 05 43.8**	**-0.2**
OBIP	**Obispado Ponce**	**1.39**	**190**	*i*P	**Pn**	**21 05 43.8**	**-0.2**
OBIP				eS	**Sb**	**21 06 02.0**	**-0.3**
LSP	**Las Mesas**	**1.41**	**209**	*e*P	**Pn**	**21 05 44.5**	**+0.1**
LSP				eS	**Sn**	**21 06 03.4**	**+0.3**
LSP	**Las Mesas**	**1.41**	**209**	*i*P	**Pn**	**21 05 44.5**	**+0.1**
LSP				eS	**Sn**	**21 06 03.4**	**+0.3**
CPD	**Cerro la Pandu**	**1.44**	**163**	*e*P	**Pn**	**21 05 44.3**	**-0.4**
CPD	**Cerro la Pandu**	**1.44**	**163**	*i*P	**Pn**	**21 05 44.3**	**-0.4**
CPD				eS	**Sn**	**21 06 03.1**	**-0.5**
MTP	**Monte Pirata**	**1.52**	**150**	*e*P	**Pn**	**21 05 45.4**	**-0.5**
MTP	**Monte Pirata**	**1.52**	**150**	*i*P	**Pn**	**21 05 45.4**	**-0.5**
MTP				eS	**Sn**	**21 06 04.4**	**-1.3**
ICM	**Isla Caja Muer**	**1.52**	**186**	*e*P	**Pn**	**21 05 46.5**	**+0.7**
ICM	**Isla Caja Muer**	**1.52**	**186**	*i*P	**Pn**	**21 05 46.5**	**+0.7**
ICM				eS	**Sn**	**21 06 06.1**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.57**	**207**	*e*P	**Pn**	**21 05 47.3**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.57**	**207**	*i*P	**Pn**	**21 05 47.3**	**+0.7**
CRPR				eS	**Sn**	**21 06 06.8**	**-0.3**
STVI	**Saint Thomas**	**1.70**	**128**	*e*P	**Pn**	**21 05 48.4**	**+0.1**
STVI	**Saint Thomas**	**1.70**	**128**	*i*P	**Pn**	**21 05 48.4**	**+0.1**
STVI				eS	**Sn**	**21 06 09.9**	**-0.3**
TBVI	**Tortola**	**1.93**	**121**	*e*P	**Pn**	**21 05 51.6**	**+0.1**
TBVI	**Tortola**	**1.93**	**121**	*i*P	**Pn**	**21 05 51.6**	**+0.1**
SDDR	**Presa de Saban**	**4.68**	**266**	*e*Pn	**Pn**	**21 06 29.7**	**+0.4**
SDDR				eSn	**Sn**	**21 07 20.7**	**-2.9**
TKL	**Tuckaleechee C**	**22.31**	**320**	P	**P**	**21 10 13.6**	**-2.7**
	13nm,0.7s,mb4.5,baz=190,slow=8.9,SNR=5.6						
TKL	**Tuckaleechee C**	**22.31**	**320**	P	**P**	**21 10 13.6**	**-2.7**
TXAR	**Lajitas Array**	**35.26**	**294**	P	**P**	**21 12 15.7**	**+2.1**
	1.0nm,0.5s,mb4.0,baz=108,slow=9.5,SNR=9.5						
LPAZ	**La Paz**	**35.52**	**183**	P	**P**	**21 12 19.3**	**+3.4**
	1.0nm,0.7s,mb3.9,baz=5.1,slow=10,SNR=2.9						
LPAZ	**La Paz**	**35.52**	**183**	P	**P**	**21 12 19.3**	**+3.4**
PDAR	**Pinedale Array**	**43.09**	**312**	P	**P**	**21 13 20.6**	**+1.7**
	0.5nm,0.8s,mb3.3,baz=112,slow=9.8,SNR=4.0						
PDAR	**Pinedale Array**	**43.09**	**312**	P	**P**	**21 13 20.6**	**+1.7**
NVAR	**Mina Array Bea**	**48.59**	**304**	P	**P**	**21 14 03.4**	**+1.0**
	0.4nm,0.4s,mb3.8,baz=95,slow=6.4,SNR=4.4						
NVAR	**Mina Array Bea**	**48.59**	**304**	P	**P**	**21 14 03.4**	**+1.0**
YKA	**Yellowknife Ar**	**54.23**	**335**	P	**P**	**21 14 43.5**	**-0.8**
	1.5nm,0.6s,mb4.1,baz=116,slow=7.8,SNR=6.5						
DLBC	**Dease Lake**	**59.32**	**327**	P	**P**	**21 15 25.3**	**+0.7**
	2.3nm,0.6s,mb4.4,baz=149,slow=23,SNR=5.0						
INK	**Inuvik**	**63.71**	**338**	P	**P**	**21 15 49.0**	**-1.0**
	1.3nm,0.6s,mb4.1,baz=96,slow=10,SNR=9.4						
TORD	**Torodi Ar. Bea**	**65.28**	**84**	P	**P**	**21 16 01.3**	**+0.1**
	0.4nm,0.6s,mb3.7,baz=287,slow=6.7,SNR=4.3						
ILAR	**Eielson Array**	**68.58**	**333**	P	**P**	**21 16 21.1**	**-0.3**
	1.6nm,0.6s,mb4.1,baz=105,slow=4.0,SNR=28						
ASAR	**Alice Springs**	**160.68**	**254**	PKPab	PKPab	21 26 01.3	-0.1
	0.6nm,0.6s,baz=100,slow=4.6,SNR=6.1						

*NEIC **02** 21:09:52.5, 19.°21N×66.°29W, h66km, MD2.9(RSPR), After RSPR.*
RSPR 02 21:09:52.5, 19.°21N×66.°29W, h66km±15km, MD2.9/6, 17C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**0.96**	**207**	*e*S	Sn	21 10 22.3	-1.3
AOPR	**Arecibo Observ**	**0.96**	**207**	*e*P	Pn	21 10 09.2	-1.2
AOPR	**Arecibo Observ**	**0.96**	**207**	eS	Sn	21 10 23.6	0.0
AOPR	**Arecibo Observ**	**0.96**	**207**	*i*P	Pn	21 10 07.9	-2.5
AOPR	**Arecibo Observ**	**0.96**	**207**	*i*P	Pn	21 10 07.9	-2.5
AOPR				eS	Sn	21 10 23.6	0.0
CBYP	**Canovanas**	**1.02**	**156**	*e*P	Pn	21 10 11.0	-0.1
CBYP	**Canovanas**	**1.02**	**156**	eS	Sn	21 10 25.0	+0.1
CBYP	**Canovanas**	**1.02**	**156**	eS	Sn	21 10 25.2	+0.4
CBYP	**Canovanas**	**1.02**	**156**	*i*P	Pn	21 10 08.6	-2.6
CBYP	**Canovanas**	**1.02**	**156**	*i*P	Pn	21 10 11.0	-0.1
CBYP				eS	Sn	21 10 25.2	+0.4
SJG	**San Juan**	**1.10**	**173**	*e*P	Pn	21 10 11.0	-1.2
SJG	**San Juan**	**1.10**	**173**	*i*P	Pn	21 10 10.5	-1.7
SJG				eS	Sn	21 10 26.3	-0.4
SJG	**San Juan**	**1.10**	**173**	*i*P	Pn	21 10 10.4	-1.7
SJG	**San Juan**	**1.10**	**173**	eS	Sn	21 10 26.7	-0.1
SJG	**San Juan**	**1.10**	**173**	*i*P	Pn	21 10 10.5	-1.7
SJG				eS	Sn	21 10 27.3	+0.6
SJG	**San Juan**	**1.10**	**173**	ePn	Pn	21 10 10.4	-1.8
SJG				eSn	Sn	21 10 26.6	-0.1
HUMP	**Col San Antoni**	**1.14**	**158**	*e*P	Pn	21 10 11.9	-0.8
HUMP	**Col San Antoni**	**1.14**	**158**	eS	Sn	21 10 26.9	-0.8
HUMP	**Col San Antoni**	**1.14**	**158**	*i*P	Pn	21 10 10.4	-2.2
HUMP	**Col San Antoni**	**1.14**	**158**	eS	Sn	21 10 27.2	-0.5
CELP	**Cerrillos**	**1.16**	**194**	*e*P	Pn	21 10 12.2	-0.7
CELP				eS	Sn	21 10 27.0	-1.2
CELP	**Cerrillos**	**1.16**	**194**	*i*P	Pn	21 10 12.2	-0.7
CELP				eS	Sn	21 10 27.0	-1.2
LSP	**Las Mesas**	**1.27**	**216**	*e*P	Pn	21 10 14.0	-0.4
LSP				eS	Sn	21 10 31.1	+0.3
LSP	**Las Mesas**	**1.27**	**216**	*i*P	Pn	21 10 12.6	-1.8
LSP	**Las Mesas**	**1.27**	**216**	*i*P	Pn	21 10 14.0	-0.4
MTP	**Monte Pirata**	**1.31**	**148**	*e*P	Pn	21 10 13.6	-1.3
MTP	**Monte Pirata**	**1.31**	**148**	eS	Sn	21 10 30.6	-1.0
MTP	**Monte Pirata**	**1.31**	**148**	*i*P	Pn	21 10 12.9	-2.0
CRPR	**Cabo Rojo, PR**	**1.43**	**213**	*e*P	Pn	21 10 15.9	-0.5
CRPR	**Cabo Rojo, PR**	**1.43**	**213**	*i*P	Pn	21 10 15.9	-0.5
CRPR				eS	Sn	21 10 34.0	-0.4
STVI	**Saint Thomas**	**1.53**	**124**	*e*P	Pn	21 10 18.0	+0.2
STVI	**Saint Thomas**	**1.53**	**124**	*i*P	Pn	21 10 18.0	+0.2
STVI				eS	Sn	21 10 36.0	-0.8

*IDC **02** 21:11:06.5±0.6, 31.°41S×177.°75W, h0km, mb4.4/10, mb1 4.6/11, mb1mx4.4/20, mbtmp4.4/11, ML4.4/1, MS3.8/1, Ms1 3.8/1, ms1mx3.1/31, Error ellipse: s-maj=23.2km s-min=19.0km az=148.0*
*NEIC **02** 21:11:07.0±2.7, 31.°43S×177.°72W, h6km±16km, mb4.7/9, Error ellipse: s-maj=7.6km s-min=5.8km az=115.0*
*ISCJB **02** 21:11:09.8±0.5, 31.°54S±0.°05×177.°9W±0.°1, h33km, mb4.5/15, Error ellipse: s-maj=12.4km s-min=6.9km az=10.8*
ISC 02 21:11:11.7±0.5, 31.°50S±0.°04×177.°85W±0.°10, h35km, n83, σ1°08/67, mb4.5/15, 1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.24**	**358**	*e*Pn	**Pn**	**21 11 43.6**	**-2.7**
RAO				*e*Sg	**Sn**	**21 12 15.0**	**+2.3**
URZ	**Urewera**	**7.92**	**210**	Pn	**Pn**	**21 13 00.5**	**-3.8**
	2.0nm,0.3s,baz=308,slow=4.1,SNR=6.3						
URZ				Sn	**Sn**	**21 14 26.8**	**-5.7**
	12nm,0.3s,baz=353,slow=16,SNR=7.5						
URZ	**Urewera**	**7.92**	**210**	*e*Pn	**Pn**	**21 12 56.1**	**-8.2**
URZ				*e*Sn	**Sn**	**21 14 29.0**	**-3.5**
OUZ	**Omahuta**	**8.06**	**240**	*e*Pn	**Pn**	**21 13 06.5**	**

comp=Z,4.4nm,0.5s,baz=82,slow=6.1,SNR=6.8
MMAI PKPab PKPab 21 31 11.2 -1.2
comp=Z,3.1nm,0.4s,baz=83,slow=6.9,SNR=5.3
AKASG Malin Array Be 152.24 322 PKPbc PKPbc 21 31 02.6 -0.6
comp=Z,0.4nm,0.4s,baz=46,slow=3.2,SNR=5.5
AKASG PKPab PKPab 21 31 12.4 -0.8
comp=Z,4.1nm,0.8s,baz=45,slow=3.8,SNR=14
AKASG Malin Array Be 152.24 322 PKPbc PKPbc 21 31 02.6 -0.6
AKASG PKPab PKPab 21 31 12.4 -0.8
BRTR Keskin Array B 153.22 297 PKPbc PKPbc 21 31 06.8 +1.0
comp=Z,1.1nm,0.6s,baz=143,slow=3.7,SNR=6.9
BRTR PKPab PKPab 21 31 18.5 +0.8
comp=Z,1.2nm,0.5s,baz=0.0,slow=1.6,SNR=6.4
BRTR Keskin Array B 153.22 297 PKPbc PKPbc 21 31 06.8 +1.0
BRTR PKPab PKPab 21 31 18.5 +0.8
KHC Kasperske Hory 160.39 337 *e*PKPAB PKPab 21 31 48.0 -0.1
GERES GERESS Array B 160.59 337 PKPab PKPab 21 31 47.7 -1.3
comp=Z,0.6nm,0.7s,baz=41,slow=4.3,SNR=4.0
TORD Torodi Ar. Bea 161.73 179 PKPab PKPab 21 31 53.9 -0.9
comp=Z,0.9nm,0.7s,baz=171,slow=4.6,SNR=7.1

NIC ***02*** *21:25:27.9±0.2, 36°.00′N×31°.16′E, h15km, mb4.1, ML3.8, MW3.7*
MOS ***02*** *21:25:27.3±1.2, 35°.52′N×31°.32′E, h22km, mb4.2/12, Error ellipse: s-maj=9.9km s-min=4.8km az=117.0*
ISCJB ***02*** *21:25:28.7±0.2, 35°.74′N±0°.02×31°.28′E±0°.02, h10km, mb4.2/29, Error ellipse: s-maj=2.4km s-min=1.7km az=29.9*
DDA ***02*** *21:25:28.7, 35°.86′N×31°.35′E, h4km±4km, Md3.5*
NEIC ***02*** *21:25:28.1, 35°.79′N×31°.36′E, h5km, mb4.3/17, ML3.9(NIC), ML3.8(ISK), After ISK.*
ISK ***02*** *21:25:28.2, 35°.78′N×31°.36′E, h5km, ML3.9*
SGS ***02*** *21:25:32.5, 35°.66′N×31°.23′E, h10km*
IDC ***02*** *21:25:32.8±1.8, 35°.74′N×31°.29′E, h46km±15km, mb3.8/11, mb1 4.0/16, mb1mx3.8/27, mbtmp3.9/16, ML4.1/5, Error ellipse: s-maj=19.9km s-min=10.0km az=67.0*
THE ***02*** *21:25:33.8, 35°.74′N×31°.35′E, h40km±5km, ML3.9/2, Error ellipse: s-maj=5.4km s-min=1.5km az=79.0*
CSEM ***02*** *21:25:33.4±0.1, 35°.77′N×31°.30′E, h50km±1km, mb4.3/17, Mw3.7, Error ellipse: s-maj=2.7km s-min=1.9km az=29.0*
HLW ***02*** *21:25:34.3, 35°.61′N×31°.24′E, h31km±39km, Md3.7, Ml3.7*
SZGRF ***02*** *21:25:35.1, 36°.96′N×31°.85′E, h33km, mb3.9, Turkey*

ISC 02 21:25:30.4±0.1, 35.76N±0°.02×31°.29E±0°.02, h10km, n438, σ1♀22/494, mb4.2/29, 7C-2D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.95**	**60**	*i* P		**Pg**		**21 25 48.6**	**-0.1**
GAZI				*i* S		**Sg**		**21 25 58.2**	**-3.0**
GAZI	**Gazipasa**	**0.95**	**60**	*i* P		**Pg**		**21 25 48.6**	**-0.1**
ALFC	**Alevga**	**1.23**	**119**	P		**Pn**		**21 25 52.8**	**-0.7**
	55nm,0.2s								
ALFC				S		**Sg**		**21 26 11.8**	**+2.0**
ALFC	**Alevga**	**1.23**	**119**	P		**Pn**		**21 25 52.8**	**-0.7**
	55nm,0.2s								
ALFC				S		**Sg**		**21 26 11.8**	**+2.0**
PPCY	**Paphos**	**1.23**	**135**	P		**Pn**		**21 25 53.3**	**-0.2**
PPCY	**Paphos**	**1.23**	**135**	P		**Pn**		**21 25 53.3**	**-0.2**
ANTB	**Antalya**	**1.25**	**336**	*e*PN		**Pn**		**21 25 52.6**	**-1.2**
ANTB	**Antalya**	**1.25**	**336**	*e*Pn		**Pn**		**21 25 52.6**	**-1.2**
AKAS	**Kas**	**1.45**	**289**	*i* P		**Pn**		**21 25 56.0**	**-0.5**
AKAS	**Kas**	**1.45**	**289**	*i* P		**Pn**		**21 25 56.0**	**-0.6**
KORT	**Korkueli**	**1.45**	**329**	*i* P		**Pn**		**21 25 55.9**	**-0.8**
KORT				*i* S		**Sg**		**21 26 21.2**	**+4.1**
KORT	**Korkueli**	**1.45**	**329**	*i* P		**Pn**		**21 25 55.9**	**-0.7**
LEF	**Lefka**	**1.45**	**116**	*e*PN		**Pn**		**21 25 55.5**	**-1.1**
LEF				*e*SN		**Sn**		**21 26 15.5**	**-0.3**
LEF	**Lefka**	**1.45**	**116**	Pn		**Pn**		**21 25 55.5**	**-1.1**
LEF				Sg		**Sg**		**21 26 15.6**	**-1.6**
LEF	**Lefka**	**1.45**	**116**	*e*Pn		**Pn**		**21 25 55.6**	**-1.1**
LEF				*e*Sn		**Sn**		**21 26 15.5**	**-0.3**
ELL	**Elmali**	**1.49**	**312**	*e*PN		**Pn**		**21 25 57.5**	**+0.3**
ELL	**Elmali**	**1.49**	**312**	Pn		**Pn**		**21 25 57.7**	**+0.5**
ELL	**Elmali**	**1.49**	**312**	P		**Pn**		**21 25 57.7**	**+0.5**
ELL	**Elmali**	**1.49**	**312**	P		**Pn**		**21 25 57.7**	**+0.5**
HDMB	**Hadim**	**1.54**	**38**	*e*PN		**Pn**		**21 25 57.2**	**-0.6**
HDMB	**Hadim**	**1.54**	**38**	Pn		**Pn**		**21 25 57.5**	**-0.4**
HDMB	**Hadim**	**1.54**	**38**	Pn		**Pn**		**21 25 57.5**	**-0.3**
MAMC	**Mammari**	**1.68**	**110**	P		**Pn**		**21 25 58.9**	**-0.9**
MAMC	**Mammari**	**1.68**	**110**	P		**Pn**		**21 25 58.9**	**-0.9**
BCK	**Bucak**	**1.79**	**342**	*e*PN		**Pn**		**21 26 01.1**	**-0.1**
BCK	**Bucak**	**1.79**	**342**	Pn		**Pn**		**21 26 01.1**	**-0.1**
BCK	**Bucak**	**1.79**	**342**	P		**Pn**		**21 26 01.1**	**-0.2**
BCK	**Bucak**	**1.79**	**342**	*e*Pn		**Pn**		**21 26 01.1**	**-0.2**
CSS	**Prodhromos**	**1.85**	**115**	P		**Pn**		**21 26 01.0**	**-1.1**
	16nm,0.7s								
CSS				S		**Sn**		**21 26 27.4**	**+1.9**
CSS	**Prodhromos**	**1.85**	**115**	*e*PN		**Pn**		**21 26 00.9**	**-1.2**
CSS	**Prodhromos**	**1.85**	**115**	*e*Pn		**Pn**		**21 26 01.1**	**-1.0**
CSS				*e*Sn		**Sn**		**21 26 22.9**	**-2.5**
CSS	**Prodhromos**	**1.85**	**115**	P		**Pn**		**21 26 01.0**	**-1.1**
CSS	**Prodhromos**	**1.85**	**115**	*e*Pn		**Pn**		**21 26 01.1**	**-1.0**
CSS				*e*Sn		**Sn**		**21 26 29.2**	**-2.6**
CSS				S		**Sg**		**21 26 27.4**	**+1.9**
LFK	**Lefkose**	**1.89**	**104**	*e*PN		**Pn**		**21 26 01.9**	**-0.7**
LFK	**Lefkose**	**1.89**	**104**	Pn		**Pn**		**21 26 01.9**	**-0.7**
LFK	**Lefkose**	**1.89**	**104**	*e*Pn		**Pn**		**21 26 01.9**	**-0.8**
FETY	**Fethiye**	**1.99**	**297**	*e*PN		**Pn**		**21 26 04.6**	**+0.6**
FETY	**Fethiye**	**1.99**	**297**	Pn		**Pn**		**21 26 04.7**	**+0.7**
FETY	**Fethiye**	**1.99**	**297**	Pn		**Pn**		**21 26 04.7**	**+0.7**
GLHS	**Glhisar (BURDU**	**2.01**	**314**	*e*PN		**Pn**		**21 26 04.8**	**+0.5**
GLHS	**Glhisar (BURDU**	**2.01**	**314**	Pn		**Pn**		**21 26 05.2**	**+0.9**
GLHS	**Glhisar (BURDU**	**2.01**	**314**	*e*Pn		**Pn**		**21 26 04.8**	**+0.5**
GOLH	**Golhisar**	**2.03**	**317**	*i* P		**Pn**		**21 26 06.6**	**+2.0**
GOLH	**Golhisar**	**2.03**	**317**	*i* P		**Pn**		**21 26 06.6**	**+2.0**
KONT	**Konya--Tatoy**	**2.34**	**21**	*e*PN		**Pn**		**21 26 08.8**	**0.0**
KONT	**Konya--Tatoy**	**2.34**	**21**	Pn		**Pn**		**21 26 09.1**	**+0.2**
KONT	**Konya--Tatoy**	**2.34**	**21**	Pn		**Pn**		**21 26 09.1**	**+0.2**
EREN	**Erenkoy**	**2.35**	**95**	*e*PN		**Pn**		**21 26 08.9**	**-0.2**
EREN	**Erenkoy**	**2.35**	**95**	Pn		**Pn**		**21 26 08.9**	**-0.2**
EREN	**Erenkoy**	**2.35**	**95**	*e*Pn		**Pn**		**21 26 08.9**	**-0.2**
PHNC	**Paralimni**	**2.36**	**108**	P		**Pn**		**21 26 10.1**	**+0.9**
	34nm,0.5s								
PHNC				S		**Sn**		**21 26 41.1**	**+2.9**
PHNC	**Paralimni**	**2.36**	**108**	P		**Pn**		**21 26 10.1**	**+0.9**
	34nm,0.5s								
PHNC				S		**Sn**		**21 26 41.1**	**+2.9**
TURN	**Turunc**	**2.44**	**298**	*i* P		**Pn**		**21 26 14.6**	**+4.4**
TURN				*i* S		**Sn**		**21 26 42.3**	**+2.3**
ARG	**Arkhangelos**	**2.61**	**281**	P		**Pn**		**21 26 13.5**	**+1.0**
ARG				S		**Sn**		**21 26 43.9**	**-0.3**
ARG	**Arkhangelos**	**2.61**	**281**	P		**Pn**		**21 26 13.5**	**+1.0**
ARG				S		**Sn**		**21 26 43.9**	**-0.3**
DNZL	**Cakiroluk**	**2.64**	**317**	*i* P		**Pn**		**21 26 16.7**	**+3.8**
DNZL				*i* S		**Sn**		**21 26 51.2**	**+6.2**
DENT	**Denizli**	**2.69**	**318**	*e*PN		**Pn**		**21 26 14.4**	**+0.8**
DENT	**Denizli**	**2.69**	**318**	Pn		**Pn**		**21 26 14.8**	**+1.1**
DENT	**Denizli**	**2.69**	**318**	*e*Pn		**Pn**		**21 26 14.4**	**+0.7**
YER	**Yerkesik**	**2.79**	**300**	*e*PN		**Pn**		**21 26 16.1**	**+1.1**
YER	**Yerkesik**	**2.79**	**300**	Pn		**Pn**		**21 26 16.3**	**+1.3**
YER	**Yerkesik**	**2.79**	**300**	P		**Pn**		**21 26 16.3**	**+1.3**
YER	**Yerkesik**	**2.79**	**300**	*e*Pn		**Pn**		**21 26 16.1**	**+1.1**
KDHN	**Kadinhani**	**2.83**	**13**	*i* P		**Pn**		**21 26 16.0**	**+0.4**
KDHN				*i* S		**Sn**		**21 26 51.9**	**+2.2**
KDHN	**Kadinhani**	**2.83**	**13**	*i* P		**Pn**		**21 26 16.0**	**+0.4**
SHUT	**Suhut-Afyon**	**2.85**	**348**	*e*PN		**Pn**		**21 26 16.2**	**+0.4**
SHUT	**Suhut-Afyon**	**2.85**	**348**	*e*Pn		**Pn**		**21 26 16.2**	**+0.4**
BOLV	**Bolvadin**	**2.96**	**355**	*i* P		**Pn**		**21 26 18.5**	**+1.1**
BOLV				*i* S		**Sn**		**21 26 54.7**	**+1.7**
BOLV	**Bolvadin**	**2.96**	**355**	*i* P		**Pn**		**21 26 18.5**	**+1.1**
BOLV				*i* S		**Sn**		**21 26 54.7**	**+1.7**
KHAL	**Karahalli**	**2.98**	**332**	*i* P		**Pn**		**21 26 19.0**	**+1.4**
KHAL				*i* S		**Sn**		**21 26 54.2**	**+0.9**
KHAL	**Karahalli**	**2.98**	**332**	*i* P		**Pn**		**21 26 19.0**	**+1.4**
KHAL				*i* S		**Sn**		**21 26 54.2**	**+0.9**
SULT	**Sultanhani-AKS**	**3.01**	**36**	*e*PN		**Pn**		**21 26 18.2**	**+0.1**
SULT	**Sultanhani-AKS**	**3.01**	**36**	Pn		**Pn**		**21 26 18.2**	**+0.1**
SULT	**Sultanhani-AKS**	**3.01**	**36**	*e*Pn		**Pn**		**21 26 18.2**	**+0.1**
KIZT	**Kizilcal**	**3.15**	**8**	*e*PN		**Pn**		**21 26 20.3**	**+0.3**
KIZT	**Kizilcal**	**3.15**	**8**	Pn		**Pn**		**21 26 20.3**	**+0.3**
KIZT	**Kizilcal**	**3.15**	**8**	*e*Pn		**Pn**		**21 26 20.3**	**+0.3**
DAT	**Datca**	**3.15**	**289**	*e*PN		**Pn**		**21 26 21.3**	**+1.3**
DAT	**Datca**	**3.15**	**289**	*e*Pn		**Pn**		**21 26 21.3**	**+1.3**
GULE	**Gulek**	**3.19**	**61**	*i* P		**Pn**		**21 26 23.7**	**+3.2**
GULE				*i* S		**Sn**		**21 27 03.7**	**+5.1**
GULE	**Gulek**	**3.19**	**61**	*i* P		**Pn**		**21 26 23.7**	**+3.2**
MLSB	**Milas**	**3.22**	**299**	*e*PN		**Pn**		**21 26 22.2**	**+1.3**
MLSB	**Milas**	**3.22**	**299**	Pn		**Pn**		**21 26 22.4**	**+1.5**
MLSB	**Milas**	**3.22**	**299**	*e*Pn		**Pn**		**21 26 22.2**	**+1.3**
AYDN	**Tasoluk**	**3.33**	**306**	*i* P		**Pn**		**21 26 23.7**	**+1.2**
AYDN				*e*S		**Sn**		**21 26 59.5**	**-2.6**
AYDN	**Tasoluk**	**3.33**	**306**	*i* P		**Pn**		**21 26 23.7**	**+1.2**
AYDN				*e*S		**Sn**		**21 26 59.5**	**-2.7**
KARP	**Karpathos**	**3.37**	**268**	P		**Pn**		**21 26 24.4**	**+1.4**
KARP	**Karpathos**	**3.37**	**268**	P		**Pn**		**21 26 24.4**	**+1.4**
KARA	**Karaisali**	**3.38**	**63**	*e*PN		**Pn**		**21 26 23.3**	**+0.2**
KARA	**Karaisali**	**3.38**	**63**	*e*Pn		**Pn**		**21 26 23.3**	**+0.2**
KRTS	**Karatas**	**3.40**	**75**	*e*PN		**Pn**		**21 26 23.4**	**0.0**
KRTS	**Karatas**	**3.40**	**75**	*e*Pn		**Pn**		**21 26 23.4**	**0.0**
ALT	**Altintas**	**3.42**	**344**	*e*PN		**Pn**		**21 26 24.2**	**+0.5**
ALT	**Altintas**	**3.42**	**344**	Pn		**Pn**		**21 26 24.2**	**+0.5**
ALT	**Altintas**	**3.42**	**344**	*e*Pn		**Pn**		**21 26 24.2**	**+0.5**
NIS1	**Nisyros Isl.**	**3.43**	**285**	P		**Pn**		**21 26 24.8**	**+0.9**
NIS1				S		**Sn**		**21 27 04.2**	**-0.4**
NIS1	**Nisyros Isl.**	**3.43**	**285**	P		**Pn**		**21 26 24.8**	**+0.9**
NIS1				S		**Sn**		**21 27 04.2**	**-0.4**
KULA	**Kula-Manisa**	**3.46**	**323**	*e*PN		**Pn**		**21 26 25.3**	**+1.0**
KULA	**Kula-Manisa**	**3.46**	**323**	*e*Pn		**Pn**		**21 26 25.3**	**+1.1**
BODT	**Bodrum**	**3.46**	**293**	*e*PN		**Pn**		**21 26 24.8**	**+0.5**
BODT	**Bodrum**	**3.46**	**293**	Pn		**Pn**		**21 26 24.8**	**+0.5**
BODT	**Bodrum**	**3.46**	**293**	*e*Pn		**Pn**		**21 26 24.8**	**+0.5**
NIG	**Nigde**	**3.54**	**48**	*e*PN		**Pn**		**21 26 25.6**	**+0.2**
NIG	**Nigde**	**3.54**	**48**	Pn		**Pn**		**21 26 25.3**	**-0.1**
NIG	**Nigde**	**3.54**	**48**	*e*Pn		**Pn**		**21 26 25.6**	**+0.2**
GDZ	**Gediz**	**3.62**	**337**	*i* P		**Pn**		**21 26 26.4**	**-0.1**
GDZ				*i* S		**Sn**		**21 27 08.7**	**-0.5**
GDZ	**Gediz**	**3.62**	**337**	*i* P		**Pn**		**21 26 26.4**	**-0.1**
GDZ				*i* S		**Sn**		**21 27 08.7**	**-0.5**
SVRH	**Sivrihisar-ESK**	**3.68**	**3**	*e*PN		**Pn**		**21 26 27.9**	**+0.6**
SVRH	**Sivrihisar-ESK**	**3.68**	**3**	Pn		**Pn**		**21 26 27.8**	**+0.5**
SVRH	**Sivrihisar-ESK**	**3.68**	**3**	*e*Pn		**Pn**		**21 26 27.9**	**+0.6**
ESKT	**Eskisehir**	**3.77**	**355**	*e*PN		**Pn**		**21 26 29.1**	**+0.7**
ESKT	**Eskisehir**	**3.77**	**355**	Pn		**Pn**		**21 26 28.6**	**+0.1**
ESKT	**Eskisehir**	**3.77**	**355**	*e*Pn		**Pn**		**21 26 29.1**	**+0.6**
GCAM	**G?zelcaml?**	**3.79**	**302**	*i* P		**Pn**		**21 26 29.2**	**+0.4**
GCAM				*i* S		**Sn**		**21 27 08.7**	**-4.7**
GCAM	**G?zelcaml?**	**3.79**	**302**	*i* P		**Pn**		**21 26 29.2**	**+0.4**
CEYT	**Ceyhan**	**3.80**	**70**	*e*PN		**Pn**		**21 26 29.3**	**+0.3**
CEYT	**Ceyhan**	**3.80**	**70**	Pn		**Pn**		**21 26 29.4**	**+0.4**
CEYT	**Ceyhan**	**3.80**	**70**	Pn		**Pn**		**21 26 29.4**	**+0.4**
DEMI	**Demirci**	**3.86**	**329**	*i* P		**Pn**		**21 26 31.1**	**+1.3**
DEMI	**Demirci**	**3.86**	**329**	*i* P		**Pn**		**21 26 31.1**	**+1.3**
YAYL	**Yayladag**	**3.92**	**85**	*i* P		**Pn**		**21 26 31.3**	**+0.7**
YAYL				*i* S		**Sn**		**21 27 17.3**	**+0.7**
YAYL	**Yayladag**	**3.92**	**85**	*i* P		**Pn**		**21 26 31.3**	**+0.8**
YAYL				*i* S		**Sn**		**21 27 17.3**	**+0.7**
AFSR	**Af˙ar-Bala (A**	**3.94**	**20**	*e*PN		**Pn**		**21 26 31.0**	**+0.1**
AFSR	**Af˙ar-Bala (A**	**3.94**	**20**	*e*Pn		**Pn**		**21 26 31.0**	**+0.2**
HTY	**Hatay**	**3.95**	**83**	*e*PN		**Pn**		**21 26 31.5**	**+0.5**
HTY	**Hatay**	**3.95**	**83**	Pn		**Pn**		**21 26 31.6**	**+0.7**
HTY	**Hatay**	**3.95**	**83**	*e*Pn		**Pn**		**21 26 31.5**	**+0.5**
SLNF	**Slenfeh**	**4.02**	**91**	⇑*i* P		**Pn**		**21 26 32.5**	**+0.6**
KOZT	**Kozan**	**4.03**	**63**	*e*PN		**Pn**		**21 26 32.7**	**+0.6**
BHL	**Bhannes**	**4.04**	**116**	*e*P		**Pn**		**21 26 32.1**	**-0.1**
BHL	**Bhannes**	**4.04**	**116**	*e*P		**Pn**		**21 26 32.1**	**-0.1**
BBAL	**Bala**	**4.04**	**21**	*i* P		**Pn**		**21 26 32.8**	**+0.5**
BBAL				*i* S		**Sn**		**21 27 20.9**	**+1.2**
BBAL	**Bala**	**4.04**	**21**	*i* P		**Pn**		**21 26 32.8**	**+0.5**
BBAL				*i* S		**Sn**		**21 27 20.9**	**+1.2**
COBT	**Iskenderun**	**4.09**	**78**	*i* P		**Pn**		**21 26 34.1**	**+1.2**
COBT				*i* S		**Sn**		**21 27 21.5**	**+0.8**
COBT	**Iskenderun**	**4.09**	**78**	*i* P		**Pn**		**21 26 34.1**	**+1.2**
COBT				*i* S		**Sn**		**21 27 21.5**	**+0.7**
HWQ	**Hawqa**	**4.10**	**110**	*e*P		**Pn**		**21 26 34.1**	**+1.1**
HWQ	**Hawqa**	**4.10**	**110**	*e*P		**Pn**		**21 26 34.1**	**+1.1**
BORA	**Eskisehir**	**4.16**	**351**	*i* P		**Pn**		**21 26 34.4**	**+0.5**
BORA				*i* S		**Sn**		**21 27 23.3**	**+0.7**
BORA	**Eskisehir**	**4.16**	**351**	*i* P		**Pn**		**21 26 34.4**	**+0.5**
BORA				*i* S		**Sn**		**21 27 23.3**	**+0.7**
BIDA	**Albida**	**4.18**	**99**	⇑*i* P		**Pn**		**21 26 34.3**	**+0.2**
WRDH	**Warideh**	**4.18**	**92**	⇑*i* P		**Pn**		**21 26 34.7**	**+0.6**
ZKR	**Zakros**	**4.19**	**263**	P		**Pn**		**21 26 35.5**	**+1.1**
ZKR				S		**Sn**		**21 27 22.2**	**-1.2**
ZKR	**Zakros**	**4.19**	**263**	P		**Pn**		**21 26 35.5**	**+1.1**
ZKR				S		**Sn**		**21 27 22.2**	**-1.2**
BTCH	**Batrach**	**4.20**	**85**	⇑*i* P		**Pn**		**21 26 35.3**	**+0.8**
LOD	**Lodumlu**	**4.28**	**15**	*e*PN		**Pn**		**21 26 36.2**	**+0.7**
LOD	**Lodumlu**	**4.28**	**15**	Pn		**Pn**		**21 26 36.2**	**+0.7**
LOD	**Lodumlu**	**4.28**	**15**	Pn		**Pn**		**21 26 36.2**	**+0.7**
MMAI	**Mount Meron Ar**	**4.37**	**128**	P		**Pn**		**21 26 37.3**	**+0.6**
	22nm,0.3s,baz=300,slow=12,SNR=122								
MMAI				S		**Sn**		**21 27 26.4**	**-1.2**
	26nm,0.3s,baz=305,slow=28,SNR=11								
BRTR	**Keskin Array B**	**4.37**	**24**	P		**Pn**		**21 26 37.4**	**+0.6**
	5.8nm,0.3s,baz=195,slow=15,SNR=93								
BRTR				S		**Sn**		**21 27 27.5**	**-0.3**
	3.5nm,0.3s,baz=188,slow=18,SNR=4.7								
BRTR	**Keskin Array B**	**4.37**	**24**	P		**Pn**		**21 26 37.4**	**+0.6**
BRTR				S		**Sn**		**21 27 27.5**	**-0.3**
BRTR	**Keskin Array B**	**4.37**	**24**	P		**Pn**		**21 26 37.4**	**+0.6**
BRTR				S		**Sn**		**21 27 27.5**	**-0.2**
BRTR	**Keskin Array B**	**4.37**	**24**	P		**Pn**		**21 26 37.4**	**+0.6**
BRTR				S		**Sn**		**21 27 27.5**	**-0.2**
RCY	**Rachaya**	**4.38**	**120**	*e*P		**Pn**		**21 26 37.7**	**+0.9**
RCY	**Rachaya**	**4.38**	**120**	*e*P		**Pn**		**21 26 37.7**	**+0.9**
DRWC	**Darouich**	**4.43**	**77**	⇑*i* P		**Pn**		**21 26 38.1**	**+0.5**
ANDN	**Andirin**	**4.45**	**64**	*i* P		**Pn**		**21 26 40.3**	**+2.5**
ANDN	**Andirin**	**4.45**	**64**	*i* P		**Pn**		**21 26 40.3**	**+2.5**
BRBR	**Barbar**	**4.50**	**120**	⇑*i* P		**Pn**		**21 26 39.7**	**+1.1**
NPS	**Neapolis**	**4.66**	**266**	P		**Pn**		**21 26 41.8**	**+1.0**
NPS	**Neapolis**	**4.66**	**266**	P		**Pn**		**21 26 41.8**	**+1.0**
QASN	**Qassioun**	**4.67**	**117**	⇑*i* P		**Pn**		**21 26 42.3**	**+1.4**
KUZU	**Kuzuini**	**4.78**	**76**	*i* P		**Pn**		**21 26 43.2**	**+0.8**
KUZU				*i* S		**Sn**		**21 27 36.2**	**-1.7**
KUZU	**Kuzuini**	**4.78**	**76**	*i* P		**Pn**		**21 26 43.2**	**+0.8**
KUZU				*i* S		**Sn**		**21 27 36.2**	**-1.6**
LAST	**Lasithi**	**4.78**	**264**	P		**Pn**		**21 26 43.8**	**+1.4**
LAST	**Lasithi**	**4.78**	**264**	P		**Pn**		**21 26 43.8**	**+1.4**
THR3	**Thira Island,**	**4.81**	**279**	P		**Pn**		**21 26 43.8**	**+0.9**
THR3	**Thira Island,**	**4.81**	**279**	P		**Pn**		**21 26 43.8**	**+0.9**
APE	**Apeiranthos**	**4.83**	**287**	P		**Sn**		**21 27 39.5**	**+0.9**
KMRS	**Kahramanmaras**	**4.83**	**67**	*e*PN		**Pn**		**21 26 43.9**	**+0.8**
KMRS	**Kahramanmaras**	**4.83**	**67**	*e*Pn		**Pn**		**21 26 43.9**	**+0.8**
THR5	**Thira Island,**	**4.86**	**279**	P		**Pn**		**21 26 43.8**	**+0.3**
THR5	**Thira Island,**	**4.86**	**279**	P		**Pn**		**21 26 43.8**	**+0.3**
TOTH	**TOTAH**	**4.87**	**118**	⇑*i* P		**Pn**		**21 26 46.3**	**+2.7**
CHOS	**Chios island**	**4.94**	**304**	P		**Pn**		**21 26 45.4**	**+0.8**
CHOS	**Chios island**	**4.94**	**304**	P		**Pn**		**21 26 45.4**	**+0.8**
GAZ	**Gaziantep**	**4.97**	**72**	*e*PN		**Pn**		**21 26 45.9**	**+0.8**
GAZ	**Gaziantep**	**4.97**	**72**	Pn		**Pn**		**21 26 46.0**	**+1.0**
GAZ	**Gaziantep**	**4.97**	**72**	*e*Pn		**Pn**		**21 26 45.9**	**+0.8**
YOZ	**Yozgat**	**5.02**	**38**	*e*PN		**Pn**		**21 26 46.7**	**+1.0**
YOZ	**Yozgat**	**5.02**	**38**	Pn		**Pn**		**21 26 46.7**	**+1.1**
YOZ	**Yozgat**	**5.02**	**38**	*e*Pn		**Pn**		**21 26 46.7**	**+1.0**
ROOS	**tl_alroos**	**5.17**	**106**	⇑*i* P		**Pn**		**21 26 49.2**	**+1.4**
RSH		**5.20**	**156**	P		**Pn**		**21 26 48.5**	**+0.3**
SARI	**SarD1z-Kayseri**	**5.20**	**54**	*e*PN		**Pn**		**21 26 44.5**	**-3.7**
SARI	**SarD1z-Kayseri**	**5.20**	**54**	*e*Pn		**Pn**		**21 26 44.5**	**-3.7**
PRK	**Paraskevi**	**5.29**	**313**	P		**Pn**		**21 26 50.6**	**+1.2**
PRK	**Paraskevi**	**5.29**	**313**	P		**Pn**		**21 26 50.6**	**+1.2**
SIVA	**Sivas**	**5.35**	**264**	P		**Pn**		**21 26 51.4**	**+1.2**
SIVA	**Sivas**	**5.35**	**264**	P		**Pn**		**21 26 51.4**	**+1.2**
AMAG	**Maghara**	**5.35**	**162**	P		**Pn**		**21 26 51.0**	**+0.7**
	baz=161								
AMAG	**Maghara**	**5.35**	**162**	P		**Pn**		**21 26 51.0**	**+0.7**
SALA	**Sala**	**5.44**	**122**	⇑*i* P		**Pn**		**21 26 54.8**	**+3.4**
HMAT	**Matruh**	**5.83**	**218**	P		**Pn**		**21 26 57.2**	**+0.3**
	baz=219								
HMAT				S		**Sn**		**21 27 59.3**	**-4.4**
	baz=219								
HMAT	**Matruh**	**5.83**	**218**	P		**Pn**		**21 26 57.2**	**+0.4**
HHAG	**Hagoal**	**5.83**	**173**	P		**Pn**		**21 26 57.0**	**+0.1**
	baz=172								
HHAG	**Hagoal**	**5.83**	**173**	P		**Pn**		**21 26 57.7**	**+0.8**
KOT	**Kottamia**	**5.84**	**175**	P		**Pn**		**21 26 56.9**	**0.0**
	baz=174								
KOT				S		**Sn**		**21 27 58.6**	**-5.3**
	baz=174								
KOT	**Kottamia**	**5.84**	**175**	P		**Pn**		**21 26 57.0**	**+0.1**
ASF	**Jabal al Asfar**	**5.87**	**126**	P		**Pn**		**21 27 00.8**	**+3.4**
	1.2nm,0.3s,baz=176,slow=7.6,SNR=12								
ASF				S		**Sn**		**21 28 03.9**	**-0.9**
	0.6nm,0.3s,baz=153,slow=22,SNR=2.6								
ASF	**Jabal al Asfar**	**5.87**	**126**	P		**Pn**		**21 27 00.8**	**+3.4**
ASF				S		**Sn**		**21 28 03.9**	**-0.9**
ASF	**Jabal al Asfar**	**5.87**	**126**	P		**Pn**		**21 27 00.8**	**+3.4**
ASF				S		**Sn**		**21 28 03.9**	**-0.9**
KARN	**Karanos**	**6.02**	**269**	P		**Pn**		**21 27 00.0**	**+0.5**
KARN	**Karanos**	**6.02**	**269**	P		**Pn**		**21 27 00.0**	**+0.5**
SUZ		**6.05**	**167**	P		**Pn**		**21 27 00.1**	**+0.3**
	baz=166								
SUZ		**6.05**	**167**	P		**Pn**		**21 27 00.1**	**+0.3**
HSAF	**As Saff**	**6.13**	**178**	P		**Pn**		**21 27 00.7**	**-0.3**
	baz=177								
HSAF	**As Saff**	**6.13**	**178**	P		**Pn**		**21 27 01.9**	**+0.9**
HNAT	**Natroun**	**6.14**	**186**	P		**Pn**		**

BFO	Black Forest	21.08	314	eP		P	21 30 13.4	-1.3	
BFO	Black Forest	21.08	314	eP		P	21 30 13.4	-1.3	
HINF	Hinteralfeld	21.74	311	eP		P	21 30 19.8	-2.0	
HINF	Hinteralfeld	21.74	311	eP		P	21 30 19.8	-2.0	
HINF	Hinteralfeld	21.74	311	eP		P	21 30 19.8	-2.0	
HINF	Hinteralfeld	21.74	311	eP		P	21 30 19.8	-2.0	
CDF	Champ du Feu	21.74	313	eP		P	21 30 21.3	-0.5	
	comp=Z,15nm,1.1s,mb4.0								
CDF	Champ du Feu	21.74	313	eP		P	21 30 21.3	-0.5	
	comp=Z,7.6nm,1.1s,mb4.0								
CDF	Champ du Feu	21.74	313	eP		P	21 30 21.3	-0.5	
CDF					pmax	pmax			
	comp=Z,8.0nm,1.1s,mb4.1								
CDF	Champ du Feu	21.74	313	eP		P	21 30 21.3	-0.5	
	comp=Z,7.6nm,1.1s,mb4.0								
CABF	La Chapelle	21.75	308	eP		P	21 30 20.4	-1.5	
CABF	La Chapelle	21.75	308	eP		P	21 30 20.4	-1.5	
CABF	La Chapelle	21.75	308	eP		P	21 30 20.4	-1.5	
CABF	La Chapelle	21.75	308	eP		P	21 30 20.4	-1.5	
TNS	Taunus Mts	21.97	318	eP		P	21 30 23.9	-0.3	
	comp=Z,6.0nm,0.8s,mb4.1								
TNS	Taunus Mts	21.97	318	eP		P	21 30 23.9	-0.3	
TNS					pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.1								
TNS	Taunus Mts	21.97	318	eP		P	21 30 23.9	-0.3	
	comp=Z,6.0nm,0.8s,mb4.1								
HAU	Haudompre	22.13	311	eP		P	21 30 24.1	-1.8	
	comp=Z,5.9nm,0.7s,mb3.8								
HAU	Haudompre	22.13	311	eP		P	21 30 24.1	-1.8	
	comp=Z,3.0nm,0.7s,mb3.8								
HAU	Haudompre	22.13	311	eP		P	21 30 24.1	-1.8	
HAU					pmax	pmax			
	comp=Z,3.0nm,0.7s,mb3.8								
HAU	Haudompre	22.13	311	eP		P	21 30 24.1	-1.8	
	comp=Z,3.0nm,0.7s,mb3.9								
MEZF	Maizieres J'vi	23.12	312	eP		P	21 30 33.5	-2.9	
	comp=Z,4.8nm,0.4s,mb4.0								
MEZF	Maizieres J'vi	23.12	312	eP		P	21 30 33.5	-2.9	
	comp=Z,4.8nm,0.4s,mb4.3								
MEZF	Maizieres J'vi	23.12	312	eP		P	21 30 33.5	-2.9	
	comp=Z,2.4nm,0.4s,mb4.0								
SMF	Signal de Mont	23.23	306	eP		P	21 30 35.6	-2.0	
	comp=Z,13nm,0.9s,mb4.1								
SMF	Signal de Mont	23.23	306	eP		P	21 30 35.6	-2.0	
	comp=Z,6.7nm,0.9s,mb4.1								
SMF	Signal de Mont	23.23	306	eP		P	21 30 35.6	-2.0	
SMF					pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.1								
SMF	Signal de Mont	23.23	306	eP		P	21 30 35.6	-2.0	
	comp=Z,6.7nm,0.9s,mb4.1								
LOR	Lormes	23.41	308	eP		P	21 30 36.3	-3.2	
	comp=Z,8.4nm,0.8s,mb3.9								
LOR	Lormes	23.41	308	eP		P	21 30 36.3	-3.2	
	comp=Z,4.2nm,0.8s,mb3.9								
LOR	Lormes	23.41	308	eP		P	21 30 36.3	-3.2	
LOR					pmax	pmax			
	comp=Z,4.0nm,0.8s,mb3.9								
LOR	Lormes	23.41	308	eP		P	21 30 36.3	-3.2	
	comp=Z,4.2nm,0.8s,mb3.9								
SSF	Saint Saulge	23.58	307	eP		P	21 30 37.8	-3.4	
	comp=Z,1.5nm,0.9s,mb4.1								
SSF	Saint Saulge	23.58	307	eP		P	21 30 37.8	-3.4	
	comp=Z,7.5nm,0.9s,mb4.1								
SSF	Saint Saulge	23.58	307	eP		P	21 30 37.8	-3.4	
SSF					pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.2								
SSF	Saint Saulge	23.58	307	eP		P	21 30 37.8	-3.4	
	comp=Z,7.5nm,0.9s,mb4.1								
AVF	Avril sur Loir	23.59	306	eP		P	21 30 39.1	-2.2	
	comp=Z,15nm,1.1s,mb4.0								
AVF	Avril sur Loir	23.59	306	eP		P	21 30 39.1	-2.2	
	comp=Z,7.6nm,1.1s,mb4.0								
AVF	Avril sur Loir	23.59	306	eP		P	21 30 39.1	-2.2	
AVF					pmax	pmax			
	comp=Z,8.0nm,1.1s,mb4.1								
AVF	Avril sur Loir	23.59	306	eP		P	21 30 39.1	-2.2	
	comp=Z,7.6nm,1.1s,mb4.1								
BGF	Bois d'Agland	23.86	306	eP		P	21 30 41.6	-2.1	
BGF	Bois d'Agland	23.86	306	eP		P	21 30 41.6	-2.1	
BGF	Bois d'Agland	23.86	306	eP		P	21 30 41.6	-2.1	
BGF	Bois d'Agland	23.86	306	eP		P	21 30 41.6	-2.1	
GIVF	Givet	23.94	315	eP		P	21 30 41.6	-2.9	
GIVF	Givet	23.94	315	eP		P	21 30 41.6	-2.9	
GIVF	Givet	23.94	315	eP		P	21 30 41.6	-2.9	
GIVF	Givet	23.94	315	eP		P	21 30 41.6	-2.9	
TCF	Toulx Ste Croi	24.20	305	eP		P	21 30 45.0	-1.9	
	comp=Z,26nm,1.3s,mb4.2								
TCF	Toulx Ste Croi	24.20	305	eP		P	21 30 45.0	-1.9	
	comp=Z,13nm,1.3s,mb4.2								
TCF	Toulx Ste Croi	24.20	305	eP		P	21 30 45.0	-1.9	
TCF					pmax	pmax			
	comp=Z,13nm,1.3s,mb4.2								
TCF	Toulx Ste Croi	24.20	305	eP		P	21 30 45.0	-1.9	
	comp=Z,13nm,1.3s,mb4.2								
AKTK	Aktyubinsk	24.24	44	P		P	21 30 45.5	-1.7	
AKTK	Aktyubinsk	24.24	44	P		P	21 30 45.5	-1.7	
AKTO	Aktyubinsk	24.24	44	P		P	21 30 45.5	-1.7	
	comp=Z,3.8nm,0.6s,mb4.0,baz=232,slow=6.6,SNR=10.0								
AKTO	Aktyubinsk	24.24	44	P		P	21 30 45.5	-1.7	
BAIF	Baives	24.28	314	eP		P	21 30 44.2	-3.3	
	comp=Z,5.0nm,0.6s,mb3.8								
BAIF	Baives	24.28	314	eP		P	21 30 44.2	-3.3	
	comp=Z,2.5nm,0.6s,mb3.8								
BAIF	Baives	24.28	314	eP		P	21 30 44.2	-3.3	
BAIF					pmax	pmax			
	comp=Z,3.0nm,0.6s,mb3.9								
BAIF	Baives	24.28	314	eP		P	21 30 44.2	-3.3	
	comp=Z,2.5nm,0.6s,mb3.8								
ABKAR	Akbulak array	24.88	48	eP		P	21 30 50.0	-3.1	
	comp=Z,1.4nm,0.4s,mb3.8								
ABKAR	Akbulak array	24.88	48	eP		P	21 30 50.0	-3.1	
	comp=Z,1.4nm,0.4s,mb3.8								
FINES	FINESS Array B	25.91	354	P		P	21 30 59.8	-2.5	
	comp=Z,3.4nm,0.4s,mb4.2,baz=121,slow=4.1,SNR=16								
FINES	FINESS Array B	25.91	354	P		P	21 30 59.8	-2.5	
FINES	FINESS Array B	25.91	354	P		P	21 30 59.8	-2.5	
FINES	FINESS Array B	25.91	354	P		P	21 30 59.8	-2.5	
LDF	La Druitiere	26.37	309	eP		P	21 31 05.8	-0.8	
LDF	La Druitiere	26.37	309	eP		P	21 31 05.8	-0.8	
LDF	La Druitiere	26.37	309	eP		P	21 31 05.8	-0.8	
LDF	La Druitiere	26.37	309	eP		P	21 31 05.8	-0.8	
HFS	Hagfors	26.91	340	P		P	21 31 06.4	-4.9	
	comp=Z,3.9nm,0.8s,mb4.0,baz=132,slow=4.3,SNR=9.3								
HFS	Hagfors	26.91	340	P		P	21 31 06.4	-4.9	
HFS	Hagfors	26.91	340	P		P	21 31 06.4	-4.9	
ARCES	ARCESS Array B	33.98	356	P		P	21 32 10.8	-2.9	
	comp=Z,7.1nm,1.1s,mb4.5,baz=173,slow=9.7,SNR=13								
ARCES	ARCESS Array B	33.98	356	P		P	21 32 10.8	-2.9	
ARCES	ARCESS Array B	33.98	356	P		P	21 32 10.8	-2.8	
ARCES	ARCESS Array B	33.98	356	P		P	21 32 10.8	-2.8	
MK31	Makanchi Array	39.25	58	eP		P	21 32 57.1	-1.8	
MK31	Makanchi Array	39.25	58	eP		P	21 32 57.1	-1.7	
MK31	Makanchi Array	39.25	58	eP		P	21 32 57.1	-1.7	
MKAR	Makanchi Array	39.25	58	P		P	21 32 57.4	-1.5	
	comp=Z,2.2nm,0.5s,mb4.1,baz=278,slow=7.1,SNR=18								
MKAR	Makanchi Array	39.25	58	P		P	21 32 57.4	-1.5	
MKAR	Makanchi Array	39.25	58	P		P	21 32 57.4	-1.4	
MKAR	Makanchi Array	39.25	58	P		P	21 32 57.3	-1.5	
ZALV	Zalesovo Beam	40.97	46	P		P	21 33 10.0	-3.0	
	comp=Z,1.1nm,0.4s,mb3.8,baz=264,slow=8.6,SNR=6.7								
ZALV	Zalesovo Beam	40.97	46	P		P	21 33 10.0	-3.0	
ZALV	Zalesovo Beam	40.97	46	P		P	21 33 10.0	-3.0	
ZALV	Zalesovo Beam	40.97	46	P		P	21 33 10.0	-3.0	
DANN	Dangsing	44.64	84	eP		P	21 33 42.3	-0.8	
	comp=Z,15nm,0.4s,mb5.2								
DANN	Dangsing	44.64	84	eP		P	21 33 42.3	-0.8	
	comp=Z,15nm,0.4s,mb5.2								
DANN	Dangsing	44.64	84	eP		P	21 33 42.3	-0.8	
	comp=Z,15nm,0.4s,mb5.2								
KOLN	Koldanda	44.74	85	eP		P	21 33 42.6	-1.4	
	comp=Z,3.2nm,0.4s,mb4.5								
KOLN	Koldanda	44.74	85	eP		P	21 33 42.6	-1.4	
	comp=Z,3.2nm,0.4s,mb4.5								
KOLN	Koldanda	44.74	85	eP		P	21 33 42.6	-1.4	
	comp=Z,3.2nm,0.4s,mb4.5								
GKN	Gorkha	45.49	84	eP		P	21 33 48.3	-1.6	
	comp=Z,8.2nm,0.4s,mb4.9								
GKN	Gorkha	45.49	84	eP		P	21 33 48.3	-1.6	
	comp=Z,8.2nm,0.4s,mb4.9								
GKN	Gorkha	45.49	84	eP		P	21 33 48.3	-1.6	
	comp=Z,8.2nm,0.4s,mb4.9								
DMN	Daman	46.02	84	eP		P	21 33 53.0	-1.2	
	comp=Z,12nm,0.5s,mb5.1								
DMN	Daman	46.02	84	eP		P	21 33 53.0	-1.2	
	comp=Z,12nm,0.5s,mb5.1								
DMN	Daman	46.02	84	eP		P	21 33 53.0	-1.2	
	comp=Z,12nm,0.5s,mb5.1								
KKN	Kakani	46.09	84	eP		P	21 33 53.3	-1.4	
	comp=Z,5.4nm,0.3s,mb4.9								
KKN	Kakani	46.09	84	eP		P	21 33 53.3	-1.4	
	comp=Z,5.4nm,0.3s,mb5.0								
KKN	Kakani	46.09	84	eP		P	21 33 53.3	-1.4	
KKN					pmax	pmax			
	comp=Z,5.0nm,0.3s,mb4.9								
KKN	Kakani	46.09	84	eP		P	21 33 53.3	-1.4	
	comp=Z,5.4nm,0.3s,mb5.0								
SONM	Songino Array	55.19	52	P		P	21 35 01.0	-2.1	
	comp=Z,1.0nm,0.5s,mb4.1,baz=284,slow=7.8,SNR=16								
SONM	Songino Array	55.19	52	P		P	21 35 01.0	-2.1	
SONM	Songino Array	55.19	52	P		P	21 35 01.0	-2.1	
SONM	Songino Array	55.19	52	P		P	21 35 01.0	-2.1	
CMAR	Chiang Mai Arr	61.53	87	P		P	21 35 45.4	-2.5	
	comp=Z,0.7nm,0.6s,mb4.0,baz=296,slow=7.8,SNR=6.3								
CMAR	Chiang Mai Arr	61.53	87	P		P	21 35 45.4	-2.5	
CMAR	Chiang Mai Arr	61.53	87	P		P	21 35 45.4	-2.4	
CMAR	Chiang Mai Arr	61.53	87	P		P	21 35 45.3	-2.5	
KSRS	Korea Array	73.88	55	P		P	21 37 03.3	-2.2	
	comp=Z,0.9nm,0.7s,mb3.8,baz=307,slow=4.9,SNR=5.3								
KSRS	Korea Array	73.88	55	P		P	21 37 03.3	-2.2	
KSRS					pmax	pmax			
	comp=Z,1.0nm,0.7s,mb3.9								
KSRS	Korea Array	73.88	55	P		P	21 37 03.3	-2.2	
	comp=Z,1.0nm,0.7s,mb3.9								
YKA	Yellowknife Ar	78.31	345	P		P	21 37 27.5	-2.7	
	comp=Z,0.5nm,0.5s,mb3.7,baz=21,slow=6.0,SNR=3.4								
YKA	Yellowknife Ar	78.31	345	P		P	21 37 27.5	-2.7	
YKA	Yellowknife Ar	78.31	345	P		P	21 37 27.5	-2.7	
YKA	Yellowknife Ar	78.31	345	P		P	21 37 27.5	-2.7	
ILAR	Eielson Array	79.79	359	P		P	21 37 35.9	-2.4	
	comp=Z,0.2nm,0.4s,mb3.4,baz=324,slow=3.7,SNR=6.4								
ILAR	Eielson Array	79.79	359	P		P	21 37 35.9	-2.4	
ILAR	Eielson Array	79.79	359	P		P	21 37 35.9	-2.4	
ILAR	Eielson Array	79.79	359	P		P	21 37 35.9	-2.4	
MJAR	Matsushiro Arr	81.12	51	P		P	21 37 44.2	-1.8	
	comp=Z,1.5nm,0.9s,mb3.9,baz=300,slow=5.7,SNR=4.2								
MJAR	Matsushiro Arr	81.12	51	P		P	21 37 44.2	-1.8	
MJAR	Matsushiro Arr	81.12	51	P		P	21 37 44.2	-1.8	
MJAR	Matsushiro Arr	81.12	51	P		P	21 37 44.2	-1.8	
SKR	Severo-Kuril's	81.17	32	eP		P	21 37 38.0	-8.0	

IDC 02 21:35:03.9±5.2, 29.80S×176.53W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/17, mbtmp3.6/2, Error ellipse: s-maj=250.0km s-min=46.6km az=157.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
ASAR	Alice Springs	44.42	266	P		P	21 43 16.6		0.0
	0.6nm,0.9s,baz=96,slow=7.0,SNR=3.3								
WRA	Warramunga Arr	45.35	271	P		P	21 43 23.1		-1.0
	1.2nm,0.7s,baz=110,slow=7.6,SNR=10								
FINES	FINESS Array B	145.00	341	PKPbc		PKPbc	21 54 41.4		-0.3
	7.0nm,1.0s,baz=46,slow=4.0,SNR=10								
AKASG	Malin Array Be	151.57	325	PKPbc		PKPbc	21 54 59.8		+0.1
	0.5nm,0.4s,baz=48,slow=1.7,SNR=4.4								

FUNV 02 21:36:43.2, 11.85N×70.12W, h33km, MW3.6, 3C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
MONV	Montecano	0.18	54	i/P		Pb	21 36 49.7		+0.1
MONV				eS		Sb	21 36 54.4		+0.4
IMOV	Isla Los Monje	0.92	303	eP		Pn	21 36 59.6		-0.1
IMOV				eS		Sn	21 37 12.1		+0.3
DABV	Dabajuro	1.05	209	eP		Pn	21 37 00.5		-1.1
DABV				eS		Sn	21 37 13.8		-1.3
SIQV	Siquisique	1.23	166	eP		Pn	21 37 03.7		-0.4
SIQV				eS		Sn	21 37 19.4		-0.1
JACV	Jacura	1.47	121	eP		Pn	21 37 07.3		-0.1
JACV				eS		Sn	21 37 25.3		-0.2
QARV	Quebrada Arrib	1.68	194	eP		Pn	21 37 09.7		-0.6
QARV				eS		Sn	21 37 30.0		-0.7
CURV	Curarigua	1.83	175	eP		Pn	21 37 11.5		-0.9
CURV				eS		Sn	21 37 32.5		-1.9
TEPV	Terepaima	2.08	154	eP		Pn	21 37 14.9		-0.9
TEPV				eS		Sn	21 37 38.1		-2.5
SANV	Sanarito	2.40	166	eP		Pn	21 37 19.5		-0.7
MAPV	Macapo	2.59	141	eP		Pn	21 37 22.2		-0.5
MAPV				eS		Sn	21 37 50.9		-2.1
VIRV	Villa del Rosa	2.61	239	eP		Pn	21 37 21.5		-1.6
VIRV				eS		Sn	21 37 51.0		-2.7
TURV	Turiamo	2.63	122	eP		Pn	21 37 21.5		-1.8
VIGV	El Vigia	3.23	202	eP		Pn	21 37 31.2		-0.4
VIGV				eS		Sn	21 38 09.4		-2.6
BAUV	El Baul	3.54	145	eP		Pn	21 37 35.0		-0.8
SOCV	Socops	3.62	192	eP		Pn	21 37 36.6		-0.3
SOCV				eS		Sn	21 38 15.3		-3.2
ORCV	Isla La Orchil	3.84	90	eP		Pn	21 37 38.1		-1.9
BIRV	Birongo	4.02	110	eP		Pn	21 37 40.5		-1.9
MERV	Las Mercedes	4.56	124	eP		Pn	21 37 48.3		-1.5
CUPV	Cœpira	4.61	112	eP		Pn	21 37 49.5		-1.0
ELOV	Elorza	4.86	173	eP		Pn	21 37 52.9		-1.1
IBAV	Isla La Blanqu	5.42	90	eP		Pn	21 37 59.4		-2.3
PCRV	Puerto La Cruz	5.63	107	eP		Pn	21 38 04.1		-0.6
CAOV	Caicara del Or	5.85	140	eP		Pn	21 38 05.3		-2.3

NEIC 02 21:39:04.4, 19.58N×66.19W, h42km, MD3.1(RSPR), After RSPR.

RSPR 02 21:39:04.4, 19.58N×66.19W, h42km±28km, MD3.1/6, 10C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
AOPR	Arecibo Observ	1.33	204	eP		Pn	21 39 24.9		-1.7
AOPR	Arecibo Observ	1.33	204	eP		Pn	21 39 24.9		-1.7
AOPR				eS		Sn	21 39 41.2		-1.9
CBYP	Canovanas	1.34	166	eP		Pn	21 39 25.6		-0.9
CBYP	Canovanas	1.34	166	eP		Pn	21 39 25.6		-0.9
CBYP				eS		Sn	21 39 42.0		-1.2
SJG	San Juan	1.46	178	eP		Pn	21 39 26.9		-1.4
SJG	San Juan	1.46	178	eP		Pn	21 39 26.9		-1.4
SJG				eS		Sn	21 39 45.7		-0.4
HUMP	Col San Antoni	1.46	167	eP		Pn	21 39 27.2		-1.1
HUMP	Col San Antoni	1.46	167	eP		Pn	21 39 27.2		-1.1
HUMP				eS		Sn	21 39 44.8		-1.4
MTP	Monte Pirata	1.59	158	eP		Pn	21 39 29.4		-0.7
MTP	Monte Pirata	1.59	158	eP		Pn	21 39 29.4		-0.7
MTP				eS		Sn	21 39 48.3		-1.1
CRPR	Cabo Rojo, PR	1.79	209	eP		Pn	21 39 32.3		-0.5
CRPR	Cabo Rojo, PR	1.79	209	eP		Pn	21 39 32.3		-0.5
CRPR				eS		Sn	21 39 53.8		-0.5
MBRV		4.69	125	i P		Pn	21 40 13.7		+1.0
MBGB		4.71	126	i P		Pn	21 40 14.9		+2.0

IDC 02 21:41:42.3±1.1, 19.41N×66.34W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/22, mbtmp3.4/3, Error ellipse: s-maj=33.4km s-min=19.0km az=67.0
ISCJB 02 21:41:45.1±0.7, 19.46N±0.04×66.35W±0.04, h33km, mb3.4/3, Error ellipse: s-maj=6.3km s-min=5.1km az=40.7
NEIC 02 21:41:46.7, 19.47N×66.33W, h36km, MD3.4(RSPR), After RSPR.
RSPR 02 21:41:46.7, 19.47N×66.33W, h35km±15km, MD3.4/9

ISC 02 21:41:45.2±1.5, 19.40N±0.04×66.33W±0.04, h21km±10km, n29, σ0.47/44, mb3.4/3, 23C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
AOPR	Arecibo Observ	1.12	201	eP		Pn	21 42 05.2		-0.4
AOPR	Arecibo Observ	1.12	201	eP		Pn	21 42 05.2		-0.4
AOPR				eS		Sb	21 42 20.2		+0.2
LRS	Lares	1.20	204	eP		Pn	21 42 06.4		-0.4
LRS				eS		Sb	21 42 22.4		0.0
LRS	Lares	1.20	204	eP		Pn	21 42 06.4		-0.4
LRS				eS		Sb	21 42 22.4		0.0
CBYP	Canovanas	1.21	158	ePn		Pn	21 42 06.6		-0.3
CBYP				eSn		Sn	21 42 23.1		+0.5
SJG	San Juan	1.29	172	eP		Pn	21 42 08.3		+0.2
SJG	San Juan	1.29	172	eP		Pn	21 42 08.1		+0.1
SJG	San Juan	1.29	172	Pn		Pn	21 42 08.0		0.0
	28nm,0.3s,baz=0.1,slow=8.7,SNR=10.0								
SJG					Sn	Sn	21 42 25.9		+1.2
	74nm,0.3s,baz=288,slow=24,SNR=12								
SJG	San Juan	1.29	172	eP		Pn	21 42 08.3		+0.2
SJG					eS	Sn	21 42 24.4		-0.3
HUMP	Col San Antoni	1.33	160	eP		Pn	21 42 08.1		-0.5
HUMP	Col San Antoni	1.33	160	eP		Pn	21 42 08.1		-0.5
HUMP				eS		Sn	21 42 25.6		0.0
CELP	Cerrillos	1.33	190	eP		Pn	21 42 08.7		+0.1
CELP	Cerrillos	1.33	190	eP		Pn	21 42 08.7		+0.1
OBIP	Obispado Ponce	1.37	191	eP		Pn	21 42 09.2		0.0
OBIP	Obispado Ponce	1.37	191	eP		Pn	21 42 09.2		0.0
OBIP				eS		Sn	21 42 26.9		+0.2
LSP	Las Mesas	1.41	211	eP		Pn	21 42 09.6		0.0
LSP				eS		Sn	21 42 27.7		+0.1
LSP	Las Mesas	1.41	211	eP		Pn	21 42 09.6		0.0
LSP				eS		Sn	21 42 27.7		+0.1
MTP	Monte Pirata	1.49	150	eP		Pn	21 42 10.5		-0.3
MTP	Monte Pirata	1.49	150	eP		Pn	21 42 10.5		-0.3
MTP				eS		Sn	21 42 29.0		-0.5
ICM	Isla Caja Muer	1.50	187	eP		Pn	21 42 11.3		+0.3
ICM	Isla Caja Muer	1.50	187	eP		Pn	21 42 11.3		+0.3
ICM				eS		Sn	21 42 30.4		+0.5
CRPR	Cabo Rojo, PR	1.57	208	eP		Pn	21 42 12.2		+0.4
CRPR	Cabo Rojo, PR	1.57	208	eP		Pn	21 42 12.2		+0.4
CRPR				eS		Sn	21 42 31.0		-0.4
STVI	Saint Thomas	1.67	128	eP		Pn	21 42 13.1		-0.2
STVI	Saint Thomas	1.67	128	eP		Pn	21 42 13.1		-0.2
STVI				eS		Sn	21 42 33.5		-0.6
SDDR	Presa de Saban	4.70	266	ePn		Pn	21 42 55.2		+0.3
SDDR				eSn		Sn	21 43 47.8		-1.1
TXAR	Lajitas Array	35.29	294	P		P	21 48 39.8		+1.0
	0.3nm,0.4s,mb3.5,baz=107,slow=10.0,SNR=10								
TORD	Torodi Ar. Bea	65.25	84	P		P	21 52 26.7		+0.8
	0.2nm,0.7s,mb3.3,baz=289,slow=8.5,SNR=2.5								
ILAR	Eielson Array	68.61	333	P		P	21 52 46.0		-0.3
	0.2nm,0.5s,mb3.4,baz=102,slow=4.1,SNR=9.7								

IDC 02 21:45:17.0±1.1, 19.41N×66.41W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.6/22, mbtmp3.5/4, Error ellipse: s-maj=33.7km s-min=17.9km az=62.0
ISCJB 02 21:45:18.0±1.3, 19.46N±0.05×66.34W±0.04, h17km±9km, mb3.6/4, Error ellipse: s-maj=9.2km s-min=5.9km az=27.1
NEIC 02 21:45:20.4, 19.42N×66.37W, h6km, MD3.7(RSPR), After RSPR.
RSPR 02 21:45:20.4, 19.42N×66.37W, h6km±3km, MD3.7/16

ISC 02 21:45:17.8±1.2, 19.39N±0.04×66.32W±0.04, h5km±6km, n36, σ0.51/46, mb3.6/4, 22C-8D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h m s		ISC
AOPR	Arecibo Observ	1.12	201	eP		Pg	21 45 39.1		-0.1
AOPR	Arecibo Observ	1.12	201	eP		Pg	21 45 39.1		-0.1
AOPR				eS		Sg	21 45 54.1		+0.4
AGPR	Aguadilla, PR	1.18	219	eP		Pg	21 45 39.8		-0.7
AGPR	Aguadilla, PR	1.18	219	eP		Pg	21 45 39.8		-0.7
CBYP	Canovanas	1.20	158	eP		Pg	21 45 41.2		+0.4
CBYP	Canovanas	1.20	158	eP		Pg	21 45 41.2		+0.4
LRS	Lares	1.20	204	eP		Pg	21 45 40.6		-0.2
LRS	Lares	1.20	204	eP		Pg	21 45 40.6		-0.2
SJG	San Juan	1.28	173	eP		Pn	21 45 42.2		-0.2
SJG	San Juan	1.28	173	eP		Pn	21 45 42.1		-0.2
SJG	San Juan	1.28	173	Pn		Pn	21 45 42.9		+0.6
	23nm,0.3s,baz=5.7,slow=9.9,SNR=8.9								
SJG					Sn	Sn	21 46 00.4		+0.4
	62nm,0.3s,baz=278,slow=18,SNR=11								
SJG	San Juan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLP	**Polilio Island**	**0.52**	**126**	*eP*	Pb	21 55 53.1	+0.4
POLP				*eS*	Sb	21 55 58.2	-1.6
PCPH	**Palayan**	**0.65**	**323**⇓	*eP*	Pb	21 55 55.3	+0.4
PCPH				*eS*	Sb	21 56 05.6	+2.0
BALP	**Baler**	**0.71**	**6**	*eP*	Pb	21 55 57.0	+1.3
BALP				*eS*	Sb	21 56 06.0	+0.9
TGY	**Tagaytay City**	**1.08**	**211**⇓	*iP*	Pn	21 56 01.6	+0.2
GQP	**Guinayangan**	**1.45**	**141**⇓	*eP*	Pn	21 56 06.5	0.0
GQP				*eS*	Sn	21 56 25.3	+0.6
CAUP	**Cauayan**	**1.92**	**9**	*eP*	Pn	21 56 15.1	+2.0
BOLP	**Bolinao**	**2.03**	**311**	*eP*	Pn	21 56 15.8	+1.2

ISCJB ***02*** *21:59:15.4±0.2, 2°.92N±0°.04×121°.80E±0°.04, h613km±3km, mb4.6/47, Error ellipse: s-maj=6.8km s-min=4.3km az=138.7*

MOS ***02*** *21:59:15.7±0.8, 2°.94N×121°.83E, h622km, mb4.4/6, Error ellipse: s-maj=19.5km s-min=8.2km az=124.0*

IDC ***02*** *21:59:16.5±0.8, 2°.91N×121°.79E, h607km±9km, mb3.6/21, mb1 3.7/22, mb1mx3.6/28, mbtmp3.7/22, Error ellipse: s-maj=14.3km s-min=6.6km az=64.0*

NEIC ***02*** *21:59:16.3±0.4, 2°.90N×121°.76E, h607km±6km, mb5.0/25, Error ellipse: s-maj=8.6km s-min=4.3km az=57.0*

DJA ***02*** *21:59:16, 3°.06N×121°.83E, h588km, mb4.4/15*

ISC 02 21:59:16.2±0.2, 2°.93N±0°.03×121°.80E±0°.04, h601km±3km, n181, σ1s00/191, mb4.6/47, 5C, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**2.44**	**177**	P	**P**	**22 00 32.4**	**-0.2**
MRSI				S	**S**	**22 01 32.5**	**-2.2**
KMSI	**Cibinong**	**3.20**	**137**	P	**P**	**22 00 37.2**	**+0.5**
APSI	**Ampana**	**3.82**	**182**	P	**P**	**22 00 39.7**	**-0.9**
MYLDM	**Lahad Datu**	**3.97**	**304**	P	**P**	**22 00 42.2**	**+0.6**
LUWI	**Luwuk**	**4.07**	**166**	P	**P**	**22 00 40.1**	**-2.2**
LUWI				S	**S**	**22 01 50.1**	**-2.3**
TSM	**Tawau**	**4.14**	**289**	P	**P**	**22 00 42.4**	**-0.3**
SDKM	**Sandakan**	**5.32**	**301**	P	**P**	**22 00 50.7**	**-1.0**
DAV	**Davao City (W)**	**5.57**	**42**	P	**P**	**22 00 55.7**	**+1.9**
	24nm,0.3s,baz=248,slow=5.4,SNR=1.9						
DAV				S	**S**	**22 02 15.1**	**+1.6**
	52nm,0.3s,baz=49,slow=13,SNR=6.5						
DAV	**Davao City (W)**	**5.57**	**42**	P	**P**	**22 00 55.7**	**+1.9**
DAV				S	**S**	**22 02 15.1**	**+1.6**
BUKP	**Musuan**	**5.89**	**33**	*eP*	**P**	**22 00 56.8**	**+0.3**
BUKP	**Musuan**	**5.89**	**33**	*eP*	**P**	**22 00 56.8**	**+0.3**
TNTI	**Ternate**	**5.97**	**111**	P	**P**	**22 00 56.9**	**-0.3**
	1.5nm5μm519nm,0.9s						
TNTI				S	**S**	**22 02 17.6**	**-2.0**
	1.5nm5μm519nm,0.9s						
KDM	**Kudat**	**6.33**	**309**	P	**P**	**22 01 00.2**	**-0.1**
KKM	**Kota Kinabalu**	**6.36**	**299**	P	**P**	**22 01 00.3**	**-0.3**
KKM	**Kota Kinabalu**	**6.36**	**299**	*eP*	**P**	**22 00 59.6**	**-1.0**
	112nm,1.0s						
KKM				*eS*	**S**	**22 02 26.1**	**+0.2**
KKM	**Kota Kinabalu**	**6.36**	**299**	P	**P**	**22 01 00.2**	**-0.4**
	0.4nm1μm110nm,1.1s						
TBP	**Tagbilaran**	**7.02**	**17**⇑	*eP*	**P**	**22 01 08.1**	**+1.7**
BATP	**Bataraza**	**7.05**	**326**	*eP*	**P**	**22 01 06.9**	**+0.2**
BATP	**Bataraza**	**7.05**	**326**	*eP*	**P**	**22 01 06.9**	**+0.2**
GUIM	**Jordan**	**7.68**	**6**	*eP*	**P**	**22 01 11.8**	**-0.8**
GUIM	**Jordan**	**7.68**	**6**	*eP*	**P**	**22 01 11.8**	**-0.8**
MSLP	**Maasin**	**7.77**	**23**	*eP*	**P**	**22 01 12.8**	**-0.6**
MSLP	**Maasin**	**7.77**	**23**	*eP*	**P**	**22 01 12.8**	**-0.6**
NLAI	**Namlea**	**8.11**	**139**	P	**P**	**22 01 17.5**	**+0.9**
	3μm104nm,0.8s						
KBKI	**Kotabaru**	**8.37**	**222**	P	**P**	**22 01 20.4**	**+1.3**
	649nm28nm,1.3s						
BTM	**Bintulu**	**8.71**	**272**	P	**P**	**22 01 22.5**	**+0.1**
AAI	**Ambon**	**9.17**	**136**	P	**P**	**22 01 27.3**	**+0.4**
	85nm,1.0s						
MSAI	**Masohi**	**9.47**	**131**	P	**P**	**22 01 30.6**	**+0.7**
	2μm38nm,0.7s						
SBUM	**Sibu**	**9.58**	**267**	P	**P**	**22 01 31.8**	**+0.9**
SBUM	**Sibu**	**9.58**	**267**	P	**P**	**22 01 31.5**	**+0.6**
	15nm,1.3s						
STKI	**Sintang**	**10.70**	**255**	P	**P**	**22 01 42.1**	**+0.1**
BNDI	**Bandanaira**	**10.98**	**132**	P	**P**	**22 01 44.7**	**-0.1**
	5μm346nm,0.7s						
BNDI				S	**S**	**22 03 48.3**	**+1.5**
	5μm346nm,0.7s						
TGY	**Tagaytay City**	**11.13**	**356**	P	**P**	**22 01 46.2**	**0.0**
	38nm,0.3s,baz=63,slow=14,SNR=5.7						
TGY	**Tagaytay City**	**11.13**	**356**	P	**P**	**22 01 46.2**	**0.0**
TGY	**Tagaytay City**	**11.13**	**356**	P	**P**	**22 01 46.2**	**0.0**
MMRI	**Maumere**	**11.50**	**178**	P	**P**	**22 01 52.2**	**+2.2**
	53nm,0.9s						
KSM	**Kuching**	**11.57**	**263**	P	**P**	**22 01 50.7**	**0.0**
KSM	**Kuching**	**11.57**	**263**	*eP*	**P**	**22 01 49.3**	**-1.5**
	36nm,1.3s						
KSM	**Kuching**	**11.57**	**263**	P	**P**	**22 01 50.7**	**-0.1**
	24nm,1.1s						
MTNI	**Mataram**	**12.79**	**206**	P	**P**	**22 02 05.4**	**+2.4**
	6μm46nm,0.8s						
PPBI	**Pangkal Pinang**	**16.45**	**252**	P	**P**	**22 02 38.8**	**+1.0**
	3μm15nm,0.8s						
MYKOM	**Kota Tinggi**	**17.97**	**267**	P	**P**	**22 02 52.9**	**+1.3**
MYKOM	**Kota Tinggi**	**17.97**	**267**	P	**P**	**22 02 52.6**	**+1.0**
	30nm,1.0s						
KGM	**Kluang**	**18.48**	**268**	P	**P**	**22 02 58.1**	**+1.8**
KAKA	**Kakadu**	**18.80**	**146**⇑	*iP*	**P**	**22 02 58.4**	**-0.7**
	80nm,0.6s						
KAKA	**Kakadu**	**18.80**	**146**	*eP*	**P**	**22 02 58.5**	**-0.7**
	235nm,0.6s						
FRIM	**Kepong**	**20.14**	**271**	P	**P**	**22 03 12.4**	**+1.0**
IPM	**Ipoh**	**20.78**	**275**	P	**P**	**22 03 17.4**	**+0.3**
KULM	**Kulim**	**21.22**	**277**	P	**P**	**22 03 21.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**21.24**	**170**	*eP*	**P**	**22 03 20.1**	**-1.0**
	17nm,0.8s,mb4.7						
PSI	**Prapat**	**22.84**	**270**	P	**P**	**22 03 35.4**	**-0.2**
	10nm,0.7s,mb4.6,baz=69,slow=2.2,SNR=9.3						
PSI	**Prapat**	**22.84**	**270**	P	**P**	**22 03 35.4**	**-0.1**
PSI	**Prapat**	**22.84**	**270**	P	**P**	**22 03 35.4**	**-0.1**
MBWA	**Marble Bar**	**24.03**	**185**	*eP*	**P**	**22 03 45.0**	**-0.8**
	20nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**25.85**	**152**	*eP*	**P**	**22 04 00.9**	**-1.1**
	41nm,0.6s,mb5.2						
WRAB	**Tennant Creek**	**25.85**	**152**	*eP*	**P**	**22 04 00.9**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,41nm,0.6s,mb5.2						
WRAB	**Tennant Creek**	**25.85**	**152**	P	**P**	**22 04 01.0**	**-1.0**
	comp=Z,101nm,0.7s,mb5.5						
WRA	**Warramunga Arr**	**25.86**	**152**	P	**P**	**22 04 01.1**	**-0.9**
	comp=Z,36nm,0.5s,mb5.2,baz=335,slow=9.4,SNR=350						
WRA				PcP	PcP	22 07 10.4	+0.1
	comp=Z,0.4nm,0.4s,baz=328,slow=2.0,SNR=5.0						
WRA				S	**S**	**22 07 46.5**	**-4.5**
	comp=Z,1.4nm,0.6s,baz=332,slow=16,SNR=4.0						
WRA				ScP	ScP	22 09 52.6	-1.3
	comp=Z,3.0nm,0.7s,baz=340,slow=3.2,SNR=18						
WRA	**Warramunga Arr**	**25.86**	**152**	P	**P**	**22 04 01.1**	**-0.9**
WRA				PcP	PcP	22 07 10.4	+0.1
WRA				S	**S**	**22 07 46.5**	**-4.5**
WRA				ScP	ScP	22 09 52.6	-1.3
WRA	**Warramunga Arr**	**25.86**	**152**	P	**P**	**22 04 01.1**	**-0.9**
WRA						22 07 10.4	
WRA				S	**S**	**22 07 46.5**	**-4.4**
WB2	**Warramunga Arr**	**25.86**	**152**	*eP*	**P**	**22 04 01.1**	**-0.9**
CM31	**Chiang Mai Arr**	**27.18**	**306**	*eP*	**P**	**22 04 13.3**	**-0.4**
	comp=Z,5.3nm,0.8s,mb4.2						
CMAR	**Chiang Mai Arr**	**27.18**	**306**	P	**P**	**22 04 14.4**	**+0.7**
	comp=Z,4.2nm,0.7s,mb4.2,baz=133,slow=7.6,SNR=37						
CMAR				PcP	PcP	22 07 14.2	+0.6
	comp=Z,1.2nm,0.7s,baz=180,slow=2.0,SNR=8.4						
CMAR				ScP	ScP	22 09 58.8	+0.8
	comp=Z,2.3nm,0.9s,baz=164,slow=2.3,SNR=15						
CMAR	**Chiang Mai Arr**	**27.18**	**306**	P	**P**	**22 04 14.4**	**+0.7**
CMAR				PcP	PcP	22 07 14.2	+0.6
CMAR				ScP	ScP	22 09 58.8	+0.8
CMAR	**Chiang Mai Arr**	**27.18**	**306**	P	**P**	**22 04 14.4**	**+0.7**
CMAR						22 07 14.2	
CHTO	**Chiang Mai**	**27.37**	**307**	*eP*	**P**	**22 04 15.1**	**-0.2**
	comp=Z,15nm,0.8s,mb4.7						
CHTO	**Chiang Mai**	**27.37**	**307**	*eP*	**P**	**22 04 15.1**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.7						
CHTO	**Chiang Mai**	**27.37**	**307**	P	**P**	**22 04 15.8**	**+0.5**
PMG	**Port Moresby**	**28.09**	**116**	P	**P**	**22 04 21.7**	**0.0**
	comp=Z,8.4nm,0.9s,mb4.4,baz=318,slow=7.4,SNR=5.5						
PMG	**Port Moresby**	**28.09**	**116**	P	**P**	**22 04 21.7**	**0.0**
PMG	**Port Moresby**	**28.09**	**116**	P	**P**	**22 04 21.7**	**+0.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**28.95**	**157**	P	**P**	**22 04 28.9**	**0.0**
	comp=Z,16nm,0.7s,mb4.8,baz=331,slow=7.0,SNR=240						
ASAR				PcP	PcP	22 07 17.6	-0.3
	comp=Z,0.4nm,0.3s,baz=351,slow=2.1,SNR=2.8						
ASAR				S	**S**	**22 08 38.5**	**-0.4**
	comp=Z,1.7nm,0.9s,baz=347,slow=17,SNR=6.3						
ASAR				ScP	ScP	22 10 02.9	-0.5
	comp=Z,4.6nm,0.7s,baz=341,slow=2.6,SNR=30						
ASAR	**Alice Springs**	**28.95**	**157**	P	**P**	**22 04 28.9**	**0.0**
ASAR				PcP	PcP	22 07 17.6	-0.3
ASAR				S	**S**	**22 08 38.5**	**-0.4**
ASAR				ScP	ScP	22 10 02.9	-0.5
ASAR	**Alice Springs**	**28.95**	**157**	P	**P**	**22 04 29.0**	**+0.1**
ASAR						22 07 17.7	
ASAR				S	**S**	**22 08 38.6**	**-0.3**
ENH	**Enshi**	**29.58**	**338**	*eP*	**P**	**22 04 34.3**	**0.0**
	comp=Z,22nm,0.8s,mb4.8						
MTSU	**Mount Surprise**	**30.51**	**134**	*eP*	**P**	**22 04 42.9**	**+0.5**
	comp=Z,34nm,0.5s,mb5.2						
CTA	**Charters Tower**	**33.16**	**135**	*eP*	**P**	**22 05 05.7**	**+0.8**
	comp=Z,5.1nm,0.8s,mb4.2						
FORT	**Forrest**	**34.05**	**170**⇑	*iP*	**P**	**22 05 12.3**	**+0.2**
	comp=Z,98nm,0.7s,mb5.5						
FORT	**Forrest**	**34.05**	**170**	*eP*	**P**	**22 05 11.9**	**-0.2**
	comp=Z,98nm,0.6s,mb5.6						
KLBR	**Kellerberrin**	**34.55**	**186**⇑	*iP*	**P**	**22 05 15.8**	**-0.4**
	comp=Z,19nm,0.7s,mb4.8						
KSRS	**Korea Array**	**34.81**	**9**	P	**P**	**22 05 18.4**	**+0.1**
	comp=Z,1.3nm,0.6s,mb3.7,baz=188,slow=8.9,SNR=4.7						
NWAO	**Narrogin (SRO)**	**35.93**	**187**	P	**P**	**22 05 27.9**	**+0.2**
	comp=Z,29nm,0.8s,mb4.9,baz=3.1,slow=8.6,SNR=16						
NWAO	**Narrogin (SRO)**	**35.93**	**187**	P	**P**	**22 05 27.9**	**+0.2**
NWAO	**Narrogin (SRO)**	**35.93**	**187**	P	**P**	**22 05 27.9**	**+0.3**
SHL	**Shillong**	**36.52**	**311**	*e*PKP	**P**	**22 05 33.0**	**+0.4**
STKA	**Stephens Creek**	**39.40**	**153**	P	**P**	**22 05 56.5**	**+0.7**
	comp=Z,18nm,0.5s,mb4.9,baz=329,slow=8.0,SNR=56						
STKA				pP		22 07 41.2	
	comp=Z,1.7nm,0.7s,baz=326,slow=10,SNR=2.9						
STKA				ScP	ScP	22 10 40.7	-0.1
	comp=Z,3.3nm,0.7s,baz=335,slow=6.0,SNR=6.5						
STKA	**Stephens Creek**	**39.40**	**153**⇑	*iP*	**P**	**22 05 56.4**	**+0.6**
	comp=Z,13nm,0.4s,mb4.8						
STKA	**Stephens Creek**	**39.40**	**153**	P	**P**	**22 05 56.5**	**+0.7**
STKA				pP		22 07 41.2	
STKA				ScP	ScP	22 10 40.7	-0.1
STKA	**Stephens Creek**	**39.40**	**153**	P	**P**	**22 05 56.5**	**+0.7**
STKA				*PP		22 07 41.2	
LSA	**Lhasa**	**39.41**	**316**	*eP*	**P**	**22 05 57.6**	**+1.7**
	comp=Z,28nm,0.6s,mb5.0						
LSA	**Lhasa**	**39.41**	**316**	*eP*	**P**	**22 05 57.6**	**+1.7**
LSA				pmax	pmax		
	comp=Z,28nm,0.6s,mb5.0						
VIS	**Vishakhapatnam**	**40.48**	**294**	*e*PKP	**P**	**22 06 02.2**	**-2.4**
ODAN	**Odare**	**40.63**	**309**	*eP*	**P**	**22 06 06.3**	**+0.6**
	comp=Z,66nm,0.7s,mb5.3						
ODAN	**Odare**	**40.63**	**309**	*eP*	**P**	**22 06 06.3**	**+0.6**
	comp=Z,66nm,0.7s,mb5.3						
TAPN	**Taplejung**	**40.63**	**310**	*eP*	**P**	**22 06 06.3**	**+0.6**
	comp=Z,64nm,0.5s,mb5.4						
TAPN	**Taplejung**	**40.63**	**310**	*eP*	**P**	**22 06 06.3**	**+0.6**
	comp=Z,64nm,0.5s,mb5.4						
MDRS	**Chennai**	**42.29**	**286**	*e*PKP	**P**	**22 06 16.8**	**-2.2**
MDRS				AMb	AMB	22 06 55.9	
	comp=Z,98nm,0.1s						
GUN	**Gumba**	**42.31**	**310**	*eP*	**P**	**22 06 19.8**	**+0.9**
	comp=Z,144nm,0.6s,mb5.7						
GUN	**Gumba**	**42.31**	**310**	*eP*	**P**	**22 06 19.8**	**+0.9**
	comp=Z,144nm,0.6s,mb5.7						
PKI	**Pulchoki**	**42.51**	**309**	*eP*	**P**	**22 06 20.7**	**+0.2**
	comp=Z,35nm,0.5s,mb5.1						
PKI	**Pulchoki**	**42.51**	**309**	*eP*	**P**	**22 06 20.7**	**+0.2**
	comp=Z,35nm,0.5s,mb5.2						
PKI	**Pulchoki**	**42.51**	**309**	*eP*	**P**	**22 06 20.7**	**+0.2**
PKI				pmax	pmax		
	comp=Z,35nm,0.5s,mb5.2						
KKN	**Kakani**	**42.72**	**309**	*eP*	**P**	**22 06 22.4**	**+0.3**
	comp=Z,66nm,0.8s,mb5.2						
KKN	**Kakani**	**42.72**	**309**	*eP*	**P**	**22 06 22.4**	**+0.3**
	comp=Z,66nm,0.8s,mb5.2						
KKN	**Kakani**	**42.72**	**309**	*eP*	**P**	**22 06 22.4**	**+0.3**
KKN				pmax	pmax		
	comp=Z,66nm,0.8s,mb5.2						
DMN	**Daman**	**42.77**	**309**	*eP*	**P**	**22 06 22.9**	**+0.4**
	comp=Z,72nm,0.9s,mb5.2						
DMN	**Daman**	**42.77**	**309**	*eP*	**P**	**22 06 22.9**	**+0.4**
	comp=Z,72nm,0.9s,mb5.2						
GKN	**Gorkha**	**43.32**	**309**	*eP*	**P**	**22 06 27.0**	**+0.2**
	comp=Z,67nm,0.7s,mb5.3						
GKN	**Gorkha**	**43.32**	**309**	*eP*	**P**	**22 06 27.0**	**+0.2**
	comp=Z,67nm,0.7s,mb5.3						
ARMA	**Armidale**	**43.72**	**142**	*eP*	**P**	**22 06 32.0**	**+2.2**
KOLN	**Koldanda**	**44.02**	**308**	*eP*	**P**	**22 06 32.9**	**+0.7**
	comp=Z,138nm,0.7s,mb5.6						
KOLN	**Koldanda**	**44.02**	**308**	*eP*	**P**	**22 06 32.9**	**+0.7**
	comp=Z,138nm,0.7s,mb5.6						
DANN	**Dangsing**	**44.17**	**309**	*eP*	**P**	**22 06 33.9**	**+0.6**
	comp=Z,159nm,0.6s,mb5.7						
DANN	**Dangsing**	**44.17**	**309**	*eP*	**P**	**22 06 33.9**	**+0.6**
	comp=Z,159nm,0.6s,mb5.7						
HYB	**Hyderabad**	**44.79**	**292**	*iP*	**P**	**22 06 38.5**	**+0.3**
TRD	**Trivandrum**	**44.93**	**279**	*ex*	x	22 07 26.0	
CNB	**Canberra Magne**	**45.99**	**148**	*eP*	**P**	**22 06 48.5**	**+1.5**
ULN	**Ulaanbaatar**	**46.53**	**346**	*eP*	**P**	**22 06 50.9**	**0.0**
	comp=Z,7.4nm,0.6s,mb4.4						
ULN	**Ulaanbaatar**	**46.53**	**346**	*eP*	**P**	**22 06 50.9**	**0.0**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.4						
SONM	**Songino Array**	**46.66**	**346**	P	**P**	**22 06 52.3**	**+0.5**
	comp=Z,6.9nm,0.7s,mb4.3,baz=163,slow=8.7,SNR=78						
SONM				PcP	PcP	22 08 12.9	-0.2
	comp=Z,1.7nm,0.7s,baz=171,slow=3.6,SNR=8.2						
SONM				ScP	ScP	22 11 09.7	-0.4
	comp=Z,1.5nm,0.8s,baz=163,slow=5.4,SNR=9.8						
SONM	**Songino Array**	**46.66**	**346**	P	**P**	**22 06 52.3**	**+0.5**
SONM				PcP	PcP	22 08 12.9	-0.2
SONM				ScP	ScP	22 11 09.7	-0.4
SONM	**Songino Array**	**46.66**	**346**	P	**P**	**22 06 52.3**	**+0.4**
SONM						22 08 12.9	
BHPL	**Bhopal**	**47.42**	**299**	*e*PKP	**P**	**22 06 58.1**	**+0.1**
POO	**Poona**	**49.40**	**292**	*e*PKP	**P**	**22 07 11.7**	**-1.1**
BHJ	**Bhuj**	**54.29**	**297**	*e*PKP	**P**	**22 07 46.5**	**-1.2**
BHJ				AMb	AMB	22 08 09.0	
	comp=Z,97nm,0.9s,mb5.1						
MK31	**Makanchi Array**	**55.50**	**328**	*eP*	**P**	**22 07 56.1**	**+0.4**
MK31	**Makanchi Array**	**55.50**	**328**	*eP*	**P**	**22 07 56.1**	**+0.5**
MKAR	**Makanchi Array**	**55.50**	**328**	P	**P**	**22 07 56.0**	**+0.3**
	comp=Z,7.5nm,0.3s,mb4.3,baz=120,slow=8.9,SNR=110						
MKAR				PcP	PcP	22 08 46.0	-0.4
	comp=Z,2.4nm,0.6s,baz=123,slow=4.5,SNR=8.6						
MKAR				ScP	ScP	22 11 47.8	-0.6
	comp=Z,0.5nm,0.6s,baz=125,slow=6.4,SNR=3.6						
MKAR	**Makanchi Array**	**55.50**	**328**	P	**P**	**22 07 56.0**	**+0.3**
MKAR				PcP	PcP	22 08 46.0	-0.4
MKAR				ScP	ScP	22 11 47.8	-0.6
MKAR	**Makanchi Array**	**55.50**	**328**	P	**P**	**22 07 56.0**	**+0.4**
MKAR						22 08 46.1	
KZA	**Kyzart**	**56.95**	**320**	*eP*	**P**	**22 08 06.9**	**+1.2**
KZA	**Kyzart**	**56.95**	**320**	*eP*	**P**	**22 08 06.9**	**+1.2**
AAK	**Ala-Archa**	**57.72**	**320**	*eP*	**P**	**22 08 11.0**	**+0.1**
	comp=Z,4.8nm,0.9s,mb3.6						
AAK	**Ala-Archa**	**57.72**	**320**	*eP*	**P**	**22 08 11.0**	**+0.1**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.6						
PETK	**Petropavlovsk**	**58.11**	**25**	P	**P**	**22 08 14.0**	**+0.7**
	comp=Z,2.5nm,0.6s,baz=210,slow=8.6,SNR=3.9						
PETK	**Petropavlovsk-**	**58.11**	**25**	P	**P**	**22 08 14.0**	**+0.7**
PETK	**Petropavlovsk-**	**58.11**	**25**	P	**P**	**22 08 14.0**	**+0.7**
KBL	**Kabul**	**58.15**	**309**	*eP*	**P**	**22 08 13.8**	**-0.1**
	comp=Z,11nm,0.6s,mb4.2						
KBL	**Kabul**	**58.15**	**309**	*eP*	**P**	**22 08 13.8**	**-0.2**
KBL				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.2						
ZAA0	**Zalesovo Array**	**59.16**	**336**	*eP*	**P**	**22 08 19.3**	**-1.0**
ZALV	**Zalesovo Beam**	**59.16**	**336**	P	**P**	**22 08 19.3**	**-1.0**
	comp=Z,5.3nm,0.5s,mb3.9,baz=124,slow=5.3,SNR=33						
ZALV	**Zalesovo Beam**	**59.16**	**336**	P	**P**	**22 08 19.3**	**-1.0**
ZALV	**Zalesovo Beam**	**59.16**	**336**	P	**P**	**22 08 19.3**	**-1.0**
KURK	**Kurchatov**	**59.85**	**330**	*eP*	**P**	**22 08 24.6**	**-0.4**
	comp=Z,23nm,0.6s,mb4.6						
KURK	**Kurchatov**	**59.85**	**330**	*eP*	**P**	**22 08 24.6**	**-0.3**
KURK				pmax	pmax		
	comp=Z,23nm,0.6s,mb4.6						
NVS	**Novosibirsk**	**60.45**	**336**	*eP*	**P**	**22 08 25.6**	**-3.2**
KKAR	**Karatay Array**	**60.52**	**319**	*eP*	**P**	**22 08 29.1**	**-0.5**
KKAR	**Karatay Array**	**60.52**	**319**	*eP*	**P**	**22 08 29.1**	**-0.4**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**64.05**	**142**	P	**P**	**22 08 53.1**	**+0.8**
	comp=Z,13nm,0.6s,mb4.4,baz=14,slow=5.0,SNR=8.2						
RPZ	**Rata Peaks**	**64.05**	**142**	P	**P**	**22 08 53.1**	**+0.8**
URZ	**Urewera**	**65.41**	**135**	P	**P**	**22 09 01.6**	**+0.7**
	comp=Z,6.5nm,0.5s,mb4.3,baz=256,slow=9.4,SNR=6.5						
URZ	**Urewera**	**65.41**	**135**	P	**P**	**22 09 01.6**	**+0.7**
ABKAR	**Akbulak array**	**69.69**	**322**	*eP*	**P**	**22 09 25.8**	**-0.9**
	comp=Z,8.8nm,1.0s,mb4.1						
ARU	**Arti**	**73.01**	**329**	*eP*	**P**	**22 09 44.5**	**-1.4**
	comp=Z,13nm,0.9s,mb4.5						
ARU	**Arti**	**73.01**	**329**	*eP*	**P**	**22 09 44.5**	**-1.4**
ARU				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.5						
ZEI	**Tsey**	**79.13**	**313**	*eP*	**P**	**22 10 19.0**	**-0.8**
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.0						
VNDA	**Vanda**	**83.30**	**172**	P	**P**	**22 10 40.2**	**-0.2**
	comp=Z,1.5nm,0.8s,mb3.6,baz=315,slow=6.5,SNR=9.6						
VNDA	**Vanda**	**83.30**	**172**	P	**P**	**22 10 40.2**	**-0.2**
VNDA	**Vanda**	**83.30**	**172**	P	**P**	**22 10 40.2**	**-0.2**
KMBO	**Kilima Mbogo**	**84.61**	**269**	P	**P**	**22 10 48.7**	**+0.5**
	comp=Z,4.1nm,0.8s,mb4.1,baz=180,slow=24,SNR=16						
KMBO	**Kilima Mbogo**	**84.61**	**269**	P	**P**	**22 10 48.7**	**+0.5**
KMBO	**Kilima Mbogo**	**84.61**	**269**	P	**P**	**22 10 48.7**	**+0.5**
BPAW	**Bear Paw Mtn.**	**86.16**	**26**	P	**P**	**22 10 54.2**	**-0.3**
TRF	**Thorofare Moun**	**86.46**	**27**	*eP*	**P**	**22 10 55.8**	**-0.1**
BRTR	**Keskin Array B**	**86.72**	**309**	P	**P**	**22 10 56.3**	**-1.4**
	comp=Z,1.4nm,0.8s,mb3.8,baz=131,slow=4.9,SNR=11						
BRTR	**Keskin Array B**	**86.72**	**309**	P	**P**	**22 10 56.4**	**-1.4**
BRTR	**Keskin Array B**	**86.72**	**309**	P	**P**	**22 10 56.4**	**-1.3**
ILAR	**Eielson Array**	**87.93**	**25**	P	**P**	**22 11 01.4**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=251,slow=4.8,SNR=4.4						
ILAR	**Eielson Array**	**87.93**	**25**	P	**P**	**22 11 01.4**	**-1.4**
ILAR	**Eielson Array**	**87.93**	**25**	P	**P**	**22 11 01.4**	**-1.4**
AKASG	**Malin Array Be**	**89.39**	**321**	P	**P**	**22 11 08.1**	**-1.8**
	comp=Z,0.7nm,0.5s,mb3.7,baz=82,slow=3.8,SNR=6.0						
AKASG	**Malin Array Be**	**89.39**	**321**	P	**P**	**22 11 08.1**	**-1.8**
AKASG	**Malin Array Be**	**89.39**	**321**	P	**P**	**22 11 08.1**	**-1.8**
ARCES	**ARCESS Array B**	**89.48**	**340**	P	**P**	**22 11 08.3**	**-1.6**
	comp=Z,3.4nm,0.8s,mb4.2,baz=72,slow=5.2,SNR=5.5						
ARCES	**ARCESS Array B**	**89.48**	**340**	P	**P**	**22 11 08.3**	**-1.6**
ARCES	**ARCESS Array B**	**89.48**	**340**	P	**P**	**22 11 08.3**	**-1.6**
FINES	**FINESS Array B**	**90.19**	**331**	P	**P**	**22 11 11.7**	**-1.6**
	comp=Z,1.6nm,0.6s,mb4.1,baz=107,slow=2.0,SNR=8.5						
FINES	**FINESS Array B**	**90.19**	**331**	P	**P**	**22 11 11.7**	**-1.6**
FINES	**FINESS Array B**	**90.19

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.64**	**237**	P	P	22 27 35.6	+1.0
	1.0nm,0.6s,baz=86,slow=11,SNR=4.8						
WRA	**Warramunga Arr**	**33.48**	**262**	P	P	22 28 16.9	-0.6
	0.3nm,0.3s,baz=97,slow=8.3,SNR=24						
ASAR	**Alice Springs**	**33.81**	**255**	P	P	22 28 20.2	-0.1
	6.1nm,0.4s,baz=82,slow=8.9,SNR=114						
ILAR	**Eielson Array**	**89.47**	**17**	P	P	22 34 34.8	0.0
	0.3nm,0.9s,baz=238,slow=5.4,SNR=4.1						

IDC 02 22:26:21.5±5.5, 30.59S×179.00W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/16, mbtmp3.8/3, Error ellipse: s-maj=214.3km s-min=52.0km az=152.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**33.59**	**257**	P	P	22 33 03.5	+0.1
	2.7nm,1.0s,baz=110,slow=7.7,SNR=2.8						
ASAR	**Alice Springs**	**42.23**	**268**	P	P	22 34 16.1	-0.5
	0.4nm,0.5s,baz=106,slow=7.7,SNR=6.3						
WRA	**Warramunga Arr**	**43.24**	**273**	P	P	22 34 25.0	+0.2
	0.6nm,0.6s,baz=111,slow=8.1,SNR=11						
FINES	**FINESS Array B**	**145.02**	**339**	PKPbc	PKPbc	22 45 58.5	-0.8
	1.2nm,0.8s,baz=64,slow=3.2,SNR=3.1						

JMA 02 22:27:13.9±0.2, 25.46N×123.74E, h185km±4km, M3.7, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**1.12**	**180**	P	Pn	22 27 42.8	-0.3
IRIF				eS	Sn	22 28 05.9	+0.4
JIJ	**Ishigaki jima**	**1.15**	**161**	P	Pn	22 27 43.1	-0.2
JIJ				eS	Sn	22 28 05.3	-0.7
JTJ	**Tarama**	**1.19**	**133**	P	Pn	22 27 43.7	+0.1
JTJ				eS	Sn	22 28 07.1	+0.6
YOJ	**Yonaguni jima**	**1.19**	**214**	P	Pn	22 27 43.7	+0.1
YOJ				S	Sn	22 28 07.3	+0.8
JKRS	**Kuro-shima**	**1.24**	**169**	P	Pn	22 27 44.3	+0.3
JKRS				S	Sn	22 28 07.6	+0.3
HATJ	**Hateruma jima**	**1.40**	**178**	P	Pn	22 27 45.7	+0.3
HATJ				eS	Sn	22 28 10.1	+0.4
JMJ	**Miyako jima 2**	**1.55**	**114**	P	Pn	22 27 47.0	+0.3
JMJ				eS	Sn	22 28 11.7	-0.3
JOGS	**Gusukube**	**1.66**	**114**	P	Pn	22 27 48.3	+0.4
JOGS				eS	Sn	22 28 14.1	0.0
JKE	**Kume jima 2**	**2.88**	**72**	P	Pn	22 27 59.5	-1.8
JKE				eS	Sn	22 28 35.1	-3.0
JAGN	**Aguni-jima**	**3.34**	**70**	P	Pn	22 28 04.5	-2.5
JAGN				eS	Sn	22 28 43.1	-5.3
JJT2	**Tamagusuku 2**	**3.68**	**79**	P	Pn	22 28 09.5	-1.6
JIH	**Iheya**	**4.11**	**67**	P	Pn	22 28 13.6	-2.9
JIH				eS	Sn	22 28 59.0	-6.5
JOW	**Kunigami**	**4.30**	**70**	P	Pn	22 28 15.8	-3.1
JOW				eS	Sn	22 29 02.3	-7.6
JTK	**Tokunoshima**	**5.21**	**62**	P	Pn	22 28 26.3	-4.3
JTK				eS	Sn	22 29 22.2	-8.7
JAM	**Amami Oshima**	**6.00**	**59**	P	Pn	22 28 36.0	-5.0
JMZ	**Minamidaito 2**	**6.76**	**85**	eS	Sn	22 29 56.6	-11

TIR 02 22:37:56.1±1.8, 41.22N×20.30E, h6km±86km, ML2.7
SKO 02 22:37:57.6, 41.37N×20.31E, h14km
ISCJB 02 22:37:58.6±0.6, 41.22N±0.03×20.33E±0.05, h10km, Error ellipse: s-maj=6.0km s-min=3.6km az=147.0
CSEM 02 22:37:58.7±0.4, 41.22N×20.35E, h2km, ML2.7, Error ellipse: s-maj=11.6km s-min=7.2km az=50.0

ISC 02 22:37:59.2±0.6, 41.19N±0.04×20.29E±0.06, h10km, n14, σ1.36/26, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.36**	**296**	*i* PG	**Pg**	**22 38 04.5**	**-1.7**
TIR				*i* SG	**Sg**	**22 38 10.4**	**-0.7**
TIR	**Tirane**	**0.36**	**296**	*i* Pg	**Pg**	**22 38 04.5**	**-1.7**
TIR				*i* Sg	**Sg**	**22 38 10.4**	**-0.6**
KBN	**Korca**	**0.68**	**146**	*i* PG	**Pg**	**22 38 11.9**	**-0.5**
KBN				*i* SG	**Sg**	**22 38 23.1**	**+1.9**
KBN	**Korca**	**0.68**	**146**	*i* Pg	**Pg**	**22 38 11.9**	**-0.5**
KBN				*i* Sg	**Sg**	**22 38 23.1**	**+1.8**
KRUS	**Krusevo**	**0.74**	**76**	*e*Pg	**Pg**	**22 38 10.4**	**-3.2**
KRUS	**Krusevo**	**0.74**	**76**	*e*Pg	**Pg**	**22 38 10.3**	**-3.2**
BIA	**Bitola**	**0.80**	**102**	*e*Pg	**Pg**	**22 38 12.9**	**-1.6**
BIA				*e*Sg	**Sg**	**22 38 25.1**	**+0.1**
BIA				*e*Lg		22 38 25.4	
	comp=E,15nm,0.2s						
BIA				*e*Lg		22 38 25.5	
	comp=N,17nm,0.3s						
BIA	**Bitola**	**0.80**	**102**	*e*Pg	**Pg**	**22 38 12.9**	**-1.7**
BIA				*e*Sg	**Sg**	**22 38 25.1**	**+0.1**
BIA				*e*Lg		22 38 25.5	
	comp=N,17nm,0.3s						
PUK	**Puka**	**0.90**	**341**	*i* PG	**Pg**	**22 38 15.4**	**-1.2**
PUK				*i* SG	**Sg**	**22 38 30.2**	**+1.9**
PUK	**Puka**	**0.90**	**341**	*i* Pg	**Pg**	**22 38 15.4**	**-1.1**
PUK				*i* Sg	**Sg**	**22 38 30.2**	**+2.0**
BCI	**Bajram Curri**	**1.18**	**352**	*i* PG	**Pg**	**22 38 22.5**	**+0.6**
BCI				*i* SG	**Sg**	**22 38 38.8**	**+1.4**
BCI	**Bajram Curri**	**1.18**	**352**	*i* Pg	**Pg**	**22 38 22.5**	**+0.6**
BCI				*i* Sg	**Sg**	**22 38 38.8**	**+1.5**
SRN	**Sarande**	**1.33**	**190**	*i* PG	**Pg**	**22 38 25.6**	**+0.9**
SRN				*i* SG	**Sg**	**22 38 46.3**	**+4.3**
SRN	**Sarande**	**1.33**	**190**	*i* Pg	**Pg**	**22 38 25.6**	**+0.9**
SRN				*i* Sg	**Sg**	**22 38 46.3**	**+4.3**

NEIC 02 22:41:11.9, 19.56N×66.34W, h15km, MD3.6(RSPR), After RSPR.

RSPR 02 22:41:11.9, 19.56N×66.34W, h15km±31km, MD3.5/12, 27C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.27**	**198**	⇑*e*P	Pn	22 41 31.6	-3.4
AOPR	**Arecibo Observ**	**1.27**	**198**	*e*P	Pn	22 41 31.6	-3.4
AOPR				*e*S	Sb	22 41 47.2	-4.3
AGPR	**Aguadilla, PR**	**1.31**	**214**	⇑*e*P	Pn	22 41 32.4	-3.2
AGPR	**Aguadilla, PR**	**1.31**	**214**	*e*P	Pn	22 41 32.4	-3.2
AGPR				*e*S	Sb	22 41 49.0	-3.8
LRS	**Lares**	**1.35**	**201**	⇑*e*P	Pn	22 41 33.1	-3.0
LRS				*e*S	Sn	22 41 50.7	-3.1
LRS	**Lares**	**1.35**	**201**	⇑*e*P	Pn	22 41 33.1	-3.0
LRS				*e*S	Sn	22 41 50.7	-3.1
CBYP	**Canovanas**	**1.36**	**160**	⇑*e*P	Pn	22 41 32.8	-3.5
CBYP	**Canovanas**	**1.36**	**160**	*e*P	Pn	22 41 32.8	-3.5
CBYP				*e*S	Sn	22 41 49.4	-4.6
SJG	**San Juan**	**1.45**	**173**	⇑*e*P	Pn	22 41 34.2	-3.3
SJG	**San Juan**	**1.45**	**173**	⇑*e*P	Pn	22 41 34.0	-3.6
SJG				*e*S	Sn	22 41 52.9	-3.4
SJG	**San Juan**	**1.45**	**173**	*e*P	Pn	22 41 34.2	-3.3
SJG				*e*S	Sn	22 41 52.6	-3.6
HUMP	**Col San Antoni**	**1.48**	**162**	⇑*e*P	Pn	22 41 34.6	-3.4
HUMP	**Col San Antoni**	**1.48**	**162**	⇑*e*P	Pn	22 41 34.6	-3.4
HUMP				*e*S	Sn	22 41 52.9	-4.2
CELP	**Cerrillos**	**1.49**	**189**	⇑*e*P	Pn	22 41 34.9	-3.2
CELP				*e*S	Sn	22 41 52.6	-4.7
CELP	**Cerrillos**	**1.49**	**189**	⇑*e*P	Pn	22 41 34.9	-3.2
CELP				*e*S	Sn	22 41 52.6	-4.7
OBIP	**Obispado Ponce**	**1.53**	**190**	⇑*e*P	Pn	22 41 36.1	-2.5
OBIP	**Obispado Ponce**	**1.53**	**190**	⇑*e*P	Pn	22 41 36.1	-2.5
OBIP				*e*S	Sn	22 41 54.3	-4.0
LSP	**Las Mesas**	**1.55**	**207**	⇑*e*P	Pn	22 41 36.3	-2.6
LSP				*e*S	Sn	22 41 55.7	-3.0
LSP	**Las Mesas**	**1.55**	**207**	⇑*e*P	Pn	22 41 36.3	-2.6
LSP				*e*S	Sn	22 41 55.7	-3.0
MTP	**Monte Pirata**	**1.63**	**153**	⇑*e*P	Pn	22 41 37.2	-2.9
MTP	**Monte Pirata**	**1.63**	**153**	⇑*e*P	Pn	22 41 37.2	-2.9
MTP				*e*S	Sn	22 41 57.9	-2.9
ICM	**Isla Caja Muer**	**1.66**	**186**	⇑*e*P	Pn	22 41 38.3	-2.2
ICM	**Isla Caja Muer**	**1.66**	**186**	⇑*e*P	Pn	22 41 38.3	-2.2
ICM				*e*S	Sn	22 41 57.9	-3.6
CRPR	**Cabo Rojo, PR**	**1.71**	**205**	⇑*e*P	Pn	22 41 39.1	-2.0
CRPR	**Cabo Rojo, PR**	**1.71**	**205**	⇑*e*P	Pn	22 41 39.1	-2.0
CRPR				*e*S	Sn	22 41 59.2	-3.5
STVI	**Saint Thomas**	**1.78**	**132**	⇑*e*P	Pn	22 41 40.0	-2.1
STVI	**Saint Thomas**	**1.78**	**132**	⇑*e*P	Pn	22 41 40.0	-2.1
STVI				*e*S	Sn	22 42 01.3	-3.1
SDDR	**Presa de Saban**	**4.71**	**264**	*e*Pn	Pn	22 42 21.9	-0.5
SDDR				*e*Sn	Sn	22 43 15.9	-0.9

IDC 02 22:48:20.9±2.7, 45.29S×97.45E, h0km, mb4.0/3, mb1 4.3/3, mb1mx3.8/15, mbtmp4.0/3, Error ellipse: s-maj=69.2km s-min=48.6km az=17.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**36.55**	**66**	P	P	22 55 28.2	-0.1
	0.7nm,0.9s,baz=219,slow=8.0,SNR=5.2						
WRA	**Warramunga Arr**	**39.53**	**63**	P	P	22 55 53.5	0.0
	1.8nm,0.9s,baz=223,slow=8.6,SNR=16						
CMAR	**Chiang Mai Arr**	**63.45**	**2**	P	P	22 58 52.5	0.0
	0.5nm,0.3s,baz=198,slow=5.6,SNR=6.6						
NVAR	**Mina Array Bea**	**152.67**	**92**	PKPbc	PKPbc	23 08 19.4	+0.3
	0.7nm,0.7s,baz=223,slow=4.5,SNR=8.0						

NEIC 02 22:50:47.5, 19.13N×64.57W, h35km, MD3.3(RSPR), After RSPR.

RSPR 02 22:50:47.5, 19.13N×64.57W, h35km±28km, MD3.2/4, 3C-9D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.86**	**205**	⇓*e*P	Pn	22 51 01.6	-1.5
STVI	**Saint Thomas**	**0.86**	**205**	⇓*e*P	Pn	22 51 01.6	-1.5
STVI				*e*S	Sn	22 51 12.7	-1.7
STVI	**Saint Thomas**	**0.86**	**205**	⇓*e*P	Pn	22 51 01.6	-1.5
STVI				*e*S	Sn	22 51 12.7	-1.7
MTP	**Monte Pirata**	**1.39**	**222**	⇑*e*P	Pn	22 51 09.6	-0.8
MTP	**Monte Pirata**	**1.39**	**222**	⇑*e*P	Pn	22 51 09.6	-0.8
MTP				*e*S	Sn	22 51 26.9	-0.6
MTP	**Monte Pirata**	**1.39**	**222**	⇑*e*P	Pn	22 51 09.6	-0.8
MTP				*e*S	Sn	22 51 26.9	-0.6
CBYP	**Canovanas**	**1.49**	**235**	⇓*e*P	Pn	22 51 10.4	-1.4
CBYP	**Canovanas**	**1.49**	**235**	⇓*e*P	Pn	22 51 10.4	-1.4
CBYP				*e*S	Sn	22 51 29.0	-1.0
CBYP	**Canovanas**	**1.49**	**235**	⇓*e*P	Pn	22 51 10.4	-1.4
CBYP				*e*S	Sn	22 51 29.4	-0.7
HUMP	**Col San Antoni**	**1.56**	**231**	⇓*e*P	Pn	22 51 12.2	-0.6
HUMP	**Col San Antoni**	**1.56**	**231**	⇓*e*P	Pn	22 51 12.2	-0.6
HUMP				*e*S	Sn	22 51 30.1	-1.7
HUMP	**Col San Antoni**	**1.56**	**231**	⇓*e*P	Pn	22 51 12.2	-0.6
HUMP				*e*S	Sn	22 51 30.1	-1.7
SJG	**San Juan**	**1.81**	**236**	*e*S	Sn	22 51 36.3	-1.7
SJG	**San Juan**	**1.81**	**236**	*e*S	Sn	22 51 36.3	-1.7

NEIC 02 22:59:53.5, 19.51N×66.32W, h15km, MD3.4(RSPR), After RSPR.

RSPR 02 22:59:53.5, 19.51N×66.32W, h15km±31km, MD3.4/14, 15C-12D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.23**	**200**	⇑*e*P	Pn	23 00 12.8	-3.4
AOPR	**Arecibo Observ**	**1.23**	**200**	⇑*e*P	Pn	23 00 12.8	-3.4
AOPR				*e*S	Sb	23 00 27.8	-4.2
CBYP	**Canovanas**	**1.30**	**160**	⇓*e*P	Pn	23 00 13.9	-3.3
CBYP	**Canovanas**	**1.30**	**160**	⇓*e*P	Pn	23 00 13.9	-3.3
LRS	**Lares**	**1.31**	**203**	⇓*e*P	Pn	23 00 13.9	-3.4
LRS	**Lares**	**1.31**	**203**	⇓*e*P	Pn	23 00 13.9	-3.4
SJG	**San Juan**	**1.40**	**174**	⇓*e*P	Pn	23 00 15.3	-3.2
SJG	**San Juan**	**1.40**	**174**	⇓*e*P	Pn	23 00 15.6	-2.9
SJG	**San Juan**	**1.40**	**174**	⇓*e*P	Pn	23 00 15.3	-3.2
SJG				*e*S	Sn	23 00 32.6	-4.0
HUMP	**Col San Antoni**	**1.43**	**162**	⇓*e*P	Pn	23 00 15.6	-3.3
HUMP	**Col San Antoni**	**1.43**	**162**	⇓*e*P	Pn	23 00 15.6	-3.3
HUMP				*e*S	Sn	23 00 33.4	-4.1
CELP	**Cerrillos**	**1.45**	**190**	⇓*e*P	Pn	23 00 16.0	-3.2
CELP	**Cerrillos**	**1.45**	**190**	⇓*e*P	Pn	23 00 16.0	-3.2
OBIP	**Obispado Ponce**	**1.48**	**191**	⇓*e*P	Pn	23 00 16.9	-2.8
OBIP	**Obispado Ponce**	**1.48**	**191**	⇓*e*P	Pn	23 00 16.9	-2.8
OBIP				*e*S	Sn	23 00 35.2	-3.6
LSP	**Las Mesas**	**1.51**	**209**	⇓*e*P	Pn	23 00 17.6	-2.5
LSP	**Las Mesas**	**1.51**	**209**	⇓*e*P	Pn	23 00 17.6	-2.5
MTP	**Monte Pirata**	**1.58**	**153**	⇓*e*P	Pn	23 00 17.8	-3.2
MTP	**Monte Pirata**	**1.58**	**153**	⇓*e*P	Pn	23 00 17.8	-3.2
ICM	**Isla Caja Muer**	**1.62**	**187**	⇓*e*P	Pn	23 00 18.9	-2.7
ICM	**Isla Caja Muer**	**1.62**	**187**	⇓*e*P	Pn	23 00 18.9	-2.7
ICM				*e*S	Sn	23 00 39.0	-3.1
CRPR	**Cabo Rojo, PR**	**1.67**	**207**	⇓*e*P	Pn	23 00 20.2	-2.1
CRPR	**Cabo Rojo, PR**	**1.67**	**207**	⇓*e*P	Pn	23 00 20.2	-2.1
CRPR				*e*S	Sn	23 00 40.2	-3.3
STVI	**Saint Thomas**	**1.73**	**132**	⇑*e*P	Pn	23 00 21.0	-2.1
STVI	**Saint Thomas**	**1.73**	**132**	⇑*e*P	Pn	23 00 21.0	-2.1
STVI				*e*S	Sn	23 00 41.5	-3.3
TBVI	**Tortola**	**1.94**	**124**	⇑*e*P	Pn	23 00 23.2	-2.8
TBVI	**Tortola**	**1.94**	**124**	⇑*e*P	Pn	23 00 23.2	-2.8
SDDR	**Presa de Saban**	**4.73**	**264**	*e*Pn	Pn	23 01 04.2	-0.1
SDDR				*e*Sn	Sn	23 01 58.4	-0.5

PGC 02 23:13:18.5±0.0, 60.69N×137.76W, h10km, ML3.0/4, 14km Wsw of Haines Jct., Yt Southern Yukon Territory, Canada

NEIC 02 23:13:18.5, 60.69N×137.76W, h10km, ML3.0(PGC), ML2.6(AEIC), 5D, After PGC., Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNL	**Peninsula**	**1.31**	**219**	P	Pn	23 13 42.7	-0.2
PNL				S	Sb	23 14 01.1	+1.0
WHY	**Whitehorse**	**1.42**	**90**	P	Pn	23 13 43.3	-1.0
WHY				S	Sn	23 14 02.6	-0.4
WHY	**Whitehorse**	**1.42**	**90**	⇓P	Pn	23 13 43.5	-0.8
WHY				⇓Sg	Sg	23 14 02.5	-1.6
PLBC	**Pleasant Camp**	**1.43**	**150**	⇑P	Pn	23 13 44.0	-0.4
PLBC				⇓Sg	Sg	23 14 03.1	-1.2
SKAG	**Skagway**	**1.74**	**134**	P	Pn	23 13 48.7	0.0
BESE	**Bessie Mountai**	**2.58**	**144**	P	Pn	23 14 02.6	+2.2
BCA3	**Beaver Creek A**	**3.05**	**323**	P	Pn	23 14 06.2	-0.4
DAWY	**Dawson**	**3.47**	**348**	P	Pn	23 14 12.2	-0.2
DAWY	**Dawson**	**3.47**	**348**	⇑Pn	Pn	23 14 12.2	-0.3
DAWY				⇓Pg	Pg	23 14 21.8	-3.1
DAWY				⇓Sn	Sn	23 14 50.3	-3.2
DAWY				⇑Sg	Sg	23 15 06.6	-3.2
EGAK	**Eagle**	**4.39**	**341**	P	Pn	23 14 24.6	-0.5
DLBC	**Dease Lake**	**4.54**	**117**	⇑Sg	Sg	23 15 40.7	-3.4

ISCJB 02 23:19:29.8±0.7, 13.84N±0.05×92.25W±0.04, h40km±5km, mb4.3/37, MS3.6/8, Error ellipse: s-maj=10.5km s-min=4.2km az=36.4
MEX 02 23:19:29.6±1.1, 13.72N×92.42W, h15km, MD4.5
NEIC 02 23:19:29.0, 13.72N×92.42W, h15km, mb4.4/27, MD4.1(MEX), After MEX.
CASC 02 23:19:37.6±2.3, 13.97N×91.67W, h28km±20km, MD3.8, ML3.9, mb4.4(NEIC)
IDC 02 23:19:38.1±3.2, 14.24N×91.67W, h91km±25km, mb3.9/13, mb1 4.1/16, mb1mx3.9/29, mbtmp3.9/16, MS3.6/8, Ms1 3.6/8, ms1mx3.2/33, Error ellipse: s-maj=27.2km s-min=18.3km az=34.0

ISC 02 23:19:30.8±1.2, 13.88N±0.05×92.24W±0.03, h29km±9km, n122, σ1.29/135, mb4.3/37, MS3.6/8, 10C-14D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.73**	**53**	⇓*i*P	**Pb**	**23 19 46.0**	**+1.0**
THIG		**1.02**	**358**	*i* P	**Pn**	**23 19 47.2**	**-2.0**
THIG				*i* S	**Sn**	**23 20 02.2**	**-0.3**
FUG	**Fuego 3**	**1.47**	**67**	⇓*i*P	**Pn**	**23 19 55.3**	**0.0**
FG6		**1.48**	**63**	*e*P	**Pn**	**23 19 55.9**	**+0.5**
PCG	**Pacaya**	**1.66**	**72**	*e*P	**Pn**	**23 19 58.7**	**+0.7**
GCG	**Guatemala City**	**1.80**	**67**	*e*P	**Pn**	**23 20 00.1**	**+0.2**
GCG				*e*S	**Sn**	**23 20 24.0**	**+2.4**
NBG	**Las Nubes**	**1.96**	**69**	*e*P	**Pn**	**23 20 03.8**	**+1.7**
PCIG		**2.05**	**332**	*e*P	**Pn**	**23 20 00.5**	**-2.8**
PCIG				*i* S	**Sn**	**23 20 26.4**	**-1.5**
CCIG	**Comitan**	**2.39**	**2**	*e*P	**Pn**	**23 20 09.3**	**+1.3**
CCIG				*i* S	**Sn**	**23 20 38.3**	**+2.0**
RBDL	**Robledal**	**2.49**	**84**	*e*P	**Pn**	**23 20 09.1**	**-0.2**
SBLS	**San Blas**	**2.54**	**91**	*e*P	**Pn**	**23 20 10.2**	**+0.2**
SNJE	**San Jose**	**2.56**	**90**	*e*P	**Pn**	**23 20 10.2**	**-0.1**
SNJE				*e*S	**Sn**	**23 20 34.9**	**-5.5**
MTO2	**Montecristo 2**	**2.84**	**79**	*e*P	**Pn**	**23 20 13.8**	**-0.4**
SCX	**San Cristobal**	**2.87**	**352**	*i* P	**Pn**	**23 20 17.5**	**+3.0**
SCX				*i* S	**Sn**	**23 20 52.9**	**+4.8**
BOQS	**Boqueron**	**2.88**	**93**	*e*P	**Pn**	**23 20 14.3**	**-0.3**
BOQS				*e*S	**Sn**	**23 20 43.1**	**-5.2**
SNET	**Serv Nac Est T**	**2.93**	**93**	*e*P	**Pn**	**23 20 15.2**	**-0.2**
SNET				*e*S	**Sn**	**23 20 43.8**	**-5.7**
SNET				AML	AML	23 21 02.7	
	comp=Z,999nm,0.3s						
TGIG		**3.01**	**344**	*i* P	**Pn**	**23 20 15.5**	**-0.9**
TGIG				*i* S	**Sn**	**23 20 51.2**	**-0.4**
LFRS	**El Faro**	**3.10**	**94**	*e*P	**Pn**	**23 20 17.3**	**-0.4**
LBRS	**Las Brisas**	**3.11**	**92**	*e*P	**Pn**	**23 20 16.8**	**-1.0**
SNVI	**San Vicente**	**3.31**	**94**	*e*P	**Pn**	**23 20 20.3**	**-0.3**
CMIG	**Matias Romero**	**4.09**	**322**	P	**Pn**	**23 20 29.5**	**-1.8**
	comp=Z,6.6nm,0.3s,baz=144,slow=11,SNR=57						
CMIG				S	**Sn**	**23 21 21.3**	**+3.1**
	comp=Z,45nm,0.3s,baz=65,slow=23,SNR=7.7						
CMIG	**Matias Romero**	**4.09**	**322**	P	**Pn**	**23 20 29.5**	**-1.8**
CMIG				S	**Sn**	**23 21 21.3**	**+3.1**
CMIG	**Matias Romero**	**4.09**	**322**	*e*P	**Pn**	**23 20 29.7**	**-1.6**
CMIG				*i* S	**Sn**	**23 21 16.1**	**-2.1**
HUIG	**Huatulco**	**4.19**	**297**	*i* P	**Pn**	**23 20 30.1**	**-2.6**
HUIG				*i* S	**Sn**	**23 21 16.6**	**-4.1**
TGUH	**Tegucigalpa,Un**	**4.82**	**87**	*e*Pn	**Pn**	**23 20 41.2**	**-0.3**
	comp=Z,94nm,0.8s						
TGUH				*e*Sn	**Sn**	**23 21 27.6**	**-8.8**
VHO	**Vista Hermosa**	**5.37**	**307**	*e*P	**Pn**	**23 20 49.7**	**+0.7**
VHO				*i* S	**Sn**	**23 21 48.3**	**-1.6**
COPN	**Copaltepe**	**5.75**	**106**	*e*P	**Pn**	**23 20 54.4**	**+0.1**
PNIG	**Pinotepa**	**6.21**	**294**	*i* P	**Pn**	**23 20 58.8**	**-1.8**
PNIG				*i* S	**Sn**	**23 22 07.5**	**-3.1**
UTMO	**Huajuapan**	**6.64**	**307**	*i* P	**Pn**	**23 21 05.9**	**-0.5**
UTMO				*i* S	**Sn**	**23 22 20.3**	**-0.9**
TEIG	**Tepich**	**7.36**	**30**	P	**Pn**	**23 21 16.0**	**-0.3**
	comp=Z,33nm,0.3s,baz=211,slow=1.2,SNR=119						
TEIG				S	**Sn**	**23 22 31.2**	**-7.7**
	comp=Z,2.8nm,0.3s,baz=350,slow=16,SNR=1.9						
TEIG	**Tepich**	**7.36**	**30**	P	**Pn**	**23 21 16.1**	**-0.3**
TEIG				S	**Sn**	**23 22 31.2**	**-7.7**
JTS	**JuntasAbangare**	**7.97**	**116**	P	**Pn**	**23 21 27.0**	**+2.3**
	comp=Z,1.5nm,0.3s,baz=315,slow=18,SNR=6.3						
JTS	**JuntasAbangare**	**7.97**	**116**	*e*Pn	**Pn**	**23 21 25.5**	**+0.9**
	comp=Z,27nm,0.8s						
JTS				*e*Sn	**Sn**	**23 22 51.0**	**-2.8**
TXAR	**Lajitas Array**	**18.67**	**327**	P	**Pn**	**23 23 48.1**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=154,slow=11,SNR=28						
TXAR	**Lajitas Array**	**18.67**	**327**	P	**Pn**	**23 23 48.1**	**+1.0**
528A	**Cox Ranch, San**	**18.91**	**331**	⇑P	**Pn**	**23 23 50.3**	**+0.4**
	baz=19,SNR=6.1						
428A	**Kincaid Ranch,**	**19.33**	**332**	⇓P	**P**	**23 23 55.4**	**+0.4**
	baz=20,SNR=6.4						
LRAL	**Lakeview Retre**	**19.66**	**13**	*e*P	**Pn**	**23 23 57.5**	**-1.3**
	comp=Z,6.3nm,0.8s						
LRAL				*e*S	**Sn**	**23 27 27.1**	**-12**
ROSC	**El Rosal**	**19.80**	**115**	P	**Pn**	**23 24 01.7**	**+1.0**
	comp=Z,2.0nm,0.3s,baz=100,slow=19,SNR=5.4						
ROSC	**El Rosal**	**19.80**	**115**	P	**Pn**	**23 24 01.7**	**+1.0**
426A	**McDonald Obser**	**19.93**	**329**	⇓P	**Pn**	**23 24 01.6**	**-0.5**
	baz=20,SNR=5.2						
326A	**Caldwell Ranch**	**20.43**	**330**	⇑P	**P**	**23 24 06.5**	**+0.7**
	baz=20,SNR=20						
425A	**Indio Mountain**	**20.52**	**327**	⇓P	**P**	**23 24 07.5**	**+0.8**
	baz=21,SNR=9.3						
MIAR	**Mount Ida**	**20.61**	**357**	*e*P	**P**	**23 24 06.4**	**-1.3**
	comp=Z,11nm,0.9s						
MIAR				*e*S	**S**	**23 27 45.3**	**-11**
227A	**Bennet, Jal**	**20.69**	**333**	⇑P	**P**	**23 24 09.8**	**+1.2**
	baz=21,SNR=7.4						
UALR	**University of**	**20.80**	**360**	*e*P	**P**	**23 24 11.4**	**+1.7**
	comp=Z,24nm,0.9s						
325A	**Bean Ranch, Si**	**20.97**	**328**	⇑P	**P**	**23 24 12.1**	**+0.5**
	baz=21,SNR=10.0						
CLNB	**Carlsbad**	**21.17**	**332**	*e*P	**P**	**23 24 14.7**	**+0.9**
	comp=Z,5.2nm,0.8s,mb3.9						
324A	**Moseley Ranch,**	**21.29**	**327**	⇓P	**P**	**23 24 15.

I12A	**Atlanta**	**35.68**	**331**	⇑P		**P**		**23 26 27.7**	**+1.2**
	baz=36,SNR=9.3								
ULM	**Lac du Bonnet**	**36.39**	**356**	LR	LR			23 44 37.2	
	comp=Z,62nm,19.6s,MS3.4,baz=56,slow=42								
F13A	**Darby**	**36.88**	**334**	⇓P		**P**		**23 26 36.6**	**0.0**
	baz=37,SNR=7.1								
LPAZ	**La Paz**	**38.29**	**141**	LR	LR			23 41 45.8	
	comp=Z,72nm,18.4s,MS3.5,baz=80,slow=35								
F10A	**Beach Ranch, E**	**38.30**	**332**	⇑P		**P**		**23 26 48.9**	**+0.2**
	baz=38,SNR=8.9								
YBH	**Yreka Blue Hor**	**38.32**	**322**	LR	LR			23 45 40.6	
	comp=Z,100nm,18.9s,MS3.6,baz=149,slow=41								
SCHQ	**Schefferville**	**45.41**	**20**	LR	LR			23 47 36.1	
	comp=Z,147nm,18.6s,MS4.0,baz=79,slow=37								
YKA	**Yellowknife Ar**	**51.09**	**347**	P		**P**		**23 28 28.8**	**-1.6**
	comp=Z,6.1nm,0.7s,mb4.6,baz=150,slow=7.5,SNR=13								
YKA	**Yellowknife Ar**	**51.09**	**347**	P		**P**		**23 28 28.8**	**-1.6**
DLBC	**Dease Lake**	**52.67**	**336**	P		**P**		**23 28 43.4**	**+1.2**
	comp=Z,2.8nm,0.6s,mb4.4,baz=155,slow=10,SNR=8.1								
DLBC	**Dease Lake**	**52.67**	**336**	P		**P**		**23 28 43.4**	**+1.2**
INK	**Inuvik**	**60.49**	**344**	P		**P**		**23 29 37.2**	**-0.5**
	comp=Z,4.8nm,0.7s,mb4.6,baz=115,slow=7.6,SNR=15								
INK	**Inuvik**	**60.49**	**344**	P		**P**		**23 29 37.2**	**-0.5**
ILAR	**Eielson Array**	**62.86**	**337**	P		**P**		**23 29 53.0**	**-0.6**
	comp=Z,1.6nm,0.9s,mb4.2,baz=164,slow=4.2,SNR=26								
ILAR	**Eielson Array**	**62.86**	**337**	P		**P**		**23 29 53.0**	**-0.6**
RSO	**Redoubt South**	**63.65**	**331**	*e*P		**P**		**23 29 58.7**	**-0.3**
	comp=Z,25nm,0.7s,mb5.4								
TRF	**Thorofare Moun**	**63.65**	**335**	*e*P		**P**		**23 29 58.8**	**-0.1**
	comp=Z,4.6nm,0.6s,mb4.7								
BPAW	**Bear Paw Mtn.**	**64.19**	**335**	*e*P		**P**		**23 30 01.7**	**-0.7**
	comp=Z,15nm,1.5s,mb4.8								
EKA	**Eskdalemuir Ar**	**78.20**	**36**	P		**P**		**23 31 24.0**	**-3.4**
	comp=Z,2.6nm,0.6s,mb4.3,baz=271,slow=6.3,SNR=13								
EKA	**Eskdalemuir Ar**	**78.20**	**36**	P		**P**		**23 31 24.0**	**-3.4**
ESDC	**Sonseca Array**	**79.97**	**52**	P		**P**		**23 31 34.1**	**-3.3**
	comp=Z,0.4nm,0.6s,mb3.5,baz=290,slow=6.7,SNR=4.1								
ESDC	**Sonseca Array**	**79.97**	**52**	P		**P**		**23 31 34.1**	**-3.3**
NOA	**NORSAR Array B**	**84.36**	**28**	LR	LR			00 15 00.3	
	comp=Z,32nm,18.0s,MS3.8,baz=350,slow=40								
ARCES	**ARCESS Array B**	**86.32**	**18**	P		**P**		**23 32 07.5**	**-2.2**
	comp=Z,3.9nm,0.8s,mb4.7,baz=345,slow=8.9,SNR=5.3								
ARCES	**ARCESS Array B**	**86.32**	**18**	P		**P**		**23 32 07.5**	**-2.2**
TORD	**Torodi Ar. Bea**	**90.63**	**76**	P		**P**		**23 32 27.1**	**-4.1**
	comp=Z,0.2nm,0.6s,mb3.6,baz=294,slow=3.8,SNR=5.1								
TORD	**Torodi Ar. Bea**	**90.63**	**76**	P		**P**		**23 32 27.1**	**-4.1**
CM31	**Chiang Mai Arr**	**146.03**	**341**	*e*PKPdf	PKPdf			23 39 07.0	-0.9
CMAR	**Chiang Mai Arr**	**146.03**	**341**	PKPbc	PKPbc			23 39 07.9	-0.8
	comp=Z,9.4nm,0.8s,baz=333,slow=3.1,SNR=52								
CMAR	**Chiang Mai Arr**	**146.03**	**341**	PKPbc	PKPbc			23 39 07.9	-0.8

NNC 02 23:32:03.0±4.9, **37.19**N×**71.38**E, **h190**km±62km, **mb2.5, mpv3.6,3C, Error ellipse: s-maj=68.1km s-min=23.2km az=41.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.95**	**354**	P	Pn	23 33 29.4	+0.1
	1.8nm,0.3s,baz=163,slow=11,SNR=120						
KK31				S	Sn	23 34 38.0	+0.4
	1.6nm,0.3s,baz=190,slow=26,SNR=20						
TKM2	**Tokmak 2**	**6.58**	**28**	⇑P	Pn	23 33 37.9	+0.4
	3.1nm,0.6s						
AB31	**Akbulak array**	**14.64**	**329**	⇑P	Pn	23 35 21.6	+0.6
	0.3nm,0.4s,baz=142,slow=11,SNR=9.6						
AB31				S	Sn	23 38 05.7	+1.3
	0.3nm,0.4s,baz=152,slow=22,SNR=2.8						
AKTO	**Aktyubinsk**	**16.35**	**328**	⇑P	Pn	23 35 40.1	-1.6
	0.2nm,0.5s						

*ISCJB **02** 23:49:52.6±0.8, 30.18S±0.06×176.56W±0.08, h10km, mb4.1/7, MS3.6/5, Error ellipse: s-maj=10.9km s-min=8.2km az=157.3*
*NEIC **02** 23:49:54.6±0.6, 29.97S×176.55W, h10km, mb4.3/6, Error ellipse: s-maj=17.4km s-min=10.6km az=177.0*
*IDC **02** 23:49:54.0±2.0, 30.13S×176.65W, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.9/19, mbtmp4.0/5, ML3.7/1, MS3.6/5, Ms1 3.6/5, ms1mx3.1/30, Error ellipse: s-maj=55.2km s-min=29.6km az=131.0*

ISC 02 23:49:54.4±0.8, **30.06S**±0.06×**176.57W**±0.09, **h10**km, **n26,** σ0**88/22, mb4.1/7, MS3.6/5, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.42**	**304**	*e*Pn	**Pn**	**23 50 19.5**	**-0.7**
RAO				*e*S	**Sn**	**23 50 38.5**	**-0.5**
URZ	**Urewera**	**9.71**	**211**	Pn	**Pn**	**23 52 13.2**	**-0.8**
	0.8nm,0.3s,baz=83,slow=21,SNR=2.7						
URZ				Sn	**Sn**	**23 54 02.1**	**-1.0**
	0.7nm,0.3s,baz=155,slow=19,SNR=5.7						
URZ	**Urewera**	**9.71**	**211**	Pn	**Pn**	**23 52 13.2**	**-0.8**
URZ				Sn	**Sn**	**23 54 02.1**	**-1.0**
DZM	**Mont Dzumac**	**17.19**	**294**	*e*P	**Pn**	**23 54 01.7**	**+7.0**
	46nm,1.5s						
DZM				*e*LR	LR	23 58 18.4	
	257nm,23.6s						
RAR	**Rarotonga**	**17.51**	**64**	*e*P	**Pn**	**23 53 57.3**	**-1.3**
	24nm,0.9s						
PPT	**Papeete**	**27.57**	**69**	LR	LR	00 05 03.1	
	comp=Z,109nm,18.9s,MS3.5,baz=343,slow=33						
CAN	**Canberra**	**29.35**	**251**	*e*P	**P**	**23 55 58.2**	**+0.7**
	6.8nm,0.8s,mb4.4						
CTA	**Charters Tower**	**34.97**	**278**	P	**P**	**23 56 48.6**	**+1.8**
	3.1nm,0.6s,mb4.4,baz=109,slow=13,SNR=4.0						
CTA	**Charters Tower**	**34.97**	**278**	P	**P**	**23 56 48.6**	**+1.8**
CTAO	**Charters Tower**	**34.97**	**278**	*e*P	**P**	**23 56 47.6**	**+0.8**
	3.7nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**35.76**	**256**	P	**P**	**23 56 55.4**	**+1.9**
	0.8nm,0.4s,mb4.0,baz=107,slow=14,SNR=3.1						
STKA				LR	LR	00 10 31.0	
	comp=Z,117nm,19.7s,MS3.6,baz=127,slow=35						
STKA	**Stephens Creek**	**35.76**	**256**	*e*P	**P**	**23 56 54.2**	**+0.7**
	0.5nm,0.9s,mb3.4						
STKA				LR	LR	00 10 31.0	
ASAR	**Alice Springs**	**44.36**	**266**	P	**P**	**23 58 05.2**	**+0.1**
	1.0nm,0.9s,mb3.6,baz=113,slow=7.4,SNR=7.2						
ASAR	**Alice Springs**	**44.36**	**266**	P	**P**	**23 58 05.2**	**+0.1**
WB2	**Warramunga Arr**	**45.31**	**271**	*e*P	**P**	**23 58 12.8**	**+0.1**
WRAB	**Tennant Creek**	**45.31**	**271**	*e*P	**P**	**23 58 12.6**	**-0.1**
	1.5nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**45.32**	**271**	P	**P**	**23 58 12.1**	**-0.6**
	1.7nm,0.6s,mb4.1,baz=110,slow=7.6,SNR=24						
WRA				LR	LR	00 17 04.9	
	comp=Z,98nm,19.7s,MS3.8,baz=0.0,slow=36						
WRA	**Warramunga Arr**	**45.32**	**271**	P	**P**	**23 58 12.1**	**-0.6**
WRA				LR	LR	00 17 04.9	
CASY	**Casey**	**56.02**	**208**	*e*P	**P**	**23 59 32.8**	**0.0**
	1.7nm,0.4s,mb4.4						
PMSA	**Palmer Station**	**72.06**	**155**	*e*P	**P**	**00 01 19.7**	**+1.4**
CFAA	**Coronel Fontan**	**88.44**	**126**	LR	LR	00 36 41.5	
	comp=Z,9.5nm,19.9s,MS3.2,baz=292,slow=32						
CPUP	**Villa Florida**	**99.22**	**128**	LR	LR	00 42 10.5	
	comp=Z,80nm,21.1s,MS4.2,baz=340,slow=32						
FINES	**FINESS Array B**	**145.24**	**341**	PKPbc	PKPbc	00 09 32.2	+1.0
	7.2nm,0.9s,baz=43,slow=2.5,SNR=30						
FINES	**FINESS Array B**	**145.24**	**341**	PKPbc	PKPbc	00 09 32.2	+1.0
AKASG	**Malin Array Be**	**151.76**	**324**	PKPbc	PKPbc	00 09 49.8	+1.0
	1.7nm,0.5s,baz=48,slow=3.2,SNR=6						
AKASG				PKPab	PKPab	00 09 59.0	+1.3
	1.7nm,0.5s,baz=49,slow=3.1,SNR=5.8						
AKASG	**Malin Array Be**	**151.76**	**324**	PKPbc	PKPbc	00 09 49.8	+1.0
AKASG				PKPab	PKPab	00 09 59.0	+1.3

*IDC **03** 00:14:11.0±1.0, 26.51S×177.24W, h0km, mb4.2/6, mb1 4.5/6, mb1mx4.1/16, mbtmp4.1/6, Error ellipse: s-maj=50.2km s-min=25.8km az=159.0*
*ISCJB **03** 00:14:14.6±0.9, 26.66S±0.1×177.34W±0.2, h33km, mb3.9/8, Error ellipse: s-maj=25.6km s-min=15.5km az=41.8*
*NEIC **03** 00:14:15.1±0.6, 26.54S×177.09W, h35km, mb3.6/2, Error ellipse: s-maj=20.7km s-min=12.7km az=128.0*

ISC 03 00:14:16.5±0.8, **26.65S**±0.1×**177.3W**±0.2, **h35**km, **n28,** σ0**84/17, mb3.9/8, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**12.59**	**201**	*e*Pn	**Pn**	**00 17 12.7**	**-0.5**
STKA	**Stephens Creek**	**36.12**	**252**	*e*P	**P**	**00 21 15.1**	**-0.2**
	0.1nm,0.7s,mb2.9						
ASAR	**Alice Springs**	**44.08**	**263**	P	**P**	**00 22 22.1**	**+0.8**
	0.7nm,0.4s,mb3.7,baz=94,slow=7.6,SNR=12						
ASAR	**Alice Springs**	**44.08**	**263**	P	**P**	**00 22 22.1**	**+0.8**
WB2	**Warramunga Arr**	**44.70**	**268**	*e*P	**P**	**00 22 26.9**	**+0.4**
WRAB	**Tennant Creek**	**44.71**	**268**	*e*P	**P**	**00 22 26.6**	**+0.1**
	1.5nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**44.72**	**268**	P	**P**	**00 22 26.8**	**+0.2**
	1.4nm,0.4s,mb4.1,baz=103,slow=7.8,SNR=30						
WRA	**Warramunga Arr**	**44.72**	**268**	P	**P**	**00 22 26.8**	**+0.2**
MAJO	**Matsushiro**	**75.46**	**324**	P	**P**	**00 25 55.2**	**-1.7**
NVAR	**Mina Array Bea**	**85.00**	**43**	P	**P**	**00 26 50.1**	**+1.8**
	1.0nm,0.7s,mb4.0,baz=223,slow=8.6,SNR=7.6						
NVAR	**Mina Array Bea**	**85.00**	**43**	P	**P**	**00 26 50.1**	**+1.8**
CMAR	**Chiang Mai Arr**	**92.72**	**289**	P	**P**	**00 27 25.7**	**+0.2**
	0.5nm,0.6s,mb4.2,baz=136,slow=3.0,SNR=6.1						
CMAR	**Chiang Mai Arr**	**92.72**	**289**	P	**P**	**00 27 25.7**	**+0.2**
PDAR	**Pinedale Array**	**92.92**	**43**	P	**P**	**00 27 25.5**	**-0.3**
	0.5nm,1.0s,mb3.9,baz=251,slow=2.8,SNR=3.6						
PDAR	**Pinedale Array**	**92.92**	**43**	P	**P**	**00 27 25.5**	**-0.3**
ILAR	**Eielson Array**	**94.05**	**13**	P	**P**	**00 27 29.6**	**-0.8**
	0.4nm,0.8s,mb3.9,baz=199,slow=5.7,SNR=4.9						
ILAR	**Eielson Array**	**94.05**	**13**	P	**P**	**00 27 29.6**	**-0.8**
FINES	**FINESS Array B**	**141.72**	**342**	PKhKP	PKPpre	00 33 35.8	
	2.9nm,0.9s,baz=41,slow=3.0,SNR=3.5						
FINES	**FINESS Array B**	**141.72**	**342**	PKP	PKPdf	00 33 35.8	-7.9
NB2	**NORSAR Subarra**	**145.04**	**353**	PKP	PKPdf	00 33 47.0	-2.5
	comp=Z,1.3nm,0.6s,baz=13,slow=3.4						
NOA	**NORSAR Array B**	**145.04**	**353**	PKPbc	PKPbc	00 33 46.5	-2.4
	comp=Z,2.3nm,0.8s,baz=15,slow=2.4,SNR=7.3						
NOA	**NORSAR Array B**	**145.04**	**353**	PKPbc	PKPbc	00 33 46.5	-2.4
AKASG	**Malin Array Be**	**148.51**	**327**	PKPbc	PKPbc	00 33 57.4	-1.9
	comp=Z,0.7nm,0.4s,baz=45,slow=4.0,SNR=6.6						
AKASG	**Malin Array Be**	**148.51**	**327**	PKPbc	PKPbc	00 33 57.4	-1.9
BRTR	**Keskin Array B**	**151.11**	**305**	PKPbc	PKPbc	00 34 04.8	-1.2
	comp=Z,0.4nm,0.5s,baz=90,slow=0.6,SNR=3.8						
BRTR				PKPab	PKPab	00 34 12.6	-1.2
	comp=Z,1.0nm,0.6s,baz=87,slow=3.5,SNR=7.6						
BRTR	**Keskin Array B**	**151.11**	**305**	PKPbc	PKPbc	00 34 04.8	-1.2
BRTR				PKPab	PKPab	00 34 12.6	-1.2
TORD	**Torodi Ar. Bea**	**166.63**	**176**	PKP	PKPdf	00 34 17.2	-1.8
	comp=Z,0.5nm,1.0s,baz=329,slow=1.5,SNR=4.4						
TORD				PKPab	PKPab	00 35 23.4	+2.2
	comp=Z,0.3nm,0.7s,baz=180,slow=1.4,SNR=4.1						
TORD	**Torodi Ar. Bea**	**166.63**	**176**	PKP	PKPdf	00 34 17.2	-1.8
TORD				PKPab	PKPab	00 35 23.4	+2.2

*SKO **03** 00:29:20.4, 40.12N×19.35E, h0km*
*ROM **03** 00:29:23.3±0.8, 39.84N×20.17E, h10km, Md2.8/2, MI3.1/2, Error ellipse: s-maj=9.9km s-min=3.9km az=139.0*
*TIR **03** 00:29:23.5±1.8, 40.08N×19.91E, h20km±7km, ML3.5*
*ISCJB **03** 00:29:25.8±0.5, 40.16N±0.02×19.85E±0.03, h0km±4km, Error ellipse: s-maj=4.2km s-min=3.3km az=172.6*
*ATH **03** 00:29:25.2, 40.20N×19.82E, h13km±1km, MD3.5/18*
*CSEM **03** 00:29:26.5±0.2, 40.14N×19.85E, h2km, ML3.5, Error ellipse: s-maj=3.9km s-min=2.9km az=69.0*
*THE **03** 00:29:27.0, 40.15N×19.89E, h0km±2km, ML2.6/9, Error ellipse: s-maj=3.1km s-min=1.0km az=288.0*

ISC 03 00:29:26.3±0.6, **40.17N**±0.02×**19.83E**±0.03, **h0**km±4km, **n99,** σ0**97**/152, **Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.31**	**156**	*i* PG	**Pg**	**00 29 31.6**	**-0.7**
SRN				*i* SG	**Sg**	**00 29 35.8**	**-0.6**
SRN	**Sarande**	**0.31**	**156**	*i* Pg	**Pg**	**00 29 31.6**	**-0.7**
SRN				*i* Sg	**Sg**	**00 29 35.8**	**-0.6**
KEK	**Kerkira**	**0.46**	**183**	*e*PB	**Pg**	**00 29 34.7**	**-0.3**
KEK				*e*SB	**Sg**	**00 29 42.2**	**+1.3**
KEK	**Kerkira**	**0.46**	**183**	P	**Pg**	**00 29 34.6**	**-0.4**
KEK				S	**Sg**	**00 29 42.4**	**+1.5**
KEK	**Kerkira**	**0.46**	**183**	*e*Pb	**Pg**	**00 29 34.7**	**-0.3**
KEK				*e*Sb	**Sg**	**00 29 42.2**	**+1.3**
LSK	**Leskovik**	**0.59**	**91**	*i* PG	**Pg**	**00 29 34.6**	**-3.0**
LSK				*i* SG	**Sg**	**00 29 44.1**	**-1.1**
IGT	**Igoumenitsa**	**0.74**	**149**	P	**Pg**	**00 29 39.2**	**-1.3**
IGT				S	**Sg**	**00 29 50.5**	**+0.4**
IGT	**Igoumenitsa**	**0.74**	**149**	P	**Pg**	**00 29 39.2**	**-1.3**
IGT				S	**Sg**	**00 29 50.5**	**+0.4**
KBN	**Korca**	**0.86**	**58**	*i* PG	**Pg**	**00 29 40.9**	**-1.9**
KBN				*i* SG	**Sg**	**00 29 55.9**	**+2.0**
JAN	**Janina**	**0.93**	**123**	*e*PB	**Pg**	**00 29 43.6**	**-0.6**
JAN				*e*SB	**Sg**	**00 29 56.2**	**-0.1**
JAN	**Janina**	**0.93**	**123**	P	**Pg**	**00 29 43.5**	**-0.7**
JAN				S	**Sg**	**00 29 56.5**	**+0.2**
JAN	**Janina**	**0.93**	**123**	*e*Pb	**Pg**	**00 29 43.6**	**-0.6**
JAN				*e*Sb	**Sg**	**00 29 56.2**	**-0.1**
JAN				S	**Sg**	**00 29 56.5**	**+0.2**
SCTE	**Santa Cesarea**	**1.05**	**265**	Pn	**Pg**	**00 29 47.9**	**+1.4**
SCTE				Sn	**Sg**	**00 30 05.3**	**+5.2**
	214nm,0.6s						
SCTE	**Santa Cesarea**	**1.05**	**265**	Pn	**Pg**	**00 29 47.9**	**+1.4**
SCTE				Sn	**Sg**	**00 30 05.3**	**+5.2**
	214nm,0.6s						
TIR	**Tirane**	**1.18**	**1**	*i* PG	**Pn**	**00 29 50.9**	**+0.9**
TIR	**Tirane**	**1.18**	**1**	Pn	**Pn**	**00 29 50.9**	**+0.9**
TIR				Sn	**Sn**	**00 30 11.4**	**+4.7**
TIR	**Tirane**	**1.18**	**1**	*i* Pg	**Pn**	**00 29 50.9**	**+0.9**
TIR				Sn	**Sn**	**00 30 11.4**	**+4.7**
FNA	**Florina**	**1.33**	**62**	P	**Pn**	**00 29 50.7**	**-1.3**
FNA				S	**Sg**	**00 30 10.2**	**+1.2**
FNA	**Florina**	**1.33**	**62**	P	**Pn**	**00 29 50.7**	**-1.3**
FNA				S	**Sg**	**00 30 10.2**	**+1.2**
BIA	**Bitola**	**1.42**	**53**	P	**Pn**	**00 29 51.9**	**-1.4**
BIA				S	**Sg**	**00 30 13.5**	**+1.6**
BIA	**Bitola**	**1.42**	**53**	*e*Pn	**Pn**	**00 29 51.9**	**-1.4**
BIA				*e*Sg	**Sg**	**00 30 16.0**	**+4.1**
BIA	**Bitola**	**1.42**	**53**	*e*Pn	**Pn**	**00 29 51.9**	**-1.4**
BIA				*e*Sg	**Sg**	**00 30 16.0**	**+4.1**
BIA	**Bitola**	**1.42**	**53**	P	**Pn**	**00 29 51.9**	**-1.4**
BIA				S	**Sg**	**00 30 13.5**	**+1.6**
BIA				*e*Sg	**Sg**	**00 30 15.9**	**+4.0**
KZN	**Kozani**	**1.49**	**84**	*e*PB	**Pn**	**00 29 53.6**	**-0.6**
KZN				*e*SB	**Sg**	**00 30 13.8**	**-0.3**
KZN	**Kozani**	**1.49**	**84**	P	**Pn**	**00 29 53.6**	**-0.6**
KZN				S	**Sg**	**00 30 13.8**	**-0.3**
KZN	**Kozani**	**1.49**	**84**	P	**Pn**	**00 29 53.6**	**-0.6**
KZN				S	**Sg**	**00 30 13.8**	**-0.3**
LKD2	**Lefkada island**	**1.52**	**155**	P	**Pn**	**00 29 54.1**	**-0.5**
LKD2				S	**Sg**	**00 30 15.3**	**+0.3**
LKD2	**Lefkada island**	**1.52**	**155**	P	**Pn**	**00 29 54.1**	**-0.5**
LKD2				S	**Sg**	**00 30 15.3**	**+0.3**
KRUS	**Krusevo**	**1.61**	**41**	*e*Pn	**Pn**	**00 29 54.5**	**-1.5**
KRUS	**Krusevo**	**1.61**	**41**	*e*Pn	**Pn**	**00 29 54.5**	**-1.5**
KRUS	**Krusevo**	**1.61**	**41**	*e*Pn	**Pn**	**00 29 54.4**	**-1.5**
THL	**Klokotos Trika**	**1.78**	**109**	*e*PN	**Pn**	**00 29 58.4**	**+0.1**
THL				*e*SN	**Sn**	**00 30 22.6**	**+1.0**
THL	**Klokotos Trika**	**1.78**	**109**	P	**Pn**	**00 29 58.5**	**+0.2**
THL				S	**Sn**	**00 30 21.3**	**-0.3**
THL	**Klokotos Trika**	**1.78**	**109**	P	**Pn**	**00 29 58.5**	**+0.2**
THL				S	**Sn**	**00 30 21.3**	**-0.3**
THL				*e*Sn	**Sn**	**00 30 22.6**	**+1.0**
PUK	**Puka**	**1.87**	**1**	*i* PN	**Pn**	**00 30 00.7**	**+1.2**
PUK				*i* SN	**Sn**	**00 30 27.6**	**+3.7**
PUK	**Puka**	**1.87**	**1**	*i* Pn	**Pn**	**00 30 00.7**	**+1.2**
PUK				*i* Sn	**Sn**	**00 30 27.6**	**+3.7**
EVR	**Evrytania**	**1.97**	**129**	*e*PG	**Pn**	**00 30 01.9**	**+1.0**
EVR				*e*SN	**Sn**	**00 30 27.3**	**+1.0**
EVR	**Evrytania**	**1.97**	**129**	P	**Pn**	**00 30 01.4**	**+0.5**
EVR				S	**Sn**	**00 30 26.1**	**-0.2**
EVR	**Evrytania**	**1.97**	**129**	P	**Pn**	**00 30 01.4**	**+0.5**
EVR	**Evrytania**	**1.97**	**129**	*e*Pg	**Pn**	**00 30 01.9**	**+1.0**
EVR				S	**Sn**	**00 30 26.1**	**-0.2**
EVR				*e*Sn	**Sn**	**00 30 27.3**	**+1.0**
LIT	**Litokhoron**	**2.04**	**91**	*e*PN	**Pn**	**00 30 02.5**	**+0.7**
LIT	**Litokhoron**	**2.04**	**91**	P	**Pn**	**00 30 02.0**	**+0.2**
LIT				S	**Sn**	**00 30 28.6**	**+0.7**
LIT	**Litokhoron**	**2.04**	**91**	P	**Pn**	**00 30 02.0**	**+0.2**
LIT	**Litokhoron**	**2.04**	**91**	*e*Pn	**Pn**	**00 30 02.5**	**+0.7**
LIT				S	**Sn**	**00 30 28.6**	**+0.7**
VLS	**Valsamata**	**2.07**	**163**	*e*PN	**Pn**	**00 30 02.1**	**-0.2**
VLS	**Valsamata**	**2.07**	**163**	P	**Pn**	**00 30 01.5**	**-0.8**
VLS	**Valsamata**	**2.07**	**163**	P	**Pn**	**00 30 01.5**	**-0.8**
VLS	**Valsamata**	**2.07**	**163**	*e*Pn	**Pn**	**00 30 02.1**	**-0.2**
GRG	**Griva**	**2.11**	**67**	P	**Pn**	**00 30 02.7**	**-0.1**
GRG	**Griva**	**2.11**	**67**	P	**Pn**	**00 30 02.7**	**-0.1**
NOCI	**Noci**	**2.20**	**287**	Pn	**Pn**	**00 30 04.7**	**+0.7**
	100nm,0.4s						
NOCI	**Noci**	**2.20**	**287**	Pn	**Pn**	**00 30 04.7**	**+0.7**
	100nm,0.4s						
BCI	**Bajram Curri**	**2.20**	**4**	*i* PN	**Pn**	**00 30 05.5**	**+1.4**
BCI	**Bajram Curri**	**2.20**	**4**	*i* Pn	**Pn**	**00 30 05.5**	**+1.4**
AGG	**Agios Georgios**	**2.24**	**120**	*e*PN	**Pn**	**00 30 05.2**	**+0.6**
AGG				*e*SN	**Sn**	**00 30 33.9**	**+1.0**
AGG	**Agios Georgios**	**2.24**	**120**	P	**Pn**	**00 30 05.3**	**+0.7**
AGG				S	**Sn**	**00 30 33.1**	**+0.2**
AGG	**Agios Georgios**	**2.24**	**120**	*e*Pn	**Pn**	**00 30 05.2**	**+0.6**
AGG				S	**Sn**	**00 30 33.1**	**+0.2**
AGG				*e*Sn	**Sn**	**00 30 33.9**	**+1.0**
EFP	**Efpalio**	**2.37**	**137**	*e*PN	**Pn**	**00 30 06.6**	**+0.3**
EFP	**Efpalio**	**2.37**	**137**	P	**Pn**	**00 30 06.8**	**+0.5**
EFP	**Efpalio**	**2.37**	**137**	*e*Pn	**Pn**	**00 30 06.6**	**+0.3**
VAY	**Valandovo**	**2.38**	**60**	P	**Pn**	**00 30 06.0**	**-0.4**
VAY	**Valandovo**	**2.38**	**60**	*e*Pn	**Pn**	**00 30 05.8**	**-0.7**
VAY	**Valandovo**	**2.38**	**60**	*e*Pn	**Pn**	**00 30 05.8**	**-0.7**
VAY	**Valandovo**	**2.38**	**60**	*e*Pn	**Pn**	**00 30 05.7**	**-0.7**
VAY	**Valandovo**	**2.38**	**60**	P	**Pn**	**00 30 06.0**	**-0.4**
RLS	**Riolos of Patr**	**2.46**	**148**	*e*PB	**Pn**	**00 30 07.4**	**-0.2**
RLS	**Riolos of Patr**	**2.46**	**148**	P	**Pn**	**00 30 07.5**	**-0.1**
RLS	**Riolos of Patr**	**2.46**	**148**	P	**Pn**	**00 30 07.5**	**-0.1**
KNT	**Kendrikon**	**2.53**	**66**	P	**Pn**	**00 30 08.7**	**+0.1**
KNT	**Kendrikon**	**2.53**	**66**	P	**Pn**	**00 30 08.7**	**+0.1**
NEO	**Neokhori**	**2.75**	**107**	*e*PB	**Pn**	**00 30 12.0**	**+0.4**
NEO				*e*SN	**Sn**	**00 30 45.3**	**-0.2**
NEO	**Neokhori**	**2.75**	**107**	*e*Pb	**Pn**	**00 30 12.0**	**+0.4**
NEO				*e*Sn	**Sn**	**00 30 45.3**	**-0.2**
SOH	**Sokhos**	**2.76**	**75**	*e*PB	**Pn**	**00 30 12.1**	**+0.3**
PLG	**Polygyros**	**2.77**	**85**	*e*PB	**Pn**	**00 30 12.1**	**+0.2**
PLG				*e*SN	**Sn**	**00 30 45.7**	**-0.3**
PLG	**Polygyros**	**2.77**	**85**	P	**Pn**	**00 30 12.4**	**+0.5**
PLG	**Polygyros**	**2.77**	**85**	P	**Pn**	**00 30 12.4**	**+0.5**
PLG				*e*Sn	**Sn**	**00 30 45.7**	**-0.3**
LKR	**Lokris**	**2.88**	**121**	*e*PN	**Pn**	**00 30 13.0**	**-0.4**
LKR	**Lokris**	**2.88**	**121**	*e*Pn	**Pn**	**00 30 13.0**	**-0.4**
GUR	**Goura**	**2.96**	**138**	*e*PN	**Pn**	**00 30 14.4**	**-0.1**
GUR	**Goura**	**2.96**	**138**	P	**Pn**	**00 30 14.5**	**0.0**
GUR	**Goura**	**2.96**	**138**	P	**Pn**	**00 30 14.5**	**0.0**
BARS	**Barje**	**3.04**	**29**	*e*Pn	**Pn**	**00 30 15.7**	**+0.2**
STON	**Ston**	**3.14**	**330**	*e*Pn	**Pn**	**00 30 15.0**	**-1.9**
STON				Sn	**Sn**	**00 30 52.7**	**-2.4**
STON	**Ston**	**3.14**	**330**	*e*Pn	**Pn**	**00 30 15.0**	**-2.0**
STON				Sn	**Sn**	**00 30 52.6**	**-2.5**
NVR	**Nevrokopi**	**3.28**	**68**	*e*PB	**Pn**	**00 30 19.7**	**+0.8**
NVR				*e*SN	**Sn**	**00 30

IMEH	**Mehriz**	**3.44**	**88**	*e*Pn		**Pn**	**00 33 52.9**	**-0.2**
IMEH				*e*			00 33 57.0	
	comp=Z,209nm,0.2s							
RDF	**Al-Radifah**	**3.55**	**229**	*e*P		**Pn**	**00 33 54.6**	**+0.1**
RDF				*e*S		**Sn**	**00 34 36.8**	**+0.3**
RDF				AML		AML	00 34 44.1	
	comp=Z,29nm,0.5s							
RDF	**Al-Radifah**	**3.55**	**229**	*e*P		**Pn**	**00 33 54.6**	**+0.1**
RDF				*e*S		**Sn**	**00 34 36.8**	**+0.3**
NAY	**Al-Naaiem**	**3.55**	**235**	*e*P		**Pn**	**00 33 54.3**	**-0.3**
NAY				*e*S		**Sn**	**00 34 37.0**	**+0.5**
NAY				AML		AML	00 34 46.0	
	comp=Z,25nm,0.7s							
NAY	**Al-Naaiem**	**3.55**	**235**	*e*P		**Pn**	**00 33 54.3**	**-0.3**
NAY				*e*S		**Sn**	**00 34 37.0**	**+0.4**
IKOM	**Komasi**	**3.86**	**319**	*e*Pn		**Pn**	**00 33 58.2**	**-0.6**
IKOM				*e*			00 35 29.1	
	comp=Z,435nm,0.3s							
IRAZ	**Razeghan**	**4.12**	**352**	*e*Pn		**Pn**	**00 34 02.3**	**-0.1**
IRAZ				*e*			00 35 30.1	
	comp=Z,378nm,0.4s							
IR3	**Iran Long-Peri**	**4.17**	**5**	*e*Pn		**Pn**	**00 34 02.8**	**-0.3**
IR3				*e*Sg		**Sg**	**00 35 12.3**	**-1.1**
IVIS	**Veis**	**4.49**	**317**	*e*Pn		**Pn**	**00 34 06.7**	**-0.8**
IVIS				*e*			00 35 12.4	
	comp=Z,155nm,0.2s							
SNGE	**Sanandaj**	**4.65**	**325**	*e*Pn		**Pn**	**00 34 09.5**	**-0.2**
IFIR	**Firoozkooh**	**4.68**	**22**	*e*Pn		**Pn**	**00 34 10.1**	**0.0**
IFIR				*e*			00 34 15.9	
	comp=Z,83nm,0.1s							
ILIN	**Lien**	**4.71**	**321**	*e*Pn		**Pn**	**00 34 10.3**	**-0.2**
ILIN				*e*			00 35 19.7	
	comp=Z,187nm,0.2s							
IDHR	**Dehrash**	**4.89**	**315**	*e*Pn		**Pn**	**00 34 12.0**	**-0.9**
IDHR				*e*			00 35 23.0	
	comp=Z,366nm,0.3s							
TABS	**Tabas**	**5.99**	**65**	*e*Pn		**Pn**	**00 34 28.4**	**+0.3**

*IDC **03** 00:40:28.0±0.8,29°.05N×143°.03E, h0km, mb3.8/9, mb1 4.1/12, mb1mx3.9/25, mbtmp3.9/12, ML4.1/3, Error ellipse: s-maj=25.0km s-min=18.6km az=94.0*
*ISCJB **03** 00:40:30.3±0.5,29°.14N±0°.02×142°.58E±0°.10, h33km, mb4.0/13, Error ellipse: s-maj=12.1km s-min=3.0km az=171.8*
*JMA **03** 00:40:30.4±0.2,29°.12N×142°.75E, h59km, M4.4*
*NEIC **03** 00:40:32.4±0.5,29°.03N×142°.76E, h35km, mb4.4/4, Error ellipse: s-maj=13.2km s-min=7.7km az=82.0*

ISC 03 00:40:32.1±1.8, 29°.10N±0°.03×142°.61E±0°.10, h32km±14km, n46, σ1°09/58, mb4.0/13, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.03**	**191**	Pn	**Pn**	**00 41 03.8**	**-0.3**
	47nm,0.3s,baz=286,slow=21,SNR=143						
CBIJ				Sn	**Sn**	**00 41 27.8**	**-0.6**
	58nm,0.3s,baz=257,slow=21,SNR=14						
CBIJ	**Chichi jima**	**2.03**	**191**	P	**Pn**	**00 41 03.7**	**-0.4**
CBIJ				*e*S	**Sn**	**00 41 28.2**	**-0.1**
JHHJ	**Haha-jima-NKT**	**2.49**	**189**	P	**Pn**	**00 41 09.9**	**-0.5**
JHHJ				*e*S	**Sn**	**00 41 39.5**	**-0.2**
JHJ2	**Mitsune**	**4.66**	**330**	P	**Pn**	**00 41 40.9**	**+0.7**
JHJ	**Hachijo jima 2**	**4.68**	**330**	Pn	**Pn**	**00 41 40.9**	**+0.4**
	13nm,0.3s,baz=50,slow=20,SNR=13						
JHJ				Sn	**Sn**	**00 42 31.6**	**-2.2**
	7.1nm,0.3s,baz=54,slow=19,SNR=2.1						
BSO2	**Boso 2**	**5.85**	**345**	*e*S	**Sn**	**00 43 02.5**	**0.0**
BSO3	**Boso 3**	**5.96**	**343**	P	**Pn**	**00 41 57.5**	**-0.5**
BSO3				*e*S	**Sn**	**00 43 04.9**	**-0.3**
BSO4	**Boso 4**	**6.18**	**342**	P	**Pn**	**00 42 00.9**	**-0.2**
BSO4				*e*S	**Sn**	**00 43 09.4**	**-1.3**
JOD2	**Odawara 2**	**6.83**	**335**	P	**Pn**	**00 42 10.7**	**+0.7**
JOD2				*e*S	**Sn**	**00 43 26.7**	**0.0**
JHU	**Hanno**	**7.29**	**338**	P	**Pn**	**00 42 16.4**	**0.0**
JHU				*e*S	**Sn**	**00 43 38.7**	**+0.6**
JRY	**Ryogami san**	**7.57**	**337**	P	**Pn**	**00 42 21.4**	**+1.2**
JRY				*e*S	**Sn**	**00 43 45.2**	**+0.3**
JHO	**Hitachi**	**7.68**	**348**	P	**Pn**	**00 42 19.9**	**-1.8**
JAG	**Ashikaga**	**7.77**	**341**	P	**Pn**	**00 42 22.6**	**-0.3**
JAG				*e*S	**Sn**	**00 43 47.3**	**-2.5**
MJAR	**Matsushiro Arr**	**8.29**	**335**	Pn	**Pn**	**00 42 31.4**	**+1.3**
	3.0nm,0.3s,baz=160,slow=11,SNR=18						
MJAR	**Matsushiro Arr**	**8.29**	**335**	Pn	**Pn**	**00 42 31.4**	**+1.3**
MAJO	**Matsushiro**	**8.29**	**335**	*e*Pn	**Pn**	**00 42 31.6**	**+1.5**
	11nm,0.4s						
MAJO				*e*Sn	**Sn**	**00 43 60.0**	**-2.7**
MAT	**Matsushiro**	**8.29**	**335**	P	**Pn**	**00 42 30.4**	**+0.3**
MAT				*e*S	**Sn**	**00 44 03.0**	**+0.4**
MAT	**Matsushiro**	**8.29**	**335**	P	**Pn**	**00 42 30.6**	**+0.5**
KSRS	**Korea Array**	**14.83**	**308**	Pn	**Pn**	**00 44 06.6**	**+7.1**
	0.3nm,0.3s,baz=119,slow=13,SNR=4.5						
GUMO	**Guam**	**15.58**	**172**	*e*Pn	**Pn**	**00 44 07.5**	**-1.9**
	181nm,1.3s						
NACB	**Ninganchiao**	**19.41**	**260**	*e*P	**Pn**	**00 44 56.3**	**-0.6**
	13nm,0.8s						
SSLB	**Suanglung**	**20.09**	**260**	P	**P**	**00 45 04.3**	**+1.3**
SONM	**Songino Array**	**33.56**	**314**	P	**P**	**00 47 13.4**	**+4.4**
	1.0nm,0.9s,mb3.7,baz=111,slow=7.4,SNR=8.2						
SONM	**Songino Array**	**33.56**	**314**	P	**P**	**00 47 13.4**	**+4.4**
COEN	**Coen**	**42.81**	**179**	*e*P	**P**	**00 48 25.3**	**-1.7**
	7.4nm,0.6s,mb4.6						
ZALV	**Zalesovo Beam**	**48.24**	**318**	P	**P**	**00 49 15.2**	**+5.6**
	0.6nm,0.4s,mb4.0,baz=108,slow=9.5,SNR=3.2						
ZALV	**Zalesovo Beam**	**48.24**	**318**	P	**P**	**00 49 15.2**	**+5.6**
WRAB	**Tennant Creek**	**49.39**	**190**	*e*P	**P**	**00 49 19.5**	**+0.7**
	2.1nm,0.4s,mb4.5						
WB2	**Warramunga Arr**	**49.40**	**190**	*e*P	**P**	**00 49 18.3**	**-0.6**
WRA	**Warramunga Arr**	**49.40**	**190**	P	**P**	**00 49 19.4**	**+0.6**
	1.7nm,0.4s,mb4.4,baz=12,slow=8.5,SNR=19						
WRA	**Warramunga Arr**	**49.40**	**190**	P	**P**	**00 49 19.4**	**+0.6**
MKAR	**Makanchi Array**	**49.51**	**308**	P	**P**	**00 49 23.1**	**+3.6**
	0.5nm,0.4s,mb3.9,baz=83,slow=10,SNR=11						
MKAR	**Makanchi Array**	**49.51**	**308**	P	**P**	**00 49 23.1**	**+3.6**
KURK	**Kurchatov**	**51.87**	**313**	*e*P	**P**	**00 49 37.8**	**+0.6**
	1.5nm,0.7s,mb4.0						
ILAR	**Eielson Array**	**55.78**	**29**	P	**P**	**00 50 04.9**	**-0.7**
	0.6nm,0.6s,mb3.8,baz=258,slow=6.1,SNR=14						
ILAR	**Eielson Array**	**55.78**	**29**	P	**P**	**00 50 04.9**	**-0.7**
INK	**Inuvik**	**61.06**	**25**	P	**P**	**00 50 42.3**	**-0.1**
	1.0nm,0.9s,mb4.0,baz=11,slow=6.3,SNR=6.2						
INK	**Inuvik**	**61.06**	**25**	P	**P**	**00 50 42.3**	**-0.1**
FINES	**FINESS Array B**	**76.32**	**334**	P	**P**	**00 52 19.5**	**+1.9**
	4.7nm,1.0s,mb4.4,baz=66,slow=6.5,SNR=3.3						
FINES	**FINESS Array B**	**76.32**	**334**	P	**P**	**00 52 19.5**	**+1.9**
NVAR	**Mina Array Bea**	**79.00**	**52**	P	**P**	**00 52 32.4**	**-0.5**
	0.3nm,0.7s,mb3.3,baz=273,slow=6.2,SNR=3.1						
NVAR	**Mina Array Bea**	**79.00**	**52**	P	**P**	**00 52 32.4**	**-0.5**
NOA	**NORSAR Array B**	**81.89**	**338**	P	**P**	**00 52 49.7**	**+1.7**
	0.4nm,0.5s,mb3.6,baz=40,slow=5.1,SNR=3.1						
NOA	**NORSAR Array B**	**81.89**	**338**	P	**P**	**00 52 49.7**	**+1.7**
TXAR	**Lajitas Array**	**94.11**	**53**	P	**P**	**00 53 49.4**	**+1.6**
	0.1nm,0.3s,mb3.7,baz=289,slow=2.8,SNR=2.6						
TXAR	**Lajitas Array**	**94.11**	**53**	P	**P**	**00 53 49.4**	**+1.6**

MAN 03 00:48:25,10°.81N×122°.91E, h8km, mb2.9, ML2.7, MS4.1, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.36**	**241**	*e*P	Pg	00 48 33.2	+1.1
RCP	**Roxas**	**0.77**	**348**↑	*e*P	Pg	00 48 40.7	+0.9
RCP				*i* S	Sg	00 48 52.9	+3.1
LLP	**Lapu-Lapu**	**1.15**	**115**	*e*P	Pg	00 48 45.5	-1.5
LLP				*e*S	Sg	00 49 00.7	-1.2
TBP	**Tagbilaran**	**1.45**	**140**	*e*P	Pn	00 48 53.9	+2.4
TBP				*e*S	Sn	00 49 11.9	+1.2
OCLP	**Ormoc**	**1.69**	**82**	*e*P	Pn	00 48 55.4	+0.6
OTRP	**Odiongan**	**1.78**	**331**	*e*P	Pn	00 48 57.9	+1.9
CUYO	**Cuyo Island**	**1.86**	**272**	*e*P	Pn	00 48 57.8	+0.6
MSLP	**Maasin**	**2.03**	**109**	*e*P	Pn	00 49 01.2	+1.7
ENPP	**El Nido**	**3.45**	**277**	*e*P	Pn	00 49 20.3	+1.3

WEL 03 00:48:50.6±0.2, 45°.11S×167°.40E, h93km±1km, ML3.9/10, 1C, Error ellipse: s-maj=1.5km s-min=0.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.41**	**205**	⇑PN	Pn	00 49 04.6	-0.4
DCZ				SN	Sn	00 49 15.3	-0.3
MSZ	**Milford Sound**	**0.57**	**41**	PN	Pn	00 49 06.1	-0.1
MSZ				SN	Sn	00 49 17.4	-0.4
MLZ	**Mavora Lakes**	**0.59**	**114**	PN	Pn	00 49 06.1	-0.3
MLZ				SN	Sn	00 49 17.8	-0.3
WHZ	**Wether Hill Ro**	**0.87**	**154**	PN	Pn	00 49 09.0	-0.1
WHZ				SN	Sn	00 49 22.5	-0.4
PYZ	**Puysegur Point**	**1.17**	**205**	PN	Pn	00 49 12.8	+0.4
PYZ				SN	Sn	00 49 28.6	-0.3
WKZ	**Wanaka**	**1.18**	**77**	PN	Pn	00 49 12.5	0.0
EAZ	**Earnscleugh**	**1.35**	**96**	PN	Pn	00 49 14.5	-0.1
EAZ				SN	Sn	00 49 31.8	-0.9
JCZ	**Jackson Bay**	**1.42**	**44**	PN	Pn	00 49 14.7	-0.7
APZ	**The Paps**	**1.77**	**167**	PN	Pn	00 49 19.7	-0.2
TUZ	**Tuapeka**	**1.78**	**119**	PN	Pn	00 49 19.7	-0.2
SYZ	**Scrubby Hill**	**1.88**	**140**	PN	Pn	00 49 20.9	-0.3
LBZ	**Lake Benmore**	**2.11**	**71**	PN	Pn	00 49 22.5	-1.7
FOZ	**Fox Glacier**	**2.25**	**48**	PN	Pn	00 49 25.3	-0.8
ODZ	**Otahua Downs**	**2.30**	**90**	PN	Pn	00 49 25.5	-1.3
RPZ	**Rata Peaks**	**2.96**	**63**	PN	Pn	00 49 33.2	-2.4
WVZ	**Waitaha Valley**	**3.15**	**51**	PN	Pn	00 49 35.7	-2.3
DSZ	**Denniston Nort**	**4.64**	**45**	*e*PN	Pn	00 49 56.0	-2.3

*MAN **03** 00:54:13, 7°.47N×123°.57E, h1km, mb4.6, ML3.5, MS3.4*
*ISCJB **03** 00:54:16.0±1.2, 7°.39N±0°.05×123°.57E±0°.04, h13km±8km, mb3.6/4, Error ellipse: s-maj=8.1km s-min=5.5km az=24.6*
*IDC **03** 00:54:18.7±1.3, 6°.80N×123°.79E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/22, mbtmp3.7/4, MS2.8/1, Ms1 2.8/1, ms1mx2.3/33, Error ellipse: s-maj=36.1km s-min=24.5km az=61.0*

ISC 03 00:54:15.6±0.8, 7°.38N±0°.04×123°.56E±0°.04, h8km±6km, n16, σ1°12/24, mb3.6/4, 3C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.50**	**340**	*e*P	**Pg**	**00 54 26.9**	**+1.6**
PAGZ				*e*S	**Sg**	**00 54 31.7**	**-0.2**
CTBH	**Cotabato--PC H**	**0.70**	**103**↓	*i*P	**Pg**	**00 54 28.7**	**-0.4**
CTBH				*i* S	**Sg**	**00 54 37.5**	**-0.8**
IPIL	**Ipil**	**1.06**	**293**	*e*P	**Pg**	**00 54 37.1**	**+1.1**
IPIL				*e*S	**Sg**	**00 54 48.5**	**-1.3**
DCPH	**Dipolog City**	**1.21**	**350**⇑	*e*P	**Pb**	**00 54 38.0**	**-0.9**
ZMPH	**Zamboanga City**	**1.54**	**254**↓	*i*P	**Pn**	**00 54 44.1**	**+0.6**
ZMPH				*i* S	**Sn**	**00 54 47.5**	**-16**
CGP	**Cagayan de Oro**	**1.55**	**46**⇑	*i*P	**Pn**	**00 54 42.5**	**-1.1**
CGP				*i* S	**Sn**	**00 55 02.4**	**-1.5**
KCP	**Kidapawan**	**1.56**	**103**↓	*e*P	**Pn**	**00 54 45.9**	**+2.1**
KCP				*e*S	**Sn**	**00 55 08.0**	**+3.7**
BUKP	**Musuan**	**1.57**	**71**	*e*P	**Pn**	**00 54 43.1**	**-0.8**
DMPH	**Davao City--Mi**	**1.96**	**99**⇑	*e*P	**Pn**	**00 54 49.2**	**+0.1**
DMPH				*e*S	**Sn**	**00 55 15.0**	**+1.1**
DAV	**Davao City (W)**	**2.03**	**99**	Pn	**Pn**	**00 54 51.4**	**+1.2**
	91nm,0.3s,baz=307,slow=2.4,SNR=9.9						
TBP	**Tagbilaran**	**2.32**	**7**	*e*P	**Pn**	**00 54 55.6**	**+1.5**
TBP				*e*S	**Sn**	**00 55 23.1**	**+0.3**
MATI	**Mati**	**2.71**	**99**	*e*P	**Pn**	**00 54 59.7**	**+0.2**
WRA	**Warramunga Arr**	**29.15**	**159**	P	**P**	**01 00 15.4**	**-2.0**
	0.5nm,0.5s,mb3.5,baz=342,slow=9.4,SNR=6.0						
ASAR	**Alice Springs**	**32.47**	**162**	P	**P**	**01 00 45.5**	**-1.1**
	0.5nm,0.5s,mb3.6,baz=336,slow=6.8,SNR=10						
STKA	**Stephens Creek**	**42.67**	**157**	P	**P**	**01 02 13.0**	**+0.1**
	0.9nm,0.6s,mb3.7,baz=329,slow=12,SNR=3.2						
MKAR	**Makanchi Array**	**52.78**	**325**	P	**P**	**01 03 39.9**	**+8.7**
	0.5nm,0.8s,mb3.5,baz=125,slow=9.0,SNR=3.7						

*IDC **03** 00:59:13.4±1.9, 6°.83S×143°.57E, h0km, mb3.9/3, mb1 4.1/5, mb1mx3.8/15, mbtmp3.9/5, MS3.3/4, Ms1 3.3/4, ms1mx3.0/22, Error ellipse: s-maj=71.8km s-min=24.4km az=112.0*
*ISCJB **03** 00:59:16.7±1.0, 6°.93S±0°.09×143°.5E±0°.2, h33km, mb3.6/4, MS3.2/3, Error ellipse: s-maj=29.8km s-min=11.4km az=10.5*
*NEIC **03** 00:59:18.7±0.9, 6°.90S×143°.50E, h35km, mb3.4/2, Error ellipse: s-maj=29.0km s-min=11.1km az=101.0*

ISC 03 00:59:18.5±0.9, 6°.90S±0°.09×143°.6E±0°.2, h35km, n19, σ0°82/18, mb3.6/4, MS3.2/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEN	**Coen**	**7.03**	**183**	*e*Pn	**Pn**	**01 00 58.8**	**-0.1**
WRAB	**Tennant Creek**	**15.74**	**214**	*e*Pn	**Pn**	**01 02 57.3**	**-0.3**
	5.8nm,0.9s						
WB2	**Warramunga Arr**	**15.75**	**214**	*e*P	**Pn**	**01 02 57.1**	**-0.7**
WRA	**Warramunga Arr**	**15.76**	**214**	Pn	**Pn**	**01 02 55.8**	**-2.1**
	0.1nm,0.3s,baz=30,slow=14,SNR=6.9						
WRA				Sn	**Sn**	**01 05 55.2**	**+3.8**
	0.1nm,0.3s,baz=26,slow=20,SNR=5.0						
WRA				Lg		01 07 31.9	
	0.1nm,0.3s,baz=45,slow=25,SNR=5.2						
WRA				LR	LR	01 09 39.1	
	comp=Z,138nm,18.5s,baz=55,slow=40						
WRA	**Warramunga Arr**	**15.76**	**214**	Pn	**Pn**	**01 02 55.8**	**-2.1**
WRA				Sn	**Sn**	**01 05 55.2**	**+3.8**
WRA				Lg		01 07 31.9	
WRA				LR	LR	01 09 39.1	
ASAR	**Alice Springs**	**19.08**	**208**	P	**Pn**	**01 03 40.2**	**+1.1**
	0.2nm,0.3s,baz=38,slow=9.8,SNR=38						
ASAR				Lg		01 09 15.1	
	0.0nm,0.3s,baz=24,slow=25,SNR=3.1						
ASAR	**Alice Springs**	**19.08**	**208**	P	**Pn**	**01 03 40.2**	**+1.1**
ASAR				Lg		01 09 15.1	
FITZ	**Fitzroy Crossi**	**20.72**	**236**	Lg		01 10 06.4	
	12nm,1.1s,baz=98,slow=8.6,SNR=3.8						
FITZ				LR	LR	01 12 29.1	
	comp=Z,89nm,19.6s,MS3.1,baz=252,slow=38						
STKA	**Stephens Creek**	**24.92**	**184**	LR	LR	01 16 10.0	
	comp=Z,70nm,19.2s,MS3.2,baz=24,slow=41						
STKA	**Stephens Creek**	**24.92**	**184**	*e*P	**P**	**01 04 38.8**	**+0.5**
	0.3nm,0.7s,mb2.9						
MBWA	**Marble Bar**	**27.06**	**236**	P	**P**	**01 04 58.1**	**+0.2**
ASAJ	**Asahikawa**	**50.78**	**359**	LR	LR	01 28 06.9	
	comp=Z,27nm,19.4s,MS3.3,baz=91,slow=34						
MK31	**Makanchi Array**	**76.04**	**322**	*e*P	**P**	**01 11 02.0**	**-0.3**
MKAR	**Makanchi Array**	**76.04**	**322**	P	**P**	**01 11 02.6**	**+0.4**
	0.7nm,0.8s,mb3.6,baz=99,slow=9.2,SNR=5.2						
MKAR	**Makanchi Array**	**76.04**	**322**	P	**P**	**01 11 02.6**	**+0.4**
BVAR	**Borovoye Array**	**85.50**	**325**	P	**P**	**01 11 53.0**	**+0.4**
	1.3nm,0.8s,mb4.1,baz=123,slow=5.5,SNR=6.6						
BVAR	**Borovoye Array**	**85.50**	**325**	P	**P**	**01 11 53.0**	**+0.4**
ILAR	**Eielson Array**	**87.66**	**24**	P	**P**	**01 12 02.8**	**-0.2**
	0.8nm,1.0s,mb3.9,baz=248,slow=4.6,SNR=5.6						
ILAR	**Eielson Array**	**87.66**	**24**	P	**P**	**01 12 02.8**	**-0.2**

*MOS **03** 01:10:28.9±1.5, 51°.46N×98°.05E, h5km, mb4.2/1, Error ellipse: s-maj=14.2km s-min=9.9km az=158.3*
*ISCJB **03** 01:10:29.5±0.5, 51°.42N±0°.07×98°.10E±0°.05, h10km, mb3.8/4, MS3.4/3, Error ellipse: s-maj=9.9km s-min=4.1km az=167.1*
*IDC **03** 01:10:29.4±1.3, 51°.34N×98°.14E, h0km, mb3.8/3, mb1 3.6/8, mb1mx3.4/31, mbtmp3.5/8, ML3.3/5, MS3.2/5, Ms1 3.2/5, ms1mx2.7/33, Error ellipse: s-maj=35.8km s-min=16.1km az=18.0*
*NEIC **03** 01:10:34.2±1.0, 51°.52N×97°.72E, h10km, mb3.9/1, Error ellipse: s-maj=26.0km s-min=12.4km az=176.0*

ISC 03 01:10:31.1±0.4, 51°.32N±0°.05×98°.23E±0°.04, h10km, n49, σ1°44/54, mb3.8/4, MS3.4/3, 3C-2D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**1.57**	**38**	*e*P*	**Pn**	**01 10 59.2**	**+0.3**
ORL				*e*	**Sg**	**01 11 21.0**	**-0.4**
ORL				pmax	pmax		
	comp=Z,914nm,0.5s						
ORL				smax			
	comp=E,1μm,0.7s						
MOY	**Mondy**	**1.76**	**77**↓	*i*Pn	**Pn**	**01 11 04.3**	**+2.7**
MOY				*e*	**Sg**	**01 11 29.6**	**+2.0**
MOY				pmax	pmax		
	comp=Z,537nm,0.4s						
MOY				smax			
	comp=N,5μm,0.6s						
ZAK	**Zakamensk**	**3.33**	**104**	*e*PN	**Pn**	**01 11 26.4**	**+3.2**
ZAK				*e*		01 11 31.6	
ZAK				*e*		01 12 17.9	
ZAK				pmax	pmax		
	comp=Z,74nm,0.5s						
ZAK				smax			
	comp=N,800nm,0.8s						
TLY	**Talaya**	**3.40**	**82**	*e*Pn	**Pg**	**01 11 32.3**	**-3.9**
TLY				*e*S	**Sg**	**01 12 18.2**	**-2.0**
TLY	**Talaya**	**3.40**	**82**	*e*PN	**Pn**	**01 11 24.9**	**+0.8**
TLY				*e*		01 11 33.0	
TLY				*e*		01 12 18.4	
TLY				pmax	pmax		
	comp=Z,109nm,0.5s						
TLY				smax			
	comp=N,2μm,1.9s						
IRK	**Irkutsk**	**3.86**	**74**	*e*PN	**Pg**	**01 11 40.6**	**-4.4**
IRK				*e*	**Sg**	**01 12 31.6**	**-3.4**
IRK				pmax	pmax		
	comp=Z,228nm,0.2s						
IRK				smax			
	comp=N,4μm,0.4s						
ORY	**Orie**	**4.14**	**334**↓	*i*PN	**Pn**	**01 11 40.1**	**+5.8**
ORY				*e*		01 11 51.4	
ORY				*e*		01 12 25.7	
ORY						01 12 44.0	
CERR	**Cheremushki**	**4.48**	**293**	*e*PN	**Pn**	**01 11 38.5**	**-0.4**
CERR				*e*		01 12 43.0	
TRG	**Tyrgan**	**5.21**	**71**	*e*PN	**Pn**	**01 11 49.4**	**+0.4**
TRG				*e*		01 12 04.6	
TRG				pmax	pmax		
	comp=Z,79nm,0.7s						
SONM	**Songino Array**	**6.35**	**120**	Pn	**Pn**	**01 12 06.5**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=301,slow=14,SNR=7.4						
SONM				Pg	**Pg**	**01 12 24.9**	**-7.7**
	comp=Z,6.5nm,0.3s,baz=302,slow=18,SNR=54						
SONM				Lg		01 13 52.5	
	comp=Z,12nm,0.3s,baz=308,slow=26,SNR=14						
SONM				LR	LR	01 14 44.0	
	comp=Z,115nm,19.6s,baz=320,slow=40						
SONM	**Songino Array**	**6.35**	**120**	Pn	**Pn**	**01 12 06.5**	**+1.9**
SONM				Lg		01 13 52.5	
SONM				LR	LR	01 14 44.0	
SONM	**Songino Array**	**6.35**	**120**	PN	**Pn**	**01 12 06.5**	**+1.9**
ULN	**Ulaanbaatar**	**6.70**	**118**	*e*Pn	**Pg**	**01 12 30.5**	**-8.7**
ULN				*e*S	**Sg**	**01 14 03.0**	**-2.8**
ULN	**Ulaanbaatar**	**6.70**	**118**	*e*PN	**Pg**	**01 12 30.5**	**-8.7**
NIZ	**Nizh Angarsk**	**8.08**	**52**	*e*P	**Pn**	**01 12 30.0**	**+1.7**
YLYR	**Ulyunkhan**	**8.56**	**60**	*e*P	**Pn**	**01 12 36.7**	**+1.9**
ZAA0	**Zalesovo Array**	**8.57**	**293**	*e*Pn	**Pn**	**01 12 34.3**	**-0.7**
ZAA0				*e*S	Sn	01 14 48.6	+37
ZALV	**Zalesovo Beam**	**8.57**	**293**	Pn	**Pn**	**01 12 34.6**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=102,slow=12,SNR=11						
ZALV				Pg	Pn	01 13 01.0	+26
	comp=Z,1.4nm,0.3s,baz=98,slow=15,SNR=9.4						
ZALV				Lg		01 14 48.4	
	comp=Z,3.0nm,0.3s,baz=110,slow=26,SNR=7.0						
ZALV				LR	LR	01 15 53.1	
	comp=Z,70nm,19.8s,baz=49,slow=38						
ZALV	**Zalesovo Beam**	**8.57**	**293**	Pn	**Pn**	**01 12 34.6**	**-0.4**
ZALV				Pg	Pn	01 13 01.0	+26
ZALV				Lg		01 14 48.4	
ZALV				LR	LR	01 15 53.1	
ZALV	**Zalesovo Beam**	**8.57**	**293**	P	**Pn**	**01 12 34.6**	**-0.5**
KMO	**Kumora**	**8.96**	**54**	*e*P	**Pn**	**01 12 41.9**	**+1.5**
KMO				*e*S	**Sn**	**01 14 19.4**	**-1.9**
KMO				pmax	pmax		
	comp=Z,20nm,0.5s						
KMO				smax			
	comp=E,437nm,1.1s						
BOD	**Bodaibo**	**11.22**	**48**	*e*P	**Pn**	**01 13 10.9**	**-0.3**
MK31	**Makanchi Array**	**11.39**	**253**	⇑Pn	**Pn**	**01 13 14.8**	**+1.2**
	comp=E,0.8nm,0.5s,baz=55,slow=12,SNR=2.5						
MK31				⇑Lg		01 16 28.2	
	comp=E,19nm,1.0s,baz=66,slow=30,SNR=3.5						
MK31	**Makanchi Array**	**11.39**	**253**	*e*Pn	**Pn**	**01 13 13.4**	**-0.3**
MK31	**Makanchi Array**	**11.39**	**253**	*e*P	**Pn**	**01 13 13.4**	**-0.3**
MKAR	**Makanchi Array**	**11.39**	**253**	Pn	**Pn**	**01 13 12.4**	**-1.3**
	comp=E,0.1nm,0.3s,baz=77,slow=16,SNR=5.4						
MKAR	**Makanchi Array**	**11.39**	**253**	Pn	**Pn**	**01 13 12.4**	**-1.3**
MKAR	**Makanchi Array**	**11.39**	**253**	P	**Pn**	**01 13 12.4**	**-1.3**
KURK	**Kurchatov**	**12.37**	**275**	⇑Pn	**Pn**	**01 13 33.4**	**+6.5**
	comp=E,4.1nm,1.2s						
KURK	**Kurchatov**	**12.37**	**275**	Pn	**Pn**	**01 13 26.7**	**-0.2**
	comp=E,0.0nm,0.3s,baz=92,slow=15,SNR=2.8						
KURK				Lg		01 16 55.2	
	comp=E,0.1nm,0.3s,baz=82,slow=32,SNR=5.6						
**K

URZ	Urewera	19.98	196	P	P	02 09 56.1	+0.1
URZ				S	S	02 13 20.1	-8.2
CTA	Charters Tower	35.37	262	P	P	02 12 16.5	+1.3
	7.9nm,0.4s,mb4.6,baz=88,slow=10,SNR=15						
CTA	Charters Tower	35.37	262	P	P	02 12 16.5	+1.3
CTAO	Charters Tower	35.37	262	*eP*	P	02 12 16.6	+1.4
	12nm,0.7s,mb4.5						
STKA	Stephens Creek	39.95	243	P	P	02 12 53.8	+0.3
	2.1nm,0.6s,mb3.7,baz=73,slow=4.1,SNR=3.5						
STKA	Stephens Creek	39.95	243	P	P	02 12 53.8	+0.3
WB2	Warramunga Arr	46.51	260	*eP*	P	02 13 45.4	-0.5
WRAB	Tennant Creek	46.51	260	*eP*	P	02 13 45.6	-0.3
	3.8nm,0.5s,mb4.0						
WRA	Warramunga Arr	46.52	260	P	P	02 13 45.5	-0.5
	3.9nm,0.4s,mb4.1,baz=97,slow=7.8,SNR=148						
WRA	Warramunga Arr	46.52	260	P	P	02 13 45.5	-0.5
ASAR	Alice Springs	46.53	255	P	P	02 13 45.9	-0.2
	10nm,0.7s,mb4.3,baz=89,slow=8.5,SNR=107						
ASAR	Alice Springs	46.53	255	P	P	02 13 45.9	-0.2
KAKA	Kakadu	49.69	269	*eP*	P	02 14 10.4	+0.1
	24nm,0.5s,mb4.8						
VNDA	Vanda	59.47	185	P	P	02 15 19.3	-0.3
	0.9nm,0.8s,mb3.5,baz=10,slow=4.1,SNR=4.5						
VNDA	Vanda	59.47	185	P	P	02 15 19.3	-0.3
MJAR	Matsushiro Arr	70.12	322	P	P	02 16 28.4	-0.3
	1.3nm,0.6s,mb3.8,baz=145,slow=5.8,SNR=3.1						
MJAR	Matsushiro Arr	70.12	322	P	P	02 16 28.4	-0.3
NVAR	Mina Array Bea	78.82	43	P	P	02 17 19.2	+0.4
	0.6nm,0.9s,mb3.2,baz=226,slow=8.9,SNR=5.4						
NVAR	Mina Array Bea	78.82	43	P	P	02 17 19.2	+0.5
BRTR	Keskin Array B	147.11	315	PKPbc	PKPbc	02 24 56.9	-0.5
	0.7nm,0.8s,baz=129,slow=1.8,SNR=5.4						
BRTR	Keskin Array B	147.11	315	PKPbc	PKPbc	02 24 56.9	-0.5
MMAI	Mount Meron Ar	148.56	302	PKPbc	PKPbc	02 25 01.5	+0.1
	1.1nm,0.4s,baz=72,slow=5.0,SNR=3.2						
GERES	GERESS Array B	149.26	347	PKPbc	PKPbc	02 25 02.0	-0.6
	0.4nm,0.7s,baz=129,slow=1.9,SNR=4.7						
GERES	GERESS Array B	149.26	347	PKPbc	PKPbc	02 25 02.0	-0.6

CSEM ***03*** *02:30:02.9±0.2,39.°18N×25.°86E,h8km,ML1.7/4, Error ellipse: s-maj=6.5km s-min=3.6km az=65.0*
THE ***03*** *02:30:02.9,39.°14N×25.°83E,h9km±1km,ML1.7/4, Error ellipse: s-maj=2.1km s-min=0.7km az=56.0*
ISCJB ***03*** *02:30:03.4±0.7,39.°16N±0.°04×25.°88E±0.°05,h10km±4km, Error ellipse: s-maj=7.7km s-min=6.0km az=139.4*
ATH ***03*** *02:30:03.2,39.°15N×25.°86E,h11km,MD2.9/4*
ISC 03 02:30:03.1±0.6,39.°16N±0.°03×25.°84E±0.°07,h9km±6km, n17,σ0°80/32,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIGR	SIGRI	0.06	16	P		P	Pg	02 30 05.2	+0.1
SIGR				S		S	Sg	02 30 06.7	+0.2
SIGR	SIGRI	0.06	16	P		P	Pg	02 30 05.2	+0.1
SIGR				S		S	Sg	02 30 06.7	+0.2
PRK	Paraskevi	0.35	75	*e*PB		P	Pg	02 30 09.9	-0.1
PRK				*e*SB		S	Sg	02 30 14.7	0.0
PRK	Paraskevi	0.35	75	P		P	Pg	02 30 09.8	-0.2
PRK				S		S	Sg	02 30 15.2	+0.5
PRK	Paraskevi	0.35	75	*e*Pg		P	Pg	02 30 08.6	-1.4
PRK	Paraskevi	0.35	75	P		P	Pg	02 30 09.8	-0.2
PRK				*e*Sb		S	Sg	02 30 14.7	0.0
PRK				S		S	Sg	02 30 15.2	+0.5
CHOS	Chios island	0.79	167	*e*PB		P	Pg	02 30 18.1	-0.2
CHOS				*e*SB		S	Sb	02 30 28.7	-1.1
CHOS	Chios island	0.79	167	P		P	Pg	02 30 18.1	-0.2
CHOS				S		S	Sg	02 30 28.4	-0.2
CHOS	Chios island	0.79	167	P		P	Pg	02 30 18.1	-0.2
CHOS				S		S	Sg	02 30 28.4	-0.2
CHOS				*e*Sb		S	Sb	02 30 28.7	-1.1
LIA	Limnos Island	0.90	326	*e*PB		P	Pb	02 30 20.5	-0.3
LIA				*e*SB		S	Sb	02 30 32.9	+0.1
LIA	Limnos Island	0.90	326	P		P	Pg	02 30 20.2	-0.2
LIA				S		S	Sg	02 30 33.0	+1.0
LIA	Limnos Island	0.90	326	P		P	Pg	02 30 20.2	-0.2
LIA	Limnos Island	0.90	326	*e*Pb		P	Pb	02 30 20.5	-0.3
LIA				*e*Sb		S	Sb	02 30 32.9	+0.1
SMG	Samos	1.65	151	*e*PB		P	Pb	02 30 33.9	+0.3
SMG				*e*SB		S	Sb	02 30 57.0	+2.5
SMG	Samos	1.65	151	*e*Pb		P	Pb	02 30 33.9	+0.3
SMG				*e*Sb		S	Sb	02 30 57.0	+2.5
ALN	Alexandroupoli	1.74	5	*e*PN		P	Pg	02 30 35.4	-1.2
ALN	Alexandroupoli	1.74	5	*e*Pg		P	Pg	02 30 35.4	-1.2

ISCJB ***03*** *02:37:00.4±1.2,20.°7S±0.°1×178.°3W±0.°1,h525km±16km, mb3.7/14, Error ellipse: s-maj=22.7km s-min=11.3km az=135.6*
NEIC ***03*** *02:37:02.8±1.4,20.°79S×178.°19W,h552km±15km,mb4.4/1, Error ellipse: s-maj=23.1km s-min=13.4km az=140.0*
IDC ***03*** *02:37:03.5±1.9,20.°77S×178.°23W,h557km±21km, mb3.3/13,mb1 3.6/15,mb1mx3.5/20,mbtmp3.4/15,Error ellipse: s-maj=19.4km s-min=12.5km az=143.0*
ISC 03 02:37:02.1±1.4,20.°8S±0.°1×178.°3W±0.°1,h534km±18km, n76,σ0°79/36,mb3.7/14,13C-7D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	9.21	43	P		P	P	02 39 12.0	+0.2
	14nm,0.3s,baz=61,slow=1.7,SNR=8.5								
AFI				S		S	S	02 40 53.0	-5.2
	4.9nm,0.3s,baz=233,slow=20,SNR=6.7								
AFI	Afiamalu	9.21	43	P		P	P	02 39 12.0	+0.2
AFI				S		S	S	02 40 53.0	-5.2
URZ	Urewera	17.89	192	P		P	P	02 40 38.0	-1.5
	2.5nm,0.3s,baz=353,slow=2.0,SNR=13								
URZ	Urewera	17.89	192	P		P	P	02 40 38.0	-1.5
CTA	Charters Tower	33.23	265	P		P	P	02 42 56.1	+0.9
	1.1nm,0.3s,mb3.9,baz=99,slow=13,SNR=3.3								
CTA	Charters Tower	33.23	265	P		P	P	02 42 56.1	+0.9
STKA	Stephens Creek	37.46	244	P		P	P	02 43 30.8	+0.6
	1.8nm,0.4s,mb3.9,baz=96,slow=12,SNR=8.6								
STKA	Stephens Creek	37.46	244	*eP*		P	P	02 43 30.9	+0.7
	0.3nm,0.5s,mb3.1								
ASAR	Alice Springs	44.23	257	P		P	P	02 44 24.2	0.0
	1.3nm,0.5s,mb3.8,baz=94,slow=7.8,SNR=40								
ASAR				PcP		PcP	PcP	02 45 56.4	-0.8
	0.8nm,0.5s,baz=101,slow=3.9,SNR=8.6								
ASAR				S		S	S	02 50 14.8	-4.2
	3.2nm,1.0s,baz=93,slow=16,SNR=16								
ASAR	Alice Springs	44.23	257	P		P	P	02 44 24.2	0.0
ASAR				PcP		PcP	PcP	02 45 56.4	-0.8
ASAR				S		S	S	02 50 14.8	-4.2
WRAB	Tennant Creek	44.32	262	*eP*		P	P	02 44 24.9	-0.1
	27nm,2.3s,mb4.4								
WRA	Warramunga Arr	44.33	262	P		P	P	02 44 24.5	-0.5
	1.0nm,0.4s,mb3.7,baz=98,slow=8.1,SNR=28								
WRA				PcP		PcP	PcP	02 45 56.3	-1.3
	0.2nm,0.4s,baz=88,slow=3.5,SNR=3.3								
WRA				S		S	S	02 50 14.8	-5.7
	1.1nm,0.8s,baz=98,slow=13,SNR=6.3								
WRA	Warramunga Arr	44.33	262	P		P	P	02 44 24.5	-0.5
WRA				PcP		PcP	PcP	02 45 56.3	-1.3
WRA				S		S	S	02 50 14.8	-5.7
VNDA	Vanda	57.62	185	P		P	P	02 46 01.2	+0.6
	0.6nm,0.6s,mb3.0,baz=345,slow=7.5,SNR=5.5								
VNDA	Vanda	57.62	185	P		P	P	02 46 01.2	+0.6
MJAR	Matsushiro Arr	70.28	324	P		P	P	02 47 20.9	-0.9
	1.6nm,0.5s,mb3.8,baz=30,slow=1.8,SNR=5.4								
MJAR	Matsushiro Arr	70.28	324	P		P	P	02 47 20.9	-0.9
PETK	Petropavlovsk-	76.47	345	P		P	P	02 47 56.0	-0.7
	2.3nm,0.6s,mb3.8,baz=144,slow=8.4,SNR=3.2								
PETK	Petropavlovsk-	76.47	345	P		P	P	02 47 56.0	-0.7
KSRS	Korea Array	76.93	319	P		P	P	02 47 59.6	0.0
	1.4nm,0.6s,mb3.6,baz=138,slow=3.0,SNR=4.4								
NVAR	Mina Array Bea	81.38	43	P		P	P	02 48 23.9	+0.7
	1.3nm,0.7s,mb3.5,baz=224,slow=8.5,SNR=10								
NVAR	Mina Array Bea	81.38	43	P		P	P	02 48 23.9	+0.7
TXAR	Lajitas Array	87.40	57	P		P	P	02 48 53.9	+1.0
	1.1nm,0.9s,mb3.5,baz=218,slow=6.1,SNR=11								
TXAR	Lajitas Array	87.40	57	P		P	P	02 48 53.9	+1.0
ILAR	Eielson Array	88.63	13	P		P	P	02 48 56.3	-1.4
	1.1nm,0.5s,mb3.9,baz=218,slow=5.3,SNR=19								
ILAR	Eielson Array	88.63	13	P		P	P	02 48 56.3	-1.4
PDAR	Pinedale Array	89.32	43	P		P	P	02 49 01.3	-0.2
	1.7nm,0.7s,mb4.0,baz=212,slow=3.0,SNR=14								
PDAR	Pinedale Array	89.32	43	P		P	P	02 49 01.3	-0.2
CMAR	Chiang Mai Arr	89.98	290	P		P	P	02 49 06.2	+1.0
	2.5nm,0.9s,mb4.1,baz=110,slow=2.6,SNR=10								
CMAR	Chiang Mai Arr	89.98	290	P		P	P	02 49 06.2	+1.0
ZALV	Zalesovo Beam	110.55	321	PKiKP		PKiKP	PKiKP	02 54 30.1	-3.6
	0.5nm,0.5s,baz=205,slow=2.3,SNR=3.9								
ZALV	Zalesovo Beam	110.55	321	PKPdf		PKiKP	PKiKP	02 54 30.1	-3.6
MKAR	Makanchi Array	111.21	313	PKiKP		PKiKP	PKiKP	02 54 32.9	-2.1
	0.3nm,0.4s,baz=114,slow=1.7,SNR=3.3								
MKAR	Makanchi Array	111.21	313	PKPdf		PKiKP	PKiKP	02 54 33.0	-2.1
KURK	Kurchatov	114.03	317	PKP		PKiKP	PKiKP	02 54 38.3	-2.0
	0.5nm,0.6s,baz=92,slow=2.0,SNR=5.2								
KURK	Kurchatov	114.03	317	PKP		PKiKP	PKiKP	02 54 38.3	-2.0
BVAR	Borovoye Array	119.13	320	PKP		PKPdf	PKiKP	02 54 48.0	-2.1
	1.7nm,0.3s,baz=120,slow=2.1,SNR=9.6								
BVAR	Borovoye Array	119.13	320	PKP		PKPdf	PKPdf	02 54 48.0	-2.1
AKTK	Aktyubinsk	127.11	318	PKP		PKPdf	PKPdf	02 55 04.4	-1.1
AKTO	Aktyubinsk	127.11	318	PKP		PKPdf	PKPdf	02 55 04.4	-1.1
	0.4nm,0.4s,baz=100,slow=1.9,SNR=5.2								
ARCES	ARCESS Array B	129.14	349	PKP		PKPdf	PKPdf	02 55 07.2	-1.6
	6.9nm,1.0s,baz=64,slow=1.6,SNR=9.0								
ARCES	ARCESS Array B	129.14	349	PKP		PKPdf	PKPdf	02 55 07.2	-1.6
KMBO	Kilima Mbogo	139.00	242	*e*PKPdf		PKPdf	PKPdf	02 55 26.9	-2.1
AKASG	Malin Array Be	143.13	331	PKP		PKPdf	PKPdf	02 55 31.4	-3.8
	5.5nm,0.4s,baz=43,slow=4.2,SNR=42								
AKASG	Malin Array Be	143.13	331	PKP		PKPdf	PKPdf	02 55 31.4	-3.8
KWP	Kalwaria Pacla	146.72	335	*e*PKPdf		PKPdf	PKPdf	02 55 42.6	+1.2
KWP	Kalwaria Pacla	146.72	335	↑*i*P		PKPdf	PKPdf	02 55 43.2	+1.9
KWP	Kalwaria Pacla	146.72	335	↑*i*P		PKPdf	PKPdf	02 55 43.2	+1.9
BRTR	Keskin Array B	146.84	312	PKPbc		PKPbc	PKPbc	02 55 43.5	-1.2
	1.9nm,0.5s,baz=135,slow=4.2,SNR=15								
BRTR	Keskin Array B	146.84	312	PKPbc		PKPbc	PKPbc	02 55 43.5	-1.2
BURAR	Bucovina Array	147.18	330	↑*i*P		PKPbc	PKPbc	02 55 44.9	-0.4
BURAR	Bucovina Array	147.18	330	↑*i*P		PKPbc	PKPbc	02 55 44.9	-0.4
TESR		147.26	327	↑*i*P		PKPbc	PKPbc	02 55 44.4	-1.1
TESR		147.26	327	↑*i*P		PKPbc	PKPbc	02 55 44.4	-1.1
KOLS	Kolonicke sedl	147.45	335	*e*PKP		PKPbc	PKPbc	02 55 45.5	-0.4
VRI	Vrincioaia	147.66	327	↓*i*P		PKPbc	PKPbc	02 55 45.6	-1.0
VRI	Vrincioaia	147.66	327	↓*i*P		PKPbc	PKPbc	02 55 45.6	-1.0
CRVS	Cervenica-Dubn	147.80	335	*e*PKP		PKPab	PKPbc	02 55 50.9	-0.3
TRPA	Tarpa	147.97	333	↓*i*P		PKPbc	PKPbc	02 55 46.7	-0.6
TRPA	Tarpa	147.97	333	↓*i*P		PKPbc	PKPbc	02 55 46.7	-0.6
CLL	Collm	148.27	347	↓*i*PKPbc		PKPbc	PKPbc	02 55 46.9	-1.0
	comp=Z,8.0nm,0.8s								
CLL				*e*PKPab		PKPab	PKPbc	02 55 52.0	-1.0
	comp=Z,5.0nm,1.1s								
MLR	Muntele Rosu	148.32	327	↓*i*P		PKPbc	PKPbc	02 55 47.4	-0.9
MLR	Muntele Rosu	148.32	327	↓*i*P		PKPbc	PKPbc	02 55 47.4	-0.9
KECS	Kecovo	148.52	336	*e*PKP		PKPbc	PKPbc	02 55 48.7	0.0
VOIR		148.81	327	↑*i*P		PKPbc	PKPbc	02 55 48.9	-0.6
VOIR		148.81	327	↑*i*P		PKPbc	PKPbc	02 55 48.9	-0.6
VYHS	Vyhne	149.12	338	*e*PKP		PKPbc	PKPbc	02 55 49.4	-0.7
KHC	Kasperske Hory	150.16	344	↑*e*PKP		PKPbc	PKPbc	02 55 51.5	-1.1
KHC				*e*PKPAB		PKPab	PKPbc	02 56 00.0	-0.9
BZS	Buzias	150.32	331	↑*i*P		PKPbc	PKPbc	02 55 51.9	-1.2
BZS	Buzias	150.32	331	↑*i*P		PKPbc	PKPbc	02 55 51.9	-1.2
GERES	GERESS Array B	150.39	344	PKPbc		PKPbc	PKPbc	02 55 52.0	-1.1
	comp=Z,1.7nm,0.6s,baz=22,slow=2.4,SNR=20								
GERES	GERESS Array B	150.39	344	PKPbc		PKPbc	PKPbc	02 55 52.0	-1.1
VTS	Vitosha	151.74	325	↑*i*P		PKPbc	PKPbc	02 55 55.5	-0.9
VTS	Vitosha	151.74	325	↑*i*P		PKPbc	PKPbc	02 55 55.5	-0.9
TORD	Torodi Ar. Bea	172.42	180	PKP		PKPdf	PKPdf	02 56 08.3	-2.3
	comp=Z,0.7nm,0.9s,baz=19,slow=1.5,SNR=4.3								
TORD	Torodi Ar. Bea	172.42	180	PKP		PKPdf	PKPdf	02 56 08.3	-2.3

NEIC ***03*** *02:40:38.4,19.°58N×68.°37W,h49km,MD3.6(RSPR), After RSPR.*
RSPR 03 02:40:38.4,19.°58N×68.°37W,h49km±16km,MD3.6/13, 12C-4D,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	1.63	133	↑*e*P		P	Pn	02 41 03.2	-1.4
AGPR	Aguadilla, PR	1.63	133	*e*Pn		P	Pn	02 41 01.9	-2.7
AGPR				*e*S		S	Sn	02 41 23.9	-0.5
LSP	Las Mesas	1.85	139	*e*Pn		P	Pn	02 41 04.6	-3.2
LRS	Lares	1.93	132	↓*e*P		P	Pn	02 41 07.7	-1.1
LRS	Lares	1.93	132	↓*e*P		P	Pn	02 41 07.7	-1.1
AOPR	Arecibo Observ	1.96	129	↑*e*P		P	Pn	02 41 08.3	-0.9
AOPR				*e*S		S	Sn	02 41 33.4	+0.7
AOPR	Arecibo Observ	1.96	129	↑*e*P		P	Pn	02 41 08.3	-0.9
AOPR				*e*S		S	Sn	02 41 32.2	-0.4
CRPR	Cabo Rojo, PR	1.97	143	*e*Pn		P	Pn	02 41 08.0	-1.4
CRPR				*e*S		S	Sn	02 41 31.7	-1.2
GBPR	Guanica, Bosqu	2.13	138	↑*e*P		P	Pn	02 41 10.7	-0.8
GBPR				*e*S		S	Sn	02 41 36.0	-0.9
CELP	Cerrillos	2.26	131	↓*e*P		P	Pn	02 41 12.7	-0.7
CELP				*e*S		S	Sn	02 41 39.5	-0.5
CELP	Cerrillos	2.26	131	*e*Pn		P	Pn	02 41 12.6	-0.7
CELP				*e*S		S	Sn	02 41 37.7	-2.3
OBIP	Obispado Ponce	2.27	132	↑*e*P		P	Pn	02 41 12.9	-0.4
OBIP	Obispado Ponce	2.27	132	*e*Pn		P	Pn	02 41 12.7	-0.7
OBIP				*e*S		S	Sn	02 41 39.3	-0.8
ICM	Isla Caja Muer	2.43	134	↑*e*P		P	Pn	02 41 15.7	+0.1
ICM	Isla Caja Muer	2.43	134	↑*e*P		P	Pn	02 41 15.7	+0.1
SJG	San Juan	2.56	125	↓*i*P		P	Pn	02 41 16.8	-0.6
SJG	San Juan	2.56	125	*e*S		S	Sn	02 41 46.2	-1.1
SJG	San Juan	2.56	125	↑*e*P		P	Pn	02 41 16.9	-0.6
SJG				*e*S		S	Sn	02 41 47.2	-0.1
SJG	San Juan	2.56	125	*e*Pn		P	Pn	02 41 16.7	-1.4
SJG				*e*S		S	Sn	02 41 45.6	-1.7
CBYP	Canovanas	2.71	118	↑*e*P		P	Pn	02 41 19.2	-0.2
CBYP	Canovanas	2.71	118	*e*S		S	Sn	02 41 49.8	-1.3
CBYP	Canovanas	2.71	118	*e*Pn		P	Pn	02 41 18.3	-1.2
CBYP				*e*S		S	Sn	02 41 52.1	+1.0
HUMP	Col San Antoni	2.78	121	↑*e*P		P	Pn	02 41 19.8	-0.7
HUMP	Col San Antoni	2.78	121	↑*e*P		P	Pn	02 41 19.8	-0.7
HUMP				*e*S		S	Sn	02 41 52.1	-0.7
SDDR	Presa de Saban	2.82	258	*e*Pn		P	Pn	02 41 24.2	+3.2
SDDR				*e*S		S	Sn	02 42 02.7	+8.9
MTP	Monte Pirata	3.05	119	↑*e*P		P	Pn	02 41 23.5	-0.7
MTP	Monte Pirata	3.05	119	*e*Pn		P	Pn	02 41 24.4	+0.2
MTP				*e*S		S	Sn	02 41 59.5	+0.1

TRN 03 02:43:44.5,12.°64N×58.°90W,h19km,MD4.1,1D,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TOSP	Speyside	2.08	230	*e*P		P	Pn	02 44 20.6	+2.1
TOSP				*e*S		S	Sn	02 44 45.5	+1.5
MCLT	Moule a Chique	2.25	298	*e*P		P	Pn	02 44 21.9	+1.1
MCLT				*e*S		S	Sn	02 44 48.7	+0.6
SSV	Crater Summit	2.33	287	*e*P		P	Pn	02 44 24.1	+2.1
SSV				*e*S		S	Sn	02 44 52.4	+2.2
FCV	Fort Charlotte	2.34	283	*e*P		P	Pn	02 44 23.1	+1.0
FCV				*e*S		S	Sn	02 44 52.1	+1.7
SVB	Belmont	2.38	286	*e*P		P	Pn	02 44 23.5	+1.0
SVB				*e*S		S	Sn	02 44 52.3	+1.1
SLB	Belfond	2.39	300	↓*e*P		P	Pn	02 44 24.8	+2.0
SLB				*e*S		S	Sn	02 44 53.8	+2.2
MVM	Montagne Vaucl	2.71	315	*e*P		P	Pn	02 44 28.2	+1.0
BIM	Bigot	2.81	312	*e*P		P	Pn	02 44 29.9	+1.4
BIM				*e*S		S	Sn	02 45 03.6	+1.6
FDF	Fort de France	3.02	314	*e*P		P	Pn	02 44 32.6	+1.2
FDF				*e*S		S	Sn	02 45 08.8	+1.8

CSEM ***03*** *02:45:12.4,37.°39N×24.°73W,h5km,ML3.2, After PDA*
PDA 03 02:45:12.4±1.1,37.°39N×24.°73W,h5km,MD3.8,ML3.2, Error ellipse: s-maj=7.9km s-min=2.4km az=83.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSMN	Pico do Norte,	0.47	215	*e*P		P	Pg	02 45 20.6	-0.7
PSMN				*e*S		S	Sg	02 45 26.4	-1.0
PSMN	Pico do Norte,	0.47	215	*e*P		P	Pg	02 45 20.6	-0.7
PSMN				*e*S		S	Sg	02 45 26.4	-1.0
PSMA	Santa Maria	0.50	219	*i* P		P	Pg	02 45 21.2	-0.9
PSMA				*e*S		S	Sg	02 45 27.3	-1.3
PSMA				A				02 45 28.8	
	295nm,0.1s								
BART	Pico Bartolome	0.52	319	*i* P		P	Pg	02 45 20.9	-1.5
BART				*e*S		S	Sg	02 45 27.8	-1.4
BART				A				02 45 29.2	
	877nm,0.2s								
GRON	Grota Negra	0.74	301	*i* P		P	Pg	02 45 22.9	-3.7
GRON				*e*S		S	Sg	02 45 31.1	-5.2
GRON				A				02 45 32.0	
	265nm,0.1s								
PDA	Ponta Delgada	0.82	296	*e*P		P	Pg	02 45 25.6	-2.6
PDA				*e*S		S	Sg	02 45 35.7	-3.2
PDA				A				02 45 36.5	
	725nm,0.1s								
PDA	Ponta Delgada	0.82	296	*e*P		P	Pg	02 45 25.6	-2.6
PDA				*e*S		S	Sg	02 45 35.7	-3.2
PSET	Sete Cidades	0.90	299	*e*P		P	Pg	02 45 26.8	-2.8
PSET				*e*S		S	Sg	02 45 37.7	-3.6
PSET				A				02 45 39.8	
	169nm,0.2s								
PSET	Sete Cidades	0.90	299	*e*P		P	Pg	02 45 26.8	-2.8
PSET				*e*S		S	Sg	02 45 37.7	-3.6
ADH	Angra Heroismo	2.35	303	*e*P		P	Pn	02 45 47.0	-4.6
ADH				*e*S		S	Sn	02 46 12.8	-8.0
ADH				A				02 46 15.9	
	55nm,0.3s								
ADH	Angra Heroismo	2.35	303	*e*P		P	Pn	02 45 47.0	-4.6
ADH				*e*S		S	Sn	02 46 12.8	-8.0
PID	Ribeirinha	2.88	293	*e*P		P	Pn	02 45 55.3	-3.6
PID				*e*S		S	Sn	02 46 25.9	-8.0
PID	Ribeirinha	2.88	293	*e*P		P	Pn	02 45 55.3	-3.6
PID				*e*S		S	Sn	02 46 25.9	-8.0
PMAN	Manadas	2.93	296	*e*P		P	Pn	02 45 55.8	-3.8
PMAN				*e*S		S	Sn	02 46 27.1	-8.0
PMAN				A				02 46 29.4	
	40nm,0.2s								
PMAN	Manadas	2.93	296	*e*P		P	Pn	02 45 55.8	-3.8
PMAN				*e*S		S	Sn	02 46 27.1	-8.0
ROSA	Rosais	3.07	297	*e*P		P	Pn	02 45 57.9	-3.7
ROSA	Rosais	3.07	297	*e*P		P	Pn	02 45 57.9	-3.7
PICO	Pico	3.12	292	*e*P		P	Pn	02 45 59.1	-3.2
PICO	Pico	3.12	292	*e*P		P	Pn	02 45 59.1	-3.2
PCAN	Candelaria	3.16	291	*e*P		P	Pn	02 45 58.5	-4.2
PCAN				*e*S		S	Sn	02 46 32.5	-8.2
PCAN				A				02 46 38.6	
	42nm,0.3s								
PCAN	Candelaria	3.16	291	*e*P		P	Pn	02 45 58.5	-4.2
PCAN				*e*S		S	Sn	02 46 32.5	-8.2
HOR	Horta	3.28	291	*e*P		P	Pn	02 46 00.6	-3.9
HOR	Horta	3.28	291	*e*P		P	Pn	02 46 00.6	-3.9
CALA	Caldeira	3.35	292	*e*P		P	Pn	02 46 01.6	-3.9
CALA	Caldeira	3.35	292	*e*P		P	Pn	02 46 01.6	-3.9
PCED	Cedros	3.37	293	*e*P		P	Pn	02 46 01.3	-4.4
PCED	Cedros	3.37	293	*e*P		P	Pn	02 46 01.3	-4.4

ISK ***03*** *02:48:15.5,38.°17N×26.°60E,h5km,MD3.3*
ISCJB ***03*** *02:48:17.6±0.5,38.°17N±0.°02×26.°64E±0.°03,h11km±4km, Error ellipse: s-maj=3.8km s-min=2.8km az=153.4*
ATH ***03*** *02:48:17.2,38.°15N×26.°76E,h37km±2km,MD3.4/7*
DDA ***03*** *02:48:18.1,38.°20N×26.°75E,h7km±3km,Md3.2*
CSEM ***03*** *

KCTX	**Karacabey (Bur**	**2.47**	**32**	*e*Pn	**Pn**	**02 48 58.7**	**+0.5**
KARP	**Karpathos**	**2.65**	**171**	*e*PN	**Pn**	**02 49 00.0**	**-0.7**
KARP	**Karpathos**	**2.65**	**171**	*e*Pn	**Pn**	**02 49 00.0**	**-0.7**
ALN	**Alexandroupoli**	**2.76**	**350**	*e*PN	**Pn**	**02 49 01.7**	**-0.5**
ALN				*e*SN	**Sn**	**02 49 34.1**	**-1.3**
ALN	**Alexandroupoli**	**2.76**	**350**	*e*Pn	**Pn**	**02 49 01.7**	**-0.5**
ALN				*e*Sn	**Sn**	**02 49 34.1**	**-1.3**
MDNY	**Mudanya-Bursa**	**2.79**	**38**	*e*PN	**Pn**	**02 49 03.5**	**+0.9**
MDNY	**Mudanya-Bursa**	**2.79**	**38**	*e*Pn	**Pn**	**02 49 03.5**	**+0.9**
DID	**Didima**	**2.79**	**257**	*e*PN	**Pn**	**02 49 03.3**	**+0.7**
DID	**Didima**	**2.79**	**257**	*e*Pn	**Pn**	**02 49 03.3**	**+0.7**
ALT	**Altintas**	**2.84**	**71**	*e*PN	**Pn**	**02 49 04.2**	**+0.9**
ALT	**Altintas**	**2.84**	**71**	*e*Pn	**Pn**	**02 49 04.2**	**+0.9**
ELL	**Elmali**	**2.95**	**118**	*e*PN	**Pn**	**02 49 05.9**	**+1.1**
ELL	**Elmali**	**2.95**	**118**	*e*Pn	**Pn**	**02 49 05.9**	**+1.1**
AGG	**Agios Georgios**	**3.50**	**285**	*e*PN	**Pn**	**02 49 13.4**	**+1.1**
AGG	**Agios Georgios**	**3.50**	**285**	*e*Pn	**Pn**	**02 49 13.4**	**+1.1**

*ROM **03** 03:07:14.9±0.2, 44°.84N×7°.16E, h3km±3km, Md2.0/5, Ml2.0/4, Error ellipse: s-maj=2.8km s-min=2.2km az=54.0*
*GEN **03** 03:07:15.9, 44°.85N×7°.31E, h5km, ML1.8*
*CSEM **03** 03:07:15.2±0.1, 44°.84N×7°.24E, h12km, ML2.5/11, Error ellipse: s-maj=2.4km s-min=1.9km az=65.0*
*STR **03** 03:07:15.0±0.4, 44°.86N×7°.28E, h5km, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **03** 03:07:15.2±0.1, 44°.86N×7°.30E, h2km, Md2.6/3, Ml2.6/6, Error ellipse: s-maj=2.3km s-min=1.2km az=67.0*
*ISCJB **03** 03:07:15.1±0.3, 44°.83N±0°.01×7°.22E±0°.02, h10km, Error ellipse: s-maj=2.6km s-min=2.0km az=156.2*
*NEIC **03** 03:07:15.2, 44°.86N×7°.30E, h2km, ML2.6(LDG), ML2.4(STR), After LDG.*

ISC 03 03:07:15.4±0.3, 44°.84N±0°.01×7°.25E±0°.02, h10km, n62, σ0s78/120, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OG22	**Abries**	**0.22**	**266**	Pg	**Pg**	**03 07 20.3**	**+0.3**
OG22				Sg	**Sg**	**03 07 23.2**	**+0.2**
OG22	**Abries**	**0.22**	**266**	Pg	**Pg**	**03 07 20.3**	**+0.3**
OG22				Sg	**Sg**	**03 07 23.2**	**+0.2**
RSP	**Reno Superiore**	**0.31**	**2**	Pg	**Pg**	**03 07 22.1**	**+0.5**
RSP				Sg	**Sg**	**03 07 26.1**	**+0.3**
	179nm,0.1s						
RSP	**Reno Superiore**	**0.31**	**2**	P	**Pg**	**03 07 22.1**	**+0.5**
RSP				S	**Sg**	**03 07 26.2**	**+0.4**
DOI	**San Damiano**	**0.33**	**181**	Pg	**Pg**	**03 07 22.8**	**+0.8**
DOI				Sg	**Sg**	**03 07 27.4**	**+0.9**
	240nm,0.3s						
DOI	**San Damiano**	**0.33**	**181**	Pg	**Pg**	**03 07 22.8**	**+0.8**
DOI				Sg	**Sg**	**03 07 27.4**	**+0.9**
	240nm,0.3s						
MBDF	**Montbardon**	**0.36**	**252**	*e*Pg	**Pg**	**03 07 23.1**	**+0.6**
MBDF				*e*Sg	**Sg**	**03 07 28.2**	**+0.9**
	202nm,0.3s						
MBDF	**Montbardon**	**0.36**	**252**	*e*Pg	**Pg**	**03 07 23.1**	**+0.6**
MBDF				*e*Sg	**Sg**	**03 07 28.2**	**+0.9**
MBDF	**Montbardon**	**0.36**	**252**	*e*Pg	**Pg**	**03 07 23.1**	**+0.6**
MBDF				*e*Sg	**Sg**	**03 07 28.2**	**+0.9**
	101nm,0.3s						
BNI	**Bardonecchia**	**0.46**	**298**	Pg	**Pg**	**03 07 24.6**	**+0.2**
BNI				Sg	**Sg**	**03 07 30.1**	**-0.4**
	183nm,2.2s						
BNI	**Bardonecchia**	**0.46**	**298**	Pg	**Pg**	**03 07 24.6**	**+0.2**
BNI				Sg	**Sg**	**03 07 30.1**	**-0.4**
	183nm,2.2s						
SURF	**Saint Ours**	**0.47**	**221**	Pg	**Pg**	**03 07 25.4**	**+0.7**
SURF				Sg	**Sg**	**03 07 32.0**	**+1.1**
SURF	**Saint Ours**	**0.47**	**221**	Pg	**Pg**	**03 07 25.4**	**+0.7**
SURF				Sg	**Sg**	**03 07 32.0**	**+1.1**
SURF	**Saint Ours**	**0.47**	**221**	Pg	**Pg**	**03 07 25.4**	**+0.7**
SURF				Sg	**Sg**	**03 07 32.0**	**+1.1**
MONC	**Moncucco Torin**	**0.54**	**64**	Pg	**Pg**	**03 07 27.3**	**+1.5**
MONC				Sg	**Sg**	**03 07 36.9**	**+4.0**
MONC	**Moncucco Torin**	**0.54**	**64**	Pg	**Pg**	**03 07 27.3**	**+1.5**
LPG	**La Plagne**	**0.75**	**332**	*e*Pg	**Pg**	**03 07 29.8**	**-0.1**
LPG				*e*Sg	**Sg**	**03 07 39.4**	**-0.3**
	27nm,0.2s						
LPG	**La Plagne**	**0.75**	**332**	*e*Pg	**Pg**	**03 07 29.8**	**-0.1**
LPG				*e*Sg	**Sg**	**03 07 39.4**	**-0.3**
LPG	**La Plagne**	**0.75**	**332**	*e*Pg	**Pg**	**03 07 29.8**	**-0.1**
LPG				*e*Sg	**Sg**	**03 07 39.4**	**-0.3**
	14nm,0.2s						
TRAV	**Traversella**	**0.76**	**27**	P	**Pg**	**03 07 29.5**	**-0.6**
TRAV				S	**Sg**	**03 07 39.1**	**-1.0**
LPL	**La Plagne**	**0.77**	**332**	*e*Pg	**Pg**	**03 07 30.2**	**-0.1**
LPL				*e*Sg	**Sg**	**03 07 40.1**	**-0.3**
	22nm,0.3s						
LPL	**La Plagne**	**0.77**	**332**	*e*Pg	**Pg**	**03 07 30.2**	**-0.1**
LPL				*e*Sg	**Sg**	**03 07 40.1**	**-0.3**
LPL	**La Plagne**	**0.77**	**332**	*e*Pg	**Pg**	**03 07 30.2**	**-0.1**
LPL				*e*Sg	**Sg**	**03 07 40.1**	**-0.3**
	11nm,0.3s						
ROTM	**Rocchetta Tana**	**0.78**	**89**	P	**Pg**	**03 07 31.7**	**+1.2**
ROTM				S	**Sg**	**03 07 42.1**	**+1.3**
TOUF	**Mont Tournerai**	**0.82**	**180**	Pg	**Pg**	**03 07 31.4**	**+0.1**
TOUF	**Mont Tournerai**	**0.82**	**180**	Pg	**Pg**	**03 07 31.4**	**+0.1**
TOUF	**Mont Tournerai**	**0.82**	**180**	Pg	**Pg**	**03 07 31.4**	**+0.1**
MONE	**Monesi**	**0.84**	**154**	P	**Pg**	**03 07 31.2**	**-0.4**
MONE				S	**Sg**	**03 07 41.8**	**-0.7**
AUTN	**L'Aution**	**0.85**	**171**	Pg	**Pg**	**03 07 31.1**	**-0.7**
AUTN				Sg	**Sg**	**03 07 43.9**	**+1.0**
AUTN	**L'Aution**	**0.85**	**171**	Pg	**Pg**	**03 07 31.1**	**-0.7**
AUTN				Sg	**Sg**	**03 07 43.9**	**+1.0**
AUTN	**L'Aution**	**0.85**	**171**	Pg	**Pg**	**03 07 31.1**	**-0.7**
AUTN				Sg	**Sg**	**03 07 43.9**	**+1.0**
SAOF	**Saorge**	**0.88**	**166**	Pg	**Pg**	**03 07 31.6**	**-0.7**
SAOF				Sg	**Sg**	**03 07 44.5**	**+0.7**
SAOF	**Saorge**	**0.88**	**166**	Pg	**Pg**	**03 07 31.6**	**-0.7**
SAOF				Sg	**Sg**	**03 07 44.5**	**+0.7**
SAOF	**Saorge**	**0.88**	**166**	Pg	**Pg**	**03 07 31.6**	**-0.7**
SAOF				Sg	**Sg**	**03 07 44.5**	**+0.7**
FIN	**Finale Ligure**	**0.93**	**132**	P	**Pg**	**03 07 34.6**	**+1.3**
FIN				S	**Sg**	**03 07 46.5**	**+1.1**
RORO	**Rocca Rossa**	**0.93**	**141**	P	**Pg**	**03 07 33.1**	**-0.2**
RORO				S	**Sg**	**03 07 44.8**	**-0.6**
MVIF	**Mont Vial**	**0.94**	**184**	Pg	**Pg**	**03 07 33.4**	**-0.2**
MVIF				Sg	**Sg**	**03 07 46.1**	**+0.2**
MVIF	**Mont Vial**	**0.94**	**184**	Pg	**Pg**	**03 07 33.4**	**-0.2**
MVIF				Sg	**Sg**	**03 07 46.1**	**+0.2**
MVIF	**Mont Vial**	**0.94**	**184**	Pg	**Pg**	**03 07 33.4**	**-0.2**
MVIF				Sg	**Sg**	**03 07 46.1**	**+0.2**
LUCF	**Luceram**	**0.95**	**176**	Pg	**Pg**	**03 07 33.0**	**-0.7**
LUCF				Sg	**Sg**	**03 07 47.0**	**+1.0**
LUCF	**Luceram**	**0.95**	**176**	Pg	**Pg**	**03 07 33.0**	**-0.7**
LUCF				Sg	**Sg**	**03 07 47.0**	**+1.0**
LUCF	**Luceram**	**0.95**	**176**	Pg	**Pg**	**03 07 33.0**	**-0.7**
LUCF				Sg	**Sg**	**03 07 47.0**	**+1.0**
ORIF	**Oris-en-Rattie**	**0.98**	**275**	*e*Pg	**Pg**	**03 07 34.5**	**+0.2**
ORIF				*e*Sg	**Sg**	**03 07 46.8**	**-0.2**
	19nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.98**	**275**	*e*Pg	**Pg**	**03 07 34.5**	**+0.2**
ORIF				*e*Sg	**Sg**	**03 07 46.8**	**-0.2**
ORIF	**Oris-en-Rattie**	**0.98**	**275**	*e*Pg	**Pg**	**03 07 34.5**	**+0.2**
ORIF				*e*Sg	**Sg**	**03 07 46.8**	**-0.2**
	9.7nm,0.2s						
IMI	**Imperia**	**1.03**	**153**	P	**Pg**	**03 07 34.8**	**-0.5**
IMI				S	**Sg**	**03 07 47.7**	**-1.1**
NEGI	**Seborga**	**1.04**	**162**	P	**Pg**	**03 07 34.7**	**-0.8**
NEGI				S	**Sg**	**03 07 47.7**	**-1.3**
FRF	**La Foret Royal**	**1.35**	**199**	*e*Pg	**Pg**	**03 07 41.1**	**-0.2**
FRF				*e*Sg	**Sg**	**03 07 58.7**	**-0.1**
	20nm,0.2s						
FRF	**La Foret Royal**	**1.35**	**199**	*e*Pg	**Pg**	**03 07 41.1**	**-0.2**
FRF				*e*Sg	**Sg**	**03 07 58.7**	**-0.1**
FRF	**La Foret Royal**	**1.35**	**199**	*e*Pg	**Pg**	**03 07 41.1**	**-0.2**
FRF				*e*Sg	**Sg**	**03 07 58.7**	**-0.1**
	10nm,0.2s						
SMRF	**Simiane la Rot**	**1.48**	**235**	*e*Pg	**Pg**	**03 07 44.4**	**+0.6**
SMRF				*e*Sg	**Sg**	**03 08 03.1**	**+0.1**
	10nm,0.4s						
SMRF	**Simiane la Rot**	**1.48**	**235**	*e*Pg	**Pg**	**03 07 44.4**	**+0.6**
SMRF				*e*Sg	**Sg**	**03 08 03.1**	**+0.1**
SMRF	**Simiane la Rot**	**1.48**	**235**	*e*Pg	**Pg**	**03 07 44.4**	**+0.6**
SMRF				*e*Sg	**Sg**	**03 08 03.1**	**+0.1**
	5.2nm,0.4s						
LMR	**La Mourre**	**1.60**	**200**	*e*Pg	**Pg**	**03 07 45.1**	**-0.9**
LMR				*e*Sg	**Sg**	**03 08 06.5**	**-0.2**
	26nm,0.3s						
LMR	**La Mourre**	**1.60**	**200**	*e*Pg	**Pg**	**03 07 45.1**	**-0.9**
LMR				*e*Sg	**Sg**	**03 08 06.5**	**-0.2**
LMR	**La Mourre**	**1.60**	**200**	*e*Pg	**Pg**	**03 07 45.1**	**-0.9**
LMR				*e*Sg	**Sg**	**03 08 06.5**	**-0.2**
	13nm,0.3s						
VIVF	**Saint-Julien-l**	**1.83**	**271**	*e*Pn	**Pn**	**03 07 46.5**	**-0.5**
VIVF				*e*Sn	**Sn**	**03 08 09.2**	**-1.0**
	3.8nm,0.3s						
VIVF	**Saint-Julien-l**	**1.83**	**271**	*e*Pn	**Pn**	**03 07 46.5**	**-0.5**
VIVF				*e*Sn	**Sn**	**03 08 09.2**	**-1.0**
VIVF	**Saint-Julien-l**	**1.83**	**271**	*e*Pn	**Pn**	**03 07 46.5**	**-0.5**
VIVF				*e*Sn	**Sn**	**03 08 09.2**	**-1.0**
	1.9nm,0.3s						
PGF	**Pioggiola**	**2.62**	**150**	*e*Pn	**Pn**	**03 07 56.7**	**-1.0**
PGF				*e*Sn	**Sn**	**03 08 27.3**	**-2.2**
	1.5nm,0.3s						
PGF	**Pioggiola**	**2.62**	**150**	*e*Pn	**Pn**	**03 07 56.7**	**-1.0**
PGF				*e*Sn	**Sn**	**03 08 27.3**	**-2.2**
PGF	**Pioggiola**	**2.62**	**150**	*e*Pn	**Pn**	**03 07 56.7**	**-1.0**
PGF				*e*Sn	**Sn**	**03 08 27.3**	**-2.2**
	0.8nm,0.3s						

*ISCJB **03** 03:11:06.9±1.0, 10°.83S±0°.06×74°.37W±0°.09, h121km±11km, mb4.1/13, Error ellipse: s-maj=14.8km s-min=8.3km az=155.7*
*IDC **03** 03:11:07.4±0.5, 10°.84S×74°.34W, h111km±4km, mb3.8/12, mb1 4.1/15, mb1mx4.0/21, mbtmp3.9/15, MS3.5/2, Ms1 3.6/2, ms1mx2.8/29, Error ellipse: s-maj=10.4km s-min=9.8km az=5.0*
*NEIC **03** 03:11:08.1±0.8, 10°.88S×74°.36W, h118km±7km, mb4.6/2, Error ellipse: s-maj=12.0km s-min=7.1km az=69.0*

ISC 03 03:11:08.1±0.9, 10°.86S±0°.06×74°.37W±0°.08, h115km±10km, h113km±2.8km:pP-P, n52, σ0s87/38, mb4.1/13, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.67**	**245**	P	**Pn**	**03 11 49.7**	**-0.2**
	249nm,0.3s,baz=58,slow=8.8,SNR=169						
NNA				S	**Sn**	**03 12 21.9**	**-0.2**
	695nm,0.3s,baz=211,slow=18,SNR=23						
NNA	**Nana**	**2.67**	**245**	*e*Pn	**Pn**	**03 11 49.7**	**-0.3**
NNA				*e*S	**Sn**	**03 12 21.7**	**-0.5**
ATAH	**Atahualpa**	**5.43**	**313**	P	**Pn**	**03 12 26.9**	**+0.1**
	9.4nm,0.3s,baz=114,slow=8.4,SNR=38						
ATAH				S	**Sn**	**03 13 28.2**	**0.0**
	8.5nm,0.3s,baz=135,slow=20,SNR=3.1						
ATAH				LR	LR	03 14 53.0	
	comp=Z,98nm,19.4s,baz=221,slow=42						
LPAZ	**La Paz**	**8.11**	**132**	P	**Pn**	**03 13 03.9**	**+0.7**
	1.5nm,0.3s,baz=314,slow=11,SNR=56						
LPAZ	**La Paz**	**8.11**	**132**	*e*Pn	**Pn**	**03 13 03.8**	**+0.6**
OTAV	**Otavalo**	**11.75**	**340**	*e*Pn	**Pn**	**03 13 51.9**	**-0.2**
	28nm,0.9s						
ROSC	**El Rosal**	**15.61**	**0**	P	**Pn**	**03 14 45.1**	**+3.2**
	4.3nm,0.3s,baz=113,slow=7.1,SNR=20						
ROSC	**El Rosal**	**15.61**	**0**	*e*Pn	**Pn**	**03 14 44.4**	**+2.5**
SDV	**Santo Domingo**	**19.96**	**11**	*e*P	**P**	**03 15 31.1**	**-0.2**
	91nm,0.4s						
CFAA	**Coronel Fontan**	**21.41**	**166**	P	**P**	**03 15 46.5**	**-0.2**
	0.2nm,0.5s,baz=334,slow=10,SNR=6.6						
CFAA	**Coronel Fontan**	**21.41**	**166**	P	**P**	**03 15 46.5**	**-0.2**
CPUP	**Villa Florida**	**22.26**	**136**	P	**P**	**03 15 55.2**	**-0.6**
	9.7nm,0.5s,mb4.4,baz=304,slow=9.9,SNR=42						
CPUP	**Villa Florida**	**22.26**	**136**	*e*P	**P**	**03 15 55.1**	**-0.7**
	83nm,0.8s,mb5.1						
PLCA	**Paso Flores**	**29.94**	**174**	P	**P**	**03 17 05.2**	**-0.1**
	2.3nm,0.7s,mb3.9,baz=344,slow=11,SNR=5.2						
PLCA	**Paso Flores**	**29.94**	**174**	P	**P**	**03 17 05.2**	**-0.1**
TXAR	**Lajitas Array**	**48.95**	**325**	P	**P**	**03 19 43.0**	**+0.2**
	1.1nm,0.4s,mb4.2,baz=153,slow=8.4,SNR=55						
TXAR				pP	pP	03 20 09.7	-0.1
	1.8nm,0.7s,baz=148,slow=8.9,SNR=8.1						
TXAR	**Lajitas Array**	**48.95**	**325**	P	**P**	**03 19 43.0**	**+0.2**
TXAR				pP	pP	03 20 09.7	-0.1
PDAR	**Pinedale Array**	**62.32**	**331**	P	**P**	**03 21 17.9**	**-0.3**
	0.4nm,0.5s,mb3.8,baz=126,slow=9.0,SNR=6.4						
PDAR				pP	pP	03 21 45.6	-0.7
	0.7nm,0.6s,baz=126,slow=7.4,SNR=4.1						
PDAR	**Pinedale Array**	**62.32**	**331**	P	**P**	**03 21 17.9**	**-0.3**
PDAR				pP	pP	03 21 45.6	-0.7
ULM	**Lac du Bonnet**	**63.69**	**345**	P	**P**	**03 21 25.9**	**-1.2**
	4.5nm,0.9s,mb4.3,baz=158,slow=4.6,SNR=8.0						
ULM				pP	pP	03 21 54.0	-1.4
	6.4nm,0.8s,baz=142,slow=8.3,SNR=4.3						
ULM	**Lac du Bonnet**	**63.69**	**345**	P	**P**	**03 21 25.9**	**-1.1**
ULM				pP	pP	03 21 54.0	-1.4
NVAR	**Mina Array Bea**	**63.91**	**323**	P	**P**	**03 21 30.3**	**+1.5**
	0.3nm,0.6s,mb3.3,baz=160,slow=5.5,SNR=2.6						
NVAR	**Mina Array Bea**	**63.91**	**323**	P	**P**	**03 21 30.3**	**+1.5**
SCHQ	**Schefferville**	**65.75**	**5**	P	**P**	**03 21 39.3**	**-1.0**
	5.9nm,0.9s,mb4.4,baz=202,slow=11,SNR=3.0						
SCHQ	**Schefferville**	**65.75**	**5**	P	**P**	**03 21 39.3**	**-1.0**
DBIC	**Dimbokro**	**71.34**	**79**	P	**P**	**03 22 14.9**	**-1.1**
TORD	**Torodi Ar. Bea**	**79.15**	**74**	P	**P**	**03 22 59.4**	**-1.4**
	3.0nm,0.6s,mb4.3,baz=254,slow=8.8,SNR=10						
DBIC	**Dimbokro**	**71.34**	**79**	P	**P**	**03 22 14.9**	**-1.1**
TORD	**Torodi Ar. Bea**	**79.15**	**74**	P	**P**	**03 22 59.4**	**-1.4**
	1.9nm,0.5s,mb4.2,baz=249,slow=4.5,SNR=43						
TORD				pP	pP	03 23 28.4	-1.6
	1.3nm,0.7s,baz=252,slow=3.8,SNR=2.8						
TORD	**Torodi Ar. Bea**	**79.15**	**74**	P	**P**	**03 22 59.4**	**-1.4**
TORD				pP	pP	03 23 28.4	-1.6
QSPA	**South Pole Qui**	**79.27**	**180**	*e*P	**P**	**03 23 01.3**	**+1.1**
	3.6nm,0.7s,mb4.3						
YKA	**Yellowknife Ar**	**79.49**	**342**	P	**P**	**03 23 01.1**	**-0.4**
	1.8nm,0.8s,mb4.0,baz=136,slow=5.8,SNR=4.8						
YKA				pP	pP	03 23 27.9	-3.0
	3.0nm,0.9s,baz=133,slow=5.8,SNR=3.3						
YKA	**Yellowknife Ar**	**79.49**	**342**	P	**P**	**03 23 01.1**	**-0.4**
YKA				pP	pP	03 23 27.9	-3.0
ESDC	**Sonseca Array**	**82.23**	**47**	P	**P**	**03 23 17.9**	**+1.3**
	0.5nm,0.5s,mb3.6,baz=258,slow=5.1,SNR=6.9						
ESDC	**Sonseca Array**	**82.23**	**47**	P	**P**	**03 23 17.9**	**+1.3**
VNDA	**Vanda**	**86.34**	**190**	P	**P**	**03 23 37.7**	**+1.0**
	1.4nm,0.8s,mb4.0,baz=107,slow=4.3,SNR=11						
VNDA				LR	LR	03 55 57.6	
	comp=Z,101nm,18.3s,baz=11,slow=31						
ILAR	**Eielson Array**	**92.45**	**336**	pP		03 24 34.5	-1.1
	0.5nm,0.8s,baz=161,slow=5.2,SNR=4.5						
ABKAR	**Akbulak array**	**126.23**	**36**	*e*PKPdf	PKPdf	03 29 57.4	+0.4
ZAA0	**Zalesovo Array**	**133.93**	**17**	*e*PKPdf	PKPdf	03 30 11.6	+0.1
ZALV	**Zalesovo Beam**	**133.93**	**17**	PKP	PKPdf	03 30 11.5	0.0
	4.9nm,0.7s,baz=279,slow=2.1,SNR=23						
ZALV				pPKP	pPKPdf	03 30 42.2	-0.6
	1.7nm,0.6s,baz=321,slow=2.6,SNR=4.1						
ZALV	**Zalesovo Beam**	**133.93**	**17**	PKP	PKPdf	03 30 11.5	0.0
ZALV				pPKP	pPKPdf	03 30 42.2	-0.6
ASAR	**Alice Springs**	**135.93**	**219**	PKP	PKPdf	03 30 15.8	-0.4
	0.9nm,0.8s,baz=151,slow=2.6,SNR=8.1						
ASAR	**Alice Springs**	**135.93**	**219**	PKP	PKPdf	03 30 15.8	-0.4
WRA	**Warramunga Arr**	**138.34**	**223**	PKP	PKPdf	03 30 20.6	-0.1
	1.5nm,0.6s,baz=130,slow=1.9,SNR=13						
WRA	**Warramunga Arr**	**138.34**	**223**	PKP	PKPdf	03 30 20.6	-0.1
MKAR	**Makanchi Array**	**139.09**	**25**	PKP	PKPdf	03 30 20.0	-1.3
	0.4nm,0.2s,baz=287,slow=2.4,SNR=5.4						
MKAR				pPKP	pPKPdf	03 30 52.3	-0.4
	0.4nm,0.2s,baz=315,slow=0.6,SNR=1.4						
MKAR	**Makanchi Array**	**139.09**	**25**	PKP	PKPdf	03 30 20.0	-1.3
MKAR				pPKP	pPKPdf	03 30 52.3	-0.4
SONM	**Songino Array**	**143.14**	**359**	PKP	PKPdf	03 30 28.4	-0.2
	0.9nm,0.7s,baz=333,slow=1.6,SNR=6.2						
SONM				pPKP	pPKPdf	03 30 57.4	-2.5
	0.8nm,0.8s,baz=1.7,slow=2.2,SNR=2.5						
SONM	**Songino Array**	**143.14**	**359**	PKP	PKPdf	03 30 28.4	-0.2
SONM				pPKP	pPKPdf	03 30 57.4	-2.5
FITZ	**Fitzroy Crossi**	**145.10**	**215**	*e*PKPdf	PKPdf	03 30 32.3	-0.5
KSRS	**Korea Array**	**146.79**	**327**	PKPbc	PKPbc	03 30 36.0	-1.1
	2.7nm,0.7s,baz=49,slow=1.3,SNR=8.2						
KSRS				pPKPbc	pPKPbc	03 31 06.9	-1.2
	2.5nm,0.9s,baz=50,slow=2.0,SNR=3.2						
CMAR	**Chiang Mai Arr**	**170.06**	**40**	PKP	PKPdf	03 31 02.9	-0.2
	0.5nm,0.4s,baz=279,slow=1.7,SNR=5.1						
CMAR	**Chiang Mai Arr**	**170.06**	**40**	PKP	PKPdf	03 31 02.9	-0.2

*NEIC **03** 03:14:45.4, 19°.66N×66°.40W, h13km, MD3.5(RSPR), After RSPR.*

RSPR 03 03:14:45.4, 19°.66N×66°.40W, h13km±6km, MD3.5/5, 16C-9D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AOPR	**Arecibo Observ**	**1.35**	**194**	*e*P	Pn	03 15 07.2	-2.7
AOPR	**Arecibo Observ**	**1.35**	**194**	*e*P	Pn	03 15 07.2	-2.7
AOPR				*e*S	Sb	03 15 23.0	-4.8
AGPR	**Aguadilla, PR**	**1.36**	**210**	*e*Pn	Pn	03 15 08.6	-1.5
LRS	**Lares**	**1.43**	**197**	*e*P	Pn	03 15 08.8	-2.2
LRS	**Lares**	**1.43**	**197**	*e*Pn	Pn	03 15 08.6	-2.5
CBYP	**Canovanas**	**1.48**	**159**	*e*S	Sn	03 15 25.7	-5.2
CBYP	**Canovanas**	**1.48**	**159**	*e*P	Pn	03 15 08.7	-3.0
CBYP	**Canovanas**	**1.48**	**159**	*e*S	Sn	03 15 26.9	-4.0
CBYP	**Canovanas**	**1.48**	**159**	*e*P	Pn	03 15 08.7	-3.0
CBYP	**Canovanas**	**1.48**	**159**	*e*Pn	Pn	03 15 08.2	-3.5
CBYP				*e*S	Sn	03 15 26.9	-4.0
SJG	**San Juan**	**1.56**	**171**	*e*P	Pn	03 15 10.2	-2.6
SJG	**San Juan**	**1.56**	**171**	*e*S	Sn	03 15 28.1	-4.8
SJG	**San Juan**	**1.56**	**171**	*e*P	Pn	03 15 10.3	-2.5
SJG	**San Juan**	**1.56**	**171**	*e*P	Pn	03 15 10.3	-2.6
SJG	**San Juan**	**1.56**	**171**	*e*S	Sn	03 15 29.1	-3.9
SJG	**San Juan**	**1.56**	**171**	*e*Pn	Pn	03 15 10.0	-2.9
SJG				*e*S	Sn	03 15 29.1	-3.9
CELP	**Cerrillos**	**1.59**	**186**	*e*P	Pn	03 15 10.6	-2.6
CELP	**Cerrillos**	**1.59**	**186**	*e*P	Pn	03 15 10.6	-2.6
HUMP	**Col San Antoni**	**1.60**	**161**	*e*P	Pn	03 15 10.4	-3.0
HUMP	**Col San Antoni**	**1.60**	**161**	*e*S	Sn	03 15 28.9	-5.0
HUMP	**Col San Antoni**	**1.60**	**161**	*e*P	Pn	03 15 10.4	-3.0
HUMP	**Col San Antoni**	**1.60**	**161**	*e*S	Sn	03 15 30.0	-3.9
HUMP	**Col San Antoni**	**1.60**	**161**	*e*P	Pn	03 15 10.4	-3.0
HUMP				*e*S	Sn	03 15 30.0	-3.9
LSP	**Las Mesas**	**1.61**	**204**	*e*P	Pn	03 15 11.8	-1.8
LSP				*e*S	Sn	03 15 30.0	-4.3
LSP	**Las Mesas**	**1.61**	**204**	*e*Pn	Pn	03 15 11.6	-2.0
LSP				*e*S	Sn	03 15 30.0	-4.3
OBIP	**Obispado Ponce**	**1.62**	**187**	*i*P	Pn	03 15 11.3	-2.4
OBIP	**Obispado Ponce**	**1.62**	**187**	*i*P	Pn	03 15 11.3	-2.4
OBIP	**Obispado Ponce**	**1.62**	**187**	*e*Pn	Pn	03 15 12.0	-1.7
MTP	**Monte Pirata**	**1.75**	**153**	*e*P	Pn	03 15 12.8	-2.6
MTP	**Monte Pirata**	**1.75**	**153**	*e*S	Sn	03 15 32.8	-4.9
MTP	**Monte Pirata**	**1.75**	**153**	*e*P	Pn	03 15 12.8	-2.7
MTP	**Monte Pirata**	**1.75**	**153**	*e*S	Sn	03 15 33.8	-3.9
MTP	**Monte Pirata**	**1.75**	**153**	*e*Pn	Pn	03 15 12.7	-2.8
MTP				*e*S	Sn	03 15 33.8	-3.9
ICM	**Isla Caja Muer**	**1.76**	**184**	*e*P	Pn	03 15 13.7	-2.0
ICM	**Isla Caja Muer**	**1.76**	**184**	*e*P	Pn	03 15 13.7	-2.0
CRPR	**Cabo Rojo, PR**	**1.78**	**202**	*e*P	Pn	03 15 14.4	-1.4
CRPR	**Cabo Rojo, PR**	**1.78**	**202**	*e*P	Pn	03 15 14.4	-1.4
STVI	**Saint Thomas**	**1.89**	**133**	*e*P	Pn	03 15 15.3	-2.0
STVI	**Saint Thomas**	**1.89**	**133**	*e*S	Sn	03 15 36.8	-

KSRS	**Korea Array**	**23.82**	**250**	LR	LR	03 47 06.7		
	comp=Z,12nm,18.6s,MS2.4,baz=225,slow=34							
ILAR	**Eielson Array**	**32.93**	**41**	P	**P**	**03 40 24.9**	**-0.6**	
	comp=Z,0.7nm,0.7s,mb3.7,baz=253,slow=6.5,SNR=12							
ILAR	**Eielson Array**	**32.93**	**41**	P	**P**	**03 40 24.9**	**-0.6**	
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
MKAR	**Makanchi Array**	**47.62**	**297**	P	**P**	**03 42 23.5**	**-3.7**	
	comp=Z,0.4nm,0.2s,mb4.0,baz=57,slow=8.8,SNR=3.0							
MKAR				LR	LR	04 02 53.8		
	comp=Z,37nm,19.1s,MS3.4,baz=257,slow=37							
MKAR	**Makanchi Array**	**47.62**	**297**	P	**P**	**03 42 23.5**	**-3.7**	
MKAR				MLR	MLR			
	comp=Z,37nm,19.1s							
AAK	**Ala-Archa**	**54.55**	**296**	LR	LR	04 08 15.0		
	comp=Z,58nm,19.4s,MS3.7,baz=142,slow=38							
PDAR	**Pinedale Array**	**61.29**	**57**	P	**P**	**03 44 07.8**	**+1.2**	
	comp=Z,0.5nm,0.7s,mb3.8,baz=306,slow=3.5,SNR=4.1							
OBN	**Obninsk**	**64.18**	**326**	*e*P	**P**	**03 44 27.3**	**+1.8**	
OBN				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.7							
WRA	**Warramunga Arr**	**71.97**	**202**	P	**P**	**03 45 13.9**	**-0.8**	
	comp=Z,0.6nm,0.9s,mb3.5,baz=18,slow=6.1,SNR=3.6							
WRA	**Warramunga Arr**	**71.97**	**202**	P	**P**	**03 45 13.9**	**-0.8**	
WRA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
TXAR	**Lajitas Array**	**74.19**	**63**	P	**P**	**03 45 28.3**	**+0.4**	
	comp=Z,0.6nm,0.7s,mb3.6,baz=299,slow=4.3,SNR=9.8							
TXAR	**Lajitas Array**	**74.19**	**63**	P	**P**	**03 45 28.3**	**+0.4**	
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							

*ISCJB **03** 03:37:27.6±1.4,5.6S±0.1×36.1E±0.3,h10km,mb3.6/3, Error ellipse: s-maj=40.7km s-min=8.0km az=27.9*
*IDC **03** 03:37:30.8±2.4,5.23S×36.01E,h0km,mb3.6/3,mb1 3.9/4, mb1mx3.5/23,mbtmp3.8/4,ML4.3/1,MS3.3/1,Ms1 3.3/1, ms1mx2.5/25,Error ellipse: s-maj=52.5km s-min=25.4km az=129.0*
*NEIC **03** 03:37:30.1±1.4,5.52S×36.06E,h10km,Error ellipse: s-maj=41.6km s-min=14.6km az=120.0*
ISC 03 03:37:31.0±4.9,5.5S±0.1×36.1E±0.3,h16km±31km,n9, σ0.99/12,mb3.6/3,Tanzania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**4.49**	**16**	Pn	**Pn**	**03 38 38.2**	**-0.2**
	18nm,0.3s,baz=180,slow=24,SNR=136						
KMBO				Sn	**Sn**	**03 39 29.3**	**-1.1**
	44nm,0.3s,baz=83,slow=23,SNR=6.5						
KMBO				Lg		03 39 45.5	
	43nm,0.3s,baz=87,slow=24,SNR=19						
KMBO	**Kilima Mbogo**	**4.49**	**16**	*e*Pn	**Pn**	**03 38 37.8**	**-0.6**
KMBO				*e*S	**Sn**	**03 39 28.9**	**-1.5**
KMBO				Lg		03 39 45.5	
LSZ	**Lusaka**	**12.42**	**218**	*e*Pn	**Pn**	**03 40 26.5**	**-0.7**
	7.4nm,1.0s						
LSZ				*e*S	**Sn**	**03 42 44.8**	**-0.6**
TORD	**Torodi Ar. Bea**	**38.82**	**299**	P	**P**	**03 44 55.8**	**+0.3**
	0.6nm,1.0s,mb3.3,baz=107,slow=7.9,SNR=4.6						
TORD				LR	LR	04 00 33.0	
	comp=Z,35nm,18.1s,baz=185,slow=36						
TORD	**Torodi Ar. Bea**	**38.82**	**299**	P	**P**	**03 44 55.8**	**+0.3**
TORD				LR	LR	04 00 33.0	
ESDC	**Sonseca Array**	**58.12**	**324**	P	**P**	**03 47 25.6**	**+1.7**
	0.8nm,0.8s,mb3.8,baz=136,slow=7.1,SNR=4.2						
ESDC	**Sonseca Array**	**58.12**	**324**	P	**P**	**03 47 25.6**	**+1.7**
MKAR	**Makanchi Array**	**66.17**	**33**	P	**P**	**03 48 18.8**	**+1.1**
	0.3nm,0.3s,mb3.8,baz=226,slow=4.9,SNR=5.7						
MKAR	**Makanchi Array**	**66.17**	**33**	P	**P**	**03 48 18.8**	**+1.1**

MEX 03 03:39:12.5±1.1,17.22N×92.30W,h16km±999km,MD3.6, Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGIG		**0.90**	**241**	*e*P		03 39 26.2	-3.5
TGIG				*i* S		03 39 37.6	-3.8
CCIG	**Comitan**	**0.94**	**170**	*e*P		03 39 27.7	-2.7
CCIG				*i* S		03 39 38.2	-4.4
PCIG		**1.74**	**211**	*i* P		03 39 39.2	-2.8
PCIG				*i* S		03 39 59.9	-4.0

*NEIC **03** 03:50:51.8,33.97S×71.48W,h51km,MD3.7(GUC),After GUC.*
GUC 03 03:50:51.8±0.4,33.97S×71.48W,h51km±2km,MD3.7, ML2.7,8C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**0.06**	**72**	*i*P		03 50 59.6	0.0
LNV				*i* S		03 51 05.7	+0.5
LNV	**Longovilo**	**0.06**	**72**	*i*P		03 50 59.6	0.0
LNV				*i* S		03 51 05.7	+0.5
TACH	**Talagante**	**0.55**	**55**	*i*P		03 51 04.0	+0.3
TACH				*i* S		03 51 13.3	+1.0
TACH	**Talagante**	**0.55**	**55**	*i*P		03 51 04.0	+0.3
TACH				*i* S		03 51 13.3	+1.0
CHCH	**Chadas Angostu**	**0.69**	**87**	*e*P		03 51 05.9	+0.5
CHCH				*i* S		03 51 16.7	+1.4
CHCH	**Chadas Angostu**	**0.69**	**87**	*e*P		03 51 05.9	+0.5
CHCH				*i* S		03 51 16.7	+1.4
RCDM	**Rinconada Maip**	**0.74**	**49**	*e*P		03 51 06.3	+0.2
RCDM				*i* S		03 51 17.1	+0.7
RCDM	**Rinconada Maip**	**0.74**	**49**	*e*P		03 51 06.3	+0.2
RCDM				*i* S		03 51 17.1	+0.7
RCDM				AML	AML	03 51 17.8	
	comp=E,1μm,0.1s						
CACH	**El Canelo**	**0.74**	**101**	*i*P		03 51 07.2	+1.1
CACH				S		03 51 18.6	+2.0
CACH	**El Canelo**	**0.74**	**101**	*i*P		03 51 07.2	+1.1
CACH				*i* S		03 51 18.6	+2.0
ANTU	**Antumapu**	**0.81**	**60**	*e*P		03 51 07.5	+0.5
ANTU				*e*S		03 51 19.4	+1.4
ANTU	**Antumapu**	**0.81**	**60**	*e*P		03 51 07.5	+0.5
ANTU				*e*S		03 51 19.4	+1.4
ANTU				AML	AML	03 51 20.5	
	comp=N,428nm,0.2s						
PCH	**Pirque**	**0.88**	**67**	*i*P		03 51 08.3	+0.5
PCH				S		03 51 20.6	+1.0
PCH	**Pirque**	**0.88**	**67**	*i*P		03 51 08.3	+0.5
PCH				*i* S		03 51 20.6	+1.0
STL	**Santa Lucia**	**0.88**	**53**	*e*P		03 51 07.5	-0.4
STL				*e*S		03 51 19.8	+0.1
CLCH	**Cerro Calan**	**0.97**	**54**	*e*P		03 51 09.8	+0.7
CLCH				*e*S		03 51 23.4	+1.5
CLCH				AML	AML	03 51 24.4	
	comp=N,185nm,0.4s						
PEL	**Peldehue**	**1.06**	**39**	*e*P		03 51 10.9	+0.6
PEL				*e*S		03 51 24.8	+0.8
PEL				AML	AML	03 51 27.9	
	comp=E,211nm,0.3s						
LMEL	**Las Melosas**	**1.07**	**84**	*e*P		03 51 11.2	+0.8
LMEL				*e*S		03 51 25.7	+1.5
LMEL	**Las Melosas**	**1.07**	**84**	*e*P		03 51 11.2	+0.8
LMEL				*e*S		03 51 25.7	+1.5
LMEL				AML	AML	03 51 27.8	
	comp=E,427nm,0.1s						
ROCH	**El Roble**	**1.07**	**21**	*e*P		03 51 11.3	+0.8
ROCH				*i* S		03 51 26.3	+2.0
ROCH				AML	AML	03 51 27.0	
	comp=N,230nm,0.3s						
FCH	**Farellones**	**1.18**	**57**	*i*P		03 51 13.4	+1.5
FCH				*i* S		03 51 29.3	+2.4
FCH				AML	AML	03 51 29.8	
	comp=E,337nm,0.2s						

*ISCJB **03** 04:06:50.6±0.7,11.86N±0.04×61.08W±0.06,h89km±11km, Error ellipse: s-maj=11.2km s-min=4.1km az=24.1*
*FUNV **03** 04:06:52.8,11.81N×60.94W,h36km,MW3.7*
*TRN **03** 04:06:53.8,12.36N×60.71W,h3km,MD3.9*
ISC 03 04:06:52.0±0.7,11.85N±0.04×61.06W±0.06,h67km±19km, n32,σ0.78/47,2C,Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FCV	**Fort Charlotte**	**1.31**	**352**	*e*P	**Pn**	**04 07 15.2**	**+0.9**
FCV				*e*S	**Sn**	**04 07 31.7**	**+0.6**
BHS	**Barnard House**	**1.44**	**357**	*e*P	**Pn**	**04 07 17.4**	**+1.4**
BHS				*e*S	**Sn**	**04 07 33.7**	**-0.4**
SVV	**Soufriere Volc**	**1.47**	**354**	*e*P	**Pn**	**04 07 17.2**	**+0.8**
SVV				*e*S	**Sn**	**04 07 34.3**	**-0.5**
SSV	**Crater Summit**	**1.47**	**355**	*e*P	**Pn**	**04 07 17.4**	**+0.9**
SSV				*e*S	**Sn**	**04 07 34.7**	**-0.2**
GUIV	**Guiria**	**1.65**	**224**	*e*P	**Pn**	**04 07 18.8**	**-0.1**
GUIV				*e*S	**Sn**	**04 07 39.5**	**+0.2**
SLB	**Belfond**	**1.96**	**1**	*e*P	**Pn**	**04 07 23.6**	**+0.6**
SLB				*e*S	**Sn**	**04 07 44.0**	**-2.7**
SLPE	**Piton Saint Es**	**1.98**	**2**	*e*P	**Pn**	**04 07 23.9**	**+0.6**
SLPE				*e*S	**Sn**	**04 07 45.9**	**-1.3**
SLW	**Petit Monier**	**2.16**	**3**	*e*P	**Pn**	**04 07 24.9**	**-0.8**
SLW	**Petit Monier**	**2.16**	**3**	*e*P	**Pn**	**04 07 27.0**	**+1.3**
SLW				*e*S	**Sn**	**04 07 48.8**	**-2.7**
SLW				*e*S	**Sn**	**04 07 50.6**	**-0.8**
CRUV	**Carupano**	**2.43**	**241**	*e*P	**Pn**	**04 07 29.8**	**+0.4**
CRUV				*e*S	**Sn**	**04 07 58.3**	**+0.2**
GUNV	**Guanoco**	**2.50**	**228**	*e*P	**Pn**	**04 07 30.9**	**+0.6**
GUNV				*e*S	**Sn**	**04 07 59.6**	**-0.1**
BIM	**Bigot**	**2.65**	**360**	*e*P	**Pn**	**04 07 32.8**	**+0.4**
BIM				*e*S	**Sn**	**04 08 04.2**	**+0.8**
MVM	**Montagne Vaucl**	**2.69**	**3**	*e*P	**Pn**	**04 07 32.8**	**-0.1**
FDF	**Fort de France**	**2.87**	**358**	*e*P	**Pn**	**04 07 35.6**	**+0.3**
FDF				*e*S	**Sn**	**04 08 07.7**	**-1.0**
IBAV	**Isla La Blanqu**	**3.44**	**270**	*e*P	**Pn**	**04 07 43.4**	**+0.2**
IBAV				*e*S	**Sn**	**04 08 22.1**	**-0.7**
ORIV	**Oritupano**	**3.60**	**220**	*e*P	**Pn**	**04 07 46.1**	**+0.7**
ORIV				*e*S	**Sn**	**04 08 23.9**	**-2.8**
RIOV	**Rio Grande**	**3.83**	**191**	*e*P	**Pn**	**04 07 48.0**	**-0.5**
PCRV	**Puerto La Cruz**	**3.88**	**245**	*e*P	**Pn**	**04 07 49.5**	**+0.3**
GURV	**El Guri**	**4.53**	**206**	*e*P	**Pn**	**04 07 57.8**	**-0.2**
CUPV	**Cepira**	**4.97**	**249**	*e*P	**Pn**	**04 08 04.8**	**+0.7**
BIRV	**Birongo**	**5.29**	**256**	*e*P	**Pn**	**04 08 08.6**	**+0.1**
MERV	**Las Mercedes**	**5.76**	**244**	*e*P	**Pn**	**04 08 14.8**	**-0.1**
LUEV	**Luepa**	**5.98**	**184**	*e*P	**Pn**	**04 08 16.3**	**-1.7**
TURV	**Turiamo**	**6.80**	**259**	*e*P	**Pn**	**04 08 29.1**	**0.0**
CAOV	**Caicara del Or**	**6.87**	**230**	*e*P	**Pn**	**04 08 30.3**	**+0.2**
BAUV	**El Baul**	**7.45**	**248**	*e*P	**Pn**	**04 08 38.3**	**+0.3**
MAPV	**Macapo**	**7.54**	**255**	*e*P	**Pn**	**04 08 39.2**	**0.0**
TEPV	**Terepaima**	**8.20**	**258**	*e*P	**Pn**	**04 08 48.3**	**0.0**
SIQV	**Siquisique**	**8.66**	**263**	*e*P	**Pn**	**04 08 54.8**	**+0.1**
MONV	**Montecano**	**8.72**	**272**	*e*P	**Pn**	**04 08 55.6**	**+0.2**
CURV	**Curarigua**	**8.93**	**259**	*e*P	**Pn**	**04 08 58.1**	**-0.2**
SOCV	**Socops**	**10.28**	**251**	*e*P	**Pn**	**04 09 16.2**	**-0.5**

*IDC **03** 04:13:41.7±1.0,30.94N×103.23E,h0km,mb3.5/9, mb1 3.7/10,mb1mx3.6/26,mbtmp3.5/10,ML2.9/1,Error ellipse: s-maj=35.3km s-min=19.2km az=55.0*
*NEIC **03** 04:13:43.3±0.8,30.91N×103.05E,h10km,Error ellipse: s-maj=24.1km s-min=13.0km az=46.0*
*BJI **03** 04:13:46.0,30.91N×103.53E,h14km,ML3.6/17*
ISC 03 04:13:43.5±1.1,31.04N±0.04×103.36E±0.06,h9km±6km, n27,σ1.29/34,mb3.5/9,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.37**	**111**	Pg	**Pg**	**04 13 52.2**	**+1.5**
CD2				Sg	**Sg**	**04 13 56.7**	**+1.1**
CD2				smax			
	comp=N,9μm,0.7s						
CD2				smax			
	comp=E,11μm,0.7s						
LZH	**Lanzhou**	**5.05**	**4**	*e*Pg	**Pg**	**04 15 18.8**	**-1.5**
LZH				Sg	**Sg**	**04 16 19.4**	**-6.3**
LZH				smax			
	comp=N,30nm,0.3s						
LZH				smax			
	comp=E,44nm,0.5s						
ENH	**Enshi**	**5.33**	**97**	*e*Pn	**Pn**	**04 15 07.8**	**+4.4**
	comp=E,46nm,0.7s						
ENH				*e*S	**Sn**	**04 16 03.4**	**-1.6**
GYA	**Guiyang**	**5.41**	**147**	Pn	**Pn**	**04 15 05.8**	**+1.4**
GYA				Sn	**Sn**	**04 16 05.7**	**-1.1**
GYA				Sg	**Sg**	**04 16 35.5**	**-1.7**
GYA				smax			
	comp=N,70nm,0.8s						
GYA				smax			
	comp=E,70nm,0.8s						
XAN	**Xi'an**	**5.57**	**56**	Pn	**Pn**	**04 15 08.2**	**+1.6**
XAN				Pg	**Pg**	**04 15 27.1**	**-3.1**
XAN				Sn	**Sn**	**04 16 11.0**	**+0.3**
XAN				Sg	**Sg**	**04 16 35.5**	**-6.8**
XAN				smax			
	comp=N,96nm,0.8s						
XAN				smax			
	comp=E,55nm,0.9s						
KMI	**Kunming**	**5.92**	**185**	Pn	**Pn**	**04 15 15.3**	**+3.9**
KMI				Sn	**Sn**	**04 16 20.0**	**+0.6**
KMI				smax			
	comp=N,12nm,1.2s						
KMI				smax			
	comp=E,16nm,1.1s						
SONM	**Songino Array**	**16.93**	**7**	Pn	**Pn**	**04 17 41.9**	**+1.3**
	comp=E,0.0nm,0.3s,baz=189,slow=8.5,SNR=2.3						
SONM	**Songino Array**	**16.93**	**7**	Pn	**Pn**	**04 17 41.9**	**+1.3**
KSRS	**Korea Array**	**21.26**	**66**	P	**P**	**04 18 31.2**	**+1.2**
	comp=E,1.6nm,0.6s,mb3.5,baz=235,slow=10.0,SNR=3.9						
MKAR	**Makanchi Array**	**22.61**	**320**	P	**P**	**04 18 42.9**	**-1.6**
	comp=E,0.2nm,0.2s,mb3.1,baz=130,slow=13,SNR=2.2						
MKAR	**Makanchi Array**	**22.61**	**320**	P	**P**	**04 18 42.9**	**-1.6**
ZALV	**Zalesovo Beam**	**26.50**	**335**	P	**P**	**04 19 21.1**	**0.0**
	comp=E,0.3nm,0.3s,mb3.3,baz=141,slow=9.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**26.50**	**335**	P	**P**	**04 19 21.1**	**0.0**
KURK	**Kurchatov**	**26.92**	**324**	P	**P**	**04 19 24.1**	**-0.8**
	comp=E,0.3nm,0.4s,mb3.2,baz=128,slow=9.8,SNR=4.1						
KURK	**Kurchatov**	**26.92**	**324**	P	**P**	**04 19 24.1**	**-0.8**
WRA	**Warramunga Arr**	**58.78**	**146**	P	**P**	**04 23 42.5**	**+0.3**
	comp=E,0.9nm,0.8s,mb3.9,baz=338,slow=7.6,SNR=6.8						
WRA	**Warramunga Arr**	**58.78**	**146**	P	**P**	**04 23 42.5**	**+0.3**
ASAR	**Alice Springs**	**61.77**	**148**	P	**P**	**04 24 00.5**	**-2.1**
	comp=E,0.2nm,0.5s,mb3.5,baz=341,slow=5.3,SNR=3.2						
ASAR	**Alice Springs**	**61.77**	**148**	P	**P**	**04 24 00.5**	**-2.1**
GERES	**GERESS Array B**	**67.13**	**314**	P	**P**	**04 24 38.9**	**+1.4**
	comp=E,0.1nm,0.3s,mb3.4,baz=96,slow=6.1,SNR=2.7						
GERES	**GERESS Array B**	**67.13**	**314**	P	**P**	**04 24 38.9**	**+1.4**
ILAR	**Eielson Array**	**70.17**	**25**	P	**P**	**04 24 56.2**	**0.0**
	comp=E,0.1nm,0.3s,mb3.2,baz=287,slow=4.2,SNR=6.3						
ILAR	**Eielson Array**	**70.17**	**25**	P	**P**	**04 24 56.2**	**0.0**
INK	**Inuvik**	**72.43**	**19**	P	**P**	**04 25 10.1**	**+0.3**
	comp=E,1.6nm,0.9s,mb4.0,baz=353,slow=1.5,SNR=4.3						
INK	**Inuvik**	**72.43**	**19**	P	**P**	**04 25 10.1**	**+0.3**
TXAR	**Lajitas Array**	**114.68**	**26**	PKP	PKiKP	04 32 25.6	+0.9
	comp=E,0.1nm,0.5s,baz=309,slow=3.1,SNR=2.8						
TXAR	**Lajitas Array**	**114.68**	**26**	PKP	PKiKP	04 32 25.6	+0.9

WEL 03 04:31:25.5±0.4,44.96S×166.94E,h12km,ML4.5/14,1D, Error ellipse: s-maj=4.1km s-min=2.1km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.54**	**164**	P*	Pb	04 31 36.1	-0.7
DCZ				S*	Sb	04 31 42.7	-1.9
MLZ	**Mavora Lakes**	**0.95**	**114**	P*	Pb	04 31 42.3	-1.7
MLZ				S*	Sb	04 31 53.8	-2.7
WHZ	**Wether Hill Ro**	**1.17**	**143**	P*	Pb	04 31 46.6	-1.1
WHZ				S*	Sb	04 32 01.0	-1.7
PYZ	**Puysegur Point**	**1.22**	**188**	P*	Pb	04 31 47.4	-1.1
WKZ	**Wanaka**	**1.48**	**86**	PN	Pn	04 31 51.7	-0.3
JCZ	**Jackson Bay**	**1.57**	**56**	PN	Pn	04 31 51.8	-1.4
JCZ				SN	Sn	04 32 14.5	+1.0
EAZ	**Earnscleugh**	**1.70**	**100**	PN	Pn	04 31 55.0	0.0
APZ	**The Paps**	**2.01**	**159**	PN	Pn	04 32 00.1	+0.9
TUZ	**Tuapeka**	**2.14**	**119**	PN	Pn	04 32 00.3	-0.7
SYZ	**Scrubby Hill**	**2.20**	**136**	PN	Pn	04 32 01.9	0.0
LBZ	**Lake Benmore**	**2.39**	**77**	PN	Pn	04 32 04.1	-0.3
ODZ	**Otahua Downs**	**2.63**	**93**	PN	Pn	04 32 07.1	-0.6
MQZ	**McQueen's Vall**	**4.29**	**75**	PN	Pn	04 32 28.8	-1.6
DSZ	**Denniston Nort**	**4.79**	**50**	PN	Pn	04 32 34.9	-2.5
THZ	**Tophouse**	**5.40**	**56**	PN	Pn	04 32 43.8	-1.9
QRZ	**Quartz Range**	**5.83**	**47**	PN	Pn	04 32 49.0	-2.6
NNZ	**Nelson**	**6.02**	**54**	PN	Pn	04 32 52.5	-1.8
TCW	**Tory Channel**	**6.55**	**58**	PN	Pn	04 33 01.0	-0.6

*IDC **03** 04:36:56.1±1.4,2.89S×145.98E,h0km,mb3.9/7, mb1 4.1/8,mb1mx4.0/18,mbtmp3.9/8,ML2.8/1,MS3.4/10, Ms1 3.4/10,ms1mx3.2/25,Error ellipse: s-maj=43.1km s-min=20.6km az=101.0*
*ISCJB **03** 04:36:59.9±0.9,2.89S±0.08×145.8E±0.2,h33km,mb3.9/6, MS3.4/8,Error ellipse: s-maj=23.1km s-min=12.0km az=179.0*
*NEIC **03** 04:36:59.9±1.4,2.86S×145.64E,h10km,mb4.2/2,Error ellipse: s-maj=29.3km s-min=14.6km az=79.0*
ISC 03 04:37:02.5±1.0,2.89S±0.09×145.8E±0.2,h35km,n28, σ1.36/21,mb3.9/6,MS3.4/8,Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.62**	**168**	Pn	**Pn**	**04 38 36.3**	**-1.1**
	1.2nm,0.3s,baz=316,slow=8.3,SNR=5.3						
PMG	**Port Moresby**	**6.62**	**168**	*e*Pn	**Pn**	**04 38 38.4**	**+1.1**
GUMO	**Guam**	**16.40**	**357**	LR	LR	04 46 02.1	
	comp=Z,77nm,18.8s,baz=114,slow=33						
KAKA	**Kakadu**	**16.42**	**233**	*e*Pn	**Pn**	**04 40 52.6**	**+2.2**
	33nm,1.1s						
CTA	**Charters Tower**	**17.10**	**178**	P	**Pn**	**04 41 00.7**	**+1.8**
	0.5nm,0.3s,baz=343,slow=11,SNR=2.6						
CTA				LR	LR	04 47 20.9	
	comp=Z,159nm,19.1s,baz=193,slow=36						
CTA	**Charters Tower**	**17.10**	**178**	P	**Pn**	**04 41 00.7**	**+1.8**
CTA				LR	LR	04 47 20.9	
WRAB	**Tennant Creek**	**20.29**	**213**	*e*P	**P**	**04 41 34.5**	**-0.8**
	7.6nm,0.8s						
WB2	**Warramunga Arr**	**20.29**	**213**	*e*P	**P**	**04 41 34.7**	**-0.7**
WRA	**Warramunga Arr**	**20.30**	**213**	P	**P**	**04 41 34.8**	**-0.7**
	6.2nm,0.9s,baz=32,slow=12,SNR=20						
WRA				LR	LR	04 49 28.6	
	comp=Z,60nm,20.1s,MS3.0,baz=45,slow=37						
WRA	**Warramunga Arr**	**20.30**	**213**	P	**P**	**04 41 34.8**	**-0.7**
WRA				LR	LR	04 49 28.6	
ASAR	**Alice Springs**	**23.63**	**208**	P	**P**	**04 42 10.0**	**-0.7**
	8.0nm,1.1s,mb4.1,baz=38,slow=7.9,SNR=15						
ASAR	**Alice Springs**	**23.63**	**208**	P	**P**	**04 42 10.0**	**-0.7**
FITZ	**Fitzroy Crossi**	**24.86**	**231**	P	**P**	**04 42 21.6**	**-0.4**
	2.7nm,0.8s,mb3.8,baz=24,slow=17,SNR=7.0						
FITZ				LR	LR	04 52 34.8	
	comp=Z,74nm,20.0s,MS3.2,baz=55,slow=38						
FITZ	**Fitzroy Crossi**	**24.86**	**231**	P	**P**	**04 42 21.6**	**-0.4**
FITZ				LR	LR	04 52 34.8	
STKA	**Stephens Creek**	**29.10**	**187**	LR	LR	04 54 03.7	
	comp=Z,183nm,20.5s,MS3.7,baz=24,slow=35						
CBIJ	**Chichi jima**	**30.01**	**354**	LR	LR	04 52 57.5	
	comp=Z,100nm,20.9s,MS3.4,baz=97,slow=32						
MJAR	**Matsushiro Arr**	**39.86**	**350**	LR	LR	04 58 21.1	
	comp=Z,29nm,19.6s,MS3.1,baz=180,slow=32						
CMAR	**Chiang Mai Arr**	**50.75**	**297**	P	**P**	**04 45 58.0**	**-1.5**
	0.6nm,0.3s,mb4.0,baz=123,slow=6.6,SNR=3.4						
CMAR	**Chiang Mai Arr**	**50.75**	**297**	P	**P**	**04 45 58.0**	**-1.5**
PETK	**Petropavlovsk-**	**56.69**	**9**	LR	LR	05 06 39.2	
	comp=Z,29nm,19.9s,MS3.4,baz=54,slow=32						
SONM	**Songino Array**	**61.11**	**331**	P	**P**	**04 47 14.8**	**+1.6**
	0.5nm,0.8s,mb3.7,baz=111,slow=3.6,SNR=3.2						
SONM	**Songino Array**	**61.11**	**331**	P	**P**	**04 47 14.8**	**+1.6**
MKAR	**Makanchi Array**	**74.34**	**320**	P	**P**	**04 48 37.8**	**+1.2**
	0.3nm,0.2s,mb3.8,baz=99,slow=9.5,SNR=2.4						
MKAR	**Makanchi Array**	**74.34**	**320**	P	**P**	**04 48 37.8**	**+1.2**
VNDA	**Vanda**	**75.07**	**176**	LR	LR	05 21 51.9	
	comp=Z,81nm,19.0s,MS4.0,baz=80,slow=36						
ZALV	**Zalesovo Beam**	**75.75**	**328**	LR	LR	05 22 42.3	
	comp=Z,18nm,18.1s,MS3.4,baz=49,slow=36						
ILAR	**Eielson Array**	**83.12**	**23**	P	**P**	**04 49 21.9**	**-2.5**
	0.9nm,0.9s,mb3.8,baz=247,slow=4.4,SNR=9.2						
ILAR	**Eielson Array**	**83.12**	**23**	P	**P**	**04 49 21.9**	**-2.5**

*NEIC **03** 04:38:23.5,19.57N×66.31W,h69km,After RSPR.*
RSPR 03 04:38:23.5,19.57N×66.31W,h69km±8km,18C,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AOPR	**Arecibo Observ**	**1.29**	**199**	*e*P		04 38 45.0	-0.6
AOPR	**Arecibo Observ**	**1.29**	**199**	*e*P		04 38 45.0	-0.6
CBYP	**Canovanas**	**1.36**	**162**	*e*P		04 38 45.7	-0.9
CBYP	**Canovanas**	**1.36**	**162**	*e*S		04 39 03.2	-0.7
CBYP	**Canovanas**	**1.36**	**162**	*e*Pn		04 38 45.9	-0.7
CBYP				*e*S		04 39 01.6	-2.3
SJG	**San Juan**	**1.46**	**174**	*e*P		04 38 47.3	-0.6
SJG	**San Juan**	**1.46**	**174**	*e*P		04 38 47.3	-0.6
SJG				*e*S		04 39 05.7	-0.5
SJG	**San Juan**	**1.46**	**174**	*e*Pn		04 38 48.0	+0.1
SJG				*e*S		04 39 05.2	-1.0
HUMP	**Col San Antoni**	**1.49**	**163**	*e*P		04 38 47.7	-0.6
HUMP				*e*S		04 39 06.1	-0.8
HUMP	**Col San Antoni**	**1.49**	**163**	*e*P		04 38 47.7	-0.6
HUMP				*e*S		04 39 06.1	-0.8
CELP	**Cerrillos**	**1.51**	**190**	*e*P		04 38

NNA S Sn 04 50 24.8 -15
comp=E,4.1nm,0.3s,baz=55,slow=16,SNR=2.9
NNA Nana 9.84 311 *e*Pn Pn 04 48 46.0 -5.6
NNA *e*S Sn 04 50 27.6 -13
LCO Las Campanas 10.49 187 *e*Pn Pn 04 48 56.5 -3.8
comp=E,32nm,0.7s
LCO *e*S Sn 04 50 49.0 -6.8
CFAA Coronel Fontan 13.02 176 P Pn 04 49 30.9 -2.7
comp=E,0.2nm,0.3s,baz=346,slow=14,SNR=18
CFAA S Sn 04 51 49.1 -7.9
comp=E,0.1nm,0.3s,baz=210,slow=18,SNR=3.7
CFAA Coronel Fontan 13.02 176 P Pn 04 49 30.9 -2.7
CFAA S Sn 04 51 49.1 -7.9
CPUP Villa Florida 13.43 127 P Pn 04 49 39.3 +0.2
comp=E,4.7nm,0.3s,baz=292,slow=11,SNR=31
CPUP Villa Florida 13.43 127 *e*Pn Pn 04 49 39.3 +0.2
ATAH Atahualpa 14.45 321 P Pn 04 49 48.7 -3.5
comp=E,0.2nm,0.3s,baz=157,slow=18,SNR=2.1
TRQA Tornquist 20.43 163 *e*P P 04 51 02.6 +1.7
comp=E,75nm,0.7s
OTAV Otavalo 20.77 333 *e*P P 04 51 04.4 -0.5
comp=E,76nm,1.9s
SPB Sao Paulo 20.93 108 *e*P P 04 51 07.6 +1.1
comp=E,66nm,0.4s
PLCA Paso Flores 22.13 183 P P 04 51 19.6 +0.5
comp=E,17nm,1.0s,mb4.3,baz=8.5,slow=12,SNR=3.9
PLCA Paso Flores 22.13 183 *e*P P 04 51 19.7 +0.7
comp=E,22nm,1.0s,mb4.4
ROSC El Rosal 23.81 347 P P 04 51 34.0 -1.3
comp=E,4.1nm,0.5s,mb4.1,baz=100,slow=17,SNR=4.1
SDV Santo Domingo 27.31 357 *e*P P 04 52 03.8 -3.1
comp=E,11nm,0.9s,mb4.4
GRGR Grenville 31.40 14 *e*P P 04 52 41.0 -2.0
JTS JuntasAbangare 32.60 330 *e*P P 04 52 56.1 +2.5
comp=E,25nm,0.6s,mb5.2
FDF Fort de France 34.02 14 *e*P P 04 53 03.8 -2.2
EFI East Falkland 34.20 168 P P 04 53 06.7 -0.4
comp=E,588nm,2.1s,mb6.0
RCBR Riachuelo 34.85 73 P P 04 53 13.9 +0.6
comp=E,33nm,0.7s,mb5.3,baz=320,slow=1.1,SNR=26
RCBR Riachuelo 34.85 73 *e*P P 04 53 14.1 +0.9
USHA Ushuaia 36.21 179 P P 04 53 24.1 -0.2
comp=E,4.1nm,0.6s,mb4.5,baz=340,slow=9.4,SNR=4.4
USHA Ushuaia 36.21 179 P P 04 53 24.1 -0.2
CRPR Cabo Rojo, PR 36.40 3 *e*P P 04 53 23.6 -2.7
comp=E,25nm,1.1s,mb5.0
OBIP Obispado Ponce 36.46 4 *e*P P 04 53 25.1 -1.8
comp=E,30nm,0.6s,mb5.4
CELP Cerrillos 36.50 4 *e*P P 04 53 24.5 -2.6
SJG San Juan 36.57 5 P P 04 53 24.5 -3.2
comp=E,27nm,0.8s,mb5.2,baz=210,slow=3.0,SNR=7.2
SJG San Juan 36.57 5 P P 04 53 24.5 -3.2
LRS Lares 36.70 4 *e*P P 04 53 26.1 -2.7
CBYP Canovanas 36.75 5 *e*P P 04 53 26.1 -3.2
comp=E,33nm,0.9s,mb5.3
TEIG Tepich 42.84 333 P P 04 54 18.0 -1.6
comp=E,19nm,0.7s,mb5.0,baz=161,slow=4.7,SNR=18
TEIG Tepich 42.84 333 *e*P P 04 54 18.3 -1.3
comp=E,18nm,0.6s,mb5.0
LRAL Lakeview Retre 54.05 342 *e*P P 04 55 43.6 -1.8
comp=E,5.4nm,0.9s,mb4.6
KMSC Kings Mountain 54.63 348 ⇑P P 04 55 48.6 -1.0
baz=55
TKL Tuckaleechee C 55.66 346 *e*P P 04 55 55.6 -1.4
TKL *e* pP 04 56 25.2 0.0
SWET Sewanee 55.79 343 *e*P P 04 55 56.1 -1.7
JCT Junction City 56.95 328 *e*P P 04 56 05.2 -1.1
comp=E,6.0nm,0.7s,mb4.7
627A Terlingua Ranc 58.01 325 ⇑P P 04 56 12.7 -1.0
baz=58,SNR=7.6
TXAR Lajitas Array 58.07 324 P P 04 56 12.5 -1.6
comp=E,1.8nm,0.7s,mb4.2,baz=147,slow=8.5,SNR=26
TXAR pP pP 04 56 40.2 -2.3
comp=E,1.3nm,0.7s,baz=149,slow=8.4,SNR=5.4
TXAR LR LR 05 21 01.6
comp=E,40nm,19.3s,baz=0.0,slow=36
TXAR Lajitas Array 58.07 324 P P 04 56 12.5 -1.6
TXAR pP pP 04 56 40.2 -2.3
TXAR LR LR 05 21 01.6
528A Cox Ranch, San 58.24 326 ⇑P P 04 56 14.2 -1.1
baz=58
626A Big Bend Ranch 58.50 324 ⇑P P 04 56 16.5 -0.6
baz=59,SNR=23
428A Kincaid Ranch, 58.63 326 ⇓P P 04 56 17.3 -0.7
baz=59
527A Woodward Ranch 58.67 325 ⇑P P 04 56 17.3 -1.0
baz=59,SNR=12
USIN University of 58.84 343 P P 04 56 17.7 -1.6
comp=E,9.4nm,0.7s,mb4.9
526A Mary Lane Ranc 58.87 325 ⇓P P 04 56 18.9 -0.7
baz=59,SNR=15
SIUC Southern Illin 59.05 342 *e*P P 04 56 20.9 +0.1
comp=E,68nm,0.9s,mb5.7
SIUC *e*pP pP 04 56 47.3 -2.0
427A Hayter Ranch, 59.11 326 ⇓P P 04 56 20.1 -1.2
baz=59,SNR=5.9
328A Wristen Ranch, 59.21 327 ⇓P P 04 56 21.2 -0.8
baz=59,SNR=6.2
426A McDonald Obser 59.30 325 ⇑P P 04 56 21.8 -0.8
baz=59,SNR=12
BLO Bloomington 59.67 344 *e*P P 04 56 23.7 -1.2
comp=E,18nm,0.9s,mb5.1
BLO *e*pP pP 04 56 51.1 -2.5
FVM French Village 59.67 341 *e*P P 04 56 23.7 -1.3
comp=E,9.9nm,0.5s,mb5.1
FVM *e*pP pP 04 56 51.9 -1.7
TUL1 Tulsa 59.74 335 ⇓P P 04 56 24.9 -0.6
baz=60
326A Caldwell Ranch 59.78 326 ⇑P P 04 56 24.7 -1.2
baz=60,SNR=7.6
425A Indio Mountain 59.92 324 ⇑P P 04 56 25.9 -1.0
baz=60,SNR=12
227A Bennet, Jal 59.96 327 ⇓P P 04 56 26.3 -0.8
baz=60
CCM Cathedral Cave 60.00 340 *e*P P 04 56 26.7 -0.5
comp=E,20nm,1.1s,mb5.1
CCM *e*pP pP 04 56 54.3 -1.6
BRYW Bryant College 60.21 358 *e*P P 04 56 27.4 -1.1
comp=E,33nm,0.7s,mb5.5
325A Bean Ranch, Si 60.36 325 ⇑P P 04 56 28.8 -1.1
baz=60,SNR=26
226A Malaga, Loving 60.42 326 ⇑P P 04 56 29.7 -0.5
baz=60,SNR=8.5
324A Moseley Ranch, 60.69 325 ⇑P P 04 56 30.3 -1.8
baz=61,SNR=14
BINY Binghamton 60.77 354 *e*P P 04 56 31.6 -0.8
comp=E,16nm,0.8s,mb5.1
126A Clayton Basin, 60.84 327 ⇓P P 04 56 32.2 -0.9
baz=61
225A Deer Hill, Car 60.85 326 ⇑P P 04 56 32.1 -1.0
baz=61,SNR=7.5
Z27A Tatum 60.95 328 ⇓P P 04 56 32.1 -1.7
baz=61,SNR=11
SFIN Scholer Farm 60.95 344 ⇓P P 04 56 32.3 -1.3
baz=61
TRY Troy 61.12 356 *e*P P 04 56 33.5 -1.2
125A Gardner Draw, 61.18 326 ⇑P P 04 56 33.8 -1.6
baz=61,SNR=5.3
224A Cornudas Mount 61.20 325 ⇓P P 04 56 34.3 -1.2
baz=61,SNR=19
MSTX Muleshoe 61.25 328 ⇑P P 04 56 34.5 -1.3
baz=61,SNR=6.4
Z26A Caprock 61.31 327 ⇓P P 04 56 34.9 -1.4
baz=61,SNR=6.6
Y27A Causey 61.38 328 ⇓P P 04 56 35.1 -1.6
baz=62,SNR=5.4
BBTS Babate 61.51 61 P P 04 56 38.5 +0.6
comp=E,47nm,0.7s,mb5.7,baz=266,slow=1.5,SNR=18
BBTS Babate 61.51 61 P P 04 56 38.5 +0.6
124A Stringfield Ra 61.64 325 ⇑P P 04 56 37.7 -0.8
baz=62,SNR=7.0
Z25A Roswell 61.70 326 ⇓P P 04 56 37.5 -1.4
baz=62,SNR=10
HDIL Hopedale 61.71 343 *e*P P 04 56 36.7 -2.1
comp=E,46nm,1.3s,mb5.3
HDIL *e*pP pP 04 57 05.2 -2.4
Z24A Sheeppen Canyo 62.08 326 ⇓P P 04 56 40.5 -0.9
baz=62,SNR=10
Y25A Mesa, Roswell 62.19 327 ⇓P P 04 56 40.8 -1.3
baz=62
X26A CR and CF Fran 62.23 328 ⇓P P 04 56 41.1 -1.3
baz=62
W27A Bowe Ranch, En 62.27 329 ⇑P P 04 56 41.6 -1.0
baz=62
320A Kipp Ranch, An 62.34 322 ⇓P P 04 56 43.0 -0.1
baz=62
MDV Middlebury 62.36 357 *e*P P 04 56 42.1 -0.9

122A Conniff Cattle 62.48 324 ⇓P P 04 56 44.2 +0.1
baz=63
Z23A Rita Site, Whi 62.49 325 ⇑P P 04 56 43.7 -0.4
baz=63
220A Playas Peak, P 62.75 323 ⇓P P 04 56 45.7 -0.2
baz=63,SNR=11
121A Cookes Peak, D 62.79 324 ⇑P P 04 56 46.0 -0.2
baz=63,SNR=5.3
319A Douglas 62.80 322 ⇓P P 04 56 46.3 0.0
baz=63,SNR=14
Y23A Lovelace Mesa, 62.91 326 ⇓P P 04 56 46.8 -0.1
baz=63
X24A Lazy VL Ranch, 63.07 327 ⇑P P 04 56 47.6 -0.3
baz=63
W25A X Bar L Ranch, 63.08 328 ⇓P P 04 56 47.2 -0.8
baz=63
219A White Tail Can 63.24 322 ⇓P P 04 56 48.8 -0.3
baz=63,SNR=10
318A Bisbee 63.27 321 ⇓P P 04 56 49.2 -0.1
baz=63,SNR=21
120A U Bar Ranch, L 63.28 323 ⇑P P 04 56 49.3 -0.1
baz=63,SNR=7.5
Z21A St. Cloud Mine 63.31 324 ⇑P P 04 56 49.7 +0.1
baz=63,SNR=9.3
BNM Barren Site 63.38 326 *e*P P 04 56 49.4 -0.6
comp=E,4.6nm,0.9s,mb4.4
Y22A Socorro 63.40 325 ⇑P P 04 56 50.0 -0.1
baz=64
LPM Los Pinos Moun 63.50 326 *e*P P 04 56 50.6 -0.2
comp=E,3.7nm,0.6s,mb4.4
W24A Lazy 6 Ranch, 63.56 327 ⇓P P 04 56 50.5 -0.7
baz=64
V25A Rancho No Teng 63.65 328 ⇓P P 04 56 51.2 -0.5
baz=64,SNR=5.3
U26A Atchley Ranch, 63.66 329 ⇑P P 04 56 51.3 -0.5
baz=64,SNR=6.5
Z20A Nine Sixteen R 63.68 324 ⇓P P 04 56 52.1 +0.1
baz=64,SNR=11
218A Dragoon 63.69 322 ⇓P P 04 56 52.0 -0.1
baz=64,SNR=5.7
Y21A Point of Rocks 63.84 325 ⇓P P 04 56 53.4 +0.4
baz=64,SNR=10
V24A Rampart Ranch, 63.89 328 ⇑P P 04 56 52.9 -0.4
baz=64
ANMO Albuquerque 63.90 326 *e*P P 04 56 52.7 -0.7
comp=E,2.6nm,0.8s,mb4.1
W23A Werner Place, 63.90 327 ⇑P P 04 56 53.1 -0.3
baz=64
U25A Circle Dot Ran 63.99 329 ⇓P P 04 56 53.2 -0.8
baz=64,SNR=8.1
217A Green Valley 64.00 321 ⇑P P 04 56 53.8 -0.4
baz=64,SNR=7.6
118A Homack Ranch, 64.12 322 ⇓P P 04 56 54.6 -0.3
baz=64,SNR=7.3
Y20A Hot Springs, 64.15 324 ⇑P P 04 56 55.3 +0.2
baz=64
JFWS Jewell Farm 64.16 343 *e*P P 04 56 53.4 -1.6
comp=E,94nm,1.7s,mb5.3
JFWS *e*pP pP 04 57 22.1 -1.8
Z19A T-Link Ranch, 64.19 323 ⇑P P 04 56 55.8 +0.4
baz=64
W22A Albuquerque 64.21 326 ⇑P P 04 56 55.7 +0.3
baz=64
X21A Alamocita Cree 64.23 325 ⇓P P 04 56 55.8 +0.3
baz=64,SNR=7.4
TUC Tucson 64.36 321 *e*P P 04 56 56.1 -0.4
comp=E,15nm,1.7s,mb4.5
V23A Ortiz Mt. (NFS 64.37 327 ⇓P P 04 56 56.2 -0.3
baz=64,SNR=5.9
U24A Moreno Valley 64.43 328 ⇑P P 04 56 57.3 +0.5
baz=65
Z18A Geronimo 64.48 323 ⇓P P 04 56 57.7 +0.4
baz=65
117A Oracle 64.52 322 ⇑P P 04 56 57.2 -0.3
baz=65,SNR=10.0
216A Three Points, 64.54 321 ⇓P P 04 56 57.4 -0.2
baz=65,SNR=6.0
T25A Trinidad 64.58 329 ⇑P P 04 56 57.8 0.0
baz=65
W21A San Fidel 64.66 326 ⇓P P 04 56 58.5 +0.2
baz=65
Y19A Nutrioso 64.67 324 ⇑P P 04 56 58.8 +0.3
baz=65,SNR=21
X20A Quemado 64.69 325 ⇓P P 04 56 58.7 +0.1
baz=65,SNR=5.3
V22A San Miguel Ran 64.88 327 ⇑P P 04 56 59.9 +0.2
baz=65
Y18A Canyon Day Jun 64.98 323 ⇑P P 04 57 00.6 +0.1
baz=65,SNR=7.2
X19A St. Johns 65.04 324 ⇑P P 04 57 01.2 +0.4
baz=65
116A Eloy 65.09 321 ⇓P P 04 57 01.3 +0.1
baz=65
W20A Ramah 65.12 325 ⇓P P 04 57 01.4 0.0
baz=65,SNR=7.6
V21A Milan 65.17 326 ⇑P P 04 57 02.0 +0.3
baz=65
U22A Llaves 65.20 327 ⇑P P 04 57 02.4 +0.6
baz=65
T23A Casias Ranch, 65.30 328 ⇑P P 04 57 02.8 +0.4
baz=65
R25A Fountain Ranch 65.32 330 ⇑P P 04 57 02.6 0.0
baz=66
214A Organ Pipe Nat 65.33 320 ⇑P P 04 57 03.0 +0.2
baz=65
S24A Houchin Ranch, 65.36 329 ⇓P P 04 57 03.2 +0.4
baz=66
Y17A Roosevelt 65.39 322 ⇓P P 04 57 03.1 -0.1
baz=66,SNR=11
BGNE Belgrade 65.42 336 ⇓P P 04 57 03.0 -0.1
baz=66
Z16A Peralta Trail, 65.47 322 ⇓P P 04 57 03.7 0.0
baz=66,SNR=8.4
X18A Snowflake 65.48 324 ⇓P P 04 57 04.3 +0.6
baz=66
115A Sonoran Desert 65.50 321 ⇑P P 04 57 04.3 +0.5
baz=66
SDCO Great Sand Dun 65.59 329 *e*P P 04 57 04.5 +0.2
comp=E,12nm,1.0s,mb4.7
SDCO *e*pP pP 04 57 32.5 -0.8
V20A Brimhall 65.61 326 ⇓P P 04 57 04.7 +0.2
baz=66
U21A Nageezi 65.66 327 ⇓P P 04 57 04.7 -0.1
baz=66,SNR=5.4
T22A Edith 65.72 328 ⇑P P 04 57 06.1 +1.0
baz=66
R24A Sanders Place, 65.78 330 ⇑P P 04 57 05.4 -0.1
baz=66,SNR=5.2
X17A Forest Lakes 65.83 323 ⇓P P 04 57 06.3 +0.3
baz=66
Z15A Gila River Ind 65.87 321 ⇑P P 04 57 06.2 0.0
baz=66
Y16A Circle Bar Ran 65.89 322 ⇑P P 04 57 06.5 +0.2
baz=66,SNR=9.5
114A Black Gap (USA 65.93 320 ⇑P P 04 57 06.6 0.0
baz=66,SNR=9.1
T21A Navajo Lake 66.02 327 ⇑P P 04 57 07.4 +0.3
baz=66
U20A Newcomb 66.07 326 ⇑P P 04 57 07.5 +0.1
baz=66
S22A 4UR Ranch, Cre 66.25 328 ⇓P P 04 57 08.4 -0.1
baz=66,SNR=7.0
X16A Lo Mia Camp, P 66.25 323 ⇓P P 04 57 09.1 +0.5
baz=66,SNR=7.5
V18A Ganado 66.34 325 ⇓P P 04 57 09.1 -0.1
baz=66
P25A Willow Gulch B 66.36 331 ⇓P P 04 57 09.4 +0.2
baz=66
U19A Dine' College, 66.38 325 ⇓P P 04 57 08.9 -0.5
baz=66
Q24A Divide 66.38 330 ⇓P P 04 57 09.4 0.0
baz=66,SNR=5.1
Z14A Wintersburg 66.39 321 ⇑P P 04 57 09.4 -0.1
baz=66
Y15A Casa Rosa Ranc 66.44 322 ⇓P P 04 57 09.9 +0.1
baz=67,SNR=8.3
113A Mohawk Valley, 66.48 320 ⇓P P 04 57 09.9 -0.2
baz=67,SNR=6.8
S21A Coal Bank Pass 66.67 327 ⇓P P 04 57 11.2 0.0
baz=67,SNR=5.1
T19A Beclabito 66.68 326 ⇑P P 04 57 11.1 -0.2
baz=67,SNR=6.0
MVCO Mesa Verde 66.69 327 *e*P P 04 57 11.2 -0.1
comp=E,5.7nm,0.7s,mb4.5
P24A Kohler Place, 66.70 331 ⇑P P 04 57 11.8 +0.4
baz=67
Z13A Yuma Proving G 66.71 320 ⇓P P 04 57 11.8 +0.3
baz=67

V17A Tonalea, Kykot 66.75 324 ⇑P P 04 57 11.9 +0.1
baz=67,SNR=8.2
X15A Humboldt 66.76 322 ⇓P P 04 57 12.1 +0.2
baz=67,SNR=7.8
W16A Flagstaff 66.79 323 ⇓P P 04 57 12.6 +0.6
baz=67
Y14A Wickenburg 66.83 321 ⇑P P 04 57 12.5 +0.2
baz=67,SNR=9.0
U18A Rough Rock, Ch 66.83 325 ⇑P P 04 57 12.3 0.0
baz=67,SNR=5.8
ECSD EROS Data Cent 66.89 339 *e*P P 04 57 11.4 -1.0
comp=E,34nm,1.4s,mb5.0
ECSD *e*pP pP 04 57 40.2 -1.4
WUAZ Wupatki 67.00 324 *e*P P 04 57 13.8 +0.4
comp=E,9.1nm,0.9s,mb4.6
SPMN St. Paul 67.01 342 ⇓P P 04 57 13.6 +0.4
baz=67,SNR=8.4
P23A Jefferson 67.03 330 ⇓P P 04 57 14.1 +0.7
baz=67
R21A Cimarron 67.09 328 ⇓P P 04 57 14.0 +0.1
baz=67,SNR=5.1
X14A Yava 67.13 322 ⇑P P 04 57 14.7 +0.4
baz=67,SNR=8.1
Q22A Crested Butte, 67.15 329 ⇓P P 04 57 14.6 +0.4
baz=67
ISCO Idaho Springs 67.26 330 *e*P P 04 57 15.1 +0.1
comp=E,4.5nm,0.8s,mb4.3
ISCO *e*pP pP 04 57 43.0 -1.1
O24A Longmont 67.27 331 ⇑P P 04 57 15.3 +0.3
baz=67
W15A Williams 67.27 323 ⇓P P 04 57 15.8 +0.7
baz=67
U16A Tuba City 67.32 324 ⇑P P 04 57 15.6 +0.3
baz=67,SNR=5.6
T18A Mexican Hat 67.36 326 ⇑P P 04 57 15.5 -0.1
baz=68,SNR=13
R20A Redvle 67.37 327 ⇑P P 04 57 16.2 +0.6
baz=68,SNR=11
PV01 Paradox Valley 67.43 327 *e*P P 04 57 16.1 +0.1
comp=E,797nm,1.0s
S19A Harvey Farm, M 67.43 327 ⇑P P 04 57 15.8 -0.2
baz=68,SNR=12
Y12C Blythe 67.61 320 ⇑P P 04 57 17.5 +0.3
baz=68,SNR=5.5
P22A Eagle 67.65 329 ⇓P P 04 57 17.6 +0.3
baz=68
V15A Kaibab Nationa 67.67 323 ⇓P P 04 57 18.1 +0.5
baz=68,SNR=9.2
O23A Lake Granby, G 67.73 330 ⇓P P 04 57 18.2 +0.3
baz=68,SNR=7.1
PDMCI Parker Dam,Lak 67.75 321 ⇑P P 04 57 18.2 +0.1
baz=68
T17A Navajo Res., N 67.76 325 ⇓P P 04 57 18.9 +0.8
baz=68,SNR=10
S18A Hurst Farm, BI 67.84 326 ⇑P P 04 57 19.0 +0.4
baz=68,SNR=10
LIC Lamto 67.88 75 ⇑*i*P P 04 57 19.2 -0.2
comp=E,19nm,0.3s,mb5.1
LIC Lamto 67.88 75 ⇑*i*P P 04 57 19.2 -0.2
comp=E,9.6nm,0.3s,mb5.1
R19A Curley Farm, L 67.90 327 ⇑P P 04 57 18.7 -0.3
baz=68
Q20A Ridgley Place, 67.91 328 ⇓P P 04 57 19.3 +0.3
baz=68
P21A Newcastle 67.93 329 ⇓P P 04 57 19.6 +0.5
baz=68,SNR=8.6
O22A Kremmling 67.99 330 ⇓P P 04 57 19.6 +0.2
baz=68,SNR=8.9
V14A Boquillas Ranc 68.07 322 ⇑P P 04 57 20.6 +0.5
baz=68,SNR=9.7
BC3 Big Chuckawall 68.11 320 ⇑P P 04 57 21.0 +0.6
baz=68,SNR=5.8
U15A North Rim 68.17 324 ⇑P P 04 57 21.2 +0.5
baz=68,SNR=11
DBIC Dimbokro 68.21 75 P P 04 57 21.5 0.0
comp=E,14nm,0.4s,mb5.2,baz=222,slow=5.9,SNR=90
DBIC LR LR 05 27 02.7
comp=E,54nm,18.5s,baz=220,slow=36
DBIC Dimbokro 68.21 75 *e*P P 04 57 21.6 +0.1
comp=E,28nm,0.6s,mb5.3
MONP Monument Peak 68.21 318 ⇓P P 04 57 21.4 +0.4
baz=68
S17A Black Ridge (B 68.23 325 ⇓P P 04 57 21.8 +0.8
baz=68
M24A Cheyenne 68.23 332 ⇓P P 04 57 21.8 +0.9
baz=68
IRM Iron Mountain 68.27 320 ⇓P P 04 57 21.7 +0.4
baz=68,SNR=6.4
R18A Canyonlands Na 68.30 327 ⇓P P 04 57 21.3 -0.2
baz=68,SNR=5.3
Q19A Hogan Spring (68.40 327 ⇑P P 04 57 22.7 +0.6
baz=68,SNR=8.8
N22A Wattenberg Ran 68.45 330 ⇑P P 04 57 22.9 +0.6
baz=69
M23A Laramie 68.63 331 ⇑P P 04 57 23.6 +0.1
baz=69,SNR=6.8
T15A Red Dirt Ranch 68.65 324 ⇓P P 04 57 24.5 +0.9
baz=69
U14A Mt Trumbull 68.67 323 ⇓P P 04 57 24.7 +0.9
baz=69,SNR=20
BELC Belle Mtn. Jos 68.68 319 ⇑P P 04 57 24.3 +0.4
baz=69
PFO Pinyon Flat Ob 68.70 319 ⇓P P 04 57 24.6 +0.5
baz=69
S16A Weppner Ranch, 68.72 325 ⇓P P 04 57 24.0 -0.1
baz=69,SNR=5.7
R17A Hanksville Air 68.75 326 ⇑P P 04 57 24.5 +0.2
baz=69,SNR=13
P19A Cripple Cowboy 68.77 328 ⇓P P 04 57 24.6 +0.3
baz=69,SNR=9.2
O20A White River Ci 68.79 329 ⇑P P 04 57 24.8 +0.4
baz=69
N21A Black Mountain 68.92 330 ⇑P P 04 57 25.9 +0.7
baz=69
M22A Cedar Creek Ra 68.98 331 ⇓P P 04 57 26.5 +0.8
baz=69
GMRC Granite Mounta 69.00 320 ⇓P P 04 57 26.3 +0.4
baz=69,SNR=7.6
R16A Teasdale 69.07 325 ⇑P P 04 57 26.7 +0.4
baz=69
U13A Pakoon Wash 69.12 323 ⇑P P 04 57 27.2 +0.6
baz=69,SNR=5.1
EYMN Ely 69.15 344 *e*P P 04 57 25.6 -0.9
comp=E,8.5nm,0.8s,mb4.6
SRU San Rafael 69.17 327 ⇓P P 04 57 26.8 0.0
baz=69,SNR=6.9
SRU San Rafael 69.17 327 *e*P P 04 57 26.9 +0.1
comp=E,6.1nm,0.7s,mb4.5
N20A Spence Gulch, 69.33 329 ⇑P P 04 57 27.7 -0.1
baz=70,SNR=5.7
O19A Miners Draw (B 69.35 328 ⇓P P 04 57 28.1 +0.1
baz=70,SNR=8.1
Q16A Castle Valley 69.37 326 ⇑P P 04 57 28.5 +0.5
baz=70,SNR=7.0
P18A Preston Nutter 69.41 327 ⇑P P 04 57 28.8 +0.5
baz=70
M21A Separation Pea 69.50 330 ⇓P P 04 57 29.0 +0.2
baz=70
P17A Butcher Ranch, 69.55 327 ⇑P P 04 57 29.4 +0.2
baz=70,SNR=5.4
CCUT Cedar City 69.57 324 *e*P P 04 57 30.6 +1.2
comp=E,12nm,1.0s,mb4.7
TUQ Turquoise Moun 69.60 321 ⇑P P 04 57 30.4 +0.8
baz=70
MSU Marysvale 69.61 325 *e*P P 04 57 30.0 +0.4
TMUT Trail Mountain 69.66 326 *e*P P 04 57 30.3 +0.4
comp=E,93nm,2.7s,mb5.1
O18A Roosevelt 69.77 328 ⇓P P 04 57 31.0 +0.5
baz=70
L21A Rawlins 69.78 331 ⇑P P 04 57 30.4 -0.2
baz=70,SNR=8.1
ARUT Antelope Range 69.78 324 *e*P P 04 57 31.6 +0.9
comp=E,15nm,1.0s,mb4.8
M20A Sweetwater, Wa 69.80 330 ⇓P P 04 57 30.7 +0.1
baz=70
N19A John Jarvie Ra 69.83 329 ⇑P P 04 57 30.6 -0.2
baz=70,SNR=8.4
BFSC Mount Baldy Ra 69.87 319 ⇑P P 04 57 31.4 +0.1
baz=70
SHPR Sheep Range 69.88 322 *e*P P 04 57 32.2 +0.9
K22A Casper 69.94 332 ⇑P P 04 57 31.6 +0.1
baz=70
RSSD Black Hills 70.04 334 *e*P P 04 57 32.1 0.0
comp=E,2.5nm,0.8s,mb4.1
RSSD *e*pP pP 04 58 02.7 +1.2
GSC Goldstone 70.04 320 ⇓P P 04 57 33.1 +0.8
baz=70
GSC Goldstone 70.04 320 *e*P P 04 57 33.0 +0.7

comp=E,16nm,1.3s,mb4.7
Q15A Fillmore 70.07 325 ⇓P **P** **04 57 32.8 +0.4**
baz=70
O17A Robinson Place 70.08 327 ⇑P **P** **04 57 32.9 +0.5**
baz=70,SNR=5.6
SHOC Shoshone 70.13 321 ⇑P **P** **04 57 33.7 +0.9**
baz=70
N18A Larsen Ranch, 70.13 329 ⇑P **P** **04 57 32.9 +0.2**
baz=70
K21A Alcova 70.25 331 ⇑P **P** **04 57 34.0 +0.6**
baz=70,SNR=11
L20A Wamsutter 70.27 330 ⇓P **P** **04 57 33.9 +0.3**
baz=70
R13A O'Grain Ranch, 70.36 324 ⇓P **P** **04 57 35.3 +1.1**
baz=70,SNR=7.0
MPU Maple Canyon 70.41 327 *eP* **P** **04 57 35.0 +0.5**
comp=E,7.4nm,1.0s,mb4.5
EDW2 Edwards Air Fo 70.50 319 ⇑P **P** **04 57 35.0 -0.1**
baz=71
DAU Daniels Canyon 70.51 327 *eP* **P** **04 57 35.7 +0.7**
J22A Midwest 70.52 332 ⇑P **P** **04 57 35.1 +0.1**
baz=71
Q14A Sevier Lake (B 70.55 325 ⇓P **P** **04 57 36.2 +0.9**
baz=71,SNR=11
M18A Lyman 70.67 329 ⇓P **P** **04 57 35.6 -0.3**
baz=71
N17A Moffit Pass 70.69 328 ⇓P **P** **04 57 36.6 +0.5**
baz=71,SNR=14
AGMN Agassiz Nation 70.69 341 *eP* **P** **04 57 36.4 +0.4**
comp=E,15nm,1.0s,mb4.8
AGMN *epP* pP 04 58 05.2 -0.1
LRMC Laurel Mountai 70.70 320 ⇓P **P** **04 57 36.6 +0.3**
baz=71
JLU Jordanelle 70.75 327 *eP* **P** **04 57 36.6 +0.1**
comp=E,74nm,2.4s,mb5.1
JLU *epP* pP 04 58 05.4 -0.6
H24A Dirks Ranch, A 70.76 334 ⇑P **P** **04 57 36.4 -0.1**
baz=71
K20A Yellowstone Ra 70.78 330 ⇓P **P** **04 57 36.7 +0.1**
baz=71
L19A Farson 70.83 329 ⇑P **P** **04 57 37.1 +0.2**
baz=71,SNR=6.3
FURC Furnace Creek, 70.86 321 ⇓P **P** **04 57 38.2 +0.9**
baz=71,SNR=6.3
P14A Drum Mountains 70.87 325 ⇑P **P** **04 57 38.0 +0.8**
baz=71,SNR=14
J21A Lysite 70.90 331 ⇑P **P** **04 57 37.5 +0.2**
baz=71
I22A 9 Mile Ranch, 70.90 332 ⇓P **P** **04 57 37.6 +0.3**
baz=71
N16A Rees Ranch, Co 70.95 327 ⇓P **P** **04 57 38.0 +0.3**
baz=71
MPMC Manual Prospec 70.96 320 ⇓P **P** **04 57 37.8 -0.1**
baz=71
M17A Scullys Gap (B 71.00 328 ⇑P **P** **04 57 37.7 -0.2**
baz=71,SNR=5.6
L18A Fontenelle, Gr 71.03 329 ⇓P **P** **04 57 38.0 -0.1**
baz=71,SNR=8.9
O15A The Old Anders 71.05 326 ⇓P **P** **04 57 38.5 +0.2**
baz=71
K19A Absolon Red Bu 71.14 330 ⇑P **P** **04 57 38.6 -0.2**
baz=71
DUG Dugway 71.17 326 *eP* **P** **04 57 39.3 +0.3**
comp=E,7.5nm,1.1s,mb4.4
DUG *epP* pP 04 58 07.9 -0.6
ARVC Arvin 71.18 319 ⇑P **P** **04 57 40.2 +1.0**
baz=71
I21A Big Trails, Te 71.20 332 ⇑P **P** **04 57 38.8 -0.2**
baz=71,SNR=8.4
J20A Shoshoni 71.20 331 ⇑P **P** **04 57 40.3 +1.2**
baz=71
ISA Isabella 71.31 319 ⇓P **P** **04 57 40.6 +0.6**
baz=71
ISA Isabella 71.31 319 *eP* **P** **04 57 40.6 +0.7**
comp=E,6.1nm,0.9s,mb4.4
M16A Huntsville 71.37 328 ⇑P **P** **04 57 40.8 +0.6**
baz=72
R11A Troy Canyon, C 71.39 323 ⇓P **P** **04 57 41.0 +0.6**
baz=72,SNR=10
BW06 Boulder Array 71.43 330 *eP* **P** **04 57 40.0 -0.5**
comp=E,4.7nm,1.0s,mb4.3
PDAR Pinedale Array 71.43 330 P **P** **04 57 39.8 -0.8**
comp=E,1.2nm,0.6s,mb3.9,baz=127,slow=7.6,SNR=11
PDAR pP pP 04 58 07.5 -2.6
comp=E,1.4nm,0.7s,baz=116,slow=6.8,SNR=3.3
PDAR LR LR 05 30 29.6
comp=E,32nm,19.9s,baz=262,slow=37
PDAR Pinedale Array 71.43 330 P **P** **04 57 39.8 -0.8**
PDAR pP pP 04 58 07.5 -2.6
PDAR LR LR 05 30 29.6
PD01 Pinedale Array 71.45 330 *eP* **P** **04 57 40.3 -0.4**
MDND Maddock 71.50 339 ⇓P **P** **04 57 41.1 +0.3**
baz=72
HWUT Hardware Ranch 71.55 328 *eP* **P** **04 57 40.7 -0.6**
comp=E,5.1nm,0.9s,mb4.3
K18A Toltan Ranch, 71.57 329 ⇓P **P** **04 57 41.8 +0.4**
baz=72
CWC Cottonwood Cre 71.57 320 ⇓P **P** **04 57 41.3 -0.2**
baz=72
J19A Crowheart 71.58 330 ⇓P **P** **04 57 41.7 +0.3**
baz=72
QSPA South Pole Qui 71.62 180 *eP* **P** **04 57 43.3 +2.1**
comp=E,3.4nm,0.8s,mb4.2
QSPA *epP* pP 04 58 10.7 0.0
VES Vestal, Richgr 71.80 319 ⇓P **P** **04 57 42.8 -0.1**
baz=72
M15A Larsen Ranch, 71.89 327 ⇑P **P** **04 57 44.0 +0.6**
baz=72
J18A Kendall Valley 71.99 330 ⇑P **P** **04 57 43.6 -0.3**
baz=72,SNR=13
H20A Greybull 72.04 332 ⇑P **P** **04 57 43.8 -0.4**
baz=72
K17A Gardner Place, 72.08 329 ⇓P **P** **04 57 44.6 +0.2**
baz=72,SNR=5.3
I19A Meeteetse 72.14 331 ⇓P **P** **04 57 44.9 +0.1**
baz=72
L15A Malad City 72.26 328 ⇑P **P** **04 57 45.5 0.0**
baz=72,SNR=12
I18A Diamond G Ranc 72.27 330 ⇓P **P** **04 57 45.9 +0.3**
baz=72,SNR=5.6
HVU Hansel Valley 72.29 327 *eP* **P** **04 57 45.6 -0.1**
comp=E,4.9nm,0.8s,mb4.4
J17A Brown Place, J 72.44 330 ⇓P **P** **04 57 46.2 -0.3**
baz=73
ULM Lac du Bonnet 72.44 342 P **P** **04 57 44.9 -1.5**
comp=E,7.5nm,0.4s,mb4.8,baz=154,slow=6.7,SNR=38
ULM pP pP 04 58 13.8 -2.2
comp=E,8.2nm,0.7s,baz=145,slow=6.2,SNR=4.3
ULM sP sP 04 58 27.6 -1.0
comp=E,8.7nm,0.7s,baz=128,slow=5.7,SNR=4.0
ULM Lac du Bonnet 72.44 342 P **P** **04 57 44.9 -1.5**
ULM pP pP 04 58 13.8 -2.2
ULM sP sP 04 58 27.6 -1.0
K16A Soda Springs 72.47 329 ⇑P **P** **04 57 47.3 +0.5**
baz=73,SNR=8.3
E23A Ismay 72.49 335 ⇓P **P** **04 57 46.7 -0.1**
baz=73
H19A Powell 72.63 331 ⇓P **P** **04 57 47.5 -0.1**
baz=73
E22A Miles City 72.71 334 ⇑P **P** **04 57 47.6 -0.4**
baz=73
G20A Bridger 72.71 332 ⇑P **P** **04 57 47.7 -0.4**
baz=73
L14A Malta 72.72 327 ⇓P **P** **04 57 48.2 0.0**
baz=73,SNR=6.3
RRI2 Red Ridge 72.72 329 *eP* **P** **04 57 48.2 0.0**
comp=E,8.0nm,0.8s,mb4.6
RRI2 *epP* pP 04 58 17.7 -0.1
J16A Bone 72.81 329 ⇓P **P** **04 57 49.0 +0.3**
baz=73
K15A Arbon 72.83 328 ⇑P **P** **04 57 49.1 +0.3**
baz=73
H18A Shoshone NF, C 72.94 331 ⇓P **P** **04 57 49.5 0.0**
baz=73,SNR=6.3
IMW Indian Meadow 72.95 330 *eP* **P** **04 57 49.4 -0.1**
comp=E,47nm,2.3s,mb4.9
FLWY Flagg Ranch 72.97 330 *eP* **P** **04 57 49.8 +0.1**
comp=E,13nm,1.0s,mb4.7
FLWY *epP* pP 04 58 19.5 +0.2
NVAR Mina Array Bea 73.02 322 P **P** **04 57 50.4 +0.3**
comp=E,3.2nm,0.9s,mb4.2,baz=155,slow=6.6,SNR=22
NVAR pP pP 04 58 18.9 -0.8
comp=E,2.6nm,0.9s,baz=143,slow=7.3,SNR=4.3
NVAR sP sP 04 58 31.9 -0.5
comp=E,1.4nm,0.7s,baz=155,slow=7.0,SNR=2.5
NVAR Mina Array Bea 73.02 322 P **P** **04 57 50.4 +0.3**
NVAR pP pP 04 58 18.9 -0.8
NVAR sP sP 04 58 31.9 -0.5

K14A Jones Ranch, D 73.05 328 ⇓P **P** **04 57 49.7 -0.5**
baz=73
RLMT Red Lodge 73.10 332 *eP* **P** **04 57 50.4 0.0**
comp=E,6.4nm,1.0s,mb4.4
SCHQ Schefferville 73.12 1 P **P** **04 57 49.4 -0.9**
comp=E,6.5nm,0.7s,mb4.6,baz=165,slow=11,SNR=7.3
SCHQ Schefferville 73.12 1 P **P** **04 57 49.4 -0.9**
F20A Billings 73.13 333 ⇓P **P** **04 57 50.7 +0.1**
baz=73
H17A Grant Village 73.15 330 ⇑P **P** **04 57 49.4 -1.3**
baz=73
E21A Keefer Ranch, 73.26 334 ⇑P **P** **04 57 51.2 -0.1**
baz=73
J15A Blackfoot 73.31 329 ⇓P **P** **04 57 52.2 +0.5**
baz=73,SNR=5.3
D22A Cohagen 73.37 335 ⇓P **P** **04 57 52.5 +0.6**
baz=74,SNR=6.1
G18A Lazy EL Ranch, 73.39 332 ⇑P **P** **04 57 52.6 +0.5**
baz=74
D21A La Casta Ranch 73.64 334 ⇑P **P** **04 57 54.0 +0.4**
baz=74,SNR=7.7
E20A Meyer Farm, Mu 73.68 333 ⇓P **P** **04 57 53.9 +0.2**
baz=74,SNR=5.5
H16A Russell Place, 73.70 330 ⇓P **P** **04 57 54.6 +0.7**
baz=74,SNR=8.0
C22A Vida 73.74 335 ⇓P **P** **04 57 54.1 +0.1**
baz=74
J14A Carey 73.79 328 ⇑P **P** **04 57 55.0 +0.5**
baz=74,SNR=10
F18A Big Timber 73.91 332 ⇓P **P** **04 57 55.4 +0.3**
baz=74,SNR=8.1
E19A Rath Farm, Rou 73.93 333 ⇓P **P** **04 57 55.2 0.0**
baz=74
G17A Pierce Place, 73.93 331 ⇑P **P** **04 57 56.1 +0.8**
baz=74
B23A Brockton 73.97 336 ⇑P **P** **04 57 56.0 +0.6**
baz=74
A24A Westby 73.97 337 ⇓P **P** **04 57 56.4 +1.0**
baz=74
D20A Manuel Ranch, 74.14 333 ⇑P **P** **04 57 56.8 +0.4**
baz=74
J13A Cove Ranch, Pi 74.18 328 ⇓P **P** **04 57 57.4 +0.6**
baz=74,SNR=5.3
I14A Mackay 74.20 328 ⇓P **P** **04 57 57.7 +0.9**
baz=74,SNR=8.9
B22A Reddig Ranch S 74.23 335 ⇓P **P** **04 57 57.4 +0.5**
baz=74
C21A Desert Coulee 74.29 335 ⇑P **P** **04 57 57.5 +0.2**
baz=74
F17A Fitzpatrick Pl 74.33 331 ⇓P **P** **04 57 58.1 +0.5**
baz=74
G16A Moss Hill, Enn 74.36 330 ⇓P **P** **04 57 58.1 +0.3**
baz=74
HLID Hailey 74.42 328 *eP* **P** **04 57 58.6 +0.5**
comp=E,5.7nm,0.8s,mb4.3
HLID *epP* pP 04 58 27.8 0.0
PAHR Pah Rah Range 74.49 322 *eP* **P** **04 57 58.9 +0.2**
comp=E,12nm,0.8s,mb4.7
PAHR *epP* pP 04 58 27.9 -0.5
E18A Harlowton 74.50 332 ⇓P **P** **04 57 58.9 +0.4**
baz=75
D19A Cripps Ranch, 74.51 333 ⇑P **P** **04 57 58.9 +0.3**
baz=75
I13A Wildhorse Cree 74.52 328 ⇑P **P** **04 57 59.5 +0.8**
baz=75,SNR=10
MCMT McKenzie Canyo 74.56 329 *eP* **P** **04 57 59.6 +0.7**
comp=E,3.1nm,0.9s,mb4.0
MCMT *epP* pP 04 58 28.3 -0.3
C20A Veseth Ranch, 74.57 334 ⇓P **P** **04 57 59.2 +0.3**
baz=75
BOZ Bozeman (W) 74.58 331 P **P** **04 57 57.7 -1.4**
G15A Dillon 74.63 330 ⇓P **P** **04 57 59.7 +0.3**
baz=75
H14A Leadore 74.65 329 ⇓P **P** **04 58 00.1 +0.7**
baz=75,SNR=5.7
F16A Kennard Place, 74.69 331 ⇓P **P** **04 58 00.1 +0.5**
baz=75
A22A Carney Farms, 74.76 336 ⇓P **P** **04 58 00.4 +0.5**
baz=75
E17A Martinsdale 74.84 332 ⇓P **P** **04 58 00.9 +0.4**
baz=75
D18A Linhart Farms, 74.94 333 ⇑P **P** **04 58 01.7 +0.6**
baz=75
I12A Atlanta 74.95 327 ⇑P **P** **04 58 01.9 +0.8**
baz=75,SNR=6.4
C19A Slack Wire Ran 75.03 333 ⇓P **P** **04 58 01.8 +0.3**
baz=75
MFID Camas Ranch 75.04 327 ⇓P **P** **04 58 02.6 +0.9**
baz=75,SNR=6.3
MFID Camas Ranch 75.04 327 *eP* **P** **04 58 02.1 +0.4**
comp=E,9.9nm,1.0s,mb4.5
MFID *epP* pP 04 58 30.8 -0.7
H13A Challis 75.05 328 ⇑P **P** **04 58 02.4 +0.7**
baz=75,SNR=7.0
G14A Jackson 75.16 329 ⇓P **P** **04 58 02.9 +0.6**
baz=75
D17A Six Diamond Ra 75.29 332 ⇓P **P** **04 58 03.5 +0.4**
baz=75
H12A Diamond D Ranc 75.34 328 ⇑P **P** **04 58 04.0 +0.5**
baz=76,SNR=5.6
G13A Cobalt 75.42 329 ⇑P **P** **04 58 04.7 +0.8**
baz=76,SNR=15
A20A Cobblestone Ra 75.46 335 ⇑P **P** **04 58 04.5 +0.4**
baz=76
F14A Wisdom 75.53 330 ⇑P **P** **04 58 05.2 +0.7**
baz=76,SNR=6.0
B19A Brinkman Farms 75.55 334 ⇓P **P** **04 58 04.9 +0.4**
baz=76
D16A Dana Ranch, Ca 75.59 332 ⇑P **P** **04 58 05.4 +0.6**
baz=76,SNR=8.8
E15A Deer Lodge 75.64 331 ⇓P **P** **04 58 05.6 +0.6**
baz=76,SNR=5.8
C17A Wharram Farm, 75.69 332 ⇓P **P** **04 58 05.6 +0.3**
baz=76
F13A Darby 75.97 329 ⇑P **P** **04 58 07.3 +0.3**
baz=76,SNR=10
G12A Big Creek, Yel 75.99 328 ⇓P **P** **04 58 07.5 +0.4**
baz=76
E14A Clinton 76.03 330 ⇓P **P** **04 58 07.9 +0.6**
baz=76,SNR=5.7
D15A Lincoln 76.04 331 ⇓P **P** **04 58 07.9 +0.6**
baz=76
C16A Fuhringer Ranc 76.25 332 ⇑P **P** **04 58 08.7 +0.1**
baz=76
A18A Metzger Ranch, 76.28 334 ⇑P **P** **04 58 08.9 +0.2**
baz=76
E13A Victor 76.38 330 ⇓P **P** **04 58 10.0 +0.7**
baz=76,SNR=8.0
J08A Circle Bar Ran 76.40 325 ⇓P **P** **04 58 09.8 +0.3**
baz=76
D14A Greenough 76.52 331 ⇑P **P** **04 58 10.4 +0.3**
baz=77
C15A Salmond Ranch, 76.62 332 ⇑P **P** **04 58 11.2 +0.6**
baz=77
TORD Torodi Ar. Bea 76.66 71 P **P** **04 58 11.1 -0.4**
comp=E,37nm,0.5s,mb5.4,baz=252,slow=5.0,SNR=563
TORD LR LR 05 32 06.6
comp=E,44nm,19.6s,baz=255,slow=36
TORD Torodi Ar. Bea 76.66 71 P **P** **04 58 11.1 -0.4**
TORD LR LR 05 32 06.5
A17A Triple J Farms 76.67 333 ⇓P **P** **04 58 11.2 +0.4**
baz=77
BMO Blue Mountains 76.80 327 *eP* **P** **04 58 11.5 -0.2**
comp=E,5.3nm,0.8s,mb4.3
BMO *epP* pP 04 58 41.2 -0.4
D13A Huson 76.98 330 ⇓P **P** **04 58 13.2 +0.6**
baz=77
B15A Bradely Ranch, 77.00 332 ⇓P **P** **04 58 12.8 +0.1**
baz=77
E12A Beaver Dam Sad 77.02 329 ⇓P **P** **04 58 13.3 +0.4**
baz=77
A16A West Butte Ran 77.05 333 ⇓P **P** **04 58 13.0 0.0**
baz=77,SNR=7.2
C14A Swan Lake 77.14 331 ⇑P **P** **04 58 13.8 +0.3**
baz=77
K05A Summer Lake 77.32 324 ⇑P **P** **04 58 15.5 +0.9**
baz=77
B14A Marquette Ranc 77.35 332 ⇑P **P** **04 58 15.8 +1.1**
baz=78
D12A Red Ives Fores 77.37 330 ⇓P **P** **04 58 15.5 +0.7**
baz=78
I07A Izee 77.44 325 ⇓P **P** **04 58 15.7 +0.4**
baz=78
C13A Hot Springs 77.45 330 ⇑P **P** **04 58 15.9 +0.6**
baz=78
F10A Beach Ranch, E 77.54 328 ⇑P **P** **04 58 16.2 +0.4**
baz=78
YBH Yreka Blue Hor 77.73 322 P **P** **04 58 15.8 -1.1**
comp=E,2.9nm,1.0s,mb4.0,baz=104,slow=4.2,SNR=3.0
YBH Yreka Blue Hor 77.73 322 P **P** **04 58 15.8 -1.1**
G08A Pilot Rock 77.96 327 ⇑P **P** **04 58 18.7 +0.6**
baz=78
A13A Flathead Natio 78.29 331 ⇑P **P** **04 58 20.3 +0.5**
baz=78
C11A Tepee Creek (N 78.36 330 ⇑P **P** **04 58 20.4 +0.1**
baz=78,SNR=5.7
B12A Libby 78.50 331 ⇑P **P** **04 58 21.8 +0.8**
baz=79
G06A Carlson Farm, 78.81 326 ⇓P **P** **04 58 23.9 +1.1**
baz=79
A12A Yaak River Ran 78.86 331 ⇑P **P** **04 58 23.8 +0.8**
baz=79
HAWA Hanford 78.99 327 *eP* **P** **04 58 24.1 +0.3**
comp=E,81nm,2.1s,mb5.2
D08A Wollman Farm, 79.13 328 ⇓P **P** **04 58 25.5 +1.0**
baz=79
OD2 Odessa Site #2 79.25 328 *eP* **P** **04 58 25.7 +0.5**
C09A Chrisman Ranch 79.31 329 ⇑P **P** **04 58 25.9 +0.4**
baz=79
MORF Marmelete 79.58 45 *eP* **P** **04 58 29.0 +1.8**
comp=E,54nm,1.0s,mb5.3
VNDA Vanda 79.68 190 P **P** **04 58 28.4 +1.2**
comp=E,0.5nm,0.9s,baz=126,slow=6.1,SNR=1.9
VNDA pP pP 04 58 58.1 +0.9
comp=E,1.0nm,0.7s,baz=158,slow=6.4,SNR=5.7
VNDA Vanda 79.68 190 P **P** **04 58 28.4 +1.2**
VNDA pP pP 04 58 58.1 +0.9
PNCL Nicolau / Gran 80.10 44 *eP* **P** **04 58 31.5 +1.5**
comp=E,32nm,2.3s,mb4.7
PCVE Castro Verde 80.17 45 *eP* **P** **04 58 31.5 +1.1**
comp=E,58nm,1.9s,mb5.1
ETW Entiat 80.21 328 *eP* **P** **04 58 30.8 +0.5**
ETW *epP* pP 04 59 00.4 -0.1
B08A Colville Reser 80.21 329 ⇓P **P** **04 58 30.5 +0.1**
baz=80
PVAQ Vaqueiros 80.26 45 *eP* **P** **04 58 32.2 +1.3**
comp=E,47nm,1.7s,mb5.0
PBEJ Beja 80.50 45 *eP* **P** **04 58 33.5 +1.4**
comp=E,30nm,1.6s,mb4.9
EVOP Sao Brissos 80.59 44 *eP* **P** **04 58 31.8 -0.8**
comp=E,20nm,0.7s,mb5.1
EVOP *epP* pP 04 59 06.8 +4.1
EVO Evora 80.67 44 *eP* **P** **04 58 31.8 -1.2**
comp=E,20nm,0.7s,mb4.7
EVO *epP* pP 04 59 06.8 +3.6
EVO Evora 80.67 44 *eP* **P** **04 58 34.0 +1.0**
comp=E,37nm,1.7s,mb4.9
PMTG Montargil 80.82 44 *eP* **P** **04 58 34.6 +0.8**
comp=E,50nm,2.1s,mb5.0
PTOM Tomar 81.00 43 *eP* **P** **04 58 35.5 +0.8**
comp=E,66nm,1.6s,mb5.2
PBAR Barrancos 81.13 45 *eP* **P** **04 58 34.6 -0.9**
comp=E,22nm,1.7s,mb4.7
PESTR Estremoz 81.13 44 *eP* **P** **04 58 36.3 +0.8**
comp=E,33nm,2.0s,mb4.8
TSUM Tsumeb 81.17 107 *eP* **P** **04 58 37.4 +1.2**
comp=E,4.7nm,0.6s,mb4.5
TSUM *epP* pP 04 59 11.6 +5.3
B06A Marblemount 81.39 328 ⇓P **P** **04 58 36.6 0.0**
baz=82
PMRV Marv??o 81.56 44 *eP* **P** **04 58 37.3 -0.4**
comp=E,30nm,1.4s,mb4.9
PTO Porto 81.71 42 *eP* **P** **04 58 39.2 +0.7**
comp=E,47nm,1.8s,mb5.0
PCBR Castelo Branco 81.72 43 *eP* **P** **04 58 39.1 +0.5**
comp=E,34nm,1.6s,mb4.9
MTE Manteigas 81.98 43 *eP* **P** **04 58 40.5 +0.6**
comp=E,46nm,2.1s,mb4.9
A05A Maple Falls 82.01 328 ⇓P **P** **04 58 40.0 +0.2**
baz=82
PVRL Vila Real 82.34 42 *eP* **P** **04 58 42.6 +0.8**
comp=E,50nm,1.6s,mb5.1
PGAV Gavieira, Arco 82.37 41 *eP* **P** **04 58 42.5 +0.6**
comp=E,47nm,1.6s,mb5.1
PCAB Cabril 82.38 41 *eP* **P** **04 58 42.3 +0.3**
comp=E,32nm,0.9s,mb5.2
MVO Moncorvo 82.72 42 *eP* **P** **04 58 43.7 0.0**
comp=E,30nm,1.9s,mb4.8
PBRG Braganca 83.24 42 *eP* **P** **04 58 47.3 +0.9**
comp=E,37nm,1.8s,mb4.9
PAB San Pablo 83.63 45 *eP* **P** **04 58 49.5 +1.0**
comp=E,36nm,0.9s,mb5.2
TAM Tamanrasset 83.77 64 *eP* **P** **04 58 50.7 +1.1**
comp=E,8.5nm,1.0s,mb4.5
ESDC Sonseca Array 83.95 45 P **P** **04 58 51.0 +0.9**
comp=E,15nm,0.7s,mb4.9,baz=254,slow=5.2,SNR=78
ESDC Sonseca Array 83.95 45 P **P** **04 58 51.0 +0.9**
ESLA Sonseca Array 83.95 45 *eP* **P** **04 58 50.9 +0.8**
comp=E,8.9nm,1.0s,mb4.5
RAR Rarotonga 83.96 250 P **P** **04 58 50.9 +0.3**
comp=E,8.7nm,0.8s,mb4.6,baz=2.5,slow=3.7,SNR=3.0
RAR Rarotonga 83.96 250 P **P** **04 58 50.9 +0.3**
BOSA Boshof 85.08 118 P **P** **04 58 56.9 +0.7**
comp=E,2.5nm,0.5s,mb4.4,baz=194,slow=2.4,SNR=13
BOSA LR LR 05 33 44.9
comp=E,68nm,18.8s,baz=346,slow=33
BOSA Boshof 85.08 118 P **P** **04 58 56.9 +0.7**
BOSA LR LR 05 33 44.9
MAW Mawson 87.22 163 P **P** **04 59 07.2 +1.4**
comp=E,3.3nm,0.7s,mb4.4,baz=215,slow=4.9,SNR=11
MAW Mawson 87.22 163 P **P** **04 59 07.2 +1.4**
SJPF Ste Jean 87.43 43 *eP* **P** **04 59 07.0 -0.2**
comp=E,24nm,0.8s,mb4.9
SJPF Ste Jean 87.43 43 *eP* **P** **04 59 07.0 -0.2**
comp=E,12nm,0.8s,mb4.9
ETSF Etsaut 87.76 43 *eP* **P** **04 59 08.4 -0.4**
comp=E,12nm,0.8s,mb4.7
ETSF Etsaut 87.76 43 *eP* **P** **04 59 08.4 -0.4**
comp=E,6.2nm,0.8s,mb4.7
YKA Yellowknife Ar 88.33 341 P **P** **04 59 10.5 -0.4**
comp=E,3.8nm,0.6s,mb4.6,baz=133,slow=4.6,SNR=16
YKA pP pP 04 59 39.9 -1.7
comp=E,11nm,0.6s,baz=134,slow=4.8,SNR=9.1
YKA sP sP 04 59 51.7 -2.4
comp=E,8.3nm,0.9s,baz=135,slow=4.7,SNR=3.1
YKA Yellowknife Ar 88.33 341 P **P** **04 59 10.6 -0.4**
YKA pP pP 04 59 39.9 -1.7
YKA sP sP 04 59 51.7 -2.4
EPF Esparros 88.40 43 *eP* **P** **04 59 11.3 -0.5**
EPF Esparros 88.40 43 *eP* **P** **04 59 11.3 -0.5**
QUIF Quistinic 88.57 38 *eP* **P** **04 59 11.5 -1.0**
comp=E,55nm,0.9s,mb5.3
QUIF Quistinic 88.57 38 *eP* **P** **04 59 11.5 -1.0**
comp=E,28nm,0.9s,mb5.3
ROSF Rostrenen 88.72 38 *eP* **P** **04 59 12.3 -0.8**
comp=E,40nm,0.6s,mb5.3
ROSF Rostrenen 88.72 38 *eP* **P** **04 59 12.3 -0.8**
comp=E,20nm,0.6s,mb5.3
SGMF Saint Gilles 89.09 38 *eP* **P** **04 59 13.9 -1.0**
SGMF Saint Gilles 89.09 38 *eP* **P** **04 59 13.9 -1.0**
LFF La Frestale 89.53 42 *eP* **P** **04 59 16.7 -0.3**
comp=E,46nm,0.8s,mb5.4
LFF *epP* pP 04 59 50.1 +2.4
LFF La Frestale 89.53 42 *eP* **P** **04 59 16.7 -0.3**
comp=E,23nm,0.8s,mb5.4
LFF *epP* pP 04 59 50.1 +2.4
MFF Saint Martin d 89.74 40 *eP* **P** **04 59 16.7 -1.3**
MFF Saint Martin d 89.74 40 *eP* **P** **04 59 16.7 -1.3**
MTLF Montolieu 89.77 44 *eP* **P** **04 59 17.6 -0.6**
MTLF Montolieu 89.77 44 *eP* **P** **04 59 17.6 -0.6**
GRR Gorron 90.15 38 *eP* **P** **04 59 18.9 -1.0**
comp=E,30nm,0.7s,mb5.2
GRR *epP* pP 04 59 52.3 +1.8
GRR Gorron 90.15 38 *eP* **P** **04 59 18.9 -1.0**
comp=E,15nm,0.7s,mb5.2
GRR *epP* pP 04 59 52.3 +1.8
RJF Les Rejaudoux 90.19 42 *eP* **P** **04 59 19.6 -0.5**
comp=E,15nm,0.9s,mb4.8
RJF Les Rejaudoux 90.19 42 *eP* **P** **04 59 19.6 -0.5**
comp=E,7.4nm,0.9s,mb4.8
CAF Calviac 90.36 42 *eP* **P** **04 59 20.5 -0.4**
comp=E,25nm,1.0s,mb5.0
CAF Calviac 90.36 42 *eP* **P** **04 59 20.5 -0.4**
comp=E,13nm,1.0s,mb5.0
FLN La Foliniere 90.55 38 *eP* **P** **04 59 20.9 -0.8**
comp=E,75nm,1.3s,mb5.4
FLN La Foliniere 90.55 38 *eP* **P** **04 59 20.9 -0.8**
comp=E,37nm,1.3s,mb5.4
LDF La Druitiere 90.68 38 *eP* **P** **04 59 21.3 -1.0**
comp=E,12nm,0.8s,mb4.8
LDF *epP* pP 04 59 54.8 +1.8
LDF La Druitiere 90.68 38 *eP* **P** **04 59 21.3 -1.0**
comp=E,6.1nm,0.8s,mb4.8
LDF *epP* pP 04 59 54.8 +1.8
TCF Toulx Ste Croi 91.05 41 *eP* **P** **04 59 22.6 -1.5**

comp=E,29nm,1.2s,mb5.0
TCF Toulx Ste Croi 91.05 41 *e*P **P 04 59 22.6 -1.5**
comp=E,14nm,1.3s,mb4.9
LASF Ste Croix 91.16 44 *e*P **P 04 59 23.4 -1.3**
LASF Ste Croix 91.16 44 *e*P **P 04 59 23.4 -1.3**
BGF Bois d'Agland 91.57 41 *e*P **P 04 59 25.7 -0.8**
BGF Bois d'Agland 91.57 41 *e*P **P 04 59 25.7 -0.8**
KEST Kesra 91.77 53 P **P 04 59 27.8 +0.1**
comp=E,1.1nm,0.7s,mb4.2,baz=260,slow=3.1,SNR=6.5
KEST Kesra 91.77 53 P **P 04 59 27.8 +0.1**
AVF Avril sur Loir 91.98 41 *e*P **P 04 59 27.4 -1.0**
AVF Avril sur Loir 91.98 41 *e*P **P 04 59 27.4 -1.0**
SMF Signal de Mont 92.23 41 *e*P **P 04 59 28.8 -0.7**
SMF Signal de Mont 92.23 41 *e*P **P 04 59 28.8 -0.7**
LOR Lormes 92.50 41 *e*P **P 04 59 29.4 -1.4**
LOR Lormes 92.50 41 *e*P **P 04 59 29.4 -1.4**
ORIF Oris-en-Rattie 92.83 43 *e*P **P 04 59 31.5 -0.8**
ORIF Oris-en-Rattie 92.83 43 *e*P **P 04 59 31.5 -0.8**
SUMG Summit 93.22 9 *e*P **P 04 59 33.7 +0.2**
comp=E,594nm,3.0s
SUMG Summit 93.22 9 *i* P **P 04 59 33.5 0.0**
comp=E,9.9nm,0.9s,mb5.1
SUMG *i* pP 05 00 03.7 -0.5
SFTF Sexfontaines 93.61 40 *e*P **P 04 59 34.3 -1.6**
SFTF Sexfontaines 93.61 40 *e*P **P 04 59 34.3 -1.6**
CABF La Chapelle 93.63 42 *e*P **P 04 59 36.2 +0.2**
comp=E,94nm,1.5s,mb5.6
CABF La Chapelle 93.63 42 *e*P **P 04 59 36.2 +0.2**
comp=E,47nm,1.5s,mb5.6
MEZF Maizieres J'vi 93.74 40 *e*P **P 04 59 35.6 -0.8**
MEZF Maizieres J'vi 93.74 40 *e*P **P 04 59 35.6 -0.8**
GIVF Givet 94.25 38 *e*P **P 04 59 38.0 -0.7**
GIVF Givet 94.25 38 *e*P **P 04 59 38.0 -0.7**
HAU Haudompre 94.34 41 *e*P **P 04 59 38.3 -0.9**
comp=E,9.5nm,0.9s,mb4.8
HAU Haudompre 94.34 41 *e*P **P 04 59 38.3 -0.9**
comp=E,4.8nm,0.9s,mb4.8
HINF Hinteralfeld 94.58 41 *e*P **P 04 59 39.2 -1.1**
HINF Hinteralfeld 94.58 41 *e*P **P 04 59 39.2 -1.1**
CDF Champ du Feu 95.06 41 *e*P **P 04 59 41.7 -0.8**
comp=E,13nm,1.1s,mb5.0
CDF Champ du Feu 95.06 41 *e*P **P 04 59 41.7 -0.8**
comp=E,6.7nm,1.1s,mb5.0
GERES GERESS Array B 99.22 42 P **P 05 00 01.0 -0.3**
comp=E,0.5nm,0.6s,mb4.2,baz=224,slow=3.7,SNR=5.4
GERES GERESS Array B 99.22 42 P **P 05 00 01.0 -0.3**
ABKAR Akbulak array 129.16 41 *e*PKPdf PKPdf 05 05 28.1 +0.9
ASAR Alice Springs 132.35 209 PKP PKPdf 05 05 35.9 +1.7
comp=E,0.5nm,0.5s,baz=125,slow=1.6,SNR=5.4
ASAR pPKP pPKPdf 05 06 04.3 -1.8
comp=E,1.3nm,0.7s,baz=128,slow=1.6,SNR=5.5
ASAR SKPbc SKPbc 05 08 50.1 0.0
comp=E,1.8nm,0.9s,baz=165,slow=4.3,SNR=8.5
ASAR Alice Springs 132.35 209 PKP PKPdf 05 05 35.9 +1.7
ASAR pPKP pPKPdf 05 06 04.3 -1.8
ASAR SKPbc SKPbc 05 08 50.1 0.0
WRA Warramunga Arr 135.30 212 PKP PKPdf 05 05 39.4 -0.4
comp=E,0.6nm,0.6s,baz=146,slow=1.6,SNR=4.6
WRA pPKP pPKPdf 05 06 10.9 -0.9
comp=E,1.6nm,0.6s,baz=153,slow=1.5,SNR=6.3
WRA SKPbc SKPbc 05 08 59.2 -0.8
comp=E,1.3nm,1.1s,baz=208,slow=2.0,SNR=5.1
WRA Warramunga Arr 135.30 212 PKP PKPdf 05 05 39.4 -0.4
WRA pPKP pPKPdf 05 06 10.9 -0.9
WRA SKPbc SKPbc 05 08 59.2 -0.8
KURK Kurchatov 139.00 31 *e*PKPdf PKPdf 05 05 46.7 +1.1
ZAA0 Zalesovo Array 139.41 23 *e*PKPdf PKPdf 05 05 46.6 +0.4
ZALV Zalesovo Beam 139.41 23 PKhKP PKPpre 05 05 39.8
comp=E,0.7nm,0.4s,baz=292,slow=1.8,SNR=4.5
ZALV PKP PKPdf 05 05 46.8 +0.6
comp=E,7.6nm,0.6s,baz=293,slow=2.0,SNR=24
ZALV pPKP pPKPdf 05 06 19.0 +0.7
comp=E,2.3nm,0.5s,baz=286,slow=2.3,SNR=2.8
ZALV SKPbc SKPbc 05 09 11.8 +1.0
comp=E,2.4nm,0.8s,baz=316,slow=4.1,SNR=5.5
ZALV Zalesovo Beam 139.41 23 PKP PKPpre 05 05 39.8
ZALV PKP PKPdf 05 05 46.8 +0.6
ZALV pPKP pPKPdf 05 06 19.0 +0.7
ZALV SKPbc SKPbc 05 09 11.8 +1.0
MK31 Makanchi Array 143.39 33 *e*PKPdf PKPdf 05 05 52.9 -0.7
MKAR Makanchi Array 143.39 33 PKhKP PKPpre 05 05 50.2
comp=E,0.8nm,0.4s,baz=304,slow=3.8,SNR=7.7
MKAR SKP 05 09 20.0
comp=E,0.3nm,0.3s,baz=316,slow=3.3,SNR=3.6
MKAR Makanchi Array 143.39 33 PKP PKPpre 05 05 50.2
MKAR SKP 05 09 20.0
KSH Kashi 143.42 48 *e*PKP PKPdf 05 05 51.3 -2.6
KSH sPKP 05 06 28.7
KSH PKS 05 09 26.2
KSH SKS SKSdf 05 12 51.1 -1.6
KSH AMB AMB
comp=Z,92nm,5.2s
KSH LR LR
comp=N,29nm,3.3s
KSH LR LR
comp=E,53nm,4.3s
KSH LR LR
comp=Z,86nm,5.1s
POO Poona 145.02 84 *e*PKP PKPbc 05 05 54.0 -2.9
WMQ Urumqi 148.21 33 PKPbc PKPdf 05 06 01.4 -0.5
HYB Hyderabad 149.34 87 *i* PKP PKPdf 05 06 09.5 +5.0
HYB *e* 05 06 14.5
HYB *e* 05 06 23.5
HYB *e*pPKP pPKPdf 05 06 43.0 +6.4
MJAR Matsushiro Arr 149.96 312 PKP PKPdf 05 06 02.9 -2.1
comp=Z,0.8nm,0.5s,baz=62,slow=1.7,SNR=2.9
MJAR PKPbc PKPbc 05 06 10.2 +0.2
comp=Z,3.2nm,0.6s,baz=105,slow=1.2,SNR=4.2
MJAR pPKPbc pPKPbc 05 06 40.8 -1.0
comp=Z,3.9nm,0.7s,baz=74,slow=2.1,SNR=2.4
MJAR Matsushiro Arr 149.96 312 PKP PKPdf 05 06 02.9 -2.1
MJAR PKPbc PKPbc 05 06 10.2 +0.2
MJAR pPKPbc pPKPbc 05 06 40.8 -1.0
SONM Songino Array 150.58 6 PKP PKPdf 05 06 05.1 -0.5
comp=Z,0.8nm,0.8s,baz=343,slow=3.5,SNR=4.3
SONM PKPbc PKPbc 05 06 11.7 +0.6
comp=Z,5.1nm,0.8s,baz=4.1,slow=2.1,SNR=9.8
SONM pPKPbc pPKPbc 05 06 43.3 +0.4
comp=Z,6.1nm,0.7s,baz=319,slow=1.5,SNR=5.6
SONM Songino Array 150.58 6 PKP PKPdf 05 06 05.1 -0.5
SONM PKPbc PKPbc 05 06 11.7 +0.6
SONM pPKPbc pPKPbc 05 06 43.3 +0.4
CN2 Changchun 151.97 337 *e*PKPbc PKPdf 05 06 09.5 +1.7
KAPI Kappang 154.96 202 PKPab PKPab 05 06 37.9 +0.4
comp=Z,8.2nm,0.6s,baz=260,slow=6.1,SNR=6.1
KAPI Kappang 154.96 202 PKPab PKPab 05 06 37.9 +0.4
HHC Hu-ho-hao-te 157.78 358 *e*PKP PKPdf 05 06 17.2 +1.3
HHC pPKP pPKPdf 05 06 44.4 -3.6
HHC sPKP 05 06 56.3
HHC PKS 05 09 51.1
HHC PP PP 05 10 34.0 +6.5
HHC SKS SKSdf 05 13 12.1 +1.2
HHC SKKS SKKSac 05 17 08.8 +2.4
HHC AMB AMB
comp=Z,73nm,6.5s
HHC LR LR
comp=N,180nm,17.8s
HHC LR LR
comp=E,390nm,22.6s
HHC LR LR
comp=Z,91nm,12.5s
IPM Ipoh 163.06 145 *e*PKPbc pPKPdf 05 06 42.7 -12
CD2 Chengdu 166.15 26 PKP PKPdf 05 06 26.6 +1.9
CD2 pPKP pPKPdf 05 06 53.5 -3.4
CD2 PKPab PKPab 05 07 29.3 +3.5
CD2 PKS 05 09 57.9
CD2 PP PP 05 11 17.4 +4.8
CD2 SKS SKSdf 05 13 19.0 +0.9
CD2 AMB AMB
comp=Z,210nm,6.5s
CD2 LR LR
comp=N,170nm,5.9s
CD2 LR LR
comp=Z,180nm,6.5s
CMAR Chiang Mai Arr 168.76 89 PKP PKPdf 05 06 28.1 +1.2
comp=Z,0.6nm,0.3s,baz=209,slow=1.5,SNR=4.4
CMAR PKPab PKPab 05 07 38.6 +0.6
comp=Z,1.4nm,0.4s,baz=279,slow=6.2,SNR=11
CMAR Chiang Mai Arr 168.76 89 PKP PKPdf 05 06 28.1 +1.2
CMAR PKPab PKPab 05 07 38.6 +0.6
KMI Kunming 170.08 47 PKP PKPdf 05 06 25.1 -2.4
GYA Guiyang 171.27 25 *e*PKP PKPdf 05 06 26.0 -2.1
GYA pPKP pPKPdf 05 06 50.8 -10
GYA sPKP 05 07 12.0
GYA PKPab PKPab 05 07 48.3 -0.2
GYA PKS 05 09 57.5
GYA PP PP 05 11 40.0 +1.6
GYA AMB AMB
comp=Z,90nm,8.2s

IDC 03 04:59:33.8±8.3, 7°.03S×150°.00E, h52km±62km, mb3.4/4, mb1 3.7/6, mb1mx3.5/18, mbtmp3.5/6, ML2.8/1, MS3.9/1, Ms1 3.9/1, ms1mx2.8/19, Error ellipse: s-maj=51.8km s-min=42.8km az=46.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.67**	**230**	P	Pn	05 00 28.0	-0.1
	6.6nm,0.3s,baz=31,slow=10.0,SNR=13						
PMG				S	Sn	05 01 11.2	+1.0
	27nm,0.3s,baz=122,slow=15,SNR=15						
WRA	**Warramunga Arr**	**19.89**	**228**	P	Pn	05 04 00.4	-2.6
	0.3nm,0.3s,baz=53,slow=11,SNR=20						
ASAR	**Alice Springs**	**22.64**	**221**	P	P	05 04 30.2	-0.3
	0.5nm,0.5s,baz=54,slow=9.9,SNR=4.9						
STKA	**Stephens Creek**	**25.94**	**197**	P	P	05 05 01.6	+0.3
	1.1nm,0.4s,baz=33,slow=13,SNR=5.3						
FITZ	**Fitzroy Crossi**	**26.16**	**243**	P	P	05 05 03.4	-0.1
	0.8nm,0.5s,baz=43,slow=8.3,SNR=4.3						
RAR	**Rarotonga**	**50.49**	**112**	LR	LR	05 24 01.7	
	comp=Z,113nm,20.6s,baz=224,slow=29						
VNDA	**Vanda**	**70.73**	**177**	P	P	05 10 43.8	-0.2
	0.4nm,0.4s,baz=280,slow=11,SNR=6.0						
TORD	**Torodi Ar. Bea**	**148.23**	**284**	PKPbc	PKPbc	05 19 15.1	-0.1
	0.8nm,0.6s,baz=85,slow=2.6,SNR=14						

*CSEM **03** 05:02:02.5±0.2, 38°.26N×22°.35E, h30km, ML1.7/8, Error ellipse: s-maj=6.5km s-min=5.1km az=60.0*
*ISCJB **03** 05:02:03.2±0.4, 38°.28N±0°.03×22°.36E±0°.03, h20km±4km, Error ellipse: s-maj=4.9km s-min=3.8km az=139.8*
*ATH **03** 05:02:03.5, 38°.27N×22°.33E, h20km×4km, MD2.7/7*
*THE **03** 05:02:03.7, 38°.30N×22°.37E, h11km±2km, ML1.7/8, Error ellipse: s-maj=2.0km s-min=0.4km az=265.0*

ISC 03 05:02:03.3±0.4, 38°.30N±0°.03×22°.36E±0°.03, h17km±3km, n30, σ0°.75/59, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DSF	**Desfina**	**0.17**	**49**	P	**Pg**	**05 02 07.4**	**-0.4**
DSF				S	**Sg**	**05 02 10.1**	**-0.7**
DSF	**Desfina**	**0.17**	**49**	P	**Pg**	**05 02 07.4**	**-0.4**
KALE	**Kalithea**	**0.20**	**299**	P	**Pg**	**05 02 08.0**	**-0.1**
KALE				S	**Sg**	**05 02 11.1**	**-0.2**
KALE	**Kalithea**	**0.20**	**299**	P	**Pg**	**05 02 08.0**	**-0.1**
GUR	**Goura**	**0.36**	**182**	*e*PB	**Pg**	**05 02 10.5**	**-0.3**
GUR				*e*SB	**Sg**	**05 02 15.5**	**-0.3**
GUR	**Goura**	**0.36**	**182**	P	**Pg**	**05 02 10.5**	**-0.3**
GUR				S	**Sg**	**05 02 16.1**	**+0.3**
GUR	**Goura**	**0.36**	**182**	P	**Pg**	**05 02 10.5**	**-0.3**
GUR				*e*Sb	**Sg**	**05 02 15.5**	**-0.3**
GUR				S	**Sg**	**05 02 16.1**	**+0.3**
EFP	**Efpalio**	**0.38**	**290**	*e*PB	**Pg**	**05 02 11.0**	**-0.1**
EFP				*e*SB	**Sg**	**05 02 17.3**	**+0.9**
EFP	**Efpalio**	**0.38**	**290**	P	**Pg**	**05 02 11.0**	**-0.1**
EFP				S	**Sg**	**05 02 17.5**	**+1.1**
EFP	**Efpalio**	**0.38**	**290**	P	**Pg**	**05 02 11.0**	**-0.1**
EFP				*e*Sb	**Sg**	**05 02 17.3**	**+0.9**
LTK	**Loutraki**	**0.55**	**119**	*e*PN	**Pg**	**05 02 14.5**	**+0.2**
LTK				*e*SN	**Sg**	**05 02 22.8**	**+1.1**
LTK	**Loutraki**	**0.55**	**119**	P	**Pg**	**05 02 14.2**	**-0.1**
LTK				S	**Sg**	**05 02 22.4**	**+0.7**
LTK	**Loutraki**	**0.55**	**119**	P	**Pg**	**05 02 14.2**	**-0.1**
LTK	**Loutraki**	**0.55**	**119**	*e*Pn	**Pg**	**05 02 14.5**	**+0.2**
LTK				S	**Sg**	**05 02 22.4**	**+0.7**
LTK				*e*Sn	**Sg**	**05 02 22.8**	**+1.1**
LKR	**Lokris**	**0.61**	**55**	*e*PB	**Pb**	**05 02 14.9**	**-0.7**
LKR				*e*SN	**Sg**	**05 02 26.1**	**+2.4**
LKR	**Lokris**	**0.61**	**55**	P	**Pg**	**05 02 14.8**	**-0.6**
LKR				S	**Sg**	**05 02 24.2**	**+0.5**
LKR	**Lokris**	**0.61**	**55**	P	**Pg**	**05 02 14.8**	**-0.6**
LKR				S	**Sg**	**05 02 24.2**	**+0.5**
LKR				*e*Sn	**Sg**	**05 02 26.1**	**+2.4**
ATAL	**Atalanti**	**0.65**	**53**	P	**Pg**	**05 02 15.7**	**-0.5**
ATAL				S	**Sg**	**05 02 25.1**	**+0.2**
ATAL	**Atalanti**	**0.65**	**53**	P	**Pg**	**05 02 15.7**	**-0.5**
ATAL				S	**Sg**	**05 02 25.1**	**+0.2**
AGG	**Agios Georgios**	**0.72**	**358**	*e*PB	**Pb**	**05 02 17.0**	**-0.5**
AGG				*e*SN	**Sn**	**05 02 28.0**	**-1.4**
AGG	**Agios Georgios**	**0.72**	**358**	P	**Pb**	**05 02 17.1**	**-0.4**
AGG				S	**Sb**	**05 02 28.4**	**+1.3**
AGG	**Agios Georgios**	**0.72**	**358**	P	**Pb**	**05 02 17.1**	**-0.4**
AGG				*e*Sn	**Sn**	**05 02 28.0**	**-1.4**
AGG				S	**Sb**	**05 02 28.4**	**+1.3**
EVR	**Evrytania**	**0.75**	**325**	*e*PN	**Pn**	**05 02 18.6**	**-0.5**
EVR				*e*SN	**Sn**	**05 02 29.9**	**-0.3**
EVR	**Evrytania**	**0.75**	**325**	P	**Pb**	**05 02 17.9**	**-0.1**
EVR				S	**Sb**	**05 02 29.4**	**+1.5**
EVR	**Evrytania**	**0.75**	**325**	P	**Pb**	**05 02 17.9**	**-0.1**
EVR	**Evrytania**	**0.75**	**325**	*e*Pn	**Pn**	**05 02 18.6**	**-0.5**
EVR				S	**Sb**	**05 02 29.4**	**+1.5**
EVR				*e*Sn	**Sn**	**05 02 29.9**	**-0.3**
VLX	**Vlachokerasia**	**0.93**	**179**	*e*PN	**Pn**	**05 02 20.6**	**-0.9**
VLX	**Vlachokerasia**	**0.93**	**179**	*e*Pn	**Pn**	**05 02 20.6**	**-0.9**
DID	**Didima**	**1.05**	**138**	*e*PN	**Pn**	**05 02 23.9**	**+0.7**
DID				*e*SN	**Sn**	**05 02 38.0**	**+0.5**
DID	**Didima**	**1.05**	**138**	*e*Pn	**Pn**	**05 02 23.9**	**+0.7**
DID				*e*Sn	**Sn**	**05 02 38.0**	**+0.5**

*IDC **03** 05:19:37.8±1.1, 5°.30S×150°.49E, h0km, mb3.9/6, mb1 4.2/7, mb1mx3.9/18, mbtmp3.9/7, MS3.1/1, Ms1 3.1/1, ms1mx2.5/26, Error ellipse: s-maj=69.7km s-min=20.4km az=126.0*
*ISCJB **03** 05:19:41.3±0.9, 5°.3S±0°.2×150°.3E±0°.2, h33km, mb3.8/7, Error ellipse: s-maj=38.7km s-min=11.3km az=38.2*
*NEIC **03** 05:19:43.1±0.7, 5°.31S×150°.36E, h35km, mb4.1/1, Error ellipse: s-maj=34.9km s-min=11.9km az=130.0*

ISC 03 05:19:40.6±6.2, 5°.2S±0°.2×150°.3E±0°.2, h18km±39km, n21, σ0°.88/20, mb3.8/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.20**	**217**	Pn	**Pn**	**05 20 57.2**	**-0.4**
	0.6nm,0.3s,baz=45,slow=16,SNR=2.5						
PMG				Sn	**Sn**	**05 21 55.8**	**-1.4**
	2.1nm,0.3s,baz=94,slow=19,SNR=4.4						
PMG	**Port Moresby**	**5.20**	**217**	Pn	**Pn**	**05 20 57.2**	**-0.4**
PMG				Pn	**Pn**	**05 20 57.4**	**-0.2**
PMG				Sn	**Sn**	**05 21 55.8**	**-1.4**
PMG				*e*Sn	**Sn**	**05 21 59.8**	**+2.5**
CTA	**Charters Tower**	**15.29**	**195**	LR	LR	05 28 30.2	
	comp=Z,71nm,20.6s,baz=52,slow=35						
KAKA	**Kakadu**	**19.15**	**246**	P	**Pn**	**05 24 03.7**	**-0.4**
WRAB	**Tennant Creek**	**21.33**	**225**	*e*P	**P**	**05 24 27.0**	**+0.2**
	9.2nm,1.1s,mb4.0						
WRA	**Warramunga Arr**	**21.35**	**225**	P	**P**	**05 24 27.0**	**0.0**
	3.9nm,0.8s,mb3.8,baz=53,slow=11,SNR=28						
WRA	**Warramunga Arr**	**21.35**	**225**	P	**P**	**05 24 27.0**	**0.0**
ASAR	**Alice Springs**	**24.21**	**219**	P	**P**	**05 24 55.4**	**-1.0**
	4.0nm,0.7s,mb4.0,baz=54,slow=9.2,SNR=39						
ASAR	**Alice Springs**	**24.21**	**219**	P	**P**	**05 24 55.4**	**-1.0**
FITZ	**Fitzroy Crossi**	**27.29**	**240**	P	**P**	**05 25 26.1**	**+1.7**
	0.5nm,0.3s,mb3.5,baz=61,slow=14,SNR=3.8						
FITZ	**Fitzroy Crossi**	**27.29**	**240**	P	**P**	**05 25 26.1**	**+1.7**
STKA	**Stephens Creek**	**27.75**	**196**	P	**P**	**05 25 29.2**	**+0.9**
	1.9nm,0.9s,mb3.7,baz=356,slow=14,SNR=3.8						
STKA	**Stephens Creek**	**27.75**	**196**	P	**P**	**05 25 29.2**	**+0.9**
ILAR	**Eielson Array**	**83.49**	**23**	P	**P**	**05 32 06.6**	**-0.4**
	0.7nm,0.8s,mb3.8,baz=246,slow=5.4,SNR=17						
ILAR	**Eielson Array**	**83.49**	**23**	P	**P**	**05 32 06.6**	**-0.4**
NVAR	**Mina Array Bea**	**94.29**	**52**	P	**P**	**05 32 59.1**	**-0.2**
	0.1nm,0.5s,mb3.5,baz=243,slow=6.0,SNR=2.8						
NVAR	**Mina Array Bea**	**94.29**	**52**	P	**P**	**05 32 59.1**	**-0.2**
GERES	**GERESS Array B**	**123.09**	**327**	PKP	PKPdf	05 38 37.0	+0.8
	0.1nm,0.2s,baz=72,slow=4.3,SNR=3.7						
GERES	**GERESS Array B**	**123.09**	**327**	PKP	PKPdf	05 38 37.0	+0.8
TORD	**Torodi Ar. Bea**	**148.06**	**286**	PKPbc	PKPbc	05 39 27.2	+1.0
	0.9nm,0.6s,baz=68,slow=2.9,SNR=11						
TORD	**Torodi Ar. Bea**	**148.06**	**286**	PKPbc	PKPbc	05 39 27.2	+0.9

WEL 03 05:27:51.4±0.2, 36°.97S×177°.63E, h33km, ML3.6/4, Error ellipse: s-maj=1.7km s-min=1.4km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.66**	**212**	P*	Pb	05 28 03.2	-1.3
WIZ				S*	Sb	05 28 12.3	-1.1
MXZ	**Matakaoa Point**	**0.80**	**138**	P*	Pb	05 28 05.6	-1.4
MXZ				S*	Sb	05 28 16.5	-1.0
URZ	**Urewera**	**1.35**	**198**	P*	Pb	05 28 13.6	-2.5
MWZ	**Matawai**	**1.36**	**183**	P*	Pb	05 28 13.8	-2.5
MWZ				S*	Sb	05 28 30.3	-3.1
KUZ	**Kuaotunu**	**1.55**	**278**	PN	Pn	05 28 16.3	-0.4
KUZ				SN	Sn	05 28 33.4	-2.1
TOZ	**Tahuroa Road**	**1.86**	**245**	P*	Pb	05 28 20.9	-3.7
MKAZ	**Moumakai**	**1.97**	**265**	PN	Pn	05 28 22.7	+0.2
KNZ	**Kokohu**	**2.05**	**179**	PN	Pn	05 28 24.9	+1.4
NMHZ	**Naumai**	**2.22**	**197**	PN	Pn	05 28 27.1	+1.2
ABAZ	**Army Bay**	**2.27**	**279**	PN	Pn	05 28 27.8	+1.2
MCHZ	**McNeill Hill**	**2.58**	**196**	PN	Pn	05 28 32.7	+2.0
BHHZ	**Black Hill Sta**	**2.80**	**206**	P*	Pb	05 28 35.2	-5.5
FWVZ	**Far West T-bar**	**2.81**	**215**	P*	Pb	05 28 37.9	-2.9
WCZ	**Waipu Caves**	**2.84**	**290**	PN	Pn	05 28 35.5	+1.1
WNVZ	**Wahianoa**	**2.84**	**214**	P*	Pb	05 28 36.7	-4.8

*MOS **03** 05:37:52.5±1.4, 53°.77N×168°.93E, h15km, mb4.3/1, Error ellipse: s-maj=18.7km s-min=12.5km az=26.3*
*IDC **03** 05:37:53.2±1.0, 54°.02N×169°.00E, h0km, mb3.5/7, mb1 3.8/9, mb1mx3.6/28, mbtmp3.5/9, ML3.6/2, Error ellipse: s-maj=30.3km s-min=11.2km az=26.0*
*ISCJB **03** 05:37:54.8±0.5, 53.66N±0°.08×168°.86E±0°.06, h33km, mb3.4/7, Error ellipse: s-maj=12.0km s-min=4.7km az=11.3*
*NEIC **03** 05:37:57.4±0.6, 53°.82N×169°.02E, h35km, Error ellipse: s-maj=19.8km s-min=8.6km az=191.0*
*KRSC **03** 05:37:58.2±1.4, 53°.69N×168°.18E, h20km±20km, ML4.2*

ISC 03 05:37:57.0±0.5, 53°.71N±0°.08×168°.91E±0°.06, h35km, n47, σ0°.92/59, mb3.4/7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**2.27**	**312**	*e*P	**Pn**	**05 38 32.6**	**+0.7**
BKI				*e*S	**Sn**	**05 38 57.7**	**-1.0**
BKI	**Bering**	**2.27**	**312**	PN	**Pn**	**05 38 32.6**	**+0.7**
BKI				S	**Sn**	**05 38 57.7**	**-1.0**
FX1	**Attu Island--F**	**2.69**	**106**	Pn	**Pn**	**05 38 36.7**	**-0.9**
	37nm,0.3s,baz=318,slow=6.5,SNR=161						
FX1				Sn	**Sn**	**05 39 08.6**	**-0.3**
	48nm,0.3s,baz=32,slow=23,SNR=19						
FX1	**Attu Island--F**	**2.69**	**106**	Pn	**Pn**	**05 38 36.7**	**-0.9**
FX1				Sn	**Sn**	**05 39 08.6**	**-0.3**
FX1	**Attu Island--F**	**2.69**	**106**	PN	**Pn**	**05 38 36.7**	**-0.9**
FX1						05 39 08.6	
SMY	**Shemya**	**3.27**	**105**	*e*Pn	**Pn**	**05 38 46.0**	**+0.3**
SMY	**Shemya**	**3.27**	**105**	*e*PN	**Pn**	**05 38 46.0**	**+0.3**
MKZ	**Mys Kozlova**	**4.30**	**284**	*e*P	**Pn**	**05 38 59.7**	**-0.1**
MKZ				*e*S	**Sn**	**05 39 44.3**	**-4.5**
MKZ	**Mys Kozlova**	**4.30**	**284**	PN	**Pn**	**05 38 59.7**	**-0.1**
KBTR	**Krutoberegovo**	**4.31**	**308**	*e*P	**Pn**	**05 38 59.7**	**-0.2**
KBTR				*e*S	**Sn**	**05 39 43.8**	**-5.0**
KBTR	**Krutoberegovo**	**4.31**	**308**	PN	**Pn**	**05 38 59.7**	**-0.2**
TUMR	**Tumrok**	**5.34**	**291**	P	**Pn**	**05 39 14.8**	**+0.7**
SPN	**Mys Shipunski**	**5.35**	**267**	P	**Pn**	**05 39 12.5**	**-1.7**
SPN				S	**Sn**	**05 40 06.5**	**-8.0**
SPN	**Mys Shipunski**	**5.35**	**267**	PN	**Pn**	**05 39 12.5**	**-1.7**
KMNR	**Kamenistaya**	**5.42**	**296**	P	**Pn**	**05 39 15.4**	**+0.2**
NLC	**Nalytchevo**	**5.74**	**268**	P	**Pn**	**05 39 18.7**	**-0.9**
NLC				*e*S	**Sn**	**05 40 17.4**	**-6.7**
NLC	**Nalytchevo**	**5.74**	**268**	PN	**Pn**	**05 39 18.7**	**-0.9**
SRDR	**Sredinnyy**	**5.89**	**300**	P	**Pn**	**05 39 23.1**	**+1.4**
AVH	**Avacha**	**6.09**	**270**	*e*P	**Pn**	**05 39 25.2**	**+0.9**
AVH				S	**Sn**	**05 40 28.3**	**-4.4**
PET	**Petropavlovsk**	**6.18**	**268**	S	**Sn**	**05 40 29.9**	**-5.0**
RUS	**Russkaya**	**6.39**	**263**	P	**Pn**	**05 39 29.1**	**+0.6**
RUS				S	**Sn**	**05 40 35.7**	**-4.5**
RUS	**Russkaya**	**6.39**	**263**	PN	**Pn**	**05 39 29.1**	**+0.6**
GNL	**Ganaly**	**6.51**	**274**	*e*P	**Pn**	**05 39 31.2**	**+1.0**
PETK	**Petropavlovsk-**	**6.73**	**269**	Pn	**Pn**	**05 39 34.4**	**+1.3**
	1.3nm,0.3s,baz=93,slow=18,SNR=10						
PETK				Sn	**Sn**	**05 40 47.3**	**-1.2**
	1.4nm,0.3s,baz=30,slow=18,SNR=4.8						
PETK	**Petropavlovsk-**	**6.73**	**269**	Pn	**Pn**	**05 39 34.4**	**+1.3**
PETK				Sn	**Sn**	**05 40 47.3**	**-1.2**
PETK	**Petropavlovsk-**	**6.73**	**269**	PN	**Pn**	**05 39 34.4**	**+1.3**
ILAR	**Eielson Array**	**24.61**	**46**	P	**P**	**05 43 12.5**	**-0.9**
	0.4nm,0.6s,mb3.2,baz=254,slow=7.6,SNR=14						
ILAR	**Eielson Array**	**24.61**	**46**	P	**P**	**05 43 12.5**	**-0.9**
ILAR	**Eielson Array**	**24.61**	**46**	P	**P**	**05 43 12.5**	**-0.9**
INK	**Inuvik**	**30.11**	**39**	P	**P**	**05 44 02.0**	**-0.8**
	0.9nm,1.0s,mb3.5,baz=243,slow=6.8,SNR=3.5						
INK	**Inuvik**	**30.11**	**39**	P	**P**	**05 44 02.0**	**-0.7**
INK	**Inuvik**	**30.11**	**39**	P	**P**	**05 44 02.0**	**-0.7**
SONM	**Songino Array**	**38.82**	**288**	P	**P**	**05 45 19.9**	**+1.8**
	0.7nm,0.6s,mb3.6,baz=60,slow=8.7,SNR=4.7						
SONM	**Songino Array**	**38.82**	**288**	P	**P**	**05 45 19.9**	**+1.8**
SONM	**Songino Array**	**38.82**	**288**	P	**P**	**05 45 19.9**	**+1.8**
MKAR	**Makanchi Array**	**52.53**	**300**	P	**P**	**05 47 06.0**	**-0.3**
	0.2nm,0.5s,mb3.3,baz=64,slow=8.5,SNR=4.1						
MKAR	**Makanchi Array**	**52.53**	**300**	P	**P**	**05 47 06.0**	**-0.3**
MKAR	**Makanchi Array**	**52.53**	**300**	P	**P**	**05 47 06.0**	**-0.3**
NOA	**NORSAR Array B**	**64.22**	**348**	P	**P**	**05 48 27.3**	**-0.4**
	0.3nm,0.4s,mb3.6,baz=36,slow=7.7,SNR=2.4						
NOA	**NORSAR Array B**	**64.22**	**348**	P	**P**	**05 48 27.3**	**-0.4**
NOA	**NORSAR Array B**	**64.22**	**348**	P	**P**	**05 48 27.3**	**-0.4**
TXAR	**Lajitas Array**	**65.47**	**74**	P	**P**	**05 48 37.5**	**+1.3**

GURV	**El Guri**	**6.39**	**220**	*e*P	**Pn**	**05 43 51.4 -1.3**
CUPV	**Cœpira**	**7.23**	**250**	*e*P	**Pn**	**05 44 05.4 +1.2**
LUEV	**Luepa**	**7.25**	**201**	*e*P	**Pn**	**05 44 01.4 -3.0**
MERV	**Las Mercedes**	**8.02**	**246**	*e*P	**Pn**	**05 44 15.6 +0.6**
CAOV	**Caicara del Or**	**9.03**	**235**	*e*P	**Pn**	**05 44 28.1 -0.8**
BAUV	**El Baul**	**9.71**	**248**	*e*P	**Pn**	**05 44 38.5 +0.2**

*NEIC **03** 05:46:55.5, 19°.21N×66°.16W, h81km, MD3.6(RSPR), After RSPR.*

RSPR 03 05:46:55.5, 19°.21N×66°.16W, h81km±21km**, MD3.5/3, 8C-2D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**0.97**	**163**	*e*P	Pn	05 47 12.9	-1.5
CBYP	**Canovanas**	**0.97**	**163**	*i*P	Pn	05 47 12.9	-1.5
CBYP				*e*S	Sn	05 47 28.0	-0.4
SJG	**San Juan**	**1.09**	**180**	*e*P	Pn	05 47 15.8	+0.1
SJG	**San Juan**	**1.09**	**180**	*i*P	Pn	05 47 15.8	+0.1
HUMP	**Col San Antoni**	**1.10**	**165**	*e*P	Pn	05 47 15.2	-0.7
HUMP	**Col San Antoni**	**1.10**	**165**	*i*P	Pn	05 47 15.2	-0.7
HUMP				*e*S	Sn	05 47 31.0	0.0
MTP	**Monte Pirata**	**1.24**	**153**	*e*P	Pn	05 47 16.5	-1.2
MTP	**Monte Pirata**	**1.24**	**153**	*i*P	Pn	05 47 16.5	-1.2
MTP				*e*S	Sn	05 47 33.6	-0.7
STVI	**Saint Thomas**	**1.42**	**127**	*e*P	Pn	05 47 19.9	0.0
STVI	**Saint Thomas**	**1.42**	**127**	*i*P	Pn	05 47 19.9	0.0

*TRN **03** 05:49:33.8, 17°.07N×62°.36W, h11km, MD3.4, M3.6(FDF)*
*ISCJB **03** 05:49:36.1±0.6, 17°.06N±0°.05×62°.36W±0°.04, h11km±5km, Error ellipse: s-maj=9.4km s-min=3.7km az=38.1*
*RSPR **03** 05:49:36.3, 16°.98N×62°.21W, h6km±15km, MD3.9/5*
*NEIC **03** 05:49:36.3, 16°.98N×62°.21W, h6km, MD3.9(RSPR), After RSPR.*

ISC 03 05:49:36.5±0.4, 17°.04N±0°.04×62°.36W±0°.04, h14km±4km**, n31, σ0°.69/39, 8C-9D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBGB		**0.33**	**158**	*i*P	**Pg**	**05 49 43.3**	**0.0**
MBGB				*i*S	**Sg**	**05 49 48.8**	**+0.9**
MBWH		**0.34**	**152**	*i*P	**Pg**	**05 49 43.2**	**-0.3**
MLYT	**Lee's Yard**	**0.36**	**154**	*i*P	**Pg**	**05 49 43.7**	**-0.1**
SKI	**Saint Kitts**	**0.47**	**308**	*e*P	**Pg**	**05 49 45.4**	**-0.5**
SKI				*e*S	**Sg**	**05 49 51.7**	**-0.4**
BPA	**Boggy Peak**	**0.48**	**90**	*e*P	**Pg**	**05 49 46.6**	**+0.6**
BPA				*e*S	**Sg**	**05 49 53.5**	**+1.1**
SEUS	**St. Eustatius**	**0.75**	**307**	*e*P	**Pg**	**05 49 50.5**	**-0.6**
SEUS	**St. Eustatius**	**0.75**	**307**	*i*P	**Pg**	**05 49 50.5**	**-0.6**
SEUS				*e*S	**Sg**	**05 50 00.7**	**-0.3**
SEUS	**St. Eustatius**	**0.75**	**307**	*e*P	**Pg**	**05 49 50.5**	**-0.6**
SEUS				*e*S	**Sg**	**05 50 00.7**	**-0.3**
ANWB	**Willy Bob**	**0.83**	**41**	*e*Pg	**Pg**	**05 49 51.8**	**-0.8**
SABA	**Saba**	**1.02**	**304**	*e*P	**Pb**	**05 49 55.6**	**-0.4**
SABA	**Saba**	**1.02**	**304**	*i*P	**Pb**	**05 49 55.6**	**-0.4**
SABA				*e*S	**Sb**	**05 50 11.4**	**+2.1**
SABA	**Saba**	**1.02**	**304**	*e*P	**Pb**	**05 49 55.6**	**-0.4**
SABA				*e*S	**Sb**	**05 50 11.4**	**+2.1**
BCG	**Bois Riant Cap**	**1.19**	**143**	*e*P	**Pn**	**05 49 58.4**	**-0.3**
SCG	**Saint Claude**	**1.20**	**147**	*e*P	**Pn**	**05 49 58.3**	**-0.6**
HMG	**Houelmont**	**1.23**	**149**	*e*P	**Pn**	**05 49 58.7**	**-0.6**
DOG	**Dongo Capester**	**1.23**	**145**	*e*P	**Pn**	**05 49 58.9**	**-0.4**
PHG	**Guadaloupe-2**	**1.23**	**146**	*e*P	**Pn**	**05 49 59.0**	**-0.3**
DEG	**La Desirade**	**1.44**	**120**	*e*P	**Pn**	**05 50 01.2**	**-0.9**
DEG				*e*S	**Sn**	**05 50 20.7**	**-0.2**
MGG	**Marie-Galante**	**1.50**	**138**	*e*P	**Pn**	**05 50 04.0**	**+1.0**
STVI	**Saint Thomas**	**2.80**	**298**	*e*P	**Pn**	**05 50 21.0**	**+0.1**
STVI	**Saint Thomas**	**2.80**	**298**	*i*P	**Pn**	**05 50 21.0**	**+0.1**
STVI	**Saint Thomas**	**2.80**	**298**	*e*P	**Pn**	**05 50 21.0**	**+0.1**
MTP	**Monte Pirata**	**3.23**	**289**	*i*P	**Pn**	**05 50 26.9**	**+0.1**
MTP	**Monte Pirata**	**3.23**	**289**	*e*P	**Pn**	**05 50 26.9**	**+0.1**
MTP	**Monte Pirata**	**3.23**	**289**	*e*P	**Pn**	**05 50 26.9**	**+0.1**
HUMP	**Col San Antoni**	**3.51**	**289**	*i*P	**Pn**	**05 50 30.8**	**+0.2**
HUMP	**Col San Antoni**	**3.51**	**289**	*i*P	**Pn**	**05 50 30.8**	**+0.2**
HUMP	**Col San Antoni**	**3.51**	**289**	*i*P	**Pn**	**05 50 30.8**	**+0.2**
CBYP	**Canovanas**	**3.56**	**291**	*i*P	**Pn**	**05 50 32.1**	**+0.8**
CBYP	**Canovanas**	**3.56**	**291**	*i*P	**Pn**	**05 50 32.1**	**+0.8**
CBYP	**Canovanas**	**3.56**	**291**	*i*P	**Pn**	**05 50 32.8**	**+1.5**

MEX 03 05:50:55.6±0.4, 15°.72N×90°.56W, h20km, MD3.9, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.62**	**290**	*e*P	Pn	05 51 20.1	-2.9
CCIG				*i*S	Sn	05 51 39.5	-3.8
THIG		**1.84**	**244**	*e*P	Pn	05 51 23.2	-2.8
THIG				*i*S	Sn	05 51 44.9	-3.8
SCX	**San Cristobal**	**2.24**	**297**	*i*P	Pn	05 51 29.3	-2.2
SCX				*i*S	Sn	05 51 55.1	-3.5
PCIG		**2.57**	**270**	*i*P	Pn	05 51 33.4	-2.7
PCIG				*i*S	Sn	05 52 02.9	-3.8
TGIG		**2.68**	**293**	*e*P	Pn	05 51 35.5	-2.1
TGIG				*i*S	Sn	05 52 06.8	-2.7
CMIG	**Matias Romero**	**4.37**	**289**	*e*P	Pn	05 51 57.5	-3.4
CMIG				*i*S	Sn	05 52 45.7	-5.6
HUIG	**Huatulco**	**5.35**	**271**	*i*P	Pn	05 52 08.2	-6.1
VHO	**Vista Hermosa**	**6.08**	**284**	*i*P	Pn	05 52 15.3	-9.1
VHO				*i*S	Sn	05 53 25.8	-7.6
UTMO	**Huajuapan**	**7.25**	**288**	*i*P	Pn	05 52 40.5	0.0

*NEIC **03** 06:00:21.5, 19°.58N×66°.29W, h35km, MD3.3(RSPR), After RSPR.*

RSPR 03 06:00:21.5, 19°.58N×66°.29W, h35km±19km**, MD3.3/13, 21C-4D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.30**	**200**	*e*P	Pn	06 00 41.5	-1.7
AOPR	**Arecibo Observ**	**1.30**	**200**	*i*P	Pn	06 00 41.5	-1.7
AOPR				*e*S	Sn	06 00 57.4	-2.0
AGPR	**Aguadilla, PR**	**1.35**	**215**	*e*P	Pn	06 00 42.5	-1.3
AGPR	**Aguadilla, PR**	**1.35**	**215**	*i*P	Pn	06 00 42.5	-1.3
CBYP	**Canovanas**	**1.36**	**163**	*e*P	Pn	06 00 42.8	-1.3
CBYP	**Canovanas**	**1.36**	**163**	*i*P	Pn	06 00 42.8	-1.3
CBYP				*e*S	Sn	06 00 59.3	-1.6
LRS	**Lares**	**1.39**	**202**	*e*P	Pn	06 00 42.8	-1.5
LRS	**Lares**	**1.39**	**202**	*i*P	Pn	06 00 42.8	-1.5
SJG	**San Juan**	**1.47**	**175**	*e*P	Pn	06 00 44.2	-1.2
SJG	**San Juan**	**1.47**	**175**	*i*P	Pn	06 00 44.2	-1.2
SJG				*e*S	Sn	06 01 02.4	-1.1
SJG	**San Juan**	**1.47**	**175**	*i*P	Pn	06 00 44.2	-1.2
SJG				*e*S	Sn	06 01 02.4	-1.0
HUMP	**Col San Antoni**	**1.49**	**164**	*e*P	Pn	06 00 44.7	-1.1
HUMP	**Col San Antoni**	**1.49**	**164**	*i*P	Pn	06 00 44.7	-1.1
HUMP				*e*S	Sn	06 01 02.7	-1.3
CELP	**Cerrillos**	**1.52**	**190**	*e*P	Pn	06 00 45.0	-1.2
CELP	**Cerrillos**	**1.52**	**190**	*i*P	Pn	06 00 45.0	-1.2
OBIP	**Obispado Ponce**	**1.56**	**191**	*e*P	Pn	06 00 45.5	-1.2
OBIP	**Obispado Ponce**	**1.56**	**191**	*i*P	Pn	06 00 45.5	-1.2
OBIP				*e*S	Sn	06 01 04.0	-1.7
LSP	**Las Mesas**	**1.59**	**209**	*e*P	Pn	06 00 46.1	-1.0
LSP				*e*S	Sn	06 01 05.0	-1.4
LSP	**Las Mesas**	**1.59**	**209**	*i*P	Pn	06 00 46.1	-1.0
LSP				*e*S	Sn	06 01 05.0	-1.4
MTP	**Monte Pirata**	**1.63**	**155**	*e*P	Pn	06 00 46.8	-0.9
MTP	**Monte Pirata**	**1.63**	**155**	*i*P	Pn	06 00 46.8	-0.9
ICM	**Isla Caja Muer**	**1.69**	**188**	*e*P	Pn	06 00 47.9	-0.7
ICM	**Isla Caja Muer**	**1.69**	**188**	*i*P	Pn	06 00 47.9	-0.7
ICM				*e*S	Sn	06 01 07.6	-1.4
CRPR	**Cabo Rojo, PR**	**1.75**	**207**	*e*P	Pn	06 00 48.8	-0.5
CRPR	**Cabo Rojo, PR**	**1.75**	**207**	*i*P	Pn	06 00 48.8	-0.5
CRPR				*e*S	Sn	06 01 09.5	-0.9
SDDR	**Presa de Saban**	**4.76**	**264**	*e*Pn	Pn	06 01 31.3	+0.6
SDDR				*e*Sn	Sn	06 02 26.0	+1.2

*BJI **03** 06:01:03.9, 52°.22N×175°.02W, h6km, mB5.0/24, mb4.9/40, Ms4.8/25, Ms7 4.4/23*
*MOS **03** 06:01:05.9±0.8, 51°.75N×174°.39W, h33km, mb5.1/45, Error ellipse: s-maj=10.0km s-min=5.6km az=92.0*
*ISCJB **03** 06:01:07.0±0.3, 51°.65N±0°.06×174°.35W±0°.04, h48km, mb4.7/125, MS3.9/31, Error ellipse: s-maj=8.6km s-min=3.3km az=175.0*
*NEIC **03** 06:01:07.7±0.6, 51°.65N×174°.36W, h41km±4km, mb4.9/78, MS4.1/3, Error ellipse: s-maj=8.3km s-min=3.5km az=179.0*
*IDC **03** 06:01:08.2±0.6, 51°.63N×174°.30W, h49km±4km, mb4.0/32, mb1 4.2/34, mb1mx4.2/39, mbtmp4.1/34, MS3.8/22, Ms1 3.8//22, ms1mx3.6/49, Error ellipse: s-maj=17.8km s-min=8.7km az=2.0*

ISC 03 06:01:09.1±0.3, 51°.71N±0°.06×174°.36W±0°.04, h50km±1.6km**: pP-P, n413, σ0°.93/405, mb4.7/125, MS3.9/31, 18C-20D, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.50**	**12**	P	**Pn**	**06 01 20.1**	**-0.2**
ATKA				S	**Sn**	**06 01 32.4**	**+4.1**
GSTR	**Great Sitkin T**	**1.12**	**291**	*e*Pn	**Pn**	**06 01 27.3**	**-1.1**
NIKO	**Nikolski**	**3.61**	**67**	P	**Pn**	**06 01 59.4**	**-2.9**
AMKA	**Amchitka**	**3.97**	**268**	*e*P	**Pn**	**06 02 04.7**	**-2.6**
UNV	**Unalaska Valle**	**5.23**	**63**	*e*Pn	**Pn**	**06 02 23.6**	**-0.9**
AKUT	**Akutan**	**5.74**	**62**	Pn	**Pn**	**06 02 31.7**	**+0.2**
	291nm,1.0s						
FX1	**Attu Island--F**	**7.74**	**284**	P	**Pn**	**06 03 00.4**	**+1.4**
	3.0nm,0.3s,baz=124,slow=20,SNR=18						
FX1				S	**Sn**	**06 04 32.8**	**+7.6**
	1.1nm,0.3s,baz=276,slow=19,SNR=1.7						
FX1				LR	LR	06 05 52.1	
	comp=Z,519nm,21.9s,baz=116,slow=36						
FX1	**Attu Island--F**	**7.74**	**284**	P	**Pn**	**06 03 00.4**	**+1.4**
FX1				S	**Sn**	**06 04 32.8**	**+7.6**
FX1				LR	LR	06 05 52.1	
FX1	**Attu Island--F**	**7.74**	**284**	P	**Pn**	**06 03 00.4**	**+1.4**
FX1				S	**Sn**	**06 04 32.8**	**+7.6**
SDPT	**Sand Point**	**9.04**	**61**	*e*P	**Pn**	**06 03 15.5**	**-1.2**
	16nm,0.6s						
CHGN	**Chignik**	**10.44**	**58**	*e*P	**Pn**	**06 03 36.1**	**+0.2**
KDAK	**Kodiak Island**	**13.93**	**56**	P	**Pn**	**06 04 20.1**	**-3.4**
	1.1nm,0.3s,baz=300,slow=7.4,SNR=12						
KDAK	**Kodiak Island**	**13.93**	**56**	P	**Pn**	**06 04 20.1**	**-3.4**
KDAK	**Kodiak Island**	**13.93**	**56**	P	**Pn**	**06 04 20.1**	**-3.4**
SLKM	**Skilak Lake**	**16.00**	**47**	*e*Pn	**Pn**	**06 04 50.2**	**-0.2**
SLKM	**Skilak Lake**	**16.00**	**47**	*e*P	**Pn**	**06 04 50.3**	**-0.2**
PPLA	**Purkeypile**	**16.30**	**38**	*e*P	**Pn**	**06 04 56.2**	**+2.1**
	26nm,1.0s						
PET	**Petropavlovsk**	**16.50**	**285**	*e*P	**Pn**	**06 05 00.6**	**+3.8**
PET				*e*S	**Sn**	**06 07 54.7**	**-4.1**
PET				pmax	pmax		
	comp=Z,100nm,14.0s						
PET				MLR	MLR		
	comp=Z,200nm,18.0s						
PETK	**Petropavlovsk-**	**17.07**	**286**	P	**Pn**	**06 05 03.0**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=91,slow=16,SNR=7.4						
PETK				LR	LR	06 11 11.6	
	comp=Z,174nm,20.2s,baz=280,slow=35						
PETK	**Petropavlovsk-**	**17.07**	**286**	P	**Pn**	**06 05 03.0**	**-0.9**
PETK				LR	LR	06 11 11.6	
PETK	**Petropavlovsk-**	**17.07**	**286**	P	**Pn**	**06 05 03.0**	**-0.8**
TRF	**Thorofare Moun**	**17.32**	**38**	*e*P	**Pn**	**06 05 08.0**	**+1.0**
	comp=Z,185nm,2.4s						
BPAW	**Bear Paw Mtn.**	**17.42**	**36**	*e*P	**Pn**	**06 05 08.2**	**+0.1**
	comp=Z,273nm,2.4s						
MCK	**McKinley**	**17.99**	**38**	*e*P	**Pn**	**06 05 13.8**	**-1.3**
	comp=Z,19nm,0.9s						
MCK	**McKinley**	**17.99**	**38**	*e*P	**Pn**	**06 05 13.8**	**-1.3**
MCK				pmax	pmax		
	comp=Z,19nm,0.9s						
BMRM	**Bremner River**	**18.76**	**49**	*e*P	**Pn**	**06 05 22.8**	**-1.7**
	comp=Z,15nm,1.0s						
BILL	**Bilibino**	**18.89**	**337**	*e*P	**Pn**	**06 05 26.6**	**+0.6**
	comp=Z,69nm,1.4s						
BILL	**Bilibino**	**18.89**	**337**	*e*P	**Pn**	**06 05 26.6**	**+0.7**
BILL				pmax	pmax		
	comp=Z,69nm,1.4s						
COLA	**College**	**18.98**	**36**	*e*P	**Pn**	**06 05 25.8**	**-1.3**
	comp=Z,10.0nm,0.9s						
COLA	**College**	**18.98**	**36**	*e*P	**Pn**	**06 05 25.8**	**-1.3**
COLA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ILAR	**Eielson Array**	**19.28**	**37**	P	**Pn**	**06 05 26.6**	**-4.0**
	comp=Z,1.6nm,0.3s,baz=239,slow=9.8,SNR=63						
ILAR				LR	LR	06 13 40.3	
	comp=Z,225nm,18.8s,baz=271,slow=39						
ILAR	**Eielson Array**	**19.28**	**37**	P	**Pn**	**06 05 26.6**	**-4.0**
ILAR				LR	LR	06 13 40.3	
ILAR	**Eielson Array**	**19.28**	**37**	P	**Pn**	**06 05 26.7**	**-4.0**
COLD	**Coldfoot**	**19.59**	**28**	*e*Pn	**Pn**	**06 05 34.0**	**-0.4**
	comp=Z,11nm,0.9s						
DOT	**Dot Lake**	**19.89**	**41**	*e*P	**Pn**	**06 05 35.3**	**-2.6**
	comp=Z,31nm,0.7s						
SEY	**Seymchan**	**20.91**	**315**	*e*P	**P**	**06 05 50.6**	**+3.7**
EGAK	**Eagle**	**21.50**	**40**	*e*P	**P**	**06 05 51.9**	**-1.4**
	comp=Z,54nm,0.6s,mb5.1						
DAWY	**Dawson**	**21.98**	**42**	*e*P	**P**	**06 05 58.2**	**-0.1**
INK	**Inuvik**	**25.61**	**34**	P	**P**	**06 06 32.4**	**-0.8**
	comp=Z,2.5nm,0.6s,mb4.0,baz=234,slow=6.7,SNR=17						
INK				PcP	PcP	06 10 01.6	-1.0
	comp=Z,1.1nm,0.8s,baz=240,slow=1.0,SNR=4.2						
INK	**Inuvik**	**25.61**	**34**	*e*P	**P**	**06 06 32.6**	**-0.6**
	comp=Z,31nm,1.8s,mb4.5						
INK	**Inuvik**	**25.61**	**34**	P	**P**	**06 06 32.4**	**-0.8**
INK						06 10 01.6	
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
DLBC	**Dease Lake**	**25.86**	**57**	P	**P**	**06 06 36.2**	**+0.6**
	comp=Z,5.4nm,0.8s,mb4.1,baz=276,slow=12,SNR=6.7						
DLBC	**Dease Lake**	**25.86**	**57**	*e*P	**P**	**06 06 37.3**	**+1.7**
ASAJ	**Asahikawa**	**29.47**	**272**	P	**P**	**06 07 09.1**	**+1.0**
	comp=Z,12nm,0.9s,mb4.6,baz=31,slow=5.9,SNR=3.3						
ASAJ	**Asahikawa**	**29.47**	**272**	P	**P**	**06 07 09.1**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,13nm,1.0s						
YAK	**Yakutsk**	**31.28**	**311**	*e*P	**P**	**06 07 28.5**	**+4.7**
YAK				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.8						
YKA	**Yellowknife Ar**	**32.98**	**47**	P	**P**	**06 07 37.6**	**-1.0**
	comp=Z,2.2nm,0.9s,mb4.1,baz=272,slow=8.9,SNR=4.2						
YKA				LR	LR	06 22 44.6	
	comp=Z,32nm,18.4s,MS3.1,baz=345,slow=39						
YKA	**Yellowknife Ar**	**32.98**	**47**	P	**P**	**06 07 37.6**	**-1.0**
YKA				LR	LR	06 22 44.6	
YKA	**Yellowknife Ar**	**32.98**	**47**	P	**P**	**06 07 37.7**	**-1.0**
YBH	**Yreka Blue Hor**	**36.09**	**85**	P	**P**	**06 08 05.3**	**-0.5**
	comp=Z,1.4nm,0.8s,mb3.9,baz=353,slow=8.1,SNR=2.5						
YBH	**Yreka Blue Hor**	**36.09**	**85**	P	**P**	**06 08 05.3**	**-0.5**
YBH	**Yreka Blue Hor**	**36.09**	**85**	P	**P**	**06 08 05.3**	**-0.5**
NEW	**Newport**	**36.16**	**72**	*e*P	**P**	**06 08 06.3**	**+0.1**
	comp=Z,122nm,2.8s,mb5.3						
NEW	**Newport**	**36.16**	**72**	*e*P	**P**	**06 08 06.3**	**+0.1**
NEW				pmax	pmax		
	comp=Z,122nm,2.8s						
MJAR	**Matsushiro Arr**	**36.58**	**264**	P	**P**	**06 08 08.6**	**-1.4**
	comp=Z,3.0nm,0.9s,mb4.1,baz=50,slow=8.9,SNR=5.2						
MJAR				LR	LR	06 22 02.7	
	comp=Z,95nm,20.4s,MS3.6,baz=65,slow=34						
MJAR	**Matsushiro Arr**	**36.58**	**264**	P	**P**	**06 08 08.6**	**-1.4**
MJAR				LR	LR	06 22 02.7	
MJAR	**Matsushiro Arr**	**36.58**	**264**	P	**P**	**06 08 08.6**	**-1.4**
MAT	**Matsushiro**	**36.58**	**264**	P	**P**	**06 08 07.9**	**-2.1**
MDJ	**Mudanjiang**	**37.24**	**282**	P	**P**	**06 08 14.2**	**-1.3**
MDJ				pP	pP	06 08 17.1	-11
MDJ				sP	sP	06 08 18.5	-16
MDJ				PP	PP	06 09 36.6	-4.3
MDJ				PcP	PcP	06 10 32.2	-2.0
MDJ				S	**S**	**06 13 59.5**	**+0.7**
MDJ				ScS	ScS	06 18 26.3	+1.7
MDJ				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.8						
MDJ				pmax	pmax		
	comp=Z,110nm,3.9s						
MDJ				LR	LR		
	comp=N,120nm,27.5s,MS3.8						
MDJ				LR	LR		
	comp=E,150nm,25.5s,MS3.8						
MDJ				LR	LR		
	comp=Z,150nm,20.7s,MS3.8						
MOD	**Modoc**	**37.48**	**83**	*e*P	**P**	**06 08 18.9**	**+1.3**
	comp=Z,182nm,2.7s,mb5.4						
BSMT	**Bassoo Peak**	**37.73**	**72**	*e*P	**P**	**06 08 20.6**	**+1.0**
MSO	**Missoula**	**38.74**	**73**	*e*P	**P**	**06 08 29.2**	**+1.1**
	comp=Z,5.8nm,1.2s,mb4.2						
PAHR	**Pah Rah Range**	**39.32**	**86**	*e*P	**P**	**06 08 36.1**	**+3.0**
	comp=Z,6.9nm,0.9s,mb4.4						
BOD	**Bodaibo**	**39.98**	**308**	*e*P	**P**	**06 08 37.5**	**-0.8**
BOD				*e*	pP	06 08 50.0	-1.5
BOD				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2						
BOD				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
HLID	**Hailey**	**40.17**	**77**	*e*P	**P**	**06 08 40.4**	**+0.3**
	comp=Z,3.0nm,1.0s,mb4.0						
CN2	**Changchun**	**40.19**	**283**	*e*P	**P**	**06 08 39.2**	**-1.0**
CN2				*e*SP	pP	06 08 46.0	-7.3
CN2				*e*S	**S**	**06 14 44.1**	**+0.8**
CN2				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.0						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,300nm,16.0s,MS4.5						
CN2				LR	LR		
	comp=E,400nm,16.0s,MS4.5						
CN2				LR	LR		
	comp=Z,600nm,18.0s,MS4.5						
MCMT	**McKenzie Canyo**	**40.43**	**75**	*e*P	**P**	**06 08 41.7**	**-0.4**
	comp=Z,2.4nm,0.5s,mb4.2						
EGMT	**Eagleton**	**40.59**	**69**	*e*P	**P**	**06 08 44.6**	**+1.1**
	comp=Z,15nm,1.0s,mb4.6						
BOZ	**Bozeman (W)**	**40.72**	**73**	*e*P	**P**	**06 08 44.1**	**-0.5**
	comp=Z,9.8nm,1.5s,mb4.2						
BOZ	**Bozeman (W)**	**40.72**	**73**	*e*P	**P**	**06 08 44.1**	**-0.5**
BOZ				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.2						
NVAR	**Mina Array Bea**	**40.76**	**86**	P	**P**	**06 08 44.5**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=283,slow=8.2,SNR=3.5						
NVAR				pP	pP	06 08 56.8	-1.4
	comp=Z,3.4nm,0.9s,baz=290,slow=6.7,SNR=15						
NVAR				PcP	PcP	06 10 44.9	-0.5
	comp=Z,0.4nm,0.7s,baz=11,slow=0.9,SNR=2.9						
NVAR				pPcP		06 10 58.9	
	comp=Z,1.0nm,0.7s,baz=256,slow=2.3,SNR=5.1						
NVAR	**Mina Array Bea**	**40.76**	**86**	P	**P**	**06 08 44.5**	**-0.5**
NVAR				pP	pP	06 08 56.8	-1.4
NVAR				PcP	PcP	06 10 44.9	-0.5
NVAR				pPcP		06 10 58.9	
FFC	**Flin Flon**	**41.68**	**56**	*e*P	**P**	**06 08 51.0**	**-1.3**
	comp=Z,148nm,2.7s,mb5.1						
FFC	**Flin Flon**	**41.68**	**56**	*i*P	**P**	**06 08 52.4**	**+0.1**
IMW	**Indian Meadow**	**42.09**	**75**	*e*P	**P**	**06 08 56.4**	**+0.6**
	comp=Z,33nm,2.1s,mb4.6						
IMW				*e*pP	pP	06 09 08.6	-0.4
HVU	**Hansel Valley**	**42.18**	**78**	*e*P	**P**	**06 08 57.4**	**+0.8**
HVU	**Hansel Valley**	**42.18**	**78**	*e*P	**P**	**06 08 57.4**	**+0.8**
KSRS	**Korea Array**	**42.40**	**274**	P	**P**	**06 08 57.8**	**-0.6**
	comp=Z,1.1nm,0.5s,mb3.8,baz=56,slow=7.2,SNR=5.1						
KSRS				LR	LR	06 26 14.6	
	comp=Z,61nm,18.5s,MS3.5,baz=151,slow=36						
KSRS	**Korea Array**	**42.40**	**274**	P	**P**	**06 08 57.8**	**-0.6**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7						
KSRS				MLR	MLR		
	comp=Z,61nm,18.5s,MS3.5						
RLMT	**Red Lodge**	**42.41**	**72**	*e*P	**P**	**06 08 59.4**	**+1.0**
	comp=Z,54nm,1.9s,mb4.8						
DUG	**Dugway**	**43.09**	**80**	*e*P	**P**	**06 09 04.5**	**+0.6**
	comp=Z,5.8nm,0.8s,mb4.4						
DUG	**Dugway**	**43.09**	**80**	*e*P	**P**	**06 09 04.5**	**+0.6**
DUG				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
PD01	**Pinedale Array**	**43.53**	**75**	*e*P	**P**	**06 09 07.0**	**-0.5**
PD02	**Pinedale Array**	**43.54**	**75**	*e*P	**P**	**06 09 06.6**	**-1.0**
BW06	**Boulder Array**	**43.56**	**75**	*e*P	**P**	**06 09 07.3**	**-0.4**
	comp=Z,9.0nm,1.0s,mb4.5						
PDAR	**Pinedale Array**	**43.56**	**75**	P	**P**	**06 09 07.0**	**-0.8**
	comp=Z,1.6nm,0.7s,mb3.9,baz=300,slow=4.1,SNR=15						
PDAR				pP	pP	06 09 19.9	-1.0
	comp=Z,7.4nm,0.9s,baz=307,slow=3.6,SNR=15						
PDAR	**Pinedale Array**	**43.56**	**75**	P	**P**	**06 09 07.0**	**-0.8**
PDAR				pP	pP	06 09 19.9	-1.0
GSC	**Goldstone**	**43.66**	**89**	*e*P	**P**	**06 09 10.2**	**+1.5**
	comp=Z,7.6nm,0.9s,mb4.4						
GSC	**Goldstone**	**43.66**	**89**	*e*P	**P**	**06 09 10.2**	**+1.5**
GSC				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						

HHC SS SS 06 20 35.5 -6.3
HHC pmax pmax
comp=Z,13nm,0.7s,mb5.1
HHC pmax pmax
comp=Z,67nm,4.2s
HHC LR LR
comp=N,170nm,15.5s,MS4.4
HHC LR LR
comp=E,240nm,16.7s,MS4.4
HHC LR LR
comp=Z,130nm,17.8s,MS4.0
WMOK Wichita Mounta 55.13 76 *eP* **P 06 10 37.6 +1.5**
comp=Z,4.0nm,0.8s,mb4.5
WMOK Wichita Mounta 55.13 76 *eP* **P 06 10 37.6 +1.5**
WMOK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
WHN Wuhan 55.38 277 P **P 06 10 43.0 +5.0**
ZALV Zalesovo Beam 55.78 315 P **P 06 10 40.3 -0.1**
comp=Z,0.3nm,0.3s,mb3.8,baz=35,slow=5.8,SNR=2.0
ZALV PcP PcP 06 11 38.6 -0.3
comp=Z,1.1nm,0.5s,baz=36,slow=3.8,SNR=5.4
ZALV pPcP 06 11 52.3
comp=Z,3.2nm,0.8s,baz=42,slow=4.2,SNR=6.2
ZALV LR LR 06 37 12.1
comp=Z,80nm,18.3s,MS3.8,baz=82,slow=39
ZALV Zalesovo Beam 55.78 315 P **P 06 10 40.3 -0.1**
ZALV PcP PcP 06 11 38.6 -0.3
ZALV pPcP 06 11 52.3
ZALV LR LR 06 37 12.1
ZALV Zalesovo Beam 55.78 315 P **P 06 10 40.3 -0.1**
ZALV 06 11 38.7
TXAR Lajitas Array 55.86 85 P **P 06 10 39.6 -1.8**
comp=Z,0.8nm,0.8s,mb3.8,baz=303,slow=4.7,SNR=10
TXAR ScP ScP 06 15 33.9 -0.5
comp=Z,0.4nm,0.9s,baz=302,slow=5.7,SNR=3.5
TXAR Lajitas Array 55.86 85 P **P 06 10 39.6 -1.8**
TXAR ScP ScP 06 15 33.9 -0.5
TXAR Lajitas Array 55.86 85 P **P 06 10 39.6 -1.8**
XAN Xi'an 56.30 284 P **P 06 10 43.9 -0.6**
XAN pmax pmax
comp=Z,4.0nm,1.2s,mb4.3
XAN LR LR
comp=N,54nm,8.7s
XAN LR LR
comp=Z,35nm,10.7s,MS3.7
HDIL Hopedale 56.78 65 *eP* **P 06 10 47.1 -0.7**
LZH Lanzhou 57.93 289 *eP* **P 06 10 56.5 +0.6**
LZH pP pP 06 11 02.5 -7.2
LZH sP sP 06 11 05.0 -10
LZH pmax pmax
comp=Z,38nm,1.2s,mb5.3
LZH pmax pmax
comp=Z,51nm,4.0s
GTA Gaotai 57.99 294 *eP* **P 06 10 56.2 -0.1**
GTA pP pP 06 11 00.1 -10
GTA sP sP 06 11 02.3 -13
GTA PP PP 06 13 05.1 +0.3
GTA S **S** **06 18 56.7 +3.8**
GTA pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
GTA pmax pmax
comp=Z,120nm,5.2s
GTA LR LR
comp=N,130nm,17.1s,MS4.3
GTA LR LR
comp=E,170nm,19.0s,MS4.3
GTA LR LR
comp=Z,150nm,19.5s,MS4.1
SCHQ Schefferville 57.99 41 P **P 06 10 55.2 -0.8**
comp=Z,5.8nm,0.8s,mb4.7,baz=288,slow=8.8,SNR=3.6
SCHQ LR LR 06 38 22.8
comp=Z,151nm,19.7s,MS4.1,baz=89,slow=38
SCHQ Schefferville 57.99 41 P **P 06 10 55.2 -0.8**
SCHQ LR LR 06 38 22.8
ARCES ARCESS Array B 58.20 352 P **P 06 10 56.3 -1.0**
comp=Z,5.9nm,0.8s,mb4.7,baz=29,slow=7.1,SNR=13
ARCES PcP PcP 06 11 47.8 -0.4
comp=Z,11nm,0.8s,baz=23,slow=4.9,SNR=8.3
ARCES LR LR 06 36 10.9
comp=Z,84nm,20.8s,MS3.8,baz=18,slow=36
ARCES ARCESS Array B 58.20 352 P **P 06 10 56.3 -1.0**
ARCES PcP PcP 06 11 47.8 -0.4
ARCES LR LR 06 36 10.9
ARCES ARCESS Array B 58.20 352 P **P 06 10 56.3 -1.0**
ARCES 06 11 47.8
MIAR Mount Ida 58.39 73 *eP* **P 06 11 00.9 +1.8**
comp=Z,55nm,2.0s,mb5.2
MIAR Mount Ida 58.39 73 *eP* **P 06 11 01.0 +1.8**
MIAR pmax pmax
comp=Z,55nm,2.0s,mb5.2
SADO Sadowa 59.39 56 LR LR 06 38 37.3
comp=Z,104nm,18.3s,MS4.0,baz=150,slow=38
KURK Kurchatov 60.76 316 P **P 06 11 15.7 +0.4**
comp=Z,3.2nm,0.7s,mb4.5,baz=44,slow=6.7,SNR=17
KURK pP pP 06 11 29.2 +0.2
comp=Z,7.0nm,0.8s,baz=43,slow=6.7,SNR=15
KURK LR LR 06 39 30.5
comp=Z,132nm,19.1s,MS4.1,baz=40,slow=38
KURK Kurchatov 60.76 316 *eP* **P 06 11 14.1 -1.1**
comp=Z,5.8nm,0.7s,mb4.8
KURK Kurchatov 60.76 316 P **P 06 11 15.7 +0.5**
KURK *PP pP 06 11 29.2 +0.2
KURK pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
KURK pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
KURK MLR MLR
comp=Z,132nm,19.1s,MS4.1
MSNY Massena 61.39 53 *eP* **P 06 11 18.9 -0.7**
comp=Z,437nm,0.9s
WMQ Urumqi 61.45 305 P **P 06 11 23.4 +3.4**
CD2 Chengdu 61.60 285 P **P 06 11 21.1 -0.1**
CD2 pP pP 06 11 25.7 -9.4
CD2 sP sP 06 11 27.6 -13
CD2 PP PP 06 13 38.5 +1.6
CD2 S **S** **06 19 40.3 +0.8**
CD2 sS sS 06 19 47.6 -15
CD2 SS SS 06 23 41.9 +1.0
CD2 pmax pmax
comp=Z,30nm,0.5s,mb5.7
CD2 pmax pmax
comp=Z,110nm,5.4s
CD2 LR LR
comp=N,190nm,5.9s
CD2 LR LR
comp=Z,150nm,5.9s
LONY Lake Ozonia 61.80 53 *eP* **P 06 11 21.2 -1.2**
comp=Z,16nm,0.9s,mb5.1
MKAR Makanchi Array 61.96 311 P **P 06 11 22.4 -1.0**
comp=Z,1.1nm,0.5s,mb4.3,baz=50,slow=6.8,SNR=14
MKAR pP pP 06 11 36.4 -0.9
comp=Z,3.9nm,0.8s,baz=53,slow=6.2,SNR=11
MKAR LR LR 06 38 39.9
comp=Z,80nm,20.1s,MS3.9,baz=137,slow=36
MKAR Makanchi Array 61.96 311 *eP* **P 06 11 23.1 -0.3**
MKAR Makanchi Array 61.96 311 P **P 06 11 22.4 -1.0**
MKAR *PP pP 06 11 36.4 -0.9
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR pmax pmax
comp=Z,4.0nm,0.9s
MKAR MLR MLR
comp=Z,80nm,20.1s
BVAR Borovoye Array 62.38 322 P **P 06 11 25.8 -0.4**
comp=Z,5.0nm,0.7s,mb4.8,baz=51,slow=6.8,SNR=20
BVAR pP pP 06 11 40.2 +0.2
comp=Z,3.1nm,0.7s,baz=64,slow=6.2,SNR=4.7
BVAR PcP PcP 06 12 05.4 +0.1
comp=Z,7.3nm,0.7s,baz=57,slow=2.9,SNR=14
BVAR pPcP 06 12 19.1
comp=Z,3.7nm,0.6s,baz=54,slow=2.9,SNR=5.3
BVAR Borovoye Array 62.38 322 P **P 06 11 25.8 -0.4**
BVAR pP pP 06 11 40.2 +0.2
BVAR PcP PcP 06 12 05.4 +0.1
BVAR pPcP 06 12 19.1
BVAR Borovoye Array 62.38 322 P **P 06 11 25.8 -0.3**
BVAR *PP pP 06 11 40.2 +0.2
BVAR 06 12 05.4
BRVK Borovoye 62.40 322 *eP* **P 06 11 27.0 +0.8**
BRVK pmax pmax
comp=Z,7.0nm,2.5s,mb4.3
BINY Binghamton 62.84 56 *eP* **P 06 11 28.8 -0.5**
comp=Z,32nm,1.2s,mb5.3
SSPA Standing Stone 62.97 58 *eP* **P 06 11 29.6 -0.7**
comp=Z,10nm,0.9s,mb5.0

GYA Guiyang 63.03 279 P **P 06 11 32.0 +1.2**
GYA PP PP 06 13 51.7 +2.1
GYA ScP ScP 06 16 11.0 +4.9
GYA S **S** **06 20 01.0 +3.4**
GYA SKS 06 21 21.9
GYA SS SS 06 24 07.8 +4.4
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
GYA pmax pmax
comp=Z,110nm,5.2s
GYA LR LR
comp=N,400nm,19.7s,MS4.7
GYA LR LR
comp=E,310nm,20.2s,MS4.7
GYA LR LR
comp=Z,450nm,19.1s,MS4.7
ACCN Adirondack Com 63.15 53 *eP* **P 06 11 30.8 -0.6**
comp=Z,16nm,0.8s,mb5.2
TKL Tuckaleechee C 63.31 66 P **P 06 11 32.7 +0.1**
comp=Z,4.0nm,0.9s,mb4.5,baz=301,slow=18,SNR=3.3
TKL LR LR 06 41 03.2
comp=Z,103nm,19.1s,MS4.0,baz=81,slow=38
TKL Tuckaleechee C 63.31 66 P **P 06 11 32.7 +0.1**
TKL LR LR 06 41 03.2
TKL Tuckaleechee C 63.31 66 P **P 06 11 32.7 +0.1**
PAL Palisades 64.77 55 *eP* **P 06 11 42.0 -0.1**
comp=Z,28nm,1.0s,mb5.2
PAL Palisades 64.77 55 *eP* **P 06 11 42.0 -0.1**
PAL pmax pmax
comp=Z,28nm,1.0s,mb5.2
FINES FINESS Array B 66.02 349 P **P 06 11 48.9 -1.0**
comp=Z,3.3nm,0.8s,mb4.4,baz=31,slow=7.8,SNR=4.7
FINES pP pP 06 12 03.6 -0.2
comp=Z,3.6nm,0.9s,baz=34,slow=7.8,SNR=2.1
FINES LR LR 06 45 54.9
comp=Z,124nm,18.2s,MS4.2,baz=313,slow=41
FINES FINESS Array B 66.02 349 P **P 06 11 48.9 -0.9**
FINES pP pP 06 12 03.6 -0.2
FINES LR LR 06 45 54.9
FINES FINESS Array B 66.02 349 P **P 06 11 48.9 -0.9**
FINES *PP pP 06 12 03.6 -0.2
KMI Kunming 66.41 281 P pP 06 12 06.6 -0.2
KMI pmax pmax
comp=Z,16nm,1.0s,mb5.0
KMI Kunming 66.41 281 P **P 06 11 54.3 +1.4**
KMI pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
NB2 NORSAR Subarra 67.51 357 P **P 06 11 58.8 -0.5**
comp=Z,1.7nm,0.6s,mb4.2,baz=2.2,slow=6.2
NOA NORSAR Array B 67.51 357 P **P 06 11 58.7 -0.6**
comp=Z,4.2nm,0.8s,mb4.5,baz=2.6,slow=6.3,SNR=6.5
NOA pP pP 06 12 12.7 -0.7
comp=Z,1.7nm,0.7s,baz=3.3,slow=6.4,SNR=3.7
NOA LR LR 06 41 48.1
comp=Z,38nm,20.0s,MS3.6,baz=270,slow=36
NOA NORSAR Array B 67.51 357 P **P 06 11 58.7 -0.7**
NOA pP pP 06 12 12.7 -0.7
NOA LR LR 06 41 48.1
NOA NORSAR Array B 67.51 357 P **P 06 11 58.7 -0.6**
NOA *PP pP 06 12 12.7 -0.6
HFS Hagfors 68.32 356 LR LR 06 40 39.4
comp=Z,63nm,18.2s,MS3.9,baz=70,slow=35
AAK Ala-Archa 68.74 312 P **P 06 12 08.1 +0.8**
comp=Z,3.9nm,0.7s,mb4.5,baz=164,slow=4.9,SNR=9.4
AAK LR LR 06 44 46.7
comp=Z,107nm,18.1s,MS4.1,baz=40,slow=38
AAK Ala-Archa 68.74 312 *eP* **P 06 12 08.3 +1.0**
comp=Z,5.0nm,0.7s,mb4.5
AAK Ala-Archa 68.74 312 *eP* **P 06 12 08.3 +1.0**
AAK pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
AKTK Aktyubinsk 68.97 327 P **P 06 12 08.2 -0.3**
AKTK LR LR 06 46 01.9
AKTO Aktyubinsk 68.97 327 P **P 06 12 08.2 -0.3**
comp=Z,3.8nm,0.6s,mb4.5,baz=58,slow=6.5,SNR=14
AKTO LR LR 06 46 01.9
comp=Z,99nm,18.4s,MS4.1,baz=226,slow=39
AKTO Aktyubinsk 68.97 327 P **P 06 12 08.3 -0.3**
EKS2 Erkin-Say 69.04 313 *eP* **P 06 12 10.4 +1.2**
comp=Z,5.5nm,0.9s,mb4.5
EKS2 Erkin-Say 69.04 313 *eP* **P 06 12 10.4 +1.2**
EKS2 pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
ABKAR Akbulak array 69.30 325 *eP* **P 06 12 10.7 0.0**
LSA Lhasa 69.91 293 P **P 06 12 16.5 +1.7**
LSA Lhasa 69.91 293 *eP* **P 06 12 15.8 +1.0**
comp=Z,32nm,0.8s,mb5.3
LSA Lhasa 69.91 293 *eP* **P 06 12 15.8 +1.0**
LSA pmax pmax
comp=Z,32nm,0.8s,mb5.3
KKAR Karatay Array 70.15 315 *eP* **P 06 12 15.9 -0.2**
KKAR Karatay Array 70.15 315 *eP* **P 06 12 15.9 -0.1**
PMOR Pomariorio Ree 70.31 153 *eT* 07 29 25.5
comp=Z,4.0nm,0.2s
KSH Kashi 70.48 309 ⇑*iP* **P 06 12 21.9 +3.8**
KSH pP pP 06 12 26.0 -6.2
KSH sP sP 06 12 28.9 -8.9
KSH PcP PcP 06 12 42.4 +3.2
KSH PP PP 06 15 01.5 +7.4
KSH S S 06 21 35.5 +8.3
KSH sS sS 06 21 44.0 -6.8
KSH SKS 06 22 19.5
KSH ScS ScS 06 22 21.9 +5.0
KSH pmax pmax
comp=Z,13nm,0.9s,mb4.9
KSH LR LR
comp=N,82nm,5.2s
KSH LR LR
comp=E,90nm,5.7s
KSH LR LR
comp=Z,72nm,5.9s
OBN Obninsk 70.48 342 *eP* **P 06 12 21.0 +3.2**
OBN pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
PPT Papeete 72.30 155 *eLR* LR 06 33 52.5
comp=Z,93nm,22.0s
PPT *eT* 07 31 55.5
comp=Z,2.4nm,0.2s
PPT Papeete 72.30 155 LR LR 06 38 49.8
comp=Z,94nm,20.4s,MS4.0,baz=338,slow=31
SHL Shillong 72.59 289 *ePKP* **P 06 12 32.0 +1.0**
VSR Storozhevoye 73.60 339 *eP* **P 06 12 35.8 -0.7**
VSR pmax pmax
comp=N,5.0nm,0.5s
VSR pmax pmax
comp=E,4.0nm,0.5s
VSR pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
SUW Suwalki 73.63 349 *eP* **P 06 12 36.3 -0.4**
comp=Z,29nm,0.5s,mb5.5
SUW Suwalki 73.63 349 *eP* **P 06 12 36.3 -0.4**
SUW pmax pmax
comp=Z,29nm,0.5s,mb5.5
CMAR Chiang Mai Arr 73.72 279 P **P 06 12 37.4 -0.4**
comp=Z,3.3nm,0.8s,mb4.3,baz=29,slow=7.1,SNR=16
CMAR pP pP 06 12 52.0 +0.1
comp=Z,5.5nm,0.8s,baz=26,slow=7.3,SNR=7.3
CMAR Chiang Mai Arr 73.72 279 P **P 06 12 37.4 -0.4**
CMAR pP pP 06 12 52.0 +0.1
CMAR Chiang Mai Arr 73.72 279 P **P 06 12 37.4 -0.3**
CMAR *PP pP 06 12 52.0 +0.1
GUN Gumba 74.27 295 *eP* **P 06 12 41.3 +0.5**
comp=Z,107nm,0.9s,mb5.8
GUN Gumba 74.27 295 *eP* **P 06 12 41.3 +0.5**
comp=Z,107nm,0.9s,mb5.8
KKN Kakani 74.70 295 *eP* **P 06 12 43.6 +0.3**
comp=Z,38nm,0.9s,mb5.3
KKN Kakani 74.70 295 *eP* **P 06 12 43.6 +0.3**
comp=Z,38nm,0.9s,mb5.3
KKN Kakani 74.70 295 *eP* **P 06 12 43.6 +0.3**
KKN pmax pmax
comp=Z,38nm,0.9s,mb5.3
PKI Pulchoki 74.79 295 *eP* **P 06 12 44.0 +0.1**
comp=Z,71nm,1.1s,mb5.5
PKI Pulchoki 74.79 295 *eP* **P 06 12 44.1 +0.2**
comp=Z,44nm,1.1s,mb5.3
PKI Pulchoki 74.79 295 *eP* **P 06 12 44.1 +0.2**
PKI pmax pmax
comp=Z,44nm,1.1s,mb5.3
PKIN Phulchoki 74.79 295 *eP* **P 06 12 44.1 +0.2**
comp=Z,44nm,1.1s,mb5.3
GKN Gorkha 74.89 296 *eP* **P 06 12 44.4 -0.1**
comp=Z,62nm,0.9s,mb5.5
GKN Gorkha 74.89 296 *eP* **P 06 12 44.4 -0.1**
comp=Z,62nm,0.9s,mb5.5

DMN Daman 74.93 295 *eP* **P 06 12 45.0 +0.3**
comp=Z,48nm,0.9s,mb5.4
DMN Daman 74.93 295 *eP* **P 06 12 45.0 +0.3**
comp=Z,48nm,0.9s,mb5.4
DANN Dangsing 75.11 297 *eP* **P 06 12 46.2 +0.5**
comp=Z,101nm,0.8s,mb5.8
DANN Dangsing 75.11 297 *eP* **P 06 12 46.2 +0.5**
comp=Z,101nm,0.8s,mb5.8
KOLN Koldanda 75.65 297 *eP* **P 06 12 48.8 0.0**
comp=Z,47nm,1.0s,mb5.4
KOLN Koldanda 75.65 297 *eP* **P 06 12 48.8 0.0**
comp=Z,47nm,1.0s,mb5.4
AKASG Malin Array Be 76.02 345 P **P 06 12 49.1 -1.5**
comp=Z,4.6nm,0.8s,mb4.5,baz=11,slow=5.1,SNR=8.1
AKASG Malin Array Be 76.02 345 P **P 06 12 49.1 -1.5**
AKASG Malin Array Be 76.02 345 P **P 06 12 49.1 -1.4**
KIEV Kiev 76.03 345 *eP* **P 06 12 49.5 -1.1**
comp=Z,4.6nm,0.9s,mb4.4
KIEV Kiev 76.03 345 *eP* **P 06 12 49.5 -1.1**
KIEV pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CLL Collm 77.17 355 ⇓*iP* **P 06 12 57.1 +0.1**
CLL pmax pmax
comp=Z,12nm,0.8s,mb4.9
CLL Collm 77.17 355 ⇓*iP* **P 06 12 57.1 +0.1**
comp=Z,12nm,0.8s,mb4.9
KBL Kabul 77.77 311 *eP* **P 06 13 00.4 -0.3**
comp=Z,16nm,0.8s,mb5.0
KBL Kabul 77.77 311 *eP* **P 06 13 00.4 -0.3**
KBL pmax pmax
comp=Z,16nm,0.8s,mb5.0
UPC Upice 77.78 353 *eP* **P 06 13 00.5 +0.1**
UPC Upice 77.78 353 *eP* **P 06 13 00.5 +0.1**
TBI Tubuai 77.87 157 *eLR* LR 06 37 07.0
comp=Z,91nm,24.5s
TBI *eT* 07 38 53.1
comp=Z,3.0nm,0.3s
DPC Dobruska-Polom 77.91 353 *eP* **P 06 13 01.2 0.0**
comp=Z,14nm,0.9s,mb4.9
DPC Dobruska-Polom 77.91 353 *eP* **P 06 13 01.2 0.0**
DPC pmax pmax
comp=Z,14nm,0.9s,mb4.9
DPC Dobruska-Polom 77.91 353 *eP* **P 06 13 01.1 -0.1**
KWP Kalwaria Pacla 78.00 349 ⇓P **P 06 13 02.3 +0.6**
KWP Kalwaria Pacla 78.00 349 ⇓*iP* **P 06 13 02.3 +0.6**
KWP Kalwaria Pacla 78.00 349 ⇓*iP* **P 06 13 02.3 +0.6**
MEM Membach 78.06 360 P **P 06 13 02.8 +0.9**
comp=Z,6.4nm,0.9s,mb4.5
BCLA Clavier 78.25 0 P **P 06 13 03.3 +0.3**
comp=Z,18nm,3.1s
NKC Novy Kostel 78.27 356 *eP* **P 06 13 03.5 +0.3**
NKC Novy Kostel 78.27 356 *eP* **P 06 13 03.5 +0.3**
MORC Moravsky Berou 78.39 352 ⇓P **P 06 13 04.0 +0.2**
MORC Moravsky Berou 78.39 352 ⇓*iP* **P 06 13 04.0 +0.2**
MORC Moravsky Berou 78.39 352 ⇓*iP* **P 06 13 04.0 +0.2**
PRU Pruhonice 78.40 354 *eP* **P 06 13 04.8 +0.9**
PRU Pruhonice 78.40 354 *eP* **P 06 13 04.8 +0.9**
GIVF Givet 78.56 1 *eP* **P 06 13 05.9 +1.1**
GIVF Givet 78.56 1 *eP* **P 06 13 05.9 +1.1**
GIVF Givet 78.56 1 *eP* **P 06 13 05.9 +1.1**
DOU Dourbes 78.57 1 P **P 06 13 04.9 +0.1**
comp=Z,14nm,2.3s,mb4.5
BAIF Baives 78.60 1 *eP* **P 06 13 05.3 +0.3**
comp=Z,34nm,1.0s,mb4.9
BAIF Baives 78.60 1 *eP* **P 06 13 05.3 +0.3**
comp=Z,17nm,1.0s,mb4.9
BAIF Baives 78.60 1 *eP* **P 06 13 05.3 +0.3**
BAIF pmax pmax
comp=Z,17nm,1.0s,mb4.9
AYAN Aya Nagar 78.61 302 *ePKP* **P 06 13 04.8 -0.6**
AYAN AMb AMB 06 13 05.6
comp=Z,7.0nm,0.9s,mb4.6
SONA Sohna 78.82 302 *ePKP* **P 06 13 05.1 -1.5**
SONA AMb AMB 06 13 07.0
comp=Z,11nm,0.5s,mb5.1
GRFO Grafenberg 78.87 356 *eP* **P 06 13 07.3 +0.9**
comp=Z,16nm,0.8s,mb5.0
GRFO Grafenberg 78.87 356 *eP* **P 06 13 07.4 +0.9**
GRFO pmax pmax
comp=Z,16nm,0.8s,mb5.0
AGRA Agra 79.17 300 *ePKP* **P 06 13 07.5 -1.0**
KHC Kasperske Hory 79.31 355 *eP* **P 06 13 09.6 +0.7**
comp=Z,7.1nm,0.9s,mb4.6
KHC Kasperske Hory 79.31 355 *eP* **P 06 13 09.6 +0.7**
KHC pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
KHC Kasperske Hory 79.31 355 *eP* **P 06 13 09.3 +0.4**
KHC *epP* pP 06 13 22.0 -1.2
KECS Kecovo 79.38 350 *eP* **P 06 13 09.6 +0.3**
KECS pmax pmax
comp=Z,2.0nm,1.3s,mb3.9
KECS Kecovo 79.38 350 *eP* **P 06 13 09.6 +0.3**
TRPA Tarpa 79.49 349 ⇑*iP* **P 06 13 10.6 +0.7**
TRPA Tarpa 79.49 349 ⇑*iP* **P 06 13 10.6 +0.7**
VYHS Vyhne 79.54 351 *eP* **P 06 13 10.1 0.0**
VYHS pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
VYHS Vyhne 79.54 351 *eP* **P 06 13 10.1 0.0**
GERES GERESS Array B 79.59 355 P **P 06 13 10.2 -0.2**
comp=Z,3.7nm,0.8s,mb4.4,baz=19,slow=4.5,SNR=26
GERES GERESS Array B 79.59 355 P **P 06 13 10.2 -0.2**
GERES GERESS Array B 79.59 355 P **P 06 13 10.2 -0.2**
BUR08 Bucovina Ar. S 79.61 347 *eP* **P 06 13 10.9 +0.3**
KHET Khetri 79.63 302 *ePKP* **P 06 13 10.5 -0.5**
KHET AMb AMB 06 13 11.7
comp=Z,12nm,0.6s,mb5.0
BURAR Bucovina Array 79.64 347 ⇑P **P 06 13 10.6 -0.1**
BURAR Bucovina Array 79.64 347 ⇑*iP* **P 06 13 10.6 -0.1**
BURAR Bucovina Array 79.64 347 ⇑*iP* **P 06 13 10.6 -0.1**
FLN La Foliniere 79.77 4 *eP* **P 06 13 11.3 -0.1**
FLN *eMLR* MLR
comp=Z,70nm,18.8s,MS3.7
FLN La Foliniere 79.77 4 *eP* **P 06 13 11.3 -0.1**
FLN LR LR
comp=Z,70nm,18.8s,MS4.0
FLN La Foliniere 79.77 4 *eP* **P 06 13 11.3 -0.1**
FLN MLR MLR
comp=Z,70nm,18.8s,MS4.0
LDF La Druitiere 79.95 4 *eP* **P 06 13 12.0 -0.4**
comp=Z,8.3nm,0.6s,mb4.5
LDF La Druitiere 79.95 4 *eP* **P 06 13 12.0 -0.4**
comp=Z,4.2nm,0.6s,mb4.5
LDF La Druitiere 79.95 4 *eP* **P 06 13 12.0 -0.4**
LDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
GRR Gorron 80.13 4 *eP* **P 06 13 13.3 0.0**
GRR Gorron 80.13 4 *eP* **P 06 13 13.3 0.0**
GRR Gorron 80.13 4 *eP* **P 06 13 13.3 0.0**
SGMF Saint Gilles 80.17 6 *eP* **P 06 13 13.5 -0.1**
SGMF Saint Gilles 80.17 6 *eP* **P 06 13 13.5 -0.1**
SGMF Saint Gilles 80.17 6 *eP* **P 06 13 13.5 -0.1**
CDF Champ du Feu 80.25 359 *eP* **P 06 13 14.3 +0.3**
comp=Z,19nm,0.8s,mb4.8
CDF Champ du Feu 80.25 359 *eP* **P 06 13 14.3 +0.3**
comp=Z,9.6nm,0.8s,mb4.8
CDF Champ du Feu 80.25 359 *eP* **P 06 13 14.3 +0.3**
CDF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BFO Black Forest 80.31 358 *eP* **P 06 13 14.2 -0.2**
comp=Z,49nm,1.9s,mb5.1
BFO Black Forest 80.31 358 *eP* **P 06 13 14.2 -0.1**
BFO pmax pmax
comp=Z,49nm,1.9s,mb5.1
ECH Echery 80.45 359 *eP* **P 06 13 15.4 +0.3**
comp=Z,12nm,0.8s,mb4.9
ECH Echery 80.45 359 *eP* **P 06 13 15.4 +0.4**
ECH pmax pmax
comp=Z,12nm,0.8s,mb4.9
SFTF Sexfontaines 80.46 0 *eP* **P 06 13 15.4 +0.3**
comp=Z,54nm,0.9s,mb5.2
SFTF Sexfontaines 80.46 0 *eP* **P 06 13 15.4 +0.3**
comp=Z,54nm,0.9s,mb5.5
HAU Haudompre 80.66 360 *eP* **P 06 13 16.5 +0.3**
comp=Z,28nm,0.9s,mb4.9
HAU *eMLR* MLR
comp=Z,62nm,20.0s,MS3.7
HAU Haudompre 80.66 360 *eP* **P 06 13 16.5 +0.3**
comp=Z,14nm,0.9s,mb4.9
HAU LR LR
comp=Z,60nm,20.0s,MS3.9
HAU Haudompre 80.66 360 *eP* **P 06 13 16.5 +0.3**
HAU pmax pmax
comp=Z,14nm,0.9s,mb4.9
HAU MLR MLR
comp=Z,60nm,20.0s,MS3.9

DRGR		**80.79**	**348**	⇑P		**P**	**06 13 17.1**	**+0.2**
DRGR		**80.79**	**348**	⇑*i*P		**P**	**06 13 17.1**	**+0.2**
DRGR		**80.79**	**348**	⇑*i*P		**P**	**06 13 17.1**	**+0.2**
HINF	**Hinteralfeld**	**80.85**	**359**	*e*P		**P**	**06 13 17.2**	**0.0**
	comp=Z,18nm,0.8s,mb4.8							
HINF	**Hinteralfeld**	**80.85**	**359**	*e*P		**P**	**06 13 17.2**	**0.0**
	comp=Z,9.2nm,0.8s,mb4.8							
HINF	**Hinteralfeld**	**80.85**	**359**	*e*P		**P**	**06 13 17.2**	**0.0**
HINF				pmax	pmax			
	comp=Z,9.0nm,0.8s,mb4.8							
VRI	**Vrincioaia**	**81.12**	**345**	⇑P		**P**	**06 13 19.6**	**+0.9**
VRI	**Vrincioaia**	**81.12**	**345**	⇑*i*P		**P**	**06 13 19.6**	**+0.9**
VRI	**Vrincioaia**	**81.12**	**345**	⇑*i*P		**P**	**06 13 19.6**	**+0.9**
LOR	**Lormes**	**81.39**	**1**	*e*P		**P**	**06 13 20.3**	**+0.2**
	comp=Z,23nm,0.8s,mb4.8							
LOR				*e*MLR	MLR			
	comp=Z,60nm,22.5s,MS3.6							
LOR	**Lormes**	**81.39**	**1**	*e*P		**P**	**06 13 20.3**	**+0.2**
	comp=Z,11nm,0.8s,mb4.8							
LOR				LR	LR			
	comp=Z,60nm,22.5s,MS3.9							
LOR	**Lormes**	**81.39**	**1**	*e*P		**P**	**06 13 20.3**	**+0.2**
LOR				pmax	pmax			
	comp=Z,11nm,0.8s,mb4.8							
LOR				MLR	MLR			
	comp=Z,60nm,22.5s,MS3.9							
TLCR		**81.43**	**344**	⇓P		**P**	**06 13 20.9**	**+0.5**
TLCR		**81.43**	**344**	⇓*i*P		**P**	**06 13 20.9**	**+0.5**
TLCR		**81.43**	**344**	⇓*i*P		**P**	**06 13 20.9**	**+0.5**
CFR	**Carcaliu**	**81.56**	**344**	⇓P		**P**	**06 13 21.8**	**+0.8**
CFR	**Carcaliu**	**81.56**	**344**	⇓*i*P		**P**	**06 13 21.8**	**+0.8**
CFR	**Carcaliu**	**81.56**	**344**	⇓*i*P		**P**	**06 13 21.8**	**+0.8**
SSF	**Saint Saulge**	**81.59**	**1**	*e*P		**P**	**06 13 21.4**	**+0.2**
	comp=Z,25nm,0.8s,mb4.9							
SSF	**Saint Saulge**	**81.59**	**1**	*e*P		**P**	**06 13 21.4**	**+0.2**
	comp=Z,12nm,0.8s,mb4.9							
SSF	**Saint Saulge**	**81.59**	**1**	*e*P		**P**	**06 13 21.4**	**+0.2**
SSF				pmax	pmax			
	comp=Z,13nm,0.8s,mb4.9							
MLR	**Muntele Rosu**	**81.61**	**346**	P		**P**	**06 13 22.6**	**+1.3**
	comp=Z,1.3nm,0.8s,mb3.9,baz=209,slow=8.1,SNR=11							
MLR	**Muntele Rosu**	**81.61**	**346**	P		**P**	**06 13 22.6**	**+1.3**
MLR	**Muntele Rosu**	**81.61**	**346**	⇓P		**P**	**06 13 23.0**	**+1.7**
MLR	**Muntele Rosu**	**81.61**	**346**	⇓*i*P		**P**	**06 13 23.0**	**+1.7**
MLR	**Muntele Rosu**	**81.61**	**346**	⇓*i*P		**P**	**06 13 23.0**	**+1.7**
VOIR		**81.80**	**346**	⇓P		**P**	**06 13 23.0**	**+0.7**
VOIR		**81.80**	**346**	⇓*i*P		**P**	**06 13 23.0**	**+0.7**
VOIR		**81.80**	**346**	⇓*i*P		**P**	**06 13 23.0**	**+0.7**
DAVOX	**Davos/Dischmat**	**81.82**	**357**	P		**P**	**06 13 23.0**	**+0.6**
	comp=Z,3.1nm,0.8s,mb4.3,baz=337,slow=14,SNR=7.4							
DAVOX	**Davos/Dischmat**	**81.82**	**357**	P		**P**	**06 13 23.0**	**+0.6**
DAVOX	**Davos/Dischmat**	**81.82**	**357**	P		**P**	**06 13 23.0**	**+0.6**
AVF	**Avril sur Loir**	**81.86**	**2**	*e*P		**P**	**06 13 22.6**	**0.0**
	comp=Z,34nm,0.9s,mb5.0							
AVF	**Avril sur Loir**	**81.86**	**2**	*e*P		**P**	**06 13 22.6**	**0.0**
	comp=Z,17nm,0.9s,mb5.0							
AVF	**Avril sur Loir**	**81.86**	**2**	*e*P		**P**	**06 13 22.6**	**0.0**
AVF				pmax	pmax			
	comp=Z,17nm,0.9s,mb5.0							
MFF	**Saint Martin d**	**81.94**	**4**	*e*P		**P**	**06 13 23.2**	**+0.2**
	comp=Z,27nm,0.9s,mb4.9							
MFF	**Saint Martin d**	**81.94**	**4**	*e*P		**P**	**06 13 23.2**	**+0.2**
	comp=Z,13nm,0.9s,mb4.9							
MFF	**Saint Martin d**	**81.94**	**4**	*e*P		**P**	**06 13 23.2**	**+0.2**
MFF				pmax	pmax			
	comp=Z,13nm,0.9s,mb4.9							
SMF	**Signal de Mont**	**82.01**	**1**	*e*P		**P**	**06 13 23.6**	**+0.2**
	comp=Z,39nm,0.9s,mb5.0							
SMF	**Signal de Mont**	**82.01**	**1**	*e*P		**P**	**06 13 23.6**	**+0.2**
	comp=Z,20nm,0.9s,mb5.0							
SMF	**Signal de Mont**	**82.01**	**1**	*e*P		**P**	**06 13 23.6**	**+0.2**
SMF				pmax	pmax			
	comp=Z,19nm,0.9s,mb5.0							
CABF	**La Chapelle**	**82.06**	**360**	*e*P		**P**	**06 13 24.3**	**+0.7**
	comp=Z,37nm,1.0s,mb5.0							
CABF	**La Chapelle**	**82.06**	**360**	*e*P		**P**	**06 13 24.3**	**+0.7**
	comp=Z,19nm,1.0s,mb5.0							
CABF	**La Chapelle**	**82.06**	**360**	*e*P		**P**	**06 13 24.3**	**+0.7**
CABF				pmax	pmax			
	comp=Z,19nm,1.0s,mb5.0							
BGF	**Bois d'Agland**	**82.08**	**2**	*e*P		**P**	**06 13 23.9**	**+0.1**
	comp=Z,11nm,0.6s,mb4.7							
BGF	**Bois d'Agland**	**82.08**	**2**	*e*P		**P**	**06 13 23.9**	**+0.1**
	comp=Z,5.3nm,0.6s,mb4.7							
BGF	**Bois d'Agland**	**82.08**	**2**	*e*P		**P**	**06 13 23.9**	**+0.1**
BGF				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.6							
TUE	**Stuetta**	**82.15**	**357**	*e*P		**P**	**06 13 24.6**	**+0.5**
	comp=Z,6.8nm,0.9s,mb4.6							
GZR	**Gura Zlata**	**82.15**	**348**	⇑P		**P**	**06 13 24.6**	**+0.5**
GZR	**Gura Zlata**	**82.15**	**348**	⇑*i*P		**P**	**06 13 24.6**	**+0.5**
GZR	**Gura Zlata**	**82.15**	**348**	⇑*i*P		**P**	**06 13 24.6**	**+0.5**
TIRR	**Tirgusor**	**82.21**	**344**	⇑P		**P**	**06 13 25.0**	**+0.5**
TIRR	**Tirgusor**	**82.21**	**344**	⇑*i*P		**P**	**06 13 25.0**	**+0.5**
TIRR	**Tirgusor**	**82.21**	**344**	⇑*i*P		**P**	**06 13 25.0**	**+0.5**
TCF	**Toulx Ste Croi**	**82.34**	**2**	*e*P		**P**	**06 13 25.2**	**+0.1**
	comp=Z,17nm,0.9s,mb4.7							
TCF	**Toulx Ste Croi**	**82.34**	**2**	*e*P		**P**	**06 13 25.2**	**+0.1**
	comp=Z,8.3nm,0.9s,mb4.7							
TCF	**Toulx Ste Croi**	**82.34**	**2**	*e*P		**P**	**06 13 25.2**	**+0.1**
TCF				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.7							
BHPL	**Bhopal**	**82.63**	**298**	*e*PKP		**P**	**06 13 25.6**	**-1.4**
BHPL				AMb	AMB	AMB	06 13 27.5	
	comp=Z,23nm,0.8s,mb5.3							
RJF	**Les Rejaudoux**	**83.30**	**3**	*e*P		**P**	**06 13 29.4**	**-0.7**
RJF				*e*MLR	MLR			
	comp=Z,110nm,19.2s,MS4.0							
RJF	**Les Rejaudoux**	**83.30**	**3**	*e*P		**P**	**06 13 29.4**	**-0.7**
RJF				LR	LR			
	comp=Z,110nm,19.3s,MS4.2							
RJF	**Les Rejaudoux**	**83.30**	**3**	*e*P		**P**	**06 13 29.4**	**-0.7**
RJF				MLR	MLR			
	comp=Z,110nm,19.3s,MS4.2							
LFF	**La Frestale**	**83.64**	**3**	*e*P		**P**	**06 13 32.3**	**+0.5**
LFF	**La Frestale**	**83.64**	**3**	*e*P		**P**	**06 13 32.3**	**+0.5**
LFF	**La Frestale**	**83.64**	**3**	*e*P		**P**	**06 13 32.3**	**+0.5**
VIS	**Vishakhapatnam**	**83.66**	**290**	*e*PKP		**P**	**06 13 29.5**	**-2.9**
VIS				AMb	AMB	AMB	06 13 29.9	
	comp=Z,12nm,0.6s,mb5.2							
CAF	**Calviac**	**83.70**	**3**	*e*P		**P**	**06 13 32.6**	**+0.5**
	comp=Z,21nm,1.0s,mb4.9							
CAF	**Calviac**	**83.70**	**3**	*e*P		**P**	**06 13 32.6**	**+0.5**
	comp=Z,10nm,1.0s,mb4.9							
CAF	**Calviac**	**83.70**	**3**	*e*P		**P**	**06 13 32.6**	**+0.5**
CAF				pmax	pmax			
	comp=Z,10.0nm,1.0s,mb4.9							
MBDF	**Montbardon**	**83.94**	**359**	*e*P		**P**	**06 13 34.6**	**+1.2**
	comp=Z,13nm,0.8s,mb4.8							
MBDF	**Montbardon**	**83.94**	**359**	*e*P		**P**	**06 13 34.6**	**+1.2**
	comp=Z,6.6nm,0.8s,mb4.8							
MBDF	**Montbardon**	**83.94**	**359**	*e*P		**P**	**06 13 34.6**	**+1.2**
MBDF				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.8							
LASF	**Ste Croix**	**84.58**	**1**	*e*P		**P**	**06 13 37.5**	**+0.8**
LASF	**Ste Croix**	**84.58**	**1**	*e*P		**P**	**06 13 37.5**	**+0.8**
SMRF	**Simiane la Rot**	**84.69**	**0**	*e*P		**P**	**06 13 38.6**	**+1.4**
SMRF	**Simiane la Rot**	**84.69**	**0**	*e*P		**P**	**06 13 38.6**	**+1.4**
FRF	**La Foret Royal**	**85.11**	**359**	*e*P		**P**	**06 13 39.4**	**+0.1**
FRF	**La Foret Royal**	**85.11**	**359**	*e*P		**P**	**06 13 39.4**	**+0.1**
FRF	**La Foret Royal**	**85.11**	**359**	*e*P		**P**	**06 13 39.4**	**+0.1**
MTLF	**Montolieu**	**85.28**	**3**	*e*P		**P**	**06 13 40.7**	**+0.5**
	comp=Z,56nm,1.4s,mb5.2							
MTLF	**Montolieu**	**85.28**	**3**	*e*P		**P**	**06 13 40.7**	**+0.5**
	comp=Z,28nm,1.4s,mb5.2							
MTLF	**Montolieu**	**85.28**	**3**	*e*P		**P**	**06 13 40.7**	**+0.5**
MTLF				pmax	pmax			
	comp=Z,28nm,1.4s,mb5.2							
LMR	**La Mourre**	**85.33**	**359**	*e*P		**P**	**06 13 41.0**	**+0.6**
LMR	**La Mourre**	**85.33**	**359**	*e*P		**P**	**06 13 41.0**	**+0.6**
LMR	**La Mourre**	**85.33**	**359**	*e*P		**P**	**06 13 41.0**	**+0.6**
SJPF	**Ste Jean**	**85.37**	**5**	*e*P		**P**	**06 13 40.8**	**+0.2**
SJPF	**Ste Jean**	**85.37**	**5**	*e*P		**P**	**06 13 40.8**	**+0.2**
SJPF	**Ste Jean**	**85.37**	**5**	*e*P		**P**	**06 13 40.8**	**+0.2**
EPF	**Esparros**	**85.53**	**4**	*e*P		**P**	**06 13 41.0**	**-0.4**
	comp=Z,39nm,1.3s,mb5.2							
EPF	**Esparros**	**85.53**	**4**	*e*P		**P**	**06 13 41.0**	**-0.4**
	comp=Z,20nm,1.3s,mb5.2							
EPF	**Esparros**	**85.53**	**4**	*e*P		**P**	**06 13 41.0**	**-0.4**
EPF				pmax	pmax			
	comp=Z,20nm,1.3s,mb5.2							
ETSF	**Etsaut**	**85.62**	**5**	*e*P		**P**	**06 13 42.6**	**+0.7**
ETSF	**Etsaut**	**85.62**	**5**	*e*P		**P**	**06 13 42.6**	**+0.7**
ETSF	**Etsaut**	**85.62**	**5**	*e*P		**P**	**06 13 42.6**	**+0.7**
BRTR	**Keskin Array B**	**85.72**	**339**	P		**P**	**06 13 42.2**	**-0.2**
	comp=Z,2.1nm,1.0s,mb4.3,baz=35,slow=3.0,SNR=9.7							
BRTR	**Keskin Array B**	**85.72**	**339**	P		**P**	**06 13 42.2**	**-0.2**
BRTR	**Keskin Array B**	**85.72**	**339**	P		**P**	**06 13 42.2**	**-0.2**
PGF	**Pioggiola**	**86.08**	**358**	*e*P		**P**	**06 13 44.3**	**+0.2**
	comp=Z,69nm,1.2s,mb5.5							
PGF	**Pioggiola**	**86.08**	**358**	*e*P		**P**	**06 13 44.3**	**+0.2**
	comp=Z,34nm,1.2s,mb5.5							
PGF	**Pioggiola**	**86.08**	**358**	*e*P		**P**	**06 13 44.3**	**+0.2**
PGF				pmax	pmax			
	comp=Z,34nm,1.2s,mb5.5							
HYB	**Hyderabad**	**86.66**	**294**	*i* P		**P**	**06 13 46.5**	**-0.9**
HYB				*e*pP	pP		06 14 00.0	-1.8
BHJ	**Bhuj**	**86.76**	**304**	*ex*	x		06 13 31.0	
ASAR	**Alice Springs**	**87.66**	**226**	P		**P**	**06 13 49.9**	**-2.0**
	comp=Z,0.7nm,0.7s,mb4.0,baz=30,slow=4.2,SNR=6.5							
ASAR	**Alice Springs**	**87.66**	**226**	P		**P**	**06 13 49.9**	**-2.0**
ASAR	**Alice Springs**	**87.66**	**226**	P		**P**	**06 13 49.9**	**-2.0**
POO	**Poona**	**88.39**	**298**	*e*PKP		**P**	**06 13 54.9**	**-0.7**
ESDC	**Sonseca Array**	**88.61**	**7**	P		**P**	**06 13 55.8**	**-0.6**
	comp=Z,2.1nm,0.7s,mb4.5,baz=355,slow=5.0,SNR=8.1							
ESDC	**Sonseca Array**	**88.61**	**7**	P		**P**	**06 13 55.8**	**-0.6**
TRD	**Trivandrum**	**94.71**	**290**	*e*PKP		**P**	**06 14 25.4**	**+0.4**
TORD	**Torodi Ar. Bea**	**115.33**	**4**	PKP	PKPdf		06 19 43.5	-1.7
	comp=Z,0.3nm,0.7s,baz=319,slow=3.9,SNR=3.3							
TORD	**Torodi Ar. Bea**	**115.33**	**4**	PKP	PKPdf		06 19 43.5	-1.7
QSPA	**South Pole Qui**	**141.47**	**180**	PKhKP	PKPpre		06 20 26.7	
	comp=Z,0.7nm,0.8s,baz=303,slow=0.7,SNR=3.2							
QSPA				PKP	PKPdf		06 20 33.5	+1.0
	comp=Z,0.9nm,0.8s,baz=246,slow=2.8,SNR=3.8							
QSPA	**South Pole Qui**	**141.47**	**180**	PKP	PKPpre		06 20 26.7	
QSPA				PKP	PKPdf		06 20 33.5	+0.9
TSUM	**Tsumeb**	**146.22**	**339**	*e*P	PKPdf		06 20 43.8	+1.1
MAW	**Mawson**	**148.44**	**218**	PKPbc	PKPbc		06 20 45.5	-3.1
	comp=Z,2.8nm,0.9s,baz=246,slow=3.6,SNR=3.5							
MAW	**Mawson**	**148.44**	**218**	PKPbc	PKPbc		06 20 45.5	-3.1
MAW	**Mawson**	**148.44**	**218**	PKIKP	PKPdf		06 20 45.5	+0.6
LBTB	**Lobatse**	**149.30**	**323**	*e*PKPdf	PKPdf		06 20 48.5	+0.8
LBTB				*e*PKPbc	PKPbc		06 20 51.9	-0.1
LBTB				*e*PKPab	PKPab		06 20 57.5	+0.9
LBTB	**Lobatse**	**149.30**	**323**	*e*PKHKP	PKPpre		06 20 48.5	
BOSA	**Boshof**	**152.66**	**320**	PKPbc	PKPbc		06 20 59.2	-0.6
	comp=Z,2.9nm,0.8s,baz=59,slow=6.3,SNR=5.1							
BOSA				PKPab	PKPab		06 21 10.3	-0.3
	comp=Z,3.3nm,0.5s,baz=9.0,slow=4.7,SNR=4.2							
BOSA	**Boshof**	**152.66**	**320**	PKPbc	PKPbc		06 20 59.2	-0.6
BOSA				PKPab	PKPab		06 21 10.3	-0.3
BOSA	**Boshof**	**152.66**	**320**	PKIKP	PKPbc		06 20 59.2	-0.6
BOSA							06 21 10.3	

TRN 03 06:07:18.1, 17°.08N×62°.37W, h15km, MD3.5, 1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBGB		**0.37**	**159**	*i* P	Pg	06 07 27.5	+1.9
MBWH		**0.38**	**153**	*i* P	Pg	06 07 27.4	+1.7
MLYT	**Lee's Yard**	**0.40**	**154**	⇓*i*P	Pg	06 07 27.9	+1.8
MLYT				*i* S	Sg	06 07 33.4	+2.0
SKI	**Saint Kitts**	**0.43**	**305**	*e*P	Pg	06 07 29.6	+2.8
SKI				*e*S	Sg	06 07 35.9	+3.2
BPA	**Boggy Peak**	**0.49**	**94**	*e*P	Pg	06 07 30.9	+3.0
BPA				*e*S	Sg	06 07 38.0	+3.6
BCG	**Bois Riant Cap**	**1.22**	**144**	*e*P	Pn	06 07 42.5	+1.8
SCG	**Saint Claude**	**1.24**	**148**	*e*P	Pn	06 07 42.5	+1.6
HMG	**Houelmont**	**1.27**	**149**	*e*P	Pn	06 07 42.8	+1.5
DOG	**Dongo Capester**	**1.27**	**145**	*e*P	Pn	06 07 43.1	+1.8
PHG	**Guadaloupe-2**	**1.27**	**147**	*e*P	Pn	06 07 43.3	+2.0
MGG	**Marie-Galante**	**1.54**	**139**	*e*P	Pn	06 07 48.6	+3.6

IDC 03 06:07:37.8±1.8, 6°.68S×130°.01E, h0km, mb3.9/2, mb1 4.0/4, mb1mx3.7/17, mbtmp3.9/4, ML4.0/2, Error ellipse: s-maj=128.2km s-min=26.4km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.84**	**163**	Pn	Pn	06 10 54.7	-0.6
	0.7nm,0.3s,baz=345,slow=14,SNR=38						
WRA				Sn	Sn	06 13 19.7	-10
	1.4nm,0.3s,baz=326,slow=24,SNR=13						
ASAR	**Alice Springs**	**17.30**	**168**	Pn	Pn	06 11 42.4	+1.6
	0.5nm,0.3s,baz=350,slow=10,SNR=36						
ASAR				Sn	Sn	06 14 47.0	-7.0
	0.3nm,0.3s,baz=359,slow=27,SNR=5.4						
STKA	**Stephens Creek**	**27.30**	**158**	P	P	06 13 23.9	-0.3
	1.8nm,0.9s,baz=315,slow=8.6,SNR=3.8						
MKAR	**Makanchi Array**	**67.97**	**327**	P	P	06 18 38.7	+0.2
	0.5nm,0.5s,baz=109,slow=7.8,SNR=6.5						

*IDC **03** 06:12:54.9±1.8, 12°.02N×86°.75W, h0km, mb3.3/3, mb1 3.8/4, mb1mx3.5/22, mbtmp3.3/4, ML3.4/1, Error ellipse: s-maj=187.7km s-min=15.1km az=46.0*
*ISCJB **03** 06:12:58.3±1.1, 12°.0N±0°.1×86°.8W±0°.2, h33km, mb3.2/3, Error ellipse: s-maj=36.0km s-min=10.5km az=152.9*
*NEIC **03** 06:13:01.2±4.8, 11°.68N×86°.83W, h71km±58km, Error ellipse: s-maj=168.9km s-min=14.5km az=58.0*

ISC 03 06:12:59.8±1.1, 12°.0N±0°.1×86°.7W±0°.2, h35km, n9, σ0s18/11, mb3.2/3, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGUH	**Tegucigalpa,Un**	**2.10**	**346**	*e*Pn	**Pn**	**06 13 38.3**	**+5.8**
TGUH				*e*Sn	**Sn**	**06 13 57.5**	**0.0**
JTS	**JuntasAbangare**	**2.45**	**134**	Pn	**Pn**	**06 13 37.1**	**-0.2**
	8.1nm,0.3s,baz=311,slow=20,SNR=28						
JTS				Lg		06 14 12.6	
	4.9nm,0.3s,baz=215,slow=13,SNR=4.6						
JTS	**JuntasAbangare**	**2.45**	**134**	Pn	**Pn**	**06 13 37.1**	**-0.2**
JTS				*e*Pn	**Pn**	**06 13 37.6**	**+0.3**
JTS				Lg		06 14 12.6	
TXAR	**Lajitas Array**	**23.36**	**320**	P	P	**06 18 05.3**	**-0.1**
	0.7nm,0.6s,mb3.2,baz=132,slow=11,SNR=11						
TXAR	**Lajitas Array**	**23.36**	**320**	P	P	**06 18 05.3**	**-0.1**
PDAR	**Pinedale Array**	**36.49**	**331**	P	P	**06 20 01.9**	**+0.3**
	0.3nm,0.6s,mb3.4,baz=136,slow=9.5,SNR=3.2						
PDAR	**Pinedale Array**	**36.49**	**331**	P	P	**06 20 01.9**	**+0.3**
NVAR	**Mina Array Bea**	**38.49**	**319**	P	P	**06 20 18.6**	**-0.1**
	0.3nm,0.8s,mb3.1,baz=126,slow=7.3,SNR=3.3						
NVAR	**Mina Array Bea**	**38.49**	**319**	P	P	**06 20 18.6**	**-0.1**

*IDC **03** 06:22:01.9±1.5, 12°.57N×87°.67W, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.8/23, mbtmp3.9/7, ML3.0/2, MS2.7/1, Ms1 2.7/1, ms1mx2.2/28, Error ellipse: s-maj=46.7km s-min=14.8km az=47.0*
*ISCJB **03** 06:22:04.3±0.7, 12°.06N±0°.05×88°.02W±0°.05, h59km±7km, mb4.1/10, Error ellipse: s-maj=11.7km s-min=4.2km az=44.3*
*CASC **03** 06:22:05.1±1.8, 12°.12N×88°.00W, h32km±15km, MD3.9, ML3.4, mb4.2(NEIC)*
*NEIC **03** 06:22:06.2±1.6, 11°.96N×87°.99W, h66km±13km, mb4.2/4, Error ellipse: s-maj=25.4km s-min=14.7km az=219.0*

ISC 03 06:22:05.3±0.6, 12°.08N±0°.05×88°.01W±0°.05, h48km±7km, n51, σ1s00/64, mb4.1/10, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**1.12**	**56**	*e*P	**Pn**	**06 22 25.0**	**+0.3**
CRIN				*e*S	**Sn**	**06 22 40.7**	**+1.7**
CRIN				AML	AML	06 22 45.2	
	comp=N,2μm,0.3s						
CNCH	**Conchagua**	**1.21**	**8**	*e*P	**Pn**	**06 22 24.6**	**-1.3**
CNCH				*e*S	**Sn**	**06 22 40.4**	**-0.6**
TEL3	**Telica 3**	**1.24**	**66**	*e*P	**Pn**	**06 22 25.7**	**-0.6**
MIRN	**Miramar**	**1.32**	**74**	*e*P	**Pn**	**06 22 27.0**	**-0.4**
CNGN	**Cerro Negro**	**1.35**	**72**	*e*P	**Pn**	**06 22 27.2**	**-0.5**
CNGN				AML	AML	06 22 56.1	
	comp=Z,243nm,0.4s						
VSM	**San Miguel**	**1.37**	**349**	*e*P	**Pn**	**06 22 27.9**	**-0.1**
VSM				*e*S	**Sn**	**06 22 45.3**	**+0.3**
BLLM	**Bellamira**	**1.38**	**351**	*e*P	**Pn**	**06 22 28.0**	**-0.2**
COPN	**Copaltepe**	**1.39**	**86**	*e*P	**Pn**	**06 22 27.8**	**-0.5**
COPN				*e*S	**Sn**	**06 22 46.1**	**+0.5**
APYN	**Apoyeque**	**1.63**	**84**	*e*P	**Pn**	**06 22 31.2**	**-0.4**
XAVN	**Gruta Xavier**	**1.65**	**87**	*e*P	**Pn**	**06 22 31.3**	**-0.5**
CRUN	**El Crucero**	**1.68**	**93**	*e*P	**Pn**	**06 22 32.2**	**-0.1**
CAHU	**Cacaouatique**	**1.70**	**353**	*e*P	**Pn**	**06 22 32.9**	**+0.4**
CAHU				*e*S	**Sn**	**06 22 52.8**	**-0.2**
TISN	**Laguna Tiscapa**	**1.70**	**88**	*e*P	**Pn**	**06 22 32.1**	**-0.5**
MGAN	**Managua**	**1.73**	**87**	*e*P	**Pn**	**06 22 32.4**	**-0.5**
MGAN				*e*S	**Sn**	**06 22 54.3**	**+0.5**
MGAN				AML	AML	06 22 56.7	
	comp=N,550nm,0.4s						
TICN	**Ticuantepe**	**1.74**	**91**	*e*P	**Pn**	**06 22 32.9**	**-0.2**
HUEN		**1.82**	**82**	*e*P	**Pn**	**06 22 33.8**	**-0.4**
LFRS	**El Faro**	**1.85**	**326**	*e*P	**Pn**	**06 22 34.9**	**+0.3**
LFRS				*e*S	**Sn**	**06 22 57.0**	**+0.2**
LBRS	**Las Brisas**	**1.94**	**329**	*e*P	**Pn**	**06 22 35.5**	**-0.3**
TGUH	**Tegucigalpa,Un**	**2.10**	**20**	*e*Pn	**Pn**	**06 22 39.0**	**+0.9**
CONN	**Concepcion**	**2.39**	**102**	*e*P	**Pn**	**06 22 41.2**	**-0.8**
JTS	**JuntasAbangare**	**3.49**	**120**	Pn	**Pn**	**06 22 57.4**	**+0.3**
	comp=N,0.8nm,0.3s,baz=319,slow=21,SNR=6.6						
JTS				Pg	**Pn**	**06 23 04.6**	**+7.5**
	comp=N,2.7nm,0.3s,baz=320,slow=15,SNR=16						
JTS				Sn	**Sn**	**06 23 36.7**	**-0.4**
	comp=N,3.7nm,0.3s,baz=221,slow=20,SNR=4.3						
JTS				Lg		06 23 54.9	
	comp=N,3.7nm,0.3s,baz=294,slow=22,SNR=3.9						
JTS	**JuntasAbangare**	**3.49**	**120**	Pn	**Pn**	**06 22 57.4**	**+0.3**
JTS				*e*Pn	**Pn**	**06 22 57.8**	**+0.7**
JTS				Sn	**Sn**	**06 23 36.7**	**-0.4**
JTS				Lg		06 23 54.9	
JTS	**JuntasAbangare**	**3.49**	**120**	*e*P	**Pn**	**06 22 57.2**	**+0.1**
JCR	**Jicaral**	**3.60**	**128**	*e*P	**Pn**	**06 22 58.1**	**-0.6**
CGA2	**Cerro Gallo 2**	**4.04**	**120**	*e*P	**Pn**	**06 22 53.1**	**-12**
PRS1	**Puriscal**	**4.18**	**119**	*e*P	**Pn**	**06 23 09.0**	**+2.3**
URSC	**Urasca**	**4.71**	**118**	*e*P	**Pn**	**06 23 16.6**	**+2.7**
BUS	**Buena Vista**	**4.87**	**121**	*e*P	**Pn**	**06 23 17.9**	**+1.8**
BUS				*e*S	**Sn**	**06 24 09.2**	**-2.0**
TEIG	**Tepich**	**8.11**	**358**	Pn	**Pn**	**06 24 04.6**	**+4.1**
	comp=N,0.6nm,0.3s,baz=172,slow=22,SNR=6.4						
TEIG				Pg	Pn	06 24 21.8	+21
	comp=N,0.4nm,0.3s,baz=198,slow=20,SNR=4.1						
TEIG				Sn	**Sn**	**06 25 18.9**	**-12**
	comp=N,0.4nm,0.3s,baz=94,slow=16,SNR=3.6						
TEIG	**Tepich**	**8.11**	**358**	Pn	**Pn**	**06 24 04.6**	**+4.1**
TEIG				Pg	Pn	06 24 21.8	+21
TEIG				Sn	**Sn**	**06 25 18.9**	**-12**
CMIG	**Matias Romero**	**8.31**	**308**	Pn	**Pn**	**06 24 04.5**	**+1.2**
	comp=N,0.4nm,0.3s,baz=316,slow=5.6,SNR=12						
CMIG				Sn	**Sn**	**06 25 34.3**	**-1.6**
	comp=N,0.2nm,0.3s,baz=225,slow=14,SNR=2.3						
CMIG				LR	LR	06 27 39.4	
	comp=N,46nm,19.8s,baz=300,slow=41						
CMIG	**Matias Romero**	**8.31**	**308**	Pn	**Pn**	**06 24 04.5**	**+1.2**
CMIG				Sn	**Sn**	**06 25 34.3**	**-1.6**

SJG	**San Juan**	**1.30**	**173**	*e*S		Sn	06 55 19.8	-0.4
SJG	**San Juan**	**1.30**	**173**⇑	*e*P		Pn	06 55 03.2	-0.4
SJG	**San Juan**	**1.30**	**173**⇑	*e*P		Pn	06 55 02.8	-0.8
SJG				*e*S		Sn	06 55 19.5	-0.7
SJG	**San Juan**	**1.30**	**173**⇑	*e*P		Pn	06 55 03.2	-0.4
SJG				⇓*e*P			06 55 03.3	
SJG				*e*S		Sn	06 55 19.8	-0.4
HUMP	**Col San Antoni**	**1.34**	**160**⇑	*e*P		Pn	06 55 03.3	-0.7
HUMP	**Col San Antoni**	**1.34**	**160**	*e*S		Sn	06 55 20.2	-0.8
HUMP	**Col San Antoni**	**1.34**	**160**⇑	*e*P		Pn	06 55 03.2	-0.9
HUMP	**Col San Antoni**	**1.34**	**160**⇑	*e*P		Pn	06 55 03.2	-0.9
LSP	**Las Mesas**	**1.42**	**211**⇑	*e*P		Pn	06 55 04.7	-0.5
LSP				*e*S		Sn	06 55 22.7	-0.5
LSP	**Las Mesas**	**1.42**	**211**	*e*Pn		Pn	06 55 04.7	-0.5
LSP				*e*S		Sn	06 55 22.7	-0.5
MTP	**Monte Pirata**	**1.49**	**151**	*e*S		Sn	06 55 27.9	+3.1
MTP	**Monte Pirata**	**1.49**	**151**⇑	*e*P		Pn	06 55 05.5	-0.6
MTP	**Monte Pirata**	**1.49**	**151**	*e*S		Sn	06 55 24.1	-0.7
MTP	**Monte Pirata**	**1.49**	**151**⇑	*e*P		Pn	06 55 05.3	-0.9
MTP	**Monte Pirata**	**1.49**	**151**⇑	*e*P		Pn	06 55 05.3	-0.9
CRPR	**Cabo Rojo, PR**	**1.58**	**208**⇑	*e*P		Pn	06 55 06.8	-0.5
CRPR	**Cabo Rojo, PR**	**1.58**	**208**⇑	*e*P		Pn	06 55 06.8	-0.5
CRPR				*e*Pn		Pn	06 55 07.7	+0.3
CRPR				*e*S		Sn	06 55 26.3	-0.6
CRPR				*e*Sn		Sn	06 55 27.6	+0.7
STVI	**Saint Thomas**	**1.67**	**129**	*e*S		Sn	06 55 31.3	+2.3
STVI	**Saint Thomas**	**1.67**	**129**⇑	*e*P		Pn	06 55 08.1	-0.4
STVI	**Saint Thomas**	**1.67**	**129**	*e*S		Sn	06 55 28.6	-0.3
STVI	**Saint Thomas**	**1.67**	**129**⇑	*e*P		Pn	06 55 07.9	-0.6
STVI	**Saint Thomas**	**1.67**	**129**⇑	*e*P		Pn	06 55 07.9	-0.6
STVI				⇑*e*P			06 55 08.1	
STVI				*e*S		Sn	06 55 28.6	-0.3

FUNV 03 07:15:14.7, 9°38N × 70°36W, *h*4 km, MW 3.7, 10C-3D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CURV	**Curarigua**	**0.74**	**32**⇑	*e*P	Pg	07 15 28.1	-0.9
CURV				*e*S	Sg	07 15 38.9	+0.3
SANV	**Sanarito**	**0.82**	**81**⇑	*e*P	Pg	07 15 30.1	-0.4
SANV				*e*S	Sg	07 15 40.8	-0.3
QARV	**Quebrada Arrib**	**0.84**	**349**⇓	*e*P	Pg	07 15 30.9	0.0
QARV				*e*S	Sg	07 15 43.0	+1.2
SOCV	**Socops**	**1.19**	**204**⇑	*e*P	Pg	07 15 36.2	-1.4
SOCV				*e*S	Sg	07 15 53.0	-0.1
TEPV	**Terepaima**	**1.29**	**63**⇑	*e*P	Pg	07 15 38.2	-1.2
TEPV				*e*S	Sg	07 15 56.1	-0.1
SIQV	**Siquisique**	**1.37**	**23**⇑	*e*P	Pn	07 15 40.2	-0.5
SIQV				*e*S	Sg	07 15 58.5	-0.4
DABV	**Dabajuro**	**1.56**	**350**	*e*P	Pn	07 15 43.1	-0.1
DABV				*e*S	Sn	07 16 02.6	-1.3
MAPV	**Macapo**	**1.93**	**76**⇑	*e*P	Pn	07 15 48.5	+0.2
MAPV				*e*S	Sn	07 16 12.5	-0.5
JACV	**Jacura**	**2.27**	**41**⇑	*e*P	Pn	07 15 52.9	-0.2
VIRV	**Villa del Rosa**	**2.31**	**299**⇓	*i*P	Pn	07 15 52.1	-1.4
VIRV				*e*S	Sn	07 16 20.9	-1.6
BAUV	**El Baul**	**2.33**	**101**⇑	*e*P	Pn	07 15 52.2	-1.6
CAPV	**Capacho**	**2.45**	**232**	*e*P	Pn	07 15 55.3	-0.2
ELOV	**Elorza**	**2.52**	**160**⇓	*e*P	Pn	07 15 55.6	-0.8
MONV	**Montecano**	**2.59**	**8**	*e*P	Pn	07 15 57.3	-0.2
TURV	**Turiamo**	**2.70**	**67**⇑	*e*P	Pn	07 15 58.7	-0.2
IMOV	**Isla Los Monje**	**3.01**	**350**	*e*P	Pn	07 16 02.8	-0.4
FUNV	**FUNVISIS**	**3.66**	**72**	*e*P	Pn	07 16 11.3	-0.8
MERV	**Las Mercedes**	**4.01**	**91**	*e*P	Pn	07 16 16.2	-0.8
BIRV	**Birongo**	**4.17**	**75**	*e*P	Pn	07 16 18.1	-1.2
CAOV	**Caicara del Or**	**4.48**	**117**	*e*P	Pn	07 16 21.8	-1.8
CUPV	**Cœpira**	**4.55**	**81**⇑	*e*P	Pn	07 16 23.9	-0.6
PCRV	**Puerto La Cruz**	**5.70**	**82**	*e*P	Pn	07 16 38.9	-1.3
GUNV	**Guanoco**	**7.35**	**83**	*e*P	Pn	07 17 01.6	-1.3
LUEV	**Luepa**	**9.49**	**111**	*e*P	Pn	07 17 29.4	-3.0

*ISCJB **03** 07:18:00.3±1.3, 4°.51S±0°.05 × 154°.19E±0°.07, h402 km±13 km, mb4.3/57, Error ellipse: s-maj=10.8km s-min=8.1km az=178.4*
*IDC **03** 07:18:00.6±1.2, 4°.49S × 154°.05E, h390 km±11 km, mb3.9/22, mb1 4.0/24, mb1mx4.0/25, mbtmp3.9/24, Error ellipse: s-maj=13.6km s-min=7.6km az=110.0*
*NEIC **03** 07:18:01.9±1.2, 4°.46S × 154°.17E, h406 km±12 km, mb4.5/31, Error ellipse: s-maj=7.4km s-min=5.5km az=73.0*
*BJI **03** 07:18:07.0, 3°.70S × 153°.70E, h413 km, mB4.4/7, mb4.6/19*
ISC 03 07:18:02.5±1.2, 4°.54S±0°.05 × 154°.21E±0°.07, h412 km±14 km, h414 km±.5km; pP-P, n130, σ 86/116, mb4.3/57, 2C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.51**	**235**	P	**P**	**07 20 02.0**	**-1.3**
	10nm,0.3s,baz=52,slow=4.1,SNR=22						
PMG	**Port Moresby**	**8.51**	**235**	P	**P**	**07 20 02.0**	**-1.3**
COEN	**Coen**	**14.35**	**229**	*e*P	**P**	**07 21 09.1**	**+1.5**
COEN	**Coen**	**14.35**	**229**	*e*Pn	**P**	**07 21 09.2**	**+1.6**
CTA	**Charters Tower**	**17.29**	**206**	P	**P**	**07 21 39.8**	**+0.8**
	1.4nm,0.3s,baz=33,slow=12,SNR=23						
CTA	**Charters Tower**	**17.29**	**206**	*e*P	**P**	**07 21 39.8**	**+0.8**
	15nm,0.6s						
CTA	**Charters Tower**	**17.29**	**206**	P	**P**	**07 21 39.8**	**+0.8**
CTAO	**Charters Tower**	**17.29**	**206**	*e*P	**P**	**07 21 39.6**	**+0.6**
	19nm,0.8s						
EIDS	**Eidsvold**	**20.93**	**188**	*e*P	**P**	**07 22 14.9**	**+0.3**
EIDS	**Eidsvold**	**20.93**	**188**	*e*P	**P**	**07 22 14.8**	**+0.2**
	9.7nm,0.6s						
DZM	**Mont Dzumac**	**21.07**	**147**	*e*P	**P**	**07 22 13.8**	**-2.1**
DZM	**Mont Dzumac**	**21.07**	**147**	*e*P	**P**	**07 22 17.0**	**+1.0**
	28nm,1.0s,mb4.7						
KAKA	**Kakadu**	**22.99**	**248**	*e*P	**P**	**07 22 31.6**	**-1.8**
WRAB	**Tennant Creek**	**24.66**	**230**	*e*P	**P**	**07 22 47.9**	**-0.5**
	3.1nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**24.68**	**230**	P	**P**	**07 22 48.1**	**-0.5**
	2.6nm,0.5s,mb3.9,baz=54,slow=9.4,SNR=42						
WRA				PcP	PcP	07 26 13.4	+0.5
	4.5nm,0.8s,baz=53,slow=2.3,SNR=10						
WRA				S	**S**	**07 26 38.7**	**-1.0**
	2.6nm,0.9s,baz=51,slow=16,SNR=4.3						
WRA				ScP	ScP	07 29 14.8	+2.6
	0.5nm,0.6s,baz=53,slow=2.9,SNR=5.6						
WRA	**Warramunga Arr**	**24.68**	**230**	P	**P**	**07 22 48.1**	**-0.5**
WRA				PcP	PcP	07 26 13.4	+0.5
WRA				S	**S**	**07 26 38.7**	**-1.0**
WRA				ScP	ScP	07 29 14.8	+2.6
ARMA	**Armidale**	**25.85**	**185**	*e*P	**P**	**07 22 59.5**	**+0.6**
ARMA	**Armidale**	**25.85**	**185**	*e*P	**P**	**07 22 59.9**	**+1.0**
	12nm,0.9s,mb4.3						
ASAR	**Alice Springs**	**27.30**	**224**	P	**P**	**07 23 10.8**	**-0.9**
	2.1nm,0.5s,mb3.9,baz=56,slow=8.7,SNR=43						
ASAR				PcP	PcP	07 26 19.4	+0.4
	2.3nm,0.7s,baz=67,slow=2.6,SNR=9.4						
ASAR				S	**S**	**07 27 18.7**	**-2.1**
	2.1nm,0.8s,baz=35,slow=18,SNR=7.9						
ASAR				ScP	ScP	07 29 22.4	+2.7
	1.0nm,0.7s,baz=59,slow=2.5,SNR=5.5						
ASAR	**Alice Springs**	**27.30**	**224**	P	**P**	**07 23 10.8**	**-0.9**
ASAR				PcP	PcP	07 26 19.4	+0.4
ASAR				S	**S**	**07 27 18.7**	**-2.1**
ASAR				ScP	ScP	07 29 22.4	+2.7
CMSA	**Cobar Meteorol**	**28.02**	**196**	*e*P	**P**	**07 23 18.3**	**+0.3**
STKA	**Stephens Creek**	**29.66**	**202**	P	**P**	**07 23 31.5**	**-0.9**
	1.2nm,0.4s,mb3.6,baz=35,slow=12,SNR=7.8						
STKA				PcP	PcP	07 26 25.6	+0.7
	3.5nm,1.0s,baz=116,slow=23,SNR=3.5						
STKA	**Stephens Creek**	**29.66**	**202**	*e*P	**P**	**07 23 32.3**	**-0.1**
	1.0nm,0.3s,mb3.6						
STKA	**Stephens Creek**	**29.66**	**202**	*e*P	**P**	**07 23 31.8**	**-0.6**
	0.4nm,0.8s						
FORT	**Forrest**	**35.88**	**220**	*e*P	**P**	**07 24 25.8**	**+0.1**
	13nm,0.6s,mb4.4						
RPZ	**Rata Peaks**	**41.75**	**162**	P	**P**	**07 25 13.8**	**+0.3**
	11nm,0.6s,mb4.3,baz=299,slow=5.7,SNR=7.1						
RPZ	**Rata Peaks**	**41.75**	**162**	P	**P**	**07 25 13.8**	**+0.3**
MJAR	**Matsushiro Arr**	**43.52**	**341**	P	**P**	**07 25 25.9**	**-1.8**
	1.3nm,0.4s,mb3.6,baz=156,slow=6.6,SNR=2.9						
MJAR	**Matsushiro Arr**	**43.52**	**341**	P	**P**	**07 25 25.9**	**-1.8**
KSM	**Kuching**	**44.27**	**277**	*e*P	**P**	**07 25 33.6**	**-0.3**
	7.8nm,0.4s,mb4.4						
KSRS	**Korea Array**	**48.42**	**332**	P	**P**	**07 26 04.5**	**-0.8**
	1.5nm,0.7s,mb3.4,baz=50,slow=31,SNR=4.0						
CN2	**Changchun**	**54.65**	**335**	⇑P	**P**	**07 26 52.7**	**+2.0**
CN2				*e*pP	pP	07 28 17.3	+2.1
CN2				*e*S	**S**	**07 33 59.6**	**+1.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.2						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
ENH	**Enshi**	**55.02**	**312**	*e*P	**P**	**07 26 53.2**	**-0.3**
GYA	**Guiyang**	**55.37**	**306**	*e*P	**P**	**07 26 57.3**	**+1.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.0						
XAN	**Xi'an**	**57.41**	**316**	P	**P**	**07 27 09.7**	**-0.5**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.7						
PETK	**Petropavlovsk-**	**57.51**	**2**	P	**P**	**07 27 10.7**	**+0.3**
	comp=Z,5.2nm,0.5s,mb3.8,baz=168,slow=6.3,SNR=6.5						
PETK	**Petropavlovsk-**	**57.51**	**2**	P	**P**	**07 27 10.7**	**+0.3**
KMI	**Kunming**	**58.02**	**303**	P	**P**	**07 27 15.9**	**+1.4**
KMI				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.3						
CMAR	**Chiang Mai Arr**	**59.05**	**295**	P	**P**	**07 27 22.3**	**+0.7**
	comp=Z,5.8nm,0.7s,mb4.0,baz=115,slow=5.1,SNR=25						
CMAR	**Chiang Mai Arr**	**59.05**	**295**	P	**P**	**07 27 22.3**	**+0.7**
FX1	**Attu Island--F**	**59.41**	**13**	P	**P**	**07 27 23.4**	**0.0**
	comp=Z,12nm,0.6s,mb4.4,baz=90,slow=18,SNR=11						
FX1	**Attu Island--F**	**59.41**	**13**	P	**P**	**07 27 23.4**	**0.0**
CD2	**Chengdu**	**59.65**	**310**	P	**P**	**07 27 25.5**	**+0.1**
CD2				pP	pP	07 28 52.8	+1.0
CD2				sP	sP	07 29 36.6	0.0
CD2				PP	PP	07 29 45.5	+2.4
CD2				sS	sS	07 37 35.0	-2.3
CD2				pmax	pmax		
	comp=Z,30nm,0.5s,mb5.0						
CD2				pmax	pmax		
	comp=Z,90nm,4.8s						
HHC	**Hu-ho-hao-te**	**59.67**	**323**	*e*P	**P**	**07 27 26.0**	**+0.6**
HHC				PcP	PcP	07 28 08.1	+0.6
HHC				sP	sP	07 29 38.5	+1.9
HHC				PP	PP	07 29 45.7	+2.6
HHC				ScP	ScP	07 31 27.9	-0.2
HHC				S	**S**	**07 35 03.2**	**+0.2**
HHC				ScS	ScS	07 36 30.0	-3.4
HHC				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.1						
HHC				pmax	pmax		
	comp=Z,99nm,8.4s						
LZH	**Lanzhou**	**62.03**	**315**	*e*P	**P**	**07 27 42.0**	**+0.8**
LZH				pP	pP	07 29 10.0	+1.6
LZH				sP	sP	07 29 53.0	0.0
LZH				pmax	pmax		
	comp=Z,26nm,1.1s,mb4.7						
GTA	**Gaotai**	**66.43**	**317**	⇓P	**P**	**07 28 10.4**	**+1.1**
GTA				sP	sP	07 30 26.4	+4.3
GTA				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.7						
SONM	**Songino Array**	**66.86**	**327**	P	**P**	**07 28 12.4**	**+0.6**
	comp=Z,5.4nm,0.6s,mb4.4,baz=140,slow=5.1,SNR=34						
SONM	**Songino Array**	**66.86**	**327**	P	**P**	**07 28 12.4**	**+0.6**
SHL	**Shillong**	**67.39**	**300**	*e*PKP	**P**	**07 28 16.0**	**+0.4**
CASY	**Casey**	**68.68**	**197**	*e*P	**P**	**07 28 22.8**	**+0.1**
	comp=Z,5.5nm,0.5s,mb4.4						
TAPN	**Taplejung**	**71.48**	**301**	*e*Pn	**P**	**07 28 41.0**	**+0.7**
	comp=Z,19nm,0.7s,mb4.7						
TAPN	**Taplejung**	**71.48**	**301**	*e*Pn	**P**	**07 28 41.0**	**+0.7**
	comp=Z,19nm,0.7s,mb4.7						
ODAN	**Odare**	**71.63**	**300**	*e*Pn	**P**	**07 28 41.5**	**+0.4**
	comp=Z,28nm,0.7s,mb4.9						
ODAN	**Odare**	**71.63**	**300**	*e*Pn	**P**	**07 28 41.5**	**+0.4**
	comp=Z,28nm,0.7s,mb4.9						
VNDA	**Vanda**	**73.04**	**178**	P	**P**	**07 28 49.5**	**+1.0**
	comp=Z,3.7nm,0.8s,mb4.0,baz=319,slow=6.0,SNR=23						
VNDA	**Vanda**	**73.04**	**178**	*e*P	**P**	**07 28 49.3**	**+0.9**
	comp=Z,2.8nm,0.8s,mb3.8						
GUN	**Gumba**	**73.20**	**301**	*e*Pn	**P**	**07 28 50.7**	**+0.4**
	comp=Z,26nm,0.7s,mb4.9						
GUN	**Gumba**	**73.20**	**301**	*e*Pn	**P**	**07 28 50.7**	**+0.4**
	comp=Z,26nm,0.7s,mb4.9						
PKI	**Pulchoki**	**73.52**	**300**	*e*Pn	**P**	**07 28 52.3**	**+0.2**
	comp=Z,5.0nm,0.3s,mb4.7						
PKI	**Pulchoki**	**73.52**	**300**	*e*Pn	**P**	**07 28 52.3**	**+0.2**
	comp=Z,5.0nm,0.3s,mb4.6						
PKIN	**Phulchoki**	**73.53**	**300**	*e*Pn	**P**	**07 28 52.0**	**-0.2**
	comp=Z,11nm,0.5s,mb4.7						
SBA	**Scott Base**	**73.56**	**177**	*e*P	**P**	**07 28 53.2**	**+1.7**
	comp=Z,4.5nm,0.9s,mb4.1						
KKN	**Kakani**	**73.68**	**301**	*e*Pn	**P**	**07 28 53.1**	**0.0**
	comp=Z,7.1nm,0.4s,mb4.6						
KKN	**Kakani**	**73.68**	**301**	*e*Pn	**P**	**07 28 53.1**	**0.0**
	comp=Z,7.1nm,0.4s,mb4.7						
DMN	**Daman**	**73.78**	**300**	*e*Pn	**P**	**07 28 54.1**	**+0.4**
	comp=Z,30nm,0.9s,mb4.9						
DMN	**Daman**	**73.78**	**300**	*e*Pn	**P**	**07 28 54.1**	**+0.4**
	comp=Z,30nm,0.9s,mb4.9						
GKN	**Gorkha**	**74.28**	**301**	*e*Pn	**P**	**07 28 56.6**	**+0.1**
	comp=Z,42nm,1.0s,mb5.0						
GKN	**Gorkha**	**74.28**	**301**	*e*Pn	**P**	**07 28 56.6**	**+0.1**
	comp=Z,42nm,1.0s,mb5.0						
DANN	**Dangsing**	**75.12**	**301**	*e*Pn	**P**	**07 29 01.0**	**-0.2**
	comp=Z,23nm,0.7s,mb4.9						
DANN	**Dangsing**	**75.12**	**301**	*e*Pn	**P**	**07 29 01.0**	**-0.2**
	comp=Z,23nm,0.7s,mb4.9						
KOLN	**Koldanda**	**75.12**	**300**	*e*Pn	**P**	**07 29 01.1**	**-0.1**
	comp=Z,26nm,0.9s,mb4.9						
KOLN	**Koldanda**	**75.12**	**300**	*e*Pn	**P**	**07 29 01.1**	**-0.1**
	comp=Z,26nm,0.9s,mb4.9						
KDAK	**Kodiak Island**	**75.32**	**26**	P	**P**	**07 29 01.8**	**+0.1**
	comp=Z,5.9nm,0.9s,mb4.2,baz=252,slow=14,SNR=4.3						
KDAK	**Kodiak Island**	**75.32**	**26**	P	**P**	**07 29 01.8**	**+0.1**
WMQ	**Urumqi**	**76.51**	**317**	*e*P	**P**	**07 29 09.6**	**+0.9**
PMR	**Palmer**	**78.87**	**24**	*e*P	**P**	**07 29 20.9**	**-0.2**
TRF	**Thorofare Moun**	**79.43**	**22**	*e*P	**P**	**07 29 23.3**	**-0.8**
	comp=Z,5.2nm,0.7s,mb4.3						
MCK	**McKinley**	**80.09**	**22**	*e*P	**P**	**07 29 26.8**	**-0.8**
	comp=Z,19nm,1.0s,mb4.7						
MK31	**Makanchi Array**	**81.06**	**319**	*e*P	**P**	**07 29 33.1**	**0.0**
MKAR	**Makanchi Array**	**81.06**	**319**	P	**P**	**07 29 33.1**	**+0.1**
	comp=Z,5.9nm,0.7s,mb4.5,baz=98,slow=7.5,SNR=24						
MKAR	**Makanchi Array**	**81.06**	**319**	P	**P**	**07 29 33.1**	**+0.1**
COLA	**College**	**81.09**	**21**	*e*P	**P**	**07 29 31.8**	**-1.0**
	comp=Z,12nm,0.8s,mb4.7						
ILAR	**Eielson Array**	**81.39**	**22**	P	**P**	**07 29 33.0**	**-1.4**
	comp=Z,4.9nm,0.6s,mb4.4,baz=245,slow=5.2,SNR=139						
ILAR	**Eielson Array**	**81.39**	**22**	P	**P**	**07 29 33.0**	**-1.4**
ZAA0	**Zalesovo Array**	**81.72**	**326**	*e*P	**P**	**07 29 35.2**	**-1.1**
ZALV	**Zalesovo Beam**	**81.72**	**326**	P	**P**	**07 29 35.3**	**-1.0**
	comp=Z,3.6nm,0.4s,mb4.4,baz=110,slow=6.1,SNR=19						
ZALV	**Zalesovo Beam**	**81.72**	**326**	P	**P**	**07 29 35.3**	**-1.0**
DOT	**Dot Lake**	**81.93**	**23**	*e*P	**P**	**07 29 36.8**	**-0.3**
EGAK	**Eagle**	**83.57**	**23**	*e*P	**P**	**07 29 45.9**	**+0.5**
	comp=Z,10nm,0.9s,mb4.6						
KURK	**Kurchatov**	**84.44**	**322**	P	**P**	**07 29 49.1**	**-1.0**
	comp=Z,4.7nm,0.8s,mb4.3,baz=106,slow=3.5,SNR=8.9						
KURK	**Kurchatov**	**84.44**	**322**	*e*P	**P**	**07 29 49.3**	**-0.8**
	comp=Z,8.8nm,1.1s,mb4.4						
KZA	**Kyzart**	**84.86**	**313**	*e*P	**P**	**07 29 53.5**	**+1.1**
	comp=Z,7.8nm,1.1s,mb4.3						
CHMS	**Chumysh**	**85.39**	**314**	*e*P	**P**	**07 29 54.9**	**-0.1**
	comp=Z,6.4nm,0.8s,mb4.4						
QSPA	**South Pole Qui**	**85.42**	**180**	*e*P	**P**	**07 29 55.4**	**+1.0**
	comp=Z,24nm,0.8s,mb5.0						
AAK	**Ala-Archa**	**85.51**	**313**	*e*P	**P**	**07 29 55.8**	**+0.2**
	comp=Z,3.6nm,0.7s,mb4.2						
MAW	**Mawson**	**86.35**	**203**	P	**P**	**07 29 59.5**	**+0.5**
	comp=Z,2.6nm,0.6s,mb4.2,baz=101,slow=4.7,SNR=10						
MAW	**Mawson**	**86.35**	**203**	P	**P**	**07 29 59.5**	**+0.5**
INK	**Inuvik**	**87.72**	**21**	P	**P**	**07 30 05.0**	**-0.5**
	comp=Z,2.9nm,0.6s,mb4.2,baz=280,slow=4.3,SNR=18						
INK	**Inuvik**	**87.72**	**21**	*e*P	**P**	**07 30 04.9**	**-0.6**
	comp=Z,2.3nm,0.5s,mb4.2						
KKAR	**Karatay Array**	**88.48**	**313**	*e*P	**P**	**07 30 08.9**	**-0.8**
	comp=Z,0.7nm,0.4s,mb3.7						
BVAR	**Borovoye Array**	**89.88**	**323**	P	**P**	**07 30 14.8**	**-1.1**
	comp=Z,6.6nm,0.7s,mb4.6,baz=102,slow=6.2,SNR=29						
BVAR	**Borovoye Array**	**89.88**	**323**	P	**P**	**07 30 14.8**	**-1.1**
BRVK	**Borovoye**	**89.95**	**323**	*e*P	**P**	**07 30 15.2**	**-1.0**
	comp=Z,4.5nm,0.7s,mb4.4						
NVAR	**Mina Array Bea**	**90.82**	**52**	P	**P**	**07 30 21.7**	**+1.1**
	comp=Z,2.5nm,0.7s,mb4.2,baz=254,slow=6.4,SNR=19						
NVAR	**Mina Array Bea**	**90.82**	**52**	P	**P**	**07 30 21.7**	**+1.1**
SYO	**Syowa Base**	**94.38**	**199**⇑	*e*P	**P**	**07 30 34.6**	**-1.7**
YKA	**Yellowknife Ar**	**94.54**	**28**	P	**P**	**07 30 37.0**	**-0.1**
	comp=Z,1.3nm,0.6s,mb4.1,baz=275,slow=4.5,SNR=2.7						
YKA	**Yellowknife Ar**	**94.54**	**28**	P	**P**	**07 30 37.0**	**-0.1**
PDAR	**Pinedale Array**	**97.64**	**48**	P	**P**	**07 30 51.1**	**-0.5**
	comp=Z,0.4nm,0.6s,mb3.8,baz=222,slow=2.0,SNR=4.9						
PDAR	**Pinedale Array**	**97.64**	**48**	P	**P**	**07 30 51.1**	**-0.5**
AKASG	**Malin Array Be**	**115.10**	**325**	PKP	PKPdf	07 35 54.9	-0.6
	comp=Z,2.0nm,0.5s,baz=49,slow=2.6,SNR=7.7						
AKASG	**Malin Array Be**	**115.10**	**325**	PKP	PKPdf	07 35 54.9	-0.6
PLCA	**Paso Flores**	**119.13**	**142**	PKP	PKPdf	07 36 04.4	+0.7
	comp=Z,1.8nm,0.6s,baz=248,slow=4.6,SNR=7.8						
PLCA	**Paso Flores**	**119.13**	**142**	PKP	PKPdf	07 36 04.4	+0.7
BOSA	**Boshof**	**120.90**	**233**	PKP	PKPdf	07 36 07.1	-0.3
	comp=Z,3.3nm,1.1s,baz=101,slow=14,SNR=5.2						
BOSA	**Boshof**	**120.90**	**233**	PKP	PKPdf	07 36 07.1	-0.3
CLL	**Collm**	**123.30**	**332**	*e*PKPdf	PKPdf	07 36 11.0	-0.3
	comp=Z,5.0nm,0.9s						
GERES	**GERESS Array B**	**124.56**	**329**	PKP	PKPdf	07 36 14.1	+0.2
	comp=Z,2.0nm,0.6s,baz=52,slow=2.2,SNR=14						
GERES	**GERESS Array B**	**124.56**	**329**	PKP	PKPdf	07 36 14.1	+0.2
ROSC	**El Rosal**	**131.63**	**88**	PKP	PKPdf	07 36 29.4	+1.1
	comp=Z,3.5nm,0.5s,baz=120,slow=20,SNR=8.3						
ROSC				SKPbc	SKPbc	07 39 20.1	+5.4
	comp=Z,6.4nm,0.6s,baz=151,slow=2.8,SNR=13						
ROSC	**El Rosal**	**131.63**	**88**	PKP	PKPdf	07 36 29.4	+1.1
ROSC				SKPbc	SKPbc	07 39 20.1	+5.4
LPAZ	**La Paz**	**133.29**	**117**	PKP	PKPdf	07 36 33.3	+2.0
	comp=Z,3.6nm,0.6s,baz=233,slow=2.0,SNR=28						
LPAZ				SKPbc	SKPbc	07 39 25.4	+5.1
	comp=Z,2.8nm,0.7s,baz=229,slow=2.8,SNR=11						
LPAZ	**La Paz**	**133.29**	**117**	*e*PKPdf	PKPdf	07 36 32.6	+1.3
SDV	**Santo Domingo**	**135.28**	**82**	*e*PKPdf	PKPdf	07 36 35.6	+0.5
CPUP	**Villa Florida**	**136.70**	**137**	PKP	PKPdf	07 36 37.9	+0.5
	comp=Z,1.8nm,0.9s,baz=35,slow=4.5,SNR=5.0						
CPUP	**Villa Florida**	**136.70**	**137**	PKP	PKPdf	07 36 37.9	+0.4
TAM	**Tamanrasset**	**144.72**	**304**	*e*PKPdf	PKPdf	07 36 52.5	+0.6
TORD	**Torodi Ar. Bea**	**151.56**	**289**	PKP	PKPdf	07 37 02.6	-0.6
	comp=Z,0.9nm,0.9s,baz=318,slow=1.6,SNR=4.8						
TORD				PKPbc	PKPbc	07 37 09.1	-0.7
	comp=Z,12nm,0.7s,baz=59,slow=2.3,SNR=69						
TORD				PKPab	PKPab	07 37 19.4	-0.7
	comp=Z,3.0nm,0.7s,baz=72,slow=4.7,SNR=7.6						
TORD	**Torodi Ar. Bea**	**151.56**	**289**	PKP	PKPdf	07 37 02.6	-0.6
TORD				PKPbc	PKPbc	07 37 09.1	-0.7
TORD				PKPab	PKPab	07 37 19.4	-0.7
DBIC	**Dimbokro**	**159.06**	**277**	PKPab	PKPab	07 37 51.3	-1.2
	comp=Z,3.3nm,0.9s,baz=60,slow=17,SNR=5.5						

*IDC **03** 07:30:49.5±1.0, 51°.42N × 174°.12W, h0 km, mb3.7/10, mb1 3.9/13, mb1mx3.8/30, mbtmp3.8/13, ML2.7/1

Error ellipse: s-maj=11.6km s-min=5.5km az=7.2
*NEIC **03** 07:58:19.9±1.1,36°.44N×71°.37E,h138km±14km,mb4.4/2, Error ellipse: s-maj=19.9km s-min=11.7km az=105.0*
*IDC **03** 07:58:20.6±7.5,36°.42N×71°.55E,h141km±66km,mb3.0/2, mb1 3.2/7,mb1mx3.0/29,mbtmp3.1/7,MS3.0/1,Ms1 3.0/1, ms1mx2.2/11,Error ellipse: s-maj=60.7km s-min=41.1km az=48.0*

ISC 03 07:58:20.7±0.5,36°.58N±0°.03×71°.06E±0°.09,h147km±8km, n25,σ1§18/30,2C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
KBL	Kabul	2.62	220	*e*Pn		Pn	07 59 03.3	+0.2
KBL				*e*Sn		Sn	07 59 34.2	-1.6
CEP	Cherat	2.84	166	⇑P		Pn	07 59 06.4	+0.5
CEP				S		Sn	07 59 41.0	+0.3
CHCP	Chirah Chowk	3.43	148	P		Pn	07 59 14.2	+0.8
THW	Thamme Wali	3.82	171	P		Pn	07 59 18.5	0.0
KK31	Karatay Array	6.53	356	⇑Sn		Sn	08 01 05.4	-2.2
	4.3nm,0.3s,baz=185,slow=27,SNR=9.5							
KKAR	Karatay Array	6.53	356	*e*Pn		Pn	07 59 55.0	+0.6
	25nm,0.3s							
KKAR				*e*Sn		Sn	08 01 06.1	-1.6
AAK	Ala-Archa	6.60	23	P		Pn	07 59 56.4	+1.1
	0.0nm,0.3s,baz=168,slow=7.0,SNR=23							
AAK				S		Sn	08 01 09.4	+0.1
	0.0nm,0.3s,baz=314,slow=23,SNR=25							
CHMS	Chumysh	7.01	23	*e*Pn		Pn	08 00 00.7	-0.1
CHMS				*e*Sn		Sn	08 01 20.1	+0.9
TKM2	Tokmak 2	7.23	27	Pn		Pn	08 00 04.6	+0.9
	3.8nm,0.6s							
TKM2				⇓Sn		Sn	08 01 23.3	-1.2
	9.6nm,1.1s							
MKAR	Makanchi Array	13.20	36	P		Pn	08 01 20.8	-1.5
	0.1nm,0.3s,baz=221,slow=13,SNR=2.4							
MKAR	Makanchi Array	13.20	36	P		Pn	08 01 20.8	-1.5
AB31	Akbulak array	15.04	331	P		Pn	08 01 45.8	+0.3
	1.4nm,0.5s,baz=164,slow=12,SNR=5.3							
ABKAR	Akbulak array	15.04	331	*e*Pn		Pn	08 01 46.2	+0.7
	1.7nm,0.3s							
BVAR	Borovoye Array	16.45	359	P		Pn	08 02 06.0	+3.2
	0.1nm,0.3s,baz=184,slow=13,SNR=3.7							
BVAR	Borovoye Array	16.45	359	P		Pn	08 02 06.0	+3.2
AKTK	Aktyubinsk	16.74	330	P		Pn	08 02 09.3	+2.9
AKTO	Aktyubinsk	16.74	330	P		Pn	08 02 06.4	+0.1
	0.2nm,0.6s							
AKTO	Aktyubinsk	16.74	330	P		Pn	08 02 09.3	+3.0
	0.3nm,0.3s,baz=143,slow=17,SNR=5.5							
ZALV	Zalesovo Beam	19.82	24	P		P	08 02 40.3	+0.7
	0.5nm,0.3s,baz=222,slow=11,SNR=6.0							
ZALV	Zalesovo Beam	19.82	24	P		P	08 02 40.3	+0.7
KSRS	Korea Array	44.81	71	LR		LR	08 26 26.6	
	comp=Z,16nm,18.5s,baz=230,slow=38							
WRA	Warramunga Arr	81.99	122	P		P	08 10 22.6	-1.8
	0.2nm,0.4s,baz=325,slow=5.2,SNR=4.9							
WRA	Warramunga Arr	81.99	122	P		P	08 10 22.6	-1.8
ASAR	Alice Springs	84.26	125	P		P	08 10 34.8	-1.2
	0.2nm,0.5s,baz=310,slow=7.2,SNR=3.7							
ASAR	Alice Springs	84.26	125	P		P	08 10 34.8	-1.2

*NIED **03** 07:58:00,43°.30N×146°.30E,h41km,Mw3.8 Best double couple: M0 5.69000×10¹⁴ NP1:φs 42.00000°,δ 70.00000°, λ 84.00000°. NP2:φs 239.00000°,δ 21.00000°,λ 106.00000°.*
*ISCJB **03** 07:58:32.7±1.1,43°.35N±0°.06×146°.4E±0°.1,h51km±8km, mb3.8/12, Error ellipse: s-maj=14.8km s-min=9.2km az=25.7*
*MOS **03** 07:58:33.9±1.1,43°.43N×146°.29E,h61km,mb4.4/1, Error ellipse: s-maj=19.1km s-min=15.3km az=97.2*
*JMA **03** 07:58:33.9±0.2,43°.27N×146°.27E,h45km±1km,M4.1 JMA Felt II J1.*
*IDC **03** 07:58:36.7±3.8,43°.40N×146°.24E,h68km±34km,mb3.4/11, mb1 3.6/12,mb1mx3.5/26,mbtmp3.5/12,ML4.1/1,MS3.0/1, Ms1 3.2/1,ms1mx2.3/24,Error ellipse: s-maj=26.1km s-min=19.2km az=118.0*
*NEIC **03** 07:58:36.5±1.2,43°.39N×146°.26E,h67km±11km, MG4.1(JMA),Error ellipse: s-maj=12.5km s-min=10.5km az=108.0*

ISC 03 07:58:33.8±1.3,43°.37N±0°.06×146°.4E±0°.1,h42km±10km, n51,σ0§87/54,mb3.8/12,1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
NEM2	Nemuro 2	0.49	270	P		Pn	07 58 43.6	-0.8
NEM2				*e*S		Sn	07 58 50.7	-1.3
YUK	Yuzh-Kuril'sk	0.78	329	⇓*i*PN		Pn	07 58 48.3	0.0
YUK				*i* S		Sn	07 58 59.4	+0.5
YUK				pmax	pmax			
	comp=N,638nm,0.2s							
YUK				pmax	pmax			
	comp=E,539nm,0.2s							
YUK				pmax	pmax			
	comp=Z,4μm,0.2s							
YUK				pmax	pmax			
	comp=Z,710nm,0.3s							
YUK				smax				
	comp=E,4μm,0.5s							
YUK				smax				
	comp=N,2μm,0.6s							
YUK				smax				
	comp=N,4μm,0.3s							
YUK				smax				
	comp=E,6μm,0.5s							
JRA	Rausu	1.10	302	P		Pn	07 58 52.8	+0.1
JNK	Nakash	1.25	281	P		Pn	07 58 53.9	-0.9
JAK	Akkeshi	1.31	254	P		Pn	07 58 54.1	-1.5
JTKR	Abashiri--Toko	1.92	289	P		Pn	07 59 04.6	+0.7
JTKR				*e*S		Sn	07 59 27.9	+1.1
JAR	Ashorobuto	1.93	269	P		Pn	07 59 03.6	-0.5
JOB	Onbets	1.94	257	P		Pn	07 59 03.5	-0.8
ERM	Erimo	2.75	242	*e*Pn		Pn	07 59 16.7	+1.3
ERM				*e*Sn		Sn	07 59 49.6	+2.2
ERM	Erimo	2.75	242	*e*PN		Pn	07 59 16.7	+1.3
ERM				*e*			07 59 49.6	
ASAJ	Asahikawa	2.87	286	P		Pn	07 59 18.1	+1.2
	comp=E,21nm,0.3s,baz=116,slow=9.8,SNR=43							
ASAJ	Asahikawa	2.87	286	*e*Pn		Pn	07 59 18.6	+1.7
ASAJ	Asahikawa	2.87	286	PN		Pn	07 59 18.2	+1.3
ASAJ				pmax	pmax			
	comp=Z,21nm,0.3s							
SONM	Songino Array	28.13	293	P		P	08 04 21.6	+0.1
	comp=Z,0.7nm,0.4s,mb3.6,baz=95,slow=8.3,SNR=6.7							
SONM				pP		pP	08 04 36.7	+3.8
	comp=Z,1.1nm,1.0s,baz=83,slow=8.5,SNR=3.5							
SONM	Songino Array	28.13	293	P		P	08 04 21.6	+0.1
SONM				pP		pP	08 04 36.7	+3.8
SONM	Songino Array	28.13	293	P		P	08 04 21.6	+0.1
SONM				*PP		pP	08 04 36.7	+3.8
ILAR	Eielson Array	42.11	36	P		P	08 06 21.6	+0.4
	comp=Z,0.3nm,0.8s,mb3.0,baz=269,slow=6.9,SNR=11							
ILAR				pP		pP	08 06 37.1	+4.1
	comp=Z,0.7nm,1.0s,baz=268,slow=7.6,SNR=5.9							
ILAR	Eielson Array	42.11	36	P		P	08 06 21.6	+0.4
ILAR				pP		pP	08 06 37.1	+4.1
ILAR	Eielson Array	42.11	36	P		P	08 06 21.7	+0.4
ILAR				*PP		pP	08 06 37.1	+4.1
MK31	Makanchi Array	44.29	298	*e*P		P	08 06 38.6	-0.5
MK31	Makanchi Array	44.29	298	*e*P		P	08 06 38.6	-0.5
MKAR	Makanchi Array	44.29	298	P		P	08 06 37.9	-1.2
	comp=Z,0.4nm,0.6s,mb3.3,baz=68,slow=9.5,SNR=3.0							
MKAR	Makanchi Array	44.29	298	P		P	08 06 37.9	-1.2
MKAR	Makanchi Array	44.29	298	P		P	08 06 37.9	-1.2
CMAR	Chiang Mai Arr	46.90	253	LR		LR	08 28 36.0	
	comp=Z,15nm,18.9s,baz=195,slow=38							
INK	Inuvik	47.00	30	P		P	08 07 00.8	+0.6
	comp=Z,1.2nm,0.7s,mb3.9,baz=276,slow=7.5,SNR=6.1							
INK	Inuvik	47.00	30	P		P	08 07 00.8	+0.6
INK	Inuvik	47.00	30	P		P	08 07 00.8	+0.6
RES	Resolute Bay	55.49	16	P		P	08 08 03.7	0.0
	comp=Z,1.3nm,0.4s,mb4.3,baz=7.2,slow=6.0,SNR=6.7							
RES	Resolute Bay	55.49	16	P		P	08 08 03.7	0.0
RES	Resolute Bay	55.49	16	P		P	08 08 03.7	0.0
ABKAR	Akbulak array	56.89	309	*e*P		P	08 08 13.6	-0.4
	comp=Z,1.0nm,0.2s,mb4.5							
WRA	Warramunga Arr	63.97	193	P		P	08 09 02.6	+0.1
	comp=Z,0.3nm,0.7s,mb3.4,baz=11,slow=6.9,SNR=2.8							
WRA	Warramunga Arr	63.97	193	P		P	08 09 02.6	+0.1
WRA	Warramunga Arr	63.97	193	P		P	08 09 02.6	+0.1
FINES	FINESS Array B	64.97	333	P		P	08 09 08.7	0.0
	comp=Z,3.4nm,0.9s,mb4.3,baz=56,slow=10,SNR=1.6							
FINES	FINESS Array B	64.97	333	P		P	08 09 08.8	0.0
FINES	FINESS Array B	64.97	333	P		P	08 09 08.8	+0.1
ASAR	Alice Springs	67.69	192	P		P	08 09 26.6	+0.2
	comp=Z,0.4nm,0.7s,mb3.5,baz=10,slow=5.7,SNR=6.7							
ASAR	Alice Springs	67.69	192	P		P	08 09 26.6	+0.2
ASAR	Alice Springs	67.69	192	P		P	08 09 26.6	+0.2
NB2	NORSAR Subarra	69.77	339	P		P	08 09 38.4	-0.6
	comp=Z,0.4nm,0.3s,mb3.8,baz=40,slow=6.2							
NOA	NORSAR Array B	69.77	339	P		P	08 09 38.6	-0.4
	comp=Z,0.6nm,0.6s,mb3.7,baz=33,slow=7.4,SNR=5.0							
NOA	NORSAR Array B	69.77	339	P		P	08 09 38.6	-0.4
NOA	NORSAR Array B	69.77	339	P		P	08 09 38.6	-0.4
AKASG	Malin Array Be	71.57	323	P		P	08 09 49.0	-1.1
	comp=Z,0.8nm,0.3s,mb4.1,baz=41,slow=6.4,SNR=4.7							
AKASG	Malin Array Be	71.57	323	P		P	08 09 49.0	-1.1
AKASG	Malin Array Be	71.57	323	P		P	08 09 49.1	-1.1
TXAR	Lajitas Array	83.31	56	P		P	08 10 57.2	+1.1
	comp=Z,0.1nm,0.3s,mb3.3,baz=166,slow=41,SNR=2.5							
TXAR	Lajitas Array	83.31	56	P		P	08 10 57.2	+1.1
TXAR	Lajitas Array	83.31	56	P		P	08 10 57.2	+1.0

IDC 03 08:06:23.8±55.0,18°.80S×179°.39W,h0km,mb4.4/3, mb1 4.6/3,mb1mx3.9/17,mbtmp4.4/3,Error ellipse: s-maj=990.6km s-min=148.1km az=80.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
STKA	Stephens Creek	37.38	242	P		P	08 13 38.4	-0.1
	3.6nm,0.9s,baz=72,slow=13,SNR=4.8							
WRA	Warramunga Arr	43.56	261	P		P	08 14 30.0	+0.2
	1.7nm,0.3s,baz=96,slow=7.7,SNR=136							
ASAR	Alice Springs	43.66	255	P		P	08 14 30.2	-0.3
	11nm,0.9s,baz=88,slow=7.7,SNR=69							

*IDC **03** 08:16:55.9±1.4,0°.60N×121°.27E,h0km,mb3.8/4, mb1 4.1/5,mb1mx3.8/22,mbtmp3.9/5,ML4.0/1,MS2.6/1, Ms1 2.6/1,ms1mx2.3/36,Error ellipse: s-maj=66.3km s-min=22.5km az=64.0*
*ISCJB **03** 08:17:06.3±0.6,0°.29N±0°.06×120°.66E±0°.06,h107km±8km, mb3.7/4,Error ellipse: s-maj=11.0km s-min=9.2km az=144.5*
*DJA **03** 08:17:07,0°.27N×120°.60E,h37km,MLv4.4/9*

ISC 03 08:17:07.6±0.6,0°.28N±0°.06×120°.67E±0°.06,h100km±8km, n17,σ1§11/20,mb3.7/4,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
MRSI	Marisa	1.29	81	P		Pn	08 17 29.6	-1.7
MRSI				S		Sn	08 17 47.0	-2.2
APSI	Ampana	1.54	140	P		Pn	08 17 34.3	0.0
APSI				S		Sn	08 17 55.6	+1.0
LUWI	Luwuk	2.48	122	P		Pn	08 17 46.5	+0.1
LUWI				S		Sn	08 18 17.8	+1.5
KMSI	Cibinong	3.32	85	P		Pn	08 17 58.2	+0.5
TTSI	Tana Toraja	3.41	194	P		Pn	08 18 00.2	+1.3
SPSI	Sidrap Palu	4.31	192	P		Pn	08 18 07.5	-3.5
MYLDM	Lahad Datu	5.33	336	P		Pn	08 18 26.5	+1.7
	0.9nm2μm49nm,0.9s							
KAPI	Kappang	5.34	190	Pn		Pn	08 18 23.1	-1.9
	4.0nm,0.3s,baz=359,slow=6.4,SNR=17							
KAPI				LR		LR	08 21 12.5	
	comp=Z,56nm,18.2s,baz=327,slow=44							
KAPI	Kappang	5.34	190	P		Pn	08 18 24.1	-0.9
	0.1nm40nm,0.6s							
BKSI	Bulukumba	5.59	186	P		Pn	08 18 28.5	+0.1
	0.1nm484nm20nm,0.7s							
KBKI	Kotabaru	5.74	232	P		Pn	08 18 29.7	-0.6
	0.3nm1μm74nm,0.6s							
KKM	Kota Kinabalu	7.25	322	P		Pn	08 18 50.7	-0.2
	19nm,1.1s							
NLAI	Namlea	7.32	119	P		Pn	08 18 52.8	+1.0
WRA	Warramunga Arr	24.15	147	P		P	08 22 13.2	-1.3
	2.5nm,0.7s,mb3.6,baz=324,slow=11,SNR=19							
ASAR	Alice Springs	27.05	153	P		P	08 22 40.8	0.0
	0.8nm,0.5s,mb3.5,baz=331,slow=9.5,SNR=17							
STKA	Stephens Creek	37.62	150	P		P	08 24 12.3	-0.4
	1.9nm,0.5s,mb4.2,baz=321,slow=7.1,SNR=6.5							
MKAR	Makanchi Array	57.17	329	P		P	08 26 44.7	+0.8
	0.1nm,0.3s,mb3.3,baz=133,slow=8.1,SNR=1.9							

*NEIC **03** 08:33:58.4, 19°.35N×66°.31W,h30km,MD3.4(RSPR), After RSPR.*

RSPR 03 08:33:58.4,19°.35N×66°.31W,h30km±22km,MD3.4/11, 19C-10D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
AOPR	Arecibo Observ	1.08	203	⇑*e*P		Pn	08 34 15.3	-2.2
AOPR	Arecibo Observ	1.08	203	⇑*e*P		Pn	08 34 15.3	-2.2
AOPR				*e*S		Sn	08 34 29.1	-2.4
CBYP	Canovanas	1.16	158	⇓*e*P		Pn	08 34 16.4	-2.1
CBYP				*e*S		Sn	08 34 31.2	-2.1
CBYP	Canovanas	1.16	158	⇓*e*P		Pn	08 34 16.4	-2.1
CBYP				*e*S		Sn	08 34 31.2	-2.1
AGPR	Aguadilla, PR	1.16	221	⇓*e*P		Pn	08 34 16.4	-2.1
AGPR	Aguadilla, PR	1.16	221	⇓*e*P		Pn	08 34 16.4	-2.1
AGPR				*e*S		Sn	08 34 31.6	-1.9
LRS	Lares	1.17	206	⇑*e*P		Pn	08 34 16.6	-2.1
LRS	Lares	1.17	206	⇑*e*P		Pn	08 34 16.6	-2.1
SJG	San Juan	1.24	173	⇑*e*P		Pn	08 34 18.1	-1.6
SJG				*e*S		Sn	08 34 33.1	-2.3
SJG	San Juan	1.24	173	⇑*e*P		Pn	08 34 18.1	-1.6
SJG				*e*S		Sn	08 34 33.1	-2.3
SJG	San Juan	1.24	173	⇑*e*P		Pn	08 34 18.1	-1.6
SJG				*e*S		Sn	08 34 33.1	-2.3
HUMP	Col San Antoni	1.28	160	⇓*e*P		Pn	08 34 18.3	-1.9
HUMP	Col San Antoni	1.28	160	⇓*e*P		Pn	08 34 18.3	-1.9
HUMP				*e*S		Sn	08 34 34.4	-2.0
CELP	Cerrillos	1.30	191	⇑*e*P		Pn	08 34 18.8	-1.6
CELP	Cerrillos	1.30	191	⇑*e*P		Pn	08 34 18.8	-1.6
OBIP	Obispado Ponce	1.33	192	⇑*e*P		Pn	08 34 19.7	-1.2
OBIP	Obispado Ponce	1.33	192	⇑*e*P		Pn	08 34 19.7	-1.2
OBIP				*e*S		Sn	08 34 35.8	-1.9
CPD	Cerro la Pandu	1.36	164	⇑*e*P		Pn	08 34 19.7	-1.6
CPD	Cerro la Pandu	1.36	164	⇑*e*P		Pn	08 34 19.7	-1.6
CPD				*e*S		Sn	08 34 36.2	-2.1
LSP	Las Mesas	1.38	212	⇑*e*P		Pn	08 34 20.4	-1.2
LSP	Las Mesas	1.38	212	⇑*e*P		Pn	08 34 20.4	-1.2
MTP	Monte Pirata	1.44	150	⇑*e*P		Pn	08 34 20.4	-2.0
MTP	Monte Pirata	1.44	150	⇑*e*P		Pn	08 34 20.4	-2.0
MTP				*e*S		Sn	08 34 38.4	-1.9
ICM	Isla Caja Muer	1.47	188	⇑*e*P		Pn	08 34 21.7	-1.0
ICM	Isla Caja Muer	1.47	188	⇑*e*P		Pn	08 34 21.7	-1.0
CRPR	Cabo Rojo, PR	1.54	210	⇓*e*P		Pn	08 34 22.7	-1.1
CRPR	Cabo Rojo, PR	1.54	210	⇓*e*P		Pn	08 34 22.7	-1.1
CRPR				*e*S		Sn	08 34 41.4	-1.4
STVI	Saint Thomas	1.62	128	⇓*e*P		Pn	08 34 23.7	-1.3
STVI	Saint Thomas	1.62	128	⇓*e*P		Pn	08 34 23.7	-1.3
STVI				*e*S		Sn	08 34 43.5	-1.3
SDDR	Presa de Saban	4.72	266	*e*Pn		Pn	08 35 06.6	-0.9
SDDR				*e*Sn		Sn	08 36 02.1	+0.8

*ISCJB **03** 08:38:55.8±0.6,39°.48N±0°.04×74°.07E±0°.07,h10km, mb3.7/11,Error ellipse: s-maj=8.0km s-min=5.1km az=8.0*
*IDC **03** 08:38:55.6±0.8,39°.34N×74°.07E,h0km,mb3.9/11, mb1 4.0/16,mb1mx3.9/31,mbtmp3.8/16,ML3.4/5,Error ellipse: s-maj=15.9km s-min=12.9km az=115.0*
*NNC **03** 08:38:56.4±4.1,39°.46N×74°.05E,h0km,mb4.0,mpv3.8, Error ellipse: s-maj=33.6km s-min=21.3km az=168.0*
*NEIC **03** 08:39:01.0±0.8,39°.29N×73°.86E,h35km,mb3.9/1, Error ellipse: s-maj=13.1km s-min=10.9km az=133.0*

ISC 03 08:38:57.4±0.6,39°.42N±0°.04×74°.04E±0°.07,h10km,n56, σ1§16/63,mb3.7/11,4C-5D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
AML	Almayashu	2.73	355	*e*Pn		Pn	08 39 43.8	+2.6
AML				*e*Sg		Sg	08 40 25.3	+0.4
KZA	Kyzart	2.81	19	P		Pn	08 39 46.5	+4.1
	SNR=13							
KZA	Kyzart	2.81	19	*e*Pn		Pn	08 39 46.6	+4.1
UCH	Uchtor	2.83	7	P		Pn	08 39 46.8	+4.1
	SNR=9.5							
UCH	Uchtor	2.83	7	*e*Pn		Pn	08 39 47.2	+4.5
UCH				*e*Sg		Sg	08 40 29.2	+0.8
AAK	Ala-Archa	3.23	6	Pn		Pn	08 39 52.6	+4.4
	0.2nm,0.3s,baz=170,slow=10,SNR=16							
AAK				Lg			08 40 40.2	
	0.4nm,0.3s,baz=334,slow=16,SNR=8.2							
AAK	Ala-Archa	3.23	6	Pn		Pn	08 39 52.6	+4.4
AAK				Lg			08 40 40.2	
EKS2	Erkin-Say	3.25	357	P		Pn	08 39 51.7	+3.3
	SNR=22							
EKS2	Erkin-Say	3.25	357	*e*Pn		Pn	08 39 51.9	+3.5
ULHL	Ulahol	3.28	30	P		Pn	08 39 55.5	+6.6
	SNR=8.8							
KBK	Karagaybulak	3.31	12	P		Pn	08 39 53.9	+4.7
	SNR=7.0							
KBK	Karagaybulak	3.31	12	*e*Pn		Pn	08 39 54.2	+4.9
KBK				*e*Sg		Sg	08 40 43.4	-0.3
CHMS	Chumysh	3.62	8	P		Pn	08 39 57.0	+3.6
	SNR=7.2							
CHMS	Chumysh	3.62	8	*e*Pn		Pn	08 39 57.0	+3.6
CHMS				*e*Sg		Sg	08 40 52.0	-1.6
TKM2	Tokmak 2	3.69	18	P		Pn	08 39 46.9	-7.6
	SNR=26							
TKM2	Tokmak 2	3.69	18	⇓Pg		Pg	08 40 01.8	-6.4
	13nm,0.3s							
TKM2				⇓Lg			08 40 55.3	
	30nm,0.5s							
USP	Ospenovka	3.86	5	P		Pn	08 39 50.7	-6.2
	SNR=6.7							
KK31	Karatay Array	4.54	325	⇓Pn		Pn	08 40 07.6	+1.4
	6.3nm,0.5s,baz=148,slow=18,SNR=8.2							
KK31				⇑Pg		Pg	08 40 18.8	-5.6
	6.1nm,0.3s,baz=144,slow=16,SNR=4.7							
KK31				⇑Sn		Sn	08 41 00.3	+1.3
	6.6nm,0.3s,baz=147,slow=22,SNR=5.1							
KK31				⇓Lg			08 41 16.8	
	19nm,0.5s							
MKAR	Makanchi Array	9.52	37	Pn		Pn	08 41 14.0	-0.5
	0.1nm,0.3s,baz=236,slow=13,SNR=3.4							
MKAR	Makanchi Array	9.52	37	Pn		Pn	08 41 14.0	-0.5
KURK	Kurchatov	11.75	14	Pn		Pn	08 41 43.9	-1.1
	0.0nm,0.3s,baz=206,slow=13,SNR=2.8							
KURK				Lg			08 45 05.2	
	0.0nm,0.3s,baz=206,slow=28,SNR=8.0							
KURK	Kurchatov	11.75	14	Pn		Pn	08 41 43.9	-1.1
KURK				Lg			08 45 05.2	
BVAR	Borovoye Array	13.84	351	Pn		Pn	08 42 12.5	-1.0
	0.3nm,0.3s,baz=158,slow=18,SNR=7.6							
BVAR	Borovoye Array	13.84	351	Pn		Pn	08 42 12.5	-1.1
ZRNK	Zerenda	13.97	347	⇑P		Pn	08 42 13.5	-1.8
	2.4nm,0.8s							
AB31	Akbulak array	14.07	319	⇑P		Pn	08 42 14.6	-2.0
	1.3nm,0.5s,baz=126,slow=15,SNR=2.8							
ABKAR	Akbulak array	14.07	319	*e*Pn		Pn	08 42 15.3	-1.3
	1.5nm,0.4s							
ABKAR				*e*Sn		Sn	08 44 53.4	+0.7
AKTK	Aktyubinsk	15.78	320	Pn		Pn	08 42 38.2	-1.3
AKTO	Aktyubinsk	15.78	320	⇓P		Pn	08 42 38.3	-1.2
	0.7nm,0.8s							
AKTO	Aktyubinsk	15.78	320	Pn		Pn	08 42 38.2	-1.3
	0.3nm,0.3s,baz=124,slow=13,SNR=9.6							
ZALV	Zalesovo Beam	16.28	23	Pn		Pn	08 42 47.1	+1.2
	0.2nm,0.3s,baz=213,slow=11,SNR=8.1							
ZALV	Zalesovo Beam	16.28	23	Pn		Pn	08 42 47.1	+1.2
ARU	Arti	19.85	334	*e*P		Pn	08 43 30.3	+0.4
	5.6nm,0.8s							
GNI	Garni	22.49	281	P		P	08 43 58.4	+1.6
	2.9nm,0.3s,mb4.1,baz=188,slow=21,SNR=1.1							
GNI	Garni	22.49	281	P		P	08 43 58.4	+1.6
SONM	Songino Array	24.74	59	P		P	08 44 19.3	+0.5
	0.2nm,0.4s,mb3.0,baz=132,slow=50,SNR=2.2							
SONM	Songino Array	24.74	59	P		P	08 44 19.3	+0.5
BRTR	Keskin Array B	30.96	284	P		P	08 45 15.5	+0.9
	1.7nm,0.8s,mb3.9,baz=89,slow=7.5,SNR=7.6							
BRTR	Keskin Array B	30.96	284	P		P	08 45 15.5	+0.9
FINES	FINESS Array B	36.50	323	P		P	08 46 02.5	0.0
	0.9nm,0.3s,mb4.1,baz=331,slow=40,SNR=2.9							
FINES	FINESS Array B	36.50	323	P		P	08 46 02.5	0.0
ARCES	ARCESS Array B	39.43	335	P		P	08 46 27.6	+0.5
	1.6nm,0.7s,mb3.9,baz=116,slow=9.2,SNR=9.1							
ARCES	ARCESS Array B	39.43	335	P		P	08 46 27.6	+0.5
GERES	GERESS Array B	43.28	303	P		P	08 46 58.4	-0.6
	0.6nm,0.6s,mb3.5,baz=72,slow=9.4,SNR=2.6							
GERES	GERESS Array B	43.28	303	P		P	08 46 58.4	-0.6
NB2	NORSAR Subarra	43.56	321	P		P	08 47 00.5	-0.6
	comp=Z,0.6nm,0.5s,mb3.6,baz=91,slow=8.6							
NOA	NORSAR Array B	43.56	321	P		P	08 47 01.0	-0.1
	comp=Z,0.9nm,0.7s,mb3.6,baz=91,slow=8.0,SNR=4.3

ZALV				pP	pP	08 53 26.8	-1.6
ASAR	**Alice Springs**	**80.56**	**112**	P	**P**	**08 53 37.5**	**+0.1**
	0.6nm,0.8s,mb3.6,baz=262,slow=4.9,SNR=7.1						
ASAR	**Alice Springs**	**80.56**	**112**	P	**P**	**08 53 37.5**	**+0.1**
WRA	**Warramunga Arr**	**81.93**	**108**	P	**P**	**08 53 45.0**	**+0.3**
	0.5nm,0.8s,mb3.5,baz=250,slow=3.0,SNR=4.2						
WRA	**Warramunga Arr**	**81.93**	**108**	P	**P**	**08 53 45.0**	**+0.3**
ILAR	**Eielson Array**	**131.88**	**8**	PKP	PKPdf	09 00 37.2	0.0
	0.1nm,0.5s,baz=319,slow=34,SNR=2.8						
ILAR	**Eielson Array**	**131.88**	**8**	PKP	PKPdf	09 00 37.1	0.0
PDAR	**Pinedale Array**	**147.80**	**326**	PKPbc	PKPbc	09 01 09.4	-0.1
	1.8nm,0.9s,baz=82,slow=4.7,SNR=12						
PDAR	**Pinedale Array**	**147.80**	**326**	PKPbc	PKPbc	09 01 09.4	-0.1
TXAR	**Lajitas Array**	**150.56**	**299**	PKPbc	PKPbc	09 01 17.4	+0.6
	1.7nm,0.9s,baz=94,slow=2.9,SNR=15						
TXAR	**Lajitas Array**	**150.56**	**299**	PKPbc	PKPbc	09 01 17.4	+0.6

*IDC **03** 08:51:41.4±0.9, 34°.32N×25°.08E, h0km, mb4.1/9, mb1 4.1/14, mb1mx3.9/28, mbtmp4.0/14, ML4.1/4, Error ellipse: s-maj=21.9km s-min=17.6km az=137.0*
*ATH **03** 08:51:43.6, 34°.19N×25°.12E, h17km±6km, MD3.5/7*
*ISCJB **03** 08:51:44.7±0.4, 34°.18N±0°.02×25°.16E±0°.03, h46km±6km, mb4.0/9, Error ellipse: s-maj=4.8km s-min=3.5km az=153.5*
*NEIC **03** 08:51:45.3±3.8, 34°.25N×25°.15E, h28km±29km, mb3.9/1, Error ellipse: s-maj=13.2km s-min=11.4km az=75.0*
*CSEM **03** 08:51:46.8±0.3, 34°.24N×25°.15E, h40km, ML3.4/3, Error ellipse: s-maj=7.4km s-min=4.6km az=13.0*
*HLW **03** 08:51:46.3, 34°.24N×25°.36E, h33km±34km, Md3.0, Ml3.1*
*THE **03** 08:51:47.0, 34°.35N×25°.05E, h9km±1km, ML3.4/3, Error ellipse: s-maj=2.4km s-min=1.3km az=177.0*

ISC 03 08:51:46.3±0.3, 34°.20N±0°.02×25°.14E±0°.03, h37km±6km, n110, σ1§08/142, mb4.0/9, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**0.82**	**34**	*e*PN	**Pn**	**08 51 59.8**	**-1.5**
XRY	**Khrisi**	**0.82**	**34**	*e*Pn	**Pn**	**08 51 59.8**	**-1.5**
SIVA	**Sivas**	**0.86**	**342**	*e*PN	**Pn**	**08 52 00.0**	**-1.9**
SIVA	**Sivas**	**0.86**	**342**	P	**Pn**	**08 51 59.8**	**-2.1**
SIVA				S	**Sn**	**08 52 12.1**	**-1.1**
SIVA	**Sivas**	**0.86**	**342**	*e*Pn	**Pn**	**08 52 00.0**	**-1.9**
SIVA				S	**Sn**	**08 52 12.1**	**-1.1**
LAST	**Lasithi**	**1.00**	**16**	*e*PN	**Pn**	**08 52 02.5**	**-1.3**
LAST	**Lasithi**	**1.00**	**16**	P	**Pn**	**08 52 02.4**	**-1.4**
LAST				S	**Sn**	**08 52 15.8**	**-0.9**
LAST	**Lasithi**	**1.00**	**16**	*e*Pn	**Pn**	**08 52 02.5**	**-1.3**
LAST				S	**Sn**	**08 52 15.8**	**-0.9**
NPS	**Neapolis**	**1.13**	**20**	*e*PN	**Pn**	**08 52 05.9**	**+0.3**
NPS	**Neapolis**	**1.13**	**20**	P	**Pn**	**08 52 05.8**	**+0.2**
NPS				S	**Sn**	**08 52 21.2**	**+1.3**
NPS	**Neapolis**	**1.13**	**20**	P	**Pn**	**08 52 05.8**	**+0.2**
NPS				S	**Sn**	**08 52 21.2**	**+1.3**
ZKR	**Zakros**	**1.28**	**44**	*e*PN	**Pn**	**08 52 08.6**	**+1.0**
ZKR				*e*SN	**Sn**	**08 52 25.0**	**+1.5**
ZKR	**Zakros**	**1.28**	**44**	P	**Pn**	**08 52 08.6**	**+1.0**
ZKR				S	**Sn**	**08 52 27.0**	**+3.5**
ZKR	**Zakros**	**1.28**	**44**	P	**Pn**	**08 52 08.6**	**+1.0**
ZKR				*e*Sn	**Sn**	**08 52 25.0**	**+1.5**
VAM	**Vamos**	**1.43**	**328**	*e*PN	**Pn**	**08 52 10.4**	**+0.7**
VAM				*e*SN	**Sn**	**08 52 31.1**	**+3.8**
VAM	**Vamos**	**1.43**	**328**	P	**Pn**	**08 52 10.2**	**+0.5**
VAM				S	**Sn**	**08 52 27.0**	**-0.3**
VAM	**Vamos**	**1.43**	**328**	P	**Pn**	**08 52 10.2**	**+0.5**
VAM				S	**Sn**	**08 52 27.0**	**-0.3**
VAM				*e*Sn	**Sn**	**08 52 31.1**	**+3.8**
KARN	**Karanos**	**1.56**	**320**	*e*PN	**Pn**	**08 52 12.3**	**+0.7**
KARN	**Karanos**	**1.56**	**320**	P	**Pn**	**08 52 11.8**	**+0.2**
KARN				S	**Sn**	**08 52 30.2**	**-0.4**
KARN	**Karanos**	**1.56**	**320**	P	**Pn**	**08 52 11.8**	**+0.2**
KARN	**Karanos**	**1.56**	**320**	*e*Pn	**Pn**	**08 52 12.3**	**+0.7**
KARN				S	**Sn**	**08 52 30.2**	**-0.4**
KARP	**Karpathos**	**2.14**	**50**	*e*PN	**Pn**	**08 52 21.6**	**+2.1**
KARP	**Karpathos**	**2.14**	**50**	P	**Pn**	**08 52 21.6**	**+2.1**
KARP				S	**Sn**	**08 52 47.7**	**+2.9**
KARP	**Karpathos**	**2.14**	**50**	P	**Pn**	**08 52 21.6**	**+2.1**
THR3	**Thira Island,**	**2.22**	**6**	P	**Pn**	**08 52 20.5**	**0.0**
THR3	**Thira Island,**	**2.22**	**6**	P	**Pn**	**08 52 20.5**	**0.0**
THR5	**Thira Island,**	**2.22**	**4**	P	**Pn**	**08 52 21.0**	**+0.4**
THR5	**Thira Island,**	**2.22**	**4**	P	**Pn**	**08 52 21.0**	**+0.4**
KYTH	**Kithira**	**2.70**	**321**	P	**Pn**	**08 52 27.7**	**+0.6**
KYTH	**Kithira**	**2.70**	**321**	P	**Pn**	**08 52 27.7**	**+0.6**
SLUM		**2.70**	**179**	P	**Pn**	**08 52 28.0**	**+0.8**
	baz=183						
SLUM				S	**Sn**	**08 52 59.1**	**+0.5**
	baz=183						
SLUM				AMP		08 53 00.0	
	comp=E,80μm,0.3s,logA/T=5.5,baz=183						
VLI	**Veliai**	**3.09**	**325**	P	**Pn**	**08 52 33.0**	**+0.5**
VLI				S	**Sn**	**08 53 08.1**	**-0.1**
VLI	**Veliai**	**3.09**	**325**	P	**Pn**	**08 52 33.0**	**+0.5**
VLI				S	**Sn**	**08 53 08.1**	**-0.1**
HMAT	**Matruh**	**3.51**	**151**	P	**Pn**	**08 52 38.7**	**+0.4**
	baz=154						
HMAT				AMP		08 53 00.0	
	comp=N,30μm,0.5s,logA/T=4.7,baz=154						
HMAT				S	**Sn**	**08 53 16.3**	**-2.2**
	baz=154						
DID	**Didima**	**3.64**	**335**	P	**Pn**	**08 52 39.6**	**-0.5**
DID				S	**Sn**	**08 53 21.7**	**-0.2**
DID	**Didima**	**3.64**	**335**	P	**Pn**	**08 52 39.6**	**-0.5**
DID				S	**Sn**	**08 53 21.7**	**-0.2**
PYL	**PYLOS**	**3.86**	**315**	P	**Pn**	**08 52 44.4**	**+1.3**
PYL	**PYLOS**	**3.86**	**315**	P	**Pn**	**08 52 44.4**	**+1.3**
VLX	**Vlachokerasia**	**3.88**	**325**	P	**Pn**	**08 52 43.5**	**+0.1**
VLX	**Vlachokerasia**	**3.88**	**325**	P	**Pn**	**08 52 43.5**	**+0.1**
TURN	**Turunc**	**3.89**	**46**	*i* P	**Pn**	**08 52 40.5**	**-3.0**
TURN	**Turunc**	**3.89**	**46**	*i* P	**Pn**	**08 52 40.5**	**-3.0**
TURN				*i* S	**Sn**	**08 53 24.1**	**-3.8**
ITM	**Ithomi**	**3.96**	**320**	P	**Pn**	**08 52 44.1**	**-0.4**
ITM				S	**Sn**	**08 53 28.6**	**-1.0**
ITM	**Ithomi**	**3.96**	**320**	P	**Pn**	**08 52 44.1**	**-0.4**
ITM				S	**Sn**	**08 53 28.6**	**-1.0**
AKAS	**Kas**	**4.18**	**60**	*i* P	**Pn**	**08 52 46.9**	**-0.6**
AKAS	**Kas**	**4.18**	**60**	*i* P	**Pn**	**08 52 46.9**	**-0.7**
AKAS				*i* S	**Sn**	**08 53 33.6**	**-1.6**
LTK	**Loutraki**	**4.20**	**336**	P	**Pn**	**08 52 47.8**	**0.0**
LTK				S	**Sn**	**08 53 35.9**	**+0.3**
LTK	**Loutraki**	**4.20**	**336**	P	**Pn**	**08 52 47.8**	**0.0**
LTK				S	**Sn**	**08 53 35.9**	**+0.3**
GUR	**Goura**	**4.36**	**330**	P	**Pn**	**08 52 51.2**	**+1.2**
GUR	**Goura**	**4.36**	**330**	P	**Pn**	**08 52 51.2**	**+1.2**
GOLH	**Golhisar**	**4.71**	**49**	*i* P	**Pn**	**08 52 55.0**	**+0.3**
GOLH	**Golhisar**	**4.71**	**49**	*i* P	**Pn**	**08 52 55.0**	**+0.3**
GOLH				*i* S	**Sn**	**08 53 48.5**	**+0.4**
DNZL	**Cakiroluk**	**4.71**	**41**	*i* P	**Pn**	**08 52 55.4**	**+0.6**
DNZL	**Cakiroluk**	**4.71**	**41**	*i* P	**Pn**	**08 52 55.4**	**+0.6**
SWA2		**4.95**	**177**	P	**Pn**	**08 52 58.9**	**+0.9**
	baz=178						
SWA2				S	**Sn**	**08 53 53.6**	**-0.5**
	baz=178						
KORT	**Korkueli**	**5.08**	**55**	*i* P	**Pn**	**08 53 02.2**	**+2.3**
KORT	**Korkueli**	**5.08**	**55**	*i* P	**Pn**	**08 53 02.2**	**+2.3**
KORT				*i* S	**Sn**	**08 54 00.2**	**+2.8**
AGG	**Agios Georgios**	**5.32**	**336**	P	**Pn**	**08 53 04.1**	**+1.0**
AGG	**Agios Georgios**	**5.32**	**336**	P	**Pn**	**08 53 04.1**	**+1.0**
GAZI	**Gazipasa**	**6.22**	**69**	*i* P	**Pn**	**08 53 15.2**	**-0.3**
GAZI	**Gazipasa**	**6.22**	**69**	*i* P	**Pn**	**08 53 15.2**	**-0.3**
KDHN	**Kadinhani**	**7.09**	**51**	*i* P	**Pn**	**08 53 27.7**	**+0.2**
KDHN	**Kadinhani**	**7.09**	**51**	*i* P	**Pn**	**08 53 27.7**	**+0.2**
AMAG	**Maghara**	**7.69**	**115**	P	**Pn**	**08 53 34.5**	**-1.2**
	baz=116						
SUZ		**7.84**	**122**	P	**Pn**	**08 53 37.5**	**-0.4**
	baz=122						
SUZ				S	**Sn**	**08 55 00.7**	**-4.7**
	baz=122						
MMAI	**Mount Meron Ar**	**8.64**	**95**	Pn	**Pn**	**08 53 48.2**	**-0.6**
	comp=N,2.3nm,0.3s,baz=289,slow=16,SNR=4.1						
BRTR	**Keskin Array B**	**8.76**	**49**	Pn	**Pn**	**08 53 48.4**	**-1.9**
	comp=N,0.3nm,0.3s,baz=198,slow=19,SNR=2.4						
BRTR	**Keskin Array B**	**8.76**	**49**	Pn	**Pn**	**08 53 48.4**	**-1.9**
BRTR	**Keskin Array B**	**8.76**	**49**	Pn	**Pn**	**08 53 48.4**	**-1.9**
EIL	**Elat**	**9.48**	**116**	Pn	**Pn**	**08 53 59.8**	**-0.5**
	comp=N,1.0nm,0.3s,baz=164,slow=13,SNR=2.8						
EIL	**Elat**	**9.48**	**116**	Pn	**Pn**	**08 53 59.8**	**-0.5**
EIL	**Elat**	**9.48**	**116**	Pn	**Pn**	**08 53 59.8**	**-0.5**
GTR	**Jabal at Tayr**	**9.85**	**150**	P	**Pn**	**08 54 05.5**	**+0.1**
	baz=151						
KIEV	**Kiev**	**16.75**	**9**	*e*Pn	**Pn**	**08 55 38.4**	**+0.5**
	comp=N,7.9nm,0.8s						
KIEV	**Kiev**	**16.75**	**9**	*e*Pn	**Pn**	**08 55 38.4**	**+0.5**
	comp=N,7.9nm,0.8s						
AKASG	**Malin Array Be**	**16.76**	**9**	Pn	**Pn**	**08 55 36.5**	**-1.5**
	comp=N,1.8nm,0.3s,baz=199,slow=11,SNR=10						
AKASG	**Malin Array Be**	**16.76**	**9**	Pn	**Pn**	**08 55 36.5**	**-1.5**
AKASG	**Malin Array Be**	**16.76**	**9**	Pn	**Pn**	**08 55 36.5**	**-1.5**
AKBB	**Malin Array Si**	**16.76**	**9**	*e*Pn	**Pn**	**08 55 38.4**	**+0.4**
AKBB	**Malin Array Si**	**16.76**	**9**	*e*Pn	**Pn**	**08 55 38.4**	**+0.4**
GERES	**GERESS Array B**	**16.93**	**333**	Pn	**Pn**	**08 55 40.9**	**+0.8**
	comp=N,0.9nm,0.3s,baz=146,slow=12,SNR=19						
GERES	**GERESS Array B**	**16.93**	**333**	Pn	**Pn**	**08 55 40.9**	**+0.8**
GERES	**GERESS Array B**	**16.93**	**333**	Pn	**Pn**	**08 55 40.9**	**+0.8**
HFS	**Hagfors**	**27.01**	**347**	P	**P**	**08 57 24.0**	**-0.5**
	comp=N,0.9nm,0.4s,mb3.7,baz=153,slow=11,SNR=6.3						
HFS	**Hagfors**	**27.01**	**347**	P	**P**	**08 57 24.0**	**-0.5**
HFS	**Hagfors**	**27.01**	**347**	P	**P**	**08 57 24.0**	**-0.4**
FINES	**FINESS Array B**	**27.27**	**1**	P	**P**	**08 57 24.9**	**-1.9**
	comp=N,1.0nm,0.5s,mb3.6,baz=219,slow=34,SNR=1.8						
FINES	**FINESS Array B**	**27.27**	**1**	P	**P**	**08 57 24.9**	**-1.9**
NOA	**NORSAR Array B**	**28.32**	**346**	P	**P**	**08 57 35.2**	**-0.9**
	comp=N,1.3nm,0.8s,mb3.6,baz=162,slow=9.3,SNR=2.5						
NOA	**NORSAR Array B**	**28.32**	**346**	P	**P**	**08 57 35.2**	**-0.9**
NOA	**NORSAR Array B**	**28.32**	**346**	P	**P**	**08 57 35.2**	**-1.0**
TORD	**Torodi Ar. Bea**	**29.86**	**231**	P	**P**	**08 57 51.3**	**+1.0**
	comp=N,2.7nm,0.5s,mb4.3,baz=34,slow=8.6,SNR=29						
TORD	**Torodi Ar. Bea**	**29.86**	**231**	P	**P**	**08 57 51.3**	**+1.0**
TORD	**Torodi Ar. Bea**	**29.86**	**231**	P	**P**	**08 57 51.3**	**+1.0**
ARCES	**ARCESS Array B**	**35.39**	**0**	P	**P**	**08 58 36.2**	**-1.8**
	comp=N,1.9nm,0.7s,mb4.1,baz=163,slow=10.0,SNR=7.1						
ARCES	**ARCESS Array B**	**35.39**	**0**	P	**P**	**08 58 36.2**	**-1.8**
DBIC	**Dimbokro**	**38.96**	**232**	P	**P**	**08 59 09.3**	**+0.4**
	comp=N,3.3nm,0.8s,mb4.1,baz=355,slow=16,SNR=2.0						
DBIC	**Dimbokro**	**38.96**	**232**	P	**P**	**08 59 09.3**	**+0.4**
DBIC	**Dimbokro**	**38.96**	**232**	P	**P**	**08 59 09.3**	**+0.4**
MK31	**Makanchi Array**	**44.33**	**56**	*e*P	**P**	**08 59 53.5**	**+0.9**
MK31	**Makanchi Array**	**44.33**	**56**	*e*P	**P**	**08 59 53.5**	**+1.0**
MKAR	**Makanchi Array**	**44.33**	**56**	P	**P**	**08 59 53.3**	**+0.8**
	comp=N,1.7nm,0.5s,mb4.0,baz=276,slow=6.8,SNR=20						
MKAR	**Makanchi Array**	**44.33**	**56**	P	**P**	**08 59 53.3**	**+0.8**
MKAR	**Makanchi Array**	**44.33**	**56**	P	**P**	**08 59 53.3**	**+0.8**
ZALV	**Zalesovo Beam**	**45.69**	**45**	P	**P**	**09 00 03.0**	**-0.3**
	comp=N,2.7nm,0.5s,mb4.5,baz=268,slow=8.3,SNR=13						
ZALV	**Zalesovo Beam**	**45.69**	**45**	P	**P**	**09 00 03.0**	**-0.3**
ZALV	**Zalesovo Beam**	**45.69**	**45**	P	**P**	**09 00 03.0**	**-0.2**
SONM	**Songino Array**	**60.11**	**50**	P	**P**	**09 01 51.1**	**+1.4**
	comp=N,1.0nm,0.5s,mb4.1,baz=287,slow=7.3,SNR=11						
SONM	**Songino Array**	**60.11**	**50**	P	**P**	**09 01 51.1**	**+1.4**
SONM	**Songino Array**	**60.11**	**50**	P	**P**	**09 01 51.1**	**+1.4**

IDC 03 08:57:40.6±2.1, 3°.60N×125°.47E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/20, mbtmp3.4/3, Error ellipse: s-maj=194.4km s-min=27.5km az=64.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.97**	**160**	P	P	09 03 05.6	-0.4
	0.5nm,0.4s,baz=338,slow=11,SNR=13						
ASAR	**Alice Springs**	**28.32**	**164**	P	P	09 03 36.7	+0.5
	0.1nm,0.4s,baz=351,slow=7.4,SNR=1.6						
MKAR	**Makanchi Array**	**56.95**	**326**	P	P	09 07 27.9	+0.2
	0.2nm,0.4s,baz=122,slow=7.4,SNR=4.6						

*NEIC **03** 09:00:42.3, 19°.32N×66°.36W, h51km, MD3.5(RSPR), After RSPR.*

RSPR 03 09:00:42.3, 19°.32N×66°.36W, h51km±22km, MD3.5/5, 14C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AOPR	**Arecibo Observ**	**1.04**	**201**	↑*e*P	Pn	09 00 59.3	-1.3
AOPR	**Arecibo Observ**	**1.04**	**201**	↑*e*P	Pn	09 00 59.3	-1.3
AOPR				*e*S	Sn	09 01 12.7	-1.3
LRS	**Lares**	**1.12**	**204**	↑*e*P	Pn	09 01 00.8	-0.9
LRS	**Lares**	**1.12**	**204**	↑*e*P	Pn	09 01 00.8	-0.9
CBYP	**Canovanas**	**1.15**	**156**	↑*e*P	Pn	09 01 00.7	-1.3
CBYP				*e*S	Sn	09 01 16.3	-0.3
CBYP	**Canovanas**	**1.15**	**156**	↑*e*P	Pn	09 01 00.7	-1.3
CBYP				*e*S	Sn	09 01 16.3	-0.3
SJG	**San Juan**	**1.22**	**171**	*e*Pn	Pn	09 01 02.3	-0.7
CELP	**Cerrillos**	**1.26**	**190**	*e*Pn	Pn	09 01 02.5	-1.0
HUMP	**Col San Antoni**	**1.27**	**158**	↑*e*P	Pn	09 01 02.5	-1.1
HUMP	**Col San Antoni**	**1.27**	**158**	↑*e*P	Pn	09 01 02.5	-1.1
OBIP	**Obispado Ponce**	**1.29**	**191**	*e*Pn	Pn	09 01 03.0	-1.1
LSP	**Las Mesas**	**1.33**	**211**	↑*e*P	Pn	09 01 03.9	-0.7
LSP	**Las Mesas**	**1.33**	**211**	↑*e*P	Pn	09 01 03.9	-0.7
MTP	**Monte Pirata**	**1.44**	**148**	↑*e*P	Pn	09 01 04.8	-1.1
MTP	**Monte Pirata**	**1.44**	**148**	↑*e*P	Pn	09 01 04.8	-1.1
CRPR	**Cabo Rojo, PR**	**1.49**	**209**	↓*e*P	Pn	09 01 06.5	-0.2
CRPR	**Cabo Rojo, PR**	**1.49**	**209**	↓*e*P	Pn	09 01 06.5	-0.2
STVI	**Saint Thomas**	**1.64**	**126**	↑*e*P	Pn	09 01 07.9	-0.9
STVI	**Saint Thomas**	**1.64**	**126**	↑*e*P	Pn	09 01 07.9	-0.9

*ISCJB **03** 09:01:36.7±1.6, 34°.05N±0°.06×25°.05E±0°.07, h3km±10km, mb3.8/5, Error ellipse: s-maj=10.6km s-min=9.7km az=20.8*
*IDC **03** 09:01:38.3±1.4, 34°.24N×25°.14E, h0km, mb3.9/5, mb1 3.9/7, mb1mx3.7/25, mbtmp3.8/7, ML4.1/2, Error ellipse: s-maj=37.1km s-min=24.6km az=136.0*
*CSEM **03** 09:01:40.1, 34°.18N×25°.09E, h13km, MD3.3, After ATH*
*ATH **03** 09:01:40.1, 34°.18N×25°.09E, h13km±7km, MD3.3/3*

ISC 03 09:01:39.1±1.7, 34°.15N±0°.06×25°.08E±0°.07, h5km±10km, n19, σ1§06/27, mb3.8/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.89**	**345**	*e*PB	**Pb**	**09 01 56.8**	**-0.3**
SIVA				*e*SB	**Sb**	**09 02 08.1**	**-1.2**
SIVA	**Sivas**	**0.89**	**345**	*e*Pb	**Pb**	**09 01 56.8**	**-0.3**
SIVA				*e*Sb	**Sb**	**09 02 08.1**	**-1.2**
LAST	**Lasithi**	**1.06**	**18**	*e*PG	**Pg**	**09 01 59.0**	**-0.4**
LAST				*e*SB	**Sb**	**09 02 13.9**	**-0.2**
LAST	**Lasithi**	**1.06**	**18**	*e*Pg	**Pg**	**09 01 59.0**	**-0.4**
LAST				*e*Sb	**Sb**	**09 02 13.9**	**-0.2**
NPS	**Neapolis**	**1.19**	**21**	*e*PN	**Pn**	**09 02 02.5**	**+0.1**
NPS	**Neapolis**	**1.19**	**21**	*e*Pn	**Pn**	**09 02 02.5**	**+0.1**
ZKR	**Zakros**	**1.34**	**44**	*e*PB	**Pb**	**09 02 05.1**	**+0.4**
ZKR				*e*SB	**Sb**	**09 02 23.0**	**+0.8**
ZKR	**Zakros**	**1.34**	**44**	*e*Pb	**Pb**	**09 02 05.1**	**+0.4**
ZKR				*e*Sb	**Sb**	**09 02 23.0**	**+0.8**
VAM	**Vamos**	**1.45**	**330**	*e*PG	**Pg**	**09 02 06.5**	**-0.3**
VAM				*e*SB	**Sb**	**09 02 27.4**	**+2.1**
VAM	**Vamos**	**1.45**	**330**	*e*Pg	**Pg**	**09 02 06.5**	**-0.3**
VAM				*e*Sb	**Sb**	**09 02 27.4**	**+2.1**
KARP	**Karpathos**	**2.20**	**50**	*e*PN	**Pn**	**09 02 18.4**	**+2.0**
KARP	**Karpathos**	**2.20**	**50**	*e*Pn	**Pn**	**09 02 18.4**	**+2.0**
AKASG	**Malin Array Be**	**16.81**	**9**	Pn	**Pn**	**09 05 34.1**	**-1.1**
	0.6nm,0.3s,baz=199,slow=10.0,SNR=3.8						
GERES	**GERESS Array B**	**16.94**	**333**	Pn	**Pn**	**09 05 38.3**	**+1.4**
	0.4nm,0.3s,baz=148,slow=13,SNR=13						
HFS	**Hagfors**	**27.04**	**347**	P	**P**	**09 07 20.5**	**-1.6**
	2.3nm,0.9s,mb3.7,baz=140,slow=9.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**29.80**	**231**	P	**P**	**09 07 47.9**	**+0.8**
	0.8nm,0.5s,mb3.7,baz=35,slow=8.6,SNR=7.3						
MKAR	**Makanchi Array**	**44.39**	**56**	P	**P**	**09 09 49.8**	**-0.7**
	0.6nm,0.5s,mb3.5,baz=275,slow=6.4,SNR=6.4						
ZALV	**Zalesovo Beam**	**45.75**	**45**	P	**P**	**09 09 59.7**	**-1.5**
	1.0nm,0.4s,mb4.1,baz=271,slow=8.4,SNR=5.0						
SONM	**Songino Array**	**60.18**	**50**	P	**P**	**09 11 47.9**	**+0.1**
	0.4nm,0.5s,mb3.7,baz=286,slow=8.3,SNR=3.6						

*IDC **03** 09:08:22.6±0.7, 48°.38S×87°.19W, h0km, mb3.9/11, mb1 4.1/12, mb1mx4.1/19, mbtmp3.9/12, ML3.5/1, MS3.9/12, Ms1 3.9/12, ms1mx3.8/19, Error ellipse: s-maj=30.5km s-min=16.2km az=104.0*
*ISCJB **03** 09:08:23.1±0.6, 48°.40S±0°.09×87°.0W±0°.2, h10km, mb4.0/12, MS3.9/11, Error ellipse: s-maj=18.7km s-min=11.5km az=22.8*
*NEIC **03** 09:08:24.1±0.4, 48°.38S×87°.17W, h10km, mb4.7/2, Error ellipse: s-maj=14.5km s-min=9.3km az=120.0*

ISC 03 09:08:24.8±0.6, 48°.40S±0°.09×87°.1W±0°.2, h10km, n46, σ0§50/27, mb4.0/12, MS3.9/11, Southern Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**14.03**	**63**	Pn	**Pn**	**09 11 43.5**	**0.0**
	0.1nm,0.3s,baz=229,slow=19,SNR=2.1						
PLCA				LR	LR	09 16 00.7	
	comp=Z,755nm,20.6s,baz=288,slow=32						
PLCA	**Paso Flores**	**14.03**	**63**	Pn	**Pn**	**09 11 43.5**	**0.0**
PLCA				LR	LR	09 16 00.7	
TRQA	**Tornquist**	**20.91**	**70**	*e*P	**P**	**09 13 07.4**	**+0.1**
	31nm,1.4s						
CFAA	**Coronel Fontan**	**22.02**	**47**	P	**P**	**09 13 19.2**	**-0.1**
	0.7nm,0.9s,mb3.1,baz=224,slow=8.9,SNR=13						
CFAA					LR	09 20 09.1	
	comp=Z,49nm,21.2s,MS2.9,baz=221,slow=32						
CFAA	**Coronel Fontan**	**22.02**	**47**	P	**P**	**09 13 19.2**	**-0.1**
CFAA					LR	09 20 09.1	
RPN	**Rapa Nui**	**27.41**	**313**	LR	LR	09 20 37.9	
	comp=Z,63nm,19.3s,MS3.2,baz=134,slow=27						
CPUP	**Villa Florida**	**31.98**	**57**	P	**P**	**09 14 50.3**	**-0.7**
	1.6nm,0.7s,mb4.0,baz=198,slow=11,SNR=3.5						
CPUP					LR	09 27 16.2	
	comp=Z,327nm,18.7s,MS4.0,baz=200,slow=35						
CPUP	**Villa Florida**	**31.98**	**57**	P	**P**	**09 14 50.3**	**-0.7**
CPUP					LR	09 27 16.2	
LPAZ	**La Paz**	**35.59**	**32**	P	**P**	**09 15 22.8**	**+0.4**
	4.2nm,1.1s,mb4.3,baz=184,slow=6.7,SNR=11						
LPAZ	**La Paz**	**35.59**	**32**	P	**P**	**09 15 22.8**	**+0.4**
QSPA	**South Pole Qui**	**41.83**	**180**	P	**P**	**09 16 15.1**	**+1.0**
	1.2nm,0.9s,mb3.5,baz=175,slow=0.8,SNR=4.2						
QSPA	**South Pole Qui**	**41.83**	**180**	P	**P**	**09 16 15.1**	**+1.0**
SNAA	**Sanae**	**43.24**	**153**	P	**P**	**09 16 25.2**	**-0.4**
	0.8nm,0.6s,mb3.6,baz=256,slow=4.2,SNR=3.3						
SNAA	**Sanae**	**43.24**	**153**	P	**P**	**09 16 25.2**	**-0.4**
RKT	**Rikitea**	**45.39**	**286**	*e*LR	LR	09 29 25.2	
	184nm,33.0s						
VNDA	**Vanda**	**47.50**	**196**	P	**P**	**09 16 59.1**	**-0.3**
	0.6nm,0.7s,mb3.7,baz=127,slow=7.1,SNR=4.9						
VNDA					LR	09 32 55.2	
	comp=Z,160nm,21.6s,MS4.0,baz=124,slow=31						
VNDA	**Vanda**	**47.50**	**196**	P	**P**	**09 16 59.1**	**-0.3**
VNDA					LR	09 32 55.2	
OTAV	**Otavalo**	**49.02**	**11**	*e*P	**P**	**09 17 11.9**	**+0.1**
	21nm,1.4s,mb5.0						
ROSC	**El Rosal**	**54.20**	**16**	P	**P**	**09 17 51.4**	**+0.9**
	1.3nm,0.3s,mb4.3,baz=117,slow=18,SNR=3.7						
ROSC					LR	09 37 36.2	
	comp=Z,85nm,20.8s,MS3.8,baz=22,slow=32						
ROSC	**El Rosal**	**54.20**	**16**	P	**P**	**09 17 51.4**	**+0.9**
ROSC					LR	09 37 36.2	
PPT	**Papeete**	**58.87**	**279**	*e*S	**S**	**09 26 41.8**	**+12**
	69nm,25.0s						
PPT				*e*LR	LR	09 35 43.4	
	311nm,23.8s,baz=146						
PPT	**Papeete**	**58.87**	**279**	LR	LR	09 36 46.7	
	comp=Z,244nm,19.8s,MS4.3,baz=125,slow=29

SKR smax
comp=N,80nm,0.5s
SKR smax
comp=E,110nm,0.3s
NEM2 Nemuro 2 5.65 238 P **Pn** **09 34 35.8 -1.9**
NEM2 *eS* **Sn** **09 35 37.4 -3.8**
JRA Rausu 5.72 246 P **Pn** **09 34 39.4 +0.8**
JNK Nakash 6.15 244 P **Pn** **09 34 44.6 +0.1**
JNK *eS* **Sn** **09 35 53.6 +0.2**
JTKR Abashiri--Toko 6.48 250 P **Pn** **09 34 50.6 +1.6**
JAK Akkeshi 6.49 240 P **Pn** **09 34 47.3 -1.8**
YSS Yuzh-Sakhalins 6.60 277 ⇑*i*PN **Pn** **09 34 52.1 +1.4**
YSS *eS* **Sn** **09 36 06.0 +1.6**
YSS pmax pmax
comp=Z,40nm,1.0s
YSS smax
comp=E,20nm,0.5s
JMP Maruseppu 6.82 252 P **Pn** **09 34 55.1 +1.4**
JAR Ashorobuto 6.89 245 P **Pn** **09 34 55.0 +0.4**
JAR *eS* **Sn** **09 36 11.5 0.0**
JOB Onbets 7.06 242 P **Pn** **09 34 56.4 -0.6**
JOB *eS* **Sn** **09 36 12.9 -2.8**
JKK2 Kamakawa 2 7.28 252 P **Pn** **09 35 01.7 +1.8**
ASAJ Asahikawa 7.28 254 P **Pn** **09 35 00.7 +0.7**
comp=E,1.9nm,0.3s,baz=93,slow=16,SNR=19
ASAJ LR LR 09 37 41.1
comp=E,89nm,20.4s,baz=160,slow=37
ASAJ Asahikawa 7.28 254 *e*Pn **Pn** **09 35 01.6 +1.7**
comp=E,10nm,0.9s
ASAJ Asahikawa 7.28 254 PN **Pn** **09 35 00.7 +0.7**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ MLR MLR
comp=Z,89nm,20.4s
ASAJ Asahikawa 7.28 254 P **Pn** **09 35 02.3 +2.3**
JWK2 Keihoku 7.38 264 P **Pn** **09 35 05.4 +4.0**
PEA0B Petropavlovsk- 7.44 26 *e*Pn **Pn** **09 35 02.3 +0.2**
PETK Petropavlovsk- 7.44 26 P **Pn** **09 35 02.3 +0.2**
comp=Z,0.9nm,0.3s,baz=189,slow=16,SNR=7.9
PETK Petropavlovsk- 7.44 26 P **Pn** **09 35 02.3 +0.2**
PETK Petropavlovsk- 7.44 26 PN **Pn** **09 35 02.3 +0.2**
JCH Churui 7.51 242 P **Pn** **09 35 01.8 -1.3**
JCH *eS* **Sn** **09 36 22.8 -3.9**
JFR Furan 7.70 248 P **Pn** **09 35 06.6 +0.9**
JAB Ashibetsu 7.78 251 P **Pn** **09 35 08.8 +2.0**
ERM Erimo 7.99 239 *e*Pn **Pn** **09 35 09.9 +0.3**
ERM Erimo 7.99 239 *e*PN **Pn** **09 35 09.9 +0.3**
JBT2 Biratori 2 8.04 246 P **Pn** **09 35 09.8 -0.5**
JNBK Urakawa-nobuka 8.07 242 P **Pn** **09 35 08.9 -1.9**
JNBK *eS* **Sn** **09 36 35.0 -5.4**
JNB Noboribetsu 9.04 247 P **Pn** **09 35 23.6 -0.4**
JKB Kayabe 9.35 244 P **Pn** **09 35 26.3 -1.9**
JKB *eS* **Sn** **09 37 05.0 -6.7**
JYM2 Yakumo 2 9.64 247 P **Pn** **09 35 31.3 -1.0**
JTM Tenmabayashi 9.98 239 P **Pn** **09 35 33.7 -3.1**
JANG Nango 9.98 236 P **Pn** **09 35 32.6 -4.3**
JANG *eS* **Sn** **09 37 16.8 -10**
JRG Rokugo 11.14 234 P **Pn** **09 35 49.9 -2.8**
MAJO Matsushiro 14.52 232 *e*Pn **Pn** **09 36 39.7 +1.6**
MAJO Matsushiro 14.52 232 *e*P **Pn** **09 36 39.7 +1.5**
MJAR Matsushiro Arr 14.52 232 P **Pn** **09 36 38.8 +0.6**
comp=Z,0.2nm,0.3s,baz=118,slow=26,SNR=2.5
MJAR LR LR 09 42 28.5
comp=Z,41nm,19.0s,baz=225,slow=38
MJAR Matsushiro Arr 14.52 232 P **Pn** **09 36 38.8 +0.6**
MJAR LR LR 09 42 28.5
MJAR Matsushiro Arr 14.52 232 P **Pn** **09 36 38.8 +0.6**
FX1 Attu Island--F 14.87 57 P **Pn** **09 36 41.9 -0.7**
comp=Z,6.1nm,0.3s,baz=311,slow=4.8,SNR=23
FX1 LR LR 09 41 13.7
comp=Z,42nm,21.6s,baz=42,slow=32
FX1 Attu Island--F 14.87 57 P **Pn** **09 36 41.9 -0.7**
FX1 LR LR 09 41 13.7
FX1 Attu Island--F 14.87 57 P **Pn** **09 36 41.9 -0.6**
SEY Seymchan 16.44 0 *i* P **Pn** **09 37 01.9 -0.5**
KSRS Korea Array 20.22 252 P **P** **09 37 47.5 +1.9**
comp=Z,4.0nm,0.7s,baz=58,slow=9.6,SNR=8.7
KSRS Korea Array 20.22 252 P **P** **09 37 47.6 +1.9**
KSRS pmax pmax
comp=Z,4.0nm,0.7s
YAK Yakutsk 20.23 328 *e*P **P** **09 37 44.2 -1.3**
YAK pmax pmax
comp=E,11nm,0.6s
BILL Bilibino 22.73 14 *e*P **P** **09 38 13.3 +1.1**
BILL pmax pmax
comp=Z,4.0nm,1.2s,mb3.6
SONM Songino Array 30.91 289 P **P** **09 39 25.6 -0.7**
comp=Z,0.2nm,0.3s,mb3.3,baz=141,slow=43,SNR=1.7
SONM Songino Array 30.91 289 P **P** **09 39 25.6 -0.7**
SONM Songino Array 30.91 289 P **P** **09 39 25.6 -0.6**
ILAR Eielson Array 37.05 38 P **P** **09 40 18.8 -0.4**
comp=Z,0.4nm,0.6s,mb3.5,baz=261,slow=7.2,SNR=16
ILAR Eielson Array 37.05 38 P **P** **09 40 18.8 -0.4**
ILAR Eielson Array 37.05 38 P **P** **09 40 18.8 -0.4**
INK Inuvik 42.12 32 P **P** **09 41 01.8 +0.5**
comp=Z,1.0nm,0.5s,mb3.8,baz=319,slow=6.9,SNR=10
INK Inuvik 42.12 32 P **P** **09 41 01.8 +0.5**
INK Inuvik 42.12 32 P **P** **09 41 01.8 +0.5**
ZALV Zalesovo Beam 42.31 306 PcP PcP 09 42 55.5 +0.1
comp=Z,1.0nm,0.6s,baz=68,slow=4.2,SNR=7.4
ZALV LR LR 09 59 36.5
comp=Z,27nm,20.2s,baz=99,slow=38
MK31 Makanchi Array 46.57 297 *e*P **P** **09 41 35.8 -1.2**
MK31 Makanchi Array 46.57 297 *e*P **P** **09 41 35.8 -1.3**
MKAR Makanchi Array 46.57 297 P **P** **09 41 35.4 -1.7**
comp=Z,0.4nm,0.2s,mb3.7,baz=84,slow=5.4,SNR=3.5
MKAR PcP PcP 09 43 10.2 +0.1
comp=Z,0.5nm,0.3s,baz=57,slow=4.5,SNR=5.1
MKAR Makanchi Array 46.57 297 P **P** **09 41 35.4 -1.7**
MKAR PcP PcP 09 43 10.2 +0.1
MKAR Makanchi Array 46.57 297 P **P** **09 41 35.4 -1.7**
MKAR 09 43 10.2
KURK Kurchatov 47.05 304 P **P** **09 41 39.8 -0.9**
comp=Z,0.7nm,0.5s,mb3.7,baz=71,slow=8.4,SNR=5.5
KURK Kurchatov 47.05 304 P **P** **09 41 39.8 -0.9**
KURK Kurchatov 47.05 304 P **P** **09 41 39.8 -0.9**
BVAR Borovoye Array 50.59 309 P **P** **09 42 07.3 -0.5**
comp=Z,0.7nm,0.5s,mb4.0,baz=240,slow=39,SNR=3.2
BVAR Borovoye Array 50.59 309 P **P** **09 42 07.3 -0.5**
BVAR Borovoye Array 50.59 309 P **P** **09 42 07.3 -0.5**
CMAR Chiang Mai Arr 51.80 256 P **P** **09 42 17.4 +0.1**
comp=Z,1.1nm,0.4s,mb4.2,baz=30,slow=7.0,SNR=8.0
CMAR Chiang Mai Arr 51.80 256 P **P** **09 42 17.4 +0.1**
CMAR Chiang Mai Arr 51.80 256 P **P** **09 42 17.5 +0.2**
GUN Gumba 54.49 275 *e*P **P** **09 42 37.7 +0.7**
comp=Z,8.0nm,0.4s,mb5.1
GUN Gumba 54.49 275 *e*P **P** **09 42 37.7 +0.7**
comp=Z,8.0nm,0.4s,mb5.1
KKN Kakani 54.98 275 *e*P **P** **09 42 41.5 +1.0**
comp=Z,21nm,0.6s,mb5.4
KKN Kakani 54.98 275 *e*P **P** **09 42 41.5 +1.0**
comp=Z,21nm,0.6s,mb5.3
KKN Kakani 54.98 275 *e*P **P** **09 42 41.5 +1.0**
KKN pmax pmax
comp=Z,21nm,0.6s,mb5.3
PKI Pulchoki 55.03 275 *e*P **P** **09 42 40.6 -0.3**
PKI Pulchoki 55.03 275 *e*P **P** **09 42 41.0 +0.1**
comp=Z,4.4nm,0.4s,mb4.8
PKI Pulchoki 55.03 275 *e*P **P** **09 42 41.0 +0.1**
PKI pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
PKIN Phulchoki 55.03 275 *e*P **P** **09 42 41.0 +0.1**
comp=Z,4.4nm,0.4s,mb4.9
DMN Daman 55.21 275 *e*P **P** **09 42 42.9 +0.7**
comp=Z,16nm,0.7s,mb5.1
DMN Daman 55.21 275 *e*P **P** **09 42 42.9 +0.7**
comp=Z,16nm,0.7s,mb5.2
GKN Gorkha 55.29 276 *e*P **P** **09 42 43.2 +0.5**
comp=Z,18nm,0.6s,mb5.3
GKN Gorkha 55.29 276 *e*P **P** **09 42 43.2 +0.5**
comp=Z,18nm,0.6s,mb5.3
DANN Dangsing 55.67 276 *e*P **P** **09 42 46.3 +0.8**
comp=Z,29nm,0.7s,mb5.4
DANN Dangsing 55.67 276 *e*P **P** **09 42 46.3 +0.8**
comp=Z,29nm,0.7s,mb5.4
KOLN Koldanda 56.15 276 *e*P **P** **09 42 49.5 +0.6**
comp=Z,19nm,0.8s,mb5.2
KOLN Koldanda 56.15 276 *e*P **P** **09 42 49.5 +0.6**
comp=Z,19nm,0.8s,mb5.2
ABKAR Akbulak array 58.16 310 *e*P **P** **09 43 01.4 -1.4**
comp=Z,0.6nm,0.4s,mb4.0
NVAR Mina Array Bea 63.01 62 P **P** **09 43 36.6 +0.7**
comp=Z,0.3nm,0.6s,mb3.4,baz=297,slow=7.6,SNR=3.6
NVAR Mina Array Bea 63.01 62 P **P** **09 43 36.6 +0.7**
FINES FINESS Array B 64.01 334 P **P** **09 43 41.2 -1.0**
comp=Z,1.6nm,0.5s,mb4.1,baz=44,slow=6.1,SNR=5.1
FINES FINESS Array B 64.01 334 P **P** **09 43 41.2 -1.0**
FINES FINESS Array B 64.01 334 P **P** **09 43 41.2 -1.0**
PDAR Pinedale Array 65.31 53 P **P** **09 43 51.7 +0.8**
comp=Z,1.1nm,0.8s,mb3.8,baz=267,slow=0.8,SNR=9.0
PDAR Pinedale Array 65.31 53 P **P** **09 43 51.7 +0.8**
WRA Warramunga Arr 68.13 198 P **P** **09 44 08.8 -0.2**
comp=Z,0.8nm,0.8s,mb3.6,baz=18,slow=6.6,SNR=6.8
WRA pP pP 09 44 25.4 -1.7
comp=Z,1.2nm,0.7s,baz=19,slow=7.2,SNR=6.8
WRA Warramunga Arr 68.13 198 P **P** **09 44 08.8 -0.2**
WRA pP pP 09 44 25.4 -1.7
WRA Warramunga Arr 68.13 198 P **P** **09 44 08.8 -0.2**
WRA *PP pP 09 44 25.4 -1.7
NB2 NORSAR Subarra 68.27 341 P **P** **09 44 08.6 -0.8**
comp=Z,1.3nm,0.7s,mb3.9,baz=28,slow=6.5
NOA NORSAR Array B 68.27 341 P **P** **09 44 08.0 -1.4**
comp=Z,2.0nm,0.7s,mb4.0,baz=26,slow=6.3,SNR=6.0
NOA NORSAR Array B 68.27 341 P **P** **09 44 08.0 -1.4**
NOA NORSAR Array B 68.27 341 P **P** **09 44 08.0 -1.4**
AKASG Malin Array Be 71.44 326 P **P** **09 44 27.7 -1.3**
comp=Z,0.6nm,0.3s,mb3.9,baz=37,slow=6.1,SNR=3.3
AKASG Malin Array Be 71.44 326 P **P** **09 44 27.7 -1.3**
AKASG Malin Array Be 71.44 326 P **P** **09 44 27.7 -1.3**
ASAR Alice Springs 71.83 198 P **P** **09 44 32.9 +1.3**
comp=Z,0.8nm,0.7s,mb3.7,baz=16,slow=5.0,SNR=12
ASAR pP pP 09 44 49.4 -0.4
comp=Z,0.7nm,0.7s,baz=10,slow=5.5,SNR=4.7
ASAR Alice Springs 71.83 198 P **P** **09 44 32.9 +1.3**
ASAR pP pP 09 44 49.4 -0.4
ASAR Alice Springs 71.83 198 P **P** **09 44 32.9 +1.3**
ASAR *PP pP 09 44 49.4 -0.4
BURAR Bucovina Array 75.48 326 ⇑*i*P **P** **09 44 52.6 -0.2**
BURAR Bucovina Array 75.48 326 ⇑*i*P **P** **09 44 52.6 -0.2**
MORC Moravsky Berou 76.39 332 ⇑*i*P **P** **09 45 07.4 +9.5**
MORC Moravsky Berou 76.39 332 ⇑*i*P **P** **09 45 07.4 +9.5**
CLL Collm 76.45 335 *e*P **P** **09 44 58.0 -0.3**
CLL Collm 76.45 335 *e*P **P** **09 44 58.0 -0.3**
MLR Muntele Rosu 76.94 324 ⇑*i*P **P** **09 45 01.4 +0.3**
MLR Muntele Rosu 76.94 324 ⇑*i*P **P** **09 45 01.4 +0.3**
VOIR 77.34 325 ⇓*i*P **P** **09 45 04.1 +0.7**
VOIR 77.34 325 ⇓*i*P **P** **09 45 04.1 +0.7**
TXAR Lajitas Array 78.06 60 P **P** **09 45 08.3 +0.6**
comp=Z,1.0nm,0.6s,mb3.7,baz=303,slow=4.2,SNR=20
TXAR pP pP 09 45 25.6 -0.5
comp=Z,0.7nm,0.7s,baz=293,slow=4.9,SNR=5.7
TXAR Lajitas Array 78.06 60 P **P** **09 45 08.3 +0.6**
TXAR pP pP 09 45 25.6 -0.5
TXAR Lajitas Array 78.06 60 P **P** **09 45 08.3 +0.6**
TXAR *PP pP 09 45 25.7 -0.5
BRTR Keskin Array B 78.19 316 P **P** **09 45 08.7 +0.5**
comp=Z,1.0nm,0.4s,mb3.9,baz=120,slow=7.5,SNR=4.7
BRTR LR LR 10 22 36.7
comp=Z,21nm,20.3s,baz=34,slow=38
BRTR Keskin Array B 78.19 316 P **P** **09 45 08.7 +0.5**
BRTR LR LR 10 22 36.7
BRTR Keskin Array B 78.19 316 P **P** **09 45 08.7 +0.5**
GERES GERESS Array B 78.42 334 P **P** **09 45 09.1 -0.2**
comp=Z,0.5nm,0.5s,mb3.5,baz=46,slow=5.8,SNR=5.6
GERES LR LR 10 22 01.3
comp=Z,50nm,19.1s,baz=116,slow=37
GERES GERESS Array B 78.42 334 P **P** **09 45 09.1 -0.2**
GERES LR LR 10 22 01.3
GERES GERESS Array B 78.42 334 P **P** **09 45 09.1 -0.2**
PLCA Paso Flores 148.72 95 PKPbc PKPbc 09 52 55.0 -0.3
comp=Z,1.1nm,0.6s,baz=301,slow=3.6,SNR=3.7
PLCA Paso Flores 148.72 95 PKPbc PKPbc 09 52 55.0 -0.3

*BUC **03** 09:37:46.2±2.8, 47°.83N×23°.01E, h8km±13km, MD2.5/3, Error ellipse: s-maj=23.7km s-min=9.8km az=331.0*
*ISCJB **03** 09:37:47.2±0.8, 47°.83N±0°.04×23°.05E±0°.06, h5km±6km, Error ellipse: s-maj=8.2km s-min=4.4km az=39.9*
*CSEM **03** 09:37:47.2±0.2, 47°.79N×23°.03E, h8km, ML2.3/3, Error ellipse: s-maj=7.8km s-min=4.6km az=40.0*
ISC 03 09:37:47.6±0.7, **47°.82N**±0°.04×**23°.06E**±0°.06, **h7**km±6km, **n25**, σ0**°96**/43, **5C-10D, Romania**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BMR	**Baia Mare**	**0.33**	**116**	⇑*i*P		**Pg**	**09 37 53.8**	**-0.2**
BMR				S		**Sg**	**09 37 58.8**	**+0.4**
BMR	**Baia Mare**	**0.33**	**116**	⇑*i*P		**Pg**	**09 37 53.8**	**-0.2**
BMR				S		**Sg**	**09 37 58.8**	**+0.4**
BMR	**Baia Mare**	**0.33**	**116**	⇑*i*P		**Pg**	**09 37 53.8**	**-0.2**
BMR				*i* S		**Sg**	**09 37 58.8**	**+0.4**
BMR	**Baia Mare**	**0.33**	**116**	⇑*i*P		**Pg**	**09 37 53.8**	**-0.2**
BMR				S		**Sg**	**09 37 58.8**	**+0.4**
TRPA	**Tarpa**	**0.47**	**312**	*e*Pg		**Pg**	**09 37 56.8**	**+0.2**
TRPA				*e*Sg		**Sg**	**09 38 03.0**	**+0.3**
DRGR		**1.06**	**193**	⇓*i*P		**Pg**	**09 38 06.9**	**-0.9**
DRGR		**1.06**	**193**	⇓*i*P		**Pg**	**09 38 06.9**	**-0.9**
DRGR		**1.06**	**193**	⇓*i*P		**Pg**	**09 38 06.9**	**-0.9**
DRGR				*i* S		**Sg**	**09 38 22.4**	**+0.9**
DRGR		**1.06**	**193**	⇓*i*P		**Pg**	**09 38 06.9**	**-0.9**
DRGR				*i* S		**Sg**	**09 38 22.4**	**+0.9**
DRGR		**1.06**	**193**	⇓*i*P		**Pg**	**09 38 06.9**	**-0.9**
DRGR				S		**Sg**	**09 38 22.4**	**+0.9**
KOLS	**Kolonicke sedl**	**1.23**	**335**	*e*PN		**Pn**	**09 38 11.5**	**+0.4**
KOLS				*e*SN		**Sn**	**09 38 27.2**	**-0.8**
KOLS	**Kolonicke sedl**	**1.23**	**335**	*e*Pn		**Pn**	**09 38 11.5**	**+0.4**
KOLS				*e*Sn		**Sn**	**09 38 27.2**	**-0.8**
BURAR	**Bucovina Array**	**1.47**	**97**	⇓*i*P		**Pn**	**09 38 14.7**	**+0.2**
BURAR	**Bucovina Array**	**1.47**	**97**	⇓*i*P		**Pn**	**09 38 14.7**	**+0.2**
BURAR	**Bucovina Array**	**1.47**	**97**	⇓*i*P		**Pn**	**09 38 14.7**	**+0.2**
BURAR				*i* S		**Sn**	**09 38 34.2**	**+0.2**
BURAR	**Bucovina Array**	**1.47**	**97**	⇓*i*P		**Pn**	**09 38 14.7**	**+0.2**
BURAR				*i* S		**Sn**	**09 38 34.2**	**+0.2**
BURAR	**Bucovina Array**	**1.47**	**97**	⇓*i*P		**Pn**	**09 38 14.7**	**+0.2**
BURAR				S		**Sn**	**09 38 34.2**	**+0.2**
CRVS	**Cervenica-Dubn**	**1.52**	**316**	*e*PN		**Pn**	**09 38 14.7**	**-0.4**
CRVS				*e*SN		**Sn**	**09 38 37.3**	**+2.2**
CRVS	**Cervenica-Dubn**	**1.52**	**316**	*e*Pn		**Pn**	**09 38 14.7**	**-0.4**
CRVS				*e*Sn		**Sn**	**09 38 37.3**	**+2.2**
KECS	**Kecovo**	**1.84**	**292**	*e*PN		**Pn**	**09 38 18.5**	**-1.1**
KECS				*e*SN		**Sn**	**09 38 44.8**	**+1.6**
KECS	**Kecovo**	**1.84**	**292**	*e*Pn		**Pn**	**09 38 18.5**	**-1.1**
KECS				*e*Sn		**Sn**	**09 38 44.8**	**+1.6**
STHS	**Stebnicka Huta**	**2.00**	**324**	*e*SN		**Sn**	**09 38 46.2**	**-0.8**
STHS	**Stebnicka Huta**	**2.00**	**324**	*e*Sn		**Sn**	**09 38 46.2**	**-0.8**
PSZ	**Piszkesteto**	**2.13**	**274**	*i* Pn		**Pn**	**09 38 21.6**	**-1.9**

*IDC **03** 09:48:39.5±1.4, 34°.18N×25°.17E, h0km, mb3.8/4, mb1 3.8/6, mb1mx3.7/24, mbtmp3.8/6, ML4.1/2, Error ellipse: s-maj=44.7km s-min=23.8km az=136.0*
*CSEM **03** 09:48:40.9, 34°.14N×25°.09E, h12km±4km, MD3.3, After ATH*
*ATH **03** 09:48:40.9, 34°.14N×25°.09E, h12km±4km, MD3.3/6*
ISC 03 09:48:40.1±1.5, **34°.12N**±0°.06×**25°.10E**±0°.06, **h3**km±9km, **n22**, σ0**°93**/30, **mb3.7**/4, **Crete**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.90**	**33**	*e*PB		**Pb**	**09 48 57.8**	**-0.6**
XRY	**Khrisi**	**0.90**	**33**	*e*Pb		**Pb**	**09 48 57.8**	**-0.6**
SIVA	**Sivas**	**0.93**	**345**	*e*PB		**Pb**	**09 48 58.3**	**-0.6**
SIVA				*e*SB		**Sb**	**09 49 10.4**	**-1.2**
SIVA	**Sivas**	**0.93**	**345**	*e*Pb		**Pb**	**09 48 58.3**	**-0.6**
SIVA				*e*Sb		**Sb**	**09 49 10.4**	**-1.2**
LAST	**Lasithi**	**1.09**	**17**	*e*PG		**Pg**	**09 49 00.7**	**-0.3**
LAST				*e*SB		**Sb**	**09 49 15.9**	**-0.3**
LAST	**Lasithi**	**1.09**	**17**	*e*Pg		**Pg**	**09 49 00.7**	**-0.3**
LAST				*e*Sb		**Sb**	**09 49 15.9**	**-0.3**
NPS	**Neapolis**	**1.22**	**20**	*e*PG		**Pg**	**09 49 03.8**	**+0.3**
NPS	**Neapolis**	**1.22**	**20**	*e*Pg		**Pg**	**09 49 03.8**	**+0.3**
ZKR	**Zakros**	**1.36**	**42**	*e*PB		**Pb**	**09 49 06.3**	**+0.2**
ZKR				*e*SB		**Sb**	**09 49 25.0**	**+1.1**
ZKR	**Zakros**	**1.36**	**42**	*e*Pb		**Pb**	**09 49 06.3**	**+0.2**
ZKR				*e*Sb		**Sb**	**09 49 25.0**	**+1.1**
VAM	**Vamos**	**1.48**	**330**	*e*PG		**Pg**	**09 49 08.3**	**-0.3**
VAM				*e*SB		**Sb**	**09 49 29.3**	**+1.7**
VAM	**Vamos**	**1.48**	**330**	*e*Pg		**Pg**	**09 49 08.3**	**-0.3**
VAM				*e*Sb		**Sb**	**09 49 29.3**	**+1.7**
KARN	**Karanos**	**1.61**	**323**	*e*PB		**Pb**	**09 49 10.6**	**+0.1**
KARN	**Karanos**	**1.61**	**323**	*e*Pb		**Pb**	**09 49 10.6**	**+0.1**
KARP	**Karpathos**	**2.22**	**49**	*e*PN		**Pn**	**09 49 19.7**	**+1.9**
KARP	**Karpathos**	**2.22**	**49**	*e*Pn		**Pn**	**09 49 19.7**	**+1.9**
AKASG	**Malin Array Be**	**16.85**	**9**	Pn		**Pn**	**09 52 36.0**	**-0.8**
	0.6nm,0.3s,baz=200,slow=11,SNR=2.9							
GERES	**GERESS Array B**	**16.98**	**333**	Pn		**Pn**	**09 52 39.3**	**+0.8**
	0.3nm,0.3s,baz=154,slow=10,SNR=8.0							
TORD	**Torodi Ar. Bea**	**29.79**	**231**	P		**P**	**09 54 48.9**	**+0.7**
	1.0nm,0.5s,mb3.8,baz=33,slow=8.8,SNR=11							
MKAR	**Makanchi Array**	**44.40**	**56**	P		**P**	**09 56 51.9**	**0.0**
	0.4nm,0.4s,mb3.5,baz=275,slow=6.5,SNR=4.8							
ZALV	**Zalesovo Beam**	**45.77**	**45**	P		**P**	**09 57 00.6**	**-2.0**
	0.7nm,0.4s,mb3.9,baz=268,slow=8.7,SNR=5.3							
SONM	**Songino Array**	**60.19**	**50**	P		**P**	**09 58 48.5**	**-0.7**
	0.3nm,0.4s,mb3.7,baz=272,slow=8.5,SNR=2.2							

*IDC **03** 10:03:27.6±0.8, 39°.41N×73°.92E, h0km, mb4.0/12, mb1 4.0/18, mb1mx3.9/33, mbtmp3.9/18, ML3.3/5, MS3.1/1, Ms1 3.1/1, ms1mx2.0/43, Error ellipse: s-maj=15.8km s-min=11.6km az=106.0*
*MOS **03** 10:03:30.3±0.8, 39°.30N×73°.80E, h33km, mb4.0/5, Error ellipse: s-maj=14.4km s-min=6.1km az=88.1*
*BJI **03** 10:03:30.1, 38°.94N×74°.00E, h8km, mB4.3/3, mb3.9/5, ML3.6/5*
*NNC **03** 10:03:33.4±2.9, 39°.73N×73°.80E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=27.8km s-min=15.6km az=172.0*
*ISCJB **03** 10:03:33.7±0.8, 39°.54N±0°.05×73°.84E±0°.07, h58km±8km, mb3.9/13, Error ellipse: s-maj=8.8km s-min=8.1km az=30.0*
*NEIC **03** 10:03:35.0±1.1, 39°.62N×73°.75E, h35km, Error ellipse: s-maj=16.5km s-min=10.1km az=142.0*
ISC 03 10:03:34.5±0.8, **39°.52N**±0°.05×**73°.78E**±0°.06, **h49**km±8km, **n95**, σ1**°915**/103, **mb3.9**/13, **10C-3D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.70**	**89**	⇓*i*Pg		**Pn**	**10 03 53.0**	**-8.7**
KSH				Sg		**Sn**	**10 04 10.0**	**-12**
KSH				smax				
	comp=N,640nm,0.7s							
KSH				smax				
	comp=E,590nm,0.6s							
AML	**Almayashu**	**2.61**	**359**	P		**Pn**	**10 04 16.1**	**+1.9**
	SNR=50							
AML	**Almayashu**	**2.61**	**359**	*e*Pn		**Pn**	**10 04 14.5**	**+0.3**
AML	**Almayashu**	**2.61**	**359**	*e*PN		**Pn**	**10 04 14.5**	**+0.3**
KZA	**Kyzart**	**2.79**	**23**	P		**Pn**	**10 04 17.0**	**+0.3**
	SNR=114							
KZA	**Kyzart**	**2.79**	**23**	*e*Pn		**Pn**	**10 04 16.8**	**+0.2**
KZA				*e*Sn		**Sn**	**10 04 48.6**	**-0.5**
KZA	**Kyzart**	**2.79**	**23**	*e*PN		**Pn**	**10 04 16.8**	**+0.1**
EKS2	**Erkin-Say**	**3.14**	**360**	P		**Pn**	**10 04 24.6**	**+3.1**
	SNR=22							
EKS2	**Erkin-Say**	**3.14**	**360**	*e*Pn		**Pn**	**10 04 22.5**	**+1.1**
EKS2				*e*Sn		**Sn**	**10 04 57.8**	**+0.2**
EKS2	**Erkin-Say**	**3.14**	**360**	*e*PN		**Pn**	**10 04 22.5**	**+1.0**
AAK	**Ala-Archa**	**3.16**	**10**	P		**Pn**	**10 04 22.3**	**+0.5**
	SNR=22							
AAK	**Ala-Archa**	**3.16**	**10**	Pn		**Pn**	**10 04 22.7**	**+1.0**
	comp=E,0.2nm,0.3s,baz=160,slow=6.0,SNR=101							
AAK				Sn		**Sn**	**10 05 03.2**	**+5.0**
	comp=E,0.1nm,0.3s,baz=357,slow=20,SNR=15							
AAK				Lg			10 05 09.1	
	comp=E,0.4nm,0.3s,baz=307,slow=16,SNR=12							
AAK	**Ala-Archa**	**3.16**	**10**	Pn		**Pn**	**10 04 22.7**	**+1.0**
AAK				Sn		**Sn**	**10 05 03.2**	**+5.0**
AAK				Lg			10 05 09.1	
AAK	**Ala-Archa**	**3.16**	**10**	PN		**Pn**	**10 04 22.7**	**+1.0**
AAK							10 05 09.1	
KBK	**Karagaybulak**	**3.26**	**15**	P		**Pn**	**10 04 24.4**	**+1.3**
	SNR=86							
KBK	**Karagaybulak**	**3.26**	**15**	*e*Pn		**Pn**	**10 04 24.2**	**+1.1**
KBK				*e*Sn		**Sn**	**10 04 59.4**	**-1.1**
KBK	**Karagaybulak**	**3.26**	**15**	*e*PN		**Pn**	**10 04 24.2**	**+1.1**
ULHL	**Ulahol**	**3.30**	**34**	P		**Pn**	**10 04 24.0**	**+0.3**
	SNR=17							
FRU	**Bishkek**	**3.37**	**11**	*i* PN		**Pn**	**10 04 30.0**	**+5.4**
FRU				*i* S		**Sn**	**10 05 14.0**	**+11**
FRU				pmax	pmax			
	comp=Z,240nm,1.2s							
FRU				smax				
	comp=E,2μm,1.6s							
CHMS	**Chumysh**	**3.55**	**12**	P		**Pn**	**10 04 27.8**	**+0.7**
	SNR=10.0							
TKM2	**Tokmak 2**	**3.67**	**21**	P		**Pn**	**10 04 29.5**	**+0.9**
	SNR=13							
TKM2	**Tokmak 2**	**3.67**	**21**	⇑Pn		**Pn**	**10 04 29.5**	**+0.8**
	comp=E,26nm,0.7s							
TKM2				⇑Lg			10 05 23.0	
	comp=E,80nm,0.9s							
TKM2	**Tokmak 2**	**3.67**	**21**	*e*Pn		**Pn**	**10 04 29.0**	**+0.3**
TKM2	**Tokmak 2**	**3.67**	**21**	PN		**Pn**	**10 04 29.0**	**+0.3**
TKM2				pmax	pmax			
	comp=Z,27nm,0.7s							
USP	**Ospenovka**	**3.78**	**8**	P		**Pn**	**10 04 31.5**	**+1.2**
	SNR=13							
KK31	**Karatay Array**	**4.34**	**327**	Pn		**Pn**	**10 04 39.5**	**+1.5**
	comp=Z,2.2nm,0.3s,baz=132,slow=13,SNR=85							
KK31				⇑Pg		**Pn**	**10 04 49.6**	**+12**
	comp=Z,28nm,0.6s,baz=147,slow=16,SNR=25							
KK31				⇑Lg			10 05 46.8	
	comp=Z,37nm,0.5s,baz=139,slow=22,SNR=5.6							
KK31	**Karatay Array**	**4.34**	**327**	PN		**Pn**	**10 04 39.4**	**+1.4**
KK31							10 05 46.7	
KK31				pmax	pmax			
	comp=Z,64nm,0.7s							
KK31				pmax	pmax			
	comp=Z,64nm,0.7s							
KK31				pmax	pmax			
	comp=Z,91nm,0.6s							
KKAR	**Karatay Array**	**4.34**	**327**	*e*Pn		**Pn**	**10 04 38.9**	**+0.9**
KKAR				*e*Sn		**Sn**	**10 05 25.9**	**-1.4**
KKAR	**Karatay Array**	**4.34**	**327**	*e*PN		**Pn**	**10 04 38.9**	**+0.9**
KBL	**Kabul**	**6.25**	**219**	*e*Pn		**Pn**	**10 05 07.5**	**+3.4**
	comp=Z,11nm,0.7s							
KBL	**K

	comp=Z,3.9nm,0.7s							
AKTK	**Aktyubinsk**	**15.57**	**320**	Pn	**Pn**	**10 07 09.4**	**-1.2**
AKTO	**Aktyubinsk**	**15.57**	**320** ⇑P	Pn	**Pn**	**10 07 10.7**	**+0.1**
	comp=Z,1.1nm,1.1s							
AKTO	**Aktyubinsk**	**15.57**	**320**	Pn	**Pn**	**10 07 09.4**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=116,slow=15,SNR=4.7							
AKTO	**Aktyubinsk**	**15.57**	**320**	P	**Pn**	**10 07 09.4**	**-1.2**
ZAA0	**Zalesovo Array**	**16.27**	**24**	*e*Pn	**Pn**	**10 07 20.0**	**+0.6**
ZALV	**Zalesovo Beam**	**16.27**	**24**	Pn	**Pn**	**10 07 18.0**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=211,slow=11,SNR=7.6							
ZALV	**Zalesovo Beam**	**16.27**	**24**	Pn	**Pn**	**10 07 18.0**	**-1.4**
ZALV	**Zalesovo Beam**	**16.27**	**24**	*e*P	**Pn**	**10 07 20.4**	**+1.0**
NVS	**Novosibirsk**	**16.60**	**19**	*e*P	**Pn**	**10 07 23.1**	**-0.5**
NVS				pmax	pmax			
	comp=Z,10.0nm,1.2s							
GTA	**Gaotai**	**20.09**	**82**	*e*P	**P**	**10 08 04.0**	**+0.1**
GTA				pP		10 08 09.2		
GTA				sP	sP	10 08 12.2	-9.2	
GTA				pmax	pmax			
	comp=Z,5.0nm,0.9s							
ZAK	**Zakamensk**	**23.38**	**53**	*e*P	**P**	**10 08 37.1**	**-1.7**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.0s,mb3.5							
SONM	**Songino Array**	**24.87**	**60**	P	**P**	**10 08 51.8**	**-0.5**
	comp=Z,1.0nm,0.9s,mb3.4,baz=272,slow=9.9,SNR=4.8							
SONM				LR	LR	10 19 32.7		
	comp=Z,41nm,19.2s,baz=207,slow=39							
SONM	**Songino Array**	**24.87**	**60**	P	**P**	**10 08 51.8**	**-0.5**
SONM				LR	LR	10 19 32.7		
SONM	**Songino Array**	**24.87**	**60**	P	**P**	**10 08 51.8**	**-0.5**
AKASG	**Malin Array Be**	**32.90**	**305**	P	**P**	**10 10 03.9**	**+0.1**
	comp=Z,0.3nm,0.2s,mb3.8,baz=71,slow=9.1,SNR=4.5							
AKASG	**Malin Array Be**	**32.90**	**305**	P	**P**	**10 10 03.9**	**+0.1**
AKASG	**Malin Array Be**	**32.90**	**305**	P	**P**	**10 10 03.9**	**+0.2**
FINES	**FINESS Array B**	**36.30**	**323**	P	**P**	**10 10 34.1**	**+1.2**
	comp=Z,1.5nm,0.4s,mb4.3,baz=112,slow=9.7,SNR=11							
FINES	**FINESS Array B**	**36.30**	**323**	P	**P**	**10 10 34.1**	**+1.2**
FINES	**FINESS Array B**	**36.30**	**323**	P	**P**	**10 10 34.1**	**+1.1**
ARCES	**ARCESS Array B**	**39.25**	**335**	P	**P**	**10 10 58.9**	**+1.1**
	comp=Z,4.9nm,0.9s,mb4.2,baz=112,slow=9.3,SNR=10							
ARCES	**ARCESS Array B**	**39.25**	**335**	P	**P**	**10 10 58.9**	**+1.1**
ARCES	**ARCESS Array B**	**39.25**	**335**	P	**P**	**10 10 58.9**	**+1.1**
HFS	**Hagfors**	**42.12**	**320**	P	**P**	**10 11 22.5**	**+1.0**
	comp=Z,1.8nm,0.5s,mb4.0,baz=98,slow=11,SNR=9.6							
HFS	**Hagfors**	**42.12**	**320**	P	**P**	**10 11 22.5**	**+1.0**
HFS	**Hagfors**	**42.12**	**320**	P	**P**	**10 11 22.5**	**+1.0**
GERES	**GERESS Array B**	**43.05**	**303**	P	**P**	**10 11 30.5**	**+1.2**
	comp=Z,0.6nm,0.4s,mb3.7,baz=56,slow=9.8,SNR=5.4							
GERES	**GERESS Array B**	**43.05**	**303**	P	**P**	**10 11 30.5**	**+1.2**
GERES	**GERESS Array B**	**43.05**	**303**	P	**P**	**10 11 30.5**	**+1.2**
NB2	**NORSAR Subarra**	**43.35**	**321**	P	**P**	**10 11 32.1**	**+0.6**
	comp=Z,1.2nm,0.5s,mb3.9,baz=91,slow=8.6							
NOA	**NORSAR Array B**	**43.35**	**321**	P	**P**	**10 11 32.3**	**+0.8**
	comp=Z,1.5nm,0.6s,mb3.9,baz=91,slow=7.9,SNR=6.5							
NOA	**NORSAR Array B**	**43.35**	**321**	P	**P**	**10 11 32.3**	**+0.8**
NOA	**NORSAR Array B**	**43.35**	**321**	P	**P**	**10 11 32.3**	**+0.8**
TORD	**Torodi Ar. Bea**	**67.97**	**269**	P	**P**	**10 14 29.1**	**+0.4**
	comp=Z,1.7nm,0.6s,mb4.2,baz=49,slow=5.6,SNR=11							
INK	**Inuvik**	**70.56**	**10**	P	**P**	**10 14 43.8**	**-0.1**
	comp=Z,0.9nm,0.8s,mb3.8,baz=340,slow=5.7,SNR=4.2							
INK	**Inuvik**	**70.56**	**10**	P	**P**	**10 14 43.8**	**-0.1**
INK				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ILAR	**Eielson Array**	**71.27**	**17**	P	**P**	**10 14 47.6**	**-0.6**
	comp=Z,1.2nm,1.0s,mb3.8,baz=315,slow=5.2,SNR=11							
ILAR	**Eielson Array**	**71.27**	**17**	P	**P**	**10 14 47.6**	**-0.6**
ILAR				pmax	pmax			
	comp=Z,1.0nm,1.0s							
WRA	**Warramunga Arr**	**81.79**	**124**	P	**P**	**10 15 47.8**	**-0.5**
	comp=Z,1.5nm,0.9s,mb3.9,baz=325,slow=5.1,SNR=10							
WRA	**Warramunga Arr**	**81.79**	**124**	P	**P**	**10 15 47.8**	**-0.5**
WRA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
ASAR	**Alice Springs**	**84.24**	**127**	P	**P**	**10 16 00.3**	**-0.6**
	comp=Z,0.7nm,0.7s,mb3.9,baz=317,slow=4.4,SNR=7.3							
ASAR	**Alice Springs**	**84.24**	**127**	P	**P**	**10 16 00.3**	**-0.6**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
PLCA	**Paso Flores**	**152.81**	**256**	PKPbc	PKPbc	10 23 26.1	+0.4	
	comp=Z,2.1nm,0.9s,baz=43,slow=4.4,SNR=4.3							

CASC 03 10:20:10.3±2.8, 12°01.N×86°34.W×h67km±19km, MD4.3, ML3.2, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COPN	**Copaltepe**	**0.38**	**64**	*e*P	Pn	10 20 21.1	-0.6
COPN				*e*S	Sn	10 20 29.9	-0.1
MIRN	**Miramar**	**0.48**	**27**	*e*P	Pn	10 20 22.6	0.0
CNGN	**Cerro Negro**	**0.54**	**26**	*e*P	Pn	10 20 23.3	0.0
CNGN				*e*S	Sn	10 20 35.8	+3.1
CNGN				AML	AML	10 20 40.3	
	comp=E,607nm,0.2s						
TEL3	**Telica 3**	**0.56**	**9**	*e*P	Pn	10 20 23.6	0.0
XAVN	**Gruta Xavier**	**0.61**	**77**	*e*P	Pn	10 20 23.7	-0.3
APYN	**Apoyeque**	**0.62**	**69**	*e*P	Pn	10 20 24.1	+0.1
CRUN	**El Crucero**	**0.62**	**93**	*e*P	Pn	10 20 23.7	-0.4
TISN	**Laguna Tiscapa**	**0.67**	**79**	*e*P	Pn	10 20 24.2	-0.4
MGAN	**Managua**	**0.69**	**79**	*e*P	Pn	10 20 24.5	-0.3
MGAN				*e*S	Sn	10 20 37.0	+1.4
MGAN				AML	AML	10 20 39.4	
	comp=E,701nm,0.2s						
TICN	**Ticuantepe**	**0.69**	**88**	*e*P	Pn	10 20 24.3	-0.6
CRIN	**San Cristobal**	**0.69**	**351**	*e*P	Pn	10 20 24.8	-0.1
CRIN				*e*S	Sn	10 20 37.6	+1.9
CRIN				AML	AML	10 20 42.3	
	comp=N,860nm,0.2s						
HUEN		**0.82**	**67**	*e*P	Pn	10 20 27.0	+0.6
CONN	**Concepcion**	**1.39**	**109**	*e*P	Pn	10 20 32.0	-1.3
CNCH	**Conchagua**	**1.53**	**325**	*e*P	Pn	10 20 35.3	-0.3
JTS	**JuntasAbangare**	**2.59**	**131**	*e*P	Pn	10 20 47.3	-2.7
JCR	**Jicaral**	**2.80**	**140**	*e*P	Pn	10 20 57.3	+4.5
JCR				*e*S	Sn	10 21 28.1	+2.7
CGA2	**Cerro Gallo 2**	**3.13**	**129**	*e*P	Pn	10 20 59.0	+1.7
CGA2				*e*S	Sn	10 21 31.8	-1.9
PRS1	**Puriscal**	**3.27**	**128**	*e*P	Pn	10 21 01.5	+2.3
PRS1				*e*S	Sn	10 21 37.2	+0.2

DJA 03 10:21:52.3°26.S×126°29.E, h43km, MLv3.6/4, Buru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.81**	**89**	P	Pn	10 22 10.6	+3.6
NLAI				S	Sn	10 22 19.8	+1.9
AAI	**Ambon**	**1.95**	**103**	P	Pn	10 22 24.4	+1.8
MSAI	**Masohi**	**2.64**	**92**	P	Pn	10 22 31.2	-0.8
LBMI	**Labuha**	**2.87**	**25**	P	Pn	10 22 36.2	+0.9
LUWI	**Luwuk**	**4.15**	**302**	P	Pn	10 22 53.2	+0.3

*NEIC **03** 10:37:43.0±2.3, 9°.12S×116°.91E, h64km±20km, mb4.6/3, Error ellipse: s-maj=31.4km s-min=8.8km az=49.0*
*ISCJB **03** 10:37:56.8±0.5, 8°.53S±0°.05×117°.97E±0°.06, h197km±6km, mb3.9/9, Error ellipse: s-maj=10.0km s-min=8.0km az=152.8*
*IDC **03** 10:37:56.5±2.9, 8°.58S×117°.87E, h178km±24km, mb3.6/8, mb1 3.7/10, mb1mx3.5/23, mbtmp3.6/10, Error ellipse: s-maj=43.4km s-min=8.6km az=49.0*
*DJA **03** 10:38:02, 7°.96S×117°.73E, h5km, MLv4.1/7*

ISC 03 10:37:57.7±0.5, 8°.53S±0°.06×117°.97E±0°.06, h187km±5km, n42, σ1s16/47, mb4.0/9, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BMNI	**Bima**	**0.71**	**91**	P	**Pn**	**10 38 21.9**	**-2.4**
BMNI				S	**Sn**	**10 38 39.4**	**-5.3**
MTNI	**Mataram**	**1.79**	**266**	P	**Pn**	**10 38 31.8**	**-1.2**
SRBI	**Singaraja**	**2.77**	**279**	P	**Pn**	**10 38 44.2**	**+0.3**
JAGI	**Jajag, Banyuwa**	**3.78**	**271**	P	**Pn**	**10 38 58.6**	**+2.3**
BKSI	**Bulukumba**	**3.83**	**34**	P	**Pn**	**10 38 57.2**	**+0.2**
KAPI	**Kappang**	**3.91**	**27**	P	**Pn**	**10 38 56.6**	**-1.4**
	3.5nm,0.3s,baz=219,slow=10.0,SNR=18						
KAPI	**Kappang**	**3.91**	**27**	P	**Pn**	**10 38 56.6**	**-1.4**
MMRI	**Maumere**	**4.22**	**92**	P	**Pn**	**10 39 11.4**	**+10**
KMMI	**Kalianget**	**4.23**	**290**	P	**Pn**	**10 39 03.4**	**+1.4**
BNSI	**Bone**	**4.62**	**27**	P	**Pn**	**10 39 08.5**	**+1.6**
SPSI	**Sidrap Palu**	**4.87**	**22**	P	**Pn**	**10 39 10.5**	**+0.3**
TTSI	**Tana Toraja**	**5.75**	**19**	P	**Pn**	**10 39 23.1**	**+1.6**
FITZ	**Fitzroy Crossi**	**12.09**	**143**	*e*P	**Pn**	**10 40 43.9**	**-0.2**
	11nm,0.9s						
MBWA	**Marble Bar**	**12.67**	**172**	*e*P	**Pn**	**10 40 57.2**	**+5.7**
MBWA				*e*S	**Sn**	**10 43 01.1**	**-11**
KKM	**Kota Kinabalu**	**14.58**	**353**	Pn	**Pn**	**10 41 12.5**	**-3.0**
KAKA	**Kakadu**	**14.81**	**108**	*e*P	**Pn**	**10 41 17.6**	**-0.7**
	5.7nm,0.4s						
KAKA				*e*S	**Sn**	**10 43 43.7**	**-20**
KAKA	**Kakadu**	**14.81**	**108**	*e*Pn	**Pn**	**10 41 19.2**	**+0.9**
	19nm,0.5s						
MEEK	**Meekatharra**	**18.02**	**178**	*e*P	pP	10 42 10.2	-15
MEEK				*e*S	S	**10 45 06.6**	**-5.0**
WRA	**Warramunga Arr**	**19.48**	**127**	P	**P**	**10 42 10.3**	**-0.2**
	2.0nm,0.3s,baz=302,slow=12,SNR=277						
WRA				S	**S**	**10 45 43.6**	**+2.9**
	0.6nm,0.3s,baz=310,slow=21,SNR=8.2						
WRA	**Warramunga Arr**	**19.48**	**127**	P	**P**	**10 42 10.3**	**-0.2**
WRA				S	**S**	**10 45 43.6**	**+2.9**
WRAB	**Tennant Creek**	**19.49**	**127**	*e*P	**P**	**10 42 10.3**	**-0.3**
	6.6nm,0.7s						
ASAR	**Alice Springs**	**21.43**	**136**	P	**P**	**10 42 31.1**	**-0.2**
	1.9nm,0.3s,mb3.9,baz=314,slow=8.9,SNR=53						
ASAR				S	**S**	**10 46 17.2**	**0.0**
	0.8nm,0.8s,baz=313,slow=20,SNR=4.4						
ASAR	**Alice Springs**	**21.43**	**136**	P	**P**	**10 42 31.1**	**-0.2**
ASAR				S	**S**	**10 46 17.2**	**0.0**
CTA	**Charters Tower**	**29.66**	**116**	P	**P**	**10 43 47.8**	**+1.7**
	1.0nm,0.4s,mb3.9,baz=284,slow=12,SNR=3.9						
CTA	**Charters Tower**	**29.66**	**116**	P	**P**	**10 43 47.8**	**+1.7**
CTAO	**Charters Tower**	**29.66**	**116**	P	**P**	**10 43 47.4**	**+1.3**
STKA	**Stephens Creek**	**31.96**	**140**	P	**P**	**10 44 05.7**	**-0.5**
	1.6nm,0.8s,mb3.8,baz=22,slow=8.6,SNR=4.2						
STKA	**Stephens Creek**	**31.96**	**140**	P	**P**	**10 44 05.7**	**-0.5**
CMAR	**Chiang Mai Arr**	**32.73**	**325**	P	**P**	**10 44 13.4**	**+0.5**
	0.6nm,0.5s,mb3.6,baz=157,slow=6.3,SNR=4.0						
CMAR	**Chiang Mai Arr**	**32.73**	**325**	P	**P**	**10 44 13.4**	**+0.5**
SONM	**Songino Array**	**57.04**	**351**	P	**P**	**10 47 24.5**	**+0.4**
	2.3nm,0.5s,mb4.3,baz=168,slow=8.5,SNR=22						
SONM	**Songino Array**	**57.04**	**351**	P	**P**	**10 47 24.5**	**+0.4**
MKAR	**Makanchi Array**	**63.58**	**333**	P	**P**	**10 48 08.3**	**0.0**
	1.1nm,0.5s,mb4.0,baz=146,slow=7.3,SNR=16						
MKAR	**Makanchi Array**	**63.58**	**333**	P	**P**	**10 48 08.3**	**-0.1**
ZALV	**Zalesovo Beam**	**68.24**	**340**	P	**P**	**10 48 36.7**	**-1.3**
	1.1nm,0.3s,mb4.0,baz=149,slow=4.5,SNR=7.4						
ZALV	**Zalesovo Beam**	**68.24**	**340**	P	**P**	**10 48 36.7**	**-1.3**
ABKAR	**Akbulak array**	**76.59**	**325**	*e*P	**P**	**10 49 26.8**	**-0.6**
AKTK	**Aktyubinsk**	**78.26**	**326**	P	**P**	**10 49 36.0**	**-0.8**
AKTO	**Aktyubinsk**	**78.26**	**326**	P	**P**	**10 49 36.0**	**-0.8**
	1.1nm,0.6s,mb3.7,baz=106,slow=7.9,SNR=5.3						
BILL	**Bilibino**	**83.63**	**16**	P	**P**	**10 49 59.2**	**-5.5**
	10.0nm,0.3s,mb5.0						
TORD	**Torodi Ar. Bea**	**117.38**	**280**	PKP	PKPdf	10 56 22.4	+0.4
	0.7nm,0.6s,baz=38,slow=2.4,SNR=9.0						
TORD	**Torodi Ar. Bea**	**117.38**	**280**	PKP	PKPdf	10 56 22.4	+0.4

*TAP **03** 10:51:27.0, 23°.78N×121°.62E, h49km, ML3.7, B*
*JMA **03** 10:51:26.2±0.4, 23°.87N×121°.63E, h82km, M2.9*
*ISCJB **03** 10:51:27.1±0.3, 23°.76N±0°.02×121°.69E±0°.02, h48km±4km, Error ellipse: s-maj=3.6km s-min=2.4km az=140.9*

ISC 03 10:51:27.7±0.3, 23°.77N±0°.02×121°.67E±0°.02, h45km±4km, n60, σ8s88/98, 8D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEGC	**Jichi Village**	**0.14**	**245**	*e*P	**Pn**	**10 51 34.9**	**-0.2**
	baz=231						
TEGC				*e*S	**Sn**	**10 51 41.6**	**+1.4**
	baz=231						
ESF	**Shoufeng Towns**	**0.18**	**304**	*e*P	**Pn**	**10 51 34.9**	**-0.5**
	baz=297						
ESF				*e*S	**Sn**	**10 51 41.4**	**+0.6**
	baz=297						
HWA	**Hwalien**	**0.22**	**343**	*e*P	**Pn**	**10 51 35.3**	**-0.3**
	baz=358						
HWA				*e*S	**Sn**	**10 51 42.1**	**+0.9**
	baz=358						
ESL	**Shilin**	**0.23**	**282**	⇓P	**Pn**	**10 51 34.7**	**-1.0**
	baz=280						
TWD	**Chiawan**	**0.32**	**347**	P	**Pn**	**10 51 36.0**	**-0.6**
	baz=347						
TWD				*e*S	**Sn**	**10 51 42.3**	**-0.5**
	baz=347						
EHY	**Hungye**	**0.41**	**231**	⇓*i*P	**Pn**	**10 51 36.5**	**-1.1**
	baz=231						
EHY				*i* S	**Sn**	**10 51 43.3**	**-1.3**
	baz=231						
WHF	**Hehuan Shan**	**0.53**	**315**	P	**Pn**	**10 51 38.3**	**-0.7**
	baz=319						
TWF1	**Yuli**	**0.54**	**220**	⇓*e*P	**Pn**	**10 51 38.0**	**-1.2**
	baz=222						
ENA	**Nanau**	**0.66**	**5**	*e*P	**Pn**	**10 51 39.7**	**-1.0**
TWT	**Tachien**	**0.67**	**317**	*i* P	**Pn**	**10 51 40.5**	**-0.2**
	baz=318						
TWT				S	**Sn**	**10 51 49.3**	**-0.9**
	baz=318						
SMLT	**Sun Moon Lake**	**0.72**	**279**	⇓*i*P	**Pn**	**10 51 41.0**	**-0.5**
	baz=279						
SMLT				*e*S	**Sn**	**10 51 50.4**	**-1.1**
	baz=279						
CHKT	**Chengkung**	**0.72**	**203**	P	**Pn**	**10 51 40.9**	**-0.6**
	baz=199						
CHKT				*e*S	**Sn**	**10 51 52.0**	**+0.5**
	baz=199						
NNS	**Nan Shan**	**0.72**	**338**	*e*P	**Pn**	**10 51 40.7**	**-0.9**
	baz=346						
TYC	**Yuchr**	**0.76**	**280**	*e*P	**Pn**	**10 51 41.6**	**-0.4**
	baz=285						
TYC				*e*S	**Sn**	**10 51 51.5**	**-0.9**
	baz=285						
ELDTW	**Lidau**	**0.83**	**226**	⇓*i*P	**Pn**	**10 51 41.9**	**-1.1**
	baz=222						
ALS	**Alishan**	**0.84**	**252**	⇓P	**Pn**	**10 51 43.2**	**+0.1**
	baz=251						
TWC	**Suao**	**0.85**	**11**	P	**Pn**	**10 51 43.0**	**-0.3**
	baz=4.0						
TWC				*e*S	**Sn**	**10 51 55.3**	**+0.6**
	baz=4.0						
ENTT	**Nioudou**	**0.88**	**354**	P	**Pn**	**10 51 42.6**	**-0.9**
	baz=356						
WNT	**Mingjian**	**0.91**	**277**	*e*P	**Pn**	**10 51 44.2**	**+0.1**
	baz=277						
WNT				*e*S	**Sn**	**10 51 56.9**	**+0.8**
	baz=277						
CHN5	**Tsauling**	**0.93**	**260**	P	**Pn**	**10 51 44.3**	**0.0**
	baz=259						
CHN5				*e*S	**Sn**	**10 51 57.3**	**+0.8**
	baz=259						
NSK	**Sanguang**	**0.95**	**342**	*e*P	**Pn**	**10 51 43.9**	**-0.7**
	baz=352						
NSK				*e*S	**Sn**	**10 51 55.6**	**-1.4**
	baz=352						
TWE	**Neicheng**	**0.95**	**360**	*e*P	**Pn**	**10 51 43.7**	**-0.9**
	baz=356						
TCU	**Taichung**	**0.99**	**293**	*e*P	**Pn**	**10 51 45.7**	**+0.6**
	baz=294						
TCU				*e*S	**Sn**	**10 51 59.1**	**+1.2**
	baz=294						
TWQ1	**Liyutan**	**1.01**	**305**	P	**Pn**	**10 51 45.3**	**0.0**
	baz=307						
TWQ1				*e*S	**Sn**	**10 51 58.7**	**+0.3**
	baz=307						
WGK	**Gukeng**	**1.02**	**266**	*e*P	**Pn**	**10 51 45.1**	**-0.4**
	baz=265						
WGK				*e*S	**Sn**	**10 51 59.6**	**+0.9**
	baz=265						
STYT	**Tauyuan**	**1.03**	**235**	P	**Pn**	**10 51 45.6**	**-0.1**
	baz=242						
STYT				*e*S	**Sn**	**10 52 00.2**	**+1.1**
	baz=242						
NSY	**Sanyi**	**1.06**	**308**	P	**Pn**	**10 51 46.0**	**0.0**
	baz=309						
NSY				*e*S	**Sn**	**10 51 60.0**	**+0.4**
	baz=309						
NSTT	**Nanjuang**	**1.06**	**325**	*e*P	**Pn**	**10 51 46.0**	**-0.1**
	baz=315						
NSTT				*e*S	**Sn**	**10 51 59.3**	**-0.3**
	baz=315						
CHN4	**Tsaushan**	**1.07**	**248**	P	**Pn**	**10 51 46.8**	**+0.5**
	baz=246						
CHN4				*e*S	**Sn**	**10 52 01.4**	**+1.3**
	baz=246						
TWG	**Pinlang**	**1.09**	**211**	*e*P	**Pn**	**10 51 44.6**	**-1.9**
	baz=199						
EGS		**1.10**	**12**	*i* P	**Pn**	**10 51 47.8**	**+1.1**
	baz=14						
EGS				S	**Sn**	**10 52 03.1**	**+2.5**
	baz=14						
WTP	**Ta-pu**	**1.10**	**242**	⇓P	**Pn**	**10 51 46.9**	**+0.2**
	baz=241						
WTP				*e*S	**Sn**	**10 52 01.9**	**+1.1**
	baz=241						
TTN	**Taitung**	**1.12**	**206**	*e*P	**Pn**	**10 51 46.3**	**-0.6**
	baz=204						
CHY	**Chiayi**	**1.18**	**257**	*e*P	**Pn**	**10 51 47.6**	**-0.1**
	baz=256						
CHY				*e*S	**Sn**	**10 52 02.8**	**+0.2**
	baz=256						
CHN1	**Nanshi**	**1.20**	**241**	*e*P	**Pn**	**10 51 48.1**	**0.0**
	baz=240						
CHN1				*e*S	**Sn**	**10 52 03.9**	**+0.7**
	baz=240						
TWA	**Mucha**	**1.21**	**356**	*e*P	**Pn**	**10 51 48.2**	**0.0**
	baz=357						
SGST	**Jiashian**	**1.21**	**236**	⇓P	**Pn**	**10 51 48.9**	**+0.7**
	baz=246						
SGST				*e*S	**Sn**	**10 52 04.9**	**+1.5**
	baz=246						
TWB1	**Santiao Chiao**	**1.27**	**13**	*e*P	**Pn**	**10 51 48.9**	**0.0**
	baz=26						
TWB1				*e*S	**Sn**	**10 52 06.8**	**+2.0**
	baz=26						
NCU	**National Centr**	**1.28**	**340**	*e*P	**Pn**	**10 51 49.6**	**+0.5**
	baz=341						
WTCT	**Ta-ch'eng**	**1.28**	**275**	*e*P	**Pn**	**10 51 49.1**	**0.0**
	baz=275						
WTCT				*e*S	**Sn**	**10 52 06.2**	**+1.1**
	baz=275						
NWF	**Wu-fen Shan**	**1.30**	**4**	*e*P	**Pn**	**10 51 49.5**	**+0.1**
	baz=355						
WSF	**Szhu**	**1.34**	**265**	*e*P	**Pn**	**10 51 49.9**	**0.0**
	baz=265						
ECL	**Taimali**	**1.34**	**210**	*e*P	**Pn**	**10 51 47.8**	**-2.1**
	baz=202						
TWS1	**Kuangyinshan**	**1.35**	**350**	*e*P	**Pn**	**10 51 49.8**	**-0.2**
	baz=3.0						
SSD	**Sandimen**	**1.40**	**224**	*e*P	**Pn**	**10 51 50.9**	**+0.2**
	baz=222						
YOJ	**Yonaguni jima**	**1.40**	**60**	*e*P	**Pn**	**10 51 50.5**	**-0.2**
	baz=62						
YOJ	**Yonaguni jima**	**1.40**	**60**	P	**Pn**	**10 51 50.5**	**-0.3**
YOJ				*e*S	**Sn**	**10 52 09.1**	**+1.0**
TWM1	**Shoushan**	**1.49**	**231**	*e*P	**Pn**	**10 51 53.3**	**+1.4**
	baz=230						
EAST	**Anshuo**	**1.57**	**209**	*e*P	**Pn**	**10 51 52.7**	**-0.4**
	baz=200						
SCZT	**Fangliau**	**1.69**	**215**	*e*P	**Pn**	**10 51 55.7**	**+0.9**
	baz=214						
SCZT				*e*S	**Sn**	**10 52 17.7**	**+2.5**
	baz=214						
LAY	**Lan-yu**	**1.72**	**184**	P	**Pn**	**10 51 53.9**	**-1.3**
	baz=173						
LAY				*e*S	**Sn**	**10 52 15.1**	**-0.8**
	baz=173						
PNG	**Penghu**	**1.95**	**265**	*e*P	**Pn**	**10 51 57.6**	**-0.8**
	baz=265						
PNG				*e*S	**Sn**	**10 52 19.9**	**-1.7**
	baz=265						
IRIF	**Iriomote-Funau**	**1.96**	**73**	P	**Pn**	**10 51 58.5**	**+0.1**
IRIF				S	**Sn**	**10 52 22.6**	**+0.8**
HATJ	**Hateruma jima**	**1.97**	**81**	P	**Pn**	**10 51 58.6**	**0.0**
HATJ				*e*S	**Sn**	**10 52 22.3**	**+0.2**
TWK1	**Hengchun**	**1.98**	**204**	*e*P	**Pn**	**10 51 57.7**	**-1.1**
	baz=194						
TWK1				*e*S	**Sn**	**10 52 23.5**	**+1.1**
	baz=194						
TSEB	**Hengchuen, Pin**	**1.99**	**201**	*e*P	**Pn**	**10 51 59.2**	**+0.4**
	baz=194						
JKRS	**Kuro-shima**	**2.19**	**77**	P	**Pn**	**10 52 01.9**	**+0.4**
JKRS				*e*S	**Sn**	**10 52 28.2**	**+0.8**
JIJ	**Ishigaki jima**	**2.33**	**75**	P	**Pn**	**10 52 03.1**	**-0.4**
JIJ				S	**Sn**	**10 52 30.1**	**-0.9**
JTJ	**Tarama**	**2.90**	**72**	P	**Pn**	**10 52 11.1**	**-0.2**
JTJ				*e*S	**Sn**	**10 52 45.9**	**+1.0**
QZH	**Quanzhou**	**3.04**	**293**	Pn	**Pn**	**10 52 09.8**	**-3.5**
QZH				Sn	**Sn**	**10 52 42.0**	**-6.5**
QZH				smax			
	comp=N,90nm,0.3s						
QZH				smax			
	comp=E,80nm,0.8s						

IDC 03 10:59:33.5±1.8, 4°.10N×126°.32E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/21, mbtmp3.7/4, MS2.5/1, Ms1 2.5/1, ms1mx2.1/34, Error ellipse: s-maj=150.1km s-min=23.6km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**11.18**	**216**	LR	LR	11 05 41.7	
	comp=Z,21nm,19.7s,baz=160,slow=33						
WRA	**Warramunga Arr**	**25.16**	**162**	P	P	11 04 59.4	-1.3
	1.9nm,0.9s,baz=342,slow=11,SNR=21						
ASAR	**Alice Springs**	**28.57**	**165**	P	P	11 05 31.6	+0.3
	0.2nm,0.4s,baz=340,slow=6.6,SNR=7.1						
**STK

JMA ***03*** *11:22:28.0±0.3,27.66N×126.99E,h153km,M3.9*
ISC 03 11:22:26.8±0.4,27.61N±0.06×126.98E±0.06,h166km±5km, n35,σ0.99/51,mb3.8/8,Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**1.04**	**167**	P	**Pn**	**11 22 53.9**	**+0.5**
JAGN				*e*S	**Sn**	11 23 14.4	+0.6
JIH	**Iheya**	**1.04**	**123**	P	**Pn**	**11 22 54.2**	**+0.8**
JIH				*e*S	**Sn**	11 23 13.5	-0.2
JKE	**Kume jima 2**	**1.29**	**188**	P	**Pn**	**11 22 56.0**	**+0.5**
JKE				*e*S	**Sn**	11 23 18.1	+0.5
JOW	**Kunigami**	**1.38**	**124**	P	**Pn**	**11 22 57.0**	**+0.6**
	138nm,0.3s,baz=133,slow=24,SNR=420						
JOW				S	**Sn**	11 23 18.1	-1.0
	120nm,0.3s,baz=132,slow=25,SNR=13						
JOW	**Kunigami**	**1.38**	**124**	P	**Pn**	**11 22 57.0**	**+0.6**
JOW				S	**Sn**	11 23 18.1	-1.0
JOW	**Kunigami**	**1.38**	**124**	P	**Pn**	**11 22 57.0**	**+0.6**
JOW				*e*S	**Sn**	11 23 18.4	-0.7
NAH1	**Naha**	**1.53**	**156**	P	**Pn**	**11 22 58.8**	**+0.9**
NAH1				*e*S	**Sn**	11 23 21.4	-0.4
JJT2	**Tamagusuku 2**	**1.61**	**155**	P	**Pn**	**11 23 00.1**	**+1.4**
JJT2				*e*S	**Sn**	11 23 23.9	+0.6
JTK	**Tokunoshima**	**1.75**	**84**	P	**Pn**	**11 23 00.6**	**+0.5**
JTK				*e*S	**Sn**	11 23 24.5	-1.3
JAM	**Amami Oshima**	**2.45**	**70**	P	**Pn**	**11 23 08.7**	**+0.6**
JAM				*e*S	**Sn**	11 23 38.7	-1.3
JZK	**Kikaishima**	**2.74**	**74**	*e*S	**Sn**	**11 23 46.8**	**+0.7**
JMJ	**Miyako jima 2**	**3.17**	**209**	P	**Pn**	**11 23 16.5**	**-0.4**
JMJ				*e*S	**Sn**	11 23 54.0	-1.7
JOGS	**Gusukube**	**3.17**	**207**	P	**Pn**	**11 23 16.9**	**0.0**
JOGS				*e*S	**Sn**	11 23 54.5	-1.3
JTJ	**Tarama**	**3.60**	**215**	P	**Pn**	**11 23 21.5**	**-0.8**
JTJ				*e*S	**Sn**	11 24 02.5	-2.9
JIJ	**Ishigaki jima**	**4.12**	**219**	P	**Pn**	**11 23 27.3**	**-1.7**
JIJ				*e*S	**Sn**	11 24 12.7	-4.8
JMZ	**Minamidaito 2**	**4.19**	**114**	P	**Pn**	**11 23 29.8**	**0.0**
JMZ				S	**Sn**	11 24 15.1	-3.9
IRIF	**Iriomote-Funau**	**4.38**	**223**	P	**Pn**	**11 23 34.2**	**+1.8**
IRIF				*e*S	**Sn**	11 24 26.8	+3.2
YHNB	**Yeheng**	**5.83**	**241**	*e*Pn	**Pn**	**11 23 52.8**	**+1.5**
JNU	**Nakatsue**	**6.44**	**31**	Pn	**Pn**	**11 23 58.8**	**-0.6**
SONM	**Songino Array**	**25.80**	**327**	P	**P**	**11 27 43.0**	**+0.7**
	3.1nm,0.4s,mb4.3,baz=142,slow=11,SNR=33						
SONM	**Songino Array**	**25.80**	**327**	P	**P**	**11 27 43.0**	**+0.7**
MKAR	**Makanchi Array**	**39.79**	**311**	P	**P**	**11 29 43.1**	**-0.3**
	2.5nm,0.6s,mb4.0,baz=96,slow=10,SNR=23						
MKAR	**Makanchi Array**	**39.79**	**311**	P	**P**	**11 29 43.1**	**-0.3**
ZALV	**Zalesovo Beam**	**40.48**	**322**	P	**P**	**11 29 48.2**	**-0.8**
	0.5nm,0.3s,mb3.5,baz=112,slow=8.7,SNR=3.6						
ZALV	**Zalesovo Beam**	**40.48**	**322**	P	**P**	**11 29 48.2**	**-0.8**
WRA	**Warramunga Arr**	**47.80**	**171**	P	**P**	**11 30 47.7**	**+0.2**
	1.1nm,0.5s,mb3.7,baz=353,slow=8.6,SNR=16						
WRA	**Warramunga Arr**	**47.80**	**171**	P	**P**	**11 30 47.7**	**+0.2**
ASAR	**Alice Springs**	**51.41**	**172**	P	**P**	**11 31 15.4**	**+0.7**
	0.7nm,0.4s,mb3.6,baz=360,slow=15,SNR=21						
ASAR	**Alice Springs**	**51.41**	**172**	P	**P**	**11 31 15.4**	**+0.7**
STKA	**Stephens Creek**	**60.77**	**166**	P	**P**	**11 32 21.1**	**+0.1**
	2.0nm,0.8s,mb4.0,baz=356,slow=7.8,SNR=3.7						
STKA	**Stephens Creek**	**60.77**	**166**	P	**P**	**11 32 21.1**	**+0.1**
ILAR	**Eielson Array**	**63.76**	**28**	P	**P**	**11 32 39.5**	**-1.0**
	0.4nm,0.8s,mb3.3,baz=246,slow=4.0,SNR=7.2						
ILAR	**Eielson Array**	**63.76**	**28**	P	**P**	**11 32 39.5**	**-1.0**
YKA	**Yellowknife Ar**	**77.75**	**25**	P	**P**	**11 34 05.0**	**0.0**
	0.7nm,0.4s,mb3.6,baz=306,slow=5.6,SNR=4.0						
YKA	**Yellowknife Ar**	**77.75**	**25**	P	**P**	**11 34 05.0**	**-0.1**

ISCJB ***03*** *11:23:42.9±4.2,48.1N±0.1×155.3E±0.2,h28km±33km, mb3.4/4,Error ellipse: s-maj=30.9km s-min=13.4km az=136.8*
MOS ***03*** *11:23:44.0±1.2,48.11N×155.40E,h33km,mb4.6/1,Error ellipse: s-maj=39.1km s-min=13.9km az=70.9*
NEIC ***03*** *11:23:46.8±1.2,48.24N×155.28E,h44km±13km,Error ellipse: s-maj=23.2km s-min=10.0km az=138.0*
IDC ***03*** *11:23:47.1±2.6,48.28N×155.15E,h47km±26km,mb3.3/4, mb1 3.7/7,mb1mx3.3/28,mbtmp3.6/7,ML3.4/3,MS2.7/1, Ms1 2.7/1,ms1mx2.1/20,Error ellipse: s-maj=43.7km s-min=21.6km az=130.0*
ISC 03 11:23:46.8±1.5,48.2N±0.1×155.3E±0.2,h44km±16km,n24, σ0.59/29,mb3.4/4,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.51**	**12**	*e*PN	**Pn**	**11 24 25.2**	**+0.1**
SKR				pmax	pmax		
	comp=N,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
SKR				pmax	pmax		
	comp=E,60nm,0.2s						
PEA0B	**Petropavlovsk-**	**5.12**	**17**	*e*Pn	**Pn**	**11 25 01.3**	**+0.5**
PETK	**Petropavlovsk-**	**5.12**	**17**	P	**Pn**	**11 25 01.2**	**+0.4**
	comp=E,1.2nm,0.3s,baz=168,slow=13,SNR=36						
PETK				S	**Sn**	**11 26 10.6**	**+12**
	baz=248,slow=16,SNR=2.7						
PETK	**Petropavlovsk-**	**5.12**	**17**	P	**Pn**	11 25 01.2	+0.4
PETK				S	**Sn**	**11 26 10.6**	**+12**
PETK	**Petropavlovsk-**	**5.12**	**17**	PN	**Pn**	11 25 01.2	+0.4
PETK				S	**Sn**	**11 26 10.6**	**+12**
PET	**Petropavlovsk**	**5.25**	**23**	*e*Pn	**Pn**	11 25 01.9	-0.7
PET	**Petropavlovsk**	**5.25**	**23**	*e*PN	**Pn**	11 25 02.0	-0.7
ASAJ	**Asahikawa**	**9.71**	**250**	P	**Pn**	**11 26 03.9**	**+0.1**
	comp=E,0.6nm,0.3s,baz=73,slow=12,SNR=5.5						
ASAJ				LR	LR	11 29 18.3	
	comp=E,46nm,19.8s,baz=189,slow=34						
ASAJ	**Asahikawa**	**9.71**	**250**	*e*Pn	**Pn**	**11 26 03.9**	**+0.1**
ASAJ	**Asahikawa**	**9.71**	**250**	PN	**Pn**	**11 26 03.9**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,46nm,19.8s						
FX1	**Attu Island--F**	**12.28**	**61**	P	**Pn**	**11 26 38.4**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=253,slow=19,SNR=2.7						
FX1				S	**Sn**	**11 28 48.9**	**-5.3**
	comp=Z,1.4nm,0.3s,baz=116,slow=14,SNR=6.0						
FX1	**Attu Island--F**	**12.28**	**61**	P	**Pn**	**11 26 38.4**	**-0.5**
FX1				S	**Sn**	**11 28 48.9**	**-5.3**
FX1	**Attu Island--F**	**12.28**	**61**	PN	**Pn**	**11 26 38.4**	**-0.5**
WRA	**Warramunga Arr**	**70.41**	**201**	P	**P**	**11 34 55.6**	**-0.5**
	comp=Z,0.4nm,0.8s,mb3.4,baz=14,slow=6.2,SNR=2.9						
WRA	**Warramunga Arr**	**70.41**	**201**	P	**P**	**11 34 55.6**	**-0.5**
WRA	**Warramunga Arr**	**70.41**	**201**	P	**P**	**11 34 55.6**	**-0.6**
ASAR	**Alice Springs**	**74.09**	**200**	P	**P**	**11 35 18.5**	**+0.4**
	comp=Z,0.3nm,0.8s,mb3.3,baz=12,slow=5.8,SNR=4.2						
ASAR	**Alice Springs**	**74.09**	**200**	P	**P**	**11 35 18.5**	**+0.4**
ASAR	**Alice Springs**	**74.09**	**200**	P	**P**	**11 35 18.5**	**+0.4**
EKA	**Eskdalemuir Ar**	**75.23**	**347**	P	**P**	**11 35 23.6**	**-0.9**
	comp=Z,0.6nm,0.5s,mb3.8,baz=19,slow=6.2,SNR=4.0						
EKA	**Eskdalemuir Ar**	**75.23**	**347**	P	**P**	**11 35 23.6**	**-0.9**
TXAR	**Lajitas Array**	**75.49**	**62**	P	**P**	**11 35 27.5**	**+1.1**
	comp=Z,0.1nm,0.5s,mb3.0,baz=306,slow=4.1,SNR=5.4						
TXAR	**Lajitas Array**	**75.49**	**62**	P	**P**	**11 35 27.5**	**+1.1**
TXAR	**Lajitas Array**	**75.49**	**62**	P	**P**	**11 35 27.5**	**+1.1**

MOS ***03*** *11:30:14.5±1.7,37.92N×20.65E,h17km,mb4.3/9,Error ellipse: s-maj=13.2km s-min=6.9km az=75.5*
IDC ***03*** *11:30:16.4±1.1,38.32N×20.90E,h0km,mb3.9/11, mb1 3.9/14,mb1mx3.8/30,mbtmp3.8/14,ML3.0/2,Error ellipse: s-maj=20.9km s-min=17.7km az=164.0*
THE ***03*** *11:30:17.4,38.18N×20.79E,h0km±1km,ML3.9/9,Error ellipse: s-maj=1.6km s-min=0.6km az=201.0*
PDG ***03*** *11:30:17.0±0.4,38.14N×20.56E,h18km±1km,ML4.0/10, Error ellipse: s-maj=1.3km s-min=1.8km az=0.0*
ATH ***03*** *11:30:17.5,38.13N×20.70E,h11km±4km,ML3.8*
CSEM ***03*** *11:30:17.4±0.2,38.17N×20.73E,h10km,mb4.3/12,Error ellipse: s-maj=4.3km s-min=2.5km az=36.0*
ISCJB ***03*** *11:30:17.4±0.4,38.22N±0.02×20.70E±0.02,h15km±3km, mb4.1/15,Error ellipse: s-maj=3.8km s-min=2.3km az=33.5*
BEO ***03*** *11:30:18.0±1.0,38.27N×20.51E,h0km,ML3.8/5*
NEIC ***03*** *11:30:19.2,38.13N×20.73E,h5km,ML3.9(ATH),After ATH.*
TIR ***03*** *11:30:42.6±6.1,40.18N×19.46E,h17km,ML3.6*
ISC 03 11:30:17.5±0.3,38.19N±0.02×20.75E±0.02,h8km±2km, n255,σ1.10/323,mb4.1/15,16C-15D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFL	**Anninata**	**0.09**	**158**	P	**Pg**	**11 30 18.3**	**-1.4**
KFL				S	**Sg**	11 30 20.9	-0.3
KFL	**Anninata**	**0.09**	**158**	P	**Pg**	11 30 18.3	-1.4
KFL				S	**Sg**	11 30 20.9	-0.3
VLS	**Valsamata**	**0.12**	**263**	*e*PG	**Pg**	11 30 20.5	+0.2
VLS				*e*SG	**Sg**	11 30 23.0	+0.9
VLS	**Valsamata**	**0.12**	**263**	P	**Pg**	11 30 19.9	-0.4
VLS	**Valsamata**	**0.12**	**263**	P	**Pg**	11 30 20.2	-0.1
VLS				S	**Sg**	11 30 22.9	+0.8
VLS	**Valsamata**	**0.12**	**263**	P	**Pg**	11 30 19.9	-0.4
VLS	**Valsamata**	**0.12**	**263**	P	**Pg**	11 30 20.2	-0.1
VLS	**Valsamata**	**0.12**	**263**	*e*Pg	**Pg**	11 30 20.5	+0.2
VLS				S	**Sg**	11 30 22.9	+0.8
RLS	**Riolos of Patr**	**0.58**	**103**	*e*PB	**Pg**	11 30 28.5	-0.3
RLS	**Riolos of Patr**	**0.58**	**103**	P	**Pg**	11 30 28.3	-0.5
RLS	**Riolos of Patr**	**0.58**	**103**	P	**Pg**	11 30 28.5	-0.3
RLS				S	**Sg**	11 30 36.8	+0.4
RLS	**Riolos of Patr**	**0.58**	**103**	P	**Pg**	11 30 28.5	-0.3
RLS				S	**Sg**	11 30 36.8	+0.4
LKD2	**Lefkada island**	**0.60**	**353**	P	**Pg**	11 30 29.0	-0.1
LKD2				S	**Sg**	11 30 38.8	+1.9
LKD2	**Lefkada island**	**0.60**	**353**	P	**Pg**	11 30 29.0	-0.1
LKD2				S	**Sg**	11 30 38.8	+1.9
UPR	**University Cam**	**0.82**	**83**	*e*PB	**Pb**	11 30 35.6	+1.5
UPR	**University Cam**	**0.82**	**83**	P	**Pg**	11 30 33.2	-0.2
UPR				S	**Sg**	11 30 43.9	-0.2
UPR	**University Cam**	**0.82**	**83**	P	**Pg**	11 30 33.2	-0.2
UPR	**University Cam**	**0.82**	**83**	*e*Pb	**Pb**	11 30 35.6	+1.5
UPR				S	**Sg**	11 30 43.9	-0.2
EFP	**Efpalio**	**0.94**	**75**	*e*PB	**Pb**	11 30 34.7	+0.9
EFP	**Efpalio**	**0.94**	**75**	P	**Pg**	11 30 37.8	-0.9
EFP				S	**Sg**	11 30 47.2	-0.7
EFP	**Efpalio**	**0.94**	**75**	*e*Pb	**Pb**	11 30 34.8	-1.3
EFP				S	**Sg**	11 30 47.2	-0.7
LAKA	**Lakka**	**0.97**	**87**	P	**Pg**	11 30 35.1	-1.1
LAKA	**Lakka**	**0.97**	**87**	P	**Pg**	11 30 35.1	-1.1
LAKA	**Lakka**	**0.97**	**87**	P	**Pg**	11 30 35.1	-1.1
EVR	**Evrytania**	**1.10**	**49**	*e*PB	**Pb**	11 30 40.8	+1.9
EVR	**Evrytania**	**1.10**	**49**	P	**Pg**	11 30 40.0	+1.3
EVR	**Evrytania**	**1.10**	**49**	P	**Pg**	11 30 37.8	-0.9
EVR	**Evrytania**	**1.10**	**49**	P	**Pg**	11 30 37.8	-0.9
EVR	**Evrytania**	**1.10**	**49**	*e*Pb	**Pb**	11 30 40.8	+1.9
KALE	**Kalithea**	**1.11**	**79**	P	**Pg**	11 30 37.4	-1.5
KALE				S	**Sg**	11 30 53.2	-0.2
KALE	**Kalithea**	**1.11**	**79**	P	**Pg**	11 30 37.4	-1.5
KALE				S	**Sg**	11 30 53.2	-0.2
GUR	**Goura**	**1.29**	**101**	*e*PB	**Pn**	11 30 40.4	-1.4
GUR	**Goura**	**1.29**	**101**	P	**Pn**	11 30 40.4	-1.4
GUR				S	**Sb**	11 30 59.2	+0.5
GUR	**Goura**	**1.29**	**101**	P	**Pn**	11 30 40.4	-1.4
GUR				S	**Sb**	11 30 59.2	+0.5
IGT	**Igoumenitsa**	**1.38**	**347**	P	**Pn**	11 30 44.4	+1.3
IGT	**Igoumenitsa**	**1.38**	**347**	P	**Pn**	11 30 43.3	+0.2
IGT				S	**Sb**	11 31 02.9	+1.6
IGT	**Igoumenitsa**	**1.38**	**347**	P	**Pn**	11 30 44.4	+1.3
IGT	**Igoumenitsa**	**1.38**	**347**	P	**Pn**	11 30 43.3	+0.2
IGT				S	**Sb**	11 31 02.9	+1.6
ITM	**Ithomi**	**1.38**	**137**	*e*PB	**Pb**	11 30 45.0	+1.4
ITM	**Ithomi**	**1.38**	**137**	P	**Pn**	11 30 44.6	+1.5
ITM	**Ithomi**	**1.38**	**137**	P	**Pn**	11 30 43.0	-0.1
ITM	**Ithomi**	**1.38**	**137**	P	**Pn**	11 30 43.0	-0.1
ITM	**Ithomi**	**1.38**	**137**	*e*Pb	**Pb**	11 30 45.0	+1.4
DSF	**Desfina**	**1.42**	**81**	P	**Pn**	11 30 42.5	-1.1
DSF	**Desfina**	**1.42**	**81**	P	**Pn**	11 30 42.5	-1.1
DSF	**Desfina**	**1.42**	**81**	P	**Pn**	11 30 42.5	-1.1
JAN	**Janina**	**1.46**	**3**	*e*PG	**Pg**	11 30 45.5	-0.1
JAN	**Janina**	**1.46**	**3**	P	**Pn**	11 30 47.4	+3.1
JAN	**Janina**	**1.46**	**3**	P	**Pn**	11 30 44.3	0.0
JAN				S	**Sn**	11 31 05.5	+1.9
JAN	**Janina**	**1.46**	**3**	P	**Pn**	11 30 47.4	+3.1
JAN	**Janina**	**1.46**	**3**	P	**Pn**	11 30 44.3	0.0
JAN	**Janina**	**1.46**	**3**	*e*Pg	**Pg**	11 30 45.5	-0.1
JAN				S	**Sn**	11 31 05.5	+1.9
AGG	**Agios Georgios**	**1.49**	**56**	*e*PB	**Pb**	11 30 46.9	+1.4
AGG	**Agios Georgios**	**1.49**	**56**	P	**Pn**	11 30 44.2	-0.4
AGG	**Agios Georgios**	**1.49**	**56**	P	**Pn**	11 30 44.2	-0.4
AGG	**Agios Georgios**	**1.49**	**56**	*e*Pb	**Pb**	11 30 46.9	+1.4
PYL	**PYLOS**	**1.52**	**148**	*e*PN	**Pn**	11 30 44.1	-0.9
PYL	**PYLOS**	**1.52**	**148**	P	**Pn**	11 30 44.2	-0.8
PYL	**PYLOS**	**1.52**	**148**	P	**Pn**	11 30 44.2	-0.8
VLX	**Vlachokerasia**	**1.53**	**122**	P	**Pn**	11 30 44.9	-0.3
VLX	**Vlachokerasia**	**1.53**	**122**	P	**Pn**	11 30 44.9	-0.3
KEK	**Kerkira**	**1.69**	**334**	*e*PN	**Pn**	11 30 49.6	+2.3
KEK	**Kerkira**	**1.69**	**334**	P	**Pn**	11 30 49.6	+2.3
KEK	**Kerkira**	**1.69**	**334**	P	**Pn**	11 30 47.5	+0.2
KEK				S	**Sn**	11 31 11.7	+2.6
KEK	**Kerkira**	**1.69**	**334**	P	**Pn**	11 30 47.5	+0.2
KEK	**Kerkira**	**1.69**	**334**	*e*Pn	**Pn**	11 30 49.6	+2.3
THL	**Klokotos Trika**	**1.69**	**35**	*e*PG	**Pg**	11 30 50.8	+0.9
THL	**Klokotos Trika**	**1.69**	**35**	P	**Pn**	11 30 47.4	0.0
THL				S	**Sn**	11 31 11.2	+2.0
THL	**Klokotos Trika**	**1.69**	**35**	P	**Pn**	11 30 47.4	0.0
THL	**Klokotos Trika**	**1.69**	**35**	*e*Pg	**Pg**	11 30 50.8	+0.9
THL				S	**Sn**	11 31 11.2	+2.0
LTK	**Loutraki**	**1.76**	**95**	P	**Pn**	11 30 50.2	+1.9
LTK	**Loutraki**	**1.76**	**95**	P	**Pn**	11 30 47.2	-1.1
LTK				S	**Sn**	11 31 10.7	-0.2
LTK	**Loutraki**	**1.76**	**95**	P	**Pn**	11 30 47.2	-1.1
LTK				S	**Sn**	11 31 10.7	-0.2
SRN	**Sarande**	**1.78**	**341**	*e*PG	**Pg**	11 30 49.3	-2.4
SRN				*e*SG	**Sg**	11 31 08.9	-5.9
SRN	**Sarande**	**1.78**	**341**	*e*Pg	**Pg**	11 30 49.3	-2.4
LKR	**Lokris**	**1.83**	**75**	P	**Pn**	11 30 50.8	+1.5
LKR	**Lokris**	**1.83**	**75**	P	**Pn**	11 30 48.8	-0.5
LKR	**Lokris**	**1.83**	**75**	P	**Pn**	11 30 48.8	-0.5
ATAL	**Atalanti**	**1.85**	**74**	P	**Pn**	11 30 48.4	-1.2
ATAL				S	**Sn**	11 31 14.6	+1.3
ATAL	**Atalanti**	**1.85**	**74**	P	**Pn**	11 30 48.4	-1.2
ATAL				S	**Sn**	11 31 14.6	+1.3
DID	**Didima**	**2.09**	**108**	P	**Pn**	11 30 52.4	-0.4
DID	**Didima**	**2.09**	**108**	P	**Pn**	11 30 52.4	-0.4
NEST	**Nestorio**	**2.23**	**6**	P	**Pn**	11 30 55.3	+0.5
NEST	**Nestorio**	**2.23**	**6**	P	**Pn**	11 30 55.3	+0.5
NEO	**Neokhori**	**2.23**	**59**	P	**Pn**	11 30 59.3	+4.5
NEO	**Neokhori**	**2.23**	**59**	P	**Pn**	11 30 54.9	+0.1
NEO	**Neokhori**	**2.23**	**59**	P	**Pn**	11 30 54.9	+0.1
KZN	**Kozani**	**2.26**	**20**	P	**Pn**	11 30 59.0	+3.9
KZN	**Kozani**	**2.26**	**20**	P	**Pn**	11 30 55.0	-0.1
KZN	**Kozani**	**2.26**	**20**	P	**Pn**	11 30 59.0	+3.9
KZN	**Kozani**	**2.26**	**20**	P	**Pn**	11 30 55.0	-0.1
VLI	**Veliai**	**2.28**	**130**	P	**Pn**	11 30 55.4	-0.1
VLI	**Veliai**	**2.28**	**130**	P	**Pn**	11 30 55.4	-0.1
LIT	**Litokhoron**	**2.34**	**35**	P	**Pn**	11 30 57.2	+0.9
LIT	**Litokhoron**	**2.34**	**35**	P	**Pn**	11 30 57.2	+0.9
ATH	**Athens Observa**	**2.35**	**94**	*e*PN	**Pn**	11 30 58.7	+2.2
ATH	**Athens Observa**	**2.35**	**94**	*e*Pn	**Pn**	11 30 58.7	+2.2
ATHU	**Athens Univers**	**2.41**	**94**	P	**Pn**	11 30 57.5	+0.3
ATHU	**Athens Univers**	**2.41**	**94**	P	**Pn**	11 30 57.5	+0.3
VLY	**Voula,Athens**	**2.43**	**97**	P	**Pn**	11 30 57.4	-0.2
VLY	**Voula,Athens**	**2.43**	**97**	P	**Pn**	11 30 57.4	-0.2
FNA	**Florina**	**2.63**	**10**	P	**Pn**	11 31 01.0	+0.7
FNA	**Florina**	**2.63**	**10**	P	**Pn**	11 31 01.0	+0.7
AOS	**Alonnisos**	**2.64**	**67**	P	**Pn**	11 31 00.4	0.0
AOS	**Alonnisos**	**2.64**	**67**	P	**Pn**	11 31 00.4	0.0
KYTH	**Kithira**	**2.64**	**136**	P	**Pn**	11 31 00.2	-0.3
KYTH	**Kithira**	**2.64**	**136**	P	**Pn**	11 31 00.2	-0.3
BIA	**Bitola**	**2.86**	**9**	*e*Pn	**Pn**	11 31 08.8	+5.4
BIA				*e*Sg	**Sg**	11 31 40.6	-8.8
GRG	**Griva**	**3.04**	**24**	P	**Pn**	11 31 06.5	+0.5
GRG	**Griva**	**3.04**	**24**	P	**Pn**	11 31 06.5	+0.5
KRUS	**Krusevo**	**3.19**	**7**	*e*Pn	**Pn**	11 31 08.5	+0.4
KRUS	**Krusevo**	**3.19**	**7**	*e*Pn	**Pn**	11 31 08.5	+0.4
TIR	**Tirane**	**3.22**	**348**	*e*PG	**Pn**	11 31 09.5	+1.1
TIR				*e*SG	**Sn**	11 31 29.5	-18
OUR	**Ouranopolis**	**3.30**	**49**	P	**Pn**	11 31 10.6	+1.1
OUR	**Ouranopolis**	**3.30**	**49**	P	**Pn**	11 31 10.6	+1.1
KNT	**Kendrikon**	**3.40**	**29**	P	**Pn**	11 31 12.1	+1.2
KNT	**Kendrikon**	**3.40**	**29**	P	**Pn**	11 31 12.1	+1.2
VAY	**Valandovo**	**3.43**	**24**	*e*Pn	**Pn**	11 31 16.7	+5.5
TAR1	**Taranto**	**3.55**	**312**	*e*Pn	**Pn**	11 31 15.2	+2.2
SRS	**Serrai**	**3.65**	**36**	P	**Pn**	11 31 14.5	+0.1
SRS	**Serrai**	**3.65**	**36**	P	**Pn**	11 31 14.5	+0.1
PE1	**Pezze di Greco**	**3.66**	**316**	*e*Pn	**Pn**	11 31 14.4	-0.1
PE1				*e*Sn	**Sn**	11 31 58.3	+0.5
SKO	**Skopje**	**3.81**	**8**	*e*Pn	**Pg**	11 31 27.8	-2.7
SKO				*e*Sg	**Sn**	11 32 01.6	+0.1
CEL	**Celeste**	**3.82**	**272**	*e*Pn	**Pn**	11 31 17.3	+0.6
CEL	**Celeste**	**3.82**	**272**	*e*Pn	**Pn**	11 31 17.3	+0.6
PUK	**Puka**	**3.90**	**351**	*e*PN	**Pn**	11 31 18.6	+0.9
PUK				*e*SN	**Pg**	11 31 37.5	+5.3
PUK	**Puka**	**3.90**	**351**	*e*Pn	**Pn**	11 31 18.6	+0.9
ULC	**Ulcinj**	**3.94**	**343**	*i*Pn	**Pn**	11 31 17.8	-0.5
ULC				*e*Sn	**Sn**	11 32 04.2	-0.4
ULC	**Ulcinj**	**3.94**	**343**	*i*Pn	**Pn**	11 31 17.8	-0.5
ULC				*e*Sn	**Sn**	11 32 04.2	-0.4
APE	**Apeiranthos**	**3.96**	**105**	↑*i*P	**Pn**	11 31 21.6	+3.0
APE	**Apeiranthos**	**3.96**	**105**	↑*i*P	**Pn**	11 31 21.6	+3.0
APE	**Apeiranthos**	**3.96**	**105**	↑*i*P	**Pn**	11 31 21.6	+3.0
KKB	**Krupnik**	**4.08**	**25**	*i*P	**Pn**	11 31 21.0	+0.7
KKB	**Krupnik**	**4.08**	**25**	*i*P	**Pn**	11 31 21.0	+0.7
MMB	**Musomiste**	**4.09**	**33**	*i*P	**Pn**	11 31 23.5	+3.1
MMB	**Musomiste**	**4.09**	**33**	*i*P	**Pn**	11 31 23.5	+3.1
SG1	**Sgolgore (BA)**	**4.11**	**311**	*e*Pn	**Pn**	11 31 21.8	+1.2
SG1				*e*Sn	**Sn**	11 32 08.1	-0.7
BAI	**Bari**	**4.17**	**315**	*e*Pn	**Pn**	11 31 21.4	0.0
CUC	**Castrocucco**	**4.24**	**297**	*e*Pn	**Pn**	11 31 23.8	+1.5
CUC	**Castrocucco**	**4.24**	**297**	*e*Pn	**Pn**	11 31 23.8	+1.4
BUM	**Brajici-Budva**	**4.34**	**342**	↑*i*Pn	**Pn**	11 31 23.5	-0.3
BUM				*e*Sn	**Sn**	11 32 13.9	-0.7
BUM	**Brajici-Budva**	**4.34**	**342**	↑*i*Pn	**Pn**	11 31 23.5	-0.3
BUM				*e*Sn	**Sn**	11 32 13.9	-0.7
TTG	**Podgorica**	**4.38**	**345**	*e*Pn	**Pn**	11 31 24.4	0.0
TTG				*e*Sn	**Sn**	11 32 14.8	-0.8
PDG	**Podgorica**	**4.38**	**345**	*e*Pn	**Pn**	11 31 24.4	0.0
PDG				*e*Sn	**Sn**	11 32 14.8	-0.8
PVY	**Plav**	**4.44**	**352**	*i*Pn	**Pn**	11 31 25.7	+0.6
PVY				*e*Sn	**Sn**	11 32 17.5	+0.5
PVY	**Plav**	**4.44**	**352**	*i*Pn	**Pn**	11 31 25.7	+0.6
PVY				*e*Sn	**Sn**	11 32 17.5	+0.5
CDT	**Castel del Mon**	**4.50**	**311**	↑*i*Pn	**Pn**	11 31 27.0	+1.0
CDT				*e*Sn	**Sn**	11 32 17.3	-1.2
HCY	**Herceg Novi**	**4.58**	**339**	↑*i*Pn	**Pn**	11 31 27.2	+0.1
HCY				*e*Sn	**Sn**	11 32 19.3	-1.3
HCY	**Herceg Novi**	**4.58**	**339**	↑*i*Pn	**Pn**	11 31 27.2	+0.1
HCY				*e*Sn	**Sn**	11 32 19.3	-1.3
RZN	**Roz

FINES	**FINES Array B**	**23.51**	**6**	P		**P**		**11 35 25.7**	**-2.2**
	comp=Z,4.0nm,0.8s,mb3.9								
EKA	**Eskdalemuir Ar**	**23.52**	**325**	P		**P**		**11 35 27.1**	**-0.9**
	comp=Z,2.8nm,0.8s,mb3.7,baz=129,slow=10,SNR=8.5								
EKA	**Eskdalemuir Ar**	**23.52**	**325**	P		**P**		**11 35 27.1**	**-0.9**
	comp=Z,3.0nm,0.8s,mb3.8								
NB2	**NORSAR Subarra**	**23.64**	**348**	P		**P**		**11 35 27.8**	**-1.3**
	comp=Z,1.5nm,0.5s,mb3.7,baz=156,slow=9.3								
NB2	**NORSAR Subarra**	**23.64**	**348**	P		**P**		**11 35 27.8**	**-1.3**
	comp=Z,1.5nm,0.5s,mb3.7,baz=156,slow=9.1,SNR=7.3								
NOA	**NORSAR Array B**	**23.64**	**348**	P		**P**		**11 35 28.1**	**-1.0**
	comp=Z,1.9nm,0.6s,mb3.7,baz=158,slow=9.1,SNR=7.6								
NOA	**NORSAR Array B**	**23.64**	**348**	P		P		**11 35 28.1**	**-1.0**
NOA				pmax		pmax			
	comp=Z,2.0nm,0.6s								
NOA	**NORSAR Array B**	**23.64**	**348**	P		**P**		**11 35 28.1**	**-1.0**
	comp=Z,2.0nm,0.6s,mb3.7								
VAL	**Valentia**	**25.61**	**312**	*e*P		**P**		**11 35 41.3**	**-5.9**
AKTK	**Aktyubinsk**	**29.03**	**53**	P		**P**		**11 36 16.3**	**-1.6**
	comp=Z,2.0nm,0.3s,mb4.3								
AKTO	**Aktyubinsk**	**29.03**	**53**	P		**P**		**11 36 16.3**	**-1.5**
	comp=Z,1.5nm,0.3s,mb4.2,baz=266,slow=8.6,SNR=5.8								
AKTO	**Aktyubinsk**	**29.03**	**53**	P		**P**		**11 36 16.3**	**-1.6**
AKTO				pmax		pmax			
	comp=Z,2.0nm,0.3s,mb4.3								
TORD	**Torodi Ar. Bea**	**30.15**	**219**	P		**P**		**11 36 28.6**	**+0.5**
	comp=Z,0.5nm,0.6s,mb3.4,baz=36,slow=8.9,SNR=5.2								
ARCES	**ARCESS Array B**	**31.51**		P		**P**		**11 36 38.8**	**-0.8**
	comp=Z,5.1nm,1.0s,mb4.3,baz=185,slow=9.9,SNR=2.9								
ARCES	**ARCESS Array B**	**31.51**	**3**	P		**P**		**11 36 38.8**	**-0.7**
ARCES				pmax		pmax			
	comp=Z,5.0nm,1.0s								
ARCES	**ARCESS Array B**	**31.51**	**3**	P		**P**		**11 36 38.8**	**-0.7**
	comp=Z,5.0nm,1.0s,mb4.3								
SVE	**Sverdlovsk**	**32.15**	**42**	*e*P		**P**		**11 36 44.5**	**-0.8**
SVE				pmax		pmax			
	comp=Z,12nm,0.7s,mb4.8								
SVE	**Sverdlovsk**	**32.15**	**42**	*e*P		**P**		**11 36 44.5**	**-0.8**
	comp=Z,12nm,0.7s,mb4.8								
BRVK	**Borovoye**	**36.91**	**50**	*e*P		**P**		**11 37 26.0**	**-0.6**
BRVK				pmax		pmax			
	comp=Z,4.0nm,0.7s,mb4.4								
BRVK	**Borovoye**	**36.91**	**50**	*e*P		**P**		**11 37 26.0**	**-0.6**
	comp=Z,4.0nm,0.7s,mb4.4								
MKAR	**Makanchi Array**	**45.14**	**58**	P		**P**		**11 38 33.0**	**-1.5**
	comp=Z,4.0nm,0.5s,mb4.5,baz=274,slow=7.3,SNR=41								
MKAR	**Makanchi Array**	**45.14**	**58**	P		**P**		**11 38 33.0**	**-1.4**
MKAR				pmax		pmax			
	comp=Z,4.0nm,0.5s								
MKAR	**Makanchi Array**	**45.14**	**58**	P		**P**		**11 38 33.0**	**-1.4**
	comp=Z,4.0nm,0.5s,mb4.5								
ZALV	**Zalesovo Beam**	**45.55**	**48**	P		**P**		**11 38 36.0**	**-1.5**
	comp=Z,9.6nm,0.5s,mb5.0,baz=277,slow=8.7,SNR=53								
ZALV	**Zalesovo Beam**	**45.55**	**48**	P		**P**		**11 38 36.0**	**-1.5**
ZALV				pmax		pmax			
	comp=Z,10.0nm,0.5s,mb5.0								
ZALV	**Zalesovo Beam**	**45.55**	**48**	P		**P**		**11 38 36.0**	**-1.5**
	comp=Z,10.0nm,0.5s,mb5.0								
SONM	**Songino Array**	**60.31**	**51**	P		**P**		**11 40 25.7**	**-0.9**
	comp=Z,1.4nm,0.8s,mb4.0,baz=273,slow=7.5,SNR=10.0								
SONM	**Songino Array**	**60.31**	**51**	P		**P**		**11 40 25.7**	**-0.9**
SONM				pmax		pmax			
	comp=Z,1.0nm,0.8s								
SONM	**Songino Array**	**60.31**	**51**	P		**P**		**11 40 25.7**	**-0.9**
	comp=Z,1.0nm,0.8s,mb3.9								
ILAR	**Eielson Array**	**76.91**	**355**	P		**P**		**11 42 10.3**	**+0.4**
	comp=Z,0.3nm,0.9s,mb3.2,baz=2.5,slow=6.3,SNR=3.0								
ILAR	**Eielson Array**	**76.91**	**355**	P		**P**		**11 42 10.3**	**+0.4**
ILAR	**Eielson Array**	**76.91**	**355**	P		**P**		**11 42 10.3**	**+0.4**

*ISCJB **03** 11:46:04.8±0.8, 37.3°N±0.1°×28.2°E±0.0°,06, h7km±17km, Error ellipse: s-maj=18.7km s-min=7.6km az=10.2*
*DDA **03** 11:46:04.8, 37.24°N×28.22°E, h7km±2km, Md2.7*
*CSEM **03** 11:46:05.2±0.3, 37.22°N×28.21°E, h10km, MD2.7, Error ellipse: s-maj=9.7km s-min=4.8km az=46.0*

ISC 03 11:46:05.0±1.0, 37.22°N±0.05°×28.23°E±0.06, h17km±13km, n12, σ0°79/19, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
YER	**Yerkesik**	**0.10**	**154**	PG		**Pg**	**11 46 07.8**	**-0.7**
YER	**Yerkesik**	**0.10**	**154**	*i* Pg		**Pg**	**11 46 07.8**	**-0.7**
TURN	**Turunc**	**0.46**	**139**	*i* P		**Pg**	**11 46 14.0**	**-0.3**
TURN				*i* S		**Sg**	**11 46 21.5**	**+1.0**
TURN	**Turunc**	**0.46**	**139**	*i* P		**Pg**	**11 46 14.0**	**-0.3**
TURN				*i* S		**Sg**	**11 46 21.5**	**+1.0**
AYDN	**Tasoluk**	**0.52**	**328**	*i* P		**Pg**	**11 46 15.1**	**-0.4**
AYDN				*i* S		**Sg**	**11 46 22.1**	**-0.4**
AYDN	**Tasoluk**	**0.52**	**328**	*i* P		**Pg**	**11 46 15.1**	**-0.3**
AYDN				*i* S		**Sg**	**11 46 22.1**	**-0.4**
DAT	**Datca**	**0.72**	**227**	*e*PG		**Pg**	**11 46 19.0**	**-0.1**
DAT	**Datca**	**0.72**	**227**	*e*Pg		**Pg**	**11 46 19.0**	**-0.1**
BODT	**Bodrum**	**0.75**	**258**	*e*PG		**Pg**	**11 46 19.2**	**-0.6**
BODT				*e*SG		**Sg**	**11 46 29.5**	**-0.2**
BODT	**Bodrum**	**0.75**	**258**	*e*Pg		**Pg**	**11 46 19.2**	**-0.5**
GCAM	**G?zelcaml?**	**0.93**	**301**	*i* P		**Pb**	**11 46 22.3**	**-0.3**
GCAM				*i* S		**Sg**	**11 46 37.4**	**+2.1**
GCAM	**G?zelcaml?**	**0.93**	**301**	*i* P		**Pb**	**11 46 22.3**	**-0.4**
GCAM				*i* S		**Sg**	**11 46 37.4**	**+2.2**

IDC 03 11:53:14.0±1.9, 17.45S×177.46W, h0km, mb3.9/5, mb1 4.2/5, mb1mx3.9/18, mbtmp3.9/5, Error ellipse: s-maj=108.4km s-min=25.9km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**39.64**	**241**	P		P	12 00 48.2	+0.5
	1.4nm,0.8s,baz=90,slow=5.1,SNR=4.7							
WRA	**Warramunga Arr**	**45.61**	**259**	P		P	12 01 36.4	0.0
	1.4nm,0.3s,baz=97,slow=7.3,SNR=59							
ASAR	**Alice Springs**	**45.79**	**254**	P		P	12 01 37.2	-0.5
	2.7nm,0.7s,baz=91,slow=7.6,SNR=74							
TXAR	**Lajitas Array**	**84.99**	**57**	P		P	12 05 52.1	+0.5
	0.2nm,0.7s,baz=224,slow=5.2,SNR=4.1							
ILAR	**Eielson Array**	**85.24**	**13**	P		P	12 05 51.8	-0.3
	0.1nm,0.4s,baz=227,slow=5.1,SNR=6.3							

IDC 03 11:58:09.7±4.7, 24.17S×176.39W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/18, mbtmp3.8/4, Error ellipse: s-maj=192.4km s-min=36.4km az=144.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**37.69**	**249**	P		P	12 05 25.7	-1.3
	1.4nm,0.7s,baz=87,slow=10,SNR=3.9							
ASAR	**Alice Springs**	**45.24**	**260**	P		P	12 06 29.0	0.0
	0.5nm,0.4s,baz=94,slow=8.1,SNR=22							
WRA	**Warramunga Arr**	**45.67**	**265**	P		P	12 06 33.2	+0.7
	0.7nm,0.5s,baz=103,slow=7.8,SNR=12							
ILAR	**Eielson Array**	**91.56**	**12**	P		P	12 11 17.7	0.0
	0.4nm,1.0s,baz=198,slow=4.6,SNR=3.0							

*ISCJB **03** 11:58:45.8±1.0, 37.38N±0.05°×38.58E±0.04, h1km±9km, Error ellipse: s-maj=7.9km s-min=5.3km az=162.3*
*CSEM **03** 11:58:45.4±0.6, 37.36N×38.62E, h2km, MD2.7, Error ellipse: s-maj=12.5km s-min=7.6km az=143.0*
*ISK **03** 11:58:45.3, 37.33N×38.66E, h13km, MD2.7*
*DDA **03** 11:58:46.1, 37.41N×38.55E, h7km±7km, Md2.8*

ISC 03 11:58:45.9±0.9, 37.36N±0.05°×38.59E±0.04, h5km±10km, n16, σ1°07/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
URFA	**Urfa**	**0.20**	**66**	PG		**Pg**	**11 58 49.4**	**-0.4**
URFA				*e*SG		**Sg**	**11 58 52.7**	**+0.2**
URFA	**Urfa**	**0.20**	**66**	*i* Pg		**Pg**	**11 58 49.4**	**-0.4**
URFA				*e*Sg		**Sg**	**11 58 52.7**	**+0.2**
ATAB	**Bozova**	**0.26**	**295**	*i* P		**Pg**	**11 58 50.0**	**-1.0**
ATAB				*i* S		**Sg**	**11 58 53.2**	**-1.2**
ATAB	**Bozova**	**0.26**	**295**	*i* P		**Pg**	**11 58 50.0**	**-1.0**
ATAB				*i* S		**Sg**	**11 58 53.2**	**-1.2**
MYA	**Malataya**	**0.97**	**352**	*e*PG		**Pg**	**11 59 05.9**	**+1.3**
MYA				*e*SG		**Sg**	**11 59 19.4**	**+2.2**
MYA	**Malataya**	**0.97**	**352**	*e*Pg		**Pg**	**11 59 05.9**	**+1.3**
MYA				*e*Sg		**Sg**	**11 59 19.4**	**+2.2**
AKCD	**Akcadag**	**1.07**	**331**	*i* P		**Pg**	**11 59 06.9**	**+0.5**
AKCD				*i* S		**Sg**	**11 59 19.8**	**-0.6**
AKCD	**Akcadag**	**1.07**	**331**	*i* P		**Pg**	**11 59 06.9**	**+0.4**
AKCD				*i* S		**Sg**	**11 59 19.8**	**-0.6**
GAZ	**Gaziantep**	**1.12**	**261**	*e*PN		**Pn**	**11 59 07.6**	**-0.7**
GAZ	**Gaziantep**	**1.12**	**261**	*e*Pn		**Pn**	**11 59 07.6**	**-0.6**
SVRC	**Sivrice-ELAZID**	**1.16**	**29**	*e*PN		**Pn**	**11 59 08.4**	**-0.4**
SVRC	**Sivrice-ELAZID**	**1.16**	**29**	*e*Pn		**Pn**	**11 59 08.4**	**-0.4**
ELZG	**Elazig**	**1.18**	**15**	*i* P		**Pg**	**11 59 06.2**	**-2.3**
ELZG				*i* S		**Sg**	**11 59 24.0**	**+0.3**
ELZG	**Elazig**	**1.18**	**15**	*i* P		**Pg**	**11 59 06.2**	**-2.3**
ELZG				*i* S		**Sg**	**11 59 24.0**	**+0.3**
KUZU	**Kuzuini**	**1.35**	**245**	*i* P		**Pn**	**11 59 12.1**	**+0.7**
KUZU				*i* S		**Sg**	**11 59 30.5**	**+1.2**
KUZU	**Kuzuini**	**1.35**	**245**	*i* P		**Pn**	**11 59 12.1**	**+0.7**
KUZU				*i* S		**Sg**	**11 59 30.5**	**+1.3**

IDC 03 12:00:25.4±1.4, 18.26N×145.71E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/24, mbtmp3.6/5, Error ellipse: s-maj=45.2km s-min=27.7km az=96.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**39.57**	**197**	P		P	12 07 58.5	0.0
	0.4nm,0.7s,baz=22,slow=8.9,SNR=2.7							
ZALV	**Zalesovo Beam**	**58.37**	**323**	P		P	12 10 22.8	+0.4
	0.3nm,0.4s,baz=103,slow=6.5,SNR=2.8							
MKAR	**Makanchi Array**	**58.77**	**314**	P		P	12 10 25.9	+0.6
	0.3nm,0.6s,baz=88,slow=9.4,SNR=4.1							
KURK	**Kurchatov**	**61.60**	**318**	P		P	12 10 44.0	-0.6
	0.6nm,0.4s,baz=102,slow=7.1,SNR=7.2							
ILAR	**Eielson Array**	**64.03**	**26**	P		P	12 11 00.8	+0.2
	0.3nm,0.5s,baz=249,slow=5.8,SNR=12							

*ISCJB **03** 12:00:27.9±0.6, 38.18N±0.05°×98.78E±0.06, h10km, mb3.5/3, MS3.2/3, Error ellipse: s-maj=6.8km s-min=6.7km az=30.0*
*IDC **03** 12:00:29.0±1.2, 38.12N×98.93E, h0km, mb3.6/2, mb1 3.8/7, mb1mx3.5/29, mbtmp3.6/7, ML3.7/5, MS3.1/5, Ms1 3.1/5, ms1mx2.6/34, Error ellipse: s-maj=36.9km s-min=19.6km az=72.0*
*BJI **03** 12:00:29.4, 38.12N×98.93E, h6km, ML3.8/10, Ms3.6/2*
*NEIC **03** 12:00:30.3±0.6, 38.15N×98.68E, h10km, mb3.3/1, Error ellipse: s-maj=10.9km s-min=9.3km az=56.0*

ISC 03 12:00:29.8±0.6, 38.18N±0.05°×98.76E±0.06, h10km, n24, σ0°94/24, mb3.5/3, MS3.2/3, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
GTA	**Gaotai**	**1.48**	**33**	Pg		**Pg**	**12 00 56.3**	**-2.0**
GTA				Sg		**Sg**	**12 01 17.0**	**-0.5**
GTA				smax				
	comp=N,250nm,1.0s							
GTA				smax				
	comp=E,250nm,0.6s							
LZH	**Lanzhou**	**4.56**	**116**	*e*Pn		**Pn**	**12 01 39.0**	**+0.1**
LZH				Pg		**Pg**	**12 01 49.9**	**-7.4**
LZH				Sn		**Sn**	**12 02 31.9**	**-0.1**
LZH				Sg		**Sg**	**12 02 49.1**	**-7.3**
LZH				smax				
	comp=N,130nm,0.7s							
LZH				smax				
	comp=E,83nm,0.9s							
LZH				LR	LR			
	comp=N,600nm,5.4s							
LZH				LR	LR			
	comp=E,350nm,6.6s							
SONM	**Songino Array**	**11.14**	**28**	Pn		**Pn**	**12 03 10.9**	**+1.8**
	comp=E,1.1nm,0.3s,baz=209,slow=14,SNR=44							
SONM				Lg			12 06 23.3	
	comp=E,0.1nm,0.3s,baz=212,slow=31,SNR=6.0							
SONM				LR	LR		12 07 52.7	
	comp=E,78nm,19.9s,baz=233,slow=40							
SONM	**Songino Array**	**11.14**	**28**	Pn		**Pn**	**12 03 10.9**	**+1.8**
SONM				Lg			12 06 23.3	
SONM				LR	LR		12 07 52.7	
ULN	**Ulaanbaatar**	**11.42**	**29**	*e*Pn		**Pn**	**12 03 14.3**	**+1.4**
	comp=E,6.6nm,1.0s							
MKAR	**Makanchi Array**	**14.87**	**311**	Pn		**Pn**	**12 03 58.7**	**-1.4**
	comp=E,0.1nm,0.3s,baz=122,slow=13,SNR=4.6							
MKAR	**Makanchi Array**	**14.87**	**311**	Pn		**Pn**	**12 03 58.7**	**-1.4**
TKM2	**Tokmak 2**	**18.21**	**292**	*e*Pn		**Pn**	**12 04 42.8**	**+0.1**
ZALV	**Zalesovo Beam**	**18.45**	**333**	P		**Pn**	**12 04 46.3**	**+0.9**
	comp=E,0.2nm,0.3s,baz=136,slow=11,SNR=11							
ZALV	**Zalesovo Beam**	**18.45**	**333**	P		**Pn**	**12 04 46.3**	**+0.9**
AAK	**Ala-Archa**	**18.99**	**291**	LR		LR	12 13 43.5	
	comp=E,34nm,19.0s,baz=34,slow=42							
KURK	**Kurchatov**	**19.00**	**318**	P		**Pn**	**12 04 53.0**	**+0.8**
	comp=E,0.1nm,0.3s,baz=123,slow=11,SNR=9.3							
KURK	**Kurchatov**	**19.00**	**318**	*e*P		**Pn**	**12 04 51.9**	**-0.3**
AML	**Almayashu**	**19.54**	**290**	P		**Pn**	**12 04 57.7**	**-1.0**
CMAR	**Chiang Mai Arr**	**19.65**	**179**	P		**Pn**	**12 05 00.0**	**-0.1**
	comp=E,0.1nm,0.3s,baz=356,slow=9.5,SNR=4.9							
CMAR	**Chiang Mai Arr**	**19.65**	**179**	P		**Pn**	**12 05 00.0**	**-0.1**
KKAR	**Karatay Array**	**21.94**	**292**	*e*P		**P**	**12 05 24.2**	**+0.7**
	comp=E,0.8nm,0.6s,mb3.3							
KSRS	**Korea Array**	**23.01**	**83**	LR		LR	12 14 35.8	
	comp=E,20nm,18.7s,MS2.6,baz=356,slow=37							
HFS	**Hagfors**	**55.47**	**323**	LR		LR	12 35 41.6	
	comp=E,1nm,18.2s,MS3.7,baz=50,slow=38							
NOA	**NORSAR Array B**	**56.35**	**324**	LR		LR	12 36 40.8	
	comp=E,23nm,18.9s,MS3.3,baz=335,slow=38							
WRA	**Warramunga Arr**	**66.77**	**143**	P		**P**	**12 11 21.6**	**+0.1**
	comp=E,1.2nm,1.0s,mb3.9,baz=341,slow=7.2,SNR=5.3							
WRA	**Warramunga Arr**	**66.77**	**143**	P		**P**	**12 11 21.6**	**+0.1**
ASAR	**Alice Springs**	**69.80**	**146**	P		**P**	**12 11 40.0**	**-0.4**
	comp=E,0.3nm,0.7s,mb3.3,baz=332,slow=6.8,SNR=6.8							
ASAR	**Alice Springs**	**69.80**	**146**	P		**P**	**12 11 40.0**	**-0.4**

*IDC **03** 12:07:45.2±1.6, 10.58S×166.10E, h131km±11km, mb3.6/7, mb1 3.8/8, mb1mx3.6/20, mbtmp3.6/8, MS3.0/1, Ms1 3.0/1, ms1mx2.6/16, Error ellipse: s-maj=50.9km s-min=18.1km az=140.0*
*ISCJB **03** 12:07:49.9±2.0, 10.70S±0.09°×166.0E±0.1, h186km±18km, mb3.8/7, Error ellipse: s-maj=21.5km s-min=12.8km az=154.7*
*NEIC **03** 12:07:50.1±1.5, 10.64S×166.02E, h177km±13km, Error ellipse: s-maj=13.4km s-min=13.0km az=62.0*

ISC 03 12:07:49.7±2.0, 10.72S±0.10°×166.1E±0.1, h171km±18km, n24, σ0°78/22, mb3.8/7, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**6.15**	**282**	*e*Pn		**Pn**	**12 09 18.3**	**-0.3**
DZM	**Mont Dzumac**	**11.29**	**178**	*e*P		**Pn**	**12 10 27.6**	**+1.4**
DZM				*e*S		**Sn**	**12 12 30.3**	**-1.1**
DZM	**Mont Dzumac**	**11.29**	**178**	*e*Pn		**Pn**	**12 10 27.8**	**+1.6**
	31nm,0.6s							
PMG	**Port Moresby**	**18.65**	**272**	P		**P**	**12 11 55.2**	**+0.5**
	0.9nm,0.3s,baz=76,slow=12,SNR=5.3							
PMG	**Port Moresby**	**18.65**	**272**	P		**P**	**12 11 55.2**	**+0.5**
CTA	**Charters Tower**	**21.22**	**242**	P		**P**	**12 12 22.7**	**+0.5**
	3.6nm,0.7s,mb3.8,baz=66,slow=15,SNR=4.4							
CTA				pP			12 12 46.9	
	9.2nm,0.8s,baz=63,slow=13,SNR=7.3							
CTA	**Charters Tower**	**21.22**	**242**	P		**P**	**12 12 22.7**	**+0.5**
CTA				pP			12 12 46.9	
CTAO	**Charters Tower**	**21.22**	**242**	*e*P		**P**	**12 12 22.1**	**-0.1**
STKA	**Stephens Creek**	**30.88**	**223**	P		**P**	**12 13 51.4**	**+1.3**
	2.1nm,0.9s,mb3.9,baz=36,slow=8.7,SNR=3.1							
STKA	**Stephens Creek**	**30.88**	**223**	P		**P**	**12 13 51.4**	**+1.3**
WRAB	**Tennant Creek**	**31.87**	**249**	*e*P		**P**	**12 13 58.6**	**-0.2**
WRA	**Warramunga Arr**	**31.88**	**249**	P		**P**	**12 13 58.6**	**-0.4**
	1.1nm,0.5s,mb3.9,baz=83,slow=9.1,SNR=17							
WRA				pP		pP	12 14 27.1	-7.6
	0.6nm,0.7s,baz=81,slow=8.9,SNR=2.8							
WRA	**Warramunga Arr**	**31.88**	**249**	P		**P**	**12 13 58.6**	**-0.4**
WRA				pP		pP	12 14 27.1	-7.6
GUMO	**Guam**	**32.02**	**318**	LR		LR	12 26 22.9	
	comp=Z,24nm,18.2s,baz=76,slow=35							
ASAR	**Alice Springs**	**33.21**	**243**	P		**P**	**12 14 09.6**	**-0.9**
	1.0nm,0.8s,mb3.6,baz=62,slow=10,SNR=14							
ASAR				pP		pP	12 14 38.7	-7.7
	0.8nm,0.8s,baz=68,slow=9.5,SNR=4.0							
ASAR	**Alice Springs**	**33.21**	**243**	P		**P**	**12 14 09.6**	**-0.9**
ASAR				pP		pP	12 14 38.7	-7.7
ILAR	**Eielson Array**	**83.11**	**18**	P		**P**	**12 19 55.1**	**-0.8**
	1.3nm,0.6s,mb3.8,baz=234,slow=5.1,SNR=57							
ILAR	**Eielson Array**	**83.11**	**18**	P		**P**	**12 19 55.1**	**-0.8**
NVAR	**Mina Array Bea**	**85.59**	**50**	P		**P**	**12 20 09.3**	**+0.3**
	1.2nm,0.9s,mb3.6,baz=233,slow=8.2,SNR=6.7							
NVAR	**Mina Array Bea**	**85.59**	**50**	P		**P**	**12 20 09.3**	**+0.3**
MKAR	**Makanchi Array**	**93.50**	**317**	P		**P**	**12 20 45.8**	**-0.1**
	0.3nm,0.6s,mb3.6,baz=90,slow=5.8,SNR=3.3							
MKAR	**Makanchi Array**	**93.50**	**317**	P		**P**	**12 20 45.8**	**-0.1**
ARCES	**ARCESS Array B**	**116.10**	**346**	PKP		PKPdf	12 26 11.0	-0.9
	6.0nm,0.9s,baz=54,slow=3.7,SNR=3.8							
ARCES	**ARCESS Array B**	**116.10**	**346**	PKP		PKPdf	12 26 11.0	-0.9

*IDC **03** 12:08:29.3±2.4, 2.21S×99.38E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/24, mbtmp3.8/8, ML2.7/1, MS2.9/2, Ms1 2.9/2, ms1mx2.5/28, Error ellipse: s-maj=99.1km s-min=18.2km az=58.0*
*ISCJB **03** 12:08:33.0±0.9, 2.20S±0.1°×99.6E±0.1°, h33km, mb3.8/6, Error ellipse: s-maj=22.5km s-min=11.2km az=145.9*
*NEIC **03** 12:08:34.9±0.9, 2.06S×99.57E, h35km, Error ellipse: s-maj=24.2km s-min=8.8km az=61.0*

ISC 03 12:08:35.3±0.9, 2.20S±0.1°×99.6E±0.1°, h35km, n21, σ0°78/20, mb3.8/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PSI	**Prapat**	**4.83**	**352**	Pn		**Pn**	**12 09 43.6**	**-1.9**
	0.3nm,0.3s,baz=156,slow=12,SNR=3.5							
PSI				LR		LR	12 11 48.2	
	comp=Z,72nm,19.1s,baz=61,slow=41							
PSI	**Prapat**	**4.83**	**352**	Pn		**Pn**	**12 09 43.6**	**-1.9**
PSI				LR		LR	12 11 48.2	
KULM	**Kulim**	**7.32**	**8**	Pn		**Pn**	**12 10 19.8**	**0.0**
KKM	**Kota Kinabalu**	**18.40**	**64**	P		**Pn**	**12 12 48.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**20.35**	**358**	P		**P**	**12 13 09.3**	**+0.5**
	0.7nm,0.7s,baz=188,slow=10.0,SNR=6.5							
CMAR	**Chiang Mai Arr**	**20.35**	**358**	P		**P**	**12 13 09.3**	**+0.5**
POO	**Poona**	**32.56**	**310**	*ex*		**P**	**12 15 04.0**	**+0.6**
WRA	**Warramunga Arr**	**38.31**	**120**	P		**P**	**12 15 52.9**	**0.0**
	0.6nm,0.6s,mb3.5,baz=303,slow=9.1,SNR=8.4							
WRA	**Warramunga Arr**	**38.31**	**120**	P		**P**	**12 15 52.9**	**0.0**
WRAB	**Tennant Creek**	**38.31**	**120**	*e*P		**P**	**12 15 52.6**	**-0.3**
ASAR	**Alice Springs**	**39.55**	**126**	P		**P**	**12 16 02.6**	**-0.6**
	0.1nm,0.3s,mb3.0,baz=299,slow=8.0,SNR=9.5							
ASAR	**Alice Springs**	**39.55**	**126**	P		**P**	**12 16 02.6**	**-0.6**
SONM	**Songino Array**	**49.99**	**6**	P		**P**	**12 17 27.3**	**+1.3**
	2.0nm,0.7s,mb4.3,baz=186,slow=9.0,SNR=13							
SONM				LR		LR	12 38 35.5	
	comp=Z,16nm,18.5s,baz=306,slow=36							
SONM	**Songino Array**	**49.99**	**6**	P		**P**	**12 17 27.3**	**+1.3**
SONM				LR		LR	12 38 35.5	
MKAR	**Makanchi Array**	**50.94**	**345**	P		**P**	**12 17 33.7**	**+0.5**
	1.5nm,0.7s,mb4.1,baz=150,slow=8.0,SNR=18							
MKAR	**Makanchi Array**	**50.94**	**345**	P		**P**	**12 17 33.7**	**+0.5**
KURK	**Kurchatov**	**55.51**	**344**	P		**P**	**12 18 05.8**	**-0.9**
	0.9nm,0.9s,mb3.8,baz=159,slow=6.1,SNR=7.1							
KURK	**Kurchatov**	**55.51**	**344**	P		**P**	**12 18 05.8**	**-0.9**
ZALV	**Zalesovo Beam**	**57.11**	**350**	P		**P**	**12 18 18.0**	**-0.1**
	2.8nm,0.8s,mb4.3,baz=180,slow=5.9,SNR=14							
ZALV	**Zalesovo Beam**	**57.11**	**350**	P		**P**	**12 18 18.0**	**-0.1**
TXAR	**Lajitas Array**	**144.94**	**37**	PKPbc		PKPdf	12 28 09.8	+0.3
	1.4nm,0.7s,baz=294,slow=1.4,SNR=20							

*SOF **03** 12:10:40.2, 40.13N×25.48E, h10km, MD2.6*
*ISCJB **03** 12:10:43.2±0.5, 40.22N±0.02°×25.19E±0.02, h4km±4km, Error ellipse: s-maj=3.6km s-min=2.7km az=16.2*
*ATH **03** 12:10:43.6, 40.23N×25.18E, h26km±1km, MD3.2/9*
*CSEM **03** 12:10:44.5±0.1, 40.22N×25.22E, h15km, ML2.9/5, Error ellipse: s-maj=3.4km s-min=2.5km az=7.0*
*THE **03** 12:10:45.0, 40.18N×25.27E, h21km±1km

NEO	**Neokhori**	**1.79**	**240**	*e*PB	**Pb**	**12 11 14.1**	**-3.0**
NEO	**Neokhori**	**1.79**	**240**	*e*Pb	**Pb**	**12 11 14.1**	**-3.0**
GONE	**Gonen-Balikesi**	**1.90**	**94**	*e*PN	**Pn**	**12 11 18.1**	**+1.5**
GONE	**Gonen-Balikesi**	**1.90**	**94**	*e*Pn	**Pn**	**12 11 18.1**	**+1.5**
BALY	**Balya**	**1.90**	**104**	*i* P	**Pn**	**12 11 17.6**	**+0.9**
BALY				*i* S	**Sn**	**12 11 44.0**	**+3.5**
BALY	**Balya**	**1.90**	**104**	*i* P	**Pn**	**12 11 17.6**	**+1.0**
BALY				*i* S	**Sn**	**12 11 44.0**	**+3.5**
CHOS	**Chios island**	**1.94**	**160**	*e*PN	**Pn**	**12 11 17.2**	**0.0**
CHOS	**Chios island**	**1.94**	**160**	*e*Pn	**Pn**	**12 11 17.2**	**0.0**
EDRB	**Edirne**	**1.99**	**35**	*e*PN	**Pn**	**12 11 20.0**	**+2.1**
EDRB	**Edirne**	**1.99**	**35**	*e*Pn	**Pn**	**12 11 20.0**	**+2.1**
KNT	**Kendrikon**	**2.00**	**299**	P	**Pn**	**12 11 17.7**	**-0.3**
KNT	**Kendrikon**	**2.00**	**299**	P	**Pn**	**12 11 17.7**	**-0.3**
URLA	**Izmir**	**2.14**	**150**	*i* P	**Pn**	**12 11 19.2**	**-0.7**
URLA				*i* S	**Sn**	**12 11 44.5**	**-1.8**
URLA	**Izmir**	**2.14**	**150**	*i* P	**Pn**	**12 11 19.2**	**-0.7**
URLA				*i* S	**Sn**	**12 11 44.5**	**-1.8**
VAY	**Valandovo**	**2.29**	**300**	*e*Pn	**Pn**	**12 11 29.1**	**+7.1**
VAY				*e*Sg	**Sg**	**12 11 59.1**	**+0.9**
KKB	**Krupnik**	**2.31**	**316**	*i* P	**Pn**	**12 11 22.2**	**0.0**
KKB	**Krupnik**	**2.31**	**316**	*i* P	**Pn**	**12 11 22.2**	**0.0**
LKR	**Lokris**	**2.33**	**228**	*e*PN	**Pn**	**12 11 21.4**	**-1.1**
LKR	**Lokris**	**2.33**	**228**	*e*Pn	**Pn**	**12 11 21.4**	**-1.1**
AGG	**Agios Georgios**	**2.53**	**243**	*e*PN	**Pn**	**12 11 25.5**	**+0.2**
AGG	**Agios Georgios**	**2.53**	**243**	*e*Pn	**Pn**	**12 11 25.5**	**+0.2**
DURS	**Dursunbey**	**2.58**	**103**	*i* P	**Pn**	**12 11 31.6**	**+5.7**
DURS				*i* S	**Sn**	**12 12 05.1**	**+8.1**
LTK	**Loutraki**	**2.81**	**219**	*e*PN	**Pn**	**12 11 29.8**	**+0.7**
LTK	**Loutraki**	**2.81**	**219**	*e*Pn	**Pn**	**12 11 29.8**	**+0.7**
VTS	**Vitosha**	**2.81**	**328**	P	**Pn**	**12 11 29.9**	**+0.8**
VTS	**Vitosha**	**2.81**	**328**	P	**Pn**	**12 11 29.9**	**+0.8**
GUR	**Goura**	**3.20**	**225**	*e*PN	**Pn**	**12 11 34.3**	**-0.1**
GUR	**Goura**	**3.20**	**225**	*e*Pn	**Pn**	**12 11 34.3**	**-0.1**
KRUS	**Krusevo**	**3.23**	**292**	*e*PN	**Pn**	**12 11 34.8**	**0.0**
KRUS	**Krusevo**	**3.23**	**292**	*e*Pn	**Pn**	**12 11 34.8**	**0.0**
MPEP	**Malo Peshtene**	**3.32**	**341**	*i* P	**Pn**	**12 11 37.3**	**+1.1**
BARS	**Barje**	**3.64**	**317**	*e*Pn	**Pn**	**12 11 41.0**	**+0.5**

JMA 03 12:11:03.4±0.4, 26°.89N×125°.56E, h193km, M4.0, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.23**	**117**	P	Pn	12 11 34.5	+0.3
JKE				*e*S	Sn	12 11 58.7	+0.8
JAGN	**Aguni-jima**	**1.53**	**101**	P	Pn	12 11 36.8	0.0
JAGN				S	Sn	12 12 01.9	-0.7
NAH1	**Naha**	**2.03**	**109**	P	Pn	12 11 41.7	0.0
NAH1				*e*S	Sn	12 12 11.7	+0.4
JMJ	**Miyako jima 2**	**2.08**	**187**	P	Pn	12 11 42.4	+0.1
JMJ				S	Sn	12 12 11.9	-0.6
JJT2	**Tamagusuku 2**	**2.10**	**110**	P	Pn	12 11 43.1	+0.7
JJT2				*e*S	Sn	12 12 12.5	-0.2
JOGS	**Gusukube**	**2.13**	**184**	P	Pn	12 11 43.2	+0.4
JOGS				S	Sn	12 12 12.7	-0.6
JIH	**Iheya**	**2.15**	**86**	P	Pn	12 11 42.9	-0.1
JIH				S	Sn	12 12 11.9	-1.8
JTJ	**Tarama**	**2.37**	**199**	P	Pn	12 11 45.1	-0.3
JTJ				S	Sn	12 12 16.3	-1.8
JOW	**Kunigami**	**2.43**	**91**	P	Pn	12 11 45.7	-0.3
JOW				S	Sn	12 12 16.3	-2.8
JIJ	**Ishigaki jima**	**2.82**	**207**	P	Pn	12 11 49.4	-1.2
JIJ				S	Sn	12 12 24.0	-3.4
JKRS	**Kuro-shima**	**2.99**	**208**	P	Pn	12 11 51.7	-0.9
JKRS				*e*S	Sn	12 12 28.0	-2.9
IRIF	**Iriomote-Funau**	**3.03**	**213**	P	Pn	12 11 52.0	-1.1
IRIF				*e*S	Sn	12 12 30.9	-1.0
JTK	**Tokunoshima**	**3.15**	**73**	P	Pn	12 11 52.9	-1.5
JTK				*e*S	Sn	12 12 30.2	-4.0
HATJ	**Hateruma jima**	**3.24**	**210**	P	Pn	12 11 54.5	-1.0
YOJ	**Yonaguni jima**	**3.34**	**224**	P	Pn	12 11 56.2	-0.6
JAM	**Amami Oshima**	**3.90**	**66**	P	Pn	12 12 01.9	-1.7
JAM				S	Sn	12 12 46.6	-4.2
JZK	**Kikaishima**	**4.16**	**69**	*e*S	Sn	12 12 53.9	-2.9
JMZ	**Minamidaito 2**	**5.19**	**101**	P	Pn	12 12 18.7	-1.4
JMZ				*e*S	Sn	12 13 15.1	-5.3

*CSEM **03** 12:18:22.8±0.3, 39°.22N×41°.59E, h2km, MD2.8, Error ellipse: s-maj=6.5km s-min=5.8km az=178.0*
*ISCJB **03** 12:18:23.5±0.7, 39°.21N±0°.04×41°.58E±0°.05, h10km, Error ellipse: s-maj=5.9km s-min=4.2km az=42.5*
*DDA **03** 12:18:23.6, 39°.25N×41°.54E, h7km±6km, Md2.8*
*ISK **03** 12:18:23.1, 39°.23N×41°.56E, h5km, MD2.7*
ISC 03 12:18:24.1±0.7, 39°.23N±0°.04×41°.55E±0°.05, h1km±8km, n16, σ0s92/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.42**	**229**	*i* P	**Pg**	**12 18 31.6**	**-0.4**
BNGL				*i* S	**Sg**	**12 18 39.3**	**+1.9**
ERZM	**Erzurum**	**0.69**	**348**	*i* P	**Pg**	**12 18 35.7**	**-1.7**
ERZM				*i* S	**Sg**	**12 18 46.2**	**-0.2**
ERZM	**Erzurum**	**0.69**	**348**	*i* P	**Pg**	**12 18 35.7**	**-1.7**
ERZM				*i* S	**Sg**	**12 18 46.2**	**-0.2**
EZM	**Erzurum**	**0.69**	**348**	*e*PG	**Pg**	**12 18 36.8**	**-0.6**
EZM				*e*SG	**Sg**	**12 18 47.0**	**+0.6**
HOMI	**Horasan**	**0.86**	**18**	*i* P	**Pg**	**12 18 39.7**	**-0.9**
HOMI				*i* S	**Sg**	**12 18 53.5**	**+1.7**
BINT	**Bingol**	**0.90**	**247**	*e*PG	**Pg**	**12 18 40.9**	**-0.4**
BINT	**Bingol**	**0.90**	**247**	*e*Pg	**Pg**	**12 18 40.9**	**-0.4**
KOPT	**Kop Dagi**	**1.14**	**314**	*i* P	**Pg**	**12 18 45.1**	**-0.7**
KOPT				*i* S	**Sg**	**12 19 01.6**	**+1.0**
KOPT	**Kop Dagi**	**1.14**	**314**	*i* P	**Pg**	**12 18 45.1**	**-0.8**
KOPT				*i* S	**Sg**	**12 19 01.6**	**+1.0**
AGRB	**Hanur-Agry**	**1.17**	**72**	*e*PN	**Pg**	**12 18 46.2**	**-0.2**
AGRB				*e*SN	**Sg**	**12 19 02.2**	**+0.7**
AGRB	**Hanur-Agry**	**1.17**	**72**	*e*Pn	**Pg**	**12 18 46.2**	**-0.3**
AGRB				*e*Sn	**Sg**	**12 19 02.3**	**+0.7**
BAYT	**Ayd¯–ntepe-Bay**	**1.59**	**317**	*e*PN	**Pn**	**12 18 52.7**	**-0.7**
BAYT	**Ayd¯–ntepe-Bay**	**1.59**	**317**	*e*Pn	**Pn**	**12 18 52.7**	**-0.7**
DDEM	**Demirkent**	**1.67**	**5**	*i* P	**Pn**	**12 18 53.8**	**-0.6**
DDEM				*i* S	**Sn**	**12 19 17.3**	**+0.8**
DDEM	**Demirkent**	**1.67**	**5**	*i* P	**Pn**	**12 18 53.8**	**-0.6**
DDEM				*i* S	**Sn**	**12 19 17.3**	**+0.8**
DAGI	**Agillar**	**1.87**	**8**	*i* P	**Pn**	**12 18 57.3**	**+0.1**

*ISCJB **03** 12:52:06.7±0.6, 23°.78N±0°.03×122°.78E±0°.02, h22km±6km, Error ellipse: s-maj=5.2km s-min=3.5km az=171.4*
*JMA **03** 12:52:06.6±0.3, 23°.80N×122°.74E, h30km, M2.5*
*TAP **03** 12:52:07.7, 23°.77N×122°.62E, h11km±1km, ML2.9, D*
ISC 03 12:52:07.1±0.7, 23°.79N±0°.03×122°.79E±0°.02, h23km±6km, n33, σ0s97/61, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.70**	**17**	P	**Pb**	**12 52 20.0**	**-0.6**
YOJ				*e*S	**Sb**	**12 52 29.9**	**+0.1**
HATJ	**Hateruma jima**	**0.97**	**74**	P	**Pb**	**12 52 24.7**	**-0.5**
HATJ				*e*S	**Sb**	**12 52 37.1**	**-0.5**
IRIF	**Iriomote-Funau**	**1.02**	**58**	P	**Pn**	**12 52 25.7**	**-0.3**
IRIF				*e*S	**Sb**	**12 52 38.4**	**-0.6**
TWD	**Chiawan** baz=288	**1.12**	**285**	*e*P	**Pn**	**12 52 27.4**	**0.0**
TWD				S	**Sb**	**12 52 40.5**	**-1.6**
ENA	**Nanau** baz=309	**1.15**	**304**	P	**Pn**	**12 52 27.4**	**-0.3**
ENA				*e*S	**Sb**	**12 52 42.1**	**-0.6**
TWC	**Suao** baz=320	**1.18**	**314**	*i* P	**Pn**	**12 52 28.5**	**+0.3**
TWC				*i* S	**Sn**	**12 52 43.9**	**+0.4**
JKRS	**Kuro-shima**	**1.20**	**68**	P	**Pn**	**12 52 28.3**	**-0.2**
JKRS				*e*S	**Sn**	**12 52 43.5**	**-0.6**
ESL	**Shilin** baz=272	**1.24**	**271**	*e*P	**Pn**	**12 52 27.9**	**-1.1**
ESL				*e*S	**Sn**	**12 52 42.3**	**-2.7**
JIJ	**Ishigaki jima**	**1.36**	**65**	P	**Pn**	**12 52 30.4**	**-0.3**
JIJ				*e*S	**Sn**	**12 52 48.0**	**-0.1**
EHY	**Hungye** baz=257	**1.37**	**258**	P	**Pn**	**12 52 31.0**	**+0.2**
EHY				S	**Sn**	**12 52 47.6**	**-0.7**
TWE	**Neicheng** baz=317	**1.38**	**312**	P	**Pn**	**12 52 31.6**	**+0.7**
TWE				S	**Sn**	**12 52 49.0**	**+0.6**
ENTT	**Nioudou** baz=312	**1.40**	**307**	P	**Pn**	**12 52 31.4**	**+0.2**
ENTT				S	**Sn**	**12 52 49.1**	**+0.1**
WHF	**Hehuan Shan** baz=286	**1.43**	**284**	*i* P	**Pn**	**12 52 31.7**	**0.0**
WHF				S	**Sn**	**12 52 49.4**	**-0.4**
TWF1	**Yuli** baz=250	**1.44**	**252**	P	**Pn**	**12 52 31.6**	**-0.1**
TWF1				*e*S	**Sn**	**12 52 49.1**	**-0.7**
NNS	**Nan Shan** baz=300	**1.44**	**297**	P	**Pn**	**12 52 32.1**	**+0.3**
NNS				*e*S	**Sn**	**12 52 49.5**	**-0.6**
CHKT	**Chengkung** baz=239	**1.48**	**242**	*e*P	**Pn**	**12 52 31.8**	**-0.5**
CHKT				*e*S	**Sn**	**12 52 48.7**	**-2.1**
TWT	**Tachien** baz=289	**1.54**	**288**	*e*P	**Pn**	**12 52 33.8**	**+0.7**
TWT				*e*S	**Sn**	**12 52 51.8**	**-0.7**
NSK	**Sanguang** baz=308	**1.57**	**304**	*e*P	**Pn**	**12 52 34.0**	**+0.4**
NSK				*e*S	**Sn**	**12 52 52.7**	**-0.6**
SMLT	**Sun Moon Lake** baz=273	**1.73**	**273**	*e*P	**Pn**	**12 52 36.5**	**+0.8**
TYC	**Yuchr** baz=274	**1.77**	**274**	*e*P	**Pn**	**12 52 38.4**	**+2.1**
TYC				*e*S	**Sn**	**12 52 57.9**	**-0.2**
NSTT	**Nanjuang** baz=300	**1.83**	**297**	*e*P	**Pn**	**12 52 37.5**	**+0.4**
NSTT				*e*S	**Sn**	**12 52 59.7**	**+0.1**
TWG	**Pinlang** baz=236	**1.85**	**239**	*e*P	**Pn**	**12 52 37.8**	**+0.4**
TWG				*e*S	**Sn**	**12 52 59.1**	**-0.9**
CHN5	**Tsauling** baz=264	**1.94**	**265**	*e*P	**Pn**	**12 52 40.3**	**+1.7**
CHN5				*e*S	**Sn**	**12 53 03.1**	**+0.7**
STYT	**Tauyuan** baz=250	**1.96**	**252**	*e*P	**Pn**	**12 52 38.9**	**-0.1**
STYT				*e*S	**Sn**	**12 53 02.5**	**-0.5**
CHN4	**Tsaushan** baz=257	**2.06**	**258**	*e*P	**Pn**	**12 52 43.1**	**+2.8**
CHN4				*e*S	**Sn**	**12 53 08.1**	**+2.9**
ECL	**Taimali** baz=232	**2.06**	**235**	*e*P	**Pn**	**12 52 41.1**	**+0.7**
ECL				*e*S	**Sn**	**12 53 03.6**	**-1.8**
WTP	**Ta-pu** baz=253	**2.07**	**255**	*e*P	**Pn**	**12 52 42.4**	**+2.0**
LAY	**Lan-yu** baz=209	**2.08**	**213**	*e*P	**Pn**	**12 52 40.7**	**+0.1**
LAY				*e*S	**Sn**	**12 53 02.4**	**-3.5**
SGST	**Jiashian** baz=249	**2.14**	**251**	*e*P	**Pn**	**12 52 42.0**	**+0.6**
SGST				*e*S	**Sn**	**12 53 07.0**	**-0.3**
CHN1	**Nanshi** baz=253	**2.16**	**254**	*e*P	**Pn**	**12 52 43.9**	**+2.2**
SSD	**Sandimen** baz=240	**2.24**	**243**	*e*P	**Pn**	**12 52 43.1**	**+0.4**
SSD				*e*S	**Sn**	**12 53 08.8**	**-0.9**
EAST	**Anshuo** baz=229	**2.27**	**232**	*e*P	**Pn**	**12 52 43.9**	**+0.7**
SCZT	**Fangliau** baz=232	**2.44**	**235**	*e*P	**Pn**	**12 52 48.4**	**+2.8**

NNC 03 12:56:06.6±3.7, 39°.02N×69°.94E, h0km, mb3.5, mpv3.1, 2C-5D, Error ellipse: s-maj=28.5km s-min=24.0km az=17.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array** 0.8nm,0.3s,baz=172,slow=12,SNR=6.5	**4.11**	**6**	⇓Pn	Pn	12 57 11.9	+1.4
KK31				⇓Pg	Pg	12 57 22.7	-2.6
	0.6nm,0.3s,baz=185,slow=14,SNR=8.5						
KK31				⇓Sn	Sn	12 57 59.3	0.0
	0.9nm,0.3s,baz=184,slow=21,SNR=5.1						
KK31				⇓Lg		12 58 18.4	
	2.2nm,0.4s,baz=187,slow=30,SNR=6.0						
TKM2	**Tokmak 2** 4.3nm,0.5s	**5.79**	**46**	⇑Pn	Pn	12 57 32.4	-1.3
TKM2				⇑Sn	Sn	12 58 42.9	+2.0
	2.3nm,0.6s						
AB31	**Akbulak array** 0.4nm,0.3s,baz=4.4,slow=27,SNR=25	**12.49**	**328**	⇓P	Pn	12 59 03.7	-1.8

*ISCJB **03** 13:03:08.5±2.2, 18°.6S±0°.2×174°.8W±0°.2, h92km±20km, mb3.8/8, Error ellipse: s-maj=36.1km s-min=14.8km az=138.1*
*IDC **03** 13:03:09.9±3.2, 18°.60S×174°.76W, h92km±29km, mb3.5/7, mb1 3.8/8, mb1mx3.6/22, mbtmp3.5/8, Error ellipse: s-maj=43.6km s-min=17.2km az=138.0*
*NEIC **03** 13:03:10.6±1.2, 18°.51S×174°.81W, h96km±11km, mb4.4/3, Error ellipse: s-maj=20.0km s-min=8.2km az=137.0*
ISC 03 13:03:10.4±1.9, 18°.6S±0°.2×174°.8W±0°.2, h95km±18km, n22, σ0s36/22, mb3.8/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 12nm,0.3s,baz=316,slow=4.6,SNR=4.8	**5.45**	**33**	P	**Pn**	**13 04 29.1**	**0.0**
AFI				S	**Sn**	**13 05 25.1**	**-5.5**
	21nm,0.3s,baz=5.5,slow=21,SNR=9.7						
AFI	**Afiamalu**	**5.45**	**33**	P	**Pn**	**13 04 29.1**	**0.0**
AFI				S	**Sn**	**13 05 25.1**	**-5.5**
URZ	**Urewera** 4.0nm,0.5s,baz=52,slow=1.0,SNR=5.9	**20.87**	**198**	P	**P**	**13 07 44.2**	**-0.5**
URZ	**Urewera** 7.2nm,0.4s	**20.87**	**198**	*e*P	**P**	**13 07 45.3**	**+0.6**
CTAO	**Charters Tower** 2.4nm,0.7s,mb4.2	**36.73**	**261**	*e*P	**P**	**13 10 09.3**	**+0.5**
WB2	**Warrmunga Arr**	**47.88**	**260**	*e*P	**P**	**13 11 38.9**	**-0.3**
WRAB	**Tennant Creek**	**47.88**	**260**	*e*P	**P**	**13 11 39.0**	**-0.2**
WRA	**Warrmunga Arr** 0.2nm,0.3s,mb3.5,baz=96,slow=7.5,SNR=24	**47.89**	**260**	P	**P**	**13 11 39.1**	**-0.1**
WRA	**Warrmunga Arr**	**47.89**	**260**	P	**P**	**13 11 39.1**	**-0.1**
ASAR	**Alice Springs** 0.7nm,0.7s,mb3.6,baz=89,slow=8.6,SNR=20	**47.93**	**255**	P	**P**	**13 11 39.5**	**0.0**
ASAR	**Alice Springs**	**47.93**	**255**	P	**P**	**13 11 39.5**	**0.0**
NVAR	**Mina Array Bea** 0.7nm,0.6s,mb3.4,baz=228,slow=9.4,SNR=5.7	**77.55**	**42**	P	**P**	**13 14 56.6**	**+0.7**
NVAR	**Mina Array Bea**	**77.55**	**42**	P	**P**	**13 14 56.6**	**+0.7**
TXAR	**Lajitas Array** 0.2nm,0.6s,mb3.1,baz=216,slow=7.8,SNR=4.3	**83.47**	**56**	P	**P**	**13 15 27.3**	**-0.5**
TXAR	**Lajitas Array**	**83.47**	**56**	P	**P**	**13 15 27.3**	**-0.5**
COLA	**College** 3.6nm,0.7s,mb4.4	**85.69**	**11**	*e*P	**P**	**13 15 37.9**	**-0.2**
ILAR	**Eielson Array** 0.9nm,0.5s,mb3.9,baz=229,slow=6.2,SNR=39	**85.78**	**12**	P	**P**	**13 15 38.4**	**-0.2**
ILAR	**Eielson Array**	**85.78**	**12**	P	**P**	**13 15 38.4**	**-0.2**
INK	**Inuvik** 0.7nm,0.9s,mb3.9,baz=194,slow=8.3,SNR=2.9	**91.63**	**14**	P	**P**	**13 16 06.4**	**+0.2**
INK	**Inuvik**	**91.63**	**14**	P	**P**	**13 16 06.4**	**+0.2**
GERES	**GERESS Array B** 0.3nm,0.2s,baz=54,slow=5.0,SNR=3.1	**149.01**	**349**	PKPbc	PKPbc	13 22 47.6	+0.3
GERES	**GERESS Array B**	**149.01**	**349**	PKPbc	PKPbc	13 22 47.6	+0.3

*ISCJB **03** 13:10:42.9±1.1, 21°.0S±0°.2×178°.6W±0°.1, h577km±13km, mb3.7/11, Error ellipse: s-maj=31.3km s-min=10.0km az=147.3*
*IDC **03** 13:10:43.5±1.8, 20°.83S×178°.74W, h566km±21km, mb3.2/9, mb1 3.4/10, mb1mx3.3/18, mbtmp3.2/10, Error ellipse: s-maj=28.3km s-min=12.5km az=147.0*
*NEIC **03** 13:10:44.2±1.1, 20°.94S×178°.58W, h582km±10km, mb4.0/2, Error ellipse: s-maj=26.6km s-min=10.6km az=147.0*
ISC 03 13:10:42.8±1.1, 20°.8S±0°.2×178°.6W±0°.1, h555km±13km, n38, σ0s72/32, mb3.7/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.39**	**314**	*e*P	**P**	**13 12 13.6**	**+5.6**
AFI	**Afiamalu** 1.6nm,0.3s,baz=48,slow=12,SNR=4.1	**9.48**	**45**	P	**P**	**13 12 56.4**	**+0.7**
AFI				S	**S**	**13 14 43.7**	**-1.0**
	2.8nm,0.3s,baz=59,slow=23,SNR=4.1						
AFI	**Afiamalu**	**9.48**	**45**	P	**P**	**13 12 56.4**	**+0.7**
AFI				S	**S**	**13 14 43.7**	**-1.0**
DZM	**Mont Dzumac**	**13.96**	**262**	*e*P	**P**	**13 13 42.6**	**+1.1**
EIDS	**Eidsvold**	**28.20**	**255**	*e*P	**P**	**13 15 51.8**	**+0.4**
ARMA	**Armidale**	**28.40**	**244**	*e*P	**P**	**13 15 53.8**	**+0.7**
CTAO	**Charters Tower** 2.0nm,0.4s,mb4.0	**32.87**	**265**	*e*P	**P**	**13 16 31.9**	**+0.2**
STKA	**Stephens Creek** 1.5nm,0.5s,mb3.8,baz=15,slow=22,SNR=7.6	**37.12**	**244**	P	**P**	**13 17 05.8**	**-1.0**
STKA				PcP	PcP	13 19 11.2	-1.0
	2.5nm,1.0s,baz=11,slow=5.2,SNR=3.9						
STKA	**Stephens Creek**	**37.12**	**244**	*e*P	**P**	**13 17 06.2**	**-0.6**
STKA				PcP	PcP	13 19 11.2	-1.0
ASAR	**Alice Springs** 3.6nm,0.7s,mb4.0,baz=95,slow=7.5,SNR=94	**43.87**	**257**	P	**P**	**13 18 00.1**	**-0.6**
ASAR				PcP	PcP	13 19 33.6	-1.0
	1.3nm,0.6s,baz=103,slow=3.9,SNR=12						
ASAR				S	**S**	**13 23 47.7**	**-4.4**
	0.3nm,0.8s,baz=94,slow=14,SNR=4.8						
ASAR	**Alice Springs**	**43.87**	**257**	P	**P**	**13 18 00.1**	**-0.6**
ASAR				PcP	PcP	13 19 33.6	-1.0
ASAR				S	**S**	**13 23 47.7**	**-4.4**
WB2	**Warramunga Arr**	**43.96**	**263**	*e*P	**P**	**13 18 00.5**	**-0.9**
WRAB	**Tennant Creek** 3.3nm,0.9s,mb3.9	**43.97**	**263**	*e*P	**P**	**13 18 00.5**	**-1.0**
WRA	**Warramunga Arr** 1.4nm,0.5s,mb3.7,baz=98,slow=7.8,SNR=45	**43.97**	**262**	P	**P**	**13 18 00.7**	**-0.8**
WRA				PcP	PcP	13 19 34.3	-0.7
	0.4nm,0.6s,baz=117,slow=3.2,SNR=2.9						
WRA	**Warramunga Arr**	**43.97**	**262**	P	**P**	**13 18 00.7**	**-0.8**
WRA				PcP	PcP	13 19 34.3	-0.7
VNDA	**Vanda** 0.7nm,0.7s,mb3.0,baz=1.9,slow=7.4,SNR=4.3	**57.54**	**185**	P	**P**	**13 19 39.1**	**0.0**
VNDA	**Vanda**	**57.54**	**185**	P	**P**	**13 19 39.1**	**0.0**
PETK	**Petropavlovsk-** 2.4nm,0.8s,mb3.7,baz=163,slow=7.5,SNR=2.5	**76.43**	**346**	P	**P**	**13 21 35.9**	**+0.6**
PETK	**Petropavlovsk-**	**76.43**	**346**	P	**P**	**13 21 35.9**	**+0.6**
NVAR	**Mina Array Bea** 0.5nm,0.6s,mb3.1,baz=220,slow=6.8,SNR=4.9	**81.66**	**44**	P	**P**	**13 22 04.3**	**+0.9**
NVAR	**Mina Array Bea**	**81.66**	**44**	P	**P**	**13 22 04.3**	**+0.9**
MCK	**McKinley**	**87.41**	**13**	*e*P	**P**	**13 22 30.7**	**-0.1**
ILAR	**Eielson Array** 0.5nm,0.5s,mb3.6,baz=216,slow=5.1,SNR=5.7	**88.75**	**13**	P	**P**	**13 22 36.8**	**-0.3**
ILAR	**Eielson Array**	**88.75**	**13**	P	**P**	**13 22 36.8**	**-0.3**
PDAR	**Pinedale Array** 0.7nm,0.6s,mb3.6,baz=264,slow=1.5,SNR=3.4	**89.60**	**43**	P	**P**	**13 22 41.6**	**+0.1**
PDAR	**Pinedale Array**	**89.60**	**43**	P	**P**	**13 22 41.6**	**+0.1**
CMAR	**Chiang Mai Arr** 1.5nm,0.9s,mb3.8,baz=115,slow=3.1,SNR=8.9	**89.67**	**290**	P	**P**	**13 22 43.5**	**+1.0**
CMAR	**Chiang Mai Arr**	**89.67**	**290**	P	**P**	**13 22 43.5**	**+1.0**
ARCES	**ARCESS Array B** 7.2nm,1.0s,baz=347,slow=10.0,SNR=4.5	**129.12**	**349**	PKP	PKPdf	13 28 46.2	-1.2
ARCES	**ARCESS Array B**	**129.12**	**349**	PKP	PKPdf	13 28 46.2	-1.2
AKASG	**Malin Array Be** 4.5nm,0.4s,baz=44,slow=4.2,SNR=24	**143.00**	**330**	PKP	PKPdf	13 29 10.2	-3.3
AKASG	**Malin Array Be**	**143.00**	**330**	PKP	PKPdf	13 29 10.2	-3.3
BRTR	**Keskin Array B** 1.8nm,0.6s,baz=115,slow=2.9,SNR=5.6	**146.61**	**312**	PKPbc	PKPbc	13 29 22.1	-0.6
BRTR	**Keskin Array B**	**146.61**	**312**	PKPbc	PKPbc	13 29 22.1	-0.6
GERES	**GERESS Array B** 1.5nm,0.7s,baz=40,slow=2.3,SNR=7.9	**150.34**	**343**	PKPbc	PKPbc	13 29 31.1	-0.5
GERES	**GERESS Array B**	**150.34**	**343**	PKPbc	PKPbc	13 29 31.1	-0.5
TORD	**Torodi Ar. Bea** 0.7nm,0.9s,baz=205,slow=3.2,SNR=4.1	**172.37**	**182**	PKP	PKPdf	13 29 46.9	-2.2
TORD	**Torodi Ar. Bea**	**172.37**	**182**	PKP	PKPdf	13 29 46.9	-2.2

*ISCJB **03** 13:14:11.9±0.2, 42°.81N±0°.01×105°.16W±0°.02, h10km, Error ellipse: s-maj=2.1km s-min=1.4km az=173.7*
*IDC **03** 13:14:12.6±1.1, 43°.14N×105°.41W, h0km, mb1 3.6/5, mb1mx3.4/29, mbtmp3.3/5, ML2.6/3, Error ellipse: s-maj=17.4km s-min=9.1km az=161.0*
*NEIC **03** 13:14:12.4±0.6, 42°.83N×105°.18W, h5km, ML3.7, MW3.5(USGS), Error ellipse: s-maj=7.6km s-min=5.9km az=52.0*
NEIC Felt [III] at Douglas. Also felt at Casper, Jay Em, Lusk and Shawnee.
ISC 03 13:14:13.2±0.2, 42°.781N±0°.009×105°.19W±0°.02, h10km, n183, σ1s105/246, 70C-72D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K24A	**Anderson Ranch** baz=0.3,SNR=594	**0.28**	**102**	⇓P	**Pg**	**13 14 18.9**	**0.0**
K24A				⇓S	**Sg**	**13 14 23.3**	**+0.6**
	baz=0.3						
J24A	**Dixon Ranch, L** baz=0.6,SNR=1000	**0.67**	**35**	P	**Pg**	**13 14 25.9**	**-0.3**
J24A				⇓S	**Sg**	**13 14 35.5**	**+0.5**
	baz=0.6						
J23A	**Dilts Ranch, B** baz=0.6,SNR=612	**0.68**	**337**	⇓P	**Pg**	**13 14 26.4**	**+0.1**
J23A				⇑S	**Sg**	**13 14 36.1**	**+1.0**
	baz=0.6						
L24A	**Wheatland** baz=0.8	**0.76**	**165**	⇑P	**Pg**	**13 14 27.0**	**-0.9**
L24A				⇓S	**Sg**	**13 14 36.9**	**-0.9**
	baz=0.8						
L23A	**Garrett** baz=0.8	**0.77**	**210**	⇑P	**Pg**	**13 14 27.0**	**-0.9**
L23A				⇓S	**Sg**	**13 14 36.8**	**-1.1**
	baz=0.8						
K22A	**Casper** baz=1.0,SNR=1000	**0.99**	**263**	⇓P	**Pg**	**13 14 31.4**	**-0.8**
K22A				⇑S	**Sg**	**13 14 44.5**	**-0.6**
	baz=1.0						
J22A	**Midwest** baz=1.1,SNR=1000

RWWY				*e*Sn	**Sn**	13 15 10.0	+1.6		
N24A	**Carr**	**1.97**	**173**	⇑Pb	**Pb**	13 14 48.0	-1.0		
	baz=2.0,SNR=112								
N24A				⇑Sb	**Sb**	13 15 13.4	-0.2		
	baz=2.0								
N23A	**Red Feather La**	**1.97**	**197**	Pb	**Pb**	13 14 47.6	-1.4		
	baz=2.0,SNR=477								
N23A				⇓Sb	**Sb**	13 15 12.7	-0.9		
	baz=2.0								
M21A	**Separation Pea**	**2.00**	**235**	⇑Pb	**Pb**	13 14 48.5	-1.0		
	baz=2.0,SNR=24								
M21A				⇓Sb	**Sb**	13 15 13.9	-0.5		
	baz=2.0								
H22A	**Clearmont**	**2.00**	**335**	P	**Pn**	13 14 47.1	+0.1		
	baz=2.0,SNR=63								
H24A	**Dirks Ranch, A**	**2.02**	**13**	⇓P	**Pn**	13 14 46.8	-0.5		
	baz=2.0,SNR=394								
N25A	**Grover**	**2.13**	**157**	⇑Pb	**Pb**	13 14 50.3	-1.6		
	baz=2.2,SNR=27								
N22A	**Wattenberg Ran**	**2.19**	**206**	⇑Pb	**Pb**	13 14 51.2	-1.6		
	baz=2.2,SNR=106								
N22A				⇑Sb	**Sb**	13 15 19.6	-0.4		
	baz=2.2								
J20A	**Shoshoni**	**2.19**	**286**	⇑P	**Pn**	13 14 50.1	+0.5		
	baz=2.2,SNR=364								
J20A				⇑Sb	**Sb**	13 15 21.1	+0.9		
	baz=2.2								
H21A	**Big Horn, Sher**	**2.28**	**325**	⇓P	**Pn**	13 14 50.6	-0.3		
	baz=2.2,SNR=44								
H21A				⇓Sb	**Sb**	13 15 23.5	+0.8		
	baz=2.2								
K20A	**Yellowstone Ra**	**2.32**	**268**	⇑P	**Pn**	13 14 52.1	+0.7		
	baz=2.3,SNR=105								
K20A				⇑Sb	**Sb**	13 15 23.7	-0.2		
	baz=2.3								
I20A	**Worland**	**2.44**	**300**	⇓P	**Pn**	13 14 53.5	+0.5		
	baz=2.4,SNR=345								
I20A				⇑Sb	**Sb**	13 15 27.1	-0.1		
	baz=2.4								
L20A	**Wamsutter**	**2.46**	**253**	⇓Pb	**Pb**	13 14 55.3	-2.1		
	baz=2.5,SNR=98								
O23A	**Lake Granby, G**	**2.62**	**192**	⇑P	**Pn**	13 14 57.5	+1.9		
	baz=2.7,SNR=138								
O23A				⇓Sb	**Sb**	13 15 32.0	-0.5		
	baz=2.7								
H20A	**Greybull**	**2.66**	**311**	⇑P	**Pn**	13 14 55.9	-0.1		
	baz=2.6,SNR=39								
O24A	**Longmont**	**2.66**	**178**	⇓P	**Pn**	13 14 57.4	+1.4		
	baz=2.7,SNR=33								
N21A	**Black Mountain**	**2.67**	**222**	⇓P	**Pn**	13 14 57.6	+1.5		
	baz=2.7,SNR=222								
K19A	**Absolon Red Bu**	**2.69**	**272**	⇓P	**Pn**	13 14 56.6	+0.1		
	baz=2.7,SNR=61								
O25A	**Wiggins**	**2.79**	**163**	⇑P	**Pn**	13 14 59.0	+1.2		
	baz=2.8,SNR=19								
O25A				⇓Sb	**Sb**	13 15 37.5	+0.4		
	baz=2.8								
O22A	**Kremmling**	**2.81**	**202**	⇓P	**Pn**	13 14 59.4	+1.3		
	baz=2.8,SNR=678								
O22A				⇓Sb	**Sb**	13 15 37.6	-0.2		
	baz=2.8								
G21A	**Lodge Grass**	**2.84**	**330**	⇑P	**Pn**	13 14 57.9	-0.6		
	baz=2.8,SNR=18								
G21A				⇓Sb	**Sb**	13 15 40.6	+1.8		
	baz=2.8								
J19A	**Crowheart**	**2.87**	**281**	⇑P	**Pn**	13 14 59.3	+0.3		
	baz=2.8,SNR=117								
J19A				⇑Sb	**Sb**	13 15 39.0	-0.6		
	baz=2.8								
OGNE	**Ogallala**	**2.99**	**127**	*e*Pn	**Pn**	13 15 01.2	+0.6		
OGNE				*e*S	**Sn**	13 15 42.7	+6.3		
ISCO	**Idaho Springs**	**3.00**	**186**	*e*Pn	**Pn**	13 15 02.0	+1.3		
ISCO				*e*Sn	**Sn**	13 15 41.8	+5.2		
N20A	**Spence Gulch,**	**3.01**	**231**	⇑P	**Pn**	13 15 02.1	+1.3		
	baz=3.0,SNR=22								
I19A	**Meeteetse**	**3.04**	**296**	P	**Pn**	13 15 01.6	+0.3		
	baz=3.0,SNR=15								
I19A				⇑Sb	**Sb**	13 15 44.8	+0.3		
	baz=3.0								
O21A	**Pagoda**	**3.08**	**214**	⇑Pb	**Pb**	13 15 07.1	-0.9		
	baz=3.1								
O21A				⇓Sb	**Sb**	13 15 46.5	+0.8		
	baz=3.1								
L19A	**Farson**	**3.16**	**259**	⇓P	**Pn**	13 15 03.5	+0.6		
	baz=3.1								
L19A				⇓Sb	**Sb**	13 15 48.9	+1.1		
	baz=3.1								
M19A	**Rock Springs**	**3.21**	**248**	⇑Sb	**Sb**	13 15 50.4	+1.0		
	baz=3.2								
PDAR	**Pinedale Array**	**3.21**	**271**	Pn	**Pn**	13 15 04.2	+0.5		
	2.6nm,0.3s,baz=91,slow=16,SNR=73								
PDAR				Pg	**Pg**	13 15 11.4	-3.3		
	10nm,0.3s,baz=86,slow=19,SNR=66								
PDAR				Lg		13 15 50.0			
	29nm,0.3s,baz=85,slow=34,SNR=11								
PDAR	**Pinedale Array**	**3.21**	**271**	Pn	**Pn**	13 15 04.2	+0.5		
PDAR				Pg	**Pg**	13 15 11.4	-3.3		
PDAR				Lg		13 15 50.0			
BW06	**Boulder Array**	**3.21**	**271**	*e*Pn	**Pn**	13 15 03.7	0.0		
BW06				*e*Sn	**Sn**	13 15 47.1	+5.0		
PD02	**Pinedale Array**	**3.22**	**271**	*e*Pn	**Pn**	13 15 03.5	-0.2		
PD01	**Pinedale Array**	**3.23**	**271**	*e*Pn	**Pn**	13 15 04.5	+0.6		
P24A	**Kohler Place,**	**3.27**	**176**	⇓P	**Pn**	13 15 05.7	+1.3		
	baz=3.3,SNR=19								
P24A				⇑Sb	**Sb**	13 15 51.7	+0.6		
	baz=3.3								
G20A	**Bridger**	**3.27**	**319**	⇑P	**Pn**	13 15 03.3	-1.2		
	baz=3.2,SNR=87								
G20A				⇓Sb	**Sb**	13 15 53.2	+2.1		
	baz=3.2								
H19A	**Powell**	**3.34**	**306**	⇑P	**Pn**	13 15 05.5	+0.1		
	baz=3.3,SNR=26								
F21A	**Absaloka Mine,**	**3.34**	**336**	⇑P	**Pn**	13 15 05.4	0.0		
	baz=3.3								
F21A				⇑S	**Sn**	13 15 44.6	-0.6		
	baz=3.3								
P25A	**Willow Gulch B**	**3.36**	**166**	⇓P	**Pn**	13 15 06.4	+0.8		
	baz=3.4,SNR=31								
P22A	**Eagle**	**3.40**	**201**	⇑P	**Pn**	13 15 07.8	+1.6		
	baz=3.4,SNR=29								
O20A	**White River Ci**	**3.50**	**222**	⇓P	**Pn**	13 15 09.1	+1.5		
	baz=3.5,SNR=13								
I18A	**Diamond G Ranc**	**3.50**	**287**	⇑P	**Pn**	13 15 07.9	+0.3		
	baz=3.5								
N19A	**John Jarvie Ra**	**3.52**	**239**	⇓P	**Pn**	13 15 08.0	+0.1		
	baz=3.5,SNR=7.9								
J18A	**Kendall Valley**	**3.57**	**279**	⇑P	**Pn**	13 15 08.5	-0.1		
	baz=3.5,SNR=34								
K18A	**Toltan Ranch,**	**3.58**	**269**	⇑P	**Pn**	13 15 09.1	+0.5		
	baz=3.6								
F20A	**Billings**	**3.69**	**326**	⇓P	**Pn**	13 15 09.1	-1.2		
	baz=3.6,SNR=38								
F20A				⇑Sb	**Sb**	13 16 05.2	+2.0		
	baz=3.6								
E22A	**Miles City**	**3.70**	**352**	⇓P	**Pn**	13 15 09.3	-1.0		
	baz=3.7,SNR=14								
E22A				⇑Sb	**Sb**	13 16 05.6	+2.2		
	baz=3.7								
E23A	**Ismay**	**3.72**	**359**	⇑P	**Pn**	13 15 10.3	-0.3		
	baz=3.7,SNR=12								
E23A				⇓Sb	**Sb**	13 16 06.5	+2.5		
	baz=3.7								
H18A	**Shoshone NF, C**	**3.75**	**302**	⇑P	**Pn**	13 15 10.8	-0.3		
	baz=3.7,SNR=47								
RLMT	**Red Lodge**	**3.76**	**310**	*e*Pn	**Pn**	13 15 10.6	-0.6		
RLMT				*e*Sg	**Sg**	13 16 08.1	-5.8		
N18A	**Larsen Ranch,**	**3.80**	**243**	⇓P	**Pn**	13 15 12.0	+0.3		
	baz=3.8								
N18A				⇓Sb	**Sb**	13 16 07.8	+1.4		
	baz=3.8								
Q24A	**Divide**	**3.81**	**179**	⇓Sb	**Sb**	13 16 08.4	+1.6		
	baz=3.9								
SMCO	**Snowmass**	**3.84**	**201**	*e*Pn	**Pn**	13 15 14.0	+1.7		
SMCO				*e*Pb	**Pb**	13 15 20.4	-0.7		
SMCO				*e*Pg	**Pg**	13 15 23.6	-3.2		
SMCO				*e*Sg	**Sg**	13 16 09.9	-6.7		
M18A	**Lyman**	**3.87**	**251**	⇓Sb	**Sb**	13 16 09.5	+1.1		
	baz=3.9								
Q25A	**Bedland, Calha**	**3.93**	**169**	⇓P	**Pn**	13 15 13.9	+0.4		
	baz=4.0,SNR=17								
LAO	**LASA Array**	**3.98**	**350**	*e*Pn	**Pn**	13 15 13.2	-1.0		
E21A	**Keefer Ranch,**	**3.99**	**341**	⇓P	**Pn**	13 15 13.5	-0.9		
	baz=4.0,SNR=20								
LOHW	**Long Hollow**	**4.04**	**284**	*e*Pn	**Pn**	13 15 14.8	-0.3		
LOHW				*e*Pg	**Pg**	13 15 26.8	-3.9		
LOHW				*e*Sg	**Sg**	13 16 15.8	-7.2		
G18A	**Lazy EL Ranch,**	**4.04**	**310**	⇑P	**Pn**	13 15 14.9	-0.2		
	baz=4.0,SNR=26								
F19A	**Roth Farm, Mol**	**4.08**	**320**	⇓P	**Pn**	13 15 15.2	-0.5		
	baz=4.0,SNR=16								
SNOW	**Snow King Moun**	**4.13**	**281**	*e*Pn	**Pn**	13 15 16.5	+0.2		
SNOW				*e*Sg	**Sn**	13 16 14.4	+10		
MOOW	**Moose Ponds**	**4.17**	**285**	*e*Pn	**Pn**	13 15 16.2	-0.6		
LKWY	**Lake**	**4.18**	**297**	*e*Pn	**Pn**	13 15 19.2	+2.3		
LKWY				*e*Sg	**Sg**	13 16 21.5	-5.7		
REDW	**Red Top Meadow**	**4.19**	**280**	*e*Pn	**Pn**	13 15 16.8	-0.2		
REDW				*e*Sg	**Sg**	13 16 19.6	-8.0		
FLWY	**Flagg Ranch**	**4.22**	**290**	*e*Pn	**Pn**	13 15 18.1	+0.7		
E20A	**Meyer Farm, Mu**	**4.27**	**332**	⇑P	**Pn**	13 15 17.1	-1.1		
	baz=4.2,SNR=5.9								
TPAW	**Teton Pass**	**4.27**	**282**	*e*Pn	**Pn**	13 15 18.1	-0.1		
TPAW				*e*Pg	**Pg**	13 15 31.2	-3.8		
IMW	**Indian Meadow**	**4.34**	**287**	*e*Pn	**Pn**	13 15 19.0	-0.1		
D24A	**Glendive**	**4.38**	**8**	⇑P	**Pn**	13 15 19.3	-0.3		
	baz=4.3,SNR=8.0								
D23A	**Lindsay**	**4.39**	**360**	⇓P	**Pn**	13 15 19.9	0.0		
	baz=4.4,SNR=32								
GCMT	**Greycliff**	**4.40**	**315**	*e*Pn	**Pn**	13 15 19.8	-0.2		
YNR	**Norris Junctio**	**4.42**	**298**	*e*Pn	**Pn**	13 15 21.2	+1.0		
D22A	**Cohagen**	**4.42**	**351**	⇑P	**Pn**	13 15 20.2	-0.1		
	baz=4.4,SNR=10								
YFT	**Old Faithful**	**4.42**	**294**	Pn	**Pn**	13 15 18.5	-1.8		
DCID1	**Drake Creek**	**4.46**	**283**	*e*Pn	**Pn**	13 15 19.3	-1.5		
DCID1				*e*Pg	**Pg**	13 15 34.1	-4.4		
D21A	**La Casta Ranch**	**4.47**	**344**	P	**Pn**	13 15 20.6	-0.3		
	baz=4.4,SNR=18								
E19A	**Rath Farm, Rou**	**4.49**	**326**	⇓P	**Pn**	13 15 20.3	-0.9		
	baz=4.4								
F18A	**Big Timber**	**4.50**	**315**	⇓P	**Pn**	13 15 21.0	-0.4		
	baz=4.5,SNR=45								
RRI2	**Red Ridge**	**4.53**	**279**	*e*Pn	**Pn**	13 15 20.9	-0.8		
R24A	**Sanders Place,**	**4.54**	**179**	⇓P	**Pn**	13 15 23.4	+1.5		
	baz=4.6,SNR=19								
YMR	**Madison River**	**4.59**	**296**	*e*Pn	**Pn**	13 15 22.8	+0.2		
R25A	**Fountain Ranch**	**4.68**	**171**	⇑P	**Pn**	13 15 24.3	+0.5		
	baz=4.7,SNR=48								
L16A	**Fish Haven**	**4.68**	**263**	⇓P	**Pn**	13 15 23.8	-0.1		
	baz=4.7,SNR=22								
J16A	**Bone**	**4.73**	**278**	⇑P	**Pn**	13 15 24.3	-0.2		
	baz=4.7								
G17A	**Pierce Place,**	**4.74**	**304**	⇓P	**Pn**	13 15 24.2	-0.4		
	baz=4.7,SNR=6.3								
C24A	**Savage**	**4.78**	**6**	⇓P	**Pn**	13 15 25.8	+0.6		
	baz=4.7								
D20A	**Manuel Ranch,**	**4.79**	**335**	⇓P	**Pn**	13 15 24.6	-0.7		
	baz=4.7,SNR=11								
BRSD	**Miller**	**4.82**	**68**	⇑P	**Pn**	13 15 26.3	+0.6		
	baz=4.8								
HWUT	**Hardware Ranch**	**4.88**	**258**	*e*Pn	**Pn**	13 15 25.6	-0.9		
O17A	**Robinson Place**	**4.90**	**240**	⇓P	**Pn**	13 15 28.2	+1.3		
	baz=4.9,SNR=13								
P18A	**Preston Nutter**	**4.95**	**232**	⇑P	**Pn**	13 15 28.4	+0.9		
	baz=5.0,SNR=22								
QLMT	**Earthquake Lak**	**4.96**	**297**	*e*Pn	**Pn**	13 15 28.8	+1.2		
C22A	**Vida**	**4.99**	**355**	⇓P	**Pn**	13 15 28.3	+0.3		
	baz=4.9,SNR=6.2								
F17A	**Fitzpatrick Pl**	**5.01**	**310**	⇓P	**Pn**	13 15 28.0	-0.4		
	baz=5.0,SNR=18								
C23A	**Lambert**	**5.02**	**0**	⇑P	**Pn**	13 15 28.7	+0.2		
	baz=5.0,SNR=24								
N16A	**Rees Ranch, Co**	**5.04**	**250**	⇑P	**Pn**	13 15 28.1	-0.6		
	baz=5.0								
SDCO	**Great Sand Dun**	**5.04**	**183**	*e*Pn	**Pn**	13 15 29.8	+1.1		
SDCO				*e*Sg	**Sg**	13 16 49.7	-5.1		
E18A	**Harlowton**	**5.07**	**320**	⇓P	**Pn**	13 15 29.0	-0.1		
	baz=5.0								
D19A	**Cripps Ranch,**	**5.10**	**330**	⇑P	**Pn**	13 15 28.9	-0.7		
	baz=5.1,SNR=28								
DAU	**Daniels Canyon**	**5.12**	**245**	*e*Pn	**Pn**	13 15 31.3	+1.3		
JLU	**Jordanelle**	**5.17**	**247**	Pn	**Pn**	13 15 32.8	+2.3		
PV04	**Paradox Valley**	**5.21**	**214**	*e*Pn	**Pn**	13 15 33.1	+2.0		
PV01	**Paradox Valley**	**5.31**	**210**	*e*Pn	**Pn**	13 15 34.6	+2.2		
	2μm,0.6s								
C20A	**Veseth Ranch,**	**5.32**	**339**	⇑P	**Pn**	13 15 32.5	-0.1		
	baz=5.3								
G16A	**Moss Hill, Enn**	**5.36**	**299**	⇓P	**Pn**	13 15 32.8	-0.3		
	baz=5.3								
BOZ	**Bozeman (W)**	**5.44**	**304**	*e*Pn	**Pn**	13 15 32.8	-1.5		
SRU	**San Rafael**	**5.45**	**230**	⇓P	**Pn**	13 15 34.7	+0.3		
	baz=5.5,SNR=18								
SRU	**San Rafael**	**5.45**	**230**	*e*Pn	**Pn**	13 15 35.2	+0.8		
E17A	**Martinsdale**	**5.47**	**314**	⇓P	**Pn**	13 15 34.0	-0.6		
	baz=5.4,SNR=22								
D18A	**Linhart Farms,**	**5.49**	**325**	⇓P	**Pn**	13 15 34.6	-0.4		
	baz=5.4								
B22A	**Reddig Ranch S**	**5.55**	**354**	⇑P	**Pn**	13 15 35.1	-0.6		
	baz=5.5								
M15A	**Larsen Ranch,**	**5.55**	**259**	⇑P	**Pn**	13 15 35.0	-0.8		
	baz=5.5,SNR=14								
SPUT	**South Promonto**	**5.60**	**257**	Pn	**Pn**	13 15 36.1	-0.4		
NOQ	**North Oquirrh**	**5.60**	**250**	Pn	**Pn**	13 15 37.6	+1.1		
C19A	**Slack Wire Ran**	**5.65**	**333**	⇑P	**Pn**	13 15 36.8	-0.4		
	baz=5.6,SNR=12								
R18A	**Canyonlands Na**	**5.66**	**221**	⇓P	**Pn**	13 15 37.2	-0.2		
	baz=5.7								
T25A	**Trinidad**	**5.67**	**174**	⇓P	**Pn**	13 15 37.9	+0.5		
	baz=5.7,SNR=10								
T24A	**Torres, Weston**	**5.70**	**179**	⇓P	**Pn**	13 15 38.8	+0.9		
	baz=5.7,SNR=10								
HVU	**Hansel Valley**	**5.71**	**262**	*e*Pn	**Pn**	13 15 39.4	+1.3		
TMUT	**Trail Mountain**	**5.73**	**235**	*e*Pn	**Pn**	13 15 38.5	+0.3		
CBKS	**Cedar Bluff**	**5.73**	**132**	*e*Pn	**Pn**	13 15 36.8	-1.4		
CBKS				*e*Pg	**Pg**	13 15 57.1	-5.7		
CBKS				*e*Sg	**Sg**	13 17 09.5	-7.6		
DGMT	**Dagmar**	**5.73**	**7**	*e*Pn	**Pn**	13 15 37.8	-0.5		
	104nm,0.6s								
B21A	**Ellsworth Farm**	**5.79**	**348**	⇑P	**Pn**	13 15 38.4	-0.6		
	baz=5.7								
D17A	**Six Diamond Ra**	**5.86**	**320**	⇓P	**Pn**	13 15 39.3	-0.7		
	baz=5.8,SNR=32								
NLU	**North Lily Min**	**5.90**	**244**	*e*Pn	**Pn**	13 15 38.5	-2.1		
MCMT	**McKenzie Canyo**	**5.91**	**293**	*e*Pn	**Pn**	13 15 42.7	+2.1		
	4.2nm,0.4s								
DLMT	**Dillon**	**5.92**	**298**	Pn	**Pn**	13 15 43.0	+2.1		
	27nm,1.0s								
LRM	**Limekiln Ridge**	**6.03**	**303**	*e*Pn	**Pn**	13 15 41.4	-0.9		
	71nm,0.7s								
LRM				*e*Pb	**Pb**	13 16 01.3	+3.0		
R17A	**Hanksville Air**	**6.05**	**226**	⇑P	**Pn**	13 15 42.4	-0.2		
	baz=6.1,SNR=22								
MVCO	**Mesa Verde**	**6.12**	**206**	*e*Pn	**Pn**	13 15 44.3	+0.8		
BGU	**Big Grassy Mou**	**6.14**	**255**	*e*Pn	**Pn**	13 15 43.9	+0.1		
	3.7nm,0.6s								
HRY	**Holter Researc**	**6.15**	**312**	Pn	**Pn**	13 15 42.0	-1.9		
EGMT	**Eagleton**	**6.15**	**330**	*e*Pn	**Pn**	13 15 43.5	-0.5		
D16A	**Dana Ranch, Ca**	**6.20**	**315**	⇓P	**Pn**	13 15 44.3	-0.4		
	baz=6.2,SNR=11								
DUG	**Dugway**	**6.28**	**248**	*e*Pn	**Pn**	13 15 45.5	-0.3		
ECSD	**EROS Data Cent**	**6.34**	**78**	*e*Pn	**Pn**	13 15 46.6	+0.1		
U25A	**Circle Dot Ran**	**6.40**	**174**	⇑P	**Pn**	13 15 47.6	+0.2		
	baz=6.5,SNR=9.1								
D15A	**Lincoln**	**6.72**	**312**	⇑P	**Pn**	13 15 50.9	-1.0		
	baz=6.7,SNR=11								
HLID	**Hailey**	**6.79**	**280**	*e*Pn	**Pn**	13 15 54.0	+1.2		
MSU	**Masyvale**	**6.81**	**234**	*e*Pn	**Pn**	13 15 54.5	+1.5		
C16A	**Fuhringer Ranc**	**6.82**	**320**	⇑P	**Pn**	13 15 51.9	-1.3		
	baz=6.8,SNR=13								
V25A	**Rancho No Teng**	**6.95**	**176**	⇑P	**Pn**	13 15 55.8	+0.8		
	baz=7.0,SNR=5.3								
CHMT	**Chamberlain Mo**	**7.06**	**309**	*e*Pn	**Pn**	13 15 54.7	-1.8		
C15A	**Salmond Ranch,**	**7.23**	**316**	⇓P	**Pn**	13 15 57.8	-1.0		
	baz=7.2,SNR=8.9								
SLMT	**Seeley Lake**	**7.38**	**310**	*e*Pn	**Pn**	13 15 58.8	-2.1		
W25A	**X Bar L Ranch,**	**7.57**	**175**	⇓P	**Pn**	13 16 04.8	+1.2		
	baz=7.6,SNR=5.1								
SWMT	**Swanlake**	**7.81**	**310**	*e*Pn	**Pn**	13 16 05.3	-1.5		
ANMO	**Albuquerque**	**7.88**	**188**	Pg	**Pb**	13 16 36.8	+7.0		
	0.2nm,0.3s,baz=6.8,slow=16,SNR=4.4								
ARUT	**Antelope Range**	**8.04**	**234**	Pn	**Pn**	13 16 11.5	+1.6		
	3.0nm,0.6s								
CCUT	**Cedar City**	**8.15**	**233**	*e*Pn	**Pn**	13 16 14.1	+2.6		
AMTX	**Amarillo**	**8.35**	**160**	*e*Pn	**Pn**	13 16 13.6	-0.6		
WMOK	**Wichita Mounta**	**9.46**	**146**	*e*Pn	**Pn**	13 16 27.3	-2.2		
ULM	**Lac du Bonnet**	**9.85**	**37**	Pn	**Pn**	13 16 30.6	-4.1		
	0.3nm,0.3s,baz=231,slow=12,SNR=4.5								
ULM				Lg		13 19 14.4			
	1.1nm,0.3s,baz=317,slow=17,SNR=3.8								
ULM	**Lac du Bonnet**	**9.85**	**37**	Pn	**Pn**	13 16 30.6	-4.1		
ULM				Lg		13 19 14.4			
NVAR	**Mina Array Bea**	**10.87**	**251**	Pn	**Pn**	13 16 51.2	+2.4		
	0.1nm,0.3s,baz=77,slow=9.4,SNR=2.4								
NVAR				Lg		13 19 56.1			
	0.1nm,0.3s,baz=48,slow=26,SNR=4.2								
NVAR	**Mina Array Bea**	**10.87**	**251**	Pn	**Pn**	13 16 51.2	+2.4		
NVAR				Lg		13 19 56.1			
CCM	**Cathedral Cave**	**11.63**	**109**	*e*Pn	**Pn**	13 16 55.7	-3.4		
YBH	**Yreka Blue Hor**	**13.02**	**271**	Pn	**Pn**	13 17 20.9	+2.7		
	0.2nm,0.3s,baz=221,slow=19,SNR=8.7								
YBH	**Yreka Blue Hor**	**13.02**	**271**	Pn	**Pn**	13 17 20.9	+2.7		
TXAR	**Lajitas Array**	**13.47**	**174**	Pn	**Pn**	13 17 32.8	+8.4		
	0.1nm,0.3s,baz=357,slow=8.5,SNR=4.0								
TXAR				Pg		13 18 24.4	+60		
	0.2nm,0.3s,baz=7.0,slow=16,SNR=12								
TXAR				Lg		13 21 22.6			
	0.1nm,0.3s,baz=15,slow=32,SNR=5.8								
TXAR	**Lajitas Array**	**13.47**	**174**	Pn	**Pn**	13 17 32.8	+8.4		
TXAR				Pg		13 18 24.4	+60		
TXAR				Lg		13 21 22.6			
HHC	**Hu-ho-hao-te**	**90.38**	**333**	*e*P	**P**	13 27 15.7	+1.2		
HHC				PP	PP	13 30 51.7	+3.9		
HHC				SKS		13 37 46.5			
HHC				S	S	13 38 06.9	-2.2		
HHC				ScS	ScS	13 38 11.7	-1.2		
HHC				SS	SS	13 44 09.5	+2.1		
HHC				pmax	pmax				
	comp=Z,15nm,1.0s								
HHC				pmax	pmax				
	comp=Z,85nm,12.0s								
HHC				LR	LR				
	comp=N,120nm,19.0s								
HHC				LR	LR				
	comp=E,140nm,16.6s								
HHC				LR	LR				
	comp=Z,75nm,15.5s								
WMQ	**Urumqi**	**93.01**	**351**	*e*P	**P**	13 27 29.4	+2.7		

ATH ***03*** *13:15:33.0,40°.22N×25°.21E,h24km±2km,MD3.2/4*
CSEM ***03*** *13:15:34.1±0.2,40°.21N×25°.25E,h20km,ML2.6/4,Error ellipse: s-maj=6.2km s-min=3.9km az=178.0*
ISCJB ***03*** *13:15:34.2±0.4,40°.21N±0°.03×25°.24E±0°.03,h22km±5km, Error ellipse: s-maj=5.2km s-min=3.4km az=0.4*
THE ***03*** *13:15:34.4,40°.18N×25°.25E,h23km±2km,ML2.6/4, Error ellipse: s-maj=2.5km s-min=0.6km az=152.0*
DDA ***03*** *13:15:34.6,40°.37N×25°.46E,h7km±7km,Md3.1*
ISK ***03*** *13:15:34.4,40°.24N×25°.37E,h7km,MD3.0*
ISC 03 13:15:33.7±0.5,40°.24N±0°.03×25°.24E±0°.03,h13km±4km, n55,σ0°99/80,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.34**	**187**	*e*PB	**Pg**	**13 15 40.8**	**+0.2**
LIA				*e*SB	**Sg**	**13 15 45.5**	**+0.3**
LIA	**Limnos Island**	**0.34**	**187**	P	**Pg**	**13 15 40.8**	**+0.2**
LIA				S	**Sg**	**13 15 45.8**	**+0.6**
LIA	**Limnos Island**	**0.34**	**187**	P	**Pg**	**13 15 40.8**	**+0.2**
LIA				*e*

NVAR	**Mina Array Bea**	**40.71**	**86**	P	**P**	**13 23 48.4**	**+2.2**
PDAR	**Pinedale Array**	**43.56**	**75**	P	**P**	**13 24 10.2**	**+0.9**
	0.5nm,0.9s,mb3.2,baz=298,slow=4.4,SNR=3.6						
PDAR	**Pinedale Array**	**43.56**	**75**	P	**P**	**13 24 10.2**	**+0.9**
KURK	**Kurchatov**	**61.00**	**316**	P	**P**	**13 26 18.6**	**+0.1**
	0.3nm,0.3s,mb4.0,baz=46,slow=6.3,SNR=4.0						
KURK	**Kurchatov**	**61.00**	**316**	P	**P**	**13 26 18.6**	**+0.1**
MKAR	**Makanchi Array**	**62.19**	**311**	P	**P**	**13 26 26.2**	**-0.4**
	0.3nm,0.2s,mb4.0,baz=132,slow=2.1,SNR=2.7						
MKAR	**Makanchi Array**	**62.19**	**311**	P	**P**	**13 26 26.2**	**-0.4**
WRA	**Warramunga Arr**	**84.09**	**228**	P	**P**	**13 28 35.1**	**-1.0**
	0.2nm,0.5s,mb3.5,baz=33,slow=6.0,SNR=4.0						
WRA	**Warramunga Arr**	**84.09**	**228**	P	**P**	**13 28 35.1**	**-1.0**
ASAR	**Alice Springs**	**87.52**	**226**	P	**P**	**13 28 53.4**	**+0.4**
	0.7nm,1.0s,mb3.9,baz=21,slow=5.3,SNR=5.8						
ASAR	**Alice Springs**	**87.52**	**226**	P	**P**	**13 28 53.4**	**+0.4**

*ISCJB **03** 13:37:23.4± 0.9, 30.45N± 0.08× 67.6E± 0.1, h10km, mb3.7/8, Error ellipse: s-maj=17.1km s-min=12.2km az=176.2*
*IDC **03** 13:37:23.3± 1.1, 30.38N× 67.5E, h0km, mb3.7/8, mb1 3.9/10,mb1mx3.6/31,mbtmp3.8/10,ML3.1/1,MS3.1/2, Ms1 3.1/2,ms1mx2.2/45, Error ellipse: s-maj=27.4km s-min=21.1km az=81.0*
*NEIC **03** 13:37:24.8± 1.0, 30.27N× 67.48E, h10km, mb3.4/1, Error ellipse: s-maj=22.1km s-min=15.4km az=76.0*

ISC 03 13:37:25.2±0.9, **30.42N**±0.08×**67.6E**±0.1, **h10**km, **n29**, σ1**1**/28, **mb3.7**/8, **Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**4.29**	**16**	*eP*	**Pn**	**13 38 35.1**	**+4.7**
AML	**Almayashu**	**12.67**	**21**	*eP*	**Pn**	**13 40 25.8**	**+0.4**
	11nm,0.5s						
KKAR	**Karatay Array**	**12.87**	**10**	*eP*	**Pn**	**13 40 29.3**	**+1.2**
	0.8nm,0.3s						
EKS2	**Erkin-Say**	**13.18**	**20**	*eP*	**Pn**	**13 40 31.6**	**-0.8**
	3.3nm,0.6s						
AAK	**Ala-Archa**	**13.38**	**22**	Pn	**Pn**	**13 40 35.5**	**+0.4**
	0.0nm,0.3s,baz=216,slow=3.6,SNR=6.1						
AAK				LR	LR	13 46 05.9	
	comp=Z,29nm,18.1s,baz=11,slow=39						
AAK	**Ala-Archa**	**13.38**	**22**	Pn	**Pn**	**13 40 35.5**	**+0.4**
AAK				LR	LR	13 46 05.9	
TKM2	**Tokmak 2**	**14.02**	**25**	*eP*	**Pn**	**13 40 43.8**	**0.0**
	5.9nm,1.1s						
ABKAR	**Akbulak array**	**19.70**	**345**	*eP*	**Pn**	**13 41 56.0**	**+0.1**
	1.1nm,0.5s						
MK31	**Makanchi Array**	**19.92**	**31**	*eP*	**Pn**	**13 41 56.8**	**-1.7**
MKAR	**Makanchi Array**	**19.92**	**31**	P	**Pn**	**13 41 56.6**	**-2.0**
	0.2nm,0.3s,baz=212,slow=9.8,SNR=9.0						
MKAR	**Makanchi Array**	**19.92**	**31**	P	**Pn**	**13 41 56.6**	**-2.0**
AKTK	**Aktyubinsk**	**21.25**	**343**	P	**P**	**13 42 11.3**	**0.0**
AKTO	**Aktyubinsk**	**21.25**	**343**	P	**P**	**13 42 11.3**	**0.0**
	0.9nm,0.3s,mb3.6,baz=169,slow=17,SNR=3.6						
KURK	**Kurchatov**	**21.89**	**19**	P	**P**	**13 42 16.3**	**-1.9**
	1.1nm,0.2s,mb3.9,baz=209,slow=10,SNR=8.3						
KURK	**Kurchatov**	**21.89**	**19**	P	**P**	**13 42 16.3**	**-1.9**
BVAR	**Borovoye Array**	**22.68**	**4**	P	**P**	**13 42 28.2**	**+1.6**
	1.4nm,0.7s,mb3.5,baz=156,slow=11,SNR=4.9						
BVAR	**Borovoye Array**	**22.68**	**4**	P	**P**	**13 42 28.2**	**+1.6**
ZAA0	**Zalesovo Array**	**26.61**	**23**	*eP*	**P**	**13 43 06.2**	**+2.7**
ZALV	**Zalesovo Beam**	**26.61**	**23**	P	**P**	**13 43 04.4**	**+0.9**
	2.6nm,0.5s,mb4.0,baz=223,slow=10,SNR=17						
ZALV	**Zalesovo Beam**	**26.61**	**23**	P	**P**	**13 43 04.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**30.80**	**105**	P	**P**	**13 43 42.3**	**+1.0**
	0.5nm,0.7s,mb3.5,baz=309,slow=9.0,SNR=5.2						
CMAR	**Chiang Mai Arr**	**30.80**	**105**	P	**P**	**13 43 42.3**	**+1.0**
SPITS	**Spitsbergen Ar**	**52.81**	**348**	LR	LR	14 13 11.9	
	comp=Z,38nm,18.8s,baz=70,slow=41						
TORD	**Torodi Ar. Bea**	**62.79**	**270**	P	**P**	**13 47 50.3**	**-0.9**
	0.6nm,0.6s,mb3.9,baz=60,slow=5.6,SNR=5.8						
TORD	**Torodi Ar. Bea**	**62.79**	**270**	P	**P**	**13 47 50.3**	**-0.9**
WRA	**Warramunga Arr**	**81.36**	**119**	P	**P**	**13 49 41.9**	**-0.3**
	0.4nm,0.8s,mb3.4,baz=321,slow=4.9,SNR=4.4						
WRA	**Warramunga Arr**	**81.36**	**119**	P	**P**	**13 49 41.9**	**-0.3**
ASAR	**Alice Springs**	**83.26**	**122**	P	**P**	**13 49 52.2**	**0.0**
	0.8nm,0.9s,mb3.7,baz=307,slow=5.1,SNR=6.0						
ASAR	**Alice Springs**	**83.26**	**122**	P	**P**	**13 49 52.2**	**0.0**

*ISCJB **03** 14:14:01.1± 0.5, 12.71N± 0.04× 124.72E± 0.06, h76km± 4km, mb4.0/14, Error ellipse: s-maj=9.8km s-min=5.6km az=164.3*
*NEIC **03** 14:14:01.8± 0.3, 12.70N× 124.88E, mb4.2/3, Error ellipse: s-maj=13.3km s-min=5.9km az=68.0*
NEIC Felt [I PIVS] at Catarman.
*IDC **03** 14:14:02.1± 0.8, 12.71N× 124.84E, h69km± 7km, mb3.7/12, mb1 3.9/13,mb1mx3.7/25,mbtmp3.8/13,MS3.0/4, Ms1 3.0/4,ms1mx2.6/41, Error ellipse: s-maj=41.1km s-min=12.7km az=67.0*
*MAN **03** 14:14:02, 12.79N× 124.63E, h70km, mb4.6, ML3.5, MS3.4*
MAN INTENSITY I - CATARMAN NORTHERN SAMAR.

ISC 03 14:14:02.3±0.5, **12.71N**±0.04×**124.71E**±0.06, **h70**km±4km, **h71**km±1.2km**:pP-P,n50**, σ0**95**/50, **mb4.0**/14, **2C-4D, Samar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.20**	**192**	*eP*	**Pn**	**14 14 13.7**	**+0.8**
CNP				*eS*	**Sn**	**14 14 20.1**	**-0.4**
PVCP	**Virac**	**1.03**	**329**	*eP*	**Pn**	**14 14 21.5**	**+0.3**
PVCP				*eS*	**Sn**	**14 14 34.5**	**-0.7**
MMPH	**Masbate**	**1.11**	**252**	↓*iP*	**Pn**	**14 14 22.1**	**-0.1**
MMPH				*i* S	**Sn**	**14 14 36.1**	**-0.9**
RCP	**Roxas**	**2.23**	**239**	↓*eP*	**Pn**	**14 14 37.5**	**+0.4**
RCP				*eS*	**Sn**	**14 15 04.5**	**+0.9**
LLP	**Lapu-Lapu**	**2.48**	**197**	↓*iP*	**Pn**	**14 14 40.7**	**+0.2**
LLP				*i* S	**Sn**	**14 15 08.5**	**-1.2**
GQP	**Guinayangan**	**2.50**	**299**	↑*eP*	**Pn**	**14 14 40.5**	**-0.2**
GQP				*eS*	**Sn**	**14 15 08.6**	**-1.6**
SCPH	**Surigao**	**3.01**	**165**	↓*eP*	**Pn**	**14 14 49.4**	**+1.8**
TBP	**Tagbilaran**	**3.11**	**196**	*eP*	**Pn**	**14 14 51.7**	**+2.7**
TGY	**Tagaytay City**	**3.92**	**291**	P	**Pn**	**14 15 02.1**	**+2.0**
	6.4nm,0.3s,baz=125,slow=18,SNR=2.2						
TGY	**Tagaytay City**	**3.92**	**291**	P	**Pn**	**14 15 02.1**	**+2.0**
PALP	**Palanan**	**4.86**	**333**	↑*eP*	**Pn**	**14 15 12.2**	**-0.7**
DAV	**Davao City (W)**	**5.67**	**171**	LR	LR	14 17 52.7	
	comp=Z,164nm,18.4s,baz=168,slow=41						
YULB	**Yu-li**	**11.11**	**344**	*eP*	**Pn**	**14 16 37.9**	**-0.4**
	26nm,1.0s						
KSM	**Kuching**	**18.11**	**233**	*eP*	**Pn**	**14 18 09.6**	**+0.3**
GUMO	**Guam**	**19.66**	**85**	LR	LR	14 24 55.3	
	comp=Z,18nm,20.8s,baz=179,slow=34						
CMAR	**Chiang Mai Arr**	**25.45**	**286**	PcP	PcP	14 22 55.3	+0.8
	0.2nm,0.3s,baz=94,slow=1.0,SNR=4.8						
KAKA	**Kakadu**	**26.39**	**163**	*eP*	**P**	**14 19 31.0**	**-1.4**
MJAR	**Matsushiro Arr**	**26.66**	**25**	LR	LR	14 28 15.5	
	comp=Z,45nm,19.4s,baz=240,slow=32						
WRAB	**Tennant Creek**	**33.80**	**164**	*eP*	**P**	**14 20 36.3**	**-1.5**
	1.6nm,0.7s,mb4.0						
WRA	**Warramunga Arr**	**33.80**	**164**	P	**P**	**14 20 36.5**	**-1.4**
	0.6nm,0.4s,mb3.7,baz=335,slow=9.4,SNR=26						
WRA				PcP	PcP	14 23 14.8	-1.0
	1.1nm,0.6s,baz=341,slow=2.8,SNR=13						
WRA	**Warramunga Arr**	**33.80**	**164**	P	**P**	**14 20 36.5**	**-1.4**
WRA				PcP	PcP	14 23 14.8	-1.0
WB2	**Warramunga Array**	**33.80**	**164**	*eP*	**P**	**14 20 36.3**	**-1.6**
ASAR	**Alice Springs**	**37.25**	**166**	P	**P**	**14 21 07.5**	**+0.1**
	2.5nm,0.5s,mb4.4,baz=355,slow=7.4,SNR=122						
ASAR				PcP	PcP	14 23 24.6	-1.3
	0.7nm,0.5s,baz=344,slow=3.1,SNR=6.7						
ASAR	**Alice Springs**	**37.25**	**166**	P	**P**	**14 21 07.5**	**+0.1**
ASAR				PcP	PcP	14 23 24.6	-1.3
SONM	**Songino Array**	**38.22**	**340**	P	**P**	**14 21 15.9**	**+0.6**
	0.2nm,0.4s,mb3.3,baz=156,slow=7.6,SNR=2.7						
SONM				pP	pP	14 21 33.3	+1.1
	1.4nm,0.8s,baz=153,slow=8.5,SNR=9.0						
SONM				LR	LR	14 36 49.3	
	comp=Z,21nm,19.9s,baz=351,slow=36						
SONM	**Songino Array**	**38.22**	**340**	P	**P**	**14 21 15.9**	**+0.6**
SONM				pP	pP	14 21 33.3	+1.1
SONM				LR	LR	14 36 49.3	
BBOO	**Buckleboo**	**46.54**	**167**	*eP*	**P**	**14 22 22.8**	**-0.2**
	11nm,0.3s,mb5.0						
STKA	**Stephens Creek**	**47.19**	**160**	P	**P**	**14 22 28.4**	**+0.3**
	7.5nm,0.6s,mb4.6,baz=333,slow=7.7,SNR=24						
STKA	**Stephens Creek**	**47.19**	**160**	*eP*	**P**	**14 22 27.7**	**-0.4**
	6.8nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**47.19**	**160**	*eP*	**P**	**14 22 28.4**	**+0.3**
	1.4nm,0.6s,mb3.9						
CMSA	**Cobar Meteorol**	**48.38**	**156**	*eP*	**P**	**14 22 38.1**	**+0.8**

MKAR	**Makanchi Array**	**49.17**	**322**	P	**P**	**14 22 43.8**	**+0.6**
	0.3nm,0.2s,mb3.8,baz=108,slow=9.3,SNR=2.6						
MKAR				pP	pP	14 23 01.0	+0.2
	1.0nm,0.6s,baz=117,slow=9.7,SNR=5.3						
MKAR	**Makanchi Array**	**49.17**	**322**	P	**P**	**14 22 43.8**	**+0.6**
MKAR				pP	pP	14 23 01.0	+0.2
ZALV	**Zalesovo Beam**	**51.76**	**331**	P	**P**	**14 23 02.2**	**-0.4**
	0.5nm,0.5s,mb3.8,baz=114,slow=6.6,SNR=2.1						
ZALV				pP	pP	14 23 20.1	-0.3
	1.7nm,0.7s,baz=158,slow=5.9,SNR=2.4						
ZALV	**Zalesovo Beam**	**51.76**	**331**	P	**P**	**14 23 02.2**	**-0.4**
ZALV				pP	pP	14 23 20.1	-0.3
KURK	**Kurchatov**	**53.20**	**325**	P	**P**	**14 23 13.8**	**+0.5**
	3.0nm,0.7s,mb4.4,baz=125,slow=7.3,SNR=15						
KURK				pP	pP	14 23 31.0	-0.2
	3.3nm,0.8s,baz=125,slow=7.6,SNR=6.4						
KURK	**Kurchatov**	**53.20**	**325**	*eP*	**P**	**14 23 13.7**	**+0.3**
	7.0nm,1.0s,mb4.7						
KURK				pP	pP	14 23 31.0	-0.2
AKTK	**Aktyubinsk**	**65.48**	**320**	P	**P**	**14 24 39.4**	**+1.3**
AKTO	**Aktyubinsk**	**65.48**	**320**	P	**P**	**14 24 39.4**	**+1.3**
	1.5nm,0.6s,mb4.0,baz=342,slow=23,SNR=4.5						
ILAR	**Eielson Array**	**77.93**	**26**	P	**P**	**14 25 52.2**	**-0.2**
	0.2nm,0.6s,mb3.0,baz=244,slow=5.6,SNR=6.1						
ILAR	**Eielson Array**	**77.93**	**26**	P	**P**	**14 25 52.2**	**-0.2**
ARCES	**ARCESS Array B**	**81.39**	**339**	P	**P**	**14 26 11.5**	**+0.4**
	3.7nm,0.9s,mb4.2,baz=64,slow=5.5,SNR=5.8						
ARCES	**ARCESS Array B**	**81.39**	**339**	P	**P**	**14 26 11.5**	**+0.4**
FINES	**FINESS Array B**	**83.03**	**331**	P	**P**	**14 26 19.6**	**-0.2**
	3.5nm,0.8s,mb4.2,baz=67,slow=6.4,SNR=3.4						
FINES	**FINESS Array B**	**83.03**	**331**	P	**P**	**14 26 19.6**	**-0.2**
BUR08	**Bucovina Ar. S**	**87.02**	**318**	*eP*	**P**	**14 26 40.5**	**+0.3**
NOA	**NORSAR Array B**	**89.91**	**333**	P	**P**	**14 26 52.6**	**-0.9**
	0.7nm,0.7s,mb3.9,baz=63,slow=4.9,SNR=3.4						
NOA	**NORSAR Array B**	**89.91**	**333**	P	**P**	**14 26 52.6**	**-0.9**
PLCA	**Paso Flores**	**149.04**	**157**	PKPbc	PKPbc	14 33 42.8	+0.1
	1.4nm,0.5s,baz=238,slow=4.4,SNR=6.3						
PLCA	**Paso Flores**	**149.04**	**157**	*e*PKPbc	PKPbc	14 33 42.7	0.0

*ISCJB **03** 14:17:55.3± 0.5, 36.19N± 0.04× 70.02E± 0.07, h139km± 8km, Error ellipse: s-maj=9.9km s-min=5.5km az=163.6*
*IDC **03** 14:17:55.9± 7.6, 36.24N× 69.96E, h124km± 66km, mb3.3/3, mb1 3.4/8,mb1mx3.2/29,mbtmp3.3/8, Error ellipse: s-maj=56.0km s-min=41.8km az=45.0*
*NEIC **03** 14:17:56.7± 0.8, 36.17N× 70.05E, h140km± 9km, mb4.5/13, Error ellipse: s-maj=11.9km s-min=6.2km az=75.0*
*NNC **03** 14:18:00.9± 4.9, 36.62N× 69.57E, h114km± 55km, mb3.3, mpv4.3, Error ellipse: s-maj=42.7km s-min=28.1km az=37.0*

ISC 03 14:17:56.4±0.5, **36.18N**±0.03×**70.03E**±0.07, **h137**km±7km, **n59**, σ1**9**/05/67, **7C-3D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.82**	**207**	*eP*	**Pn**	**14 18 31.2**	**+2.5**
KBL				*eS*	**Sn**	**14 18 53.1**	**-0.1**
AML	**Almayashu**	**6.59**	**24**	P	**Pn**	**14 19 31.4**	**+0.5**
	SNR=27						
AML	**Almayashu**	**6.59**	**24**	*eP*	**Pn**	**14 19 31.3**	**+0.4**
	34nm,0.3s						
AML				*eS*	**Sn**	**14 20 38.9**	**-5.8**
KK31	**Karatay Array**	**6.93**	**3**	↓P	**Pn**	**14 19 35.1**	**-0.3**
	9.7nm,0.3s,baz=189,slow=13,SNR=136						
KK31				↓S	**Sn**	**14 20 48.1**	**-4.7**
	14nm,0.4s,baz=187,slow=22,SNR=16						
KKAR	**Karatay Array**	**6.93**	**3**	*eP*	**Pn**	**14 19 34.9**	**-0.4**
	35nm,0.3s						
KKAR				*eS*	**Sn**	**14 20 48.0**	**-4.8**
UCH	**Uchtor**	**6.97**	**29**	*eP*	**Pn**	**14 19 37.3**	**+1.3**
	4.1nm,0.5s						
EKS2	**Erkin-Say**	**7.09**	**23**	P	**Pn**	**14 19 38.1**	**+0.5**
	SNR=8.4						
EKS2	**Erkin-Say**	**7.09**	**23**	*eP*	**Pn**	**14 19 38.0**	**+0.4**
	7.3nm,0.5s						
KZA	**Kyzart**	**7.15**	**33**	P	**Pn**	**14 19 40.0**	**+1.6**
	SNR=15						
KZA	**Kyzart**	**7.15**	**33**	*eP*	**Pn**	**14 19 38.7**	**+0.3**
	9.4nm,0.4s						
AAK	**Ala-Archa**	**7.31**	**27**	P	**Pn**	**14 19 40.8**	**+0.3**
	0.1nm,0.3s,baz=179,slow=5.1,SNR=31						
AAK				S	**Sn**	**14 20 60.0**	**-2.1**
	0.0nm,0.3s,baz=72,slow=20,SNR=6.6						
AAK	**Ala-Archa**	**7.31**	**27**	P	**Pn**	**14 19 40.8**	**+0.3**
AAK				S	**Sn**	**14 20 60.0**	**-2.1**
SDNR	**Sundarnagar**	**7.42**	**127**	*e*PKP	**Pn**	**14 19 48.0**	**+5.9**
SDNR				*eS*	**Sn**	**14 21 03.0**	**-1.8**
KBK	**Karagaybulak**	**7.51**	**29**	P	**Pn**	**14 19 44.7**	**+1.5**
	SNR=9.3						
KBK	**Karagaybulak**	**7.51**	**29**	*eP*	**Pn**	**14 19 44.5**	**+1.4**
	7.5nm,0.5s						
CHMS	**Chumysh**	**7.72**	**27**	P	**Pn**	**14 19 46.6**	**+0.5**
	SNR=18						
CHMS	**Chumysh**	**7.72**	**27**	*eP*	**Pn**	**14 19 46.3**	**+0.2**
	20nm,0.5s						
USP	**Ospenovka**	**7.87**	**25**	P	**Pn**	**14 19 47.9**	**-0.2**
	SNR=8.3						
TKM2	**Tokmak 2**	**7.99**	**31**	P	**Pn**	**14 19 51.5**	**+1.9**
	SNR=9.7						
TKM2	**Tokmak 2**	**7.99**	**31**	↑P	**Pn**	**14 19 50.4**	**+0.7**
	7.6nm,0.6s						
TKM2	**Tokmak 2**	**7.99**	**31**	*eP*	**Pn**	**14 19 49.8**	**+0.2**
	8.4nm,0.4s						
DANN	**Dangsing**	**13.98**	**120**	*eP*	**Pn**	**14 21 08.6**	**0.0**
DANN	**Dangsing**	**13.98**	**120**	*eP*	**Pn**	**14 21 08.6**	**0.0**
MK31	**Makanchi Array**	**14.02**	**37**	P	**Pn**	**14 21 08.8**	**-0.1**
MKAR	**Makanchi Array**	**14.02**	**37**	P	**Pn**	**14 21 09.4**	**+0.6**
	0.2nm,0.3s,baz=224,slow=16,SNR=6.0						
MKAR	**Makanchi Array**	**14.02**	**37**	P	**Pn**	**14 21 09.4**	**+0.6**
KOLN	**Koldanda**	**14.23**	**122**	*eP*	**Pn**	**14 21 10.4**	**-1.4**
KOLN	**Koldanda**	**14.23**	**122**	*eP*	**Pn**	**14 21 10.4**	**-1.4**
GKN	**Gorkha**	**14.81**	**119**	*eP*	**Pn**	**14 21 18.5**	**-0.5**
	10nm,0.3s						
GKN	**Gorkha**	**14.81**	**119**	*eP*	**Pn**	**14 21 18.5**	**-0.5**
	10nm,0.3s						
AB31	**Akbulak array**	**15.01**	**334**	↑P	**Pn**	**14 21 20.1**	**-1.2**
	1.8nm,0.3s						
AB31				↑S	**Sn**	**14 23 56.6**	**-11**
	0.4nm,0.3s,baz=155,slow=24,SNR=4.1						
ABKAR	**Akbulak array**	**15.01**	**334**	*eP*	**Pn**	**14 21 19.9**	**-1.5**
	4.0nm,0.3s						
DMN	**Daman**	**15.38**	**120**	*eP*	**Pn**	**14 21 25.7**	**-0.4**
	8.1nm,0.4s						
DMN	**Daman**	**15.38**	**120**	*eP*	**Pn**	**14 21 25.7**	**-0.4**
	8.1nm,0.4s						
KKN	**Kakani**	**15.39**	**119**	*eP*	**Pn**	**14 21 25.9**	**-0.4**
	14nm,0.5s						
KKN	**Kakani**	**15.39**	**119**	*eP*	**Pn**	**14 21 25.9**	**-0.4**
	14nm,0.5s						
PKIN	**Phulchoki**	**15.60**	**119**	*eP*	**Pn**	**14 21 28.8**	**-0.1**
PKI	**Pulchoki**	**15.61**	**119**	*eP*	**Pn**	**14 21 28.6**	**-0.4**
	6.4nm,0.3s						
PKI	**Pulchoki**	**15.61**	**119**	*eP*	**Pn**	**14 21 28.8**	**-0.2**
GUN	**Gumba**	**15.75**	**117**	*eP*	**Pn**	**14 21 31.2**	**+0.5**
GUN	**Gumba**	**15.75**	**117**	*eP*	**Pn**	**14 21 31.2**	**+0.5**
KURK	**Kurchatov**	**15.80**	**20**	↑P	**Pn**	**14 21 34.4**	**+3.3**
	2.2nm,0.7s						
KURK	**Kurchatov**	**15.80**	**20**	P	**Pn**	**14 21 27.9**	**-3.2**
	0.3nm,0.3s,baz=210,slow=11,SNR=25						
KURK	**Kurchatov**	**15.80**	**20**	*eP*	**Pn**	**14 21 33.4**	**+2.3**
	2.0nm,0.7s						
VOSK	**Vostochnaya**	**16.56**	**2**	↑P	**Pn**	**14 21 39.5**	**-0.9**
	1.0nm,0.5s						
AKTK	**Aktyubinsk**	**16.69**	**332**	P	**Pn**	**14 21 40.7**	**-1.3**
AKTO	**Aktyubinsk**	**16.69**	**332**	↓P	**Pn**	**14 21 43.0**	**+1.1**
	0.7nm,0.9s						
AKTO	**Aktyubinsk**	**16.69**	**332**	P	**Pn**	**14 21 40.7**	**-1.3**
	0.5nm,0.3s,baz=134,slow=10,SNR=11						
ZRNK	**Zerenda**	**16.79**	**358**	↑P	**Pn**	**14 21 43.1**	**-0.1**
	1.8nm,0.6s						
BVAR	**Borovoye Array**	**16.85**	**1**	P	**Pn**	**14 21 42.3**	**-1.6**
	0.8nm,0.3s,baz=171,slow=12,SNR=8.8						
BVAR	**Borovoye Array**	**16.85**	**1**	P	**Pn**	**14 21 42.3**	**-1.6**
BVB6	**Borovoye Array**	**16.86**	**1**	↑P	**Pn**	**14 21 44.1**	**0.0**
	0.2nm,0.3s						
ZAA0	**Zalesovo Array**	**20.54**	**25**	*eP*	**P**	**14 22 25.1**	**+1.2**
ZALV	**Zalesovo Beam**	**20.54**	**25**	P	**P**	**14 22 25.4**	**+1.6**
	4.8nm,0.5s,baz=216,slow=11,SNR=33						
ZALV	**Zalesovo Beam**	**20.54**	**25**	P	**P**	**14 22 25.4**	**+1.6**
WRA	**Warramunga Arr**	**82.49**	**121**	P	**P**	**14 30 04.7**	**+0.8**
	0.2nm,0.7s,baz=329,slow=4.9,SNR=2.9						
WRA	**Warramunga Arr**	**82.49**	**121**	P	**P**	**14 30 04.7**	**+0.8**
ASAR	**Alice Springs**	**84.71**	**124**	P	**P**	**14 30 16.4**	**+1.2**
	0.5nm,1.1s,baz=318,slow=4.1,SNR=4.8						
ASAR	**Alice Springs**	**84.71**	**124**	P	**P**	**14 30 16.4**	**+1.2**

MAN 03 14:46:49, 7.18N× 126.03E, h32km, mb3.9, ML2.7, MS2.4, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.32**	**137**	*eP*	Pb	14 46 58.9	+2.0
MATI				*eS*	Sb	14 47 02.2	-0.1
DMPH	**Davao City--Mi**	**0.53**	**259**	↓*iP*	Pb	14 47 01.6	+1.6
DMPH				*eS*	Sb	14 47 10.3	+2.8
BUKP	**Musuan**	**1.19**	**306**	*eP*	Pn	14 47 10.7	+1.3
BUKP				*eS*	Sn	14 47 23.8	-0.7

*ISCJB **03** 14:49:12.2± 0.7, 38.78N± 0.04× 23.63E± 0.05, h8km± 6km, Error ellipse: s-maj=7.3km s-min=4.5km az=43.8*
*CSEM **03** 14:49:12.6± 0.2, 38.80N× 23.62E, h14km, ML1.8/4, Error ellipse: s-maj=5.5km s-min=3.6km az=110.0*
*THE **03** 14:49:12.3, 38.76N× 23.64E, h7km± 1km, ML1.8/4, Error ellipse: s-maj=1.2km s-min=0.4km az=189.0*
*ATH **03** 14:49:12.8, 38.83N× 23.55E, h23km± 1km, MD2.7/7*

ISC 03 14:49:12.7±0.6, **38.79N**±0.03×**23.62E**±0.05, **h11**km±5km, **n28**, σ0**89**/48, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.43**	**29**	P	**Pg**	**14 49 21.0**	**-0.2**
AOS				S	**Sg**	**14 49 27.2**	**+0.3**
AOS	**Alonnisos**	**0.43**	**29**	P	**Pg**	**14 49 21.0**	**-0.2**
AOS				S	**Sg**	**14 49 27.2**	**+0.3**
ATAL	**Atalanti**	**0.48**	**258**	P	**Pg**	**14 49 21.6**	**-0.5**
ATAL				S	**Sg**	**14 49 28.9**	**+0.5**
ATAL	**Atalanti**	**0.48**	**258**	P	**Pg**	**14 49 21.6**	**-0.5**
ATAL				S	**Sg**	**14 49 28.9**	**+0.5**
LKR	**Lokris**	**0.50**	**254**	*e*PB	**Pg**	**14 49 22.2**	**-0.4**
LKR				*e*SB	**Sg**	**14 49 29.4**	**+0.2**
LKR	**Lokris**	**0.50**	**254**	P	**Pg**	**14 49 22.2**	**-0.4**
LKR				S	**Sg**	**14 49 29.7**	**+0.5**
LKR	**Lokris**	**0.50**	**254**	P	**Pg**	**14 49 22.2**	**-0.4**
LKR				*e*Sb	**Sg**	**14 49 29.4**	**+0.2**
LKR				S	**Sg**	**14 49 29.7**	**+0.5**
NEO	**Neokhori**	**0.60**	**329**	*e*PN	**Pg**	**14 49 24.0**	**-0.3**
NEO				*e*SN	**Sg**	**14 49 31.5**	**-0.7**
NEO	**Neokhori**	**0.60**	**329**	P	**Pg**	**14 49 24.1**	**-0.2**
NEO	**Neokhori**	**0.60**	**329**	P	**Pg**	**14 49 24.1**	**-0.2**
PTL	**Penteli**	**0.77**	**165**	*e*PN	**Pn**	**14 49 29.1**	**-0.4**
PTL				*e*SN	**Sg**	**14 49 39.5**	**+1.9**
PTL	**Penteli**	**0.77**	**165**	*e*Pn	**Pn**	**14 49 29.1**	**-0.4**
PTL				*e*Sn	**Sg**	**14 49 39.5**	**+1.9**
LTK	**Loutraki**	**0.92**	**214**	*e*PN	**Pn**	**14 49 30.9**	**-0.8**
LTK				*e*SN	**Sn**	**14 49 44.1**	**-0.8**
LTK	**Loutraki**	**0.92**	**214**	*e*Pn	**Pn**	**14 49 30.9**	**-0.8**
LTK				*e*Sn	**Sn**	**14 49 44.1**	**-0.8**
DSF	**Desfina**	**0.94**	**246**	P	**Pg**	**14 49 30.1**	**-0.6**
DSF	**Desfina**	**0.94**	**246**	P	**Pg**	**14 49 30.1**	**-0.6**
VLY	**Voula,Athens**	**0.95**	**171**	*e*PN	**Pn**	**14 49 31.7**	**-0.3**
VLY				*e*SN	**Sn**	**14 49 44.9

SKR Severo-Kuril's 18.47 279 *e*P **Pn** **14 57 02.5 +6.8**
SKR pmax pmax
comp=Z,110nm,1.0s
SKR MLR MLR
comp=E,1μm,20.0s
SKR MLR MLR
comp=Z,1μm,20.0s
BMRM Bremner River 18.83 49 *e*P **Pn** **14 56 57.0 -3.1**
comp=Z,28nm,0.7s
BILL Bilibino 18.96 337 *e*P **Pn** **14 57 01.7 +0.2**
comp=Z,93nm,1.2s
BILL Bilibino 18.96 337⇑ *e*P **Pn** **14 57 01.8 +0.3**
BILL pmax pmax
comp=Z,21nm,1.1s
BILL MLR MLR
comp=Z,300nm,18.0s
COLA College 19.06 36 *e*P **Pn** **14 56 59.3 -3.5**
comp=Z,25nm,0.8s
COLA College 19.06 36 *e*P **Pn** **14 56 59.3 -3.5**
COLA pmax pmax
comp=Z,25nm,0.8s
PAX Paxson 19.12 42 *e*P **Pn** **14 57 02.4 -1.1**
comp=Z,14nm,0.8s
PAX Paxson 19.12 42 *e*P **Pn** **14 57 02.4 -1.1**
PAX pmax pmax
comp=Z,15nm,0.8s
ILAR Eielson Array 19.37 37 P **Pn** **14 57 01.9 -4.4**
comp=Z,3.9nm,0.3s,baz=242,slow=10,SNR=105
ILAR ScP ScP 15 04 55.9 -0.2
comp=Z,0.0nm,0.3s,baz=300,slow=3.8,SNR=3.8
ILAR LR LR 15 05 05.5
comp=Z,275nm,20.3s,baz=260,slow=38
ILAR Eielson Array 19.37 37 P **Pn** **14 57 01.9 -4.4**
ILAR ScP ScP 15 04 55.9 -0.2
ILAR LR LR 15 05 05.5
ILAR Eielson Array 19.37 37 P **Pn** **14 57 02.0 -4.4**
COLD Coldfoot 19.68 28 *e*P **Pn** **14 57 08.4 -1.7**
comp=Z,31nm,0.8s
MENT Mentasta 19.86 43 *e*P **Pn** **14 57 09.7 -2.5**
DOT Dot Lake 19.98 41 *e*P **Pn** **14 57 09.8 -3.8**
comp=Z,69nm,0.5s
SEY Seymchan 20.95 316 *i*P **P** **14 57 24.8 +2.7**
PNL Peninsula 21.11 54 *e*P **P** **14 57 23.1 -0.7**
comp=Z,28nm,0.6s,mb4.8
EGAK Eagle 21.58 40 *e*P **P** **14 57 27.1 -1.7**
comp=Z,100nm,0.6s,mb5.4
DAWY Dawson 22.06 42 *e*P **P** **14 57 32.2 -1.7**
SKAG Skagway 23.16 55 *e*P **P** **14 57 44.2 -1.3**
comp=Z,23nm,0.8s,mb4.7
WRAK Wrangell Islan 24.86 62 *e*P **P** **14 58 03.2 +1.9**
comp=Z,37nm,0.9s,mb4.9
INK Inuvik 25.70 34 P **P** **14 58 07.7 -1.0**
comp=Z,5.4nm,0.5s,mb4.3,baz=250,slow=8.2,SNR=30
INK LR LR 15 09 22.9
comp=Z,244nm,18.4s,MS3.8,baz=216,slow=39
INK Inuvik 25.70 34 *e*P **P** **14 58 07.4 -1.3**
comp=Z,12nm,0.7s,mb4.5
INK Inuvik 25.70 34 P **P** **14 58 07.7 -1.0**
INK pmax pmax
comp=Z,5.0nm,0.5s
INK MLR MLR
comp=Z,244nm,18.5s
DLBC Dease Lake 25.92 57 P **P** **14 58 10.1 -0.7**
comp=Z,14nm,0.9s,mb4.5,baz=284,slow=8.9,SNR=17
DLBC Dease Lake 25.92 57 *e*P **P** **14 58 11.5 +0.7**
YSS Yuzh-Sakhalins 28.03 278 *e*P **P** **14 58 30.0 +0.2**
BBB Bella Bella 28.19 70 LR LR 15 07 13.1
comp=Z,155nm,21.9s,MS3.6,baz=80,slow=31
ASAJ Asahikawa 29.45 272 P **P** **14 58 43.1 +0.6**
comp=Z,5.2nm,0.7s,mb4.4,baz=16,slow=2.5,SNR=3.5
ASAJ LR LR 15 10 52.7
comp=Z,103nm,18.7s,MS3.5,baz=33,slow=37
ASAJ Asahikawa 29.45 272 P **P** **14 58 43.1 +0.6**
ASAJ pmax pmax
comp=Z,5.0nm,0.7s
ASAJ MLR MLR
comp=Z,103nm,18.7s
YAK Yakutsk 31.33 311 *e*P **P** **14 58 57.0 -1.9**
comp=Z,9.3nm,0.6s,mb4.8
YAK Yakutsk 31.33 311 *e*P **P** **14 58 57.3 -1.6**
YAK pmax pmax
comp=Z,11nm,0.8s,mb4.7
YKA Yellowknife Ar 33.05 47 P **P** **14 59 14.1 +0.1**
comp=Z,0.6nm,0.4s,mb3.9,baz=274,slow=9.1,SNR=4.5
YKA LR LR 15 14 28.7
comp=Z,41nm,18.7s,MS3.2,baz=5.0,slow=40
YKA Yellowknife Ar 33.05 47 P **P** **14 59 14.2 +0.2**
YKA LR LR 15 14 28.8
YKA Yellowknife Ar 33.05 47 P **P** **14 59 14.2 +0.2**
KLR Kul'dur 33.75 288 *e*P **P** **14 59 14.8 -5.4**
LON Longmire 34.09 77 P **P** **14 59 22.1 -1.1**
comp=Z,7.1nm,0.8s,mb4.7
LON Longmire 34.09 77 P **P** **14 59 22.1 -1.1**
LON pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
ETW Entiat 34.59 75 *e*P **P** **14 59 27.3 -0.2**
comp=Z,12nm,0.7s,mb5.0
B08A Colville Reser 34.85 73 ⇑P **P** **14 59 29.7 0.0**
baz=35,SNR=6.1
H04A Detroit Lake 34.87 80 ⇓P **P** **14 59 30.0 +0.1**
baz=35
RSW Rattlesnake Hi 35.61 76 P **P** **14 59 34.5 -1.7**
comp=Z,17nm,0.8s,mb5.0
HAWA Hanford 35.64 76 *e*P **P** **14 59 36.7 +0.2**
comp=Z,10nm,0.7s,mb4.9
OD2 Odessa Site #2 35.66 74 *e*P **P** **14 59 36.2 -0.5**
comp=Z,21nm,1.2s,mb4.9
D08A Wollman Farm, 35.69 75 ⇓P **P** **14 59 36.9 0.0**
baz=36
C09A Chrisman Ranch 35.73 73 ⇑P **P** **14 59 37.6 +0.3**
baz=36
YBH Yreka Blue Hor 36.12 85 P **P** **14 59 40.9 +0.2**
comp=Z,1.6nm,0.8s,mb4.0,baz=288,slow=5.1,SNR=3.7
YBH Yreka Blue Hor 36.12 85 P **P** **14 59 40.9 +0.2**
YBH Yreka Blue Hor 36.12 85 P **P** **14 59 40.9 +0.2**
NEW Newport 36.20 72 *e*P **P** **14 59 41.6 +0.3**
comp=Z,15nm,0.9s,mb4.9
NEW Newport 36.20 72 *e*P **P** **14 59 41.6 +0.3**
NEW pmax pmax
comp=Z,15nm,0.9s
E09A Wood Farm, Sta 36.42 75 ⇑P **P** **14 59 43.8 +0.6**
baz=36
G08A Pilot Rock 36.54 78 ⇓P **P** **14 59 45.0 +0.8**
baz=36
MAT Matsushiro 36.55 265 P **P** **14 59 43.1 -1.3**
MJAR Matsushiro Arr 36.55 265 P **P** **14 59 44.3 -0.1**
comp=Z,2.8nm,0.8s,mb4.2,baz=60,slow=6.1,SNR=6.9
MJAR LR LR 15 12 32.4
comp=Z,117nm,20.9s,MS3.6,baz=70,slow=32
MJAR Matsushiro Arr 36.55 265 P **P** **14 59 44.3 -0.1**
MJAR LR LR 15 12 32.4
MJAR Matsushiro Arr 36.55 265 P **P** **14 59 44.3 -0.1**
K05A Summer Lake 36.70 82 ⇓P **P** **14 59 46.5 +1.0**
baz=36
I07A Izee 36.83 80 ⇑P **P** **14 59 47.3 +0.6**
baz=37
WDC Whiskeytown Da 36.88 87 *e*P **P** **14 59 47.2 0.0**
comp=Z,22nm,1.2s,mb4.9
WDC Whiskeytown Da 36.88 87 *e*P **P** **14 59 47.2 0.0**
WDC pmax pmax
comp=Z,22nm,1.2s,mb4.9
MDJ Mudanjiang 37.23 282 P **P** **14 59 49.4 -0.7**
MDJ pP pP 15 00 00.5 -2.7
MDJ sP sP 15 00 05.5 -3.6
MDJ PP PP 15 01 14.7 -0.8
MDJ S **S** **15 05 30.5 -2.9**
MDJ ScS ScS 15 09 57.8 -1.4
MDJ pmax pmax
comp=Z,16nm,0.9s,mb4.8
MDJ pmax pmax
comp=Z,92nm,4.1s
MDJ LR LR
comp=N,160nm,7.2s
MDJ LR LR
comp=E,300nm,16.2s
MDJ LR LR
comp=Z,340nm,15.5s,MS4.2
F10A Beach Ranch, E 37.24 76 ⇑P **P** **14 59 50.7 +0.6**
baz=37
C12B Naegeli Ranch, 37.44 72 ⇑P **P** **14 59 52.4 +0.6**
baz=37
A13A Flathead Natio 37.49 70 ⇓P **P** **14 59 52.5 +0.2**
baz=37
MOD Modoc 37.52 83 *e*P **P** **14 59 52.5 -0.1**
comp=Z,9.2nm,0.9s,mb4.5
B13A Whitefish 37.72 71 ⇑P **P** **14 59 54.4 +0.2**
baz=38
WALA Waterton Lakes 37.73 69 *e*P **P** **14 59 54.2 0.0**
comp=Z,1.1nm,1.3s,mb3.4
BMO Blue Mountains 37.77 77 P **P** **14 59 54.8 +0.1**
comp=Z,7.8nm,1.4s,mb4.2
BSMT Bassoo Peak 37.78 72 *e*P **P** **14 59 55.2 +0.5**
comp=Z,13nm,0.8s,mb4.7
J08A Circle Bar Ran 37.84 80 ⇓P **P** **14 59 55.8 +0.5**
baz=38
C13A Hot Springs 37.99 72 ⇓P **P** **14 59 56.8 +0.3**
baz=38
E12A Beaver Dam Sad 38.02 74 ⇑P **P** **14 59 56.8 0.0**
baz=38,SNR=7.0
A14A Double T Ranch 38.05 69 ⇑P **P** **14 59 57.0 0.0**
baz=38,SNR=5.2
WVOR Wild Horse Val 38.25 81 *e*P **P** **14 59 58.7 0.0**
comp=Z,12nm,0.9s,mb4.6
WVOR Wild Horse Val 38.25 81 *e*P **P** **14 59 58.7 0.0**
WVOR pmax pmax
comp=Z,12nm,0.9s,mb4.6
D13A Huson 38.34 72 ⇑P **P** **14 59 59.8 +0.3**
baz=38
RES Resolute Bay 38.37 25 P **P** **15 00 00.2 +0.8**
comp=Z,3.1nm,0.8s,mb4.1,baz=261,slow=16,SNR=5.0
RES PcP PcP 15 02 12.1 +0.2
comp=Z,3.0nm,0.7s,baz=198,slow=1.0,SNR=5.2
RES pPcP 15 02 25.6
comp=Z,7.3nm,0.8s,baz=262,slow=2.2,SNR=8.5
RES Resolute Bay 38.37 25 P **P** **15 00 00.2 +0.8**
RES PcP PcP 15 02 12.1 +0.2
RES pPcP 15 02 25.6
RES Resolute Bay 38.37 25 P **P** **15 00 00.3 +0.9**
RES 15 02 12.1
B14A Marquette Ranc 38.43 70 ⇑P **P** **15 00 00.4 +0.2**
baz=38
C14A Swan Lake 38.44 71 ⇑P **P** **15 00 00.6 +0.4**
baz=38
A15A Johnson Ranch, 38.45 69 ⇓P **P** **15 00 00.5 +0.2**
baz=38
MSO Missoula 38.78 72 *e*P **P** **15 00 03.2 +0.1**
comp=Z,14nm,1.2s,mb4.6
E13A Victor 38.83 73 ⇓P **P** **15 00 04.1 +0.5**
baz=39
SLMT Seeley Lake 38.84 72 *e*P **P** **15 00 02.9 -0.7**
comp=Z,11nm,1.1s,mb4.5
B15A Bradely Ranch, 38.87 70 ⇑P **P** **15 00 03.7 -0.1**
baz=39,SNR=6.6
D14A Greough 38.91 72 ⇑P **P** **15 00 04.4 +0.2**
baz=39,SNR=11
F13A Darby 39.08 74 ⇑P **P** **15 00 05.7 +0.1**
baz=39
C15A Salmond Ranch, 39.10 70 ⇑P **P** **15 00 06.3 +0.5**
baz=39,SNR=6.3
CHMT Chamberlain Mo 39.15 72 *e*P **P** **15 00 05.8 -0.4**
comp=Z,4.8nm,0.9s,mb4.2
E14A Clinton 39.26 73 ⇓P **P** **15 00 07.5 +0.3**
baz=39,SNR=5.6
B16A M & M Farms, S 39.32 69 ⇑P **P** **15 00 07.0 -0.5**
baz=39,SNR=6.3
PAHR Pah Rah Range 39.35 85 *e*P **P** **15 00 07.8 -0.1**
comp=Z,7.2nm,1.1s,mb4.3
H12A Diamond D Ranc 39.41 76 ⇑P **P** **15 00 08.6 +0.1**
baz=39
MFID Camas Ranch 39.43 78 *e*P **P** **15 00 09.1 +0.5**
comp=Z,4.7nm,1.0s,mb4.2
D15A Lincoln 39.52 71 ⇓P **P** **15 00 09.4 +0.1**
baz=39,SNR=8.0
C16A Fuhringer Ranc 39.59 70 ⇑P **P** **15 00 10.0 +0.1**
baz=39,SNR=9.1
F14A Wisdom 39.64 74 ⇓P **P** **15 00 10.9 +0.5**
baz=40
A17A Triple J Farms 39.64 68 ⇑P **P** **15 00 09.7 -0.6**
baz=40,SNR=11
I12A Atlanta 39.65 77 ⇑P **P** **15 00 11.1 +0.7**
baz=40
E15A Deer Lodge 39.76 72 ⇓P **P** **15 00 11.2 -0.1**
baz=40,SNR=5.3
G14A Jackson 39.89 74 ⇓P **P** **15 00 12.9 +0.6**
baz=40
B17A L&G Farms, Che 39.91 69 ⇓P **P** **15 00 11.9 -0.6**
baz=40,SNR=7.4
BOD Bodaibo 40.02 308 *e*P **P** **15 00 11.5 -1.8**
D16A Dana Ranch, Ca 40.10 71 ⇑P **P** **15 00 14.8 +0.7**
baz=40
F15A Butte 40.15 73 ⇑P **P** **15 00 14.8 +0.3**
baz=40
LRM Limekiln Ridge 40.19 73 *e*P **P** **15 00 15.6 +0.8**
comp=Z,45nm,1.0s,mb5.2
CN2 Changchun 40.19 283 *e*P **P** **15 00 14.5 -0.4**
CN2 *es*P sP 15 00 32.0 -2.0
CN2 *e*S **S** **15 06 16.7 -1.2**
CN2 pmax pmax
comp=Z,20nm,1.0s,mb4.8
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,20.0s,MS4.6
CN2 LR LR
comp=E,800nm,20.0s,MS4.6
CN2 LR LR
comp=Z,400nm,21.0s,MS4.2
I13A Wildhorse Cree 40.20 76 ⇓P **P** **15 00 15.1 +0.1**
baz=40
HLID Hailey 40.21 77 *e*P **P** **15 00 14.9 -0.2**
comp=Z,13nm,1.3s,mb4.5
C17A Wharram Farm, 40.26 70 ⇑P **P** **15 00 15.9 +0.5**
baz=40
H14A Leadore 40.27 75 ⇑P **P** **15 00 16.0 +0.5**
baz=40
E16A East Helena 40.28 72 ⇓P **P** **15 00 15.8 +0.3**
baz=40,SNR=7.2
DLMT Dillon 40.34 74 *e*P **P** **15 00 16.7 +0.6**
comp=Z,5.7nm,0.9s,mb4.3
B18A Beardsley Farm 40.45 68 ⇓P **P** **15 00 17.3 +0.3**
baz=40
J13A Cove Ranch, Pi 40.45 77 ⇑P **P** **15 00 17.3 +0.3**
baz=40
MCMT McKenzie Canyo 40.47 75 *e*P **P** **15 00 17.1 -0.2**
comp=Z,5.3nm,0.6s,mb4.5
G15A Dillon 40.51 74 ⇓P **P** **15 00 17.7 +0.2**
baz=40
I14A Mackay 40.60 76 ⇓P **P** **15 00 18.5 +0.3**
baz=40,SNR=6.9
EGMT Eagleton 40.65 69 *e*P **P** **15 00 18.1 -0.5**
comp=Z,82nm,1.4s,mb5.2
F16A Kennard Place, 40.70 73 ⇑P **P** **15 00 19.3 +0.2**
baz=40
H15A Lima 40.71 75 ⇑P **P** **15 00 19.4 +0.2**
baz=40
BOZ Bozeman (W) 40.77 73 *e*P **P** **15 00 19.3 -0.3**
comp=Z,13nm,1.1s,mb4.5
BOZ Bozeman (W) 40.77 73 *e*P **P** **15 00 19.3 -0.3**
BOZ pmax pmax
comp=Z,13nm,1.1s,mb4.5
A19A Klindworth Far 40.78 67 ⇑P **P** **15 00 19.8 +0.1**
baz=41
NVAR Mina Array Bea 40.79 86 P **P** **15 00 19.7 -0.2**
comp=Z,2.0nm,0.8s,mb3.8,baz=292,slow=7.8,SNR=13
NVAR pP pP 15 00 32.2 -0.9
comp=Z,8.6nm,0.8s,baz=292,slow=7.3,SNR=23
NVAR PcP PcP 15 02 20.4 +0.3
comp=Z,0.2nm,0.3s,baz=277,slow=3.5,SNR=5.2
NVAR pPcP 15 02 34.8
comp=Z,2.2nm,0.7s,baz=284,slow=1.9,SNR=5.9
NVAR ScP ScP 15 06 06.4 +1.2
comp=Z,0.3nm,0.2s,baz=274,slow=4.4,SNR=4.2
NVAR Mina Array Bea 40.79 86 P **P** **15 00 19.7 -0.2**
NVAR pP pP 15 00 32.2 -0.9
NVAR PcP PcP 15 02 20.4 +0.3
NVAR pPcP 15 02 34.8
NVAR ScP ScP 15 06 06.4 +1.2
E17A Martinsdale 40.80 71 ⇑P **P** **15 00 20.6 +0.7**
baz=41,SNR=8.6
G16A Moss Hill, Enn 40.88 73 ⇑P **P** **15 00 20.6 0.0**
baz=41
J14A Carey 40.89 77 ⇑P **P** **15 00 20.9 +0.3**
baz=41
B19A Brinkman Farms 40.90 68 ⇑P **P** **15 00 20.6 -0.1**
baz=41
D18A Linhart Farms, 41.04 70 ⇑P **P** **15 00 22.1 +0.2**
baz=41
C19A Slack Wire Ran 41.20 69 ⇓P **P** **15 00 23.4 +0.3**
baz=41,SNR=16
F17A Fitzpatrick Pl 41.21 72 ⇑P **P** **15 00 23.5 +0.2**
baz=41,SNR=5.9
A20A Cobblestone Ra 41.27 67 ⇓P **P** **15 00 23.6 -0.1**
baz=41
E18A Harlowton 41.30 71 ⇑P **P** **15 00 24.8 +0.8**
baz=41
B20A Solberg Farm, 41.44 67 ⇓P **P** **15 00 25.4 +0.3**
baz=41
G17A Pierce Place, 41.47 73 ⇓P **P** **15 00 25.9 +0.5**
baz=41
H16A Russell Place, 41.50 74 ⇑P **P** **15 00 26.4 +0.7**
baz=41
J15A Blackfoot 41.51 76 ⇓P **P** **15 00 26.6 +0.8**
baz=41
D19A Cripps Ranch, 41.59 69 ⇓P **P** **15 00 26.3 -0.1**
baz=41,SNR=7.9
FFC Flin Flon 41.74 56 *e*P **P** **15 00 26.8 -0.7**
comp=Z,11nm,0.8s,mb4.5
FFC Flin Flon 41.74 56 *i*P **P** **15 00 27.6 +0.1**
F18A Big Timber 41.77 71 ⇑P **P** **15 00 28.4 +0.5**
baz=42
L14A Malta 41.79 78 ⇓P **P** **15 00 28.7 +0.7**
baz=42
I16A Newdale 41.81 75 ⇑P **P** **15 00 28.6 +0.4**
baz=42
C20A Veseth Ranch, 41.82 68 ⇑P **P** **15 00 28.1 -0.1**
baz=42,SNR=6.0
K15A Arbon 41.85 77 ⇓P **P** **15 00 28.9 +0.4**
baz=42
GCMT Greycliff 41.85 71 P **P** **15 00 29.7 +1.1**
comp=Z,7.1nm,1.2s,mb4.2
E19A Rath Farm, Rou 42.02 70 ⇑P **P** **15 00 30.5 +0.6**
baz=42
B21A Ellsworth Farm 42.02 67 ⇑P **P** **15 00 30.0 +0.1**
baz=42
D20A Manuel Ranch, 42.06 69 ⇓P **P** **15 00 30.2 -0.1**
baz=42
H17A Grant Village 42.07 74 ⇑P **P** **15 00 31.1 +0.7**
baz=42
J16A Bone 42.07 76 ⇑P **P** **15 00 30.9 +0.6**
baz=42
IMW Indian Meadow 42.13 75 *e*P **P** **15 00 31.4 +0.5**
comp=Z,6.8nm,1.1s,mb4.2
CWC Cottonwood Cre 42.16 88 ⇑P **P** **15 00 31.9 +0.7**
baz=42
RRI2 Red Ridge 42.21 76 *e*P **P** **15 00 31.5 0.0**
comp=Z,12nm,0.7s,mb4.6
HVU Hansel Valley 42.22 78 *e*P **P** **15 00 31.4 -0.1**
comp=Z,7.5nm,0.7s,mb4.4
HVU Hansel Valley 42.22 78 *e*P **P** **15 00 31.4 -0.1**
HVU pmax pmax
comp=Z,8.0nm,0.7s,mb4.5
MOOW Moose Ponds 42.33 75 P **P** **15 00 33.1 +0.7**
comp=Z,2.9nm,1.0s,mb3.9
K16A Soda Springs 42.34 76 ⇑P **P** **15 00 33.5 +1.0**
baz=42,SNR=6.1
A22A Carney Farms, 42.36 65 ⇑P **P** **15 00 32.1 -0.5**
baz=42,SNR=6.1
KSRS Korea Array 42.38 274 P **P** **15 00 32.6 -0.3**
comp=Z,4.4nm,0.8s,mb4.2,baz=56,slow=9.0,SNR=7.7
KSRS LR LR 15 17 39.2
comp=Z,94nm,18.4s,MS3.7,baz=238,slow=35
KSRS Korea Array 42.38 274 P **P** **15 00 32.7 -0.2**
KSRS pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
KSRS MLR MLR
comp=Z,94nm,18.5s,MS3.7
ISA Isabella 42.41 90 *e*P **P** **15 00 32.0 -1.2**
comp=Z,13nm,0.9s,mb4.6
ISA Isabella 42.41 90 *e*P **P** **15 00 32.0 -1.2**
ISA pmax pmax
comp=Z,13nm,0.9s,mb4.6
RLMT Red Lodge 42.45 72 *e*P **P** **15 00 33.7 +0.2**
comp=Z,24nm,1.0s,mb4.8
H18A Shoshone NF, C 42.46 73 ⇓P **P** **15 00 34.1 +0.6**
baz=42
R11A Troy Canyon, C 42.53 84 ⇓P **P** **15 00 34.1 0.0**
baz=42
BGU Big Grassy Mou 42.56 80 *e*P **P** **15 00 32.8 -1.6**
comp=Z,6.4nm,0.9s,mb4.3
M15A Larsen Ranch, 42.60 79 ⇑P **P** **15 00 34.7 0.0**
baz=42
B22A Reddig Ranch S 42.67 66 ⇑P **P** **15 00 35.3 +0.2**
baz=42
D21A La Casta Ranch 42.74 68 ⇑P **P** **15 00 35.3 -0.5**
baz=43
F20A Billings 42.74 71 ⇑P **P** **15 00 36.0 +0.2**
baz=43
MPMC Manual Prospec 42.77 88 ⇑P **P** **15 00 37.2 +1.1**
baz=43
H19A Powell 42.87 72 ⇓P **P** **15 00 37.4 +0.5**
baz=43
A23A Redstone 42.96 65 ⇑P **P** **15 00 37.0 -0.5**
baz=43,SNR=5.7
C22A Vida 43.02 67 ⇑P **P** **15 00 38.1 +0.1**
baz=43
G20A Bridger 43.02 71 ⇓P **P** **15 00 38.6 +0.6**
baz=43,SNR=11
HWUT Hardware Ranch 43.05 78 *e*P **P** **15 00 38.2 -0.1**
comp=Z,6.1nm,0.9s,mb4.3
J18A Kendall Valley 43.07 75 ⇑P **P** **15 00 38.6 +0.1**
baz=43
DUG Dugway 43.12 80 *e*P **P** **15 00 38.2 -0.7**
comp=Z,22nm,1.1s,mb4.8
DUG Dugway 43.12 80 *e*P **P** **15 00 38.2 -0.7**
DUG pmax pmax
comp=Z,22nm,1.1s,mb4.8
B23A Brockton 43.16 66 ⇓P **P** **15 00 38.7 -0.4**
baz=43,SNR=12
D22A Cohagen 43.17 68 ⇓P **P** **15 00 39.6 +0.4**
baz=43
M16A Huntsville 43.19 78 ⇓P **P** **15 00 39.5 +0.1**
baz=43
I19A Meeteetse 43.22 73 ⇑P **P** **15 00 40.6 +0.9**
baz=43
P14A Drum Mountains 43.33 81 ⇓P **P** **15 00 40.8 +0.2**
baz=43
LAO LASA Array 43.39 68 *e*P **P** **15 00 40.9 -0.1**
comp=Z,31nm,1.2s,mb4.9
C23A Lambert 43.39 67 ⇓P **P** **15 00 40.9 -0.1**
baz=43,SNR=13
A24A Westby 43.48 65 ⇑P **P** **15 00 41.8 +0.1**
baz=43
Q14A Sevier Lake (B 43.56 82 ⇑P **P** **15 00 43.1 +0.7**
baz=43
PD01 Pinedale Array 43.58 75 *e*P **P** **15 00 41.6 -0.9**
PD02 Pinedale Array 43.59 75 *e*P **P** **15 00 41.8 -0.8**
PDAR Pinedale Array 43.60 75 P **P** **15 00 42.2 -0.5**
comp=Z,5.4nm,0.8s,mb4.3,baz=306,slow=4.3,SNR=34
PDAR LR LR 15 18 39.1
comp=Z,94nm,18.8s,MS3.7,baz=121,slow=36
PDAR Pinedale Array 43.60 75 P **P** **15 00 42.2 -0.5**
PDAR LR LR 15 18 39.1
DGMT Dagmar 43.60 65 P **P** **15 00 39.2 -3.5**
comp=Z,26nm,0.9s,mb5.0
G21A Lodge Grass 43.62 71 ⇓P **P** **15 00 43.0 +0.2**
baz=43
J19A Crowheart 43.62 74 ⇑P **P** **15 00 44.3 +1.5**
baz=43
SHOC Shoshone 43.63 88 ⇑P **P** **15 00 43.8 +0.8**
baz=44
R13A O'Grain Ranch, 43.63 83 ⇓P **P** **15 00 44.1 +1.1**
baz=44
M17A Scullys Gap (B 43.68 77 ⇑P **P** **15 00 43.6 +0.2**
baz=44
E22A Miles City 43.69 69 ⇓P **P** **15 00 43.4 0.0**
baz=44
GSC Goldstone 43.69 89 ⇑P **P** **15 00 43.0 -0.5**
baz=44,SNR=6.0
GSC Goldstone 43.69 89 *e*P **P** **15 00 42.7 -0.8**
comp=Z,25nm,0.8s,mb5.0
GSC Goldstone 43.69 89 *e*P **P** **15 00 42.7 -0.8**
GSC pmax pmax
comp=Z,25nm,0.8s,mb5.0
D23A Lindsay 43.72 67 ⇓P **P** **15 00 43.8 +0.2**
baz=44
NLU North Lily Min 43.72 80 *e*P **P** **15 00 42.7 -1.0**
comp=Z,9.7nm,0.9s,mb4.5
L18A Fontenelle, Gr 43.80 76 ⇑P **P** **15 00 44.6 +0.3**
baz=44
P15A Leamington 43.83 81 ⇑P **P** **15 00 44.9 +0.3**
baz=44
BFSC Mount Baldy Ra 43.85 91 ⇑P **P** **15 00 45.0 +0.2**
baz=44
N17A Moffit Pass 43.89 78 ⇓P **P** **15 00 45.3 +0.2**
baz=44
DAU Daniels Canyon 43.95 79 *e*P **P** **15 00 45.9 +0.3**
comp=Z,13nm,0.8s,mb4.7
DAU Daniels Canyon 43.95 79 *e*P **P** **15 00 45.9 +0.3**
DAU pmax pmax
comp=Z,13nm,0.8s,mb4.7
MPU Maple Canyon 43.95 80 *e*P **P** **15 00 45.2 -0.4**
comp=Z,12nm,0.8s,mb4.7

K19A Absolon Red Bu 43.99 75 ⇓P P 15 00 45.4 -0.5
baz=44,SNR=7.6
Q15A Fillmore 44.11 81 ⇓P P 15 00 47.5 +0.6
baz=44
ARUT Antelope Range 44.20 83 eP P 15 00 47.4 -0.3
comp=Z,14nm,1.0s,mb4.7
ARUT Antelope Range 44.20 83 eP P 15 00 47.4 -0.2
ARUT pmax pmax
comp=Z,14nm,1.0s,mb4.7
D24A Glendive 44.25 67 ⇓P P 15 00 47.9 0.0
baz=44,SNR=9.3
I21A Big Trails, Te 44.36 73 ⇓P P 15 00 49.2 +0.4
baz=44
K20A Yellowstone Ra 44.39 75 ⇓P P 15 00 49.7 +0.6
baz=44
CCUT Cedar City 44.40 84 eP P 15 00 50.4 +1.2
comp=Z,4.6nm,0.9s,mb4.2
J21A Lysite 44.53 73 ⇓P P 15 00 50.4 +0.2
baz=44
MSU Marysvale 44.53 82 eP P 15 00 50.4 +0.1
comp=Z,7.5nm,0.9s,mb4.5
MSU Marysvale 44.53 82 eP P 15 00 50.4 +0.1
MSU pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
GMRC Granite Mounta 44.74 88 ⇑P P 15 00 53.2 +1.2
baz=45
U13A Pakoon Wash 44.74 85 ⇑P P 15 00 52.6 +0.6
baz=45
I22A 9 Mile Ranch, 44.79 72 ⇑P P 15 00 52.4 +0.1
baz=45
LDFC Landfair 44.89 88 eP P 15 00 51.6 -1.5
comp=Z,34nm,1.1s,mb5.1
LDFC e pP 15 01 05.9 -0.6
Q16A Castle Valley 44.91 81 ⇓P P 15 00 53.3 +0.1
baz=45
S15A Panguitch 44.94 83 ⇑P P 15 00 53.9 +0.4
baz=45
P18A Preston Nutter 45.04 79 ⇑P P 15 00 54.6 +0.3
baz=45
K21A Alcova 45.06 74 ⇑P P 15 00 54.3 -0.1
baz=45
J22A Midwest 45.07 73 ⇓P P 15 00 54.0 -0.4
baz=45,SNR=6.4
R16A Teasdale 45.10 82 ⇑P P 15 00 55.0 +0.2
baz=45
SRU San Rafael 45.19 80 eP P 15 00 55.1 -0.3
comp=Z,14nm,0.8s,mb4.8
SRU San Rafael 45.19 80 eP P 15 00 55.1 -0.3
SRU pmax pmax
comp=Z,14nm,0.8s,mb4.8
U14A Mt Trumbull 45.23 85 ⇑P P 15 00 56.0 +0.2
baz=45
O19A Miners Draw (B 45.32 78 ⇓P P 15 00 56.4 0.0
baz=45
L21A Rawlins 45.38 75 ⇑P P 15 00 56.3 -0.7
baz=45
S16A Weppner Ranch, 45.38 82 ⇓P P 15 00 57.2 +0.1
baz=45
Q18A Rafter H Ranch 45.43 80 ⇑P P 15 00 57.0 -0.3
baz=45
H24A Dirks Ranch, A 45.44 70 ⇑P P 15 00 57.0 -0.3
baz=45
K22A Casper 45.49 73 ⇑P P 15 00 57.6 -0.2
baz=45
R17A Hanksville Air 45.50 81 ⇓P P 15 00 58.0 +0.1
baz=45
N20A Spence Gulch, 45.52 77 ⇓P P 15 00 58.1 0.0
baz=45
J23A Dilts Ranch, B 45.63 72 ⇑P P 15 00 59.7 +0.8
baz=45
U15A North Rim 45.77 84 ⇑P P 15 00 59.9 -0.2
baz=46
V14A Boquillas Ranc 45.78 86 ⇑P P 15 01 00.0 -0.1
baz=46
P19A Cripple Cowboy 45.81 78 ⇑P P 15 01 00.1 -0.2
baz=46
S17A Black Ridge (B 45.93 82 ⇓P P 15 01 01.5 +0.2
baz=46
O20A White River Ci 45.95 77 ⇓P P 15 01 01.2 -0.3
baz=46
PDMCI Parker Dam,Lak 46.00 88 ⇑P P 15 01 01.9 0.0
baz=46
N21A Black Mountain 46.01 76 ⇓P P 15 01 01.5 -0.5
baz=46
R18A Canyonlands Na 46.02 80 ⇑P P 15 01 01.6 -0.4
baz=46
Q19A Hogan Spring (46.05 79 ⇑P P 15 01 01.9 -0.4
baz=46
RSSD Black Hills 46.10 70 eP P 15 01 02.3 -0.3
comp=Z,4.8nm,0.6s,mb4.6
RSSD Black Hills 46.10 70 eP P 15 01 02.3 -0.3
RSSD pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
Y12C Blythe 46.12 89 ⇓P P 15 01 03.6 +0.6
baz=46
M22A Cedar Creek Ra 46.18 75 ⇑P P 15 01 03.4 +0.1
baz=46
J24A Dixon Ranch, L 46.20 72 ⇑P P 15 01 03.6 +0.2
baz=46
V15A Kaibab Nationa 46.24 85 ⇑P P 15 01 03.9 +0.1
baz=46
L23A Garrett 46.30 74 ⇑P P 15 01 03.9 -0.2
baz=46
T17A Navajo Res., N 46.33 82 ⇓P P 15 01 04.6 +0.1
baz=46
O21A Pagoda 46.37 77 ⇑P P 15 01 04.4 -0.3
baz=46
S18A Hurst Farm, Bl 46.39 81 ⇑P P 15 01 04.6 -0.4
baz=46
R19A Curley Farm, L 46.47 80 ⇑P P 15 01 05.6 0.0
baz=46
MDND Maddock 46.52 64 ⇑P P 15 01 05.3 -0.6
baz=46
PV04 Paradox Valley 46.62 80 eP P 15 01 05.6 -1.1
N22A Wattenberg Ran 46.63 75 ⇓P P 15 01 06.5 -0.3
baz=46
T18A Mexican Hat 46.82 82 ⇑P P 15 01 07.9 -0.4
baz=47
N23A Red Feather La 46.88 75 ⇓P P 15 01 08.6 -0.2
baz=47
S19A Harvey Farm, M 46.89 80 ⇑P P 15 01 08.8 -0.1
baz=47
WUAZ Wupatki 46.93 84 eP P 15 01 08.7 -0.5
comp=Z,3.0nm,0.8s,mb4.3
O22A Kremmling 46.97 76 ⇓P P 15 01 09.5 +0.1
baz=47
PV01 Paradox Valley 46.99 80 eP P 15 01 08.9 -0.8
comp=Z,2µm,0.8s
PV01 e pP 15 01 22.4 -0.8
Z13A Yuma Proving G 47.03 88 ⇓P P 15 01 11.1 +1.1
baz=47
V17A Tonalea, Kykot 47.22 84 ⇑P P 15 01 12.0 +0.6
baz=47
ULM Lac du Bonnet 47.22 59 P P 15 01 10.5 -0.8
comp=Z,12nm,0.7s,mb4.9,baz=306,slow=9.0,SNR=12
ULM pP pP 15 01 24.7 0.0
comp=Z,10nm,0.6s,baz=308,slow=8.3,SNR=8.0
ULM LR LR 15 20 50.6
comp=Z,148nm,19.1s,MS4.0,baz=333,slow=36
ULM Lac du Bonnet 47.22 59 eP P 15 01 10.0 -1.3
comp=Z,33nm,1.1s,mb5.2
ULM e pP 15 01 24.1 -0.6
ULM Lac du Bonnet 47.22 59 eP P 15 01 10.0 -1.3
ULM e pP 15 01 24.2 -0.6
ULM pmax pmax
comp=Z,33nm,1.1s
U18A Rough Rock, Ch 47.28 82 ⇓P P 15 01 12.4 +0.6
baz=47
S20A Disappointment 47.31 80 ⇑P P 15 01 12.1 0.0
baz=47
SMCO Snowmass 47.31 78 eP P 15 01 11.6 -0.6
comp=Z,4.4nm,0.8s,mb4.4
SMCO e pP 15 01 25.7 0.0
O23A Lake Granby, G 47.32 76 ⇓P P 15 01 12.6 +0.5
baz=47
Y15A Casa Rosa Ranc 47.35 87 ⇓P P 15 01 13.2 +0.7
baz=47
T19A Beclabito 47.54 81 ⇓P P 15 01 13.8 -0.1
baz=47
Q22A Crested Butte, 47.55 78 ⇓P P 15 01 14.2 +0.2
baz=47
S21A Coal Bank Pass 47.77 80 ⇓P P 15 01 16.3 +0.6
baz=48
BJI Beijing 47.99 285 P P 15 01 16.7 -0.7
BJI pP pP 15 01 28.2 -2.7
BJI sP sP 15 01 33.1 -3.6
BJI PP PP 15 03 08.8 -0.7
BJI sS sS 15 08 31.2 -3.0
BJI pmax pmax
comp=Z,21nm,0.7s,mb5.3
BJI pmax pmax
comp=Z,120nm,4.7s
BJI LR LR
comp=N,180nm,23.8s,MS4.3
BJI LR LR
comp=E,290nm,20.6s,MS4.3
BJI LR LR
comp=Z,200nm,20.4s,MS4.1
Q23A Hartsel 48.18 77 ⇓P P 15 01 19.6 +0.8
baz=48
TLY Talaya 48.23 304 eP P 15 01 18.7 -0.4
TLY e 15 03 05.1
TLY eS S **15 08 20.2 +5.6**
TLY eSS SS 15 11 12.0 -32
TLY pmax pmax
comp=Z,11nm,0.9s,mb4.9
TLY MLR MLR
comp=Z,103nm,19.0s,MS3.8
S22A 4UR Ranch, Cre 48.30 79 ⇓P P 15 01 20.0 +0.2
baz=48
AGMN Agassiz Nation 48.34 61 eP P 15 01 18.4 -1.5
comp=Z,28nm,1.0s,mb5.2
ULN Ulaanbaatar 48.59 298 eP P 15 01 21.5 -0.4
comp=Z,4.9nm,0.8s,mb4.6
ULN Ulaanbaatar 48.59 298 eP P 15 01 21.5 -0.4
ULN pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
U21A Nageezi 48.64 81 ⇑P P 15 01 22.7 +0.3
baz=48
T22A Edith 48.72 80 ⇑P P 15 01 23.8 +0.7
baz=49
P25A Willow Gulch B 48.80 75 ⇑P P 15 01 24.0 +0.3
baz=49
BRSD Miller 48.86 67 ⇑P P 15 01 23.6 -0.4
baz=49
SONM Songino Array 48.97 299 P P 15 01 25.3 +0.5
comp=Z,3.7nm,0.8s,mb4.5,baz=46,slow=7.7,SNR=20
SONM PcP PcP 15 02 47.4 -0.7
comp=Z,3.0nm,1.0s,baz=57,slow=3.5,SNR=5.7
SONM pPcP 15 03 02.7
comp=Z,3.8nm,1.0s,baz=60,slow=3.3,SNR=6.2
SONM LR LR 15 23 26.6
comp=Z,214nm,18.5s,MS4.2,baz=171,slow=38
SONM Songino Array 48.97 299 P P 15 01 25.3 +0.5
SONM PcP PcP 15 02 47.4 -0.7
SONM pPcP 15 03 02.7
SONM LR LR 15 23 26.6
SONM Songino Array 48.97 299 P P 15 01 25.3 +0.5
SONM 15 02 47.4
R24A Sanders Place, 49.04 77 ⇓P P 15 01 26.0 +0.5
baz=49
V21A Milan 49.05 81 ⇑P P 15 01 26.3 +0.7
baz=49
SDCO Great Sand Dun 49.11 78 eP P 15 01 25.9 -0.2
comp=Z,9.4nm,1.0s,mb4.8
ZAK Zakamensk 49.16 303 ⇑iP P 15 01 26.6 +0.4
ZAK e 15 02 49.4
ZAK pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
U22A Llaves 49.16 80 ⇓P P 15 01 26.2 -0.2
baz=49
X20A Quemado 49.35 83 ⇓P P 15 01 28.0 +0.1
baz=49
S24A Houchin Ranch, 49.36 78 ⇓P P 15 01 27.8 -0.1
baz=49
MOY Mondy 49.59 305 eP P 15 01 30.1 +0.6
217A Green Valley 49.76 88 ⇑P P 15 01 32.1 +1.1
baz=50
T24A Torres, Weston 49.82 78 ⇑P P 15 01 32.1 +0.7
baz=50
Y20A Horse Springs, 49.84 84 ⇑P P 15 01 32.5 +0.9
baz=50
X21A Alamocita Cree 49.85 83 ⇑P P 15 01 32.5 +0.7
baz=50
T25A Trinidad 50.17 78 ⇑P P 15 01 34.0 0.0
baz=50
Z20A Nine Sixteen R 50.24 85 ⇑P P 15 01 34.4 -0.2
baz=50
HHC Hu-ho-hao-te 50.25 288 eP P 15 01 35.0 +0.4
HHC pP pP 15 01 47.1 -1.1
HHC sP sP 15 01 52.2 -1.8
HHC PcP PcP 15 02 54.1 +1.1
HHC PP PP 15 03 31.0 +1.0
HHC ScP ScP 15 06 44.8 +0.5
HHC S S **15 08 42.4 -0.7**
HHC sS sS 15 09 01.6 -4.3
HHC ScS ScS 15 11 18.3 -2.7
HHC SS SS 15 12 10.7 -5.8
HHC pmax pmax
comp=Z,13nm,1.2s,mb4.8
HHC pmax pmax
comp=Z,86nm,7.1s
HHC LR LR
comp=N,130nm,17.8s
HHC LR LR
comp=Z,120nm,17.8s,MS4.0
LAZ Ladron 50.28 82 eP P 15 01 35.8 +0.9
comp=Z,5.4nm,0.9s,mb4.6
SPITS Spitsbergen Ar 50.30 357 P P 15 01 34.7 +0.2
comp=Z,5.5nm,0.7s,mb4.7,baz=69,slow=4.7,SNR=6.1
SPITS Spitsbergen Ar 50.30 357 P P 15 01 34.7 +0.2
SPITS Spitsbergen Ar 50.30 357 P P 15 01 34.7 +0.2
V24A Rampart Ranch, 50.56 80 ⇑P P 15 01 37.1 +0.1
baz=50
219A White Tail Can 50.58 86 ⇑P P 15 01 38.1 +0.9
baz=50
120A U Bar Ranch, L 50.60 85 ⇓P P 15 01 38.0 +0.6
baz=50
ECSD EROS Data Cent 50.63 66 eP P 15 01 35.4 -2.0
comp=Z,18nm,1.0s,mb5.0
U25A Cisco Dot Ran 50.65 79 ⇑P P 15 01 38.3 +0.6
baz=50
W24A Lazy 6 Ranch, 50.81 80 ⇑P P 15 01 39.8 +0.9
baz=51
V25A Rancho No Teng 50.89 79 ⇑P P 15 01 39.8 +0.3
baz=51
EYMN Ely 50.91 59 eP P 15 01 38.0 -1.5
comp=Z,16nm,0.8s,mb5.0
U26A Atchley Ranch, 51.06 78 ⇓P P 15 01 39.7 -1.1
baz=51
220A Playas Peak, P 51.10 86 ⇑P P 15 01 40.5 -0.6
baz=51
Y23A Lovelace Mesa, 51.26 82 ⇓P P 15 01 42.3 0.0
baz=51
W25A X Bar L Ranch, 51.39 80 ⇓P P 15 01 42.7 -0.6
baz=51
Z24A Sheeppen Canyo 52.09 82 ⇓P P 15 01 48.1 -0.4
baz=52
Y25A Mesa, Roswell 52.11 81 ⇓P P 15 01 49.0 +0.3
baz=52
X26A CR and CF Fran 52.23 80 ⇓P P 15 01 49.7 +0.1
baz=52
124A Stringfield Ra 52.46 83 ⇓P P 15 01 51.9 +0.6
baz=52
224A Cornudas Mount 52.85 84 ⇑P P 15 01 54.0 -0.1
baz=53
125A Gardner Draw, 52.98 82 ⇑P P 15 01 55.5 +0.3
baz=53
Z26A Caprock 52.99 81 ⇑P P 15 01 54.7 -0.4
baz=53
Y27A Causey 53.08 80 ⇓P P 15 01 55.8 0.0
baz=53
225A Deer Hill, Car 53.26 83 ⇓P P 15 01 57.6 +0.5
baz=53
MSTX Muleshoe 53.26 80 ⇑P P 15 01 57.4 +0.2
baz=53
324A Moseley Ranch, 53.30 84 ⇑P P 15 01 57.8 +0.3
baz=53
COWI Conover 53.31 60 eP P 15 01 57.0 -0.3
comp=Z,33nm,1.2s,mb5.1
Z27A Tatum 53.43 81 ⇑P P 15 01 57.8 -0.6
baz=53
325A Bean Ranch, Si 53.67 84 ⇓P P 15 02 00.2 0.0
baz=54
226A Malaga, Loving 53.73 82 ⇑P P 15 02 00.4 -0.3
baz=54
425A Indio Mountain 54.06 84 ⇓P P 15 02 03.1 +0.1
baz=54
426A McDonald Obser 54.74 84 ⇓P P 15 02 07.5 -0.5
baz=55
JFWS Jewell Farm 54.75 64 eP P 15 02 05.0 -2.8
comp=Z,25nm,0.9s,mb5.2
JFWS Jewell Farm 54.75 64 eP P 15 02 05.1 -2.8
JFWS pmax pmax
comp=Z,25nm,0.9s,mb5.2
328A Wristen Ranch, 55.00 82 ⇑P P 15 02 09.3 -0.5
baz=55
427A Hayter Ranch, 55.00 83 ⇑P P 15 02 09.4 -0.5
baz=55
WMOK Wichita Mounta 55.18 76 P P 15 02 06.6 -4.5
comp=Z,2.5nm,0.8s,mb4.3
WMOK e pP 15 02 24.0 -0.8
WMOK Wichita Mounta 55.18 76 P P 15 02 06.6 -4.5
WMOK e pP 15 02 24.0 -0.8
WMOK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
527A Woodward Ranch 55.36 84 ⇓P P 15 02 11.9 -0.6
baz=55
626A Big Bend Ranch 55.45 85 ⇓P P 15 02 12.3 -0.8
baz=55
428A Kincaid Ranch, 55.53 83 ⇑P P 15 02 13.3 -0.4
baz=55
ZALV Zalesovo Beam 55.83 315 P P 15 02 14.6 -0.9
comp=Z,0.4nm,0.4s,mb3.8,baz=34,slow=5.9,SNR=2.4
ZALV PcP PcP 15 03 14.3 +0.5
comp=Z,3.9nm,0.8s,baz=25,slow=4.8,SNR=11
ZALV LR LR 15 28 01.8
comp=Z,95nm,18.2s,MS3.9,baz=72,slow=38
ZALV Zalesovo Beam 55.83 315 P P 15 02 14.6 -0.9
ZALV PcP PcP 15 03 14.3 +0.5
ZALV LR LR 15 28 01.8
ZALV Zalesovo Beam 55.83 315 P P 15 02 14.6 -0.9
ZALV 15 03 14.4
TXAR Lajitas Array 55.89 85 P P 15 02 15.0 -1.3
comp=Z,2.0nm,0.8s,mb4.2,baz=298,slow=4.6,SNR=16
TXAR LR LR 15 26 59.2
comp=Z,68nm,19.3s,MS3.7,baz=0.0,slow=37
TXAR Lajitas Array 55.89 85 P P 15 02 15.0 -1.3
TXAR LR LR 15 26 59.2
TXAR Lajitas Array 55.89 85 P P 15 02 15.0 -1.3
627A Terlingua Ranc 55.98 84 ⇑P P 15 02 17.0 +0.1
baz=56
SSLB Suanglung 56.08 266 eP P 15 02 15.3 -2.3
comp=Z,84nm,1.4s,mb5.6
XAN Xi'an 56.30 284 P P 15 02 18.9 -0.2
XAN pP pP 15 02 26.9 -6.0
XAN S S **15 09 59.1 -6.3**
XAN pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
XAN LR LR
comp=N,79nm,23.0s
XAN LR LR
comp=Z,41nm,19.8s,MS3.5
JCT Junction City 57.48 81 eP P 15 02 25.8 -1.7
comp=Z,14nm,1.1s,mb4.9
JCT Junction City 57.48 81 eP P 15 02 25.8 -1.7
JCT pmax pmax
comp=Z,14nm,1.1s,mb4.9
KEV Kevo 57.93 351 ep P 15 02 28.8 -1.3
comp=Z,6.9nm,0.6s,mb4.9
FVM French Village 57.93 68 eP P 15 02 28.1 -2.5
comp=Z,23nm,0.9s,mb5.2
FVM French Village 57.93 68 eP P 15 02 28.1 -2.5
FVM pmax pmax
comp=Z,23nm,0.9s,mb5.2
LZH Lanzhou 57.94 289 eP P 15 02 31.6 +0.9
LZH pP pP 15 02 43.5 -1.0
LZH sP sP 15 02 49.1 -1.1
LZH pmax pmax
comp=Z,33nm,1.3s,mb5.2
LZH pmax pmax
comp=Z,160nm,4.9s
GTA Gaotai 58.00 294 eP P 15 02 31.2 +0.1
GTA pP pP 15 02 43.2 -1.7
GTA sP sP 15 02 48.7 -2.0
GTA S S **15 10 27.2 -0.5**
GTA SS SS 15 14 18.6 -0.2
GTA pmax pmax
comp=Z,12nm,0.8s,mb5.0
GTA pmax pmax
comp=Z,88nm,7.1s
GTA LR LR
comp=N,140nm,14.7s,MS4.3
GTA LR LR
comp=E,140nm,16.1s,MS4.3
GTA LR LR
comp=Z,150nm,19.4s,MS4.1
SCHQ Schefferville 58.07 41 P P 15 02 30.7 -0.6
comp=Z,8.9nm,0.8s,mb4.9,baz=304,slow=8.4,SNR=7.0
SCHQ LR LR 15 29 59.0
comp=Z,250nm,18.5s,MS4.4,baz=43,slow=38
SCHQ Schefferville 58.07 41 P P 15 02 30.7 -0.6
SCHQ LR LR 15 29 59.0
SFIN Scholer Farm 58.20 64 ⇓P P 15 02 32.1 -0.3
baz=58
ARCES ARCESS Array B 58.28 352 P P 15 02 31.9 -0.6
comp=Z,6.5nm,0.7s,mb4.8,baz=31,slow=6.5,SNR=10
ARCES PcP PcP 15 03 23.4 +0.2
comp=Z,12nm,0.7s,baz=27,slow=3.0,SNR=9.0
ARCES LR LR 15 30 17.1
comp=Z,95nm,18.3s,MS3.9,baz=189,slow=39
ARCES ARCESS Array B 58.28 352 P P 15 02 31.9 -0.6
ARCES PcP PcP 15 03 23.4 +0.2
ARCES LR LR 15 30 17.1
ARCES ARCESS Array B 58.28 352 P P 15 02 31.9 -0.7
ARCES 15 03 23.4
MIAR Mount Ida 58.44 73 eP P 15 02 31.8 -2.4
comp=Z,18nm,0.9s,mb5.1
MIAR e pP 15 02 47.0 -1.0
MIAR Mount Ida 58.44 73 eP P 15 02 31.8 -2.4
MIAR e pP 15 02 47.0 -1.0
MIAR pmax pmax
comp=Z,18nm,0.9s,mb5.1
OLIL Olney 58.75 66 eP P 15 02 34.8 -1.5
comp=Z,34nm,1.0s,mb5.3
OLIL e pP 15 02 48.4 -1.8
USIN University of 59.53 66 P P 15 02 40.6 -1.1
comp=Z,52nm,0.8s,mb5.6
WCI Wyandotte Cave 60.13 65 eP P 15 02 44.3 -1.5
comp=Z,18nm,0.9s,mb5.1
WCI e pP 15 02 58.0 -1.7
WCI Wyandotte Cave 60.13 65 eP P 15 02 44.3 -1.5
WCI e pP 15 02 58.0 -1.7
WCI pmax pmax
comp=Z,18nm,0.9s,mb5.1
KURK Kurchatov 60.80 316 P P 15 02 51.1 +0.9
comp=Z,4.5nm,0.5s,mb4.8,baz=44,slow=6.7,SNR=32
KURK pP pP 15 03 04.8 +0.7
comp=Z,8.1nm,0.8s,baz=43,slow=6.6,SNR=9.0
KURK PcP PcP 15 03 33.9 +0.3
comp=Z,5.3nm,0.7s,baz=33,slow=3.2,SNR=11
KURK Kurchatov 60.80 316 eP P 15 02 49.2 -1.0
comp=Z,7.1nm,0.7s,mb4.9
KURK Kurchatov 60.80 316 P P 15 02 51.1 +0.9
KURK *PP pP 15 03 04.8 +0.7
KURK 15 03 33.9
KURK pmax pmax
comp=Z,5.0nm,0.5s,mb4.9
KURK pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
KURK pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
ALLY Alegheny Colle 61.12 59 eP P 15 02 52.0 -0.5
comp=Z,105nm,1.2s,mb5.8
PLAL Pickwick Lake 61.37 69 eP P 15 02 52.2 -2.1
comp=Z,12nm,0.7s,mb5.1
MSNY Massena 61.46 53 eP P 15 02 54.0 -0.8
comp=Z,576nm,0.9s
WMQ Urumqi 61.48 305 P P 15 02 57.5 +2.6
WMQ pP pP 15 03 10.3 +1.4
WMQ sP sP 15 03 15.6 +1.0
WMQ PP PP 15 05 15.4 +5.1
WMQ S S **15 11 14.0 +1.6**
WMQ LR LR
comp=N,160nm,22.4s,MS4.3
WMQ LR LR
comp=E,160nm,23.7s,MS4.3
WMQ LR LR
comp=Z,87nm,23.7s,MS3.8
CD2 Chengdu 61.60 285 P P 15 02 56.2 +0.3
CD2 pP pP 15 03 09.0 -0.8
CD2 sP sP 15 03 14.3 -1.2
CD2 PP PP 15 05 14.0 +2.4
CD2 S S **15 11 13.0 -1.1**
CD2 sS sS 15 11 34.5 -3.0
CD2 SS SS 15 15 15.4 -0.1
CD2 pmax pmax
comp=Z,40nm,0.8s,mb5.6
CD2 pmax pmax
comp=Z,180nm,3.5s

CD2 LR LR
comp=N,180nm,7.7s
CD2 LR LR
comp=Z,310nm,4.8s
LONY Lake Ozonia 61.87 53 *e*P **P 15 02 56.1 -1.4**
comp=Z,21nm,0.8s,mb5.3
MK31 Makanchi Array 62.00 311 *e*P **P 15 02 57.6 -0.8**
MK31 Makanchi Array 62.00 311 *e*P **P 15 02 57.6 -0.8**
MKAR Makanchi Array 62.00 311 P **P 15 02 57.8 -0.6**
comp=Z,2.1nm,0.5s,mb4.5,baz=54,slow=6.6,SNR=21
MKAR LR LR 15 30 02.1
comp=Z,101nm,19.9s,MS4.0,baz=40,slow=36
MKAR Makanchi Array 62.00 311 P **P 15 02 57.8 -0.6**
MKAR LR LR 15 30 02.1
MKAR Makanchi Array 62.00 311 P **P 15 02 57.8 -0.6**
BVAR Borovoye Array 62.44 322 P **P 15 03 01.1 -0.1**
comp=Z,6.6nm,0.7s,mb4.9,baz=50,slow=7.0,SNR=37
BVAR PcP PcP 15 03 40.6 +0.4
comp=Z,11nm,0.7s,baz=52,slow=3.1,SNR=16
BVAR Borovoye Array 62.44 322 P **P 15 03 01.1 -0.1**
BVAR PcP PcP 15 03 40.6 +0.4
BVAR Borovoye Array 62.44 322 P **P 15 03 01.1 -0.1**
BVAR 15 03 40.6
BRVK Borovoye 62.45 322 *e*P **P 15 03 00.7 -0.6**
comp=Z,10.0nm,0.8s,mb5.0
BRVK Borovoye 62.45 322 *e*P **P 15 03 00.7 -0.6**
BRVK pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
BRVK Borovoye 62.45 322⇑ *e*P **P 15 03 00.9 -0.4**
BRVK pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
BRVK MLR MLR
comp=Z,274nm,17.0s,MS4.5
NCB Newcomb 62.52 53 *e*P **P 15 03 01.1 -0.8**
comp=Z,12nm,0.7s,mb5.1
BINY Binghamton 62.90 56 *e*P **P 15 03 04.4 -0.1**
comp=Z,40nm,0.9s,mb5.5
GYA Guiyang 63.02 279 P **P 15 03 07.2 +1.7**
GYA pP pP 15 03 19.5 +0.1
GYA sP sP 15 03 25.3 +0.2
GYA PP PP 15 05 27.0 +2.8
GYA ScP ScP 15 07 40.6 -0.1
GYA S **S 15 11 31.8 -0.3**
GYA SKS 15 12 52.4
GYA SS SS 15 15 38.5 +0.6
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
GYA pmax pmax
comp=Z,110nm,5.0s
GYA LR LR
comp=N,420nm,19.0s,MS4.8
GYA LR LR
comp=E,380nm,20.4s,MS4.8
GYA LR LR
comp=Z,440nm,19.8s,MS4.6
SSPA Standing Stone 63.03 58 *e*P **P 15 03 04.2 -1.2**
comp=Z,31nm,1.0s,mb5.4
ACCN Adirondack Com 63.22 53 *e*P **P 15 03 05.3 -1.3**
comp=Z,25nm,0.8s,mb5.4
ACCN *e* pP 15 03 20.7 +0.2
TGY Tagaytay City 63.38 259 P **P 15 03 06.7 -1.2**
comp=Z,35nm,0.4s,mb5.9,baz=126,slow=17,SNR=3.4
TGY Tagaytay City 63.38 259 P **P 15 03 06.7 -1.2**
TGY Tagaytay City 63.38 259 P **P 15 03 06.7 -1.2**
TRY Troy 63.70 54 *e*P **P 15 03 08.5 -1.2**
comp=Z,22nm,0.8s,mb5.2
ELN Prospectdale 63.94 62 *e*P **P 15 03 09.6 -1.7**
JOF Joensuu 64.02 347 *e*p **P 15 03 10.2 -1.3**
comp=Z,3.8nm,0.6s,mb4.6
PAL Palisades 64.84 55 *e*P **P 15 03 16.5 -0.7**
comp=Z,39nm,0.9s,mb5.4
PAL *e* pP 15 03 30.9 -0.3
PAL Palisades 64.84 55 *e*P **P 15 03 16.5 -0.7**
PAL *e* pP 15 03 31.0 -0.2
PAL pmax pmax
comp=Z,39nm,0.9s,mb5.4
KMSC Kings Mountain 65.12 64 ⇓P **P 15 03 19.1 0.0**
baz=65
GOGA Godfrey 65.16 67 *e*P **P 15 03 18.0 -1.4**
GOGA Godfrey 65.16 67 *e*P **P 15 03 18.0 -1.4**
KAF Kangasniemi 65.43 349 *e*p **P 15 03 18.9 -1.7**
comp=Z,6.0nm,0.6s,mb4.8
JSC Jenkinsville 65.79 65 *e*P **P 15 03 23.1 -0.3**
JSC Jenkinsville 65.79 65 *e*P **P 15 03 23.1 -0.3**
FINES FINESS Array B 66.10 349 P **P 15 03 24.2 -0.8**
comp=Z,4.3nm,0.8s,mb4.5,baz=23,slow=6.4,SNR=6.8
FINES PcP PcP 15 03 54.4 -0.6
comp=Z,4.7nm,0.7s,baz=23,slow=4.5,SNR=4.8
FINES LR LR 15 35 26.2
comp=Z,94nm,19.5s,MS4.0,baz=358,slow=39
FINES FINESS Array B 66.10 349 P **P 15 03 24.2 -0.8**
FINES PcP PcP 15 03 54.4 -0.7
FINES LR LR 15 35 26.2
FINES FINESS Array B 66.10 349 P **P 15 03 24.2 -0.8**
FINES 15 03 54.4
KMI Kunming 66.40 281 P **P 15 03 29.2 +1.7**
KMI pP pP 15 03 41.7 +0.1
KMI S S 15 12 12.9 -0.9
KMI pmax pmax
comp=Z,6.0nm,2.0s,mb4.3
KMI LR LR
comp=Z,36nm,24.9s,MS3.5
NB2 NORSAR Subarra 67.60 357 P **P 15 03 34.1 -0.4**
comp=Z,2.5nm,0.7s,mb4.3,baz=4.8,slow=6.5
NOA NORSAR Array B 67.60 357 P **P 15 03 34.4 -0.2**
comp=Z,5.4nm,0.8s,mb4.6,baz=3.0,slow=6.4,SNR=15
NOA pP pP 15 03 50.8 +2.1
comp=Z,2.9nm,0.8s,baz=2.0,slow=6.3,SNR=3.7
NOA LR LR 15 36 42.4
comp=Z,52nm,18.1s,MS3.8,baz=345,slow=39
NOA NORSAR Array B 67.60 357 P **P 15 03 34.4 -0.2**
NOA pP pP 15 03 50.8 +2.1
NOA LR LR 15 36 42.4
NOA NORSAR Array B 67.60 357 P **P 15 03 34.4 -0.1**
NOA *PP pP 15 03 50.8 +2.1
KBK Karagaybulak 68.55 312 *e*P **P 15 03 41.5 +0.7**
comp=Z,3.9nm,0.6s,mb4.5
KBK Karagaybulak 68.55 312 *e*P **P 15 03 41.5 +0.7**
KBK pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
AAK Ala-Archa 68.78 312 *e*P **P 15 03 42.3 +0.1**
comp=Z,6.1nm,0.8s,mb4.6
AAK Ala-Archa 68.78 312⇓ *e*P **P 15 03 43.2 +1.0**
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
AAK MLR MLR
comp=Z,68nm,21.0s,MS3.9
KZA Kyzart 68.86 312 *e*P **P 15 03 43.4 +0.6**
KZA Kyzart 68.86 312 *e*P **P 15 03 43.4 +0.6**
EKS2 Erkin-Say 69.09 313 *e*P **P 15 03 44.9 +0.8**
comp=Z,6.4nm,0.8s,mb4.6
EKS2 Erkin-Say 69.09 313 *e*P **P 15 03 44.9 +0.8**
EKS2 pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ABKAR Akbulak array 69.36 325 *e*P **P 15 03 45.1 -0.6**
comp=Z,5.1nm,0.8s,mb4.5
LSA Lhasa 69.92 293 P **P 15 03 50.8 +1.3**
LSA Lhasa 69.92 293 *e*P **P 15 03 50.9 +1.4**
comp=Z,28nm,0.8s,mb5.2
LSA Lhasa 69.92 293 *e*P **P 15 03 50.9 +1.4**
LSA pmax pmax
comp=Z,28nm,0.8s,mb5.2
KKAR Karatay Array 70.20 315 *e*P **P 15 03 50.5 -0.5**
comp=Z,3.4nm,0.5s,mb4.5
KKAR Karatay Array 70.20 315 *e*P **P 15 03 50.5 -0.5**
KKAR pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
PMOR Pomariorio Ree 70.25 153 *e*T 16 20 50.7
comp=Z,3.4nm,0.2s
KSH Kashi 70.52 309 P **P 15 03 57.3 +4.3**
KSH pP pP 15 04 10.3 +3.1
KSH sP sP 15 04 15.6 +2.8
KSH PcP PcP 15 04 17.5 +3.5
KSH PP PP 15 06 37.1 +8.0
KSH S S 15 13 07.2 +4.9
KSH sS sS 15 13 30.5 +4.4
KSH SKS 15 13 51.5
KSH ScS ScS 15 13 53.8 +2.0
KSH SS SS 15 17 44.2 +11
KSH pmax pmax
comp=Z,20nm,1.2s,mb4.9
KSH pmax pmax
comp=Z,110nm,5.5s
KSH LR LR
comp=N,63nm,3.8s
KSH LR LR
comp=E,44nm,4.3s
KSH LR LR
comp=Z,120nm,5.2s
PPT Papeete 72.23 155 *e*LR LR 15 25 48.5
comp=Z,114nm,21.5s,baz=344
PPT *e*LR LR 15 25 48.5
comp=Z,114nm,21.5s,baz=344
PPT Papeete 72.23 155 LR LR 15 31 08.4
comp=Z,151nm,19.9s,MS4.3,baz=347,slow=32
SHL Shillong 72.60 289 *e*PKP **P 15 04 04.5 -1.2**
CHTO Chiang Mai 73.44 279 *e*P **P 15 04 10.2 -0.6**
comp=Z,13nm,1.4s,mb4.7
CHTO Chiang Mai 73.44 279 *e*P **P 15 04 10.2 -0.6**
CHTO pmax pmax
comp=Z,13nm,1.4s,mb4.7
VSR Storozhevoye 73.67 339 *e*P **P 15 04 11.1 -0.5**
VSR pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
VSR pmax pmax
comp=N,1.0nm,0.3s
VSR pmax pmax
comp=E,2.0nm,0.3s
CM31 Chiang Mai Arr 73.71 279 *e*P **P 15 04 13.9 +1.5**
comp=E,8.2nm,0.9s,mb4.7
CMAR Chiang Mai Arr 73.71 279 P **P 15 04 12.3 -0.1**
comp=E,6.5nm,0.9s,mb4.6,baz=26,slow=6.6,SNR=32
CMAR LR LR 15 38 45.6
comp=E,53nm,19.0s,MS3.8,baz=246,slow=38
CMAR Chiang Mai Arr 73.71 279 P **P 15 04 12.3 -0.1**
CMAR LR LR 15 38 45.6
CMAR Chiang Mai Arr 73.71 279 P **P 15 04 12.3 -0.1**
GUN Gumba 74.28 295⇑ *i*P **P 15 04 16.5 +0.9**
comp=E,177nm,1.0s,mb5.9
GUN Gumba 74.28 295⇑ *i*P **P 15 04 16.5 +0.9**
comp=E,177nm,1.0s,mb6.0
KKN Kakani 74.71 295⇑ *i*P **P 15 04 18.9 +0.8**
comp=E,34nm,0.8s,mb5.3
KKN Kakani 74.71 295⇑ *i*P **P 15 04 18.9 +0.8**
comp=E,34nm,0.8s,mb5.3
KKN Kakani 74.71 295⇑ *i*P **P 15 04 18.9 +0.8**
KKN pmax pmax
comp=Z,34nm,0.8s,mb5.3
PKI Pulchoki 74.81 295⇑ *i*P **P 15 04 19.2 +0.5**
comp=Z,78nm,1.0s,mb5.6
PKI Pulchoki 74.81 295⇑ *i*P **P 15 04 19.2 +0.5**
comp=Z,78nm,1.0s,mb5.6
PKI Pulchoki 74.81 295⇑ *i*P **P 15 04 19.2 +0.5**
PKI pmax pmax
comp=Z,78nm,1.0s,mb5.6
PKIN Phulchoki 74.81 295⇑ *i*P **P 15 04 19.1 +0.4**
comp=Z,50nm,1.0s,mb5.4
GKN Gorkha 74.91 296⇑ *i*P **P 15 04 19.7 +0.5**
comp=Z,175nm,1.3s,mb5.8
GKN Gorkha 74.91 296⇑ *i*P **P 15 04 19.7 +0.5**
comp=Z,175nm,1.3s,mb5.8
DMN Daman 74.95 295⇑ *i*P **P 15 04 20.3 +0.8**
comp=Z,65nm,1.0s,mb5.5
DMN Daman 74.95 295⇑ *i*P **P 15 04 20.3 +0.8**
comp=E,65nm,1.0s,mb5.5
DANN Dangsing 75.13 297⇑ *i*P **P 15 04 21.4 +0.9**
comp=Z,132nm,0.8s,mb5.9
DANN Dangsing 75.13 297⇑ *i*P **P 15 04 21.4 +0.9**
comp=Z,132nm,0.8s,mb5.9
KOLN Koldanda 75.67 297⇑ *i*P **P 15 04 24.0 +0.4**
comp=Z,45nm,0.9s,mb5.4
KOLN Koldanda 75.67 297⇑ *i*P **P 15 04 24.0 +0.4**
comp=Z,45nm,0.9s,mb5.4
AKASG Malin Array Be 76.10 345 P **P 15 04 24.8 -0.9**
comp=Z,3.2nm,0.5s,mb4.5,baz=16,slow=6.5,SNR=8.8
AKASG LR LR 15 44 10.5
comp=Z,96nm,18.1s,MS4.2,baz=15,slow=40
AKASG Malin Array Be 76.10 345 P **P 15 04 24.8 -0.9**
AKASG LR LR 15 44 10.5
AKASG Malin Array Be 76.10 345 P **P 15 04 24.8 -0.9**
NRDL Niedersach Rie 76.19 357 *e*P **P 15 04 26.4 +0.3**
comp=Z,12nm,1.1s,mb4.7
IBBN Ibbenburen 76.43 359 *e*P **P 15 04 28.2 +0.7**
comp=Z,22nm,0.7s,mb5.2
CLZ Clausthal 76.83 357 *e*P **P 15 04 30.8 +1.0**
comp=Z,23nm,0.9s,mb5.1
CLZ Clausthal 76.83 357 *e*P **P 15 04 30.8 +1.0**
CLZ pmax pmax
comp=Z,23nm,0.9s,mb5.1
CLL Collm 77.25 355 *e*P **P 15 04 32.1 -0.1**
comp=Z,12nm,1.0s,mb4.8
CLL Collm 77.25 355 *i* P **P 15 04 31.4 -0.8**
CLL *i* pP 15 04 46.7 +0.2
CLL pmax pmax
comp=Z,12nm,1.0s,mb4.8
CLL Collm 77.25 355 *i* P **P 15 04 31.4 -0.8**
comp=Z,12nm,1.0s,mb4.8
CLL *i* pP pP 15 04 46.7 +0.2
NEUB Neuenburg 77.41 356 *e*P **P 15 04 33.6 +0.6**
comp=Z,29nm,0.8s,mb5.3
FBE Freiberg 77.62 355 *e*P **P 15 04 34.7 +0.5**
comp=Z,20nm,1.1s,mb5.0
BRG Berggiesshubel 77.64 355 *e*P **P 15 04 34.3 0.0**
comp=Z,11nm,0.9s,mb4.8
TBI Tubuai 77.79 157 *e*LR LR 15 28 28.6
comp=Z,115nm,25.8s
TBI *e*T 16 30 20.4
comp=Z,3.7nm,0.3s
KBL Kabul 77.81 311 *e*P **P 15 04 33.6 -2.0**
comp=Z,18nm,1.0s,mb5.0
KBL Kabul 77.81 311 *e*P **P 15 04 33.6 -2.0**
KBL pmax pmax
comp=Z,18nm,1.0s,mb5.0
UPC Upice 77.86 353 *e*P **P 15 04 35.7 +0.1**
UPC Upice 77.86 353 *e*P **P 15 04 35.7 +0.1**
UBBA Unterbreizbach 77.87 357 *e*P **P 15 04 35.7 +0.1**
comp=Z,6.0nm,0.9s,mb4.5
UBBA *e*pP pP 15 04 42.6 -7.4
PVCC Panska Ves 77.94 354 *e*P **P 15 04 36.3 +0.3**
PVCC Panska Ves 77.94 354 *e*P **P 15 04 36.3 +0.3**
MOX Moxa 77.98 356 *e*P **P 15 04 36.8 +0.6**
comp=Z,16nm,1.0s,mb4.9
MOX Moxa 77.98 356 *e*P **P 15 04 36.8 +0.6**
MOX pmax pmax
comp=Z,16nm,1.0s,mb4.9
DPC Dobruska-Polom 78.00 353 *e*P **P 15 04 36.6 +0.3**
DPC Dobruska-Polom 78.00 353 *e*P **P 15 04 36.6 +0.3**
MEM Membach 78.15 360 P **P 15 04 37.7 +0.6**
WERD Werda 78.15 356 *e*P **P 15 04 37.4 +0.2**
comp=Z,10.0nm,1.2s,mb4.6
TANN Tannenbergstha 78.17 356 *e*P **P 15 04 37.6 +0.3**
comp=Z,7.0nm,1.1s,mb4.5
GUNZ Gunzen 78.23 356 *e*P **P 15 04 38.2 +0.6**
comp=Z,9.0nm,1.0s,mb4.7
SNF Seneffe 78.24 1 P **P 15 04 37.6 -0.1**
BCLA Clavier 78.34 0 P **P 15 04 38.6 +0.4**
NKC Novy Kostel 78.36 356 *e*P **P 15 04 38.8 +0.5**
NKC Novy Kostel 78.36 356 *e*P **P 15 04 38.8 +0.5**
PRU Pruhonice 78.48 354 *e*P **P 15 04 40.1 +1.1**
PRU Pruhonice 78.48 354 *e*P **P 15 04 40.1 +1.1**
TNS Taunus Mts 78.50 358 *e*P **P 15 04 39.9 +0.8**
comp=Z,18nm,0.8s,mb5.0
TNS Taunus Mts 78.50 358 *e*P **P 15 04 39.9 +0.8**
TNS pmax pmax
comp=Z,18nm,0.8s,mb5.0
GIVF Givet 78.65 1 *e*P **P 15 04 40.1 +0.2**
comp=Z,34nm,1.0s,mb4.9
GIVF Givet 78.65 1 *e*P **P 15 04 40.1 +0.2**
comp=Z,17nm,1.0s,mb4.9
GIVF Givet 78.65 1 *e*P **P 15 04 40.1 +0.2**
GIVF pmax pmax
comp=Z,17nm,1.0s,mb4.9
DOU Dourbes 78.66 1 P **P 15 04 40.2 +0.3**
BAIF Baives 78.69 1 *e*P **P 15 04 40.4 +0.3**
comp=Z,34nm,1.0s,mb4.9
BAIF Baives 78.69 1 *e*P **P 15 04 40.4 +0.3**
comp=Z,17nm,1.0s,mb4.9
BAIF Baives 78.69 1 *e*P **P 15 04 40.4 +0.3**
BAIF pmax pmax
comp=Z,17nm,1.0s,mb4.9
KOLS Kolonicke sedl 78.82 349 *e*P **P 15 04 41.5 +0.6**
KOLS Kolonicke sedl 78.82 349 *e*P **P 15 04 41.5 +0.6**
ROTZ Rotzenmuhle 78.83 356 *e*P **P 15 04 41.7 +0.8**
comp=Z,10.0nm,0.9s,mb4.8
CRVS Cervenica-Dubn 78.94 349 *e*P **P 15 04 40.6 -1.0**
CRVS Cervenica-Dubn 78.94 349 *e*P **P 15 04 40.6 -1.0**
GRF Grafenberg Arr 78.95 356 *e*P **P 15 04 42.7 +1.1**
comp=Z,33nm,0.7s,mb5.4
GRF *e*L 15 33 44.7
comp=Z,52nm,21.0s
GRF Grafenberg Arr 78.95 356 *e*P **P 15 04 42.6 +1.0**
GRF pmax pmax
comp=Z,33nm,0.7s,mb5.4
VRAC Vranov 79.01 353 ⇓P **P 15 04 42.6 +0.7**
VRAC Vranov 79.01 353 ⇓*i*P **P 15 04 42.6 +0.7**
VRAC Vranov 79.01 353 ⇓*i*P **P 15 04 42.6 +0.7**
WLF Walferdange 79.09 360 *e*P **P 15 04 43.0 +0.7**
comp=Z,16nm,1.0s,mb4.9
KHC Kasperske Hory 79.39 355 *e*P **P 15 04 44.8 +0.7**
comp=Z,6.8nm,0.9s,mb4.6
KHC Kasperske Hory 79.39 355 *e*P **P 15 04 44.8 +0.8**
KHC pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
KHC Kasperske Hory 79.39 355 *e*P **P 15 04 44.8 +0.8**
KHC *e*pP pP 15 04 57.5 -0.9
WET Wettzell 79.42 355 *e*P **P 15 04 44.7 +0.5**
comp=Z,11nm,1.4s,mb4.6
WET Wettzell 79.42 355 *e*P **P 15 04 44.7 +0.5**
WET pmax pmax
comp=Z,11nm,1.4s,mb4.6
KIV Kislovodsk 79.54 334 *i* P **P 15 04 45.1 +0.2**
KIV pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
KIV MLR MLR
comp=Z,100nm,28.0s,MS4.0
VYHS Vyhne 79.62 351 *e*P **P 15 04 45.3 0.0**
VYHS Vyhne 79.62 351 *e*P **P 15 04 45.3 0.0**
GEC2 GERESS Array S 79.67 355 *e*P **P 15 04 45.9 +0.4**
comp=Z,9.0nm,1.0s,mb4.7
GEC2 GERESS Array S 79.67 355 *e*P **P 15 04 45.9 +0.4**
GEC2 pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
GERES GERESS Array B 79.67 355 P **P 15 04 45.5 0.0**
comp=Z,3.9nm,0.8s,mb4.4,baz=19,slow=4.5,SNR=30
GERES LR LR 15 41 27.8
comp=Z,59nm,18.7s,MS4.0,baz=352,slow=37
GERES GERESS Array B 79.67 355 P **P 15 04 45.5 0.0**
GERES LR LR 15 41 27.8
GERES GERESS Array B 79.67 355 P **P 15 04 45.5 0.0**
BUR08 Bucovina Ar. S 79.69 347 *e*P **P 15 04 45.8 +0.1**
BURAR Bucovina Array 79.72 347 ⇑P **P 15 04 46.3 +0.5**
BURAR Bucovina Array 79.72 347 ⇑*i*P **P 15 04 46.3 +0.5**
BURAR Bucovina Array 79.72 347 ⇑*i*P **P 15 04 46.3 +0.5**
FLN La Foliniere 79.86 4 *e*P **P 15 04 46.2 -0.3**
comp=Z,53nm,1.1s,mb5.1
FLN *e*MLR MLR
comp=Z,74nm,18.8s,MS3.8
FLN La Foliniere 79.86 4 *e*P **P 15 04 46.2 -0.3**
comp=Z,26nm,1.1s,mb5.1
FLN LR LR
comp=Z,70nm,18.8s,MS4.0
FLN La Foliniere 79.86 4 *e*P **P 15 04 46.2 -0.3**
FLN pmax pmax
comp=Z,26nm,1.1s,mb5.1
FLN MLR MLR
comp=Z,70nm,18.8s,MS4.0
LDF La Druitiere 80.04 4 *e*P **P 15 04 47.0 -0.5**
comp=Z,25nm,0.9s,mb4.8
LDF La Druitiere 80.04 4 *e*P **P 15 04 47.0 -0.5**
comp=Z,12nm,0.9s,mb4.8
LDF La Druitiere 80.04 4 *e*P **P 15 04 47.0 -0.5**
LDF pmax pmax
comp=Z,12nm,0.9s,mb4.8
ROSF Rostrenen 80.13 6 *e*P **P 15 04 47.7 -0.3**
comp=Z,47nm,1.1s,mb5.0
ROSF Rostrenen 80.13 6 *e*P **P 15 04 47.7 -0.3**
comp=Z,24nm,1.1s,mb5.0
ROSF Rostrenen 80.13 6 *e*P **P 15 04 47.7 -0.3**
ROSF pmax pmax
comp=Z,24nm,1.1s,mb5.0
GRR Gorron 80.22 4 *e*P **P 15 04 48.3 -0.2**
comp=Z,31nm,0.8s,mb5.0
GRR Gorron 80.22 4 *e*P **P 15 04 48.3 -0.2**
comp=Z,16nm,0.8s,mb5.0
GRR Gorron 80.22 4 *e*P **P 15 04 48.3 -0.2**
GRR pmax pmax
comp=Z,16nm,0.8s,mb5.0
MEZF Maizieres J'vi 80.25 0 *e*P **P 15 04 49.0 +0.3**
MEZF Maizieres J'vi 80.25 0 *e*P **P 15 04 49.0 +0.3**
ZEI Tsey 80.29 332 *e*P **P 15 04 45.7 -3.3**
ZEI pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
CDF Champ du Feu 80.33 359 *e*P **P 15 04 49.2 +0.1**
comp=Z,36nm,0.9s,mb5.0
CDF Champ du Feu 80.33 359 *e*P **P 15 04 49.2 +0.1**
comp=Z,18nm,0.9s,mb5.0
CDF Champ du Feu 80.33 359 *e*P **P 15 04 49.2 +0.1**
CDF pmax pmax
comp=Z,18nm,0.9s,mb5.0
BFO Black Forest 80.40 358 *e*P **P 15 04 49.9 +0.4**
comp=Z,11nm,0.9s,mb4.8
BFO Black Forest 80.40 358 *e*P **P 15 04 49.9 +0.4**
BFO pmax pmax
comp=Z,11nm,0.9s,mb4.8
CONA Conrad Observa 80.44 353⇑ *i*P **P 15 04 50.1 +0.4**
comp=Z,7.7nm,1.2s,mb4.5
FUR Furstenfeldbru 80.47 356 *e*pP pP 15 04 56.1 -8.2
ECH Echery 80.53 359 *e*P **P 15 04 49.4 -0.8**
comp=Z,18nm,0.9s,mb5.0
ECH Echery 80.53 359 *e*P **P 15 04 49.4 -0.8**
ECH pmax pmax
comp=Z,18nm,0.9s,mb5.0
SFTF Sexfontaines 80.55 0 *e*P **P 15 04 50.5 +0.2**
comp=Z,91nm,0.9s,mb5.4
SFTF Sexfontaines 80.55 0 *e*P **P 15 04 50.5 +0.2**
comp=Z,91nm,0.9s,mb5.7
QUIF Quistinic 80.56 6 *e*P **P 15 04 50.4 +0.1**
QUIF Quistinic 80.56 6 *e*P **P 15 04 50.4 +0.1**
QUIF Quistinic 80.56 6 *e*P **P 15 04 50.4 +0.1**
HAU Haudompre 80.75 359 *e*P **P 15 04 51.5 +0.2**
comp=Z,41nm,0.9s,mb5.0
HAU *e*MLR MLR
comp=Z,67nm,18.0s,MS3.7
HAU Haudompre 80.75 359 *e*P **P 15 04 51.5 +0.2**
comp=Z,20nm,0.9s,mb5.1
HAU LR LR
comp=Z,70nm,18.0s,MS4.1
HAU Haudompre 80.75 359 *e*P **P 15 04 51.5 +0.2**
HAU pmax pmax
comp=Z,20nm,0.9s,mb5.0
HAU MLR MLR
comp=Z,70nm,18.0s,MS4.1
RJOB Jochberg 80.83 355 *e*P **P 15 04 52.3 +0.5**
comp=Z,5.0nm,0.8s,mb4.5
HINF Hinteralfeld 80.94 359 *e*P **P 15 04 52.3 0.0**
comp=Z,22nm,0.8s,mb4.9
HINF Hinteralfeld 80.94 359 *e*P **P 15 04 52.3 0.0**
comp=Z,11nm,0.8s,mb4.8
HINF Hinteralfeld 80.94 359 *e*P **P 15 04 52.3 0.0**
HINF pmax pmax
comp=Z,11nm,0.8s,mb4.8
KBA Koelnbreinsper 81.45 355⇑ *i*P **P 15 04 55.8 +0.7**
comp=Z,22nm,0.9s,mb5.1
LOR Lormes 81.48 1 *e*P **P 15 04 55.4 +0.2**
comp=Z,33nm,0.9s,mb5.0
LOR *e*MLR MLR
comp=Z,70nm,20.2s,MS3.7
LOR Lormes 81.48 1 *e*P **P 15 04 55.4 +0.2**
comp=Z,16nm,0.9s,mb5.0
LOR LR LR
comp=Z,70nm,20.3s,MS4.0
LOR Lormes 81.48 1 *e*P **P 15 04 55.4 +0.2**
LOR pmax pmax
comp=Z,17nm,0.9s,mb5.0
LOR MLR MLR
comp=Z,70nm,20.3s,MS4.0
FETA Feichten 81.64 356⇑ *i*P **P 15 04 56.4 +0.3**
comp=Z,11nm,0.9s,mb4.8
SSF Saint Saulge 81.68 1 *e*P **P 15 04 56.5 +0.2**
comp=Z,27nm,0.7s,mb5.0
SSF Saint Saulge 81.68 1 *e*P **P 15 04 56.5 +0.2**
comp=Z,14nm,0.7s,mb5.0
SSF Saint Saulge 81.68 1 *e*P **P 15 04 56.5 +0.2**
SSF pmax pmax
comp=Z,14nm,0.7s,mb5.0
MLR Muntele Rosu 81.69 346 ⇓P **P 15 04 58.4 +2.0**
MLR Muntele Rosu 81.69 346 ⇓*i*P **P 15 04 58.4 +2.0**
MLR Muntele Rosu 81.69 346 ⇓*i*P **P 15 04 58.4 +2.0**
SOKA Soboth 81.75 353⇑ *i*P **P 15 04 56.9 +0.3**
comp=Z,12nm,1.0s,mb4.8
VOIR 81.88 346 ⇓P **P 15 04 59.3 +1.9**
VOIR 81.88 346 ⇓*i*P **P 15 04 59.3 +1.9**
VOIR 81.88 346 ⇓*i*P **P 15 04 59.3 +1.9**
AVF Avril sur Loir 81.95 2 *e*P **P 15 04 57.8 +0.1**
comp=Z,32nm,0.8s,mb5.0
AVF Avril sur Loir 81.95 2 *e*P **P 15 04 57.8 +0.1**
comp=Z,16nm,0.8s,mb5.0

AVF	**Avril sur Loir**	**81.95**	**2**	*eP*	**P**	**15 04 57.8**	**+0.1**
AVF				pmax	pmax			
	comp=Z,16nm,0.8s,mb5.0							
MFF	**Saint Martin d**	**82.03**	**4**	*eP*	**P**	**15 04 58.2**	**0.0**
	comp=Z,49nm,0.9s,mb5.1							
MFF	**Saint Martin d**	**82.03**	**4**	*eP*	**P**	**15 04 58.2**	**0.0**
	comp=Z,24nm,0.9s,mb5.1							
MFF	**Saint Martin d**	**82.03**	**4**	*eP*	**P**	**15 04 58.2**	**0.0**
MFF				pmax	pmax			
	comp=Z,25nm,0.9s,mb5.1							
SMF	**Signal de Mont**	**82.10**	**1**	*eP*	**P**	**15 04 58.6**	**+0.1**
	comp=Z,46nm,0.9s,mb5.1							
SMF	**Signal de Mont**	**82.10**	**1**	*eP*	**P**	**15 04 58.6**	**+0.1**
	comp=Z,23nm,0.9s,mb5.1							
SMF	**Signal de Mont**	**82.10**	**1**	*eP*	**P**	**15 04 58.6**	**+0.1**
SMF				pmax	pmax			
	comp=Z,23nm,0.9s,mb5.1							
CABF	**La Chapelle**	**82.15**	**360**	*eP*	**P**	**15 04 59.4**	**+0.6**
	comp=Z,46nm,1.0s,mb5.1							
CABF	**La Chapelle**	**82.15**	**360**	*eP*	**P**	**15 04 59.4**	**+0.6**
	comp=Z,23nm,1.0s,mb5.1							
CABF	**La Chapelle**	**82.15**	**360**	*eP*	**P**	**15 04 59.4**	**+0.6**
CABF				pmax	pmax			
	comp=Z,23nm,1.0s,mb5.1							
BGF	**Bois d'Agland**	**82.17**	**2**	*eP*	**P**	**15 04 58.9**	**0.0**
	comp=Z,38nm,0.9s,mb5.0							
BGF	**Bois d'Agland**	**82.17**	**2**	*eP*	**P**	**15 04 58.9**	**0.0**
	comp=Z,19nm,0.9s,mb5.0							
BGF	**Bois d'Agland**	**82.17**	**2**	*eP*	**P**	**15 04 58.9**	**0.0**
BGF				pmax	pmax			
	comp=Z,19nm,0.9s,mb5.0							
TUE	**Stuetta**	**82.23**	**357**	*eP*	**P**	**15 04 59.6**	**+0.4**
	comp=Z,5.4nm,0.8s,mb4.5							
TIRR	**Tirgusor**	**82.29**	**344**	⇑*P*	**P**	**15 05 00.3**	**+0.8**
TIRR	**Tirgusor**	**82.29**	**344**	⇑*iP*	**P**	**15 05 00.3**	**+0.8**
TIRR	**Tirgusor**	**82.29**	**344**	⇑*iP*	**P**	**15 05 00.3**	**+0.8**
TCF	**Toulx Ste Croi**	**82.43**	**2**	*eP*	**P**	**15 05 00.2**	**0.0**
	comp=Z,35nm,0.9s,mb5.0							
TCF	**Toulx Ste Croi**	**82.43**	**2**	*eP*	**P**	**15 05 00.2**	**0.0**
	comp=Z,18nm,0.9s,mb5.0							
TCF	**Toulx Ste Croi**	**82.43**	**2**	*eP*	**P**	**15 05 00.2**	**0.0**
TCF				pmax	pmax			
	comp=Z,18nm,0.9s,mb5.0							
BHPL	**Bhopal**	**82.65**	**298**	*e*PKP	**P**	**15 05 01.1**	**-0.7**
LPL	**La Plagne**	**83.24**	**359**	*eP*	**P**	**15 05 05.9**	**+1.5**
LPL	**La Plagne**	**83.24**	**359**	*eP*	**P**	**15 05 05.9**	**+1.5**
LPL	**La Plagne**	**83.24**	**359**	*eP*	**P**	**15 05 05.9**	**+1.5**
LPG	**La Plagne**	**83.26**	**359**	*eP*	**P**	**15 05 06.1**	**+1.6**
LPG	**La Plagne**	**83.26**	**359**	*eP*	**P**	**15 05 06.1**	**+1.6**
LPG	**La Plagne**	**83.26**	**359**	*eP*	**P**	**15 05 06.1**	**+1.6**
RJF	**Les Rejaudoux**	**83.39**	**3**	*eP*	**P**	**15 05 05.1**	**-0.1**
	comp=Z,13nm,0.9s,mb4.7							
RJF				*e*MLR	MLR			
	comp=Z,92nm,17.8s,MS3.9							
RJF	**Les Rejaudoux**	**83.39**	**3**	*eP*	**P**	**15 05 05.1**	**-0.1**
	comp=Z,6.3nm,0.9s,mb4.7							
RJF				LR	LR			
	comp=Z,90nm,17.8s,MS4.2							
RJF	**Les Rejaudoux**	**83.39**	**3**	*eP*	**P**	**15 05 05.1**	**-0.1**
RJF				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.6							
RJF				MLR	MLR			
	comp=Z,90nm,17.8s,MS4.2							
VIS	**Vishakhapatnam**	**83.67**	**290**	*ex*	**P**	**15 05 03.8**	**-3.3**
VIS				AMb	AMB	15 05 04.1		
	comp=Z,16nm,0.8s,mb5.2							
BNI	**Bardonecchia**	**83.70**	**359**	*eP*	**P**	**15 05 08.6**	**+1.8**
	comp=Z,25nm,1.4s,mb5.2							
BNI	**Bardonecchia**	**83.70**	**359**	*eP*	**P**	**15 05 08.6**	**+1.8**
BNI				pmax	pmax			
	comp=Z,25nm,1.4s,mb5.2							
LFF	**La Frestale**	**83.73**	**3**	*eP*	**P**	**15 05 07.2**	**+0.2**
	comp=Z,53nm,0.9s,mb5.3							
LFF	**La Frestale**	**83.73**	**3**	*eP*	**P**	**15 05 07.2**	**+0.2**
	comp=Z,26nm,0.9s,mb5.4							
LFF	**La Frestale**	**83.73**	**3**	*eP*	**P**	**15 05 07.2**	**+0.2**
LFF				pmax	pmax			
	comp=Z,26nm,0.9s,mb5.4							
CAF	**Calviac**	**83.78**	**3**	*eP*	**P**	**15 05 07.6**	**+0.3**
	comp=Z,27nm,1.1s,mb5.0							
CAF	**Calviac**	**83.78**	**3**	*eP*	**P**	**15 05 07.6**	**+0.3**
	comp=Z,14nm,1.1s,mb5.0							
CAF	**Calviac**	**83.78**	**3**	*eP*	**P**	**15 05 07.6**	**+0.3**
CAF				pmax	pmax			
	comp=Z,14nm,1.1s,mb5.0							
ORIF	**Oris-en-Rattie**	**83.84**	**360**	*eP*	**P**	**15 05 08.8**	**+1.3**
	comp=Z,19nm,0.8s,mb5.0							
ORIF				*e*MLR	MLR			
	comp=Z,64nm,19.5s,MS3.7							
ORIF	**Oris-en-Rattie**	**83.84**	**360**	*eP*	**P**	**15 05 08.8**	**+1.3**
	comp=Z,9.4nm,0.8s,mb5.0							
ORIF	**Oris-en-Rattie**	**83.84**	**360**	*eP*	**P**	**15 05 08.8**	**+1.3**
ORIF				pmax	pmax			
	comp=Z,9.0nm,0.8s,mb5.0							
VIVF	**Saint-Julien-l**	**83.90**	**1**	*eP*	**P**	**15 05 08.5**	**+0.7**
VIVF	**Saint-Julien-l**	**83.90**	**1**	*eP*	**P**	**15 05 08.5**	**+0.7**
VIVF	**Saint-Julien-l**	**83.90**	**1**	*eP*	**P**	**15 05 08.5**	**+0.7**
MBDF	**Montbardon**	**84.03**	**359**	*eP*	**P**	**15 05 09.5**	**+1.0**
	comp=Z,20nm,0.9s,mb5.0							
MBDF	**Montbardon**	**84.03**	**359**	*eP*	**P**	**15 05 09.5**	**+1.0**
	comp=Z,10.0nm,0.9s,mb5.0							
MBDF				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb5.0							
WRA	**Warramunga Arr**	**84.15**	**228**	P	**P**	**15 05 07.4**	**-1.9**
	comp=Z,1.5nm,0.6s,mb4.3,baz=33,slow=5.8,SNR=37							
WRA	**Warramunga Arr**	**84.15**	**228**	P	**P**	**15 05 07.4**	**-1.9**
WRA	**Warramunga Arr**	**84.15**	**228**	P	**P**	**15 05 07.4**	**-1.9**
LASF	**Ste Croix**	**84.67**	**1**	*eP*	**P**	**15 05 12.4**	**+0.6**
	comp=Z,20nm,0.9s,mb4.9							
LASF	**Ste Croix**	**84.67**	**1**	*eP*	**P**	**15 05 12.4**	**+0.6**
SMRF	**Simiane la Rot**	**84.78**	**0**	*eP*	**P**	**15 05 13.5**	**+1.2**
	comp=Z,80nm,1.1s,mb5.4							
SMRF	**Simiane la Rot**	**84.78**	**0**	*eP*	**P**	**15 05 13.5**	**+1.2**
	comp=Z,80nm,1.1s,mb5.8							
VTS	**Vitosha**	**84.93**	**347**	⇓*P*	**P**	**15 05 12.7**	**-0.4**
VTS	**Vitosha**	**84.93**	**347**	⇓*iP*	**P**	**15 05 12.7**	**-0.4**
VTS	**Vitosha**	**84.93**	**347**	⇓*iP*	**P**	**15 05 12.7**	**-0.4**
FRF	**La Foret Royal**	**85.19**	**359**	*eP*	**P**	**15 05 14.5**	**+0.1**
	comp=Z,73nm,1.2s,mb5.4							
FRF	**La Foret Royal**	**85.19**	**359**	*eP*	**P**	**15 05 14.5**	**+0.1**
	comp=Z,36nm,1.2s,mb5.4							
FRF	**La Foret Royal**	**85.19**	**359**	*eP*	**P**	**15 05 14.5**	**+0.1**
FRF				pmax	pmax			
	comp=Z,36nm,1.2s,mb5.4							
MTLF	**Montolieu**	**85.37**	**2**	*eP*	**P**	**15 05 15.8**	**+0.5**
	comp=Z,47nm,1.2s,mb5.2							
MTLF	**Montolieu**	**85.37**	**2**	*eP*	**P**	**15 05 15.8**	**+0.5**
	comp=Z,24nm,1.2s,mb5.2							
MTLF	**Montolieu**	**85.37**	**2**	*eP*	**P**	**15 05 15.8**	**+0.5**
MTLF				pmax	pmax			
	comp=Z,24nm,1.2s,mb5.2							
LMR	**La Mourre**	**85.42**	**359**	*eP*	**P**	**15 05 15.7**	**+0.2**
	comp=Z,99nm,1.3s,mb5.5							
LMR	**La Mourre**	**85.42**	**359**	*eP*	**P**	**15 05 15.7**	**+0.2**
	comp=Z,50nm,1.3s,mb5.5							
LMR	**La Mourre**	**85.42**	**359**	*eP*	**P**	**15 05 15.7**	**+0.2**
LMR				pmax	pmax			
	comp=Z,49nm,1.3s,mb5.5							
SJPF	**Ste Jean**	**85.46**	**5**	*eP*	**P**	**15 05 16.5**	**+0.8**
SJPF	**Ste Jean**	**85.46**	**5**	*eP*	**P**	**15 05 16.5**	**+0.8**
SJPF	**Ste Jean**	**85.46**	**5**	*eP*	**P**	**15 05 16.5**	**+0.8**
EPF	**Esparros**	**85.62**	**4**	*eP*	**P**	**15 05 16.2**	**-0.3**
	comp=Z,14nm,0.8s,mb4.9							
EPF	**Esparros**	**85.62**	**4**	*eP*	**P**	**15 05 16.2**	**-0.3**
	comp=Z,7.2nm,0.8s,mb5.0							
EPF	**Esparros**	**85.62**	**4**	*eP*	**P**	**15 05 16.2**	**-0.3**
EPF				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.9							
ETSF	**Etsaut**	**85.71**	**5**	*eP*	**P**	**15 05 17.7**	**+0.7**
ETSF	**Etsaut**	**85.71**	**5**	*eP*	**P**	**15 05 17.7**	**+0.7**
ETSF	**Etsaut**	**85.71**	**5**	*eP*	**P**	**15 05 17.7**	**+0.7**
PSI	**Prapat**	**85.75**	**269**	P	**P**	**15 05 16.9**	**-0.7**
	comp=Z,5.5nm,0.7s,mb4.9,baz=2.1,slow=2.7,SNR=6.0							
PSI	**Prapat**	**85.75**	**269**	P	**P**	**15 05 16.9**	**-0.7**
PSI	**Prapat**	**85.75**	**269**	P	**P**	**15 05 16.9**	**-0.7**
BR131	**Keskin Array S**	**85.79**	**339**	*eP*	**P**	**15 05 17.8**	**+0.4**
	comp=Z,0.7nm,0.4s,mb4.2							
BRTR	**Keskin Array B**	**85.79**	**339**	P	**P**	**15 05 17.8**	**+0.3**
	comp=Z,1.8nm,0.8s,mb4.3,baz=77,slow=2.8,SNR=8.8							
BRTR				LR	LR	15 50 40.3		
	comp=Z,37nm,20.3s,MS3.8,baz=10,slow=40							
BRTR	**Keskin Array B**	**85.79**	**339**	P	**P**	**15 05 17.8**	**+0.3**
BRTR				LR	LR	15 50 40.3		
BRTR	**Keskin Array B**	**85.79**	**339**	P	**P**	**15 05 17.8**	**+0.3**
PGF	**Pioggiola**	**86.16**	**357**	*eP*	**P**	**15 05 19.3**	**+0.1**
	comp=Z,109nm,1.3s,mb5.6							
PGF	**Pioggiola**	**86.16**	**357**	*eP*	**P**	**15 05 19.3**	**+0.1**
	comp=Z,55nm,1.3s,mb5.6							
PGF	**Pioggiola**	**86.16**	**357**	*eP*	**P**	**15 05 19.3**	**+0.1**
PGF				pmax	pmax			
	comp=Z,55nm,1.3s,mb5.6							
HYB	**Hyderabad**	**86.67**	**294**	*i P*	**P**	**15 05 22.5**	**+0.4**
HYB				*e*pP	pP	15 05 35.5	-1.2	
ASAR	**Alice Springs**	**87.58**	**226**	P	**P**	**15 05 25.1**	**-1.1**
	comp=Z,2.4nm,0.8s,mb4.5,baz=26,slow=5.1,SNR=26							
ASAR				pP	pP	15 05 41.0	+0.1	
	comp=Z,2.9nm,0.9s,baz=23,slow=4.6,SNR=6.5							
ASAR	**Alice Springs**	**87.58**	**226**	P	**P**	**15 05 25.1**	**-1.1**
ASAR				pP	pP	15 05 41.0	+0.1	
ASAR	**Alice Springs**	**87.58**	**226**	P	**P**	**15 05 25.1**	**-1.1**
ASAR				*PP	pP	15 05 41.0	+0.2	
POO	**Poona**	**88.41**	**298**	*e*PKP	**P**	**15 05 29.8**	**-0.7**
ESDC	**Sonseca Array**	**88.70**	**7**	P	**P**	**15 05 31.1**	**-0.4**
	comp=Z,4.3nm,0.8s,mb4.8,baz=352,slow=2.8,SNR=11							
ESDC	**Sonseca Array**	**88.70**	**7**	P	**P**	**15 05 31.1**	**-0.4**
MDRS	**Chennai**	**89.15**	**290**	*e*PKP	**P**	**15 05 32.3**	**-1.7**
KAD	**Karad**	**89.22**	**297**	*e*PKP	**P**	**15 05 33.2**	**-1.0**
STKA	**Stephens Creek**	**91.69**	**216**	P	**P**	**15 05 44.2**	**-1.0**
	comp=Z,2.1nm,0.6s,mb4.6,baz=33,slow=6.2,SNR=8.4							
STKA				LR	LR	15 44 44.1		
	comp=Z,98nm,18.1s,MS4.3,baz=22,slow=34							
STKA	**Stephens Creek**	**91.69**	**216**	P	**P**	**15 05 44.2**	**-1.0**
STKA				LR	LR	15 44 44.1		
STKA	**Stephens Creek**	**91.69**	**216**	P	**P**	**15 05 44.2**	**-1.0**
TRD	**Trivandrum**	**94.72**	**290**	*e*PKP	**P**	**15 05 57.9**	**-1.8**
TORD	**Torodi Ar. Bea**	**115.41**	**4**	PKP	PKPdf	15 11 19.1	-0.9
KMBO	**Kilima Mbogo**	**123.08**	**321**	PKP	PKPdf	15 11 34.7	-0.1
	comp=Z,0.7nm,0.5s,baz=0.3,slow=24,SNR=4.0							
KMBO	**Kilima Mbogo**	**123.08**	**321**	PKP	PKPdf	15 11 34.7	-0.1
KMBO	**Kilima Mbogo**	**123.08**	**321**	PKIKP	PKPdf	15 11 34.7	-0.1
QSPA	**South Pole Qui**	**141.38**	**180**	PKhKP	PKPpre	15 12 01.3		
	comp=Z,1.0nm,0.8s,baz=93,slow=2.1,SNR=4.5							
QSPA				PKP	PKPdf	15 12 07.2	+0.1	
	comp=Z,2.2nm,0.8s,baz=272,slow=1.1,SNR=7.9							
QSPA	**South Pole Qui**	**141.38**	**180**	PKP	PKPpre	15 12 01.3		
QSPA				PKP	PKPdf	15 12 07.2	+0.1	
TSUM	**Tsumeb**	**146.30**	**339**	*e*PKPbc	PKPbc	15 12 19.0	+0.3	
MAW	**Mawson**	**148.36**	**218**	PKPbc	PKPbc	15 12 22.2	-0.8	
	comp=Z,3.8nm,0.8s,baz=359,slow=4.1,SNR=7.0							
MAW	**Mawson**	**148.36**	**218**	PKPbc	PKPbc	15 12 22.2	-0.8	
MAW	**Mawson**	**148.36**	**218**	PKP2	PKPbc	15 12 22.2	-0.8	
LBTB	**Lobatse**	**149.35**	**323**	*e*PKPbc	PKPbc	15 12 27.0	+0.2	
LBTB	**Lobatse**	**149.35**	**323**	*e*PKP2	PKPbc	15 12 27.0	+0.2	
BOSA	**Boshof**	**152.71**	**320**	PKPbc	PKPbc	15 12 34.2	-0.3	
	comp=Z,3.7nm,0.6s,baz=277,slow=1.6,SNR=9.0							
BOSA	**Boshof**	**152.71**	**320**	PKPbc	PKPbc	15 12 34.2	-0.3	
BOSA	**Boshof**	**152.71**	**320**	PKIKP	PKPbc	15 12 34.2	-0.3	

*NEIC **03** 15:03:34.2, 19.65N×66.34W, h41km, MD3.3(RSPR), After RSPR.*

RSPR 03 15:03:34.2, 19.65N×66.34W, h41km±27km, MD3.3/12, 20C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.36**	**197**	⇓*eP*	Pn	15 03 55.0	-1.7
AOPR	**Arecibo Observ**	**1.36**	**197**	⇓*eP*	Pn	15 03 55.0	-1.7
AOPR				*eS*	Sn	15 04 12.0	-1.5
AGPR	**Aguadilla, PR**	**1.39**	**212**	*e*Pn	Pn	15 03 55.9	-1.2
LRS	**Lares**	**1.44**	**200**	⇓*eP*	Pn	15 03 56.2	-1.6
LRS				*eS*	Sn	15 04 14.3	-1.1
LRS	**Lares**	**1.44**	**200**	⇓*eP*	Pn	15 03 56.2	-1.6
LRS				*eS*	Sn	15 04 14.3	-1.1
CBYP	**Canovanas**	**1.45**	**162**	⇑*eP*	Pn	15 03 57.2	-0.8
CBYP	**Canovanas**	**1.45**	**162**	⇑*eP*	Pn	15 03 57.2	-0.8
CBYP				*eS*	Sn	15 04 14.9	-0.8
SJG	**San Juan**	**1.54**	**173**	⇑*eP*	Pn	15 03 57.9	-1.4
SJG	**San Juan**	**1.54**	**173**	⇑*eP*	Pn	15 03 57.9	-1.4
HUMP	**Col San Antoni**	**1.57**	**163**	⇑*eP*	Pn	15 03 58.1	-1.6
HUMP	**Col San Antoni**	**1.57**	**163**	⇑*eP*	Pn	15 03 58.1	-1.6
HUMP				*eS*	Sn	15 04 17.5	-1.3
CELP	**Cerrillos**	**1.59**	**188**	⇑*eP*	Pn	15 03 58.5	-1.4
CELP	**Cerrillos**	**1.59**	**188**	⇑*eP*	Pn	15 03 58.5	-1.4
OBIP	**Obispado Ponce**	**1.62**	**189**	⇑*eP*	Pn	15 03 59.4	-1.0
OBIP	**Obispado Ponce**	**1.62**	**189**	⇑*eP*	Pn	15 03 59.4	-1.0
LSP	**Las Mesas**	**1.63**	**206**	⇑*eP*	Pn	15 03 59.5	-1.0
LSP				*eS*	Sn	15 04 19.9	-0.3
LSP	**Las Mesas**	**1.63**	**206**	⇑*eP*	Pn	15 03 59.5	-1.0
LSP				*eS*	Sn	15 04 19.9	-0.3
MTP	**Monte Pirata**	**1.72**	**154**	⇑*eP*	Pn	15 04 00.4	-1.2
MTP	**Monte Pirata**	**1.72**	**154**	⇑*eP*	Pn	15 04 00.4	-1.2
MTP				*eS*	Sn	15 04 21.6	-0.7
ICM	**Isla Caja Muer**	**1.76**	**186**	⇑*eP*	Pn	15 04 01.8	-0.4
ICM	**Isla Caja Muer**	**1.76**	**186**	⇑*eP*	Pn	15 04 01.8	-0.4
ICM				*eS*	Sn	15 04 21.5	-1.9
CRPR	**Cabo Rojo, PR**	**1.79**	**204**	⇑*eP*	Pn	15 04 02.5	-0.2
CRPR	**Cabo Rojo, PR**	**1.79**	**204**	⇑*eP*	Pn	15 04 02.5	-0.2
CRPR				*eS*	Sn	15 04 23.3	-0.9
STVI	**Saint Thomas**	**1.84**	**134**	⇑*eP*	Pn	15 04 02.9	-0.5
STVI	**Saint Thomas**	**1.84**	**134**	⇑*eP*	Pn	15 04 02.9	-0.5
STVI				*eS*	Sn	15 04 24.2	-1.2
SDDR	**Presa de Saban**	**4.72**	**263**	*eP*	Pn	15 04 46.2	+3.2

*ISCJB **03** 15:07:33.4±0.6, 33.62N±0.03×35.77E±0.05, h0km±6km, Error ellipse: s-maj=6.9km s-min=3.9km az=153.3*
*CSEM **03** 15:07:33.5±0.2, 33.60N×35.77E, h2km, ML3.3, Error ellipse: s-maj=6.1km s-min=4.4km az=52.0*
*GRAL **03** 15:07:33.9±0.3, 33.62N×35.82E, h0km±13km, MD3.3*
*NSSC **03** 15:07:33, 33.61N×35.75E, h4km±3km*

ISC 03 15:07:33.7±0.6, 33.62N±0.03×35.76E±0.05, h2km±6km, n22, σ0.88/38, 12D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCY	**Rachaya**	**0.13**	**152**	*eP*	**Pg**	**15 07 36.0**	**-0.3**
RCY				*eS*	**Sg**	**15 07 37.7**	**-0.4**
RCY	**Rachaya**	**0.13**	**152**	*eP*	**Pg**	**15 07 36.0**	**-0.3**
RCY				*eS*	**Sg**	**15 07 37.7**	**-0.3**
BRBR	**Barbar**	**0.26**	**142**	⇑*P*	**Pg**	**15 07 38.0**	**-0.7**
BRBR				⇓*S*	**Sg**	**15 07 43.0**	**+1.0**
BRBR	**Barbar**	**0.26**	**142**	⇑*iP*	**Pg**	**15 07 38.4**	**-0.3**
BRBR				⇓*iS*	**Sg**	**15 07 43.3**	**+1.3**
BHL	**Bhannes**	**0.30**	**343**	*eP*	**Pg**	**15 07 39.5**	**0.0**
BHL				*eS*	**Sg**	**15 07 43.8**	**+0.3**
BHL	**Bhannes**	**0.30**	**343**	*eP*	**Pg**	**15 07 39.5**	**0.0**
BHL				*eS*	**Sg**	**15 07 43.8**	**+0.3**
BEYL	**Beirut**	**0.34**	**319**	*eP*	**Pg**	**15 07 40.5**	**+0.2**
BEYL	**Beirut**	**0.34**	**319**	*eP*	**Pg**	**15 07 40.5**	**+0.3**
MATL	**Matarih**	**0.38**	**251**	*eP*	**Pg**	**15 07 41.6**	**+0.6**
MATL	**Matarih**	**0.38**	**251**	*eP*	**Pg**	**15 07 41.6**	**+0.6**
QASN	**Qassioun**	**0.44**	**101**	⇑*P*	**Pg**	**15 07 42.0**	**-0.1**
QASN				⇓*S*	**Sg**	**15 07 49.0**	**+1.2**
QASN	**Qassioun**	**0.44**	**101**	⇑*iP*	**Pg**	**15 07 42.9**	**+0.8**
QASN				⇑*iS*	**Sg**	**15 07 48.5**	**+0.7**
TOTH	**TOTAH**	**0.61**	**114**	⇓*P*	**Pg**	**15 07 45.0**	**-0.4**
TOTH	**TOTAH**	**0.61**	**114**	⇓*iP*	**Pg**	**15 07 45.9**	**+0.5**
TOTH				⇑*iS*	**Sg**	**15 07 54.2**	**+0.8**
HWQ	**Hawqa**	**0.68**	**13**	*eP*	**Pg**	**15 07 46.4**	**-0.4**
FKH	**Fakeheh**	**0.83**	**40**	*eP*	**Pg**	**15 07 48.3**	**-1.3**
FKH				*eS*	**Sg**	**15 07 58.8**	**-1.6**
FKH	**Fakeheh**	**0.83**	**40**	*eP*	**Pg**	**15 07 48.3**	**-1.3**
FKH				*eS*	**Sg**	**15 07 58.8**	**-1.5**
SALA	**Sala**	**1.22**	**138**	⇓*P*	**Pn**	**15 07 56.0**	**-1.7**
SALA				⇓*S*	**Sn**	**15 08 14.0**	**-0.7**
SALA	**Sala**	**1.22**	**138**	⇑*iP*	**Pn**	**15 07 55.1**	**-2.6**
SALA				⇓*iS*	**Sn**	**15 08 10.5**	**-4.2**
BIDA	**Albida**	**1.47**	**18**	⇓*P*	**Pn**	**15 08 00.0**	**-1.2**
BIDA				⇓*S*	**Sb**	**15 08 22.0**	**+1.1**
BIDA	**Albida**	**1.47**	**18**	⇓*iP*	**Pn**	**15 08 00.7**	**-0.5**
BIDA				⇓*iS*	**Sb**	**15 08 22.1**	**+1.2**
WRDH	**Warideh**	**1.96**	**16**	⇑*iP*	**Pn**	**15 08 08.5**	**+0.5**
WRDH				⇑*iS*	**Sn**	**15 08 34.1**	**+1.0**

*ISCJB **03** 15:19:49.1±2.2, 4.75S±0.1×143.70E±0.09, h86km±19km, mb3.9/8, Error ellipse: s-maj=17.2km s-min=14.1km az=154.2*
*NEIC **03** 15:19:50.8±1.0, 4.35S×143.63E, mb3.9/5, Error ellipse: s-maj=17.9km s-min=15.0km az=84.0*
*IDC **03** 15:19:50.5±4.5, 4.46S×143.85E, h93km±42km, mb3.6/5, mb1 3.9/7, mb1mx3.7/14, mbtmp3.7/7, MS3.1/1, Ms1 3.1/1, ms1mx2.5/21, Error ellipse: s-maj=34.2km s-min=24.6km az=105.0*

ISC 03 15:19:49.8±2.4, 4.4S±0.1×143.70E±0.09, h79km±19km, n29, σ1.33/30, mb3.9/8, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.05**	**146**	P	**Pn**	**15 21 16.7**	**-0.1**
	2.6nm,0.3s,baz=0.3,slow=7.8,SNR=16						
PMG				S	**Sn**	**15 22 22.6**	**-2.1**
	4.2nm,0.3s,baz=127,slow=18,SNR=3.1						
PMG	**Port Moresby**	**6.05**	**146**	*eP*	**Pn**	**15 21 16.7**	**0.0**
PMG				S	**Sn**	**15 22 22.6**	**-2.1**
COEN	**Coen**	**9.52**	**183**	*eP*	**Pn**	**15 22 06.6**	**+2.5**
COEN	**Coen**	**9.52**	**183**	*eP*	**Pn**	**15 22 06.9**	**+2.8**
KAKA	**Kakadu**	**13.86**	**233**	*eP*	**Pn**	**15 23 02.9**	**+0.1**
	24nm,0.5s						
KAKA	**Kakadu**	**13.86**	**233**	*eP*	**Pn**	**15 23 02.9**	**+0.1**
	67nm,0.5s						
CTA	**Charters Tower**	**15.80**	**171**	P	**Pn**	**15 23 30.0**	**+2.3**
	0.1nm,0.3s,baz=0.0,slow=12,SNR=2.7						
CTA				LR	LR	15 29 01.6		
	comp=Z,80nm,21.5s,baz=16,slow=35						
CTA	**Charters Tower**	**15.80**	**171**	P	**Pn**	**15 23 30.0**	**+2.3**
CTA				LR	LR	15 29 01.6		
WRAB	**Tennant Creek**	**17.93**	**210**	*eP*	**Pn**	**15 23 53.2**	**-0.8**
	9.6nm,0.9s						
WB2	**Warramunga Arr**	**17.94**	**210**	*eP*	**Pn**	**15 23 53.4**	**-0.7**
WRA	**Warramunga Arr**	**17.95**	**210**	P	**Pn**	**15 23 52.6**	**-1.5**
	1.0nm,0.3s,baz=35,slow=11,SNR=40						
WRA				S	**S**	**15 27 06.8**	**-8.0**
	baz=31,slow=21,SNR=5.0						
WRA	**Warramunga Arr**	**17.95**	**210**	P	**Pn**	**15 23 52.6**	**-1.5**
WRA				S	**S**	**15 27 06.8**	**-8.0**
ASAR	**Alice Springs**	**21.37**	**205**	P	**P**	**15 24 30.1**	**-0.8**
	4.6nm,0.7s,mb3.9,baz=32,slow=7.0,SNR=44						
ASAR	**Alice Springs**	**21.37**	**205**	P	**P**	**15 24 30.1**	**-0.8**
EIDS	**Eidsvold**	**22.03**	**162**	*eP*	**P**	**15 24 39.9**	**+2.0**
EIDS	**Eidsvold**	**22.03**	**162**	*eP*	**P**	**15 24 39.8**	**+1.9**
	20nm,1.3s,mb4.3						
RMQ	**Roma**	**22.50**	**168**	*eP*	**P**	**15 24 43.7**	**+0.9**
	14nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**27.42**	**184**	P	**P**	**15 25 26.3**	**-1.8**
	1.2nm,0.6s,mb3.6,baz=331,slow=9.6,SNR=5.1						
STKA	**Stephens Creek**	**27.42**	**184**	*eP*	**P**	**15 25 28.2**	**+0.2**
	0.7nm,1.0s,mb3.1						
CMAR	**Chiang Mai Arr**	**49.60**	**299**	pP	pP	15 28 59.3	+6.3
	1.3nm,0.9s,baz=122,slow=5.9,SNR=8.1						
SONM	**Songino Array**	**61.43**	**332**	pP	pP	15 30 25.0	+7.0
	0.4nm,0.8s,baz=145,slow

ASAR	**Alice Springs**	**99.14**	**163**	P		**P**	**15**	**38**	**52.6 -0.7**
	1.0nm,0.6s,mb4.4,baz=186,slow=4.1,SNR=30								
ASAR				PP		PP	15	42	54.9 -1.6
	0.8nm,0.9s,baz=195,slow=6.6,SNR=5.3								
ASAR				PKKP		PKKPbc	15	55	16.6 +1.6
	0.2nm,0.5s,baz=26,slow=2.3,SNR=4.9								
ASAR	**Alice Springs**	**99.14**	**163**	P		**P**	**15**	**38**	**52.6 -0.7**
ASAR				PP		PP	15	42	54.9 -1.6
ASAR				PKKP		PKKPbc	15	55	16.6 +1.6
WRA	**Warramunga Arr**	**102.86**	**163**	P		Pdif	15	39	08.8 -1.2
	0.3nm,0.6s,baz=196,slow=4.3,SNR=4.9								
WRA				PKKPbc		PKKPbc	15	55	06.3 +1.8
	0.3nm,0.4s,baz=356,slow=2.8,SNR=17								
WRA	**Warramunga Arr**	**102.86**	**163**	P		Pdif	15	39	08.8 -1.2
WRA				PKKPbc		PKKPbc	15	55	06.3 +1.8
PDAR	**Pinedale Array**	**120.08**	**303**	PKP		PKPdf	15	44	00.3 -0.9
	0.4nm,0.4s,baz=132,slow=3.7,SNR=5.5								
PDAR	**Pinedale Array**	**120.08**	**303**	PKP		PKPdf	15	44	00.3 -0.9
NVAR	**Mina Array Bea**	**121.13**	**293**	PKP		PKPdf	15	44	03.9 +0.6
	0.7nm,0.6s,baz=134,slow=3.1,SNR=7.3								
NVAR	**Mina Array Bea**	**121.13**	**293**	PKP		PKPdf	15	44	03.9 +0.6
FINES	**FINESS Array B**	**124.43**	**28**	PKP		PKPdf	15	44	08.4 -0.5
	3.0nm,0.6s,baz=194,slow=0.7,SNR=13								
FINES	**FINESS Array B**	**124.43**	**28**	PKP		PKPdf	15	44	08.4 -0.5
KAF	**Kangasniemi**	**125.05**	**28**	*ep*		PKPdf	15	44	08.7 -1.4
	3.3nm,0.6s								
CMAR	**Chiang Mai Arr**	**125.34**	**111**	PKP		PKPdf	15	44	12.3 +0.3
	1.5nm,0.7s,baz=228,slow=4.1,SNR=12								
CMAR	**Chiang Mai Arr**	**125.34**	**111**	PKP		PKPdf	15	44	12.3 +0.3
JOF	**Joensuu**	**127.06**	**29**	*ep*		PKPdf	15	44	13.5 -0.4
	3.2nm,0.6s								
ARCES	**ARCESS Array B**	**130.96**	**22**	PKP		PKPdf	15	44	21.3 +0.1
	1.8nm,0.5s,baz=177,slow=2.3,SNR=15								
ARCES	**ARCESS Array B**	**130.96**	**22**	PKP		PKPdf	15	44	21.3 +0.1
YKA	**Yellowknife Ar**	**135.94**	**318**	PKP		PKPdf	15	44	30.3 -0.4
	2.2nm,0.6s,baz=125,slow=2.4,SNR=8.6								
YKA	**Yellowknife Ar**	**135.94**	**318**	PKP		PKPdf	15	44	30.3 -0.4
MKAR	**Makanchi Array**	**137.10**	**72**	PKP		PKPdf	15	44	35.0 +1.6
	0.4nm,0.3s,baz=242,slow=1.7,SNR=5.0								
MKAR	**Makanchi Array**	**137.10**	**72**	PKP		PKPdf	15	44	35.0 +1.6
ZALV	**Zalesovo Beam**	**142.56**		PKPhKP		PKPpre	15	44	39.1
	1.2nm,0.5s,baz=234,slow=3.4,SNR=6.9								
ZALV	**Zalesovo Beam**	**142.56**	**64**	PKP		PKPdf	15	44	39.1 -3.9
INK	**Inuvik**	**145.57**	**321**	*e*PKP		PKPdf	15	44	48.1 +0.2
DAWY	**Dawson**	**146.54**	**312**	*e*PKPbc		PKPbc	15	44	50.9 -0.5
EGAK	**Eagle**	**147.49**	**313**	*e*PKPbc		PKPbc	15	44	52.8 -1.2
MENT	**Mentasta**	**148.04**	**309**	*e*PKPbc		PKPbc	15	44	55.5 -0.1
DIV	**Divide**	**148.39**	**305**	*e*PKPbc		PKPbc	15	44	56.9 +0.4
DOT	**Dot Lake**	**148.39**	**310**	*e*PKPbc		PKPbc	15	44	56.6 +0.2
ILAR	**Eielson Array**	**149.87**	**312**	PKP		PKPdf	15	44	52.2 -2.8
	0.5nm,0.7s,baz=292,slow=1.0,SNR=10								
ILAR				PKPbc		PKPbc	15	44	59.9 -0.2
	21nm,0.8s,baz=131,slow=3.0,SNR=211								
ILAR				pPKPbc		pPKPbc	15	45	33.0 -3.4
	3.0nm,0.9s,baz=128,slow=1.3,SNR=3.5								
ILAR	**Eielson Array**	**149.87**	**312**	PKP		PKPdf	15	44	52.2 -2.8
ILAR				PKPbc		PKPbc	15	44	59.9 -0.2
ILAR				pPKPbc		pPKPbc	15	45	33.0 -3.4
RC01	**Rabbit Creek A**	**150.22**	**304**	*e*PKPbc		PKPbc	15	45	01.2 +0.2
MCK	**McKinley**	**150.52**	**309**	*e*PKPbc		PKPbc	15	45	01.7 +0.1
SONM	**Songino Array**	**150.98**	**87**	PKP		PKPdf	15	44	57.3 -0.1
	0.4nm,0.8s,baz=280,slow=3.6,SNR=3.9								
SONM				PKPbc		PKPbc	15	45	03.2 0.0
	10nm,0.5s,baz=221,slow=3.7,SNR=155								
SONM	**Songino Array**	**150.98**	**87**	PKP		PKPdf	15	44	57.3 -0.1
SONM				PKPbc		PKPbc	15	45	03.2 0.0
TRF	**Thorofare Moun**	**151.05**	**309**	*e*PKPbc		PKPbc	15	45	02.9 0.0
ULN	**Ulaanbaatar**	**151.37**	**87**	*e*PKPbc		PKPbc	15	45	03.2 -0.9
BPAW	**Bear Paw Mtn.**	**151.48**	**310**	*e*PKPbc		PKPbc	15	45	03.5 -0.3
COLD	**Coldfoot**	**151.58**	**316**	*e*PKPbc		PKPbc	15	45	04.4 +0.4
PPLA	**Purkeypile**	**151.78**	**307**	*e*PKPbc		PKPbc	15	45	04.5 -0.1

IDC 03 15:48:52.4±2.8, 25°65N×144°12E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/22, mbtmp3.3/3, Error ellipse: s-maj=338.2km s-min=28.9km az=110.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.30**	**193**	P	P	15 57 20.5	+0.5
	0.2nm,0.3s,baz=15,slow=8.9,SNR=10						
ASAR	**Alice Springs**	**50.01**	**192**	P	P	15 57 48.0	-0.6
	0.1nm,0.6s,baz=10.0,slow=6.3,SNR=6.9						
ILAR	**Eielson Array**	**58.16**	**28**	P	P	15 58 47.7	0.0
	0.1nm,0.6s,baz=269,slow=7.4,SNR=4.4						

*ISCJB **03** 16:08:13.3±0.2, 30°38N±0°03×67°73E±0°02, h10km, mb4.5/72, MS4.1/46, Error ellipse: s-maj=3.7km s-min=2.5km az=13.9*

*IDC **03** 16:08:14.0±0.6, 30°39N×67°66E, h0km, mb4.4/24, mb1 4.5/26, mb1mx4.5/32, mbtmp4.4/26, ML4.4/2, MS4.0/27, Ms1 4.0/27, ms1mx3.9/40, Error ellipse: s-maj=16.1km s-min=12.0km az=9.0*

*NEIC **03** 16:08:14.8±0.3, 30°40N×67°67E, h10km, mb4.7/26, Error ellipse: s-maj=7.7km s-min=4.8km az=195.0*

*NNC **03** 16:08:16.9±2.2, 30°69N×67°72E, h0km, mb4.3, Error ellipse: s-maj=33.7km s-min=20.9km az=136.0*

*TEH **03** 16:08:16.0, 30°64N×67°94E, h12km*

*BJI **03** 16:08:17.0, 30°69N×67°72E, h19km, mB5.0/33, mb4.7/46, Ms4.6/40, Ms7 4.4/38*

*MOS **03** 16:08:17.4±1.6, 30°52N×67°77E, h33km, mb4.8/30, Error ellipse: s-maj=6.3km s-min=4.5km az=102.2*

*GCMT **03** 16:08:18.3±0.4, 30°31N×67°63E, h20km±1km, MW4.9, Moment Tensor Solution. s24,c30; s58,c87; Moment tensor: Scale 10^{16}Nm; M_{rr}2.66±.22; $M_{\theta\theta}$-3.27±.14; $M_{\phi\phi}$0.61±.13; $M_{r\theta}$0.38±.21; $M_{r\phi}$0.20±.10; $M_{\theta\phi}$0.43±.30; Best double couple: $M_0$3.00000×10^{16} NP1:ϕ285.00000°, δ43.00000°, λ108.00000°. NP2:ϕ82.00000°, δ50.00000°, λ74.00000°. Principal axes: T 2.7800, Plg78.0000°, Azm289.0000°; N 0.5300, Plg12.0000°, Azm92.0000°; P -3.3000, Plg3.0000°, Azm183.0000°; Data Used: IU II CN G IC.*

ISC 03 16:08:15.5±0.2, 30°41N±0°02×67°76E±0°02, h10km, (h25km±1.9km: pP-P), n359, σ19°39/372, mb4.5/72, MS4.1/46, 28C-35D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THW	**Thamme Wali**	**4.15**	**54**	⇓P	**Pn**	**16 09 20.7**	**+1.9**
KBL	**Kabul**	**4.26**	**14**	*e*P	**Pn**	**16 09 23.2**	**+2.9**
KBL	**Kabul**	**4.26**	**14**	*e*P	**Pn**	**16 09 23.2**	**+2.8**
CHCP	**Chirah Chowk**	**5.69**	**54**	P	**Pn**	**16 09 42.2**	**+2.2**
IDAH	**Dahanechah**	**7.12**	**291**	*e*P	**Pn**	**16 10 05.4**	**+5.7**
AJM	**Ajmer**	**7.22**	**121**	*e*PKP	**Pn**	**16 10 02.0**	**+1.0**
AJM				*e*S	**Sn**	**16 11 21.0**	**-2.0**
BHJ	**Bhuj**	**7.33**	**166**	*e*PKP	**Pn**	**16 10 02.6**	**+0.1**
KHET	**Khetri**	**7.41**	**106**	*e*PKP	**Pn**	**16 10 04.2**	**+0.5**
KHET				*e*S	**Sn**	**16 11 25.0**	**-2.8**
KHET				AML	AML	16 11 28.5	
	comp=E,99nm,0.3s						
KHET				AML	AML	16 11 28.7	
	comp=N,198nm,0.6s						
IMON	**Monand**	**7.42**	**294**	*e*P	**Pn**	**16 10 05.6**	**+1.8**
BHK	**Bhakra**	**7.51**	**80**	*e*PKP	**Pn**	**16 10 07.0**	**+2.0**
BHK				*ex*	x	16 11 30.0	
IKOO	**Kooshah**	**7.75**	**287**	*e*P	**Pn**	**16 10 10.4**	**+2.1**
SDNR	**Sundarnagar**	**7.99**	**80**	*e*PKP	**Pn**	**16 10 13.0**	**+1.4**
SDNR				*ex*	x	16 11 41.0	
SMLA	**Simla**	**8.13**	**83**	*i* P	**Pn**	**16 10 16.2**	**+2.7**
SMLA				*i* S	**Sn**	**16 11 43.2**	**-2.2**
SMLA				⇓AML	AML	16 11 48.9	
	comp=N,4μm,0.4s						
SMLA				⇓AML	AML	16 11 52.4	
	comp=E,3μm,0.5s						
AYAN	**Aya Nagar**	**8.39**	**101**	*e*PKP	**Pn**	**16 10 17.2**	**+0.1**
AYAN				*e*S	**Sn**	**16 11 48.2**	**-3.7**
AYAN				AML	AML	16 11 56.2	
	comp=Z,91nm,0.8s						
NDI	**New Delhi**	**8.42**	**99**	*e*PKP	**Pn**	**16 10 18.3**	**+0.8**
NDI				*e*S	**Sn**	**16 11 48.0**	**-4.6**
IMYA	**Miami**	**8.71**	**315**	*e*P	**Pn**	**16 10 21.8**	**+0.3**
DDI	**Dehra Dun**	**8.90**	**88**	*ex*	x	16 10 26.3	
IMOG	**Moghan**	**9.05**	**311**	*e*P	**Pn**	**16 10 26.7**	**+0.5**
KLP	**Kalpa**	**9.08**	**80**	*e*PKP	**Pn**	**16 10 27.1**	**+0.6**
KLP				*e*S	**Sn**	**16 12 05.3**	**-3.5**
KLP				AML	AML	16 12 25.1	
	comp=E,475nm,0.7s						
KLP				AML	AML	16 12 26.9	
	comp=N,560nm,0.8s						
IPAY	**Payeh**	**9.48**	**312**	*e*P	**Pn**	**16 10 33.2**	**+1.2**
AGRA	**Agra**	**9.48**	**107**	*e*PKP	**Pn**	**16 10 31.2**	**-0.8**
AGRA				*e*S	**Sn**	**16 12 13.6**	**-5.1**
AGRA				AML	AML	16 13 14.4	
	comp=N,132nm,1.0s						
AGRA				AML	AML	16 13 22.2	
	comp=E,125nm,0.4s						
IAKL	**Akhelmad**	**9.72**	**312**	*e*P	**Pn**	**16 10 37.3**	**+1.9**
IKRD	**Kardeh**	**9.98**	**312**	*e*P	**Pn**	**16 10 31.1**	**-7.8**
BANOM	**Banah**	**11.05**	**249**	⇓P	**Pn**	**16 10 52.5**	**-1.1**
	SNR=6.2						
BHPL	**Bhopal**	**11.20**	**127**	*e*PKP	**Pn**	**16 10 55.5**	**-0.2**
BHPL				*ex*	x	16 12 58.1	
BHPL				AML	AML	16 13 03.9	
	comp=N,234nm,0.9s						
BHPL				AML	AML	16 13 14.8	
	comp=E,289nm,1.3s						
KSH	**Kashi**	**11.31**	**34**	P	**Pn**	**16 10 52.6**	**-4.4**
KSH				pP		16 10 57.9	
KSH				sP		16 11 01.8	
KSH				S	**Sn**	**16 12 52.7**	**-11**
KSH				sS		16 13 02.2	
KSH				SS		16 13 07.4	
KSH				pmax	pmax		
	comp=Z,51nm,0.5s						
KSH				LR	LR		
	comp=N,2μm,6.0s						
KSH				LR	LR		
	comp=E,1μm,7.2s						
KSH				LR	LR		
	comp=Z,1μm,7.0s						
SMDO	**Samad**	**11.35**	**232**	⇑P	**Pn**	**16 10 57.5**	**-0.2**
	SNR=9.2						
JMDO	**Jabal Madar**	**11.78**	**229**	⇑P	**Pn**	**16 11 03.5**	**-0.1**
	SNR=16						
ASHO	**Ashiyiah**	**11.84**	**244**	⇓P	**Pn**	**16 11 04.6**	**+0.2**
	SNR=6.8						
BSY	**Bisya**	**12.14**	**234**	⇓P	**Pn**	**16 11 08.0**	**-0.5**
	SNR=17						
ARQ	**Araqi**	**12.25**	**238**	⇓Pn	**Pn**	**16 11 11.9**	**+1.9**
	SNR=6.5						
AML	**Almayashu**	**12.63**	**21**	P	**Pn**	**16 11 15.3**	**+0.1**
	SNR=31						
AKL	**Akola**	**12.77**	**137**	*e*PKP	**Pn**	**16 11 17.0**	**-0.1**
AKL				⇑*i*P		16 11 17.4	
AKL				*i* x	x	16 13 38.2	
KK31	**Karatay Array**	**12.86**	**9**	⇑P	**Pn**	**16 11 18.7**	**+0.4**
	comp=Z,2.9nm,0.4s						
KK31				⇓S	**Sn**	**16 13 39.3**	**-2.0**
	comp=Z,7.0nm,0.7s						
KK31	**Karatay Array**	**12.86**	**9**	P	**Pn**	**16 11 18.6**	**+0.4**
KK31				S	**Sn**	**16 13 39.3**	**-2.1**
KK31				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KK31				smax			
	comp=Z,10.0nm,0.7s						
KKAR	**Karatay Array**	**12.86**	**9**	*e*P	**Pn**	**16 11 17.9**	**-0.3**
	comp=Z,5.4nm,0.4s						
KKAR	**Karatay Array**	**12.86**	**9**	*e*P	**Pn**	**16 11 17.9**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.4s						
POO	**Poona**	**13.06**	**154**	*e*PKP	**Pn**	**16 11 17.4**	**-3.7**
KZA	**Kyzart**	**13.11**	**25**	P	**Pn**	**16 11 21.2**	**-0.5**
	SNR=9.7						
KZA	**Kyzart**	**13.11**	**25**	*e*P	**Pn**	**16 11 20.8**	**-0.9**
	comp=Z,58nm,1.3s						
KZA	**Kyzart**	**13.11**	**25**	*e*P	**Pn**	**16 11 20.8**	**-0.9**
KZA				pmax	pmax		
	comp=Z,58nm,1.3s						
EKS2	**Erkin-Say**	**13.14**	**20**	P	**Pn**	**16 11 22.7**	**+0.6**
	SNR=21						
EKS2	**Erkin-Say**	**13.14**	**20**	*e*P	**Pn**	**16 11 21.0**	**-1.1**
	comp=Z,34nm,0.9s						
EKS2	**Erkin-Say**	**13.14**	**20**	*e*P	**Pn**	**16 11 21.0**	**-1.1**
EKS2				pmax	pmax		
	comp=Z,34nm,0.9s						
AAK	**Ala-Archa**	**13.34**	**22**	Pn	**Pn**	**16 11 25.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=153,slow=2.5,SNR=49						
AAK				Sn	**Sn**	**16 13 52.7**	**-0.4**
	comp=Z,0.0nm,0.3s,baz=310,slow=16,SNR=6.4						
AAK	**Ala-Archa**	**13.34**	**22**	*e*P	**Pn**	**16 11 24.0**	**-0.8**
	comp=Z,29nm,0.9s						
AAK	**Ala-Archa**	**13.34**	**22**	*d i*P	**Pn**	**16 11 24.5**	**-0.3**
AAK				pmax	pmax		
	comp=Z,24nm,1.2s						
AAK				MLR	MLR		
	comp=Z,243nm,19.0s						
AAK	**Ala-Archa**	**13.34**	**22**	P	**Pn**	**16 11 25.2**	**+0.4**
	SNR=14						
IZEF	**Zefreh**	**13.38**	**285**	*e*P	**Pn**	**16 11 28.5**	**+3.1**
KBK	**Karagaybulak**	**13.51**	**23**	P	**Pn**	**16 11 27.2**	**+0.1**
	SNR=9.1						
KBK	**Karagaybulak**	**13.51**	**23**	*e*P	**Pn**	**16 11 27.3**	**+0.2**
	comp=Z,21nm,0.8s						
KBK	**Karagaybulak**	**13.51**	**23**	*e*P	**Pn**	**16 11 27.3**	**+0.1**
KBK				pmax	pmax		
	comp=Z,21nm,0.8s						
FRU	**Bishkek**	**13.56**	**22**	*e*P	**Pn**	**16 11 27.0**	**-0.8**
FRU				*e*		16 13 56.0	
FRU				pmax	pmax		
	comp=Z,120nm,1.4s						
IFIR	**Firoozkooh**	**13.62**	**296**	*e*P	**Pn**	**16 11 34.0**	**+5.3**
CHMS	**Chumysh**	**13.75**	**22**	P	**Pn**	**16 11 30.1**	**-0.4**
	SNR=12						
CHMS	**Chumysh**	**13.75**	**22**	*e*P	**Pn**	**16 11 29.3**	**-1.1**
	comp=Z,33nm,1.0s						
CHMS	**Chumysh**	**13.75**	**22**	*e*P	**Pn**	**16 11 29.3**	**-1.1**
CHMS				pmax	pmax		
	comp=Z,33nm,1.0s						
USP	**Ospenovka**	**13.91**	**21**	P	**Pn**	**16 11 31.8**	**-0.8**
	SNR=17						
TKM2	**Tokmak 2**	**13.97**	**25**	P	**Pn**	**16 11 34.7**	**+1.3**
	SNR=18						
TKM2	**Tokmak 2**	**13.97**	**25**	⇓P	**Pn**	**16 11 34.4**	**+1.0**
	comp=Z,16nm,0.7s						
TKM2				⇑S	**Sn**	**16 14 06.7**	**-1.9**
	comp=Z,16nm,1.1s						
TKM2	**Tokmak 2**	**13.97**	**25**	*e*P	**Pn**	**16 11 29.9**	**-3.5**
	comp=Z,21nm,0.7s						
TKM2	**Tokmak 2**	**13.97**	**25**	*i* P	**Pn**	**16 11 34.7**	**+1.3**
KOLN	**Koldanda**	**14.10**	**97**	*e*P	**Pn**	**16 11 34.2**	**-1.1**
	comp=Z,92nm,0.8s						
KOLN	**Koldanda**	**14.10**	**97**	*e*P	**Pn**	**16 11 34.2**	**-1.1**
	comp=Z,92nm,0.8s						
DANN	**Dangsing**	**14.11**	**94**	*e*P	**Pn**	**16 11 34.7**	**-0.6**
	comp=Z,184nm,0.6s						
DANN	**Dangsing**	**14.11**	**94**	*e*P	**Pn**	**16 11 34.7**	**-0.6**
	comp=Z,184nm,0.6s						
GKN	**Gorkha**	**14.94**	**95**	*e*P	**Pn**	**16 11 43.8**	**-2.9**
	comp=Z,86nm,0.6s						
GKN	**Gorkha**	**14.94**	**95**	*e*P	**Pn**	**16 11 43.8**	**-2.9**
	comp=Z,86nm,0.6s						
DMN	**Daman**	**15.43**	**96**	*e*P	**Pn**	**16 11 51.7**	**-1.6**
	comp=Z,119nm,1.1s						
DMN	**Daman**	**15.43**	**96**	*e*P	**Pn**	**16 11 51.7**	**-1.6**
	comp=Z,119nm,1.1s						
KKN	**Kakani**	**15.54**	**95**	*e*P	**Pn**	**16 11 53.1**	**-1.6**
	comp=Z,96nm,0.6s						
KKN	**Kakani**	**15.54**	**95**	*e*P	**Pn**	**16 11 53.1**	**-1.6**
	comp=Z,96nm,0.6s						
KKN	**Kakani**	**15.54**	**95**	*e*P	**Pn**	**16 11 53.1**	**-1.6**
KKN				pmax	pmax		
	comp=Z,96nm,0.6s						
PKIN	**Phulchoki**	**15.69**	**96**	*e*P	**Pn**	**16 11 55.4**	**-1.2**
	comp=Z,52nm,0.5s						
PKI	**Pulchoki**	**15.70**	**96**	*e*P	**Pn**	**16 11 56.1**	**-0.7**
	comp=Z,82nm,0.7s						
PKI	**Pulchoki**	**15.70**	**96**	*e*P	**Pn**	**16 11 56.1**	**-0.7**
	comp=Z,82nm,0.7s						
PKI	**Pulchoki**	**15.70**	**96**	*e*P	**Pn**	**16 11 56.1**	**-0.7**
PKI				pmax	pmax		
	comp=Z,82nm,0.7s						
GUN	**Gumba**	**16.03**	**94**	*e*P	**Pn**	**16 11 58.0**	**-3.0**
	comp=Z,559nm,0.9s						
GUN	**Gumba**	**16.03**	**94**	*e*P	**Pn**	**16 11 58.0**	**-3.0**
	comp=Z,559nm,0.9s						
HYB	**Hyderabad**	**16.25**	**140**	*i* P	**Pn**	**16 12 07.0**	**+3.0**
HYB				*e*		16 14 56.5	
HYB				*e*S	**Sn**	**16 15 03.0**	**-1.4**
ODAN	**Odare**	**17.59**	**97**	*e*P	**Pn**	**16 12 21.9**	**+1.1**
ODAN	**Odare**	**17.59**	**97**	*e*P	**Pn**	**16 12 21.9**	**+1.1**
RDF	**Al-Radifah**	**17.63**	**270**	*e*P	**Pn**	**16 12 18.4**	**-2.8**
RDF				AMb	AMB	16 12 22.9	
	comp=Z,42nm,1.1s						
MIB	**Mutribah**	**17.68**	**273**	*e*P	**Pn**	**16 12 18.5**	**-3.3**
MIB				AMb	AMB	16 12 26.2	
	comp=Z,30nm,0.9s						
TAPN	**Taplejung**	**17.74**	**95**	*e*P	**Pn**	**16 12 22.3**	**-0.3**
TAPN	**Taplejung**	**17.74**	**95**	*e*P	**Pn**	**16 12 22.3**	**-0.3**
NAY	**Al-Naaiem**	**17.84**	**271**	*e*P	**Pn**	**16 12 21.4**	**-2.4**
NAY				AMb	AMB	16 12 25.4	
	comp=Z,25nm,0.9s						
IVIS	**Veis**	**18.11**	**289**	*e*P	**Pn**	**16 12 27.7**	**+0.6**
IGHG	**Ghaleghazi**	**18.32**	**288**	*e*P	**Pn**	**16 12 29.1**	**-0.5**
IHRS	**Heris**	**18.81**	**300**	*e*P	**Pn**	**16 12 34.4**	**-1.2**
VIS	**Vishakhapatnam**	**18.99**	**128**	*i* P	**Pn**	**16 12 38.0**	**0.0**
VIS				*i* x	x	16 15 53.9	
AB31	**Akbulak array**	**19.73**	**345**	P	**Pn**	**16 12 44.9**	**-1.7**
	comp=Z,8.3nm,0.6s,baz=154,slow=11,SNR=202						
AB31	**Akbulak array**	**19.73**	**345**	*i* P	**Pn**	**16 12 44.9**	**-1.7**
AB31				pmax	pmax		
	comp=Z,22nm,0.8s						
ABKAR	**Akbulak array**	**19.73**	**345**	*e*P	**Pn**	**16 12 43.6**	**-3.0**
	comp=Z,13nm,0.7s						
MK31	**Makanchi Array**	**19.86**	**30**	⇑P	**Pn**	**16 12 46.5**	**-1.7**
	comp=Z,5.6nm,0.5s,baz=216,slow=13,SNR=59						
MK31	**Makanchi Array**	**19.86**	**30**	*e*P	**Pn**	**16 12 46.1**	**-2.1**
MK31	**Makanchi Array**	**19.86**	**30**	*e*P	**Pn**	**16 12 46.1**	**-2.0**
MKAR	**Makanchi Array**	**19.86**	**30**	P	**Pn**	**16 12 46.0**	**-2.2**
	comp=Z,2.1nm,0.3s,baz=207,slow=10,SNR=45						
MKAR	**Makanchi Array**	**19.86**	**30**	P	**Pn**	**16 12 46.0**	**-2.2**
MKAR	**Makanchi Array**	**19.86**	**30**	P	**Pn**	**16 12 46.0**	**-2.1**
ISHB	**Shabestar**	**19.87**	**299**	*e*P	**Pn**	**16 12 46.3**	**-2.0**
CAL	**Calcutta**	**20.00**	**108**	*e*PKP	**Pn**	**16 12 54.3**	**+4.4**
CAL				*e*S	**Sn**	**16 16 45.2**	**+10**
BHD	**Baghdad**	**20.06**	**284**	*ex*	x	16 12 49.0	
BHD				*i* x	x	16 16 22.0	
LSA	**Lhasa**	**20.26**	**86**	P	**P**	**16 12 52.6**	**+1.6**
LSA				S	**S**	**16 16 39.7**	**+1.4**
LSA				LR	LR		
	comp=N,480nm,16.4s,MS4.2						
LSA				LR	LR		
	comp=E,730nm,12.3s,MS4.2						
LSA				LR	LR		
	comp=Z,1μm,12.3s,MS4.4						
LSA	**Lhasa**	**20.26**	**86**	*e*P	**P**	**16 12 54.1**	**+3.0**
	comp=Z,49nm,0.9s						
LSA	**Lhasa**	**20.26**	**86**	*e*P	**P**	**16 12 54.1**	**+3.1**
LSA				pmax	pmax		
	comp=Z,49nm,0.9s						
MAK	**Makhachkala**	**20.45**	**313**	*e*P	**P**	**16 12 54.4**	**+1.4**
MAK				*i*		16 13 14.4	
MAK				*e*S	**S**	**16 16 43.0**	**+1.1**
MAK				*e*SS		16 17 09.1	
MAK				pmax	pmax		
	comp=Z,125nm,1.2s						
WMQ	**Urumqi**	**20.71**	**44**	P	**P**	**16 12 58.8**	**+2.9**
WMQ				pP		16 13 05.5	
WMQ				sP	sP	16 13 09.2	+9.2
WMQ				PP		16 13 20.7	
WMQ				S	**S**	**16 16 43.8**	**-3.3**
WMQ				pmax	pmax		
	comp=Z,49nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,780nm,4.0s						
WMQ				smax			
	comp=N,15nm,1.5s						
WMQ				smax			
	comp=E,12nm,1.0s						
WMQ				LR	LR		
	comp=N,840nm,12.2s,MS4.3						
WMQ				LR	LR		
	comp=E,540nm,15.4s,MS4.3						
WMQ				LR	LR		
	comp=Z,510nm,23.4s						
WMQ	**Urumqi**	**20.71**	**44**	P	**P**	**16 12 58.3**	**+2.4**
WMQ				pP		16 13 05.5	
WMQ				sP	sP	16 13 09.2	+9.2
WMQ				PP		16 13 20.7	
WMQ				S	**S**	**16 16 43.8**	**-3.3**
WMQ				pmax	pmax		
	comp=Z,49nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,780nm,4.0s						
WMQ				LR	LR		
	comp=N,840nm,12.2s,MS4.3						
WMQ				LR	LR		
	comp=E,540nm,15.4s,MS4.3						
WMQ				LR	LR		
	comp=Z,510nm,23.4s						
MDRS	**Chennai**	**20.76**	**144**	⇑*e*PKP	**P**	**16 12 56.2**	**-0.4**
MDRS				*e*S	**S**	**16 17 01.2**	**+13**
MDRS				*ex*	x	16 20 43.2	
MDRS				*ex*	x	16 21 51.2	
MDRS				*ex*	x	16 23 35.2	
MDRS				*ex*	x	16 30 01.2	
MDRS				*ex*	x	16 36 32.2	
MDRS				*ex*

ZALV LR LR 16 25 59.5
ZALV Zalesovo Beam 26.57 23 P **P** **16 13 54.4 +1.0**
ARU Arti 26.80 349 *d* iP **P** **16 13 57.2 +1.7**
ARU *e* 16 14 38.0
ARU S **S** **16 18 32.3 +0.9**
ARU SS 16 19 34.2
ARU pmax pmax
comp=Z,27nm,1.2s,mb4.7
NVS Novosibirsk 26.82 20 *e*P **P** **16 13 56.6 +0.9**
NVS pmax pmax
comp=N,12nm,1.0s
NVS pmax pmax
comp=E,3.0nm,1.0s
NVS pmax pmax
comp=Z,20nm,1.0s,mb4.6
SVE Sverdlovsk 26.88 351 ⇓*e*P **P** **16 13 56.9 +0.7**
SVE pmax pmax
comp=Z,16nm,1.4s,mb4.4
SVE MLR MLR
comp=Z,1μm,11.0s,MS4.8
GTA Gaotai 27.66 62 P **P** **16 14 05.0 +1.5**
GTA pP pP 16 14 11.4 +4.9
GTA sP sP 16 14 14.7 +6.9
GTA PP 16 14 57.7
GTA S **S** **16 18 49.6 +4.2**
GTA sS sS 16 19 01.0 +11
GTA pmax pmax
comp=Z,8.0nm,1.3s,mb4.2
GTA pmax pmax
comp=Z,140nm,4.7s
GTA LR LR
comp=N,880nm,17.6s
GTA LR LR
comp=E,320nm,11.4s
GTA LR LR
comp=Z,320nm,12.8s,MS4.1
ANN Anapa 27.80 310 *e*P **P** **16 14 04.6 0.0**
ANN *e*S **S** **16 18 54.6 +7.2**
ANN pmax pmax
comp=Z,28nm,1.5s,mb4.7
EIL Elat 28.36 277 P **P** **16 14 09.4 -0.4**
comp=Z,4.3nm,1.0s,mb4.0,baz=93,slow=15,SNR=2.4
EIL Elat 28.36 277 P **P** **16 14 09.4 -0.4**
BRTR Keskin Array B 29.29 298 P **P** **16 14 17.9 0.0**
comp=Z,1.1nm,0.8s,mb3.6,baz=113,slow=9.5,SNR=5.0
BRTR Keskin Array B 29.29 298 P **P** **16 14 17.9 0.0**
BRTR Keskin Array B 29.29 298 P **P** **16 14 17.9 0.0**
ATD Arta Tunnel 29.78 236 LR LR 16 27 56.5
comp=Z,209nm,20.2s,MS3.8,baz=54,slow=40
SOKR Solikamsk 30.09 349 *e*P **P** **16 14 26.7 +1.9**
SOKR S **S** **16 19 26.7 +3.6**
SOKR SS SS 16 20 52.2 -39
SOKR pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
SOKR MLR MLR
comp=Z,280nm,15.0s,MS4.0
CHTO Chiang Mai 30.51 105 *e*P **P** **16 14 29.1 +0.2**
comp=Z,19nm,1.0s,mb4.9
CHTO Chiang Mai 30.51 105 *e*P **P** **16 14 29.1 +0.1**
CHTO pmax pmax
comp=Z,19nm,1.0s,mb4.9
CHTO Chiang Mai 30.51 105 P **P** **16 14 31.2 +2.3**
SNR=6.9
LZH Lanzhou 30.59 70 *e*P **P** **16 14 32.5 +3.0**
LZH pP pP 16 14 41.2 +8.7
LZH sP sP 16 14 44.9 +11
LZH PP PP 16 15 34.4 -4.0
LZH *e*S **S** **16 19 31.4 0.0**
LZH sS sS 16 19 44.0 +7.5
LZH SS SS 16 21 13.1 -29
LZH pmax pmax
comp=Z,14nm,1.0s,mb4.8
LZH pmax pmax
comp=Z,100nm,5.3s
LZH LR LR
comp=N,1μm,12.9s
LZH LR LR
comp=E,390nm,9.8s
LZH LR LR
comp=Z,1μm,14.6s,MS4.7
CM31 Chiang Mai Arr 30.68 106 *e*P **P** **16 14 31.8 +1.4**
comp=Z,1.5nm,0.3s,mb4.3
CMAR Chiang Mai Arr 30.68 106 P **P** **16 14 31.4 +0.9**
comp=Z,5.4nm,0.9s,mb4.4,baz=300,slow=7.7,SNR=44
CMAR PcP PcP 16 17 30.2 +1.8
comp=Z,1.2nm,0.7s,baz=289,slow=4.8,SNR=5.0
CMAR LR LR 16 29 42.0
comp=Z,178nm,19.6s,MS3.7,baz=290,slow=42
CMAR Chiang Mai Arr 30.68 106 P **P** **16 14 31.4 +0.9**
CMAR PcP PcP 16 17 30.2 +1.8
CMAR LR LR 16 29 42.0
CMAR Chiang Mai Arr 30.68 106 P **P** **16 14 31.4 +0.9**
CMAR 16 17 30.3
CD2 Chengdu 30.89 80 P **P** **16 14 34.0 +1.8**
CD2 pP pP 16 14 41.2 +5.9
CD2 sP sP 16 14 44.6 +8.1
CD2 PP PP 16 15 35.4 -6.5
CD2 S **S** **16 19 35.5 -0.8**
CD2 sS sS 16 19 47.7 +6.4
CD2 SS SS 16 21 20.7 -27
CD2 pmax pmax
comp=Z,10.0nm,0.5s,mb4.9
CD2 pmax pmax
comp=Z,90nm,6.5s
CD2 LR LR
comp=N,430nm,13.1s
CD2 LR LR
comp=Z,610nm,16.0s,MS4.3
KMI Kunming 31.32 91 P **P** **16 14 38.5 +2.5**
KMI pP pP 16 14 45.5 +6.4
KMI sP sP 16 14 48.4 +8.1
KMI PP PP 16 15 42.2 -4.5
KMI PcP PcP 16 17 32.4 +2.3
KMI S **S** **16 19 43.0 -0.1**
KMI sS sS 16 19 54.9 +6.8
KMI SS SS 16 21 30.3 -27
KMI ScS ScS 16 25 08.6 -2.2
KMI pmax pmax
comp=Z,16nm,1.4s,mb4.7
KMI pmax pmax
comp=Z,130nm,3.9s
KMI LR LR
comp=N,270nm,13.0s,MS4.4
KMI LR LR
comp=E,460nm,12.6s,MS4.4
KMI LR LR
comp=Z,420nm,13.8s,MS4.3
ZAK Zakamensk 33.17 43 *e*P **P** **16 14 53.0 +1.0**
ZAK *e* 16 16 01.0
ZAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
TLY Talaya 33.91 41 *e*P **P** **16 15 00.2 +1.8**
TLY *e*SS SS 16 22 20.2 -29
TLY pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
TLY MLR MLR
comp=Z,305nm,17.0s,MS4.1
SONM Songino Array 34.23 48 P **P** **16 15 03.1 +1.9**
comp=Z,2.2nm,0.8s,mb4.1,baz=260,slow=8.5,SNR=15
SONM LR LR 16 30 17.0
comp=Z,377nm,18.7s,MS4.2,baz=248,slow=39
SONM Songino Array 34.23 48 P **P** **16 15 03.1 +1.9**
SONM LR LR 16 30 17.0
SONM Songino Array 34.23 48 P **P** **16 15 03.1 +1.9**
ULN Ulaanbaatar 34.66 49 *e*P **P** **16 15 04.5 -0.4**
comp=Z,5.8nm,1.3s,mb4.3
ULN Ulaanbaatar 34.66 49 *e*P **P** **16 15 04.5 -0.5**
ULN pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
XAN Xi'an 34.85 73 P **P** **16 15 07.7 +0.9**
XAN pP pP 16 15 15.4 +5.6
XAN S **S** **16 20 28.5 -9.2**
XAN pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
XAN pmax pmax
comp=Z,17nm,4.3s
XAN LR LR
comp=N,260nm,19.6s
XAN LR LR
comp=Z,130nm,19.6s,MS3.7
AKASG Malin Array Be 35.07 316 P **P** **16 15 08.8 +0.3**
comp=Z,3.8nm,0.7s,mb4.5,baz=102,slow=7.3,SNR=15
AKASG Malin Array Be 35.07 316 P **P** **16 15 08.8 +0.3**
AKASG Malin Array Be 35.07 316 P **P** **16 15 08.8 +0.3**
VRI Vrincioaia 35.35 308 ⇑P **P** **16 15 10.3 -0.6**
VRI Vrincioaia 35.35 308 ⇑*i*P **P** **16 15 10.3 -0.6**
PLOR Plostina 35.40 308 ⇓P **P** **16 15 13.4 +2.1**
PLOR Plostina 35.40 308 ⇓*i*P **P** **16 15 13.4 +2.1**
PLOR Plostina 35.40 308 ⇓*i*P **P** **16 15 13.4 +2.1**
TESR 35.53 309 ⇑*i*P **P** **16 15 13.3 +0.8**
TESR 35.53 309 ⇑*i*P **P** **16 15 13.3 +0.8**
BTO Baotou 35.58 62 *e*P **P** **16 15 13.5 +0.5**
KLMR Klimovskoe 35.73 337 *e*P **P** **16 15 12.7 -1.3**
KLMR pmax pmax
comp=Z,13nm,0.8s,mb4.9
MLR Muntele Rosu 35.81 307 ⇓P **P** **16 15 17.7 +2.8**
MLR Muntele Rosu 35.81 307 ⇓*i*P **P** **16 15 17.7 +2.8**
MLR Muntele Rosu 35.81 307 ⇓*i*P **P** **16 15 17.7 +2.8**
ENH Enshi 35.87 79 *e*P **P** **16 15 16.8 +1.2**
comp=Z,21nm,1.0s,mb5.0
DOPR Dopca 36.28 307 ⇑*i*P **P** **16 15 19.5 +0.6**
DOPR Dopca 36.28 307 ⇑*i*P **P** **16 15 19.5 +0.6**
VOIR 36.43 306 ⇓P **P** **16 15 20.3 +0.1**
VOIR 36.43 306 ⇓*i*P **P** **16 15 20.3 +0.1**
VOIR 36.43 306 ⇓*i*P **P** **16 15 20.3 +0.1**
BURAR Bucovina Array 36.72 310 ⇓P **P** **16 15 22.9 +0.2**
BURAR Bucovina Array 36.72 310 ⇓*i*P **P** **16 15 22.9 +0.2**
BURAR Bucovina Array 36.72 310 ⇓*i*P **P** **16 15 22.9 +0.2**
BUR08 Bucovina Ar. S 36.74 310 *e*P **P** **16 15 22.6 -0.2**
HHC Hu-ho-hao-te 36.76 61 *e*P **P** **16 15 23.6 +0.5**
HHC pP pP 16 15 31.0 +4.8
HHC sP sP 16 15 33.3 +5.8
HHC PP PP 16 16 47.1 +0.4
HHC PcP PcP 16 17 46.5 +1.2
HHC S **S** **16 21 05.2 -1.8**
HHC sS sS 16 21 15.9 +3.9
HHC ScP ScP 16 21 31.3 -0.9
HHC SS SS 16 23 30.3 -17
HHC ScS ScS 16 25 36.3 -2.7
HHC pmax pmax
comp=Z,24nm,1.6s,mb4.8
HHC pmax pmax
comp=Z,160nm,4.6s
HHC LR LR
comp=N,270nm,13.1s,MS4.3
HHC LR LR
comp=E,260nm,14.3s,MS4.3
HHC LR LR
comp=Z,230nm,13.1s,MS4.1
LOT Lotru 37.32 306 ⇓*i*P **P** **16 15 26.1 -1.7**
LOT Lotru 37.32 306 ⇓*i*P **P** **16 15 26.1 -1.7**
VTS Vitosha 37.41 302 ⇓P **P** **16 15 30.7 +2.1**
VTS Vitosha 37.41 302 ⇓*i*P **P** **16 15 30.7 +2.1**
VTS Vitosha 37.41 302 ⇓*i*P **P** **16 15 30.7 +2.1**
LVV L'vov 37.99 313 *e*P **P** **16 15 40.4 +7.0**
GZR Gura Zlata 38.00 306 ⇑P **P** **16 15 35.8 +2.2**
GZR Gura Zlata 38.00 306 ⇑*i*P **P** **16 15 35.8 +2.2**
GZR Gura Zlata 38.00 306 ⇑*i*P **P** **16 15 35.8 +2.2**
DRGR 38.25 308 ⇑P **P** **16 15 36.9 +1.3**
DRGR 38.25 308 ⇑*i*P **P** **16 15 36.9 +1.3**
DRGR 38.25 308 ⇑*i*P **P** **16 15 36.9 +1.3**
BZS Buzias 38.84 306 ⇑P **P** **16 15 39.6 -1.0**
BZS Buzias 38.84 306 ⇑*i*P **P** **16 15 39.6 -1.0**
BZS Buzias 38.84 306 ⇑*i*P **P** **16 15 39.6 -1.0**
UZH Uzhgorod 38.85 311 *e*P **P** **16 15 41.0 +0.4**
UZH *e* 16 15 48.3
KOLS Kolonicke sedl 38.92 312 *e*P **P** **16 15 41.9 +0.7**
KOLS pmax pmax
comp=Z,10.0nm,1.6s,mb4.3
KOLS Kolonicke sedl 38.92 312 *e*P **P** **16 15 41.9 +0.7**
CRVS Cervenica-Dubn 39.44 311 *e*P **P** **16 15 48.0 +2.4**
CRVS pmax pmax
comp=Z,11nm,1.5s,mb4.4
CRVS Cervenica-Dubn 39.44 311 *e*P **P** **16 15 48.0 +2.4**
QIZ Qiongzhong 39.67 97 P **P** **16 15 46.3 -1.5**
QIZ S **S** **16 21 44.4 -6.9**
QIZ LR LR
comp=Z,240nm,13.7s,MS4.2
KECS Kecovo 40.00 311 *e*P **P** **16 15 52.1 +1.8**
KECS pmax pmax
comp=Z,2.0nm,1.0s,mb3.8
KECS Kecovo 40.00 311 *e*P **P** **16 15 52.1 +1.8**
JOF Joensuu 40.02 335 *e*p **P** **16 15 49.4 -0.8**
comp=Z,20nm,0.7s,mb4.9
BJI Beijing 40.28 63 P **P** **16 15 54.8 +2.1**
BJI pP pP 16 15 58.9 +3.1
BJI sP sP 16 16 01.5 +4.5
BJI PP PP 16 17 25.4 +0.1
BJI sS sS 16 22 09.4 +4.2
BJI pmax pmax
comp=Z,14nm,1.0s,mb4.7
BJI pmax pmax
comp=Z,140nm,4.6s
BJI LR LR
comp=N,220nm,15.7s,MS4.4
BJI LR LR
comp=E,310nm,15.1s,MS4.4
BJI LR LR
comp=Z,130nm,19.2s,MS3.8
PSZ Piszkesteto 40.31 310 ⇑P **P** **16 15 55.8 +3.0**
PSZ Piszkesteto 40.31 310 ⇑*i*P **P** **16 15 55.8 +3.0**
PSZ Piszkesteto 40.31 310 ⇑*i*P **P** **16 15 55.8 +3.0**
IPM Ipoh 40.60 123 *e*P **P** **16 15 55.9 +0.3**
comp=Z,5.7nm,0.8s,mb4.2
VYHS Vyhne 41.09 310 *e*P **P** **16 16 00.0 +0.7**
VYHS pmax pmax
comp=Z,3.0nm,1.4s,mb3.7
VYHS Vyhne 41.09 310 *e*P **P** **16 16 00.0 +0.7**
FINES FINESS Array B 41.26 331 P **P** **16 15 59.8 -0.7**
comp=Z,8.0nm,0.8s,mb4.4,baz=120,slow=11,SNR=13
FINES LR LR 16 36 14.6
comp=Z,744nm,18.4s,MS4.6,baz=167,slow=41
FINES FINESS Array B 41.26 331 P **P** **16 15 59.8 -0.7**
FINES LR LR 16 36 14.6
FINES FINESS Array B 41.26 331 P **P** **16 15 59.8 -0.7**
KAF Kangasniemi 41.50 332 *e*p **P** **16 16 01.2 -1.2**
comp=Z,12nm,0.6s,mb4.7
BOD Bodaibo 41.83 35 *e*P **P** **16 16 03.9 -1.2**
BOD pmax pmax
comp=Z,8.0nm,1.1s,mb4.3
KMBO Kilima Mbogo 42.75 228 P **P** **16 16 15.6 +2.4**
comp=Z,0.6nm,0.3s,mb3.9,baz=0.2,slow=24,SNR=4.6
KMBO LR LR 16 33 55.1
comp=Z,107nm,20.0s,MS3.7,baz=88,slow=36
KMBO Kilima Mbogo 42.75 228 P **P** **16 16 15.6 +2.4**
KMBO LR LR 16 33 55.1
KMBO Kilima Mbogo 42.75 228 P **P** **16 16 15.6 +2.4**
DPC Dobruska-Polom 42.97 313 *e*P **P** **16 16 16.4 +1.8**
DPC Dobruska-Polom 42.97 313 *e*P **P** **16 16 16.4 +1.8**
UPC Upice 43.18 313 *e*P **P** **16 16 17.8 +1.5**
UPC Upice 43.18 313 *e*P **P** **16 16 17.8 +1.5**
GERES GERESS Array B 44.51 310 P **P** **16 16 27.3 +0.3**
comp=Z,1.7nm,0.8s,mb3.9,baz=115,slow=6.3,SNR=11
GERES LR LR 16 37 00.8
comp=Z,139nm,18.4s,MS3.9,baz=90,slow=39
GERES GERESS Array B 44.51 310 P **P** **16 16 27.3 +0.3**
GERES LR LR 16 37 00.8
GERES GERESS Array B 44.51 310 P **P** **16 16 27.3 +0.3**
KHC Kasperske Hory 44.61 311 *e*P **P** **16 16 24.0 -3.8**
KHC Kasperske Hory 44.61 311 *e*P **P** **16 16 24.0 -3.8**
CLL Collm 45.17 314 *e*SS SS 16 26 36.0 +2.0
CLL LmV 16 38 00.0
comp=Z,300nm,18.6s
ARCES ARCESS Array B 45.86 341 P **P** **16 16 37.4 -0.1**
comp=Z,8.6nm,0.7s,mb4.8,baz=132,slow=7.9,SNR=19
ARCES LR LR 16 39 41.8
comp=Z,88nm,19.2s,MS3.7,baz=131,slow=41
ARCES ARCESS Array B 45.86 341 P **P** **16 16 37.4 -0.1**
ARCES LR LR 16 39 41.8
ARCES ARCESS Array B 45.86 341 P **P** **16 16 37.4 0.0**
CN2 Changchun 47.02 57 *e*P **P** **16 16 48.2 +1.3**
CN2 *es*P sP 16 16 58.8 +7.5
CN2 *e*S **S** **16 23 35.5 -3.0**
CN2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,15.0s,MS4.5
CN2 LR LR
comp=E,400nm,15.0s,MS4.5
CN2 LR LR
comp=Z,600nm,16.0s,MS4.7
NB2 NORSAR Subarra 47.80 327 P **P** **16 16 51.8 -0.9**
comp=Z,6.1nm,0.8s,mb4.7,baz=105,slow=7.9
NOA NORSAR Array B 47.80 327 P **P** **16 16 52.4 -0.3**
comp=Z,5.3nm,0.8s,mb4.6,baz=106,slow=7.8,SNR=19
NOA LR LR 16 39 31.9
comp=Z,448nm,18.4s,MS4.5,baz=100,slow=39
NOA NORSAR Array B 47.80 327 P **P** **16 16 52.4 -0.3**
NOA LR LR 16 39 31.9
NOA NORSAR Array B 47.80 327 P **P** **16 16 52.4 -0.3**
KEST Kesra 48.62 293 P **P** **16 17 00.9 +1.4**
comp=Z,1.0nm,0.7s,mb4.0,baz=300,slow=8.0,SNR=4.3
KEST Kesra 48.62 293 P **P** **16 17 00.9 +1.4**
LPG La Plagne 49.27 306 *e*P **P** **16 17 02.5 -1.8**
comp=Z,11nm,0.9s,mb4.6
LPG La Plagne 49.27 306 *e*P **P** **16 17 02.5 -1.8**
comp=Z,5.3nm,0.9s,mb4.6
LPG La Plagne 49.27 306 *e*P **P** **16 17 02.5 -1.8**
LPG pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
LPL La Plagne 49.28 306 *e*P **P** **16 17 02.3 -2.0**
LPL La Plagne 49.28 306 *e*P **P** **16 17 02.3 -2.0**
LPL La Plagne 49.28 306 *e*P **P** **16 17 02.3 -2.0**
MBDF Montbardon 49.31 305 *e*P **P** **16 17 02.1 -2.5**
comp=Z,6.4nm,0.6s,mb4.5
MBDF Montbardon 49.31 305 *e*P **P** **16 17 02.1 -2.5**
comp=Z,3.2nm,0.6s,mb4.5
MBDF Montbardon 49.31 305 *e*P **P** **16 17 02.1 -2.5**
MBDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
HAU Haudompre 49.40 309 *e*P **P** **16 17 03.2 -2.0**
HAU *e*MLR MLR
comp=Z,104nm,19.5s,MS3.5
HAU Haudompre 49.40 309 *e*P **P** **16 17 03.2 -2.0**
HAU LR LR
comp=Z,100nm,19.5s,MS3.8
HAU Haudompre 49.40 309 *e*P **P** **16 17 03.2 -2.0**
HAU MLR MLR
comp=Z,100nm,19.5s,MS3.8
FRF La Foret Royal 49.51 303 *e*P **P** **16 17 03.6 -2.6**
FRF La Foret Royal 49.51 303 *e*P **P** **16 17 03.6 -2.6**
FRF La Foret Royal 49.51 303 *e*P **P** **16 17 03.6 -2.6**
LMR La Mourre 49.64 303 *e*P **P** **16 17 04.4 -2.7**
LMR La Mourre 49.64 303 *e*P **P** **16 17 04.4 -2.7**
LMR La Mourre 49.64 303 *e*P **P** **16 17 04.4 -2.7**
CABF La Chapelle 49.65 307 *e*P **P** **16 17 05.7 -1.5**
CABF La Chapelle 49.65 307 *e*P **P** **16 17 05.7 -1.5**
CABF La Chapelle 49.65 307 *e*P **P** **16 17 05.7 -1.5**
KSRS Korea Array 49.68 65 P **P** **16 17 08.3 +0.8**
comp=Z,7.2nm,1.0s,mb4.7,baz=263,slow=6.0,SNR=7.9
KSRS LR LR 16 41 07.4
comp=Z,196nm,18.4s,MS4.1,baz=103,slow=40
KSRS Korea Array 49.68 65 P **P** **16 17 08.4 +0.8**
KSRS pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
KSRS MLR MLR
comp=Z,196nm,18.4s,MS4.1
SFTF Sexfontaines 50.26 309 *e*P **P** **16 17 10.1 -1.7**
SFTF Sexfontaines 50.26 309 *e*P **P** **16 17 10.1 -1.7**
GIVF Givet 50.32 312 *e*P **P** **16 17 11.2 -1.0**
GIVF Givet 50.32 312 *e*P **P** **16 17 11.2 -1.0**
GIVF Givet 50.32 312 *e*P **P** **16 17 11.2 -1.0**
YAK Yakutsk 50.52 33 *e*P **P** **16 17 13.0 -0.5**
comp=Z,24nm,0.7s,mb5.2
YAK Yakutsk 50.52 33 *e*P **P** **16 17 13.0 -0.5**
YAK pmax pmax
comp=Z,24nm,0.7s,mb5.2
BAIF Baives 50.72 312 *e*P **P** **16 17 14.0 -1.2**
BAIF Baives 50.72 312 *e*P **P** **16 17 14.0 -1.2**
BAIF Baives 50.72 312 *e*P **P** **16 17 14.0 -1.2**
VIVF Saint-Julien-l 50.79 305 *e*P **P** **16 17 13.6 -2.2**
VIVF Saint-Julien-l 50.79 305 *e*P **P** **16 17 13.6 -2.2**
VIVF Saint-Julien-l 50.79 305 *e*P **P** **16 17 13.6 -2.2**
LOR Lormes 51.12 308 *e*P **P** **16 17 16.0 -2.3**
comp=Z,11nm,0.9s,mb4.5
LOR *e*MLR MLR
comp=Z,171nm,21.8s,MS3.7
LOR Lormes 51.12 308 *e*P **P** **16 17 16.0 -2.3**
comp=Z,5.7nm,0.9s,mb4.5
LOR LR LR
comp=Z,170nm,21.8s,MS4.0
LOR Lormes 51.12 308 *e*P **P** **16 17 16.0 -2.3**
LOR pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
LOR MLR MLR
comp=Z,170nm,21.8s,MS4.0
SMF Signal de Mont 51.19 307 *e*P **P** **16 17 16.7 -2.1**
comp=Z,19nm,0.8s,mb4.8
SMF Signal de Mont 51.19 307 *e*P **P** **16 17 16.7 -2.1**
comp=Z,9.7nm,0.8s,mb4.8
SMF Signal de Mont 51.19 307 *e*P **P** **16 17 16.7 -2.1**
SMF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
SSF Saint Saulge 51.38 308 *e*P **P** **16 17 18.1 -2.1**
comp=Z,14nm,0.8s,mb4.6
SSF Saint Saulge 51.38 308 *e*P **P** **16 17 18.1 -2.1**
comp=Z,6.9nm,0.8s,mb4.6
SSF Saint Saulge 51.38 308 *e*P **P** **16 17 18.1 -2.1**
SSF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
AVF Avril sur Loir 51.51 308 *e*P **P** **16 17 19.5 -1.7**
comp=Z,18nm,1.0s,mb4.7
AVF Avril sur Loir 51.51 308 *e*P **P** **16 17 19.5 -1.7**
comp=Z,9.1nm,1.0s,mb4.7
AVF Avril sur Loir 51.51 308 *e*P **P** **16 17 19.5 -1.7**
AVF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
RJF Les Rejaudoux 52.95 306 *e*P **P** **16 17 30.3 -1.7**
RJF *e*MLR MLR
comp=Z,112nm,17.5s,MS3.7
RJF Les Rejaudoux 52.95 306 *e*P **P** **16 17 30.3 -1.7**
RJF LR LR
comp=Z,110nm,17.5s,MS4.0
RJF Les Rejaudoux 52.95 306 *e*P **P** **16 17 30.3 -1.7**
RJF MLR MLR
comp=Z,110nm,17.5s,MS4.0
LDF La Druitiere 53.66 310 *e*P **P** **16 17 34.8 -2.3**
LDF La Druitiere 53.66 310 *e*P **P** **16 17 34.8 -2.3**
LDF La Druitiere 53.66 310 *e*P **P** **16 17 34.8 -2.3**
EPF Esparros 54.15 303 *e*P **P** **16 17 37.6 -3.2**
comp=Z,22nm,1.0s,mb4.7
EPF Esparros 54.15 303 *e*P **P** **16 17 37.6 -3.2**
comp=Z,11nm,1.0s,mb4.7
EPF Esparros 54.15 303 *e*P **P** **16 17 37.6 -3.2**
EPF pmax pmax
comp=Z,11nm,1.0s,mb4.7
MJAR Matsushiro Arr 57.90 64 P **P** **16 18 09.8 +2.0**
comp=Z,2.8nm,0.9s,mb4.3,baz=322,slow=15,SNR=4.5
MJAR LR LR 16 45 39.9
comp=Z,83nm,18.9s,MS3.9,baz=170,slow=39
MJAR Matsushiro Arr 57.90 64 P **P** **16 18 09.8 +2.0**
MJAR LR LR 16 45 39.9
MJAR Matsushiro Arr 57.90 64 P **P** **16 18 09.8 +2.0**
ESDC Sonseca Array 58.04 300 P **P** **16 18 07.9 -0.7**
comp=Z,1.3nm,0.5s,mb4.2,baz=64,slow=8.3,SNR=10
ESDC Sonseca Array 58.04 300 P **P** **16 18 07.9 -0.7**
DAG Danmarks Havn 59.83 345 *i* P **P** **16 18 20.4 -0.1**
comp=Z,9.0nm,0.9s,mb4.8
DAG *i* 16 18 36.8
SEY Seymchan 61.00 31 ⇑*e*P **P** **16 18 30.1 +1.4**
YUK Yuzh-Kuril'sk 61.49 53 *e*P **P** **16 18 23.6 -8.8**
YUK S **S** **16 27 09.2 +15**
YUK MLR MLR
comp=Z,570nm,20.0s,MS4.7
TORD Torodi Ar. Bea 62.92 270 P **P** **16 18 40.2 -2.1**
comp=Z,6.3nm,0.8s,mb4.8,baz=59,slow=6.0,SNR=28
TORD LR LR 16 49 41.3
comp=Z,136nm,18.3s,MS4.2,baz=80,slow=40
TORD Torodi Ar. Bea 62.92 270 P **P** **16 18 40.2 -2.1**
TORD LR LR 16 49 41.3
SUMG Summit 65.95 342 *i* P **P** **16 19 01.8 +0.5**
comp=Z,13nm,0.8s,mb5.0
PETK Petropavlovsk- 66.28 41 LR LR 16 49 16.7
comp=Z,124nm,20.6s,MS4.1,baz=289,slow=37
BOSA Boshof 71.33 219 LR LR 16 49 57.2
comp=Z,104nm,20.0s,MS4.1,baz=263,slow=35
DBIC Dimbokro 71.67 267 P **P** **16 19 37.4 -0.4**
comp=Z,4.6nm,0.9s,mb4.4,baz=79,slow=8.8,SNR=4.0
DBIC LR LR 16 55 16.2
comp=Z,166nm,18.4s,MS4.3,baz=148,slow=39
DBIC Dimbokro 71.67 267 P **P** **16 19 37.4 -0.4**
DBIC LR LR 16 55 16.2
DBIC Dimbokro 71.67 267 P **P** **16 19 37.4 -0.5**
GUMO Guam 72.24 84 LR LR 16 51 23.4
comp=Z,31nm,18.4s,MS3.6,baz=109,slow=36
INK Inuvik 80.31 8 *e*P **P** **16 20 26.5 +0.2**
comp=Z,19nm,1.1s,mb5.0
INK Inuvik 80.31 8 *e*P **P** **16 20 26.5 +0.2**
INK pmax pmax
comp=Z,19nm,1.1s

COLA	**College**	**81.05**	**15**	*e*P	**P**	**16 20 31.0**	**+0.7**
	comp=Z,4.9nm,0.9s,mb4.4							
COLA	**College**	**81.05**	**15**	*e*P	**P**	**16 20 31.0**	**+0.7**
COLA				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.4							
WRA	**Warramunga Arr**	**81.24**	**119**	P	**P**	**16 20 32.5**	**+0.5**
	comp=Z,3.1nm,0.9s,mb4.2,baz=319,slow=4.9,SNR=11							
WRA				LR	LR	17 03 34.7		
	comp=Z,115nm,18.8s,MS4.3,baz=310,slow=41							
WRA	**Warramunga Arr**	**81.24**	**119**	P	**P**	**16 20 32.5**	**+0.5**
WRA				LR	LR	17 03 34.7		
WRA	**Warramunga Arr**	**81.24**	**119**	P	**P**	**16 20 32.5**	**+0.5**
WB2	**Warramunga Arr**	**81.25**	**119**	*e*P	**P**	**16 20 31.5**	**-0.5**
ILAR	**Eielson Array**	**81.35**	**14**	P	**P**	**16 20 31.6**	**-0.3**
	comp=Z,2.4nm,0.9s,mb4.1,baz=322,slow=2.9,SNR=16							
ILAR				PP	PP	16 23 40.0	+3.2	
	comp=Z,0.9nm,0.9s,baz=326,slow=8.6,SNR=6.2							
ILAR				LR	LR	17 03 21.6		
	comp=Z,104nm,19.6s,MS4.2,baz=135,slow=41							
ILAR	**Eielson Array**	**81.35**	**14**	P	**P**	**16 20 31.6**	**-0.3**
ILAR				PP	PP	16 23 40.0	+3.2	
ILAR				LR	LR	17 03 21.6		
ILAR	**Eielson Array**	**81.35**	**14**	P	**P**	**16 20 31.6**	**-0.2**
ILAR						16 23 40.1		
EGAK	**Eagle**	**82.47**	**12**	*e*P	**P**	**16 20 37.3**	**-0.4**
	comp=Z,6.4nm,1.1s,mb4.5							
ASAR	**Alice Springs**	**83.15**	**122**	P	**P**	**16 20 41.3**	**-0.6**
	comp=Z,2.4nm,0.7s,mb4.3,baz=308,slow=5.3,SNR=16							
ASAR	**Alice Springs**	**83.15**	**122**	P	**P**	**16 20 41.3**	**-0.6**
ASAR	**Alice Springs**	**83.15**	**122**	P	**P**	**16 20 41.3**	**-0.6**
DAWY	**Dawson**	**83.44**	**12**	*e*P	**P**	**16 20 42.7**	**0.0**
SCHQ	**Schefferville**	**86.57**	**336**	LR	LR	17 01 01.2		
	comp=Z,132nm,18.7s,MS4.4,baz=87,slow=37							
YKA	**Yellowknife Ar**	**87.40**	**1**	P	**P**	**16 21 03.3**	**+0.7**
	comp=Z,9.5nm,0.8s,mb5.1,baz=345,slow=5.1,SNR=12							
YKA	**Yellowknife Ar**	**87.40**	**1**	P	**P**	**16 21 03.4**	**+0.8**
YKA	**Yellowknife Ar**	**87.40**	**1**	P	**P**	**16 21 03.3**	**+0.7**
YKA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
STKA	**Stephens Creek**	**93.44**	**125**	LR	LR	17 02 39.1		
	comp=Z,116nm,20.0s,MS4.3,baz=205,slow=35							
MAW	**Mawson**	**97.78**	**182**	LR	LR	16 58 33.5		
	comp=Z,107nm,19.7s,MS4.3,baz=67,slow=31							
ULM	**Lac du Bonnet**	**98.39**	**349**	LR	LR	17 09 52.4		
	comp=Z,128nm,19.8s,MS4.4,baz=35,slow=38							
SADO	**Sadowa**	**99.32**	**337**	LR	LR	17 07 36.2		
	comp=Z,155nm,19.6s,MS4.5,baz=33,slow=36							
TXAR	**Lajitas Array**	**120.03**	**351**	PKP	PKPdf	16 27 07.2	+0.4	
	comp=Z,0.7nm,1.0s,baz=328,slow=4.6,SNR=3.6							
TXAR	**Lajitas Array**	**120.03**	**351**	PKP	PKPdf	16 27 07.2	+0.4	
TXAR	**Lajitas Array**	**120.03**	**351**	PKIKP	PKPdf	16 27 07.2	+0.4	
PLCA	**Paso Flores**	**144.85**	**241**	PKP	PKPdf	16 27 53.2	+0.6	
	comp=Z,3.5nm,1.1s,baz=129,slow=6.5,SNR=3.1							
PLCA	**Paso Flores**	**144.85**	**241**	PKP	PKPdf	16 27 53.2	+0.6	
PLCA	**Paso Flores**	**144.85**	**241**	PKIKP	PKPdf	16 27 53.2	+0.6	

*ISCJB **03** 16:11:41.9±0.8, 41°.12N±0°.06×33°.72E±0°.06, h14km±6km, Error ellipse: s-maj=9.7km s-min=7.4km az=5.1*
*ISK **03** 16:11:41.9, 41°.08N×33°.69E, h7km, MD2.8*
*CSEM **03** 16:11:42.3±0.2, 41°.08N×33°.71E, h10km, MD2.9, Error ellipse: s-maj=5.7km s-min=5.5km az=105.0*
*DDA **03** 16:11:42.8, 41°.00N×33°.81E, h7km±2km, Md2.9*
ISC 03 16:11:42.5±0.8, 41°.08N±0°.05×33°.74E±0°.05, h12km±4km, n17, σ0°86/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILGA	**Ilgaz**	**0.03**	**210**	*i* P	**Pg**	**16 11 45.2**	**+0.5**
ILGA				*i* S	**Sg**	**16 11 46.8**	**+0.6**
ILGA	**Ilgaz**	**0.03**	**210**	*i* P	**Pg**	**16 11 45.2**	**+0.5**
ILGA				*i* S	**Sg**	**16 11 46.8**	**+0.6**
TOS	**Tosya**	**0.22**	**101**	*e*PG	**Pg**	**16 11 47.5**	**+0.3**
TOS				*e*SG	**Sg**	**16 11 51.5**	**+1.2**
TOS	**Tosya**	**0.22**	**101**	*e*Pg	**Pg**	**16 11 47.5**	**+0.3**
TOS				*e*Sg	**Sg**	**16 11 51.5**	**+1.1**
CANT	**Cankiri**	**0.48**	**191**	*e*PG	**Pg**	**16 11 51.5**	**-0.4**
ELDT	**Eldivan**	**0.64**	**202**	*i* P	**Pg**	**16 11 54.4**	**-0.4**
ELDT				*i* S	**Sg**	**16 12 03.2**	**0.0**
ELDT	**Eldivan**	**0.64**	**202**	*i* P	**Pg**	**16 11 54.4**	**-0.4**
ELDT				*i* S	**Sg**	**16 12 03.2**	**0.0**
SAFT	**Safranbolu**	**0.81**	**282**	*e*PG	**Pg**	**16 11 57.3**	**-0.8**
SAFT	**Safranbolu**	**0.81**	**282**	*e*Pg	**Pg**	**16 11 57.3**	**-0.8**
BZK	**Bozkurt**	**0.90**	**13**	*e*PG	**Pg**	**16 11 59.8**	**-0.2**
BZK	**Bozkurt**	**0.90**	**13**	*e*Pg	**Pg**	**16 11 59.8**	**-0.1**
CTKT	**Corum**	**0.92**	**119**	*i* P	**Pg**	**16 11 58.8**	**-1.4**
CTKT				*i* S	**Sg**	**16 12 10.3**	**-1.9**
CTKT	**Corum**	**0.92**	**119**	*i* P	**Pg**	**16 11 58.8**	**-1.4**
CDAG	**Cicekdag**	**1.53**	**161**	*i* P	**Pg**	**16 12 10.3**	**+0.7**
CDAG				*i* S	**Sn**	**16 12 29.8**	**+0.4**
CDAG	**Cicekdag**	**1.53**	**161**	*i* P	**Pn**	**16 12 10.3**	**+0.7**
CDAG				*i* S	**Sn**	**16 12 29.8**	**+0.4**
YOZ	**Yozgat**	**1.88**	**139**	*e*PN	**Pn**	**16 12 15.6**	**+1.2**
YOZ	**Yozgat**	**1.88**	**139**	*e*Pn	**Pn**	**16 12 15.6**	**+1.2**

*ISCJB **03** 16:13:03.8±0.6, 38°.92N±0°.03×30°.49E±0°.04, h8km±6km, Error ellipse: s-maj=5.9km s-min=4.8km az=33.8*
*DDA **03** 16:13:03.5, 38°.90N×30°.47E, h7km±4km, Md2.6*
*CSEM **03** 16:13:03.6±0.1, 38°.93N×30°.48E, h15km, MD2.2*
*ISK **03** 16:13:03.2, 38°.93N×30°.49E, h16km, MD2.2*
ISC 03 16:13:04.0±0.5, 38°.92N±0°.03×30°.48E±0°.04, h13km±5km, n17, σ0°55/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALT	**Altintas**	**0.32**	**295**	*e*PG	**Pg**	**16 13 10.2**	**-0.3**
ALT				*e*SG	**Sg**	**16 13 15.0**	**+0.2**
ALT	**Altintas**	**0.32**	**295**	*e*Pg	**Pg**	**16 13 10.2**	**-0.3**
ALT				*e*Sg	**Sg**	**16 13 15.0**	**+0.2**
SHUT	**Suhut-Afyon**	**0.37**	**171**	*e*PG	**Pg**	**16 13 11.4**	**0.0**
SHUT				*e*SG	**Sg**	**16 13 17.2**	**+0.8**
SHUT	**Suhut-Afyon**	**0.37**	**171**	*e*Pg	**Pg**	**16 13 11.4**	**0.0**
SHUT				*e*Sg	**Sg**	**16 13 17.2**	**+0.8**
BOLV	**Bolvadin**	**0.42**	**119**	*i* P	**Pg**	**16 13 12.8**	**+0.5**
BOLV				*i* S	**Sg**	**16 13 17.5**	**-0.4**
BOLV	**Bolvadin**	**0.42**	**119**	*i* P	**Pg**	**16 13 12.8**	**+0.5**
BOLV				*i* S	**Sg**	**16 13 17.5**	**-0.4**
ESKT	**Eskisehir**	**0.67**	**25**	*e*PG	**Pg**	**16 13 16.4**	**-0.5**
ESKT	**Eskisehir**	**0.67**	**25**	*e*Pg	**Pg**	**16 13 16.4**	**-0.5**
KHAL	**Karahalli**	**0.95**	**235**	*i* P	**Pb**	**16 13 21.7**	**-0.5**
KHAL				*i* S	**Sb**	**16 13 34.3**	**-0.4**
KHAL	**Karahalli**	**0.95**	**235**	*i* P	**Pb**	**16 13 21.7**	**-0.5**
KHAL				*i* S	**Sb**	**16 13 34.3**	**-0.4**
BORA	**Eskisehir**	**0.96**	**359**	*i* P	**Pb**	**16 13 22.4**	**0.0**
BORA				*i* S	**Sb**	**16 13 36.0**	**+0.9**
BORA	**Eskisehir**	**0.96**	**359**	*i* S	**Sb**	**16 13 36.0**	**+1.0**
SVRH	**Sivrihisar-ESK**	**0.97**	**57**	*e*PG	**Pg**	**16 13 22.1**	**-0.5**
SVRH	**Sivrihisar-ESK**	**0.97**	**57**	*e*Pg	**Pg**	**16 13 22.1**	**-0.5**
KIZT	**Kizilcal**	**1.09**	**92**	*e*PN	**Pn**	**16 13 24.6**	**-0.3**
KIZT	**Kizilcal**	**1.09**	**92**	*e*Pn	**Pn**	**16 13 24.6**	**-0.3**
KDHN	**Kadinhani**	**1.34**	**107**	*i* P	**Pn**	**16 13 29.3**	**+1.0**
KDHN				*i* S	**Sb**	**16 13 45.5**	**-0.5**

IDC 03 16:13:19.8±1.9, 4°.57S×140°.20E, h0km, mb3.7/1, mb1 4.0/3, mb1mx3.6/14, mbtmp3.7/3, Error ellipse: s-maj=166.6km s-min=32.4km az=110.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.31**	**200**	Pn	Pn	16 17 08.7	-1.7
	0.2nm,0.3s,baz=16,slow=11,SNR=17						
WRA				Sn	Sn	16 20 00.9	-11
	0.2nm,0.3s,baz=35,slow=22,SNR=3.7						
ASAR	**Alice Springs**	**19.93**	**197**	P	Pn	16 17 54.2	-0.8
	0.4nm,0.3s,baz=36,slow=9.0,SNR=50						
ILAR	**Eielson Array**	**86.90**	**24**	P	P	16 26 06.2	0.0
	0.4nm,0.7s,baz=258,slow=4.3,SNR=6.3						

*CSEM **03** 16:13:24.8, 36°.53N×25°.48E, h3km, ML1.4/1, After THE*
THE 03 16:13:24.8, 36°.53N×25°.48E, h3km±5km, ML1.4/1, Error ellipse: s-maj=5.9km s-min=0.3km az=157.0, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THR2	**Thira island,**	**0.09**	**203**	P	Pg	16 13 26.7	+0.1
THR2				S	Sg	16 13 28.3	+0.6
THR2	**Thira island,**	**0.09**	**203**	P	Pg	16 13 26.7	+0.1
THR2				S	Sg	16 13 28.3	+0.6
THR3	**Thira Island,**	**0.13**	**208**	P	Pg	16 13 27.6	+0.2
THR3				S	Sg	16 13 29.9	+0.7
THR3	**Thira Island,**	**0.13**	**208**	P	Pg	16 13 27.6	+0.2
THR3				S	Sg	16 13 29.9	+0.7
THR5	**Thira Island,**	**0.15**	**224**	P	Pg	16 13 28.1	+0.3
THR5				S	Sg	16 13 30.4	+0.6
THR5	**Thira Island,**	**0.15**	**224**	P	Pg	16 13 28.1	+0.3
THR5				S	Sg	16 13 30.4	+0.6
THR1	**Thera Island**	**0.16**	**186**	P	Pg	16 13 28.0	+0.1
THR1				S	Sg	16 13 30.5	+0.6
THR1	**Thera Island**	**0.16**	**186**	P	Pg	16 13 28.0	+0.1
THR1				S	Sg	16 13 30.5	+0.6
APE	**Apeiranthos**	**0.54**	**4**	P	Pg	16 13 35.6	+0.4
APE				S	Sg	16 13 43.4	+1.1
APE	**Apeiranthos**	**0.54**	**4**	P	Pg	16 13 35.6	+0.4
APE				S	Sg	16 13 43.4	+1.1

*DDA **03** 16:18:54.4, 38°.54N×27°.23E, h12km±2km, Md2.8*
*ISCJB **03** 16:18:55.2±0.7, 38°.54N±0°.03×27°.22E±0°.06, h8km±6km, Error ellipse: s-maj=8.0km s-min=5.6km az=13.3*
*CSEM **03** 16:18:55.0±0.2, 38°.54N×27°.22E, h10km, MD2.8, Error ellipse: s-maj=4.4km s-min=3.1km az=128.0*
ISC 03 16:18:55.3±0.7, 38°.52N±0°.04×27°.22E±0°.06, h12km±5km, n18, σ0°62/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IZM	**Izmir**	**0.13**	**165**	*e*PG	**Pg**	**16 18 58.3**	**-0.2**
IZM				*e*SG	**Sg**	**16 19 01.8**	**+1.0**
IZM	**Izmir**	**0.13**	**165**	*e*Pg	**Pg**	**16 18 58.3**	**-0.3**
IZM				*e*Sg	**Sg**	**16 19 01.8**	**+1.0**
BLCB	**Balcova**	**0.20**	**226**	*e*PG	**Pg**	**16 18 59.9**	**+0.3**
BLCB	**Balcova**	**0.20**	**226**	*e*Pg	**Pg**	**16 18 59.9**	**+0.3**
URLA	**Izmir**	**0.52**	**252**	*i* P	**Pg**	**16 19 04.9**	**-0.5**
URLA	**Izmir**	**0.52**	**252**	*i* P	**Pg**	**16 19 04.9**	**-0.6**
AKHS	**Akhisar**	**0.58**	**52**	*i* P	**Pg**	**16 19 05.8**	**-0.9**
AKHS				*i* S	**Sg**	**16 19 14.4**	**-0.1**
AKHS	**Akhisar**	**0.58**	**52**	*i* P	**Pg**	**16 19 05.8**	**-1.0**
AKHS				*i* S	**Sg**	**16 19 14.4**	**-0.1**
AYDN	**Tasoluk**	**1.00**	**149**	*i* P	**Pb**	**16 19 14.3**	**-0.2**
AYDN				*i* S	**Sb**	**16 19 28.1**	**+0.4**
AYDN	**Tasoluk**	**1.00**	**149**	*i* P	**Pb**	**16 19 14.4**	**-0.2**
AYDN				*i* S	**Sb**	**16 19 28.1**	**+0.4**
MANT	**Manisa**	**1.05**	**91**	*i* P	**Pb**	**16 19 14.9**	**-0.5**
MANT				*i* S	**Sb**	**16 19 28.5**	**-0.6**
MANT	**Manisa**	**1.05**	**91**	*i* P	**Pb**	**16 19 14.9**	**-0.5**
MANT				*i* S	**Sb**	**16 19 28.5**	**-0.6**
KULA	**Kula-Manisa**	**1.13**	**90**	*e*PG	**Pg**	**16 19 17.4**	**+0.4**
KULA	**Kula-Manisa**	**1.13**	**90**	*e*Pg	**Pg**	**16 19 17.4**	**+0.3**
BALY	**Balya**	**1.26**	**14**	*i* P	**Pb**	**16 19 18.2**	**-0.5**
BALY				*i* S	**Sb**	**16 19 36.0**	**+0.9**
BALY	**Balya**	**1.26**	**14**	*i* P	**Pn**	**16 19 18.2**	**-0.5**
BALY				*i* S	**Sb**	**16 19 36.0**	**+1.0**
DURS	**Dursunbey**	**1.45**	**42**	*i* P	**Pn**	**16 19 21.0**	**-0.4**
DURS				*i* S	**Sn**	**16 19 41.5**	**+1.1**
DURS	**Dursunbey**	**1.45**	**42**	*i* P	**Pn**	**16 19 21.0**	**-0.4**
DURS				*i* S	**Sn**	**16 19 41.5**	**+1.2**

IDC 03 16:23:26.4±4.6, 5°.93S×132°.26E, h0km, mb3.9/1, mb1 3.8/3, mb1mx3.5/15, mbtmp3.7/3, ML3.6/2, Error ellipse: s-maj=299.3km s-min=31.4km az=75.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.08**	**172**	Pn	Pn	16 26 47.3	0.0
	0.3nm,0.3s,baz=351,slow=14,SNR=13						
WRA				Sn	Sn	16 29 12.5	-12
	0.4nm,0.3s,baz=332,slow=23,SNR=8.6						
ASAR	**Alice Springs**	**17.71**	**175**	P	Pn	16 27 34.8	+0.2
	0.2nm,0.3s,baz=355,slow=13,SNR=17						
ASAR				S	Sn	16 30 38.1	-14
	0.1nm,0.3s,baz=347,slow=23,SNR=4.6						
MKAR	**Makanchi Array**	**68.58**	**326**	P	P	16 34 31.2	+0.1
	0.5nm,0.4s,baz=125,slow=8.0,SNR=7.0						

WEL 03 16:34:55.8±0.3, 39°.42S×174°.54E, h145km±2km, ML3.9/18, 1D, Error ellipse: s-maj=1.2km s-min=1.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAEZ	**Rainy Point**	**0.17**	**320**	PN	Pn	16 35 15.1	-0.2
VRZ	**Vera Road**	**0.34**	**31**	⇓PN	Pn	16 35 15.2	-0.7
VRZ				SN	Sn	16 35 29.9	-1.1
DREZ	**Durham Road**	**0.34**	**311**	PN	Pn	16 35 15.6	-0.2
DFE	**Dawson Falls**	**0.35**	**285**	PN	Pn	16 35 15.6	-0.2
NEZ	**North Egmont**	**0.37**	**293**	PN	Pn	16 35 16.1	+0.2
MHEZ	**Mangahewa**	**0.38**	**334**	PN	Pn	16 35 15.9	0.0
MHEZ				SN	Sn	16 35 31.2	0.0
PKE	**Pukeiti**	**0.48**	**298**	PN	Pn	16 35 16.0	-0.4
WAZ	**Wanganui**	**0.48**	**134**	PN	Pn	16 35 16.5	+0.2
NWEZ	**Newall Road**	**0.54**	**285**	PN	Pn	16 35 16.6	0.0
PKVZ	**Pokaka**	**0.64**	**79**	PN	Pn	16 35 17.0	-0.3
MTVZ	**Mangateitei**	**0.73**	**88**	PN	Pn	16 35 17.6	-0.2
TWVZ	**Taurewa**	**0.78**	**64**	PN	Pn	16 35 17.9	-0.3
TRVZ	**Turoa**	**0.80**	**82**	PN	Pn	16 35 18.3	0.0
FWVZ	**Far West T-bar**	**0.81**	**79**	PN	Pn	16 35 18.3	-0.1
DRZ	**Dome Shelter**	**0.81**	**80**	PN	Pn	16 35 18.6	+0.2
WPVZ	**Whakapapa**	**0.81**	**75**	PN	Pn	16 35 18.4	-0.1
WNVZ	**Wahianoa**	**0.83**	**84**	PN	Pn	16 35 18.6	0.0
NGZ	**Ngauruhoe**	**0.86**	**74**	PN	Pn	16 35 18.8	-0.1
WTVZ	**West Tongariro**	**0.87**	**70**	PN	Pn	16 35 18.9	-0.1
TUVZ	**Tukino**	**0.88**	**81**	PN	Pn	16 35 19.2	+0.2
OTVZ	**Oturere**	**0.91**	**74**	PN	Pn	16 35 19.4	+0.1
KRVZ	**Karewarewa**	**0.92**	**70**	PN	Pn	16 35 19.2	-0.1
HIZ	**Hauiti**	**0.94**	**16**	PN	Pn	16 35 18.8	-0.7
MOVZ	**Moawhango**	**0.94**	**90**	PN	Pn	16 35 19.0	-0.5
KATZ	**Kakaramea**	**1.00**	**64**	PN	Pn	16 35 20.2	+0.2
RATZ	**Rangitukua**	**1.11**	**61**	PN	Pn	16 35 21.3	+0.3
WATZ	**Wairara**	**1.17**	**53**	PN	Pn	16 35 21.6	+0.1
BHHZ	**Black Hill Sta**	**1.19**	**94**	PN	Pn	16 35 21.0	-0.6
TSZ	**Takapari Road**	**1.27**	**121**	PN	Pn	16 35 23.5	-0.1
WHTZ	**Whakaora**	**1.34**	**56**	PN	Pn	16 35 23.1	-0.1
POWZ	**Post Office Ro**	**1.36**	**136**	PN	Pn	16 35 23.2	-0.2
PNHZ	**Pukenui**	**1.38**	**112**	PN	Pn	16 35 23.6	0.0
DUWZ	**D'Urville Isla**	**1.46**	**199**	PN	Pn	16 35 24.5	+0.1
KIW	**Kapiti Island**	**1.47**	**169**	PN	Pn	16 35 24.4	-0.1
MRZ	**Mangatainoka R**	**1.48**	**147**	PN	Pn	16 35 24.5	-0.1
OGWZ	**Otaki Gorge**	**1.48**	**161**	PN	Pn	16 35 24.7	+0.1
DVHZ	**Dannevirke**	**1.53**	**126**	PN	Pn	16 35 25.1	-0.2
BKZ	**Black Stump Fm**	**1.54**	**81**	PN	Pn	16 35 24.6	-0.7
WPHZ	**Waipukurau**	**1.60**	**114**	PN	Pn	16 35 26.0	0.0
HOWZ	**Holdsworth Sta**	**1.66**	**153**	PN	Pn	16 35 26.4	-0.2
MCHZ	**McNeill Hill**	**1.68**	**92**	PN	Pn	16 35 27.4	+0.6
TIWZ	**Tintock**	**1.71**	**143**	PN	Pn	16 35 27.1	-0.1
CAW	**Cannon Point**	**1.74**	**167**	PN	Pn	16 35 27.4	-0.1
TCW	**Tory Channel**	**1.80**	**186**	PN	Pn	16 35 28.1	-0.1
BFZ	**Birch Farm**	**1.82**	**134**	PN	Pn	16 35 28.1	-0.3
PRHZ	**Porangahau**	**1.83**	**118**	PN	Pn	16 35 28.5	0.0
KAHZ	**Kahuranaki**	**1.85**	**102**	PN	Pn	16 35 28.9	+0.1
WEL	**Wellington**	**1.87**	**175**	PN	Pn	16 35 28.7	-0.3
MTW	**Mount Morrison**	**1.89**	**157**	PN	Pn	16 35 28.8	-0.4
SNZO	**South Karori**	**1.89**	**176**	PN	Pn	16 35 29.0	-0.3
PXZ	**Pawanui**	**1.90**	**110**	PN	Pn	16 35 29.1	-0.2
TMWZ	**Te Maipa**	**1.98**	**149**	PN	Pn	16 35 30.0	-0.3
CKHZ	**Cape Kidnapper**	**1.98**	**98**	PN	Pn	16 35 30.1	-0.2
NNZ	**Nelson**	**2.00**	**206**	PN	Pn	16 35 30.1	-0.4
BHW	**Baring Head**	**2.00**	**173**	PN	Pn	16 35 30.1	-0.5
TUWZ	**Tuamarina**	**2.06**	**192**	PN	Pn	16 35 30.8	-0.5
MSWZ	**Moikau Station**	**2.07**	**165**	PN	Pn	16 35 30.7	-0.6
PAWZ	**Paruwai Farm**	**2.08**	**161**	PN	Pn	16 35 30.9	-0.5
QRZ	**Quartz Range**	**2.08**	**227**	PN	Pn	16 35 30.9	-0.6
TRWZ	**Traveller**	**2.17**	**156**	PN	Pn	16 35 32.4	0.0
PLWZ	**Palliser**	**2.22**	**166**	PN	Pn	16 35 32.4	-0.7
URZ	**Urewera**	**2.32**	**61**	PN	Pn	16 35 33.0	-1.4
BSWZ	**Blackbirch Sta**	**2.35**	**192**	PN	Pn	16 35 34.5	-0.1
KNZ	**Kokohu**	**2.47**	**82**	PN	Pn	16 35 35.3	-0.9
MWZ	**Matawai**	**2.57**	**66**	PN	Pn	16 35 36.2	-1.3
MHGZ	**Mahia Peninsul**	**2.63**	**85**	PN	Pn	16 35 37.5	-0.7
PRGZ	**Paritu Road**	**2.65**	**80**	PN	Pn	16 35 37.7	-0.7
THZ	**Tophouse**	**2.65**	**207**	PN	Pn	16 35 37.5	-0.9
KHZ	**Kahutara**	**3.09**	**194**	PN	Pn	16 35 43.1	-0.9
DSZ	**Denniston Nort**	**3.12**	**221**	PN	Pn	16 35 43.3	-1.1
MXZ	**Matakaoa Point**	**3.49**	**59**	PN	Pn	16 35 48.2	-1.0
LTZ	**Lake Taylor**	**3.77**	**206**	PN	Pn	16 35 50.9	-1.9
CRLZ	**Canterbury Las**	**4.39**	**198**	PN	Pn	16 35 57.8	-3.2
MQZ	**McQueen's Vall**	**4.51**	**198**	PN	Pn	16 35 59.1	-3.4
WVZ	**Waitaha Valley**	**4.64**	**217**	PN	Pn	16 36 01.8	-2.4
ODZ	**Otahua Downs**	**6.32**	**206**	PN	Pn	16 36 24.0	-2.6
JCZ	**Jackson Bay**	**6.35**	**221**	PN	Pn	16 36 26.6	-0.4

*ISCJB **03** 16:53:42.6±0.9, 15°.7S±0°.2×177°.4W±0°.1, h417km±12km, mb3.5/9, Error ellipse: s-maj=34.8km s-min=13.4km az=153.0*
*IDC **03** 16:53:42.5±2.1, 15°.59S×177°.50W, h399km±26km, mb3.2/8, mb1 3.5/9, mb1mx3.2/21, mbtmp3.3/9, Error ellipse: s-maj=33.8km s-min=14.0km az=148.0*
*NEIC **03** 16:53:43.4±1.1, 15°.65S×177°.39W, h414km±13km, mb3.2/2, Error ellipse: s-maj=34.7km s-min=12.9km az=154.0*
ISC 03 16:53:43.5±1.0, 15°.7S±0°.2×177°.4W±0°.1, h411km±13km, n26, σ1°19/23, mb3.5/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.82**	**244**	*e*P	**P**	**16 55 05.2**	**+1.0**
AFI	**Afiamalu**	**5.72**	**73**	P	**P**	**16 55 12.6**	**-1.0**
	10nm,0.3s,baz=282,slow=0.9,SNR=15						
AFI	**Afiamalu**	**5.72**	**73**	P	**P**	**16 55 12.6**	**-1.0**
URZ	**Urewera**	**23.02**	**191**	P	**P**	**16 58 14.3**	**-0.2**
	4.6nm,0.5s,mb4.2,baz=45,slow=1.4,SNR=6.1						
URZ	**Urewera**	**23.02**	**191**	*e*P	**P**	**16 58 14.4**	**-0.1**
EIDS	**Eidsvold**	**30.98**	**247**	*e*P	**P**	**16 59 25.1**	**0.0**
CTA	**Charters Tower**	**34.82**	**257**	P	**P**	**16 59 59.1**	**+1.1**
	2.6nm,0.9s,mb3.6,baz=80,slow=14,SNR=4.0						
CTA	**Charters Tower**	**34.82**	**257**	P	**P**	**16 59 59.1**	**+1.1**
STKA	**Stephens Creek**	**40.58**	**239**	P	**P**	**17 00 46.0**	**+0.7**
	2.7nm,0.8s,mb3.6,baz=93,slow=12,SNR=6.5						
STKA	**Stephens Creek**	**40.58**	**239**	*e*P	**P**	**17 00 45.8**	**+0.4**
	0.3nm,0.6s,mb2.8						
WB2	**Warramunga Arr**	**46.01**	**257**	P	**P**	**17 01 27.6**	**-0.8**
WRAB	**Tennant Creek**	**46.01**	**257**	*e*P	**P**	**17 01 26.6**	**-1.7**
	2.0nm,1.0s,mb3.4						
WRA	**Warramunga Arr**	**46.02**	**257**	P	**P**	**17 01 27.1**	**-1.3**
	0.3nm,0.3s,mb3.1,baz=80,slow=6.3,SNR=16						
WRA	**Warramunga Arr**	**46.02**	**257**	P	**P**	**17 01 27.1**	**-1.3**
ASAR	**Alice Springs**	**46.36**	**252**	P	**P**	**17 01 29.9**	**-1.1**
	3.3nm,0.5s,mb3.9,baz=85,slow=8.2,SNR=52						
ASAR	**Alice Springs**	**46.36**	**252**	P	**P**	**17 01 29.9**	**-1.1**
KAKA	**Kakadu**	**48.63**	**267**	*e*P	**P**	**17 01 50.9**	**+2.6**
NVAR	**Mina Array Bea**	**77.15**	**44**	P	**P**	**17 04 54.2**	**+1.0**
	0.6nm,0.7s,mb3.3,baz=212,slow=6.4,SNR=5.0						
NVAR	**Mina Array Bea**	**77.15**	**44**	P	**P**	**17 04 54.2**	**+1.0**
ILAR	**Eielson Array**	**83.50**	**13**	P	**P**	**17 05 24.9**	**-1.1**
	0.3nm,0.6s,mb3.2,baz=230,slow=6.6,SNR=5.0						
ILAR	**Eielson Array**	**83.50**	**13**	P	**P**	**17 05 24.9**	**-1.1**
TXAR	**Lajitas Array**	**83.98**	**57**	P	**P**	**17 05 31.1**	**+1.8**
	0.

STKA	**Stephens Creek**	**131.66**	**238**	PKP	PKPdf	17 13 14.9	-2.1
ASAR	**Alice Springs**	**139.89**	**248**	PKhKP	PKPpre	17 13 22.6	
	comp=N,0.2nm,0.6s,baz=104,slow=3.2,SNR=4.7						
ASAR				PKP	PKPdf	17 13 31.6	-1.0
	comp=N,1.0nm,0.6s,baz=99,slow=1.8,SNR=19						
ASAR	**Alice Springs**	**139.89**	**248**	PKP	PKPpre	17 13 22.6	
ASAR				PKP	PKPdf	17 13 31.6	-1.0
WRA	**Warramunga Arr**	**139.91**	**254**	PKhKP	PKPpre	17 13 25.0	
	comp=N,2.3nm,0.6s,baz=90,slow=2.5,SNR=6.0						
WRA				PKP	PKPdf	17 13 31.9	-0.8
	comp=N,2.3nm,0.6s,baz=90,slow=2.4,SNR=42						
WRA	**Warramunga Arr**	**139.91**	**254**	PKP	PKPpre	17 13 25.0	
WRA				PKP	PKPdf	17 13 31.9	-0.8
CMAR	**Chiang Mai Arr**	**148.77**	**350**	PKPbc	PKPbc	17 13 50.0	-2.0
	comp=N,0.3nm,0.6s,baz=1.9,slow=2.7,SNR=3.7						
CMAR	**Chiang Mai Arr**	**148.77**	**350**	PKPbc	PKPbc	17 13 50.0	-2.0

*IDC **03** 17:02:09.2±1.0,39.06S×176.11E,h66km±14km,mb3.9/3, mb1 4.0/4,mb1mx3.7/15,mbtmp3.9/4, Error ellipse: s-maj=31.3km s-min=12.2km az=132.0*
*ISCJB **03** 17:02:10.2±0.3,38.94S±0.02×176.19E±0.04,h98km±3km, mb4.1/4,Error ellipse: s-maj=5.3km s-min=3.8km az=18.7*
*NEIC **03** 17:02:10.2±0.8,39.08S×176.27E,h88km±9km,mb4.5/1, Error ellipse: s-maj=24.6km s-min=10.1km az=123.0*
*WEL **03** 17:02:12.3±0.1,38.88S×176.19E,h79km±1km,ML4.3/23, Error ellipse: s-maj=0.8km s-min=0.6km az=90.0*

ISC 03 17:02:11.0±0.3,38.94S±0.02×176.19E±0.04,h92km±3km, n104,σ0.85/108,mb4.1/4,12C-5D,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATZ	**Hinemaiaia**	**0.09**	**300**	P*	**Pn**	**17 02 23.4**	**-0.5**
HATZ				S*	**Sn**	**17 02 31.7**	**-1.8**
RITZ	**Rihia Road**	**0.26**	**261**	P*	**Pn**	**17 02 24.4**	**0.0**
WHTZ	**Whakaora**	**0.33**	**326**	P*	**Pn**	**17 02 24.4**	**-0.4**
BKZ	**Black Stump Fm**	**0.33**	**135**	P*	**Pn**	**17 02 25.0**	**+0.3**
BKZ				S*	**Sn**	**17 02 34.5**	**-0.5**
RATZ	**Rangitukua**	**0.34**	**282**	↑P*	**Pn**	**17 02 24.3**	**-0.5**
KATZ	**Kakaramea**	**0.39**	**264**	↑P*	**Pn**	**17 02 25.1**	**-0.1**
ALRZ	**Allen Road**	**0.39**	**18**	P*	**Pn**	**17 02 24.5**	**-0.7**
WATZ	**Wairara**	**0.42**	**302**	P*	**Pn**	**17 02 24.7**	**-0.6**
KRVZ	**Karewarewa**	**0.46**	**250**	↑P*	**Pn**	**17 02 25.6**	**0.0**
PRRZ	**Plateau Road**	**0.47**	**20**	↓P*	**Pn**	**17 02 24.8**	**-0.9**
OTVZ	**Oturere**	**0.47**	**241**	↑P*	**Pn**	**17 02 26.1**	**+0.4**
OTVZ				S*	**Sn**	**17 02 36.6**	**0.0**
WTVZ	**West Tongariro**	**0.50**	**249**	↑P*	**Pn**	**17 02 26.0**	**+0.1**
NMHZ	**Naumai**	**0.51**	**109**	PN	**Pn**	**17 02 27.1**	**+1.2**
NGZ	**Ngauruhoe**	**0.52**	**242**	P*	**Pn**	**17 02 26.3**	**+0.3**
TUVZ	**Tukino**	**0.53**	**231**	P*	**Pn**	**17 02 26.7**	**+0.5**
HRRZ	**Handcock Road**	**0.55**	**8**	P*	**Pn**	**17 02 25.9**	**-0.5**
BHHZ	**Black Hill Sta**	**0.56**	**190**	↑P*	**Pn**	**17 02 27.0**	**+0.6**
WPVZ	**Whakapapa**	**0.57**	**242**	↑P*	**Pn**	**17 02 26.6**	**+0.1**
MOVZ	**Moawhango**	**0.58**	**216**	↑P*	**Pn**	**17 02 26.9**	**+0.3**
FWVZ	**Far West T-bar**	**0.59**	**237**	↑P*	**Pn**	**17 02 27.0**	**+0.4**
DRZ	**Dome Shelter**	**0.59**	**235**	↓P*	**Pn**	**17 02 27.3**	**+0.7**
TWVZ	**Taurewa**	**0.60**	**257**	↑P*	**Pn**	**17 02 26.8**	**0.0**
WNVZ	**Wahianoa**	**0.60**	**230**	↑P*	**Pn**	**17 02 27.3**	**+0.5**
TRVZ	**Turoa**	**0.62**	**234**	↑P*	**Pn**	**17 02 27.5**	**+0.6**
MCHZ	**McNeill Hill**	**0.64**	**142**	PN	**Pn**	**17 02 28.6**	**+1.5**
RRRZ	**Republican Roa**	**0.65**	**23**	↓P*	**Pn**	**17 02 26.6**	**-0.6**
RAHZ	**Arahi**	**0.70**	**89**	PN	**Pn**	**17 02 28.5**	**+0.9**
MTVZ	**Mangateitei**	**0.72**	**231**	P*	**Pn**	**17 02 28.5**	**+0.7**
TARZ	**Mount Tarawera**	**0.74**	**19**	P*	**Pn**	**17 02 27.8**	**-0.3**
PKVZ	**Pokaka**	**0.75**	**242**	P*	**Pn**	**17 02 28.3**	**+0.4**
UTU	**Utuhina**	**0.76**	**0**	P*	**Pn**	**17 02 28.0**	**+0.2**
MKRZ	**Makatiti**	**0.82**	**15**	P*	**Pn**	**17 02 28.9**	**0.0**
OMRZ	**Omania**	**0.84**	**10**	P*	**Pn**	**17 02 28.7**	**-0.4**
EDRZ	**Edgecumbe**	**0.93**	**28**	P*	**Pn**	**17 02 29.7**	**-0.4**
PNHZ	**Pukenui**	**0.98**	**180**	PN	**Pn**	**17 02 31.4**	**+0.9**
URZ	**Urewera**	**0.99**	**47**	P*	**Pn**	**17 02 30.4**	**-0.3**
URZ				S*	**Sn**	**17 02 44.0**	**-1.4**
URZ	**Urewera**	**0.99**	**47**	P	**Pn**	**17 02 30.4**	**-0.3**
	baz=250,slow=9.1						
URZ				S	**Sn**	**17 02 43.8**	**-1.6**
	421nm,0.3s,baz=104,slow=19,SNR=31						
URZ	**Urewera**	**0.99**	**47**	P	**Pn**	**17 02 30.4**	**-0.3**
URZ				S	**Sn**	**17 02 43.8**	**-1.6**
CKHZ	**Cape Kidnapper**	**1.00**	**137**	PN	**Pn**	**17 02 32.1**	**+1.3**
KAHZ	**Kahuranaki**	**1.01**	**148**	PN	**Pn**	**17 02 32.1**	**+1.2**
MARZ	**Manawahe**	**1.02**	**22**	P*	**Pn**	**17 02 30.7**	**-0.4**
OPRZ	**Ohinepanea**	**1.13**	**15**	↓P*	**Pn**	**17 02 31.8**	**-0.5**
HIZ	**Hauiti**	**1.13**	**292**	↓PN	**Pn**	**17 02 32.3**	**0.0**
VRZ	**Vera Road**	**1.13**	**260**	P*	**Pn**	**17 02 32.7**	**+0.4**
TSZ	**Takapari Road**	**1.14**	**189**	PN	**Pn**	**17 02 33.2**	**+0.8**
WPHZ	**Waipukurau**	**1.14**	**170**	PN	**Pn**	**17 02 33.4**	**+0.9**
KNZ	**Kokohu**	**1.16**	**95**	PN	**Pn**	**17 02 33.4**	**+0.8**
TGRZ	**Tauranga**	**1.21**	**3**	P*	**Pn**	**17 02 33.0**	**-0.2**
MWZ	**Matawai**	**1.21**	**61**	P*	**Pn**	**17 02 33.3**	**+0.1**
PXZ	**Pawanui**	**1.21**	**155**	PN	**Pn**	**17 02 34.1**	**+0.9**
WAZ	**Wanganui**	**1.24**	**228**	PN	**Pn**	**17 02 35.0**	**+1.4**
TOZ	**Tahuroa Road**	**1.32**	**336**	P*	**Pn**	**17 02 34.4**	**-0.3**
MHGZ	**Mahia Peninsul**	**1.35**	**100**	PN	**Pn**	**17 02 35.5**	**+0.6**
DVHZ	**Dannevirke**	**1.36**	**181**	PN	**Pn**	**17 02 35.6**	**+0.5**
PRHZ	**Porangahau**	**1.37**	**166**	PN	**Pn**	**17 02 36.0**	**+0.8**
RAEZ	**Rainy Point**	**1.44**	**255**	PN	**Pn**	**17 02 37.4**	**+1.3**
MHEZ	**Mangahewa**	**1.46**	**264**	PN	**Pn**	**17 02 37.5**	**+1.2**
POWZ	**Post Office Ro**	**1.49**	**193**	PN	**Pn**	**17 02 37.1**	**+0.4**
DREZ	**Durham Road**	**1.57**	**260**	PN	**Pn**	**17 02 38.9**	**+1.2**
CNGZ	**Carnagh Statio**	**1.64**	**75**	PN	**Pn**	**17 02 39.4**	**+0.8**
NEZ	**North Egmont**	**1.66**	**258**	PN	**Pn**	**17 02 40.4**	**+1.5**
DFE	**Dawson Falls**	**1.67**	**256**	PN	**Pn**	**17 02 40.4**	**+1.5**
PKE	**Pukeiti**	**1.73**	**261**	PN	**Pn**	**17 02 40.7**	**+0.9**
NWEZ	**Newall Road**	**1.84**	**259**	PN	**Pn**	**17 02 42.1**	**+1.0**
TIWZ	**Tintock**	**1.85**	**187**	PN	**Pn**	**17 02 41.4**	**+0.1**
MKAZ	**Moumakai**	**2.00**	**336**	PN	**Pn**	**17 02 42.7**	**-0.5**
OGWZ	**Otaki Gorge**	**2.04**	**202**	PN	**Pn**	**17 02 43.5**	**-0.2**
MXZ	**Matakaoa Point**	**2.16**	**51**	PN	**Pn**	**17 02 45.5**	**+0.2**
KIW	**Kapiti Island**	**2.16**	**207**	PN	**Pn**	**17 02 44.9**	**-0.5**
TMWZ	**Te Maipa**	**2.18**	**186**	PN	**Pn**	**17 02 45.2**	**-0.4**
KUZ	**Kuaotunu**	**2.22**	**350**	PN	**Pn**	**17 02 46.0**	**-0.2**
MTW	**Mount Morrison**	**2.28**	**193**	PN	**Pn**	**17 02 45.4**	**-1.6**
CAW	**Cannon Point**	**2.33**	**201**	PN	**Pn**	**17 02 46.8**	**-0.8**
MTAZ	**Motutapu**	**2.37**	**334**	PN	**Pn**	**17 02 48.2**	**0.0**
WTAZ	**Waiatarua**	**2.37**	**327**	PN	**Pn**	**17 02 48.4**	**+0.3**
KAAZ	**Kauri Point**	**2.42**	**330**	PN	**Pn**	**17 02 48.7**	**0.0**
TRWZ	**Traveller**	**2.49**	**189**	PN	**Pn**	**17 02 49.0**	**-0.7**
PAWZ	**Paruwai Farm**	**2.51**	**193**	PN	**Pn**	**17 02 48.8**	**-1.1**
DUWZ	**D'Urville Isla**	**2.56**	**222**	PN	**Pn**	**17 02 49.9**	**-0.7**
ABAZ	**Army Bay**	**2.57**	**335**	PN	**Pn**	**17 02 50.9**	**+0.1**
MSWZ	**Moikau Station**	**2.58**	**196**	PN	**Pn**	**17 02 49.8**	**-1.0**
SNZO	**South Karori**	**2.63**	**205**	*eP*	**Pn**	**17 02 50.2**	**-1.4**
TCW	**Tory Channel**	**2.71**	**212**	PN	**Pn**	**17 02 51.5**	**-1.1**
PLWZ	**Palliser**	**2.73**	**195**	PN	**Pn**	**17 02 51.4**	**-1.4**
TUWZ	**Tuamarina**	**3.03**	**214**	PN	**Pn**	**17 02 55.6**	**-1.3**
BSWZ	**Blackbirch Sta**	**3.29**	**212**	PN	**Pn**	**17 02 59.2**	**-1.2**
THZ	**Tophouse**	**3.78**	**221**	PN	**Pn**	**17 03 05.7**	**-1.3**
KHZ	**Kahutara**	**4.02**	**209**	*eP*	**Pn**	**17 03 07.4**	**-2.8**
MQZ	**McQueen's Vall**	**5.46**	**208**	PN	**Pn**	**17 03 25.8**	**-4.0**
WVZ	**Waitaha Valley**	**5.84**	**223**	PN	**Pn**	**17 03 33.3**	**-1.7**
RPZ	**Rata Peaks**	**6.14**	**217**	P	**Pn**	**17 03 37.0**	**-2.1**
	1.4nm,0.3s,baz=124,slow=22,SNR=6.6						
RPZ				S	**Sn**	**17 04 41.5**	**-6.3**
	18nm,0.3s,baz=5.1,slow=19,SNR=32						
RPZ	**Rata Peaks**	**6.14**	**217**	P	**Pn**	**17 03 37.0**	**-2.1**
RPZ				S	**Sn**	**17 04 41.5**	**-6.3**
ODZ	**Otahua Downs**	**7.37**	**212**	PN	**Pn**	**17 03 51.9**	**-3.8**
STKA	**Stephens Creek**	**28.94**	**273**	P	**P**	**17 08 01.0**	**-0.5**
	2.9nm,0.8s,mb4.0,baz=111,slow=14,SNR=3.3						
STKA	**Stephens Creek**	**28.94**	**273**	P	**P**	**17 08 01.0**	**-0.5**
ASAR	**Alice Springs**	**38.85**	**280**	P	**P**	**17 09 28.1**	**+0.9**
	1.9nm,0.3s,mb4.4,baz=123,slow=7.5,SNR=146						
ASAR	**Alice Springs**	**38.85**	**280**	P	**P**	**17 09 28.1**	**+0.9**
WRAB	**Tennant Creek**	**40.65**	**286**	*eP*	**P**	**17 09 43.0**	**+0.8**
	4.4nm,1.0s,mb4.2						
WRA	**Warramunga Arr**	**40.65**	**286**	P	**P**	**17 09 42.9**	**+0.7**
	0.6nm,0.4s,mb3.8,baz=120,slow=8.9,SNR=24						
WRA	**Warramunga Arr**	**40.65**	**286**	P	**P**	**17 09 42.9**	**+0.7**
ARCES	**ARCESS Array B**	**145.60**	**342**	PKPbc	PKPbc	17 21 37.0	-0.7
	7.8nm,1.0s,baz=64,slow=6.1,SNR=4.7						
ARCES	**ARCESS Array B**	**145.60**	**342**	PKPbc	PKPbc	17 21 37.0	-0.7
TORD	**Torodi Ar. Bea**	**153.85**	**192**	PKPbc	PKPbc	17 22 00.2	+0.3
	0.3nm,0.5s,baz=163,slow=3.2,SNR=4.2						
TORD				PKPab	PKPab	17 22 15.1	+1.9
	0.7nm,0.7s,baz=177,slow=3.0,SNR=4.9						
TORD	**Torodi Ar. Bea**	**153.85**	**192**	PKPbc	PKPbc	17 22 00.2	+0.3
TORD				PKPab	PKPab	17 22 15.1	+1.9

*ISCJB **03** 17:06:40.2±0.4,32.91N±0.04×105.35E±0.06,h10km, mb3.9/12,Error ellipse: s-maj=6.8km s-min=5.4km az=168.0*
*IDC **03** 17:06:41.0±0.9,33.02N×105.29E,h0km,mb3.8/11, mb1 3.9/13,mb1mx3.9/28,mbtmp3.8/13,ML3.3/2, Error ellipse: s-maj=48.4km s-min=15.7km az=58.0*
*BJI **03** 17:06:43.9,33.09N×105.23E,h17km,ML3.7/20,Ms3.8/5, Ms7 3.3/6*
*NEIC **03** 17:06:43.3±0.5,33.03N×105.18E,h10km,mb4.3/1,Error ellipse: s-maj=14.0km s-min=7.9km az=66.0*

ISC 03 17:06:42.5±0.4,32.94N±0.04×105.38E±0.04,h10km,n37, σ1.915/47,mb3.9/12,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.45**	**215**	Pn	**Pn**	**17 07 25.3**	**+2.8**
CD2				Pg	**Pg**	**17 07 28.2**	**-1.2**
CD2				Sg	**Sg**	**17 07 57.4**	**-3.8**
CD2				smax			
	comp=N,1μm,0.8s						
CD2				smax			
	comp=E,650nm,0.6s						
XAN	**Xi'an**	**3.16**	**69**	Pn	**Pn**	**17 07 34.9**	**+2.7**
XAN				Pg	**Pg**	**17 07 41.7**	**-1.2**
XAN				Sn	**Sn**	**17 08 10.3**	**+0.4**
XAN				Sg	**Sg**	**17 08 22.6**	**-1.2**
XAN				smax			
	comp=N,620nm,0.7s						
XAN				smax			
	comp=E,290nm,0.8s						
XAN				LR	LR		
	comp=E,150nm,4.8s						
XAN				LR	LR		
	comp=Z,160nm,5.0s						
LZH	**Lanzhou**	**3.38**	**338**	*e*Pn	**Pn**	**17 07 36.9**	**+1.6**
LZH				Pg	**Pg**	**17 07 40.0**	**-7.3**
LZH				Sn	**Sn**	**17 08 17.5**	**+2.0**
LZH				Sg	**Sg**	**17 08 23.1**	**-8.0**
LZH				smax			
	comp=N,340nm,1.1s						
LZH				smax			
	comp=E,330nm,0.8s						
LZH				LR	LR		
	comp=N,860nm,5.6s						
LZH				LR	LR		
	comp=E,580nm,5.6s						
LZH				LR	LR		
	comp=Z,950nm,7.6s						
ENH	**Enshi**	**4.40**	**126**	*e*P	**Pn**	**17 07 54.2**	**+4.9**
GYA	**Guiyang**	**6.56**	**170**	Pn	**Pn**	**17 08 24.8**	**+5.8**
GYA				Sn	**Sn**	**17 09 33.1**	**-0.7**
GYA				smax			
	comp=N,90nm,0.7s						
GYA				smax			
	comp=E,60nm,0.6s						
GTA	**Gaotai**	**7.87**	**327**	*e*Pn	**Pn**	**17 08 36.2**	**-0.7**
GTA				Sn	**Sn**	**17 10 06.3**	**+0.4**
GTA				LR	LR		
	comp=N,280nm,8.5s						
GTA				LR	LR		
	comp=E,130nm,5.7s						
GTA				LR	LR		
	comp=Z,210nm,10.0s						
SONM	**Songino Array**	**14.89**	**3**	Pn	**Pn**	**17 10 13.6**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=187,slow=11,SNR=6.1						
SONM	**Songino Array**	**14.89**	**3**	Pn	**Pn**	**17 10 13.6**	**+0.6**
ULN	**Ulaanbaatar**	**14.96**	**4**	*e*P	**Pn**	**17 10 14.0**	**+0.1**
	comp=Z,3.8nm,1.1s						
CMAR	**Chiang Mai Arr**	**15.54**	**203**	Pn	**Pn**	**17 10 23.3**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=15,slow=12,SNR=10						
CMAR	**Chiang Mai Arr**	**15.54**	**203**	Pn	**Pn**	**17 10 23.3**	**+1.6**
MK31	**Makanchi Array**	**22.37**	**315**	*e*P	**P**	**17 11 39.3**	**-1.3**
MKAR	**Makanchi Array**	**22.37**	**315**	P	**P**	**17 11 40.5**	**-0.2**
	comp=Z,1.0nm,0.6s,mb3.4,baz=114,slow=14,SNR=9.8						
MKAR	**Makanchi Array**	**22.37**	**315**	P	**P**	**17 11 40.5**	**-0.2**
ZAA0	**Zalesovo Array**	**25.59**	**331**	*e*P	**P**	**17 12 10.8**	**-0.7**
ZALV	**Zalesovo Beam**	**25.59**	**331**	P	**P**	**17 12 11.5**	**0.0**
	comp=Z,1.9nm,0.6s,mb3.8,baz=136,slow=9.9,SNR=12						
ZALV	**Zalesovo Beam**	**25.59**	**331**	P	**P**	**17 12 11.5**	**0.0**
KBK	**Karagaybulak**	**25.81**	**301**	*e*P	**P**	**17 12 15.1**	**+1.5**
	comp=Z,5.2nm,0.8s,mb4.1						
KURK	**Kurchatov**	**26.48**	**320**	P	**P**	**17 12 19.4**	**-0.3**
	comp=Z,1.6nm,0.7s,mb3.6,baz=125,slow=10,SNR=11						
KURK	**Kurchatov**	**26.48**	**320**	P	**P**	**17 12 19.4**	**-0.3**
AKTK	**Aktyubinsk**	**38.71**	**311**	P	**P**	**17 14 05.8**	**-0.6**
AKTO	**Aktyubinsk**	**38.71**	**311**	P	**P**	**17 14 05.8**	**-0.6**
	comp=Z,0.7nm,0.5s,mb3.7,baz=98,slow=9.5,SNR=3.3						
ARCES	**ARCESS Array B**	**56.04**	**335**	P	**P**	**17 16 20.0**	**-1.0**
	comp=Z,6.5nm,1.0s,mb4.6,baz=99,slow=9.3,SNR=3.0						
ARCES	**ARCESS Array B**	**56.04**	**335**	P	**P**	**17 16 20.0**	**-1.0**
FINES	**FINESS Array B**	**56.66**	**326**	P	**P**	**17 16 25.0**	**-0.5**
	comp=Z,0.7nm,0.6s,mb3.9,baz=80,slow=8.6,SNR=5.0						
FINES	**FINESS Array B**	**56.66**	**326**	P	**P**	**17 16 25.0**	**-0.5**
BRTR	**Keskin Array B**	**56.79**	**299**	P	**P**	**17 16 26.3**	**-0.5**
	comp=Z,0.5nm,0.6s,mb3.7,baz=111,slow=4.3,SNR=2.9						
BRTR	**Keskin Array B**	**56.79**	**299**	P	**P**	**17 16 26.3**	**-0.5**
AKASG	**Malin Array Be**	**56.93**	**313**	P	**P**	**17 16 25.9**	**-1.7**
	comp=Z,0.4nm,0.4s,mb3.8,baz=74,slow=6.6,SNR=2.3						
AKASG	**Malin Array Be**	**56.93**	**313**	P	**P**	**17 16 25.9**	**-1.7**
WRA	**Warramunga Arr**	**59.43**	**148**	P	**P**	**17 16 46.0**	**+0.6**
	comp=Z,1.1nm,0.7s,mb4.0,baz=342,slow=7.6,SNR=6.0						
WRA	**Warramunga Arr**	**59.43**	**148**	P	**P**	**17 16 46.0**	**+0.6**
ASAR	**Alice Springs**	**62.52**	**150**	P	**P**	**17 17 07.7**	**+1.3**
	comp=Z,0.8nm,0.7s,mb4.0,baz=342,slow=7.2,SNR=13						
ASAR	**Alice Springs**	**62.52**	**150**	P	**P**	**17 17 07.7**	**+1.3**
NB2	**NORSAR Subarra**	**63.70**	**327**	P	**P**	**17 17 12.4**	**-1.4**
	comp=Z,1.2nm,0.7s,mb4.0,baz=71,slow=6.9						
NOA	**NORSAR Array B**	**63.70**	**327**	P	**P**	**17 17 12.6**	**-1.1**
	comp=Z,1.5nm,0.7s,mb4.1,baz=70,slow=6.5,SNR=6.0						
NOA	**NORSAR Array B**	**63.70**	**327**	P	**P**	**17 17 12.6**	**-1.1**

*IDC **03** 17:42:28.3±0.7,6.95N×126.74E,h0km,mb4.0/13, mb1 4.1/13,mb1mx3.9/25,mbtmp4.0/13,MS3.1/2, Ms1 3.1/2,ms1mx2.4/32,Error ellipse: s-maj=18.0km s-min=12.0km az=26.0*
*MAN **03** 17:42:32,6.59N×126.48E,h22km,mb4.6,ML3.5,MS3.4*
*ISCJB **03** 17:42:33.9±1.0,6.76N±0.07×126.52E±0.09,h56km±8km, mb3.9/13,Error ellipse: s-maj=16.1km s-min=9.8km az=154.5*
*NEIC **03** 17:42:33.3±0.4,6.90N×126.67E,h35km,Error ellipse: s-maj=16.7km s-min=7.9km az=61.0*

ISC 03 17:42:35.7±1.1,6.75N±0.07×126.47E±0.10,h54km±10km, n46,σ0.94/45,mb3.9/13,2C-4D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.28**	**312**	*e*P	**Pn**	**17 42 41.5**	**-3.6**
DAV	**Davao City (W)**	**0.94**	**290**	Pg	**Pn**	**17 42 51.6**	**-1.1**
	630nm,0.3s,baz=252,slow=2.6,SNR=67						
DAV				Lg		17 43 05.1	
	2μm,0.3s,baz=90,slow=20,SNR=54						
DAV	**Davao City (W)**	**0.94**	**290**	*e*P	**Pn**	**17 42 51.7**	**-1.0**
DAV				Lg		17 43 05.2	
DMPH	**Davao City--Mi**	**1.01**	**289**	↓*e*P	**Pn**	**17 42 52.4**	**-1.3**
DMPH				*e*S	**Sn**	**17 43 06.5**	**-0.4**
KCP	**Kidapawan**	**1.39**	**281**	↓*e*P	**Pn**	**17 43 00.5**	**+1.7**
KCP				*i* S	**Sn**	**17 43 16.8**	**+0.6**
BUKP	**Musuan**	**1.79**	**309**	*e*P	**Pn**	**17 43 03.2**	**-1.0**
CTBH	**Cotabato--PC H**	**2.25**	**282**	↑*i* P	**Pn**	**17 43 08.8**	**-1.8**
CGP	**Cagayan de Oro**	**2.44**	**314**	↑*e*P	**Pn**	**17 43 14.1**	**+0.9**
CGP				*i* S	**Sn**	**17 43 42.2**	**+0.4**
SCPH	**Surigao**	**3.16**	**342**	↓*e*P	**Pn**	**17 43 23.4**	**+0.3**
PAGZ	**Pagadian**	**3.25**	**290**	*e*P	**Pn**	**17 43 23.7**	**-0.5**
TBP	**Tagbilaran**	**3.90**	**319**	*e*P	**Pn**	**17 43 34.5**	**+1.4**
IPIL	**Ipil**	**4.00**	**285**	*e*P	**Pn**	**17 43 34.3**	**-0.2**
LLP	**Lapu-Lapu**	**4.32**	**325**	*e*P	**Pn**	**17 43 39.7**	**+0.8**
RCP	**Roxas**	**6.03**	**323**	↓*e*P	**Pn**	**17 44 04.0**	**+1.7**
GUMO	**Guam**	**19.33**	**68**	LR	LR	17 52 57.2	
	comp=Z,30nm,19.6s,baz=335,slow=33						
WRAB	**Tennant Creek**	**27.63**	**164**	*e*P	**P**	**17 48 18.7**	**+0.4**
WRA	**Warramunga Arr**	**27.63**	**164**	P	**P**	**17 48 18.7**	**+0.4**
	1.1nm,0.5s,mb3.7,baz=343,slow=10,SNR=9.6						
WRA	**Warramunga Arr**	**27.63**	**164**	P	**P**	**17 48 18.7**	**+0.4**
CMAR	**Chiang Mai Arr**	**29.22**	**296**	P	**P**	**17 48 34.6**	**+2.0**
	0.5nm,0.9s,mb3.2,baz=129,slow=6.8,SNR=6.2						
CMAR	**Chiang Mai Arr**	**29.22**	**296**	P	**P**	**17 48 34.6**	**+2.0**
ASAR	**Alice Springs**	**31.09**	**167**	P	**P**	**17 48 49.9**	**+0.8**
	1.1nm,0.5s,mb3.9,baz=345,slow=7.8,SNR=22						
ASAR	**Alice Springs**	**31.09**	**167**	P	**P**	**17 48 49.9**	**+0.8**
STKA	**Stephens Creek**	**41.04**	**160**	P	**P**	**17 50 14.7**	**+0.8**
	1.9nm,0.5s,mb4.0,baz=347,slow=11,SNR=6.1						
STKA	**Stephens Creek**	**41.04**	**160**	*e*P	**P**	**17 50 13.7**	**-0.2**
SONM	**Songino Array**	**44.37**	**341**	P	**P**	**17 50 41.0**	**+0.3**
SONM				PcP	PcP	17 52 25.7	+1.8
	0.5nm,0.8s,baz=151,slow=3.3,SNR=3.3						
SONM	**Songino Array**	**44.37**	**341**	P	**P**	**17 50 41.0**	**+0.3**
SONM				PcP	PcP	17 52 25.6	+1.8
MK31	**Makanchi Array**	**54.95**	**324**	*e*P	**P**	**17 52 00.2**	**-1.0**
MKAR	**Makanchi Array**	**54.95**	**324**	P	**P**	**17 52 01.1**	**-0.1**
	1.1nm,0.4s,mb4.2,baz=114,slow=7.0,SNR=34						
MKAR				PcP	PcP	17 53 02.8	+0.2
	0.6nm,0.6s,baz=109,slow=4.7,SNR=2.7						
MKAR	**Makanchi Array**	**54.95**	**324**	P	**P**	**17 52 01.1**	**-0.1**
MKAR				PcP	PcP	17 53 02.8	+0.2
ZALV	**Zalesovo Beam**	**57.80**	**332**	P	**P**	**17 52 20.8**	**-0.5**
	0.5nm,0.4s,mb3.9,baz=102,slow=5.6,SNR=5.3						
ZALV	**Zalesovo Beam**	**57.80**	**332**	P	**P**	**17 52 20.8**	**-0.5**
AAK	**Ala-Archa**	**57.97**	**317**	LR	LR	18 17 00.6	
	comp=Z,25nm,18.5s,baz=30,slow=36						
KURK	**Kurchatov**	**59.08**	**327**	P	**P**	**17 52 29.9**	**-0.4**
	1.4nm,0.6s,mb4.2,baz=126,slow=6.1,SNR=7.7						
KURK	**Kurchatov**	**59.08**	**327**	*e*P	**P**	**17 52 29.5**	**-0.9**
BVAR	**Borovoye Array**	**64.67**	**326**	P	**P**	**17 53 07.4**	**-0.4**
	0.5nm,0.5s,mb3.8,baz=140,slow=5.6,SNR=2.9						
BVAR	**Borovoye Array**	**64.67**	**326**	P	**P**	**17 53 07.4**	**-0.4**
AKTK	**Aktyubinsk**	**71.15**	**321**	P	**P**	**17 53 48.7**	**0.0**
AKTO	**Aktyubinsk**	**71.15**	**321**	P	**P**	**17 53 48.7**	**0.0**
	0.5nm,0.3s,mb3.9,baz=83,slow=8.5,SNR=3.7						
ILAR	**Eielson Array**	**82.50**	**26**	P	**P**	**17 54 50.8**	**-1.5**
	0.3nm,0.7s,mb3.4,baz=244,slow=4.9,SNR=5.1						
ILAR	**Eielson Array**	**82.50**	**26**	P	**P**	**17 54 50.8**	**-1.5**
ARCES	**ARCESS Array B**	**87.54**	**340**	P	**P**	**17 55 17.6**	**+0.2**
	6.8nm,1.1s,mb4.8,baz=79,slow=6.3,SNR=4.0						
ARCES	**ARCESS Array B**	**87.54**	**340**	P	**P**	**17 55 17.6**	**+0.2**
FINES	**FINESS Array B**	**89.06**	**332**	P	**P**	**17 55 24.1**	**-0.7**
	1.9nm,0.7s,mb4.5,baz=98,slow=5.8,SNR=8.0						
FINES	**FINESS Array B**	**89.06**	**332**	P	**P**	**17 55 24.1**	**-0.7**
TORD	**Torodi Ar. Bea**	**121.69**	**290**	PKP	PKPdf	18 01 23.9	-0.6
	0.3nm,0.6s,baz=51,slow=2.8,SNR=3.0		

SAOF	**Saorge**	**0.68**	**154**	Pg	**Pg**	**18 07 38.7 +0.3**
SAOF				Sg	**Sg**	**18 07 47.5 +0.2**
MVIF	**Mont Vial**	**0.70**	**180**	Pg	**Pg**	**18 07 39.4 +0.6**
MVIF				Sg	**Sg**	**18 07 49.0 +1.0**
MVIF	**Mont Vial**	**0.70**	**180**	Pg	**Pg**	**18 07 39.4 +0.6**
MVIF				Sg	**Sg**	**18 07 49.0 +1.0**
MVIF	**Mont Vial**	**0.70**	**180**	Pg	**Pg**	**18 07 39.4 +0.6**
MVIF				Sg	**Sg**	**18 07 49.0 +1.0**
LUCF	**Luceram**	**0.72**	**169**	Pg	**Pg**	**18 07 39.5 +0.3**
LUCF				Sg	**Sg**	**18 07 49.2 +0.6**
LUCF	**Luceram**	**0.72**	**169**	Pg	**Pg**	**18 07 39.5 +0.3**
LUCF				Sg	**Sg**	**18 07 49.2 +0.6**
LUCF	**Luceram**	**0.72**	**169**	Pg	**Pg**	**18 07 39.5 +0.3**
LUCF				Sg	**Sg**	**18 07 49.2 +0.6**
MONC	**Moncucco Torin**	**0.73**	**49**	Pg	**Pg**	**18 07 40.7 +1.3**
	104nm,0.5s					
MONC	**Moncucco Torin**	**0.73**	**49**	Pg	**Pg**	**18 07 40.7 +1.3**
	104nm,0.5s					
RONM	**Roccetta Nervi**	**0.79**	**156**	P	**Pg**	**18 07 40.2 -0.3**
RONM				S	**Sg**	**18 07 49.6 -1.2**
OG25	**Le Caire**	**0.80**	**254**	Pg	**Pg**	**18 07 41.6 +0.8**
OG25	**Le Caire**	**0.80**	**254**	Pg	**Pg**	**18 07 41.4 +0.6**
OG25	**Le Caire**	**0.80**	**254**	Pg	**Pg**	**18 07 41.4 +0.6**
RORO	**Rocca Rossa**	**0.82**	**126**	Pg	**Pg**	**18 07 40.7 -0.3**
RORO				Sg	**Sg**	**18 07 51.5 -0.2**
RORO	**Rocca Rossa**	**0.82**	**126**	P	**Pg**	**18 07 40.7 -0.3**
RORO				S	**Sg**	**18 07 50.7 -1.0**
RORO				Sg	**Sg**	**18 07 51.5 -0.2**
NEGI	**Seborga**	**0.85**	**152**	P	**Pg**	**18 07 41.5 -0.1**
NEGI				S	**Sg**	**18 07 51.7 -1.0**
LSD	**Lago del Serru**	**0.86**	**359**	Pg	**Pg**	**18 07 42.0 +0.1**
LSD				Sg	**Sg**	**18 07 53.2 0.0**
	38nm,0.3s					
LSD	**Lago del Serru**	**0.86**	**359**	Pg	**Pg**	**18 07 42.0 +0.1**
LSD				S	**Sg**	**18 07 53.3 +0.1**
CALN	**Calern**	**0.87**	**193**	Pg	**Pg**	**18 07 43.2 +1.2**
CALN	**Calern**	**0.87**	**193**	Pg	**Pg**	**18 07 42.2 +0.2**
CALN				Sg	**Sg**	**18 07 54.8 +1.5**
CALN	**Calern**	**0.87**	**193**	Pg	**Pg**	**18 07 42.2 +0.2**
CALN				Sg	**Sg**	**18 07 54.8 +1.5**
REVF	**Revere**	**0.87**	**170**	Pg	**Pg**	**18 07 43.9 +1.8**
REVF				Sg	**Sg**	**18 07 55.0 +1.6**
REVF	**Revere**	**0.87**	**170**	Pg	**Pg**	**18 07 42.8 +0.7**
REVF				Sg	**Sg**	**18 07 55.0 +1.6**
REVF	**Revere**	**0.87**	**170**	Pg	**Pg**	**18 07 42.8 +0.7**
REVF				Sg	**Sg**	**18 07 55.0 +1.6**
LPG	**La Plagne**	**0.94**	**343**	*e*Pg	**Pg**	**18 07 43.4 0.0**
LPG				*e*Sg	**Sg**	**18 07 55.9 +0.1**
	52nm,0.5s					
LPG	**La Plagne**	**0.94**	**343**	*e*Pg	**Pg**	**18 07 43.4 0.0**
LPG				*e*Sg	**Sg**	**18 07 55.9 +0.1**
LPG	**La Plagne**	**0.94**	**343**	*e*Pg	**Pg**	**18 07 43.4 0.0**
LPG				*e*Sg	**Sg**	**18 07 55.9 +0.1**
	26nm,0.5s					
ORIF	**Oris-en-Rattie**	**0.96**	**290**	*e*Pg	**Pg**	**18 07 44.2 +0.5**
	SNR=1.0					
ORIF				*e*Sg	**Sg**	**18 07 55.8 -0.5**
	16nm,0.3s					
ORIF	**Oris-en-Rattie**	**0.96**	**290**	*e*Pg	**Pg**	**18 07 44.2 +0.5**
ORIF				*e*Sg	**Sg**	**18 07 55.8 -0.5**
ORIF	**Oris-en-Rattie**	**0.96**	**290**	*e*Pg	**Pg**	**18 07 44.2 +0.5**
	SNR=1.0					
ORIF				*e*Sg	**Sg**	**18 07 55.8 -0.5**
	8.1nm,0.3s					
LPL	**La Plagne**	**0.96**	**342**	*e*Pg	**Pg**	**18 07 43.7 -0.1**
LPL				*e*Sg	**Sg**	**18 07 56.8 +0.4**
	22nm,0.3s					
LPL	**La Plagne**	**0.96**	**342**	*e*Pg	**Pg**	**18 07 43.7 -0.1**
LPL				*e*Sg	**Sg**	**18 07 56.8 +0.4**
LPL	**La Plagne**	**0.96**	**342**	*e*Pg	**Pg**	**18 07 43.7 -0.1**
LPL				*e*Sg	**Sg**	**18 07 56.8 +0.4**
	11nm,0.3s					
TRAV	**Traversella**	**1.01**	**25**	P	**Pb**	**18 07 44.0 -0.6**
TRAV				S	**Sb**	**18 07 56.9 -0.8**
FRF	**La Foret Royal**	**1.10**	**199**	*e*Pg	**Pg**	**18 07 46.1 -0.3**
	SNR=1.0					
FRF				*e*Sg	**Sg**	**18 08 00.3 -0.4**
	37nm,0.2s,SNR=1.0					
FRF	**La Foret Royal**	**1.10**	**199**	*e*Pg	**Pg**	**18 07 46.1 -0.3**
FRF				*e*Sg	**Sg**	**18 08 00.3 -0.4**
FRF	**La Foret Royal**	**1.10**	**199**	*e*Pg	**Pg**	**18 07 46.1 -0.3**
	SNR=1.0					
FRF				*e*Sg	**Sg**	**18 08 00.3 -0.4**
	18nm,0.2s,SNR=1.0					
RSL	**Roselend**	**1.15**	**341**	Pg	**Pg**	**18 07 49.5 +2.1**
RSL	**Roselend**	**1.15**	**341**	Pn	**Pn**	**18 07 47.5 +0.4**
RSL	**Roselend**	**1.15**	**341**	Pg	**Pg**	**18 07 49.5 +2.1**
RSL	**Roselend**	**1.15**	**341**	Pn	**Pn**	**18 07 47.5 +0.4**
SMRF	**Simiane la Rot**	**1.29**	**242**	*e*Pn	**Pn**	**18 07 48.8 -0.2**
	SNR=1.0					
SMRF	**Simiane la Rot**	**1.29**	**242**	*e*Pg	**Pg**	**18 07 50.1 +0.1**
SMRF				*e*Sg	**Sg**	**18 08 06.6 -0.2**
	14nm,0.3s,SNR=1.0					
SMRF	**Simiane la Rot**	**1.29**	**242**	*e*Pn	**Pn**	**18 07 48.8 -0.2**
SMRF				*e*Pg	**Pg**	**18 07 50.1 +0.1**
SMRF				*e*Sg	**Sg**	**18 08 06.6 -0.2**
SMRF	**Simiane la Rot**	**1.29**	**242**	*e*Pn	**Pn**	**18 07 48.8 -0.2**
	SNR=1.0					
SMRF	**Simiane la Rot**	**1.29**	**242**	*e*Pg	**Pg**	**18 07 50.1 +0.1**
SMRF				*e*Sg	**Sg**	**18 08 06.6 -0.2**
	7.2nm,0.3s,SNR=1.0					
LMR	**La Mourre**	**1.35**	**200**	*e*Pg	**Pg**	**18 07 50.8 -0.3**
	SNR=1.0					
LMR				*e*Sg	**Sg**	**18 08 08.3 -0.3**
	48nm,0.3s,SNR=1.0					
LMR	**La Mourre**	**1.35**	**200**	*e*Pg	**Pg**	**18 07 50.8 -0.3**
LMR				*e*Sg	**Sg**	**18 08 08.3 -0.3**
LMR	**La Mourre**	**1.35**	**200**	*e*Pg	**Pg**	**18 07 50.8 -0.3**
	SNR=1.0					
LMR				*e*Sg	**Sg**	**18 08 08.3 -0.3**
	24nm,0.3s,SNR=1.0					
VIVF	**Saint-Julien-l**	**1.79**	**279**	*e*Pn	**Pn**	**18 07 55.8 0.0**
	SNR=1.0					
VIVF	**Saint-Julien-l**	**1.79**	**279**	*e*Pg	**Pg**	**18 07 58.6 -0.9**
VIVF				*e*Sg	**Sg**	**18 08 21.5 -1.1**
	8.0nm,0.3s,SNR=1.0					
VIVF	**Saint-Julien-l**	**1.79**	**279**	*e*Pn	**Pn**	**18 07 55.8 0.0**
VIVF				*e*Pg	**Pg**	**18 07 58.6 -0.9**
VIVF				*e*Sg	**Sg**	**18 08 21.5 -1.1**
VIVF	**Saint-Julien-l**	**1.79**	**279**	*e*Pn	**Pn**	**18 07 55.8 0.0**
	SNR=1.0					
VIVF	**Saint-Julien-l**	**1.79**	**279**	*e*Pg	**Pg**	**18 07 58.6 -0.9**
VIVF				*e*Sg	**Sg**	**18 08 21.5 -1.1**
	4.0nm,0.3s,SNR=1.0					
CABF	**La Chapelle**	**2.15**	**340**	*e*Pg	**Pg**	**18 08 04.9 -1.5**
CABF				*e*Sg	**Sg**	**18 08 34.0 -0.2**
	8.0nm,0.6s,SNR=1.0					
CABF	**La Chapelle**	**2.15**	**340**	*e*Pg	**Pg**	**18 08 04.9 -1.5**
CABF				*e*Sg	**Sg**	**18 08 34.0 -0.2**
CABF	**La Chapelle**	**2.15**	**340**	*e*Pg	**Pg**	**18 08 04.9 -1.5**
CABF				*e*Sg	**Sg**	**18 08 34.0 -0.2**
	4.0nm,0.6s,SNR=1.0					
LASF	**Ste Croix**	**2.42**	**259**	*e*P	**Pn**	**18 08 06.8 +2.3**
LASF	**Ste Croix**	**2.42**	**259**	*e*P	**Pn**	**18 08 06.8 +2.3**
LASF				*e*Pg	**Pg**	**18 08 10.6 -1.0**
LASF	**Ste Croix**	**2.42**	**259**	*e*P	**Pn**	**18 08 06.8 +2.3**
PGF	**Pioggiola**	**2.45**	**146**	*e*Pn	**Pn**	**18 08 04.7 -0.2**
PGF				*e*Sn	**Sn**	**18 08 33.0 -1.7**
	2.0nm,0.2s					
PGF	**Pioggiola**	**2.45**	**146**	*e*Pn	**Pn**	**18 08 04.7 -0.2**
PGF				*e*Sn	**Sn**	**18 08 33.0 -1.7**
PGF	**Pioggiola**	**2.45**	**146**	*e*Pn	**Pn**	**18 08 04.7 -0.2**
PGF				*e*Sn	**Sn**	**18 08 33.0 -1.7**
	1.0nm,0.2s					
SMF	**Signal de Mont**	**3.10**	**313**	*e*P	**Pn**	**18 08 16.8 +3.0**
SMF				*e*Sg	**Sg**	**18 09 03.2 -1.4**
	4.4nm,0.6s,SNR=1.0					
SMF	**Signal de Mont**	**3.10**	**313**	*e*P	**Pn**	**18 08 16.8 +3.0**
SMF				*e*Sg	**Sg**	**18 09 03.2 -1.4**
SMF	**Signal de Mont**	**3.10**	**313**	*e*P	**Pn**	**18 08 16.8 +3.0**
SMF				*e*Sg	**Sg**	**18 09 03.2 -1.4**
	2.2nm,0.6s,SNR=1.0					
HINF	**Hinteralfeld**	**3.23**	**356**	*e*Pn	**Pn**	**18 08 15.4 -0.2**
HINF	**Hinteralfeld**	**3.23**	**356**	*e*Pn	**Pn**	**18 08 15.4 -0.2**
HINF	**Hinteralfeld**	**3.23**	**356**	*e*Pn	**Pn**	**18 08 15.4 -0.2**
BGF	**Bois d'Agland**	**3.60**	**304**	*e*P	**Pn**	**18 08 24.0 +3.3**
BGF	**Bois d'Agland**	**3.60**	**304**	*e*P	**Pn**	**18 08 24.0 +3.3**
BGF	**Bois d'Agland**	**3.60**	**304**	*e*P	**Pn**	**18 08 24.0 +3.3**
CAF	**Calviac**	**3.64**	**277**	*e*Pn	**Pn**	**18 08 20.8 -0.4**
CAF	**Calviac**	**3.64**	**277**	*e*Pn	**Pn**	**18 08 20.8 -0.4**
CAF	**Calviac**	**3.64**	**277**	*e*Pn	**Pn**	**18 08 20.8 -0.4**
MTLF	**Montolieu**	**3.78**	**252**	*e*Pn	**Pn**	**18 08 22.7 -0.4**
MTLF	**Montolieu**	**3.78**	**252**	*e*Pn	**Pn**	**18 08 22.7 -0.4**
MTLF	**Montolieu**	**3.78**	**252**	*e*Pn	**Pn**	**18 08 22.7 -0.4**
RJF	**Les Rejaudoux**	**4.06**	**282**	*e*Pn	**Pn**	**18 08 26.5 -0.6**
RJF	**Les Rejaudoux**	**4.06**	**282**	*e*Pn	**Pn**	**18 08 26.5 -0.6**
RJF	**Les Rejaudoux**	**4.06**	**282**	*e*Pn	**Pn**	**18 08 26.5 -0.6**

*IDC **03** 18:09:09.1±3.0, 14.°32N×93.°13W, h0km, mb3.6/2, mb1 4.2/5, mb1mx3.8/24, mbtmp3.9/5, ML4.0/3, MS3.3/2, Ms1 3.2/2, ms1mx2.6/32, Error ellipse: s-maj=55.0km s-min=38.3km az=163.0*

*ISCJB **03** 18:09:10.7±2.1, 14.°25N±0.°08×93.°39W±0.°04, h28km±22km, mb3.7/2, Error ellipse: s-maj=13.8km s-min=5.9km az=169.8*

*MEX **03** 18:09:12.2±1.1, 14.°19N×93.°38W, h12km±20km, MD4.2*

ISC 03 18:09:11.7±2.2, 14°26N±0.°09×93°33W±0.°04, h26km±23km, n17, σ1s30/27, mb3.7/2, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.21**	**58**	*e*P	**Pn**	**18 09 31.9**	**-1.1**
THIG				*i* S	**Sn**	**18 09 48.0**	**-0.7**
PCIG		**1.44**	**4**	*e*P	**Pn**	**18 09 34.4**	**-1.7**
PCIG				*i* S	**Sn**	**18 09 52.4**	**-1.7**
CCIG	**Comitan**	**2.31**	**30**	*e*P	**Pn**	**18 09 49.5**	**+1.3**
CCIG				*i* S	**Sn**	**18 10 16.9**	**+1.0**
TGIG		**2.51**	**5**	*e*P	**Pn**	**18 09 50.7**	**-0.1**
TGIG				*i* S	**Sn**	**18 10 21.5**	**+0.8**
SCX	**San Cristobal**	**2.55**	**15**	*i* P	**Pn**	**18 09 52.8**	**+1.4**
SCX				*i* S	**Sn**	**18 10 23.9**	**+2.2**
HUIG	**Huatulco**	**3.07**	**299**	*i* P	**Pn**	**18 09 58.1**	**-0.6**
HUIG				*i* S	**Sn**	**18 10 33.4**	**-1.2**
CMIG	**Matias Romero**	**3.19**	**332**	Pn	**Pn**	**18 09 59.5**	**-0.7**
	5.0nm,0.3s,baz=139,slow=12,SNR=42						
CMIG				Sn	**Sn**	**18 10 36.5**	**-0.9**
	18nm,0.3s,baz=135,slow=14,SNR=10						
CMIG	**Matias Romero**	**3.19**	**332**	*e*P	**Pn**	**18 10 00.8**	**+0.6**
CMIG				*i* S	**Sn**	**18 10 36.7**	**-0.7**
VHO	**Vista Hermosa**	**4.31**	**311**	*i* P	**Pn**	**18 10 14.2**	**-1.4**
VHO				*i* S	**Sn**	**18 11 05.0**	**0.0**
PNIG	**Pinotepa**	**5.09**	**295**	*i* P	**Pn**	**18 10 27.0**	**+0.6**
PNIG				*i* S	**Sn**	**18 11 22.8**	**-1.6**
UTMO	**Huajuapan**	**5.57**	**310**	*i* P	**Pn**	**18 10 34.3**	**+1.3**
UTMO				*i* S	**Sn**	**18 11 37.6**	**+1.3**
TEIG	**Tepich**	**7.65**	**38**	Pn	**Pn**	**18 11 00.9**	**-0.6**
	12nm,0.3s,baz=224,slow=2.6,SNR=16						
TEIG				Sn	**Sn**	**18 12 24.8**	**-2.5**
	3.2nm,0.3s,baz=307,slow=20,SNR=3.4						
TEIG				LR	LR	18 14 19.1	
	comp=Z,133nm,22.0s,baz=24,slow=41						
TXAR	**Lajitas Array**	**17.79**	**329**	P	**Pn**	**18 13 19.9**	**+2.3**
	0.1nm,0.3s,baz=144,slow=11,SNR=10						
NVAR	**Mina Array Bea**	**32.66**	**322**	P	**P**	**18 15 45.1**	**+3.4**
	0.9nm,0.7s,mb3.8,baz=143,slow=9.2,SNR=7.1						
SCHQ	**Schefferville**	**45.43**	**21**	LR	LR	18 37 55.7	
	comp=Z,56nm,20.4s,baz=316,slow=38						
ILAR	**Eielson Array**	**62.09**	**337**	P	**P**	**18 19 30.9**	**+0.9**
	0.4nm,0.8s,mb3.6,baz=149,slow=5.2,SNR=6.9						
CMAR	**Chiang Mai Arr**	**145.31**	**339**	PKPbc	PKPbc	18 28 48.5	+0.6
	0.9nm,0.8s,baz=330,slow=3.2,SNR=7.7						

IDC 03 18:13:11.1±2.0, 1.°73N×125.°91E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/19, mbtmp3.5/3, Error ellipse: s-maj=176.0km s-min=25.4km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.07**	**159**	P	P	18 18 18.3	-0.1
	1.2nm,0.4s,baz=338,slow=10,SNR=25						
ASAR	**Alice Springs**	**26.41**	**163**	P	P	18 18 49.6	+0.1
	0.2nm,0.3s,baz=344,slow=11,SNR=9.4						
MKAR	**Makanchi Array**	**58.74**	**326**	P	P	18 23 11.0	+0.2
	0.2nm,0.5s,baz=126,slow=8.2,SNR=5.4						

KRSC 03 18:17:27.2±1.1, 53.°79N×160.°28E, h61km±51km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KII	**Karymskiy**	**0.55**	**297**	*i* P	Pn	18 17 40.5	+0.8
KII				*i* S	Sn	18 17 50.3	+1.4
SPN	**Mys Shipunski**	**0.71**	**193**	*i* P	Pn	18 17 41.9	+0.3
SPN				*i* S	Sn	18 17 52.6	+0.5
NLC	**Nalytchevo**	**0.83**	**222**	*e*P	Pn	18 17 43.6	+0.5
NLC				*i* S	Sn	18 17 55.5	+0.7
AVH	**Avacha**	**1.06**	**241**	*e*P	Pn	18 17 47.1	+1.1
AVH				*i* S	Sn	18 18 01.4	+1.4
MKZ	**Mys Kozlova**	**1.15**	**47**	*e*P	Pn	18 17 47.6	+0.5
MKZ				*i* S	Sn	18 18 02.4	+0.4
PET	**Petropavlovsk**	**1.24**	**232**	*i* P	Pn	18 17 49.1	+0.7
PET				*i* S	Sn	18 18 05.0	+0.8
GNL	**Ganaly**	**1.39**	**267**	*e*P	Pn	18 17 50.9	+0.5
GNL				*e*S	Sn	18 18 07.8	0.0
TUMR	**Tumrok**	**1.50**	**357**	*e*P	Pn	18 17 52.6	+0.8
TUMR				*i* S	Sn	18 18 10.9	+0.5
RUS	**Russkaya**	**1.73**	**219**	*i* P	Pn	18 17 54.9	0.0
RUS				*i* S	Sn	18 18 15.0	-0.9
SRDR	**Sredinnyy**	**2.55**	**353**	P	Pn	18 18 06.7	+0.6
KBTR	**Krutoberegovo**	**2.83**	**30**	*e*P	Pn	18 18 11.4	+1.5
KBTR				*e*S	Sn	18 18 43.4	+0.6

*ISCJB **03** 18:18:42.4±0.6, 37.°19N±0.°03×36.°26E±0.°03, h1km±7km, Error ellipse: s-maj=4.7km s-min=4.4km az=136.1*

*CSEM **03** 18:18:42.7±0.3, 37.°21N×36.°27E, h10km, MD2.5, Error ellipse: s-maj=6.0km s-min=5.9km az=130.0*

*DDA **03** 18:18:42.2, 37.°21N×36.°26E, h18km±4km, Md2.9*

*ISK **03** 18:18:42.8, 37.°30N×36.°25E, h9km, MD2.5*

ISC 03 18:18:42.9±0.5, 37°20N±0.°03×36°25E±0.°03, h1km±9km, n24, σ0s76/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANDN	**Andirin**	**0.38**	**11**	*i* P	**Pg**	**18 18 50.9**	**+0.6**
ANDN	**Andirin**	**0.38**	**11**	*i* P	**Pg**	**18 18 50.9**	**+0.6**
KOZT	**Kozan**	**0.44**	**309**	*e*PG	**Pg**	**18 18 50.7**	**-0.7**
KOZT				*e*SG	**Sg**	**18 18 56.7**	**-0.3**
KMRS	**Kahramanmaras**	**0.60**	**59**	*e*PG	**Pg**	**18 18 54.1**	**-0.3**
KMRS	**Kahramanmaras**	**0.60**	**59**	*e*Pg	**Pg**	**18 18 54.1**	**-0.3**
COBT	**Iskenderun**	**0.68**	**180**	*i* P	**Pg**	**18 18 55.5**	**-0.5**
COBT				*i* S	**Sg**	**18 19 03.8**	**-1.0**
COBT	**Iskenderun**	**0.68**	**180**	*i* P	**Pg**	**18 18 55.5**	**-0.5**
COBT				*i* S	**Sg**	**18 19 03.8**	**-1.0**
GAZ	**Gaziantep**	**0.77**	**92**	*e*PG	**Pg**	**18 18 58.3**	**+0.7**
GAZ	**Gaziantep**	**0.77**	**92**	*e*Pg	**Pg**	**18 18 58.3**	**+0.7**
KUZU	**Kuzuini**	**0.78**	**123**	*i* P	**Pg**	**18 18 58.2**	**+0.3**
KUZU				*i* S	**Sg**	**18 19 08.8**	**+0.7**
KUZU	**Kuzuini**	**0.78**	**123**	*i* P	**Pg**	**18 18 58.2**	**+0.3**
KUZU				*i* S	**Sg**	**18 19 08.8**	**+0.7**
KRTS	**Karatas**	**0.94**	**229**	*e*PG	**Pg**	**18 19 02.7**	**+1.7**
KRTS	**Karatas**	**0.94**	**229**	*e*Pg	**Pg**	**18 19 02.7**	**+1.7**
GZT	**Gaziantep**	**1.06**	**81**	*i* P	**Pg**	**18 19 01.6**	**-1.5**
GZT				*i* S	**Sg**	**18 19 17.2**	**+0.3**
YAYL	**Yayladag**	**1.17**	**186**	*i* P	**Pg**	**18 19 04.7**	**-0.6**
YAYL				*i* S	**Sg**	**18 19 21.1**	**+0.5**
YAYL	**Yayladag**	**1.17**	**186**	*i* P	**Pg**	**18 19 04.7**	**-0.7**
YAYL				*i* S	**Sg**	**18 19 21.1**	**+0.6**
GULE	**Gulek**	**1.18**	**274**	*i* P	**Pg**	**18 19 05.2**	**-0.3**
GULE				*i* S	**Sg**	**18 19 21.4**	**+0.5**
GULE	**Gulek**	**1.18**	**274**	*i* P	**Pg**	**18 19 05.2**	**-0.4**
GULE				*i* S	**Sg**	**18 19 21.4**	**+0.5**
PINB	**Pinarbasi**	**1.48**	**5**	*i* P	**Pn**	**18 19 10.4**	**-0.2**
PINB				*i* S	**Sb**	**18 19 31.0**	**+0.6**
PINB	**Pinarbasi**	**1.48**	**5**	*i* P	**Pn**	**18 19 10.4**	**-0.2**
PINB				*i* S	**Sb**	**18 19 31.0**	**+0.6**
SARI	**SarD1z-Kayseri**	**1.52**	**13**	*e*PN	**Pn**	**18 19 04.6**	**-6.5**
SARI	**SarD1z-Kayseri**	**1.52**	**13**	*e*Pn	**Pn**	**18 19 04.6**	**-6.5**
AKCD	**Akcadag**	**1.71**	**50**	*i* P	**Pn**	**18 19 10.2**	**-3.7**
AKCD				*i* S	**Sn**	**18 19 36.4**	**0.0**
AKCD	**Akcadag**	**1.71**	**50**	*i* P	**Pn**	**18 19 10.2**	**-3.7**
AKCD				*i* S	**Sn**	**18 19 36.4**	**0.0**

*IDC **03** 18:33:11.6±0.6, 30.°88N×83.°64E, h0km, mb4.0/17, mb1 4.1/20, mb1mx4.0/31, mbtmp4.0/20, ML4.3/2, MS3.5/8, Ms1 3.5/8, ms1mx3.1/38, Error ellipse: s-maj=22.7km s-min=13.4km az=51.0*

*ISCJB **03** 18:33:14.2±2.4, 30.°85N±0.°06×83.°61E±0.°07, h31km±18km, mb4.0/18, MS3.4/6, Error ellipse: s-maj=12.3km s-min=6.9km az=42.0*

*NEIC **03** 18:33:15.9±2.6, 30.°91N×83.°57E, h28km±18km, mb3.9/2, Error ellipse: s-maj=12.1km s-min=6.8km az=222.0*

*MOS **03** 18:33:16.1±1.5, 30.°92N×83.°55E, h46km, mb4.5/2, Error ellipse: s-maj=13.4km s-min=7.8km az=115.3*

ISC 03 18:33:16.3±2.4, 30°91N±0.°06×83°63E±0.°07, h32km±18km, n85, σ0s91/77, mb4.0/18, MS3.4/6, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDI	**Dehra Dun**	**4.84**	**264**	*e*PKP	**Pn**	**18 34 27.7**	**+0.8**
DDI				*e*S	Sb	18 35 43.9	+5.8
LSA	**Lhasa**	**6.62**	**99**	*e*P	**Pn**	**18 34 54.4**	**+3.0**
	18nm,0.7s						
LSA	**Lhasa**	**6.62**	**99**	*e*P	**Pn**	**18 34 54.4**	**+3.0**
LSA				pmax	pmax		
	comp=Z,18nm,0.7s						
SHL	**Shillong**	**9.02**	**124**	*e*PKP	**Pn**	**18 35 25.0**	**+0.6**
SHL				*e*S	**Sn**	**18 37 04.0**	**-0.9**
KBL	**Kabul**	**12.80**	**290**	*e*P	**Pn**	**18 36 13.8**	**-2.3**
	comp=Z,10.0nm,0.9s						
KBL	**Kabul**	**12.80**	**290**	*e*P	**Pn**	**18 36 13.8**	**-2.3**
KBL				pmax	pmax		
	comp=Z,10.0nm,0.9s						
AAK	**Ala-Archa**	**13.79**	**331**	Pn	**Pn**	**18 36 31.0**	**+1.5**
	comp=Z,0.0nm,0.3s,baz=195,slow=7.5,SNR=4.3						
AAK				LR	LR	18 42 38.3	
	comp=Z,125nm,18.4s,baz=325,slow=41						
AAK	**Ala-Archa**	**13.79**	**331**	Pn	**Pn**	**18 36 31.0**	**+1.5**
AAK				LR	LR	18 42 38.3	
AAK	**Ala-Archa**	**13.79**	**331**	P	**Pn**	**18 36 31.0**	**+1.5**
HYB	**Hyderabad**	**14.21**	**200**	*i* P	**Pn**	**18 36 31.5**	**-3.9**
HYB				*e*		18 39 08.0	
MK31	**Makanchi Array**	**15.89**	**357**	*e*P	**Pn**	**18 36 57.0**	**-0.5**
MK31	**Makanchi Array**	**15.89**	**357**	*e*P	**Pn**	**18 36 57.0**	**-0.5**
MKAR	**Makanchi Array**	**15.89**	**357**	Pn	**Pn**	**18 36 57.2**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=183,slow=12,SNR=26						
MKAR	**Makanchi Array**	**15.89**	**357**	Pn	**Pn**	**18 36 57.2**	**-0.3**
MKAR	**Makanchi Array**	**15.89**	**357**	P	**Pn**	**18 36 57.3**	**-0.2**
CHTO	**Chiang Mai**	**18.37**	**127**	*e*P	**Pn**	**18 37 28.1**	**-0.5**
	comp=Z,3.8nm,0.9s						
CHTO	**Chiang Mai**	**18.37**	**127**	*e*P	**Pn**	**18 37 28.2**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**18.61**	**128**	P	**Pn**	**18 37 31.2**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=312,slow=10,SNR=22						
CMAR				LR	LR	18 46 15.4	
	comp=Z,130nm,20.5s,baz=300,slow=42						
CMAR	**Chiang Mai Arr**	**18.61**	**128**	P	**Pn**	**18 37 31.2**	**-0.5**
CMAR				LR	LR	18 46 15.4	
CMAR	**Chiang Mai Arr**	**18.61**	**128**	P	**Pn**	**18 37 31.2**	**-0.5**
KURK	**Kurchatov**	**20.13**	**351**	P	**P**	**18 37 45.6**	**-1.9**
	comp=Z,4.3nm,0.6s,baz=171,slow=10,SNR=23						
KURK	**Kurchatov**	**20.13**	**351**	*e*P	**P**	**18 37 46.4**	**-1.1**
KURK	**Kurchatov**	**20.13**	**351**	*e*P	**P**	**18 37 46.4**	**-1.1**
ZAA0	**Zalesovo Array**	**23.04**	**2**	*e*P	**P**	**18 38 18.3**	**-0.3**
ZALV	**Zalesovo Beam**	**23.04**	**2**	P	**P**	**18 38 18.3**	**-0.3**
	comp=Z,1.4nm,0.5s,mb3.6,baz=175,slow=8.9,SNR=14						
ZALV	**Zalesovo Beam**	**23.04**	**2**	P	**P**	**18 38 18.3**	**-0.3**
ZALV	**Zalesovo Beam**	**23.04**	**2**	P	**P**	**18 38 18.3**	**-0.3**
BVAR	**Borovoye Array**	**24.11**	**340**	P	**P**	**18 38 29.9**	**+0.9**
	comp=Z,0.7nm,0.5s,mb3.3,baz=140,slow=10,SNR=4.7						
BVAR	**Borovoye Array**	**24.11**	**340**	P	**P**	**18 38 29.9**	**+0.9**
BVAR	**Borovoye Array**	**24.11**	**340**	P	**P**	**18 38 29.9**	**+1.0**
SONM	**

*IDC **03** 19:06:34.0±0.6,39°.10N×140°.86E,h0km,mb3.9/17, mb1 4.1/19,mb1mx4.1/27,mbtmp3.9/19,ML3.2/2,MS2.6/1, Ms1 2.6/1,ms1mx1.8/47,Error ellipse: s-maj=17.9km s-min=12.3km az=124.0*

*ISCJB **03** 19:06:35.3±0.5,39°.07N±0°.03×140°.92E±0°.05,h19km±4km, mb4.1/25,Error ellipse: s-maj=5.9km s-min=4.8km az=6.0*

*JMA **03** 19:06:35.6,39°.05N×140°.88E,h9km±1km,M4.1 Broadband fault plane solution: P waves. NP1: φs186.00000°,δ41.00000°,λ81.00000°. NP2:φs18.00000°, δ49.00000°,λ98.00000°. Principal axes: T Plg83.0000°, Azm340.0000°; N Plg6.0000°, Azm192.0000°; P Plg4.0000°, Azm102.0000°;*

JMA Felt II J1.

*NEIC **03** 19:06:39.9±1.2,39°.06N×140°.82E,h40km±11km,mb4.7/9 Error ellipse: s-maj=9.6km s-min=7.8km az=182.0*

ISC 03 19:06:35.7±0.5,39°.06N±0°.03×140°.90E±0°.04,h9km±3km, n68,σ0s71/75,mb4.1/25,1C-5D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMK	**Ichinoseki**	**0.27**	**114**	⇓P	**Pg**	**19 06 41.0**	**-0.1**
JMK				S	**Sg**	**19 06 45.2**	**+0.5**
JRG	**Rokugo**	**0.39**	**328**	⇓P	**Pg**	**19 06 43.4**	**+0.1**
JRG				S	**Sg**	**19 06 49.0**	**+0.4**
JYK	**Kaneyama**	**0.45**	**251**	⇓P	**Pg**	**19 06 44.0**	**-0.4**
JOM	**Ohasama**	**0.51**	**36**	⇓P	**Pg**	**19 06 45.7**	**+0.2**
JOM				S	**Sg**	**19 06 52.9**	**+0.7**
JIO	**Ouri**	**0.70**	**150**	⇓P	**Pg**	**19 06 48.6**	**-0.6**
JIO				S	**Sg**	**19 06 58.0**	**-0.3**
JOU	**Okura**	**0.72**	**195**	⇑P	**Pg**	**19 06 49.1**	**-0.5**
JOU				S	**Sg**	**19 06 58.5**	**-0.5**
MJAR	**Matsushiro Arr**	**3.30**	**221**	Pn	**Pn**	**19 07 28.3**	**+0.8**
	1.0nm,0.3s,baz=281,slow=33,SNR=15						
MJAR				Pg	**Pg**	**19 07 34.9**	**-4.0**
	2.0nm,0.3s,baz=26,slow=12,SNR=23						
MJAR				Lg		19 08 20.4	
	1.4nm,0.3s,baz=170,slow=20,SNR=4.4						
MJAR	**Matsushiro Arr**	**3.30**	**221**	Pn	**Pn**	**19 07 28.2**	**+0.8**
MJAR				Pg	**Pg**	**19 07 34.9**	**-4.0**
MJAR				Lg		19 08 20.4	
MAJO	**Matsushiro**	**3.30**	**221**	*e*P	**Pn**	**19 07 28.6**	**+1.1**
MAT	**Matsushiro**	**3.30**	**221**	P	**Pn**	**19 07 28.4**	**+0.9**
MAT				S	**Sn**	**19 08 09.2**	**+2.4**
ASAJ	**Asahikawa**	**5.21**	**14**	Pn	**Pn**	**19 07 57.6**	**+4.0**
	0.8nm,0.3s,baz=280,slow=9.9,SNR=5.1						
KSRS	**Korea Array**	**10.34**	**265**	Pn	**Pn**	**19 09 04.7**	**+0.7**
	0.5nm,0.3s,baz=75,slow=13,SNR=4.3						
KSRS				Sn	**Sn**	**19 11 04.8**	**+4.9**
	0.3nm,0.3s,baz=72,slow=22,SNR=5.1						
KSRS				LR	LR	19 12 04.3	
	comp=Z,34nm,21.8s,baz=172,slow=32						
SONM	**Songino Array**	**26.36**	**301**	P	**P**	**19 12 11.9**	**0.0**
	0.3nm,0.8s,baz=92,slow=7.4,SNR=3.3						
SONM	**Songino Array**	**26.36**	**301**	P	**P**	**19 12 11.9**	**0.0**
ZALV	**Zalesovo Beam**	**40.27**	**311**	P	**P**	**19 14 11.1**	**-1.6**
	1.7nm,0.8s,mb3.8,baz=81,slow=9.2,SNR=8.4						
ZALV	**Zalesovo Beam**	**40.27**	**311**	P	**P**	**19 14 11.1**	**-1.6**
CMAR	**Chiang Mai Arr**	**41.67**	**253**	P	**P**	**19 14 25.1**	**+0.6**
	0.3nm,0.6s,mb3.1,baz=56,slow=6.7,SNR=3.9						
MK31	**Makanchi Array**	**42.73**	**300**	*e*P	**P**	**19 14 31.9**	**-1.0**
MKAR	**Makanchi Array**	**42.73**	**300**	P	**P**	**19 14 31.7**	**-1.2**
	1.3nm,0.7s,mb3.8,baz=88,slow=9.7,SNR=12						
MKAR	**Makanchi Array**	**42.73**	**300**	P	**P**	**19 14 31.7**	**-1.2**
KURK	**Kurchatov**	**44.38**	**306**	P	**P**	**19 14 46.2**	**0.0**
	4.0nm,0.9s,mb4.2,baz=83,slow=8.1,SNR=24						
KURK	**Kurchatov**	**44.38**	**306**	P	**P**	**19 14 46.2**	**0.0**
TAPN	**Taplejung**	**45.44**	**272**	*e*P	**P**	**19 14 54.4**	**-0.5**
TAPN	**Taplejung**	**45.44**	**272**	*e*P	**P**	**19 14 54.4**	**-0.5**
ODAN	**Odare**	**45.92**	**271**	*e*P	**P**	**19 14 59.6**	**+0.9**
	7.0nm,0.9s,mb4.6						
ODAN	**Odare**	**45.92**	**271**	*e*P	**P**	**19 14 59.6**	**+0.9**
	7.0nm,0.9s,mb4.6						
GUN	**Gumba**	**46.59**	**273**	*e*P	**P**	**19 15 04.1**	**+0.1**
	12nm,0.8s,mb4.9						
GUN	**Gumba**	**46.59**	**273**	*e*P	**P**	**19 15 04.1**	**+0.1**
	12nm,0.8s,mb4.9						
KKN	**Kakani**	**47.12**	**274**	*e*P	**P**	**19 15 08.1**	**0.0**
	10nm,0.7s,mb4.8						
KKN	**Kakani**	**47.12**	**274**	*e*P	**P**	**19 15 08.1**	**0.0**
	10nm,0.7s,mb4.9						
DMN	**Daman**	**47.34**	**274**	*e*P	**P**	**19 15 09.9**	**+0.1**
	7.3nm,0.8s,mb4.6						
DMN	**Daman**	**47.34**	**274**	*e*P	**P**	**19 15 09.9**	**+0.1**
	7.3nm,0.8s,mb4.7						
GKN	**Gorkha**	**47.51**	**274**	*e*P	**P**	**19 15 10.8**	**-0.4**
	5.8nm,0.6s,mb4.8						
GKN	**Gorkha**	**47.51**	**274**	*e*P	**P**	**19 15 10.8**	**-0.4**
	5.8nm,0.6s,mb4.8						
ILAR	**Eielson Array**	**48.01**	**33**	P	**P**	**19 15 14.7**	**+0.1**
	1.3nm,0.7s,mb4.1,baz=271,slow=6.2,SNR=21						
ILAR	**Eielson Array**	**48.01**	**33**	P	**P**	**19 15 14.7**	**+0.1**
DANN	**Dangsing**	**48.03**	**275**	*e*P	**P**	**19 15 15.6**	**+0.4**
	29nm,0.7s						
DANN	**Dangsing**	**48.03**	**275**	*e*P	**P**	**19 15 15.6**	**+0.4**
KOLN	**Koldanda**	**48.43**	**275**	*e*P	**P**	**19 15 18.5**	**+0.2**
	11nm,0.9s,mb4.9						
KOLN	**Koldanda**	**48.43**	**275**	*e*P	**P**	**19 15 18.5**	**+0.2**
	11nm,0.9s,mb4.9						
INK	**Inuvik**	**52.77**	**28**	P	**P**	**19 15 51.1**	**+0.6**
	1.9nm,0.8s,mb4.1,baz=297,slow=7.6,SNR=7.8						
INK	**Inuvik**	**52.77**	**28**	P	**P**	**19 15 51.1**	**+0.6**
KBL	**Kabul**	**56.34**	**290**	*e*P	**P**	**19 16 16.8**	**-0.1**
	6.3nm,1.1s,mb4.6						
ABKAR	**Akbulak array**	**56.34**	**309**	*e*P	**P**	**19 16 15.8**	**-0.9**
	0.6nm,0.5s,mb3.9						
WRA	**Warramunga Arr**	**59.02**	**187**	P	**P**	**19 16 34.6**	**-1.1**
	1.5nm,0.5s,mb4.2,baz=4.5,slow=7.2,SNR=41						
WRA	**Warramunga Arr**	**59.02**	**187**	P	**P**	**19 16 34.6**	**-1.1**
ASAR	**Alice Springs**	**62.74**	**187**	P	**P**	**19 17 00.8**	**-0.2**
	1.0nm,0.7s,mb4.0,baz=2.4,slow=4.6,SNR=14						
ASAR	**Alice Springs**	**62.74**	**187**	P	**P**	**19 17 00.8**	**-0.2**
FINES	**FINESS Array B**	**66.84**	**332**	P	**P**	**19 17 26.7**	**-0.7**
	2.4nm,0.7s,mb4.3,baz=46,slow=8.2,SNR=4.4						
FINES	**FINESS Array B**	**66.84**	**332**	P	**P**	**19 17 26.7**	**-0.7**
KIV	**Kislovodsk**	**69.28**	**310**	P	**P**	**19 17 42.6**	**-0.4**
	6.7nm,0.8s,mb4.6						
NB2	**NORSAR Subarra**	**72.16**	**337**	P	**P**	**19 17 59.8**	**-0.4**
	comp=Z,5.0nm,1.0s,mb4.4,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**72.16**	**337**	P	**P**	**19 18 00.0**	**-0.2**
	comp=Z,2.0nm,0.8s,mb4.1,baz=40,slow=5.9,SNR=6.0						
NOA	**NORSAR Array B**	**72.16**	**337**	P	**P**	**19 18 00.0**	**-0.2**
AKASG	**Malin Array Be**	**72.45**	**322**	P	**P**	**19 18 01.5**	**-0.6**
	comp=Z,0.9nm,0.6s,mb3.9,baz=46,slow=6.3,SNR=5.5						
AKASG	**Malin Array Be**	**72.45**	**322**	P	**P**	**19 18 01.5**	**-0.6**
NVAR	**Mina Array Bea**	**74.10**	**53**	P	**P**	**19 18 12.6**	**+0.5**
	comp=Z,0.6nm,0.7s,mb3.6,baz=294,slow=4.1,SNR=4.0						
NVAR	**Mina Array Bea**	**74.10**	**53**	P	**P**	**19 18 12.6**	**+0.5**
PDAR	**Pinedale Array**	**76.53**	**46**	P	**P**	**19 18 26.9**	**+0.9**
	comp=Z,0.6nm,0.6s,mb3.7,baz=268,slow=4.5,SNR=5.0						
PDAR	**Pinedale Array**	**76.53**	**46**	P	**P**	**19 18 26.9**	**+0.9**
BRTR	**Keskin Array B**	**77.21**	**311**	P	**P**	**19 18 29.9**	**0.0**
	comp=Z,0.7nm,0.7s,mb3.7,baz=83,slow=3.9,SNR=4.8						
BRTR	**Keskin Array B**	**77.21**	**311**	P	**P**	**19 18 29.9**	**0.0**
GERES	**GERESS Array B**	**80.78**	**328**	P	**P**	**19 18 48.5**	**-0.8**
	comp=Z,0.3nm,0.6s,mb3.4,baz=264,slow=6.8,SNR=2.9						
GERES	**GERESS Array B**	**80.78**	**328**	P	**P**	**19 18 48.5**	**-0.8**
TXAR	**Lajitas Array**	**89.20**	**52**	P	**P**	**19 19 32.3**	**+0.4**
	comp=Z,0.3nm,0.8s,mb3.7,baz=225,slow=5.0,SNR=3.3						
TXAR	**Lajitas Array**	**89.20**	**52**	P	**P**	**19 19 32.4**	**+0.4**
LPAZ	**La Paz**	**145.96**	**56**	PKPbc	PKPbc	19 26 15.7	-0.3
	comp=Z,2.2nm,0.9s,baz=2.4,slow=4.5,SNR=7.7						
LPAZ	**La Paz**	**145.96**	**56**	PKPbc	PKPbc	19 26 15.7	-0.3

*IDC **03** 19:06:32.0±2.6,27°.10N×53°.88E,h0km,mb3.4/5, mb1 3.4/5,mb1mx3.3/26,mbtmp3.4/5,Error ellipse: s-maj=77.3km s-min=27.0km az=160.0*

*TEH **03** 19:06:35.4,27°.15N×53°.84E,h24km*

*ISCJB **03** 19:06:36.3±1.8,27°.3N±0°.1×53°.87E±0°.09,h38km±16km, mb3.4/4,Error ellipse: s-maj=19.0km s-min=10.4km az=29.4*

ISC 03 19:06:37.2±3.5,27°.29N±0°.09×53°.89E±0°.08,h31km±27km, n11,σ0s72/13,mb3.4/4,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISRV	**Sarvestan**	**2.20**	**342**	*e*Pn	**Pn**	**19 07 12.1**	**+0.5**
ISRV				*e*		19 07 56.7	
	comp=Z,892nm,0.2s						
IBND	**Bandar-abas**	**2.36**	**85**	*e*Pn	**Pn**	**19 07 13.9**	**0.0**
IBND				*e*Sn	**Sn**	**19 07 41.1**	**-0.7**
IBND				*e*		19 08 40.6	
	comp=Z,1μm,0.2s						
IMEH	**Mehriz**	**4.14**	**9**	*e*Pn	**Pn**	**19 07 39.2**	**+0.9**
IMEH				*e*		19 07 42.3	
	comp=Z,412nm,0.1s						
IBAF	**Bafgh**	**4.53**	**18**	*e*Pn	**Pn**	**19 07 43.5**	**-0.2**
IBAF				*e*		19 07 57.8	
	comp=Z,125nm,0.1s						
ICHK	**Chekchek**	**4.96**	**5**	*e*Pn	**Pn**	**19 07 49.6**	**0.0**
ICHK				*e*		19 07 58.8	
	comp=Z,189nm,0.2s						
ICHK				*e*Sn	**Sn**	**19 08 45.5**	**-0.4**
IZEF	**Zefreh**	**5.75**	**347**	*e*Pn	**Pn**	**19 07 58.8**	**-1.7**
IZEF				*e*		19 08 01.8	
	comp=Z,46nm,0.2s						
BRTR	**Keskin Array B**	**20.90**	**312**	P	**P**	**19 11 17.4**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=132,slow=12,SNR=3.1						
MKAR	**Makanchi Array**	**29.63**	**41**	P	**P**	**19 12 40.8**	**+1.1**
	comp=Z,0.3nm,0.6s,mb3.2,baz=223,slow=7.3,SNR=3.2						
ZALV	**Zalesovo Beam**	**35.01**	**32**	P	**P**	**19 13 26.9**	**+0.2**
	comp=Z,0.7nm,0.4s,mb3.9,baz=237,slow=9.1,SNR=5.2						
SONM	**Songino Array**	**45.41**	**49**	P	**P**	**19 14 53.5**	**+0.6**
	comp=Z,0.3nm,0.6s,mb3.3,baz=272,slow=8.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**50.62**	**265**	P	**P**	**19 15 32.8**	**-0.9**
	comp=Z,0.2nm,0.5s,mb3.3,baz=68,slow=8.2,SNR=4.2						

*IDC **03** 19:21:57.1±0.3,1°.23N×97°.32E,h0km,mb5.1/36, mb1 5.1/37,mb1mx5.1/37,mbtmp5.0/37,ML5.1/1,MS5.5/29, Ms1 5.5/29,ms1mx5.3/43,Error ellipse: s-maj=13.3km s-min=9.7km az=41.0*

*NEIC **03** 19:21:58.5±0.1,1°.15N×97°.25E,h10km,mb5.5/113, MS5.7/183,MW5.7,MW5.7,Error ellipse: s-maj=4.3km s-min=3.5km az=216.0,Moment Tensor Solution. s77 Moment tensor: Scale 10^17^Nm; Mrr3.40; Mθθ-1.69; Mφφ-1.71; Mrθ1.88; Mθφ2.08; Mφr-2.06; Best double couple: M0 4.60000×10^17^ NP1:φs313.00000°,δ26.00000°, λ87.00000°. NP2:φs137.00000°,δ64.00000°,λ92.00000°. Principal axes: T 4.3600, Plg71.0000°, Azm50.0000°; N 0.3800, Plg1.0000°, Azm316.0000°; P -4.7300, Plg18.0000°, Azm225.0000°;*

NEIC Felt [IV] at Gunungsitoli.

*ISCJB **03** 19:21:59.7±0.1,1°.16N±0°.02×97°.29E±0°.02,h30km, mb5.4/226,MS5.7/245 Error ellipse: s-maj=3.5km s-min=2.0km az=32.8*

*BJI **03** 19:21:59.1,1°.01N×97°.33E,h35km,mB6.0/64,mb5.5/63, Ms6.1/77,Ms7 6.0/67*

*MOS **03** 19:22:00.6±1.0,1°.26N×97°.35E,h33km,mb5.6/81, MS5.5/73,Error ellipse: s-maj=7.6km s-min=4.0km az=118.2*

*TEH **03** 19:22:02.0,1°.21N×97°.31E,h35km*

*DJA **03** 19:22:03.4±0.9,1°.N±3°×9°.7E±°,h39km±7km,mb5.5/22, mB6.0/18,MLv5.6/2,Mw(mB)5.7/18*

*GCMT **03** 19:22:03.3±0.1,0°.91N×96°.97E,h24km,MW5.7,Moment Tensor Solution. s86,c167; s35,c38; Moment tensor: Scale 10^17^Nm; Mrr2.63±.06; Mθθ-1.15±.05; Mφφ-1.48±.05; Mrθ3.41±.15; Mθφ1.85±.04; Mφr-2.79±.14; Best double couple: M0 5.30000×10^17^ NP1:φs328.00000°,δ17.00000°, λ107.00000°. NP2:φs130.00000°,δ73.00000°,λ85.00000°. Principal axes: T 5.0400, Plg61.0000°, Azm33.0000°; N 0.4900, Plg5.0000°, Azm132.0000°; P -5.5200, Plg28.0000°, Azm224.0000°; Data Used: II IU IC G CN. Surface waves: sta= 78, comp=127, per= 50.*

*SZGRF **03** 19:22:11.8,1°.61N×95°.66E,h26km,mb5.3,MS5.4,Off west coast of northern Sumatera, Indonesia*

ISC 03 19:22:01.8±0.1,1°.15N±0°.02×97°.28E±0°.02,h32km, h32km±1.1km:pP-P,n939,σ1s00/778,mb5.4/225,MS5.7/245, 63C-37D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPTI		**2.10**	**357**	P	**Pn**	**19 22 33.8**	**-0.9**
TPTI				S	**Sn**	**19 22 49.5**	**-10**
PSI	**Prapat**	**2.32**	**45**	Pn	**Pn**	**19 22 37.8**	**0.0**
	58nm,0.3s,baz=210,slow=7.8,SNR=533						
PSI				LR	LR	19 23 30.0	
	comp=Z,70μm,21.8s,baz=301,slow=43						
PSI	**Prapat**	**2.32**	**45**	Pn	**Pn**	**19 22 37.8**	**0.0**
PSI				LR	LR	19 23 30.0	
PSI	**Prapat**	**2.32**	**45**	P	**Pn**	**19 22 37.8**	**0.0**
MNSI	**Mandailing Nat**	**2.32**	**99**	P	**Pn**	**19 22 38.8**	**+1.0**
MNSI				S	**Sn**	**19 23 05.9**	**+0.6**
TSI	**Tuntungan**	**2.67**	**29**	P	**Pn**	**19 22 44.3**	**+1.8**
TSI				S	**Sn**	**19 23 06.6**	**-7.1**
SISI	**Saibi**	**3.05**	**144**	P	**Pn**	**19 22 47.3**	**-0.5**
PDSI	**Padang**	**3.78**	**123**	P	**Pn**	**19 22 57.7**	**-0.2**
BKNI	**Bangkinang**	**3.85**	**102**	P	**Pn**	**19 22 59.5**	**+0.8**
BKNI				S	**Sn**	**19 23 44.6**	**+1.7**
SDSI	**Sungai Dareh**	**4.63**	**116**	P	**Pn**	**19 23 10.5**	**+0.9**
FRIM	**Kepong**	**4.81**	**64**	P	**Pn**	**19 23 13.6**	**+1.6**
IPM	**Ipoh**	**4.99**	**48**	P	**Pn**	**19 23 16.9**	**+2.4**
IPM	**Ipoh**	**4.99**	**48**	*e*Pn	**Pn**	**19 23 16.4**	**+1.8**
	1μm,0.9s						
RGRI	**Rengat**	**5.27**	**106**	P	**Pn**	**19 23 17.2**	**-1.1**
KRJI	**Kerinci**	**5.28**	**128**	P	**Pn**	**19 23 18.1**	**-0.3**
KRJI				S	**Sn**	**19 24 21.5**	**+3.3**
KULM	**Kulim**	**5.31**	**39**	P	**Pn**	**19 23 20.1**	**+1.2**
KULM	**Kulim**	**5.31**	**39**	*e*Pn	**Pn**	**19 23 19.9**	**+0.9**
	706nm,0.8s						
KGM	**Kluang**	**6.10**	**82**	P	**Pn**	**19 23 31.6**	**+1.9**
MYKOM	**Kota Tinggi**	**6.60**	**84**	P	**Pn**	**19 23 38.3**	**+1.7**
MNAI	**Manna**	**7.88**	**134**	P	**Pn**	**19 23 53.6**	**-0.6**
MNAI				S	**Sn**	**19 25 21.8**	**-0.6**
PMBI	**Palembang**	**8.51**	**118**	P	**Pn**	**19 24 03.8**	**+0.9**
MDSI	**Maura Dua**	**8.88**	**129**	P	**Pn**	**19 24 07.1**	**-0.8**
	4μm298nm,0.9s						
LWLI	**Liwa**	**9.13**	**132**	P	**Pn**	**19 24 10.0**	**-1.4**
KLSI		**9.44**	**128**	P	**Pn**	**19 24 14.6**	**-1.0**
PPBI	**Pangkal Pinang**	**9.44**	**110**	P	**Pn**	**19 24 17.3**	**+1.6**
KLI	**Kotabumi**	**9.64**	**128**	P	**Pn**	**19 24 19.2**	**+0.8**
BLSI	**Bandar Lampung**	**10.26**	**129**	P	**Pn**	**19 24 33.4**	**+6.6**
RBSI	**Rajabasa**	**10.94**	**130**	P	**Pn**	**19 24 42.0**	**+5.8**
TNG	**Tangerang**	**11.84**	**128**	P	**Pn**	**19 24 45.9**	**-2.7**
TNG				P		19 24 46.5	
DBJI	**Dramaga**	**12.16**	**129**	P	**Pn**	**19 24 51.2**	**-1.7**
SKJI	**Sukabumi**	**12.30**	**131**	P	**Pn**	**19 24 54.9**	**+0.1**
KSM	**Kuching**	**13.03**	**88**	P	**Pn**	**19 25 07.0**	**+2.2**
KSM	**Kuching**	**13.03**	**88**	*e*Pn	**Pn**	**19 25 06.6**	**+1.8**
	130nm,1.1s						
CISI	**Cisompet, Garu**	**13.61**	**130**	P	**Pn**	**19 25 06.9**	**-5.8**
STKI	**Sintang**	**14.23**	**94**	P	**Pn**	**19 25 23.7**	**+2.4**
	6μm236nm,0.8s						
NST	**Nakhon Sawan**	**14.70**	**11**	P	**Pn**	**19 25 28.0**	**+0.4**
PBKI	**Pangkalan Bun**	**14.88**	**105**	P	**Pn**	**19 25 31.7**	**+1.6**
SMRI	**Semarang**	**15.45**	**122**	P	**Pn**	**19 25 37.1**	**-0.4**
UBT	**Ubonrachathani**	**15.95**	**28**	⇓P	**Pn**	**19 25 47.7**	**+3.7**
	306nm,0.9s						
SJI	**Sawahan**	**16.93**	**122**	P	**Pn**	**19 25 54.9**	**-1.5**
PWJI	**Pagerwojo**	**17.11**	**122**	P	**Pn**	**19 25 56.6**	**-2.0**
	2μm84nm,0.7s						
CM31	**Chiang Mai Arr**	**17.28**	**5**	*e*P	**Pn**	**19 25 59.7**	**-1.0**
	132nm,1.0s						
CMAR	**Chiang Mai Arr**	**17.28**	**5**	P	**Pn**	**19 26 00.1**	**-0.6**
	2.5nm,0.3s,baz=194,slow=12,SNR=91						
CMAR				PcP	PcP	19 30 44.0	+1.2
	0.3nm,0.3s,baz=219,slow=2.3,SNR=12						
CMAR				LR	LR	19 33 56.9	
	comp=Z,42μm,18.1s,baz=194,slow=42						
CMAR	**Chiang Mai Arr**	**17.28**	**5**	P	**Pn**	**19 26 00.1**	**-0.6**
CMAR				PcP	PcP	19 30 44.0	+1.2
CMAR				LR	LR	19 33 56.9	
CMAR	**Chiang Mai Arr**	**17.28**	**5**	P	**Pn**	**19 26 00.1**	**-0.6**
PALK	**Pallekele**	**17.61**	**291**	*i*P	**Pn**	**19 26 06.7**	**+1.8**
PALK	**Pallekele**	**17.61**	**291**	P	**Pn**	**19 26 05.0**	**+0.1**
	331nm,0.6s,SNR=8.2						
PALK	**Pallekele**	**17.61**	**291**	P	**Pn**	**19 26 06.2**	**+1.3**
	3μm90nm,1.7s						
PALK	**Pallekele**	**17.61**	**291**	P	**Pn**	**19 26 06.6**	**+1.7**
	SNR=10.0						
CHG	**Chiang Mai**	**17.63**	**5**	⇑P	**Pn**	**19 26 03.7**	**-1.4**
	65nm,0.7s						
CHTO	**Chiang Mai**	**17.63**	**5**	*e*P	**Pn**	**19 26 03.4**	**-1.6**
	28nm,0.8s						
CHTO	**Chiang Mai**	**17.63**	**5**	*e*P	**Pn**	**19 26 03.4**	**-1.7**
CHTO				pmax	pmax		
	comp=Z,28nm,0.8s						
CHTO	**Chiang Mai**	**17.63**	**5**	P	**Pn**	**19 26 03.8**	**-1.3**
	comp=Z,5μmcomp=Z,73nm,2.9s						
CHTO	**Chiang Mai**	**17.63**	**5**	P	**Pn**	**19 26 04.0**	**-1.1**
	SNR=20						
KRKI	**Karangkates**	**17.73**	**122**	P	**Pn**	**19 26 12.9**	**+6.6**
BBKI	**Banjar Baru**	**18.14**	**105**	P	**Pn**	**19 26 11.7**	**+0.3**
	comp=Z,8μmcomp=Z,359nm,0.9s						
KMMI	**Kalianget**	**18.53**	**116**	P	**Pn**	**19 26 15.3**	**-0.9**
	comp=Z,5μmcomp=Z,255nm,0.7s						
CHRT	**Chiangrai**	**18.77**	**7**	⇑P	**Pn**	**19 26 17.0**	**-2.0**
	comp=Z,763nm,0.9s						
JAGI	**Jajag, Banyuwa**	**19.34**	**120**	P	**Pn**	**19 26 25.0**	**-1.0**
KBKI	**Kotabaru**	**19.39**	**103**	P	**Pn**	**19 26 26.3**	**-0.2**
KKM	**Kota Kinabalu**	**19.51**	**75**	P	**Pn**	**19 26 27.4**	**-0.5**
KKM	**Kota Kinabalu**	**19.51**	**75**	*e*P	**Pn**	**19 26 27.1**	**-0.8**
	comp=Z,265nm,0.9s						
SRBI	**Singaraja**	**20.09**	**117**	P	**P**	**19 26 31.8**	**-1.1**
MDRS	**Chennai**	**20.61**	**306**	⇓*e*PKP	sP	19 26 55.2	+4.0
MDRS				*e*S	**S**	**19 30 35.2**	**+7.7**
MDRS				*ex*	x	19 31 48.2	
MDRS				*ex*	x	19 33 34.2	
MDRS				*ex*	x	19 36 48.2	
MDRS				*ex*	x	19 39 12.2	
MDRS				*ex*	x	19 42 54.2	
TSM	**Tawau**	**20.80**	**81**	P	**P**	**19 26 40.7**	**+0.1**
MTNI	**Mataram**	**21.19**	**118**	P	**P**	**19 26 42.9**	**-1.9**
VIS	**Vishakhapatnam**	**21.43**	**321**	*i* P	**P**	**19 26 46.1**	**-1.2**
VIS				*ex*	x	19 27 10.9	
	comp=Z,467nm,1.0s						
VIS				*i* S	**S**	**19 30 42.3**	**-1.3**
TRD	**Trivandrum**	**21.52**	**291**	*e*PKP	**P**	**19 26 49.4**	**+1.1**
TRD				*ex*	x	19 30 50.7	
QIZ	**Qiongzhong**	**21.62**	**34**	P	**P**	**19 26 48.7**	**-0.7**
QIZ				pP		19 26 58.5	
QIZ				sP	sP	19 27 06.3	+4.3
QIZ				sS	sS	19 31 00.1	-0.8
QIZ				pmax	pmax		
	comp=Z,130nm,2.3s,mb5.0						
QIZ				LR	LR		
	comp=N,19μm,14.5s,MS5.7						
QIZ				LR	LR		
	comp=E,12μm,14.8s,MS5.7						
QIZ				LR	LR		
	comp=Z,22μm,12.9s,MS5.7						
QIZ	**Qiongzhong**	**21.62**	**34**	*e*P	**P**	**19 26 49.4**	**0.0**
	comp=Z,263nm,1.4s,mb5.5						
QIZ				LR	LR		
	comp=Z,11μm,21.0s,MS5.2						
MJSI	**Majene**	**22.18**	**102**	P	**P**	**19 26 55.0**	**-0.5**
TTSI	**Tana Toraja**	**22.91**	**101**	P	**P**	**19 27 04.7**	**+1.5**
CAL	**Calcutta**	**22.97**	**338**	*e*PKP	**P**	**19 27 03.9**	**+0.2**
CAL				*ex*	x	19 31 11.1	
SPSI	**Sidrap Palu**	**23.04**	**103**	P	**P**	**19 27 03.6**	**-1.0**
	comp=Z,3μmcomp=Z,108nm,0.9s,mb5.3						
KAPI	**Kappang**	**23.27**	**105**	P	**P**	**19 27 04.9**	**-2.1**
	comp=Z,87nm,0.7s,mb5.3,baz=288,slow=9.7,SNR=41						
KAPI	**Kappang**	**23.27**	**105**	*e*P	**P**	**19 27 05.5**	**-1.5**
	comp=Z,106nm,0.8s,mb5.3						
KAPI				LR	LR		
	comp=Z,19μm,20.0s,MS5.5						
KAPI	**Kappang**	**23.27**	**105**	P	**P**	**19 27 05.2**	**-1.8**
	comp=Z,4μmcomp=Z,136nm,1.1s,mb5.3						
KAPI	**Kappang**	**23.27**	**105**	P	**P**	**19 27 06.2**	**-0.7**
	SNR=13						
MSSI	**Masamba**	**23.33**	**99**	P	**P**	**19 27 08.9**	**+1.3**
AGT	**Agartala**	**23.34**	**346**	*e*PKP	**P**	**19 27 05.0**	**-2.6**
AGT				*ex*	x	19 27 51.0	
BNSI	**Bone**	**23.46**	**104**	P	**P**	**19 27 08.4**	**-0.6**
	comp=Z,5μmcomp=Z,174nm,0.8s,mb5.5						
BKSI	**Bulukumba**	**23.70**	**106**	P	**P**	**19 27 11.0**	**-0.1**
	comp=Z,5μmcomp=Z,138nm,1.1s,mb5.3						
KMI	**Kunming**	**24.41**	**12**	⇑P	**P**	**19 27 19.0**	**+1.6**
KMI				pP		19 27 29.1	
KMI				sP	sP	19 27 33.3	+2.8
KMI				PP		19 27 53.8	
KMI				S	**S**	**19 31 35.4**	**0.0**
KMI				sS	sS	19 31 49.9	-0.6
KMI				SS		19 32 30.9	
KMI	

KKN **Kakani** 28.88 338 *e*P P 19 27 58.5 +0.8
comp=Z,225nm,1.0s,mb5.8
KKN **Kakani** 28.88 338 *e*P P 19 27 58.5 +0.8
comp=Z,225nm,1.0s,mb5.8
KKN **Kakani** 28.88 338 *e*P P 19 27 58.5 +0.8
KKN pmax pmax
comp=Z,225nm,1.0s,mb5.8
LSA **Lhasa** 28.99 349 P P 19 27 59.8 +1.2
LSA S S 19 32 54.9 +7.2
LSA LR LR
comp=N,6μm,28.1s,MS5.4
LSA LR LR
comp=E,10μm,24.3s,MS5.4
LSA LR LR
comp=Z,9μm,28.1s,MS5.2
LSA **Lhasa** 28.99 349 *e*P P 19 27 59.7 +1.1
comp=Z,132nm,1.3s,mb5.5
LSA LR LR
comp=Z,9μm,20.0s,MS5.4
LSA **Lhasa** 28.99 349 *e*P P 19 27 59.7 +1.1
LSA pmax pmax
comp=Z,132nm,1.3s,mb5.5
LSA MLR MLR
comp=Z,9μm,20.0s,MS5.4
BHPL **Bhopal** 29.22 320 *e*PKP P 19 27 59.9 -0.9
GKN **Gorkha** 29.32 337 *e*P P 19 28 02.7 +1.1
comp=Z,505nm,1.3s,mb6.1
GKN **Gorkha** 29.32 337 *e*P P 19 28 02.7 +1.1
comp=Z,505nm,1.3s,mb6.1
KOLN **Koldanda** 29.54 335 *e*P P 19 28 04.8 +1.3
comp=Z,228nm,0.9s,mb5.9
KOLN **Koldanda** 29.54 335 *e*P P 19 28 04.8 +1.3
comp=Z,228nm,0.9s,mb5.9
DANN **Dangsing** 29.98 336 *e*P P 19 28 08.7 +1.3
comp=Z,202nm,1.0s,mb5.8
DANN **Dangsing** 29.98 336 *e*P P 19 28 08.7 +1.3
comp=Z,202nm,1.0s,mb5.8
TNTI **Ternate** 30.08 90 P P 19 28 07.2 -1.4
NLAI **Namlea** 30.12 98 P P 19 28 08.7 -0.2
CD2 **Chengdu** 30.23 11 P P 19 28 08.9 -0.7
CD2 pP pP 19 28 18.5 -0.4
CD2 sP sP 19 28 22.6 -0.2
CD2 PP PP 19 29 08.8 -9.5
CD2 S **S** 19 33 02.5 -4.7
CD2 sS sS 19 33 21.4 -1.1
CD2 SS SS 19 34 45.0 -32
CD2 pmax pmax
comp=Z,120nm,1.0s,mb5.6
CD2 pmax pmax
comp=Z,2μm,11.3s
CD2 LR LR
comp=N,43μm,14.3s
CD2 LR LR
comp=Z,49μm,14.3s,MS6.3
ENH **Enshi** 31.20 21 *e*P P 19 28 17.0 -1.2
comp=Z,271nm,1.1s,mb6.0
ENH LR LR
comp=Z,15μm,19.0s,MS5.7
MBWA **Marble Bar** 31.20 137 *e*P P 19 28 18.5 +0.2
comp=Z,82nm,1.3s,mb5.4
MBWA LR LR
comp=Z,13μm,21.0s,MS5.6
MBWA **Marble Bar** 31.20 137 P P 19 28 17.6 -0.7
comp=Z,70nm,1.3s,mb5.3
AAI **Ambon** 31.27 99 P P 19 28 17.6 -1.5
QZH **Quanzhou** 31.36 39⇑ *i*P P 19 28 18.4 -1.3
QZH S **S** 19 33 23.0 -2.1
QZH pmax pmax
comp=Z,3μm,6.4s
QZH LR LR
comp=N,38μm,14.0s,MS6.3
QZH LR LR
comp=E,24μm,14.8s,MS6.3
QZH LR LR
comp=Z,49μm,14.5s,MS6.3
TPUB **Ta-pu** 31.59 44 *e*P P 19 28 20.3 -1.5
comp=Z,102nm,1.1s,mb5.6
TWG **Pinlang** 31.60 45 *e*P P 19 28 22.3 +0.5
comp=Z,58nm,1.0s,mb5.4
MSAI **Masohi** 31.95 98 P P 19 28 23.9 -1.1
YULB **Yu-li** 32.12 45 *e*P P 19 28 27.3 +0.9
comp=Z,133nm,1.4s,mb5.6
SSLB **Suanglung** 32.14 44 *e*P P 19 28 26.7 +0.2
comp=Z,94nm,1.0s,mb5.6
NACB **Ninganchiao** 32.83 44 *e*P P 19 28 33.3 +0.7
YHNB **Yeheng** 33.00 43 PFAKE 19 28 50.0 +16
YHNB LR LR
comp=Z,8μm,21.0s,MS5.4
TATO **Taipei** 33.28 43 PFAKE 19 28 50.0 +13
TATO LR LR
comp=Z,8μm,21.0s,MS5.4
AJM **Ajmer** 33.29 321 *e*PKP P 19 28 35.0 -1.6
NDI **New Delhi** 33.42 327 *ex* x 19 28 31.0
WHN **Wuhan** 33.42 27 ⇑P P 19 28 37.9 +0.2
WHN S **S** 19 33 59.4 +2.4
WHN LR LR
comp=N,11μm,11.3s,MS6.3
WHN LR LR
comp=E,31μm,12.9s,MS6.3
WHN LR LR
comp=Z,41μm,13.6s,MS6.3
DDI **Dehra Dun** 34.28 330 *e*PKP P 19 28 45.0 -0.2
DDI *ex* x 19 34 10.0
XAN **Xi'an** 34.49 17 P P 19 28 46.0 -0.9
XAN pP pP 19 28 53.1 -3.1
XAN PP PP 19 30 05.8 +0.3
XAN S **S** 19 34 11.5 -1.9
XAN SS SS 19 36 27.4 -16
XAN pmax pmax
comp=Z,27nm,0.8s,mb5.2
XAN pmax pmax
comp=Z,380nm,7.3s
XAN LR LR
comp=N,10μm,13.5s,MS5.8
XAN LR LR
comp=E,5μm,13.0s,MS5.8
XAN LR LR
comp=Z,7μm,17.5s,MS5.5
BHJ **Bhuj** 34.66 311 *e*PKP P 19 28 46.8 -1.7
BHJ AMb AMB 19 29 14.9
comp=Z,65nm,1.6s,mb5.3
LZH **Lanzhou** 35.29 9 *e*P P 19 28 54.2 +0.4
LZH pP pP 19 29 02.4 -0.7
LZH sP sP 19 29 06.1 -0.9
LZH PP PP 19 30 10.5 -3.8
LZH PcP PcP 19 31 24.4 +0.4
LZH *eS* **S** 19 34 25.7 -0.1
LZH sS sS 19 34 41.4 +0.2
LZH SS SS 19 36 50.0 -10
LZH pmax pmax
comp=Z,120nm,1.0s,mb5.8
LZH pmax pmax
comp=Z,710nm,4.3s
LZH LR LR
comp=E,26μm,14.1s
LZH LR LR
comp=Z,22μm,15.2s,MS6.0
SMLA **Simla** 35.38 329 *i* P P 19 28 54.1 -0.6
SMLA *i* x x 19 34 25.5
SSE **Sheshan** 37.41 35 ⇑P P 19 29 12.7 +0.7
SSE pP pP 19 29 24.0 +2.6
SSE PP PP 19 30 40.3 +2.6
SSE S **S** 19 35 00.3 +2.0
SSE sS sS 19 35 18.1 +4.3
SSE pmax pmax
comp=Z,62nm,0.7s,mb5.5
SSE pmax pmax
comp=Z,1μm,6.4s
SSE LR LR
comp=N,9μm,14.8s,MS6.0
SSE LR LR
comp=E,14μm,14.8s,MS6.0
SSE LR LR
comp=Z,20μm,15.2s,MS6.0
KAKA **Kakadu** 37.51 113⇑ *i*P P 19 29 10.9 -2.1
comp=Z,35nm,0.6s,mb5.3
KAKA **Kakadu** 37.51 113 *e*P P 19 29 10.8 -2.3
comp=Z,104nm,0.6s,mb5.7
KLBR **Kellerberrin** 37.91 151 *e*P P 19 29 15.7 -0.5
GTA **Gaotai** 38.15 3 ⇑P P 19 29 18.4 +0.3
GTA pP pP 19 29 28.6 +1.1
GTA sP sP 19 29 32.8 +1.4
GTA PP PP 19 30 48.8 +3.0
GTA PcP PcP 19 31 33.8 +1.3
GTA S **S** 19 35 08.8 -0.5
GTA pmax pmax
comp=Z,46nm,0.9s,mb5.2
GTA pmax pmax
comp=Z,2μm,4.3s
GTA LR LR
comp=N,11μm,17.1s,MS5.9
GTA LR LR
comp=E,10μm,15.2s,MS5.9
GTA LR LR
comp=Z,13μm,19.0s,MS5.8
NWAO **Narrogin (SRO)** 38.77 153 P P 19 29 24.1 +0.6
comp=Z,9.8nm,0.8s,mb4.6,baz=329,slow=9.4,SNR=4.5
NWAO LR LR 19 44 50.2
comp=Z,12μm,21.5s,MS5.7,baz=330,slow=35
NWAO **Narrogin (SRO)** 38.77 153 P P 19 29 24.1 +0.6
NWAO LR LR 19 44 50.2
NWAO **Narrogin (SRO)** 38.77 153 P P 19 29 24.1 +0.6
TIY **Taiyuan** 38.97 19 *e*P P 19 29 24.2 -0.8
TIY pP pP 19 29 34.9 +0.5
TIY S **S** 19 35 12.3 -9.4
TIY pmax pmax
comp=Z,1μm,4.6s
TIY LR LR
comp=N,23μm,12.8s,MS6.2
TIY LR LR
comp=E,10μm,13.8s,MS6.2
TIY LR LR
comp=Z,23μm,12.9s,MS6.2
JOW **Kunigami** 39.22 47 *e*P P 19 29 27.8 +0.6
comp=Z,28nm,0.8s,mb5.0
TIA **Tai'an** 39.44 26 ⇑P P 19 29 28.5 -0.5
TIA PP PP 19 31 06.0 +6.1
TIA S **S** 19 35 28.2 -0.7
TIA pmax pmax
comp=Z,2μm,6.8s
TIA LR LR
comp=N,11μm,17.8s,MS6.0
TIA LR LR
comp=E,14μm,16.1s,MS6.0
TIA LR LR
comp=Z,20μm,15.5s,MS6.1
BTO **Baotou** 40.94 15 *e*P P 19 29 41.1 -0.2
SMPI **Sarmi** 41.54 94 P P 19 29 44.4 -2.3
HHC **Hu-ho-hao-te** 41.58 16 ⇑P P 19 29 47.7 +1.1
HHC pP pP 19 29 57.7 +1.6
HHC sP sP 19 30 02.5 +2.6
HHC PP PP 19 31 26.9 +3.8
HHC PcP PcP 19 31 44.8 +1.3
HHC ScP ScP 19 35 28.4 -3.1
HHC S **S** 19 36 04.0 +3.3
HHC sS sS 19 36 19.5 +3.2
HHC SS SS 19 39 01.2 -5.3
HHC ScS ScS 19 39 46.4 -1.4
HHC pmax pmax
comp=Z,83nm,2.0s,mb5.0
HHC pmax pmax
comp=Z,2μm,8.3s
HHC LR LR
comp=N,20μm,17.8s,MS6.1
HHC LR LR
comp=E,16μm,19.0s,MS6.1
HHC LR LR
comp=Z,18μm,15.5s,MS6.1
WRA **Warramunga Arr** 41.94 122 P P 19 29 49.0 -0.9
comp=Z,51nm,0.6s,mb5.3,baz=300,slow=9.0,SNR=247
WRA S **S** 19 36 02.3 -4.2
comp=Z,3.6nm,0.9s,baz=294,slow=14,SNR=7.1
WRA LR LR 19 51 00.1
comp=Z,9μm,19.6s,MS5.6,baz=295,slow=42
WRA **Warramunga Arr** 41.94 122 P P 19 29 49.0 -0.9
WRA S **S** 19 36 02.3 -4.2
WRA LR LR 19 51 00.1
WRA **Warramunga Arr** 41.94 122 P P 19 29 49.0 -0.9
WRA S **S** 19 36 02.3 -4.2
WRAB **Tennant Creek** 41.94 122 *e*P P 19 29 49.0 -1.0
comp=Z,61nm,0.7s,mb5.3
WRAB LR LR
comp=Z,8μm,20.0s,MS5.6
WRAB **Tennant Creek** 41.94 122 *e*P P 19 29 49.0 -0.9
WRAB pmax pmax
comp=Z,61nm,0.7s,mb5.3
WRAB MLR MLR
comp=Z,8μm,20.0s,MS5.6
WRAB **Tennant Creek** 41.94 122 P P 19 29 49.9 0.0
comp=Z,525nm,0.7s,mb6.3,SNR=98
WRAB **Tennant Creek** 41.94 122 P P 19 29 49.1 -0.8
comp=Z,157nm,1.1s,mb5.6
WB2 **Warramunga Arr** 41.95 122 *e*P P 19 29 48.8 -1.1
MSEY **Mahe Island** 42.16 262 PFAKE 19 30 00.0 +8.2
MSEY LR LR
comp=Z,6μm,20.0s,MS5.5
BJT **Baijiatuau** 42.33 22 *e*P P 19 29 54.0 +1.2
comp=Z,125nm,0.6s,mb5.7
BJT LR LR
comp=Z,5μm,20.0s,MS5.4
BJT **Baijiatuau** 42.33 22 *e*P P 19 29 54.0 +1.2
BJT pmax pmax
comp=Z,125nm,0.6s
BJT MLR MLR
comp=Z,5μm,20.0s
BJI **Beijing** 42.35 22 P P 19 29 54.1 +1.2
BJI pP pP 19 30 02.3 -0.1
BJI sP sP 19 30 06.9 +0.6
BJI PP PP 19 31 34.5 +3.0
BJI sS sS 19 36 29.5 +1.8
BJI pmax pmax
comp=Z,170nm,0.6s,mb5.8
BJI pmax pmax
comp=Z,3μm,5.2s
BJI LR LR
comp=N,9μm,13.1s,MS5.9
BJI LR LR
comp=E,6μm,13.6s,MS5.9
BJI LR LR
comp=Z,4μm,20.6s
KBL **Kabul** 42.41 325 *e*P P 19 29 52.6 -0.9
comp=Z,15nm,0.9s,mb4.6
KBL **Kabul** 42.41 325 *e*P P 19 29 52.6 -0.9
KBL pmax pmax
comp=Z,15nm,0.9s,mb4.6
KSH **Kashi** 42.85 336 P P 19 29 55.3 -1.7
KSH pP pP 19 30 05.1 -1.4
KSH sP sP 19 30 09.1 -1.2
KSH PP PP 19 31 39.8 +3.0
KSH PcP PcP 19 31 48.7 +1.0
KSH ScP ScP 19 35 35.6 -1.0
KSH PcS PcS 19 35 39.4 -0.5
KSH S **S** 19 36 13.0 -6.4
KSH sS sS 19 36 30.6 -4.4
KSH SS SS 19 39 18.1 -13
KSH ScS ScS 19 39 52.3 -3.4
KSH pmax pmax
comp=Z,12nm,0.8s,mb4.7
KSH pmax pmax
comp=Z,790nm,4.7s
KSH LR LR
comp=N,6μm,21.3s,MS5.6
KSH LR LR
comp=E,6μm,18.7s,MS5.6
KSH LR LR
comp=Z,6μm,18.5s,MS5.5
WBK **Wadi Bani Khal** 42.90 303 ⇑P P 19 29 59.8 +2.1
SNR=5.8
FORT **Forrest** 43.18 140 *e*P P 19 30 01.3 +1.5
comp=Z,122nm,0.7s,mb5.7
FORT **Forrest** 43.18 140 *e*P P 19 30 01.4 +1.6
comp=Z,118nm,0.6s,mb5.8
ASAR **Alice Springs** 43.30 127 P P 19 30 00.7 -0.2
comp=Z,24nm,0.7s,mb5.0,baz=300,slow=7.1,SNR=152
ASAR S **S** 19 36 22.9 -3.5
comp=Z,3.2nm,1.0s,baz=297,slow=13,SNR=5.5
ASAR **Alice Springs** 43.30 127 P P 19 30 00.7 -0.2
ASAR S **S** 19 36 22.9 -3.5
ASAR **Alice Springs** 43.30 127 P P 19 30 00.7 -0.2
ASAR S **S** 19 36 23.0 -3.5
WMQ **Urumqi** 43.34 350 P P 19 30 01.5 +0.7
WMQ pP pP 19 30 11.4 +1.1
WMQ sP sP 19 30 15.3 +1.1
WMQ PP PP 19 31 44.5 +2.5
WMQ S **S** 19 36 26.2 -0.2
WMQ ScS ScS 19 39 56.5 -2.0
WMQ pmax pmax
comp=Z,81nm,1.3s,mb5.3
WMQ pmax pmax
comp=Z,2μm,4.8s
WMQ LR LR
comp=N,3μm,26.5s
WMQ LR LR
comp=E,7μm,21.4s
WMQ LR LR
comp=Z,5μm,29.9s,MS5.2
JAY **Jayapura** 43.56 95 P P 19 30 02.7 -0.5
DL2 **Dalian** 43.68 28⇑ *i*P P 19 30 04.6 +0.9
DL2 S **S** 19 36 36.8 +5.1
DL2 sS sS 19 36 45.6 -1.7
DL2 pmax pmax
comp=Z,140nm,0.8s,mb5.7
DL2 pmax pmax
comp=Z,1μm,5.5s
DL2 LR LR
comp=N,6μm,13.7s
DL2 LR LR
comp=Z,5μm,15.0s,MS5.5
SMDO **Samad** 43.86 303 ⇑P P 19 30 07.7 +2.3
SNR=7.2
BSY **Bisya** 44.45 302 ⇑P P 19 30 12.4 +2.2
SNR=17
HOQ **Hoqain** 44.69 303 ⇑P P 19 30 13.8 +1.7
SNR=13
JNU **Nakatsue** 44.79 41 *e*P P 19 30 12.7 0.0
comp=Z,22nm,0.9s,mb5.0
INCN **Inchon** 45.15 33 *e*P P 19 30 14.7 -0.8
comp=Z,77nm,1.1s,mb5.4
INCN LR LR
comp=Z,7μm,21.0s,MS5.5
KSRS **Korea Array** 45.84 34 P P 19 30 21.1 +0.1
comp=Z,96nm,0.9s,mb5.7,baz=224,slow=8.3,SNR=79
KSRS LR LR 19 50 07.0
comp=Z,5μm,20.8s,MS5.5,baz=226,slow=37
KSRS **Korea Array** 45.84 34 P P 19 30 21.1 +0.1
KSRS pmax pmax
comp=Z,96nm,0.9s,mb5.7
KSRS MLR MLR
comp=Z,5μm,20.8s,MS5.5
TKM2 **Tokmak 2** 45.90 338 P P 19 30 22.4 +1.1
SNR=17
TKM2 **Tokmak 2** 45.90 338 *e*P P 19 30 21.9 +0.7
comp=Z,74nm,1.2s,mb5.5
TKM2 LR LR
comp=Z,5μm,19.0s,MS5.5
TKM2 **Tokmak 2** 45.90 338 P P 19 30 21.9 +0.6
TKM2 pmax pmax
comp=Z,100nm,1.5s,mb5.5
KBK **Karagaybulak** 45.92 337 P P 19 30 23.2 +1.7
SNR=25
AML **Almayashu** 45.98 336 P P 19 30 23.5 +1.6
SNR=17
AAK **Ala-Archa** 46.08 337 LR LR 19 52 59.9
comp=Z,8μm,18.9s,MS5.7,baz=147,slow=40
AAK **Ala-Archa** 46.08 337 *e*P P 19 30 23.8 +1.1
comp=Z,9.1nm,0.8s,mb4.8
AAK LR LR
comp=Z,7μm,19.0s,MS5.6
AAK **Ala-Archa** 46.08 337 *c i*P P 19 30 23.9 +1.2
AAK pmax pmax
comp=Z,27nm,2.5s,mb4.7
AAK MLR MLR
comp=Z,4μm,18.0s,MS5.4
AAK **Ala-Archa** 46.08 337 P P 19 30 24.9 +2.2
comp=Z,171nm,1.2s,mb5.8,SNR=7.3
AAK **Ala-Archa** 46.08 337 P P 19 30 23.9 +1.2
comp=Z,1μmcomp=Z,59nm,1.5s,mb5.3
AAK **Ala-Archa** 46.08 337 P P 19 30 25.2 +2.4
SNR=23
FRU **Bishkek** 46.20 337 *e*P P 19 30 24.0 +0.3
FRU *e* 19 30 38.0
FRU pmax pmax
comp=Z,870nm,3.6s
RER **Riviere de l'E** 46.26 239 *e*P P 19 30 25.2 +0.7
comp=Z,160nm,0.9s,mb6.0
RER LR LR
comp=Z,3μm,20.0s,MS5.2
CHMS **Chumysh** 46.29 337 P P 19 30 25.0 +0.7
SNR=10.0
EKS2 **Erkin-Say** 46.39 336 P P 19 30 26.6 +1.5
SNR=27
EKS2 **Erkin-Say** 46.39 336 *e*P P 19 30 26.4 +1.2
comp=Z,28nm,0.8s,mb5.2
EKS2 LR LR
comp=Z,5μm,20.0s,MS5.4
EKS2 **Erkin-Say** 46.39 336 *e*P P 19 30 26.4 +1.2
EKS2 pmax pmax
comp=Z,28nm,0.8s,mb5.2
EKS2 MLR MLR
comp=Z,5μm,20.0s,MS5.4
USP **Ospenovka** 46.61 337 P P 19 30 27.7 +0.8
SNR=54
SNY **Shenyang** 46.91 27 ⇑P P 19 30 29.0 -0.3
SNY PP PP 19 32 18.8 -1.2
SNY S **S** 19 37 21.0 +2.8
SNY SS SS 19 40 36.8 -8.5
SNY pmax pmax
comp=Z,77nm,1.0s,mb5.6
SNY pmax pmax
comp=Z,2μm,3.7s
SNY LR LR
comp=N,10μm,16.7s,MS6.0
SNY LR LR
comp=E,7μm,13.7s,MS6.0
SNY LR LR
comp=Z,15μm,15.0s,MS6.1
IDAH **Dahanechah** 47.16 316 *e*P P 19 30 31.2 -0.2
SONM **Songino Array** 47.17 8 P P 19 30 31.9 +0.7
comp=Z,22nm,0.4s,mb5.4,baz=190,slow=8.7,SNR=133
SONM PcP PcP 19 32 03.6 +1.2
comp=Z,32nm,0.7s,baz=186,slow=3.5,SNR=8.5
SONM LR LR 19 53 08.4
comp=Z,23μm,18.7s,MS6.2,baz=189,slow=40
SONM **Songino Array** 47.17 8 P P 19 30 31.9 +0.7
SONM PcP PcP 19 32 03.6 +1.2
SONM LR LR 19 53 08.4
SONM **Songino Array** 47.17 8 P P 19 30 31.9 +0.7
SONM 19 32 03.6
ULN **Ulaanbaatar** 47.30 9 *e*P P 19 30 32.7 +0.5
comp=Z,30nm,0.8s,mb5.3
ULN LR LR
comp=Z,18μm,20.0s,MS6.0
ULN **Ulaanbaatar** 47.30 9 *e*P P 19 30 32.7 +0.5
ULN pmax pmax
comp=Z,30nm,0.8s,mb5.3
ULN MLR MLR
comp=Z,18μm,20.0s,MS6.0
ULN **Ulaanbaatar** 47.30 9 P P 19 30 32.6 +0.4
comp=Z,2μmcomp=Z,50nm,1.0s,mb5.4
ULN **Ulaanbaatar** 47.30 9 P P 19 30 33.2 +1.0
SNR=16
MK31 **Makanchi Array** 47.31 346 *e*P P 19 30 32.6 +0.3
MK31 **Makanchi Array** 47.31 346 *i* P P 19 30 32.1 -0.2
MK31 pmax pmax
comp=Z,174nm,1.3s,mb5.8
MKAR **Makanchi Array** 47.31 346 P P 19 30 32.7 +0.4
comp=Z,38nm,0.7s,mb5.4,baz=160,slow=7.8,SNR=220
MKAR LR LR 19 54 25.7
comp=Z,4μm,21.5s,MS5.4,baz=158,slow=41
MKAR **Makanchi Array** 47.31 346 P P 19 30 32.7 +0.4
MKAR LR LR 19 54 25.7
MKAR **Makanchi Array** 47.31 346 P P 19 30 32.7 +0.4
IMON **Monand** 47.55 316 *e*P P 19 30 34.7 +0.3
COEN **Coen** 47.87 110 *e*P P 19 30 36.4 -0.8
comp=Z,437nm,0.9s,mb6.5
COEN **Coen** 47.87 110 P P 19 30 36.6 -0.6
comp=Z,85nm,0.9s,mb5.8
KK31 **Karatay Array** 48.14 334 *i* P P 19 30 38.8 0.0
KK31 pmax pmax
comp=Z,70nm,1.1s,mb5.6
KKAR **Karatay Array** 48.14 334 *e*P P 19 30 38.8 0.0
comp=Z,46nm,0.9s,mb5.5
KKAR **Karatay Array** 48.14 334 *e*P P 19 30 38.8 0.0
KKAR pmax pmax
comp=Z,45nm,0.9s,mb5.5
GUMO **Guam** 48.67 73 PFAKE 19 31 00.0 +17
GUMO LR LR
comp=Z,2μm,20.0s,MS5.1
IMYA **Miami** 49.09 320 *e*P P 19 30 45.5 -0.7
CN2 **Changchun** 49.31 27 ⇑P P 19 30 48.0 +0.2
CN2 *eS*P sP 19 31 03.0 +1.8
CN2 *e*PP PP 19 32 43.0 +1.0
CN2 *eS* **S** 19 37 51.5 -0.6
CN2 pmax pmax
comp=Z,60nm,0.6s,mb5.8
CN2 pmax pmax

comp=Z,200nm,7.0s
CN2 LR LR
comp=N,7μm,15.0s,MS5.9
CN2 LR LR
comp=E,7μm,15.0s,MS5.9
CN2 LR LR
comp=Z,15μm,16.0s,MS6.1
ZAK Zakamensk 49.32 5⇓ *i*P **P 19 30 47.7 0.0**
ZAK *e* 19 32 12.5
ZAK pmax pmax
comp=Z,13nm,1.1s,mb4.9
IMOG Moghan 49.44 319 *e*P **P 19 30 48.7 -0.3**
IBAF Bafgh 49.66 312 *e*P **P 19 30 49.7 -1.0**
BBOO Buckleboo 49.79 136 *e*P **P 19 30 51.1 -0.5**
comp=Z,68nm,0.8s,mb5.7
IPAY Payeh 49.87 319 *e*P **P 19 30 51.5 -0.7**
IAKL Akhelmad 50.11 319 *e*P **P 19 30 53.7 -0.4**
IKRD Kardeh 50.37 319 *e*P **P 19 30 50.9 -5.1**
MOY Mondy 50.43 3 *e*P **P 19 30 56.7 +0.5**
MOY pmax pmax
comp=Z,138nm,2.9s,mb5.5
ISRV Sarvestan 50.53 308 *e*P **P 19 30 57.6 +0.2**
TLY Talaya 50.64 5 *e*P **P 19 30 58.6 +0.9**
comp=Z,26nm,0.7s,mb5.3
TLY LR LR
comp=Z,14μm,19.0s,MS6.0
TLY Talaya 50.64 5*c i*P **P 19 30 58.7 +1.0**
TLY *e* 19 32 54.0
TLY *e*S **S 19 38 13.4 +3.1**
TLY *e* 19 38 27.2
TLY pmax pmax
comp=Z,24nm,0.7s,mb5.2
TLY MLR MLR
comp=Z,12μm,19.0s,MS5.9
TLY Talaya 50.64 5 P **P 19 30 58.1 +0.4**
comp=Z,232nm,0.8s,mb6.2,SNR=15
TLY Talaya 50.64 5 P **P 19 30 59.1 +1.4**
SNR=10
IEMG Emamgholi 50.66 320 *e*P **P 19 30 58.4 +0.2**
PMG Port Moresby 50.76 103 P **P 19 30 59.2 -0.1**
comp=Z,58nm,0.7s,mb5.6,baz=299,slow=4.8,SNR=20
PMG Port Moresby 50.76 103 *e*P **P 19 30 58.4 -1.0**
comp=Z,55nm,0.8s,mb5.5
PMG LR LR
comp=Z,5μm,21.0s,MS5.5
PMG Port Moresby 50.76 103*c i*P **P 19 30 59.1 -0.2**
PMG Port Moresby 50.76 103 P **P 19 30 59.2 -0.1**
comp=Z,3μmcomp=Z,90nm,0.8s,mb5.8
IPAR Pars 50.78 309 *e*P **P 19 30 59.4 +0.2**
ICHK Chekchek 50.84 312 *e*P **P 19 30 59.1 -0.5**
ISFR Sfrayin 50.87 319 *e*P **P 19 31 03.0 +3.2**
IRK Irkutsk 51.25 6 *e*P **P 19 31 02.1 -0.2**
IRK *e* 19 33 03.4
IRK *e*S **S 19 38 22.6 +3.8**
IRK pmax pmax
comp=Z,124nm,2.7s,mb5.4
ABKT Ailbek 51.30 320 P **P 19 31 02.1 -0.9**
comp=Z,178nm,0.8s,mb6.0,SNR=16
HIA Hailar 51.66 19 *e*P **P 19 31 05.5 +0.1**
comp=Z,68nm,0.8s,mb5.6
HIA LR LR
comp=Z,11μm,22.0s,MS5.8
HIA Hailar 51.66 19 *e*P **P 19 31 05.6 +0.1**
HIA pmax pmax
comp=Z,68nm,0.8s
HIA MLR MLR
comp=Z,11μm,22.0s
MAJO Matsushiro 51.67 42 *e*P **P 19 31 04.8 -1.0**
comp=Z,10.0nm,0.6s,mb4.9
MAJO LR LR
comp=Z,4μm,22.0s,MS5.4
MAJO Matsushiro 51.67 42 *e*P **P 19 31 04.8 -1.0**
MAJO pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
MAJO MLR MLR
comp=Z,4μm,22.0s,MS5.4
MAT Matsushiro 51.67 42 P **P 19 31 05.0 -0.8**
MAT S **S 19 38 27.0 +1.8**
MJAR Matsushiro Arr 51.67 42 P **P 19 31 05.6 -0.2**
comp=Z,9.2nm,0.6s,mb4.9,baz=222,slow=7.5,SNR=28
MJAR PcP PcP 19 32 21.1 +2.0
comp=Z,6.5nm,0.8s,baz=237,slow=4.4,SNR=4.8
MJAR LR LR 19 56 13.5
comp=Z,3μm,18.0s,MS5.4,baz=235,slow=40
MJAR Matsushiro Arr 51.67 42 P **P 19 31 05.6 -0.1**
MJAR PcP PcP 19 32 21.1 +2.0
MJAR LR LR 19 56 13.5
MJAR Matsushiro Arr 51.67 42 P **P 19 31 05.6 -0.2**
MJAR 19 32 21.2
KURK Kurchatov 51.86 345 *e*P **P 19 31 07.0 +0.1**
comp=Z,128nm,1.3s,mb5.7
KURK LR LR
comp=Z,5μm,20.0s,MS5.6
KURK Kurchatov 51.86 345 *e*P **P 19 31 07.0 +0.1**
KURK pmax pmax
comp=Z,128nm,1.3s,mb5.7
KURK MLR MLR
comp=Z,5μm,20.0s,MS5.6
KURK Kurchatov 51.86 345 P **P 19 31 07.5 +0.6**
comp=Z,313nm,1.1s,mb6.2,SNR=43
KURK Kurchatov 51.86 345 P **P 19 31 07.5 +0.6**
SNR=27
MDJ Mudanjiang 51.87 29 P **P 19 31 07.9 +0.8**
MDJ pP pP 19 31 17.0 +0.2
MDJ sP sP 19 31 20.8 +0.2
MDJ PP PP 19 33 02.1 -3.2
MDJ ScP ScP 19 36 15.6 +1.2
MDJ S **S 19 38 29.6 +2.0**
MDJ sS sS 19 38 45.3 +1.7
MDJ ScS ScS 19 40 54.6 -0.4
MDJ pmax pmax
comp=Z,54nm,0.9s,mb5.5
MDJ pmax pmax
comp=Z,2μm,7.0s
MDJ LR LR
comp=N,10μm,17.8s,MS5.9
MDJ LR LR
comp=E,6μm,19.4s,MS5.9
MDJ LR LR
comp=Z,15μm,16.9s,MS6.1
MDJ Mudanjiang 51.87 29 *e*P **P 19 31 07.7 +0.6**
comp=Z,48nm,0.8s,mb5.5
MDJ LR LR
comp=Z,12μm,19.0s,MS5.9
VLA Vladivostok 51.97 32⇓ *i*P **P 19 31 06.4 -1.5**
VLA *e*S **S 19 38 25.7 -3.4**
VLA pmax pmax
comp=Z,88nm,1.3s,mb5.5
CTA Charters Tower 52.41 117 LR LR 19 57 45.5
comp=Z,6μm,18.1s,MS5.7,baz=285,slow=41
CTA Charters Tower 52.41 117 *e*P **P 19 31 11.6 +0.1**
comp=Z,16nm,0.8s,mb5.0
CTA *e*S **S 19 38 34.2 -1.6**
CTAO Charters Tower 52.41 117 *e*P **P 19 31 11.7 +0.1**
comp=Z,19nm,0.8s,mb5.1
CTAO LR LR
comp=Z,6μm,19.0s,MS5.6
CTAO Charters Tower 52.41 117 *e*P **P 19 31 11.7 +0.2**
CTAO pmax pmax
comp=Z,19nm,0.8s,mb5.1
CTAO MLR MLR
comp=Z,6μm,19.0s,MS5.6
CTAO Charters Tower 52.41 117 P **P 19 31 11.7 +0.2**
CIT Chita 52.50 13 *e*P **P 19 31 12.3 +0.7**
CIT *e* pP 19 31 22.2 +0.9
CIT *e* 19 31 27.7
CIT *e* 19 32 16.2
CIT pmax pmax
comp=Z,360nm,3.2s
IZEF Zefreh 52.70 312 *e*P **P 19 31 12.1 -1.4**
IANJ Anjilo 52.78 315 *e*P **P 19 31 13.2 -0.9**
ABPO Ambohimpanom 53.07 245 *e*P **P 19 31 16.8 +0.3**
comp=Z,26nm,0.9s,mb5.2
ABPO LR LR
comp=Z,6μm,20.0s,MS5.6
ABPO Ambohimpanom 53.07 245 *e*P **P 19 31 16.8 +0.4**
ABPO pmax pmax
comp=Z,26nm,0.9s,mb5.2
ABPO MLR MLR
comp=Z,6μm,20.0s,MS5.6
STKA Stephens Creek 53.26 132 P **P 19 31 18.3 +0.7**
comp=Z,67nm,0.7s,mb5.7,baz=306,slow=7.2,SNR=113
STKA LR LR 19 56 21.1
comp=Z,10μm,21.8s,MS5.8,baz=294,slow=39
STKA Stephens Creek 53.26 132⇑ *i*P **P 19 31 18.2 +0.6**
comp=Z,47nm,0.6s,mb5.6
STKA *e*S **S 19 38 46.4 -0.7**
STKA Stephens Creek 53.26 132 *e*P **P 19 31 18.2 +0.5**
comp=Z,15nm,0.8s,mb5.0
STKA Stephens Creek 53.26 132 *e*P **P 19 31 18.2 +0.6**
STKA pmax pmax
comp=Z,15nm,0.8s
ISFB Sefidab 53.44 313 *e*P **P 19 31 18.6 -0.3**
IKLH Kolahrood 53.45 312 *e*P **P 19 31 19.2 +0.2**
ZAA0 Zalesovo Array 53.62 351 *e*P **P 19 31 19.8 -0.1**
ZALV Zalesovo Beam 53.62 351 P **P 19 31 20.1 +0.2**
comp=Z,119nm,0.9s,mb5.8,baz=180,slow=6.3,SNR=217
ZALV LR LR 20 00 27.8
comp=Z,3μm,18.3s,MS5.3,baz=171,slow=43
ZALV Zalesovo Beam 53.62 351 P **P 19 31 20.1 +0.2**
ZALV LR LR 20 00 27.8
ZALV Zalesovo Beam 53.62 351 P **P 19 31 20.1 +0.2**
IFIR Firoozkooh 53.69 315 *e*P **P 19 31 20.7 -0.1**
QRN Al-Qurain 54.46 305 *e*P **P 19 31 25.8 -0.7**
QRN AMb AMB 19 31 29.3
comp=Z,124nm,0.9s,mb5.8
NVS Novosibirsk 54.74 350⇑ *i*P **P 19 31 26.5 -1.5**
NVS *e*S **S 19 38 58.9 -7.4**
NVS pmax pmax
comp=Z,78nm,1.4s,mb5.5
NVS pmax pmax
comp=N,29nm,0.9s
NVS pmax pmax
comp=E,16nm,0.9s
NVS pmax pmax
comp=N,11nm,1.6s
NVS pmax pmax
comp=E,8.0nm,1.6s
NVS pmax pmax
comp=Z,31nm,1.6s,mb5.1
NVS smax
comp=N,41nm,2.1s
NVS smax
comp=E,23nm,2.1s
RDF Al-Radifah 54.82 305 *e*P **P 19 31 29.5 +0.4**
RDF AMb AMB 19 31 33.7
comp=Z,134nm,1.1s,mb5.9
UMR Umm Al-Rimmam 54.91 306 *e*P **P 19 31 29.6 -0.2**
ATD Arta Tunnel 54.98 283 LR LR 19 52 15.5
comp=Z,2μm,18.5s,MS5.2,baz=226,slow=33
NAY Al-Naaiem 55.19 305 *e*P **P 19 31 31.4 -0.4**
NAY AMb AMB 19 31 43.9
comp=Z,77nm,1.1s,mb5.7
MIB Mutribah 55.31 306 *e*P **P 19 31 32.5 -0.2**
MIB AMb AMB 19 31 35.4
comp=Z,129nm,0.7s,mb6.0
KLR Kul'dur 56.26 26⇓ *i*P **P 19 31 36.0 -3.1**
KLR *e*S **S 19 39 26.0 -0.8**
KLR *e*SS SS 19 43 15.0 +1.1
KLR pmax pmax
comp=Z,450nm,2.0s,mb6.2
KLR pmax pmax
comp=Z,3μm,6.0s
KLR MLR MLR
comp=Z,67μm,12.5s,MS6.9
BRVK Borovoye 56.39 341 *e*P **P 19 31 39.0 -0.8**
comp=Z,56nm,0.9s,mb5.6
BRVK LR LR
comp=Z,6μm,20.0s,MS5.7
BRVK Borovoye 56.39 341⇑ *e*P **P 19 31 39.3 -0.6**
BRVK pmax pmax
comp=Z,37nm,1.0s,mb5.4
BRVK MLR MLR
comp=Z,7μm,22.0s,MS5.7
BRVK Borovoye 56.39 341 P **P 19 31 39.1 -0.8**
comp=Z,336nm,1.0s,mb6.3,SNR=22
BRVK Borovoye 56.39 341 P **P 19 31 39.7 -0.2**
SNR=22
IVIS Veis 57.52 311 *e*P **P 19 31 46.4 -1.9**
AB31 Akbulak array 57.60 332 *i* P **P 19 31 47.8 -0.7**
AB31 pmax pmax
comp=Z,59nm,0.9s,mb5.6
ABKAR Akbulak array 57.60 332 *e*P **P 19 31 47.7 -0.8**
comp=Z,36nm,0.8s,mb5.5
IGHG Ghaleghazi 57.65 311 *e*P **P 19 31 47.1 -2.1**
ERM Erimo 57.86 39 PFAKE 19 32 00.0 +9.5
ERM LR LR
comp=Z,4μm,19.0s,MS5.5
IDHR Dehrash 57.94 311 *e*P **P 19 31 48.9 -2.3**
BOD Bodaibo 58.04 10⇓ *i*P **P 19 31 51.4 -0.1**
BOD pmax pmax
comp=Z,75nm,0.9s,mb5.7
EIDS Eidsvold 58.28 121 *e*P **P 19 31 54.3 +0.5**
comp=Z,120nm,0.6s,mb6.1
ASAJ Asahikawa 58.65 37 LR LR 19 56 12.3
comp=Z,4μm,21.4s,MS5.5,baz=227,slow=35
FURI Furi 58.82 280 PG **P 19 31 58.8 +1.1**
FURI SG **S 19 40 09.9 +8.3**
TOO Toolangi 58.85 136 *e*P **P 19 31 59.3 +1.8**
TOO *e*S **S 19 40 05.6 +4.4**
BHD Baghdad 58.93 309 *i* x **P 19 31 54.0 -4.2**
BHD *i* x x 19 39 58.0
BHD *i* x x 19 41 30.0
IHRS Heris 58.98 315 *e*P **P 19 31 57.4 -1.0**
AKTO Aktyubinsk 59.31 332 P **P 19 31 59.1 -1.4**
AKTO pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
IAZR Azarshahr 59.46 314 *e*P **P 19 32 01.8 0.0**
CLNS Chul'man 59.76 17*c i*P **P 19 32 04.2 +0.7**
CLNS *e**PP pP 19 32 10.9 -2.4
CLNS *e* 19 32 47.8
CLNS pmax pmax
comp=Z,45nm,0.9s,mb5.5
CLNS pmax pmax
comp=N,18nm,0.7s
CLNS pmax pmax
comp=E,22nm,0.8s
CLNS pmax pmax
comp=Z,13nm,1.5s,mb4.7
CLNS pmax pmax
comp=N,30nm,1.6s
CLNS pmax pmax
comp=E,10.0nm,1.1s
CLNS MLR MLR
comp=Z,10μm,17.0s,MS6.0
CLNS MLR MLR
comp=N,5μm,15.0s,MS6.0
CLNS MLR MLR
comp=E,7μm,17.0s,MS6.0
ISHB Shabestar 59.98 315 *e*P **P 19 32 04.3 -1.0**
KMBO Kilima Mbogo 60.07 268 P **P 19 32 07.6 +1.2**
comp=E,6.0nm,0.9s,mb4.6,baz=0.2,slow=24,SNR=14
KMBO LR LR 19 56 45.5
comp=E,4μm,18.1s,MS5.5,baz=91,slow=35
KMBO Kilima Mbogo 60.07 268 *e*P **P 19 32 07.0 +0.6**
comp=E,22nm,1.3s,mb5.0
KMBO LR LR
comp=Z,3μm,19.0s,MS5.5
KMBO Kilima Mbogo 60.07 268 *e*P **P 19 32 07.0 +0.6**
KMBO pmax pmax
comp=Z,22nm,1.3s
KMBO MLR MLR
comp=Z,3μm,19.0s
KMBO Kilima Mbogo 60.07 268 P **P 19 32 07.5 +1.1**
SNR=12
IMRD Marand 60.10 315 *e*P **P 19 32 05.8 -0.3**
CAN Canberra 60.33 132 *e*P **P 19 32 08.8 +1.1**
comp=Z,24nm,0.6s,mb5.4
CAN LR LR
comp=Z,12μm,22.0s,MS6.0
CAN Canberra 60.33 132 *e*P **P 19 32 08.8 +1.1**
CAN pmax pmax
comp=Z,24nm,0.6s,mb5.4
CAN MLR MLR
comp=Z,12μm,22.0s,MS6.0
YSS Yuzh-Sakhalins 60.34 34 *e*P **P 19 32 08.1 +0.4**
comp=Z,140nm,1.3s,mb5.8
YSS LR LR
comp=Z,803nm,20.0s,MS4.9
YSS Yuzh-Sakhalins 60.34 34*e*P **P 19 32 07.6 0.0**
YSS *e**SP sP 19 32 23.0 +1.8
YSS *e*S **S 19 40 21.0 +0.9**
YSS *e*PS 19 40 38.0
YSS pmax pmax
comp=Z,60nm,0.8s,mb5.7
YSS pmax pmax
comp=Z,2μm,8.0s
YSS MLR MLR
comp=N,5μm,15.0s
YSS MLR MLR
comp=Z,5μm,15.0s,MS5.8
ARMA Armidale 60.44 126 *e*P **P 19 32 10.7 +2.1**
ARMA *e*S **S 19 40 25.9 +4.0**
ARMA Armidale 60.44 126 *e*P **P 19 32 10.5 +1.9**
comp=Z,70nm,0.9s,mb5.7
CNB Canberra Magne 60.59 132 *e*P **P 19 32 11.2 +1.6**
CNB *e*S **S 19 40 23.6 -0.1**
YUK Yuzh-Kuril'sk 60.60 38⇑ *i*P **P 19 32 03.0 -6.5**
YUK *i* 19 34 26.8
YUK *i* PPP 19 35 47.9
YUK *i* S **S 19 40 34.5 +11**
YUK *i* 19 41 56.4
YUK *i* SS SS 19 44 20.2 -2.2
YUK pmax pmax
comp=Z,2μm,2.9s,mb6.8
YUK pmax pmax
comp=N,749nm,1.8s
YUK pmax pmax
comp=E,780nm,1.8s
YUK pmax pmax
comp=Z,1μm,1.8s,mb6.8
YUK smax
comp=E,4μm,4.0s
YUK smax
comp=N,3μm,3.6s
YUK MLR MLR
comp=E,2μm,16.0s
YUK MLR MLR
comp=Z,5μm,16.0s,MS5.8
MAK Makhachkala 60.82 320 *e*P **P 19 32 09.5 -1.5**
MAK *e* 19 32 53.2
MAK *e* 19 34 24.6
MAK *e*PPP 19 35 53.8
MAK *e*S **S 19 40 24.5 -1.9**
MAK *e* 19 41 59.0
MAK *e*SS SS 19 44 22.1 -3.8
MAK pmax pmax
comp=Z,57nm,0.6s,mb5.9
GNI Garni 61.39 316 P **P 19 32 15.2 +0.4**
comp=Z,14nm,0.9s,mb5.1,baz=352,slow=6.6,SNR=2.3
GNI Garni 61.39 316 *e*P **P 19 32 14.3 -0.5**
comp=Z,24nm,0.7s,mb5.4
GNI LR LR
comp=Z,2μm,20.0s,MS5.3
GNI Garni 61.39 316⇑ *e*P **P 19 32 15.7 +0.8**
GNI pmax pmax
comp=Z,14nm,0.8s
GNI MLR MLR
comp=Z,2μm,19.0s
DGRG David-gareji 61.52 318 P **P 19 32 15.0 -0.8**
MTA Mtatsminda 62.02 318 P **P 19 32 18.8 -0.4**
TBLG Delisi 62.07 318 *e*P **P 19 32 19.2 -0.3**
TBLG Delisi 62.07 318 P **P 19 32 19.2 -0.3**
GOR Gori 62.61 318 P **P 19 32 19.6 -3.5**
TAU Tasmania Unive 62.72 141 PFAKE 19 32 40.0 +16
TAU LR LR
comp=Z,5μm,20.0s,MS5.7
SVE Sverdlovsk 62.77 338⇓ *i*P **P 19 32 23.4 -0.4**
SVE *e*S **S 19 40 50.5 0.0**
SVE *e* 19 42 11.2
SVE *e*SSS 19 47 37.9
SVE pmax pmax
comp=Z,142nm,1.6s,mb5.8
SVE MLR MLR
comp=Z,4μm,17.0s,MS5.7
AKH Akhalkalaki 62.78 317 P **P 19 32 24.5 +0.3**
ZEI Tsey 63.09 318 *e*P **P 19 32 25.6 -0.6**
ZEI *e* 19 34 43.2
ZEI *e*S **S 19 40 51.9 -3.2**
ZEI *e* 19 42 15.8
ZEI pmax pmax
comp=Z,25nm,0.8s,mb5.4
ARU Arti 63.26 337 *e*P **P 19 32 25.6 -1.4**
comp=Z,53nm,1.0s,mb5.6
ARU LR LR
comp=Z,5μm,20.0s,MS5.7
ARU Arti 63.26 337 *e*P **P 19 32 26.8 -0.3**
ARU *e* 19 33 02.1
ARU *e* 19 34 44.8
ARU S **S 19 40 57.0 +0.3**
ARU SS SS 19 45 07.8 +4.3
ARU MLR MLR
comp=Z,5μm,17.0s,MS5.7
ARU Arti 63.26 337 P **P 19 32 26.5 -0.6**
comp=Z,286nm,1.0s,mb6.4,SNR=8.7
HNR Honiara 63.27 101 *e*P **P 19 32 26.4 -1.6**
comp=Z,197nm,0.8s,mb6.3
HNR LR LR
comp=Z,2μm,21.0s,MS5.2
HNR Honiara 63.27 101 *e*P **P 19 32 26.4 -1.6**
HNR pmax pmax
comp=Z,197nm,0.8s,mb6.3
HNR MLR MLR
comp=Z,2μm,21.0s,MS5.2
ONI Oni 63.31 318 P **P 19 32 26.6 -1.1**
KIV Kislovodsk 64.40 319 *e*P **P 19 32 34.3 -0.5**
comp=Z,76nm,1.4s,mb5.5
KIV LR LR
comp=Z,2μm,21.0s,MS5.2
KIV Kislovodsk 64.40 319*c i*P **P 19 32 34.3 -0.5**
KIV pmax pmax
comp=Z,33nm,1.0s,mb5.3
KIV Kislovodsk 64.40 319 P **P 19 32 34.5 -0.3**
comp=Z,182nm,1.0s,mb6.1,SNR=9.4
KIV Kislovodsk 64.40 319 P **P 19 32 35.3 +0.5**
SNR=8.9
ASF Jabal al Asfar 64.56 305 P **P 19 32 36.5 +0.4**
comp=Z,15nm,0.9s,mb5.0,baz=360,slow=5.4,SNR=18
ASF LR LR 20 03 18.4
comp=Z,3μm,18.2s,MS5.5,baz=167,slow=38
ASF Jabal al Asfar 64.56 305 P **P 19 32 36.5 +0.4**
ASF LR LR 20 03 18.4
ASF Jabal al Asfar 64.56 305 P **P 19 32 36.5 +0.4**
YAK Yakutsk 65.45 16 *e*P **P 19 32 40.6 -0.7**
comp=Z,160nm,0.8s,mb6.1
YAK LR LR
comp=Z,7μm,20.0s,MS5.8
YAK Yakutsk 65.45 16*c i*P **P 19 32 40.7 -0.6**
YAK *e**PP pP 19 32 49.5 -1.7
YAK *e* 19 33 07.6
YAK *e* 19 35 03.4
YAK *e*PPP 19 36 38.8
YAK *e*S S 19 41 24.1 +0.6
YAK *e**SS sS 19 41 34.7 -5.1
YAK *e* 19 42 37.4
YAK *e*SS SS 19 45 37.9 +0.5
YAK pmax pmax
comp=Z,177nm,1.1s,mb6.0
YAK pmax pmax
comp=N,43nm,1.1s
YAK pmax pmax
comp=E,39nm,1.4s
YAK pmax pmax
comp=Z,557nm,3.5s
YAK pmax pmax
comp=N,392nm,4.8s
YAK pmax pmax
comp=E,383nm,4.8s
YAK smax
comp=N,1μm,7.3s
YAK smax
comp=E,326nm,4.6s
YAK MLR MLR
comp=Z,15μm,18.0s,MS6.2
YAK MLR MLR
comp=N,10μm,18.0s,MS6.2
YAK MLR MLR
comp=E,8μm,17.0s,MS6.2
EIL Elat 65.55 302 P **P 19 32 43.2 +0.6**
comp=E,28nm,0.8s,mb5.3,baz=16,slow=2.2,SNR=27
EIL Elat 65.55 302 P **P 19 32 43.2 +0.6**
HWQ Hawqa 65.90 307 *e*P **P 19 32 45.0 +0.2**
MMAI Mount Meron Ar 66.00 306 P **P 19 32 46.5 +1.0**
comp=E,10.0nm,0.8s,mb4.9,baz=78,slow=8.9,SNR=13
SOKR Solikamsk 66.16 339*c i*P **P 19 32 45.6 -0.3**
SOKR S S 19 41 36.7 +4.4
SOKR SS SS 19 45 54.9 +6.4
SOKR pmax pmax
comp=Z,70nm,1.0s,mb5.7
SOC Sochi 66.21 318 *e*P **P 19 32 45.5 -1.1**
SOC *e* 19 33 21.5
SOC *e* 19 35 12.2
SOC *e*PPP 19 36 49.1
SOC *e*S S 19 41 24.5 -9.1
SOC *e*SS SS 19 45 44.2 -5.8
SOC pmax pmax
comp=Z,43nm,0.9s,mb5.5

CASY Casey 67.95 174 PFAKE 19 33 10.0 +13
CASY LR LR
comp=Z,4µm,19.0s,MS5.7
CSS Prodhromos 68.16 307 *e*P **P** **19 32 58.7 -0.4**
comp=Z,36nm,1.1s,mb5.3
CSS LR LR
comp=Z,2µm,20.0s,MS5.4
ANN Anapa 68.19 318 *e*P **P** **19 32 56.9 -2.2**
ANN *e*S S 19 41 52.6 -4.7
ANN pmax pmax
comp=Z,27nm,1.0s,mb5.2
ANN MLR MLR
comp=N,1µm,18.0s,MS5.2
ANN MLR MLR
comp=E,856nm,18.0s,MS5.2
ANN MLR MLR
comp=Z,1µm,18.0s,MS5.2
VRHR Novokhopersk 68.22 326 *e*P **P** **19 32 57.8 -1.3**
VRHR *e* 19 33 11.3
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,30nm,0.8s,mb5.4
BR131 Keskin Array S 69.21 312 *e*P **P** **19 33 04.2 -1.4**
comp=Z,7.7nm,0.8s,mb4.7
BR131 LR LR
comp=Z,757nm,19.0s,MS5.0
BRTR Keskin Array B 69.21 312 P **P** **19 33 04.3 -1.2**
comp=Z,10nm,0.8s,mb4.8,baz=130,slow=6.3,SNR=54
BRTR LR LR 20 06 35.0
comp=Z,850nm,20.5s,MS5.0,baz=259,slow=39
BRTR Keskin Array B 69.21 312 P **P** **19 33 04.3 -1.2**
BRTR LR LR 20 06 35.0
BRTR Keskin Array B 69.21 312 P **P** **19 33 04.4 -1.2**
VSR Storozhevoye 69.66 325 *e*P **P** **19 33 06.6 -1.5**
VSR *e* pP 19 33 15.3 -2.8
VSR pmax pmax
comp=N,9.0nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,20nm,0.9s,mb5.0
SKR Severo-Kuril's 69.85 35 *e*P **P** **19 33 12.0 +2.7**
SKR *e* 19 33 32.0
SKR *e*PPP 19 37 32.0
SKR *e*PS 19 42 46.0
SKR *e* 19 42 54.0
SKR *e*SS SS 19 46 44.0 -1.9
SKR *e*SSS 19 49 52.0
SKR pmax pmax
comp=Z,2µm,10.0s
SKR MLR MLR
comp=Z,5µm,22.0s,MS5.7
SKR MLR MLR
comp=N,2µm,16.0s
SKR MLR MLR
comp=E,4µm,16.0s
LSZ Lusaka 70.18 253 *e*P **P** **19 33 11.9 -0.1**
comp=E,7.5nm,0.8s,mb4.7
LSZ LR LR
comp=Z,5µm,19.0s,MS5.8
LSZ Lusaka 70.18 253 *e*P **P** **19 33 11.9 -0.1**
LSZ pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LSZ MLR MLR
comp=Z,5µm,19.0s,MS5.8
SIM Simferopol' 70.46 318 *e*P **P** **19 33 13.1 -0.1**
SIM 19 35 58.0
SIM pmax pmax
comp=Z,10.0nm,0.2s,mb5.4
ISP Isparta 71.06 310 PFAKE 19 33 30.0 +13
ISP LR LR
comp=Z,2µm,19.0s,MS5.4
NOUC Port Laguerre 71.06 114 *e*P **P** **19 33 17.8 +0.5**
DZM Mont Dzumac 71.19 114 *e*P **P** **19 33 18.7 +0.6**
comp=Z,55nm,0.8s,mb5.5
DZM *e*S S 19 42 31.8 -1.6
comp=Z,6µm,26.1s
DZM *e*LR LR 19 55 03.8
comp=Z,5µm,23.4s
DZM Mont Dzumac 71.19 114 *e*P **P** **19 33 18.5 +0.5**
DZM Mont Dzumac 71.19 114 *e*P **P** **19 33 18.9 +0.8**
comp=Z,30nm,0.8s,mb5.3
PETK Petropavlovsk- 71.73 34 P **P** **19 33 20.4 -0.2**
comp=Z,17nm,0.7s,mb5.1,baz=204,slow=6.0,SNR=15
PETK LR LR 20 08 44.9
comp=Z,3µm,18.4s,MS5.6,baz=248,slow=39
PETK Petropavlovsk- 71.73 34 P **P** **19 33 20.4 -0.2**
PETK LR LR 20 08 44.9
PETK Petropavlovsk- 71.73 34 P **P** **19 33 20.5 -0.2**
PET Petropavlovsk 72.23 34 *e*P **P** **19 33 23.7 0.0**
comp=Z,89nm,0.8s,mb5.8
PET LR LR
comp=Z,2µm,21.0s,MS5.4
PET Petropavlovsk 72.23 34*c i*P **P** **19 33 23.2 -0.5**
PET *e*S S 19 42 39.8 -4.4
PET pmax pmax
comp=Z,1µm,4.3s
PET pmax pmax
comp=Z,143nm,0.8s,mb6.0
PET pmax pmax
comp=Z,1µm,12.4s
PET MLR MLR
comp=Z,2µm,22.0s,MS5.3
PET MLR MLR
comp=N,3µm,20.0s
MOS Moscow 72.42 329 *e*P **P** **19 33 29.4 +4.7**
MOS *e* 19 33 45.9
MOS *e* 19 36 00.7
MOS *e*S S 19 42 52.6 +6.3
MOS *e* 19 43 38.9
MOS pmax pmax
comp=Z,49nm,1.0s,mb5.4
MOS MLR MLR
comp=Z,3µm,22.0s,MS5.5
MOS MLR MLR
comp=N,2µm,20.0s,MS5.5
MOS MLR MLR
comp=E,2µm,21.0s,MS5.5
MAW Mawson 72.68 193 P **P** **19 33 28.4 +2.3**
comp=E,7.8nm,0.7s,mb4.7,baz=11,slow=4.4,SNR=16
MAW LR LR 20 01 57.9
comp=E,4µm,18.6s,MS5.7,baz=30,slow=33
MAW Mawson 72.68 193 *e*P **P** **19 33 27.5 +1.4**
comp=E,15nm,0.6s,mb5.1
MAW *e*S S 19 42 50.3 +1.4
MAW Mawson 72.68 193 *e*P **P** **19 33 27.9 +1.8**
comp=E,3.8nm,0.7s,mb4.4
MAW LR LR
comp=Z,6µm,20.0s,MS5.8
MAW Mawson 72.68 193 *e*P **P** **19 33 27.9 +1.8**
MAW pmax pmax
comp=Z,4.0nm,0.7s
MAW MLR MLR
comp=Z,6µm,20.0s
OBN Obninsk 72.70 328 PFAKE 19 33 40.0 +14
OBN LR LR
comp=Z,3µm,21.0s,MS5.5
OBN Obninsk 72.70 328 *e*P **P** **19 33 26.1 -0.4**
OBN pmax pmax
comp=Z,13nm,0.9s,mb4.9
SEY Seymchan 73.78 23 ⇓*e*P **P** **19 33 33.2 +0.6**
KLMR Klimovskoe 73.83 334 *e*P **P** **19 33 32.3 -0.7**
KLMR pmax pmax
comp=Z,51nm,1.3s,mb5.3
LBTB Lobatse 73.94 244 *e*P **P** **19 33 35.2 +0.9**
comp=Z,33nm,0.9s,mb5.3
LBTB LR LR
comp=Z,4µm,22.0s,MS5.6
LBTB Lobatse 73.94 244 *e*P **P** **19 33 35.2 +0.8**
LBTB pmax pmax
comp=Z,33nm,0.9s,mb5.3
LBTB MLR MLR
comp=Z,4µm,22.0s,MS5.6
DRV Dumont d'Urvil 74.08 164 P **P** **19 33 43.0 +8.7**
DRV S S 19 43 06.0 +1.3
DRV SP 19 43 37.0
DRV SKS 19 43 39.0
DRV SS SS 19 47 50.0 -0.1
DRV L 19 53 00.0
DRV R 19 58 00.0
TIRR Tirgusor 74.22 316 *e*P **P** **19 33 34.1 -1.5**
comp=Z,33nm,1.1s,mb5.2
TIRR Tirgusor 74.22 316 ⇑P **P** **19 33 35.1 -0.5**
TIRR Tirgusor 74.22 316 ⇑*i*P **P** **19 33 35.1 -0.5**
KIS Kishinev 74.59 319 *e*P **P** **19 33 40.0 +2.3**
KIS Kishinev 74.59 319 *e*PP PP 19 36 34.0 +9.3
KIS Kishinev 74.59 319 *e*P **P** **19 33 40.0 +2.3**
KIS *e* 19 33 45.0
KIS *e* 19 36 34.0
KIS *e*S S 19 43 13.0 +1.8
KIS *e*PS 19 43 42.0
KIS MLR MLR
comp=Z,2µm,18.0s,MS5.4
KIS MLR MLR
comp=N,1µm,20.0s,MS5.4
KIS MLR MLR
comp=E,1µm,20.0s,MS5.4
KIS MLR MLR
comp=Z,2µm,20.0s
BOSA Boshof 74.82 240 P **P** **19 33 40.6 +1.2**
comp=Z,20nm,0.8s,mb5.1,baz=74,slow=5.7,SNR=21
BOSA LR LR 20 04 50.7
comp=Z,3µm,18.5s,MS5.7,baz=58,slow=34
BOSA Boshof 74.82 240 *e*P **P** **19 33 40.6 +1.1**
comp=Z,35nm,0.9s,mb5.3
BOSA LR LR
comp=Z,4µm,20.0s,MS5.7
BOSA Boshof 74.82 240 *e*P **P** **19 33 40.6 +1.1**
BOSA pmax pmax
comp=Z,35nm,0.9s,mb5.3
BOSA MLR MLR
comp=Z,4µm,20.0s,MS5.7
AKASG Malin Array Be 75.35 322 P **P** **19 33 40.8 -1.3**
comp=Z,6.5nm,0.6s,mb4.7,baz=90,slow=4.8,SNR=26
AKASG Malin Array Be 75.35 322 P **P** **19 33 40.8 -1.3**
AKASG Malin Array Be 75.35 322 P **P** **19 33 40.8 -1.2**
AKBB Malin Array Si 75.35 322 *e*P **P** **19 33 40.1 -1.9**
AKBB Malin Array Si 75.35 322 *e*P **P** **19 33 40.1 -1.9**
KIEV Kiev 75.36 322 *e*P **P** **19 33 40.5 -1.6**
comp=Z,16nm,0.9s,mb5.0
KIEV Kiev 75.36 322 *e*P **P** **19 33 40.5 -1.6**
KIEV pmax pmax
comp=Z,16nm,0.9s,mb5.0
TARA Tarawa 75.62 89 PFAKE 19 34 00.0 +16
TARA LR LR
comp=Z,2µm,19.0s,MS5.3
VRI Vrincioaia 75.71 317 ⇓P **P** **19 33 44.7 +0.5**
VRI Vrincioaia 75.71 317 ⇓*i*P **P** **19 33 44.7 +0.5**
VRI Vrincioaia 75.71 317 ⇓*i*P **P** **19 33 44.7 +0.5**
KDZ Kurdzhali 75.73 313 *i* P **P** **19 33 41.3 -3.1**
KDZ Kurdzhali 75.73 313 *i* P **P** **19 33 41.3 -3.1**
PLOR Plostina 75.76 317 ⇓P **P** **19 33 45.2 +0.7**
PLOR Plostina 75.76 317 ⇓*i*P **P** **19 33 45.2 +0.7**
PLOR Plostina 75.76 317 ⇓*i*P **P** **19 33 45.2 +0.7**
TESR 75.91 318 ⇓*i*P **P** **19 33 45.4 +0.1**
TESR 75.91 318 ⇓*i*P **P** **19 33 45.4 +0.1**
MLR Muntele Rosu 76.16 317 P **P** **19 33 46.7 -0.1**
comp=Z,4.1nm,0.9s,mb4.4,baz=143,slow=4.4,SNR=23
MLR Muntele Rosu 76.16 317 P **P** **19 33 46.7 -0.1**
MLR Muntele Rosu 76.16 317 ⇓P **P** **19 33 47.0 +0.2**
MLR Muntele Rosu 76.16 317 ⇓*i*P **P** **19 33 47.0 +0.2**
MLR Muntele Rosu 76.16 317 ⇓*i*P **P** **19 33 47.0 +0.2**
RZN Rozhen 76.26 313 *i* P **P** **19 33 46.2 -1.2**
RZN Rozhen 76.26 313 *i* P **P** **19 33 46.2 -1.2**
VOIR 76.76 316 ⇑P **P** **19 33 49.4 -0.8**
VOIR 76.76 316 ⇑*i*P **P** **19 33 49.4 -0.8**
VOIR 76.76 316 ⇑*i*P **P** **19 33 49.4 -0.8**
MMB Musomiste 76.97 312 *i* P **P** **19 33 49.5 -1.9**
MMB Musomiste 76.97 312 *i* P **P** **19 33 49.5 -1.9**
BURAR Bucovina Array 77.12 319 ⇓P **P** **19 33 53.1 +1.0**
BURAR Bucovina Array 77.12 319 ⇓*i*P **P** **19 33 53.0 +0.9**
BURAR Bucovina Array 77.12 319 ⇓*i*P **P** **19 33 53.0 +0.9**
BUR08 Bucovina Ar. S 77.13 319 *e*P **P** **19 33 52.7 +0.4**
MICGM Minsk 77.21 326 *e* **P** **19 33 47.0 -5.5**
MNK Minsk 77.24 326 *e*P **P** **19 33 47.0 -5.7**
MPEP Malo Peshtene 77.28 314 *i* P **P** **19 33 55.7 +2.6**
MPEP Malo Peshtene 77.28 314 *i* P **P** **19 33 55.7 +2.6**
KKB Krupnik 77.49 313 *i* P **P** **19 33 54.4 0.0**
KKB Krupnik 77.49 313 *i* P **P** **19 33 54.4 0.0**
VTS Vitosha 77.52 313 ⇓P **P** **19 33 54.1 -0.4**
VTS Vitosha 77.52 313 ⇓*i*P **P** **19 33 54.1 -0.4**
VTS Vitosha 77.52 313 ⇓*i*P **P** **19 33 54.1 -0.4**
VTS Vitosha 77.52 313 *i* P **P** **19 33 51.6 -2.9**
VTS Vitosha 77.52 313 *i* P **P** **19 33 51.6 -2.9**
VAY Valandovo 77.78 312 *e*P **P** **19 33 54.6 -1.4**
NACGM Naroch 77.94 326 *e* **P** **19 33 54.0 -2.5**
IDID Didziasalis 78.07 327 *e*P **P** **19 33 56.2 -1.1**
JOF Joensuu 78.23 335 *e*p **P** **19 33 56.0 -2.0**
comp=Z,8.9nm,0.7s,mb4.8
GZR Gura Zlata 78.33 316 ⇓P **P** **19 33 59.9 +1.0**
GZR Gura Zlata 78.33 316 ⇓*i*P **P** **19 33 59.9 +1.0**
GZR Gura Zlata 78.33 316 ⇓*i*P **P** **19 33 59.9 +1.0**
LVV L'vov 78.36 321 *e*P **P** **19 34 01.4 +2.4**
LVV *e*S S 19 43 54.2 +1.8
LVV *i* 19 44 49.4
LVV MLR MLR
comp=N,400nm,17.0s,MS5.1
LVV MLR MLR
comp=E,700nm,17.0s,MS5.1
LVV MLR MLR
comp=Z,800nm,17.0s,MS5.1
IIGN Ignalina 78.36 327 *e*P **P** **19 33 57.8 -1.1**
IZAR Zarasai 78.45 327 *e*P **P** **19 33 58.1 -1.3**
ISAL Salakas 78.47 327 *e*P **P** **19 33 58.4 -1.1**
DRGR 78.62 317 ⇓P **P** **19 34 00.9 +0.4**
DRGR 78.62 317 ⇓*i*P **P** **19 34 00.9 +0.4**
DRGR 78.62 317 ⇓*i*P **P** **19 34 00.9 +0.4**
KRUS Krusevo 78.77 312 *e*P **P** **19 33 59.2 -2.3**
LVZ Lovozero 78.91 340 *e*P **P** **19 34 00.8 -0.8**
LVZ LR LR
comp=Z,5µm,21.0s,MS5.9
LVZ Lovozero 78.91 340 *e*P **P** **19 34 00.8 -0.9**
LVZ MLR MLR
comp=Z,5µm,21.0s,MS5.9
TRPA Tarpa 78.99 319 ⇑*i*P **P** **19 34 03.1 +0.6**
TRPA Tarpa 78.99 319 ⇑*i*P **P** **19 34 03.1 +0.6**
RPZ Rata Peaks 79.11 135 P **P** **19 34 04.0 +0.7**
comp=Z,22nm,0.6s,mb5.2,baz=241,slow=2.1,SNR=17
RPZ LR LR 20 10 56.8
comp=Z,6µm,19.4s,MS5.9,baz=284,slow=37
RPZ Rata Peaks 79.11 135 *e*P **P** **19 34 03.8 +0.5**
comp=Z,21nm,0.6s,mb5.2
KWP Kalwaria Pacla 79.16 320 *e*P **P** **19 34 03.2 -0.2**
comp=Z,54nm,1.3s,mb5.3
KWP LR LR
comp=Z,2µm,19.0s,MS5.5
KWP Kalwaria Pacla 79.16 320 *e*P **P** **19 34 03.2 -0.2**
KWP pmax pmax
comp=Z,54nm,1.3s,mb5.3
KWP MLR MLR
comp=Z,2µm,19.0s,MS5.5
BZS Buzias 79.17 316 ⇑P **P** **19 34 03.8 +0.2**
BZS Buzias 79.17 316 ⇑*i*P **P** **19 34 03.8 +0.2**
BZS Buzias 79.17 316 ⇑*i*P **P** **19 34 03.8 +0.2**
APA Apatity 79.20 339 ⇑*i*P **P** **19 34 04.0 +0.7**
APA *i* 19 37 10.0
APA *i* S S 19 44 00.0 -0.8
APA *i* PS 19 44 40.0
APA *i* SSS 19 52 34.0
APA pmax pmax
comp=Z,20nm,0.8s,mb5.1
APA MLR MLR
comp=Z,4µm,18.0s,MS5.8
SUR Sutherland 79.20 237 *e*P **P** **19 34 06.7 +2.6**
comp=Z,39nm,0.8s,mb5.4
SUR LR LR
comp=Z,4µm,20.0s,MS5.8
SUR Sutherland 79.20 237 P **P** **19 34 06.7 +2.6**
comp=Z,319nm,1.0s,mb6.2,SNR=5.2
UZH Uzhgorod 79.24 319 *e*P **P** **19 34 02.0 -1.9**
UZH *e* 19 34 17.7
UZH *e*S S 19 43 58.0 -3.9
UZH *i* 19 44 16.0
UZH *i* PS 19 44 46.0
KOLS Kolonicke sedl 79.31 320 *e*P **P** **19 34 05.0 +0.8**
KOLS pmax pmax
comp=Z,26nm,1.0s,mb5.1
KOLS Kolonicke sedl 79.31 320 *e*P **P** **19 34 05.0 +0.8**
SUW Suwalki 79.76 325 *e*P **P** **19 34 05.7 -0.9**
SUW Suwalki 79.76 325 *e*P **P** **19 34 05.7 -0.9**
comp=Z,91nm,1.0s,mb5.7
SUW Suwalki 79.76 325 *e*P **P** **19 34 05.7 -0.9**
SUW pmax pmax
comp=Z,91nm,1.0s,mb5.7
TIR Tirane 79.80 312 PFAKE 19 34 20.0 +13
TIR LR LR
comp=Z,1µm,19.0s,MS5.3
CRVS Cervenica-Dubn 79.83 319 *e*P **P** **19 34 07.8 +0.7**
CRVS pmax pmax
comp=Z,14nm,1.1s,mb4.8
CRVS Cervenica-Dubn 79.83 319 *e*P **P** **19 34 07.8 +0.7**
SYO Syowa Base 79.98 198 ⇑*e*P **P** **19 34 08.2 +0.7**
STHS Stebnicka Huta 80.06 320 *e*P **P** **19 34 09.5 +1.2**
STHS pmax pmax
comp=Z,11nm,0.8s,mb4.8
STHS Stebnicka Huta 80.06 320 *e*P **P** **19 34 09.5 +1.2**
FINES FINESS Array B 80.08 332 P **P** **19 34 07.6 -0.5**
comp=Z,6.2nm,0.6s,mb4.7,baz=106,slow=5.7,SNR=25
FINES LR LR 20 16 22.3
comp=Z,2µm,18.3s,MS5.5,baz=108,slow=41
FINES FINESS Array B 80.08 332 P **P** **19 34 07.6 -0.5**
FINES LR LR 20 16 22.4
FINES FINESS Array B 80.08 332 P **P** **19 34 07.6 -0.6**
KAF Kangasniemi 80.16 333 *e*p **P** **19 34 07.5 -1.1**
comp=Z,13nm,0.6s,mb5.0
KECS Kecovo 80.40 319 *e*P **P** **19 34 10.4 +0.2**
KECS pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
KECS Kecovo 80.40 319 *e*P **P** **19 34 10.4 +0.2**
TSUM Tsumeb 80.65 250 *e*P **P** **19 34 13.2 +1.0**
comp=Z,29nm,1.0s,mb5.2
TSUM LR LR
comp=Z,2µm,20.0s,MS5.4
NIE Niedzica 80.66 320 *e*P **P** **19 34 11.8 +0.3**
NIE Niedzica 80.66 320 *e*P **P** **19 34 11.8 +0.3**
PSZ Piszkesteto 80.70 318 *e*P **P** **19 34 11.6 -0.2**
comp=Z,19nm,0.9s,mb5.0
PSZ LR LR
comp=Z,1µm,19.0s,MS5.2
PSZ Piszkesteto 80.70 318 ⇑P **P** **19 34 12.4 +0.6**
PSZ Piszkesteto 80.70 318 ⇓*e*P **P** **19 34 12.2 +0.4**
PSZ Piszkesteto 80.70 318 ⇑*i*P **P** **19 34 12.4 +0.6**
PSZ Piszkesteto 80.70 318 ⇑*i*P **P** **19 34 12.4 +0.6**
OJC Ojcow 81.11 321 *e*P **P** **19 34 14.0 0.0**
OJC *e*pP pP 19 34 25.8 +1.7
OJC *e*S S 19 44 22.4 +0.9
OJC L 20 18 45.2
comp=Z,1.7nm,21.4s
OJC Ojcow 81.11 321 *e*P **P** **19 34 14.0 0.0**
OJC *e**PP pP 19 34 25.8 +1.7
OJC *e*S S 19 44 22.4 +0.9
OJC MLR MLR
comp=Z,2µm,21.4s,MS5.4
BILL Bilibino 81.18 21 *e*P **P** **19 34 13.0 -0.9**
comp=Z,51nm,1.5s,mb5.2
BILL LR LR
comp=Z,5µm,19.0s,MS5.9
BILL Bilibino 81.18 21*c i*P **P** **19 34 13.6 -0.3**
BILL pmax pmax
comp=Z,100nm,2.3s,mb5.3
BILL MLR MLR
comp=Z,6µm,16.0s,MS6.0
BUD Budapest 81.22 318 *e*PcP PcP 19 34 17.3 -3.5
PKSM Moragy 81.31 316 ⇓P **P** **19 34 15.1 0.0**
PKSM Moragy 81.31 316 ⇓*i*P **P** **19 34 15.1 0.0**
PKSM Moragy 81.31 316 ⇓*i*P **P** **19 34 15.1 0.0**
SNZO South Karori 81.32 132 PFAKE 19 34 30.0 +15
SNZO LR LR
comp=Z,8µm,22.0s,MS6.0
VYHS Vyhne 81.48 319 *e*P **P** **19 34 15.8 -0.2**
VYHS Vyhne 81.48 319 *e*P **P** **19 34 15.8 -0.2**
MSVF Nonsavu 81.56 108 *e*P **P** **19 34 18.4 +1.4**
comp=Z,25nm,0.9s,mb5.1
MSVF LR LR
comp=Z,2µm,19.0s,MS5.5
MSVF Nonsavu 81.56 108 *e*P **P** **19 34 18.4 +1.4**
MSVF pmax pmax
comp=Z,25nm,0.9s,mb5.1
MSVF MLR MLR
comp=Z,2µm,19.0s,MS5.5
KOLL Kolacno 81.78 319 *e*P **P** **19 34 18.2 +0.7**
KOLL Kolacno 81.78 319 *e*P **P** **19 34 18.2 +0.7**
OKC Ostrava-Krasne 82.11 320 *e*P **P** **19 34 18.7 -0.5**
OKC *e* pP 19 34 26.6 -2.8
OKC *e*S S 19 44 29.6 -2.3
OKC MLR MLR
comp=Z,2µm,17.7s,MS5.4
OKC Ostrava-Krasne 82.11 320 *e*P **P** **19 34 18.7 -0.5**
OKC *e*x x 19 34 26.6
OKC *e*S S 19 44 29.6 -2.3
OKC AMS AMS 20 21 50.0
comp=Z,2µm,17.7s
FUNA Funafuti 82.17 99 PFAKE 19 34 30.0 +10
FUNA LR LR
comp=Z,6µm,19.0s,MS6.0
KEV Kevo 82.18 341 PFAKE 19 34 30.0 +11
KEV LR LR
comp=Z,3µm,20.0s,MS5.7
KEV Kevo 82.18 341 *e*p **P** **19 34 19.0 -0.2**
comp=Z,14nm,0.8s,mb4.9
MORC Moravsky Berou 82.49 320 *e*P **P** **19 34 21.1 -0.1**
comp=Z,26nm,1.3s,mb5.0
MORC Moravsky Berou 82.49 320 ⇑P **P** **19 34 21.4 +0.2**
MORC Moravsky Berou 82.49 320 ⇑*i*P **P** **19 34 21.4 +0.2**
MORC Moravsky Berou 82.49 320 ⇑*i*P **P** **19 34 21.4 +0.2**
CEL Celeste 82.52 308 *e*P **P** **19 34 22.5 +0.8**
comp=Z,34nm,0.9s,mb5.4
CEL LR LR
comp=Z,707nm,20.0s,MS5.0
ZST Bratislava 82.59 318 *e*P **P** **19 34 22.3 +0.5**
ZST pmax pmax
comp=Z,23nm,0.9s,mb5.2
ZST Bratislava 82.59 318 *e*P **P** **19 34 22.3 +0.5**
ARCES ARCESS Array B 82.61 340 P **P** **19 34 21.2 -0.2**
comp=Z,23nm,0.9s,mb5.2,baz=102,slow=5.1,SNR=22
ARCES LR LR 20 15 31.9
comp=Z,4µm,20.2s,MS5.8,baz=221,slow=39
ARCES ARCESS Array B 82.61 340 P **P** **19 34 21.2 -0.2**
ARCES LR LR 20 15 31.9
ARCES ARCESS Array B 82.61 340 P **P** **19 34 21.3 -0.1**
CUC Castrocucco 82.72 310 *e*P **P** **19 34 22.4 -0.2**
comp=Z,13nm,0.9s,mb5.0
CUC LR LR
comp=Z,991nm,20.0s,MS5.2
SOP Sopron 82.90 318 ⇓*e*PcP PcP 19 34 24.4 -3.7
KOGS Kog 82.98 317 *e*P **P** **19 34 23.0 -0.9**
VRAC Vranov 83.05 319 ⇑P **P** **19 34 24.0 -0.2**
VRAC Vranov 83.05 319 ⇑*i*P **P** **19 34 24.0 -0.2**
VRAC Vranov 83.05 319 ⇑*i*P **P** **19 34 24.0 -0.2**
KTK1 Kautokeino 83.25 340 *e*S S 19 44 44.2 +1.5
KTK1 AMS AMS 20 15 03.1
comp=Z,8µm,20.5s,MS6.1
DPC Dobruska-Polom 83.34 320 *e*P **P** **19 34 26.1 +0.5**
DPC *e* pP 19 34 35.3 -0.5
DPC *e*S S 19 44 44.3 -0.1
DPC MLR MLR
comp=Z,2µm,24.3s,MS5.3
DPC Dobruska-Polom 83.34 320 *e*P **P** **19 34 26.1 +0.5**
DPC *e*x x 19 34 35.3
DPC *e*SKS 19 44 44.3
DPC AMS AMS 20 17 20.0
comp=Z,2µm,24.3s
GOLS Golise 83.37 316 *e*P **P** **19 34 26.1 +0.2**
CONA Conrad Observa 83.39 318 ⇑*i*P **P** **19 34 25.4 -0.5**
comp=Z,7.6nm,0.8s,mb4.8
WDD Wield Dalam 83.45 306 PFAKE 19 34 40.0 +13
WDD LR LR
comp=Z,1µm,20.0s,MS5.3
UPC Upice 83.56 321 *e*P **P** **19 34 27.3 +0.6**
UPC Upice 83.56 321 *e*P **P** **19 34 27.3 +0.6**
TREC Trest 83.77 319 *e*P **P** **19 34 28.1 +0.2**
TREC *e*S S 19 44 45.7 -3.1
TREC MLR MLR
comp=Z,2µm,18.5s,MS5.4
TREC Trest 83.77 319 *e*P **P** **19 34 28.1 +0.2**
TREC *e*SKS 19 44 45.7
TREC AMS AMS 20 21 20.0
comp=Z,2µm,18.5s
PERS Pernice 83.78 317 *e*P **P** **19 34 28.4 +0.5**
SOKA Soboth 83.84 317 ⇑*i*P **P** **19 34 28.5 +0.2**
comp=Z,15nm,0.9s,mb5.1
PRU Pruhonice 84.45 320 *e*P **P** **19 34 31.0 -0.3**
PRU *e* pP 19 34 39.3 -2.1
PRU *e*S S 19 44 54.6 -0.9
PRU MLR MLR
comp=Z,2µm,17.2s,MS5.5
PRU Pruhonice 84.45 320 *e*P **P** **19 34 31.0 -0.3**
PRU *e*x x 19 34 39.3
PRU *e*SKS 19 44 54.6

PRU AMS AMS 20 18 00.0
comp=Z,2µm,17.2s
MOA Molln 84.46 318 ⇑*i*P **P 19 34 31.0 -0.4**
comp=Z,4.7nm,0.8s,mb4.7
PVCC Panska Ves 84.47 321 *e*P **P 19 34 33.4 +2.0**
PVCC *e*S S 19 44 54.5 -1.2
PVCC MLR MLR
comp=Z,2µm,19.2s,MS5.5
PVCC Panska Ves 84.47 321 *e*P **P 19 34 33.4 +2.0**
PVCC *e*SKS 19 44 54.5
PVCC AMS AMS 20 18 00.0
comp=Z,2µm,19.2s
PRA Prague 84.52 320 P **P 19 34 32.0 +0.3**
PRA S S 19 44 56.0 -0.2
PRA AMS AMS 20 20 00.0
VOY Vojsko 84.58 316 *e*P **P 19 34 31.3 -0.7**
VOY *e* pP 19 34 41.1 -1.1
AQU L'Aquila 84.70 312 *e*P **P 19 34 33.1 +0.4**
comp=Z,105nm,1.1s,mb5.9
AQU LR LR
comp=Z,1µm,20.0s,MS5.2
AQU L'Aquila 84.70 312 *e*P **P 19 34 33.1 +0.4**
AQU pmax pmax
comp=Z,105nm,1.1s,mb5.9
AQU MLR MLR
comp=Z,1µm,20.0s,MS5.2
TRO Tromso 84.88 340 AMS AMS 20 16 37.2
comp=Z,4µm,16.6s,MS5.9
BRG Berggiesshubel 84.90 321 *e*P **P 19 34 33.4 -0.1**
comp=Z,10.0nm,1.0s,mb4.9
GEC2 GERESS Array S 84.91 319 *e*P **P 19 34 34.0 +0.4**
comp=Z,31nm,1.3s,mb5.3
GEC2 GERESS Array S 84.91 319 *e*P **P 19 34 34.0 +0.4**
GEC2 pmax pmax
comp=Z,31nm,1.3s,mb5.3
GERES GERESS Array B 84.91 319 P **P 19 34 33.9 +0.3**
comp=Z,11nm,0.9s,mb5.0,baz=94,slow=4.0,SNR=52
GERES GERESS Array B 84.91 319 P **P 19 34 33.9 +0.3**
GERES GERESS Array B 84.91 319 P **P 19 34 33.9 +0.3**
KHC Kasperske Hory 85.01 319 *e*P **P 19 34 33.8 -0.3**
comp=Z,8.1nm,0.8s,mb4.9
KHC Kasperske Hory 85.01 319 *e*P **P 19 34 33.8 -0.3**
KHC pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
KHC Kasperske Hory 85.01 319 *e*P **P 19 34 33.8 -0.3**
KHC *ex* x 19 34 43.2
KHC *e*SKS 19 44 59.0
KHC AMS AMS 20 18 40.0
comp=Z,2µm,17.7s
FBE Freiberg 85.28 321 *e*P **P 19 34 35.7 +0.3**
comp=Z,48nm,1.6s,mb5.4
RJOB Jochberg 85.44 318 *e*P **P 19 34 35.7 -0.6**
comp=Z,14nm,0.8s,mb5.1
WET Wettzell 85.47 319 *e*P **P 19 34 36.8 +0.4**
comp=Z,16nm,1.0s,mb5.1
WET Wettzell 85.47 319 *e*P **P 19 34 36.8 +0.4**
WET pmax pmax
comp=Z,16nm,1.0s,mb5.1
CLL Collm 85.52 321 *e*P **P 19 34 36.6 0.0**
comp=Z,19nm,1.2s,mb5.2
CLL Collm 85.52 321 *e*P **P 19 34 37.0 +0.4**
CLL *e* pP 19 34 46.0 -0.8
CLL *e* 19 34 59.0
CLL *e*PPP 19 39 54.0
CLL *e*PPPP 19 41 36.0
CLL *e*S S 19 45 05.0 -1.1
CLL *e*PS 19 46 08.0
CLL *e*SS SS 19 50 54.0 +12
CLL *e*SSS 19 54 12.0
CLL *e* 19 55 30.0
CLL *e*SSSS 19 57 17.0
CLL LmV 20 20 00.0
comp=N,1µm,21.9s
CLL LmV 20 20 00.0
comp=E,900nm,19.7s
CLL LmV 20 20 00.0
comp=Z,2µm,19.6s
VNDA Vanda 85.76 169 P **P 19 34 37.7 +0.4**
comp=Z,1.9nm,0.9s,mb4.3,baz=299,slow=5.3,SNR=6.1
VNDA LR LR 20 10 32.2
comp=Z,3µm,19.1s,MS5.7,baz=310,slow=34
VNDA Vanda 85.76 169 *e*P **P 19 34 37.3 0.0**
comp=Z,50nm,1.8s,mb5.5
VNDA LR LR
comp=Z,3µm,19.0s,MS5.7
VNDA Vanda 85.76 169 *e*P **P 19 34 37.3 0.0**
VNDA pmax pmax
comp=Z,50nm,1.8s
VNDA MLR MLR
comp=Z,3µm,19.0s
HFS Hagfors 85.81 330 P **P 19 34 37.8 0.0**
comp=Z,7.0nm,0.8s,mb4.9,baz=134,slow=6.4,SNR=14
HFS Hagfors 85.81 330 P **P 19 34 37.8 0.0**
HFS Hagfors 85.81 330 P **P 19 34 37.8 0.0**
NKC Novy Kostel 85.81 320 *e*P **P 19 34 38.1 0.0**
NKC *e*S S 19 45 09.1 +0.1
NKC MLR MLR
comp=Z,2µm,18.2s,MS5.5
NKC Novy Kostel 85.81 320 *e*P **P 19 34 38.1 0.0**
NKC *e*S S 19 45 09.1 +0.1
NKC AMS AMS 20 21 10.0
comp=Z,2µm,18.2s
TANN Tannenbergstha 85.81 320 *e*P **P 19 34 38.7 +0.6**
comp=Z,16nm,1.3s,mb5.1
WERN Wernitzgruen 85.86 320 *e*P **P 19 34 39.0 +0.7**
comp=Z,12nm,0.9s,mb5.1
GUNZ Gunzen 85.89 320 *e*P **P 19 34 38.4 -0.1**
comp=Z,13nm,1.1s,mb5.1
WERD Werda 85.91 320 *e*P **P 19 34 38.4 -0.2**
comp=Z,9.0nm,0.9s,mb5.0
ROTZ Rotzenmuhle 85.94 320 *e*P **P 19 34 39.1 +0.4**
comp=Z,15nm,0.9s,mb5.2
ROTZ *e*pP pP 19 34 46.8 -2.1
RAO Raoul Island 86.02 119 PFAKE 19 34 50.0 +10
RAO LR LR
comp=Z,3µm,19.0s,MS5.7
NEUB Neuenburg 86.29 321 *e*P **P 19 34 40.5 +0.1**
comp=Z,29nm,1.1s,mb5.4
MOX Moxa 86.36 320 *e*P **P 19 34 40.7 -0.1**
comp=Z,22nm,1.6s,mb5.1
MOX Moxa 86.36 320 *e*P **P 19 34 40.7 -0.1**
MOX pmax pmax
comp=Z,22nm,1.6s,mb5.1
MOTA Moosalm 86.56 317 ⇑*i*P **P 19 34 41.1 -0.8**
comp=Z,9.8nm,0.8s,mb5.1,SNR=8.7
GRF Grafenberg Arr 86.57 320 *e*P **P 19 34 42.4 +0.5**
comp=Z,37nm,1.0s,mb5.6
GRF *e*L 20 21 01.9
comp=Z,2µm,20.7s
GRF Grafenberg Arr 86.57 320 *e*P **P 19 34 42.4 +0.5**
GRF pmax pmax
comp=Z,37nm,1.0s,mb5.6
GRF MLR MLR
comp=Z,2µm,20.7s,MS5.4
GRFO Grafenberg 86.58 320 *e*P **P 19 34 40.5 -1.4**
comp=Z,28nm,1.1s,mb5.4
GRFO Grafenberg 86.58 320 *e*P **P 19 34 40.5 -1.4**
GRFO pmax pmax
comp=Z,28nm,1.1s,mb5.4
SBA Scott Base 86.86 169 *e*P **P 19 34 44.0 +1.3**
comp=Z,17nm,1.0s,mb5.2
SBA LR LR
comp=Z,2µm,20.0s,MS5.5
SBA Scott Base 86.86 169 *e*P **P 19 34 44.0 +1.3**
SBA pmax pmax
comp=Z,17nm,1.0s,mb5.2
SBA MLR MLR
comp=Z,2µm,20.0s,MS5.5
SPB4 Spitsbergen Ar 87.02 348 *e*P **P 19 34 43.2 -0.3**
NB2 NORSAR Subarra 87.09 331 P **P 19 34 43.6 -0.5**
comp=Z,18nm,0.9s,mb5.3,baz=96,slow=4.8
NOA NORSAR Array B 87.09 331 P **P 19 34 43.6 -0.5**
comp=Z,12nm,0.8s,mb5.2,baz=94,slow=4.9,SNR=36
NOA LR LR 20 19 37.0
comp=Z,2µm,20.3s,MS5.5,baz=100,slow=40
NOA NORSAR Array B 87.09 331 P **P 19 34 43.6 -0.5**
NOA LR LR 20 19 37.0
NOA NORSAR Array B 87.09 331 P **P 19 34 43.6 -0.5**

CLZ Clausthal 87.19 322 *e*P **P 19 34 45.1 +0.3**
comp=Z,92nm,2.1s,mb5.6
CLZ Clausthal 87.19 322 *e*P **P 19 34 45.1 +0.3**
CLZ pmax pmax
comp=Z,92nm,2.1s,mb5.6
NAO01 NORSAR Array S 87.24 331 *e*P **P 19 34 44.6 -0.2**
comp=Z,12nm,0.8s,mb5.2
NRDL Niedersach Rie 87.37 322 *e*P **P 19 34 46.4 +0.7**
comp=Z,64nm,1.4s,mb5.7
DAVOX Davos/Dischmat 87.39 317 P **P 19 34 46.6 +0.7**
comp=Z,18nm,0.8s,mb5.3,baz=115,slow=8.9,SNR=18
DAVOX Davos/Dischmat 87.39 317 P **P 19 34 46.6 +0.7**
DAVOX Davos/Dischmat 87.39 317 P **P 19 34 46.6 +0.7**
DAVA Damuels 87.39 317 ⇑*i*P **P 19 34 45.7 -0.2**
comp=Z,17nm,0.9s,mb5.2
VSL Villasalto 87.66 309 PFAKE 19 35 00.0 +13
VSL LR LR
comp=Z,696nm,20.0s,MS5.1
KEST Kesra 87.66 306 P **P 19 34 48.2 +0.8**
comp=Z,10nm,0.9s,mb5.1,baz=331,slow=0.7,SNR=23
KEST LR LR 20 14 16.8
comp=Z,1µm,21.1s,MS5.2,baz=190,slow=36
KEST Kesra 87.66 306 *e*P **P 19 34 48.3 +0.9**
TUE Stuetta 87.75 316 *e*P **P 19 34 48.6 +0.9**
comp=Z,24nm,1.3s,mb5.3
TUE LR LR
comp=Z,1µm,21.0s,MS5.4
KONO Kongsberg 87.84 329 PFAKE 19 35 00.0 +12
KONO LR LR
comp=Z,3µm,21.0s,MS5.7
KBS Kingsbay 87.98 349 *e*P **P 19 34 53.4 +5.3**
KBS *e*PP PP 19 38 15.5 +1.0
KBS *e*SKS 19 45 19.2
KBS Kingsbay 87.98 349 PFAKE 19 35 00.0 +12
KBS LR LR
comp=Z,4µm,19.0s,MS5.8
MUD Monsted U'grnd 88.00 326 *i* P **P 19 34 49.1 +0.5**
comp=Z,14nm,0.8s,mb5.2
MUD *i* pP 19 34 58.5 -0.3
SPAK Spaichingen-Ko 88.14 318 *e*P **P 19 34 49.3 -0.2**
BFO Black Forest 88.45 318 *e*P **P 19 34 50.5 -0.4**
comp=Z,26nm,1.5s,mb5.2
BFO Black Forest 88.45 318 *e*P **P 19 34 50.2 -0.7**
comp=Z,5.5nm,0.8s,mb4.8
BFO LR LR
comp=Z,1µm,22.0s,MS5.2
BFO Black Forest 88.45 318 *e*P **P 19 34 50.2 -0.7**
BFO pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
BFO MLR MLR
comp=Z,1µm,22.0s,MS5.2
FELD Feldberg im Sc 88.67 318 *e*P **P 19 34 51.3 -0.7**
LANF Langenberg 88.80 319 *e*P **P 19 34 52.5 0.0**
LANF Langenberg 88.80 319 *e*P **P 19 34 52.5 0.0**
LANF Langenberg 88.80 319 *e*P **P 19 34 52.5 0.0**
IBBN Ibbenburen 88.81 322 *e*P **P 19 34 53.4 +0.9**
comp=Z,43nm,1.0s,mb5.7
BBS Basel-Blauen 89.01 317 *e*P **P 19 34 55.4 +1.8**
BBS Basel-Blauen 89.01 317 *e*P **P 19 34 55.4 +1.8**
BUG Bochum--Univer 89.12 321 *e*P **P 19 34 54.6 +0.6**
comp=Z,27nm,0.9s,mb5.6
BUG *e*pP pP 19 35 01.8 -2.4
CDF Champ du Feu 89.15 318 *e*P **P 19 34 53.8 -0.4**
CDF Champ du Feu 89.15 318 *e*P **P 19 34 53.8 -0.4**
CDF Champ du Feu 89.15 318 *e*P **P 19 34 53.8 -0.4**
ECH Echery 89.23 318 *e*P **P 19 34 55.1 +0.5**
comp=Z,9.7nm,1.0s,mb5.1
ECH LR LR
comp=Z,1µm,20.0s,MS5.3
ECH Echery 89.23 318 *e*P **P 19 34 55.1 +0.5**
ECH pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
ECH MLR MLR
comp=Z,1µm,20.0s,MS5.3
ECH Echery 89.23 318 *e*P **P 19 34 54.9 +0.3**
RUP Ruppelstein 89.28 320 *e*P **P 19 34 55.4 +0.6**
RUP Ruppelstein 89.28 320 *e*P **P 19 34 55.4 +0.6**
LPG La Plagne 89.56 315 *e*P **P 19 34 56.5 +0.3**
comp=Z,30nm,0.8s,mb5.4
LPG La Plagne 89.56 315 *e*P **P 19 34 56.5 +0.3**
comp=Z,15nm,0.8s,mb5.4
LPG La Plagne 89.56 315 *e*P **P 19 34 56.5 +0.3**
LPG pmax pmax
comp=Z,15nm,0.8s,mb5.4
MBDF Montbardon 89.56 315 *e*P **P 19 34 56.2 0.0**
comp=Z,21nm,0.9s,mb5.2
MBDF Montbardon 89.56 315 *e*P **P 19 34 56.2 0.0**
comp=Z,11nm,0.9s,mb5.2
MBDF Montbardon 89.56 315 *e*P **P 19 34 56.2 0.0**
MBDF pmax pmax
comp=Z,11nm,0.9s,mb5.2
NVL N'lazarevskaya 89.57 199 *e*P **P 19 35 04.7 +9.0**
NVL *e* 19 35 11.6
NVL *e**PP pP 19 35 16.8 +11
NVL *i* 19 40 34.3
NVL *e*S S 19 45 21.3 -23
NVL *e* 19 45 44.5
NVL *e*SS SS 19 51 48.4 +8.2
NVL pmax pmax
comp=Z,46nm,0.9s,mb5.8
NVL MLR MLR
comp=Z,4µm,21.0s,MS5.8
LPL La Plagne 89.58 315 *e*P **P 19 34 56.4 +0.1**
comp=Z,65nm,1.2s,mb5.5
LPL La Plagne 89.58 315 *e*P **P 19 34 56.4 +0.1**
comp=Z,33nm,1.2s,mb5.5
LPL La Plagne 89.58 315 *e*P **P 19 34 56.4 +0.1**
LPL pmax pmax
comp=Z,33nm,1.2s,mb5.5
MAIT Maitri 89.60 199 *e*P **P 19 34 57.8 +1.9**
MAIT *e* 19 35 04.8
BNI Bardonecchia 89.62 315 *e*P **P 19 34 56.0 -0.5**
comp=Z,14nm,0.9s,mb5.3
BNI LR LR
comp=Z,1µm,19.0s,MS5.3
BNI Bardonecchia 89.62 315 *e*P **P 19 34 56.0 -0.5**
BNI pmax pmax
comp=Z,14nm,0.9s,mb5.3
BNI MLR MLR
comp=Z,1µm,19.0s,MS5.3
RSL Roselend 89.65 315 *e*P **P 19 34 56.7 +0.1**
RSL Roselend 89.65 315 *e*P **P 19 34 56.7 +0.1**
RSL Roselend 89.65 315 *e*P **P 19 34 56.7 +0.1**
FRF La Foret Royal 89.68 313 *e*P **P 19 34 56.8 0.0**
comp=Z,90nm,1.3s,mb5.7
FRF La Foret Royal 89.68 313 *e*P **P 19 34 56.8 0.0**
comp=Z,45nm,1.3s,mb5.6
FRF La Foret Royal 89.68 313 *e*P **P 19 34 56.8 0.0**
FRF pmax pmax
comp=Z,45nm,1.3s,mb5.6
HAU Haudompre 89.78 318 *e*P **P 19 34 56.9 -0.3**
comp=Z,29nm,0.9s,mb5.3
HAU *e*MLR MLR
comp=Z,2µm,22.0s,MS5.2
HAU Haudompre 89.78 318 *e*P **P 19 34 56.9 -0.3**
comp=Z,15nm,0.9s,mb5.3
HAU LR LR
comp=Z,2µm,22.0s,MS5.5
HAU Haudompre 89.78 318 *e*P **P 19 34 56.9 -0.3**
HAU pmax pmax
comp=Z,15nm,0.9s,mb5.3
HAU MLR MLR
comp=Z,2µm,22.0s,MS5.5
WLF Walferdange 89.87 319 P **P 19 34 57.4 -0.2**
comp=Z,29nm,2.0s,mb5.3
WLF Walferdange 89.87 319 *e*P **P 19 34 58.3 +0.8**
comp=Z,125nm,2.1s,mb5.9
WLF Walferdange 89.87 319 *e*P **P 19 34 57.9 +0.4**
comp=Z,22nm,1.3s,mb5.3
WLF LR LR
comp=Z,2µm,20.0s,MS5.5
WLF Walferdange 89.87 319 *e*P **P 19 34 57.9 +0.4**
WLF pmax pmax
comp=Z,22nm,1.3s,mb5.3
WLF MLR MLR
comp=Z,2µm,20.0s,MS5.5
MEM Membach 89.93 320 P **P 19 34 57.6 -0.3**
comp=Z,14nm,1.3s,mb5.1
CABF La Chapelle 90.00 316 *e*P **P 19 34 58.4 +0.2**
comp=Z,70nm,1.3s,mb5.5
CABF La Chapelle 90.00 316 *e*P **P 19 34 58.4 +0.2**
comp=Z,35nm,1.3s,mb5.5
CABF La Chapelle 90.00 316 *e*P **P 19 34 58.4 +0.2**
CABF pmax pmax
comp=Z,35nm,1.3s,mb5.5
THEF They Montfort 90.02 318 *e*P **P 19 34 57.9 -0.4**

THEF They Montfort 90.02 318 *e*P **P 19 34 57.9 -0.4**
THEF They Montfort 90.02 318 *e*P **P 19 34 57.9 -0.4**
ORIF Oris-en-Rattie 90.19 315 *e*P **P 19 35 00.1 +0.9**
comp=Z,91nm,1.4s,mb5.6
ORIF *e*MLR MLR
comp=Z,2µm,19.8s,MS5.3
ORIF Oris-en-Rattie 90.19 315 *e*P **P 19 35 00.1 +0.9**
comp=Z,45nm,1.4s,mb5.6
ORIF Oris-en-Rattie 90.19 315 *e*P **P 19 35 00.1 +0.9**
ORIF pmax pmax
comp=Z,45nm,1.4s,mb5.6
BCLA Clavier 90.39 320 P **P 19 35 00.8 +0.8**
comp=Z,14nm,1.8s,mb5.0
SMRF Simiane la Rot 90.44 314 *e*P **P 19 35 00.9 +0.5**
comp=Z,21nm,0.8s,mb5.2
SMRF Simiane la Rot 90.44 314 *e*P **P 19 35 00.9 +0.5**
comp=Z,21nm,0.8s,mb5.5
MEZF Maizieres J'vi 90.63 318 *e*P **P 19 35 01.2 +0.1**
comp=Z,28nm,0.8s,mb5.3
MEZF Maizieres J'vi 90.63 318 *e*P **P 19 35 01.2 +0.1**
comp=Z,28nm,0.8s,mb5.6
SFTF Sexfontaines 90.65 318 *e*P **P 19 35 01.2 0.0**
comp=Z,97nm,1.1s,mb5.8
SFTF Sexfontaines 90.65 318 *e*P **P 19 35 01.2 0.0**
comp=Z,97nm,1.1s,mb6.0
GIVF Givet 90.71 320 *e*P **P 19 35 01.6 +0.1**
comp=Z,41nm,1.0s,mb5.4
GIVF Givet 90.71 320 *e*P **P 19 35 01.6 +0.1**
comp=Z,20nm,1.0s,mb5.4
GIVF Givet 90.71 320 *e*P **P 19 35 01.6 +0.1**
GIVF pmax pmax
comp=Z,20nm,1.0s,mb5.4
DOU Dourbes 90.86 320 P **P 19 35 02.0 -0.1**
comp=Z,11nm,1.4s,mb5.0
SNF Seneffe 91.03 320 P **P 19 35 02.8 -0.2**
comp=Z,23nm,2.1s,mb5.1
QSPA South Pole Qui 91.09 180 P **P 19 35 04.4 +1.8**
comp=Z,3.1nm,0.7s,mb4.8,baz=258,slow=1.7,SNR=9.1
QSPA South Pole Qui 91.09 180 *e*P **P 19 35 03.6 +1.0**
comp=Z,18nm,1.1s,mb5.3
QSPA LR LR
comp=Z,3µm,19.0s,MS5.8
BAIF Baives 91.11 320 *e*P **P 19 35 03.8 +0.5**
comp=Z,59nm,0.8s,mb5.7
BAIF Baives 91.11 320 *e*P **P 19 35 03.8 +0.5**
comp=Z,30nm,0.8s,mb5.7
BAIF Baives 91.11 320 *e*P **P 19 35 03.8 +0.5**
BAIF pmax pmax
comp=Z,30nm,0.8s,mb5.7
SSB Saint Sauveur 91.12 315 *e*P **P 19 35 03.6 +0.1**
comp=Z,12nm,0.8s,mb5.3
SSB LR LR
comp=Z,704nm,19.0s,MS5.1
SSB Saint Sauveur 91.12 315 *e*P **P 19 35 03.6 +0.1**
SSB pmax pmax
comp=Z,12nm,0.8s,mb5.3
SSB MLR MLR
comp=Z,704nm,19.0s,MS5.1
TAM Tamanrasset 91.18 293 *e*P **P 19 35 05.8 +1.5**
comp=Z,20nm,1.3s,mb5.3
TAM LR LR
comp=Z,1µm,19.0s,MS5.3
TAM Tamanrasset 91.18 293 *e*P **P 19 35 05.8 +1.5**
TAM pmax pmax
comp=Z,19nm,1.3s,mb5.3
TAM MLR MLR
comp=Z,1µm,19.0s,MS5.3
LOR Lormes 91.49 317 *e*P **P 19 35 05.2 0.0**
comp=Z,56nm,1.0s,mb5.6
LOR *e*MLR MLR
comp=Z,2µm,21.0s,MS5.3
LOR Lormes 91.49 317 *e*P **P 19 35 05.2 0.0**
comp=Z,28nm,1.0s,mb5.5
LOR LR LR
comp=Z,2µm,21.0s,MS5.6
LOR Lormes 91.49 317 *e*P **P 19 35 05.2 0.0**
LOR pmax pmax
comp=Z,28nm,1.0s,mb5.5
LOR MLR MLR
comp=Z,2µm,21.0s,MS5.6
SMF Signal de Mont 91.54 317 *e*P **P 19 35 05.3 -0.1**
comp=Z,67nm,1.0s,mb5.6
SMF Signal de Mont 91.54 317 *e*P **P 19 35 05.3 -0.1**
comp=Z,34nm,1.0s,mb5.6
SMF Signal de Mont 91.54 317 *e*P **P 19 35 05.3 -0.1**
SMF pmax pmax
comp=Z,34nm,1.0s,mb5.6
LASF Ste Croix 91.67 314 *e*P **P 19 35 07.1 +1.0**
comp=Z,57nm,1.2s,mb5.5
LASF Ste Croix 91.67 314 *e*P **P 19 35 07.1 +1.0**
SSF Saint Saulge 91.75 317 *e*P **P 19 35 06.5 +0.1**
comp=Z,32nm,1.2s,mb5.2
SSF Saint Saulge 91.75 317 *e*P **P 19 35 06.5 +0.1**
comp=Z,16nm,1.2s,mb5.2
SSF Saint Saulge 91.75 317 *e*P **P 19 35 06.5 +0.1**
SSF pmax pmax
comp=Z,16nm,1.2s,mb5.2
AVF Avril sur Loir 91.87 317 *e*P **P 19 35 06.9 0.0**
comp=Z,26nm,0.8s,mb5.3
AVF Avril sur Loir 91.87 317 *e*P **P 19 35 06.9 0.0**
comp=Z,13nm,0.8s,mb5.3
AVF Avril sur Loir 91.87 317 *e*P **P 19 35 06.9 0.0**
AVF pmax pmax
comp=Z,13nm,0.8s,mb5.3
LBL Lubilhac 92.04 315 *e*P **P 19 35 08.7 +0.9**
LBL Lubilhac 92.04 315 *e*P **P 19 35 08.7 +0.9**
LBL Lubilhac 92.04 315 *e*P **P 19 35 08.7 +0.9**
AGO Saint Agoulin 92.07 316 *e*P **P 19 35 07.8 -0.1**
AGO Saint Agoulin 92.07 316 *e*P **P 19 35 07.8 -0.1**
PYM Petit Puy Mans 92.17 316 *e*P **P 19 35 09.4 +1.0**
PYM Petit Puy Mans 92.17 316 *e*P **P 19 35 09.4 +1.0**
PYM Petit Puy Mans 92.17 316 *e*P **P 19 35 09.4 +1.0**
BGF Bois d'Agland 92.23 316 *e*P **P 19 35 08.9 +0.3**
comp=Z,66nm,1.1s,mb5.6
BGF Bois d'Agland 92.23 316 *e*P **P 19 35 08.9 +0.3**
comp=Z,33nm,1.1s,mb5.6
BGF Bois d'Agland 92.23 316 *e*P **P 19 35 08.9 +0.3**
BGF pmax pmax
comp=Z,33nm,1.1s,mb5.6
HYF Humbligny 92.32 317 *e*P **P 19 35 09.5 +0.5**
HYF Humbligny 92.32 317 *e*P **P 19 35 09.5 +0.5**
TCF Toulx Ste Croi 92.69 316 *e*P **P 19 35 11.6 +0.9**
comp=Z,25nm,1.0s,mb5.3
TCF Toulx Ste Croi 92.69 316 *e*P **P 19 35 11.6 +0.9**
comp=Z,12nm,1.0s,mb5.3
TCF Toulx Ste Croi 92.69 316 *e*P **P 19 35 11.6 +0.9**
TCF pmax pmax
comp=Z,12nm,1.0s,mb5.3
MTLF Montolieu 92.91 313 *e*P **P 19 35 12.1 +0.3**
comp=Z,56nm,1.2s,mb5.6
MTLF Montolieu 92.91 313 *e*P **P 19 35 12.1 +0.3**
comp=Z,28nm,1.2s,mb5.6
MTLF Montolieu 92.91 313 *e*P **P 19 35 12.1 +0.3**
MTLF pmax pmax
comp=Z,28nm,1.2s,mb5.6
DAG Danmarks Havn 94.67 348 *i* P **P 19 35 17.8 -1.4**
comp=Z,9.6nm,0.9s,mb5.2
ESK Eskdalemuir 95.03 326 PFAKE 19 35 30.0 +8.7
ESK LR LR
comp=Z,1µm,19.0s,MS5.5
TORD Torodi Ar. Bea 95.18 283 P **P 19 35 22.0 -0.8**
comp=Z,1.5nm,1.0s,mb4.4,baz=68,slow=5.4,SNR=6.1
TORD LR LR 20 17 20.7
comp=Z,2µm,19.9s,MS5.6,baz=120,slow=35
TORD Torodi Ar. Bea 95.18 283 P **P 19 35 22.0 -0.8**
TORD LR LR 20 17 20.7
ESDC Sonseca Array 97.92 310 P **P 19 35 34.2 -0.6**
comp=Z,0.2nm,0.3s,mb4.1,baz=78,slow=4.3,SNR=3.7
ESDC LR LR 20 27 37.1
comp=Z,708nm,18.3s,MS5.2,baz=310,slow=40
ESDC Sonseca Array 97.92 310 P **P 19 35 34.2 -0.6**
ESDC LR LR 20 27 37.1
ESLA Sonseca Array 97.92 310 PFAKE 19 35 50.0 +15
ESLA LR LR
comp=Z,6µm,21.0s,MS6.1
PAB San Pablo 98.23 310 PFAKE 19 35 50.0 +14
PAB LR LR
comp=Z,1µm,21.0s,MS5.3
BPAW Bear Paw Mtn. 98.32 24 *e*P **P 19 35 35.7 -0.3**
comp=Z,14nm,0.8s,mb5.6
TRF Thorofare Moun 98.84 25 *e*P **P 19 35 38.7 +0.4**
comp=Z,35nm,1.6s,mb5.6
COLA College 99.29 23 PFAKE 19 35 50.0 +10
COLA LR LR
comp=Z,3µm,19.0s,MS5.7
KDAK Kodiak Island 99.65 31 PFAKE 19 35 50.0 +7.9

KDAK LR LR
comp=Z,3µm,19.0s,MS5.8
ILAR Eielson Array 99.71 23 P Pdif 19 35 41.6 -0.8
comp=Z,1.0nm,0.8s,baz=290,slow=5.2,SNR=12
ILAR PP PP 19 39 44.8 -1.6
comp=Z,2.2nm,0.9s,baz=299,slow=7.1,SNR=7.7
ILAR LR LR 20 30 16.6
comp=Z,3µm,18.4s,MS5.8,baz=67,slow=41
ILAR Eielson Array 99.71 23 P Pdif 19 35 41.6 -0.8
ILAR PP PP 19 39 44.8 -1.6
ILAR LR LR 20 30 16.6
ILAR Eielson Array 99.71 23 P Pdif 19 35 41.6 -0.8
ILAR 19 39 44.8
SFS San Fernando 100.15 307 PFAKE 19 36 00.0 +16
SFS LR LR
comp=Z,2µm,21.0s,MS5.6
MTE Manteigas 100.52 311 PFAKE 19 36 00.0 +14
MTE LR LR
comp=Z,988nm,20.0s,MS5.3
EGAK Eagle 101.90 22 PFAKE 19 36 00.0 +7.9
EGAK LR LR
comp=Z,7µm,19.0s,MS6.2
DBIC Dimbokro 101.92 277 PFAKE 19 36 00.0 +7.8
DBIC LR LR
comp=Z,2µm,19.0s,MS5.6
RAR Rarotonga 102.48 111 PFAKE 19 36 10.0 +15
RAR LR LR
comp=Z,2µm,22.0s,MS5.6
INK Inuvik 102.50 17 P Pdif 19 35 53.8 -1.0
comp=Z,3.1nm,0.9s,baz=345,slow=5.1,SNR=6.0
INK Inuvik 102.50 17 *e*Pdif Pdif 19 35 54.0 -0.8
comp=Z,6.8nm,1.1s
INK Inuvik 102.50 17 *e*P Pdif 19 35 54.0 -0.8
INK pmax pmax
comp=Z,7.0nm,1.1s
SHEL Horse Pasture 102.84 254 PFAKE 19 36 10.0 +14
SHEL LR LR
comp=Z,4µm,20.0s,MS5.9
SFJD Kangerlussuaq 108.33 347 PFAKE 19 40 40.0 +14
SFJD LR LR
comp=Z,3µm,20.0s,MS5.9
WRAK Wrangell Islan 110.08 27 PFAKE 19 40 40.0 +10
WRAK LR LR
comp=Z,3µm,20.0s,MS5.9
TBI Tubuai 111.76 115 *e*PP PP 19 41 10.2 -6.5
comp=Z,251nm,27.2s
TBI *e*SP SP 19 50 44.0 -1.9
comp=Z,528nm,30.0s
TBI *e*SS SS 19 56 54.8 +3.4
comp=Z,2µm,26.2s
TBI *e*LR LR 20 13 50.8
comp=Z,3µm,24.0s
YKA Yellowknife Ar 112.12 15 PP PP 19 41 17.2 -0.4
comp=Z,3.7nm,0.9s,baz=327,slow=7.3,SNR=3.7
PPT Papeete 112.38 108 *e*PP PP 19 41 10.7 -11
comp=Z,230nm,25.0s
PPT *e*SP SP 19 50 54.8 +2.8
comp=Z,649nm,26.0s
PPT *e*LR LR 20 14 10.1
comp=Z,3µm,24.2s
PMSA Palmer Station 115.08 189 PFAKE 19 40 50.0 +11
PMSA LR LR
comp=Z,3µm,20.0s,MS6.0
NLWA Neilton Lookou 119.80 31 PFAKE 19 41 00.0 +11
NLWA LR LR
comp=Z,2µm,20.0s,MS5.6
JCW Jim Creek 120.23 29 *e*PKPdf PKPdf 19 40 49.3 -0.4
ETW Entiat 121.42 29 *e*PKPdf PKPdf 19 40 52.3 +0.2
FFC Flin Flon 122.09 13 PFAKE 19 41 00.0 +6.9
FFC LR LR
comp=Z,2µm,20.0s,MS5.8
TAOE Nuku Hiva Isla 122.34 100 *e*PP PP 19 42 34.6 +3.7
comp=Z,434nm,27.9s
TAOE *e*SP SP 19 52 18.2 -4.2
comp=Z,627nm,26.1s
TAOE *e*LR LR 20 18 43.7
comp=Z,2µm,23.3s
OD2 Odessa Site #2 122.35 28 *e*PKPdf PKPdf 19 40 54.8 +1.0
NEW Newport 122.44 27 *e*PKPdf PKPdf 19 40 54.8 +0.9
NEW LR LR
comp=Z,2µm,19.0s,MS5.8
NEW Newport 122.44 27 *e*PKIKP PKPdf 19 40 54.8 +0.8
NEW MLR MLR
comp=Z,2µm,19.0s
HAWA Hanford 122.66 30 *e*PKPdf PKPdf 19 40 54.9 +0.4
HAWA LR LR
comp=Z,2µm,22.0s,MS5.7
SCHQ Schefferville 122.69 349 PKP PKPdf 19 40 54.3 +0.1
comp=Z,7.9nm,0.8s,baz=40,slow=6.7,SNR=5.4
SCHQ Schefferville 122.69 349 PKP PKPdf 19 40 54.3 +0.1
SCHQ LR LR
comp=Z,3µm,22.0s,MS5.9
HUMO Hull Mountain 123.37 35 PFAKE 19 41 10.0 +14
HUMO LR LR
comp=Z,1µm,21.0s,MS5.6
BSMT Bassoo Peak 123.78 25 *e*PKPdf PKPdf 19 40 56.9 +0.3
YBH Yreka Blue Hor 124.06 35 PFAKE 19 41 10.0 +13
YBH LR LR
comp=Z,1µm,20.0s,MS5.6
SWMT Swartz Lake 124.38 25 *e*PKPdf PKPdf 19 40 57.8 0.0
SLMT Seeley Lake 124.80 25 *e*PKPdf PKPdf 19 40 58.3 -0.3
RKT Rikitea 124.84 118 *e*PS PS 19 52 47.0 -0.9
comp=Z,511nm,27.5s
RKT *e*SS SS 19 59 44.4 +3.6
comp=Z,983nm,29.8s
RKT *e*LR LR 20 19 59.2
comp=Z,3µm,24.5s
BMO Blue Mountains 124.85 29 PFAKE 19 41 10.0 +11
BMO LR LR
comp=Z,858nm,20.0s,MS5.4
WDC Whiskeytown Da 124.89 36 PFAKE 19 41 10.0 +11
WDC LR LR
comp=Z,2µm,19.0s,MS5.7
MSO Missoula 124.93 26 *e*PKPdf PKPdf 19 40 58.5 -0.3
MSO LR LR
comp=Z,2µm,21.0s,MS5.8
CHMT Chamberlain Mo 125.16 25 *e*PKPdf PKPdf 19 40 59.5 +0.3
MOD Modoc 125.33 34 *e*PKPdf PKPdf 19 41 00.4 +0.7
MOD LR LR
comp=Z,2µm,21.0s,MS5.7
HOPS Hopland 125.54 38 PFAKE 19 41 10.0 +10
HOPS LR LR
comp=Z,2µm,20.0s,MS5.7
EFI East Falkland 125.55 199 PFAKE 19 41 10.0 +10
EFI LR LR
comp=Z,1µm,19.0s,MS5.7
EGMT Eagleton 125.67 22 PFAKE 19 41 10.0 +10
EGMT LR LR
comp=Z,2µm,19.0s,MS5.8
WVOR Wild Horse Val 125.88 32 *e*PKPdf PKPdf 19 41 02.4 +1.6
WVOR LR LR
comp=Z,2µm,20.0s,MS5.7
WVOR Wild Horse Val 125.88 32 *e*PKIKP PKPdf 19 41 02.4 +1.6
WVOR MLR MLR
comp=Z,2µm,20.0s,MS5.7
MCCM Marconi Confer 126.17 39 PFAKE 19 41 10.0 +8.5
MCCM LR LR
comp=Z,2µm,19.0s,MS5.7
LRM Limekiln Ridge 126.36 26 *e*PKPdf PKPdf 19 41 02.1 +0.5
MFID Camas Ranch 126.63 30 *e*PKPdf PKPdf 19 41 04.2 +2.0
DLMT Dillon 126.66 26 *e*PKPdf PKPdf 19 41 02.3 +0.1
BOZ Bozeman (W) 126.85 25 *e*PKPdf PKPdf 19 41 03.3 +0.7
BOZ LR LR
comp=Z,1µm,20.0s,MS5.6
BOZ Bozeman (W) 126.85 25 *e*PKIKP PKPdf 19 41 03.3 +0.8
BOZ MLR MLR
comp=Z,1µm,20.0s,MS5.6
MCMT McKenzie Canyo 126.97 27 *e*PKPdf PKPdf 19 41 03.9 +1.1
DGMT Dagmar 127.18 18 PFAKE 19 41 10.0 +6.9
DGMT LR LR
comp=Z,3µm,21.0s,MS5.9
HLID Hailey 127.21 29 *e*PKPdf PKPdf 19 41 04.2 +0.9
HLID LR LR
comp=Z,2µm,21.0s,MS5.9
ULM Lac du Bonnet 127.57 11 PKP PKPdf 19 41 03.0 -0.8
comp=Z,13nm,0.8s,baz=333,slow=3.3,SNR=11
ULM Lac du Bonnet 127.57 11 *e*PKPdf PKPdf 19 41 03.5 -0.2
ULM LR LR
comp=Z,4µm,20.0s,MS6.0
ULM Lac du Bonnet 127.57 11 *e*PKIKP PKPdf 19 41 03.5 -0.3
ULM MLR MLR
comp=Z,4µm,20.0s
QLMT Earthquake Lak 127.59 26 *e*PKPdf PKPdf 19 41 05.1 +1.2
CMB Columbia Colle 127.79 38 *e*PKPdf PKPdf 19 41 05.8 +1.2
CMB LR LR
comp=Z,1µm,22.0s,MS5.5
CMB Columbia Colle 127.79 38 *e*PKIKP PKPdf 19 41 05.8 +1.2
CMB MLR MLR
comp=Z,1µm,22.0s,MS5.5
SAO San Andreas Ge 127.91 40 PFAKE 19 41 20.0 +15
SAO LR LR
comp=Z,1µm,20.0s,MS5.6
YMR Madison River 127.92 25 *e*PKPdf PKPdf 19 41 04.9 +0.3
LAO LASA Array 128.08 20 PFAKE 19 41 20.0 +15
LAO LR LR
comp=Z,2µm,19.0s,MS5.7
LKWY Lake 128.24 25 PFAKE 19 41 20.0 +15
LKWY LR LR
comp=Z,3µm,19.0s,MS6.0
RLMT Red Lodge 128.25 24 PFAKE 19 41 20.0 +15
RLMT LR LR
comp=Z,2µm,19.0s,MS5.9
NVAR Mina Array Bea 128.78 36 PKP PKPdf 19 41 08.2 +1.7
comp=Z,6.5nm,0.8s,baz=278,slow=2.2,SNR=31
NVAR Mina Array Bea 128.78 36 PKP PKPdf 19 41 08.2 +1.8
RRI2 Red Ridge 128.81 27 *e*PKPdf PKPdf 19 41 07.8 +1.5
TPAW Teton Pass 128.86 26 *e*PKPdf PKPdf 19 41 05.2 -1.2
LOHW Long Hollow 128.92 26 *e*PKPdf PKPdf 19 41 07.5 +1.0
REDW Red Top Meadow 129.01 26 *e*PKPdf PKPdf 19 41 08.3 +1.6
AHID Auburn Hatcher 129.37 27 PFAKE 19 41 20.0 +13
AHID LR LR
comp=Z,2µm,20.0s,MS5.9
AGMN Agassiz Nation 129.44 11 PFAKE 19 41 20.0 +13
AGMN LR LR
comp=Z,3µm,20.0s,MS5.9
TPH Tonopah 129.65 35 PFAKE 19 41 20.0 +12
TPH LR LR
comp=Z,2µm,20.0s,MS5.7
BGU Big Grassy Mou 129.87 30 *e*PKPdf PKPdf 19 41 09.6 +1.2
PD01 Pinedale Array 130.03 26 *e*PKPdf PKPdf 19 41 05.6 -3.1
PD02 Pinedale Array 130.04 26 *e*PKPdf PKPdf 19 41 06.6 -2.1
BW06 Boulder Array 130.05 26 PFAKE 19 41 20.0 +11
BW06 LR LR
comp=Z,1µm,19.0s,MS5.7
PDAR Pinedale Array 130.05 26 PKP PKPdf 19 41 07.2 -1.5
comp=Z,1.7nm,0.8s,baz=125,slow=2.3,SNR=3.8
PDAR PP PP 19 43 24.6 +4.4
comp=Z,2.0nm,1.1s,baz=38,slow=2.6,SNR=3.8
PDAR Pinedale Array 130.05 26 PKP PKPdf 19 41 07.2 -1.5
PDAR PP PP 19 43 24.6 +4.4
HWUT Hardware Ranch 130.06 28 *e*PKPdf PKPdf 19 41 09.3 +0.5
HWUT LR LR
comp=Z,2µm,19.0s,MS5.9
EYMN Ely 130.51 8 PFAKE 19 41 20.0 +11
EYMN LR LR
comp=Z,2µm,20.0s,MS5.8
DUG Dugway 130.53 30 *e*PKPdf PKPdf 19 41 11.0 +1.3
DUG LR LR
comp=Z,2µm,21.0s,MS5.7
DUG Dugway 130.53 30 *e*PKIKP PKPdf 19 41 11.0 +1.3
DUG MLR MLR
comp=Z,2µm,21.0s,MS5.7
DAC Darwin (Calif) 130.62 37 PFAKE 19 41 20.0 +10
DAC LR LR
comp=Z,2µm,21.0s,MS5.7
NLU North Lily Min 131.08 30 *e*PKPdf PKPdf 19 41 10.6 -0.2
RWWY Rawlins 131.93 25 *e*PKPdf PKPdf 19 41 11.9 -0.5
TMUT Trail Mountain 132.01 30 *e*PKPdf PKPdf 19 41 14.2 +1.7
MVU Marysvale 132.10 31 PFAKE 19 41 20.0 +7.3
MVU LR LR
comp=Z,1µm,22.0s,MS5.6
MSU Marysvale 132.11 31 *e*PKPdf PKPdf 19 41 15.3 +2.5
MSU Marysvale 132.11 31 *e*PKIKP PKPdf 19 41 15.3 +2.5
SRU San Rafael 132.50 29 *e*PKPdf PKPdf 19 41 14.3 +0.9
SRU San Rafael 132.50 29 *e*PKIKP PKPdf 19 41 14.3 +0.8
COWI Conover 132.61 6 *e*PKPdf PKPdf 19 41 13.6 +0.2
COWI LR LR
comp=Z,2µm,20.0s,MS5.9
RCBR Riachuelo 133.06 263 PFAKE 19 41 30.0 +15
RCBR LR LR
comp=Z,1µm,19.0s,MS5.7
PFO Pinyon Flat Ob 133.07 39 PFAKE 19 41 30.0 +15
PFO LR LR
comp=Z,1µm,19.0s,MS5.7
ECSD EROS Data Cent 133.62 14 PFAKE 19 41 30.0 +15
ECSD LR LR
comp=Z,2µm,19.0s,MS5.8
LBNH Lisbon 133.79 349 PFAKE 19 41 30.0 +14
LBNH LR LR
comp=Z,1µm,20.0s,MS5.7
LONY Lake Ozonia 133.86 352 PFAKE 19 41 30.0 +14
LONY LR LR
comp=Z,2µm,22.0s,MS5.7
ISCO Idaho Springs 134.18 25 PKPdf PKPdf 19 41 15.7 -0.9
ISCO LR LR
comp=Z,2µm,20.0s,MS5.8
ISCO Idaho Springs 134.18 25 PKIKP PKPdf 19 41 15.7 -0.9
ISCO MLR MLR
comp=Z,2µm,20.0s,MS5.8
GLMI Grayling 134.20 2 PFAKE 19 41 30.0 +14
GLMI LR LR
comp=Z,2µm,20.0s,MS5.8
NCB Newcomb 134.44 351 PFAKE 19 41 30.0 +13
NCB LR LR
comp=Z,2µm,19.0s,MS5.8
OGNE Ogallala 134.57 21 PFAKE 19 41 30.0 +13
OGNE LR LR
comp=Z,2µm,20.0s,MS5.7
WUAZ Wupatki 134.77 33 *e*PKPdf PKPdf 19 41 20.2 +2.4
WUAZ LR LR
comp=Z,1µm,20.0s,MS5.6
MVCO Mesa Verde 134.97 29 *e*PKPdf PKPdf 19 41 19.3 +1.1
MVCO LR LR
comp=Z,2µm,22.0s,MS5.8
JFWS Jewell Farm 135.62 8 PFAKE 19 41 30.0 +11
JFWS LR LR
comp=Z,3µm,22.0s,MS5.9
SDCO Great Sand Dun 135.94 26 PFAKE 19 41 30.0 +10
SDCO LR LR
comp=Z,2µm,21.0s,MS5.8
SCIA State Center 136.10 11 PFAKE 19 41 30.0 +10
SCIA LR LR
comp=Z,2µm,19.0s,MS5.9
BINY Binghamton 136.42 353 PFAKE 19 41 30.0 +9.3
BINY LR LR
comp=Z,2µm,19.0s,MS5.8
AAM Ann Arbor 136.74 1 PFAKE 19 41 30.0 +8.7
AAM LR LR
comp=Z,2µm,19.0s,MS5.8
ERPA Erie 136.86 357 PFAKE 19 41 30.0 +8.5
ERPA LR LR
comp=Z,2µm,20.0s,MS5.8
CBKS Cedar Bluff 137.26 20 PFAKE 19 41 30.0 +7.6
CBKS LR LR
comp=Z,2µm,19.0s,MS5.8
TUC Tucson 137.43 36 *e*PKPdf PKPdf 19 41 22.3 -0.6
TUC LR LR
comp=Z,2µm,21.0s,MS5.7
TUC Tucson 137.43 36 *e*PKIKP PKPdf 19 41 22.3 -0.6
TUC MLR MLR
comp=Z,2µm,21.0s,MS5.7
ANMO Albuquerque 137.77 29 *e*PKPdf PKPdf 19 41 23.5 +0.1
ANMO LR LR
comp=Z,2µm,19.0s,MS5.8
ANMO Albuquerque 137.77 29 *e*PKIKP PKPdf 19 41 23.5 +0.1
ANMO MLR MLR
comp=Z,2µm,19.0s
HDIL Hopedale 138.06 8 PFAKE 19 41 40.0 +16
HDIL LR LR
comp=Z,2µm,19.0s,MS5.8
TRQA Tornquist 138.62 205 PFAKE 19 41 40.0 +15
TRQA LR LR
comp=Z,2µm,19.0s,MS5.8
ACSO Alum Creek Sta 138.82 0 PFAKE 19 41 40.0 +15
ACSO LR LR
comp=Z,2µm,19.0s,MS5.9
PLCA Paso Flores 139.08 194 PFAKE 19 41 40.0 +14
PLCA LR LR
comp=Z,2µm,21.0s,MS5.8
SPB Sao Paulo 139.17 234 PFAKE 19 41 40.0 +14
SPB LR LR
comp=Z,1µm,20.0s,MS5.7
MCWV Mont Chateau 139.31 357 PFAKE 19 41 40.0 +14
MCWV LR LR
comp=Z,2µm,20.0s,MS5.9
AMTX Amarillo 140.00 25 PFAKE 19 41 40.0 +12
AMTX LR LR
comp=Z,1µm,20.0s,MS5.7
CCM Cathedral Cave 140.20 11 *e*PKPpre PKPpre 19 41 20.4
CCM Cathedral Cave 140.20 11 *e*PKHKP PKPpre 19 41 20.5
CBN Corbin 140.53 353 PFAKE 19 41 40.0 +12
CBN LR LR
comp=Z,1µm,20.0s,MS5.7
WCI Wyandotte Cave 140.68 4 *e*PKPpre PKPpre 19 41 23.0
WCI Wyandotte Cave 140.68 4 *e*PKIKP PKPdf 19 41 23.0 -5.7
WMOK Wichita Mounta 141.26 21 PFAKE 19 41 40.0 +10
WMOK LR LR
comp=Z,2µm,22.0s,MS5.8
BLA Blacksburg 141.77 357 PFAKE 19 41 40.0 +9.3
BLA LR LR
comp=Z,2µm,19.0s,MS5.9
BBSR BB Station 142.56 334 PFAKE 19 41 40.0 +7.8
BBSR LR LR
comp=Z,1µm,20.0s,MS5.7
MIAR Mount Ida 143.06 15 *e*PKPdf PKPdf 19 41 29.0 -4.0
MIAR LR LR
comp=Z,2µm,19.0s,MS5.9
MIAR Mount Ida 143.06 15 *e*PKIKP PKPdf 19 41 29.0 -4.0
MIAR MLR MLR
comp=Z,2µm,19.0s,MS5.9
UALR University of 143.14 13 *e*PKPpre PKPpre 19 41 30.8
CNNC Cliffs of the 143.52 353 PFAKE 19 41 50.0 +16
CNNC LR LR
comp=Z,2µm,20.0s,MS5.9
TXAR Lajitas Array 143.67 32 PKP PKPdf 19 41 31.8 -2.4
comp=Z,5.2nm,0.6s,baz=227,slow=0.6,SNR=53
TXAR Lajitas Array 143.67 32 PKP PKPdf 19 41 31.8 -2.4
TXAR Lajitas Array 143.67 32 PKIKP PKPdf 19 41 31.8 -2.4
PLAL Pickwick Lake 143.71 7 *e*PKPpre PKPpre 19 41 30.2
PLAL LR LR
comp=Z,3µm,19.0s,MS6.1
OXF Oxford 143.98 9 *e*PKPpre PKPpre 19 41 31.6
OXF LR LR
comp=Z,2µm,20.0s,MS5.9
OXF Oxford 143.98 9 *e*PKIKP PKPdf 19 41 31.6 -3.0
OXF MLR MLR
comp=Z,2µm,20.0s,MS5.9
JCT Junction City 144.59 26 *e*PKPpre PKPpre 19 41 34.1
JCT LR LR
comp=Z,2µm,19.0s,MS5.8
JCT Junction City 144.59 26 *e*PKIKP PKPdf 19 41 34.1 -1.7
JCT MLR MLR
comp=Z,2µm,19.0s,MS5.8
JSC Jenkinsville 144.73 358 *e*PKPdf PKPdf 19 41 35.1 -0.8
JSC Jenkinsville 144.73 358 *e*PKIKP PKPdf 19 41 35.2 -0.8
CPUP Villa Florida 145.02 222 PKPbc PKPbc 19 41 36.2 +0.2
comp=Z,15nm,0.8s,baz=78,slow=3.1,SNR=36
CPUP Villa Florida 145.02 222 PKPbc PKPbc 19 41 36.2 +0.2
CPUP LR LR
comp=Z,306nm,20.0s,MS5.1
CPUP Villa Florida 145.02 222 PKIKP PKPdf 19 41 36.2 -0.5
CPUP MLR MLR
comp=Z,306nm,20.0s
NATX Nacogdoches 145.37 18 *e*PKPdf PKPdf 19 41 37.2 +0.1
NATX LR LR
comp=Z,2µm,20.0s,MS5.9
GOGA Godfrey 145.62 1 *e*PKPdf PKPdf 19 41 37.2 -0.3
GOGA LR LR
comp=Z,2µm,20.0s,MS6.0
GOGA Godfrey 145.62 1 *e*PKP2 PKPab 19 41 37.2 -0.7
GOGA MLR MLR
comp=Z,2µm,20.0s,MS6.0
LRAL Lakeview Retre 145.76 6 *e*PKPdf PKPdf 19 41 37.4 -0.4
LRAL LR LR
comp=Z,3µm,19.0s,MS6.0
NHSC New Hope 145.84 356 PFAKE 19 41 50.0 +12
NHSC LR LR
comp=Z,3µm,19.0s,MS6.0
VBMS Vicksburg 146.00 12 *e*PKPdf PKPdf 19 41 39.8 +1.6
VBMS LR LR
comp=Z,2µm,20.0s,MS5.9
BRAL Brewton 147.75 7 *e*PKPdf PKPdf 19 41 40.9 -0.3
BRAL LR LR
comp=Z,2µm,19.0s,MS5.9
KVTX Kingsville 147.95 26 PFAKE 19 41 50.0 +8.4
KVTX LR LR
comp=Z,1µm,19.0s,MS5.8
LCO Las Campanas 150.01 201 PFAKE 19 42 00.0 +15
LCO LR LR
comp=Z,1µm,20.0s,MS5.7
ANWB Willy Bob 152.17 313 PFAKE 19 42 00.0 +12
ANWB LR LR
comp=Z,918nm,20.0s,MS5.6
BBGH Gun Hill 152.99 302 PFAKE 19 42 00.0 +10
BBGH LR LR
comp=Z,2µm,21.0s,MS5.9
FDF Fort de France 153.46 307 PFAKE 19 42 00.0 +10
FDF LR LR
comp=Z,830nm,20.0s,MS5.5
SJG San Juan 154.86 320 PFAKE 19 42 00.0 +7.7
SJG LR LR
comp=Z,1µm,22.0s,MS5.8
GRGR Grenville 155.27 303 PFAKE 19 42 00.0 +7.0
GRGR LR LR
comp=Z,1µm,21.0s,MS5.7
SDDR Presa de Saban 157.06 331 PFAKE 19 42 10.0 +15
SDDR LR LR
comp=Z,2µm,20.0s,MS6.0
GTBY Guantanamo Bay 157.77 341 PFAKE 19 42 10.0 +14
GTBY LR LR
comp=Z,1µm,20.0s,MS5.7
TEIG Tepich 158.07 14 PFAKE 19 42 10.0 +14
TEIG LR LR
comp=Z,2µm,20.0s,MS5.8
LPAZ La Paz 159.19 223 PKP PKPdf 19 41 58.4 +0.6
comp=Z,2.9nm,0.9s,baz=45,slow=8.6,SNR=10.0
LPAZ La Paz 159.19 223 PKP PKPdf 19 41 58.4 +0.6
LPAZ LR LR
comp=Z,1µm,20.0s,MS5.8
LPAZ La Paz 159.19 223 PKIKP PKPdf 19 41 58.4 +0.6
LPAZ MLR MLR
comp=Z,1µm,20.0s
MTDJ Mount Denham 160.08 345 PFAKE 19 42 10.0 +11
MTDJ LR LR
comp=Z,1µm,19.0s
TGUH Tegucigalpa,Un 164.23 16 PFAKE 19 42 10.0 +6.9
TGUH LR LR
comp=Z,1µm,19.0s
SDV Santo Domingo 164.37 310 PFAKE 19 42 10.0 +6.7
SDV LR LR
comp=Z,471nm,19.0s
NNA Nana 167.76 208 PFAKE 19 42 20.0 +14
NNA LR LR
comp=Z,2µm,20.0s
JTS JuntasAbangare 168.42 11 PFAKE 19 42 20.0 +14
JTS LR LR
comp=Z,1µm,20.0s
BCIP Isla Barro Col 169.36 344 PFAKE 19 42 20.0 +13
BCIP LR LR
comp=Z,1µm,19.0s
ROSC El Rosal 169.71 306 PKP PKPdf 19 42 07.9 +0.6
comp=Z,3.1nm,0.3s,baz=90,slow=20,SNR=2.9
ROSC El Rosal 169.71 306 PKP PKPdf 19 42 07.9 +0.6
PAYG Puerto Ayora 172.42 86 PFAKE 19 42 20.0 +11
PAYG LR LR
comp=Z,2µm,22.0s
OTAV Otavalo 175.52 288 *e*PKPdf PKPdf 19 42 10.6 +0.8
OTAV LR LR
comp=Z,2µm,19.0s

IDC ***03*** *19:30:17.2±1.7, 0.93N×97.13E, h0km, mb3.7/6, mb1 3.7/8, mb1mx3.6/26, mbtmp3.6/8, ML3.2/2, Error ellipse: s-maj=52.3km s-min=20.5km az=60.0*

NEIC ***03*** *19:30:18.7±0.8, 0.94N×97.13E, h10km, mb4.1/1, Error ellipse: s-maj=20.7km s-min=10.1km az=64.0*

ISCJB ***03*** *19:30:20.4±1.1, 1.0N±0.1×97.2E±0.2, h33km, mb3.7/7, Error ellipse: s-maj=27.2km s-min=13.6km az=155.4*

ISC 03 19:30:23.0±1.1, 1.0N±0.1×97.3E±0.2, h35km, n17, σ0§44/17, mb3.7/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.39**	**43**	Pn	**Pn**	**19 30 59.5**	**-0.3**
	2.0nm,0.3s,baz=326,slow=15,SNR=4.6						
PSI	**Prapat**	**2.39**	**43**	Pn	**Pn**	**19 30 59.5**	**-0.3**
	0.1nm,0.3s,baz=194,slow=11,SNR=5.1						
CMAR	**Chiang Mai Arr**	**17.39**	**5**	P	**Pn**	**19 34 23.2**	**+0.2**
CMAR	**Chiang Mai Arr**	**17.39**	**5**	P	**Pn**	**19 34 23.2**	**+0.2**
WRA	**Warramunga Arr**	**41.87**	**122**	P	**P**	**19 38 09.7**	**-0.5**
	0.5nm,0.7s,mb3.2,baz=305,slow=9.0,SNR=3.2						
WRA	**Warramunga Arr**	**41.87**	**122**	P	**P**	**19 38 09.7**	**-0.4**
WRAB	**Tennant Creek**	**41.88**	**122**	*e*P	**P**	**19 38 10.4**	**+0.2**
	4.0nm,1.0s,mb4.0						

ASAR	**Alice Springs**	**43.22**	**127**	P	**P**	**19 38 21.5**	**+0.3**
	0.6nm,0.9s,mb3.3,baz=291,slow=7.6,SNR=2.5						
ASAR	**Alice Springs**	**43.22**	**127**	P	**P**	**19 38 21.4**	**+0.3**
SONM	**Songino Array**	**47.28**	**8**	P	**P**	**19 38 53.7**	**+0.8**
	0.8nm,0.8s,mb3.7,baz=191,slow=7.9,SNR=4.2						
SONM	**Songino Array**	**47.28**	**8**	P	**P**	**19 38 53.7**	**+0.8**
MKAR	**Makanchi Array**	**47.42**	**346**	P	**P**	**19 38 54.2**	**+0.2**
	0.7nm,0.6s,mb3.8,baz=162,slow=7.4,SNR=4.0						
MKAR	**Makanchi Array**	**47.42**	**346**	P	**P**	**19 38 54.2**	**+0.2**
KURK	**Kurchatov**	**51.97**	**345**	P	**P**	**19 39 27.8**	**-0.8**
	0.3nm,0.3s,mb3.6,baz=154,slow=14,SNR=4.1						
KURK	**Kurchatov**	**51.97**	**345**	P	**P**	**19 39 27.8**	**-0.8**
ZALV	**Zalesovo Beam**	**53.73**	**351**	P	**P**	**19 39 41.3**	**-0.2**
	1.2nm,0.6s,mb4.0,baz=156,slow=7.6,SNR=4.1						
ZALV	**Zalesovo Beam**	**53.73**	**351**	P	**P**	**19 39 41.3**	**-0.2**

*ISK **03** 19:34:26.5, 35°.70N×27°.92E, h14km, MD4.3, ML4.0*
*ISCJB **03** 19:34:29.7±0.2, 35°.77N±0°.01×28°.04E±0°.02, h74km±3km, mb3.9/15, Error ellipse: s-maj=2.4km s-min=2.1km az=29.3*
*DDA **03** 19:34:30.8, 35°.88N×27°.91E, h60km±7km, Md3.7*
*NEIC **03** 19:34:31.7±1.0, 35°.72N×28°.09E, h85km±16km, mb4.0/10, Error ellipse: s-maj=12.0km s-min=9.4km az=222.0*
*CSEM **03** 19:34:31.4±0.1, 35°.79N×28°.03E, h68km±2km, mb4.1/9, Ms3.5, Mw3.5, Error ellipse: s-maj=3.4km s-min=2.3km az=175.0*
*THE **03** 19:34:32.5, 35°.84N×27°.99E, h43km±2km, ML3.9/6, Error ellipse: s-maj=2.7km s-min=0.8km az=118.0*
*ATH **03** 19:34:32.3, 35°.94N×27°.81E, h42km±1km, MD3.5/5*
*HLW **03** 19:34:32.0, 35°.66N×28°.16E, h31km±41km, Md3.6, Ml3.7*
*IDC **03** 19:34:33.5±2.1, 35°.71N×28°.31E, h101km±28km, mb3.5/6, mb1 3.5/14, mb1mx3.4/30, mbtmp3.4/14, Error ellipse: s-maj=18.0km s-min=14.0km az=89.0*
*NIC **03** 19:34:37.9±0.2, 35°.87N×28°.67E, h36km, mb4.2, ML3.8, MW3.5*

ISC 03 19:34:31.2±0.1, **35°.78N**±0°.01×**28°.02E**±0°.02, **h69**km±3km, **n406**,σ1°11/489, **mb3.9**/15, **2C, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.44**	**11**	*e*P	**Pn**	**19 34 42.0**	**-1.4**
ARG				*e*S	**Sn**	**19 34 49.7**	**-2.6**
ARG	**Arkhangelos**	**0.44**	**11**	P	**Pn**	**19 34 42.0**	**-1.4**
ARG				S	**Sn**	**19 34 48.7**	**-3.6**
ARG	**Arkhangelos**	**0.44**	**11**	*e*P	**Pn**	**19 34 42.0**	**-1.4**
ARG				S	**Sn**	**19 34 48.7**	**-3.6**
KARP	**Karpathos**	**0.74**	**252**	*e*P	**Pn**	**19 34 45.8**	**-0.6**
KARP				*e*S	**Sn**	**19 34 56.1**	**-1.6**
KARP	**Karpathos**	**0.74**	**252**	P	**Pn**	**19 34 45.8**	**-0.6**
KARP				S	**Sn**	**19 34 56.2**	**-1.5**
KARP	**Karpathos**	**0.74**	**252**	*e*P	**Pn**	**19 34 45.8**	**-0.6**
KARP				S	**Sn**	**19 34 56.2**	**-1.5**
DAT	**Datca**	**1.01**	**339**	PG	**Pn**	**19 34 47.5**	**-2.2**
DAT				*e*SG	**Sn**	**19 35 02.2**	**-1.3**
DAT	**Datca**	**1.01**	**339**	*i* Pg	**Pn**	**19 34 47.5**	**-2.3**
DAT				*e*Sg	**Sn**	**19 35 02.2**	**-1.3**
NIS1	**Nisyros Isl.**	**1.06**	**321**	P	**Pn**	**19 34 49.2**	**-1.2**
NIS1				S	**Sn**	**19 35 04.2**	**-0.6**
NIS1	**Nisyros Isl.**	**1.06**	**321**	P	**Pn**	**19 34 49.2**	**-1.2**
NIS1				S	**Sn**	**19 35 04.2**	**-0.6**
TURN	**Turunc**	**1.19**	**23**	*i* P	**Pn**	**19 34 49.9**	**-2.1**
TURN				*i* S	**Sn**	**19 35 03.8**	**-3.7**
TURN	**Turunc**	**1.19**	**23**	*i* P	**Pn**	**19 34 49.8**	**-2.2**
TURN				*i* S	**Sn**	**19 35 03.8**	**-3.7**
FETY	**Fethiye**	**1.21**	**45**	*e*PN	**Pn**	**19 34 50.9**	**-1.4**
FETY	**Fethiye**	**1.21**	**45**	*e*Pn	**Pn**	**19 34 50.9**	**-1.4**
AKAS	**Kas**	**1.36**	**70**	*i* P	**Pn**	**19 34 54.3**	**0.0**
AKAS				*i* S	**Sn**	**19 35 09.7**	**-1.9**
AKAS	**Kas**	**1.36**	**70**	*i* P	**Pn**	**19 34 54.3**	**0.0**
AKAS				*i* S	**Sn**	**19 35 09.7**	**-1.9**
YER	**Yerkesik**	**1.37**	**9**	*e*PN	**Pn**	**19 34 53.3**	**-1.0**
YER	**Yerkesik**	**1.37**	**9**	*e*Pn	**Pn**	**19 34 53.3**	**-1.1**
MLSB	**Milas**	**1.52**	**353**	*e*PN	**Pn**	**19 34 55.2**	**-1.2**
MLSB	**Milas**	**1.52**	**353**	*e*Pn	**Pn**	**19 34 55.3**	**-1.1**
ZKR	**Zakros**	**1.61**	**246**	*e*P	**Pn**	**19 34 58.8**	**+1.2**
ZKR				*e*S	**Sn**	**19 35 18.5**	**+0.9**
ZKR	**Zakros**	**1.61**	**246**	P	**Pn**	**19 34 58.8**	**+1.2**
ZKR				S	**Sn**	**19 35 18.7**	**+1.1**
ZKR	**Zakros**	**1.61**	**246**	*e*P	**Pn**	**19 34 58.8**	**+1.2**
ZKR				*e*S	**Sn**	**19 35 18.5**	**+0.9**
ELL	**Elmali**	**1.81**	**57**	*e*PN	**Pn**	**19 34 60.0**	**-0.2**
ELL	**Elmali**	**1.81**	**57**	*e*Pn	**Pn**	**19 35 00.0**	**-0.2**
GLHS	**Glhisar (BURDU**	**1.82**	**41**	*e*PN	**Pn**	**19 35 00.1**	**-0.3**
GLHS	**Glhisar (BURDU**	**1.82**	**41**	*e*Pn	**Pn**	**19 35 00.1**	**-0.2**
AYDN	**Tasoluk**	**1.88**	**357**	*i* P	**Pn**	**19 35 01.4**	**+0.2**
AYDN				*i* S	**Sn**	**19 35 22.9**	**-1.0**
AYDN	**Tasoluk**	**1.88**	**357**	*i* P	**Pn**	**19 35 01.4**	**+0.2**
AYDN				*i* S	**Sn**	**19 35 22.9**	**-1.0**
GOLH	**Golhisar**	**1.91**	**40**	*i* P	**Pn**	**19 35 02.3**	**+0.7**
GOLH				*i* S	**Sn**	**19 35 27.5**	**+2.8**
GOLH	**Golhisar**	**1.91**	**40**	*i* P	**Pn**	**19 35 02.3**	**+0.7**
GOLH				*i* S	**Sn**	**19 35 27.5**	**+2.8**
GCAM	**G?zelcaml?**	**2.02**	**342**	*i* P	**Pn**	**19 35 02.6**	**-0.4**
GCAM				*i* S	**Sn**	**19 35 24.7**	**-2.5**
GCAM	**G?zelcaml?**	**2.02**	**342**	*i* P	**Pn**	**19 35 02.6**	**-0.4**
GCAM				*i* S	**Sn**	**19 35 24.7**	**-2.5**
NPS	**Neapolis**	**2.03**	**256**	*e*P	**Pn**	**19 35 03.4**	**+0.2**
NPS	**Neapolis**	**2.03**	**256**	P	**Pn**	**19 35 03.8**	**+0.6**
NPS				S	**Sn**	**19 35 26.7**	**-0.9**
NPS	**Neapolis**	**2.03**	**256**	*e*P	**Pn**	**19 35 03.4**	**+0.2**
NPS				S	**Sn**	**19 35 26.7**	**-0.9**
DNZL	**Cakiroluk**	**2.08**	**23**	*i* P	**Pn**	**19 35 08.2**	**+4.3**
DNZL				*i* S	**Sn**	**19 35 35.8**	**+7.2**
DNZL	**Cakiroluk**	**2.08**	**23**	*i* P	**Pn**	**19 35 08.1**	**+4.3**
DENT	**Denizli**	**2.13**	**22**	*e*PN	**Pn**	**19 35 04.4**	**-0.1**
DENT	**Denizli**	**2.13**	**22**	*e*Pn	**Pn**	**19 35 04.4**	**-0.2**
SMG	**Samos**	**2.15**	**334**	*e*P	**Pn**	**19 35 04.0**	**-0.8**
SMG				*e*S	**Sn**	**19 35 28.0**	**-2.4**
SMG	**Samos**	**2.15**	**334**	*e*P	**Pn**	**19 35 04.0**	**-0.8**
SMG				*e*S	**Sn**	**19 35 28.0**	**-2.4**
THR1	**Thera Island**	**2.16**	**287**	P	**Pn**	**19 35 04.3**	**-0.6**
THR1				S	**Sn**	**19 35 29.8**	**-0.8**
THR1	**Thera Island**	**2.16**	**287**	P	**Pn**	**19 35 04.3**	**-0.6**
THR1				S	**Sn**	**19 35 29.8**	**-0.8**
LAST	**Lasithi**	**2.17**	**254**	P	**Pn**	**19 35 05.3**	**+0.3**
LAST				S	**Sn**	**19 35 30.6**	**-0.2**
LAST	**Lasithi**	**2.17**	**254**	P	**Pn**	**19 35 05.3**	**+0.3**
LAST				S	**Sn**	**19 35 30.6**	**-0.2**
THR3	**Thira Island,**	**2.21**	**287**	P	**Pn**	**19 35 05.2**	**-0.4**
THR3	**Thira Island,**	**2.21**	**287**	P	**Pn**	**19 35 05.2**	**-0.4**
KORT	**Korkueli**	**2.24**	**56**	*i* P	**Pn**	**19 35 08.3**	**+2.2**
KORT				*i* S	**Sn**	**19 35 34.8**	**+2.1**
KORT	**Korkueli**	**2.24**	**56**	*i* P	**Pn**	**19 35 08.3**	**+2.3**
KORT				*i* S	**Sn**	**19 35 34.8**	**+2.2**
THR5	**Thira Island,**	**2.25**	**287**	P	**Pn**	**19 35 05.7**	**-0.5**
THR5	**Thira Island,**	**2.25**	**287**	P	**Pn**	**19 35 05.7**	**-0.5**
APE	**Apeiranthos**	**2.38**	**303**	*e*PN	**Pn**	**19 35 06.7**	**-1.2**
APE	**Apeiranthos**	**2.38**	**303**	*e*P	**Pn**	**19 35 07.4**	**-0.6**
APE	**Apeiranthos**	**2.38**	**303**	P	**Pn**	**19 35 07.5**	**-0.5**
APE	**Apeiranthos**	**2.38**	**303**	*i* P	**Pn**	**19 35 07.6**	**-0.4**
APE	**Apeiranthos**	**2.38**	**303**	*i* P	**Pn**	**19 35 07.6**	**-0.4**
APE	**Apeiranthos**	**2.38**	**303**	*e*Pn	**Pn**	**19 35 06.7**	**-1.3**
APE	**Apeiranthos**	**2.38**	**303**	P	**Pn**	**19 35 07.5**	**-0.5**
ANTB	**Antalya**	**2.40**	**62**	*e*PN	**Pn**	**19 35 08.3**	**+0.1**
ANTB	**Antalya**	**2.40**	**62**	*e*Pn	**Pn**	**19 35 08.3**	**+0.1**
BCK	**Bucak**	**2.66**	**50**	*e*PN	**Pn**	**19 35 12.1**	**+0.4**
BCK	**Bucak**	**2.66**	**50**	*e*Pn	**Pn**	**19 35 12.1**	**+0.4**
IZM	**Izmir**	**2.68**	**347**	*e*PN	**Pn**	**19 35 11.6**	**-0.4**
IZM	**Izmir**	**2.68**	**347**	*e*Pn	**Pn**	**19 35 11.6**	**-0.4**
BLCB	**Balcova**	**2.71**	**344**	*e*PN	**Pn**	**19 35 11.8**	**-0.7**
BLCB	**Balcova**	**2.71**	**344**	*e*Pn	**Pn**	**19 35 11.8**	**-0.7**
SIVA	**Sivas**	**2.73**	**255**	P	**Pn**	**19 35 13.5**	**+0.8**
SIVA				S	**Sn**	**19 35 44.1**	**-0.5**
SIVA	**Sivas**	**2.73**	**255**	P	**Pn**	**19 35 13.5**	**+0.8**
SIVA				S	**Sn**	**19 35 44.1**	**-0.5**
MANT	**Manisa**	**2.74**	**9**	*i* P	**Pn**	**19 35 12.7**	**-0.1**
MANT	**Manisa**	**2.74**	**9**	*i* P	**Pn**	**19 35 12.7**	**-0.1**
KULA	**Kula-Manisa**	**2.77**	**10**	*e*PN	**Pn**	**19 35 13.3**	**0.0**
KULA	**Kula-Manisa**	**2.77**	**10**	*e*Pn	**Pn**	**19 35 13.3**	**0.0**
URLA	**Izmir**	**2.81**	**337**	*i* P	**Pn**	**19 35 12.1**	**-1.8**
URLA				*i* S	**Sn**	**19 35 43.5**	**-3.1**
URLA	**Izmir**	**2.81**	**337**	*i* P	**Pn**	**19 35 12.1**	**-1.7**
URLA				*i* S	**Sn**	**19 35 43.5**	**-3.1**
KHAL	**Karahalli**	**2.84**	**24**	*i* P	**Pn**	**19 35 14.1**	**-0.1**
KHAL				*i* S	**Sn**	**19 35 45.9**	**-1.3**
KHAL	**Karahalli**	**2.84**	**24**	*i* P	**Pn**	**19 35 14.1**	**-0.1**
KHAL				*i* S	**Sn**	**19 35 45.9**	**-1.3**
ISP	**Isparta**	**2.86**	**44**	*e*PN	**Pn**	**19 35 15.3**	**+0.9**
ISP	**Isparta**	**2.86**	**44**	*e*Pn	**Pn**	**19 35 15.3**	**+0.8**
SUTC	**Sutluce-Ispart**	**2.93**	**54**	*e*PN	**Pn**	**19 35 16.0**	**+0.6**
SUTC	**Sutluce-Ispart**	**2.93**	**54**	*e*Pn	**Pn**	**19 35 16.0**	**+0.6**
CHOS	**Chios island**	**3.04**	**329**	*e*P	**Pn**	**19 35 16.4**	**-0.5**
CHOS				*e*S	**Sn**	**19 35 49.3**	**-2.8**
CHOS	**Chios island**	**3.04**	**329**	P	**Pn**	**19 35 16.7**	**-0.2**
CHOS				S	**Sn**	**19 35 50.2**	**-1.9**
CHOS	**Chios island**	**3.04**	**329**	P	**Pn**	**19 35 16.7**	**-0.2**
CHOS				S	**Sn**	**19 35 50.2**	**-1.9**
AKHS	**Akhisar**	**3.10**	**357**	*i* P	**Pn**	**19 35 17.3**	**-0.3**
AKHS				*i* S	**Sn**	**19 35 51.2**	**-2.3**
AKHS	**Akhisar**	**3.10**	**357**	*i* P	**Pn**	**19 35 17.3**	**-0.4**
AKHS				*i* S	**Sn**	**19 35 51.2**	**-2.3**
AKS	**Akhisar**	**3.10**	**357**	*e*PN	**Pn**	**19 35 17.4**	**-0.2**
AKS	**Akhisar**	**3.10**	**357**	*e*Pn	**Pn**	**19 35 17.4**	**-0.3**
VAM	**Vamos**	**3.14**	**264**	P	**Pn**	**19 35 18.5**	**+0.3**
VAM				S	**Sn**	**19 35 54.8**	**+0.3**
VAM	**Vamos**	**3.14**	**264**	P	**Pn**	**19 35 18.5**	**+0.3**
VAM				S	**Sn**	**19 35 54.8**	**+0.3**
DEMI	**Demirci**	**3.30**	**9**	*i* P	**Pn**	**19 35 19.6**	**-0.8**
DEMI				*i* S	**Sn**	**19 35 57.9**	**-0.6**
DEMI	**Demirci**	**3.30**	**9**	*i* P	**Pn**	**19 35 19.6**	**-0.9**
DEMI				*i* S	**Sn**	**19 35 57.9**	**-0.6**
KARN	**Karanos**	**3.37**	**265**	P	**Pn**	**19 35 21.4**	**+0.1**
KARN				S	**Sn**	**19 36 00.3**	**+0.2**
KARN	**Karanos**	**3.37**	**265**	P	**Pn**	**19 35 21.4**	**+0.1**
KARN				S	**Sn**	**19 36 00.3**	**+0.2**
SHUT	**Suhut-Afyon**	**3.43**	**35**	*e*PN	**Pn**	**19 35 22.3**	**+0.1**
SHUT	**Suhut-Afyon**	**3.43**	**35**	*e*Pn	**Pn**	**19 35 22.3**	**+0.1**
GDZ	**Gediz**	**3.50**	**19**	*i* P	**Pn**	**19 35 22.3**	**-0.9**
GDZ	**Gediz**	**3.50**	**19**	*i* P	**Pn**	**19 35 22.3**	**-0.9**
GAZI	**Gazipasa**	**3.51**	**81**	*i* P	**Pn**	**19 35 24.0**	**+0.7**
GAZI	**Gazipasa**	**3.51**	**81**	*i* P	**Pn**	**19 35 24.0**	**+0.7**
PPCY	**Paphos**	**3.65**	**103**	P	**Pn**	**19 35 25.7**	**+0.5**
PPCY	**Paphos**	**3.65**	**103**	P	**Pn**	**19 35 25.7**	**+0.5**
ALT	**Altintas**	**3.67**	**26**	*e*PN	**Pn**	**19 35 26.1**	**+0.7**
ALT	**Altintas**	**3.67**	**26**	*e*Pn	**Pn**	**19 35 26.1**	**+0.7**
AYVA	**Ayvalik**	**3.68**	**344**	*i* P	**Pn**	**19 35 25.0**	**-0.6**
AYVA				*i* S	**Sn**	**19 36 04.9**	**-2.8**
AYVA	**Ayvalik**	**3.68**	**344**	*i* P	**Pn**	**19 35 25.0**	**-0.6**
AYVA				*i* S	**Sn**	**19 36 04.9**	**-2.7**
PRK	**Paraskevi**	**3.73**	**339**	P	**Pn**	**19 35 26.7**	**+0.4**
PRK				S	**Sn**	**19 36 07.3**	**-1.6**
PRK	**Paraskevi**	**3.73**	**339**	P	**Pn**	**19 35 26.7**	**+0.4**
PRK				S	**Sn**	**19 36 07.3**	**-1.6**
BOLV	**Bolvadin**	**3.75**	**38**	*i* P	**Pn**	**19 35 26.9**	**+0.4**
BOLV	**Bolvadin**	**3.75**	**38**	*i* P	**Pn**	**19 35 27.0**	**+0.4**
ALFC	**Alevga** 26nm,0.2s	**3.79**	**98**	P	**Pn**	**19 35 27.3**	**+0.2**
ALFC				S	**Sn**	**19 36 06.2**	**-4.3**
ALFC	**Alevga** 26nm,0.2s	**3.79**	**98**	P	**Pn**	**19 35 27.3**	**+0.2**
ALFC				S	**Sn**	**19 36 06.2**	**-4.3**
HDMB	**Hadim**	**3.79**	**71**	*e*PN	**Pn**	**19 35 28.3**	**+1.1**
HDMB	**Hadim**	**3.79**	**71**	*e*Pn	**Pn**	**19 35 28.3**	**+1.1**
DURS	**Dursunbey**	**3.83**	**5**	*i* P	**Pn**	**19 35 27.8**	**+0.1**
DURS				*i* S	**Sn**	**19 36 09.7**	**-1.7**
DURS	**Dursunbey**	**3.83**	**5**	*i* P	**Pn**	**19 35 27.8**	**+0.1**
DURS				*i* S	**Sn**	**19 36 09.7**	**-1.7**
SIGR	**SIGRI**	**3.83**	**334**	P	**Pn**	**19 35 27.6**	**-0.1**
SIGR				S	**Sn**	**19 36 09.2**	**-2.3**
SIGR	**SIGRI**	**3.83**	**334**	P	**Pn**	**19 35 27.6**	**-0.1**
SIGR				S	**Sn**	**19 36 09.2**	**-2.3**
DST	**Dursunbey**	**3.84**	**7**	*e*PN	**Pn**	**19 35 28.5**	**+0.6**
DST	**Dursunbey**	**3.84**	**7**	*e*Pn	**Pn**	**19 35 28.5**	**+0.6**
BALB	**Balikesir**	**3.85**	**358**	*e*PN	**Pn**	**19 35 28.5**	**+0.5**
BALB	**Balikesir**	**3.85**	**358**	*e*Pn	**Pn**	**19 35 28.5**	**+0.5**
BALY	**Balya**	**3.96**	**356**	*i* P	**Pn**	**19 35 29.2**	**-0.3**
BALY				*i* S	**Sn**	**19 36 13.0**	**-1.7**
BALY	**Balya**	**3.96**	**356**	*i* P	**Pn**	**19 35 29.2**	**-0.3**
BALY				*i* S	**Sn**	**19 36 13.0**	**-1.7**
VLY	**Voula,Athens**	**3.97**	**303**	P	**Pn**	**19 35 29.7**	**+0.1**
VLY	**Voula,Athens**	**3.97**	**303**	P	**Pn**	**19 35 29.7**	**+0.1**
PTL	**Penteli**	**4.03**	**305**	P	**Pn**	**19 35 31.0**	**+0.7**
PTL	**Penteli**	**4.03**	**305**	P	**Pn**	**19 35 31.0**	**+0.7**
LEF	**Lefka**	**4.03**	**98**	*e*PN	**Pn**	**19 35 29.9**	**-0.6**
LEF	**Lefka**	**4.03**	**98**	*e*Pn	**Pn**	**19 35 29.9**	**-0.5**
ERMK	**Ermenek**	**4.05**	**76**	*i* P	**Pn**	**19 35 21.4**	**-9.3**
KYTH	**Kithira**	**4.07**	**278**	P	**Pn**	**19 35 31.4**	**+0.5**
KYTH	**Kithira**	**4.07**	**278**	P	**Pn**	**19 35 31.4**	**+0.5**
KONT	**Konya--Tatoy**	**4.10**	**57**	*e*PN	**Pn**	**19 35 32.6**	**+1.3**
KONT	**Konya--Tatoy**	**4.10**	**57**	*e*Pn	**Pn**	**19 35 32.6**	**+1.3**
SZAC	**Souni-Zanaja**	**4.11**	**103**	P	**Pn**	**19 35 32.2**	**+0.7**
SZAC	**Souni-Zanaja**	**4.11**	**103**	P	**Pn**	**19 35 32.2**	**+0.7**
VLI	**Veliai**	**4.21**	**284**	P	**Pn**	**19 35 33.6**	**+0.7**
VLI				S	**Sn**	**19 36 21.1**	**+0.3**
VLI	**Veliai**	**4.21**	**284**	P	**Pn**	**19 35 33.6**	**+0.7**
VLI				S	**Sn**	**19 36 21.1**	**+0.3**
DID	**Didima**	**4.21**	**296**	P	**Pn**	**19 35 33.4**	**+0.5**
DID				S	**Sn**	**19 36 21.3**	**+0.5**
DID	**Didima**	**4.21**	**296**	P	**Pn**	**19 35 33.4**	**+0.5**
DID				S	**Sn**	**19 36 21.3**	**+0.5**
EZN	**Ezine**	**4.25**	**342**	*e*PN	**Pn**	**19 35 33.1**	**-0.4**
EZN	**Ezine**	**4.25**	**342**	*e*Pn	**Pn**	**19 35 33.1**	**-0.4**
GONE	**Gonen-Balikesi**	**4.27**	**357**	*e*PN	**Pn**	**19 35 34.0**	**+0.4**
GONE	**Gonen-Balikesi**	**4.27**	**357**	*e*Pn	**Pn**	**19 35 34.0**	**+0.4**
MAMC	**Mammari**	**4.29**	**97**	P	**Pn**	**19 35 34.2**	**+0.3**
MAMC	**Mammari**	**4.29**	**97**	P	**Pn**	**19 35 34.2**	**+0.3**
ESKT	**Eskisehir**	**4.36**	**30**	*e*PN	**Pn**	**19 35 36.1**	**+1.3**
ESKT	**Eskisehir**	**4.36**	**30**	*e*Pn	**Pn**	**19 35 36.2**	**+1.4**
KIZT	**Kizilcal**	**4.36**	**44**	*e*PN	**Pn**	**19 35 36.1**	**+1.1**
KIZT	**Kizilcal**	**4.36**	**44**	*e*Pn	**Pn**	**19 35 36.1**	**+1.2**
CSS	**Prodhromos** 4.6nm,0.2s	**4.42**	**99**	P	**Pn**	**19 35 36.2**	**+0.5**
CSS				S	**Sn**	**19 36 21.2**	**-4.6**
CSS	**Prodhromos**	**4.42**	**99**	*e*PN	**Pn**	**19 35 36.1**	**+0.4**
CSS	**Prodhromos**	**4.42**	**99**	*e*Pn	**Pn**	**19 35 35.7**	**0.0**
CSS	**Prodhromos**	**4.42**	**99**	P	**Pn**	**19 35 36.1**	**+0.4**
CSS	**Prodhromos**	**4.42**	**99**	P	**Pn**	**19 35 36.1**	**+0.4**
CSS				S	**Sn**	**19 36 21.2**	**-4.6**
KCTX	**Karacabey (Bur**	**4.48**	**3**	*e*PN	**Pn**	**19 35 37.5**	**+0.9**
KCTX	**Karacabey (Bur**	**4.48**	**3**	*e*Pn	**Pn**	**19 35 37.5**	**+0.9**
BORA	**Eskisehir**	**4.52**	**24**	*i* P	**Pn**	**19 35 37.2**	**+0.1**
BORA	**Eskisehir**	**4.52**	**24**	*i* P	**Pn**	**19 35 37.2**	**+0.1**
LFK	**Lefkose**	**4.52**	**95**	*e*PN	**Pn**	**19 35 37.3**	**+0.1**
LFK	**Lefkose**	**4.52**	**95**	*e*Pn	**Pn**	**19 35 37.3**	**+0.1**
BNT	**Bandirma**	**4.57**	**359**	*e*PN	**Pn**	**19 35 38.5**	**+0.8**
BNT	**Bandirma**	**4.57**	**359**	*e*Pn	**Pn**	**19 35 38.5**	**+0.8**
LTK	**Loutraki**	**4.63**	**300**	P	**Pn**	**19 35 39.1**	**+0.6**
LTK	**Loutraki**	**4.63**	**300**	P	**Pn**	**19 35 39.1**	**+0.6**
KRBG	**Karabiga-Canak**	**4.64**	**353**	*e*PN	**Pn**	**19 35 39.0**	**+0.2**
KRBG	**Karabiga-Canak**	**4.64**	**353**	*e*Pn	**Pn**	**19 35 39.0**	**+0.3**
CAVI	**Cavuskoy**	**4.64**	**18**	*e*PN	**Pn**	**19 35 39.7**	**+1.0**
CAVI	**Cavuskoy**	**4.64**	**18**	*e*Pn	**Pn**	**19 35 39.7**	**+0.9**
LIA	**Limnos Island**	**4.68**	**332**	P	**Pn**	**19 35 39.8**	**+0.5**
LIA	**Limnos Island**	**4.68**	**332**	P	**Pn**	**19 35 39.8**	**+0.5**
LPK	**Lapseki**	**4.69**	**348**	*e*PN	**Pn**	**19 35 39.6**	**+0.2**
LPK	**Lapseki**	**4.69**	**348**	*e*Pn	**Pn**	**19 35 39.6**	**+0.2**
GADA	**Gvkgeada**	**4.71**	**340**	*e*PN	**Pn**	**19 35 40.1**	**+0.4**
GADA	**Gvkgeada**	**4.71**	**340**	*e*Pn	**Pn**	**19 35 40.1**	**+0.4**
AOS	**Alonnisos**	**4.72**	**317**	P	**Pn**	**19 35 40.7**	**+0.9**
AOS	**Alonnisos**	**4.72**	**317**	P	**Pn**	**19 35 40.7**	**+0.9**
HMAT	**Matruh** baz=192	**4.74**	**190**	P	**Pn**	**19 35 40.4**	**+0.3**
HMAT	comp=E,80μm,0.2s,logA/T=5.6,baz=192			AMP		19 36 00.0	
GELI	**Tayfur-Gelibol**	**4.77**	**346**	*e*PN	**Pn**	**19 35 40.9**	**+0.4**
GELI	**Tayfur-Gelibol**	**4.77**	**346**	*e*Pn	**Pn**	**19 35 40.9**	**+0.4**
VLX	**Vlachokerasia**	**4.81**	**291**	P	**Pn**	**19 35 41.3**	**+0.3**
VLX	**Vlachokerasia**	**4.81**	**291**	P	**Pn**	**19 35 41.3**	**+0.3**
ARMT	**Armutlu**	**4.82**	**8**	*e*PN	**Pn**	**19 35 42.5**	**+1.3**
ARMT	**Armutlu**	**4.82**	**8**	*e*Pn	**Pn**	**19 35 42.5**	**+1.3**
SLUM	baz=212	**4.88**	**209**	P	**Pn**	**19 35 41.9**	**-0.1**
YLV	**Yalova**	**4.89**	**12**	*e*PN	**Pn**	**19 35 43.6**	**+1.4**
YLV	**Yalova**	**4.89**	**12**	*e*Pn	**Pn**	**19 35 43.6**	**+1.4**
LKR	**Lokris**	**4.92**	**307**	P	**Pn**	**19 35 43.4**	**+0.8**
LKR	**Lokris**	**4.92**	**307**	P	**Pn**	**19 35 43.4**	**+0.8**
ATAL	**Atalanti**	**4.93**	**308**	P	**Pn**	**19 35 43.7**	**+1.0**
ATAL	**Atalanti**	**4.93**	**308**	P	**Pn**	**19 35 43.7**	**+1.0**
RKY	**Sarkoy-Tekirda**	**4.94**	**353**	*e*PN	**Pn**	**19 35 43.7**	**+0.8**
RKY	**Sarkoy-Tekirda**	**4.94**	**353**	*e*Pn	**Pn**	**19 35 43.7**	**+0.8**
PHNC	**Paralimni** comp=E,3.9nm,0.4s	**4.97**	**97**	P	**Pn**	**19 35 45.7**	**+2.4**
PHNC				S	**Sn**	**19 36 35.8**	**-3.6**
PHNC	**Paralimni** comp=E,3.9nm,0.4s	**4.97**	**97**	P	**Pn**	**19 35 45.7**	**+2.4**
PHNC				S	**Sn**	**19 36 35.8**	**-3.6**
ERIK	**Erikli-Kesan**	**5.02**	**347**	*e*PN	**Pn**	**19 35 44.7**	**+0.7**
ERIK	**Erikli-Kesan**	**5.02**	**347**	*e*Pn	**Pn**	**19 35 44.7**	**+0.7**
MFT	**Murefte**	**5.03**	**354**	*e*PN	**Pn**	**19 35 45.4**	**+1.3**
MFT	**Murefte**	**5.03**	**354**	*e*Pn	**Pn**	**19 35 45.4**	**+1.3**
GUR	**Goura**	**5.04**	**297**	P	**Pn**	**19 35 45.5**	**+1.4**
GUR	**Goura**	**5.04**	**297**	P	**Pn**	**19 35 45.5**	**+1.4**
LTBQ	**Tobruq** SNR=36	**5.04**	**224**	*e*P	**Pn**	**19 35 44.6**	**+0.3**
GULT	**Gulveren**	**5.04**	**22**	*e*PN	**Pn**	**19 35 45.5**	**+1.3**
GULT	**Gulveren**	**5.04**	**22**	*e*Pn	**Pn**	**19 35 45.5**	**+1.3**
ITM	**Ithomi**	**5.10**	**288**	P	**Pn**	**19 35 47.2**	**+2.1**
ITM	**Ithomi**	**5.10**	**288**	P	**Pn**	**19 35 47.2**	**+2.1**
DSF	**Desfina**	**5.12**	**302**	P	**Pn**	**19 35 46.4**	**+1.2**
DSF	**Desfina**	**5.12**	**302**	P	**Pn**	**19 35 46.4**	**+1.2**
ENEZ	**Enez**	**5.16**	**344**	*e*PN	**Pn**	**19 35 46.7**	**+0.9**
ENEZ	**Enez**	**5.16**	**344**	*e*Pn	**Pn**	**19 35 46.7**	**+0.9**
NEO	**Neokhori**	**5.19**	**314**	P	**Pn**	**19 35 45.7**	**-0.5**
NEO	**Neokhori**	**5.19**	**314**	P	**Pn**	**19 35 45.7**	**-0.5**
PYL	**PYLOS**	**5.19**	**284**	P	**Pn**	**19 35 47.5**	**+1.3**

CUC	**Castrocucco**	**10.52**	**297**	*e*P		**Pn**	**19 36 58.6**	**-0.5**
	comp=E,8.6nm,0.6s							
CRVS	**Cervenica-Dubn**	**13.97**	**342**	*e*PN		**Pn**	**19 37 43.4**	**-2.3**
VYHS	**Vyhne**	**14.40**	**335**	*e*P		**Pn**	**19 37 57.7**	**+6.4**
AKASG	**Malin Array Be**	**14.94**	**3**	P		**Pn**	**19 38 01.2**	**+2.9**
	comp=E,1.4nm,0.3s,baz=186,slow=9.4,SNR=8.1							
AKASG	**Malin Array Be**	**14.94**	**3**	P		**Pn**	**19 38 01.2**	**+2.9**
AKASG	**Malin Array Be**	**14.94**	**3**	P		**Pn**	**19 38 01.2**	**+2.9**
KEST	**Kesra**	**15.17**	**275**	P		**Pn**	**19 38 06.2**	**+4.8**
	comp=E,0.2nm,0.3s,baz=33,slow=24,SNR=6.6							
KEST	**Kesra**	**15.17**	**275**	P		**Pn**	**19 38 06.2**	**+4.8**
KEST	**Kesra**	**15.17**	**275**	P		**Pn**	**19 38 06.2**	**+4.9**
PGF	**Pioggiola**	**16.21**	**300**	*e*P		**Pn**	**19 38 10.9**	**-3.6**
PGF	**Pioggiola**	**16.21**	**300**	*e*P		**Pn**	**19 38 10.9**	**-3.6**
GERES	**GERESS Array B**	**16.77**	**326**	P		**Pn**	**19 38 23.9**	**+2.5**
	comp=E,0.2nm,0.3s,baz=140,slow=12,SNR=6.6							
GERES	**GERESS Array B**	**16.77**	**326**	P		**Pn**	**19 38 23.9**	**+2.5**
GERES	**GERESS Array B**	**16.77**	**326**	P		**Pn**	**19 38 23.9**	**+2.5**
DAVOX	**Davos/Dischmat**	**17.47**	**315**	P		**Pn**	**19 38 32.8**	**+2.8**
	comp=E,0.4nm,0.3s,baz=139,slow=9.3,SNR=4.1							
DAVOX	**Davos/Dischmat**	**17.47**	**315**	P		**Pn**	**19 38 32.8**	**+2.8**
DAVOX	**Davos/Dischmat**	**17.47**	**315**	P		**Pn**	**19 38 32.8**	**+2.8**
FRF	**La Foret Royal**	**18.16**	**302**	*e*P		**Pn**	**19 38 37.3**	**-1.2**
FRF	**La Foret Royal**	**18.16**	**302**	*e*P		**Pn**	**19 38 37.3**	**-1.2**
FRF	**La Foret Royal**	**18.16**	**302**	*e*P		**Pn**	**19 38 37.3**	**-1.2**
MBDF	**Montbardon**	**18.48**	**305**	*e*P		**Pn**	**19 38 42.0**	**-0.3**
	comp=E,14nm,0.8s							
MBDF	**Montbardon**	**18.48**	**305**	*e*P		**Pn**	**19 38 42.0**	**-0.3**
	comp=E,6.9nm,0.8s							
MBDF	**Montbardon**	**18.48**	**305**	*e*P		**Pn**	**19 38 42.0**	**-0.3**
	comp=E,6.9nm,0.8s							
LPG	**La Plagne**	**18.79**	**308**	*e*P		**Pn**	**19 38 45.6**	**-0.4**
LPG	**La Plagne**	**18.79**	**308**	*e*P		**Pn**	**19 38 45.6**	**-0.4**
LPG	**La Plagne**	**18.79**	**308**	*e*P		**Pn**	**19 38 45.6**	**-0.4**
LPL	**La Plagne**	**18.80**	**308**	*e*P		**Pn**	**19 38 45.7**	**-0.5**
	comp=E,7.7nm,0.6s							
LPL	**La Plagne**	**18.80**	**308**	*e*P		**Pn**	**19 38 45.7**	**-0.5**
	comp=E,3.8nm,0.6s							
LPL	**La Plagne**	**18.80**	**308**	*e*P		**Pn**	**19 38 45.7**	**-0.5**
	comp=E,3.8nm,0.6s							
CLL	**Collm**	**18.90**	**330**	*e*P		**Pn**	**19 38 47.0**	**-0.3**
ORIF	**Oris-en-Rattie**	**19.14**	**305**	*e*P		**Pn**	**19 38 48.5**	**-1.7**
ORIF				*e*MLR		MLR		
	comp=Z,497nm,20.0s							
ORIF	**Oris-en-Rattie**	**19.14**	**305**	*e*P		**Pn**	**19 38 48.5**	**-1.7**
ORIF	**Oris-en-Rattie**	**19.14**	**305**	*e*P		**Pn**	**19 38 48.5**	**-1.7**
CABF	**La Chapelle**	**19.67**	**310**	*e*P		**Pn**	**19 38 55.4**	**-1.0**
CABF	**La Chapelle**	**19.67**	**310**	*e*P		**Pn**	**19 38 55.4**	**-1.0**
CABF	**La Chapelle**	**19.67**	**310**	*e*P		**Pn**	**19 38 55.4**	**-1.0**
HINF	**Hinteralfeld**	**19.77**	**314**	*e*P		**Pn**	**19 38 55.5**	**-2.1**
HINF	**Hinteralfeld**	**19.77**	**314**	*e*P		**Pn**	**19 38 55.5**	**-2.1**
HINF	**Hinteralfeld**	**19.77**	**314**	*e*P		**Pn**	**19 38 55.5**	**-2.1**
CDF	**Champ du Feu**	**19.83**	**316**	*e*P		**Pn**	**19 38 56.5**	**-1.8**
	comp=E,13nm,0.8s							
CDF	**Champ du Feu**	**19.83**	**316**	*e*P		**Pn**	**19 38 56.5**	**-1.8**
	comp=E,6.6nm,0.8s							
CDF	**Champ du Feu**	**19.83**	**316**	*e*P		**Pn**	**19 38 56.5**	**-1.8**
	comp=E,6.6nm,0.8s							
VIVF	**Saint-Julien-l**	**19.92**	**304**	*e*P		**Pn**	**19 38 56.6**	**-2.8**
VIVF	**Saint-Julien-l**	**19.92**	**304**	*e*P		**Pn**	**19 38 56.6**	**-2.8**
VIVF	**Saint-Julien-l**	**19.92**	**304**	*e*P		**Pn**	**19 38 56.6**	**-2.8**
HAU	**Haudompre**	**20.16**	**314**	*e*P		**P**	**19 38 59.7**	**0.0**
	comp=Z,13nm,0.9s							
HAU				*e*MLR		MLR		
	comp=Z,329nm,20.0s							
HAU	**Haudompre**	**20.16**	**314**	*e*P		**P**	**19 38 59.7**	**0.0**
	comp=Z,6.6nm,0.9s							
HAU				LR		LR		
	comp=Z,330nm,20.0s							
HAU	**Haudompre**	**20.16**	**314**	*e*P		**P**	**19 38 59.7**	**0.0**
	comp=Z,6.6nm,0.9s							
SFTF	**Sexfontaines**	**21.02**	**313**	*e*P		**P**	**19 39 08.7**	**-0.3**
	comp=Z,12nm,0.7s,mb4.1							
SFTF	**Sexfontaines**	**21.02**	**313**	*e*P		**P**	**19 39 08.7**	**-0.3**
	comp=Z,12nm,0.7s,mb4.3							
SFTF	**Sexfontaines**	**21.02**	**313**	*e*P		**P**	**19 39 08.7**	**-0.3**
	comp=Z,6.2nm,0.7s,mb4.1							
SMF	**Signal de Mont**	**21.10**	**308**	*e*P		**P**	**19 39 09.6**	**-0.3**
	comp=Z,7.9nm,0.6s,mb3.9							
SMF	**Signal de Mont**	**21.10**	**308**	*e*P		**P**	**19 39 09.6**	**-0.3**
	comp=Z,4.0nm,0.6s,mb3.9							
SMF	**Signal de Mont**	**21.10**	**308**	*e*P		**P**	**19 39 09.6**	**-0.3**
	comp=Z,4.0nm,0.6s,mb3.9							
MTLF	**Montolieu**	**21.22**	**299**	*e*P		**P**	**19 39 11.1**	**-0.1**
	comp=Z,7.1nm,0.6s,mb3.9							
MTLF	**Montolieu**	**21.22**	**299**	*e*P		**P**	**19 39 11.1**	**-0.1**
	comp=Z,3.5nm,0.6s,mb3.9							
MTLF	**Montolieu**	**21.22**	**299**	*e*P		**P**	**19 39 11.1**	**-0.1**
	comp=Z,3.5nm,0.6s,mb3.8							
LOR	**Lormes**	**21.33**	**310**	*e*P		**P**	**19 39 12.4**	**0.0**
	comp=Z,22nm,1.2s,mb4.1							
LOR				*e*MLR		MLR		
	comp=Z,583nm,20.5s							
LOR	**Lormes**	**21.33**	**310**	*e*P		**P**	**19 39 12.4**	**0.0**
	comp=Z,11nm,1.2s,mb4.1							
LOR				LR		LR		
	comp=Z,580nm,20.5s							
LOR	**Lormes**	**21.33**	**310**	*e*P		**P**	**19 39 12.4**	**0.0**
	comp=Z,11nm,1.2s,mb4.1							
AVF	**Avril sur Loir**	**21.46**	**308**	*e*P		**P**	**19 39 13.2**	**-0.6**
AVF	**Avril sur Loir**	**21.46**	**308**	*e*P		**P**	**19 39 13.2**	**-0.6**
AVF	**Avril sur Loir**	**21.46**	**308**	*e*P		**P**	**19 39 13.2**	**-0.6**
SSF	**Saint Saulge**	**21.47**	**309**	*e*P		**P**	**19 39 13.2**	**-0.7**
	comp=Z,20nm,1.0s,mb4.1							
SSF	**Saint Saulge**	**21.47**	**309**	*e*P		**P**	**19 39 13.2**	**-0.7**
	comp=Z,10nm,1.0s,mb4.1							
SSF	**Saint Saulge**	**21.47**	**309**	*e*P		**P**	**19 39 13.2**	**-0.7**
	comp=Z,10nm,1.0s,mb4.1							
BGF	**Bois d'Agland**	**21.70**	**307**	*e*P		**P**	**19 39 15.6**	**-0.8**
BGF	**Bois d'Agland**	**21.70**	**307**	*e*P		**P**	**19 39 15.6**	**-0.8**
BGF	**Bois d'Agland**	**21.70**	**307**	*e*P		**P**	**19 39 15.6**	**-0.8**
BAIF	**Baives**	**22.40**	**317**	*e*P		**P**	**19 39 22.8**	**-0.9**
	comp=Z,4.1nm,0.4s,mb3.8							
BAIF	**Baives**	**22.40**	**317**	*e*P		**P**	**19 39 22.8**	**-0.9**
	comp=Z,2.0nm,0.4s,mb3.8							
MFF	**Saint Martin d**	**23.67**	**306**	*e*P		**P**	**19 39 33.8**	**-2.5**
MFF	**Saint Martin d**	**23.67**	**306**	*e*P		**P**	**19 39 33.8**	**-2.5**
LDF	**La Druitiere**	**24.31**	**310**	*e*P		**P**	**19 39 41.1**	**-1.0**
	comp=Z,4.2nm,0.3s,mb4.0							
LDF	**La Druitiere**	**24.31**	**310**	*e*P		**P**	**19 39 41.1**	**-1.0**
	comp=Z,2.1nm,0.3s,mb4.0							
FLN	**La Foliniere**	**24.59**	**311**	*e*P		**P**	**19 39 43.1**	**-1.6**
	comp=Z,12nm,0.3s,mb4.5							
FLN				*e*MLR		MLR		
	comp=Z,292nm,23.0s							
GRR	**Gorron**	**24.70**	**310**	*e*P		**P**	**19 39 45.1**	**-0.5**
	comp=Z,14nm,0.5s,mb4.4							
GRR	**Gorron**	**24.70**	**310**	*e*P		**P**	**19 39 45.1**	**-0.5**
	comp=Z,7.2nm,0.5s,mb4.4							
GRR	**Gorron**	**24.70**	**310**	*e*P		**P**	**19 39 45.1**	**-0.5**
	comp=Z,7.2nm,0.5s,mb4.4							
ESDC	**Sonseca Array**	**25.52**	**288**	P		**P**	**19 39 53.5**	**+0.4**
	comp=Z,1.3nm,0.4s,mb3.7,baz=84,slow=10.0,SNR=14							
ESDC	**Sonseca Array**	**25.52**	**288**	P		**P**	**19 39 53.5**	**+0.4**
ESDC	**Sonseca Array**	**25.52**	**288**	P		**P**	**19 39 53.5**	**+0.3**
FINES	**FINESS Array B**	**25.71**	**358**	P		**P**	**19 39 54.6**	**-0.1**
	comp=Z,1.1nm,0.5s,mb3.6,baz=162,slow=11,SNR=5.8							
FINES	**FINESS Array B**	**25.71**	**358**	P		**P**	**19 39 54.6**	**-0.1**
FINES	**FINESS Array B**	**25.71**	**358**	P		**P**	**19 39 54.6**	**-0.1**
HFS	**Hagfors**	**26.07**	**344**	P		**P**	**19 39 57.4**	**-0.5**
	comp=Z,1.6nm,0.6s,mb3.6,baz=141,slow=9.6,SNR=6.0							
HFS	**Hagfors**	**26.07**	**344**	P		**P**	**19 39 57.4**	**-0.5**
HFS	**Hagfors**	**26.07**	**344**	P		**P**	**19 39 57.4**	**-0.5**
NB2	**NORSAR Subarra**	**27.46**	**342**	P		**P**	**19 40 10.4**	**0.0**
	comp=Z,5.3nm,1.2s,mb4.0,baz=149,slow=9.3							
NB2	**NORSAR Subarra**	**27.46**	**342**	P		**P**	**19 40 10.4**	**0.0**
	comp=Z,5.3nm,1.2s,mb4.0,baz=149,slow=9.0,SNR=2.6							
NOA	**NORSAR Array B**	**27.46**	**342**	P		**P**	**19 40 11.9**	**+1.5**
	comp=Z,0.5nm,0.6s,mb3.2,baz=151,slow=9.2,SNR=3.7							
NOA	**NORSAR Array B**	**27.46**	**342**	P		**P**	**19 40 11.9**	**+1.5**
NOA	**NORSAR Array B**	**27.46**	**342**	P		**P**	**19 40 11.9**	**+1.5**
TORD	**Torodi Ar. Bea**	**32.70**	**233**	P		**P**	**19 40 58.7**	**+1.5**
	comp=Z,1.2nm,0.6s,mb3.9,baz=35,slow=8.5,SNR=12							
TORD	**Torodi Ar. Bea**	**32.70**	**233**	P		**P**	**19 40 58.7**	**+1.5**
TORD	**Torodi Ar. Bea**	**32.70**	**233**	P		**P**	**19 40 58.7**	**+1.5**
MKAR	**Makanchi Array**	**41.48**	**57**	P		**P**	**19 42 09.1**	**-2.1**
	comp=Z,0.1nm,0.3s,mb3.1,baz=268,slow=9.0,SNR=1.8							
MKAR	**Makanchi Array**	**41.48**	**57**	P		**P**	**19 42 09.1**	**-2.1**

*SZGRF **03** 19:35:38.3, 16.°07S×175.°04W, h33km, Tonga Islands*
*BGS **03** 19:36:14.5±4.8, 16.°30S×176.°33W, h371km, mb5.1(NEIC)*
*ISCJB **03** 19:36:20.4±0.1, 16.°36S±0.°03×176.°38W±0.°03, h370km, mb5.1/170, Error ellipse: s-maj=5.2km s-min=2.6km az=153.0*
*BJI **03** 19:36:20.6, 15.°86S×175.°87W, h374km, mB5.6/21, mb5.4/43*
*DJA **03** 19:36:20, 16.°26S×176.°28W, h353km, mb5.2/22*
*NEIC **03** 19:36:21.4±0.1, 16.°30S×176.°33W, mb5.1/119, Error ellipse: s-maj=5.3km s-min=3.3km az=153.0*
*MOS **03** 19:36:22.9±1.3, 16.°09S×176.°44W, h383km, mb5.2/30, Error ellipse: s-maj=8.7km s-min=8.0km az=59.7*
*IDC **03** 19:36:22.2±0.7, 16.°27S×176.°44W, h373km±6km, mb4.6/22, mb1 4.8/22, mb1mx4.8/23, mbtmp4.6/22, Error ellipse: s-maj=12.1km s-min=8.0km az=145.0*
*GCMT **03** 19:36:26.6±0.4, 15.°98S×176.°25W, h390km, MW5.6, Moment Tensor Solution. s42,c56; Moment tensor: Scale 10^{17}Nm; M_{rr}1.24±.10; $M_{\theta\theta}$-0.69±.19; $M_{\phi\phi}$-0.55±.16; $M_{r\theta}$0.81±.13; $M_{\theta\phi}$2.58±.13; $M_{\phi r}$0.01±.15; Best double couple: M_o2.80000×10^{17} NP1:ϕ_s356.00000°,δ64.00000°, λ163.00000°. NP2:ϕ_s94.00000°,δ75.00000°,λ27.00000°. Principal axes: T 2.2900, Plg30.0000°, Azm318.0000°; N 0.9900, Plg59.0000°, Azm121.0000°; P -3.2800, Plg7.0000°, Azm223.0000°; Data Used: IU II IC G CN.*
ISC 03 19:36:21.9**±0.1, **16.°36S**±0.°03×**176.°36W**±0.°03, **h372**km, **h372**km±1.3km; **pP-P,n1343,**σ0**°70**/685, **mb5.1**/170, **300C-215D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.52**	**255**	*e*P	**Pn**	**19 37 50.8**	**+2.7**
	3μm,0.8s						
MSVF	**Nonsavu**	**5.52**	**255**	*e*P	**Pn**	**19 37 50.8**	**+2.7**
MSVF				pmax	pmax		
	comp=Z,3μm,0.8s						
MSVF	**Nonsavu**	**5.52**	**255**	Pn	**Pn**	**19 37 51.0**	**+2.9**
	comp=Z,22μm,0.8s						
FUNA	**Funafuti**	**8.91**	**330**	*e*P	**Pn**	**19 38 26.2**	**-0.9**
	comp=Z,2μm,1.0s						
RAR	**Rarotonga**	**16.43**	**110**	P	**P**	**19 39 51.4**	**+0.4**
	comp=Z,2.5nm,0.3s,baz=244,slow=9.4,SNR=5.0						
RAR	**Rarotonga**	**16.43**	**110**	*e*P	**P**	**19 39 52.2**	**+1.2**
	comp=Z,45nm,0.8s						
RAR	**Rarotonga**	**16.43**	**110**	*e*P	**P**	**19 39 52.2**	**+1.2**
RAR				pmax	pmax		
	comp=Z,45nm,0.8s						
DZM	**Mont Dzumac**	**17.20**	**248**	*e*P	**P**	**19 39 59.5**	**+0.2**
	comp=Z,584nm,1.2s						
DZM	**Mont Dzumac**	**17.20**	**248**	*e*P	**P**	**19 39 58.2**	**-1.1**
DZM	**Mont Dzumac**	**17.20**	**248**	*e*P	**P**	**19 39 59.5**	**+0.2**
	comp=Z,160nm,0.8s						
NOUC	**Port Laguerre**	**17.33**	**248**	*e*P	**P**	**19 39 59.5**	**-1.2**
OUZ	**Omahuta**	**20.82**	**204**	*e*P	**P**	**19 40 37.3**	**+1.6**
	comp=Z,510nm,0.8s						
MKAZ	**Moumakai**	**21.99**	**198**	PN	**P**	**19 40 46.7**	**+0.3**
PUZ	**Puketiti**	**22.15**	**191**	*e*PN	**P**	**19 40 47.3**	**-0.4**
URZ	**Urewera**	**22.56**	**193**	P	**P**	**19 40 48.9**	**-2.6**
	comp=Z,180nm,0.7s,mb5.4,baz=8.8,slow=3.9,SNR=67						
URZ					S	**19 44 29.7**	**-1.2**
	comp=Z,27nm,0.8s,baz=147,slow=22,SNR=4.7						
URZ	**Urewera**	**22.56**	**193**	*e*P	**P**	**19 40 48.4**	**-3.1**
	comp=Z,197nm,0.7s,mb5.5						
URZ	**Urewera**	**22.56**	**193**	PN	**P**	**19 40 48.9**	**-2.6**
URZ				*e*SN	S	19 44 56.1	+25
HNR	**Honiara**	**24.08**	**284**	*e*P	**P**	**19 41 06.5**	**+0.9**
	comp=Z,196nm,0.8s,mb5.4						
HNR	**Honiara**	**24.08**	**284**	*e*P	**P**	**19 41 06.5**	**+1.0**
HNR				pmax	pmax		
	comp=Z,196nm,0.8s,mb5.4						
PAE	**Paea**	**25.64**	**97**	*e*P	**P**	**19 41 17.3**	**-2.1**
	comp=Z,7.0nm,0.9s,mb3.9						
PAE	**Paea**	**25.64**	**97**	*e*P	**P**	**19 41 17.3**	**-2.1**
	comp=Z,7.0nm,0.9s,mb3.9						
PAE	**Paea**	**25.64**	**97**	*e*P	**P**	**19 41 17.3**	**-2.1**
PAE				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb3.9						
PPT	**Papeete**	**25.64**	**97**	*e*P	**P**	**19 41 18.1**	**-1.3**
	comp=Z,55nm,1.1s,mb4.7						
PPT	**Papeete**	**25.64**	**97**	*e*P	**P**	**19 41 18.1**	**-1.3**
	comp=Z,55nm,1.1s,mb4.5,baz=355,slow=7.5,SNR=53						
PPT	**Papeete**	**25.64**	**97**	*e*P	**P**	**19 41 18.1**	**-1.3**
PPT				pmax	pmax		
	comp=Z,55nm,1.1s						
TIAR	**Tiarei**	**25.86**	**97**	*e*P	**P**	**19 41 20.1**	**-1.3**
	comp=Z,55nm,0.9s,mb4.8						
TIAR	**Tiarei**	**25.86**	**97**	*e*P	**P**	**19 41 20.1**	**-1.3**
	comp=Z,55nm,0.9s,mb4.8						
SNZO	**South Karori**	**26.04**	**195**	*e*P	**P**	**19 41 21.2**	**-1.5**
	comp=Z,103nm,0.8s,mb5.1						
THZ	**Tophouse**	**26.95**	**198**	PN	**P**	**19 41 30.1**	**-0.6**
THZ				SN	**S**	**19 45 36.3**	**-3.7**
DSZ	**Denniston Nort**	**27.28**	**200**	*e*PN	**P**	**19 41 32.7**	**-1.0**
KHZ	**Kahutara**	**27.38**	**196**	*e*P	**P**	**19 41 32.5**	**-2.0**
	comp=Z,140nm,0.9s,mb5.2						
PMOR	**Pomariorio Ree**	**27.43**	**91**	*e*P	**P**	**19 41 34.3**	**-1.0**
	comp=Z,173nm,0.8s,mb5.3						
PMOR	**Pomariorio Ree**	**27.43**	**91**	*e*P	**P**	**19 41 34.3**	**-1.0**
	comp=Z,173nm,0.8s,mb5.3						
VAH	**Vaihoa**	**27.66**	**92**	*e*P	**P**	**19 41 36.0**	**-1.4**
	comp=Z,118nm,1.0s,mb5.1						
VAH	**Vaihoa**	**27.66**	**92**	*e*P	**P**	**19 41 36.0**	**-1.4**
	comp=Z,118nm,1.0s,mb5.1						
LTZ	**Lake Taylor**	**28.08**	**198**	PN	**P**	**19 41 38.6**	**-2.0**
RPZ	**Rata Peaks**	**29.29**	**199**	P	**P**	**19 41 49.7**	**-1.7**
	comp=Z,28nm,0.6s,mb4.7,baz=357,slow=4.3,SNR=13						
RPZ	**Rata Peaks**	**29.29**	**199**	*e*P	**P**	**19 41 49.7**	**-1.7**
	comp=Z,28nm,0.6s,mb4.7						
FOZ	**Fox Glacier**	**29.60**	**201**	PN	**P**	**19 41 51.5**	**-2.6**
KWAJ	**Kwajalein Atol**	**29.60**	**326**	*e*P	**P**	**19 41 54.0**	**-0.4**
	comp=Z,270nm,0.9s,mb5.5						
KWAJ	**Kwajalein Atol**	**29.60**	**326**	*e*P	**P**	**19 41 54.0**	**-0.4**
KWAJ				pmax	pmax		
	comp=Z,270nm,0.9s,mb5.5						
EIDS	**Eidsvold**	**31.65**	**248**	*e*P	**P**	**19 42 11.6**	**-0.6**
	comp=Z,16nm,0.6s,mb4.4						
MLZ	**Mavora Lakes**	**31.69**	**201**	PN	**P**	**19 42 11.7**	**-0.4**
WHZ	**Wether Hill Ro**	**32.24**	**201**	*e*PN	**P**	**19 42 16.3**	**-0.7**
ARMA	**Armidale**	**32.41**	**239**	*e*P	**P**	**19 42 19.6**	**+0.9**
ARMA	**Armidale**	**32.41**	**239**	*e*P	**P**	**19 42 19.5**	**+0.9**
	comp=Z,83nm,0.8s,mb5.0						
RIV	**Riverview**	**33.98**	**233**	*e*P	**P**	**19 42 32.6**	**+0.5**
CTA	**Charters Tower**	**35.66**	**258**	P	**P**	**19 42 45.6**	**-0.8**
	comp=Z,21nm,0.7s,mb4.5,baz=85,slow=9.9,SNR=20						
CTA				PcP	PcP	19 45 06.5	+0.8
	comp=Z,12nm,0.9s,baz=303,slow=1.2,SNR=3.1						
CTA	**Charters Tower**	**35.66**	**258**	*e*P	**P**	**19 42 46.2**	**-0.2**
	comp=Z,14nm,0.5s,mb4.5						
CTA	**Charters Tower**	**35.66**	**258**	P	**P**	**19 42 45.6**	**-0.8**
CTA				PcP	PcP	19 45 06.5	+0.8
CTA	**Charters Tower**	**35.66**	**258**	P	**P**	**19 42 45.7**	**-0.7**
CTA						19 45 06.5	
CTAO	**Charters Tower**	**35.66**	**258**	*e*P	**P**	**19 42 46.3**	**-0.2**
	comp=Z,18nm,0.6s,mb4.5						
CTAO	**Charters Tower**	**35.66**	**258**	*e*P	**P**	**19 42 46.3**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,18nm,0.6s,mb4.5						
CTAO	**Charters Tower**	**35.66**	**258**	P	**P**	**19 42 46.4**	**0.0**
	comp=Z,34nm,0.7s,mb4.7						
CNB	**Canberra Magne**	**35.92**	**232**	*e*P	**P**	**19 42 48.8**	**+0.4**
TAOE	**Nuku Hiva Isla**	**36.07**	**83**	*e*P	**P**	**19 42 48.8**	**-1.2**
PMG	**Port Moresby**	**36.18**	**276**	P	**P**	**19 42 51.6**	**+0.7**
	comp=Z,90nm,0.8s,mb5.0,baz=87,slow=4.7,SNR=14						
PMG	**Port Moresby**	**36.18**	**276**	*e*P	**P**	**19 42 51.9**	**+1.0**
	comp=Z,132nm,1.0s,mb5.1						
PMG	**Port Moresby**	**36.18**	**276**	*c iP*	**P**	**19 42 52.2**	**+1.3**
PMG				pmax	pmax		
	comp=Z,152nm,1.0s						
PMG	**Port Moresby**	**36.18**	**276**	P	**P**	**19 42 52.7**	**+1.8**
	comp=Z,130nm,1.1s,mb5.0						
CAN	**Canberra**	**36.20**	**232**	*e*P	**P**	**19 42 50.9**	**+0.2**
	comp=Z,166nm,0.9s,mb5.3						
CAN	**Canberra**	**36.20**	**232**	*e*P	**P**	**19 42 50.9**	**+0.1**
CAN				pmax	pmax		
	comp=Z,166nm,0.9s,mb5.3						
COEN	**Coen**	**39.09**	**268**	*e*P	**P**	**19 43 16.3**	**+1.4**
	comp=Z,587nm,0.8s,mb5.9						
COEN	**Coen**	**39.09**	**268**	P	**P**	**19 43 16.4**	**+1.4**
	comp=Z,144nm,0.8s,mb5.2						
TOO	**Toolangi**	**39.66**	**230**	*e*P	**P**	**19 43 19.9**	**+0.5**
MOO	**Moorlands**	**40.55**	**223**	*e*P	**P**	**19 43 26.4**	**-0.1**
STKA	**Stephens Creek**	**41.09**	**240**	P	**P**	**19 43 31.7**	**+0.7**
	comp=Z,65nm,0.6s,mb5.0,baz=85,slow=8.3,SNR=60						
STKA	**Stephens Creek**	**41.09**	**240**	*e*P	**P**	**19 43 31.2**	**+0.1**
	comp=Z,50nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**41.09**	**240**	*e*P	**P**	**19 43 31.5**	**+0.5**
	comp=Z,12nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**41.09**	**240**	*e*P	**P**	**19 43 31.5**	**+0.4**
STKA				pmax	pmax		
	comp=Z,11nm,0.6s						
JAY	**Jayapura**	**44.41**	**283**	P	**P**	**19 43 58.6**	**+1.0**
BBOO	**Buckleboo**	**45.87**	**240**	*e*P	**P**	**19 44 08.3**	**-0.4**
	comp=Z,200nm,0.7s,mb5.4						
SMPI	**Sarmi**	**46.45**	**283**	P	**P**	**19 44 14.1**	**+0.6**
WB2	**Warramunga Arr**	**46.84**	**258**	*e*P	**P**	**19 44 15.7**	**-0.7**
WRAB	**Tennant Creek**	**46.84**	**258**	*e*P	**P**	**19 44 16.0**	**-0.4**
	comp=Z,36nm,0.6s,mb4.8						
WRAB	**Tennant Creek**	**46.84**	**258**	*e*P	**P**	**19 44 16.0**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,36nm,0.6s,mb4.8						
WRAB	**Tennant Creek**	**46.84**	**258**	P	**P**	**19 44 16.3**	**-0.1**
	comp=Z,467nm,0.7s,mb5.8,SNR=20						
WRAB	**Tennant Creek**	**46.84**	**258**	P	**P**	**19 44 16.2**	**-0.2**
	comp=Z,136nm,1.2s,mb5.0						
WRA	**Warramunga Arr**	**46.85**	**258**	P	**P**	**19 44 16.0**	**-0.5**
	comp=Z,49nm,0.8s,mb4.8,baz=91,slow=7.3,SNR=116						
WRA				PcP	PcP	19 45 42.0	-0.6
	comp=Z,9.7nm,0.8s,baz=88,slow=4.0,SNR=5.5						
WRA				S	**S**	**19 50 35.5**	**-3.1**
	comp=Z,12nm,1.2s,baz=89,slow=12,SNR=10						
WRA	**Warramunga Arr**	**46.85**	**258**	P	**P**	**19 44 16.0**	**-0.5**
WRA				PcP	PcP	19 45 42.0	-0.6
WRA				S	**S**	**19 50 35.5**	**-3.1**
WRA	**Warramunga Arr**	**46.85**	**258**	P	**P**	**19 44 16.0**	**-0.5**
WRA						19 45 42.1	
WRA				S	**S**	**19 50 35.5**	**-3.1**
ASAR	**Alice Springs**	**47.11**	**253**	P	**P**	**19 44 18.7**	**+0.3**
	comp=Z,182nm,0.5s,mb5.6,baz=86,slow=8.4,SNR=957						
ASAR				S	**S**	**19 50 40.0**	**-2.1**
	comp=Z,11nm,1.0s,baz=84,slow=16,SNR=23						
ASAR	**Alice Springs**	**47.11**	**253**	P	**P**	**19 44 18.7**	**+0.3**
ASAR				S	**S**	**19 50 40.0**	**-2.1**
ASAR	**Alice Springs**	**47.11**	**253**	P	**P**	**19 44 18.7**	**+0.3**
ASAR				S	**S**	**19 50 40.0**	**-2.0**
GUMO	**Guam**	**48.51**	**306**	P	**P**	**19 44 29.1**	**+0.1**
	comp=Z,126nm,0.9s,mb5.1,baz=157,slow=7.1,SNR=6.7						
GUMO	**Guam**	**48.51**	**306**	P	**P**	**19 44 29.1**	**+0.1**
GUMO	**Guam**	**48.51**	**306**	P	**P**	**19 44 29.2**	**+0.1**
KAKA	**Kakadu**	**49.59**	**267**	*e*P	**P**	**19 44 37.2**	**-0.1**
	comp=Z,188nm,0.6s,mb

baz=74
KSM Kuching 74.45 276 *e*P P 19 47 21.5 +0.5
comp=N,65nm,1.2s,mb5.2
KSRS Korea Array 74.88 317 P P 19 47 23.6 +0.7
comp=N,36nm,1.1s,mb5.0,baz=135,slow=6.4,SNR=39
VES Vestal, Richgr 75.02 45 ⇑P P 19 47 23.5 -0.2
baz=75
MURC Murrieta 75.13 48 ⇓P P 19 47 24.5 +0.1
baz=75
BFSC Mount Baldy Ra 75.14 47 ⇓P P 19 47 24.4 0.0
baz=75
EDW2 Edwards Air Fo 75.25 46 ⇓P P 19 47 25.4 +0.4
baz=75
MONP Monument Peak 75.32 49 ⇑P P 19 47 25.8 +0.3
baz=75
ISA Isabella 75.34 45 ⇑P P 19 47 26.1 +0.7
baz=75
CMB Columbia Colle 75.38 43 *e*P P 19 47 25.3 -0.3
comp=N,21nm,1.0s,mb4.8
CMB Columbia Colle 75.38 43 *e*P P 19 47 25.3 -0.3
CMB pmax pmax
comp=Z,21nm,1.0s,mb4.8
DVTC Desert V Tower 75.44 49 ⇑P P 19 47 26.4 +0.3
baz=76
WDC Whiskeytown Da 75.50 39 *e*P P 19 47 26.2 -0.1
comp=Z,35nm,1.2s,mb5.0
WDC Whiskeytown Da 75.50 39 *e*P P 19 47 26.2 -0.1
WDC pmax pmax
comp=Z,35nm,1.2s,mb5.0
QZH Quanzhou 75.50 302 ⇓*i*P P 19 47 25.6 -1.1
QZH pmax pmax
comp=Z,180nm,0.9s,mb5.8
CBJI Citeko 75.57 267 P P 19 47 26.9 -0.4
DBJI Dramaga 75.64 267 P P 19 47 28.2 +0.5
SKJI Sukabumi 75.70 267 P P 19 47 28.2 +0.1
comp=Z,229nm,0.8s,mb5.9
INCN Inchon 75.74 316 *e*P P 19 47 28.6 +1.0
comp=Z,148nm,1.3s,mb5.6
SWSC Sam W. Stewart 75.80 49 ⇓P P 19 47 28.9 +0.8
baz=76
YBH Yreka Blue Hor 76.09 38 *e*P P 19 47 29.7 +0.2
comp=Z,28nm,0.8s,mb5.0
YBH *ep*P pP 19 48 53.1 0.0
YBH Yreka Blue Hor 76.09 38 *e*P P 19 47 29.7 +0.1
YBH *e**PP pP 19 48 53.1 -0.1
YBH pmax pmax
comp=Z,28nm,0.8s
BELC Belle Mtn. Jos 76.19 48 ⇑P P 19 47 30.4 +0.1
baz=76
MPMC Manual Prospec 76.22 46 ⇑P P 19 47 30.8 +0.4
baz=76
GSC Goldstone 76.30 47 ⇑P P 19 47 31.1 +0.3
baz=76
HEC Hector,Ludlow 76.38 47 ⇑P P 19 47 31.3 0.0
baz=76
BC3 Big Chuckawall 76.41 49 ⇓P P 19 47 31.7 +0.2
baz=76
KDAK Kodiak Island 76.45 13 *e*P P 19 47 30.3 -0.8
comp=Z,58nm,0.8s,mb5.4
KDAK Kodiak Island 76.45 13 *e*P P 19 47 30.3 -0.8
KDAK pmax pmax
comp=Z,57nm,0.8s,mb5.3
KDAK Kodiak Island 76.45 13 P P 19 47 30.0 -1.1
comp=Z,606nm,0.7s,SNR=24
HUMO Hull Mountain 76.48 38 *e*P P 19 47 31.6 -0.1
comp=Z,30nm,1.1s,mb4.9
WCN Washoe City 76.50 42 ⇓P P 19 47 32.6 +0.7
baz=77
GLA Glamis 76.56 49 ⇓P P 19 47 33.0 +0.6
baz=77
GRAC Grapevine Rang 76.81 45 ⇓P P 19 47 34.0 +0.3
baz=77
GMRC Granite Mounta 76.83 47 ⇑P P 19 47 34.1 +0.2
baz=77
FURC Furnace Creek, 76.87 45 ⇓P P 19 47 34.2 +0.1
baz=77
IRM Iron Mountain 76.88 48 ⇓P P 19 47 34.0 -0.2
baz=77,SNR=10
NVAR Mina Array Bea 76.96 43 P P 19 47 34.5 +0.1
comp=Z,12nm,0.8s,mb4.7,baz=227,slow=9.1,SNR=56
NVAR pP pP 19 48 58.0 -0.2
comp=Z,4.3nm,1.1s,baz=223,slow=9.0,SNR=3.1
NVAR Mina Array Bea 76.96 43 P P 19 47 34.5 +0.1
NVAR pP pP 19 48 58.0 -0.2
SHOC Shoshone 76.97 46 ⇑P P 19 47 35.2 +0.7
baz=77
TUQ Turquoise Moun 76.98 47 ⇑P P 19 47 35.1 +0.5
baz=77
Y12C Blythe 77.13 49 ⇓P P 19 47 36.3 +0.8
baz=77
113A Mohawk Valley, 77.20 50 ⇓P P 19 47 36.5 +0.6
baz=77
PPBI Pangkal Pinang 77.40 271 P P 19 47 38.8 +1.3
comp=Z,36nm,1.1s,mb5.0
Z13A Yuma Proving G 77.49 50 ⇑P P 19 47 37.3 -0.2
baz=78,SNR=11
MOD Modoc 77.65 39 *e*P P 19 47 38.0 -0.2
comp=Z,34nm,1.2s,mb5.0
MOD *ep*P pP 19 49 02.1 0.0
PDMCI Parker Dam,Lak 77.68 49 ⇓P P 19 47 38.3 -0.2
baz=78,SNR=7.4
K05A Summer Lake 77.77 38 ⇓P P 19 47 39.1 +0.3
baz=78
114A Black Gap (USA 77.84 50 ⇑P P 19 47 39.7 +0.2
baz=78
MDJ Mudanjiang 78.07 324 P P 19 47 40.7 +0.3
MDJ pmax pmax
comp=Z,65nm,1.0s,mb5.3
MDJ pmax pmax
comp=Z,180nm,5.0s
MDJ Mudanjiang 78.07 324 *e*P P 19 47 40.4 0.0
comp=Z,66nm,1.0s,mb5.3
Z14A Wintersburg 78.09 50 ⇓P P 19 47 41.1 +0.4
baz=78
H04A Detroit Lake 78.19 36 ⇑P P 19 47 40.9 -0.2
baz=78
F03A Seaside 78.19 35 ⇑P P 19 47 41.4 +0.4
baz=78
Y14A Wickenburg 78.32 49 ⇓P P 19 47 41.5 -0.5
baz=78,SNR=5.9
G04A Mulino 78.34 36 ⇓P P 19 47 42.7 +0.9
baz=78
216A Three Points, 78.56 52 ⇑P P 19 47 44.3 +0.9
baz=79
E03A Lebam 78.57 34 ⇓P P 19 47 43.1 0.0
baz=79,SNR=6.8
LWLI Liwa 78.62 268 P P 19 47 44.1 0.0
MDSI Maura Dua 78.65 269 P P 19 47 43.4 -0.9
comp=Z,30nm,0.9s,mb5.0
X14A Yava 78.66 49 ⇑P P 19 47 43.9 0.0
baz=79,SNR=12
R11A Troy Canyon, C 78.72 44 ⇓P P 19 47 43.5 -0.6
baz=79,SNR=8.9
Y15A Casa Rosa Ranc 78.82 50 ⇓P P 19 47 44.7 0.0
baz=79,SNR=13
U13A Pakoon Wash 78.85 47 ⇑P P 19 47 44.9 +0.1
baz=79,SNR=12
RSO Redoubt South 78.88 12 *e*P P 19 47 42.9 -1.5
comp=Z,104nm,0.7s,mb5.7
217A Green Valley 78.94 52 ⇓P P 19 47 45.2 -0.2
baz=79,SNR=6.8
NLWA Neilton Lookou 78.94 33 *e*P P 19 47 45.0 0.0
SVW2 Sparrevohn 78.96 10 *e*P P 19 47 43.9 -0.9
comp=Z,50nm,1.0s,mb5.2
OSR Olympics--Salm 78.96 33 P P 19 47 45.4 +0.3
WVOR Wild Horse Val 78.97 40 *e*P P 19 47 45.1 -0.2
comp=Z,27nm,1.0s,mb4.9
WVOR *ep*P pP 19 49 09.0 -0.6
WVOR Wild Horse Val 78.97 40 *e*P P 19 47 45.1 -0.2
WVOR *e**PP pP 19 49 09.0 -0.6
WVOR pmax pmax
comp=Z,27nm,1.0s,mb4.9
VIPM Ingram Point 78.98 37 P P 19 47 45.2 -0.1
VIPM Ingram Point 78.98 37 P P 19 47 45.3 0.0
V14A Boquillas Ranc 79.07 48 ⇑P P 19 47 46.3 +0.3
baz=79,SNR=12
X15A Humboldt 79.14 49 ⇓P P 19 47 46.9 +0.5
baz=79,SNR=8.8
TUC Tucson 79.21 52 *e*P P 19 47 47.5 +0.6
comp=Z,7.3nm,0.8s,mb4.5
TUC Tucson 79.21 52 *e*P P 19 47 47.5 +0.7
TUC pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
SEW Seward 79.24 13 *e*P P 19 47 44.6 -1.7
comp=Z,83nm,0.9s,mb5.5
117A Oracle 79.36 51 ⇑P P 19 47 48.2 +0.5
baz=79,SNR=5.0

I07A Izee 79.38 38 ⇑P P 19 47 47.6 +0.1
baz=80,SNR=13
G06A Carlson Farm, 79.40 36 ⇓P P 19 47 47.5 -0.1
baz=80,SNR=5.4
U14A Mt Trumbull 79.40 47 ⇑P P 19 47 48.2 +0.4
baz=80,SNR=9.0
Y16A Circle Bar Ran 79.41 50 ⇑P P 19 47 48.4 +0.5
baz=80,SNR=7.1
318A Bisbee 79.42 53 ⇑P P 19 47 48.3 +0.4
baz=80,SNR=5.9
SLKM Skilak Lake 79.44 13 *e*P P 19 47 46.3 -1.1
SLKM Skilak Lake 79.44 13 *e*P P 19 47 46.3 -1.1
W15A Williams 79.45 49 ⇑P P 19 47 48.6 +0.5
baz=80
J08A Circle Bar Ran 79.58 39 ⇓P P 19 47 48.6 0.0
baz=80,SNR=8.1
218A Dragoon 79.61 52 ⇓P P 19 47 49.6 +0.6
baz=80,SNR=7.7
LON Longmire 79.65 35 *e*P P 19 47 48.1 -0.7
comp=Z,8.2nm,0.9s,mb4.5
LON Longmire 79.65 35 *e*P P 19 47 48.1 -0.7
LON pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
X16A Lo Mia Camp, P 79.69 50 ⇓P P 19 47 50.0 +0.6
baz=80,SNR=6.5
R13A O'Grain Ranch, 79.73 45 ⇓P P 19 47 49.6 +0.1
baz=80,SNR=5.2
Y17A Roosevelt 79.80 50 ⇓P P 19 47 50.4 +0.4
baz=80
KLR Kul'dur 79.80 328 *e*P P 19 47 45.7 -3.9
KLR pmax pmax
comp=Z,67nm,1.4s,mb5.2
D05A Enumclaw 79.82 34 ⇑P P 19 47 50.3 +0.6
baz=80,SNR=6.8
V15A Kaibab Nationa 79.82 48 ⇓P P 19 47 50.3 +0.3
baz=80,SNR=9.6
ARUT Antelope Range 79.89 46 *e*P P 19 47 50.8 +0.4
comp=Z,8.6nm,1.1s,mb4.4
ARUT Antelope Range 79.89 46 *e*P P 19 47 50.8 +0.4
ARUT pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
319A Douglas 79.93 53 ⇓P P 19 47 51.2 +0.5
baz=80,SNR=6.1
W16A Flagstaff 79.94 49 ⇑P P 19 47 51.3 +0.6
baz=80
PGC Sidney 79.95 32 *e*P P 19 47 50.0 -0.4
comp=Z,3.7nm,1.1s,mb4.0
118A Homack Ranch, 79.97 52 ⇓P P 19 47 51.2 +0.3
baz=80,SNR=12
CN2 Changchun 80.02 321 ⇑P P 19 47 51.3 +0.4
CN2 *es*P sP 19 49 51.4 -3.0
CN2 *e*S S 19 57 23.3 0.0
CN2 pmax pmax
comp=Z,70nm,0.7s,mb5.5
CN2 pmax pmax
comp=Z,200nm,8.0s
U15A North Rim 80.03 47 ⇑P P 19 47 51.9 +0.8
baz=80,SNR=9.7
RMW Rattlesnake Mo 80.08 34 P P 19 47 51.3 +0.2
RMW Rattlesnake Mo 80.08 34 P P 19 47 51.3 +0.2
X17A Forest Lakes 80.12 50 ⇑P P 19 47 52.5 +0.8
baz=80
F07A Phinny Hill Vi 80.19 36 ⇓P P 19 47 51.8 +0.1
baz=80
219A White Tail Can 80.22 53 ⇑P P 19 47 52.9 +0.6
baz=80,SNR=17
T15A Red Dirt Ranch 80.25 47 ⇑P P 19 47 52.6 +0.3
baz=80,SNR=8.8
WUAZ Wupatki 80.25 49 *e*P P 19 47 52.7 +0.4
comp=Z,18nm,1.6s,mb4.6
G08A Pilot Rock 80.39 37 ⇓P P 19 47 52.7 -0.1
baz=80,SNR=18
Y18A Canyon Day Jun 80.43 51 ⇓P P 19 47 54.0 +0.7
baz=80
119A Ashpeak Ranch, 80.53 52 ⇓P P 19 47 54.5 +0.6
baz=81,SNR=6.9
Q14A Sevier Lake (B 80.60 45 ⇓P P 19 47 53.8 -0.2
baz=81,SNR=12
E07A Sunnyside 80.62 36 ⇓P P 19 47 53.9 -0.1
baz=81,SNR=14
PMR Palmer 80.65 13 *e*P P 19 47 52.8 -1.0
comp=Z,38nm,0.6s,mb5.3
PMR Palmer 80.65 13 *e*P P 19 47 52.8 -1.0
PMR pmax pmax
comp=Z,38nm,0.6s,mb5.3
RSW Rattlesnake Hi 80.67 36 *e*P P 19 47 54.3 0.0
comp=Z,67nm,1.1s,mb5.3
HAWA Hanford 80.70 36 *e*P P 19 47 54.0 -0.4
comp=Z,39nm,1.0s,mb5.1
MYKOM Kota Tinggi 80.71 275 P P 19 47 56.4 +1.1
V17A Tonalea, Kykot 80.72 49 ⇑P P 19 47 55.1 +0.4
baz=81,SNR=9.7
U16A Tuba City 80.72 48 ⇑P P 19 47 55.0 +0.3
baz=81,SNR=5.2
220A Playas Peak, P 80.74 53 ⇓P P 19 47 55.6 +0.6
baz=81,SNR=11
Z19A T-Link Ranch, 80.79 51 ⇓P P 19 47 56.3 +1.1
baz=81
X18A Snowflake 80.83 50 ⇑P P 19 47 55.7 +0.3
baz=81
T16A Glen Canyon Da 80.85 47 ⇓P P 19 47 55.8 +0.4
baz=81,SNR=5.7
B06A Marblemount 80.90 33 ⇓P P 19 47 55.8 +0.4
baz=81
120A U Bar Ranch, L 80.94 52 ⇓P P 19 47 56.7 +0.7
baz=81
ETW Entiat 80.97 35 P P 19 47 55.4 -0.4
DIV Divide 81.00 14 *e*P P 19 47 54.4 -1.3
comp=Z,91nm,0.8s,mb5.6
E08A Dider Farm, El 81.03 36 ⇑P P 19 47 55.8 -0.3
baz=81,SNR=7.4
P14A Drum Mountains 81.04 44 ⇑P P 19 47 56.2 -0.1
baz=81,SNR=13
Y19A Nutrioso 81.09 51 ⇑P P 19 47 57.7 +0.9
baz=81,SNR=12
LNOR Lincton Mounta 81.11 37 *e*P P 19 47 55.7 -0.9
comp=Z,3.1nm,0.5s,mb4.3
LNOR Lincton Mounta 81.11 37 *e*P P 19 47 55.7 -0.9
LNOR pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
MSU Marysvale 81.11 46 *e*P P 19 47 57.3 +0.5
comp=Z,4.9nm,0.7s,mb4.3
MSU Marysvale 81.11 46 *e*P P 19 47 57.3 +0.5
MSU pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
BMO Blue Mountains 81.12 38 *e*P P 19 47 56.1 -0.5
comp=Z,17nm,1.1s,mb4.7
BMO *ep*P pP 19 49 21.3 -0.1
BMO Blue Mountains 81.12 38 *e*P P 19 47 56.1 -0.5
BMO *e**PP pP 19 49 21.3 -0.1
BMO pmax pmax
comp=Z,17nm,1.1s,mb4.7
S16A Weppner Ranch, 81.14 47 ⇓P P 19 47 56.7 -0.2
baz=81,SNR=5.4
BMRM Bremner River 81.15 15 *e*P P 19 47 55.4 -1.0
comp=Z,95nm,0.9s,mb5.5
Q15A Fillmore 81.21 45 ⇑P P 19 47 57.3 0.0
baz=81,SNR=6.9
Z20A Nine Sixteen R 81.22 52 ⇑P P 19 47 58.0 +0.6
baz=81,SNR=13
MFID Camas Ranch 81.23 40 ⇓P P 19 47 57.0 -0.2
baz=81,SNR=9.2
MFID Camas Ranch 81.23 40 *e*P P 19 47 56.8 -0.5
comp=Z,26nm,1.3s,mb4.8
PPLA Purkeypile 81.23 11 *e*P P 19 47 54.9 -1.9
comp=Z,17nm,0.7s,mb4.9
W18A Petrified Fore 81.26 50 ⇑P P 19 47 58.4 +0.8
baz=81
X19A St. Johns 81.28 50 ⇑P P 19 47 58.0 +0.3
baz=81,SNR=12
WHN Wuhan 81.29 305 P P 19 47 58.3 +0.4
T17A Navajo Res., N 81.35 47 ⇓P P 19 47 58.4 +0.4
baz=81,SNR=16
V18A Ganado 81.38 49 ⇑P P 19 47 58.5 +0.2
baz=82,SNR=8.8
D08A Wollman Farm, 81.43 36 ⇓P P 19 47 58.0 -0.2
baz=82,SNR=14
R16A Teasdale 81.48 46 ⇓P P 19 47 59.1 +0.4
baz=82,SNR=11
DUG Dugway 81.51 44 *e*P P 19 47 57.5 -1.3
DUG Dugway 81.51 44 *e*P P 19 47 57.5 -1.3
W19A Sanders 81.51 50 ⇑P P 19 48 00.1 +1.2
baz=82
E09A Wood Farm, Sta 81.56 36 ⇑P P 19 47 58.1 -0.7
baz=82,SNR=9.6
P15A Leamington 81.56 45 ⇑P P 19 47 59.3 +0.2
baz=82

121A Cookes Peak, D 81.58 53 ⇓P P 19 47 59.5 +0.2
baz=82,SNR=9.7
S17A Black Ridge (B 81.65 47 ⇓P P 19 47 59.1 -0.5
baz=82,SNR=6.0
Y20A Horse Springs, 81.73 51 ⇑P P 19 48 00.7 +0.6
baz=82,SNR=18
OD2 Odessa Site #2 81.74 35 P P 19 47 59.3 -0.5
U18A Rough Rock, Ch 81.75 48 ⇑P P 19 48 00.1 0.0
baz=82,SNR=7.2
O15A The Old Anders 81.78 44 ⇑P P 19 48 00.3 +0.1
baz=82
F10A Beach Ranch, E 81.78 37 ⇓P P 19 47 59.3 -0.8
baz=82,SNR=24
I12A Atlanta 81.86 40 ⇓P P 19 48 00.6 +0.1
baz=82,SNR=32
X20A Quemado 81.91 51 ⇑P P 19 48 01.8 +0.8
baz=82,SNR=13
TNA Tin City 81.92 4 *e*P P 19 47 59.9 -0.4
comp=Z,207nm,1.2s,mb5.8
B08A Colville Reser 81.95 34 ⇑P P 19 47 59.9 -0.9
baz=82,SNR=6.7
Z21A St. Cloud Mine 82.00 52 ⇑P P 19 48 02.3 +0.8
baz=82,SNR=13
Q16A Castle Valley 82.00 46 ⇓P P 19 48 01.7 +0.3
baz=82
T18A Mexican Hat 82.08 48 ⇓P P 19 48 02.3 +0.5
baz=82,SNR=41
R17A Hanksville Air 82.08 46 ⇓P P 19 48 02.1 +0.3
baz=82,SNR=8.9
TRF Thorofare Moun 82.10 12 *e*P P 19 47 59.7 -1.6
comp=Z,80nm,0.7s,mb5.7
L14A Malta 82.14 42 ⇑P P 19 48 01.8 -0.2
baz=82,SNR=9.9
TMUT Trail Mountain 82.15 45 *e*P P 19 48 02.9 +0.8
comp=Z,30nm,0.6s,mb5.3
W20A Ramah 82.17 50 ⇓P P 19 48 03.0 +0.7
baz=82,SNR=27
U19A Dine' College, 82.17 49 ⇓P P 19 48 02.6 +0.3
baz=82,SNR=16
HLID Hailey 82.18 40 *e*P P 19 48 02.4 +0.2
comp=Z,28nm,1.0s,mb5.0
HLID *ep*P pP 19 49 27.4 +0.2
C09A Chrisman Ranch 82.21 35 ⇓P P 19 48 01.8 -0.5
baz=82,SNR=8.7
S18A Hurst Farm, Bl 82.25 47 ⇓P P 19 48 03.0 +0.4
baz=82,SNR=7.7
J13A Cove Ranch, Pi 82.25 41 ⇓P P 19 48 02.7 +0.2
baz=82,SNR=22
Y21A Point of Rocks 82.30 51 ⇓P P 19 48 04.0 +1.0
baz=82,SNR=16
HVU Hansel Valley 82.32 43 *e*P P 19 48 02.7 -0.2
comp=Z,16nm,0.5s,mb5.1
HVU Hansel Valley 82.32 43 *e*P P 19 48 02.7 -0.2
HVU pmax pmax
comp=Z,17nm,0.5s,mb5.1
M15A Larsen Ranch, 82.38 43 ⇑P P 19 48 03.1 -0.1
baz=82,SNR=16
O16A Springville 82.39 44 ⇓P P 19 48 03.8 +0.5
baz=82,SNR=7.3
X21A Alamocita Cree 82.40 51 ⇓P P 19 48 04.0 +0.5
baz=82,SNR=8.8
H12A Diamond D Ranc 82.42 39 ⇓P P 19 48 03.2 -0.2
baz=82,SNR=32
K14A Jones Ranch, D 82.44 42 ⇑P P 19 48 03.5 -0.1
baz=82,SNR=6.8
G12A Big Creek, Yel 82.45 39 ⇓P P 19 48 03.4 -0.1
baz=83,SNR=47
V20A Brimhall 82.49 49 ⇑P P 19 48 04.0 0.0
baz=83
SRU San Rafael 82.53 46 ⇑P P 19 48 03.9 -0.2
baz=83,SNR=37
SRU San Rafael 82.53 46 *e*P P 19 48 03.9 -0.2
comp=Z,32nm,0.8s,mb5.2
SRU San Rafael 82.53 46 *e*P P 19 48 03.9 -0.2
SRU pmax pmax
comp=Z,32nm,0.8s,mb5.2
T19A Beclabito 82.54 48 ⇓P P 19 48 04.9 +0.7
baz=83
I13A Wildhorse Cree 82.55 40 ⇓P P 19 48 04.4 +0.4
baz=83,SNR=12
BPAW Bear Paw Mtn. 82.56 11 *e*P P 19 48 01.1 -2.5
P17A Butcher Ranch, 82.56 45 ⇓P P 19 48 04.3 +0.1
baz=83,SNR=7.5
SKAG Skagway 82.58 20 *e*P P 19 48 03.6 -0.2
comp=Z,61nm,1.1s,mb5.3
MCK McKinley 82.61 12 *e*P P 19 48 02.6 -1.3
comp=Z,102nm,0.9s,mb5.7
MCK McKinley 82.61 12 *e*P P 19 48 02.6 -1.3
MCK pmax pmax
comp=Z,101nm,0.9s,mb5.7
JLU Jordanelle 82.61 44 *e*P P 19 48 04.4 -0.1
comp=Z,12nm,0.6s,mb4.9
JLU *ep*P pP 19 49 30.3 +0.8
J14A Carey 82.62 41 ⇓P P 19 48 04.7 +0.3
baz=83,SNR=36
R18A Canyonlands Na 82.64 47 ⇓P P 19 48 04.5 -0.1
baz=83,SNR=20
DAU Daniels Canyon 82.65 44 *e*P P 19 48 05.0 +0.3
comp=Z,8.1nm,0.6s,mb4.7
DAU Daniels Canyon 82.65 44 *e*P P 19 48 05.0 +0.3
DAU pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
PAX Paxson 82.68 14 *e*P P 19 48 02.7 -1.6
comp=Z,20nm,0.9s,mb4.9
PAX Paxson 82.68 14 *e*P P 19 48 02.7 -1.5
PAX pmax pmax
comp=Z,20nm,0.9s,mb5.0
L15A Malad City 82.68 42 ⇑P P 19 48 04.5 -0.2
baz=83,SNR=22
U20A Newcomb 82.70 49 ⇑P P 19 48 05.1 +0.1
baz=83,SNR=6.5
SEY Seymchan 82.73 346*c i*P P 19 48 03.7 -0.8
N16A Rees Ranch, Co 82.76 44 ⇓P P 19 48 05.2 0.0
baz=83,SNR=6.3
W21A San Fidel 82.79 50 ⇓P P 19 48 05.8 +0.3
baz=83,SNR=5.2
Y22A Socorro 82.80 52 ⇑P P 19 48 06.0 +0.5
baz=83
H13A Challis 82.80 40 ⇑P P 19 48 05.2 -0.1
baz=83,SNR=11
Q18A Rafter H Ranch 82.80 46 ⇑P P 19 48 05.2 -0.2
baz=83,SNR=19
M16A Huntsville 82.84 43 ⇓P P 19 48 05.6 0.0
baz=83
S19A Harvey Farm, M 82.88 47 ⇓P P 19 48 06.0 +0.1
baz=83,SNR=14
O17A Robinson Place 82.90 45 ⇑P P 19 48 06.1 +0.2
baz=83,SNR=37
324A Moseley Ranch, 82.90 54 ⇑P P 19 48 06.3 +0.1
baz=83
K15A Arbon 82.92 42 ⇓P P 19 48 05.9 -0.1
baz=83,SNR=20
P18A Preston Nutter 82.97 45 ⇓P P 19 48 06.5 +0.2
baz=83,SNR=13
I14A Mackay 82.97 40 ⇓P P 19 48 06.5 +0.3
baz=83,SNR=18
HWUT Hardware Ranch 83.02 43 *e*P P 19 48 05.9 -0.6
comp=Z,16nm,0.6s,mb5.0
425A Indio Mountain 83.03 55 ⇓P P 19 48 07.5 +0.7
baz=83
R19A Curley Farm, L 83.03 47 ⇑P P 19 48 06.8 +0.1
baz=83,SNR=28
MENT Mentasta 83.06 14 *e*P P 19 48 05.8 -0.4
Z23A Rita Site, Whi 83.07 53 ⇓P P 19 48 07.5 +0.5
baz=83
G13A Cobalt 83.09 39 ⇓P P 19 48 06.3 -0.5
baz=83,SNR=8.4
MVCO Mesa Verde 83.09 48 *e*P P 19 48 07.0 +0.1
comp=Z,4.8nm,0.7s,mb4.4
V21A Milan 83.10 50 ⇑P P 19 48 07.5 +0.5
baz=83
NEW Newport 83.11 35 *e*P P 19 48 06.0 -0.8
comp=Z,6.7nm,0.8s,mb4.5
NEW Newport 83.11 35 *e*P P 19 48 06.0 -0.8
NEW pmax pmax
comp=Z,7.0nm,0.8s
224A Cornudas Mount 83.13 54 ⇑P P 19 48 07.9 +0.6
baz=83
BNM Barren Site 83.14 52 *e*P P 19 48 07.5 +0.2
comp=Z,4.0nm,0.6s,mb4.4
N17A Moffit Pass 83.19 44 ⇓P P 19 48 07.5 +0.1
baz=83,SNR=14
PDSI Padang 83.20 271 P P 19 48 07.7 -0.4
comp=Z,45nm,0.8s,mb5.4
LPM Los Pinos Moun 83.21 51 *e*P P 19 48 08.2 +0.6
comp=Z,11nm,1.0s,mb4.7
626A Big Bend Ranch 83.22 57 ⇑P P 19 48 08.6 +0.8
baz=83

FRIM Kepong 83.25 275 P P 19 48 09.2 +0.8
325A Bean Ranch, Si 83.28 55 ⇓P P 19 48 08.4 +0.3
baz=83
L16A Fish Haven 83.31 43 ⇓P P 19 48 07.9 0.0
baz=83,SNR=26
PV04 Paradox Valley 83.33 47 eP P 19 48 08.2 0.0
Q19A Hogan Spring (83.33 46 ⇓P P 19 48 08.0 -0.1
baz=83,SNR=15
J15A Blackfoot 83.34 41 ⇓P P 19 48 08.6 +0.6
baz=83,SNR=41
W22A Albuquerque 83.35 51 ⇑P P 19 48 09.2 +0.8
baz=83
U21A Nageezi 83.35 49 ⇓P P 19 48 08.7 +0.4
baz=83,SNR=35
H14A Leadore 83.37 40 ⇓P P 19 48 08.4 +0.2
baz=84,SNR=19
F13A Darby 83.39 38 ⇓P P 19 48 07.8 -0.5
baz=84,SNR=34
O18A Roosevelt 83.43 45 ⇓P P 19 48 08.9 +0.3
baz=84
124A Stringfield Ra 83.44 53 ⇓P P 19 48 09.3 +0.5
baz=84
PV01 Paradox Valley 83.45 47 eP P 19 48 05.6 -3.1
comp=Z,2μm,0.9s
526A Mary Lane Ranc 83.46 56 ⇓P P 19 48 09.6 +0.7
baz=84
D12A Red Ives Fores 83.46 37 ⇑P P 19 48 08.0 -0.6
baz=84
S20A Disappointment 83.46 48 ⇑P P 19 48 09.2 +0.3
baz=84,SNR=13
Y23A Lovelace Mesa, 83.48 52 ⇑P P 19 48 09.1 +0.1
baz=84,SNR=6.1
TXAR Lajitas Array 83.51 57 P P 19 48 10.1 +0.8
comp=Z,4.6nm,0.9s,mb4.3,baz=211,slow=6.8,SNR=23
TXAR pP pP 19 49 35.7 +1.1
comp=Z,2.0nm,1.0s,baz=247,slow=6.3,SNR=2.5
TXAR Lajitas Array 83.51 57 P P 19 48 10.1 +0.8
TXAR pP pP 19 49 35.7 +1.1
TXAR Lajitas Array 83.51 57 P P 19 48 10.1 +0.8
TXAR *PP pP 19 49 35.7 +1.1
M17A Scullys Gap (B 83.55 44 ⇑P P 19 48 09.3 +0.1
baz=84,SNR=16
DOT Dot Lake 83.59 14 eP P 19 48 07.8 -1.1
comp=Z,242nm,0.8s,mb6.1
K16A Soda Springs 83.60 42 ⇓P P 19 48 10.5 +1.1
baz=84,SNR=9.8
ANMO Albuquerque 83.60 51 eP P 19 48 09.3 -0.3
comp=Z,25nm,1.4s,mb4.8
ANMO Albuquerque 83.60 51 eP P 19 48 09.4 -0.2
ANMO pmax pmax
comp=Z,25nm,1.4s
R20A Redvale 83.61 47 ⇑P P 19 48 09.8 +0.2
baz=84
G14A Jackson 83.63 39 ⇓P P 19 48 09.9 +0.4
baz=84
DLBC Dease Lake 83.65 23 eP P 19 48 08.7 -0.6
V22A San Miguel Ran 83.68 50 ⇓P P 19 48 10.2 +0.2
baz=84
T21A Navajo Lake 83.69 49 ⇑P P 19 48 10.6 +0.7
baz=84
225A Deer Hill, Car 83.69 54 ⇓P P 19 48 10.6 +0.5
baz=84
426A McDonald Obser 83.74 56 ⇑P P 19 48 11.1 +0.7
baz=84
627A Terlingua Ranc 83.78 57 ⇑P P 19 48 11.5 +0.9
baz=84
S21A Coal Bank Pass 83.79 48 ⇓P P 19 48 10.9 +0.4
baz=84,SNR=21
MCMT McKenzie Canyo 83.80 40 eP P 19 48 10.4 0.0
comp=Z,15nm,1.0s,mb4.8
J16A Bone 83.80 42 ⇓P P 19 48 10.9 +0.5
baz=84,SNR=20
E13A Victor 83.81 38 ⇑P P 19 48 09.8 -0.6
baz=84,SNR=14
H15A Lima 83.82 40 ⇑P P 19 48 10.6 +0.2
baz=84,SNR=15
P19A Cripple Cowboy 83.84 46 ⇑P P 19 48 10.8 +0.1
baz=84,SNR=12
COLA College 83.85 12 eP P 19 48 08.5 -1.6
comp=Z,251nm,0.8s,mb6.1
COLA College 83.85 12 eP P 19 48 08.5 -1.6
COLA pmax pmax
comp=Z,251nm,0.8s,mb6.1
U22A Llaves 83.92 49 ⇑P P 19 48 11.3 +0.1
baz=84,SNR=5.2
W23A Werner Place, 83.92 51 ⇑P P 19 48 11.5 +0.3
baz=84
M18A Lyman 83.93 44 ⇑P P 19 48 11.0 0.0
baz=84,SNR=5.5
ILAR Eielson Array 83.95 12 P P 19 48 09.3 -1.3
comp=Z,57nm,0.6s,mb5.6,baz=217,slow=5.3,SNR=241
ILAR PKiKP PKiKP 19 53 21.9 -1.3
comp=Z,0.6nm,0.7s,baz=258,slow=2.8,SNR=4.7
ILAR Eielson Array 83.95 12 P P 19 48 09.3 -1.3
ILAR Eielson Array 83.95 12 P P 19 48 09.3 -1.3
F14A Wisdom 83.98 39 ⇓P P 19 48 10.8 -0.4
baz=84,SNR=13
N18A Larsen Ranch, 83.98 44 ⇑P P 19 48 11.2 -0.2
baz=84,SNR=5.6
K17A Gardner Place, 83.99 42 ⇑P P 19 48 11.9 +0.5
baz=84
D13A Huson 84.00 37 ⇑P P 19 48 10.2 -1.1
baz=84,SNR=15
Q20A Ridgley Place, 84.01 47 ⇑P P 19 48 11.4 -0.1
baz=84,SNR=6.8
RRI2 Red Ridge 84.02 42 eP P 19 48 11.6 +0.1
comp=Z,26nm,0.9s,mb5.1
O19A Miners Draw (B 84.04 45 ⇓P P 19 48 11.9 +0.3
baz=84
BJT Baijiatuau 84.07 315 eP P 19 48 11.9 0.0
comp=Z,48nm,0.6s,mb5.5
BJT Baijiatuau 84.07 315 eP P 19 48 11.9 +0.1
BJT pmax pmax
comp=Z,48nm,0.6s
BJI Beijing 84.08 315 P P 19 48 12.3 +0.4
BJI pP pP 19 49 36.7 -0.6
BJI sP sP 19 50 15.6 -0.5
BJI PP PP 19 51 31.9 -0.4
BJI pmax pmax
comp=Z,80nm,1.1s,mb5.5
B12A Libby 84.08 36 ⇑P P 19 48 12.0 +0.3
baz=84
V23A Ortiz Mt. (NFS 84.14 50 ⇑P P 19 48 13.3 +1.0
baz=84
T22A Edith 84.15 49 ⇑P P 19 48 12.7 +0.4
baz=84
I16A Newdale 84.17 41 ⇓P P 19 48 12.8 +0.5
baz=84,SNR=13
L18A Fontenelle, Gr 84.18 43 ⇓P P 19 48 12.7 +0.3
baz=84
IPM Ipoh 84.18 276 P P 19 48 14.3 +1.3
IPM Ipoh 84.18 276 eP P 19 48 13.6 +0.6
comp=Z,55nm,0.8s,mb5.4
P20A De Beque 84.18 46 ⇑P P 19 48 12.6 +0.2
baz=84,SNR=6.7
G15A Dillon 84.19 40 ⇓P P 19 48 12.5 +0.2
baz=84,SNR=41
BSMT Bassoo Peak 84.21 37 eP P 19 48 11.6 -0.7
comp=Z,16nm,1.0s,mb4.8
E14A Clinton 84.21 38 ⇓P P 19 48 11.9 -0.5
baz=84,SNR=26
DLMT Dillon 84.22 39 eP P 19 48 12.4 0.0
comp=Z,44nm,1.1s,mb5.2
226A Malaga, Loving 84.23 54 ⇑P P 19 48 13.0 +0.2
baz=84
C13A Hot Springs 84.24 37 ⇓P P 19 48 11.6 -0.8
baz=84,SNR=7.0
R21A Cimarron 84.27 47 ⇓P P 19 48 13.2 +0.3
baz=84,SNR=20
A12A Yaak River Ran 84.30 35 ⇑P P 19 48 12.9 +0.2
baz=84
427A Hayter Ranch, 84.31 56 ⇑P P 19 48 13.6 +0.4
baz=84
TPAW Teton Pass 84.33 42 eP P 19 48 12.8 -0.2
comp=Z,5.7nm,0.6s,mb4.6
REDW Red Top Meadow 84.33 42 eP P 19 48 12.6 -0.4
comp=Z,44nm,1.5s,mb5.1
J17A Brown Place, J 84.42 42 ⇓P P 19 48 13.9 +0.4
baz=84,SNR=11
SNOW Snow King Moun 84.44 42 eP P 19 48 13.7 +0.1
comp=Z,5.9nm,0.6s,mb4.6
CLNB Carlsbad 84.48 54 eP P 19 48 14.3 +0.2
comp=Z,2.3nm,0.7s,mb4.1
W24A Lazy 6 Ranch, 84.50 51 ⇑P P 19 48 13.9 -0.2
baz=85
K18A Toltan Ranch, 84.51 43 ⇑P P 19 48 14.4 +0.5
baz=85,SNR=5.1

Y25A Mesa, Roswell 84.51 52 ⇓P P 19 48 14.1 -0.1
baz=85
S22A 4UR Ranch, Cre 84.52 48 ⇓P P 19 48 14.5 +0.4
baz=85,SNR=18
F15A Butte 84.52 39 ⇓P P 19 48 13.6 -0.3
baz=85,SNR=18
126A Clayton Basin, 84.52 54 ⇑P P 19 48 14.3 +0.1
baz=85
IMW Indian Meadow 84.53 41 eP P 19 48 14.3 +0.3
comp=Z,16nm,0.7s,mb5.0
528A Cox Ranch, San 84.53 57 ⇓P P 19 48 15.0 +0.6
baz=85
LRM Limekiln Ridge 84.54 39 eP P 19 48 13.7 -0.3
comp=Z,137nm,0.9s,mb5.8
D14A Greenough 84.55 38 ⇓P P 19 48 13.0 -1.0
baz=85,SNR=9.9
M19A Rock Springs 84.57 44 ⇓P P 19 48 13.8 -0.4
baz=85,SNR=11
O20A White River Ci 84.57 46 ⇑P P 19 48 14.1 -0.2
baz=85
LOHW Long Hollow 84.61 42 eP P 19 48 14.0 -0.4
comp=Z,5.2nm,0.7s,mb4.5
CHMT Chamberlain Mo 84.61 38 eP P 19 48 13.6 -0.8
comp=Z,16nm,1.0s,mb4.8
G16A Moss Hill, Enn 84.64 40 ⇑P P 19 48 14.4 -0.1
baz=85,SNR=7.0
B13A Whitefish 84.66 36 ⇓P P 19 48 13.9 -0.7
baz=85,SNR=8.1
QLMT Earthquake Lak 84.67 40 eP P 19 48 15.5 +0.8
comp=Z,1.2nm,0.5s,mb4.0
L19A Farson 84.71 43 ⇑P P 19 48 15.1 +0.2
baz=85,SNR=16
E15A Deer Lodge 84.72 39 ⇑P P 19 48 14.9 0.0
baz=85,SNR=9.0
H16A Russell Place, 84.73 41 ⇑P P 19 48 15.7 +0.8
baz=85,SNR=35
FLWY Flagg Ranch 84.77 41 eP P 19 48 15.7 +0.5
comp=Z,69nm,1.6s,mb5.2
R22A Saguache, Gunn 84.78 48 ⇑P P 19 48 15.9 +0.5
baz=85,SNR=12
CPRX Cap Rock 84.79 54 eP P 19 48 15.8 +0.2
comp=Z,13nm,1.0s,mb4.7
J18A Kendall Valley 84.79 42 ⇓P P 19 48 15.4 +0.1
baz=85,SNR=26
Z26A Caprock 84.80 53 ⇑P P 19 48 15.6 0.0
baz=85
N20A Spence Gulch, 84.87 45 ⇑P P 19 48 15.9 +0.1
baz=85,SNR=8.7
PD01 Pinedale Array 84.87 43 eP P 19 48 15.1 -0.7
PDAR Pinedale Array 84.89 43 P P 19 48 15.2 -0.6
comp=Z,9.6nm,0.8s,mb4.7,baz=212,slow=3.0,SNR=51
PDAR pP pP 19 49 41.8 +0.4
comp=Z,2.3nm,0.9s,baz=227,slow=3.7,SNR=3.5
PDAR Pinedale Array 84.89 43 P P 19 48 15.2 -0.6
PDAR pP pP 19 49 41.8 +0.4
YMR Madison River 84.89 41 eP P 19 48 16.4 +0.7
comp=Z,15nm,0.6s,mb5.0
Q22A Crested Butte, 84.94 47 ⇓P P 19 48 16.4 +0.2
baz=85,SNR=7.2
BOZ Bozeman (W) 84.95 40 eP P 19 48 15.8 -0.3
comp=Z,17nm,1.0s,mb4.8
BOZ Bozeman (W) 84.95 40 eP P 19 48 15.8 -0.2
BOZ pmax pmax
comp=Z,17nm,1.0s,mb4.8
328A Wristen Ranch, 84.98 55 ⇓P P 19 48 16.5 -0.1
baz=85
A13A Flathead Natio 84.99 36 ⇓P P 19 48 16.1 -0.1
baz=85,SNR=8.7
H17A Grant Village 85.00 41 ⇓P P 19 48 17.6 +1.3
baz=85
F16A Kennard Place, 85.02 39 ⇓P P 19 48 16.7 +0.3
baz=85,SNR=17
SMCO Snowmass 85.03 47 eP P 19 48 16.6 0.0
comp=Z,4.1nm,0.5s,mb4.5
ENH Enshi 85.04 303 eP P 19 48 17.6 +0.7
comp=Z,250nm,1.3s,mb5.9
127A Arkansas Junct 85.05 54 ⇓P P 19 48 16.8 0.0
baz=85
DAWY Dawson 85.07 15 eP P 19 48 15.5 -0.7
BILL Bilibino 85.10 354 eP P 19 48 15.4 -0.8
comp=Z,153nm,0.8s,mb5.9
BILL Bilibino 85.10 354 *c iP* P 19 48 15.4 -0.9
BILL pmax pmax
comp=Z,199nm,0.9s,mb5.9
D15A Lincoln 85.11 38 ⇓P P 19 48 16.9 +0.1
baz=85,SNR=25
O21A Pagoda 85.14 46 ⇓P P 19 48 17.1 0.0
baz=85
I18A Diamond G Ranc 85.15 42 ⇑P P 19 48 17.0 -0.1
baz=85,SNR=5.7
Y26A Elida 85.17 53 ⇓P P 19 48 17.2 -0.3
baz=85
W25A X Bar L Ranch, 85.21 51 ⇓P P 19 48 17.4 -0.2
baz=85
EGAK Eagle 85.22 14 eP P 19 48 15.8 -1.1
comp=Z,73nm,0.9s,mb5.5
WALA Waterton Lakes 85.34 36 eP P 19 48 17.0 -0.9
comp=Z,0.4nm,0.8s
B14A Marquette Ranc 85.34 37 ⇓P P 19 48 17.4 -0.5
baz=85,SNR=24
G17A Pierce Place, 85.34 40 ⇓P P 19 48 18.4 +0.4
baz=85,SNR=9.9
N21A Black Mountain 85.34 45 ⇑P P 19 48 18.2 +0.1
baz=85,SNR=5.7
V25A Rancho No Teng 85.34 51 ⇑P P 19 48 18.3 +0.1
baz=85
L20A Wamsutter 85.34 44 ⇑P P 19 48 18.0 -0.1
baz=85,SNR=5.9
SNG Songkhla 85.35 279 P P 19 48 21.0 +2.2
comp=Z,160nm,0.6s,mb6.0
E16A East Helena 85.36 39 ⇑P P 19 48 17.9 -0.2
baz=86,SNR=26
P22A Eagle 85.36 47 ⇓P P 19 48 18.3 +0.1
baz=85
K19A Absolon Red Bu 85.38 43 ⇑P P 19 48 17.4 -0.8
baz=86,SNR=6.9
C15A Salmond Ranch, 85.42 37 ⇑P P 19 48 17.7 -0.6
baz=86,SNR=21
J19A Crowheart 85.44 43 ⇑P P 19 48 18.5 0.0
baz=86,SNR=6.2
T24A Torres, Weston 85.52 49 ⇑P P 19 48 19.9 +0.8
baz=86
COLD Coldfoot 85.55 10 eP P 19 48 17.9 -0.5
A14A Double T Ranch 85.57 36 ⇑P P 19 48 18.4 -0.6
baz=86,SNR=23
K20A Yellowstone Ra 85.63 43 ⇓P P 19 48 18.9 -0.6
baz=86,SNR=6.3
S24A Houchin Ranch, 85.64 49 ⇑P P 19 48 19.9 +0.2
baz=86,SNR=5.9
Y27A Causey 85.67 53 ⇓P P 19 48 19.6 -0.3
baz=86
F17A Fitzpatrick Pl 85.67 40 ⇓P P 19 48 19.9 +0.3
baz=86,SNR=12
D16A Dana Ranch, Ca 85.68 38 ⇓P P 19 48 19.5 0.0
baz=86,SNR=26
H18A Shoshone NF, C 85.71 41 ⇑P P 19 48 19.6 -0.1
baz=86,SNR=7.1
PSI Prapat 85.71 274 P P 19 48 19.9 -0.7
comp=Z,22nm,1.0s,mb4.9,baz=139,slow=1.5,SNR=24
PSI Prapat 85.71 274 P P 19 48 19.9 -0.7
PSI Prapat 85.71 274 P P 19 48 19.9 -0.7
Q23A Hartsel 85.72 48 ⇑P P 19 48 19.9 -0.1
baz=86
U25A Circle Dot Ran 85.72 50 ⇓P P 19 48 19.9 -0.2
baz=86
B15A Bradely Ranch, 85.72 37 ⇓P P 19 48 19.0 -0.7
baz=86,SNR=19
O22A Kremmling 85.75 46 ⇓P P 19 48 19.8 -0.3
baz=86,SNR=8.6
E17A Martinsdale 85.82 39 ⇑P P 19 48 20.3 +0.1
baz=86,SNR=6.1
M21A Separation Pea 85.82 45 ⇓P P 19 48 20.4 0.0
baz=86
I19A Meeteetse 85.84 42 ⇑P P 19 48 20.5 +0.1
baz=86,SNR=7.9
C16A Fuhringer Ranc 85.94 38 ⇑P P 19 48 20.3 -0.5
baz=86,SNR=14
R24A Sanders Place, 85.96 48 ⇑P P 19 48 21.0 -0.1
baz=86
A15A Johnson Ranch, 85.96 36 ⇑P P 19 48 20.2 -0.7
baz=86,SNR=18
MAW Mawson 85.97 199 P P 19 48 21.0 +0.3
comp=Z,11nm,0.9s,mb4.7,baz=121,slow=7.4,SNR=16
MAW Mawson 85.97 199 eP P 19 48 20.9 +0.2
comp=Z,8.4nm,0.9s,mb4.6
MAW Mawson 85.97 199 eP P 19 48 20.9 +0.2
comp=Z,2.9nm,1.0s,mb4.1
MAW Mawson 85.97 199 eP P 19 48 20.9 +0.2
MAW pmax pmax
comp=Z,3.0nm,1.0s
L21A Rawlins 85.97 44 ⇑P P 19 48 20.6 -0.5
baz=86
GYA Guiyang 85.99 299 P P 19 48 21.0 -0.6
GYA pP pP 19 49 46.8 -0.6
GYA sP sP 19 50 25.6 -0.5
GYA PP PP 19 51 50.4 +2.4
GYA SKS 19 58 09.2
GYA S S 19 58 22.9 -0.7
GYA sS sS 20 00 53.4 -2.6
GYA pmax pmax
comp=Z,20nm,1.0s,mb4.9
GYA pmax pmax
comp=Z,130nm,5.3s
MSTX Muleshoe 86.00 53 ⇓P P 19 48 21.2 -0.3
baz=86
X27A F and S Farms, 86.01 52 ⇓P P 19 48 21.0 -0.5
baz=86
G18A Lazy EL Ranch, 86.07 41 ⇓P P 19 48 21.8 +0.3
baz=86,SNR=10
N22A Wattenberg Ran 86.09 46 ⇓P P 19 48 21.8 +0.1
baz=86,SNR=6.8
J20A Shoshoni 86.11 43 ⇑P P 19 48 21.7 -0.1
baz=86,SNR=14
H19A Powell 86.13 41 ⇑P P 19 48 22.1 +0.2
baz=86,SNR=8.0
RLMT Red Lodge 86.16 41 eP P 19 48 22.1 +0.1
comp=Z,7.9nm,0.6s,mb4.7
W27A Bowe Ranch, En 86.20 52 ⇓P P 19 48 21.8 -0.6
baz=86
O23A Lake Granby, G 86.21 46 ⇓P P 19 48 22.4 +0.1
baz=86
S25A Robets Cordova 86.21 49 ⇑P P 19 48 22.1 -0.3
baz=86
U26A Atchley Ranch, 86.21 51 ⇑P P 19 48 21.8 -0.6
baz=86
Q24A Divide 86.23 48 ⇓P P 19 48 22.4 0.0
baz=86
F18A Big Timber 86.25 40 ⇓P P 19 48 22.7 +0.4
baz=86,SNR=13
M22A Cedar Creek Ra 86.25 45 ⇑P P 19 48 22.8 +0.3
baz=86
D17A Six Diamond Ra 86.25 39 ⇑P P 19 48 22.4 +0.1
baz=86,SNR=40
HIA Hailar 86.26 324 eP P 19 48 22.3 -0.1
comp=Z,44nm,0.7s,mb5.4
HIA Hailar 86.26 324 eP P 19 48 22.3 0.0
HIA pmax pmax
comp=Z,44nm,0.7s
B16A M & M Farms, S 86.27 37 ⇑P P 19 48 21.6 -0.8
baz=86,SNR=14
K21A Alcova 86.34 44 ⇑P P 19 48 22.4 -0.5
baz=86
I20A Worland 86.35 42 ⇑P P 19 48 22.8 -0.1
baz=86
C17A Wharram Farm, 86.44 38 ⇑P P 19 48 23.0 -0.2
baz=86,SNR=13
E18A Harlowton 86.44 39 ⇓P P 19 48 23.7 +0.4
baz=86,SNR=10
N23A Red Feather La 86.48 46 ⇑P P 19 48 23.7 +0.1
baz=87
R25A Fountain Ranch 86.52 49 ⇓P P 19 48 23.7 -0.2
baz=87
J21A Lysite 86.53 43 ⇓P P 19 48 23.8 0.0
baz=87,SNR=9.7
L22A Ellis Ranch, M 86.63 45 ⇑P P 19 48 24.3 0.0
baz=87
H20A Greybull 86.68 42 ⇑P P 19 48 24.3 -0.2
baz=87
F19A Roth Farm, Mol 86.70 40 ⇑P P 19 48 24.4 -0.1
baz=87,SNR=7.3
B17A L&G Farms, Che 86.74 38 ⇑P P 19 48 24.2 -0.4
baz=87,SNR=11
D18A Linhart Farms, 86.80 39 ⇓P P 19 48 25.1 +0.2
baz=87
I21A Big Trails, Te 86.83 43 ⇓P P 19 48 24.6 -0.6
baz=87,SNR=11
G20A Bridger 86.87 41 ⇑P P 19 48 24.9 -0.4
baz=87
XAN Xi'an 86.89 307 P P 19 48 26.6 +0.9
XAN S S 19 58 27.5 -4.5
XAN pmax pmax
comp=Z,37nm,1.0s,mb5.2
XAN LR LR
comp=N,620nm,15.7s
XAN LR LR
comp=Z,320nm,14.4s
E19A Rath Farm, Rou 87.08 40 ⇓P P 19 48 26.4 +0.1
baz=87
A17A Triple J Farms 87.11 37 ⇑P P 19 48 26.3 0.0
baz=87,SNR=7.9
P25A Willow Gulch B 87.15 48 ⇓P P 19 48 26.8 0.0
baz=87
F20A Billings 87.17 41 ⇓P P 19 48 26.7 0.0
baz=87
N24A Carr 87.18 46 ⇑P P 19 48 27.1 +0.2
baz=87
J22A Midwest 87.19 43 ⇓P P 19 48 26.7 -0.2
baz=87
D19A Cripps Ranch, 87.35 39 ⇓P P 19 48 27.8 +0.3
baz=87,SNR=11
H21A Big Horn, Sher 87.35 42 ⇑P P 19 48 27.6 -0.1
baz=87
I22A 9 Mile Ranch, 87.39 43 ⇑P P 19 48 27.5 -0.4
baz=88,SNR=7.7
C19A Slack Wire Ran 87.51 39 ⇑P P 19 48 28.8 +0.5
baz=88,SNR=6.9
G21A Lodge Grass 87.51 41 ⇓P P 19 48 27.9 -0.4
baz=88
TPTI 87.51 274 P P 19 48 29.9 +0.7
A18A Metzger Ranch, 87.59 37 ⇑P P 19 48 28.5 -0.2
baz=88
HHC Hu-ho-hao-te 87.60 314 ⇑P P 19 48 30.1 +1.2
HHC pP pP 19 49 58.7 +3.5
HHC sP sP 19 50 37.9 +4.1
HHC PP PP 19 52 03.6 +3.0
HHC SKS 19 58 18.2
HHC S S 19 58 38.0 -0.4
HHC sS sS 20 01 14.0 +2.6
HHC SS SS 20 04 36.4 +1.6
HHC pmax pmax
comp=Z,77nm,1.1s,mb5.5
HHC pmax pmax
comp=Z,8μm,7.1s
HHC LR LR
comp=N,1μm,14.3s
HHC LR LR
comp=E,800nm,14.3s
HHC LR LR
comp=Z,780nm,15.5s
CLNS Chul'man 87.71 332 eP P 19 48 20.3 -8.7
CLNS pmax pmax
comp=Z,10.0nm,1.6s,mb4.4
CLNS pmax pmax
comp=N,5.0nm,1.0s
CLNS pmax pmax
comp=E,5.0nm,0.9s
CLNS pmax pmax
comp=Z,12nm,1.6s,mb4.5
CLNS pmax pmax
comp=N,16nm,1.6s
CLNS pmax pmax
comp=E,9.0nm,1.4s
D20A Manuel Ranch, 87.76 39 ⇓P P 19 48 30.0 +0.5
baz=88
H22A Clearmont 87.78 42 ⇓P P 19 48 29.4 -0.2
baz=88
F21A Absaloka Mine, 87.83 41 ⇑P P 19 48 30.5 +0.7
baz=88
K24A Anderson Ranch 88.01 44 ⇓P P 19 48 30.7 0.0
baz=88
C20A Veseth Ranch, 88.12 39 ⇑P P 19 48 31.4 +0.3
baz=88
E21A Keefer Ranch, 88.17 40 ⇑P P 19 48 32.3 +0.8
baz=88
A19A Klindworth Far 88.24 38 ⇓P P 19 48 31.9 +0.2
baz=88
J24A Dixon Ranch, L 88.36 44 ⇓P P 19 48 32.7 +0.3
baz=88
D21A La Casta Ranch 88.45 40 ⇑P P 19 48 33.1 +0.3
baz=88
A20A Cobblestone Ra 88.70 38 ⇑P P 19 48 34.0 +0.1
baz=89
C21A Desert Coulee 88.72 39 ⇑P P 19 48 34.4 +0.4
baz=89
E22A Miles City 88.83 41 ⇑P P 19 48 34.8 +0.3

baz=89
YAK Yakutsk 88.88 338 *e*P **P** **19 48 32.3 -2.1**
comp=E,64nm,0.7s,mb5.6
YAK Yakutsk 88.88 338 *e*P **P** **19 48 32.5 -1.9**
YAK pmax pmax
comp=Z,40nm,0.7s,mb5.4
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=E,11nm,1.1s
KMI Kunming 88.88 296 P **P** **19 48 37.2 +1.9**
KMI pP pP 19 50 02.1 +0.3
KMI S S 19 58 50.9 -0.1
KMI SS SS 20 04 56.2 +2.3
KMI pmax pmax
comp=Z,55nm,0.9s,mb5.4
KMI pmax pmax
comp=Z,3µm,10.8s
KMI LR LR
comp=N,580nm,11.3s
KMI LR LR
comp=E,930nm,13.1s
KMI LR LR
comp=Z,820nm,15.4s
D22A Cohagen 88.99 40 ⇑P **P** **19 48 35.6 +0.3**
baz=89
H24A Dirks Ranch, A 89.01 43 ⇓P **P** **19 48 35.0 -0.4**
baz=89
B21A Ellsworth Farm 89.04 39 ⇓P **P** **19 48 35.3 -0.1**
baz=89
RSSD Black Hills 89.10 43 *e*P **P** **19 48 34.5 -1.3**
comp=Z,16nm,0.8s,mb4.9
RSSD Black Hills 89.10 43 *e*P **P** **19 48 34.6 -1.2**
RSSD pmax pmax
comp=Z,16nm,0.8s,mb4.9
B22A Reddig Ranch S 89.59 39 ⇓P **P** **19 48 38.5 +0.5**
baz=90
CHRT Chiangrai 89.88 291 ⇑P **P** **19 48 40.0 0.0**
comp=Z,290nm,1.0s,mb6.2
C23A Lambert 89.88 40 ⇓P **P** **19 48 39.9 +0.6**
baz=90
CD2 Chengdu 89.89 302 P **P** **19 48 41.1 +1.3**
CD2 pmax pmax
comp=Z,30nm,1.2s,mb5.1
CD2 pmax pmax
comp=Z,3µm,10.6s
INK Inuvik 89.89 15 *e*P **P** **19 48 37.2 -1.7**
comp=Z,19nm,0.9s,mb5.0
INK Inuvik 89.89 15 *e*P **P** **19 48 37.3 -1.6**
INK pmax pmax
comp=Z,19nm,0.9s
D24A Glendive 90.12 41 ⇓P **P** **19 48 41.1 +0.5**
baz=90
CM31 Chiang Mai Arr 90.22 289 *e*P **P** **19 48 43.0 +1.4**
comp=Z,28nm,0.9s,mb5.2
CMAR Chiang Mai Arr 90.22 289 P **P** **19 48 43.0 +1.4**
comp=Z,21nm,0.9s,mb5.1,baz=98,slow=2.6,SNR=122
CMAR PKiKP PKiKP 19 53 34.4 -0.6
comp=Z,1.0nm,0.6s,baz=200,slow=0.6,SNR=5.8
CMAR PKKPbc PKKPbc 20 06 09.8 +0.5
comp=Z,0.4nm,0.5s,baz=269,slow=5.6,SNR=4.2
CMAR Chiang Mai Arr 90.22 289 P **P** **19 48 43.0 +1.4**
CMAR Chiang Mai Arr 90.22 289 P **P** **19 48 43.1 +1.5**
C24A Savage 90.23 40 ⇓P **P** **19 48 41.3 +0.3**
baz=90
B23A Brockton 90.27 39 ⇓P **P** **19 48 41.4 +0.2**
baz=90
CHG Chiang Mai 90.32 289 ⇑P **P** **19 48 43.2 +1.1**
comp=Z,36nm,0.9s,mb5.3
CHTO Chiang Mai 90.32 289 *e*P **P** **19 48 42.8 +0.7**
comp=Z,26nm,0.9s,mb5.2
CHTO Chiang Mai 90.32 289 *e*P **P** **19 48 42.8 +0.7**
CHTO pmax pmax
comp=Z,26nm,0.9s,mb5.2
CHTO Chiang Mai 90.32 289 P **P** **19 48 43.2 +1.1**
SNR=9.6
DGMT Dagmar 90.76 39 *e*P **P** **19 48 43.4 0.0**
comp=Z,107nm,1.1s,mb5.7
PLCA Paso Flores 90.97 133 PKKPbc PKKPbc 20 06 06.7 -1.2
comp=Z,3.0nm,0.9s,baz=114,slow=7.4,SNR=3.6
CIT Chita 91.03 324 *e*P **P** **19 48 44.5 -0.1**
CIT pmax pmax
comp=Z,110nm,1.3s,mb5.6
A24A Westby 91.06 39 ⇑P **P** **19 48 45.0 +0.2**
baz=91
SYO Syowa Base 91.09 192⇑*e*P **P** **19 48 42.8 -1.9**
LZH Lanzhou 91.51 307 *e*P **P** **19 48 48.7 +1.5**
LZH pP pP 19 50 15.8 +1.9
LZH sP sP 19 50 55.5 +3.1
LZH pmax pmax
comp=Z,78nm,1.2s,mb5.5
LZH pmax pmax
comp=Z,1µm,4.2s
TUL1 Tulsa 92.05 53 ⇓P **P** **19 48 49.4 -0.3**
baz=92
YKA Yellowknife Ar 92.12 24 P **P** **19 48 48.2 -1.1**
comp=Z,11nm,0.8s,mb4.8,baz=236,slow=4.6,SNR=17
YKA Yellowknife Ar 92.12 24 P **P** **19 48 48.2 -1.2**
ULN Ulaanbaatar 93.26 319 *e*P **P** **19 48 54.7 -0.3**
comp=Z,15nm,0.8s,mb5.1
ULN Ulaanbaatar 93.26 319 *e*P **P** **19 48 54.7 -0.3**
ULN pmax pmax
comp=Z,15nm,0.8s,mb5.1
ULN Ulaanbaatar 93.26 319 P **P** **19 48 55.0 0.0**
ULN Ulaanbaatar 93.26 319 P **P** **19 48 55.7 +0.7**
SNR=5.3
BOD Bodaibo 93.30 330 *e*P **P** **19 48 52.9 -2.0**
BOD pmax pmax
comp=Z,11nm,0.9s,mb4.9
MIAR Mount Ida 93.35 55 *e*P **P** **19 48 54.5 -1.3**
MIAR Mount Ida 93.35 55 *e*P **P** **19 48 54.5 -1.3**
MDND Maddock 93.37 41 ⇓P **P** **19 48 55.0 -0.4**
baz=93
SONM Songino Array 93.67 319 P **P** **19 48 56.7 -0.1**
comp=Z,4.7nm,0.7s,mb4.7,baz=135,slow=5.8,SNR=22
SONM Songino Array 93.67 319 P **P** **19 48 56.7 -0.1**
SONM Songino Array 93.67 319 P **P** **19 48 56.7 -0.2**
ECSD EROS Data Cent 93.95 46 *e*P **P** **19 48 57.1 -1.1**
comp=Z,28nm,1.3s,mb5.1
GTA Gaotai 95.56 309 P **P** **19 49 06.2 +0.5**
GTA PP PP 19 53 00.0 -2.8
GTA pmax pmax
comp=Z,18nm,0.9s,mb5.2
ZAK Zakamensk 96.43 321 *e*P **P** **19 49 07.8 -1.6**
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb4.1
ULM Lac du Bonnet 96.47 40 P **P** **19 49 06.8 -2.7**
comp=Z,2.6nm,0.6s,mb4.6,baz=257,slow=2.7,SNR=3.2
ULM Lac du Bonnet 96.47 40 P **P** **19 49 06.8 -2.7**
ULM Lac du Bonnet 96.47 40 P **P** **19 49 06.8 -2.7**
TLY Talaya 96.61 322 *e*P **P** **19 49 09.2 -0.9**
TLY pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
WMQ Urumqi 105.37 312 Pdif Pdif 19 49 49.3 0.0
WMQ PP PP 19 54 19.3 +3.1
WMQ AMB AMB
comp=Z,930nm,8.7s
ZALV Zalesovo Beam 108.22 322 Pdiff Pdif 19 50 01.8 -0.1
comp=Z,0.6nm,0.6s,baz=163,slow=1.5,SNR=3.4
ZALV PKiKP PKiKP 19 54 04.8 -1.2
comp=Z,2.6nm,0.6s,baz=147,slow=1.3,SNR=14
ZALV PP PP 19 54 32.3 -4.3
comp=Z,1.6nm,0.6s,baz=101,slow=7.5,SNR=5.6
ZALV Zalesovo Beam 108.22 322 Pdif Pdif 19 50 01.8 -0.1
ZALV PKPdf PKiKP 19 54 04.8 -1.2
ZALV PP PP 19 54 32.3 -4.3
ZALV Zalesovo Beam 108.22 322 P Pdif 19 50 01.8 -0.2
ZALV 19 54 32.3
MK31 Makanchi Array 109.46 314 *e*PKPdf PKiKP 19 54 07.3 -1.3
MKAR Makanchi Array 109.46 314 Pdiff Pdif 19 50 07.3 -0.2
comp=Z,1.3nm,0.6s,baz=79,slow=5.4,SNR=11
MKAR PKiKP PKiKP 19 54 07.5 -1.0
comp=Z,5.3nm,0.7s,baz=67,slow=2.5,SNR=27
MKAR Makanchi Array 109.46 314 Pdif Pdif 19 50 07.3 -0.2
MKAR PKPdf PKiKP 19 54 07.5 -1.0
MKAR Makanchi Array 109.46 314 P Pdif 19 50 07.3 -0.2
KURK Kurchatov 111.97 319 PKiKP PKiKP 19 54 12.3 -0.9
comp=Z,4.3nm,0.7s,baz=92,slow=1.5,SNR=27
KURK PP PP 19 54 59.1 -4.4
comp=Z,3.4nm,0.9s,baz=90,slow=7.2,SNR=10.0
KURK Kurchatov 111.97 319 *e*PKPdf PKiKP 19 54 11.5 -1.7
KURK Kurchatov 111.97 319 *e*PKIKP PKiKP 19 54 11.5 -1.7
KSH Kashi 113.75 306 *e*PKP PKiKP 19 54 14.5 -2.5
KSH PKS 19 57 49.8
KSH SKS SKSdf 20 00 51.6 -1.5
KSH AMB AMB
comp=Z,2µm,15.2s
KSH LR LR
comp=N,120nm,5.4s
KSH LR LR
comp=E,140nm,4.9s
KSH LR LR
comp=Z,210nm,8.1s
TKM2 Tokmak 2 114.10 310 P PKiKP 19 54 17.1 -0.4
SNR=5.2
KBK Karagaybulak 114.58 310 P PKiKP 19 54 18.0 -0.4
SNR=5.8
USP Ospenovka 114.90 310 P PKPdf 19 54 18.6 -0.5
SNR=9.4
AAK Ala-Archa 114.91 310 PKP PKPdf 19 54 18.5 -0.6
comp=Z,3.2nm,0.6s,baz=156,slow=3.2,SNR=15
AAK Ala-Archa 114.91 310 *e*PKPdf PKPdf 19 54 18.3 -0.8
AAK Ala-Archa 114.91 310 ⇓*i*PKIKP PKPdf 19 54 18.7 -0.4
AAK pmax pmax
comp=Z,1.0nm,0.7s
EKS2 Erkin-Say 115.44 310 P PKPdf 19 54 20.0 -0.1
SNR=5.1
AML Almayashu 115.51 309 P PKPdf 19 54 20.6 +0.4
SNR=12
BVAR Borovoye Array 116.87 322 PKP PKPdf 19 54 21.6 -0.9
comp=Z,11nm,0.6s,baz=102,slow=1.1,SNR=66
BVAR PP PP 19 55 39.0 +1.4
comp=Z,4.4nm,0.8s,baz=79,slow=7.7,SNR=7.7
BVAR Borovoye Array 116.87 322 PKP PKPdf 19 54 21.6 -0.9
BVAR PP PP 19 55 39.0 +1.4
BVAR Borovoye Array 116.87 322 PKIKP PKPdf 19 54 21.6 -0.9
BVAR 19 55 39.0
BRVK Borovoye 116.93 322 *e*PKPdf PKPdf 19 54 21.5 -1.2
BRVK Borovoye 116.93 322 *e*PKIKP PKPdf 19 54 21.5 -1.1
KKAR Karatay Array 117.82 310 *e*PKPdf PKPdf 19 54 23.5 -1.2
KKAR Karatay Array 117.82 310 *e*PKIKP PKPdf 19 54 23.5 -1.2
SPA0 Spitsbergen Ar 117.84 357 *e*P PKPdf 19 54 23.5 -0.3
SPITS Spitsbergen Ar 117.84 357 PKP PKPdf 19 54 23.0 -0.8
comp=Z,11nm,0.7s,baz=74,slow=4.6,SNR=11
SPITS Spitsbergen Ar 117.84 357 PKP PKPdf 19 54 23.0 -0.8
SPITS Spitsbergen Ar 117.84 357 PKIKP PKPdf 19 54 23.0 -0.8
KBL Kabul 119.20 301 *e*PKPdf PKPdf 19 54 27.6 -0.1
KBL Kabul 119.20 301 *e*PKIKP PKPdf 19 54 27.6 0.0
SVE Sverdlovsk 121.42 327 *e*PKIKP PKPdf 19 54 30.9 -0.3
SVE pmax pmax
comp=Z,26nm,0.9s
SOKR Solikamsk 122.27 331*d i*PKIKP PKPdf 19 54 32.0 -0.7
SOKR pmax pmax
comp=Z,30nm,0.7s
ARU Arti 122.63 327 *e*PKPdf PKPdf 19 54 32.5 -1.0
ARU Arti 122.63 327 *i* PKIKP PKPdf 19 54 32.6 -0.9
ARU 19 56 16.5
ARU 20 00 55.1
ARU SS SS 20 12 32.9 +4.7
ARKAR Akbulak array 124.08 319 *e*PKPdf PKPdf 19 54 35.8 -0.7
KEV Kevo 124.69 350 *e*pkp PKPdf 19 54 34.4 -2.7
AKTK Aktyubinsk 124.94 321 PKP PKPdf 19 54 37.2 -0.9
AKTO Aktyubinsk 124.94 321 PKP PKPdf 19 54 37.2 -0.9
comp=Z,7.1nm,0.8s,baz=75,slow=1.5,SNR=20
AKTO Aktyubinsk 124.94 321 PKIKP PKPdf 19 54 37.2 -0.9
ARCES ARCESS Array B 125.12 351 PKP PKPdf 19 54 37.3 -0.6
comp=Z,25nm,0.6s,baz=70,slow=1.0,SNR=60
ARCES ARCESS Array B 125.12 351 PKP PKPdf 19 54 37.3 -0.6
ARCES ARCESS Array B 125.12 351 PKIKP PKPdf 19 54 37.3 -0.6
ARE0 ARCESS Array S 125.12 351 *e*P PKPdf 19 54 35.1 -2.8
STEI Steigen 127.92 354 *e*P PKPdf 19 54 43.2 -0.1
JMDO Jabal Madar 128.49 286 ⇓PKPdf PKPdf 19 54 45.3 -0.5
SNR=5.4
SMDO Samad 128.58 287 ⇑PKPdf PKPdf 19 54 46.5 +0.6
SNR=6.5
KLMR Klimovskoe 128.67 338 *e*PKIKP PKPdf 19 54 42.3 -2.6
KLMR pmax pmax
comp=Z,42nm,1.2s
BSY Bisya 129.35 286 ⇓PKPdf PKPdf 19 54 47.0 -0.3
SNR=9.4
JOF Joensuu 129.64 344 *e*pkp PKPdf 19 54 39.2 -7.5
STOK Stokkvaagen 129.67 355 *e*P PKPdf 19 54 46.4 -0.2
HATD Hatta, Dubai 130.39 289 ⇓P PKPdf 19 54 49.1 -0.2
SNR=6.5
ASHO Ashiyiah 130.46 289 ⇑P PKPdf 19 54 49.1 -0.3
SNR=5.3
BOSA Boshof 130.65 205 SKPbc SKPbc 19 57 38.0 -0.2
comp=Z,3.0nm,0.7s,baz=228,slow=3.9,SNR=4.3
KAF Kangasniemi 131.57 346 *e*pkp PKPpre 19 54 40.1
FINES FINESS Array B 132.21 346 PKhKP PKPpre 19 54 34.4
comp=Z,2.1nm,0.7s,baz=64,slow=4.4,SNR=6.6
FINES PKP PKPdf 19 54 50.9 -0.8
comp=Z,9.9nm,0.6s,baz=41,slow=2.0,SNR=16
FINES SKPbc SKPbc 19 57 43.5 +0.9
comp=Z,7.8nm,0.8s,baz=57,slow=7.0,SNR=6.9
FINES FINESS Array B 132.21 346 PKP PKPdf 19 54 50.9 -0.8
FINES SKPbc SKPbc 19 57 43.5 +0.9
FINES FINESS Array B 132.21 346 PKIKP PKPdf 19 54 50.9 -0.7
VRHR Novokhopersk 133.97 327 *e*PKIKP PKPdf 19 54 55.2 -0.1
VRHR pmax pmax
comp=Z,30nm,0.7s
VRHR pmax pmax
comp=N,5.0nm,0.3s
VRHR pmax pmax
comp=E,10.0nm,0.7s
NB2 NORSAR Subarra135.04 355 PKP PKPpre 19 54 43.3
comp=Z,2.8nm,0.6s,baz=17,slow=2.6
NB2 NORSAR Subarra135.04 355 PKP PKPpre 19 54 43.3
baz=17,slow=2.6
NOA NORSAR Array B135.04 355 PKhKP PKPpre 19 54 43.9
comp=Z,1.0nm,0.6s,baz=24,slow=4.5,SNR=9.2
NOA PKP PKPdf 19 54 56.4 -0.5
comp=Z,5.8nm,0.7s,baz=13,slow=4.0,SNR=15
NOA PP PP 19 57 32.1 -4.1
comp=Z,3.5nm,1.0s,baz=13,slow=6.3,SNR=3.6
NOA SKPbc SKPbc 19 57 52.1 +0.2
comp=Z,5.5nm,1.0s,baz=3.1,slow=2.4,SNR=5.0
NOA NORSAR Array B135.04 355 PKP PKPdf 19 54 56.4 -0.5
NOA PP PP 19 57 32.1 -4.1
NOA SKPbc SKPbc 19 57 52.1 +0.2
NOA NORSAR Array B135.04 355 PKIKP PKPdf 19 54 56.4 -0.5
VSR Storozhevoye 135.15 329 *e*PKIKP PKPdf 19 54 57.1 -0.3
VSR pmax pmax
comp=N,5.0nm,0.8s
VSR pmax pmax
comp=E,3.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
ZEI Tsey 136.79 316 *i* PKIKP PKPdf 19 55 00.9 +0.1
ZEI pmax pmax
comp=Z,10.0nm,1.3s
KIV Kislovodsk 137.06 318*d i*PKIKP PKPdf 19 55 02.6 +1.4
KIV pmax pmax
comp=Z,10.0nm,1.0s
GNI Garni 137.24 312 *e*PKPdf PKPdf 19 55 00.8 -0.9
GNI Garni 137.24 312 ⇑*i*PKIKP PKPdf 19 55 02.1 +0.4
GNI pmax pmax
comp=Z,25nm,1.7s
NACGM Naroch 137.59 340 *e* PKPpre 19 54 47.0
RDF Al-Radifah 137.81 295 *e*P PKPpre 19 54 52.6
RDF AMb AMB 19 54 56.0
comp=Z,55nm,1.2s
MIB Mutribah 137.87 296 *e*P PKPpre 19 54 52.2
MIB AMb AMB 19 54 54.5
comp=Z,42nm,0.6s
NAY Al-Naaiem 138.04 296 *e*P PKPpre 19 54 52.8
NAY AMb AMB 19 55 06.1
comp=Z,26nm,0.9s
KAC Achnashellach 138.38 7 *e*P PKPpre 19 54 54.1
KAC Achnashellach 138.38 7 P PKPpre 19 54 54.1
MCD Coleburn Disti 138.52 6 *e*P PKPpre 19 54 52.7
MCD Coleburn Disti 138.52 6 P PKPpre 19 54 52.7
SUW Suwalki 139.46 342 *e*PKP PKPdf 19 54 57.5 -7.8
SUW Suwalki 139.46 342 *e*PKHKP PKPpre 19 54 57.5
ELO Logie Almond 139.57 6 *e*P PKPdf 19 54 56.4 -9.0
ELO Logie Almond 139.57 6 P PKPdf 19 54 56.4 -9.0
EAB Aberfoyle 139.78 7 *e*P PKPdf 19 54 56.5 -9.3
EAB Aberfoyle 139.78 7 P PKPdf 19 54 56.5 -9.3
EBH Black Hill 139.81 6 *e*P PKPdf 19 54 57.6 -8.3
EBH Black Hill 139.81 6 P PKPdf 19 54 57.6 -8.3
ANN Anapa 139.87 322 *i* PKIKP PKPdf 19 55 07.6 +1.3
ANN pmax pmax
comp=Z,65nm,1.6s
AKASG Malin Array Be 140.05 335 PKhKP PKPpre 19 54 57.5
comp=Z,2.4nm,0.3s,baz=38,slow=4.2,SNR=23
AKASG PKP PKPdf 19 55 05.2 -1.3
comp=Z,6.7nm,0.5s,baz=39,slow=3.0,SNR=15
AKASG PP PP 19 58 02.7 -4.8
comp=Z,4.3nm,1.1s,baz=40,slow=5.2,SNR=5.3
AKASG Malin Array Be 140.05 335 PKP PKPdf 19 55 05.2 -1.3
AKASG PP PP 19 58 02.7 -4.8
AKASG Malin Array Be 140.05 335 PKIKP PKPdf 19 55 05.2 -1.3
AKASG 19 58 02.7
EAU Auchinoon 140.21 6 *e*P PKPdf 19 54 58.2 -8.4
EAU Auchinoon 140.21 6 P PKPdf 19 54 58.2 -8.4
ESY Stoneypath 140.22 6 *e*P PKPdf 19 54 57.8 -8.8
ESY Stoneypath 140.22 6 P PKPdf 19 54 57.8 -8.8
EBL Broad Law 140.33 6 *e*P PKPdf 19 54 58.3 -8.6
EBL Broad Law 140.33 6 P PKPdf 19 54 58.3 -8.6
ESK Eskdalemuir 140.76 6 *e*P PKPdf 19 54 59.6 -8.0
ESK Eskdalemuir 140.76 6 P PKPdf 19 54 59.6 -8.0
GAL1 Galloway 141.03 8 *e*P PKPdf 19 55 00.4 -7.7
GAL1 Galloway 141.03 8 P PKPdf 19 55 00.4 -7.7
XAL Allendale 141.31 5 *e*P PKPdf 19 55 01.5 -7.1
XAL Allendale 141.31 5 P PKPdf 19 55 01.5 -7.1
GKP Gorka Klasztor 141.65 347 *e*PKP PKPdf 19 55 04.7 -4.5
GKP Gorka Klasztor 141.65 347 *e*PKHKP PKPdf 19 55 04.7 -4.6
SIM Simferopol' 141.68 324 *i* PKIKP PKPdf 19 55 06.0 -3.6
SIM pmax pmax
comp=Z,9.0nm,0.7s
ELZG Elazig 142.00 313 *i* P PKPdf 19 55 06.8 -3.5
BEL Belsk 142.06 343 *e*PKP PKPdf 19 55 06.1 -3.9
BEL Belsk 142.06 343 *e*PKHKP PKPdf 19 55 06.1 -3.9
ERBA Erbaa 142.49 317 *i* P PKPdf 19 55 07.8 -3.3
KMBO Kilima Mbogo 142.55 246 PKP PKPdf 19 55 09.8 -2.3
comp=Z,6.2nm,0.6s,baz=180,slow=24,SNR=29
KMBO Kilima Mbogo 142.55 246 *e*PKPpre 19 55 09.8 -2.3
KMBO Kilima Mbogo 142.55 246 *e*PKIKP PKPdf 19 55 09.8 -2.3
YRC Rhoscolyn 142.62 8 *e*P PKPdf 19 55 05.5 -5.5
YRC Rhoscolyn 142.62 8 P PKPdf 19 55 05.5 -5.5
WPM1 Penmaenmawr 142.70 7 *e*P PKPdf 19 55 06.3 -4.9
WPM1 Penmaenmawr 142.70 7 P PKPdf 19 55 06.3 -4.9
LVV L'vov 142.76 338 *e*PKHKP PKPdf 19 55 06.8 -4.5
AKCD Akcadag 142.83 313 *i* P PKPdf 19 55 09.7 -2.2
KBI1 Birley Grange 142.96 5 *e*P PKPdf 19 55 07.8 -3.7
KBI1 Birley Grange 142.96 5 P PKPdf 19 55 07.8 -3.7
KWE Weaver Farm 143.17 6 *e*P PKPdf 19 55 08.5 -3.5
KWE Weaver Farm 143.17 6 P PKPdf 19 55 08.5 -3.5
KWP Kalwaria Pacla 143.38 339 *e*PKP PKPdf 19 55 09.8 -2.7
KWP Kalwaria Pacla 143.38 339 ⇓PKIKP PKPdf 19 55 10.0 -2.4
KWP Kalwaria Pacla 143.38 339 ⇓*i*P PKPdf 19 55 10.0 -2.4
KWP Kalwaria Pacla 143.38 339 ⇓*i*P PKPdf 19 55 10.0 -2.4
GZT Gaziantep 143.50 312 *i* P PKPdf 19 55 10.8 -2.3
NRDL Niedersach Rie 143.58 353 *e*PKPbc PKPdf 19 55 09.5 -3.2
LEOM Leova 143.66 331 ⇓PKIKP PKPdf 19 55 11.2 -1.8
LEOM Leova 143.66 331 ⇓*i*P PKPdf 19 55 11.1 -1.9
LEOM Leova 143.66 331 ⇓*i*P PKPdf 19 55 11.1 -1.9
PINB Pinarbasi 143.72 314 *i* P PKPdf 19 55 11.4 -2.0
OJC Ojcow 143.79 342 *e*PKPdf PKPdf 19 55 11.1 -2.0
OJC Ojcow 143.79 342 *e*PKIKP PKPdf 19 55 11.1 -2.0
CTKT Corum 143.79 318 *i* P PKPdf 19 55 11.8 -1.6
IBBN Ibbenburen 143.98 356 *e*PKPbc PKPdf 19 55 11.5 -1.9
CALA Caldeira 144.05 46 *e*PKP PKPdf 19 55 13.2 -0.8
STHS Stebnicka Huta 144.05 340 *e*PKIKP PKPdf 19 55 12.5 -1.1
STHS Stebnicka Huta 144.05 340 *e*PKP PKPdf 19 55 12.5 -1.1
BUR08 Bucovina Ar. S 144.09 335 *e*PKPdf PKPdf 19 55 12.5 -1.3
KUZU Kuzuini 144.10 311 *i* P PKPdf 19 55 13.2 -0.9
BURAR Bucovina Array 144.11 335 ⇓PKIKP PKPdf 19 55 12.8 -1.0
BURAR Bucovina Array 144.11 335 ⇓*i*P PKPdf 19 55 12.8 -1.0
BURAR Bucovina Array 144.11 335 ⇓*i*P PKPdf 19 55 12.8 -1.0
KOLS Kolonicke sedl 144.12 339 *e*PKIKP PKPdf 19 55 12.5 -1.3
KOLS Kolonicke sedl 144.12 339 *e*PKP PKPdf 19 55 12.5 -1.3
KSP Ksiaz 144.13 346 *e*PKP PKPdf 19 55 12.5 -1.2
CLZ Clausthal 144.19 353 *e*PKPbc PKPdf 19 55 12.3 -1.5
CLZ Clausthal 144.19 353 *e*PKIKP PKPdf 19 55 12.3 -1.5
PCAN Candelaria 144.26 46 *e*PKP PKPdf 19 55 13.3 -1.0
ANDN Andirin 144.27 313 *i* P PKPdf 19 55 14.8 +0.4
ROSA Rosais 144.30 45 *e*PKP PKPdf 19 55 13.8 -0.6
CLL Collm 144.34 350 *e*PKPbc PKPdf 19 55 12.4 -1.7
CLL Collm 144.34 350 ⇑*i*PKIKP PKPdf 19 55 12.5 -1.6
CLL pmax pmax
comp=Z,149nm,0.7s
CLL Collm 144.34 350 ⇑*i*PKPdf PKPdf 19 55 12.5 -1.6
comp=Z,149nm,0.7s
CLL *i* (SKPbc) 19 58 20.5
comp=Z,11nm,1.0s
NIE Niedzica 144.34 341 *e*PKPdf PKPdf 19 55 13.5 -0.6
NIE Niedzica 144.34 341 *i* PKIKP PKPdf 19 55 13.5 -0.6
GHRR 144.36 331 ⇓*i*P PKPdf 19 55 14.3 0.0
GHRR 144.36 331 ⇓*i*P PKPdf 19 55 14.3 0.0
RAC Raciborz 144.36 344 *e*PKIKP PKPdf 19 55 13.7 -0.4
TESR 144.36 332 ⇑*i*P PKPdf 19 55 13.1 -1.2
TESR 144.36 332 ⇑*i*P PKPdf 19 55 13.1 -1.2
UZH Uzhgorod 144.38 339*d i*PKIKP PKPdf 19 55 12.5 -1.7
CRVS Cervenica-Dubn 144.43 340 *e*PKIKP PKPdf 19 55 13.5 -0.8
CRVS Cervenica-Dubn 144.43 340 *e*PKP PKPdf 19 55 13.5 -0.8
PMAN Manadas 144.44 45 *e*PKP PKPdf 19 55 13.7 -1.0
UPC Upice 144.50 346 *i* PKIKP PKPdf 19 55 13.8 -0.6
UPC Upice 144.50 346 *i* PKP PKPdf 19 55 13.8 -0.6
DPC Dobruska-Polom 144.58 346 *i* PKIKP PKPdf 19 55 14.4 -0.1
DPC Dobruska-Polom 144.58 346 *i* PKP PKPdf 19 55 14.4 -0.1
BRG Berggiesshubel 144.59 349 *e*PKPbc PKPdf 19 55 13.5 -1.0
OKC Ostrava-Krasne 144.59 344 *i* PKIKP PKPdf 19 55 14.0 -0.6
OKC Ostrava-Krasne 144.59 344 *i* PKP PKPdf 19 55 14.0 -0.6
CDAG Cicekdag 144.60 317 *i* P PKPdf 19 55 14.4 -0.5
NEUB Neuenburg 144.63 351 *e*PKPbc PKPdf 19 55 13.4 -1.2
FBE Freiberg 144.65 349 *e*PKPbc PKPdf 19 55 14.2 -0.4
CFR Carcaliu 144.66 330 ⇓PKIKP PKPdf 19 55 14.5 -0.3
CFR Carcaliu 144.66 330 ⇓*i*P PKPdf 19 55 14.5 -0.3
CFR Carcaliu 144.66 330 ⇓*i*P PKPdf 19 55 14.5 -0.3
KOZT Kozan 144.68 313 *e*P PKPdf 19 55 13.6 -1.5
PETR 144.69 331 ⇓*i*P PKPdf 19 55 15.6 +0.7
PETR 144.69 331 ⇓*i*P PKPdf 19 55 15.6 +0.7
TRPA Tarpa 144.71 338 ⇑*i*P PKPdf 19 55 14.5 -0.3
TRPA Tarpa 144.71 338 ⇑*i*P PKPdf 19 55 14.5 -0.3
ELDT Eldivan 144.73 319 *i* P PKPdf 19 55 15.2 +0.1
BMR Baia Mare 144.74 337 ⇓PKIKP PKPdf 19 55 14.8 -0.1
BMR Baia Mare 144.74 337 ⇓*i*P PKPdf 19 55 14.8 -0.1
BMR Baia Mare 144.74 337 ⇓*i*P PKPdf 19 55 14.8 -0.1
PVCC Panska Ves 144.79 348 *i* PKIKP PKPdf 19 55 14.8 -0.1
PVCC Panska Ves 144.79 348 *i* PKP PKPdf 19 55 14.8 -0.1
COBT Iskenderun 144.81 311 *i* P PKPdf 19 55 14.6 -0.8
MORC Moravsky Berou 144.81 344 *e*PKPdf PKPdf 19 55 14.5 -0.4
MORC Moravsky Berou 144.81 344 PKIKP PKPdf 19 55 15.0 +0.1
MORC Moravsky Berou 144.81 344 ⇑*i*P PKPdf 19 55 14.8 -0.1
MORC Moravsky Berou 144.81 344 ⇑*i*P PKPdf 19 55 14.8 -0.1
VRI Vrincioaia 144.81 332 ⇑PKIKP PKPdf 19 55 14.8 -0.3
VRI Vrincioaia 144.81 332 ⇑*i*P PKPdf 19 55 14.8 -0.3
VRI Vrincioaia 144.81 332 ⇑*i*P PKPdf 19 55 14.8 -0.3
PLOR Plostina 144.86 332 PKIKP PKPdf 19 55 15.3 +0.2
PLOR Plostina 144.86 332 ⇑*i*P PKPdf 19 55 14.7 -0.4
PLOR Plostina 144.86 332 ⇑*i*P PKPdf 19 55 14.7 -0.4
BUG Bochum--Univer 144.88 356 *e*PKPbc PKPdf 19 55 14.3 -0.7
CEYT Ceyhan 144.95 312 *e*P PKPdf 19 55 15.5 -0.1
BR131 Keskin Array S 145.02 318 *e*PKPdf PKPdf 19 55 15.3 -0.3
BRTR Keskin Array B 145.02 318 PKP PKPdf 19 55 15.2 -0.4
comp=Z,65nm,0.7s,baz=116,slow=2.3,SNR=340
BRTR Keskin Array B 145.02 318 PKP PKPdf 19 55 15.2 -0.4
BRTR Keskin Array B 145.02 318 PKIKP PKPdf 19 55 15.2 -0.4
LIKS Likavka 145.04 342 *e*PKIKP PKPdf 19 55 16.6 +1.3
LIKS Likavka 145.04 342 *e*PKP PKPdf 19 55 16.6 +1.3
TIRR Tirgusor 145.04 328 *e*PKPdf PKPdf 19 55 15.3 -0.2
TIRR Tirgusor 145.04 328 PKIKP PKPdf 19 55 16.1 +0.6
TIRR Tirgusor 145.04 328 ⇑*i*P PKPdf 19 55 15.3 -0.2
TIRR Tirgusor 145.04 328 ⇑*i*P PKPdf 19 55 15.3 -0.2
GRER 145.07 331 ⇓*i*P PKPdf 19 55 17.0 +1.5
GRER 145.07 331 ⇓*i*P PKPdf 19 55 17.0 +1.5
HTY Hatay 145.07 311 *e*P PKPdf 19 55 15.8 0.0
KECS Kecovo 145.11 340 *e*PKIKP PKPdf 19 55 15.7 +0.2
KECS Kecovo 145.11 340 *e*PKP PKPdf 19 55 15.7 +0.2
YAYL Yayladag 145.13 310 *i* P PKPdf 19 55 16.6 -0.3
MOX Moxa 145.20 351 *e*PKPbc PKPdf 19 55 15.6 0.0
MOX Moxa 145.20 351 *e*PKIKP PKPdf 19 55 15.6 0.0
UBBA Unterbreizbach 145.24 353 *e*PKPbc PKPdf 19 55 15.2 -0.4
PRA Prague 145.26 348 PKP PKPdf 19 55 16.0 +0.3
PLN Plauen 145.27 350 *e*PKPbc PKPbc 19 55 16.0 -0.3
WERD Werda 145.28 350 *e*PKPbc PKPbc 19 55 16.1 -0.2
TANN Tannenbergstha 145.29 350 *e*PKPbc PKPbc 19 55 16.1 -0.2
PRU Pruhonice 145.31 348 *i* PKP2 PKPbc 19 55 16.9 +0.5
PRU Pruhonice 145.31 348 *i* PKP PKPbc 19 55 16.9 +0.5
KARA Karaisali 145.33 313 *e*P PKPdf 19 55 14.2 -2.0
DOPR Dopca 145.34 333 ⇑*i*P PKPbc 19 55 17.3 +0.7
DOPR Dopca 145.34 333 ⇑*i*P PKPbc 19 55 17.3 +0.7
GUNZ Gunzen 145.36 350 *e*PKPbc PKPbc 19 55 16.5 -0.1
MANR Mangalia 145.41 327 ⇓*i*P PKPbc 19 55 17.4 +0.5
MANR Mangalia 145.41 327 ⇓*i*P PKPbc 19 55 17.4 +0.5
KRTS Karatas 145.42 312 *e*P PKPdf 19 55 15.1 -1.3
WERN Wernitzgruen 145.43 350 *e*PKPbc PKPbc 19 55 16.8 0.0
BBAL Bala 145.45 318 *i* P PKPdf 19 55 16.3 -0.1
MLR Muntele Rosu 145.46 332 ⇓PKP2 PKPab 19 55 16.9 -0.9

MLR	Muntele Rosu	145.46 332	⇓	iP	PKPdf	19 55 16.9	+0.7
MLR	Muntele Rosu	145.46 332	⇓	iP	PKPdf	19 55 16.9	+0.7
ISR	Istrita	145.46 331	⇓	PKP2	PKPab	19 55 17.6	-0.3
ISR	Istrita	145.46 331	⇓	iP	PKPdf	19 55 17.6	+1.4
ISR	Istrita	145.46 331	⇓	iP	PKPdf	19 55 17.6	+1.4
NKC	Novy Kostel	145.47 350		i PKP2	PKPdf	19 55 16.6	+0.6
NKC	Novy Kostel	145.47 350		i PKP	PKPdf	19 55 16.6	+0.6
VRAC	Vranov	145.48 345		PKP2	PKPab	19 55 17.1	-0.7
VRAC	Vranov	145.48 345	⇑	iP	PKPdf	19 55 16.9	+0.8
VRAC	Vranov	145.48 345	⇑	iP	PKPdf	19 55 16.9	+0.8
GULE	Gulek	145.51 313		i P	PKPdf	19 55 16.5	0.0
BEBN	Eben Emael	145.61 358		PKP	PKPdf	19 55 16.6	+0.4
VYHS	Vyhne	145.61 342		ePKP2	PKPbc	19 55 17.4	0.0
VYHS	Vyhne	145.61 342		ePKP	PKPbc	19 55 17.4	0.0
FKH	Fakeheh	145.64 307		eP	PKPbc	19 55 18.7	+0.7
KOLL	Kolacno	145.66 343		ePKP2	PKPbc	19 55 17.8	+0.3
KOLL	Kolacno	145.66 343		ePKP	PKPbc	19 55 17.8	+0.3
TREC	Trest	145.76 346		i PKIKP	PKPdf	19 55 16.7	+0.1
TREC	Trest	145.76 346		i PKP	PKPdf	19 55 16.7	+0.1
DRGR		145.77 336	⇓	PKP2	PKPbc	19 55 17.4	-0.5
DRGR		145.77 336	⇓	iP	PKPdf	19 55 17.4	+0.7
DRGR		145.77 336	⇓	iP	PKPdf	19 55 17.4	+0.7
MEM	Membach	145.78 357		PKP	PKPdf	19 55 17.2	+0.6
PSZ	Piszkesteto	145.80 340		ePKPdf	PKPdf	19 55 17.6	+0.9
PSZ	Piszkesteto	145.80 340		ePKP2	PKPdf	19 55 17.6	+0.9
PSZ	Piszkesteto	145.80 340	⇑	ePKP	PKPdf	19 55 17.5	+0.8
PSZ	Piszkesteto	145.80 340	⇑	iP	PKPdf	19 55 17.6	+0.9
PSZ	Piszkesteto	145.80 340	⇑	iP	PKPdf	19 55 17.6	+0.9
VOIR		145.90 333		PKP2	PKPdf	19 55 18.2	+1.3
VOIR		145.90 333	⇓	iP	PKPdf	19 55 18.0	+1.1
VOIR		145.90 333	⇓	iP	PKPdf	19 55 18.0	+1.1
SULT	Sultanhani-AKS	145.92 316		eP	PKPdf	19 55 15.9	-1.3
SNF	Seneffe	145.93 359		PKP	PKPdf	19 55 17.9	+1.1
SULR		145.93 331	⇓	iP	PKPdf	19 55 16.7	-0.3
SULR		145.93 331	⇓	iP	PKPdf	19 55 16.7	-0.3
ROTZ	Rotzenmuhle	145.96 350		ePKPbc	PKPbc	19 55 18.4	+0.1
HWQ	Hawqa	145.98 308		eP	PKPbc	19 55 19.1	+0.2
BCLA	Clavier	146.00 358		PKP	PKPdf	19 55 17.8	+0.8
SMOL	Smolenice	146.00 344		ePKP2	PKPbc	19 55 18.9	+0.4
SMOL	Smolenice	146.00 344		ePKP	PKPbc	19 55 18.9	+0.4
TNS	Taunus Mts	146.00 354		ePKPbc	PKPbc	19 55 18.1	-0.3
TNS	Taunus Mts	146.00 354		ePKP2	PKPbc	19 55 18.1	-0.3
ASF	Jabal al Asfar	146.01 304		PKPbc	PKPbc	19 55 19.7	+0.6
	comp=Z,30nm,0.8s,baz=318,slow=1.8,SNR=58						
HENT	Hendek	146.09 321		i P	PKPdf	19 55 16.5	-0.9
GRF	Grafenberg Arr	146.19 351		ePKPbc	PKPbc	19 55 18.9	-0.1
GRF	Grafenberg Arr	146.19 351		ePKP2	PKPbc	19 55 18.9	-0.1
GRFO	Grafenberg	146.19 351		ePKPbc	PKPbc	19 55 18.6	-0.4
GRFO	Grafenberg	146.19 351		ePKP2	PKPbc	19 55 18.6	-0.4
KHC	Kasperske Hory	146.32 348		ePKPdf	PKPdf	19 55 17.2	-0.3
KHC	Kasperske Hory	146.32 348		i PKIKP	PKPdf	19 55 17.6	+0.1
KHC				e		19 55 19.3	
KHC	Kasperske Hory	146.32 348		i PKP	PKPdf	19 55 17.6	+0.1
KHC				ex	x	19 55 19.3	
KHC				ex	x	19 55 52.0	
GIVF	Givet	146.33 359	⇑	iPKP1	PKPbc	19 55 18.9	-0.5
	comp=Z,121nm,0.8s						
GIVF	Givet	146.33 359	⇑	iPKP	PKPbc	19 55 18.9	-0.5
GIVF	Givet	146.33 359	⇑	iPKP2	PKPbc	19 55 18.9	-0.5
DOU	Dourbes	146.34 359		PKP	PKPbc	19 55 19.0	-0.4
BHL	Bhannes	146.35 307		eP	PKPbc	19 55 20.3	+0.3
RCY	Rachaya	146.37 306		eP	PKPbc	19 55 20.6	+0.5
ZST	Bratislava	146.38 344		ePKP2	PKPbc	19 55 20.1	+0.5
ZST	Bratislava	146.38 344		ePKP	PKPbc	19 55 20.1	+0.5
BAIF	Baives	146.38 359	⇑	iPKP1	PKPbc	19 55 19.2	-0.3
	comp=Z,139nm,0.8s						
BAIF	Baives	146.38 359	⇑	iPKP	PKPbc	19 55 19.2	-0.3
BAIF	Baives	146.38 359	⇑	iPKP2	PKPbc	19 55 19.2	-0.3
ABH	Alteburg	146.41 355		PKP	PKPbc	19 55 19.3	-0.3
LOT	Lotru	146.44 334	⇑	iP	PKPdf	19 55 18.9	+1.1
LOT	Lotru	146.44 334	⇑	iP	PKPdf	19 55 18.9	+1.1
WET	Wettzell	146.44 349		ePKPbc	PKPbc	19 55 19.5	-0.2
WET	Wettzell	146.44 349		ePKP2	PKPbc	19 55 19.5	-0.2
BUD	Budapest	146.46 341	⇑	ePKP	PKPdf	19 55 19.6	+1.8
GEC2	GERESS Array S	146.57 348		ePKPbc	PKPbc	19 55 19.8	-0.3
GEC2	GERESS Array S	146.57 348		ePKP2	PKPbc	19 55 19.8	-0.3
GERES	GERESS Array B	146.57 348		PKPbc	PKPbc	19 55 19.8	-0.3
	comp=Z,27nm,0.7s,baz=48,slow=2.0,SNR=160						
TOD	Tromm	146.57 354		PKP	PKPbc	19 55 19.8	-0.3
TOD	Tromm	146.57 354		PKP2	PKPbc	19 55 19.8	-0.3
KIZT	Kizilcal	146.62 318		eP	PKPbc	19 55 20.2	-0.4
RUP	Ruppelstein	146.62 356		PKP	PKPbc	19 55 20.2	0.0
RUP	Ruppelstein	146.62 356		PKP2	PKPbc	19 55 20.2	0.0
HUMR	Humele	146.63 332	⇑	iP	PKPbc	19 55 20.0	-0.4
HUMR	Humele	146.63 332	⇑	iP	PKPbc	19 55 20.0	-0.4
KDHN	Kadinhani	146.67 317		i P	PKPdf	19 55 17.6	-0.8
WLF	Walferdange	146.72 357		PKP	PKPbc	19 55 20.5	0.0
WLF	Walferdange	146.72 357		ePKPbc	PKPbc	19 55 20.7	+0.2
WLF	Walferdange	146.72 357		ePKPbc	PKPbc	19 55 20.5	0.0
WLF	Walferdange	146.72 357		ePKP2	PKPbc	19 55 20.5	0.0
EREN	Erenkoy	146.76 311		eP	PKPdf	19 55 19.1	+0.4
KONT	Konya--Tatoy	146.82 316		eP	PKPdf	19 55 18.3	-0.4
BART	Pico Bartolome	146.86 44		ePKP	PKPdf	19 55 19.1	+0.3
MMAI	Mount Meron Ar	146.88 306		PKPbc	PKPbc	19 55 22.1	+0.5
	comp=Z,72nm,0.6s,baz=66,slow=4.9,SNR=126						
GZR	Gura Zlata	146.90 335	⇑	PKIKP	PKPbc	19 55 20.6	-0.5
GZR	Gura Zlata	146.90 335	⇑	iP	PKPbc	19 55 20.6	-0.5
GZR	Gura Zlata	146.90 335	⇑	iP	PKPbc	19 55 20.6	-0.5
KTD	Kalmit	146.92 355		PKP	PKPbc	19 55 20.8	-0.3
KTD	Kalmit	146.92 355		PKP2	PKPbc	19 55 20.8	-0.3
BORA	Eskisehir	146.94 320		i P	PKPbc	19 55 20.7	-0.7
CONA	Conrad Observa	146.94 345		i PKPab	PKPbc	19 55 21.3	+0.1
	comp=Z,72nm,0.6s,SNR=46						
SOP	Sopron	146.99 344	⇑	ePKP	PKPbc	19 55 21.3	0.0
BUY	Buyukada	147.12 323		i P	PKPbc	19 55 20.6	-1.2
ERMK	Ermenek	147.12 314		i P	PKPdf	19 55 09.8	-9.5
BZS	Buzias	147.17 336	⇓	PKP2	PKPbc	19 55 21.7	-0.1
BZS	Buzias	147.17 336	⇓	iP	PKPbc	19 55 21.6	-0.2
BZS	Buzias	147.17 336	⇓	iP	PKPbc	19 55 21.6	-0.2
HDMB	Hadim	147.25 314		eP	PKPdf	19 55 18.2	-1.3
LANF	Langenberg	147.28 355		PKP	PKPbc	19 55 21.9	-0.1
LANF	Langenberg	147.28 355		PKP2	PKPbc	19 55 21.9	-0.1
LANF	Langenberg	147.28 355		PKP	PKPbc	19 55 21.9	-0.1
BOLV	Bolvadin	147.31 318		i P	PKPbc	19 55 21.9	-0.6
ELBA	Catalca	147.32 324		i P	PKPdf	19 55 20.4	+0.9
PSMN	Pico do Norte,	147.33 45		ePKP	PKPdf	19 55 19.6	0.0
LFK	Lefkose	147.34 311		eP	PKPdf	19 55 19.6	0.0
STU	Stuttgart	147.35 353		ePKPbc	PKPbc	19 55 22.0	-0.2
STU	Stuttgart	147.35 353		ePKPbc	PKPbc	19 55 21.2	-1.0
STU	Stuttgart	147.35 353		ePKIKP	PKPbc	19 55 21.3	-0.9
MOA	Molln	147.40 347		i PKPbc	PKPbc	19 55 22.0	-0.4
	comp=Z,94nm,0.9s,SNR=49						
JMB	Yambol	147.40 328		P	PKPbc	19 55 22.8	+0.2
JMB	Yambol	147.40 328		i P	PKPbc	19 55 23.0	+0.4
JMB	Yambol	147.40 328		i P	PKPbc	19 55 23.0	+0.4
FLN	La Foliniere	147.50 5	⇑	iPKP1	PKPbc	19 55 21.9	-0.7
	comp=Z,190nm,0.7s						
FLN	La Foliniere	147.50 5	⇑	iPKP	PKPbc	19 55 21.9	-0.7
FLN	La Foliniere	147.50 5	⇑	iPKP2	PKPbc	19 55 21.9	-0.7
ROSF	Rostrenen	147.61 9	⇑	iPKP1	PKPbc	19 55 22.0	-0.9
	comp=Z,119nm,0.8s						
ROSF	Rostrenen	147.61 9	⇑	iPKP	PKPbc	19 55 22.0	-0.9
ROSF	Rostrenen	147.61 9	⇑	iPKIKP	PKPbc	19 55 22.0	-0.9
CSS	Prodhromos	147.63 311		eP	PKPbc	19 55 19.4	-0.8
CSS	Prodhromos	147.63 311		ePKPbc	PKPbc	19 55 23.1	-0.4
CSS	Prodhromos	147.63 311		P	PKPbc	19 55 23.4	0.0
ARSA	Arzberg	147.66 345	⇑	iPKPbc	PKPbc	19 55 22.5	-0.6
	comp=Z,50nm,1.1s,SNR=16						
FUR	Furstenfeldbru	147.66 350		ePKPbc	PKPbc	19 55 22.8	-0.3
FUR	Furstenfeldbru	147.66 350		ePKP2	PKPbc	19 55 22.8	-0.3
SHUT	Suhut-Afyon	147.66 318		eP	PKPdf	19 55 20.0	-0.1
LDF	La Druitiere	147.70 5	⇑	iPKP1	PKPbc	19 55 22.3	-0.9
	comp=Z,70nm,0.5s						
LDF	La Druitiere	147.70 5	⇑	iPKP	PKPbc	19 55 22.3	-0.9
LDF	La Druitiere	147.70 5	⇑	iPKP2	PKPbc	19 55 22.3	-0.9
PKSM	Moragy	147.71 340	⇑	PKIKP	PKPdf	19 55 19.7	-0.2
PKSM	Moragy	147.71 340	⇑	iP	PKPdf	19 55 19.7	-0.2
PKSM	Moragy	147.71 340	⇑	iP	PKPdf	19 55 19.7	-0.2
GAZI	Gazipasa	147.75 313		i P	PKPbc	19 55 22.9	-0.8
SGMF	Saint Gilles	147.78 8	⇑	iPKP1	PKPbc	19 55 22.6	-0.8
	comp=Z,197nm,0.7s						
SGMF	Saint Gilles	147.78 8	⇑	iPKP	PKPbc	19 55 22.6	-0.8
SGMF	Saint Gilles	147.78 8	⇑	iPKP2	PKPbc	19 55 22.6	-0.8
RJOB	Jochberg	147.81 348		ePKPbc	PKPbc	19 55 23.2	-0.3
GRR	Gorron	147.84 6	⇑	iPKP1	PKPbc	19 55 23.0	-0.5
	comp=Z,180nm,0.6s						
GRR	Gorron	147.84 6	⇑	iPKP	PKPbc	19 55 23.0	-0.5
GRR	Gorron	147.84 6	⇑	iPKP2	PKPbc	19 55 23.0	-0.5
LEF	Lefka	147.88 311		eP	PKPbc	19 55 22.4	-1.6
BFO	Black Forest	147.88 354		ePKPbc	PKPbc	19 55 23.3	-0.3
BFO				ePKPab	PKPab	19 55 26.7	-0.6
BFO	Black Forest	147.88 354		ePKP2	PKPab	19 55 26.7	-0.6
CDF	Champ du Feu	147.89 355	⇑	iPKP1	PKPbc	19 55 23.4	-0.3
	comp=Z,168nm,0.8s						
CDF	Champ du Feu	147.89 355	⇑	iPKP	PKPbc	19 55 23.4	-0.3
CDF	Champ du Feu	147.89 355	⇑	iPKP2	PKPbc	19 55 23.4	-0.3
MEZF	Maizieres J'vi	147.92 358	⇑	iPKP1	PKPbc	19 55 23.5	-0.2
	comp=Z,108nm,1.0s						
MEZF	Maizieres J'vi	147.92 358	⇑	iPKP	PKPbc	19 55 23.5	-0.2
GDZ	Gediz	148.01 320		i P	PKPbc	19 55 22.7	-1.6
QUIF	Quistinic	148.03 9	⇑	iPKP1	PKPbc	19 55 23.2	-0.8
	comp=Z,76nm,0.8s						
QUIF	Quistinic	148.03 9	⇑	iPKP	PKPbc	19 55 23.2	-0.8
QUIF	Quistinic	148.03 9	⇑	iPKP2	PKPbc	19 55 23.2	-0.8
SPAK	Spaichingen-Ko	148.06 353		PKP	PKPbc	19 55 23.9	-0.2
ECH	Echery	148.10 356		ePKPbc	PKPbc	19 55 23.3	-0.9
ECH	Echery	148.10 356		ePKP2	PKPbc	19 55 23.3	-0.9
ECH	Echery	148.10 356		PKP	PKPbc	19 55 23.7	-0.5
ISP	Isparta	148.10 317		eP	PKPbc	19 55 22.7	-1.8
ISP	Isparta	148.10 317		P	PKPbc	19 55 23.3	-1.3
MPEP	Malo Peshtene	148.11 332		i P	PKPbc	19 55 24.4	0.0
MPEP	Malo Peshtene	148.11 332		i P	PKPbc	19 55 24.4	0.0
LIBD	Limburg	148.13 355		PKP	PKPbc	19 55 24.1	-0.2
LIBD	Limburg	148.13 355		PKP2	PKPbc	19 55 24.1	-0.2
THEF	They Montfort	148.16 357		PKP	PKPbc	19 55 24.3	0.0
THEF	They Montfort	148.16 357		PKP2	PKPbc	19 55 24.3	0.0
THEF	They Montfort	148.16 357		PKP	PKPbc	19 55 24.3	0.0
KOGS	Kog	148.21 343		i PKPbc	PKPbc	19 55 23.6	-0.9
KOGS				ePKPab	PKPab	19 55 27.8	-0.9
SFTF	Sexfontaines	148.22 358	⇑	iPKP1	PKPbc	19 55 24.3	-0.2
	comp=Z,238nm,0.9s						
SFTF	Sexfontaines	148.22 358	⇑	iPKP	PKPbc	19 55 24.3	-0.2
BCK	Bucak	148.26 317		eP	PKPbc	19 55 23.1	-1.9
DURS	Dursunbey	148.30 322		i P	PKPbc	19 55 24.2	-0.8
SOKA	Soboth	148.32 345	⇑	iPKPbc	PKPbc	19 55 24.0	-0.8
	comp=Z,49nm,0.9s						
KBA	Koelnbreinsper	148.33 347	⇑	iPKPbc	PKPbc	19 55 23.9	-0.9
	comp=Z,49nm,0.6s,SNR=23						
HAU	Haudompre	148.36 357	⇑	iPKP1	PKPbc	19 55 24.5	-0.4
	comp=Z,133nm,0.9s						
HAU	Haudompre	148.36 357	⇑	iPKP	PKPbc	19 55 24.5	-0.4
HAU	Haudompre	148.36 357	⇑	iPKP2	PKPbc	19 55 24.5	-0.4
FELD	Feldberg im Sc	148.36 354		PKP	PKPbc	19 55 24.5	-0.4
RETA	Reutte	148.40 351	⇑	iPKiKP	PKiKP	19 55 24.7	-1.6
	comp=Z,65nm,1.2s,SNR=14						
WATA	Walderalm	148.42 350	⇑	iPKPbc	PKPbc	19 55 24.6	-0.5
	comp=Z,36nm,0.5s,SNR=23						
KHAL	Karahalli	148.44 319		i P	PKPbc	19 55 24.8	-0.6
MOF	Molkenrain	148.46 355		PKP	PKPbc	19 55 24.7	-0.4
MOF	Molkenrain	148.46 355		PKP2	PKPbc	19 55 24.7	-0.4
MOF	Molkenrain	148.46 355		PKP	PKPbc	19 55 24.7	-0.4
WTTA	Wattenberg	148.48 350		i PKiKP	PKiKP	19 55 25.0	-1.5
	comp=Z,106nm,0.6s,SNR=46						
MOTA	Moosalm	148.49 350	⇑	iPKPbc	PKPbc	19 55 24.8	-0.4
	comp=Z,51nm,0.5s,SNR=31						
HINF	Hinteralfeld	148.52 356	⇑	iPKP1	PKPbc	19 55 24.7	-0.6
	comp=Z,40nm,0.6s						
HINF	Hinteralfeld	148.52 356	⇑	iPKP	PKPbc	19 55 24.7	-0.6
HINF	Hinteralfeld	148.52 356	⇑	iPKP2	PKPbc	19 55 24.7	-0.6
ANTB	Antalya	148.53 316		eP	PKPdf	19 55 22.2	+0.6
PGB	Panagyurishte	148.53 330		i P	PKPbc	19 55 25.3	-0.2
PGB	Panagyurishte	148.53 330		i P	PKPbc	19 55 25.3	-0.2
KDZ	Kurdzhali	148.59 328		i P	PKPbc	19 55 25.0	-0.7
KDZ	Kurdzhali	148.59 328		i P	PKPbc	19 55 25.0	-0.7
OBKA	Obir	148.59 345	⇓	iPKPbc	PKPbc	19 55 24.4	-1.1
	comp=Z,26nm,0.8s,SNR=10						
KORT	Korkueli	148.68 316		i P	PKPdf	19 55 21.1	-0.7
MYKA	Terra Mystica	148.69 347	⇑	iPKPbc	PKPbc	19 55 24.6	-1.2
	comp=Z,56nm,0.5s						
BALY	Balya	148.71 323		i P	PKPbc	19 55 25.4	-0.6
DAVA	Damuels	148.73 352	⇑	iPKiKP	PKiKP	19 55 25.6	-1.4
	comp=Z,118nm,0.9s,SNR=33						
ALN	Alexandroupoli	148.80 326		P	PKPbc	19 55 24.9	-1.3
ABTA	Abfaltersbach	148.81 348	⇑	iPKPbc	PKPbc	19 55 25.1	-0.9
	comp=Z,89nm,0.7s,SNR=18						
BBS	Basel-Blauen	148.81 355		PKP	PKPbc	19 55 25.6	-0.4
BBS	Basel-Blauen	148.81 355		PKP2	PKPbc	19 55 25.6	-0.4
FETA	Feichten	148.86 351	⇑	iPKiKP	PKiKP	19 55 25.9	-1.4
	comp=Z,92nm,1.0s,SNR=18						
RZN	Rozhen	148.91 329		i P	PKPbc	19 55 26.2	-0.3
RZN	Rozhen	148.91 329		i P	PKPbc	19 55 26.2	-0.3
VTS	Vitosha	148.95 331		P	PKPbc	19 55 26.1	-0.4
VTS	Vitosha	148.95 331	⇑	iPKP2	PKPbc	19 55 26.7	+0.2
VTS	Vitosha	148.95 331	⇑	iP	PKPbc	19 55 26.6	+0.1
VTS	Vitosha	148.95 331	⇑	iP	PKPbc	19 55 26.6	+0.1
VTS	Vitosha	148.95 331		i P	PKPbc	19 55 26.5	0.0
VTS	Vitosha	148.95 331		i P	PKPbc	19 55 26.5	0.0
MANT	Manisa	148.95 320		i P	PKPdf	19 55 21.4	-0.8
LOMF	Lomont	148.98 356		PKP	PKPbc	19 55 26.3	-0.1
LOMF	Lomont	148.98 356		PKP2	PKPbc	19 55 26.3	-0.1
LOMF	Lomont	148.98 356		PKP	PKPbc	19 55 26.3	-0.1
LJU	Ljubljana	149.03 345		i PKPbc	PKPbc	19 55 26.1	-0.5
CRNS	Crni Vrh	149.06 346		ePKPdf	PKPdf	19 55 21.2	-0.9
CRNS				i PKPbc	PKPbc	19 55 25.8	-0.9
CRNS				i PKPab	PKPab	19 55 30.8	-1.4
GOLH	Golhisar	149.06 317		i P	PKPbc	19 55 24.8	-2.2
DIVS	Divibare	149.07 337		P	PKPbc	19 55 26.4	-0.4
DENT	Denizli	149.10 319		eP	PKPbc	19 55 27.4	+0.3
ELL	Elmali	149.11 316		eP	PKPbc	19 55 26.1	-1.0
DNZL	Cakiroluk	149.13 318		i P	PKPbc	19 55 25.6	-1.5
GLHS	Gihisar (BURDU	149.15 317		eP	PKPdf	19 55 27.5	+4.9
HYF	Humbligny	149.16 1	⇑	iPKP1	PKPbc	19 55 26.9	0.0
HYF	Humbligny	149.16 1	⇑	iPKP	PKPbc	19 55 26.9	0.0
LOR	Lormes	149.18 360	⇑	iPKP1	PKPbc	19 55 26.7	-0.2
	comp=Z,157nm,1.0s						
LOR	Lormes	149.18 360	⇑	iPKP	PKPbc	19 55 26.7	-0.2
LOR	Lormes	149.18 360	⇑	iPKP2	PKPab	19 55 26.7	-5.9
VOY	Vojsko	149.20 346		ePKPdf	PKPdf	19 55 21.3	-1.0
VOY				ePKPbc	PKPbc	19 55 25.9	-1.1
VOY				e		19 55 34.1	
DAVOX	Davos/Dischmat	149.22 352		PKPbc	PKPbc	19 55 27.2	+0.2
	comp=Z,144nm,0.6s,baz=290,slow=1.5,SNR=194						
BOJS	Bojanci	149.35 344		i PKPbc	PKPbc	19 55 27.3	-0.1
SSF	Saint Saulge	149.38 0	⇑	iPKP1	PKPbc	19 55 27.2	-0.2
	comp=Z,181nm,1.0s						
SSF	Saint Saulge	149.38 0	⇑	iPKP	PKPbc	19 55 27.2	-0.2
SSF	Saint Saulge	149.38 0	⇑	iPKHKP	PKPbc	19 55 27.2	-0.2
MMB	Musomiste	149.48 330		i P	PKPbc	19 55 27.2	-0.6
MMB	Musomiste	149.48 330		i P	PKPbc	19 55 27.2	-0.6
KAVA	Kavala	149.53 328		P	PKPbc	19 55 27.1	-0.9
AYVA	Ayvalik	149.53 323		i P	PKPbc	19 55 26.9	-1.2
KKB	Krupnik	149.57 331		i P	PKPbc	19 55 27.6	-0.5
KKB	Krupnik	149.57 331		i P	PKPbc	19 55 27.6	-0.5
NVR	Nevrokopi	149.59 329		P	PKPbc	19 55 27.3	-0.8
TUE	Stuetta	149.60 352		ePKPbc	PKPbc	19 55 27.8	-0.1
AKAS	Kas	149.60 316		i P	PKPbc	19 55 26.2	-2.1
AVF	Avril sur Loir	149.65 0	⇑	iPKP1	PKPbc	19 55 27.5	-0.6
	comp=Z,56nm,0.7s						
AVF	Avril sur Loir	149.65 0	⇑	iPKP	PKPbc	19 55 27.5	-0.6
AVF	Avril sur Loir	149.65 0	⇑	iPKHKP	PKPbc	19 55 27.5	-0.6
MFF	Saint Martin d	149.68 5	⇑	iPKP1	PKPbc	19 55 27.6	-0.6
	comp=Z,77nm,0.7s						
MFF	Saint Martin d	149.68 5	⇑	iPKP	PKPbc	19 55 27.6	-0.6
MFF	Saint Martin d	149.68 5	⇑	iPKHKP	PKPbc	19 55 27.6	-0.6
FETY	Fethiye	149.72 317		eP	PKPdf	19 55 26.3	+2.8
CABF	La Chapelle	149.76 357	⇑	iPKP1	PKPbc	19 55 28.8	+0.4
	comp=Z,350nm,0.9s						
SMF	Signal de Mont	149.80 360	⇑	iPKP1	PKPbc	19 55 27.8	-0.6
	comp=Z,104nm,1.1s						
SMF	Signal de Mont	149.80 360	⇑	iPKP	PKPbc	19 55 27.8	-0.6
SMF	Signal de Mont	149.80 360	⇑	iPKHKP	PKPbc	19 55 27.8	-0.6
PRK	Paraskevi	149.82 324		P	PKPbc	19 55 28.1	-0.6
BGF	Bois d'Agland	149.88 1	⇑	iPKP1	PKPbc	19 55 28.3	-0.3
	comp=Z,127nm,0.8s						
AYDN	Tasoluk	149.88 320		i P	PKPbc	19 55 28.6	-0.3
TURN	Turunc	149.90 318		i P	PKPdf	19 55 24.1	+0.3
SRS	Serrai	149.90 329		P	PKPbc	19 55 27.5	-1.4
PLE	Pljevlja	149.95 337	⇑	iPKP	PKPbc	19 55 28.8	-0.1
LIA	Limnos Island	149.97 326		P	PKPbc	19 55 28.3	-0.8
TCF	Toulx Ste Croi	150.13 2	⇑	iPKP1	PKPbc	19 55 28.8	-0.4
	comp=Z,130nm,1.0s						
IVA	Berane	150.14 336	⇑	iPKP	PKPbc	19 55 29.0	-0.4
KNT	Kendrikon	150.21 330		P	PKPbc	19 55 28.3	-1.3
URLA	Izmir	150.22 322		i P	PKPbc	19 55 27.1	-2.6
SKO	Skopje	150.24 333		ePKP	PKPbc	19 55 28.8	-0.9
VAY	Valandovo	150.24 331		ePKP	PKPbc	19 55 28.1	-1.5
UPM	Unac-Piva	150.24 337	⇑	iPKP	PKPbc	19 55 28.7	-0.9
GCAM	G?zelcaml?	150.26 320		i P	PKPbc	19 55 28.8	-1.1
OUR	Ouranopolis	150.29 328		P	PKPbc	19 55 28.6	-1.2
PVY	Plav	150.35 335	⇑	iPKP	PKPbc	19 55 29.2	-0.7
AGO	Saint Agoulin	150.39 1		PKP	PKPbc	19 55 29.5	-0.4
PLDF	La Plantade	150.47 0		PKP	PKPbc	19 55 29.9	-0.2
CHOS	Chios island	150.52 322		P	PKPbc	19 55 30.0	-0.4
PLG	Polygyros	150.53 328		P	PKPbc	19 55 28.8	-1.6
NKY	Niksic	150.54 337	⇑	iPKP	PKPbc	19 55 29.8	-0.5
ARG	Arkhangelos	150.59 317		P	PKPbc	19 55 30.2	-0.5
GRG	Griva	150.60 330		P	PKPbc	19 55 29.3	-1.2
BRY	Bratogost	150.64 337	⇑	iPKP	PKPbc	19 55 29.5	-1.0
RSL	Roselend	150.65 356		PKP	PKPbc	19 55 30.2	-0.3
PYM	Petit Puy Mans	150.69 1		PKP	PKPbc	19 55 30.6	0.0
PAIG	Paliouri	150.75 327		P	PKPbc	19 55 29.3	-1.6
TTG	Podgorica	150.77 336	⇑	iPKP	PKPbc	19 55 30.1	-0.8
KRUS	Krusevo	150.81 332		ePKP	PKPbc	19 55 29.8	-1.2
LPL	La Plagne	150.81 356	⇑	iPKP1	PKPbc	19 55 31.6	+0.7
	comp=Z,147nm,0.8s						
LPG	La Plagne	150.83 356	⇑	iPKP1	PKPbc	19 55 31

comp=Z,2.2nm,0.5s,baz=339,slow=4.3,SNR=13
ESDC Sonseca Array 155.84 14 PKP PKPdf 19 55 31.2 -1.1
ESDC PKPab PKPab 19 56 00.6 -0.4
PBAR Barrancos 156.32 21 *e*PKPdf PKPdf 19 55 33.3 +0.4
PBAR Barrancos 156.32 21 *e*PKPab PKPab 19 56 02.4 -0.7
PBAR Barrancos 156.32 21 *e*LR LR 20 21 16.1
comp=Z,909nm,22.0s
PCVE Castro Verde 156.43 24 *e*LR LR 20 21 06.1
comp=Z,912nm,20.0s
MORF Marmelete 156.47 25 *e*LQ 20 13 00.2
MORF eLR LR 20 21 31.1
comp=Z,799nm,20.0s
PFVI Vila Bisbo 156.55 26 *e*LR LR 20 21 51.0
comp=Z,782nm,22.0s
PVAQ Vaqueiros 156.75 23 *e*LQ 20 16 27.3
PVAQ eLR LR 20 21 31.1
comp=Z,873nm,22.0s
PBDV Barranco-do-Ve 156.81 24 *e*LR LR 20 21 31.1
comp=Z,806nm,20.0s
KEST Kesra 160.04 346 PKPab PKPab 19 56 19.0 -0.3
comp=Z,6.7nm,0.7s,baz=251,slow=1.5,SNR=19
MDT Midelt 161.99 23 PKP PKPdf 19 55 40.8 +1.2
comp=Z,10nm,0.9s,baz=107,slow=2.1,SNR=10.0
MDT PKPab PKPab 19 56 28.4 +0.4
comp=Z,8.4nm,0.6s,baz=336,slow=6.9,SNR=18
MDT Midelt 161.99 23 PKP PKPdf 19 55 40.8 +1.2
MDT PKPab PKPab 19 56 28.4 +0.4
LIC Lamto 166.83 139 *e*PKIKP PKPdf 19 55 43.2 -1.2
comp=Z,23nm,1.0s
LIC Lamto 166.83 139 *e*PKPdf PKPdf 19 55 43.2 -1.2
DBIC Dimbokro 167.28 138 PKP PKPdf 19 55 43.5 -1.2
comp=Z,4.7nm,0.8s,baz=145,slow=7.9,SNR=4.4
DBIC Dimbokro 167.28 138 PKP PKPdf 19 55 43.5 -1.2
DBIC Dimbokro 167.28 138 PKIKP PKPdf 19 55 43.6 -1.1
TAM Tamanrasset 173.36 345 *e*PKPdf PKPdf 19 55 48.2 +0.4
TAM Tamanrasset 173.36 345 *e*PKIKP PKPdf 19 55 48.2 +0.4
TORD Torodi Ar. Bea 176.30 149 PKP PKPdf 19 55 47.2 -1.6
comp=Z,6.8nm,0.9s,baz=308,slow=1.0,SNR=36
TORD PKPab PKPab 19 57 32.1 +0.5
comp=Z,1.0nm,0.8s,baz=210,slow=6.8,SNR=4.0
TORD Torodi Ar. Bea 176.30 149 PKP PKPdf 19 55 47.2 -1.6
TORD PKPab PKPab 19 57 32.1 +0.5

*IDC **03** 19:36:17.4±1.2, 6.°96S×129.°69E, h0km, mb3.8/5, mb1 3.8/8, mb1mx3.8/19, mbtmp3.8/8, ML3.5/3, Error ellipse: s-maj=56.9km s-min=18.3km az=69.0*
*ISCJB **03** 19:36:20.4±0.8, 6.°81S±0.°08×129.°9E±0.°1, h33km, mb3.8/5, Error ellipse: s-maj=21.9km s-min=7.5km az=156.0*
*NEIC **03** 19:36:22.4±0.7, 7.°08S×129.°59E, h35km, mb4.4/1, Error ellipse: s-maj=27.8km s-min=9.6km az=59.0*
*DJA **03** 19:36:35, 6.°32S×128.°83E, h223km, MLv4.0/3*
ISC 03 19:36:22.4±0.8, 7.°01S±0.°10×129.°8E±0.°1, h35km, n23, σ1§39/27, mb3.8/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.48**	**3**	P	**Sn**	**19 37 16.7**	**-13**
AAI	**Ambon**	**3.65**	**335**	P	**Pn**	**19 37 22.0**	**+5.6**
NLAI	**Namlea**	**4.59**	**325**	P	**Pn**	**19 37 32.3**	**+3.0**
KAKA	**Kakadu**	**6.25**	**155**	P	**Pn**	**19 37 53.5**	**+1.4**
	43nm,0.6s						
MMRI	**Maumere**	**7.63**	**257**	P	**Pn**	**19 38 14.0**	**+2.9**
KAPI	**Kappang**	**10.15**	**281**	Pn	**Pn**	**19 38 44.1**	**-1.6**
	0.8nm,0.3s,baz=153,slow=7.9,SNR=5.8						
KAPI	**Kappang**	**10.15**	**281**	Pn	**Pn**	**19 38 44.1**	**-1.6**
SGSI	**Sangihe**	**11.44**	**338**	P	**Pn**	**19 38 58.7**	**-4.6**
WRAB	**Tennant Creek**	**13.60**	**161**	P	**Pn**	**19 39 26.2**	**-6.6**
WRA	**Warramunga Arr**	**13.60**	**161**	Pn	**Pn**	**19 39 31.0**	**-1.9**
	0.2nm,0.3s,baz=335,slow=14,SNR=8.8						
WRA				Sn	**Sn**	**19 42 09.0**	**+6.2**
	0.5nm,0.3s,baz=334,slow=20,SNR=7.0						
WRA	**Warramunga Arr**	**13.60**	**161**	Pn	**Pn**	**19 39 31.0**	**-1.9**
WRA				Sn	**Sn**	**19 42 09.0**	**+6.2**
ASAR	**Alice Springs**	**17.03**	**167**	P	**Pn**	**19 40 18.1**	**+0.2**
	0.2nm,0.3s,baz=345,slow=10.0,SNR=9.2						
ASAR				S	**S**	**19 43 30.8**	**-4.4**
	0.1nm,0.3s,baz=332,slow=23,SNR=4.0						
ASAR	**Alice Springs**	**17.03**	**167**	P	**Pn**	**19 40 18.1**	**+0.2**
ASAR				S	**S**	**19 43 30.8**	**-4.4**
CMAR	**Chiang Mai Arr**	**39.56**	**310**	P	**P**	**19 43 49.2**	**-1.2**
	0.6nm,0.9s,mb3.3,baz=150,slow=6.7,SNR=5.0						
CMAR	**Chiang Mai Arr**	**39.56**	**310**	P	**P**	**19 43 49.2**	**-1.2**
SONM	**Songino Array**	**58.38**	**342**	P	**P**	**19 46 15.1**	**+1.0**
	0.7nm,0.8s,mb3.8,baz=151,slow=3.4,SNR=4.7						
SONM	**Songino Array**	**58.38**	**342**	P	**P**	**19 46 15.1**	**+1.0**
MKAR	**Makanchi Array**	**68.11**	**327**	P	**P**	**19 47 18.8**	**+0.2**
	1.1nm,0.7s,mb4.0,baz=124,slow=7.3,SNR=8.1						
MKAR	**Makanchi Array**	**68.11**	**327**	P	**P**	**19 47 18.8**	**+0.2**
ZALV	**Zalesovo Beam**	**71.49**	**334**	P	**P**	**19 47 38.6**	**-0.7**
	1.0nm,0.9s,mb3.7,baz=116,slow=6.9,SNR=4.1						
ZALV	**Zalesovo Beam**	**71.49**	**334**	P	**P**	**19 47 38.6**	**-0.7**
KURK	**Kurchatov**	**72.40**	**329**	P	**P**	**19 47 44.8**	**-0.1**
	1.3nm,0.8s,mb3.9,baz=130,slow=5.0,SNR=9.3						
KURK	**Kurchatov**	**72.40**	**329**	P	**P**	**19 47 44.6**	**-0.2**
	4.1nm,1.0s,mb4.3						

DJA 03 19:37:18, 5.°97S×103.°96E, h12km, MLv3.8/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**0.95**	**6**	P	Pg	19 37 34.7	-1.7
LWLI				S	Sg	19 37 48.5	-0.3
BLSI	**Bandar Lampung**	**1.41**	**65**	P	Pn	19 37 42.3	-1.2
BLSI				S	Sn	19 38 01.1	-1.0
KLI	**Kotabumi**	**1.42**	**39**	P	Pn	19 37 42.8	-0.8
KLSI		**1.48**	**31**	P	Pn	19 37 43.4	-1.1
MDSI	**Maura Dua**	**1.49**	**8**	P	Pn	19 37 43.4	-1.2
MDSI				S	Sn	19 38 03.5	-0.5
RBSI	**Rajabasa**	**1.78**	**86**	P	Pn	19 37 48.8	+0.2
CGJI	**Cibinong**	**1.84**	**110**	P	Pn	19 37 48.5	-0.9

*CSEM **03** 19:52:58.5, 38.°82N×23.°54E, h10km, ML1.6/6, After THE*
THE 03 19:52:58.5, 38.°82N×23.°54E, h10km, ML1.6/6, Error ellipse: s-maj=0.9km s-min=0.3km az=221.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAL	**Atalanti**	**0.43**	**253**	P	Pg	19 53 06.7	-0.2
ATAL				S	Sg	19 53 13.0	+0.5
ATAL	**Atalanti**	**0.43**	**253**	P	Pg	19 53 06.7	-0.2
ATAL				S	Sg	19 53 13.0	+0.5
AOS	**Alonnisos**	**0.44**	**36**	P	Pg	19 53 06.9	-0.2
AOS				S	Sg	19 53 13.1	+0.1
AOS	**Alonnisos**	**0.44**	**36**	P	Pg	19 53 06.9	-0.2
AOS				S	Sg	19 53 13.1	+0.1
LKR	**Lokris**	**0.46**	**249**	P	Pg	19 53 07.2	-0.2
LKR				S	Sg	19 53 13.8	+0.3
LKR	**Lokris**	**0.46**	**249**	P	Pg	19 53 07.2	-0.2
LKR				S	Sg	19 53 13.8	+0.3
NEO	**Neokhori**	**0.55**	**333**	P	Pg	19 53 09.2	0.0
NEO				S	Sg	19 53 17.1	+0.7
NEO	**Neokhori**	**0.55**	**333**	P	Pg	19 53 09.2	0.0
NEO				S	Sg	19 53 17.1	+0.7
PTL	**Penteli**	**0.81**	**162**	P	Pg	19 53 14.0	0.0
PTL				S	Sg	19 53 25.5	+1.0
PTL	**Penteli**	**0.81**	**162**	P	Pg	19 53 14.0	0.0
PTL				S	Sg	19 53 25.5	+1.0
DSF	**Desfina**	**0.89**	**243**	P	Pg	19 53 15.1	-0.6
DSF				S	Sg	19 53 28.6	+1.3
DSF	**Desfina**	**0.89**	**243**	P	Pg	19 53 15.1	-0.6
DSF				S	Sg	19 53 28.6	+1.3
AGG	**Agios Georgios**	**0.97**	**283**	P	Pg	19 53 16.7	-0.4
AGG				S	Sg	19 53 30.9	+1.2
AGG	**Agios Georgios**	**0.97**	**283**	P	Pg	19 53 16.7	-0.4
AGG				S	Sg	19 53 30.9	+1.2
PAIG	**Paliouri**	**1.11**	**5**	P	Pb	19 53 19.2	-0.7
PAIG				S	Sb	19 53 35.6	+1.2
PAIG	**Paliouri**	**1.11**	**5**	P	Pb	19 53 19.2	-0.7
PAIG				S	Sb	19 53 35.6	+1.2
OUR	**Ouranopolis**	**1.55**	**12**	P	Pn	19 53 25.4	-0.8
OUR	**Ouranopolis**	**1.55**	**12**	P	Pn	19 53 25.4	-0.8

*CSEM **03** 19:55:12.8, 41.°77N×20.°42E, h0km, ML2.9, After TIR*
TIR 03 19:55:12.8±2.4, 41.°77N×20.°42E, h0km±729km, ML2.9, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.48**	**305**	*e*PG	Pg	19 55 25.9	+3.9
PUK				*e*SG	Sg	19 55 32.7	+4.4
PUK	**Puka**	**0.48**	**305**	*e*Pg	Pg	19 55 25.9	+3.9
PUK				*e*Sg	Sg	19 55 32.7	+4.4
TIR	**Tirane**	**0.59**	**225**	*e*PG	Pg	19 55 28.5	+4.3
TIR				*e*SG	Sg	19 55 37.4	+5.5
TIR	**Tirane**	**0.59**	**225**	*e*Pg	Pg	19 55 28.5	+4.3
TIR				*e*Sg	Sg	19 55 37.4	+5.5
BCI	**Bajram Curri**	**0.65**	**336**	*e*PG	Pg	19 55 29.5	+4.2
BCI				*e*SG	Sg	19 55 39.5	+5.7
BCI	**Bajram Curri**	**0.65**	**336**	*e*Pg	Pg	19 55 29.5	+4.2
BCI				*e*Sg	Sg	19 55 39.5	+5.7

*ISCJB **03** 19:55:57.4±0.8, 43.°32N±0.°05×126.°79W±0.°09, h10km, mb3.9/7, Error ellipse: s-maj=10.4km s-min=5.4km az=144.7*
*IDC **03** 19:55:58.3±1.8, 43.°43N×126.°47W, h0km, mb3.8/6, mb1 4.0/11, mb1mx3.8/30, mbtmp3.8/11, ML3.6/4, Error ellipse: s-maj=38.6km s-min=11.1km az=50.0*
*NEIC **03** 19:55:58.7±0.9, 43.°28N×126.°86W, h10km, mb4.3/3, Error ellipse: s-maj=11.3km s-min=6.4km az=55.0*
ISC 03 19:55:58.8±0.9, 43.°28N±0.°05×126.°86W±0.°09, h10km, n71, σ1§14/73, mb3.9/7, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.90**	**102**	P	**Pn**	**19 56 28.2**	**-2.9**
RNO	**Roman Nose**	**2.35**	**73**	P	**Pn**	**19 56 35.9**	**-1.5**
DBO	**Dodson Butte**	**2.65**	**92**	P	**Pn**	**19 56 39.5**	**-2.0**
COR	**Corvallis**	**2.88**	**62**	*e*P	**Pn**	**19 56 43.5**	**-1.2**
HUMO	**Hull Mountain**	**2.94**	**102**	*e*P	**Pn**	**19 56 43.4**	**-2.2**
HEBO	**Mount Hebo**	**2.95**	**48**	*e*P	**Pn**	**19 56 44.5**	**-1.2**
BBOR	**Butler Butte**	**3.09**	**96**	P	**Pn**	**19 56 46.6**	**-0.9**
BROR	**Big Rock Looko**	**3.34**	**71**	P	**Pn**	**19 56 50.2**	**-0.8**
IRO	**Indian Ridge**	**3.42**	**76**	P	**Pn**	**19 56 51.5**	**-0.6**
YBH	**Yreka Blue Hor**	**3.44**	**115**	Pn	**Pn**	**19 56 50.9**	**-1.5**
	2.1nm,0.3s,baz=302,slow=11,SNR=26						
YBH				Sn	**Sn**	**19 57 32.1**	**-1.0**
	0.9nm,0.3s,baz=120,slow=21,SNR=3.8						
YBH	**Yreka Blue Hor**	**3.44**	**115**	Pn	**Pn**	**19 56 50.9**	**-1.5**
YBH				Sn	**Sn**	**19 57 32.1**	**-1.0**
WIFE	**Three Sisters-**	**3.74**	**76**	P	**Pn**	**19 56 55.3**	**-1.2**
TDH	**Tom, Dick, Har**	**4.16**	**59**	P	**Pn**	**19 57 02.7**	**+0.4**
VLL	**Laurance Lake**	**4.31**	**58**	P	**Pn**	**19 57 05.0**	**+0.7**
FL2	**Flat Top 2**	**4.34**	**46**	P	**Pn**	**19 57 05.2**	**+0.5**
NLWA	**Neilton Lookou**	**4.62**	**26**	*e*P	**Pn**	**19 57 08.0**	**-0.6**
LON	**Longmire**	**4.98**	**44**	*e*P	**Pn**	**19 57 14.0**	**+0.4**
GNW	**Green Mountain**	**5.14**	**32**	*e*P	**Pn**	**19 57 15.6**	**-0.1**
	4.7nm,0.4s						
PGC	**Sidney**	**5.87**	**23**	*e*P	**Pn**	**19 57 25.5**	**-0.2**
	0.6nm,0.3s						
JCW	**Jim Creek**	**6.00**	**33**	*e*P	**Pn**	**19 57 26.8**	**-0.8**
	27nm,0.8s						
RSW	**Rattlesnake Hi**	**6.03**	**56**	*e*P	**Pn**	**19 57 28.4**	**+0.5**
	31nm,0.5s						
HAWA	**Hanford**	**6.07**	**57**	*e*P	**Pn**	**19 57 28.4**	**0.0**
	18nm,0.5s						
WVOR	**Wild Horse Val**	**6.10**	**95**	*e*P	**Pn**	**19 57 28.0**	**-1.0**
	4.8nm,0.6s						
ETW	**Entiat**	**6.31**	**44**	*e*P	**Pn**	**19 57 32.6**	**+0.8**
	15nm,0.6s						
LNOR	**Lincton Mounta**	**6.65**	**64**	*e*P	**Pn**	**19 57 36.0**	**-0.5**
	12nm,0.7s						
BMO	**Blue Mountains**	**7.06**	**74**	*e*P	**Pn**	**19 57 41.4**	**-0.7**
	9.5nm,0.7s						
OD2	**Odessa Site #2**	**7.06**	**52**	*e*P	**Pn**	**19 57 41.8**	**-0.3**
	12nm,0.6s						
CMB	**Columbia Colle**	**7.19**	**135**	P	**Pn**	**19 57 46.1**	**+2.3**
	10nm,1.1s						
NVAR	**Mina Array Bea**	**8.09**	**124**	Pn	**Pn**	**19 57 57.1**	**+0.8**
	0.1nm,0.3s,baz=300,slow=13,SNR=5.7						
NVAR	**Mina Array Bea**	**8.09**	**124**	Pn	**Pn**	**19 57 57.1**	**+0.8**
NEW	**Newport**	**8.43**	**50**	*e*P	**Pn**	**19 57 58.9**	**-2.0**
	9.2nm,0.7s						
BBB	**Bella Bella**	**8.95**	**355**	Pn	**Pn**	**19 58 08.2**	**+0.3**
	1.4nm,0.3s,baz=253,slow=10,SNR=8.8						
BBB	**Bella Bella**	**8.95**	**355**	Pn	**Pn**	**19 58 08.2**	**+0.3**
HLID	**Hailey**	**9.06**	**84**	*e*P	**Pn**	**19 58 09.5**	**-0.1**
	4.3nm,0.7s						
BSMT	**Bassoo Peak**	**9.62**	**57**	*e*P	**Pn**	**19 58 18.1**	**+1.0**
	6.1nm,0.7s						
MSO	**Missoula**	**9.81**	**64**	*e*P	**Pn**	**19 58 19.1**	**-0.6**
	3.8nm,0.6s						
YBMT	**Yellow Bay**	**10.10**	**59**	*e*P	**Pn**	**19 58 25.2**	**+1.4**
	5.2nm,0.7s						
MCMT	**McKenzie Canyo**	**10.21**	**76**	*e*P	**Pn**	**19 58 26.9**	**+1.7**
	4.1nm,0.8s						
CHMT	**Chamberlain Mo**	**10.28**	**65**	*e*P	**Pn**	**19 58 26.5**	**+0.3**
	4.4nm,0.8s						
DLMT	**Dillon**	**10.43**	**74**	*e*P	**Pn**	**19 58 29.1**	**+0.8**
	8.0nm,0.7s						
LRM	**Limekiln Ridge**	**10.59**	**71**	*e*P	**Pn**	**19 58 30.7**	**+0.2**
	45nm,0.6s						
WALA	**Waterton Lakes**	**10.67**	**53**	*e*P	**Pn**	**19 58 32.8**	**+1.2**
	0.3nm,0.9s						
BOZ	**Bozeman (W)**	**11.14**	**72**	*e*P	**Pn**	**19 58 38.9**	**+0.9**
	2.5nm,0.3s						
RRI2	**Red Ridge**	**11.33**	**84**	*e*P	**Pn**	**19 58 42.7**	**+2.2**
	8.8nm,0.8s						
IMW	**Indian Meadow**	**11.57**	**81**	P	**Pn**	**19 58 43.5**	**-0.3**
TPAW	**Teton Pass**	**11.58**	**84**	*e*P	**Pn**	**19 58 46.7**	**+2.6**
	10nm,0.9s						
REDW	**Red Top Meadow**	**11.66**	**84**	*e*P	**Pn**	**19 58 47.4**	**+2.2**
MOOW	**Moose Ponds**	**11.71**	**82**	*e*P	**Pn**	**19 58 48.2**	**+2.3**
LOHW	**Long Hollow**	**11.82**	**83**	*e*P	**Pn**	**19 58 49.4**	**+2.1**
PD01	**Pinedale Array**	**12.66**	**86**	*e*P	**Pn**	**19 58 60.0**	**+1.2**
PDAR	**Pinedale Array**	**12.68**	**86**	Pn	**Pn**	**19 58 59.1**	**+0.1**
	0.0nm,0.3s,baz=280,slow=11,SNR=14						
PDAR	**Pinedale Array**	**12.68**	**86**	Pn	**Pn**	**19 58 59.1**	**+0.1**
DLBC	**Dease Lake**	**15.30**	**354**	Pn	**Pn**	**19 59 41.9**	**+7.2**
	1.1nm,0.3s,baz=182,slow=13,SNR=15						
DLBC	**Dease Lake**	**15.30**	**354**	Pn	**Pn**	**19 59 41.9**	**+7.2**
SDCO	**Great Sand Dun**	**17.14**	**102**	*e*P	**Pn**	**19 59 59.1**	**+0.8**
	4.5nm,0.9s						
ANMO	**Albuquerque**	**17.85**	**111**	P	**Pn**	**20 00 07.6**	**+0.4**
	0.1nm,0.3s,baz=330,slow=12,SNR=4.2						
ANMO	**Albuquerque**	**17.85**	**111**	P	**Pn**	**20 00 07.6**	**+0.4**
YKA	**Yellowknife Ar**	**20.55**	**16**	P	**P**	**20 00 37.4**	**+0.3**
	5.1nm,0.6s,baz=201,slow=10,SNR=7.7						
YKA	**Yellowknife Ar**	**20.55**	**16**	P	**P**	**20 00 37.4**	**+0.3**
ULM	**Lac du Bonnet**	**22.23**	**61**	P	**P**	**20 00 53.4**	**-1.9**
	3.3nm,0.5s,mb4.0,baz=273,slow=9.3,SNR=4.4						
ULM	**Lac du Bonnet**	**22.23**	**61**	P	**P**	**20 00 53.4**	**-1.9**
TXAR	**Lajitas Array**	**23.20**	**119**	P	**P**	**20 01 06.0**	**+0.2**
	1.3nm,1.1s,mb3.3,baz=316,slow=8.8,SNR=9.2						
TXAR	**Lajitas Array**	**23.20**	**119**	P	**P**	**20 01 06.0**	**+0.1**
ILAR	**Eielson Array**	**24.32**	**339**	P	**P**	**20 01 16.8**	**+0.6**
	2.9nm,1.0s,mb3.7,baz=154,slow=8.6,SNR=26						
ILAR	**Eielson Array**	**24.32**	**339**	P	**P**	**20 01 16.8**	**+0.6**
BPAW	**Bear Paw Mtn.**	**24.98**	**335**	*e*P	**P**	**20 01 22.3**	**+0.1**
	4.8nm,0.7s,mb4.1						
INK	**Inuvik**	**25.33**	**354**	P	**P**	**20 01 25.2**	**-0.1**
	1.6nm,0.7s,mb3.7,baz=152,slow=9.9,SNR=4.9						
INK	**Inuvik**	**25.33**	**354**	P	**P**	**20 01 25.2**	**-0.1**
JFWS	**Jewell Farm**	**26.60**	**78**	P	**P**	**20 01 35.8**	**-1.3**
	26nm,0.9s,mb4.8						
FINES	**FINESS Array B**	**73.35**	**13**	P	**P**	**20 07 28.8**	**-1.4**
	1.8nm,0.9s,mb4.0,baz=354,slow=11,SNR=2.7						
FINES	**FINESS Array B**	**73.35**	**13**	P	**P**	**20 07 28.8**	**-1.4**

*IDC **03** 19:57:45.5±1.1, 1.°04N×97.°11E, h0km, mb4.0/8, mb1 4.1/10, mb1mx3.9/25, mbtmp4.0/10, ML3.8/2, MS4.0/2, Ms1 4.0/2, ms1mx3.2/41, Error ellipse: s-maj=35.5km s-min=17.4km az=60.0*
*NEIC **03** 19:57:47.1±0.5, 1.°03N×97.°17E, h10km, mb4.6/7, Error ellipse: s-maj=13.8km s-min=8.1km az=49.0*
NEIC Felt [III] at Gunungsitoli.
*ISCJB **03** 19:57:53.4±1.2, 1.°35N±0.°06×97.°36E±0.°09, h64km±11km, mb4.2/16, Error ellipse: s-maj=16.4km s-min=6.9km az=148.4*
*DJA **03** 19:57:54, 1.°53N×97.°44E, h27km, MLv4.2/5*
ISC 03 19:57:54.8±1.3, 1.°35N±0.°07×97.°38E±0.°09, h57km±11km, n52, σ1§16/53, mb4.2/16, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**1.91**	**354**	P	**Pn**	**19 58 22.5**	**-2.4**
TPTI				S	**Sn**	**19 58 45.5**	**-2.3**
PSI	**Prapat**	**2.11**	**47**	Pn	**Pn**	**19 58 27.3**	**-0.4**
	4.4nm,0.3s,baz=252,slow=6.4,SNR=30						
PSI				Lg		19 59 08.6	
	9.8nm,0.3s,baz=41,slow=20,SNR=4.3						
PSI				LR	LR	19 59 35.9	
	comp=Z,1μm,20.4s,baz=160,slow=45						
PSI	**Prapat**	**2.11**	**47**	Pn	**Pn**	**19 58 27.3**	**-0.4**
PSI				Lg		19 59 08.6	
PSI				LR	LR	19 59 35.9	
MNSI	**Mandailing Nat**	**2.27**	**104**	P	**Pn**	**19 58 29.7**	**-0.1**
MNSI				S	**Sn**	**19 58 57.9**	**+1.3**
TSI	**Tuntungan**	**2.44**	**29**	P	**Pn**	**19 58 34.2**	**+2.0**
TSI				S	**Sn**	**19 58 59.8**	**-1.1**
SISI	**Saibi**	**3.16**	**147**	P	**Pn**	**19 58 43.2**	**+1.1**
BKNI	**Bangkinang**	**3.80**	**106**	P	**Pn**	**19 58 46.2**	**-4.6**
PDSI	**Padang**	**3.81**	**126**	P	**Pn**	**19 58 57.6**	**+6.6**
PDSI				S	**Sn**	**19 59 41.6**	**+7.0**
IPM	**Ipoh**	**4.78**	**49**	*e*P	**Pn**	**19 59 05.3**	**+1.0**
	32nm,0.6s						
CMAR	**Chiang Mai Arr**	**17.07**	**5**	Pn	**Pn**	**20 01 48.9**	**-0.8**
	0.3nm,0.3s,baz=195,slow=12,SNR=14						
CMAR	**Chiang Mai Arr**	**17.07**	**5**	Pn	**Pn**	**20 01 48.9**	**-0.8**
ODAN	**Odare**	**27.12**	**340**	*e*P	**P**	**20 03 33.6**	**+1.1**
	11nm,0.8s,mb4.5						
ODAN	**Odare**	**27.12**	**340**	*e*P	**P**	**20 03 33.6**	**+1.1**
	11nm,0.8s,mb4.5						
TAPN	**Taplejung**	**27.46**	**341**	*e*P	**P**	**20 03 36.9**	**+1.3**
	15nm,0.8s,mb4.6						
TAPN	**Taplejung**	**27.46**	**341**	*e*P	**P**	**20 03 36.9**	**+1.3**
	15nm,0.8s,mb4.6						
PKI	**Pulchoki**	**28.48**	**337**	*e*P	**P**	**20 03 45.4**	**+0.7**
PKI	**Pulchoki**	**28.48**	**337**	*e*P	**P**	**20 03 46.3**	**+1.6**
	4.0nm,0.7s,mb4.2						
PKIN	**Phulchoki**	**28.49**	**337**	*e*P	**P**	**20 03 46.3**	**+1.5**
	4.0nm,0.7s,mb4.2						
GUN	**Gumba**	**28.61**	**338**	*e*P	**P**	**20 03 45.4**	**-0.5**
GUN	**Gumba**	**28.61**	**338**	*e*P	**P**	**20 03 45.4**	**-0.5**
DMN	**Daman**	**28.64**	**337**	*e*P	**P**	**20 03 47.1**	**+1.0**
DMN	**Daman**	**28.64**	**337**	*e*P	**P**	**20 03 47.1**	**+1.0**
KKN	**Kakani**	**28.73**	**337**	*e*P	**P**	**20 03 47.8**	**+0.9**
	7.4nm,0.9s,mb4.4						
KKN	**Kakani**	**28.73**	**337**	*e*P	**P**	**20 03 47.8**	**+0.9**
	7.4nm,0.9s,mb4.4						
GKN	**Gorkha**	**29.17**	**336**	*e*P	**P**	**20 03 51.2**	**+0.4**
	11nm,0.8s,mb4.6						
GKN	**Gorkha**	**29.17**	**336**	*e*P	**P**	**20 03 51.2**	**+0.4**
	11nm,0.8s,mb4.6						
KOLN	**Koldanda**	**29.40**	**335**	*e*P	**P**	**20 03 53.5**	**+0.6**
	8.0nm,0.6s,mb4.6						
KOLN	**Koldanda**	**29.40**	**335**	*e*P	**P**	**20 03 53.5**	**+0.6**
	8.0nm,0.6s,mb4.6						
DANN	**Dangsing**	**29.84**	**335**	*e*P	**P**	**20 03 56.3**	**-0.4**
DANN	**Dangsing**	**29.84**	**335**	*e*P	**P**	**20 03 56.3**	**-0.4**
NWAO	**Narrogin (SRO)**	**38.91**	**153**	LR	LR	20 18 20.5	
	comp=Z,684nm,19.9s,baz=171,slow=32						
WRA	**Warramunga Arr**	**41.96**	**122**	P	**P**	**20 05 38.8**	**-1.7**
	0.8nm,0.6s,mb3.5,baz=301,slow=9.1,SNR=15						
WRA	**Warramunga Arr**	**41.96**	**122**	P	**P**	**20 05 38.8**	**-1.7**
WRAB	**Tennant Creek**	**41.97**	**122**	*e*P	**P**	**20 05 39.0**	**-1.5**
ASAR	**Alice Springs**	**43.34**	**127**	P	**P**	**20 05 50.0**	**-1.6**
	0.5nm,0.8s,mb3.3,baz=303,slow=7.5,SNR=5.2						
ASAR	**Alice Springs**	**43.34**	**127**	P	**P**	**20 05 50.0**	**-1.6**
KSRS	**Korea Array**	**45.62**	**34**	P	**P**	**20 06 10.3**	**+0.8**
	4.2nm,0.8s,mb4.4,baz=216,slow=9.0,SNR=8.8						
SONM	**Songino Array**	**46.95**	**8**	P	**P**	**20 06 20.8**	**+1.0**
	2.9nm,0.8s,mb4.3,baz=190,slow=8.5,SNR=16						
SONM				PcP	PcP	20 07 52.2	+0.6
	0.5nm,0.7s,baz=156,slow=3.9,SNR=3.6						
SONM	**Songino Array**	**46.95**	**8**	P	**P**	**20 06 20.8**	**+1.0**
SONM				PcP	PcP	20 07 52.2	+0.6
MK31	**Makanchi Array**	**47.14**	**346**	*e*P	**P**	**20 06 21.5**	**+0.2**
MKAR	**Makanchi Array**	**47.14**	**346**	P	**P**	**20 06 21.9**	**+0.6**
	1.4nm,0.6s,mb4.1,baz=160,slow=8.2,SNR=17						
MKAR	**Makanchi Array**	**47.14**	**346**	P	**P**	**20 06 21.9**	**+0.6**
KURK	**Kurchatov**	**51.69**	**345**	*e*P	**P**	**20 06 55.9**	**-0.1**
STKA	**Stephens Creek**	**53.32**	**132**	P	**P**	**20 07 06.8**	**-1.6**
	2.1nm,0.8s,mb4.1,baz=324,slow=14,SNR=2.8						
STKA	**Stephens Creek**	**53.32**	**132**	P	**P**	**20 07 06.8**	**-1.6**
ZALV	**Zalesovo Beam**	**53.44**	**351**

GERES	**GERESS Array B**	**71.78**	**42**	P		**P**	**20 26 08.8**	**-0.5**
	0.5nm,0.8s,mb3.5,baz=261,slow=5.9,SNR=4.9							
ILAR	**Eielson Array**	**79.29**	**334**	P		**P**	**20 26 52.2**	**+0.2**
	0.4nm,0.6s,mb3.5,baz=89,slow=4.7,SNR=7.2							

IDC ***03*** *20:20:16.8±1.1, 1.°00N×97.°20E, h0km, mb4.1/11, mb1 4.2/13, mb1mx4.0/27, mbtmp4.1/13, ML3.7/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/45, Error ellipse: s-maj=34.4km s-min=17.1km az=56.0*

NEIC ***03*** *20:20:18.4±0.5, 1.°03N×97.°21E, h10km, mb3.8/4, Error ellipse: s-maj=10.9km s-min=7.7km az=64.0*

ISCJB ***03*** *20:20:23.3±2.3, 1.°2N±0.°1×97.°4E±0.°2, h56km±17km, mb4.3/19, Error ellipse: s-maj=30.5km s-min=9.2km az=143.7*

DJA ***03*** *20:20:28, 1.°62N×97.°61E, h27km, MLv4.1/6*

ISC 03 20:20:25.2±2.7**, 1.°2N**±0.°1×**97.°5E**±0.°2**, h55**km±21km**, n48,** σ0**:80/48, mb4.3/19, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPTI		**2.08**	**352**	P	**Pn**	**20 20 54.1**	**-3.7**
TPTI				S	**Sn**	**20 21 17.4**	**-5.2**
MNSI	**Mandailing Nat**	**2.13**	**100**	P	**Pn**	**20 20 58.8**	**+0.3**
PSI	**Prapat**	**2.16**	**42**	Pn	**Pn**	**20 20 58.5**	**-0.4**
	2.4nm,0.3s,baz=201,slow=6.0,SNR=41						
PSI				LR	LR	20 22 03.1	
	comp=Z,309nm,21.8s,baz=192,slow=44						
PSI	**Prapat**	**2.16**	**42**	Pn	**Pn**	**20 20 58.5**	**-0.4**
PSI				LR	LR	20 22 03.1	
TSI	**Tuntungan**	**2.54**	**25**	P	**Pn**	**20 21 04.4**	**+0.3**
SISI	**Saibi**	**2.97**	**147**	P	Px	20 21 19.7	
PDSI	**Padang**	**3.64**	**125**	P	**Pn**	**20 21 25.1**	**+6.0**
BKNI	**Bangkinang**	**3.66**	**103**	P	**Pn**	**20 21 23.6**	**+4.2**
IPM	**Ipoh**	**4.82**	**47**	*e*P	**Pn**	**20 21 36.3**	**+1.0**
	44nm,0.7s						
KULM	**Kulim**	**5.16**	**38**	*e*P	**Pn**	**20 21 39.8**	**-0.2**
CM31	**Chiang Mai Arr**	**17.23**	**5**	P	**Pn**	**20 24 22.1**	**0.0**
	1.5nm,0.4s						
CMAR	**Chiang Mai Arr**	**17.23**	**5**	P	**Pn**	**20 24 20.4**	**-1.6**
	0.4nm,0.3s,baz=195,slow=12,SNR=24						
CMAR	**Chiang Mai Arr**	**17.23**	**5**	P	**Pn**	**20 24 20.4**	**-1.6**
CHTO	**Chiang Mai**	**17.58**	**5**	*e*P	**Pn**	**20 24 24.1**	**-2.4**
	2.8nm,0.6s						
ODAN	**Odare**	**27.31**	**340**	*e*Pn	**P**	**20 26 05.4**	**+0.6**
	9.4nm,0.7s,mb4.4						
TAPN	**Taplejung**	**27.65**	**341**	*e*Pn	**P**	**20 26 08.8**	**+0.9**
	27nm,0.8s,mb4.9						
PKIN	**Phulchoki**	**28.68**	**337**	*e*Pn	**P**	**20 26 18.2**	**+1.1**
GUN	**Gumba**	**28.80**	**338**	*e*Pn	**P**	**20 26 18.7**	**+0.6**
	16nm,0.8s,mb4.8						
DMN	**Daman**	**28.83**	**337**	*e*Pn	**P**	**20 26 18.9**	**+0.5**
KKN	**Kakani**	**28.92**	**337**	*e*Pn	**P**	**20 26 19.5**	**+0.3**
	8.8nm,0.9s,mb4.5						
LSA	**Lhasa**	**28.99**	**349**	*e*P	**P**	**20 26 20.8**	**+1.0**
	2.5nm,0.6s,mb4.1						
GKN	**Gorkha**	**29.36**	**336**	*e*Pn	**P**	**20 26 23.4**	**+0.3**
	14nm,1.0s,mb4.7						
KOLN	**Koldanda**	**29.59**	**335**	*e*Pn	**P**	**20 26 25.6**	**+0.5**
	10nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**41.79**	**122**	P	**P**	**20 28 08.8**	**-0.8**
	1.0nm,0.8s,mb3.5,baz=299,slow=9.0,SNR=7.5						
WRA	**Warramunga Arr**	**41.79**	**122**	P	**P**	**20 28 08.8**	**-0.8**
WRAB	**Tennant Creek**	**41.79**	**122**	*e*P	**P**	**20 28 09.4**	**-0.3**
ASAR	**Alice Springs**	**43.16**	**127**	P	**P**	**20 28 20.2**	**-0.5**
	0.8nm,0.8s,mb3.5,baz=303,slow=7.8,SNR=5.0						
ASAR	**Alice Springs**	**43.16**	**127**	P	**P**	**20 28 20.2**	**-0.5**
KSRS	**Korea Array**	**45.70**	**34**	P	**P**	**20 28 41.5**	**+0.7**
	5.4nm,0.8s,mb4.5,baz=224,slow=9.7,SNR=11						
SONM	**Songino Array**	**47.10**	**8**	P	**P**	**20 28 52.4**	**+0.7**
	3.1nm,0.6s,mb4.5,baz=191,slow=9.7,SNR=24						
SONM				PcP	PcP	20 30 22.7	0.0
	1.2nm,0.7s,baz=196,slow=3.4,SNR=5.4						
SONM	**Songino Array**	**47.10**	**8**	P	**P**	**20 28 52.4**	**+0.7**
SONM				PcP	PcP	20 30 22.7	0.0
MK31	**Makanchi Array**	**47.32**	**346**	*e*P	**P**	**20 28 53.3**	**0.0**
MKAR	**Makanchi Array**	**47.32**	**346**	P	**P**	**20 28 53.6**	**+0.2**
	1.8nm,0.5s,mb4.3,baz=160,slow=8.5,SNR=38						
MKAR	**Makanchi Array**	**47.32**	**346**	P	**P**	**20 28 53.6**	**+0.2**
KURK	**Kurchatov**	**51.88**	**345**	P	**P**	**20 29 27.5**	**-0.5**
	2.5nm,0.8s,mb4.2,baz=166,slow=7.1,SNR=26						
KURK	**Kurchatov**	**51.88**	**345**	P	**P**	**20 29 27.5**	**-0.5**
STKA	**Stephens Creek**	**53.14**	**132**	P	**P**	**20 29 38.1**	**+0.5**
	1.9nm,0.8s,mb4.1,baz=109,slow=2.6,SNR=3.2						
STKA	**Stephens Creek**	**53.14**	**132**	P	**P**	**20 29 38.1**	**+0.5**
ZAA0	**Zalesovo Array**	**53.62**	**351**	*e*P	**P**	**20 29 40.5**	**-0.3**
ZALV	**Zalesovo Beam**	**53.62**	**351**	P	**P**	**20 29 40.6**	**-0.1**
	6.1nm,0.7s,mb4.6,baz=179,slow=6.0,SNR=30						
ZALV	**Zalesovo Beam**	**53.62**	**351**	P	**P**	**20 29 40.6**	**-0.1**
BVAR	**Borovoye Array**	**56.36**	**341**	P	**P**	**20 29 59.8**	**-0.8**
	1.2nm,0.6s,mb4.1,baz=157,slow=8.0,SNR=8.6						
BVAR	**Borovoye Array**	**56.36**	**341**	P	**P**	**20 29 59.8**	**-0.8**
ABKAR	**Akbulak array**	**57.66**	**332**	*e*P	**P**	**20 30 08.5**	**-1.3**
	1.4nm,0.8s,mb4.0						
FINES	**FINESS Array B**	**80.14**	**332**	P	**P**	**20 32 28.0**	**-1.2**
	1.6nm,0.8s,mb4.0,baz=130,slow=7.7,SNR=4.1						
FINES	**FINESS Array B**	**80.14**	**332**	P	**P**	**20 32 28.0**	**-1.2**
GERES	**GERESS Array B**	**85.01**	**319**	P	**P**	**20 32 54.9**	**+0.1**
	0.2nm,0.4s,mb3.6,baz=123,slow=4.9,SNR=3.6						
GERES	**GERESS Array B**	**85.01**	**319**	P	**P**	**20 32 54.9**	**+0.1**

CNRM ***03*** *20:21:25.5, 35.°56N×11.°27W, h30km, MD3.3*

SFS ***03*** *20:21:35.0, 35.°86N×9.°88W, h0km, ML3.1*

MDD ***03*** *20:21:35.9±1.4, 35.°81N×9.°95W, h10km±20km, mbLg3.4/26, Error ellipse: s-maj=24.6km s-min=8.4km az=52.0, PRIMO*

NEIC ***03*** *20:21:35.8, 35.°87N×9.°89W, h0km, MN3.1(MDD), After MDD.*

ISCJB ***03*** *20:21:36.5±0.6, 35.°96N±0.°03×9.°62W±0.°04, h10km, Error ellipse: s-maj=5.0km s-min=3.3km az=137.6*

INMG ***03*** *20:21:37.3±1.2, 35.°72N×10.°08W, h31km, ML3.0, Error ellipse: s-maj=3.4km s-min=2.2km az=64.0*

IGIL ***03*** *20:21:37.1, 35.°75N×10.°03W, h23km, ML3.2*

LDG ***03*** *20:21:37.4±0.2, 35.°76N×10.°06W, h30km, Ml3.8/1, Error ellipse: s-maj=4.3km s-min=2.9km az=36.0*

CSEM ***03*** *20:21:37.9±0.3, 35.°98N×9.°72W, h10km, ML4.0/22, Error ellipse: s-maj=5.8km s-min=3.6km az=47.0*

ISC 03 20:21:38.2±0.6**, 35.°97N**±0.°03×**9.°67W**±0.°03**, h10**km**, n181,** σ1§**17**/338**, 10C-1D, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.34**	**30**	⇑P	**Pn**	**20 22 03.8**	**+0.8**
PFVI				S	**Sb**	**20 22 22.4**	**+1.7**
PFVI	**Vila Bisbo**	**1.34**	**30**	⇑P	**Pn**	**20 22 03.8**	**+0.8**
	96nm,0.1s,SNR=18						
PFVI				S	**Sb**	**20 22 22.9**	**+2.1**
	133nm,0.1s,SNR=8.0						
PFVI	**Vila Bisbo**	**1.34**	**30**	P	**Pn**	**20 22 03.8**	**+0.8**
	96nm,0.1s,SNR=18						
PFVI				*e*S	**Sb**	**20 22 23.2**	**+2.5**
	60nm,0.2s						
PFVI	**Vila Bisbo**	**1.34**	**30**	⇑*i*P	**Pn**	**20 22 03.7**	**+0.7**
PFVI				*e*S	**Sb**	**20 22 23.2**	**+2.5**
PFVI				A		20 22 24.8	
	60nm,0.2s						
MORF	**Marmelete**	**1.57**	**31**	⇑*e*Pn	**Pn**	**20 22 06.9**	**+0.9**
MORF				*e*Sn	**Sn**	**20 22 28.3**	**+1.9**
MORF				A		20 22 30.3	
	162nm,0.1s						
PTEO	**Sao Teotonio**	**1.75**	**25**	*e*Pn	**Pn**	**20 22 08.9**	**+0.4**
PTEO				*e*Sn	**Sn**	**20 22 32.6**	**+1.8**
	46nm,0.1s						
PTEO	**Sao Teotonio**	**1.75**	**25**	*e*Pn	**Pn**	**20 22 08.9**	**+0.4**
PTEO				*e*Sn	**Sn**	**20 22 32.6**	**+1.8**
PTEO				A		20 22 36.8	
	46nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.89**	**47**	⇑*e*Pn	**Pn**	**20 22 11.8**	**+1.3**
PBDV				*e*Sn	**Sn**	**20 22 36.8**	**+2.4**
PBDV				A		20 22 41.5	
	45nm,0.2s						
PCVE	**Castro Verde**	**2.11**	**38**	⇑*e*Pn	**Pn**	**20 22 14.7**	**+1.1**
PCVE				*e*Sn	**Sn**	**20 22 42.3**	**+2.4**
PCVE				A		20 22 43.3	
	34nm,0.1s						
PVAQ	**Vaqueiros**	**2.12**	**47**	⇑*e*Pn	**Pn**	**20 22 14.9**	**+1.2**
PVAQ				*e*Sn	**Sn**	**20 22 42.5**	**+2.4**
PVAQ				A		20 22 44.0	
	128nm,0.1s						
MESJ	**Messejana**	**2.20**	**31**	*e*P	**Pn**	**20 22 15.5**	**+0.8**
MESJ				*e*		20 22 16.0	
	baz=245,slow=9.3						
MESJ				*e*S	**Sn**	**20 22 43.4**	**+1.4**
PNCL	**Nicolau / Gran**	**2.33**	**23**	*e*Pn	**Pn**	**20 22 16.6**	**+0.1**
PNCL				*e*Sn	**Sn**	**20 22 46.3**	**+1.2**
	38nm,0.1s						
PNCL	**Nicolau / Gran**	**2.33**	**23**	*e*Pn	**Pn**	**20 22 16.6**	**+0.1**
PNCL				*e*Sn	**Sn**	**20 22 46.3**	**+1.2**
PNCL				A		20 22 49.2	
	38nm,0.1s						
EGRO	**El Granado**	**2.35**	**48**	⇑P	**Pn**	**20 22 17.9**	**+1.1**
EGRO				S	**Sn**	**20 22 48.5**	**+2.8**
EGRO	**El Granado**	**2.35**	**48**	⇑P	**Pn**	**20 22 17.4**	**+0.6**
	11nm,0.1s,SNR=18						
EGRO				S	**Sn**	**20 22 48.2**	**+2.5**
	68nm,0.1s,SNR=22						
EGRO	**El Granado**	**2.35**	**48**	P	**Pn**	**20 22 17.9**	**+1.1**
	11nm,0.1s,SNR=18						
EGRO				S	**Sn**	**20 22 48.2**	**+2.5**
	68nm,0.1s,SNR=22						
PBEJ	**Beja**	**2.51**	**35**	⇑*e*Pn	**Pn**	**20 22 19.6**	**+0.6**
PBEJ				*e*Sn	**Sn**	**20 22 51.4**	**+1.7**
PBEJ				A		20 22 54.1	
	31nm,0.2s						
MOE	**Montemor**	**2.76**	**22**	*e*Pn	**Pn**	**20 22 22.4**	**0.0**
MOE				*e*Sn	**Sn**	**20 22 56.7**	**+0.9**
MOE	**Montemor**	**2.76**	**22**	*e*Pn	**Pn**	**20 22 22.4**	**0.0**
MOE				*e*Sn	**Sn**	**20 22 56.7**	**+0.9**
EVOP	**Sao Brissos**	**2.84**	**25**	*e*Pn	**Pn**	**20 22 23.5**	**0.0**
EVOP				*e*Sn	**Sn**	**20 22 56.5**	**-1.2**
EVOP	**Sao Brissos**	**2.84**	**25**	*e*Pn	**Pn**	**20 22 23.5**	**0.0**
EVOP				*e*Sn	**Sn**	**20 22 56.5**	**-1.2**
	26nm,0.2s						
EVO	**Evora**	**2.88**	**27**	*e*Pn	**Pn**	**20 22 23.5**	**-0.6**
EVO				*e*Sn	**Sn**	**20 22 56.5**	**-2.3**
	52nm,0.2s						
EVO	**Evora**	**2.88**	**27**	*e*Pn	**Pn**	**20 22 24.2**	**+0.1**
EVO				*e*Sn	**Sn**	**20 22 59.7**	**+0.9**
	54nm,0.2s						
EVO	**Evora**	**2.88**	**27**	*e*Pn	**Pn**	**20 22 24.2**	**+0.1**
EVO				*e*Sn	**Sn**	**20 22 59.7**	**+0.9**
EVO				A		20 23 02.5	
	54nm,0.2s						
PMAFR	**Mafra**	**3.00**	**6**	P	**Pn**	**20 22 24.7**	**-1.0**
	22nm,0.1s,SNR=53						
PMAFR				S	**Sn**	**20 23 00.4**	**-1.3**
	166nm,0.2s,SNR=14						
PMAFR	**Mafra**	**3.00**	**6**	*e*Pn	**Pn**	**20 22 24.8**	**-0.9**
PMAFR				*e*Sn	**Sn**	**20 23 01.0**	**-0.7**
	160nm,0.4s						
PMAFR	**Mafra**	**3.00**	**6**	*e*Pn	**Pn**	**20 22 24.8**	**-0.9**
PMAFR				*e*Sn	**Sn**	**20 23 01.0**	**-0.7**
PMAFR				A		20 23 03.8	
	160nm,0.4s						
EMIN	**Mina Concepcio**	**3.00**	**52**	P	**Pn**	**20 22 26.4**	**+0.7**
EMIN				S	**Sn**	**20 23 03.4**	**+1.7**
EMIN	**Mina Concepcio**	**3.00**	**52**	P	**Pn**	**20 22 26.4**	**+0.7**
	3.9nm,0.1s,SNR=133						
EMIN				S	**Sn**	**20 23 03.3**	**+1.5**
	23nm,0.1s,SNR=12						
EMIN	**Mina Concepcio**	**3.00**	**52**	P	**Pn**	**20 22 26.4**	**+0.7**
	3.9nm,0.1s,SNR=133						
EMIN				S	**Sn**	**20 23 03.3**	**+1.6**
	23nm,0.1s,SNR=12						
PBAR	**Barrancos**	**3.04**	**43**	*e*Pn	**Pn**	**20 22 27.0**	**+0.6**
PBAR				*e*Sn	**Sn**	**20 23 04.6**	**+1.7**
	39nm,0.3s						
PBAR	**Barrancos**	**3.04**	**43**	*e*Pn	**Pn**	**20 22 27.0**	**+0.6**
PBAR				*e*Sn	**Sn**	**20 23 04.6**	**+1.7**
PBAR				A		20 23 09.3	
	39nm,0.3s						
ESPR	**Espera**	**3.20**	**73**	P	**Pn**	**20 22 28.8**	**+0.2**
ESPR				S	**Sn**	**20 23 06.9**	**+0.2**
ESPR	**Espera**	**3.20**	**73**	P	**Pn**	**20 22 28.7**	**+0.2**
	4.4nm,0.1s,SNR=44						
ESPR				S	**Sn**	**20 23 07.5**	**+0.7**
	124nm,0.2s,SNR=8.2						
ESPR	**Espera**	**3.20**	**73**	P	**Pn**	**20 22 28.8**	**+0.3**
ESPR				S	**Sn**	**20 23 07.5**	**+0.7**
	124nm,0.2s,SNR=8.2						
ALMR	**Almeirim**	**3.30**	**15**	*e*P	**Pn**	**20 22 30.1**	**+0.2**
ALMR				*e*S	**Sn**	**20 23 08.9**	**-0.2**
ALMR				*e*S	**Sn**	**20 23 08.9**	**-0.2**
ALMR				AML	AML	20 23 09.8	
	comp=N,46nm,0.3s						
PMTG	**Montargil**	**3.30**	**20**	*e*Pn	**Pn**	**20 22 29.8**	**-0.1**
PMTG				*e*Sn	**Sn**	**20 23 09.4**	**+0.2**
	comp=N,23nm,0.1s						
PMTG	**Montargil**	**3.30**	**20**	*e*Pn	**Pn**	**20 22 29.8**	**-0.1**
PMTG				*e*Sn	**Sn**	**20 23 09.4**	**+0.2**
PMTG				A		20 23 12.4	
	comp=N,23nm,0.1s						
PESTR	**Estremoz**	**3.33**	**29**	*e*Pn	**Pn**	**20 22 30.3**	**0.0**
PESTR				*e*Sn	**Sn**	**20 23 10.8**	**+0.8**
	comp=N,9.0nm,0.3s						
PESTR	**Estremoz**	**3.33**	**29**	*e*Pn	**Pn**	**20 22 30.3**	**0.0**
PESTR				*e*Sn	**Sn**	**20 23 10.8**	**+0.8**
PESTR				A		20 23 13.8	
	comp=N,9.0nm,0.3s						
EJIF	**Jimena Fronter**	**3.43**	**81**	P	**Pn**	**20 22 31.9**	**+0.2**
EJIF				S	**Sn**	**20 23 13.5**	**+1.2**
EJIF	**Jimena Fronter**	**3.43**	**81**	P	**Pn**	**20 22 31.9**	**+0.2**
	comp=N,4.0nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**20 23 12.4**	**+0.1**
	comp=N,7.2nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**3.43**	**81**	P	**Pn**	**20 22 31.9**	**+0.2**
	comp=N,4.0nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**20 23 13.5**	**+1.1**
	comp=N,7.2nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.50**	**36**	P	**Pn**	**20 22 32.9**	**+0.4**
EBAD				S	**Sn**	**20 23 15.8**	**+1.8**
EBAD	**Badajoz**	**3.50**	**36**	P	**Pn**	**20 22 32.9**	**+0.4**
	comp=N,9.2nm,0.1s,SNR=79						
EBAD				S	**Sn**	**20 23 15.1**	**+1.2**
	comp=N,10nm,0.0s,SNR=8.2						
EBAD	**Badajoz**	**3.50**	**36**	P	**Pn**	**20 22 32.9**	**+0.4**
	comp=N,9.2nm,0.1s,SNR=79						
EBAD				S	**Sn**	**20 23 15.1**	**+1.2**
	comp=N,10nm,0.0s,SNR=8.2						
LIJA	**Lijar**	**3.56**	**74**	P	**Pn**	**20 22 34.6**	**+1.1**
LIJA				S	**Sn**	**20 23 13.0**	**-2.7**
LIJA	**Lijar**	**3.56**	**74**	*i*P	**Pn**	**20 22 34.6**	**+1.1**
LIJA				*e*S	**Sn**	**20 23 13.0**	**-2.7**
PTOM	**Tomar**	**3.78**	**15**	*e*Pn	**Pn**	**20 22 36.2**	**-0.2**
PTOM				*e*Sn	**Sn**	**20 23 20.3**	**-0.6**
	comp=N,19nm,0.2s						
PTOM	**Tomar**	**3.78**	**15**	*e*Pn	**Pn**	**20 22 36.2**	**-0.2**
PTOM				*e*Sn	**Sn**	**20 23 20.3**	**-0.6**
PTOM				A		20 23 23.3	
	comp=N,19nm,0.2s						
PMRV	**Marv??o**	**3.90**	**27**	*e*Pn	**Pn**	**20 22 38.2**	**+0.1**
PMRV				*e*Sn	**Sn**	**20 23 23.9**	**0.0**
	comp=N,15nm,0.3s						
PMRV	**Marv??o**	**3.90**	**27**	*e*Pn	**Pn**	**20 22 38.2**	**+0.1**
PMRV				*e*Sn	**Sn**	**20 23 23.9**	**0.0**
PMRV				A		20 23 28.1	
	comp=N,15nm,0.3s						
EMIJ	**Mijas**	**4.00**	**80**	P	**Pn**	**20 22 38.6**	**-0.9**
EMIJ				S	**Sn**	**20 23 27.6**	**+1.2**
EMIJ	**Mijas**	**4.00**	**80**	P	**Pn**	**20 22 38.6**	**-0.9**
	comp=N,1.2nm,0.1s,SNR=11						
EMIJ				S	**Sn**	**20 23 26.2**	**-0.2**
	comp=N,9.7nm,0.2s,SNR=9.1						
EMIJ	**Mijas**	**4.00**	**80**	P	**Pn**	**20 22 38.6**	**-0.9**
	comp=N,1.2nm,0.1s,SNR=11						
EMIJ				S	**Sn**	**20 23 27.6**	**+1.2**
PCBR	**Castelo Branco**	**4.24**	**23**	*e*Pn	**Pn**	**20 22 42.8**	**+0.1**
PCBR				*e*Sn	**Sn**	**20 23 31.6**	**-0.6**
	comp=N,9.4nm,0.3s						
PCBR	**Castelo Branco**	**4.24**	**23**	*e*Pn	**Pn**	**20 22 42.8**	**+0.1**
PCBR				*e*Sn	**Sn**	**20 23 31.6**	**-0.6**
PCBR				A		20 23 36.9	
	comp=N,9.4nm,0.3s						
EMAL	**Malaga-Limoner**	**4.30**	**78**	S	**Sn**	**20 23 33.1**	**-0.7**
EMAL	**Malaga-Limoner**	**4.30**	**78**	*e*S	**Sn**	**20 23 33.1**	**-0.8**
CIA	**Chichaoua**	**4.46**	**170**	P	**Pn**	**20 22 32.0**	**-14**
CIA				S	**Sn**	**20 23 19.0**	**-19**
KIB	**El Ksiba**	**4.53**	**137**	P	**Pn**	**20 22 40.5**	**-6.2**
KIB				S	**Sn**	**20 23 38.0**	**-1.4**
ELOJ	**Sierra Loja**	**4.59**	**74**	P	**Pn**	**20 22 48.0**	**+0.4**
ELOJ				S	**Sn**	**20 23 38.7**	**-2.3**
ELOJ	**Sierra Loja**	**4.59**	**74**	P	**Pn**	**20 22 48.0**	**+0.4**
	comp=N,0.5nm,0.2s,SNR=7.9						
ELOJ				S	**Sn**	**20 23 40.4**	**-0.6**
	comp=N,8.7nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**4.59**	**74**	P	**Pn**	**20 22 48.0**	**+0.3**
	comp=N,0.5nm,0.2s,SNR=7.9						
ELOJ				S	**Sn**	**20 23 40.4**	**-0.7**
	comp=N,8.7nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**4.62**	**68**	P	**Pn**	**20 22 48.9**	**+0.9**
ELUQ				S	**Sn**	**20 23 41.4**	**-0.3**
ELUQ	**Luque**	**4.62**	**68**	P	**Pn**	**20 22 48.9**	**+0.9**
	comp=N,13nm,1.2s,SNR=7.9						
ELUQ				S	**Sn**	**20 23 41.4**	**-0.3**
	comp=N,2.3nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**4.62**	**68**	P	**Pn**	**20 22 48.9**	**+0.9**
	SNR=7.9						
ELUQ				S	**Sn**	**20 23 41.4**	**-0.3**
	comp=N,2.3nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**4.62**	**60**	P	**Pn**	**20 22 48.7**	**+0.6**
EADA				S	**Sn**	**20 23 41.8**	**0.0**
EADA	**Adamuz**	**4.62**	**60**	⇓P	**Pn**	**20 22 48.7**	**+0.6**
	comp=N,5.8nm,0.1s,SNR=18						
EADA				S	**Sn**	**20 23 41.8**	**0.0**
	comp=N,27nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.62**	**60**	P	**Pn**	**20 22 48.7**	**+0.6**
	comp=N,5.8nm,0.1s,SNR=18						
EADA				S	**Sn**	**20 23 41.8**	**0.0**
	comp=N,27nm,0.1s,SNR=7.9						
TZC	**Tazercounte**	**4.63**	**144**	P	**Pn**	**20 22 40.5**	**-7.7**
TZC				S	**Sn**	**20 23 38.0**	**-4.1**
MTE	**Manteigas**	**4.73**	**20**	*e*Pn	**Pn**	**20 22 49.3**	**-0.2**
MTE				*e*Sn	**Sn**	**20 23 43.5**	**-0.9**
	comp=N,13nm,0.2s						
MTE	**Manteigas**	**4.73**	**20**	*e*Pn	**Pn**	**20 22 49.3**	**-0.2**
MTE				*e*Sn	**Sn**	**20 23 43.5**	**-0.9**
MTE				A		20 23 46.4	
	comp=N,13nm,0.2s						
ERON	**Agron**	**4.84**	**76**	P	**Pn**	**20 22 52.3**	**+1.2**
ERON				S	**Sn**	**20 23 45.5**	**-1.6**
ERON	**Agron**	**4.84**	**76**	P	**Pn**	**20 22 51.7**	**+0.7**
	comp=N,0.6nm,0.1s,SNR=7.9						
ERON				S	**Sn**	**20 23 46.6**	**-0.5**
	comp=N,2.5nm,0.2s,SNR=7.9						
ERON	**Agron**	**4.84**	**76**	P	**Pn**	**20 22 51.7**	**+0.7**
	comp=N,0.6nm,0.1s,SNR=7.9						
ERON				S	**Sn**	**20 23 45.5**	**-1.6**
	comp=N,2.5nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**4.94**	**16**	*e*Pn	**Pn**	**20 22 51.9**	**-0.5**
PVIS				*e*Sn	**Sn**	**20 23 47.9**	**-1.7**
	comp=N,16nm,0.1s						
PVIS	**Viseu**	**4.94**	**16**	*e*Pn	**Pn**	**20 22 51.9**	**-0.5**
PVIS				*e*Sn	**Sn**	**20 23 47.9**	**-1.7**
PVIS				A		20 23 52.1	
	comp=N,16nm,0.1s						
EPLA	**Plasencia**	**4.97**	**34**	P	**Pn**	**20 22 52.4**	**-0.4**
EPLA				S	**Sn**	**20 23 50.0**	**-0.4**
EPLA	**Plasencia**	**4.97**	**34**	P	**Pn**	**20 22 52.4**	**-0.4**
	comp=N,4.3nm,0.1s,SNR=32						
EPLA				S	**Sn**	**20 23 50.0**	**-0.4**
	comp=N,14nm,0.2s,SNR=8.6						
EPLA	**Plasencia**	**4.97**	**34**	P	**Pn**	**20 22 52.4**	**-0.5**
	comp=N,4.3nm,0.1s,SNR=32						
EPLA				S	**Sn**	**20 23 50.0**	**-0.4**
	comp=N,14nm,0.2s,SNR=8.6						
EGUA	**Guajares**	**5.00**	**78**	P	**Pn**	**20 22 53.4**	**+0.2**
EGUA				S	**Sn**	**20 23 50.8**	**-0.2**
EGUA	**Guajares**	**5.00**	**78**	P	**Pn**	**20 22 53.4**	**+0.2**
	comp=N,2.1nm,0.1s,SNR=7.9						
EGUA				S	**Sn**	**20 23 50.8**	**-0.2**
	comp=N,28nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**5.00**	**78**	P	**Pn**	**20 22 53.4**	**+0.2**
	comp=N,2.1nm,0.1s,SNR=7.9						
EGUA				S	**Sn**	**20 23 50.8**	**-0.2**
	comp=N,28nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**5.08**	**73**	P	**Pn**	**20 22 54.7**	**+0.4**
ECOG				S	**Sn**	**20 23 52.1**	**-0.9**
ECOG	**Cogollos-Vega**	**5.08**	**73**	P	**Pn**	**20 22 55.1**	**+0.8**
	comp=N,1.4nm,0.1s,SNR=7.9						
ECOG				S	**Sn**	**20 23 52.7**	**-0.3**
	comp=N,24nm,0.2s,SNR=8.7						
ECOG	**Cogollos-Vega**	**5.08**	**73**	P	**Pn**	**20 22 54.7**	**+0.4**
ECOG				S	**Sn**	**20 23 52.7**	**-0.3**

PGAV				A		20 24 17.3	
	comp=N,6.4nm,0.3s						
ENIJ	**Nijar**	**6.10**	**78**	P	**Pn**	**20 23 08.4**	**+0.1**
ENIJ				S	**Sn**	**20 24 15.9**	**-2.2**
ENIJ	**Nijar**	**6.10**	**78**	P	**Pn**	**20 23 08.4**	**+0.1**
	comp=N,1.1nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**20 24 15.9**	**-2.2**
	comp=N,1.4nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**6.10**	**78**	P	**Pn**	**20 23 08.4**	**+0.1**
	comp=N,1.1nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**20 24 15.9**	**-2.2**
	comp=N,1.4nm,0.2s,SNR=7.9						
YBT	**Youssef Ben Ta**	**6.11**	**179**	P	**Pn**	**20 22 51.0**	**-17**
YBT				S	Sn	20 23 52.0	-26
EZAM	**Zamans**	**6.22**	**7**	P	**Pn**	**20 23 08.8**	**-1.1**
EZAM				S	**Sn**	**20 24 17.0**	**-4.0**
EZAM	**Zamans**	**6.22**	**7**	P	**Pn**	**20 23 08.8**	**-1.1**
	comp=N,5.5nm,0.1s,SNR=7.9						
EZAM				S	**Sn**	**20 24 17.0**	**-4.0**
	comp=N,6.5nm,0.2s,SNR=7.9						
EZAM	**Zamans**	**6.22**	**7**	P	**Pn**	**20 23 08.8**	**-1.1**
	comp=N,5.5nm,0.1s,SNR=7.9						
EZAM				S	**Sn**	**20 24 17.0**	**-4.0**
	comp=N,6.5nm,0.2s,SNR=7.9						
PBRG	**Braganca**	**6.26**	**21**	*e*Pn	**Pn**	**20 23 09.9**	**-0.6**
PBRG				*e*Sn	**Sn**	**20 24 19.7**	**-2.3**
	comp=N,5.8nm,0.3s						
PBRG	**Braganca**	**6.26**	**21**	*e*Pn	**Pn**	**20 23 09.9**	**-0.6**
PBRG				*e*Sn	**Sn**	**20 24 19.7**	**-2.3**
PBRG				A		20 24 24.1	
	comp=N,5.8nm,0.3s						
EVIA	**Vianos**	**6.30**	**63**	P	**Pn**	**20 23 11.0**	**-0.2**
EVIA				S	**Sn**	**20 24 20.6**	**-2.5**
EVIA	**Vianos**	**6.30**	**63**	P	**Pn**	**20 23 11.0**	**-0.2**
	comp=N,0.9nm,0.1s,SNR=6.7						
EVIA				S	**Sn**	**20 24 20.6**	**-2.5**
	comp=N,2.6nm,0.1s						
EVIA	**Vianos**	**6.30**	**63**	P	**Pn**	**20 23 11.0**	**-0.1**
	comp=N,0.9nm,0.1s,SNR=6.7						
EVIA				S	**Sn**	**20 24 20.6**	**-2.6**
	comp=N,2.6nm,0.1s						
GUD	**Guadarrama**	**6.37**	**41**	P	**Pn**	**20 23 12.5**	**+0.5**
GUD				S	**Sn**	**20 24 23.0**	**-1.8**
GUD	**Guadarrama**	**6.37**	**41**	P	**Pn**	**20 23 12.5**	**+0.5**
	comp=N,3.1nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**20 24 24.9**	**+0.1**
	comp=N,5.1nm,0.4s,SNR=7.9						
GUD	**Guadarrama**	**6.37**	**41**	P	**Pn**	**20 23 12.5**	**+0.5**
	comp=N,3.1nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**20 24 24.9**	**+0.1**
	comp=N,5.1nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**6.39**	**20**	P	**Pn**	**20 23 12.5**	**+0.3**
ECAL				S	**Sn**	**20 24 23.1**	**-2.1**
ECAL	**Calabor**	**6.39**	**20**	P	**Pn**	**20 23 12.1**	**-0.2**
	comp=N,4.2nm,0.2s,SNR=14						
ECAL				S	**Sn**	**20 24 23.1**	**-2.1**
	comp=N,3.8nm,0.2s						
ECAL	**Calabor**	**6.39**	**20**	P	**Pn**	**20 23 12.1**	**-0.2**
	comp=N,4.2nm,0.2s,SNR=14						
ECAL				S	**Sn**	**20 24 23.1**	**-2.1**
	comp=N,3.8nm,0.2s						
ERUA	**La Rua**	**6.71**	**16**	P	**Pn**	**20 23 15.6**	**-1.1**
ERUA	**La Rua**	**6.71**	**16**	P	**Pn**	**20 23 15.6**	**-1.1**
EMAZ	**Mazaricos**	**6.99**	**4**	P	**Pn**	**20 23 18.5**	**-2.1**
EMAZ				S	**Sn**	**20 24 33.5**	**-6.6**
EMAZ	**Mazaricos**	**6.99**	**4**	P	**Pn**	**20 23 18.5**	**-2.1**
	comp=N,5.0nm,0.1s,SNR=15						
EMAZ				S	**Sn**	**20 24 33.5**	**-6.6**
	comp=N,10nm,0.2s,SNR=5.9						
EMAZ	**Mazaricos**	**6.99**	**4**	P	**Pn**	**20 23 18.5**	**-2.1**
	comp=N,5.0nm,0.1s,SNR=15						
ETOB	**Tobarra**	**7.00**	**65**	P	**Pn**	**20 23 20.4**	**-0.3**
ETOB				S	**Sn**	**20 24 38.9**	**-1.5**
ETOB	**Tobarra**	**7.00**	**65**	P	**Pn**	**20 23 20.4**	**-0.3**
	comp=N,0.4nm,0.1s,SNR=14						
ETOB				S	**Sn**	**20 24 38.9**	**-1.5**
	comp=N,6.1nm,0.2s,SNR=7.3						
ETOB	**Tobarra**	**7.00**	**65**	P	**Pn**	**20 23 20.4**	**-0.3**
	comp=N,0.4nm,0.1s,SNR=14						
ETOB				S	**Sn**	**20 24 38.9**	**-1.5**
	comp=N,6.1nm,0.2s,SNR=7.3						
EMUR	**La Murta**	**7.01**	**72**	S	**Sn**	**20 24 39.0**	**-1.5**
	comp=N,7.8nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**7.01**	**72**	S	**Sn**	**20 24 39.0**	**-1.5**
	comp=N,7.8nm,0.3s,SNR=7.9						
EPON	**Pontenova**	**7.60**	**14**	P	**Pn**	**20 23 27.2**	**-1.7**
EPON				S	**Sn**	**20 24 51.3**	**-3.8**
EPON	**Pontenova**	**7.60**	**14**	P	**Pn**	**20 23 28.0**	**-0.9**
	comp=N,0.3nm,0.3s,SNR=7.9						
EPON				S	**Sn**	**20 24 51.3**	**-3.8**
	comp=N,1.7nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**7.60**	**14**	P	**Pn**	**20 23 28.0**	**-0.9**
	comp=N,0.3nm,0.3s,SNR=7.9						
EPON				S	**Sn**	**20 24 51.3**	**-3.8**
	comp=N,1.7nm,0.2s,SNR=7.9						
ETOR	**Torete**	**7.69**	**49**	P	**Pn**	**20 23 29.5**	**-0.7**
ETOR				S	**Sn**	**20 24 55.3**	**-2.1**
ETOR	**Torete**	**7.69**	**49**	P	**Pn**	**20 23 30.3**	**+0.1**
	comp=N,14nm,0.2s,SNR=30						
ETOR				S	**Sn**	**20 24 55.3**	**-2.1**
	comp=N,17nm,0.3s						
ETOR	**Torete**	**7.69**	**49**	P	**Pn**	**20 23 29.5**	**-0.7**
ETOR	**Torete**	**7.69**	**49**	P	**Pn**	**20 23 30.3**	**+0.1**
	comp=N,14nm,0.2s,SNR=30						
ETOR				S	**Sn**	**20 24 55.3**	**-2.0**
	comp=N,17nm,0.3s						
EBEN	**Beniarda**	**8.00**	**67**	S	**Sn**	**20 25 01.1**	**-3.9**
	comp=N,2.4nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**8.09**	**24**	P	**Pn**	**20 23 36.9**	**+1.3**
EARI				S	**Sn**	**20 25 02.9**	**-4.2**
EARI	**Arriondas**	**8.09**	**24**	P	**Pn**	**20 23 36.4**	**+0.8**
	comp=N,0.3nm,0.2s,SNR=7.9						
EARI				S	**Sn**	**20 25 02.9**	**-4.2**
	comp=N,0.1nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**8.09**	**24**	P	**Pn**	**20 23 36.4**	**+0.8**
	comp=N,0.3nm,0.2s,SNR=7.9						
EARI				S	**Sn**	**20 25 02.9**	**-4.2**
EMOS	**Mosqueruela**	**8.47**	**56**	P	**Pn**	**20 23 43.1**	**+2.3**
EMOS				S	**Sn**	**20 25 13.7**	**-2.7**
EMOS	**Mosqueruela**	**8.47**	**56**	P	**Pn**	**20 23 41.8**	**+1.0**
	comp=N,0.2nm,0.1s,SNR=11						
EMOS				S	**Sn**	**20 25 13.7**	**-2.7**
	comp=N,2.4nm,0.1s,SNR=9.1						
EMOS	**Mosqueruela**	**8.47**	**56**	P	**Pn**	**20 23 41.8**	**+1.0**
	comp=N,0.2nm,0.1s,SNR=11						
EMOS				S	**Sn**	**20 25 13.7**	**-2.7**
	comp=N,2.4nm,0.1s,SNR=9.1						
ELAN	**Lanestosa**	**8.70**	**32**	P	**Pn**	**20 23 46.0**	**+1.9**
	comp=N,0.5nm,0.2s,SNR=7.9						
ELAN				S	**Sn**	**20 25 19.5**	**-2.7**
	comp=N,0.4nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**9.29**	**55**	P	**Pn**	**20 23 52.9**	**+0.8**
ERTA				S	**Sn**	**20 25 34.6**	**-2.0**
ERTA	**Horta de San J**	**9.29**	**55**	P	**Pn**	**20 23 52.9**	**+0.8**
	comp=N,0.2nm,0.2s,SNR=7.9						
ERTA				S	**Sn**	**20 25 34.6**	**-2.0**
	comp=N,0.9nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**9.29**	**55**	P	**Pn**	**20 23 52.9**	**+0.8**
	comp=N,0.2nm,0.2s,SNR=7.9						
ERTA				S	**Sn**	**20 25 34.6**	**-2.0**
	comp=N,0.9nm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**9.41**	**41**	P	**Pn**	**20 23 53.8**	**+0.1**
	comp=N,0.8nm,0.2s,SNR=7.9						
IEPA				S	**Sn**	**20 25 36.5**	**-3.0**
	comp=N,5.0nm,0.5s,SNR=7.9						
IEPA	**Eparoz**	**9.41**	**41**	P	**Pn**	**20 23 55.5**	**+1.8**
	SNR=7.9						
IEPA				S	**Sn**	**20 25 37.9**	**-1.6**
	comp=N,5.0nm,0.5s,SNR=7.9						
ELIZ	**Elizondo**	**9.54**	**39**	P	**Pn**	**20 23 56.4**	**+0.8**
ELIZ	**Elizondo**	**9.54**	**39**	P	**Pn**	**20 23 56.4**	**+0.8**
	comp=N,0.8nm,0.2s,SNR=7.9						
ELIZ	**Elizondo**	**9.54**	**39**	P	**Pn**	**20 23 56.4**	**+0.9**
	comp=N,0.8nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**9.59**	**39**	P	**Pn**	**20 23 57.1**	**+0.9**
EALK				S	**Sn**	**20 25 39.4**	**-4.7**
EALK	**Alkurruntz**	**9.59**	**39**	P	**Pn**	**20 23 57.0**	**+0.7**
	comp=N,0.4nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**9.59**	**39**	P	**Pn**	**20 23 57.0**	**+0.8**
	comp=N,0.4nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**9.66**	**40**	*e*Pn	**Pn**	**20 23 57.9**	**+0.7**
SJPF	**Ste Jean**	**9.66**	**40**	*e*Pn	**Pn**	**20 23 57.9**	**+0.7**
SJPF	**Ste Jean**	**9.66**	**40**	P	**Pn**	**20 23 57.9**	**+0.7**
SJPF	**Ste Jean**	**9.66**	**40**	*e*Pn	**Pn**	**20 23 57.9**	**+0.7**
ETSF	**Etsaut**	**9.87**	**43**	*e*Pn	**Pn**	**20 24 00.7**	**+0.6**
ETSF	**Etsaut**	**9.87**	**43**	P	**Pn**	**20 24 00.7**	**+0.6**
ETSF	**Etsaut**	**9.87**	**43**	*e*Pn	**Pn**	**20 24 00.7**	**+0.6**
EPF	**Esparros**	**10.46**	**45**	*e*Pn	**Pn**	**20 24 08.7**	**+0.6**
EPF	**Esparros**	**10.46**	**45**	P	**Pn**	**20 24 08.7**	**+0.6**
EPF	**Esparros**	**10.46**	**45**	*e*Pn	**Pn**	**20 24 08.7**	**+0.6**
CLLI	**Llivia**	**11.12**	**51**	P	**Pn**	**20 24 17.8**	**+0.6**
CLLI				S	**Sn**	**20 26 16.5**	**-5.0**
CLLI	**Llivia**	**11.12**	**51**	P	**Pn**	**20 24 17.8**	**+0.6**
	comp=N,0.1nm,0.2s,SNR=7.9						
CLLI				S	**Sn**	**20 26 16.5**	**-5.0**
	comp=N,0.8nm,0.3s,SNR=7.9						
CLLI	**Llivia**	**11.12**	**51**	P	**Pn**	**20 24 17.8**	**+0.6**
	comp=N,0.1nm,0.2s,SNR=7.9						

MEX 03 20:23:04.6±1.0, 17°.36N×101°.52W, h5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.26**	**12**	*e*P	Pg	20 23 08.6	-1.0
ZIIG				*e*S	Sg	20 23 12.7	-0.3
CAIG	**El Cayaco**	**1.24**	**104**	*e*P	Pg	20 23 23.8	-4.5
CAIG				*i* S	Sg	20 23 39.9	-4.5
MEIG	**Mezcala**	**1.90**	**72**	*i* P	Pn	20 23 35.1	-2.6
MEIG				*i* S	Sn	20 23 57.5	-4.5
MMIG	**Aquila**	**1.97**	**298**	*i* P	Pn	20 23 35.4	-3.3
MMIG				*i* S	Sn	20 23 59.5	-4.3
PLIG	**Platanillo**	**2.18**	**61**	*e*P	Pn	20 23 39.6	-1.9
PLIG				*i* S	Sn	20 24 05.3	-3.7
MOIG	**Morelia**	**2.33**	**8**	*i* P	Pn	20 23 42.2	-1.5
MOIG				*i* S	Sn	20 24 09.7	-3.0
PPM	**Popocatepetl**	**3.23**	**58**	*e*P	Pn	20 23 53.6	-2.4
PPM				*i* S	Sn	20 24 32.3	-2.7
PNIG	**Pinotepa**	**3.39**	**106**	*i* P	Pn	20 23 54.9	-3.3
PNIG				*i* S	Sn	20 24 34.9	-3.8
UTMO	**Huajuapan**	**3.58**	**82**	*e*P	Pn	20 23 57.8	-2.9
UTMO				*i* S	Sn	20 24 40.6	-2.8
VHO	**Vista Hermosa**	**4.58**	**93**	*i* P	Pn	20 24 12.8	-1.8
VHO				*i* S	Sn	20 25 06.7	-1.6

*IDC **03** 20:35:44.7±1.1, 1°.00N×97°.05E, h0km, mb4.1/11, mb1 4.2/13, mb1mx3.9/27, mbtmp4.1/13, ML3.6/2, Error ellipse: s-maj=36.5km s-min=16.6km az=56.0*
*ISCJB **03** 20:35:45.2±6.5, 1°.0N×97°.1E±0°.1, h14km±40km, mb4.2/18, Error ellipse: s-maj=27.7km s-min=8.7km az=145.3*
*NEIC **03** 20:35:46.7±0.5, 1°.05N×97°.17E, h10km, mb4.3/8, Error ellipse: s-maj=11.0km s-min=7.5km az=50.0*
*DJA **03** 20:35:50, 1°.30N×97°.05E, h53km, MLv4.3/4*

ISC 03 20:35:47.3±6.9, 1°.1N±0°.1×97°.1E±0°.1, h12km±42km, n61, σ0s80/62, mb4.2/18, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPTI		**2.19**	**1**	P	**Pn**	**20 36 21.8**	**-1.7**
TPTI				S	**Sn**	**20 36 44.1**	**-6.3**
MNSI	**Mandailing Nat**	**2.47**	**96**	P	**Pn**	**20 36 27.5**	**+0.2**
PSI	**Prapat**	**2.49**	**46**	Pn	**Pn**	**20 36 27.0**	**-0.7**
	4.5nm,0.3s,baz=236,slow=8.1,SNR=36						
PSI				Lg		20 37 09.3	
	8.2nm,0.3s,baz=89,slow=15,SNR=6.0						
PSI	**Prapat**	**2.49**	**46**	Pn	**Pn**	**20 36 27.0**	**-0.7**
PSI				Lg		20 37 09.3	
TSI	**Tuntungan**	**2.82**	**31**	P	**Pn**	**20 36 32.8**	**+0.6**
PDSI	**Padang**	**3.87**	**120**	P	**Pn**	**20 36 54.9**	**+8.3**
IPM	**Ipoh**	**5.17**	**49**	P	**Pn**	**20 37 06.0**	**+1.5**
IPM	**Ipoh**	**5.17**	**49**	*e*P	**Pn**	**20 37 04.7**	**+0.2**
	41nm,0.6s						
IPM	**Ipoh**	**5.17**	**49**	P	**Pn**	**20 37 05.7**	**+1.2**
	64nm,0.8s						
KULM	**Kulim**	**5.48**	**40**	P	**Pn**	**20 37 08.5**	**-0.3**
KGM	**Kluang**	**6.26**	**81**	P	**Pn**	**20 37 20.5**	**+1.0**
MYKOM	**Kota Tinggi**	**6.76**	**84**	P	**Pn**	**20 37 27.1**	**+0.7**
MYKOM	**Kota Tinggi**	**6.76**	**84**	P	**Pn**	**20 37 27.0**	**+0.6**
	14nm,0.7s						
MDSI	**Maura Dua**	**8.94**	**128**	P	**Pn**	**20 37 56.3**	**-0.1**
CM31	**Chiang Mai Arr**	**17.38**	**6**	*e*P	**Pn**	**20 39 48.7**	**-1.1**
	1.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**17.38**	**6**	P	**Pn**	**20 39 48.5**	**-1.2**
	0.2nm,0.3s,baz=195,slow=12,SNR=14						
CMAR	**Chiang Mai Arr**	**17.38**	**6**	P	**Pn**	**20 39 48.5**	**-1.2**
CHTO	**Chiang Mai**	**17.73**	**6**	*e*P	**Pn**	**20 39 53.5**	**-0.7**
	2.7nm,0.9s						
ODAN	**Odare**	**27.30**	**341**	*e*P	**P**	**20 41 32.9**	**+1.0**
	19nm,1.0s,mb4.6						
ODAN	**Odare**	**27.30**	**341**	*e*P	**P**	**20 41 32.9**	**+1.0**
	19nm,1.0s,mb4.6						
TAPN	**Taplejung**	**27.66**	**342**	*e*P	**P**	**20 41 36.6**	**+1.5**
	20nm,0.8s,mb4.8						
TAPN	**Taplejung**	**27.66**	**342**	*e*P	**P**	**20 41 36.6**	**+1.5**
	20nm,0.8s,mb4.8						
PKI	**Pulchoki**	**28.65**	**338**	*e*P	**P**	**20 41 44.5**	**+0.5**
PKI	**Pulchoki**	**28.65**	**338**	*e*P	**P**	**20 41 44.5**	**+0.5**
PKIN	**Phulchoki**	**28.66**	**338**	*e*P	**P**	**20 41 44.3**	**+0.2**
	3.4nm,0.6s,mb4.3						
GUN	**Gumba**	**28.79**	**339**	*e*P	**P**	**20 41 45.2**	**0.0**
GUN	**Gumba**	**28.79**	**339**	*e*P	**P**	**20 41 45.2**	**0.0**
DMN	**Daman**	**28.80**	**337**	*e*P	**P**	**20 41 45.8**	**+0.5**
DMN	**Daman**	**28.80**	**337**	*e*P	**P**	**20 41 45.8**	**+0.5**
KKN	**Kakani**	**28.90**	**338**	*e*P	**P**	**20 41 46.9**	**+0.7**
KKN	**Kakani**	**28.90**	**338**	*e*P	**P**	**20 41 46.9**	**+0.7**
LSA	**Lhasa**	**29.04**	**349**	*e*P	**P**	**20 41 49.2**	**+1.8**
	2.7nm,0.8s,mb4.0						
GKN	**Gorkha**	**29.34**	**337**	*e*P	**P**	**20 41 50.2**	**+0.1**
GKN	**Gorkha**	**29.34**	**337**	*e*P	**P**	**20 41 50.2**	**+0.1**
KOLN	**Koldanda**	**29.55**	**335**	*e*P	**P**	**20 41 52.9**	**+0.9**
	10nm,0.7s,mb4.7						
KOLN	**Koldanda**	**29.55**	**335**	*e*P	**P**	**20 41 52.9**	**+0.9**
	10nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**42.02**	**122**	P	**P**	**20 43 38.0**	**-0.9**
	1.0nm,0.5s,mb3.7,baz=301,slow=9.1,SNR=18						
WRA	**Warramunga Arr**	**42.02**	**122**	P	**P**	**20 43 38.0**	**-0.9**
ASAR	**Alice Springs**	**43.37**	**127**	P	**P**	**20 43 48.9**	**-1.0**
	0.9nm,0.9s,mb3.5,baz=301,slow=8.1,SNR=5.8						
ASAR	**Alice Springs**	**43.37**	**127**	P	**P**	**20 43 48.9**	**-1.0**
KSRS	**Korea Array**	**46.00**	**34**	P	**P**	**20 44 10.3**	**-0.3**
	4.3nm,0.9s,mb4.4,baz=225,slow=9.4,SNR=8.0						
SONM	**Songino Array**	**47.28**	**8**	P	**P**	**20 44 20.4**	**0.0**
	2.2nm,0.7s,mb4.2,baz=192,slow=9.2,SNR=13						
SONM				PcP	PcP	20 45 51.9	+0.4
	0.6nm,0.8s,baz=188,slow=4.1,SNR=3.8						
SONM	**Songino Array**	**47.28**	**8**	P	**P**	**20 44 20.4**	**0.0**
SONM				PcP	PcP	20 45 51.9	+0.4
MK31	**Makanchi Array**	**47.36**	**346**	*e*P	**P**	**20 44 21.6**	**+0.6**
MKAR	**Makanchi Array**	**47.36**	**346**	P	**P**	**20 44 21.4**	**+0.3**
	2.7nm,0.9s,mb4.2,baz=158,slow=8.3,SNR=19						
MKAR	**Makanchi Array**	**47.36**	**346**	P	**P**	**20 44 21.4**	**+0.3**
KKAR	**Karatay Array**	**48.15**	**334**	P	**P**	**20 44 26.8**	**-0.5**
	1.1nm,0.7s,mb4.0						
KURK	**Kurchatov**	**51.91**	**345**	P	**P**	**20 44 55.5**	**-0.2**
	1.3nm,0.7s,mb4.0,baz=168,slow=6.9,SNR=15						
KURK	**Kurchatov**	**51.91**	**345**	P	**P**	**20 44 55.5**	**-0.2**
STKA	**Stephens Creek**	**53.32**	**132**	P	**P**	**20 45 06.8**	**+0.3**
	2.1nm,0.8s,mb4.1,baz=312,slow=13,SNR=3.1						
STKA	**Stephens Creek**	**53.32**	**132**	P	**P**	**20 45 06.8**	**+0.3**
ZAA0	**Zalesovo Array**	**53.68**	**351**	P	**P**	**20 45 09.0**	**+0.2**
ZALV	**Zalesovo Beam**	**53.68**	**351**	P	**P**	**20 45 08.4**	**-0.3**
	4.4nm,0.8s,mb4.5,baz=176,slow=5.9,SNR=23						
ZALV	**Zalesovo Beam**	**53.68**	**351**	P	**P**	**20 45 08.4**	**-0.3**
BVAR	**Borovoye Array**	**56.36**	**341**	P	**P**	**20 45 26.8**	**-1.3**
	1.0nm,0.6s,mb4.0,baz=140,slow=9.4,SNR=7.3						
BVAR	**Borovoye Array**	**56.36**	**341**	P	**P**	**20 45 26.8**	**-1.4**
ABKAR	**Akbulak array**	**57.60**	**332**	*e*P	**P**	**20 45 36.9**	**-0.1**
	2.8nm,0.8s,mb4.3						
FINES	**FINESS Array B**	**80.09**	**333**	P	**P**	**20 47 55.7**	**-1.0**
	2.5nm,0.9s,mb4.1,baz=147,slow=8.3,SNR=4.3						
FINES	**FINESS Array B**	**80.09**	**333**	P	**P**	**20 47 55.7**	**-1.0**
ARCES	**ARCESS Array B**	**82.64**	**340**	P	**P**	**20 48 09.5**	**-0.7**
	4.0nm,0.8s,mb4.5,baz=88,slow=6.2,SNR=5.0						
ARCES	**ARCESS Array B**	**82.64**	**340**	P	**P**	**20 48 09.5**	**-0.7**

*NEIC **03** 21:05:34.9±1.0, 30°.18N×67°.62E, h10km, mb3.6/1, Error ellipse: s-maj=18.7km s-min=12.3km az=145.0*
*ISCJB **03** 21:05:35.5±1.0, 30°.1N±0°.1×67°.7E±0°.1, h33km, mb3.6/4, Error ellipse: s-maj=19.2km s-min=12.0km az=31.8*
*IDC **03** 21:05:36.4±4.0, 30°.60N×67°.36E, h0km, mb3.6/3, mb1 3.6/5, mb1mx3.3/29, mbtmp3.6/5, ML3.3/2, Error ellipse: s-maj=118.2km s-min=24.7km az=135.0*

ISC 03 21:05:39.9±3.1, 30°.3N±0°.2×67°.7E±0°.1, h46km±26km, n17, σ0s95/20, mb3.6/4, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**4.36**	**15**	*e*Pn	**Pn**	**21 06 45.0**	**+1.4**
KBL				*e*Sn	**Sn**	**21 07 38.0**	**+5.0**
EKS2	**Erkin-Say**	**13.24**	**20**	*e*Pn	**Pn**	**21 08 44.8**	**-0.4**
AAK	**Ala-Archa**	**13.44**	**22**	Pn	**Pn**	**21 08 47.4**	**-0.5**
	0.0nm,0.3s,baz=177,slow=9.9,SNR=3.6						
AAK				Sn	**Sn**	**21 11 11.1**	**-4.5**
	0.0nm,0.3s,baz=194,slow=19,SNR=2.0						
AAK	**Ala-Archa**	**13.44**	**22**	*e*Pn	**Pn**	**21 08 47.6**	**-0.2**
AAK				Sn	**Sn**	**21 11 11.1**	**-4.6**
MK31	**Makanchi Array**	**19.96**	**30**	*e*P	**Pn**	**21 10 09.2**	**-0.9**
MKAR	**Makanchi Array**	**19.96**	**30**	P	**Pn**	**21 10 08.8**	**-1.2**
	0.2nm,0.3s,baz=211,slow=9.6,SNR=8.8						
MKAR	**Makanchi Array**	**19.96**	**30**	P	**Pn**	**21 10 08.8**	**-1.2**
LSA	**Lhasa**	**20.31**	**86**	P	**P**	**21 10 12.1**	**0.0**
KURK	**Kurchatov**	**21.95**	**19**	*e*P	**P**	**21 10 29.1**	**-0.3**
	1.2nm,0.5s,mb3.6						
BVAR	**Borovoye Array**	**22.77**	**4**	P	**P**	**21 10 38.2**	**+0.1**
	1.0nm,0.6s,mb3.4,baz=176,slow=9.8,SNR=7.0						
BVAR	**Borovoye Array**	**22.77**	**4**	P	**P**	**21 10 38.2**	**+0.1**
BRVK	**Borovoye**	**22.80**	**4**	P	**P**	**21 10 38.9**	**+0.5**
ZALV	**Zalesovo Beam**	**26.66**	**23**	P	**P**	**21 11 16.1**	**+1.8**
	1.6nm,0.6s,mb3.7,baz=219,slow=10,SNR=9.5						
ZALV	**Zalesovo Beam**	**26.66**	**23**	P	**P**	**21 11 16.1**	**+1.8**
CSS	**Prodhromos**	**29.22**	**288**	P	**P**	**21 11 35.8**	**-1.5**
TORD	**Torodi Ar. Bea**	**62.87**	**270**	P	**P**	**21 16 02.4**	**+0.8**
	0.4nm,0.9s,mb3.6,baz=64,slow=6.1,SNR=6.3						
TORD	**Torodi Ar. Bea**	**62.87**	**270**	P	**P**	**21 16 02.4**	**+0.8**

*ISCJB **03** 21:26:36.3±0.6, 50°.32N±0°.04×18°.77E±0°.03, h0km, Error ellipse: s-maj=6.2km s-min=2.6km az=10.7*
*IPEC **03** 21:26:36.8±0.2, 50°.31N×18°.86E, h1km±1km, ML1.8/3, Error ellipse: s-maj=2.5km s-min=1.1km az=169.0*
*CSEM **03** 21:26:36.9±0.4, 50°.35N×18°.76E, h2km, ML2.7/5, Error ellipse: s-maj=9.9km s-min=3.7km az=5.0*
*PRU **03** 21:26:37.7, 50°.34N×18°.77E, h0km*

ISC 03 21:26:37.3±0.6, 50°.32N±0°.04×18°.77E±0°.03, h0km, n29, σ1s25/50, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.62**	**220**	*e*PG	**Pg**	**21 26 49.5**	**+0.3**
OKC				*e*SG	**Sg**	**21 26 59.4**	**+2.1**
	comp=Z,15nm,0.5s						
OKC	**Ostrava-Krasne**	**0.62**	**220**	*e*Pg	**Pg**	**21 26 49.5**	**+0.3**
	baz=44						
OKC				Sg	**Sg**	**21 26 59.4**	**+2.1**
	comp=Z,15nm,0.5s						
OJC	**Ojcow**	**0.67**	**98**	*e*Pg	**Pg**	**21 26 48.8**	**-1.3**
OJC				*e*Sg	**Sg**	**21 26 57.3**	**-1.5**
OJC	**Ojcow**	**0.67**	**98**	*e*Pg	**Pg**	**21 26 48.6**	**-1.5**
	baz=279						
OJC				*e*Sg	**Sg**	**21 26 57.3**	**-1.5**
MORC	**Moravsky Berou**	**0.96**	**236**	*e*Pg	**Pg**	**21 26 55.6**	**0.0**
	baz=58						
MORC				*e*Sg	**Sg**	**21 27 08.2**	**+0.2**
	comp=Z,14nm,0.2s,baz=58						
NIE	**Niedzica**	**1.34**	**131**	*e*Pg	**Pg**	**21 27 01.3**	**-1.8**
NIE				*e*Sg	**Sg**	**21 27 19.2**	**-1.3**
NIE	**Niedzica**	**1.34**	**131**	*e*Pg	**

mb4.0/14, Error ellipse: s-maj=7.7km s-min=4.4km az=153.7

NEIC ***03*** *21:36:26.4 0.7°77S × 127.0°07E, h52 km ± 11 km, mb4.1/5, Error ellipse: s-maj=15.5km s-min=5.3km az=58.0*

IDC ***03*** *21:36:27.7 ± 2.3, 0.8°0S × 126.9°8E, h63 km ± 18 km, mb3.8/12, mb1 4.0/13, mb1mx3.8/25, mbtmp3.9/13, MS3.0/2, Ms1 3.0/2, ms1mx2.5/36, Error ellipse: s-maj=36.0km s-min=10.8km az=69.0*

DJA ***03*** *21:36:28, 0.7°8S × 127.0°7E, h53 km, MLv4.9/9*

ISC 03 21:36:27.9 ± 0.5, 0.7°8S ± 0.0°3 × 127.0°4E ± 0.0°4, h65 km ± 5 km, n55, σ0°93/65, mb4.0/14, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.58**	**12**	P	**Pn**	**21 36 53.3**	**-0.5**
TNTI				S	**Sn**	**21 37 13.6**	**+0.3**
TNTI	**Ternate**	**1.58**	**12**	P	**Pn**	**21 36 53.0**	**-0.8**
	2µm,1.6s						
NLAI	**Namlea**	**2.44**	**178**	P	**Pn**	**21 37 05.1**	**-0.4**
NLAI				S	**Sn**	**21 37 33.0**	**-1.2**
NLAI	**Namlea**	**2.44**	**178**	P	**Pn**	**21 37 04.5**	**-1.0**
	2µm,0.4s						
AAI	**Ambon**	**3.11**	**158**	P	**Pn**	**21 37 15.9**	**+1.3**
AAI				S	**Sn**	**21 37 51.3**	**+0.7**
AAI	**Ambon**	**3.11**	**158**	P	**Pn**	**21 37 15.2**	**+0.6**
MSAI	**Masohi**	**3.17**	**143**	P	**Pn**	**21 37 22.7**	**+7.3**
MSAI				S	**Sn**	**21 37 52.7**	**+0.6**
KMSI	**Cibinong**	**3.34**	**294**	P	**Pn**	**21 37 16.6**	**-1.1**
LUWI	**Luwuk**	**4.27**	**267**	P	**Pn**	**21 37 29.1**	**-1.3**
SGSI	**Sangihe**	**4.69**	**341**	P	**Pn**	**21 37 40.3**	**+4.2**
SGSI				S	**Sn**	**21 38 30.3**	**+1.1**
BNDI	**Bandanaira**	**4.69**	**142**	P	**Pn**	**21 37 36.3**	**+0.1**
MRSI	**Marisa**	**5.25**	**284**	P	**Pn**	**21 37 43.0**	**-0.8**
	1.5nm4µm72nm,0.5s						
APSI	**Ampana**	**5.39**	**269**	P	**Pn**	**21 37 45.8**	**+0.1**
BBSI	**Bau Bau**	**6.46**	**224**	P	**Pn**	**21 38 01.5**	**+1.1**
	1µm139nm,0.6s						
TTSI	**Tana Toraja**	**7.55**	**253**	P	**Pn**	**21 38 17.5**	**+2.1**
	4µm83nm,0.7s						
BNSI	**Bone**	**7.80**	**242**	P	**Pn**	**21 38 19.1**	**+0.4**
	1µm80nm,0.8s						
SPSI	**Sidrap Palu**	**7.92**	**246**	P	**Pn**	**21 38 21.5**	**+1.1**
	9µm669nm,0.5s						
DAV	**Davao City (W)**	**7.93**	**349**	LR	LR	21 41 06.8	
	comp=Z,95nm,19.5s,baz=191,slow=35						
BKSI	**Bulukumba**	**8.24**	**237**	P	**Pn**	**21 38 26.9**	**+2.1**
KAPI	**Kappang**	**8.40**	**240**	P	**Pn**	**21 38 26.6**	**-0.3**
	28nm,0.3s,baz=77,slow=12,SNR=46						
KAPI				S	**Sn**	**21 39 55.5**	**-4.9**
	5.5nm,0.3s,baz=72,slow=20,SNR=4.2						
KAPI				LR	LR	21 42 26.8	
	comp=Z,95nm,19.0s,baz=76,slow=43						
KAPI	**Kappang**	**8.40**	**240**	P	**Pn**	**21 38 26.6**	**-0.3**
KAPI				S	**Sn**	**21 39 55.5**	**-4.9**
KAPI				LR	LR	21 42 26.9	
KKM	**Kota Kinabalu**	**12.75**	**302**	*e*P	**Pn**	**21 39 25.2**	**-1.3**
	13nm,0.8s						
KKM				*e*Sn	**Sn**	**21 41 46.3**	**-0.5**
KAKA	**Kakadu**	**13.01**	**156**	*e*Pn	**Pn**	**21 39 27.5**	**-2.4**
	20nm,0.6s						
KAKA				*e*Sn	**Sn**	**21 41 42.5**	**-10**
FITZ	**Fitzroy Crossi**	**17.27**	**184**	P	**Pn**	**21 40 24.7**	**-0.1**
	0.6nm,0.3s,baz=18,slow=9.2,SNR=30						
FITZ	**Fitzroy Crossi**	**17.27**	**184**	*e*Pn	**Pn**	**21 40 24.6**	**-0.2**
	12nm,0.7s						
WRAB	**Tennant Creek**	**20.34**	**160**	*e*P	**P**	**21 40 58.4**	**-0.5**
	5.6nm,0.7s						
WRA	**Warramunga Arr**	**20.34**	**160**	P	**P**	**21 40 58.2**	**-0.8**
	5.2nm,0.9s,baz=339,slow=11,SNR=20						
WRA				ScP	ScP	21 48 41.4	+0.3
	1.0nm,1.0s,baz=327,slow=2.8,SNR=3.5						
WRA	**Warramunga Arr**	**20.34**	**160**	P	**P**	**21 40 58.2**	**-0.8**
WRA				ScP	ScP	21 48 41.4	+0.3
WB2	**Warramunga Arr**	**20.34**	**160**	*e*P	**P**	**21 40 58.6**	**-0.4**
MBWA	**Marble Bar**	**21.47**	**199**	*e*P	**P**	**21 41 10.7**	**-0.4**
	14nm,0.7s,mb4.4						
ASAR	**Alice Springs**	**23.70**	**164**	P	**P**	**21 41 34.1**	**+0.2**
	5.6nm,0.6s,mb4.1,baz=341,slow=7.5,SNR=62						
ASAR				S	**S**	**21 45 45.4**	**+1.0**
	2.2nm,1.0s,baz=349,slow=25,SNR=8.4						
ASAR				ScP	ScP	21 48 49.6	+0.1
	0.7nm,0.8s,baz=0.0,slow=1.2,SNR=5.5						
ASAR	**Alice Springs**	**23.70**	**164**	P	**P**	**21 41 34.1**	**+0.2**
ASAR				S	**S**	**21 45 45.4**	**+1.0**
ASAR				ScP	ScP	21 48 49.6	+0.1
CTA	**Charters Tower**	**26.87**	**137**	P	**P**	**21 42 03.6**	**+0.9**
	0.8nm,0.3s,mb3.7,baz=336,slow=10.0,SNR=2.3						
CTA	**Charters Tower**	**26.87**	**137**	P	**P**	**21 42 03.6**	**+0.9**
NWAO	**Narrogin (SRO)**	**33.28**	**195**	P	**P**	**21 42 58.8**	**-0.5**
	8.2nm,0.7s,mb4.7,baz=15,slow=8.5,SNR=6.2						
NWAO	**Narrogin (SRO)**	**33.28**	**195**	P	**P**	**21 42 58.8**	**-0.5**
CMAR	**Chiang Mai Arr**	**33.59**	**306**	P	**P**	**21 43 02.1**	**0.0**
	0.4nm,0.6s,mb3.4,baz=133,slow=8.0,SNR=5.1						
CMAR	**Chiang Mai Arr**	**33.59**	**306**	P	**P**	**21 43 02.1**	**0.0**
STKA	**Stephens Creek**	**33.85**	**157**	P	**P**	**21 43 05.0**	**+0.8**
	2.3nm,0.6s,mb4.2,baz=333,slow=13,SNR=5.4						
STKA	**Stephens Creek**	**33.85**	**157**	P	**P**	**21 43 05.0**	**+0.8**
LSA	**Lhasa**	**45.72**	**315**	*e*P	**P**	**21 44 43.9**	**+1.1**
	2.0nm,0.6s,mb4.0						
SONM	**Songino Array**	**51.65**	**342**	P	**P**	**21 45 27.7**	**-0.2**
	1.9nm,0.9s,mb4.1,baz=162,slow=8.3,SNR=4.3						
SONM	**Songino Array**	**51.65**	**342**	P	**P**	**21 45 27.7**	**-0.2**
MK31	**Makanchi Array**	**61.44**	**327**	*e*P	**P**	**21 46 41.1**	**+3.6**
MKAR	**Makanchi Array**	**61.44**	**327**	P	**P**	**21 46 37.9**	**+0.4**
	3.5nm,0.7s,mb4.5,baz=124,slow=8.5,SNR=22						
MKAR	**Makanchi Array**	**61.44**	**327**	P	**P**	**21 46 37.9**	**+0.4**
AAK	**Ala-Archa**	**63.92**	**319**	*e*P	**P**	**21 46 58.3**	**+4.2**
	1.1nm,0.8s,mb3.7						
ZALV	**Zalesovo Beam**	**64.73**	**334**	P	**P**	**21 46 59.4**	**+0.2**
	0.4nm,0.3s,mb3.7,baz=122,slow=6.2,SNR=3.2						
ZALV	**Zalesovo Beam**	**64.73**	**334**	P	**P**	**21 46 59.4**	**+0.2**
KURK	**Kurchatov**	**65.70**	**329**	P	**P**	**21 47 05.3**	**-0.3**
	3.1nm,0.7s,mb4.2,baz=130,slow=5.8,SNR=7.7						
KURK	**Kurchatov**	**65.70**	**329**	P	**P**	**21 47 05.2**	**-0.3**
AKTK	**Aktyubinsk**	**77.38**	**322**	P	**P**	**21 48 15.2**	**-0.6**
AKTO	**Aktyubinsk**	**77.38**	**322**	P	**P**	**21 48 15.2**	**-0.6**
	1.6nm,0.8s,mb3.8,baz=91,slow=7.5,SNR=4.5						
VNDA	**Vanda**	**78.94**	**173**	P	**P**	**21 48 23.0**	**-1.0**
	0.4nm,0.7s,mb3.4,baz=311,slow=6.3,SNR=3.6						
VNDA	**Vanda**	**78.94**	**173**	P	**P**	**21 48 23.0**	**-1.0**

NIED ***03*** *21:38:00, 29.5°30N × 130.6°60E, h35 km, Mw4.3 Best double couple: M0 3.48000 × 10^15 NP1: φ 210.00000°, δ 65.00000°, λ -68.00000°. NP2: φ 347.00000°, δ 33.00000°, λ -129.00000°.*

JMA ***03*** *21:38:26.0 ± 0.2, 29.2°29N × 130.7°58E, h20 km ± 3 km, M4.1*

ISCJB ***03*** *21:38:27.6 ± 0.7, 29.2°28N ± 0.0°4 × 130.4°44E ± 0.0°09, h56 km ± 5 km, mb3.9/12, Error ellipse: s-maj=13.8km s-min=5.3km az=13.3*

NEIC ***03*** *21:38:28.8 ± 1.1, 29.2°26N × 130.3°30E, h46 km ± 10 km, mb4.1/3, Error ellipse: s-maj=16.2km s-min=8.8km az=96.0*

IDC ***03*** *21:38:30.0 ± 1.3, 29.2°23N × 130.2°24E, h55 km ± 8 km, mb3.6/10, mb1 3.7/12, mb1mx3.6/29, mbtmp3.6/12, MS3.5/3, Ms1 3.5/3, ms1mx2.7/36, Error ellipse: s-maj=51.7km s-min=13.4km az=71.0*

ISC 03 21:38:28.4 ± 0.7, 29.2°28N ± 0.0°04 × 130.7°42E ± 0.0°09, h46 km ± 6 km, h58 km ± 1.1 km: pP-P, n38, σ0 s97/43, mb3.9/12, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.73**	**320**	P	**Pn**	**21 38 41.5**	**-1.0**
JNN				*e*S	**Sn**	**21 38 52.7**	**+0.1**
JZK	**Kikaishima**	**1.03**	**202**	P	**Pn**	**21 38 46.3**	**-0.2**
JAM	**Amami Oshima**	**1.12**	**220**	P	**Pn**	**21 38 47.8**	**+0.2**
JAM				*e*S	**Sn**	**21 39 04.8**	**+3.0**
JKC	**Kuchinoerabu**	**1.20**	**351**	P	**Pn**	**21 38 47.8**	**-1.0**
JKC				*e*S	**Sn**	**21 39 03.6**	**-0.2**
JTN	**Tanegashima 3**	**1.46**	**19**	P	**Pn**	**21 38 50.8**	**-1.5**
JTSR	**Tashiro 2**	**1.94**	**13**	P	**Pn**	**21 38 58.0**	**-0.8**
JTK	**Tokunoshima**	**1.97**	**221**	P	**Pn**	**21 38 59.9**	**+0.6**
JSU	**Suzuyama**	**2.22**	**1**	P	**Pn**	**21 39 02.4**	**-0.4**
JSU				*e*S	**Sn**	**21 39 30.0**	**+1.0**
JNAR	**Kushima--Naru**	**2.36**	**18**	P	**Pn**	**21 39 04.6**	**-0.1**
JOW	**Kunigami**	**3.08**	**218**	P	**Pn**	**21 39 14.6**	**-0.1**
	14nm,0.3s,baz=48,slow=14,SNR=41						
JOW				S	**Sn**	**21 39 57.4**	**+7.1**
	20nm,0.3s,baz=120,slow=29,SNR=5.3						
JOW	**Kunigami**	**3.08**	**218**	P	**Pn**	**21 39 14.6**	**-0.1**
JOW				S	**Sn**	**21 39 57.4**	**+7.2**
JNU	**Nakatsue**	**3.85**	**6**	*e*Pn	**Pn**	**21 39 26.1**	**+0.9**
JNU				*e*Sn	**Sn**	**21 40 11.7**	**+2.5**
KSRS	**Korea Array**	**8.42**	**346**	P	**Pn**	**21 40 30.6**	**+2.8**
	0.2nm,0.3s,baz=168,slow=3.0,SNR=3.0						
KSRS				LR	LR	21 44 00.1	
	comp=Z,218nm,18.4s,baz=167,slow=39						
YULB	**Yu-li**	**10.06**	**236**	Pn	**Pn**	**21 40 48.8**	**-1.5**
CBIJ	**Chichi jima**	**10.61**	**99**	LR	LR	21 44 28.3	
	comp=Z,92nm,19.2s,baz=65,slow=33						
ASAJ	**Asahikawa**	**17.71**	**30**	LR	LR	21 50 19.8	
	comp=Z,565nm,18.4s,baz=40,slow=40						
ENH	**Enshi**	**18.20**	**278**	*e*P	**Pn**	**21 42 36.7**	**-1.0**
SONM	**Songino Array**	**26.21**	**322**	P	**P**	**21 43 58.1**	**-0.7**
	1.5nm,0.7s,mb3.6,baz=141,slow=9.3,SNR=5.2						
SONM	**Songino Array**	**26.21**	**322**	P	**P**	**21 43 58.1**	**-0.7**
MKAR	**Makanchi Array**	**41.05**	**309**	P	**P**	**21 46 07.8**	**+0.5**
	0.4nm,0.2s,mb3.6,baz=90,slow=9.6,SNR=4.1						
MKAR	**Makanchi Array**	**41.05**	**309**	P	**P**	**21 46 07.8**	**+0.5**
ZALV	**Zalesovo Beam**	**41.08**	**320**	P	**P**	**21 46 06.1**	**-1.4**
	0.4nm,0.3s,mb3.5,baz=132,slow=6.0,SNR=3.1						
ZALV	**Zalesovo Beam**	**41.08**	**320**	P	**P**	**21 46 06.1**	**-1.4**
KURK	**Kurchatov**	**44.02**	**314**	P	**P**	**21 46 31.6**	**+0.2**
	1.0nm,0.3s,mb4.1,baz=100,slow=9.0,SNR=7.2						
KURK				pP	pP	21 46 45.9	+2.0
	0.9nm,0.5s,baz=101,slow=8.9,SNR=2.6						
KURK	**Kurchatov**	**44.02**	**314**	*e*P	**P**	**21 46 31.8**	**+0.4**
	1.5nm,0.4s,mb4.1						
FITZ	**Fitzroy Crossi**	**47.33**	**186**	P	**P**	**21 46 57.8**	**+0.1**
	1.8nm,0.6s,mb4.2,baz=16,slow=12,SNR=5.9						
WRA	**Warramunga Arr**	**49.08**	**175**	P	**P**	**21 47 10.6**	**-0.6**
	0.5nm,0.6s,mb3.7,baz=351,slow=8.0,SNR=5.3						
WRA				pP	pP	21 47 25.7	+1.8
	1.8nm,0.7s,baz=355,slow=8.6,SNR=7.6						
WRA	**Warramunga Arr**	**49.08**	**175**	P	**P**	**21 47 10.6**	**-0.6**
WRA				pP	pP	21 47 25.7	+1.8
KKAR	**Karatay Array**	**49.30**	**303**	*e*P	**P**	**21 47 12.7**	**-0.1**
	1.7nm,0.8s,mb4.1						
BVAR	**Borovoye Array**	**49.35**	**316**	P	**P**	**21 47 13.3**	**+0.2**
	0.6nm,0.4s,mb4.0,baz=93,slow=8.7,SNR=3.7						
BVAR	**Borovoye Array**	**49.35**	**316**	P	**P**	**21 47 13.3**	**+0.2**
ASAR	**Alice Springs**	**52.74**	**176**	P	**P**	**21 47 39.5**	**+0.8**
	0.7nm,0.5s,mb3.8,baz=9.4,slow=13,SNR=9.1						
ASAR				pP	pP	21 47 54.3	+2.8
	1.4nm,0.6s,baz=7.7,slow=14,SNR=8.8						
ASAR	**Alice Springs**	**52.74**	**176**	P	**P**	**21 47 39.5**	**+0.8**
ASAR				pP	pP	21 47 54.3	+2.8
ABKAR	**Akbulak array**	**56.02**	**312**	*e*P	**P**	**21 48 02.2**	**-0.2**
	1.9nm,0.7s,mb4.2						
AKASG	**Malin Array Be**	**74.48**	**320**	P	**P**	**21 50 02.1**	**+0.3**
	0.7nm,0.4s,mb3.9,baz=60,slow=5.6,SNR=3.5						
AKASG	**Malin Array Be**	**74.48**	**320**	P	**P**	**21 50 02.1**	**+0.3**
BRTR	**Keskin Array B**	**76.69**	**308**	P	**P**	**21 50 15.8**	**+1.0**
	0.6nm,0.8s,mb3.6,baz=73,slow=4.8,SNR=4.1						
BRTR	**Keskin Array B**	**76.69**	**308**	P	**P**	**21 50 15.8**	**+1.0**

IDC ***03*** *21:40:01.6 ± 0.5, 51.6°66N × 159.0°10E, h0 km, mb4.6/34, mb1 4.7/35, mb1mx4.7/38, mbtmp4.6/35, MS4.3/15, Ms1 4.3/15, ms1mx3.9/37, Error ellipse: s-maj=15.2km s-min=11.1km az=143.0*

MOS ***03*** *21:40:02.9 ± 1.0, 51.6°60N × 159.2°13E, h18 km, mb5.1/66, MS4.6/18, Error ellipse: s-maj=8.9km s-min=4.2km az=98.6*

MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.

DJA ***03*** *21:40:02, 52.2°51N × 160.2°21E, h10 km, mb5.0/10*

KRSC ***03*** *21:40:03.3 ± 0.5, 51.6°60N × 159.7°2E, h10 km ± 10 km, ML5.3*

BJI ***03*** *21:40:04.3, 51.7°79N × 159.2°21E, h32 km, mB5.0/34, mb4.8/49, Ms4.8/40, Ms7 4.6/40*

ISCJB ***03*** *21:40:05.3 ± 0.6, 51.5°51N ± 0.0°03 × 159.3°37E ± 0.0°05, h41 km ± 4 km, mb4.9/181, MS4.5/44, Error ellipse: s-maj=6.2km s-min=3.9km az=140.8*

NEIC ***03*** *21:40:08.1 ± 0.8, 51.6°60N × 159.2°5E, h46 km ± 7 km, mb5.0/83, MS4.6/1, Error ellipse: s-maj=7.4km s-min=4.5km az=148.0*

SZGRF ***03*** *21:40:25.7, 53.2°12N × 159.5°51E, h36 km, mb5.0, MS4.4, Near east coast of Kamchatka Peninsula, Russia*

ISC 03 21:40:07.5 ± 0.5, 51.5°55N ± 0.0°03 × 159.3°4E ± 0.0°05, h43 km ± 3 km, h37 km ± 2.3 km: pP-P, n621, σ0 s99/643, mb4.9/181, MS4.5/44, 61C-40D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**1.02**	**330**	*i* P	**Pn**	**21 40 25.0**	**-0.3**
RUS				S	**Sn**	**21 40 40.6**	**+2.2**
RUS	**Russkaya**	**1.02**	**330**	PN	**Pn**	**21 40 25.0**	**-0.3**
GRL	**Gorelyy**	**1.27**	**323**	*i* P	**Pn**	**21 40 29.7**	**+1.0**
GRL				S	**Sn**	**21 40 48.3**	**+3.7**
PET	**Petropavlovsk**	**1.54**	**344**	*i* P	**Pn**	**21 40 31.7**	**-0.6**
PET				*e*S	**Sn**	**21 40 52.8**	**+1.8**
PET	**Petropavlovsk**	**1.54**	**344**	*e*Pn	**Pn**	**21 40 31.8**	**-0.5**
PET				*e*Sn	**Sn**	**21 40 51.4**	**+0.4**
PET	**Petropavlovsk**	**1.54**	**344**	PN	**Pn**	**21 40 31.7**	**-0.6**
PET				S	**Sn**	**21 40 52.8**	**+1.8**
INSR	**Institute**	**1.58**	**344**	P	**Pn**	**21 40 32.3**	**-0.7**
INSR				*e*S	**Sn**	**21 40 53.1**	**+0.9**
SPN	**Mys Shipunski**	**1.60**	**15**	S	**Sn**	**21 40 50.8**	**-1.9**
NLC	**Nalytchevo**	**1.62**	**0**	*i* P	**Pn**	**21 40 32.3**	**-1.2**
NLC	**Nalytchevo**	**1.62**	**0**	PN	**Pn**	**21 40 32.3**	**-1.2**
AVH	**Avacha**	**1.76**	**348**	*e*P	**Pn**	**21 40 35.4**	**+0.1**
PEA0B	**Petropavlovsk-**	**1.86**	**328**	*e*Pn	**Pn**	**21 40 37.6**	**+0.9**
PEA0B				*e*Sn	**Sn**	**21 40 59.5**	**+0.6**
PETK	**Petropavlovsk-**	**1.86**	**328**	Pn	**Pn**	**21 40 37.6**	**+0.9**
	1µm,0.3s,baz=121,slow=16,SNR=530						
PETK				Sn	**Sn**	**21 41 06.3**	**+7.4**
	894nm,0.3s,baz=133,slow=18,SNR=18						
PETK	**Petropavlovsk-**	**1.86**	**328**	Pn	**Pn**	**21 40 37.6**	**+0.9**
PETK				Sn	**Sn**	**21 41 06.3**	**+7.4**
PETK	**Petropavlovsk-**	**1.86**	**328**	PN	**Pn**	**21 40 37.6**	**+0.9**
SKR	**Severo-Kuril's**	**2.21**	**248**	*e*PN	**Pn**	**21 40 43.0**	**+1.4**
SKR				pmax	pmax		
	comp=E,310nm,1.0s						
SKR				pmax	pmax		
	comp=Z,670nm,1.0s						
SKR				pmax	pmax		
	comp=Z,2µm,2.0s						
SKR				MLR	MLR		
	comp=E,13µm,4.0s						
SKR				MLR	MLR		
	comp=Z,12µm,4.0s						
GNL	**Ganaly**	**2.31**	**339**	*e*P	**Pn**	**21 40 43.7**	**+0.7**
KII	**Karymskiy**	**2.49**	**1**	*e*P	**Pn**	**21 40 45.2**	**-0.2**
MKZ	**Mys Kozlova**	**3.34**	**25**	*i* P	**Pn**	**21 40 54.1**	**-2.9**
MKZ				*e*S	**Sn**	**21 41 30.5**	**-4.9**
MKZ	**Mys Kozlova**	**3.34**	**25**	PN	**Pn**	**21 40 54.1**	**-2.9**
TUMR	**Tumrok**	**3.77**	**7**	P	**Pn**	**21 41 02.0**	**-1.0**
KMNR	**Kamenistaya**	**4.25**	**7**	P	**Pn**	**21 41 10.5**	**+1.0**
BZMR	**Bezymyannaya**	**4.45**	**8**	P	**Pn**	**21 41 14.3**	**+2.1**
KOZ	**Kozyrevsk**	**4.53**	**4**	P	**Pn**	**21 41 13.1**	**-0.3**
KOZR	**Kozyr**	**4.54**	**4**	PN	**Pn**	**21 41 13.1**	**-0.4**
KRSR	**Krestovskiy**	**4.73**	**8**	P	**Pn**	**21 41 15.0**	**-1.2**
SRDR	**Sredinnyy**	**4.78**	**3**	*e*P	**Pn**	**21 41 16.4**	**-0.4**
KLY	**Klyuchi**	**4.83**	**9**	P	**Pn**	**21 41 18.2**	**+0.6**
KLY				S	**Sn**	**21 42 13.4**	**+1.2**
KLY	**Klyuchi**	**4.83**	**9**	PN	**Pn**	**21 41 18.2**	**+0.6**
KBTR	**Krutoberegovo**	**5.10**	**22**	*e*P	**Pn**	**21 41 19.4**	**-1.8**
KBTR				S	**Sn**	**21 42 15.7**	**-3.0**
KBTR	**Krutoberegovo**	**5.10**	**22**	PN	**Pn**	**21 41 19.4**	**-1.8**
BDR	**Baidarnaya**	**5.15**	**12**	P	**Pn**	**21 41 22.2**	**+0.4**
BDR				S	**Sn**	**21 42 20.7**	**+0.8**
FX1	**Attu Island--F**	**8.60**	**76**	*e*Pn	**Pn**	**21 42 05.0**	**-4.1**
FX1				*e*Sn	**Sn**	**21 43 29.3**	**-15**
FX1	**Attu Island--F**	**8.60**	**76**	*e*PN	**Pn**	**21 42 05.1**	**-4.0**
YUK	**Yuzh-Kuril'sk**	**11.77**	**236**	⇑ *i* PN	**Pn**	**21 42 55.2**	**+2.7**
YUK				MLR	MLR		
	comp=N,200nm,15.0s						
YUK				MLR	MLR		
	comp=E,1µm,15.0s						
YUK				MLR	MLR		
	comp=Z,1µm,15.0s						
YSS	**Yuzh-Sakhalins**	**11.77**	**253**	*e*Pn	**Pn**	**21 42 54.0**	**+1.4**
YSS	**Yuzh-Sakhalins**	**11.77**	**253**	*e*PN	**Pn**	**21 42 53.6**	**+1.1**
YSS				MLR	MLR		
	comp=Z,900nm,18.0s						
ASAJ	**Asahikawa**	**13.46**	**243**	Pn	**Pn**	**21 43 14.3**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=343,slow=1.6,SNR=6.5						
ASAJ	**Asahikawa**	**13.46**	**243**	*e*Pn	**Pn**	**21 43 16.4**	**+0.7**
ASAJ	**Asahikawa**	**13.46**	**243**	PN	**Pn**	**21 43 14.3**	**-1.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BILL	**Bilibino**	**16.88**	**9**	*e*Pn	**Pn**	**21 43 59.0**	**-1.3**
	comp=Z,18nm,0.8s						
BILL	**Bilibino**	**16.88**	**9**	⇓ *e*P	**Pn**	**21 43 59.2**	**-1.0**
BILL				pmax	pmax		
	comp=Z,15nm,0.8s						
BILL				MLR	MLR		
	comp=Z,1µm,18.0s						
KLR	**Kul'dur**	**17.71**	**273**	*e*P	**Pn**	**21 44 09.2**	**-1.4**
KLR				pmax	pmax		
	comp=Z,120nm,1.4s						
KLR				MLR	MLR		
	comp=N,1µm,12.5s						
KLR				MLR	MLR		
	comp=Z,6µm,12.5s						
YAK	**Yakutsk**	**19.15**	**315**	*e*P	**Pn**	**21 44 24.8**	**-3.2**
	comp=Z,192nm,0.8s						
YAK	**Yakutsk**	**19.15**	**315**	*e*P	**Pn**	**21 44 24.9**	**-3.1**
YAK				*e*S	**S**	**21 48 03.8**	**+2.5**
YAK				pmax	pmax		
	comp=N,21nm,1.0s						
YAK				pmax	pmax		
	comp=E,79nm,1.3s						
YAK				pmax	pmax		
	comp=Z,170nm,0.9s						
YAK				pmax	pmax		
	comp=Z,361nm,3.9s						
YAK				smax			
	comp=E,277nm,3.4s						
YAK				smax			
	comp=N,451nm,4.2s						
YAK				MLR	MLR		
	comp=E,838nm,15.0s						
YAK				MLR	MLR		
	comp=Z,985nm,13.0s						
YAK				MLR	MLR		
	comp=N,540nm,14.0s						
CLNS	**Chul'man**	**20.68**	**298**	*e*P	**P**	**21 44 41.7**	**-1.8**
CLNS				pmax	pmax		
	comp=Z,13nm,0.8s						
CLNS				pmax	pmax		
	comp=N,10.0nm,1.0s						
CLNS				pmax	pmax		
	comp=E,9.0nm,0.9s						
CLNS				MLR	MLR		
	comp=N,224nm,18.0s,MS4.1						
CLNS				MLR	MLR		
	comp=Z,817nm,15.0s,MS4.2						
CLNS				MLR	MLR		
	comp=E,589nm,13.0s,MS4.1						
MDJ	**Mudanjiang**	**20.95**	**262**	P	**P**	**21 44 44.2**	**-2.2**
MDJ				pP		21 44 52.1	
MDJ				sP	sP	21 44 56.3	-5.9
MDJ				S	**S**	**21 48 34.1**	**-3.2**
MDJ				sS	sS	21 48 47.7	-6.4
MDJ				ScS	ScS	21 56 08.9	0.0
MDJ				pmax	pmax		
	comp=Z,23nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,86nm,5.4s						
MDJ				LR	LR		
	comp=N,640nm,15.7s,MS4.3						
MDJ				LR	LR		
	comp=E,710nm,15.0s,MS4.3						
MDJ				LR	LR		
	comp=Z,1µm,15.2s,MS4.5						
MDJ	**Mudanjiang**	**20.95**	**262**	*e*P	**P**	**21 44 44.5**	**-1.9**
	comp=Z,32nm,1.1s						
MJAR	**Matsushiro Arr**	**21.24**	**233**	P	**P**	**21 44 49.5**	**-0.1**
	comp=Z,29nm,0.9s,mb4.6,baz=26,slow=8.9,SNR=41						
MJAR				LR	LR	21 53 40.9	
	comp=Z,711nm,20.5s,MS4.0,baz=60,slow=39						
MJAR	**Matsushiro Arr**	**21.24**	**233**	P	**P**	**21 44 49.5**	**-0.1**
MJAR				LR	LR	21 53 40.9	
MJAR	**Matsushiro Arr**	**21.24**	**233**	P	**P**	**21 44 49.6**	**0.0**
MAJO	**Matsushiro**	**21.24**	**233**	*e*P	**P**	**21 44 50.7**	**+1.0**
	comp=Z,48nm,0.9s,mb4.8						
MAJO	**Matsushiro**	**21.24**	**233**	*e*P	**P**	**21 44 50.7**	**+1.1**
MAJO				pmax	pmax		
	comp=Z,47nm,0.9s,mb4.8						
MAT	**Matsushiro**	**21.24**	**233**	P	**P**	**21 44 49.9**	**+0.3**
MAT				S	**S**	**21 48 45.0**	**+1.8**
CN2	**Changchun**	**23.93**	**265**	*e*P	**P**	**21 45 15.6**	**-1.7**
CN2				*e*sP	sP	21 45 30.4	-3.3
CN2				*e*S	**S**	**21 49 26.6**	**

SONM 21 49 23.7
TLY Talaya 33.87 293 *e*P P **21 46 45.8 +0.2**
comp=Z,13nm,1.1s,mb4.8
TLY Talaya 33.87 293 *e*P P **21 46 44.6 -1.0**
TLY *e* 21 57 13.4
TLY pmax pmax
comp=Z,13nm,1.2s,mb4.7
TLY MLR MLR
comp=Z,198nm,14.0s,MS4.0
HHC Hu-ho-hao-te 34.18 271 *e*P P **21 46 49.6 +1.1**
HHC pP pP 21 46 59.0 -1.0
HHC sP sP 21 47 03.8 -1.3
HHC PP PP 21 48 04.4 -1.8
HHC PcP PcP 21 49 26.5 +2.0
HHC S **S** **21 52 13.0 +1.2**
HHC sS sS 21 52 28.4 -2.7
HHC ScP ScP 21 53 08.9 +3.2
HHC SS SS 21 54 21.4 -19
HHC ScS ScS 21 57 09.1 +1.1
HHC pmax pmax
comp=Z,13nm,0.9s,mb4.9
HHC pmax pmax
comp=Z,190nm,4.8s
HHC LR LR
comp=N,760nm,16.7s,MS4.7
HHC LR LR
comp=E,740nm,16.6s,MS4.7
HHC LR LR
comp=Z,890nm,13.1s,MS4.7
ZAK Zakamensk 34.59 291⇑ *i*P P **21 46 51.7 -0.2**
ZAK pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
INK Inuvik 35.38 36 P P **21 46 57.4 -1.1**
comp=Z,6.5nm,0.9s,mb4.5,baz=284,slow=7.4,SNR=16
INK Inuvik 35.38 36 *e*P P **21 46 58.4 -0.1**
comp=Z,8.6nm,0.9s,mb4.7
INK Inuvik 35.38 36 *e*P P **21 46 58.4 -0.1**
INK pmax pmax
comp=Z,9.0nm,0.9s
WHN Wuhan 39.11 255 P P **21 47 30.4 -0.1**
DLBC Dease Lake 39.35 51 P P **21 47 31.8 -0.4**
comp=Z,1.3nm,0.9s,mb3.6,baz=294,slow=12,SNR=1.7
DLBC Dease Lake 39.35 51 P P **21 47 31.8 -0.4**
XAN Xi'an 40.04 264 P P **21 47 36.8 -1.4**
XAN pP pP 21 47 44.1 -5.8
XAN pmax pmax
comp=Z,3.0nm,1.2s,mb3.9
XAN pmax pmax
comp=Z,17nm,6.6s
XAN LR LR
comp=N,330nm,16.9s
XAN LR LR
comp=Z,160nm,19.5s,MS3.9
LZH Lanzhou 41.88 271 *e*P P **21 47 53.9 +0.6**
LZH pP pP 21 48 02.5 -2.6
LZH sP sP 21 48 07.2 -2.9
LZH PP PP 21 49 35.3 +4.8
LZH *e*S **S** **21 54 08.0 -0.2**
LZH sS sS 21 54 22.1 -5.7
LZH SS SS 21 57 14.5 -1.0
LZH pmax pmax
comp=Z,17nm,1.0s,mb4.6
LZH pmax pmax
comp=Z,52nm,5.6s
LZH LR LR
comp=N,140nm,6.4s
LZH LR LR
comp=E,580nm,13.2s
LZH LR LR
comp=Z,650nm,13.6s,MS4.7
ENH Enshi 42.26 260 *e*P P **21 47 56.1 -0.4**
comp=Z,35nm,0.9s,mb5.0
GTA Gaotai 42.33 278 P P **21 47 56.9 -0.1**
GTA pP pP 21 48 07.1 -1.7
GTA sP sP 21 48 11.8 -2.0
GTA pmax pmax
comp=Z,9.0nm,1.0s,mb4.3
GTA pmax pmax
comp=Z,120nm,5.2s
GTA LR LR
comp=N,640nm,16.1s,MS4.8
GTA LR LR
comp=E,630nm,14.2s,MS4.8
GTA LR LR
comp=Z,780nm,13.8s,MS4.8
ZAA0 Zalesovo Array 43.24 304 *e*P P **21 48 01.4 -2.6**
ZAA0 *e*PP PP 21 49 44.6 -0.2
ZAA0 *e*PcP PcP 21 49 52.8 +0.3
ZALV Zalesovo Beam 43.24 304 P P **21 48 01.2 -2.9**
comp=Z,4.2nm,0.7s,mb4.2,baz=54,slow=7.5,SNR=14
ZALV PcP PcP 21 49 52.2 -0.3
comp=Z,3.4nm,0.9s,baz=64,slow=3.4,SNR=7.4
ZALV LR LR 22 07 25.4
comp=Z,478nm,18.9s,MS4.4,baz=69,slow=38
ZALV Zalesovo Beam 43.24 304 P P **21 48 01.2 -2.9**
ZALV PcP PcP 21 49 52.2 -0.3
ZALV LR LR 22 07 25.4
ZALV Zalesovo Beam 43.24 304 P P **21 48 01.2 -2.9**
ZALV 21 49 52.2
NVS Novosibirsk 43.62 306⇑ *i*P P **21 48 03.2 -4.0**
NVS pmax pmax
comp=N,6.0nm,1.0s
NVS pmax pmax
comp=E,16nm,1.0s
NVS pmax pmax
comp=Z,30nm,1.0s,mb5.0
YKA Yellowknife Ar 44.62 41 P P **21 48 14.9 -0.2**
comp=Z,2.2nm,0.8s,mb4.0,baz=295,slow=7.5,SNR=3.4
YKA LR LR 22 09 47.5
comp=Z,20nm,19.0s,baz=160,slow=40
YKA Yellowknife Ar 44.62 41 P P **21 48 14.9 -0.2**
YKA LR LR 22 09 47.5
YKA Yellowknife Ar 44.62 41 P P **21 48 14.9 -0.2**
RES Resolute Bay 44.93 21 P P **21 48 16.8 -0.7**
comp=Z,2.7nm,0.8s,mb4.1,baz=23,slow=12,SNR=5.8
RES Resolute Bay 44.93 21 *e*P P **21 48 17.4 -0.1**
comp=Z,6.9nm,0.9s,mb4.5
RES Resolute Bay 44.93 21 *e*P P **21 48 17.4 0.0**
RES pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
CD2 Chengdu 45.37 265 P P **21 48 22.4 +1.0**
CD2 pP pP 21 48 32.2 -1.1
CD2 sP sP 21 48 36.3 -1.9
CD2 PP PP 21 50 08.8 +0.9
CD2 S **S** **21 55 00.0 +0.8**
CD2 sS sS 21 55 16.4 -2.6
CD2 SS SS 21 58 14.4 -8.6
CD2 pmax pmax
comp=Z,30nm,0.9s,mb5.1
CD2 pmax pmax
comp=Z,120nm,4.7s
CD2 LR LR
comp=N,390nm,12.8s
CD2 LR LR
comp=Z,420nm,12.5s,MS4.6
GYA Guiyang 46.72 258 P P **21 48 30.9 -1.2**
GYA pP pP 21 48 44.3 +0.3
GYA sP sP 21 48 48.7 -0.3
GYA PP PP 21 50 22.6 +0.3
GYA ScP ScP 21 53 57.0 +2.1
GYA S **S** **21 55 19.3 +0.5**
GYA SS SS 21 58 39.8 -5.5
GYA pmax pmax
comp=Z,30nm,0.8s,mb5.3
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=N,720nm,17.7s,MS4.8
GYA LR LR
comp=E,610nm,18.2s,MS4.8
GYA LR LR
comp=Z,850nm,17.1s,MS4.8
WMQ Urumqi 47.06 290 P P **21 48 34.5 0.0**
WMQ pP pP 21 48 44.4 -2.0
WMQ sP sP 21 48 48.3 -3.1
WMQ PP PP 21 50 24.8 -0.5
WMQ S **S** **21 55 23.5 +0.3**
WMQ ScS ScS 21 58 22.1 -2.7
WMQ pmax pmax
comp=Z,25nm,0.9s,mb5.1
WMQ pmax pmax
comp=Z,69nm,7.2s
WMQ LR LR
comp=N,270nm,10.8s,MS4.8
WMQ LR LR
comp=E,720nm,15.3s,MS4.8
WMQ LR LR
comp=Z,360nm,16.8s,MS4.4
KURK Kurchatov 48.17 303 P P **21 48 41.5 -1.5**
comp=Z,18nm,0.8s,mb5.2,baz=61,slow=7.9,SNR=50
KURK PcP PcP 21 50 09.8 0.0
comp=Z,3.1nm,0.8s,baz=54,slow=4.0,SNR=4.8
KURK LR LR 22 10 35.6
comp=Z,345nm,19.4s,MS4.3,baz=45,slow=38
KURK Kurchatov 48.17 303 *e*P P **21 48 41.2 -1.8**
comp=Z,35nm,0.9s,mb5.4
KURK Kurchatov 48.17 303 P P **21 48 41.5 -1.5**
KURK 21 50 09.8
KURK pmax pmax
comp=Z,19nm,0.8s,mb5.2
KURK MLR MLR
comp=Z,345nm,19.4s,MS4.3
KURK Kurchatov 48.17 303 P P **21 48 41.9 -1.1**
comp=Z,220nm,0.9s,SNR=15
KBS Kingsbay 48.34 352 *e*P P **21 48 44.9 +0.8**
comp=Z,37nm,0.9s,mb5.4
KBS Kingsbay 48.34 352 *e*P P **21 48 44.9 +0.8**
KBS pmax pmax
comp=Z,37nm,0.9s,mb5.4
MK31 Makanchi Array 48.42 296 *e*P P **21 48 44.0 -1.0**
MK31 *e*PcP PcP 21 50 11.5 +0.8
MK31 Makanchi Array 48.42 296 *e*P P **21 48 44.1 -0.9**
MK31 *e* 21 50 11.5
MKAR Makanchi Array 48.42 296 P P **21 48 43.4 -1.6**
comp=Z,2.1nm,0.6s,mb4.4,baz=52,slow=6.9,SNR=12
MKAR LR LR 22 10 10.1
comp=Z,248nm,18.0s,MS4.2,baz=26,slow=38
MKAR Makanchi Array 48.42 296 P P **21 48 43.4 -1.6**
MKAR LR LR 22 10 10.1
MKAR Makanchi Array 48.42 296 P P **21 48 43.4 -1.6**
SPITS Spitsbergen Ar 48.58 350 P P **21 48 44.8 -1.1**
comp=Z,40nm,0.8s,mb5.5,baz=52,slow=9.6,SNR=31
SPITS Spitsbergen Ar 48.58 350 P P **21 48 44.8 -1.1**
SPITS Spitsbergen Ar 48.58 350 P P **21 48 44.8 -1.1**
SPB4 Spitsbergen Ar 48.58 350 *e*P P **21 48 46.1 +0.1**
KMI Kunming 50.11 261 P P **21 48 58.7 +0.5**
KMI pP pP 21 49 08.5 -1.7
KMI sP sP 21 49 13.1 -2.0
KMI PP PP 21 50 55.2 +1.8
KMI S **S** **21 56 05.4 -1.1**
KMI sS sS 21 56 22.9 -3.6
KMI SS SS 21 59 37.5 -2.4
KMI pmax pmax
comp=Z,20nm,1.2s,mb5.0
KMI pmax pmax
comp=Z,110nm,5.4s
KMI LR LR
comp=N,380nm,16.4s,MS4.6
KMI LR LR
comp=E,260nm,15.5s,MS4.6
KMI LR LR
comp=Z,280nm,16.4s,MS4.3
QIZ Qiongzhong 50.45 249 P P **21 49 00.4 -0.4**
QIZ S **S** **21 56 09.0 -2.4**
QIZ LR LR
comp=E,85nm,19.7s
QIZ LR LR
comp=Z,340nm,15.7s,MS4.5
BVAR Borovoye Array 50.99 309 P P **21 49 02.6 -2.0**
comp=Z,20nm,0.7s,mb5.2,baz=55,slow=8.1,SNR=49
BVAR Borovoye Array 50.99 309 P P **21 49 02.6 -2.0**
BVAR Borovoye Array 50.99 309 P P **21 49 02.6 -1.9**
BRVK Borovoye 51.03 309 *e*P P **21 49 02.8 -1.9**
comp=Z,22nm,0.7s,mb5.2
BRVK Borovoye 51.03 309 *e*P P **21 49 02.8 -2.0**
BRVK pmax pmax
comp=Z,22nm,0.7s,mb5.2
BRVK Borovoye 51.03 309 P P **21 49 02.0 -2.8**
comp=Z,191nm,0.7s,mb6.1,SNR=12
DAG Dannmarks Havn 51.95 359 *i* P **21 49 10.6 -0.7**
comp=Z,14nm,1.0s,mb4.8
BSMT Bassoo Peak 52.58 58 *e*P P **21 49 16.4 0.0**
comp=Z,5.9nm,0.9s,mb4.5
SVE Sverdlovsk 53.09 317⇑ *i*P P **21 49 19.1 -0.9**
SVE pmax pmax
comp=Z,22nm,1.4s,mb4.9
SVE MLR MLR
comp=Z,999nm,16.0s,MS5.0
BMO Blue Mountains 53.10 62 *e*P P **21 49 19.9 -0.4**
comp=Z,2.9nm,0.9s,mb4.2
MOD Modoc 53.29 67 *e*P P **21 49 21.5 -0.2**
comp=Z,7.1nm,0.9s,mb4.6
LSA Lhasa 54.06 274 *e*P P **21 49 28.4 +0.8**
comp=Z,11nm,0.8s,mb4.8
LSA Lhasa 54.06 274 *e*P P **21 49 28.4 +0.8**
LSA pmax pmax
comp=Z,11nm,0.8s,mb4.8
KEV Kevo 54.13 341 *e*p P **21 49 23.9 -3.6**
comp=Z,7.9nm,0.7s,mb4.8
ARU Arti 54.22 318 *e*P P **21 49 26.3 -2.1**
comp=Z,37nm,1.4s,mb5.1
ARU Arti 54.22 318*e i*P P **21 49 26.4 -1.9**
ARU *e* 21 51 28.2
ARU S **S** **21 57 03.5 +1.3**
ARU SS SS 22 00 41.7 -1.9
ARU pmax pmax
comp=Z,26nm,1.2s,mb5.0
ARU MLR MLR
comp=Z,664nm,15.0s,MS4.8
ARU Arti 54.22 318 P P **21 49 26.2 -2.1**
comp=Z,102nm,0.6s,mb5.9,SNR=7.1
APA Apatity 54.50 338‖ *e*P pP 21 49 41.0 -1.3
APA MLR MLR
comp=Z,3μm,16.0s,MS5.4
ARCES ARCESS Array B 54.61 342 P P **21 49 30.1 -0.9**
comp=Z,23nm,0.9s,mb5.2,baz=27,slow=10,SNR=15
ARCES LR LR 22 17 09.5
comp=Z,258nm,18.2s,MS4.3,baz=214,slow=41
ARCES ARCESS Array B 54.61 342 P P **21 49 30.1 -0.9**
ARCES LR LR 22 17 09.5
ARCES ARCESS Array B 54.61 342 P P **21 49 30.1 -0.9**
AAK Ala-Archa 55.35 297 P P **21 49 36.1 -0.6**
comp=Z,4.3nm,0.4s,mb4.8,baz=56,slow=3.6,SNR=7.0
AAK LR LR 22 14 42.6
comp=Z,338nm,18.2s,MS4.5,baz=139,slow=38
AAK Ala-Archa 55.35 297 *e*P P **21 49 36.2 -0.6**
comp=Z,15nm,1.3s,mb4.8
AAK Ala-Archa 55.35 297 *e*P P **21 49 36.2 -0.5**
AAK pmax pmax
comp=Z,15nm,1.3s,mb4.9
AAK Ala-Archa 55.35 297 P P **21 49 36.1 -0.6**
comp=Z,64nm,0.4s,mb6.0,SNR=5.9
AAK Ala-Archa 55.35 297 P P **21 49 36.2 -0.5**
comp=Z,8.1nm,0.9s,mb4.8
SUMG Summit 55.55 6 *e*P P **21 49 37.6 -0.1**
comp=Z,539nm,2.9s,mb6.1
SUMG Summit 55.55 6 *e*P P **21 49 37.6 -0.1**
SUMG Summit 55.55 6 *i* P P **21 49 38.3 +0.6**
comp=Z,9.4nm,0.9s,mb4.8
EKS2 Erkin-Say 55.73 297 *e*P P **21 49 38.8 -0.6**
comp=Z,6.7nm,0.9s,mb4.7
EKS2 Erkin-Say 55.73 297 *e*P P **21 49 38.8 -0.7**
EKS2 pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
SHL Shillong 56.53 270 *e*PKP P **21 49 47.0 +1.6**
NVAR Mina Array Bea 56.72 69 P P **21 49 47.8 +1.2**
comp=Z,0.3nm,0.3s,mb3.8,baz=316,slow=5.0,SNR=3.5
NVAR Mina Array Bea 56.72 69 P P **21 49 47.8 +1.2**
CHTO Chiang Mai 57.14 259 *e*P P **21 49 51.3 +1.5**
comp=Z,20nm,1.0s,mb5.1
CHTO Chiang Mai 57.14 259 *e*P P **21 49 51.3 +1.5**
CHTO pmax pmax
comp=Z,20nm,1.0s,mb5.1
CHTO Chiang Mai 57.14 259 P P **21 49 51.3 +1.5**
comp=Z,28nm,1.4s,mb5.1
IMW Indian Meadow 57.19 59 *e*P P **21 49 49.2 -0.6**
RRI2 Red Ridge 57.35 60 *e*P P **21 49 50.7 -0.2**
MOOW Moose Ponds 57.39 59 *e*P P **21 49 50.1 -1.1**
CM31 Chiang Mai Arr 57.41 258 *e*P P **21 49 51.9 +0.3**
comp=Z,7.5nm,0.7s,mb4.8
CMAR Chiang Mai Arr 57.41 258 P P **21 49 53.3 +1.6**
comp=Z,6.8nm,0.8s,mb4.8,baz=28,slow=7.1,SNR=67
CMAR LR LR 22 19 07.3
comp=Z,280nm,18.2s,MS4.4,baz=39,slow=41
CMAR Chiang Mai Arr 57.41 258 P P **21 49 53.3 +1.6**
CMAR LR LR 22 19 07.3
CMAR Chiang Mai Arr 57.41 258 P P **21 49 53.3 +1.6**
TAPN Taplejung 57.86 274 *e*P P **21 49 55.2 +0.5**
comp=Z,53nm,0.9s,mb5.6
TAPN Taplejung 57.86 274 *e*P P **21 49 55.2 +0.5**
comp=Z,53nm,0.9s,mb5.6
KLMR Klimovskoe 58.05 330 *e*P P **21 49 46.1 -10**
KLMR pmax pmax
comp=Z,29nm,1.4s,mb5.1
ODAN Odare 58.41 274 *e*P P **21 49 58.5 -0.1**
comp=Z,17nm,0.8s,mb5.1
ODAN Odare 58.41 274 *e*P P **21 49 58.5 -0.1**
comp=Z,17nm,0.8s,mb5.1
ABKAR Akbulak array 58.45 311 *e*P P **21 49 57.0 -1.5**
AKTK Aktyubinsk 58.53 313 P P **21 49 57.0 -2.1**
AKTO Aktyubinsk 58.53 313 P P **21 49 57.0 -2.1**
comp=Z,5.2nm,0.8s,mb4.6,baz=57,slow=6.7,SNR=7.6
AKTO Aktyubinsk 58.53 313 P P **21 49 57.0 -2.1**
GUN Gumba 58.60 276 *e*P P **21 50 00.0 +0.1**
comp=Z,23nm,0.7s,mb5.3
GUN Gumba 58.60 276 *e*P P **21 50 00.0 +0.1**
comp=Z,23nm,0.7s,mb5.3
PDAR Pinedale Array 58.69 60 P P **21 50 02.0 +1.7**
comp=Z,1.4nm,0.9s,mb4.0,baz=311,slow=3.3,SNR=7.6
PDAR Pinedale Array 58.69 60 P P **21 50 02.0 +1.7**
JOF Joensuu 58.77 335 *e*p P **21 49 58.9 -1.7**
comp=Z,4.0nm,0.6s,mb4.6
KKN Kakani 59.06 277 *e*P P **21 50 03.4 +0.3**
comp=Z,23nm,0.6s,mb5.4
KKN Kakani 59.06 277 *e*P P **21 50 03.4 +0.3**
comp=Z,23nm,0.6s,mb5.4
KKN Kakani 59.06 277 *e*P P **21 50 03.4 +0.3**
KKN pmax pmax
comp=Z,23nm,0.6s,mb5.4
PKI Pulchoki 59.13 276 *e*P P **21 50 03.8 +0.2**
comp=Z,45nm,0.9s,mb5.5
PKI Pulchoki 59.13 276 *e*P P **21 50 03.8 +0.2**
comp=Z,45nm,0.9s,mb5.5
PKI Pulchoki 59.13 276 *e*P P **21 50 03.8 +0.2**
PKI pmax pmax
comp=Z,45nm,0.9s,mb5.5
PKIN Phulchoki 59.14 276 *e*P P **21 50 03.7 +0.1**
comp=Z,20nm,0.8s,mb5.2
DMN Daman 59.29 277 *e*P P **21 50 05.2 +0.5**
comp=Z,46nm,0.8s,mb5.6
DMN Daman 59.29 277 *e*P P **21 50 05.2 +0.5**
comp=Z,46nm,0.8s,mb5.6
GKN Gorkha 59.30 277 *e*P P **21 50 04.9 +0.1**
comp=Z,51nm,0.9s,mb5.6
GKN Gorkha 59.30 277 *e*P P **21 50 04.9 +0.1**
comp=Z,51nm,0.9s,mb5.5
DANN Dangsing 59.60 278 *e*P P **21 50 07.3 +0.5**
comp=Z,49nm,0.8s,mb5.6
DANN Dangsing 59.60 278 *e*P P **21 50 07.3 +0.5**
comp=Z,49nm,0.8s,mb5.6
KOLN Koldanda 60.11 278 *e*P P **21 50 10.5 +0.2**
comp=Z,45nm,0.9s,mb5.5
KOLN Koldanda 60.11 278 *e*P P **21 50 10.5 +0.2**
comp=Z,45nm,0.9s,mb5.5
RSSD Black Hills 60.66 55 *e*P P **21 50 12.1 -1.8**
comp=Z,34nm,0.3s,mb6.0
RSSD Black Hills 60.66 55 *e*P P **21 50 12.1 -1.7**
RSSD pmax pmax
comp=Z,34nm,0.3s,mb6.0
RWWY Rawlins 60.70 59 *e*P P **21 50 16.9 +2.8**
comp=Z,19nm,0.9s,mb5.2
KAF Kangasniemi 60.72 337 *e*p P **21 50 11.9 -2.1**
comp=Z,9.8nm,0.7s,mb5.0
FINES FINESS Array B 61.35 337 P P **21 50 17.6 -0.7**
comp=Z,18nm,0.8s,mb5.2,baz=38,slow=9.6,SNR=25
FINES LR LR 22 20 46.2
comp=Z,360nm,18.1s,MS4.6,baz=147,slow=40
FINES FINESS Array B 61.35 337 P P **21 50 17.6 -0.7**
FINES LR LR 22 20 46.2
FINES FINESS Array B 61.35 337 P P **21 50 17.6 -0.7**
ISCO Idaho Springs 62.89 60 *e*P P **21 50 28.5 -0.4**
comp=Z,3.8nm,0.8s,mb4.6
ISCO Idaho Springs 62.89 60 *e*P P **21 50 28.5 -0.4**
ISCO pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
OBN Obninsk 63.57 327 *e*P P **21 50 32.3 -0.8**
OBN *e* 21 51 08.8
OBN *e* 21 52 52.9
OBN *e*SS SS 22 03 06.3 -3.8
OBN pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
OBN MLR MLR
comp=Z,500nm,15.0s,MS4.8
KBL Kabul 64.01 293 *e*P P **21 50 34.9 -1.5**
comp=Z,9.3nm,0.9s,mb4.8
KBL Kabul 64.01 293 *e*P P **21 50 34.9 -1.5**
KBL pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
NB2 NORSAR Subarra 64.89 344 P P **21 50 41.3 -0.4**
comp=Z,22nm,0.8s,mb5.2,baz=22,slow=6.9
NOA NORSAR Array B 64.89 344 P P **21 50 41.4 -0.4**
comp=Z,18nm,0.8s,mb5.2,baz=22,slow=6.6,SNR=60
NOA LR LR 22 23 41.0
comp=Z,84nm,18.2s,MS4.0,baz=25,slow=40
NOA NORSAR Array B 64.89 344 P P **21 50 41.4 -0.4**
NOA LR LR 22 23 41.0
NOA NORSAR Array B 64.89 344 P P **21 50 41.4 -0.3**
VRHR Novokhopersk 64.97 322 *e*P P **21 50 39.7 -2.7**
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR pmax pmax
comp=Z,40nm,0.8s,mb5.5
NAO01 NORSAR Array S 65.14 344 *e*P P **21 50 43.2 -0.1**
comp=Z,7.9nm,0.8s,mb4.8
STKI Sintang 65.18 235 P pP 21 50 56.8 +0.2
comp=Z,18nm,0.9s,comp=Z,3μm
VSR Storozhevoye 65.80 323 *e*P P **21 50 46.7 -1.1**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
VSR pmax pmax
comp=Z,20nm,0.9s,mb5.2
IZAR Zarasai 66.23 333 *e*P P **21 50 50.3 -0.1**
IZAR AMB AMB 21 50 50.7
comp=Z,14nm,1.1s,mb4.9
ISAL Salakas 66.42 333 *e*P P **21 50 51.6 -0.1**
ISAL AMB AMB 21 50 53.1
comp=Z,11nm,0.9s,mb4.9
IDID Didziasalis 66.47 333 *e*P P **21 50 51.5 -0.4**
IIGN Ignalina 66.58 333 *e*P P **21 50 52.8 +0.1**
IIGN AMB AMB 21 50 54.1
comp=Z,23nm,0.9s,mb5.2
KULM Kulim 66.76 248 *e*P P **21 50 54.6 +0.2**
comp=Z,7.3nm,0.8s,mb4.8
NACGM Naroch 66.81 332 *e* P **21 50 51.0 -3.2**
IPM Ipoh 67.20 247 *e*P P **21 50 57.9 +0.7**
comp=Z,9.9nm,1.0s,mb4.8
IPM Ipoh 67.20 247 P P **21 50 58.4 +1.2**
comp=Z,11nm,0.9s,mb4.9
SCHQ Schefferville 67.24 27 P P **21 50 56.2 -0.7**
comp=Z,5.1nm,0.8s,mb4.6,baz=352,slow=7.7,SNR=3.7
SCHQ Schefferville 67.24 27 P P **21 50 56.2 -0.7**
MYKOM Kota Tinggi 67.80 243 P pP 21 51 10.9 -2.5
comp=Z,13nm,1.1s
SUW Suwalki 68.61 334 *e*P P **21 51 04.8 -0.7**
SUW Suwalki 68.61 334 *e*P P **21 51 04.3 -1.2**
comp=Z,60nm,1.0s,mb5.5
SUW Suwalki 68.61 334 *e*P P **21 51 04.8 -0.7**
MAK Makhachkala 68.91 313 *e*P P **21 51 08.1 +0.6**
MAK *e* 21 51 29.6
MAK *e* 21 53 39.8
MAK S S 22 00 12.0 +3.6
MAK *e* 22 01 09.7
MAK *e*SS SS 22 04 35.8 +2.5
MAK pmax pmax
comp=Z,145nm,1.9s,mb5.6
MAK MLR MLR
comp=Z,1μm,16.0s,MS5.2
MUD Monsted U'grnd 69.58 343 *i* P P **21 51 12.3 +0.9**
comp=Z,11nm,0.9s,mb4.8
AKASG Malin Array Be 69.70 329 P P **21 51 11.3 -0.9**
comp=Z,42nm,0.8s,mb5.4,baz=31,slow=6.3,SNR=73
AKASG Malin Array Be 69.70 329 P P **21 51 11.3 -0.9**
AKASG Malin Array Be 69.70 329 P P **21 51 11.4 -0.9**
AKBB Malin Array Si 69.70 329 *e*P P **21 51 10.9 -1.4**
AKBB Malin Array Si 69.70 329 *e*P P **21 51 10.9 -1.4**
KIEV Kiev 69.71 329 *e*P P **21 51 10.6 -1.7**
comp=Z,40nm,0.9s,mb5.3
KIEV Kiev 69.71 329 *e*P P **21 51 10.6 -1.8**
KIEV pmax pmax
comp=Z,40nm,0.9s,mb5.3
PSI Prapat 69.77 248 P P **21 51 12.3 -0.9**
comp=Z,1.9nm,0.4s,mb4.4,baz=14,slow=4.2,SNR=3.8
PSI Prapat 69.77 248 P P **21 51 12.3 -0.9**

PSI Prapat 69.77 248 P **P** **21 51 12.4 -0.8**
KIV Kislovodsk 70.25 317 *e*P **P** **21 51 16.9 +1.2**
comp=Z,8,7nm,1.1s,mb4.6
KIV Kislovodsk 70.25 317⇑ *e*P **P** **21 51 16.3 +0.5**
KIV *e* 21 51 33.8
KIV *e* 21 53 51.6
KIV pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
KIV MLR MLR
comp=Z,400nm,21.0s,MS4.7
WMOK Wichita Mounta 70.29 59 *e*P **P** **21 51 15.5 -0.7**
comp=Z,6.2nm,1.0s,mb4.5
WMOK Wichita Mounta 70.29 59 *e*P **P** **21 51 15.5 -0.7**
WMOK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
ZEI Tsey 70.67 315 *e*P **P** **21 51 16.6 -1.8**
ZEI pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
KPL Plockton 70.78 351 *e*P **P** **21 51 20.8 +2.0**
KPL AMB AMB 21 51 30.8
comp=Z,68nm,2.7s,mb5.1
KPL Plockton 70.78 351 P **P** **21 51 20.8 +2.0**
KPL AMB AMB 21 51 30.8
comp=Z,68nm,2.7s,mb5.1
GKP Gorka Klasztor 70.82 337 *e*P **P** **21 51 19.1 0.0**
GKP Gorka Klasztor 70.82 337 *e*P **P** **21 51 19.1 0.0**
HYB Hyderabad 70.86 274 *i* P **P** **21 51 19.5 -0.4**
KSB Sheil Bridge 70.88 351 *e*P **P** **21 51 18.7 -0.7**
KSB Sheil Bridge 70.88 351 P **P** **21 51 18.7 -0.7**
EBH Black Hill 71.64 350 *e*P **P** **21 51 24.2 +0.2**
EBH Black Hill 71.64 350 P **P** **21 51 24.2 +0.2**
TXAR Lajitas Array 71.68 66 P **P** **21 51 26.1 +1.4**
comp=Z,1.7nm,0.8s,mb4.0,baz=294,slow=4.7,SNR=12
TXAR LR LR 22 21 49.7
comp=Z,69nm,18.9s,MS3.9,baz=5.0,slow=35
TXAR Lajitas Array 71.68 66 P **P** **21 51 26.1 +1.4**
TXAR LR LR 22 21 49.7
TXAR Lajitas Array 71.68 66 P **P** **21 51 26.1 +1.4**
ANN Anapa 71.73 320 *e*P **P** **21 51 21.0 -3.7**
ANN pmax pmax
comp=Z,26nm,1.0s,mb5.1
EAB Aberfoyle 71.78 350 *e*P **P** **21 51 24.1 -0.8**
EAB Aberfoyle 71.78 350 P **P** **21 51 24.1 -0.8**
ESY Stoneypath 71.86 349 *e*P **P** **21 51 24.6 -0.7**
ESY Stoneypath 71.86 349 P **P** **21 51 24.6 -0.7**
EDI Edinburgh 71.92 350 *e*P **P** **21 51 25.6 -0.1**
EDI AMB AMB 21 51 30.4
comp=Z,40nm,2.4s,mb4.9
EDI Edinburgh 71.92 350 P **P** **21 51 25.6 -0.1**
EDI AMB AMB 21 51 30.4
comp=Z,40nm,2.4s,mb4.9
EAU Auchinoon 72.02 350 *e*P **P** **21 51 27.0 +0.7**
EAU Auchinoon 72.02 350 P **P** **21 51 27.0 +0.7**
CTA Charters Tower 72.25 193 P **P** **21 51 28.1 +0.2**
comp=Z,0.9nm,0.3s,mb4.2,baz=18,slow=16,SNR=2.2
CTA Charters Tower 72.25 193 P **P** **21 51 28.1 +0.2**
CTA Charters Tower 72.25 193 P **P** **21 51 28.2 +0.2**
RUE Ruedersdorf 72.36 339 *e*P **P** **21 51 29.0 +0.6**
comp=Z,29nm,1.1s,mb5.1
GNI Garni 72.40 313⇑ *e*P **P** **21 51 29.0 +0.2**
GNI pmax pmax
comp=Z,15nm,2.1s
GNI MLR MLR
comp=Z,369nm,18.0s
ESK Eskdalemuir 72.52 350 *e*P **P** **21 51 28.7 -0.6**
ESK AMB AMB 21 51 29.7
comp=Z,22nm,2.6s,mb4.6
ESK Eskdalemuir 72.52 350 P **P** **21 51 28.7 -0.6**
ESK AMB AMB 21 51 29.7
comp=Z,22nm,2.6s,mb4.6
ESK Eskdalemuir 72.52 350 *e*P **P** **21 51 31.9 +2.6**
comp=Z,16nm,0.9s,mb4.9
ESK Eskdalemuir 72.52 350 *e*P **P** **21 51 31.9 +2.6**
ESK pmax pmax
comp=Z,16nm,0.9s,mb5.0
ECK Cauldkaine Hil 72.64 350 *e*P **P** **21 51 31.9 +1.9**
ECK Cauldkaine Hil 72.64 350 P **P** **21 51 31.9 +1.9**
KWP Kalwaria Pacla 72.64 332 *e*P **P** **21 51 30.5 +0.3**
KWP Kalwaria Pacla 72.64 332 *e*P **P** **21 51 30.6 +0.5**
comp=Z,142nm,1.0s,mb5.8
KWP Kalwaria Pacla 72.64 332 *e*P **P** **21 51 30.6 +0.5**
KWP pmax pmax
comp=Z,142nm,1.0s,mb5.8
KWP Kalwaria Pacla 72.64 332⇑ *i*P **P** **21 51 30.5 +0.4**
KWP Kalwaria Pacla 72.64 332⇑ *i*P **P** **21 51 30.5 +0.4**
SIM Simferopol' 72.89 323 *e*P **P** **21 51 31.6 -0.1**
SIM pmax pmax
comp=Z,17nm,0.9s,mb5.0
SIM MLR MLR
comp=Z,700nm,16.8s,MS5.0
DAGI Agillar 72.91 315 *i* P **P** **21 51 30.2 -1.6**
OJC Ojcow 72.94 334 *e*P **P** **21 51 32.3 +0.4**
OJC Ojcow 72.94 334 *e*P **P** **21 51 32.0 +0.2**
comp=Z,70nm,1.6s,mb5.3
OJC Ojcow 72.94 334 *e*P **P** **21 51 32.3 +0.4**
KIS Kishinev 73.04 327⇓ *i*P **P** **21 51 31.0 -1.5**
comp=Z,100nm,1.0s,mb5.7
KIS LRM 22 27 28.0
comp=Z,500nm,18.0s
KIS Kishinev 73.04 327⇑ *i*P **P** **21 51 31.0 -1.5**
KIS *e* 21 51 34.0
KIS *i* 21 51 48.0
KIS pmax pmax
comp=Z,110nm,1.0s,mb5.7
KIS MLR MLR
comp=Z,500nm,18.0s,MS4.8
NRDL Niedersach Rie 73.14 341 *e*P **P** **21 51 33.4 +0.4**
comp=Z,13nm,1.2s,mb4.7
KESW Keswick, Cumbr 73.22 349 *e*P **P** **21 51 33.0 -0.4**
KESW AMB AMB 21 51 33.8
comp=Z,50nm,1.6s,mb5.2
KESW Keswick, Cumbr 73.22 349 P **P** **21 51 33.0 -0.4**
KESW AMB AMB 21 51 33.8
comp=Z,50nm,1.6s,mb5.2
STHS Stebnicka Huta 73.26 333 *e*P **P** **21 51 34.3 +0.5**
STHS pmax pmax
comp=Z,19nm,0.9s,mb5.0
STHS Stebnicka Huta 73.26 333 *e*P **P** **21 51 34.3 +0.5**
KSP Ksiaz 73.28 337 *e*P **P** **21 51 34.2 +0.3**
IAS Iasi 73.29 328 ⇓P **P** **21 51 33.4 -0.6**
IAS Iasi 73.29 328⇓ *i*P **P** **21 51 33.4 -0.6**
IAS Iasi 73.29 328⇓ *i*P **P** **21 51 33.4 -0.6**
KOLS Kolonicke sedl 73.40 332 *e*P **P** **21 51 34.9 +0.3**
KOLS pmax pmax
comp=Z,19nm,1.0s,mb5.0
KOLS Kolonicke sedl 73.40 332 *e*P **P** **21 51 34.9 +0.3**
NIE Niedzica 73.52 333 *e*P **P** **21 51 35.9 +0.6**
NIE Niedzica 73.52 333 *e*P **P** **21 51 35.9 +0.6**
CLL Collm 73.63 339 *e*P **P** **21 51 36.1 +0.2**
comp=Z,14nm,0.9s,mb4.9
CLL Collm 73.63 339⇑ *i*P **P** **21 51 35.8 -0.1**
CLL *i* pP 21 51 47.3 -1.2
CLL *i* 21 51 54.9
CLL pmax pmax
comp=Z,14nm,0.9s,mb4.9
CLL MLR MLR
comp=Z,200nm,18.2s,MS4.4
CLL Collm 73.63 339⇑ *i*P **P** **21 51 35.8 -0.1**
comp=Z,14nm,0.9s,mb4.9
CLL *i* (pP) pP 21 51 47.3 -1.2
CLL *i* sP sP 21 51 54.9 +1.6
CLL LmV 22 31 00.0
comp=Z,200nm,18.2s
BUR08 Bucovina Ar. S 73.66 330 *e*P **P** **21 51 36.2 0.0**
UPC Upice 73.66 337 *e*P **P** **21 51 36.6 +0.5**
UPC Upice 73.66 337 *e*P **P** **21 51 36.6 +0.5**
CRVS Cervenica-Dubn 73.66 333 *e*P **P** **21 51 36.3 +0.2**
CRVS pmax pmax
comp=Z,15nm,1.3s,mb4.8
CRVS Cervenica-Dubn 73.66 333 *e*P **P** **21 51 36.3 +0.2**
UZH Uzhgorod 73.66 332 *d*/P **P** **21 51 35.3 -0.9**
UZH *e* 21 51 43.3
UZH *e* pP 21 51 49.7 +1.0
BURAR Bucovina Array 73.68 330⇑P **P** **21 51 36.2 -0.1**
BURAR Bucovina Array 73.68 330⇑ *i*P **P** **21 51 36.2 -0.1**
BURAR Bucovina Array 73.68 330⇑ *i*P **P** **21 51 36.2 -0.1**
LEOM Leova 73.69 327 ⇓P **P** **21 51 36.4 +0.1**
LEOM Leova 73.69 327⇓ *i*P **P** **21 51 36.4 +0.1**
LEOM Leova 73.69 327⇓ *i*P **P** **21 51 36.4 +0.1**
CLZ Clausthal 73.70 341 *e*P **P** **21 51 37.2 +0.9**
comp=Z,19nm,0.9s,mb5.0
CLZ Clausthal 73.70 341 *e*P **P** **21 51 37.2 +0.9**
CLZ pmax pmax
comp=Z,19nm,0.9s,mb5.0

DPC Dobruska-Polom 73.73 336 *e*P **P** **21 51 37.0 +0.5**
comp=Z,209nm,2.3s,mb5.7
DPC Dobruska-Polom 73.73 336 *e*P **P** **21 51 37.0 +0.5**
DPC pmax pmax
comp=Z,209nm,2.3s,mb5.7
DPC Dobruska-Polom 73.73 336 *e*P **P** **21 51 37.0 +0.5**
DPC *ex* x 21 51 44.4
OKC Ostrava-Krasne 73.73 335 *e*P **P** **21 51 36.8 +0.3**
OKC *e* 21 51 43.3
OKC Ostrava-Krasne 73.73 335 *e*P **P** **21 51 36.8 +0.3**
OKC *ex* x 21 51 43.3
BRG Berggiesshubel 73.82 338 *e*P **P** **21 51 37.2 +0.2**
comp=Z,8.0nm,1.1s,mb4.6
MORC Moravsky Berou 73.94 335 *e*P **P** **21 51 38.1 +0.3**
comp=Z,14nm,0.9s,mb4.9
MORC Moravsky Berou 73.94 335⇑P **P** **21 51 38.2 +0.4**
MORC Moravsky Berou 73.94 335⇑P **P** **21 51 38.2 +0.4**
MORC Moravsky Berou 73.94 335⇑P **P** **21 51 38.2 +0.4**
PVCC Panska Ves 73.99 337 *e*P **P** **21 51 38.5 +0.5**
PVCC Panska Ves 73.99 337 *e*P **P** **21 51 38.5 +0.5**
NEUB Neuenburg 74.00 339 *e*P **P** **21 51 38.3 +0.2**
comp=Z,10.0nm,0.8s,mb4.8
NEUB *ep*P pP 21 51 48.5 -2.1
TRPA Tarpa 74.04 332⇓P **P** **21 51 39.2 +0.8**
TRPA Tarpa 74.04 332⇓ *i*P **P** **21 51 39.2 +0.8**
BMR Baia Mare 74.16 331 ⇓P **P** **21 51 40.0 +0.9**
BMR Baia Mare 74.16 331⇓ *i*P **P** **21 51 40.0 +0.9**
BMR Baia Mare 74.16 331⇓ *i*P **P** **21 51 40.0 +0.9**
TESR 74.19 328⇓ *i*P **P** **21 51 39.3 0.0**
TESR 74.19 328⇓ *i*P **P** **21 51 39.3 0.0**
KECS Kecovo 74.32 333 *e*P **P** **21 51 40.3 +0.3**
KECS pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
KECS Kecovo 74.32 333 *e*P **P** **21 51 40.3 +0.3**
KOPT Kop Dagi 74.40 316 *i* P **P** **21 51 40.4 -0.2**
WRAB Tennant Creek 74.47 204 *e*P **P** **21 51 41.0 -0.1**
comp=Z,29nm,1.2s,mb5.1
WRAB Tennant Creek 74.47 204 *e*P **P** **21 51 41.0 -0.1**
WRAB pmax pmax
comp=Z,29nm,1.2s,mb5.1
WRAB Tennant Creek 74.47 204 P **P** **21 51 41.6 +0.5**
comp=Z,28nm,1.8s,mb4.9
WRA Warramunga Arr 74.48 204 P **P** **21 51 40.9 -0.3**
comp=Z,5.6nm,1.0s,mb4.5,baz=18,slow=6.1,SNR=19
WRA Warramunga Arr 74.48 204 P **P** **21 51 40.9 -0.3**
WRA Warramunga Ar 74.48 204 P **P** **21 51 40.9 -0.2**
PRU Pruhonice 74.50 337 *e*P **P** **21 51 41.9 +0.9**
PRU *e* 21 51 48.5
PRU MLR MLR
comp=Z,700nm,16.5s,MS5.0
PRU Pruhonice 74.50 337 *e*P **P** **21 51 41.9 +0.9**
PRU *ex* x 21 51 48.5
PRU AMS AMS 22 29 40.0
comp=Z,700nm,16.5s
MOX Moxa 74.56 339 *e*P **P** **21 51 41.9 +0.5**
comp=Z,9.0nm,1.0s,mb4.7
MOX Moxa 74.56 339 *e*P **P** **21 51 41.9 +0.5**
MOX pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
TANN Tannenbergstha 74.59 339 *ep*P pP 21 51 49.5 -4.6
TLCR 74.61 326⇑P **P** **21 51 42.1 +0.3**
TLCR 74.61 326⇑ *i*P **P** **21 51 42.1 +0.3**
TLCR 74.61 326⇑ *i*P **P** **21 51 42.1 +0.3**
VRAC Vranov 74.62 336⇑P **P** **21 51 42.4 +0.7**
VRAC Vranov 74.62 336⇑ *i*P **P** **21 51 42.4 +0.7**
VRAC Vranov 74.62 336⇑ *i*P **P** **21 51 42.4 +0.7**
GUNZ Gunzen 74.67 339 *e*P **P** **21 51 42.6 +0.6**
comp=Z,9.0nm,1.1s,mb4.6
PETR 74.69 327⇓ *i*P **P** **21 51 43.3 +1.1**
PETR 74.69 327⇓ *i*P **P** **21 51 43.3 +1.1**
BUG Bochum--Univer 74.70 342 *e*P **P** **21 51 42.3 +0.2**
comp=Z,16nm,1.0s,mb4.9
VRI Vrincioaia 74.73 328 ⇓P **P** **21 51 42.7 +0.3**
VRI Vrincioaia 74.73 328⇓ *i*P **P** **21 51 42.7 +0.3**
VRI Vrincioaia 74.73 328⇓ *i*P **P** **21 51 42.7 +0.3**
UBBA Unterbreizbach 74.74 340 *e*P **P** **21 51 42.8 +0.4**
comp=Z,14nm,1.4s,mb4.7
NKC Novy Kostel 74.76 339 *e*P **P** **21 51 42.7 +0.2**
NKC Novy Kostel 74.76 339 *e*P **P** **21 51 42.7 +0.2**
PLOR Plostina 74.77 328⇑P **P** **21 51 42.7 +0.1**
PLOR Plostina 74.77 328⇑ *i*P **P** **21 51 42.7 +0.1**
PLOR Plostina 74.77 328⇑ *i*P **P** **21 51 42.7 +0.1**
VYHS Vyhne 74.77 334 *e*P **P** **21 51 43.2 +0.6**
VYHS pmax pmax
comp=Z,45nm,2.1s,mb5.0
VYHS Vyhne 74.77 334 *e*P **P** **21 51 43.2 +0.6**
KOLL Kolacno 74.81 334 *e*P **P** **21 51 43.9 +1.1**
KOLL Kolacno 74.81 334 *e*P **P** **21 51 43.9 +1.1**
CFR Carcaliu 74.86 327⇑P **P** **21 51 43.3 +0.1**
CFR Carcaliu 74.86 327⇑ *i*P **P** **21 51 43.3 +0.1**
CFR Carcaliu 74.86 327⇑ *i*P **P** **21 51 43.3 +0.1**
TREC Trest 74.91 336 *e*P **P** **21 51 43.7 +0.3**
TREC Trest 74.91 336 *e*P **P** **21 51 43.7 +0.3**
HAKT HAKKARI 74.96 312 *i* P **P** **21 51 42.6 -1.3**
PSZ Piszkesteto 75.00 333 *e*P **P** **21 51 44.7 +0.7**
comp=Z,62nm,1.7s,mb5.3
PSZ Piszkesteto 75.00 333⇑P **P** **21 51 45.4 +1.5**
PSZ Piszkesteto 75.00 333⇑ *i*P **P** **21 51 45.4 +1.5**
PSZ Piszkesteto 75.00 333⇑ *i*P **P** **21 51 45.4 +1.5**
GRER 75.07 327⇑ *i*P **P** **21 51 46.0 +1.6**
GRER 75.07 327⇑ *i*P **P** **21 51 46.0 +1.6**
DRGR 75.19 331⇑P **P** **21 51 45.0 -0.1**
DRGR 75.19 331⇑ *i*P **P** **21 51 45.0 -0.1**
DRGR 75.19 331⇑ *i*P **P** **21 51 45.0 -0.1**
ROTZ Rotzenmuhle 75.25 339 *e*P **P** **21 51 46.2 +0.8**
comp=Z,12nm,1.3s,mb4.7
MLR Muntele Rosu 75.32 328 ⇓P **P** **21 51 46.5 +0.7**
MLR Muntele Rosu 75.32 328⇓ *i*P **P** **21 51 46.5 +0.7**
MLR Muntele Rosu 75.32 328⇓ *i*P **P** **21 51 46.5 +0.7**
FITZ Fitzroy Crossi 75.35 213 P **P** **21 51 46.8 +0.6**
comp=Z,3.8nm,0.9s,mb4.3,baz=22,slow=3.3,SNR=5.0
FITZ Fitzroy Crossi 75.35 213 P **P** **21 51 46.8 +0.6**
TIRR Tirgusor 75.39 326 *e*P **P** **21 51 46.0 -0.2**
comp=Z,32nm,0.8s,mb5.3
TIRR Tirgusor 75.39 326 ⇓P **P** **21 51 46.4 +0.2**
TIRR Tirgusor 75.39 326⇓ *i*P **P** **21 51 46.4 +0.2**
TIRR Tirgusor 75.39 326⇓ *i*P **P** **21 51 46.4 +0.2**
ERBA Erbaa 75.44 319 *i* P **P** **21 51 46.3 -0.3**
ISR Istrita 75.45 328⇑P **P** **21 51 47.7 +1.1**
ISR Istrita 75.45 328⇑ *i*P **P** **21 51 47.7 +1.1**
ISR Istrita 75.45 328⇑ *i*P **P** **21 51 47.7 +1.1**
ZST Bratislava 75.51 335 *e*P **P** **21 51 48.0 +1.1**
ZST pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
ZST Bratislava 75.51 335 *e*P **P** **21 51 48.0 +1.1**
KHC Kasperske Hory 75.53 338 *e*P **P** **21 51 46.8 -0.2**
comp=Z,14nm,0.9s,mb4.9
KHC Kasperske Hory 75.53 338 *e*P **P** **21 51 47.5 +0.5**
KHC MLR MLR
comp=Z,700nm,9.3s
KHC Kasperske Hory 75.53 338 *e*P **P** **21 51 47.5 +0.5**
KHC *ep*P pP 21 51 59.0 -0.6
KHC AMS AMS 22 30 30.0
comp=Z,700nm,9.3s
GRF Grafenberg Arr 75.54 339 *e*P **P** **21 51 48.1 +1.1**
comp=Z,24nm,1.0s,mb5.1
GRF *eL* 22 29 58.2
comp=Z,195nm,18.2s
GRF Grafenberg Arr 75.54 339 *e*P **P** **21 51 48.1 +1.1**
GRF pmax pmax
comp=Z,24nm,1.0s,mb5.1
GRF MLR MLR
comp=Z,200nm,18.2s,MS4.5
GRFO Grafenberg 75.55 339 *e*P **P** **21 51 48.1 +1.1**
comp=Z,18nm,1.0s,mb5.0
GRFO Grafenberg 75.55 339 *e*P **P** **21 51 48.1 +1.1**
GRFO pmax pmax
comp=Z,18nm,1.0s,mb5.0
AMRR Amara 75.63 327⇑ *i*P **P** **21 51 48.1 +0.5**
AMRR Amara 75.63 327⇑P **P** **21 51 48.1 +0.5**
TNS Taunus Mts 75.63 341 *e*P **P** **21 51 48.2 +0.7**
comp=Z,12nm,1.1s,mb4.7
TNS Taunus Mts 75.63 341 *e*P **P** **21 51 48.2 +0.7**
TNS pmax pmax
comp=Z,12nm,1.1s,mb4.7
VOIR 75.66 329⇑P **P** **21 51 48.4 +0.6**
VOIR 75.66 329⇑ *i*P **P** **21 51 48.4 +0.6**
VOIR 75.66 329⇑ *i*P **P** **21 51 48.4 +0.6**
WET Wettzell 75.68 338 *e*P **P** **21 51 48.8 +1.0**
comp=Z,18nm,1.1s,mb4.9
WET Wettzell 75.68 338 *e*P **P** **21 51 48.8 +1.0**
WET pmax pmax
comp=Z,18nm,1.1s,mb4.9

MEM Membach 75.73 343 P **P** **21 51 48.4 +0.3**
comp=Z,16nm,1.1s,mb4.9
GEC2 GERESS Array S 75.77 337 *e*P **P** **21 51 48.9 +0.6**
comp=Z,10.0nm,1.1s,mb4.7
GEC2 GERESS Array S 75.77 337 *e*P **P** **21 51 48.9 +0.6**
GEC2 pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
GERES GERESS Array B 75.77 337 P **P** **21 51 48.6 +0.3**
comp=Z,4.5nm,0.7s,mb4.5,baz=35,slow=4.9,SNR=34
GERES LR LR 22 30 06.2
comp=Z,310nm,18.1s,MS4.7,baz=21,slow=40
GERES GERESS Array B 75.77 337 P **P** **21 51 48.6 +0.3**
GERES LR LR 22 30 06.2
GERES GERESS Array B 75.77 337 P **P** **21 51 48.6 +0.3**
KEMA Kemaliye 75.88 317 *i* P **P** **21 51 48.5 -0.7**
SULR 75.93 328⇑P **P** **21 51 48.3 -1.1**
SULR 75.93 328⇑ *i*P **P** **21 51 48.3 -1.1**
BCLA Clavier 76.04 343 P **P** **21 51 50.5 +0.6**
CONA Conrad Observa 76.08 336⇑ *i*P **P** **21 51 51.1 +1.0**
comp=Z,13nm,0.9s,mb4.8,SNR=6.3
CTKT Corum 76.29 320 *i* P **P** **21 51 50.9 -0.6**
ELZG Elazig 76.31 316 *i* P **P** **21 51 51.8 +0.2**
ILGA Ilgaz 76.35 321 *i* P **P** **21 51 52.9 +1.1**
GZR Gura Zlata 76.42 330 ⇓P **P** **21 51 52.4 +0.3**
GZR Gura Zlata 76.42 330⇓ *i*P **P** **21 51 52.3 +0.2**
GZR Gura Zlata 76.42 330⇓ *i*P **P** **21 51 52.3 +0.2**
GIVF Givet 76.43 343 *e*P **P** **21 51 52.3 +0.2**
GIVF Givet 76.43 343 *e*P **P** **21 51 52.3 +0.2**
GIVF Givet 76.43 343 *e*P **P** **21 51 52.3 +0.2**
DOU Dourbes 76.48 344 P **P** **21 51 52.8 +0.5**
comp=Z,13nm,2.6s,mb4.4
BZS Buzias 76.58 331 ⇓P **P** **21 51 52.9 -0.1**
BZS Buzias 76.58 331⇓ *i*P **P** **21 51 52.9 -0.1**
BZS Buzias 76.58 331⇓ *i*P **P** **21 51 52.9 -0.1**
BAIF Baives 76.58 344 *e*P **P** **21 51 53.2 +0.3**
comp=Z,27nm,1.0s,mb4.8
BAIF Baives 76.58 344 *e*P **P** **21 51 53.2 +0.3**
comp=Z,14nm,1.0s,mb4.8
BAIF Baives 76.58 344 *e*P **P** **21 51 53.2 +0.3**
BAIF pmax pmax
comp=Z,14nm,1.0s,mb4.8
PKSM Moragy 76.91 333⇑P **P** **21 51 55.2 +0.4**
PKSM Moragy 76.91 333⇑ *i*P **P** **21 51 55.2 +0.4**
PKSM Moragy 76.91 333⇑ *i*P **P** **21 51 55.2 +0.4**
AKCD Akcadag 76.94 316 *i* P **P** **21 51 55.8 +0.6**
ELDT Eldivan 76.94 321 *i* P **P** **21 51 55.2 0.0**
RJOB Jochberg 77.02 338 *e*P **P** **21 51 56.4 +1.0**
comp=Z,9.0nm,1.0s,mb4.7
PINB Pinarbasi 77.27 318 *i* P **P** **21 51 57.3 +0.3**
PALK Pallekele 77.28 266 *i* P **P** **21 51 58.2 +0.8**
PALK Pallekele 77.28 266 P **P** **21 51 58.5 +1.1**
comp=Z,18nm,1.3s,mb4.8
SZH Strazhica 77.29 327 P **P** **21 51 55.0 -2.0**
CDAG Cicekdag 77.31 320 *i* P **P** **21 51 56.4 -0.8**
SGKT Sivrigoynuk 77.41 322 *i* P **P** **21 51 57.0 -0.8**
SOKA Soboth 77.45 336⇑ *i*P **P** **21 51 58.6 +0.7**
comp=Z,15nm,1.0s,mb4.9
BFO Black Forest 77.45 341 *e*P **P** **21 51 58.1 +0.2**
comp=Z,10.0nm,1.0s,mb4.7
BFO Black Forest 77.45 341 *e*P **P** **21 51 58.1 +0.2**
BFO pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
PERS Pernice 77.47 336 *i* P **P** **21 51 58.4 +0.4**
KBA Koelnbreinsper 77.50 337 *i* P **P** **21 51 59.4 +1.2**
comp=Z,57nm,0.9s,mb5.5,SNR=39
BR131 Keskin Array S 77.51 320 *e*P **P** **21 51 58.1 -0.2**
comp=Z,18nm,0.9s,mb5.0
BRTR Keskin Array B 77.51 320 P **P** **21 51 58.5 +0.1**
comp=Z,18nm,0.9s,mb5.0,baz=46,slow=3.6,SNR=66
BRTR Keskin Array B 77.51 320 P **P** **21 51 58.5 +0.1**
BRTR Keskin Array B 77.51 320 P **P** **21 51 58.5 +0.1**
PVL Pavlikeni 77.54 327 P **P** **21 51 55.9 -2.5**
CDF Champ du Feu 77.59 341 *e*P **P** **21 51 59.0 +0.4**
comp=Z,31nm,1.1s,mb4.9
CDF Champ du Feu 77.59 341 *e*P **P** **21 51 59.0 +0.4**
comp=Z,16nm,1.1s,mb4.8
CDF Champ du Feu 77.59 341 *e*P **P** **21 51 59.0 +0.4**
CDF pmax pmax
comp=Z,16nm,1.1s,mb4.9
BANOM Banah 77.72 296 ⇑P **P** **21 51 59.7 0.0**
SNR=11
BANOM P 21 52 00.2
SNR=6.0
MOTA Moosalm 77.78 339⇑ *i*P **P** **21 52 00.4 +0.7**
comp=Z,22nm,1.1s,mb5.0
ECH Echery 77.80 341 *e*P **P** **21 51 59.2 -0.5**
comp=Z,15nm,1.3s,mb4.8
ECH Echery 77.80 341 *e*P **P** **21 51 59.3 -0.5**
ECH pmax pmax
comp=Z,15nm,1.3s,mb4.8
BBAL Bala 77.88 320 *i* P **P** **21 51 60.0 -0.4**
GZT Gaziantep 77.88 316 *i* P **P** **21 51 59.3 -1.2**
MEZF Maizieres J'vi 77.93 343 *e*P **P** **21 52 01.1 +0.6**
comp=Z,25nm,0.8s,mb4.9
MEZF Maizieres J'vi 77.93 343 *e*P **P** **21 52 01.1 +0.6**
comp=Z,25nm,0.8s,mb5.2
MPEP Malo Peshtene 77.94 329 P **P** **21 52 00.8 +0.1**
ABTA Abfaltersbach 78.01 337⇑ *i*P **P** **21 52 01.5 +0.5**
comp=Z,24nm,0.9s,mb5.1,SNR=11
CRES Cresnjev 78.13 335 *e*P **P** **21 52 02.3 +0.6**
ASAR Alice Springs 78.16 204 P **P** **21 52 02.6 +0.7**
comp=Z,1.1nm,0.9s,mb3.8,baz=14,slow=5.7,SNR=7.7
ASAR Alice Springs 78.16 204 P **P** **21 52 02.6 +0.7**
ASAR Alice Springs 78.16 204 P **P** **21 52 02.6 +0.7**
HAU Haudompre 78.16 342 *e*P **P** **21 52 01.9 +0.1**
comp=Z,20nm,0.9s,mb4.7
HAU *e*MLR MLR
comp=Z,244nm,18.5s,MS4.3
HAU Haudompre 78.16 342 *e*P **P** **21 52 01.9 +0.1**
comp=Z,10nm,0.9s,mb4.8
HAU LR LR
comp=Z,240nm,18.5s,MS4.6
HAU Haudompre 78.16 342 *e*P **P** **21 52 01.9 +0.1**
HAU pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
HAU MLR MLR
comp=Z,240nm,18.5s,MS4.6
LJU Ljubljana 78.17 336 *e*P **P** **21 52 03.0 +1.1**
FETA Feichten 78.17 339⇑ *i*P **P** **21 52 02.8 +0.9**
comp=Z,14nm,0.9s,mb4.9,SNR=15
SFTF Sexfontaines 78.22 343 *e*P **P** **21 52 02.5 +0.4**
comp=Z,50nm,0.9s,mb5.1
SFTF Sexfontaines 78.22 343 *e*P **P** **21 52 02.5 +0.4**
comp=Z,50nm,0.9s,mb5.4
HINF Hinteralfeld 78.24 341 *e*P **P** **21 52 02.2 -0.1**
HINF Hinteralfeld 78.24 341 *e*P **P** **21 52 02.2 -0.1**
HINF Hinteralfeld 78.24 341 *e*P **P** **21 52 02.2 -0.1**
DIVS Divibare 78.44 331 P **P** **21 52 02.5 -0.9**
KUZU Kuzuini 78.58 316 *i* P **P** **21 52 04.1 -0.3**
HATD Hatta, Dubai 78.67 296 ⇓P **P** **21 52 05.0 0.0**
SNR=11
WBK Wadi Bani Khal 78.77 292 ⇑P **P** **21 52 06.6 +1.0**
SNR=9.1
WBK P 21 52 06.9
SNR=5.7
ESKT Eskisehir 78.79 322 *i* P **P** **21 52 03.6 -1.8**
VTS Vitosha 78.80 329 P **P** **21 52 05.5 +0.1**
VTS Vitosha 78.80 329 ⇓P **P** **21 52 05.6 +0.2**
VTS Vitosha 78.80 329⇓ *i*P **P** **21 52 05.6 +0.2**
VTS Vitosha 78.80 329⇓ *i*P **P** **21 52 05.6 +0.2**
ASHO Ashiyiah 78.82 296 ⇓P **P** **21 52 05.6 -0.2**
SNR=9.1
ULDT Uludag 78.89 323 *i* P **P** **21 52 04.6 -1.4**
SMDO Samad 78.95 293 ⇑P **P** **21 52 06.7 +0.1**
SNR=6.6
HOQ Hoqain 78.97 294 ⇑P **P** **21 52 06.5 -0.2**
SNR=9.8
TUE Stuetta 79.00 339 *e*P **P** **21 52 07.3 +0.8**
comp=Z,14nm,0.8s,mb4.9
GRR Gorron 79.01 347 *e*P **P** **21 52 07.2 +0.7**
comp=Z,28nm,0.8s,mb4.9
GRR Gorron 79.01 347 *e*P **P** **21 52 07.2 +0.7**
comp=Z,14nm,0.8s,mb4.9
GRR Gorron 79.01 347 *e*P **P** **21 52 07.2 +0.7**
GRR pmax pmax
comp=Z,14nm,0.8s,mb4.9
GULE Gulek 79.13 318 *i* P **P** **21 52 07.8 +0.5**
COBT Iskenderun 79.15 317 *i* P **P** **21 52 06.9 -0.6**
KDHN Kadinhani 79.15 321 *i* P **P** **21 52 06.8 -0.7**
LOR Lormes 79.33 343 *e*P **P** **21 52 08.5 +0.2**
comp=Z,34nm,1.0s,mb5.0
LOR *e*MLR MLR
comp=Z,155nm,17.2s,MS4.1
LOR Lormes 79.33 343 *e*P **P** **21 52 08.5 +0.2**
comp=Z,17nm,1.0s,mb4.9

LOR LR LR
comp=Z,160nm,17.3s,MS4.4
LOR Lormes 79.33 343 *eP* **P 21 52 08.5 +0.2**
LOR pmax pmax
comp=Z,17nm,1.0s,mb4.9
LOR MLR MLR
comp=Z,160nm,17.3s,MS4.4
SGMF Saint Gilles 79.37 348 *eP* **P 21 52 09.3 +0.8**
comp=Z,78nm,1.1s,mb5.3
SGMF Saint Gilles 79.37 348 *eP* **P 21 52 09.3 +0.8**
comp=Z,39nm,1.1s,mb5.2
SGMF Saint Gilles 79.37 348 *eP* **P 21 52 09.3 +0.8**
SGMF pmax pmax
comp=Z,39nm,1.1s,mb5.2
JMDO Jabal Madar 79.46 293 P **P 21 52 09.6 +0.2**
SNR=18
MIB Mutribah 79.46 305 *eP* **P 21 52 08.6 -0.6**
MIB AMb AMB 21 52 09.8
comp=Z,110nm,0.9s,mb5.8
UMR Umm Al-Rimmam 79.47 305 *eP* **P 21 52 08.6 -0.7**
UMR AMb AMB 21 52 09.4
comp=Z,57nm,0.8s,mb5.5
MMB Musomiste 79.53 328 P **P 21 52 07.2 -2.2**
CABF La Chapelle 79.55 342 *eP* **P 21 52 10.1 +0.7**
CABF La Chapelle 79.55 342 *eP* **P 21 52 10.1 +0.7**
CABF La Chapelle 79.55 342 *eP* **P 21 52 10.1 +0.7**
SSF Saint Saulge 79.60 343 *eP* **P 21 52 09.9 +0.2**
comp=Z,18nm,0.8s,mb4.8
SSF Saint Saulge 79.60 343 *eP* **P 21 52 09.9 +0.2**
comp=Z,8.9nm,0.8s,mb4.8
SSF Saint Saulge 79.60 343 *eP* **P 21 52 09.9 +0.2**
SSF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
DURS Dursunbey 79.61 324 *i* P **P 21 52 08.0 -1.9**
YAYL Yayladag 79.62 316 *i* P **P 21 52 09.5 -0.6**
GDZ Gediz 79.68 323 *i* P **P 21 52 08.4 -1.9**
NVR Nevrokopi 79.69 328 P **P 21 52 10.4 +0.1**
QUIF Quistinic 79.78 348 *eP* **P 21 52 11.8 +1.1**
QUIF Quistinic 79.78 348 *eP* **P 21 52 11.8 +1.1**
QUIF Quistinic 79.78 348 *eP* **P 21 52 11.8 +1.1**
BALY Balya 79.81 324 *i* P **P 21 52 10.2 -0.8**
AVF Avril sur Loir 79.89 344 *eP* **P 21 52 11.6 +0.3**
comp=Z,35nm,0.9s,mb5.0
AVF Avril sur Loir 79.89 344 *eP* **P 21 52 11.6 +0.3**
comp=Z,18nm,0.9s,mb5.0
AVF Avril sur Loir 79.89 344 *eP* **P 21 52 11.6 +0.3**
AVF pmax pmax
comp=Z,18nm,0.9s,mb5.0
SMF Signal de Mont 79.94 343 *eP* **P 21 52 11.8 +0.2**
comp=Z,35nm,1.2s,mb4.9
SMF Signal de Mont 79.94 343 *eP* **P 21 52 11.8 +0.2**
comp=Z,18nm,1.2s,mb4.9
SMF Signal de Mont 79.94 343 *eP* **P 21 52 11.8 +0.2**
SMF pmax pmax
comp=Z,18nm,1.2s,mb4.9
NAY Al-Naaiem 79.95 305 *eP* **P 21 52 11.2 -0.7**
NAY AMb AMB 21 52 12.5
comp=Z,50nm,1.0s,mb5.4
SRS Serrai 79.99 328 P **P 21 52 12.1 +0.1**
VAY Valandovo 80.15 328 *eP* **P 21 52 12.3 -0.5**
KNT Kendrikon 80.18 328 P **P 21 52 13.5 +0.5**
BGF Bois d'Agland 80.20 344 *eP* **P 21 52 13.3 +0.3**
BGF Bois d'Agland 80.20 344 *eP* **P 21 52 13.3 +0.3**
BGF Bois d'Agland 80.20 344 *eP* **P 21 52 13.3 +0.3**
LPL La Plagne 80.47 341 *eP* **P 21 52 15.8 +1.4**
comp=Z,16nm,0.7s,mb4.8
LPL La Plagne 80.47 341 *eP* **P 21 52 15.8 +1.4**
comp=Z,8.0nm,0.7s,mb4.8
LPL La Plagne 80.47 341 *eP* **P 21 52 15.8 +1.4**
LPL pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
LPG La Plagne 80.48 341 *eP* **P 21 52 16.0 +1.5**
comp=Z,22nm,0.9s,mb4.8
LPG La Plagne 80.48 341 *eP* **P 21 52 16.0 +1.5**
comp=Z,11nm,0.9s,mb4.8
LPG La Plagne 80.48 341 *eP* **P 21 52 16.0 +1.5**
LPG pmax pmax
comp=Z,11nm,0.9s,mb4.8
KRUS Krusevo 80.53 329 *eP* **P 21 52 14.2 -0.6**
GRG Griva 80.53 328 P **P 21 52 15.8 +0.9**
MANT Manisa 80.56 323 *i* P **P 21 52 13.5 -1.6**
TCF Toulx Ste Croi 80.57 344 *eP* **P 21 52 15.6 +0.6**
comp=Z,32nm,1.1s,mb4.9
TCF Toulx Ste Croi 80.57 344 *eP* **P 21 52 15.6 +0.6**
comp=Z,16nm,1.1s,mb4.9
TCF Toulx Ste Croi 80.57 344 *eP* **P 21 52 15.6 +0.6**
TCF pmax pmax
comp=Z,16nm,1.1s,mb4.9
MFF Saint Martin d 80.65 346 *eP* **P 21 52 16.6 +1.2**
comp=Z,20nm,0.9s,mb4.7
MFF Saint Martin d 80.65 346 *eP* **P 21 52 16.6 +1.2**
comp=Z,9.8nm,0.9s,mb4.7
MFF Saint Martin d 80.65 346 *eP* **P 21 52 16.6 +1.2**
MFF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
PLG Polygyros 80.71 327 P **P 21 52 15.2 -0.6**
TIR Tirane 80.98 330 *eP* **P 21 52 17.4 +0.2**
comp=Z,35nm,0.9s,mb5.3
TIR Tirane 80.98 330 *eP* **P 21 52 17.4 +0.1**
TIR pmax pmax
comp=Z,35nm,0.9s,mb5.3
PAIG Palíouri 81.03 327 P **P 21 52 16.9 -0.6**
KORT Korkueli 81.17 321 *i* P **P 21 52 16.9 -1.4**
ORIF Oris-en-Rattie 81.21 341 *eP* **P 21 52 18.5 +0.1**
comp=Z,16nm,0.9s,mb4.7
ORIF *e*MLR MLR
comp=Z,181nm,21.2s,MS4.1
ORIF Oris-en-Rattie 81.21 341 *eP* **P 21 52 18.5 +0.1**
comp=Z,7.9nm,0.9s,mb4.6
ORIF Oris-en-Rattie 81.21 341 *eP* **P 21 52 18.5 +0.1**
ORIF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MBDF Montbardon 81.21 341 *eP* **P 21 52 19.7 +1.3**
comp=Z,45nm,1.4s,mb4.9
MBDF Montbardon 81.21 341 *eP* **P 21 52 19.7 +1.3**
comp=Z,22nm,1.4s,mb4.9
MBDF Montbardon 81.21 341 *eP* **P 21 52 19.7 +1.3**
MBDF pmax pmax
comp=Z,23nm,1.4s,mb4.9
NEST Nestorio 81.46 329 P **P 21 52 19.6 -0.2**
VIVF Saint-Julien-l 81.51 342 *eP* **P 21 52 20.8 +0.8**
VIVF Saint-Julien-l 81.51 342 *eP* **P 21 52 20.8 +0.8**
VIVF Saint-Julien-l 81.51 342 *eP* **P 21 52 20.8 +0.8**
AYDN Tasoluk 81.54 323 *i* P **P 21 52 20.5 +0.2**
CSS Prodhromos 81.72 318 *eP* **P 21 52 21.0 -0.2**
comp=Z,64nm,1.4s,mb5.4
AQU L'Aquila 81.90 335 *eP* **P 21 52 25.3 +3.2**
comp=Z,29nm,0.9s,mb5.2
AQU L'Aquila 81.90 335 *eP* **P 21 52 25.3 +3.2**
AQU pmax pmax
comp=Z,29nm,0.9s,mb5.2
CAF Calviac 81.92 344 *eP* **P 21 52 23.2 +1.1**
comp=Z,25nm,1.1s,mb4.8
CAF Calviac 81.92 344 *eP* **P 21 52 23.2 +1.1**
comp=Z,12nm,1.1s,mb4.8
CAF Calviac 81.92 344 *eP* **P 21 52 23.2 +1.1**
CAF pmax pmax
comp=Z,12nm,1.1s,mb4.7
PPT Papeete 81.96 131 LR LR 22 30 49.3
comp=Z,236nm,18.0s,MS4.6,baz=21,slow=37
JAN Janina 82.21 329 P **P 21 52 23.5 -0.3**
LASF Ste Croix 82.42 342 *eP* **P 21 52 25.5 +0.7**
LASF Ste Croix 82.42 342 *eP* **P 21 52 25.5 +0.7**
ASF Jabal al Asfar 82.54 314 P **P 21 52 25.7 +0.1**
comp=Z,16nm,0.9s,mb5.0,baz=169,slow=5.2,SNR=20
ASF Jabal al Asfar 82.54 314 P **P 21 52 25.7 +0.1**
ASF Jabal al Asfar 82.54 314 P **P 21 52 25.7 +0.1**
LKD2 Lefkada island 83.06 329 P **P 21 52 28.1 -0.1**
MTLF Montolieu 83.43 343 *eP* **P 21 52 31.2 +1.2**
comp=Z,28nm,1.2s,mb4.8
MTLF Montolieu 83.43 343 *eP* **P 21 52 31.2 +1.2**
comp=Z,14nm,1.2s,mb4.9
MTLF Montolieu 83.43 343 *eP* **P 21 52 31.2 +1.2**
MTLF pmax pmax
comp=Z,14nm,1.2s,mb4.9
VLS Valsamata 83.64 328 P **P 21 52 30.1 -1.1**
EPF Esparros 84.05 345 *eP* **P 21 52 34.0 +0.8**
comp=Z,6.8nm,0.8s,mb4.6
EPF Esparros 84.05 345 *eP* **P 21 52 34.0 +0.8**
comp=Z,3.4nm,0.8s,mb4.5
EPF Esparros 84.05 345 *eP* **P 21 52 34.0 +0.8**
EPF pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
SJPF Ste Jean 84.22 346 *eP* **P 21 52 35.2 +1.1**
comp=Z,31nm,1.1s,mb5.1
SJPF Ste Jean 84.22 346 *eP* **P 21 52 35.2 +1.1**
comp=Z,16nm,1.0s,mb5.1
SJPF Ste Jean 84.22 346 *eP* **P 21 52 35.2 +1.1**
SJPF pmax pmax
comp=Z,16nm,1.0s,mb5.1
LAST Lasithi 84.65 324 P **P 21 52 35.3 -1.1**
EIL Elat 85.54 314 P **P 21 52 40.8 -0.2**
comp=Z,14nm,0.8s,mb5.2,baz=347,slow=5.3,SNR=14
EIL Elat 85.54 314 P **P 21 52 40.8 -0.2**
ESDC Sonseca Array 87.99 347 P **P 21 52 52.2 -0.5**
comp=Z,1.4nm,0.7s,mb4.3,baz=14,slow=4.4,SNR=4.0
ESDC LR LR 22 39 51.0
comp=Z,103nm,18.8s,MS4.3,baz=85,slow=41
ESDC Sonseca Array 87.99 347 P **P 21 52 52.2 -0.5**
ESDC LR LR 22 39 51.0
KEST Kesra 89.19 336 P **P 21 53 00.2 +1.8**
comp=Z,7.4nm,0.8s,mb5.1,baz=310,slow=3.4,SNR=21
KEST Kesra 89.19 336 P **P 21 53 00.2 +1.8**

ISCJB ***03*** *21:48:13.7±0.7, 4.˚68S±0.˚07×29.˚45E±0.˚07, h10km, mb3.8/3, Error ellipse: s-maj=11.8km s-min=7.7km az=41.3*
IDC ***03*** *21:48:14.6±1.6, 4.˚64S×29.˚43E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.4/23, mbtmp3.9/3, ML4.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.8/32, Error ellipse: s-maj=35.4km s-min=23.4km az=159.0*
NEIC ***03*** *21:48:15.9±0.8, 4.˚66S×29.˚31E, h10km, mb3.9/3, Error ellipse: s-maj=13.8km s-min=12.4km az=202.0*
ISC 03 21:48:16.2±4.4, **4.˚64S**±0.˚07×**29.˚40E**±0.˚07, **h12**km±29km, **n13**, σ**0**s**90**/16, **mb3.8**/3, **Lake Tanganyika region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**8.58**	**66**	Pn	**Pn**		**21 50 21.4**	**+1.0**
	2.2nm,0.3s,baz=180,slow=24,SNR=30							
KMBO				Sn	**Sn**		**21 51 56.3**	**-1.0**
	4.3nm,0.3s,baz=10,slow=23,SNR=6.7							
KMBO				Lg			21 52 45.7	
	6.5nm,0.3s,baz=200,slow=22,SNR=13							
KMBO				LR	LR		21 53 27.3	
	comp=Z,94nm,19.7s,baz=0.0,slow=37							
KMBO	**Kilima Mbogo**	**8.58**	**66**	Pn	**Pn**		**21 50 21.4**	**+1.0**
KMBO				Sn	**Sn**		**21 51 56.3**	**-1.0**
KMBO				Lg			21 52 45.7	
KMBO				LR	LR		21 53 27.3	
LSZ	**Lusaka**	**10.64**	**186**	*e*Pn	**Pn**		**21 50 48.4**	**-0.2**
	2.4nm,0.4s							
LSZ				*e*Sn	**Sn**		**21 52 48.1**	**+0.4**
MSKU	**Masuku**	**16.04**	**280**	Pn	**Pn**		**21 51 58.7**	**-3.1**
	4.4nm,0.3s,baz=129,slow=17,SNR=19							
MSKU				Lg			21 56 45.8	
	baz=212,slow=12,SNR=3.6							
MSKU	**Masuku**	**16.04**	**280**	Pn	**Pn**		**21 51 58.7**	**-3.1**
MSKU				Lg			21 56 45.9	
TSUM	**Tsumeb**	**18.50**	**218**	*e*P	**Pn**		**21 52 32.1**	**-0.5**
	3.6nm,0.6s							
LBTB	**Lobatse**	**20.59**	**190**	P	**P**		**21 52 54.3**	**-0.9**
ABPO	**Ambohimpanom**	**22.52**	**131**	*e*P	**P**		**21 53 16.4**	**+0.4**
	2.7nm,0.7s,mb3.8							
BOSA	**Boshof**	**24.16**	**189**	P	**P**		**21 53 32.9**	**+0.4**
	2.8nm,0.7s,mb3.8,baz=9.9,slow=12,SNR=5.0							
BOSA	**Boshof**	**24.16**	**189**	*e*P	**P**		**21 53 32.8**	**+0.4**
	12nm,1.1s,mb4.2							
TORD	**Torodi Ar. Bea**	**32.70**	**303**	P	**P**		**21 54 49.2**	**+0.3**
	0.5nm,0.7s,mb3.5,baz=125,slow=8.6,SNR=9.7							
TORD	**Torodi Ar. Bea**	**32.70**	**303**	P	**P**		**21 54 49.2**	**+0.3**
DBIC	**Dimbokro**	**35.99**	**288**	*e*P	**P**		**21 55 18.7**	**+1.2**

MEX 03 21:53:02.9±0.7, **18.˚12N**×**103.˚42W**, **h5**km, **MD3.5**, **Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.18**	**22**	*e*P		Pg	21 53 05.8	-0.6
MMIG				*i* S		Sg	21 53 08.7	-0.1
R15V		**1.17**	**333**	*i* P		Pg	21 53 21.9	-3.5
R15V				*i* S		Sg	21 53 37.6	-3.0
EZ5V		**1.36**	**353**	*e*P		Pn	21 53 25.1	-3.5
EZ5V				*i* S		Sb	21 53 42.5	-4.1
ZIIG	**Zihuatanejo**	**1.93**	**105**	*i* P		Pn	21 53 33.1	-3.3
ZIIG				*i* S		Sn	21 53 56.7	-4.3
SFJM	**Santa Fe**	**2.38**	**9**	*i* P		Pn	21 53 42.3	-0.2
SFJM				*i* S		Sn	21 54 10.5	-1.6

NIED ***03*** *21:54:00, 29.˚30N×130.˚60E, h29km, Mw4.2 Best double couple: M₀2.39000×10¹⁵ NP1:φ₀218.00000°, δ61.00000°, λ-68.00000°. NP2:φ₀358.00000°, δ36.00000°, λ-124.00000°.*
JMA ***03*** *21:54:14.5±0.2, 29.˚29N×130.˚57E, h29km±5km, M4.2*
ISCJB ***03*** *21:54:15.4±0.6, 29.˚32N±0.˚03×130.˚43E±0.˚08, h58km±5km, mb3.8/14, Error ellipse: s-maj=12.0km s-min=4.6km az=15.9*
IDC ***03*** *21:54:15.7±0.8, 29.˚35N×130.˚43E, h42km±8km, mb3.5/10, mb1 3.7/12, mb1mx3.6/26, mbtmp3.5/12, ML3.3/2, Error ellipse: s-maj=27.7km s-min=15.5km az=82.0*
NEIC ***03*** *21:54:16.2±0.9, 29.˚34N×130.˚35E, h44km±8km, mb4.3/4, Error ellipse: s-maj=10.9km s-min=6.9km az=95.0*
ISC 03 21:54:16.2±0.6, **29.˚32N**±0.˚03×**130.˚45E**±0.˚08, **h47**km±6km, **h44**km±1.9km**:pP-P, n42**, σ**0**s**82**/50, **mb3.8**/14, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.72**	**316**	P		**Pn**	**21 54 29.5**	**-0.7**
JNN				S		**Sn**	**21 54 41.1**	**+0.8**
JZK	**Kikaishima**	**1.08**	**203**	P		**Pn**	**21 54 34.5**	**-0.5**
JKC	**Kuchinoerabu**	**1.16**	**349**	P		**Pn**	**21 54 35.6**	**-0.5**
JKC				*e*S		**Sn**	**21 54 51.8**	**+0.9**
JAM	**Amami Oshima**	**1.17**	**220**	P		**Pn**	**21 54 35.5**	**-0.6**
JAM				*e*S		**Sn**	**21 54 52.3**	**+1.4**
JTN	**Tanegashima 3**	**1.41**	**19**	P		**Pn**	**21 54 38.3**	**-1.2**
JTSR	**Tashiro 2**	**1.89**	**12**	P		**Pn**	**21 54 45.7**	**-0.3**
JTK	**Tokunoshima**	**2.02**	**221**	P		**Pn**	**21 54 48.1**	**+0.3**
JTK				*e*S		**Sn**	**21 55 13.2**	**+1.4**
JSU	**Suzuyama**	**2.18**	**0**	P		**Pn**	**21 54 50.1**	**0.0**
JNAR	**Kushima–Naru**	**2.31**	**18**	P		**Pn**	**21 54 52.2**	**+0.3**
JSJ	**Shimokoshiki**	**2.44**	**345**	P		**Pn**	**21 54 54.1**	**+0.5**
JSJ				*e*S		**Sn**	**21 55 23.6**	**+1.5**
JOW	**Kunigami**	**3.13**	**218**	P		**Pn**	**21 55 02.6**	**-0.5**
	9.8nm,0.3s,baz=52,slow=12,SNR=18							
JOW				S		**Sn**	**21 55 45.3**	**+6.0**
	18nm,0.3s,baz=171,slow=30,SNR=3.8							
JOW	**Kunigami**	**3.13**	**218**	P		**Pn**	**21 55 02.6**	**-0.5**
JOW				S		**Sn**	**21 55 45.3**	**+6.0**
JNU	**Nakatsue**	**3.81**	**5**	*e*Pn		**Pn**	**21 55 12.8**	**+0.4**
JNU				*e*Sn		**Sn**	**21 55 55.9**	**0.0**
KSRS	**Korea Array**	**8.39**	**346**	P		**Pn**	**21 56 14.5**	**-0.6**
	0.2nm,0.3s,baz=157,slow=12,SNR=4.1							
YHNB	**Yehenq**	**9.32**	**242**	*e*Pn		**Pn**	**21 56 26.9**	**-1.1**
YULB	**Yu-li**	**10.11**	**236**	*e*Pn		**Pn**	**21 56 37.6**	**-1.1**
SSLB	**Suanglung**	**10.13**	**239**	*e*P		**Pn**	**21 56 38.1**	**-1.0**
ENH	**Enshi**	**18.22**	**278**	*e*P		**Pn**	**21 58 24.7**	**-1.0**
SONM	**Songino Array**	**26.20**	**322**	P		**P**	**21 59 47.1**	**+0.7**
	0.9nm,0.7s,mb3.4,baz=135,slow=9.5,SNR=9.4							
SONM	**Songino Array**	**26.20**	**322**	P		**P**	**21 59 47.1**	**+0.7**
MKAR	**Makanchi Array**	**41.05**	**309**	P		**P**	**22 01 54.8**	**-0.2**
	0.3nm,0.2s,mb3.5,baz=90,slow=11,SNR=4.3							
MKAR	**Makanchi Array**	**41.05**	**309**	P		**P**	**22 01 54.8**	**-0.2**
ZALV	**Zalesovo Beam**	**41.07**	**320**	P		**P**	**22 01 53.3**	**-1.7**
	0.3nm,0.3s,mb3.4,baz=88,slow=7.5,SNR=3.0							
ZALV	**Zalesovo Beam**	**41.07**	**320**	P		**P**	**22 01 53.3**	**-1.7**
WRAB	**Tennant Creek**	**49.10**	**175**	*e*P		**P**	**22 03 00.5**	**+1.4**
	2.8nm,0.9s,mb4.3							
WRA	**Warramunga Arr**	**49.11**	**175**	P		**P**	**22 02 58.9**	**-0.3**
	0.4nm,0.8s,mb3.5,baz=352,slow=8.2,SNR=6.1							
WRA				pP		pP	22 03 10.8	-1.3
	1.0nm,0.8s,baz=354,slow=8.2,SNR=4.9							
WRA	**Warramunga Arr**	**49.11**	**175**	P		**P**	**22 02 58.9**	**-0.3**
WRA				pP		pP	22 03 10.8	-1.3
BRVK	**Borovoye**	**49.41**	**316**	*e*P		**P**	**22 03 00.5**	**-0.7**
	1.7nm,0.6s,mb4.2							
ASAR	**Alice Springs**	**52.78**	**176**	P		**P**	**22 03 27.8**	**+1.1**
	0.4nm,0.7s,mb3.5,baz=14,slow=13,SNR=5.0							
ASAR				pP		pP	22 03 39.2	-0.5
	0.5nm,0.6s,baz=15,slow=10,SNR=2.8							
ASAR	**Alice Springs**	**52.78**	**176**	P		**P**	**22 03 27.8**	**+1.1**
ASAR				pP		pP	22 03 39.2	-0.5
ABKAR	**Akbulak array**	**56.02**	**312**	*e*P		**P**	**22 03 50.7**	**+0.6**
	3.3nm,0.9s,mb4.4							
ILAR	**Eielson Array**	**60.80**	**29**	P		**P**	**22 04 22.6**	**-0.5**
	0.2nm,0.8s,mb3.3,baz=278,slow=6.3,SNR=4.3							
ILAR				pP		pP	22 04 35.4	-0.9
	0.3nm,0.6s,baz=290,slow=8.8,SNR=2.9							
ILAR	**Eielson Array**	**60.80**	**29**	P		**P**	**22 04 22.6**	**-0.5**
ILAR				pP		pP	22 04 35.4	-0.9
CAN	**Canberra**	**66.63**	**164**	*e*P		**P**	**22 05 02.4**	**+0.7**
	6.4nm,0.8s,mb4.7							
FINES	**FINESS Array B**	**71.15**	**331**	P		**P**	**22 05 29.5**	**-0.1**
	1.2nm,0.7s,mb4.0,baz=79,slow=7.2,SNR=4.5							
FINES	**FINESS Array B**	**71.15**	**331**	P		**P**	**22 05 29.5**	**-0.1**
AKASG	**Malin Array Be**	**74.47**	**320**	P		**P**	**22 05 48.9**	**-0.6**
	0.3nm,0.3s,mb3.7,baz=61,slow=5.7,SNR=3.4							
AKASG	**Malin Array Be**	**74.47**	**320**	P		**P**	**22 05 48.9**	**-0.6**
BRTR	**Keskin Array B**	**76.69**	**308**	P		**P**	**22 06 03.1**	**+0.6**
	0.6nm,0.8s,mb3.6,baz=47,slow=4.9,SNR=4.6							
BRTR	**Keskin Array B**	**76.69**	**308**	P		**P**	**22 06 03.1**	**+0.6**
NVAR	**Mina Array Bea**	**86.97**	**47**	P		**P**	**22 06 57.1**	**+0.6**
	0.3nm,0.3s,mb4.0,baz=284,slow=7.3,SNR=2.9							
NVAR	**Mina Array Bea**	**86.97**	**47**	P		**P**	**22 06 57.1**	**+0.6**

NIED ***03*** *22:02:00, 29.˚30N×130.˚60E, h26km, Mw4.1 Best double couple: M₀1.53000×10¹⁵ NP1:φ₀214.00000°, δ63.00000°, λ-53.00000°. NP2:φ₀335.00000°, δ44.00000°, λ-140.00000°.*
JMA ***03*** *22:02:41.3±0.1, 29.˚30N×130.˚55E, h24km, M4.1*
ISCJB ***03*** *22:02:42.1±0.6, 29.˚29N±0.˚03×130.˚42E±0.˚06, h50km±4km, mb4.0/19, Error ellipse: s-maj=9.9km s-min=4.6km az=20.8*
NEIC ***03*** *22:02:42.9±1.0, 29.˚32N×130.˚40E, h39km±9km, mb4.4/7, Error ellipse: s-maj=8.4km s-min=6.7km az=78.0*
IDC ***03*** *22:02:43.9±0.8, 29.˚31N×130.˚36E, h48km±7km, mb3.7/13, mb1 3.8/15, mb1mx3.7/28, mbtmp3.7/15, MS3.2/3, Ms1 3.2/3, ms1mx2.8/39, Error ellipse: s-maj=19.2km s-min=11.4km az=95.0*
ISC 03 22:02:43.1±0.6, **29.˚30N**±0.˚03×**130.˚44E**±0.˚06, **h41**km±5km, **h53**km±3.5km**:pP-P, n67**, σ**0**s**68**/72, **mb4.0**/19, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.73**	**318**	P		**Pn**	**22 02 56.2**	**-0.8**
JNN				S		**Sn**	**22 03 07.9**	**+1.0**
JZK	**Kikaishima**	**1.06**	**203**	P		**Pn**	**22 03 01.5**	**0.0**
JAM	**Amami Oshima**	**1.15**	**220**	P		**Pn**	**22 03 02.4**	**-0.3**
JKC	**Kuchinoerabu**	**1.18**	**350**	P		**Pn**	**22 03 02.9**	**-0.2**
JKC				*e*S		**Sn**	**22 03 18.8**	**+0.9**
JTN	**Tanegashima 3**	**1.43**	**19**	P		**Pn**	**22 03 05.6**	**-0.9**
JTN				*e*S		**Sn**	**22 03 24.6**	**+0.5**
JTSR	**Tashiro 2**	**1.91**	**13**	P		**Pn**	**22 03 13.1**	**0.0**
JTSR				*e*S		**Sn**	**22 03 35.9**	**+0.1**
JTK	**Tokunoshima**	**2.00**	**221**	P		**Pn**	**22 03 14.7**	**+0.3**
JSU	**Suzuyama**	**2.20**	**0**	P		**Pn**	**22 03 17.0**	**-0.1**
JNAR	**Kushima–Naru**	**2.33**	**18**	P		**Pn**	**22 03 18.8**	**-0.1**
JOW	**Kunigami**	**3.12**	**218**	P		**Pn**	**22 03 28.1**	**-1.6**
	7.8nm,0.3s,baz=94,slow=12,SNR=32							
JOW				S		**Sn**	**22 04 06.7**	**+1.0**
	17nm,0.3s,baz=29,slow=19,SNR=3.8							
JOW				LR	LR		22 04 47.0	
	comp=Z,337nm,19.1s,baz=184,slow=40							
JOW	**Kunigami**	**3.12**	**218**	P		**Pn**	**22 03 28.1**	**-1.6**
JOW				S		**Sn**	**22 04 06.7**	**+1.0**
JOW				LR	LR		22 04 47.0	
KSRS	**Korea Array**	**8.40**	**346**	P		**Pn**	**22 04 42.0**	**-0.2**
	0.1nm,0.3s,baz=160,slow=12,SNR=2.8							
KSRS				LR	LR		22 08 13.3	
	comp=Z,126nm,21.4s,baz=95,slow=39							
JHJ	**Hachijo jima 2**	**8.86**	**62**	LR	LR		22 07 59.2	
	comp=Z,277nm,18.7s,baz=211,slow=35							
TATO	**Taipei**	**9.06**	**244**	Pn		**Pn**	**22 04 51.4**	**+0.1**
YHNB	**Yeheng**	**9.31**	**242**	*e*Pn		**Pn**	**22 04 54.7**	**0.0**
SSLB	**Suanglung**	**10.11**	**239**	Pn		**Pn**	**22 05 05.6**	**-0.1**
TWG	**Pinlang**	**10.61**	**235**	*e*Pn		**Pn**	**22 05 12.9**	**+0.4**
ASAJ	**Asahikawa**	**17.68**	**30**	*e*Pn		**Pn**	**22 06 46.4**	**+0.3**
ENH	**Enshi**	**18.21**	**278**	P		**Pn**	**22 06 52.4**	**-0.4**
DAV	**Davao City (W)**	**22.58**	**193**	*e*P		**P**	**22 07 40.3**	**+0.3**
ULN	**Ulaanbaatar**	**25.87**	**322**	*e*P		**P**	**22 08 10.2**	**-0.6**
	1.1nm,0.6s,mb3.6							
SONM	**Songino Array**	**26.20**	**322**	P		**P**	**22 08 12.5**	**-1.3**
	0.5nm,0.6s,mb3.2,baz=136,slow=9.6,SNR=3.8							
SONM				pP		pP	22 08 27.1	+2.2
	1.1nm,0.7s,baz=138,slow=10,SNR=5.7							
SONM	**Songino Array**	**26.20**	**322**	P		**P**	**22 08 12.5**	**-1.3**
SONM				pP		pP	22 08 27.1	+2.2
TAPN	**Taplejung**	**37.52**	**278**	*e*P		**P**	**22 09 55.1**	**+1.9**
	13nm,1.2s,mb4.5							
TAPN	**Taplejung**	**37.52**	**278**	*e*P		**P**	**22 09 55.1**	**+1.9**
	13nm,1.2s,mb4.5							
ODAN	**Odare**	**37.91**	**277**	*e*P		**P**	**22 09 55.8**	**-0.7**
ODAN	**Odare**	**37.91**	**277**	*e*P		**P**	**22 09 55.8**	**-0.7**
GUN	**Gumba**	**38.97**	**279**	*e*P		**P**	**22 10 06.1**	**+0.7**
	7.6nm,0.4s,mb4.8							
GUN	**Gumba**	**38.97**	**279**	*e*P		**P**	**22 10 06.1**	**+0.7**
	7.6nm,0.4s,mb4.8							
PKI	**Pulchoki**	**39.45**	**279**	*e*P		**P**	**22 10 09.8**	**+0.4**
PKIN	**Phulchoki**	**39.46**	**279**	*e*P		**P**	**22 10 09.8**	**+0.3**
KKN	**Kakani**	**39.51**	**279**	*e*P		**P**	**22 10 10.0**	**0.0**
KKN	**Kakani**	**39.51**	**279**	*e*P		**P**	**22 10 10.0**	**0.0**
GKN	**Gorkha**	**40.02**	**280**	*e*P		**P**	**22 10 14.3**	**+0.1**
GKN	**Gorkha**	**40.02**	**280**	*e*P		**P**	**22 10 14.3**	**+0.1**
DANN	**Dangsing**	**40.70**	**280**	*e*P		**P**	**22 10 20.5**	**+0.8**
DANN	**Dangsing**	**40.70**	**280**	*e*P		**P**	**22 10 20.5**	**+0.8**
KOLN	**Koldanda**	**40.97**	**280**	*e*P		**P**	**22 10 20.5**	**-1.5**
KOLN	**Koldanda**	**40.97**	**280**	*e*P		**P**	**22 10 20.5**	**-1.5**
MKAR	**Makanchi Array**	**41.05**	**309**	P		**P**	**22 10 22.2**	**-0.2**
	0.5nm,0.3s,mb3.7,baz=90,slow=11,SNR=7.3							
MKAR	**Makanchi Array**	**41.05**	**309**	P		**P**	**22 10 22.2**	**-0.2**
ZALV	**Zalesovo Beam**	**41.08**	**320**	P		**P**	**22 10 21.8**	**-0.7**
	0.4nm,0.4s,mb3.4,baz=100,slow=11,SNR=3.4							
ZALV	**Zalesovo Beam**	**41.08**	**

s-min=11.0km az=143.5
*IDC **03** 22:24:11.1±3.4, 18.02S×178.45W, h520km, 38km, mb3.7/13, mb1 3.9/13, mb1mx3.7/22, mbtmp3.7/13, Error ellipse: s-maj=18.9km s-min=12.5km az=114.0*
*NEIC **03** 22:24:12.9±0.7, 17.91S×178.54W, h541km±7km, mb4.5/12, Error ellipse: s-maj=10.2km s-min=7.3km az=160.0*

ISC 03 22:24:13.2±1.0, 17.91S±0.09×178.51W±0.08, h543km±11km, n61, σ0.78/58, mb4.3/23, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.28**	**273**	*eP*		**P**	**22 25 29.6**	**+0.2**
MSVF				*eS*		**S**	**22 26 25.4**	**-6.1**
RAR	**Rarotonga**	**17.96**	**104**	P		**P**	**22 27 50.2**	**-0.8**
URZ	**Urewera**	**20.63**	**190**	P		**P**	**22 28 13.2**	**-1.9**
	23nm,0.6s,baz=16,slow=6.4,SNR=9.9							
URZ				S		**S**	**22 31 29.4**	**-1.6**
	6.4nm,0.9s,baz=22,slow=19,SNR=2.4							
URZ	**Urewera**	**20.63**	**190**	*eP*		**P**	**22 28 14.0**	**-1.1**
URZ				S		**S**	**22 31 29.4**	**-1.6**
HNR	**Honiara**	**22.54**	**289**	*eP*		**P**	**22 28 32.3**	**-0.3**
EIDS	**Eidsvold**	**29.17**	**250**	*eP*		**P**	**22 29 30.4**	**-0.5**
	11nm,0.4s,mb4.8							
ARMA	**Armidale**	**29.85**	**240**	*eP*		**P**	**22 29 38.0**	**+1.3**
ARMA	**Armidale**	**29.85**	**240**	*eP*		**P**	**22 29 37.4**	**+0.6**
	20nm,0.6s,mb4.8							
CNB	**Canberra Magne**	**33.35**	**232**	*eP*		**P**	**22 30 07.7**	**+1.2**
CTA	**Charters Tower**	**33.35**	**261**	P		**P**	**22 30 05.9**	**-0.8**
	18nm,0.6s,mb4.7,baz=89,slow=10,SNR=33							
CTA	**Charters Tower**	**33.35**	**261**	*eP*		**P**	**22 30 06.4**	**-0.3**
	18nm,0.9s,mb4.6							
CTA	**Charters Tower**	**33.35**	**261**	P		**P**	**22 30 05.9**	**-0.8**
CTAO	**Charters Tower**	**33.35**	**261**	*eP*		**P**	**22 30 06.1**	**-0.6**
	20nm,0.8s,mb4.7							
CAN	**Canberra**	**33.62**	**232**	*eP*		**P**	**22 30 10.1**	**+1.4**
	20nm,0.9s,mb4.6							
COEN	**Coen**	**37.01**	**270**	*eP*		**P**	**22 30 37.1**	**0.0**
	116nm,0.8s							
TOO	**Toolangi**	**37.09**	**231**	*eP*		**P**	**22 30 38.7**	**+1.2**
STKA	**Stephens Creek**	**38.54**	**241**	P		**P**	**22 30 50.3**	**+0.8**
	21nm,0.5s,mb4.9,baz=96,slow=9.8,SNR=76							
STKA	**Stephens Creek**	**38.54**	**241**	*eP*		**P**	**22 30 50.5**	**+1.0**
	16nm,0.5s,mb4.8							
STKA	**Stephens Creek**	**38.54**	**241**	*eP*		**P**	**22 30 49.7**	**+0.2**
	4.0nm,0.5s,mb4.2							
BBOO	**Buckleboo**	**43.32**	**241**	*eP*		**P**	**22 31 28.0**	**+0.6**
	18nm,0.7s,mb4.7							
WB2	**Warramunga Arr**	**44.52**	**260**	*eP*		**P**	**22 31 36.0**	**-1.0**
WRAB	**Tennant Creek**	**44.52**	**260**	*eP*		**P**	**22 31 35.8**	**-1.2**
	13nm,0.8s,mb4.5							
WRA	**Warramunga Arr**	**44.53**	**260**	P		**P**	**22 31 36.2**	**-0.8**
	7.9nm,0.5s,mb4.5,baz=94,slow=7.1,SNR=100							
WRA	**Warramunga Arr**	**44.53**	**260**	P		**P**	**22 31 36.2**	**-0.8**
ASAR	**Alice Springs**	**44.69**	**254**	P		**P**	**22 31 38.1**	**0.0**
	84nm,0.6s,mb5.4,baz=80,slow=8.1,SNR=966							
ASAR	**Alice Springs**	**44.69**	**254**	P		**P**	**22 31 38.1**	**0.0**
FORT	**Forrest**	**49.92**	**245**	*eP*		**P**	**22 32 17.2**	**-0.1**
	54nm,0.6s,mb5.2							
FITZ	**Fitzroy Crossi**	**52.93**	**261**	P		**P**	**22 32 39.4**	**+0.2**
	2.7nm,0.4s,mb3.9,baz=74,slow=9.7							
FITZ	**Fitzroy Crossi**	**52.93**	**261**	*eP*		**P**	**22 32 39.4**	**+0.1**
	6.4nm,0.6s,mb4.1							
FITZ	**Fitzroy Crossi**	**52.93**	**261**	*eP*		**P**	**22 32 39.2**	**0.0**
	2.8nm,0.3s,mb4.1							
MBWA	**Marble Bar**	**57.98**	**256**	*eP*		**P**	**22 33 13.8**	**-0.5**
	5.4nm,0.6s,mb4.0							
NWAO	**Narrogin (SRO)**	**59.12**	**242**	P		**P**	**22 33 21.6**	**-0.2**
	6.8nm,0.6s,mb4.1,baz=224,slow=14,SNR=6.6							
NWAO	**Narrogin (SRO)**	**59.12**	**242**	P		**P**	**22 33 21.6**	**-0.2**
VNDA	**Vanda**	**60.43**	**185**	*eP*		**P**	**22 33 30.0**	**+0.3**
	0.8nm,0.8s							
MJAR	**Matsushiro Arr**	**67.85**	**323**	P		**P**	**22 34 16.9**	**-0.6**
	2.0nm,0.5s,mb3.9,baz=160,slow=7.0,SNR=5.7							
MJAR	**Matsushiro Arr**	**67.85**	**323**	P		**P**	**22 34 16.9**	**-0.6**
KKM	**Kota Kinabalu**	**68.64**	**284**	*eP*		**P**	**22 34 22.9**	**+0.1**
	5.2nm,0.4s,mb4.4							
YULB	**Yu-li**	**71.69**	**303**	*eP*		**P**	**22 34 39.9**	**-0.7**
QSPA	**South Pole Qui**	**72.14**	**180**	*eP*		**P**	**22 34 42.6**	**+0.3**
	3.0nm,0.8s,mb3.8							
KSM	**Kuching**	**72.59**	**277**	*eP*		**P**	**22 34 46.8**	**+0.7**
	11nm,0.8s,mb4.3							
KDAK	**Kodiak Island**	**78.43**	**14**	P		**P**	**22 35 17.6**	**+0.2**
	2.9nm,0.6s,mb3.8,baz=186,slow=10,SNR=3.0							
KDAK	**Kodiak Island**	**78.43**	**14**	P		**P**	**22 35 17.6**	**+0.2**
NVAR	**Mina Array Bea**	**79.49**	**44**	P		**P**	**22 35 23.7**	**+0.2**
	1.8nm,0.7s,mb3.5,baz=224,slow=7.7,SNR=6.7							
NVAR	**Mina Array Bea**	**79.49**	**44**	P		**P**	**22 35 23.8**	**+0.2**
KULM	**Kulim**	**82.94**	**278**	*eP*		**P**	**22 35 41.3**	**-0.5**
TRF	**Thorofare Moun**	**84.03**	**12**	*eP*		**P**	**22 35 45.4**	**-0.7**
ILAR	**Eielson Array**	**85.91**	**13**	P		**P**	**22 35 54.5**	**-0.7**
	0.7nm,0.3s,mb3.7,baz=224,slow=5.3,SNR=21							
ILAR	**Eielson Array**	**85.91**	**13**	P		**P**	**22 35 54.5**	**-0.7**
TXAR	**Lajitas Array**	**86.08**	**58**	P		**P**	**22 35 58.2**	**+1.3**
	1.1nm,0.8s,mb3.5,baz=220,slow=6.5,SNR=12							
TXAR	**Lajitas Array**	**86.08**	**58**	P		**P**	**22 35 58.1**	**+1.3**
PDAR	**Pinedale Array**	**87.42**	**43**	P		**P**	**22 36 03.8**	**+1.0**
	0.8nm,0.5s,mb3.6,baz=202,slow=3.1,SNR=11							
PDAR	**Pinedale Array**	**87.42**	**43**	P		**P**	**22 36 03.8**	**+1.0**
CMAR	**Chiang Mai Arr**	**88.79**	**290**	P		**P**	**22 36 11.3**	**+1.5**
	0.5nm,0.3s,mb3.8,baz=111,slow=3.3,SNR=7.3							
CMAR	**Chiang Mai Arr**	**88.79**	**290**	P		**P**	**22 36 11.3**	**+1.5**
CHTO	**Chiang Mai**	**88.91**	**290**	*eP*		**P**	**22 36 10.0**	**-0.3**
ARU	**Arti**	**122.80**	**326**	*e*PKPdf	PKPdf		22 42 07.2	0.0
BRTR	**Keskin Array B**	**144.71**	**315**	PKP	PKPdf		22 42 49.5	+1.1
	2.1nm,0.9s,baz=116,slow=2.3,SNR=12							
BRTR	**Keskin Array B**	**144.71**	**315**	PKP	PKPdf		22 42 49.5	+1.1
CLL	**Collm**	**145.44**	**347**	*i* PKPbc	PKPbc		22 42 51.1	+0.6
GERES	**GERESS Array B**	**147.59**	**345**	PKPbc	PKPbc		22 42 57.2	+0.7
	1.1nm,0.6s,baz=33,slow=3.5,SNR=11							
GERES	**GERESS Array B**	**147.59**	**345**	PKPbc	PKPbc		22 42 57.2	+0.7

*IDC **03** 22:28:32.5±0.6, 0.47N×126.14E, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.2/23, mbtmp4.2/13, ML4.2/1, Error ellipse: s-maj=36.5km s-min=13.7km az=66.0*
*NEIC **03** 22:28:38.9±1.4, 0.39N×126.09E, h50km±13km, mb4.4/15, Error ellipse: s-maj=15.2km s-min=4.6km az=54.0*
*ISCJB **03** 22:28:39.8±0.5, 0.37N±0.04×126.05E±0.04, h75km±5km, mb4.2/28, Error ellipse: s-maj=7.4km s-min=5.4km az=146.6*
*DJA **03** 22:28:41, 0.45N×126.04E, h97km, MLv4.2/7*

ISC 03 22:28:41.0±0.5, 0.38N±0.04×126.06E±0.04, h67km±5km, n74, σ0.82/78, mb4.2/28, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.36**	**73**	P		**Pn**	**22 29 03.7**	**-0.3**
TNTI				S		**Sn**	**22 29 25.7**	**+4.3**
LBMI	**Labuha**	**1.76**	**125**	P		**Pn**	**22 29 09.9**	**+0.6**
LBMI				S		**Sn**	**22 29 37.9**	**+7.1**
KMSI	**Cibinong**	**2.09**	**275**	P		**Pn**	**22 29 12.1**	**-1.7**
KMSI				S		**Sn**	**22 29 38.6**	**-0.2**
SGSI	**Sangihe**	**3.33**	**351**	P		**Pn**	**22 29 30.5**	**-0.2**
SGSI				S		**Sn**	**22 30 08.8**	**-0.3**
LUWI	**Luwuk**	**3.58**	**247**	P		**Pn**	**22 29 35.6**	**+1.5**
LUWI				S		**Sn**	**22 30 19.0**	**+3.8**
NLAI	**Namlea**	**3.74**	**164**	P		**Pn**	**22 29 36.8**	**+0.6**
NLAI				S		**Sn**	**22 30 19.8**	**+0.7**
MRSI	**Marisa**	**4.12**	**271**	P		**Pn**	**22 29 43.8**	**+2.3**
TTSI	**Tana Toraja**	**7.11**	**241**	P		**Pn**	**22 30 22.5**	**+0.2**
	501nm39nm,0.8s							
BNSI	**Bone**	**7.61**	**231**	P		**Pn**	**22 30 29.3**	**+0.1**
	0.1nm36nm,0.7s							
SPSI	**Sidrap Palu**	**7.62**	**236**	P		**Pn**	**22 30 29.8**	**+0.4**
	562nm45nm,0.7s							
BKSI	**Bulukumba**	**8.20**	**226**	P		**Pn**	**22 30 38.1**	**+0.8**
	22nm,0.7s							
KAPI	**Kappang**	**8.27**	**230**	Pn		**Pn**	**22 30 37.2**	**-1.0**
	2.8nm,0.3s,baz=64,slow=2.6,SNR=7.5							
KAPI				Sn		**Sn**	**22 32 07.0**	**-3.2**
	0.6nm,0.3s,baz=54,slow=19,SNR=2.5							
KAPI	**Kappang**	**8.27**	**230**	*e*Pn		**Pn**	**22 30 37.0**	**-1.2**
KAPI				Sn		**Sn**	**22 32 07.0**	**-3.2**
KAPI	**Kappang**	**8.27**	**230**	P		**Pn**	**22 30 37.3**	**-1.0**
KKM	**Kota Kinabalu**	**11.33**	**300**	*e*Pn		**Pn**	**22 31 18.4**	**-1.6**
KAKA	**Kakadu**	**14.46**	**154**	*eP*		**Pn**	**22 31 59.0**	**-3.2**
	18nm,0.5s							
KAKA	**Kakadu**	**14.46**	**154**	*eP*		**Pn**	**22 31 58.8**	**-3.4**
	48nm,0.6s							
KSM	**Kuching**	**15.79**	**274**	*e*Pn		**Pn**	**22 32 19.9**	**+0.6**
	50nm,0.9s							
WRAB	**Tennant Creek**	**21.76**	**159**	*eP*		**P**	**22 33 26.3**	**-0.8**
	12nm,0.8s,mb4.3							
WRA	**Warramunga Arr**	**21.76**	**159**	P		**P**	**22 33 25.6**	**-1.6**
	7.6nm,0.8s,mb4.0,baz=338,slow=11,SNR=13							
WRA	**Warramunga Arr**	**21.76**	**159**	P		**P**	**22 33 25.6**	**-1.6**
WB2	**Warramunga Arr**	**21.77**	**159**	*eP*		**P**	**22 33 26.9**	**-0.3**
ASAR	**Alice Springs**	**25.08**	**163**	P		**P**	**22 33 59.2**	**-0.1**
	6.4nm,0.7s,mb4.2,baz=350,slow=11,SNR=28							
ASAR				PcP		PcP	22 37 34.0	+1.5
	0.8nm,0.6s,baz=349,slow=2.3,SNR=7.0							
ASAR	**Alice Springs**	**25.08**	**163**	P		**P**	**22 33 59.2**	**-0.1**
ASAR				PcP		PcP	22 37 34.0	+1.5
IPM	**Ipoh**	**25.34**	**280**	*eP*		**P**	**22 34 00.9**	**-1.0**
	4.9nm,0.6s,mb4.1							
KULM	**Kulim**	**25.84**	**281**	*eP*		**P**	**22 34 06.0**	**-0.4**
	3.5nm,0.6s,mb4.0							
CMAR	**Chiang Mai Arr**	**32.13**	**306**	P		**P**	**22 35 01.3**	**-0.9**
	0.9nm,0.5s,mb3.7,baz=142,slow=8.2,SNR=8.8							
CMAR	**Chiang Mai Arr**	**32.13**	**306**	P		**P**	**22 35 01.3**	**-0.9**
STKA	**Stephens Creek**	**35.29**	**157**	P		**P**	**22 35 29.4**	**-0.1**
	6.3nm,0.8s,mb4.5,baz=327,slow=7.2,SNR=7.4							
STKA				PcP		PcP	22 38 00.1	+1.2
	0.6nm,0.4s,baz=346,slow=2.3,SNR=5.7							
STKA	**Stephens Creek**	**35.29**	**157**	*eP*		**P**	**22 35 28.9**	**-0.5**
	1.2nm,0.7s,mb3.8							
STKA				PcP		PcP	22 38 00.1	+1.2
CAN	**Canberra**	**41.47**	**151**	*eP*		**P**	**22 36 21.3**	**0.0**
LSA	**Lhasa**	**44.22**	**314**	P		**P**	**22 36 44.3**	**+0.7**
TAPN	**Taplejung**	**45.53**	**309**	*eP*		**P**	**22 36 53.9**	**-0.3**
	3.3nm,0.4s,mb4.4							
TAPN	**Taplejung**	**45.53**	**309**	*eP*		**P**	**22 36 53.9**	**-0.3**
	3.3nm,0.4s,mb4.4							
ODAN	**Odare**	**45.54**	**309**	*eP*		**P**	**22 36 55.0**	**+0.8**
	7.5nm,0.7s,mb4.5							
ODAN	**Odare**	**45.54**	**309**	*eP*		**P**	**22 36 55.0**	**+0.8**
	7.5nm,0.7s,mb4.5							
GUN	**Gumba**	**47.22**	**309**	*eP*		**P**	**22 37 07.2**	**-0.2**
	9.9nm,0.5s,mb4.8							
GUN	**Gumba**	**47.22**	**309**	*eP*		**P**	**22 37 07.2**	**-0.2**
	9.9nm,0.5s,mb4.8							
PKI	**Pulchoki**	**47.43**	**308**	*eP*		**P**	**22 37 09.5**	**+0.5**
	2.8nm,0.5s,mb4.2							
PKIN	**Phulchoki**	**47.44**	**308**	*eP*		**P**	**22 37 09.5**	**+0.4**
	2.8nm,0.5s,mb4.3							
DMN	**Daman**	**47.69**	**308**	*eP*		**P**	**22 37 12.1**	**+1.1**
	6.2nm,0.7s,mb4.5							
DMN	**Daman**	**47.69**	**308**	*eP*		**P**	**22 37 12.1**	**+1.1**
	6.2nm,0.7s,mb4.5							
GKN	**Gorkha**	**48.24**	**308**	*eP*		**P**	**22 37 15.7**	**+0.4**
	5.1nm,0.6s,mb4.5							
GKN	**Gorkha**	**48.24**	**308**	*eP*		**P**	**22 37 15.7**	**+0.4**
	5.1nm,0.6s,mb4.5							
KOLN	**Koldanda**	**48.95**	**308**	*eP*		**P**	**22 37 20.6**	**-0.1**
	14nm,0.7s,mb5.0							
KOLN	**Koldanda**	**48.95**	**308**	*eP*		**P**	**22 37 20.6**	**-0.1**
	14nm,0.7s,mb5.0							
DANN	**Dangsing**	**49.08**	**308**	*eP*		**P**	**22 37 21.5**	**-0.3**
	14nm,0.7s,mb5.0							
DANN	**Dangsing**	**49.08**	**308**	*eP*		**P**	**22 37 21.5**	**-0.3**
	14nm,0.7s,mb5.0							
SONM	**Songino Array**	**50.26**	**343**	P		**P**	**22 37 30.7**	**+0.4**
	1.9nm,0.8s,mb4.1,baz=157,slow=9.3,SNR=16							
SONM				PcP		PcP	22 38 50.1	+1.7
	0.7nm,0.8s,baz=163,slow=3.7,SNR=4.5							
SONM	**Songino Array**	**50.26**	**343**	P		**P**	**22 37 30.7**	**+0.4**
SONM				PcP		PcP	22 38 50.1	+1.7
MK31	**Makanchi Array**	**59.94**	**327**	*eP*		**P**	**22 38 40.2**	**+0.1**
MKAR	**Makanchi Array**	**59.94**	**327**	P		**P**	**22 38 40.4**	**+0.2**
	3.9nm,0.5s,mb4.7,baz=121,slow=9.2,SNR=25							
MKAR	**Makanchi Array**	**59.94**	**327**	P		**P**	**22 38 40.4**	**+0.2**
TKM2	**Tokmak 2**	**61.84**	**320**	*eP*		**P**	**22 38 53.1**	**0.0**
	1.9nm,0.6s,mb4.3							
AAK	**Ala-Archa**	**62.41**	**319**	P		**P**	**22 38 57.5**	**+0.5**
	0.5nm,0.3s,mb4.0,baz=140,slow=9.3,SNR=4.0							
AAK	**Ala-Archa**	**62.41**	**319**	P		**P**	**22 38 57.5**	**+0.5**
EKS2	**Erkin-Say**	**62.89**	**319**	*eP*		**P**	**22 39 01.0**	**+0.8**
	4.3nm,1.2s,mb4.2							
KBL	**Kabul**	**63.06**	**309**	*eP*		**P**	**22 39 01.8**	**+0.4**
	2.5nm,0.6s,mb4.3							
ZAA0	**Zalesovo Array**	**63.27**	**334**	*eP*		**P**	**22 39 01.7**	**-0.7**
ZALV	**Zalesovo Beam**	**63.27**	**334**	P		**P**	**22 39 02.0**	**-0.4**
	1.8nm,0.6s,mb4.2,baz=128,slow=4.8,SNR=9.3							
ZALV	**Zalesovo Beam**	**63.27**	**334**	P		**P**	**22 39 02.0**	**-0.4**
KURK	**Kurchatov**	**64.22**	**329**	P		**P**	**22 39 08.6**	**-0.1**
	5.1nm,0.7s,mb4.5,baz=125,slow=6.2,SNR=26							
KURK	**Kurchatov**	**64.22**	**329**	*eP*		**P**	**22 39 08.6**	**-0.1**
	8.4nm,0.6s,mb4.8							
KKAR	**Karatay Array**	**65.24**	**318**	*eP*		**P**	**22 39 15.0**	**-0.6**
	1.4nm,0.8s,mb3.8							
VNDA	**Vanda**	**80.21**	**173**	P		**P**	**22 40 44.8**	**+1.2**
	0.8nm,0.8s,mb3.6,baz=318,slow=5.7,SNR=5.1							
VNDA	**Vanda**	**80.21**	**173**	*eP*		**P**	**22 40 43.6**	**0.0**
	0.8nm,0.8s,mb3.6							
ILAR	**Eielson Array**	**88.40**	**25**	P		**P**	**22 41 25.1**	**-0.1**
	0.3nm,0.6s,mb3.5,baz=264,slow=4.9,SNR=4.4							
ILAR	**Eielson Array**	**88.40**	**25**	P		**P**	**22 41 25.1**	**-0.1**
BRTR	**Keskin Array B**	**91.63**	**310**	P		**P**	**22 41 41.5**	**+0.6**
	0.5nm,0.7s,mb3.9,baz=109,slow=5.3,SNR=3.2							
BRTR	**Keskin Array B**	**91.63**	**310**	P		**P**	**22 41 41.5**	**+0.6**
TORD	**Torodi Ar. Bea**	**123.26**	**286**	PKP	PKPdf		22 47 32.4	+1.2
	0.2nm,0.9s,baz=74,slow=3.1,SNR=3.4							
TORD	**Torodi Ar. Bea**	**123.26**	**286**	PKP	PKPdf		22 47 32.4	+1.2
TXAR	**Lajitas Array**	**124.14**	**54**	PKP	PKPdf		22 47 34.7	+2.2
	0.2nm,0.6s,baz=48,slow=1.3,SNR=3.4							
TXAR	**Lajitas Array**	**124.14**	**54**	PKP	PKPdf		22 47 34.7	+2.2

IDC 03 22:32:59.1±3.9, 11.16S×116.39E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.3/19, mbtmp3.4/4, ML3.1/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/16, Error ellipse: s-maj=247.4km s-min=24.9km az=46.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.30**	**129**	Pn		Pn	22 35 40.2	-1.8
	baz=299,slow=14							
FITZ				Sn		Sn	22 37 37.8	-11
	0.4nm,0.3s,baz=2.0,slow=22,SNR=8.6							
WRA	**Warramunga Arr**	**19.36**	**119**	P		Pn	22 37 27.2	-0.3
	0.1nm,0.3s,baz=298,slow=12,SNR=3.9							
WRA				S		Sn	22 40 48.3	-17
	0.0nm,0.3s,baz=292,slow=23,SNR=2.5							
ASAR	**Alice Springs**	**20.80**	**129**	P		P	22 37 42.8	+0.6
	1.2nm,0.7s,baz=305,slow=10.0,SNR=7.9							
ASAJ	**Asahikawa**	**59.95**	**22**	LR		LR	23 10 21.5	
	comp=Z,33nm,20.7s,baz=252,slow=37							
MKAR	**Makanchi Array**	**65.25**	**335**	P		P	22 43 42.6	0.0
	0.2nm,0.4s,baz=142,slow=6.5,SNR=6.6							

*CSEM **03** 22:42:01.3±0.7, 35.97N×28.41E, h8km, MD2.8, Error ellipse: s-maj=15.7km s-min=5.8km az=9.0*
*ISK **03** 22:42:01.7, 36.03N×28.50E, h24km, MD2.8*
*DDA **03** 22:42:02.7, 36.12N×28.43E, h7km±2km, Md2.7*

ISC 03 22:42:01.2±1.8, 35.96N±0.10×28.40E±0.05, h8km±6km, n12, σ1.92/23, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.87**	**39**	*e*PG		**Pg**	**22 42 17.1**	**-0.8**
FETY				*e*SG		**Sg**	**22 42 28.7**	**-0.6**
FETY	**Fethiye**	**0.87**	**39**	*e*Pg		**Pg**	**22 42 17.1**	**-0.8**
FETY				*e*Sg		**Sg**	**22 42 28.7**	**-0.6**
TURN	**Turunc**	**0.93**	**10**	*i* P		**Pg**	**22 42 15.9**	**-3.1**
AKAS	**Kas**	**1.01**	**74**	*i* P		**Pg**	**22 42 21.1**	**+0.5**
AKAS				*i* S		**Sg**	**22 42 34.7**	**+0.9**
AKAS	**Kas**	**1.01**	**74**	*i* P		**Pg**	**22 42 21.1**	**+0.5**
AKAS				*i* S		**Sg**	**22 42 34.7**	**+0.9**
DAT	**Datca**	**1.02**	**319**	*e*PG		**Pg**	**22 42 21.0**	**+0.3**
DAT				*e*SG		**Sg**	**22 42 35.0**	**+1.1**
DAT	**Datca**	**1.02**	**319**	*e*Pg		**Pg**	**22 42 21.0**	**+0.3**
DAT				*e*Sg		**Sg**	**22 42 35.0**	**+1.1**
BODT	**Bodrum**	**1.41**	**322**	*e*PN		**Pn**	**22 42 26.6**	**-0.5**
BODT				*e*SN		**Sn**	**22 42 44.4**	**-1.4**
BODT	**Bodrum**	**1.41**	**322**	*e*Pn		**Pn**	**22 42 26.6**	**-0.5**
BODT				*e*Sn		**Sn**	**22 42 44.4**	**-1.4**
GOLH	**Golhisar**	**1.58**	**36**	*i* P		**Pn**	**22 42 28.3**	**-1.1**
GOLH				*i* S		**Sn**	**22 42 50.7**	**+0.7**
AYDN	**Tasoluk**	**1.75**	**346**	*i* P		**Pn**	**22 42 32.9**	**+1.1**
AYDN				*i* S		**Sn**	**22 42 55.1**	**+1.0**
AYDN	**Tasoluk**	**1.75**	**346**	*i* P		**Pn**	**22 42 32.9**	**+1.2**
AYDN				*i* S		**Sn**	**22 42 55.2**	**+1.0**

JMA 03 23:04:42.3±0.3, 32.59N×137.63E, h400km, M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.91**	**74**	P		Pn	23 05 38.6	+0.9
JOD2	**Odawara 2**	**2.93**	**24**	P		Pn	23 05 46.4	+1.6
JOD2				*e*S		S	23 06 36.5	+1.0
JFM	**Mihama**	**3.23**	**335**	P		Pn	23 05 48.5	+1.2
BSO3	**Boso 3**	**3.26**	**47**	P		Pn	23 05 46.7	-0.9
BSO3				*e*S		S	23 06 39.2	-1.3
JWT	**Wachi**	**3.26**	**326**	P		Pn	23 05 48.2	+0.6
BSO4	**Boso 4**	**3.29**	**43**	P		Pn	23 05 47.6	-0.2
JMN	**Monobe**	**3.34**	**291**	P		Pn	23 05 47.8	-0.5
JHU	**Hanno**	**3.53**	**22**	P		Pn	23 05 51.7	+1.8
JHU				*e*S		S	23 06 43.9	-0.9
JRY	**Ryogami san**	**3.58**	**17**	P		Pn	23 05 52.5	+2.2
JRY				*e*S		S	23 06 48.4	+2.9
JKY	**Yasaka**	**3.69**	**326**	P		Pn	23 05 51.7	+0.4
JNG	**Nsakai**	**3.83**	**6**	P		Pn	23 05 55.5	+2.9
JKSM	**Kasumi**	**3.87**	**321**	P		Pn	23 05 53.4	+0.4
MAT	**Matsushiro**	**3.97**	**7**	P		Pn	23 05 54.4	+0.4
JAG	**Ashikaga**	**4.11**	**21**	P		Pn	23 05 55.5	+0.2
JAG				*e*S		S	23 06 52.4	-2.2
JYT	**Yasato**	**4.20**	**30**	P		Pn	23 05 52.8	-3.4
JYT				*e*S		S	23 06 53.7	-2.5

KRSC 03 23:08:07.4±1.2, 51.71N×159.98E, h9km±10km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.16**	**309**	*i* P		Pb	23 08 28.9	-0.7
RUS				*i* S		Sg	23 08 44.4	-0.3
GRL	**Gorelyy**	**1.45**	**306**	*e*P		Pn	23 08 33.9	+0.2
GRL				*i* S		Sn	23 08 53.3	+0.5
PET	**Petropavlovsk**	**1.55**	**329**	P		Pn	23 08 36.0	+0.9
PET				*i* S		Sn	23 08 56.8	+1.5
SDLR	**Sedlovina**	**1.71**	**337**	P		Pn	23 08 39.9	+2.6
GNL	**Ganaly**	**2.34**	**329**	*e*P		Pn	23 08 48.8	+2.8
ALID	**Alaid**	**2.91**	**255**	P		Pn	23 08 58.1	+4.3
MKZ	**Mys Kozlova**	**3.04**	**20**	*e*P		Pn	23 08 57.7	+2.1
KBTR	**Krutoberegovo**	**4.81**	**19**	P		Pn	23 09 23.3	+3.4

*IDC **03** 23:08:28.8±0.8, 51.63N×159.13E, h0km, mb3.9/19, mb1 4.1/19, mb1mx4.0/28, mbtmp3.9/19, Error ellipse: s-maj=21.1km s-min=16.2km az=140.0*
*BJI **03** 23:08:29.0, 51.50N×159.90E, h33km, mB4.6/4, mb4.4/7*
*KRSC **03** 23:08:31.7±0.7, 51.69N×159.80E, h10km±10km, ML4.4*
*ISCJB **03** 23:08:33.4±1.0, 51.54N±0.06×159.6E±0.1, h55km±7km, mb3.9/22, Error ellipse: s-maj=12.7km s-min=8.7km az=40.0*
*MOS **03** 23:08:34.7±1.2, 51.71N×159.28E, h62km, mb4.5/5, Error ellipse: s-maj=15.5km s-min=8.3km az=95.3*
*NEIC **03** 23:08:35.8±1.4

CMAR	**Chiang Mai Arr**	**57.49**	**258**	P		**P**	**23 18 18.5**	**-0.4**
PDAR	**Pinedale Array**	**58.63**	**60**	P		**P**	**23 18 29.4**	**+2.8**
	comp=Z,0.2nm,0.5s,mb3.4,baz=347,slow=7.4,SNR=2.8							
PDAR	**Pinedale Array**	**58.63**	**60**	P		**P**	**23 18 29.4**	**+2.8**
FINES	**FINESS Array B**	**61.40**	**337**	P		**P**	**23 18 45.4**	**+0.1**
	comp=Z,2.2nm,0.7s,mb4.4,baz=33,slow=7.3,SNR=9.2							
FINES	**FINESS Array B**	**61.40**	**337**	P		**P**	**23 18 45.4**	**+0.1**
FINES	**FINESS Array B**	**61.40**	**337**	P		**P**	**23 18 45.4**	**+0.1**
NB2	**NORSAR Subarra**	**64.94**	**344**	P		**P**	**23 19 08.8**	**+0.1**
	comp=Z,2.1nm,0.8s,mb4.2,baz=21,slow=6.9							
NOA	**NORSAR Array B**	**64.94**	**344**	P		**P**	**23 19 09.1**	**+0.4**
	comp=Z,2.6nm,0.8s,mb4.3,baz=22,slow=6.6,SNR=9.5							
NOA	**NORSAR Array B**	**64.94**	**344**	P		**P**	**23 19 09.1**	**+0.4**
NOA	**NORSAR Array B**	**64.94**	**344**	P		**P**	**23 19 09.1**	**+0.4**
AKASG	**Malin Array Be**	**69.75**	**329**	P		**P**	**23 19 38.8**	**-0.6**
	comp=Z,1.9nm,0.4s,mb4.4,baz=30,slow=6.2,SNR=13							
AKASG	**Malin Array Be**	**69.75**	**329**	P		**P**	**23 19 38.8**	**-0.6**
AKASG	**Malin Array Be**	**69.75**	**329**	P		**P**	**23 19 38.8**	**-0.5**
TXAR	**Lajitas Array**	**71.61**	**66**	P		**P**	**23 19 52.5**	**+1.5**
	comp=Z,0.3nm,0.8s,mb3.3,baz=358,slow=4.5,SNR=3.4							
TXAR	**Lajitas Array**	**71.61**	**66**	P		**P**	**23 19 52.5**	**+1.5**
TXAR	**Lajitas Array**	**71.61**	**66**	P		**P**	**23 19 52.5**	**+1.5**
KWP	**Kalwaria Pacla**	**72.70**	**332**	*i* P		**P**	**23 19 58.3**	**+1.1**
KWP	**Kalwaria Pacla**	**72.70**	**332**	*i* P		**P**	**23 19 58.3**	**+1.1**
CLL	**Collm**	**73.68**	**339**	*e*P		**P**	**23 20 04.0**	**+1.1**
BUR08	**Bucovina Ar. S**	**73.71**	**330**	*e*P		**P**	**23 20 03.8**	**+0.6**
BURAR	**Bucovina Array**	**73.73**	**330**	*i* P		**P**	**23 20 04.4**	**+1.1**
BURAR	**Bucovina Array**	**73.73**	**330**	*i* P		**P**	**23 20 04.4**	**+1.1**
TESR		**74.25**	**328**	*j* *i* P		**P**	**23 20 06.5**	**+0.2**
TESR		**74.25**	**328**	*j* *i* P		**P**	**23 20 06.5**	**+0.2**
WRA	**Warramunga Arr**	**74.50**	**204**	P		**P**	**23 20 08.6**	**+0.7**
	comp=Z,0.8nm,0.9s,mb3.6,baz=21,slow=6.3,SNR=3.2							
WRA	**Warramunga Arr**	**74.50**	**204**	P		**P**	**23 20 08.6**	**+0.7**
WRA	**Warramunga Arr**	**74.50**	**204**	P		**P**	**23 20 08.6**	**+0.7**
MLR	**Muntele Rosu**	**75.38**	**328**	*j* *i* P		**P**	**23 20 06.3**	**-6.6**
MLR	**Muntele Rosu**	**75.38**	**328**	*j* *i* P		**P**	**23 20 06.3**	**-6.6**
TIRR	**Tirgusor**	**75.45**	**326**	*i* P		**P**	**23 20 14.2**	**+0.9**
TIRR	**Tirgusor**	**75.45**	**326**	*i* P		**P**	**23 20 14.2**	**+0.9**
KHC	**Kasperske Hory**	**75.58**	**338**	*e*P		**P**	**23 20 13.4**	**-0.5**
	comp=Z,2.2nm,0.9s,mb4.1							
KHC	**Kasperske Hory**	**75.58**	**338**	*e*P		**P**	**23 20 13.4**	**-0.5**
KHC				pmax		pmax		
	comp=Z,2.0nm,0.9s,mb4.0							
VOIR		**75.72**	**329**	*j* *i* P		**P**	**23 20 16.2**	**+1.4**
VOIR		**75.72**	**329**	*j* *i* P		**P**	**23 20 16.2**	**+1.4**
GERES	**GERESS Array B**	**75.81**	**337**	P		**P**	**23 20 15.2**	**0.0**
	comp=Z,0.2nm,0.5s,mb3.3,baz=32,slow=5.8,SNR=5.1							
GERES	**GERESS Array B**	**75.81**	**337**	P		**P**	**23 20 15.2**	**0.0**
GERES	**GERESS Array B**	**75.81**	**337**	P		**P**	**23 20 15.2**	**-0.1**
BRTR	**Keskin Array B**	**77.58**	**320**	P		**P**	**23 20 26.0**	**+0.5**
	comp=Z,1.8nm,0.9s,mb4.0,baz=33,slow=4.7,SNR=7.8							
BRTR	**Keskin Array B**	**77.58**	**320**	P		**P**	**23 20 25.9**	**+0.5**
BRTR	**Keskin Array B**	**77.58**	**320**	*e*P		**P**	**23 20 26.4**	**+1.0**
BRTR				pmax		pmax		
	comp=Z,2.0nm,0.9s							
ASAR	**Alice Springs**	**78.17**	**204**	P		**P**	**23 20 29.6**	**+0.9**
	comp=Z,0.2nm,0.5s,mb3.3,baz=16,slow=5.5,SNR=4.1							
ASAR	**Alice Springs**	**78.17**	**204**	P		**P**	**23 20 29.6**	**+0.9**
ASAR	**Alice Springs**	**78.17**	**204**	*e*P		**P**	**23 20 30.8**	**+2.1**

MEX 03 23:41:10.1±1.5, 16°28N×93°92W, h109km±15km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.88**	**130**	*e*P	Pn	23 41 29.2	-0.8
PCIG				*i* S	Sn	23 41 44.3	-0.8
TGIG		**0.91**	**57**	*i* P	Pn	23 41 28.9	-1.4
TGIG				*i* S	Sn	23 41 43.3	-2.2
CMIG	**Matias Romero**	**1.23**	**311**	*e*P	Pn	23 41 32.5	-1.2
CMIG				*i* S	Sn	23 41 50.4	-1.1
CCIG	**Comitan**	**1.71**	**90**	*e*P	Pn	23 41 38.6	-0.8
CCIG				*i* S	Sn	23 42 00.0	-1.7
HUIG	**Huatulco**	**2.17**	**257**	*i* P	Pn	23 41 42.8	-2.4
HUIG				*i* S	Sn	23 42 09.7	-2.4
VHO	**Vista Hermosa**	**2.81**	**287**	*e*P	Pn	23 41 54.0	+0.5
VHO				*i* S	Sn	23 42 26.2	-0.8
UTMO	**Huajuapan**	**4.02**	**293**	*i* P	Pn	23 42 10.2	+0.4
UTMO				*i* S	Sn	23 42 54.4	-1.7
PNIG	**Pinotepa**	**4.04**	**272**	*i* P	Pn	23 42 08.5	-1.6
PNIG				*i* S	Sn	23 42 54.0	-2.5

*IDC **03** 23:49:03.4±1.2, 1°.06N×97°.19E, h0km, mb3.9/8, mb1 4.0/10, mb1mx3.8/25, mbtmpb3.9/10, ML3.3/2, MS3.4/3, Ms1 3.4/3, ms1mx2.9/39, Error ellipse: s-maj=33.0km s-min=20.7km az=51.0*
*NEIC **03** 23:49:05.2±0.5, 1°.06N×97°.25E, h10km, mb4.3/6, Error ellipse: s-maj=9.9km s-min=7.3km az=215.0*
*DJA **03** 23:49:18, 1°.97N×97°.46E, h30km, MLv4.3/3*
ISC 03 23:49:06.6±3.2, 1°.10N±0°.07×97°.24E±0°.05, h16km±20km, n55, σ0°93/56, mb4.2/20, MS3.4/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TPTI		**2.14**	**358**	P	**Pn**	**23 49 40.3**	**-1.4**
MNSI	**Mandailing Nat**	**2.36**	**97**	P	**Pn**	**23 49 45.9**	**+1.2**
MNSI				S	**Sn**	**23 50 14.6**	**+1.2**
PSI	**Prapat**	**2.38**	**45**	Pn	**Pn**	**23 49 44.3**	**-0.7**
	1.8nm,0.3s,baz=209,slow=11,SNR=38						
PSI	**Prapat**	**2.38**	**45**	Pn	**Pn**	**23 49 44.3**	**-0.7**
TSI	**Tuntungan**	**2.72**	**29**	P	**Pn**	**23 49 50.8**	**+1.1**
PDSI	**Padang**	**3.79**	**122**	P	Px	23 50 21.5	
BKNI	**Bangkinang**	**3.88**	**101**	P	**Pn**	**23 50 15.5**	**+10**
IPM	**Ipoh**	**5.05**	**48**	*e*Pn	**Pn**	**23 50 22.1**	**+0.3**
	32nm,0.8s						
IPM				*e*Sn	**Sn**	**23 51 25.9**	**+6.0**
IPM	**Ipoh**	**5.05**	**48**	P	**Pn**	**23 50 21.7**	**-0.1**
KULM	**Kulim**	**5.37**	**39**	*e*Pn	**Pn**	**23 50 26.7**	**+0.5**
	43nm,0.8s						
KULM				*e*Sn	**Sn**	**23 51 27.5**	**-0.3**
CM31	**Chiang Mai Arr**	**17.33**	**5**	*e*Pn	**Pn**	**23 53 08.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**17.33**	**5**	P	**Pn**	**23 53 06.7**	**-1.2**
	0.1nm,0.3s,baz=195,slow=13,SNR=16						
CMAR	**Chiang Mai Arr**	**17.33**	**5**	P	**Pn**	**23 53 06.7**	**-1.2**
KKM	**Kota Kinabalu**	**19.56**	**75**	*e*P	**Pn**	**23 53 32.9**	**-2.4**
SHL	**Shillong**	**24.86**	**348**	*e*PKP	**P**	**23 54 30.0**	**+1.4**
ODAN	**Odare**	**27.30**	**341**	*e*P	**P**	**23 54 51.7**	**+1.1**
	15nm,0.8s,mb4.5						
ODAN	**Odare**	**27.30**	**341**	*e*P	**P**	**23 54 51.7**	**+1.1**
	15nm,0.8s,mb4.6						
TAPN	**Taplejung**	**27.65**	**342**	*e*P	**P**	**23 54 55.4**	**+1.6**
	24nm,0.8s,mb4.8						
TAPN	**Taplejung**	**27.65**	**342**	*e*P	**P**	**23 54 55.4**	**+1.6**
	24nm,0.8s,mb4.9						
GUN	**Gumba**	**28.79**	**339**	*e*P	**P**	**23 55 05.2**	**+1.3**
	12nm,0.7s,mb4.8						
GUN	**Gumba**	**28.79**	**339**	*e*P	**P**	**23 55 05.2**	**+1.3**
	12nm,0.7s,mb4.7						
DMN	**Daman**	**28.81**	**337**	*e*P	**P**	**23 55 05.4**	**+1.3**
	12nm,0.8s,mb4.7						
DMN	**Daman**	**28.81**	**337**	*e*P	**P**	**23 55 05.4**	**+1.3**
	12nm,0.8s,mb4.7						
KKN	**Kakani**	**28.90**	**338**	*e*P	**P**	**23 55 05.8**	**+0.9**
	16nm,1.0s,mb4.7						
KKN	**Kakani**	**28.90**	**338**	*e*P	**P**	**23 55 05.8**	**+0.9**
	16nm,1.0s,mb4.7						
GKN	**Gorkha**	**29.34**	**337**	*e*P	**P**	**23 55 09.6**	**+0.8**
	12nm,0.9s,mb4.7						
GKN	**Gorkha**	**29.34**	**337**	*e*P	**P**	**23 55 09.6**	**+0.8**
	12nm,0.9s,mb4.6						
KOLN	**Koldanda**	**29.56**	**335**	*e*P	**P**	**23 55 11.6**	**+0.8**
	8.5nm,0.7s,mb4.6						
KOLN	**Koldanda**	**29.56**	**335**	*e*P	**P**	**23 55 11.6**	**+0.8**
	8.5nm,0.7s,mb4.6						
WRA	**Warramunga Arr**	**41.95**	**122**	P	**P**	**23 56 56.5**	**-0.6**
	0.6nm,0.9s,mb3.2,baz=303,slow=8.8,SNR=4.7						
WRA				LR	LR	00 18 17.0	
	comp=Z,70nm,18.9s,MS3.6,baz=50,slow=42						
WRA	**Warramunga Arr**	**41.95**	**122**	P	**P**	**23 56 56.5**	**-0.6**
WRA				LR	LR	00 18 17.0	
ASAR	**Alice Springs**	**43.31**	**127**	P	**P**	**23 57 07.2**	**-0.8**
	0.6nm,0.9s,mb3.3,baz=294,slow=7.7,SNR=3.5						
ASAR	**Alice Springs**	**43.31**	**127**	P	**P**	**23 57 07.2**	**-0.8**
KSRS	**Korea Array**	**45.90**	**34**	P	**P**	**23 57 28.2**	**-0.4**
	baz=225,slow=10,SNR=8.2						
AAK	**Ala-Archa**	**46.10**	**337**	*e*P	**P**	**23 57 30.0**	**0.0**
	4.0nm,0.6s,mb4.5						
EKS2	**Erkin-Say**	**46.41**	**336**	*e*P	**P**	**23 57 32.2**	**-0.2**
	2.3nm,0.5s,mb4.4						
SONM	**Songino Array**	**47.22**	**8**	P	**P**	**23 57 38.0**	**-0.7**
	3.4nm,0.8s,mb4.3,baz=192,slow=8.4,SNR=20						
SONM	**Songino Array**	**47.22**	**8**	P	**P**	**23 57 38.0**	**-0.7**
MK31	**Makanchi Array**	**47.34**	**346**	*e*P	**P**	**23 57 39.5**	**-0.1**
MKAR	**Makanchi Array**	**47.34**	**346**	P	**P**	**23 57 39.5**	**-0.1**
	2.6nm,0.8s,mb4.2,baz=156,slow=7.5,SNR=23						
MKAR				LR	LR	00 21 31.0	
	comp=Z,26nm,20.4s,MS3.2,baz=262,slow=41						
MKAR	**Makanchi Array**	**47.34**	**346**	P	**P**	**23 57 39.5**	**-0.1**
MKAR				LR	LR	00 21 31.0	
ULN	**Ulaanbaatar**	**47.35**	**9**	*e*P	**P**	**23 57 38.9**	**-0.8**
	2.3nm,0.9s,mb4.1						
KURK	**Kurchatov**	**51.89**	**345**	P	**P**	**23 58 13.6**	**-0.7**
	2.4nm,0.8s,mb4.2,baz=168,slow=7.1,SNR=24						
KURK	**Kurchatov**	**51.89**	**345**	*e*P	**P**	**23 58 14.0**	**-0.3**
	3.3nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**53.26**	**132**	*e*P	**P**	**23 58 25.1**	**+0.3**
ZAA0	**Zalesovo Array**	**53.66**	**351**	*e*P	**P**	**23 58 26.2**	**-1.1**
ZALV	**Zalesovo Beam**	**53.66**	**351**	P	**P**	**23 58 26.6**	**-0.7**
	5.5nm,0.8s,mb4.5,baz=176,slow=5.8,SNR=26						
ZALV	**Zalesovo Beam**	**53.66**	**351**	P	**P**	**23 58 26.6**	**-0.7**
BRVK	**Borovoye**	**56.41**	**341**	*e*P	**P**	**23 58 46.5**	**-0.7**
	2.1nm,0.8s,mb4.2						
ABKAR	**Akbulak array**	**57.62**	**332**	*e*P	**P**	**23 58 54.3**	**-1.5**
	2.0nm,0.8s,mb4.2						
BRTR	**Keskin Array B**	**69.20**	**312**	P	**P**	**00 00 12.3**	**-0.4**
	0.3nm,0.6s,mb3.4,baz=152,slow=6.5,SNR=3.8						
BRTR	**Keskin Array B**	**69.20**	**312**	P	**P**	**00 00 12.3**	**-0.4**
PETK	**Petropavlovsk-**	**71.79**	**34**	LR	LR	00 31 28.0	
	comp=Z,24nm,19.5s,MS3.5,baz=246,slow=35						
GERES	**GERESS Array B**	**84.91**	**319**	P	**P**	**00 01 40.9**	**0.0**
	0.4nm,0.9s,mb3.5,baz=102,slow=4.3,SNR=3.6						
GERES	**GERESS Array B**	**84.91**	**319**	P	**P**	**00 01 40.9**	**0.0**

IDC 03 23:56:59.0±11.0, 2°.59N×128°.53E, h243km±108km, mb3.1/5, mb1 3.3/5, mb1mx3.0/21, mbtmp3.1/5, MS3.1/1, Ms1 3.1/1, ms1mx2.2/11, Error ellipse: s-maj=88.9km s-min=18.9km az=58.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.75**	**188**	P	P	00 01 21.8	+0.2
	1.6nm,0.9s,baz=11,slow=13,SNR=3.0						
WRA	**Warramunga Arr**	**23.10**	**166**	P	P	00 01 43.0	-0.7
	0.8nm,0.6s,baz=345,slow=10,SNR=6.1						
ASAR	**Alice Springs**	**26.61**	**169**	P	P	00 02 16.0	+0.7
	0.4nm,0.5s,baz=355,slow=7.8,SNR=7.1						
CMAR	**Chiang Mai Arr**	**33.00**	**301**	P	P	00 03 11.7	+0.1
	0.5nm,0.3s,baz=118,slow=7.5,SNR=6.5						
KSRS	**Korea Array**	**34.70**	**359**	LR	LR	00 16 53.0	
	comp=Z,26nm,18.8s,baz=235,slow=34						
MKAR	**Makanchi Array**	**59.52**	**325**	P	P	00 06 36.8	0.0
	0.5nm,0.5s,baz=114,slow=8.3,SNR=9.9						
TORD	**Torodi Ar. Bea**	**124.98**	**288**	PKP	PKPdf	00 15 31.2	-0.1
	0.9nm,1.2s,baz=78,slow=2.3,SNR=2.7						

*IDC **04** 00:03:09.1±1.6, 34°.37N×25°.60E, h0km, mb3.7/2, mb1 3.4/5, mb1mx3.2/25, mbtmp3.4/5, ML3.1/3, Error ellipse: s-maj=49.2km s-min=24.0km az=151.0*
*CSEM **04** 00:03:12.9±0.5, 34°.32N×25°.79E, h60km, ML3.3/3, Error ellipse: s-maj=11.5km s-min=5.1km az=10.0*
*ISCJB **04** 00:03:12.3±0.3, 34°.40N±0°.02×25°.75E±0°.03, h77km±6km, mb3.4/2, Error ellipse: s-maj=4.6km s-min=3.8km az=161.6*
*HLW **04** 00:03:13.6, 34°.39N×25°.79E, h31km±40km, Md3.6, Ml3.4*
*NEIC **04** 00:03:14.8, 34°.45N×25°.61E, h39km, MG3.7(ATH), After ATH.*
*ATH **04** 00:03:14.8, 34°.45N×25°.61E, h39km±3km, MD3.7/10*
*THE **04** 00:03:16.5, 34°.50N×25°.64E, h57km±3km, ML3.3/3, Error ellipse: s-maj=3.2km s-min=1.0km az=17.0*
*ISK **04** 00:03:27.9, 35°.40N×26°.91E, h9km, MD3.9*
ISC 04 00:03:14.0±0.3, 34°.39N±0°.02×25°.75E±0°.03, h58km±9km, n130, σ1§23/173, mb3.5/2, 1C, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**0.80**	**344**	*e*PN	**Pn**	**00 03 29.3**	**0.0**
LAST				*e*SN	**Sn**	**00 03 39.8**	**-0.8**
LAST	**Lasithi**	**0.80**	**344**	P	**Pn**	**00 03 29.0**	**-0.3**
LAST				S	**Sn**	**00 03 40.4**	**-0.2**
LAST	**Lasithi**	**0.80**	**344**	P	**Pn**	**00 03 29.0**	**-0.3**
LAST				S	**Sn**	**00 03 40.4**	**-0.2**
LAST	**Lasithi**	**0.80**	**344**	P	**Pn**	**00 03 29.0**	**-0.3**
LAST	**Lasithi**	**0.80**	**344**	*e*PN	**Pn**	**00 03 29.3**	**0.0**
LAST				*e*Sn	**Sn**	**00 03 39.8**	**-0.8**
LAST				S	**Sn**	**00 03 40.4**	**-0.2**
ZKR	**Zakros**	**0.82**	**28**	*e*PN	**Pn**	**00 03 30.9**	**+1.3**
ZKR				*e*SN	**Sn**	**00 03 42.5**	**+1.5**
ZKR	**Zakros**	**0.82**	**28**	P	**Pn**	**00 03 30.7**	**+1.1**
ZKR				S	**Sn**	**00 03 42.0**	**+1.0**
ZKR	**Zakros**	**0.82**	**28**	P	**Pn**	**00 03 30.7**	**+1.1**
ZKR				S	**Sn**	**00 03 42.0**	**+1.0**
ZKR	**Zakros**	**0.82**	**28**	P	**Pn**	**00 03 30.7**	**+1.1**
ZKR				S	**Sn**	**00 03 42.0**	**+1.0**
ZKR				*e*Sn	**Sn**	**00 03 42.5**	**+1.5**
NPS	**Neapolis**	**0.88**	**353**	*e*PN	**Pn**	**00 03 30.7**	**+0.4**
NPS				*e*SN	**Sn**	**00 03 42.4**	**+0.1**
NPS	**Neapolis**	**0.88**	**353**	P	**Pn**	**00 03 30.7**	**+0.4**
NPS				S	**Sn**	**00 03 42.5**	**+0.2**
NPS	**Neapolis**	**0.88**	**353**	P	**Pn**	**00 03 30.7**	**+0.4**
NPS				S	**Sn**	**00 03 42.5**	**+0.2**
NPS	**Neapolis**	**0.88**	**353**	P	**Pn**	**00 03 30.7**	**+0.4**
NPS				S	**Sn**	**00 03 42.5**	**+0.2**
SIVA	**Sivas**	**0.99**	**309**	*e*PN	**Pn**	**00 03 31.8**	**0.0**
SIVA				*e*SN	**Sn**	**00 03 43.9**	**-1.2**
SIVA	**Sivas**	**0.99**	**309**	P	**Pn**	**00 03 31.7**	**-0.1**
SIVA				S	**Sn**	**00 03 44.2**	**-0.9**
SIVA	**Sivas**	**0.99**	**309**	P	**Pn**	**00 03 31.7**	**-0.1**
SIVA				S	**Sn**	**00 03 44.2**	**-0.9**
SIVA	**Sivas**	**0.99**	**309**	*e*Pn	**Pn**	**00 03 31.8**	**0.0**
SIVA				*e*Sn	**Sn**	**00 03 43.9**	**-1.2**
SIVA				S	**Sn**	**00 03 44.2**	**-0.9**
VAM	**Vamos**	**1.63**	**309**	*e*PN	**Pn**	**00 03 41.2**	**+0.9**
VAM	**Vamos**	**1.63**	**309**	P	**Pn**	**00 03 41.2**	**+0.9**
VAM	**Vamos**	**1.63**	**309**	P	**Pn**	**00 03 41.2**	**+0.9**
VAM	**Vamos**	**1.63**	**309**	P	**Pn**	**00 03 41.2**	**+0.9**
KARP	**Karpathos**	**1.63**	**45**	*e*PB	**Pn**	**00 03 43.2**	**+3.5**
KARP	**Karpathos**	**1.63**	**45**	P	**Pn**	**00 03 43.2**	**+2.8**
KARP				S	**Sn**	**00 04 02.1**	**+1.7**
KARP	**Karpathos**	**1.63**	**45**	P	**Pn**	**00 03 43.2**	**+2.8**
KARP				S	**Sn**	**00 04 02.1**	**+1.7**
KARP	**Karpathos**	**1.63**	**45**	*e*Pb	**Pn**	**00 03 43.9**	**+3.5**
KARN	**Karanos**	**1.81**	**304**	*e*PN	**Pn**	**00 03 43.6**	**+0.8**
KARN	**Karanos**	**1.81**	**304**	P	**Pn**	**00 03 43.6**	**+0.8**
KARN	**Karanos**	**1.81**	**304**	P	**Pn**	**00 03 43.6**	**+0.8**
THR3	**Thira Island,**	**2.03**	**352**	P	**Pn**	**00 03 46.6**	**+0.8**
THR3	**Thira Island,**	**2.03**	**352**	P	**Pn**	**00 03 46.6**	**+0.8**
THR3	**Thira Island,**	**2.03**	**352**	P	**Pn**	**00 03 46.6**	**+0.8**
THR5	**Thira Island,**	**2.05**	**351**	P	**Pn**	**00 03 46.6**	**+0.6**
THR5	**Thira Island,**	**2.05**	**351**	P	**Pn**	**00 03 46.6**	**+0.6**
THR5	**Thira Island,**	**2.05**	**351**	P	**Pn**	**00 03 46.6**	**+0.6**
ARG	**Arkhangelos**	**2.66**	**46**	*e*PN	**Pn**	**00 03 57.6**	**+3.2**
ARG	**Arkhangelos**	**2.66**	**46**	P	**Pn**	**00 03 56.6**	**+2.2**
ARG	**Arkhangelos**	**2.66**	**46**	P	**Pn**	**00 03 56.6**	**+2.2**
ARG	**Arkhangelos**	**2.66**	**46**	*e*Pn	**Pn**	**00 03 57.6**	**+3.2**
APE	**Apeiranthos**	**2.68**	**356**	*e*PN	**Pn**	**00 04 02.8**	**+8.2**
APE	**Apeiranthos**	**2.68**	**356**	*e*PN	**Pn**	**00 03 56.2**	**+1.6**
APE	**Apeiranthos**	**2.68**	**356**	Pn	**Pn**	**00 04 02.8**	**+8.2**
APE	**Apeiranthos**	**2.68**	**356**	*e*Pn	**Pn**	**00 03 56.2**	**+1.6**
DAT	**Datca**	**2.77**	**32**	*e*PN	**Pn**	**00 03 54.7**	**-1.1**
DAT				*e*SN	**Sn**	**00 04 14.3**	**-14**
DAT	**Datca**	**2.77**	**32**	*e*Pn	**Pn**	**00 03 54.7**	**-1.1**
KYTH	**Kithira**	**2.91**	**311**	*e*PN	**Pn**	**00 03 58.2**	**+0.4**
KYTH	**Kithira**	**2.91**	**311**	P	**Pn**	**00 03 57.7**	**-0.1**
KYTH	**Kithira**	**2.91**	**311**	P	**Pn**	**00 03 57.7**	**-0.1**
KYTH	**Kithira**	**2.91**	**311**	P	**Pn**	**00 03 57.7**	**-0.1**
KYTH	**Kithira**	**2.91**	**311**	*e*Pn	**Pn**	**00 03 58.2**	**+0.4**
SLUM		**2.93**	**189**	P	**Pn**	**00 03 58.1**	**0.0**
	baz=190						
SLUM				S	**Sn**	**00 04 30.0**	**-2.0**
	baz=190						
BODT	**Bodrum**	**2.95**	**25**	*e*PN	**Pn**	**00 03 58.2**	**-0.2**
BODT				*e*SN	**Sn**	**00 04 20.3**	**-12**
BODT	**Bodrum**	**2.95**	**25**	Pn	**Pn**	**00 03 58.2**	**-0.2**
BODT	**Bodrum**	**2.95**	**25**	*e*Pn	**Pn**	**00 03 58.2**	**-0.2**
MLSB	**Milas**	**3.33**	**29**	*e*PN	**Pn**	**00 04 03.0**	**-0.6**
MLSB	**Milas**	**3.33**	**29**	Pn	**Pn**	**00 04 03.0**	**-0.6**
MLSB	**Milas**	**3.33**	**29**	*e*Pn	**Pn**	**00 04 03.0**	**-0.6**
TURN	**Turunc**	**3.40**	**42**	*i* P	**Pn**	**00 04 01.3**	**-3.1**
TURN	**Turunc**	**3.40**	**42**	*i* P	**Pn**	**00 04 01.3**	**-3.1**
YER	**Yerkesik**	**3.42**	**36**	*e*PN	**Pn**	**00 04 03.6**	**-1.3**
YER	**Yerkesik**	**3.42**	**36**	Pn	**Pn**	**00 04 03.7**	**-1.1**
YER	**Yerkesik**	**3.42**	**36**	Pn	**Pn**	**00 04 03.7**	**-1.1**
HMAT	**Matruh**	**3.48**	**161**	P	**Pn**	**00 04 05.9**	**+0.3**
	baz=161						
HMAT				S	**Sn**	**00 04 44.2**	**-1.3**
	baz=161						
FETY	**Fethiye**	**3.52**	**50**	*e*PN	**Pn**	**00 04 04.8**	**-1.4**
FETY	**Fethiye**	**3.52**	**50**	Pn	**Pn**	**00 04 05.1**	**-1.1**
FETY	**Fethiye**	**3.52**	**50**	Pn	**Pn**	**00 04 05.1**	**-1.1**
AKAS	**Kas**	**3.65**	**59**	*i* P	**Pn**	**00 04 09.1**	**+1.2**
AKAS	**Kas**	**3.65**	**59**	*i* P	**Pn**	**00 04 09.1**	**+1.2**
AKAS				*i* S	**Sn**	**00 04 48.0**	**-1.7**
AYDN	**Tasoluk**	**3.69**	**27**	*i* P	**Pn**	**00 04 09.9**	**+1.4**
AYDN	**Tasoluk**	**3.69**	**27**	*i* P	**Pn**	**00 04 09.9**	**+1.4**
DID	**Didima**	**3.72**	**327**	P	**Pn**	**00 04 08.5**	**-0.3**
DID				S	**Sn**	**00 04 50.2**	**-1.1**
DID	**Didima**	**3.72**	**327**	P	**Pn**	**00 04 08.5**	**-0.3**
DID				S	**Sn**	**00 04 50.2**	**-1.1**
GLHS	**Glhisar (BURDU**	**4.11**	**47**	*e*PN	**Pn**	**00 04 13.1**	**-1.1**
GLHS	**Glhisar (BURDU**	**4.11**	**47**	Pn	**Pn**	**00 04 13.2**	**-1.0**
GLHS	**Glhisar (BURDU**	**4.11**	**47**	Pn	**Pn**	**00 04 13.2**	**-1.0**
BLCB	**Balcova**	**4.12**	**14**	*e*PN	**Pn**	**00 04 16.8**	**+2.4**
BLCB	**Balcova**	**4.12**	**14**	Pn	**Pn**	**00 04 16.4**	**+2.0**
BLCB	**Balcova**	**4.12**	**14**	Pn	**Pn**	**00 04 16.4**	**+2.1**
ELL	**Elmali**	**4.12**	**54**	*e*PN	**Pn**	**00 04 13.7**	**-0.7**
ELL	**Elmali**	**4.12**	**54**	Pn	**Pn**	**00 04 13.5**	**-0.9**
ELL	**Elmali**	**4.12**	**54**	Pn	**Pn**	**00 04 13.5**	**-0.9**
ITM	**Ithomi**	**4.17**	**313**	P	**Pn**	**00 04 14.7**	**-0.3**
ITM	**Ithomi**	**4.17**	**313**	P	**Pn**	**00 04 14.7**	**-0.3**
ITM	**Ithomi**	**4.17**	**313**	P	**Pn**	**00 04 14.7**	**-0.3**
GOLH	**Golhisar**	**4.20**	**46**	*i* P	**Pn**	**00 04 13.7**	**-1.7**
GOLH	**Golhisar**	**4.20**	**46**	*i* P	**Pn**	**00 04 13.7**	**-1.8**
GOLH				*i* S	**Sn**	**00 05 00.5**	**-2.7**
LTK	**Loutraki**	**4.26**	**329**	P	**Pn**	**00 04 16.7**	**+0.4**
LTK				S	**Sn**	**00 05 03.4**	**-1.4**
LTK	**Loutraki**	**4.26**	**329**	P	**Pn**	**00 04 16.7**	**+0.4**
LTK				S	**Sn**	**00 05 03.4**	**-1.4**
GUR	**Goura**	**4.48**	**323**	P	**Pn**	**00 04 19.7**	**+0.4**
GUR				S	**Sn**	**

HUMP	**Col San Antoni**	**3.31**	**262**↑	*e*P	Pn	00 23 37.8 +0.3
HUMP				*e*S	Sn	00 24 16.7 +0.5
HUMP	**Col San Antoni**	**3.31**	**262**↑	*e*P	Pn	00 23 37.8 +0.3
HUMP				*e*S	Sn	00 24 16.7 +0.5
HUMP	**Col San Antoni**	**3.31**	**262**↑	*e*P	Pn	00 23 37.8 +0.3
HUMP				*e*S	Sn	00 24 16.7 +0.5

PGC 04 00:48:32.4±0.5, 52°83N×132°67W, h20km, ML3.5/3, 4D, 73km Wsw of Sandspit, Bc Queen Charlotte Islands Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
DIB	**Dawson Inlet,**	**0.39**	**17**	⇓P		Pb	00 48 40.4	-0.2
DIB				⇑S		Sb	00 48 45.0	-1.1
MOBC	**Moresby Island**	**0.53**	**53**	⇓P		Pb	00 48 42.7	-0.3
MOBC				⇓S		Sb	00 48 49.2	-0.9
BNB	**Barry Inlet**	**0.61**	**114**	⇓P		Pb	00 48 43.1	-1.3
BNB				⇑S		Sb	00 48 50.9	-1.7
NDB	**Naden**	**1.14**	**352**	⇑P		Pn	00 48 51.7	-1.4
NDB				⇑S		Sb	00 49 05.2	-2.5

*IDC **04** 01:05:05.5±1.7, 12°33N×125°55E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/22, mbtmp3.6/6, Error ellipse: s-maj=169.3km s-min=19.6km az=68.0*
*ISCJB **04** 01:05:07.3±3.7, 12°2N±0°1×125°4E±0°2, h23km±24km, mb3.6/6, Error ellipse: s-maj=40.1km s-min=17.6km az=162.1*
ISC 04 01:05:08.2±8.2, 12°2N±0°1×125°3E±0°3, h15km±50km, n9, σ0°59/11, mb3.6/6, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
CNP	**Catarman**	**0.69**	**297**	*e*P		**Pb**	**01 05 21.3**	**-0.8**
CNP				*e*S		**Sb**	**01 05 24.4**	**-7.1**
PVCP	**Virac**	**1.78**	**321**	*e*P		**Pn**	**01 05 39.8**	**+1.3**
PVCP				*e*S		**Sn**	**01 05 52.2**	**-8.8**
RCP	**Roxas**	**2.58**	**256**↑	*e*P		**Pn**	**01 05 49.8**	**+0.3**
WRA	**Warramunga Arr**	**33.16**	**164**	P		**P**	**01 11 44.0**	**-0.3**
	0.2nm,0.3s,mb3.5,baz=344,slow=8.9,SNR=5.2							
ASAR	**Alice Springs**	**36.62**	**167**	P		**P**	**01 12 14.6**	**+0.4**
	0.2nm,0.3s,mb3.4,baz=354,slow=6.6,SNR=2.6							
MKAR	**Makanchi Array**	**49.93**	**322**	P		**P**	**01 14 01.3**	**-0.1**
	0.3nm,0.7s,mb3.4,baz=108,slow=9.2,SNR=3.6							
ZALV	**Zalesovo Beam**	**52.49**	**331**	P		**P**	**01 14 19.8**	**-0.7**
	0.2nm,0.4s,mb3.4,baz=121,slow=5.6,SNR=3.1							
KURK	**Kurchatov**	**53.95**	**325**	P		**P**	**01 14 31.5**	**+0.2**
	0.8nm,0.6s,mb3.8,baz=126,slow=7.2,SNR=8.2							
ARCES	**ARCESS Array B**	**82.07**	**340**	P		**P**	**01 17 27.4**	**-0.2**
	2.7nm,0.8s,mb4.2,baz=60,slow=7.2,SNR=5.2							

*IDC **04** 01:07:12.4±2.0, 23°98N×122°00E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/24, mbtmp3.7/5, MS3.0/1, Ms1 3.0/1, ms1mx2.5/28, Error ellipse: s-maj=143.1km s-min=26.8km az=64.0*
*NEIC **04** 01:07:13.8±0.9, 23°86N×121°89E, h10km, ML4.2(TAP), Error ellipse: s-maj=13.3km s-min=7.4km az=99.0*
NEIC Recorded [3 TAP] in Hua-lien, [2 TAP] in Nan-t'ou and [1 TAP] in I-lan and T'ai-chung.
*ISCJB **04** 01:07:15.6±0.4, 23°85N±0°01×121°82E±0°02, h12km±2km, mb3.6/4, Error ellipse: s-maj=2.6km s-min=1.9km az=37.5*
*TAP **04** 01:07:16.4, 23°89N×121°72E, h22km, ML4.0, B*
*JMA **04** 01:07:16.6±0.3, 23°92N×121°71E, h63km, M3.3*
ISC 04 01:07:16.0±0.3, 23°87N±0°01×121°79E±0°02, h15km±2km, n83, σ0°95/138, mb3.6/4, 6C-10D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
HWA	**Hwalien**	**0.20**	**302**↑	*i*P		**Pg**	**01 07 21.1**	**+0.5**
	baz=308							
HWA				*i* S		**Sg**	**01 07 24.8**	**+1.0**
	baz=308							
ESF	**Shoufeng Towns**	**0.26**	**270**	P		**Pg**	**01 07 21.6**	**0.0**
	baz=270							
ESF				S		**Sg**	**01 07 25.7**	**+0.3**
	baz=270							
TWD	**Chiawan**	**0.27**	**320**↑	*i*P		**Pg**	**01 07 22.0**	**+0.2**
	baz=328							
TWD				*i* S		**Sg**	**01 07 25.9**	**+0.1**
	baz=328							
TEGC	**Jichi Village**	**0.28**	**235**	*e*P		**Pg**	**01 07 22.4**	**+0.5**
	baz=223							
TEGC				*e*S		**Sg**	**01 07 28.2**	**+2.3**
	baz=223							
ESL	**Shilin**	**0.33**	**260**↑	*i*P		**Pg**	**01 07 22.7**	**-0.1**
	baz=259							
ESL				S		**Sg**	**01 07 27.7**	**+0.2**
	baz=259							
NACB	**Ninganchiao**	**0.35**	**330**	*e*Pg		**Pg**	**01 07 22.8**	**-0.4**
EHP	**Heping Village**	**0.44**	**354**	*e*P		**Pg**	**01 07 25.4**	**+0.6**
	baz=355							
WHF	**Hehuan Shan**	**0.55**	**300**↑	*i*P		**Pg**	**01 07 26.6**	**-0.3**
	baz=291							
WHF				*e*S		**Sg**	**01 07 33.6**	**-0.7**
	baz=291							
ENA	**Nanau**	**0.56**	**355**↑	*i*P		**Pg**	**01 07 27.1**	**+0.1**
	baz=355							
ENA				*e*S		**Sg**	**01 07 35.6**	**+1.2**
	baz=355							
EHY	**Hungye**	**0.56**	**230**↓	*i*P		**Pg**	**01 07 26.8**	**-0.3**
	baz=235							
EHY				*e*S		**Sg**	**01 07 35.3**	**+0.8**
	baz=235							
YULB	**Yu-li**	**0.66**	**224**	*e*Pg		**Pg**	**01 07 29.2**	**+0.4**
YULB				*e*S		**Sg**	**01 07 38.0**	**+0.4**
TWT	**Tachien**	**0.68**	**304**	P		**Pg**	**01 07 29.1**	**-0.2**
	baz=295							
TWT				S		**Sg**	**01 07 37.7**	**-0.5**
	baz=295							
NNS	**Nan Shan**	**0.68**	**326**↑	*i*P		**Pg**	**01 07 29.0**	**-0.3**
	baz=320							
NNS				S		**Sg**	**01 07 37.6**	**-0.8**
	baz=320							
TWF1	**Yuli**	**0.69**	**221**↓	*i*P		**Pg**	**01 07 28.9**	**-0.5**
	baz=232							
TWF1				*e*S		**Sg**	**01 07 39.1**	**+0.7**
	baz=232							
TWC	**Suao**	**0.74**	**4**	P		**Pg**	**01 07 30.0**	**-0.4**
	baz=359							
TWC				S		**Sg**	**01 07 41.8**	**+1.7**
	baz=359							
SSLB	**Suanglung**	**0.77**	**264**	*e*Pg		**Pg**	**01 07 29.8**	**-1.2**
SSLB				*e*S		**Sg**	**01 07 39.9**	**-1.3**
ENTT	**Nioudou**	**0.79**	**345**	P		**Pg**	**01 07 30.9**	**-0.5**
	baz=339							
ENTT				S		**Sg**	**01 07 41.9**	**0.0**
	baz=339							
SMLT	**Sun Moon Lake**	**0.81**	**271**↓	*i*P		**Pg**	**01 07 31.1**	**-0.7**
	baz=275							
SMLT				S		**Sg**	**01 07 41.2**	**-1.3**
	baz=275							
TYC	**Yuchr**	**0.85**	**272**↓	*i*P		**Pb**	**01 07 31.6**	**-1.0**
	baz=277							
TYC				*e*S		**Sb**	**01 07 43.5**	**-0.4**
	baz=277							
TWE	**Neicheng**	**0.85**	**353**	*e*P		**Pb**	**01 07 32.5**	**-0.1**
	baz=354							
TWE				*e*S		**Sb**	**01 07 44.5**	**+0.6**
	baz=354							
CHKT	**Chengkung**	**0.86**	**207**	*e*P		**Pb**	**01 07 32.6**	**-0.1**
	baz=190							
CHKT				*e*S		**Sb**	**01 07 45.1**	**+1.1**
	baz=190							
ILA	**Ilan**	**0.89**	**358**	*e*P		**Pb**	**01 07 34.0**	**+0.8**
	baz=351							
NSK	**Sanguang**	**0.89**	**334**	*e*P		**Pb**	**01 07 32.5**	**-0.8**
	baz=334							
NSK				*e*S		**Sb**	**01 07 43.5**	**-1.5**
	baz=334							
EGS	**8**	**0.98**	**8**	*e*P		**Pb**	**01 07 34.2**	**-0.5**
	baz=8.0							
EGS				*e*S		**Sb**	**01 07 50.5**	**+3.0**
	baz=8.0							
ELDTW	**Lidau**	**0.98**	**226**	*e*P		**Pb**	**01 07 32.9**	**-1.8**
	baz=226							
ELDTW				*e*S		**Sb**	**01 07 46.9**	**-0.6**
	baz=226							
WNT	**Mingjian**	**1.01**	**271**	P		**Pb**	**01 07 35.2**	**0.0**
	baz=271							
WNT				*e*S		**Sb**	**01 07 49.0**	**+0.6**
	baz=271							

TWQ1	**Liyutan**	**1.04**	**297**	*e*P		**Pb**	**01 07 35.6**	**-0.2**
	baz=303							
TWQ1				*e*S		**Sb**	**01 07 50.0**	**+0.7**
	baz=303							
NSTT	**Nanjuang**	**1.04**	**317**	*e*P		**Pb**	**01 07 35.3**	**-0.5**
	baz=316							
NSTT				*e*S		**Sb**	**01 07 47.8**	**-1.5**
	baz=316							
CHN5	**Tsauling**	**1.05**	**255**↓	*i*P		**Pb**	**01 07 35.9**	**-0.1**
	baz=245							
CHN5				S		**Sb**	**01 07 49.3**	**-0.3**
	baz=245							
TCU	**Taichung**	**1.05**	**285**↓	*i*P		**Pb**	**01 07 35.9**	**0.0**
	baz=281							
TCU				*e*S		**Sb**	**01 07 50.3**	**+0.7**
	baz=281							
NSY	**Sanyi**	**1.08**	**300**	P		**Pb**	**01 07 36.6**	**+0.1**
	baz=306							
NSY				S		**Sb**	**01 07 51.2**	**+0.7**
	baz=306							
TWA	**Mucha**	**1.12**	**350**	*e*P		**Pb**	**01 07 36.9**	**-0.2**
	baz=349							
TWA				*e*S		**Sb**	**01 07 51.9**	**+0.3**
	baz=349							
TATO	**Taipei**	**1.13**	**346**	*e*Pg		**Pg**	**01 07 36.7**	**-1.2**
TWB1	**Santiao Chiao**	**1.15**	**9**	*e*P		**Pn**	**01 07 37.8**	**+0.2**
TWB1				*e*S		**Sb**	**01 07 52.5**	**+0.2**
STYT	**Tauyuan**	**1.18**	**234**↓	*i*P		**Pn**	**01 07 37.3**	**-0.7**
	baz=234							
STYT				*e*S		**Sb**	**01 07 54.2**	**+1.0**
	baz=234							
TAP1	**Taipei**	**1.19**	**348**	*e*P		**Pn**	**01 07 38.6**	**+0.5**
	baz=346							
TAP1				*e*S		**Sb**	**01 07 53.0**	**-0.5**
	baz=346							
HSN	**Hsinchu**	**1.19**	**321**	*e*P		**Pn**	**01 07 39.1**	**+1.0**
	baz=322							
HSN				*e*S		**Sb**	**01 07 54.5**	**+1.0**
	baz=322							
NWF	**Wu-fen Shan**	**1.20**	**360**	*e*P		**Pn**	**01 07 38.5**	**+0.3**
	baz=349							
NWF				*e*S		**Sb**	**01 07 55.0**	**+1.3**
	baz=349							
TPUB	**Ta-pu**	**1.21**	**242**	*e*Pn		**Pn**	**01 07 37.4**	**-0.9**
TPUB				*e*S		**Sb**	**01 07 54.3**	**+0.3**
CHN4	**Tsaushan**	**1.21**	**245**	⇓P		**Pn**	**01 07 38.3**	**-0.1**
	baz=245							
CHN4				*e*S		**Sb**	**01 07 54.6**	**+0.4**
	baz=245							
NCU	**National Centr**	**1.23**	**333**	*e*P		**Pn**	**01 07 38.8**	**+0.2**
	baz=345							
NCU				*e*S		**Sb**	**01 07 55.2**	**+0.7**
	baz=345							
TWG	**Pinlang**	**1.23**	**212**	*e*Pn		**Pn**	**01 07 36.8**	**-2.0**
TWG	**Pinlang**	**1.23**	**212**	*e*P		**Pn**	**01 07 36.5**	**-2.3**
	baz=198							
WTP	**Ta-pu**	**1.25**	**240**↓	*i*P		**Pn**	**01 07 38.8**	**-0.1**
	baz=241							
WTP				*e*S		**Sb**	**01 07 55.7**	**+0.6**
	baz=241							
YOJ	**Yonaguni jima**	**1.26**	**62**	*e*P		**Pn**	**01 07 39.4**	**+0.2**
	baz=67							
YOJ				*e*S		**Sb**	**01 07 53.9**	**-1.7**
	baz=67							
YOJ	**Yonaguni jima**	**1.26**	**62**	P		**Pn**	**01 07 39.1**	**0.0**
YOJ				S		**Sb**	**01 07 55.6**	**0.0**
TWS1	**Kuangyinshan**	**1.27**	**345**	*e*P		**Pn**	**01 07 40.1**	**+0.9**
	baz=343							
TWS1				*e*S		**Sb**	**01 07 56.5**	**+0.7**
	baz=343							
CHY	**Chiayi**	**1.30**	**254**	*e*P		**Pn**	**01 07 39.5**	**-0.3**
	baz=254							
CHY				*e*S		**Sb**	**01 07 54.9**	**-1.9**
	baz=254							
CHN1	**Nanshi**	**1.34**	**240**	*e*P		**Pn**	**01 07 40.4**	**+0.1**
	baz=241							
CHN1				*e*S		**Sn**	**01 08 00.4**	**+2.5**
	baz=241							
SGST	**Jiashian**	**1.36**	**235**	*e*P		**Pn**	**01 07 40.7**	**+0.2**
	baz=225							
SGST				*e*S		**Sn**	**01 08 00.7**	**+2.5**
	baz=225							
WTCT	**Ta-ch'eng**	**1.38**	**270**	*e*P		**Pn**	**01 07 40.3**	**-0.4**
	baz=269							
WTCT				*e*S		**Sn**	**01 08 00.3**	**+1.5**
	baz=269							
TWY	**Chenhua**	**1.41**	**353**	*e*P		**Pn**	**01 07 40.1**	**-1.1**
	baz=336							
WSF	**Szhu**	**1.46**	**261**	*e*P		**Pn**	**01 07 41.6**	**-0.2**
	baz=260							
ECL	**Taimali**	**1.48**	**211**	*e*P		**Pn**	**01 07 40.2**	**-1.9**
	baz=199							
CHN8	**Yiju**	**1.54**	**250**	*e*P		**Pn**	**01 07 42.4**	**-0.5**
	baz=251							
CHN8				*e*S		**Sn**	**01 08 03.2**	**+0.5**
	baz=251							
SSD	**Sandimen**	**1.54**	**224**	*e*P		**Pn**	**01 07 42.4**	**-0.6**
	baz=225							
SSD				*e*S		**Sn**	**01 08 04.6**	**+1.8**
	baz=225							
SCLT	**Jiali**	**1.62**	**245**	*e*P		**Pn**	**01 07 44.7**	**+0.6**
	baz=245							
TWM1	**Shoushan**	**1.63**	**231**	*e*P		**Pn**	**01 07 46.2**	**+2.0**
	baz=231							
SGLT	**Jiouru**	**1.65**	**227**	*e*P		**Pn**	**01 07 45.9**	**+1.4**
	baz=227							
EAST	**Anshuo**	**1.71**	**211**	*e*P		**Pn**	**01 07 43.5**	**-1.8**
	baz=200							
TAW	**Tawu**	**1.71**	**209**	*e*P		**Pn**	**01 07 47.3**	**+1.9**
	baz=209							
IRIF	**Iriomote-Funau**	**1.83**	**75**	P		**Pn**	**01 07 47.2**	**+0.2**
IRIF				S		**Sn**	**01 08 10.8**	**+0.8**
LAY	**Lan-yu**	**1.84**	**187**	*e*P		**Pn**	**01 07 44.9**	**-2.2**
	baz=176							
LAY				*e*S		**Sn**	**01 08 06.2**	**-3.9**
	baz=176							
SCZT	**Fangliau**	**1.84**	**216**	*e*P		**Pn**	**01 07 47.9**	**+0.8**
	baz=204							
HATJ	**Hateruma jima**	**1.85**	**84**	P		**Pn**	**01 07 47.5**	**+0.2**
HATJ				S		**Sn**	**01 08 10.6**	**+0.1**
TWP	**Hsiaoliuchiu**	**2.01**	**221**	*e*P		**Pn**	**01 07 49.6**	**+0.2**
	baz=223							
JKRS	**Kuro-shima**	**2.06**	**79**	P		**Pn**	**01 07 50.9**	**+0.8**
JKRS				S		**Sn**	**01 08 16.6**	**+1.0**
PNG	**Penghu**	**2.07**	**262**	*e*P		**Pn**	**01 07 49.5**	**-0.7**
	baz=263							
PNG				*e*S		**Sn**	**01 08 15.6**	**-0.2**
	baz=263							
TWK1	**Hengchun**	**2.12**	**206**	*e*P		**Pn**	**01 07 51.8**	**+0.8**
	baz=195							
TSEB	**Hengchuen, Pin**	**2.12**	**203**	*e*P		**Pn**	**01 07 48.2**	**-2.8**
	baz=195							
JIJ	**Ishigaki jima**	**2.21**	**77**	P		**Pn**	**01 07 52.0**	**-0.1**
JIJ				S		**Sn**	**01 08 18.3**	**-0.9**
JTJ	**Tarama**	**2.77**	**73**	P		**Pn**	**01 08 00.4**	**+0.6**
JTJ				*e*S		**Sn**	**01 08 33.0**	**0.0**
QZH	**Quanzhou**	**3.10**	**291**↓	*i*Pn		**Pn**	**01 08 01.6**	**-2.9**
QZH				Sn		**Sn**	**01 08 35.4**	**-5.9**
QZH				smax				
	comp=N,290nm,1.2s							
QZH				smax				
	comp=E,180nm,1.0s							
QZH				LR	LR			
	comp=Z,910nm,13.0s							
SONM	**Songino Array**	**26.87**	**337**	P		**P**	**01 12 54.9**	**-1.2**
	comp=Z,0.6nm,0.6s,mb3.3,baz=152,slow=9.8,SNR=3.3							
SONM	**Songino Array**	**26.87**	**337**	P		**P**	**01 12 54.9**	**-1.2**
MKAR	**Makanchi Array**	**38.95**	**316**	P		**P**	**01 14 41.0**	**-0.4**
	comp=Z,1.5nm,0.8s,mb3.8,baz=110,slow=9.2,SNR=11							
MKAR	**Makanchi Array**	**38.95**	**316**	P		**P**	**01 14 41.0**	**-0.4**
ZALV	**Zalesovo Beam**	**40.81**	**327**	P		**P**	**01 14 55.1**	**-1.6**
	comp=Z,1.7nm,0.6s,mb3.8,baz=114,slow=7.5,SNR=10.0							
ZALV				LR	LR		01 32 37.5	
	comp=Z,17nm,18.1s,baz=79,slow=37							
ZALV	**Zalesovo Beam**	**40.81**	**327**	P		**P**	**01 14 55.1**	**-1.6**
ZALV				LR	LR		01 32 37.5	
KURK	**Kurchatov**	**42.69**	**320**	P		**P**	**01 15 10.6**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=104,slow=6.9,SNR=4.2							
KURK	**Kurchatov**	**42.69**	**320**	P		**P**	**01 15 10.6**	**-1.5**
WRA	**Warramunga Arr**	**45.23**	**163**	P		**P**	**01 15 31.9**	**-0.9**
	comp=Z,0.6nm,0.8s,mb3.5,baz=344,slow=8.8,SNR=3.2							
WRA	**Warramunga Arr**	**45.23**	**163**	P		**P**	**01 15 31.9**	**-0.9**

ECX 04 01:37:52.6±0.3, 30°63N×114°44W, h4km, MD3.5, ML3.6, 1C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
SPX	**San Pedro Mart**	**0.97**	**295**	*e*P		Pg	01 38 09.6	-1.7
SPX				*e*S		Sg	01 38 23.4	-0.6
SPX				*e*			01 38 26.2	
	comp=E,1μm,0.4s							
ECBX	**El Chinero**	**0.99**	**328**	*e*P		Pg	01 38 09.7	-1.9
ECBX				*e*S		Sg	01 38 23.3	-1.2
ECBX				⇑*e*			01 38 29.9	
	comp=N,1μm,0.7s							
ECBX				⇓*e*			01 38 32.9	
	comp=E,1μm,0.4s							
RDX	**Rancho Dawling**	**1.83**	**316**	*e*PN		Pn	01 38 25.0	+0.3
RDX				*e*S		Sn	01 38 48.9	+0.5
RDX				⇓*e*			01 38 53.5	
	comp=N,383nm,0.4s							
ECNX	**Esteban Cantu**	**2.12**	**299**	*e*PN		Pn	01 38 28.6	-0.2
ECNX				*e*S		Sn	01 38 56.6	+1.1
PBX	**Punta Banda**	**2.25**	**300**	*e*PN		Pn	01 38 30.5	-0.1
PBX				*e*S		Sn	01 38 59.7	+0.8
RMX	**La Rumorosa**	**2.41**	**325**	*e*PN		Pn	01 38 32.7	-0.1
RMX				*e*S		Sn	01 39 04.2	+1.4
CBX	**Cerro Bola**	**2.54**	**312**	*e*PN		Pn	01 38 34.6	+0.1
CBX				*e*S		Sn	01 39 07.0	+1.2

IDC 04 01:47:25.6±0.8, 17°21S×173°82W, h0km, mb4.1/9, mb1 4.4/9, mb1mx4.2/21, mbtmp4.1/9, MS3.4/2, Ms1 3.4/2, ms1mx3.0/24, Error ellipse: s-maj=45.1km s-min=17.7km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
RAR	**Rarotonga**	**13.85**	**109**	Pn		Pn	01 50 36.0	-7.3
	0.8nm,0.3s,baz=323,slow=2.3,SNR=4.1							
RAR				LR		LR	01 54 12.6	
	comp=Z,68nm,18.9s,baz=307,slow=29							
DZM	**Mont Dzumac**	**19.21**	**252**	*e*LR		LR	01 56 46.4	
	196nm,25.7s							
URZ	**Urewera**	**22.43**	**199**	P		P	01 52 25.8	-0.2
	3.4nm,0.3s,baz=347,slow=4.0,SNR=4.0							
PPT	**Papeete**	**23.13**	**95**	*e*LR		LR	01 57 51.0	
	117nm,26.0s							
PPT	**Papeete**	**23.13**	**95**	LR		LR	01 58 36.4	
	comp=Z,240nm,20.0s,baz=354,slow=29							
CTA	**Charters Tower**	**37.88**	**259**	P		P	01 54 44.5	-0.3
	2.9nm,0.7s,baz=75,slow=11,SNR=4.6							
STKA	**Stephens Creek**	**42.81**	**242**	P		P	01 55 26.3	+0.9
	0.7nm,0.4s,baz=67,slow=15,SNR=5.0							
WRA	**Warramunga Arr**	**49.07**	**258**	P		P	01 56 14.2	-0.8
	1.6nm,0.4s,baz=97,slow=6.8,SNR=18							
WRA				PcP		PcP	01 57 39.0	+0.1
	0.2nm,0.4s,baz=93,slow=3.3,SNR=3.9							
ASAR	**Alice Springs**	**49.19**	**253**	P		P	01 56 15.3	-0.6
	16nm,0.6s,baz=89,slow=8.4,SNR=213							
NVAR	**Mina Array Bea**	**75.93**	**42**	P		P	01 59 14.9	+0.5
	1.3nm,0.8s,baz=225,slow=9.8,SNR=5.7							
TXAR	**Lajitas Array**	**81.94**	**56**	P		P	01 59 48.0	+0.4
	1.0nm,1.0s,baz=204,slow=5.5,SNR=6.3							
PDAR	**Pinedale Array**	**83.87**	**42**	P		P	01 59 56.6	-0.6
	0.6nm,0.8s,baz=188,slow=5.1,SNR=5.1							
ILAR	**Eielson Array**	**84.28**	**11**	P		P	01 59 58.1	-0.7
	0.4nm,0.6s,baz=236,slow=6.0,SNR=6.2							
KMBO	**Kilima Mbogo**	**144.37**	**242**	PKP		PKPdf	02 07 03.9	-1.0
	2.9nm,0.9s,baz=180,slow=24,SNR=8.8							
BRTR	**Keskin Array B**	**147.27**	**319**	PKPbc		PKPbc	02 07 12.0	+0.6
	1.7nm,0.8s,baz=77,slow=1.9,SNR=9.4							
GERES	**GERESS Array B**	**147.85**	**351**	PKPbc		PKPbc	02 07 12.3	-0.3
	0.6nm,0.7s,baz=33,slow=3.2,SNR=6.1							
MMAI	**Mount Meron Ar**	**149.35**	**306**	PKPbc		PKPbc	02 07 18.1	+1.0
	1.0nm,0.5s,baz=48,slow=1.2,SNR=3.6							

IDC 04 01:54:34.1±9.7, 21°07S×67°72W, h139km±79km, mb3.3/1, mb1 3.0/2, mb1mx2.9/16, mbtmp2.9/2, Error ellipse: s-maj=121.5km s-min=83.0km az=79.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
LPAZ	**La Paz**	**4.77**	**355**	P		Pn	01 55 44.9	+0.6
	0.3nm,0.3s,baz=170,slow=8.0,SNR=4.1							
LPAZ				S		Sn	01 56 40.5	+1.5
	0.0nm,0.3s,baz=24,slow=20,SNR=1.0							
TORD	**Torodi Ar. Bea**	**76.16**	**70**	P		P	02 06 07.5	+0.1
	0.4nm,0.6s,baz=250,slow=5.7,SNR=2.8							
MKAR	**Makanchi Array**	**144.63**	**36**	PKP		PKPdf	02 13 53.6	-0.5
	0.6nm,0.6s,baz=323,slow=3.6,SNR=6.0							

*NEIC **04** 02:06:24.5, 19°38N×66°32W, h73km, MD3.5(RSPR), After RSPR.*
RSPR 04 02:06:24.5, 19°38N×66°32W, h73km±11km, MD3.4/7, 11C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
AOPR	**Arecibo Observ**	**1.10**	**202**↑	*e*P		Pn	02 06 43.1	-1.3
AOPR	**Arecibo Observ**	**1.10**	**202**↑	*e*P		Pn	02 06 43.1	-1.3
AOPR				*e*S		Sn	02 06 58.8	-0.5
CBYP	**Canovanas**	**1.18**	**158**↑	*e*P		Pn	02 06 44.9	-0.5
CBYP	**Canovanas**	**1.18**	**158**	*e*S		Sn	02 07 00.4	-0.6
CBYP	**Canovanas**	**1.18**	**158**	*e*Pn		Pn	02 06 44.4	-1.1
CBYP				*e*S		Sn	02 07 01.4	+0.3
SJG	**San Juan**	**1.27**	**173**↑	*e*P		Pn	02 06 45.4	-1.1
SJG	**San Juan**	**1.27**	**173**↑	*e*P		Pn	02 06 45.6	-0.9
SJG	**San Juan**	**1.27**	**173**↑	*e*P		Pn	02 06 45.4	-1.1
SJG				*e*S		Sn	02 07 02.9	-0.1
HUMP	**Col San Antoni**	**1.30**	**160**↑	*e*P		Pn	02 06 45.9	-1.2
HUMP	**Col San Antoni**	**1.30**	**160**↑	*e*P		Pn	02 06 45.9	-1.2
HUMP				*e*S		Sn	02 07 03.2	-0.7
CELP	**Cerrillos**	**1.32**	**191**	*e*Pn		Pn	02 06 47.1	-0.1
MTP	**Monte Pirata**	**1.46**	**150**↑	*e*P		Pn	02 06 48.7	-0.4
MTP	**Monte Pirata**	**1.46**	**150**	*e*Pn		Pn	02 06 48.7	-0.4
MTP				*e*S		Sn	02 07 06.7	-0.9
CRPR	**Cabo Rojo, PR**	**1.56**	**209**↑	*e*P		Pn	02 06 49.8	-0.5
CRPR	**Cabo Rojo, PR

SPITS	**Spitsbergen Ar**	**4.81**	**4**	Pn	**Pn**	02 14 14.6	+0.4
	baz=166,slow=15,SNR=17						
SPITS				Sn	**Sn**	02 15 09.0	-1.4
	baz=196,slow=28,SNR=2.5						
SPITS	**Spitsbergen Ar**	**4.81**	**4**	Pn	**Pn**	02 14 14.6	+0.4
SPITS				Sn	**Sn**	02 15 09.0	-1.4
SPITS	**Spitsbergen Ar**	**4.81**	**4**	Pn	**Pn**	02 14 14.6	+0.5
SPITS				Sn	**Sn**	02 15 09.0	-1.4
SPB4	**Spitsbergen Ar**	**4.81**	**4**	*e*Pn	**Pn**	02 14 14.8	+0.6
SPB4				*e*S	**Sn**	02 15 08.4	-2.1
SPB4	**Spitsbergen Ar**	**4.81**	**4**	*e*Pn	**Pn**	02 14 14.8	+0.7
SPB4				*e*S	**Sn**	02 15 08.4	-2.1
ARA0	**ARCESS Array S**	**5.19**	**133**	Pn	**Pn**	02 14 20.1	+0.8
	baz=323,slow=12						
ARA0				Sn	**Sn**	02 15 18.4	-1.3
	baz=320,slow=22						
ARA0	**ARCESS Array S**	**5.19**	**133**	Pn	**Pn**	02 14 20.1	+0.8
	baz=323,slow=12,SNR=50						
ARA0				Sn	**Sn**	02 15 18.5	-1.2
	baz=320,slow=21,SNR=50						
ARCES	**ARCESS Array B**	**5.19**	**133**	Pn	**Pn**	02 14 20.9	+1.5
	comp=Z,1.4nm,0.3s,baz=324,slow=11,SNR=94						
ARCES				Sn	**Sn**	02 15 19.4	-0.3
	comp=Z,6.1nm,0.3s,baz=320,slow=19,SNR=16						
ARCES	**ARCESS Array B**	**5.19**	**133**	Pn	**Pn**	02 14 20.9	+1.5
ARCES				Sn	**Sn**	02 15 19.4	-0.3
ARCES	**ARCESS Array B**	**5.19**	**133**	Pn	**Pn**	02 14 20.9	+1.6
ARCES				Sn	**Sn**	02 15 19.5	-0.2
ARE0	**ARCESS Array S**	**5.19**	**133**	*e*Pn	**Pn**	02 14 20.9	+1.6
ARE0				*e*S	**Sn**	02 15 18.9	-0.8
ARE0	**ARCESS Array S**	**5.19**	**133**	*e*Pn	**Pn**	02 14 20.9	+1.6
ARE0				*e*S	**Sn**	02 15 19.0	-0.7
KTK1	**Kautokeino**	**5.20**	**144**	*e*P	**Pn**	02 14 20.2	+0.8
KTK1				*e*S	**Sn**	02 15 19.2	-0.9
KTK1				AML	AML	02 15 23.3	
	comp=Z,43nm,0.5s						
KTK1	**Kautokeino**	**5.20**	**144**	*e*P	**Pn**	02 14 20.2	+0.7
	SNR=49						
KTK1				*e*S	**Sn**	02 15 19.2	-0.9
	comp=Z,43nm,0.5s,SNR=49						
KEV	**Kevo**	**5.34**	**127**	*e*Pn	**Pn**	02 14 22.7	+1.2
KEV				*e*S	**Sn**	02 15 20.8	-2.8
KEV	**Kevo**	**5.34**	**127**	*e*p	**Pn**	02 14 22.8	+1.4
	comp=Z,2.6nm,0.3s						
KEV	**Kevo**	**5.34**	**127**	*e*Pn	**Pn**	02 14 22.7	+1.3
KBS	**Kingsbay**	**5.59**	**354**	Pn	**Pn**	02 14 23.9	-0.9
KBS				Sn	**Sn**	02 15 22.2	-7.3
KBS	**Kingsbay**	**5.59**	**354**	*e*P	**Pn**	02 14 24.2	-0.5
KBS				*e*S	**Sn**	02 15 24.2	-5.3
KBS				AML	AML	02 15 30.6	
	comp=Z,5.2nm,0.6s						
KBS	**Kingsbay**	**5.59**	**354**	*e*Pn	**Pn**	02 14 24.5	-0.2
KBS	**Kingsbay**	**5.59**	**354**	*e*P	**Pn**	02 14 24.2	-0.6
	SNR=49						
KBS	**Kingsbay**	**5.59**	**354**	*e*Pn	**Pn**	02 14 24.5	-0.3
LANU	**Lannavaara**	**5.89**	**152**	P	**Pn**	02 14 31.3	+2.3
SALU	**Saltoluokta**	**6.19**	**166**	P	**Pn**	02 14 33.4	+0.3
MASU	**Masugnsbyn**	**6.46**	**154**	P	**Pn**	02 14 38.5	+1.8
DUNU	**Dundret**	**6.62**	**160**	P	**Pn**	02 14 39.4	-0.5
KAU	**Kalix**	**8.15**	**154**	P	**Pn**	02 15 00.1	+0.2
SJUU	**Sjulsmark**	**8.29**	**160**	P	**Pn**	02 15 01.2	-0.7
APA0	**Apatity Array**	**8.40**	**125**	Pn	**Pn**	02 15 03.8	+0.4
	baz=334,slow=9.3						
APA0				Sn	**Sn**	02 16 32.8	-5.9
	baz=317,slow=28						
APA0	**Apatity Array**	**8.40**	**125**	Pn	**Pn**	02 15 03.8	+0.4
	baz=334,slow=9.3,SNR=50						
LVZ	**Lovozero**	**8.58**	**120**	Pn	**Pn**	02 15 07.1	+1.3
LVZ	**Lovozero**	**8.58**	**120**	Pn	**Pn**	02 15 07.1	+1.3
KAF	**Kangasniemi**	**12.13**	**153**	*e*p	**Pn**	02 15 53.9	-0.4
	comp=Z,0.8nm,0.3s						
KAF	**Kangasniemi**	**12.13**	**153**	*e*P	**Pn**	02 15 53.9	-0.4
	comp=Z,0.8nm,0.3s						
JOF	**Joensuu**	**12.14**	**142**	*e*p	**Pn**	02 15 51.9	-2.6
	comp=Z,0.6nm,0.3s						
JOF	**Joensuu**	**12.14**	**142**	*e*P	**Pn**	02 15 51.9	-2.6
	comp=Z,0.6nm,0.3s						
NOA	**NORSAR Array B**	**12.50**	**188**	Pn	**Pn**	02 15 58.0	-1.4
	comp=Z,0.1nm,0.3s,baz=3.4,slow=13,SNR=3.1						
NOA	**NORSAR Array B**	**12.50**	**188**	Pn	**Pn**	02 15 58.0	-1.4
NOA	**NORSAR Array B**	**12.50**	**188**	Pn	**Pn**	02 15 58.0	-1.4
FIA0	**FINESS Array S**	**12.75**	**155**	Pn	**Pn**	02 16 02.1	-0.7
	baz=348,slow=14						
FIA0				Sn	**Sn**	02 18 17.3	-7.9
	baz=348,slow=28						
FIA0	**FINESS Array S**	**12.75**	**155**	Pn	**Pn**	02 16 02.1	-0.7
	baz=348,slow=13,SNR=50						
FINES	**FINESS Array B**	**12.75**	**155**	Pn	**Pn**	02 16 01.1	-1.7
	comp=Z,0.1nm,0.3s,baz=12,slow=14,SNR=5.7						
FINES				Sn	**Sn**	02 18 17.2	-7.9
	comp=Z,0.2nm,0.3s,baz=353,slow=21,SNR=3.9						
FINES	**FINESS Array B**	**12.75**	**155**	Pn	**Pn**	02 16 01.1	-1.7
FINES				Sn	**Sn**	02 18 17.2	-7.9
FINES	**FINESS Array B**	**12.75**	**155**	Pn	**Pn**	02 16 01.1	-1.7
HFS	**Hagfors**	**13.35**	**182**	Pn	**Pn**	02 16 09.5	-1.4
HFS	**Hagfors**	**13.35**	**182**	Pn	**Pn**	02 16 09.5	-1.4
	SNR=50						
RES	**Resolute Bay**	**26.13**	**325**	LR	LR	02 29 56.7	
	comp=Z,28nm,19.6s,baz=120,slow=39						
ILAR	**Eielson Array**	**41.53**	**348**	P	**P**	02 20 51.2	+2.3
	comp=Z,0.3nm,0.6s,baz=5.7,slow=6.0,SNR=9.2						
ILAR	**Eielson Array**	**41.53**	**348**	P	**P**	02 20 51.2	+2.3

*ISK **04** 02:15:09.6,40.˚19N×31.˚79E,h5km,MD2.9*
*CSEM **04** 02:15:10.9±0.2,40.˚18N×31.˚78E,h2km,MD3.2,Error ellipse: s-maj=4.8km s-min=3.7km az=1.0*
*ISCJB **04** 02:15:11.3±0.5,40.˚20N±0.˚03×31.˚74E±0.˚03,h10km,Error ellipse: s-maj=4.8km s-min=3.3km az=14.1*
*DDA **04** 02:15:11.9,40.˚15N×31.˚68E,h12km±6km,Md3.2*

ISC 04 02:15:11.2±0.6,40˚20'N±0.˚04×31˚80'E±0.˚03,h2km±5km, n41,σ0°91/54,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGKT	**Sivrigoynuk**	**0.42**	**28**	*i* P	**Pg**	02 15 20.3	+1.0
SGKT				*i* S	**Sg**	02 15 31.1	+6.4
SGKT	**Sivrigoynuk**	**0.42**	**28**	*i* P	**Pg**	02 15 20.3	+1.0
MDU	**Mudurnu**	**0.52**	**301**	*e*PG	**Pg**	02 15 21.0	-0.2
MDU				*e*SG	**Sg**	02 15 29.4	+1.4
MDU	**Mudurnu**	**0.52**	**301**	*e*Pg	**Pg**	02 15 21.0	-0.2
MDU				*e*Sg	**Sg**	02 15 29.4	+1.5
SVRH	**Sivrihisar-ESK**	**0.78**	**196**	*e*PG	**Pg**	02 15 25.6	-0.6
SVRH	**Sivrihisar-ESK**	**0.78**	**196**	*e*Pg	**Pg**	02 15 25.6	-0.6
LOD	**Lodumlu**	**0.80**	**113**	*e*PG	**Pg**	02 15 26.4	-0.2
LOD	**Lodumlu**	**0.80**	**113**	*e*Pg	**Pg**	02 15 26.4	-0.2
ESKT	**Eskisehir**	**1.00**	**227**	*e*PG	**Pg**	02 15 29.5	-0.8
ESKT	**Eskisehir**	**1.00**	**227**	*i* P	**Pg**	02 15 28.5	-1.8
ESKT	**Eskisehir**	**1.00**	**227**	*e*Pg	**Pg**	02 15 29.5	-0.8
SEYT	**Eskypehyr**	**1.00**	**227**	*i* P	**Pg**	02 15 28.5	-1.8
GULT	**Gulveren**	**1.01**	**284**	*e*PG	**Pg**	02 15 30.1	-0.5
GULT	**Gulveren**	**1.01**	**284**	*e*Pg	**Pg**	02 15 30.1	-0.5
BORA	**Eskisehir**	**1.08**	**253**	*i* P	**Pg**	02 15 30.4	-1.6
BORA				*i* S	**Sg**	02 15 45.8	-0.2
BORA	**Eskisehir**	**1.08**	**253**	*i* P	**Pg**	02 15 30.4	-1.5
BORA				*i* S	**Sg**	02 15 45.8	-0.2
BBAL	**Bala**	**1.21**	**122**	*i* P	**Pg**	02 15 35.2	+0.8
BBAL				*i* S	**Sg**	02 15 54.7	+4.5
BBAL	**Bala**	**1.21**	**122**	*i* P	**Pg**	02 15 35.2	+0.8
AFSR	**Afˆar-Bala (A**	**1.23**	**127**	*e*PN	**Pn**	02 15 34.2	-1.2
AFSR	**Afˆar-Bala (A**	**1.23**	**127**	*e*Pn	**Pn**	02 15 34.3	-1.1
SAFT	**Safranbolu**	**1.24**	**33**	*e*PN	**Pn**	02 15 34.5	-0.9
SAFT	**Safranbolu**	**1.24**	**33**	*e*Pn	**Pn**	02 15 34.5	-1.0
KIZT	**Kizilcal**	**1.32**	**177**	*e*PN	**Pn**	02 15 35.8	-0.8
KIZT	**Kizilcal**	**1.32**	**177**	*e*Pn	**Pn**	02 15 35.8	-0.8
BOLV	**Bolvadin**	**1.62**	**204**	*i* P	**Pn**	02 15 41.9	+1.2
BOLV				*i* S	**Sn**	02 16 01.7	-0.4
BOLV	**Bolvadin**	**1.62**	**204**	*i* P	**Pn**	02 15 41.9	+1.2
BOLV				*i* S	**Sn**	02 16 01.7	-0.4
KDHN	**Kadinhani**	**1.69**	**172**	*i* P	**Pn**	02 15 42.5	+0.8
KDHN				*i* S	**Sg**	02 16 07.2	+1.5
KDHN	**Kadinhani**	**1.69**	**172**	*i* P	**Pn**	02 15 42.5	+0.8
ALT	**Altintas**	**1.74**	**229**	*e*PN	**Pn**	02 15 41.8	-0.5
ALT	**Altintas**	**1.74**	**229**	*e*Pn	**Pn**	02 15 41.8	-0.5
YLV	**Yalova**	**1.89**	**282**	*e*PN	**Pn**	02 15 44.4	0.0
YLV	**Yalova**	**1.89**	**282**	*e*Pn	**Pn**	02 15 44.4	0.0
SHUT	**Suhut-Afyon**	**1.91**	**211**	*e*PN	**Pn**	02 15 44.5	-0.2
SHUT	**Suhut-Afyon**	**1.91**	**211**	*e*Pn	**Pn**	02 15 44.5	-0.2
CDAG	**Cicekdag**	**2.06**	**105**	*i* P	**Pn**	02 15 46.7	0.0
CDAG				*i* S	**Sn**	02 16 12.8	-0.1
CDAG	**Cicekdag**	**2.06**	**105**	*i* P	**Pn**	02 15 46.7	-0.1
CDAG				*i* S	**Sn**	02 16 12.8	-0.2
GDZ	**Gediz**	**2.11**	**239**	*i* P	**Pn**	02 15 47.5	+0.1
GDZ				*i* S	**Sn**	02 16 16.7	+2.6
GDZ	**Gediz**	**2.11**	**239**	*i* P	**Pn**	02 15 47.5	+0.1
DURS	**Dursunbey**	**2.63**	**258**	*i* P	**Pn**	02 15 54.6	+0.1
DURS				*i* S	**Sg**	02 16 35.6	0.0
DURS	**Dursunbey**	**2.63**	**258**	*i* P	**Pn**	02 15 54.6	0.0
DEMI	**Demirci**	**2.65**	**245**	*i* P	**Pn**	02 15 58.7	+3.9

IDC 04 02:26:58.5±3.8,25˚25S×179˚87E,h457km±53km,mb3.3/5, mb1 3.4/6,mb1mx3.2/19,mbtmp3.3/6,Error ellipse: s-maj=96.5km s-min=15.0km az=171.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**19.14**	**82**	P	P	02 30 51.6	0.0
	0.8nn,0.3s,baz=198,slow=16,SNR=3.0						
CTA	**Charters Tower**	**31.39**	**273**	P	P	02 32 41.1	+0.5
	1.1nn,0.3s,baz=74,slow=7.4,SNR=2.5						
STKA	**Stephens Creek**	**34.13**	**250**	P	P	02 33 02.8	-1.1
	2.0nn,0.9s,baz=94,slow=13,SNR=4.2						
ASAR	**Alice Springs**	**41.71**	**262**	P	P	02 34 06.0	-0.1
	2.4nn,0.4s,baz=91,slow=7.6,SNR=47						
WRA	**Warramunga Arr**	**42.21**	**268**	P	P	02 34 10.0	-0.2
	2.1nn,0.5s,baz=104,slow=7.8,SNR=38						
FITZ	**Fitzroy Crossi**	**50.62**	**267**	P	P	02 35 14.7	+0.3
	1.5nn,0.5s,baz=87,slow=6.8,SNR=13						
NOA	**NORSAR Array B**	**143.39**	**351**	PKP	PKPdf	02 45 40.2	+0.8
	1.2nn,0.7s,baz=18,slow=2.8,SNR=4.6						
BRTR	**Keskin Array B**	**148.27**	**305**	PKPbc	PKPbc	02 45 51.3	-1.0
	0.2nn,0.5s,baz=139,slow=2.9,SNR=2.7						

*IDC **04** 02:44:28.4±1.9,51.˚48N×174.˚23W,h0km,mb3.8/11, mb1 4.0/13,mb1mx3.9/29,mbtmp3.8/13,ML4.3/2,MS3.1/2, Ms1 3.2/2,ms1mx2.7/35,Error ellipse: s-maj=50.1km s-min=21.4km az=8.0*
*ISCJB **04** 02:44:32.2±2.3,51.˚30N±0.˚08×174.˚09W±0.˚06, h33km±15km,mb4.1/20,Error ellipse: s-maj=13.4km s-min=6.0km az=179.1*
*NEIC **04** 02:44:33.4,51.˚25N×174.˚20W,h20km,mb4.6/10,After AEIC.*

ISC 04 02:44:32.1±2.3,51˚3'N±0.˚1×174˚16'W±0.˚06,h24km±12km, n67,σ0°94/72,mb4.1/20,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.90**	**359**	P	**Pb**	02 44 49.2	+0.2
ATKA				S	**Sb**	02 45 00.2	-0.4
GSTR	**Great Sitkin T**	**1.42**	**304**	*e*Pn	**Pn**	02 44 56.3	-0.1
GSTR				*e*S	**Sn**	02 45 16.7	+2.5
ADK	**Adak**	**1.68**	**291**	*e*Pn	**Pn**	02 44 59.6	-0.3
ADK				S	**Sn**	02 45 20.6	+0.1
NIKO	**Nikolski**	**3.67**	**61**	*e*Pn	**Pn**	02 45 26.9	-0.3
NIKO				*e*S	**Sn**	02 46 07.9	-1.8
UNV	**Unalaska Valle**	**5.32**	**58**	*e*Pn	**Pn**	02 45 52.6	+2.7
UNV				*e*S	**Sn**	02 46 50.6	+0.3
AKUT	**Akutan**	**5.83**	**58**	*e*P	**Pn**	02 45 59.5	+2.6
PETK	**Petropavlovsk-**	**17.30**	**287**	P	**Pn**	02 48 29.9	-1.8
	0.7nn,0.3s,baz=89,slow=14,SNR=6.6						
PETK				LR	LR	02 54 01.4	
	comp=Z,32nn,19.2s,baz=236,slow=33						
PETK	**Petropavlovsk-**	**17.30**	**287**	P	**Pn**	02 48 29.9	-1.8
PETK				LR	LR	02 54 01.4	
ILAR	**Eielson Array**	**19.53**	**36**	P	**Pn**	02 48 55.1	-3.7
	0.6nn,0.3s,baz=240,slow=9.1,SNR=43						
ILAR	**Eielson Array**	**19.53**	**36**	P	**Pn**	02 48 55.1	-3.7
EGAK	**Eagle**	**21.73**	**39**	*e*P	**P**	02 49 20.9	-0.3
	11nn,0.7s,mb4.4						
INK	**Inuvik**	**25.88**	**34**	P	**P**	02 50 00.5	-1.0
	0.7nn,0.5s,mb3.5,baz=84,slow=3.3,SNR=6.3						
INK	**Inuvik**	**25.88**	**34**	*e*P	**P**	02 50 00.5	-1.0
	2.3nn,1.0s,mb3.7						
PDAR	**Pinedale Array**	**43.54**	**75**	P	**P**	02 52 34.4	+0.8
	0.6nn,0.8s,mb3.4,baz=299,slow=3.7,SNR=4.8						
PDAR	**Pinedale Array**	**43.54**	**75**	P	**P**	02 52 34.4	+0.8
TXAR	**Lajitas Array**	**55.78**	**85**	P	**P**	02 54 06.8	-0.1
	0.2nn,0.7s,mb3.2,baz=290,slow=3.7,SNR=3.0						
TXAR	**Lajitas Array**	**55.78**	**85**	P	**P**	02 54 06.8	-0.1
ARCES	**ARCESS Array B**	**58.61**	**352**	P	**P**	02 54 25.2	-1.1
	3.3nn,0.8s,mb4.4,baz=32,slow=7.1,SNR=7.1						
ARCES				LR	LR	03 24 05.5	
	comp=Z,31nn,18.1s,baz=270,slow=41						
ARCES	**ARCESS Array B**	**58.61**	**352**	P	**P**	02 54 25.2	-1.1
ARCES				LR	LR	03 24 05.5	
KURK	**Kurchatov**	**61.13**	**316**	P	**P**	02 54 44.1	+0.2
	0.6nn,0.5s,mb4.0,baz=46,slow=6.5,SNR=5.5						
KURK	**Kurchatov**	**61.13**	**316**	P	**P**	02 54 44.1	+0.2
MKAR	**Makanchi Array**	**62.32**	**311**	P	**P**	02 54 51.1	-0.9
	0.4nn,0.3s,mb4.1,baz=47,slow=5.0,SNR=5.8						
MKAR	**Makanchi Array**	**62.32**	**311**	P	**P**	02 54 51.0	-1.0
FINES	**FINESS Array B**	**66.44**	**350**	P	**P**	02 55 17.4	-1.3
	1.1nn,0.7s,mb4.0,baz=134,slow=11,SNR=4.1						
FINES	**FINESS Array B**	**66.44**	**350**	P	**P**	02 55 17.4	-1.3
NOA	**NORSAR Array B**	**67.92**	**357**	P	**P**	02 55 27.4	-0.7
	0.9nn,0.8s,mb3.9,baz=22,slow=10,SNR=4.0						
NOA	**NORSAR Array B**	**67.92**	**357**	P	**P**	02 55 27.4	-0.7
AKASG	**Malin Array Be**	**76.44**	**345**	P	**P**	02 56 18.3	-0.9
	1.0nn,0.4s,mb4.1,baz=15,slow=5.7,SNR=3.9						
AKASG	**Malin Array Be**	**76.44**	**345**	P	**P**	02 56 18.3	-0.9
GIVF	**Givet**	**78.97**	**1**	*e*P	**P**	02 56 33.5	+0.2
GIVF	**Givet**	**78.97**	**1**	*e*P	**P**	02 56 33.5	+0.2
BAIF	**Baives**	**79.00**	**1**	*e*P	**P**	02 56 34.7	+1.2
	4.7nn,0.7s,mb4.2						
BAIF	**Baives**	**79.00**	**1**	*e*P	**P**	02 56 34.7	+1.2
	2.3nn,0.7s,mb4.2						
GERES	**GERESS Array B**	**80.00**	**355**	P	**P**	02 56 39.5	+0.5
	0.7nn,0.7s,mb3.7,baz=28,slow=6.0,SNR=8.1						
GERES	**GERESS Array B**	**80.00**	**355**	P	**P**	02 56 39.5	+0.5
FLN	**La Foliniere**	**80.16**	**4**	*e*P	**P**	02 56 39.7	-0.1
FLN	**La Foliniere**	**80.16**	**4**	*e*P	**P**	02 56 39.7	-0.1
LDF	**La Druitiere**	**80.35**	**4**	*e*P	**P**	02 56 40.6	-0.2
	3.9nn,0.6s,mb4.2						
LDF	**La Druitiere**	**80.35**	**4**	*e*P	**P**	02 56 40.6	-0.2
	2.0nn,0.6s,mb4.2						
GRR	**Gorron**	**80.52**	**5**	*e*P	**P**	02 56 41.8	0.0
	28nn,1.1s,mb4.8						
GRR	**Gorron**	**80.52**	**5**	*e*P	**P**	02 56 41.8	0.0
	14nn,1.1s,mb4.8						
MEZF	**Maizieres J'vi**	**80.57**	**1**	*e*P	**P**	02 56 42.6	+0.6
	18nn,1.1s,mb4.6						
MEZF	**Maizieres J'vi**	**80.57**	**1**	*e*P	**P**	02 56 42.6	+0.6
	18nn,1.0s,mb5.0						
CDF	**Champ du Feu**	**80.65**	**359**	*e*P	**P**	02 56 42.9	+0.4
CDF	**Champ du Feu**	**80.65**	**359**	*e*P	**P**	02 56 42.9	+0.4
SFTF	**Sexfontaines**	**80.87**	**1**	*e*P	**P**	02 56 44.0	+0.4
SFTF	**Sexfontaines**	**80.87**	**1**	*e*P	**P**	02 56 44.0	+0.4
HAU	**Haudompre**	**81.07**	**360**	*e*P	**P**	02 56 45.1	+0.4
HAU	**Haudompre**	**81.07**	**360**	*e*P	**P**	02 56 45.1	+0.4
HINF	**Hinteralfeld**	**81.25**	**359**	*e*P	**P**	02 56 45.8	+0.1
HINF	**Hinteralfeld**	**81.25**	**359**	*e*P	**P**	02 56 45.8	+0.1
LOR	**Lormes**	**81.79**	**1**	*e*P	**P**	02 56 49.0	+0.5
LOR	**Lormes**	**81.79**	**1**	*e*P	**P**	02 56 49.0	+0.5
SSF	**Saint Saulge**	**81.99**	**2**	*e*P	**P**	02 56 49.9	+0.3
	19nn,1.1s,mb4.6						
SSF	**Saint Saulge**	**81.99**	**2**	*e*P	**P**	02 56 49.9	+0.3
	9.4nn,1.1s,mb4.6						
AVF	**Avril sur Loir**	**82.26**	**2**	*e*P	**P**	02 56 51.2	+0.2
	10nn,0.9s,mb4.5						
AVF	**Avril sur Loir**	**82.26**	**2**	*e*P	**P**	02 56 51.2	+0.2
	5.1nn,0.9s,mb4.5						
MFF	**Saint Martin d**	**82.34**	**4**	*e*P	**P**	02 56 51.9	+0.5
	13nn,1.0s,mb4.5						
MFF	**Saint Martin d**	**82.34**	**4**	*e*P	**P**	02 56 51.9	+0.5
	6.7nn,1.0s,mb4.5						
SMF	**Signal de Mont**	**82.41**	**1**	*e*P	**P**	02 56 52.1	+0.3
	9.0nn,0.8s,mb4.4						
SMF	**Signal de Mont**	**82.41**	**1**	*e*P	**P**	02 56 52.1	+0.3
	4.5nn,0.8s,mb4.5						
CABF	**La Chapelle**	**82.46**	**360**	*e*P	**P**	02 56 53.0	+0.9
CABF	**La Chapelle**	**82.46**	**360**	*e*P	**P**	02 56 53.0	+0.9
TCF	**Toulx Ste Croi**	**82.74**	**3**	*e*P	**P**	02 56 53.8	+0.3
TCF	**Toulx Ste Croi**	**82.74**	**3**	*e*P	**P**	02 56 53.8	+0.3
BRTR	**Keskin Array B**	**86.14**	**339**	P	**P**	02 57 09.0	-1.9
	0.4nn,0.6s,mb3.9,baz=46,slow=3.6,SNR=3.7						
BRTR	**Keskin Array B**	**86.14**	**339**	P	**P**	02 57 09.0	-1.9

*IPEC **04** 02:45:46.5±0.2,50.˚27N×18.˚90E,h3km±1km,ML2.0/3, Error ellipse: s-maj=2.7km s-min=1.2km az=172.0*
*CSEM **04** 02:45:46.7±0.2,50.˚26N×18.˚87E,h2km,ML2.8/4,Error ellipse: s-maj=5.2km s-min=2.4km az=9.0*

*PRU **04** 02:45:47.1,50.˚27N×18.˚85E,h0km*

WAR 04 02:45:46.6,50˚24'N×18˚93'E,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.56**	**91**	*e*Pg	Pg	02 45 57.8	+0.5
OJC				*e*Sg	Sg	02 46 05.7	+1.2
OJC	**Ojcow**	**0.56**	**91**	*e*Pg	Pg	02 45 57.7	+0.4
	baz=275						
OJC				*e*Sg	Sg	02 46 05.7	+1.2
OKC	**Ostrava-Krasne**	**0.64**	**232**	*e*PG	Pg	02 45 59.0	+0.1
OKC				*e*SG	Sg	02 46 06.5	-0.8
	comp=Z,25nm,0.4s						
OKC	**Ostrava-Krasne**	**0.64**	**232**	Pg	Pg	02 45 59.0	+0.1
OKC				Sg	Sg	02 46 06.5	-0.8
	comp=Z,25nm,0.4s						
MORC	**Moravsky Berou**	**1.01**	**243**	*e*Pg	Pg	02 46 05.5	-0.4
	baz=60						
MORC				*e*Sg	Sg	02 46 17.8	-1.1
	comp=Z,32nn,0.4s,baz=60						
NIE	**Niedzica**	**1.21**	**132**	*e*Pg	Pg	02 46 09.9	+0.1
NIE				*e*Sg	Sg	02 46 27.1	+1.6
NIE	**Niedzica**	**1.21**	**132**	*e*Pg	Pg	02 46 09.9	+0.1
NIE				*e*Sg	Sg	02 46 27.1	+1.6
DPC	**Dobruska-Polom**	**1.68**	**275**	*e*PG	Pg	02 46 16.3	-2.4
DPC				*e*SG	Sg	02 46 37.8	-2.6
	comp=Z,17nm,0.4s						
DPC	**Dobruska-Polom**	**1.68**	**275**	*e*Pn	Pn	02 46 16.2	-0.9
	baz=92						
DPC				*e*Sg	Sg	02 46 38.5	-1.9
	baz=92						
KOLL	**Kolacno**	**1.69**	**192**	*e*PN	Pn	02 46 18.8	+1.4
KOLL				*e*SN	Sn	02 46 39.8	0.0
KOLL	**Kolacno**	**1.69**	**192**	*e*Pn	Pn	02 46 18.8	+1.4
KOLL				*e*Sn	Sn	02 46 39.8	0.0
STHS	**Stebnicka Huta**	**1.71**	**118**	*e*PN	Pn	02 46 19.4	+1.8
STHS				*e*SN	Sn	02 46 41.9	+1.8
STHS	**Stebnicka Huta**	**1.71**	**118**	*e*Pn	Pn	02 46 19.4	+1.8
STHS				*e*Sn	Sn	02 46 41.9	+1.8
VYHS	**Vyhne**	**1.75**	**182**	*e*PN	Pn	02 46 18.1	0.0
VYHS				*e*SN	Sn	02 46 40.3	-0.7
VRAC	**Vranov**	**1.78**	**239**	*e*Pn	Pn	02 46 18.3	-0.2
	baz=56						
VRAC				*e*Sn	Sn	02 46 42.0	+0.2
	comp=Z,14nm,0.3s,baz=56						
KSP	**Ksiaz**	**1.79**	**291**	*e*Pg	Pg	02 46 19.9	-1.0
KSP				*e*Sg	Sg	02 46 43.4	-0.6
KSP	**Ksiaz**	**1.79**	**291**	*e*Pg	Pg	02 46 19.9	-1.0
KSP				*e*Sg	Sg	02 46 43.4	-0.6
UPC	**Upice**	**1.89**	**279**	*e*SG	Sg	02 46 45.1	-2.1
UPC	**Upice**	**1.89**	**279**	Sg	Sg	02 46 45.1	-2.1
**SMO

2.0nm,0.4s,mb4.3,baz=302,slow=9.0,SNR=31
WRA PcP PcP 03 01 00.8 +0.7
0.8nm,0.6s,baz=312,slow=2.1,SNR=5.6
WRA Warramunga Arr 35.37 120 P **P 02 58 31.2 -0.2**
WRA PcP PcP 03 01 00.8 +0.7
WRAB Tennant Creek 35.37 120 *e*P **P 02 58 31.6 +0.1**
2.5nm,0.7s,mb4.2
WB2 Warramunga Arr 35.38 120 *e*P **P 02 58 31.5 0.0**
KOLN Koldanda 36.08 332 *e*P **P 02 58 36.9 -0.4**
10nm,0.7s,mb4.9
KOLN Koldanda 36.08 332 *e*P **P 02 58 36.9 -0.4**
10nm,0.7s,mb4.9
DANN Dangsing 36.49 332 *e*P **P 02 58 41.6 +0.7**
18nm,0.5s,mb5.2
DANN Dangsing 36.49 332 *e*P **P 02 58 41.6 +0.7**
18nm,0.5s,mb5.3
ASAR Alice Springs 36.58 126 P **P 02 58 42.1 +0.4**
1.7nm,0.3s,mb4.4,baz=298,slow=8.0,SNR=20
ASAR PcP PcP 03 01 04.6 +1.0
0.5nm,0.4s,baz=298,slow=2.7,SNR=4.4
ASAR Alice Springs 36.58 126 P **P 02 58 42.1 +0.4**
ASAR PcP PcP 03 01 04.6 +1.0
CTAO Charters Tower 46.04 114 *e*P **P 02 59 59.5 +0.3**
6.0nm,0.8s,mb4.4
STKA Stephens Creek 46.46 132 P **P 03 00 03.1 +0.8**
2.7nm,0.8s,mb4.0,baz=332,slow=6.5,SNR=8.6
STKA Stephens Creek 46.46 132 *e*P **P 03 00 03.7 +1.3**
1.5nm,1.0s,mb3.7
KSRS Korea Array 47.65 28 P **P 03 00 10.7 -0.8**
2.1nm,0.5s,mb4.2,baz=215,slow=8.0,SNR=9.5
SONM Songino Array 51.60 4 P **P 03 00 41.0 -0.3**
4.8nm,0.7s,mb4.7,baz=184,slow=9.5,SNR=11
SONM sP sP 03 01 03.0 -7.6
1.3nm,0.5s,baz=184,slow=9.5,SNR=3.0
SONM Songino Array 51.60 4 P **P 03 00 41.0 -0.3**
SONM sP sP 03 01 03.0 -7.6
EKS2 Erkin-Say 52.86 334 *e*P **P 03 00 51.2 +0.4**
2.7nm,0.6s,mb4.5
MK31 Makanchi Array 53.34 343 *e*P **P 03 00 54.0 -0.1**
MKAR Makanchi Array 53.34 343 P **P 03 00 53.6 -0.5**
5.1nm,0.5s,mb4.8,baz=147,slow=8.3,SNR=72
MKAR sP sP 03 01 15.6 -7.8
4.5nm,0.7s,baz=145,slow=7.9,SNR=5.3
MKAR Makanchi Array 53.34 343 P **P 03 00 53.6 -0.5**
MKAR sP sP 03 01 15.6 -7.8
KURK Kurchatov 57.93 343 P **P 03 01 25.8 -1.2**
3.9nm,0.6s,mb4.6,baz=162,slow=6.9,SNR=21
KURK pP pP 03 01 42.6 -4.9
1.4nm,0.6s,baz=161,slow=7.1,SNR=3.4
KURK sP sP 03 01 47.5 -8.9
3.1nm,0.6s,baz=160,slow=7.0,SNR=6.1
KURK PcP PcP 03 02 18.3 -0.1
1.1nm,0.6s,baz=150,slow=2.8,SNR=5.0
KURK Kurchatov 57.93 343 *e*P **P 03 01 25.4 -1.5**
4.9nm,0.7s,mb4.7
KURK pP pP 03 01 42.6 -4.9
KURK sP sP 03 01 47.5 -8.9
KURK PcP PcP 03 02 18.3 -0.1
ZAA0 Zalesovo Array 59.34 348 *e*P **P 03 01 36.0 -0.7**
ZALV Zalesovo Beam 59.34 348 P **P 03 01 35.9 -0.8**
5.0nm,0.4s,mb4.9,baz=171,slow=4.9,SNR=28
ZALV sP sP 03 01 58.1 -8.2
3.0nm,0.4s,baz=161,slow=5.9,SNR=4.3
ZALV Zalesovo Beam 59.34 348 P **P 03 01 35.9 -0.8**
ZALV sP sP 03 01 58.1 -8.2
ABKAR Akbulak array 64.20 331 *e*P **P 03 02 08.7 -0.7**
5.4nm,0.6s,mb4.5
BR131 Keskin Array S 76.01 312 *e*P **P 03 03 22.2 +0.2**
0.9nm,0.5s,mb3.8
BRTR Keskin Array B 76.01 312 P **P 03 03 22.1 +0.2**
1.5nm,0.6s,mb3.9,baz=135,slow=6.7,SNR=13
BRTR sP sP 03 03 44.9 -7.2
1.2nm,0.6s,baz=136,slow=7.5,SNR=4.7
BRTR Keskin Array B 76.01 312 P **P 03 03 22.1 +0.2**
BRTR sP sP 03 03 44.9 -7.2
JOF Joensuu 84.72 334 *e*p **P 03 04 07.1 -1.0**
1.7nm,0.6s,mb4.2
FINES FINESS Array B 86.65 332 P **P 03 04 17.9 +0.3**
1.6nm,0.5s,mb4.2,baz=106,slow=4.1,SNR=17
FINES pP pP 03 04 35.8 -3.7
2.1nm,0.9s,baz=106,slow=6.3,SNR=2.2
FINES FINESS Array B 86.65 332 P **P 03 04 17.9 +0.3**
FINES pP pP 03 04 35.8 -3.7
KAF Kangasniemi 86.71 333 *e*p **P 03 04 17.8 -0.2**
2.5nm,0.5s,mb4.4
ARCES ARCESS Array B 88.87 340 P **P 03 04 28.3 +0.1**
2.2nm,0.9s,mb4.2,baz=64,slow=2.8,SNR=4.7
ARCES ARCESS Array B 88.87 340 P **P 03 04 28.3 +0.1**
GERES GERESS Array B 91.73 319 P **P 03 04 43.0 +1.1**
0.2nm,0.5s,mb3.6,baz=120,slow=5.9,SNR=2.5
GERES GERESS Array B 91.73 319 P **P 03 04 43.0 +1.1**
CPUP Villa Florida 143.93 213 PKP PKPdf 03 11 10.6 +0.4
0.4nm,0.4s,baz=166,slow=7.2,SNR=3.1
CPUP Villa Florida 143.93 213 PKP PKPdf 03 11 10.6 +0.4
TXAR Lajitas Array 144.87 41 PKP PKPdf 03 11 11.6 -0.2
2.3nm,0.5s,baz=251,slow=0.9,SNR=72
TXAR Lajitas Array 144.87 41 PKP PKPdf 03 11 11.6 -0.2
JCT Junction City 146.46 35 PKPbc PKPbc 03 11 16.1 +0.2

*IDC **04** 03:11:09.4±1.8, 9.°53N×60.°84W, h0km, mb3.3/4, mb1 3.7/5, mb1mx3.5/24, mbtmp3.5/5, ML2.5/1, Error ellipse: s-maj=70.0km s-min=25.3km az=3.0*
*FUNV **04** 03:11:13.8, 10.°41N×60.°08W, h50km, MW3.8*
*ISCJB **04** 03:11:14.3±0.7, 10.°35N±0.°03×60.°39W±0.°05, h102km±6km, mb3.3/3, Error ellipse: s-maj=9.0km s-min=4.3km az=21.5*
*TRN **04** 03:11:16.1, 10.°36N×60.°29W, h73km, MD3.9*
ISC 04 03:11:15.7±0.7, 10.°35N±0.°03×60.°39W±0.°05, h92km±7km, n35, σ1°902/55, mb3.3/3, 1C-4D, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBH	**Brigand Hill**	**0.68**	**281**	⇓*e*P	**Pn**	**03 11 32.7**	**+0.5**
TBH				*e*S	**Sn**	**03 11 43.5**	**-1.0**
TPR	**Prospect**	**0.92**	**335**	⇑*e*P	**Pn**	**03 11 33.8**	**-0.7**
TPR				*e*S	**Sn**	**03 11 47.9**	**-0.8**
TOSP	**Speyside**	**0.95**	**351**	*e*P	**Pn**	**03 11 33.9**	**-1.1**
TOSP				*e*S	**Sn**	**03 11 49.0**	**-0.5**
TRN	**Trinidad (W)**	**1.04**	**287**	⇓*e*P	**Pn**	**03 11 36.8**	**+0.9**
TRN				*e*S	**Sn**	**03 11 51.8**	**+0.6**
GUIV	**Guiria**	**1.83**	**279**	*e*P	**Pn**	**03 11 45.9**	**+0.2**
GUIV				*e*S	**Sn**	**03 12 09.9**	**+1.2**
GRW	**Mount Saint Ca**	**2.19**	**325**	*e*P	**Pn**	**03 11 52.5**	**+2.0**
GRW				*e*S	**Sn**	**03 12 17.0**	**0.0**
GRIC	**Isle de Caille**	**2.25**	**329**	*e*P	**Pn**	**03 11 53.2**	**+1.9**
GRIC				*e*S	**Sn**	**03 12 18.1**	**-0.5**
GRSS	**Sisters**	**2.28**	**328**	*e*P	**Pn**	**03 11 53.2**	**+1.6**
GRSS				*e*S	**Sn**	**03 12 19.2**	**0.0**
GUNV	**Guanoco**	**2.52**	**266**	⇓*i*P	**Pn**	**03 11 56.5**	**+1.6**
GUNV				*e*S	**Sn**	**03 12 26.9**	**+2.0**
RIOV	**Rio Grande**	**2.67**	**212**	*e*P	**Pn**	**03 11 57.0**	**+0.1**
RIOV				*e*S	**Sn**	**03 12 27.6**	**-0.8**
CRUV	**Carupano**	**2.82**	**277**	*e*P	**Pn**	**03 11 58.3**	**-0.5**
CRUV				*e*S	**Sn**	**03 12 32.2**	**+0.2**
FCV	**Fort Charlotte**	**2.91**	**343**	*e*P	**Pn**	**03 12 00.5**	**+0.4**
FCV				*e*S	**Sn**	**03 12 34.0**	**-0.3**
SVB	**Belmont**	**3.03**	**344**	*e*P	**Pn**	**03 12 01.7**	**+0.1**
SVB				*e*S	**Sn**	**03 12 36.5**	**-0.5**
SVV	**Soufriere Volc**	**3.06**	**345**	*e*P	**Pn**	**03 12 03.3**	**+1.3**
SVV				*e*S	**Sn**	**03 12 37.2**	**-0.6**
ORIV	**Oritupano**	**3.24**	**247**	⇓*i*P	**Pn**	**03 12 05.8**	**+1.4**
ORIV				*e*S	**Sn**	**03 12 43.6**	**+1.5**
MCLT	**Moule a Chique**	**3.38**	**351**	*e*P	**Pn**	**03 12 06.3**	**-0.1**
MCLT				*e*S	**Sn**	**03 12 44.0**	**-1.6**
SLB	**Belfond**	**3.52**	**350**	*e*P	**Pn**	**03 12 09.1**	**+0.9**
SLB				*e*S	**Sn**	**03 12 48.5**	**-0.4**
GURV	**El Guri**	**3.71**	**226**	*e*P	**Pn**	**03 12 11.3**	**+0.5**
PCRV	**Puerto La Cruz**	**4.19**	**268**	*e*P	**Pn**	**03 12 17.1**	**-0.2**
LUEV	**Luepa**	**4.60**	**193**	*e*P	**Pn**	**03 12 20.9**	**-2.0**
CUPV	**Cœpira**	**5.33**	**267**	*e*P	**Pn**	**03 12 33.0**	**+0.2**
CUPV				*e*S	**Sn**	**03 13 31.5**	**-1.3**
BIRV	**Birongo**	**5.79**	**272**	*e*P	**Pn**	**03 12 39.9**	**+0.8**
BIRV				*e*S	**Sn**	**03 13 42.5**	**-1.6**
MERV	**Las Mercedes**	**5.93**	**260**	*e*P	**Pn**	**03 12 40.9**	**-0.1**
CAOV	**Caicara del Or**	**6.59**	**243**	*e*P	**Pn**	**03 12 50.4**	**+0.4**
CAOV				*e*S	**Sn**	**03 14 01.4**	**-2.3**
TURV	**Turiamo**	**7.33**	**271**	*e*P	**Pn**	**03 13 00.3**	**+0.2**
BAUV	**El Baul**	**7.68**	**260**	*e*P	**Pn**	**03 13 03.8**	**-1.0**
BAUV				*e*S	**Sn**	**03 14 26.7**	**-3.5**
MAPV	**Macapo**	**7.96**	**267**	*e*P	**Pn**	**03 13 07.8**	**-1.0**
SANV	**Sanarito**	**9.05**	**265**	*e*P	**Pn**	**03 13 23.4**	**-0.2**
CURV	**Curarigua**	**9.43**	**269**	*e*P	**Pn**	**03 13 29.2**	**+0.5**
SOCV	**Socops**	**10.53**	**260**	*e*P	**Pn**	**03 13 42.4**	**-1.4**

ROSC	**El Rosal**	**14.86**	**249**	Pn	**Pn**	**03 14 31.9**	**-9.2**
	0.4nm,0.3s,baz=107,slow=16,SNR=2.9						
TXAR	**Lajitas Array**	**44.56**	**301**	P	**P**	**03 19 23.7**	**+5.0**
	0.1nm,0.4s,mb2.9,baz=120,slow=10,SNR=6.1						
TXAR				PcP	PcP	03 21 09.2	+8.8
	0.3nm,0.6s,baz=114,slow=6.1,SNR=4.2						
PDAR	**Pinedale Array**	**53.52**	**316**	P	**P**	**03 20 32.4**	**+5.4**
	0.5nm,0.5s,mb3.8,baz=111,slow=10.0,SNR=6.8						
TORD	**Torodi Ar. Bea**	**60.72**	**81**	P	**P**	**03 21 25.6**	**+7.5**
	0.2nm,0.8s,mb3.2,baz=272,slow=7.3,SNR=3.2						
GERES	**GERESS Array B**	**71.81**	**42**	P	PcP	03 22 41.1	-5.7
	0.1nm,0.3s,baz=258,slow=4.6,SNR=2.2						

*NEIC **04** 03:20:37.0, 9.°69S×78.°66W, h52km, mb4.8/16, After LIM.*
NEIC Felt [II] at Casma and Chimbote. Also felt at Huamachuco, Santa and Trujillo.
*IDC **04** 03:20:38.3±0.7, 9.°94S×78.°69W, h68km±5km, mb4.0/10, mb1 4.2/12, mb1mx4.1/22, mbtmp4.1/12, MS3.0/6, Ms1 3.1/6, ms1mx2.9/26, Error ellipse: s-maj=16.7km s-min=6.8km az=69.0*
*ISCJB **04** 03:20:40.2±0.9, 9.°78S±0.°05×78.°45W±0.°09, h96km±8km, mb4.5/24, Error ellipse: s-maj=16.0km s-min=5.8km az=156.3*
*BJI **04** 03:20:58.1, 8.°60S×78.°30W, h187km, mB4.9/1*
ISC 04 03:20:41.4±0.8, 9.°81S±0.°05×78.°43W±0.°09, h88km±8km, h67km±3.8km: pP-P, n359, σ0°58/338, mb4.5/24, 118C-163D, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.65**	**1**	P	**Pn**	**03 21 21.8**	**-0.4**
	62nm,0.3s,baz=184,slow=4.3,SNR=141						
ATAH				S	**Sn**	**03 21 55.0**	**+1.4**
	130nm,0.3s,baz=295,slow=21,SNR=17						
NNA	**Nana**	**2.67**	**144**	P	**Pn**	**03 21 20.2**	**-2.2**
	26nm,0.3s,baz=333,slow=13,SNR=64						
NNA				S	**Sn**	**03 21 52.7**	**-1.3**
	92nm,0.3s,baz=309,slow=22,SNR=12						
NNA				LR	LR	03 22 34.5	
	comp=Z,217nm,20.6s,baz=318,slow=43						
NNA	**Nana**	**2.67**	**144**	*e*Pn	**Pn**	**03 21 20.2**	**-2.3**
NNA				*e*S	**Sn**	**03 21 55.3**	**+1.3**
OTAV	**Otavalo**	**9.98**	**360**	*e*Pn	**Pn**	**03 22 59.5**	**-2.4**
	13nm,0.9s						
OTAV				*e*S	**Sn**	**03 24 51.4**	**-0.8**
LPAZ	**La Paz**	**11.92**	**124**	P	**Pn**	**03 23 30.4**	**+2.0**
	0.1nm,0.3s,baz=319,slow=17,SNR=3.1						
LPAZ				LR	LR	03 28 38.9	
	comp=Z,235nm,21.4s,baz=128,slow=40						
LPAZ	**La Paz**	**11.92**	**124**	P	**Pn**	**03 23 30.4**	**+2.0**
LPAZ				LR	LR	03 28 38.9	
ROSC	**El Rosal**	**15.13**	**16**	P	**Pn**	**03 24 14.3**	**+3.9**
	0.8nm,0.3s,baz=73,slow=19,SNR=3.2						
ROSC				LR	LR	03 30 21.8	
	comp=Z,64nm,18.2s,baz=193,slow=38						
ROSC	**El Rosal**	**15.13**	**16**	*e*Pn	**Pn**	**03 24 13.1**	**+2.7**
ROSC				LR	LR	03 30 21.8	
SDV	**Santo Domingo**	**20.12**	**23**	P	**P**	**03 25 09.5**	**+1.0**
	1.4nm,0.6s						
CFAA	**Coronel Fontan**	**23.66**	**158**	P	**P**	**03 25 45.2**	**+0.3**
	0.1nm,0.3s,baz=313,slow=6.9,SNR=5.3						
CFAA				LR	LR	03 34 33.3	
	comp=Z,9.0nm,18.6s,baz=21,slow=35						
CFAA	**Coronel Fontan**	**23.66**	**158**	P	**P**	**03 25 45.2**	**+0.3**
CFAA				LR	LR	03 34 33.3	
CPUP	**Villa Florida**	**25.86**	**132**	P	**P**	**03 26 07.5**	**+2.5**
	0.7nm,0.6s,baz=294,slow=7.0,SNR=3.0						
CPUP				LR	LR	03 38 34.4	
	comp=Z,43nm,19.5s,baz=171,slow=41						
CPUP	**Villa Florida**	**25.86**	**132**	P	**P**	**03 26 07.5**	**+2.5**
CPUP				LR	LR	03 38 34.4	
PLCA	**Paso Flores**	**31.58**	**169**	LR	LR	03 39 06.1	
	comp=Z,42nm,21.3s,baz=102,slow=35						
NHSC	**New Hope**	**42.70**	**358**	P	**P**	**03 28 32.3**	**+2.6**
628A	**Black Gap, Mar**	**45.62**	**330**	⇑P	**P**	**03 28 53.6**	**+0.4**
	baz=45						
627A	**Terlingua Ranc**	**45.85**	**329**	⇓P	**P**	**03 28 54.9**	**0.0**
	baz=45						
TXAR	**Lajitas Array**	**45.89**	**329**	P	**P**	**03 28 54.5**	**-0.8**
	1.1nm,0.7s,mb3.7,baz=151,slow=9.3,SNR=15						
TXAR				pP	pP	03 29 12.3	-4.1
	0.7nm,0.8s,baz=147,slow=9.7,SNR=4.0						
TXAR	**Lajitas Array**	**45.89**	**329**	P	**P**	**03 28 54.5**	**-0.8**
TXAR				pP	pP	03 29 12.3	-4.1
528A	**Cox Ranch, San**	**46.13**	**330**	⇑P	**P**	**03 28 56.8**	**-0.4**
	baz=45,SNR=5.4						
626A	**Big Bend Ranch**	**46.31**	**328**	⇑P	**P**	**03 28 58.1**	**-0.5**
	baz=46,SNR=11						
527A	**Woodward Ranch**	**46.52**	**329**	⇓P	**P**	**03 28 59.9**	**-0.3**
	baz=46,SNR=8.4						
428A	**Kincaid Ranch,**	**46.55**	**331**	⇓P	**P**	**03 29 00.1**	**-0.3**
	baz=46						
526A	**Mary Lane Ranc**	**46.70**	**329**	⇓P	**P**	**03 29 01.2**	**-0.4**
	baz=46,SNR=9.1						
427A	**Hayter Ranch,**	**46.99**	**330**	⇓P	**P**	**03 29 03.9**	**0.0**
	baz=46						
328A	**Wristen Ranch,**	**47.15**	**331**	⇓P	**P**	**03 29 04.7**	**-0.4**
	baz=46,SNR=9.1						
426A	**McDonald Obser**	**47.16**	**329**	⇑P	**P**	**03 29 04.9**	**-0.3**
	baz=46						
326A	**Caldwell Ranch**	**47.66**	**330**	⇓P	**P**	**03 29 09.0**	**-0.1**
	baz=47						
425A	**Indio Mountain**	**47.74**	**329**	⇑P	**P**	**03 29 09.4**	**-0.2**
	baz=47						
227A	**Bennet, Jal**	**47.90**	**331**	⇑P	**P**	**03 29 10.6**	**-0.3**
	baz=47						
325A	**Bean Ranch, Si**	**48.20**	**329**	⇑P	**P**	**03 29 13.2**	**0.0**
	baz=47						
226A	**Malaga, Loving**	**48.33**	**330**	⇑P	**P**	**03 29 14.0**	**-0.2**
	baz=48,SNR=6.9						
TUL1	**Tulsa**	**48.33**	**341**	⇑P	**P**	**03 29 13.2**	**-0.9**
	baz=48						
324A	**Moseley Ranch,**	**48.52**	**329**	⇓P	**P**	**03 29 14.6**	**-1.1**
	baz=48,SNR=5.6						
225A	**Deer Hill, Car**	**48.72**	**330**	⇓P	**P**	**03 29 17.3**	**+0.1**
	baz=48						
126A	**Clayton Basin,**	**48.77**	**331**	⇑P	**P**	**03 29 17.6**	**0.0**
	baz=48						
Z27A	**Tatum**	**48.95**	**332**	⇓P	**P**	**03 29 18.2**	**-0.7**
	baz=48,SNR=9.4						
224A	**Cornudas Mount**	**49.04**	**329**	⇑P	**P**	**03 29 19.5**	**-0.2**
	baz=48						
125A	**Gardner Draw,**	**49.09**	**330**	⇓P	**P**	**03 29 19.4**	**-0.5**
	baz=48,SNR=12						
CCM	**Cathedral Cave**	**49.09**	**347**	*e*P	**P**	**03 29 18.4**	**-1.5**
	33nm,2.0s,mb4.9						
Z26A	**Caprock**	**49.27**	**332**	⇑P	**P**	**03 29 21.2**	**-0.1**
	baz=48,SNR=12						
MSTX	**Muleshoe**	**49.30**	**333**	⇑P	**P**	**03 29 21.1**	**-0.4**
	baz=48						
Y27A	**Causey**	**49.40**	**333**	⇑P	**P**	**03 29 21.8**	**-0.5**
	baz=49,SNR=7.6						
124A	**Stringfield Ra**	**49.51**	**330**	⇓P	**P**	**03 29 23.1**	**-0.1**
	baz=49,SNR=6.6						
Z25A	**Roswell**	**49.62**	**331**	⇑P	**P**	**03 29 23.7**	**-0.3**
	baz=49						
Y26A	**Elida**	**49.73**	**332**	⇑P	**P**	**03 29 24.7**	**-0.1**
	baz=49						
222A	**Williams Famil**	**49.88**	**328**	⇑P	**P**	**03 29 26.3**	**+0.3**
	baz=49						
Z24A	**Sheeppen Canyo**	**49.98**	**330**	⇓P	**P**	**03 29 26.6**	**-0.1**
	baz=49,SNR=10.0						
X27A	**F and S Farms,**	**50.01**	**333**	⇑P	**P**	**03 29 26.0**	**-0.9**
	baz=49,SNR=5.4						
320A	**Kipp Ranch, An**	**50.05**	**326**	⇑P	**P**	**03 29 27.4**	**0.0**
	baz=49						
Y25A	**Mesa, Roswell**	**50.14**	**331**	⇓P	**P**	**03 29 27.2**	**-0.7**
	baz=49,SNR=6.6						
X26A	**CR and CF Fran**	**50.25**	**333**	⇓P	**P**	**03 29 28.4**	**-0.4**
	baz=50,SNR=5.9						
122A	**Conniff Cattle**	**50.29**	**328**	⇑P	**P**	**03 29 29.7**	**+0.5**
	baz=50						
W27A	**Bowe Ranch, En**	**50.34**	**334**	⇓P	**P**	**03 29 29.0**	**-0.4**
	baz=50,SNR=8.4						
Z23A	**Rita Site, Whi**	**50.35**	**329**	⇓P	**P**	**03 29 29.6**	**+0.1**
	baz=50						
220A	**Playas Peak, P**	**50.49**	**326**	⇓P	**P**	**03 29 30.4**	**-0.2**
	baz=50,SNR=5.6						
319A	**Douglas**	**50.50**	**325**	⇑P	**P**	**03 29 30.8**	**+0.1**
	baz=50						
121A	**Cookes Peak, D**	**50.57**	**328**	⇓P	**P**	**03 29 31.7**	**+0.4**
	baz=50						
X25A	**Clemmons Ranch**	**50.62**	**332**	⇓P	**P**	**03 29 31.5**	**-0.1**
	baz=50						
W26A	**Owens Ranch, T**	**50.68**	**333**	⇓P	**P**	**03 29 31.6**	**-0.4**
	baz=50						
Y23A	**Lovelace Mesa,**	**50.80**	**330**	⇑P	**P**	**03 29 33.2**	**+0.3**
	baz=50,SNR=8.5						
318A	**Bisbee**	**50.95**	**325**	⇓P	**P**	**03 29 33.9**	**-0.2**
	baz=50,SNR=5.5						
219A	**White Tail Can**	**50.96**	**326**	⇓P	**P**	**03 29 34.3**	**+0.1**
	baz=50						
120A	**U Bar Ranch, L**	**51.04**	**327**	⇑P	**P**	**03 29 35.0**	**+0.3**
	baz=50						
W25A	**X Bar L Ranch,**	**51.10**	**332**	⇑P	**P**	**03 29 34.4**	**-0.7**
	baz=50,SNR=5.5						
HDIL	**Hopedale**	**51.10**	**349**	*e*P	**P**	**03 29 33.3**	**-1.8**
	20nm,0.6s,mb5.3						
Z21A	**St. Cloud Mine**	**51.12**	**328**	⇓P	**P**	**03 29 36.0**	**+0.7**
	baz=50						
Y22A	**Socorro**	**51.26**	**329**	⇓P	**P**	**03 29 36.9**	**+0.6**
	baz=50						
V26A	**Tequesquite Ra**	**51.28**	**333**	⇑P	**P**	**03 29 35.7**	**-0.8**
	baz=50						
218A	**Dragoon**	**51.38**	**325**	⇓P	**P**	**03 29 37.2**	**-0.1**
	baz=51						
Z20A	**Nine Sixteen R**	**51.45**	**327**	⇓P	**P**	**03 29 38.4**	**+0.6**
	baz=51,SNR=6.5						
W24A	**Lazy 6 Ranch,**	**51.53**	**332**	⇑P	**P**	**03 29 38.1**	**-0.3**
	baz=51						
119A	**Ashpeak Ranch,**	**51.57**	**326**	⇓P	**P**	**03 29 39.0**	**+0.3**
	baz=51						
217A	**Green Valley**	**51.67**	**324**	⇓P	**P**	**03 29 39.4**	**-0.1**
	baz=51						
Y21A	**Point of Rocks**	**51.67**	**329**	⇓P	**P**	**03 29 40.3**	**+0.9**
	baz=51,SNR=6.0						
V25A	**Rancho No Teng**	**51.68**	**333**	⇑P	**P**	**03 29 39.3**	**-0.2**
	baz=51,SNR=12						
LAZ	**Ladron**	**51.71**	**330**	*e*P	**P**	**03 29 40.0**	**+0.3**
	2.6nm,0.9s,mb4.3						
U26A	**Atchley Ranch,**	**51.76**	**334**	⇓P	**P**	**03 29 39.5**	**-0.5**
	baz=51,SNR=5.5						
ANMO	**Albuquerque**	**51.82**	**331**	*e*P	**P**	**03 29 40.4**	**-0.2**
	5.8nm,0.8s,mb4.7						
118A	**Homack Ranch,**	**51.84**	**326**	⇑P	**P**	**03 29 40.2**	**-0.5**
	baz=51,SNR=6.0						
W23A	**Werner Place,**	**51.84**	**331**	⇑P	**P**	**03 29 40.8**	**+0.1**
	baz=51,SNR=6.4						
V24A	**Rampart Ranch,**	**51.89**	**332**	⇓P	**P**	**03 29 40.7**	**-0.3**
	baz=51,SNR=6.7						
Y20A	**Horse Springs,**	**51.95**	**328**	⇓P	**P**	**03 29 42.0**	**+0.4**
	baz=51,SNR=7.0						
U25A	**Circle Dot Ran**	**52.06**	**333**	⇓P	**P**	**03 29 41.8**	**-0.5**
	baz=51,SNR=8.1						
X21A	**Alamocita Cree**	**52.07**	**329**	⇓P	**P**	**03 29 43.2**	**+0.8**
	baz=51,SNR=10						
W22A	**Albuquerque**	**52.11**	**330**	⇑P	**P**	**03 29 43.4**	**+0.7**
	baz=51						
117A	**Oracle**	**52.22**	**325**	⇓P	**P**	**03 29 43.2**	**-0.3**
	baz=52,SNR=5.4						
V23A	**Ortiz Mt. (NFS**	**52.33**	**331**	⇓P	**P**	**03 29 44.7**	**+0.4**
	baz=52						
Y19A	**Nutrioso**	**52.45**	**328**	⇓P	**P**	**03 29 46.0**	**+0.8**
	baz=52,SNR=8.3						
U24A	**Moreno Valley**	**52.46**	**333**	⇓P	**P**	**03 29 45.6**	**+0.4**
	baz=52						
X20A	**Quemado**	**52.51**	**329**	⇓P	**P**	**03 29 46.5**	**+0.8**
	baz=52						
T25A	**Trinidad**	**52.68**	**334**	⇑P	**P**	**03 29 47.2**	**+0.4**
	baz=52						
Y18A	**Canyon Day Jun**	**52.73**	**327**	⇓P	**P**	**03 29 47.5**	**+0.2**
	baz=52						
116A	**Eloy**	**52.76**	**324**	⇓P	**P**	**03 29 47.6**	**+0.1**
	baz=52						
U23A	**El Rito**	**52.81**	**332**	⇑P	**P**	**03 29 48.1**	**+0.2**
	baz=52,SNR=7.1						
V22A	**San Miguel Ran**	**52.81**	**331**	⇓P	**P**	**03 29 48.4**	**+0.5**
	baz=52,SNR=13						
X19A	**St. Johns**	**52.83**	**328**	⇑P	**P**	**03 29 48.5**	**+0.5**
	baz=52						
214A	**Organ Pipe Nat**	**52.97**	**323**	⇓P	**P**	**03 29 49.3**	**+0.2**
	baz=52						
W20A	**Ramah**	**52.97**	**329**	⇓P	**P**	**03 29 49.5**	**+0.4**
	baz=52,SNR=7.4						
S25A	**Robets Cordova**	**53.13**	**334**	⇓P	**P**	**03 29 49.9**	**-0.3**
	baz=52						
U22A	**Llaves**	**53.16**	**331**	⇓P	**P**	**03 29 50.6**	**+0.2**
	baz=52,SNR=6.3						
115A	**Sonoran Desert**	**53.16**	**324**	⇓P	**P**	**03 29 50.9**	**+0.4**
	baz=52						
X18A	**Snowflake**	**53.26**	**327**	⇓P	**P**	**03 29 51.3**	**+0.2**
	baz=52						
T23A	**Casias Ranch,**	**53.32**	**332**	⇓P	**P**	**03 29 51.8**	**+0.2**
	baz=52,SNR=5.4						
W19A	**Sanders**	**53.41**	**328**	⇓P	**P**	**03 29 52.6**	**+0.4**
	baz=53,SNR=6.6						
S24A	**Houchin Ranch,**	**53.45**	**334**	⇓P	**P**	**03 29 52.5**	**0.0**
	baz=53						
V20A	**Brimhall**	**53.48**	**330**	⇓P	**P**	**03 29 53.1**	**+0.3**
	baz=53						
X17A	**Forest Lakes**	**53.57**	**327**	⇓P	**P**	**03 29 54.2**	**+0.7**
	baz=53						
U21A	**Nageezi**	**53.58**	**331**	⇓P	**P**	**03 29 54.0**	**+0.5**
	baz=53						
W18A	**Petrified Fore**	**53.60**	**328**	⇓P	**P**	**03 29 54.0**	**+0.4**
	baz=53,SNR=5.3						
Y16A	**Circle Bar Ran**	**53.60**	**326**	⇓P	**P**	**03 29 54.2**	**+0.5**
	baz=53						

P22A	**Eagle** baz=55	55.74	334	⇓P	P	03 30 09.0	0.0
V14A	**Boquillas Ranc** baz=55,SNR=6.9	55.80	326	⇑P	P	03 30 10.4	+0.8
R19A	**Curley Farm, L** baz=55,SNR=7.1	55.84	331	⇓P	P	03 30 09.7	-0.1
O23A	**Lake Granby, G** baz=55,SNR=5.7	55.89	335	⇓P	P	03 30 10.0	-0.1
IRM	**Iron Mountain** baz=55	55.91	323	⇓P	P	03 30 11.1	+0.7
T16A	**Glen Canyon Da** baz=55	55.95	328	⇓P	P	03 30 11.4	+0.8
P21A	**Newcastle** baz=55	55.99	333	⇑P	P	03 30 11.2	+0.4
S17A	**Black Ridge (B** baz=55	56.09	329	⇓P	P	03 30 11.7	+0.1
O22A	**Kremmling** baz=55	56.12	334	⇑P	P	03 30 11.6	-0.2
R18A	**Canyonlands Na** baz=56	56.22	330	⇑P	P	03 30 12.4	-0.1
SPMN	**St. Paul** baz=55	56.29	348	⇓P	P	03 30 11.6	-1.2
Q19A	**Hogan Spring (** baz=56,SNR=6.4	56.37	331	⇓P	P	03 30 13.6	+0.1
P20A	**De Beque** baz=56	56.39	332	⇓P	P	03 30 13.5	-0.2
U14A	**Mt Trumbull** baz=56	56.41	326	⇑P	P	03 30 14.7	+0.8
T15A	**Red Dirt Ranch** baz=56	56.43	328	⇓P	P	03 30 14.9	+0.9
N23A	**Red Feather La** baz=56	56.47	335	⇓P	P	03 30 14.2	-0.1
M24A	**Cheyenne** baz=56	56.51	336	⇓P	P	03 30 14.2	-0.3
S16A	**Weppner Ranch,** baz=56,SNR=6.8	56.55	329	⇓P	P	03 30 14.8	-0.1
N22A	**Wattenberg Ran** baz=56	56.61	335	⇓P	P	03 30 15.5	+0.3
R17A	**Hanksville Air** baz=56	56.65	330	⇑P	P	03 30 15.9	+0.4
P19A	**Cripple Cowboy** baz=56	56.77	332	⇓P	P	03 30 17.0	+0.6
O20A	**White River Ci** baz=56	56.84	333	⇓P	P	03 30 17.2	+0.3
U13A	**Pakoon Wash** baz=56	56.84	326	⇓P	P	03 30 17.8	+0.8
M23A	**Laramie** baz=56	56.86	336	⇓P	P	03 30 17.5	+0.5
Q18A	**Rafter H Ranch** baz=56,SNR=5.7	56.90	331	⇑P	P	03 30 17.2	-0.1
S15A	**Panguitch** baz=56	56.92	328	⇓P	P	03 30 18.4	+1.0
R16A	**Teasdale** baz=56	56.93	329	⇑P	P	03 30 18.0	+0.5
N21A	**Black Mountain** baz=56,SNR=5.5	57.03	334	⇓P	P	03 30 18.3	+0.1
SRU	**San Rafael** baz=56	57.09	331	⇑P	P	03 30 18.7	+0.1
P18A	**Preston Nutter** baz=57	57.36	331	⇓P	P	03 30 20.7	+0.2
O19A	**Miners Draw (B** baz=57	57.37	332	⇓P	P	03 30 21.0	+0.4
N20A	**Spence Gulch,** baz=57	57.42	333	⇓P	P	03 30 21.1	+0.2
L22A	**Ellis Ranch, M** baz=57	57.63	336	⇑P	P	03 30 23.1	+0.7
M21A	**Separation Pea** baz=57	57.66	335	⇑P	P	03 30 22.7	+0.1
GSC	**Goldstone** baz=57	57.68	323	⇓P	P	03 30 22.8	-0.1
O18A	**Roosevelt** baz=57	57.75	332	⇑P	P	03 30 23.6	+0.3
N19A	**John Jarvie Ra** baz=57,SNR=5.4	57.87	333	⇓P	P	03 30 23.7	-0.4
Q15A	**Fillmore** baz=57	57.93	329	⇓P	P	03 30 25.2	+0.7
L21A	**Rawlins** baz=57	57.96	335	⇑P	P	03 30 24.7	0.0
O17A	**Robinson Place** baz=57,SNR=5.1	58.04	331	⇑P	P	03 30 25.6	+0.3
EDW2	**Edwards Air Fo** baz=57	58.10	322	⇓P	P	03 30 26.0	+0.2
R13A	**O'Grain Ranch,** baz=57	58.14	327	⇑P	P	03 30 26.9	+0.9
N18A	**Larsen Ranch,** baz=57	58.16	332	⇓P	P	03 30 26.6	+0.5
K22A	**Casper** baz=57	58.18	336	⇑P	P	03 30 26.2	0.0
Q14A	**Sevier Lake (B** baz=58	58.38	328	⇑P	P	03 30 28.4	+0.7
FURC	**Furnace Creek,** baz=58	58.52	324	⇓P	P	03 30 29.0	+0.3
N17A	**Moffit Pass** baz=58	58.67	332	⇓P	P	03 30 30.9	+1.2
P14A	**Drum Mountains** baz=58	58.72	329	⇓P	P	03 30 30.6	+0.6
J22A	**Midwest** baz=58	58.80	336	⇑P	P	03 30 29.9	-0.7
N16A	**Rees Ranch, Co** baz=58	58.91	331	⇓P	P	03 30 31.6	+0.2
ISA	**Isabella** baz=58	58.92	322	⇑P	P	03 30 31.9	+0.4
K20A	**Yellowstone Ra** baz=58	58.94	335	⇓P	P	03 30 30.8	-0.7
O15A	**The Old Anders** baz=58	58.95	330	⇓P	P	03 30 31.9	+0.3
M17A	**Scullys Gap (B** baz=58	59.01	332	⇓P	P	03 30 31.6	-0.4
DUG	**Dugway** baz=58,SNR=9.1	59.05	330	⇓P	P	03 30 32.6	+0.3
DUG	**Dugway** 6.7nm,0.8s,mb4.7	59.05	330	*e*P	P	03 30 32.2	-0.1
L18A	**Fontenelle, Gr** baz=58	59.08	333	⇑P	P	03 30 31.9	-0.6
R11A	**Troy Canyon, C** baz=58	59.13	326	⇓P	P	03 30 33.5	+0.6
J21A	**Lysite** baz=58,SNR=6.2	59.13	336	⇓P	P	03 30 32.3	-0.5
I22A	**9 Mile Ranch,** baz=58	59.21	337	⇓P	P	03 30 33.1	-0.2
H24A	**Dirks Ranch, A** baz=58	59.21	339	⇓P	P	03 30 33.1	-0.3
K19A	**Absolon Red Bu** baz=58,SNR=5.0	59.29	334	⇑P	P	03 30 32.5	-1.4
J20A	**Shoshoni** baz=59	59.40	335	⇑P	P	03 30 34.8	+0.2
VES	**Vestal, Richgr** baz=59	59.41	322	⇑P	P	03 30 35.2	+0.3
I21A	**Big Trails, Te** baz=59	59.46	336	⇓P	P	03 30 34.1	-1.0
HWUT	**Hardware Ranch** 8.7nm,0.9s,mb4.8	59.54	332	*e*P	P	03 30 34.7	-0.9
BW06	**Boulder Array** baz=59	59.55	334	⇑P	P	03 30 35.7	0.0
PDAR	**Pinedale Array** 2.0nm,0.9s,mb4.2,baz=139,slow=9.0,SNR=15	59.55	334	P	P	03 30 34.6	-1.1
PDAR	**Pinedale Array**	59.55	334	P	P	03 30 34.6	-1.1
PD01	**Pinedale Array**	59.57	334	*e*P	P	03 30 34.8	-1.0
K18A	**Toltan Ranch,** baz=59	59.66	333	⇓P	P	03 30 36.8	+0.4
J19A	**Crowheart** baz=59	59.73	334	⇓P	P	03 30 36.8	-0.2
L16A	**Fish Haven** baz=59	59.79	332	⇑P	P	03 30 37.3	0.0
M15A	**Larsen Ranch,** baz=59	59.84	331	⇓P	P	03 30 37.4	-0.4
AGMN	**Agassiz Nation** 7.6nm,0.8s,mb4.8	59.87	347	*e*P	P	03 30 36.6	-1.2
I20A	**Worland** baz=59	59.91	336	⇑P	P	03 30 37.4	-0.7
K17A	**Gardner Place,** baz=59	60.14	333	⇑P	P	03 30 39.7	-0.1
L15A	**Malad City** baz=60	60.23	331	⇓P	P	03 30 40.6	+0.3
I19A	**Meeteetse** baz=60	60.34	335	⇑P	P	03 30 41.2	+0.1
MDND	**Maddock** baz=60	60.40	344	⇑P	P	03 30 41.1	-0.3
I18A	**Diamond G Ranc** baz=60	60.41	334	⇓P	P	03 30 41.6	0.0
K16A	**Soda Springs** baz=60	60.51	332	⇓P	P	03 30 42.4	+0.2
J17A	**Brown Place, J** baz=60	60.53	333	⇑P	P	03 30 42.7	+0.3
G21A	**Lodge Grass** baz=60	60.61	337	⇑P	P	03 30 41.9	-1.0
L14A	**Malta** baz=60,SNR=5.2	60.66	331	⇓P	P	03 30 42.6	-0.7
LOHW	**Long Hollow** 45nm,3.0s	60.68	334	*e*P	P	03 30 42.8	-0.6
NVAR	**Mina Array Bea** 3.2nm,0.7s,mb4.5,baz=138,slow=6.9,SNR=18	60.70	325	P	P	03 30 43.9	+0.2
NVAR				pP	pP	03 31 00.2	-5.5
NVAR	0.8nm,0.7s,baz=115,slow=6.7,SNR=3.4 **Mina Array Bea**	60.70	325	P	P	03 30 43.9	+0.2
NVAR				pP	pP	03 31 00.2	-5.6
RRI2	**Red Ridge** 5.8nm,0.8s,mb4.7	60.79	333	*e*P	P	03 30 44.0	-0.2
K15A	**Arbon** baz=60	60.83	332	⇑P	P	03 30 44.4	0.0
J16A	**Bone** baz=60	60.86	333	⇑P	P	03 30 44.7	+0.1
G20A	**Bridger** baz=60	61.00	336	⇑P	P	03 30 45.1	-0.5
H18A	**Shoshone NF, C** baz=60	61.14	335	⇓P	P	03 30 45.9	-0.6
D24A	**Glendive** baz=60	61.19	340	⇑P	P	03 30 46.5	-0.2
I16A	**Newdale** baz=60	61.28	333	⇓P	P	03 30 47.5	+0.1
J15A	**Blackfoot** baz=60	61.33	332	⇑P	P	03 30 48.1	+0.2
RLMT	**Red Lodge** baz=60	61.34	336	⇓P	P	03 30 47.7	-0.2
LAO	**LASA Array** baz=61	61.48	339	⇓P	P	03 30 48.6	-0.2
D23A	**Lindsay** baz=61	61.54	340	⇑P	P	03 30 49.3	+0.2
G18A	**Lazy EL Ranch,** baz=61,SNR=5.0	61.62	336	⇑P	P	03 30 49.4	-0.3
ULM	**Lac du Bonnet** 5.8nm,0.7s,mb4.7,baz=153,slow=8.6,SNR=7.7	61.71	347	P	P	03 30 48.5	-1.8
ULM	**Lac du Bonnet**	61.71	347	P	P	03 30 48.5	-1.8
J14A	**Carey** baz=61	61.78	332	⇓P	P	03 30 51.0	+0.2
F19A	**Roth Farm, Mol** baz=61,SNR=7.2	61.81	336	⇑P	P	03 30 50.3	-0.7
I15A	**Monteview** baz=61	61.83	333	⇓P	P	03 30 51.1	0.0
H16A	**Russell Place,** baz=61	61.83	334	⇓P	P	03 30 51.6	+0.4
D22A	**Cohagen** baz=61	61.86	339	⇓P	P	03 30 51.6	+0.3
E20A	**Meyer Farm, Mu** baz=61	62.03	337	⇓P	P	03 30 52.7	+0.3
GCMT	**Greycliff** 4.2nm,0.9s,mb4.5	62.05	336	*e*P	P	03 30 52.1	-0.5
C23A	**Lambert** baz=61	62.07	340	⇓P	P	03 30 52.6	-0.1
D21A	**La Casta Ranch** baz=61,SNR=8.7	62.08	338	⇑P	P	03 30 52.5	-0.3
G17A	**Pierce Place,** baz=61	62.11	335	⇑P	P	03 30 53.3	+0.3
WCN	**Washoe City** baz=61	62.13	325	⇑P	P	03 30 54.0	+0.7
J13A	**Cove Ranch, Pi** baz=61	62.15	331	⇓P	P	03 30 53.6	+0.3
F18A	**Big Timber** baz=61,SNR=6.7	62.16	336	⇓P	P	03 30 52.7	-0.6
I14A	**Mackay** baz=61	62.21	332	⇓P	P	03 30 54.4	+0.7
E19A	**Rath Farm, Rou** baz=61	62.25	337	⇓P	P	03 30 53.6	-0.3
C22A	**Vida** baz=61	62.26	339	⇓P	P	03 30 53.6	-0.4
DGMT	**Dagmar** baz=62	62.33	341	⇓P	P	03 30 54.7	+0.3
H15A	**Lima** baz=62	62.38	333	⇓P	P	03 30 55.6	+0.7
HLID	**Hailey** baz=62	62.38	331	⇑P	P	03 30 55.2	+0.3
G16A	**Moss Hill, Enn** baz=62	62.49	334	⇑P	P	03 30 55.3	-0.3
I13A	**Wildhorse Cree** baz=62	62.51	332	⇑P	P	03 30 56.2	+0.4
D20A	**Manuel Ranch,** baz=62,SNR=5.1	62.52	338	⇑P	P	03 30 55.1	-0.6
F17A	**Fitzpatrick Pl** baz=62	62.55	335	⇑P	P	03 30 56.3	+0.4
B23A	**Brockton** baz=62	62.58	340	⇓P	P	03 30 56.1	0.0
A24A	**Westby** baz=62	62.66	341	⇓P	P	03 30 56.8	+0.1
H14A	**Leadore** baz=62	62.70	333	⇓P	P	03 30 57.0	0.0
G15A	**Dillon** baz=62	62.74	334	⇑P	P	03 30 57.6	+0.4
C21A	**Desert Coulee** baz=62	62.76	339	⇑P	P	03 30 56.8	-0.5
E18A	**Harlowton** baz=62	62.78	336	⇓P	P	03 30 57.3	-0.1
D19A	**Cripps Ranch,** baz=62	62.87	337	⇑P	P	03 30 57.7	-0.3
I12A	**Atlanta** baz=62	62.90	331	⇑P	P	03 30 58.6	+0.2
MFID	**Camas Ranch** baz=62	62.95	330	⇓P	P	03 30 58.8	+0.2
C20A	**Veseth Ranch,** baz=62	62.99	338	⇓P	P	03 30 58.3	-0.6
H13A	**Challis** baz=62	63.07	332	⇑P	P	03 30 59.7	+0.3
E17A	**Martinsdale** baz=62	63.08	335	⇑P	P	03 30 59.6	+0.2
H12A	**Diamond D Ranc** baz=63	63.34	332	⇓P	P	03 31 01.3	+0.1
A22A	**Carney Farms,** baz=62	63.35	340	⇑P	P	03 31 00.9	-0.3
C19A	**Slack Wire Ran** baz=63	63.40	337	⇑P	P	03 31 01.2	-0.3
G13A	**Cobalt** baz=63	63.46	332	⇓P	P	03 31 02.3	+0.3
E16A	**East Helena** baz=63	63.47	335	⇓P	P	03 31 01.8	-0.2
D17A	**Six Diamond Ra** baz=63	63.56	336	⇑P	P	03 31 02.3	-0.4
B20A	**Solberg Farm,** baz=63	63.61	338	⇓P	P	03 31 02.1	-0.8
F14A	**Wisdom** baz=63	63.63	333	⇓P	P	03 31 02.9	-0.2
EGMT	**Eagleton** baz=63	63.91	337	⇓P	P	03 31 04.7	-0.1
A20A	**Cobblestone Ra** baz=63	63.95	339	⇑P	P	03 31 04.8	-0.3
B19A	**Brinkman Farms** baz=63	63.96	338	⇑P	P	03 31 04.7	-0.5
C17A	**Wharram Farm,** baz=63	63.98	336	⇓P	P	03 31 05.0	-0.4
G12A	**Big Creek, Yel** baz=63	63.99	332	⇑P	P	03 31 05.5	0.0
F13A	**Darby** baz=63	64.04	333	⇑P	P	03 31 05.8	+0.1
E14A	**Clinton** baz=63	64.15	334	⇓P	P	03 31 06.4	-0.1
B18A	**Beardsley Farm** baz=63	64.22	337	⇓P	P	03 31 06.5	-0.4
J08A	**Circle Bar Ran** baz=64	64.24	329	⇓P	P	03 31 06.9	-0.2
A19A	**Klindworth Far** baz=63	64.28	338	⇑P	P	03 31 07.1	-0.2
F12A	**Elk City** baz=64	64.44	332	⇑P	P	03 31 08.1	-0.3
E13A	**Victor** baz=64	64.48	333	⇑P	P	03 31 08.7	0.0
C16A	**Fuhringer Ranc** baz=64	64.51	336	⇓P	P	03 31 08.6	-0.2
MSO	**Missoula** baz=64	64.67	334	⇑P	P	03 31 10.0	+0.2
D14A	**Greenough** baz=64	64.68	334	⇓P	P	03 31 10.1	+0.1
A18A	**Metzger Ranch,** baz=64	64.68	338	⇑P	P	03 31 09.5	-0.4
C15A	**Salmond Ranch,** baz=64	64.84	335	⇑P	P	03 31 11.6	+0.6
B16A	**M & M Farms, S** baz=64	64.99	336	⇓P	P	03 31 11.5	-0.4
A17A	**Triple J Farms** baz=64	65.03	337	⇑P	P	03 31 11.8	-0.4
K05A	**Summer Lake** baz=64	65.08	327	⇓P	P	03 31 13.4	+0.8
B15A	**Bradely Ranch,** baz=64	65.25	336	⇓P	P	03 31 13.7	+0.1
I07A	**Izee** baz=64	65.28	329	⇓P	P	03 31 14.3	+0.4
D12A	**Red Ives Fores** baz=65	65.46	333	⇑P	P	03 31 14.3	-0.7
B14A	**Marquette Ranc** baz=65	65.58	335	⇑P	P	03 31 16.1	+0.4
C13A	**Hot Springs** baz=65	65.60	334	⇑P	P	03 31 16.0	+0.2
G08A	**Pilot Rock** baz=65	65.86	330	⇓P	P	03 31 17.7	+0.1
A14A	**Double T Ranch** baz=65	66.12	336	⇑P	P	03 31 18.8	-0.4
E09A	**Wood Farm, Sta** baz=66	66.35	331	⇓P	P	03 31 20.0	-0.7
DBIC	**Dimbokro** 3.1nm,0.6s,mb4.2,baz=239,slow=5.7,SNR=7.9	75.09	80	P	P	03 32 15.4	+0.9
DBIC	**Dimbokro** 3.3nm,0.7s,mb4.2	75.09	80	*e*P	P	03 32 15.4	+0.9
SNAA	**Sanae** 1.3nm,1.0s,mb3.6,baz=174,slow=21,SNR=4.0	76.23	162	P	P	03 32 19.7	-0.2
SNAA	**Sanae**	76.23	162	P	P	03 32 19.7	-0.2
YKA	**Yellowknife Ar** 2.5nm,0.6s,mb4.1,baz=142,slow=6.0,SNR=9.1	77.32	344	P	P	03 32 24.6	-1.4
YKA	**Yellowknife Ar**	77.32	344	P	P	03 32 24.6	-1.4
QSPA	**South Pole Qui** 9.8nm,1.2s,mb4.5,baz=130,slow=0.8,SNR=6.1	80.31	180	P	P	03 32 39.4	-2.9
QSPA	**South Pole Qui**	80.31	180	P	P	03 32 39.4	-2.9
TORD	**Torodi Ar. Bea** 2.8nm,0.9s,mb4.1,baz=259,slow=4.6,SNR=13	82.73	75	P	P	03 32 56.2	-0.1
TORD				pP	pP	03 33 13.9	-5.5
TORD	0.7nm,0.9s,baz=291,slow=7.1,SNR=2.4 **Torodi Ar. Bea**	82.73	75	P	P	03 32 56.2	-0.1
TORD				pP	pP	03 33 13.9	-5.5
ESDC	**Sonseca Array** 0.9nm,0.6s,mb3.8,baz=259,slow=5.3,SNR=9.8	84.48	48	P	P	03 33 05.3	+0.6
ESDC	**Sonseca Array**	84.48	48	P	P	03 33 05.3	+0.6
SUMG	**Summit** 12nm,0.8s,mb4.9	86.20	11	*e*P	P	03 33 12.9	+0.4
SUMG	**Summit** 9.1nm,0.8s,mb4.8	86.20	11	*i* P	P	03 33 13.2	+0.7
INK	**Inuvik** 4.2nm,1.0s,mb4.3	86.98	342	*e*P	P	03 33 15.6	-0.9
EGAK	**Eagle** 5.6nm,0.9s,mb4.6	87.67	338	*e*P	P	03 33 19.0	-0.8
SYO	**Syowa Base**	90.52	161	⇓*e*P	P	03 33 31.8	-1.4
URZ	**Urewera** 15nm,0.4s,mb5.8	95.13	230	*e*P	P	03 33 50.7	-4.4
STKA	**Stephens Creek** 2.2nm,0.8s,baz=236,slow=3.6,SNR=2.9	123.59	221	PKP	PKPdf	03 39 28.5	-0.8
STKA	**Stephens Creek**	123.59	221	PKP	PKPdf	03 39 28.5	-0.8
ABKAR	**Akbulak array**	127.62	33	*e*PKPdf	PKPdf	03 39 36.8	+0.4
ZALV	**Zalesovo Beam** 0.6nm,0.4s,baz=248,slow=1.6,SNR=5.4	133.97	14	PKP	PKPdf	03 39 47.1	-1.2
ZALV	**Zalesovo Beam**	133.97	14	PKP	PKPdf	03 39 47.1	-1.2
ASAR	**Alice Springs** 0.9nm,0.7s,baz=124,slow=1.8,SNR=12	134.11	223	PKP	PKPdf	03 39 48.8	-0.8
ASAR				pPKP	pPKPdf	03 40 07.1	-7.0
ASAR	1.0nm,0.7s,baz=116,slow=2.3,SNR=5.4 **Alice Springs**	134.11	223	PKP	PKPdf	03 39 48.8	-0.8
ASAR				pPKP	pPKPdf	03 40 07.1	-7.0
WRA	**Warramunga Arr** 2.1nm,0.7s,baz=122,slow=2.0,SNR=17	136.25	227	PKP	PKPdf	03 39 53.2	-0.4
WRA				pPKP	pPKPdf	03 40 11.4	-6.7
WRA	1.6nm,0.5s,baz=123,slow=2.0,SNR=8.9 **Warramunga Arr**	136.25	227	PKP	PKPdf	03 39 53.2	-0.4
WRA				pPKP	pPKPdf	03 40 11.4	-6.7
MKAR	**Makanchi Array** 0.4nm,0.2s,baz=273,slow=2.7,SNR=3.4	139.65	21	PKhKP	PKPpre	03 39 55.5	
MKAR	**Makanchi Array**	139.65	21	PKP	PKPpre	03 39 55.5	
SONM	**Songino Array** 0.7nm,0.6s,baz=39,slow=18,SNR=3.5	141.88	355	PKhKP	PKPpre	03 39 55.4	
SONM	**Songino Array**	141.88	355	PKP	PKPpre	03 39 55.4	
KSRS	**Korea Array** 2.6nm,0.8s,baz=45,slow=2.3,SNR=7.6	143.64	323	PKhKP	PKPpre	03 40 02.0	
WMQ	**Urumqi**	144.03	17	PKP	PKPdf	03 40 08.8	+1.8
BJI	**Beijing**	147.21	339	PKPbc	PKPbc	03 40 13.4	-1.5
HHC	**Hu-ho-hao-te**	147.84	346	*e*PKPbc	PKPbc	03 40 18.2	+1.6
HHC				pPKP	pPKPab	03 41 01.2	+18
HHC				sPKP		03 41 19.0	
HHC				PP	PP	03 43 48.9	+5.8
HHC				SKKS	SKKSac	03 50 21.3	-6.4
HHC	comp=Z,59nm,4.5s			AMB	AMB		
HHC	comp=N,100nm,4.5s			LR	LR		
HHC	comp=E,120nm,4.9s			LR	LR		
HHC	comp=Z,110nm,5.5s			LR	LR		
GTA	**Gaotai**	150.48	3	*e*PKPbc	PKPbc	03 40 22.6	-0.6
NJ2	**Nanjing**	152.69	327	*e*P	PKPdf	03 40 41.2	+20
NJ2	comp=Z,10.0nm,1.0s			pmax	pmax		
LZH	**Lanzhou**	153.76	356	*e*PKPbc	PKPbc	03 40 30.0	-0.8
LZH				pPKP	pPKPab	03 41 12.5	+5.1
LZH				sPKP		03 41 30.0	
CD2	**Chengdu**	158.90	355	PKP	PKPdf	03 40 34.7	+5.0
KMI	**Kunming**	164.72	356	PKP	PKPdf	03 40 37.1	+1.2
CMAR	**Chiang Mai Arr** comp=Z,0.7nm,0.4s,baz=251,slow=1.5,SNR=4.1	171.03	16	PKP	PKPdf	03 40 39.0	-1.4
CMAR				PKPab	PKPab	03 41 58.5	-1.1
CMAR	comp=Z,0.5nm,0.3s,baz=327,slow=5.3,SNR=4.7 **Chiang Mai Arr**	171.03	16	PKP	PKPdf	03 40 39.0	-1.4
CMAR				PKPab	PKPab	03 41 58.5	-1.1

IDC 04 03:21:32.3±2.4, 6°09S×129°86E, h0km, mb3.8/1, mb1 3.5/3, mb1mx3.4/17, mbtmpg3.3/3, ML3.2/2, Error ellipse: s-maj=141.4km s-min=32.6km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=346,slow=14,SNR=5.1	14.44	163	Pn	Pn	Pn	03 24 56.0	-2.1
WRA				Sn	Sn	Sn	03 27 30.8	-8.4
ASAR	**Alice Springs** 0.2nm,0.3s,baz=349,slow=40,SNR=5.3	17.91	168	P	Pn	Pn	03 25 44.4	+1.5
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=336,slow=7.5,SNR=4.3	67.39	327	P	P	P	03 32 29.6	+0.1
MKAR	0.3nm,0.3s,baz=126,slow=7.8,SNR=4.5							

*ISCJB **04** 03:24:46.7±2.3, 37°23N±0°05×28°14E±0°08, h28km±26km, Error ellipse: s-maj=11.6km s-min=7.3km az=144.8*
*CSEM **04** 03:24:46.6±0.3, 37°22N×28°09E, h30km, MD2.0, Error ellipse: s-maj=8.7km s-min=7.4km az=37.0*
*DDA **04** 03:24:48.0, 37°24N×28°03E, h7km±2km, Md2.5*
*ISK **04** 03:24:48.0, 37°23N×28°01E, h11km, MD2.0*

ISC 04 03:24:46.9±2.1, 37°23N±0°06×28°14E±0°08, h25km±23km, n12, σ0°78/18, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
YER	**Yerkesik**	0.15	128	*e*PG	Pb	Pb	03 24 53.4	+1.4
YER	**Yerkesik**	0.15	128	*e*Pg	Pb	Pb	03 24 53.4	+1.4
MLSB	**Milas**	0.29	283	*e*PG	Pb	Pb	03 24 52.6	-1.2
MLSB	**Milas**	0.29	283	*e*Pg	Pb	Pb	03 24 52.6	-1.3
AYDN	**Tasoluk**	0.48	335	*i* P	Pb	Pb	03 24 57.2	+0.5
AYDN				*i* S	Sb	Sb	03 25 03.2	-0.2
AYDN	**Tasoluk**	0.48	335	*i* P	Pb	Pb	03 24 57.2	+0.4
AYDN				*i* S	Sb	Sb	03 25 03.2	-0.3
TURN	**Turunc**	0.52	133	*i* P	Pb	Pb	03 24 57.6	+0.2
TURN				*i* S	Sb	Sb	03 25 03.2	-1.2
TURN	**Turunc**	0.52	133	*i* P	Pb	Pb	03 24 57.6	+0.2
TURN				*i* S	Sb	Sb	03 25 03.2	-1.3
DAT	**Datca**	0.67	222	*e*PG	Pb	Pb	03 25 00.2	+0.3
DAT				*e*SG	Sb	Sb	03 25 09.2	+0.3
DAT	**Datca**	0.67	222	*e*Pg	Pb	Pb	03 25 00.2	+0.3
DAT				*e*Sg	Sb	Sb	03 25 09.2	+0.4
BODT	**Bodrum**	0.68	256	*e*PG	Pb	Pb	03 24 59.8	-0.4
BODT	**Bodrum**	0.68	256	*e*Pg	Pb	Pb	03 24 59.8	-0.3

*ISK **04** 03:40:29.8, 36°09N×29°42E, h5km, MD3.1*
*CSEM **04** 03:40:30.5±0.9, 36°05N×29°51E, h2km, MD3.0, Error ellipse: s-maj=18.2km s-min=10.2km az=177.0*
*ISCJB **04** 03:40:31.7±1.1, 36°11N±0°07×29°51E±0°05, h10km, Error ellipse: s-maj=9.8km s-min=5.8km az=174.8*
*DDA **04** 03:40:31.2, 36°16N×29°52E, h2km±3km, Md3.0*

ISC 04 03:40:32.0±1.1, 36°10N±0°07×29°50E±0°05, h10km, n32, σ1°39/46, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AKAS	**Kas**	0.16	33	*i* P	Pg	Pg	03 40 32.4	-3.2
AKAS				*i* S	Sg	Sg	03 40 35.3	-2.7
AKAS	**Kas**	0.16	33	*i* P	Pg	Pg	03 40 32.4	-3.2

AKAS				*i* S	**Sg**	**03 40 35.3**	**-2.7**
FETY	**Fethiye**	**0.63**	**328**	*e*PG	**Pg**	**03 40 42.6**	**-1.7**
FETY				*e*SG	**Sg**	**03 40 52.5**	**0.0**
FETY	**Fethiye**	**0.63**	**328**	*e*Pg	**Pg**	**03 40 42.6**	**-1.6**
FETY				*e*Sg	**Sg**	**03 40 52.5**	**0.0**
ELL	**Elmali**	**0.73**	**27**	*e*PG	**Pg**	**03 40 45.6**	**-0.5**
ELL	**Elmali**	**0.73**	**27**	*e*Pg	**Pg**	**03 40 45.6**	**-0.5**
GLHS	**Gihisar (BURDU**	**1.05**	**0**	*e*PG	**Pg**	**03 40 51.7**	**-0.6**
GLHS	**Gihisar (BURDU**	**1.05**	**0**	*e*Pg	**Pg**	**03 40 51.7**	**-0.6**
TURN	**Turunc**	**1.05**	**317**	*i* P	**Pg**	**03 40 54.1**	**+1.8**
TURN				*i* S	**Sg**	**03 41 13.1**	**+7.0**
TURN	**Turunc**	**1.05**	**317**	*i* P	**Pg**	**03 40 54.1**	**+1.8**
TURN				*i* S	**Sg**	**03 41 13.1**	**+7.0**
KORT	**Korkueli**	**1.13**	**37**	*i* P	**Pg**	**03 40 52.2**	**-1.6**
KORT				*i* S	**Sg**	**03 41 11.0**	**+2.4**
KORT	**Korkueli**	**1.13**	**37**	*i* P	**Pg**	**03 40 52.2**	**-1.6**
KORT				*i* S	**Sg**	**03 41 11.0**	**+2.5**
GOLH	**Golhisar**	**1.14**	**3**	*i* P	**Pb**	**03 40 52.3**	**-1.5**
GOLH				*i* S	**Sb**	**03 41 13.2**	**+4.6**
GOLH	**Golhisar**	**1.14**	**3**	*i* P	**Pb**	**03 40 52.3**	**-1.5**
GOLH				*i* S	**Sb**	**03 41 13.2**	**+4.6**
ANTB	**Antalya**	**1.23**	**49**	*e*PN	**Pn**	**03 40 55.7**	**+0.4**
ANTB	**Antalya**	**1.23**	**49**	*e*Pn	**Pn**	**03 40 55.7**	**+0.5**
YER	**Yerkesik**	**1.42**	**317**	*e*PN	**Pn**	**03 40 57.6**	**-0.3**
YER	**Yerkesik**	**1.42**	**317**	*e*Pn	**Pn**	**03 40 57.6**	**-0.3**
DNZL	**Cakiroluk**	**1.63**	**347**	*i* P	**Pn**	**03 41 02.3**	**+1.5**
DNZL				*i* S	**Sn**	**03 41 23.3**	**+1.6**
DNZL	**Cakiroluk**	**1.63**	**347**	*i* P	**Pn**	**03 41 02.3**	**+1.6**
DNZL				*i* S	**Sn**	**03 41 23.3**	**+1.5**
DAT	**Datca**	**1.67**	**293**	*e*PN	**Pn**	**03 41 00.8**	**-0.5**
DAT	**Datca**	**1.67**	**293**	*e*Pn	**Pn**	**03 41 00.9**	**-0.4**
SUTC	**Sutluce-Ispart**	**1.83**	**41**	*e*PN	**Pn**	**03 41 04.4**	**+0.9**
SUTC	**Sutluce-Ispart**	**1.83**	**41**	*e*Pn	**Pn**	**03 41 04.4**	**+0.9**
BODT	**Bodrum**	**2.00**	**299**	*e*PN	**Pn**	**03 41 05.4**	**-0.5**
BODT	**Bodrum**	**2.00**	**299**	*e*Pn	**Pn**	**03 41 05.4**	**-0.5**
AYDN	**Tasoluk**	**2.03**	**321**	*i* P	**Pn**	**03 41 07.7**	**+1.4**
AYDN				*i* S	**Sn**	**03 41 36.9**	**+5.3**
AYDN	**Tasoluk**	**2.03**	**321**	*i* P	**Pn**	**03 41 07.7**	**+1.5**
AYDN				*i* S	**Sn**	**03 41 36.9**	**+5.3**
KHAL	**Karahalli**	**2.27**	**360**	*i* P	**Pn**	**03 41 07.7**	**-1.8**
KHAL	**Karahalli**	**2.27**	**360**	*i* P	**Pn**	**03 41 07.7**	**-1.8**
HDMB	**Hadim**	**2.56**	**69**	*e*PN	**Pn**	**03 41 14.8**	**+1.2**
HDMB	**Hadim**	**2.56**	**69**	*e*Pn	**Pn**	**03 41 14.8**	**+1.3**

*NNC **04** 03:50:45.7±2.5,39°.57N×73°.62E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=22.4km s-min=12.5km az=9.0*

ISC 04 03:50:38.2±3.0,38°.8N±0°.2×73°.8E±0°.2,h10km,n10, σ0§93/14,6C-1D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.82**	**67**	⇑*i* Pg	**Pn**	**03 51 07.9**	**-1.7**
KSH				Sg	**Sn**	**03 51 23.6**	**-9.1**
KSH	comp=N,100nm,0.4s			smax			
KSH	comp=E,110nm,0.5s			smax			
AML	**Almayashu**	**3.31**	**359**	P	**Pn**	**03 51 29.5**	**-0.6**
	SNR=20						
KZA	**Kyzart**	**3.44**	**18**	P	**Pn**	**03 51 32.3**	**+0.5**
	SNR=20						
EKS2	**Erkin-Say**	**3.84**	**360**	P	**Pn**	**03 51 38.3**	**+0.9**
	SNR=6.2						
AAK	**Ala-Archa**	**3.85**	**8**	P	**Pn**	**03 51 37.8**	**+0.3**
	SNR=13						
KBK	**Karagaybulak**	**3.94**	**12**	P	**Pn**	**03 51 39.6**	**+1.0**
	SNR=16						
TKM2	**Tokmak 2**	**4.32**	**18**	P	**Sn**	**03 52 40.2**	**+5.8**
	SNR=5.7						
TKM2	**Tokmak 2**	**4.32**	**18**	⇑Pn	**Pn**	**03 51 44.2**	**+0.3**
	comp=E,2.3nm,0.4s						
TKM2	comp=E,4.1nm,0.5s			⇓Pg	**Pg**	**03 51 53.8**	**-7.1**
TKM2	comp=E,18nm,0.9s			⇑Lg		03 52 38.3	
KK31	**Karatay Array**	**4.96**	**331**	Pn	**Pn**	**03 51 53.6**	**+0.9**
	comp=E,1.6nm,0.4s,baz=130,slow=12,SNR=19						
KK31	comp=E,1.8nm,0.4s,baz=149,slow=15,SNR=11			⇑Pg	**Pg**	**03 52 02.9**	**-10**
KK31	comp=E,3.0nm,0.5s,baz=0.0,slow=0.1,SNR=4.6			⇑Sn	**Sn**	**03 52 48.4**	**-1.6**
KK31	comp=E,2.1nm,0.3s,baz=146,slow=25,SNR=3.9			⇑Lg		03 52 59.9	
AB31	**Akbulak array**	**14.41**	**321**	Pn	**Pn**	**03 54 01.9**	**-0.2**
	comp=E,0.8nm,0.8s,baz=127,slow=14,SNR=6.9						

*ISK **04** 03:53:08.7,38°.64N×31°.04E,h5km,MD3.0*
*CSEM **04** 03:53:09.8±0.2,38°.64N×31°.04E,h2km,MD2.9, Error ellipse: s-maj=4.2km s-min=3.3km az=2.0*
*DDA **04** 03:53:09.2,38°.65N×31°.06E,h15km±1km,Md2.9*
*ISCJB **04** 03:53:10.1±0.4,38°.65N±0°.03×31°.07E±0°.03,h10km, Error ellipse: s-maj=4.6km s-min=3.3km az=8.5*

ISC 04 03:53:10.0±0.5,38°.64N±0°.03×31°.06E±0°.03,h1km±5km, n52,σ0§82/67,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLV	**Bolvadin**	**0.11**	**312**	*i* P	**Pg**	**03 53 13.1**	**+1.0**
BOLV				*i* S	**Sg**	**03 53 14.8**	**+1.2**
BOLV	**Bolvadin**	**0.11**	**312**	*i* P	**Pg**	**03 53 13.1**	**+1.0**
BOLV				*i* S	**Sg**	**03 53 14.8**	**+1.2**
SHUT	**Suhut-Afyon**	**0.41**	**257**	*e*PG	**Pg**	**03 53 17.6**	**-0.2**
SHUT				*e*SG	**Sg**	**03 53 24.3**	**+1.3**
SHUT	**Suhut-Afyon**	**0.41**	**257**	*e*Pg	**Pg**	**03 53 17.6**	**-0.2**
SHUT				*e*Sg	**Sg**	**03 53 24.3**	**+1.3**
KIZT	**Kizilcal**	**0.69**	**70**	*e*PG	**Pg**	**03 53 23.4**	**+0.3**
KIZT	**Kizilcal**	**0.69**	**70**	*e*Pg	**Pg**	**03 53 23.4**	**+0.3**
KDHN	**Kadinhani**	**0.84**	**98**	*i* P	**Pg**	**03 53 25.9**	**-0.1**
KDHN				*i* S	**Sg**	**03 53 36.8**	**-0.1**
KDHN	**Kadinhani**	**0.84**	**98**	*i* P	**Pg**	**03 53 25.9**	**-0.1**
KDHN				*i* S	**Sg**	**03 53 36.8**	**-0.1**
ALT	**Altintas**	**0.85**	**299**	*e*PG	**Pg**	**03 53 25.5**	**-0.7**
ALT	**Altintas**	**0.85**	**299**	*e*Pg	**Pg**	**03 53 25.5**	**-0.7**
SVRH	**Sivrihisar-ESK**	**0.88**	**24**	*e*PG	**Pg**	**03 53 26.9**	**+0.1**
SVRH	**Sivrihisar-ESK**	**0.88**	**24**	*e*Pg	**Pg**	**03 53 26.9**	**0.0**
ESKT	**Eskisehir**	**0.89**	**350**	*e*PG	**Pg**	**03 53 26.3**	**-0.8**
ESKT	**Eskisehir**	**0.89**	**350**	*i* P	**Pg**	**03 53 25.5**	**-1.5**
ESKT				*i* S	**Sg**	**03 53 36.9**	**-1.7**
ESKT	**Eskisehir**	**0.89**	**350**	*e*Pg	**Pg**	**03 53 26.3**	**-0.7**
SEYT	**Eskypehyr**	**0.89**	**350**	*i* P	**Pg**	**03 53 25.5**	**-1.5**
SEYT				*i* S	**Sg**	**03 53 36.9**	**-1.7**
SUTC	**Sutluce-Ispart**	**1.17**	**182**	*e*PN	**Pn**	**03 53 31.9**	**-1.4**
SUTC	**Sutluce-Ispart**	**1.17**	**182**	*e*Pn	**Pn**	**03 53 31.9**	**-1.4**
KONT	**Konya--Tatoy**	**1.24**	**124**	*e*PN	**Pn**	**03 53 33.8**	**-0.6**
KONT	**Konya--Tatoy**	**1.24**	**124**	*e*Pn	**Pn**	**03 53 33.8**	**-0.6**
KHAL	**Karahalli**	**1.26**	**258**	*i* P	**Pg**	**03 53 33.9**	**-0.2**
KHAL				*i* S	**Sg**	**03 53 51.1**	**+0.7**
KHAL	**Karahalli**	**1.26**	**258**	*i* P	**Pg**	**03 53 33.8**	**-0.3**
KHAL				*i* S	**Sg**	**03 53 51.2**	**+0.8**
GDZ	**Gediz**	**1.31**	**290**	*i* P	**Pg**	**03 53 34.6**	**-0.4**
GDZ				*i* S	**Sg**	**03 53 51.2**	**-0.8**
GDZ	**Gediz**	**1.31**	**290**	*i* P	**Pg**	**03 53 34.6**	**-0.5**
GDZ				*i* S	**Sg**	**03 53 51.2**	**-0.8**
BORA	**Eskisehir**	**1.32**	**339**	*i* P	**Pg**	**03 53 34.8**	**-0.5**
BORA				*i* S	**Sg**	**03 53 52.7**	**+0.3**
BORA	**Eskisehir**	**1.32**	**339**	*i* P	**Pg**	**03 53 34.8**	**-0.5**
BORA				*i* S	**Sg**	**03 53 52.7**	**+0.3**
GPA	**Golpazari**	**1.74**	**341**	*e*PN	**Pn**	**03 53 41.1**	**-0.2**
GPA	**Golpazari**	**1.74**	**341**	*e*Pn	**Pn**	**03 53 41.1**	**-0.2**
AFSR	**Af˙ar-Bala (A**	**1.76**	**62**	*e*PN	**Pn**	**03 53 41.7**	**+0.1**
AFSR	**Af˙ar-Bala (A**	**1.76**	**62**	*e*Pn	**Pn**	**03 53 41.7**	**+0.2**
MDU	**Mudurnu**	**1.82**	**4**	*e*PN	**Pn**	**03 53 42.4**	**0.0**
MDU	**Mudurnu**	**1.82**	**4**	*e*Pn	**Pn**	**03 53 42.4**	**0.0**
GULT	**Gulveren**	**1.83**	**347**	*e*PN	**Pn**	**03 53 42.5**	**-0.1**
GULT	**Gulveren**	**1.83**	**347**	*e*Pn	**Pn**	**03 53 42.5**	**-0.1**
BBAL	**Bala**	**1.84**	**60**	*i* P	**Pn**	**03 53 43.9**	**+1.3**
BBAL	**Bala**	**1.84**	**60**	*i* P	**Pn**	**03 53 43.9**	**+1.3**
KULA	**Kula-Manisa**	**1.88**	**267**	*e*PN	**Pn**	**03 53 43.2**	**0.0**
KULA	**Kula-Manisa**	**1.88**	**267**	*e*Pn	**Pn**	**03 53 43.2**	**0.0**
MANT	**Manisa**	**1.97**	**266**	*i* P	**Pn**	**03 53 43.8**	**-0.5**
MANT	**Manisa**	**1.97**	**266**	*i* P	**Pn**	**03 53 43.8**	**-0.5**
HDMB	**Hadim**	**2.02**	**146**	*e*PN	**Pn**	**03 53 45.3**	**+0.2**
HDMB	**Hadim**	**2.02**	**146**	*e*Pn	**Pn**	**03 53 45.3**	**+0.2**
ADVT	**Abdulvahap**	**2.06**	**331**	*e*PN	**Pn**	**03 53 45.7**	**0.0**
ADVT	**Abdulvahap**	**2.06**	**331**	*e*Pn	**Pn**	**03 53 45.7**	**+0.1**
SGKT	**Sivrigoynuk**	**2.08**	**22**	*i* P	**Pn**	**03 53 48.3**	**+2.4**
SGKT				*i* S	**Sn**	**03 54 15.8**	**+3.5**
SGKT	**Sivrigoynuk**	**2.08**	**22**	*i* P	**Pn**	**03 53 48.3**	**+2.4**
DURS	**Dursunbey**	**2.23**	**296**	*i* P	**Pn**	**03 53 47.3**	**-0.6**
DURS	**Dursunbey**	**2.23**	**296**	*i* P	**Pn**	**03 53 47.3**	**-0.6**
YLV	**Yalova**	**2.32**	**326**	*e*PN	**Pn**	**03 53 49.6**	**+0.4**
YLV	**Yalova**	**2.32**	**326**	*e*Pn	**Pn**	**03 53 49.6**	**+0.4**
KARA	**Karaisali**	**3.45**	**112**	*e*PG	**Pg**	**03 54 16.2**	**+0.2**
KARA	**Karaisali**	**3.45**	**112**	*e*Pg	**Pg**	**03 54 16.3**	**+0.2**

*DDA **04** 03:54:05.8,37°.48N×35°.71E,h7km±3km,Md2.6*

ISK 04 03:54:03.9,37°.61N×35°.69E,h13km,MD2.3,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.16**	**139**	*e*PG	Pg	03 54 08.1	+0.4
ANDN	**Andirin**	**0.52**	**93**	*i* P	Pg	03 54 16.3	+2.2
ANDN				*i* S	Sg	03 54 23.8	+2.9
CEYT	**Ceyhan**	**0.60**	**176**	*e*PG	Pg	03 54 16.0	+0.5
CEYT				*e*SG	Sg	03 54 24.8	+1.4
GULE	**Gulek**	**0.80**	**247**	*i* P	Pg	03 54 20.5	+1.1
GULE				*i* S	Sg	03 54 32.2	+2.4
KMRS	**Kahramanmaras**	**0.96**	**96**	*e*PG	Pg	03 54 22.5	0.0
SARI	**SarD1z-Kayseri**	**1.33**	**36**	*e*PG	Pg	03 54 23.4	-6.1

*ISK **04** 03:55:28.9,37°.55N×35°.69E,h5km,MD2.4*
*DDA **04** 03:55:28.9,37°.50N×35°.73E,h30km±1km,Md2.6*
*ISCJB **04** 03:55:29.9±0.6,37°.46N±0°.04×35°.71E±0°.04,h9km±4km, Error ellipse: s-maj=6.8km s-min=4.5km az=145.1*
*CSEM **04** 03:55:30.0±0.3,37°.44N×35°.72E,h12km,MD2.4, Error ellipse: s-maj=7.0km s-min=4.4km az=151.0*

ISC 04 03:55:30.3±0.6,37°.45N±0°.04×35°.73E±0°.04,h8km±4km, n21,σ1§05/35,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.09**	**68**	*e*PG	**Pg**	**03 55 32.2**	**-0.3**
KOZT				*e*SG	**Sg**	**03 55 34.4**	**+0.3**
CEYT	**Ceyhan**	**0.44**	**178**	*e*PG	**Pg**	**03 55 39.7**	**+0.9**
CEYT	**Ceyhan**	**0.44**	**178**	*e*Pg	**Pg**	**03 55 39.7**	**+0.9**
ANDN	**Andirin**	**0.51**	**75**	*i* P	**Pg**	**03 55 40.3**	**+0.1**
ANDN				*i* S	**Sg**	**03 55 47.9**	**+1.1**
ANDN	**Andirin**	**0.51**	**75**	*i* P	**Pg**	**03 55 40.3**	**+0.1**
ANDN				*i* S	**Sg**	**03 55 47.9**	**+1.1**
KARA	**Karaisali**	**0.57**	**251**	*e*PG	**Pg**	**03 55 40.5**	**-0.7**
KARA	**Karaisali**	**0.57**	**251**	*e*Pg	**Pg**	**03 55 40.5**	**-0.7**
GULE	**Gulek**	**0.77**	**258**	*i* P	**Pg**	**03 55 44.8**	**-0.4**
GULE				*i* S	**Sg**	**03 55 56.7**	**+1.5**
GULE	**Gulek**	**0.77**	**258**	*i* P	**Pg**	**03 55 44.8**	**-0.4**
GULE				*i* S	**Sg**	**03 55 56.7**	**+1.4**
KRTS	**Karatas**	**0.92**	**198**	*e*PG	**Pg**	**03 55 48.6**	**+0.7**
KRTS	**Karatas**	**0.92**	**198**	*e*Pg	**Pg**	**03 55 48.6**	**+0.7**
COBT	**Iskenderun**	**1.02**	**155**	*i* P	**Pg**	**03 55 49.1**	**-0.7**
COBT				*i* S	**Sg**	**03 56 01.4**	**-1.7**
COBT	**Iskenderun**	**1.02**	**155**	*i* P	**Pg**	**03 55 49.2**	**-0.6**
COBT				*i* S	**Sg**	**03 56 01.4**	**-1.7**
PINB	**Pinarbasi**	**1.34**	**23**	*i* P	**Pn**	**03 55 52.1**	**-3.1**
PINB				*i* S	**Sb**	**03 56 12.9**	**+0.1**
PINB	**Pinarbasi**	**1.34**	**23**	*i* P	**Pn**	**03 55 52.1**	**-3.1**
PINB				*i* S	**Sb**	**03 56 12.9**	**+0.1**
YAYL	**Yayladag**	**1.44**	**168**	*i* P	**Pn**	**03 55 54.9**	**-1.8**
YAYL				*i* S	**Sn**	**03 56 17.7**	**+2.0**
YAYL	**Yayladag**	**1.44**	**168**	*i* P	**Pn**	**03 55 54.9**	**-1.7**
YAYL				*i* S	**Sn**	**03 56 17.7**	**+2.0**
SARI	**SarD1z-Kayseri**	**1.45**	**32**	*e*PG	**Pg**	**03 55 49.1**	**-9.0**
GZT	**Gaziantep**	**1.47**	**93**	*i* P	**Pn**	**03 55 56.3**	**-0.7**
GZT				*i* S	**Sn**	**03 56 17.4**	**+1.1**
AKCD	**Akcadag**	**1.93**	**63**	*i* P	**Pn**	**03 56 03.1**	**-0.3**
AKCD				*i* S	**Sn**	**03 56 27.9**	**0.0**
AKCD	**Akcadag**	**1.93**	**63**	*i* P	**Pn**	**03 56 03.1**	**-0.3**
AKCD				*i* S	**Sn**	**03 56 27.9**	**+0.1**

IDC 04 04:02:52.6±3.9,20°.81S×70°.06W,h0km,mb3.6/1, mb1 3.8/2,mb1mx3.5/16,mbtmp3.7/2,ML3.6/1,Error ellipse: s-maj=133.9km s-min=44.6km az=101.0,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.86**	**22**	Pn	Pn	04 04 06.9	-0.1
	1.5nm,0.3s,baz=211,slow=6.0,SNR=38						
LPAZ	0.5nm,0.3s,baz=166,slow=12,SNR=1.3			Sn	Sn	04 05 07.3	+3.4
TORD	**Torodi Ar. Bea**	**78.14**	**71**	P	P	04 14 54.3	+0.1
	0.3nm,0.5s,baz=247,slow=5.6,SNR=8.4						
MKAR	**Makanchi Array**	**145.69**	**34**	PKPbc	PKPbc	04 22 32.8	-0.6
	0.3nm,0.6s,baz=263,slow=2.4,SNR=4.2						

*IDC **04** 04:11:33.2±0.8,18°.34S×174°.92W,h0km,mb4.2/8, mb1 4.6/9,mb1mx4.3/21,mbtmp4.3/9,ML4.5/1, Error ellipse: s-maj=39.3km s-min=18.5km az=150.0*
*ISCJB **04** 04:11:39.2±6.2,18°.6S±0°.3×174°.9W±0°.1,h57km±59km, mb4.4/11,Error ellipse: s-maj=48.9km s-min=14.1km az=156.9*
*NEIC **04** 04:11:43.1±3.5,18°.64S×174°.81W,h82km±35km,mb4.5/4, Error ellipse: s-maj=30.6km s-min=8.6km az=158.0*

ISC 04 04:11:40.5±5.3,18°.5S±0°.3×174°.9W±0°.2,h53km±53km,n28, σ0§52/23,mb4.4/11,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.46**	**103**	Pn	**Pn**	**04 15 02.0**	**-0.2**
	2.3nm,0.3s,baz=226,slow=7.3,SNR=3.9						
RAR	**Rarotonga**	**14.46**	**103**	*e*Pn	**Pn**	**04 15 02.3**	**+0.1**
URZ	**Urewera**	**20.86**	**198**	P	**P**	**04 16 17.7**	**-0.1**
	3.8nm,0.5s,baz=315,slow=13,SNR=4.9						
URZ	**Urewera**	**20.86**	**198**	P	**P**	**04 16 17.7**	**-0.1**
EIDS	**Eidsvold**	**32.23**	**252**	P	**P**	**04 18 04.2**	**+0.3**
	3.2nm,0.6s,mb4.3						
CTA	**Charters Tower**	**36.66**	**261**	P	**P**	**04 18 43.0**	**+0.7**
	5.0nm,0.5s,mb4.6,baz=100,slow=9.7,SNR=10						
CTA	**Charters Tower**	**36.66**	**261**	P	**P**	**04 18 43.0**	**+0.7**
CTAO	**Charters Tower**	**36.66**	**261**	*e*P	**P**	**04 18 43.5**	**+1.3**
	5.6nm,0.6s,mb4.6						
WRAB	**Tennent Creek**	**47.81**	**260**	*e*P	**P**	**04 20 12.5**	**-0.5**
	4.6nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**47.82**	**260**	P	**P**	**04 20 12.5**	**-0.6**
	5.5nm,0.4s,mb4.9,baz=97,slow=5.8,SNR=150						
WRA	**Warramunga Arr**	**47.82**	**260**	P	**P**	**04 20 12.5**	**-0.6**
ASAR	**Alice Springs**	**47.85**	**255**	P	**P**	**04 20 13.3**	**0.0**
	4.4nm,0.6s,mb4.7,baz=96,slow=8.6,SNR=57						
ASAR	0.7nm,0.6s,baz=117,slow=3.6,SNR=4.3			PcP	PcP	04 21 42.4	+1.0
ASAR	**Alice Springs**	**47.85**	**255**	P	**P**	**04 20 13.3**	**0.0**
ASAR				PcP	PcP	04 21 42.4	+1.0
NVAR	**Mina Array Bea**	**77.59**	**42**	P	**P**	**04 23 31.0**	**0.0**
	1.0nm,0.8s,mb3.8,baz=237,slow=8.4,SNR=4.0						
NVAR	**Mina Array Bea**	**77.59**	**42**	P	**P**	**04 23 31.0**	**0.0**
TXAR	**Lajitas Array**	**83.53**	**56**	P	**P**	**04 24 04.0**	**+0.9**
	0.6nm,0.7s,mb3.8,baz=219,slow=8.5,SNR=7.1						
TXAR	**Lajitas Array**	**83.53**	**56**	P	**P**	**04 24 04.0**	**+0.9**
PDAR	**Pinedale Array**	**85.53**	**42**	P	**P**	**04 24 12.2**	**-0.6**
	0.5nm,0.8s,mb3.8,baz=292,slow=0.8,SNR=4.0						
PDAR	**Pinedale Array**	**85.53**	**42**	P	**P**	**04 24 12.2**	**-0.6**
COLA	**College**	**85.70**	**11**	*e*P	**P**	**04 24 12.6**	**-0.5**
	9.7nm,0.8s,mb5.1						
ILAR	**Eielson Array**	**85.78**	**12**	P	**P**	**04 24 13.1**	**-0.4**
	1.9nm,0.6s,mb4.5,baz=227,slow=6.1,SNR=72						
ILAR	**Eielson Array**	**85.78**	**12**	P	**P**	**04 24 13.1**	**-0.4**
EGAK	**Eagle**	**86.99**	**14**	P	**P**	**04 24 20.0**	**+0.6**
	3.1nm,0.8s,mb4.6						
CLL	**Collm**	**146.71**	**351**	*e*PKPbc	PKPbc	04 31 16.0	-0.2
BRTR	**Keskin Array B**	**147.57**	**317**	PKPbc	PKPbc	04 31 17.9	-1.1
	0.7nm,0.8s,baz=140,slow=3.0,SNR=4.0						
BRTR	**Keskin Array B**	**147.57**	**317**	PKPbc	PKPbc	04 31 17.9	-1.1
GERES	**GERESS Array B**	**148.98**	**349**	PKPbc	PKPbc	04 31 21.5	-0.9
	0.6nm,0.6s,baz=28,slow=3.2,SNR=5.2						
GERES	**GERESS Array B**	**148.98**	**349**	PKPbc	PKPbc	04 31 21.5	-0.9

*IDC **04** 04:19:42.6±1.0,30°.36N×67°.48E,h0km,mb3.8/8, mb1 4.0/9,mb1mx3.7/30,mbtmp3.9/9,ML3.7/1,MS3.5/1, Ms1 3.6/1,ms1mx2.2/32,Error ellipse: s-maj=27.7km s-min=23.3km az=103.0*
*NEIC **04** 04:19:43.5±1.1,30°.26N×67°.69E,h10km,mb4.3/2,Error ellipse: s-maj=18.2km s-min=11.1km az=49.0*
*ISCJB **04** 04:19:47.9±4.9,30°.5N±0°.2×68°.0E±0°.3,h39km±36km, mb3.8/7,MS3.5/1,Error ellipse: s-maj=48.5km s-min=11.6km az=150.6*
*MOS **04** 04:19:47.5±1.0,30°.51N×67°.93E,h37km,mb4.3/5,Error ellipse: s-maj=18.8km s-min=10.0km az=72.7*

ISC 04 04:19:53.1±3.5,30°.6N±0°.2×68°.2E±0°.3,h66km±24km,n52, σ1§17/51,mb3.8/7,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**3.98**	**10**	*e*Pn	**Pn**	**04 20 54.9**	**+3.3**
KBL	**Kabul**	**3.98**	**10**	*e*P	**Pn**	**04 20 54.9**	**+3.3**
NDI	**New Delhi**	**8.06**	**102**	*e*PKP	**Pn**	**04 21 48.0**	**+0.5**
EKS2	**Erkin-Say**	**12.82**	**19**	*e*Pn	**Pn**	**04 22 53.4**	**+1.0**
EKS2	**Erkin-Say**	**12.82**	**19**	*e*P	**Pn**	**04 22 53.4**	**+1.0**
AAK	**Ala-Archa**	**13.01**	**21**	Pn	**Pn**	**04 22 56.0**	**+1.1**
	0.0nm,0.3s,baz=194,slow=5.2,SNR=12						
AAK	**Ala-Archa**	**13.01**	**21**	Pn	**Pn**	**04 22 56.0**	**+1.1**
AAK	**Ala-Archa**	**13.01**	**21**	P	**Pn**	**04 22 56.0**	**+1.1**
AAK	comp=Z,2.0nm,0.3s			pmax	pmax		
TKM2	**Tokmak 2**	**13.62**	**24**	*e*Pn	**Pn**	**04 23 02.3**	**-0.9**
TKM2	**Tokmak 2**	**13.62**	**24**	*e*P	**Pn**	**04 23 02.3**	**-0.9**
DANN	**Dangsing**	**13.72**	**96**	*e*P	**Pn**	**04 23 04.7**	**+0.1**
	comp=Z,37nm,0.6s						
DANN	**Dangsing**	**13.72**	**96**	*e*P	**Pn**	**04 23 04.7**	**+0.1**
	comp=Z,37nm,0.6s						
KOLN	**Koldanda**	**13.73**	**98**	*e*P	**Pn**	**04 23 04.0**	**-0.7**
	comp=Z,17nm,0.6s						
KOLN	**Koldanda**	**13.73**	**98**	*e*P	**Pn**	**04 23 04.0**	**-0.7**
	comp=Z,17nm,0.6s						
DMN	**Daman**	**15.06**	**97**	*e*P	**Pn**	**04 23 22.6**	**+0.5**
DMN	**Daman**	**15.06**	**97**	*e*P	**Pn**	**04 23 22.6**	**+0.5**
KKN	**Kakani**	**15.16**	**96**	*e*P	**Pn**	**04 23 23.4**	**0.0**
	comp=Z,18nm,0.5s						
KKN	**Kakani**	**15.16**	**96**	*e*P	**Pn**	**04 23 23.4**	**0.0**
	comp=Z,18nm,0.5s						
KKN	**Kakani**	**15.16**	**96**	*e*P	**Pn**	**04 23 23.4**	**0.0**
KKN	comp=Z,18nm,0.5s			pmax	pmax		
PKI	**Pulchoki**	**15.33**	**97**	*e*P	**Pn**	**04 23 24.9**	**-0.6**
	comp=Z,20nm,0.6s						
PKI	**Pulchoki**	**15.33**	**97**	*e*P	**Pn**	**04 23 24.9**	**-0.6**
	comp=Z,20nm,0.6s						
PKI	**Pulchoki**	**15.33**	**97**	*e*P	**Pn**	**04 23 24.9**	**-0.6**
PKI	comp=Z,20nm,0.6s			pmax	pmax		
GUN	**Gumba**	**15.64**	**95**	*e*P	**Pn**	**04 23 28.2**	**-1.4**
	comp=Z,36nm,0.5s						
GUN	**Gumba**	**15.64**	**95**	*e*P	**Pn**	**04 23 28.2**	**-1.4**
	comp=Z,36nm,0.5s						
MK31	**Makanchi Array**	**19.49**	**30**	*e*P	**Pn**	**04 24 15.6**	**-0.9**
MK31	**Makanchi Array**	**19.49**	**30**	*e*P	**Pn**	**04 24 15.6**	**-0.8**
MKAR	**Makanchi Array**	**19.49**	**30**	P	**Pn**	**04 24 15.0**	**-1.4**
	comp=Z,1.4nm,0.5s,baz=211,slow=9.5,SNR=21						
MKAR	**Makanchi Array**	**19.49**	**30**	P	**Pn**	**04 24 15.0**	**-1.4**
MKAR	**Makanchi Array**	**19.49**	**30**	P	**Pn**	**04 24 15.0**	**-1.4**
MKAR	comp=Z,1.0nm,0.5s			pmax	pmax		
SHL	**Shillong**	**21.46**	**98**	*e*PKP	**P**	**04 24 41.0**	**+4.9**
KURK	**Kurchatov**	**21.54**	**18**	P	**P**	**04 24 37.5**	**+0.8**
	comp=Z,5.6nm,0.9s,mb3.9,baz=208

SNJR	**Sundja**	**1.52**	**152**	⇑*i*PG	**Pg**	**04 20 46.7**	**-1.5**
SNJR				*e*S	**Sg**	**04 21 07.3**	**-0.6**
SNJR	**Sundja**	**1.52**	**152**	*i* Pg	**Pg**	**04 20 46.7**	**-1.5**
SNJR				*e*Sg	**Sg**	**04 21 07.3**	**-0.6**
DIGR	**Digorskoe uzhe**	**1.53**	**187**	⇓*i*PG	**Pg**	**04 20 45.0**	**-3.3**
LACR	**Lac**	**1.62**	**168**	⇑*i*PN	**Pn**	**04 20 46.8**	**-0.9**
LACR	**Lac**	**1.62**	**168**	*i* Pn	**Pn**	**04 20 46.8**	**-0.9**
ZEI	**Tsey**	**1.65**	**179**	⇓*i*PN	**Pn**	**04 20 46.6**	**-1.4**
ZEI	**Tsey**	**1.65**	**179**	*i* Pn	**Pn**	**04 20 46.6**	**-1.4**
GRO	**Groznyy**	**1.76**	**128**	⇓*i*PN	**Pn**	**04 20 53.0**	**+3.4**
GRO				*i* S	**Sn**	**04 21 18.5**	**+6.5**
ONI	**Oni**	**1.85**	**189**	P	**Pn**	**04 20 50.6**	**-0.1**
ONI				S	**Sn**	**04 21 15.5**	**+1.4**
DOMR	**Dombai**	**1.96**	**236**	⇑*e*PN	**Pn**	**04 20 53.1**	**+0.8**
DOMR	**Dombai**	**1.96**	**236**	*e*Pn	**Pn**	**04 20 53.1**	**+0.8**
GOR	**Gori**	**2.44**	**175**	P	**Pn**	**04 21 03.8**	**+5.0**
GOR				S	**Sn**	**04 21 33.7**	**+5.0**
DBC	**Dubki**	**2.58**	**122**	⇑*i*PN	**Pn**	**04 21 01.0**	**+0.2**
DBC				*i* S	**Sn**	**04 21 37.5**	**+5.4**
DBC				pmax	pmax		
	comp=Z,139nm,0.4s						
DBC	**Dubki**	**2.58**	**122**	*i* Pn	**Pn**	**04 21 01.0**	**+0.2**
	comp=Z,139nm,0.4s						
TBLG	**Delisi**	**2.76**	**166**	*e*PN	**Pn**	**04 21 03.5**	**+0.2**
TBLG				*e*S	**Sn**	**04 21 43.8**	**+7.1**
TBLG	**Delisi**	**2.76**	**166**	P	**Pn**	**04 21 03.5**	**+0.2**
TBLG				S	**Sn**	**04 21 43.9**	**+7.2**
TBLG	**Delisi**	**2.76**	**166**	*e*Pn	**Pn**	**04 21 03.5**	**+0.2**
MTA	**Mtatsminda**	**2.81**	**165**	P	**Pn**	**04 21 03.9**	**0.0**
ARKR	**Arakani**	**2.92**	**127**	PN	**Pn**	**04 21 06.0**	**+0.5**
ARKR				S	**Sn**	**04 21 48.5**	**+7.8**
ARKR	**Arakani**	**2.92**	**127**	Pn	**Pn**	**04 21 06.0**	**+0.5**
AKH	**Akhalkalaki**	**3.01**	**185**	P	**Pn**	**04 21 07.3**	**+0.5**
AKH				S	**Sn**	**04 21 54.4**	**+12**
MAK	**Makhachkala**	**3.03**	**117**	*e*PN	**Pn**	**04 21 07.6**	**+0.6**
MAK				*e*		04 21 21.5	
MAK				*e*S	**Sn**	**04 21 46.6**	**+3.3**
MAK				pmax	pmax		
	comp=Z,60nm,0.2s						
MAK				smax			
	comp=N,2.0nm,0.8s						
MAK				smax			
	comp=E,2.0nm,0.6s						
MAK				MLR	MLR		
	comp=Z,541nm,12.0s						
MAK	**Makhachkala**	**3.03**	**117**	*e*Pn	**Pn**	**04 21 07.6**	**+0.6**
	comp=Z,60nm,0.2s						
MAK				*e*Sn	**Sn**	**04 21 46.6**	**+3.3**
	comp=Z,541nm,12.0s						
SOC	**Sochi**	**3.09**	**256**	*e*PN	**Pn**	**04 21 12.5**	**+4.7**
SOC				*e*		04 21 47.5	
SOC				*e*		04 21 59.7	
SOC				pmax	pmax		
	comp=Z,29nm,0.6s						
SOC				MLR	MLR		
	comp=Z,106nm,6.0s						
SOC	**Sochi**	**3.09**	**256**	*e*Sn	**Sn**	**04 21 47.5**	**+2.7**
	comp=Z,106nm,6.0s						
DGRG	**David-gareji**	**3.17**	**159**	P	**Pn**	**04 21 08.5**	**-0.4**
DGRG				S	**Sn**	**04 21 58.2**	**+11**
GNI	**Garni**	**4.32**	**171**	*e*Pn	**Pn**	**04 21 22.8**	**-1.9**
GNI				*e*Pg	**Pg**	**04 21 37.2**	**-4.5**
GNI				*e*S	**Sn**	**04 22 32.4**	**+17**
GNI	**Garni**	**4.32**	**171**	*e*PN	**Pn**	**04 21 22.8**	**-1.9**
GNI				*e*		04 21 37.2	
GNI				*e*S	**Sn**	**04 22 32.4**	**+17**
GNI	**Garni**	**4.32**	**171**	*e*Pn	**Pn**	**04 21 22.8**	**-1.9**
ANN	**Anapa**	**4.59**	**277**	*e*PN	**Pn**	**04 21 30.3**	**+1.8**
ANN				*e*S	**Sn**	**04 22 25.8**	**+4.0**
ANN				pmax	pmax		
	comp=Z,61nm,1.6s						
ANN	**Anapa**	**4.59**	**277**	*e*Pn	**Pn**	**04 21 30.3**	**+1.8**
	comp=Z,61nm,1.6s						
VRHR	**Novokhopersk**	**6.85**	**348**	*e*P	**Pn**	**04 22 03.9**	**+4.5**
VRHR				pmax	pmax		
	comp=N,2.0nm,0.5s						
VRHR				pmax	pmax		
	comp=E,5.0nm,0.5s						
VRHR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
VSR	**Storozhevoye**	**7.50**	**337**	*e*P	**Pn**	**04 22 11.0**	**+2.7**
VSR				pmax	pmax		
	comp=N,4.0nm,0.4s						
VSR				pmax	pmax		
	comp=Z,4.0nm,0.4s						
VSR				pmax	pmax		
	comp=E,2.0nm,0.2s						
BRTR	**Keskin Array B**	**8.91**	**242**	Pn	**Pn**	**04 22 28.3**	**+0.5**
	comp=E,0.0nm,0.3s,baz=21,slow=15,SNR=2.8						
BRTR	**Keskin Array B**	**8.91**	**242**	Pn	**Pn**	**04 22 28.3**	**+0.5**
BRTR	**Keskin Array B**	**8.91**	**242**	P	**Pn**	**04 22 28.3**	**+0.5**
BRTR	**Keskin Array B**	**8.91**	**242**	P	**Pn**	**04 22 28.3**	**+0.5**
TIRR	**Tirgusor**	**11.04**	**276**	*e*Pn	**Pn**	**04 22 57.5**	**+0.7**
TIRR	**Tirgusor**	**11.04**	**276**	*e*P	**Pn**	**04 22 57.5**	**+0.7**
TIRR	**Tirgusor**	**11.04**	**276**	*e*P	**Pn**	**04 22 57.5**	**+0.7**
AKTK	**Aktyubinsk**	**11.33**	**53**	Pn	**Pn**	**04 23 00.8**	**0.0**
AKTK				Sn	**Sn**	**04 24 58.8**	**-8.5**
AKTK	**Aktyubinsk**	**11.33**	**53**	P	**Pn**	**04 23 00.8**	**0.0**
	comp=E,2.0nm,0.3s						
AKTO	**Aktyubinsk**	**11.33**	**53**	⇓Pn	**Pn**	**04 23 00.9**	**+0.1**
	comp=E,0.5nm,0.5s						
AKTO				⇑Sn	**Sn**	**04 24 58.1**	**-9.2**
	comp=E,2.1nm,0.7s						
AKTO	**Aktyubinsk**	**11.33**	**53**	Pn	**Pn**	**04 23 00.8**	**0.0**
	comp=E,1.8nm,0.3s,baz=242,slow=10,SNR=16						
AKTO				Sn	**Sn**	**04 24 58.8**	**-8.5**
	comp=E,0.6nm,0.3s,baz=60,slow=20,SNR=2.9						
AKTO	**Aktyubinsk**	**11.33**	**53**	P	**Pn**	**04 23 00.8**	**0.0**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKTO	**Aktyubinsk**	**11.33**	**53**	Pn	**Pn**	**04 23 00.9**	**+0.1**
	comp=Z,0.5nm,0.5s						
OBN	**Obninsk**	**11.69**	**339**	⇓*e*P	**Pn**	**04 23 07.3**	**+1.6**
OBN				*e*S	**Sn**	**04 25 19.4**	**+3.3**
OBN				pmax	pmax		
	comp=Z,9.0nm,1.4s						
OBN				MLR	MLR		
	comp=Z,200nm,15.0s						
OBN	**Obninsk**	**11.69**	**339**	*e*P	**Pn**	**04 23 07.3**	**+1.6**
	comp=Z,9.0nm,1.4s						
AKASG	**Malin Array Be**	**11.70**	**308**	Pn	**Pn**	**04 23 04.0**	**-1.9**
	comp=Z,2.5nm,0.3s,baz=111,slow=11,SNR=7.3						
AKASG	**Malin Array Be**	**11.70**	**308**	Pn	**Pn**	**04 23 04.0**	**-1.9**
AKASG	**Malin Array Be**	**11.70**	**308**	P	**Pn**	**04 23 04.0**	**-1.8**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AKASG	**Malin Array Be**	**11.70**	**308**	P	**Pn**	**04 23 04.0**	**-1.8**
	comp=Z,3.0nm,0.3s						
AB31	**Akbulak array**	**12.04**	**61**	Pn	**Pn**	**04 23 10.3**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=246,slow=10,SNR=49						
AB31				⇑Sn	**Sn**	**04 25 21.2**	**-3.5**
	comp=Z,1.9nm,0.5s,baz=246,slow=19,SNR=9.1						
AB31	**Akbulak array**	**12.04**	**61**	Pn	**Pn**	**04 23 10.3**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=246,SNR=49						
ABKAR	**Akbulak array**	**12.04**	**61**	*e*Pn	**Pn**	**04 23 10.2**	**-0.3**
	comp=Z,2.1nm,0.4s						
ABKAR				*e*S	**Sn**	**04 25 20.4**	**-4.3**
ABKAR	**Akbulak array**	**12.04**	**61**	*e*Pn	**Pn**	**04 23 10.2**	**-0.3**
	comp=Z,2.1nm,0.4s						
VRI	**Vrincioaia**	**12.18**	**283**	⇑*i*P	**Pn**	**04 23 15.2**	**+2.8**
PLOR	**Plostina**	**12.23**	**283**	⇑*i*P	**Pn**	**04 23 13.8**	**+0.7**
PLOR	**Plostina**	**12.23**	**283**	⇑*i*P	**Pn**	**04 23 13.8**	**+0.7**
TESR		**12.25**	**286**	⇑*i*P	**Pn**	**04 23 11.7**	**-1.8**
MLR	**Muntele Rosu**	**12.73**	**281**	Pn	**Pn**	**04 23 18.7**	**-1.3**
	comp=Z,0.0nm,0.3s,baz=67,slow=3.5,SNR=4.3						
MLR	**Muntele Rosu**	**12.73**	**281**	Pn	**Pn**	**04 23 18.7**	**-1.3**
MLR	**Muntele Rosu**	**12.73**	**281**	P	**Pn**	**04 23 18.7**	**-1.2**
MLR	**Muntele Rosu**	**12.73**	**281**	⇓*i*P	**Pn**	**04 23 18.6**	**-1.3**
MLR	**Muntele Rosu**	**12.73**	**281**	P	**Pn**	**04 23 18.7**	**-1.2**
MMAI	**Mount Meron Ar**	**13.14**	**213**	LR	LR	04 29 02.1	
	comp=Z,57nn,20.4s,baz=5.0,slow=40						
BURAR	**Bucovina Array**	**13.33**	**290**	⇑*i*P	**Pn**	**04 23 25.3**	**-2.9**
BUR08	**Bucovina Ar. S**	**13.35**	**291**	*e*Pn	**Pn**	**04 23 25.1**	**-3.2**
VOIR		**13.36**	**281**	⇑*i*P	**Pn**	**04 23 27.5**	**-1.1**
VOIR		**13.36**	**281**	⇑*i*P	**Pn**	**04 23 27.5**	**-1.1**
ASF	**Jabal al Asfar**	**13.38**	**206**	LR	LR	04 29 18.0	
	comp=Z,76nm,19.4s,baz=208,slow=41						
ARU	**Arti**	**15.21**	**33**	*e*Pn	**Pn**	**04 23 50.6**	**-3.0**
	comp=Z,4.4nm,0.5s						
ARU				*e*S	**Sn**	**04 26 26.6**	**-15**
ARU	**Arti**	**15.21**	**33**	*e*P	**Pn**	**04 23 50.9**	**-2.8**
ARU				S	**Sn**	**04 26 38.0**	**-4.0**
KWP	**Kalwaria Pacla**	**15.31**	**297**	*e*Pn	**Pn**	**04 23 53.2**	**-1.8**
KWP	**Kalwaria Pacla**	**15.31**	**297**	*e*P	**Pn**	**04 23 53.2**	**-1.8**
KWP	**Kalwaria Pacla**	**15.31**	**297**	*e*Pn	**Pn**	**04 23 53.2**	**-1.8**
SVE	**Sverdlovsk**	**16.31**	**34**	*e*P	**Pn**	**04 24 05.7**	**-2.2**
SVE				pmax	pmax		
	comp=Z,23nm,0.9s						
EIL	**Elat**	**16.32**	**209**	LR	LR	04 31 12.7	
	comp=Z,93nn,19.1s,baz=272,slow=40						
KLMR	**Klimovskoe**	**16.67**	**353**	*e*P	**Pn**	**04 24 10.9**	**-1.5**
KLMR				pmax	pmax		
	comp=Z,13nm,1.0s						
KKAR	**Karatay Array**	**19.28**	**85**	*e*Pn	**Pn**	**04 24 43.9**	**-0.9**
	comp=Z,4.0nm,0.5s						
KKAR	**Karatay Array**	**19.28**	**85**	*e*P	**Pn**	**04 24 43.9**	**-0.9**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KKAR	**Karatay Array**	**19.28**	**85**	*e*P	**Pn**	**04 24 43.9**	**-0.9**
	comp=Z,4.0nm,0.5s						
BRVK	**Borovoye**	**19.37**	**54**	*e*P	**Pn**	**04 24 44.9**	**-0.9**
	comp=Z,4.3nm,0.6s						
BRVK	**Borovoye**	**19.37**	**54**	*i* P	**Pn**	**04 24 44.9**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRVK				MLR	MLR		
	comp=Z,47nm,15.0s						
BRVK	**Borovoye**	**19.37**	**54**	*i* P	**Pn**	**04 24 44.9**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRVK				MLR	MLR		
	comp=Z,47nm,15.0s						
BRVK	**Borovoye**	**19.37**	**54**	*i* P	**Pn**	**04 24 44.9**	**-0.9**
	comp=Z,47nm,15.0s						
BVAR	**Borovoye Array**	**19.43**	**54**	P	**Pn**	**04 24 45.5**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=255,slow=12,SNR=12						
BVAR				S	**Sn**	**04 28 13.9**	**-10**
	comp=Z,0.3nm,0.3s,baz=242,slow=24,SNR=4.7						
BVAR	**Borovoye Array**	**19.43**	**54**	P	**Pn**	**04 24 45.5**	**-0.9**
BVAR				S	**Sn**	**04 28 13.9**	**-10**
BVAR	**Borovoye Array**	**19.43**	**54**	P	**Pn**	**04 24 45.5**	**-0.9**
BVAR	**Borovoye Array**	**19.43**	**54**	P	**Pn**	**04 24 45.5**	**-0.9**
BVAR				S	**Sn**	**04 28 13.9**	**-10**
BVAR	**Borovoye Array**	**19.43**	**54**	P	**Pn**	**04 24 45.5**	**-0.9**
JOF	**Joensuu**	**19.90**	**343**	*e*P	**Pn**	**04 24 50.2**	**-1.8**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
JOF	**Joensuu**	**19.90**	**343**	*e*p	**Pn**	**04 24 50.2**	**-1.8**
	comp=Z,2.2nm,0.4s						
JOF	**Joensuu**	**19.90**	**343**	*e*P	**Pn**	**04 24 50.2**	**-1.8**
	comp=Z,2.0nm,0.4s						
FINES	**FINESS Array B**	**20.02**	**335**	P	**P**	**04 24 50.4**	**-1.2**
	comp=Z,1.5nn,0.3s,baz=147,slow=13,SNR=18						
FINES				LR	LR	04 33 33.5	
	comp=Z,56nn,19.1s,MS2.9,baz=323,slow=40						
FINES	**FINESS Array B**	**20.02**	**335**	P	**P**	**04 24 50.4**	**-1.2**
FINES				LR	LR	04 33 33.5	
FINES	**FINESS Array B**	**20.02**	**335**	P	**P**	**04 24 50.4**	**-1.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.3s						
FINES				MLR	MLR		
	comp=Z,56nn,19.1s						
FINES	**FINESS Array B**	**20.02**	**335**	P	**P**	**04 24 50.4**	**-1.2**
	comp=Z,56nn,19.1s						
KAF	**Kangasniemi**	**20.47**	**336**	*e*P	**P**	**04 24 56.3**	**-0.3**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KAF	**Kangasniemi**	**20.47**	**336**	*e*p	**P**	**04 24 56.3**	**-0.3**
	comp=Z,2.3nm,0.4s						
KAF	**Kangasniemi**	**20.47**	**336**	*e*P	**P**	**04 24 56.3**	**-0.3**
	comp=Z,2.0nm,0.4s						
GERES	**GERESS Array B**	**21.09**	**293**	P	**P**	**04 25 04.5**	**+1.1**
	comp=Z,1.8nn,1.0s,mb3.4,baz=104,slow=8.5,SNR=8.1						
GERES	**GERESS Array B**	**21.09**	**293**	P	**P**	**04 25 04.5**	**+1.1**
GERES	**GERESS Array B**	**21.09**	**293**	P	**P**	**04 25 04.5**	**+1.1**
GERES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GERES	**GERESS Array B**	**21.09**	**293**	P	**P**	**04 25 04.5**	**+1.1**
	comp=Z,2.0nm,1.0s,mb3.4						
CLL	**Collm**	**21.70**	**299**	*e*P	**P**	**04 25 14.0**	**+4.1**
CLL	**Collm**	**21.70**	**299**	*e*(pP)	pP	04 25 14.0	+1.3
EKS2	**Erkin-Say**	**21.72**	**84**	*e*P	**P**	**04 25 11.3**	**+1.1**
	comp=Z,4.3nm,0.7s,mb4.0						
EKS2	**Erkin-Say**	**21.72**	**84**	*e*P	**P**	**04 25 11.3**	**+1.1**
EKS2				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.0						
EKS2	**Erkin-Say**	**21.72**	**84**	*e*P	**P**	**04 25 11.3**	**+1.1**
	comp=Z,4.2nm,0.7s,mb4.0						
AAK	**Ala-Archa**	**22.24**	**84**	P	**P**	**04 25 17.3**	**+1.5**
	comp=Z,5.5nm,0.7s,mb4.1,baz=257,slow=8.5,SNR=10.0						
AAK	**Ala-Archa**	**22.24**	**84**	*e*P	**P**	**04 25 16.9**	**+1.2**
	comp=Z,4.3nm,0.6s,mb4.1						
AAK	**Ala-Archa**	**22.24**	**84**	P	**P**	**04 25 17.3**	**+1.6**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.1						
AAK	**Ala-Archa**	**22.24**	**84**	*e*P	**P**	**04 25 17.0**	**+1.3**
	comp=Z,4.3nm,0.6s,mb4.1						
TKM2	**Tokmak 2**	**22.95**	**83**	P	**P**	**04 25 24.4**	**+1.1**
	comp=Z,6.3nm,1.0s,mb4.0						
TKM2	**Tokmak 2**	**22.95**	**83**	P	**P**	**04 25 24.4**	**+1.1**
TKM2				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0						
TKM2	**Tokmak 2**	**22.95**	**83**	P	**P**	**04 25 24.4**	**+1.1**
	comp=Z,6.2nn,1.0s,mb4.0						
HFS	**Hagfors**	**23.94**	**322**	P	**P**	**04 25 32.8**	**-0.2**
	comp=Z,1.6nm,0.5s,mb3.7,baz=116,slow=10,SNR=8.9						
HFS				LR	LR	04 34 29.0	
	comp=Z,14nn,19.1s,MS2.4,baz=252,slow=35						
HFS	**Hagfors**	**23.94**	**322**	P	**P**	**04 25 32.8**	**-0.2**
HFS				LR	LR	04 34 29.0	
HFS	**Hagfors**	**23.94**	**322**	P	**P**	**04 25 32.8**	**-0.2**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HFS				MLR	MLR		
	comp=Z,14nm,19.1s						
HFS	**Hagfors**	**23.94**	**322**	P	**P**	**04 25 32.8**	**-0.2**
	comp=Z,14nn,19.1s						
KURK	**Kurchatov**	**24.14**	**62**	P	**P**	**04 25 34.8**	**-0.1**
	comp=Z,2.8nn,0.8s,mb3.8,baz=273,slow=12,SNR=10						
KURK	**Kurchatov**	**24.14**	**62**	P	**P**	**04 25 34.8**	**-0.1**
KURK	**Kurchatov**	**24.14**	**62**	P	**P**	**04 25 34.8**	**-0.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.8						
KURK	**Kurchatov**	**24.14**	**62**	P	**P**	**04 25 34.8**	**-0.1**
	comp=Z,3.0nn,0.8s,mb3.8						
NB2	**NORSAR Subarra**	**25.44**	**322**	P	**P**	**04 25 47.0**	**+0.4**
	comp=Z,11nn,1.4s,mb4.2,baz=116,slow=9.3						
NB2	**NORSAR Subarra**	**25.44**	**322**	P	**P**	**04 25 47.0**	**+0.4**
	comp=Z,11nn,1.4s,mb4.2,baz=116,slow=9.0,SNR=5.2						
NOA	**NORSAR Array B**	**25.44**	**322**	P	**P**	**04 25 46.9**	**+0.2**
	comp=Z,1.3nn,0.7s,mb3.6,baz=118,slow=8.9,SNR=4.1						
NOA				LR	LR	04 37 02.1	
	comp=Z,29nn,18.4s,MS2.8,baz=305,slow=39						
NOA	**NORSAR Array B**	**25.44**	**322**	P	**P**	**04 25 46.9**	**+0.2**
NOA				LR	LR	04 37 02.1	
NOA	**NORSAR Array B**	**25.44**	**322**	P	**P**	**04 25 46.9**	**+0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,29nn,18.4s						
NOA	**NORSAR Array B**	**25.44**	**322**	P	**P**	**04 25 46.9**	**+0.3**
	comp=Z,29nn,18.4s						
LPG	**La Plagne**	**26.12**	**286**	*e*P	**P**	**04 25 55.2**	**+2.2**
	comp=Z,10nn,0.8s,mb4.1						
LPG	**La Plagne**	**26.12**	**286**	*e*P	**P**	**04 25 55.2**	**+2.2**
	comp=Z,5.2nn,0.8s,mb4.1						
LPG	**La Plagne**	**26.12**	**286**	*e*P	**P**	**04 25 55.2**	**+2.2**
LPG				pmax	pmax		
	comp=Z,5.0nn,0.8s,mb4.1						
LPG	**La Plagne**	**26.12**	**286**	*e*P	**P**	**04 25 55.2**	**+2.2**
	comp=Z,5.2nn,0.8s,mb4.1						
LPL	**La Plagne**	**26.13**	**286**	*e*P	**P**	**04 25 55.2**	**+2.1**
	comp=Z,9.1nn,0.8s,mb4.0						
LPL	**La Plagne**	**26.13**	**286**	*e*P	**P**	**04 25 55.2**	**+2.1**
	comp=Z,4.6nn,0.8s,mb4.1						
LPL	**La Plagne**	**26.13**	**286**	*e*P	**P**	**04 25 55.2**	**+2.1**
LPL				pmax	pmax		
	comp=Z,5.0nn,0.8s,mb4.1						
LPL	**La Plagne**	**26.13**	**286**	*e*P	**P**	**04 25 55.2**	**+2.1**
	comp=Z,4.6nn,0.8s,mb4.1						
MBDF	**Montbardon**	**26.27**	**284**	*e*P	**P**	**04 25 56.3**	**+2.0**
	comp=Z,18nn,1.1s,mb4.2						
MBDF	**Montbardon**	**26.27**	**284**	*e*P	**P**	**04 25 56.3**	**+2.0**
	comp=Z,9.2nn,1.1s,mb4.2						
MBDF	**Montbardon**	**26.27**	**284**	*e*P	**P**	**04 25 56.3**	**+2.0**
MBDF				pmax	pmax		
	comp=Z,9.0nn,1.1s,mb4.2						
MBDF	**Montbardon**	**26.27**	**284**	*e*P	**P**	**04 25 56.3**	**+2.0**
	comp=Z,9.2nn,1.1s,mb4.2						
KEV	**Kevo**	**26.80**	**347**	*e*P	**P**	**04 26 00.4**	**+1.6**
KEV	**Kevo**	**26.80**	**347**	*e*p	**P**	**04 26 00.4**	**+1.6**
KEV	**Kevo**	**26.80**	**347**	*e*P	**P**	**04 26 00.4**	**+1.6**
MK31	**Makanchi Array**	**26.83**	**71**	*e*P	**P**	**04 26 00.7**	**+1.4**
MK31	**Makanchi Array**	**26.83**	**71**	*e*P	**P**	**04 26 00.7**	**+1.4**
MK31	**Makanchi Array**	**26.83**	**71**	*e*P	**P**	**04 26 00.7**	**+1.4**
MKAR	**Makanchi Array**	**26.83**	**71**	P	**P**	**04 26 00.5**	**+1.2**
	comp=Z,1.5nn,0.6s,mb3.7,baz=273,slow=8.8,SNR=8.7						
MKAR	**Makanchi Array**	**26.83**	**71**	P	**P**	**04 26 00.5**	**+1.2**
MKAR	**Makanchi Array**	**26.83**	**71**	P	**P**	**04 26 00.5**	**+1.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**26.83**	**71**	P	**P**	**04 26 00.5**	**+1.2**
	comp=Z,2.0nn,0.6s,mb3.8						
ARCES	**ARCESS Array B**	**26.86**	**346**	P	**P**	**04 26 00.8**	**+1.5**
	comp=Z,2.3nn,0.9s,mb3.7,baz=150,slow=8.3,SNR=8.0						
ARCES				LR	LR	04 37 33.7	
	comp=Z,79nn,19.6s,MS3.3,baz=332,slow=38						
ARCES	**ARCESS Array B**	**26.86**	**346**	P	**P**	**04 26 00.8**	**+1.5**
ARCES				LR	LR	04 37 33.7	
ARCES	**ARCESS Array B**	**26.86**	**346**	P	**P**	**04 26 00.8**	**+1.4**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,79nn,19.6s						
ARCES	**ARCESS Array B**	**26.86**	**346**	P	**P**	**04 26 00.8**	**+1.4**
	comp=Z,79nn,19.6s						
LOR	**Lormes**	**27.79**	**290**	*e*P	**P**	**04 26 10.2**	**+2.3**
	comp=Z,13nn,1.0s,mb4.2						
LOR	**Lormes**	**27.79**	**290**	*e*P	**P**	**04 26 10.2**	**+2.3**
	comp=Z,6.4nn,1.0s,mb4.2						
LOR	**Lormes**	**27.79**	**290**	*e*P	**P**	**04 26 10.2**	**+2.3**
LOR				pmax	pmax		
	comp=Z,6.0nn,1.0s,mb4.2						
LOR	**Lormes**	**27.79**	**290**	*e*P	**P**	**04 26 10.2**	**+2.3**
	comp=Z,6.4nn,1.0s,mb4.2						
ZALV	**Zalesovo Beam**	**28.07**	**55**	LR	LR	04 40 29.0	
	comp=Z,24nn,18.6s,MS2.8,baz=53,slow=43						
EKA	**Eskdalemuir Ar**	**31.61**	**307**	P	**P**	**04 26 41.8**	**+0.1**
	comp=Z,0.7nn,0.5s,mb3.7,baz=92,slow=7.7,SNR=4.0						
EKA	**Eskdalemuir Ar**	**31.61**	**307**	P	**P**	**04 26 41.8**	**+0.1**
EKA	**Eskdalemuir Ar**	**31.61**	**307**	P	**P**	**04 26 41.8**	**+0.1**
EKA				pmax	pmax		
	comp=Z,1.0nn,0.5s						
EKA	**Eskdalemuir Ar**	**31.61**	**307**	P	**P**	**04 26 41.8**	**+0.1**
	comp=Z,1.0nn,0.5s,mb3.9						
TORD	**Torodi Ar. Bea**	**47.53**	**242**	P	**P**	**04 28 54.0**	**-0.6**
	comp=Z,2.0nn,0.8s,mb4.2,baz=41,slow=7.7,SNR=16						
TORD	**Torodi Ar. Bea**	**47.53**	**242**	P	**P**	**04 28 54.0**	**-0.6**
TORD	**Torodi Ar. Bea**	**47.53**	**242**	P	**P**	**04 28 54.0**	**-0.6**

IDC 04 05:15:04.1±2.0, 29°52S×139°51E, h0km, mb1 3.0/3, mb1mx3.0/14, mbtmp2.8/3, ML2.4/3, Error ellipse: s-maj=116.4km s-min=14.7km az=54.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**2.95**	**143**	Pn	Pn	05 15 51.6	-0.6
	0.3nm,0.3s,baz=313,slow=11,SNR=6.5						
STKA				Pg	Pg	05 15 56.9	-3.8
	0.5nm,0.3s,baz=292,slow=16,SNR=9.5						
STKA				Sn	Sn	05 16 24.3	-4.1
	1.1nm,0.3s,baz=306,slow=14,SNR=5.3						
STKA				Lg		05 16 39.6	
	1.7nm,0.3s,baz=25,slow=23,SNR=8.5						
ASAR	**Alice Springs**	**7.69**	**318**	Pn	Pn	05 16 57.5	+0.1
	0.1nm,0.3s,baz=147,slow=12,SNR=3.6						
ASAR				Sn	Sn	05 18 28.7	+3.4
	0.1nm,0.3s,baz=156,slow=22,SNR=4.8						

ATH	**Athens Observa**	**1.04**	**33**	*e*Pn	Pn	05 53 22.6	-0.8

*ISK **04** 05:54:12.9, 39˙.34N×38˙.38E, h8km, MD2.8*
*CSEM **04** 05:54:13.5±0.3, 39˙.39N×38˙.40E, h10km, MD2.8, Error ellipse: s-maj=7.5km s-min=4.8km az=90.0*
*DDA **04** 05:54:13.6, 39˙.39N×38˙.35E, h7km±2km, Md2.8*
*ISCJB **04** 05:54:14.2±0.8, 39˙.41N±0˙.03×38˙.44E±0˙.08, h10km±6km, Error ellipse: s-maj=9.9km s-min=5.3km az=8.1*
ISC 04 05:54:14.1±0.7, 39˙.40N±0˙.03×38˙.39E±0˙.07, h13km±6km, n17, σ0s82/27, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
KEMA	**Kemaliye**	**0.15**	**148**	*i* P		**Pg**	**05 54 17.5**	**-0.2**
KEMA				*i* S		**Sg**	**05 54 20.7**	**+0.5**
KEMA	**Kemaliye**	**0.15**	**148**	*i* P		**Pg**	**05 54 17.5**	**-0.2**
KEMA				*i* S		**Sg**	**05 54 20.7**	**+0.5**
EZC	**Erzincan**	**0.82**	**64**	*e*PG		**Pg**	**05 54 29.8**	**-0.3**
EZC				*e*SG		**Sg**	**05 54 42.3**	**+1.5**
EZC	**Erzincan**	**0.82**	**64**	*e*Pg		**Pg**	**05 54 29.8**	**-0.2**
EZC				*e*Sg		**Sg**	**05 54 42.3**	**+1.5**
SUSE	**Susehri**	**0.82**	**350**	*i* P		**Pg**	**05 54 29.4**	**-0.7**
SUSE				*i* S		**Sg**	**05 54 41.5**	**+0.6**
SUSE	**Susehri**	**0.82**	**350**	*i* P		**Pg**	**05 54 29.4**	**-0.7**
SUSE				*i* S		**Sg**	**05 54 41.5**	**+0.6**
PTK	**Pertek**	**0.93**	**123**	*e*PG		**Pg**	**05 54 30.6**	**-1.3**
PTK	**Pertek**	**0.93**	**123**	*e*Pg		**Pg**	**05 54 30.6**	**-1.4**
ELZG	**Elazig**	**1.01**	**153**	*i* P		**Pb**	**05 54 32.7**	**-0.7**
ELZG				*i* S		**Sb**	**05 54 47.5**	**+0.9**
ELZG	**Elazig**	**1.01**	**153**	*i* P		**Pb**	**05 54 32.7**	**-0.7**
ELZG				*i* S		**Sb**	**05 54 47.5**	**+0.9**
ERZN	**Erzincan**	**1.05**	**79**	*e*PG		**Pg**	**05 54 33.8**	**-0.5**
AKCD	**Akcadag**	**1.16**	**199**	*i* P		**Pb**	**05 54 35.7**	**-0.3**
AKCD				*i* S		**Sb**	**05 54 52.0**	**+1.0**
AKCD	**Akcadag**	**1.16**	**199**	*i* P		**Pb**	**05 54 35.7**	**-0.3**
AKCD				*i* S		**Sb**	**05 54 52.0**	**+1.1**
SVRC	**Sivrice-ELAZID**	**1.24**	**145**	*e*PN		**Pn**	**05 54 36.5**	**-0.7**
SVRC	**Sivrice-ELAZID**	**1.24**	**145**	*e*Pn		**Pn**	**05 54 36.5**	**-0.7**
SARI	**SarD1z-Kayseri**	**1.50**	**242**	*e*PN		**Pn**	**05 54 45.0**	**+4.2**
SARI	**SarD1z-Kayseri**	**1.50**	**242**	*e*Pn		**Pn**	**05 54 45.0**	**+4.2**

*ISCJB **04** 06:05:36.3±0.5, 53˙.2N±0˙.1×35˙.3W±0˙.1, h10km, mb4.0/20, MS3.1/4, Error ellipse: s-maj=15.9km s-min=8.9km az=1.9*
*IDC **04** 06:05:36.8±0.7, 53˙.22N×35˙.23W, h0km, mb4.0/16, mb1 4.1/18, mb1mx4.0/32, mbtmp4.0/18, ML3.3/2, MS3.2/4, Ms1 3.1/4, ms1mx2.8/34, Error ellipse: s-maj=20.6km s-min=13.9km az=176.0*
*NEIC **04** 06:05:38.1±0.4, 53˙.22N×35˙.24W, h10km, mb4.4/4, Error ellipse: s-maj=13.6km s-min=8.0km az=180.0*
ISC 04 06:05:38.2±0.5, 53˙.2N±0˙.1×35˙.3W±0˙.1, h10km, n48, σ0s89/41, mb4.0/20, MS3.1/4, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
SCHQ	**Schefferville**	**18.55**	**288**	P		**Pn**	**06 09 53.5**	**-1.3**
	0.4nm,0.3s,baz=101,slow=6.0,SNR=5.4							
SCHQ	**Schefferville**	**18.55**	**288**	*e*P		**Pn**	**06 09 53.9**	**-1.0**
	11nm,0.9s							
EKA	**Eskdalemuir Ar**	**18.78**	**71**	P		**Pn**	**06 09 55.3**	**-2.5**
	0.1nm,0.3s,baz=286,slow=9.0,SNR=6.1							
EKA	**Eskdalemuir Ar**	**18.78**	**71**	P		**Pn**	**06 09 55.2**	**-2.5**
ESDC	**Sonseca Array**	**25.22**	**110**	P		**P**	**06 11 04.2**	**+0.3**
	2.1nm,0.7s,mb3.8,baz=312,slow=8.2,SNR=8.9							
ESDC	**Sonseca Array**	**25.22**	**110**	P		**P**	**06 11 04.2**	**+0.3**
NOA	**NORSAR Array B**	**25.91**	**54**	P		**P**	**06 11 10.4**	**+0.4**
	2.0nm,0.8s,mb3.7,baz=276,slow=10,SNR=14							
NOA	**NORSAR Array B**	**25.91**	**54**	P		**P**	**06 11 10.4**	**+0.4**
HFS	**Hagfors**	**27.22**	**56**	P		**P**	**06 11 22.7**	**+1.0**
	0.8nm,0.7s,mb3.4,baz=249,slow=12,SNR=2.2							
HFS	**Hagfors**	**27.22**	**56**	P		**P**	**06 11 22.7**	**+1.0**
CLL	**Collm**	**29.16**	**74**	*i* P		**P**	**06 11 39.5**	**+0.3**
	comp=Z,6.0nm,0.7s,mb4.4							
CLL				*e*		pP	06 11 43.0	+0.7
DAVOX	**Davos/Dischmat**	**29.32**	**84**	LR		LR	06 22 05.2	
	comp=Z,46nm,18.3s,MS3.1,baz=87,slow=34							
SADO	**Sadowa**	**29.60**	**271**	LR		LR	06 22 21.7	
	comp=Z,44nm,20.0s,MS3.1,baz=189,slow=34							
GERES	**GERESS Array B**	**30.61**	**78**	P		**P**	**06 11 52.1**	**0.0**
	comp=Z,1.0nm,0.7s,mb3.8,baz=303,slow=7.4,SNR=7.8							
GERES				LR		LR	06 22 14.3	
	comp=Z,29nm,20.7s,MS2.9,baz=117,slow=33							
GERES	**GERESS Array B**	**30.61**	**78**	P		**P**	**06 11 52.1**	**0.0**
GERES				LR		LR	06 22 14.3	
FINES	**FINESS Array B**	**32.94**	**51**	P		**P**	**06 12 12.2**	**-0.2**
	comp=Z,3.5nm,0.8s,mb4.3,baz=317,slow=8.1,SNR=5.5							
FINES	**FINESS Array B**	**32.94**	**51**	P		**P**	**06 12 12.2**	**-0.2**
ULM	**Lac du Bonnet**	**36.68**	**291**	LR		LR	06 26 31.0	
	comp=Z,37nm,18.4s,MS3.2,baz=336,slow=34							
AKASG	**Malin Array Be**	**38.62**	**67**	P		**P**	**06 13 00.5**	**-0.7**
	comp=Z,0.5nm,0.4s,mb3.6,baz=306,slow=8.5,SNR=4.1							
AKASG	**Malin Array Be**	**38.62**	**67**	P		**P**	**06 13 00.5**	**-0.7**
INK	**Inuvik**	**44.81**	**329**	*e*P		**P**	**06 13 51.3**	**-0.3**
	comp=Z,7.0nm,1.5s,mb4.3							
BRTR	**Keskin Array B**	**47.51**	**77**	P		**P**	**06 14 15.1**	**+1.9**
	comp=Z,2.7nm,0.7s,mb4.4,baz=305,slow=4.6,SNR=11							
BRTR	**Keskin Array B**	**47.51**	**77**	P		**P**	**06 14 15.1**	**+1.9**
PDAR	**Pinedale Array**	**48.67**	**289**	P		**P**	**06 14 21.8**	**-0.4**
	comp=Z,1.0nm,0.6s,mb4.1,baz=63,slow=7.9,SNR=11							
PDAR	**Pinedale Array**	**48.67**	**289**	P		**P**	**06 14 21.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**49.55**	**130**	P		**P**	**06 14 27.8**	**-1.3**
	comp=Z,1.8nm,0.7s,mb4.2,baz=331,slow=7.5,SNR=13							
TORD	**Torodi Ar. Bea**	**49.55**	**130**	P		**P**	**06 14 27.8**	**-1.3**
ARU	**Arti**	**50.06**	**46**	*e*P		**P**	**06 14 32.6**	**0.0**
	comp=Z,2.4nm,0.5s,mb4.5							
HWUT	**Hardware Ranch**	**50.56**	**289**	*e*P		**P**	**06 14 36.6**	**+0.1**
	comp=Z,3.5nm,0.7s,mb4.4							
ILAR	**Eielson Array**	**51.19**	**329**	P		**P**	**06 14 41.1**	**+0.2**
	comp=Z,0.5nm,0.9s,mb3.5,baz=31,slow=8.0,SNR=5.5							
ILAR	**Eielson Array**	**51.19**	**329**	P		**P**	**06 14 41.1**	**+0.2**
DBIC	**Dimbokro**	**52.59**	**141**	P		**P**	**06 14 51.5**	**-0.5**
	comp=Z,3.5nm,0.8s,mb4.3,baz=35,slow=7.8,SNR=4.8							
DBIC	**Dimbokro**	**52.59**	**141**	P		**P**	**06 14 51.5**	**-0.5**
TXAR	**Lajitas Array**	**54.36**	**273**	P		**P**	**06 15 05.2**	**+0.3**
	comp=Z,0.9nm,1.0s,mb3.7,baz=57,slow=9.1,SNR=5.8							
TXAR	**Lajitas Array**	**54.36**	**273**	P		**P**	**06 15 05.2**	**+0.3**
ROSC	**El Rosal**	**57.82**	**228**	P		**P**	**06 15 32.5**	**+2.8**
	comp=Z,8.4nm,0.8s,mb4.8,baz=87,slow=9.7,SNR=6.2							
ROSC	**El Rosal**	**57.82**	**228**	P		**P**	**06 15 32.5**	**+2.8**
ZALV	**Zalesovo Beam**	**62.22**	**35**	P		**P**	**06 15 59.8**	**+0.4**
	comp=Z,0.4nm,0.3s,mb4.0,baz=302,slow=8.6,SNR=3.7							
ZALV	**Zalesovo Beam**	**62.22**	**35**	P		**P**	**06 15 59.8**	**+0.4**
MK31	**Makanchi Array**	**67.09**	**41**	*e*P		**P**	**06 16 31.6**	**+0.2**
MKAR	**Makanchi Array**	**67.09**	**41**	P		**P**	**06 16 30.9**	**-0.5**
	comp=Z,1.0nm,0.7s,mb4.0,baz=324,slow=5.9,SNR=7.2							
MKAR	**Makanchi Array**	**67.09**	**41**	P		**P**	**06 16 30.9**	**-0.5**
SONM	**Songino Array**	**74.19**	**26**	P		**P**	**06 17 15.2**	**+0.6**
	comp=Z,0.7nm,0.6s,mb3.7,baz=335,slow=6.4,SNR=3.1							
SONM	**Songino Array**	**74.19**	**26**	P		**P**	**06 17 15.2**	**+0.6**
WRA	**Warramunga Arr**	**145.84**	**18**	PKPbc		PKPbc	06 25 16.9	-0.5
	comp=Z,1.3nm,0.7s,baz=348,slow=3.6,SNR=12							
WRA	**Warramunga Arr**	**145.84**	**18**	PKPbc		PKPbc	06 25 16.9	-0.5
ASAR	**Alice Springs**	**149.38**	**20**	PKPbc		PKPbc	06 25 26.8	-0.2
	comp=Z,1.5nm,0.7s,baz=350,slow=1.8,SNR=13							
ASAR	**Alice Springs**	**149.38**	**20**	PKPbc		PKPbc	06 25 26.9	-0.2

*NNC **04** 06:44:51.0±9.3, 39˙.63N×73˙.80E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=73.7km s-min=38.4km az=171.0*
ISC 04 06:44:51.1±2.6, 39˙.5N±0˙.2×73˙.6E±0˙.1, h10km, n10, σ1s09/14, 2C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
AML	**Almayashu**	**2.66**	**2**	P		**Pn**	**06 45 33.8**	**-0.3**
	SNR=26							
KZA	**Kyzart**	**2.91**	**26**	P		**Pn**	**06 45 36.4**	**-1.0**
	SNR=16							
EKS2	**Erkin-Say**	**3.19**	**3**	P		**Pn**	**06 45 41.8**	**+0.5**
	SNR=17							
KBK	**Karagaybulak**	**3.35**	**18**	P		**Pn**	**06 45 43.7**	**+0.1**
	SNR=17							
ULHL	**Ulahol**	**3.44**	**35**	P		**Pn**	**06 45 47.6**	**+2.8**
	SNR=11							
TKM2	**Tokmak 2**	**3.78**	**23**	P		**Pn**	**06 45 48.6**	**-0.8**
	SNR=8.8							
TKM2	**Tokmak 2**	**3.78**	**23**	⇓Pn		**Pn**	**06 45 48.1**	**-1.3**
	7.2nm,0.6s							
TKM2				⇑Sn		**Sn**	**06 46 33.9**	**0.0**
	17nm,0.7s							
USP	**Ospenovka**	**3.86**	**10**	P		**Pn**	**06 45 56.7**	**+6.2**
	SNR=5.8							
KK31	**Karatay Array**	**4.29**	**329**	Pn		**Pn**	**06 45 58.2**	**+1.7**
	1.6nm,0.3s,baz=134,slow=13,SNR=37							
KK31				Pg		**Pg**	**06 46 08.4**	**-4.9**
	5.2nm,0.4s,baz=148,slow=16,SNR=16							
KK31				⇓Sn		**Sn**	**06 46 54.3**	**+7.7**
	7.1nm,0.5s,baz=146,slow=25							
KK31				⇑Lg			06 47 06.7	
	16nm,0.6s,baz=134,slow=31							
AB31	**Akbulak array**	**13.78**	**320**	⇓Pn		**Pn**	**06 48 05.1**	**-1.3**
	0.7nm,0.6s,baz=125,slow=14,SNR=11							
AB31				⇓Sn		**Sn**	**06 50 39.5**	**0.0**
	0.3nm,0.4s							

*IDC **04** 06:49:32.2±1.5, 3˙.43S×150˙.19E, h0km, mb3.9/8, mb1 4.2/10, mb1mx4.1/20, mbtmp4.0/10, ML3.5/2, MS3.5/13, Ms1 3.5/13, ms1mx3.3/29, Error ellipse: s-maj=49.1km s-min=18.5km az=107.0*
*ISCJB **04** 06:49:38.7±3.8, 3˙.6S±0˙.1×150˙.1E±0˙.2, h62km±35km, mb3.9/10, Error ellipse: s-maj=30.8km s-min=23.3km az=7.7*
*NEIC **04** 06:49:41.4±2.8, 3˙.59S×150˙.12E, h74km±26km, mb4.4/4, Error ellipse: s-maj=22.6km s-min=17.7km az=92.0*
ISC 04 06:49:40.9±3.3, 3˙.6S±0˙.1×150˙.1E±0˙.2, h65km±30km, n33, σ0s92/24, mb3.9/10, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
PMG	**Port Moresby**	**6.46**	**206**	Pn		**Pn**	**06 51 13.7**	**+0.3**
	2.4nm,0.3s,baz=32,slow=8.7,SNR=7.3							
PMG	**Port Moresby**	**6.46**	**206**	*e*Pn		**Pn**	**06 51 13.6**	**+0.3**
CTA	**Charters Tower**	**16.82**	**192**	P		**Pn**	**06 53 33.3**	**+1.2**
	0.2nm,0.3s,baz=16,slow=11,SNR=5.9							
CTA				LR		LR	06 59 24.9	
	comp=Z,95nm,20.9s,baz=201,slow=35							
CTA	**Charters Tower**	**16.82**	**192**	P		**Pn**	**06 53 33.4**	**+1.2**
CTAO	**Charters Tower**	**16.82**	**192**	*e*P		**Pn**	**06 53 33.4**	**+1.2**
	9.5nm,1.1s							
GUMO	**Guam**	**17.82**	**343**	LR		LR	06 59 06.2	
	comp=Z,97nm,19.4s,baz=166,slow=32							
KAKA	**Kakadu**	**19.64**	**241**	*e*P		**Pn**	**06 54 05.0**	**-1.4**
	64nm,0.6s							
EIDS	**Eidsvold**	**21.68**	**177**	*e*P		**P**	**06 54 25.4**	**-0.9**
	9.3nm,1.0s,mb4.2							
WRAB	**Tennant Creek**	**22.33**	**222**	*e*P		**P**	**06 54 32.5**	**-0.8**
	11nm,0.8s,mb4.3							
WRA	**Warramunga Arr**	**22.35**	**222**	P		**P**	**06 54 33.1**	**-0.5**
	6.6nm,0.7s,mb4.2,baz=48,slow=11,SNR=30							
WRA				LR		LR	07 03 03.1	
	comp=Z,75nm,21.1s,baz=65,slow=36							
WRA	**Warramunga Arr**	**22.35**	**222**	P		**P**	**06 54 33.1**	**-0.5**
ASAR	**Alice Springs**	**25.34**	**217**	P		**P**	**06 55 02.1**	**+0.3**
	2.2nm,0.6s,mb3.9,baz=53,slow=8.4,SNR=20							
ASAR	**Alice Springs**	**25.34**	**217**	P		**P**	**06 55 02.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**27.93**	**237**	P		**P**	**06 55 27.0**	**+1.8**
	2.3nm,0.7s,mb3.9,baz=80,slow=9.0,SNR=4.1							
FITZ				LR		LR	07 07 07.8	
	comp=Z,129nm,18.5s,baz=69,slow=38							
FITZ	**Fitzroy Crossi**	**27.93**	**237**	P		**P**	**06 55 27.0**	**+1.8**
STKA	**Stephens Creek**	**29.25**	**195**	LR		LR	07 08 29.7	
	comp=Z,176nm,18.0s,baz=208,slow=39							
MJAR	**Matsushiro Arr**	**41.43**	**346**	LR		LR	07 11 11.7	
	comp=Z,74nm,20.2s,baz=135,slow=32							
KSRS	**Korea Array**	**45.73**	**335**	LR		LR	07 14 07.0	
	comp=Z,37nm,21.3s,baz=334,slow=32							
CMAR	**Chiang Mai Arr**	**54.89**	**295**	P		**P**	**06 59 06.5**	**+1.2**
	0.7nm,0.3s,mb4.2,baz=104,slow=5.7,SNR=4.7							
CMAR				LR		LR	07 22 37.1	
	comp=Z,22nm,18.2s,baz=190,slow=36							
CMAR	**Chiang Mai Arr**	**54.89**	**295**	P		**P**	**06 59 06.5**	**+1.2**
PETK	**Petropavlovsk-**	**56.85**	**5**	LR		LR	07 18 24.5	
	comp=Z,41nm,20.6s,baz=49,slow=31							
SONM	**Songino Array**	**63.86**	**329**	P		**P**	**07 00 06.6**	**-0.1**
	0.5nm,0.5s,mb3.8,baz=111,slow=3.7,SNR=2.0							
SONM				LR		LR	07 27 48.7	
	comp=Z,47nm,19.5s,baz=55,slow=36							
SONM	**Songino Array**	**63.86**	**329**	P		**P**	**07 00 06.6**	**-0.1**
MKAR	**Makanchi Array**	**77.63**	**319**	P		**P**	**07 01 30.4**	**+0.2**
	0.3nm,0.8s,mb3.3,baz=96,slow=7.4,SNR=3.7							
MKAR				LR		LR	07 33 14.3	
	comp=Z,31nm,20.1s,baz=261,slow=34							
MKAR	**Makanchi Array**	**77.63**	**319**	P		**P**	**07 01 30.4**	**+0.2**
ZALV	**Zalesovo Beam**	**78.64**	**327**	P		**P**	**07 01 34.6**	**-1.1**
	0.9nm,0.5s,mb3.9,baz=101,slow=4.7,SNR=5.5							
ZALV	**Zalesovo Beam**	**78.64**	**327**	P		**P**	**07 01 34.6**	**-1.1**
KURK	**Kurchatov**	**81.14**	**322**	LR		LR	07 36 44.8	
	comp=Z,33nm,19.3s,baz=60,slow=35							
ILAR	**Eielson Array**	**82.08**	**23**	P		**P**	**07 01 54.0**	**+0.1**
	0.3nm,0.7s,mb3.3,baz=240,slow=7.1,SNR=3.4							
ILAR	**Eielson Array**	**82.08**	**23**	P		**P**	**07 01 54.0**	**+0.1**
AKTO	**Aktyubinsk**	**94.04**	**320**	LR		LR	07 43 09.8	
	comp=Z,31nm,19.3s,baz=79,slow=34							
TORD	**Torodi Ar. Bea**	**147.33**	**289**	PKPbc		PKPbc	07 09 17.1	-1.2
	1.0nm,0.9s,baz=80,slow=2.9,SNR=6.4							
TORD	**Torodi Ar. Bea**	**147.33**	**289**	PKPbc		PKPbc	07 09 17.1	-1.2

*ISCJB **04** 07:38:28.0±0.4, 36˙.94S±0˙.07×96˙.1W±0˙.1, h10km, mb4.8/49, MS4.0/16, Error ellipse: s-maj=13.2km s-min=9.2km az=161.9*
*IDC **04** 07:38:27.3±0.6, 36˙.98S×96˙.04W, h0km, mb4.2/10, mb1 4.5/10, mb1mx4.4/16, mbtmp4.3/10, MS4.0/15, Ms1 3.9/15, ms1mx3.9/22, Error ellipse: s-maj=20.7km s-min=16.7km az=95.0*
*NEIC **04** 07:38:29.4±0.3, 36˙.97S×96˙.06W, h10km, mb4.9/45, Error ellipse: s-maj=11.9km s-min=8.3km az=79.0*
*BJI **04** 07:38:29.6, 36˙.90S×96˙.10W, h10km, mB5.7/4, Ms5.3/4, Ms7 5.3/7*
ISC 04 07:38:29.7±0.4, 36˙.96S±0˙.07×96˙.0W±0˙.1, h10km, n340, σ0s51/316, mb4.8/49, MS4.0/16, 128C-121D, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
PLCA	**Paso Flores**	**20.16**	**109**	P		**P**	**07 43 05.1**	**+1.1**
	3.3nm,0.9s,baz=292,slow=9.3,SNR=4.3							
PLCA				LR		LR	07 49 09.0	
	comp=Z,224nm,18.1s,MS3.6,baz=106,slow=32							
PLCA	**Paso Flores**	**20.16**	**109**	*e*P		**P**	**07 43 05.5**	**+1.5**
	24nm,1.3s							
PLCA				*e*			07 46 50.8	
CFAA	**Coronel Fontan**	**23.52**	**85**	P		**P**	**07 43 39.3**	**-0.8**
	0.7nm,0.7s,baz=246,slow=11,SNR=21							
CFAA				LR		LR	07 50 40.7	
	comp=Z,86nm,20.5s,MS3.2,baz=250,slow=31							
CFAA	**Coronel Fontan**	**23.52**	**85**	P		**P**	**07 43 39.3**	**-0.8**
CFAA				LR		LR	07 50 40.7	
LPAZ	**La Paz**	**32.13**	**58**	P		**P**	**07 44 57.9**	**+0.5**
	3.1nm,0.7s,mb4.2,baz=180,slow=4.8,SNR=16							
LPAZ				LR		LR	07 54 51.3	
	comp=Z,363nm,20.9s,MS4.0,baz=238,slow=31							
LPAZ	**La Paz**	**32.13**	**58**	*e*P		**P**	**07 44 58.2**	**+0.9**
	12nm,1.0s,mb4.7							
CPUP	**Vila Florida**	**34.38**	**83**	P		**P**	**07 45 14.9**	**-2.1**
	1.3nm,0.7s,mb4.0,baz=207,slow=13,SNR=3.6							
CPUP				LR		LR	07 57 48.3	
	comp=Z,280nm,18.4s,MS4.0,baz=236,slow=34							
CPUP	**Vila Florida**	**34.38**	**83**	*e*P		**P**	**07 45 13.1**	**-3.9**
	5.6nm,0.5s,mb4.8							
RKT	**Rikitea**	**36.19**	**281**	*e*LQ			07 53 52.0	
	302nm,29.0s							
RKT				*e*LR		LR	07 55 21.6	
	390nm,27.8s,baz=118							
OTAV	**Otavalo**	**40.43**	**28**	*e*P		**P**	**07 46 08.9**	**+0.6**
	10nm,1.0s,mb4.5							
ROSC	**El Rosal**	**46.26**	**31**	P		**P**	**07 46 55.9**	**+0.5**
	1.2nm,0.3s,mb4.3,baz=85,slow=20,SNR=5.3							
ROSC				LR		LR	08 03 51.5	
	comp=Z,239nm,21.0s,MS4.1,baz=200,slow=33							
ROSC	**El Rosal**	**46.26**	**31**	*e*P		**P**	**07 46 57.5**	**+2.1**
TBI	**Tubuai**	**47.60**	**271**	*e*S		**S**	**07 54 05.9**	**+4.5**
	133nm,32.8s							
TBI				*e*LR		LR	08 00 34.1	
	418nm,29.2s,baz=126							
TAOE	**Nuku Hiva Isla**	**48.73**	**294**	*e*LR		LR	08 01 03.5	
	142nm,26.5s							
PPT	**Papeete**	**50.70**	**277**	*e*S		**S**	**07 54 49.3**	**+4.2**
	68nm,24.5s							
PPT				*e*LR		LR	08 01 56.0	
	425nm,26.0s,baz=124							
PPT	**Papeete**	**50.70**	**277**	LR		LR	08 01 15.7	
	comp=Z,38nm,21.3s,MS3.4,baz=218,slow=27							
QSPA	**South Pole Qui**	**53.26**	**180**	P		**P**	**07 47 47.2**	**-0.6**
	5.2nm,0.9s,mb4.5,baz=125,slow=6.4,SNR=13							
QSPA	**South Pole Qui**	**53.26**	**180**	*e*P		**P**	**07 47 47.3**	**-0.5**
	20nm,1.1s,mb5.0							
SBA	**Scott Base**	**55.69**	**195**	*e*P		**P**	**07 48 06.3**	**+0.7**
	12nm,1.1s,mb4.8							
VNDA	**Vanda**	**56.79**	**195**	P		**P**	**07 48 13.0**	**-0.4**
	2.4nm,1.0s,mb4.2,baz=101,slow=6.9,SNR=7.2							
VNDA				LR		LR	08 07 22.3	
	comp=Z,143nm,20.9s,MS4.0,baz=107,slow=31							
VNDA	**Vanda**	**56.79**	**195**	*e*P		**P**	**07 48 14.6**	**+1.2**
	5.4nm,1.1s,mb4.5							
TEIG	**Tepich**	**57.34**	**9**	*e*P		**P**	**07 48 14.6**	**-3.4**
	34nm,1.3s,mb5.2							
SJG	**San Juan**	**61.59**	**33**	*e*P		**P**	**07 48 50.7**	**+3.3**
	38nm,1.1s,mb5.4							
TXAR	**Lajitas Array**	**66.34**	**353**	P		**P**	**07 49 17.9**	**-0.5**
	2.1nm,0.8s,mb4.2,baz=169,slow=7.9,SNR=23							
TXAR				LR		LR	08 13 08.2	
	comp=Z,69nm,19.8s,MS3.9,baz=120,slow=31							
TXAR	**Lajitas Array**	**66.34**	**353**	P		**P**	**07 49 17.9**	**-0.5**
TXAR				LR		LR	08 13 08.2	
628A	**Black Gap, Mar**	**66.41**	**353**	⇑P		**P**	**07 49 18.7**	**-0.1**
	baz=67							
627A	**Terlingua Ranc**	**66.43**	**353**	⇑P		**P**	**07 49 18.8**	**-0.1**
	baz=67							
626A	**Big Bend Ranch**	**66.60**	**352**	⇓P		**P**	**07 49 19.8**	**-0.3**
	baz=67							
528A	**Cox Ranch, San**	**67.07**	**354**	⇓P		**P**	**07 49 22.7**	**-0.3**
	baz=67							
526A	**Mary Lane Ranc**	**67.10**	**352**	⇓P		**P**	**07 49 22.9**	**-0.4**
	baz=67,SNR=7.2							
527A	**Woodward Ranch**	**67.14**	**353**	⇑P		**P**	**07 49 23.0**	**-0.5**
	baz=68,SNR=11							
JCT	**Junction City**	**67.18**	**356**	⇑P		**P**	**07 49 22.8**	**-0.9**
	baz=68,SNR=7.8							
JCT	**Junction City**	**67.18**	**356**	*e*P		**P**	**07 49 22.9**	**-0.9**
	23nm,1.1s,mb5.1							
428A	**Kincaid Ranch,**	**67.62**	**354**	⇑P		**P**	**07 49 25.7**	**-0.8**
	baz=68							
426A	**McDonald Obser**	**67.70**	**353**	⇓P		**P**	**07 49 26.6**	**-0.3**
	baz=68							
427A	**Hayter Ranch,**	**67.81**	**353**	⇓P		**P**	**07 49 27.1**	**-0.6**
	baz=68,SNR=11							
425A	**Indio Mountain**	**67.92**	**352**	⇑P		**P**	**07 49 27.8**	**-0.6**
	baz=68							
328A	**Wristen Ranch,**	**68.29**	**354**	⇓P		**P**	**07 49 30.1**	**-0.5**
	baz=69,SNR=9.7							
326A	**Caldwell Ranch**	**68.33**	**353**	⇓P		**P**	**07 49 30.0**	**-0.9**
	baz=69							
325A	**Bean Ranch, Si**	**68.49**	**352**	⇑P		**P**	**07 49 30.7**	**-1.3**
	baz=69							
324A	**Moseley Ranch,**	**68.62**	**351**	⇑P		**P**	**07 49 31.7**	**-1.1**
	baz=69,SNR=6.0							
320A	**Kipp Ranch, An**	**68.95**	**349**	⇑P		**P**	**07 49 34.4**	**-0.4**
	baz=69,SNR=6.2							
227A	**Bennet, Jal**	**68.95**	**353**	⇓P		**P**	**07 49 34.2**	**-0.7**
	baz=69							
226A	**Malaga, Loving**	**69.08**	**353**	⇑P		**P**	**07 49 35.3**	**-0.3**
	baz=69							
319A	**Douglas**	**69.11**	**348**	⇑P		**P**	**07 49 35.4**	**-0.4**
	baz=69							
225A	**Deer Hill, Car**	**69.21**	**352**	⇑P		**P**	**07 49 35.7**	**-0.7**
	baz=

X18A **Snowflake** 72.30 348 ⇑P P 07 49 55.4 +0.2
baz=73
W24A **Lazy 6 Ranch,** 72.34 352 ⇑P P 07 49 55.8 +0.4
baz=73
W23A **Werner Place,** 72.37 351 ⇑P P 07 49 55.7 +0.1
baz=73,SNR=5.1
Y12C **Blythe** 72.44 344 ⇓P P 07 49 56.2 +0.2
baz=73
X16A **Lo Mia Camp, P** 72.46 347 ⇓P P 07 49 56.3 +0.1
baz=73
W20A **Ramah** 72.66 349 ⇓P P 07 49 57.4 +0.1
baz=73,SNR=8.1
X15A **Humboldt** 72.67 346 ⇓P P 07 49 57.7 +0.3
baz=73,SNR=14
V26A **Tequesquite Ra** 72.75 353 ⇓P P 07 49 57.5 -0.3
baz=73
V25A **Rancho No Teng** 72.87 353 ⇓P P 07 49 58.4 -0.2
baz=73
IRM **Iron Mountain** 72.97 343 ⇑P P 07 49 59.0 -0.2
baz=73
BELC **Belle Mtn. Jos** 73.02 343 ⇑P P 07 50 00.3 +0.8
baz=73
V22A **San Miguel Ran** 73.21 351 ⇓P P 07 50 01.0 +0.4
baz=74
V20A **Brimhall** 73.31 349 ⇑P P 07 50 00.8 -0.4
baz=74
U26A **Atchley Ranch,** 73.34 353 ⇑P P 07 50 00.9 -0.4
baz=74,SNR=6.9
U25A **Circle Dot Ran** 73.41 353 ⇑P P 07 50 01.5 -0.2
baz=74,SNR=7.3
V18A **Ganado** 73.45 348 ⇓P P 07 50 02.0 0.0
baz=74,SNR=7.9
U24A **Moreno Valley** 73.51 352 ⇓P P 07 50 03.0 +0.7
baz=74,SNR=6.1
V17A **Tonalea, Kykot** 73.51 347 ⇑P P 07 50 02.5 +0.2
baz=74
U23A **El Rito** 73.53 351 ⇑P P 07 50 02.7 +0.3
baz=74,SNR=9.9
U22A **Llaves** 73.66 351 ⇑P P 07 50 03.7 +0.5
baz=74
GMRC **Granite Mounta** 73.68 343 ⇓P P 07 50 03.4 0.0
baz=74
U19A **Dine' College,** 73.91 349 ⇓P P 07 50 04.8 +0.1
baz=74
V15A **Kaibab Nationa** 73.95 346 ⇑P P 07 50 05.1 +0.2
baz=74
V14A **Boquillas Ranc** 73.96 346 ⇑P P 07 50 05.5 +0.5
baz=74,SNR=8.7
U16A **Tuba City** 74.08 347 ⇓P P 07 50 05.6 0.0
baz=74,SNR=6.9
U18A **Rough Rock, Ch** 74.14 348 ⇑P P 07 50 06.4 +0.4
baz=74
T25A **Trinidad** 74.14 353 ⇑P P 07 50 06.5 +0.5
baz=74
T24A **Torres, Weston** 74.14 352 ⇑P P 07 50 06.3 +0.3
baz=74
T23A **Casias Ranch,** 74.21 352 ⇑P P 07 50 06.8 +0.4
baz=74
T22A **Edith** 74.30 351 ⇑P P 07 50 07.4 +0.5
baz=75
T21A **Navajo Lake** 74.36 350 ⇑P P 07 50 07.0 -0.2
baz=75
T19A **Beclabito** 74.41 349 ⇓P P 07 50 07.2 -0.4
baz=75
GSC **Goldstone** 74.45 342 ⇑P P 07 50 07.3 -0.5
baz=75
GSC **Goldstone** 74.45 342 *e*P P 07 50 07.5 -0.3
13nm,1.3s,mb4.7
MAW **Mawson** 74.53 172 P P 07 50 06.8 -1.3
6.6nm,1.0s,mb4.5,baz=267,slow=5.6,SNR=7.3
MAW **Mawson** 74.53 172 P P 07 50 06.8 -1.3
U15A **North Rim** 74.57 346 ⇓P P 07 50 08.4 -0.1
baz=75
S25A **Robets Cordova** 74.66 353 ⇓P P 07 50 09.1 +0.1
baz=75,SNR=7.1
MVCO **Mesa Verde** 74.70 350 ⇓P P 07 50 09.4 +0.1
baz=75,SNR=6.9
MVCO **Mesa Verde** 74.70 350 *e*P P 07 50 09.1 -0.2
32nm,1.4s,mb5.1
S24A **Houchin Ranch,** 74.72 352 ⇑P P 07 50 09.9 +0.6
baz=75,SNR=6.5
CCM **Cathedral Cave** 74.78 4 *e*P P 07 50 09.7 0.0
14nm,1.1s,mb4.8
T18A **Mexican Hat** 74.84 349 ⇓P P 07 50 10.3 +0.2
baz=75,SNR=8.8
SDCO **Great Sand Dun** 74.85 352 ⇑P P 07 50 10.2 +0.1
baz=75
SDCO **Great Sand Dun** 74.85 352 *e*P P 07 50 09.3 -0.9
8.7nm,1.6s,mb4.4
T17A **Navajo Res., N** 74.86 348 ⇑P P 07 50 10.3 +0.1
baz=75
U13A **Pakoon Wash** 74.89 345 ⇑P P 07 50 10.6 +0.3
baz=75
S22A **4UR Ranch, Cre** 75.01 351 ⇓P P 07 50 11.6 +0.6
baz=75,SNR=7.4
S21A **Coal Bank Pass** 75.05 350 ⇓P P 07 50 11.8 +0.5
baz=75,SNR=8.0
R25A **Fountain Ranch** 75.13 353 ⇑P P 07 50 11.9 +0.2
baz=76
T15A **Red Dirt Ranch** 75.16 346 ⇓P P 07 50 12.4 +0.5
baz=76
ISA **Isabella** 75.21 341 ⇑P P 07 50 12.8 +0.6
baz=76
ISA **Isabella** 75.21 341 *e*P P 07 50 13.6 +1.3
24nm,1.5s,mb4.9
SHPR **Sheep Range** 75.23 344 *e*P P 07 50 12.4 +0.1
R24A **Sanders Place,** 75.29 353 ⇓P P 07 50 13.1 +0.5
baz=76
S20A **Disappointment** 75.29 350 ⇑P P 07 50 13.2 +0.5
baz=76,SNR=5.1
S19A **Harvey Farm, M** 75.32 349 ⇓P P 07 50 12.9 0.0
baz=76,SNR=5.8
MPMC **Manual Prospec** 75.34 342 ⇑P P 07 50 12.9 0.0
baz=76
S18A **Hurst Farm, Bl** 75.40 349 ⇑P P 07 50 13.5 +0.3
baz=76,SNR=11
R22A **Saguache, Gunn** 75.47 351 ⇓P P 07 50 14.5 +0.8
baz=76
S17A **Black Ridge (B** 75.48 348 ⇑P P 07 50 14.0 +0.2
baz=76
VES **Vestal, Richgr** 75.54 341 ⇓P P 07 50 14.3 +0.2
baz=76
FURC **Furnace Creek,** 75.58 343 ⇑P P 07 50 14.3 0.0
baz=76
R20A **Redvale** 75.65 350 ⇑P P 07 50 14.6 -0.1
baz=76
S16A **Weppner Ranch,** 75.70 347 ⇑P P 07 50 14.9 -0.1
baz=76
R21A **Cimarron** 75.71 351 ⇓P P 07 50 15.5 +0.4
baz=76,SNR=5.3
CCUT **Cedar City** 75.86 346 *e*P P 07 50 16.1 +0.1
15nm,1.2s,mb4.8
R19A **Curley Farm, L** 75.88 349 ⇓P P 07 50 16.5 +0.5
baz=76
Q25A **Bedland, Calha** 75.89 353 ⇓P P 07 50 16.3 +0.2
baz=76
Q24A **Divide** 76.02 353 ⇓P P 07 50 17.4 +0.6
baz=76
R18A **Canyonlands Na** 76.06 349 ⇓P P 07 50 17.5 +0.4
baz=76
Q21A **Lamborn Mesa,** 76.17 351 ⇑P P 07 50 18.0 +0.3
baz=76
GRAC **Grapevine Rang** 76.21 343 ⇑P P 07 50 18.4 +0.5
baz=76
R16A **Teasdale** 76.23 348 ⇓P P 07 50 18.4 +0.4
baz=76
R17A **Hanksville Air** 76.23 348 ⇓P P 07 50 18.3 +0.3
baz=77
Q20A **Ridgley Place,** 76.39 350 ⇑P P 07 50 19.3 +0.4
baz=77
MSVF **Nonsavu** 76.40 258 *e*P P 07 50 19.6 0.0
26nm,1.6s,mb4.9
SMCO **Snowmass** 76.44 351 *e*P P 07 50 19.3 +0.1
15nm,1.2s,mb4.8
P23A **Jefferson** 76.50 352 ⇑P P 07 50 20.2 +0.7
baz=77
Q19A **Hogan Spring (** 76.53 349 ⇓P P 07 50 20.0 +0.3
baz=77,SNR=6.4
Q16A **Castle Valley** 76.79 348 ⇑P P 07 50 21.7 +0.5
baz=77
Q18A **Rafter H Ranch** 76.80 349 ⇓P P 07 50 21.9 +0.7
baz=77
P22A **Eagle** 76.82 351 ⇑P P 07 50 22.1 +0.7
baz=77
SRU **San Rafael** 76.87 348 ⇓P P 07 50 21.7 0.0
baz=77
ISCO **Idaho Springs** 76.90 352 *e*P P 07 50 22.0 +0.2
9.4nm,1.2s,mb4.6

P20A **De Beque** 76.94 350 ⇑P P 07 50 22.2 +0.2
baz=77
Q15A **Fillmore** 77.08 347 ⇓P P 07 50 23.1 +0.2
baz=77
R11A **Troy Canyon, C** 77.09 344 ⇓P P 07 50 23.3 +0.4
baz=77,SNR=6.8
TMUT **Trail Mountain** 77.17 348 *e*P P 07 50 24.7 +1.4
29nm,1.8s,mb4.9
Q14A **Sevier Lake (B** 77.24 346 ⇓P P 07 50 24.2 +0.5
baz=78
P17A **Butcher Ranch,** 77.26 348 ⇑P P 07 50 23.7 -0.1
baz=78
O23A **Lake Granby, G** 77.34 352 ⇑P P 07 50 24.7 +0.5
baz=78
O20A **White River Ci** 77.54 350 ⇑P P 07 50 25.9 +0.6
baz=78
P16A **Fountain Green** 77.55 348 ⇑P P 07 50 26.8 +1.4
baz=78
P15A **Leamington** 77.62 347 ⇑P P 07 50 26.2 +0.4
baz=78
P14A **Drum Mountains** 77.78 347 ⇑P P 07 50 27.5 +0.7
baz=78
NVAR **Mina Array Bea** 77.79 342 P P 07 50 27.0 +0.2
6.1nm,1.0s,mb4.5,baz=178,slow=5.9,SNR=18
NVAR **Mina Array Bea** 77.79 342 P P 07 50 27.0 +0.2
O19A **Miners Draw (B** 77.82 350 ⇑P P 07 50 27.1 +0.2
baz=78
O18A **Roosevelt** 77.92 349 ⇓P P 07 50 27.9 +0.4
baz=78
O17A **Robinson Place** 77.97 349 ⇑P P 07 50 27.8 0.0
baz=78
N22A **Wattenberg Ran** 77.98 352 ⇑P P 07 50 28.0 +0.2
baz=78
N23A **Red Feather La** 78.02 352 ⇓P P 07 50 28.1 +0.1
baz=78
N21A **Black Mountain** 78.06 351 ⇑P P 07 50 28.7 +0.5
baz=78
N20A **Spence Gulch,** 78.23 351 ⇓P P 07 50 29.5 +0.3
baz=79
DAU **Daniels Canyon** 78.26 348 *e*P P 07 50 29.7 +0.3
DUG **Dugway** 78.32 347 ⇓P P 07 50 30.1 +0.4
baz=79,SNR=5.4
DUG **Dugway** 78.32 347 *e*P P 07 50 30.5 +0.8
29nm,1.7s,mb4.9
N19A **John Jarvie Ra** 78.42 350 ⇑P P 07 50 30.4 +0.2
baz=79
M24A **Cheyenne** 78.47 353 ⇑P P 07 50 31.1 +0.6
baz=79
JLU **Jordanelle** 78.48 348 *e*P P 07 50 30.9 +0.4
38nm,2.1s,mb5.0
N17A **Moffit Pass** 78.71 349 ⇑P P 07 50 32.3 +0.4
baz=79
M18A **Lyman** 79.07 349 ⇑P P 07 50 33.9 +0.1
baz=79
L23A **Garrett** 79.20 353 ⇓P P 07 50 34.7 +0.3
baz=80
M16A **Huntsville** 79.20 348 ⇑P P 07 50 34.3 -0.2
baz=80
L20A **Wamsutter** 79.40 351 ⇓P P 07 50 35.5 0.0
baz=80
HWUT **Hardware Ranch** 79.48 348 *e*P P 07 50 35.6 -0.4
3.8nm,1.0s,mb4.3
M15A **Larsen Ranch,** 79.49 348 ⇑P P 07 50 35.7 -0.3
baz=80
L19A **Farson** 79.63 350 ⇑P P 07 50 37.3 +0.5
baz=80
K22A **Casper** 79.81 352 ⇓P P 07 50 38.2 +0.4
baz=80
L16A **Fish Haven** 79.86 348 ⇓P P 07 50 38.0 -0.1
baz=80,SNR=7.6
K21A **Alcova** 79.88 352 ⇑P P 07 50 38.4 +0.2
baz=80
L15A **Malad City** 80.00 348 ⇓P P 07 50 38.5 -0.3
baz=80
K20A **Yellowstone Ra** 80.04 351 ⇓P P 07 50 39.0 0.0
baz=80
L14A **Malta** 80.18 347 ⇓P P 07 50 39.7 -0.1
baz=80
K18A **Toltan Ranch,** 80.25 350 ⇓P P 07 50 40.3 +0.1
baz=81
K19A **Absolon Red Bu** 80.27 350 ⇓P P 07 50 40.1 -0.1
baz=81
BW06 **Boulder Array** 80.31 350 ⇑P P 07 50 40.6 +0.1
baz=81
BW06 **Boulder Array** 80.31 350 *e*P P 07 50 39.2 -1.2
16nm,1.3s,mb4.8
PDAR **Pinedale Array** 80.31 350 P P 07 50 39.7 -0.8
2.4nm,0.6s,mb4.3,baz=161,slow=6.1,SNR=24
PDAR LR LR 08 21 35.0
comp=Z,40nm,19.5s,MS3.8,baz=238,slow=32
PDAR **Pinedale Array** 80.31 350 P P 07 50 39.7 -0.8
PDAR LR LR 08 21 35.0
ECSD **EROS Data Cent** 80.32 360 *e*P P 07 50 39.8 -0.7
34nm,1.8s,mb5.0
J22A **Midwest** 80.56 352 ⇓P P 07 50 41.2 -0.6
baz=81
J21A **Lysite** 80.61 352 ⇑P P 07 50 42.3 +0.2
baz=81
K14A **Jones Ranch, D** 80.67 347 ⇑P P 07 50 41.9 -0.5
baz=81
K16A **Soda Springs** 80.68 348 ⇓P P 07 50 42.5 +0.1
baz=81,SNR=8.8
J20A **Shoshoni** 80.69 351 ⇓P P 07 50 42.3 -0.3
baz=81
J19A **Crowheart** 80.73 350 ⇓P P 07 50 42.6 -0.1
baz=81
J18A **Kendall Valley** 80.81 350 ⇑P P 07 50 43.2 +0.1
baz=81
RSSD **Black Hills** 81.03 354 *e*P P 07 50 44.2 -0.1
13nm,1.1s,mb4.8
I22A **9 Mile Ranch,** 81.04 352 ⇑P P 07 50 44.4 0.0
baz=81
I21A **Big Trails, Te** 81.05 352 ⇓P P 07 50 44.5 +0.1
baz=81
J17A **Brown Place, J** 81.06 349 ⇓P P 07 50 44.7 +0.2
baz=81
REDW **Red Top Meadow** 81.08 349 *e*P P 07 50 44.8 +0.1
19nm,1.3s,mb4.9
RRI2 **Red Ridge** 81.14 349 *e*P P 07 50 44.6 -0.3
27nm,1.6s,mb4.9
SNOW **Snow King Moun** 81.16 349 *e*P P 07 50 45.6 +0.5
11nm,1.3s,mb4.6
TPAW **Teton Pass** 81.22 349 *e*P P 07 50 45.0 -0.4
13nm,1.1s,mb4.8
I20A **Worland** 81.28 351 ⇑P P 07 50 45.7 0.0
baz=82
LOHW **Long Hollow** 81.29 349 *e*P P 07 50 45.0 -0.7
4.8nm,1.0s,mb4.4
DCID1 **Drake Creek** 81.36 349 *e*P P 07 50 45.4 -0.6
18nm,1.1s,mb4.9
J15A **Blackfoot** 81.37 348 ⇑P P 07 50 45.9 -0.2
baz=82
I19A **Meeteetse** 81.48 351 ⇑P P 07 50 46.6 -0.1
baz=82
J14A **Carey** 81.48 347 ⇓P P 07 50 46.4 -0.3
baz=82
IMW **Indian Meadow** 81.62 349 *e*P P 07 50 47.1 -0.4
11nm,1.3s,mb4.6
J13A **Dove Ranch, Pi** 81.67 347 ⇓P P 07 50 47.9 +0.1
baz=82
I16A **Newdale** 81.68 349 ⇓P P 07 50 47.8 +0.1
baz=82
H24A **Dirks Ranch, A** 81.70 354 ⇓P P 07 50 47.6 -0.2
baz=82
FLWY **Flagg Ranch** 81.76 349 *e*P P 07 50 48.6 +0.4
129nm,2.6s,mb5.4
H20A **Greybull** 81.80 351 ⇓P P 07 50 48.4 0.0
baz=82
HLID **Hailey** 81.88 347 ⇑P P 07 50 48.7 -0.1
baz=82
HLID **Hailey** 81.88 347 *e*P P 07 50 48.6 -0.2
12nm,1.1s,mb4.8
I14A **Mackay** 82.06 347 ⇑P P 07 50 49.5 -0.2
baz=82
H19A **Powell** 82.10 351 ⇓P P 07 50 49.9 0.0
baz=82
I13A **Wildhorse Cree** 82.16 347 ⇑P P 07 50 49.8 -0.5
baz=82
H18A **Shoshone NF, C** 82.20 350 ⇓P P 07 50 49.9 -0.5
baz=82
J08A **Circle Bar Ran** 82.51 344 ⇑P P 07 50 51.7 -0.4
baz=83
G20A **Bridger** 82.55 351 ⇓P P 07 50 52.0 -0.3
baz=83
RLMT **Red Lodge** 82.58 351 ⇓P P 07 50 52.2 -0.3
RLMT **Red Lodge** 82.58 351 *e*P P 07 50 52.6 +0.2
37nm,2.1s,mb5.0

DZM **Mont Dzumac** 82.76 248 *e*LR LR 08 16 53.1
238nm,23.0s
G18A **Lazy EL Ranch,** 82.81 350 ⇑P P 07 50 53.4 -0.3
baz=83
H12A **Diamond D Ranc** 82.91 347 ⇓P P 07 50 53.6 -0.6
baz=83
G16A **Moss Hill, Enn** 83.05 349 ⇑P P 07 50 54.7 -0.2
baz=83
G15A **Dillon** 83.10 348 ⇓P P 07 50 55.1 -0.1
baz=83
F20A **Billings** 83.11 351 ⇑P P 07 50 54.8 -0.4
baz=83
DLMT **Dillon** 83.31 348 *e*P P 07 50 56.6 +0.4
18nm,1.8s,mb4.8
G13A **Cobalt** 83.32 347 ⇓P P 07 50 56.3 0.0
baz=84
G14A **Jackson** 83.33 348 ⇓P P 07 50 55.7 -0.7
baz=84
F18A **Big Timber** 83.41 350 ⇑P P 07 50 55.7 -1.0
baz=84
BOZ **Bozeman (W)** 83.43 349 ⇑P P 07 50 56.3 -0.6
baz=84
BOZ **Bozeman (W)** 83.43 349 *e*P P 07 50 57.0 +0.2
10.0nm,1.8s,mb4.5
I07A **Izee** 83.44 343 ⇓P P 07 50 56.5 -0.4
baz=84
F17A **Fitzpatrick Pl** 83.54 350 ⇑P P 07 50 57.4 0.0
baz=84
G12A **Big Creek, Yel** 83.56 346 ⇑P P 07 50 57.2 -0.4
baz=84
LAO **LASA Array** 83.78 353 ⇓P P 07 50 58.9 +0.3
baz=84
LAO **LASA Array** 83.78 353 *e*P P 07 50 59.1 +0.5
37nm,1.7s,mb5.2
E20A **Meyer Farm, Mu** 83.80 352 ⇓P P 07 50 58.6 -0.1
baz=84
E19A **Rath Farm, Rou** 83.84 351 ⇓P P 07 50 58.7 -0.3
baz=84
F14A **Wisdom** 83.87 348 ⇓P P 07 50 58.9 -0.2
baz=84
F13A **Darby** 84.01 347 ⇓P P 07 50 59.7 -0.1
baz=84
E18A **Harlowton** 84.08 350 ⇑P P 07 51 00.7 +0.5
baz=84
F12A **Elk City** 84.15 347 ⇑P P 07 51 00.3 -0.2
baz=84
D21A **La Casta Ranch** 84.23 352 ⇓P P 07 51 01.4 +0.5
baz=85
D22A **Cohagen** 84.23 353 ⇓P P 07 51 01.5 +0.6
baz=85
E15A **Deer Lodge** 84.35 349 ⇑P P 07 51 02.1 +0.6
baz=85
D20A **Manuel Ranch,** 84.38 352 ⇑P P 07 51 01.8 +0.1
baz=85
C24A **Savage** 84.45 354 ⇑P P 07 51 01.8 -0.2
baz=85
G08A **Pilot Rock** 84.46 344 ⇑P P 07 51 02.1 -0.1
baz=85
E13A **Victor** 84.62 347 ⇑P P 07 51 02.9 0.0
baz=85
D18A **Linhart Farms,** 84.69 351 ⇓P P 07 51 03.4 +0.2
baz=85
F10A **Beach Ranch, E** 84.74 345 ⇑P P 07 51 03.5 0.0
baz=85
D17A **Six Diamond Ra** 84.77 350 ⇓P P 07 51 03.7 +0.1
baz=85
C22A **Vida** 84.79 353 ⇑P P 07 51 04.0 +0.3
baz=85
CHMT **Chamberlain Mo** 84.92 348 *e*P P 07 51 05.6 +1.2
MSO **Missoula** 84.95 348 ⇑P P 07 51 05.0 +0.4
baz=85
C20A **Veseth Ranch,** 84.98 352 ⇓P P 07 51 04.7 0.0
baz=85
C21A **Desert Coulee** 84.99 353 ⇑P P 07 51 04.7 0.0
baz=85
C19A **Slack Wire Ran** 85.12 351 ⇑P P 07 51 05.6 +0.2
baz=86
D14A **Greenough** 85.12 348 ⇑P P 07 51 05.5 0.0
baz=86
C17A **Wharram Farm,** 85.25 350 ⇑P P 07 51 06.0 0.0
baz=86
SLMT **Seeley Lake** 85.28 348 *e*P P 07 51 07.8 +1.6
B22A **Reddig Ranch S** 85.35 353 ⇑P P 07 51 07.0 +0.5
baz=86
B21A **Ellsworth Farm** 85.58 353 ⇓P P 07 51 07.9 +0.2
baz=86
HAWA **Hanford** 85.63 344 *e*P P 07 51 08.7 +0.7
10nm,1.4s,mb4.9
C15A **Salmond Ranch,** 85.66 349 ⇓P P 07 51 08.6 +0.6
baz=86
C13A **Hot Springs** 85.89 348 ⇓P P 07 51 09.5 +0.3
baz=86
B17A **L&G Farms, Che** 85.90 350 ⇑P P 07 51 09.2 0.0
baz=86
A22A **Carney Farms,** 86.03 353 ⇓P P 07 51 10.1 +0.3
baz=86
A20A **Cobblestone Ra** 86.12 352 ⇑P P 07 51 10.8 +0.5
baz=86
ULM **Lac du Bonnet** 86.84 0 LR LR 08 26 52.2
comp=Z,75nm,18.8s,MS4.1,baz=275,slow=33
NEW **Newport** 86.92 346 ⇓P P 07 51 14.2 0.0
baz=87
A14A **Double T Ranch** 86.95 349 ⇑P P 07 51 14.8 +0.4
baz=87
STKA **Stephens Creek** 92.89 226 LR LR 08 25 44.3
comp=Z,124nm,21.2s,MS4.3,baz=206,slow=31
BOSA **Boshof** 94.60 131 LR LR 08 27 20.2
comp=Z,59nm,18.4s,MS4.1,baz=164,slow=31
SCHQ **Schefferville** 94.80 16 LR LR 08 31 23.4
comp=Z,111nm,18.9s,MS4.3,baz=66,slow=34
DBIC **Dimbokro** 94.88 85 LR LR 08 28 54.8
comp=Z,127nm,19.1s,MS4.4,baz=206,slow=32
CTA **Charters Tower** 98.40 237 LR LR 08 27 38.8
comp=Z,153nm,22.0s,MS4.5,baz=50,slow=30
KULM **Kulim** 144.98 210 *e*PKPdf PKPdf 07 58 05.3 -2.5
KSRS **Korea Array** 145.25 284 PKPbc PKPbc 07 58 06.0 -1.1
1.2nm,0.7s,baz=113,slow=3.7,SNR=6.2
NJ2 **Nanjing** 150.96 271 *e*PKPbc PKPdf 07 58 14.0 -3.0
CMAR **Chiang Mai Arr** 157.36 219 PKPab PKPab 07 58 56.6 -0.9
1.4nm,0.3s,baz=175,slow=3.3,SNR=2.8
GYA **Guiyang** 158.11 248 *e*PKP PKPdf 07 58 26.0 -1.1
GYA PKPab PKPab 07 59 02.4 +1.7
GYA PKS 08 01 59.8
GYA PP PP 08 02 42.7 +2.0
GYA SKKS SKKSac 08 09 30.0 +0.1
GYA SS SS 08 22 41.3 +0.8
GYA AMB AMB
comp=Z,110nm,8.4s
GYA LR LR
comp=N,120nm,24.7s,MS4.8
GYA LR LR
comp=E,110nm,25.2s,MS4.8
GYA LR LR
comp=Z,150nm,24.1s,MS4.7
HHC **Hu-ho-hao-te** 158.24 289 *e*PKP PKPdf 07 58 23.3 -3.5
HHC pPKP pPKPdf 07 58 34.2 +4.0
HHC SKS SKSdf 08 05 25.7 -6.7
HHC LR LR
comp=Z,73nm,5.4s
KMI **Kunming** 160.11 239 PKP PKPdf 07 58 27.6 -1.9
SONM **Songino Array** 160.28 310 PKPab PKPab 07 59 08.9 -0.7
comp=Z,0.9nm,0.6s,baz=291,slow=4.6,SNR=4.6
CD2 **Chengdu** 162.54 256 PKP PKPdf 07 58 33.3 +1.4
CD2 PKPab PKPab 07 59 22.8 +2.8
CD2 PKS 08 02 05.3
CD2 PP PP 08 03 08.1 +3.4
CD2 SKS SKSdf 08 05 36.8 +0.1
CD2 SKKS SKKSac 08 09 55.1 +2.3
CD2 SS SS 08 23 28.1 +0.7
CD2 LR LR
comp=N,230nm,6.5s
CD2 LR LR
comp=Z,160nm,6.5s
ZALV **Zalesovo Beam** 163.00 358 PKP PKPdf 07 58 28.6 -2.9
comp=Z,0.4nm,0.4s,baz=343,slow=1.5,SNR=5.4
ZALV PKPab PKPab 07 59 20.0 -1.1
comp=Z,0.5nm,0.3s,baz=347,slow=5.9,SNR=3.7
ZALV **Zalesovo Beam** 163.00 358 PKP PKPdf 07 58 28.6 -2.9
ZALV PKPab PKPab 07 59 20.0 -1.1
MKAR **Makanchi Array** 170.09 7 PKP PKPdf 07 58 34.6 -2.6
comp=Z,0.3nm,0.2s,baz=294,slow=1.4,SNR=2.6
MKAR PKPab PKPab 07 59 51.6 -1.0
comp=Z,0.2nm,0.2s,baz=3.7,slow=4.5,SNR=2.0
WMQ **Urumqi** 172.59 339 PKP PKPdf 07 58 39.0 +0.4

IDC 04 07:59:05.2±4.8,11°.80S×115°.73E,h0km,mb3.3/2,

mb1 3.4/3, mb1mx3.3/17, mbtmp3.2/3, ML2.7/1, Error ellipse: s-maj=280.5km s-min=29.4km az=45.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.63**	**117**	P	Pn	08 03 35.1	-1.8
	0.0nm,0.3s,baz=288,slow=14,SNR=3.2						
ASAR	**Alice Springs**	**20.92**	**127**	P	P	08 03 50.1	+0.6
	0.7nm,0.7s,baz=303,slow=10,SNR=7.4						
MKAR	**Makanchi Array**	**65.56**	**335**	P	P	08 09 50.7	+0.1
	0.1nm,0.2s,baz=137,slow=8.3,SNR=3.6						

MEX 04 08:00:12.4±2.0, 17°.75N×98°.65W, h82km±33km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UTMO	**Huajuapan**	**0.81**	**84**	*e*P	Pn	08 00 23.1	-6.2
UTMO				*i* S	Sn	08 00 33.2	-8.8
MEIG	**Mezcala**	**0.94**	**281**	*i* P	Pn	08 00 29.1	-1.7
MEIG				*i* S	Sn	08 00 42.3	-2.3
PLIG	**Platanillo**	**1.03**	**308**	*i* P	Pn	08 00 30.6	-1.3
PLIG				*i* S	Sn	08 00 45.6	-1.0
TPIG	**Tehuac#an**	**1.40**	**61**	*e*P	Pn	08 00 34.5	-1.9
TPIG				*i* S	Sn	08 00 52.8	-1.8
PNIG	**Pinotepa**	**1.44**	**160**	*e*P	Pn	08 00 34.8	-2.1
PNIG				*i* S	Sn	08 00 53.4	-2.1
CAIG	**El Cayaco**	**1.69**	**246**	*e*P	Pn	08 00 40.2	-0.1
CAIG				*i* S	Sn	08 01 00.6	-0.8
VHO	**Vista Hermosa**	**1.95**	**110**	*e*P	Pn	08 00 43.8	+0.1
VHO				*i* S	Sn	08 01 07.9	+0.5
LVIG	**Laguna Verde**	**2.89**	**47**	*i* P	Pn	08 00 57.6	+1.4
LVIG				*i* S	Sn	08 01 28.9	-1.1
HUIG	**Huatulco**	**3.13**	**129**	*i* P	Pn	08 00 57.2	-2.3
HUIG				*i* S	Sn	08 01 33.7	-2.2
CMIG	**Matias Romero**	**3.65**	**100**	*e*P	Pn	08 01 06.7	0.0
CMIG				*i* S	Sn	08 01 48.9	+0.3

IDC 04 08:06:55.5±2.1, 6°.95S×129°.06E, h0km, mb3.7/1, mb1 4.1/4, mb1mx3.7/18, mbtmp3.9/4, ML3.9/3, MS3.8/1, Ms1 3.8/1, ms1mx2.6/22, Error ellipse: s-maj=80.6km s-min=28.3km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.58**	**196**	Pn	Pn	08 09 42.2	+0.1
	0.8nm,0.3s,baz=38,slow=9.4,SNR=19						
FITZ				Sn	Sn	08 11 39.1	-13
	0.5nm,0.3s,baz=148,slow=20,SNR=3.8						
WRA	**Warramunga Arr**	**13.89**	**159**	Pn	Pn	08 10 12.6	-1.2
	0.5nm,0.3s,baz=338,slow=13,SNR=34						
WRA				Sn	Sn	08 12 39.7	-9.2
	0.7nm,0.3s,baz=322,slow=24,SNR=9.2						
ASAR	**Alice Springs**	**17.26**	**165**	Pn	Pn	08 10 59.2	+1.1
	0.6nm,0.3s,baz=338,slow=9.9,SNR=60						
ASAR				Sn	Sn	08 13 59.6	-11
	0.2nm,0.3s,baz=345,slow=26,SNR=4.3						
URZ	**Urewera**	**53.38**	**133**	LR	LR	08 39 09.0	
	comp=Z,87nm,20.7s,baz=134,slow=36						
MKAR	**Makanchi Array**	**67.67**	**327**	P	P	08 17 54.6	+0.1
	0.4nm,0.4s,baz=122,slow=6.8,SNR=5.7						

IDC 04 08:08:15.7±13.0, 17°.18S×179°.02W, h544km±164km, mb2.9/7, mb1 3.3/7, mb1mx3.1/18, mbtmp2.9/7, Error ellipse: s-maj=101.2km s-min=41.0km az=164.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.48**	**240**	P	P	08 14 51.2	-0.3
	0.9nm,0.4s,baz=84,slow=10,SNR=7.0						
WRA	**Warramunga Arr**	**44.19**	**259**	P	P	08 15 36.7	-0.2
	0.5nm,0.5s,baz=98,slow=6.9,SNR=4.8						
ASAR	**Alice Springs**	**44.43**	**254**	P	P	08 15 38.7	+0.1
	6.5nm,0.6s,baz=88,slow=8.2,SNR=44						
NVAR	**Mina Array Bea**	**79.31**	**44**	P	P	08 19 25.2	+0.1
	0.1nm,0.3s,baz=212,slow=8.5,SNR=2.5						
ILAR	**Eielson Array**	**85.31**	**13**	P	P	08 19 55.0	+0.2
	0.2nm,0.3s,baz=226,slow=4.9,SNR=6.9						
TXAR	**Lajitas Array**	**86.10**	**58**	P	P	08 19 59.9	+0.4
	0.4nm,0.8s,baz=222,slow=6.1,SNR=4.9						
PDAR	**Pinedale Array**	**87.23**	**44**	P	P	08 20 04.5	+0.1
	0.2nm,0.5s,baz=204,slow=5.6,SNR=2.8						
GERES	**GERESS Array B**	**146.76**	**345**	PKPbc	PKPbc	08 26 56.1	-0.7
	0.5nm,0.5s,baz=32,slow=5.3,SNR=3.9						

*ISCJB **04** 08:17:28.8±0.6, 36°.98N±0°.03×29°.12E±0°.06, h6km±11km, Error ellipse: s-maj=7.7km s-min=5.4km az=15.5*
*CSEM **04** 08:17:28.9±0.2, 37°.00N×29°.12E, h8km, MD2.7, Error ellipse: s-maj=5.1km s-min=4.7km az=140.0*
*ISK **04** 08:17:28.4, 36°.97N×29°.12E, h7km, MD2.7*
*DDA **04** 08:17:30.0, 37°.02N×29°.17E, h7km±4km, Md2.8*
ISC 04 08:17:29.2±0.6, 36°.98N±0°.03×29°.12E±0°.06, h8km±9km, n20, σ0°71/27, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.34**	**185**	*e*PG	**Pg**	**08 17 35.4**	**-0.5**
FETY				*e*SG	**Sg**	**08 17 40.6**	**+0.1**
FETY	**Fethiye**	**0.34**	**185**	*e*Pg	**Pg**	**08 17 35.4**	**-0.5**
FETY				*e*Sg	**Sg**	**08 17 40.6**	**+0.1**
GLHS	**Glhisar (BURDU**	**0.35**	**60**	*e*PG	**Pg**	**08 17 35.8**	**-0.3**
GLHS	**Glhisar (BURDU**	**0.35**	**60**	*e*Pg	**Pg**	**08 17 35.8**	**-0.3**
GOLH	**Golhisar**	**0.44**	**54**	↑*i* P	**Pg**	**08 17 36.6**	**-1.1**
GOLH				*i* S	**Sg**	**08 17 43.9**	**+0.4**
GOLH	**Golhisar**	**0.44**	**54**	*i* P	**Pg**	**08 17 36.6**	**-1.1**
GOLH				*i* S	**Sg**	**08 17 43.9**	**+0.4**
ELL	**Elmali**	**0.67**	**110**	*e*PG	**Pg**	**08 17 41.8**	**-0.4**
ELL	**Elmali**	**0.67**	**110**	*e*Pg	**Pg**	**08 17 41.8**	**-0.4**
YER	**Yerkesik**	**0.69**	**283**	*e*PG	**Pg**	**08 17 42.1**	**-0.3**
YER	**Yerkesik**	**0.69**	**283**	*e*Pg	**Pg**	**08 17 42.1**	**-0.3**
DNZL	**Cakiroluk**	**0.71**	**355**	*e*P	**Pg**	**08 17 42.4**	**-0.5**
DNZL				*e*S	**Sg**	**08 17 53.4**	**+1.2**
DNZL	**Cakiroluk**	**0.71**	**355**	*e*P	**Pg**	**08 17 42.4**	**-0.6**
DNZL				*e*S	**Sg**	**08 17 53.4**	**+1.2**
AKAS	**Kas**	**0.84**	**152**	*e*P	**Pg**	**08 17 47.1**	**+1.7**
AKAS				*e*S	**Sg**	**08 18 03.0**	**+6.7**
AKAS	**Kas**	**0.84**	**152**	*e*P	**Pg**	**08 17 47.1**	**+1.7**
DAT	**Datca**	**1.26**	**259**	*e*PN	**Pn**	**08 17 52.9**	**-0.1**
DAT	**Datca**	**1.26**	**259**	*e*Pn	**Pn**	**08 17 52.9**	**-0.2**
BODT	**Bodrum**	**1.45**	**274**	*e*PN	**Pn**	**08 17 55.8**	**+0.2**
BODT	**Bodrum**	**1.45**	**274**	*e*Pn	**Pn**	**08 17 55.8**	**+0.1**
SUTC	**Sutluce-Ispart**	**1.58**	**71**	*e*PN	**Pn**	**08 17 57.5**	**0.0**
SUTC	**Sutluce-Ispart**	**1.58**	**71**	*e*Pn	**Pn**	**08 17 57.5**	**0.0**

*ISK **04** 08:31:27.8, 39°.39N×33°.17E, h5km, MD2.7*
*ISCJB **04** 08:31:28.9±0.5, 39°.37N±0°.03×33°.14E±0°.04, h10km, Error ellipse: s-maj=4.8km s-min=4.1km az=29.5*
*CSEM **04** 08:31:28.1±0.1, 39°.35N×33°.16E, h2km, MD2.7, Error ellipse: s-maj=3.6km s-min=3.2km az=130.0*
*DDA **04** 08:31:28.3, 39°.36N×33°.23E, h7km±3km, Md2.9*
ISC 04 08:31:28.4±0.6, 39°.34N±0°.03×33°.16E±0°.04, h2km±7km, n23, σ0°63/36, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFSR	**Af¯ar-Bala (A**	**0.13**	**327**	*e*PG	**Pg**	**08 31 30.4**	**-0.5**
AFSR				*e*SG	**Sg**	**08 31 32.6**	**-0.1**
AFSR	**Af¯ar-Bala (A**	**0.13**	**327**	*e*Pg	**Pg**	**08 31 30.4**	**-0.6**
AFSR				*e*Sg	**Sg**	**08 31 32.6**	**-0.1**
BBAL	**Bala**	**0.21**	**351**	↓*i* Pg	**Pg**	**08 31 32.8**	**+0.3**
BBAL				*i* Sg	**Sg**	**08 31 36.1**	**+0.9**
LOD	**Lodumlu**	**0.63**	**331**	*e*PG	**Pg**	**08 31 39.8**	**-0.7**
LOD	**Lodumlu**	**0.63**	**331**	*e*Pg	**Pg**	**08 31 39.8**	**-0.8**
CDAG	**Cicekdag**	**0.98**	**73**	*i* P	**Pg**	**08 31 46.0**	**-1.1**
CDAG				*i* S	**Sg**	**08 32 00.4**	**+0.5**
CDAG	**Cicekdag**	**0.98**	**73**	*i* P	**Pg**	**08 31 46.0**	**-1.2**
CDAG				*i* S	**Sg**	**08 32 00.4**	**+0.6**
KIZT	**Kizilcal**	**1.10**	**246**	*e*PN	**Pn**	**08 31 49.7**	**-1.1**
KIZT	**Kizilcal**	**1.10**	**246**	*e*Pn	**Pn**	**08 31 49.7**	**-1.1**
KDHN	**Kadinhani**	**1.15**	**225**	*e*P	**Pg**	**08 31 50.9**	**+0.3**
KDHN				*e*S	**Sg**	**08 32 06.6**	**+1.1**
KDHN	**Kadinhani**	**1.15**	**225**	*e*P	**Pg**	**08 31 50.9**	**+0.4**
KDHN				*e*S	**Sg**	**08 32 06.6**	**+1.1**
SULT	**Sultanhani-AKS**	**1.17**	**166**	*e*PN	**Pn**	**08 31 51.6**	**-0.2**
SULT	**Sultanhani-AKS**	**1.17**	**166**	*e*Pn	**Pn**	**08 31 51.6**	**-0.2**
ELDT	**Eldivan**	**1.17**	**10**	*e*P	**Pg**	**08 31 50.5**	**-0.3**
ELDT				*e*S	**Sg**	**08 32 06.1**	**+0.1**
ELDT	**Eldivan**	**1.17**	**10**	*e*P	**Pg**	**08 31 50.5**	**-0.3**
ELDT				*e*S	**Sg**	**08 32 06.1**	**+0.1**
SVRH	**Sivrihisar-ESK**	**1.28**	**275**	*e*PN	**Pn**	**08 31 52.8**	**-0.5**
SVRH	**Sivrihisar-ESK**	**1.28**	**275**	*e*Pn	**Pn**	**08 31 52.8**	**-0.5**
AVNT	**Avonos**	**1.43**	**112**	*e*P	**Pn**	**08 31 55.1**	**-0.2**
AVNT				*e*S	**Sg**	**08 32 14.2**	**-0.2**
AVNT	**Avonos**	**1.43**	**112**	*e*P	**Pn**	**08 31 55.1**	**-0.3**
AVNT				*e*S	**Sg**	**08 32 14.2**	**-0.1**
KONT	**Konya--Tatoy**	**1.52**	**205**	*e*PN	**Pn**	**08 31 57.1**	**+0.5**
KONT	**Konya--Tatoy**	**1.52**	**205**	*e*Pn	**Pn**	**08 31 57.2**	**+0.5**
CTKT	**Corum**	**1.79**	**44**	*e*P	**Pn**	**08 32 00.7**	**+0.3**
CTKT				*e*S	**Sn**	**08 32 24.5**	**+0.8**
CTKT	**Corum**	**1.79**	**44**	*e*P	**Pn**	**08 32 00.7**	**+0.3**
CTKT				*e*S	**Sn**	**08 32 24.5**	**+0.8**

*NIED **04** 08:32:00, 35°.30N×141°.30E, h32km, Mw4.2 Best double couple: M0 2.24000×10^15 NP1:φ=332.00000°, δ71.00000°, λ129.00000°. NP2:φ=84.00000°, δ43.00000°, λ29.00000°.*
*MOS **04** 08:32:30.8±1.4, 35°.25N×141°.35E, h33km, mb4.3/11, Error ellipse: s-maj=17.1km s-min=10.4km az=124.9*
*ISCJB **04** 08:32:30.7±0.9, 35°.23N±0°.03×141°.33E±0°.06, h29km±5km, mb4.1/19, MS3.4/5, Error ellipse: s-maj=8.6km s-min=5.4km az=175.9*
*JMA **04** 08:32:31.3±0.2, 35°.26N×141°.27E, h27km±2km, M4.3*
*NEIC **04** 08:32:31.4, 35°.26N×141°.27E, h27km, mb4.5/4, MW4.2(NIED), After JMA.*
*IDC **04** 08:32:34.7±2.2, 35°.22N×141°.12E, h43km±21km, mb3.8/16, mb1 4.0/18, mb1mx3.9/30, mbtmp3.8/18, ML3.6/2, MS3.4/7, Ms1 3.4/7, ms1mx3.0/36, Error ellipse: s-maj=19.6km s-min=12.1km az=85.0*
ISC 04 08:32:30.8±0.8, 35°.24N±0°.03×141°.31E±0°.05, h17km±5km, n77, σ0°96/84, mb4.1/19, MS3.4/5, 1C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.59**	**321**	⇑P	**Pg**	**08 32 42.5**	**+0.1**
CHOJ				S	**Sg**	**08 32 49.4**	**-0.9**
BSO1	**Boso 1**	**0.65**	**205**	P	**Pg**	**08 32 43.7**	**+0.1**
BSO1				*e*S	**Sg**	**08 32 51.2**	**-1.0**
BSO2	**Boso 2**	**0.67**	**223**	*e*S	**Sg**	**08 32 53.7**	**+0.8**
BSO3	**Boso 3**	**0.79**	**236**	P	**Pb**	**08 32 45.8**	**-0.3**
BSO3				*e*S	**Sg**	**08 32 58.0**	**+1.3**
KTR	**Katsuura**	**0.82**	**264**	P	**Pb**	**08 32 46.0**	**-0.6**
KTR				*e*S	**Sb**	**08 32 56.7**	**-0.6**
BSO4	**Boso 4**	**0.84**	**253**	P	**Pb**	**08 32 46.6**	**-0.2**
BSO4				*e*S	**Sb**	**08 32 57.9**	**+0.1**
JCN	**Nagara**	**0.92**	**281**	P	**Pb**	**08 32 48.5**	**+0.2**
JYT	**Yasato**	**1.34**	**318**	P	**Pn**	**08 32 54.3**	**-0.4**
JHO	**Hitachi**	**1.49**	**336**	P	**Pn**	**08 32 56.3**	**-0.5**
JHJ	**Hachijo jima 2**	**2.47**	**211**	P	**Pn**	**08 33 11.0**	**+0.8**
	51nm,0.3s,baz=54,slow=20,SNR=8.5						
JHJ				S	**Sn**	**08 33 38.8**	**-1.2**
	75nm,0.3s,baz=45,slow=23,SNR=5.3						
MJAR	**Matsushiro Arr**	**2.83**	**298**	P	**Pn**	**08 33 16.3**	**+1.1**
	7.4nm,0.3s,baz=98,slow=14,SNR=13						
MJAR	**Matsushiro Arr**	**2.83**	**298**	P	**Pn**	**08 33 16.3**	**+1.1**
MJAR	**Matsushiro Arr**	**2.83**	**298**	P	**Pn**	**08 33 16.3**	**+1.1**
MJAR				pmax	pmax		
	comp=Z,7.0nm,0.3s						
MAJO	**Matsushiro**	**2.83**	**298**	*e*Pn	**Pn**	**08 33 16.1**	**+0.9**
MAJO	**Matsushiro**	**2.83**	**298**	*e*P	**Pn**	**08 33 16.1**	**+0.9**
MAT	**Matsushiro**	**2.83**	**298**	P	**Pn**	**08 33 16.1**	**+0.9**
MAT				S	**Sn**	**08 33 49.8**	**+0.8**
CBIJ	**Chichi jima**	**8.16**	**174**	P	**Pn**	**08 34 26.9**	**-1.5**
	comp=Z,23nm,0.3s,baz=324,slow=12,SNR=12						
CBIJ				S	**Sn**	**08 35 51.4**	**-8.8**
	comp=Z,1.7nm,0.3s,baz=282,slow=22,SNR=2.0						
ASAJ	**Asahikawa**	**8.92**	**6**	P	**Pn**	**08 34 36.7**	**-2.0**
	comp=Z,1.5nm,0.3s,baz=220,slow=24,SNR=8.6						
ASAJ				S	**Sn**	**08 36 15.0**	**-3.8**
	comp=Z,0.3nm,0.3s,baz=104,slow=30,SNR=2.4						
ASAJ				LR	LR	08 38 42.4	
	comp=Z,205nm,19.8s,baz=171,slow=41						
ASAJ	**Asahikawa**	**8.92**	**6**	P	**Pn**	**08 34 36.7**	**-2.0**
ASAJ				S	**Sn**	**08 36 15.0**	**-3.7**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,205nm,19.8s						
KSRS	**Korea Array**	**11.02**	**285**	P	**Pn**	**08 35 10.7**	**+3.1**
	comp=Z,0.3nm,0.3s,baz=96,slow=14,SNR=7.4						
KSRS				LR	LR	08 39 35.1	
	comp=Z,196nm,18.9s,baz=356,slow=38						
KSRS	**Korea Array**	**11.02**	**285**	P	**Pn**	**08 35 10.7**	**+3.1**
KSRS				MLR	MLR		
	comp=Z,196nm,18.9s						
PETK	**Petropavlovsk-**	**21.29**	**28**	LR	LR	08 44 47.9	
	comp=Z,63nm,20.5s,MS3.0,baz=63,slow=34						
SONM	**Songino Array**	**28.75**	**307**	P	**P**	**08 38 28.5**	**+1.3**
	comp=Z,0.9nm,0.7s,mb3.6,baz=108,slow=9.5,SNR=4.2						
SONM				LR	LR	08 49 50.6	
	comp=Z,62nm,21.3s,MS3.2,baz=125,slow=36						
SONM	**Songino Array**	**28.75**	**307**	P	**P**	**08 38 28.5**	**+1.3**
SONM				LR	LR	08 49 50.6	
SONM	**Songino Array**	**28.75**	**307**	P	**P**	**08 38 28.5**	**+1.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,62nm,21.3s						
CMAR	**Chiang Mai Arr**	**40.99**	**257**	LR	LR	08 58 50.0	
	comp=Z,32nm,20.1s,MS3.2,baz=350,slow=39						
ZAAO	**Zalesovo Array**	**43.08**	**314**	*e*P	**P**	**08 40 29.0**	**-0.6**
ZALV	**Zalesovo Beam**	**43.08**	**314**	P	**P**	**08 40 29.2**	**-0.3**
	comp=Z,2.5nm,0.6s,mb4.2,baz=100,slow=7.6,SNR=12						
ZALV	**Zalesovo Beam**	**43.08**	**314**	P	**P**	**08 40 29.2**	**-0.3**
ZALV	**Zalesovo Beam**	**43.08**	**314**	P	**P**	**08 40 29.2**	**-0.4**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
PMG	**Port Moresby**	**44.75**	**172**	LR	LR	08 59 31.7	
	comp=Z,271nm,18.4s,MS4.2,baz=204,slow=36						
MK31	**Makanchi Array**	**45.02**	**304**	*e*P	**P**	**08 40 44.9**	**-0.3**
MK31	**Makanchi Array**	**45.02**	**304**	*e*P	**P**	**08 40 44.9**	**-0.4**
MKAR	**Makanchi Array**	**45.02**	**304**	P	**P**	**08 40 45.0**	**-0.3**
	comp=Z,1.6nm,0.6s,mb4.0,baz=88,slow=9.3,SNR=17						
MKAR	**Makanchi Array**	**45.02**	**304**	P	**P**	**08 40 45.0**	**-0.3**
MKAR	**Makanchi Array**	**45.02**	**304**	P	**P**	**08 40 45.0**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**46.99**	**309**	P	**P**	**08 41 00.6**	**-0.1**
	comp=Z,2.5nm,0.5s,mb4.4,baz=84,slow=7.7,SNR=13						
KURK	**Kurchatov**	**46.99**	**309**	*e*P	**P**	**08 40 59.3**	**-1.4**
	comp=Z,6.8nm,0.7s,mb4.7						
KURK	**Kurchatov**	**46.99**	**309**	P	**P**	**08 41 00.6**	**-0.1**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
KDAK	**Kodiak Island**	**48.49**	**41**	P	**P**	**08 41 13.4**	**+1.1**
	comp=Z,10.0nm,0.9s,mb4.8,baz=104,slow=13,SNR=4.0						
KDAK	**Kodiak Island**	**48.49**	**41**	P	**P**	**08 41 13.4**	**+1.1**
KDAK	**Kodiak Island**	**48.49**	**41**	P	**P**	**08 41 13.4**	**+1.1**
KDAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
ILAR	**Eielson Array**	**51.05**	**32**	P	**P**	**08 41 32.5**	**+0.8**
	comp=Z,0.5nm,0.8s,mb3.5,baz=265,slow=6.1,SNR=10.0						
ILAR	**Eielson Array**	**51.05**	**32**	P	**P**	**08 41 32.5**	**+0.8**
ILAR	**Eielson Array**	**51.05**	**32**	P	**P**	**08 41 32.5**	**+0.8**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KKAR	**Karatay Array**	**53.96**	**301**	*e*P	**P**	**08 41 52.4**	**-1.1**
	comp=Z,3.1nm,1.0s,mb4.2						
KKAR	**Karatay Array**	**53.96**	**301**	*e*P	**P**	**08 41 52.4**	**-1.2**
KKAR				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
FITZ	**Fitzroy Crossi**	**55.10**	**198**	P	**P**	**08 42 02.9**	**+0.9**
	comp=Z,1.5nm,0.7s,mb4.2,baz=351,slow=8.7,SNR=5.0						
FITZ	**Fitzroy Crossi**	**55.10**	**198**	P	**P**	**08 42 02.9**	**+0.9**
WRAB	**Tennant Creek**	**55.27**	**188**	*e*P	**P**	**08 42 02.2**	**-1.0**
	comp=Z,9.5nm,1.0s,mb4.8						
WRAB	**Tennant Creek**	**55.27**	**188**	*e*P	**P**	**08 42 02.2**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
WRA	**Warramunga Arr**	**55.28**	**188**	P	**P**	**08 42 02.8**	**-0.4**
	comp=Z,3.5nm,0.6s,mb4.6,baz=2.1,slow=7.5,SNR=38						
WRA	**Warramunga Arr**	**55.28**	**188**	P	**P**	**08 42 02.8**	**-0.4**
WRA	**Warramunga Arr**	**55.28**	**188**	P	**P**	**08 42 02.8**	**-0.4**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ASAR	**Alice Springs**	**59.01**	**188**	P	**P**	**08 42 29.6**	**+0.1**
	comp=Z,0.7nm,0.5s,mb4.0,baz=360,slow=6.3,SNR=16						
ASAR	**Alice Springs**	**59.01**	**188**	P	**P**	**08 42 29.6**	**+0.1**
ASAR	**Alice Springs**	**59.01**	**188**	P	**P**	**08 42 29.7**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ABKAR	**Akbulak array**	**59.04**	**311**	*e*P	**P**	**08 42 28.4**	**-1.2**
	comp=Z,0.9nm,0.5s,mb4.1						
FINES	**FINESS Array B**	**70.36**	**333**	P	**P**	**08 43 42.2**	**-1.0**
	comp=Z,0.7nm,0.4s,mb4.0,baz=186,slow=37,SNR=2.4						
FINES				LR	LR	09 16 39.8	
	comp=Z,19nm,21.3s,MS3.3,baz=349,slow=38						
FINES	**FINESS Array B**	**70.36**	**333**	P	**P**	**08 43 42.2**	**-1.0**
FINES				LR	LR	09 16 39.8	
FINES	**FINESS Array B**	**70.36**	**333**	P	**P**	**08 43 42.2**	**-1.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES				MLR	MLR		
	comp=Z,19nm,21.3s						
AKASG	**Malin Array Be**	**75.66**	**323**	P	**P**	**08 44 14.2**	**-0.6**
	comp=Z,1.0nm,0.5s,mb4.0,baz=46,slow=6.0,SNR=5.7						
AKASG	**Malin Array Be**	**75.66**	**323**	P	**P**	**08 44 14.2**	**-0.6**
AKASG	**Malin Array Be**	**75.66**	**323**	P	**P**	**08 44 14.3**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**75.68**	**336**	P	**P**	**08 44 15.0**	**+0.2**
	comp=Z,1.6nm,0.9s,mb4.0,baz=12,slow=15,SNR=2.7						
HFS	**Hagfors**	**75.68**	**336**	P	**P**	**08 44 15.0**	**+0.2**
HFS	**Hagfors**	**75.68**	**336**	P	**P**	**08 44 15.0**	**+0.2**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA	**NORSAR Array B**	**75.80**	**337**	P	**P**	**08 44 14.9**	**-0.5**
	comp=Z,1.2nm,0.7s,mb3.9,baz=39,slow=5.8,SNR=3.9						
NOA	**NORSAR Array B**	**75.80**	**337**	P	**P**	**08 44 14.9**	**-0.5**
NOA	**NORSAR Array B**	**75.80**	**337**	P	**P**	**08 44 15.0**	**-0.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NVAR	**Mina Array Bea**	**76.13**	**53**	P	**P**	**08 44 19.6**	**+1.9**
	comp=Z,0.5nm,0.5s,mb3.7,baz=307,slow=7.5,SNR=4.9						
NVAR	**Mina Array Bea**	**76.13**	**53**	P	**P**	**08 44 19.6**	**+1.9**
PDAR	**Pinedale Array**	**78.98**	**45**	P	**P**	**08 44 34.9**	**+1.3**
	comp=Z,1.0nm,0.5s,mb4.0,baz=263,slow=1.5,SNR=12						
PDAR	**Pinedale Array**	**78.98**	**45**	P	**P**	**08 44 34.9**	**+1.3**
TXAR	**Lajitas Array**	**91.28**	**52**	P	**P**	**08 45 37.2**	**+1.7**
	comp=Z,0.3nm,0.6s,mb3.8,baz=299,slow=3.2,SNR=5.4						
TXAR	**Lajitas Array**	**91.28**	**52**	P	**P**	**08 45 37.2**	**+1.7**
TXAR	**Lajitas Array**	**91.28**	**52**	P	**P**	**08 45 37.2**	**+1.6**

*ISCJB **04** 08:40:08.6±0.9, 35°.26N±0°.03×141°.34E±0°.06, h29km±5km, mb3.9/10, Error ellipse: s-maj=7.6km s-min=5.8km az=2.2*
*JMA **04** 08:40:09.7±0.2, 35°.27N×141°.27E, h27km±3km, M3.2*
*MOS **04** 08:40:09.4±1.4, 35°.38N×141°.46E, h33km, mb4.3/8, Error ellipse: s-maj=21.6km s-min=14.1km az=131.6*
*IDC **04** 08:40:11.5±4.8, 35°.23N×141°.28E, h34km±38km, mb3.6/8, mb1 3.8/11, mb1mx3.7/28, mbtmp3.7/11, ML3.9/3, MS3.7/2, Ms1 3.7/2, ms1mx2.7/34, Error ellipse: s-maj=27.6km s-min=15.7km az=73.0*
*NEIC **04** 08:40:12.5±1.8, 35°.25N×141°.24E, h44km±16km, mb4.5/3, Error ellipse: s-maj=17.3km s-min=12.0km az=92.0*
ISC 04 08:40:09.5±1.0, 35°.26N±0°.03×141°.30E±0°.06, h22km±7km, n48, σ0°79/57, mb3.9/10, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.57**	**321**	P	**Pb**	**08 40 20.6**	**-0.1**
CHOJ				S	**Sb**	**08 40 27.5**	**-0.9**
BSO1	**Boso 1**	**0.66**	**203**	P	**Pb**	**08 40 22.2**	**0.0**
BSO3	**Boso 3**	**0.79**	**235**	P	**Pb**	**08 40 24.1**	**-0.4**
BSO3				S	**Sb**	**08 40 35.6**	**+0.9**
KTR	**Katsuura**	**0.81**	**262**	S	**Sb**	**08 40 35.3**	**0.0**
BSO4	**Boso 4**	**0.83**	**251**	P	**Pb**	**08 40 25.1**	**0.0**
BSO4				S	**Sb**	**08 40 35.9**	**0.0**
JCN	**Nagara**	**0.91**	**280**	P	**Pb**	**08 40 27.0**	**+0.5**
TATJ	**Tateyama 2**	**1.17**	**259**

RAR	**Rarotonga**	**79.20 126**	LR	LR	09 21 51.3		
	comp=Z,119nm,20.3s,baz=16,slow=32						
BRTR	**Keskin Array B**	**79.96 312**	P	**P**	**08 52 16.6**	**-0.3**	
	comp=Z,0.8nm,0.7s,mb3.7,baz=94,slow=1.6,SNR=3.8						
BRTR	**Keskin Array B**	**79.96 312**	P	**P**	**08 52 16.6**	**-0.3**	
BRTR	**Keskin Array B**	**79.96 312**	P	**P**	**08 52 16.6**	**-0.3**	
BRTR			pmax	pmax			
	comp=Z,1.0nm,0.7s						

*TRN **04** 08:53:08.2, 19˚.12N×64˚.86W, h27km, MD4.0, M3.5(RSPR)*
*NEIC **04** 08:53:10.2, 19˚.26N×64˚.82W, h29km, MD3.5(RSPR), After RSPR.*
*RSPR **04** 08:53:10.2, 19˚.26N×64˚.82W, h29km±18km, MD3.5/11*

ISC 04 08:53:09.1±1.1, 19˚.20N±0˚.06×64˚.86W±0˚.04, h23km±9km, n54, σ0°36/72, 48D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.68**	**133**	⇓*e*P	**Pb**	**08 53 21.9**	**-0.4**
ABV	**Anegada**	**0.68**	**133**	⇓*e*P	**Pb**	**08 53 21.9**	**-0.4**
TBVI	**Tortola**	**0.81**	**163**	⇓*e*P	**Pb**	**08 53 23.9**	**-0.6**
TBVI	**Tortola**	**0.81**	**163**	⇓*e*P	**Pb**	**08 53 23.9**	**-0.6**
TBVI	**Tortola**	**0.81**	**163**	⇓*e*P	**Pb**	**08 53 23.9**	**-0.6**
STVI	**Saint Thomas**	**0.84**	**186**	⇓*e*P	**Pb**	**08 53 24.9**	**-0.2**
STVI	**Saint Thomas**	**0.84**	**186**	⇓*e*P	**Pb**	**08 53 24.9**	**-0.2**
STVI				*e*S	**Sb**	**08 53 36.6**	**+0.7**
STVI	**Saint Thomas**	**0.84**	**186**	⇓*e*P	**Pb**	**08 53 24.9**	**-0.2**
STVI				*e*S	**Sb**	**08 53 36.6**	**+0.7**
MTP	**Monte Pirata**	**1.27**	**211**	⇓*e*P	**Pn**	**08 53 31.7**	**+0.2**
MTP	**Monte Pirata**	**1.27**	**211**	⇓*e*P	**Pn**	**08 53 31.7**	**+0.2**
MTP				*e*S	**Sn**	**08 53 47.8**	**-0.1**
MTP	**Monte Pirata**	**1.27**	**211**	⇓*e*P	**Pn**	**08 53 31.7**	**+0.2**
MTP				*e*S	**Sn**	**08 53 47.8**	**-0.1**
CBYP	**Canovanas**	**1.32**	**226**	⇓*e*P	**Pn**	**08 53 32.2**	**+0.2**
CBYP	**Canovanas**	**1.32**	**226**	⇓*e*P	**Pn**	**08 53 32.2**	**+0.2**
CBYP				*e*S	**Sn**	**08 53 49.1**	**+0.2**
CBYP	**Canovanas**	**1.32**	**226**	⇓*e*P	**Pn**	**08 53 32.2**	**+0.2**
CBYP				*e*S	**Sn**	**08 53 49.1**	**+0.2**
HUMP	**Col San Antoni**	**1.41**	**222**	⇓*e*P	**Pn**	**08 53 33.0**	**-0.2**
HUMP	**Col San Antoni**	**1.41**	**222**	⇓*e*P	**Pn**	**08 53 33.0**	**-0.2**
HUMP				*e*S	**Sn**	**08 53 50.9**	**-0.2**
HUMP	**Col San Antoni**	**1.41**	**222**	⇓*e*P	**Pn**	**08 53 33.3**	**0.0**
HUMP				*e*S	**Sn**	**08 53 50.9**	**-0.2**
SJG	**San Juan**	**1.63**	**229**	⇓*e*P	**Pn**	**08 53 36.0**	**-0.4**
SJG	**San Juan**	**1.63**	**229**	⇓*e*P	**Pn**	**08 53 36.0**	**-0.4**
SJG	**San Juan**	**1.63**	**229**	⇓*e*P	**Pn**	**08 53 36.0**	**-0.4**
SJG				*e*S	**Sn**	**08 53 56.8**	**+0.2**
SJG	**San Juan**	**1.63**	**229**	⇓*e*P	**Pn**	**08 53 36.0**	**-0.4**
SJG	**San Juan**	**1.63**	**229**	⇓*e*P	**Pn**	**08 53 36.0**	**-0.4**
SJG				*e*S	**Sn**	**08 53 56.8**	**+0.2**
CELP	**Cerrillos**	**1.97**	**236**	⇓*e*P	**Pn**	**08 53 41.2**	**+0.1**
CELP	**Cerrillos**	**1.97**	**236**	⇓*e*P	**Pn**	**08 53 41.2**	**+0.1**
CELP	**Cerrillos**	**1.97**	**236**	⇓*e*P	**Pn**	**08 53 41.2**	**+0.1**
AOPR	**Arecibo Observ**	**1.98**	**245**	⇓*e*P	**Pn**	**08 53 40.9**	**-0.3**
AOPR	**Arecibo Observ**	**1.98**	**245**	⇓*e*P	**Pn**	**08 53 40.9**	**-0.3**
AOPR				*e*S	**Sn**	**08 54 04.8**	**-0.6**
AOPR	**Arecibo Observ**	**1.98**	**245**	⇓*e*P	**Pn**	**08 53 40.9**	**-0.3**
AOPR				*e*S	**Sn**	**08 54 04.8**	**-0.6**
OBIP	**Obispado Ponce**	**2.01**	**236**	⇓*e*P	**Pn**	**08 53 41.7**	**+0.1**
OBIP	**Obispado Ponce**	**2.01**	**236**	⇓*e*P	**Pn**	**08 53 41.7**	**+0.1**
OBIP				*e*S	**Sn**	**08 54 05.7**	**-0.4**
OBIP	**Obispado Ponce**	**2.01**	**236**	⇓*e*P	**Pn**	**08 53 41.7**	**+0.1**
OBIP				*e*S	**Sn**	**08 54 05.7**	**-0.4**
ICM	**Isla Caja Muer**	**2.04**	**231**	⇓*e*P	**Pn**	**08 53 42.3**	**+0.3**
ICM	**Isla Caja Muer**	**2.04**	**231**	⇓*e*P	**Pn**	**08 53 42.3**	**+0.3**
ICM				*e*S	**Sn**	**08 54 06.7**	**-0.1**
ICM	**Isla Caja Muer**	**2.04**	**231**	⇓*e*P	**Pn**	**08 53 42.3**	**+0.3**
ICM				*e*S	**Sn**	**08 54 06.7**	**-0.1**
LRS	**Lares**	**2.08**	**245**	⇓*e*P	**Pn**	**08 53 42.6**	**0.0**
LRS	**Lares**	**2.08**	**245**	⇓*e*P	**Pn**	**08 53 42.6**	**0.0**
LRS	**Lares**	**2.08**	**245**	⇓*e*P	**Pn**	**08 53 42.6**	**0.0**
AGPR	**Aguadilla, PR**	**2.25**	**252**	⇓*e*P	**Pn**	**08 53 44.4**	**-0.5**
AGPR	**Aguadilla, PR**	**2.25**	**252**	⇓*e*P	**Pn**	**08 53 44.4**	**-0.5**
AGPR	**Aguadilla, PR**	**2.25**	**252**	⇓*e*P	**Pn**	**08 53 44.4**	**-0.5**
GBPR	**Guanica, Bosqu**	**2.27**	**238**	⇓*e*P	**Pn**	**08 53 45.3**	**+0.2**
GBPR	**Guanica, Bosqu**	**2.27**	**238**	⇓*e*P	**Pn**	**08 53 45.3**	**+0.2**
LSP	**Las Mesas**	**2.34**	**245**	⇓*e*P	**Pn**	**08 53 46.0**	**-0.1**
LSP	**Las Mesas**	**2.34**	**245**	⇓*e*P	**Pn**	**08 53 46.0**	**-0.1**
LSP	**Las Mesas**	**2.34**	**245**	⇓*e*P	**Pn**	**08 53 46.5**	**+0.4**
CRPR	**Cabo Rojo, PR**	**2.44**	**241**	⇓*e*P	**Pn**	**08 53 48.0**	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.44**	**241**	⇓*e*P	**Pn**	**08 53 48.0**	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.44**	**241**	⇓*e*P	**Pn**	**08 53 48.3**	**+0.8**
SKI	**Saint Kitts**	**2.74**	**132**	*e*P	**Pn**	**08 53 51.4**	**-0.3**
SKI				*e*S	**Sn**	**08 54 23.6**	**-0.4**
MBRV		**3.47**	**133**	*i* P	**Pn**	**08 54 01.5**	**-0.2**
MBGB		**3.51**	**134**	*e*P	**Pn**	**08 54 02.8**	**+0.6**
MBWH		**3.52**	**133**	*i* P	**Pn**	**08 54 02.8**	**+0.3**
MLYT	**Lee's Yard**	**3.54**	**134**	*i* P	**Pn**	**08 54 03.2**	**+0.5**
SDDR	**Presa de Saban**	**6.08**	**269**	*e*Pn	**Pn**	**08 54 37.6**	**0.0**
	17nm,0.3s						
SDDR				*e*Sn	**Sn**	**08 55 46.8**	**+0.3**

IDC 04 09:10:06.5±2.2, 30˚.29S×178˚.26W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.9/16, mbtmp4.0/4, Error ellipse: s-maj=83.6km s-min=45.6km az=10.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.29**	**257**	P	P	09 16 54.9	+0.4
	3.0nm,0.9s,baz=114,slow=10.0,SNR=2.9						
ASAR	**Alice Springs**	**42.89**	**267**	P	P	09 18 06.8	-0.1
	0.7nm,0.6s,baz=103,slow=7.7,SNR=13						
WRA	**Warramunga Arr**	**43.87**	**272**	P	P	09 18 14.7	-0.2
	0.9nm,0.6s,baz=111,slow=7.9,SNR=18						
CMAR	**Chiang Mai Arr**	**93.15**	**289**	P	P	09 23 22.5	-0.4
	0.9nm,0.3s,baz=88,slow=3.1,SNR=5.6						
FINES	**FINESS Array B**	**144.97**	**340**	PKP	PKPdf	09 29 44.9	0.0
	0.6nm,0.4s,baz=48,slow=2.1,SNR=4.4						
TORD	**Torodi Ar. Bea**	**162.94**	**180**	PKPab	PKPab	09 30 59.9	-0.5
	0.6nm,0.8s,baz=188,slow=5.3,SNR=3.1						

*NEIC **04** 09:10:25.1, 19˚.37N×66˚.39W, h68km, MD3.4(RSPR), After RSPR.*

RSPR 04 09:10:25.1, 19˚.37N×66˚.39W, h68km±10km, MD3.4/11, 21C-9D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.07**	**199**	⇓*e*P	Pn	09 10 43.2	-1.2
AOPR	**Arecibo Observ**	**1.07**	**199**	⇓*e*P	Pn	09 10 43.2	-1.2
AOPR				*e*S	Sn	09 10 58.8	0.0
AGPR	**Aguadilla, PR**	**1.13**	**217**	⇓*e*P	Pn	09 10 44.0	-1.0
AGPR	**Aguadilla, PR**	**1.13**	**217**	⇓*e*P	Sn	09 11 02.9	+2.9
AGPR	**Aguadilla, PR**	**1.13**	**217**	⇓*e*P	Pn	09 10 44.0	-1.0
LRS	**Lares**	**1.15**	**202**	⇓*e*P	Pn	09 10 44.3	-1.2
LRS	**Lares**	**1.15**	**202**	⇓*e*P	Pn	09 10 44.3	-1.2
CBYP	**Canovanas**	**1.20**	**155**	⇑*e*P	Pn	09 10 45.2	-0.9
CBYP	**Canovanas**	**1.20**	**155**	⇑*e*P	Pn	09 10 45.2	-0.9
CBYP				*e*S	Sn	09 11 00.8	-1.0
SJG	**San Juan**	**1.27**	**170**	⇑*e*P	Pn	09 10 45.9	-1.1
SJG	**San Juan**	**1.27**	**170**	⇓*e*P	Pn	09 10 45.7	-1.2
SJG				*e*S	Sn	09 11 02.6	-0.7
SJG	**San Juan**	**1.27**	**170**	⇑*e*P	Pn	09 10 45.9	-1.1
SJG				*e*S	Sn	09 11 02.5	-0.8
CELP	**Cerrillos**	**1.30**	**188**	⇑*e*P	Pn	09 10 46.7	-0.7
CELP	**Cerrillos**	**1.30**	**188**	⇑*e*P	Pn	09 10 46.7	-0.7
HUMP	**Col San Antoni**	**1.32**	**157**	⇑*e*P	Pn	09 10 46.3	-1.4
HUMP	**Col San Antoni**	**1.32**	**157**	⇑*e*P	Pn	09 10 46.3	-1.4
HUMP				*e*S	Sn	09 11 03.9	-0.7
OBIP	**Obispado Ponce**	**1.33**	**189**	⇓*e*P	Pn	09 10 47.0	-0.8
OBIP	**Obispado Ponce**	**1.33**	**189**	⇓*e*P	Pn	09 10 47.0	-0.8
OBIP				*e*S	Sn	09 11 03.8	-1.0
LSP	**Las Mesas**	**1.36**	**209**	⇑*e*P	Pn	09 10 47.8	-0.3
LSP				*e*S	Sn	09 11 05.2	-0.1
LSP	**Las Mesas**	**1.36**	**209**	⇑*e*P	Pn	09 10 47.8	-0.3
LSP				*e*S	Sn	09 11 05.2	-0.1
ICM	**Isla Caja Muer**	**1.47**	**185**	⇑*e*P	Pn	09 10 49.4	-0.2
ICM	**Isla Caja Muer**	**1.47**	**185**	⇑*e*P	Pn	09 10 49.4	-0.2
ICM				*e*S	Sn	09 11 07.8	-0.2
MTP	**Monte Pirata**	**1.49**	**148**	⇑*e*P	Pn	09 10 48.8	-1.2
MTP	**Monte Pirata**	**1.49**	**148**	⇑*e*P	Pn	09 10 48.8	-1.2
MTP				*e*S	Sn	09 11 07.9	-0.7
CRPR	**Cabo Rojo, PR**	**1.52**	**207**	⇑*e*P	Pn	09 10 50.0	-0.2
CRPR	**Cabo Rojo, PR**	**1.52**	**207**	⇑*e*P	Pn	09 10 50.0	-0.2
CRPR				*e*S	Sn	09 11 08.8	-0.4
STVI	**Saint Thomas**	**1.69**	**126**	⇑*e*P	Pn	09 10 51.9	-0.7
STVI	**Saint Thomas**	**1.69**	**126**	⇑*e*P	Pn	09 10 51.9	-0.7
STVI				*e*S	Sn	09 11 13.2	-0.2
TBVI	**Tortola**	**1.93**	**119**	⇑*e*P	Pn	09 10 55.6	-0.1
TBVI				*e*S	Sn	09 11 19.2	+0.2
TBVI	**Tortola**	**1.93**	**119**	⇑*e*P	Pn	09 10 55.6	-0.1
TBVI				*e*S	Sn	09 11 19.2	+0.2
SDDR	**Presa de Saban**	**4.64**	**266**	*e*Pn	Pn	09 11 34.5	+1.7
SDDR				*e*Sn	Sn	09 12 28.4	+3.0

*ISK **04** 09:18:13.6, 36˚.89N×29˚.14E, h6km, MD2.8*
*ISCJB **04** 09:18:14.1±0.6, 36˚.92N±0˚.04×29˚.16E±0˚.04, h10km, Error ellipse: s-maj=5.6km s-min=4.2km az=168.1*
*CSEM **04** 09:18:14.1±0.2, 36˚.93N×29˚.16E, h8km, MD2.8, Error ellipse: s-maj=5.3km s-min=4.7km az=1.0*
*DDA **04** 09:18:14.9, 36˚.99N×29˚.18E, h7km±5km, Md2.9*

ISC 04 09:18:14.4±0.6, 36˚.92N±0˚.04×29˚.16E±0˚.04, h10km±12km, n20, σ0°80/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.29**	**192**	*e*PG	**Pg**	**09 18 19.3**	**-0.9**
FETY	**Fethiye**	**0.29**	**192**	*e*Pg	**Pg**	**09 18 19.3**	**-0.9**
GLHS	**Glhisar (BURDU**	**0.36**	**49**	*e*PG	**Pg**	**09 18 21.6**	**+0.1**
GLHS				*e*SG	**Sg**	**09 18 27.5**	**+1.2**
GLHS	**Glhisar (BURDU**	**0.36**	**49**	*e*Pg	**Pg**	**09 18 21.6**	**+0.1**
GLHS				*e*Sg	**Sg**	**09 18 27.5**	**+1.2**
GOLH	**Golhisar**	**0.45**	**46**	*i* P	**Pg**	**09 18 22.2**	**-1.0**
GOLH				*i* S	**Sg**	**09 18 29.5**	**+0.3**
GOLH	**Golhisar**	**0.45**	**46**	*i* P	**Pg**	**09 18 22.2**	**-1.0**
GOLH				*i* S	**Sg**	**09 18 29.5**	**+0.3**
ELL	**Elmali**	**0.63**	**106**	*e*PG	**Pg**	**09 18 26.3**	**-0.2**
ELL	**Elmali**	**0.63**	**106**	*e*Pg	**Pg**	**09 18 26.3**	**-0.2**
YER	**Yerkesik**	**0.73**	**287**	*e*PG	**Pg**	**09 18 27.9**	**-0.6**
YER				*e*SG	**Sg**	**09 18 38.6**	**+0.6**
YER	**Yerkesik**	**0.73**	**287**	*e*Pg	**Pg**	**09 18 27.9**	**-0.6**
YER				*e*Sg	**Sg**	**09 18 38.6**	**+0.6**
DNZL	**Cakiroluk**	**0.77**	**354**	*e*P	**Pg**	**09 18 27.5**	**-1.8**
DNZL				*e*S	**Sg**	**09 18 38.7**	**-0.6**
DNZL	**Cakiroluk**	**0.77**	**354**	*e*P	**Pg**	**09 18 27.5**	**-1.8**
DNZL				*e*S	**Sg**	**09 18 38.7**	**-0.7**
AKAS	**Kas**	**0.78**	**152**	*e*P	**Pg**	**09 18 30.2**	**+0.8**
AKAS				*e*S	**Sg**	**09 18 43.8**	**+4.4**
AKAS	**Kas**	**0.78**	**152**	*e*P	**Pg**	**09 18 30.2**	**+0.9**
AYDN	**Tasoluk**	**1.26**	**306**	*e*P	**Pg**	**09 18 38.7**	**+0.2**
AYDN				*e*S	**Sg**	**09 18 55.9**	**+1.0**
AYDN	**Tasoluk**	**1.26**	**306**	*e*P	**Pg**	**09 18 38.7**	**+0.2**
AYDN				*e*S	**Sg**	**09 18 55.9**	**+1.0**
DAT	**Datca**	**1.28**	**262**	*e*PN	**Pn**	**09 18 38.1**	**-0.1**
DAT	**Datca**	**1.28**	**262**	*e*Pn	**Pn**	**09 18 38.1**	**-0.2**
BODT	**Bodrum**	**1.48**	**276**	*e*PN	**Pn**	**09 18 41.4**	**+0.3**
BODT	**Bodrum**	**1.48**	**276**	*e*Pn	**Pn**	**09 18 41.4**	**+0.3**

*BJI **04** 09:20:07.2, 10˚.14N×139˚.07E, h47km, mB5.0/29, mb4.8/45, Ms4.4/33, Ms7 4.2/35*
*IDC **04** 09:20:07.2±0.5, 10˚.60N×138˚.60E, h0km, mb4.5/22, mb1 4.6/22, mb1mx4.5/27, mbtmp4.5/22, MS3.9/24, Ms1 4.0/24, ms1mx3.8/34, Error ellipse: s-maj=23.6km s-min=12.1km az=78.0*
*ISCJB **04** 09:20:10.1±1.4, 10˚.52N±0˚.05×138˚.57E±0˚.04, h29km±10km, mb4.7/66, MS4.0/36, Error ellipse: s-maj=8.1km s-min=6.2km az=153.0*
*GCMT **04** 09:20:11.7±0.3, 10˚.44N×138˚.41E, h28km±1km, MW4.9, Moment Tensor Solution. s22,c28; s57,c82; Moment tensor: Scale 10^{16}Nm; M_{rr}2.70±.19; $M_{\theta\theta}$-0.36±.11; $M_{\phi\phi}$-2.34±.12; $M_{r\theta}$0.70±.22; $M_{\theta\phi}$-0.74±.07; $M_{r\phi}$0.53±.19; Best double couple: $M_0$2.80000×10^{16} NP1:ϕ_s189.00000°, δ38.00000°, λ75.00000° NP2:ϕ_s28.00000°, δ53.00000°, λ101.00000°. Principal axes: T 2.8800, Plg78.0000°, Azm340.0000°; N -0.2000, Plg9.0000°, Azm201.0000°; P -2.6800, Plg8.0000°, Azm110.0000°; Data Used: IU IC G II.*
*NEIC **04** 09:20:12.6±0.2, 10˚.49N×138˚.47E, h35km, mb5.0/26 Error ellipse: s-maj=6.5km s-min=6.3km az=220.0*
*DJA **04** 09:20:21, 10˚.86N×138˚.89E, h157km, mb4.7/15*

ISC 04 09:20:14.0±0.9, 10˚.48N±0˚.04×138˚.56E±0˚.04, h47km±8km, h46km±1.7km:pP-P, n141, σ1°04/138, mb4.7/66, MS4.0/36, 1D, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.91**	**63**	Pn	**Pn**	**09 21 53.7**	**+1.1**
	33nm,0.3s,baz=228,slow=7.3,SNR=28						
GUMO				Sn	**Sn**	**09 23 09.1**	**-0.9**
	4.7nm,0.3s,baz=207,slow=23,SNR=2.0						
GUMO	**Guam**	**6.91**	**63**	*e*Pn	**Pn**	**09 21 53.4**	**+0.7**
GUMO	**Guam**	**6.91**	**63**	P	**Pn**	**09 21 53.5**	**+0.8**
	0.8nm221nm,1.2s						
SMPI	**Sarmi**	**12.39**	**179**	P	**Pn**	**09 23 16.3**	**+8.6**
	93nm,0.6s						
DAV	**Davao City (W)**	**13.26**	**256**	LR	LR	09 27 10.2	
	comp=Z,568nm,21.1s,baz=92,slow=32						
LBMI	**Labuha**	**15.58**	**226**	P	pP	09 24 02.3	-2.7
	44nm,1.8s						
MSAI	**Masohi**	**16.75**	**215**	P	**Pn**	**09 24 12.1**	**+6.7**
	794nm17nm,1.6s						
CBIJ	**Chichi jima**	**16.88**	**11**	LR	LR	09 28 40.0	
	comp=Z,332nm,21.2s,baz=162,slow=31						
JOW	**Kunigami**	**18.94**	**331**	P	**Pn**	**09 24 33.4**	**+1.2**
	2.8nm,0.3s,baz=172,slow=14,SNR=4.2						
JOW				LR	LR	09 30 07.9	
	comp=Z,462nm,21.1s,baz=164,slow=32						
JOW	**Kunigami**	**18.94**	**331**	P	**Pn**	**09 24 33.4**	**+1.2**
JOW				LR	LR	09 30 07.9	
MRSI	**Marisa**	**19.27**	**240**	P	**Pn**	**09 24 36.0**	**-0.3**
	2μm172nm,1.1s						
LUWI	**Luwuk**	**19.43**	**235**	P	**Pn**	**09 24 36.2**	**-1.9**
	895nm83nm,1.1s						
MYLDM	**Lahad Datu**	**20.55**	**257**	P	**P**	**09 24 50.4**	**+1.6**
	2μm150nm,1.3s						
YULB	**Yu-li**	**20.89**	**310**	*e*P	**P**	**09 24 52.5**	**+0.1**
	43nm,1.0s						
TPUB	**Ta-pu**	**21.34**	**309**	*e*P	**P**	**09 24 57.2**	**0.0**
	60nm,0.9s,mb4.9						
SSLB	**Suanglung**	**21.37**	**311**	*e*P	**P**	**09 24 57.7**	**+0.1**
	42nm,0.8s,mb4.8						
YHNB	**Yeheng**	**21.58**	**313**	*e*P	**P**	**09 24 59.8**	**-0.1**
	109nm,1.2s,mb5.2						
JHJ	**Hachijo jima 2**	**22.56**	**3**	LR	LR	09 31 59.7	
	comp=Z,433nm,19.8s,MS3.9,baz=194,slow=32						
TTSI	**Tana Toraja**	**22.99**	**235**	P	**P**	**09 25 15.1**	**+0.2**
	1μm106nm,1.1s,mb5.2						
SPSI	**Sidrap Palu**	**23.57**	**233**	P	**P**	**09 25 20.0**	**-0.6**
	632nm50nm,1.0s,mb4.9						
BNSI	**Bone**	**23.58**	**232**	P	**P**	**09 25 20.6**	**-0.1**
	666nm55nm,1.3s,mb4.8						
QZH	**Quanzhou**	**23.80**	**310**	P	**P**	**09 25 23.3**	**+0.7**
QZH				S	**S**	**09 29 33.0**	**-2.0**
QZH				LR	LR		
	comp=Z,740nm,16.8s,MS4.2						
KAKA	**Kakadu**	**23.82**	**195**	*e*P	**P**	**09 25 21.1**	**-1.8**
	comp=Z,98nm,1.2s,mb5.1						
KAKA	**Kakadu**	**23.82**	**195**	P	**P**	**09 25 22.7**	**-0.1**
	comp=Z,291nmcomp=Z,33nm,0.7s,mb4.8						
BKSI	**Bulukumba**	**24.15**	**230**	P	**P**	**09 25 31.6**	**+5.7**
	comp=Z,446nmcomp=Z,27nm,1.3s,mb4.5						
KAPI	**Kappang**	**24.24**	**231**	*e*P	**P**	**09 25 24.9**	**-1.8**
	comp=Z,24nm,1.2s,mb4.5						
KAPI	**Kappang**	**24.24**	**231**	P	**P**	**09 25 32.2**	**+5.5**
	comp=Z,16nm,1.2s,mb4.3						
MJAR	**Matsushiro Arr**	**25.95**	**359**	P	**P**	**09 25 39.0**	**-3.0**
	comp=Z,4.1nm,0.7s,mb4.1,baz=187,slow=9.7,SNR=11						
MJAR				LR	LR	09 34 13.1	
	comp=Z,194nm,19.8s,MS3.6,baz=170,slow=33						
MJAR	**Matsushiro Arr**	**25.95**	**359**	P	**P**	**09 25 39.0**	**-3.0**
MJAR				LR	LR	09 34 13.1	
MAT	**Matsushiro**	**25.95**	**359**	P	**P**	**09 25 38.8**	**-3.2**
SBUM	**Sibu**	**27.33**	**255**	P	**P**	**09 25 56.9**	**+2.1**
	comp=Z,8.6nm,1.2s,mb4.2						
NJ2	**Nanjing**	**28.15**	**323**	*e*P	**P**	**09 26 06.7**	**+4.9**
NJ2				S	**S**	**09 30 47.0**	**+3.0**
NJ2				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.6						
NJ2				LR	LR		
	comp=N,190nm,18.0s,MS3.9						
NJ2				LR	LR		
	comp=E,220nm,16.1s,MS3.9						
KSRS	**Korea Array**	**28.52**	**342**	P	**P**	**09 26 04.0**	**-1.1**
	comp=E,1.6nm,0.8s,mb3.8,baz=168,slow=10,SNR=6.8						
KSRS				PcP	PcP	09 29 16.1	+0.2
	comp=E,1.1nm,0.6s,baz=209,slow=2.2,SNR=4.2						
KSRS				LR	LR	09 37 06.9	
	comp=E,189nm,18.2s,MS3.7,baz=152,slow=36						
QIZ	**Qiongzhong**	**29.00**	**290**	P	**P**	**09 26 09.1**	**-0.5**
QIZ				S	**S**	**09 30 58.1**	**+0.4**
QIZ				LR	LR		
	comp=Z,210nm,24.2s,MS3.7						
WHN	**Wuhan**	**30.08**	**315**	⇓P	**P**	**09 26 19.3**	**+0.3**
WHN				S	**S**	**09 31 18.3**	**+3.8**
WHN				pmax	pmax		
	comp=Z,53nm,0.8s,mb5.3						
WHN				LR	LR		
	comp=N,640nm,12.3s,MS4.6						
WHN				LR	LR		
	comp=E,490nm,12.1s,MS4.6						
WHN				LR	LR		
	comp=Z,730nm,13.2s,MS4.5						
WRA	**Warramunga Arr**	**30.51**	**188**	P	**P**	**09 26 23.0**	**+0.2**
	comp=Z,1.5nm,0.7s,mb3.9,baz=2.3,slow=9.8,SNR=20						
WRA				PcP	PcP	09 29 21.7	+0.5
	comp=Z,1.6nm,1.0s,baz=350,slow=2.6,SNR=4.4						
WRA				LR	LR	09 38 18.4	
	comp=Z,248nm,20.3s,MS3.9,baz=15,slow=36						
WRA	**Warramunga Arr**	**30.51**	**188**	P	**P**	**09 26 23.0**	**+0.2**
WRA				PcP	PcP	09 29 21.7	+0.5
WRA				LR	LR	09 38 18.4	
FITZ	**Fitzroy Crossi**	**31.13**	**204**	LR	LR	09 39 19.5	
	comp=Z,126nm,20.4s,MS3.6,baz=283,slow=37						
CTA	**Charters Tower**	**31.30**	**166**	P	**P**	**09 26 31.1**	**+1.3**
	comp=Z,1.0nm,0.3s,mb4.1,baz=330,slow=7.4,SNR=5.1						
CTA				LR	LR	09 37 58.2	
	comp=Z,190nm,20.7s,MS3.7,baz=238,slow=34						
CTA	**Charters Tower**	**31.30**	**166**	P	**P**	**09 26 31.1**	**+1.3**
CTA				LR	LR	09 37 58.2	
ASAJ	**Asahikawa**	**33.70**	**5**	LR	LR	09 41 04.7	
	comp=Z,129nm,19.4s,MS3.7,baz=182,slow=38						
GYA	**Guiyang**	**34.04**	**302**	P	**P**	**09 26 55.0**	**+1.2**
GYA				pP	pP	09 27 08.0	+1.8
GYA				sP	sP	09 27 13.4	+1.6
GYA				PP	PP	09 28 10.2	-1.3
GYA				PcP	PcP	09 29 32.6	+1.7
GYA				S	**S**	**09 32 16.9**	**+0.7**
GYA				sS	sS	09 32 38.4	+1.4
GYA				ScP	ScP	09 33 11.5	-0.6
GYA				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
GYA				pmax	pmax		
	comp=Z,120nm,4.6s						
GYA				LR	LR		
	comp=N,520nm,17.4s,MS4.4						
GYA				LR	LR		
	comp=E,410nm,18.0s,MS4.4						
GYA				LR	LR		
	comp=Z,550nm,17.9s,MS4.3						
ASAR	**Alice Springs**	**34.24**	**188**	P	**P**	**09 26 56.1**	**+0.7**
	comp=Z,2.1nm,0.5s,mb4.3,baz=16,slow=12,SNR=48						
ASAR				PcP	PcP	09 29 32.2	+0.8
	comp=Z,1.3nm,0.7s,baz=11,slow=2.4,SNR=5.5						
ASAR	**Alice Springs**	**34.24**	**188**	P	**P**	**09 26 56.1**	**+0.7**
ASAR				PcP	PcP	09 29 32.2	+0.8
MDJ	**Mudanjiang**	**34.88**	**349**	P	**P**	**09 27 03.0**	**+2.2**
MDJ				pP	pP	09 27 13.7	+0.4
MDJ				sP	sP	09 27 18.0	-0.8
MDJ				PP	PP	09 28

CMAR				LR	LR	09 44 40.7		
CHTO	**Chiang Mai**	**39.14**	**287**	P	**P**	**09 27 37.5**	**+0.2**	
LZH	**Lanzhou**	**40.46**	**315**	*e*P	**P**	**09 27 49.4**	**+1.3**	
LZH				pP	pP	09 28 02.2	+1.5	
LZH				sP	sP	09 28 06.3	+0.1	
LZH				pmax	pmax			
	comp=Z,21nm,1.0s,mb4.8							
LZH				pmax	pmax			
	comp=Z,110nm,4.8s							
LZH				LR	LR			
	comp=N,130nm,13.6s,MS4.2							
LZH				LR	LR			
	comp=E,210nm,14.4s,MS4.2							
LZH				LR	LR			
	comp=Z,290nm,14.6s,MS4.3							
STKA	**Stephens Creek**	**42.21**	**176**	P	**P**	**09 28 02.5**	**+0.1**	
	comp=Z,6.3nm,0.8s,mb4.3,baz=349,slow=9.7,SNR=12							
STKA				LR	LR	09 46 05.3		
	comp=Z,434nm,19.8s,MS4.3,baz=24,slow=37							
STKA	**Stephens Creek**	**42.21**	**176**	*e*P	**P**	**09 28 02.0**	**-0.4**	
	comp=Z,5.3nm,1.4s,mb4.0							
GTA	**Gaotai**	**44.88**	**317**	*e*P	**P**	**09 28 19.9**	**-4.0**	
GTA				pP	pP	09 28 32.2	-4.5	
GTA				sP	sP	09 28 37.9	-4.3	
GTA				S	**S**	**09 34 55.9**	**-2.6**	
GTA				SS	SS	09 38 14.7	-6.3	
GTA				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.2							
GTA				pmax	pmax			
	comp=Z,120nm,5.2s							
GTA				LR	LR			
	comp=N,130nm,15.2s,MS4.2							
GTA				LR	LR			
	comp=E,170nm,18.0s,MS4.2							
GTA				LR	LR			
	comp=Z,180nm,18.0s,MS4.0							
SONM	**Songino Array**	**46.01**	**330**	P	**P**	**09 28 32.2**	**-0.5**	
	comp=Z,5.9nm,1.1s,mb4.4,baz=134,slow=6.6,SNR=10.0							
SONM				PcP	PcP	09 30 08.3	-0.3	
	comp=Z,3.7nm,0.9s,baz=161,slow=3.3,SNR=6.0							
SONM				LR	LR	09 46 52.5		
	comp=Z,77nm,20.4s,MS3.6,baz=1.1,slow=35							
SONM	**Songino Array**	**46.01**	**330**	P	**P**	**09 28 32.2**	**-0.5**	
SONM				PcP	PcP	09 30 08.3	-0.3	
SONM				LR	LR	09 46 52.5		
TAPN	**Taplejung**	**50.58**	**297**	*e*P	**P**	**09 29 08.1**	**-0.2**	
TAPN	**Taplejung**	**50.58**	**297**	*e*P	**P**	**09 29 08.1**	**-0.2**	
ODAN	**Odare**	**50.79**	**296**	*e*P	**P**	**09 29 09.8**	**-0.1**	
ODAN	**Odare**	**50.79**	**296**	*e*P	**P**	**09 29 09.8**	**-0.1**	
YAK	**Yakutsk**	**51.87**	**355**	*e*P	**P**	**09 29 17.0**	**-0.3**	
	comp=Z,32nm,0.8s,mb5.3							
GUN	**Gumba**	**52.27**	**297**	*e*P	**P**	**09 29 20.9**	**-0.1**	
	comp=Z,40nm,1.0s,mb5.3							
GUN	**Gumba**	**52.27**	**297**	*e*P	**P**	**09 29 20.9**	**-0.1**	
	comp=Z,40nm,1.0s,mb5.3							
PKI	**Pulchoki**	**52.64**	**297**	*e*P	**P**	**09 29 22.8**	**-0.9**	
PKI	**Pulchoki**	**52.64**	**297**	*e*P	**P**	**09 29 22.8**	**-0.9**	
KKN	**Kakani**	**52.78**	**297**	*e*P	**P**	**09 29 24.4**	**-0.3**	
KKN	**Kakani**	**52.78**	**297**	*e*P	**P**	**09 29 24.4**	**-0.3**	
DMN	**Daman**	**52.91**	**297**	*e*P	**P**	**09 29 25.3**	**-0.4**	
	comp=Z,28nm,0.9s,mb5.2							
DMN	**Daman**	**52.91**	**297**	*e*P	**P**	**09 29 25.3**	**-0.4**	
	comp=Z,28nm,0.9s,mb5.2							
GKN	**Gorkha**	**53.38**	**297**	*e*P	**P**	**09 29 28.3**	**-0.8**	
	comp=Z,39nm,1.2s,mb5.2							
GKN	**Gorkha**	**53.38**	**297**	*e*P	**P**	**09 29 28.3**	**-0.8**	
	comp=Z,39nm,1.2s,mb5.2							
DANN	**Dangsing**	**54.19**	**297**	*e*P	**P**	**09 29 34.8**	**-0.2**	
DANN	**Dangsing**	**54.19**	**297**	*e*P	**P**	**09 29 34.8**	**-0.2**	
KOLN	**Koldanda**	**54.26**	**297**	*e*P	**P**	**09 29 35.0**	**-0.5**	
	comp=Z,24nm,0.8s,mb5.2							
KOLN	**Koldanda**	**54.26**	**297**	*e*P	**P**	**09 29 35.0**	**-0.5**	
	comp=Z,24nm,0.8s,mb5.2							
WMQ	**Urumqi**	**54.97**	**317**	P	**P**	**09 29 40.7**	**+0.3**	
WMQ				pP	pP	09 29 53.4	-0.1	
WMQ				sP	sP	09 29 58.7	-0.2	
WMQ				pmax	pmax			
	comp=Z,13nm,1.0s,mb4.9							
WMQ				LR	LR			
	comp=Z,55nm,26.9s,MS3.5							
MK31	**Makanchi Array**	**59.56**	**318**	*e*P	**P**	**09 30 13.1**	**+0.3**	
MKAR	**Makanchi Array**	**59.56**	**318**	P	**P**	**09 30 12.9**	**+0.1**	
	comp=Z,7.1nm,0.7s,mb4.8,baz=98,slow=8.7,SNR=38							
MKAR				PcP	PcP	09 30 59.7	-0.1	
	comp=Z,3.2nm,0.7s,baz=101,slow=5.9,SNR=4.3							
MKAR				LR	LR	09 58 13.8		
	comp=Z,120nm,18.2s,MS4.1,baz=241,slow=38							
MKAR	**Makanchi Array**	**59.56**	**318**	P	**P**	**09 30 12.9**	**+0.1**	
MKAR				PcP	PcP	09 30 59.7	-0.1	
MKAR				LR	LR	09 58 13.8		
BILL	**Bilibino**	**60.34**	**12**	*e*P	**P**	**09 30 17.1**	**-0.6**	
	comp=Z,7.7nm,0.8s,mb4.8							
ZAA0	**Zalesovo Array**	**60.69**	**327**	*e*P	**P**	**09 30 19.2**	**-1.1**	
ZALV	**Zalesovo Beam**	**60.69**	**327**	P	**P**	**09 30 19.8**	**-0.6**	
	comp=Z,5.1nm,0.7s,mb4.8,baz=101,slow=6.2,SNR=18							
ZALV				LR	LR	09 59 19.0		
	comp=Z,116nm,18.2s,MS4.1,baz=63,slow=39							
ZALV	**Zalesovo Beam**	**60.69**	**327**	P	**P**	**09 30 19.8**	**-0.6**	
ZALV				LR	LR	09 59 19.0		
KSH	**Kashi**	**62.30**	**309**	*e*P	**P**	**09 30 33.9**	**+2.4**	
KSH				pP	pP	09 30 46.7	+1.9	
KSH				sP	sP	09 30 51.9	+1.7	
KSH				PcP	PcP	09 31 12.7	+1.7	
KSH				PP	PP	09 32 53.3	+4.3	
KSH				ScP	ScP	09 35 09.6	+0.3	
KSH				PcS	PcS	09 35 14.6	+0.4	
KSH				S	**S**	**09 38 54.8**	**+0.3**	
KSH				sS	sS	09 39 17.2	+0.5	
KSH				ScS	ScS	09 40 18.3	-1.7	
KSH				SS	SS	09 43 01.6	+3.1	
KSH				pmax	pmax			
	comp=Z,15nm,1.6s,mb4.9							
KSH				pmax	pmax			
	comp=Z,100nm,5.6s							
KSH				LR	LR			
	comp=N,110nm,5.1s							
KSH				LR	LR			
	comp=E,93nm,6.0s							
KSH				LR	LR			
	comp=Z,100nm,4.5s							
KURK	**Kurchatov**	**63.08**	**322**	P	**P**	**09 30 36.2**	**-0.3**	
	comp=Z,22nm,0.8s,mb5.3,baz=106,slow=6.7,SNR=17							
KURK	**Kurchatov**	**63.08**	**322**	P	**P**	**09 30 36.2**	**-0.3**	
AAK	**Ala-Archa**	**63.93**	**312**	LR	LR	10 02 41.0		
	comp=Z,102nm,18.0s,MS4.0,slow=40							
KKAR	**Karatay Array**	**66.90**	**312**	*e*P	**P**	**09 31 01.1**	**-0.3**	
RAR	**Rarotonga**	**68.25**	**118**	LR	LR	09 53 37.3		
	comp=Z,146nm,20.5s,MS4.2,baz=46,slow=29							
BVAR	**Borovoye Array**	**68.60**	**323**	P	**P**	**09 31 11.9**	**-0.1**	
	comp=Z,18nm,0.7s,mb5.1,baz=101,slow=7.7,SNR=25							
BVAR	**Borovoye Array**	**68.60**	**323**	P	**P**	**09 31 11.9**	**-0.1**	
BPAW	**Bear Paw Mtn.**	**72.13**	**26**	*e*P	**P**	**09 31 34.4**	**+1.1**	
	comp=Z,19nm,1.0s,mb5.0							
TRF	**Thorofare Moun**	**72.29**	**27**	*e*P	**P**	**09 31 34.8**	**+0.5**	
	comp=Z,8.9nm,0.8s,mb4.8							
PMR	**Palmer**	**72.45**	**29**	*e*P	**P**	**09 31 35.4**	**+0.1**	
	comp=Z,22nm,1.3s,mb4.9							
SML	**Sawmill**	**72.86**	**28**	*e*P	**P**	**09 31 38.5**	**+0.8**	
	comp=Z,3.0nm,0.8s,mb4.3							
MCK	**McKinley**	**72.94**	**26**	*e*P	**P**	**09 31 38.5**	**+0.4**	
	comp=Z,21nm,1.0s,mb5.0							
COLD	**Coldfoot**	**73.17**	**23**	*e*P	**P**	**09 31 40.9**	**+1.5**	
	comp=Z,7.5nm,0.9s,mb4.6							
COLA	**College**	**73.62**	**25**	*e*P	**P**	**09 31 42.0**	**-0.1**	
	comp=Z,4.4nm,1.0s,mb4.3							
ILAR	**Eielson Array**	**74.01**	**25**	P	**P**	**09 31 43.6**	**-0.8**	
	comp=Z,2.7nm,0.8s,mb4.2,baz=252,slow=5.9,SNR=34							
ILAR				LR	LR	10 03 18.9		
	comp=Z,76nm,18.2s,MS4.0,baz=208,slow=35							
ILAR	**Eielson Array**	**74.01**	**25**	P	**P**	**09 31 43.6**	**-0.8**	
ILAR				LR	LR	10 03 18.9		
PAX	**Paxson**	**74.36**	**27**	*e*P	**P**	**09 31 47.5**	**+1.0**	
	comp=Z,7.2nm,0.9s,mb4.6							
BMRM	**Bremner River**	**74.52**	**30**	*e*P	**P**	**09 31 48.7**	**+1.3**	
	comp=Z,22nm,1.0s,mb5.0							
ABKAR	**Akbulak array**	**74.71**	**318**	*e*P	**P**	**09 31 48.0**	**-0.8**	
DOT	**Dot Lake**	**75.08**	**27**	*e*P	**P**	**09 31 50.7**	**+0.1**	
	comp=Z,37nm,1.0s,mb5.3							
MENT	**Mentasta**	**75.15**	**28**	*e*P	**P**	**09 31 50.9**	**-0.2**	
ARU	**Arti**	**75.81**	**326**	*e*P	**P**	**09 31 53.8**	**-1.1**	
	comp=Z,19nm,0.9s,mb5.0							
AKTK	**Aktyubinsk**	**75.98**	**319**	P	**P**	**09 31 55.6**	**-0.5**	
AKTO	**Aktyubinsk**	**75.98**	**319**	P	**P**	**09 31 55.6**	**-0.5**	
	comp=Z,2.5nm,0.7s,mb4.3,baz=93,slow=6.5,SNR=10							
PPT	**Papeete**	**76.25**	**111**	*e*S	S	09 41 41.2	+1.6	
	comp=Z,63nm,27.0s							
PPT				*e*LR	LR	09 55 32.1		
	comp=Z,168nm,22.2s							
DAWY	**Dawson**	**77.17**	**27**	*e*P	**P**	**09 32 03.5**	**+1.0**	
TBI	**Tubuai**	**77.97**	**117**	*e*LR	LR	09 56 15.4		
	comp=Z,166nm,24.0s							
INK	**Inuvik**	**79.57**	**22**	P	**P**	**09 32 15.8**	**+0.1**	
	comp=Z,3.4nm,0.9s,mb4.3,baz=282,slow=6.3,SNR=9.9							
INK	**Inuvik**	**79.57**	**22**	*e*P	**P**	**09 32 15.8**	**0.0**	
	comp=Z,7.0nm,1.1s,mb4.5							
ARCES	**ARCESS Array B**	**88.07**	**341**	P	**P**	**09 32 57.2**	**-1.9**	
	comp=Z,3.2nm,0.9s,mb4.6,baz=46,slow=5.2,SNR=4.5							
ARCES				LR	LR	10 16 39.5		
	comp=Z,106nm,18.1s,MS4.3,baz=35,slow=39							
ARCES	**ARCESS Array B**	**88.07**	**341**	P	**P**	**09 32 57.2**	**-1.9**	
ARCES				LR	LR	10 16 39.5		
YKA	**Yellowknife Ar**	**88.41**	**26**	P	**P**	**09 33 01.3**	**+0.5**	
	comp=Z,2.9nm,0.8s,mb4.6,baz=182,slow=35,SNR=3.2							
YKA	**Yellowknife Ar**	**88.41**	**26**	P	**P**	**09 33 01.3**	**+0.5**	
JOF	**Joensuu**	**88.44**	**334**	*e*p	**P**	**09 32 58.4**	**-2.5**	
	comp=Z,5.9nm,0.8s,mb4.9							
VNDA	**Vanda**	**88.84**	**175**	P	**P**	**09 33 03.0**	**+0.6**	
	comp=Z,1.2nm,0.9s,mb4.2,baz=318,slow=7.7,SNR=5.7							
VNDA				LR	LR	10 08 55.7		
	comp=Z,75nm,21.0s,MS4.1,baz=328,slow=33							
VNDA	**Vanda**	**88.84**	**175**	P	**P**	**09 33 03.0**	**+0.6**	
VNDA				LR	LR	10 08 55.7		
KAF	**Kangasniemi**	**90.90**	**334**	*e*p	**P**	**09 33 09.4**	**-3.0**	
	comp=Z,5.6nm,0.8s,mb5.0							
FINES	**FINESS Array B**	**91.28**	**334**	P	**P**	**09 33 12.6**	**-1.6**	
	comp=Z,4.0nm,0.7s,mb4.9,baz=90,slow=5.7,SNR=7.8							
FINES				LR	LR	10 18 20.2		
	comp=Z,131nm,19.1s,MS4.4,baz=57,slow=38							
FINES	**FINESS Array B**	**91.28**	**334**	P	**P**	**09 33 12.6**	**-1.6**	
FINES				LR	LR	10 18 20.2		
BMO	**Blue Mountains**	**92.52**	**44**	*e*P	**P**	**09 33 20.2**	**-0.1**	
	comp=Z,36nm,2.8s,mb5.3							
NVAR	**Mina Array Bea**	**93.66**	**50**	P	**P**	**09 33 27.4**	**+1.7**	
	comp=Z,4.4nm,0.8s,mb4.7,baz=252,slow=6.4,SNR=12							
NVAR	**Mina Array Bea**	**93.66**	**50**	P	**P**	**09 33 27.4**	**+1.7**	
AKASG	**Malin Array Be**	**93.88**	**323**	P	**P**	**09 33 24.6**	**-1.9**	
	comp=Z,1.5nm,0.7s,mb4.5,baz=56,slow=5.4,SNR=5.1							
AKASG				LR	LR	10 20 32.5		
	comp=Z,77nm,19.4s,MS4.2,baz=75,slow=39							
AKASG	**Malin Array Be**	**93.88**	**323**	P	**P**	**09 33 24.6**	**-1.9**	
AKASG				LR	LR	10 20 32.5		
BRTR	**Keskin Array B**	**94.60**	**312**	P	**P**	**09 33 28.8**	**-1.2**	
	comp=Z,0.6nm,0.4s,mb4.4,baz=97,slow=5.1,SNR=3.7							
BRTR	**Keskin Array B**	**94.60**	**312**	P	**P**	**09 33 28.8**	**-1.2**	
NOA	**NORSAR Array B**	**97.62**	**337**	LR	LR	10 19 39.4		
	comp=Z,50nm,18.1s,MS4.0,baz=55,slow=37							
PDAR	**Pinedale Array**	**98.50**	**44**	LR	LR	10 18 41.0		
	comp=Z,34nm,18.2s,MS3.9,baz=68,slow=36							
TORD	**Torodi Ar. Bea**	**131.17**	**298**	PKP	PKPdf	09 39 22.9	+1.1	
	comp=Z,0.6nm,0.7s,baz=56,slow=3.5,SNR=3.7							
TORD	**Torodi Ar. Bea**	**131.17**	**298**	PKP	PKPdf	09 39 22.9	+1.1	
SDV	**Santo Domingo**	**145.16**	**58**	*e*PKPbc	PKPbc	09 39 47.8	+0.7	
LPAZ	**La Paz**	**153.42**	**105**	PKP	PKPdf	09 40 01.1	+0.6	
	comp=Z,1.4nm,0.8s,baz=298,slow=2.0,SNR=4.1							
LPAZ				PKPbc	PKPbc	09 40 08.0	-0.1	
	comp=Z,2.0nm,0.8s,baz=347,slow=5.2,SNR=6.0							
LPAZ	**La Paz**	**153.42**	**105**	PKP	PKPdf	09 40 01.1	+0.6	
LPAZ				PKPbc	PKPbc	09 40 08.0	-0.1	

ISCJB ***04*** *09:24:44.0±1.1,20.85S±0.09×178.87W±0.10, h621km±13km, mb4.3/26, Error ellipse: s-maj=14.1km s-min=12.8km az=23.6*

IDC ***04*** *09:24:43.6±1.5,20.75S×178.77W, h599km±17km, mb3.8/22, mb1 3.9/23, mb1mx3.8/26, mbtmp3.8/23, Error ellipse: s-maj=13.2km s-min=10.3km az=79.0*

NEIC ***04*** *09:24:44.9±1.0,20.78S×178.83W, h620km±12km, mb4.3/2, Error ellipse: s-maj=14.2km s-min=12.3km az=125.0*

ISC 04 09:24:44.9±1.1, 20.82S±0.09×178.84W±0.10, h614km±12km, n69, σ0.88/57, mb4.3/26, 1C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.25**	**316**	*i*P		**P**	**09 26 13.4**	**+0.1**
URZ	**Urewera**	**17.73**	**191**	P		**P**	**09 28 15.3**	**-1.9**
	1.8nm,0.3s,baz=58,slow=6.3,SNR=15							
URZ				S		**S**	**09 31 02.9**	**-6.7**
	0.4nm,0.3s,baz=67,slow=19,SNR=7.8							
URZ	**Urewera**	**17.73**	**191**	P		**P**	**09 28 15.3**	**-1.9**
URZ				S		**S**	**09 31 02.9**	**-6.7**
RPZ	**Rata Peaks**	**24.34**	**198**	P		**P**	**09 29 16.6**	**+0.3**
	13nm,0.9s,mb4.6,baz=327,slow=15,SNR=3.9							
RPZ	**Rata Peaks**	**24.34**	**198**	P		**P**	**09 29 16.6**	**+0.3**
CTA	**Charters Tower**	**32.68**	**265**	P		**P**	**09 30 29.2**	**+0.5**
	14nm,0.5s,mb4.9,baz=93,slow=10,SNR=34							
CTA	**Charters Tower**	**32.68**	**265**	*e*P		**P**	**09 30 29.1**	**+0.4**
	11nm,0.5s,mb4.7							
CTA	**Charters Tower**	**32.68**	**265**	P		**P**	**09 30 29.2**	**+0.5**
QLP	**Quilpie**	**34.21**	**253**	*e*P		**P**	**09 30 41.7**	**+0.2**
PMG	**Port Moresby**	**34.65**	**284**	P		**P**	**09 30 45.5**	**+0.2**
	26nm,0.7s,mb5.0,baz=89,slow=3.8,SNR=9.8							
PMG	**Port Moresby**	**34.65**	**284**	P		**P**	**09 30 45.5**	**+0.2**
MTSU	**Mount Surprise**	**34.79**	**268**	*e*P		**P**	**09 30 46.7**	**+0.3**
	17nm,0.5s,mb4.9							
COEN	**Coen**	**36.82**	**274**	*e*P		**P**	**09 31 03.5**	**+0.4**
STKA	**Stephens Creek**	**36.94**	**244**	P		**P**	**09 31 05.2**	**+1.3**
	1.9nm,0.5s,mb3.9,baz=119,slow=10,SNR=5.0							
STKA	**Stephens Creek**	**36.94**	**244**	P		**P**	**09 31 05.2**	**+1.3**
ASAR	**Alice Springs**	**43.68**	**257**	P		**P**	**09 31 57.6**	**+0.2**
	16nm,0.6s,mb4.7,baz=96,slow=7.6,SNR=209							
ASAR				ScP		ScP	09 36 26.9	+2.4
	1.9nm,0.8s,baz=104,slow=4.7,SNR=6.5							
ASAR	**Alice Springs**	**43.68**	**257**	P		**P**	**09 31 57.6**	**+0.2**
ASAR				ScP		ScP	09 36 26.9	+2.4
WB2	**Warramunga Arr**	**43.77**	**263**	*e*P		**P**	**09 31 57.7**	**-0.4**
WRAB	**Tennant Creek**	**43.77**	**263**	*e*P		**P**	**09 31 57.7**	**-0.5**
	12nm,0.6s,mb4.6							
WRA	**Warramunga Arr**	**43.78**	**263**	P		**P**	**09 31 57.7**	**-0.5**
	13nm,0.5s,mb4.7,baz=98,slow=8.0,SNR=281							
WRA	**Warramunga Arr**	**43.78**	**263**	P		**P**	**09 31 57.7**	**-0.5**
KAKA	**Kakadu**	**47.20**	**272**	*e*P		**P**	**09 32 23.7**	**-0.5**
	23nm,0.8s,mb4.8							
KAKA	**Kakadu**	**47.20**	**272**	*e*P		**P**	**09 32 23.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**52.21**	**263**	*e*P		**P**	**09 33 00.6**	**-0.1**
	6.9nm,0.6s,mb4.2							
FITZ	**Fitzroy Crossi**	**52.21**	**263**	*e*P		**P**	**09 33 01.0**	**+0.3**
	3.7nm,0.6s,mb3.9							
VNDA	**Vanda**	**57.52**	**185**	P		**P**	**09 33 37.7**	**+1.0**
	3.7nm,0.7s,mb3.7,baz=358,slow=7.6,SNR=19							
VNDA				ScP		ScP	09 37 23.7	+0.6
	1.3nm,0.9s,baz=346,slow=4.3,SNR=3.9							
VNDA	**Vanda**	**57.52**	**185**	P		**P**	**09 33 37.7**	**+1.0**
VNDA				ScP		ScP	09 37 23.7	+0.6
CBIJ	**Chichi jima**	**60.77**	**320**	P		**P**	**09 33 58.4**	**-0.6**
	18nm,0.4s,mb4.6,baz=291,slow=22,SNR=3.5							
KAPI	**Kappang**	**61.53**	**276**	P		**P**	**09 34 02.8**	**-1.5**
	3.8nm,0.6s,mb3.8,baz=84,slow=17,SNR=2.7							
KAPI	**Kappang**	**61.53**	**276**	P		**P**	**09 34 02.8**	**-1.5**
QSPA	**South Pole Qui**	**69.25**	**180**	P		**P**	**09 34 51.8**	**+0.7**
	14nm,0.6s,mb4.6,baz=31,slow=1.1,SNR=114							
QSPA	**South Pole Qui**	**69.25**	**180**	P		**P**	**09 34 51.8**	**+0.7**
MJAR	**Matsushiro Arr**	**70.00**	**324**	P		**P**	**09 34 55.5**	**-0.8**
	6.3nm,0.7s,mb4.2,baz=165,slow=6.6,SNR=15							
MJAR	**Matsushiro Arr**	**70.00**	**324**	P		**P**	**09 34 55.5**	**-0.8**
ASAJ	**Asahikawa**	**73.64**	**332**	P		**P**	**09 35 18.3**	**+1.3**
	21nm,0.9s,mb4.7,baz=133,slow=14,SNR=4.4							
PETK	**Petropavlovsk-**	**76.38**	**346**	P		**P**	**09 35 31.3**	**-0.8**
	9.6nm,0.8s,mb4.3,baz=112,slow=5.8,SNR=8.1							
PETK	**Petropavlovsk-**	**76.38**	**346**	P		**P**	**09 35 31.3**	**-0.8**
KSRS	**Korea Array**	**76.61**	**319**	P		**P**	**09 35 34.3**	**+0.5**
	2.3nm,0.8s,mb3.6,baz=130,slow=6.7,SNR=8.0							
MAW	**Mawson**	**81.00**	**200**	P		**P**	**09 35 56.7**	**+0.2**
	3.1nm,0.6s,mb3.9,baz=144,slow=5.7,SNR=7.3							
MAW	**Mawson**	**81.00**	**200**	P		**P**	**09 35 56.7**	**+0.2**
YBH	**Yreka Blue Hor**	**81.03**	**39**	P		**P**	**09 35 57.6**	**+0.6**
	1.9nm,0.8s,mb3.6,baz=140,slow=13,SNR=3.4							
YBH	**Yreka Blue Hor**	**81.03**	**39**	P		**P**	**09 35 57.6**	**+0.6**
NVAR	**Mina Array Bea**	**81.80**	**44**	P		**P**	**09 36 01.3**	**+0.3**
	1.2nm,0.5s,mb3.6,baz=225,slow=8.7,SNR=8.0							
NVAR	**Mina Array Bea**	**81.80**	**44**	P		**P**	**09 36 01.3**	**+0.3**
SYO	**Syowa Base**	**86.24**	**193**	*i*P		**P**	**09 36 19.6**	**-2.7**
TXAR	**Lajitas Array**	**87.89**	**58**	P		**P**	**09 36 31.2**	**+0.5**
	2.6nm,0.8s,mb4.0,baz=220,slow=6.2,SNR=35							
TXAR	**Lajitas Array**	**87.89**	**58**	P		**P**	**09 36 31.2**	**+0.5**
ILAR	**Eielson Array**	**88.80**	**13**	P		**P**	**09 36 32.5**	**-1.6**
	1.4nm,0.7s,mb3.9,baz=227,slow=5.9,SNR=11							
ILAR	**Eielson Array**	**88.80**	**13**	P		**P**	**09 36 32.5**	**-1.6**
CMAR	**Chiang Mai Arr**	**89.48**	**290**	P		**P**	**09 36 40.0**	**+1.7**
	3.9nm,0.8s,mb4.3,baz=129,slow=3.7,SNR=18							
CMAR	**Chiang Mai Arr**	**89.48**	**290**	P		**P**	**09 36 40.0**	**+1.7**
PLCA	**Paso Flores**	**89.62**	**134**	P		**P**	**09 36 39.1**	**+0.5**
	4.1nm,0.8s,mb4.3,baz=208,slow=3.0,SNR=9.1							
PLCA	**Paso Flores**	**89.62**	**134**	P		**P**	**09 36 39.1**	**+0.5**
PDAR	**Pinedale Array**	**89.73**	**44**	P		**P**	**09 36 38.6**	**-0.3**
	1.4nm,0.7s,mb3.9,baz=206,slow=4.4,SNR=13							
PDAR	**Pinedale Array**	**89.73**	**44**	P		**P**	**09 36 38.6**	**-0.3**
FINES	**FINESS Array B**	**135.85**	**343**	SKPbc		SKPbc	09 45 32.0	+0.6
	7.4nm,0.8s,baz=46,slow=5.5,SNR=12							
KMBO	**Kilima Mbogo**	**138.50**	**243**	SKPbc		SKPbc	09 45 43.3	+2.7
	1.0nm,0.5s,baz=0.3,slow=24,SNR=3.5							
NOA	**NORSAR Array B**	**139.20**	**353**	SKPbc		SKPbc	09 45 41.9	+0.9
	2.0nm,0.7s,baz=13,slow=4.4,SNR=4.3							
AKASG	**Malin Array Be**	**142.91**	**330**	PKhKP		PKPpre	09 43 06.1	
	6.8nm,0.4s,baz=42,slow=4.2,SNR=31							
AKASG				SKPbc		SKPbc	09 45 51.2	+0.6
	0.3nm,0.3s,baz=46,slow=3.0,SNR=8.8							
AKASG	**Malin Array Be**	**142.91**	**330**	PKP		PKPdf	09 43 06.1	-3.4
AKASG				SKPbc		SKPbc	09 45 51.2	+0.6
BRTR	**Keskin Array B**	**146.47**	**311**	PKPbc		PKPbc	09 43 18.1	-0.5
	1.5nm,0.7s,baz=80,slow=2.8,SNR=5.2							
BRTR	**Keskin Array B**	**146.47**	**311**	PKPbc		PKPbc	09 43 18.1	-0.5
CLL	**Collm**	**148.19**	**346**	*e*PKPbc		PKPbc	09 43 22.0	-0.6
CLL				*e*PKPab		PKPab	09 43 27.0	-1.0
GERES	**GERESS Array B**	**150.29**	**343**	PKPbc		PKPbc	09 43 27.1	-0.6
	0.2nm,0.3s,baz=5.7,slow=1.3,SNR=3.6							
GERES				PKPab		PKPab	09 43 36.7	-0.1
	0.3nm,0.4s,baz=29,slow=3.0,SNR=4.8							
GERES	**GERESS Array B**	**150.29**	**343**	PKPbc		PKPbc	09 43 27.1	-0.6
GERES				PKPab		PKPab	09 43 36.7	-0.1
KEST	**Kesra**	**163.50**	**336**	PKPab		PKPab	09 44 31.8	-2.6
	0.9nm,0.5s,baz=18,slow=12,SNR=3.5							
DBIC	**Dimbokro**	**164.77**	**157**	PKPab		PKPab	09 44 40.4	0.0
	2.3nm,0.7s,baz=204,slow=22,SNR=3.7							
TORD	**Torodi Ar. Bea**	**172.35**	**184**	PKP		PKPdf	09 43 43.3	-1.9
	0.6nm,1.1s,baz=7.2,slow=1.7,SNR=5.2							
TORD				PKPab		PKPab	09 45 13.1	-0.8
	1.6nm,0.8s,baz=167,slow=3.4,SNR=7.7							
TORD	**Torodi Ar. Bea**	**172.35**	**184**	PKP		PKPdf	09 43 43.3	-1.9
TORD				PKPab		PKPab	09 45 13.1	-0.8

FUNV 04 09:55:37.8, 6.82N×73.09W, h167km, MW3.5,2C, Northern Colombia

| Code | Station Name | Δ° | AZ° | Phase | ID | ISC | Time h m s | Res ISC |

comp=N,0.1nm,0.3s,baz=260,slow=9.8,SNR=2.7
PLCA LR LR 10 40 18.9
comp=N,558nm,19.1s,baz=288,slow=39
PLCA Paso Flores 12.88 178 *e*Pn **Pn 10 35 03.8 +1.9**
comp=N,13nm,1.1s
PLCA LR LR 10 40 18.9
NNA Nana 16.67 340 LR LR 10 40 53.5
comp=N,237nm,22.0s,baz=134,slow=32
ATAH Atahualpa 21.73 340 LR LR 10 44 47.4
comp=N,130nm,20.1s,MS3.3,baz=331,slow=35
USHA Ushuaia 27.05 177 LR LR 10 48 58.5
comp=N,584nm,18.6s,MS4.2,baz=225,slow=38
ROSC El Rosal 32.65 354 LR LR 10 51 48.0
comp=N,86nm,19.5s,MS3.5,baz=14,slow=36
RCBR Riachuelo 39.89 63 P **P 10 39 32.8 +0.3**
comp=N,14nm,1.1s,mb4.6,baz=123,slow=3.0,SNR=3.7
RCBR Riachuelo 39.89 63 P **P 10 39 32.8 +0.3**
SJG San Juan 45.91 6 P **P 10 40 19.7 -1.4**
comp=N,8.6nm,1.0s,mb4.7,baz=320,slow=18,SNR=2.7
SJG San Juan 45.91 6 P **P 10 40 19.7 -1.4**
VNA3 Neumayer Olymp 54.78 160 *e* **P 10 41 25.1 -2.6**
VNA3 *e* 10 41 38.0
VNA2 Neumayer--Watz 55.40 159 *e* **P 10 41 29.2 -2.9**
baz=290,slow=8.4
VNA2 *e* 10 41 42.1
SNAA Sanae 57.01 159 P **P 10 41 43.1 -0.4**
comp=N,5.4nm,0.9s,mb4.6,baz=286,slow=6.2,SNR=16
SNAA pP pP 10 41 51.5 -0.7
comp=N,3.4nm,0.8s,baz=284,slow=7.9,SNR=5.6
SNAA sP sP 10 41 56.5 +1.1
comp=N,4.1nm,0.6s,baz=287,slow=6.0,SNR=9.8
SNAA Sanae 57.01 159 P **P 10 41 43.1 -0.4**
SNAA pP pP 10 41 51.5 -0.7
SNAA sP sP 10 41 56.5 +1.1
RKT Rikitea 57.34 259 *e*T 11 43 30.3
comp=N,2.0nm,0.2s
TXAR Lajitas Array 64.85 329 P **P 10 42 38.4 +1.0**
comp=N,0.6nm,0.8s,mb3.7,baz=151,slow=8.2,SNR=8.2
TXAR pP pP 10 42 46.8 +0.8
comp=N,0.7nm,0.8s,baz=154,slow=8.2,SNR=5.7
TXAR LR LR 11 06 49.0
comp=N,40nm,18.1s,MS3.6,baz=185,slow=32
TXAR Lajitas Array 64.85 329 P **P 10 42 38.4 +1.0**
TXAR pP pP 10 42 46.8 +0.8
TXAR LR LR 11 06 49.0
TAOE Nuku Hiva Isla 67.47 272 *e*LR LR 11 03 17.5
comp=N,170nm,25.4s
CCM Cathedral Cave 68.22 343 *e*P **P 10 42 58.2 -0.5**
comp=N,48nm,1.9s,mb5.2
TBI Tubuai 69.73 254 *e*T 11 58 56.5
comp=N,2.2nm,0.2s
VNDA Vanda 70.30 191 P **P 10 43 12.2 +1.0**
comp=N,1.3nm,0.8s,mb3.9,baz=124,slow=3.7,SNR=8.7
VNDA pP pP 10 43 20.4 +0.5
comp=N,1.2nm,0.9s,baz=54,slow=1.3,SNR=5.6
VNDA Vanda 70.30 191 *e*P **P 10 43 11.6 +0.4**
comp=N,1.9nm,0.9s,mb4.0
MEH Mehetia 70.66 260 *e*T 12 00 09.3
comp=N,59nm,0.2s
ANMO Albuquerque 70.85 330 LR LR 11 10 55.4
comp=N,70nm,18.2s,MS4.0,baz=295,slow=33
SYO Syowa Base 71.29 159⇑ *e*P **P 10 43 14.8 -2.5**
TIAR Tiarei 71.90 259 *e*T 12 01 42.5
comp=N,8.0nm,0.2s
PPT Papeete 72.10 259 *e*LR LR 11 05 21.8
comp=N,81nm,22.8s
PPT Papeete 72.10 259 LR LR 11 08 09.7
comp=N,174nm,19.7s,MS4.3,baz=144,slow=30
DBIC Dimbokro 72.45 72 P **10 43 25.1 -0.1**
comp=N,12nm,0.6s,mb5.0,baz=216,slow=7.1,SNR=26
DBIC LR LR 11 11 22.7
comp=N,100nm,21.5s,MS4.0,baz=211,slow=33
DBIC Dimbokro 72.45 72 *e*P **P 10 43 24.8 -0.4**
comp=N,23nm,1.1s,mb5.0
ECSD EROS Data Cent 74.98 341 *e*P **P 10 43 39.0 -0.3**
comp=N,9.1nm,1.1s,mb4.6
CCUT Cedar City 76.19 327 *e*P **P 10 43 48.3 +1.9**
comp=N,3.0nm,0.9s,mb4.2
HWUT Hardware Ranch 78.60 330 *e*P **P 10 44 00.1 +0.4**
comp=N,4.2nm,0.8s,mb4.4
PDAR Pinedale Array 78.69 332 P **P 10 44 02.5 +2.3**
comp=N,0.5nm,0.8s,mb3.5,baz=129,slow=4.7,SNR=5.6
PDAR pP pP 10 44 10.2 +1.1
comp=N,0.8nm,0.9s,baz=143,slow=5.2,SNR=3.8
PDAR LR LR 11 16 09.8
comp=N,40nm,18.5s,MS3.8,baz=250,slow=34
PDAR Pinedale Array 78.69 332 P **P 10 44 02.5 +2.3**
PDAR pP pP 10 44 10.2 +1.1
PDAR LR LR 11 16 09.8
MTUM Tungsten Hills 78.69 323 *e*P **P 10 43 59.6 -0.8**
MAW Mawson 78.84 164 P **P 10 44 00.4 -0.5**
comp=N,2.8nm,0.7s,mb4.3,baz=299,slow=6.0,SNR=4.2
MAW LR LR 11 22 25.6
comp=N,74nm,18.8s,MS4.0,baz=86,slow=38
MAW Mawson 78.84 164 P **P 10 44 00.4 -0.5**
MAW LR LR 11 22 25.6
NVAR Mina Array Bea 79.36 324 P **P 10 44 06.9 +2.9**
comp=N,0.4nm,0.7s,mb3.5,baz=173,slow=8.0,SNR=3.5
NVAR pP pP 10 44 12.9 +0.1
comp=N,1.0nm,0.9s,baz=166,slow=6.8,SNR=3.9
NVAR Mina Array Bea 79.36 324 P **P 10 44 06.9 +2.9**
NVAR pP pP 10 44 12.9 +0.1
SNOW Snow King Moun 79.76 332 *e*P **P 10 44 08.1 +2.0**
comp=N,3.7nm,0.9s,mb4.3
TSUM Tsumeb 80.11 106 *e*P **P 10 44 08.7 +0.1**
comp=N,6.8nm,1.3s,mb4.4
TORD Torodi Ar. Bea 81.32 70 P **P 10 44 14.9 -0.2**
comp=N,9.8nm,0.8s,mb4.8,baz=258,slow=5.1,SNR=54
TORD pP pP 10 44 24.1 +0.1
comp=N,4.4nm,0.8s,baz=254,slow=4.5,SNR=6.6
TORD LR LR 11 17 33.2
comp=N,85nm,19.1s,MS4.1,baz=240,slow=34
TORD Torodi Ar. Bea 81.32 70 P **P 10 44 14.9 -0.2**
TORD pP pP 10 44 24.1 +0.1
TORD LR LR 11 17 33.2
BOSA Boshof 82.20 118 P **P 10 44 19.1 -0.5**
comp=N,9.4nm,1.0s,mb4.7,baz=258,slow=2.7,SNR=6.6
BOSA pP pP 10 44 28.6 +0.1
comp=N,6.5nm,0.8s,baz=230,slow=4.7,SNR=4.7
BOSA sP sP 10 44 32.4 +0.6
comp=N,6.5nm,0.8s,baz=229,slow=4.5,SNR=5.4
BOSA LR LR 11 16 32.9
comp=N,97nm,19.3s,MS4.2,baz=73,slow=32
BOSA Boshof 82.20 118 P **P 10 44 19.1 -0.5**
BOSA pP pP 10 44 28.6 +0.1
BOSA sP sP 10 44 32.4 +0.6
BOSA LR LR 11 16 32.9
ASAR Alice Springs 123.43 208 PKP PKPdf 10 50 54.9 -1.1
comp=N,1.3nm,0.9s,baz=132,slow=2.2,SNR=8.8
ASAR pPKP pPKPdf 10 51 03.6 -1.6
comp=N,1.0nm,0.8s,baz=157,slow=2.5,SNR=4.7
ASAR Alice Springs 123.43 208 PKP PKPdf 10 50 54.9 -1.1
ASAR pPKP pPKPdf 10 51 03.6 -1.6
WRA Warramunga Arr 126.53 210 PKP PKPdf 10 51 01.1 -0.9
comp=N,1.8nm,0.8s,baz=154,slow=1.7,SNR=21
WRA pPKP pPKPdf 10 51 10.3 -0.9
comp=N,0.9nm,0.6s,baz=160,slow=1.5,SNR=6.1
WRA Warramunga Arr 126.53 210 PKP PKPdf 10 51 01.1 -0.9
WRA pPKP pPKPdf 10 51 10.3 -0.9
KKAR Karatay Array 145.51 54 *e*PKPbc PKPbc 10 51 36.2 -0.2
KURK Kurchatov 147.61 37 *e*PKPdf PKPdf 10 51 40.3 +0.8
EKS2 Erkin-Say 147.95 53 *e*PKPdf PKPdf 10 51 41.7 +1.4
AAK Ala-Archa 148.46 53 *e*PKPdf PKPdf 10 51 42.5 +1.3
AAK ePKPbc PKPbc 10 51 46.0 +1.3
ZAAO Zalesovo Array 148.47 28 ePKPbc PKPbc 10 51 44.5 +0.1
ZALV Zalesovo Beam 148.47 28 PKPbc PKPbc 10 51 44.6 +0.2
comp=N,15nm,0.8s,baz=303,slow=3.4,SNR=21
ZALV pPKPbc pPKPbc 10 51 54.4 +0.9
comp=N,13nm,0.9s,baz=309,slow=2.8,SNR=6.1
ZALV Zalesovo Beam 148.47 28 PKPbc PKPbc 10 51 44.6 +0.2
ZALV pPKPbc pPKPbc 10 51 54.4 +0.9
KSH Kashi 150.34 58 *e*PKPbc PKPbc 10 51 49.4 -0.1
KSH PKS 10 55 22.3
KSH AMB AMB
comp=Z,260nm,5.1s
MK31 Makanchi Array 151.79 41 ePKPbc PKPbc 10 51 52.4 -0.3
MKAR Makanchi Array 151.79 41 PKPbc PKPbc 10 51 52.5 -0.1
comp=Z,11nm,1.0s,baz=311,slow=2.4,SNR=34
MKAR PKPab PKPab 10 52 01.0 -0.6
comp=Z,1.7nm,0.7s,baz=325,slow=1.5,SNR=5.7
MKAR pPKPab pPKPab 10 52 06.8 -3.9
comp=Z,7.5nm,0.9s,baz=322,slow=1.2,SNR=10
MKAR Makanchi Array 151.79 41 PKPbc PKPbc 10 51 52.5 -0.1
MKAR PKPab PKPab 10 52 01.0 -0.6
MKAR pPKPab pPKPab 10 52 06.8 -3.9
MJAR Matsushiro Arr 153.84 297 pPKPab pPKPab 10 52 19.4 -0.3
comp=Z,2.1nm,0.7s,baz=117,slow=1.6,SNR=4.4
WMQ Urumqi 156.62 41 PKP PKPdf 10 51 52.3 -0.8
HHC Hu-ho-hao-te 166.84 351 *e*PKP PKPdf 10 51 59.5 -4.3
HHC pPKP pPKPdf 10 52 08.4 -4.6
HHC sPKP 10 52 14.3
HHC PP PP 10 56 56.2 +2.2
HHC SKS SKSdf 10 58 59.7 -6.1
HHC AMB AMB
comp=Z,86nm,6.9s
CMAR Chiang Mai Arr 166.90 133 PKP PKPdf 10 52 03.8 -0.7
comp=Z,0.4nm,0.3s,baz=251,slow=3.4,SNR=4.9
CMAR PKPab PKPab 10 53 05.7 -2.2
comp=Z,1.2nm,0.7s,baz=228,slow=3.6,SNR=5.0
CMAR Chiang Mai Arr 166.90 133 PKP PKPdf 10 52 03.8 -0.7
CMAR PKPab PKPab 10 53 05.7 -2.2
KMI Kunming 173.81 114 PKP PKPdf 10 52 08.2 +0.1
CD2 Chengdu 174.53 55 PKP PKPdf 10 52 09.3 +1.1

*CSEM **04** 10:36:44.9±0.2, 45°.25N×14°.86E, h30km, ML2.6/12, Error ellipse: s-maj=3.3km s-min=3.2km az=109.0*
*ISCJB **04** 10:36:45.3±0.6, 45°.25N±0°.03×14°.89E±0°.03, h10km, Error ellipse: s-maj=3.7km s-min=3.3km az=158.2*
*LJU **04** 10:36:45.4, 45°.26N×14°.89E, h18km, ML1.7*
*VIE **04** 10:36:49.1±0.4, 45°.46N×14°.86E, h5km, mb1.6/2, ML1.8/2, Error ellipse: s-maj=2.4km s-min=1.0km az=167.0 38 km ENE of Rijeka*
ISC 04 10:36:46.0±0.6, **45°.25N**±0°.03×**14°.89E**±0°.03, **h10**km, **n33, σ0s83/63, 5C-1D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOJS	**Bojanci**	**0.36**	**45**	*i* Pg	**Pg**	**10 36 53.2**	**+0.1**
BOJS				*i* Sg	**Sg**	**10 36 58.6**	**+0.6**
BOJS							
	comp=Z,29nm,0.1s						
BOJS	**Bojanci**	**0.36**	**45**	*i* Pg	**Pg**	**10 36 53.2**	**+0.1**
BOJS				*i* Sg	**Sg**	**10 36 58.6**	**+0.7**
	comp=Z,29nm,0.1s						
KNDS	**Knezji Dol**	**0.45**	**308**	*i* Pg	**Pg**	**10 36 54.4**	**-0.4**
KNDS				*i* Sg	**Sg**	**10 37 01.5**	**+0.7**
KNDS							
	comp=Z,24nm,0.1s						
KNDS	**Knezji Dol**	**0.45**	**308**	*i* Pg	**Pg**	**10 36 54.4**	**-0.4**
KNDS				*i* Sg	**Sg**	**10 37 01.5**	**+0.7**
	comp=Z,24nm,0.1s						
VISS	**Visnje**	**0.55**	**356**⇑	*i* Pg	**Pg**	**10 36 56.6**	**-0.1**
VISS				*i* Sg	**Sg**	**10 37 04.2**	**+0.2**
VISS							
	comp=Z,11nm,0.1s						
VISS	**Visnje**	**0.55**	**356**⇑	*i* Pg	**Pg**	**10 36 56.6**	**-0.1**
VISS				*i* Sg	**Sg**	**10 37 04.2**	**+0.2**
	comp=Z,11nm,0.1s						
CEY	**Cerknica**	**0.58**	**326**	*i* Pg	**Pg**	**10 36 57.0**	**-0.4**
CEY				*i* Sg	**Sg**	**10 37 06.0**	**+1.0**
CEY							
	comp=Z,9.0nm,0.1s						
CEY	**Cerknica**	**0.58**	**326**	*i* Pg	**Pg**	**10 36 57.0**	**-0.4**
CEY				*i* Sg	**Sg**	**10 37 06.0**	**+1.0**
	comp=Z,9.0nm,0.1s						
SKDS	**Skadanscina**	**0.68**	**296**	*i* Pg	**Pg**	**10 36 58.0**	**-1.2**
SKDS				*i* Sg	**Sg**	**10 37 08.3**	**+0.2**
SKDS							
	comp=Z,7.0nm,0.1s						
NVLJ	**Novalja**	**0.69**	**181**	*e*Pg	**Pg**	**10 36 58.4**	**-0.9**
NVLJ				Sg	**Sg**	**10 37 09.4**	**+1.1**
NVLJ	**Novalja**	**0.69**	**181**	*e*Pg	**Pg**	**10 36 58.3**	**-1.0**
NVLJ				Sg	**Sg**	**10 37 09.4**	**+1.1**
CRES	**Cresnjev**	**0.70**	**35**	*i* Pg	**Pg**	**10 36 59.8**	**+0.2**
CRES				*i* Sg	**Sg**	**10 37 08.7**	**0.0**
CRES							
	comp=Z,32nm,0.3s						
CRES	**Cresnjev**	**0.70**	**35**	*i* Pg	**Pg**	**10 36 59.8**	**+0.3**
CRES				*i* Sg	**Sg**	**10 37 08.7**	**0.0**
	comp=Z,32nm,0.3s						
LEGS	**Legarje**	**0.76**	**23**	*i* Pg	**Pg**	**10 37 00.7**	**0.0**
LEGS				*i* Sg	**Sg**	**10 37 10.5**	**-0.1**
LEGS	**Legarje**	**0.76**	**23**	*i* Pg	**Pg**	**10 37 00.7**	**0.0**
LEGS				*i* Sg	**Sg**	**10 37 10.5**	**-0.1**
GCIS	**Gornji Cirnik**	**0.81**	**40**	*i* Pg	**Pg**	**10 37 02.1**	**+0.6**
GCIS				*i* Sg	**Sg**	**10 37 12.3**	**+0.2**
GCIS							
	comp=Z,7.0nm,0.1s						
GCIS	**Gornji Cirnik**	**0.81**	**40**	*i* Pg	**Pg**	**10 37 02.1**	**+0.6**
GCIS				*i* Sg	**Sg**	**10 37 12.3**	**+0.3**
	comp=Z,7.0nm,0.1s						
PDKS	**Podkum**	**0.81**	**5**	*i* Pg	**Pg**	**10 37 01.6**	**-0.1**
PDKS				*i* Sg	**Sg**	**10 37 12.4**	**+0.1**
PDKS							
	comp=Z,8.0nm,0.1s						
PDKS	**Podkum**	**0.81**	**5**	*i* Pg	**Pg**	**10 37 01.6**	**-0.1**
PDKS				*i* Sg	**Sg**	**10 37 12.4**	**+0.1**
	comp=Z,8.0nm,0.1s						
VNDS	**Vrh nad Dolski**	**0.86**	**351**	*i* Pg	**Pg**	**10 37 02.6**	**0.0**
VNDS							
	comp=Z,4.0nm,0.1s						
JAVS	**Javornik**	**0.86**	**318**	*i* Pg	**Pg**	**10 37 01.8**	**-0.8**
JAVS				*i* Sg	**Sg**	**10 37 15.4**	**+1.5**
JAVS							
	comp=Z,9.0nm,0.1s						
JAVS	**Javornik**	**0.86**	**318**	*i* Pg	**Pg**	**10 37 01.8**	**-0.8**
JAVS				*i* Sg	**Sg**	**10 37 15.4**	**+1.5**
	comp=Z,9.0nm,0.1s						
GOLS	**Golise**	**0.92**	**34**	*i* Pg	**Pg**	**10 37 04.4**	**+0.7**
GOLS				*i* Sg	**Sg**	**10 37 16.2**	**+0.5**
GOLS							
	comp=Z,17nm,0.2s						
GOLS	**Golise**	**0.92**	**34**	*i* Pg	**Pg**	**10 37 04.4**	**+0.7**
GOLS				*i* Sg	**Sg**	**10 37 16.2**	**+0.6**
	comp=Z,17nm,0.2s						
CRNS	**Crni Vrh**	**0.94**	**332**	*i* Pg	**Pg**	**10 37 04.2**	**+0.2**
CRNS				*i* Sg	**Sg**	**10 37 17.8**	**+1.5**
CRNS							
	comp=Z,6.0nm,0.1s						
VOJS	**Vojsko**	**1.05**	**318**	*i* Pg	**Pg**	**10 37 05.1**	**-1.1**
VOJS				*i* Sg	**Sg**	**10 37 20.9**	**+1.1**
VOJS							
	comp=Z,14nm,0.1s						
VOJS	**Vojsko**	**1.05**	**318**	*i* Pg	**Pg**	**10 37 05.1**	**-1.1**
VOJS				*i* Sg	**Sg**	**10 37 20.9**	**+1.0**
	comp=Z,14nm,0.1s						
GORS	**Gorjuse**	**1.23**	**330**	*i* Pg	**Pg**	**10 37 09.2**	**-0.5**
GORS							
	comp=Z,5.0nm,0.1s						
GORS	**Gorjuse**	**1.23**	**330**	*i* Pg	**Pg**	**10 37 09.2**	**-0.5**
	comp=Z,5.0nm,0.1s						
OBKA	**Obir**	**1.28**	**349**⇑	*i*Pg	**Pg**	**10 37 09.8**	**-0.8**
OBKA				⇓*i*Sg	**Sg**	**10 37 25.2**	**-2.0**
	comp=Z,8.0nm,0.2s						
OBKA	**Obir**	**1.28**	**349**	Pg	**Pg**	**10 37 09.8**	**-0.8**
OBKA				Sg	**Sg**	**10 37 25.2**	**-2.0**
	comp=Z,8.0nm,0.2s						
SOKA	**Soboth**	**1.43**	**4**⇑	*i*Pg	**Pg**	**10 37 12.8**	**-0.6**
SOKA				⇑*i*Sg	**Sg**	**10 37 29.8**	**-2.2**
	comp=Z,2.6nm,0.3s						
SOKA	**Soboth**	**1.43**	**4**	Pg	**Pg**	**10 37 12.8**	**-0.6**
SOKA				Sg	**Sg**	**10 37 29.8**	**-2.2**
	comp=Z,2.6nm,0.3s						

*GEN **04** 10:36:51.0, 44°.25N×8°.41E, h8km, ML1.2*
CSEM 04 10:36:51.0, 44°.25N×8°.41E, h8km, ML1.2, After GEN, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FIN	**Finale Ligure**	**0.15**	**253**	P	Pg	10 36 53.4	-0.8
FIN				S	Sg	10 36 55.3	-1.1
RORO	**Rocca Rossa**	**0.28**	**240**	P	Pg	10 36 56.7	+0.1
MONE	**Monesi**	**0.50**	**250**	P	Pg	10 37 00.7	0.0
MONE				S	Sg	10 37 07.3	0.0
IMI	**Imperia**	**0.51**	**227**	P	Pg	10 37 00.9	+0.1
IMI				S	Sg	10 37 07.6	+0.2
NEGI	**Seborga**	**0.65**	**232**	P	Pg	10 37 03.5	0.0
NEGI				S	Sg	10 37 12.1	+0.1
RONM	**Roccetta Nervi**	**0.69**	**237**	P	Pg	10 37 04.2	-0.2
RONM				S	Sg	10 37 13.2	-0.2
STV	**Sant Anna di V**	**0.78**	**270**	P	Pg	10 37 05.6	-0.4
STV				S	Sg	10 37 15.6	-0.5

*IDC **04** 10:57:12.4±2.1, 7°.07S×128°.91E, h0km, mb3.9/1, mb1 3.7/3, mb1mx3.5/17, mbtmp3.6/3, ML3.3/2, Error ellipse: s-maj=114.1km s-min=32.0km az=67.0*
*ISCJB **04** 10:57:14.5±2.3, 6°.25S±0°.1×133°.2E±0°.1, h33km, Error ellipse: s-maj=20.5km s-min=20.0km az=176.4*
*NEIC **04** 10:57:16.5±3.9, 5°.99S×133°.02E, h100km±36km, Error ellipse: s-maj=44.0km s-min=24.2km az=57.0*
ISC 04 10:57:13.8±2.1, **6°.0S**±0°.1×**133°.2E**±0°.1, **h35**km, **n10, σ1s20/15, Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.73**	**186**	*e*Pn	**Pn**	**10 58 52.5**	**+2.3**
	32nm,0.7s						
WRAB	**Tennant Creek**	**13.92**	**175**	*e*Pn	**Pn**	**11 00 29.4**	**+0.7**
WRAB				*e*Sn	**Sn**	**11 02 59.9**	**-2.2**
WRA	**Warramunga Arr**	**13.93**	**175**	Pn	**Pn**	**11 00 28.8**	**0.0**
	0.2nm,0.3s,baz=337,slow=13,SNR=14						
WRA				Sn	**Sn**	**11 03 02.0**	**-0.3**
	0.2nm,0.3s,baz=335,slow=21,SNR=6.7						
WRA	**Warramunga Arr**	**13.93**	**175**	Pn	**Pn**	**11 00 28.8**	**0.0**
WRA				Sn	**Sn**	**11 03 02.0**	**-0.3**
WB2	**Warramunga Arr**	**13.93**	**175**	Pn	**Pn**	**11 00 30.2**	**+1.4**
WB2				*e*Sn	**Sn**	**11 03 06.8**	**+4.4**
FITZ	**Fitzroy Crossi**	**14.11**	**211**	Pn	**Pn**	**11 00 30.8**	**-0.4**
FITZ				*e*Sn	**Sn**	**11 03 06.9**	**+0.1**
ASAR	**Alice Springs**	**17.61**	**178**	P	**Pn**	**11 01 15.3**	**-1.1**
	0.1nm,0.3s,baz=340,slow=13,SNR=5.2						
ASAR				S	S	11 04 16.7	-22
	0.1nm,0.3s,baz=280,slow=17,SNR=4.6						
ASAR	**Alice Springs**	**17.61**	**178**	P	**Pn**	**11 01 15.3**	**-1.1**
ASAR				S	S	11 04 16.7	-22
MKAR	**Makanchi Array**	**69.13**	**325**	P	**P**	**11 08 11.6**	**-4.8**
	0.8nm,0.6s,baz=122,slow=8.1,SNR=5.6						
MKAR	**Makanchi Array**	**69.13**	**325**	P	**P**	**11 08 11.6**	**-4.8**

*ISCJB **04** 11:15:59.6±1.1, 34°.38S±0°.10×178°.7E±0°.2, h231km±14km, mb3.6/5, Error ellipse: s-maj=23.5km s-min=12.4km az=29.3*
*NEIC **04** 11:16:05.9±3.3, 34°.78S×178°.37E, h264km±26km, mb4.0/1, Error ellipse: s-maj=49.4km s-min=19.4km az=212.0*
*IDC **04** 11:16:06.1±3.7, 34°.70S×178°.47E, h272km±29km, mb3.2/4, mb1 3.4/6, mb1mx3.3/18, mbtmp3.3/6, Error ellipse: s-maj=46.8km s-min=22.3km az=37.0*
ISC 04 11:16:02.2±1.1, **34°.5S**±0°.1×**178°.6E**±0°.2, **h243**km±14km, **n31, σ1s24/42, mb3.6/5, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.03**	**185**	SN	**S**	**11 17 36.5**	**+0.7**
PUZ	**Puketiti**	**3.54**	**185**	PN	**Pn**	**11 16 59.0**	**-1.1**
PUZ				SN	**S**	**11 17 46.6**	**+0.5**
URZ	**Urewera**	**3.91**	**198**	P	**Pn**	**11 17 06.3**	**+1.9**
	1.5nm,0.3s,baz=313,slow=17,SNR=8.8						
URZ				S	**S**	**11 17 57.9**	**+4.0**
	4.6nm,0.3s,baz=159,slow=20,SNR=16						
URZ	**Urewera**	**3.91**	**198**	*e*Pn	**Pn**	**11 17 05.9**	**+1.5**
URZ				*e*Sn	**S**	**11 17 56.8**	**+2.9**
URZ	**Urewera**	**3.91**	**198**	PN	**Pn**	**11 17 05.1**	**+0.7**
URZ				SN	**S**	**11 17 58.1**	**+4.2**
KNZ	**Kokohu**	**4.54**	**189**	*e*PN	**Pn**	**11 17 13.4**	**+1.5**
RAHZ	**Arahi**	**4.54**	**195**	*e*PN	**Pn**	**11 17 12.5**	**+0.5**
RAHZ				SN	**S**	**11 18 11.0**	**+3.5**
PXZ	**Pawanui**	**5.66**	**194**	PN	**Pn**	**11 17 24.0**	**-1.7**
PXZ				SN	**S**	**11 18 32.8**	**+0.3**
PNHZ	**Pukenui**	**5.70**	**199**	SN	**S**	**11 18 36.3**	**+2.9**
BFZ	**Birch Farm**	**6.41**	**196**	PN	**Pn**	**11 17 35.1**	**-0.1**
BFZ				SN	**S**	**11 18 50.0**	**+0.3**
MRZ	**Mangatainoka R**	**6.57**	**201**	PN	**Pn**	**11 17 35.4**	**-1.8**
MRZ				SN	**S**	**11 18 52.5**	**-0.7**
OGWZ	**Otaki Gorge**	**6.83**	**203**	*e*PN	**Pn**	**11 17 38.8**	**-1.8**
OGWZ				SN	**S**	**11 18 59.5**	**+0.2**
KIW	**Kapiti Island**	**6.96**	**204**	*e*PN	**Pn**	**11 17 40.8**	**-1.3**
CAW	**Cannon Point**	**7.13**	**202**	PN	**Pn**	**11 17 43.7**	**-0.6**
NNZ	**Nelson**	**7.84**	**210**	*e*SN	**S**	**11 19 23.7**	**+1.0**
THZ	**Tophouse**	**8.50**	**210**	PN	**Pn**	**11 18 01.2**	**-0.4**
THZ				SN	**S**	**11 19 39.6**	**+1.7**
KHZ	**Kahutara**	**8.81**	**205**	*e*PN	**Pn**	**11 18 03.6**	**-2.0**
LTZ	**Lake Taylor**	**9.61**	**209**	PN	**Pn**	**11 18 13.7**	**-2.0**
RPZ	**Rata Peaks**	**10.88**	**210**	P	**Pn**	**11 18 31.2**	**-0.5**
	0.4nm,0.3s,baz=32,slow=19,SNR=3.2						
RPZ				S	**S**	**11 20 31.7**	**-1.7**
	0.6nm,0.3s,baz=53,slow=23,SNR=9.3						
RPZ	**Rata Peaks**	**10.88**	**210**	P	**Pn**	**11 18 31.2**	**-0.5**
RPZ				S	**S**	**11 20 31.7**	**-1.7**
CTA	**Charters Tower**	**32.00**	**288**	P	**P**	**11 22 06.9**	**+1.0**
	1.1nm,0.3s,mb3.9,baz=59,slow=8.1,SNR=3.6						
CTA	**Charters Tower**	**32.00**	**288**	P	**P**	**11 22 06.9**	**+1.0**
ASAR	**Alice Springs**	**40.26**	**273**	P	**P**	**11 23 17.1**	**+1.4**
	0.4nm,0.7s,mb3.0,baz=113,slow=7.6,SNR=7.8						
ASAR	**Alice Springs**	**40.26**	**273**	P	**P**	**11 23 17.1**	**+1.4**
WB2	**Warramunga Arr**	**41.62**	**279**	*e*P	**P**	**11 23 27.8**	**+0.9**
WRAB	**Tennant Creek**	**41.63**	**279**	*e*P	**P**	**11 23 26.7**	**-0.2**
	12nm,1.6s,mb4.1						
WRA	**Warramunga Arr**	**41.63**	**279**	P	**P**	**11 23 26.6**	**-0.3**
	0.6nm,0.6s,mb3.2,baz=119,slow=7.4,SNR=7.4						
WRA	**Warramunga Arr**	**41.63**	**279**	P	**P**	**11 23 26.6**	**-0.3**
PLCA	**Paso Flores**	**81.73**	**134**	P	**P**	**11 27 55.2**	**+1.5**
	2.4nm,0.7s,mb3.9,baz=236,slow=7.3,SNR=3.4						
PLCA	**Paso Flores**	**81.73**	**134**	P	**P**	**11 27 55.2**	**+1.5**
TORD	**Torodi Ar. Bea**	**158.52**	**188**	PKPab	PKPab	11 36 06.1	-0.9
	0.1nm,0.4s,baz=177,slow=5.7,SNR=3.3						

*DDA **04** 11:27:04.6, 34°.91N×35°.92E, h8km±6km, Md2.9*
CSEM 04 11:27:04.2±0.4, **34°.79N**×**35°.97E**, **h10**km, **MD2.9, Error ellipse: s-maj=27.3km s-min=5.8km az=86.0, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HWQ	**Hawqa**	**0.51**	**182**	*e*P	Pg	11 27 14.6	+0.4
HWQ	**Hawqa**	**0.51**	**182**	*e*P	Pg	11 27 14.6	+0.4
FKH	**Fakeheh**	**0.66**	**146**	*e*P	Pg	11 27 17.1	+0.2
FKH	**Fakeheh**	**0.66**	**146**	*e*P	Pg	11 27 17.1	+0.2
YAYL	**Yayladag**	**1.24**	**5**	*i* P	Pn	11 27 27.4	-0.2
YAYL				*i* S	Sb	11 27 45.1	+1.2
YAYL	**Yayladag**	**1.24**	**5**	*i* P	Pn	11 27 27.4	-0.2
YAYL				*i* S	Sb	11 27 45.1	+1.2
COBT	**Iskenderun**	**1.74**	**8**	*i* P	Pn	11 27 34.3	-0.1
COBT				*i* S	Sn	11 27 58.2	+1.5
COBT	**Iskenderun**	**1.74**	**8**	*i* P	Pn	11 27 34.3	-0.2
COBT				*i* S	Sn	11 27 58.2	+1.5

*IDC **04** 11:35:47.3±2.4, 21°.49S×178°.89W, h552km±26km, mb3.6/13, mb1 3.8/14, mb1mx3.7/20, mbtmp3.6/14, Error ellipse: s-maj=15.9km s-min=14.4km az

STKA	**Stephens Creek**	**36.45**	**245**	*e*P		**P**	**11 42 08.0**	**+1.0**
	3.4nm,0.4s,mb4.2							
STKA	**Stephens Creek**	**36.45**	**245**	*e*P		**P**	**11 42 08.0**	**+1.0**
STKA				P			11 42 08.1	
COEN	**Coen**	**36.70**	**276**	*e*P		**P**	**11 42 09.7**	**+0.5**
ASAR	**Alice Springs**	**43.34**	**258**	P		**P**	**11 43 02.5**	**+0.5**
	5.8nm,0.5s,mb4.4,baz=94,slow=7.9,SNR=190							
ASAR				PcP		PcP	11 44 37.5	+0.1
	1.3nm,0.6s,baz=103,slow=4.1,SNR=7.4							
ASAR				ScP		ScP	11 47 37.4	+4.0
	0.8nm,0.8s,baz=103,slow=4.7,SNR=4.5							
ASAR				S		**S**	**11 48 47.2**	**-1.0**
	2.7nm,0.8s,baz=95,slow=15,SNR=20							
ASAR	**Alice Springs**	**43.34**	**258**	P		**P**	**11 43 02.5**	**+0.5**
ASAR				PcP		PcP	11 44 37.5	+0.1
ASAR				ScP		ScP	11 47 37.4	+4.0
ASAR				S		**S**	**11 48 47.2**	**-1.0**
WB2	**Warramunga Arr**	**43.49**	**263**	*e*P		**P**	**11 43 02.8**	**-0.4**
WRAB	**Tennant Creek**	**43.49**	**263**	*e*P		**P**	**11 43 02.9**	**-0.4**
	3.8nm,0.5s,mb4.2							
WRA	**Warramunga Arr**	**43.50**	**263**	P		**P**	**11 43 03.2**	**-0.2**
	4.2nm,0.5s,mb4.3,baz=96,slow=5.7,SNR=146							
WRA				S		**S**	**11 48 48.2**	**-2.4**
	1.4nm,0.9s,baz=107,slow=15,SNR=8.1							
WRA	**Warramunga Arr**	**43.50**	**263**	P		**P**	**11 43 03.2**	**-0.2**
WRA				S		**S**	**11 48 48.2**	**-2.4**
KAKA	**Kakadu**	**47.04**	**273**	*e*P		**P**	**11 43 30.0**	**-0.3**
	9.7nm,0.4s,mb4.7							
KAKA	**Kakadu**	**47.04**	**273**	*e*P		**P**	**11 43 30.3**	**-0.1**
	23nm,0.4s,mb5.0							
VNDA	**Vanda**	**56.76**	**185**	P		**P**	**11 44 40.0**	**+1.1**
	1.2nm,0.6s,mb3.3,baz=356,slow=8.4,SNR=14							
VNDA	**Vanda**	**56.76**	**185**	P		**P**	**11 44 40.0**	**+1.1**
QSPA	**South Pole Qui**	**68.49**	**180**	*e*P		**P**	**11 45 55.8**	**+1.5**
	6.4nm,0.8s,mb4.1							
MJAR	**Matsushiro Arr**	**70.51**	**325**	P		**P**	**11 46 06.5**	**-0.5**
	2.5nm,0.5s,mb4.0,baz=158,slow=5.5,SNR=8.6							
MJAR	**Matsushiro Arr**	**70.51**	**325**	P		**P**	**11 46 06.5**	**-0.5**
PETK	**Petropavlovsk-**	**77.07**	**346**	P		**P**	**11 46 43.3**	**-0.3**
	4.3nm,0.6s,mb4.1,baz=205,slow=5.5,SNR=9.3							
PETK	**Petropavlovsk-**	**77.07**	**346**	P		**P**	**11 46 43.3**	**-0.3**
ISA	**Isabella**	**80.78**	**46**	*e*P		**P**	**11 47 04.1**	**+0.4**
	4.8nm,1.1s,mb3.8							
NVAR	**Mina Array Bea**	**82.47**	**44**	P		**P**	**11 47 12.5**	**+0.2**
	2.0nm,0.6s,mb3.9,baz=226,slow=8.1,SNR=18							
NVAR	**Mina Array Bea**	**82.47**	**44**	P		**P**	**11 47 12.5**	**+0.2**
ETW	**Entiat**	**86.68**	**35**	*e*P		**P**	**11 47 32.6**	**+0.1**
	26nm,1.3s,mb4.8							
TRF	**Thorofare Moun**	**87.71**	**12**	*e*P		**P**	**11 47 35.9**	**-1.1**
	11nm,0.7s,mb4.7							
TXAR	**Lajitas Array**	**88.45**	**58**	P		**P**	**11 47 42.0**	**+0.7**
	0.9nm,0.8s,mb3.6,baz=221,slow=5.0,SNR=12							
TXAR	**Lajitas Array**	**88.45**	**58**	P		**P**	**11 47 42.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**89.56**	**290**	P		**P**	**11 47 48.3**	**+1.7**
	1.3nm,0.7s,mb3.9,baz=135,slow=3.0,SNR=10							
CMAR	**Chiang Mai Arr**	**89.56**	**290**	P		**P**	**11 47 48.3**	**+1.7**
ILAR	**Eielson Array**	**89.58**	**13**	P		**P**	**11 47 44.0**	**-1.6**
	1.5nm,0.6s,mb4.0,baz=218,slow=5.1,SNR=46							
ILAR	**Eielson Array**	**89.58**	**13**	P		**P**	**11 47 44.0**	**-1.6**
RRI2	**Red Ridge**	**89.58**	**42**	*e*P		**P**	**11 47 46.8**	**+0.7**
	12nm,1.4s,mb4.5							
SNOW	**Snow King Moun**	**89.99**	**43**	*e*P		**P**	**11 47 47.7**	**-0.3**
	1.8nm,0.8s,mb4.0							
PDAR	**Pinedale Array**	**90.41**	**44**	P		**P**	**11 47 49.8**	**-0.2**
	1.2nm,0.7s,mb3.9,baz=209,slow=3.0,SNR=10							
PDAR	**Pinedale Array**	**90.41**	**44**	P		**P**	**11 47 49.8**	**-0.2**
ZALV	**Zalesovo Beam**	**110.72**	**321**	PKiKP		PKiKP	11 53 15.7	-1.2
	0.9nm,0.5s,baz=108,slow=0.5,SNR=4.9							
ZALV	**Zalesovo Beam**	**110.72**	**321**	PKPdf		PKiKP	11 53 15.7	-1.2
MKAR	**Makanchi Array**	**111.23**	**313**	PKiKP		PKiKP	11 53 17.1	-1.0
	0.4nm,0.3s,baz=219,slow=1.6,SNR=3.2							
MKAR				PP		PP	11 54 09.3	-0.6
	0.2nm,0.2s,baz=243,slow=45,SNR=2.1							
MKAR	**Makanchi Array**	**111.23**	**313**	PKPdf		PKiKP	11 53 17.1	-1.0
MKAR				PP		PP	11 54 09.3	-0.6
ARCES	**ARCESS Array B**	**129.80**	**349**	PKP		PKPdf	11 53 50.8	-2.2
	3.5nm,0.6s,baz=24,slow=1.5,SNR=19							
ARCES	**ARCESS Array B**	**129.80**	**349**	PKP		PKPdf	11 53 50.8	-2.2
FINES	**FINESS Array B**	**136.52**	**343**	PKP		PKPdf	11 54 06.2	+0.3
	2.0nm,0.5s,baz=42,slow=3.1,SNR=5.6							
FINES	**FINESS Array B**	**136.52**	**343**	PKP		PKPdf	11 54 06.2	+0.3
NOA	**NORSAR Array B**	**139.92**	**352**	PKP		PKPpre	11 54 04.3	
	1.0nm,0.7s,baz=15,slow=5.0,SNR=4.6							
NOA				PKP		PKPdf	11 54 11.7	-0.4
	0.7nm,0.7s,baz=23,slow=3.5,SNR=3.4							
NOA	**NORSAR Array B**	**139.92**	**352**	PKP		PKPpre	11 54 04.3	
NOA				PKP		PKPdf	11 54 11.7	-0.4
AKASG	**Malin Array Be**	**143.47**	**330**	PKhKP		PKPpre	11 54 16.1	
	8.4nm,0.6s,baz=43,slow=4.1,SNR=28							
AKASG				PKP		PKPdf	11 54 20.8	+2.1
	0.7nm,0.5s,baz=39,slow=4.2,SNR=4.7							
AKASG	**Malin Array Be**	**143.47**	**330**	PKP		PKPdf	11 54 16.1	-2.6
AKASG				PKP		PKPdf	11 54 20.8	+2.1
KIEV	**Kiev**	**143.48**	**330**	*e*PKPbc		PKPdf	11 54 16.2	-2.5
BRTR	**Keskin Array B**	**146.82**	**310**	PKPbc		PKPbc	11 54 27.2	-0.4
	2.9nm,0.6s,baz=143,slow=3.9,SNR=13							
BRTR	**Keskin Array B**	**146.82**	**310**	PKPbc		PKPbc	11 54 27.2	-0.4
KWP	**Kalwaria Pacla**	**147.13**	**334**	*i*PKPbc		PKPbc	11 54 28.1	-0.1
BUR08	**Bucovina Ar. S**	**147.49**	**329**	*e*PKPdf		PKPdf	11 54 25.6	0.0
BUR08				*e*PKPbc		PKPbc	11 54 29.6	+0.5
BUR08				*e*PKPab		PKPab	11 54 33.8	+0.5
BURAR	**Bucovina Array**	**147.50**	**329**	*i*PKPbc		PKPbc	11 54 30.7	+1.5
KOLS	**Kolonicke sedl**	**147.85**	**333**	*e*PKP		PKPbc	11 54 30.7	+0.7
TIRR	**Tirgusor**	**147.85**	**322**	*i*PKP		PKPbc	11 54 29.6	-0.6
PLOR	**Plostina**	**147.97**	**325**	*i*PKP		PKPbc	11 54 30.3	-0.1
CRVS	**Cervenica-Dubn**	**148.21**	**334**	*e*PKP		PKPbc	11 54 31.4	+0.5
MLR	**Muntele Rosu**	**148.58**	**325**	*i*PKP		PKPbc	11 54 31.8	-0.1
UPC	**Upice**	**148.80**	**341**	*e*PKP		PKPbc	11 54 32.2	-0.1
DPC	**Dobruska-Polom**	**148.84**	**341**	*e*PKP		PKPbc	11 54 32.6	+0.2
DPC				*e*PKPab		PKPab	11 54 38.7	0.0
KECS	**Kecovo**	**148.94**	**334**	*e*PKP		PKPbc	11 54 33.2	+0.5
BRG	**Berggiesshubel**	**149.04**	**344**	*i* PKP		PKPbc	11 54 32.6	-0.2
	8.6nm,0.9s							
VOIR		**149.08**	**326**	*i*PKP		PKPbc	11 54 33.0	-0.2
PVCC	**Panska Ves**	**149.19**	**343**	*e*PKP		PKPbc	11 54 33.4	+0.1
DRGR		**149.28**	**330**	*i*PKP		PKPbc	11 54 33.3	-0.3
VYHS	**Vyhne**	**149.57**	**336**	*e*PKP		PKPbc	11 54 34.4	+0.2
PRU	**Pruhonice**	**149.69**	**343**	*e*PKP		PKPbc	11 54 35.0	+0.5
NKC	**Novy Kostel**	**150.00**	**345**	*e*PKP		PKPbc	11 54 35.0	-0.2
BZS	**Buzias**	**150.66**	**330**	*i*PKP		PKPbc	11 54 36.4	-0.5
KHC	**Kasperske Hory**	**150.73**	**343**	*e*PKPdf		PKPdf	11 54 30.7	0.0
KHC				*e*PKPbc		PKPbc	11 54 36.6	-0.3
KHC				*e*PKPab		PKPab	11 54 47.2	+0.5
KHC	**Kasperske Hory**	**150.73**	**343**	*e*PKP		PKPbc	11 54 36.6	-0.3
KHC				*e*PKPab		PKPab	11 54 46.8	+0.1
GERES	**GERESS Array B**	**150.95**	**343**	PKPbc		PKPbc	11 54 37.1	-0.3
	2.5nm,0.6s,baz=38,slow=2.4,SNR=17							
GERES	**GERESS Array B**	**150.95**	**343**	PKPbc		PKPbc	11 54 37.1	-0.3
VTS	**Vitosha**	**151.97**	**323**	*i*PKP		PKPbc	11 54 39.8	-0.1
TORD	**Torodi Ar. Bea**	**171.59**	**185**	PKP		PKPdf	11 54 51.4	-1.7
	0.5nm,0.6s,baz=327,slow=0.9,SNR=4.4							
TORD				PKPab		PKPab	11 56 18.8	+0.3
	0.2nm,0.3s,baz=178,slow=2.2,SNR=8.1							
TORD	**Torodi Ar. Bea**	**171.59**	**185**	PKP		PKPdf	11 54 51.4	-1.7
TORD				PKPab		PKPab	11 56 18.8	+0.3

KRSC 04 11:48:00.2±0.3, 55°.03N×164°.36E, h43km±22km, ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.94**	**79**	*i* P	Pn	11 48 14.7	-2.2
BKI				*i* S	Sn	11 48 25.4	-3.8
KBTR	**Krutoberegovo**	**1.47**	**324**	*e*P	Pn	11 48 23.5	-0.6
KBTR				*e*S	Sn	11 48 39.6	-2.5
MKZ	**Mys Kozlova**	**1.59**	**254**	*e*P	Pn	11 48 26.1	+0.2
MKZ				*e*S	Sn	11 48 44.3	-0.9
SRKR	**Sorokina**	**2.43**	**313**	P	Pn	11 48 39.3	+2.0
TUMR	**Tumrok**	**2.43**	**278**	*e*P	Pn	11 48 39.3	+2.0
TUMR				S	Sn	11 49 07.4	+1.6
KLY	**Klyuchi**	**2.46**	**303**	*e*P	Pn	11 48 38.2	+0.4
KLY				*e*S	Sn	11 49 05.3	-1.3
SRDR	**Sredinnyy**	**2.93**	**298**	*e*P	Pn	11 48 46.8	+2.6
SRDR				S	Sn	11 49 19.7	+1.7
SPN	**Mys Shipunski**	**3.21**	**235**	*e*S	Sn	11 49 23.1	-1.8
NLC	**Nalytchevo**	**3.49**	**240**	*e*S	Sn	11 49 30.5	-1.4
AVH	**Avacha**	**3.75**	**244**	*e*P	Pn	11 48 57.3	+1.9
AVH				S	Sn	11 49 37.6	-0.7
PET	**Petropavlovsk**	**3.92**	**241**	S	Sn	11 49 42.4	-0.1
GNL	**Ganaly**	**3.99**	**253**	*e*P	Pn	11 49 00.9	+2.2

IDC 04 11:59:55.0±3.7, 14°.21S×167°.48E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/18, mbtmp3.4/3, Error ellipse: s-maj=202.2km s-min=32.0km az=144.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.15**	**255**	P	P	12 06 24.9	+0.3
	0.3nm,0.9s,baz=85,slow=9.2,SNR=3.0						
ASAR	**Alice Springs**	**33.05**	**248**	P	P	12 06 32.6	+0.1
	0.3nm,0.4s,baz=75,slow=9.5,SNR=24						
ILAR	**Eielson Array**	**85.97**	**18**	P	P	12 12 37.8	+1.0
	0.3nm,0.7s,baz=238,slow=5.3,SNR=4.8						
ARCES	**ARCESS Array B**	**119.80**	**346**	PKP	PKPdf	12 18 45.3	-1.4
	5.2nm,1.0s,baz=58,slow=2.2,SNR=7.8						

VIE 04 12:00:00.4±0.4, 50°.21N×12°.73E, h0km, mb2.1/1, ML2.5/2, 4C, Error ellipse: s-maj=5.6km s-min=1.5km az=42.0 19 km E of Klingenthal Suspected Mining explosion., Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**2.37**	**73**	*e*Pn	Pn	12 00 46.5	+6.1
KSP				*e*Sn	Sn	12 01 19.5	+9.3
KSP	**Ksiaz**	**2.37**	**73**	*e*Pg	Pg	12 00 45.8	+0.1
KSP				*e*Sg	Sg	12 01 18.2	+1.8
MOA	**Molln**	**2.57**	**156**	⇑*i*Pn	Pn	12 00 44.1	+0.9
MOA				⇑*i*Sg	Sg	12 01 24.2	+1.4
	8.8nm,0.5s						
CONA	**Conrad Observa**	**3.07**	**137**	⇑*i*Pg	Pg	12 00 59.1	-0.2
CONA				⇑*i*Sg	Sg	12 01 41.5	+2.4
	10nm,0.5s						
BEL	**Belsk**	**5.35**	**69**	*e*Pn	Pn	12 01 16.0	-5.4

MOS ***04*** *12:05:37.3±1.6, 35°.88N×23°.43E, h33km, mb4.5/21, Error ellipse: s-maj=8.7km s-min=4.5km az=99.1*

ISCJB ***04*** *12:05:43.0±0.2, 36°.19N±0°.02×23°.30E±0°.02, h81km±2km, mb4.3/30, Error ellipse: s-maj=3.7km s-min=2.2km az=31.4*

IDC ***04*** *12:05:42.4±2.5, 36°.22N×23°.45E, h55km±24km, mb4.0/15, mb1 4.1/20, mb1mx3.9/32, mbtmp4.0/20, ML4.3/4, MS3.4/2, Ms1 3.4/2, ms1mx2.5/36, Error ellipse: s-maj=18.3km s-min=13.9km az=148.0*

DDA ***04*** *12:05:43.9, 36°.60N×23°.51E, h7km, Md3.8*

PDG ***04*** *12:05:43.8±0.2, 36°.16N×22°.75E, h88km±5km, ML4.6/8, Error ellipse: s-maj=3.6km s-min=9.6km az=0.0*

NEIC ***04*** *12:05:43.5, 36°.19N×23°.35E, h68km, mb4.3/20, MD4.3(ATH), After ATH.*

ATH ***04*** *12:05:43.5, 36°.19N×23°.35E, h68km±2km, ML4.3*

BEO ***04*** *12:05:44.0±3.4, 36°.10N×22°.85E, h44km±3km, ML4.1/9*

CSEM ***04*** *12:05:44.0±0.2, 36°.16N×23°.28E, h74km±1km, mb4.4/27, Ms2.5, Error ellipse: s-maj=4.6km s-min=2.7km az=30.0*

THE ***04*** *12:05:45.4, 36°.22N×23°.39E, h57km±3km, ML4.1/9, Error ellipse: s-maj=3.3km s-min=0.6km az=227.0*

HLW ***04*** *12:05:48.2, 35°.79N×24°.01E, h33km±29km, Md4.3, Ml4.0*

ISC 04 12:05:43.8±0.2, 36°.15N±0°.02×23°.29E±0°.02, h73km±2km, n501, σ1$23/621, mb4.3/30, 38C-8D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.25**	**303**	*e*P	**Pn**	**12 05 55.0**	**0.0**
KYTH	**Kithira**	**0.25**	**303**	P	**Pn**	**12 05 55.0**	**0.0**
KYTH	**Kithira**	**0.25**	**303**	*e*P	**Pn**	**12 05 55.0**	**0.0**
VLI	**Veliai**	**0.64**	**334**	*e*P	**Pn**	**12 05 58.1**	**-0.1**
VLI				*e*S	**Sn**	**12 06 07.9**	**-1.0**
VLI	**Veliai**	**0.64**	**334**	P	**Pn**	**12 05 58.2**	**0.0**
VLI				S	**Sn**	**12 06 07.8**	**-1.1**
VLI	**Veliai**	**0.64**	**334**	P	**Pn**	**12 05 58.2**	**0.0**
VLI				*e*S	**Sn**	**12 06 07.9**	**-1.0**
VAM	**Vamos**	**1.04**	**135**	*e*P	**Pn**	**12 06 03.6**	**+0.6**
VAM				*e*S	**Sn**	**12 06 17.4**	**+0.1**
VAM	**Vamos**	**1.04**	**135**	P	**Pn**	**12 06 03.5**	**+0.5**
VAM				S	**Sn**	**12 06 17.8**	**+0.5**
VAM	**Vamos**	**1.04**	**135**	*e*P	**Pn**	**12 06 03.6**	**+0.6**
VAM				S	**Sn**	**12 06 17.8**	**+0.5**
DID	**Didima**	**1.36**	**358**	*e*P	**Pn**	**12 06 07.1**	**+0.1**
DID				*e*S	**Sn**	**12 06 24.8**	**+0.4**
DID	**Didima**	**1.36**	**358**	P	**Pn**	**12 06 07.2**	**+0.2**
DID				S	**Sn**	**12 06 24.5**	**+0.1**
DID	**Didima**	**1.36**	**358**	*e*P	**Pn**	**12 06 07.1**	**+0.1**
DID				S	**Sn**	**12 06 24.5**	**+0.1**
PYL	**PYLOS**	**1.46**	**301**	*e*P	**Pn**	**12 06 08.6**	**+0.4**
PYL	**PYLOS**	**1.46**	**301**	P	**Pn**	**12 06 08.5**	**+0.3**
PYL	**PYLOS**	**1.46**	**301**	*e*P	**Pn**	**12 06 08.6**	**+0.4**
ITM	**Ithomi**	**1.51**	**314**	*e*P	**Pn**	**12 06 10.0**	**+1.1**
ITM				*e*S	**Sn**	**12 06 29.7**	**+1.9**
ITM	**Ithomi**	**1.51**	**314**	P	**Pn**	**12 06 09.9**	**+1.0**
ITM	**Ithomi**	**1.51**	**314**	P	**Pn**	**12 06 09.9**	**+1.0**
ITM				*e*S	**Sn**	**12 06 29.7**	**+1.9**
NAIG	**Nisos Aigina**	**1.62**	**6**	*e*P	**Pn**	**12 06 10.6**	**+0.2**
NAIG	**Nisos Aigina**	**1.62**	**6**	*e*P	**Pn**	**12 06 10.6**	**+0.2**
THR5	**Thira Island,**	**1.68**	**80**	P	**Pn**	**12 06 11.6**	**+0.4**
THR5	**Thira Island,**	**1.68**	**80**	P	**Pn**	**12 06 11.6**	**+0.4**
THR3	**Thira Island,**	**1.73**	**81**	P	**Pn**	**12 06 12.2**	**+0.4**
THR3	**Thira Island,**	**1.73**	**81**	P	**Pn**	**12 06 12.2**	**+0.4**
VLY	**Voula,Athens**	**1.75**	**13**	P	**Pn**	**12 06 11.9**	**-0.2**
VLY				S	**Sn**	**12 06 32.5**	**-1.1**
VLY	**Voula,Athens**	**1.75**	**13**	P	**Pn**	**12 06 11.9**	**-0.2**
VLY				S	**Sn**	**12 06 32.5**	**-1.1**
THR1	**Thera Island**	**1.77**	**82**	P	**Pn**	**12 06 12.7**	**+0.4**
THR1				S	**Sn**	**12 06 33.8**	**-0.2**
THR1	**Thera Island**	**1.77**	**82**	P	**Pn**	**12 06 12.7**	**+0.4**
THR1				S	**Sn**	**12 06 33.8**	**-0.2**
ATH	**Athens Observa**	**1.85**	**10**	*e*P	**Pn**	**12 06 13.6**	**+0.1**
ATH				*e*S	**Sn**	**12 06 34.9**	**-1.2**
ATH	**Athens Observa**	**1.85**	**10**	P	**Pn**	**12 06 13.6**	**+0.1**
ATH				S	**Sn**	**12 06 35.2**	**-0.9**
ATH	**Athens Observa**	**1.85**	**10**	*e*P	**Pn**	**12 06 13.6**	**+0.1**
ATH				S	**Sn**	**12 06 35.2**	**-0.9**
ATHU	**Athens Univers**	**1.86**	**12**	P	**Pn**	**12 06 15.2**	**+1.6**
ATHU				S	**Sn**	**12 06 32.5**	**-3.7**
ATHU	**Athens Univers**	**1.86**	**12**	P	**Pn**	**12 06 15.2**	**+1.6**
ATHU				S	**Sn**	**12 06 32.5**	**-3.7**
LTK	**Loutraki**	**1.89**	**352**	*e*P	**Pn**	**12 06 14.4**	**+0.4**
LTK				*e*S	**Sn**	**12 06 36.2**	**-0.8**
LTK	**Loutraki**	**1.89**	**352**	*e*P	**Pn**	**12 06 14.4**	**+0.4**
LTK				*e*S	**Sn**	**12 06 36.2**	**-0.8**
GUR	**Goura**	**1.94**	**337**	*e*P	**Pn**	**12 06 15.6**	**+0.9**
GUR				*e*S	**Sn**	**12 06 37.9**	**-0.3**
GUR	**Goura**	**1.94**	**337**	*e*P	**Pn**	**12 06 15.6**	**+0.9**
GUR				*e*S	**Sn**	**12 06 37.9**	**-0.3**
PTL	**Penteli**	**1.95**	**13**	*e*P	**Pn**	**12 06 14.9**	**0.0**
PTL				*e*S	**Sn**	**12 06 37.0**	**-1.5**
PTL	**Penteli**	**1.95**	**13**	P	**Pn**	**12 06 14.8**	**-0.1**
PTL				S	**Sn**	**12 06 37.1**	**-1.4**
PTL	**Penteli**	**1.95**	**13**	P	**Pn**	**12 06 14.8**	**-0.1**
PTL				S	**Sn**	**12 06 37.1**	**-1.4**
APE	**Apeiranthos**	**2.02**	**62**	*e*PN	**Pn**	**12 06 15.5**	**-0.3**
APE	**Apeiranthos**	**2.02**	**62**	*e*P	**Pn**	**12 06 16.0**	**+0.2**
APE				*e*S	**Sn**	**12 06 38.9**	**-1.3**
APE	**Apeiranthos**	**2.02**	**62**	P	**Pn**	**12 06 16.0**	**+0.2**
APE				S	**Sn**	**12 06 39.3**	**-0.9**
APE	**Apeiranthos**	**2.02**	**62**	*i*P	**Pn**	**12 06 39.1**	**-1.1**
APE	**Apeiranthos**	**2.02**	**62**	*e*P	**Pn**	**12 06 16.0**	**+0.2**
APE				S	**Sn**	**12 06 39.3**	**-0.9**
LAST	**Lasithi**	**2.04**	**118**	*e*P	**Pn**	**12 06 17.0**	**+1.1**
LAST				*e*S	**Sn**	**12 06 40.3**	**-0.1**
LAST	**Lasithi**	**2.04**	**118**	P	**Pn**	**12 06 17.1**	**+1.2**
LAST				S	**Sn**	**12 06 41.3**	**+0.9**
LAST	**Lasithi**	**2.04**	**118**	*e*P	**Pn**	**12 06 17.0**	**+1.1**
LAST				S	**Sn**	**12 06 41.3**	**+0.9**
NPS	**Neapolis**	**2.08**	**114**	*e*P	**Pn**	**12 06 17.2**	**+0.6**
NPS				*e*S	**Sn**	**12 06 41.5**	**-0.2**
NPS	**Neapolis**	**2.08**	**114**	P	**Pn**	**12 06 17.0**	**+0.4**
NPS				S	**Sn**	**12 06 41.5**	**-0.2**
NPS	**Neapolis**	**2.08**	**114**	P	**Pn**	**12 06 17.0**	**+0.4**
NPS				*e*S	**Sn**	**12 06 41.5**	**-0.2**
XRY	**Khrisi**	**2.33**	**122**	*e*P	**Pn**	**12 06 21.4**	**+1.4**
XRY	**Khrisi**	**2.33**	**122**	*e*P	**Pn**	**12 06 21.4**	**+1.4**
LAKA	**Lakka**	**2.34**	**334**	P	**Pn**	**12 06 21.6**	**+1.6**
LAKA				S	**Sn**	**12 06 48.7**	**+1.0**
LAKA	**Lakka**	**2.34**	**334**	P	**Pn**	**12 06 21.6**	**+1.6**
LAKA				S	**Sn**	**12 06 48.7**	**+1.0**
RLS	**Riolos of Patr**	**2.40**	**323**	*e*P	**Pn**	**12 06 22.6**	**+1.7**
RLS	**Riolos of Patr**	**2.40**	**323**	P	**Pn**	**12 06 22.5**	**+1.6**
RLS				S	**Sn**	**12 06 51.9**	**+2.6**
RLS	**Riolos of Patr**	**2.40**	**323**	P	**Pn**	**12 06 22.5**	**+1.6**
RLS				S	**Sn**	**12 06 51.9**	**+2.6**
KALE	**Kalithea**	**2.42**	**338**	P	**Pn**	**12 06 22.1**	**+0.9**
KALE	**Kalithea**	**2.42**	**338**	P	**Pn**	**12 06 22.1**	**+0.9**
LKR	**Lokris**	**2.51**	**355**	P	**Pn**	**12 06 22.6**	**+0.2**
LKR				S	**Sn**	**12 06 52.0**	**+0.1**
LKR	**Lokris**	**2.51**	**355**	P	**Pn**	**12 06 22.6**	**+0.2**
LKR				S	**Sn**	**12 06 52.0**	**+0.1**
EFP	**Efpalio**	**2.53**	**335**	*e*P	**Pn**	**12 06 24.4**	**+1.8**
EFP				*e*S	**Sn**	**12 06 52.6**	**+0.2**
EFP	**Efpalio**	**2.53**	**335**	*e*P	**Pn**	**12 06 24.4**	**+1.8**
EFP				*e*S	**Sn**	**12 06 52.6**	**+0.2**
ATAL	**Atalanti**	**2.55**	**355**	P	**Pn**	**12 06 23.1**	**+0.2**
ATAL	**Atalanti**	**2.55**	**355**	P	**Pn**	**12 06 23.1**	**+0.2**
ZKR	**Zakros**	**2.60**	**113**	*e*P	**Pn**	**12 06 24.9**	**+1.4**
ZKR				*e*S	**Sn**	**12 06 54.2**	**+0.2**
ZKR	**Zakros**	**2.60**	**113**	P	**Pn**	**12 06 25.5**	**+2.0**
ZKR				S	**Sn**	**12 06 54.4**	**+0.4**
ZKR	**Zakros**	**2.60**	**113**	*e*P	**Pn**	**12 06 24.9**	**+1.4**
ZKR				*e*S	**Sn**	**12 06 54.2**	**+0.2**
AGG	**Agios Georgios**	**2.97**	**345**	*e*P	**Pn**	**12 06 30.2**	**+1.6**
AGG				*e*S	**Sn**	**12 07 03.0**	**-0.1**
AGG	**Agios Georgios**	**2.97**	**345**	P	**Pn**	**12 06 30.3**	**+1.7**
AGG				S	**Sn**	**12 07 04.5**	**+1.4**
AGG	**Agios Georgios**	**2.97**	**345**	*e*P	**Pn**	**12 06 30.2**	**+1.6**
AGG				*e*S	**Sn**	**12 07 03.0**	**-0.1**
AOS	**Alonnisos**	**3.05**	**9**	P	**Pn**	**12 06 29.9**	**+0.2**
AOS				S	**Sn**	**12 07 04.8**	**-0.3**
AOS	**Alonnisos**	**3.05**	**9**	P	**Pn**	**12 06 29.9**	**+0.2**
AOS				S	**Sn**	**12 07 04.8**	**-0.3**
CHOS	**Chios island**	**3.14**	**44**	*e*P	**Pn**	**12 06 31.1**	**+0.2**
CHOS				*e*S	**Sn**	**12 07 06.6**	**-0.6**
CHOS	**Chios island**	**3.14**	**44**	P	**Pn**	**12 06 31.1**	**+0.2**
CHOS				S	**Sn**	**12 07 07.3**	**+0.1**
CHOS	**Chios island**	**3.14**	**44**	*e*P	**Pn**	**12 06 31.1**	**+0.2**
CHOS				*e*S	**Sn**	**12 07 06.6**	**-0.6**
NEO	**Neokhori**	**3.15**	**359**	P	**Pn**	**12 06 31.7**	**+0.6**
NEO	**Neokhori**	**3.15**	**359**	P	**Pn**	**12 06 31.7**	**+0.6**
KARP	**Karpathos**	**3.20**	**100**	*e*P	**Pn**	**12 06 32.4**	**+0.7**
KARP				*e*S	**Sn**	**12 07 08.4**	**-0.3**
KARP	**Karpathos**	**3.20**	**100**	P	**Pn**	**12 06 32.2**	**+0.5**
KARP				S	**Sn**	**12 07 10.1**	**+1.4**
KARP	**Karpathos**	**3.20**	**100**	P	**Pn**	**12 06 32.2**	**+0.5**
KARP		

PLD eSn **Sn** 12 08 17.7 -0.7
CEL Celeste 6.27 292 ePn **Pn** 12 07 12.2 -1.4
CEL eSn **Sn** 12 08 22.2 -1.6
CEL Celeste 6.27 292 ePn **Pn** 12 07 12.2 -1.4
CEL eSn **Sn** 12 08 22.2 -1.6
TAR1 Taranto 6.43 315 ePn **Pn** 12 07 14.3 -1.5
VTS Vitosha 6.44 359 ⇓iPn **Pn** 12 07 16.8 +0.9
VTS eSn **Sn** 12 08 25.0 -2.8
VTS Vitosha 6.44 359 ⇓P **Pn** 12 07 19.5 +3.6
VTS Vitosha 6.44 359 ⇓iP **Pn** 12 07 19.5 +3.6
VTS Vitosha 6.44 359 ⇓iPn **Pn** 12 07 16.8 +0.9
PUK Puka 6.45 337 *i* PN **Pn** 12 07 15.8 -0.3
PUK Puka 6.45 337 *i* Pn **Pn** 12 07 15.8 -0.3
YLV Yalova 6.50 45 ePN **Pn** 12 07 17.5 +0.7
CTKS Kestanelik-??a 6.51 37 ePN **Pn** 12 07 17.5 +0.6
PE1 Pezze di Greco 6.54 317 ePn **Pn** 12 07 15.8 -1.5
CAVI Cavuskoy 6.56 50 ePN **Pn** 12 07 18.7 +1.1
CTYL Yal??k??y-??at 6.60 35 ePN **Pn** 12 07 18.4 +0.3
ULC Ulcinj 6.61 333 ⇑iPn **Pn** 12 07 16.8 -1.4
ULC eSn **Sn** 12 08 26.3 -5.7
ULC Ulcinj 6.61 333 ⇑iPn **Pn** 12 07 16.8 -1.4
BGKT Bogazkoy 6.61 39 ePn **Pn** 12 07 18.9 +0.7
BCI Bajram Curri 6.70 339 *i* PN **Pn** 12 07 19.6 +0.2
BCI Bajram Curri 6.70 339 *i* Pn **Pn** 12 07 19.6 +0.2
BARS Barje 6.76 351 ⇑iPn **Pn** 12 07 19.9 -0.3
BARS Barje 6.76 351 ⇑iPn **Pn** 12 07 19.9 -0.3
PVY Plav 6.94 339 ⇑iPn **Pn** 12 07 22.6 -0.1
PVY eSn **Sn** 12 08 35.9 -4.2
PVY Plav 6.94 339 ⇑iPn **Pn** 12 07 22.6 -0.1
SG1 Sgolgore (BA) 6.99 314 ePn **Pn** 12 07 22.6 -0.8
TTG Podgorica 7.01 335 ⇑iPn **Pn** 12 07 22.2 -1.5
TTG eSn **Sn** 12 08 36.2 -5.6
PDG Podgorica 7.01 335 ⇑iPn **Pn** 12 07 22.2 -1.5
CUC Castrocucco 7.04 305 ePn **Pn** 12 07 23.7 -0.4
CUC eSn **Sn** 12 08 38.1 -4.4
CUC Castrocucco 7.04 305 ePn **Pn** 12 07 23.7 -0.4
BAI Bari 7.05 317 ePn **Pn** 12 07 23.1 -1.1
SWA2 7.12 165 P **Pn** 12 07 24.2 -1.1
baz=169
SWA2 S **Sn** 12 08 36.6 -8.1
baz=169
SWA2 7.12 165 P **Pn** 12 07 24.2 -1.1
ZAPS Zavoj 7.14 356 ePn **Pn** 12 07 25.7 +0.3
IVA Berane 7.21 340 ⇑iPn **Pn** 12 07 26.0 -0.4
IVA eSn **Sn** 12 08 42.0 -4.7
BEY Berane 7.21 340 ⇑iPn **Pn** 12 07 26.0 -0.4
SELS Selova 7.26 347 ePn **Pn** 12 07 25.7 -1.4
SELS eSn **Sn** 12 08 43.1 -4.9
CDT Castel del Mon 7.38 314 ePn **Pn** 12 07 27.2 -1.5
NKY Niksic 7.44 335 ⇑iPn **Pn** 12 07 28.9 -0.7
NKY eSn **Sn** 12 08 47.0 -5.4
NKY Niksic 7.44 335 ⇑iPn **Pn** 12 07 28.9 -0.7
SJES Sjenica 7.55 341 ePn **Pn** 12 07 29.8 -1.3
SJES eSn **Sn** 12 08 49.0 -6.1
BRY Bratogost 7.68 333 ⇑iPn **Pn** 12 07 32.1 -0.7
BRY eSn **Sn** 12 08 52.3 -5.9
BRY Bratogost 7.68 333 ⇑iPn **Pn** 12 07 32.1 -0.7
PLE Pljevlja 7.78 338 ⇑iPn **Pn** 12 07 33.3 -0.9
PLE eSn **Sn** 12 08 55.5 -5.1
PLE Pljevlja 7.78 338 ⇑iPn **Pn** 12 07 33.3 -0.9
HBRG Burj al 'Arab 7.80 134 P **Pn** 12 07 31.5 -3.1
baz=135
UPM Unac-Piva 7.81 336 ⇑iPn **Pn** 12 07 34.2 -0.5
UPM eSn **Sn** 12 08 56.1 -5.5
UPM Unac-Piva 7.81 336 ⇑iPn **Pn** 12 07 34.2 -0.5
GRUS Gruza 7.98 346 ⇓iPn **Pn** 12 07 35.3 -1.6
GRUS eSn **Sn** 12 09 00.0 -5.6
GRUS Gruza 7.98 346 ⇓iPn **Pn** 12 07 35.3 -1.6
STON Ston 7.98 329 ePn **Pn** 12 07 33.6 -3.4
STON Sn **Sn** 12 08 54.5 -11
BBLS Lazići 8.27 340 *i* Pn **Pn** 12 07 39.2 -1.6
BBLS eSn **Sn** 12 09 05.9 -6.7
BBLS Lazići 8.27 340 *i* Pn **Pn** 12 07 39.2 -1.6
CSS Prodhromos 8.27 95 ePn **Pn** 12 07 41.6 +0.7
CSS Prodhromos 8.27 95 ePn **Pn** 12 07 41.6 +0.7
DIVS Divibare 8.33 343 ePn **Pn** 12 07 40.1 -1.7
DIVS eSn **Sn** 12 09 07.7 -6.5
TRUS Trudelj 8.36 346 ePn **Pn** 12 07 41.8 -0.4
TRUS eSn **Sn** 12 09 16.0 -4.9
TRUS Trudelj 8.36 346 ePn **Pn** 12 07 41.8 -0.4
DJES Djerdap 8.53 356 ePn **Pn** 12 07 44.5 +0.1
BRTR Keskin Array B 8.92 63 P **Pn** 12 07 53.4 +3.6
1.5nm,0.3s,baz=251,slow=13,SNR=21
BRTR Keskin Array B 8.92 63 P **Pn** 12 07 53.4 +3.6
BRTR Keskin Array B 8.92 63 P **Pn** 12 07 53.4 +3.6
BRTR pmax pmax
comp=Z,2.0nm,0.3s
HNAT Natroun 8.95 134 P **Pn** 12 07 47.3 -2.9
baz=136
FYM Al Fayyum 9.15 132 P **Pn** 12 07 49.6 -3.5
baz=133
TIRR Tirgusor 9.18 24 ePn **Pn** 12 07 54.0 +0.8
TIRR Tirgusor 9.18 24 eP **Pn** 12 07 54.1 +0.9
TIRR Tirgusor 9.18 24 ⇓iP **Pn** 12 07 53.9 +0.7
TIRR Tirgusor 9.18 24 ePn **Pn** 12 07 54.0 +0.8
AYT Al 'Ayyat 9.21 132 P **Pn** 12 07 51.2 -2.7
baz=133
LOT Lotru 9.30 2 ⇑iP **Pn** 12 07 57.1 +2.2
LOT Lotru 9.30 2 ⇑iP **Pn** 12 07 57.1 +2.2
VOIR 9.38 8 ⇑P **Pn** 12 07 57.9 +1.9
VOIR 9.38 8 ⇑iP **Pn** 12 07 57.9 +1.9
VOIR 9.38 8 P **Pn** 12 07 57.9 +1.9
FGSL Fruska Gora 9.38 345 ePn **Pn** 12 07 55.3 -0.7
FRGS Fruska Gora 9.38 345 ePn **Pn** 12 07 55.3 -0.7
FRGS eSn **Sn** 12 09 33.9 -5.9
KOT Kottamia 9.47 128 P **Pn** 12 07 54.6 -2.8
baz=129
KOT S **Sn** 12 09 28.9 -13
baz=129
HSAF As Saff 9.52 131 P **Pn** 12 07 55.2 -2.8
baz=132
MLR Muntele Rosu 9.55 11 P **Pn** 12 07 57.5 -0.8
comp=Z,0.4nm,0.3s,baz=177,slow=7.3,SNR=11
MLR Muntele Rosu 9.55 11 P **Pn** 12 07 57.5 -0.8
MLR Muntele Rosu 9.55 11 ⇑P **Pn** 12 08 00.3 +2.0
MLR Muntele Rosu 9.55 11 ⇑iP **Pn** 12 08 00.3 +2.0
MLR Muntele Rosu 9.55 11 P **Pn** 12 07 57.5 -0.8
HHAG Hagoal 9.63 127 P **Pn** 12 07 56.3 -3.2
baz=128
HHAG S **Sn** 12 09 32.6 -13
baz=128
HFRF Wahat Farafira 9.94 153 P **Pn** 12 08 01.6 -2.1
baz=155
HFRF S **Sn** 12 09 41.9 -12
baz=155
HFRF AMP 12 10 00.0
comp=E,70µm,0.5s,logA/T=5.2,baz=155
DOPR Dopca 9.94 9 ⇑iP **Pn** 12 08 06.1 +2.5
DOPR Dopca 9.94 9 ⇑iP **Pn** 12 08 06.1 +2.5
AMAG Maghara 9.94 121 P **Pn** 12 08 01.1 -2.7
baz=121
PLOR Plostina 10.02 14 ⇑iP **Pn** 12 08 07.8 +3.0
VRI Vrincioaia 10.05 14 ⇑P **Pn** 12 08 07.3 +2.1
VRI Vrincioaia 10.05 14 ⇑iP **Pn** 12 08 07.3 +2.1
VRI Vrincioaia 10.05 14 P **Pn** 12 08 07.3 +2.1
MMAI Mount Meron Ar 10.46 104 P **Pn** 12 08 07.5 -3.4
comp=E,9.2nm,0.3s,baz=304,slow=12,SNR=9.1
MMAI S **Sn** 12 09 58.0 -8.3
comp=E,16nm,0.3s,baz=336,slow=32,SNR=8.2
HWQ Hawqa 10.52 97 eP **Pn** 12 08 09.2 -2.5
NVLJ Novalja 10.57 325 ePn **Pn** 12 08 10.8 -1.5
NVLJ Sn **Sn** 12 09 58.6 -10
NVLJ Novalja 10.57 325 ePn **Pn** 12 08 10.8 -1.5
RCY Rachaya 10.64 101 eP **Pn** 12 08 08.9 -4.5
TESR 10.66 13 ⇑iP **Pn** 12 08 15.0 +1.6
TESR 10.66 13 ⇑iP **Pn** 12 08 15.0 +1.6
HNKL Nakhl 10.90 122 P **Pn** 12 08 14.2 -2.6
baz=122
HNKL S **Sn** 12 10 04.2 -13
baz=122
BOJS Bojanci 11.15 329 *i* Pn **Pn** 12 08 18.2 -2.0
BOJS eSn **Sn** 12 10 10.7 -12
BOJS
comp=Z,15nm,0.4s
BOJS Bojanci 11.15 329 *i* Pn **Pn** 12 08 18.2 -2.0
KEST Kesra 11.31 272 P **Pn** 12 08 22.9 +0.4
comp=Z,0.1nm,0.3s,baz=44,slow=18,SNR=4.0
KEST S **Sn** 12 10 19.2 -7.9
comp=Z,0.2nm,0.3s,baz=54,slow=23,SNR=7.8
KEST Kesra 11.31 272 P **Pn** 12 08 22.9 +0.4
KEST S **Sn** 12 10 19.2 -7.9
KEST Kesra 11.31 272 P **Pn** 12 08 22.9 +0.4

CRES Cresnjev 11.33 331 ePn **Pn** 12 08 20.3 -2.3
CRES *i* Sn **Sn** 12 10 14.4 -13
CRES
comp=Z,41nm,0.7s
CRES Cresnjev 11.33 331 ePn **Pn** 12 08 20.3 -2.3
VISS Visnje 11.56 329 ePn **Pn** 12 08 23.6 -2.2
VISS *i* Sn **Sn** 12 10 21.5 -12
VISS
comp=Z,12nm,0.4s
VISS Visnje 11.56 329 ePn **Pn** 12 08 23.6 -2.2
SKDS Skadanscina 11.72 326 *i* Pn **Pn** 12 08 24.9 -3.1
SKDS *i* Sn **Sn** 12 10 24.8 -12
SKDS
comp=Z,16nm,0.2s
EIL Elat 11.73 120 S **Sn** 12 10 26.8 -10
comp=Z,6.9nm,0.3s,baz=66,slow=18,SNR=7.5
HDK1 Dakhla 11.80 152 P **Pn** 12 08 27.5 -1.6
baz=154
ASF Jabal al Asfar 11.95 105 S **Sn** 12 10 35.0 -7.5
comp=Z,1.0nm,0.3s,baz=16,slow=18,SNR=3.9
JAVS Javornik 11.96 327 *i* Pn **Pn** 12 08 29.1 -2.1
JAVS *i* Sn **Sn** 12 10 31.0 -12
JAVS Javornik 11.96 327 *i* Pn **Pn** 12 08 29.1 -2.2
PERS Pernice 12.14 332 *i* Pn **Pn** 12 08 31.1 -2.5
PERS *i* Sn **Sn** 12 10 33.3 -14
VOY Vojsko 12.15 327 eSn **Sn** 12 10 36.0 -11
OBKA Obir 12.25 330 ⇑iPn **Pn** 12 08 32.8 -2.4
AKRG Al Kharijah 12.28 148 P **Pn** 12 08 34.0 -1.7
baz=149
KECS Kecovo 12.50 351 eP **Pn** 12 08 42.0 +3.5
KECS Kecovo 12.50 351 ePN **Pn** 12 08 42.0 +3.5
VYHS Vyhne 12.77 346 eP **Pn** 12 08 46.0 +3.8
VYHS Vyhne 12.77 346 ePN **Pn** 12 08 46.0 +3.8
KOLS Kolonicke sedl 12.80 357 eP **Pn** 12 08 45.1 +2.5
KOLS Kolonicke sedl 12.80 357 ePN **Pn** 12 08 45.1 +2.5
KOLS Kolonicke sedl 12.80 357 eP **Pn** 12 08 45.1 +2.5
CRVS Cervenica-Dubn 12.82 355 eP **Pn** 12 08 47.2 +4.3
CRVS Cervenica-Dubn 12.82 355 ePN **Pn** 12 08 47.2 +4.3
STHS Stebnicka Huta 13.35 354 eP **Pn** 12 08 58.9 +9.0
STHS Stebnicka Huta 13.35 354 *e* **Pn** 12 08 58.9 +9.0
VRAC Vranov 14.04 342 ⇑P **Pn** 12 09 05.8 +6.8
VRAC Vranov 14.04 342 ⇑iP **Pn** 12 09 05.8 +6.8
VRAC Vranov 14.04 342 P **Pn** 12 09 05.8 +6.8
MORC Moravsky Berou 14.25 345 ePn **Pn** 12 09 08.0 +6.2
MORC Moravsky Berou 14.25 345 ⇑P **Pn** 12 09 07.5 +5.7
MORC Moravsky Berou 14.25 345 ⇑iP **Pn** 12 09 07.4 +5.6
MORC Moravsky Berou 14.25 345 P **Pn** 12 09 07.5 +5.7
GERES GERESS Array B 14.51 334 P **Pn** 12 09 03.8 -1.4
comp=Z,0.5nm,0.3s,baz=156,slow=14,SNR=6.6
GERES S **Sn** 12 11 35.5 -9.2
comp=Z,0.7nm,0.3s,baz=149,slow=24,SNR=7.5
GERES GERESS Array B 14.51 334 P **Pn** 12 09 03.8 -1.4
GERES S **Sn** 12 11 35.5 -9.2
GERES GERESS Array B 14.51 334 P **Pn** 12 09 03.8 -1.4
GERES pmax pmax
comp=Z,1.0nm,0.3s
DAVOX Davos/Dischmat 14.61 321 P **Pn** 12 09 09.6 +3.2
comp=Z,0.6nm,0.3s,baz=154,slow=18,SNR=3.6
DAVOX S **Sn** 12 11 35.1 -12
comp=Z,0.7nm,0.3s,baz=156,slow=20,SNR=3.5
DAVOX LR LR 12 15 24.1
comp=Z,35nm,20.5s,baz=255,slow=40
DAVOX Davos/Dischmat 14.61 321 P **Pn** 12 09 09.6 +3.2
DAVOX S **Sn** 12 11 35.1 -12
DAVOX LR LR 12 15 24.1
DAVOX Davos/Dischmat 14.61 321 P **Pn** 12 09 09.6 +3.2
DAVOX Davos/Dischmat 14.61 321 P **Pn** 12 09 09.6 +3.2
KHC Kasperske Hory 14.80 334 ePn **Pn** 12 09 07.7 -1.2
KHC *e*Sn **Sn** 12 11 45.2 -6.4
KHC Kasperske Hory 14.80 334 eP **Pn** 12 09 07.7 -1.2
KHC Kasperske Hory 14.80 334 ePn **Pn** 12 09 07.7 -1.2
DPC Dobruska-Polom 15.07 343 eP **Pn** 12 09 15.4 +3.1
comp=Z,16nm,0.7s
DPC Dobruska-Polom 15.07 343 eP **Pn** 12 09 15.4 +3.1
DPC pmax pmax
comp=Z,16nm,0.7s
DPC Dobruska-Polom 15.07 343 eP **Pn** 12 09 15.4 +3.1
comp=Z,16nm,0.7s
KIEV Kiev 15.15 15 ePn **Pn** 12 09 11.9 -1.6
comp=Z,23nm,0.9s
KIEV Kiev 15.15 15 eP **Pn** 12 09 11.9 -1.6
KIEV pmax pmax
comp=Z,23nm,0.9s
KIEV Kiev 15.15 15 *e*Pn **Pn** 12 09 11.9 -1.6
comp=Z,23nm,0.9s
AKASG Malin Array Be 15.16 15 P **Pn** 12 09 11.5 -2.1
comp=Z,2.6nm,0.3s,baz=204,slow=12,SNR=15
AKASG Malin Array Be 15.16 15 P **Pn** 12 09 11.5 -2.1
AKASG Malin Array Be 15.16 15 P **Pn** 12 09 11.5 -2.1
AKASG pmax pmax
comp=Z,3.0nm,0.3s
AKBB Malin Array Si 15.16 15 ePn **Pn** 12 09 11.9 -1.7
AKBB Malin Array Si 15.16 15 eP **Pn** 12 09 11.9 -1.7
AKBB Malin Array Si 15.16 15 ePn **Pn** 12 09 11.9 -1.7
MBDF Montbardon 15.20 309 eP **Pn** 12 09 14.8 +0.7
comp=Z,58nm,1.2s
MBDF Montbardon 15.20 309 eP **Pn** 12 09 14.8 +0.7
comp=Z,29nm,1.2s
MBDF Montbardon 15.20 309 eP **Pn** 12 09 14.8 +0.7
MBDF pmax pmax
comp=Z,29nm,1.2s
LASF Ste Croix 16.82 304 eP **Pn** 12 09 33.5 -0.9
LASF Ste Croix 16.82 304 eP **Pn** 12 09 33.5 -0.9
LASF Ste Croix 16.82 304 eP **Pn** 12 09 33.5 -0.9
HINF Hinteralfeld 16.85 319 eP **Pn** 12 09 35.5 +0.7
HINF Hinteralfeld 16.85 319 eP **Pn** 12 09 35.5 +0.7
HINF Hinteralfeld 16.85 319 eP **Pn** 12 09 35.5 +0.7
HINF Hinteralfeld 16.85 319 eP **Pn** 12 09 35.5 +0.7
CLL Collm 16.85 337 eP **Pn** 12 09 36.0 +1.2
CLL Collm 16.85 337 *e*(P) **Pn** 12 09 36.0 +1.2
CLL *i* 12 09 38.0
comp=Z,7.0nm,0.9s
CLL Collm 16.85 337 eP **Pn** 12 09 36.0 +1.2
ZEI Tsey 17.21 61 eP **Pn** 12 09 43.0 +3.7
ZEI pmax pmax
comp=Z,6.0nm,0.8s
SUW Suwalki 17.87 360 eP **Pn** 12 09 46.4 -0.8
SUW Suwalki 17.87 360 eP **Pn** 12 09 46.5 -0.6
comp=Z,34nm,0.5s
SUW Suwalki 17.87 360 eP **Pn** 12 09 46.5 -0.7
SUW pmax pmax
comp=Z,34nm,0.5s
SUW Suwalki 17.87 360 eP **Pn** 12 09 46.5 -0.7
comp=Z,34nm,0.5s
SMF Signal de Mont 17.92 312 eP **Pn** 12 09 48.4 +0.5
SMF Signal de Mont 17.92 312 eP **Pn** 12 09 48.4 +0.5
SMF Signal de Mont 17.92 312 eP **Pn** 12 09 48.4 +0.5
SMF Signal de Mont 17.92 312 eP **Pn** 12 09 48.4 +0.5
LOR Lormes 18.22 314 eP **Pn** 12 09 52.1 +0.6
LOR *e*MLR MLR
comp=Z,48nm,20.2s
LOR Lormes 18.22 314 eP **Pn** 12 09 52.1 +0.6
LOR Lormes 18.22 314 eP **Pn** 12 09 52.1 +0.6
LOR Lormes 18.22 314 eP **Pn** 12 09 52.1 +0.6
MEZF Maizieres J'vi 18.23 318 eP **Pn** 12 09 52.4 +0.8
comp=Z,12nm,0.6s
MEZF Maizieres J'vi 18.23 318 eP **Pn** 12 09 52.4 +0.8
comp=Z,12nm,0.6s
MEZF Maizieres J'vi 18.23 318 eP **Pn** 12 09 52.4 +0.8
comp=Z,6.2nm,0.6s
SSF Saint Saulge 18.33 313 eP **Pn** 12 09 53.2 +0.4
comp=Z,11nm,0.9s
SSF Saint Saulge 18.33 313 eP **Pn** 12 09 53.2 +0.4
comp=Z,5.3nm,0.9s
SSF Saint Saulge 18.33 313 eP **Pn** 12 09 53.2 +0.4
SSF pmax pmax
comp=Z,5.0nm,0.9s
SSF Saint Saulge 18.33 313 eP **Pn** 12 09 53.2 +0.4
comp=Z,5.3nm,0.9s
RJF Les Rejaudoux 18.82 306 eP **Pn** 12 09 59.9 +1.1
RJF *e*MLR MLR
comp=Z,47nm,17.2s
RJF Les Rejaudoux 18.82 306 eP **Pn** 12 09 59.9 +1.1
RJF Les Rejaudoux 18.82 306 eP **Pn** 12 09 59.9 +1.1
RJF Les Rejaudoux 18.82 306 eP **Pn** 12 09 59.9 +1.1
VSR Storozhevoye 18.88 32 eP **Pn** 12 09 57.8 -1.5
VSR pmax pmax
comp=Z,9.0nm,0.6s
VSR pmax pmax
comp=N,2.0nm,0.3s
VSR pmax pmax
comp=E,5.0nm,0.6s
VSR Storozhevoye 18.88 32 eP **Pn** 12 09 57.8 -1.5
comp=E,2.0nm,0.3s

ETSF Etsaut 19.56 297 eP **Pn** 12 10 09.0 +1.5
comp=E,17nm,0.8s
ETSF Etsaut 19.56 297 eP **Pn** 12 10 09.0 +1.5
comp=E,8.4nm,0.8s
ETSF Etsaut 19.56 297 eP **Pn** 12 10 09.0 +1.5
ETSF pmax pmax
comp=Z,8.0nm,0.8s
BAIF Baives 19.61 321 eP **Pn** 12 10 06.8 -1.2
BAIF Baives 19.61 321 eP **Pn** 12 10 06.8 -1.2
BAIF Baives 19.61 321 eP **Pn** 12 10 06.8 -1.2
BAIF Baives 19.61 321 eP **Pn** 12 10 06.8 -1.2
VRHR Novokhopersk 19.90 36 eP **Pn** 12 10 10.7 -0.8
VRHR pmax pmax
comp=N,30nm,0.9s
VRHR pmax pmax
comp=E,30nm,0.9s
VRHR pmax pmax
comp=Z,50nm,0.9s
VRHR Novokhopersk 19.90 36 eP **Pn** 12 10 10.7 -0.8
SJPF Ste Jean 20.08 298 eP **P** 12 10 12.8 +1.6
comp=Z,14nm,0.7s
SJPF Ste Jean 20.08 298 eP **P** 12 10 12.8 +1.6
comp=Z,6.9nm,0.7s
SJPF Ste Jean 20.08 298 eP **P** 12 10 12.8 +1.6
SJPF pmax pmax
comp=Z,7.0nm,0.7s
SJPF Ste Jean 20.08 298 eP **P** 12 10 12.8 +1.6
comp=Z,6.9nm,0.7s
MFF Saint Martin d 20.38 308 eP **P** 12 10 15.8 +1.3
comp=Z,14nm,0.7s
MFF Saint Martin d 20.38 308 eP **P** 12 10 15.8 +1.3
comp=Z,7.1nm,0.7s
MFF Saint Martin d 20.38 308 eP **P** 12 10 15.8 +1.3
MFF pmax pmax
comp=Z,7.0nm,0.7s
MFF Saint Martin d 20.38 308 eP **P** 12 10 15.8 +1.3
comp=Z,7.1nm,0.7s
RST Umm Al-Ruwaisa 20.97 102 eP **P** 12 10 20.8 -0.2
RST AMb AMB 12 10 23.5
comp=Z,4.8nm,1.1s
RST Umm Al-Ruwaisa 20.97 102 eP **P** 12 10 20.8 -0.1
comp=Z,5.0nm,1.1s
OBN Obninsk 21.05 22 eP **P** 12 10 23.5 +1.9
comp=Z,530nm,2.6s,mb5.4
OBN Obninsk 21.05 22 eP **P** 12 10 23.5 +2.0
comp=Z,530nm,2.6s,mb5.4
MIB Mutribah 21.12 101 eP **P** 12 10 22.1 -0.4
MIB AMb AMB 12 10 24.4
comp=Z,32nm,0.6s,mb4.8
MIB Mutribah 21.12 101 eP **P** 12 10 22.1 -0.4
comp=Z,32nm,0.6s,mb4.8
LDF La Druitiere 21.21 313 eP **P** 12 10 23.4 +0.1
comp=Z,11nm,0.6s,mb4.1
LDF La Druitiere 21.21 313 eP **P** 12 10 23.4 +0.1
comp=Z,5.7nm,0.6s,mb4.1
LDF La Druitiere 21.21 313 eP **P** 12 10 23.4 +0.1
LDF pmax pmax
comp=Z,6.0nm,0.6s,mb4.1
LDF La Druitiere 21.21 313 eP **P** 12 10 23.4 +0.1
comp=Z,5.7nm,0.6s,mb4.1
NAY Al-Naaiem 21.27 102 eP **P** 12 10 24.1 0.0
NAY AMb AMB 12 10 25.3
comp=Z,33nm,0.6s,mb4.8
NAY Al-Naaiem 21.27 102 eP **P** 12 10 24.1 0.0
comp=Z,33nm,0.6s,mb4.8
FLN La Foliniere 21.50 313 eP **P** 12 10 26.7 +0.3
comp=Z,24nm,0.8s,mb4.3
FLN *e*MLR MLR
comp=Z,24nm,18.2s
FLN La Foliniere 21.50 313 eP **P** 12 10 26.7 +0.3
comp=Z,12nm,0.8s,mb4.3
FLN LR LR
comp=Z,20nm,18.3s
FLN La Foliniere 21.50 313 eP **P** 12 10 26.7 +0.3
FLN pmax pmax
comp=Z,12nm,0.8s,mb4.3
FLN MLR MLR
comp=Z,20nm,18.3s
FLN La Foliniere 21.50 313 eP **P** 12 10 26.7 +0.3
comp=Z,12nm,0.8s,mb4.3
ESDC Sonseca Array 21.76 288 P **P** 12 10 31.1 +1.9
comp=Z,1.6nm,0.6s,mb3.5,baz=77,slow=10.0,SNR=7.1
ESDC Sonseca Array 21.76 288 P **P** 12 10 31.1 +1.9
ESDC Sonseca Array 21.76 288 P **P** 12 10 31.1 +1.8
SGMF Saint Gilles 22.53 311 eP **P** 12 10 37.7 +0.3
comp=Z,114nm,1.4s,mb4.7
SGMF Saint Gilles 22.53 311 eP **P** 12 10 37.7 +0.3
comp=Z,57nm,1.4s,mb4.7
SGMF Saint Gilles 22.53 311 eP **P** 12 10 37.7 +0.3
SGMF pmax pmax
comp=Z,57nm,1.4s,mb4.7
SGMF Saint Gilles 22.53 311 eP **P** 12 10 37.7 +0.3
comp=Z,57nm,1.4s,mb4.7
QUIF Quistinic 22.78 309 eP **P** 12 10 40.2 +0.2
comp=Z,21nm,0.7s,mb4.3
QUIF Quistinic 22.78 309 eP **P** 12 10 40.2 +0.2
comp=Z,11nm,0.7s,mb4.3
QUIF Quistinic 22.78 309 eP **P** 12 10 40.2 +0.2
QUIF pmax pmax
comp=Z,11nm,0.7s,mb4.3
QUIF Quistinic 22.78 309 eP **P** 12 10 40.2 +0.2
comp=Z,11nm,0.7s,mb4.3
ROSF Rostrenen 23.01 310 eP **P** 12 10 42.9 +0.5
comp=Z,16nm,0.6s,mb4.2
ROSF Rostrenen 23.01 310 eP **P** 12 10 42.9 +0.5
comp=Z,8.1nm,0.6s,mb4.2
ROSF Rostrenen 23.01 310 eP **P** 12 10 42.9 +0.5
ROSF pmax pmax
comp=Z,8.0nm,0.6s,mb4.2
ROSF Rostrenen 23.01 310 eP **P** 12 10 42.9 +0.5
comp=Z,8.1nm,0.6s,mb4.2
HFS Hagfors 24.79 349 P **P** 12 10 58.3 -0.2
comp=Z,13nm,0.7s,mb4.5,baz=159,slow=10,SNR=47
HFS Hagfors 24.79 349 P **P** 12 10 58.3 -0.2
HFS Hagfors 24.79 349 P **P** 12 10 58.3 -0.2
HFS pmax pmax
comp=Z,13nm,0.7s
HFS Hagfors 24.79 349 P **P** 12 10 58.3 -0.2
comp=Z,13nm,0.7s,mb4.5
FINES FINESS Array B 25.38 3 P **P** 12 11 03.3 -0.6
comp=Z,2.1nm,0.6s,mb3.8,baz=172,slow=11,SNR=7.4
FINES FINESS Array B 25.38 3 P **P** 12 11 03.3 -0.6
FINES FINESS Array B 25.38 3 P **P** 12 11 03.3 -0.6
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 25.38 3 P **P** 12 11 03.3 -0.6
comp=Z,2.0nm,0.6s,mb3.7
NAO01 NORSAR Array S 25.96 346 eP **P** 12 11 09.0 -0.1
comp=Z,4.1nm,0.6s,mb4.0
NAO01 NORSAR Array S 25.96 346 eP **P** 12 11 09.0 -0.1
comp=Z,4.1nm,0.6s,mb4.0
NB2 NORSAR Subarra 26.07 347 P **P** 12 11 09.7 -0.4
comp=Z,1.3nm,0.4s,mb3.7,baz=153,slow=10
NB2 NORSAR Subarra 26.07 347 P **P** 12 11 09.7 -0.4
comp=Z,1.3nm,0.4s,mb3.7,baz=153,slow=9.7,SNR=2.8
NOA NORSAR Array B 26.07 347 P **P** 12 11 10.2 +0.1
comp=Z,3.0nm,0.5s,mb4.0,baz=149,slow=11,SNR=26
NOA NORSAR Array B 26.07 347 P **P** 12 11 10.2 +0.1
NOA NORSAR Array B 26.07 347 P **P** 12 11 10.2 +0.1
NOA pmax pmax
comp=Z,3.0nm,0.5s
NOA NORSAR Array B 26.07 347 P **P** 12 11 10.2 +0.1
comp=Z,3.0nm,0.5s,mb4.0
EKA Eskdalemuir Ar 26.36 325 P **P** 12 11 13.3 +0.6
comp=Z,1.9nm,0.5s,mb3.8,baz=122,slow=8.6,SNR=14
EKA Eskdalemuir Ar 26.36 325 P **P** 12 11 13.3 +0.6
EKA Eskdalemuir Ar 26.36 325 P **P** 12 11 13.4 +0.6
EKA pmax pmax
comp=Z,2.0nm,0.5s
EKA Eskdalemuir Ar 26.36 325 P **P** 12 11 13.4 +0.6
comp=Z,2.0nm,0.5s,mb3.8
AKTK Aktyubinsk 28.73 49 P **P** 12 11 32.6 -1.4
AKTK Aktyubinsk 28.73 49 P **P** 12 11 32.6 -1.4
comp=Z,1.0nm,0.3s,mb3.9
AKTO Aktyubinsk 28.73 49 P **P** 12 11 32.6 -1.4
comp=Z,1.0nm,0.3s,mb3.9,baz=241,slow=14,SNR=3.8
AKTO Aktyubinsk 28.73 49 P **P** 12 11 32.6 -1.4
AKTO pmax pmax
comp=Z,1.0nm,0.3s,mb3.9
TORD Torodi Ar. Bea 30.02 226 P **P** 12 11 47.5 +1.7
comp=Z,0.9nm,0.4s,mb3.7,baz=38,slow=9.5,SNR=8.7
TORD Torodi Ar. Bea 30.02 226 P **P** 12 11 47.5 +1.7
TORD Torodi Ar. Bea 30.02 226 P **P** 12 11 47.5 +1.7
ARCES ARCESS Array B 33.47 1 P **P** 12 12 14.2 -1.3
comp=Z,0.9nm,0.4s,mb4.0,baz=182,slow=7.3,SNR=17
ARCES ARCESS Array B 33.47 1 P **P** 12 12 14.2 -1.3
ARCES ARCESS Array B 33.47 1 P **P** 12 12 14.2 -1.3

ARCES					pmax	pmax			
	comp=Z,1.0nm,0.4s								
ARCES	**ARCESS Array B**	**33.47**		**1**	P	**P**	**12 12 14.2**	**-1.3**
	comp=Z,1.0nm,0.4s,mb4.0								
KKAR	**Karatay Array**	**36.63**	**64**	*eP*	**P**	**P**	**12 12 43.5**	**+0.5**
	comp=Z,6.5nm,0.5s,mb4.8								
KKAR	**Karatay Array**	**36.63**	**64**	*eP*	**P**	**P**	**12 12 43.5**	**+0.5**
KKAR					pmax	pmax			
	comp=Z,6.0nm,0.5s,mb4.8								
KKAR	**Karatay Array**	**36.63**	**64**	*eP*	**P**	**P**	**12 12 43.5**	**+0.5**
	comp=Z,6.5nm,0.5s,mb4.8								
DBIC	**Dimbokro**	**39.04**	**228**	P	**P**	**P**	**12 13 04.8**	**+1.3**
	comp=Z,1.1nm,0.4s,mb4.0,baz=103,slow=18,SNR=2.3								
DBIC	**Dimbokro**	**39.04**	**228**	P	**P**	**P**	**12 13 04.8**	**+1.3**
DBIC	**Dimbokro**	**39.04**	**228**	P	**P**	**P**	**12 13 04.9**	**+1.3**
DBIC					pmax	pmax			
	comp=Z,1.0nm,0.4s								
DBIC	**Dimbokro**	**39.04**	**228**	P	**P**	**P**	**12 13 04.8**	**+1.2**
EKS2	**Erkin-Say**	**39.07**	**65**	*eP*	**P**	**P**	**12 13 04.9**	**+1.4**
	comp=Z,4.3nm,0.6s,mb4.5								
EKS2	**Erkin-Say**	**39.07**	**65**	*eP*	**P**	**P**	**12 13 04.9**	**+1.4**
EKS2					pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.4								
EKS2	**Erkin-Say**	**39.07**	**65**	*eP*	**P**	**P**	**12 13 04.9**	**+1.4**
	comp=Z,4.3nm,0.6s,mb4.5								
AAK	**Ala-Archa**	**39.60**	**64**	*eP*	**P**	**P**	**12 13 09.1**	**+1.2**
	comp=Z,49nm,2.7s,mb4.9								
AAK	**Ala-Archa**	**39.60**	**64**	*eP*	**P**	**P**	**12 13 09.1**	**+1.2**
AAK					pmax	pmax			
	comp=Z,49nm,2.7s,mb4.9								
AAK	**Ala-Archa**	**39.60**	**64**	*eP*	**P**	**P**	**12 13 09.1**	**+1.2**
	comp=Z,49nm,2.7s,mb4.9								
KURK	**Kurchatov**	**41.75**	**52**	*eP*	**P**	**P**	**12 13 24.9**	**-0.7**
	comp=Z,5.0nm,0.8s,mb4.3								
KURK	**Kurchatov**	**41.75**	**52**	*eP*	**P**	**P**	**12 13 24.9**	**-0.7**
KURK					pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.3								
KURK	**Kurchatov**	**41.75**	**52**	*eP*	**P**	**P**	**12 13 24.9**	**-0.7**
	comp=Z,5.0nm,0.8s,mb4.3								
NVS	**Novosibirsk**	**44.48**	**46**	*eP*	**P**	**P**	**12 13 46.2**	**-1.3**
NVS	**Novosibirsk**	**44.48**	**46**	*eP*	**P**	**P**	**12 13 46.2**	**-1.3**
MK31	**Makanchi Array**	**44.51**	**57**	*eP*	**P**	**P**	**12 13 48.1**	**+0.2**
MK31	**Makanchi Array**	**44.51**	**57**	*eP*	**P**	**P**	**12 13 48.1**	**+0.2**
MK31	**Makanchi Array**	**44.51**	**57**	*eP*	**P**	**P**	**12 13 48.1**	**+0.2**
MKAR	**Makanchi Array**	**44.51**	**57**	P	**P**	**P**	**12 13 47.9**	**+0.1**
	comp=Z,7.7nm,0.5s,mb4.7,baz=279,slow=7.0,SNR=104								
MKAR	**Makanchi Array**	**44.51**	**57**	P	**P**	**P**	**12 13 47.9**	**+0.1**
MKAR	**Makanchi Array**	**44.51**	**57**	P	**P**	**P**	**12 13 47.9**	**0.0**
MKAR					pmax	pmax			
	comp=Z,8.0nm,0.5s								
MKAR	**Makanchi Array**	**44.51**	**57**	P	**P**	**P**	**12 13 47.9**	**0.0**
	comp=Z,8.0nm,0.5s,mb4.7								
ZAA0	**Zalesovo Array**	**45.43**	**47**	*eP*	**P**	**P**	**12 13 54.5**	**-0.6**
ZAA0	**Zalesovo Array**	**45.43**	**47**	*eP*	**P**	**P**	**12 13 54.5**	**-0.6**
ZALV	**Zalesovo Beam**	**45.43**	**47**	P	**P**	**P**	**12 13 54.6**	**-0.5**
	comp=Z,7.0nm,0.4s,mb4.8,baz=269,slow=9.1,SNR=43								
ZALV	**Zalesovo Beam**	**45.43**	**47**	P	**P**	**P**	**12 13 54.6**	**-0.5**
ZALV	**Zalesovo Beam**	**45.43**	**47**	P	**P**	**P**	**12 13 54.6**	**-0.5**
ZALV					pmax	pmax			
	comp=Z,7.0nm,0.4s,mb4.7								
ZALV	**Zalesovo Beam**	**45.43**	**47**	P	**P**	**P**	**12 13 54.6**	**-0.5**
	comp=Z,7.0nm,0.4s,mb4.7								
SONM	**Songino Array**	**60.04**	**51**	P	**P**	**P**	**12 15 41.4**	**-1.4**
	comp=Z,1.3nm,0.5s,mb4.2,baz=287,slow=6.2,SNR=4.6								
SONM	**Songino Array**	**60.04**	**51**	P	**P**	**P**	**12 15 41.4**	**-1.4**
SONM	**Songino Array**	**60.04**	**51**	P	**P**	**P**	**12 15 41.4**	**-1.4**
SONM					pmax	pmax			
	comp=Z,1.0nm,0.5s								
SONM	**Songino Array**	**60.04**	**51**	P	**P**	**P**	**12 15 41.4**	**-1.4**
	comp=Z,1.0nm,0.5s,mb4.1								
KSRS	**Korea Array**	**78.88**	**52**	P	**P**	**P**	**12 17 38.8**	**-0.3**
	comp=Z,3.2nm,0.7s,mb4.3,baz=315,slow=5.2,SNR=13								
KSRS	**Korea Array**	**78.88**	**52**	P	**P**	**P**	**12 17 38.8**	**-0.3**
KSRS					pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.2								
KSRS	**Korea Array**	**78.88**	**52**	P	**P**	**P**	**12 17 38.8**	**-0.3**
	comp=Z,3.0nm,0.7s,mb4.2								
ILAR	**Eielson Array**	**79.12**	**356**	P	**P**	**P**	**12 17 40.6**	**+0.7**
	comp=Z,0.8nm,0.9s,mb3.6,baz=358,slow=3.7,SNR=10								
ILAR	**Eielson Array**	**79.12**	**356**	P	**P**	**P**	**12 17 40.6**	**+0.7**
ILAR	**Eielson Array**	**79.12**	**356**	P	**P**	**P**	**12 17 40.6**	**+0.7**
ILAR					pmax	pmax			
	comp=Z,1.0nm,0.9s								
ILAR	**Eielson Array**	**79.12**	**356**	P	**P**	**P**	**12 17 40.6**	**+0.7**
	comp=Z,1.0nm,0.9s,mb3.6								
PPLA	**Purkeypile**	**81.23**	**358**	*eP*	**P**	**P**	**12 17 52.8**	**+1.5**
	comp=Z,3.2nm,0.6s,mb4.3								
PPLA	**Purkeypile**	**81.23**	**358**	*eP*	**P**	**P**	**12 17 52.8**	**+1.5**
	comp=Z,3.2nm,0.6s,mb4.3								
MJAR	**Matsushiro Arr**	**85.78**	**47**	P	**P**	**P**	**12 18 16.0**	**+0.8**
	comp=Z,3.3nm,0.8s,mb4.3,baz=314,slow=4.7,SNR=8.0								
MJAR	**Matsushiro Arr**	**85.78**	**47**	P	**P**	**P**	**12 18 16.0**	**+0.8**
MJAR	**Matsushiro Arr**	**85.78**	**47**	P	**P**	**P**	**12 18 16.0**	**+0.8**
MJAR					pmax	pmax			
	comp=Z,3.0nm,0.8s								
MJAR	**Matsushiro Arr**	**85.78**	**47**	P	**P**	**P**	**12 18 16.0**	**+0.8**
	comp=Z,3.0nm,0.8s,mb4.3								
JHJ	**Hachijo jima 2**	**89.06**	**49**	LR	LR		13 02 57.2		
	comp=Z,82nm,18.1s,baz=65,slow=39								
WVOR	**Wild Horse Val**	**94.41**	**333**	*eP*	**P**	**P**	**12 18 55.7**	**+0.2**
	comp=Z,31nm,0.6s								
WVOR	**Wild Horse Val**	**94.41**	**333**	*eP*	**P**	**P**	**12 18 55.7**	**+0.1**
WVOR					pmax	pmax			
	comp=Z,31nm,0.6s								
WVOR	**Wild Horse Val**	**94.41**	**333**	*eP*	**P**	**P**	**12 18 55.7**	**+0.1**
	comp=Z,31nm,0.6s								

*TRN **04** 12:14:42.7, 17.08N×62.35W, h9km, MD3.6*
*ISCJB **04** 12:14:45.1±0.5, 17.02N±0.06×62.39W±0.05, h10km, Error ellipse: s-maj=9.4km s-min=4.0km az=34.7*
*RSPR **04** 12:15:29.8, 17.86N×65.28W, h32km±4km, MD2.4/3*
ISC 04 12:14:45.2±0.5, 17.00N±0.06×62.41W±0.04, h10km, n19, σ1s08/24, 8C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBRV		**0.27**	**133**	*i* P	**Pg**	**12 14 50.9**	**+0.2**
MBGB		**0.31**	**147**	*i* P	**Pg**	**12 14 52.1**	**+0.6**
MBWH		**0.33**	**141**	*i* P	**Pg**	**12 14 52.0**	**+0.3**
MLYT	**Lee's Yard**	**0.34**	**143**	*i* P	**Pg**	**12 14 52.5**	**+0.4**
SKI	**Saint Kitts**	**0.46**	**316**	*e*P	**Pg**	**12 14 54.1**	**-0.1**
SKI				*e*S	**Sg**	**12 15 00.3**	**-0.1**
BPA	**Boggy Peak**	**0.53**	**85**	*e*P	**Pg**	**12 14 55.4**	**-0.1**
BPA				*e*S	**Sg**	**12 15 02.4**	**-0.1**
BCG	**Bois Riant Cap**	**1.18**	**140**	*e*P	**Pb**	**12 15 07.1**	**-0.6**
PHG	**Guadaloupe-2**	**1.22**	**143**	*e*P	**Pn**	**12 15 07.8**	**-0.5**
DOG	**Dongo Capester**	**1.22**	**142**	*e*P	**Pn**	**12 15 07.5**	**-0.8**
TBG	**Guadaloupe-3**	**1.35**	**147**	*e*P	**Pn**	**12 15 09.5**	**-0.6**
MGG	**Marie-Galante**	**1.50**	**136**	*e*P	**Pn**	**12 15 12.3**	**+0.1**
MTP	**Monte Pirata**	**3.19**	**290⇑**	*e*P	**Pn**	**12 15 37.0**	**+1.5**
MTP	**Monte Pirata**	**3.19**	**290⇑**	*e*P	**Pn**	**12 15 37.0**	**+1.5**
MTP				*e*S	**Pg**	**12 15 43.1**	**-3.4**
HUMP	**Col San Antoni**	**3.48**	**290⇑**	*e*P	**Pn**	**12 15 41.1**	**+1.7**
HUMP	**Col San Antoni**	**3.48**	**290⇑**	*e*P	**Pn**	**12 15 41.6**	**+2.2**
HUMP				*e*S	**Pg**	**12 15 49.1**	**-2.7**
CBYP	**Canovanas**	**3.53**	**292⇑**	*e*P	**Pn**	**12 15 41.7**	**+1.7**
CBYP	**Canovanas**	**3.53**	**292⇑**	*e*P	**Pn**	**12 15 41.7**	**+1.7**
CBYP				*e*S	**Pg**	**12 15 50.6**	**-2.1**
SJG	**San Juan**	**3.74**	**288⇑**	*e*P	**Pn**	**12 15 43.7**	**+0.7**
SJG	**San Juan**	**3.74**	**288⇑**	*e*P	**Pn**	**12 15 43.7**	**+0.7**

*IDC **04** 12:16:54.1±1.5, 6.25S×129.61E, h0km, mb4.1/4, mb1 4.3/6, mb1mx4.0/17, mbtmp4.2/6, ML4.5/2, MS2.9/1, Ms1 2.9/1, ms1mx2.4/24, Error ellipse: s-maj=119.7km s-min=20.7km az=64.0*
*ISCJB **04** 12:17:05.8±0.8, 6.54S±0.08×129.9E±0.2, h126km±11km, mb4.5/10, Error ellipse: s-maj=32.1km s-min=5.2km az=158.4*
*NEIC **04** 12:17:06.5±2.1, 6.42S×129.96E, h111km±24km, mb4.1/1, Error ellipse: s-maj=26.2km s-min=13.6km az=56.0*
ISC 04 12:17:06.8±0.7, 6.51S±0.08×129.9E±0.2, h115km±10km, n40, σ0s75/45, mb4.5/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.97**	**359**	P	**Pn**	**12 17 39.2**	**-0.6**
AAI	**Ambon**	**3.30**	**328**	P	**Pn**	**12 18 05.0**	**+8.1**
MSAI	**Masohi**	**3.30**	**342**	P	**Pn**	**12 17 57.7**	**+0.7**
NLAI	**Namlea**	**4.31**	**319**	P	Px	12 18 21.3	
LBMI	**Labuha**	**6.32**	**337**	P	**Pn**	**12 18 37.4**	**-0.2**
KAKA	**Kakadu**	**6.64**	**158**	*e*Pn	**Pn**	**12 18 44.0**	**+2.0**
	92nm,0.3s						
KAKA				*e*Sn	**Sn**	**12 19 55.9**	**-0.3**
WRAB	**Tennant Creek**	**14.02**	**163**	*e*Pn	**Pn**	**12 20 20.5**	**0.0**
	8.5nm,0.8s						
WRAB				*e*Sn	**Sn**	**12 22 50.2**	**-4.9**
WRA	**Warramunga Arr**	**14.02**	**163**	Pn	**Pn**	**12 20 20.1**	**-0.4**
	2.1nm,0.3s,baz=343,slow=11,SNR=65						
WRA				Sn	**Sn**	**12 22 47.2**	**-8.0**
	0.9nm,0.3s,baz=349,slow=20,SNR=4.7						
WRA	**Warramunga Arr**	**14.02**	**163**	Pn	**Pn**	**12 20 20.1**	**-0.4**
WRA				Sn	**Sn**	**12 22 47.2**	**-8.0**
WB2	**Warramunga Arr**	**14.03**	**163**	*e*Pn	**Pn**	**12 20 19.9**	**-0.6**
WB2				*e*Sn	**Sn**	**12 22 50.9**	**-4.4**
COEN	**Coen**	**14.98**	**121**	*e*Pn	**Pn**	**12 20 32.6**	**0.0**
	70nm,0.6s						
ASAR	**Alice Springs**	**17.48**	**168**	P	**Pn**	**12 21 04.8**	**+1.3**
	1.9nm,0.3s,baz=343,slow=9.0,SNR=160						
ASAR				S	**S**	**12 24 10.7**	**-7.7**
	0.5nm,0.3s,baz=356,slow=28,SNR=5.6						
ASAR	**Alice Springs**	**17.48**	**168**	P	**Pn**	**12 21 04.8**	**+1.3**
ASAR				S	**S**	**12 24 10.7**	**-7.7**
STKA	**Stephens Creek**	**27.49**	**158**	P	**P**	**12 22 44.4**	**+2.0**
	2.5nm,0.8s,mb3.8,baz=346,slow=8.3,SNR=4.7						
STKA	**Stephens Creek**	**27.49**	**158**	P	**P**	**12 22 44.4**	**+2.0**
CMAR	**Chiang Mai Arr**	**39.37**	**310**	P	**P**	**12 24 21.5**	**-3.9**
	0.8nm,0.5s,mb3.8,baz=137,slow=7.1,SNR=3.5						
CMAR	**Chiang Mai Arr**	**39.37**	**310**	P	**P**	**12 24 21.5**	**-3.9**
ASAJ	**Asahikawa**	**51.67**	**12**	LR	LR	12 44 59.6	
	comp=Z,14nm,20.5s,baz=55,slow=33						
ODAN	**Odare**	**52.89**	**311**	*e*P	**P**	**12 26 11.2**	**0.0**
	8.9nm,0.5s,mb5.0						
ODAN	**Odare**	**52.89**	**311**	*e*P	**P**	**12 26 11.2**	**0.0**
	8.9nm,0.5s,mb5.0						
TAPN	**Taplejung**	**52.91**	**311**	*e*P	**P**	**12 26 11.5**	**+0.1**
	16nm,0.4s						
TAPN	**Taplejung**	**52.91**	**311**	*e*P	**P**	**12 26 11.5**	**+0.1**
	16nm,0.4s						
GUN	**Gumba**	**54.58**	**311**	*e*P	**P**	**12 26 23.6**	**0.0**
	19nm,0.4s						
GUN	**Gumba**	**54.58**	**311**	*e*P	**P**	**12 26 23.6**	**0.0**
	19nm,0.4s						
PKI	**Pulchoki**	**54.76**	**310**	*e*P	**P**	**12 26 24.7**	**-0.2**
	8.3nm,0.5s,mb5.0						
PKI	**Pulchoki**	**54.76**	**310**	*e*P	**P**	**12 26 25.1**	**+0.2**
	6.3nm,0.5s,mb4.9						
PKIN	**Phulchoki**	**54.77**	**310**	*e*P	**P**	**12 26 25.1**	**+0.1**
	6.3nm,0.5s,mb4.9						
KKN	**Kakani**	**54.97**	**310**	*e*P	**P**	**12 26 26.4**	**0.0**
	4.9nm,0.4s,mb4.9						
KKN	**Kakani**	**54.97**	**310**	*e*P	**P**	**12 26 26.4**	**0.0**
	4.9nm,0.4s,mb4.9						
DMN	**Daman**	**55.01**	**310**	*e*P	**P**	**12 26 26.6**	**-0.1**
	5.8nm,0.4s,mb4.9						
DMN	**Daman**	**55.01**	**310**	*e*P	**P**	**12 26 26.6**	**-0.1**
	5.8nm,0.4s,mb5.0						
GKN	**Gorkha**	**55.57**	**310**	*e*P	**P**	**12 26 30.6**	**-0.1**
	16nm,0.4s						
GKN	**Gorkha**	**55.57**	**310**	*e*P	**P**	**12 26 30.6**	**-0.1**
	16nm,0.4s						
KOLN	**Koldanda**	**56.24**	**310**	*e*P	**P**	**12 26 35.5**	**0.0**
	4.3nm,0.4s,mb4.8						
KOLN	**Koldanda**	**56.24**	**310**	*e*P	**P**	**12 26 35.5**	**0.0**
	4.3nm,0.4s,mb4.8						
MK31	**Makanchi Array**	**67.78**	**327**	*e*P	**P**	**12 27 52.1**	**-0.1**
MKAR	**Makanchi Array**	**67.78**	**327**	P	**P**	**12 27 52.3**	**+0.1**
	3.1nm,0.6s,mb4.3,baz=124,slow=7.7,SNR=50						
MKAR	**Makanchi Array**	**67.78**	**327**	P	**P**	**12 27 52.3**	**+0.1**
ZALV	**Zalesovo Beam**	**71.12**	**334**	P	**P**	**12 28 11.4**	**-1.2**
	2.0nm,0.5s,mb3.8,baz=115,slow=6.5,SNR=5.3						
ZALV	**Zalesovo Beam**	**71.12**	**334**	P	**P**	**12 28 11.4**	**-1.2**

*DDA **04** 12:30:34.9, 38.67N×39.24E, h7km, Ml2.8*
ISK 04 12:30:32.9, 38.64N×39.35E, h28km, MD2.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTK	**Pertek**	**0.25**	**7**	*e*PG	Pb	12 30 39.9	+0.5
PTK				*e*SG	Sb	12 30 45.0	+1.1
SVRC	**Sivrice-ELAZID**	**0.27**	**188**	*e*PG	Pb	12 30 40.2	+0.5
ELZG	**Elazig**	**0.32**	**243**	*i* P	Pb	12 30 40.2	-0.3
ELZG				*i* S	Sb	12 30 44.9	-0.7
MYA	**Malataya**	**0.80**	**247**	*e*PG	Pb	12 30 48.5	+0.4
MYA				*e*SG	Sb	12 30 60.0	+1.4
KEMA	**Kemaliye**	**0.92**	**313**	*i* P	Pn	12 30 51.1	+1.2
KEMA				*i* S	Sb	12 31 03.4	+1.4

*ISCJB **04** 12:32:21.5±0.6, 37.76N±0.04×138.45E±0.04, h25km±7km, Error ellipse: s-maj=7.7km s-min=5.4km az=17.9*
*JMA **04** 12:32:21.8, 37.75N×138.45E, h21km±1km, M2.6*
ISC 04 12:32:21.5±0.6, 37.76N±0.04×138.45E±0.04, h24km±7km, n9, σ0s28/17, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIZZ	**Izumozaki**	**0.31**	**138**	P	**Pb**	**12 32 28.5**	**0.0**
JIZZ				S	**Sb**	**12 32 33.9**	**+0.6**
JSD	**Sado**	**0.31**	**332**	P	**Pb**	**12 32 28.8**	**+0.2**
JSD				S	**Sb**	**12 32 33.4**	**-0.1**
JHK	**Hiroka**	**0.68**	**138**	P	**Pb**	**12 32 34.1**	**-0.6**
JHK				S	**Sb**	**12 32 43.2**	**-0.5**
JNS	**Sasagawa**	**0.69**	**85**	P	**Pb**	**12 32 34.8**	**-0.1**
JNS				S	**Sb**	**12 32 44.3**	**+0.3**
JSZ	**Suzu**	**0.92**	**250**	P	**Pb**	**12 32 38.5**	**-0.2**
JSZ				S	**Sb**	**12 32 50.5**	**+0.1**
JAW	**Awa shima**	**0.94**	**42**	P	**Pb**	**12 32 39.0**	**-0.1**
JFY	**Yanaizu**	**1.06**	**109**	P	**Pn**	**12 32 40.9**	**0.0**
JFY				S	**Sb**	**12 32 54.5**	**-0.1**
JKT	**Katashina**	**1.18**	**147**	P	**Pn**	**12 32 42.6**	**+0.1**
JKT				S	**Sn**	**12 32 57.9**	**+0.1**
MAT	**Matsushiro**	**1.23**	**189**	P	**Pn**	**12 32 43.4**	**+0.2**
MAT				S	**Sn**	**12 32 59.2**	**+0.1**

*IDC **04** 12:39:03.7±1.6, 2.38N×95.93E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.6/26, mbtmp3.6/7, ML3.1/1, Error ellipse: s-maj=44.8km s-min=19.3km az=48.0*
*NEIC **04** 12:39:08.5±0.7, 2.38N×95.99E, h35km, mb4.1/2, Error ellipse: s-maj=14.2km s-min=9.1km az=49.0*
*ISCJB **04** 12:39:11.3±2.6, 2.6N±0.1×96.2E±0.1, h73km±22km, mb3.7/6, Error ellipse: s-maj=22.1km s-min=13.7km az=144.7*
ISC 04 12:39:11.5±2.7, 2.5N±0.1×96.1E±0.1, h59km±23km, n20, σ0s70/24, mb3.8/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.81**	**84**	Pn	**Pn**	**12 39 54.0**	**+0.1**
	2.4nm,0.3s,baz=270,slow=3.5,SNR=11						
PSI				Sn	**Sn**	**12 40 28.7**	**+2.0**
	1.8nm,0.3s,baz=330,slow=24,SNR=4.8						
PSI	**Prapat**	**2.81**	**84**	Pn	**Pn**	**12 39 54.0**	**+0.1**
PSI				Sn	**Sn**	**12 40 28.7**	**+2.0**
IPM	**Ipoh**	**5.27**	**68**	*e*Pn	**Pn**	**12 40 26.8**	**-0.8**
	7.5nm,0.3s						
IPM				*e*Sn	**Sn**	**12 41 26.8**	**-0.2**
KULM	**Kulim**	**5.29**	**58**	*e*Pn	**Pn**	**12 40 27.6**	**-0.4**
	19nm,0.8s						
KULM				*e*Sn	**Sn**	**12 41 26.9**	**-0.7**
CMAR	**Chiang Mai Arr**	**16.09**	**10**	Pn	**Pn**	**12 42 54.2**	**+0.2**
	baz=199,slow=10,SNR=7.1						
CMAR	**Chiang Mai Arr**	**16.09**	**10**	Pn	**Pn**	**12 42 54.2**	**+0.2**
NJ2	**Nanjing**	**36.35**	**34**	*e*P	**P**	**12 46 15.2**	**+5.3**
NJ2				pP	pP	12 46 25.2	+0.5
WRA	**Warramunga Arr**	**43.63**	**123**	P	**P**	**12 47 10.8**	**+0.3**
	0.2nm,0.5s,mb3.1,baz=301,slow=9.3,SNR=3.8						
WRA	**Warramunga Arr**	**43.63**	**123**	P	**P**	**12 47 10.8**	**+0.3**
WRAB	**Tennant Creek**	**43.64**	**122**	Pn	**P**	**12 47 09.7**	**-0.8**
	10nm,1.3s,mb4.4						
WB2	**Warramunga Arr**	**43.64**	**123**	*e*P	**P**	**12 47 09.7**	**-0.9**
ASAR	**Alice Springs**	**45.03**	**127**	P	**P**	**12 47 22.2**	**+0.6**
	0.3nm,1.0s,mb3.1,baz=312,slow=7.4,SNR=2.8						
ASAR	**Alice Springs**	**45.03**	**127**	P	**P**	**12 47 22.2**	**+0.6**
MK31	**Makanchi Array**	**45.73**	**347**	*e*P	**P**	**12 47 27.0**	**+0.2**
MKAR	**Makanchi Array**	**45.73**	**347**	P	**P**	**12 47 27.0**	**+0.3**
	1.1nm,0.5s,mb4.0,baz=160,slow=8.2,SNR=18						
MKAR	**Makanchi Array**	**45.73**	**347**	P	**P**	**12 47 27.0**	**+0.3**
KURK	**Kurchatov**	**50.27**	**346**	P	**P**	**12 48 02.3**	**+0.6**
	1.2nm,0.5s,mb4.2,baz=165,slow=6.8,SNR=5.5						
KURK	**Kurchatov**	**50.27**	**346**	*e*P	**P**	**12 48 02.2**	**+0.4**
	0.5nm,0.5s,mb3.8						
ZALV	**Zalesovo Beam**	**52.11**	**352**	P	**P**	**12 48 15.6**	**0.0**
	1.2nm,0.5s,mb4.1,baz=177,slow=6.3,SNR=6.0						
ZALV	**Zalesovo Beam**	**52.11**	**352**	P	**P**	**12 48 15.6**	**0.0**

*IDC **04** 12:43:11.4±0.4, 32.13N×104.60E, h0km, mb4.6/24, mb1 4.6/27, mb1mx4.5/34, mbtmp4.5/27, ML3.9/3, MS3.7/14, Ms1 3.7/14, ms1mx3.4/37, Error ellipse: s-maj=16.3km s-min=10.3km az=57.0*
*ISCJB **04** 12:43:12.0±0.9, 32.08N±0.02×104.51E±0.03, h10km±6km, mb4.8/110, MS3.8/20, Error ellipse: s-maj=4.3km s-min=3.7km az=35.1*
*NEIC **04** 12:43:13.7±0.2, 32.06N×104.48E, h10km, mb4.9/59, MS4.1/3, Error ellipse: s-maj=4.4km s-min=4.1km az=213.0*
*MOS **04** 12:43:14.9±0.9, 32.05N×104.58E, h33km, mb5.0/64, Error ellipse: s-maj=7.9km s-min=4.4km az=119.6*
*BJI **04** 12:43:15.3, 32.12N×104.61E, h27km, mB4.7/20, mb4.6/31, ML4.7/20, Ms4.3/36, Ms7 4.1/35*
*DJA **04** 12:43:23, 32.16N×104.87E, h97km, mb4.9/13*
ISC 04 12:43:13.1±0.8, 32.09N±0.02×104.48E±0.03, h4km±5km, n386, σ1s00/400, mb4.8/110, MS3.8/20, 11C-8D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.33**	**208**	Pg	**Pg**	**12 43 39.3**	**+0.8**
CD2				Sg	**Sg**	**12 43 58.8**	**+3.1**
CD2				smax			
	comp=N,26μm,0.9s						
CD2				smax			
	comp=E,18μm,0.8s						
LZH	**Lanzhou**	**4.02**	**353**	*e*Pn	**Pn**	**12 44 18.5**	**+3.1**
LZH				Pg	**Pg**	**12 44 28.4**	**-1.7**
LZH				Sn	**Sn**	**12 45 09.6**	**+6.6**
LZH				Sg	**Sg**	**12 45 20.7**	**-1.5**
LZH				smax			
	comp=N,2μm,1.0s						
LZH				smax			
	comp=E,3μm,0.6s						
LZH				LR	LR		
	comp=N,5μm,6.8s						
LZH				LR	LR		
	comp=E,4μm,6.6s						
LZH				LR	LR		
	comp=Z,6μm,7.7s						
XAN	**Xi'an**	**4.21**	**61**	Pn	**Pn**	**12 44 17.7**	**-0.3**
XAN				Pg	**Pg**	**12 44 29.3**	**-4.4**
XAN				Sg	**Sg**	**12 45 23.0**	**-5.2**
XAN				smax			
	comp=N,1μm,0.7s						
XAN				smax			
	comp=E,910nm,0.8s						
XAN				LR	LR		
	comp=Z,870nm,8.3s						
ENH	**Enshi**	**4.66**	**112**	*e*Pn	**Pn**	**12 44 25.5**	**+1.3**
GYA	**Guiyang**	**5.93**	**161**	Pn	**Pn**	**12 44 41.0**	**-0.6**
GYA				Sn	**Sn**	**12 45 51.8**	**+1.8**
GYA				Sg	**Sg**	**12 46 20.1**	**-3.4**
GYA				smax			
	comp=N,480nm,0.7s						
GYA				smax			
	comp=E,510nm,0.8s						
GYA				LR	LR		
	comp=N,2μm,5.7s						
GYA				LR	LR		
	comp=E,2μm,5.9s						
GYA				LR	LR		
	comp=Z,2μm,5.3s						
KMI	**Kunming**	**7.11**	**193**	Pn	**Pn**	**12 44 59.6**	**+1.7**
KMI				Sn	**Sn**	**12 46 13.7**	**-5.4**
KMI				Sg	**Sg**	**12 46 50.0**	**-11**
KMI				smax			
	comp=N,94nm,1.3s						
KMI				smax			
	comp=E,130nm,1.3s						
KMI				LR	LR		
	comp=N,1μm,5.7s						
KMI				LR	LR		
	comp=E,2μm,7.5s						
GTA	**Gaotai**	**8.23**	**334**	P	**Pn**	**12 45 14.4**	**+1.2**
GTA				sP		12 45 32.2	
GTA				S	**Sn**	**12 46 42.8**	**-3.8**
GTA				pmax	pmax		
	comp=Z,16nm,0.9s						
GTA				pmax	pmax		
	comp=Z,87nm,4.8s			

QZH LR LR
comp=E,2µm,8.3s
QZH LR LR
comp=Z,2µm,9.4s
CM31 Chiang Mai Arr 14.46 202 *e*Pn **Pn 12 46 38.2 -0.4**
comp=Z,17nm,0.7s
CMAR Chiang Mai Ar 14.46 202 Pn **Pn 12 46 39.2 +0.6**
comp=Z,0.3nm,0.3s,baz=6.2,slow=11,SNR=8.4
CMAR Lg 12 51 03.8
comp=Z,0.0nm,0.3s,baz=15,slow=29,SNR=3.0
CMAR PcP PcP 12 51 53.5 -0.8
comp=Z,0.1nm,0.3s,baz=310,slow=1.8,SNR=6.8
CMAR LR LR 12 52 27.6
comp=Z,71nm,21.9s,baz=15,slow=38
CMAR Chiang Mai Arr 14.46 202 Pn **Pn 12 46 39.2 +0.6**
CMAR Lg 12 51 03.8
CMAR PcP PcP 12 51 53.5 -0.8
CMAR LR LR 12 52 27.6
CMAR Chiang Mai Arr 14.46 202 P **Pn 12 46 39.2 +0.6**
CMAR MLR MLR
comp=Z,71nm,21.9s
SONM Songino Array 15.79 5 Pn **Pn 12 46 55.2 -1.0**
comp=Z,0.4nm,0.3s,baz=185,slow=13,SNR=13
SONM Lg 12 51 34.5
baz=194,slow=27,SNR=5.5
SONM LR LR 12 53 24.7
comp=Z,287nm,19.7s,baz=199,slow=39
SONM Songino Array 15.79 5 Pn **Pn 12 46 55.1 -1.0**
SONM Lg 12 51 34.5
SONM LR LR 12 53 24.7
SONM Songino Array 15.79 5 P **Pn 12 46 55.2 -1.0**
SONM MLR MLR
comp=Z,287nm,19.7s
ULN Ulaanbaatar 15.88 6 *e*Pn **Pn 12 46 58.6 +1.4**
comp=Z,11nm,0.8s
ULN Ulaanbaatar 15.88 6 *e*P **Pn 12 46 58.7 +1.4**
ULN pmax pmax
comp=Z,11nm,0.8s
ULN Ulaanbaatar 15.88 6 P **Pn 12 46 59.0 +1.7**
comp=Z,16nm,1.0s
GUN Gumba 16.64 260 *e*P **Pn 12 47 06.0 -1.2**
comp=Z,74nm,1.0s
GUN Gumba 16.64 260 *e*P **Pn 12 47 06.0 -1.2**
comp=Z,74nm,1.0s
SSLB Suanglung 16.73 116 *e*Pn **Pn 12 47 09.4 +1.1**
comp=Z,27nm,0.9s
PKI Pulchoki 17.14 260 *e*P **Pn 12 47 12.6 -1.0**
comp=Z,41nm,0.8s
PKI Pulchoki 17.14 260 *e*P **Pn 12 47 12.9 -0.7**
comp=Z,51nm,0.8s
PKI Pulchoki 17.14 260 *e*P **Pn 12 47 12.9 -0.7**
PKI pmax pmax
comp=Z,51nm,0.8s
PKIN Phulchoki 17.15 260 *e*P **Pn 12 47 12.9 -0.8**
comp=Z,51nm,0.8s
KKN Kakani 17.18 261 *e*P **Pn 12 47 12.6 -1.4**
comp=Z,44nm,0.8s
KKN Kakani 17.18 261 *e*P **Pn 12 47 12.6 -1.4**
comp=Z,44nm,0.8s
KKN Kakani 17.18 261 *e*P **Pn 12 47 12.6 -1.4**
KKN pmax pmax
comp=Z,44nm,0.8s
DMN Daman 17.39 260 *e*P **Pn 12 47 15.3 -1.3**
comp=Z,62nm,0.9s
DMN Daman 17.39 260 *e*P **Pn 12 47 15.3 -1.3**
comp=Z,62nm,0.9s
WMQ Urumqi 17.63 316 P **Pn 12 47 21.1 +1.5**
WMQ pP pP 12 47 32.2 +11
WMQ S **Sn 12 50 32.8 -3.5**
WMQ pmax pmax
comp=Z,13nm,0.5s
WMQ LR LR
comp=N,700nm,17.3s
WMQ LR LR
comp=E,580nm,11.6s
WMQ LR LR
comp=Z,210nm,19.8s
GKN Gorkha 17.65 262 *e*P **Pn 12 47 19.2 -0.7**
comp=Z,54nm,0.8s
GKN Gorkha 17.65 262 *e*P **Pn 12 47 19.2 -0.7**
comp=Z,54nm,0.8s
SNY Shenyang 18.06 52 ||P **Pn 12 47 30.3 +5.4**
SNY S **Sn 12 50 45.9 -0.8**
SNY pmax pmax
comp=Z,58nm,8.3s
SNY LR LR
comp=N,290nm,6.5s
SNY LR LR
comp=E,270nm,14.4s
SNY LR LR
comp=Z,370nm,15.7s
DANN Dangsing 18.29 264 *e*P **Pn 12 47 26.9 -0.8**
comp=Z,37nm,0.8s
DANN Dangsing 18.29 264 *e*P **Pn 12 47 26.9 -0.8**
comp=Z,37nm,0.8s
ZAK Zakamensk 18.30 358 *e*P **Pn 12 47 19.6 -8.1**
ZAK pmax pmax
comp=Z,8.0nm,1.0s
KOLN Koldanda 18.60 262 *e*P **Pn 12 47 30.1 -1.4**
comp=Z,57nm,0.8s
KOLN Koldanda 18.60 262 *e*P **Pn 12 47 30.1 -1.4**
comp=Z,57nm,0.8s
TLY Talaya 19.59 358 *e*P **Pn 12 47 47.9 +4.7**
TLY pmax pmax
comp=Z,12nm,1.2s
TLY MLR MLR
comp=Z,229nm,12.0s
MOY Mondy 19.73 354 *e*P **Pn 12 47 48.2 +3.2**
KSRS Korea Array 19.97 68 P **Pn 12 47 43.6 -4.4**
comp=Z,0.3nm,0.3s,baz=248,slow=9.8,SNR=13
KSRS LR LR 12 56 39.2
comp=Z,99nm,19.3s,baz=255,slow=41
KSRS Korea Array 19.97 68 P **Pn 12 47 43.6 -4.4**
KSRS MLR MLR
comp=Z,99nm,19.3s
IRK Irkutsk 20.14 360 *e*P **P 12 47 48.9 +0.9**
IRK pmax pmax
comp=Z,159nm,0.8s
CN2 Changchun 20.19 49 *e*P **P 12 47 50.3 +1.6**
CN2 epP 12 48 03.3
CN2 ePP 12 48 11.7
CN2 *e*S **S 12 51 26.9 -8.8**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,300nm,11.0s,MS4.0
CN2 LR LR
comp=E,200nm,11.0s,MS4.0
CN2 LR LR
comp=Z,200nm,12.0s,MS3.7
HIA Hailar 20.63 29 *e*P **P 12 47 54.2 +0.8**
comp=Z,27nm,0.8s
HIA Hailar 20.63 29 *e*P **P 12 47 54.2 +0.8**
HIA pmax pmax
comp=Z,27nm,0.8s
JOW Kunigami 21.36 98 LR LR 12 57 11.6
comp=Z,215nm,18.3s,MS3.6,baz=63,slow=40
KLP Kalpa 22.28 276 *e*PKP **P 12 48 10.4 -0.9**
KLP AMb AMB 12 48 17.1
comp=Z,42nm,0.4s,mb5.2
KLP *ex* x 12 52 08.9
MK31 Makanchi Array 22.46 317 *e*P **P 12 48 14.0 +0.9**
MK31 Makanchi Array 22.46 317 *i* P **P 12 48 13.3 +0.3**
MK31 pmax pmax
comp=Z,31nm,1.1s,mb4.7
MKAR Makanchi Array 22.46 317 P **P 12 48 13.4 +0.4**
comp=Z,14nm,0.9s,mb4.4,baz=115,slow=11,SNR=64
MKAR PcP PcP 12 52 06.4 -1.0
comp=Z,0.6nm,0.6s,baz=154,slow=4.4,SNR=3.8
MKAR LR LR 12 57 48.8
comp=Z,382nm,19.0s,MS3.9,baz=112,slow=39
MKAR Makanchi Array 22.46 317 P **P 12 48 13.4 +0.4**
MKAR PcP PcP 12 52 06.4 -1.0
MKAR LR LR 12 57 48.8
MKAR Makanchi Array 22.46 317 P **P 12 48 13.5 +0.5**
MKAR 12 52 06.4
MKAR pmax pmax
comp=Z,14nm,0.9s
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR MLR MLR
comp=Z,382nm,19.0s
DDI Dehra Dun 22.65 273 *ex* **P 12 48 19.0 +3.7**
MDJ Mudanjiang 23.23 50 P **P 12 48 20.3 -0.9**
MDJ pP 12 48 31.4
MDJ PcP PcP 12 52 06.2 -2.8
MDJ S **S** **12 52 27.5 -6.1**
MDJ ScP ScP 12 55 39.3 -8.5
MDJ PcS PcS 12 55 48.2 +0.1
MDJ ScS ScS 12 59 24.8 -8.9
MDJ pmax pmax
comp=Z,15nm,0.9s,mb4.4
MDJ pmax pmax
comp=Z,120nm,5.3s
MDJ Mudanjiang 23.23 50 *e*P **P 12 48 22.1 +0.9**
comp=Z,14nm,0.9s,mb4.4
AGRA Agra 23.54 265 *e*PKP **P 12 48 24.4 -0.2**
AGRA AMb AMB 12 48 27.1
comp=Z,44nm,0.3s,mb5.4
NDI New Delhi 23.74 269 *e*PKP **P 12 48 25.0 -1.5**
NDI *e*PKP 12 48 26.9
NDI AMb AMB 12 48 28.6
comp=Z,29nm,0.0s
ORY Orie 23.85 347 ||*i* P **P 12 48 26.0 -1.2**
ORY *e* 12 48 54.5
ORY *e* 12 52 07.4
ORY S **S** **12 52 40.8 -2.7**
AYAN Aya Nagar 23.87 268 *e*PKP **P 12 48 27.0 -0.6**
AYAN AMb AMB 12 48 29.6
comp=Z,18nm,1.1s,mb4.4
KSH Kashi 24.21 296 P **P 12 48 34.9 +4.2**
KSH PP 12 49 12.5
KSH PcP PcP 12 52 14.1 +2.9
KSH S **S** **12 52 47.5 -2.2**
KSH SS 12 53 45.4
KSH ScP ScP 12 55 46.0 -4.6
KSH PcS PcS 12 55 52.6 +1.7
KSH pmax pmax
comp=Z,19nm,0.8s,mb4.6
KSH pmax pmax
comp=Z,97nm,4.1s
KSH LR LR
comp=N,130nm,5.1s
KSH LR LR
comp=E,130nm,4.7s
KSH LR LR
comp=Z,270nm,6.1s
KUDL Kundal 24.50 268 *e*PKP **P 12 48 32.8 -0.7**
KUDL AMb AMB 12 48 36.6
comp=Z,31nm,0.7s,mb4.8
KUDL *ex* x 12 50 58.0
KHET Khetri 25.10 268 ||*i* P **P 12 48 39.6 +0.7**
KHET AMb AMB 12 48 42.1
comp=Z,20nm,0.9s,mb4.7
TKM2 Tokmak 2 25.22 304 *e*P **P 12 48 41.9 +2.0**
comp=Z,9.5nm,0.9s,mb4.3
TKM2 Tokmak 2 25.22 304 *e*P **P 12 48 41.9 +2.0**
TKM2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
AAK Ala-Archa 25.93 302 P **P 12 48 47.4 +1.1**
comp=Z,1.7nm,0.5s,mb3.8,baz=74,slow=6.0,SNR=9.0
AAK LR LR 13 01 01.7
comp=Z,191nm,20.2s,MS3.6,baz=298,slow=41
AAK Ala-Archa 25.93 302 *e*P **P 12 48 49.1 +2.8**
comp=Z,5.8nm,1.1s,mb4.0
AAK Ala-Archa 25.93 302 *e*P **P 12 48 46.6 +0.3**
AAK pmax pmax
comp=Z,2.0nm,0.8s,mb3.7
AAK Ala-Archa 25.93 302 P **P 12 48 48.4 +2.1**
comp=Z,5.2nm,0.9s,mb4.1
ZAA0 Zalesovo Array 25.98 333 *e*P **P 12 48 46.9 +0.3**
ZALV Zalesovo Beam 25.98 333 P **P 12 48 47.0 +0.3**
comp=Z,39nm,0.7s,mb5.1,baz=130,slow=10.0,SNR=147
ZALV Zalesovo Beam 25.98 333 P **P 12 48 47.0 +0.3**
ZALV Zalesovo Beam 25.98 333 P **P 12 48 47.0 +0.3**
ZALV pmax pmax
comp=Z,39nm,0.7s,mb5.0
EKS2 Erkin-Say 26.45 302 *e*P **P 12 48 51.5 +0.5**
comp=Z,4.9nm,1.0s,mb4.0
EKS2 Erkin-Say 26.45 302 *e*P **P 12 48 51.5 +0.5**
EKS2 pmax pmax
comp=Z,5.0nm,1.0s,mb4.0
BOD Bodaibo 26.54 11 *e*P **P 12 48 51.9 +0.2**
BOD pmax pmax
comp=Z,7.0nm,0.8s,mb4.2
KLR Kul'dur 26.64 42 *e*P **P 12 48 48.8 -3.9**
KLR MLR MLR
comp=Z,2µm,12.5s,MS4.8
KURK Kurchatov 26.66 322 P **P 12 48 52.4 -0.4**
comp=Z,9.4nm,0.9s,mb4.3,baz=130,slow=8.7,SNR=34
KURK PcP PcP 12 52 15.3 -1.2
comp=Z,2.9nm,0.6s,baz=110,slow=2.0,SNR=10
KURK LR LR 13 00 02.5
comp=Z,167nm,18.3s,MS3.6,baz=125,slow=38
KURK Kurchatov 26.66 322 *e*P **P 12 48 53.4 +0.5**
comp=Z,11nm,0.9s,mb4.4
KURK Kurchatov 26.66 322 P **P 12 48 52.4 -0.4**
KURK 12 52 15.3
KURK pmax pmax
comp=Z,9.0nm,0.9s,mb4.3
KURK pmax pmax
comp=Z,3.0nm,0.6s,mb4.0
KURK MLR MLR
comp=Z,167nm,18.3s,MS3.6
NVS Novosibirsk 27.27 333 *e*P **P 12 48 57.8 -0.4**
MJAR Matsushiro Arr 28.12 72 P **P 12 49 06.0 -0.2**
comp=Z,1.6nm,0.8s,mb3.7,baz=271,slow=9.9,SNR=4.7
MJAR PcP PcP 12 52 19.4 -1.0
comp=Z,1.4nm,0.7s,baz=260,slow=4.0,SNR=3.9
MJAR LR LR 13 00 59.2
comp=Z,46nm,21.8s,MS3.0,baz=270,slow=38
MJAR Matsushiro Arr 28.12 72 P **P 12 49 06.0 -0.2**
MJAR PcP PcP 12 52 19.4 -0.9
MJAR LR LR 13 00 59.2
MJAR Matsushiro Arr 28.12 72 P **P 12 49 06.0 -0.1**
MJAR 12 52 19.4
MJAR pmax pmax
comp=Z,2.0nm,0.8s
MJAR pmax pmax
comp=Z,1.0nm,0.7s
MJAR MLR MLR
comp=Z,46nm,21.8s
KKAR Karatay Array 28.89 302 *e*P **P 12 49 13.9 +1.1**
KKAR Karatay Array 28.89 302 *e*P **P 12 49 14.0 +1.1**
PSI Prapat 29.60 191 P **P 12 49 19.4 0.0**
comp=Z,9.2nm,0.8s,mb4.5,baz=291,slow=2.1,SNR=6.9
PSI LR LR 13 02 00.9
comp=Z,133nm,21.6s,MS3.5,baz=160,slow=38
PSI Prapat 29.60 191 P **P 12 49 19.4 0.0**
PSI LR LR 13 02 00.9
PSI Prapat 29.60 191 P **P 12 49 19.4 0.0**
PSI pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
PSI MLR MLR
comp=Z,133nm,21.6s,MS3.5
KBL Kabul 29.62 284 *e*P **P 12 49 22.0 +2.5**
comp=Z,10.0nm,0.8s,mb4.6
KBL Kabul 29.62 284 *e*P **P 12 49 22.0 +2.5**
KBL pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
MYLDM Lahad Datu 29.82 151 P **P 12 49 22.7 +1.4**
comp=Z,23nm,1.0s,mb4.9
SBUM Sibu 30.37 165 P **P 12 49 26.7 +0.5**
comp=Z,9.2nm,0.9s,mb4.5
DAV Davao City (W) 31.72 137 LR LR 13 03 54.6
comp=Z,115nm,20.1s,MS3.5,baz=346,slow=39
DAV Davao City (W) 31.72 137 *e*P **P 12 49 38.5 +0.3**
comp=Z,294nm,0.4s
VOSK Vostochnaya 31.77 320 P **P 12 49 36.8 -1.4**
VOSK pmax pmax
comp=Z,3.0nm,1.1s,mb4.0
BVAR Borovoye Array 32.23 321 P **P 12 49 42.5 +0.3**
comp=Z,2.7nm,0.8s,mb4.2,baz=108,slow=9.5,SNR=12
BVAR PcP PcP 12 52 29.9 -0.7
comp=Z,2.3nm,0.5s,baz=138,slow=4.6,SNR=8.4
BVAR Borovoye Array 32.23 321 P **P 12 49 42.5 +0.2**
BVAR PcP PcP 12 52 29.9 -0.7
BVAR Borovoye Array 32.23 321 P **P 12 49 42.5 +0.3**
BVAR 12 52 29.9
BVAR pmax pmax
comp=Z,3.0nm,0.8s
BVAR pmax pmax
comp=Z,2.0nm,0.5s
BRVK Borovoye 32.30 321 *e*P **P 12 49 43.8 +0.9**
comp=Z,7.1nm,0.9s,mb4.5
BRVK Borovoye 32.30 321 *e*P **P 12 49 43.1 +0.3**
BRVK pmax pmax
comp=Z,11nm,1.7s,mb4.4
RGRI Rengat 32.33 184 P **P 12 49 49.1 +5.7**
ZRNK Zerenda 32.95 320 P **P 12 49 47.7 -0.8**
ZRNK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
YAK Yakutsk 34.07 21 *e*P **P 12 49 57.4 -0.8**
YAK pmax pmax
comp=Z,18nm,1.0s,mb5.0
YAK pmax pmax
comp=N,7.0nm,1.2s
YAK pmax pmax
comp=E,6.0nm,1.2s
MRSI Marisa 35.51 149 P **P 12 50 10.9 -0.2**
comp=E,27nm,0.8s,mb5.2
AB31 Akbulak array 37.27 311 *i* P **P 12 50 26.5 +0.7**
AB31 pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
ABKAR Akbulak array 37.27 311 *e*P **P 12 50 26.4 +0.6**
AKTO Aktyubinsk 38.71 312 P **P 12 50 38.6 +0.6**
AKTO pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
SVE Sverdlovsk 38.91 323 ||*e*P **P 12 50 41.0 +1.5**
SVE pmax pmax
comp=Z,31nm,1.4s,mb4.8
ARU Arti 39.86 321 *e*P **P 12 50 48.3 +0.8**
comp=Z,33nm,0.8s,mb5.1
ARU Arti 39.86 321 *c* *i* P **P 12 50 48.0 +0.5**
ARU *e* 12 52 19.6
ARU S **S** **12 56 53.1 +0.6**
ARU SS SS 12 59 48.0 -0.3
ARU pmax pmax
comp=Z,47nm,1.0s,mb5.2
SOKR Solikamsk 41.76 326 *e*P **P 12 51 04.3 +1.2**
SOKR pmax pmax
comp=Z,30nm,0.9s,mb4.9
MSAI Masohi 42.20 142 P **P 12 51 12.1 +4.8**
BMNI Bima 42.62 159 P **P 12 51 09.0 -1.6**
comp=Z,43nm,1.1s,mb5.1
BNDI Bandanaira 43.71 142 P **P 12 51 20.5 +1.0**
MMRI Maumere 43.91 154 P **P 12 51 19.8 -1.2**
comp=Z,73nm,1.0s,mb5.4
ZEI Tsey 48.34 301 *e*P **P 12 51 55.0 -0.7**
ZEI pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
KIV Kislovodsk 49.05 303 *e*P **P 12 52 02.1 +1.0**
KIV Kislovodsk 49.05 303 *e*P **P 12 52 01.9 +0.7**
KIV pmax pmax
comp=Z,17nm,1.0s,mb5.0
KIV MLR MLR
comp=Z,68nm,15.0s,MS3.8
VRHR Novokhopersk 49.12 312 *e*P **P 12 52 01.4 -0.2**
VRHR pmax pmax
comp=Z,30nm,0.8s,mb5.4
VRHR pmax pmax
comp=N,5.0nm,0.4s
VRHR pmax pmax
comp=E,30nm,0.8s
BILL Bilibino 50.15 26 ||*e*P **P 12 52 08.5 -0.7**
BILL pmax pmax
comp=Z,13nm,2.5s,mb4.5
VSR Storozhevoye 50.65 312 *e*P **P 12 52 13.2 -0.1**
VSR pmax pmax
comp=N,7.0nm,0.9s
VSR pmax pmax
comp=E,20nm,0.9s
VSR pmax pmax
comp=Z,20nm,0.9s,mb5.0
KAKA Kakadu 51.98 144 *e*P **P 12 52 20.7 -2.8**
comp=Z,8.7nm,0.9s,mb4.7
APA Apatity 53.57 333 ||*e*P **P 12 52 36.0 +1.3**
APA MLR MLR
comp=Z,2µm,16.0s
FITZ Fitzroy Crossi 53.87 155 *e*P **P 12 52 35.7 -1.7**
comp=Z,20nm,0.8s,mb5.1
JOF Joensuu 54.37 327 *e*P **P 12 52 39.4 -1.2**
JOF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
JOF Joensuu 54.37 327 *ep* **P 12 52 39.4 -1.2**
comp=Z,8.4nm,0.7s,mb4.8
KEV Kevo 55.96 336 *e*P **P 12 52 50.8 -1.2**
KEV pmax pmax
comp=Z,13nm,0.5s,mb5.2
KEV Kevo 55.96 336 *ep* **P 12 52 50.8 -1.2**
comp=Z,13nm,0.5s,mb5.2
ARCES ARCESS Array B 56.49 336 P **P 12 52 53.7 -2.2**
comp=Z,6.0nm,0.5s,mb4.9,baz=88,slow=8.4,SNR=58
ARCES ARCESS Array B 56.49 336 P **P 12 52 53.7 -2.2**
ARCES ARCESS Array B 56.49 336 P **P 12 52 53.7 -2.1**
ARCES pmax pmax
comp=Z,6.0nm,0.5s
ARE0 ARCESS Array S 56.49 336 *e*P **P 12 52 55.9 +0.1**
BR131 Keskin Array S 56.54 299 *e*P **P 12 52 57.3 +0.7**
comp=Z,1.3nm,0.6s,mb4.1
BRTR Keskin Array B 56.54 299 P **P 12 52 56.6 0.0**
comp=Z,2.4nm,0.7s,mb4.3,baz=94,slow=7.3,SNR=12
BRTR PcP PcP 12 53 52.8 -0.5
comp=Z,0.9nm,0.6s,baz=123,slow=4.6,SNR=4.1
BRTR Keskin Array B 56.54 299 P **P 12 52 56.6 0.0**
BRTR PcP PcP 12 53 52.8 -0.5
BRTR Keskin Array B 56.54 299 P **P 12 52 56.6 0.0**
BRTR 12 53 52.8
BRTR pmax pmax
comp=Z,2.0nm,0.7s
BRTR pmax pmax
comp=Z,1.0nm,0.6s
KAF Kangasniemi 56.74 327 *e*P **P 12 52 55.9 -1.8**
KAF pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
KAF Kangasniemi 56.74 327 *ep* **P 12 52 55.9 -1.8**
comp=Z,6.0nm,0.6s,mb4.8
FINES FINESS Array B 56.93 326 P **P 12 52 57.7 -1.3**
comp=Z,9.8nm,0.8s,mb4.9,baz=87,slow=7.8,SNR=15
FINES LR LR 13 19 15.1
comp=Z,101nm,18.8s,MS3.9,baz=16,slow=38
FINES FINESS Array B 56.93 326 P **P 12 52 57.7 -1.3**
FINES LR LR 13 19 15.1
FINES FINESS Array B 56.93 326 P **P 12 52 57.7 -1.3**
FINES pmax pmax
comp=Z,10.0nm,0.8s
FINES MLR MLR
comp=Z,101nm,18.8s
AKASG Malin Array Be 56.95 313 P **P 12 52 59.0 -0.4**
comp=Z,6.9nm,0.5s,mb4.9,baz=70,slow=6.5,SNR=16
AKASG Malin Array Be 56.95 313 P **P 12 52 59.0 -0.4**
AKASG Malin Array Be 56.95 313 P **P 12 52 59.0 -0.3**
AKASG pmax pmax
comp=Z,7.0nm,0.5s
KTK1 Kautokeino 57.33 335 *e*P **P 12 53 01.5 -0.3**
KTK1 *e*P pP 12 53 02.2 -0.8
SPA0 Spitsbergen Ar 58.46 346 *e*P **P 12 53 09.6 0.0**
COEN Coen 58.91 135 *e*P **P 12 53 12.9 -0.6**
comp=Z,76nm,0.8s,mb5.8
COEN Coen 58.91 135 P **P 12 53 07.7 -5.8**
comp=Z,18nm,0.9s,mb5.1
WRAB Tennant Creek 59.12 147 *e*P **P 12 53 14.5 -0.4**
comp=Z,26nm,0.9s,mb5.3
WRAB Tennant Creek 59.12 147 *e*P **P 12 53 14.5 -0.3**
WRAB pmax pmax
comp=Z,26nm,0.9s,mb5.3
WRAB Tennant Creek 59.12 147 P **P 12 53 12.5 -2.3**
comp=Z,68nm,0.9s,mb5.7
WRA Warramunga Arr 59.12 147 P **P 12 53 14.3 -0.5**
comp=Z,15nm,0.8s,mb5.1,baz=338,slow=7.5,SNR=61
WRA Warramunga Arr 59.12 147 *e*P **P 12 53 14.3 -0.5**
WRA Warramunga Arr 59.12 147 P **P 12 53 14.3 -0.5**
WRA pmax pmax
comp=Z,15nm,0.8s
WB2 Warramunga Arr 59.12 147 *e*P **P 12 53 14.4 -0.5**
VRI Vrincioaia 59.73 308 ||*i*P **P 12 53 20.2 +1.3**
PLOR Plostina 59.79 308 ||*i*P **P 12 53 21.3 +2.0**
BURAR Bucovina Array 60.24 310 ||*i*P **P 12 53 22.4 0.0**
BUR08 Bucovina Ar. S 60.25 310 *e*P **P 12 53 22.8 +0.4**
MLR Muntele Rosu 60.37 308 ||*i*P **P 12 53 24.1 +0.9**
KWP Kalwaria Pacla 61.27 313 *e*P **P 12 53 29.9 +0.5**
KWP Kalwaria Pacla 61.27 313 *e*P **P 12 53 30.2 +0.8**
comp=Z,49nm,1.0s,mb5.6
KWP Kalwaria Pacla 61.27 313 *e*P **P 12 53 29.9 +0.6**
KOLS Kolonicke sedl 61.75 312 *e*P **P 12 53 32.8 +0.2**
KOLS pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
KOLS Kolonicke sedl 61.75 312 *e*P **P 12 53 32.8 +0.2**
TRPA Tarpa 61.82 311 ||*i*P **P 12 53 35.0 +1.9**
LOT Lotru 61.84 308 ||*i*P **P 12 53 34.3 +1.1**
DRGR 62.12 310 ||*i*P **P 12 53 36.3 +1.2**
ASAR Alice Springs 62.17 149 P **P 12 53 34.7 -0.9**
comp=Z,7.1nm,0.7s,mb4.9,baz=335,slow=5.7,SNR=30
ASAR Alice Springs 62.17 149 P **P 12 53 34.7 -0.9**

ASAR Alice Springs 62.17 149 P P 12 53 34.7 -0.9
ASAR pmax pmax
comp=Z,7.0nm,0.7s
NIE Niedzica 62.82 313 *e*P **P 12 53 41.0 +1.2**
NIE Niedzica 62.82 313 *e*P **P 12 53 41.0 +1.2**
OJC Ojcow 62.89 314 *e*P **P 12 53 40.8 +0.6**
OJC Ojcow 62.89 314 *e*P **P 12 53 40.7 +0.5**
comp=Z,17nm,1.0s,mb5.1
OJC Ojcow 62.89 314 *e*P **P 12 53 40.7 +0.5**
OJC pmax pmax
comp=Z,17nm,1.0s,mb5.1
KECS Kecovo 63.01 312 *e*P **P 12 53 42.0 +0.9**
KECS pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
KECS Kecovo 63.01 312 *e*P **P 12 53 42.0 +0.9**
KECS *e* 13 15 54.4
NB2 NORSAR Subarra 64.00 327 P **P 12 53 46.4 -1.0**
comp=Z,7.5nm,0.8s,mb4.8,baz=73,slow=6.9
NOA NORSAR Array B 64.00 327 P **P 12 53 45.4 -2.0**
comp=Z,6.5nm,0.8s,mb4.7,baz=71,slow=6.7,SNR=16
NOA LR LR 13 23 04.7
comp=Z,39nm,20.5s,MS3.6,baz=260,slow=37
NOA NORSAR Array B 64.00 327 P **P 12 53 45.4 -2.0**
NOA LR LR 13 23 04.7
NOA NORSAR Array B 64.00 327 P **P 12 53 45.4 -2.0**
NOA pmax pmax
comp=Z,7.0nm,0.8s
NOA MLR MLR
comp=Z,39nm,20.5s
VYHS Vyhne 64.05 312 *e*P **P 12 53 48.3 +0.4**
VYHS pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
VYHS Vyhne 64.05 312 *e*P **P 12 53 48.3 +0.4**
MORC Moravsky Berou 64.41 314 *e*P **P 12 53 50.9 +0.6**
MORC Moravsky Berou 64.41 314 *e*P **P 12 53 50.9 +0.7**
MORC Moravsky Berou 64.41 314 ⇓*i*P **P 12 53 50.8 +0.6**
FURI Furi 64.85 265 *e*P **P 12 53 55.7 +2.1**
comp=Z,57nm,0.6s,mb5.8
DPC Dobruska-Polom 64.95 315 *e*P **P 12 53 54.1 +0.3**
DPC Dobruska-Polom 64.95 315 *e*P **P 12 53 54.1 +0.4**
DPC Dobruska-Polom 64.95 315 *e*P **P 12 53 54.5 +0.8**
UPC Upice 65.08 315 *e*P **P 12 53 55.2 +0.6**
UPC Upice 65.08 315 *e*P **P 12 53 55.2 +0.6**
CTA Charters Tower 65.51 137 P **P 12 53 56.5 -1.2**
comp=Z,3.6nm,0.7s,mb4.5,baz=294,slow=10,SNR=2.9
CTA Charters Tower 65.51 137 P **P 12 53 56.5 -1.2**
CTA pmax pmax
comp=Z,4.0nm,0.7s
NWAO Narrogin (SRO) 65.78 168 P **P 12 53 58.2 -1.0**
comp=Z,13nm,1.0s,mb4.9,baz=325,slow=16,SNR=4.0
NWAO Narrogin (SRO) 65.78 168 P **P 12 53 58.2 -1.0**
NWAO Narrogin (SRO) 65.78 168 P **P 12 53 58.2 -1.0**
NWAO pmax pmax
comp=Z,13nm,1.0s
TREC Trest 65.83 314 *e*P **P 12 54 00.2 +0.7**
TREC Trest 65.83 314 *e*P **P 12 54 00.2 +0.7**
PVCC Panska Ves 65.93 316 *e*P **P 12 54 01.9 +1.8**
PVCC Panska Ves 65.93 316 *e*P **P 12 54 01.9 +1.8**
PRU Pruhonice 66.15 315 *e*P **P 12 54 03.3 +1.8**
PRU Pruhonice 66.15 315 *e*P **P 12 54 03.3 +1.8**
BRG Berggiesshubel 66.17 316 *e*P **P 12 54 01.7 +0.1**
comp=Z,9.1nm,1.1s,mb4.7
BRG Berggiesshubel 66.17 316 *e*P **P 12 54 01.7 0.0**
BRG pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
COLD Coldfoot 66.44 24 *e*P **P 12 54 03.0 -0.1**
comp=Z,7.2nm,0.9s,mb4.7
CLL Collm 66.56 317 *e*P **P 12 54 04.0 -0.1**
CLL pmax pmax
comp=Z,11nm,1.2s,mb4.8
CLL Collm 66.56 317 *e*P **P 12 54 04.0 -0.1**
comp=Z,11nm,1.2s,mb4.8
KHC Kasperske Hory 67.05 315 *e*P **P 12 54 07.2 -0.1**
KHC Kasperske Hory 67.05 315 *e*P **P 12 54 07.2 -0.1**
PERS Pernice 67.07 312 *i* P **P 12 54 07.6 +0.1**
GERES GERESS Array B 67.09 314 P **P 12 54 07.0 -0.5**
comp=Z,3.5nm,0.7s,mb4.5,baz=72,slow=5.7,SNR=22
GERES LR LR 13 25 05.7
comp=Z,138nm,18.5s,MS4.2,baz=315,slow=38
GERES GERESS Array B 67.09 314 P **P 12 54 07.0 -0.5**
GERES LR LR 13 25 05.7
GERES GERESS Array B 67.09 314 P **P 12 54 07.1 -0.5**
GERES pmax pmax
comp=Z,4.0nm,0.7s
GERES MLR MLR
comp=Z,138nm,18.5s
SOKA Soboth 67.10 312 ⇑*i*P **P 12 54 07.7 0.0**
comp=Z,9.2nm,0.8s,mb4.9
NKC Novy Kostel 67.30 316 *e*P **P 12 54 09.1 +0.2**
NKC Novy Kostel 67.30 316 *e*P **P 12 54 09.1 +0.2**
BOJS Bojanci 67.42 310 *i* P **P 12 54 09.9 +0.2**
VISS Visnje 67.47 311 *i* P **P 12 54 09.9 +0.2**
BPAW Bear Paw Mtn. 67.58 27 *e*P **P 12 54 09.8 -0.6**
comp=Z,30nm,1.6s,mb5.1
PPLA Purkeypile 67.65 29 *e*P **P 12 54 11.0 +0.1**
comp=Z,14nm,0.8s,mb5.0
KBA Koelnbreinsper 68.01 313 ⇓*i*pP pP 12 54 14.0 -0.6
comp=Z,4.2nm,0.5s
JAVS Javornik 68.03 311 *i* P **P 12 54 13.5 0.0**
COLA College 68.40 26 *e*P **P 12 54 15.3 -0.2**
comp=Z,16nm,1.1s,mb5.0
COLA College 68.40 26 *e*P **P 12 54 15.3 -0.3**
COLA pmax pmax
comp=Z,16nm,1.1s,mb5.0
ILAR Eielson Array 68.81 26 P **P 12 54 16.1 -2.0**
comp=Z,1.8nm,0.9s,mb4.0,baz=290,slow=3.7,SNR=20
ILAR Eielson Array 68.81 26 P **P 12 54 16.1 -2.0**
ILAR Eielson Array 68.81 26 P **P 12 54 16.1 -2.0**
ILAR pmax pmax
comp=Z,2.0nm,0.9s
FETA Feichten 69.66 313 ⇓*i*P **P 12 54 23.5 -0.2**
comp=Z,9.8nm,0.7s,mb4.8
SML Sawmill 69.75 29 *e*P **P 12 54 23.6 -0.4**
comp=Z,1.6nm,0.6s,mb4.1
SML Sawmill 69.75 29 *e*P **P 12 54 23.6 -0.4**
SML pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
KDAK Kodiak Island 69.84 34 P **P 12 54 22.9 -1.7**
comp=Z,8.6nm,0.6s,mb4.8,baz=246,slow=6.3,SNR=9.1
KDAK Kodiak Island 69.84 34 P **P 12 54 22.9 -1.7**
KDAK Kodiak Island 69.84 34 P **P 12 54 22.9 -1.7**
KDAK pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
TUE Stuetta 70.75 313 *e*P **P 12 54 30.6 +0.2**
comp=Z,9.6nm,0.6s,mb4.9
EGAK Eagle 70.87 24 *e*P **P 12 54 30.0 -0.8**
comp=Z,3.9nm,0.8s,mb4.4
INK Inuvik 71.12 19 LR LR 13 30 07.6
comp=Z,60nm,19.0s,MS3.9,baz=3.2,slow=40
INK Inuvik 71.12 19 *e*P **P 12 54 31.7 -0.6**
comp=Z,8.6nm,0.8s,mb4.7
INK Inuvik 71.12 19 *e*P **P 12 54 31.7 -0.6**
INK pmax pmax
comp=Z,9.0nm,0.8s
CDF Champ du Feu 71.14 316 *e*P **P 12 54 32.5 -0.2**
comp=Z,8.0nm,0.6s,mb4.6
CDF Champ du Feu 71.14 316 *e*P **P 12 54 32.5 -0.2**
comp=Z,4.0nm,0.6s,mb4.5
CDF Champ du Feu 71.14 316 *e*P **P 12 54 32.5 -0.2**
CDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
WLF Walferdange 71.22 317 P **P 12 54 34.3 +1.2**
comp=Z,14nm,1.0s,mb4.8
KMBO Kilima Mbogo 71.45 257 P **P 12 54 35.2 +0.2**
comp=Z,6.3nm,0.8s,mb4.6,baz=180,slow=24,SNR=17
KMBO Kilima Mbogo 71.45 257 *e*P **P 12 54 35.9 +0.8**
comp=Z,8.3nm,0.9s,mb4.7
KMBO Kilima Mbogo 71.45 257 P **P 12 54 35.3 +0.2**
KMBO pmax pmax
comp=Z,6.0nm,0.8s
HINF Hinteralfeld 71.66 315 *e*P **P 12 54 35.3 -0.6**
comp=Z,7.8nm,0.7s,mb4.5
HINF Hinteralfeld 71.66 315 *e*P **P 12 54 35.3 -0.6**
comp=Z,3.9nm,0.7s,mb4.5
HINF Hinteralfeld 71.66 315 *e*P **P 12 54 35.3 -0.6**
HINF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BMRM Bremner River 71.72 29 *e*P **P 12 54 30.5 -5.5**
comp=Z,12nm,0.4s,mb5.2
GIVF Givet 71.77 318 *e*P **P 12 54 36.5 0.0**
GIVF Givet 71.77 318 *e*P **P 12 54 36.5 0.0**
GIVF Givet 71.77 318 *e*P **P 12 54 36.5 0.0**
HAU Haudompre 71.87 316 *e*P **P 12 54 36.8 -0.3**
HAU *e*MLR MLR
comp=Z,120nm,20.5s,MS3.9
HAU Haudompre 71.87 316 *e*P **P 12 54 36.8 -0.3**
HAU LR LR
comp=Z,120nm,20.5s,MS4.2
HAU Haudompre 71.87 316 *e*P **P 12 54 36.8 -0.3**
HAU MLR MLR
comp=Z,120nm,20.5s,MS4.2
DAWY Dawson 71.92 25 *e*P **P 12 54 36.5 -0.6**
BAIF Baives 72.14 318 *e*P **P 12 54 38.8 +0.1**
comp=Z,15nm,0.8s,mb4.7
BAIF Baives 72.14 318 *e*P **P 12 54 38.8 +0.1**
comp=Z,7.7nm,0.8s,mb4.7
BAIF Baives 72.14 318 *e*P **P 12 54 38.8 +0.1**
BAIF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
SFTF Sexfontaines 72.55 316 *e*P **P 12 54 40.8 -0.4**
SFTF Sexfontaines 72.55 316 *e*P **P 12 54 40.8 -0.4**
STKA Stephens Creek 72.66 147 P **P 12 54 41.3 -0.6**
comp=Z,3.2nm,0.7s,mb4.3,baz=326,slow=7.4,SNR=5.0
STKA Stephens Creek 72.66 147 *e*P **P 12 54 39.3 -2.6**
comp=Z,2.7nm,0.8s,mb4.2
STKA Stephens Creek 72.66 147 P **P 12 54 41.3 -0.6**
STKA Stephens Creek 72.66 147 P **P 12 54 41.3 -0.6**
CABF La Chapelle 72.69 314 *e*P **P 12 54 42.1 +0.1**
CABF La Chapelle 72.69 314 *e*P **P 12 54 42.1 +0.1**
CABF La Chapelle 72.69 314 *e*P **P 12 54 42.1 +0.1**
PGF Pioggiola 72.76 310 *e*P **P 12 54 42.9 +0.3**
comp=Z,20nm,0.6s,mb4.9
PGF Pioggiola 72.76 310 *e*P **P 12 54 42.9 +0.3**
comp=Z,9.9nm,0.6s,mb4.9
PGF Pioggiola 72.76 310 *e*P **P 12 54 42.9 +0.3**
PGF pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
LPG La Plagne 72.81 313 *e*P **P 12 54 43.5 +0.7**
comp=Z,56nm,0.6s,mb5.4
LPG La Plagne 72.81 313 *e*P **P 12 54 43.5 +0.7**
comp=Z,28nm,0.6s,mb5.4
LPG La Plagne 72.81 313 *e*P **P 12 54 43.5 +0.7**
LPG pmax pmax
comp=Z,28nm,0.6s,mb5.4
LPL La Plagne 72.81 313 *e*P **P 12 54 43.4 +0.6**
comp=Z,54nm,0.5s,mb5.4
LPL La Plagne 72.81 313 *e*P **P 12 54 43.4 +0.6**
comp=Z,27nm,0.5s,mb5.4
LPL La Plagne 72.81 313 *e*P **P 12 54 43.4 +0.6**
LPL pmax pmax
comp=Z,27nm,0.5s,mb5.4
SBF Sospel 73.16 311 *e*P **P 12 54 44.7 -0.2**
comp=Z,130nm,1.0s,mb5.5
SBF Sospel 73.16 311 *e*P **P 12 54 44.7 -0.2**
comp=Z,65nm,1.0s,mb5.5
SBF Sospel 73.16 311 *e*P **P 12 54 44.7 -0.2**
SBF pmax pmax
comp=Z,65nm,1.0s,mb5.5
MBDF Montbardon 73.16 312 *e*P **P 12 54 44.1 -0.8**
comp=Z,14nm,0.7s,mb4.7
MBDF Montbardon 73.16 312 *e*P **P 12 54 44.1 -0.8**
comp=Z,6.9nm,0.7s,mb4.7
MBDF Montbardon 73.16 312 *e*P **P 12 54 44.1 -0.8**
MBDF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
ORIF Oris-en-Rattie 73.63 313 *e*P **P 12 54 47.7 +0.1**
comp=Z,27nm,0.8s,mb4.9
ORIF *e*MLR MLR
comp=Z,136nm,17.8s,MS4.0
ORIF Oris-en-Rattie 73.63 313 *e*P **P 12 54 47.7 +0.1**
comp=Z,13nm,0.8s,mb4.9
ORIF Oris-en-Rattie 73.63 313 *e*P **P 12 54 47.7 +0.1**
ORIF pmax pmax
comp=Z,13nm,0.8s,mb4.9
LOR Lormes 73.70 316 *e*P **P 12 54 47.2 -0.8**
LOR *e*MLR MLR
comp=Z,108nm,19.0s,MS3.9
LOR Lormes 73.70 316 *e*P **P 12 54 47.2 -0.8**
LOR LR LR
comp=Z,110nm,19.0s,MS4.2
LOR Lormes 73.70 316 *e*P **P 12 54 47.2 -0.8**
LOR MLR MLR
comp=Z,110nm,19.0s,MS4.2
LMR La Mourre 74.00 311 *e*P **P 12 54 49.6 -0.2**
comp=Z,7.1nm,0.4s,mb4.7
LMR La Mourre 74.00 311 *e*P **P 12 54 49.6 -0.2**
comp=Z,3.5nm,0.4s,mb4.6
LMR La Mourre 74.00 311 *e*P **P 12 54 49.6 -0.2**
LMR pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
SSF Saint Saulge 74.02 316 *e*P **P 12 54 49.2 -0.7**
comp=Z,21nm,1.0s,mb4.7
SSF Saint Saulge 74.02 316 *e*P **P 12 54 49.2 -0.7**
comp=Z,10nm,1.0s,mb4.7
SSF Saint Saulge 74.02 316 *e*P **P 12 54 49.2 -0.7**
SSF pmax pmax
comp=Z,11nm,1.0s,mb4.7
SMF Signal de Mont 74.02 315 *e*P **P 12 54 49.5 -0.4**
comp=Z,39nm,1.0s,mb5.0
SMF Signal de Mont 74.02 315 *e*P **P 12 54 49.5 -0.4**
comp=Z,20nm,1.0s,mb5.0
SMF Signal de Mont 74.02 315 *e*P **P 12 54 49.5 -0.4**
SMF pmax pmax
comp=Z,20nm,1.0s,mb5.0
AVF Avril sur Loir 74.24 316 *e*P **P 12 54 50.8 -0.4**
comp=Z,32nm,1.0s,mb4.9
AVF Avril sur Loir 74.24 316 *e*P **P 12 54 50.8 -0.4**
comp=Z,16nm,1.0s,mb4.9
AVF Avril sur Loir 74.24 316 *e*P **P 12 54 50.8 -0.4**
AVF pmax pmax
comp=Z,16nm,1.0s,mb4.9
VIVF Saint-Julien-l 74.41 313 *e*P **P 12 54 52.0 -0.2**
VIVF Saint-Julien-l 74.41 313 *e*P **P 12 54 52.0 -0.2**
VIVF Saint-Julien-l 74.41 313 *e*P **P 12 54 52.0 -0.2**
TCF Toulx Ste Croi 75.18 315 *e*P **P 12 54 56.4 -0.2**
comp=Z,38nm,1.1s,mb4.9
TCF Toulx Ste Croi 75.18 315 *e*P **P 12 54 56.4 -0.2**
comp=Z,19nm,1.1s,mb4.9
TCF Toulx Ste Croi 75.18 315 *e*P **P 12 54 56.4 -0.2**
TCF pmax pmax
comp=Z,19nm,1.1s,mb4.9
LASF Ste Croix 75.30 313 *e*P **P 12 54 57.5 +0.1**
comp=Z,26nm,0.9s,mb4.8
LASF Ste Croix 75.30 313 *e*P **P 12 54 57.5 +0.1**
LDF La Druitiere 75.33 318 *e*P **P 12 54 57.0 -0.4**
comp=Z,9.8nm,0.8s,mb4.5
LDF La Druitiere 75.33 318 *e*P **P 12 54 57.0 -0.4**
comp=Z,4.9nm,0.8s,mb4.5
LDF La Druitiere 75.33 318 *e*P **P 12 54 57.0 -0.4**
LDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
FLN La Foliniere 75.44 319 *e*P **P 12 54 57.9 -0.2**
FLN *e*MLR MLR
comp=Z,30nm,19.0s,MS3.3
FLN La Foliniere 75.44 319 *e*P **P 12 54 57.9 -0.2**
FLN LR LR
comp=Z,30nm,19.0s,MS3.6
FLN La Foliniere 75.44 319 *e*P **P 12 54 57.9 -0.2**
FLN MLR MLR
comp=Z,30nm,19.0s,MS3.6
GRR Gorron 75.85 318 *e*P **P 12 55 00.3 -0.1**
comp=Z,33nm,0.8s,mb5.0
GRR Gorron 75.85 318 *e*P **P 12 55 00.3 -0.1**
comp=Z,16nm,0.8s,mb5.0
GRR Gorron 75.85 318 *e*P **P 12 55 00.3 -0.1**
GRR pmax pmax
comp=Z,16nm,0.8s,mb5.0
CAF Calviac 75.97 314 *e*P **P 12 55 01.5 +0.3**
comp=Z,13nm,0.6s,mb4.7
CAF Calviac 75.97 314 *e*P **P 12 55 01.5 +0.3**
comp=Z,6.4nm,0.6s,mb4.7
CAF Calviac 75.97 314 *e*P **P 12 55 01.5 +0.3**
CAF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
RJF Les Rejaudoux 76.10 315 *e*P **P 12 55 01.2 -0.7**
RJF *e*MLR MLR
comp=Z,77nm,22.8s,MS3.6
RJF Les Rejaudoux 76.10 315 *e*P **P 12 55 01.2 -0.7**
RJF LR LR
comp=Z,80nm,22.8s,MS4.0
RJF Les Rejaudoux 76.10 315 *e*P **P 12 55 01.2 -0.7**
RJF MLR MLR
comp=Z,80nm,22.8s,MS4.0
SKAG Skagway 76.32 27 *e*P **P 12 55 03.3 +0.4**
comp=Z,14nm,0.9s,mb4.9
MFF Saint Martin d 76.40 317 *e*P **P 12 55 03.6 0.0**
comp=Z,18nm,1.0s,mb4.7
MFF Saint Martin d 76.40 317 *e*P **P 12 55 03.6 0.0**
comp=Z,8.9nm,1.0s,mb4.7
MFF Saint Martin d 76.40 317 *e*P **P 12 55 03.6 0.0**
MFF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
MTLF Montolieu 76.70 313 *e*P **P 12 55 05.4 0.0**
MTLF Montolieu 76.70 313 *e*P **P 12 55 05.4 0.0**
MTLF Montolieu 76.70 313 *e*P **P 12 55 05.4 0.0**
LFF La Frestale 76.76 315 *e*P **P 12 55 06.0 +0.3**
comp=Z,11nm,0.6s,mb4.6
LFF La Frestale 76.76 315 *e*P **P 12 55 06.0 +0.3**
comp=Z,5.6nm,0.6s,mb4.7
LFF La Frestale 76.76 315 *e*P **P 12 55 06.0 +0.3**
LFF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
SGMF Saint Gilles 76.88 319 *e*P **P 12 55 06.4 +0.1**
comp=Z,34nm,0.9s,mb5.0
SGMF Saint Gilles 76.88 319 *e*P **P 12 55 06.4 +0.1**
comp=Z,17nm,0.9s,mb5.0
SGMF Saint Gilles 76.88 319 *e*P **P 12 55 06.4 +0.1**
SGMF pmax pmax
comp=Z,17nm,0.9s,mb5.0
QUIF Quistinic 77.40 319 *e*P **P 12 55 09.3 +0.1**
QUIF Quistinic 77.40 319 *e*P **P 12 55 09.3 +0.1**
QUIF Quistinic 77.40 319 *e*P **P 12 55 09.3 +0.1**
EPF Esparros 78.03 313 *e*P **P 12 55 12.2 -0.6**
comp=Z,6.2nm,0.6s,mb4.4
EPF Esparros 78.03 313 *e*P **P 12 55 12.2 -0.6**
comp=Z,3.1nm,0.6s,mb4.4
EPF Esparros 78.03 313 *e*P **P 12 55 12.2 -0.6**
EPF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ETSF Etsaut 78.65 314 *e*P **P 12 55 16.8 +0.5**
comp=Z,5.4nm,0.6s,mb4.4
ETSF Etsaut 78.65 314 *e*P **P 12 55 16.8 +0.5**
comp=Z,2.7nm,0.6s,mb4.3
ETSF Etsaut 78.65 314 *e*P **P 12 55 16.8 +0.5**
ETSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
SJPF Ste Jean 78.94 314 *e*P **P 12 55 18.7 +0.8**
comp=Z,22nm,0.9s,mb4.8
SJPF Ste Jean 78.94 314 *e*P **P 12 55 18.7 +0.8**
comp=Z,11nm,0.9s,mb4.8
SJPF Ste Jean 78.94 314 *e*P **P 12 55 18.7 +0.8**
SJPF pmax pmax
comp=Z,11nm,0.9s,mb4.8
YKA Yellowknife Ar 80.66 17 P **P 12 55 25.1 -1.7**
comp=Z,5.4nm,0.7s,mb4.6,baz=331,slow=5.4,SNR=9.8
YKA Yellowknife Ar 80.66 17 P **P 12 55 25.1 -1.7**
YKA Yellowknife Ar 80.66 17 P **P 12 55 25.1 -1.7**
YKA pmax pmax
comp=Z,5.0nm,0.7s
ESDC Sonseca Array 82.59 312 P **P 12 55 36.2 -1.3**
comp=Z,0.7nm,0.4s,mb4.1,baz=39,slow=5.3,SNR=7.2
ESDC Sonseca Array 82.59 312 P **P 12 55 36.2 -1.3**
EVO Evora 85.80 313 *e*P **P 12 55 54.5 +0.7**
comp=Z,5.6nm,0.6s,mb4.7
EVO *e*MLR MLR
comp=Z,46nm,19.2s,MS3.6
EVOP Sao Brissos 85.87 313 *e*P **P 12 55 54.5 +0.3**
comp=Z,5.6nm,0.6s,mb5.0
EVOP LR LR
comp=Z,46μm,19.3s
EVOP Sao Brissos 85.87 313 *e*P **P 12 55 54.5 +0.3**
EVOP pmax pmax
comp=Z,6.0nm,0.6s
EVOP MLR MLR
comp=Z,46μm,19.3s
LSZ Lusaka 86.81 250 *e*P **P 12 55 59.0 0.0**
comp=Z,14nm,1.1s,mb5.1
LSZ Lusaka 86.81 250 *e*P **P 12 55 59.0 0.0**
LSZ pmax pmax
comp=Z,14nm,1.1s,mb5.1
TORD Torodi Ar. Bea 93.64 288 P **P 12 56 29.8 -1.4**
comp=Z,1.0nm,0.9s,mb4.2,baz=37,slow=3.7,SNR=5.2
TORD Torodi Ar. Bea 93.64 288 P **P 12 56 29.8 -1.4**
QSPA South Pole Qui 121.86 180 PKP PKPdf 13 02 05.3 -2.0
comp=Z,2.7nm,0.8s,baz=278,slow=1.2,SNR=21
QSPA South Pole Qui 121.86 180 PKP PKPdf 13 02 05.3 -2.0
VNA2 Neumayer--Watz 127.10 202 *e* PKPdf 13 02 14.2 -3.3
baz=55,slow=3.8
VNA2 *e* 13 02 19.1
VNA1 Neumayer--Stat 127.43 203 *e* PKPdf 13 02 15.7 -2.4
VNA1 *e* 13 02 20.4
SDV Santo Domingo 138.99 353 *e*PKPdf PKPdf 13 02 41.1 -0.6
OTAV Otavalo 147.73 5 *e*PKPdf PKPdf 13 02 57.1 +0.1
OTAV *e*PKPbc PKPbc 13 03 00.3 +0.5
OTAV *e*PKPab PKPab 13 03 02.0 +0.1

*ISCJB **04** 13:15:32.7±0.4,32.°11N±0.°03×104.°53E±0.°06,h10km, mb4.2/17,Error ellipse: s-maj=7.2km s-min=4.4km az=3.7*
*IDC **04** 13:15:32.7±0.8,32.°07N×104.°47E,h0km,mb4.1/11, mb1 4.1/14,mb1mx4.0/29,mbtmp4.0/14,ML3.5/3,MS3.4/2, Ms1 3.4/2,ms1mx2.5/32,Error ellipse: s-maj=27.6km s-min=15.8km az=58.0*
*NEIC **04** 13:15:34.8±0.4,32.°09N×104.°45E,h10km,mb4.1/7,Error ellipse: s-maj=7.8km s-min=6.6km az=49.0*
*MOS **04** 13:15:35.6±0.7,32.°06N×104.°52E,h33km,mb4.4/12,Error ellipse: s-maj=15.1km s-min=11.1km az=109.7*
*BJI **04** 13:15:35.7,32.°18N×104.°46E,h11km,mB4.9/2,mb4.1/5, ML4.0/16,Ms3.6/5,Ms7 3.4/5*

ISC 04 13:15:34.8±0.3,32.°14N±0.°03×104.°48E±0.°05,h10km,n79, σ1§01/88,mb4.2/17,1D,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.37**	**207**	⇓*i*Pg	**Pg**	**13 16 00.4**	**-0.7**
CD2				Sg	**Sg**	**13 16 19.2**	**+0.3**
CD2				smax			
	comp=N,6μm,0.7s						
CD2				smax			
	comp=E,4μm,0.7s						
LZH	**Lanzhou**	**3.98**	**353**	*e*Pn	**Pn**	**13 16 39.5**	**+3.7**
LZH				Pg	**Pg**	**13 16 48.8**	**-2.2**
LZH				Sn	**Sn**	**13 17 29.9**	**+7.4**
LZH				Sg	**Sg**	**13 17 40.8**	**-1.7**
LZH				smax			
	comp=N,260nm,0.8s						
LZH				smax			
	comp=E,620nm,0.5s						
LZH				LR	LR		
	comp=N,650nm,6.4s						
LZH				LR	LR		
	comp=E,550nm,8.2s						
LZH				LR	LR		
	comp=Z,700nm,8.3s						
XAN	**Xi'an**	**4.18**	**62**	Pn	**Pn**	**13 16 40.6**	**+1.9**
XAN				Pg	**Pg**	**13 16 50.1**	**-4.9**
XAN				Sg	**Sg**	**13 17 40.5**	**-8.7**
XAN				smax			
	comp=N,290nm,0.5s						
XAN				smax			
	comp=E,140nm,0.6s						
XAN				LR	LR		
	comp=Z,110nm,5.3s						
ENH	**Enshi**	**4.68**	**112**	*e*P	**Pn**	**13 16 47.8**	**+2.3**
GYA	**Guiyang**	**5.97**	**161**	Pn	**Pn**	**13 17 02.6**	**-0.7**
GYA				Sn	**Sn**	**13 18 13.9**	**+2.1**
GYA				Sg	**Sg**	**13 18 40.4**	**-6.2**
GYA				smax			
	comp=N,100nm,0.7s						
GYA				smax			
	comp=E,140nm,1.0s						
KMI	**Kunming**	**7.15**	**193**	Pg	**Pn**	**13 17 25.2**	**+5.7**
KMI				Sg	**Sn**	**13 18 40.3**	**-0.6**
KMI				smax			
	comp=N,22nm,0.8s						
KMI				smax			
	comp=E,23nm,0.9s						
KMI				LR	LR		
	comp=N,150nm,7.5s						
KMI				LR	LR		
	comp=E,270nm,9.4s						
GTA	**Gaotai**	**8.19**	**334**	*e*P	**Pn**	**13 17 35.8**	**+2.2**
GTA				pP		**13 17 40.0**	
GTA				sP		**13 17 43.0**	
GTA				S	**Sn**	**13 19 06.3**	**+0.1**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA				LR	LR		
	comp=N,200nm,9.2s						
GTA				LR	LR		
	comp=E,220nm,10.7s						
GTA				LR	LR		
	comp=Z,170nm,8.3s						
WHN	**Wuhan**	**8.59**	**98**	P	**Pn**	**13 17 53.2**	**+14**

WHN				S	Sn	13 19 08.8	-7.5	
WHN				LR	LR			
	comp=N,720nm,3.2s							
WHN				LR	LR			
	comp=E,400nm,2.2s							
WHN				LR	LR			
	comp=Z,420nm,8.2s							
CMAR	**Chiang Mai Arr**	**14.51**	**201**	Pn	**Pn**	13 19 00.1	-0.2	
	comp=Z,0.2nm,0.3s,baz=8,4,slow=9.4,SNR=3.5							
CMAR	**Chiang Mai Arr**	**14.51**	**201**	Pn	**Pn**	13 19 00.1	-0.2	
CMAR	**Chiang Mai Arr**	**14.51**	**201**	P	**Pn**	13 19 00.1	-0.1	
SONM	**Songino Array**	**15.75**	**5**	Pn	**Pn**	13 19 17.8	+1.2	
	comp=Z,0.1nm,0.3s,baz=186,slow=13,SNR=3.7							
SONM	**Songino Array**	**15.75**	**5**	Pn	**Pn**	13 19 17.8	+1.2	
SONM	**Songino Array**	**15.75**	**5**	P	**Pn**	13 19 17.8	+1.2	
GUN	**Gumba**	**16.65**	**260**	*eP*	**Pn**	13 19 28.8	+0.5	
	comp=Z,11nm,0.6s							
GUN	**Gumba**	**16.65**	**260**	*eP*	**Pn**	13 19 28.8	+0.5	
	comp=Z,11nm,0.6s							
PKI	**Pulchoki**	**17.15**	**260**	*eP*	**Pn**	13 19 33.9	-0.7	
PKI	**Pulchoki**	**17.15**	**260**	*eP*	**Pn**	13 19 34.5	-0.1	
	comp=Z,8.1nm,0.5s							
PKI	**Pulchoki**	**17.15**	**260**	*eP*	**Pn**	13 19 34.5	-0.1	
PKI				pmax	pmax			
	comp=Z,8.0nm,0.5s							
PKIN	**Phulchoki**	**17.16**	**260**	*eP*	**Pn**	13 19 34.5	-0.3	
	comp=Z,8.1nm,0.5s							
KKN	**Kakani**	**17.19**	**260**	*eP*	**Pn**	13 19 34.8	-0.3	
KKN	**Kakani**	**17.19**	**260**	*eP*	**Pn**	13 19 34.8	-0.3	
KKN	**Kakani**	**17.19**	**260**	*eP*	**Pn**	13 19 34.8	-0.3	
GKN	**Gorkha**	**17.66**	**262**	*eP*	**Pn**	13 19 41.7	+0.8	
	comp=Z,8.6nm,0.5s							
GKN	**Gorkha**	**17.66**	**262**	*eP*	**Pn**	13 19 41.7	+0.8	
	comp=Z,8.6nm,0.5s							
KOLN	**Koldanda**	**18.60**	**262**	*eP*	**Pn**	13 19 51.5	-1.0	
	comp=Z,14nm,0.9s							
KOLN	**Koldanda**	**18.60**	**262**	*eP*	**Pn**	13 19 51.5	-1.0	
	comp=Z,14nm,0.9s							
KSRS	**Korea Array**	**19.95**	**68**	P	**Pn**	13 20 07.1	-1.6	
	comp=Z,0.1nm,0.3s,baz=261,slow=10,SNR=3.1							
KSRS	**Korea Array**	**19.95**	**68**	P	**Pn**	13 20 07.1	-1.6	
JOW	**Kunigami**	**21.36**	**98**	LR	LR	13 27 52.2		
	comp=Z,234nm,21.7s,baz=242,slow=35							
MK31	**Makanchi Array**	**22.42**	**317**	*eP*	**P**	13 20 34.1	+0.6	
MK31	**Makanchi Array**	**22.42**	**317**	*eP*	**P**	13 20 34.1	+0.5	
MKAR	**Makanchi Array**	**22.42**	**317**	P	**P**	13 20 33.7	+0.2	
	comp=Z,1.3nm,0.6s,mb3.5,baz=117,slow=12,SNR=14							
MKAR	**Makanchi Array**	**22.42**	**317**	P	**P**	13 20 33.7	+0.2	
MKAR	**Makanchi Array**	**22.42**	**317**	P	**P**	13 20 33.7	+0.1	
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
KSH	**Kashi**	**24.19**	**296**	*eP*	**P**	13 20 55.8	+4.4	
KSH				pP		13 21 01.2		
KSH				pmax	pmax			
	comp=Z,200nm,5.6s							
AAK	**Ala-Archa**	**25.90**	**302**	LR	LR	13 33 34.5		
	comp=Z,31nm,18.4s,baz=182,slow=42							
ZAA0	**Zalesovo Array**	**25.94**	**333**	*eP*	**P**	13 21 07.6	+0.5	
ZALV	**Zalesovo Beam**	**25.94**	**333**	P	**P**	13 21 07.5	+0.4	
	comp=Z,9.2nm,0.6s,mb4.5,baz=128,slow=10,SNR=35							
ZALV	**Zalesovo Beam**	**25.94**	**333**	P	**P**	13 21 07.5	+0.4	
ZALV	**Zalesovo Beam**	**25.94**	**333**	P	**P**	13 21 07.6	+0.5	
ZALV				pmax	pmax			
	comp=Z,9.0nm,0.6s,mb4.5							
KURK	**Kurchatov**	**26.62**	**322**	P	**P**	13 21 14.4	+1.1	
	comp=Z,0.7nm,0.3s,mb3.7,baz=131,slow=9.0,SNR=4.5							
KURK	**Kurchatov**	**26.62**	**322**	P	**P**	13 21 14.4	+1.1	
KURK	**Kurchatov**	**26.62**	**322**	P	**P**	13 21 14.4	+1.1	
KURK				pmax	pmax			
	comp=Z,1.0nm,0.3s,mb3.8							
ABKAR	**Akbulak array**	**37.23**	**311**	*eP*	**P**	13 22 46.8	+0.5	
	comp=Z,1.3nm,0.8s,mb3.8							
ARU	**Arti**	**39.82**	**321**	*eP*	**P**	13 23 08.9	+0.9	
	comp=Z,2.8nm,0.6s,mb4.2							
ARU	**Arti**	**39.82**	**321**	*eP*	**P**	13 23 08.9	+0.9	
ARU				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.2							
ARCES	**ARCESS Array B**	**56.45**	**336**	P	**P**	13 25 16.4	+0.1	
	comp=Z,1.9nm,0.4s,mb4.5,baz=86,slow=8.1,SNR=19							
ARCES	**ARCESS Array B**	**56.45**	**336**	P	**P**	13 25 16.4	+0.1	
ARCES	**ARCESS Array B**	**56.45**	**336**	P	**P**	13 25 16.5	+0.2	
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.4s							
FINES	**FINESS Array B**	**56.89**	**326**	P	**P**	13 25 19.2	-0.4	
	comp=Z,3.0nm,0.7s,mb4.4,baz=104,slow=12,SNR=3.4							
FINES	**FINESS Array B**	**56.89**	**326**	P	**P**	13 25 19.2	-0.4	
FINES	**FINESS Array B**	**56.89**	**326**	P	**P**	13 25 19.2	-0.4	
FINES				pmax	pmax			
	comp=Z,3.0nm,0.7s							
AKASG	**Malin Array Be**	**56.91**	**313**	P	**P**	13 25 19.3	-0.6	
	comp=Z,1.5nm,0.5s,mb4.3,baz=64,slow=8.1,SNR=3.8							
AKASG	**Malin Array Be**	**56.91**	**313**	P	**P**	13 25 19.3	-0.6	
AKASG	**Malin Array Be**	**56.91**	**313**	P	**P**	13 25 19.3	-0.6	
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.5s							
WRAB	**Tennant Creek**	**59.15**	**147**	P	**P**	13 25 35.4	-0.5	
	comp=Z,3.0nm,0.6s,mb4.5							
WRAB	**Tennant Creek**	**59.15**	**147**	P	**P**	13 25 35.4	-0.5	
WRAB				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.5							
WRA	**Warramunga Ar**	**59.16**	**147**	P	**P**	13 25 34.9	-1.0	
	comp=Z,2.5nm,0.8s,mb4.3,baz=340,slow=7.4,SNR=21							
WRA	**Warramunga Ar**	**59.16**	**147**	P	**P**	13 25 34.9	-1.0	
WRA	**Warramunga Ar**	**59.16**	**147**	P	**P**	13 25 34.9	-1.0	
WRA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
WB2	**Warramunga Ar**	**59.16**	**147**	*eP*	**P**	13 25 35.1	-0.9	
ASAR	**Alice Springs**	**62.21**	**149**	P	**P**	13 25 56.0	-0.7	
	comp=Z,0.9nm,0.6s,mb4.1,baz=333,slow=7.4,SNR=5.1							
ASAR	**Alice Springs**	**62.21**	**149**	P	**P**	13 25 56.0	-0.7	
ASAR	**Alice Springs**	**62.21**	**149**	P	**P**	13 25 56.0	-0.7	
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
NB2	**NORSAR Subarra**	**63.96**	**327**	P	**P**	13 26 07.0	-0.9	
	comp=Z,1.1nm,0.6s,mb4.1,baz=72,slow=6.9							
NOA	**NORSAR Array B**	**63.96**	**327**	P	**P**	13 26 06.4	-1.5	
	comp=Z,0.9nm,0.6s,mb4.0,baz=72,slow=6.8,SNR=4.5							
NOA	**NORSAR Array B**	**63.96**	**327**	P	**P**	13 26 06.4	-1.5	
NOA	**NORSAR Array B**	**63.96**	**327**	P	**P**	13 26 06.4	-1.5	
NOA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
INK	**Inuvik**	**71.08**	**19**	P	**P**	13 26 51.9	-0.9	
	comp=Z,1.7nm,0.6s,mb4.1,baz=32,slow=7.9,SNR=4.2							
INK	**Inuvik**	**71.08**	**19**	P	**P**	13 26 51.9	-0.9	
INK	**Inuvik**	**71.08**	**19**	P	**P**	13 26 51.9	-0.9	
INK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
CDF	**Champ du Feu**	**71.10**	**316**	*eP*	**P**	13 26 53.3	+0.1	
	comp=Z,3.3nm,0.5s,mb4.2							
KMBO	**Kilima Mbogo**	**71.46**	**256**	P	**P**	13 26 55.5	-0.4	
	comp=Z,1.9nm,1.0s,mb4.0,baz=180,slow=24,SNR=4.4							
KMBO	**Kilima Mbogo**	**71.46**	**256**	P	**P**	13 26 55.5	-0.4	
KMBO	**Kilima Mbogo**	**71.46**	**256**	P	**P**	13 26 55.5	-0.4	
KMBO				pmax	pmax			
	comp=Z,2.0nm,1.0s							
CABF	**La Chapelle**	**72.65**	**314**	*eP*	**P**	13 27 02.9	+0.3	
LPG	**La Plagne**	**72.78**	**313**	*eP*	**P**	13 27 04.2	+0.8	
	comp=Z,11nm,0.4s,mb4.8							
LPL	**La Plagne**	**72.78**	**313**	*eP*	**P**	13 27 04.2	+0.8	
	comp=Z,15nm,0.5s,mb4.9							

*IDC **04** 13:22:37.7±1.3,59.98N×152.78W,h64km±14km,mb3.8/9, mb1 4.0/14,mb1mx3.8/30,mbtmp3.8/14,MS4.1/1, Ms1 4.1/1,ms1mx2.5/36,Error ellipse: s-maj=13.7km s-min=9.0km az=106.0*

*ISCJB **04** 13:22:38.3±0.4,59.92N±0.03×152.58W±0.07,h93km±4km, mb4.1/11,Error ellipse: s-maj=6.2km s-min=4.8km az=7.0*

*NEIC **04** 13:22:40.4,59.92N×152.55W,h80km,mb4.6/2,After AEIC.*

ISC 04 13:22:39.5±0.4,59°92N±0.03×152°61W±0.07,h83km±4km, n66,σ1°02/73,mb4.1/11,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSO	**Redoubt South**	**0.55**	**353**	*eP*	**Pn**	13 22 54.2	+0.3
CNPM	**Chi Poot**	**0.80**	**119**	P	**Pn**	13 22 56.9	+0.5
CNPM				S	**Sn**	13 23 10.1	+1.1
BRLK	**Bradley Lake**	**0.89**	**99**	P	**Pn**	13 22 57.3	0.0
BRLK				S	**Sn**	13 23 11.5	+0.8
SLKM	**Skilak Lake**	**1.33**	**63**	P	**Pn**	13 23 02.9	+0.2
SEW	**Seward**	**1.60**	**82**	P	**Pn**	13 23 05.5	-0.6
FIB	**Fire Island**	**1.74**	**43**	P	**Pn**	13 23 09.4	+1.5
SUA	**Susitna One**	**1.80**	**30**	P	**Pn**	13 23 09.3	+0.5
SUA				S	**Sn**	13 23 32.5	+1.5
SVW2	**Sparrevohn**	**1.89**	**310**	*eP*	**Pn**	13 23 09.5	-0.3
SKT	**Skwentna**	**2.13**	**14**	P	**Pn**	13 23 13.2	+0.1
SKT				S	**Sn**	13 23 40.3	+1.4
KDAK	**Kodiak Island**	**2.14**	**180**	P	**Pn**	13 23 12.6	-0.7
	11nm,0.3s,baz=37,slow=7.2,SNR=513						
KDAK				S	**Sn**	13 23 38.3	-0.8
	45nm,0.3s,baz=17,slow=12,SNR=20						
KDAK	**Kodiak Island**	**2.14**	**180**	P	**Pn**	13 23 12.6	-0.7
PMR	**Palmer**	**2.40**	**44**	*eP*	**Pn**	13 23 16.4	-0.2
OHAK	**Old Harbor**	**2.73**	**188**	*eP*	**Pn**	13 23 21.9	+0.8
OHAK				S	**Sn**	13 23 50.5	-2.6
SML	**Sawmill**	**2.82**	**46**	P	**Pn**	13 23 21.9	-0.4
PPLA	**Purkeypile**	**3.00**	**4**	P	**Pn**	13 23 26.1	+1.5
SCM	**Sheep Creek Mo**	**3.22**	**51**	P	**Pn**	13 23 27.3	-0.4
MID	**Middleton Isla**	**3.22**	**96**	P	**Pn**	13 23 26.9	-0.8
TT01	**Tatalina**	**3.42**	**333**	P	**Pn**	13 23 30.2	-0.1
EYAK	**Cordova Ski Ar**	**3.48**	**77**	P	**Pn**	13 23 29.4	-1.8
DIV	**Divide**	**3.59**	**67**	P	**Pn**	13 23 31.6	-1.2
TRF	**Thorofare Moun**	**3.71**	**16**	P	**Pn**	13 23 35.6	+1.2
RND	**Reindeer**	**3.93**	**25**	P	**Pn**	13 23 37.8	+0.5
DHY	**Denali Highway**	**4.04**	**36**	P	**Pn**	13 23 39.0	+0.2
BMRM	**Bremner River**	**4.11**	**72**	P	**Pn**	13 23 38.1	-1.6
MCK	**McKinley**	**4.21**	**23**	P	**Pn**	13 23 41.2	+0.1
BPAW	**Bear Paw Mtn.**	**4.27**	**10**	P	**Pn**	13 23 41.2	-0.7
PAX	**Paxson**	**4.60**	**45**	*eP*	**Pn**	13 23 44.6	-1.7
CHGN	**Chignik**	**4.75**	**223**	*eP*	**Pn**	13 23 49.6	+1.0
MENT	**Mentasta**	**5.23**	**51**	*eP*	**Pn**	13 23 55.0	0.0
COLA	**College**	**5.44**	**22**	*eP*	**Pn**	13 23 57.5	-0.4
	27nm,0.3s						
DOT	**Dot Lake**	**5.52**	**44**	*eP*	**Pn**	13 23 58.5	-0.4
	67nm,0.6s						
ILAR	**Eielson Array**	**5.55**	**26**	P	**Pn**	13 23 58.9	-0.4
	4.4nm,0.3s,baz=221,slow=14,SNR=104						
ILAR				S	**Sn**	13 24 58.8	-2.8
	2.4nm,0.3s,baz=203,slow=18,SNR=5.6						
ILAR	**Eielson Array**	**5.55**	**26**	P	**Pn**	13 23 58.9	-0.4
ILAR				S	**Sn**	13 24 58.8	-2.8
PNL	**Peninsula**	**6.68**	**86**	*eP*	**Pn**	13 24 14.2	-0.6
	186nm,0.3s						
EGAK	**Eagle**	**7.22**	**43**	*eP*	**Pn**	13 24 20.9	-1.1
	9.9nm,0.6s						
COLD	**Coldfoot**	**7.42**	**7**	*eP*	**Pn**	13 24 24.8	+0.1
	7.4nm,0.6s						
DAWY	**Dawson**	**7.48**	**51**	*eP*	**Pn**	13 24 25.4	-0.2
SKAG	**Skagway**	**8.75**	**86**	*eP*	**Pn**	13 24 43.2	+0.2
DLBC	**Dease Lake**	**11.67**	**87**	P	**Pn**	13 25 23.8	+1.2
	2.5nm,0.3s,baz=277,slow=11,SNR=56						
DLBC				S	**Sn**	13 27 29.9	-0.8
	1.9nm,0.3s,baz=99,slow=24,SNR=7.6						
DLBC	**Dease Lake**	**11.67**	**87**	P	**Pn**	13 25 23.8	+1.2
DLBC				S	**Sn**	13 27 29.9	-0.8
INK	**Inuvik**	**11.79**	**37**	P	**Pn**	13 25 24.3	+0.1
	0.1nm,0.3s,baz=224,slow=12,SNR=6.0						
INK	**Inuvik**	**11.79**	**37**	P	**Pn**	13 25 24.3	+0.1
BBB	**Bella Bella**	**15.65**	**109**	LR	LR	13 31 12.4	
	comp=Z,841nm,21.6s,baz=246,slow=33						
YKA	**Yellowknife Ar**	**18.31**	**66**	P	**Pn**	13 26 46.5	-0.8
	0.7nm,0.3s,baz=277,slow=9.7,SNR=15						
YKA	**Yellowknife Ar**	**18.31**	**66**	P	**Pn**	13 26 46.5	-0.9
RES	**Resolute Bay**	**25.27**	**32**	P	**P**	13 27 56.6	-0.7
	1.1nm,0.7s,mb3.4,baz=219,slow=6.5,SNR=3.0						
RES	**Resolute Bay**	**25.27**	**32**	P	**P**	13 27 56.6	-0.7
PETK	**Petropavlovsk-**	**27.66**	**278**	P	**P**	13 28 18.4	-0.7
	2.0nm,0.7s,mb3.8,baz=68,slow=14,SNR=5.4						
PETK	**Petropavlovsk-**	**27.66**	**278**	P	**P**	13 28 18.4	-0.6
IMW	**Indian Meadow**	**29.67**	**104**	*eP*	**P**	13 28 39.3	+2.4
	6.1nm,0.8s,mb4.3						
NVAR	**Mina Array Bea**	**30.51**	**119**	P	**P**	13 28 46.4	+2.0
	1.3nm,0.8s,mb3.7,baz=312,slow=8.3,SNR=6.3						
NVAR	**Mina Array Bea**	**30.51**	**119**	P	**P**	13 28 46.4	+2.0
PDAR	**Pinedale Array**	**31.18**	**104**	P	**P**	13 28 52.0	+1.7
	1.4nm,0.6s,mb3.9,baz=310,slow=5.3,SNR=12						
PDAR	**Pinedale Array**	**31.18**	**104**	P	**P**	13 28 52.0	+1.7
TXAR	**Lajitas Array**	**44.77**	**111**	P	**P**	13 30 45.9	+1.4
	0.5nm,0.6s,mb3.4,baz=311,slow=6.5,SNR=6.7						
TXAR	**Lajitas Array**	**44.77**	**111**	P	**P**	13 30 45.9	+1.4
JCT	**Junction City**	**45.66**	**106**	*eP*	**P**	13 30 52.7	+1.1
	10nm,0.7s,mb4.7						
KSRS	**Korea Array**	**53.39**	**283**	P	**P**	13 31 50.3	+0.2
	2.2nm,0.4s,mb4.5,baz=42,slow=7.7,SNR=10						
SONM	**Songino Array**	**55.00**	**306**	P	**P**	13 32 02.3	+0.6
	4.7nm,0.7s,mb4.7,baz=41,slow=6.7,SNR=24						
SONM	**Songino Array**	**55.00**	**306**	P	**P**	13 32 02.3	+0.6
ZALV	**Zalesovo Beam**	**57.56**	**324**	P	**P**	13 32 18.9	-0.8
	1.3nm,0.4s,mb4.3,baz=28,slow=8.1,SNR=6.4						
ZALV	**Zalesovo Beam**	**57.56**	**324**	P	**P**	13 32 18.9	-0.8
BVAR	**Borovoye Array**	**62.23**	**332**	P	**P**	13 32 50.1	-1.7
	1.1nm,0.5s,mb4.2,baz=38,slow=7.5,SNR=6.7						
BVAR	**Borovoye Array**	**62.23**	**332**	P	**P**	13 32 50.1	-1.7
QSPA	**South Pole Qui**	**149.72**	**180**	PKPbc	PKPbc	13 42 17.3	-0.2
	2.0nm,1.1s,baz=68,slow=0.1,SNR=3.2						
QSPA	**South Pole Qui**	**149.72**	**180**	PKPbc	PKPbc	13 42 17.3	-0.2

MEX 04 13:31:08.5±1.1,15.72N×94.05W,h75km±17km,MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.80**	**91**	*eP*	Pn	13 31 23.3	-1.6
PCIG				*i* S	Sn	13 31 36.0	-1.1
TGIG		**1.38**	**40**	*i* P	Pn	13 31 30.4	-1.8
TGIG				*i* S	Sn	13 31 47.1	-2.8
CMIG	**Matias Romero**	**1.58**	**330**	*i* P	Pn	13 31 33.9	-0.8
CMIG				*i* S	Sn	13 31 53.5	-1.0
SCX	**San Cristobal**	**1.70**	**53**	*i* P	Pn	13 31 34.1	-2.1
SCX				*i* S	Sn	13 31 55.2	-2.1
CCIG	**Comitan**	**1.93**	**73**	*eP*	Pn	13 31 38.7	-0.6
CCIG				*i* S	Sn	13 32 01.3	-1.4
HUIG	**Huatulco**	**1.98**	**272**	*i* P	Pn	13 31 38.6	-1.3
HUIG				*i* S	Sn	13 32 01.3	-2.6
VHO	**Vista Hermosa**	**2.90**	**298**	*i* P	Pn	13 31 49.3	-3.1
VHO				*i* S	Sn	13 32 24.7	-1.6
PNIG	**Pinotepa**	**3.97**	**280**	*i* P	Pn	13 32 06.3	-0.7
PNIG				*i* S	Sn	13 32 51.2	-1.2
UTMO	**Huajuapan**	**4.16**	**301**	*i* P	Pn	13 32 09.1	-0.5

*IDC **04** 13:37:41.0±15.0,6.95N×76.90W,h0km,mb1 3.4/1, mb1mx3.1/21,mbtmp3.7/1,ML2.3/1,Error ellipse: s-maj=860.5km s-min=42.8km az=28.0*

*ISCJB **04** 13:37:52.5±1.0,6.92N±0.07×73.08W±0.09,h175km±10km, Error ellipse: s-maj=17.9km s-min=7.8km az=34.1*

*FUNV **04** 13:37:53.4,6.81N×73.17W,h173km,MW3.0*

ISC 04 13:37:53.2±1.0,6°92N±0°07×73°09W±0°10,h173km±10km, n15,σ0°80/18,1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.22**	**39**	*i* P	**Pn**	13 38 23.1	+1.1
CAPV				*e*S	**Sn**	13 38 44.3	+0.2
ROSC	**El Rosal**	**2.39**	**211**	Pn	**Pn**	13 38 34.5	+0.2
	5.9nm,0.3s,baz=87,slow=20,SNR=11						
ROSC				Sn	**Sn**	13 39 05.4	-0.7
	12nm,0.3s,baz=66,slow=20,SNR=9.3						
VIGV	**El Vigia**	**2.56**	**42**	*eP*	**Pn**	13 38 37.0	+0.7
VIGV				*e*S	**Sn**	13 39 09.8	+0.2
SOCV	**Socops**	**2.60**	**58**	*eP*	**Pn**	13 38 37.6	+0.9
SOCV				*e*S	**Sn**	13 39 09.4	-0.9
VIRV	**Villa del Rosa**	**3.63**	**11**	*eP*	**Pn**	13 38 49.5	+0.1
VIRV				*e*S	**Sn**	13 39 31.4	-1.8
QARV	**Quebrada Arrib**	**4.14**	**38**	*eP*	**Pn**	13 38 57.0	+1.2
CURV	**Curarigua**	**4.36**	**45**	*eP*	**Pn**	13 38 59.5	+0.8
BAUV	**El Baul**	**5.39**	**68**	*eP*	**Pn**	13 39 11.4	-0.7
MAPV	**Macapo**	**5.42**	**57**	*eP*	**Pn**	13 39 13.2	+0.6
MONV	**Montecano**	**5.88**	**31**	*eP*	**Pn**	13 39 18.2	-0.3
TURV	**Turiamo**	**6.26**	**56**	*eP*	**Pn**	13 39 22.8	-0.9
CAOV	**Caicara del Or**	**6.73**	**86**	*eP*	**Pn**	13 39 28.8	-0.9
CUPV	**Cespira**	**7.87**	**66**	*eP*	**Pn**	13 39 44.9	+0.1
ASAR	**Alice Springs**	**149.19**	**234**	PKPbc	PKPbc	13 57 23.0	+0.9
	0.7nm,1.2s,baz=129,slow=3.8,SNR=4.1						
WRA	**Warramunga Arr**	**150.41**	**241**	PKPbc	PKPbc	13 57 26.3	+1.2
	0.6nm,1.1s,baz=106,slow=3.0,SNR=5.3						

IDC 04 13:43:54.4±3.7,10.48S×165.76E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.6/18,mbtmp3.7/4,Error ellipse: s-maj=159.5km s-min=31.3km az=136.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.69**	**249**	P	P	13 50 20.6	+0.6
	0.5nm,0.5s,baz=80,slow=9.0,SNR=9.2						
ASAR	**Alice Springs**	**33.06**	**242**	P	P	13 50 31.5	-0.5
	0.3nm,0.4s,baz=59,slow=11,SNR=5.0						
ILAR	**Eielson Array**	**82.97**	**19**	P	P	13 56 21.2	+0.2
	0.1nm,0.5s,baz=230,slow=7.0,SNR=6.1						
MKAR	**Makanchi Array**	**93.11**	**317**	P	P	13 57 10.2	-0.1
	0.3nm,0.2s,baz=69,slow=6.7,SNR=3.8						

WEL 04 13:52:46.0±0.7,37.78S×176.26E,h185km±6km,ML3.5/3, Error ellipse: s-maj=7.1km s-min=4.3km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.83**	**125**	PN	Pn	13 53 12.9	-0.1
URZ				SN	Sn	13 53 33.5	-0.4
OTVZ	**Oturere**	**1.46**	**198**	PN	Pn	13 53 18.5	+0.6
KNZ	**Kokohu**	**1.67**	**138**	PN	Pn	13 53 20.1	+0.2
KNZ				SN	Sn	13 53 45.9	-0.3
KAHZ	**Kahuranaki**	**2.07**	**167**	PN	Pn	13 53 24.2	+0.2
WPHZ	**Waipukurau**	**2.29**	**176**	PN	Pn	13 53 25.8	-0.6
PXZ	**Pawanui**	**2.30**	**168**	PN	Pn	13 53 26.0	-0.5
PXZ				SN	Sn	13 53 57.2	-1.1
MRZ	**Mangatainoka R**	**2.92**	**190**	*e*SN	Sn	13 54 07.9	-3.4
THZ	**Tophouse**	**4.74**	**212**	PN	Pn	13 53 55.1	-1.4

*ISK **04** 14:04:54.9,38.49N×39.46E,h5km,MD3.0*

*ISCJB **04** 14:04:56.0±0.7,38.54N±0.03×39.40E±0.03,h2km±6km, Error ellipse: s-maj=5.7km s-min=4.5km az=15.0*

*DDA **04** 14:04:55.7,38.53N×39.39E,h21km±2km,Md3.0*

*CSEM **04** 14:04:56.4±0.4,38.51N×39.37E,h5km,MD3.0,Error ellipse: s-maj=8.7km s-min=7.0km az=68.0*

ISC 04 14:04:56.5±0.6,38°54N±0°03×39°39E±0°04,h4km±5km, n32,σ1°33/47,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.17**	**203**	*e*PG	**Pg**	14 04 58.5	-1.3
SVRC				*e*SG	**Sg**	14 05 01.5	-0.6
SVRC	**Sivrice-ELAZID**	**0.17**	**203**	*e*Pg	**Pg**	14 04 58.5	-1.3
SVRC				*e*Sg	**Sg**	14 05 01.5	-0.6
ELZG	**Elazig**	**0.32**	**263**	*i* P	**Pg**	14 05 02.7	+0.1
ELZG				*i* S	**Sg**	14 05 07.6	+0.8
ELZG	**Elazig**	**0.32**	**263**	*i* P	**Pg**	14 05 02.7	0.0
ELZG				*i* S	**Sg**	14 05 07.6	+0.7
PTK	**Pertek**	**0.35**	**0**	*e*PG	**Pg**	14 05 03.3	0.0
PTK	**Pertek**	**0.35**	**0**	*e*Pg	**Pg**	14 05 03.3	0.0
MYA	**Malataya**	**0.79**	**255**	*e*PG	**Pg**	14 05 11.4	-0.2
MYA	**Malataya**	**0.79**	**255**	*e*Pg	**Pg**	14 05 11.4	-0.2
DIYA	**Diyarbakir**	**0.84**	**137**	*i* P	**Pg**	14 05 13.4	+0.8
DIYA				*i* S	**Sg**	14 05 25.4	+1.9
DIYA	**Diyarbakir**	**0.84**	**137**	*i* P	**Pg**	14 05 13.4	+0.8
DIYA				*i* S	**Sg**	14 05 25.4	+1.9
KEMA	**Kemaliye**	**1.01**	**316**	*i* P	**Pg**	14 05 15.7	-0.2
KEMA				*i* S	**Sg**	14 05 30.4	+1.4
KEMA	**Kemaliye**	**1.01**	**316**	*i* P	**Pg**	14 05 15.7	-0.2
KEMA				*i* S	**Sg**

AAK	**Ala-Archa**	**3.23**	**10**	Pn		**Pn**	**14 20 59.3**	**+0.4**
	0.1nm,0.3s,baz=162,slow=6.3,SNR=60							
AAK				Sn		**Sn**	**14 21 40.9**	**+4.9**
	0.1nm,0.3s,baz=300,slow=20,SNR=9.0							
AAK				Lg			14 21 44.9	
	0.2nm,0.3s,baz=310,slow=21,SNR=12							
AAK	**Ala-Archa**	**3.23**	**10**	*e*P		**Pn**	**14 20 58.7**	**-0.2**
AAK				Sn		**Sn**	**14 21 40.9**	**+4.9**
AAK				Lg			14 21 44.9	
KBK	**Karagaybulak**	**3.33**	**15**	P		**Pn**	**14 21 00.8**	**+0.7**
	SNR=24							
CHMS	**Chumysh**	**3.63**	**12**	P		**Pn**	**14 21 04.5**	**+0.2**
	SNR=7.3							
TKM2	**Tokmak 2**	**3.74**	**21**	⇑Pn		**Pn**	**14 21 05.5**	**-0.3**
	8.3nm,0.6s							
TKM2				⇑Sn		**Sn**	**14 21 59.4**	**+11**
	26nm,0.6s							
TKM2	**Tokmak 2**	**3.74**	**21**	*e*P		**Pn**	**14 21 05.0**	**-0.7**
USP	**Ospenovka**	**3.86**	**8**	P		**Pn**	**14 21 13.5**	**+6.1**
	SNR=11							
KK31	**Karatay Array**	**4.39**	**327**	Pn		**Pn**	**14 21 15.0**	**+0.2**
	4.8nm,0.6s,baz=132,slow=14,SNR=25							
KK31				⇓Sn		**Sn**	**14 22 09.0**	**+4.3**
	17nm,0.6s,baz=138,slow=25,SNR=5.4							
KK31				⇑Lg			14 22 22.6	
	8.7nm,0.5s,baz=138,slow=29,SNR=4.0							
KKAR	**Karatay Array**	**4.39**	**327**	*e*P		**Pn**	**14 21 15.4**	**+0.6**
SDNR	**Sundarnagar**	**8.35**	**161**	*ex*		**Sn**	**14 23 42.0**	**0.0**
MKAR	**Makanchi Array**	**9.63**	**38**	Pn		**Pn**	**14 22 26.8**	**+0.3**
	0.1nm,0.3s,baz=224,slow=10,SNR=2.5							
MKAR	**Makanchi Array**	**9.63**	**38**	Pn		**Pn**	**14 22 26.8**	**+0.3**
BVAR	**Borovoye Array**	**13.78**	**351**	Pn		**Pn**	**14 23 20.1**	**-3.0**
	0.1nm,0.3s,baz=171,slow=10,SNR=3.5							
BVAR	**Borovoye Array**	**13.78**	**351**	Pn		**Pn**	**14 23 20.1**	**-3.0**
ABKAR	**Akbulak array**	**13.90**	**319**	P		**Pn**	**14 23 22.9**	**-1.9**
	1.7nm,0.8s							
NB2	**NORSAR Subarra**	**43.40**	**321**	P		**P**	**14 28 08.6**	**+0.1**
	comp=Z,0.1nm,0.6s,mb2.7,baz=92,slow=8.6							
NOA	**NORSAR Array B**	**43.40**	**321**	P		**P**	**14 28 09.0**	**+0.5**
	comp=Z,1.0nm,0.6s,mb3.7,baz=91,slow=8.0,SNR=3.9							
NOA	**NORSAR Array B**	**43.40**	**321**	P		**P**	**14 28 09.0**	**+0.5**
TORD	**Torodi Ar. Bea**	**67.95**	**269**	P		**P**	**14 31 06.0**	**+0.8**
	comp=Z,0.5nm,0.6s,mb3.7,baz=45,slow=5.3,SNR=5.6							
TORD	**Torodi Ar. Bea**	**67.95**	**269**	P		**P**	**14 31 06.0**	**+0.8**
ILAR	**Eielson Array**	**71.34**	**17**	P		**P**	**14 31 24.6**	**-0.7**
	comp=Z,0.3nm,0.8s,mb3.3,baz=313,slow=5.5,SNR=4.2							
ILAR	**Eielson Array**	**71.34**	**17**	P		**P**	**14 31 24.6**	**-0.7**
WRA	**Warramunga Arr**	**81.77**	**124**	P		**P**	**14 32 24.8**	**0.0**
	comp=Z,0.2nm,0.5s,mb3.3,baz=311,slow=3.8,SNR=6.4							
WRA	**Warramunga Arr**	**81.77**	**124**	P		**P**	**14 32 24.8**	**0.0**
ASAR	**Alice Springs**	**84.22**	**127**	P		**P**	**14 32 37.2**	**-0.2**
	comp=Z,0.5nm,0.9s,mb3.6,baz=322,slow=4.9,SNR=5.8							
ASAR	**Alice Springs**	**84.22**	**127**	P		**P**	**14 32 37.2**	**-0.2**

*LDG **04** 14:22:20.6±0.2,39.41N×73.93E,h10km,Mb4.6/15, Ms3.6/7,Error ellipse: s-maj=7.6km s-min=4.4km az=161.0*
*ISCJB **04** 14:22:20.7±0.2,39.51N±0.03×74.07E±0.04,h10km, mb4.5/63,MS3.7/24,Error ellipse: s-maj=4.7km s-min=3.1km az=137.8*
*IDC **04** 14:22:20.9±0.5,39.44N×74.02E,h0km,mb4.5/21, mb1 4.6/26,mb1mx4.5/31,mbtmp4.5/26,ML4.0/6,MS3.6/17, Ms1 3.6/17,ms1mx3.4/34,Error ellipse: s-maj=11.1km s-min=8.4km az=106.0*
*NEIC **04** 14:22:23.9±1.3,39.44N×74.06E,h20km±9km,mb4.7/33, Error ellipse: s-maj=5.4km s-min=3.2km az=57.0*
*MOS **04** 14:22:24.6±0.9,39.46N×73.98E,h37km,mb4.8/48,Error ellipse: s-maj=8.1km s-min=5.1km az=116.5*
*NNC **04** 14:22:26.5±2.2,39.82N×73.70E,h0km,mb4.8,mpv4.6, Error ellipse: s-maj=21.8km s-min=9.2km az=12.0*
*BJI **04** 14:22:30.1,39.70N×74.58E,h29km,mB4.6/10,mb4.2/16, ML4.6/6,Ms4.4/12,Ms7 4.2/11*

ISC 04 14:22:22.7±0.2,39.50N±0.03×74.06E±0.04,h10km,n302, σ1§04/300,mb4.5/63,MS3.7/24,14C-15D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSH	**Kashi**	**1.48**	**89**	⇓*i*	Pg	**Pn**	**14 22 46.1**	**-3.3**
KSH					Sg	**Sn**	**14 23 03.3**	**-5.5**
KSH					smax			
	comp=N,6μm,1.0s							
KSH					smax			
	comp=E,4μm,0.5s							
AAK	**Ala-Archa**	**3.15**	**6**	Pn		**Pn**	**14 23 15.7**	**+3.5**
	comp=E,1.2nm,0.3s,baz=160,slow=7.0,SNR=46							
AAK				Sn		**Sn**	**14 23 57.4**	**+7.5**
	comp=E,1.9nm,0.3s,baz=307,slow=22,SNR=10							
AAK				Lg			14 24 02.1	
	comp=E,1.9nm,0.3s,baz=14,slow=12,SNR=7.9							
AAK				LR		LR	14 24 02.3	
	comp=E,377nm,18.9s,baz=185,slow=32							
AAK	**Ala-Archa**	**3.15**	**6**	*e*Pn		**Pn**	**14 23 15.4**	**+3.2**
AAK				Sn		**Sn**	**14 23 57.4**	**+7.5**
AAK				Lg			14 24 02.1	
AAK				LR		LR	14 24 02.3	
AAK	**Ala-Archa**	**3.15**	**6**	*e*PN		**Pn**	**14 23 15.5**	**+3.3**
AAK							14 23 57.4	
EKS2	**Erkin-Say**	**3.16**	**356**	*e*P		**Pn**	**14 23 13.9**	**+1.4**
EKS2	**Erkin-Say**	**3.16**	**356**	*e*PN		**Pn**	**14 23 13.9**	**+1.4**
FRU	**Bishkek**	**3.36**	**7**	⇑*e*PN		**Pn**	**14 23 16.0**	**+0.9**
FRU				*e*S		**Sn**	**14 23 59.0**	**+4.0**
FRU				pmax	pmax			
	comp=Z,1μm,1.8s							
FRU				pmax	pmax			
	comp=E,4μm,2.1s							
FRU				pmax	pmax			
	comp=N,10μm,3.0s							
FRU				pmax	pmax			
	comp=N,10μm,8.0s							
TKM2	**Tokmak 2**	**3.61**	**18**	⇓Pn		**Pn**	**14 23 22.2**	**+3.6**
	comp=N,103nm,0.5s							
TKM2				⇓Lg			14 24 11.0	
	comp=N,1μm,1.3s							
TKM2	**Tokmak 2**	**3.61**	**18**	*e*P		**Pn**	**14 23 21.5**	**+2.9**
TKM2	**Tokmak 2**	**3.61**	**18**	*e*PN		**Pn**	**14 23 21.5**	**+2.9**
KNDC	**Almaty**	**4.31**	**30**	⇓Pn		**Pn**	**14 23 32.7**	**+4.4**
	comp=N,622nm,1.2s							
KNDC				⇑Lg			14 24 39.1	
	comp=N,7μm,1.4s							
AAA	**Alma-Ata**	**4.35**	**29**	*i* PN		**Pg**	**14 23 40.9**	**-5.1**
AAA				pmax	pmax			
	comp=Z,565nm,0.6s							
KK31	**Karatay Array**	**4.48**	**325**	⇑Pn		**Pn**	**14 23 31.9**	**+1.4**
	comp=Z,21nm,0.4s,baz=131,slow=13,SNR=47							
KK31				⇓Pg		**Pg**	**14 23 42.6**	**-5.9**
	comp=Z,32nm,0.3s,baz=140,slow=14,SNR=12							
KK31				⇓Sn		**Sn**	**14 24 25.3**	**+2.6**
	comp=Z,254nm,0.5s							
KK31				⇓Lg			14 24 37.6	
	comp=Z,290nm,0.7s,baz=130,slow=27,SNR=4.0							
KK31	**Karatay Array**	**4.48**	**325**	PN		**Pn**	**14 23 31.9**	**+1.3**
KK31				pmax	pmax			
	comp=Z,47nm,0.3s							
KK31				pmax	pmax			
	comp=Z,234nm,0.4s							
CHCP	**Chirah Chowk**	**5.87**	**186**	P		**Pn**	**14 23 57.0**	**+7.4**
CEP	**Cherat**	**5.92**	**198**	P		**Pn**	**14 23 57.3**	**+6.9**
CEP				S		**Sn**	**14 25 07.0**	**+8.7**
KBL	**Kabul**	**6.37**	**221**	*e*P		**Pn**	**14 24 02.0**	**+5.4**
	comp=Z,36nm,0.6s							
KBL	**Kabul**	**6.37**	**221**	*e*PN		**Pn**	**14 24 02.0**	**+5.4**
KBL				pmax	pmax			
	comp=Z,37nm,0.6s							
THW	**Thamme Wali**	**6.95**	**196**	P		**Pn**	**14 24 10.7**	**+6.2**
SARP	**Sargodha**	**7.65**	**189**	P		**Pn**	**14 24 18.9**	**+4.8**
BHK	**Bhakra**	**8.29**	**166**	*ex*		x	14 26 04.2	
SDNR	**Sundarnagar**	**8.33**	**163**	*ex*		x	14 26 02.0	
SMLA	**Simla**	**8.73**	**162**	*i* P		**Pn**	**14 24 29.3**	**+0.4**
SMLA				*i* x		x	14 26 06.2	
SMLA				AML		AML	14 26 10.6	
	comp=E,1μm,0.6s							
SMLA				AML		AML	14 26 11.6	
	comp=N,1μm,0.3s							
MK31	**Makanchi Array**	**9.45**	**37**	⇑Pn		**Pn**	**14 24 45.4**	**+6.7**
	comp=N,4.4nm,0.7s,baz=219,slow=14,SNR=6.4							
MK31				⇑Lg			14 27 23.3	
	comp=N,119nm,1.2s,baz=220,slow=23,SNR=6.8							
MK31	**Makanchi Array**	**9.45**	**37**	*e*P		**Pn**	**14 24 38.8**	**+0.1**
MK31	**Makanchi Array**	**9.45**	**37**	*e*P		**Pn**	**14 24 38.8**	**+0.1**
MKAR	**Makanchi Array**	**9.45**	**37**	Pn		**Pn**	**14 24 41.0**	**+2.3**
	comp=N,0.4nm,0.3s,baz=207,slow=12,SNR=16							
MKAR				Lg			14 27 21.7	
	comp=N,0.6nm,0.3s,baz=220,slow=21,SNR=7.2							
MKAR				LR		LR	14 28 35.2	
	comp=N,454nm,20.8s,baz=225,slow=39							
MKAR	**Makanchi Array**	**9.45**	**37**	Pn		**Pn**	**14 24 41.0**	**+2.3**
MKAR				Lg			14 27 21.7	
MKAR				LR		LR	14 28 35.2	
MKAR	**Makanchi Array**	**9.45**	**37**	P		**Pn**	**14 24 41.1**	**+2.4**
MKAR				MLR		MLR		
	comp=Z,454nm,20.8s							
DDI	**Dehra Dun**	**9.73**	**159**	*e*PKP		**Pn**	**14 24 43.0**	**+0.4**
DDI				*ex*		x	14 27 26.0	
WMQ	**Urumqi**	**11.08**	**63**	*e*P		**Pn**	**14 25 11.4**	**+10**
WMQ				pmax	pmax			
	comp=Z,13nm,0.8s							
WMQ				smax				
	comp=N,24nm,1.0s							
WMQ				smax				
	comp=E,31nm,1.0s							
WMQ				LR		LR		
	comp=N,170nm,4.0s							
WMQ				LR		LR		
	comp=E,130nm,4.2s							
WMQ				LR		LR		
	comp=Z,370nm,14.5s							
NDI	**New Delhi**	**11.10**	**165**	*e*PKP		**Pn**	**14 25 02.0**	**+0.6**
NDI				*e*S		**Sn**	**14 26 56.5**	**-9.2**
NDI				AML		AML	14 28 40.1	
	comp=N,33nm,0.5s							
NDI				AML		AML	14 28 46.5	
	comp=E,31nm,0.5s							
KURK	**Kurchatov**	**11.66**	**14**	Pn		**Pn**	**14 25 07.0**	**-2.0**
	comp=E,0.1nm,0.3s,baz=204,slow=12,SNR=11							
KURK				Sn		**Sn**	**14 27 13.9**	**-5.3**
	comp=E,0.1nm,0.3s,baz=199,slow=29,SNR=4.2							
KURK				Lg			14 28 27.6	
	comp=E,0.5nm,0.3s,baz=206,slow=29,SNR=13							
KURK	**Kurchatov**	**11.66**	**14**	*e*P		**Pn**	**14 25 08.7**	**-0.4**
KURK				Sn		**Sn**	**14 27 13.9**	**-5.3**
KURK				Lg			14 28 27.6	
KURK	**Kurchatov**	**11.66**	**14**	*e*P		**Pn**	**14 25 08.7**	**-0.3**
KURK							14 27 14.0	
VOSK	**Vostochnaya**	**13.39**	**352**	⇑Pn		**Pn**	**14 25 30.9**	**-1.8**
	comp=E,6.2nm,0.6s							
DANN	**Dangsing**	**13.72**	**141**	*e*P		**Pn**	**14 25 37.2**	**-0.1**
	comp=E,31nm,0.4s							
DANN	**Dangsing**	**13.72**	**141**	*e*P		**Pn**	**14 25 37.2**	**-0.1**
BVAR	**Borovoye Array**	**13.76**	**351**	Pn		**Pn**	**14 25 35.8**	**-1.8**
	comp=E,2.0nm,0.3s,baz=157,slow=12,SNR=30							
BVAR				Lg			14 29 30.5	
	comp=E,0.9nm,0.3s,baz=162,slow=20,SNR=4.9							
BVAR	**Borovoye Array**	**13.76**	**351**	Pn		**Pn**	**14 25 35.8**	**-1.8**
BVAR				Lg			14 29 30.5	
BVAR	**Borovoye Array**	**13.76**	**351**	P		**Pn**	**14 25 35.8**	**-1.8**
BVAR				pmax	pmax			
	comp=Z,2.0nm,0.3s							
BVB5	**Borovoye Array**	**13.76**	**351**	⇓Pn		**Pn**	**14 25 36.2**	**-1.5**
	comp=Z,6.1nm,0.8s							
BRVK	**Borovoye**	**13.81**	**350**	⇑Pn		**Pn**	**14 25 36.6**	**-1.7**
	comp=Z,68nm,0.9s							
BRVK	**Borovoye**	**13.81**	**350**	*e*P		**Pn**	**14 25 36.2**	**-2.0**
	comp=Z,34nm,0.7s							
BRVK	**Borovoye**	**13.81**	**350**	*e*P		**Pn**	**14 25 36.2**	**-2.1**
BRVK				pmax	pmax			
	comp=Z,33nm,0.7s							
ZRNK	**Zerenda**	**13.89**	**347**	⇓Pn		**Pn**	**14 25 37.9**	**-1.6**
	comp=Z,15nm,0.8s							
ZRNK	**Zerenda**	**13.89**	**347**	P		**Pn**	**14 25 37.8**	**-1.7**
ZRNK				pmax	pmax			
	comp=Z,15nm,0.8s							
AB31	**Akbulak array**	**14.01**	**319**	⇑Pn		**Pn**	**14 25 39.1**	**-2.0**
	comp=Z,14nm,0.7s							
AB31				⇑Sn		**Sn**	**14 28 09.8**	**-6.8**
	comp=Z,7.9nm,0.6s,baz=130,slow=24,SNR=7.9							
AB31	**Akbulak array**	**14.01**	**319**	P		**Pn**	**14 25 39.1**	**-2.0**
AB31				pmax	pmax			
	comp=Z,7.0nm,0.4s							
ABKAR	**Akbulak array**	**14.01**	**319**	*e*P		**Pn**	**14 25 38.7**	**-2.4**
	comp=Z,0.9nm,0.4s							
KOLN	**Koldanda**	**14.13**	**143**	*e*P		**Pn**	**14 25 41.7**	**-1.2**
	comp=Z,40nm,0.5s							
KOLN	**Koldanda**	**14.13**	**143**	*e*P		**Pn**	**14 25 41.7**	**-1.2**
	comp=Z,40nm,0.5s							
GKN	**Gorkha**	**14.44**	**139**	*e*P		**Pn**	**14 25 46.1**	**-1.0**
	comp=Z,26nm,0.4s							
GKN	**Gorkha**	**14.44**	**139**	*e*P		**Pn**	**14 25 46.1**	**-1.0**
	comp=Z,26nm,0.4s							
KKN	**Kakani**	**14.94**	**138**	*e*P		**Pn**	**14 25 53.3**	**-0.6**
	comp=Z,35nm,0.5s							
KKN	**Kakani**	**14.94**	**138**	*e*P		**Pn**	**14 25 53.3**	**-0.6**
	comp=Z,35nm,0.5s							
KKN	**Kakani**	**14.94**	**138**	*e*P		**Pn**	**14 25 53.3**	**-0.6**
KKN				pmax	pmax			
	comp=Z,35nm,0.5s							
DMN	**Daman**	**15.00**	**139**	*e*P		**Pn**	**14 25 54.0**	**-0.7**
	comp=Z,16nm,0.4s							
DMN	**Daman**	**15.00**	**139**	*e*P		**Pn**	**14 25 54.0**	**-0.7**
	comp=Z,16nm,0.4s							
GUN	**Gumba**	**15.16**	**136**	*e*P		**Pn**	**14 25 57.1**	**+0.2**
	comp=Z,24nm,0.4s							
GUN	**Gumba**	**15.16**	**136**	*e*P		**Pn**	**14 25 57.1**	**+0.2**
	comp=Z,24nm,0.4s							
PKI	**Pulchoki**	**15.19**	**138**	*e*P		**Pn**	**14 25 57.1**	**-0.1**
	comp=Z,21nm,0.5s							
PKI	**Pulchoki**	**15.19**	**138**	*e*P		**Pn**	**14 25 57.1**	**-0.1**
	comp=Z,21nm,0.5s							
PKI	**Pulchoki**	**15.19**	**138**	*e*P		**Pn**	**14 25 57.1**	**-0.1**
PKI				pmax	pmax			
	comp=Z,21nm,0.5s							
AKTK	**Aktyubinsk**	**15.72**	**319**	Pn		**Pn**	**14 26 02.7**	**-1.3**
AKTK				LR		LR	14 32 29.3	
AKTO	**Aktyubinsk**	**15.72**	**319**	⇓Pn		**Pn**	**14 26 02.7**	**-1.3**
	comp=Z,6.0nm,1.3s							
AKTO				⇓Sn		**Sn**	**14 28 53.9**	**-4.3**
	comp=Z,2.3nm,0.9s							
AKTO	**Aktyubinsk**	**15.72**	**319**	Pn		**Pn**	**14 26 02.7**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=124,slow=14,SNR=14							
AKTO				LR		LR	14 32 29.3	
	comp=Z,418nm,20.8s,baz=135,slow=39							
AKTO	**Aktyubinsk**	**15.72**	**319**	P		**Pn**	**14 26 03.1**	**-0.9**
AKTO				pmax	pmax			
	comp=Z,5.0nm,1.2s							
ZAA0	**Zalesovo Array**	**16.20**	**23**	*e*P		**Pn**	**14 26 09.9**	**-0.2**
ZALV	**Zalesovo Beam**	**16.20**	**23**	Pn		**Pn**	**14 26 10.3**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=210,slow=12,SNR=20							
ZALV				Lg			14 30 59.1	
	comp=Z,0.1nm,0.3s,baz=228,slow=20,SNR=3.6							
ZALV				LR		LR	14 32 34.7	
	comp=Z,94nm,18.8s,baz=152,slow=38							
ZALV	**Zalesovo Beam**	**16.20**	**23**	Pn		**Pn**	**14 26 10.3**	**+0.1**
ZALV				Lg			14 30 59.1	
ZALV				LR		LR	14 32 34.7	
ZALV	**Zalesovo Beam**	**16.20**	**23**	P		**Pn**	**14 26 10.3**	**+0.2**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ZALV				MLR		MLR		
	comp=Z,94nm,18.8s							
BHPL	**Bhopal**	**16.46**	**169**	*e*PKP		**Pn**	**14 26 13.0**	**-0.7**
BHPL				*ex*		x	14 29 05.0	
NVS	**Novosibirsk**	**16.54**	**19**	*e*P		**Pn**	**14 26 10.3**	**-4.2**
NVS				*e*S		**Sn**	**14 29 22.4**	**+4.4**
NVS				pmax	pmax			
	comp=Z,69nm,1.4s							
NVS				pmax	pmax			
	comp=N,56nm,1.5s							
NVS				pmax	pmax			
	comp=E,22nm,1.5s							
NVS				smax				
	comp=N,82nm,2.5s							
NVS				smax				
	comp=E,58nm,2.5s							
TAPN	**Taplejung**	**16.61**	**133**	*e*P		**Pn**	**14 26 15.0**	**-0.6**
	comp=E,73nm,0.9s							
TAPN	**Taplejung**	**16.61**	**133**	*e*P		**Pn**	**14 26 15.0**	**-0.6**
	comp=E,73nm,0.9s							
BHJ	**Bhuj**	**16.62**	**194**	*e*PKP		**Pn**	**14 26 15.3**	**-0.5**
BHJ				*ex*		x	14 29 13.9	
ODAN	**Odare**	**16.81**	**135**	*e*P		**Pn**	**14 26 15.9**	**-2.3**
	comp=E,57nm,0.7s							
ODAN	**Odare**	**16.81**	**135**	*e*P		**Pn**	**14 26 15.9**	**-2.3**
	comp=E,57nm,0.7s							
LSA	**Lhasa**	**17.11**	**120**	P		**Pn**	**14 26 22.9**	**+1.0**
	comp=E,8.9nm,0.8s							
LSA	**Lhasa**	**17.11**	**120**	P		**Pn**	**14 26 22.9**	**+1.0**
LSA				pmax	pmax			
	comp=Z,9.0nm,0.8s							
AKL	**Akola**	**18.91**	**171**	*ex*		x	14 26 34.1	
ARU	**Arti**	**19.78**	**334**	*e*P		**Pn**	**14 26 52.9**	**-1.3**
	comp=Z,25nm,1.0s							
ARU	**Arti**	**19.78**	**334**	*d* iP		**Pn**	**14 26 54.1**	**-0.2**
ARU				SS			14 30 20.2	
ARU				pmax	pmax			
	comp=Z,48nm,1.7s							
GTA	**Gaotai**	**19.87**	**82**	*e*P		**Pn**	**14 26 56.7**	**+1.2**
GTA				pP		pP	14 27 03.6	+6.8
GTA				sP		sP	14 27 07.0	+8.9
GTA				pmax	pmax			
	comp=Z,7.0nm,0.9s							
GTA				pmax	pmax			
	comp=Z,96nm,3.6s							
GTA				LR		LR		
	comp=N,280nm,12.1s							
GTA				LR		LR		
	comp=E,380nm,10.7s							
GTA				LR		LR		
	comp=Z,400nm,14.2s							
MAK	**Makhachkala**	**20.24**	**288**	*e*P		**P**	**14 26 59.8**	**+2.0**
MAK				*e*S		**S**	**14 30 38.8**	**-5.9**
MAK				MLR		MLR		
	comp=Z,458nm,14.0s,MS4.0							
SHL	**Shillong**	**20.42**	**128**	*e*PKP		**P**	**14 27 00.5**	**+0.6**
DGRG	**David-gareji**	**21.87**	**284**	P		**P**	**14 27 16.3**	**+0.8**
KAD	**Karad**	**22.11**	**180**	*e*PKP		**P**	**14 27 17.0**	**-1.2**
MTA	**Mtatsminda**	**22.28**	**285**	P		**P**	**14 27 21.3**	**+1.4**
MOY	**Mondy**	**22.29**	**48**	*e*P		**P**	**14 27 22.8**	**+2.9**
MOY				pmax	pmax			
	comp=Z,77nm,1.5s,mb4.9							
HYB	**Hyderabad**	**22.35**	**169**	*i* P		**P**	**14 27 22.0**	**+1.3**
GNI	**Garni**	**22.48**	**281**	P		**P**	**14 27 19.8**	**-2.2**
	comp=Z,40nm,1.1s,mb4.8							
GNI	**Garni**	**22.48**	**281**	P		**P**	**14 27 19.8**	**-2.2**
GNI				pmax	pmax			
	comp=Z,40nm,1.1s							
SOKR	**Solikamsk**	**22.87**	**337**	*e*P		**P**	**14 27 29.3**	**+3.4**
SOKR				pmax	pmax			
	comp=Z,30nm,1.8s,mb4.4							
SOKR				MLR		MLR		
	comp=Z,140nm,13.0s,MS3.6							
ZEI	**Tsey**	**22.89**	**288**	*e*P		**P**	**14 27 30.0**	**+3.7**
ZEI				pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.2							
AKH	**Akhalkalaki**	**23.28**	**285**	P		**P**	**14 27 26.9**	**-3.5**
LZH	**Lanzhou**	**23.73**	**89**	*e*P		**P**	**14 27 41.0**	**+6.0**
LZH				pP			14 27 50.7	
LZH				sP		sP	14 27 53.5	+14
LZH				pmax	pmax			
	comp=Z,27nm,1.2s,mb4.5							
KIV	**Kislovodsk**	**23.75**	**291**	*e*P		**P**	**14 27 48.0**	**+13**
KIV				*e*			14 31 40.3	
KIV				pmax	pmax			
	comp=Z,19nm,0.9s,mb4.5							
KIV				MLR		MLR		
	comp=Z,108nm,14.0s,MS3.5							
MIB	**Mutribah**	**23.94**	**254**	*e*P		**P**	**14 27 38.3**	**+1.4**
MIB				AMb		AMB	14 27 42.9	
	comp=Z,27nm,0.7s,mb4.8							
NAY	**Al-Naaiem**	**24.30**	**253**	*e*P		**P**	**14 27 39.9**	**-0.3**
NAY				AMb		AMB	14 27 50.7	
	comp=Z,23nm,1.9s,mb4.3							
RST	**Umm Al-Ruwaisa**	**24.35**	**254**	*e*P		**P**	**14 27 41.8**	**+1.1**
RST				AMb		AMB	14 27 50.2	
	comp=Z,8.6nm,0.8s,mb4.2							
SONM	**Songino Array**	**24.69**	**60**	P		**P**	**14 27 44.3**	**+0.7**
	comp=Z,2.3nm,0.7s,mb3.8,baz=269,slow=9.8,SNR=8.5							
SONM				LR		LR	14 38 14.5	
	comp=Z,413nm,18.2s,MS4.0,baz=206,slow=38							
SONM	**Songino Array**	**24.69**	**60**	P		**P**	**14 27 44.3**	**+0.7**
SONM				LR		LR	14 38 14.5	
SONM	**Songino Array**	**24.69**	**60**	P		**P**	**14 27 44.3**	**+0.7**
SONM				pmax	pmax			
	comp=Z,2.0nm,0.7s							
SONM				MLR		MLR		
	comp=Z,413nm,18.3s							
ULN	**Ulaanbaatar**	**25.13**	**60**	*e*P		**P**	**14 27 48.4**	**+0.7**
	comp=Z,4.7nm,0.8s,mb4.1							
ULN	**Ulaanbaatar**	**25.13**	**60**	*e*P		**P**	**14 27 48.4**	**+0.8**
ULN				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.1							
XAN	**Xi'an**	**28.34**	**90**	P		**P**	**14 28 20.6**	**+3.9**
XAN				pP		pP	14 28 28.0	+8.3
XAN				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb3.8							
OBN	**Obninsk**	**29.39**	**315**	⇑*e*P		**P**	**14 28 20.7**	**-5.1**
OBN				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.2							
OBN				MLR		MLR		
	comp=Z,200nm,22.0s,MS3.7							
CMAR	**Chiang Mai Arr**	**30.05**	**127**	P		**P**	**14 28 31.7**	**-0.3**
	comp=Z,0.5nm,0.5s,mb3.5,baz=305,slow=9.6,SNR=5.4							
CMAR				PcP		PcP	14 31 32.6	-1.2
	comp=Z,1.0nm,0.6s,baz=302,slow=4.6,SNR=4.8							
CMAR				LR		LR	14 42 57.5	
	comp=Z,33nm,20.5s,MS3.0,baz=311,slow=41							
CMAR	**

ATD	**Arta Tunnel**	**39.25**	**233**	LR	LR	14 47 57.5		
	comp=Z,52nm,21.7s,MS3.3,baz=54,slow=39							
ARCES	**ARCESS Array B**	**39.36**	**335**	P	**P**	**14 29 52.1**	**+0.4**	
	comp=Z,3.6nm,0.5s,mb4.4,baz=106,slow=8.3,SNR=19							
ARCES	**ARCESS Array B**	**39.36**	**335**	P	**P**	**14 29 52.1**	**+0.4**	
ARCES	**ARCESS Array B**	**39.36**	**335**	P	**P**	**14 29 52.1**	**+0.4**	
ARCES				pmax	pmax			
	comp=Z,4.0nm,0.5s							
ARE0	**ARCESS Array S**	**39.36**	**335**	*e*P	**P**	**14 29 52.3**	**+0.6**	
YAK	**Yakutsk**	**40.12**	**37**	*e*P	**P**	**14 29 57.6**	**-0.6**	
YAK				pmax	pmax			
	comp=Z,19nm,1.4s,mb4.6							
YAK				pmax	pmax			
	comp=N,7.0nm,1.5s							
YAK				pmax	pmax			
	comp=E,11nm,1.3s							
KSRS	**Korea Array**	**41.69**	**75**	P	**P**	**14 30 11.9**	**+0.4**	
	comp=E,1.2nm,0.6s,mb3.7,baz=281,slow=6.2,SNR=5.5							
KSRS				LR	LR	14 48 48.3		
	comp=E,88nm,18.1s,MS3.7,baz=274,slow=38							
KSRS	**Korea Array**	**41.69**	**75**	P	**P**	**14 30 11.9**	**+0.4**	
KSRS				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.6							
KSRS				MLR	MLR			
	comp=Z,88nm,18.1s,MS3.7							
BRG	**Berggiesshubel**	**42.74**	**306**	*e*P	**P**	**14 30 20.3**	**+0.5**	
	comp=E,6.3nm,0.5s,mb4.6							
BRG								
	comp=N,359nm,16.2s							
BRG								
	comp=E,279nm,17.0s							
BRG								
	comp=Z,343nm,21.4s							
BRG	**Berggiesshubel**	**42.74**	**306**	*e*P	**P**	**14 30 20.3**	**+0.5**	
BRG				pmax	pmax			
	comp=Z,6.0nm,0.5s,mb4.6							
BRG				MLR	MLR			
	comp=N,359nm,16.2s,MS4.4							
BRG				MLR	MLR			
	comp=E,279nm,17.0s,MS4.4							
BRG				MLR	MLR			
	comp=Z,343nm,21.4s,MS4.2							
GERES	**GERESS Array B**	**43.24**	**303**	P	**P**	**14 30 24.7**	**+0.8**	
	comp=Z,3.9nm,0.5s,mb4.4,baz=65,slow=7.9,SNR=14							
GERES				LR	LR	14 52 30.5		
	comp=Z,167nm,18.5s,MS4.0,baz=82,slow=42							
GERES	**GERESS Array B**	**43.24**	**303**	P	**P**	**14 30 24.7**	**+0.8**	
GERES				LR	LR	14 52 30.5		
GERES	**GERESS Array B**	**43.24**	**303**	P	**P**	**14 30 24.7**	**+0.8**	
GERES				pmax	pmax			
	comp=Z,4.0nm,0.5s							
GERES				MLR	MLR			
	comp=Z,167nm,18.5s							
CLL	**Collm**	**43.26**	**307**	||*i*P	**P**	**14 30 24.3**	**+0.3**
	comp=Z,7.0nm,0.6s,mb4.6							
KHC	**Kasperske Hory**	**43.27**	**304**	*e*P	**P**	**14 30 24.6**	**+0.5**	
	comp=Z,4.0nm,0.8s,mb4.2							
KHC	**Kasperske Hory**	**43.27**	**304**	*e*P	**P**	**14 30 24.6**	**+0.5**	
KHC				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.2							
NB2	**NORSAR Subarra**	**43.50**	**321**	P	**P**	**14 30 25.3**	**-0.6**	
	comp=Z,4.7nm,0.5s,mb4.5,baz=91,slow=8.6							
NOA	**NORSAR Array B**	**43.50**	**321**	P	**P**	**14 30 25.6**	**-0.2**	
	comp=Z,5.3nm,0.5s,mb4.5,baz=91,slow=8.0,SNR=34							
NOA	**NORSAR Array B**	**43.50**	**321**	P	**P**	**14 30 25.6**	**-0.2**	
NOA	**NORSAR Array B**	**43.50**	**321**	P	**P**	**14 30 25.6**	**-0.3**	
NOA				pmax	pmax			
	comp=Z,5.0nm,0.5s							
NAO01	**NORSAR Array S**	**43.66**	**321**	*e*P	**P**	**14 30 25.4**	**-1.8**	
	comp=Z,5.6nm,0.7s,mb4.4							
DAVOX	**Davos/Dischmat**	**46.22**	**301**	P	**P**	**14 30 47.6**	**-0.1**	
	comp=Z,5.3nm,0.4s,mb4.8,baz=115,slow=6.1,SNR=8.1							
DAVOX	**Davos/Dischmat**	**46.22**	**301**	P	**P**	**14 30 47.6**	**-0.1**	
DAVOX	**Davos/Dischmat**	**46.22**	**301**	P	**P**	**14 30 47.6**	**-0.1**	
JOW	**Kunigami**	**46.48**	**89**	LR	LR	14 52 40.4		
	comp=Z,91nm,18.6s,MS3.8,baz=140,slow=39							
CDF	**Champ du Feu**	**47.49**	**304**	*e*P	**P**	**14 30 57.6**	**0.0**	
CDF	**Champ du Feu**	**47.49**	**304**	*e*P	**P**	**14 30 57.6**	**0.0**	
CDF	**Champ du Feu**	**47.49**	**304**	*e*P	**P**	**14 30 57.6**	**0.0**	
HINF	**Hinteralfeld**	**47.93**	**303**	*e*P	**P**	**14 31 00.9**	**-0.1**	
HINF	**Hinteralfeld**	**47.93**	**303**	*e*P	**P**	**14 31 00.9**	**-0.1**	
HINF	**Hinteralfeld**	**47.93**	**303**	*e*P	**P**	**14 31 00.9**	**-0.1**	
HAU	**Haudompre**	**48.20**	**304**	*e*P	**P**	**14 31 03.1**	**0.0**	
	comp=Z,6.0nm,0.5s,mb4.6							
HAU				*e*MLR	MLR			
	comp=Z,91nm,20.2s,MS3.5							
HAU	**Haudompre**	**48.20**	**304**	*e*P	**P**	**14 31 03.1**	**0.0**	
	comp=Z,3.0nm,0.5s,mb4.6							
HAU				LR	LR			
	comp=Z,90nm,20.3s,MS3.7							
HAU	**Haudompre**	**48.20**	**304**	*e*P	**P**	**14 31 03.1**	**0.0**	
HAU				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.6							
HAU				MLR	MLR			
	comp=Z,90nm,20.3s,MS3.7							
GIVF	**Givet**	**48.60**	**307**	*e*P	**P**	**14 31 06.2**	**+0.1**	
GIVF	**Givet**	**48.60**	**307**	*e*P	**P**	**14 31 06.2**	**+0.1**	
GIVF	**Givet**	**48.60**	**307**	*e*P	**P**	**14 31 06.2**	**+0.1**	
LPG	**La Plagne**	**48.68**	**300**	*e*P	**P**	**14 31 06.7**	**-0.1**	
	comp=Z,12nm,0.7s,mb4.8							
LPG	**La Plagne**	**48.68**	**300**	*e*P	**P**	**14 31 06.7**	**-0.1**	
	comp=Z,6.1nm,0.7s,mb4.7							
LPG	**La Plagne**	**48.68**	**300**	*e*P	**P**	**14 31 06.7**	**-0.1**	
LPG				pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.7							
LPL	**La Plagne**	**48.68**	**300**	*e*P	**P**	**14 31 07.1**	**+0.2**	
	comp=Z,10nm,0.5s,mb4.8							
LPL	**La Plagne**	**48.68**	**300**	*e*P	**P**	**14 31 07.1**	**+0.2**	
	comp=Z,5.3nm,0.5s,mb4.8							
LPL	**La Plagne**	**48.68**	**300**	*e*P	**P**	**14 31 07.1**	**+0.2**	
LPL				pmax	pmax			
	comp=Z,5.0nm,0.5s,mb4.8							
CABF	**La Chapelle**	**48.78**	**302**	*e*P	**P**	**14 31 07.4**	**-0.2**	
CABF	**La Chapelle**	**48.78**	**302**	*e*P	**P**	**14 31 07.4**	**-0.2**	
CABF	**La Chapelle**	**48.78**	**302**	*e*P	**P**	**14 31 07.4**	**-0.2**	
MBDF	**Montbardon**	**48.91**	**299**	*e*P	**P**	**14 31 08.4**	**-0.2**	
	comp=Z,10nm,0.7s,mb4.7							
MBDF	**Montbardon**	**48.91**	**299**	*e*P	**P**	**14 31 08.4**	**-0.2**	
	comp=Z,5.3nm,0.7s,mb4.7							
MBDF	**Montbardon**	**48.91**	**299**	*e*P	**P**	**14 31 08.4**	**-0.2**	
MBDF				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.7							
SFTF	**Sexfontaines**	**48.99**	**304**	*e*P	**P**	**14 31 09.1**	**-0.1**	
SFTF	**Sexfontaines**	**48.99**	**304**	*e*P	**P**	**14 31 09.1**	**-0.1**	
BAIF	**Baives**	**48.99**	**307**	*e*P	**P**	**14 31 09.7**	**+0.5**	
	comp=Z,5.1nm,0.4s,mb4.6							
BAIF	**Baives**	**48.99**	**307**	*e*P	**P**	**14 31 09.7**	**+0.5**	
	comp=Z,2.5nm,0.4s,mb4.6							
BAIF	**Baives**	**48.99**	**307**	*e*P	**P**	**14 31 09.7**	**+0.5**	
BAIF				pmax	pmax			
	comp=Z,3.0nm,0.4s,mb4.7							
ORIF	**Oris-en-Rattie**	**49.45**	**300**	*e*P	**P**	**14 31 12.5**	**-0.2**	
ORIF				*e*MLR	MLR			
	comp=Z,136nm,20.5s,MS3.6							
ORIF	**Oris-en-Rattie**	**49.45**	**300**	*e*P	**P**	**14 31 12.5**	**-0.2**	
ORIF	**Oris-en-Rattie**	**49.45**	**300**	*e*P	**P**	**14 31 12.5**	**-0.2**	
MJAR	**Matsushiro Arr**	**49.67**	**72**	P	**P**	**14 31 14.4**	**-0.2**	
	comp=Z,3.9nm,0.8s,mb4.5,baz=281,slow=10,SNR=7.1							
MJAR	**Matsushiro Arr**	**49.67**	**72**	P	**P**	**14 31 14.4**	**-0.2**	
MJAR	**Matsushiro Arr**	**49.67**	**72**	P	**P**	**14 31 14.4**	**-0.1**	
MJAR				pmax	pmax			
	comp=Z,4.0nm,0.8s							
LOR	**Lormes**	**50.03**	**303**	*e*P	**P**	**14 31 17.0**	**-0.1**	
LOR				*e*MLR	MLR			
	comp=Z,104nm,18.2s,MS3.6							
LOR	**Lormes**	**50.03**	**303**	*e*P	**P**	**14 31 17.0**	**-0.1**	
LOR				LR	LR			
	comp=Z,100nm,18.3s,MS3.9							
LOR	**Lormes**	**50.03**	**303**	*e*P	**P**	**14 31 17.0**	**-0.1**	
LOR				MLR	MLR			
	comp=Z,100nm,18.3s,MS3.9							
SMF	**Signal de Mont**	**50.24**	**303**	*e*P	**P**	**14 31 18.3**	**-0.4**	
	comp=Z,5.1nm,0.5s,mb4.5							
SMF	**Signal de Mont**	**50.24**	**303**	*e*P	**P**	**14 31 18.3**	**-0.4**	
	comp=Z,2.5nm,0.5s,mb4.5							
SMF	**Signal de Mont**	**50.24**	**303**	*e*P	**P**	**14 31 18.3**	**-0.4**	
SMF				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.6							
AVF	**Avril sur Loir**	**50.51**	**303**	*e*P	**P**	**14 31 20.4**	**-0.4**	
AVF	**Avril sur Loir**	**50.51**	**303**	*e*P	**P**	**14 31 20.4**	**-0.4**	
AVF	**Avril sur Loir**	**50.51**	**303**	*e*P	**P**	**14 31 20.4**	**-0.4**	
BGF	**Bois d'Agland**	**50.91**	**303**	*e*P	**P**	**14 31 24.6**	**+0.8**	
BGF	**Bois d'Agland**	**50.91**	**303**	*e*P	**P**	**14 31 24.6**	**+0.8**	
BGF	**Bois d'Agland**	**50.91**	**303**	*e*P	**P**	**14 31 24.6**	**+0.8**	
TCF	**Toulx Ste Croi**	**51.42**	**303**	*e*P	**P**	**14 31 27.6**	**0.0**	
TCF	**Toulx Ste Croi**	**51.42**	**303**	*e*P	**P**	**14 31 27.6**	**0.0**	
TCF	**Toulx Ste Croi**	**51.42**	**303**	*e*P	**P**	**14 31 27.6**	**0.0**	
CAF	**Calviac**	**51.99**	**301**	*e*P	**P**	**14 31 32.2**	**+0.3**	
CAF	**Calviac**	**51.99**	**301**	*e*P	**P**	**14 31 32.2**	**+0.3**	
CAF	**Calviac**	**51.99**	**301**	*e*P	**P**	**14 31 32.2**	**+0.3**	
LDF	**La Druitiere**	**52.13**	**306**	*e*P	**P**	**14 31 32.4**	**-0.5**	
	comp=Z,12nm,0.5s,mb4.8							
LDF	**La Druitiere**	**52.13**	**306**	*e*P	**P**	**14 31 32.4**	**-0.5**	
	comp=Z,5.9nm,0.5s,mb4.8							
LDF	**La Druitiere**	**52.13**	**306**	*e*P	**P**	**14 31 32.4**	**-0.5**	
LDF				pmax	pmax			
	comp=Z,6.0nm,0.5s,mb4.8							
RJF	**Les Rejaudoux**	**52.22**	**302**	*e*P	**P**	**14 31 34.5**	**+0.9**	
RJF				*e*MLR	MLR			
	comp=Z,60nm,18.8s,MS3.4							
RJF	**Les Rejaudoux**	**52.22**	**302**	*e*P	**P**	**14 31 34.5**	**+0.9**	
RJF				LR	LR			
	comp=Z,60nm,18.8s,MS3.7							
RJF	**Les Rejaudoux**	**52.22**	**302**	*e*P	**P**	**14 31 34.5**	**+0.9**	
RJF				MLR	MLR			
	comp=Z,60nm,18.8s,MS3.7							
FLN	**La Foliniere**	**52.30**	**306**	*e*P	**P**	**14 31 35.0**	**+0.8**	
FLN				*e*MLR	MLR			
	comp=Z,237nm,20.5s,MS3.9							
FLN	**La Foliniere**	**52.30**	**306**	*e*P	**P**	**14 31 35.0**	**+0.8**	
FLN				LR	LR			
	comp=Z,240nm,20.5s,MS4.2							
FLN	**La Foliniere**	**52.30**	**306**	*e*P	**P**	**14 31 35.0**	**+0.8**	
FLN				MLR	MLR			
	comp=Z,240nm,20.5s,MS4.2							
KMBO	**Kilima Mbogo**	**52.63**	**229**	P	**P**	**14 31 37.5**	**+0.6**	
	comp=Z,0nm,0.8s,mb4.1,baz=181,slow=24,SNR=7.1							
KMBO	**Kilima Mbogo**	**52.63**	**229**	*e*P	**P**	**14 31 38.8**	**+1.8**	
	comp=Z,3.1nm,1.0s,mb4.2							
KMBO	**Kilima Mbogo**	**52.63**	**229**	P	**P**	**14 31 37.5**	**+0.5**	
KMBO				pmax	pmax			
	comp=Z,2.0nm,0.8s							
GRR	**Gorron**	**52.66**	**306**	*e*P	**P**	**14 31 36.3**	**-0.6**	
	comp=Z,5.2nm,0.5s,mb4.4							
GRR	**Gorron**	**52.66**	**306**	*e*P	**P**	**14 31 36.3**	**-0.6**	
	comp=Z,2.6nm,0.5s,mb4.4							
GRR	**Gorron**	**52.66**	**306**	*e*P	**P**	**14 31 36.3**	**-0.6**	
GRR				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.5							
MFF	**Saint Martin d**	**52.84**	**304**	*e*P	**P**	**14 31 38.8**	**+0.6**	
MFF	**Saint Martin d**	**52.84**	**304**	*e*P	**P**	**14 31 38.8**	**+0.6**	
MFF	**Saint Martin d**	**52.84**	**304**	*e*P	**P**	**14 31 38.8**	**+0.6**	
SGMF	**Saint Gilles**	**53.77**	**306**	*e*P	**P**	**14 31 44.8**	**-0.2**	
	comp=Z,16nm,0.5s,mb4.9							
SGMF	**Saint Gilles**	**53.77**	**306**	*e*P	**P**	**14 31 44.8**	**-0.2**	
	comp=Z,8.1nm,0.5s,mb4.9							
SGMF	**Saint Gilles**	**53.77**	**306**	*e*P	**P**	**14 31 44.8**	**-0.2**	
SGMF				pmax	pmax			
	comp=Z,8.0nm,0.5s,mb4.9							
ROSF	**Rostrenen**	**54.19**	**307**	*e*P	**P**	**14 31 47.6**	**-0.5**	
ROSF	**Rostrenen**	**54.19**	**307**	*e*P	**P**	**14 31 47.6**	**-0.5**	
ROSF	**Rostrenen**	**54.19**	**307**	*e*P	**P**	**14 31 47.6**	**-0.5**	
QUIF	**Quistinic**	**54.28**	**306**	*e*P	**P**	**14 31 48.2**	**-0.5**	
	comp=Z,9.8nm,0.6s,mb4.6							
QUIF	**Quistinic**	**54.28**	**306**	*e*P	**P**	**14 31 48.2**	**-0.5**	
	comp=Z,4.9nm,0.6s,mb4.6							
QUIF	**Quistinic**	**54.28**	**306**	*e*P	**P**	**14 31 48.2**	**-0.5**	
QUIF				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.6							
ETSF	**Etsaut**	**54.51**	**300**	*e*P	**P**	**14 31 50.8**	**+0.3**	
	comp=Z,5.1nm,0.6s,mb4.4							
ETSF	**Etsaut**	**54.51**	**300**	*e*P	**P**	**14 31 50.8**	**+0.3**	
	comp=Z,2.5nm,0.6s,mb4.4							
ETSF	**Etsaut**	**54.51**	**300**	*e*P	**P**	**14 31 50.8**	**+0.3**	
ETSF				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.5							
BILL	**Bilibino**	**54.85**	**27**	||*e*P	**P**	**14 31 53.6**	**+1.1**
BILL				pmax	pmax			
	comp=Z,8.0nm,1.2s,mb4.6							
BILL				MLR	MLR			
	comp=Z,100nm,16.0s,MS4.0							
CBIJ	**Chichi jima**	**57.05**	**80**	LR	LR	14 59 55.5		
	comp=Z,36nm,20.5s,MS3.5,baz=121,slow=40							
ESDC	**Sonseca Array**	**58.21**	**297**	P	**P**	**14 32 16.4**	**-0.5**	
	comp=Z,1.2nm,0.5s,mb4.2,baz=57,slow=6.4,SNR=4.1							
ESDC				LR	LR	14 58 27.2		
	comp=Z,36nm,19.3s,MS3.5,baz=20,slow=37							
ESDC	**Sonseca Array**	**58.21**	**297**	P	**P**	**14 32 16.4**	**-0.5**	
ESDC				LR	LR	14 58 27.2		
TORD	**Torodi Ar. Bea**	**68.19**	**269**	P	**P**	**14 33 22.7**	**-0.8**	
	comp=Z,5.9nm,0.5s,mb4.9,baz=50,slow=5.5,SNR=63							
TORD	**Torodi Ar. Bea**	**68.19**	**269**	P	**P**	**14 33 22.7**	**-0.8**	
COLD	**Coldfoot**	**68.42**	**17**	*e*P	**P**	**14 33 24.2**	**+0.1**	
	comp=Z,5.4nm,0.6s,mb4.8							
MSKU	**Masuku**	**68.70**	**249**	LR	LR	15 05 43.3		
	comp=Z,64nm,20.4s,MS3.8,baz=141,slow=38							
INK	**Inuvik**	**70.54**	**11**	*e*P	**P**	**14 33 37.2**	**0.0**	
	comp=Z,6.0nm,0.6s,mb4.7							
INK	**Inuvik**	**70.54**	**11**	*e*P	**P**	**14 33 37.2**	**0.0**	
INK				pmax	pmax			
	comp=Z,6.0nm,0.6s							
COLA	**College**	**70.91**	**18**	*e*P	**P**	**14 33 38.7**	**-0.8**	
	comp=Z,9.3nm,0.9s,mb4.7							
COLA	**College**	**70.91**	**18**	*e*P	**P**	**14 33 38.7**	**-0.8**	
COLA				pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.7							
ILAR	**Eielson Array**	**71.22**	**17**	P	**P**	**14 33 40.5**	**-0.9**	
	comp=Z,3.7nm,0.8s,mb4.4,baz=318,slow=5.1,SNR=29							
ILAR	**Eielson Array**	**71.22**	**17**	P	**P**	**14 33 40.5**	**-0.9**	
ILAR	**Eielson Array**	**71.22**	**17**	P	**P**	**14 33 40.5**	**-0.9**	
ILAR				pmax	pmax			
	comp=Z,4.0nm,0.8s							
PAX	**Paxson**	**73.09**	**18**	*e*P	**P**	**14 33 51.7**	**-0.9**	
	comp=Z,10nm,1.1s,mb4.7							
PAX	**Paxson**	**73.09**	**18**	*e*P	**P**	**14 33 51.7**	**-0.9**	
PAX				pmax	pmax			
	comp=Z,10.0nm,1.1s,mb4.7							
SML	**Sawmill**	**73.37**	**20**	P	**P**	**14 33 53.5**	**-0.7**	
	comp=Z,3.3nm,0.7s,mb4.4							
SML	**Sawmill**	**73.37**	**20**	P	**P**	**14 33 53.6**	**-0.7**	
SML				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.3							
DAWY	**Dawson**	**73.43**	**15**	*e*P	**P**	**14 33 54.5**	**-0.1**	
KDAK	**Kodiak Island**	**75.50**	**24**	*i*P	**P**	**14 34 09.8**	**+3.1**	
DBIC	**Dimbokro**	**77.24**	**268**	P	**P**	**14 34 17.2**	**-0.1**	
	comp=Z,3.7nm,0.5s,mb4.6,baz=28,slow=7.9,SNR=8.7							
DBIC	**Dimbokro**	**77.24**	**268**	P	**P**	**14 34 17.2**	**-0.1**	
DBIC	**Dimbokro**	**77.24**	**268**	P	**P**	**14 34 17.2**	**-0.1**	
DBIC				pmax	pmax			
	comp=Z,4.0nm,0.5s							
LIC	**Lamto**	**77.65**	**268**	*e*P	**P**	**14 34 19.0**	**-0.6**	
	comp=Z,8.1nm,0.4s,mb4.7							
LIC	**Lamto**	**77.65**	**268**	*e*P	**P**	**14 34 19.0**	**-0.6**	
	comp=Z,4.1nm,0.4s,mb4.7							
YKA	**Yellowknife Ar**	**78.11**	**4**	P	**P**	**14 34 20.8**	**-0.5**	
	comp=Z,2.8nm,0.5s,mb4.5,baz=348,slow=5.6,SNR=11							
YKA	**Yellowknife Ar**	**78.11**	**4**	P	**P**	**14 34 20.8**	**-0.6**	
YKA	**Yellowknife Ar**	**78.11**	**4**	P	**P**	**14 34 20.8**	**-0.6**	
YKA				pmax	pmax			
	comp=Z,3.0nm,0.5s							
LBTB	**Lobatse**	**78.52**	**224**	*e*P	**P**	**14 34 24.6**	**+0.6**	
	comp=Z,10.0nm,0.9s,mb4.8							
LBTB	**Lobatse**	**78.52**	**224**	*e*P	**P**	**14 34 24.6**	**+0.6**	
LBTB				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8							
BOSA	**Boshof**	**81.59**	**222**	P	**P**	**14 34 40.5**	**-0.1**	
	comp=Z,1.5nm,0.5s,mb4.1,baz=134,slow=15,SNR=4.9							
BOSA	**Boshof**	**81.59**	**222**	P	**P**	**14 34 40.5**	**-0.1**	
BOSA	**Boshof**	**81.59**	**222**	P	**P**	**14 34 40.5**	**-0.1**	
BOSA				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.3							
WRA	**Warramunga Arr**	**81.60**	**124**	P	**P**	**14 34 41.3**	**+0.5**	
	comp=Z,5.5nm,0.5s,mb4.7,baz=327,slow=5.0,SNR=117							
WRA	**Warramunga Arr**	**81.60**	**124**	P	**P**	**14 34 41.3**	**+0.5**	
WRA	**Warramunga Arr**	**81.60**	**124**	P	**P**	**14 34 41.3**	**+0.4**	
WRA				pmax	pmax			
	comp=Z,6.0nm,0.5s							
WRAB	**Tennant Creek**	**81.60**	**124**	*e*P	**P**	**14 34 41.4**	**+0.5**	
	comp=Z,7.6nm,0.6s,mb4.8							
WRAB	**Tennant Creek**	**81.60**	**124**	*e*P	**P**	**14 34 41.4**	**+0.5**	
WRAB				pmax	pmax			
	comp=Z,8.0nm,0.6s,mb4.8							
WB2	**Warramunga Arr**	**81.61**	**124**	*e*P	**P**	**14 34 41.1**	**+0.2**	
ASAR	**Alice Springs**	**84.06**	**127**	P	**P**	**14 34 53.9**	**+0.3**	
	comp=Z,3.0nm,0.6s,mb4.6,baz=315,slow=5.0,SNR=76							
ASAR	**Alice Springs**	**84.06**	**127**	P	**P**	**14 34 53.9**	**+0.3**	
ASAR	**Alice Springs**	**84.06**	**127**	P	**P**	**14 34 53.9**	**+0.4**	
ASAR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
ULM	**Lac du Bonnet**	**90.19**	**354**	LR	LR	15 24 19.2		
	comp=Z,36nm,18.5s,MS3.8,baz=351,slow=41							
CHMT	**Chamberlain Mo**	**93.72**	**5**	*e*P	**P**	**14 35 39.1**	**-0.4**	
STKA	**Stephens Creek**	**94.67**	**128**	P	**P**	**14 35 43.6**	**-0.2**	
	comp=Z,1.6nm,0.5s,mb4.7,baz=331,slow=7.2,SNR=6.5							
STKA	**Stephens Creek**	**94.67**	**128**	P	**P**	**14 35 43.6**	**-0.2**	
STKA	**Stephens Creek**	**94.67**	**128**	P	**P**	**14 35 43.6**	**-0.2**	
PDAR	**Pinedale Array**	**98.05**	**3**	LR	LR	15 24 46.8		
	comp=Z,45nm,18.9s,MS4.0,baz=247,slow=38							
QSPA	**South Pole Qui**	**129.29**	**180**	PKP	PKPdf	14 41 29.2	-0.6	
	comp=Z,1.1nm,0.7s,baz=266,slow=3.3,SNR=3.1							
QSPA	**South Pole Qui**	**129.29**	**180**	PKP	PKPdf	14 41 29.2	-0.6	
CPUP	**Villa Florida**	**137.61**	**273**	PKP	PKPdf	14 41 46.0	-1.0	
	comp=Z,0.5nm,0.4s,baz=147,slow=2.6,SNR=3.4							
CPUP	**Villa Florida**	**137.61**	**273**	PKP	PKPdf	14 41 46.0	-1.0	
CPUP	**Villa Florida**	**137.61**	**273**	PKIKP	PKPdf	14 41 46.0	-1.0	
CPUP				pmax	pmax			
	comp=Z,1.0nm,0.4s							
TRQA	**Tornquist**	**145.95**	**258**	*e*PKP	PKPdf	14 42 02.3	+0.8	

*ISCJB **04** 14:48:47.1±3.5,2.1N±0.1×128.0E±0.1,h249km±37km, mb4.0/21, Error ellipse: s-maj=26.4km s-min=12.5km az=147.3*

*IDC **04** 14:48:49.8±4.1,2.0N×128.0E±0.1,h258km±41km,mb3.6/12, mb1 3.7/12,mb1mx3.5/22,mbtmp3.6/12, Error ellipse: s-maj=26.0km s-min=10.6km az=67.0*

*NEIC **04** 14:48:49.2±2.5,2.0N×128.0E±0.1,h254km±26km, mb4.5/9, Error ellipse: s-maj=15.3km s-min=6.7km az=57.0*

ISC 04 14:48:48.3±3.6,2.1N±0.1×128.0E±0.1,h244km±39km,n49, σ0.64/47,mb4.0/21,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**15.30**	**164**	*e*P	**Pn**	**14 52 11.9**	**-0.5**
	66nm,0.5s						
FITZ	**Fitzroy Crossi**	**20.16**	**187**	*e*P	**P**	**14 53 03.1**	**-1.4**
WRAB	**Tennant Creek**	**22.71**	**164**	*e*P	**P**	**14 53 29.6**	**+0.3**
	10nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**22.71**	**165**	P	**P**	**14 53 29.6**	**+0.2**
	6.2nm,0.6s,mb4.3,baz=344,slow=10.0,SNR=61						
WRA	**Warramunga Arr**	**22.71**	**165**	P	**P**	**14 53 29.6**	**+0.3**
WB2	**Warramunga Arr**	**22.72**	**164**	*e*P	**P**	**14 53 29.7**	**+0.4**
ASAR	**Alice Springs**	**26.19**	**168**	P	**P**	**14 54 01.1**	**+0.4**
	0.5nm,0.3s,mb3.5,baz=341,slow=7.3,SNR=36						
ASAR				PcP	PcP	14 57 20.2	-0.7
	0.5nm,0.6s,baz=349,slow=2.0,SNR=5.1						
ASAR	**Alice Springs**	**26.19**	**168**	P	**P**	**14 54 01.1**	**+0.4**
ASAR				PcP	PcP	14 57 20.2	-0.7
PSI	**Prapat**	**29.10**	**272**	P	**P**	**14 54 26.1**	**-0.6**
	1.2nm,0.4s,mb3.9,baz=54,slow=9.0,SNR=3.8						
PSI	**Prapat**	**29.10**	**272**	P	**P**	**14 54 26.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**32.86**	**302**	P	**P**	**14 55 00.2**	**+0.7**
CHTO	**Chiang Mai**	**33.01**	**302**	*e*P	**P**	**14 55 01.3**	**+0.4**
	1.7nm,0.6s,mb3.8						
MJAR	**Matsushiro Arr**	**35.58**	**14**	P	**P**	**14 55 22.6**	**-0.1**
	1.0nm,0.4s,mb3.7,baz=187,slow=10,SNR=4.0						
MJAR	**Matsushiro Arr**	**35.58**	**14**	P	**P**	**14 55 22.6**	**-0.1**
STKA	**Stephens Creek**	**36.11**	**160**	P	**P**	**14 55 28.3**	**+1.1**
	7.2nm,0.6s,mb4.4,baz=334,slow=8.8,SNR=22						
STKA				PcP	PcP	14 57 46.4	-1.1
	1.9nm,0.9s,baz=126,slow=8.7,SNR=3.0						
STKA	**Stephens Creek**	**36.11**	**160**	P	**P**	**14 55 28.3**	**+1.1**
STKA				PcP	PcP	14 57 46.4	-1.1
LSA	**Lhasa**	**44.53**	**312**	*e*P	**P**	**14 56 37.1**	**+1.0**
	3.4nm,0.6s,mb3.9	

WRA	**Warramunga Arr**	**19.76**	**118**	P		**Pn**	**14 57 52.8**	**-6.0**
ASAR	**Alice Springs**	**21.12**	**128**	P		**P**	**14 58 08.9**	**-2.8**
	2.7nm,0.8s,mb3.6,baz=309,slow=9.9,SNR=19							
ASAR				S		**S**	**15 01 52.0**	**-13**
	0.2nm,0.2s,baz=301,slow=22,SNR=4.7							
ASAR	**Alice Springs**	**21.12**	**128**	P		**P**	**14 58 08.9**	**-2.8**
ASAR				S		**S**	**15 01 52.0**	**-13**
NWAO	**Narrogin (SRO)**	**21.49**	**177**	LR		LR	15 04 48.3	
	comp=Z,80nm,21.2s,baz=111,slow=32							
STKA	**Stephens Creek**	**31.33**	**135**	P		**P**	**14 59 45.1**	**-2.1**
	3.6nm,1.0s,mb4.1,baz=290,slow=12,SNR=3.3							
STKA				pP		pP	14 59 54.5	-1.9
	5.6nm,0.9s,baz=303,slow=10,SNR=4.8							
STKA	**Stephens Creek**	**31.33**	**135**	P		**P**	**14 59 45.1**	**-2.1**
STKA				pP		pP	14 59 54.5	-1.9
CMAR	**Chiang Mai Arr**	**34.00**	**331**	P		**P**	**15 00 12.6**	**+2.0**
	1.1nm,1.1s,mb3.7,baz=156,slow=6.9,SNR=4.7							
CMAR	**Chiang Mai Arr**	**34.00**	**331**	P		**P**	**15 00 12.6**	**+2.0**
SONM	**Songino Array**	**59.54**	**353**	P		**P**	**15 03 30.5**	**+0.6**
	0.4nm,0.7s,mb3.5,baz=178,slow=4.3,SNR=2.6							
SONM	**Songino Array**	**59.54**	**353**	P		**P**	**15 03 30.5**	**+0.6**
MK31	**Makanchi Array**	**65.21**	**335**	*eP*		**P**	**15 04 08.9**	**+1.1**
MK31				*e*		pP	15 04 17.2	-0.3
MKAR	**Makanchi Array**	**65.21**	**335**	P		**P**	**15 04 08.3**	**+0.5**
	0.7nm,0.4s,mb4.0,baz=148,slow=7.2,SNR=12							
MKAR				pP		pP	15 04 17.6	0.0
	3.8nm,0.7s,baz=147,slow=7.5,SNR=9.4							
MKAR	**Makanchi Array**	**65.21**	**335**	P		**P**	**15 04 08.3**	**+0.5**
MKAR				pP		pP	15 04 17.6	0.0
AAK	**Ala-Archa**	**65.71**	**328**	pP		pP	15 04 21.4	+0.5
	1.2nm,0.7s,baz=98,slow=7.6,SNR=2.8							
VNDA	**Vanda**	**70.16**	**170**	P		**P**	**15 04 38.4**	**-0.2**
	1.0nm,1.0s,mb3.7,baz=296,slow=5.6,SNR=4.6							
VNDA				pP		pP	15 04 47.7	-0.8
	1.1nm,0.9s,baz=315,slow=6.7,SNR=4.9							
VNDA	**Vanda**	**70.16**	**170**	*eP*		**P**	**15 04 38.1**	**-0.6**
	1.5nm,1.0s,mb3.9							
VNDA				pP		pP	15 04 47.7	-0.8
ZALV	**Zalesovo Beam**	**70.20**	**341**	P		**P**	**15 04 39.0**	**-0.1**
	0.5nm,0.4s,mb3.8,baz=128,slow=2.4,SNR=6.2							
ZALV				pP		pP	15 04 48.4	-0.6
	2.4nm,0.6s,baz=140,slow=5.1,SNR=7.5							
ZALV	**Zalesovo Beam**	**70.20**	**341**	P		**P**	**15 04 39.0**	**-0.1**
ZALV				pP		pP	15 04 48.4	-0.5
AKTO	**Aktyubinsk**	**79.42**	**327**	pP		pP	15 05 43.2	+0.7
	2.3nm,0.8s,baz=126,slow=3.4,SNR=3.6							

MAN 04 15:06:58,18.74N×120.95E,h1km,mb4.4,ML3.3,MS3.1, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.52**	**217**	⇑*iP*	Pg	15 07 08.9	+0.9
APYP	**Conner**	**0.92**	**162**	*eP*	Pg	15 07 16.5	+0.8
APYP				*eS*	Sg	15 07 33.2	+5.6
ABRA	**Dolores**	**1.11**	**192**	*eP*	Pg	15 07 20.1	+0.8
ABRA				*eS*	Sg	15 07 34.2	+0.5
CAUP	**Cauayan**	**1.97**	**155**	*eP*	Pn	15 07 34.8	+2.3
PALP	**Palanan**	**2.18**	**140**	*eP*	Pn	15 07 37.4	+1.9

PGC 04 15:13:20.3±495.0,47.05N×129.30W,h10km,ML3.1/8, Mw3.7,5D,343km Wsw of Tofino, Bc Off Coast Of Washington,Off coast of Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDR	**Gold River**	**3.49**	**37**	⇑Pn	Pn	15 14 13.0	-1.6
BTB	**Buttle Lake**	**3.49**	**45**	⇓Pn	Pn	15 14 13.6	-1.0
WOSB	**Woss**	**3.60**	**29**	⇓Pn	Pn	15 14 14.9	-1.2
PFB	**Port Renfrew**	**3.61**	**63**	⇑Pn	Pn	15 14 15.1	-1.1
MAYB	**Maynard**	**3.64**	**22**	⇓Pn	Pn	15 14 15.1	-1.5
MGB	**Mount Grey**	**3.65**	**56**	⇑Pn	Pn	15 14 15.3	-1.5
NCRB	**Newcastle Ridg**	**3.98**	**31**	⇓Pn	Pn	15 14 20.7	-0.6
LZB	**Mount Lazard**	**4.00**	**65**	⇑Pn	Pn	15 14 21.1	-0.5
SHB	**Sechelt**	**4.42**	**53**	⇑Pn	Pn	15 14 26.9	-0.5
BIB	**Bowen Island**	**4.65**	**57**	⇑Pn	Pn	15 14 30.2	-0.2
BBB	**Bella Bella**	**5.20**	**8**	⇓Pn	Pn	15 14 38.0	+0.1

*ISCJB **04** 15:16:23.6±0.3,11.41S×103.03×116.04E±0.05,h30km, mb4.4/20,MS3.0/4,Error ellipse: s-maj=7.3km s-min=3.5km az=149.5*
*IDC **04** 15:16:26.0±0.7,11.30S×116.26E,h28km±4km,mb4.0/12, mb1 4.1/14,mb1mx4.0/23,mbtmp4.0/14,ML4.0/2,MS3.1/5, Ms1 3.1/5,ms1mx2.8/31,Error ellipse: s-maj=26.5km s-min=12.6km az=63.0*
*NEIC **04** 15:16:26.0±0.3,11.36S×116.17E,mb4.9/9,Error ellipse: s-maj=12.6km s-min=6.0km az=53.0*
*DJA **04** 15:16:31,11.06S×115.92E,h101km,MLv4.8/13*
ISC 04 15:16:26.0±0.3,11.37S±0.03×116.08E±0.05,h32km, h32km±.5km:pP-P,n75,σ1§32/93,mb4.4/20,MS3.0/4, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**2.70**	**340**	P	**Pn**	**15 17 06.6**	**-0.6**
IGBI				S	**Sn**	**15 17 36.8**	**-1.9**
MTNI	**Mataram**	**2.72**	**2**	P	**Pn**	**15 17 08.1**	**+0.7**
MTNI				S	**Sn**	**15 17 40.7**	**+1.5**
DNP	**Denpasar**	**2.81**	**342**	P	**Pn**	**15 17 08.8**	**+0.1**
DNP				S	**Sn**	**15 17 40.4**	**-1.1**
NBBI	**Negara**	**3.31**	**334**	P	**Pn**	**15 17 17.1**	**+1.5**
NBBI				S	**Sn**	**15 17 53.5**	**-0.4**
SRBI	**Singaraja**	**3.37**	**345**	P	**Pn**	**15 17 17.0**	**+0.5**
SRBI				S	**Sn**	**15 17 54.0**	**-1.4**
JAGI	**Jajag, Banyuwa**	**3.45**	**326**	P	**Pn**	**15 17 16.5**	**-1.0**
JAGI				S	**Sn**	**15 17 54.8**	**-2.6**
GMJI	**Gumukmas**	**4.03**	**320**	P	**Pn**	**15 17 24.8**	**-0.7**
GMJI				S	**Sn**	**15 18 08.8**	**-2.8**
KMMI	**Kalianget**	**4.77**	**334**	P	**Pn**	**15 17 38.9**	**+3.2**
KRKI	**Karangkates**	**4.79**	**311**	P	**Pn**	**15 17 39.0**	**+3.0**
KRKI				S	**Sn**	**15 18 30.4**	**-0.1**
PWJI	**Pagerwojo**	**5.37**	**308**	P	**Pn**	**15 17 44.1**	**+0.1**
	1.1nm4µm105nm,0.6s						
PWJI				S	**Sn**	**15 18 41.0**	**-3.8**
	1.1nm4µm105nm,0.6s						
SJI	**Sawahan**	**5.58**	**310**	P	**Pn**	**15 17 47.9**	**+1.1**
	1.3nm4µm71nm,0.6s						
SJI				S	**Sn**	**15 18 47.2**	**-2.7**
	1.3nm4µm71nm,0.6s						
GRJI	**Gresik**	**5.68**	**321**	P	**Pn**	**15 17 49.5**	**+1.3**
GRJI				S	**Sn**	**15 18 49.8**	**-2.5**
PCJI	**Pacitan**	**5.77**	**303**	P	**Pn**	**15 17 48.8**	**-0.7**
	0.9nm82nm,1.4s						
UGM	**Wanagama**	**6.47**	**302**	P	**Pn**	**15 18 00.5**	**+1.5**
	1.4nm184nm,1.2s						
UGM				S	**Sn**	**15 19 04.5**	**-7.3**
	1.4nm184nm,1.2s						
MMRI	**Maumere**	**6.64**	**66**	P	**Pn**	**15 18 04.3**	**+2.9**
	0.5nm2µm51nm,1.0s						
BKSI	**Bulukumba**	**7.21**	**34**	P	**Pn**	**15 18 11.2**	**+1.9**
	0.2nm446nm42nm,0.8s						
KAPI	**Kappang**	**7.28**	**30**	Pn	**Pn**	**15 18 10.1**	**-0.2**
	1.9nm,0.3s,baz=198,slow=6.4,SNR=4.1						
KAPI				Sn	**Sn**	**15 19 29.2**	**-2.7**
	2.0nm,0.3s,baz=16,slow=15,SNR=4.5						
KAPI				LR	LR	15 21 28.4	
	comp=Z,156nm,18.4s,baz=224,slow=42						
KAPI	**Kappang**	**7.28**	**30**	*eP*	**Pn**	**15 18 11.3**	**+1.1**
KAPI				Sn	**Sn**	**15 19 29.1**	**-2.7**
KAPI				LR	LR	15 21 28.4	
CISI	**Cisompet, Garu**	**8.99**	**294**	P	**Pn**	**15 18 34.1**	**+0.4**
MBWA	**Marble Bar**	**10.34**	**161**	*eP*	**Pn**	**15 18 44.9**	**-7.3**
MBWA				*eS*	**Sn**	**15 20 29.2**	**-18**
MBWA	**Marble Bar**	**10.34**	**161**	*eP*	**Pn**	**15 18 45.2**	**-7.0**
	28nm,0.4s						
MEEK	**Meekatharra**	**15.38**	**171**	*eP*	**Pn**	**15 19 53.8**	**-6.8**
MEEK				*eS*	**Sn**	**15 22 28.3**	**-22**
MORW	**Morawa**	**17.61**	**180**	*eP*	**Pn**	**15 20 22.6**	**-6.4**
MORW				*eS*	Sn	15 23 19.5	-25
WRA	**Warramunga Arr**	**19.52**	**118**	P	**Pn**	**15 20 49.1**	**-3.1**
	0.5nm,0.3s,baz=294,slow=14,SNR=31						
WRA				S	**Sn**	**15 24 12.9**	**-18**
	0.4nm,0.3s,baz=288,slow=24,SNR=7.6						
WRA	**Warramunga Arr**	**19.52**	**118**	P	**Pn**	**15 20 49.1**	**-3.1**
WRA				S	**Sn**	**15 24 12.9**	**-18**
WRAB	**Tennant Creek**	**19.53**	**118**	*eP*	**Pn**	**15 20 50.5**	**-1.9**
	10nm,0.8s						
WB2	**Warramunga Arr**	**19.53**	**118**	*eP*	**Pn**	**15 20 50.3**	**-2.1**
KLBR	**Kellerberrin**	**20.18**	**176**	*eP*	**P**	**15 20 56.0**	**-1.9**
	44nm,1.3s						
KLBR				*eS*	S	15 24 19.2	-24
KMBL	**Kambalda**	**20.61**	**166**	*eP*	**P**	**15 21 00.0**	**-2.6**
	90nm,1.0s						
KMBL				*eS*	**S**	**15 24 29.4**	**-22**
ASAR	**Alice Springs**	**20.91**	**128**	P	**P**	**15 21 06.0**	**+0.2**
	8.1nm,0.7s,baz=301,slow=10,SNR=87						
ASAR				S	**S**	**15 24 45.3**	**-12**
	3.8nm,0.8s,baz=297,slow=22,SNR=13						
ASAR	**Alice Springs**	**20.91**	**128**	P	**P**	**15 21 06.0**	**+0.2**
ASAR				S	**S**	**15 24 45.3**	**-12**
NWAO	**Narrogin (SRO)**	**21.48**	**177**	P	**P**	**15 21 12.6**	**+0.6**
	8.8nm,0.5s,mb4.3,baz=311,slow=6.2,SNR=11						
NWAO	**Narrogin (SRO)**	**21.48**	**177**	P	**P**	**15 21 12.6**	**+0.6**
PSI	**Prapat**	**22.12**	**309**	P	**P**	**15 21 21.6**	**+2.5**
	2.4nm,0.4s,mb4.0,baz=146,slow=22,SNR=4.2						
PSI				LR	LR	15 30 26.7	
	comp=Z,52nm,18.3s,MS3.0,baz=142,slow=38						
PSI	**Prapat**	**22.12**	**309**	P	**P**	**15 21 21.6**	**+2.5**
PSI				LR	LR	15 30 26.7	
FORT	**Forrest**	**22.28**	**152**	*eP*	**P**	**15 21 19.3**	**-1.2**
	16nm,0.6s,mb4.6						
FORT				*eS*	**S**	**15 25 17.8**	**-6.3**
STKA	**Stephens Creek**	**31.14**	**135**	P	**P**	**15 22 42.5**	**+0.6**
	6.6nm,0.8s,mb4.5,baz=308,slow=6.4,SNR=14						
STKA				LR	LR	15 37 23.8	
	comp=Z,59nm,18.7s,MS3.3,baz=206,slow=40						
STKA	**Stephens Creek**	**31.14**	**135**	*eP*	**P**	**15 22 42.5**	**+0.6**
STKA				LR	LR	15 37 23.8	
CMAR	**Chiang Mai Arr**	**34.12**	**330**	P	**P**	**15 23 10.2**	**+2.1**
	0.6nm,0.5s,mb3.8,baz=157,slow=8.0,SNR=7.6						
CMAR	**Chiang Mai Arr**	**34.12**	**330**	P	**P**	**15 23 10.2**	**+2.1**
GUN	**Gumba**	**48.79**	**324**	*eP*	**P**	**15 25 08.9**	**+0.7**
	21nm,0.6s,mb5.4						
GUN	**Gumba**	**48.79**	**324**	*eP*	**P**	**15 25 08.9**	**+0.7**
	21nm,0.6s,mb5.3						
DMN	**Daman**	**49.02**	**323**	*eP*	**P**	**15 25 09.4**	**-0.6**
	15nm,0.7s,mb5.2						
DMN	**Daman**	**49.02**	**323**	*eP*	**P**	**15 25 09.4**	**-0.6**
	15nm,0.7s,mb5.1						
KKN	**Kakani**	**49.05**	**323**	*eP*	**P**	**15 25 10.5**	**+0.3**
KKN	**Kakani**	**49.05**	**323**	*eP*	**P**	**15 25 10.5**	**+0.3**
GKN	**Gorkha**	**49.59**	**323**	*eP*	**P**	**15 25 14.5**	**+0.2**
	17nm,0.9s,mb5.1						
GKN	**Gorkha**	**49.59**	**323**	*eP*	**P**	**15 25 14.5**	**+0.2**
	17nm,0.9s,mb5.1						
KOLN	**Koldanda**	**50.04**	**322**	*eP*	**P**	**15 25 18.6**	**+0.8**
	14nm,0.7s,mb5.1						
KOLN	**Koldanda**	**50.04**	**322**	*eP*	**P**	**15 25 18.6**	**+0.8**
	14nm,0.7s,mb5.1						
DANN	**Dangsing**	**50.37**	**322**	*eP*	**P**	**15 25 21.3**	**+1.1**
	30nm,0.7s,mb5.4						
DANN	**Dangsing**	**50.37**	**322**	*eP*	**P**	**15 25 21.3**	**+1.1**
	30nm,0.7s,mb5.4						
MJAR	**Matsushiro Arr**	**52.01**	**23**	LR	LR	15 46 44.0	
	comp=Z,3.1nm,20.9s,MS2.3,baz=10.0,slow=35						
SONM	**Songino Array**	**59.56**	**352**	P	**P**	**15 26 26.0**	**-0.4**
	0.6nm,0.7s,mb3.7,baz=157,slow=7.9,SNR=3.7						
SONM				pP	pP	15 26 35.5	-0.7
	1.4nm,0.7s,baz=166,slow=9.0,SNR=5.7						
SONM	**Songino Array**	**59.56**	**352**	P	**P**	**15 26 26.0**	**-0.4**
SONM				pP	pP	15 26 35.5	-0.7
MK31	**Makanchi Array**	**65.31**	**335**	*eP*	**P**	**15 27 05.3**	**+0.5**
MK31				*epP*	pP	15 27 14.2	-0.5
MKAR	**Makanchi Array**	**65.31**	**335**	P	**P**	**15 27 05.5**	**+0.6**
	2.9nm,0.5s,mb4.5,baz=146,slow=7.5,SNR=34						
MKAR				pP	pP	15 27 14.4	-0.3
	6.5nm,0.7s,baz=148,slow=7.1,SNR=11						
MKAR	**Makanchi Array**	**65.31**	**335**	P	**P**	**15 27 05.5**	**+0.6**
MKAR				pP	pP	15 27 14.4	-0.3
AAK	**Ala-Archa**	**65.85**	**328**	P	**P**	**15 27 09.1**	**+0.7**
	0.5nm,0.4s,mb3.9,baz=323,slow=20,SNR=2.7						
AAK				pP	pP	15 27 18.6	+0.3
	3.1nm,0.8s,baz=153,slow=4.4,SNR=4.6						
AAK	**Ala-Archa**	**65.85**	**328**	P	**P**	**15 27 09.1**	**+0.7**
AAK				pP	pP	15 27 18.6	+0.3
KURK	**Kurchatov**	**69.90**	**336**	*eP*	**P**	**15 27 33.5**	**-0.2**
	2.6nm,0.8s,mb4.2						
KURK				*epP*	pP	15 27 43.1	-0.6
VNDA	**Vanda**	**70.12**	**170**	P	**P**	**15 27 35.4**	**+0.6**
	2.4nm,0.9s,mb4.1,baz=295,slow=6.7,SNR=8.6						
VNDA	**Vanda**	**70.12**	**170**	P	**P**	**15 27 35.4**	**+0.6**
ZAA0	**Zalesovo Array**	**70.27**	**341**	P	**P**	**15 27 35.3**	**-0.6**
ZAA0				*epP*	pP	15 27 45.2	-0.7
ZALV	**Zalesovo Beam**	**70.27**	**341**	P	**P**	**15 27 36.0**	**0.0**
	2.7nm,0.7s,mb4.3,baz=140,slow=4.7,SNR=11						
ZALV				pP	pP	15 27 45.6	-0.3
	3.6nm,0.6s,baz=145,slow=4.2,SNR=8.1						
ZALV	**Zalesovo Beam**	**70.27**	**341**	P	**P**	**15 27 36.0**	**0.0**
ZALV				pP	pP	15 27 45.6	-0.3
ABKAR	**Akbulak array**	**77.88**	**326**	*eP*	**P**	**15 28 21.0**	**+0.6**
	2.0nm,0.6s,mb4.2						
ABKAR				*epP*	pP	15 28 30.3	-0.3
QSPA	**South Pole Qui**	**78.64**	**180**	*eP*	**P**	**15 28 25.0**	**+0.8**
	7.6nm,1.1s,mb4.5						
LBTB	**Lobatse**	**85.71**	**245**	LR	LR	15 59 09.8	
	comp=Z,26nm,20.5s,MS3.6,slow=30						
SNAA	**Sanae**	**87.95**	**196**	P	**P**	**15 29 13.4**	**+1.0**
	0.7nm,0.8s,mb3.9,baz=177,slow=18,SNR=6.5						
SNAA	**Sanae**	**87.95**	**196**	P	**P**	**15 29 13.4**	**+1.0**
BRTR	**Keskin Array B**	**91.44**	**310**	P	**P**	**15 29 29.8**	**+0.6**
	0.3nm,0.4s,mb4.0,baz=104,slow=1.8,SNR=3.4						
BRTR	**Keskin Array B**	**91.44**	**310**	P	**P**	**15 29 29.8**	**+0.6**
LPAZ	**La Paz**	**152.21**	**171**	PKPbc	PKPbc	15 36 21.5	+2.1
	1.0nm,0.6s,baz=246,slow=5.6,SNR=4.9						
LPAZ	**La Paz**	**152.21**	**171**	PKPbc	PKPbc	15 36 21.5	+2.1

*DDA **04** 15:17:44.9,40.05N×38.77E,h8km±3km,Md3.4*
*ISK **04** 15:17:44.9,40.05N×38.82E,h3km,MD3.5,ML3.6*
*ISCJB **04** 15:17:45.7±0.3,40.06N±0.02×38.80E±0.02,h10km,Error ellipse: s-maj=2.7km s-min=2.5km az=2.3*
*CSEM **04** 15:17:45.8±0.1,40.05N×38.80E,h2km,MD3.5,Error ellipse: s-maj=3.9km s-min=3.2km az=151.0*
ISC 04 15:17:46.3±0.3,40.06N±0.02×38.82E±0.02,h10km,n82, σ1§07/110,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZC	**Erzincan**	**0.51**	**126**	PG	**Pg**	**15 17 55.8**	**-0.5**
EZC	**Erzincan**	**0.51**	**126**	*i* Pg	**Pg**	**15 17 55.8**	**-0.5**
GUMT	**Gumushane**	**0.65**	**51**	PG	**Pg**	**15 17 58.4**	**-0.4**
GUMT	**Gumushane**	**0.65**	**51**	*i* Pg	**Pg**	**15 17 58.4**	**-0.5**
KEMA	**Kemaliye**	**0.82**	**198**	*i* P	**Pg**	**15 18 01.3**	**-0.9**
KEMA				*i* S	**Sg**	**15 18 11.8**	**-1.1**
KEMA	**Kemaliye**	**0.82**	**198**	*i* P	**Pg**	**15 18 01.3**	**-0.9**
KEMA				*i* S	**Sg**	**15 18 11.8**	**-1.1**
ERZN	**Erzincan**	**0.84**	**124**	PG	**Pg**	**15 18 01.4**	**-1.1**
ERZN				*e*SG	**Sg**	**15 18 13.9**	**+0.5**
ESPY	**Espiye-Giresun**	**0.86**	**356**	PG	**Pg**	**15 18 02.5**	**-0.4**
ESPY				*e*SG	**Sg**	**15 18 14.7**	**+0.6**
ESPY	**Espiye-Giresun**	**0.86**	**356**	*i* Pg	**Pg**	**15 18 02.5**	**-0.4**
ESPY				*e*Sg	**Sg**	**15 18 14.7**	**+0.6**
GRSN	**GIRESUNGRSN**	**0.96**	**334**	*i* P	**Pg**	**15 18 03.1**	**-1.7**
GRSN				*i* S	**Sg**	**15 18 16.0**	**-1.3**
GRSN	**GIRESUNGRSN**	**0.96**	**334**	*i* P	**Pg**	**15 18 03.1**	**-1.7**
GRSN				*i* S	**Sg**	**15 18 16.0**	**-1.3**
BAYT	**Ayd¯–ntepe-Bay**	**1.07**	**71**	PG	**Pg**	**15 18 05.9**	**-1.0**
BAYT	**Ayd¯–ntepe-Bay**	**1.07**	**71**	*i* Pg	**Pg**	**15 18 05.9**	**-0.9**
MACK	**Trabzon**	**1.15**	**39**	*i* P	**Pb**	**15 18 08.0**	**-0.1**
MACK				*i* S	**Sb**	**15 18 22.9**	**-0.2**
MACK	**Trabzon**	**1.15**	**39**	*i* P	**Pb**	**15 18 08.0**	**-0.2**
MACK				*i* S	**Sb**	**15 18 22.9**	**-0.2**
KTUT	**Trabzon**	**1.18**	**38**	*e*PN	**Pn**	**15 18 07.9**	**-0.9**
KTUT	**Trabzon**	**1.18**	**38**	*e*Pn	**Pn**	**15 18 07.9**	**-0.9**
RSDY	**Resadiye-TOKAT**	**1.19**	**287**	*e*PN	**Pn**	**15 18 07.9**	**-1.0**
RSDY	**Resadiye-TOKAT**	**1.19**	**287**	*e*Pn	**Pn**	**15 18 07.9**	**-1.0**
PTK	**Pertek**	**1.25**	**159**	*e*PN	**Pn**	**15 18 08.5**	**-1.2**
PTK	**Pertek**	**1.25**	**159**	*e*Pn	**Pn**	**15 18 08.5**	**-1.2**
KOPT	**Kop Dagi**	**1.29**	**91**	*i* P	**Pn**	**15 18 10.8**	**+0.4**
KOPT				*i* S	**Sg**	**15 18 29.4**	**+1.5**
KOPT	**Kop Dagi**	**1.29**	**91**	*i* P	**Pn**	**15 18 10.8**	**+0.4**
KOPT				*i* S	**Sg**	**15 18 29.4**	**+1.5**
SCER	**sogukcermik**	**1.31**	**262**	*i* P	**Pn**	**15 18 09.7**	**-0.9**
SCER				*i* S	**Sb**	**15 18 27.2**	**-0.7**
SCER	**sogukcermik**	**1.31**	**262**	*i* P	**Pn**	**15 18 09.7**	**-0.9**
SCER				*i* S	**Sb**	**15 18 27.2**	**-0.6**
ELZG	**Elazig**	**1.56**	**175**	*i* P	**Pn**	**15 18 14.4**	**+0.3**
ELZG				*i* S	**Sn**	**15 18 34.8**	**+0.4**
ELZG	**Elazig**	**1.56**	**175**	*i* P	**Pn**	**15 18 14.4**	**+0.3**
ELZG				*i* S	**Sn**	**15 18 34.8**	**+0.4**
ERBA	**Erbaa**	**1.69**	**292**	*i* P	**Pn**	**15 18 16.6**	**+0.7**
ERBA				*i* S	**Sn**	**15 18 37.0**	**-0.6**
ERBA	**Erbaa**	**1.69**	**292**	*i* P	**Pn**	**15 18 16.6**	**+0.7**
ERBA				*i* S	**Sn**	**15 18 37.0**	**-0.6**
SVRC	**Sivrice-ELAZID**	**1.72**	**167**	*e*PN	**Pn**	**15 18 16.5**	**+0.3**
SVRC	**Sivrice-ELAZID**	**1.72**	**167**	*e*Pn	**Pn**	**15 18 16.5**	**+0.3**
BINT	**Bingol**	**1.75**	**132**	*e*PN	**Pn**	**15 18 16.9**	**+0.2**
BINT	**Bingol**	**1.75**	**132**	*e*Pn	**Pn**	**15 18 16.9**	**+0.2**
MYA	**Malataya**	**1.75**	**190**	*e*PN	**Pn**	**15 18 17.1**	**+0.3**
MYA	**Malataya**	**1.75**	**190**	*e*Pn	**Pn**	**15 18 17.1**	**+0.4**
TOKA	**Tokat**	**1.81**	**279**	*i* P	**Pn**	**15 18 18.0**	**+0.5**
TOKA				*i* S	**Sg**	**15 18 44.1**	**-0.4**
TOKA	**Tokat**	**1.81**	**279**	*i* P	**Pn**	**15 18 18.0**	**+0.5**
TOKA				*i* S	**Sg**	**15 18 44.1**	**-0.3**
AKCD	**Akcadag**	**1.89**	**202**	*i* P	**Pn**	**15 18 20.3**	**+1.7**
AKCD				*i* S	**Sg**	**15 18 46.7**	**-0.4**
AKCD	**Akcadag**	**1.89**	**202**	*i* P	**Pn**	**15 18 20.3**	**+1.7**
AKCD				*i* S	**Sg**	**15 18 46.7**	**-0.3**
PZAR	**Pazar-Rize**	**1.94**	**54**	*e*PN	**Pn**	**15 18 19.7**	**+0.4**
PZAR	**Pazar-Rize**	**1.94**	**54**	*e*Pn	**Pn**	**15 18 19.7**	**+0.4**
ERZM	**Erzurum**	**1.97**	**94**	*i* P	**Pn**	**15 18 21.9**	**+2.3**
ERZM	**Erzurum**	**1.97**	**94**	*i* P	**Pn**	**15 18 21.9**	**+2.3**
BNGL	**BINGOL**	**2.12**	**121**	*e*P	**Pg**	**15 18 25.2**	**-1.6**
BNGL				*i* S	**Sg**	**15 18 57.3**	**+3.0**
PINB	**Pinarbasi**	**2.32**	**234**	*i* P	**Pn**	**15 18 25.1**	**+0.6**
PINB	**Pinarbasi**	**2.32**	**234**	*i* P	**Pn**	**15 18 25.1**	**+0.6**
KVT	**Kavak**	**2.34**	**297**	*e*PN	**Pn**	**15 18 25.7**	**+0.8**
KVT	**Kavak**	**2.34**	**297**	*e*Pn	**Pn**	**15 18 25.7**	**+0.9**
DIYA	**Diyarbakir**	**2.36**	**154**	*i* P	**Pg**	**15 18 29.6**	**-1.9**
DIYA	**Diyarbakir**	**2.36**	**154**	*i* P	**Pg**	**15 18 29.6**	**-1.9**
HOMI	**Horasan**	**2.37**	**89**	*i* P	**Pg**	**15 18 31.5**	**-0.3**
DDEM	**Demirkent**	**2.39**	**69**	*i* P	**Pg**	**15 18 28.7**	**-3.4**
DDEM				*i* S	**Sg**	**15 18 59.2**	**-3.9**
DDEM	**Demirkent**	**2.39**	**69**	*i* P	**Pg**	**15 18 28.7**	**-3.4**
DDEM				*i* S	**Sg**	**15 18 59.2**	**-3.9**
DBOC	**Borcka**	**2.52**	**58**	*e*PN	**Pn**	**15 18 28.6**	**+1.3**
DBOC				*i* S	**Sn**	**15 18 58.4**	**+0.4**
DBOC	**Borcka**	**2.52**	**58**	*e*Pn	**Pn**	**15 18 28.6**	**+1.3**
DBOC				*i* S	**Sn**	**15 18 58.4**	**+0.4**
BCA	**Borcka**	**2.54**	**56**	*e*PN	**Pn**	**15 18 28.1**	**+0.6**
BCA	**Borcka**	**2.54**	**56**	*e*Pn	**Pn**	**15 18 28.2**	**+0.6**
DAGI	**Agillar**	**2.57**	**66**	*e*P	**Pg**	**15 18 31.1**	**-4.5**
DAGI				*i* S	**Sg**	**15 19 02.7**	**-6.2**
URFA	**Urfa**	**2.61**	**180**	*e*PN	**Pn**	**15 18 29.2**	**+0.6**
URFA	**Urfa**	**2.61**	**180**	*e*Pn	**Pn**	**15 18 29.2**	**+0.7**
ATAB	**Bozova**	**2.62**	**189**	*i* P	**Pg**	**15 18 34.1**	**-2.3**
ARTV	**Artvin**	**2.62**	**64**	*i* P	**Pg**	**15 18 32.1**	**-4.4**
ARTV	**Artvin**	**2.62**	**64**	*i* P	**Pg**	**15 18 32.1**	**-4.5**
YOZ	**Yozgat**	**2.72**	**262**	*e*PN	**Pn**	**15 18 31.0**	**+1.0**
YOZ	**Yozgat**	**2.72**	**262**	*e*Pn	**Pn**	**15 18 31.0**	**+1.0**
GZT

KDAK	**Kodiak Island**	**8.95**	**161**	Pn		Pn	15 48 52.9	+8.1
	0.8nm,0.3s,baz=306,slow=22,SNR=8.2							
KDAK	**Kodiak Island**	**8.95**	**161**	Pn		Pn	15 48 52.9	+8.1
INK	**Inuvik**	**9.62**	**67**	Pn		Pn	15 48 54.3	+0.5
	0.6nm,0.3s,baz=126,slow=26,SNR=6.4							
INK				Lg			15 51 28.6	
	0.1nm,0.3s,baz=216,slow=3.5,SNR=3.8							
INK				LR		LR	15 53 23.3	
	comp=Z,53nm,19.1s,baz=238,slow=45							
INK	**Inuvik**	**9.62**	**67**	Pn		Pn	15 48 54.3	+0.5
INK				Lg			15 51 28.6	
INK				LR		LR	15 53 23.2	
DLBC	**Dease Lake**	**15.06**	**108**	Pn		Pn	15 50 12.2	+4.2
	0.1nm,0.3s,baz=314,slow=14,SNR=4.3							
DLBC				Lg			15 54 26.4	
	0.0nm,0.3s,baz=45,slow=25,SNR=5.4							
DLBC				LR		LR	15 56 11.2	
	comp=Z,175nm,18.8s,baz=323,slow=38							
DLBC	**Dease Lake**	**15.06**	**108**	Pn		Pn	15 50 12.2	+4.2
DLBC				Lg			15 54 26.4	
DLBC				LR		LR	15 56 11.2	
FX1	**Attu Island--F**	**19.61**	**241**	LR		LR	15 58 37.8	
	comp=Z,78nm,18.8s,baz=164,slow=35							
BBB	**Bella Bella**	**20.54**	**119**	LR		LR	16 00 59.6	
	comp=Z,47nm,19.4s,baz=317,slow=42							
ULM	**Lac du Bonnet**	**34.64**	**87**	LR		LR	16 07 41.8	
	comp=Z,96nm,20.1s,baz=327,slow=37							
NVAR	**Mina Array Bea**	**35.88**	**121**	P		P	15 53 39.5	+4.1
	0.4nm,0.3s,baz=302,slow=6.7,SNR=3.7							
NVAR	**Mina Array Bea**	**35.88**	**121**	P		P	15 53 39.5	+4.1
SCHQ	**Schefferville**	**42.13**	**60**	LR		LR	16 13 34.8	
	comp=Z,44nm,18.9s,baz=254,slow=39							
TXAR	**Lajitas Array**	**49.34**	**111**	P		P	15 55 28.2	+3.3
	0.7nm,0.8s,baz=326,slow=5.2,SNR=8.1							
TXAR				LR		LR	16 17 57.4	
	comp=Z,67nm,19.7s,baz=5.0,slow=38							
TXAR	**Lajitas Array**	**49.34**	**111**	P		P	15 55 28.2	+3.3
TXAR				LR		LR	16 17 57.4	
SONM	**Songino Array**	**49.50**	**298**	P		P	15 55 33.7	+7.9
	1.4nm,0.9s,baz=28,slow=7.3,SNR=4.4							
SONM				LR		LR	16 20 41.4	
	comp=Z,69nm,18.0s,baz=48,slow=41							
SONM	**Songino Array**	**49.50**	**298**	P		P	15 55 33.7	+7.9
SONM				LR		LR	16 20 41.4	
KSRS	**Korea Array**	**50.06**	**273**	LR		LR	16 18 03.7	
	comp=Z,25nm,18.6s,baz=25,slow=37							
ZALV	**Zalesovo Beam**	**51.03**	**317**	LR		LR	16 18 08.2	
	comp=Z,18nm,18.6s,baz=108,slow=37							
BVAR	**Borovoye Array**	**55.44**	**327**	P		P	15 56 13.7	+3.8
	1.6nm,0.5s,baz=54,slow=7.5,SNR=5.2							
BVAR	**Borovoye Array**	**55.44**	**327**	P		P	15 56 13.7	+3.8
MKAR	**Makanchi Array**	**58.18**	**315**	P		P	15 56 34.2	+4.9
	0.5nm,0.3s,baz=25,slow=5.3,SNR=4.0							
MKAR				LR		LR	16 23 29.8	
	comp=Z,27nm,19.2s,baz=358,slow=38							
MKAR	**Makanchi Array**	**58.18**	**315**	P		P	15 56 34.2	+4.9
MKAR				LR		LR	16 23 29.8	
AKTK	**Aktyubinsk**	**60.35**	**334**	P		P	15 56 48.0	+3.7
AKTO	**Aktyubinsk**	**60.35**	**334**	P		P	15 56 48.0	+3.7
	2.7nm,0.8s,baz=349,slow=5.2,SNR=2.9							
AKASG	**Malin Array Be**	**63.16**	**355**	P		P	15 57 07.0	+3.9
	0.9nm,0.6s,baz=12,slow=8.5,SNR=3.2							
AKASG	**Malin Array Be**	**63.16**	**355**	P		P	15 57 07.0	+3.9
CMAR	**Chiang Mai Arr**	**78.39**	**289**	P		P	15 58 42.5	+6.2
	0.8nm,0.7s,baz=1.7,slow=6.4,SNR=7.9							
CMAR				LR		LR	16 34 12.3	
	comp=Z,41nm,18.9s,baz=204,slow=36							
CMAR	**Chiang Mai Arr**	**78.39**	**289**	P		P	15 58 42.5	+6.2
CMAR				LR		LR	16 34 12.3	
TORD	**Torodi Ar. Bea**	**99.31**	**20**	LR		LR	16 44 26.5	
	comp=Z,38nm,18.2s,baz=250,slow=35							

*ISCJB **04** 15:46:47.0±1.6,39°.18N±0°.03×73°.41E±0°.06,h2km±11km, mb4.0/14,MS3.4/3,Error ellipse: s-maj=7.7km s-min=5.2km az=167.0*

*IDC **04** 15:46:48.4±0.8,39°.32N×73°.65E,h0km,mb4.1/12, mb1 4.2/17,mb1mx4.1/31,mbtmp4.1/17,ML3.5/6,MS2.8/5, Ms1 2.8/5,ms1mx2.5/38,Error ellipse: s-maj=14.9km s-min=11.8km az=114.0*

*NNC **04** 15:46:51.5±2.6,39°.48N×73°.19E,h0km,mb4.2,mpv4.3, Error ellipse: s-maj=21.9km s-min=12.2km az=1.0*

*MOS **04** 15:46:51.4±2.0,39°.30N×73°.58E,h33km,mb4.3/12,Error ellipse: s-maj=12.5km s-min=5.9km az=88.1*

*NEIC **04** 15:46:52.9±0.5,39°.27N×73°.73E,h35km,mb4.1/5,Error ellipse: s-maj=10.1km s-min=6.3km az=60.0*

ISC 04 15:46:51.2±2.5,39°.32N±0°.05×73°.36E±0°.06,h14km±16km, n113,σ1§62/120,mb4.0/14,MS3.4/3,5C-7D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AML	**Almayashu**	**2.82**	**5**	P		**Pn**	**15 47 36.9**	**+1.1**
	SNR=346							
UCH	**Uchtor**	**3.04**	**16**	P		**Pn**	**15 47 40.4**	**+1.6**
	SNR=45							
KZA	**Kyzart**	**3.11**	**27**	P		**Pn**	**15 47 40.0**	**+0.3**
	SNR=24							
EKS2	**Erkin-Say**	**3.36**	**5**	P		**Pn**	**15 47 44.6**	**+1.5**
	SNR=100							
EKS2	**Erkin-Say**	**3.36**	**5**	*e*P		**Pn**	**15 47 44.5**	**+1.4**
EKS2	**Erkin-Say**	**3.36**	**5**	*e*PN		**Pn**	**15 47 44.5**	**+1.4**
AAK	**Ala-Archa**	**3.42**	**14**	Pn		**Pn**	**15 47 45.4**	**+1.3**
	0.4nm,0.3s,baz=166,slow=9.9,SNR=160							
AAK				Sn		**Sn**	**15 48 26.5**	**+2.1**
	0.4nm,0.3s,baz=106,slow=20,SNR=8.4							
AAK				Lg			15 48 34.0	
	0.6nm,0.3s,baz=104,slow=22,SNR=9.0							
AAK	**Ala-Archa**	**3.42**	**14**	*e*P		**Pn**	**15 47 45.3**	**+1.2**
AAK				Sn		**Sn**	**15 48 26.5**	**+2.1**
AAK				Lg			15 48 34.0	
AAK	**Ala-Archa**	**3.42**	**14**	*e*PN		**Pn**	**15 47 45.3**	**+1.3**
AAK							15 48 26.5	
AAK							15 48 34.0	
KBK	**Karagaybulak**	**3.55**	**19**	P		**Pn**	**15 47 47.2**	**+1.5**
	SNR=80							
FRU	**Bishkek**	**3.64**	**15**	⇑*i*PN		**Pn**	**15 47 51.0**	**+4.0**
FRU				*e*S		**Sn**	**15 48 34.0**	**+4.3**
FRU				*e*			15 48 36.0	
FRU				pmax	pmax			
	comp=Z,270nm,1.6s							
FRU				pmax	pmax			
	comp=E,2μm,2.0s							
ULHL	**Ulahol**	**3.65**	**36**	P		**Pn**	**15 47 48.6**	**+1.4**
	SNR=14							
CHMS	**Chumysh**	**3.83**	**16**	P		**Pn**	**15 47 50.6**	**+1.0**
	SNR=29							
TKM2	**Tokmak 2**	**3.98**	**24**	P		**Pn**	**15 47 52.6**	**+1.0**
	SNR=14							
TKM2	**Tokmak 2**	**3.98**	**24**	⇓Pn		**Pn**	**15 47 52.0**	**+0.3**
	comp=E,58nm,0.8s							
TKM2				⇓Sn		**Sn**	**15 48 41.2**	**+3.2**
	comp=E,100nm,0.8s							
TKM2	**Tokmak 2**	**3.98**	**24**	*e*P		**Pn**	**15 47 51.0**	**-0.6**
TKM2	**Tokmak 2**	**3.98**	**24**	*e*PN		**Pn**	**15 47 51.0**	**-0.7**
USP	**Ospenovka**	**4.04**	**12**	P		**Pn**	**15 47 54.5**	**+2.0**
	SNR=29							
KK31	**Karatay Array**	**4.35**	**331**	Pn		**Pn**	**15 47 59.4**	**+2.7**
	comp=E,28nm,0.7s,baz=135,slow=13,SNR=194							
KK31				⇓Sn		**Sn**	**15 48 51.2**	**+4.0**
	comp=E,30nm,0.7s							
KK31				⇑Lg			15 49 05.9	
	comp=E,141nm,0.8s,baz=153,slow=29,SNR=4.7							
KKAR	**Karatay Array**	**4.35**	**331**	*e*P		**Pn**	**15 47 59.0**	**+2.2**
KKAR	**Karatay Array**	**4.35**	**331**	*e*PN		**Pn**	**15 47 59.0**	**+2.2**
KNDC	**Almaty**	**4.75**	**34**	⇓Pn		**Pn**	**15 48 03.5**	**+1.2**
	comp=E,44nm,0.7s							
KNDC				⇓Lg			15 49 16.3	
	comp=E,321nm,1.1s							
AAA	**Alma-Ata**	**4.79**	**33**	*e*PN		**Pn**	**15 48 04.9**	**+2.1**
AAA				*i* S		**Sn**	**15 49 11.3**	**+13**
AAA				pmax	pmax			
	comp=Z,91nm,0.7s							
AAA				smax				
	comp=E,261nm,0.7s							
CEP	**Cherat**	**5.61**	**192**	P		**Pn**	**15 48 21.5**	**+7.4**
CEP				S		**Sn**	**15 49 31.0**	**+13**
CHCP	**Chirah Chowk**	**5.65**	**181**	P		**Pn**	**15 48 22.1**	**+7.4**
THW	**Thamme Wali**	**6.64**	**192**	P		**Pn**	**15 48 35.5**	**+7.2**
SDNR	**Sundarnagar**	**8.34**	**158**	*e*PKP		**Pn**	**15 48 56.0**	**+4.4**
SDNR				*e*S		**Sn**	**15 50 28.0**	**+2.5**
MK31	**Makanchi Array**	**9.92**	**38**	*e*P		**Pn**	**15 49 11.0**	**-2.3**
MK31	**Makanchi Array**	**9.92**	**38**	*e*P		**Pn**	**15 49 11.0**	**-2.2**
MKAR	**Makanchi Array**	**9.92**	**38**	Pn		**Pn**	**15 49 12.0**	**-1.2**
	comp=E,0.4nm,0.3s,baz=215,slow=10,SNR=9.9							
MKAR	**Makanchi Array**	**9.92**	**38**	P		**Pn**	**15 49 12.0**	**-1.2**
KURK	**Kurchatov**	**11.98**	**16**	Pn		**Pn**	**15 49 38.0**	**-3.5**
	comp=E,0.1nm,0.3s,baz=203,slow=12,SNR=9.6							
KURK				Lg			15 52 53.0	
	comp=E,0.1nm,0.3s,baz=200,slow=29,SNR=5.0							
KURK				LR		LR	15 54 13.7	
	comp=E,56nm,21.4s,baz=200,slow=38							
KURK	**Kurchatov**	**11.98**	**16**	P		**Pn**	**15 49 38.8**	**-2.6**
KURK				Lg			15 52 53.0	
KURK				LR		LR	15 54 13.7	
KURK	**Kurchatov**	**11.98**	**16**	P		**Pn**	**15 49 38.8**	**-2.6**
VOSK	**Vostochnaya**	**13.51**	**354**	⇓Pn		**Pn**	**15 49 59.4**	**-2.8**
	comp=E,2.9nm,0.7s							
AB31	**Akbulak array**	**13.80**	**320**	Pn		**Pn**	**15 50 05.3**	**-0.9**
	comp=E,1.0nm,0.5s,baz=133,slow=12,SNR=35							
AB31				⇑Sn		**Sn**	**15 52 36.1**	**-3.1**
	comp=E,2.1nm,0.6s							
ABKAR	**Akbulak array**	**13.80**	**320**	*e*P		**Pn**	**15 50 05.1**	**-1.1**
	comp=E,2.8nm,0.6s							
BVAR	**Borovoye Array**	**13.86**	**352**	Pn		**Pn**	**15 50 04.9**	**-2.2**
	comp=E,0.3nm,0.3s,baz=160,slow=14,SNR=10							
BVAR				Lg			15 54 03.8	
	comp=E,0.1nm,0.3s,baz=160,slow=27,SNR=3.9							
BVAR	**Borovoye Array**	**13.86**	**352**	Pn		**Pn**	**15 50 04.9**	**-2.2**
BVAR				Lg			15 54 03.8	
BVAR	**Borovoye Array**	**13.86**	**352**	P		**Pn**	**15 50 04.9**	**-2.1**
BVA4	**Borovoye Array**	**13.87**	**353**	⇑Pn		**Pn**	**15 50 07.0**	**0.0**
	comp=E,0.9nm,0.6s							
BRVK	**Borovoye**	**13.91**	**352**	*e*P		**Pn**	**15 50 05.0**	**-2.7**
BRVK	**Borovoye**	**13.91**	**352**	*e*P		**Pn**	**15 50 05.0**	**-2.6**
DANN	**Dangsing**	**13.93**	**139**	*e*P		**Pn**	**15 50 04.7**	**-3.4**
	comp=E,17nm,0.5s							
DANN	**Dangsing**	**13.93**	**139**	*e*P		**Pn**	**15 50 04.7**	**-3.4**
	comp=E,17nm,0.5s							
ZRNK	**Zerenda**	**13.96**	**349**	⇑Pn		**Pn**	**15 50 06.0**	**-2.4**
	comp=E,2.2nm,0.6s							
KOLN	**Koldanda**	**14.32**	**140**	*e*P		**Pn**	**15 50 11.3**	**-2.2**
	comp=E,10.0nm,0.5s							
KOLN	**Koldanda**	**14.32**	**140**	*e*P		**Pn**	**15 50 11.3**	**-2.2**
	comp=E,10.0nm,0.5s							
GKN	**Gorkha**	**14.67**	**137**	*e*P		**Pn**	**15 50 14.2**	**-4.0**
	comp=E,11nm,0.5s							
GKN	**Gorkha**	**14.67**	**137**	*e*P		**Pn**	**15 50 14.2**	**-4.0**
	comp=E,11nm,0.5s							
KKN	**Kakani**	**15.18**	**136**	*e*P		**Pn**	**15 50 20.8**	**-4.3**
	comp=E,16nm,0.7s							
KKN	**Kakani**	**15.18**	**136**	*e*P		**Pn**	**15 50 20.8**	**-4.3**
	comp=E,16nm,0.7s							
KKN	**Kakani**	**15.18**	**136**	*e*P		**Pn**	**15 50 20.8**	**-4.3**
KKN				pmax	pmax			
	comp=Z,16nm,0.7s							
DMN	**Daman**	**15.23**	**137**	*e*P		**Pn**	**15 50 21.3**	**-4.4**
	comp=Z,9.4nm,0.5s							
DMN	**Daman**	**15.23**	**137**	*e*P		**Pn**	**15 50 21.3**	**-4.4**
	comp=Z,9.4nm,0.5s							
AKTK	**Aktyubinsk**	**15.52**	**321**	Pn		**Pn**	**15 50 29.3**	**-0.1**
AKTK				LR		LR	15 57 29.9	
AKTO	**Aktyubinsk**	**15.52**	**321**	⇓Pn		**Pn**	**15 50 31.4**	**+2.1**
	comp=Z,1.6nm,1.1s							
AKTO	**Aktyubinsk**	**15.52**	**321**	Pn		**Pn**	**15 50 29.3**	**0.0**
	comp=Z,0.2nm,0.3s,baz=130,slow=15,SNR=16							
AKTO				LR		LR	15 57 29.9	
	comp=Z,30nm,21.5s,baz=8.5,slow=41							
AKTO	**Aktyubinsk**	**15.52**	**321**	P		**Pn**	**15 50 29.3**	**0.0**
AKTO				MLR		MLR		
	comp=Z,30nm,21.5s							
ZAA0	**Zalesovo Array**	**16.58**	**24**	*e*P		**Pn**	**15 50 38.8**	**-4.2**
ZALV	**Zalesovo Beam**	**16.58**	**24**	Pn		**Pn**	**15 50 39.9**	**-3.1**
	comp=Z,0.4nm,0.3s,baz=204,slow=11,SNR=18							
ZALV				LR		LR	15 57 26.8	
	comp=Z,24nm,20.6s,baz=334,slow=39							
ZALV	**Zalesovo Beam**	**16.58**	**24**	Pn		**Pn**	**15 50 39.9**	**-3.1**
ZALV				LR		LR	15 57 26.8	
ZALV	**Zalesovo Beam**	**16.58**	**24**	P		**Pn**	**15 50 39.9**	**-3.1**
ZALV				MLR		MLR		
	comp=Z,24nm,20.6s							
NVS	**Novosibirsk**	**16.89**	**20**	*e*P		**Pn**	**15 50 45.8**	**-1.2**
ODAN	**Odare**	**17.08**	**132**	*e*P		**Pn**	**15 50 44.3**	**-5.2**
	comp=Z,12nm,0.6s							
ODAN	**Odare**	**17.08**	**132**	*e*P		**Pn**	**15 50 44.3**	**-5.2**
	comp=Z,12nm,0.6s							
ARU	**Arti**	**19.71**	**335**	*e*P		**Pn**	**15 51 20.5**	**-0.9**
	comp=Z,12nm,1.3s							
ARU	**Arti**	**19.71**	**335**	P		**Pn**	**15 51 21.8**	**+0.4**
ZEI	**Tsey**	**22.43**	**288**	*e*P		**P**	**15 51 51.4**	**+2.0**
ZEI				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb3.8							
SONM	**Songino Array**	**25.25**	**59**	P		**P**	**15 52 15.1**	**-1.4**
	comp=Z,1.6nm,0.6s,mb3.7,baz=267,slow=9.2,SNR=7.4							
SONM	**Songino Array**	**25.25**	**59**	P		**P**	**15 52 15.1**	**-1.4**
SONM	**Songino Array**	**25.25**	**59**	P		**P**	**15 52 15.1**	**-1.5**
SONM				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ULN	**Ulaanbaatar**	**25.69**	**60**	*e*P		**P**	**15 52 19.4**	**-1.2**
	comp=Z,3.6nm,0.9s,mb3.9							
ULN	**Ulaanbaatar**	**25.69**	**60**	*e*P		**P**	**15 52 19.4**	**-1.2**
ULN				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.0							
BR131	**Keskin Array S**	**30.47**	**284**	*e*P		**P**	**15 53 06.2**	**+2.8**
	comp=Z,1.4nm,0.6s,mb3.9							
BRTR	**Keskin Array B**	**30.47**	**284**	P		**P**	**15 53 06.2**	**+2.8**
	comp=Z,2.2nm,0.7s,mb4.0,baz=86,slow=8.2,SNR=13							
BRTR	**Keskin Array B**	**30.47**	**284**	P		**P**	**15 53 06.2**	**+2.8**
BRTR	**Keskin Array B**	**30.47**	**284**	P		**P**	**15 53 06.2**	**+2.8**
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
AKASG	**Malin Array Be**	**32.75**	**305**	P		**P**	**15 53 24.4**	**+1.2**
	comp=Z,1.0nm,0.6s,mb4.0,baz=82,slow=7.3,SNR=6.0							
AKASG	**Malin Array Be**	**32.75**	**305**	P		**P**	**15 53 24.4**	**+1.2**
AKASG	**Malin Array Be**	**32.75**	**305**	P		**P**	**15 53 24.5**	**+1.2**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.6s							
FINES	**FINESS Array B**	**36.26**	**323**	P		**P**	**15 53 54.8**	**+1.2**
	comp=Z,1.7nm,0.5s,mb4.2,baz=116,slow=8.7,SNR=7.0							
FINES	**FINESS Array B**	**36.26**	**323**	P		**P**	**15 53 54.8**	**+1.2**
FINES	**FINESS Array B**	**36.26**	**323**	P		**P**	**15 53 54.8**	**+1.2**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.5s							
ARCES	**ARCESS Array B**	**39.30**	**336**	P		**P**	**15 54 19.5**	**+0.3**
	comp=Z,3.6nm,0.8s,mb4.2,baz=116,slow=8.2,SNR=4.9							
ARCES	**ARCESS Array B**	**39.30**	**336**	P		**P**	**15 54 19.5**	**+0.3**
ARCES	**ARCESS Array B**	**39.30**	**336**	P		**P**	**15 54 19.5**	**+0.4**
ARCES				pmax	pmax			
	comp=Z,4.0nm,0.8s							
GERES	**GERESS Array B**	**42.89**	**303**	P		**P**	**15 54 50.1**	**+1.2**
	comp=Z,0.3nm,0.4s,mb3.4,baz=150,slow=9.3,SNR=5.8							
GERES	**GERESS Array B**	**42.89**	**303**	P		**P**	**15 54 50.1**	**+1.2**
GERES	**GERESS Array B**	**42.89**	**303**	P		**P**	**15 54 50.2**	**+1.3**
NB2	**NORSAR Subarra**	**43.31**	**321**	P		**P**	**15 54 52.5**	**+0.4**
	comp=Z,1.5nm,0.6s,mb3.9,baz=91,slow=8.6							
NOA	**NORSAR Array B**	**43.31**	**321**	P		**P**	**15 54 52.0**	**-0.2**
	comp=Z,2.5nm,0.7s,mb4.0,baz=91,slow=8.0,SNR=10.0							
NOA				LR		LR	16 13 20.4	
	comp=Z,34nm,19.3s,MS3.3,baz=355,slow=37							
NOA	**NORSAR Array B**	**43.31**	**321**	P		**P**	**15 54 52.0**	**-0.2**
NOA				LR		LR	16 13 20.4	
NOA	**NORSAR Array B**	**43.31**	**321**	P		**P**	**15 54 52.0**	**-0.1**
NOA				pmax	pmax			
	comp=Z,3.0nm,0.7s							
NOA				MLR	MLR			
	comp=Z,35nm,19.3s							
TORD	**Torodi Ar. Bea**	**67.64**	**269**	P		**P**	**15 57 47.2**	**-0.7**
	comp=Z,1.8nm,0.6s,mb4.3,baz=50,slow=5.1,SNR=14							
TORD	**Torodi Ar. Bea**	**67.64**	**269**	P		**P**	**15 57 47.2**	**-0.7**
INK	**Inuvik**	**70.82**	**10**	P		**P**	**15 58 06.1**	**-0.6**
	comp=Z,2.0nm,0.8s,mb4.1,baz=24,slow=6.0,SNR=6.2							
INK	**Inuvik**	**70.82**	**10**	P		**P**	**15 58 06.1**	**-0.6**
INK	**Inuvik**	**70.82**	**10**	P		**P**	**15 58 06.1**	**-0.6**
INK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ILAR	**Eielson Array**	**71.56**	**17**	P		**P**	**15 58 09.6**	**-1.6**
	comp=Z,1.1nm,0.8s,mb3.9,baz=321,slow=4.7,SNR=14							
ILAR	**Eielson Array**	**71.56**	**17**	P		**P**	**15 58 09.6**	**-1.6**
ILAR	**Eielson Array**	**71.56**	**17**	P		**P**	**15 58 09.6**	**-1.6**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
YKA	**Yellowknife Ar**	**78.33**	**4**	LR		LR	16 36 02.3	
	comp=Z,3.6nm,19.6s,MS2.7,baz=140,slow=38							
WRA	**Warramunga Arr**	**81.95**	**124**	P		**P**	**15 59 09.3**	**-1.2**
	comp=Z,1.9nm,0.6s,mb4.2,baz=325,slow=4.9,SNR=36							
WRA	**Warramunga Arr**	**81.95**	**124**	P		**P**	**15 59 09.3**	**-1.2**
WRA	**Warramunga Arr**	**81.95**	**124**	P		**P**	**15 59 09.4**	**-1.1**
WRA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
WRAB	**Tennant Creek**	**81.95**	**124**	*e*P		**P**	**15 59 09.3**	**-1.2**
WRAB	**Tennant Creek**	**81.95**	**124**	*e*P		**P**	**15 59 09.3**	**-1.2**
ASAR	**Alice Springs**	**84.38**	**127**	P		**P**	**15 59 21.8**	**-1.2**
	comp=Z,0.8nm,0.6s,mb4.0,baz=322,slow=4.8,SNR=17							
ASAR	**Alice Springs**	**84.38**	**127**	P		**P**	**15 59 21.8**	**-1.2**
ASAR	**Alice Springs**	**84.38**	**127**	P		**P**	**15 59 21.8**	**-1.2**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
CTA	**Charters Tower**	**90.06**	**116**	LR		LR	16 39 31.5	
	comp=Z,78nm,19.9s,MS4.1,baz=177,slow=35							

*ISK **04** 15:55:16.9,38°.49N×39°.54E,h12km,MD2.6*

*ISCJB **04** 15:55:17.5±1.0,38°.49N±0°.04×39°.53E±0°.07,h6km±6km, Error ellipse: s-maj=9.6km s-min=6.8km az=22.6*

*CSEM **04** 15:55:18.3±0.5,38°.56N×39°.42E,h15km,MD2.6,Error ellipse: s-maj=13.0km s-min=10.2km az=94.0*

*DDA **04** 15:55:19.4,38°.53N×39°.42E,h7km±2km,Md2.9*

ISC 04 15:55:18.7±0.8,38°.53N±0°.04×39°.47E±0°.06,h13km±5km, n18,σ1§18/28,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.20**	**220**	*e*PG		**Pg**	**15 55 22.0**	**-1.0**
SVRC	**Sivrice-ELAZID**	**0.20**	**220**	*e*Pg		**Pg**	**15 55 22.0**	**-1.0**
PTK	**Pertek**	**0.37**	**351**	*e*PG		**Pg**	**15 55 25.7**	**-0.4**
PTK				*e*SG		**Sg**	**15 55 32.2**	**+1.2**
PTK	**Pertek**	**0.37**	**351**	*e*Pg		**Pg**	**15 55 25.7**	**-0.4**
PTK				*e*Sg		**Sg**	**15 55 32.2**	**+1.2**
ELZG	**Elazig**	**0.38**	**265**	*i* P		**Pg**	**15 55 25.8**	**-0.5**
ELZG				*i* S		**Sg**	**15 55 31.8**	**+0.4**
ELZG	**Elazig**	**0.38**	**265**	*i* P		**Pg**	**15 55 25.8**	**-0.5**
ELZG				*i* S		**Sg**	**15 55 31.8**	**+0.4**
DIYA	**Diyarbakir**	**0.79**	**139**	*i* P		**Pb**	**15 55 36.5**	**+2.1**
DIYA				*i* S		**Sb**	**15 55 49.4**	**+4.5**
DIYA	**Diyarbakir**	**0.79**	**139**	*i* P		**Pb**	**15 55 36.5**	**+2.2**
DIYA				*i* S		**Sb**	**15 55 49.4**	**+4.5**
MYA	**Malataya**	**0.84**	**256**	*e*PG		**Pg**	**15 55 34.2**	**-0.7**
MYA	**Malataya**	**0.84**	**256**	*e*Pg		**Pg**	**15 55 34.2**	**-0.8**
KEMA	**Kemaliye**	**1.06**	**315**	*i* P		**Pb**	**15 55 38.5**	**-0.4**
KEMA				*i* S		**Sb**	**15 55 54.0**	**+1.4**
KEMA	**Kemaliye**	**1.06**	**315**	*i* P		**Pb**	**15 55 38.5**	**-0.3**
KEMA				*i* S		**Sb**	**15 55 54.0**	**+1.4**
ERZN	**Erzincan**	**1.07**	**11**	*e*PN		**Pn**	**15 55 38.6**	**-0.8**
URFA	**Urfa**	**1.20**	**205**	*e*PN		**Pn**	**15 55 39.9**	**-1.2**
URFA	**Urfa**	**1.20**	**205**	*e*Pn		**Pn**	**15 55 39.9**	**-1.2**
EZC	**Erzincan**	**1.22**	**356**	*e*Pn		**Pn**	**15 55 38.6**	**-2.9**
AKCD	**Akcadag**	**1.23**	**260**	*i* P		**Pn**	**15 55 41.1**	**-0.5**
AKCD				*i* S		**Sb**	**15 55 59.2**	**+1.5**
AKCD	**Akcadag**	**1.23**	**260**	*i* P		**Pn**	**15 55 41.1**	**-0.5**
AKCD				*i* S		**Sb**	**15 55 59.2**	**+1.6**

*IDC **04** 15:57:12.5±0.8,37°.87N×72°.99E,h0km,mb3.8/9, mb1 3.9/14,mb1mx3.8/30,mbtmp3.8/14,ML3.7/5,Error ellipse: s-maj=18.1km s-min=15.4km az=43.0*

*MOS **04** 15:57:21.3±1.3,38°.06N×73°.00E,h90km,mb3.8/6,Error ellipse: s-maj=14.8km s-min=8.2km az=95.2*

*ISCJB **04** 15:57:24.6±0.4,38°.19N±0°.03×73°.36E±0°.06,h124km±7km, mb3.8/13,Error ellipse: s-maj=7.9km s-min=4.5km az=168.2*

*NEIC **04** 15:57:24.5±0.8,38°.12N×73°.30E,h103km±10km,mb4.7/12, Error ellipse: s-maj=11.5km s-min=6.9

KKN	**Kakani**	**14.41**	**132**	*eP*		**Pn**	**16 00 42.0**	**-1.8**
KKN				pmax	pmax				
	comp=Z,41nm,0.5s								
DMN	**Daman**	**14.44**	**133**	*eP*		**Pn**	**16 00 43.4**	**-0.9**
	comp=Z,17nm,0.5s								
DMN	**Daman**	**14.44**	**133**	*eP*		**Pn**	**16 00 43.4**	**-0.9**
	comp=Z,17nm,0.5s								
VOSK	**Vostochnaya**	**14.64**	**354**	Pn		**Pn**	**16 00 42.7**	**-3.8**
	comp=Z,24nm,0.8s								
PKI	**Pulchoki**	**14.65**	**133**	*eP*		**Pn**	**16 00 46.5**	**-0.4**
	comp=Z,27nm,0.7s								
PKI	**Pulchoki**	**14.65**	**133**	*eP*		**Pn**	**16 00 46.5**	**-0.4**
	comp=Z,27nm,0.7s								
PKI	**Pulchoki**	**14.65**	**133**	*eP*		**Pn**	**16 00 46.5**	**-0.4**
PKI				pmax	pmax				
	comp=Z,27nm,0.7s								
GUN	**Gumba**	**14.67**	**131**	*eP*		**Pn**	**16 00 45.0**	**-2.2**
	comp=Z,17nm,0.4s								
GUN	**Gumba**	**14.67**	**131**	*eP*		**Pn**	**16 00 45.0**	**-2.2**
	comp=Z,17nm,0.4s								
AB31	**Akbulak array**	**14.68**	**323**	Pn		**Pn**	**16 00 42.8**	**-4.3**
	comp=Z,2.6nm,0.5s,baz=136,slow=12,SNR=55								
AB31				Sn		**Sn**	**16 03 09.1**	**-20**
	comp=Z,3.0nm,0.6s,baz=130,slow=27,SNR=8.8								
ABKAR	**Akbulak array**	**14.68**	**323**	*eP*		**Pn**	**16 00 42.5**	**-4.6**
	comp=Z,3.7nm,0.5s								
BVAR	**Borovoye Array**	**14.99**	**353**	Pn		**Pn**	**16 00 48.0**	**-2.9**
	comp=Z,0.3nm,0.3s,baz=141,slow=14,SNR=4.5								
BVAR	**Borovoye Array**	**14.99**	**353**	Pn		**Pn**	**16 00 48.0**	**-2.9**
BVAR	**Borovoye Array**	**14.99**	**353**	P		**Pn**	**16 00 48.0**	**-2.9**
ZRNK	**Zerenda**	**15.07**	**350**	Pn		**Pn**	**16 00 49.9**	**-2.2**
	comp=Z,4.1nm,0.8s								
ZRNK				Sn		**Sn**	**16 03 24.9**	**-14**
	comp=Z,1.7nm,0.7s								
TAPN	**Taplejung**	**16.20**	**128**	*eP*		**Pn**	**16 01 05.9**	**-0.3**
	comp=Z,12nm,0.5s								
TAPN	**Taplejung**	**16.20**	**128**	*eP*		**Pn**	**16 01 05.9**	**-0.3**
	comp=Z,12nm,0.5s								
ODAN	**Odare**	**16.35**	**130**	*eP*		**Pn**	**16 01 07.8**	**-0.3**
	comp=Z,18nm,0.5s								
ODAN	**Odare**	**16.35**	**130**	*eP*		**Pn**	**16 01 07.8**	**-0.3**
	comp=Z,18nm,0.5s								
AKTK	**Aktyubinsk**	**16.40**	**323**	Pn		**Pn**	**16 01 04.0**	**-4.4**
AKTO	**Aktyubinsk**	**16.40**	**323**	⇓Pn		**Pn**	**16 01 07.2**	**-1.2**
	comp=Z,1.0nm,0.8s								
AKTO				⇓Sn		**Sn**	**16 03 55.4**	**-15**
	comp=Z,1.1nm,1.3s								
AKTO	**Aktyubinsk**	**16.40**	**323**	Pn		**Pn**	**16 01 04.0**	**-4.4**
	comp=Z,0.3nm,0.3s,baz=143,slow=14,SNR=8.6								
AKTO	**Aktyubinsk**	**16.40**	**323**	P		**Pn**	**16 01 04.0**	**-4.5**
ZAA0	**Zalesovo Array**	**17.63**	**23**	*eP*		**Pn**	**16 01 23.2**	**-0.2**
ZALV	**Zalesovo Beam**	**17.63**	**23**	P		**Pn**	**16 01 23.4**	**0.0**
	comp=Z,1.3nm,0.3s,baz=211,slow=11,SNR=62								
ZALV	**Zalesovo Beam**	**17.63**	**23**	P		**Pn**	**16 01 23.4**	**0.0**
ZALV	**Zalesovo Beam**	**17.63**	**23**	P		**Pn**	**16 01 23.4**	**0.0**
ZALV				pmax	pmax				
	comp=Z,1.0nm,0.3s								
MIB	**Mutribah**	**23.06**	**257**	*eP*		**P**	**16 02 21.1**	**+0.5**
MIB				AMb	AMB	AMB	16 02 23.2		
	comp=Z,21nm,0.7s,mb4.5								
NAY	**Al-Naaiem**	**23.39**	**255**	*eP*		**P**	**16 02 24.5**	**+0.8**
NAY				AMb	AMB	AMB	16 02 26.1		
	comp=Z,20nm,1.6s,mb4.2								
RST	**Umm Al-Ruwaisa**	**23.46**	**256**	*eP*		**P**	**16 02 25.0**	**+0.7**
RST				AMb	AMB	AMB	16 02 26.4		
	comp=Z,3.8nm,1.0s,mb3.7								
SONM	**Songino Array**	**25.86**	**57**	P		**P**	**16 02 49.4**	**+3.5**
	comp=Z,1.2nm,0.6s,mb3.5,baz=260,slow=11,SNR=6.3								
SONM	**Songino Array**	**25.86**	**57**	P		**P**	**16 02 49.4**	**+3.5**
SONM	**Songino Array**	**25.86**	**57**	P		**P**	**16 02 49.4**	**+3.5**
SONM				pmax	pmax				
	comp=Z,1.0nm,0.6s								
ULN	**Ulaanbaatar**	**26.30**	**58**	*eP*		**P**	**16 02 53.0**	**+3.1**
	comp=Z,1.7nm,0.7s,mb3.6								
ULN	**Ulaanbaatar**	**26.30**	**58**	*eP*		**P**	**16 02 53.0**	**+3.1**
ULN				pmax	pmax				
	comp=Z,2.0nm,0.7s,mb3.7								
CMAR	**Chiang Mai Arr**	**29.75**	**124**	P		**P**	**16 03 22.4**	**+1.7**
	comp=Z,0.1nm,0.3s,mb2.9,baz=304,slow=12,SNR=2.9								
CMAR	**Chiang Mai Arr**	**29.75**	**124**	P		**P**	**16 03 22.4**	**+1.7**
CMAR	**Chiang Mai Arr**	**29.75**	**124**	P		**P**	**16 03 22.4**	**+1.6**
BRTR	**Keskin Array B**	**30.73**	**285**	P		**P**	**16 03 29.4**	**+0.1**
	comp=Z,0.9nm,0.6s,mb3.6,baz=92,slow=8.7,SNR=6.1								
BRTR	**Keskin Array B**	**30.73**	**285**	P		**P**	**16 03 29.4**	**+0.1**
BRTR	**Keskin Array B**	**30.73**	**285**	P		**P**	**16 03 29.4**	**+0.1**
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
AKASG	**Malin Array Be**	**33.39**	**306**	P		**P**	**16 03 51.4**	**-1.0**
	comp=Z,0.6nm,0.4s,mb3.8,baz=81,slow=8.3,SNR=4.1								
AKASG	**Malin Array Be**	**33.39**	**306**	P		**P**	**16 03 51.4**	**-1.0**
AKASG	**Malin Array Be**	**33.39**	**306**	P		**P**	**16 03 51.4**	**-1.0**
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.4s								
FINES	**FINESS Array B**	**37.17**	**324**	P		**P**	**16 04 24.6**	**0.0**
	comp=Z,0.7nm,0.4s,mb4.0,baz=113,slow=8.9,SNR=8.0								
FINES	**FINESS Array B**	**37.17**	**324**	P		**P**	**16 04 24.6**	**0.0**
FINES	**FINESS Array B**	**37.17**	**324**	P		**P**	**16 04 24.6**	**0.0**
FINES				pmax	pmax				
	comp=Z,1.0nm,0.4s								
ARCES	**ARCESS Array B**	**40.33**	**336**	P		**P**	**16 04 50.9**	**0.0**
	comp=Z,6.3nm,1.0s,mb4.4,baz=97,slow=7.4,SNR=5.0								
ARCES	**ARCESS Array B**	**40.33**	**336**	P		**P**	**16 04 50.9**	**0.0**
ARCES	**ARCESS Array B**	**40.33**	**336**	P		**P**	**16 04 50.9**	**0.0**
ARCES				pmax	pmax				
	comp=Z,6.0nm,1.0s								
TORD	**Torodi Ar. Bea**	**67.60**	**269**	P		**P**	**16 08 09.5**	**-0.2**
	comp=Z,2.8nm,0.6s,mb4.3,baz=48,slow=5.3,SNR=23								
TORD	**Torodi Ar. Bea**	**67.60**	**269**	P		**P**	**16 08 09.5**	**-0.2**
WRA	**Warramunga Arr**	**81.34**	**124**	P		**P**	**16 09 30.7**	**+1.8**
	comp=Z,0.6nm,0.8s,mb3.5,baz=326,slow=4.7,SNR=4.4								
WRA	**Warramunga Arr**	**81.34**	**124**	P		**P**	**16 09 30.7**	**+1.8**
WRA	**Warramunga Arr**	**81.34**	**124**	P		**P**	**16 09 30.7**	**+1.7**
WRA				pmax	pmax				
	comp=Z,1.0nm,0.8s								
ASAR	**Alice Springs**	**83.73**	**127**	P		**P**	**16 09 43.6**	**+2.3**
	comp=Z,0.3nm,0.8s,mb3.1,baz=317,slow=5.0,SNR=2.9								
ASAR	**Alice Springs**	**83.73**	**127**	P		**P**	**16 09 43.6**	**+2.3**
ASAR	**Alice Springs**	**83.73**	**127**	P		**P**	**16 09 43.6**	**+2.3**

*ISCJB **04** 16:17:30.5±1.1,37.17N±0.06×37.56E±0.05,h3km±7km, Error ellipse: s-maj=10.7km s-min=6.5km az=159.1*
*DDA **04** 16:17:30.2,37.20N×37.42E,h7km±6km,Md2.9*
*ISK **04** 16:17:30.3,37.21N×37.53E,h3km,MD2.7*
*CSEM **04** 16:17:31.2±0.4,37.20N×37.53E,h8km,MD2.9, Error ellipse: s-maj=12.1km s-min=5.6km az=166.0*

ISC 04 16:17:31.0±1.1,37.17N±0.06×37.55E±0.05,h5km±6km, n22,σ0§73/29,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GZT	**Gaziantep**	**0.18**	**3**	*i*	P		**Pg**	**16 17 33.3**	**-1.3**
GZT				*i*	S		**Sg**	**16 17 37.4**	**+0.4**
GAZ	**Gaziantep**	**0.27**	**270**	*e*	PG		**Pg**	**16 17 36.1**	**-0.2**
GAZ				*e*	SG		**Sg**	**16 17 40.6**	**+0.7**
GAZ	**Gaziantep**	**0.27**	**270**	*e*	Pg		**Pg**	**16 17 36.1**	**-0.2**
GAZ				*e*	Sg		**Sg**	**16 17 40.6**	**+0.8**
KMRS	**Kahramanmaras**	**0.61**	**303**	*e*	PG		**Pg**	**16 17 42.6**	**-0.2**
KMRS	**Kahramanmaras**	**0.61**	**303**	*e*	Pg		**Pg**	**16 17 42.6**	**-0.2**
URFA	**Urfa**	**1.05**	**75**	*e*	PG		**Pg**	**16 17 51.3**	**+0.2**
URFA	**Urfa**	**1.05**	**75**	*e*	Pg		**Pg**	**16 17 51.3**	**+0.2**
AKCD	**Akcadag**	**1.16**	**15**	*i*	P		**Pg**	**16 17 53.5**	**+0.3**
AKCD				*i*	S		**Sg**	**16 18 08.6**	**+0.3**
AKCD	**Akcadag**	**1.16**	**15**	*i*	P		**Pg**	**16 17 53.5**	**+0.3**
AKCD				*i*	S		**Sg**	**16 18 08.6**	**+0.4**
MYA	**Malataya**	**1.34**	**31**	*e*	PN		**Pn**	**16 17 56.1**	**-0.3**
MYA	**Malataya**	**1.34**	**31**	*e*	Pn		**Pn**	**16 17 56.1**	**-0.3**
KOZT	**Kozan**	**1.41**	**283**	*e*	PN		**Pn**	**16 17 57.5**	**+0.2**
KOZT	**Kozan**	**1.41**	**283**	*e*	Pn		**Pn**	**16 17 57.5**	**+0.2**
SARI	**SarD1z-Kayseri**	**1.65**	**336**	*e*	PN		**Pn**	**16 17 58.3**	**-2.3**
SARI	**SarD1z-Kayseri**	**1.65**	**336**	*e*	Pn		**Pn**	**16 17 58.3**	**-2.3**
PINB	**Pinarbasi**	**1.75**	**329**	*e*	P		**Pn**	**16 18 01.9**	**-0.2**
PINB				*e*	S		**Sn**	**16 18 25.4**	**+0.6**
PINB	**Pinarbasi**	**1.75**	**329**	*e*	P		**Pn**	**16 18 01.9**	**-0.2**
PINB				*e*	S		**Sn**	**16 18 25.4**	**+0.6**
DARE	**Darende-Malaty**	**1.79**	**6**	*e*	PN		**Pn**	**16 17 56.9**	**-5.6**
SVRC	**Sivrice-ELAZID**	**1.84**	**49**	*e*	PN		**Pn**	**16 18 03.7**	**+0.5**
SVRC	**Sivrice-ELAZID**	**1.84**	**49**	*e*	Pn		**Pn**	**16 18 03.7**	**+0.5**
PTK	**Pertek**	**2.25**	**40**	*e*	PN		**Pn**	**16 18 09.5**	**+0.6**
PTK	**Pertek**	**2.25**	**40**	*e*	Pn		**Pn**	**16 18 09.5**	**+0.7**

*IDC **04** 16:25:41.9±1.0,6.82S×128.90E,h0km,mb3.7/5,*

mb1 3.8/9,mb1mx3.7/19,mbtmp3.7/9,ML3.6/4,Error ellipse: s-maj=41.8km s-min=18.3km az=55.0
*ISCJB **04** 16:25:44.0±0.6,6.98S±0.08×128.8E±0.1,h33km,mb3.6/5, Error ellipse: s-maj=19.5km s-min=7.3km az=151.8*
*NEIC **04** 16:25:43.9±0.6,6.84S×128.87E,h15km,Error ellipse: s-maj=19.7km s-min=9.4km az=47.0*

ISC 04 16:25:46.2±0.6,7.03S±0.08×128.8E±0.1,h35km,n22, σ1§18/26,mb3.6/5,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.68**	**148**	*e*	P		**Pn**	**16 27 24.0**	**+2.1**
	44nm,0.5s								
KAPI	**Kappang**	**9.24**	**282**	Pn			**Pn**	**16 27 55.5**	**-1.6**
	1.0nm,0.3s,baz=84,slow=18,SNR=2.0								
KAPI	**Kappang**	**9.24**	**282**	Pn			**Pn**	**16 27 55.5**	**-1.6**
WRAB	**Tennant Creek**	**13.90**	**158**	*e*	P		**Pn**	**16 29 00.8**	**-0.1**
	12nm,1.1s								
WRA	**Warramunga Arr**	**13.91**	**158**	Pn			**Pn**	**16 29 00.8**	**-0.1**
	0.4nm,0.3s,baz=346,slow=13,SNR=24								
WRA				Sn			**Sn**	**16 31 32.2**	**-2.0**
	1.0nm,0.3s,baz=337,slow=22,SNR=6.8								
WRA	**Warramunga Arr**	**13.91**	**158**	Pn			**Pn**	**16 29 00.8**	**-0.1**
WRA				Sn			**Sn**	**16 31 32.2**	**-2.0**
WB2	**Warramunga Arr**	**13.91**	**158**	*e*	P		**Pn**	**16 29 01.2**	**+0.2**
ASAR	**Alice Springs**	**17.25**	**164**	P			**Pn**	**16 29 45.6**	**+1.2**
	0.2nm,0.3s,baz=338,slow=9.3,SNR=22								
ASAR				S			**S**	**16 32 53.8**	**-10**
	0.2nm,0.3s,baz=351,slow=26,SNR=5.0								
ASAR	**Alice Springs**	**17.25**	**164**	P			**Pn**	**16 29 45.6**	**+1.2**
ASAR				S			**S**	**16 32 53.8**	**-10**
PMG	**Port Moresby**	**18.30**	**99**	P			**Pn**	**16 29 55.8**	**-1.8**
	0.2nm,0.3s,baz=284,slow=18,SNR=1.9								
PMG	**Port Moresby**	**18.30**	**99**	P			**Pn**	**16 29 55.8**	**-1.8**
STKA	**Stephens Creek**	**27.45**	**156**	P			**P**	**16 31 32.3**	**+3.3**
	2.1nm,1.0s,mb3.6,baz=339,slow=5.9,SNR=2.3								
STKA	**Stephens Creek**	**27.45**	**156**	P			**P**	**16 31 31.7**	**+2.7**
CMAR	**Chiang Mai Arr**	**38.86**	**311**	P			**P**	**16 33 08.9**	**+0.5**
	0.4nm,0.5s,mb3.4,baz=140,slow=7.7,SNR=5.6								
CMAR	**Chiang Mai Arr**	**38.86**	**311**	P			**P**	**16 33 08.9**	**+0.5**
SONM	**Songino Array**	**58.11**	**342**	P			**P**	**16 35 35.7**	**-0.4**
	0.5nm,0.9s,mb3.6,baz=161,slow=9.2,SNR=1.8								
SONM	**Songino Array**	**58.11**	**342**	P			**P**	**16 35 35.7**	**-0.4**
MK31	**Makanchi Array**	**67.61**	**327**	*e*	P		**P**	**16 36 39.3**	**-0.1**
MKAR	**Makanchi Array**	**67.61**	**327**	P			**P**	**16 36 40.0**	**+0.6**
	0.3nm,0.5s,mb3.6,baz=120,slow=8.8,SNR=5.6								
MKAR	**Makanchi Array**	**67.61**	**327**	P			**P**	**16 36 40.0**	**+0.6**
ZALV	**Zalesovo Beam**	**71.10**	**334**	P			**P**	**16 37 01.1**	**+0.3**
	0.4nm,0.5s,mb3.6,baz=108,slow=4.7,SNR=3.6								
ZALV	**Zalesovo Beam**	**71.10**	**334**	P			**P**	**16 37 01.1**	**+0.3**

*ATH **04** 17:05:13.8,38.21N×20.13E,h15km±1km,ML3.9*
*ISCJB **04** 17:05:13.8±0.6,38.24N±0.02×20.06E±0.03,h16km±4km, mb4.1/23,Error ellipse: s-maj=4.9km s-min=2.3km az=38.4*
*IDC **04** 17:05:13.7±0.7,38.38N×20.44E,h0km,mb4.2/14, mb1 4.1/21,mb1mx4.0/34,mbtmp4.0/21,ML3.9/5,Error ellipse: s-maj=15.2km s-min=14.9km az=85.0*
*THE **04** 17:05:15.1,38.23N×20.22E,h0km±2km,ML3.9/10,Error ellipse: s-maj=3.7km s-min=1.2km az=236.0*
*SKO **04** 17:05:15.6,38.18N×20.16E,h20km*
*CSEM **04** 17:05:15.5±0.2,38.29N×20.25E,h10km,mb4.1/16,Error ellipse: s-maj=7.1km s-min=3.1km az=36.0*
*PDG **04** 17:05:15.4±0.1,38.30N×19.56E,h11km±11km,ML4.0/8, Error ellipse: s-maj=54.8km s-min=4.2km az=90.0*
*MOS **04** 17:05:17.9±1.2,38.49N×20.42E,h38km,mb4.2/17,Error ellipse: s-maj=9.9km s-min=5.8km az=74.5*
*NEIC **04** 17:05:19.3±0.8,38.43N×20.41E,h39km±8km,mb4.1/8, Error ellipse: s-maj=10.0km s-min=6.3km az=164.0*

ISC 04 17:05:14.8±0.5,38.27N±0.02×20.21E±0.02,h4km±3km, n361,σ1§32/462,mb4.1/23,29C-15D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.32**	**108**	*e*	PB		**Pg**	**17 05 21.0**	**+0.1**
VLS	**Valsamata**	**0.32**	**108**	P			**Pg**	**17 05 21.0**	**+0.1**
VLS				S			**Sg**	**17 05 24.5**	**-0.5**
VLS	**Valsamata**	**0.32**	**108**	P			**Pg**	**17 05 21.0**	**+0.1**
VLS				S			**Sg**	**17 05 24.5**	**-0.5**
KFL	**Anninata**	**0.48**	**110**	P			**Pg**	**17 05 23.9**	**-0.3**
KFL				S			**Sg**	**17 05 29.9**	**-0.5**
KFL	**Anninata**	**0.48**	**110**	P			**Pg**	**17 05 23.9**	**-0.3**
KFL				S			**Sg**	**17 05 29.9**	**-0.5**
LKD2	**Lefkada island**	**0.62**	**34**	P			**Pg**	**17 05 26.1**	**-0.7**
LKD2	**Lefkada island**	**0.62**	**34**	P			**Pg**	**17 05 26.1**	**-0.7**
RLS	**Riolos of Patr**	**1.01**	**102**	*e*	PB		**Pb**	**17 05 33.2**	**-1.7**
RLS				*e*	SN		**Sn**	**17 05 49.7**	**-0.7**
RLS	**Riolos of Patr**	**1.01**	**102**	P			**Pg**	**17 05 32.8**	**-1.5**
RLS	**Riolos of Patr**	**1.01**	**102**	P			**Pg**	**17 05 32.8**	**-1.5**
RLS	**Riolos of Patr**	**1.01**	**102**	*e*	Pb		**Pb**	**17 05 33.2**	**-1.7**
RLS				*e*	Sn		**Sn**	**17 05 49.7**	**-0.7**
UPR	**University Cam**	**1.24**	**89**	*e*	PN		**Pn**	**17 05 39.0**	**+0.1**
UPR				*e*	SN		**Sn**	**17 05 56.7**	**+0.7**
UPR	**University Cam**	**1.24**	**89**	*e*	Pn		**Pn**	**17 05 39.0**	**+0.1**
UPR				*e*	Sn		**Sn**	**17 05 56.7**	**+0.7**
IGT	**Igoumenitsa**	**1.26**	**4**	P			**Pg**	**17 05 39.0**	**0.0**
IGT				S			**Sg**	**17 05 58.6**	**+3.2**
IGT	**Igoumenitsa**	**1.26**	**4**	P			**Pg**	**17 05 39.0**	**0.0**
IGT				S			**Sg**	**17 05 58.6**	**+3.2**
EFP	**Efpalio**	**1.34**	**83**	*e*	PN		**Pn**	**17 05 40.0**	**-0.3**
EFP				*e*	SN		**Sn**	**17 06 00.1**	**+1.6**
EFP	**Efpalio**	**1.34**	**83**	P			**Pn**	**17 05 38.1**	**-2.2**
EFP				S			**Sg**	**17 06 00.7**	**+2.7**
EFP	**Efpalio**	**1.34**	**83**	P			**Pn**	**17 05 38.1**	**-2.2**
EFP	**Efpalio**	**1.34**	**83**	*e*	Pn		**Pn**	**17 05 40.0**	**-0.3**
EFP				*e*	Sn		**Sn**	**17 06 00.1**	**+1.6**
EFP				S			**Sg**	**17 06 00.7**	**+2.7**
LAKA	**Lakka**	**1.39**	**91**	P			**Pn**	**17 05 39.1**	**-1.9**
LAKA	**Lakka**	**1.39**	**91**	P			**Pn**	**17 05 39.1**	**-1.9**
EVR	**Evrytania**	**1.41**	**62**	*e*	PN		**Pn**	**17 05 41.8**	**+0.6**
EVR	**Evrytania**	**1.41**	**62**	P			**Pn**	**17 05 40.6**	**-0.6**
EVR				S			**Sb**	**17 06 01.4**	**+1.5**
EVR	**Evrytania**	**1.41**	**62**	P			**Pn**	**17 05 40.6**	**-0.6**
EVR	**Evrytania**	**1.41**	**62**	*e*	Pn		**Pn**	**17 05 41.8**	**+0.6**
EVR				S			**Sb**	**17 06 01.4**	**+1.5**
JAN	**Janina**	**1.47**	**20**	*e*	PN		**Pn**	**17 05 42.8**	**+0.8**
JAN				*e*	SN		**Sn**	**17 06 04.5**	**+2.8**
JAN	**Janina**	**1.47**	**20**	P			**Pn**	**17 05 42.5**	**+0.5**
JAN				S			**Sn**	**17 06 04.5**	**+2.8**
JAN	**Janina**	**1.47**	**20**	P			**Pn**	**17 05 42.5**	**+0.5**
JAN	**Janina**	**1.47**	**20**	*e*	Pn		**Pn**	**17 05 42.8**	**+0.8**
JAN				S			**Sn**	**17 06 04.5**	**+2.8**
KEK	**Kerkira**	**1.47**	**348**	*e*	PN		**Pn**	**17 05 42.9**	**+0.8**
KEK	**Kerkira**	**1.47**	**348**	P			**Pn**	**17 05 43.0**	**+0.9**
KEK				S			**Sn**	**17 06 04.3**	**+2.6**
KEK	**Kerkira**	**1.47**	**348**	*e*	Pn		**Pn**	**17 05 42.9**	**+0.8**
KEK				S			**Sn**	**17 06 04.3**	**+2.6**
KALE	**Kalithea**	**1.52**	**85**	P			**Pn**	**17 05 41.0**	**-1.8**
KALE				S			**Sn**	**17 06 04.8**	**+1.8**
KALE	**Kalithea**	**1.52**	**85**	P			**Pn**	**17 05 41.0**	**-1.8**
KALE				S			**Sn**	**17 06 04.8**	**+1.8**
SRN	**Sarande**	**1.61**	**354**	*e*	PN		**Pn**	**17 05 44.9**	**+0.9**
SRN				*e*	SN		**Sn**	**17 06 08.1**	**+2.9**
SRN	**Sarande**	**1.61**	**354**	*e*	Pn		**Pn**	**17 05 44.9**	**+0.9**
SRN				*e*	Sn		**Sn**	**17 06 08.1**	**+2.9**
GUR	**Goura**	**1.72**	**101**	*e*	PN		**Pn**	**17 05 46.5**	**+1.1**
GUR	**Goura**	**1.72**	**101**	P			**Pn**	**17 05 44.6**	**-0.8**
GUR	**Goura**	**1.72**	**101**	P			**Pn**	**17 05 44.6**	**-0.8**
GUR	**Goura**	**1.72**	**101**	*e*	Pn		**Pn**	**17 05 46.5**	**+1.1**
AGG	**Agios Georgios**	**1.82**	**65**	*e*	PN		**Pn**	**17 05 47.9**	**+1.0**
AGG				*e*	SN		**Sn**	**17 06 13.4**	**+3.1**
AGG	**Agios Georgios**	**1.82**	**65**	P			**Pn**	**17 05 47.7**	**+0.8**
AGG				S			**Sn**	**17 06 13.6**	**+3.3**
AGG	**Agios Georgios**	**1.82**	**65**	*e*	Pn		**Pn**	**17 05 47.9**	**+1.0**
AGG				S			**Sn**	**17 06 13.6**	**+3.3**
DSF	**Desfina**	**1.83**	**85**	P			**Pn**	**17 05 47.9**	**+0.9**
DSF				S			**Sn**	**17 06 13.2**	**+2.7**
DSF	**Desfina**	**1.83**	**85**	P			**Pn**	**17 05 47.9**	**+0.9**
DSF				S			**Sn**	**17 06 13.2**	**+2.7**
PYL	**PYLOS**	**1.84**	**138**	P			**Pn**	**17 05 47.6**	**+0.5**
PYL				S			**Sn**	**17 06 12.4**	**+1.7**
PYL	**PYLOS**	**1.84**	**138**	P			**Pn**	**17 05 47.6**	**+0.5**
PYL				S			**Sn**	**17 06 12.4**	**+1.7**
THL	**Klokotos Trika**	**1.91**	**47**	*e*	PN		**Pn**	**17 05 49.0**	**+0.9**
THL	**Klokotos Trika**	**1.91**	**47**	P			**Pn**	**17 05 48.9**	**+0.8**
THL				S			**Sn**	**17 06 18.4**	**+5.9**
THL	**Klokotos Trika**	**1.91**	**47**	*e*	Pn		**Pn**	**17 05 49.0**	**+0.9**
THL				S			**Sn**	**17 06 18.4**	**+5.9**

VLX	**Vlachokerasia**	**1.94**	**117**	P			**Pn**	**17 05 51.3**	**+2.8**
VLX	**Vlachokerasia**	**1.94**	**117**	P			**Pn**	**17 05 51.3**	**+2.8**
LTK	**Loutraki**	**2.19**	**96**	*e*	PN		**Pn**	**17 05 53.4**	**+1.5**
LTK				*e*	SN		**Sn**	**17 06 21.3**	**+1.9**
LTK	**Loutraki**	**2.19**	**96**	P			**Pn**	**17 05 52.2**	**+0.3**
LTK	**Loutraki**	**2.19**	**96**	P			**Pn**	**17 05 52.2**	**+0.3**
LTK	**Loutraki**	**2.19**	**96**	*e*	Pn		**Pn**	**17 05 53.4**	**+1.5**
LTK				*e*	Sn		**Sn**	**17 06 21.3**	**+1.9**
LKR	**Lokris**	**2.22**	**79**	*e*	PB		**Pb**	**17 05 53.0**	**-2.5**
LKR	**Lokris**	**2.22**	**79**	P			**Pn**	**17 05 52.8**	**+0.4**
LKR	**Lokris**	**2.22**	**79**	P			**Pn**	**17 05 52.8**	**+0.4**
NEST	**Nestorio**	**2.23**	**17**	P			**Pn**	**17 05 54.4**	**+1.8**
NEST	**Nestorio**	**2.23**	**17**	P			**Pn**	**17 05 54.4**	**+1.8**
ATAL	**Atalanti**	**2.25**	**78**	P			**Pn**	**17 05 53.4**	**+0.7**
ATAL	**Atalanti**	**2.25**	**78**	P			**Pn**	**17 05 53.4**	**+0.7**
KZN	**Kozani**	**2.36**	**30**	*e*	PB		**Pb**	**17 05 55.5**	**-2.4**
KZN				*e*	SN		**Sn**	**17 06 26.2**	**+2.5**
KZN	**Kozani**	**2.36**	**30**	P			**Pn**	**17 05 55.3**	**+1.0**
KZN	**Kozani**	**2.36**	**30**	P			**Pn**	**17 05 55.3**	**+1.0**
KZN				*e*	Sn		**Sn**	**17 06 26.2**	**+2.5**
KBN	**Korca**	**2.39**	**11**	*e*	PN		**Pn**	**17 05 56.5**	**+1.8**
KBN				*e*	SN		**Sn**	**17 06 27.8**	**+3.4**
KBN	**Korca**	**2.39**	**11**	*e*	Pn		**Pn**	**17 05 56.5**	**+1.8**
KBN				*e*	Sn		**Sn**	**17 06 27.8**	**+3.4**
DID	**Didima**	**2.52**	**107**	*e*	PB		**Pb**	**17 05 57.9**	**-2.6**
DID				*e*	SN		**Sn**	**17 06 28.8**	**+1.3**
DID	**Didima**	**2.52**	**107**	P			**Pn**	**17 05 57.1**	**+0.7**
DID				S			**Sn**	**17 06 27.8**	**+0.3**
DID	**Didima**	**2.52**	**107**	P			**Pn**	**17 05 57.1**	**+0.7**
DID				S			**Sn**	**17 06 27.8**	**+0.3**
DID				*e*	Sn		**Sn**	**17 06 28.8**	**+1.3**
LIT	**Litokhoron**	**2.54**	**43**	*e*	PN		**Pn**	**17 05 58.1**	**+1.3**
LIT				*e*	SN		**Sn**	**17 06 29.9**	**+1.7**
LIT	**Litokhoron**	**2.54**	**43**	*e*	Pn		**Pn**	**17 05 58.1**	**+1.3**
L

comp=Z,22nm,0.5s
GCIS Gornji Cirnik 8.32 337 *i* Pn **Pn** 17 07 16.0 0.0
GCIS Gornji Cirnik 8.32 337 *i* Pn **Pn** 17 07 16.0 -0.1
CRES Cresnjev 8.33 336 *i* Pn **Pn** 17 07 16.0 -0.3
CRES *e*Sn **Sn** 17 08 45.4 -5.3
CRES Cresnjev 8.33 336 *i* Pn **Pn** 17 07 16.0 -0.3
CRES *e*Sn **Sn** 17 08 45.4 -5.3
MLR Muntele Rosu 8.38 29 Pn **Pn** 17 07 18.4 +1.5
comp=Z,0.1nm,0.3s,baz=240,slow=2.3,SNR=13
MLR Sn **Sn** 17 08 58.3 +6.3
comp=Z,0.1nm,0.3s,baz=126,slow=18,SNR=1.8
MLR Muntele Rosu 8.38 29 Pn **Pn** 17 07 18.4 +1.5
MLR Sn **Sn** 17 08 58.3 +6.3
MLR Muntele Rosu 8.38 29 P **Pn** 17 07 18.4 +1.4
MLR Muntele Rosu 8.38 29⇓ *i*P **Pn** 17 07 17.5 +0.5
MLR Muntele Rosu 8.38 29 P **Pn** 17 07 18.4 +1.4
GOLS Golise 8.45 338 *i* Pn **Pn** 17 07 17.7 -0.1
GOLS Golise 8.45 338 Pn **Pn** 17 07 17.7 -0.1
KNDS Knezji Dol 8.45 331 *i* Pn **Pn** 17 07 18.4 +0.5
KNDS Knezji Dol 8.45 331 *i* Pn **Pn** 17 07 18.4 +0.5
LEGS Legarje 8.48 336 *i* Pn **Pn** 17 07 18.3 -0.1
LEGS *e*Sn **Sn** 17 08 49.8 -4.7
LEGS Legarje 8.48 336 *i* Pn **Pn** 17 07 18.3 -0.1
LEGS *e*Sn **Sn** 17 08 49.8 -4.7
VISS Visnje 8.52 334 *i* Pn **Pn** 17 07 19.3 +0.5
VISS *i* Sn **Sn** 17 08 50.1 -5.1
VISS Visnje 8.52 334 *i* Pn **Pn** 17 07 19.3 +0.5
VISS *i* Sn **Sn** 17 08 50.2 -5.1
SKDS Skadanscina 8.61 330 *i* Pn **Pn** 17 07 19.9 -0.1
PDKS Podkum 8.69 335 *i* Pn **Pn** 17 07 21.3 +0.1
PDKS Podkum 8.69 335 *i* Pn **Pn** 17 07 21.3 +0.1
TIRR Tirgusor 8.73 42 *e*P **Pn** 17 07 19.2 -2.5
comp=Z,5.9nm,1.1s
TIRR Tirgusor 8.73 42 *e*P **Pn** 17 07 19.2 -2.5
TIRR pmax pmax
comp=Z,6.0nm,1.1s
JAVS Javornik 8.88 331 *i* Pn **Pn** 17 07 24.0 +0.3
JAVS *i* Sn **Sn** 17 08 57.6 -6.5
JAVS Javornik 8.88 331 *i* Pn **Pn** 17 07 24.0 +0.3
JAVS *i* Sn **Sn** 17 08 57.7 -6.4
PLOR Plostina 8.96 30⇑ *i*P **Pn** 17 07 24.8 0.0
VRI Vrincioaia 9.00 30⇑ *i*P **Pn** 17 07 27.1 +1.7
KEST Kesra 9.05 257 Pn **Pn** 17 07 30.2 +4.0
comp=Z,0.1nm,0.3s,baz=51,slow=6.5,SNR=2.1
KEST Sn **Sn** 17 09 10.8 +2.2
comp=Z,0.1nm,0.3s,baz=281,slow=16,SNR=3.2
KEST Kesra 9.05 257 Pn **Pn** 17 07 30.2 +4.0
KEST Sn **Sn** 17 09 10.8 +2.2
VOJS Vojsko 9.06 331 *i* Pn **Pn** 17 07 26.6 +0.4
VOJS *i* Sn **Sn** 17 09 02.4 -6.2
VOJS
comp=Z,7.0nm,0.2s
VOJS Vojsko 9.06 331 *i* Pn **Pn** 17 07 26.6 +0.3
VOJS *i* Sn **Sn** 17 09 02.4 -6.3
comp=Z,7.0nm,0.2s
MOZS Mozjanca 9.08 334 *i* Pn **Pn** 17 07 26.6 +0.1
PERS Pernice 9.16 337 *i* Pn **Pn** 17 07 26.9 -0.7
PERS *i* Sn **Sn** 17 09 03.8 -7.3
PERS Pernice 9.16 337 *i* Pn **Pn** 17 07 26.9 -0.8
PERS *i* Sn **Sn** 17 09 03.8 -7.3
SOKA Soboth 9.22 337⇓ *i*Pn **Pn** 17 07 27.9 -0.6
SOKA ⇑ *i*Sn **Sn** 17 09 05.3 -7.4
SOKA Soboth 9.22 337 Pn **Pn** 17 07 27.9 -0.6
OBKA Obir 9.23 335⇓ *i*Pn **Pn** 17 07 28.8 +0.2
SNR=16
OBKA ⇑ *i*Sn **Sn** 17 09 06.2 -6.6
OBKA Obir 9.23 335 Pn **Pn** 17 07 28.8 +0.2
SNR=16
ARSA Arzberg 9.61 341⇑ *i*Pn **Pn** 17 07 32.9 -0.9
ARSA Arzberg 9.61 341 Pn **Pn** 17 07 32.9 -0.9
MYKA Terra Mystica 9.65 332⇓ *i*Pn **Pn** 17 07 34.4 0.0
MYKA Terra Mystica 9.65 332 Pn **Pn** 17 07 34.4 0.0
KBA Koelnbreinsper 10.14 332⇓ *i*Pn **Pn** 17 07 41.4 +0.3
KBA ⇑ *i*Sn **Sn** 17 09 28.8 -6.4
KBA Koelnbreinsper 10.14 332 Pn **Pn** 17 07 41.4 +0.3
ABTA Abfaltersbach 10.19 329⇑ *i*Pn **Pn** 17 07 42.1 +0.3
SNR=8.9
ABTA ⇑ *i*Sn **Sn** 17 09 30.0 -6.5
ABTA Abfaltersbach 10.19 329 Pn **Pn** 17 07 42.1 +0.3
SNR=8.9
VYHS Vyhne 10.26 355 *e*P **Pn** 17 07 42.1 -0.6
VYHS *e* 17 09 26.7
VYHS Vyhne 10.26 355 *e*PN **Pn** 17 07 42.1 -0.6
VYHS *e*SN **Sn** 17 09 26.7 -11
VYHS Vyhne 10.26 355 *e*P **Pn** 17 07 42.1 -0.6
KOLL Kolacno 10.38 353 *e*P **Pn** 17 07 44.1 -0.3
KOLL *e* 17 09 33.8
KOLL Kolacno 10.38 353 *e*PN **Pn** 17 07 44.1 -0.3
KOLL *e*SN **Sn** 17 09 33.8 -7.3
KOLL Kolacno 10.38 353 *e*P **Pn** 17 07 44.1 -0.3
MOA Molln 10.51 338⇓ *i*Pn **Pn** 17 07 45.8 -0.3
SNR=28
MOA ⇓ *i*Sn **Sn** 17 09 36.5 -7.6
MOA Molln 10.51 338 Pn **Pn** 17 07 45.8 -0.3
SNR=28
BR131 Keskin Array S 10.55 78 P **Pn** 17 07 48.4 +1.7
comp=Z,1.2nm,0.7s
BR131 Keskin Array S 10.55 78 P **Pn** 17 07 48.4 +1.6
comp=Z,1.2nm,0.7s
BRTR Keskin Array B 10.55 78 Pn **Pn** 17 07 45.5 -1.3
comp=Z,0.1nm,0.3s,baz=263,slow=12,SNR=5.3
BRTR Sn **Sn** 17 09 42.3 -3.0
comp=Z,0.1nm,0.3s,baz=277,slow=23,SNR=3.0
BRTR Keskin Array B 10.55 78 Pn **Pn** 17 07 45.5 -1.3
BRTR Sn **Sn** 17 09 42.4 -3.0
BRTR Keskin Array B 10.55 78 P **Pn** 17 07 45.5 -1.3
BRTR 17 09 42.3
BRTR Keskin Array B 10.55 78 P **Pn** 17 07 45.5 -1.3
BRTR S **Sn** 17 09 42.3 -3.1
KOLS Kolonicke sedl 10.76 7 *e*P **Pn** 17 07 50.1 +0.6
KOLS Kolonicke sedl 10.76 7 *e*PN **Pn** 17 07 50.1 +0.6
KOLS Kolonicke sedl 10.76 7 *e*P **Pn** 17 07 50.1 +0.6
WTTA Wattenberg 10.97 328⇓ *i*Pn **Pn** 17 07 53.1 +0.7
SNR=7.6
WTTA ⇑ *i*Sn **Sn** 17 09 48.5 -6.8
WTTA Wattenberg 10.97 328 Pn **Pn** 17 07 53.1 +0.7
SNR=7.6
WATA Walderalm 11.05 328⇑ *i*Pn **Pn** 17 07 54.2 +0.7
WATA Walderalm 11.05 328 Pn **Pn** 17 07 54.2 +0.7
FETA Feichten 11.18 324⇑ *i*Pn **Pn** 17 07 56.8 +1.6
FETA ⇓ *i*Sn **Sn** 17 09 56.0 -4.6
FETA Feichten 11.18 324 Pn **Pn** 17 07 56.8 +1.5
MOTA Moosalm 11.26 327⇑ *i*Pn **Pn** 17 07 57.1 +0.7
SNR=6.2
MOTA Moosalm 11.26 327 Pn **Pn** 17 07 57.1 +0.8
SNR=6.2
DAVOX Davos/Dischmat 11.41 321 Pn **Pn** 17 07 58.9 +0.5
comp=Z,0.4nm,0.3s,baz=144,slow=18,SNR=4.3
DAVOX Sn **Sn** 17 10 03.0 -3.2
comp=Z,0.6nm,0.3s,baz=338,slow=19,SNR=3.5
DAVOX Davos/Dischmat 11.41 321 Pn **Pn** 17 07 58.9 +0.5
DAVOX Sn **Sn** 17 10 03.0 -3.2
DAVOX Davos/Dischmat 11.41 321 P **Pn** 17 07 58.9 +0.5
DAVOX 17 10 03.0
DAVOX Davos/Dischmat 11.41 321 P **Pn** 17 07 58.9 +0.5
DAVOX S **Sn** 17 10 03.0 -3.2
GERES GERESS Array B 11.57 338 Pn **Pn** 17 07 59.5 -1.0
comp=Z,0.9nm,0.3s,baz=156,slow=14,SNR=2.1
GERES Sn **Sn** 17 10 03.5 -6.6
comp=Z,0.6nm,0.3s,baz=153,slow=24,SNR=5.6
GERES GERESS Array B 11.57 338 Pn **Pn** 17 07 59.5 -1.0
GERES Sn **Sn** 17 10 03.5 -6.6
GERES GERESS Array B 11.57 338 P **Pn** 17 07 59.5 -1.1
GERES 17 10 03.5
GERES pmax pmax
comp=Z,1.0nm,0.3s
GERES smax
comp=N,1.0nm,0.3s
GERES GERESS Array B 11.57 338 P **Pn** 17 07 59.5 -1.1
comp=N,1.0nm,0.3s
MORC Moravsky Berou 11.66 351 P **Pn** 17 07 57.9 -3.9
comp=N,2.8nm,0.9s
MORC Moravsky Berou 11.66 351 P **Pn** 17 07 57.9 -3.9
MORC pmax pmax
comp=Z,3.0nm,0.9s
KHC Kasperske Hory 11.86 338 *e*P **Pn** 17 08 02.2 -2.4
KHC Kasperske Hory 11.86 338 *e*P **Pn** 17 08 02.2 -2.4
MMAI Mount Meron Ar 13.42 108 Pn **Pn** 17 08 23.8 -2.2
comp=Z,0.3nm,0.3s,baz=293,slow=12,SNR=2.1
AKASG Malin Array Be 13.98 24 Pn **Pn** 17 08 31.5 -1.9
comp=Z,0.6nm,0.3s,baz=210,slow=8.8,SNR=4.4
AKASG Malin Array Be 13.98 24 Pn **Pn** 17 08 31.5 -1.9
AKASG Malin Array Be 13.98 24 P **Pn** 17 08 31.5 -2.0
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 13.98 24 Pn **Pn** 17 08 31.5 -2.0
CLL Collm 13.99 341 *e*PP 17 08 44.0
EIL Elat 14.93 121 Pn **Pn** 17 08 43.1 -3.5
comp=Z,0.2nm,0.3s,baz=265,slow=6.4,SNR=2.3
EIL Elat 14.93 121 Pn **Pn** 17 08 43.1 -3.5
SUW Suwalki 15.87 6 *e*P **Pn** 17 08 56.4 -2.5
comp=Z,16nm,0.6s
SUW Suwalki 15.87 6 *e*P **Pn** 17 08 56.4 -2.5
SUW pmax pmax
comp=Z,16nm,0.6s
KIV Kislovodsk 17.84 64 *e*P **Pn** 17 09 21.7 -2.1
comp=Z,10nm,0.8s
KIV Kislovodsk 17.84 64 *e*P **Pn** 17 09 21.7 -2.1
KIV pmax pmax
comp=Z,10.0nm,0.8s
KIV Kislovodsk 17.84 64 *e*P **Pn** 17 09 21.7 -2.1
comp=Z,10nm,0.8s
ZEI Tsey 18.54 68 *e*P **Pn** 17 09 31.4 -1.0
ZEI pmax pmax
comp=Z,7.0nm,0.9s
ZEI Tsey 18.54 68 *e*P **Pn** 17 09 31.4 -1.0
comp=Z,7.0nm,0.9s
GNI Garni 19.09 77 *e*P **Pn** 17 09 37.3 -1.7
comp=Z,14nm,0.9s
GNI Garni 19.09 77 *e*P **Pn** 17 09 37.3 -1.8
GNI pmax pmax
comp=Z,14nm,0.9s
GNI Garni 19.09 77 *e*P **Pn** 17 09 37.3 -1.8
comp=Z,14nm,0.9s
HFS Hagfors 22.27 351 P **P** 17 10 11.1 -1.4
comp=Z,3.8nm,0.5s,mb4.1,baz=163,slow=11,SNR=21
HFS Hagfors 22.27 351 P **P** 17 10 11.1 -1.4
HFS Hagfors 22.27 351 P **P** 17 10 11.1 -1.4
HFS pmax pmax
comp=Z,4.0nm,0.5s
HFS Hagfors 22.27 351 P **P** 17 10 11.1 -1.4
comp=Z,4.0nm,0.5s,mb4.1
EKA Eskdalemuir Ar 23.21 325 P **P** 17 10 22.8 +0.3
comp=Z,3.5nm,0.9s,mb3.8,baz=123,slow=9.2,SNR=8.3
EKA Eskdalemuir Ar 23.21 325 P **P** 17 10 22.8 +0.3
EKA Eskdalemuir Ar 23.21 325 P **P** 17 10 22.8 +0.3
EKA pmax pmax
comp=Z,4.0nm,0.9s
EKA Eskdalemuir Ar 23.21 325 P **P** 17 10 22.8 +0.3
comp=Z,4.0nm,0.9s,mb3.9
NAO01 NORSAR Array S 23.34 348 *e*P **P** 17 10 20.9 -2.9
comp=Z,6.9nm,0.8s,mb4.1
NAO01 NORSAR Array S 23.34 348 *e*P **P** 17 10 20.9 -3.0
comp=Z,6.9nm,0.8s,mb4.1
NB2 NORSAR Subarra 23.48 349 P **P** 17 10 24.3 -1.0
comp=Z,2.7nm,0.6s,mb3.9,baz=159,slow=9.3
NB2 NORSAR Subarra 23.48 349 P **P** 17 10 24.3 -1.0
comp=Z,2.7nm,0.6s,mb3.9,SNR=0.4
NOA NORSAR Array B 23.48 349 P **P** 17 10 23.9 -1.4
comp=Z,2.1nm,0.8s,mb3.6,baz=157,slow=9.6,SNR=11
NOA NORSAR Array B 23.48 349 P **P** 17 10 23.9 -1.4
NOA NORSAR Array B 23.48 349 P **P** 17 10 23.9 -1.4
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 23.48 349 P **P** 17 10 23.9 -1.4
comp=Z,2.0nm,0.8s,mb3.6
FINES FINESS Array B 23.48 7 P **P** 17 10 22.6 -2.8
comp=Z,4.5nm,0.6s,mb4.1,baz=171,slow=9.6,SNR=37
FINES FINESS Array B 23.48 7 P **P** 17 10 22.6 -2.8
FINES FINESS Array B 23.48 7 P **P** 17 10 22.6 -2.7
FINES pmax pmax
comp=Z,5.0nm,0.6s
FINES FINESS Array B 23.48 7 P **P** 17 10 22.6 -2.7
comp=Z,5.0nm,0.6s,mb4.1
KAF Kangasniemi 24.16 7 *e*P **P** 17 10 29.1 -2.6
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.0
KAF Kangasniemi 24.16 7 *e*p **P** 17 10 29.1 -2.6
comp=Z,3.8nm,0.6s,mb4.0
KAF Kangasniemi 24.16 7 *e*P **P** 17 10 29.1 -2.6
comp=Z,4.0nm,0.6s,mb4.0
JOF Joensuu 25.59 12 *e*P **P** 17 10 41.4 -3.2
JOF pmax pmax
comp=Z,3.0nm,0.5s,mb4.1
JOF Joensuu 25.59 12 *e*p **P** 17 10 41.4 -3.2
comp=Z,3.0nm,0.5s,mb4.1
AKTK Aktyubinsk 29.32 53 P **P** 17 11 15.4 -2.8
AKTK Aktyubinsk 29.32 53 P **P** 17 11 15.5 -2.7
comp=Z,1.0nm,0.3s,mb4.0
AKTO Aktyubinsk 29.32 53 P **P** 17 11 15.4 -2.8
comp=Z,0.7nm,0.3s,mb3.8,baz=300,slow=5.1,SNR=4.3
AKTO Aktyubinsk 29.32 53 P **P** 17 11 15.5 -2.7
AKTO pmax pmax
comp=Z,1.0nm,0.3s,mb4.0
TORD Torodi Ar. Bea 29.95 218 P **P** 17 11 25.1 +0.9
comp=Z,1.8nm,0.7s,mb3.9,baz=33,slow=8.9,SNR=15
TORD Torodi Ar. Bea 29.95 218 P **P** 17 11 25.1 +0.9
ARU Arti 31.15 42 *e*P **P** 17 11 31.4 -2.9
comp=Z,1.7nm,0.4s,mb4.2
ARU Arti 31.15 42 *e*P **P** 17 11 31.5 -2.9
ARU pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
ARU Arti 31.15 42 *e*P **P** 17 11 31.5 -2.9
comp=Z,1.7nm,0.4s,mb4.2
ARCES ARCESS Array B 31.45 4 P **P** 17 11 35.2 -1.7
comp=Z,0.7nm,0.4s,mb3.9,baz=185,slow=9.7,SNR=5.9
ARCES ARCESS Array B 31.45 4 P **P** 17 11 35.2 -1.7
ARCES ARCESS Array B 31.45 4 P **P** 17 11 35.2 -1.7
ARCES pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 31.45 4 P **P** 17 11 35.2 -1.7
comp=Z,1.0nm,0.4s,mb4.0
KEV Kevo 31.75 4 *e*P **P** 17 11 39.3 -0.2
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.1
KEV Kevo 31.75 4 *e*p **P** 17 11 39.3 -0.2
comp=Z,0.7nm,0.3s,mb4.0
KEV Kevo 31.75 4 *e*P **P** 17 11 39.3 -0.2
comp=Z,1.0nm,0.3s,mb4.1
BRVK Borovoye 37.18 50 *e*P **P** 17 12 22.7 -3.9
BRVK Borovoye 37.18 50 *e*P **P** 17 12 22.7 -4.0
KKAR Karatay Array 37.98 66 *e*P **P** 17 12 31.4 -2.2
comp=Z,2.2nm,0.5s,mb4.1
KKAR Karatay Array 37.98 66 *e*P **P** 17 12 31.4 -2.2
KKAR pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
KKAR Karatay Array 37.98 66 *e*P **P** 17 12 31.4 -2.2
comp=Z,2.2nm,0.5s,mb4.1
DBIC Dimbokro 38.80 222 P **P** 17 12 41.6 +0.9
comp=Z,1.1nm,0.7s,mb4.0,baz=24,slow=9.8,SNR=3.5
DBIC Dimbokro 38.80 222 P **P** 17 12 41.6 +0.9
DBIC *e*P pP 17 12 41.7 -0.4
DBIC Dimbokro 38.80 222 P **P** 17 12 41.6 +0.9
DBIC pmax pmax
comp=Z,2.0nm,0.7s
EKS2 Erkin-Say 40.42 66 *e*P **P** 17 12 50.7 -3.3
EKS2 Erkin-Say 40.42 66 *e*P **P** 17 12 50.7 -3.3
AAK Ala-Archa 40.95 66 *e*P **P** 17 12 57.6 -0.7
comp=Z,2.0nm,0.9s,mb3.8
AAK Ala-Archa 40.95 66 *e*P **P** 17 12 57.7 -0.6
AAK pmax pmax
comp=Z,2.0nm,0.9s,mb3.8
AAK Ala-Archa 40.95 66 *e*P **P** 17 12 57.7 -0.6
comp=Z,2.0nm,0.9s,mb3.8
KURK Kurchatov 42.42 53 *e*P **P** 17 13 08.4 -1.9
comp=Z,1.3nm,0.7s,mb3.7
KURK Kurchatov 42.42 53 *e*P **P** 17 13 08.4 -1.9
KURK pmax pmax
comp=Z,1.0nm,0.7s,mb3.5
KURK Kurchatov 42.42 53 *e*P **P** 17 13 08.4 -1.9
comp=Z,1.3nm,0.7s,mb3.7
MK31 Makanchi Array 45.46 58 *e*P **P** 17 13 32.1 -2.7
MK31 Makanchi Array 45.46 58 *e*P **P** 17 13 32.1 -2.7
MK31 Makanchi Array 45.46 58 *e*P **P** 17 13 32.1 -2.7
MKAR Makanchi Array 45.46 58 P **P** 17 13 32.7 -2.0
comp=Z,1.9nm,0.5s,mb4.2,baz=274,slow=7.3,SNR=51
MKAR Makanchi Array 45.46 58 P **P** 17 13 32.7 -2.0
MKAR Makanchi Array 45.46 58 P **P** 17 13 32.7 -2.1
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR Makanchi Array 45.46 58 P **P** 17 13 32.7 -2.1
comp=Z,2.0nm,0.5s,mb4.2
ZAA0 Zalesovo Array 45.81 48 *e*P **P** 17 13 35.2 -2.2
ZAA0 Zalesovo Array 45.81 48 *e*P **P** 17 13 35.2 -2.2
ZALV Zalesovo Beam 45.81 48 P **P** 17 13 35.4 -2.0
comp=Z,8.6nm,0.4s,mb5.0,baz=274,slow=8.5,SNR=55
ZALV Zalesovo Beam 45.81 48 P **P** 17 13 35.4 -2.0
ZALV Zalesovo Beam 45.81 48 P **P** 17 13 35.4 -2.0
ZALV pmax pmax
comp=Z,9.0nm,0.4s,mb5.0
ZALV Zalesovo Beam 45.81 48 P **P** 17 13 35.4 -2.0
comp=Z,9.0nm,0.4s,mb5.0
SCHQ Schefferville 58.22 317 P **P** 17 15 11.5 +1.7
comp=Z,9.3nm,1.1s,mb4.7,baz=68,slow=11,SNR=3.3
SCHQ Schefferville 58.22 317 P **P** 17 15 11.5 +1.7
SONM Songino Array 60.59 51 P **P** 17 15 25.1 -1.3
comp=Z,0.4nm,0.4s,mb3.9,baz=273,slow=9.0,SNR=2.7
SONM Songino Array 60.59 51 P **P** 17 15 25.1 -1.3
SONM Songino Array 60.59 51 P **P** 17 15 25.1 -1.2
SONM Songino Array 60.59 51 P **P** 17 15 25.0 -1.3
ULN Ulaanbaatar 60.97 50 *e*P **P** 17 15 27.7 -1.2
ULN Ulaanbaatar 60.97 50 *e*P **P** 17 15 27.7 -1.2
ULN Ulaanbaatar 60.97 50 *e*P **P** 17 15 27.7 -1.2
YAK Yakutsk 65.15 29 *e*P **P** 17 15 55.0 -1.4
YAK Yakutsk 65.15 29 *e*P **P** 17 15 55.0 -1.4
YAK Yakutsk 65.15 29 *e*P **P** 17 15 55.0 -1.4
CHTO Chiang Mai 69.92 82 *e*P **P** 17 16 25.6 -1.7
CHTO Chiang Mai 69.92 82 *e*P **P** 17 16 25.6 -1.7
CHTO Chiang Mai 69.92 82 *e*P **P** 17 16 25.6 -1.7
CMAR Chiang Mai Arr 70.12 82 P **P** 17 16 26.1 -2.4
comp=Z,6.0nm,0.4s,mb3.9,baz=303,slow=7.6,SNR=7.0
CMAR Chiang Mai Arr 70.12 82 P **P** 17 16 26.1 -2.4
CMAR Chiang Mai Arr 70.12 82 P **P** 17 16 26.2 -2.3
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 70.12 82 P **P** 17 16 26.1 -2.4
MJAR Matsushiro Arr 86.09 45 P **P** 17 17 57.3 +0.4
comp=Z,1.1nm,0.7s,mb4.2,baz=311,slow=6.9,SNR=3.8
MJAR Matsushiro Arr 86.09 45 P **P** 17 17 57.3 +0.4
MJAR Matsushiro Arr 86.09 45 P **P** 17 17 57.3 +0.4
MJAR pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 120.79 92 PKP PKPdf 17 24 07.1 -1.3
comp=Z,0.3nm,0.8s,baz=315,slow=2.2,SNR=3.5
WRA Warramunga Arr 120.79 92 PKP PKPdf 17 24 07.1 -1.3
WRA Warramunga Arr 120.79 92 PKIKP PKPdf 17 24 07.1 -1.3
ASAR Alice Springs 122.43 96 PKP PKPdf 17 24 10.5 -1.0
comp=Z,0.3nm,1.0s,baz=303,slow=1.5,SNR=3.1
ASAR Alice Springs 122.43 96 PKP PKPdf 17 24 10.5 -1.0
ASAR Alice Springs 122.43 96 PKIKP PKPdf 17 24 10.5 -1.0

ISCJB ***04*** *17:09:39.5±0.6, 40.04N±0.04×38.80E±0.04, h3km±8km, Error ellipse: s-maj=6.5km s-min=5.3km az=8.6*
CSEM ***04*** *17:09:39.7±0.2, 40.04N×38.80E, h10km, MD3.0, Error ellipse: s-maj=4.0km s-min=3.7km az=137.0*
ISK ***04*** *17:09:39.9, 40.06N×38.84E, h21km, MD2.8*
DDA ***04*** *17:09:39.8, 40.00N×38.75E, h7km±3km, Md3.0*
ISC 04 17:09:39.8±0.5, 40.06N±0.04×38.82E±0.04, h9km±7km, n22, σ0.97/33, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUSE	**Susehri**	**0.50**	**288**	*i* P	**Pg**	**17 09 49.2**	**-0.2**
SUSE				*i* S	**Sg**	**17 09 55.9**	**0.0**
SUSE	**Susehri**	**0.50**	**288**	*i* P	**Pg**	**17 09 49.2**	**-0.2**
SUSE				*i* S	**Sg**	**17 09 55.9**	**0.0**
EZC	**Erzincan**	**0.51**	**126**	*e*PG	**Pg**	**17 09 50.5**	**+0.8**
EZC	**Erzincan**	**0.51**	**126**	*e*Pg	**Pg**	**17 09 50.5**	**+0.8**
GUMT	**Gumushane**	**0.65**	**51**	*e*PG	**Pg**	**17 09 53.3**	**+1.0**
GUMT				*e*SG	**Sg**	**17 10 02.4**	**+1.6**
GUMT	**Gumushane**	**0.65**	**51**	*e*Pg	**Pg**	**17 09 53.3**	**+1.0**
GUMT				*e*Sg	**Sg**	**17 10 02.4**	**+1.6**
KEMA	**Kemaliye**	**0.82**	**198**	*i* P	**Pg**	**17 09 55.4**	**-0.3**
KEMA				*i* S	**Sg**	**17 10 06.0**	**-0.3**
KEMA	**Kemaliye**	**0.82**	**198**	*i* P	**Pg**	**17 09 55.4**	**-0.2**
KEMA				*i* S	**Sg**	**17 10 06.0**	**-0.4**
ERZN	**Erzincan**	**0.84**	**124**	*e*PG	**Pg**	**17 09 56.3**	**+0.4**
ESPY	**Espiye-Giresun**	**0.86**	**355**	*e*PG	**Pg**	**17 09 57.1**	**+0.7**
ESPY	**Espiye-Giresun**	**0.86**	**355**	*e*Pg	**Pg**	**17 09 57.1**	**+0.7**
BAYT	**Ayd¨–ntepe-Bay**	**1.07**	**71**	*e*PG	**Pg**	**17 09 59.9**	**-0.4**
BAYT	**Ayd¨–ntepe-Bay**	**1.07**	**71**	*e*Pg	**Pg**	**17 09 59.9**	**-0.4**
PTK	**Pertek**	**1.24**	**159**	*e*PN	**Pn**	**17 10 02.7**	**-0.7**
PTK	**Pertek**	**1.24**	**159**	*e*Pn	**Pn**	**17 10 02.7**	**-0.7**
SCER	**sogukcermik**	**1.31**	**262**	*i* P	**Pn**	**17 10 03.7**	**-0.6**
SCER				*i* S	**Sb**	**17 10 21.7**	**+0.1**
SCER	**sogukcermik**	**1.31**	**262**	*i* P	**Pn**	**17 10 03.7**	**-0.6**
SCER				*i* S	**Sb**	**17 10 21.7**	**+0.1**
ELZG	**Elazig**	**1.56**	**175**	*i* P	**Pn**	**17 10 08.2**	**+0.5**
ELZG				*i* S	**Sn**	**17 10 29.3**	**+1.3**
ELZG	**Elazig**	**1.56**	**175**	*i* P	**Pn**	**17 10 08.2**	**+0.5**
ELZG				*i* S	**Sn**	**17 10 29.3**	**+1.2**
SVRC	**Sivrice-ELAZID**	**1.72**	**167**	*e*PN	**Pn**	**17 10 09.3**	**-0.6**
SVRC	**Sivrice-ELAZID**	**1.72**	**167**	*e*Pn	**Pn**	**17 10 09.3**	**-0.6**
DAGI	**Agillar**	**2.57**	**66**	*i* P	**Pg**	**17 10 26.4**	**-2.6**
DAGI				*i* S	**Sg**	**17 10 60.0**	**-2.4**

CSEM ***04*** *17:15:33.1, 45.88N×15.48E, h0km, ML0.1, After LJU*
LJU 04 17:15:33.1, 45.89N×15.48E, h5km, ML0.1, 2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRES	**Cresnjev**	**0.06**	**194**⇓	*i*Pg	Pg	17 15 34.6	+0.1
CRES				*i* Sg	Sg	17 15 36.0	+0.4
CRES							
	comp=Z,5.0nm,0.1s						
CRES	**Cresnjev**	**0.06**	**194**⇓	*i*Pg	Pg	17 15 34.6	0.0
CRES				*i* Sg	Sg	17 15 36.0	+0.4
	comp=Z,5.0nm,0.1s						
GCIS	**Gornji Cirnik**	**0.11**	**100**	*i* Pg	Pg	17 15 35.4	+0.1
GCIS				*i* Sg	Sg	17 15 36.8	0.0
GCIS							
	comp=Z,3.0nm,0.1s						
GCIS	**Gornji Cirnik**	**0.11**	**100**	*i* Pg	Pg	17 15 35.4	+0.1
GCIS				*i* Sg	Sg	17 15 36.8	0.0
	comp=Z,3.0nm,0.1s						
LEGS	**Legarje**	**0.13**	**300**	*i* Pg	Pg	17 15 35.8	0.0
LEGS				*i* Sg	Sg	17 15 37.7	+0.2
LEGS	**Legarje**	**0.13**	**300**	*i* Pg	Pg	17 15 35.8	+0.1
LEGS				*i* Sg	Sg	17 15 37.7	+0.2
GOLS	**Golise**	**0.16**	**39**	*i* Pg	Pg	17 15 36.8	+0.4
GOLS				*i* Sg	Sg	17 15 39.0	+0.4
GOLS							
	comp=Z,1.0nm,0.1s						
GOLS	**Golise**	**0.16**	**39**	*i* Pg	Pg	17 15 36.8	+0.5
GOLS				*i* Sg	Sg	17 15 39.0	+0.5
	comp=Z,1.0nm,0.1s						

WEL 04 17:26:18.7±0.2, 38.58S×176.08E, h102km±2km, ML3.6/8, 2C-1D, Error ellipse: s-maj=1.6km s-min=1.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WTVZ	**West Tongariro**	**0.66**	**215**	PN	Pn	17 26 36.1	+0.1
BKZ	**Black Stump Fm**	**0.67**	**152**⇑	PN	Pn	17 26 36.2	+0.1
BKZ				SN	Sn	17 26 49.6	+0.6
TWVZ	**Taurewa**	**0.71**	**225**	PN	Pn	17 26 36.4	+0.1
WNVZ	**Wahianoa**	**0.84**	**207**	PN	Pn	17 26 37.9	+0.3
URZ	**Urewera**	**0.87**	**69**⇓	PN	Pn	17 26 37.4	-0.5
URZ				SN	Sn	17 26 52.0	-0.3
MOVZ	**Moawhango**	**0.87**	**197**⇑	PN	Pn	17 26 37.9	0.0
MOVZ				SN	Sn	17 26 52.1	-0.2
BHHZ	**Black Hill Sta**	**0.91**	**181**	PN	Pn	17 26 38.4	0.0
BHHZ				SN	Sn	17 26 52.9	-0.2
PKVZ	**Pokaka**	**0.92**	**219**	PN	Pn	17 26 38.7	+0.3
HIZ	**Hauiti**	**0.96**	**273**	PN	Pn	17 26 38.6	-0.3
MWZ	**Matawai**	**1.16**	**78**	PN	Pn	17 26 40.9	-0.1
VRZ	**Vera Road**	**1.17**	**242**	PN	Pn	17 26 40.9	-0.2
KNZ	**Kokohu**	**1.32**	**110**	PN	Pn	17 26 43.1	+0.2
KNZ				SN	Sn	17 27 01.1	0.0
KAHZ	**Kahuranaki**	**1.36**	**153**	PN	Pn	17 26 43.9	+0.5
WAZ	**Wanganui**	**1.45**	**216**	PN	Pn	17 26 44.5	+0.1
TSZ	**Takapari Road**	**1.48**	**184**	PN	Pn	17 26 44.4	-0.4
**WPHZ

PLWZ	**Palliser**	**3.06**	**192**	PN	Pn	17 27 02.0	-3.2
THZ	**Tophouse**	**4.01**	**216**	PN	Pn	17 27 14.3	-3.6
KHZ	**Kahutara**	**4.30**	**206**	PN	Pn	17 27 17.6	-4.3
MQZ	**McQueen's Vall**	**5.74**	**206**	PN	Pn	17 27 35.2	-6.2
ODZ	**Otahua Downs**	**7.63**	**210**	PN	Pn	17 28 01.1	-6.0

*ISCJB **04** 17:38:30.5±1.3,54°.0N±0°.1×163°.6W±0°.1, h57km±13km, mb3.6/3, Error ellipse: s-maj=24.1km s-min=8.4km az=159.0*
*NEIC **04** 17:38:30.7, 54°.02N×163°.62W, h39km, ML3.5(AEIC), After AEIC.*
*IDC **04** 17:38:34.7±4.2, 54°.60N×163°.52W, h73km±38km, mb3.2/3, mb1 3.3/5, mb1mx3.1/28, mbtmp3.1/5, ML3.2/3, Error ellipse: s-maj=50.0km s-min=18.4km az=178.0*

ISC 04 17:38:31.5±1.2, 54°.1N±0°.1×163°.7W±0°.1, h51km±14km, n17, σ1§22/21, mb3.6/3, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FALS	**False Pass**	**0.82**	**10**	P	**Pn**	**17 38 46.4**	**-0.4**
FALS				S	**Sn**	**17 38 58.7**	**+0.6**
AKUT	**Akutan**	**1.25**	**275**	P	**Pn**	**17 38 52.4**	**-0.2**
UNV	**Unalaska Valle**	**1.70**	**264**	P	**Pn**	**17 38 57.5**	**-1.1**
SDPT	**Sand Point**	**2.26**	**53**	P	**Pn**	**17 39 06.5**	**+0.2**
SDPT				*eP*		17 39 06.7	
SDPT				S	**Sn**	**17 39 33.9**	**+1.0**
CHGN	**Chignik**	**3.76**	**51**	*eP*	**Pn**	**17 39 27.6**	**+0.8**
KDAK	**Kodiak Island**	**7.26**	**54**	P	**Pn**	**17 40 13.0**	**-1.7**
	0.5nm,0.3s,baz=322,slow=11,SNR=6.9						
KDAK				S	**Sn**	**17 41 29.2**	**-6.4**
	0.1nm,0.3s,baz=180,slow=20,SNR=2.6						
KDAK	**Kodiak Island**	**7.26**	**54**	P	**Pn**	**17 40 13.0**	**-1.7**
KDAK				S	**Sn**	**17 41 29.2**	**-6.4**
ILAR	**Eielson Array**	**13.67**	**32**	P	**Pn**	**17 41 39.6**	**-2.6**
	0.0nm,0.3s,baz=222,slow=11,SNR=2.6						
ILAR	**Eielson Array**	**13.67**	**32**	P	**Pn**	**17 41 39.6**	**-2.6**
FX1	**Attu Island--F**	**13.85**	**275**	P	**Pn**	**17 41 47.4**	**+2.6**
	0.6nm,0.3s,baz=49,slow=19,SNR=2.5						
FX1	**Attu Island--F**	**13.85**	**275**	P	**Pn**	**17 41 47.4**	**+2.6**
PETK	**Petropavlovsk-**	**22.78**	**283**	P	**P**	**17 43 30.2**	**+1.0**
	2.4nm,0.7s,mb3.7,baz=86,slow=13,SNR=5.7						
PETK	**Petropavlovsk-**	**22.78**	**283**	P	**P**	**17 43 30.2**	**+1.0**
TXAR	**Lajitas Array**	**49.37**	**95**	P	**P**	**17 47 16.5**	**+0.9**
	0.5nm,0.6s,mb3.7,baz=295,slow=5.1,SNR=8.1						
TXAR	**Lajitas Array**	**49.37**	**95**	P	**P**	**17 47 16.5**	**+0.9**
MKAR	**Makanchi Array**	**65.06**	**316**	P	**P**	**17 49 04.9**	**-1.2**
	0.1nm,0.4s,mb3.2,baz=45,slow=5.4,SNR=2.8						
MKAR	**Makanchi Array**	**65.06**	**316**	P	**P**	**17 49 04.9**	**-1.2**

*CSEM **04** 17:41:20.0±0.3, 44°.93N×37°.35E, h2km, mb3.4, Error ellipse: s-maj=11.4km s-min=5.9km az=2.0*

MOS 04 17:41:19.9±2.4, 44°.92N×37°.36E, h16km, mb3.4/1, 7C-1D, Error ellipse: s-maj=15.6km s-min=13.3km az=174.6, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANN	**Anapa**	**0.13**	**158**	*i* P	Pg	17 41 22.6	-1.0
ANN				pmax	pmax		
	comp=N,606nm,0.3s						
ANN				pmax	pmax		
	comp=E,435nm,0.3s						
ANN				pmax	pmax		
	comp=Z,1μm,0.3s						
ANN	**Anapa**	**0.13**	**158**	*i* P	Pg	17 41 22.6	-1.0
ALU	**Alushta**	**2.12**	**265**	*eP*	Pn	17 41 57.0	+2.4
ALU				*e*		17 42 24.0	
ALU	**Alushta**	**2.12**	**265**	*eP*	Pn	17 41 57.0	+2.4
ALU				*eS*	Sn	17 42 24.0	+3.4
SOC	**Sochi**	**2.15**	**127**	*c iP*	Pn	17 42 00.0	+4.9
SOC				*i*		17 42 25.1	
SOC				pmax	pmax		
	comp=Z,23nm,0.2s						
SOC				smax			
	comp=N,42nm,0.2s						
SOC				smax			
	comp=E,134nm,0.2s						
SOC	**Sochi**	**2.15**	**127**	*i* P	Pn	17 42 00.0	+4.9
	comp=E,23nm,0.2s						
SOC				*i* S	Sn	17 42 25.1	+3.6
SIM	**Simferopol'**	**2.31**	**272**	*eP*	Pn	17 42 00.0	+2.8
SIM				*eS*	Sn	17 42 29.0	+3.8
SIM				smax			
	comp=E,35nm,1.1s						
SIM				smax			
	comp=N,23nm,0.9s						
SIM	**Simferopol'**	**2.31**	**272**	*eP*	Pn	17 42 00.0	+2.8
SIM				*eS*	Sn	17 42 29.0	+3.8
	comp=N,23nm,0.9s						
YAL	**Yalta**	**2.33**	**260**	*i* P	Pn	17 41 59.3	+1.8
YAL				*e*		17 42 28.2	
YAL	**Yalta**	**2.33**	**260**	*i* P	Pn	17 41 59.3	+1.8
YAL				*eS*	Sn	17 42 28.2	+2.4
SEV	**Sevastopol'**	**2.66**	**263**	*eP*	Pn	17 42 03.2	+1.1
SEV				*e*		17 42 36.2	
SEV	**Sevastopol'**	**2.66**	**263**	*eP*	Pn	17 42 03.2	+1.1
SEV				*eS*	Sn	17 42 36.2	+2.2
KIV	**Kislovodsk**	**3.93**	**102**	*eP*	Pn	17 42 18.8	-0.7
KIV	**Kislovodsk**	**3.93**	**102**	*eP*	Pn	17 42 18.8	-0.7
TIRR	**Tirgusor**	**6.40**	**269**	*↑iP*	Pn	17 42 53.9	+0.5
TIRR	**Tirgusor**	**6.40**	**269**	*↑iP*	Pn	17 42 53.9	+0.5
GNI	**Garni**	**7.24**	**129**	*i* P	Pn	17 43 06.3	+1.4
GNI	**Garni**	**7.24**	**129**	*i* P	Pn	17 43 06.3	+1.4
VOIR		**8.72**	**278**	*↑iP*	Pn	17 43 27.0	+1.8
VOIR		**8.72**	**278**	*↑iP*	Pn	17 43 27.0	+1.8
BURAR	**Bucovina Array**	**8.84**	**292**	*↑iP*	Pn	17 43 28.1	+1.3
BURAR	**Bucovina Array**	**8.84**	**292**	*↑iP*	Pn	17 43 28.1	+1.3
OBN	**Obninsk**	**10.22**	**357**	*↓eP*	Pn	17 43 46.5	+0.8
OBN				*eS*	Sn	17 45 50.0	+10
OBN				pmax	pmax		
	comp=Z,13nm,1.2s						
OBN	**Obninsk**	**10.22**	**357**	*eP*	Pn	17 43 46.5	+0.8
	comp=Z,13nm,1.2s						
BRVK	**Borovoye**	**22.92**	**57**	*eP*	P	17 46 26.9	+4.0
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.2s						
BRVK	**Borovoye**	**22.92**	**57**	*eP*	P	17 46 26.9	+4.0
	comp=Z,1.0nm,1.2s						

GUC 04 17:41:54.1±0.4, 28°.41S×71°.50W, h63km±12km, ML4.6, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VACH	**Vallenar**	**0.68**	**105**	*eP*	Pn	17 42 08.5	+0.2
VACH				*i* S	Sn	17 42 19.4	+0.8
VACH				AML	AML	17 42 20.7	
	comp=N,27μm,0.1s						
CPCH	**Copiapo**	**1.46**	**45**	*eP*	Pn	17 42 18.7	+0.4
CPCH				*i* S	Sn	17 42 37.4	+1.0
CPCH				AML	AML	17 42 39.5	
	comp=N,15μm,0.1s						
CDCH	**Caldera**	**1.46**	**25**	*↑iP*	Pn	17 42 18.6	+0.3
CDCH				*i* S	Sn	17 42 36.9	+0.3
OVCH	**Ovalle**	**2.21**	**173**	*i* P	Pn	17 42 28.9	+0.5
OVCH				*i* S	Sn	17 42 55.0	+0.3
CMCH	**Combarbala**	**2.79**	**171**	AML	AML	17 43 25.5	
	comp=E,3μm,0.8s						

*CSEM **04** 17:47:27.3, 63°.84N×22°.48W, h5km, ML4.0, After REY*

REY 04 17:47:27.3, 63°.84N×22°.48W, h5km, ML3.6, ML4.0, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGRV	**Grindav??k**	**0.02**	**34**	P	Pg	17 47 28.4	+0.2
IVOG	**Vogar**	**0.13**	**17**	P	Pg	17 47 30.3	+0.3
IVOG				S	Sg	17 47 32.6	+0.8
INYL	**Nylenda**	**0.17**	**319**	P	Pg	17 47 31.0	+0.3
IKRI	**Krysuvik**	**0.18**	**78**	P	Pg	17 47 31.2	+0.3
IKRI				S	Sg	17 47 34.0	+0.7
IKAS	**Kald??rsel**	**0.33**	**56**	P	Pg	17 47 33.8	+0.1
IKAS				S	Sg	17 47 38.8	+0.8
IVOS	**Vogsosar**	**0.34**	**88**	P	Pg	17 47 34.1	+0.2
IVOS				S	Sg	17 47 39.2	+0.8
ISAN	**Sandskeio**	**0.46**	**61**	P	Pg	17 47 35.9	-0.1
ISAN				S	Sg	17 47 42.6	+0.6
IBJA	**Bjarnastaoir**	**0.53**	**78**	P	Pg	17 47 37.2	-0.3
IBJA				S	Sg	17 47 44.5	+0.1
IKUD	**Kuludalsa**	**0.55**	**29**	P	Pg	17 47 37.2	-0.6
IKRO	**Krokur**	**0.65**	**66**	P	Pg	17 47 39.0	-0.8
IKRO				S	Sg	17 47 48.4	+0.1
IHEI	**Heioarbar**	**0.66**	**56**	P	Pg	17 47 39.0	-0.9
IHEI				S	Sg	17 47 48.7	+0.4
ISOL	**Solvholt**	**0.69**	**82**	P	Pg	17 47 39.6	-0.8
ISOL				S	Sg	17 47 48.9	-0.4
IASM	**Asmuli**	**0.83**	**90**	P	Pg	17 47 41.9	-1.2
IASM				S	Sg	17 47 53.2	-0.6
ISAU	**Saurbar**	**0.93**	**80**	P	Pg	17 47 43.6	-1.4
ISAU				S	Sg	17 47 56.1	-0.9
IASB	**`sbjarnarst**	**1.04**	**28**	P	Pg	17 47 45.2	-2.0
IASB				S	Sg	17 47 58.8	-1.9
IVES	**Vestmannaeyjar**	**1.06**	**111**	P	Pg	17 47 45.4	-2.1
IVES				S	Sg	17 47 59.0	-2.2
IGYG	**Gygjarholskot**	**1.09**	**65**	P	Pg	17 47 46.2	-1.9
IGYG				S	Sg	17 48 01.2	-1.0
IHAU	**Haukadalur**	**1.12**	**82**	P	Pg	17 47 46.8	-1.9
IHAU				S	Sg	17 48 02.1	-1.1
IMID	**Miomork**	**1.17**	**98**	P	Pg	17 47 47.3	-2.3
IMID				S	Sg	17 48 02.7	-2.1
IESK	**Eystri-Skogar**	**1.39**	**102**	P	Pn	17 47 51.4	-1.8
IVAT	**Vatnsfell**	**1.61**	**76**	P	Pn	17 47 54.8	-1.5
IVAT				S	Sn	17 48 16.3	-1.0
IHVO	**Lagu-Hvolar**	**1.65**	**99**	P	Pn	17 47 55.6	-1.2
ISNB	**Snabyli**	**1.71**	**92**	P	Pn	17 47 56.1	-1.6
ISKR	**Skrokkalda**	**1.93**	**66**	P	Pn	17 47 59.4	-1.3
IKAL	**Kalfafell**	**2.12**	**85**	P	Pn	17 48 02.2	-1.1

*ISCJB **04** 18:02:24.9±0.5, 52°.10N±0°.08×156°.0E±0°.1, h225km±5km, mb3.3/12, Error ellipse: s-maj=14.5km s-min=8.8km az=151.6*
*KRSC **04** 18:02:24.2±0.6, 51°.69N×156°.78E, h233km±52km, ML3.8*
*MOS **04** 18:02:24.8±0.8, 52°.12N×156°.02E, h226km, mb3.6/7, Error ellipse: s-maj=22.5km s-min=13.3km az=81.8*
*IDC **04** 18:02:26.0±1.3, 52°.05N×155°.97E, h223km±12km, mb3.2/11, mb1 3.4/12, mb1mx3.2/29, mbtmp3.3/12, Error ellipse: s-maj=16.7km s-min=12.2km az=142.0*
*NEIC **04** 18:02:25.4±0.6, 52°.03N×155°.99E, h218km±5km, mb3.9/3, Error ellipse: s-maj=11.3km s-min=8.8km az=163.0*

ISC 04 18:02:25.8±0.5, 52°.03N±0°.08×156°.1E±0°.1, h221km±4km, n60, σ0§81/69, mb3.3/12, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.35**	**180**	*e*PN	**Pn**	**18 03 01.2**	**+1.0**
SKR				*e*		18 03 26.0	
PEA0B	**Petropavlovsk-**	**1.45**	**41**	*e*P	**Pn**	**18 03 00.8**	**-0.1**
PETK	**Petropavlovsk-**	**1.45**	**41**	P	**Pn**	**18 03 01.1**	**+0.2**
	4.3nm,0.3s,baz=224,slow=7.5,SNR=134						
PETK				S	**S**	**18 03 38.0**	**+10**
	baz=249,slow=12,SNR=2.2						
PETK	**Petropavlovsk-**	**1.45**	**41**	P	**Pn**	**18 03 01.1**	**+0.2**
PETK				S	**S**	**18 03 38.0**	**+10**
PETK	**Petropavlovsk-**	**1.45**	**41**	PN	**Pn**	**18 03 01.1**	**+0.2**
PETK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
RUS	**Russkaya**	**1.52**	**74**	*e*P	**Pn**	**18 03 00.3**	**-1.2**
RUS				*i* S	**S**	**18 03 27.4**	**-2.1**
PET	**Petropavlovsk**	**1.84**	**56**	*e*P	**Pn**	**18 03 04.6**	**+0.3**
PET				*i* S	**S**	**18 03 34.5**	**0.0**
PET	**Petropavlovsk**	**1.84**	**56**	*e*P	**Pn**	**18 03 03.8**	**-0.4**
PET	**Petropavlovsk**	**1.84**	**56**	*e*PN	**Pn**	**18 03 03.8**	**-0.5**
GNL	**Ganaly**	**2.00**	**33**	P	**Pn**	**18 03 07.1**	**+1.3**
AVH	**Avacha**	**2.02**	**51**	*e*P	**Pn**	**18 03 07.0**	**+1.0**
AVH				*e*S	**S**	**18 03 38.3**	**+0.8**
SPN	**Mys Shipunski**	**2.61**	**64**	*e*P	**Pn**	**18 03 11.2**	**-0.9**
SPN				*i* S	**S**	**18 03 44.6**	**-3.9**
KBTR	**Krutoberegovo**	**5.75**	**41**	*e*P	**Pn**	**18 03 50.8**	**+0.8**
FX1	**Attu Island--F**	**10.44**	**79**	P	**Pn**	**18 04 57.8**	**+7.6**
	comp=Z,0.6nm,0.3s,baz=339,slow=8.6,SNR=5.5						
FX1				S	**S**	**18 06 46.5**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=71,slow=20,SNR=5.9						
FX1	**Attu Island--F**	**10.44**	**79**	P	**Pn**	**18 04 57.8**	**+7.6**
FX1				S	**S**	**18 06 46.5**	**-0.5**
FX1	**Attu Island--F**	**10.44**	**79**	PN	**Pn**	**18 04 57.8**	**+7.7**
FX1				S	**S**	**18 06 46.5**	**-0.4**
FX1				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FX1				smax			
	comp=N,1.0nm,0.3s						
ASAJ	**Asahikawa**	**12.01**	**234**	P	**Pn**	**18 05 10.8**	**+0.8**
	comp=N,0.2nm,0.3s,baz=12,slow=9.3,SNR=2.9						
ASAJ	**Asahikawa**	**12.01**	**234**	PN	**Pn**	**18 05 10.9**	**+0.8**
BILL	**Bilibino**	**16.80**	**13**	*e*P	**P**	**18 06 06.4**	**-0.3**
BILL	**Bilibino**	**16.80**	**13**	*e*P	**P**	**18 06 06.4**	**-0.3**
YAK	**Yakutsk**	**17.40**	**315**	*e*P	**P**	**18 06 13.1**	**-0.2**
	comp=N,23nm,0.7s						
YAK	**Yakutsk**	**17.40**	**315**	*e*P	**P**	**18 06 13.1**	**-0.2**
YAK				pmax	pmax		
	comp=Z,23nm,0.7s						
ILAR	**Eielson Array**	**31.27**	**44**	P	**P**	**18 08 24.4**	**-0.2**
	comp=Z,0.3nm,0.5s,mb3.2,baz=265,slow=8.1,SNR=5.7						
ILAR	**Eielson Array**	**31.27**	**44**	P	**P**	**18 08 24.4**	**-0.2**
ILAR	**Eielson Array**	**31.27**	**44**	P	**P**	**18 08 24.4**	**-0.1**
RES	**Resolute Bay**	**45.20**	**21**	P	**P**	**18 10 20.9**	**+0.8**
	comp=Z,2.0nm,0.9s,mb3.5,baz=293,slow=7.7,SNR=3.3						
RES	**Resolute Bay**	**45.20**	**21**	P	**P**	**18 10 20.9**	**+0.8**
RES	**Resolute Bay**	**45.20**	**21**	P	**P**	**18 10 21.0**	**+0.9**
RES				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.5						
KURK	**Kurchatov**	**46.22**	**301**	P	**P**	**18 10 28.6**	**+0.2**
	comp=Z,1.4nm,0.5s,mb3.5,baz=61,slow=7.4,SNR=10						
KURK	**Kurchatov**	**46.22**	**301**	*e*P	**P**	**18 10 27.7**	**-0.7**
	comp=Z,3.1nm,0.8s,mb3.7						
KURK	**Kurchatov**	**46.22**	**301**	P	**P**	**18 10 28.6**	**+0.2**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.4						
MKAR	**Makanchi Array**	**46.41**	**294**	P	**P**	**18 10 29.7**	**-0.2**
	comp=Z,0.7nm,0.4s,mb3.3,baz=60,slow=6.8,SNR=9.5						
MKAR	**Makanchi Array**	**46.41**	**294**	P	**P**	**18 10 29.7**	**-0.2**
MKAR	**Makanchi Array**	**46.41**	**294**	P	**P**	**18 10 29.7**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**49.13**	**307**	P	**P**	**18 10 49.8**	**-0.8**
	comp=Z,1.3nm,0.6s,mb3.5,baz=67,slow=8.2,SNR=10						
BVAR				PcP	PcP	18 12 08.3	-2.1
	comp=Z,0.3nm,0.4s,baz=68,slow=4.3,SNR=4.1						
BVAR	**Borovoye Array**	**49.13**	**307**	P	**P**	**18 10 49.8**	**-0.8**
BVAR				PcP	PcP	18 12 08.3	-2.1
BVAR	**Borovoye Array**	**49.13**	**307**	P	**P**	**18 10 49.8**	**-0.8**
BVAR						18 12 08.3	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**49.16**	**307**	*e*P	**P**	**18 10 43.3**	**-7.6**
	comp=Z,2.6nm,0.9s,mb3.6						
BRVK	**Borovoye**	**49.16**	**307**	*e*P	**P**	**18 10 43.3**	**-7.6**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.6						
AAK	**Ala-Archa**	**53.34**	**294**	*e*P	**P**	**18 11 21.5**	**-0.6**
AAK	**Ala-Archa**	**53.34**	**294**	*e*P	**P**	**18 11 21.5**	**-0.6**
EKS2	**Erkin-Say**	**53.73**	**295**	*e*P	**P**	**18 11 24.5**	**-0.3**
EKS2	**Erkin-Say**	**53.73**	**295**	*e*P	**P**	**18 11 24.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**55.58**	**255**	P	**P**	**18 11 37.5**	**-0.9**
	comp=Z,0.3nm,0.7s,mb3.0,baz=38,slow=6.1,SNR=3.7						
CMAR	**Chiang Mai Arr**	**55.58**	**255**	P	**P**	**18 11 37.5**	**-0.9**
CMAR	**Chiang Mai Arr**	**55.58**	**255**	P	**P**	**18 11 37.5**	**-0.9**
PDAR	**Pinedale Array**	**60.15**	**58**	P	**P**	**18 12 10.9**	**+1.0**
	comp=Z,2.2nm,0.5s,mb3.0,baz=298,slow=7.7,SNR=2.1						
PDAR	**Pinedale Array**	**60.15**	**58**	P	**P**	**18 12 10.9**	**+1.0**
EKA	**Eskdalemuir Ar**	**71.63**	**348**	P	**P**	**18 13 22.1**	**-0.6**
	comp=Z,0.4nm,0.5s,mb3.3,baz=15,slow=6.0,SNR=3.6						
EKA	**Eskdalemuir Ar**	**71.63**	**348**	P	**P**	**18 13 22.1**	**-0.6**
EKA	**Eskdalemuir Ar**	**71.63**	**348**	P	**P**	**18 13 22.1**	**-0.6**
TXAR	**Lajitas Array**	**73.28**	**64**	P	**P**	**18 13 34.0**	**+1.1**
	comp=Z,0.2nm,0.4s,mb3.1,baz=290,slow=5.7,SNR=5.5						
TXAR	**Lajitas Array**	**73.28**	**64**	P	**P**	**18 13 34.0**	**+1.2**
TXAR	**Lajitas Array**	**73.28**	**64**	P	**P**	**18 13 34.0**	**+1.1**
WRA	**Warramunga Arr**	**74.15**	**201**	P	**P**	**18 13 37.3**	**-0.5**
	comp=Z,0.6nm,0.5s,mb3.5,baz=16,slow=6.3,SNR=12						
WRA	**Warramunga Arr**	**74.15**	**201**	P	**P**	**18 13 37.3**	**-0.5**
WRA	**Warramunga Arr**	**74.15**	**201**	P	**P**	**18 13 37.3**	**-0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**77.84**	**201**	P	**P**	**18 13 59.0**	**+0.4**
	comp=Z,0.9nm,0.4s,mb3.7,baz=14,slow=5.2,SNR=44						
ASAR	**Alice Springs**	**77.84**	**201**	P	**P**	**18 13 59.0**	**+0.4**
ASAR	**Alice Springs**	**77.84**	**201**	P	**P**	**18 13 59.0**	**+0.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						

WEL 04 18:12:46.0±0.7, 37°.43S×176°.42E, h254km±5km, ML3.9/10, Error ellipse: s-maj=6.0km s-min=4.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.99**	**147**	PN	Pn	18 13 21.2	-0.1
URZ				SN	S	18 13 48.9	-0.3
MWZ	**Matawai**	**1.26**	**136**	PN	Pn	18 13 23.0	0.0
MWZ				SN	S	18 13 52.5	+0.4
CNGZ	**Carnagh Statio**	**1.76**	**127**	PN	Pn	18 13 27.1	+0.4
OTVZ	**Oturere**	**1.84**	**199**	PN	Pn	18 13 28.2	+0.9
KNZ	**Kokohu**	**1.87**	**149**	PN	Pn	18 13 27.6	0.0
PRGZ	**Paritu Road**	**1.89**	**143**	PN	Pn	18 13 28.4	+0.6
WPVZ	**Whakapapa**	**1.91**	**201**	PN	Pn	18 13 28.7	+0.8
WNVZ	**Wahianoa**	**2.01**	**199**	PN	Pn	18 13 29.3	+0.5
MCHZ	**McNeill Hill**	**2.03**	**174**	PN	Pn	18 13 29.5	+0.6
MOVZ	**Moawhango**	**2.05**	**195**	PN	Pn	18 13 29.2	0.0
BHHZ	**Black Hill Sta**	**2.08**	**188**	PN	Pn	18 13 29.6	+0.2
MHGZ	**Mahia Peninsul**	**2.08**	**146**	PN	Pn	18 13 29.5	+0.1
KAHZ	**Kahuranaki**	**2.39**	**172**	PN	Pn	18 13 32.4	0.0
PXZ	**Pawanui**	**2.62**	**173**	PN	Pn	18 13 34.3	-0.5
PXZ				SN	S	18 14 12.5	-0.8
WPHZ	**Waipukurau**	**2.64**	**180**	PN	Pn	18 13 34.3	-0.6
TSZ	**Takapari Road**	**2.66**	**188**	PN	Pn	18 13 34.3	-0.7
PRHZ	**Porangahau**	**2.84**	**177**	PN	Pn	18 13 36.2	-0.7
DVHZ	**Dannevirke**	**2.88**	**184**	PN	Pn	18 13 36.6	-0.7
POWZ	**Post Office Ro**	**3.01**	**190**	PN	Pn	18 13 37.6	-1.1
MRZ	**Mangatainoka R**	**3.30**	**191**	PN	Pn	18 13 40.3	-1.6
KIW	**Kapiti Island**	**3.63**	**198**	PN	Pn	18 13 44.0	-1.6
CAW	**Cannon Point**	**3.83**	**196**	PN	Pn	18 13 45.9	-1.9
TCW	**Tory Channel**	**4.13**	**203**	PN	Pn	18 13 49.5	-2.0
PLWZ	**Palliser**	**4.24**	**192**	PN	Pn	18 13 50.2	-2.4
TUWZ	**Tuamarina**	**4.44**	**205**	PN	Pn	18 13 53.0	-2.0
NNZ	**Nelson**	**4.46**	**211**	PN	Pn	18 13 52.6	-2.7
THZ	**Tophouse**	**5.11**	**211**	PN	Pn	18 14 01.0	-2.2
KHZ	**Kahutara**	**5.46**	**203**	PN	Pn	18 14 05.1	-2.2

*IDC **04** 18:14:42.3±5.3, 19°.17S×177°.57W, h551km±57km, mb2.9/7, mb1 3.2/8, mb1mx3.1/19, mbtmp3.0/8, Error ellipse: s-maj=30.8km s-min=22.4km az=22.0*
*ISCJB **04** 18:14:43.6±1.4, 19°.3S±0°.1×177°.5W±0°.2, h584km±16km, mb3.4/8, Error ellipse: s-maj=25.5km s-min=19.2km az=15.6*
*NEIC **04** 18:14:44.6±1.3, 19°.18S×177°.59W, h581km±13km, mb3.6/2, Error ellipse: s-maj=22.7km s-min=16.3km az=103.0*

ISC 04 18:14:44.5±1.4, 19°.3S±0°.1×177°.5W±0°.2, h579km±16km, n34, σ1§33/22, mb3.4/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.45**	**289**	*e*Pn	**P**	**18 16 12.0**	**+0.2**
URZ	**Urewera**	**19.50**	**193**	P	**P**	**18 18 32.9**	**-1.6**
	1.4nm,0.3s,baz=344,slow=15,SNR=4.3						
URZ	**Urewera**	**19.50**	**193**	P	**P**	**18 18 32.9**	**-1.6**
STKA	**Stephens Creek**	**38.73**	**243**	P	**P**	**18 21 20.5**	**+0.2**
	1.6nm,0.9s,mb3.6,baz=104,slow=12,SNR=2.8						
STKA	**Stephens Creek**	**38.73**	**243**	P	**P**	**18 21 20.5**	**+0.4**
WRA	**Warramunga Arr**	**45.21**	**261**	P	**P**	**18 22 10.3**	**-0.8**
	0.5nm,0.5s,mb3.3,baz=96,slow=7.7,SNR=40						
WRA				PcP	PcP	18 23 38.6	-0.2
	0.3nm,0.4s,baz=94,slow=3.8,SNR=6.2						
WRA	**Warramunga Arr**	**45.21**	**261**	P	**P**	**18 22 10.3**	**-0.8**
WRA				PcP	PcP	18 23 38.6	-0.2
ASAR	**Alice Springs**	**45.23**	**255**	P	**P**	**18 22 11.2**	**-0.1**
	1.0nm,0.5s,mb3.6,baz=89,slow=7.9,SNR=22						
ASAR				PcP	PcP	18 23 38.8	-0.1
	0.6nm,0.5s,baz=106,slow=3.9,SNR=9.0						
ASAR	**Alice Springs**	**45.23**	**255**	P	**P**	**18 22 11.2**	**-0.1**
ASAR				PcP	PcP	18 23 38.8	-0.1
SBA	**Scott Base**	**59.13**	**184**	*e*P	**P**	**18 23 51.6**	**+1.8**
	1.7nm,0.8s,mb3.2						
VNDA	**Vanda**	**59.18**	**185**	P	**P**	**18 23 51.3**	**+1.2**
	0.3nm,0.5s,baz=0.0,slow=2.0,SNR=2.6						
VNDA	**Vanda**	**59.18**	**185**	P	**P**	**18 23 51.3**	**+1.2**
QSPA	**South Pole Qui**	**70.81**	**180**	*e*P	**P**	**18 25 03.9**	**+1.0**
	2.7nm,0.7s,mb3.9					

NWF				S		Sb	18 32 24.6	+0.9
	baz=307							
ENTT	**Nioudou**	**0.81**	**273**	P		**Pb**	18 32 13.9	-0.3
	baz=272							
ENTT				S		**Sb**	18 32 25.1	+0.4
	baz=272							
TWA	**Mucha**	**0.88**	**296**	P		**Pb**	18 32 15.4	0.0
	baz=295							
TWA				S		**Sb**	18 32 27.1	+0.4
	baz=295							
TWD	**Chiawan**	**0.94**	**237**	*e*P		**Pb**	18 32 16.3	-0.1
	baz=235							
TWD				*e*S		**Sb**	18 32 29.4	+1.0
	baz=235							
NNS	**Nan Shan**	**1.00**	**261**	*e*P		**Pb**	18 32 16.9	-0.5
	baz=260							
NNS				*e*S		**Sb**	18 32 30.5	+0.4
	baz=260							
NSK	**Sanguang**	**1.00**	**275**	*e*P		**Pb**	18 32 17.5	0.0
	baz=273							
NSK				*e*S		**Sb**	18 32 30.3	0.0
	baz=273							
TWY	**Chenhua**	**1.03**	**311**	*e*P		**Pn**	18 32 17.6	-0.3
	baz=310							
TWY				*e*S		**Sb**	18 32 31.3	+0.2
	baz=310							
TWS1	**Kuangyinshan**	**1.07**	**298**	*e*P		**Pn**	18 32 17.6	-0.7
	baz=297							
TWS1				*e*S		**Sb**	18 32 32.8	+0.6
	baz=297							
WHF	**Hehuan Shan**	**1.18**	**248**	P		**Pn**	18 32 20.3	+0.4
	baz=246							
WHF				*e*S		**Sb**	18 32 35.5	+0.2
	baz=246							
IRIF	**Iriomote-Funau**	**1.19**	**102**	*e*S		**Sb**	18 32 36.6	+0.9
ESL	**Shilin**	**1.22**	**230**	*e*P		**Pn**	18 32 20.4	0.0
	baz=229							
ESL				*e*S		**Sn**	18 32 36.8	+0.7
	baz=229							
NSTT	**Nanjuang**	**1.32**	**272**	*e*P		**Pn**	18 32 21.5	-0.4
	baz=270							
NSTT				*e*S		**Sn**	18 32 38.5	-0.3
	baz=270							
HATJ	**Hateruma jima**	**1.34**	**113**	*e*S		**Sn**	18 32 40.7	+1.4
JKRS	**Kuro-shima**	**1.46**	**104**	P		**Pn**	18 32 22.7	-1.1
JKRS				*e*S		**Sn**	18 32 44.1	+1.9
EHY	**Hungye**	**1.50**	**224**	*e*P		**Pn**	18 32 24.6	+0.3
	baz=223							
EHY				*e*S		**Sn**	18 32 43.1	-0.1
	baz=223							
JIJ	**Ishigaki jima**	**1.56**	**98**	P		**Pn**	18 32 23.8	-1.3
JIJ				*e*S		**Sn**	18 32 44.8	+0.3
SMLT	**Sun Moon Lake**	**1.59**	**244**	*e*P		**Pn**	18 32 25.5	0.0
	baz=242							
SMLT				*e*S		**Sn**	18 32 45.7	+0.4
	baz=242							
TYC	**Yuchr**	**1.61**	**245**	*e*P		**Pn**	18 32 25.7	-0.2
	baz=244							
TYC				*e*S		**Sn**	18 32 45.5	-0.4
	baz=244							
TWF1	**Yuli**	**1.63**	**221**	*e*P		**Pn**	18 32 25.5	-0.6
	baz=219							
TWF1				*e*S		**Sn**	18 32 45.9	-0.4
	baz=219							
CHKT	**Chengkung**	**1.79**	**214**	*e*P		**Pn**	18 32 28.5	+0.1
	baz=213							
CHKT				*e*S		**Sn**	18 32 48.6	-1.8
	baz=213							
CHN5	**Tsauling**	**1.90**	**239**	*e*P		**Pn**	18 32 30.6	+0.7
	baz=238							
CHN5				*e*S		**Sn**	18 32 52.6	-0.5
	baz=238							
ELDTW	**Lidau**	**1.92**	**224**	*e*P		**Pn**	18 32 30.8	+0.6
	baz=222							
ELDTW				*e*S		**Sn**	18 32 53.9	+0.3
	baz=222							
CHN4	**Tsaushan**	**2.11**	**234**	*e*P		**Pn**	18 32 33.1	+0.5
	baz=233							
CHN4				*e*S		**Sn**	18 32 58.0	-0.2
	baz=233							

NOU ***04*** *18:35:36.4±1.0, 16°.30S×168°.74E, h30km, MD3.7, ML4.3*
MOS ***04*** *18:35:44.3±1.0, 17°.10S×168°.54E, h201km, mb5.7/61, MS5.4/22, Error ellipse: s-maj=7.6km s-min=6.7km az=90.8*
IDC ***04*** *18:35:45.2±0.6, 17°.12S×168°.45E, h203km±4km, mb5.3/27, mb1 5.3/27, mb1mx5.3/27, mbtmp5.3/27, MS5.3/8, Ms1 5.3/8, ms1mx4.8/35, Error ellipse: s-maj=8.8km s-min=7.7km az=40.0*
NEIC ***04*** *18:35:45.3±0.1, 17°.14S×168°.46E, mb5.7/171, ME5.7, MW6.3, MW6.2, Error ellipse: s-maj=4.5km s-min=3.6km az=159.0 Broadband fault plane solution: P waves. NP1:*ϕ_S*115.00000°,* δ*65.00000°,* λ*155.00000°. NP2: *ϕ_S*216.00000°,* δ*67.00000°,* λ*27.00000°. Principal axes: T Plg35.0000°, Azm76.0000°; N Plg0.0000°, Azm0.0000°; P Plg2.0000°, Azm345.0000°; Moment Tensor Solution. s70 Moment tensor: Scale 10*^{18} *Nm; Mrr 1.48; Mθθ -2.31; Mφφ 0.84; Mrθ 0.23; Mrφ -1.52; Mθr-0.75; Best double couple: M*$_{o}$*2.60000×10*^{18} *NP1:*ϕ_S*213.00000°,* δ*60.00000°, λ36.00000°. NP2:*ϕ_S*103.00000°,* δ*59.00000°,* λ*145.00000°. Principal axes: T 2.2500, Plg45.0000°, Azm68.0000°; N 0.6800, Plg44.0000°, Azm246.0000°; P -2.9300, Plg0.0000°, Azm337.0000°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*
ISCJB ***04*** *18:35:45.1±0.1, 17°.11S±0°.02×168°.40E±0°.02, h209km, mb5.5/230 Error ellipse: s-maj=2.9km s-min=2.3km az=144.8*
LDG ***04*** *18:35:45.0±0.1, 16°.90S×168°.20E, h190km, Mb5.5/4, Ms5.3/9, Error ellipse: s-maj=17.2km s-min=4.3km az=99.0*
BJI ***04*** *18:35:46.7, 16°.58S×168°.42E, h206km, mB5.8/52, mb5.5/70*
GCMT ***04*** *18:35:53.2±0.1, 17°.03S×168°.31E, h232km, MW6.3, Moment Tensor Solution. s121,c292; s99,c188; Moment tensor: Scale 10*^{18}*Nm; Mrr 1.69±.02; Mθθ -3.66±.02; Mφφ 1.98±.02; Mrθ 0.34±.02; Mθφ -2.16±.02; Mφr -1.44±.02; Best double couple: M*$_{o}$*4.10000×10*^{18} *NP1:*ϕ_S*111.00000°,* δ*65.00000°,* λ*154.00000°. NP2: *ϕ_S*212.00000°,* δ*67.00000°,* λ*28.00000°. Principal axes: T 3.7600, Plg35.0000°, Azm72.0000°; N 0.6400, Plg55.0000°, Azm249.0000°; P -4.4000, Plg1.0000°, Azm341.0000°; Data Used: II IU CN IC G. Mantle waves from 104 sta. Surface waves: sta=125, comp=312, per=50.*
DJA ***04*** *18:36:05, 17°.20S×167°.13E, h316km, mb5.6/26*
ISC 04 18:35:46.6±0.1, 17°.13S±0°.02×168°.45E±0°.02, h211km, h211km±2.1km:pP-P, n1835, σ0s79/870, mb5.5/228, 250C-244D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**5.21**	**196**	*e*P		**Pn**	**18 37 03.0**	**-1.0**
BAYA				*e*S		**S**	**18 38 07.0**	**+1.7**
BAYA				AMP			18 38 20.8	
	comp=Z,125nm,3.6s							
DZM	**Mont Dzumac**	**5.27**	**201**	*e*Pn		**Pn**	**18 37 04.4**	**-0.3**
DZM	comp=Z,852nm,0.3s			*e*Sn		**S**	**18 38 05.9**	**-0.7**
	comp=Z,1μm,0.3s							
DZM	**Mont Dzumac**	**5.27**	**201**	*e*P		**Pn**	**18 37 04.9**	**+0.2**
DZM				AML		AML	18 38 08.4	
	comp=Z,19μm,1.0s							
DZM	**Mont Dzumac**	**5.27**	**201**	*e*Pn		**Pn**	**18 37 04.2**	**-0.6**
	comp=Z,14μm,1.4s							
NOUC	**Port Laguerre**	**5.35**	**202**	*e*P		**Pn**	**18 37 04.4**	**-1.3**
NOUC				AML		AML	18 37 27.3	
	comp=Z,404nm,12.8s							
PLUM	**Mont Dore**	**5.40**	**198**	*e*P		**Pn**	**18 37 05.4**	**-1.0**
PLUM				AML		AML	18 37 21.9	
	comp=Z,625nm,0.6s							
PLUM				*e*S		**S**	**18 38 12.1**	**+2.6**
NORM	**Noumea**	**5.40**	**200**	*e*P		**Pn**	**18 37 06.1**	**-0.3**
NORM				*e*S		**S**	**18 38 11.8**	**+2.2**
NORM				AML		AML	18 38 21.0	
	comp=Z,845nm,0.6s							
MVNO	**Noumea**	**5.46**	**200**	*e*P		**Pn**	**18 37 06.1**	**-1.0**
MVNO				*e*S		**S**	**18 38 12.8**	**+1.9**
MVNO				AML		AML	18 38 27.4	
	comp=Z,72nm,2.5s							

MSVF	**Nonsavu**	**9.18**	**95**	*e*Pn		**Pn**	**18 37 58.0**	**+2.8**
	comp=Z,1μm,0.9s							
MSVF				*e*S		**S**	**18 39 46.1**	**+7.8**
MSVF	**Nonsavu**	**9.18**	**95**	*e*P		**Pn**	**18 37 58.0**	**+2.8**
MSVF				pmax		pmax		
	comp=Z,1μm,0.9s							
MSVF	**Nonsavu**	**9.18**	**95**	Pn		**Pn**	**18 37 58.7**	**+3.5**
	comp=Z,9μm,0.9s							
HNR	**Honiara**	**11.27**	**312**	*i*Pn		**Pn**	**18 38 22.1**	**+0.1**
	comp=Z,2μm,0.8s							
HNR				*e*S		**S**	**18 40 30.7**	**+2.7**
HNR	**Honiara**	**11.27**	**312**	*i*P		**Pn**	**18 38 22.1**	**+0.1**
HNR				*e*S		**S**	**18 40 30.7**	**+2.6**
HNR				pmax		pmax		
	comp=Z,2μm,0.8s							
FUNA	**Funafuti**	**13.51**	**52**	*e*Pn		**Pn**	**18 38 50.3**	**0.0**
	comp=Z,2μm,1.3s							
FUNA				*e*S		**S**	**18 41 16.3**	**-4.5**
RAO	**Raoul Island**	**17.38**	**136**	*e*P		**P**	**18 39 34.0**	**-0.9**
	comp=Z,2μm,1.0s							
RAO	**Raoul Island**	**17.38**	**136**	*e*P		**P**	**18 39 34.0**	**-0.9**
RAO				pmax		pmax		
	comp=Z,2μm,1.0s							
EIDS	**Eidsvold**	**18.14**	**240**	*e*Pn		**Pn**	**18 39 44.1**	**-1.6**
	comp=Z,2μm,1.7s							
OUZ	**Omahuta**	**18.60**	**167**	*e*P		**P**	**18 39 49.0**	**+0.9**
	comp=Z,2μm,0.9s							
OUZ	**Omahuta**	**18.60**	**167**	PN		**P**	**18 39 48.9**	**+0.8**
WCZ	**Waipu Caves**	**19.46**	**166**	PN		**P**	**18 39 58.6**	**+1.2**
ARMA	**Armidale**	**20.27**	**226**	*i*P		**P**	**18 40 06.8**	**+0.7**
ARMA				*e*S		**S**	**18 43 48.9**	**+7.4**
ARMA	**Armidale**	**20.27**	**226**	*e*P		**P**	**18 40 06.2**	**+0.1**
	comp=Z,481nm,1.0s							
ARMA				*e*S		**S**	**18 43 46.4**	**+4.9**
KUZ	**Kuaotunu**	**20.57**	**163**	PN		**P**	**18 40 09.2**	**0.0**
MKAZ	**Moumakai**	**20.77**	**165**	PN		**P**	**18 40 12.1**	**+0.7**
CTA	**Charters Tower**	**21.24**	**259**	P		**P**	**18 40 16.1**	**-0.4**
	comp=Z,215nm,0.7s,mb5.8,baz=87,slow=11,SNR=97							
CTA				ScP		ScP	18 47 29.4	-0.2
	comp=Z,26nm,1.1s,baz=73,slow=2.2,SNR=3.7							
CTA	**Charters Tower**	**21.24**	**259**	*e*P		**P**	**18 40 15.7**	**-0.8**
	comp=Z,223nm,0.6s,mb5.9							
CTA				*e*pP			18 40 49.7	
CTA				*e*S		**S**	**18 43 59.1**	**0.0**
CTA				*e*SCP		ScP	18 47 29.4	-0.1
CTA	**Charters Tower**	**21.24**	**259**	P		**P**	**18 40 16.1**	**-0.4**
CTA				ScP		ScP	18 47 29.4	-0.2
CTA	**Charters Tower**	**21.24**	**259**	P		**P**	**18 40 16.1**	**-0.4**
CTA				pmax		pmax		
	comp=Z,215nm,0.7s							
CTA				pmax		pmax		
	comp=N,26nm,1.1s							
CTAO	**Charters Tower**	**21.24**	**259**	*e*P		**P**	**18 40 15.5**	**-1.0**
	comp=N,398nm,0.9s,mb6.0							
CTAO				*e*pP			18 40 53.3	
CTAO				*e*ScP		ScP	18 47 28.3	-1.3
CTAO	**Charters Tower**	**21.24**	**259**	*e*P		**P**	**18 40 15.5**	**-1.0**
CTAO				*e**PP			18 40 53.3	
CTAO				pmax		pmax		
	comp=Z,398nm,0.9s,mb6.0							
CTAO	**Charters Tower**	**21.24**	**259**	P		**P**	**18 40 15.9**	**-0.6**
	comp=Z,489nm,1.1s,mb6.0							
TOZ	**Tahuroa Road**	**21.44**	**165**	PN		**P**	**18 40 18.7**	**+0.3**
OPRZ	**Ohinepanea**	**21.84**	**163**	PN		**P**	**18 40 23.1**	**+0.8**
HIZ	**Hauiti**	**22.03**	**167**	PN		**P**	**18 40 25.1**	**+1.0**
PMG	**Port Moresby**	**22.09**	**288**	P		**P**	**18 40 24.7**	**-0.2**
	comp=Z,277nm,0.8s,mb5.8,baz=100,slow=5.8,SNR=76							
PMG				LR		LR	18 47 16.5	
	comp=Z,28μm,19.4s,baz=83,slow=31							
PMG				ScP		ScP	18 47 32.4	+0.6
	comp=Z,30nm,0.9s,baz=208,slow=2.3,SNR=3.3							
PMG	**Port Moresby**	**22.09**	**288**	*e*P		**P**	**18 40 24.1**	**-0.7**
	comp=Z,350nm,0.9s,mb5.9							
PMG				*e*pP			18 41 03.6	
PMG				*e*S		**S**	**18 44 11.8**	**-1.2**
PMG				*e*ScP		ScP	18 47 27.9	-3.9
PMG	**Port Moresby**	**22.09**	**288**	*i*P		**P**	**18 40 24.1**	**-0.7**
PMG				*e**PP			18 41 03.6	
PMG				*e*S		**S**	**18 44 11.8**	**-1.1**
PMG				pmax		pmax		
	comp=Z,350nm,0.9s							
PMG	**Port Moresby**	**22.09**	**288**	P		**P**	**18 40 24.7**	**-0.1**
	comp=Z,579nm,0.9s,mb6.1							
URZ	**Urewera**	**22.38**	**162**	P		**P**	**18 40 27.2**	**0.0**
	comp=Z,667nm,0.9s,mb6.2,baz=343,slow=5.9,SNR=63							
URZ				S		**S**	**18 44 19.8**	**+2.5**
	comp=Z,24nm,0.6s,baz=253,slow=19,SNR=4.7							
URZ	**Urewera**	**22.38**	**162**	*i*P		**P**	**18 40 27.0**	**-0.3**
	comp=Z,1μm,0.9s,mb6.5							
URZ				*e*S		**S**	**18 44 17.1**	**-0.2**
URZ				*e*ScP		ScP	18 47 27.6	-4.5
URZ	**Urewera**	**22.38**	**162**	PN		**P**	**18 40 27.1**	**-0.1**
PRRZ	**Plateau Road**	**22.40**	**163**	PN		**P**	**18 40 28.8**	**+1.4**
PUZ	**Puketiti**	**22.57**	**160**	PN		**P**	**18 40 28.1**	**-0.9**
MWZ	**Matawai**	**22.58**	**161**	PN		**P**	**18 40 28.7**	**-0.3**
RATZ	**Rangitukua**	**22.59**	**165**	PN		**P**	**18 40 29.6**	**+0.5**
RIV	**Riverview**	**22.75**	**220**	*e*P		**P**	**18 40 33.6**	**+2.9**
OTVZ	**Oturere**	**22.84**	**165**	*e*PN		**P**	**18 40 33.5**	**+2.1**
BKZ	**Black Stump Fm**	**23.05**	**164**	PN		**P**	**18 40 33.5**	**+0.1**
BHHZ	**Black Hill Sta**	**23.25**	**165**	PN		**P**	**18 40 35.2**	**+0.1**
KNZ	**Kokohu**	**23.25**	**162**	PN		**P**	**18 40 33.9**	**-1.3**
MCHZ	**McNeill Hill**	**23.37**	**164**	PN		**P**	**18 40 36.4**	**+0.2**
CKHZ	**Cape Kidnapper**	**23.67**	**163**	*e*PN		**P**	**18 40 38.6**	**-0.4**
TSZ	**Takapari Road**	**23.76**	**166**	PN		**P**	**18 40 38.8**	**-1.0**
PXZ	**Pawanui**	**23.96**	**164**	PN		**P**	**18 40 39.3**	**-2.3**
DVHZ	**Dannevirke**	**24.04**	**165**	PN		**P**	**18 40 41.6**	**-0.7**
MRZ	**Mangatainoka R**	**24.25**	**167**	PN		**P**	**18 40 43.4**	**-0.8**
NNZ	**Nelson**	**24.38**	**171**	PN		**P**	**18 40 48.9**	**+3.5**
COEN	**Coen**	**24.55**	**274**	*i*P		**P**	**18 40 46.7**	**-0.5**
	comp=Z,940nm,0.9s,mb6.4							
COEN				*e*pP			18 41 25.7	
COEN				*e*PcP		PcP	18 44 19.9	+0.3
COEN				*e*ScP		ScP	18 47 32.8	-5.6
COEN	**Coen**	**24.55**	**274**	P		**P**	**18 40 47.1**	**-0.2**
	comp=Z,3μmcomp=Z,228nm,1.1s,mb5.7							
SNZO	**South Karori**	**24.70**	**169**	*e*P		**P**	**18 40 47.2**	**-1.1**
	comp=Z,496nm,1.1s,mb6.0							
SNZO				*e*S		**S**	**18 44 53.7**	**-0.5**
CNB	**Canberra Magne**	**24.85**	**220**	*e*P		**P**	**18 40 49.6**	**-0.1**
CNB				*e*pP			18 41 36.6	
CNB				*e*S		**S**	**18 44 59.7**	**+3.0**
CNB				*e*SCP		ScP	18 47 38.7	-0.1
THZ	**Tophouse**	**24.85**	**172**	PN		**P**	**18 40 49.5**	**-0.1**
CAN	**Canberra**	**25.07**	**220**	*e*P		**P**	**18 40 53.9**	**+2.2**
	comp=Z,177nm,1.2s,mb5.6							
CAN				*e*pP		pP	18 41 38.6	+5.5
CAN				*e*ScP		ScP	18 47 39.5	0.0
CAN	**Canberra**	**25.07**	**220**	*e*P		**P**	**18 40 53.9**	**+2.1**
CAN				*e**PP		pP	18 41 38.6	+5.5
CAN				pmax		pmax		
	comp=Z,177nm,1.2s,mb5.6							
KHZ	**Kahutara**	**25.58**	**171**	*e*P		**P**	**18 40 55.5**	**-0.7**
	comp=Z,175nm,0.9s,mb5.7							
KHZ				*e*pP		pP	18 41 40.0	+1.7
KWAJ	**Kwajalein Atol**	**25.77**	**358**	P		**P**	**18 40 54.3**	**-4.0**
	comp=Z,155nm,0.6s,mb5.8							
KWAJ	**Kwajalein Atol**	**25.77**	**358**	P		**P**	**18 40 54.3**	**-3.9**
KWAJ				pmax		pmax		
	comp=Z,155nm,0.6s,mb5.8							
RPZ	**Rata Peaks**	**26.60**	**176**	P		**P**	**18 41 05.2**	**-0.1**
	comp=Z,102nm,0.6s,mb5.6,baz=296,slow=5.8,SNR=18							
RPZ				pP		pP	18 41 46.2	-1.4
	comp=Z,121nm,1.0s,baz=339,slow=13,SNR=3.3							
RPZ	**Rata Peaks**	**26.60**	**176**	*e*P		**P**	**18 41 04.9**	**-0.4**
	comp=Z,107nm,0.7s,mb5.6							
RPZ				*e*pP		pP	18 41 45.0	-2.6
LBZ	**Lake Benmore**	**27.21**	**177**	PN		**P**	**18 41 09.3**	**-1.5**
ODZ	**Otahua Downs**	**27.89**	**177**	*e*P		**P**	**18 41 16.5**	**-0.3**
	comp=Z,6μm,2.7s,mb6.7							
ODZ	**Otahua Downs**	**27.89**	**177**	PN		**P**	**18 41 15.4**	**-1.5**
STKA	**Stephens Creek**	**28.41**	**234**	P		**P**	**18 41 21.3**	**-0.3**
	comp=Z,122nm,0.7s,mb5.6,baz=58,slow=7.6,SNR=118							
STKA				pP		pP	18 42 03.0	-1.2
	comp=Z,233nm,1.1s,baz=68,slow=8.1,SNR=2.5							
STKA				ScP		ScP	18 47 49.4	-0.2
	comp=Z,28nm,0.9s,baz=49,slow=3.5,SNR=5.8							
STKA				PKiKP		PKiKP	18 52 01.5	-1.9
	comp=Z,4.2nm,0.7s,baz=86,slow=2.8,SNR=4.7							
STKA				P3KPbc			19 13 34.9	
	comp=Z,3.5nm,0.8s,baz=224,slow=3.7,SNR=5.8							
STKA	**Stephens Creek**	**28.41**	**234**	*e*P		**P**	**18 41 21.2**	**-0.4**
	comp=Z,387nm,0.9s,mb6.0							
STKA				*e*pP		pP	18 42 03.6	-0.6
STKA				*e*PCP		PcP	18 44 22.4	-6.0

STKA				*e*S		**S**	**18 45 55.3**	**+2.4**
STKA				*e*SCP		ScP	18 47 49.5	0.0
STKA				*e*SCS		ScS	18 51 41.5	-1.5
STKA				*e*			18 52 02.4	
STKA	**Stephens Creek**	**28.41**	**234**	*e*P		**P**	**18 41 20.9**	**-0.7**
	comp=Z,86nm,0.8s,mb5.4							
STKA				*e*			18 41 25.2	
STKA				*e*pP		pP	18 42 01.8	-2.4
STKA				*e*PcP		PcP	18 44 20.5	-7.9
STKA				*e*S		**S**	**18 45 55.5**	**+2.6**
STKA				*e*ScP		ScP	18 47 48.2	-1.3
STKA	**Stephens Creek**	**28.41**	**234**	*i*P		**P**	**18 41 20.9**	**-0.7**
STKA				*e**PP		pP	18 42 01.8	-2.4
STKA				*e*S		**S**	**18 45 55.5**	**+2.6**
STKA				pmax		pmax		
	comp=Z,86nm,0.8s							
TOO	**Toolangi**	**28.68**	**220**	*e*P		**P**	**18 41 23.2**	**-0.7**
TOO				*e*PCP		PcP	18 44 29.9	+0.9
TOO				*e*S		**S**	**18 46 00.7**	**+3.6**
TOO				*e*SCP		ScP	18 47 54.3	+4.0
TUZ	**Tuapeka**	**28.76**	**178**	PN		**P**	**18 41 24.0**	**-0.4**
RAR	**Rarotonga**	**30.26**	**103**	P		**P**	**18 41 37.3**	**-0.8**
	comp=Z,117nm,0.9s,mb5.5,baz=252,slow=6.0,SNR=15							
RAR	**Rarotonga**	**30.26**	**103**	*e*P		**P**	**18 41 36.8**	**-1.2**
	comp=Z,775nm,1.5s,mb6.1							
RAR	**Rarotonga**	**30.26**	**103**	P		**P**	**18 41 37.3**	**-0.7**
RAR				pmax		pmax		
	comp=Z,117nm,0.9s							
JAY	**Jayapura**	**30.89**	**295**	P		**P**	**18 41 44.7**	**+1.1**
	comp=Z,80nm,1.3s,mb5.2							
MOO	**Moorlands**	**31.08**	**211**	*e*P		**P**	**18 41 44.9**	**-0.1**
TAU	**Tasmania Unive**	**31.37**	**211**	*e*P		**P**	**18 41 49.6**	**+2.1**
	comp=Z,174nm,1.6s,mb5.4							
TAU	**Tasmania Unive**	**31.37**	**211**	*e*P		**P**	**18 41 49.6**	**+2.1**
TAU				pmax		pmax		
	comp=Z,174nm,1.6s,mb5.4							
WB2	**Warramunga Arr**	**32.42**	**260**	*e*P		**P**	**18 41 54.5**	**-2.5**
WRAB	**Tennant Creek**	**32.42**	**260**	*e*P		**P**	**18 41 54.9**	**-2.1**
	comp=Z,158nm,0.9s,mb5.5							
WRAB				*e*S		**S**	**18 46 51.3**	**-4.6**
WRAB				*e*ScP		ScP	18 48 01.5	-1.4
WRAB	**Tennant Creek**	**32.42**	**260**	*e*P		**P**	**18 41 54.9**	**-2.1**
WRAB				*e*S		**S**	**18 46 51.3**	**-4.6**
WRAB				*e*			18 48 01.5	
WRAB				pmax		pmax		
	comp=Z,158nm,0.9s,mb5.5							
WRAB	**Tennant Creek**	**32.42**	**260**	P		**P**	**18 41 55.0**	**-2.0**
	comp=Z,990nm,1.0s,mb6.3,SNR=50							
WRAB	**Tennant Creek**	**32.42**	**260**	P		**P**	**18 41 55.8**	**-1.2**
	comp=Z,5μmcomp=Z,280nm,1.1s,mb5.7							
WRA	**Warramunga Arr**	**32.44**	**260**	P		**P**	**18 41 54.9**	**-2.2**
	comp=Z,15nm,0.7s,mb4.6,baz=92,slow=9.4,SNR=123							
WRA				pP		pP	18 42 37.7	-2.5
	comp=Z,26nm,0.9s,baz=87,slow=8.0,SNR=1.6							
WRA				S		**S**	**18 46 56.1**	**+0.1**
	comp=Z,15nm,1.0s,baz=86,slow=15,SNR=4.0							
WRA				ScP		ScP	18 48 02.5	-0.5
	comp=Z,27nm,1.0s,baz=85,slow=3.6,SNR=6.7							
WRA				PKiKP		PKiKP	18 52 05.1	-1.3
	comp=Z,3.7nm,0.7s,baz=41,slow=0.7,SNR=12							
WRA				P3KPbc			19 13 17.9	
	comp=Z,4.4nm,0.6s,baz=292,slow=2.8,SNR=40							
WRA	**Warramunga Arr**	**32.44**	**260**	P		**P**	**18 41 54.9**	**-2.2**
WRA				pP		pP	18 42 37.7	-2.5
WRA				S		**S**	**18 46 56.1**	**+0.1**
WRA				ScP		ScP	18 48 02.5	-0.5
WRA	**Warramunga Arr**	**32.44**	**260**	P		**P**	**18 41 54.9**	**-2.2**
WRA				*PP		pP	18 42 37.7	-2.5
WRA				S		**S**	**18 46 56.1**	**+0.1**
WRA				*i*			18 52 05.1	
WRA				pmax		pmax		
	comp=Z,15nm,0.7s							
WRA				pmax		pmax		
	comp=Z,26nm,0.9s							
WRA				smax				
	comp=N,15nm,1.0s							
WRA				pmax		pmax		
	comp=N,27nm,1.0s							
WRA				pmax		pmax		
	comp=Z,4.0nm,0.7s							
SMPI	**Sarmi**	**32.88**	**294**	P		**P**	**18 42 01.4**	**+0.4**
	comp=Z,3μmcomp=Z,237nm,1.3s,mb5.5							
ASAR	**Alice Springs**	**32.97**	**253**	P		**P**	**18 42 00.9**	**-0.9**
	comp=Z,929nm,0.7s,mb6.4,baz=78,slow=9.0,SNR=2385							
ASAR				S		**S**	**18 47 00.6**	**-3.7**
	comp=Z,19nm,0.9s,baz=81,slow=17,SNR=4.1							
ASAR				ScP		ScP	18 48 04.2	-0.6
	comp=Z,23nm,0.9s,baz=99,slow=3.7,SNR=10							
ASAR				PKiKP		PKiKP	18 52 05.0	-1.7
	comp=Z,2.6nm,0.6s,baz=98,slow=2.1,SNR=7.0							
ASAR				P3KPbc			19 13 16.3	
	comp=Z,1.1nm,0.8s,baz=276,slow=4.4,SNR=12							
ASAR				P3KP			19 14 35.9	
	comp=Z,1.4nm,0.9s,baz=305,slow=2.0,SNR=5.5							
ASAR				PKPPKP			19 15 21.6	
	comp=Z,1.1nm,0.9s,baz=256,slow=1.5,SNR=4.5							
ASAR	**Alice Springs**	**32.97**	**253**	P		**P**	**18 42 00.9**	**-0.9**
ASAR				S		**S**	**18 47 00.

MEH Mehetia 41.41 98 eP P 18 43 11.4 -1.2
comp=Z,217nm,1.1s,mb5.5
AAI Ambon 41.68 284 P P 18 43 13.6 -1.3
comp=Z,4µmcomp=Z,473nm,0.9s,mb5.9
PMOR Pomariorio Ree 41.94 94 eP P 18 43 15.5 -1.5
comp=Z,946nm,1.2s,mb6.1
PMOR Pomariorio Ree 41.94 94 eP P 18 43 15.5 -1.5
comp=Z,946nm,1.2s,mb6.1
VAH Vaihoa 42.16 94 eP P 18 43 17.4 -1.4
comp=Z,530nm,1.3s,mb5.8
VAH Vaihoa 42.16 94 eP P 18 43 17.4 -1.4
comp=Z,530nm,1.3s,mb5.8
NLAI Namlea 42.86 284 P P 18 43 24.4 0.0
comp=Z,5µmcomp=Z,350nm,1.7s,mb5.5
TNTI Ternate 44.22 290 P P 18 43 35.7 +0.4
comp=Z,2µmcomp=Z,158nm,0.7s,mb5.5
MMRI Maumere 45.74 275 P P 18 43 46.5 -0.8
comp=Z,4µmcomp=Z,392nm,1.2s,mb5.6
MBWA Marble Bar 46.07 257 eP P 18 43 48.9 -0.9
comp=Z,190nm,0.8s,mb5.5
MBWA e 18 43 52.7
MBWA epP pP 18 44 37.0 +1.6
MBWA ePP PP 18 45 42.3 +1.1
MBWA eScP ScP 18 48 50.7 -4.9
MBWA Marble Bar 46.07 257 P P 18 43 49.6 -0.1
comp=Z,300nm,0.9s,mb5.6
BBSI Bau Bau 46.34 279 P P 18 43 53.2 +1.3
comp=Z,3µmcomp=Z,280nm,1.0s,mb5.5
SGSI Sangihe 47.15 292 P P 18 44 00.2 +2.0
comp=Z,6µmcomp=Z,520nm,0.8s,mb5.9
LUWI Luwuk 47.68 285 P P 18 44 02.2 -0.1
comp=Z,3µmcomp=Z,227nm,2.0s,mb5.1
KLBR Kellerberrin 47.98 243 eP P 18 44 02.6 -1.8
comp=Z,126nm,0.6s,mb5.4
KLBR epP pP 18 44 48.7 -1.6
NWAO Narrogin (SRO) 48.55 241 P P 18 44 07.4 -1.3
comp=Z,244nm,0.8s,mb5.6,baz=91,slow=6.6,SNR=25
NWAO Narrogin (SRO) 48.55 241 eP P 18 44 07.3 -1.4
comp=Z,216nm,0.8s,mb5.5
NWAO epP pP 18 44 52.9 -1.8
NWAO Narrogin (SRO) 48.55 241 eP P 18 44 07.3 -1.4
NWAO e*PP pP 18 44 52.9 -1.9
NWAO pmax pmax
comp=Z,216nm,0.8s
BKSI Bulukumba 48.70 278 P P 18 44 10.2 +0.1
comp=Z,2µmcomp=Z,128nm,1.2s,mb5.1
BNSI Bone 49.01 279 P P 18 44 13.2 +0.8
comp=Z,3µmcomp=Z,185nm,1.8s,mb5.1
KAPI Kappang 49.15 S S 18 51 02.8 0.0
comp=Z,1.9nm,0.4s,baz=266,slow=23,SNR=3.7
KAPI Kappang 49.15 278 eP P 18 44 11.8 -1.7
comp=Z,187nm,1.0s,mb5.4
KAPI epP pP 18 44 59.0 -0.7
KAPI eScP ScP 18 49 08.3 -0.3
KAPI eS S 18 50 60.0 -2.8
SPSI Sidrap Palu 49.47 280 P P 18 44 15.0 -0.9
comp=Z,1µmcomp=Z,90nm,1.0s,mb5.0
TTSI Tana Toraja 49.72 281 P P 18 44 20.3 +2.4
CGP Cagayan de Oro 50.17 297⇓eP P 18 44 21.9 +0.7
SCPH Surigao 50.19 299⇓eP P 18 44 22.7 +1.4
MJSI Majene 50.34 280 P P 18 44 24.7 +2.2
comp=Z,3µmcomp=Z,165nm,1.4s,mb5.2
KHU Kahuku 50.53 46 eP P 18 44 22.6 -1.2
KHU Kahuku 50.53 46 eP P 18 44 22.6 -1.2
TAOE Nuku Hiva Isla 50.63 87 eP P 18 44 23.6 -1.1
comp=Z,1µm,0.9s,mb6.3
TAOE Nuku Hiva Isla 50.63 87 eP P 18 44 24.8 +0.1
comp=Z,698nm,0.9s,mb6.1
POHA Pohakuloa 50.94 45 eP P 18 44 27.2 +0.4
comp=Z,160nm,0.8s,mb5.5
STCH Steam Cracks 50.97 46 eP P 18 44 26.3 -0.7
TBP Tagbilaran 51.51 298 eP P 18 44 32.5 +1.4
MTNI Mataram 51.53 273 P P 18 44 31.4 0.0
comp=Z,3µmcomp=Z,183nm,0.8s,mb5.6
DNP Denpasar 52.44 272 P P 18 44 38.8 +0.7
comp=Z,587nm,1.0s,mb6.0
IGBI Denpasar 52.47 272 P P 18 44 38.0 -0.2
comp=Z,5µmcomp=Z,382nm,0.9s,mb5.8
IGBI Denpasar 52.47 272 P P 18 44 38.2 0.0
SRBI Singaraja 52.59 273 P P 18 44 41.7 +2.5
DRV Dumont d'Urvil 52.89 194 P P 18 44 39.0 -1.5
DRV Dumont d'Urvil 52.89 194 PP PP 18 46 41.0 -1.2
DRV S S 18 51 53.0 +0.5
DRV SP 18 52 01.0
DRV SS SS 18 55 35.0 +0.8
DRV L 18 57 00.0
DRV R 19 01 00.0
RCP Roxas 53.41 299⇑eP P 18 44 45.0 0.0
MYLDM Lahad Datu 54.09 290 P P 18 44 50.7 +0.7
TSM Tawau 54.29 288 P P 18 44 50.8 -0.7
GQP Guinayangan 54.90 301⇑eP P 18 44 55.1 -0.7
SDKM Sandakan 55.46 290 P P 18 45 00.3 +0.4
KDM Kudat 56.33 291 P P 18 45 06.8 +0.7
KKM Kota Kinabalu 56.52 289 P P 18 45 06.2 -1.1
KKM Kota Kinabalu 56.52 289 eP P 18 45 06.1 -1.3
comp=Z,111nm,1.0s,mb5.5
PALP Palanan 56.66 305 eP P 18 45 07.8 -0.5
JHJ Hachijo jima 2 56.98 331 LR LR 19 08 24.4
comp=Z,2µm,19.3s,baz=29,slow=34
CAUP Cauayan 57.06 304 eP P 18 45 11.1 0.0
UGM Wanagama 57.12 272 eP P 18 45 11.5 -0.1
comp=Z,385nm,1.1s,mb5.9
APYP Conner 58.03 305 eP P 18 45 17.1 -0.7
BTM Bintulu 58.24 285 P P 18 45 20.0 +0.5
ABRA Dolores 58.34 304 eP P 18 45 19.4 -0.6
JOW Kunigami 58.57 317 eP P 18 45 21.5 0.0
comp=Z,140nm,1.4s,mb5.4
STKI Sintang 58.62 281 P P 18 45 24.1 +2.1
SBUM Sibu 58.76 284 P P 18 45 23.6 +0.6
CISI Cisompet, Garu 59.80 271 P P 18 45 30.9 +0.8
comp=Z,3µmcomp=Z,212nm,1.1s,mb5.7
KSM Kuching 60.20 282 P P 18 45 33.0 +0.1
KSM Kuching 60.20 282 eP P 18 45 32.1 -0.8
comp=Z,88nm,0.8s,mb5.4
KSM epP pP 18 46 22.6 +1.6
VNDA Vanda 60.51 182 P P 18 45 32.8 -1.1
comp=Z,15nm,0.7s,mb4.7,baz=357,slow=7.2,SNR=61
VNDA PKPPKP 19 14 55.0
comp=Z,2.4nm,1.0s,baz=256,slow=4.7,SNR=6.1
VNDA Vanda 60.51 182⇓eP P 18 45 32.7 -1.2
comp=Z,168nm,1.7s,mb5.4
VNDA Vanda 60.51 182⇓eP P 18 45 32.7 -1.2
VNDA pmax pmax
comp=Z,169nm,1.7s
MJAR Matsushiro Arr 60.54 332 P P 18 45 34.0 -0.7
comp=Z,16nm,0.6s,mb4.8,baz=173,slow=8.5,SNR=49
MJAR pP pP 18 46 19.7 -3.2
comp=Z,21nm,0.9s,baz=170,slow=6.4,SNR=2.8
MJAR ScP ScP 18 49 59.4 +1.4
comp=Z,7.5nm,0.9s,baz=168,slow=4.5,SNR=4.5
MJAR PKP2bc 19 15 00.2
comp=Z,3.7nm,1.1s,baz=322,slow=2.5,SNR=5.1
MJAR Matsushiro Arr 60.54 332 P P 18 45 34.0 -0.7
MJAR pP pP 18 46 19.7 -3.2
MJAR ScP ScP 18 49 59.4 +1.4
MJAR ⇑e 19 15 00.2
MJAR Matsushiro Arr 60.54 332 P P 18 45 34.0 -0.7
MJAR *PP pP 18 46 19.7 -3.2
MJAR pmax pmax
comp=Z,16nm,0.6s
MJAR pmax pmax
comp=Z,21nm,0.9s
MJAR pmax pmax
comp=N,8.0nm,1.0s
MAJO Matsushiro 60.55 332 eP P 18 45 33.1 -1.6
comp=N,26nm,0.6s,mb5.0
MAJO eScP ScP 18 49 56.0 -2.0
MAJO Matsushiro 60.55 332 eP P 18 45 33.1 -1.6
MAJO pmax pmax
comp=Z,26nm,0.6s,mb5.0
MAT Matsushiro 60.55 332 P P 18 45 33.9 -0.8
MAT S S 18 53 31.0 -2.6
SBA Scott Base 60.76 180 iP P 18 45 35.5 -0.1
comp=Z,133nm,1.0s,mb5.5
SBA eScP ScP 18 49 58.0 -0.4
SBA Scott Base 60.76 180⇓iP P 18 45 35.5 -0.1
SBA pmax pmax
comp=Z,133nm,1.0s,mb5.5
TWG Pinlang 61.02 309 eP P 18 45 37.4 -0.8
comp=Z,76nm,0.6s,mb5.5
XMIS Christmas Isla 61.13 267 eP P 18 45 39.5 +0.4
comp=Z,717nm,0.9s,mb6.3
SKJI Sukabumi 61.15 271 P P 18 45 39.8 +0.5
YULB Yu-li 61.19 310 eP P 18 45 38.0 -1.3
comp=Z,84nm,0.8s,mb5.4

NACB Ninganchiao 61.45 311 eP P 18 45 40.1 -0.9
comp=Z,290nm,0.6s,mb6.1
JNU Nakatsue 61.52 324 eP P 18 45 40.9 -0.5
comp=Z,14nm,0.7s,mb4.7
TPUB Ta-pu 61.63 309 eP P 18 45 40.7 -1.6
comp=Z,290nm,0.6s,mb6.1
SSLB Suanglung 61.68 310⇓eP P 18 45 41.2 -1.4
comp=Z,229nm,0.6s,mb6.0
CASY Casey 61.76 203 eP P 18 45 42.6 +0.1
CASY Casey 61.76 203 eP P 18 45 42.0 -0.4
comp=Z,40nm,0.8s,mb5.1
SBJI Serang 61.80 272 P P 18 45 43.6 0.0
YHNB Yeheng 61.90 311 eP P 18 45 43.1 -0.9
comp=Z,723nm,0.6s,mb6.5
TATO Taipei 62.01 311 eP P 18 45 43.2 -1.5
comp=Z,322nm,0.7s,mb6.1
QZH Quanzhou 64.10 310⇓iP P 18 45 57.0 -1.5
QZH pP pP 18 46 47.4 +0.2
QZH S S 18 54 10.0 -8.4
QZH pmax pmax
comp=Z,270nm,0.8s,mb5.9
QZH pmax pmax
comp=Z,2µm,7.4s
QZH LR LR
comp=N,3µm,11.2s
QZH LR LR
comp=E,2µm,13.9s
QZH LR LR
comp=Z,6µm,17.4s
YUK Yuzh-Kuril'sk 64.28 342 eP P 18 45 59.3 +0.1
YUK ePPP 18 49 54.3
YUK iS S 18 54 16.4 -3.4
YUK eSSS 19 01 28.3
YUK MLR MLR
comp=Z,2µm,20.0s
ASAJ Asahikawa 65.37 340 eP P 18 46 07.0 +0.7
comp=Z,30nm,0.6s,mb5.1
HKC Hong Kong Obse 66.01 305⇑iP P 18 46 14.0 +3.2
HKC S S 18 54 40.0 -1.7
SSE Sheshan 66.03 316 ⇓P P 18 46 12.0 +1.2
SSE PcP PcP 18 46 40.2 +0.5
SSE PP PP 18 48 38.7 -0.6
SSE S S 18 54 41.3 -0.4
SSE pmax pmax
comp=Z,84nm,1.3s,mb5.2
SSE pmax pmax
comp=Z,330nm,7.7s
SSE LR LR
comp=N,2µm,18.2s
SSE LR LR
comp=E,2µm,18.3s
SSE LR LR
comp=Z,3µm,26.6s
KSRS Korea Array 66.35 326 P P 18 46 11.3 -1.4
comp=Z,9.9nm,0.8s,mb4.5,baz=144,slow=6.1,SNR=21
KSRS PP PP 18 48 41.5 -0.4
comp=Z,9.5nm,0.9s,baz=140,slow=8.2,SNR=4.4
KSRS Korea Array 66.35 326 P P 18 46 11.3 -1.4
KSRS 18 48 41.5
KSRS pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
KSRS pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
MYKOM Kota Tinggi 66.37 280 P P 18 46 13.3 0.0
KGM Kluang 66.95 280 P P 18 46 17.3 +0.3
GZH Guangzhou 67.07 305 P P 18 46 19.1 +1.5
GZH S S 18 54 53.8 -0.7
GZH LR LR
comp=N,2µm,23.4s
GZH LR LR
comp=E,1µm,21.5s
INCN Inchon 67.07 325 eP P 18 46 18.1 +0.9
comp=E,323nm,1.7s,mb5.7
YSS Yuzh-Sakhalins 67.85 341 eP P 18 46 23.0 +1.1
comp=E,176nm,1.2s,mb5.6
YSS Yuzh-Sakhalins 67.85 341 eP P 18 46 22.2 +0.3
YSS e*PP pP 18 47 09.0 -2.2
YSS eS S 18 54 58.0 -4.8
YSS e 18 55 58.0
YSS eSS SS 18 59 35.0 +5.7
YSS eSSS 19 02 32.0
YSS pmax pmax
comp=Z,1µm,3.0s
YSS pmax pmax
comp=Z,120nm,1.0s,mb5.5
YSS MLR MLR
comp=N,2µm,20.0s
YSS MLR MLR
comp=E,2µm,20.0s
YSS MLR MLR
comp=Z,2µm,20.0s
QIZ Qiongzhong 67.89 299 P P 18 46 22.6 -0.2
QIZ pP pP 18 47 13.8 +1.8
QIZ PP PP 18 48 54.9 -0.7
QIZ S S 18 55 03.3 -1.1
QIZ pmax pmax
comp=Z,30nm,1.3s,mb4.8
QIZ pmax pmax
comp=Z,430nm,7.5s
QIZ Qiongzhong 67.89 299 eP P 18 46 22.3 -0.5
comp=Z,30nm,0.9s,mb4.9
NJ2 Nanjing 68.18 316 eP P 18 46 24.5 +0.2
NJ2 pP pP 18 47 11.9 -1.7
NJ2 sP sP 18 47 32.2 -4.1
NJ2 S S 18 55 02.0 -5.3
NJ2 pmax pmax
comp=Z,270nm,1.2s,mb5.8
NJ2 pmax pmax
comp=Z,770nm,6.7s
NJ2 LR LR
comp=N,3µm,18.8s
NJ2 LR LR
comp=E,2µm,17.6s
NJ2 LR LR
comp=Z,12µm,27.0s
SKR Severo-Kuril's 68.38 352 eP P 18 46 27.0 +1.9
SKR eS S 18 55 08.0 -0.9
SKR eSSS 19 02 44.0
SKR pmax pmax
comp=Z,220nm,1.0s,mb5.7
SKR smax
comp=N,3µm,12.0s
SKR smax
comp=E,2µm,12.0s
SKR MLR MLR
comp=Z,3µm,16.0s
MIR Mirnyy 68.63 205⇑iP P 18 46 27.0 +0.5
MIR eS S 18 55 15.0 +3.4
MIR ePS 18 56 04.0
MIR eSS SS 18 59 44.0 +4.1
MIR pmax pmax
comp=Z,90nm,1.0s,mb5.3
MIR pmax pmax
comp=Z,505nm,2.2s,mb5.8
MIR smax
comp=N,2µm,9.0s
MIR smax
comp=E,3µm,12.0s
MIR MLR MLR
comp=N,1µm,20.0s
MIR MLR MLR
comp=E,2µm,20.0s
MIR MLR MLR
comp=Z,2µm,20.0s
VLA Vladivostok 68.71 332 iP P 18 46 30.3 +3.0
COCO West Island 69.13 263 iP P 18 46 36.7 +6.1
SMY Shemya 69.73 4 eP P 18 46 33.4 0.0
comp=Z,361nm,1.2s,mb5.9
SMY Shemya 69.73 4 eP P 18 46 33.4 0.0
SMY pmax pmax
comp=Z,361nm,1.2s,mb5.9
FX1 Attu Island--F 69.83 3 eP P 18 46 33.8 -0.2
FX1 Attu Island--F 69.83 3 eP P 18 46 33.8 -0.2
IPM Ipoh 69.93 281 P P 18 46 35.2 -0.2
IPM Ipoh 69.93 281⇓iP P 18 46 34.1 -1.3
comp=Z,70nm,0.9s,mb5.3
UBT Ubonrachathani 70.35 294 P P 18 46 39.0 +1.1
PET Petropavlovsk 70.37 354 eP P 18 46 36.7 -0.5
comp=Z,84nm,0.9s,mb5.4
PET Petropavlovsk 70.37 354 eP P 18 46 36.7 -0.5
PET pmax pmax
comp=Z,84nm,0.9s,mb5.4
WHN Wuhan 70.39 312 ⇓P P 18 46 38.0 +0.1
WHN pP pP 18 47 25.1 -2.4
WHN sP sP 18 47 50.2 +0.1
WHN S S 18 55 28.9 -4.3
WHN pmax pmax
comp=Z,2µm,2.2s,mb6.4
WHN LR LR
comp=N,2µm,19.7s
WHN LR LR
comp=E,2µm,15.6s
WHN LR LR
comp=Z,3µm,20.9s
KULM Kulim 70.55 282 P P 18 46 38.9 -0.3
KULM Kulim 70.55 282 eP P 18 46 38.6 -0.7
comp=Z,66nm,1.0s,mb5.2
PETK Petropavlovsk- 70.56 353 P P 18 46 38.5 +0.2
comp=Z,152nm,0.7s,mb5.7,baz=141,slow=7.5,SNR=98
PETK PKiKP PKiKP 18 52 46.3 -0.2
comp=Z,4.0nm,0.7s,baz=119,slow=5.3,SNR=5.8
PETK Petropavlovsk- 70.56 353 P P 18 46 38.5 +0.2
PETK Petropavlovsk- 70.56 353 P P 18 46 38.5 +0.1
PETK pmax pmax
comp=Z,152nm,0.7s,mb5.7
PETK pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
ATKA Atka Island 70.67 11 eP P 18 46 38.8 -0.2
comp=Z,564nm,1.8s,mb5.9
DL2 Dalian 70.89 323 P P 18 46 40.1 -0.6
DL2 pP pP 18 47 28.6 -1.8
DL2 sP sP 18 47 51.5 -1.5
DL2 S S 18 55 39.1 +0.4
DL2 pmax pmax
comp=Z,150nm,0.9s,mb5.6
DL2 pmax pmax
comp=Z,320nm,6.1s
DL2 LR LR
comp=N,1µm,22.5s
DL2 LR LR
comp=E,1µm,17.1s
DL2 LR LR
comp=Z,1µm,29.8s
MDJ Mudanjiang 70.92 332 P P 18 46 41.8 +1.1
MDJ pP pP 18 47 28.3 -2.2
MDJ sP sP 18 47 49.5 -3.6
MDJ PP PP 18 49 21.3 +0.1
MDJ S S 18 55 41.4 +2.6
MDJ sS sS 18 57 04.9 -0.7
MDJ pmax pmax
comp=Z,88nm,0.9s,mb5.4
MDJ pmax pmax
comp=Z,580nm,5.2s
MDJ Mudanjiang 70.92 332 eP P 18 46 41.0 +0.2
comp=Z,88nm,0.9s,mb5.4
SNG Songkhla 71.24 284 P P 18 46 44.0 +0.6
comp=Z,100nm,0.6s,mb5.6
SNY Shenyang 71.82 326 ⇓P P 18 46 46.9 +0.7
SNY S S 18 55 38.7 -11
SNY pmax pmax
comp=Z,540nm,6.0s
SNY LR LR
comp=N,2µm,19.8s
SNY LR LR
comp=E,3µm,19.0s
SNY LR LR
comp=Z,2µm,18.7s
CN2 Changchun 72.28 329 eP P 18 46 49.2 +0.3
CN2 PcP PcP 18 47 05.9 +0.2
CN2 esP sP 18 47 59.7 -1.6
CN2 eS S 18 55 55.1 +0.8
CN2 SKS 18 56 29.3
CN2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
CN2 pmax pmax
comp=Z,200nm,4.0s
NIKO Nikolski 72.52 14⇑iP P 18 46 48.5 -1.6
comp=Z,184nm,0.6s,mb5.9
QSPA South Pole Qui 72.92 180 P P 18 46 51.9 -0.3
comp=Z,240nm,0.9s,mb5.8,baz=20,slow=1.6,SNR=266
QSPA S S 18 56 03.6 +2.9
comp=Z,9.8nm,1.1s,baz=345,slow=23,SNR=12
QSPA South Pole Qui 72.92 180⇓eP P 18 46 51.8 -0.4
comp=Z,235nm,0.9s,mb5.8
QSPA epP pP 18 47 42.6 +0.5
QSPA eS S 18 55 59.3 -1.4
ENH Enshi 73.76 309 eP P 18 46 57.6 -0.3
comp=Z,928nm,2.1s,mb6.0
ENH eS S 18 56 08.5 -3.1
UNV Unalaska Valle 73.89 15 eP P 18 46 57.0 -1.1
comp=Z,149nm,0.8s,mb5.7
GYA Guiyang 74.01 305⇑iP P 18 46 59.8 +0.4
GYA PcP PcP 18 47 14.0 +0.4
GYA pP pP 18 47 49.5 0.0
GYA sP sP 18 48 11.0 -1.0
GYA PP PP 18 49 50.3 +2.4
GYA S S 18 56 15.3 +0.8
GYA SKS 18 56 42.7
GYA SS SS 19 01 07.0 +2.6
GYA pmax pmax
comp=Z,80nm,1.0s,mb5.3
GYA pmax pmax
comp=Z,450nm,6.8s
GYA LR LR
comp=N,4µm,24.4s
GYA LR LR
comp=E,3µm,24.5s
GYA LR LR
comp=Z,2µm,19.6s
AKUT Akutan 74.33 15 eP P 18 46 58.5 -2.2
comp=Z,118nm,0.8s,mb5.6
BJT Baijiatuan 74.83 321 eP P 18 47 04.1 +0.3
comp=Z,98nm,0.6s,mb5.6
BJT Baijiatuan 74.83 321 eP P 18 47 04.1 +0.3
BJT pmax pmax
comp=Z,98nm,0.6s
NST Nakhon Sawan 74.83 292 P P 18 47 05.0 +0.7
comp=Z,67nm,1.0s,mb5.2
BJI Beijing 74.83 321 P P 18 47 04.7 +0.8
BJI pP pP 18 47 53.0 -1.1
BJI sP sP 18 48 13.3 -3.3
BJI PP PP 18 49 54.5 -0.1
BJI S S 18 56 24.3 +1.1
BJI ScS ScS 18 56 56.7 +0.9
BJI sS sS 18 57 50.6 -0.3
BJI pmax pmax
comp=Z,120nm,0.8s,mb5.6
BJI pmax pmax
comp=Z,1µm,4.5s
FALS False Pass 75.59 16 eP P 18 47 08.2 +0.4
comp=Z,3µm,2.4s,mb6.5
RPN Rapa Nui 75.63 114 P P 18 47 09.7 +0.9
comp=Z,161nm,0.7s,mb5.8,baz=320,slow=3.4,SNR=15
RPN LR LR 19 10 49.8
comp=Z,877nm,21.1s,baz=68,slow=28
RPN Rapa Nui 75.63 114 eP P 18 47 09.6 +0.8
comp=Z,245nm,0.8s,mb5.9
RPN Rapa Nui 75.63 114 P P 18 47 09.7 +0.9
RPN pmax pmax
comp=Z,161nm,0.7s,mb5.8
RPN MLR MLR
comp=Z,877nm,21.1s
TIY Taiyuan 75.78 317 eP P 18 47 10.4 +1.1
TIY pP pP 18 47 59.8 +0.1
TIY S S 18 56 35.0 +1.3
TIY ScS ScS 18 57 00.2 -3.4
TIY sS sS 18 58 00.7 -0.9
TIY pmax pmax
comp=Z,1µm,7.2s
TIY LR LR
comp=N,2µm,16.0s
TIY LR LR
comp=E,870nm,15.2s
TIY LR LR
comp=Z,3µm,18.7s
XAN Xi'an 76.14 313 P P 18 47 11.9 +0.5
XAN pP pP 18 48 06.2 +4.4
XAN S S 18 56 30.7 -7.1
XAN pmax pmax
comp=Z,29nm,1.3s,mb4.8
XAN pmax pmax
comp=Z,190nm,5.5s
XAN LR LR
comp=N,2µm,34.3s
XAN LR LR
comp=Z,520nm,26.4s
BDT Bhumibol Dam 76.44 293 P P 18 47 13.5 +0.1
KMI Kunming 76.53 302 P P 18 47 15.2 +1.4
KMI PcP PcP 18 47 25.5 +1.0
KMI pP pP 18 48 03.0 -1.2

KMI sP sP 18 48 24.0 -2.7
KMI PP PP 18 50 09.0 -0.1
KMI S S 18 56 41.3 -1.0
KMI SKS 18 57 00.4
KMI ScS ScS 18 57 07.1 -3.1
KMI sS sS 18 58 08.9 -1.5
KMI SS SS 19 01 41.8 -0.8
KMI pmax pmax
comp=Z,140nm,1.2s,mb5.5
KMI pmax pmax
comp=Z,890nm,3.1s
KMI LR LR
comp=N,2μm,21.5s
KMI LR LR
comp=E,1μm,20.1s
KMI LR LR
comp=Z,1μm,22.6s
CHRT Chiangrai 76.79 296 ⇑P **P 18 47 15.0 -0.4**
comp=Z,737nm,0.8s,mb6.4
SDPT Sand Point 76.85 18 *e*P **P 18 47 13.8 -1.1**
comp=Z,321nm,1.2s,mb5.8
CM31 Chiang Mai Arr 76.96 294 *e*P **P 18 47 17.3 +0.9**
comp=Z,44nm,0.7s,mb5.2
CMAR Chiang Mai Arr 76.96 294 P **P 18 47 17.2 +0.9**
comp=Z,55nm,1.0s,mb5.1,baz=128,slow=4.1,SNR=214
CMAR PKiKP PKiKP 18 52 56.2 -0.7
comp=Z,1.1nm,0.7s,baz=204,slow=0.8,SNR=5.3
CMAR PKPPKP 19 14 20.2
comp=Z,0.2nm,0.3s,baz=296,slow=4.1,SNR=4.3
CMAR Chiang Mai Arr 76.96 294 P **P 18 47 17.2 +0.9**
CMAR Chiang Mai Arr 76.96 294 P **P 18 47 17.2 +0.9**
CMAR pmax pmax
comp=Z,55nm,1.0s
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CHG Chiang Mai 77.10 294 ⇑P **P 18 47 17.6 +0.5**
comp=Z,15nm,0.9s,mb4.6
CHTO Chiang Mai 77.10 294 *e*P **P 18 47 17.4 +0.3**
comp=Z,59nm,0.8s,mb5.3
CHTO *e*S S 18 56 47.5 -1.2
CHTO Chiang Mai 77.10 294 *e*P **P 18 47 17.5 +0.4**
CHTO *e*S S 18 56 47.5 -1.2
CHTO pmax pmax
comp=Z,59nm,0.8s,mb5.3
HHC Hu-ho-hao-te 78.14 320 *e*P **P 18 47 24.1 +1.7**
HHC pP pP 18 48 14.0 +1.0
HHC sP sP 18 48 37.6 +2.2
HHC S S 18 56 57.4 -1.6
HHC SKS 18 57 07.4
HHC pmax pmax
comp=Z,75nm,1.0s,mb5.3
HHC pmax pmax
comp=Z,940nm,3.9s
HHC LR LR
comp=N,2μm,18.6s
HHC LR LR
comp=E,2μm,18.6s
HHC LR LR
comp=Z,4μm,36.3s
CHGN Chignik 78.27 18 *e*P **P 18 47 21.4 -1.3**
CD2 Chengdu 78.36 308 P **P 18 47 25.0 +1.1**
CD2 pP pP 18 48 18.5 +4.0
CD2 PP PP 18 50 27.1 +2.7
CD2 S S 18 56 55.6 -6.2
CD2 SKS 18 57 13.4
CD2 SS SS 19 02 12.6 +2.6
CD2 pmax pmax
comp=Z,130nm,1.0s,mb5.5
CD2 pmax pmax
comp=Z,970nm,6.1s
CD2 LR LR
comp=N,3μm,20.2s
CD2 LR LR
comp=Z,2μm,23.7s
HIA Hailar 78.92 330 *e*P **P 18 47 26.3 -0.1**
comp=Z,30nm,0.8s,mb5.0
HIA Hailar 78.92 330 *e*P **P 18 47 26.3 -0.1**
HIA pmax pmax
comp=Z,30nm,0.8s
BTO Baotou 78.97 319 *e*P **P 18 47 27.0 +0.1**
MAW Mawson 80.10 202 P **P 18 47 32.6 0.0**
comp=Z,36nm,1.0s,mb5.0,baz=106,slow=6.3,SNR=37
MAW PKKPbc PKKPbc 19 06 14.7 -2.7
comp=Z,3.2nm,0.8s,baz=341,slow=3.1,SNR=6.3
MAW LR LR 19 18 54.8
comp=Z,1μm,18.6s,baz=99,slow=32
MAW Mawson 80.10 202 *e*P **P 18 47 33.3 +0.7**
comp=Z,26nm,0.9s,mb4.9
MAW Mawson 80.10 202 ⇑*i*P **P 18 47 32.5 -0.1**
comp=Z,10nm,1.0s,mb4.4
MAW Mawson 80.10 202 P **P 18 47 32.6 0.0**
MAW pmax pmax
comp=Z,36nm,1.0s
MAW pmax pmax
comp=Z,3.0nm,0.8s
MAW MLR MLR
comp=Z,1μm,18.6s
OHAK Old Harbor 80.63 20 *e*P **P 18 47 37.3 +1.9**
comp=Z,347nm,1.1s,mb5.9
LZH Lanzhou 80.77 312 ⇑*i*P **P 18 47 38.5 +1.8**
LZH pP pP 18 48 29.5 +1.9
LZH sP sP 18 48 49.7 -0.2
LZH PP PP 18 50 43.0 -1.1
LZH S S 18 57 28.4 +1.6
LZH sS sS 18 58 54.0 -1.8
LZH SS SS 19 02 45.0 -0.7
LZH pmax pmax
comp=Z,200nm,1.2s,mb5.6
LZH pmax pmax
comp=Z,1μm,4.3s
SEY Seymchan 80.79 353 *ce*P **P 18 47 36.6 +0.5**
KDAK Kodiak Island 81.31 20 *e*P **P 18 47 38.7 -0.2**
comp=Z,50nm,0.6s,mb5.3
KDAK Kodiak Island 81.31 20 *i* P **P 18 47 38.7 -0.3**
KDAK Kodiak Island 81.31 20 P **P 18 47 39.2 +0.2**
comp=Z,491nm,0.6s,mb6.3,SNR=8.6
CLNS Chul'man 82.17 338 *e*P **P 18 47 44.4 +0.9**
CLNS *e*'PP pP 18 48 53.3 +19
CLNS *e* 18 50 55.2
CLNS *e*PPP 18 52 49.2
CLNS *e*S S 18 57 34.0 -6.2
CLNS pmax pmax
comp=Z,79nm,0.9s,mb5.3
CLNS pmax pmax
comp=N,31nm,1.0s
CLNS pmax pmax
comp=E,12nm,1.0s
CLNS pmax pmax
comp=Z,15nm,1.3s,mb4.5
CLNS pmax pmax
comp=N,11nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,0.7s
CLNS smax
comp=N,3μm,11.4s
CLNS smax
comp=E,1μm,11.4s
SVW2 Sparrevohn 83.10 17 *e*P **P 18 47 46.4 -1.8**
comp=E,325nm,1.7s,mb5.8
RSO Redoubt South 83.39 18 *e*P **P 18 47 48.8 -0.9**
comp=E,390nm,0.7s,mb6.2
CIT Chita 83.70 329 *e*P **P 18 47 52.2 +0.7**
CIT *e* 18 57 53.8
CIT pmax pmax
comp=Z,385nm,2.0s,mb5.8
SEW Seward 84.14 20 *e*P **P 18 47 53.3 -0.2**
comp=Z,100nm,0.8s,mb5.6
SLKM Skilak Lake 84.20 19 *e*P **P 18 47 53.6 -0.2**
SLKM Skilak Lake 84.20 19 *e*P **P 18 47 53.6 -0.2**
TNA Tin City 84.36 10 *e*P **P 18 47 54.2 -0.3**
comp=Z,169nm,1.0s,mb5.7
MCCM Marconi Confer 84.59 48 *e*P **P 18 47 57.0 +0.7**
comp=Z,980nm,2.1s,mb6.2
YAK Yakutsk 84.64 343 *e*P **P 18 47 55.6 -0.3**
comp=Z,613nm,1.0s,mb6.3
YAK Yakutsk 84.64 343 *e*P **P 18 47 55.4 -0.6**
YAK *e*'PP pP 18 48 39.7 -7.7
YAK *e*S S 18 57 57.9 -7.0
YAK *e*'SS sS 18 59 27.8 -7.0
YAK pmax pmax
comp=Z,280nm,1.1s,mb5.9
YAK pmax pmax
comp=N,64nm,1.2s
YAK pmax pmax
comp=E,81nm,1.5s
YAK pmax pmax
comp=Z,574nm,4.4s
YAK pmax pmax
comp=N,533nm,3.7s
YAK pmax pmax
comp=E,356nm,3.2s
YAK smax
comp=N,602nm,2.4s
YAK smax
comp=E,389nm,2.0s
YAK pmax pmax
comp=Z,12nm,0.9s,mb4.6
YAK pmax pmax
comp=N,2.0nm,1.8s
YAK pmax pmax
comp=E,15nm,1.1s
YAK smax
comp=N,10.0nm,1.1s
YAK smax
comp=E,10.0nm,1.1s
YAK smax
comp=N,146nm,1.1s
YAK smax
comp=E,49nm,0.9s
ULN Ulaanbaatar 84.73 324 *e*P **P 18 47 57.0 +0.2**
comp=E,66nm,0.9s,mb5.4
ULN *e*S S 18 58 01.3 -5.1
ULN Ulaanbaatar 84.73 324 *e*P **P 18 47 57.0 +0.2**
ULN *e*S S 18 58 01.3 -5.0
ULN pmax pmax
comp=Z,66nm,0.9s,mb5.4
KCPM Cahto Peak 84.80 46 *e*P **P 18 47 57.6 +0.3**
comp=Z,83nm,1.0s,mb5.4
RC01 Rabbit Creek A 84.81 19 *e*P **P 18 47 57.1 +0.3**
comp=Z,140nm,0.9s,mb5.7
HOPS Hopland 84.84 47 *e*P **P 18 47 57.9 +0.4**
comp=Z,277nm,1.5s,mb5.8
KIPM Iron Peak 84.92 46 *e*P **P 18 47 58.8 +0.8**
comp=Z,546nm,1.6s,mb6.0
BILL Bilibino 84.94 359 *e*P **P 18 47 56.5 -0.8**
comp=Z,93nm,0.7s,mb5.6
BILL Bilibino 84.94 359 ⇑*e*P **P 18 47 57.4 +0.1**
BILL *e* 18 51 15.0
BILL *i*S S 18 58 01.5 -6.1
BILL *e*SS SS 19 03 46.3 +0.3
BILL pmax pmax
comp=Z,385nm,1.7s,mb5.9
SAO San Andreas Ge 85.01 49 *e*P **P 18 47 58.7 +0.3**
comp=Z,80nm,1.1s,mb5.4
SAO San Andreas Ge 85.01 49 *e*P **P 18 47 58.7 +0.3**
SAO pmax pmax
comp=Z,80nm,1.1s,mb5.4
SONM Songino Array 85.09 323 P **P 18 47 59.0 +0.5**
comp=Z,31nm,0.8s,mb5.1,baz=151,slow=6.0,SNR=138
SONM S S 18 57 59.5 -10
comp=Z,6.7nm,1.3s,baz=163,slow=10,SNR=6.9
SONM PKKPbc PKKPbc 19 06 04.3 -2.0
comp=Z,1.3nm,0.6s,baz=256,slow=2.4,SNR=5.8
SONM PKPPKP 19 14 07.2
comp=Z,0.8nm,0.8s,baz=344,slow=3.2,SNR=4.0
SONM LR LR 19 23 32.0
comp=Z,2μm,21.7s,baz=124,slow=34
SONM Songino Array 85.09 323 P **P 18 47 59.0 +0.5**
SONM S S 18 57 59.5 -10
SONM PKKPbc PKKPbc 19 06 04.3 -2.0
SONM P'P' 19 14 07.2
SONM LR LR 19 23 32.0
SONM Songino Array 85.09 323 P **P 18 47 59.0 +0.5**
SONM S S 18 57 59.5 -10
SONM pmax pmax
comp=Z,31nm,0.8s
SONM smax
comp=N,7.0nm,1.3s
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM MLR MLR
comp=Z,2μm,21.7s
GTA Gaotai 85.14 314 P **P 18 48 00.1 +1.1**
GTA pP pP 18 48 51.0 +0.5
GTA sP sP 18 49 11.5 -1.2
GTA SKS 18 58 01.4
GTA pmax pmax
comp=Z,100nm,1.0s,mb5.5
GTA pmax pmax
comp=Z,750nm,7.3s
GTA LR LR
comp=N,1μm,17.8s
GTA LR LR
comp=E,1μm,21.3s
GTA LR LR
comp=Z,2μm,19.2s
BSC Santa Cruz Isl 85.19 52 ⇓P **P 18 47 59.9 +0.4**
baz=85
KHMM Horse Mountain 85.24 45 *e*P **P 18 48 00.4 +0.9**
comp=Z,218nm,1.3s,mb5.7
SBC Santa Barbara 85.32 52 ⇑P **P 18 48 00.6 +0.6**
baz=86
PMR Palmer 85.38 19 *e*P **P 18 47 59.6 0.0**
comp=Z,124nm,0.8s,mb5.7
PMR Palmer 85.38 19 *e*P **P 18 47 59.6 0.0**
PMR pmax pmax
comp=Z,124nm,0.8s,mb5.7
PKM Peak Mountain 85.42 52 ⇑P **P 18 48 01.2 +0.7**
baz=86
SMMC Simmler 85.46 51 ⇑P **P 18 48 01.5 +0.8**
baz=86
PPLA Purkeypile 85.50 17 *e*P **P 18 47 59.5 -0.8**
comp=Z,58nm,1.0s,mb5.3
SCI San Clemente I 85.62 54 ⇑P **P 18 48 01.8 +0.3**
baz=86
BLG Laguna Peak 85.67 53 ⇓P **P 18 48 01.6 -0.2**
baz=86
SHL Shillong 85.70 298 ⇓*i*P **P 18 48 04.5 +2.4**
SHL *i*S S 18 58 06.5 -10
SML Sawmill 85.79 19 *e*P **P 18 48 01.6 -0.1**
comp=Z,17nm,0.8s,mb4.8
SML Sawmill 85.79 19 *e*P **P 18 48 01.6 -0.1**
SML pmax pmax
comp=Z,17nm,0.8s,mb4.8
CIS Catalina Islan 85.90 53 ⇓P **P 18 48 02.7 -0.2**
baz=86
WDC Whiskeytown Da 85.91 45 *e*P **P 18 48 03.2 +0.4**
comp=Z,226nm,1.5s,mb5.7
WDC Whiskeytown Da 85.91 45 *e*P **P 18 48 03.2 +0.4**
WDC pmax pmax
comp=Z,227nm,1.5s,mb5.7
RAGM Ragged Mountai 85.95 21 *e*P **P 18 48 02.8 +0.4**
OHCM Honcut 86.09 47 *e*P **P 18 48 03.6 -0.1**
FMP Fort Macarthur 86.10 53 ⇑P **P 18 48 03.4 -0.5**
baz=86
DIV Divide 86.11 20 *e*P **P 18 48 01.1 -2.1**
comp=Z,62nm,0.9s,mb5.3
OSI Osito Adit 86.13 52 ⇓P **P 18 48 04.3 +0.3**
baz=86
ARVC Arvin 86.26 52 ⇑P **P 18 48 04.7 +0.1**
baz=86
DECC Green Verdugo 86.29 53 ⇓P **P 18 48 04.6 -0.2**
baz=86
YBH Yreka Blue Hor 86.31 44 P **P 18 48 05.3 +0.6**
comp=Z,38nm,0.9s,mb5.1,baz=121,slow=0.8,SNR=26
YBH LR LR 19 17 52.7
comp=Z,3μm,21.1s,baz=244,slow=29
YBH Yreka Blue Hor 86.31 44 *e*P **P 18 48 05.5 +0.8**
comp=Z,177nm,1.5s,mb5.6
YBH Yreka Blue Hor 86.31 44 *e*P **P 18 48 05.5 +0.8**
YBH pmax pmax
comp=Z,177nm,1.5s
CMB Columbia Colle 86.31 48 *e*P **P 18 48 04.3 -0.5**
comp=Z,98nm,0.9s,mb5.5
CMB Columbia Colle 86.31 48 *e*P **P 18 48 04.4 -0.4**
CMB pmax pmax
comp=Z,98nm,0.9s,mb5.5
VES Vestal, Richgr 86.36 51 ⇑P **P 18 48 04.9 -0.2**
baz=86
PASC Pasadena Art C 86.37 53 *e*P **P 18 48 04.3 -0.9**
comp=Z,52nm,0.9s,mb5.3
BMRM Bremner River 86.39 21 *e*P **P 18 48 03.0 -1.6**
comp=Z,83nm,1.0s,mb5.4
RCTC Rector, Farmer 86.43 50 ⇑P **P 18 48 05.5 0.0**
baz=87
TRF Thorofare Moun 86.47 17 *e*P **P 18 48 03.1 -1.9**
comp=Z,99nm,0.8s,mb5.6
MWC Mount Wilson 86.48 53 *e*P **P 18 48 05.2 -0.5**
comp=Z,365nm,1.6s,mb5.9
MWC Mount Wilson 86.48 53 *e*P **P 18 48 05.2 -0.5**
MWC pmax pmax
comp=Z,365nm,1.6s,mb5.9
HUMO Hull Mountain 86.54 44 *e*P **P 18 48 06.4 +0.5**
comp=Z,208nm,1.6s,mb5.6
109C Camp Elliot, M 86.70 54 ⇑P **P 18 48 06.5 -0.3**
baz=87
ISA Isabella 86.74 51 ⇑P **P 18 48 07.3 +0.4**
baz=87
ISA Isabella 86.74 51 *e*P **P 18 48 07.1 +0.1**
comp=Z,620nm,2.0s,mb6.0
ISA Isabella 86.74 51 *e*P **P 18 48 07.1 +0.1**
ISA pmax pmax
comp=Z,620nm,2.0s,mb6.0
SYO Syowa Base 86.74 196 ⇑*e*P **P 18 48 03.8 -2.6**
SYO Syowa Base 86.74 196 ⇑*i*PcP PcP 18 48 05.0 -3.4
SYO Syowa Base 86.74 196 *e*SH S 18 58 22.0 -3.4
BPAW Bear Paw Mtn. 86.78 17 *e*P **P 18 48 04.3 -2.2**
comp=Z,13nm,0.6s,mb4.8
BFSC Mount Baldy Ra 86.79 53 ⇑P **P 18 48 07.0 -0.2**
baz=87
EDW2 Edwards Air Fo 86.79 52 ⇑P **P 18 48 07.4 +0.2**
baz=87
MURC Murrieta 86.90 54 ⇑P **P 18 48 07.7 -0.1**
baz=87
BAR Barrett 86.95 55 *e*P **P 18 48 07.5 -0.6**
comp=Z,115nm,1.5s,mb5.4
MCK McKinley 87.07 18 *e*P **P 18 48 06.1 -1.8**
comp=Z,46nm,0.8s,mb5.3
MCK McKinley 87.07 18 *e*P **P 18 48 06.1 -1.8**
MCK pmax pmax
comp=Z,46nm,0.8s,mb5.3
BOD Bodaibo 87.12 334 *e*P **P 18 48 07.5 -0.7**
BOD *e* 18 58 12.9
BOD pmax pmax
comp=Z,80nm,1.6s,mb5.2
MONP Monument Peak 87.23 55 ⇑P **P 18 48 09.6 +0.2**
baz=87
LRMC Laurel Mountai 87.25 52 ⇓P **P 18 48 09.3 -0.1**
baz=87
MLAC Mammoth Lakes 87.27 49 ⇓P **P 18 48 09.8 +0.3**
baz=87
WCN Washoe City 87.29 48 ⇓P **P 18 48 09.9 +0.4**
baz=88
WCN Washoe City 87.29 48 *e*P **P 18 48 10.1 +0.6**
comp=Z,316nm,1.8s,mb5.7
WCN *e*PP PP 18 51 35.0 -2.1
WCN Washoe City 87.29 48 *e*P **P 18 48 10.1 +0.6**
WCN *e* 18 51 35.0
WCN pmax pmax
comp=Z,316nm,1.8s,mb5.7
CWC Cottonwood Cre 87.34 51 ⇓P **P 18 48 10.2 +0.4**
baz=88
MTUM Tungsten Hills 87.35 50 *e*P **P 18 48 10.2 +0.3**
BBRC Big Bear Solar 87.37 53 ⇑P **P 18 48 09.9 0.0**
baz=88
PNL Peninsula 87.39 24 *e*P **P 18 48 08.6 -0.9**
DVTC Desert V Tower 87.39 55 ⇑P **P 18 48 10.5 +0.4**
baz=88
PFO Pinyon Flat Ob 87.47 54 ⇑P **P 18 48 10.3 -0.2**
baz=88
PFO Pinyon Flat Ob 87.47 54 *e*P **P 18 48 10.2 -0.3**
comp=Z,132nm,1.6s,mb5.4
PFO *e*PP PP 18 51 37.9 -0.8
PFO Pinyon Flat Ob 87.47 54 *e*P **P 18 48 10.2 -0.3**
PFO *e* 18 51 37.9
PFO pmax pmax
comp=Z,133nm,1.6s,mb5.4
PFO Pinyon Flat Ob 87.47 54 P **P 18 48 10.4 -0.1**
comp=Z,176nm,1.2s,mb5.7,SNR=9.3
TIN Tinemaha 87.48 50 ⇑P **P 18 48 10.9 +0.4**
baz=88
RRX Edison Barstow 87.54 52 ⇓P **P 18 48 11.0 +0.2**
baz=88
PAX Paxson 87.55 19 *e*P **P 18 48 08.1 -2.1**
comp=Z,10.0nm,0.7s,mb4.8
PAX Paxson 87.55 19 *e*P **P 18 48 08.1 -2.1**
PAX pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
MPMC Manual Prospec 87.63 51 ⇓P **P 18 48 11.5 +0.3**
baz=88
F03A Seaside 87.68 40 ⇑P **P 18 48 11.8 +0.6**
baz=88
PAHR Pah Rah Range 87.72 47 *e*P **P 18 48 12.2 +0.7**
comp=Z,408nm,1.6s,mb6.0
SWSC Sam W. Stewart 87.73 55 ⇓P **P 18 48 11.9 +0.1**
baz=88
LSA Lhasa 87.79 302 P **P 18 48 13.0 +0.9**
LSA pmax pmax
comp=Z,10.0nm,1.2s,mb4.5
GSC Goldstone 87.85 52 ⇓P **P 18 48 12.6 +0.3**
baz=88
GSC Goldstone 87.85 52 *e*P **P 18 48 11.1 -1.1**
comp=Z,119nm,1.2s,mb5.6
GSC Goldstone 87.85 52 *e*P **P 18 48 11.1 -1.2**
GSC pmax pmax
comp=Z,119nm,1.2s,mb5.6
E03A Lebam 87.96 40 ⇓P **P 18 48 12.7 +0.3**
baz=88
NVAR Mina Array Bea 87.97 49 P **P 18 48 13.0 +0.2**
comp=Z,24nm,0.7s,mb5.2,baz=228,slow=8.4,SNR=116
NVAR PKiKP PKiKP 18 53 12.9 -1.0
comp=Z,0.8nm,0.5s,baz=205,slow=2.9,SNR=3.6
NVAR PKKPbc PKKPbc 19 05 58.6 -0.2
comp=Z,2.5nm,0.8s,baz=86,slow=3.2,SNR=8.0
NVAR PKPPKP 19 14 06.2
comp=Z,1.8nm,1.0s,baz=105,slow=3.9,SNR=5.2
NVAR LR LR 19 18 53.1
comp=Z,2μm,21.9s,baz=109,slow=29
NVAR Mina Array Bea 87.97 49 P **P 18 48 13.0 +0.2**
BELC Belle Mtn. Jos 87.97 54 ⇓P **P 18 48 13.3 +0.4**
baz=88
H04A Detroit Lake 87.97 42 ⇓P **P 18 48 12.7 +0.1**
baz=88
MOD Modoc 88.01 45 *e*P **P 18 48 12.9 +0.1**
comp=Z,196nm,1.4s,mb5.8
G04A Mulino 88.02 41 ⇓P **P 18 48 13.4 +0.6**
baz=88
HEC Hector,Ludlow 88.03 53 ⇑P **P 18 48 13.1 0.0**
baz=88
GRAC Grapevine Rang 88.09 50 ⇑P **P 18 48 13.8 +0.4**
baz=88
MENT Mentasta 88.09 20 *e*P **P 18 48 10.6 -2.1**
ZAK Zakamensk 88.15 324 *e*P **P 18 48 13.2 -0.1**
ZAK pmax pmax
comp=Z,18nm,1.2s,mb4.8
NLWA Neilton Lookou 88.16 39 *e*P **P 18 48 13.6 +0.2**
comp=Z,199nm,1.5s,mb5.7
COLA College 88.25 17 *e*P **P 18 48 11.5 -1.9**
comp=Z,91nm,1.0s,mb5.6
COLA College 88.25 17 *e*P **P 18 48 11.5 -1.9**
COLA pmax pmax
comp=Z,91nm,1.0s,mb5.6
FURC Furnace Creek, 88.26 51 ⇑P **P 18 48 14.4 +0.2**
baz=88
BC3 Big Chuckawall 88.27 54 ⇑P **P 18 48 14.6 +0.4**
baz=88
WRAK Wrangell Islan 88.35 29 *e*P **P 18 48 13.4 -0.7**
comp=Z,31nm,0.9s,mb5.1
ILAR Eielson Array 88.45 18 P **P 18 48 12.2 -2.1**
comp=Z,4.5nm,0.9s,mb4.3,baz=237,slow=5.2,SNR=32
ILAR PKiKP PKiKP 18 53 12.8 -1.1
comp=Z,1.7nm,0.6s,baz=251,slow=3.9,SNR=9.9
ILAR S S 18 58 22.7 -19
comp=Z,1.4nm,1.0s,baz=212,slow=8.5,SNR=5.3
ILAR PKPPKP 19 14 04.0
comp=Z,1.5nm,1.1s,baz=334,slow=2.1,SNR=6.7
ILAR Eielson Array 88.45 18 P **P 18 48 12.2 -2.1**
ILAR Eielson Array 88.45 18 P **P 18 48 12.2 -2.1**
ILAR S S 18 58 22.7 -19
ILAR pmax pmax
comp=Z,5.0nm,0.9s
ILAR pmax pmax
comp=Z,2.0nm,0.6s
ILAR smax
comp=N,1.0nm,1.0s
SHOC Shoshone 88.48 52 ⇑P **P 18 48 15.3 +0.1**
baz=89
DOT Dot Lake 88.48 19 *e*P **P 18 48 12.9 -1.6**
comp=N,319nm,1.4s,mb6.0
GMRC Granite Mounta 88.53 53 ⇓P **P 18 48 15.8 +0.4**
baz=89
GLA Glamis 88.53 55 ⇓P **P 18 48 16.1 +0.6**
baz=89
GLA Glamis 88.53 55 *e*P **P 18 48 15.8 +0.3**
comp=N,343nm,1.5s,mb6.0
GLA Glamis 88.53 55 *e*P **P 18 48 15.8 +0.3**
GLA pmax pmax
comp=Z,343nm,1.5s,mb6.0

IRK	**Irkutsk**	**88.55**	**326**	*e*P		**P**	**18 48 14.4**	**-0.7**
IRK				*e*			18 58 23.2	
IRK				*e*S	S		18 58 41.2	-1.7
IRK				pmax	pmax			
	comp=Z,85nm,2.2s,mb5.2							
TUQ	**Turquoise Moun**	**88.57**	**52**	⇑P		**P**	**18 48 15.8**	**+0.2**
	baz=89							
TLY	**Talaya**	**88.60**	**326**	*e*P		**P**	**18 48 15.0**	**-0.4**
	comp=Z,58nm,1.3s,mb5.2							
TLY	**Talaya**	**88.60**	**326**	*e*P		**P**	**18 48 14.6**	**-0.8**
TLY				*e*			18 58 23.7	
TLY				*e*S	S		18 58 37.5	-5.9
TLY				*e*PS	PS		18 59 47.0	-28
TLY				*e*			19 00 19.1	
TLY				*e*PPS			19 00 52.5	
TLY				*e*SS	SS		19 04 47.1	+7.0
TLY				pmax	pmax			
	comp=Z,44nm,1.6s,mb5.0							
TLY				MLR	MLR			
	comp=Z,614nm,18.0s							
TLY	**Talaya**	**88.60**	**326**	P		**P**	**18 48 15.1**	**-0.3**
	comp=Z,176nm,0.8s,mb5.9,SNR=5.3							
IRM	**Iron Mountain**	**88.69**	**54**	⇑P		**P**	**18 48 16.7**	**+0.5**
	baz=89							
SKAG	**Skagway**	**88.86**	**25**	*e*P		**P**	**18 48 16.2**	**-0.2**
	comp=Z,135nm,1.5s,mb5.5							
GNW	**Green Mountain**	**88.87**	**39**	*e*P		**P**	**18 48 17.0**	**+0.3**
	comp=Z,71nm,1.3s,mb5.3							
VIPM	**Ingram Point**	**88.91**	**43**	P		**P**	**18 48 17.1**	**+0.1**
VIPM	**Ingram Point**	**88.91**	**43**	P		**P**	**18 48 17.1**	**+0.1**
PGC	**Sidney**	**89.00**	**38**	*e*P		**P**	**18 48 16.2**	**-1.1**
	comp=Z,14nm,1.5s,mb4.6							
Y12C	**Blythe**	**89.02**	**54**	⇑P		**P**	**18 48 18.2**	**+0.4**
	baz=89							
LDFC	**Landfair**	**89.06**	**53**	*e*P		**P**	**18 48 18.4**	**+0.5**
	comp=Z,293nm,1.2s,mb6.0							
LON	**Longmire**	**89.13**	**40**	*e*P		**P**	**18 48 17.5**	**-0.5**
	comp=Z,150nm,1.6s,mb5.6							
LON	**Longmire**	**89.13**	**40**	*e*P		**P**	**18 48 17.5**	**-0.5**
LON				pmax	pmax			
	comp=Z,149nm,1.6s,mb5.6							
PMSA	**Palmer Station**	**89.14**	**160**	P		**P**	**18 48 18.0**	**+0.2**
	comp=Z,96nm,0.8s,mb5.7,baz=205,slow=2.3,SNR=21							
PMSA	**Palmer Station**	**89.14**	**160**	*e*P		**P**	**18 48 17.1**	**-0.7**
	comp=Z,326nm,1.4s,mb6.0							
G06A	**Carlson Farm,**	**89.21**	**42**	⇑P		**P**	**18 48 18.5**	**+0.1**
	baz=89							
D05A	**Enumclaw**	**89.21**	**40**	⇓P		**P**	**18 48 19.0**	**+0.6**
	baz=89,SNR=22							
113A	**Mohawk Valley,**	**89.26**	**55**	⇑P		**P**	**18 48 19.1**	**+0.2**
	baz=89,SNR=22							
WPW	**White Pass**	**89.27**	**40**	P		**P**	**18 48 19.4**	**+0.8**
NEE2	**Needles Airpor**	**89.32**	**53**	⇓P		**P**	**18 48 19.6**	**+0.4**
	baz=90							
WVOR	**Wild Horse Val**	**89.35**	**45**	*e*P		**P**	**18 48 19.2**	**+0.1**
	comp=Z,308nm,1.5s,mb5.9							
WVOR	**Wild Horse Val**	**89.35**	**45**	*e*P		**P**	**18 48 19.2**	**+0.1**
WVOR				pmax	pmax			
	comp=Z,308nm,1.5s,mb5.9							
COLD	**Coldfoot**	**89.43**	**15**	*e*P		**P**	**18 48 18.4**	**-0.5**
	comp=Z,32nm,0.8s,mb5.2							
I07A	**Izee**	**89.45**	**43**	⇓P		**P**	**18 48 20.1**	**+0.6**
	baz=90							
Z13A	**Yuma Proving G**	**89.50**	**55**	⇓P		**P**	**18 48 20.5**	**+0.4**
	baz=90,SNR=67							
PDMCI	**Parker Dam,Lak**	**89.52**	**54**	⇑P		**P**	**18 48 20.5**	**+0.4**
	baz=90							
SHPR	**Sheep Range**	**89.54**	**52**	*e*P		**P**	**18 48 20.3**	**+0.1**
	comp=Z,236nm,1.6s,mb5.8							
JCW	**Jim Creek**	**89.69**	**39**	*e*P		**P**	**18 48 20.1**	**-0.4**
	comp=Z,285nm,1.4s,mb5.9							
JCW				*e*PP	PP		18 51 55.6	-0.4
NAC	**Naches**	**89.73**	**40**	P		**P**	**18 48 21.6**	**+0.8**
214A	**Organ Pipe Nat**	**89.73**	**56**	⇑P		**P**	**18 48 21.6**	**+0.4**
	baz=90,SNR=22							
J08A	**Circle Bar Ran**	**89.84**	**44**	⇓P		**P**	**18 48 21.7**	**+0.3**
	baz=90							
R11A	**Troy Canyon, C**	**89.91**	**50**	⇓P		**P**	**18 48 21.5**	**-0.3**
	baz=90							
F07A	**Phinny Hill Vi**	**89.94**	**42**	⇑P		**P**	**18 48 22.0**	**+0.2**
	baz=90,SNR=13							
114A	**Black Gap (USA**	**89.95**	**56**	⇑P		**P**	**18 48 22.4**	**+0.2**
	baz=90,SNR=19							
A05A	**Maple Falls**	**89.96**	**38**	⇓P		**P**	**18 48 21.7**	**-0.1**
	baz=90,SNR=8.0							
PALK	**Pallekele**	**89.98**	**278**	*i* P		**P**	**18 48 24.3**	**+1.6**
PALK	**Pallekele**	**89.98**	**278**	P		**P**	**18 48 24.4**	**+1.7**
	comp=Z,114nm,0.9s,mb5.7,SNR=5.2							
RPW	**Rockport**	**90.06**	**39**	*e*P		**P**	**18 48 20.5**	**-1.7**
TBM	**Table Mountain**	**90.06**	**40**	P		**P**	**18 48 23.0**	**+0.7**
B06A	**Marblemount**	**90.10**	**39**	⇓P		**P**	**18 48 22.0**	**-0.5**
	baz=90							
Z14A	**Wintersburg**	**90.12**	**55**	⇑P		**P**	**18 48 23.5**	**+0.6**
	baz=90,SNR=25							
EGAK	**Eagle**	**90.18**	**19**	*e*P		**P**	**18 48 21.0**	**-1.4**
	comp=Z,44nm,0.8s,mb5.3							
E07A	**Sunnyside**	**90.26**	**41**	⇑P		**P**	**18 48 23.6**	**+0.4**
	baz=90,SNR=36							
Y14A	**Wickenburg**	**90.27**	**55**	⇓P		**P**	**18 48 23.5**	**-0.1**
	baz=90,SNR=21							
DAWY	**Dawson**	**90.28**	**20**	*e*P		**P**	**18 48 21.7**	**-1.2**
G08A	**Pilot Rock**	**90.30**	**42**	⇑P		**P**	**18 48 23.7**	**+0.3**
	baz=90,SNR=68							
SNIWA	**Snively Ranch**	**90.34**	**41**	P		**P**	**18 48 24.6**	**+1.0**
RSW	**Rattlesnake Hi**	**90.36**	**41**	*e*P		**P**	**18 48 24.4**	**+0.7**
	comp=Z,443nm,1.5s,mb6.1							
HAWA	**Hanford**	**90.39**	**41**	*e*P		**P**	**18 48 23.8**	**-0.1**
	comp=Z,166nm,1.1s,mb5.8							
ETW	**Entiat**	**90.41**	**40**	P		**P**	**18 48 24.6**	**+0.7**
U13A	**Pakoon Wash**	**90.41**	**52**	⇑P		**P**	**18 48 24.7**	**+0.5**
	baz=91,SNR=31							
REDWA	**Red Mountain**	**90.41**	**41**	P		**P**	**18 48 24.9**	**+1.0**
115A	**Sonoran Desert**	**90.45**	**56**	⇑P		**P**	**18 48 24.8**	**+0.3**
	baz=91,SNR=16							
DLBC	**Dease Lake**	**90.52**	**28**	*e*P		**P**	**18 48 23.0**	**-1.1**
X14A	**Yava**	**90.54**	**54**	⇓P		**P**	**18 48 25.5**	**+0.6**
	baz=91,SNR=69							
WTV	**Waterville**	**90.68**	**40**	P		**P**	**18 48 25.5**	**+0.4**
Z15A	**Gila River Ind**	**90.71**	**55**	⇑P		**P**	**18 48 25.6**	**-0.1**
	baz=91							
E08A	**Dider Farm, El**	**90.73**	**41**	⇓P		**P**	**18 48 25.4**	**0.0**
	baz=91,SNR=32							
V14A	**Boquillas Ranc**	**90.78**	**53**	⇑P		**P**	**18 48 26.4**	**+0.5**
	baz=91,SNR=35							
Y15A	**Casa Rosa Ranc**	**90.80**	**55**	⇑P		**P**	**18 48 26.5**	**+0.4**
	baz=91,SNR=109							
116A	**Eloy**	**90.82**	**56**	⇑P		**P**	**18 48 26.6**	**+0.4**
	baz=91,SNR=49							
216A	**Three Points,**	**90.83**	**57**	⇓P		**P**	**18 48 26.8**	**+0.6**
	baz=91,SNR=30							
NVL	**N'lazarevskaya**	**90.84**	**188**	*e*P		**P**	**18 48 26.2**	**+0.6**
NVL				*e*S	S		18 58 56.1	-7.5
NVL				*e*SP	SP		19 00 38.4	+27
NVL				*e*SS	SS		19 05 19.1	+8.9
NVL				*e*			19 08 52.8	
NVL				pmax	pmax			
	comp=Z,73nm,0.9s,mb5.6							
NVL				MLR	MLR			
	comp=Z,1μm,17.0s							
MAIT	**Maitri**	**90.85**	**188**	*e*P		**P**	**18 48 26.0**	**+0.4**
LNOR	**Lincton Mounta**	**90.97**	**42**	*e*P		**P**	**18 48 25.6**	**-0.9**
	comp=Z,32nm,1.2s,mb5.1							
LNOR	**Lincton Mounta**	**90.97**	**42**	*e*P		**P**	**18 48 25.7**	**-0.9**
LNOR				pmax	pmax			
	comp=Z,32nm,1.2s,mb5.1							
U14A	**Mt Trumbull**	**91.00**	**52**	⇓P		**P**	**18 48 27.5**	**+0.6**
	baz=91,SNR=52							
R13A	**O'Grain Ranch,**	**91.03**	**50**	⇓P		**P**	**18 48 27.8**	**+0.7**
	baz=91,SNR=20							
D08A	**Wollman Farm,**	**91.05**	**41**	⇑P		**P**	**18 48 27.0**	**+0.1**
	baz=91,SNR=18							
X15A	**Humboldt**	**91.06**	**54**	⇓P		**P**	**18 48 27.8**	**+0.6**
	baz=91,SNR=65							
BMO	**Blue Mountains**	**91.20**	**43**	*e*P		**P**	**18 48 24.9**	**-2.7**
	comp=Z,222nm,2.0s,mb5.7							
BMO	**Blue Mountains**	**91.20**	**43**	*e*P		**P**	**18 48 24.9**	**-2.8**
BMO				pmax	pmax			
	comp=Z,222nm,2.0s,mb5.8							
SNAA	**Sanae**	**91.23**	**183**	PKKPbc	PKKPbc		19 05 49.4	-1.9
	comp=Z,0.5nm,0.8s,baz=204,slow=1.9,SNR=5.2							
SNAA	**Sanae**	**91.23**	**183**	*e*P		**P**	**18 48 25.3**	**-2.1**
	comp=Z,166nm,1.3s,mb5.8							
SNAA	**Sanae**	**91.23**	**183**	*e*P		**P**	**18 48 25.3**	**-2.1**
SNAA				pmax	pmax			
	comp=Z,166nm,1.3s							
CCUT	**Cedar City**	**91.26**	**51**	*e*P		**P**	**18 48 28.9**	**+0.8**
	comp=Z,156nm,1.6s,mb5.7							
W15A	**Williams**	**91.27**	**54**	⇑P		**P**	**18 48 28.9**	**+0.7**
	baz=91,SNR=11							
217A	**Green Valley**	**91.27**	**57**	⇓P		**P**	**18 48 28.9**	**+0.6**
	baz=91,SNR=38							
ARUT	**Antelope Range**	**91.29**	**51**	*e*P		**P**	**18 48 28.1**	**-0.2**
	comp=Z,106nm,1.6s,mb5.5							
ARUT	**Antelope Range**	**91.29**	**51**	*e*P		**P**	**18 48 28.1**	**-0.1**
ARUT				pmax	pmax			
	comp=Z,106nm,1.6s,mb5.5							
Z16A	**Peralta Trail,**	**91.30**	**56**	⇑P		**P**	**18 48 28.7**	**+0.3**
	baz=91,SNR=6.8							
OD2	**Odessa Site #2**	**91.32**	**40**	*e*P		**P**	**18 48 27.6**	**-0.5**
	comp=Z,69nm,1.2s,mb5.5							
E09A	**Wood Farm, Sta**	**91.32**	**41**	⇑P		**P**	**18 48 28.0**	**-0.1**
	baz=92,SNR=9.0							
B08A	**Colville Reser**	**91.33**	**39**	⇓P		**P**	**18 48 27.9**	**-0.2**
	baz=92,SNR=20							
Y16A	**Circle Bar Ran**	**91.44**	**55**	⇑P		**P**	**18 48 29.6**	**+0.5**
	baz=92,SNR=69							
TUC	**Tucson**	**91.47**	**57**	*e*P		**P**	**18 48 29.6**	**+0.4**
	comp=Z,194nm,1.6s,mb5.8							
TUC	**Tucson**	**91.47**	**57**	*e*P		**P**	**18 48 29.6**	**+0.4**
TUC				pmax	pmax			
	comp=Z,194nm,1.6s,mb5.8							
V15A	**Kaibab Nationa**	**91.56**	**53**	⇓P		**P**	**18 48 30.5**	**+0.9**
	baz=92,SNR=23							
117A	**Oracle**	**91.59**	**56**	⇓P		**P**	**18 48 30.3**	**+0.5**
	baz=92,SNR=40							
MFID	**Camas Ranch**	**91.64**	**45**	⇓P		**P**	**18 48 29.8**	**+0.1**
	baz=92,SNR=20							
MFID	**Camas Ranch**	**91.64**	**45**	*e*P		**P**	**18 48 29.1**	**-0.6**
	comp=Z,124nm,1.5s,mb5.6							
X16A	**Lo Mia Camp, P**	**91.65**	**55**	⇑P		**P**	**18 48 30.4**	**+0.4**
	baz=92,SNR=49							
U15A	**North Rim**	**91.68**	**52**	⇓P		**P**	**18 48 30.9**	**+0.9**
	baz=92,SNR=29							
F10A	**Beach Ranch, E**	**91.69**	**42**	⇑P		**P**	**18 48 29.6**	**-0.2**
	baz=92,SNR=10							
C09A	**Chrisman Ranch**	**91.75**	**40**	⇓P		**P**	**18 48 30.0**	**-0.2**
	baz=92,SNR=6.7							
W16A	**Flagstaff**	**91.81**	**54**	⇓P		**P**	**18 48 31.3**	**+0.6**
	baz=92,SNR=12							
T15A	**Red Dirt Ranch**	**91.81**	**52**	⇑P		**P**	**18 48 30.9**	**+0.2**
	baz=92,SNR=18							
318A	**Bisbee**	**91.83**	**58**	⇑P		**P**	**18 48 31.3**	**+0.4**
	baz=92							
Q14A	**Sevier Lake (B**	**91.83**	**50**	⇑P		**P**	**18 48 31.1**	**+0.4**
	baz=92,SNR=27							
VNA3	**Neumayer Olymp**	**91.85**	**181**	*e*		**P**	**18 48 26.0**	**-4.3**
VNA3				*e*			18 48 27.3	
Y17A	**Roosevelt**	**91.88**	**55**	⇓P		**P**	**18 48 31.4**	**+0.3**
	baz=92,SNR=15							
218A	**Dragoon**	**91.95**	**57**	⇓P		**P**	**18 48 32.2**	**+0.7**
	baz=92,SNR=62							
Z17A	**San Carlos Hig**	**92.04**	**56**	⇓P		**P**	**18 48 32.0**	**+0.1**
	baz=92							
S15A	**Panguitch**	**92.05**	**51**	⇓P		**P**	**18 48 32.8**	**+1.1**
	baz=92							
WUAZ	**Wupatki**	**92.07**	**54**	⇑P		**P**	**18 48 32.3**	**+0.3**
	baz=92,SNR=9.4							
WUAZ	**Wupatki**	**92.07**	**54**	*e*P		**P**	**18 48 32.3**	**+0.4**
	comp=Z,68nm,1.0s,mb5.5							
MDRS	**Chennai**	**92.10**	**283**	*ex*		x	18 48 37.2	
MDRS				*ex*		x	18 53 21.2	
MDRS				*ex*		x	18 59 05.2	
MDRS				*ex*		x	19 06 01.2	
MDRS				*ex*		x	19 15 11.2	
X17A	**Forest Lakes**	**92.12**	**55**	⇑P		**P**	**18 48 32.6**	**+0.4**
	baz=92,SNR=6.4							
VNA2	**Neumayer--Watz**	**92.13**	**181**	*e*		**P**	**18 48 27.5**	**-4.1**
	baz=185,slow=4.6							
VNA2				*e*			18 48 28.6	
P14A	**Drum Mountains**	**92.19**	**49**	⇑P		**P**	**18 48 32.6**	**+0.2**
	baz=92,SNR=9.9							
118A	**Homack Ranch,**	**92.23**	**57**	⇑P		**P**	**18 48 33.1**	**+0.4**
	baz=92,SNR=43							
I12A	**Atlanta**	**92.25**	**45**	⇑P		**P**	**18 48 32.7**	**+0.2**
	baz=92,SNR=11							
Z18A	**Geronimo**	**92.32**	**56**	⇓P		**P**	**18 48 33.4**	**+0.2**
	baz=92,SNR=11							
319A	**Douglas**	**92.38**	**58**	⇑P		**P**	**18 48 34.0**	**+0.5**
	baz=92							
VNA1	**Neumayer--Stat**	**92.42**	**181**	*e*		**P**	**18 48 30.0**	**-2.9**
W17A	**Winslow**	**92.44**	**54**	⇑P		**P**	**18 48 33.8**	**+0.2**
	baz=93,SNR=11							
T16A	**Glen Canyon Da**	**92.46**	**52**	⇑P		**P**	**18 48 33.8**	**+0.1**
	baz=93							
U16A	**Tuba City**	**92.46**	**53**	⇑P		**P**	**18 48 34.1**	**+0.4**
	baz=93,SNR=17							
MSU	**Marysvale**	**92.47**	**51**	*e*P		**P**	**18 48 34.0**	**+0.3**
	comp=Z,18nm,0.9s,mb5.0							
MSU	**Marysvale**	**92.47**	**51**	*e*P		**P**	**18 48 34.0**	**+0.3**
MSU				pmax	pmax			
	comp=Z,18nm,0.9s,mb5.0							
Q15A	**Fillmore**	**92.49**	**50**	⇓P		**P**	**18 48 33.9**	**+0.1**
	baz=93,SNR=9.8							
Y18A	**Canyon Day Jun**	**92.55**	**56**	⇓P		**P**	**18 48 34.4**	**+0.3**
	baz=93							
V17A	**Tonalea, Kykot**	**92.55**	**54**	⇓P		**P**	**18 48 34.5**	**+0.3**
	baz=93,SNR=29							
DUG	**Dugway**	**92.58**	**49**	⇑P		**P**	**18 48 34.2**	**0.0**
	baz=93,SNR=10							
DUG	**Dugway**	**92.58**	**49**	*e*P		**P**	**18 48 33.8**	**-0.4**
DUG	**Dugway**	**92.58**	**49**	*e*P		**P**	**18 48 33.8**	**-0.4**
219A	**White Tail Can**	**92.60**	**57**	⇑P		**P**	**18 48 34.9**	**+0.5**
	baz=93							
G12A	**Big Creek, Yel**	**92.61**	**43**	⇑P		**P**	**18 48 34.1**	**-0.1**
	baz=93,SNR=34							
S16A	**Weppner Ranch,**	**92.64**	**51**	⇑P		**P**	**18 48 34.4**	**-0.1**
	baz=93,SNR=6.9							
HLID	**Hailey**	**92.65**	**45**	⇑P		**P**	**18 48 34.6**	**+0.2**
	baz=93,SNR=22							
HLID	**Hailey**	**92.65**	**45**	*e*P		**P**	**18 48 34.1**	**-0.2**
	comp=Z,17nm,0.8s,mb5.1							
NEW	**Newport**	**92.65**	**40**	⇓P		**P**	**18 48 33.8**	**-0.5**
	baz=93							
NEW	**Newport**	**92.65**	**40**	*e*P		**P**	**18 48 33.2**	**-1.1**
	comp=Z,46nm,1.6s,mb5.3							
NEW	**Newport**	**92.65**	**40**	*e*P		**P**	**18 48 33.2**	**-1.0**
NEW				pmax	pmax			
	comp=Z,46nm,1.6s							
BGU	**Big Grassy Mou**	**92.68**	**48**	*e*P		**P**	**18 48 34.5**	**-0.1**
H12A	**Diamond D Ranc**	**92.71**	**44**	⇓P		**P**	**18 48 34.4**	**-0.2**
	baz=93,SNR=9.8							
J13A	**Cove Ranch, Pi**	**92.75**	**45**	⇓P		**P**	**18 48 35.2**	**+0.4**
	baz=93,SNR=15							
P15A	**Leamington**	**92.75**	**49**	⇓P		**P**	**18 48 34.9**	**-0.1**
	baz=93,SNR=5.2							
119A	**Ashpeak Ranch,**	**92.80**	**57**	⇑P		**P**	**18 48 35.9**	**+0.5**
	baz=93							
X18A	**Snowflake**	**92.85**	**55**	⇓P		**P**	**18 48 35.4**	**-0.1**
	baz=93,SNR=12							
O15A	**The Old Anders**	**92.86**	**49**	⇑P		**P**	**18 48 35.3**	**-0.1**
	baz=93							
F12A	**Elk City**	**92.89**	**43**	⇓P		**P**	**18 48 35.0**	**-0.4**
	baz=93,SNR=33							
R16A	**Teasdale**	**92.91**	**51**	⇑P		**P**	**18 48 36.4**	**+0.6**
	baz=93,SNR=6.9							
L14A	**Malta**	**92.92**	**47**	⇑P		**P**	**18 48 35.5**	**-0.2**
	baz=93,SNR=7.7							
E12A	**Beaver Dam Sad**	**92.92**	**42**	⇑P		**P**	**18 48 34.8**	**-0.8**
	baz=93,SNR=12							
I13A	**Wilhorse Cree**	**92.97**	**45**	⇓P		**P**	**18 48 35.9**	**0.0**
	baz=93,SNR=10							
320A	**Kipp Ranch, An**	**92.98**	**58**	⇑P		**P**	**18 48 37.3**	**+1.0**
	baz=93							
T17A	**Navajo Res., N**	**92.99**	**52**	⇑P		**P**	**18 48 36.6**	**+0.4**
	baz=93,SNR=13							
Z19A	**T-Link Ranch,**	**93.00**	**56**	⇓P		**P**	**18 48 36.4**	**+0.1**
	baz=93							
N15A	**Stansbury Isla**	**93.03**	**48**	⇓P		**P**	**18 48 36.1**	**-0.1**
	baz=93,SNR=8.3							
NLU	**North Lily Min**	**93.03**	**49**	*e*P		**P**	**18 48 37.2**	**+1.0**
	comp=Z,154nm,2.1s,mb5.7							
H13A	**Challis**	**93.11**	**44**	⇓P		**P**	**18 48 36.7**	**+0.2**
	baz=93,SNR=10							
K14A	**Jones Ranch, D**	**93.14**	**46**	⇓P		**P**	**18 48 36.8**	**+0.1**
	baz=93,SNR=15							
HVU	**Hansel Valley**	**93.15**	**47**	*e*P		**P**	**18 48 37.0**	**+0.3**
HVU	**Hansel Valley**	**93.15**	**47**	*e*P		**P**	**18 48 37.0**	**+0.3**
220A	**Playas Peak, P**	**93.16**	**58**	⇓P		**P**	**18 48 37.4**	**+0.4**
	baz=93							
J14A	**Carey**	**93.17**	**46**	⇓P		**P**	**18 48 37.4**	**+0.6**
	baz=93							
S17A	**Black Ridge (B**	**93.20**	**52**	⇓P		**P**	**18 48 36.6**	**-0.4**
	baz=93							
W18A	**Petrified Fore**	**93.21**	**54**	⇓P		**P**	**18 48 37.3**	**+0.2**
	baz=93							
P16A	**Fountain Green**	**93.22**	**50**	⇓P		**P**	**18 48 37.2**	**+0.1**
	baz=93							
NOQ	**North Oquirrh**	**93.23**	**49**	*e*P		**P**	**18 48 38.9**	**+1.7**
	comp=Z,32nm,0.8s,mb5.4							
V18A	**Ganado**	**93.24**	**54**	⇓P		**P**	**18 48 37.6**	**+0.3**
	baz=93,SNR=12							
120A	**U Bar Ranch, L**	**93.27**	**57**	⇓P		**P**	**18 48 37.6**	**+0.1**
	baz=93							
M15A	**Larsen Ranch,**	**93.28**	**48**	⇑P		**P**	**18 48 37.3**	**0.0**
	baz=93							
G13A	**Cobalt**	**93.32**	**44**	⇑P		**P**	**18 48 37.1**	**-0.3**
	baz=94,SNR=8.5							
X19A	**St. Johns**	**93.34**	**55**	⇓P		**P**	**18 48 38.3**	**+0.5**
	baz=94,SNR=16							
Q16A	**Castle Valley**	**93.35**	**50**	⇓P		**P**	**18 48 38.4**	**+0.7**
	baz=94							
MPU	**Maple Canyon**	**93.37**	**49**	*e*P		**P**	**18 48 39.2**	**+1.4**
	comp=Z,195nm,2.2s,mb5.8							
I14A	**Mackay**	**93.43**	**45**	⇓P		**P**	**18 48 38.3**	**+0.3**
	baz=94,SNR=30							
TMUT	**Trail Mountain**	**93.44**	**50**	*e*P		**P**	**18 48 38.3**	**+0.1**
C12B	**Naegeli Ranch,**	**93.46**	**41**	⇑P		**P**	**18 48 38.0**	**0.0**
	baz=94							
W19A	**Sanders**	**93.47**	**54**	⇓P		**P**	**18 48 38.2**	**-0.2**
	baz=94							
Z20A	**Nine Sixteen R**	**93.48**	**57**	⇓P		**P**	**18 48 39.1**	**+0.6**
	baz=94							
F13A	**Darby**	**93.50**	**43**	⇓P		**P**	**18 48 37.8**	**-0.4**
	baz=94,SNR=15							
L15A	**Malad City**	**93.50**	**47**	⇓P		**P**	**18 48 38.1**	**-0.2**
	baz=94							
CTU	**Camp Tracy**	**93.51**	**49**	*e*P		**P**	**18 48 37.8**	**-0.7**
	comp=Z,22nm,0.8s,mb5.2							
U18A	**Rough Rock, Ch**	**93.52**	**53**	⇓P		**P**	**18 48 38.9**	**+0.3**
	baz=94							
R17A	**Hanksville Air**	**93.53**	**51**	⇑P		**P**	**18 48 38.4**	**-0.1**
	baz=94							
K15A	**Arbon**	**93.63**	**46**	⇓P		**P**	**18 48 38.9**	**-0.1**
	baz=94							
B12A	**Libby**	**93.67**	**40**	⇑P		**P**	**18 48 38.8**	**-0.1**
	baz=94							
JLU	**Jordanelle**	**93.70**	**49**	*e*P		**P**	**18 48 39.5**	**+0.2**
	comp=Z,15nm,0.8s,mb5.1							
H14A	**Leadore**	**93.72**	**44**	⇓P		**P**	**18 48 39.3**	**0.0**
	baz=94							
T18A	**Mexican Hat**	**93.74**	**52**	⇓P		**P**	**18 48 39.7**	**+0.1**
	baz=94,SNR=18							
DAU	**Daniels Canyon**	**93.78**	**49**	*e*PP		PP	18 52 28.6	+0.3
N16A	**Rees Ranch, Co**	**93.80**	**48**	⇓P		**P**	**18 48 39.8**	**+0.1**
	baz=94,SNR=7.5							
A12A	**Yaak River Ran**	**93.80**	**40**	⇑P		**P**	**18 48 39.9**	**+0.4**
	baz=94							
M16A	**Huntsville**	**93.81**	**48**	⇓P		**P**	**18 48 39.6**	**-0.1**
	baz=94							
E13A	**Victor**	**93.82**	**43**	⇓P		**P**	**18 48 39.5**	**-0.2**
	baz=94							
S18A	**Hurst Farm, Bl**	**93.83**	**52**	⇓P		**P**	**18 48 40.2**	**+0.2**
	baz=94							
P17A	**Butcher Ranch,**	**93.84**	**50**	⇓P		**P**	**18 48 40.7**	**+0.7**
	baz=94							
G14A	**Jackson**	**93.88**	**44**	⇑P		**P**	**18 48 39.7**	**-0.3**
	baz=94,SNR=11							
D13A	**Huson**	**93.88**	**42**	⇓P		**P**	**18 48 40.0**	**+0.1**
	baz=94							
SRU	**San Rafael**	**93.89**	**50**	⇑P		**P**	**18 48 39.9**	**-0.2**
	baz=94							
SRU	**San Rafael**	**93.89**	**50**	*e*P		**P**	**18 48 39.0**	**-1.2**
	comp=Z,20nm,0.8s,mb5.2							
SRU	**San Rafael**	**93.89**	**50**	*e*P		**P**	**18 48 39.0**	**-1.2**
SRU				pmax	pmax			
	comp=Z,20nm,0.8s,mb5.2							
Y20A	**Horse Springs,**	**93.89**	**56**	⇑P		**P**	**18 48 40.9**	**+0.5**
	baz=94							
J15A	**Blackfoot**

INK Inuvik 94.79 18 S SKSac 18 58 59.0 +0.9
comp=Z,8.3nm,1.0s,baz=28,slow=31,SNR=28
INK PKKPbc PKKPbc 19 05 42.1 -0.5
comp=Z,1.0nm,0.5s,baz=53,slow=6.9,SNR=5.1
INK Inuvik 94.79 18 *e*P **P 18 48 41.5 -2.1**
comp=Z,89nm,1.6s,mb5.6
INK Inuvik 94.79 18 *e*P **P 18 48 41.6 -2.0**
INK pmax pmax
comp=Z,89nm,1.6s
MVCO Mesa Verde 94.81 53 ⇓P **P 18 48 44.0 -0.5**
baz=95
MVCO Mesa Verde 94.81 53 *e*PP PP 18 52 36.1 -0.3
E15A Deer Lodge 94.82 43 ⇑P **P 18 48 44.1 -0.1**
baz=95
W21A San Fidel 94.83 55 ⇑P **P 18 48 44.7 +0.1**
baz=95
223A Chaparral, Ant 94.89 58 ⇑P **P 18 48 45.1 +0.1**
baz=95
HYB Hyderabad 94.90 287 *i* P **P 18 48 45.5 +0.2**
HYB *e* 18 49 07.0
HYB *e*pP pP 18 49 35.0 -2.4
HYB *e*SKS 18 59 00.0
HYB *e*S S 18 59 38.0 -3.3
HYB *e* 19 01 08.0
HYB *e*SS SS 19 06 12.0 +0.2
WALA Waterton Lakes 94.92 40 *e*P **P 18 48 42.3 -2.3**
comp=Z,0.3nm,0.8s
M18A Lyman 94.95 48 ⇑P **P 18 48 45.3 +0.3**
baz=95
G16A Moss Hill, Enn 94.98 44 ⇑P **P 18 48 45.4 +0.4**
baz=95
REDW Red Top Meadow 95.02 46 *e*P **P 18 48 45.6 +0.4**
comp=Z,70nm,1.5s,mb5.6
LAZ Ladron 95.02 56 *e*P **P 18 48 45.0 -0.5**
comp=Z,21nm,1.5s,mb5.0
Y22A Socorro 95.02 56 ⇓P **P 18 48 45.6 0.0**
baz=95
V21A Milan 95.05 54 ⇑P **P 18 48 45.7 +0.1**
baz=95
B14A Marquette Ranc 95.08 41 ⇑P **P 18 48 44.7 -0.7**
baz=95
LENM Lemitar 95.08 56 *e*P **P 18 48 45.8 0.0**
N18A Larsen Ranch, 95.10 49 ⇓P **P 18 48 45.6 -0.1**
baz=95
QLMT Earthquake Lak 95.10 45 *e*P **P 18 48 46.6 +1.0**
Y22D IRIS PASSCAL I 95.10 56 ⇓P **P 18 48 45.9 0.0**
baz=95
S20A Disappointment 95.10 52 ⇑P **P 18 48 45.8 +0.1**
baz=95
D15A Lincoln 95.11 42 ⇑P **P 18 48 44.9 -0.7**
baz=95
J17A Brown Place, J 95.11 46 ⇑P **P 18 48 45.7 0.0**
baz=95
IMW Indian Meadow 95.13 46 *e*P **P 18 48 45.5 -0.2**
L18A Fontenelle, Gr 95.13 48 ⇓P **P 18 48 45.8 -0.1**
baz=95
H16A Russell Place, 95.18 45 ⇓P **P 18 48 46.1 +0.1**
baz=95,SNR=10
P19A Cripple Cowboy 95.19 50 ⇑P **P 18 48 45.8 -0.3**
baz=95,SNR=6.3
A14A Double T Ranch 95.19 40 ⇑P **P 18 48 47.2 +1.3**
baz=95
R20A Redvale 95.19 52 ⇓P **P 18 48 46.3 +0.1**
baz=95
123A Bell Site, Whi 95.21 58 ⇓P **P 18 48 46.8 +0.4**
baz=95
WMQ Urumqi 95.21 314 P **P 18 48 42.6 -3.5**
WMQ pP pP 18 49 37.5 -0.7
WMQ sP sP 18 50 00.7 +0.4
WMQ PP PP 18 52 37.6 -1.7
WMQ S S 18 59 34.8 -8.0
WMQ sS sS 19 01 11.8 -2.9
WMQ pmax pmax
comp=Z,65nm,0.6s,mb5.9
WMQ pmax pmax
comp=Z,510nm,3.8s
WMQ LR LR
comp=N,1μm,17.4s
WMQ LR LR
comp=E,1μm,17.4s
WMQ LR LR
comp=Z,2μm,29.2s
MOOW Moose Ponds 95.22 46 *e*P **P 18 48 45.3 -0.8**
U21A Nageezi 95.22 54 ⇓P **P 18 48 46.3 -0.1**
baz=95
BOZ Bozeman (W) 95.23 44 ⇑P **P 18 48 46.5 +0.3**
baz=95
BOZ Bozeman (W) 95.23 44 *e*P **P 18 48 45.3 -0.8**
comp=Z,3.8nm,0.7s,mb4.6
BOZ Bozeman (W) 95.23 44 *e*P **P 18 48 45.3 -0.9**
BOZ pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
LOHW Long Hollow 95.27 46 *e*P **P 18 48 46.1 -0.3**
comp=Z,24nm,1.4s,mb5.1
F16A Kennard Place, 95.28 44 ⇑P **P 18 48 46.6 +0.2**
baz=95
O19A Miners Draw (B 95.28 50 ⇑P **P 18 48 46.2 -0.4**
baz=95
C15A Salmond Ranch, 95.30 42 ⇓P **P 18 48 46.0 -0.4**
baz=96
K18A Toltan Ranch, 95.35 47 ⇓P **P 18 48 46.4 -0.4**
baz=96
BNM Barren Site 95.35 56 *e*P **P 18 48 46.6 -0.5**
comp=Z,30nm,1.4s,mb5.2
YMR Madison River 95.36 45 *e*P **P 18 48 46.7 -0.1**
comp=Z,9.5nm,0.6s,mb5.1
I17A Pilgrim Ck. 95.39 46 ⇓P **P 18 48 46.4 -0.5**
baz=96
LPM Los Pinos Moun 95.40 56 *e*P **P 18 48 47.0 -0.2**
comp=Z,33nm,1.5s,mb5.2
Z23A Rita Site, Whi 95.41 57 ⇑P **P 18 48 46.6 -0.7**
baz=96
N19A John Jarvie Ra 95.43 49 ⇑P **P 18 48 48.2 +1.0**
baz=96
W22A Albuquerque 95.43 55 ⇑P **P 18 48 47.0 -0.3**
baz=96
HRY Holter Researc 95.44 43 *e*P **P 18 48 46.5 -0.6**
comp=Z,28nm,0.5s,mb5.7
HRY *e*PP PP 18 52 36.8 -4.3
T21A Navajo Lake 95.48 53 ⇓P **P 18 48 47.6 +0.1**
baz=96
S21A Coal Bank Pass 95.48 52 ⇓P **P 18 48 47.8 +0.3**
baz=96
E16A East Helena 95.49 43 ⇓P **P 18 48 47.1 -0.2**
baz=96
Q20A Ridgley Place, 95.49 51 ⇑P **P 18 48 47.0 -0.6**
baz=96
324A Moseley Ranch, 95.50 59 ⇓P **P 18 48 47.5 -0.3**
baz=96
B15A Bradely Ranch, 95.50 41 ⇓P **P 18 48 46.3 -1.1**
baz=96
H17A Grant Village 95.53 45 ⇓P **P 18 48 47.6 0.0**
baz=96
J18A Kendall Valley 95.55 47 ⇑P **P 18 48 47.3 -0.4**
baz=96
P20A De Beque 95.58 51 ⇓P **P 18 48 48.1 +0.2**
baz=96
A15A Johnson Ranch, 95.62 41 ⇑P **P 18 48 47.1 -0.7**
baz=96
M19A Rock Springs 95.63 48 ⇓P **P 18 48 48.2 +0.1**
baz=96
V22A San Miguel Ran 95.64 54 ⇑P **P 18 48 47.9 -0.4**
baz=96
224A Cornudas Mount 95.65 58 ⇓P **P 18 48 48.1 -0.3**
baz=96
L19A Farson 95.67 48 ⇓P **P 18 48 48.2 -0.1**
baz=96
ANMO Albuquerque 95.72 55 *e*P **P 18 48 48.4 -0.3**
comp=Z,16nm,0.9s,mb5.2
ANMO Albuquerque 95.72 55 *e*P **P 18 48 48.4 -0.3**
ANMO pmax pmax
comp=Z,16nm,0.9s
PD01 Pinedale Array 95.72 47 *e*P **P 18 48 47.5 -0.9**
G17A Pierce Place, 95.72 44 ⇓P **P 18 48 48.4 0.0**
baz=96
425A Indio Mountain 95.72 60 ⇑P **P 18 48 48.4 -0.4**
baz=96
PD02 Pinedale Array 95.73 47 *e*P **P 18 48 47.5 -1.0**
PD02 *e*PP PP 18 52 41.0 -2.4
BW06 Boulder Array 95.73 47 ⇓P **P 18 48 47.9 -0.6**
baz=96
PDAR Pinedale Array 95.73 47 P **P 18 48 47.8 -0.7**
comp=Z,4.1nm,0.5s,mb4.9,baz=201,slow=2.5,SNR=8.7
PDAR PP PP 18 52 45.5 +2.1
comp=Z,6.9nm,1.2s,baz=228,slow=3.8,SNR=4.7
PDAR PKiKP PKiKP 18 53 26.6 -0.3
comp=Z,1.1nm,0.7s,baz=224,slow=2.5,SNR=3.8
PDAR LR LR 19 25 43.3
comp=Z,850nm,19.8s,baz=260,slow=31
PDAR Pinedale Array 95.73 47 P **P 18 48 47.8 -0.7**
PDAR PP PP 18 52 45.5 +2.1
Y23A Lovelace Mesa, 95.75 56 ⇓P **P 18 48 48.7 -0.1**
baz=96
U22A Llaves 95.82 54 ⇑P **P 18 48 49.2 +0.1**
baz=96
X23A Hourglass Bar 95.83 56 ⇑P **P 18 48 49.1 -0.1**
baz=96
I18A Diamond G Ranc 95.84 46 ⇓P **P 18 48 48.9 0.0**
baz=96
C16A Fuhringer Ranc 95.85 42 ⇓P **P 18 48 49.4 +0.5**
baz=96
R21A Cimarron 95.87 52 ⇓P **P 18 48 49.2 -0.1**
baz=96
124A Stringfield Ra 95.88 58 ⇓P **P 18 48 49.4 0.0**
baz=96
O20A White River Ci 95.88 50 ⇓P **P 18 48 49.1 -0.2**
baz=96
325A Bean Ranch, Si 95.90 59 ⇓P **P 18 48 49.3 -0.2**
baz=96
F17A Fitzpatrick Pl 95.96 44 ⇑P **P 18 48 49.9 +0.4**
baz=96
T22A Edith 95.97 53 ⇓P **P 18 48 49.6 -0.1**
baz=96
Q21A Lamborn Mesa, 95.99 51 ⇑P **P 18 48 49.5 -0.3**
baz=96
E17A Martinsdale 96.00 43 ⇑P **P 18 48 49.9 +0.3**
baz=96
W23A Werner Place, 96.02 55 ⇓P **P 18 48 49.3 -0.7**
baz=96
B16A M & M Farms, S 96.08 41 ⇓P **P 18 48 49.4 -0.5**
baz=96
626A Big Bend Ranch 96.08 61 ⇓P **P 18 48 50.2 -0.3**
baz=96
Z24A Sheppen Canyo 96.13 57 ⇓P **P 18 48 49.9 -0.7**
baz=96
V23A Ortiz Mt. (NFS 96.16 55 ⇑P **P 18 48 50.9 +0.3**
baz=96
225A Deer Hill, Car 96.22 58 ⇓P **P 18 48 50.8 -0.2**
baz=96
S22A 4UR Ranch, Cre 96.23 53 ⇓P **P 18 48 51.3 +0.4**
baz=96
H18A Shoshone NF, C 96.24 45 ⇑P **P 18 48 51.3 +0.5**
baz=96
K19A Absolon Red Bu 96.25 47 ⇓P **P 18 48 50.3 -0.6**
baz=96
526A Mary Lane Ranc 96.26 61 ⇑P **P 18 48 51.4 +0.2**
baz=96
M20A Sweetwater, Wa 96.32 49 ⇑P **P 18 48 52.0 +0.7**
baz=96
U23A El Rito 96.32 54 ⇑P **P 18 48 51.5 +0.2**
baz=96
D17A Six Diamond Ra 96.33 43 ⇓P **P 18 48 51.5 +0.4**
baz=96
L20A Wamsutter 96.36 48 ⇓P **P 18 48 51.2 -0.3**
baz=96
TXAR Lajitas Array 96.42 61 P **P 18 48 51.6 -0.3**
comp=Z,8.4nm,0.8s,mb5.0,baz=225,slow=5.6,SNR=60
TXAR PKiKP PKiKP 18 53 28.7 +0.1
comp=Z,1.2nm,0.9s,baz=165,slow=4.6,SNR=3.8
TXAR PKKPbc PKKPbc 19 05 35.9 -0.7
comp=Z,0.7nm,0.7s,baz=85,slow=3.1,SNR=4.8
TXAR Lajitas Array 96.42 61 P **P 18 48 51.6 -0.3**
TXAR Lajitas Array 96.42 61 P **P 18 48 51.6 -0.4**
TXAR pmax pmax
comp=Z,8.0nm,0.8s
TXAR pmax pmax
comp=Z,1.0nm,0.9s
TXAR pmax pmax
comp=Z,1.0nm,0.7s
R22A Saguache, Gunn 96.43 52 ⇓P **P 18 48 52.5 +0.7**
baz=97
C17A Wharram Farm, 96.43 42 ⇑P **P 18 48 51.5 0.0**
baz=97
O21A Pagoda 96.47 50 ⇓P **P 18 48 52.4 +0.4**
baz=97
426A McDonald Obser 96.48 60 ⇑P **P 18 48 52.3 0.0**
baz=97
Q22A Crested Butte, 96.49 51 ⇑P **P 18 48 51.8 -0.2**
baz=97
G18A Lazy EL Ranch, 96.51 45 ⇓P **P 18 48 51.7 -0.3**
baz=97
I19A Meeteetse 96.51 46 ⇓P **P 18 48 51.6 -0.4**
baz=97
125A Gardner Draw, 96.51 58 ⇓P **P 18 48 52.4 0.0**
baz=97
SMCO Snowmass 96.54 51 *e*P **P 18 48 52.8 +0.6**
comp=Z,9.6nm,0.8s,mb5.1
SMCO *e*PP PP 18 52 47.8 -1.9
K20A Yellowstone Ra 96.55 48 ⇑P **P 18 48 52.4 +0.1**
baz=97
F18A Big Timber 96.58 44 ⇑P **P 18 48 52.9 +0.6**
baz=97
N21A Black Mountain 96.59 50 ⇑P **P 18 48 52.5 +0.1**
baz=97
B17A L&G Farms, Che 96.61 42 ⇓P **P 18 48 52.5 +0.1**
baz=97
W24A Lazy 6 Ranch, 96.62 55 ⇑P **P 18 48 52.4 -0.4**
baz=97
Z25A Roswell 96.63 57 ⇑P **P 18 48 52.8 -0.1**
baz=97
T23A Casias Ranch, 96.64 53 ⇑P **P 18 48 52.7 -0.1**
baz=97
RLMT Red Lodge 96.65 45 ⇑P **P 18 48 53.3 +0.7**
baz=97
RLMT Red Lodge 96.65 45 *e*P **P 18 48 51.3 -1.3**
comp=Z,5.9nm,0.8s,mb4.9
E18A Harlowton 96.65 43 ⇓P **P 18 48 53.0 +0.4**
baz=97
627A Terlingua Ranc 96.68 61 ⇓P **P 18 48 53.2 +0.1**
baz=97
527A Woodward Ranch 96.68 61 ⇑P **P 18 48 53.0 -0.1**
baz=97
326A Caldwell Ranch 96.70 59 ⇓P **P 18 48 52.7 -0.5**
baz=97
H19A Powell 96.70 45 ⇓P **P 18 48 52.9 +0.1**
baz=97
226A Malaga, Loving 96.80 59 ⇓P **P 18 48 53.4 -0.3**
baz=97
Y25A Mesa, Roswell 96.83 57 ⇓P **P 18 48 54.5 +0.8**
baz=97
S23A Nye Farm, Mont 96.85 53 ⇑P **P 18 48 53.4 -0.3**
baz=97
A17A Triple J Farms 96.88 41 ⇓P **P 18 48 53.4 -0.2**
baz=97
D18A Linhart Farms, 96.92 43 ⇑P **P 18 48 53.8 0.0**
baz=97
J20A Shoshoni 96.94 47 ⇑P **P 18 48 54.0 0.0**
baz=97
M21A Separation Pea 96.94 49 ⇑P **P 18 48 54.1 +0.1**
baz=97
427A Hayter Ranch, 97.05 60 ⇓P **P 18 48 54.8 0.0**
baz=97
I20A Worland 97.08 46 ⇓P **P 18 48 54.7 +0.1**
baz=97
RWWY Rawlins 97.08 49 *e*PP PP 18 52 45.5 -8.2
F19A Roth Farm, Mol 97.08 44 ⇓P **P 18 48 54.9 +0.3**
baz=97
628A Black Gap, Mar 97.11 61 ⇑P **P 18 48 54.6 -0.5**
baz=97
O22A Kremmling 97.13 50 ⇓P **P 18 48 55.0 +0.1**
baz=97
EGMT Eagleton 97.20 42 ⇑P **P 18 48 55.8 +0.8**
baz=97
EGMT Eagleton 97.20 42 *e*P **P 18 48 55.8 +0.8**
comp=Z,8.5nm,0.8s,mb5.0
Z26A Caprock 97.23 58 ⇑P **P 18 48 55.9 +0.4**
baz=97
B18A Beardsley Farm 97.29 42 ⇑P **P 18 48 55.4 0.0**
baz=97
K21A Alcova 97.32 48 ⇓P **P 18 48 56.1 +0.5**
baz=98
E19A Rath Farm, Rou 97.36 44 ⇓P **P 18 48 56.0 +0.2**
baz=98
W25A X Bar L Ranch, 97.37 56 ⇑P **P 18 48 56.2 +0.1**
baz=98
528A Cox Ranch, San 97.38 61 ⇓P **P 18 48 56.3 +0.1**
baz=98
N22A Wattenberg Ran 97.38 50 ⇓P **P 18 48 56.3 +0.3**
baz=98
J21A Lysite 97.38 47 ⇓P **P 18 48 56.1 +0.1**
baz=98
G20A Bridger 97.39 45 ⇓P **P 18 48 56.3 +0.4**
baz=98
T24A Torres, Weston 97.41 54 ⇑P **P 18 48 56.4 +0.1**
baz=98
V25A Rancho No Teng 97.41 55 ⇑P **P 18 48 56.0 -0.3**
baz=98
S24A Houchin Ranch, 97.44 53 ⇑P **P 18 48 56.8 +0.4**
baz=98
D19A Cripps Ranch, 97.51 43 ⇑Pdiff **P 18 48 57.3 +0.8**
baz=98
C19A Slack Wire Ran 97.56 42 ⇓Pdiff **P 18 48 57.5 +0.8**
baz=98
428A Kincaid Ranch, 97.61 60 ⇓Pdiff **P 18 48 57.5 +0.2**
baz=98
I21A Big Trails, Te 97.62 47 ⇑Pdiff **P 18 48 57.4 +0.3**
baz=98
328A Wristen Ranch, 97.68 60 ⇑Pdiff **P 18 48 57.3 -0.3**
baz=98
U25A Circle Dot Ran 97.72 54 ⇓Pdiff **P 18 48 57.8 +0.1**
baz=98
K22A Casper 97.84 48 ⇑Pdiff **P 18 48 58.6 +0.5**
baz=98
B19A Brinkman Farms 97.84 42 ⇑Pdiff **P 18 48 58.6 +0.7**
baz=98
Q24A Divide 97.84 52 ⇓Pdiff **P 18 48 58.1 -0.1**
baz=98
Z27A Tatum 97.86 58 ⇑Pdiff **P 18 48 58.2 -0.1**
baz=98
W26A Owens Ranch, T 97.88 56 ⇓Pdiff **P 18 48 58.8 +0.4**
baz=98
T25A Trinidad 97.92 54 ⇑Pdiff **P 18 48 59.1 +0.6**
baz=98
D20A Manuel Ranch, 97.97 43 ⇓Pdiff **P 18 48 59.1 +0.5**
baz=98
H21A Big Horn, Sher 98.02 46 ⇑Pdiff **P 18 48 59.8 +1.0**
baz=98
S25A Robets Cordova 98.04 53 ⇑Pdiff **P 18 48 59.2 +0.1**
baz=98
M23A Laramie 98.09 49 ⇓Pdiff **P 18 49 00.1 +0.9**
baz=98
I22A 9 Mile Ranch, 98.20 47 ⇓Pdiff **P 18 48 60.0 +0.3**
baz=98
PHWY Pilot Hill 98.24 49 *e*PP PP 18 52 57.8 -4.8
L23A Garrett 98.28 49 ⇓Pdiff **P 18 49 01.0 +1.0**
baz=98
R25A Fountain Ranch 98.28 53 ⇑Pdiff **P 18 49 00.9 +0.7**
baz=98
B20A Solberg Farm, 98.43 42 ⇓Pdiff **P 18 49 01.9 +1.4**
baz=99
H22A Clearmont 98.48 46 ⇓Pdiff **P 18 49 02.1 +1.2**
baz=99
A20A Cobblestone Ra 98.61 42 ⇑Pdiff **P 18 49 02.4 +1.1**
baz=99
P25A Willow Gulch B 98.72 51 ⇑Pdiff **P 18 49 02.2 +0.1**
baz=99
DDI Dehra Dun 98.79 299 *ex* x 18 51 30.0
YKA Yellowknife Ar 99.14 27 P Pdif 18 49 03.0 -0.8
comp=Z,13nm,0.8s,baz=258,slow=4.9,SNR=18
YKA PKiKP PKiKP 18 53 30.6 -1.8
comp=Z,3.3nm,0.7s,baz=258,slow=1.6,SNR=13
YKA Yellowknife Ar 99.14 27 P Pdif 18 49 03.0 -0.8
YKA Yellowknife Ar 99.14 27 P Pdif 18 49 03.0 -0.8
YKA pmax pmax
comp=Z,13nm,0.8s
YKA pmax pmax
comp=Z,3.0nm,0.7s
POO Poona 99.51 286 *e*PKP SKSac 18 59 35.0 +10
E23A Ismay 99.69 44 ⇑Pdiff Pdif 18 49 06.8 +0.6
baz=100
MK31 Makanchi Array 99.71 316 *e*Pdif Pdif 18 49 06.2 -0.1
MK31 Makanchi Array 99.71 316 *e*P Pdif 18 49 06.2 -0.1
MKAR Makanchi Array 99.71 316 P Pdif 18 49 06.2 0.0
comp=Z,5.2nm,0.5s,baz=89,slow=6.5,SNR=42
MKAR PKiKP PKiKP 18 53 33.2 -0.6
comp=Z,3.2nm,0.5s,baz=126,slow=0.6,SNR=17
MKAR S Sdif 18 59 22.7 -58
comp=Z,2.3nm,0.8s,baz=80,slow=8.9,SNR=6.1
MKAR PKKPbc PKKPbc 19 05 25.4 -2.8
comp=Z,4.9nm,0.7s,baz=284,slow=2.9,SNR=14
MKAR Makanchi Array 99.71 316 P Pdif 18 49 06.2 0.0
MKAR Makanchi Array 99.71 316 P Pdif 18 49 06.3 0.0
MKAR S Sdif 18 59 22.7 -58
MKAR pmax pmax
comp=Z,5.0nm,0.5s
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR smax
comp=N,2.0nm,0.9s
MKAR pmax pmax
comp=Z,5.0nm,0.7s
H24A Dirks Ranch, A 99.77 46 ⇓Pdiff Pdif 18 49 07.4 +0.8
baz=100
D23A Lindsay 99.92 44 ⇓Pdiff Pdif 18 49 07.7 +0.5
baz=100
JCT Junction City 99.95 61 ⇑Pdiff Pdif 18 49 08.0 +0.6
baz=100
JCT Junction City 99.95 61 *e*Pdif Pdif 18 49 06.7 -0.7
comp=Z,13nm,0.8s
JCT Junction City 99.95 61 *e*P Pdif 18 49 06.7 -0.7
JCT pmax pmax
comp=Z,13nm,0.8s,mb5.4
RSSD Black Hills 99.97 47 *e*PP PP 18 53 12.7 -3.0
ZAA0 Zalesovo Array 99.99 323 *e*Pdif Pdif 18 49 06.0 -1.5
ZALV Zalesovo Beam 99.99 323 P Pdif 18 49 06.4 -1.1
comp=Z,12nm,0.9s,baz=107,slow=5.0,SNR=37
ZALV PKiKP PKiKP 18 53 33.1 -1.0
comp=Z,4.7nm,0.6s,baz=135,slow=2.8,SNR=8.0
ZALV S SKSac 18 59 23.4 -1.9
comp=Z,1.6nm,0.7s,baz=57,slow=5.3,SNR=8.5
ZALV PKKPbc PKKPbc 19 05 25.3 -2.4
comp=Z,2.6nm,0.5s,baz=287,slow=4.0,SNR=7.0
ZALV PKPPKP 19 13 37.5
comp=Z,1.1nm,0.9s,baz=221,slow=1.6,SNR=3.8
ZALV Zalesovo Beam 99.99 323 P Pdif 18 49 06.4 -1.1
ZALV Zalesovo Beam 99.99 323 P Pdif 18 49 06.4 -1.1
ZALV S SKSac 18 59 23.5 -1.8
ZALV pmax pmax
comp=Z,12nm,0.9s,mb5.3
ZALV pmax pmax
comp=Z,5.0nm,0.6s,mb5.1
ZALV smax
comp=N,2.0nm,0.7s
ZALV pmax pmax
comp=Z,3.0nm,0.5s,mb5.0
ZALV pmax pmax
comp=Z,1.0nm,0.9s,mb4.2
C23A Lambert 100.09 43 ⇓Pdiff Pdif 18 49 09.3 +1.3
baz=100
D24A Glendive 100.49 44 ⇑Pdiff Pdif 18 49 10.6 +0.8
baz=101
PLCA Paso Flores 100.60 138 P Pdif 18 49 10.4 +0.2
comp=Z,5.8nm,1.1s,baz=240,slow=6.1,SNR=5.5
PLCA Paso Flores 100.60 138 *e*Pdif Pdif 18 49 10.1 -0.2
comp=Z,14nm,1.3s
PLCA Paso Flores 100.60 138 P Pdif 18 49 10.4 +0.2
PLCA pmax pmax
comp=Z,6.0nm,1.1s
NVS Novosibirsk 101.11 324 *e*P Pdif 18 49 11.3 -1.2
NVS *e* 18 59 27.0
NVS *e*S Sdif 19 00 32.9 +0.3
NVS pmax pmax
comp=E,45nm,2.4s
NVS pmax pmax
comp=Z,103nm,2.4s
KSH Kashi 102.56 308 *e*P Pdif 18 49 24.3 +5.3
KSH pP 18 50 15.1
KSH sP 18 50 36.6
KSH SKS 18 59 42.8
KSH S Sdif 19 00 47.8 +3.0
KSH pmax pmax
comp=Z,4.0nm,1.2s
KSH pmax pmax
comp=Z,190nm,6.0s
KSH LR LR
comp=N,440nm,11.6s
KSH LR LR
comp=E,840nm,13.1s
KSH LR LR
comp=Z,310nm,6.9s
KURK Kurchatov 102.95 319 PP PP 18 53 31.8 -6.1
comp=Z,5.4nm,0.8s,baz=99,slow=6.8,SNR=5.5
KURK PKiKP PKiKP 18 53 39.4 -0.3
comp=Z,6.4nm,0.6s,baz=110,slow=1.7,SNR=15
KURK S SKSac 18 59 40.2 +0.6
comp=Z,3.4nm,1.2s,baz=101,slow=4.8,SNR=7.5
KURK PKKPbc PKKPbc 19 05 16.1 -2.8
comp=Z,4.4nm,0.6s,baz=287,slow=3.6,SNR=22
KURK Kurchatov 102.95 319 *e*Pdif Pdif 18 49 19.5 -1.2
comp=Z,4.2nm,0.9s
KURK *e*PKPdf PKiKP 18 53 27.8 -12
KURK *e*PKKP PKKPbc 19 05 13.9 -5.0

KURK Kurchatov 102.95 319 *e*P Pdif 18 49 19.5 -1.2
KURK pmax pmax
comp=Z,4.0nm,0.9s
AAK Ala-Archa 104.25 311 PKiKP PKiKP 18 53 41.6 -0.6
comp=Z,1.3nm,0.5s,baz=169,slow=5.2,SNR=2.4
AAK PKKPbc PKKPbc 19 05 14.3 -0.5
comp=Z,3.9nm,0.6s,baz=172,slow=3.2,SNR=8.8
AAK Ala-Archa 104.25 311 *e*PP PP 18 53 48.8 +1.0
EKS2 Erkin-Say 104.78 311 *e*PP PP 18 53 46.0 -5.6
ECSD EROS Data Cent 105.14 48 *e*PKPdf PKiKP 18 53 39.6 -4.2
ULM Lac du Bonnet 106.56 42 PKiKP PKiKP 18 53 43.8 -2.4
comp=Z,7.7nm,0.5s,baz=278,slow=2.1,SNR=16
ULM SKiKP 18 57 01.8
comp=Z,9.0nm,1.1s,baz=317,slow=4.6,SNR=3.6
ULM Lac du Bonnet 106.56 42 *e*PKPdf PKiKP 18 53 43.5 -2.7
KBL Kabul 107.11 302 *e*PKPdf PKiKP 18 53 47.2 -0.6
KKAR Karatay Array 107.22 311 *e*Pdif Pdif 18 49 39.3 -0.3
comp=Z,1.3nm,0.7s
KKAR *e*PKPdf PKiKP 18 53 46.7 -1.0
KKAR Karatay Array 107.22 311 *e*P Pdif 18 49 39.3 -0.4
KKAR pmax pmax
comp=Z,1.0nm,0.7s
TRQA Tornquist 107.53 140 *e*PP PP 18 54 11.7 +0.7
RES Resolute Bay 108.15 16 PKKPbc PKKPbc 19 05 00.6 -3.2
comp=Z,3.6nm,0.7s,baz=112,slow=1.4,SNR=9.0
RES Resolute Bay 108.15 16 *e*PKPdf PKiKP 18 53 47.0 -1.6
BVAR Borovoye Array 108.32 321 PKiKP PKiKP 18 53 48.9 -0.6
comp=Z,5.5nm,0.5s,baz=142,slow=1.0,SNR=19
BVAR PKKPbc PKKPbc 19 05 01.4 -1.2
comp=Z,1.0nm,0.4s,baz=302,slow=2.7,SNR=8.5
BVAR Borovoye Array 108.32 321 PKPdf PKiKP 18 53 48.9 -0.6
BVAR PKKPbc PKKPbc 19 05 01.4 -1.2
FCC Fort Churchill 108.33 33 *e*PKPdf PKiKP 18 53 46.4 -2.9
BRVK Borovoye 108.38 321 *e*PKPdf PKiKP 18 53 48.8 -0.7
JTS JuntasAbangare 108.70 85 *e*PP PP 18 54 18.9 -2.1
COWI Conover 110.68 47 *e*PKPdf PKiKP 18 53 51.7 -2.5
OTAV Otavalo 112.10 97 *e*PKiKP PKiKP 18 54 02.4 +4.6
OTAV *e*PP PP 18 54 54.3 +8.9
SVE Sverdlovsk 113.91 325 *i* PKIKP PKiKP 18 53 59.5 -0.4
SVE *e* 19 00 30.4
SVE *e* 19 04 16.4
SVE *e* 19 10 26.9
SVE pmax pmax
comp=Z,36nm,1.2s
ABKAR Akbulak array 114.83 317 *e*PKiKP PKiKP 18 54 01.5 -0.4
ACSO Alum Creek Sta 114.92 53 *e*PKiKP PKiKP 18 54 01.2 -1.2
ARU Arti 115.09 325 *e*PKiKP PKiKP 18 54 01.2 -1.0
ARU *e*PKKPbc PKKPbc 19 04 37.5 -2.9
ARU Arti 115.09 325 *i* PKIKP PKPdf 18 54 01.3 -0.9
ARU 19 00 28.9
ARU SP SP 19 04 20.3 -2.0
LPAZ La Paz 115.10 118 Pdiff Pdif 18 50 22.6 +8.0
comp=Z,1.9nm,0.6s,baz=158,slow=1.5,SNR=3.7
LPAZ PKP PKPdf 18 54 02.9 -0.6
comp=Z,1.0nm,0.3s,baz=175,slow=2.7,SNR=3.9
LPAZ PP PP 18 55 09.8 +3.7
comp=Z,4.0nm,0.9s,baz=246,slow=4.4,SNR=4.3
LPAZ La Paz 115.10 118 Pdif Pdif 18 50 22.6 +8.0
LPAZ *e*PKiKP PKiKP 18 53 59.5 -4.0
LPAZ PKP PKPdf 18 54 02.9 -0.6
LPAZ PP PP 18 55 09.8 +3.7
LPAZ La Paz 115.10 118 P Pdif 18 50 22.7 +8.0
LPAZ 18 54 02.9
LPAZ 18 55 09.8
LPAZ pmax pmax
comp=Z,2.0nm,0.6s
LPAZ pmax pmax
comp=Z,1.0nm,0.3s
LPAZ pmax pmax
comp=Z,4.0nm,0.9s
SOKR Solikamsk 115.57 328 ⇓ *i*PKIKP PKPdf 18 54 03.5 +0.5
SOKR SP SP 19 04 25.7 -0.7
SOKR pmax pmax
comp=Z,70nm,1.1s
SOKR MLR MLR
comp=Z,1μm,20.0s
BSY Bisya 115.63 287 ⇓ PKPdf PKPdf 18 54 03.1 -1.2
SNR=28
KMSC Kings Mountain 116.01 59 ⇑ Pdiff PKPdf 18 54 04.0 -0.7
baz=116
AKTK Aktyubinsk 116.01 318 PKP PKPdf 18 54 03.4 -0.8
AKTK SKP 18 57 18.2
AKTK PKKPbc PKKPbc 19 04 35.2 -1.8
AKTO Aktyubinsk 116.01 318 PKP PKPdf 18 54 03.4 -0.8
comp=Z,23nm,0.5s,baz=103,slow=4.1,SNR=41
AKTO SKP 18 57 18.2
comp=Z,4.8nm,0.5s,baz=129,slow=3.0,SNR=4.0
AKTO PKKPbc PKKPbc 19 04 35.2 -1.7
comp=Z,2.9nm,0.5s,baz=250,slow=4.3,SNR=15
AKTO Aktyubinsk 116.01 318 PKIKP PKPdf 18 54 03.4 -0.8
AKTO 19 04 35.2
AKTO pmax pmax
comp=Z,23nm,0.5s
AKTO pmax pmax
comp=N,5.0nm,0.5s
AKTO pmax pmax
comp=Z,3.0nm,0.5s
ASHO Ashiyiah 116.93 289 ⇓ PKPdf PKPdf 18 54 05.6 -1.1
SNR=15
KBS Kingsbay 117.17 355 *e*P PKPdf 18 54 05.2 -0.5
ERPA Erie 117.19 51 *e*PKPdf PKPdf 18 54 06.5 -0.2
ROSC El Rosal 117.41 93 PKP PKPdf 18 54 08.0 0.0
comp=Z,22nm,0.8s,baz=285,slow=22,SNR=7.6
ROSC El Rosal 117.41 93 *e*PKPdf PKPdf 18 54 10.1 +2.1
SPITS Spitsbergen Ar 117.43 354 PKP PKPdf 18 54 05.0 -1.2
comp=Z,24nm,0.5s,baz=48,slow=2.9,SNR=69
SPITS SKP 18 57 21.1
comp=Z,8.0nm,0.8s,baz=58,slow=4.8,SNR=3.1
SPITS PKKPbc PKKPbc 19 04 32.2 -0.5
comp=Z,4.2nm,0.6s,baz=160,slow=7.7,SNR=8.6
SPITS Spitsbergen Ar 117.43 354 PKP PKPdf 18 54 05.0 -1.2
SPITS SKP 18 57 21.1
SPITS PKKPbc PKKPbc 19 04 32.2 -0.5
SPITS Spitsbergen Ar 117.43 354 PKIKP PKPdf 18 54 05.0 -1.2
SPITS pmax pmax
comp=Z,24nm,0.5s
SPITS pmax pmax
comp=N,8.0nm,0.8s
SPITS pmax pmax
comp=Z,4.0nm,0.6s
SPB4 Spitsbergen Ar 117.43 354 *e*PKPdf PKPdf 18 54 05.6 -0.6
RBK Rabkut 117.53 281 ⇓ PKPdf PKPdf 18 54 07.5 -0.5
SNR=16
CPUP Villa Florida 117.99 133 PKP PKPdf 18 54 08.0 -0.8
comp=Z,2.7nm,0.6s,baz=170,slow=1.7,SNR=12
CPUP PP PP 18 55 23.5 -2.1
comp=Z,0.6nm,0.3s,baz=218,slow=4.8,SNR=3.8
CPUP PKKPbc PKKPbc 19 04 27.5 -2.0
comp=Z,0.3nm,0.4s,baz=312,slow=12,SNR=3.0
CPUP PKKP PKKPbc 19 04 57.0 +27
comp=Z,1.3nm,0.6s,baz=10,slow=6.4,SNR=4.3
CPUP Villa Florida 117.99 133 PKP PKPdf 18 54 08.0 -0.8
CPUP PP PP 18 55 23.5 -2.1
CPUP PKKPbc PKKPbc 19 04 27.5 -2.0
CPUP PKKP PKKPbc 19 04 57.0 +27
CPUP Villa Florida 117.99 133 PKIKP PKPdf 18 54 08.0 -0.8
CPUP 18 55 23.5
CPUP pmax pmax
comp=Z,3.0nm,0.6s
CPUP pmax pmax
comp=Z,1.0nm,0.3s
CPUP pmax pmax
comp=Z,1.0nm,0.6s
ABTO Aybut 118.36 281 ⇓ PKPdf PKPdf 18 54 09.0 -0.7
SNR=10
SSPA Standing Stone 118.81 53 *e*PKPdf PKPdf 18 54 08.3 -1.6
SDMD Soldier's Deli 119.65 54 *e*PKPdf PKPdf 18 54 10.1 -1.5
GTBY Guantanamo Bay 119.98 77 *e*PKPdf PKPdf 18 54 11.9 -0.8
MVL Millersville 120.00 53 *e*PKPdf PKPdf 18 54 11.2 -1.0
BINY Binghamton 120.16 51 *e*PKPdf PKPdf 18 54 11.1 -1.3
DAG Danmarks Havn 120.22 2 *i* PKIKP PKPdf 18 54 09.7 -1.9
DAG Danmarks Havn 120.22 2 *i* P PKPdf 18 54 09.7 -1.9
comp=Z,26nm,0.8s
MSNY Massena 120.72 48 *e*PKPdf PKPdf 18 54 09.1 -4.3
LONY Lake Ozonia 120.96 48 *e*PKPdf PKPdf 18 54 12.3 -1.6
NCB Newcomb 121.29 49 *e*PKPdf PKPdf 18 54 13.3 -1.2
BRNJ Basking Ridge 121.33 53 *e*PKPdf PKPdf 18 54 11.7 -3.0
LVZ Lovozero 121.42 341 *e*PKPdf PKPdf 18 54 13.7 -0.4
LVZ Lovozero 121.42 341 *c i*PKIKP PKPdf 18 54 17.9 +3.8
LVZ pmax pmax
comp=Z,167nm,2.5s
FRNY Flat Rock 121.64 48 *e*PKPdf PKPdf 18 54 13.8 -1.4
ACCN Adirondack Com 121.76 49 *e*PKPdf PKPdf 18 54 14.0 -1.4
PAL Palisades 121.80 52 *e*PKPdf PKPdf 18 54 15.2 -0.5
PAL Palisades 121.80 52 *e*PKIKP PKPdf 18 54 15.2 -0.4
TRY Troy 121.83 50 *e*PKPdf PKPdf 18 54 14.1 -1.5
APA Apatity 122.00 341 ⇑ *i*PKIKP PKPdf 18 54 15.0 -0.2
APA *i* 19 00 58.0
APA *i* SS SS 19 12 14.0 +1.0
APA pmax pmax
comp=Z,50nm,0.8s
SDV Santo Domingo 122.03 90 *e*PKPdf PKPdf 18 54 15.7 -1.2
MDV Middlebury 122.03 49 *e*PKPdf PKPdf 18 54 15.0 -1.0
BOSA Boshof 122.26 219 PKP PKPdf 18 54 16.3 -0.7
comp=Z,10nm,0.7s,baz=143,slow=2.1,SNR=24
BOSA PKKPbc PKKPbc 19 04 13.0 -1.0
comp=Z,3.5nm,0.7s,baz=295,slow=2.8,SNR=7.1
BOSA Boshof 122.26 219 *e*PKPdf PKPdf 18 54 17.4 +0.4
BOSA Boshof 122.26 219 PKIKP PKPdf 18 54 16.3 -0.7
BOSA pmax pmax
comp=Z,10.0nm,0.7s
BOSA pmax pmax
comp=Z,4.0nm,0.7s
KEV Kevo 122.32 345 *e*PKPdf PKPdf 18 54 15.2 -0.6
KEV Kevo 122.32 345 *e*PKIKP PKPdf 18 54 15.2 -0.6
KEV Kevo 122.32 345 *e*pkp PKPdf 18 54 13.8 -2.0
SUMG Summit 122.41 9 *e*PKPdf PKPdf 18 54 15.9 0.0
SUMG Summit 122.41 9 *e*PKIKP PKPdf 18 54 15.9 0.0
SUMG Summit 122.41 9 *i* P PKPdf 18 54 15.7 -0.2
comp=Z,23nm,1.0s
YLE Yale 122.51 52 *e*PKPdf PKPdf 18 54 16.0 -0.9
HNH Hanover 122.72 49 *e*PKPdf PKPdf 18 54 15.8 -1.5
QUA2 Belchertown 122.84 50 *e*PKPdf PKPdf 18 54 16.2 -1.3
ARCES ARCESS Array B 122.85 345 PKP PKPdf 18 54 15.9 -0.9
comp=Z,35nm,0.5s,baz=241,slow=1.2,SNR=110
ARCES PKKPbc PKKPbc 19 04 08.9 -3.6
comp=Z,4.5nm,0.7s,baz=227,slow=2.3,SNR=9.9
ARCES ARCESS Array B 122.85 345 PKPdf PKPdf 18 54 15.9 -0.9
ARCES PKKPbc PKKPbc 19 04 08.9 -3.6
ARCES ARCESS Array B 122.85 345 PKIKP PKPdf 18 54 15.9 -0.9
ARCES pmax pmax
comp=Z,35nm,0.5s
ARCES pmax pmax
comp=Z,5.0nm,0.7s
ARE0 ARCESS Array S 122.85 345 *e*PKPdf PKPdf 18 54 15.9 -0.9
LBNH Lisbon 122.90 48 *e*PKPdf PKPdf 18 54 15.8 -1.8
LBNH *e*SKP 18 57 32.4
LBNH Lisbon 122.90 48 *e*PKIKP PKPdf 18 54 15.8 -1.8
HRV Adam Dziewonsk 123.40 50 *e*PKPdf PKPdf 18 54 17.1 -1.6
HRV *e*SKP 18 57 34.5
HRV Adam Dziewonsk 123.40 50 *e*PKIKP PKPdf 18 54 17.1 -1.5
SDDR Presa de Saban 123.41 78 *e*PKPdf PKPdf 18 54 18.5 -0.8
BRYW Bryant College 123.48 51 *e*PKPdf PKPdf 18 54 17.5 -1.3
BRYW *e*SKP 18 57 33.4
WES Weston 123.59 50 *e*PKPdf PKPdf 18 54 17.0 -2.0
WES *e*SKP 18 57 33.7
WES Weston 123.59 50 *e*PKIKP PKPdf 18 54 17.0 -2.0
SCHQ Schefferville 123.62 35 PKP PKPdf 18 54 17.4 -1.3
comp=Z,31nm,0.8s,baz=240,slow=2.2,SNR=31
SCHQ Schefferville 123.62 35 *e*PKPdf PKPdf 18 54 17.5 -1.2
KTK1 Kautokeino 123.78 346 *e*P PKPdf 18 54 17.7 -0.9
KTK1 *e*P 18 54 17.9
MAK Makhachkala 124.04 311 *i* P Pdif 18 50 59.1 +4.7
MAK *i* 18 56 07.8
MAK *e* 19 01 14.2
MAK *i* SP SP 19 05 45.3 +2.2
MAK *e*PS PS 19 06 09.1 +0.9
MAK *e*SS SS 19 12 42.5 +2.0
MAK *e*SSS 19 17 18.5
MAK pmax pmax
comp=Z,119nm,0.6s
MAK MLR MLR
comp=Z,1μm,22.0s
SFJD Kangerlussuaq 124.12 17 *e*PKPdf PKPdf 18 54 17.7 -1.6
SFJD Kangerlussuaq 124.12 17 *e*PKIKP PKPdf 18 54 17.7 -1.6
SFJD Kangerlussuaq 124.12 17 *i* P PKPdf 18 54 17.6 -1.7
comp=Z,25nm,0.8s
WVL Waterville 124.45 47 *e*PKPdf PKPdf 18 54 17.9 -2.7
QRN Al-Qurain 124.52 293 *e*P PKPdf 18 54 20.8 -0.4
QRN AMb AMB 18 54 26.0
comp=Z,388nm,0.9s
LBTB Lobatse 124.64 222 PKP PKPdf 18 54 20.8 -0.8
comp=Z,13nm,0.7s,baz=166,slow=4.4,SNR=5.8
LBTB PKKPbc PKKPbc 19 04 03.5 -1.0
comp=Z,3.9nm,1.0s,baz=221,slow=3.7,SNR=5.1
LBTB Lobatse 124.64 222 *e*PKPdf PKPdf 18 54 21.3 -0.4
LBTB Lobatse 124.64 222 PKIKP PKPdf 18 54 20.8 -0.8
LBTB pmax pmax
comp=Z,13nm,0.7s
LBTB pmax pmax
comp=Z,4.0nm,1.0s
UMR Umm Al-Rimmam 124.71 294 *e*P PKPdf 18 54 20.9 -0.7
UMR AMb AMB 18 54 26.8
comp=Z,242nm,1.0s
RDF Al-Radifah 124.84 294 *e*P PKPdf 18 54 21.8 -0.1
RDF AMb AMB 18 54 27.7
comp=Z,280nm,0.9s
MIB Mutribah 125.05 295 *e*P PKPdf 18 54 21.2 -1.0
MIB AMb AMB 18 54 26.7
comp=Z,134nm,1.0s
NAY Al-Naaiem 125.12 294 *e*P PKPdf 18 54 21.6 -0.7
NAY AMb AMB 18 54 27.3
comp=Z,77nm,1.2s
RST Umm Al-Ruwaisa 125.34 294 *e*P PKPdf 18 54 21.7 -1.1
RST AMb AMB 18 54 27.6
comp=Z,48nm,0.9s
JOF Joensuu 125.52 338 *e*PKIKP PKPdf 18 54 21.3 -0.8
JOF Joensuu 125.52 338 *e*pkp PKPdf 18 54 21.3 -0.8
VRHR Novokhopersk 126.06 321 *e*PKIKP PKPdf 18 54 22.7 -0.8
VRHR pmax pmax
comp=Z,110nm,0.7s
VRHR pmax pmax
comp=N,7.0nm,0.3s
VRHR pmax pmax
comp=E,50nm,0.7s
SCO Scoresbysund 126.28 4 *i* PKIKP PKPdf 18 54 23.3 0.0
SCO pmax pmax
comp=Z,33nm,1.0s
STEI Steigen 126.41 348 *e*P PKPdf 18 54 23.0 -0.6
MOS Moscow 126.51 328 *e*PKIKP PKPdf 18 54 22.1 -2.1
MOS *e* 18 56 18.4
MOS *e* 19 01 10.7
MOS *e* 19 07 38.9
MOS pmax pmax
comp=Z,172nm,1.4s
ZEI Tsey 126.68 311 *i* PKIKP PKPdf 18 54 24.7 -0.2
ZEI pmax pmax
comp=Z,65nm,1.0s
CRPR Cabo Rojo, PR 127.19 80 *e*PKPdf PKPdf 18 54 25.0 -1.6
MPR Mayaguez 127.19 80 *e*PKPdf PKPdf 18 54 25.4 -1.1
LSP Las Mesas 127.24 80 *e*PKPdf PKPdf 18 54 26.9 +0.2
AGPR Aguadilla, PR 127.25 80 *e*PKPdf PKPdf 18 54 23.6 -3.2
KIV Kislovodsk 127.31 313 *e*PKPdf PKPdf 18 54 25.8 -0.3
KIV Kislovodsk 127.31 313 *i* PKIKP PKPdf 18 54 25.6 -0.5
KIV *e* 18 56 24.3
KIV *e* 19 01 11.3
KIV *e*PS PS 19 06 31.4 -5.3
KIV *e*SS SS 19 13 17.1 -4.0
KIV pmax pmax
comp=Z,51nm,1.1s
KIV MLR MLR
comp=Z,735nm,20.0s
OBN Obninsk 127.33 327 *e*PKPdf PKPdf 18 54 25.6 -0.1
OBN Obninsk 127.33 327 ⇑ *e*PKIKP PKPdf 18 54 26.0 +0.2
OBN *e* PP 18 56 32.7 +4.5
OBN *e*S SKSac 19 01 15.7 +3.7
OBN pmax pmax
comp=Z,183nm,1.2s
VSR Storozhevoye 127.47 322 *e*PKIKP PKPdf 18 54 25.7 -0.5
VSR *e* 19 06 10.8
VSR pmax pmax
comp=N,6.0nm,0.6s
VSR pmax pmax
comp=E,6.0nm,0.6s
VSR pmax pmax
comp=Z,60nm,0.6s
LRS Lares 127.48 80 *e*PKPdf PKPdf 18 54 25.6 -1.5
BHD Baghdad 127.49 299 *i* x PKPdf 18 54 23.0 -3.8
BHD *i* x x 18 57 20.0
BHD *ex* x 18 57 40.0
BHD *i* x x 18 58 02.0
BHD *ex* x 19 01 14.0
BHD *i* x x 19 03 04.0
AOPR Arecibo Observ 127.57 80 *e*PKPdf PKPdf 18 54 26.4 -1.0
OBIP Obispado Ponce 127.67 80 *e*PKPdf PKPdf 18 54 26.1 -1.4
CELP Cerrillos 127.70 80 *e*PKPdf PKPdf 18 54 26.9 -0.6
ICM Isla Caja Muer 127.73 80 *e*PKPdf PKPdf 18 54 26.8 -0.9
PUL Pulkovo 127.79 335 *c i*PKIKP PKPdf 18 54 27.1 +0.6
PUL pmax pmax
comp=Z,55nm,0.4s
KAF Kangasniemi 127.83 339 *e*PKIKP PKPdf 18 54 25.2 -1.3
KAF Kangasniemi 127.83 339 *e*pkp PKPdf 18 54 25.2 -1.3
KONS Konsvik 128.07 348 *e*P PKPdf 18 54 26.4 -0.4
MOR8 Moi Rana 128.07 347 *e*P PKPdf 18 54 25.9 -1.0
SJG San Juan 128.11 80 PKP PKPdf 18 54 26.6 -1.8
comp=Z,157nm,0.8s,baz=58,slow=2.9,SNR=36
SJG SKPbc 18 57 24.9
comp=Z,22nm,0.9s,baz=328,slow=1.8,SNR=8.1
SJG SKiKP 18 57 44.7
comp=Z,13nm,0.8s,baz=320,slow=3.4,SNR=3.1
SJG San Juan 128.11 80 *e*PKPdf PKPdf 18 54 26.4 -1.9
SJG *e*SKPbc 18 57 25.5
SJG San Juan 128.11 80 *e*PKIKP PKPdf 18 54 26.4 -2.0
FLOS Flostrand 128.16 348 *e*P PKPdf 18 54 27.1 +0.1
STOK Stokkvaagen 128.23 348 *e*P PKPdf 18 54 27.8 +0.7
FINES FINESS Array B 128.36 338 PKhKP PKPpre 18 54 11.4
comp=Z,2.0nm,0.8s,baz=65,slow=4.3,SNR=5.6
FINES PKP PKPdf 18 54 26.9 -0.6
comp=Z,74nm,1.0s,baz=34,slow=3.5,SNR=37
FINES SKPbc 18 57 27.1
comp=Z,19nm,0.6s,baz=70,slow=4.2,SNR=13
FINES FINESS Array B 128.36 338 PKP PKPpre 18 54 11.4
FINES PKP PKPdf 18 54 26.9 -0.6
FINES SKPbc 18 57 27.1
FINES FINESS Array B 128.36 338 PKHKP PKPpre 18 54 11.4
FINES 18 54 27.0
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES pmax pmax
comp=Z,74nm,1.0s
FINES pmax pmax
comp=N,19nm,0.6s
HUMP Col San Antoni 128.40 80 *e*PKPdf PKPdf 18 54 27.3 -1.6
HUMP *e*SKPbc 18 57 27.3
CBYP Canovanas 128.41 80 *e*PKPdf PKPdf 18 54 28.3 -0.6
CBYP *e*SKP 18 57 27.6
KMBO Kilima Mbogo 128.61 254 PKP PKPdf 18 54 29.8 +0.3
comp=N,8.5nm,0.8s,baz=179,slow=24,SNR=16
KMBO SKPbc 18 57 32.2
comp=N,1.4nm,0.2s,baz=360,slow=24,SNR=3.4
KMBO Kilima Mbogo 128.61 254 *e*PKPdf PKPdf 18 54 29.6 +0.1
KMBO *e*SKPbc 18 57 35.9
KMBO Kilima Mbogo 128.61 254 PKPdf PKPdf 18 54 29.8 +0.3
KMBO pmax pmax
comp=Z,9.0nm,0.9s
KMBO pmax pmax
comp=N,1.0nm,0.2s
MTP Monte Pirata 128.67 80 *e*PKPdf PKPdf 18 54 27.8 -1.7
MTP *e*SKP 18 57 28.3
STVI Saint Thomas 129.27 80 *e*PKPdf PKPdf 18 54 27.9 -2.7
STVI *e*SKPbc 18 57 28.9
LSZ Lusaka 129.28 233 *e*PKPdf PKPdf 18 54 30.9 +0.2
LSZ *e*SKPbc 18 57 33.0
LSZ Lusaka 129.28 233 *e*PKIKP PKPdf 18 54 30.9 +0.2
SOC Sochi 129.49 313 *c i*PKIKP PKPdf 18 54 31.6 +1.4
SOC *e* 18 56 40.8
SOC *e* 19 01 20.0
SOC pmax pmax
comp=Z,37nm,1.1s
NRS Narsarsuaq 129.86 21 *i* P PKPdf 18 54 23.3 -7.1
comp=Z,33nm,1.0s
NSS Namsos 130.02 347 *e*P PKPdf 18 54 30.0 -0.6
FURI Furi 130.50 267 *e*PKPdf PKPdf 18 54 37.0 +3.9
ANN Anapa 130.72 315 *i* PKIKP PKPdf 18 54 32.8 +0.3
ANN *i* 18 56 48.9
ANN *e*PPP 18 59 37.6
ANN *e*SS SS 19 14 04.0 +1.1
ANN pmax pmax
comp=Z,76nm,1.6s
GRGR Grenville 131.37 89 *e*PKPpre PKPpre 18 54 28.4
GRGR *e*PKPdf PKPdf 18 54 33.0 -1.7
KEMA Kemaliye 131.40 308 *e*P PKPdf 18 54 36.1 +2.1
MIGM Minsk 131.96 330 *e*P PKPdf 18 54 35.0 +0.4
BORG Borgarnes 131.96 6 PKP PKPdf 18 54 35.0 +0.7
comp=Z,31nm,1.0s,baz=347,slow=1.7,SNR=3.9
BORG SKPbc SKPbc 18 57 40.2 -0.2
comp=Z,110nm,1.0s,baz=312,slow=1.0,SNR=9.2
BORG Borgarnes 131.96 6 PKP PKPdf 18 54 35.0 +0.7
BORG SKPbc SKPbc 18 57 40.2 -0.2
BORG Borgarnes 131.96 6 PKIKP PKPdf 18 54 35.0 +0.7
BORG pmax pmax
comp=Z,31nm,1.0s
BORG pmax pmax
comp=N,110nm,1.0s
IZAR Zarasai 131.96 332 *e*P PKPdf 18 54 34.6 0.0
IZAR AMB AMB 18 54 40.2
comp=Z,32nm,1.2s
MNK Minsk 131.98 330 *e*PKIKP PKPdf 18 54 35.0 +0.4
IDID Didziasalis 132.01 332 *e*P PKPdf 18 54 34.4 -0.2
IDID AMB AMB 18 54 40.4
comp=Z,37nm,1.0s
AKCD Akcadag 132.03 306 ⇓ *i*P PKPdf 18 54 39.4 +4.2
TBG Guadaloupe-3 132.05 84 *e*P PKPdf 18 54 35.9 0.0
ISAL Salakas 132.13 332 *e*P PKPdf 18 54 34.8 -0.1
ISAL AMB AMB 18 54 40.6
comp=Z,26nm,1.0s
IIGN Ignalina 132.22 332 *e*P PKPdf 18 54 35.0 0.0
IIGN AMB AMB 18 54 40.9
comp=Z,53nm,0.9s
NACGM Naroch 132.24 331 *e*P PKPdf 18 54 32.0 -3.1
FDF Fort de France 132.34 85 *e*PKPdf PKPdf 18 54 32.4 -4.1
FDF *e*SKP 18 57 41.1
FDF Fort de France 132.34 85 *e*PKIKP PKPdf 18 54 32.4 -4.0
FDF Fort de France 132.34 85 *e*P PKPdf 18 54 36.0 -0.5
ERBA Erbaa 132.36 310 *e*P PKPdf 18 54 33.1 -2.7
BIM Bigot 132.38 86 *e*P PKPdf 18 54 37.6 +1.1
MOL Molde 132.68 348 *e*P PKPdf 18 54 35.2 -0.5
SIM Simferopol' 132.89 316 *i* PKIKP PKPdf 18 54 38.0 +1.4
SIM *e* 19 01 23.0
SIM pmax pmax
comp=Z,31nm,0.8s
KUZU Kuzuini 133.00 305 *e*P PKPdf 18 54 37.6 +0.5
NB2 NORSAR Subarra 133.22 345 PKPdf PKPdf 18 54 36.8 0.0
comp=Z,38nm,1.1s,baz=31,slow=1.9
NB2 NORSAR Subarra 133.22 345 PKPdf PKPdf 18 54 36.8 0.0
baz=31,slow=1.9
NOA NORSAR Array B 133.22 345 PKhKP PKPpre 18 54 23.3
comp=Z,1.2nm,0.6s,baz=14,slow=4.1,SNR=6.1
NOA PKP PKPdf 18 54 36.6 -0.2
comp=Z,18nm,0.7s,baz=34,slow=2.0,SNR=30
NOA SKPbc SKPbc 18 57 44.4 -0.5
comp=Z,75nm,1.0s,baz=32,slow=2.7,SNR=23
NOA NORSAR Array B 133.22 345 PKP PKPpre 18 54 23.3
NOA PKP PKPdf 18 54 36.6 -0.2
NOA SKPbc SKPbc 18 57 44.4 -0.5
NOA NORSAR Array B 133.22 345 PKHKP PKPpre 18 54 23.3
NOA 18 54 36.6
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA pmax pmax
comp=Z,18nm,0.7s
NOA pmax pmax
comp=N,75nm,1.0s
HFS Hagfors 133.34 343 PKhKP PKPpre 18 54 21.4
comp=N,4.2nm,0.8s,baz=74,slow=5.4,SNR=10
HFS PKP PKPdf 18 54 36.0 -1.0
comp=N,17nm,0.7s,baz=94,slow=2.0,SNR=13
HFS SKPbc SKPbc 18 57 44.6 -0.8
comp=N,56nm,0.9s,baz=72,slow=4.8,SNR=24
HFS Hagfors 133.34 343 PKP PKPpre 18 54 21.4
HFS PKP PKPdf 18 54 36.0 -1.0
HFS SKPbc SKPbc 18 57 44.6 -0.8
HFS Hagfors 133.34 343 PKHKP PKPpre 18 54 21.4
HFS 18 54 36.0
HFS pmax pmax
comp=Z,4.0nm,0.8s
HFS pmax pmax
comp=Z,17nm,0.7s
HFS pmax pmax
comp=N,56nm,0.9s
AKASG Malin Array Be 133.34 325 PKhKP PKPpre 18 54 20.5
comp=N,1.6nm,0.6s,baz=53,slow=3.9,SNR=9.5
AKASG PKP PKPdf 18 54 36.6 -0.7
comp=N,5.3nm,0.5s,baz=54,slow=2.2,SNR=7.1
AKASG SKPbc SKPbc 18 57 45.3 -0.3
comp=N,17nm,0.6s,baz=47,slow=3.6,SNR=18
AKASG SKKPbc 19 07 03.4
comp=N,0.9nm,0.6s,baz=252,slow=5.6,SNR=5.1
AKASG Malin Array Be 133.34 325 PKP PKPpre 18 54 20.5
AKASG PKP PKPdf 18 54 36.6 -0.7
AKASG SKPbc SKPbc 18 57 45.3 -0.3

AKASG SKKPbc 19 07 03.4
AKASG Malin Array Be 133.34 325 PKHKP PKPpre 18 54 20.5
AKASG 18 54 36.6
AKASG 19 07 03.4
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG pmax pmax
comp=N,17nm,0.6s
AKASG pmax pmax
comp=N,1.0nm,0.6s
AKBB Malin Array Si 133.34 325 *e*PKPdf PKPdf 18 54 35.5 -1.8
AKBB *e*SKP 18 57 44.7
AKBB Malin Array Si 133.34 325 *e*PKIKP PKPdf 18 54 35.5 -1.8
KIEV Kiev 133.36 325 *e*PKPdf PKPdf 18 54 36.0 -1.3
KIEV *e*SKP 18 57 44.6
KIEV Kiev 133.36 325 *e*PKIKP PKPdf 18 54 36.1 -1.2
NC602 NORSAR Array S 133.40 345 *e*P PKPdf 18 54 37.0 -0.1
ANDN Andirin 133.40 306 ⇓*i*P PKPdf 18 54 40.1 +2.3
NAO01 NORSAR Array S 133.47 345 *e*PKPdf PKPdf 18 54 31.7 -5.5
NAO01 *e*SKP 18 57 44.9
CTKT Corum 133.82 310 *e*P PKPdf 18 54 37.4 -1.1
ASF Jabal al Asfar 133.87 298 PKP PKPdf 18 54 39.4 +0.5
comp=N,20nm,0.9s,baz=31,slow=2.0,SNR=10
ASF PP PP 18 57 10.5 -1.0
comp=N,0.9nm,0.4s,baz=22,slow=17,SNR=3.0
ASF SKPbc SKPbc 18 57 48.8 +0.7
comp=N,14nm,1.0s,baz=285,slow=2.1,SNR=6.8
ASF SKKPbc 19 06 59.1
comp=N,1.8nm,0.7s,baz=232,slow=10,SNR=3.0
ASF Jabal al Asfar 133.87 298 PKP PKPdf 18 54 39.4 +0.5
ASF PP PP 18 57 10.5 -1.0
ASF SKPbc SKPbc 18 57 48.8 +0.7
ASF SKKPbc 19 06 59.1
ASF Jabal al Asfar 133.87 298 PKIKP PKPdf 18 54 39.4 +0.5
ASF 18 57 10.5
ASF pmax pmax
comp=Z,20nm,0.9s
ASF pmax pmax
comp=Z,1.0nm,0.4s
ASF pmax pmax
comp=N,15nm,1.0s
ASF pmax pmax
comp=N,2.0nm,0.7s
TSUM Tsumeb 133.92 220 *e*PKPdf PKPdf 18 54 40.0 +0.6
TSUM *e*SKPbc SKPbc 18 57 50.8 +2.2
AVNT Avonos 134.26 308 *e*P PKPdf 18 54 37.6 -1.9
CDAG Cicekdag 134.40 309 *e*P PKPdf 18 54 36.5 -3.2
SUW Suwalki 134.44 332 *e*PKP PKPdf 18 54 39.9 +0.6
SUW *e*PKiKP PKiKP 18 54 41.3 +0.6
SUW *e*PP PP 18 57 48.2 +34
SUW *e*SP SP 19 07 10.4 -1.5
SUW Suwalki 134.44 332 *e*PKPdf PKPdf 18 54 34.9 -4.4
SUW *e*SKPbc SKPbc 18 57 49.5 +0.3
SUW Suwalki 134.44 332 *e*PKIKP PKPdf 18 54 39.8 +0.6
SUW *e*SP SP 19 07 10.4 -1.5
ILGA Ilgaz 134.47 311 *e*P PKPdf 18 54 40.6 +0.9
GULE Gulek 134.69 306 *e*P PKPdf 18 54 40.4 +0.1
KONO Kongsberg 134.83 345 *e*PKPdf PKPdf 18 54 39.8 -0.1
KONO *e*SKP 18 57 48.5
KONO Kongsberg 134.83 345 *e*PKIKP PKPdf 18 54 39.8 0.0
BR131 Keskin Array S 134.92 309 *e*PKPpre PKPpre 18 54 27.7
BR131 *e*PKPdf PKPdf 18 54 37.5 -3.2
BR131 *e*PP PP 18 57 17.2 -0.4
BR131 *e*SKP 18 57 50.7
BRTR Keskin Array B 134.92 309 PKhKP PKPpre 18 54 28.7
comp=N,1.4nm,0.7s,baz=112,slow=2.6,SNR=7.3
BRTR PKP PKPdf 18 54 41.1 +0.5
comp=N,3.1nm,0.7s,baz=120,slow=3.9,SNR=11
BRTR PP PP 18 57 18.4 +0.8
comp=N,13nm,1.1s,baz=96,slow=4.3,SNR=14
BRTR SKPbc SKPbc 18 57 51.0 -0.2
comp=N,9.9nm,0.9s,baz=146,slow=2.4,SNR=3.6
BRTR PKKP 19 04 25.5
comp=N,1.2nm,0.9s,baz=184,slow=3.2,SNR=3.5
BRTR SKKPbc 19 06 49.0
comp=N,1.6nm,0.9s,baz=216,slow=4.0,SNR=5.3
BRTR Keskin Array B 134.92 309 PKP PKPpre 18 54 28.7
BRTR PKP PKPdf 18 54 41.1 +0.5
BRTR PP PP 18 57 18.4 +0.8
BRTR SKPbc SKPbc 18 57 51.0 -0.2
BRTR PKKP 19 04 25.5
BRTR SKKPbc 19 06 49.0
BRTR Keskin Array B 134.92 309 PKHKP PKPpre 18 54 28.7
BRTR 18 54 41.2
BRTR 18 57 18.5
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR pmax pmax
comp=Z,13nm,1.1s
BRTR pmax pmax
comp=N,10.0nm,0.9s
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR pmax pmax
comp=N,2.0nm,0.9s
MMAI Mount Meron Ar 135.00 300 PKhKP PKPpre 18 54 33.2
comp=N,1.7nm,0.5s,baz=40,slow=4.4,SNR=5.1
MMAI PKP PKPdf 18 54 41.5 +0.6
comp=N,24nm,0.7s,baz=80,slow=7.0,SNR=14
MMAI SKPbc SKPbc 18 57 51.9 +0.2
comp=N,19nm,0.7s,baz=65,slow=4.7,SNR=10
MMAI PKKP 19 04 25.1
comp=N,1.1nm,0.4s,baz=66,slow=2.0,SNR=7.8
ASK Askoy 135.05 348 *e*P PKPdf 18 54 40.6 +0.4
BER Bergen 135.11 348 *e*P PKPdf 18 54 39.5 -0.9
KIS Kishinev 135.40 321 *e*PKP PKPdf 18 54 40.0 -1.3
KIS Kishinev 135.40 321 *e*PKIKP PKPdf 18 54 40.0 -1.3
KIS *e* 18 57 19.0
KIS *i* PPS 19 09 10.0
KIS *e*SS SS 19 14 54.0 -5.0
KIS MLR MLR
comp=Z,1μm,19.0s
KIS MLR MLR
comp=N,700nm,18.0s
KIS MLR MLR
comp=E,800nm,20.0s
KIS MLR MLR
comp=Z,1μm,19.0s
EIL Elat 135.81 295 PKP PKPdf 18 54 42.9 +0.3
comp=Z,26nm,0.7s,baz=312,slow=3.5,SNR=13
EIL SKPbc SKPbc 18 57 54.9 +0.6
comp=Z,21nm,1.1s,baz=348,slow=7.4,SNR=4.5
EIL SKKPbc 19 07 00.5
comp=Z,3.8nm,0.9s,baz=324,slow=7.5,SNR=3.9
EIL Elat 135.81 295 PKP PKPdf 18 54 42.9 +0.3
EIL SKPbc SKPbc 18 57 54.9 +0.6
EIL SKKPbc 19 07 00.5
LEOM Leova 136.00 320 ⇑PKIKP PKPdf 18 54 43.0 +0.6
LEOM Leova 136.00 320 ⇑*i*P PKPdf 18 54 43.0 +0.6
LEOM Leova 136.00 320 ⇑*i*P SKPdf 18 57 55.0 -2.3
TLCR 136.24 319 ⇑PKIKP PKPdf 18 54 43.7 +0.8
TLCR 136.24 319 ⇑*i*P PKPdf 18 54 43.7 +0.8
ERMK Ermenek 136.29 305 *e*P PKPdf 18 54 31.5 -12
CSS Prodhromos 136.34 303 *e*PKPdf PKPdf 18 54 45.2 +1.8
CSS *e*SKPbc SKPbc 18 57 56.3 +0.5
CSS Prodhromos 136.34 303 P PKPdf 18 54 45.3 +1.9
SNART Snartemo 136.57 346 *e*P PKPdf 18 54 34.9 -8.2
LVV L'vov 136.61 327 *e*PKIKP PKPdf 18 54 45.5 +2.1
CFR Carcaliu 136.67 319 ⇓PKIKP PKPdf 18 54 45.7 +2.0
CFR Carcaliu 136.67 319 ⇓*i*P PKPdf 18 54 45.7 +2.0
GHRR 136.71 320 ⇑*i*P PKPdf 18 54 38.3 -5.4
TIRR Tirgusor 136.82 318 *e*PKPdf PKPdf 18 54 44.0 0.0
TIRR *e*SKPbc SKPbc 18 57 57.5 +0.7
TIRR Tirgusor 136.82 318 *e*PKIKP PKPdf 18 54 44.0 0.0
TIRR Tirgusor 136.82 318 ⇓*i*P PKPdf 18 54 32.7 -11
TESR 136.94 321 ⇑*i*P PKPdf 18 54 38.4 -5.8
TESR 136.94 321 ⇑*i*P SKPdf 18 57 57.4 -1.6
BEL Belsk 136.96 331 *e*PKP PKPdf 18 54 46.3 +2.3
BEL *e*PKiKP PKiKP 18 54 48.1 +2.2
BEL *e*PP PP 18 57 58.1 +28
BEL Belsk 136.96 331 *e*PKIKP PKPdf 18 54 46.3 +2.3
BSD Bornholm Skovb 137.00 338 *i* PKIKP PKPdf 18 54 46.9 +2.9
BSD pmax pmax
comp=Z,36nm,0.8s
BORA Eskisehir 137.20 311 *e*P PKPdf 18 54 44.9 +0.1
BUR08 Bucovina Ar. S 137.20 323 *e*PKPpre PKPpre 18 54 35.8
BUR08 *e*PKPdf PKPdf 18 54 44.4 -0.2
BUR08 *e*SKP 18 57 58.4
BURAR Bucovina Array 137.21 323 ⇓PKHKP PKPpre 18 54 36.3
BURAR Bucovina Array 137.21 323 ⇓*i*P PKPdf 18 54 36.3 -8.3
BURAR Bucovina Array 137.21 323 ⇓*i*P SKPdf 18 57 59.1 -0.4
VRI Vrincioaia 137.22 320 ⇑PKHKP PKPpre 18 54 37.6
VRI Vrincioaia 137.22 320 ⇑*i*P PKPdf 18 54 37.6 -7.1
VRI Vrincioaia 137.22 320 ⇓*i*P SKPdf 18 57 57.1 -2.5
PLOR Plostina 137.27 320 ⇓PKHKP PKPpre 18 54 37.1
PLOR Plostina 137.27 320 ⇓*i*P PKPdf 18 54 37.1 -7.7
PLOR Plostina 137.27 320 ⇓*i*P SKPdf 18 58 00.9 +1.2
GRER 137.30 320 ⇑*i*P PKPdf 18 54 46.7 +1.8
COP Copenhagen 137.39 340 *i* PKIKP PKPdf 18 54 48.2 +3.5
COP pmax pmax
comp=Z,46nm,0.8s
COP Copenhagen 137.39 340 *i* P PKPdf 18 54 48.2 +3.5
comp=Z,46nm,0.8s
KWP Kalwaria Pacla 137.41 327 *e*PKP PKPdf 18 54 46.5 +1.5
KWP *e*PKiKP PKiKP 18 54 49.4 +2.5
KWP *e*PP PP 18 57 58.9 +26
KWP Kalwaria Pacla 137.41 327 *e*PKPpre PKPpre 18 54 35.6
KWP *e*PKPdf PKPdf 18 54 46.5 +1.6
KWP *e*SKP 18 57 54.0
KWP Kalwaria Pacla 137.41 327 *e*PKIKP PKPdf 18 54 46.5 +1.6
KWP Kalwaria Pacla 137.41 327 ⇓*i*P PKPdf 18 54 36.4 -8.5
KWP Kalwaria Pacla 137.41 327 ⇓*i*P SKPdf 18 57 49.8 -10
GKP Gorka Klasztor 137.51 335 *e*PKP PKPdf 18 54 47.1 +2.1
GKP *e*PKiKP PKiKP 18 54 50.1 +3.2
GKP *e*PP PP 18 57 58.9 +26
GKP *e*SP SP 19 07 18.9 -19
GKP Gorka Klasztor 137.51 335 *e*PKIKP PKPdf 18 54 47.1 +2.1
ISR Istrita 137.69 320 ⇓*i*P SKPdf 18 57 57.7 -2.7
MUD Monsted U'grnd 137.73 343 *e*PKIKP PKPdf 18 54 47.7 +2.4
MUD pmax pmax
comp=Z,26nm,0.9s
MUD Monsted U'grnd 137.73 343 *i* P PKPdf 18 54 47.7 +2.4
comp=Z,26nm,0.9s
LLD Lille Linde 137.75 340 *i* P PKPdf 18 54 46.9 +1.5
comp=Z,36nm,0.8s
LLD Lille Linde 137.75 340 *i* P SKPdf 18 58 00.2 0.0
comp=Z,43nm,1.0s
MLR Muntele Rosu 137.88 320 PKhKP PKPpre 18 54 36.9
comp=Z,1.3nm,0.7s,baz=190,slow=2.5,SNR=6.6
MLR PKP PKPdf 18 54 45.1 -0.8
comp=Z,8.3nm,1.1s,baz=23,slow=5.4,SNR=14
MLR SKPbc SKPbc 18 57 59.9 0.0
comp=Z,18nm,1.2s,baz=40,slow=2.3,SNR=8.2
MLR SKKPbc 19 06 47.3
comp=Z,1.1nm,0.9s,baz=151,slow=7.6,SNR=3.4
MLR Muntele Rosu 137.88 320 PKP PKPpre 18 54 36.9
MLR PKP PKPdf 18 54 45.1 -0.8
MLR SKPbc SKPbc 18 57 59.9 0.0
MLR SKKPbc 19 06 47.3
MLR Muntele Rosu 137.88 320 PKHKP PKPpre 18 54 36.9
MLR 18 54 45.1
MLR pmax pmax
comp=Z,1.0nm,0.7s
MLR pmax pmax
comp=Z,8.0nm,1.1s
MLR pmax pmax
comp=N,18nm,1.3s
MLR pmax pmax
comp=N,1.0nm,1.0s
MLR Muntele Rosu 137.88 320 ⇓*i*P PKPdf 18 54 37.0 -8.9
MLR Muntele Rosu 137.88 320 ⇓*i*P SKPdf 18 58 00.0 -0.7
DOPR Dopca 137.97 321 ⇓*i*P PKPdf 18 54 41.0 -5.1
DOPR Dopca 137.97 321 ⇓*i*P SKPdf 18 58 00.8 -0.1
PRD Provadia 138.03 317 *e*P PKPdf 18 54 48.7 +2.4
PRD Provadia 138.03 317 *e*P PKPdf 18 54 48.7 +2.4
KOLS Kolonicke sedl 138.06 327 *e*PKHKP PKPpre 18 54 37.8
KOLS *e* 18 54 45.5
KOLS Kolonicke sedl 138.06 327 *e*PKP PKPdf 18 54 37.8 -8.3
KOLS *e* 18 54 45.5
KOLS *e* 18 54 50.9
KOLS *e*SKP 18 58 00.7
SULR 138.08 319 ⇑*i*P PKPdf 18 54 46.4 +0.1
BMR Baia Mare 138.14 324 PKIKP PKPdf 18 54 50.3 +4.0
UZH Uzhgorod 138.24 326 *e*PKHKP PKPpre 18 54 35.0
UZH *i* 18 54 45.7
UZH *i* 18 55 56.0
UZH *i* 18 57 47.0
UZH *i* 19 01 38.0
UZH *i* SS SS 19 15 26.0 -6.2
STHS Stebnicka Huta 138.30 328 *e*PKIKP PKPdf 18 54 41.7 -4.9
STHS Stebnicka Huta 138.30 328 *e*PKP PKPdf 18 54 41.7 -4.9
STHS *e* 18 54 46.3
STHS *e* 18 54 51.5
STHS *e*SKP 18 58 01.4
TRPA Tarpa 138.40 326 ⇑*i*P PKPdf 18 54 40.8 -6.0
VOIR 138.45 321 ⇑PKIKP PKPdf 18 54 40.9 -6.1
VOIR 138.45 321 ⇑*i*P PKPdf 18 54 40.9 -6.1
VOIR 138.45 321 ⇑*i*P SKPdf 18 58 01.1 -0.7
OJC Ojcow 138.50 330 *e*PKPdf PKPdf 18 54 46.7 -0.2
OJC *e*PP PP 18 57 38.0 -1.2
OJC *e*SKSac SKSac 19 01 38.6 -3.0
OJC L 19 45 02.2
comp=N,1.5nm,23.0s
OJC Ojcow 138.50 330 *e*PKPdf PKPdf 18 54 44.6 -2.3
OJC *e*SKPbc SKPbc 18 58 01.9 +0.4
OJC Ojcow 138.50 330 *e*PKIKP PKPdf 18 54 46.7 -0.2
OJC *e* 18 57 38.0
OJC *e* 19 01 38.6
OJC MLR MLR
comp=Z,2μm,23.0s
CRVS Cervenica-Dubn 138.51 327 *e*PKIKP PKPdf 18 54 41.3 -5.7
CRVS Cervenica-Dubn 138.51 327 *e*PKP PKPdf 18 54 41.3 -5.7
CRVS *e* 18 54 47.9
CRVS *e* 18 54 51.4
CRVS *e*SKP 18 58 02.1
GOLH Golhisar 138.71 307 *e*P PKPdf 18 54 48.6 +0.9
NIE Niedzica 138.77 328 *e*PKP PKPdf 18 54 49.5 +2.1
NIE *i* 18 58 00.7
NIE Niedzica 138.77 328 *e*PKIKP PKPdf 18 54 49.5 +2.1
MVH1 Achvaich 138.90 354 *e*P PKPdf 18 54 44.4 -3.0
MVH1 Achvaich 138.90 354 P PKPdf 18 54 44.4 -3.0
HUMR Humele 138.95 320 ⇓*i*P PKPdf 18 54 44.3 -3.6
HUMR Humele 138.95 320 ⇑*i*P SKPdf 18 58 03.2 +0.5
AKAS Kas 138.97 306 *e*P PKPdf 18 54 45.5 -2.8
DRGR 139.09 324 ⇑PKHKP PKPpre 18 54 40.2
DRGR 139.09 324 ⇑*i*P PKPdf 18 54 40.2 -7.9
DRGR 139.09 324 ⇑*i*P SKPdf 18 58 03.0 +0.2
MCD Coleburn Disti 139.14 353 *e*P PKPdf 18 54 41.4 -6.4
MCD Coleburn Disti 139.14 353 P PKPdf 18 54 41.4 -6.4
LOT Lotru 139.21 321 ⇑*i*P PKPdf 18 54 41.6 -6.8
MME1 Meikle Cairn 139.37 353 *e*P PKPdf 18 54 43.6 -4.6
MME1 Meikle Cairn 139.37 353 P PKPdf 18 54 43.6 -4.6
MDO Dochfour 139.39 354 *e*P PKPdf 18 54 43.1 -5.2
MDO Dochfour 139.39 354 P PKPdf 18 54 43.1 -5.2
KAC Achnashellach 139.42 355 *e*P PKPdf 18 54 44.5 -3.9
KAC Achnashellach 139.42 355 P PKPdf 18 54 44.5 -3.9
RUE Ruedersdorf 139.48 336 *e*PKPdf PKPdf 18 54 53.2 +4.5
RUE *e*SKP 18 58 04.6
OKC Ostrava-Krasne 139.54 330 *e*PKIKP PKPdf 18 54 43.9 -4.9
OKC MLR MLR
comp=Z,1μm,17.6s
OKC Ostrava-Krasne 139.54 330 *e*PKPpre PKPpre 18 54 43.9
OKC *e*PKPdf PKPdf 18 54 49.4 +0.6
OKC *e*SKP 18 58 03.5
OKC *e*SKKS SKKSac 19 04 22.4 +4.0
OKC AMS AMS 19 53 10.0
comp=Z,1μm,17.6s
KPL Plockton 139.61 355 *e*P PKPdf 18 54 43.3 -5.4
KPL AMB AMB 18 54 55.2
comp=Z,101nm,2.6s
KPL Plockton 139.61 355 P PKPdf 18 54 43.3 -5.4
KPL AMB AMB 18 54 55.2
comp=Z,101nm,2.6s
KSP Ksiaz 139.68 333 *e*PKP PKPdf 18 54 43.8 -5.2
KSP *e*PKiKP PKiKP 18 54 53.2 +1.8
KSP *e*PP PP 18 58 04.9 +19
KSB Sheil Bridge 139.72 355 *e*P PKPdf 18 54 44.2 -4.7
KSB Sheil Bridge 139.72 355 P PKPdf 18 54 44.2 -4.7
DIM Dimitrovgrad 139.77 316 *i* P PKPdf 18 54 45.5 -4.0
DIM Dimitrovgrad 139.77 316 *i* P PKPdf 18 54 45.5 -4.0
MORC Moravsky Berou 139.87 331 *e*PKPdf PKPdf 18 54 43.7 -5.7
MORC *e*SKPbc SKPbc 18 58 05.9 +0.7
MORC Moravsky Berou 139.87 331 *e*PKHKP PKPpre 18 54 43.7
MORC Moravsky Berou 139.87 331 ⇑*i*P PKPdf 18 54 43.9 -5.5
MORC Moravsky Berou 139.87 331 ⇓*i*P SKPdf 18 57 58.9 -5.2
PSZ Piszkesteto 139.94 327 *e*PKPdf PKPdf 18 54 41.4 -8.2
PSZ *e*SKPbc SKPbc 18 58 09.5 +4.0
PSZ Piszkesteto 139.94 327 *e*PKHKP PKPpre 18 54 41.4
PSZ Piszkesteto 139.94 327 PKIKP PKPdf 18 54 49.3 -0.3
PSZ Piszkesteto 139.94 327 ⇑*e*PKP PKPdf 18 54 49.1 -0.5
PSZ Piszkesteto 139.94 327 ⇑*i*P PKPdf 18 54 43.6 -6.0
PSZ Piszkesteto 139.94 327 ⇑*i*P SKPdf 18 58 08.8 +4.5
DPC Dobruska-Polom 140.02 332 *e*PKPdf PKPdf 18 54 42.1 -7.6
DPC *e*SKPbc SKPbc 18 58 06.4 +0.8
DPC Dobruska-Polom 140.02 332 *e*PKHKP PKPpre 18 54 43.0
DPC *e* 18 54 49.7
DPC MLR MLR
comp=Z,1μm,21.8s
DPC Dobruska-Polom 140.02 332 *e*PKPpre PKPpre 18 54 43.0
DPC *e*PKPdf PKPdf 18 54 49.7 0.0
DPC *e*SKP 18 57 59.7
DPC *e*SKKS SKKSac 19 04 24.2 +3.0
DPC AMS AMS 19 57 50.0
comp=Z,1μm,21.8s
UPC Upice 140.04 333 *e*PKHKP PKPpre 18 54 42.0
UPC *e* 18 54 46.7
UPC Upice 140.04 333 *e*PKPpre PKPpre 18 54 42.0
UPC *e*PKPdf PKPdf 18 54 46.7 -3.0
VYHS Vyhne 140.11 328 *e*PKHKP PKPpre 18 54 43.5
VYHS *e* 18 54 49.5
VYHS Vyhne 140.11 328 *e*PKP PKPdf 18 54 43.5 -6.4
VYHS *e* 18 54 49.5
VYHS *e*SKP 18 58 05.3
VYHS *e* 18 58 19.8
KOLL Kolacno 140.27 329 *e*PKHKP PKPpre 18 54 44.5
KOLL Kolacno 140.27 329 *e*PKP PKPdf 18 54 44.5 -5.7
KOLL *e* 18 54 53.0
KOLL *e*SKP 18 58 06.6
KOLL *e* 18 58 20.6
MPEP Malo Peshtene 140.31 319 *i* P PKPdf 18 54 49.9 -0.5
MPEP Malo Peshtene 140.31 319 *i* P PKPdf 18 54 49.9 -0.5
BZS Buzias 140.38 323 ⇓PKHKP PKPpre 18 54 44.8
BZS Buzias 140.38 323 ⇓*i*P PKPdf 18 54 44.8 -5.7
BZS Buzias 140.38 323 ⇑*i*P SKPdf 18 58 05.7 +0.6
PGB Panagyurishte 140.44 317 *i* P PKPdf 18 54 52.9 +2.2
PGB Panagyurishte 140.44 317 *i* P PKPdf 18 54 52.9 +2.2
EBH Black Hill 140.47 353 *e*P PKPdf 18 54 46.1 -4.2
EBH Black Hill 140.47 353 P PKPdf 18 54 46.1 -4.2
RZN Rozhen 140.48 316 *i* P PKPdf 18 54 46.2 -4.6
RZN Rozhen 140.48 316 *i* P PKPdf 18 54 46.2 -4.6
EAB Aberfoyle 140.63 354 *e*P PKPdf 18 54 45.5 -5.1
EAB Aberfoyle 140.63 354 P PKPdf 18 54 45.5 -5.1
VRAC Vranov 140.64 331 ⇑PKHKP PKPpre 18 54 44.0
VRAC Vranov 140.64 331 ⇑*i*P PKPdf 18 54 44.0 -6.8
PVCC Panska Ves 140.65 334 *e*PKIKP PKPdf 18 54 46.0 -4.8
PVCC MLR MLR
comp=Z,1μm,23.1s
PVCC Panska Ves 140.65 334 *e*PKPpre PKPpre 18 54 46.0
PVCC *e*SKP 18 58 07.1
PVCC *e*SKKS SKKSac 19 04 25.5 +0.7
PVCC AMS AMS 19 53 10.0
comp=Z,1μm,23.1s
BRG Berggiesshubel 140.65 335 *e*PKP PKPdf 18 54 44.6 -6.2
comp=Z,15nm,1.0s
BRG *i* 18 54 52.3
comp=Z,77nm,1.1s
BRG *i* pPKP pPKPdf 18 55 29.3 -16
comp=Z,11nm,1.0s
BRG *i* 18 56 54.1
comp=Z,53nm,1.8s
BRG *i* PP PP 18 58 08.1 +16
comp=Z,127nm,1.5s
BRG *i* 19 04 25.3
comp=Z,64nm,2.2s
BRG *i* 19 07 35.0
BRG SS SS 19 16 02.0 +2.0
BRG
comp=N,1μm,17.4s
BRG
comp=E,683nm,15.0s
BRG
comp=Z,794nm,18.8s
BRG Berggiesshubel 140.65 335 *e*PKHKP PKPpre 18 54 44.6
BRG *i* 18 54 52.3
BRG SS SS 19 16 02.0 +2.0
BRG pmax pmax
comp=Z,15nm,1.0s
BRG pmax pmax
comp=Z,77nm,1.1s
BRG pmax pmax
comp=Z,11nm,1.0s
BRG pmax pmax
comp=Z,53nm,1.8s
BRG pmax pmax
comp=Z,127nm,1.5s
BRG pmax pmax
comp=Z,64nm,2.2s
BRG MLR MLR
comp=N,1μm,17.4s
BRG MLR MLR
comp=E,683nm,15.0s
BRG MLR MLR
comp=Z,794nm,18.8s
BUD Budapest 140.67 327 ⇓*e*PKP PKPdf 18 54 54.8 +3.9
ESY Stoneypath 140.69 352 *e*P PKPdf 18 54 44.8 -5.9
ESY Stoneypath 140.69 352 P PKPdf 18 54 44.8 -5.9
CLL Collm 140.70 336 *e*PKHKP PKPpre 18 54 43.0
CLL pmax pmax
comp=Z,32nm,0.8s
CLL Collm 140.70 336 *e*PKPpre PKPpre 18 54 43.0
CLL *e*(PKPdf) PKPdf 18 54 47.0 -3.9
comp=Z,30nm,0.9s
CLL *i* PKiKP PKiKP 18 54 53.9 +0.4
comp=Z,32nm,0.8s
CLL *i* 18 54 56.8
comp=Z,72nm,1.1s
CLL *e*pPKPdf pPKPdf 18 55 43.0 -2.5
CLL *i* SKPbc SKPbc 18 58 08.1 +0.7
comp=Z,110nm,1.3s
CLL *e*SKPab 18 58 19.0
CLL *e*PKSdf 18 58 27.0
CLL *e*sPP 18 59 01.0
CLL *e*pPKSdf 18 59 16.0
CLL *e* 19 00 06.0
CLL *e*sPPP 19 02 12.0
CLL *e*SKKSac SKKSac 19 04 27.0 +2.0
CLL *e*Sdif Sdif 19 06 05.0 +2.2
CLL *e*SKKPdf 19 07 29.0
CLL *e*SPP 19 09 51.0
CLL *e*sSPP 19 11 28.0
CLL *e* 19 13 12.0
CLL *e*SS SS 19 16 09.0 +8.6
CLL *e*PSS 19 17 14.0
CLL *e*sPSS 19 17 58.0
CLL *e* 19 19 35.0
CLL *e*SSS 19 21 18.0
CLL *e*(sSSS) 19 23 12.0
SMOL Smolenice 140.79 329 *e*SKP SKPdf 18 58 07.9 +2.2
SMOL *e* 18 58 24.1
EAU Auchinoon 140.86 353 *e*P PKPdf 18 54 44.7 -6.3
EAU Auchinoon 140.86 353 P PKPdf 18 54 44.7 -6.3
EBL Broad Law 140.88 352 *e*P PKPdf 18 54 44.2 -6.8
EBL Broad Law 140.88 352 P PKPdf 18 54 44.2 -6.8
PGBU Glenifferbraes 141.01 354 *e*P PKPdf 18 54 47.4 -3.9
PGBU AMB AMB 18 54 57.7
comp=Z,62nm,1.1s
PGBU Glenifferbraes 141.01 354 P PKPdf 18 54 47.4 -3.9
PGBU AMB AMB 18 54 57.7
comp=Z,62nm,1.1s
VTS Vitosha 141.03 318 P PKPdf 18 54 48.3 -3.5
VTS Vitosha 141.03 318 ⇓PKIKP PKPdf 18 54 49.2 -2.6
VTS Vitosha 141.03 318 ⇓*i*P PKPdf 18 54 49.2 -2.6
VTS Vitosha 141.03 318 ⇑*i*P SKPdf 18 58 06.0 -0.4
VTS Vitosha 141.03 318 *i* P PKPdf 18 54 48.0 -3.8
VTS Vitosha 141.03 318 *i* P PKPdf 18 54 48.0 -3.8
PRA Prague 141.05 333 PKPdf PKPpre 18 54 41.0
PRA PKPpre 18 54 46.0
PRA *ex* x 18 55 48.0
PRA *ex* x 18 57 55.0
PRA SKP 18 58 09.0
PRU Pruhonice 141.07 333 *e*PKHKP PKPpre 18 54 45.9
PRU *e* 18 54 52.3
PRU MLR MLR
comp=Z,1μm,18.7s
PRU Pruhonice 141.07 333 *e*PKPpre PKPpre 18 54 45.9
PRU *e*PKPdf PKPdf 18 54 52.3 +0.7
PRU *e*SKP 18 58 09.5
PRU *e*SKKS SKKSac 19 04 31.1 +3.8
PRU AMS AMS 19 53 00.0
comp=Z,1μm,18.7s
TREC Trest 141.16 332 *e*PKHKP PKPpre 18 54 46.2
TREC *e* 18 54 52.0
TREC MLR MLR

comp=Z,2µm,22.8s
TREC Trest 141.16 332 ePKPpre PKPpre 18 54 46.2
TREC ePKPdf PKPdf 18 54 52.0 +0.2
TREC eSKKS SKKSac 19 04 30.8 +3.0
TREC AMS AMS 19 58 30.0
comp=Z,2µm,22.8s
ZST Bratislava 141.17 329 ePKIKP PKPdf 18 54 51.1 -0.7
ZST Bratislava 141.17 329 ePKP PKPdf 18 54 51.1 -0.7
ZST eSKP 18 58 09.9
ZST e 18 58 23.8
MMB Musomiste 141.18 316 i P PKPdf 18 54 49.3 -2.8
MMB Musomiste 141.18 316 i P PKPdf 18 54 49.3 -2.8
NVR Nevrokopi 141.21 316 P PKPdf 18 54 46.1 -6.0
EKA Eskdalemuir Ar 141.33 352 PKhKP PKPpre 18 54 45.8
comp=Z,5.4nm,0.4s,baz=353,slow=2.0,SNR=29
EKA SKPbc SKPbc 18 58 08.2 -0.7
comp=Z,34nm,1.0s,baz=1.9,slow=2.5,SNR=18
EKA Eskdalemuir Ar 141.33 352 PKP PKPdf 18 54 45.8 -6.1
EKA SKPbc SKPbc 18 58 08.2 -0.7
EKA Eskdalemuir Ar 141.33 352 PKHKP PKPpre 18 54 45.8
EKA pmax pmax
comp=Z,5.0nm,0.4s
EKA pmax pmax
comp=N,34nm,1.0s
ESK Eskdalemuir 141.35 352 eP PKPdf 18 54 45.1 -6.8
ESK AMB AMB 18 54 50.4
comp=Z,30nm,1.9s
ESK Eskdalemuir 141.35 352 P PKPdf 18 54 45.1 -6.8
ESK AMB AMB 18 54 50.4
comp=Z,30nm,1.9s
ESK Eskdalemuir 141.35 352 ePKPdf PKPdf 18 54 46.4 -5.5
ESK eSKPbc SKPbc 18 58 09.1 +0.2
ESK Eskdalemuir 141.35 352 ePKHKP PKPpre 18 54 46.4
KKB Krupnik 141.47 317 i P PKPdf 18 54 49.0 -3.6
KKB Krupnik 141.47 317 i P PKPdf 18 54 49.0 -3.6
ECK Cauldkaine Hil 141.47 352 eP PKPdf 18 54 46.1 -6.0
ECK Cauldkaine Hil 141.47 352 P PKPdf 18 54 46.1 -6.0
WIT Witteveen 141.62 342 ePKP PKPdf 18 54 50.8 -1.7
comp=Z,329nm,1.6s
WIT Witteveen 141.62 342 ePKP SKPdf 18 58 11.4 +4.3
comp=Z,599nm,1.0s
XAL Allendale 141.66 351 eP PKPdf 18 54 47.9 -4.6
XAL Allendale 141.66 351 P PKPdf 18 54 47.9 -4.6
PKSM Moragy 141.68 326 ⇓PKIKP PKPdf 18 54 48.3 -4.5
PKSM Moragy 141.68 326 ⇓iP PKPdf 18 54 48.3 -4.5
PKSM Moragy 141.68 326 ⇓iP SKPdf 18 58 09.4 +2.1
SOP Sopron 141.78 329 ⇓ePKP PKPdf 18 54 51.3 -1.6
GCD Castle Douglas 141.88 353 eP PKPdf 18 54 48.2 -4.7
GCD Castle Douglas 141.88 353 P PKPdf 18 54 48.2 -4.7
KNT Kendrikon 141.93 316 P PKPdf 18 54 47.9 -5.5
GAL1 Galloway 141.97 354 eP PKPdf 18 54 48.5 -4.6
GAL1 AMB AMB 18 54 59.9
comp=Z,92nm,1.7s
GAL1 Galloway 141.97 354 P PKPdf 18 54 48.5 -4.6
GAL1 AMB AMB 18 54 59.9
comp=Z,92nm,1.7s
KESW Keswick, Cumbr 142.05 352 eP PKPdf 18 54 49.1 -4.1
KESW AMB AMB 18 55 00.4
comp=Z,62nm,2.0s
KESW Keswick, Cumbr 142.05 352 P PKPdf 18 54 49.1 -4.1
KESW AMB AMB 18 55 00.4
comp=Z,62nm,2.0s
VAY Valandovo 142.07 317 ePKP PKPdf 18 54 48.5 -5.2
KHC Kasperske Hory 142.12 333 ePKPdf PKPdf 18 54 48.6 -4.9
KHC Kasperske Hory 142.12 333 ePKHKP PKPpre 18 54 48.8
KHC e 18 54 53.0
KHC e 18 58 04.1
KHC MLR MLR
comp=Z,1µm,17.0s
KHC Kasperske Hory 142.12 333 ePKPpre PKPpre 18 54 48.8
KHC ePKPdf PKPdf 18 54 53.0 -0.5
KHC eSKP 18 58 04.1
KHC eSKKS SKKSac 19 04 33.7 +0.3
KHC AMS AMS 19 54 10.0
comp=Z,1µm,17.0s
XDE Dent Fell 142.18 352 eP PKPdf 18 54 49.0 -4.5
XDE Dent Fell 142.18 352 P PKPdf 18 54 49.0 -4.5
GERES GERESS Array B 142.28 333 PKhKP PKPpre 18 54 48.8
comp=Z,5.9nm,0.5s,baz=64,slow=2.3,SNR=35
GERES PKP PKPdf 18 54 52.5 -1.3
comp=Z,8.6nm,0.5s,baz=46,slow=1.7,SNR=34
GERES SKPbc SKPbc 18 58 11.5 0.0
comp=Z,8.4nm,0.9s,baz=66,slow=1.6,SNR=5.9
GERES SKKPbc 19 06 29.8
comp=Z,1.4nm,0.9s,baz=210,slow=4.6,SNR=3.8
GERES GERESS Array B 142.28 333 PKP PKPdf 18 54 48.8 -5.0
GERES PKP PKPdf 18 54 52.5 -1.3
GERES SKPbc SKPbc 18 58 11.5 0.0
GERES SKKPbc 19 06 29.8
GERES GERESS Array B 142.28 333 PKHKP PKPpre 18 54 48.8
GERES 18 54 52.5
GERES 18 58 11.5
GERES pmax pmax
comp=Z,6.0nm,0.5s
GERES pmax pmax
comp=Z,9.0nm,0.5s
GERES pmax pmax
comp=N,8.0nm,0.9s
GERES pmax pmax
comp=N,1.0nm,0.9s
WTSB Winterswijk 142.32 341 ePKP PKPdf 18 54 50.6 -3.1
comp=N,119nm,1.4s
NPS Neapolis 142.36 306 P PKPdf 18 54 53.6 -0.8
GRG Griva 142.36 316 P PKPdf 18 54 49.1 -5.1
SKO Skopje 142.48 318 ePKP PKPdf 18 54 51.0 -3.4
ARSA Arzberg 142.59 329 ⇑iPKPdf PKPdf 18 54 51.0 -3.3
comp=N,84nm,1.3s,SNR=21
GRFO Grafenberg 142.67 336 ePKPdf PKPdf 18 54 50.8 -3.6
GRFO ePKPdf PKPdf 18 54 51.1 -3.3
GRFO epPKPdf pPKPdf 18 55 43.6 -5.5
GRFO Grafenberg 142.67 336 ePKIKP PKPdf 18 54 50.8 -3.6
GRFO e 18 55 43.6
GMM Mts of Mourne 142.71 355 eP PKPdf 18 54 51.5 -2.8
GMM Mts of Mourne 142.71 355 P PKPdf 18 54 51.5 -2.8
LIT Litokhoron 142.71 315 P PKPdf 18 54 51.1 -3.7
MOA Molln 142.76 331 ⇓iPKPdf PKPdf 18 54 52.0 -2.7
comp=N,120nm,1.1s,SNR=38
KRUS Krusevo 142.91 317 ePKP PKPdf 18 54 51.3 -3.8
IVA Berane 142.95 320 ⇑iPKP PKPdf 18 54 53.0 -2.2
ATAL Atalanti 142.98 312 P PKPdf 18 54 51.3 -4.1
PLE Pljevlja 143.00 321 ⇑iPKP PKPdf 18 54 53.0 -2.2
LKR Lokris 143.01 312 P PKPdf 18 54 53.2 -2.2
BIA Bitola 143.04 317 ePKP PKPdf 18 54 51.6 -3.8
SIVA Sivas 143.06 306 P PKPdf 18 54 53.0 -2.6
PVY Plav 143.07 320 ⇑iPKP PKPdf 18 54 52.9 -2.5
KBI1 Birley Grange 143.10 350 eP PKPdf 18 54 51.0 -4.1
KBI1 Birley Grange 143.10 350 P PKPdf 18 54 51.0 -4.1
FNA Florina 143.12 317 P PKPdf 18 54 52.5 -3.0
BCI Bajram Curri 143.13 320 ePN PKPdf 18 54 52.6 -2.9
SOKA Soboth 143.23 329 ⇑iPKPdf PKPdf 18 54 52.4 -3.2
comp=N,80nm,0.8s
AGG Agios Georgios 143.32 313 P PKPdf 18 54 54.7 -1.2
DID Didima 143.32 311 P PKPdf 18 54 51.7 -4.3
UPM Unac-Piva 143.36 322 ⇑iPKP PKPdf 18 54 53.5 -2.4
WME Myndd Eilian 143.37 353 eP PKPdf 18 54 52.5 -3.0
WME Myndd Eilian 143.37 353 P PKPdf 18 54 52.5 -3.0
SISC Sisak 143.37 326 P PKPdf 18 54 53.9 -1.9
KWE Weaver Farm 143.39 350 eP PKPdf 18 54 52.2 -3.3
KWE Weaver Farm 143.39 350 P PKPdf 18 54 52.2 -3.3
VAM Vamos 143.40 307 P PKPdf 18 54 54.0 -2.2
PUK Puka 143.41 319 ePN PKPdf 18 54 55.0 -1.0
DSF Desfina 143.45 312 P PKPdf 18 54 52.6 -3.6
WPM1 Penmaenmawr 143.45 352 eP PKPdf 18 54 52.3 -3.4
WPM1 Penmaenmawr 143.45 352 P PKPdf 18 54 52.3 -3.4
WLF1 Llynfaes 143.48 353 eP PKPdf 18 54 53.4 -2.4
WLF1 AMB AMB 18 54 57.0
comp=Z,144nm,1.9s
WLF1 Llynfaes 143.48 353 P PKPdf 18 54 53.4 -2.4
WLF1 AMB AMB 18 54 57.0
comp=Z,144nm,1.9s
NEST Nestorio 143.52 316 P PKPdf 18 54 53.6 -2.7
NKY Niksic 143.53 321 ⇑iPKP PKPdf 18 54 53.6 -2.6
YRC Rhoscolyn 143.54 353 eP PKPdf 18 54 52.4 -3.5
YRC Rhoscolyn 143.54 353 P PKPdf 18 54 52.4 -3.5
OBKA Obir 143.59 329 ⇑iPKPdf PKPdf 18 54 53.5 -2.7
comp=Z,118nm,1.0s,SNR=33
TTG Podgorica 143.59 320 ⇑iPKP PKPdf 18 54 53.5 -2.8
KBN Korca 143.59 317 ePN PKPdf 18 54 53.2 -3.2
YLL Llanberis 143.60 353 eP PKPdf 18 54 52.7 -3.2
YLL Llanberis 143.60 353 P PKPdf 18 54 52.7 -3.2
KARN Karanos 143.62 307 P PKPdf 18 54 54.1 -2.5
HGN Heimansgroeve 143.64 341 ePKP PKPdf 18 54 53.1 -3.0
comp=Z,130nm,1.9s
HGN Heimansgroeve 143.64 341 ePKP SKPdf 18 58 11.3 +0.8
comp=Z,49nm,1.7s
TOD Tromm 143.66 338 PKP PKPdf 18 54 54.2 -2.0
TOD Tromm 143.66 338 PKIKP PKPdf 18 54 54.2 -2.0
BEBN Eben Emael 143.69 341 PKPdf PKPdf 18 54 54.9 -1.3
DLF Lyons Farm 143.69 355 eP PKPdf 18 54 53.5 -2.6
KALE Kalithea 143.73 313 P PKPdf 18 54 54.6 -2.1
MEM Membach 143.75 341 PKPdf PKPdf 18 54 54.6 -1.7
KBA Koelnbreinsper 143.75 331 ⇓iPKPdf PKPdf 18 54 52.9 -3.5
comp=Z,153nm,0.8s,SNR=39
BRY Bratogost 143.75 321 ⇑iPKP PKPdf 18 54 54.2 -2.4
GUR Goura 143.79 312 P PKPdf 18 54 54.0 -2.8
VLI Veliai 143.86 310 P PKPdf 18 54 54.2 -2.8
ULC Ulcinj 143.86 320 ⇑iPKP PKPdf 18 54 54.3 -2.5
ABH Alteburg 143.88 339 PKP PKPdf 18 54 55.1 -1.5
EFP Efpalio 143.88 313 P PKPdf 18 54 55.7 -1.2
BUM Brajici-Budva 143.89 320 ⇑iPKP PKPdf 18 54 54.7 -2.1
LAKA Lakka 143.91 312 P PKPdf 18 54 55.0 -2.0
LJU Ljubljana 143.93 329 i PKPdf PKPdf 18 54 55.0 -1.7
LJU i 18 54 56.4
LJU i PKiKP PKiKP 18 54 58.9 -1.5
LJU i SKPdf SKPdf 18 58 14.1 +3.0
LJU i SKPbc SKPbc 18 58 19.0 +3.4
LJU eSKKSac SKKSac 19 04 43.3 -0.6
BOJS Bojanci 143.93 327 i PKPdf PKPdf 18 54 55.2 -1.6
BOJS i 18 54 57.6
BOJS i PKiKP PKiKP 18 54 58.9 -1.5
BOJS i SKPdf SKPdf 18 58 14.3 +3.2
BOJS i SKPbc SKPbc 18 58 19.2 +3.6
BOJS eSKKSac SKKSac 19 04 42.1 -1.9
MYKA Terra Mystica 143.94 330 ⇑iPKPdf PKPdf 18 54 54.3 -2.5
comp=Z,224nm,1.0s
KYTH Kithira 143.96 309 P PKPdf 18 54 55.1 -2.0
VLX Vlachokerasia 144.00 311 P PKPdf 18 54 55.5 -1.7
JAN Janina 144.03 315 P PKPdf 18 54 55.7 -1.5
HLM1 Long Mynd 144.03 351 eP PKPdf 18 54 52.8 -3.9
HLM1 AMB AMB 18 54 58.2
comp=Z,116nm,1.1s
HLM1 Long Mynd 144.03 351 P PKPdf 18 54 52.8 -3.9
HLM1 AMB AMB 18 54 58.2
comp=Z,116nm,1.1s
HCY Herceg Novi 144.05 321 ⇑iPKP PKPdf 18 54 54.6 -2.5
BCLA Clavier 144.13 342 PKPdf PKPdf 18 54 55.1 -1.8
KTD Kalmit 144.16 338 PKP PKPdf 18 54 56.0 -1.1
KTD Kalmit 144.16 338 PKIKP PKPdf 18 54 56.0 -1.1
RUP Ruppelstein 144.19 339 PKP PKPdf 18 54 56.0 -1.1
RUP Ruppelstein 144.19 339 PKIKP PKPdf 18 54 56.0 -1.1
STU Stuttgart 144.20 336 ePKPdf PKPdf 18 54 55.3 -1.9
STU Stuttgart 144.20 336 ePKIKP PKPdf 18 54 55.3 -1.9
VOY Vojsko 144.25 329 ePKPdf PKPdf 18 54 55.3 -2.0
VOY e 18 58 15.9
VOY e 18 58 36.8
JAVS Javornik 144.26 329 i PKPdf PKPdf 18 54 55.8 -1.6
STON Ston 144.27 322 P PKPdf 18 54 54.6 -2.9
RLS Riolos of Patr 144.35 312 P PKPdf 18 54 56.9 -0.9
SNF Seneffe 144.36 343 PKPdf PKPdf 18 54 56.1 -1.3
WATA Walderalm 144.36 333 i PKPdf PKPdf 18 54 56.4 -1.1
comp=Z,79nm,0.6s,SNR=39
ABTA Abfaltersbach 144.38 331 ⇓iPKPdf PKPdf 18 54 55.6 -1.9
comp=Z,284nm,0.6s,SNR=94
WTTA Wattenberg 144.39 333 ⇓iPKPdf PKPdf 18 54 56.3 -1.2
comp=Z,405nm,1.0s,SNR=104
ITM Ithomi 144.41 311 P PKPdf 18 54 56.3 -1.6
IGT Igoumenitsa 144.44 315 P PKPdf 18 54 56.3 -1.6
SRN Sarande 144.49 316 ePN PKPdf 18 54 56.2 -1.8
WLF Walferdange 144.53 340 PKPdf PKPdf 18 54 57.4 -0.3
WLF Walferdange 144.53 340 ePKPdf PKPdf 18 54 56.7 -1.0
WLF eSKP 18 58 12.9
WLF Walferdange 144.53 340 ePKIKP PKPdf 18 54 56.7 -1.0
WLF e 18 58 12.9
SKDS Skadanscina 144.53 328 i PKPdf PKPdf 18 54 56.6 -1.2
LANF Langenberg 144.54 338 PKP PKPdf 18 54 57.3 -0.5
LANF Langenberg 144.54 338 PKIKP PKPdf 18 54 57.3 -0.5
LANF Langenberg 144.54 338 PKP PKPdf 18 54 57.3 -0.5
MCH1 Michaelchurch 144.55 351 AMB AMB 18 55 04.4
comp=Z,380nm,1.1s
MCH1 Michaelchurch 144.55 351 AMB AMB 18 55 04.4
comp=Z,380nm,1.1s
MOTA Moosalm 144.56 333 ⇑iPKPdf PKPdf 18 54 56.7 -1.1
comp=Z,539nm,0.9s,SNR=240
GIVF Givet 144.56 342 ePKP1 PKPdf 18 54 56.6 -1.1
comp=Z,148nm,0.8s
GIVF Givet 144.56 342 ePKP PKPdf 18 54 56.6 -1.1
GIVF Givet 144.56 342 ePKIKP PKPdf 18 54 56.6 -1.1
ELSH Elham, Standar 144.58 346 eP PKPdf 18 54 52.1 -5.6
ELSH AMB AMB 18 55 01.5
comp=Z,401nm,1.1s
ELSH Elham, Standar 144.58 346 P PKPdf 18 54 52.1 -5.6
ELSH AMB AMB 18 55 01.5
comp=Z,401nm,1.1s
LKD2 Lefkada island 144.58 314 P PKPdf 18 54 57.2 -0.9
RETA Reutte 144.59 334 ⇑iPKPdf PKPdf 18 54 57.0 -0.9
comp=Z,474nm,1.1s,SNR=63
DOU Dourbes 144.63 342 PKPdf PKPdf 18 54 57.1 -0.8
PYL PYLOS 144.66 310 P PKPdf 18 54 56.7 -1.7
KEK Kerkira 144.71 316 P PKPdf 18 54 57.7 -0.6
BAIF Baives 144.78 342 ePKP1 PKPdf 18 54 57.5 -0.6
comp=Z,671nm,1.1s
BAIF Baives 144.78 342 ePKP PKPdf 18 54 57.5 -0.6
BAIF Baives 144.78 342 ePKIKP PKPdf 18 54 57.5 -0.6
KFL Anninata 144.81 313 P PKPdf 18 54 58.0 -0.6
SWN1 Swindon 144.83 349 eP PKPdf 18 54 53.4 -4.7
SWN1 AMB AMB 18 55 02.2
comp=Z,1µm,1.4s
SWN1 Swindon 144.83 349 P PKPdf 18 54 53.4 -4.7
SWN1 AMB AMB 18 55 02.2
comp=Z,1µm,1.4s
HGH Gray Hill 144.87 351 eP PKPdf 18 54 56.4 -1.8
HGH Gray Hill 144.87 351 P PKPdf 18 54 56.4 -1.8
BFO Black Forest 144.89 337 ePKPdf PKPdf 18 54 57.9 -0.5
BFO Black Forest 144.89 337 ePKIKP PKPdf 18 54 57.9 -0.5
SPAK Spaichingen-Ko 144.91 336 PKP PKPdf 18 54 58.1 -0.3
WOL Wolverton 144.91 349 eP PKPdf 18 54 53.5 -4.9
WOL AMB AMB 18 55 02.1
comp=Z,718nm,2.1s
WOL Wolverton 144.91 349 P PKPdf 18 54 53.5 -4.9
WOL AMB AMB 18 55 02.1
comp=Z,718nm,2.1s
FETA Feichten 144.97 333 ⇑iPKPdf PKPdf 18 54 58.2 -0.4
comp=Z,860nm,1.0s,SNR=355
DAVA Damuels 145.12 334 ⇑iPKPab PKPab 18 54 58.9 -0.1
comp=Z,746nm,0.9s,SNR=156
CDF Champ du Feu 145.21 338 ePKP1 PKPbc 18 54 59.0 0.0
comp=Z,2µm,1.3s
CDF Champ du Feu 145.21 338 ePKP PKPdf 18 54 59.0 +0.1
CDF Champ du Feu 145.21 338 ePKP2 PKPab 18 54 59.0 -0.3
VAL Valentia 145.25 359 ⇑iP PKPdf 18 54 57.9 -1.0
LIBD Limburg 145.31 337 PKP PKPdf 18 54 59.6 +0.5
LIBD Limburg 145.31 337 PKP2 PKPab 18 54 59.6 -0.1
FELD Feldberg im Sc 145.39 337 PKP PKPdf 18 54 59.6 +0.4
ECH Echery 145.42 338 ePKPdf PKPdf 18 54 58.0 -0.6
ECH eSKP 18 58 16.8
ECH Echery 145.42 338 ePKIKP PKPdf 18 54 58.7 -0.6
ECH e 18 58 16.8
ECH Echery 145.42 338 PKP PKPdf 18 54 59.4 +0.1
DAVOX Davos/Dischmat 145.52 334 PKPbc PKPbc 18 55 00.2 +0.2
comp=Z,295nm,0.6s,baz=317,slow=0.4,SNR=196
DAVOX SKPbc SKPbc 18 58 18.9 -0.3
comp=Z,26nm,0.9s,baz=3.3,slow=4.9,SNR=3.6
DAVOX Davos/Dischmat 145.52 334 PKPbc PKPbc 18 55 00.2 +0.2
DAVOX SKPbc SKPbc 18 58 18.9 -0.3
DAVOX Davos/Dischmat 145.52 334 PKP2 PKPab 18 55 00.2 -0.3
DAVOX 18 58 18.9
HEX Exmoor 145.58 351 eP PKPdf 18 54 57.6 -1.8
HEX Exmoor 145.58 351 P PKPdf 18 54 57.6 -1.8
MOF Molkenrain 145.74 337 PKP PKPdf 18 55 00.7 +0.9
MOF Molkenrain 145.74 337 PKP2 PKPab 18 55 00.7 -0.6
MOF Molkenrain 145.74 337 PKP PKPdf 18 55 00.7 +0.9
HTL Hartland 145.74 352 eP PKPdf 18 54 56.1 -3.7
HTL AMB AMB 18 55 05.0
comp=Z,581nm,1.5s
HTL Hartland 145.74 352 P PKPdf 18 54 56.1 -3.7
HTL AMB AMB 18 55 05.0
comp=Z,581nm,1.5s
THEF They Montfort 145.82 339 PKP PKPdf 18 55 00.9 +0.9
THEF They Montfort 145.82 339 PKP2 PKPab 18 55 00.9 -0.7
THEF They Montfort 145.82 339 PKP PKPdf 18 55 00.9 +0.9
HINF Hinteralfeld 145.87 338 ePKP1 PKPbc 18 55 00.7 -0.3
comp=Z,408nm,1.0s
HINF Hinteralfeld 145.87 338 ePKP PKPdf 18 55 00.7 +0.6
HINF Hinteralfeld 145.87 338 ePKP2 PKPab 18 55 00.7 -1.1
HAU Haudompre 145.89 338 ePKP1 PKPbc 18 55 00.9 -0.2
comp=Z,583nm,0.8s
HAU eMLR MLR
comp=Z,927nm,20.2s
HAU Haudompre 145.89 338 ePKP PKPdf 18 55 00.9 +0.8
HAU LR LR
comp=Z,930nm,20.3s
HAU Haudompre 145.89 338 ePKP2 PKPab 18 55 00.9 -1.0
HAU MLR MLR
comp=Z,930nm,20.3s
MEZF Maizieres J'vi 145.90 340 ePKP1 PKPbc 18 55 01.4 +0.3
comp=Z,1µm,0.9s
MEZF Maizieres J'vi 145.90 340 ePKP PKPdf 18 55 01.4 +1.3
BBS Basel-Blauen 145.92 337 PKP PKPdf 18 55 00.9 +0.7
BBS Basel-Blauen 145.92 337 PKP2 PKPab 18 55 00.9 -1.1
TUE Stuetta 145.99 334 ePKPdf PKPdf 18 54 59.6 -0.7
TUE eSKP 18 58 16.1
SFTF Sexfontaines 146.16 340 ePKP1 PKPbc 18 55 01.5 -0.4
comp=Z,417nm,0.6s
SFTF Sexfontaines 146.16 340 ePKP PKPdf 18 55 01.5 +1.0
DYA Yadsworthy 146.21 351 eP PKPdf 18 54 57.8 -2.7
DYA AMB AMB 18 55 05.0
comp=Z,427nm,2.4s
DYA Yadsworthy 146.21 351 P PKPdf 18 54 57.8 -2.7
DYA AMB AMB 18 55 05.0
comp=Z,427nm,2.4s
LOMF Lomont 146.27 337 PKP PKPdf 18 55 02.2 +1.4
LOMF Lomont 146.27 337 PKP2 PKPab 18 55 02.2 -1.2
LOMF Lomont 146.27 337 PKP PKPdf 18 55 02.2 +1.4
SHEL Horse Pasture 146.63 190 ePKPbc PKPbc 18 55 04.3 +0.2
SHEL Horse Pasture 146.63 190 ePKP2 PKPab 18 55 04.3 -1.3
RCBR Riachuelo 146.84 131 ePKPbc PKPbc 18 55 03.2 -1.7
SENIN Lac Senin/Sane 146.91 336 ePKPab PKPab 18 55 12.3 +6.4
AQU L'Aquila 147.05 325 ePKPdf PKPdf 18 55 01.4 -0.8
AQU ePKPbc PKPbc 18 55 04.4 -0.2
AQU L'Aquila 147.05 325 ePKIKP PKPdf 18 55 01.4 -0.8
AQU e 18 55 04.4
CUC Castrocucco 147.12 319 ePKPbc PKPbc 18 55 04.0 -0.9
JSA Saint Aubin 147.13 349 eP PKPdf 18 54 59.9 -2.2
JSA AMB AMB 18 55 06.8
comp=Z,353nm,2.6s
JSA Saint Aubin 147.13 349 P PKPdf 18 54 59.9 -2.2
JSA AMB AMB 18 55 06.8
comp=Z,353nm,2.6s
CABF La Chapelle 147.17 337 ePKP1 PKPbc 18 55 05.0 +0.2
comp=Z,918nm,1.1s
CABF La Chapelle 147.17 337 ePKP PKPbc 18 55 05.0 +0.2
CABF La Chapelle 147.17 337 ePKP2 PKPbc 18 55 05.0 +0.2
OG01 Vacheresse 147.18 336 PKP PKPbc 18 55 05.1 +0.3
FLN La Foliniere 147.18 346 ePKP1 PKPbc 18 55 04.2 -0.6
comp=Z,1µm,1.2s
FLN eMLR MLR
comp=Z,2µm,22.2s
FLN La Foliniere 147.18 346 ePKP PKPbc 18 55 04.2 -0.6
FLN LR LR
comp=Z,2µm,22.3s
FLN La Foliniere 147.18 346 ePKP2 PKPbc 18 55 04.2 -0.6
FLN MLR MLR
comp=Z,2µm,22.3s
LDF La Druitiere 147.26 346 ePKP1 PKPbc 18 55 04.4 -0.6
comp=Z,142nm,0.6s
LDF La Druitiere 147.26 346 ePKP PKPbc 18 55 04.4 -0.6
LDF La Druitiere 147.26 346 ePKP2 PKPbc 18 55 04.4 -0.6
LOR Lormes 147.37 340 ePKP1 PKPbc 18 55 05.1 -0.2
comp=Z,302nm,0.6s
LOR eMLR MLR
comp=Z,1µm,22.5s
LOR Lormes 147.37 340 ePKP PKPbc 18 55 05.1 -0.2
LOR LR LR
comp=Z,1µm,22.5s
LOR Lormes 147.37 340 ePKP2 PKPbc 18 55 05.1 -0.2
LOR MLR MLR
comp=Z,1µm,22.5s
GRR Gorron 147.62 347 ePKP1 PKPbc 18 55 05.6 -0.4
comp=Z,224nm,0.6s
GRR Gorron 147.62 347 ePKP PKPbc 18 55 05.6 -0.4
GRR Gorron 147.62 347 ePKP2 PKPbc 18 55 05.6 -0.4
SSF Saint Saulge 147.66 341 ePKP1 PKPbc 18 55 06.0 -0.1
comp=Z,449nm,0.7s
SSF Saint Saulge 147.66 341 ePKP PKPbc 18 55 06.0 -0.1
SSF Saint Saulge 147.66 341 ePKP2 PKPbc 18 55 06.0 -0.1
RSL Roselend 147.73 336 PKP PKPbc 18 55 05.9 -0.5
RSL Roselend 147.73 336 PKP2 PKPbc 18 55 05.9 -0.5
RSL Roselend 147.73 336 PKP PKPbc 18 55 05.9 -0.5
HYF Humbligny 147.74 342 ePKP1 PKPbc 18 55 06.5 +0.2
HYF Humbligny 147.74 342 ePKP PKPbc 18 55 06.5 +0.2
LPL La Plagne 147.84 336 ePKP1 PKPbc 18 55 06.9 +0.3
comp=Z,383nm,0.8s
LPL La Plagne 147.84 336 ePKP PKPbc 18 55 06.9 +0.3
LPL La Plagne 147.84 336 ePKP2 PKPbc 18 55 06.9 +0.3
LPG La Plagne 147.84 335 ePKP1 PKPbc 18 55 07.1 +0.4
comp=Z,435nm,0.8s
LPG La Plagne 147.84 335 ePKP PKPbc 18 55 07.1 +0.4
LPG La Plagne 147.84 335 ePKP2 PKPbc 18 55 07.1 +0.4
SMF Signal de Mont 147.92 340 ePKP1 PKPbc 18 55 06.4 -0.4
comp=Z,582nm,1.2s
SMF Signal de Mont 147.92 340 ePKP PKPbc 18 55 06.4 -0.4
SMF Signal de Mont 147.92 340 ePKP2 PKPbc 18 55 06.4 -0.4
AVF Avril sur Loir 147.95 341 ePKP1 PKPbc 18 55 06.3 -0.6
comp=Z,365nm,1.0s
AVF Avril sur Loir 147.95 341 ePKP PKPbc 18 55 06.3 -0.6
AVF Avril sur Loir 147.95 341 ePKP2 PKPbc 18 55 06.3 -0.6
CEL Celeste 148.06 317 ePKPdf PKPdf 18 55 01.9 -2.1
CEL ePKPbc PKPbc 18 55 08.0 +0.5
SGMF Saint Gilles 148.09 349 ePKP1 PKPbc 18 55 06.7 -0.5
comp=Z,258nm,0.7s
SGMF Saint Gilles 148.09 349 ePKP PKPbc 18 55 06.7 -0.5
SGMF Saint Gilles 148.09 349 ePKP2 PKPbc 18 55 06.7 -0.5
ROSF Rostrenen 148.15 350 ePKP1 PKPbc 18 55 06.7 -0.6
comp=Z,691nm,1.2s
ROSF Rostrenen 148.15 350 ePKP PKPbc 18 55 06.7 -0.6
ROSF Rostrenen 148.15 350 ePKP2 PKPbc 18 55 06.7 -0.6
BGF Bois d'Agland 148.32 341 ePKP1 PKPbc 18 55 07.6 -0.2
comp=Z,376nm,0.6s
BGF Bois d'Agland 148.32 341 ePKP PKPbc 18 55 07.6 -0.2
BGF Bois d'Agland 148.32 341 ePKP2 PKPbc 18 55 07.6 -0.2
OG22 Abries 148.32 335 PKP PKPbc 18 55 07.7 -0.2
OG22 Abries 148.32 335 PKP PKPbc 18 55 07.7 -0.2
GDM Grand'Maison 148.34 336 PKP PKPbc 18 55 08.3 +0.4
GDM Grand'Maison 148.34 336 PKP PKPbc 18 55 08.3 +0.4
GRN Grenoble 148.45 336 PKP PKPbc 18 55 08.8 +0.6
GRN Grenoble 148.45 336 PKP2 PKPbc 18 55 08.8 +0.6
GRN Grenoble 148.45 336 PKP PKPbc 18 55 08.8 +0.6
MBDF Montbardon 148.47 335 ePKP1 PKPbc 18 55 07.9 -0.4
comp=Z,202nm,0.6s
MBDF Montbardon 148.47 335 ePKP PKPbc 18 55 07.9 -0.4
MBDF Montbardon 148.47 335 ePKP2 PKPbc 18 55 07.9 -0.4
QUIF Quistinic 148.53 349 ePKP1 PKPbc 18 55 07.5 -0.8
comp=Z,206nm,0.7s
QUIF Quistinic 148.53 349 ePKP PKPbc 18 55 07.5 -0.8
QUIF Quistinic 148.53 349 ePKP2 PKPbc 18 55 07.5 -0.8
PLDF La Plantade 148.59 340 PKP PKPbc 18 55 09.1 +0.5
PLDF La Plantade 148.59 340 PKP2 PKPbc 18 55 09.1 +0.5
PLDF La Plantade 148.59 340 PKP PKPbc 18 55 09.1 +0.5
SURF Saint Ours 148.65 334 PKP PKPbc 18 55 09.5 +0.7
SURF Saint Ours 148.65 334 PKP PKPbc 18 55 09.5 +0.7
ORIF Oris-en-Rattie 148.67 336 ePKP1 PKPbc 18 55 08.8 0.0
comp=Z,381nm,0.8s
ORIF eMLR MLR
comp=Z,750nm,22.2s
ORIF Oris-en-Rattie 148.67 336 ePKP PKPbc 18 55 08.8 0.0
ORIF Oris-en-Rattie 148.67 336 ePKP2 PKPbc 18 55 08.8 0.0
SAOF Saorge 148.74 333 PKP PKPbc 18 55 08.7 -0.3
SAOF Saorge 148.74 333 PKP2 PKPbc 18 55 08.7 -0.3
SAOF Saorge 148.74 333 PKP PKPbc 18 55 08.7 -0.3
TCF Toulx Ste Croi 148.75 341 ePKP1 PKPbc 18 55 08.7 -0.3
comp=Z,365nm,0.9s
TCF Toulx Ste Croi 148.75 341 ePKP PKPbc 18 55 08.7 -0.3
TCF Toulx Ste Croi 148.75 341 ePKP2 PKPbc 18 55 08.7 -0.3
AUTN L'Aution 148.78 333 PKP PKPbc 18 55 09.2 +0.1
AUTN L'Aution 148.78 333 PKP2 PKPbc 18 55 09.2 +0.1
AUTN L'Aution 148.78 333 PKP PKPbc 18 55 09.2 +0.1
TOUF Mont Tournerai 148.85 333 PKP PKPbc 18 55 09.4 +0.1
TOUF Mont Tournerai 148.85 333 PKP2 PKPbc 18 55 09.4 +0.1
TOUF Mont Tournerai 148.85 333 PKP PKPbc 18 55 09.4 +0.1
SSB Saint Sauveur 148.87 338 ePKPdf PKPdf 18 55 05.3 +0.2
SSB ePKPbc PKPbc 18 55 09.4 +0.1
SSB Saint Sauveur 148.87 338 ePKHKP PKPpre 18 55 05.3
SSB e PKPbc 18 55 09.4 +0.1
SSB Saint Sauveur 148.87 338 PKP PKPbc 18 55 09.3 0.0
SBF Sospel 148.89 333 ePKP1 PKPbc 18 55 08.7 -0.7
comp=Z,985nm,1.1s
SBF Sospel 148.89 333 ePKP PKPbc 18 55 08.7 -0.7
SBF Sospel 148.89 333 ePKP2 PKPbc 18 55 08.7 -0.7

LUCF	**Luceram**	**148.90**	**333**	PKP	PKPbc	18 55 09.2	-0.2	
LUCF	**Luceram**	**148.90**	**333**	PKP	PKPbc	18 55 09.2	-0.2	
MSKU	**Masuku**	**148.95**	**235**	PKP	PKPdf	18 55 05.0	-1.3	
	comp=Z,32nm,0.6s,baz=27,slow=6.8,SNR=4.4							
MSKU				PKPbc	PKPbc	18 55 09.5	-1.0	
	comp=Z,236nm,0.6s,baz=200,slow=2.4,SNR=27							
MSKU	**Masuku**	**148.95**	**235**	PKP	PKPdf	18 55 05.0	-1.3	
MSKU				PKPbc	PKPbc	18 55 09.5	-1.0	
MVIF	**Mont Vial**	**148.98**	**333**	PKP	PKPbc	18 55 09.4	-0.2	
MVIF	**Mont Vial**	**148.98**	**333**	PKP2	PKPbc	18 55 09.4	-0.2	
MVIF	**Mont Vial**	**148.98**	**333**	PKP	PKPbc	18 55 09.4	-0.2	
PYM	**Petit Puy Mans**	**148.98**	**340**	PKP	PKPbc	18 55 09.9	+0.3	
PYM	**Petit Puy Mans**	**148.98**	**340**	PKP2	PKPbc	18 55 09.9	+0.3	
PYM	**Petit Puy Mans**	**148.98**	**340**	PKP	PKPbc	18 55 09.9	+0.3	
OG25	**Le Caire**	**149.05**	**335**	PKP	PKPbc	18 55 09.6	-0.2	
OG25	**Le Caire**	**149.05**	**335**	PKP	PKPbc	18 55 09.6	-0.2	
MFF	**Saint Martin d**	**149.12**	**345**	*e*PKP1	PKPbc	18 55 09.6	-0.3	
	comp=Z,492nm,0.8s							
MFF	**Saint Martin d**	**149.12**	**345**	*e*PKP	PKPbc	18 55 09.6	-0.3	
MFF	**Saint Martin d**	**149.12**	**345**	*e*PKP2	PKPbc	18 55 09.6	-0.3	
OCF	**Saint Nazaire**	**149.18**	**336**	PKP	PKPbc	18 55 10.4	+0.3	
OG26	**St.-Nazaire-De**	**149.18**	**336**	PKP	PKPbc	18 55 10.4	+0.3	
VIVF	**Saint-Julien-l**	**149.18**	**337**	*e*PKP1	PKPbc	18 55 10.0	-0.1	
	comp=Z,615nm,1.2s							
VIVF	**Saint-Julien-l**	**149.18**	**337**	*e*PKP	PKPbc	18 55 10.0	-0.1	
VIVF	**Saint-Julien-l**	**149.18**	**337**	*e*PKP2	PKPbc	18 55 10.0	-0.1	
PGF	**Pioggiola**	**149.19**	**330**	*e*PKP1	PKPbc	18 55 09.8	-0.4	
	comp=Z,1µm,0.9s							
PGF	**Pioggiola**	**149.19**	**330**	*e*PKP	PKPbc	18 55 09.8	-0.4	
PGF	**Pioggiola**	**149.19**	**330**	*e*PKP2	PKPbc	18 55 09.8	-0.4	
CALN	**Calern**	**149.21**	**333**	PKP	PKPbc	18 55 10.2	0.0	
CALN	**Calern**	**149.21**	**333**	PKP2	PKPbc	18 55 10.2	0.0	
CALN	**Calern**	**149.21**	**333**	PKP	PKPbc	18 55 10.2	0.0	
LBL	**Lubilhac**	**149.36**	**339**	PKP	PKPbc	18 55 11.7	+1.2	
LBL	**Lubilhac**	**149.36**	**339**	PKP2	PKPbc	18 55 11.7	+1.2	
LBL	**Lubilhac**	**149.36**	**339**	PKP	PKPbc	18 55 11.7	+1.2	
FRNF	**Fournols**	**149.45**	**340**	PKP	PKPbc	18 55 11.4	+0.7	
FRNF	**Fournols**	**149.45**	**340**	PKP	PKPbc	18 55 11.4	+0.7	
FRF	**La Foret Royal**	**149.47**	**333**	*e*PKP1	PKPbc	18 55 10.3	-0.5	
	comp=Z,985nm,1.1s							
FRF	**La Foret Royal**	**149.47**	**333**	*e*PKP	PKPbc	18 55 10.3	-0.5	
FRF	**La Foret Royal**	**149.47**	**333**	*e*PKP2	PKPbc	18 55 10.3	-0.5	
SMRF	**Simiane la Rot**	**149.57**	**335**	*e*PKP1	PKPbc	18 55 11.2	+0.1	
	comp=Z,1µm,1.2s							
SMRF	**Simiane la Rot**	**149.57**	**335**	*e*PKP	PKPbc	18 55 11.2	+0.1	
LMR	**La Mourre**	**149.71**	**333**	*e*PKP1	PKPbc	18 55 10.9	-0.5	
	comp=Z,1µm,1.2s							
LMR	**La Mourre**	**149.71**	**333**	*e*PKP	PKPbc	18 55 10.9	-0.5	
LMR	**La Mourre**	**149.71**	**333**	*e*PKHKP	PKPbc	18 55 10.9	-0.5	
RJF	**Les Rejaudoux**	**149.85**	**341**	*e*PKP1	PKPbc	18 55 11.5	-0.2	
	comp=Z,618nm,1.1s							
RJF				*e*MLR	MLR			
	comp=Z,1µm,21.0s							
RJF	**Les Rejaudoux**	**149.85**	**341**	*e*PKP	PKPbc	18 55 11.5	-0.2	
RJF				LR	LR			
	comp=Z,1µm,21.0s							
RJF	**Les Rejaudoux**	**149.85**	**341**	*e*PKP2	PKPbc	18 55 11.5	-0.2	
RJF				MLR	MLR			
	comp=Z,1µm,21.0s							
CAF	**Calviac**	**150.02**	**340**	*e*PKP1	PKPbc	18 55 12.0	-0.1	
	comp=Z,418nm,1.2s							
CAF	**Calviac**	**150.02**	**340**	*e*PKP	PKPbc	18 55 12.0	-0.1	
CAF	**Calviac**	**150.02**	**340**	*e*PKIKP	PKPbc	18 55 12.0	-0.1	
LASF	**Ste Croix**	**150.15**	**337**	*e*PKP1	PKPbc	18 55 12.4	-0.1	
	comp=Z,871nm,1.0s							
LASF	**Ste Croix**	**150.15**	**337**	*e*PKP	PKPbc	18 55 12.4	-0.1	
LFF	**La Frestale**	**150.41**	**342**	*e*PKP1	PKPbc	18 55 12.8	-0.3	
	comp=Z,555nm,1.0s							
LFF	**La Frestale**	**150.41**	**342**	*e*PKP	PKPbc	18 55 12.8	-0.3	
LFF	**La Frestale**	**150.41**	**342**	*e*PKIKP	PKPbc	18 55 12.8	-0.3	
VSL	**Villasalto**	**151.22**	**325**	*e*PKPdf	PKPdf	18 55 08.6	-0.5	
VSL				*e*PKPbc	PKPbc	18 55 14.8	-0.3	
MTLF	**Montolieu**	**151.37**	**339**	*e*PKP1	PKPbc	18 55 14.6	-0.7	
	comp=Z,231nm,0.9s							
MTLF	**Montolieu**	**151.37**	**339**	*e*PKP	PKPbc	18 55 14.6	-0.7	
MTLF	**Montolieu**	**151.37**	**339**	*e*PKIKP	PKPbc	18 55 14.6	-0.7	
LRDF	**Laroque-de-Fa**	**151.61**	**338**	PKP	PKPbc	18 55 16.0	+0.1	
LRDF	**Laroque-de-Fa**	**151.61**	**338**	PKP	PKPbc	18 55 16.0	+0.1	
EJON	**La Jonquera**	**151.91**	**337**	PKP	PKPdf	18 55 12.5	+2.5	
FILF	**Fillols**	**151.93**	**337**	PKP	PKPbc	18 55 16.7	+0.1	
FILF	**Fillols**	**151.93**	**337**	PKP	PKPbc	18 55 16.7	+0.1	
CARF	**Carcanieres**	**151.96**	**338**	PKP	PKPbc	18 55 18.1	+1.4	
CARF	**Carcanieres**	**151.96**	**338**	PKP	PKPbc	18 55 18.1	+1.4	
MLS	**Moulis**	**152.09**	**340**	PKP	PKPbc	18 55 16.9	-0.1	
MLS	**Moulis**	**152.09**	**340**	PKP	PKPbc	18 55 16.9	-0.1	
CLLI	**Llivia**	**152.22**	**338**	PKP	PKPdf	18 55 13.2	+2.8	
SALF	**Salau**	**152.24**	**340**	PKP	PKPbc	18 55 17.4	+0.1	
SALF	**Salau**	**152.24**	**340**	PKP	PKPbc	18 55 17.4	+0.1	
EPF	**Esparros**	**152.27**	**341**	*e*PKP1	PKPbc	18 55 17.4	0.0	
	comp=Z,256nm,0.9s							
EPF	**Esparros**	**152.27**	**341**	*e*PKP	PKPbc	18 55 17.4	0.0	
EPF	**Esparros**	**152.27**	**341**	*e*PKIKP	PKPbc	18 55 17.4	0.0	
MELF	**Melles**	**152.28**	**340**	PKP	PKPbc	18 55 18.3	+0.9	
MELF	**Melles**	**152.28**	**340**	PKP	PKPbc	18 55 18.3	+0.9	
LABF	**Labassere**	**152.34**	**341**	PKP	PKPbc	18 55 19.1	+1.6	
LABF	**Labassere**	**152.34**	**341**	PKP	PKPbc	18 55 19.1	+1.6	
REYF	**Montagne du Re**	**152.45**	**342**	PKP	PKPbc	18 55 18.3	+0.5	
REYF	**Montagne du Re**	**152.45**	**342**	PKP	PKPbc	18 55 18.3	+0.5	
RESF	**Ens**	**152.47**	**341**	PKP	PKPbc	18 55 19.1	+1.3	
RESF	**Ens**	**152.47**	**341**	PKP	PKPbc	18 55 19.1	+1.3	
ORDF	**Ordiarp**	**152.48**	**343**	PKP	PKPbc	18 55 17.5	-0.3	
ORDF	**Ordiarp**	**152.48**	**343**	PKP	PKPbc	18 55 17.5	-0.3	
VIEF	**Viey**	**152.50**	**341**	PKP	PKPbc	18 55 18.7	+0.8	
VIEF	**Viey**	**152.50**	**341**	PKP	PKPbc	18 55 18.7	+0.8	
OSSF	**Osses**	**152.53**	**344**	PKP	PKPbc	18 55 17.5	-0.4	
OSSF	**Osses**	**152.53**	**344**	PKP	PKPbc	18 55 17.5	-0.4	
ATE	**Arette**	**152.53**	**343**	PKP	PKPbc	18 55 18.1	+0.1	
ATE	**Arette**	**152.53**	**343**	PKP	PKPbc	18 55 18.1	+0.1	
CSOR	**Sort**	**152.60**	**339**	PKP	PKPbc	18 55 13.6	-4.5	
EALK	**Alkurruntz**	**152.63**	**344**	PKP	PKPbc	18 55 13.6	-4.6	
EBIE	**Bielsa**	**152.64**	**341**	PKP	PKPbc	18 55 12.6	-5.6	
SJPF	**Ste Jean**	**152.65**	**343**	*e*PKP1	PKPbc	18 55 18.0	-0.2	
	comp=Z,109nm,0.6s							
SJPF	**Ste Jean**	**152.65**	**343**	*e*PKP	PKPbc	18 55 18.0	-0.2	
SJPF	**Ste Jean**	**152.65**	**343**	*e*PKIKP	PKPbc	18 55 18.0	-0.2	
ETSF	**Etsaut**	**152.66**	**342**	*e*PKP1	PKPbc	18 55 18.6	+0.4	
	comp=Z,200nm,0.6s							
ETSF	**Etsaut**	**152.66**	**342**	*e*PKP	PKPbc	18 55 18.6	+0.4	
ETSF	**Etsaut**	**152.66**	**342**	*e*PKIKP	PKPbc	18 55 18.6	+0.4	
CFTN	**Fontmartina**	**152.67**	**337**	PKP	PKPdf	18 55 12.6	+1.5	
ELIZ	**Elizondo**	**152.68**	**344**	PKP	PKPbc	18 55 13.9	-4.4	
ELIZ	**Elizondo**	**152.68**	**344**	PKIKP	PKPbc	18 55 13.9	-4.4	
ELAN	**Lanestosa**	**153.08**	**347**	PKP	PKPdf	18 55 11.3	-0.3	
EARI	**Arriondas**	**153.36**	**350**	PKP	PKPdf	18 55 13.5	+1.5	
EPOB	**Poblet**	**153.52**	**338**	PKP	PKPbc	18 55 14.5	-5.7	
EPON	**Pontenova**	**153.62**	**353**	PKP	PKPdf	18 55 12.3	-0.1	
ESAC	**San Caprasio**	**153.71**	**341**	PKP	PKPdf	18 55 14.1	+1.5	
KEST	**Kesra**	**153.77**	**319**	PKP	PKPdf	18 55 11.6	-1.3	
	comp=Z,2.5nm,0.9s,baz=355,slow=1.9,SNR=2.1							
KEST				PKPbc	PKPbc	18 55 19.9	-1.0	
	comp=Z,13nm,1.0s,baz=194,slow=5.0,SNR=5.8							
KEST				PKPab	PKPab	18 55 34.7	0.0	
	comp=Z,13nm,0.9s,baz=326,slow=7.3,SNR=6.6							
KEST	**Kesra**	**153.77**	**319**	*e*PKPdf	PKPdf	18 55 11.4	-1.5	
KEST				*e*PKPbc	PKPbc	18 55 20.9	0.0	
ERTA	**Horta de San J**	**154.13**	**339**	PKP	PKPdf	18 55 13.4	+0.2	
EMAZ	**Mazaricos**	**154.17**	**356**	PKP	PKPdf	18 55 13.5	+0.3	
STS	**Santiago**	**154.20**	**355**	PKP	PKPdf	18 55 11.7	-1.5	
STS	**Santiago**	**154.20**	**355**	PKIKP	PKPdf	18 55 11.7	-1.5	
ETOS	**Mallorca**	**154.22**	**334**	PKP	PKPbc	18 55 15.4	-6.3	
CMAH	**Djebel Manchou**	**154.33**	**323**	P	PKPbc	18 55 15.5	-6.6	
CAEH	**'Ain El Ouahch**	**154.55**	**324**	P	PKPbc	18 55 16.0	-6.5	
CKFL	**Kef-Lekhel**	**154.89**	**323**	P	PKPbc	18 55 17.6	-5.7	
ECAL	**Calabor**	**154.93**	**352**	PKP	PKPdf	18 55 14.9	+0.6	
EMOS	**Mosqueruela**	**154.94**	**340**	PKP	PKPdf	18 55 15.6	+1.3	
ETOR	**Torete**	**155.01**	**343**	PKP	PKPdf	18 55 13.2	-1.2	
ETOR	**Torete**	**155.01**	**343**	PKIKP	PKPdf	18 55 13.2	-1.2	
PBRG	**Braganca**	**155.06**	**351**	*e*PKPdf	PKPdf	18 55 14.7	+0.2	
PBRG	**Braganca**	**155.06**	**351**	*e*PKPab	PKPab	18 55 39.1	-0.8	
PBRG	**Braganca**	**155.06**	**351**	*e*SS	SS	19 18 42.4	+1.6	
PBRG	**Braganca**	**155.06**	**351**	*e*LQ		19 41 57.5		
PBRG	**Braganca**	**155.06**	**351**	*e*LR	LR	19 52 48.4		
	comp=Z,735nm,20.0s							
PGAV	**Gavieira, Arco**	**155.09**	**354**	*e*PKPdf	PKPdf	18 55 15.6	+1.1	
PGAV	**Gavieira, Arco**	**155.09**	**354**	*e*SS	SS	19 18 30.3	-11	
PGAV	**Gavieira, Arco**	**155.09**	**354**	*e*LQ		19 41 19.5		
PGAV				A		20 04 01.2		
	comp=Z,819nm,33.1s							
CASM	**Ain Smara**	**155.12**	**323**	P	PKPdf	18 55 16.6	+1.9	
ELOB	**Lobios**	**155.16**	**354**	PKP	PKPdf	18 55 13.8	-0.8	
DFRA	**Djebel Bou Aff**	**155.26**	**325**	P	PKPdf	18 55 18.8	+3.9	
CTEI	**Djebel Teioual**	**155.31**	**323**	P	PKPdf	18 55 18.8	+3.8	
PCAB	**Cabril**	**155.31**	**354**	*e*PKPdf	PKPdf	18 55 18.3	+3.5	
PCAB	**Cabril**	**155.31**	**354**	*e*PKPab	PKPab	18 55 42.3	+1.4	
PVRL	**Vila Real**	**155.71**	**353**	*e*PKPdf	PKPdf	18 55 16.2	+0.8	
PVRL	**Vila Real**	**155.71**	**353**	*e*PKPab	PKPab	18 55 42.9	+0.3	
PVRL	**Vila Real**	**155.71**	**353**	*e*PP	PP	18 59 22.0	+2.7	
GUD	**Guadarrama**	**155.71**	**346**	PKP	PKPdf	18 55 15.1	-0.3	
GUD	**Guadarrama**	**155.71**	**346**	PKIKP	PKPdf	18 55 15.1	-0.3	
MVO	**Moncorvo**	**155.73**	**352**	PKP	PKPdf	18 55 16.3	+1.0	
MVO	**Moncorvo**	**155.73**	**352**	*e*PKPdf	PKPdf	18 55 15.1	-0.3	
MVO	**Moncorvo**	**155.73**	**352**	*e*PKPab	PKPab	18 55 44.0	+1.3	
MVO	**Moncorvo**	**155.73**	**352**	*e*SS	SS	19 18 52.9	+5.0	
SET	**Setif**	**155.78**	**325**	P	PKPdf	18 55 20.0	+4.4	
ECHE	**Chera**	**155.80**	**340**	PKP	PKPdf	18 55 16.0	+0.5	
ECHE	**Chera**	**155.80**	**340**	PKIKP	PKPdf	18 55 16.0	+0.5	
PVIS	**Viseu**	**156.28**	**353**	*e*PKPdf	PKPdf	18 55 15.7	-0.4	
PVIS	**Viseu**	**156.28**	**353**	*e*PKPab	PKPab	18 55 45.1	0.0	
PVIS	**Viseu**	**156.28**	**353**	*e*PP	PP	18 59 24.5	+2.0	
MTE	**Manteigas**	**156.55**	**352**	*e*PKPdf	PKPdf	18 55 14.9	-1.6	
MTE				*e*PKPab	PKPab	18 55 46.4	+0.1	
MTE	**Manteigas**	**156.55**	**352**	*e*PKPdf	PKPdf	18 55 15.4	-1.1	
MTE	**Manteigas**	**156.55**	**352**	*e*SS	SS	19 18 57.7	+1.0	
MTE	**Manteigas**	**156.55**	**352**	*e*LQ		19 41 26.5		
MTE				*e*LR	LR	19 49 18.1		
	comp=Z,347nm,20.0s							
ESDC	**Sonseca Array**	**156.59**	**345**	PKP	PKPdf	18 55 16.3	-0.3	
	comp=Z,1.9nm,0.6s,baz=353,slow=3.2,SNR=13							
ESDC				PKPab	PKPab	18 55 45.7	-0.8	
	comp=Z,12nm,0.6s,baz=8.4,slow=3.8,SNR=5.3							
ESDC	**Sonseca Array**	**156.59**	**345**	PKP	PKPdf	18 55 16.3	-0.2	
ESLA	**Sonseca Array**	**156.59**	**345**	PKPdf	PKPdf	18 55 18.5	+2.0	
ESLA				*e*PKPab	PKPab	18 55 46.8	+0.4	
EPLA	**Plasencia**	**156.66**	**349**	PKP	PKPdf	18 55 16.4	-0.3	
EPLA	**Plasencia**	**156.66**	**349**	PKIKP	PKPdf	18 55 16.4	-0.2	
ETOB	**Tobarra**	**156.84**	**340**	PKP	PKPdf	18 55 18.1	+1.2	
PCBR	**Castelo Branco**	**157.09**	**352**	*e*PKPdf	PKPdf	18 55 17.2	0.0	
PCBR	**Castelo Branco**	**157.09**	**352**	*e*PKPab	PKPab	18 55 49.0	+0.4	
EVIA	**Vianos**	**157.15**	**342**	PKP	PKPdf	18 55 19.1	+1.8	
EVIA	**Vianos**	**157.15**	**342**	PKIKP	PKPdf	18 55 19.1	+1.8	
PTOM	**Tomar**	**157.42**	**354**	*e*PKPdf	PKPdf	18 55 17.8	+0.2	
PTOM	**Tomar**	**157.42**	**354**	*e*PKPab	PKPab	18 55 49.3	-0.8	
EMUR	**La Murta**	**157.46**	**338**	PKP	PKPdf	18 55 20.2	+2.4	
PMRV	**Marv??o**	**157.49**	**352**	*e*PKPdf	PKPdf	18 55 17.4	-0.3	
PMRV	**Marv??o**	**157.49**	**352**	*e*PKPab	PKPab	18 55 50.8	+0.5	
PMRV	**Marv??o**	**157.49**	**352**	*e*LR	LR	19 42 06.8		
EHUE	**Huescar**	**157.94**	**341**	PKP	PKPdf	18 55 16.9	-1.4	
EHUE	**Huescar**	**157.94**	**341**	PKIKP	PKPdf	18 55 16.9	-1.4	
PMTG	**Montargil**	**157.95**	**353**	*e*PKPdf	PKPdf	18 55 17.4	-0.9	
PMTG	**Montargil**	**157.95**	**353**	*e*PKPab	PKPab	18 55 49.8	-2.5	
PMTG	**Montargil**	**157.95**	**353**	*e*PP	PP	18 59 32.5	+0.9	
PMTG	**Montargil**	**157.95**	**353**	*e*LQ		19 42 32.8		
PMTG				*e*LR	LR	19 49 42.6		
	comp=Z,618nm,20.0s							
PESTR	**Estremoz**	**158.06**	**352**	*e*PKPdf	PKPdf	18 55 17.2	-1.2	
PESTR	**Estremoz**	**158.06**	**352**	*e*PKPab	PKPab	18 55 53.5	+0.6	
PESTR	**Estremoz**	**158.06**	**352**	*e*PP	PP	18 59 28.0	-4.3	
PESTR	**Estremoz**	**158.06**	**352**	*e*SS	SS	19 19 12.8	-0.1	
PESTR	**Estremoz**	**158.06**	**352**	*e*LQ		19 41 59.8		
PESTR	**Estremoz**	**158.06**	**352**	*e*LR	LR	19 54 07.2		
	comp=Z,541nm,20.0s							
EBAD	**Badajoz**	**158.09**	**350**	PKP	PKPdf	18 55 18.4	-0.1	
EQES	**Quesada**	**158.09**	**342**	PKP	PKPdf	18 55 20.0	+1.5	
PMAFR	**Mafra**	**158.16**	**355**	*e*PKPdf	PKPdf	18 55 18.9	+0.4	
PMAFR	**Mafra**	**158.16**	**355**	*e*PKPab	PKPab	18 55 51.5	-1.8	
PMAFR	**Mafra**	**158.16**	**355**	*e*SS	SS	19 19 05.0	-8.8	
PMAFR	**Mafra**	**158.16**	**355**	*e*LQ		19 42 36.8		
PMAFR				A		20 00 31.1		
	comp=Z,609nm,22.0s							
EADA	**Adamuz**	**158.16**	**345**	PKP	PKPdf	18 55 19.8	+1.2	
LIS	**Lisbon**	**158.39**	**355**	*e*P	PKPdf	18 55 16.6	-2.2	
LIS				AMS	AMS	20 00 51.4		
	comp=E,1µm,34.8s							
LIS	**Lisbon**	**158.39**	**355**	*e*PKIKP	PKPdf	18 55 16.6	-2.2	
EVO	**Evora**	**158.45**	**352**	*e*PKIKP	PKPdf	18 55 18.3	-0.6	
	comp=E,159nm,1.2s							
EVO				*e*MLR	MLR			
	comp=Z,954nm,19.8s							
EVO	**Evora**	**158.45**	**352**	*e*PKPdf	PKPdf	18 55 18.4	-0.5	
EVO	**Evora**	**158.45**	**352**	*e*PKPab	PKPab	18 55 53.4	-1.1	
EVO	**Evora**	**158.45**	**352**	*e*PP	PP	18 59 34.5	+0.1	
EVOP	**Sao Brissos**	**158.47**	**353**	*e*PKPdf	PKPdf	18 55 18.3	-0.6	
EVOP				LR	LR			
	comp=Z,954µm,19.8s							
EVOP	**Sao Brissos**	**158.47**	**353**	*e*PKIKP	PKPdf	18 55 18.3	-0.6	
EVOP				MLR	MLR			
	comp=Z,954µm,19.8s							
ENIJ	**Nijar**	**158.58**	**339**	PKP	PKPdf	18 55 21.1	+2.0	
ENIJ	**Nijar**	**158.58**	**339**	PKIKP	PKPdf	18 55 21.1	+2.0	
ELUQ	**Luque**	**158.66**	**344**	PKP	PKPdf	18 55 20.1	+0.9	
ELUQ	**Luque**	**158.66**	**344**	PKIKP	PKPdf	18 55 20.1	+0.9	
PBAR	**Barrancos**	**158.66**	**350**	*e*PKPdf	PKPdf	18 55 17.0	-2.2	
PBAR	**Barrancos**	**158.66**	**350**	*e*PKPab	PKPab	18 55 56.1	+0.6	
PBAR	**Barrancos**	**158.66**	**350**	*e*SS	SS	19 19 15.5	-3.7	
PBAR	**Barrancos**	**158.66**	**350**	*e*LQ		19 42 19.1		
PBAR				*e*LR	LR	19 51 14.3		
	comp=Z,431nm,20.0s							
ECOG	**Cogollos-Vega**	**158.73**	**342**	PKP	PKPdf	18 55 19.3	0.0	
ECOG	**Cogollos-Vega**	**158.73**	**342**	PKIKP	PKPdf	18 55 19.3	0.0	
PNCL	**Nicolau / Gran**	**158.93**	**353**	*e*PKPdf	PKPdf	18 55 17.5	-1.0	
PNCL	**Nicolau / Gran**	**158.93**	**353**	*e*PKPab	PKPab	18 55 57.4	+0.8	
PNCL	**Nicolau / Gran**	**158.93**	**353**	*e*PP	PP	18 59 39.6	+2.7	
PNCL	**Nicolau / Gran**	**158.93**	**353**	*e*LQ		19 43 08.3		
PBEJ	**Beja**	**158.93**	**352**	*e*PKPdf	PKPdf	18 55 19.8	+0.3	
PBEJ	**Beja**	**158.93**	**352**	*e*PKPab	PKPab	18 55 54.0	-2.6	
EMIN	**Mina Concepcio**	**159.00**	**349**	PKP	PKPdf	18 55 19.2	-0.4	
ELOJ	**Sierra Loja**	**159.01**	**343**	PKP	PKPdf	18 55 22.2	+2.6	
ELOJ	**Sierra Loja**	**159.01**	**343**	PKIKP	PKPdf	18 55 22.2	+2.6	
ERON	**Agron**	**159.04**	**342**	PKP	PKPdf	18 55 21.7	+2.0	
EGUA	**Guajares**	**159.14**	**342**	PKP	PKPdf	18 55 20.9	+1.1	
EGUA	**Guajares**	**159.14**	**342**	PKIKP	PKPdf	18 55 20.9	+1.1	
MESJ	**Messejana**	**159.16**	**353**	*e*P	PKPdf	18 55 17.6	-2.2	
MESJ				*e*		18 55 25.4		
	baz=14,slow=2.6							
MESJ				*e*SS	SS	19 19 26.5	+2.1	
MESJ				AMS	AMS	20 12 52.0		
	comp=Z,926nm,16.0s							
MESJ	**Messejana**	**159.16**	**353**	*e*PKIKP	PKPdf	18 55 17.7	-2.1	
MESJ				*e*SS	SS	19 19 26.5	+2.1	
PCVE	**Castro Verde**	**159.34**	**352**	*e*PKPdf	PKPdf	18 55 19.5	-0.5	
PCVE	**Castro Verde**	**159.34**	**352**	*e*PKPab	PKPab	18 55 59.2	+0.8	
PCVE	**Castro Verde**	**159.34**	**352**	*e*PP	PP	18 59 39.6	+0.4	
PCVE	**Castro Verde**	**159.34**	**352**	*e*SS	SS	19 19 21.4	-4.9	
PCVE	**Castro Verde**	**159.34**	**352**	*e*LQ		19 42 29.8		
EGRO	**El Granado**	**159.36**	**351**	PKP	PKPdf	18 55 19.7	-0.3	
PTEO	**Sao Teotonio**	**159.51**	**354**	*e*PKPdf	PKPdf	18 55 19.9	-0.3	
PTEO	**Sao Teotonio**	**159.51**	**354**	*e*PKPab	PKPab	18 56 00.7	+1.5	
PVAQ	**Vaqueiros**	**159.52**	**351**	*e*PKPdf	PKPdf	18 55 20.1	-0.1	
PVAQ	**Vaqueiros**	**159.52**	**351**	*e*PKPab	PKPab	18 55 57.6	-1.6	
PVAQ	**Vaqueiros**	**159.52**	**351**	*e*PP	PP	18 59 38.4	-1.8	
PVAQ	**Vaqueiros**	**159.52**	**351**	*e*LQ		19 42 02.1		
PVAQ				*e*LR	LR	19 50 28.4		
	comp=Z,747nm,22.0s							
ESPR	**Espera**	**159.70**	**347**	PKP	PKPdf	18 55 20.2	-0.2	
PBDV	**Barranco-do-Ve**	**159.71**	**352**	*e*PKPdf	PKPdf	18 55 22.7	+2.3	
PBDV	**Barranco-do-Ve**	**159.71**	**352**	*e*PKPab	PKPab	18 56 00.8	+0.7	
PBDV	**Barranco-do-Ve**	**159.71**	**352**	*e*PP	PP	18 59 41.5	+0.3	
PBDV	**Barranco-do-Ve**	**159.71**	**352**	*e*SS	SS	19 19 32.7	+2.5	
PBDV	**Barranco-do-Ve**	**159.71**	**352**	*e*LQ		19 42 36.5		
PBDV	**Barranco-do-Ve**	**159.71**	**352**	*e*LR	LR	19 54 16.7		
	comp=Z,900nm,20.0s							
MORF	**Marmelete**	**159.74**	**353**	*e*PKIKP	PKPdf	18 55 18.5	-1.9	
MORF				*e*SS	SS	19 19 32.7	+2.2	
MORF	**Marmelete**	**159.74**	**353**	*e*PKPdf	PKPdf	18 55 20.7	+0.3	
MORF	**Marmelete**	**159.74**	**353**	*e*PKPab	PKPab	18 56 00.6	+0.4	
MORF	**Marmelete**	**159.74**	**353**	*e*SS	SS	19 19 34.7	+4.2	
MORF	**Marmelete**	**159.74**	**353**	*e*LQ		19 42 58.1		
MORF	**Marmelete**	**159.74**	**353**	*e*LR	LR	19 55 33.9		
	comp=Z,674nm,22.0s							
PFVI	**Vila Bisbo**	**159.93**	**354**	PKP	PKPdf	18 55 18.9	-1.8	
PFVI	**Vila Bisbo**	**159.93**	**354**	*e*PKPdf	PKPdf	18 55 20.4	-0.3	
PFVI	**Vila Bisbo**	**159.93**	**354**	*e*PKPab	PKPab	18 56 01.1	+0.1	
PFVI	**Vila Bisbo**	**159.93**	**354**	*e*PP	PP	18 59 44.7	+2.4	
PFVI	**Vila Bisbo**	**159.93**	**354**	*e*SS	SS	19 19 33.0	+0.5	
PFVI	**Vila Bisbo**	**159.93**	**354**	*e*LQ		19 43 23.9		
PFVI				A		20 07 21.1		
	comp=Z,730nm,30.1s							
EJIF	**Jimena Fronter**	**160.01**	**346**	PKP	PKPdf	18 55 21.4	+0.6	
EJIF	**Jimena Fronter**	**160.01**	**346**	PKIKP	PKPdf	18 55 21.4	+0.6	
TAM	**Tamanrasset**	**163.00**	**292**	*e*PKPdf	PKPdf	18 55 23.5	-0.7	
TAM				*e*

DYDN	**Diyadin**	**0.73**	**223**	*i* P		**Pg**	18 54 02.0	**+1.3**
DYDN				*i* S		**Sg**	18 54 14.8	**+4.5**
SPIZ	**Spitak**	**0.74**	**356**	*e*P		**Pg**	18 54 10.1	**+9.2**
SPIZ				*e*S		**Sg**	18 54 16.8	**+6.2**
KAMZ	**Kamo**	**0.79**	**339**	⇓*i*P		**Pg**	18 54 00.6	**-1.4**
KAMZ				*i* S		**Sg**	18 54 12.5	**+0.2**
KAMZ	**Kamo**	**0.79**	**339**	⇓*i*P		**Pg**	18 54 00.6	**-1.4**
KAMZ				⇓*i*S		**Sg**	18 54 12.5	**+0.2**
KAMZ	**Kamo**	**0.79**	**339**	⇓P		**Pg**	18 54 00.6	**-1.3**
KAMZ				S		**Sg**	18 54 12.5	**+0.2**
DIGO	**Kars**	**0.80**	**294**	*i* P		**Pg**	18 54 01.9	**-0.2**
DIGO				*i* S		**Sg**	18 54 15.0	**+2.5**
DIGO	**Kars**	**0.80**	**294**	*i* P		**Pg**	18 54 01.9	**-0.2**
DIGO				⇓*i*S		**Sg**	18 54 15.0	**+2.4**
GMRZ	**Gyumri**	**0.82**	**332**	*e*P		**Pg**	18 53 59.0	**-3.4**
GMRZ				⇓S		**Sg**	18 54 12.0	**-1.1**
GYMZ	**Gyumri**	**0.82**	**332**	⇓*i*P		**Pg**	18 54 01.0	**-1.3**
GYMZ				*i* S		**Sg**	18 54 13.9	**+0.9**
GYMZ	**Gyumri**	**0.82**	**332**	⇓*i*P		**Pg**	18 54 01.0	**-1.3**
GYMZ				⇓*i*S		**Sg**	18 54 13.9	**+0.9**
GYMZ	**Gyumri**	**0.82**	**332**	⇓P		**Pg**	18 54 01.0	**-1.4**
GYMZ				S		**Sg**	18 54 13.9	**+0.8**
CKLZ	**Chkalov**	**0.88**	**16**	*e*P		**Pg**	18 54 12.6	**+9.0**
CKLZ				*e*S		**Sg**	18 54 24.3	**+9.2**
STE	**Stepanavan**	**0.91**	**2**	⇓P		**Pg**	18 54 03.4	**-0.8**
STE				S		**Sg**	18 54 16.4	**+0.3**
STEZ	**Stepenevan**	**0.92**	**3**	*e*P		**Pg**	18 54 12.6	**+8.4**
STEZ				*e*S		**Sg**	18 54 25.4	**+9.3**
STEZ	**Stepenevan**	**0.92**	**3**	⇓*i*P		**Pg**	18 54 03.4	**-0.8**
STEZ				⇓*i*S		**Sg**	18 54 16.4	**+0.3**
TCHZ	**Tchakhmakh**	**0.95**	**330**	⇓*i*P		**Pg**	18 54 03.6	**-1.2**
TCHZ				⇓*i*S		**Sg**	18 54 17.7	**+0.6**
TCHZ	**Tchakhmakh**	**0.95**	**330**	⇓P		**Pg**	18 54 03.6	**-1.2**
TCHZ				S		**Sg**	18 54 17.7	**+0.6**
CLDR	**Caldiran**	**0.99**	**199**	*e*PN		**Pg**	18 54 05.2	**-0.5**
CLDR				*e*SN		**Sg**	18 54 20.1	**+1.5**
CLDR	**Caldiran**	**0.99**	**199**	Pn		**Pg**	18 54 05.2	**-0.5**
CLDR	**Caldiran**	**0.99**	**199**	Pn		**Pg**	18 54 05.2	**-0.5**
CLDR				*e*Sn		**Sg**	18 54 20.1	**+1.5**
VRD	**Vardenis**	**1.06**	**82**	*e*P		**Pg**	18 54 06.0	**-0.9**
VRD				*i* S		**Sg**	18 54 21.0	**+0.3**
VRD	**Vardenis**	**1.06**	**82**	*e*P		**Pg**	18 54 06.0	**-0.9**
VRD				*i* S		**Sg**	18 54 21.0	**+0.3**
VADZ	**Vardenis**	**1.09**	**85**	*e*P		**Pg**	18 54 06.0	**-1.5**
VADZ				S		**Sg**	18 54 21.0	**-0.6**
AGRB	**Hanur-Agry**	**1.15**	**244**	*e*PN		**Pn**	18 54 10.7	**+1.9**
AGRB	**Hanur-Agry**	**1.15**	**244**	*e*Pn		**Pn**	18 54 10.7	**+2.0**
TUTA	**Tutak**	**1.35**	**240**	*i* P		**Pg**	18 54 13.9	**+1.3**
TUTA				*i* S		**Sg**	18 54 34.9	**+4.8**
TUTA	**Tutak**	**1.35**	**240**	*i* P		**Pg**	18 54 13.9	**+1.3**
TUTA				*i* S		**Sg**	18 54 34.9	**+4.7**
AKH	**Akhalkalaki**	**1.47**	**335**	P		**Pn**	18 54 15.0	**+1.9**
AKH				S		**Sn**	18 54 36.1	**+3.7**
AKH	**Akhalkalaki**	**1.47**	**335**	P		**Pn**	18 54 15.0	**+1.9**
AKH				S		**Sn**	18 54 36.1	**+3.7**
DGRG	**David-gareji**	**1.58**	**30**	P		**Pn**	18 54 15.9	**+1.3**
DGRG				S		**Sn**	18 54 37.6	**+2.6**
DGRG	**David-gareji**	**1.58**	**30**	P		**Pn**	18 54 15.9	**+1.3**
DGRG				S		**Sn**	18 54 37.6	**+2.6**
MTA	**Mtatsminda**	**1.64**	**12**	P		**Pn**	18 54 17.1	**+1.6**
MTA				S		**Sn**	18 54 39.0	**+2.3**
MTA	**Mtatsminda**	**1.64**	**12**	P		**Pn**	18 54 17.1	**+1.6**
MTA				S		**Sn**	18 54 39.0	**+2.3**
GRS	**Goris**	**1.65**	**110**	*e*P		**Pg**	18 54 19.0	**+0.8**
GRS				*e*S		**Sn**	18 54 39.0	**+2.2**
GRS	**Goris**	**1.65**	**110**	P		**Pg**	18 54 19.0	**+0.8**
GRS				S		**Sn**	18 54 39.0	**+2.2**
VANB	**Van**	**1.66**	**206**	*e*PN		**Pn**	18 54 14.6	**-1.1**
VANB	**Van**	**1.66**	**206**	Pn		**Pn**	18 54 14.6	**-1.1**
VANB	**Van**	**1.66**	**206**	Pn		**Pn**	18 54 14.6	**-1.1**
TBLG	**Delisi**	**1.67**	**10**	P		**Pn**	18 54 17.8	**+1.9**
TBLG				S		**Sn**	18 54 40.1	**+2.7**
TBLG	**Delisi**	**1.67**	**10**	P		**Pn**	18 54 17.8	**+1.9**
TBLG				S		**Sn**	18 54 40.1	**+2.7**
TVAN	**Van**	**1.71**	**205**	*i* P		**Pg**	18 54 19.6	**+0.2**
TVAN				*i* S		**Sg**	18 54 50.7	**+9.0**
TVAN	**Van**	**1.71**	**205**	*i* P		**Pg**	18 54 19.6	**+0.2**
TVAN				*i* S		**Sg**	18 54 50.7	**+9.1**
HOMI	**Horasan**	**1.86**	**270**	*e*P		**Pn**	18 54 22.6	**+4.1**
GOR	**Gori**	**1.91**	**355**	P		**Pg**	18 54 22.3	**-0.9**
GOR				S		**Sg**	18 54 48.6	**+0.7**
GOR	**Gori**	**1.91**	**355**	P		**Pg**	18 54 22.3	**-0.8**
GOR				S		**Sg**	18 54 48.6	**+0.8**
DAGI	**Agillar**	**2.09**	**299**	*i* P		**Pg**	18 54 26.9	**+0.3**
DAGI				*i* S		**Sg**	18 54 57.9	**+4.2**
DAGI	**Agillar**	**2.09**	**299**	*e*P		**Pg**	18 54 26.8	**+0.1**
DDEM	**Demirkent**	**2.13**	**293**	*i* P		**Pg**	18 54 27.1	**-0.3**
DDEM	**Demirkent**	**2.13**	**293**	*e*P		**Pg**	18 54 27.4	**0.0**
DDEM	**Demirkent**	**2.13**	**293**	*i* P		**Pg**	18 54 27.1	**-0.3**
ARTV	**Artvin**	**2.13**	**302**	*i* P		**Pg**	18 54 26.3	**-1.2**
ARTV				*i* S		**Sg**	18 54 56.8	**+1.7**
ARTV	**Artvin**	**2.13**	**302**	*e*P		**Pg**	18 54 26.5	**-0.9**
ARTV	**Artvin**	**2.13**	**302**	*i* P		**Pg**	18 54 26.3	**-1.2**
ARTV				*i* S		**Sg**	18 54 56.8	**+1.7**
EZM	**Erzurum**	**2.29**	**266**	*e*PN		**Pn**	18 54 27.9	**+3.5**
EZM	**Erzurum**	**2.29**	**266**	Pn		**Pn**	18 54 27.9	**+3.5**
DBOC	**Borcka**	**2.38**	**303**	*i* P		**Pg**	18 54 29.2	**-3.1**
DBOC				*i* S		**Sg**	18 55 05.5	**+2.3**
DBOC	**Borcka**	**2.38**	**303**	*e*P		**Pn**	18 54 27.4	**+1.6**
DBOC	**Borcka**	**2.38**	**303**	*i* P		**Pg**	18 54 29.2	**-3.1**
DBOC				*i* S		**Sg**	18 55 05.5	**+2.3**
BCA	**Borcka**	**2.46**	**304**	*e*PN		**Pn**	18 54 30.6	**+3.8**
BCA	**Borcka**	**2.46**	**304**	Pn		**Pn**	18 54 30.6	**+3.8**
BCA	**Borcka**	**2.46**	**304**	*e*Pn		**Pn**	18 54 30.6	**+3.8**
HAKT	**HAKKARI**	**2.57**	**191**	*i* P		**Pn**	18 54 26.6	**-1.6**
HAKT	**HAKKARI**	**2.57**	**191**	⇑*i*P		**Pn**	18 54 25.6	**-2.7**
HAKT	**HAKKARI**	**2.57**	**191**	*i* P		**Pn**	18 54 26.6	**-1.7**
ONI	**Oni**	**2.59**	**345**	P		**Pg**	18 54 34.7	**-1.5**
ONI				S		**Sg**	18 55 09.2	**-0.6**
ONI	**Oni**	**2.59**	**345**	P		**Pg**	18 54 34.7	**-1.5**
ONI				S		**Sg**	18 55 09.2	**-0.5**
BNGL	**BINGOL**	**2.71**	**246**	⇓*i*P		**Pn**	18 54 31.1	**+1.0**
CUKT	**Cukurca**	**2.89**	**192**	*e*PN		**Pn**	18 54 29.5	**-3.1**
CUKT	**Cukurca**	**2.89**	**192**	*e*Pn		**Pn**	18 54 29.5	**-3.1**

*INMG **04** 19:03:46.0, 37.°20N×24.°53W, h15km*
*CSEM **04** 19:04:00.5, 37.°22N×24.°54W, h5km, ML3.4, After PDA*

PDA 04 19:04:00.5±1.2, 37°22N×24°54W, h5km, MD4.1, ML3.4, Error ellipse: s-maj=7.4km s-min=3.8km az=92.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.47**	**243**	*e*P	Pg	19 04 08.5	**-1.0**
PSMN				*e*S	Sg	19 04 14.8	**-0.8**
PSMN	**Pico do Norte,**	**0.47**	**243**	*e*P	Pg	19 04 08.5	**-1.0**
PSMN				*e*S	Sg	19 04 14.8	**-0.8**
PSMA	**Santa Maria**	**0.52**	**245**	*i* P	Pg	19 04 09.2	**-1.3**
PSMA				A		19 04 15.7	
	168nm,0.1s						
PSMA				*e*S	Sg	19 04 16.2	**-1.0**
BART	**Pico Bartolome**	**0.75**	**318**	*i* P	Pg	19 04 12.2	**-2.6**
BART				*e*S	Sg	19 04 21.4	**-3.1**
BART				A		19 04 22.8	
	524nm,0.2s						
GRON	**Grota Negra**	**0.96**	**305**	*e*P	Pg	19 04 13.8	**-5.1**
GRON				*e*S	Sg	19 04 25.0	**-6.3**
GRON				A		19 04 27.7	
	125nm,0.2s						
PDA	**Ponta Delgada**	**1.03**	**301**	*e*P	Pg	19 04 16.4	**-3.9**
PDA				*e*S	Sg	19 04 28.7	**-5.1**
PDA				A		19 04 29.4	
	301nm,0.2s						
PDA	**Ponta Delgada**	**1.03**	**301**	*e*P	Pg	19 04 16.4	**-3.9**
PDA				*e*S	Sg	19 04 28.7	**-5.1**
ADH	**Angra Heroismo**	**2.56**	**305**	*e*P	Pn	19 04 38.5	**-4.2**
ADH				*e*S	Sn	19 05 06.2	**-8.1**
ADH				A		19 05 06.9	
	56nm,0.2s						
ADH	**Angra Heroismo**	**2.56**	**305**	*e*P	Pn	19 04 38.5	**-4.2**
ADH				*e*S	Sn	19 05 06.2	**-8.1**
PID	**Ribeirinha**	**3.08**	**294**	*e*P	Pn	19 04 46.0	**-3.8**
PID				*e*S	Sn	19 05 18.9	**-8.1**
PID	**Ribeirinha**	**3.08**	**294**	*e*P	Pn	19 04 46.0	**-3.8**
PID				*e*S	Sn	19 05 18.9	**-8.1**
PMAN	**Manadas**	**3.14**	**298**	*e*P	Pn	19 04 46.0	**-4.6**
PMAN				*e*S	Sn	19 05 19.8	**-8.6**
	37nm,0.2s						

PMAN	**Manadas**	**3.14**	**298**	*e*P		Pn	19 04 46.0	**-4.6**
PMAN				*e*S		Sn	19 05 19.8	**-8.6**
ROSA	**Rosais**	**3.28**	**298**	*e*P		Pn	19 04 48.7	**-3.9**
ROSA				*e*S		Sn	19 05 23.9	**-8.1**
ROSA	**Rosais**	**3.28**	**298**	*e*P		Pn	19 04 48.7	**-3.9**
ROSA				*e*S		Sn	19 05 23.9	**-8.1**
PICO	**Pico**	**3.33**	**294**	*e*P		Pn	19 04 49.1	**-4.1**
PICO				*e*S		Sn	19 05 25.1	**-8.0**
PICO	**Pico**	**3.33**	**294**	*e*P		Pn	19 04 49.1	**-4.1**
PICO				*e*S		Sn	19 05 25.1	**-8.0**
PCAN	**Candelaria**	**3.36**	**293**	*e*P		Pn	19 04 49.0	**-4.6**
PCAN				*e*S		Sn	19 05 25.6	**-8.2**
PCAN				A			19 05 26.2	
	36nm,0.3s							
PCAN	**Candelaria**	**3.36**	**293**	*e*P		Pn	19 04 49.0	**-4.6**
PCAN				*e*S		Sn	19 05 25.6	**-8.2**
PCED	**Cedros**	**3.58**	**294**	*e*P		Pn	19 04 52.0	**-4.6**
PCED				*e*S		Sn	19 05 33.4	
	28nm,0.3s							
PCED	**Cedros**	**3.58**	**294**	*e*P		Pn	19 04 52.0	**-4.6**
PCED				*e*S		Sn	19 05 30.8	**-8.4**

*DDA **04** 19:27:48.4, 35.°81N×30.°33E, h7km±3km, Md3.3*
*ISCJB **04** 19:27:50.7±1.2, 35.°93N±0.°07×30.°57E±0.°07, h10km, Error ellipse: s-maj=11.4km s-min=6.5km az=30.3*
*ISK **04** 19:27:50.1, 35.°96N×30.°65E, h7km, MD3.1*
*CSEM **04** 19:27:52.3±0.7, 36.°05N×30.°58E, h10km, MD3.3, Error ellipse: s-maj=18.5km s-min=9.0km az=15.0*

ISC 04 19:27:50.7±1.2, 35°89N±0°07×30°55E±0°07, h10km, n23, σ1s07/33, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**0.84**	**294**	*e*P	**Pg**	**19 28 02.2**	**-4.7**
AKAS				*e*S	**Sg**	**19 28 13.4**	**-4.4**
ELL	**Elmali**	**1.00**	**329**	*e*PG	**Pg**	**19 28 09.3**	**-0.7**
ELL				*e*SG	**Sg**	**19 28 23.7**	**+0.7**
ELL	**Elmali**	**1.00**	**329**	*e*Pg	**Pg**	**19 28 09.3**	**-0.7**
ELL				*e*Sg	**Sg**	**19 28 23.7**	**+0.7**
ANTB	**Antalya**	**1.01**	**5**	*e*PG	**Pg**	**19 28 08.3**	**-1.8**
ANTB	**Antalya**	**1.01**	**5**	*e*Pg	**Pg**	**19 28 08.3**	**-1.8**
KORT	**Korkueli**	**1.12**	**352**	*e*P	**Pg**	**19 28 11.8**	**-0.5**
KORT				*e*S	**Sg**	**19 28 20.0**	**+1.2**
KORT	**Korkueli**	**1.12**	**352**	*e*P	**Pg**	**19 28 11.8**	**-0.4**
KORT				*e*S	**Sg**	**19 28 20.0**	**+1.3**
FETY	**Fethiye**	**1.40**	**302**	*e*PN	**Pn**	**19 28 17.0**	**+0.7**
FETY	**Fethiye**	**1.40**	**302**	*e*Pn	**Pn**	**19 28 17.0**	**+0.7**
GAZI	**Gazipasa**	**1.47**	**76**	*e*P	**Pn**	**19 28 19.8**	**+2.5**
GAZI				*e*S	**Sn**	**19 28 37.1**	**+0.6**
GAZI				*e*S	**Sn**	**19 28 43.8**	**+7.3**
GAZI	**Gazipasa**	**1.47**	**76**	*e*P	**Pn**	**19 28 19.8**	**+2.5**
GAZI				*e*S	**Sn**	**19 28 43.8**	**+7.3**
GLHS	**Glhisar (BURDU**	**1.52**	**326**	*e*PN	**Pn**	**19 28 18.0**	**+0.1**
GLHS	**Glhisar (BURDU**	**1.52**	**326**	*e*Pn	**Pn**	**19 28 18.0**	**0.0**
GOLH	**Golhisar**	**1.56**	**330**	*e*P	**Pn**	**19 28 17.1**	**-1.5**
GOLH				*e*S	**Sn**	**19 28 39.3**	**+0.5**
GOLH	**Golhisar**	**1.56**	**330**	*e*P	**Pn**	**19 28 17.0**	**-1.5**
GOLH				*e*S	**Sn**	**19 28 39.3**	**+0.5**
SUTC	**Sutluce-Ispart**	**1.62**	**13**	*e*PN	**Pn**	**19 28 18.5**	**-0.9**
SUTC	**Sutluce-Ispart**	**1.62**	**13**	*e*Pn	**Pn**	**19 28 18.5**	**-0.8**
HDMB	**Hadim**	**1.89**	**55**	*e*PN	**Pn**	**19 28 22.6**	**-0.4**
HDMB	**Hadim**	**1.89**	**55**	*e*Pn	**Pn**	**19 28 22.6**	**-0.5**
YER	**Yerkesik**	**2.21**	**305**	*e*PN	**Pn**	**19 28 28.6**	**+1.2**
YER	**Yerkesik**	**2.21**	**305**	*e*Pn	**Pn**	**19 28 28.6**	**+1.2**
KONT	**Konya--Tatoy**	**2.51**	**35**	*e*PN	**Pn**	**19 28 31.1**	**-0.5**
KONT	**Konya--Tatoy**	**2.51**	**35**	*e*Pn	**Pn**	**19 28 31.1**	**-0.5**

PGC 04 19:30:54.0±0.1, 47°40N×128°89W, h10km, ML3.1/5, Mw3.7,3D,294km Wsw of Tofino, Bc Off Coast Of Washington, Off coast of Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**2.74**	**25**	⇓Pn	Pn	19 31 36.0	**-2.0**
OZB	**Mount Ozzard**	**2.76**	**54**	⇑Pn	Pn	19 31 37.0	**-1.3**
BMSB	**Bamfield Mari**	**2.90**	**59**	⇓Pn	Pn	19 31 39.1	**-1.1**
GDR	**Gold River**	**3.05**	**37**	⇑Pn	Pn	19 31 41.1	**-1.1**
GDR				⇓Sn	Sn	19 32 15.3	**-3.4**
BTB	**Buttle Lake**	**3.06**	**46**	⇑Pn	Pn	19 31 40.9	**-1.4**
WOSB	**Woss**	**3.16**	**28**	Pn	Pn	19 31 42.9	**-0.9**
MAYB	**Maynard**	**3.21**	**20**	⇑Pn	Pn	19 31 43.1	**-1.4**
PFB	**Port Renfrew**	**3.21**	**67**	Pn	Pn	19 31 43.1	**-1.4**
PFB				⇑Sn	Sn	19 32 19.8	**-3.0**
MGB	**Mount Grey**	**3.24**	**59**	⇑Pn	Pn	19 31 43.4	**-1.4**
MGB				⇑Sn	Sn	19 32 19.4	**-4.0**

*IDC **04** 19:38:52.2±1.1, 51.°48N×172.°37W, h0km, mb3.9/11, mb1 4.1/14, mb1mx3.9/32, mbtmp3.9/14, ML3.7/3, MS4.3/2, Ms1 4.3/2, ms1mx3.4/34, Error ellipse: s-maj=28.5km s-min=14.9km az=168.0*
*ISCJB **04** 19:38:57.5±1.3, 51.°7N±0.°2×172.°51W±0.°09, h47km±10km, mb3.9/12, MS4.3/2, Error ellipse: s-maj=26.2km s-min=7.0km az=167.2*
*NEIC **04** 19:38:58.5±1.1, 51.°60N×172.°49W, h42km±8km, mb4.0/3, Error ellipse: s-maj=21.0km s-min=6.3km az=166.0*

ISC 04 19:38:58.5±1.3, 51°6N±0°2×172°49W±0°09, h40km±9km, n39, σ1s00/39, mb3.9/12, MS4.3/2, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSTR	**Great Sitkin T**	**2.26**	**283**	*e*Pn	**Pn**	**19 39 34.2**	**+0.8**
NIKO	**Nikolski**	**2.61**	**57**	*e*Pn	**Pn**	**19 39 37.5**	**-0.5**
ADK	**Adak**	**2.62**	**277**	P	**Pn**	**19 39 37.8**	**-0.4**
ADK				S	**Sn**	**19 40 08.8**	**0.0**
UNV	**Unalaska Valle**	**4.26**	**56**	*e*Pn	**Pn**	**19 40 01.4**	**+0.6**
FX1	**Attu Island--F**	**8.89**	**284**	Pn	**Pn**	**19 41 05.6**	**+1.3**
	1.3nm,0.3s,baz=85,slow=23,SNR=8.5						
FX1	**Attu Island--F**	**8.89**	**284**	Pn	**Pn**	**19 41 05.6**	**+1.3**
KDAK	**Kodiak Island**	**13.03**	**54**	Pn	**Pn**	**19 42 00.1**	**-0.6**
	0.2nm,0.3s,baz=260,slow=6.1,SNR=4.3						
KDAK	**Kodiak Island**	**13.03**	**54**	Pn	**Pn**	**19 42 00.1**	**-0.6**
PETK	**Petropavlovsk-**	**18.21**	**286**	P	**Pn**	**19 43 06.6**	**-1.2**
	0.2nm,0.3s,baz=89,slow=9.7,SNR=3.9						
PETK	**Petropavlovsk-**	**18.21**	**286**	P	**Pn**	**19 43 06.6**	**-1.3**
PAX	**Paxson**	**18.33**	**41**	P	**Pn**	**19 43 10.1**	**+0.8**
	1.0nm,0.6s						
ILAR	**Eielson Array**	**18.66**	**35**	P	**Pn**	**19 43 11.2**	**-2.0**
	0.6nm,0.3s,baz=249,slow=11,SNR=53						
ILAR	**Eielson Array**	**18.66**	**35**	P	**Pn**	**19 43 11.2**	**-2.0**
DOT	**Dot Lake**	**19.19**	**40**	P	**Pn**	**19 43 17.5**	**-2.1**
	19nm,1.1s						
DLBC	**Dease Lake**	**24.92**	**57**	P	**P**	**19 44 19.6**	**+2.3**
	1.7nm,0.7s,mb3.7,baz=294,slow=10.0,SNR=3.3						
DLBC				LR	LR	19 52 50.9	
	comp=Z,273nm,18.8s,MS3.8,baz=59,slow=34						
DLBC	**Dease Lake**	**24.92**	**57**	P	**P**	**19 44 19.6**	**+2.3**
DLBC				LR	LR	19 52 50.9	
INK	**Inuvik**	**25.03**	**34**	P	**P**	**19 44 18.9**	**+0.6**
	2.5nm,0.5s,mb4.0,baz=233,slow=8.2,SNR=26						
INK	**Inuvik**	**25.03**	**34**	*e*P	**P**	**19 44 18.2**	**-0.1**
	3.2nm,0.5s,mb4.1						
YKA	**Yellowknife Ar**	**32.17**	**48**	P	**P**	**19 45 23.2**	**+1.2**
	3.6nm,1.1s,mb4.1,baz=277,slow=9.8,SNR=3.4						
YKA	**Yellowknife Ar**	**32.17**	**48**	P	**P**	**19 45 23.2**	**+1.2**
PDAR	**Pinedale Array**	**42.45**	**76**	P	**P**	**19 46 49.6**	**+0.5**
	0.9nm,0.7s,mb3.5,baz=336,slow=2.4,SNR=5.6						
PDAR	**Pinedale Array**	**42.45**	**76**	P	**P**	**19 46 49.6**	**+0.5**
SONM	**Songino Array**	**50.01**	**300**	P	**P**	**19 47 48.8**	**+0.4**
	0.2nm,0.3s,mb3.6,baz=52,slow=9.6,SNR=2.8						
SONM	**Songino Array**	**50.01**	**300**	P	**P**	**19 47 48.8**	**+0.4**
SPITS	**Spitsbergen Ar**	**50.35**	**358**	P	**P**	**19 47 50.8**	**+0.2**
	14nm,1.0s,mb4.9,baz=51,slow=7.7,SNR=5.6						
SPITS	**Spitsbergen Ar**	**50.35**	**358**	P	**P**	**19 47 50.8**	**+0.2**
KURK	**Kurchatov**	**61.62**	**317**	P	**P**	**19 49 12.1**	**+0.6**
	0.2nm,0.3s,mb3.7,baz=46,slow=7.0,SNR=4.4						
KURK	**Kurchatov**	**61.62**	**317**	P	**P**	**19 49 12.1**	**+0.6**
MKAR	**Makanchi Array**	**62.89**	**312**	P	**P**	**19 49 19.3**	**-0.8**
	0.1nm,0.3s,mb3.4,baz=53,slow=5.8,SNR=4.3						
MKAR	**Makanchi Array**	**62.89**	**312**	P	**P**	**19 49 19.3**	**-0.8**
BVAR	**Borovoye Array**	**63.16**	**323**	P	**P**	**19 49 21.7**	**-0.1**
	0.7nm,0.4s,mb4.2,baz=58,slow=6.5,SNR=12						
BVAR	**Borovoye Array**	**63.16**	**323**	P	**P**	**19 49 21.7**	**-0.1**
NOA	**NORSAR Array B**	**67.65**	**358**	P	**P**	**19 49 50.9**	**+0.3**
	0.4nm,0.5s,mb3.7,baz=4.6,slow=6.6,SNR=3.7						
NOA	**NORSAR Array B**	**67.65**	**358**	P	**P**	**19 49 50.9**	**+0.3**
GERES	**GERESS Array B**	**79.77**	**356**	LR	LR	20 28 30.2	
	comp=Z,421nm,20.7s,MS4.8,baz=237,slow=37						

WRA	**Warramunga Arr**	**85.05**	**229**	P		**P**	**19 51 28.1**	**-1.5**
	0.5nm,0.9s,mb3.6,baz=35,slow=5.9,SNR=3.4							
WRA	**Warramunga Ar**	**85.05**	**229**	P		**P**	**19 51 28.1**	**-1.5**
ASAR	**Alice Springs**	**88.45**	**228**	P		**P**	**19 51 46.0**	**-0.1**
	0.6nm,0.6s,mb4.0,baz=29,slow=5.5,SNR=14							
ASAR	**Alice Springs**	**88.45**	**228**	P		**P**	**19 51 46.0**	**-0.1**

*ISCJB **04** 20:05:37.9±5.5, 56.°4S±0.°2×27.°5W±0.°4, h72km±54km, mb3.8/6, Error ellipse: s-maj=40.9km s-min=20.5km az=148.9*
*IDC **04** 20:05:43.0±7.7, 56.°41S×27.°49W, h105km±70km, mb3.6/5, mb1 3.8/6, mb1mx3.6/17, mbtmp3.6/6, ML3.9/1, Error ellipse: s-maj=38.4km s-min=13.5km az=64.0*
*NEIC **04** 20:05:44.4±4.2, 56.°45S×27.°51W, h122km±39km, mb3.5/2, Error ellipse: s-maj=26.4km s-min=12.0km az=58.0*

ISC 04 20:05:38.6±4.4, 56.°4S±0.°1×27.°4W±0.°4, h62km±44km, n20, σ0s38/16, mb3.8/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA2	**Neumayer--Watz**	**16.93**	**157**	*e*P	**Pn**	**20 09 30.8**	**-0.2**
	baz=315,slow=13						
SNAA	**Sanae**	**18.49**	**155**	P	**Pn**	**20 09 50.2**	**+0.3**
	0.4nm,0.3s,baz=305,slow=13,SNR=45						
SNAA				S	**S**	**20 13 16.6**	**+0.2**
	0.0nm,0.3s,baz=0.0,slow=20,SNR=2.8						
SNAA	**Sanae**	**18.49**	**155**	P	**Pn**	**20 09 50.2**	**+0.3**
SNAA				S	**S**	**20 13 16.6**	**+0.2**
QSPA	**South Pole Qui**	**33.86**	**180**	P	**P**	**20 12 14.6**	**+0.1**
	1.3nm,0.4s,mb4.2,baz=251,slow=2.9,SNR=14						
QSPA	**South Pole Qui**	**33.86**	**180**	P	**P**	**20 12 14.6**	**+0.1**
CPUP	**Villa Florida**	**36.93**	**312**	P	**P**	**20 12 40.9**	**-0.5**
	0.5nm,0.3s,mb3.8,baz=126,slow=8.7,SNR=3.9						
CPUP	**Villa Florida**	**36.93**	**312**	P	**P**	**20 12 40.9**	**-0.5**
MAW	**Mawson**	**39.96**	**143**	P	**P**	**20 13 05.8**	**-0.5**
	0.5nm,0.8s,mb3.3						
VNDA	**Vanda**	**46.23**	**183**	P	**P**	**20 13 57.0**	**+0.2**
	1.2nm,0.6s,mb4.0,baz=189,slow=6.0,SNR=13						
VNDA	**Vanda**	**46.23**	**183**	*e*P	**P**	**20 13 56.3**	**-0.5**
	0.8nm,0.7s,mb3.8						
LPAZ	**La Paz**	**50.46**	**306**	P	**P**	**20 14 30.6**	**+0.6**
	2.6nm,0.5s,mb4.6,baz=112,slow=5.4,SNR=13						
LPAZ	**La Paz**	**50.46**	**306**	P	**P**	**20 14 30.6**	**+0.6**
TORD	**Torodi Ar. Bea**	**73.42**	**30**	P	**P**	**20 17 04.2**	**+0.2**
	0.2nm,0.5s,mb3.3,baz=197,slow=6.3,SNR=5.9						
TORD	**Torodi Ar. Bea**	**73.42**	**30**	P	**P**	**20 17 04.2

FRF	**La Foret Royal**	**1.59**	**208**	*e*Pg	**Pg**	20 14 01.0	**-1.5**
FRF				*e*Sg	**Sg**	20 14 22.3	**-0.8**
	3.5nm,0.3s						
FRF	**La Foret Royal**	**1.59**	**208**	*e*Pg	**Pg**	20 14 01.0	**-1.5**
FRF				*e*Sg	**Sg**	20 14 22.3	**-0.8**
FRF	**La Foret Royal**	**1.59**	**208**	*e*Pg	**Pg**	20 14 01.0	**-1.5**
FRF				*e*Sg	**Sg**	20 14 22.3	**-0.8**
	1.8nm,0.3s						
SMRF	**Simiane la Rot**	**1.79**	**237**	*e*Pg	**Pg**	20 14 05.8	**-0.6**
SMRF				*e*Sg	**Sg**	20 14 30.1	**+0.5**
	2.0nm,0.2s						
SMRF	**Simiane la Rot**	**1.79**	**237**	*e*Pg	**Pg**	20 14 05.8	**-0.6**
SMRF				*e*Sg	**Sg**	20 14 30.1	**+0.5**
SMRF	**Simiane la Rot**	**1.79**	**237**	*e*Pg	**Pg**	20 14 05.8	**-0.6**
LMR	**La Mourre**	**1.83**	**207**	*e*Pg	**Pg**	20 14 05.2	**-2.0**
LMR				*e*Sg	**Sg**	20 14 29.8	**-1.2**
	1.9nm,0.3s						
LMR	**La Mourre**	**1.83**	**207**	*e*Pg	**Pg**	20 14 05.2	**-2.0**
LMR				*e*Sg	**Sg**	20 14 29.8	**-1.2**
LMR	**La Mourre**	**1.83**	**207**	*e*Pg	**Pg**	20 14 05.2	**-2.0**
LMR				*e*Sg	**Sg**	20 14 29.8	**-1.2**
	0.9nm,0.3s						
VIVF	**Saint-Julien-l**	**2.12**	**268**	*e*P	**Pn**	20 14 08.9	**+1.8**
VIVF	**Saint-Julien-l**	**2.12**	**268**	*e*Pg	**Pg**	20 14 11.8	**-0.9**
VIVF				*e*Sg	**Sg**	20 14 40.8	**+0.5**
	1.4nm,0.3s						
VIVF	**Saint-Julien-l**	**2.12**	**268**	*e*P	**Pn**	20 14 08.9	**+1.8**
VIVF				*e*Pg	**Pg**	20 14 11.8	**-0.9**
VIVF				*e*Sg	**Sg**	20 14 40.8	**+0.5**
VIVF	**Saint-Julien-l**	**2.12**	**268**	*e*P	**Pn**	20 14 08.9	**+1.8**
VIVF	**Saint-Julien-l**	**2.12**	**268**	*e*Pg	**Pg**	20 14 11.8	**-0.9**
VIVF				*e*Sg	**Sg**	20 14 40.8	**+0.5**
	0.7nm,0.3s						

IDC 04 20:21:10.3±4.3, 5°53S×104°06E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/21, mbtmp3.4/5, Error ellipse: s-maj=204.6km s-min=21.1km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**24.36**	**348**	P	P	20 26 30.6	+0.5
	0.5nm,0.8s,baz=177,slow=8.2,SNR=6.1						
WRA	**Warramunga Arr**	**32.74**	**119**	P	P	20 27 45.1	0.0
	0.2nm,0.8s,baz=291,slow=9.5,SNR=3.9						
ASAR	**Alice Springs**	**33.92**	**125**	P	P	20 27 55.5	+0.2
	0.1nm,0.3s,baz=300,slow=8.5,SNR=4.1						
STKA	**Stephens Creek**	**43.80**	**131**	P	P	20 29 17.9	-0.1
	1.3nm,0.7s,baz=318,slow=9.6,SNR=6.1						
ZALV	**Zalesovo Beam**	**61.42**	**347**	P	P	20 31 27.9	-0.3
	0.4nm,0.4s,baz=155,slow=4.4,SNR=3.0						

GUC 04 20:42:43.4±0.6, 23°86S×68°91W, h112km±5km, ML3.8, 3C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.15**	**35**	*e*P	Pn	20 43 07.3	+1.0
SPCH				*e*S	Sn	20 43 25.5	+1.9
SPCH				AML	AML	20 43 26.9	
	comp=E,3μm,0.2s						
ANCH	**Antofagasta**	**1.39**	**277**	*e*P	Pn	20 43 09.3	+0.3
ANCH				*e*S	Sn	20 43 29.1	+0.7
ANCH				AML	AML	20 43 30.9	
	comp=N,853nm,0.1s						
MECH	**Mejillones**	**1.60**	**298**	*e*P	Pn	20 43 12.3	+0.8
MECH				*e*S	Sn	20 43 33.9	+1.0
MECH				AML	AML	20 43 44.8	
	comp=E,852nm,0.6s						
PB04	**Plate Boundary**	**1.67**	**341**	*e*P	Pn	20 43 16.2	+3.8
PB04				*e*S	Sn	20 43 41.0	+6.5
PB04				AML	AML	20 43 46.3	
	comp=N,755nm,0.3s						
MACH	**Maria Elena**	**1.83**	**335**	*e*P	Pn	20 43 15.8	+1.4
MACH				*e*S	Sn	20 43 40.3	+2.3
PB09	**Plate Boundary**	**2.08**	**351**	*e*P	Pn	20 43 19.3	+1.8
PB09				*e*S	Sn	20 43 46.9	+3.4
PB09				AML	AML	20 43 51.7	
	comp=N,2μm,0.5s						
PB07	**Plate Boundary**	**2.31**	**337**	*e*P	Pn	20 43 21.6	+1.2
PB07				*e*S	Sn	20 43 50.6	+1.9
PB07				AML	AML	20 44 00.6	
	comp=N,485nm,0.1s						
HMBC	**Humberston**	**3.68**	**345**	*e*P	Pn	20 43 38.5	0.0
PSGC	**Pisagua**	**4.39**	**345**	*e*P	Pn	20 43 46.9	-1.1

*IDC **04** 20:48:47.0±0.7, 5°73S×103°71E, h0km, mb4.3/15, mb1 4.4/15, mb1mx4.2/25, mbtmp4.3/15, Error ellipse: s-maj=30.9km s-min=13.0km az=51.0*
*NEIC **04** 20:48:52.7±2.9, 5°66S×103°79E, h40km±26km, mb4.6/20, Error ellipse: s-maj=16.9km s-min=5.2km az=54.0*
*ISCJB **04** 20:48:54.8±0.8, 5°74S±0°06×103°74E±0°07, h79km±6km, mb4.3/33, Error ellipse: s-maj=14.7km s-min=5.4km az=137.2*
*DJA **04** 20:48:54, 5°85S×103°64E, h30km, MLv4.6/12*
ISC 04 20:48:55.2±0.8, 5°78S±0°06×103°69E±0°06, h66km±6km, h61km±2.7km:pP-P, n79, σ0°96/81, mb4.3/33, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**0.84**	**26**	P	**Pn**	20 49 10.6	**-1.0**
LWLI				S	**Sn**	20 49 23.9	**+0.3**
MDSI	**Maura Dua**	**1.37**	**21**	P	**Pn**	20 49 18.1	**-0.3**
MDSI				S	**Sn**	20 49 37.0	**+1.2**
KLSI		**1.50**	**44**	P	**Pn**	20 49 19.8	**-0.2**
MNAI	**Manna**	**1.59**	**333**	P	**Pn**	20 49 21.5	**+0.2**
MNAI				S	**Sn**	20 49 41.7	**+0.8**
BLSI	**Bandar Lampung**	**1.60**	**75**	P	**Pn**	20 49 20.4	**-1.0**
BLSI				S	**Sn**	20 49 42.1	**+0.9**
CGJI	**Cibinong**	**2.16**	**113**	P	**Pn**	20 49 26.7	**-2.2**
SBJI	**Serang**	**2.45**	**98**	P	**Pn**	20 49 34.1	**+1.2**
SKJI	**Sukabumi**	**3.10**	**113**	P	**Pn**	20 49 41.7	**0.0**
DBJI	**Dramaga**	**3.14**	**104**	P	**Pn**	20 49 43.0	**+0.7**
CBJI	**Citeko**	**3.21**	**102**	P	**Pn**	20 49 46.3	**+3.1**
PPBI	**Pangkal Pinang**	**4.34**	**34**	P	**Pn**	20 49 59.3	**+0.5**
CISI	**Cisompet, Garu**	**4.46**	**114**	P	**Pn**	20 49 59.2	**-1.2**
PDSI	**Padang**	**5.81**	**326**	P	**Pn**	20 50 17.7	**-1.2**
MBWA	**Marble Bar**	**21.80**	**136**	*e*P	**P**	20 53 42.1	**+0.1**
	7.4nm,0.7s,mb4.1						
CMAR	**Chiang Mai Arr**	**24.53**	**349**	P	**P**	20 54 07.6	**-1.2**
	4.2nm,0.7s,mb4.0,baz=182,slow=9.1,SNR=36						
CMAR	**Chiang Mai Arr**	**24.53**	**349**	P	**P**	20 54 07.6	**-1.2**
FITZ	**Fitzroy Crossi**	**24.68**	**122**	P	**P**	20 54 09.9	**-0.3**
	8.9nm,0.7s,mb4.3						
FITZ	**Fitzroy Crossi**	**24.68**	**122**	P	**P**	20 54 09.9	**-0.3**
CHTO	**Chiang Mai**	**24.88**	**349**	*e*P	**P**	20 54 10.6	**-1.4**
	2.2nm,0.7s,mb3.7						
CHTO				*e*		20 54 25.2	
KAKA	**Kakadu**	**29.18**	**106**	*e*P	**P**	20 54 49.5	**-1.1**
	12nm,0.4s,mb4.9						
KAKA				*e*S	**S**	20 59 41.4	**+2.8**
WRA	**Warramunga Arr**	**32.94**	**118**	P	**P**	20 55 23.2	**-0.6**
	1.8nm,0.6s,mb4.1,baz=288,slow=12,SNR=31						
WRA				PcP	PcP	20 58 07.5	+0.7
	0.2nm,0.4s,baz=304,slow=1.9,SNR=5.2						
WRA	**Warramunga Arr**	**32.94**	**118**	P	**P**	20 55 23.2	**-0.6**
WRA				PcP	PcP	20 58 07.5	+0.7
WRAB	**Tennant Creek**	**32.95**	**118**	*e*P	**P**	20 55 22.9	**-0.9**
	3.8nm,0.6s,mb4.4						
ASAR	**Alice Springs**	**34.08**	**125**	P	**P**	20 55 33.5	**0.0**
	1.6nm,0.5s,mb4.1,baz=300,slow=7.6,SNR=36						
ASAR				PcP	PcP	20 58 11.1	+1.1
	0.9nm,0.8s,baz=289,slow=2.2,SNR=6.6						
ASAR	**Alice Springs**	**34.08**	**125**	P	**P**	20 55 33.5	**0.0**
ASAR				PcP	PcP	20 58 11.1	+1.1
ODAN	**Odare**	**36.08**	**335**	*e*P	**P**	20 55 51.0	**+0.3**
	5.5nm,0.5s,mb4.8						
ODAN	**Odare**	**36.08**	**335**	*e*P	**P**	20 55 51.0	**+0.3**
	5.5nm,0.5s,mb4.7						
TAPN	**Taplejung**	**36.38**	**336**	*e*P	**P**	20 55 54.2	**+0.9**
TAPN	**Taplejung**	**36.38**	**336**	*e*P	**P**	20 55 54.2	**+0.9**
GUN	**Gumba**	**37.65**	**334**	*e*P	**P**	20 56 04.6	**+0.6**
	14nm,0.4s,mb5.2						
GUN	**Gumba**	**37.65**	**334**	*e*P	**P**	20 56 04.6	**+0.6**
	14nm,0.4s,mb5.2						
DMN	**Daman**	**37.74**	**332**	*e*P	**P**	20 56 05.0	**+0.2**
DMN	**Daman**	**37.74**	**332**	*e*P	**P**	20 56 05.0	**+0.2**
KKN	**Kakani**	**37.81**	**333**	*e*P	**P**	20 56 05.7	**+0.3**
	5.2nm,0.5s,mb4.6						
KKN	**Kakani**	**37.81**	**333**	*e*P	**P**	20 56 05.7	**+0.3**
	5.2nm,0.5s,mb4.6						
GKN	**Gorkha**	**38.29**	**332**	*e*P	**P**	20 56 09.7	**+0.3**
	3.6nm,0.3s,mb4.7						
GKN	**Gorkha**	**38.29**	**332**	*e*P	**P**	20 56 09.7	**+0.3**
	3.6nm,0.3s,mb4.7						
KOLN	**Koldanda**	**38.59**	**331**	*e*P	**P**	20 56 12.5	**+0.6**
	3.1nm,0.3s,mb4.6						
KOLN	**Koldanda**	**38.59**	**331**	*e*P	**P**	20 56 12.5	**+0.6**
	3.1nm,0.3s,mb4.6						
DANN	**Dangsing**	**39.00**	**331**	*e*P	**P**	20 56 15.8	**+0.5**
	17nm,0.6s,mb5.1						
DANN	**Dangsing**	**39.00**	**331**	*e*P	**P**	20 56 15.8	**+0.5**
	17nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**43.91**	**131**	P	**P**	20 56 56.1	**+0.6**
	13nm,0.5s,mb4.9,baz=306,slow=9.1,SNR=80						
STKA	**Stephens Creek**	**43.91**	**131**	*e*P	**P**	20 56 56.1	**+0.5**
	3.3nm,0.6s,mb4.2						
KSRS	**Korea Array**	**48.59**	**26**	P	**P**	20 57 32.6	**+0.4**
	3.1nm,0.6s,mb4.4,baz=224,slow=7.7,SNR=13						
KBL	**Kabul**	**51.74**	**323**	P	**P**	20 57 53.6	**-2.5**
	4.0nm,1.4s,mb4.3						
SONM	**Songino Array**	**53.44**	**2**	P	**P**	20 58 08.7	**+0.4**
	1.5nm,0.5s,mb4.3,baz=175,slow=9.0,SNR=11						
SONM				PcP	PcP	20 59 15.0	+0.3
	1.5nm,0.5s,baz=178,slow=4.2,SNR=5.0						
SONM	**Songino Array**	**53.44**	**2**	P	**P**	20 58 08.7	**+0.4**
SONM				PcP	PcP	20 59 15.0	+0.3
TKM2	**Tokmak 2**	**54.77**	**335**	*e*P	**P**	20 58 17.9	**-0.2**
	8.3nm,0.5s,mb5.0						
AAK	**Ala-Archa**	**55.01**	**334**	P	**P**	20 58 19.1	**-0.8**
AAK				*e*	pP	20 58 36.7	-0.3
EKS2	**Erkin-Say**	**55.35**	**333**	*e*P	**P**	20 58 22.2	**-0.1**
	6.2nm,0.8s,mb4.7						
MK31	**Makanchi Array**	**55.68**	**342**	*e*P	**P**	20 58 24.0	**-0.6**
MKAR	**Makanchi Array**	**55.68**	**342**	P	**P**	20 58 24.4	**-0.2**
	2.3nm,0.6s,mb4.4,baz=150,slow=9.2,SNR=50						
MKAR	**Makanchi Array**	**55.68**	**342**	P	**P**	20 58 24.4	**-0.2**
KKAR	**Karatay Array**	**57.19**	**332**	*e*P	**P**	20 58 35.0	**-0.4**
	1.1nm,0.7s,mb4.0						
KURK	**Kurchatov**	**60.28**	**342**	P	**P**	20 58 55.2	**-1.5**
	2.9nm,1.0s,mb4.3						
ZAA0	**Zalesovo Array**	**61.59**	**347**	*e*P	**P**	20 59 04.2	**-1.3**
ZAA0				*e*	pP	20 59 19.9	-3.0
ZALV	**Zalesovo Beam**	**61.59**	**347**	P	**P**	20 59 05.0	**-0.5**
	6.2nm,0.5s,mb4.9,baz=157,slow=5.5,SNR=38						
ZALV	**Zalesovo Beam**	**61.59**	**347**	P	**P**	20 59 05.0	**-0.6**
YSS	**Yuzh-Sakhalins**	**62.85**	**29**	P	**P**	20 59 13.5	**-0.6**
BRVK	**Borovoye**	**65.07**	**339**	P	**P**	20 59 24.6	**-3.9**
ABKAR	**Akbulak array**	**66.71**	**330**	*e*P	**P**	20 59 38.7	**-0.5**
	4.0nm,0.5s,mb4.5						
ABKAR				*e*		20 59 49.3	
ABKAR				*e*	pP	20 59 53.9	-2.9
ARU	**Arti**	**72.13**	**336**	*e*P	**P**	21 00 12.5	**0.0**
ASF	**Jabal al Asfar**	**73.77**	**306**	P	**P**	21 00 24.9	**+2.2**
	3.1nm,0.8s,mb4.1,baz=347,slow=6.9,SNR=6.2						
ASF	**Jabal al Asfar**	**73.77**	**306**	P	**P**	21 00 24.9	**+2.2**
MMAI	**Mount Meron Ar**	**75.22**	**306**	P	**P**	21 00 33.0	**+1.8**
	2.3nm,0.6s,mb4.1,baz=100,slow=7.5,SNR=7.0						
VNDA	**Vanda**	**77.77**	**169**	P	**P**	21 00 45.3	**+0.6**
	0.8nm,1.0s,mb3.4,baz=326,slow=6.0,SNR=3.8						
VNDA	**Vanda**	**77.77**	**169**	P	**P**	21 00 45.3	**+0.6**
BR131	**Keskin Array S**	**78.57**	**312**	*e*P	**P**	21 00 50.0	**+0.1**
	0.7nm,0.6s,mb3.7						
BRTR	**Keskin Array B**	**78.57**	**312**	P	**P**	21 00 50.2	**+0.3**
	2.0nm,0.8s,mb4.0,baz=135,slow=6.0,SNR=14						
BRTR	**Keskin Array B**	**78.57**	**312**	P	**P**	21 00 50.2	**+0.3**
QSPA	**South Pole Qui**	**84.20**	**180**	P	**P**	21 01 19.5	**+0.6**
	1.9nm,0.7s,mb4.0						
MLR	**Muntele Rosu**	**85.56**	**316**	P	**P**	21 01 26.9	**+0.6**
	0.5nm,1.1s,mb3.4,baz=158,slow=5.4,SNR=4.0						
MLR	**Muntele Rosu**	**85.56**	**316**	P	**P**	21 01 26.9	**+0.6**
FINES	**FINESS Array B**	**89.15**	**332**	P	**P**	21 01 43.9	**+0.6**
	1.9nm,0.7s,mb4.2,baz=104,slow=5.9,SNR=8.6						
FINES	**FINESS Array B**	**89.15**	**332**	P	**P**	21 01 43.9	**+0.6**
SNAA	**Sanae**	**89.69**	**198**	*e*P	**P**	21 01 47.9	**+2.2**
	4.1nm,1.0s,mb4.5						
SNAA				*e*	pP	21 02 04.0	0.0
TXAR	**Lajitas Array**	**145.12**	**45**	PKPbc	PKPbc	21 08 26.7	+1.2
	2.7nm,0.6s,baz=298,slow=1.9,SNR=41						
TXAR	**Lajitas Array**	**145.12**	**45**	PKPbc	PKPbc	21 08 26.7	+1.2
JCT	**Junction City**	**146.96**	**39**	*e*PKPdf	PKPdf	21 08 30.4	+1.4

*ISCJB **04** 21:01:54.8±1.4, 19°0N±0°2×64°8W±0°1, h74km±26km, Error ellipse: s-maj=38.9km s-min=9.8km az=157.3*
*TRN **04** 21:01:54.5, 19°03N×64°81W, h61km, M3.5(RSPR)*
*NEIC **04** 21:01:56.1, 19°03N×64°79W, h70km, MD3.5(RSPR), After RSPR.*
*RSPR **04** 21:01:56.1, 19°03N×64°79W, h70km±4km, MD3.5/6*
ISC 04 21:01:55.3±1.4, 19°0N±0°2×64°8W±0°1, h73km±27km, n34, σ0°33/50, 26C-6D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.51**	**125**	*e*P	**Pn**	21 02 08.5	**0.0**
ABV				*e*S	**Sn**	21 02 18.4	**+0.3**
ABV	**Anegada**	**0.51**	**125**	*e*P	**Pn**	21 02 08.5	**0.0**
ABV				*e*S	**Sn**	21 02 18.4	**+0.3**
TBVI	**Tortola**	**0.62**	**166**	*e*P	**Pn**	21 02 09.3	**-0.3**
TBVI	**Tortola**	**0.62**	**166**	*e*P	**Pn**	21 02 09.3	**-0.3**
TBVI	**Tortola**	**0.62**	**166**	*e*P	**Pn**	21 02 09.3	**-0.3**
STVI	**Saint Thomas**	**0.69**	**195**	*e*P	**Pn**	21 02 09.8	**-0.5**
STVI	**Saint Thomas**	**0.69**	**195**	*e*P	**Pn**	21 02 09.8	**-0.5**
STVI				*e*S	**Sn**	21 02 21.2	**-0.1**
STVI	**Saint Thomas**	**0.69**	**195**	*e*P	**Pn**	21 02 09.8	**-0.5**
STVI				*e*S	**Sn**	21 02 21.2	**-0.1**
MTP	**Monte Pirata**	**1.18**	**219**	*e*P	**Pn**	21 02 16.3	**0.0**
MTP	**Monte Pirata**	**1.18**	**219**	*e*P	**Pn**	21 02 16.3	**0.0**
MTP				*e*S	**Sn**	21 02 32.2	**+0.3**
MTP	**Monte Pirata**	**1.18**	**219**	*e*P	**Pn**	21 02 16.3	**0.0**
MTP				*e*S	**Sn**	21 02 32.2	**+0.3**
CBYP	**Canovanas**	**1.27**	**234**	*e*P	**Pn**	21 02 17.2	**-0.2**
CBYP	**Canovanas**	**1.27**	**234**	*e*P	**Pn**	21 02 17.2	**-0.2**
CBYP				*e*S	**Sn**	21 02 34.1	**+0.1**
CBYP	**Canovanas**	**1.27**	**234**	*e*P	**Pn**	21 02 17.2	**-0.2**
CBYP				*e*S	**Sn**	21 02 34.6	**+0.6**
HUMP	**Col San Antoni**	**1.35**	**230**	*e*P	**Pn**	21 02 17.9	**-0.4**
HUMP	**Col San Antoni**	**1.35**	**230**	*e*P	**Pn**	21 02 17.9	**-0.4**
HUMP				*e*S	**Sn**	21 02 35.7	**0.0**
HUMP	**Col San Antoni**	**1.35**	**230**	*e*P	**Pn**	21 02 17.9	**-0.4**
HUMP				*e*S	**Sn**	21 02 35.7	**0.0**
SJG	**San Juan**	**1.59**	**236**	*e*P	**Pn**	21 02 21.4	**-0.2**
SJG				*e*S	**Sn**	21 02 41.2	**-0.3**
SJG	**San Juan**	**1.59**	**236**	*e*P	**Pn**	21 02 21.4	**-0.2**
SJG				*e*S	**Sn**	21 02 41.2	**-0.3**
SJG	**San Juan**	**1.59**	**236**	*e*P	**Pn**	21 02 21.4	**-0.2**
SJG				*e*S	**Sn**	21 02 41.2	**-0.3**
CELP	**Cerrillos**	**1.96**	**242**	*e*P	**Pn**	21 02 26.7	**+0.3**
CELP	**Cerrillos**	**1.96**	**242**	*e*P	**Pn**	21 02 26.7	**+0.3**
CELP	**Cerrillos**	**1.96**	**242**	*e*P	**Pn**	21 02 26.7	**+0.3**
OBIP	**Obispado Ponce**	**2.00**	**241**	*e*P	**Pn**	21 02 27.0	**0.0**
OBIP				*e*S	**Sn**	21 02 51.6	**+0.6**
OBIP	**Obispado Ponce**	**2.00**	**241**	*e*S	**Sn**	21 02 51.2	**+0.1**
AOPR	**Arecibo Observ**	**2.00**	**251**	*e*P	**Pn**	21 02 27.0	**0.0**
AOPR	**Arecibo Observ**	**2.00**	**251**	*e*P	**Pn**	21 02 27.0	**0.0**
AOPR				*e*S	**Sn**	21 02 50.5	**-0.6**
AOPR	**Arecibo Observ**	**2.00**	**251**	*e*P	**Pn**	21 02 27.0	**0.0**
AOPR				*e*S	**Sn**	21 02 50.5	**-0.6**
ICM	**Isla Caja Muer**	**2.00**	**236**	*e*P	**Pn**	21 02 27.5	**+0.4**
ICM	**Isla Caja Muer**	**2.00**	**236**	*e*P	**Pn**	21 02 27.5	**+0.4**
ICM	**Isla Caja Muer**	**2.00**	**236**	*e*P	**Pn**	21 02 27.5	**+0.4**
CRPR	**Cabo Rojo, PR**	**2.44**	**246**	*e*P	**Pn**	21 02 33.5	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.44**	**246**	*e*P	**Pn**	21 02 33.5	**+0.5**
CRPR	**Cabo Rojo, PR**	**2.44**	**246**	*e*P	**Pn**	21 02 33.5	**+0.5**

*TAP **04** 21:05:01.9, 24°82N×122°49E, h118km, ML3.2, C*
*ISCJB **04** 21:05:02.9±0.9, 24°74N±0°06×122°52E±0°03, h108km±7km, Error ellipse: s-maj=9.5km s-min=4.0km az=171.5*
*JMA **04** 21:05:03.0±0.3, 24°92N×122°57E, h105km*
ISC 04 21:05:03.2±0.9, 24°75N±0°06×122°52E±0°03, h109km±7km, n25, σ0°39/48, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.53**	**123**	P	**Pn**	21 05 20.2	**+0.1**
TWB1	**Santiao Chiao**	**0.55**	**298**	P	**Pn**	21 05 19.9	**-0.3**
	baz=283						
TWB1				*e*S	**Sn**	21 05 32.5	**-0.5**
	baz=283						
TWC	**Suao**	**0.62**	**257**	P	**Pn**	21 05 20.4	**-0.4**
	baz=245						
TWC				S	**Sn**	21 05 34.0	**-0.1**
	baz=245						
TWE	**Neicheng**	**0.77**	**268**	P	**Pn**	21 05 21.9	**-0.1**
	baz=262						
TWE				S	**Sn**	21 05 36.3	**0.0**
	baz=262						
ENA	**Nanau**	**0.78**	**246**	P	**Pn**	21 05 22.3	**+0.2**
	baz=236						
ENA				S	**Sn**	21 05 36.6	**+0.3**
	baz=236						
ENTT	**Nioudou**	**0.87**	**263**	P	**Pn**	21 05 23.0	**0.0**
	baz=262						
ENTT				S	**Sn**	21 05 37.5	**-0.4**
	baz=262						
NSK	**Sanguang**	**1.06**	**266**	P	**Pn**	21 05 24.7	**-0.2**
	baz=269						
NSK				S	**Sn**	21 05 41.4	**+0.1**
	baz=269						
TWD	**Chiawan**	**1.07**	**232**	P	**Pn**	21 05 24.9	**-0.1**
	baz=224						
TWD				S	**Sn**	21 05 41.7	**+0.1**
	baz=224						
NNS	**Nan Shan**	**1.09**	**254**	P	**Pn**	21 05 25.2	**0.0**
	baz=244						
NNS				S	**Sn**	21 05 42.1	**+0.3**
	baz=244						
HWA	**Hwalien**	**1.13**	**227**	*e*P	**Pn**	21 05 25.6	**-0.2**
	baz=217						
HWA				*e*S	**Sn**	21 05 42.7	**-0.1**
	baz=217						
IRIF	**Iriomote-Funau**	**1.18**	**110**	P	**Pn**	21 05 25.9	**-0.3**
IRIF				*e*S	**Sn**	21 05 43.8	**+0.2**
WHF	**Hehuan Shan**	**1.29**	**242**	P	**Pn**	21 05 27.7	**+0.3**
	baz=238						
WHF				*e*S	**Sn**	21 05 46.3	**+0.5**
	baz=238						
TWT	**Tachien**	**1.32**	**248**	*e*P	**Pn**	21 05 28.1	**+0.4**
	baz=240						
TWT				*e*S	**Sn**	21 05 47.2	**+0.8**
	baz=240						
ESL	**Shilin**	**1.36**	**227**	*e*P	**Pn**	21 05 28.2	**0.0**
	baz=231						
ESL				*e*S	**Sn**	21 05 46.8	**-0.5**
	baz=231						
HATJ	**Hateruma jima**	**1.36**	**120**	P	**Pn**	21 05 28.8	**+0.5**
NSTT	**Nanjuang**	**1.39**	**265**	*e*P	**Pn**	21 05 28.1	**-0.4**
	baz=262						
NSTT				*e*S	**Sn**	21 05 47.6	**-0.2**
	baz=262						
JKRS	**Kuro-shima**	**1.45**	**110**	P	**Pn**	21 05 29.5	**+0.1**
JKRS				*e*S	**Sn**	21 05 49.7	**+0.5**
JIJ	**Ishigaki jima**	**1.53**	**104**	P	**Pn**	21 05 30.0	**-0.3**
JIJ				*e*S	**Sn**	21 05 50.1	**-0.8**
EHY	**Hungye**	**1.65**	**222**	*e*P	**Pn**	21 05 32.0	**+0.2**
	baz=226						
EHY				*e*S	**Sn**	21 05 53.9	**+0.4**
	baz=226						
SMLT	**Sun Moon Lake**	**1.71**	**240**	*e*P	**Pn**	21 05 32.6	**+0.1**
	baz=234						
SMLT				*e*S	**Sn**	21 05 55.2	**+0.4**
	baz=234						
TYC	**Yuchr**	**1.73**	**241**	*e*P	**Pn**	21 05 32.8	**0.0**
	baz=236						
TYC				*e*S	**Sn**	21 05 55.3	**0.0**
	baz=236						
TWF1	**Yuli**	**1.79**	**219**	*e*P	**Pn**	21 05 33.1	**-0.3**
	baz=223						
TWF1				*e*S	**Sn**	21 05 56.1	**-0.3**
	baz=223						
JTJ	**Tarama**	**1.99**	**93**	P	**Pn**	21 05 36.0	**0.0**
JTJ				*e*S	**Sn**	21 06 01.5	**+0.5**
CHN5	**Tsauling**	**2.04**	**236**	*e*P	**Pn**	21 05 36.9	**+0.3**
	baz=242						
CHN5				*e*S	**Sn**	21 06 02.5	**+0.4**
	baz=242						
TWG	**Pinlang**	**2.33**	**215**	*e*P	**Pn**	21 05 40.6	**+0.1**
	baz=213						
TWG				*e*S	**Sn**	21 06 07.4	**-1.6**
	baz=213						

IDC 04 21:11:44.3±3.3, 4°82S×134°06E, h0km, mb3.4/1, mb1 3.9/4, mb1mx3.6/16, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=130.6km s-min=31.6km az=82.0, Irian Jaya region

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ALT	**Altintas**	**2.21**	**15**	*e*PN	**Pn**	**21 17 07.6 -0.4**
KARP	**Karpathos**	**2.25**	**233**	*e*P	**Pn**	**21 17 09.8 +1.4**
BLCB	**Balcova**	**2.35**	**309**	*e*PN	**Pn**	**21 17 09.9 0.0**
BLCB	**Balcova**	**2.35**	**309**	*e*Pn	**Pn**	**21 17 09.9 0.0**
HDMB	**Hadim**	**2.50**	**88**	*e*PN	**Pn**	**21 17 12.4 +0.4**
LAST	**Lasithi**	**3.60**	**242**	*e*P	**Pn**	**21 17 28.6 +1.5**

*ISCJB **04** 21:28:18.0±0.6,61°.45N±0°.03×147°.99E±0°.07,h10km, mb3.7/6,Error ellipse: s-maj=5.7km s-min=4.2km az=138.4*
*NERS **04** 21:28:17.2,61°.40N×147°.56E,h8km*
*IDC **04** 21:28:19.1±1.6,61°.51N×148°.21E,h0km,mb3.7/6, mb1 3.9/7,mb1mx3.6/28,mbtmp3.7/7,ML3.1/1,Error ellipse: s-maj=41.2km s-min=25.1km az=8.0*
*MOS **04** 21:28:24.6±1.1,62°.09N×147°.98E,h31km,mb4.0/4,Error ellipse: s-maj=44.6km s-min=22.3km az=103.8*

ISC 04 21:28:16.8±0.6,61°.41N±0°.03×147°.59E±0°.07,h10km,n26, σ1§26/35,mb3.7/6,2D,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OCHR	**Omchak**	**0.29**	**27**	⇓*i*Pg	**Pg**	**21 28 23.1**	**+0.5**
OCHR				Pgmax		21 28 23.2	
	12μm,0.1s						
OCHR				*e*Sg	**Sg**	**21 28 26.4**	**-0.1**
OCHR				Sgmax		21 28 27.9	
	34μm,0.3s						
OCHR				Sgmax		21 28 27.9	
	90μm,0.3s						
SUUS	**Susuman**	**1.40**	**11**	*e*P	**Pn**	**21 28 39.0**	**-3.3**
SUUS				pmax	pmax		
	comp=Z,300nm,0.3s						
SUUS	**Susuman**	**1.40**	**11**	⇓*i*Pg	**Pg**	**21 28 42.8**	**-0.8**
SUUS				Pgmax		21 28 43.2	
	comp=Z,780nm,0.3s						
SUUS				*e*Sg	**Sg**	**21 29 00.3**	**-1.5**
SUUS				Sgmax		21 29 02.7	
	comp=Z,4μm,0.3s						
SUUS				Sgmax		21 29 02.7	
	comp=Z,20nm,0.3s						
SNGR	**Sinegor'e**	**1.49**	**63**	*e*Pg	**Pg**	**21 28 46.3**	**+0.9**
SNGR				Pgmax		21 28 46.7	
	comp=Z,1μm,0.2s						
SNGR				*e*Sg	**Sg**	**21 29 07.4**	**+2.7**
SNGR				Sgmax		21 29 08.0	
	comp=Z,3μm,0.3s						
SNGR				Sgmax		21 29 08.0	
	comp=Z,4μm,0.3s						
MGD	**Magadan 1**	**2.06**	**130**	*e*P	**Pn**	**21 28 52.2**	**+0.8**
MGD				*e*Pg	**Pg**	**21 28 54.0**	**-2.2**
MGD				Pgmax		21 28 54.9	
	comp=Z,640nm,0.3s						
MGD				*e*Sg	**Sg**	**21 29 22.4**	**-0.5**
MGD				Sgmax		21 29 23.7	
	comp=Z,7μm,0.4s						
MGD				Sgmax		21 29 23.7	
	comp=Z,6μm,0.4s						
TLAR	**Talaya**	**2.34**	**95**	*e*P	**Pn**	**21 29 01.8**	**+6.6**
TLAR				*e*		21 29 30.7	
TLAR				pmax	pmax		
	comp=Z,60nm,0.2s						
TLAR				smax			
	comp=E,1μm,0.3s						
TLAR	**Talaya**	**2.34**	**95**	*e*Pg	**Pg**	**21 29 00.8**	**-0.8**
TLAR				Pgmax		21 29 02.2	
	comp=E,90nm,0.3s						
TLAR				*e*Sg	**Sg**	**21 29 31.2**	**-0.7**
TLAR				Sgmax		21 29 37.3	
	comp=E,2μm,0.3s						
TLAR				Sgmax		21 29 37.3	
	comp=E,510nm,0.3s						
SEY	**Seymchan**	**2.72**	**54**	*e*P	**Pg**	**21 29 07.0**	**-1.8**
SEY				pmax	pmax		
	comp=Z,840nm,0.3s						
SEY	**Seymchan**	**2.72**	**54**	*e*Pg	**Pg**	**21 29 07.0**	**-1.8**
SEY				Pgmax		21 29 10.3	
	comp=Z,840nm,0.3s						
SEY				*e*Sg	**Sg**	**21 29 43.2**	**-0.9**
SEY				Sgmax		21 29 46.0	
	comp=Z,4μm,0.3s						
SEY				Sgmax		21 29 46.0	
	comp=Z,2μm,0.3s						
OHTR	**Okhotsk**	**2.95**	**228**	*e*Pg	**Pg**	**21 29 12.1**	**-1.1**
OHTR				Pgmax		21 29 12.6	
	comp=Z,140nm,0.3s						
OHTR				*e*Sg	**Sg**	**21 29 50.5**	**-0.8**
OHTR				Sgmax		21 29 54.7	
	comp=Z,1μm,0.3s						
OMS	**Omsukchan**	**4.02**	**70**	*e*Pg	**Pg**	**21 29 33.6**	**-0.1**
OMS				Pgmax		21 29 34.2	
	comp=Z,450nm,0.3s						
OMS				*e*Sg	**Sg**	**21 30 26.2**	**+0.4**
OMS				Sgmax		21 30 32.2	
	comp=Z,960nm,0.2s						
OMS				Sgmax		21 30 32.2	
	comp=Z,530nm,0.2s						
PETK	**Petropavlovsk-**	**9.95**	**142**	Pn	**Pn**	**21 30 41.7**	**+2.2**
	comp=Z,0.2nm,0.3s,baz=339,slow=12,SNR=2.4						
PETK	**Petropavlovsk-**	**9.95**	**142**	P	**Pn**	**21 30 41.7**	**+2.1**
ILAR	**Eielson Array**	**28.66**	**54**	P	**P**	**21 34 14.3**	**+1.3**
	comp=Z,1.0nm,0.7s,mb3.7,baz=284,slow=6.8,SNR=9.9						
ILAR	**Eielson Array**	**28.66**	**54**	P	**P**	**21 34 14.4**	**+1.3**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**33.15**	**286**	P	**P**	**21 34 58.8**	**+6.1**
	comp=Z,0.2nm,0.3s,mb3.5,baz=57,slow=8.8,SNR=2.7						
ZALV	**Zalesovo Beam**	**33.15**	**286**	P	**P**	**21 34 58.8**	**+6.1**
KURK	**Kurchatov**	**38.14**	**286**	P	**P**	**21 35 43.0**	**+7.4**
	comp=Z,0.5nm,0.4s,mb3.6,baz=55,slow=7.0,SNR=3.5						
KURK	**Kurchatov**	**38.14**	**286**	P	**P**	**21 35 43.0**	**+7.4**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
BVAR	**Borovoye Array**	**40.27**	**294**	P	**P**	**21 35 58.5**	**+5.2**
	comp=Z,0.3nm,0.5s,mb3.3,baz=64,slow=6.6,SNR=3.1						
BVAR	**Borovoye Array**	**40.27**	**294**	P	**P**	**21 35 58.5**	**+5.2**
FINES	**FINESS Array B**	**49.61**	**327**	P	**P**	**21 37 12.0**	**+4.5**
	comp=Z,1.5nm,0.7s,mb4.1,baz=23,slow=7.5,SNR=4.7						
FINES	**FINESS Array B**	**49.61**	**327**	P	**P**	**21 37 12.0**	**+4.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NB2	**NORSAR Subarra**	**53.39**	**335**	P	**P**	**21 37 39.7**	**+3.9**
	comp=Z,0.7nm,0.5s,mb3.9,baz=25,slow=7.4						
NOA	**NORSAR Array B**	**53.39**	**335**	P	**P**	**21 37 39.8**	**+4.0**
	comp=Z,0.7nm,0.6s,mb3.8,baz=25,slow=7.3,SNR=6.2						
NOA	**NORSAR Array B**	**53.39**	**335**	P	**P**	**21 37 39.8**	**+4.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						

ECX 04 21:33:38.1±0.8,30°.62N×114°.45W,h3km,MD3.8,ML4.0, 6D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPX	**San Pedro Mart**	**0.97**	**296**	*e*P	Pg	21 33 54.7	-2.1
SPX				*e*S	Sg	21 34 08.8	-0.5
SPX				⇓*e*		21 34 11.1	
	comp=N,3μm,0.3s						
ECBX	**El Chinero**	**1.00**	**329**	*e*P	Pg	21 33 54.6	-2.6
ECBX				*e*S	Sg	21 34 08.2	-1.9
ECBX				⇓*e*		21 34 09.6	
	comp=N,2μm,0.4s						
ECBX				⇓*e*		21 34 17.9	
	comp=E,3μm,0.4s						
RDX	**Rancho Dawling**	**1.83**	**316**	*e*PN	Pn	21 34 10.4	0.0
RDX				*e*S	Sn	21 34 34.8	+0.7
RDX				⇓*e*		21 34 38.0	
	comp=E,1μm,0.4s						
RDX				⇓*e*		21 34 39.6	
	comp=N,694nm,0.4s						
CPBX	**Cerro Prieto**	**1.94**	**338**	*e*S	Sn	21 34 36.7	-0.1
CPBX				⇓*e*		21 34 51.9	
	comp=N,2μm,0.6s						
ECNX	**Esteban Cantu**	**2.11**	**300**	*e*PN	Pn	21 34 14.4	0.0
ECNX				*e*S	Sn	21 34 42.2	+1.1
PBX	**Punta Banda**	**2.25**	**300**	*e*PN	Pn	21 34 16.6	+0.4
PBX				*e*S	Sn	21 34 45.5	+1.0
RMX	**La Rumorosa**	**2.42**	**325**	*e*PN	Pn	21 34 21.6	+3.1
RMX				*e*S	Sn	21 34 53.1	+4.5

*ISCJB **04** 21:48:14.2±0.6,33°.28N±0°.02×35°.44E±0°.05,h17km±7km, Error ellipse: s-maj=6.9km s-min=3.8km az=17.3*

*CSEM **04** 21:48:14.5±0.1,33°.32N×35°.44E,h10km,ML3.8,Error ellipse: s-maj=4.2km s-min=2.5km az=118.0*
*GRAL **04** 21:48:15.3±0.3,33°.32N×35°.42E,h0km±2km,MD3.8*
*HLW **04** 21:48:16.3,33°.33N×35°.33E,h15km±14km,Md3.2,Ml3.0*
*NSSC **04** 21:48:17,33°.32N×35°.67E,h28km±7km*

ISC 04 21:48:14.7±0.6,33°.30N±0°.03×35°.46E±0°.04,h13km±4km, n46,σ0§92/68,28D,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATL	**Matarih**	**0.22**	**330**	*e*P	**Pg**	**21 48 18.8**	**-0.6**
MATL	**Matarih**	**0.22**	**330**	*e*P	**Pg**	**21 48 18.8**	**-0.6**
RCY	**Rachaya**	**0.35**	**58**	*e*P	**Pg**	**21 48 22.3**	**+0.6**
RCY				*e*S	**Sg**	**21 48 27.5**	**+1.0**
RCY	**Rachaya**	**0.35**	**58**	*e*P	**Pg**	**21 48 22.3**	**+0.5**
RCY				*e*S	**Sg**	**21 48 27.5**	**+0.9**
BRBR	**Barbar**	**0.43**	**75**	⇓P	**Pg**	**21 48 23.0**	**-0.1**
BRBR				⇓S	**Sg**	**21 48 29.0**	**+0.2**
BRBR	**Barbar**	**0.43**	**75**	⇓*i*P	**Pg**	**21 48 23.6**	**+0.5**
BRBR				⇓*i*S	**Sg**	**21 48 29.6**	**+0.8**
BEYL	**Beirut**	**0.57**	**3**	*e*P	**Pg**	**21 48 25.2**	**-0.6**
BEYL	**Beirut**	**0.57**	**3**	*e*P	**Pg**	**21 48 25.2**	**-0.7**
BHL	**Bhannes**	**0.62**	**15**	*e*P	**Pg**	**21 48 26.2**	**-0.6**
BHL				*e*S	**Sg**	**21 48 34.4**	**-0.7**
BHL	**Bhannes**	**0.62**	**15**	*e*P	**Pg**	**21 48 26.2**	**-0.7**
BHL				*e*S	**Sg**	**21 48 34.4**	**-0.7**
QASN	**Qassioun**	**0.72**	**71**	⇓P	**Pg**	**21 48 28.0**	**-0.7**
QASN	**Qassioun**	**0.72**	**71**	⇓*i*P	**Pg**	**21 48 28.1**	**-0.6**
TCHB	**Talchebab**	**0.76**	**146**	⇓P	**Pg**	**21 48 30.0**	**+0.6**
TCHB	**Talchebab**	**0.76**	**146**	⇓*i*P	**Pg**	**21 48 30.1**	**+0.7**
TOTH	**TOTAH**	**0.81**	**85**	⇓P	**Pg**	**21 48 30.0**	**-0.4**
TOTH	**TOTAH**	**0.81**	**85**	⇓*i*P	**Pg**	**21 48 31.0**	**+0.6**
HWQ	**Hawqa**	**1.06**	**22**	*e*P	**Pb**	**21 48 34.2**	**-0.7**
HWQ				*e*S	**Sb**	**21 48 48.1**	**-0.5**
HWQ	**Hawqa**	**1.06**	**22**	*e*P	**Pb**	**21 48 34.2**	**-0.7**
HWQ				*e*S	**Sb**	**21 48 48.1**	**-0.5**
MARH	**Ras Al Marh**	**1.12**	**49**	⇓P	**Pb**	**21 48 34.0**	**-1.9**
MARH	**Ras Al Marh**	**1.12**	**49**	⇓*i*P	**Pb**	**21 48 34.7**	**-1.2**
FKH	**Fakeheh**	**1.22**	**40**	*e*P	**Pn**	**21 48 37.5**	**0.0**
FKH				*e*S	**Sb**	**21 48 53.8**	**+0.5**
FKH	**Fakeheh**	**1.22**	**40**	*e*P	**Pn**	**21 48 37.5**	**0.0**
FKH				*e*S	**Sb**	**21 48 53.8**	**+0.5**
SALA	**Sala**	**1.22**	**118**	⇓P	**Pn**	**21 48 38.0**	**+0.5**
SALA				⇓S	**Sb**	**21 48 50.0**	**-3.3**
SALA	**Sala**	**1.22**	**118**	⇓*i*P	**Pn**	**21 48 38.3**	**+0.8**
SALA				⇓*i*S	**Sb**	**21 48 50.9**	**-2.4**
ZALF	**Zalf**	**1.62**	**103**	⇓P	**Pn**	**21 48 40.0**	**-2.9**
ZALF	**Zalf**	**1.62**	**103**	⇓*i*P	**Pn**	**21 48 40.4**	**-2.5**
ROOS	**tI_alroos**	**1.75**	**60**	⇓P	**Pn**	**21 48 44.0**	**-0.8**
ROOS	**tI_alroos**	**1.75**	**60**	⇓*i*P	**Pn**	**21 48 44.5**	**-0.3**
BIDA	**Aïbida**	**1.85**	**22**	⇓P	**Pn**	**21 48 47.0**	**+0.8**
BIDA				⇓S	**Sn**	**21 49 09.0**	**-0.5**
BIDA	**Albida**	**1.85**	**22**	⇓*i*P	**Pn**	**21 48 47.0**	**+0.8**
BIDA				⇓*i*S	**Sn**	**21 49 09.4**	**-0.1**
WRDH	**Warideh**	**2.34**	**19**	⇓P	**Pn**	**21 48 53.0**	**+0.1**
WRDH				⇓S	**Sn**	**21 49 21.0**	**-0.5**
WRDH	**Warideh**	**2.34**	**19**	⇓*i*P	**Pn**	**21 48 53.5**	**+0.6**
WRDH				⇓*i*S	**Sn**	**21 49 21.1**	**-0.4**
YAYL	**Yayladag**	**2.78**	**11**	*i* P	**Pn**	**21 48 59.0**	**+0.1**
YAYL	**Yayladag**	**2.78**	**11**	*i* P	**Pn**	**21 48 59.0**	**+0.1**
YAYL				*i* S	**Sn**	**21 49 34.8**	**+2.4**
AMAG	**Maghara**	**3.27**	**216**	P	**Pn**	**21 49 05.9**	**+0.3**
	baz=215						
AMAG				S	**Sn**	**21 49 43.6**	**-0.7**
	baz=215						
AMAG	**Maghara**	**3.27**	**216**	P	**Pn**	**21 49 05.9**	**+0.3**
AMAG				S	**Sn**	**21 49 43.6**	**-0.8**
HNKL	**Nakhl**	**3.59**	**201**	P	**Pn**	**21 49 11.3**	**+1.3**
	baz=200						
HNKL				S	**Sn**	**21 49 51.9**	**-0.4**
	baz=200						
HNKL				AMP		21 50 00.0	
	comp=N,60μm,0.6s,logA/T=5.0,baz=200						
HNKL	**Nakhl**	**3.59**	**201**	P	**Pn**	**21 49 11.3**	**+1.3**
KUZU	**Kuzuini**	**3.71**	**20**	*i* P	**Pn**	**21 49 13.1**	**+1.4**
KUZU	**Kuzuini**	**3.71**	**20**	*i* P	**Pn**	**21 49 13.1**	**+1.4**
SUZ		**4.11**	**214**	P	**Pn**	**21 49 18.1**	**+0.8**
	baz=213						
SUZ				S	**Sn**	**21 50 04.2**	**-1.0**
	baz=213						
SUZ		**4.11**	**214**	P	**Pn**	**21 49 18.1**	**+0.8**
SUZ				S	**Sn**	**21 50 04.2**	**-1.1**
GLL	**Jalalah**	**4.90**	**222**	P	**Pn**	**21 49 28.7**	**+0.5**
	baz=221						
GLL	**Jalalah**	**4.90**	**222**	P	**Pn**	**21 49 28.7**	**+0.6**
HKAT	**Jabal Katrina**	**4.92**	**195**	P	**Pn**	**21 49 29.7**	**+1.2**
	baz=194						
HKAT	**Jabal Katrina**	**4.92**	**195**	P	**Pn**	**21 49 28.4**	**0.0**

IDC 04 21:51:50.7±1.4,17°.52N×145°.63E,h0km,mb3.5/6, mb1 3.7/6,mb1mx3.5/23,mbtmp3.5/6,Error ellipse: s-maj=43.2km s-min=26.8km az=90.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**38.85**	**197**	P	P	21 59 17.6	-0.1
	0.1nm,0.5s,baz=13,slow=8.5,SNR=3.1						
SONM	**Songino Array**	**44.02**	**322**	P	P	22 00 00.2	+0.2
	0.1nm,0.2s,baz=134,slow=8.3,SNR=2.4						
ZALV	**Zalesovo Beam**	**58.91**	**323**	P	P	22 01 50.6	-0.8
	0.4nm,0.4s,baz=120,slow=5.8,SNR=2.9						
MKAR	**Makanchi Array**	**59.23**	**314**	P	P	22 01 54.6	+0.8
	0.2nm,0.3s,baz=89,slow=8.3,SNR=8.0						
ILAR	**Eielson Array**	**64.72**	**26**	P	P	22 02 30.4	-0.1
	0.3nm,0.4s,baz=252,slow=5.8,SNR=10						
BVAR	**Borovoye Array**	**67.34**	**321**	P	P	22 02 47.8	+0.3
	0.8nm,0.5s,baz=102,slow=7.7,SNR=6.7						

*NEIC **04** 22:10:55.7,58°.50N×137°.18W,h1km,ML3.7(PGC), ML3.0(AEIC),After PGC.*

PGC 04 22:10:55.7±1.3,58°.50N×137°.18W,h1km,ML3.7/3,3C-8D, 131km Wsw of Haines, Ak Southeastern Alaska, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLBC	**Pleasant Camp**	**1.05**	**24**	⇓P	Pg	22 11 14.4	-1.3
PLBC				⇑S	Sg	22 11 28.0	-1.2
PLBC	**Pleasant Camp**	**1.05**	**24**	⇓P	Pg	22 11 14.4	-1.3
PLBC				⇑S	Sg	22 11 28.0	-1.2
BESE	**Bessie Mountai**	**1.22**	**85**	P	Pg	22 11 18.0	-1.1
BESE				S	Sg	22 11 34.7	-0.2
SKAG	**Skagway**	**1.36**	**44**	P	Pg	22 11 20.2	-1.4
SKAG				S	Sg	22 11 38.1	-1.1
PNL	**Peninsula**	**1.64**	**317**	P	Pn	22 11 21.9	-3.6
PNL				S	Sn	22 11 42.5	-4.7
SIT	**Sitka**	**1.76**	**145**	P	Pn	22 11 26.5	-0.8
SIT				S	Sn	22 11 49.7	-0.5
WHY	**Whitehorse**	**2.46**	**27**	⇑Pn	Pn	22 11 35.7	-1.1
WHY				⇑Pg	Pg	22 11 39.6	-3.2
WHY				⇑Sg	Sg	22 12 12.0	-2.6
WHY	**Whitehorse**	**2.46**	**27**	⇑Pn	Pn	22 11 35.7	-1.1
WHY				⇑Pg	Pg	22 11 39.6	-3.2
WHY				⇓Sg	Sg	22 12 12.0	-2.6
DLBC	**Dease Lake**	**3.76**	**88**	⇓Pn	Pn	22 11 53.8	-0.9
DLBC				⇓Pg	Pg	22 12 03.4	-4.3
DLBC				⇓Sg	Sg	22 12 52.9	-3.4
DLBC	**Dease Lake**	**3.76**	**88**	⇓Pn	Pn	22 11 53.8	-0.9
DLBC				⇓Pg	Pg	22 12 03.4	-4.3
DLBC				⇑Sg	Sg	22 12 52.9	-3.4
RAGM	**Ragged Mountai**	**4.27**	**299**	P	Pn	22 11 59.4	-2.3
DAWY	**Dawson**	**5.68**	**350**	⇑Pn	Pn	22 12 20.2	-0.9
DAWY				Sn	Sn	22 13 23.1	-3.7
DAWY				Sg	Sg	22 13 52.8	-5.1
DAWY	**Dawson**	**5.68**	**350**	⇑Pn	Pn	22 12 20.2	-0.9
DAWY				⇓Sn	Sn	22 13 23.1	-3.7
DAWY				⇑Sg	Sg	22 13 52.8	-5.1

*ISCJB **04** 22:26:54.2±0.3,51°.44N±0°.02×16°.11E±0°.02,h0km, mb3.4/5,Error ellipse: s-maj=2.8km s-min=1.8km az=17.1*
*IPEC **04** 22:26:54.7±0.3,51°.54N×16°.15E,h0km,ML2.9/3,Error ellipse: s-maj=3.3km s-min=1.7km az=65.0*
*CSEM **04** 22:26:55.2±0.1,51°.51N×16°.13E,h2km,ML3.7/9,Error ellipse: s-maj=3.0km s-min=2.3km az=8.0*
*IDC **04** 22:26:55.7±0.6,51°.51N×16°.02E,h0km,mb3.5/5, mb1 3.5/13,mb1mx3.4/30,mbtmp3.4/13,ML3.3/8,Error ellipse: s-maj=13.9km s-min=6.2km az=118.0*

*BGR **04** 22:26:56.7±0.4,51°.44N×16°.12E,h1km,ML3.2/16,Error ellipse: s-maj=4.4km s-min=2.2km az=22.0*
*WAR **04** 22:26:57.0,51°.47N×16°.10E,ML3.1, Mining Induced*
*NEIC **04** 22:26:57.3,51°.54N×15°.99E,h10km,ML3.0(CSEM),After CSEM.*
*PRU **04** 22:26:57.2,51°.42N×16°.07E,h0km*
*VIE **04** 22:26:57.6±0.4,51°.30N×16°.10E,h0km,mb2.7/5,ML3.2/5, Error ellipse: s-maj=2.5km s-min=2.3km az=38.0 68 km WNW of Wroclaw Suspected Mining induced.*

ISC 04 22:26:55.2±0.3,51°.50N±0°.02×16°.10E±0°.02,h0km,n176, σ1§09/254,mb3.4/5,6C-9D,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.67**	**169**	*e*Pg	**Pg**	**22 27 08.6**	**+0.6**
KSP				*e*Sg	**Sg**	**22 27 17.2**	**+0.5**
KSP	**Ksiaz**	**0.67**	**169**	P	**Pg**	**22 27 08.8**	**+0.8**
KSP	**Ksiaz**	**0.67**	**169**	*e*Pg	**Pg**	**22 27 08.7**	**+0.7**
KSP				*e*Sg	**Sg**	**22 27 17.1**	**+0.5**
KSP	**Ksiaz**	**0.67**	**169**	*i* Pg	**Pg**	**22 27 08.6**	**+0.6**
KSP				*e*Sg	**Sg**	**22 27 17.1**	**+0.5**
KSP				*e*L		22 27 20.4	
KSP	**Ksiaz**	**0.67**	**169**	*e*Pg	**Pg**	**22 27 08.5**	**+0.5**
	baz=353						
KSP	**Ksiaz**	**0.67**	**169**	P	**Pg**	**22 27 08.8**	**+0.8**
KSP				Sg	**Sg**	**22 27 17.1**	**+0.5**
UPC	**Upice**	**0.99**	**183**	P	**Pg**	**22 27 14.6**	**+0.3**
UPC	**Upice**	**0.99**	**183**	*e*PG	**Pg**	**22 27 14.5**	**+0.2**
UPC	**Upice**	**0.99**	**183**	Pg	**Pg**	**22 27 14.5**	**+0.2**
DPC	**Dobruska-Polom**	**1.16**	**173**	P	**Pg**	**22 27 17.4**	**0.0**
DPC	**Dobruska-Polom**	**1.16**	**173**	*e*Pg	**Pg**	**22 27 17.5**	**+0.1**
DPC				*e*SG	**Sg**	**22 27 32.1**	**-0.3**
DPC	**Dobruska-Polom**	**1.16**	**173**	*e*PG	**Pg**	**22 27 17.3**	**-0.1**
DPC				*e*SG	**Sg**	**22 27 31.6**	**-0.8**
	comp=Z,99nm,0.6s						
DPC	**Dobruska-Polom**	**1.16**	**173**	Pg	**Pg**	**22 27 17.3**	**-0.1**
DPC				*e*Sg	**Sg**	**22 27 32.2**	**-0.2**
	baz=355						
PVCC	**Panska Ves**	**1.37**	**225**	P	**Pg**	**22 27 21.2**	**-0.3**
PVCC	**Panska Ves**	**1.37**	**225**	*e*PG	**Pg**	**22 27 21.7**	**+0.2**
PVCC				*e*SG	**Sg**	**22 27 39.6**	**+0.4**
	comp=Z,386nm,0.3s						
PVCC	**Panska Ves**	**1.37**	**225**	P	**Pg**	**22 27 21.2**	**-0.3**
PVCC	**Panska Ves**	**1.37**	**225**	Pg	**Pg**	**22 27 21.7**	**+0.2**
PVCC				Sg	**Sg**	**22 27 39.6**	**+0.4**
	comp=Z,386nm,0.3s						
BRG	**Berggiesshubel**	**1.50**	**246**	PN	**Pn**	**22 27 22.8**	**-0.5**
BRG				PG	**Pg**	**22 27 24.3**	**+0.5**
BRG				SG	**Sg**	**22 27 44.3**	**+1.1**
	comp=Z,139nm,0.4s						
BRG	**Berggiesshubel**	**1.50**	**246**	P	**Pn**	**22 27 22.7**	**-0.6**
BRG	**Berggiesshubel**	**1.50**	**246**	*e*Pn	**Pn**	**22 27 23.0**	**-0.2**
BRG				*e*Pg	**Pg**	**22 27 24.4**	**+0.6**
BRG				*e*Sg	**Sg**	**22 27 44.4**	**+1.2**
BRG	**Berggiesshubel**	**1.50**	**246**	P	**Pn**	**22 27 22.7**	**-0.6**
BRG	**Berggiesshubel**	**1.50**	**246**	Pn	**Pn**	**22 27 23.0**	**-0.3**
RUE	**Ruedersdorf**	**1.74**	**305**	*e*Pn	**Pn**	**22 27 26.6**	**-0.1**
RUE				*e*Sn	**Sn**	**22 27 49.0**	**-0.5**
RUE	**Ruedersdorf**	**1.74**	**305**	*e*Pn	**Pn**	**22 27 26.6**	**0.0**
RUE				*e*Sn	**Sn**	**22 27 49.1**	**-0.5**
PRU	**Pruhonice**	**1.81**	**214**	P	**Pn**	**22 27 28.5**	**+0.9**
PRU	**Pruhonice**	**1.81**	**214**	*e*PN	**Pn**	**22 27 28.0**	**+0.4**
PRU				*e*PG	**Pg**	**22 27 29.9**	**+0.1**
PRU				*e*SG	**Sg**	**22 27 51.7**	**-1.5**
	comp=Z,46nm,0.3s						
PRU	**Pruhonice**	**1.81**	**214**	Pn	**Pn**	**22 27 28.0**	**+0.4**
PRU	**Pruhonice**	**1.81**	**214**	P	**Pn**	**22 27 28.5**	**+0.9**
FBE	**Freiberg**	**1.82**	**253**	*e*Pn	**Pn**	**22 27 27.8**	**+0.1**
FBE				*e*Pg	**Pg**	**22 27 30.1**	**0.0**
FBE				*e*Sg	**Sg**	**22 27 53.9**	**+0.2**
FBE	**Freiberg**	**1.82**	**253**	Pn	**Pn**	**22 27 27.8**	**0.0**
GKP	**Gorka Klasztor**	**1.91**	**21**	P	**Pn**	**22 27 31.9**	**+3.0**
GKP	**Gorka Klasztor**	**1.91**	**21**	P	**Pn**	**22 27 31.9**	**+3.0**
RAC	**Raciborz**	**1.94**	**136**	*e*Pg	**Pg**	**22 27 31.9**	**-0.5**
RAC				*e*Sg	**Sg**	**22 27 56.7**	**-0.9**
CLL	**Collm**	**1.95**	**266**	P	**Pn**	**22 27 29.4**	**-0.1**
CLL	**Collm**	**1.95**	**266**	*e*Pn	**Pn**	**22 27 29.3**	**-0.2**
CLL				*e*Sg	**Sg**	**22 27 58.8**	**+1.0**
CLL	**Collm**	**1.95**	**266**	*e*Pn	**Pn**	**22 27 29.0**	**-0.5**
CLL				*i* Pg	**Pg**	**22 27 31.8**	**-0.8**
CLL				*i*		22 27 36.6	
CLL				*i* Sg	**Sg**	**22 27 58.4**	**+0.6**
	comp=Z,54nm,0.5s						
CLL	**Collm**	**1.95**	**266**	P	**Pn**	**22 27 29.4**	**-0.1**
CLL				Sg	**Sg**	**22 27 58.8**	**+1.0**
MORC	**Moravsky Berou**	**1.95**	**151**	*e*Pn	**Pn**	**22 27 29.2**	**-0.4**
MORC				*e*Sn	**Sn**	**22 27 56.5**	**+1.7**
MORC	**Moravsky Berou**	**1.95**	**151**	*e*Pn	**Pn**	**22 27 29.3**	**-0.3**
MORC				*e*Sg	**Sg**	**22 27

ROTZ				Sg		Sg	22 28 31.1	-1.2
GEC2	**GERESS Array S**	**3.07**	**211**	*e*Pn		**Pn**	**22 27 45.7**	**+0.8**
GEC2				*e*Sg		**Sg**	**22 28 32.3**	**-1.5**
GEC2	**GERESS Array S**	**3.07**	**211**	Pn		**Pn**	**22 27 45.7**	**+0.8**
GEC2				Sg		**Sg**	**22 28 32.3**	**-1.5**
GERES	**GERESS Array B**	**3.07**	**211**	Pn		**Pn**	**22 27 45.0**	**0.0**
	comp=Z,2.6nm,0.3s,baz=27,slow=12,SNR=73							
GERES				Pg		**Pg**	**22 27 51.7**	**-2.4**
	comp=Z,8.0nm,0.3s,baz=29,slow=16,SNR=67							
GERES				Sn		**Sn**	**22 28 23.1**	**+0.8**
	comp=Z,4.8nm,0.3s,baz=24,slow=24,SNR=6.4							
GERES				Lg			22 28 32.9	
	comp=Z,9.9nm,0.3s,baz=39,slow=26,SNR=12							
GERES	**GERESS Array B**	**3.07**	**211**	Pn		**Pn**	**22 27 45.0**	**0.0**
GERES				Pg		**Pg**	**22 27 51.7**	**-2.4**
GERES				Sn		**Sn**	**22 28 23.1**	**+0.8**
GERES				Lg			22 28 32.9	
GERES	**GERESS Array B**	**3.07**	**211**	Pn		**Pn**	**22 27 45.0**	**+0.1**
SMOL	**Smolenice**	**3.11**	**163**	*e*		**Pg**	**22 27 55.5**	**+0.7**
SMOL	**Smolenice**	**3.11**	**163**	*e*SG		**Sg**	**22 28 35.1**	**+0.1**
SMOL	**Smolenice**	**3.11**	**163**	*e*Sg		**Sg**	**22 28 35.1**	**+0.1**
WET	**Wettzell**	**3.13**	**222**	P		**Pn**	**22 27 46.0**	**+0.2**
WET	**Wettzell**	**3.13**	**222**	*e*Pn		**Pn**	**22 27 46.3**	**+0.5**
WET	**Wettzell**	**3.13**	**222**	P		**Pn**	**22 27 46.0**	**+0.2**
WET	**Wettzell**	**3.13**	**222**	Pn		**Pn**	**22 27 46.3**	**+0.5**
KOLL	**Kolacno**	**3.28**	**152**	*e*PN		**Pn**	**22 27 49.9**	**+2.1**
KOLL				*e*SG		**Sg**	**22 28 40.8**	**+0.3**
KOLL	**Kolacno**	**3.28**	**152**	*e*Pn		**Pn**	**22 27 49.9**	**+2.1**
KOLL				*e*Sg		**Sg**	**22 28 40.8**	**+0.3**
ZST	**Bratislava**	**3.37**	**169**	*e*PN		**Pn**	**22 27 49.7**	**+0.7**
ZST				*e*			22 27 58.6	
ZST	**Bratislava**	**3.37**	**169**	*e*Pn		**Pn**	**22 27 49.7**	**+0.7**
ZST				*e*Sg		**Sg**	**22 28 42.6**	**-0.8**
NIE	**Niedzica**	**3.40**	**126**	*e*P		**Pg**	**22 27 58.8**	**-1.6**
NIE				*e*S		**Sg**	**22 28 42.1**	**-2.4**
NIE	**Niedzica**	**3.40**	**126**	*e*Pg		**Pg**	**22 27 58.8**	**-1.6**
NIE				*e*Sg		**Sg**	**22 28 42.1**	**-2.4**
VYHS	**Vyhne**	**3.49**	**149**	*e*PN		**Pn**	**22 27 50.4**	**-0.3**
VYHS				*e*			22 28 02.5	
VYHS	**Vyhne**	**3.49**	**149**	*e*Pn		**Pn**	**22 27 50.4**	**-0.3**
VYHS				*e*Sg		**Sg**	**22 28 48.1**	**+0.9**
CONA	**Conrad Observa**	**3.58**	**183**	⇑*i*Pn		**Pn**	**22 27 51.6**	**-0.3**
CONA				⇑*i*Sg		**Sg**	**22 28 49.4**	**-0.7**
	comp=Z,38nm,0.6s							
CONA	**Conrad Observa**	**3.58**	**183**	Pn		**Pn**	**22 27 51.6**	**-0.3**
CONA				Sg		**Sg**	**22 28 49.4**	**-0.7**
	comp=Z,38nm,0.6s							
CLZ	**Clausthal**	**3.58**	**278**	*e*Pn		**Pn**	**22 27 53.3**	**+1.4**
CLZ	**Clausthal**	**3.58**	**278**	Pn		**Pn**	**22 27 53.3**	**+1.3**
GRA1	**Grafenberg Arr**	**3.60**	**242**	Pn		**Pn**	**22 27 52.9**	**+0.8**
GRF	**Grafenberg Arr**	**3.60**	**242**	*e*Pn		**Pn**	**22 27 52.9**	**+0.7**
GRFO	**Grafenberg**	**3.60**	**242**	*e*Pn		**Pn**	**22 27 51.6**	**-0.6**
GRFO				*e*Pg		**Pg**	**22 28 04.9**	**+0.8**
GRFO				*e*Sg		**Sg**	**22 28 49.9**	**-0.8**
GRFO	**Grafenberg**	**3.60**	**242**	*e*Pn		**Pn**	**22 27 51.6**	**-0.6**
MOA	**Molln**	**3.84**	**199**	P		**Pn**	**22 27 57.2**	**+1.7**
MOA	**Molln**	**3.84**	**199**	⇑*i*Pn		**Pn**	**22 27 55.7**	**+0.1**
MOA				⇑*i*Sg		**Sg**	**22 28 58.3**	**-0.3**
	comp=Z,40nm,0.5s							
MOA	**Molln**	**3.84**	**199**	Pn		**Pn**	**22 27 55.7**	**+0.2**
MOA	**Molln**	**3.84**	**199**	P		**Pn**	**22 27 57.2**	**+1.7**
MOA				Sg		**Sg**	**22 28 58.3**	**-0.3**
	comp=Z,40nm,0.5s							
STHS	**Stebnicka Huta**	**3.89**	**120**	*e*PN		**Pn**	**22 27 57.0**	**+0.8**
STHS				*e*			22 28 10.4	
STHS	**Stebnicka Huta**	**3.89**	**120**	*e*Pn		**Pn**	**22 27 57.0**	**+0.8**
STHS				*e*Sg		**Sg**	**22 29 03.0**	**+2.8**
ARSA	**Arzberg**	**4.27**	**185**	P		**Pn**	**22 28 02.5**	**+1.1**
ARSA	**Arzberg**	**4.27**	**185**	⇓*i*Pn		**Pn**	**22 28 01.2**	**-0.2**
ARSA				⇑*i*Sg		**Sg**	**22 29 12.4**	**+0.1**
	comp=Z,40nm,0.7s							
ARSA	**Arzberg**	**4.27**	**185**	Pn		**Pn**	**22 28 01.2**	**-0.2**
ARSA	**Arzberg**	**4.27**	**185**	P		**Pn**	**22 28 02.5**	**+1.1**
ARSA				Sg		**Sg**	**22 29 12.4**	**+0.1**
	comp=Z,40nm,0.7s							
CRVS	**Cervenica-Dubn**	**4.32**	**125**	*e*PN		**Pn**	**22 28 04.8**	**+2.8**
CRVS				*e*			22 28 19.8	
CRVS	**Cervenica-Dubn**	**4.32**	**125**	*e*Pn		**Pn**	**22 28 04.8**	**+2.8**
CRVS				*e*Sg		**Sg**	**22 29 14.2**	**+0.5**
FUR	**Furstenfeldbru**	**4.57**	**225**	P		**Pn**	**22 28 06.2**	**+0.7**
FUR	**Furstenfeldbru**	**4.57**	**225**	P		**Pn**	**22 28 06.2**	**+0.7**
KWP	**Kalwaria Pacla**	**4.61**	**111**	*e*Pn		**Pn**	**22 28 07.4**	**+1.3**
KWP				*e*Pg		**Pg**	**22 28 21.7**	**-1.8**
KWP				*e*S		**Sg**	**22 29 25.1**	**+2.0**
KWP	**Kalwaria Pacla**	**4.61**	**111**	⇓*i*P		**Pn**	**22 27 57.0**	**-9.0**
KWP	**Kalwaria Pacla**	**4.61**	**111**	*e*Pn		**Pn**	**22 28 07.4**	**+1.4**
KOLS	**Kolonicke sedl**	**4.72**	**121**	*e*PN		**Pn**	**22 28 08.1**	**+0.5**
KOLS				*e*			22 28 27.5	
KOLS	**Kolonicke sedl**	**4.72**	**121**	*e*Pn		**Pn**	**22 28 08.1**	**+0.5**
KOLS				*e*Sg		**Sg**	**22 29 30.7**	**+3.9**
TNS	**Taunus Mts**	**5.01**	**258**	P		**Pn**	**22 28 13.9**	**+2.3**
TNS	**Taunus Mts**	**5.01**	**258**	P		**Pn**	**22 28 13.9**	**+2.3**
PKSM	**Moragy**	**5.55**	**161**	⇓*i*P		**Pn**	**22 28 19.5**	**+0.5**
PKSM	**Moragy**	**5.55**	**161**	⇓*i*P		**Pn**	**22 28 19.5**	**+0.5**
DAVOX	**Davos/Dischmat**	**6.24**	**223**	Pn		**Pn**	**22 28 28.0**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=8.1,slow=7.1,SNR=3.2							
DAVOX				Lg			22 30 13.5	
	comp=Z,0.3nm,0.3s,baz=17,slow=19,SNR=2.8							
DAVOX	**Davos/Dischmat**	**6.24**	**223**	Pn		**Pn**	**22 28 28.0**	**-0.5**
DAVOX				Lg			22 30 13.5	
DAVOX	**Davos/Dischmat**	**6.24**	**223**	Pn		**Pn**	**22 28 28.0**	**-0.5**
DRGR		**6.40**	**135**	⇓*i*P		**Pn**	**22 28 29.6**	**-1.1**
DRGR		**6.40**	**135**	⇓*i*P		**Pn**	**22 28 29.6**	**-1.1**
BUR08	**Bucovina Ar. S**	**7.06**	**120**	*e*Pn		**Pn**	**22 28 41.0**	**+1.2**
BUR08	**Bucovina Ar. S**	**7.06**	**120**	*e*Pn		**Pn**	**22 28 41.0**	**+1.3**
BURAR	**Bucovina Array**	**7.09**	**120**	⇑*i*P		**Pn**	**22 28 40.6**	**+0.5**
BURAR	**Bucovina Array**	**7.09**	**120**	⇑*i*P		**Pn**	**22 28 40.6**	**+0.5**
AKASG	**Malin Array Be**	**8.30**	**90**	Pn		**Pn**	**22 28 54.4**	**-2.4**
	comp=Z,0.8nm,0.3s,baz=278,slow=12,SNR=5.4							
AKASG				Lg			22 31 20.9	
	comp=Z,0.3nm,0.3s,baz=279,slow=26,SNR=2.6							
AKASG	**Malin Array Be**	**8.30**	**90**	Pn		**Pn**	**22 28 54.4**	**-2.4**
AKASG				Lg			22 31 20.9	
AKASG	**Malin Array Be**	**8.30**	**90**	Pn		**Pn**	**22 28 54.4**	**-2.3**
HFS	**Hagfors**	**8.76**	**352**	Pn		**Pn**	**22 29 00.7**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=164,slow=16,SNR=10							
HFS	**Hagfors**	**8.76**	**352**	Pn		**Pn**	**22 29 00.7**	**-2.3**
HFS	**Hagfors**	**8.76**	**352**	Pn		**Pn**	**22 29 00.7**	**-2.3**
NOA	**NORSAR Array B**	**9.94**	**346**	Pn		**Pn**	**22 29 16.5**	**-2.6**
	comp=Z,0.2nm,0.3s,baz=167,slow=12,SNR=5.4							
NOA	**NORSAR Array B**	**9.94**	**346**	Pn		**Pn**	**22 29 16.5**	**-2.6**
FINES	**FINESS Array B**	**11.38**	**25**	Pn		**Pn**	**22 29 35.8**	**-3.0**
	comp=Z,0.4nm,0.3s,baz=206,slow=12,SNR=14							
FINES				Sn		**Sn**	**22 31 37.6**	**-8.8**
	comp=Z,0.4nm,0.3s,baz=212,slow=20,SNR=5.5							
FINES	**FINESS Array B**	**11.38**	**25**	Pn		**Pn**	**22 29 35.8**	**-3.0**
FINES				Sn		**Sn**	**22 31 37.6**	**-8.8**
KAF	**Kangasniemi**	**12.00**	**24**	*ep*		**Pn**	**22 29 46.0**	**-1.3**
	comp=Z,0.6nm,0.4s							
KAF	**Kangasniemi**	**12.00**	**24**	*e*P		**Pn**	**22 29 46.0**	**-1.3**
	comp=Z,0.6nm,0.4s							
EKA	**Eskdalemuir Ar**	**12.11**	**296**	Pn		**Pn**	**22 29 48.3**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=94,slow=13,SNR=3.9							
EKA	**Eskdalemuir Ar**	**12.11**	**296**	Pn		**Pn**	**22 29 48.3**	**-0.5**
EKA	**Eskdalemuir Ar**	**12.11**	**296**	Pn		**Pn**	**22 29 48.3**	**-0.5**
JOF	**Joensuu**	**14.05**	**30**	*ep*		**Pn**	**22 30 14.1**	**-1.2**
	comp=Z,2.4nm,0.7s							
JOF	**Joensuu**	**14.05**	**30**	*e*P		**Pn**	**22 30 14.1**	**-1.2**
	comp=Z,2.4nm,0.7s							
ARCES	**ARCESS Array B**	**18.64**	**10**	Pn		**Pn**	**22 31 10.2**	**-4.0**
	comp=Z,0.4nm,0.3s,baz=191,slow=12,SNR=46							
ARCES	**ARCESS Array B**	**18.64**	**10**	Pn		**Pn**	**22 31 10.2**	**-4.0**
KEV	**Kevo**	**19.02**	**12**	*ep*		**Pn**	**22 31 16.9**	**-2.0**
	comp=Z,0.7nm,0.3s							
KEV	**Kevo**	**19.02**	**12**	*e*P		**Pn**	**22 31 16.9**	**-2.0**
	comp=Z,0.7nm,0.3s							
BVAR	**Borovoye Array**	**32.60**	**66**	P		**P**	**22 33 27.0**	**-1.1**
	comp=Z,0.8nm,0.8s,mb3.7,baz=316,slow=10,SNR=2.4							
BVAR	**Borovoye Array**	**32.60**	**66**	P		**P**	**22 33 27.0**	**-1.1**
BVAR	**Borovoye Array**	**32.60**	**66**	P		**P**	**22 33 27.0**	**-1.1**
KURK	**Kurchatov**	**38.20**	**66**	P		**P**	**22 34 15.9**	**-0.3**
	comp=Z,0.6nm,0.9s,mb3.3,baz=303,slow=9.0,SNR=3.8							
KURK	**Kurchatov**	**38.20**	**66**	P		**P**	**22 34 15.9**	**-0.3**
KURK	**Kurchatov**	**38.20**	**66**	P		**P**	**22 34 15.9**	**-0.3**
TORD	**Torodi Ar. Bea**	**39.99**	**202**	P		**P**	**22 34 30.8**	**-0.6**
	comp=Z,0.3nm,0.6s,mb3.1,baz=7.1,slow=8.7,SNR=3.5							
TORD	**Torodi Ar. Bea**	**39.99**	**202**	P		**P**	**22 34 30.8**	**-0.6**
TORD	**Torodi Ar. Bea**	**39.99**	**202**	P		**P**	**22 34 30.8**	**-0.7**
MKAR	**Makanchi Array**	**42.23**	**69**	P		**P**	**22 34 50.6**	**+0.9**
	comp=Z,0.3nm,0.8s,mb3.1,baz=316,slow=4.0,SNR=2.9							
MKAR	**Makanchi Array**	**42.23**	**69**	P		**P**	**22 34 50.6**	**+0.9**
MKAR	**Makanchi Array**	**42.23**	**69**	P		**P**	**22 34 50.6**	**+1.0**
SONM	**Songino Array**	**54.93**	**55**	P		**P**	**22 36 29.3**	**+1.9**
	comp=Z,0.9nm,0.8s,mb3.9,baz=300,slow=11,SNR=3.6							
SONM	**Songino Array**	**54.93**	**55**	P		**P**	**22 36 29.3**	**+1.9**
SONM	**Songino Array**	**54.93**	**55**	P		**P**	**22 36 29.3**	**+1.9**

*ISCJB **04** 22:29:07.0±1.0, 51°.46N±0°.05×16°.07E±0°.04, h0km, Error ellipse: s-maj=7.4km s-min=3.7km az=13.5*
*PRU **04** 22:29:09.7, 51°.42N×16°.07E, h0km*
*CSEM **04** 22:29:09.3±0.6, 51°.40N×16°.07E, h2km, ML3.0/5, Error ellipse: s-maj=10.4km s-min=4.9km az=177.0*
*WAR **04** 22:29:09, 51°.47N×16°.10E, ML2.6, Mining Induced*

ISC 04 22:29:08.6±1.0, **51°.45N**±0°.05×**16°.08E**±0°.04, **h0km**, **n22**, σ0**80**/40, **Poland**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62**	**167**		*e*Pg		**Pg**	**22 29 20.9**	**+0.4**
KSP					*e*Sg		**Sg**	**22 29 29.6**	**+1.2**
KSP	**Ksiaz**	**0.62**	**167**		*e*Pg		**Pg**	**22 29 20.8**	**+0.4**
KSP					*e*Sg		**Sg**	**22 29 28.5**	**+0.1**
KSP	**Ksiaz**	**0.62**	**167**		*e*Pg		**Pg**	**22 29 20.8**	**+0.4**
KSP					*e*Sg		**Sg**	**22 29 28.5**	**+0.1**
UPC	**Upice**	**0.94**	**183**		*e*PG		**Pg**	**22 29 26.8**	**+0.2**
UPC	**Upice**	**0.94**	**183**		Pg		**Pg**	**22 29 26.8**	**+0.2**
DPC	**Dobruska-Polom**	**1.11**	**172**		*e*PG		**Pg**	**22 29 29.6**	**-0.2**
DPC					*e*SG		**Sg**	**22 29 43.6**	**-0.5**
	comp=Z,28nm,0.7s								
DPC	**Dobruska-Polom**	**1.11**	**172**		Pg		**Pg**	**22 29 29.6**	**-0.2**
DPC					Sg		**Sg**	**22 29 43.6**	**-0.5**
	comp=Z,28nm,0.7s								
PVCC	**Panska Ves**	**1.32**	**227**		*e*PG		**Pg**	**22 29 34.3**	**+0.4**
PVCC					*e*SG		**Sg**	**22 29 52.3**	**+1.2**
	comp=Z,95nm,0.7s								
PVCC	**Panska Ves**	**1.32**	**227**		Pg		**Pg**	**22 29 34.3**	**+0.4**
PVCC					Sg		**Sg**	**22 29 52.3**	**+1.2**
	comp=Z,95nm,0.7s								
BRG	**Berggiesshubel**	**1.46**	**248**		PG		**Pg**	**22 29 36.4**	**-0.2**
BRG					SG		**Sg**	**22 29 56.3**	**+0.8**
	comp=Z,24nm,0.4s								
PRU	**Pruhonice**	**1.76**	**214**		*e*PN		**Pn**	**22 29 40.5**	**+0.3**
PRU					*e*PG		**Pg**	**22 29 42.3**	**+0.1**
PRU					*e*SG		**Sg**	**22 30 05.4**	**+0.4**
	comp=Z,19nm,0.8s								
PRU	**Pruhonice**	**1.76**	**214**		Pn		**Pn**	**22 29 40.5**	**+0.3**
CLL	**Collm**	**1.93**	**267**		*e*Pg		**Pg**	**22 29 45.0**	**-0.6**
CLL					*e*			22 29 48.0	
CLL					*e*Sg		**Sg**	**22 30 10.0**	**+0.6**
	comp=Z,16nm,0.8s								
OKC	**Ostrava-Krasne**	**2.08**	**140**		*e*SG		**Sg**	**22 30 13.3**	**-2.1**
	comp=Z,26nm,0.6s								
OKC	**Ostrava-Krasne**	**2.08**	**140**		Sg		**Sg**	**22 30 13.3**	**-2.1**
	comp=Z,26nm,0.6s								
OJC	**Ojcow**	**2.66**	**116**		*e*Pg		**Pg**	**22 30 00.3**	**+0.8**
OJC					*e*Sg		**Sg**	**22 30 34.5**	**+0.6**
OJC	**Ojcow**	**2.66**	**116**		*e*Pg		**Pg**	**22 30 00.3**	**+0.8**
OJC					*e*Sg		**Sg**	**22 30 34.5**	**+0.6**
KHC	**Kasperske Hory**	**2.82**	**216**		*e*PN		**Pn**	**22 29 55.1**	**+0.3**
KHC					*e*PG		**Pg**	**22 30 00.8**	**-1.8**
KHC					*e*SN		**Sn**	**22 30 29.2**	**-0.2**
KHC					*e*SG		**Sg**	**22 30 38.5**	**-0.6**
	comp=Z,9.5nm,0.6s								
KHC	**Kasperske Hory**	**2.82**	**216**		Pn		**Pn**	**22 29 55.1**	**+0.3**
KHC	**Kasperske Hory**	**2.82**	**216**		Pg		**Pg**	**22 30 00.8**	**-1.8**
KHC					Sn		**Sn**	**22 30 29.2**	**-0.2**
KHC					Sg		**Sg**	**22 30 38.5**	**-0.6**
	comp=Z,9.5nm,0.6s								
VYHS	**Vyhne**	**3.45**	**148**		*e*SG		**Sg**	**22 31 03.1**	**+3.8**
VYHS	**Vyhne**	**3.45**	**148**		*e*Sg		**Sg**	**22 31 03.1**	**+3.8**

MEX 04 22:32:09.3±1.0, **17°.01N**×**94°.85W**, **h51**km±8km, **MD3.9, Chiapas**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.09**	**336**		*i*P		Pn	22 32 15.5	-1.7
CMIG					*i*S		Sn	22 32 21.3	-1.5
TGIG		**1.67**	**98**		*e*P		Pn	22 32 34.8	-1.3
TGIG					*i*S		Sn	22 32 54.0	-2.4
HUIG	**Huatulco**	**1.73**	**225**		*i*P		Pn	22 32 35.1	-1.9
HUIG					*i*S		Sn	22 32 55.3	-2.6
OXX	**Oaxaca**	**1.80**	**272**		*i*P		Pn	22 32 37.6	-0.2
OXX					*i*S		Sn	22 32 59.2	-0.3
VHO	**Vista Hermosa**	**1.81**	**272**		*e*P		Pn	22 32 37.1	-0.8
VHO					*i*S		Sn	22 32 58.9	-0.9
PCIG		**2.03**	**130**		*i*P		Pn	22 32 40.4	-0.7
PCIG					*i*S		Sn	22 33 03.7	-1.6
CCIG	**Comitan**	**2.70**	**105**		*i*P		Pn	22 32 48.4	-1.8
CCIG					*i*S		Sn	22 33 19.8	-1.9
UTMO	**Huajuapan**	**2.94**	**287**		*i*P		Pn	22 32 52.6	-0.9
UTMO					*i*S		Sn	22 33 26.1	-1.5
PNIG	**Pinotepa**	**3.20**	**259**		*i*P		Pn	22 32 54.8	-2.4
PNIG					*i*S		Sn	22 33 32.4	-1.8
THIG		**3.25**	**130**		*i*P		Pn	22 32 51.7	-6.0

*ISCJB **04** 22:40:17.0±0.5, 39°.73N×0°.03×38°.86E±0°.04, h10km, Error ellipse: s-maj=4.8km s-min=4.2km az=38.0*
*CSEM **04** 22:40:16.7±0.1, 39°.72N×38°.88E, h5km, MD2.7, Error ellipse: s-maj=3.5km s-min=2.3km az=97.0*
*ISK **04** 22:40:16.7, 39°.71N×38°.89E, h5km, MD2.7*
*DDA **04** 22:40:16.3, 39°.72N×38°.87E, h7km±4km, Md2.8*

ISC 04 22:40:17.1±0.6, **39°.72N**±0°.03×**38°.87E**±0°.04, **h5**km±7km, **n23**, σ0**44**/35, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EZC	**Erzincan**	**0.38**	**85**		*e*PG		**Pg**	**22 40 24.4**	**+0.1**
EZC	**Erzincan**	**0.38**	**85**		*e*Pg		**Pg**	**22 40 29.8**	**+5.5**
EZC					*e*Sg		**Sg**	**22 40 39.2**	**+10**
KEMA	**Kemaliye**	**0.54**	**213**		*i*P		**Pg**	**22 40 27.3**	**-0.1**
KEMA					*i*S		**Sg**	**22 40 33.5**	**-0.8**
KEMA	**Kemaliye**	**0.54**	**213**		*i*P		**Pg**	**22 40 27.3**	**-0.1**
KEMA					*i*S		**Sg**	**22 40 33.5**	**-0.9**
ERZN	**Erzincan**	**0.68**	**101**		*e*PG		**Pg**	**22 40 29.8**	**-0.2**
ERZN					*e*SG		**Sg**	**22 40 39.2**	**+0.4**
SUSE	**Susehri**	**0.70**	**314**		*i*P		**Pg**	**22 40 30.5**	**-0.1**
SUSE					*i*S		**Sg**	**22 40 40.3**	**+0.6**
SUSE	**Susehri**	**0.70**	**314**		*i*P		**Pg**	**22 40 30.5**	**-0.1**
SUSE					*i*S		**Sg**	**22 40 40.3**	**+0.6**
GUMT	**Gumushane**	**0.87**	**32**		*e*PG		**Pg**	**22 40 34.0**	**+0.1**
GUMT	**Gumushane**	**0.87**	**32**		*e*Pg		**Pg**	**22 40 34.0**	**+0.2**
PTK	**Pertek**	**0.93**	**154**		*e*PG		**Pg**	**22 40 34.5**	**-0.3**
PTK	**Pertek**	**0.93**	**154**		*e*Pg		**Pg**	**22 40 34.5**	**-0.3**
BAYT	**Ayd¨–ntepe-Bay**	**1.19**	**55**		*e*PN		**Pn**	**22 40 39.5**	**-0.8**
BAYT	**Ayd¨–ntepe-Bay**	**1.19**	**55**		*e*Pn		**Pn**	**22 40 39.5**	**-0.8**
ESPY	**Espiye-Giresun**	**1.20**	**355**		*e*PN		**Pn**	**22 40 40.1**	**-0.4**
ESPY	**Espiye-Giresun**	**1.20**	**355**		*e*Pn		**Pn**	**22 40 40.1**	**-0.3**
ELZG	**Elazig**	**1.23**	**176**		*i*P		**Pg**	**22 40 40.2**	**-0.4**
ELZG					*i*S		**Sg**	**22 40 57.2**	**+0.8**
ELZG	**Elazig**	**1.23**	**176**		*i*P		**Pg**	**22 40 40.2**	**-0.4**
ELZG					*i*S		**Sg**	**22 40 57.2**	**+0.7**
KOPT	**Kop Dagi**	**1.29**	**76**		*i*P		**Pn**	**22 40 33.2**	**-8.5**
KOPT					*i*S		**Sg**	**22 40 58.5**	**0.0**
KOPT	**Kop Dagi**	**1.29**	**76**		*i*P		**Pn**	**22 40 33.2**	**-8.5**
KOPT					*i*S		**Sg**	**22 40 58.5**	**0.0**
SVRC	**Sivrice-ELAZID**	**1.39**	**166**		*e*PN		**Pn**	**22 40 43.1**	**+0.1**
SVRC	**Sivrice-ELAZID**	**1.39**	**166**		*e*Pn		**Pn**	**22 40 43.2**	**+0.2**
AKCD	**Akcadag**	**1.60**	**208**		*i*P		**Pn**	**22 40 46.6**	**+0.6**
AKCD					*i*S		**Sn**	**22 41 07.3**	**+0.3**
AKCD	**Akcadag**	**1.60**	**208**		*i*P		**Pn**	**22 40 46.6**	**+0.6**
AKCD					*i*S		**Sn**	**22 41 07.3**	**+0.2**

*IDC **04** 23:27:53.9±1.3, 30°.56N×67°.14E, h0km, mb3.4/8, mb1 3.5/9, mb1mx3.4/31, mbtmp3.5/9, ML2.9/1, MS3.3/1, Ms1 3.3/1, ms1mx2.2/31, Error ellipse: s-maj=34.6km s-min=24.6km az=98.0*
*NEIC **04** 23:27:55.1±0.7, 30°.67N×67°.02E, h10km, mb3.5/2, Error ellipse: s-maj=16.7km s-min=10.3km az=108.0*

ISC 04 23:27:55.0±2.8, **30°.60N**±0°.09×**67°.2E**±0°.1, **h8**km±17km, **n25**, σ1**18**/28, **mb3.4/6, Pakistan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBL	**Kabul**	**4.23**	**21**		*e*Pn		**Pn**	**23 29 00.1**	**+0.3**
KBL					*e*Pg		**Pg**	**23 29 17.2**	**+1.1**
KBL					*e*Pg		**Pg**	**23 29 24.5**	**+8.4**
KBL					*e*Sn		**Sn**	**23 29 49.9**	**+0.6**
EKS2	**Erkin-Say**	**13.14**	**22**		*e*Pn		**Pn**	**23 31 01.3**	**-0.6**
	3.6nm,0.9s								
EKS2					*e*Sn		**Sn**	**23 33 33.0**	**+4.7**
AAK	**Ala-Archa**	**13.36**	**24**		Pn		**Pn**	**23 31 05.2**	**+0.4**
	0.0nm,0.3s,baz=204,slow=9.2,SNR=5.9								
AAK	**Ala-Archa**	**13.36**	**24**		Pn		**Pn**	**23 31 05.2**	**+0.4**
TKM2	**Tokmak 2**	**14.01**	**26**		*e*Pn		**Pn**	**23 31 14.1**	**+0.3**
	5.4nm,0.9s								
ABKAR	**Akbulak array**	**19.43**	**346**		*e*P		**Pn**	**23 32 20.4**	**-2.4**
	2.0nm,0.9s								
MK31	**Makanchi Array**	**19.95**	**32**		*e*P		**Pn**	**23 32 27.6**	**-1.4**
MKAR	**Makanchi Array**	**19.95**	**32**		P		**Pn**	**23 32 27.3**	**-1.7**
	0.7nm,0.6s,baz=212,slow=9.9,SNR=8.0								
MKAR	**Makanchi Array**	**19.95**	**32**		P		**Pn**	**23 32 27.3**	**-1.7**
AKTK	**Aktyubinsk**	**20.97**	**343**		P		**P**	**23 32 40.3**	**+1.9**
AKTO	**Aktyubinsk**	**20.97**	**343**		P		**P**	**23 32 40.3**	**+1.9**
	0.6nm,0.3s,baz=140,slow=7.9,SNR=2.9								
KURK	**Kurchatov**	**21.84**	**20**		P		**P**	**23 32 47.7**	**0.0**
	0.8nm,0.8s,mb3.2,baz=204,slow=11,SNR=4.7								
KURK	**Kurchatov**	**21.84**	**20**		*e*P		**P**	**23 32 47.1**	**-0.6**
	1.7nm,0.7s,mb3.6								
BVAR	**Borovoye Array**	**22.53**	**5**		P		**P**	**23 32 55.9**	**+0.9**
	0.6nm,0.4s,mb3.4,baz=171,slow=10,SNR=3.4								
BVAR	**Borovoye Array**	**22.53**	**5**		P		**P**	**23 32 55.9**	**+0.9**
BRVK	**Borovoye**	**22.55**	**5**		*e*P		**P**	**23 32 53.3**	**-2.0**
ZALV	**Zalesovo Beam**	**26.59**	**24**		P		**P**	**23 33 33.8**	**+0.3**
	0.7nm,0.4s,mb3.5,baz=222,slow=10,SNR=5.6								
ZALV	**Zalesovo Beam**	**26.59**	**24**		P		**P**	**23 33 33.8**	**+0.4**
SONM	**Songino Array**	**34.47**	**49**		LR		LR	23 50 55.4	
	com

mb4.0/2, Error ellipse: s-maj=21.2km s-min=6.3km az=4.7
*GUC **05** 00:06:49.6±1.0, 27°86'S×71°10'W, h15km±6km, ML4.3*
*NEIC **05** 00:06:49.6, 27°86'S×71°10'W, h15km, ML4.3(GUC), After GUC.*

ISC 05 00:06:49.5±1.4, 27°81'S±0°03'×71°1'W±0°1, h22km±10km, n18, σ1ᵖ20/25, mb4.0/2, 2C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
				Op				
CDCH	**Caldera**	**0.78**	**17**	↑*i*P		**Pb**	**00 07 04.6**	**+0.3**
CDCH				*i* S		**Sb**	**00 07 14.9**	**+0.5**
CDCH	**Caldera**	**0.78**	**17**	↑*i*P		**Pb**	**00 07 04.6**	**+0.3**
CDCH				*i* S		**Sb**	**00 07 14.9**	**+0.5**
CPCH	**Copiapo**	**0.78**	**55**	*e*P		**Pb**	**00 07 04.7**	**+0.3**
CPCH				*e*S		**Sb**	**00 07 16.1**	**+1.4**
CPCH	**Copiapo**	**0.78**	**55**	*e*P		**Pb**	**00 07 04.7**	**+0.3**
CPCH				*e*S		**Sb**	**00 07 16.1**	**+1.4**
CPCH				AML		AML	00 07 19.4	
	comp=N,8μm,0.1s							
VACH	**Vallenar**	**0.81**	**160**	*e*P		**Pb**	**00 07 03.9**	**-1.0**
VACH				*e*S		**Sb**	**00 07 14.0**	**-1.4**
VACH	**Vallenar**	**0.81**	**160**	*e*P		**Pb**	**00 07 03.9**	**-1.0**
VACH				*e*S		**Sb**	**00 07 14.0**	**-1.4**
VACH				AML		AML	00 07 15.8	
	comp=E,36μm,0.1s							
LCO	**Las Campanas**	**1.24**	**165**	*e*P		**Pn**	**00 07 11.0**	**-0.5**
LCO				*e*S		**Sn**	**00 07 26.6**	**-0.9**
OVCH	**Ovalle**	**2.79**	**182**	*e*S		**Sn**	**00 08 07.7**	**+1.9**
OVCH				AML		AML	00 08 18.6	
	comp=N,526nm,0.7s							
CMCH	**Combarbala**	**3.35**	**179**	*e*P		**Pn**	**00 07 41.8**	**+1.3**
CMCH				*e*S		**Sn**	**00 08 21.9**	**+2.2**
CMCH	**Combarbala**	**3.35**	**179**	*e*P		**Pn**	**00 07 41.8**	**+1.3**
CMCH				*e*S		**Sn**	**00 08 21.9**	**+2.2**
CMCH				AML		AML	00 08 35.2	
	comp=E,1μm,0.7s							
LPAZ	**La Paz**	**11.79**	**14**	Pn		**Pn**	**00 09 34.7**	**-1.7**
	comp=E,0.2nm,0.3s,baz=215,slow=6.1,SNR=6.0							
LPAZ	**La Paz**	**11.79**	**14**	Pn		**Pn**	**00 09 34.7**	**-1.7**
DBIC	**Dimbokro**	**72.47**	**72**	P		**P**	**00 18 14.0**	**-0.7**
	comp=E,6.2nm,1.2s,mb4.4,baz=164,slow=7.4,SNR=5.6							
DBIC	**Dimbokro**	**72.47**	**72**	P		**P**	**00 18 14.0**	**-0.7**
	comp=E,0.7nm,0.7s,mb3.7,baz=240,slow=4.5,SNR=6.5							
TORD	**Torodi Ar. Bea**	**81.33**	**70**	P		**P**	**00 19 03.7**	**-1.0**
TORD	**Torodi Ar. Bea**	**81.33**	**70**	P		**P**	**00 19 03.7**	**-1.0**
ZALV	**Zalesovo Beam**	**148.46**	**27**	PKPbc		PKPbc	00 26 33.5	-0.5
	comp=E,0.8nm,0.5s,baz=321,slow=2.0,SNR=5.9							
MKAR	**Makanchi Array**	**151.79**	**41**	PKPbc		PKPbc	00 26 41.6	-0.6
	comp=E,0.3nm,0.4s,baz=322,slow=1.6,SNR=6.9							

IDC 05 00:50:13.0±2.4, 11°20S×116°39E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/17, mbtmp3.3/4, ML3.1/1, Error ellipse: s-maj=128.1km s-min=24.6km az=47.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
				Op				
WRA	**Warramunga Arr**	**19.34**	**119**	P		Pn	00 54 40.0	-1.2
	0.1nm,0.3s,baz=294,slow=12,SNR=2.5							
ASAR	**Alice Springs**	**20.78**	**129**	P		P	00 54 55.7	-0.1
	0.5nm,0.5s,baz=301,slow=10,SNR=8.1							
MKAR	**Makanchi Array**	**65.29**	**335**	P		P	01 00 54.9	-1.8
	0.3nm,0.5s,baz=152,slow=6.8,SNR=5.5							
ZALV	**Zalesovo Beam**	**70.22**	**341**	P		P	01 01 29.4	+1.9
	0.2nm,0.3s,baz=129,slow=4.6,SNR=2.4							

*ISCJB **05** 01:09:23.5±0.5, 31°38S±0°04×179°49E±0°06, h452km±5km, mb4.6/51, Error ellipse: s-maj=8.0km s-min=6.2km az=22.5*
*BJI **05** 01:09:23.6, 31°21S×179°63E, h455km, mB5.2/11, mb5.0/24*
*NEIC **05** 01:09:24.4±0.5, 31°23S×179°50E, h452km±5km, mb4.7/32, Error ellipse: s-maj=6.6km s-min=5.0km az=146.0*
*IDC **05** 01:09:26.4±0.5, 31°18S×179°38E, h464km±5km, mb4.0/14, mb1 4.2/14, mb1mx4.2/17, mbtmp4.0/14, Error ellipse: s-maj=13.3km s-min=10.7km az=173.0*

ISC 05 01:09:24.6±0.4, 31°36S±0°04×179°52E±0°06, h452km±5km, h450km±2.8km; pP-P, n325, σ1ᵖ05/138, mb4.6/49, 24C-3D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
				Op				
RAO	**Raoul Island**	**3.05**	**47**	*e*Pn		**P**	**01 10 30.4**	**-1.9**
RAO				*e*S		**S**	**01 11 13.4**	**-14**
MXZ	**Matakaoa Point**	**6.27**	**189**	PN		**P**	**01 11 03.6**	**+2.0**
MXZ				SN		**S**	**01 12 17.6**	**-3.4**
OUZ	**Omahuta**	**6.28**	**231**	*e*Pn		**P**	**01 11 05.8**	**+4.0**
OUZ				*e*S		**S**	**01 12 29.0**	**+7.8**
PUZ	**Puketiti**	**6.78**	**188**	PN		**P**	**01 11 08.3**	**+1.4**
PUZ				SN		**S**	**01 12 27.8**	**-2.9**
MWZ	**Matawai**	**7.15**	**193**	PN		**P**	**01 11 11.1**	**+0.3**
MWZ				SN		**S**	**01 12 34.8**	**-3.1**
URZ	**Urewera**	**7.17**	**195**	P		**P**	**01 11 11.4**	**+0.4**
	190nm,0.3s,baz=19,slow=3.4,SNR=180							
URZ				S		**S**	**01 12 34.7**	**-3.4**
	70nm,0.3s,baz=73,slow=23,SNR=18							
URZ	**Urewera**	**7.17**	**195**	*e*Pn		**P**	**01 11 11.9**	**+0.9**
URZ				*e*S		**S**	**01 12 36.9**	**-1.2**
URZ	**Urewera**	**7.17**	**195**	PN		**P**	**01 11 11.0**	**0.0**
URZ				SN		**S**	**01 12 35.1**	**-3.1**
CNGZ	**Carnagh Statio**	**7.19**	**188**	PN		**P**	**01 11 12.3**	**+1.1**
CNGZ				SN		**S**	**01 12 38.7**	**0.0**
PRRZ	**Plateau Road**	**7.57**	**199**	PN		**P**	**01 11 15.6**	**+0.3**
PRGZ	**Paritu Road**	**7.67**	**190**	PN		**P**	**01 11 18.7**	**+2.4**
KNZ	**Kokohu**	**7.79**	**191**	PN		**P**	**01 11 19.2**	**+1.6**
RAHZ	**Arahi**	**7.80**	**194**	PN		**P**	**01 11 17.5**	**-0.2**
MHGZ	**Mahia Peninsul**	**7.89**	**189**	PN		**P**	**01 11 20.6**	**+1.9**
NMHZ	**Naumai**	**8.04**	**195**	PN		**P**	**01 11 20.5**	**+0.2**
BKZ	**Black Stump Fm**	**8.18**	**197**	PN		**P**	**01 11 20.7**	**-1.1**
MCHZ	**McNeill Hill**	**8.39**	**195**	PN		**P**	**01 11 24.0**	**-0.1**
CKHZ	**Cape Kidnapper**	**8.52**	**193**	PN		**P**	**01 11 25.1**	**-0.4**
KAHZ	**Kahuranaki**	**8.69**	**194**	PN		**P**	**01 11 27.2**	**-0.1**
PNHZ	**Pukenui**	**8.96**	**197**	PN		**P**	**01 11 28.5**	**-1.7**
WPHZ	**Waipukurau**	**9.04**	**195**	PN		**P**	**01 11 31.7**	**+0.6**
TSZ	**Takapari Road**	**9.15**	**197**	PN		**P**	**01 11 31.0**	**-1.3**
WAZ	**Wanganui**	**9.16**	**203**	PN		**P**	**01 11 34.3**	**+1.9**
PRHZ	**Porangahau**	**9.19**	**194**	PN		**P**	**01 11 34.1**	**+1.3**
MRZ	**Mangatainoka R**	**9.82**	**198**	PN		**P**	**01 11 38.9**	**-0.6**
OGWZ	**Otaki Gorge**	**10.07**	**199**	PN		**P**	**01 11 41.9**	**-0.5**
MTW	**Mount Morrison**	**10.30**	**197**	PN		**P**	**01 11 44.8**	**-0.1**
CAW	**Cannon Point**	**10.37**	**199**	PN		**P**	**01 11 45.7**	**+0.2**
DUWZ	**D'Urville Isla**	**10.45**	**204**	PN		**P**	**01 11 46.2**	**-0.3**
MSWZ	**Moikau Station**	**10.61**	**198**	PN		**P**	**01 11 48.1**	**0.0**
TCW	**Tory Channel**	**10.70**	**202**	PN		**P**	**01 11 48.1**	**-1.1**
PLWZ	**Palliser**	**10.75**	**197**	PN		**P**	**01 11 50.1**	**+0.4**
QRZ	**Quartz Range**	**11.01**	**209**	PN		**P**	**01 11 53.2**	**+0.7**
NNZ	**Nelson**	**11.01**	**205**	PN		**P**	**01 11 52.0**	**-0.6**
BSWZ	**Blackbirch Sta**	**11.29**	**202**	*e*PN		**P**	**01 11 55.1**	**-0.4**
THZ	**Tophouse**	**11.66**	**205**	PN		**P**	**01 11 59.4**	**-0.2**
KHZ	**Kahutara**	**12.03**	**202**	*e*P		**P**	**01 12 05.0**	**+1.5**
KHZ				*e*S		**S**	**01 14 11.3**	**-3.4**
KHZ	**Kahutara**	**12.03**	**202**	PN		**P**	**01 12 02.9**	**-0.6**
LTZ	**Lake Taylor**	**12.78**	**205**	PN		**P**	**01 12 11.4**	**-0.3**
MSVF	**Nonsavu**	**13.63**	**354**	*e*P		**P**	**01 12 19.7**	**-1.5**
	108nm,0.8s							
RPZ	**Rata Peaks**	**14.04**	**206**	P		**P**	**01 12 25.1**	**-0.1**
	2.1nm,0.3s,baz=113,slow=16,SNR=9.2							
RPZ	**Rata Peaks**	**14.04**	**206**	P		**P**	**01 12 25.1**	**-0.1**
BAYA	**Yate Dam**	**14.53**	**306**	*e*P		**P**	**01 12 32.2**	**+1.4**
DZM	**Mont Dzumac**	**14.89**	**305**	*e*Pn		**P**	**01 12 36.3**	**+1.7**
	168nm,1.3s							
NOUC	**Port Laguerre**	**14.97**	**305**	*e*P		**P**	**01 12 35.2**	**-0.2**
FUNA	**Funafuti**	**22.72**	**359**	*e*P		**P**	**01 13 49.3**	**-1.4**
	141nm,0.9s,mb5.4							
PAE	**Paea**	**31.13**	**71**	*e*P		**P**	**01 15 03.8**	**-1.0**
	15nm,1.1s,mb4.3							
PAE	**Paea**	**31.13**	**71**	*e*P		**P**	**01 15 03.8**	**-1.0**
	15nm,1.1s,mb4.3							
PPT	**Papeete**	**31.18**	**71**	*e*P		**P**	**01 15 05.4**	**+0.1**
	46nm,1.1s,mb4.8							
PPT	**Papeete**	**31.18**	**71**	*e*P		**P**	**01 15 05.4**	**+0.1**
	46nm,1.1s,mb4.8							
TIAR	**Tiarei**	**31.37**	**71**	*e*P		**P**	**01 15 06.3**	**-0.6**
	138nm,0.8s,mb5.5							
TIAR	**Tiarei**	**31.37**	**71**	*e*P		**P**	**01 15 06.3**	**-0.6**
	138nm,0.8s,mb5.4							
CTA	**Charters Tower**	**31.88**	**283**	*e*P		**P**	**01 15 12.3**	**+1.0**
	23nm,0.9s,mb4.6							
CTAO	**Charters Tower**	**31.88**	**283**	*e*P		**P**	**01 15 12.7**	**+1.4**
	58nm,1.1s,mb4.9							
STKA	**Stephens Creek**	**32.19**	**259**	P		**P**	**01 15 16.0**	**+2.2**
	13nm,0.5s,mb4.6,baz=95,slow=10.0,SNR=38							
STKA				*e*P		pP	01 16 35.0	+0.8
	4.9nm,0.9s,baz=72,slow=13,SNR=1.9							
STKA	**Stephens Creek**	**32.19**	**259**	*e*P		**P**	**01 15 15.7**	**+1.9**
	8.5nm,1.1s,mb4.1							
STKA	**Stephens Creek**	**32.19**	**259**	*e*P		**P**	**01 15 15.8**	**+2.0**
	3.6nm,0.8s,mb3.9							
VAH	**Vaihoa**	**34.01**	**69**	*e*P		**P**	**01 15 29.6**	**+0.1**
	127nm,1.1s,mb5.3							
VAH	**Vaihoa**	**34.01**	**69**	*e*P		**P**	**01 15 29.6**	**+0.1**
	127nm,1.1s,mb5.3							
BBOO	**Buckleboo**	**36.66**	**256**	*e*P		**P**	**01 15 51.5**	**0.0**
	58nm,0.7s,mb5.1							
PMG	**Port Moresby**	**37.14**	**299**	P		**P**	**01 15 56.1**	**+0.5**
	4.1nm,0.2s,mb4.4,baz=118,slow=23,SNR=6.4							
PMG	**Port Moresby**	**37.14**	**299**	*e*P		**P**	**01 15 55.3**	**-0.4**
	9.4nm,0.6s,mb4.4							
COEN	**Coen**	**37.52**	**289**	*e*P		**P**	**01 15 59.3**	**+0.5**
	161nm,1.0s,mb5.4							
ASAR	**Alice Springs**	**40.94**	**269**	P		**P**	**01 16 26.6**	**+0.2**
	16nm,0.8s,mb4.5,baz=110,slow=7.8,SNR=103							
ASAR				pP		pP	01 17 52.2	+1.5
	3.5nm,0.8s,baz=104,slow=7.8,SNR=3.9							
ASAR				ScP		ScP	01 21 22.3	-0.2
	3.1nm,0.8s,baz=115,slow=3.8,SNR=7.4							
ASAR				S		**S**	**01 22 02.7**	**-2.1**
	5.7nm,1.1s,baz=109,slow=15,SNR=13							
ASAR	**Alice Springs**	**40.94**	**269**	P		**P**	**01 16 26.6**	**+0.2**
ASAR				pP		pP	01 17 52.2	+1.5
ASAR				ScP		ScP	01 21 22.3	-0.2
ASAR				*S*		**S**	**01 22 02.7**	**-2.1**
WB2	**Warramunga Arr**	**42.01**	**275**	*e*P		**P**	**01 16 34.9**	**-0.1**
WB2				*e*pP		pP	01 17 59.6	-0.3
WRAB	**Tennant Creek**	**42.02**	**275**	*e*P		**P**	**01 16 34.4**	**-0.7**
WRA	**Warramunga Arr**	**42.02**	**275**	P		**P**	**01 16 35.0**	**-0.1**
	23nm,0.4s,mb5.0,baz=111,slow=8.0,SNR=229							
WRA				pP		pP	01 18 00.6	+0.7
	9.5nm,0.9s,baz=112,slow=8.4,SNR=5.0							
WRA				PcP		PcP	01 18 20.0	-0.1
	3.9nm,0.7s,baz=113,slow=3.5,SNR=5.4							
WRA				ScP		ScP	01 21 27.4	+0.5
	5.5nm,1.0s,baz=113,slow=4.2,SNR=9.7							
WRA				S		**S**	**01 22 17.9**	**-2.5**
	5.0nm,1.1s,baz=113,slow=12,SNR=5.7							
WRA	**Warramunga Arr**	**42.02**	**275**	P		**P**	**01 16 35.0**	**-0.1**
WRA				pP		pP	01 18 00.6	+0.7
WRA				PcP		PcP	01 18 20.0	-0.1
WRA				ScP		ScP	01 21 27.4	+0.5
WRA				S		**S**	**01 22 17.9**	**-2.5**
FORT	**Forrest**	**43.74**	**257**	↑*i*P		**P**	**01 16 48.8**	**+0.2**
	45nm,0.6s,mb5.1							
FORT	**Forrest**	**43.74**	**257**	*e*P		**P**	**01 16 49.0**	**+0.5**
	53nm,0.7s,mb5.1							
KAKA	**Kakadu**	**47.02**	**282**	*e*P		**P**	**01 17 13.0**	**-1.0**
	28nm,1.1s,mb4.6							
KAKA	**Kakadu**	**47.02**	**282**	*e*P		**P**	**01 17 12.9**	**-1.1**
	67nm,0.9s,mb5.1							
KAKA				*e*		pP	01 18 36.9	-4.4
FITZ	**Fitzroy Crossi**	**50.24**	**272**	↓*i*P		**P**	**01 17 38.2**	**+0.2**
	32nm,0.6s,mb4.8							
FITZ	**Fitzroy Crossi**	**50.24**	**272**	*e*P		**P**	**01 17 38.1**	**+0.1**
	7.8nm,0.4s,mb4.4							
FITZ				*e*pP		pP	01 19 07.5	+0.7
FITZ				*e*ScP		ScP	01 22 01.9	+0.6
KLBR	**Kellerberrin**	**52.02**	**253**	*e*P		**P**	**01 17 50.3**	**-0.6**
	14nm,0.8s,mb4.3							
CASY	**Casey**	**53.30**	**208**	*e*P		**P**	**01 18 00.6**	**+1.1**
CASY	**Casey**	**53.30**	**208**	*e*P		**P**	**01 18 00.1**	**+0.6**
	7.8nm,0.6s,mb4.2							
MBWA	**Marble Bar**	**54.01**	**265**	*e*P		**P**	**01 18 04.6**	**-0.7**
	8.4nm,0.7s,mb4.2							
GUMO	**Guam**	**55.70**	**318**	*e*P		**P**	**01 18 14.3**	**-2.9**
QSPA	**South Pole Qui**	**58.76**	**180**	P		**P**	**01 18 40.3**	**+3.0**
	5.2nm,0.8s,mb3.9,baz=357,slow=1.9,SNR=19							
QSPA				pP		pP	01 20 14.2	+4.6
	3.5nm,0.8s,baz=311,slow=3.1,SNR=3.0							
QSPA	**South Pole Qui**	**58.76**	**180**	*e*P		**P**	**01 18 39.6**	**+2.3**
	4.7nm,0.8s,mb3.9							
MAW	**Mawson**	**70.66**	**201**	P		**P**	**01 19 54.2**	**+1.2**
	2.8nm,0.7s,mb3.9,baz=130,slow=6.3,SNR=7.0							
MAW	**Mawson**	**70.66**	**201**	P		**P**	**01 19 54.2**	**+1.2**
KKM	**Kota Kinabalu**	**70.85**	**290**	*e*P		**P**	**01 19 54.6**	**-0.4**
	22nm,0.9s,mb4.7							
KSM	**Kuching**	**73.12**	**282**	*e*P		**P**	**01 20 08.3**	**-0.1**
	55nm,1.3s,mb4.9							
SYO	**Syowa Base**	**75.69**	**194**	↑*e*P		**P**	**01 20 20.6**	**-1.4**
VNA3	**Neumayer Olymp**	**77.48**	**177**	*e*		**P**	**01 20 30.3**	**-1.5**
MJAR	**Matsushiro Arr**	**77.84**	**327**	P		**P**	**01 20 33.5**	**-0.7**
	15nm,1.0s,mb4.4,baz=171,slow=5.9,SNR=20							
MJAR	**Matsushiro Arr**	**77.84**	**327**	P		**P**	**01 20 33.5**	**-0.7**
MAJO	**Matsushiro**	**77.85**	**327**	*e*P		**P**	**01 20 33.7**	**-0.5**
	12nm,0.8s,mb4.4							
MAT	**Matsushiro**	**77.85**	**327**	P		**P**	**01 20 33.5**	**-0.7**
VNA2	**Neumayer--Watz**	**77.89**	**178**	*e*		**P**	**01 20 32.8**	**-1.2**
	baz=188,slow=4.7							
VNA2				*e*		pP	01 22 17.5	+4.5
VNA2				*e*			01 23 03.8	
VNA1	**Neumayer--Stat**	**78.13**	**177**	*e*		**P**	**01 20 34.6**	**-0.7**
TPUB	**Ta-pu**	**78.30**	**307**	*e*P		**P**	**01 20 34.6**	**-2.4**
	42nm,0.9s,mb4.9							
SSLB	**Suanglung**	**78.40**	**307**	*e*P		**P**	**01 20 35.7**	**-1.8**
	31nm,0.8s,mb4.8							
JNU	**Nakatsue**	**78.88**	**320**	*e*P		**P**	**01 20 39.2**	**-0.7**
	24nm,1.1s,mb4.6							
IPM	**Ipoh**	**82.53**	**280**	*e*P		**P**	**01 20 58.9**	**-0.5**
	16nm,0.9s,mb4.5							
KULM	**Kulim**	**83.28**	**280**	*e*P		**P**	**01 21 02.6**	**-0.5**
	5.3nm,0.7s,mb4.2							
KSRS	**Korea Array**	**83.72**	**321**	P		**P**	**01 21 05.2**	**+0.4**
	11nm,0.9s,mb4.4,baz=140,slow=5.5,SNR=25							
NJ2	**Nanjing**	**85.27**	**312**	*e*P		**P**	**01 21 12.9**	**+0.3**
NJ2					pmax	pmax		
	comp=Z,30nm,0.6s,mb5.1							
PETK	**Petropavlovsk-**	**86.23**	**347**	P		**P**	**01 21 17.3**	**+0.7**
	comp=Z,30nm,0.8s,mb5.0,baz=135,slow=5.2,SNR=17							
PETK	**Petropavlovsk-**	**86.23**	**347**	P		**P**	**01 21 17.3**	**+0.7**
MDJ	**Mudanjiang**	**88.23**	**327**	P		**P**	**01 21 26.8**	**+0.5**
MDJ				pP		pP	01 23 08.8	+0.4
MDJ				sP		sP	01 23 55.9	+1.2
MDJ				S		S	01 31 34.0	+2.2
MDJ					pmax	pmax		
	comp=Z,17nm,1.5s,mb4.5							
MDJ					pmax	pmax		
	comp=Z,77nm,3.5s							
CHGN	**Chignik**	**89.31**	**12**	*e*P		**P**	**01 21 31.1**	**+0.1**
CN2	**Changchun**	**89.64**	**324**	*e*P		**P**	**01 21 33.1**	**+0.2**
CN2				*e*S		S	01 31 44.9	+0.1
CN2					pmax	pmax		
	comp=Z,40nm,1.1s,mb5.2							
TRQA	**Tornquist**	**90.25**	**136**	*e*P		**P**	**01 21 36.8**	**+0.7**
	comp=Z,2.1nm,0.6s,mb4.1							
ENH	**Enshi**	**90.40**	**306**	*e*P		**P**	**01 21 37.0**	**+0.3**
	comp=Z,10nm,0.8s,mb4.7							
NVAR	**Mina Array Bea**	**90.40**	**44**	P		**P**	**01 21 38.0**	**+1.5**
	comp=Z,3.1nm,0.7s,mb4.2,baz=221,slow=7.5,SNR=19							
NVAR				pP		pP	01 23 21.9	+2.9
	comp=Z,1.4nm,0.9s,baz=229,slow=9.0,SNR=3.6							
NVAR	**Mina Array Bea**	**90.40**	**44**	P		**P**	**01 21 38.0**	**+1.5**
NVAR				pP		pP	01 23 21.9	+2.9
TUC	**Tucson**	**91.38**	**53**	*e*P		**P**	**01 21 41.4**	**+0.2**
	comp=Z,3.2nm,0.9s,mb4.2							
MOD	**Modoc**	**91.55**	**40**	*e*P		**P**	**01 21 42.5**	**+0.8**
	comp=Z,2.8nm,0.7s,mb4.3							
CMAR	**Chiang Mai Arr**	**91.72**	**290**	P		**P**	**01 21 43.9**	**+0.8**
	comp=Z,1.5nm,0.3s,mb4.4,baz=141,slow=3.5,SNR=11							
CMAR				pP		pP	01 23 27.9	+2.3
	comp=Z,0.8nm,0.4s,baz=146,slow=1.8,SNR=0.7							
CMAR				PP		PP	01 25 29.1	-0.6
	comp=Z,0.9nm,0.3s,baz=143,slow=5.8,SNR=6.7							
CMAR	**Chiang Mai Arr**	**91.72**	**290**	P		**P**	**01 21 43.9**	**+0.8**
CMAR				pP		pP	01 23 27.9	+2.3
CMAR				PP		PP	01 25 29.1	-0.6
CHTO	**Chiang Mai**	**91.91**	**291**	*e*P		**P**	**01 21 44.5**	**+0.5**
	comp=Z,1.5nm,0.4s,mb4.3							
BJI	**Beijing**	**92.13**	**317**	P		**P**	**01 21 45.0**	**+0.5**
BJI					pmax	pmax		
	comp=Z,21nm,1.0s,mb5.0							
KMI	**Kunming**	**92.36**	**298**	P		**P**	**01 21 47.6**	**+1.7**
KMI				pP		pP	01 23 28.9	+0.4
KMI					pmax	pmax		
	comp=Z,13nm,1.3s,mb4.7							
WVOR	**Wild Horse Val**	**92.82**	**41**	*e*P		**P**	**01 21 48.1**	**+0.5**
	comp=Z,1.5nm,0.6s,mb4.2							
XAN	**Xi'an**	**93.01**	**308**	P		**P**	**01 21 49.7**	**+1.0**
XAN					pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2							
TXAR	**Lajitas Array**	**94.70**	**59**	P		**P**	**01 21 57.0**	**+0.5**
	comp=Z,0.3nm,0.8s,mb3.4,baz=193,slow=5.5,SNR=4.0							
TXAR	**Lajitas Array**	**94.70**	**59**	P		**P**	**01 21 57.0**	**+0.5**
CD2	**Chengdu**	**94.81**	**303**	P		**P**	**01 21 57.7**	**+0.7**
CD2				pP		pP	01 23 39.6	-0.1
CD2				sP		sP	01 24 24.3	-1.5
CD2				PP		PP	01 25 56.0	+2.6
CD2				SKS			01 31 49.2	
CD2				S		S	01 32 29.7	-1.2
CD2				sS		sS	01 35 31.0	-4.6
CD2				SS		SS	01 39 10.7	+1.8
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s,mb5.1							
CD2				pmax		pmax		
	comp=Z,120nm,5.3s							
HHC	**Hu-ho-hao-te**	**95.38**	**315**	*e*P		**P**	**01 22 00.0**	**+0.7**
HHC				pP		pP	01 23 42.2	+0.1
HHC				sP		sP	01 24 26.8	-1.4
HHC				PP		PP	01 25 59.8	+2.2
HHC				SKS			01 31 52.2	
HHC				S		S	01 32 34.5	-0.9
HHC				pmax		pmax		
	comp=Z,21nm,0.6s,mb5.3							
HHC				pmax		pmax		
	comp=Z,170nm,5.2s							
MCK	**McKinley**	**98.01**	**14**	*e*P		**P**	**01 22 10.0**	**-0.5**
	comp=Z,5.0nm,0.9s,mb4.8							
PDAR	**Pinedale Array**	**98.31**	**45**	P		Pdif	01 22 12.4	-0.1
	comp=Z,0.7nm,0.9s,baz=197,slow=4.6,SNR=4.5							
PDAR				PKKPbc		PKKPbc	01 38 41.8	-0.4
	comp=Z,0.4nm,0.7s,baz=69,slow=4.9,SNR=4.2							
PDAR	**Pinedale Array**	**98.31**	**45**	P		Pdif	01 22 12.4	-0.1
PDAR				PKKPbc		PKKPbc	01 38 41.8	-0.4
ILAR	**Eielson Array**	**99.35**	**14**	P		Pdif	01 22 16.9	-0.3
	comp=Z,1.1nm,0.9s,baz=222,slow=5.9,SNR=6.2							
ILAR				PP		PP	01 26 21.0	-6.2
	comp=Z,1.2nm,1.0s,baz=217,slow=6.3,SNR=5.2							
ILAR				PKiKP		PKiKP	01 26 44.5	+1.3
	comp=Z,0.6nm,0.8s,baz=296,slow=2.6,SNR=4.7							
ILAR	**Eielson Array**	**99.35**	**14**	P		Pdif	01 22 16.9	-0.3
ILAR				PP		PP	01 26 21.0	-6.2
WMQ	**Urumqi**	**112.14**	**309**	PKP		PKiKP	01 27 07.5	0.0
BOSA	**Boshof**	**115.52**	**205**	PKP		PKPdf	01 27 14.1	-0.6
	comp=Z,2.8nm,1.0s,baz=124,slow=3.6,SNR=2.5							
BOSA	**Boshof**	**115.52**	**205**	PKP		PKPdf	01 27 14.1	-0.6
MK31	**Makanchi Array**	**116.75**	**310**	*e*PKPdf		PKPdf	01 27 15.3	-1.0
MKAR	**Makanchi Array**	**116.75**	**310**	PKP		PKPdf	01 27 15.6	-0.7
	comp=Z,1.6nm,0.6s,baz=193,slow=1.1,SNR=16							
MKAR	**Makanchi Array**	**116.75**	**310**	PKP		PKPdf	01 27 15.6	-0.7
ZALV	**Zalesovo Beam**	**117.33**	**318**	PKP		PKPdf	01 27 15.9	-1.3
	comp=Z,2.3nm,0.7s,baz=130,slow=1.6,SNR=12							
ZALV	**Zalesovo Beam**	**117.33**	**318**	PKP		PKPdf	01 27 15.9	-1.3
RES	**Resolute Bay**	**118.80**	**18**	*e*PKPdf		PKPdf	01 27 18.4	-1.0

AVNT	Avonos	150.28	294	*i* P		PKPbc	01 28 23.5	-0.2
GULE	Gulek	150.40	291	*i* P		PKPbc	01 28 24.6	+0.5
ASK	Askoy	150.62	354	*e*P		PKPbc	01 28 22.6	-1.2
RUND	Rundenannen	150.68	354	*e*P		PKPbc	01 28 23.1	-0.8
AKASG	Malin Array Be	150.71	320	PKP	PKPdf		01 28 16.7	-1.6
	comp=Z,0.4nm,0.4s,baz=163,slow=1.0,SNR=4.9							
AKASG				PKPbc	PKPbc		01 28 24.1	-0.2
	comp=Z,23nm,0.8s,baz=55,slow=2.7,SNR=51							
AKASG				PKPab	PKPab		01 28 32.6	-0.7
	comp=Z,2.7nm,0.4s,baz=49,slow=4.5,SNR=8.4							
AKASG				pPKPbc	pPKPbc		01 30 13.4	+1.1
	comp=Z,0.6nm,0.4s,baz=66,slow=1.8,SNR=2.8							
AKASG	Malin Array Be	150.71	320	PKP	PKPdf		01 28 16.7	-1.6
AKASG				PKPbc	PKPbc		01 28 24.1	-0.2
AKASG				PKPab	PKPab		01 28 32.6	-0.7
AKASG				pPKPbc	pPKPbc		01 30 13.4	+1.1
AKBB	Malin Array Si	150.71	320	*e*PKPbc	PKPbc		01 28 23.6	-0.7
BER	Bergen	150.71	354	*e*P	PKPbc		01 28 23.1	-0.9
KIEV	Kiev	150.72	320	*e*PKPbc	PKPbc		01 28 23.5	-0.8
KONO	Kongsberg	150.90	349	*e*P	PKPbc		01 28 23.9	-0.6
KONO	Kongsberg	150.90	349	*e*PKPbc	PKPbc		01 28 23.7	-0.8
KONO				*e*PKPab	PKPab		01 28 33.2	-0.6
ILGA	Ilgaz	150.91	299	*i* P	PKPbc		01 28 25.6	+0.5
BR131	Keskin Array S	151.14	296	*e*PKPbc	PKPbc		01 28 25.1	-0.6
BR131				*e*PKPab	PKPab		01 28 34.7	-0.9
BRTR	Keskin Array B	151.14	296	PKP	PKPdf		01 28 18.3	-1.0
	comp=Z,1.0nm,1.0s,baz=31,slow=2.9,SNR=5.7							
BRTR				PKPbc	PKPbc		01 28 25.4	-0.3
	comp=Z,9.0nm,0.5s,baz=134,slow=3.7,SNR=61							
BRTR				PKPab	PKPab		01 28 35.4	-0.2
	comp=Z,8.9nm,1.0s,baz=88,slow=4.1,SNR=12							
BRTR				pPKPbc	pPKPbc		01 30 17.1	+3.4
	comp=Z,1.5nm,0.9s,baz=114,slow=3.0,SNR=3.5							
BRTR	Keskin Array B	151.14	296	PKP	PKPdf		01 28 18.3	-1.0
BRTR				PKPbc	PKPbc		01 28 25.4	-0.3
BRTR				PKPab	PKPab		01 28 35.4	-0.2
BRTR				pPKPbc	pPKPbc		01 30 17.1	+3.4
ELDT	Eldivan	151.21	298	*i* P	PKPbc		01 28 24.9	-0.9
CSS	Prodhromos	151.54	286	*e*PKPbc	PKPbc		01 28 25.6	-1.2
BBAL	Bala	151.56	296	*i* P	PKPbc		01 28 26.5	-0.1
SUW	Suwalki	151.70	330	*e*P	PKPbc		01 28 26.2	-0.2
SUW				*e*			01 28 36.2	
SUW	Suwalki	151.70	330	*e*PKPbc	PKPbc		01 28 26.1	-0.3
SUW				*e*PKPab	PKPab		01 28 36.5	-0.9
ERMK	Ermenek	151.90	290	*i* P	PKPdf		01 28 15.0	-5.5
SGKT	Sivrigoynuk	152.23	298	*i* P	PKPdf		01 28 24.2	+3.3
VRI	Vrincioaia	154.43	312	⇑*i*P	PKPab		01 28 49.8	+0.5
PLOR	Plostina	154.48	312	⇑*i*P	PKPab		01 28 50.0	+0.5
BUR08	Bucovina Ar. S	154.53	317	*e*PKPbc	PKPbc		01 28 34.1	+1.3
BUR08				*e*PKPab	PKPab		01 28 49.1	-0.6
BURAR	Bucovina Array	154.53	317	⇑*i*P	PKPab		01 28 50.3	+0.6
BURAR	Bucovina Array	154.53	317	⇓*i*P	PKPab		01 28 50.6	+0.9
GKP	Gorka Klasztor	154.62	335	*e*P	PKPab		01 28 49.4	-0.4
KWP	Kalwaria Pacla	154.79	323	*e*P	PKPab		01 28 51.0	+0.3
KWP	Kalwaria Pacla	154.79	323	*e*PKPab	PKPab		01 28 50.4	-0.3
KWP	Kalwaria Pacla	154.79	323	⇑*i*P	PKPab		01 28 50.9	+0.2
DBIC	Dimbokro	155.10	170	PKP	PKPdf		01 28 26.5	+0.7
	comp=Z,6.6nm,1.1s,baz=135,slow=2.9,SNR=3.3							
DBIC	Dimbokro	155.10	170	PKP	PKPdf		01 28 26.5	+0.7
KOLS	Kolonicke sedl	155.44	322	*e*	PKPdf		01 28 35.6	+10
KOLS	Kolonicke sedl	155.44	322	*e*PKP	PKPab		01 28 53.5	0.0
BMR	Baia Mare	155.50	319	⇓*i*P	PKPab		01 28 54.9	+1.1
STHS	Stebnicka Huta	155.66	324	*e*PKP	PKPab		01 28 52.5	-1.9
TRPA	Tarpa	155.77	320	⇑*i*P	PKPab		01 28 55.1	+0.1
CRVS	Cervenica-Dubn	155.88	323	*e*PKP	PKPab		01 28 55.5	+0.1
HUMR	Humele	156.11	311	⇑*i*P	PKPab		01 28 56.8	+0.2
DRGR		156.42	317	⇑*i*P	PKPab		01 28 57.9	+0.1
OKC	Ostrava-Krasne	156.85	328	*e*PKPAB	PKPab		01 28 59.3	-0.3
OKC				*ex*			01 29 10.0	
KSP	Ksiaz	156.89	332	*e*P	PKPab		01 28 59.2	-0.4
MORC	Moravsky Berou	157.17	329	⇑*i*P	PKPab		01 29 01.0	+0.1
DPC	Dobruska-Polom	157.26	331	*e*PKPAB	PKPab		01 29 01.4	+0.1
UPC	Upice	157.26	332	*e*PKPAB	PKPab		01 29 01.4	+0.1
VYHS	Vyhne	157.47	325	*e*PKP	PKPab		01 29 02.4	+0.1
KOLL	Kolacno	157.62	326	*e*PKP	PKPab		01 29 03.0	+0.1
BZS	Buzias	157.69	316	⇑*i*P	PKPab		01 29 03.3	-0.1
CLL	Collm	157.71	337	⇑*i*PKPab	PKPab		01 29 02.9	-0.3
	comp=Z,23nm,1.0s							
BRG	Berggiesshubel	157.75	335	*i* PKP	PKPab		01 29 03.2	-0.2
	comp=Z,26nm,1.1s							
PVCC	Panska Ves	157.81	334	*e*PKPAB	PKPab		01 29 03.8	+0.1
VTS	Vitosha	158.07	307	⇑*i*P	PKPab		01 29 05.5	+0.3
PRU	Pruhonice	158.25	333	*e*PKPAB	PKPab		01 29 06.1	+0.5
PRU				*ex*	x		01 29 17.0	
TREC	Trest	158.42	331	*e*PKPAB	PKPab		01 29 06.4	+0.1
ZST	Bratislava	158.51	327	*e*PKP	PKPab		01 29 07.5	+0.7
WTSB	Winterswijk	158.72	348	*e*P	PKPab		01 29 03.2	-4.4
	comp=Z,28nm,2.6s							
VAY	Valandovo	158.99	305	*e*PKP	PKPab		01 29 08.2	-1.0
	comp=Z,52nm,1.9s							
CONA	Conrad Observa	159.28	328	⇑*i*PKPab	PKPab		01 29 10.4	+0.3
	comp=Z,13nm,1.0s							
KHC	Kasperske Hory	159.31	333	*e*PKPAB	PKPab		01 29 10.1	-0.2
GERES	GERESS Array B	159.50	332	PKP	PKPdf		01 28 29.4	-0.7
	comp=Z,0.8nm,0.9s,baz=105,slow=3.0,SNR=5.6							
GERES				PKPab	PKPab		01 29 10.8	-0.3
	comp=Z,4.2nm,0.9s,baz=44,slow=4.4,SNR=19							
GERES	GERESS Array B	159.50	332	PKP	PKPdf		01 28 29.4	-0.7
GERES				PKPab	PKPab		01 29 10.8	-0.3
SKO	Skopje	159.52	307	*e*PKP	PKPab		01 29 11.9	+0.4
ARSA	Arzberg	159.93	327	⇑*i*PKPab	PKPab		01 29 12.7	-0.4
	comp=Z,6.4nm,1.2s							
BIA	Bitola	159.97	305	*e*PKP	PKPab		01 29 13.2	-0.4
HGN	Heimansgroeve	160.03	348	*e*P	PKPab		01 29 12.7	-0.6
	comp=Z,28nm,0.9s							
MOA	Molln	160.05	330	⇑*i*PKPab	PKPab		01 29 13.4	-0.2
	comp=Z,11nm,1.4s							
MEM	Membach	160.17	348	PKPab	PKPab		01 29 13.1	-0.8
BCLA	Clavier	160.47	349	PKPab	PKPab		01 29 14.6	-0.6
SNF	Seneffe	160.54	351	PKPab	PKPab		01 29 14.8	-0.7
GIVF	Givet	160.86	350	*e*PKP2	PKPab		01 29 16.0	-0.9
GIVF	Givet	160.86	350	*e*PKPab	PKPab		01 29 16.0	-0.9
DOU	Dourbes	160.90	350	PKPab	PKPab		01 29 16.3	-0.8
BAIF	Baives	160.99	351	*e*PKP2	PKPab		01 29 16.9	-0.6
	comp=Z,59nm,1.4s							
BAIF	Baives	160.99	351	*e*PKPab	PKPab		01 29 16.9	-0.6
WLF	Walferdange	161.04	347	PKPab	PKPab		01 29 17.5	-0.3
WLF	Walferdange	161.04	347	*e*PKPab	PKPab		01 29 16.6	-1.2
MOTA	Moosalm	161.72	334	⇑*i*PKPab	PKPab		01 29 20.7	-0.1
	comp=Z,12nm,1.0s							
RETA	Reutte	161.73	335	⇑*i*PKPab	PKPab		01 29 21.1	+0.2
	comp=Z,22nm,1.3s							
TORD	Torodi Ar. Bea	161.77	187	PKP	PKPdf		01 28 33.9	+0.3
	comp=Z,2.4nm,1.1s,baz=321,slow=0.6,SNR=8.1							
TORD				PKPab	PKPab		01 29 21.9	+0.2
	comp=Z,1.3nm,0.8s,baz=164,slow=3.9,SNR=7.4							
TORD	Torodi Ar. Bea	161.77	187	PKP	PKPdf		01 28 33.9	+0.3
TORD				PKPab	PKPab		01 29 21.9	+0.2
CDF	Champ du Feu	161.97	343	*e*PKP2	PKPab		01 29 21.5	-0.4
	comp=Z,33nm,1.2s							
CDF	Champ du Feu	161.97	343	*e*PKPab	PKPab		01 29 21.5	-0.4
PAGF	Fort de Pagny	162.19	346	⇑*i*PKP2	PKPab		01 29 22.6	-0.2
	comp=Z,11nm,1.0s							
DAVA	Damuels	162.21	336	⇑*i*PKPab	PKPab		01 29 22.9	-0.1
	comp=Z,16nm,0.9s							
MEZF	Maizieres J'vi	162.37	348	*e*PKP2	PKPab		01 29 23.1	-0.5
	comp=Z,25nm,0.9s							
MEZF	Maizieres J'vi	162.37	348	*e*PKPab	PKPab		01 29 23.1	-0.5
HAU	Haudompre	162.57	345	*e*PKP2	PKPab		01 29 24.0	-0.5
	comp=Z,18nm,0.9s							
HAU	Haudompre	162.57	345	*e*PKPab	PKPab		01 29 24.0	-0.5
HINF	Hinteralfeld	162.63	343	*e*PKP2	PKPab		01 29 24.1	-0.7
HINF	Hinteralfeld	162.63	343	*e*PKPab	PKPab		01 29 24.1	-0.7
SFTF	Sexfontaines	162.65	348	⇑*i*PKP2	PKPab		01 29 24.4	-0.5
	comp=Z,71nm,1.4s							
SFTF	Sexfontaines	162.65	348	⇑*i*PKPab	PKPab		01 29 24.4	-0.5
LOR	Lormes	163.76	349	*e*PKP2	PKPab		01 29 29.2	-0.6
LOR	Lormes	163.76	349	*e*PKPab	PKPab		01 29 29.2	-0.6
HYF	Humbligny	163.93	352	*e*PKP2	PKPab		01 29 30.3	-0.2
HYF	Humbligny	163.93	352	*e*PKPab	PKPab		01 29 30.3	-0.2
CABF	La Chapelle	163.94	343	*e*PKP2	PKPab		01 29 30.5	-0.1
	comp=Z,30nm,1.3s							
CABF	La Chapelle	163.94	343	*e*PKPab	PKPab		01 29 30.5	-0.1
SSF	Saint Saulge	164.02	350	⇑*i*PKP2	PKPab		01 29 30.4	-0.5
	comp=Z,31nm,1.0s							
SSF	Saint Saulge	164.02	350	⇑*i*PKPab	PKPab		01 29 30.4	-0.5
AVF	Avril sur Loir	164.31	350	*e*PKP2	PKPab		01 29 31.5	-0.7
	comp=Z,19nm,1.0s							
AVF	Avril sur Loir	164.31	350	*e*PKPab	PKPab		01 29 31.5	-0.7
SMF	Signal de Mont	164.37	349	*e*PKP2	PKPab		01 29 32.0	-0.5
	comp=Z,49nm,1.0s							
SMF	Signal de Mont	164.37	349	*e*PKPab	PKPab		01 29 32.0	-0.5
BGF	Bois d'Agland	164.60	351	*e*PKP2	PKPab		01 29 32.2	-1.3
BGF	Bois d'Agland	164.60	351	*e*PKPab	PKPab		01 29 32.2	-1.3
LPL	La Plagne	164.78	340	*e*PKP2	PKPab		01 29 34.9	+0.5
	comp=Z,65nm,1.4s							
LPL	La Plagne	164.78	340	*e*PKPab	PKPab		01 29 34.9	+0.5
LPG	La Plagne	164.80	340	*e*PKP2	PKPab		01 29 35.1	+0.7
	comp=Z,37nm,1.1s							
LPG	La Plagne	164.80	340	*e*PKPab	PKPab		01 29 35.1	+0.7
TCF	Toulx Ste Croi	164.94	353	*e*PKP2	PKPab		01 29 34.4	-0.6
	comp=Z,15nm,0.9s							
TCF	Toulx Ste Croi	164.94	353	*e*PKPab	PKPab		01 29 34.4	-0.6
ORIF	Oris-en-Rattie	165.57	342	*e*PKP2	PKPab		01 29 38.2	+0.4
	comp=Z,27nm,0.9s							
ORIF	Oris-en-Rattie	165.57	342	*e*PKPab	PKPab		01 29 38.2	+0.4
ESDC	Sonseca Array	171.23	18	PKPab	PKPab		01 30 01.6	-1.4
	comp=Z,0.5nm,0.6s,baz=323,slow=4.2,SNR=4.5							
ESDC	Sonseca Array	171.23	18	PKPab	PKPab		01 30 01.6	-1.4

ISK ***05*** *01:15:52.1,36.90N×29.23E,h5km,MD3.0*
ISCJB ***05*** *01:15:53.1±0.6,36.87N±0.03×29.25E±0.04,h3km±6km, Error ellipse: s-maj=5.7km s-min=5.3km az=4.2*
DDA ***05*** *01:15:54.0,36.91N×29.28E,h15km±6km,Md3.2*
CSEM ***05*** *01:15:53.4±0.2,36.89N×29.26E,h8km,MD3.0,Error ellipse: s-maj=5.3km s-min=4.8km az=3.0*

ISC 05 01:15:53.6±0.6, 36.87N±0.03×29.25E±0.04, h7km±5km, n43,σ0s90/52, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
FETY	Fethiye	0.27	210	PG		Pg	01 15 58.8	-0.1
FETY	Fethiye	0.27	210	*i* Pg		Pg	01 15 58.8	0.0
GLHS	Glhisar (BURDU	0.35	35	*e*PG		Pg	01 15 59.6	-0.8
GLHS				*e*SG		Sg	01 16 05.5	+0.5
GLHS	Glhisar (BURDU	0.35	35	*e*Pg		Pg	01 15 59.6	-0.8
GLHS				*e*Sg		Sg	01 16 05.5	+0.5
GOLH	Golhisar	0.45	34	*i* P		Pg	01 16 01.0	-1.2
GOLH				*i* S		Sg	01 16 08.0	0.0
GOLH	Golhisar	0.45	34	*i* P		Pg	01 16 01.0	-1.2
GOLH				*i* S		Sg	01 16 08.0	0.0
TURN	Turunc	0.52	271	*i* P		Pg	01 16 09.5	+6.0
ELL	Elmali	0.54	103	*e*PG		Pg	01 16 04.4	+0.3
ELL	Elmali	0.54	103	*e*Pg		Pg	01 16 04.4	+0.3
AKAS	Kas	0.70	155	*i* P		Pg	01 16 07.1	+0.2
AKAS				*e*S		Sg	01 16 22.2	+6.2
AKAS	Kas	0.70	155	*i* P		Pg	01 16 07.1	+0.1
YER	Yerkesik	0.82	289	*e*PG		Pg	01 16 08.8	-0.5
YER	Yerkesik	0.82	289	*e*Pg		Pg	01 16 08.8	-0.5
DNZL	Cakiroluk	0.83	349	*i* P		Pg	01 16 09.3	-0.4
DNZL				*i* S		Sg	01 16 22.6	+2.2
DNZL	Cakiroluk	0.83	349	*i* P		Pg	01 16 09.3	-0.3
DNZL				*i* S		Sg	01 16 22.6	+2.1
KORT	Korkueli	0.89	81	*i* P		Pg	01 16 12.1	+1.4
KORT	Korkueli	0.89	81	*i* P		Pg	01 16 12.1	+1.4
DENT	Denizli	0.90	349	*e*PG		Pg	01 16 09.8	-1.1
DENT	Denizli	0.90	349	*e*Pg		Pg	01 16 09.8	-1.1
ANTB	Antalya	1.13	88	*e*PN		Pn	01 16 15.1	-0.6
ANTB	Antalya	1.13	88	*e*Pn		Pn	01 16 15.1	-0.7
BCK	Bucak	1.22	61	*e*PN		Pn	01 16 16.4	-0.7
BCK	Bucak	1.22	61	*e*Pn		Pn	01 16 16.4	-0.7
MLSB	Milas	1.25	290	*e*PN		Pn	01 16 16.9	-0.6
MLSB	Milas	1.25	290	*e*Pn		Pn	01 16 16.9	-0.6
AYDN	Tasoluk	1.35	306	*i* P		Pn	01 16 20.3	+1.5
AYDN				*i* S		Sb	01 16 37.0	+0.4
AYDN	Tasoluk	1.35	306	*i* P		Pn	01 16 20.3	+1.5
AYDN				*i* S		Sb	01 16 37.0	+0.4
DAT	Datca	1.35	265	*e*PN		Pn	01 16 18.7	-0.1
DAT	Datca	1.35	265	*e*Pn		Pn	01 16 18.7	-0.1
KHAL	Karahalli	1.51	7	*i* P		Pn	01 16 18.6	-2.5
KHAL	Karahalli	1.51	7	*i* P		Pn	01 16 18.5	-2.5
SUTC	Sutluce-Ispart	1.52	66	*e*PN		Pn	01 16 21.4	+0.2
SUTC	Sutluce-Ispart	1.52	66	*e*Pn		Pn	01 16 21.4	+0.2
BODT	Bodrum	1.56	278	*e*PN		Pn	01 16 22.0	+0.3
BODT	Bodrum	1.56	278	*e*Pn		Pn	01 16 22.0	+0.2
KULA	Kula-Manisa	1.71	344	*e*PN		Pn	01 16 23.5	-0.2
KULA	Kula-Manisa	1.71	344	*e*Pn		Pn	01 16 23.5	-0.2
DEMI	Demirci	2.21	349	*i* P		Pn	01 16 31.2	+0.6
DEMI	Demirci	2.21	349	*i* P		Pn	01 16 31.2	+0.5
GAZI	Gazipasa	2.55	103	*i* P		Pn	01 16 39.8	+4.5
GAZI	Gazipasa	2.55	103	*i* P		Pn	01 16 39.8	+4.5
HDMB	Hadim	2.60	87	*e*PN		Pn	01 16 37.1	+1.1
ERMK	Ermenek	2.95	93	*i* P		Pn	01 16 32.4	-8.4

NIED ***05*** *02:00:00,24.60N×125.90E,h29km,Mw3.8 Best double couple: M0 4.76000×10^14 NP1:φs289.00000°,δ77.00000°, λ27.00000°. NP2:φs193.00000°,δ63.00000°,λ166.00000°.*
NEIC ***05*** *02:00:16.6±3.5,23.96N×126.31E,h35km,MG4.0(JMA), Error ellipse: s-maj=76.4km s-min=11.7km az=148.0*

JMA 05 02:00:21.0±0.2, 24.62N×125.93E, h54km±2km, M3.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JOGS	Gusukube	0.50	286	P		Pn	02 00 32.4	-0.1
JOGS				S		Sn	02 00 37.0	0.0
JMJ	Miyako jima 2	0.61	289	P		Pn	02 00 33.9	+0.1
JMJ				S		Sn	02 00 42.9	-0.2
JTJ	Tarama	1.12	271	P		Pn	02 00 40.6	+0.2
JTJ				S		Sn	02 00 55.2	+0.4
JIJ	Ishigaki jima	1.65	261	P		Pn	02 00 47.6	0.0
JIJ				*e*S		Sn	02 01 07.1	-0.5
JKRS	Kuro-shima	1.79	258	P		Pn	02 00 49.8	+0.3
JKE	Kume jima 2	1.87	24	P		Pn	02 00 50.5	-0.1
IRIF	Iriomote-Funau	2.02	262	P		Pn	02 00 53.1	+0.4
JIH	Iheya	3.02	37	P		Pn	02 01 06.6	+0.2
JOW	Kunigami	3.05	43	*e*Pn		Pn	02 01 06.7	-0.1
JOW	Kunigami	3.05	43	P		Pn	02 01 07.0	+0.2
YHNB	Yeheng	4.14	272	*e*Pn		Pn	02 01 23.1	+1.4
JTK	Tokunoshima	4.16	40	P		Pn	02 01 21.1	-0.8
YULB	Yu-li	4.41	255	*e*Pn		Pn	02 01 23.3	-2.1
SSLB	Suanglung	4.62	261	*e*Pn		Pn	02 01 27.3	-0.9
SSLB				*e*Sn		Sn	02 02 18.0	-2.6
TWG	Pinlang	4.80	249	*e*Pn		Pn	02 01 28.2	-2.6
JMZ	Minamidaito 2	4.94	75	P		Pn	02 01 30.0	-2.6
JMZ				S		Sn	02 02 22.0	-6.5
JAM	Amami Oshima	5.01	40	P		Pn	02 01 32.7	-0.9
TPUB	Ta-pu	5.02	256	*e*Pn		Pn	02 01 33.9	0.0
	69nm,0.3s							

WEL 05 02:11:03.3±0.3, 38.92S×178.50E, h31km±1km, ML4.0/22, 4C-2D, Error ellipse: s-maj=3.1km s-min=1.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PRGZ	Paritu Road	0.48	269	⇑P*		Pb	02 11 13.0	-0.5
PRGZ				S*		Sb	02 11 20.3	-0.1
CNGZ	Carnagh Statio	0.49	332	⇑P*		Pb	02 11 13.5	-0.1
CNGZ				S*		Sb	02 11 22.2	+1.6
MHGZ	Mahia Peninsul	0.52	243	⇓P*		Pb	02 11 14.0	0.0
MHGZ				S*		Sb	02 11 21.5	+0.2
KNZ	Kokohu	0.65	261	⇑PN		Pn	02 11 15.4	-0.9
PUZ	Puketiti	0.86	347	PN		Pn	02 11 18.5	-0.8
PUZ				SN		Sn	02 11 30.1	-0.8
MWZ	Matawai	0.96	307	⇑PN		Pn	02 11 19.7	-0.8
MWZ				SN		Sn	02 11 31.7	-1.4
RAHZ	Arahi	1.10	270	PN		Pn	02 11 22.2	-0.4
URZ	Urewera	1.27	301	PN		Pn	02 11 24.2	-0.7
URZ				SN		Sn	02 11 41.7	+0.8
CKHZ	Cape Kidnapper	1.33	236	PN		Pn	02 11 25.1	-0.6
MXZ	Matakaoa Point	1.36	354	⇓PN		Pn	02 11 26.1	-0.1
MCHZ	McNeill Hill	1.50	249	PN		Pn	02 11 28.0	0.0
BKZ	Black Stump Fm	1.58	260	PN		Pn	02 11 28.6	-0.6
PXZ	Pawanui	1.69	228	PN		Pn	02 11 29.4	-1.2
OPRZ	Ohinepanea	1.86	304	PN		Pn	02 11 32.3	-0.8
WPHZ	Waipukurau	1.96	234	PN		Pn	02 11 33.3	-1.1
BHHZ	Black Hill Sta	1.98	252	PN		Pn	02 11 34.1	-0.5
PNHZ	Pukenui	2.04	240	PN		Pn	02 11 34.9	-0.6
MOVZ	Moawhango	2.19	256	PN		Pn	02 11 37.9	+0.4
TSZ	Takapari Road	2.27	239	PN		Pn	02 11 37.7	-0.9
FWVZ	Far West T-bar	2.32	261	PN		Pn	02 11 39.5	+0.3
MRZ	Mangatainoka R	2.84	231	PN		Pn	02 11 45.0	-1.5
WAZ	Wanganui	2.85	252	PN		Pn	02 11 47.5	+0.9
PAWZ	Paruwai Farm	3.41	223	PN		Pn	02 11 51.3	-2.9
MSWZ	Moikau Station	3.52	224	PN		Pn	02 11 52.7	-3.1
PLWZ	Palliser	3.63	222	PN		Pn	02 11 53.9	-3.4
TCW	Tory Channel	3.97	233	PN		Pn	02 11 59.7	-2.3
NNZ	Nelson	4.55	238	PN		Pn	02 12 08.2	-1.8
MQZ	McQueen's Vall	6.50	221	PN		Pn	02 12 33.0	-3.7

ISCJB ***05*** *02:22:17.0±0.3,26.57N±0.03×54.99E±0.03,h10km, mb4.0/34,MS3.2/8, Error ellipse: s-maj=4.2km s-min=3.3km az=149.8*
IDC ***05*** *02:22:16.4±0.8,26.48N×55.07E,h0km,mb4.0/18, mb1 4.1/21,mb1mx4.0/31,mbtmp4.0/21,ML4.0/3,MS3.3/9, Ms1 3.3/9,ms1mx3.0/42,Error ellipse: s-maj=18.5km s-min=14.0km az=142.0*
THR ***05*** *02:22:17.8±0.4,26.57N×54.91E,h14km±6km,ML4.2*
NEIC ***05*** *02:22:17.8,26.58N×54.90E,h14km,mb4.1/15, ML4.2(THR),MN4.2(TEH),After THR.*
SGS ***05*** *02:22:18.2,26.55N×55.32E,h13km*
MOS ***05*** *02:22:20.3±1.0,26.56N×55.01E,h38km,mb4.3/23, MS3.1/6, Error ellipse: s-maj=11.1km s-min=7.0km az=78.0*
CSEM ***05*** *02:22:20.3±0.1,26.59N×55.03E,h20km,mb4.0/27,Error ellipse: s-maj=4.2km s-min=3.9km az=139.0*
TEH ***05*** *02:22:22.0,26.60N×55.09E,h22km*
OMAN ***05*** *02:22:44.0±99.0,24.76N×55.43E,h33km±25km,Error ellipse: s-maj=122.0km s-min=8.7km az=341.0*

ISC 05 02:22:19.0±0.3, 26.57N±0.03×55.02E±0.03, h10km, n229, σ0s98/239, mb4.0/34, MS3.2/8, 3C-4D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	1.32	51	Pg		Pg	02 22 43.0	-1.3
BNDS				Sg		Sg	02 23 02.0	+0.5
BNDS	Bandar-Abbas	1.32	51	*e*Pg		Pg	02 22 43.6	-0.8
BNDS				*e*Sg		Sg	02 23 02.5	+1.0
BNDS				AML	AML		02 23 04.4	
	comp=E,4μm,0.5s							
BNDS				AML	AML		02 23 09.7	
	comp=N,5μm,0.5s							
BNDS	Bandar-Abbas	1.32	51	*e*Pg		Pg	02 22 43.6	-0.7
BNDS				Sg		Sg	02 23 02.0	+0.5
IBND	Bandar-abas	1.61	57	⇑*e*Pn		Pg	02 22 47.7	+0.2
IBND				*e*Sg		Sg	02 23 10.3	-0.6
IBND				*e*			02 23 27.3	
	comp=Z,91μm,0.3s							
ASHO	Ashiyiah	2.10	153	⇓P		Pn	02 22 55.8	+1.6
	SNR=146							
ASHO	Ashiyiah	2.10	153	P		Pn	02 22 55.8	+1.6
	SNR=146							
HOQ	Hoqain	3.62	145	⇓P		Pn	02 23 15.8	+0.6
	SNR=11			

IDHR Dehrash 11.00 320 *e*Pn **Pn 02 24 56.5 +0.1**
IDHR *e* 02 25 00.1
comp=Z,787nm,0.1s
IDHR Dehrash 11.00 320 Pn **Pn 02 24 56.3 -0.1**
BHD Baghdad 11.39 308 *ex* x 02 25 49.0
BHD *ex* x 02 28 30.0
BHD *i* x x 02 30 37.0
KBL Kabul 14.45 53 *e*Pn **Pn 02 25 43.1 -0.4**
KBL Kabul 14.45 53 *e*P **Pn 02 25 43.1 -0.5**
KBL Kabul 14.45 53 *e*Pn **Pn 02 25 43.1 -0.5**
GNI Garni 16.02 330 *e*P **Pn 02 26 08.7 +4.3**
comp=Z,9.3nm,0.6s
GNI Garni 16.02 330 *e*P **Pn 02 26 08.7 +4.3**
GNI pmax pmax
comp=Z,9.0nm,0.6s
GNI Garni 16.02 330 *e*P **Pn 02 26 08.7 +4.3**
comp=Z,9.0nm,0.6s
ASF Jabal al Asfar 16.75 294 Pn **Pn 02 26 13.1 -0.7**
comp=Z,0.3nm,0.3s,baz=62,slow=17,SNR=3.3
ASF Sn **Sn 02 29 07.2 -13**
comp=Z,0.1nm,0.3s,baz=32,slow=23,SNR=4.0
ASF Jabal al Asfar 16.75 294 Pn **Pn 02 26 13.1 -0.7**
ASF Sn **Sn 02 29 07.2 -13**
ASF Jabal al Asfar 16.75 294 P **Pn 02 26 13.1 -0.7**
EIL Elat 17.97 285 P **Pn 02 26 28.3 -0.7**
comp=Z,0.6nm,0.3s,baz=24,slow=11,SNR=6.3
EIL LR LR 02 34 52.1
comp=Z,80nm,19.7s,baz=34,slow=42
EIL Elat 17.97 285 P **Pn 02 26 28.3 -0.8**
EIL LR LR 02 34 52.1
EIL Elat 17.97 285 P **Pn 02 26 28.3 -0.7**
MMAI Mount Meron Ar 18.19 295 P **Pn 02 26 31.8 +0.2**
comp=Z,1.0nm,0.3s,baz=99,slow=15,SNR=9.2
MMAI S **Sn 02 29 47.0 -7.7**
comp=Z,0.6nm,0.3s,baz=118,slow=33,SNR=3.7
ZEI Tsey 18.55 333 *e*P **Pn 02 26 36.5 +0.6**
ZEI pmax pmax
comp=Z,11nm,0.8s
ZEI Tsey 18.55 333 *e*P **Pn 02 26 36.5 +0.6**
comp=Z,11nm,0.8s
ATD Arta Tunnel 18.85 220 LR LR 02 34 05.8
comp=Z,78nm,18.7s,baz=67,slow=38
KIV Kislovodsk 20.02 333 *e*P **P 02 26 52.6 +0.7**
comp=Z,23nm,0.8s
KIV Kislovodsk 20.02 333 *e*P **P 02 26 53.6 +1.7**
KIV pmax pmax
comp=Z,32nm,1.1s
KIV MLR MLR
comp=Z,31nm,13.0s,MS2.8
KIV Kislovodsk 20.02 333 *e*P **P 02 26 52.6 +0.7**
comp=Z,23nm,0.8s
CSS Prodhromos 20.40 299 *e*P **P 02 26 54.5 -1.7**
CSS Prodhromos 20.40 299 *e*P **P 02 26 54.5 -1.6**
KK31 Karatay Array 20.77 33 P **P 02 26 59.4 -0.6**
KK31 pmax pmax
comp=Z,4.0nm,0.6s
KK31 Karatay Array 20.77 33 P **P 02 26 59.4 -0.6**
comp=Z,4.0nm,0.6s
KKAR Karatay Array 20.77 33 *e*P **P 02 27 01.0 +1.0**
comp=Z,2.3nm,0.5s
KKAR Karatay Array 20.77 33 *e*P **P 02 27 01.0 +1.0**
KKAR pmax pmax
comp=Z,2.0nm,0.5s
KKAR Karatay Array 20.77 33 *e*P **P 02 27 01.0 +1.0**
comp=Z,2.0nm,0.5s
BR131 Keskin Array S 22.13 312 *e*P **P 02 27 15.0 +0.3**
comp=Z,4.5nm,0.6s,mb4.1
BR131 Keskin Array S 22.13 312 *e*P **P 02 27 15.0 +0.3**
comp=Z,4.5nm,0.6s,mb4.1
BRTR Keskin Array B 22.13 312 P **P 02 27 15.1 +0.4**
comp=Z,7.5nm,0.8s,mb4.2,baz=133,slow=13,SNR=34
BRTR Keskin Array B 22.13 312 P **P 02 27 15.1 +0.4**
BRTR Keskin Array B 22.13 312 P **P 02 27 15.1 +0.4**
BRTR pmax pmax
comp=Z,8.0nm,0.8s
BRTR Keskin Array B 22.13 312 P **P 02 27 15.1 +0.4**
comp=Z,8.0nm,0.8s,mb4.2
EKS2 Erkin-Say 22.19 39 *e*P **P 02 27 15.7 +0.3**
comp=Z,12nm,1.1s,mb4.2
EKS2 Erkin-Say 22.19 39 *e*P **P 02 27 15.7 +0.4**
EKS2 pmax pmax
comp=Z,12nm,1.1s,mb4.2
EKS2 Erkin-Say 22.19 39 *e*P **P 02 27 15.7 +0.4**
comp=Z,12nm,1.1s,mb4.2
AAK Ala-Archa 22.58 40 P **P 02 27 23.0 +3.5**
comp=Z,2.6nm,0.7s,mb3.8,baz=213,slow=9.0,SNR=8.6
AAK Ala-Archa 22.58 40 *e*P **P 02 27 18.9 -0.6**
comp=Z,5.9nm,1.0s,mb4.0
AAK Ala-Archa 22.58 40 *e*P **P 02 27 18.9 -0.6**
AAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.0
AAK Ala-Archa 22.58 40 *e*P **P 02 27 18.9 -0.6**
comp=Z,6.0nm,1.0s,mb4.0
AB31 Akbulak array 22.97 8 *i*P **P 02 27 22.7 -0.8**
AB31 pmax pmax
comp=Z,1.0nm,0.3s,mb3.7
AB31 Akbulak array 22.97 8 *i*P **P 02 27 22.7 -0.8**
comp=Z,1.0nm,0.3s,mb3.7
ABKAR Akbulak array 22.97 8 *e*P **P 02 27 22.2 -1.4**
comp=Z,4.2nm,0.6s,mb4.0
ABKAR Akbulak array 22.97 8 *e*P **P 02 27 22.2 -1.3**
comp=Z,4.2nm,0.6s,mb4.0
TKM2 Tokmak 2 23.40 41 *e*P **P 02 27 28.4 +0.3**
comp=Z,1.4nm,0.7s,mb3.4
TKM2 Tokmak 2 23.40 41 *e*P **P 02 27 28.4 +0.3**
TKM2 pmax pmax
comp=Z,1.0nm,0.7s,mb3.4
TKM2 Tokmak 2 23.40 41 *e*P **P 02 27 28.4 +0.3**
comp=Z,1.0nm,0.7s,mb3.4
AKTK Aktyubinsk 23.94 5 P **P 02 27 32.5 -0.7**
AKTK Aktyubinsk 23.94 5 P **P 02 27 31.5 -1.7**
comp=Z,2.0nm,2.0s,mb3.2
AKTO Aktyubinsk 23.94 5 P **P 02 27 32.5 -0.7**
comp=Z,1.3nm,0.3s,mb3.9,baz=149,slow=5.9,SNR=11
AKTO Aktyubinsk 23.94 5 P **P 02 27 31.5 -1.7**
AKTO pmax pmax
comp=Z,2.0nm,2.0s,mb3.2
VRHR Novokhopersk 26.54 341 *e*P **P 02 27 59.6 +2.8**
VRHR pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,7.0nm,0.9s
VSR Storozhevoye 27.41 338 *e*P **P 02 28 08.2 +3.6**
VSR pmax pmax
comp=Z,10.0nm,1.1s,mb4.3
VSR pmax pmax
comp=N,10.0nm,1.4s
VSR pmax pmax
comp=E,6.0nm,1.1s
BRVK Borovoye 28.82 19 *e*P **P 02 28 15.7 -1.4**
comp=E,1.3nm,0.4s,mb4.0
BRVK Borovoye 28.82 19 *e*P **P 02 28 15.7 -1.4**
BRVK pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
BRVK Borovoye 28.82 19 *e*P **P 02 28 15.7 -1.4**
comp=Z,1.0nm,0.4s,mb3.9
BVAR Borovoye Array 28.82 19 P **P 02 28 16.9 -0.2**
comp=Z,1.6nm,0.7s,mb3.9,baz=205,slow=6.6,SNR=9.9
BVAR Borovoye Array 28.82 19 P **P 02 28 16.9 -0.2**
BVAR Borovoye Array 28.82 19 P **P 02 28 16.9 -0.2**
BVAR pmax pmax
comp=Z,2.0nm,0.7s
BVAR Borovoye Array 28.82 19 P **P 02 28 16.9 -0.2**
comp=Z,2.0nm,0.7s,mb4.0
MK31 Makanchi Array 29.52 40 *e*P **P 02 28 22.1 -1.3**
MK31 Makanchi Array 29.52 40 *e*P **P 02 28 22.1 -1.4**
MK31 Makanchi Array 29.52 40 *e*P **P 02 28 22.1 -1.4**
MKAR Makanchi Array 29.52 40 P **P 02 28 23.3 -0.2**
comp=Z,2.4nm,0.7s,mb4.0,baz=227,slow=7.7,SNR=11
MKAR LR LR 02 40 18.9
comp=Z,33nm,18.1s,MS3.0,baz=182,slow=37
MKAR Makanchi Array 29.52 40 P **P 02 28 23.3 -0.2**
MKAR LR LR 02 40 18.9
MKAR Makanchi Array 29.52 40 P **P 02 28 23.3 -0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR MLR MLR
comp=Z,33nm,18.2s
MKAR Makanchi Array 29.52 40 P **P 02 28 23.3 -0.2**
comp=Z,33nm,18.2s
ARU Arti 29.95 4 *e*P **P 02 28 26.5 -0.6**
ARU Arti 29.95 4 *e*P **P 02 28 26.5 -0.6**
ARU Arti 29.95 4 *e*P **P 02 28 26.5 -0.6**
KURK Kurchatov 30.10 30 *e*P **P 02 28 28.7 +0.2**
comp=Z,1.5nm,0.6s,mb3.9
KURK Kurchatov 30.10 30 *e*P **P 02 28 28.7 +0.1**
KURK pmax pmax
comp=Z,1.0nm,0.6s,mb3.7
KURK Kurchatov 30.10 30 *e*P **P 02 28 28.7 +0.1**
comp=Z,1.0nm,0.6s,mb3.7
AKASG Malin Array Be 31.12 328 P **P 02 28 37.0 -0.6**
comp=Z,1.0nm,0.5s,mb3.9,baz=135,slow=7.7,SNR=4.9
AKASG Malin Array Be 31.12 328 P **P 02 28 37.0 -0.6**
AKASG Malin Array Be 31.12 328 P **P 02 28 37.0 -0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 31.12 328 P **P 02 28 37.0 -0.6**
comp=Z,1.0nm,0.5s,mb3.9
AKBB Malin Array Si 31.12 328 *e*P **P 02 28 35.8 -1.8**
AKBB Malin Array Si 31.12 328 *e*P **P 02 28 35.8 -1.8**
AKBB Malin Array Si 31.12 328 *e*P **P 02 28 35.8 -1.8**
KIEV Kiev 31.12 328 *e*P **P 02 28 35.2 -2.3**
comp=Z,3.0nm,0.5s,mb4.4
KIEV Kiev 31.12 328 *e*P **P 02 28 35.2 -2.4**
KIEV pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
KIEV Kiev 31.12 328 *e*P **P 02 28 35.2 -2.4**
comp=Z,3.0nm,0.5s,mb4.4
KMBO Kilima Mbogo 32.43 215 P **P 02 28 48.8 -0.6**
comp=Z,0.6nm,0.6s,mb3.6,baz=0.0,slow=20,SNR=2.9
KMBO Kilima Mbogo 32.43 215 P **P 02 28 48.8 -0.6**
KMBO Kilima Mbogo 32.43 215 P **P 02 28 48.8 -0.6**
KMBO pmax pmax
comp=Z,1.0nm,0.6s
KMBO Kilima Mbogo 32.43 215 P **P 02 28 48.8 -0.6**
comp=Z,1.0nm,0.6s,mb3.8
ZAA0 Zalesovo Array 35.09 31 *e*P **P 02 29 11.0 -1.2**
ZAA0 Zalesovo Array 35.09 31 *e*P **P 02 29 11.0 -1.2**
ZALV Zalesovo Beam 35.09 31 P **P 02 29 11.4 -0.8**
comp=Z,6.9nm,0.7s,mb4.7,baz=228,slow=9.7,SNR=27
ZALV LR LR 02 44 17.1
comp=Z,21nm,19.4s,MS2.9,baz=74,slow=38
ZALV Zalesovo Beam 35.09 31 P **P 02 29 11.4 -0.8**
ZALV LR LR 02 44 17.1
ZALV Zalesovo Beam 35.09 31 P **P 02 29 11.4 -0.8**
ZALV pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
ZALV MLR MLR
comp=Z,21nm,19.4s,MS2.9
ZALV Zalesovo Beam 35.09 31 P **P 02 29 11.4 -0.8**
comp=Z,21nm,19.4s
GERES GERESS Array B 38.90 316 P **P 02 29 45.7 +1.1**
comp=Z,0.3nm,0.6s,mb3.2,baz=132,slow=8.3,SNR=2.9
GERES LR LR 02 46 59.1
comp=Z,36nm,19.8s,MS3.2,baz=116,slow=38
GERES GERESS Array B 38.90 316 P **P 02 29 45.7 +1.1**
GERES LR LR 02 46 59.1
GERES GERESS Array B 38.90 316 P **P 02 29 45.7 +1.1**
GERES MLR MLR
comp=Z,36nm,19.8s
GERES GERESS Array B 38.90 316 P **P 02 29 45.7 +1.1**
comp=Z,36nm,19.8s
JOF Joensuu 39.57 343 *e*P **P 02 29 49.4 -0.6**
JOF pmax pmax
comp=Z,1.0nm,0.3s,mb4.0
JOF Joensuu 39.57 343 *e*p **P 02 29 49.4 -0.6**
comp=Z,0.7nm,0.3s,mb3.9
JOF Joensuu 39.57 343 *e*P **P 02 29 49.4 -0.6**
comp=Z,0.7nm,0.3s,mb3.9
KEST Kesra 39.85 295 P **P 02 29 53.7 +0.9**
comp=Z,3.3nm,1.2s,mb3.9,baz=165,slow=20,SNR=5.2
KEST Kesra 39.85 295 P **P 02 29 53.7 +0.9**
KEST Kesra 39.85 295 P **P 02 29 53.7 +1.0**
FINES FINESS Array B 39.94 339 P **P 02 29 52.1 -1.0**
comp=Z,2.3nm,0.8s,mb4.0,baz=141,slow=9.0,SNR=12
FINES FINESS Array B 39.94 339 P **P 02 29 52.1 -1.0**
FINES FINESS Array B 39.94 339 P **P 02 29 52.1 -1.0**
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 39.94 339 P **P 02 29 52.1 -1.0**
comp=Z,2.0nm,0.8s,mb3.9
KAF Kangasniemi 40.37 340 *e*P **P 02 29 51.4 -5.3**
KAF Kangasniemi 40.37 340 *e*p **P 02 29 51.4 -5.3**
comp=Z,0.4nm,0.3s,mb3.6
TAM Tamanrasset 44.92 276 *e*P **P 02 30 34.8 +0.6**
comp=Z,1.3nm,0.8s,mb3.8
TAM Tamanrasset 44.92 276 *e*P **P 02 30 34.8 +0.6**
TAM pmax pmax
comp=Z,1.0nm,0.8s,mb3.7
TAM Tamanrasset 44.92 276 *e*P **P 02 30 34.8 +0.6**
comp=Z,1.0nm,0.8s,mb3.7
SONM Songino Array 45.14 48 P **P 02 30 36.3 +0.7**
comp=Z,3.0nm,0.9s,mb4.1,baz=260,slow=8.5,SNR=9.5
SONM LR LR 02 52 02.1
comp=Z,61nm,20.6s,MS3.5,baz=186,slow=40
SONM Songino Array 45.14 48 P **P 02 30 36.3 +0.7**
SONM LR LR 02 52 02.1
SONM Songino Array 45.14 48 P **P 02 30 36.3 +0.7**
SONM pmax pmax
comp=Z,3.0nm,0.9s
SONM MLR MLR
comp=Z,61nm,20.6s
SONM Songino Array 45.14 48 P **P 02 30 36.3 +0.7**
comp=Z,61nm,20.6s
NB2 NORSAR Subarra 45.32 332 P **P 02 30 35.4 -1.4**
comp=Z,2.5nm,1.1s,mb4.0,baz=113,slow=7.9
NB2 NORSAR Subarra 45.32 332 P **P 02 30 35.4 -1.4**
comp=Z,2.5nm,1.1s,mb4.0,baz=113,slow=7.8,SNR=5.4
NOA NORSAR Array B 45.32 332 P **P 02 30 36.0 -0.9**
comp=Z,0.5nm,0.5s,mb3.6,baz=120,slow=8.1,SNR=4.7
NOA LR LR 02 49 47.3
comp=Z,38nm,19.1s,MS3.3,baz=105,slow=36
NOA NORSAR Array B 45.32 332 P **P 02 30 36.0 -0.9**
NOA LR LR 02 49 47.3
NOA NORSAR Array B 45.32 332 P **P 02 30 36.0 -0.8**
NOA pmax pmax
comp=Z,1.0nm,0.5s
NOA MLR MLR
comp=Z,38nm,19.1s
NOA NORSAR Array B 45.32 332 P **P 02 30 36.0 -0.8**
comp=Z,38nm,19.1s
ESDC Sonseca Array 50.28 301 P **P 02 31 15.5 -0.2**
comp=Z,0.5nm,0.3s,mb4.0,baz=76,slow=7.1,SNR=16
ESDC Sonseca Array 50.28 301 P **P 02 31 15.5 -0.2**
ESDC Sonseca Array 50.28 301 P **P 02 31 15.5 -0.2**
BOD Bodaibo 51.48 36 *e*P **P 02 31 24.4 0.0**
BOD pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
BOD Bodaibo 51.48 36 *e*P **P 02 31 24.4 0.0**
comp=Z,9.0nm,1.0s,mb4.7
TORD Torodi Ar. Bea 51.57 266 P **P 02 31 25.0 -0.7**
comp=Z,4.6nm,0.7s,mb4.5,baz=62,slow=6.9,SNR=41
TORD LR LR 02 56 00.4
comp=Z,66nm,18.2s,MS3.7,baz=85,slow=39
TORD Torodi Ar. Bea 51.57 266 P **P 02 31 25.0 -0.7**
TORD LR LR 02 56 00.4
TORD Torodi Ar. Bea 51.57 266 P **P 02 31 25.0 -0.7**
LBTB Lobatse 58.62 211 *e*P **P 02 32 16.6 +0.2**
comp=Z,4.8nm,1.0s,mb4.5
LBTB Lobatse 58.62 211 *e*P **P 02 32 16.6 +0.2**
LBTB pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
LBTB Lobatse 58.62 211 *e*P **P 02 32 16.6 +0.2**
comp=Z,5.0nm,1.0s,mb4.5
DBIC Dimbokro 60.15 262 P **P 02 32 25.7 -1.6**
comp=Z,2.4nm,0.3s,mb4.7,baz=41,slow=10,SNR=11
DBIC Dimbokro 60.15 262 *e*P **P 02 32 26.3 -0.9**
comp=Z,4.1nm,0.6s,mb4.6
DBIC Dimbokro 60.15 262 P **P 02 32 25.7 -1.5**
DBIC pmax pmax
comp=Z,2.0nm,0.3s
DBIC Dimbokro 60.15 262 P **P 02 32 25.7 -1.5**
comp=Z,2.0nm,0.3s,mb4.6
KSRS Korea Array 61.38 60 LR LR 03 02 28.3
comp=Z,21nm,19.0s,MS3.3,baz=261,slow=39
BOSA Boshof 61.86 210 P **P 02 32 37.0 -1.5**
comp=Z,2.2nm,0.6s,mb4.5,baz=354,slow=5.6,SNR=7.0
BOSA Boshof 61.86 210 *e*P **P 02 32 38.2 -0.3**
comp=Z,2.2nm,0.5s,mb4.5
BOSA Boshof 61.86 210 P **P 02 32 37.0 -1.5**
BOSA pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
BOSA Boshof 61.86 210 P **P 02 32 37.0 -1.5**
comp=Z,2.0nm,0.6s,mb4.4
ILAR Eielson Array 87.38 9 P **P 02 35 04.1 -1.9**
comp=Z,0.3nm,0.6s,mb3.7,baz=320,slow=4.2,SNR=4.2
ILAR Eielson Array 87.38 9 P **P 02 35 04.1 -1.9**
ILAR Eielson Array 87.38 9 P **P 02 35 04.1 -1.9**
WRA Warramunga Arr 89.69 112 P **P 02 35 16.3 -1.4**
comp=Z,0.2nm,0.6s,mb3.6,baz=309,slow=4.6,SNR=3.1
WRA Warramunga Arr 89.69 112 P **P 02 35 16.3 -1.4**
WRA Warramunga Arr 89.69 112 P **P 02 35 16.3 -1.4**

ISCJB ***05*** *02:32:47.3±0.5, 35°.22N±0°.02×78°.02E±0°.09, h10km, mb3.7/7, Error ellipse: s-maj=10.4km s-min=3.6km az=179.4*
IDC ***05*** *02:32:48.1±1.1, 35°.24N×77°.78E, h0km, mb3.7/5, mb1 3.8/8, mb1mx3.5/27, mbtmp3.6/8, ML3.2/2, Error ellipse: s-maj=30.5km s-min=18.9km az=60.0*
MOS ***05*** *02:32:51.9±1.7, 35°.31N×77°.95E, h30km, mb4.2/4, Error ellipse: s-maj=25.0km s-min=8.8km az=100.9*
NNC ***05*** *02:32:53.1±3.2, 35°.74N×77°.99E, h0km, mb3.8, mpv3.9, Error ellipse: s-maj=26.5km s-min=15.2km az=169.0*
NEIC ***05*** *02:32:54.8±2.6, 35°.29N×77°.96E, h39km±23km, mb3.6/3, Error ellipse: s-maj=26.4km s-min=15.6km az=210.0*
NDI ***05*** *02:33:04.2±2.8, 34°.72N×80°.40E, h33km, ML3.5, mb3.6(NEIC)*

ISC 05 02:32:50.3±0.4, 35°.23N±0°.02×78°.02E±0°.08, h10km, n50, σ1°.26/59, mb3.7/7, 3C-4D, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KLP	**Kalpa**	**3.69**	**177**	*e*PKP	**Pg**	**Pg**	**02 33 59.6**	**-1.3**
KLP				*e*S	**Sn**	**Sn**	**02 34 37.7**	**+6.8**
KLP				AML	AML	AML	02 35 05.5	
	comp=N,99nm,0.8s							
KLP				AML	AML	AML	02 35 06.6	
	comp=E,118nm,0.8s							
SDNR	**Sundarnagar**	**3.82**	**194**	*e*S	**Sg**	**Sg**	**02 34 54.0**	**+1.0**
SMLA	**Simla**	**4.15**	**190**	*i*P	**Pg**	**Pg**	**02 34 09.0**	**-0.8**
SMLA				*i*x	**Sg**	**Sg**	**02 35 02.4**	**-1.1**
SMLA				⇓AML	AML	AML	02 35 05.8	
	comp=E,806nm,0.6s							
SMLA				⇓AML	AML	AML	02 35 08.4	
	comp=N,695nm,0.7s							
KSH	**Kashi**	**4.58**	**340**	*e*Pn	**Pn**	**Pn**	**02 34 00.6**	**+1.0**
KSH				Sn	**Sn**	**Sn**	**02 34 50.1**	**-2.8**
KSH				smax				
	comp=N,79nm,0.6s							
KSH				smax				
	comp=E,130nm,0.8s							
SONA	**Sohna**	**7.00**	**187**	*e*PKP	**Pb**	**Pb**	**02 34 45.5**	**-6.5**
SONA				*e*S	**Sn**	**Sn**	**02 35 57.2**	**+4.7**
SONA				AML	AML	AML	02 36 25.3	
	comp=N,8.6nm,0.2s							
SONA				AML	AML	AML	02 36 25.9	
	comp=E,12nm,0.2s							
KUDL	**Kundal**	**7.18**	**191**	*e*PKP	**Pn**	**Pn**	**02 34 40.9**	**+5.5**
KUDL				*e*S	**Sn**	**Sn**	**02 35 58.2**	**+1.2**
KHET	**Khetri**	**7.38**	**195**	*ex*	x	x	02 36 06.0	
AAK	**Ala-Archa**	**7.89**	**341**	Pn	**Pn**	**Pn**	**02 34 47.5**	**+2.5**
	comp=E,0.0nm,0.3s,baz=141,slow=9.8,SNR=6.3							
AAK				Lg			02 36 48.9	
	comp=E,0.0nm,0.3s,baz=14,slow=17,SNR=3.6							
AAK	**Ala-Archa**	**7.89**	**341**	Pn	**Pn**	**Pn**	**02 34 47.5**	**+2.5**
AAK				Lg			02 36 48.9	
AAK	**Ala-Archa**	**7.89**	**341**	P	**Pn**	**Pn**	**02 34 47.5**	**+2.5**
AAK				pmax	pmax			
	comp=Z,1.0nm,0.3s							
TKM2	**Tokmak 2**	**7.91**	**347**	⇓Pg	**Pb**	**Pb**	**02 35 08.6**	**+1.1**
	comp=Z,4.6nm,0.7s							
TKM2	**Tokmak 2**	**7.91**	**347**	*e*Pn	**Pn**	**Pn**	**02 34 47.2**	**+1.9**
	comp=Z,5.1nm,0.6s							
TKM2	**Tokmak 2**	**7.91**	**347**	*e*P	**Pn**	**Pn**	**02 34 47.2**	**+1.9**
TKM2				pmax	pmax			
	comp=Z,5.0nm,0.6s							
KK31	**Karatay Array**	**9.79**	**326**	⇓Pn	**Pn**	**Pn**	**02 35 11.7**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=145,slow=12,SNR=14							
KK31				⇑Sn	**Sn**	**Sn**	**02 37 01.6**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=144,slow=22,SNR=4.3							
KKAR	**Karatay Array**	**9.79**	**326**	*e*Pn	**Pn**	**Pn**	**02 35 11.1**	**0.0**
	comp=Z,1.6nm,0.5s							
KKAR				*e*Sn	**Sn**	**Sn**	**02 37 01.0**	**0.0**
KKAR	**Karatay Array**	**9.79**	**326**	*e*P	**Pn**	**Pn**	**02 35 11.1**	**0.0**
KKAR				*e*			02 37 01.0	
KKAR				pmax	pmax			
	comp=Z,2.0nm,0.5s							
MK31	**Makanchi Array**	**11.99**	**14**	⇑Pn	**Pn**	**Pn**	**02 35 41.3**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=196,slow=12,SNR=14							
MK31				⇑Sn	**Sn**	**Sn**	**02 37 53.7**	**-1.3**
	comp=Z,4.1nm,0.8s,baz=201,slow=22,SNR=5.7							
MK31	**Makanchi Array**	**11.99**	**14**	*e*Pn	**Pn**	**Pn**	**02 35 41.3**	**+0.1**
MK31	**Makanchi Array**	**11.99**	**14**	*e*P	**Pn**	**Pn**	**02 35 41.3**	**+0.1**
MKAR	**Makanchi Array**	**11.99**	**14**	Pn	**Pn**	**Pn**	**02 35 40.9**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=200,slow=14,SNR=15							
MKAR				Sn	**Sn**	**Sn**	**02 37 54.6**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=200,slow=21,SNR=5.8							
MKAR	**Makanchi Array**	**11.99**	**14**	Pn	**Pn**	**Pn**	**02 35 40.9**	**-0.3**
MKAR				Sn	**Sn**	**Sn**	**02 37 54.6**	**-0.4**
MKAR	**Makanchi Array**	**11.99**	**14**	P	**Pn**	**Pn**	**02 35 40.9**	**-0.3**
MKAR							02 37 54.6	
KURK	**Kurchatov**	**15.49**	**1**	Pn	**Pn**	**Pn**	**02 36 31.6**	**+3.0**
	comp=Z,0.0nm,0.3s,baz=188,slow=11,SNR=3.8							
KURK	**Kurchatov**	**15.49**	**1**	Pn	**Pn**	**Pn**	**02 36 31.6**	**+3.0**
KURK	**Kurchatov**	**15.49**	**1**	P	**Pn**	**Pn**	**02 36 31.6**	**+3.0**
BRVK	**Borovoye**	**18.65**	**345**	*e*P	**Pn**	**Pn**	**02 37 09.3**	**+0.9**
	comp=Z,3.6nm,1.0s							
BRVK	**Borovoye**	**18.65**	**345**	*e*P	**Pn**	**Pn**	**02 37 09.3**	**+0.9**
BRVK				pmax	pmax			
	comp=Z,4.0nm,1.0s							
ABKAR	**Akbulak array**	**19.31**	**322**	*e*P	**Pn**	**Pn**	**02 37 15.2**	**-1.2**
	comp=Z,3.1nm,1.0s							
ZALV	**Zalesovo Beam**	**19.32**	**12**	P	**Pn**	**Pn**	**02 37 14.8**	**-1.6**
	baz=214,slow=10,SNR=2.2							
ZALV	**Zalesovo Beam**	**19.32**	**12**	P	**Pn**	**Pn**	**02 37 14.8**	**-1.6**
ZALV	**Zalesovo Beam**	**19.32**	**12**	P	**Pn**	**Pn**	**02 37 14.9**	**-1.5**
AKTK	**Aktyubinsk**	**21.03**	**322**	P	**P**	**P**	**02 37 32.8**	**-1.2**
AKTO	**Aktyubinsk**	**21.03**	**322**	P	**P**	**P**	**02 37 32.8**	**-1.2**
	comp=Z,1.4nm,0.7s,mb3.4,baz=142,slow=12,SNR=3.4							
AKTO	**Aktyubinsk**	**21.03**	**322**	P	**P**	**P**	**02 37 32.8**	**-1.2**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.7s,mb3.2							
CMAR	**Chiang Mai Arr**	**24.96**	**127**	P	**P**	**P**	**02 38 16.9**	**+3.0**
	comp=Z,0.7nm,0.4s,mb3.6,baz=312,slow=9.5,SNR=5.2							
CMAR	**Chiang Mai Arr**	**24.96**	**127**	P	**P**	**P**	**02 38 16.9**	**+3.0**
CMAR	**Chiang Mai Arr**	**24.96**	**127**	P	**P**	**P**	**02 38 17.0**	**+3.0**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
GNI	**Garni**	**26.70**	**291**	*e*P	**P**	**P**	**02 38 29.4**	**-0.2**
	comp=Z,5.6nm,0.9s,mb4.1							
GNI	**Garni**	**26.70**	**291**	*e*P	**P**	**P**	**02 38 29.4**	**-0.2**
GNI				pmax	pmax			
	comp=Z,6.0nm,0.9s							
FINES	**FINESS Array B**	**41.75**	**325**	P	**P**	**P**	**02 40 39.0**	**-0.3**
	comp=Z,3.3nm,1.0s,mb3.9,baz=148,slow=11,SNR=3.3							
FINES	**FINESS Array B**	**41.75**	**325**	P	**P**	**P**	**02 40 39.0**	**-0.3**
FINES	**FINESS Array B**	**41.75**	**325**	P	**P**	**P**	**02 40 39.0**	**-0.3**
FINES				pmax	pmax			
	comp=Z,3.0nm,1.0s							
ARCES	**ARCESS Array B**	**44.54**	**337**	P	**P**	**P**	**02 41 03.0**	**+1.3**
	comp=Z,3.8nm,1.0s,mb4.2,baz=88,slow=8.2,SNR=2.6							
ARCES	**ARCESS Array B**	**44.54**	**337**	P	**P**	**P**	**02 41 03.0**	**+1.3**
ARCES	**ARCESS Array B**	**44.54**	**337**	P	**P**	**P**	**02 41 03.0**	**+1.2**
ARCES				pmax	pmax			
	comp=Z,4.0nm,1.0s							
TORD	**Torodi Ar. Bea**	**71.44**	**273**	P	**P**	**P**	**02 44 08.8**	**-2.4**
	comp=Z,0.2nm,0.7s,mb3.1,baz=52,slow=6.4,SNR=3.8							
TORD	**Torodi Ar. Bea**	**71.44**	**273**	P	**P**	**P**	**02 44 08.8**	**-2.4**
WRA	**Warramunga Arr**	**76.56**	**126**	P	**P**	**P**	**02 44 40.4**	**-0.5**
	comp=Z,0.4nm,0.8s,mb3.4,baz=318,slow=4.6,SNR=3.7							
WRA	**Warramunga Arr**	**76.56**	**126**	P	**P**	**P**	**02 44 40.4**	**-0.5**
WRA	**Warramunga Arr**	**76.56**	**126**	P	**P**	**P**	**02 44 40.4**	**-0.5**

MEX 05 02:45:00.5±1.1, 15°.74N×94°.88W, h19km±72km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.18**	**271**	*i*P	Pn	Pn	02 45 19.0	-3.1
HUIG				*i*S	Sb	Sb	02 45 33.1	-4.2
CMIG	**Matias Romero**	**1.34**	**360**	*i*P	Pn	Pn	02 45 20.6	-3.6
CMIG				*i*S	Sn	Sn	02 45 37.0	-4.5
PCIG		**1.60**	**91**	*i*P	Pn	Pn	02 45 24.1	-3.8
PCIG				*i*S	Sn	Sn	02 45 42.9	-5.1
TGIG		**1.98**	**58**	*i*P	Pn	Pn	02 45 30.6	-2.4
TGIG				*i*S	S

THIG				*i* S	Sn	02 46 09.5	-4.6
CCIG	**Comitan**	**2.69**	**78**	*i* P	Pn	02 45 41.4	-1.4
CCIG				*i* S	Sn	02 46 13.2	-1.7
PNIG	**Pinotepa**	**3.19**	**282**	*e*P	Pn	02 45 46.8	-2.9
PNIG				*i* S	Sn	02 46 22.9	-4.2
UTMO	**Huajuapan**	**3.48**	**307**	*i* P	Pn	02 45 51.8	-2.0
UTMO				*i* S	Sn	02 46 31.1	-3.4
TPIG	**Tehuac#an**	**3.56**	**319**	*i* S	Sn	02 46 31.8	-4.7
TEIG	**Tepich**	**7.71**	**54**	*i* P	Pn	02 46 46.9	-4.9

IDC ***05*** *03:01:12.6±1.2,2.00N×126.80E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.6/19,mbtmp3.8/4, Error ellipse: s-maj=83.2km s-min=21.5km az=71.0*

ISCJB ***05*** *03:01:14.1±1.3,2.51N±0.08×127.8E±0.1,h33km,mb3.8/3, Error ellipse: s-maj=18.9km s-min=8.8km az=152.0*

DJA ***05*** *03:01:31, 1.14N×127.85E,h91km,MLv4.0/4*

ISC 05 03:01:16.6±1.4,2.44N±0.09×127.7E±0.1,h35km,n9, σ1§06/9,mb3.8/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.69**	**192**	P	**Pn**	**03 01 44.9**	**+1.2**
TNTI				S	**Sn**	**03 02 03.6**	**-0.5**
SGSI	**Sangihe**	**2.52**	**300**	P	**Sn**	**03 02 24.1**	**-0.3**
LBMI	**Labuha**	**3.06**	**184**	P	**Pn**	**03 02 03.2**	**+0.7**
LUWI	**Luwuk**	**6.03**	**235**	P	**Pn**	**03 02 50.3**	**+6.9**
FITZ	**Fitzroy Crossi** 1.1nm,0.5s,baz=15,slow=11,SNR=6.7	**20.51**	**186**	P	**P**	**03 05 47.8**	**-4.1**
WRA	**Warramunga Arr** 0.7nm,0.3s,mb3.5,baz=339,slow=10,SNR=22	**23.17**	**164**	P	**P**	**03 06 17.6**	**-2.7**
ASAR	**Alice Springs** 0.5nm,0.3s,mb3.5,baz=345,slow=12,SNR=9.3	**26.64**	**167**	P	**P**	**03 06 52.4**	**+0.3**
MKAR	**Makanchi Array** 1.6nm,0.3s,mb4.5,baz=114,slow=7.9,SNR=17	**59.17**	**325**	P	**P**	**03 11 14.3**	**+0.4**
TXAR	**Lajitas Array** 0.3nm,0.6s,baz=202,slow=1.9,SNR=5.5	**121.59**	**53**	PKP	PKPdf	03 20 11.0	+3.7

NEIC ***05*** *03:03:03.5,28.45S×71.48W,h47km,MG4.3(GUC), After GUC.*

GUC 05 03:03:03.5±0.9,28.45S×71.48W,h47km±267km,ML4.3, 2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.64**	**101⇓**	*e*P	Pn	03 03 18.3	+1.9
VACH				*e*S	Sn	03 03 28.3	+2.7
VACH	**Vallenar**	**0.64**	**101⇓**	*e*P	Pn	03 03 18.3	+1.9
VACH				*e*S	Sn	03 03 28.3	+2.7
VACH	comp=N,30μm,0.1s			AML	AML	03 03 29.9	
LCO	**Las Campanas**	**0.88**	**129**	*e*Pn	Pn	03 03 21.8	+2.3
LCO				*e*Sn	Sn	03 03 34.6	+3.4
LSCH	**La Serena**	**1.47**	**172**	*e*P		03 04 41.6	
LSCH				*e*S		03 05 00.2	
CPCH	**Copiapo**	**1.48**	**43**	*e*P	Pn	03 03 28.1	+0.4
CPCH				*e*S	Sn	03 03 47.1	+1.4
CPCH	**Copiapo**	**1.48**	**43**	*e*P	Pn	03 03 28.1	+0.4
CPCH				*e*S	Sn	03 03 47.1	+1.4
CPCH	comp=N,6μm,0.1s			AML	AML	03 03 48.6	
CDCH	**Caldera**	**1.50**	**23**	*e*P	Pn	03 03 27.9	0.0
CDCH				S	Sn	03 03 45.5	-0.7
CDCH	**Caldera**	**1.50**	**23**	*e*P	Pn	03 03 27.9	0.0
CDCH				*e*S	Sn	03 03 45.5	-0.7
OVCH	**Ovalle**	**2.16**	**174**	*e*P	Pn	03 03 38.0	+0.9
OVCH				*i* S	Sn	03 04 03.2	+0.6
OVCH	**Ovalle**	**2.16**	**174**	*e*P	Pn	03 03 38.0	+0.9
OVCH				*i* S	Sn	03 04 03.2	+0.6
OVCH	comp=N,803nm,0.9s			AML	AML	03 04 05.3	
CMCH	**Combarbala**	**2.74**	**171**	*e*P	Pn	03 03 45.9	+0.9
CMCH				*e*S	Sn	03 04 17.6	+0.6
CMCH	**Combarbala**	**2.74**	**171**	*e*P	Pn	03 03 45.9	+0.9
CMCH				*e*S	Sn	03 04 17.6	+0.6
CMCH	comp=E,3μm,0.8s			AML	AML	03 04 35.2	

MOS ***05*** *03:13:35.9±1.1,45.29N×153.24E,h34km,mb4.7/50,Error ellipse: s-maj=8.6km s-min=7.0km az=97.2*

BJI ***05*** *03:13:36.4,45.42N×153.15E,h29km,mB4.9/19,mb4.5/32, Ms4.6/12,Ms7 4.3/12*

ISCJB ***05*** *03:13:37.2±0.2,45.25N±0.05×153.13E±0.03,h44km, mb4.5/95,MS3.7/5,Error ellipse: s-maj=7.7km s-min=2.2km az=166.5*

JMA ***05*** *03:13:37.4±0.5,45.84N×152.86E,h30km,M5.1*

SKHL ***05*** *03:13:38.4±0.3,45.55N×153.00E,h54km±15km,mb5.4/2*

NEIC ***05*** *03:13:38.4±0.9,45.33N×153.25E,h36km±8km,mb4.7/53, Error ellipse: s-maj=7.1km s-min=3.8km az=166.0*

IDC ***05*** *03:13:39.5±0.8,45.35N×153.20E,h46km±6km,mb4.0/19, mb1 4.2/20,mb1mx4.1/26,mbtmp4.0/20,ML4.1/1,MS3.2/3, Ms1 3.2/3,ms1mx2.9/33,Error ellipse: s-maj=17.3km s-min=12.7km az=154.0*

ISC 05 03:13:39.5±0.2,45.27N±0.05×153.12E±0.03,h46km, h46km±2.6km:pP-P,n513,σ0§72/517,mb4.5/95,MS3.7/5, 135C-113D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**5.33**	**259⇑**	*i*PN	**Pn**	**03 14 57.0**	**+0.7**
YUK	comp=Z,170nm,0.2s			pmax	pmax		
YUK	comp=N,40nm,0.1s			pmax	pmax		
YUK	comp=E,40nm,0.2s			pmax	pmax		
YUK	**Yuzh-Kuril'sk**	**5.33**	**259⇑**	*i*P	**Pn**	**03 14 57.0**	**+0.7**
YUK	comp=E,260nm,0.2s			AMB	AMB	03 15 03.8	
YUK				*i* S	**Sn**	**03 15 56.0**	**-0.4**
YUK	comp=E,360nm,0.3s			A		03 16 01.5	
YUK	comp=E,420nm,0.3s			A		03 16 01.5	
NEM2	**Nemuro 2**	**5.63**	**253**	P	**Pn**	**03 14 58.5**	**-2.0**
NEM2				*e*S	**Sn**	**03 15 58.8**	**-5.0**
SKR	**Severo-Kuril's**	**5.78**	**19**	*e*PN	**Pn**	**03 14 57.5**	**-5.0**
SKR	comp=N,60nm,0.5s			pmax	pmax		
SKR	comp=E,60nm,0.5s			pmax	pmax		
SKR	comp=Z,80nm,0.5s			pmax	pmax		
SKR	**Severo-Kuril's**	**5.78**	**19**	*e*P	**Pn**	**03 14 57.5**	**-5.0**
SKR	comp=Z,60nm,0.5s			AMB	AMB	03 15 03.0	
SKR	comp=Z,80nm,0.5s			AMB	AMB	03 15 03.0	
SKR				*e*S	**Sn**	**03 15 57.1**	**-10**
SKR				A		03 16 05.9	
JRA	**Rausu**	**5.87**	**260**	P	**Pn**	**03 15 03.5**	**-0.3**
JRA				*e*S	**Sn**	**03 16 08.6**	**-1.0**
JNK	**Nakash**	**6.25**	**257**	P	**Pn**	**03 15 08.3**	**-0.7**
JNK				*e*S	**Sn**	**03 16 15.6**	**-3.5**
JAK	**Akkeshi**	**6.47**	**252**	P	**Pn**	**03 15 10.2**	**-1.9**
JAK				*e*S	**Sn**	**03 16 19.1**	**-5.5**
JTKR	**Abashiri--Toko**	**6.70**	**262**	P	**Pn**	**03 15 14.9**	**-0.3**
JAR	**Ashorobuto**	**7.00**	**257**	P	**Pn**	**03 15 18.9**	**-0.4**
JOB	**Onbets**	**7.09**	**254**	P	**Pn**	**03 15 19.1**	**-1.5**
YSS	**Yuzh-Sakhalins**	**7.40**	**287**	PN	**Pn**	**03 15 25.0**	**+0.2**
YSS	**Yuzh-Sakhalins**	**7.40**	**287**	*e*P	**Pn**	**03 15 25.0**	**+0.2**
YSS				*e*rx	rx	03 15 36.8	
JCH	**Churui**	**7.53**	**253**	P	**Pn**	**03 15 25.7**	**-0.8**
JCH				*e*S	**Sn**	**03 16 44.9**	**-5.6**
JKK2	**Kamakawa 2**	**7.54**	**263**	P	**Pn**	**03 15 26.9**	**+0.2**
ASAJ	**Asahikawa** comp=Z,3.1nm,0.3s,baz=111,slow=22,SNR=13	**7.59**	**265**	P	**Pn**	**03 15 27.4**	**0.0**
ASAJ	baz=90,slow=20,SNR=2.1			S	**Sn**	**03 17 01.2**	**+9.2**
ASAJ	comp=Z,130nm,18.0s,baz=5.3,slow=39			LR	LR	03 18 36.9	
ASAJ	**Asahikawa**	**7.59**	**265**	*e*Pn	**Pn**	**03 15 27.6**	**+0.2**
ASAJ	**Asahikawa**	**7.59**	**265**	PN	**Pn**	**03 15 27.4**	**0.0**
ASAJ				S	**Sn**	**03 17 01.2**	**+9.2**
ASAJ	comp=Z,3.0nm,0.3s			pmax	pmax		
ASAJ	comp=Z,130nm,18.0s			MLR	MLR		
JFR	**Furan**	**7.85**	**258**	P	**Pn**	**03 15 32.1**	**+1.1**
ERM	**Erimo**	**7.93**	**249**	*e*Pn	**Pn**	**03 15 31.9**	**-0.1**
ERM				*e*Sn	**Sn**	**03 16 56.6**	**-3.7**
ERM	**Erimo**	**7.93**	**249**	*e*PN	**Pn**	**03 15 31.9**	**-0.1**
JNBK	**Urakawa-nobuka**	**8.08**	**252**	P	**Pn**	**03 15 32.2**	**-1.9**
JBT2	**Biratori 2**	**8.14**	**256**	P	**Pn**	**03 15 33.6**	**-1.4**
PEA0B	**Petropavlovsk-**	**8.40**	**19**	*e*Pn	**Pn**	**03 15 33.7**	**-4.7**
PETK	**Petropavlovsk-** comp=Z,2.8nm,0.3s,baz=181,slow=14,SNR=15	**8.40**	**19**	P	**Pn**	**03 15 33.3**	**-5.1**
PETK	**Petropavlovsk-**	**8.40**	**19**	P	**Pn**	**03 15 33.3**	**-5.1**
PETK	**Petropavlovsk-**	**8.40**	**19**	PN	**Pn**	**03 15 33.3**	**-5.1**
PETK	comp=Z,3.0nm,0.3s			pmax	pmax		
PET	**Petropavlovsk**	**8.56**	**23**	*e*Pn	**Pn**	**03 15 35.2**	**-5.5**
PET	**Petropavlovsk**	**8.56**	**23**	*e*PN	**Pn**	**03 15 35.2**	**-5.5**
JKB	**Kayabe**	**9.40**	**253**	P	**Pn**	**03 15 49.9**	**-2.3**
JKB				*e*S	**Sn**	**03 17 28.7**	**-7.8**
JANG	**Nango**	**9.83**	**244**	*e*S	**Sn**	**03 17 37.5**	**-9.5**
JTH	**Tanohata**	**9.86**	**241**	*e*S	**Sn**	**03 17 38.8**	**-8.9**
JTM	**Tenmabayashi**	**9.90**	**247**	P	**Pn**	**03 15 56.1**	**-2.9**
OFUJ	**Ofunato**	**10.51**	**238**	*e*S	**Sn**	**03 17 55.1**	**-8.5**
JIO	**Ouri**	**11.10**	**236**	*e*S	**Sn**	**03 18 07.5**	**-11**
MJAR	**Matsushiro Arr** comp=Z,0.2nn,0.3s,baz=37,slow=11,SNR=6.0	**14.24**	**237**	P	**Pn**	**03 16 56.3**	**-2.0**
MJAR	**Matsushiro Arr**	**14.24**	**237**	P	**Pn**	**03 16 56.3**	**-2.0**
MJAR	**Matsushiro Arr**	**14.24**	**237**	P	**Pn**	**03 16 56.3**	**-2.0**
MAJO	**Matsushiro**	**14.24**	**237**	*e*Pn	**Pn**	**03 16 56.0**	**-2.3**
MAJO	**Matsushiro**	**14.24**	**237**	*e*P	**Pn**	**03 16 56.0**	**-2.3**
MAT	**Matsushiro**	**14.24**	**237**	P	**Pn**	**03 17 00.7**	**+2.4**
MDJ	**Mudanjiang**	**16.67**	**276**	P	**Pn**	**03 17 29.4**	**-0.1**
MDJ				pP	pP	03 17 38.7	-3.4
MDJ				sP	sP	03 17 45.9	-2.0
MDJ				S	**S**	**03 20 32.9**	**-10**
MDJ				PcP	PcP	03 22 17.4	+0.6
MDJ				ScP	ScP	03 25 48.9	+1.4
MDJ				PcS	PcS	03 25 51.3	-1.2
MDJ				ScS	ScS	03 29 27.6	+0.9
MDJ	comp=Z,7.0nm,1.0s			pmax	pmax		
MDJ	comp=Z,64nm,3.9s			pmax	pmax		
CN2	**Changchun**	**19.75**	**276**	*e*P	**Pn**	**03 18 05.9**	**-1.2**
CN2				*e*S	**S**	**03 21 41.8**	**-3.5**
CN2	comp=Z,10.0nm,0.8s			pmax	pmax		
KSRS	**Korea Array** comp=Z,6.2nn,0.9s,baz=61,slow=9.2,SNR=12	**20.41**	**256**	P	**P**	**03 18 13.9**	**+1.5**
KSRS				LR	LR	03 25 41.2	
KSRS	**Korea Array** comp=Z,58nn,21.5s,MS2.9,baz=60,slow=35	**20.41**	**256**	P	**P**	**03 18 13.9**	**+1.5**
KSRS	comp=Z,6.0nm,0.9s			pmax	pmax		
KSRS	comp=Z,58nm,21.5s,MS2.9			MLR	MLR		
YAK	**Yakutsk**	**21.59**	**329**	*e*P	**P**	**03 18 22.5**	**-2.4**
YAK	comp=Z,21nm,0.8s,mb4.6			pmax	pmax		
YAK	comp=N,6.0nm,0.9s			pmax	pmax		
YAK	comp=E,8.0nm,1.1s			pmax	pmax		
BILL	**Bilibino** comp=E,4.7nm,0.6s,mb4.1	**23.84**	**12**	*e*P	**P**	**03 18 47.4**	**-0.5**
BILL	**Bilibino**	**23.84**	**12⇑**	*e*P	**P**	**03 18 48.0**	**+0.1**
BILL				*e*		03 23 04.1	
BILL	comp=Z,16nm,2.1s,mb4.1			pmax	pmax		
BILL	comp=Z,100nm,16.0s,MS3.4			MLR	MLR		
HHC	**Hu-ho-hao-te**	**30.44**	**277**	*e*P	**P**	**03 19 49.3**	**+1.9**
HHC				pP	pP	03 19 58.7	-0.8
HHC				sP	sP	03 20 03.1	-1.9
HHC				PP	PP	03 20 43.5	-13
HHC				S	**S**	**03 24 46.2**	**+1.1**
HHC				SS	SS	03 26 27.8	-28
HHC				ScS	ScS	03 30 25.1	+4.7
HHC	comp=Z,16nm,0.7s,mb4.9			pmax	pmax		
HHC	comp=Z,95nm,5.7s			pmax	pmax		
HHC	comp=N,170nm,11.8s			LR	LR		
HHC	comp=E,220nm,5.4s			LR	LR		
HHC	comp=Z,100nm,14.2s,MS3.6			LR	LR		
SONM	**Songino Array** comp=Z,0.9nm,0.6s,mb3.8,baz=80,slow=7.2,SNR=3.4	**31.86**	**292**	P	**P**	**03 20 00.6**	**+0.8**
SONM	**Songino Array**	**31.86**	**292**	P	**P**	**03 20 00.6**	**+0.8**
SONM	**Songino Array**	**31.86**	**292**	P	**P**	**03 20 00.6**	**+0.8**
SONM	comp=Z,1.0nm,0.6s			pmax	pmax		
ZAK	**Zakamensk**	**33.34**	**297**	*e*P	**P**	**03 20 10.4**	**-2.3**
ZAK	comp=Z,2.0nm,1.0s,mb4.0			pmax	pmax		
COLA	**College** comp=Z,2.4nn,0.8s,mb4.1	**37.30**	**37**	*e*P	**P**	**03 20 45.6**	**-1.0**
COLA	**College**	**37.30**	**37**	*e*P	**P**	**03 20 45.6**	**-1.0**
COLA	comp=Z,2.0nm,0.8s,mb4.0			pmax	pmax		
ILAR	**Eielson Array** comp=Z,0.4nm,0.6s,mb3.4,baz=256,slow=8.5,SNR=13	**37.71**	**37**	P	**P**	**03 20 48.5**	**-1.5**
ILAR	**Eielson Array**	**37.71**	**37**	P	**P**	**03 20 48.6**	**-1.5**
ILAR	**Eielson Array**	**37.71**	**37**	P	**P**	**03 20 54.9**	**+2.3**
LZH	**Lanzhou**	**37.97**	**274**	*e*P	**P**		
LZH				pP	pP	03 21 03.5	-1.4
LZH				sP	sP	03 21 07.0	-3.3
LZH	comp=Z,23nm,1.2s,mb4.8			pmax	pmax		
GTA	**Gaotai**	**39.23**	**281**	*e*P	**P**	**03 21 04.8**	**+1.6**
GTA				pP	pP	03 21 09.2	-6.3
GTA	comp=Z,7.0nm,1.0s,mb4.3			pmax	pmax		
CD2	**Chengdu**	**40.78**	**267**	P	**P**	**03 21 17.8**	**+1.7**
CD2				pP	pP	03 21 27.6	-0.9
CD2				sP	sP	03 21 31.6	-2.3
CD2				PP	PP	03 22 55.8	+5.2
CD2				S	**S**	**03 27 26.3**	**+2.6**
CD2				sS	sS	03 27 42.5	-1.9
CD2				ScS	ScS	03 31 18.2	+1.0
CD2	comp=Z,10.0nm,0.5s,mb4.7			pmax	pmax		
CD2	comp=Z,170nm,5.2s			pmax	pmax		
CD2	comp=N,190nm,5.9s			LR	LR		
CD2	comp=Z,160nm,4.9s			LR	LR		
GYA	**Guiyang** comp=Z,10.0nm,1.0s,mb4.4	**41.42**	**259**	*e*P	**P**	**03 21 21.5**	**+0.1**
GYA				pmax	pmax		
INK	**Inuvik** comp=Z,2.7nm,0.8s,mb4.0,baz=300,slow=6.8,SNR=15	**42.91**	**32**	P	**P**	**03 21 32.7**	**-0.3**
INK	**Inuvik** comp=Z,2.2nm,0.6s,mb4.1	**42.91**	**32**	*e*P	**P**	**03 21 32.1**	**-0.8**
INK	**Inuvik**	**42.91**	**32**	P	**P**	**03 21 32.7**	**-0.3**
INK	comp=Z,3.0nm,0.8s			pmax	pmax		
ZALV	**Zalesovo Beam** comp=Z,1.3nm,0.6s,mb3.9,baz=75,slow=6.9,SNR=6.5	**43.50**	**307**	P	**P**	**03 21 36.3**	**-1.6**
ZALV	comp=Z,0.9nm,0.5s,baz=57,slow=7.2,SNR=3.2			pP	pP	03 21 49.1	-1.3
ZALV	comp=Z,1.4nm,0.7s,baz=62,slow=3.5,SNR=5.3			PcP	PcP	03 23 24.8	-0.4
ZALV	comp=Z,56nm,18.4s,MS3.5,baz=13,slow=39			LR	LR	03 41 46.9	
ZALV	**Zalesovo Beam**	**43.50**	**307**	P	**P**	**03 21 36.3**	**-1.6**
ZALV				pP	pP	03 21 49.1	-1.3
ZALV				PcP	PcP	03 23 24.8	-0.4
ZALV				LR	LR	03 41 46.9	
ZALV	**Zalesovo Beam**	**43.50**	**307**	P	**P**	**03 21 36.3**	**-1.6**
ZALV				*PP	pP	03 21 49.2	-1.2
ZALV						03 23 24.8	
ZALV	comp=Z,1.0nm,0.6s,mb3.7			pmax	pmax		
ZALV	comp=Z,1.0nm,0.5s,mb3.8			pmax	pmax		
ZALV	comp=Z,1.0nm,0.7s,mb3.6			MLR	MLR		
ZALV	comp=Z,56nm,18.5s,MS3.5						
KMI	**Kunming**	**45.00**	**261**	P	**P**	**03 21 51.3**	**+1.0**
KMI				pP	pP	03 22 01.8	-1.0
KMI				sP	sP	03 22 07.0	-1.2
KMI	comp=Z,5.0nm,0.9s,mb4.3			pmax	pmax		
WMQ	**Urumqi**	**45.49**	**293**	P	**P**	**03 21 56.0**	**+2.1**
MK31	**Makanchi Array**	**47.64**	**299**	*e*P	**P**	**03 22 10.5**	**-0.3**
MK31	**Makanchi Array**	**47.64**	**299**	P	**P**	**03 22 10.9**	**+0.1**
MK31	comp=Z,4.0nm,0.6s,mb4.6			pmax	pmax		
MKAR	**Makanchi Array** comp=Z,2.2nn,0.6s,mb4.4,baz=68,slow=6.8,SNR=21	**47.64**	**299**	P	**P**	**03 22 11.4**	**+0.6**
MKAR	comp=Z,2.4nm,0.6s,baz=72,slow=5.2,SNR=8.3			pP	pP	03 22 24.4	+1.1
MKAR	comp=Z,1.1nm,0.8s,baz=68,slow=5.0,SNR=2.4			PcP	PcP	03 23 38.6	-1.1
MKAR	**Makanchi Array**	**47.64**	**299**	P	**P**	**03 22 11.4**	**+0.6**
MKAR				pP	pP	03 22 24.4	+1.1
MKAR				PcP	PcP	03 23 38.6	-1.1
MKAR	**Makanchi Array**	**47.64**	**299**	P	**P**	**03 22 11.4**	**+0.6**
MKAR				*PP	pP	03 22 24.5	+1.1
MKAR						03 23 38.6	
MKAR	comp=Z,2.0nm,0.6s			pmax	pmax		
MKAR	comp=Z,2.0nm,0.6s			pmax	pmax		
MKAR	comp=Z,1.0nm,0.8s			pmax	pmax		
KURK	**Kurchatov** comp=Z,12nn,1.0s,mb4.9	**48.20**	**305**	*e*P	**P**	**03 22 15.4**	**+0.3**
KURK	comp=Z,12nm,1.0s,mb4.9			pmax	pmax		
CHTO	**Chiang Mai** comp=Z,2.5nm,0.8s,mb4.2	**51.80**	**258**	*e*P	**P**	**03 22 44.6**	**+1.9**
CHTO	comp=Z,3.0nm,0.8s,mb4.3			pmax	pmax		
BRVK	**Borovoye** comp=Z,2.3nm,0.6s,mb4.3	**51.86**	**310**	*e*P	**P**	**03 22 43.7**	**+1.0**
BRVK	**Borovoye**	**51.86**	**310**	*ce*P	**P**	**03 22 45.5**	**+2.8**
BRVK	comp=Z,4.0nm,1.0s,mb4.3			pmax	pmax		
CMAR	**Chiang Mai Arr** comp=Z,0.8nm,0.3s,mb4.1,baz=31,slow=8.7,SNR=6.0	**52.04**	**257**	P	**P**	**03 22 45.6**	**+1.1**
CMAR				PcP	PcP	03 23 56.6	+0.4
CMAR	**Chiang Mai Arr** comp=Z,0.9nm,0.5s,baz=64,slow=3.3,SNR=4.1	**52.04**	**257**	P	**P**	**03 22 45.6**	**+1.1**
CMAR				PcP	PcP	03 23 56.6	+0.4
CMAR	**Chiang Mai Arr**	**52.04**	**257**	P	**P**	**03 22 45.7**	**+1.2**
CMAR						03 23 56.6	
CMAR	comp=Z,1.0nm,0.3s			pmax	pmax		
CMAR	comp=Z,1.0nm,0.5s			pmax	pmax		
RES	**Resolute Bay** comp=Z,3.1nm,0.6s,mb4.4	**52.24**	**18**	*e*P	**P**	**03 22 44.8**	**-0.5**
RES	**Resolute Bay**	**52.24**	**18**	*e*P	**P**	**03 22 44.8**	**-0.5**
RES	comp=Z,3.0nm,0.6s,mb4.4			pmax	pmax		
ZRNK	**Zerenda**	**52.59**	**311**	P	**P**	**03 22 47.2**	**-1.0**
ZRNK	comp=Z,19nm,2.3s,mb4.6			pmax	pmax		
TKM2	**Tokmak 2** comp=Z,2.7nm,0.7s,mb4.3	**53.67**	**297**	*e*P	**P**	**03 22 57.6**	**+1.4**
TKM2	**Tokmak 2**	**53.67**	**297**	*e*P	**P**	**03 22 57.6**	**+1.4**
TKM2	comp=Z,3.0nm,0.7s,mb4.3			pmax	pmax		
TAPN	**Taplejung** comp=Z,9.4nn,0.6s,mb4.9	**54.20**	**274**	*e*P	**P**	**03 23 01.9**	**+1.5**
TAPN	**Taplejung** comp=Z,9.4nn,0.6s,mb4.9	**54.20**	**274**	*e*P	**P**	**03 23 01.9**	**+1.5**
AAK	**Ala-Archa** comp=Z,4.3nn,0.7s,mb4.6	**54.51**	**297**	*e*P	**P**	**03 23 03.2**	**+0.9**
AAK	**Ala-Archa**	**54.51**	**297**	*ce*P	**P**	**03 23 04.1**	**+1.7**
AAK	comp=Z,2.0nm,0.8s,mb4.2			pmax	pmax		
ODAN	**Odare**	**54.73**	**274**	*e*P	**P**	**03 23 05.2**	**+1.0**
ODAN	**Odare**	**54.73**	**274**	*e*P	**P**	**03 23 05.2**	**+1.0**
EKS2	**Erkin-Say** comp=Z,5.6nm,0.8s,mb4.7	**54.95**	**298**	*e*P	**P**	**03 23 06.5**	**+0.9**
EKS2				*e*	pP	03 23 20.4	+2.0
EKS2	**Erkin-Say**	**54.95**	**298**	*e*P	**P**	**03 23 06.5**	**+1.0**
EKS2				*e*	pP	03 23 20.4	+2.0
EKS2	comp=Z,6.0nm,0.8s,mb4.7			pmax	pmax		
GUN	**Gumba**	**55.15**	**276**	*e*P	**P**	**03 23 09.1**	**+1.9**
GUN	**Gumba**	**55.15**	**276**	*e*P	**P**	**03 23 09.1**	**+1.9**
KSH	**Kashi**	**55.24**	**293**	P	**P**	**03 23 12.3**	**+4.6**
KSH				pP	pP	03 23 22.4	+1.9
KSH				sP	sP	03 23 26.3	+0.5
KSH				PcP	PcP	03 24 11.6	+3.5
KSH				PP	PP	03 25 18.0	+6.8
KSH				ScP	ScP	03 28 06.5	+3.6
KSH				PcS	PcS	03 28 10.3	+2.2
KSH				S	**S**	**03 30 52.9**	**+5.1**
KSH				sS	sS	03 31 10.8	+1.6
KSH				ScS	ScS	03 32 55.3	+2.5
KSH				SS	SS	03 34 39.2	+7.2
KSH	comp=Z,5.0nm,1.1s,mb4.5			pmax	pmax		
KSH	comp=Z,99nm,4.5s			pmax	pmax		
KSH	comp=N,79nm,5.0s			LR	LR		
KSH	comp=E,47nm,5.1s			LR	LR		
KSH	comp=Z,110nm,4.8s			LR	LR		
KKN	**Kakani** comp=Z,26nn,0.8s,mb5.3	**55.65**	**276**	*e*P	**P**	**03 23 12.3**	**+1.5**
KKN	**Kakani** comp=Z,26nn,0.8s,mb5.3	**55.65**	**276**	*e*P	**P**	**03 23 12.3**	**+1.5**
KKN	**Kakani**	**55.65**	**276**	*e*P	**P**	**03 23 12.3**	**+1.5**
KKN	comp=Z,26nm,0.8s,mb5.3			pmax	pmax		
PKI	**Pulchoki**	**55.69**	**276**	*e*P	**P**	**03 23 12.1**	**+1.0**
PKI	**Pulchoki**	**55.69**	**276**	*e*P	**P**	**03 23 12.1**	**+1.0**
PKI	**Pulchoki**	**55.69**	**276**	*e*P	**P**	**03 23 12.1**	**+1.0**
PKIN	**Phulchoki**	**55.69**	**276**	*e*P	**P**	**03 23 12.0**	**+0.9**
DMN	**Daman**	**55.88**	**276**	*e*P	**P**	**03 23 13.8**	**+1.4**
DMN	**Daman**	**55.88**	**276**	*e*P	**P**	**03 23 13.8**	**+1.4**
GKN	**Gorkha**	**55.97**	**277**	*e*P	**P**	**03 23 14.1**	**+1.0**
GKN	**Gorkha**	**55.97**	**277**	*e*P	**P**	**03 23 14.1**	**+1.0**
ARU	**Arti** comp=Z,5.2nm,0.6s,mb4.7	**56.12**	**318**	*e*P	**P**	**03 23 13.5**	**-0.2**
ARU	**Arti**	**56.12**	**318**	*c* *i*P	**P**	**03 23 14.4**	**+0.7**
ARU				*e*		03 25 18.8	
ARU				S	**S**	**03 30 50.5**	**-8.5**
ARU	comp=Z,5.0nm,0.7s,mb4.7			pmax	pmax		
DANN	**Dangsing**	**56.37**	**278**	*e*P	**P**	**03 23 17.7**	**+1.8**
DANN	**Dangsing**	**56.37**	**278**	*e*P	**P**	**03 23 17.7**	**+1.8**
KKAR	**Karatay Array** comp=Z,1.6nm,0.7s,mb4.2	**56.73**	**300**	*e*P	**P**	**03 23 18.5**	**+0.2**
KKAR				*e*pP	pP	03 23 32.2	+1.0
KKAR	**Karatay Array**	**56.73**	**300**	*e*P	**P**	**03 23 18.5**	**+0.2**
KKAR				*e*PP	pP	03 23 32.2	+1.0
KKAR	comp=Z,2.0nm,0.7s,mb4.3			pmax	pmax		
B08A	**Colville Reser** baz=56	**56.79**	**53**	⇑P	**P**	**03 23 17.6**	**-1.0**
KOLN	**Koldanda** comp=Z,19nm,0.9s,mb5.2	**56.84**	**277**	*e*P	**P**	**03 23 20.4**	**+1.1**
KOLN	**Koldanda** comp=Z,19nm,0.9s,mb5.1	**56.84**	**277**	*e*P	**P**	**03 23 20.4**	**+1.1**
NEW	**Newport** comp=Z,4.3nn,1.1s,mb4.4	**58.08**	**52**	*e*P	**P**	**03 23 26.3**	**-1.4**
NEW	**Newport**	**58.08**	**52**	*e*P	**P**	**03 23 26.3**	**-1.4**
NEW	comp=Z,4.0nm,1.1s		

A13A	**Flathead Natio**	59.19	50	⇑P		P		03 23 35.0	-0.4	
	baz=59									
ARCES	**ARCESS Array B**	59.26	341	P		P		03 23 36.3	+0.7	
	comp=Z,4.0nm,0.9s,mb4.4,baz=37,slow=8.4,SNR=5.7									
ARCES	**ARCESS Array B**	59.26	341	P		P		03 23 36.3	+0.7	
ARCES	**ARCESS Array B**	59.26	341	P		P		03 23 36.3	+0.7	
ARCES				pmax		pmax				
	comp=Z,4.0nm,0.9s									
AB31	**Akbulak array**	59.39	311	*i* P		P		03 23 37.1	+0.3	
AB31				pmax		pmax				
	comp=Z,4.0nm,0.4s,mb4.8									
ABKAR	**Akbulak array**	59.39	311	*eP*		P		03 23 36.9	+0.1	
	comp=Z,5.1nm,0.5s,mb4.8									
ABKAR				*e*		pP		03 23 49.9	+0.2	
B13A	**Whitefish**	59.48	51	⇑P		P		03 23 37.0	-0.4	
	baz=59,SNR=5.2									
A14A	**Double T Ranch**	59.70	50	⇑P		P		03 23 38.9	0.0	
	baz=59									
AKTO	**Aktyubinsk**	59.73	312	P		P		03 23 38.9	-0.2	
AKTO				pmax		pmax				
	comp=Z,1.0nm,0.9s,mb3.9									
E12A	**Beaver Dam Sad**	59.99	53	⇑P		P		03 23 41.0	0.0	
	baz=60,SNR=8.9									
A15A	**Johnson Ranch,**	60.07	49	⇓P		P		03 23 40.8	-0.6	
	baz=60									
J08A	**Circle Bar Ran**	60.08	57	⇑P		P		03 23 41.8	+0.2	
	baz=60									
B14A	**Marquette Ranc**	60.13	50	⇓P		P		03 23 41.7	-0.2	
	baz=60									
WVOR	**Wild Horse Val**	60.52	58	*eP*		P		03 23 41.8	-2.9	
	comp=Z,6.3nm,1.0s,mb4.7									
WVOR	**Wild Horse Val**	60.52	58	*eP*		P		03 23 41.8	-2.9	
WVOR				pmax		pmax				
	comp=Z,6.0nm,1.0s,mb4.7									
B15A	**Bradely Ranch,**	60.55	50	⇓P		P		03 23 44.6	-0.1	
	baz=60									
F12A	**Elk City**	60.56	53	⇓P		P		03 23 45.0	+0.1	
	baz=60,SNR=5.8									
MSO	**Missoula**	60.66	52	⇓P		P		03 23 45.0	-0.6	
	baz=60,SNR=6.1									
KAKA	**Kakadu**	60.67	203	*eP*		P		03 23 45.9	0.0	
	comp=Z,13nm,0.7s,mb5.2									
SLMT	**Seeley Lake**	60.67	51	*eP*		P		03 23 44.8	-0.8	
	comp=Z,4.0nm,0.9s,mb4.5									
E13A	**Victor**	60.76	52	⇑P		P		03 23 46.2	0.0	
	baz=60									
D14A	**Greenough**	60.76	51	⇑P		P		03 23 45.6	-0.6	
	baz=60,SNR=6.8									
C15A	**Salmond Ranch,**	60.84	50	⇓P		P		03 23 46.9	+0.1	
	baz=60									
G12A	**Big Creek, Yel**	60.88	54	⇓P		P		03 23 46.7	-0.3	
	baz=61									
B16A	**M & M Farms, S**	60.95	49	⇓P		P		03 23 47.0	-0.5	
	baz=61									
F13A	**Darby**	61.06	53	⇑P		P		03 23 47.8	-0.5	
	baz=61									
E14A	**Clinton**	61.16	52	⇓P		P		03 23 48.6	-0.4	
	baz=61									
A17A	**Triple J Farms**	61.17	48	⇓P		P		03 23 48.6	-0.4	
	baz=61									
C16A	**Fuhringer Ranc**	61.29	50	⇑P		P		03 23 49.6	-0.2	
	baz=61									
G13A	**Cobalt**	61.53	54	⇑P		P		03 23 50.9	-0.6	
	baz=61,SNR=10.0									
MFID	**Camas Ranch**	61.61	56	⇑P		P		03 23 51.8	-0.2	
	baz=61									
E15A	**Deer Lodge**	61.63	52	⇑P		P		03 23 52.0	-0.1	
	baz=61									
A18A	**Metzger Ranch,**	61.63	48	⇑P		P		03 23 51.5	-0.6	
	baz=61									
I12A	**Atlanta**	61.79	55	⇑P		P		03 23 52.8	-0.5	
	baz=62,SNR=6.1									
H13A	**Challis**	61.83	54	⇑P		P		03 23 53.3	-0.2	
	baz=62,SNR=5.3									
D16A	**Dana Ranch, Ca**	61.86	51	⇑P		P		03 23 53.3	-0.3	
	baz=62									
C17A	**Wharram Farm,**	61.92	50	⇑P		P		03 23 53.5	-0.6	
	baz=62									
B18A	**Beardsley Farm**	61.99	49	⇓P		P		03 23 54.0	-0.5	
	baz=62									
F15A	**Butte**	62.06	52	⇑P		P		03 23 55.0	0.0	
	baz=62,SNR=5.9									
LRM	**Limekiln Ridge**	62.09	52	*eP*		P		03 23 55.1	-0.1	
	comp=Z,29nm,0.9s,mb5.4									
SUMG	**Summit**	62.18	4	*i* P		P		03 23 56.0	+0.6	
	comp=Z,7.3nm,0.9s,mb4.8									
A19A	**Klindworth Far**	62.20	48	⇓P		P		03 23 55.9	0.0	
	baz=62									
EGMT	**Eagleton**	62.23	49	⇑P		P		03 23 55.9	-0.2	
	baz=62									
D17A	**Six Diamond Ra**	62.26	50	⇑P		P		03 23 56.1	-0.2	
	baz=62									
I13A	**Wildhorse Cree**	62.30	55	⇑P		P		03 23 56.7	0.0	
	baz=62,SNR=6.0									
H14A	**Leadore**	62.31	54	⇓P		P		03 23 57.2	+0.5	
	baz=62									
HLID	**Hailey**	62.34	55	⇓P		P		03 23 57.0	+0.1	
	baz=62									
HLID	**Hailey**	62.34	55	*eP*		P		03 23 56.9	-0.1	
	comp=Z,2.3nm,0.9s,mb4.3									
B19A	**Brinkman Farms**	62.39	48	⇑P		P		03 23 56.7	-0.5	
	baz=62									
G15A	**Dillon**	62.47	53	⇓P		P		03 23 57.6	-0.2	
	baz=62									
F16A	**Kennard Place,**	62.58	52	⇓P		P		03 23 58.4	-0.1	
	baz=62									
J13A	**Cove Ranch, Pi**	62.58	55	⇑P		P		03 23 58.6	+0.1	
	baz=62,SNR=5.9									
E17A	**Martinsdale**	62.59	51	⇓P		P		03 23 58.8	+0.3	
	baz=62									
KBL	**Kabul**	62.63	292	*eP*		P		03 23 59.3	+0.3	
	comp=Z,7.5nm,0.7s,mb4.9									
KBL	**Kabul**	62.63	292	*eP*		P		03 23 59.3	+0.3	
KBL				pmax		pmax				
	comp=Z,7.0nm,0.7s,mb4.9									
A20A	**Cobblestone Ra**	62.66	47	⇑P		P		03 23 58.9	-0.1	
	baz=62									
BOZ	**Bozeman (W)**	62.66	52	⇓P		P		03 23 58.8	-0.2	
	baz=62									
BOZ	**Bozeman (W)**	62.66	52	*eP*		P		03 23 58.9	-0.1	
	comp=Z,13nm,1.5s,mb4.8									
BOZ	**Bozeman (W)**	62.66	52	*eP*		P		03 23 58.9	-0.1	
BOZ				pmax		pmax				
	comp=Z,13nm,1.5s,mb4.8									
JOF	**Joensuu**	62.67	334	*eP*		P		03 23 56.5	-2.3	
JOF				pmax		pmax				
	comp=Z,1.0nm,0.4s,mb4.3									
JOF	**Joensuu**	62.67	334	*ep*		P		03 23 56.5	-2.3	
	comp=Z,0.8nm,0.4s,mb4.2									
I14A	**Mackay**	62.68	54	⇓P		P		03 23 58.8	-0.3	
	baz=62,SNR=10									
C19A	**Slack Wire Ran**	62.78	49	⇑P		P		03 23 59.7	-0.1	
	baz=62									
G16A	**Moss Hill, Enn**	62.82	52	⇑P		P		03 23 59.9	-0.2	
	baz=62,SNR=8.3									
B20A	**Solberg Farm,**	62.88	48	⇑P		P		03 24 00.5	0.0	
	baz=62									
J14A	**Carey**	63.01	55	⇓P		P		03 24 01.8	+0.4	
	baz=63,SNR=9.5									
F17A	**Fitzpatrick Pl**	63.04	51	⇓P		P		03 24 01.8	+0.3	
	baz=63									
A21A	**Bergtoll Ranch**	63.10	47	⇑P		P		03 24 01.7	-0.2	
	baz=63									
NVAR	**Mina Array Bea**	63.12	62	P		P		03 24 02.7	+0.5	
	comp=Z,4.3nm,0.7s,mb4.7,baz=285,slow=6.6,SNR=5.5									
NVAR	**Mina Array Bea**	63.12	62	P		P		03 24 02.7	+0.4	
D19A	**Cripps Ranch,**	63.22	49	⇑P		P		03 24 03.1	+0.4	
	baz=63									
C20A	**Veseth Ranch,**	63.34	48	⇓P		P		03 24 03.3	-0.2	
	baz=63									
G17A	**Pierce Place,**	63.35	52	⇓P		P		03 24 04.0	+0.4	
	baz=63									
H16A	**Russell Place,**	63.45	52	⇓P		P		03 24 04.6	+0.3	
	baz=63									
F18A	**Big Timber**	63.55	51	⇓P		P		03 24 05.2	+0.3	
	baz=63									
J15A	**Blackfoot**	63.59	54	⇑P		P		03 24 05.6	+0.4	
	baz=63									
A22A	**Carney Farms,**	63.62	46	⇑P		P		03 24 04.7	-0.6	
	baz=63									
D20A	**Manuel Ranch,**	63.66	49	⇓P		P		03 24 05.7	0.0	
	baz=63,SNR=5.6									
K14A	**Jones Ranch, D**	63.68	55	⇓P		P		03 24 06.2	+0.3	
	baz=63									
E19A	**Rath Farm, Rou**	63.71	50	⇑P		P		03 24 06.3	+0.3	
	baz=63									
L14A	**Malta**	63.96	56	⇓P		P		03 24 08.4	+0.7	
	baz=64									
K15A	**Arbon**	63.97	55	⇑P		P		03 24 08.4	+0.7	
	baz=64									
F19A	**Roth Farm, Mol**	64.01	50	⇓P		P		03 24 08.5	+0.5	
	baz=64									
J16A	**Bone**	64.13	54	⇓P		P		03 24 08.7	-0.1	
	baz=64									
RRI2	**Red Ridge**	64.25	54	*eP*		P		03 24 10.2	+0.6	
	comp=Z,10.0nm,0.8s,mb4.9									
D21A	**La Casta Ranch**	64.28	48	⇑P		P		03 24 09.6	-0.1	
	baz=64									
MOOW	**Moose Ponds**	64.33	53	*eP*		P		03 24 10.1	+0.1	
	comp=Z,2.9nm,0.9s,mb4.3									
H18A	**Shoshone NF, C**	64.35	52	⇑P		P		03 24 10.5	+0.3	
	baz=64									
TPAW	**Teton Pass**	64.37	53	*eP*		P		03 24 11.0	+0.7	
	comp=Z,16nm,1.1s,mb5.0									
K16A	**Soda Springs**	64.42	54	⇑P		P		03 24 11.6	+0.9	
	baz=64									
B23A	**Brockton**	64.43	46	⇑P		P		03 24 10.7	0.0	
	baz=64									
LOHW	**Long Hollow**	64.49	53	*eP*		P		03 24 11.7	+0.6	
	comp=Z,1.4nm,0.6s,mb4.2									
SNOW	**Snow King Moun**	64.50	53	*eP*		P		03 24 12.1	+0.9	
	comp=Z,6.1nm,1.1s,mb4.5									
REDW	**Red Top Meadow**	64.51	53	*eP*		P		03 24 11.8	+0.6	
	comp=Z,14nm,1.3s,mb4.8									
J17A	**Brown Place, J**	64.59	53	⇑P		P		03 24 12.5	+0.7	
	baz=64									
H19A	**Powell**	64.73	51	⇑P		P		03 24 13.1	+0.4	
	baz=64									
M15A	**Larsen Ranch,**	64.78	56	⇓P		P		03 24 13.0	0.0	
	baz=64									
KAF	**Kangasniemi**	64.79	335	*eP*		P		03 24 15.2	+2.4	
KAF	**Kangasniemi**	64.79	335	*ep*		P		03 24 15.2	+2.4	
	comp=Z,0.4nm,0.3s,mb3.9									
G20A	**Bridger**	64.80	51	⇑P		P		03 24 13.0	-0.2	
	baz=64									
R11A	**Troy Canyon, C**	64.85	60	⇓P		P		03 24 13.6	0.0	
	baz=64									
J18A	**Kendall Valley**	65.08	53	⇑P		P		03 24 14.9	0.0	
	baz=65									
I19A	**Meeteetse**	65.13	52	⇓P		P		03 24 15.3	+0.1	
	baz=65									
D23A	**Lindsay**	65.15	47	⇓P		P		03 24 14.8	-0.6	
	baz=65									
HWUT	**Hardware Ranch**	65.21	55	*eP*		P		03 24 15.7	-0.1	
	comp=Z,1.3nm,0.4s,mb4.3									
E22A	**Miles City**	65.24	48	⇑P		P		03 24 15.6	-0.3	
	baz=65									
M16A	**Huntsville**	65.35	56	⇓P		P		03 24 16.8	0.0	
	baz=65									
DUG	**Dugway**	65.37	57	⇓P		P		03 24 17.1	+0.2	
	baz=65									
DUG	**Dugway**	65.37	57	*eP*		P		03 24 16.6	-0.3	
	comp=Z,5.1nm,0.8s,mb4.6									
DUG	**Dugway**	65.37	57	*eP*		P		03 24 16.6	-0.3	
DUG				pmax		pmax				
	comp=Z,5.0nm,0.8s,mb4.6									
FINES	**FINESS Array B**	65.39	335	P		P		03 24 16.1	-0.6	
	comp=Z,5.1nm,0.7s,mb4.7,baz=32,slow=7.3,SNR=25									
FINES				pP		pP		03 24 29.4	-0.3	
	comp=Z,3.8nm,0.6s,baz=32,slow=7.6,SNR=4.1									
FINES	**FINESS Array B**	65.39	335	P		P		03 24 16.1	-0.6	
FINES				pP		pP		03 24 29.4	-0.3	
FINES	**FINESS Array B**	65.39	335	P		P		03 24 16.1	-0.5	
FINES				*PP		pP		03 24 29.5	-0.3	
FINES				pmax		pmax				
	comp=Z,5.0nm,0.7s									
FINES				pmax		pmax				
	comp=Z,4.0nm,0.6s									
K18A	**Toltan Ranch,**	65.43	54	⇑P		P		03 24 17.7	+0.5	
	baz=65,SNR=6.1									
E23A	**Ismay**	65.54	48	⇑P		P		03 24 17.8	-0.1	
	baz=65									
P14A	**Drum Mountains**	65.59	58	⇓P		P		03 24 18.5	+0.1	
	baz=65									
BW06	**Boulder Array**	65.62	53	⇑P		P		03 24 18.1	-0.4	
	baz=65,SNR=6.0									
BW06	**Boulder Array**	65.62	53	*eP*		P		03 24 17.8	-0.7	
	comp=Z,5.5nm,0.9s,mb4.6									
PDAR	**Pinedale Array**	65.62	53	P		P		03 24 18.2	-0.3	
	comp=Z,3.9nm,0.8s,mb4.5,baz=272,slow=2.4,SNR=31									
PDAR	**Pinedale Array**	65.62	53	P		P		03 24 18.2	-0.3	
D24A	**Glendive**	65.65	47	⇑P		P		03 24 18.5	-0.1	
	baz=65									
I20A	**Worland**	65.66	52	⇑P		P		03 24 18.8	+0.1	
	baz=65									
M17A	**Scullys Gap (B**	65.81	55	⇑P		P		03 24 19.6	-0.1	
	baz=66									
H21A	**Big Horn, Sher**	65.82	50	⇓P		P		03 24 19.7	-0.1	
	baz=66									
Q14A	**Sevier Lake (B**	65.85	58	⇓P		P		03 24 20.0	0.0	
	baz=66,SNR=6.8									
L18A	**Fontenelle, Gr**	65.89	54	⇓P		P		03 24 20.3	+0.1	
	baz=66									
K19A	**Absolon Red Bu**	65.99	53	⇓P		P		03 24 20.7	-0.2	
	baz=66									
N17A	**Moffit Pass**	66.05	56	⇓P		P		03 24 21.3	0.0	
	baz=66									
J20A	**Shoshoni**	66.07	52	⇓P		P		03 24 21.3	0.0	
	baz=66									
O16A	**Springville**	66.13	56	⇓P		P		03 24 22.2	+0.4	
	baz=66									
L19A	**Farson**	66.16	54	⇑P		P		03 24 22.3	+0.3	
	baz=66									
I21A	**Big Trails, Te**	66.21	51	⇑P		P		03 24 22.6	+0.3	
	baz=66									
J21A	**Lysite**	66.43	52	⇑P		P		03 24 23.1	-0.5	
	baz=66									
OBN	**Obninsk**	66.54	326	*eP*		P		03 24 23.8	-0.3	
OBN				pmax		pmax				
	comp=Z,8.0nm,1.1s,mb4.7									
I22A	**9 Mile Ranch,**	66.61	51	⇓P		P		03 24 24.6	-0.2	
	baz=66									
N18A	**Larsen Ranch,**	66.70	55	⇓P		P		03 24 25.1	-0.4	
	baz=66									
L20A	**Wamsutter**	66.80	53	⇑P		P		03 24 25.8	-0.3	
	baz=66									
J22A	**Midwest**	66.92	51	⇓P		P		03 24 26.9	+0.1	
	baz=67,SNR=5.3									
O18A	**Roosevelt**	66.97	56	⇑P		P		03 24 27.3	+0.1	
	baz=67									
K21A	**Alcova**	67.00	52	⇓P		P		03 24 26.7	-0.6	
	baz=67,SNR=5.4									
N19A	**John Jarvie Ra**	67.05	55	⇑P		P		03 24 27.1	-0.5	
	baz=67									
P17A	**Butcher Ranch,**	67.05	57	⇑P		P		03 24 27.7	0.0	
	baz=67									
U13A	**Pakoon Wash**	67.07	61	⇑P		P		03 24 27.9	+0.1	
	baz=67,SNR=9.6									
H24A	**Dirks Ranch, A**	67.09	49	⇑P		P		03 24 27.4	-0.4	
	baz=67									
WRAB	**Tennant Creek**	67.10	199	*eP*		P		03 24 28.4	+0.4	
	comp=Z,5.4nm,1.1s,mb4.5									
WRAB	**Tennant Creek**	67.10	199	*eP*		P		03 24 28.4	+0.4	
WRAB				pmax		pmax				
	comp=Z,5.0nm,1.1s,mb4.5									
WRA	**Warramunga Arr**	67.11	199	P		P		03 24 28.0	-0.1	
	comp=Z,2.8nm,1.0s,mb4.2,baz=17,slow=6.6,SNR=5.9									
WRA	**Warramunga Arr**	67.11	199	P		P		03 24 28.0	-0.1	
WRA	**Warramunga Arr**	67.11	199	P		P		03 24 28.0	-0.1	
WRA				pmax		pmax				
	comp=Z,3.0nm,1.0s									
M20A	**Sweetwater, Wa**	67.22	54	⇑P		P		03 24 28.9	+0.1	
	baz=67									
VRHR	**Novokhopersk**	67.27	320	*eP*		P		03 24 27.4	-1.5	
VRHR				pmax		pmax				
	comp=N,10.0nm,0.7s									
VRHR				pmax		pmax				
	comp=Z,10.0nm,0.7s,mb5.0									
VRHR				pmax		pmax				
	comp=E,10.0nm,0.6s									
PFO	**Pinyon Flat Ob**	67.31	65	⇑P		P		03 24 29.8	+0.3	
	baz=67									
L21A	**Rawlins**	67.38	53	⇑P		P		03 24 29.7	0.0	
	baz=67									
R16A	**Teasdale**	67.38	58	⇑P		P		03 24 30.1	+0.3	
	baz=67									
K22A	**Casper**	67.40	52	⇓P		P		03 24 29.8	0.0	
	baz=67									
SRU	**San Rafael**	67.42	57	⇑P		P		03 24 29.9	-0.1	
	baz=67,SNR=11									
SRU	**San Rafael**	67.42	57	*eP*		P		03 24 29.6	-0.5	
	comp=E,8.6nm,0.8s,mb4.8									
SRU	**San Rafael**	67.42	57	*eP*		P		03 24 29.6	-0.4	
SRU				pmax		pmax				
	comp=Z,9.0nm,0.8s,mb4.8									
O19A	**Miners Draw (B**	67.46	55	⇑P		P		03 24 29.8	-0.5	
	baz=67									
U14A	**Mt Trumbull**	67.56	61	⇓P		P		03 24 31.0	+0.1	
	baz=67									
M21A	**Separation Pea**	67.61	53	⇑P		P		03 24 30.8	-0.4	
	baz=67									
Q18A	**Rafter H Ranch**	67.65	57	⇓P		P		03 24 31.8	+0.3	
	baz=67									
T15A	**Red Dirt Ranch**	67.66	60	⇑P		P		03 24 31.6	+0.1	
	baz=67									
S16A	**Weppner Ranch,**	67.68	59	⇑P		P		03 24 31.5	-0.2	
	baz=67									
R17A	**Hanksville Air**	67.75	58	⇑P		P		03 24 31.9	-0.2	
	baz=67,SNR=6.2									
RSSD	**Black Hills**	67.78	49	*eP*		P		03 24 31.4	-0.9	
	comp=Z,7.8nm,1.1s,mb4.7									
RSSD	**Black Hills**	67.78	49	*eP*		P		03 24 31.4	-0.8	
RSSD				pmax		pmax				
	comp=Z,8.0nm,1.1s,mb4.7									
IRM	**Iron Mountain**	67.78	64	⇑P		P		03 24 32.3	-0.1	
	baz=68									
P19A	**Cripple Cowboy**	67.98	56	⇑P		P		03 24 33.4	-0.1	
	baz=68									
O20A	**White River Ci**	68.08	55	⇓P		P		03 24 34.1	-0.1	
	baz=68									
N21A	**Black Mountain**	68.08	54	⇓P		P		03 24 34.1	-0.1	
	baz=68									
U15A	**North Rim**	68.09	60	⇑P		P		03 24 35.1	+0.8	
	baz=68,SNR=5.1									
V14A	**Boquillas Ranc**	68.11	61	⇑P		P		03 24 35.3	+0.8	
	baz=68,SNR=7.5									
S17A	**Black Ridge (B**	68.21	58	⇓P		P		03 24 35.1	0.0	
	baz=68									
Q19A	**Hogan Spring (**	68.26	56	⇑P		P		03 24 35.1	-0.2	
	baz=68,SNR=13									
R18A	**Canyonlands Na**	68.26	57	⇑P		P		03 24 35.1	-0.2	
	baz=68									
VSR	**Storozhevoye**	68.28	322	*eP*		P		03 24 35.3	+0.1	
VSR				pmax		pmax				
	comp=Z,5.0nm,0.5s,mb4.8									
VSR				pmax		pmax				
	comp=N,5.0nm,0.8s									
VSR				pmax		pmax				
	comp=E,8.0nm,0.9s									
PDMCI	**Parker Dam,Lak**	68.33	63	⇓P		P		03 24 35.8	0.0	
	baz=68									
P20A	**De Beque**	68.41	55	⇑P		P		03 24 35.9	-0.4	
	baz=68									
Y12C	**Blythe**	68.45	64	⇓P		P		03 24 36.4	-0.1	
	baz=68									
V15A	**Kaibab Nationa**	68.56	60	⇓P		P		03 24 37.6	+0.3	
	baz=68									
S18A	**Hurst Farm, Bl**	68.66	58	⇓P		P		03 24 37.6	-0.2	
	baz=68,SNR=7.1									
R19A	**Curley Farm, L**	68.70	57	⇑P		P		03 24 37.9	-0.2	
	baz=68									
Q20A	**Ridgley Place,**	68.83	56	⇑P		P		03 24 38.6	-0.2	
	baz=68									
U16A	**Tuba City**	68.99	60	⇓P		P		03 24 40.4	+0.4	
	baz=69,SNR=8.2									
X14A	**Yava**	69.00	62	⇑P		P		03 24 40.3	+0.2	
	baz=69									
T18A	**Mexican Hat**	69.09	58	⇓P		P		03 24 40.2	-0.3	
	baz=69									
M24A	**Cheyenne**	69.13	52	⇓P		P		03 24 40.9	+0.2	
	baz=69									
S19A	**Harvey Farm, M**	69.13	57	⇓P		P		03 24 40.7	-0.1	
	baz=69									
Y14A	**Wickenburg**	69.28	62	⇓P		P		03 24 41.5	-0.3	
	baz=69									
R20A	**Redvale**	69.29	56	⇓P		P		03 24 41.8	0.0	
	baz=69									
P22A	**Eagle**	69.29	54	⇑P		P		03 24 41.9	+0.1	
	baz=69,SNR=5.3									
Z13A	**Yuma Proving G**	69.35	63	⇓P		P		03 24 42.2	0.0	
	baz=69									
O23A	**Lake Granby, G**	69.36	53	⇓P		P		03 24 42.0	-0.1	
	baz=69									
X15A	**Humboldt**	69.40	62	⇑P		P		03 24 42.7	+0.2	
	baz=69,SNR=5.1									
SMCO	**Snowmass**	69.45	55	*eP*		P		03 24 42.6	-0.1	
	comp=E,7.1nm,1.0s,mb4.5									
S20A	**Disappointment**	69.54	57	⇑P		P		03 24 43.4	+0.2	
	baz=69									
V17A	**Tonalea, Kykot**	69.54	60	⇑P		P		03 24 43.7	+0.3	
	baz=69,SNR=9.6									
113A	**Mohawk Valley,**	69.57	64	⇓P		P		03 24 43.3	-0.2	
	baz=69									
U18A	**Rough Rock, Ch**	69.57	59	⇑P		P		03 24 43.8	+0.3	
	baz=69							

118A	**Homack Ranch,** baz=72	**72.04**	**62**	⇑P		**P**	**03 24 58.8**	**+0.3**
217A	**Green Valley** baz=72	**72.09**	**63**	⇓P		**P**	**03 24 58.8**	**-0.1**
X21A	**Alamocita Cree** baz=72,SNR=6.6	**72.16**	**59**	⇑P		**P**	**03 24 59.7**	**+0.5**
Y20A	**Horse Springs,** baz=72	**72.16**	**60**	⇑P		**P**	**03 24 59.9**	**+0.6**
T25A	**Trinidad** baz=72	**72.31**	**55**	⇓P		**P**	**03 25 00.4**	**+0.3**
ANMO	**Albuquerque** comp=Z,3.3nm,0.8s,mb4.3	**72.61**	**58**	*e*P		**P**	**03 25 01.5**	**-0.4**
ANMO	**Albuquerque**	**72.61**	**58**	*e*P		**P**	**03 25 01.5**	**-0.4**
ANMO	comp=Z,3.0nm,0.8s			pmax	pmax			
V24A	**Rampart Ranch,** baz=72	**72.78**	**57**	⇓P		**P**	**03 25 03.7**	**+0.7**
AKASG	**Malin Array Be** comp=Z,2.6nm,0.5s,mb4.4,baz=36,slow=6.2,SNR=12	**72.78**	**326**	P		**P**	**03 25 02.3**	**-0.4**
AKASG				pP	pP		03 25 16.2	+0.3
	comp=Z,6.2nm,0.6s,baz=33,slow=6.2,SNR=11							
AKASG	**Malin Array Be**	**72.78**	**326**	P		**P**	**03 25 02.3**	**-0.4**
AKASG				pP	pP		03 25 16.2	+0.3
AKASG	**Malin Array Be**	**72.78**	**326**	P		**P**	**03 25 02.3**	**-0.4**
AKASG				*PP	pP		03 25 16.2	+0.2
AKASG	comp=Z,3.0nm,0.5s			pmax	pmax			
AKASG	comp=Z,6.0nm,0.6s			pmax	pmax			
AKBB	**Malin Array Si**	**72.78**	**326**	*e*P		**P**	**03 25 02.3**	**-0.4**
AKBB	**Malin Array Si**	**72.78**	**326**	*e*P		**P**	**03 25 02.3**	**-0.4**
KIEV	**Kiev** comp=Z,7.4nm,0.6s,mb4.8	**72.80**	**326**	*e*P		**P**	**03 25 02.0**	**-0.7**
KIEV				*e*pP	pP		03 25 16.0	-0.1
KIEV	**Kiev**	**72.80**	**326**	*e*P		**P**	**03 25 02.1**	**-0.6**
KIEV				*e**PP	pP		03 25 16.0	0.0
KIEV	comp=Z,7.0nm,0.6s,mb4.8			pmax	pmax			
U25A	**Circle Dot Ran** baz=72,SNR=5.4	**72.82**	**56**	⇓P		**P**	**03 25 02.9**	**-0.3**
318A	**Bisbee** baz=72	**72.83**	**63**	⇓P		**P**	**03 25 02.9**	**-0.4**
120A	**U Bar Ranch, L** baz=73,SNR=5.5	**72.93**	**61**	⇑P		**P**	**03 25 04.3**	**+0.4**
Y22A	**Socorro** baz=73	**73.00**	**59**	⇑P		**P**	**03 25 04.5**	**+0.3**
Z21A	**St. Cloud Mine** baz=73,SNR=6.3	**73.00**	**60**	⇑P		**P**	**03 25 04.8**	**+0.5**
W24A	**Lazy 6 Ranch,** baz=73,SNR=6.2	**73.06**	**57**	⇓P		**P**	**03 25 05.1**	**+0.5**
220A	**Playas Peak, P** baz=73	**73.43**	**61**	⇑P		**P**	**03 25 07.0**	**+0.2**
121A	**Cookes Peak, D** baz=73	**73.46**	**60**	⇓P		**P**	**03 25 07.2**	**+0.2**
Y23A	**Lovelace Mesa,** baz=73,SNR=5.7	**73.55**	**58**	⇑P		**P**	**03 25 07.5**	**0.0**
W25A	**X Bar L Ranch,** baz=73	**73.61**	**56**	⇓P		**P**	**03 25 07.6**	**-0.3**
ANN	**Anapa**	**73.78**	**318**	*e*P		**P**	**03 25 14.0**	**+5.3**
ANN	comp=Z,25nm,1.1s,mb5.1			pmax	pmax			
320A	**Kipp Ranch, An** baz=74	**73.82**	**62**	⇑P		**P**	**03 25 09.2**	**+0.1**
X25A	**Clemmons Ranch** baz=74	**73.97**	**57**	⇓P		**P**	**03 25 09.8**	**-0.1**
Y25A	**Mesa, Roswell** baz=74	**74.37**	**58**	⇓P		**P**	**03 25 11.8**	**-0.5**
Z24A	**Sheeppen Canyo** baz=74	**74.38**	**58**	⇓P		**P**	**03 25 12.2**	**-0.2**
X26A	**CR and CF Fran** baz=74	**74.46**	**57**	⇓P		**P**	**03 25 12.8**	**0.0**
SCHQ	**Schefferville** comp=Z,3.7nm,0.9s,mb4.3,baz=355,slow=12,SNR=2.6	**74.67**	**23**	P		**P**	**03 25 12.7**	**-1.0**
SCHQ	**Schefferville**	**74.67**	**23**	P		**P**	**03 25 12.7**	**-1.0**
124A	**Stringfield Ra** baz=74	**74.77**	**59**	⇑P		**P**	**03 25 14.5**	**-0.1**
Z25A	**Roswell** baz=74	**74.81**	**58**	⇑P		**P**	**03 25 14.6**	**-0.2**
224A	**Cornudas Mount** baz=75	**75.16**	**59**	⇓P		**P**	**03 25 16.8**	**-0.1**
Z26A	**Caprock** baz=75,SNR=9.5	**75.25**	**58**	⇓P		**P**	**03 25 17.3**	**-0.1**
125A	**Gardner Draw,** baz=75,SNR=5.2	**75.28**	**58**	⇑P		**P**	**03 25 16.9**	**-0.7**
Y27A	**Causey** baz=75,SNR=6.4	**75.31**	**57**	⇓P		**P**	**03 25 17.4**	**-0.3**
AMTX	**Amarillo** baz=75	**75.47**	**55**	⇓P		**P**	**03 25 18.5**	**-0.1**
AMTX	**Amarillo** comp=Z,11nm,1.0s,mb4.7	**75.47**	**55**	*e*P		**P**	**03 25 18.1**	**-0.5**
MSTX	**Muleshoe** baz=75	**75.48**	**56**	⇑P		**P**	**03 25 18.6**	**-0.1**
225A	**Deer Hill, Car** baz=75	**75.56**	**59**	⇓P		**P**	**03 25 19.1**	**-0.1**
324A	**Moseley Ranch,** baz=75	**75.62**	**60**	⇓P		**P**	**03 25 19.5**	**0.0**
Z27A	**Tatum** baz=75,SNR=11	**75.68**	**57**	⇑P		**P**	**03 25 19.4**	**-0.5**
325A	**Bean Ranch, Si** baz=76	**75.99**	**60**	⇓P		**P**	**03 25 21.6**	**0.0**
226A	**Malaga, Loving** baz=76	**76.03**	**59**	⇓P		**P**	**03 25 21.9**	**+0.1**
KWP	**Kalwaria Pacla**	**76.10**	**329**	⇑P		**P**	**03 25 22.6**	**+0.7**
KWP	**Kalwaria Pacla**	**76.10**	**329**	⇑*i*P		**P**	**03 25 22.6**	**+0.7**
425A	**Indio Mountain** baz=76,SNR=7.9	**76.39**	**60**	⇓P		**P**	**03 25 24.0**	**+0.1**
326A	**Caldwell Ranch** baz=76,SNR=6.2	**76.63**	**59**	⇓P		**P**	**03 25 25.0**	**-0.3**
BUR08	**Bucovina Ar. S**	**76.81**	**327**	*e*P		**P**	**03 25 26.0**	**0.0**
BURAR	**Bucovina Array**	**76.83**	**327**	⇑*i*P		**P**	**03 25 18.1**	**-8.0**
426A	**McDonald Obser** baz=77	**77.05**	**60**	⇓P		**P**	**03 25 27.4**	**-0.3**
TESR		**77.17**	**325**	⇑*i*P		**P**	**03 25 28.1**	**+0.1**
328A	**Wristen Ranch,** baz=77,SNR=9.3	**77.29**	**58**	⇓P		**P**	**03 25 28.6**	**-0.4**
427A	**Hayter Ranch,** baz=77	**77.31**	**59**	⇑P		**P**	**03 25 29.3**	**+0.2**
526A	**Mary Lane Ranc** baz=77	**77.44**	**60**	⇑P		**P**	**03 25 29.8**	**-0.1**
VRI	**Vrincioaia**	**77.66**	**325**	⇑P		**P**	**03 25 32.5**	**+1.7**
VRI	**Vrincioaia**	**77.66**	**325**	⇑*i*P		**P**	**03 25 32.5**	**+1.7**
527A	**Woodward Ranch** baz=77	**77.68**	**60**	⇑P		**P**	**03 25 30.9**	**-0.3**
MORC	**Moravsky Berou** comp=Z,3.4nm,0.9s,mb4.3	**77.75**	**332**	*e*P		**P**	**03 25 31.0**	**-0.2**
MORC	**Moravsky Berou**	**77.75**	**332**	⇓P		**P**	**03 25 31.5**	**+0.2**
MORC	**Moravsky Berou**	**77.75**	**332**	⇓*i*P		**P**	**03 25 31.5**	**+0.2**
626A	**Big Bend Ranch** baz=78,SNR=6.5	**77.78**	**60**	⇓P		**P**	**03 25 31.4**	**-0.4**
CLL	**Collm**	**77.82**	**336**	⇓*i*P		**P**	**03 25 31.1**	**-0.5**
CLL	comp=Z,5.0nm,0.7s,mb4.5			pmax	pmax			
CLL	**Collm** comp=Z,5.0nm,0.7s,mb4.5	**77.82**	**336**	⇓*i*P		**P**	**03 25 31.1**	**-0.5**
428A	**Kincaid Ranch,** baz=78,SNR=5.3	**77.83**	**59**	⇑P		**P**	**03 25 32.0**	**0.0**
528A	**Cox Ranch, San** baz=78	**78.17**	**59**	⇑P		**P**	**03 25 33.9**	**0.0**
TXAR	**Lajitas Array** comp=Z,5.6nm,0.8s,mb4.6,baz=303,slow=4.1,SNR=70	**78.22**	**60**	P		**P**	**03 25 33.9**	**-0.3**
TXAR	**Lajitas Array**	**78.22**	**60**	P		**P**	**03 25 33.9**	**-0.3**
TXAR	comp=Z,6.0nm,0.8s			pmax	pmax			
MLR	**Muntele Rosu**	**78.28**	**325**	⇑P		**P**	**03 25 33.5**	**-0.8**
MLR	**Muntele Rosu**	**78.28**	**325**	⇑*i*P		**P**	**03 25 33.5**	**-0.8**
PSZ	**Piszkesteto** comp=Z,3.1nm,0.8s,mb4.3	**78.55**	**330**	*e*P		**P**	**03 25 36.2**	**+0.5**
PSZ	**Piszkesteto**	**78.55**	**330**	*e*P		**P**	**03 25 36.2**	**+0.5**
PSZ	comp=Z,3.0nm,0.8s,mb4.3			pmax	pmax			
VOIR		**78.69**	**326**	⇑P		**P**	**03 25 30.0**	**-6.5**
VOIR		**78.69**	**326**	⇑*i*P		**P**	**03 25 30.0**	**-6.5**
BR131	**Keskin Array S** comp=Z,1.8nm,0.8s,mb4.0	**79.48**	**317**	*e*P		**P**	**03 25 41.2**	**+0.3**
BRTR	**Keskin Array B** comp=Z,1.3nm,0.8s,mb3.9,baz=71,slow=4.8,SNR=8.5	**79.48**	**317**	P		**P**	**03 25 41.5**	**+0.5**
BRTR	**Keskin Array B**	**79.48**	**317**	P		**P**	**03 25 41.5**	**+0.5**
BRTR	**Keskin Array B**	**79.48**	**317**	P		**P**	**03 25 41.5**	**+0.6**
BRTR	comp=Z,1.0nm,0.9s			pmax	pmax			
KHC	**Kasperske Hory**	**79.58**	**334**	*e*P		**P**	**03 25 41.5**	**+0.2**
KHC				*e*	pP		03 25 57.3	+2.6
KHC	**Kasperske Hory**	**79.58**	**334**	*e*P		**P**	**03 25 41.5**	**+0.2**
KHC				*es*P	sP		03 25 57.3	-2.6
GERES	**GERESS Array B**	**79.79**	**334**	P		**P**	**03 25 42.3**	**-0.1**
GERES	**GERESS Array B** comp=Z,0.7nm,0.6s,mb3.8,baz=30,slow=6.2,SNR=8.3	**79.79**	**334**	P		**P**	**03 25 42.3**	**-0.1**
GERES	**GERESS Array B**	**79.79**	**334**	P		**P**	**03 25 42.3**	**-0.2**
GERES	comp=Z,1.0nm,0.6s			pmax	pmax			
WLF	**Walferdange** comp=Z,4.9nm,0.9s,mb4.4	**81.17**	**339**	*e*P		**P**	**03 25 49.4**	**-0.5**
WLF	**Walferdange**	**81.17**	**339**	*e*P		**P**	**03 25 49.4**	**-0.4**
WLF	comp=Z,5.0nm,0.9s,mb4.4			pmax	pmax			
MOTA	**Moosalm** comp=Z,4.2nm,0.9s,mb4.4	**81.92**	**335**	⇓*i*P		**P**	**03 25 54.3**	**+0.5**
CDF	**Champ du Feu**	**82.03**	**338**	*e*P		**P**	**03 26 00.3**	**+5.9**
CDF	**Champ du Feu**	**82.03**	**338**	*e*P		**P**	**03 26 00.3**	**+5.9**
CDF	**Champ du Feu**	**82.03**	**338**	*e*P		**P**	**03 26 00.3**	**+5.9**
PAGF	**Fort de Pagny** comp=Z,2.4nm,0.7s,mb4.0	**82.31**	**339**	*e*P		**P**	**03 26 01.3**	**+5.5**
MEZF	**Maizieres J'vi**	**82.52**	**339**	*e*P		**P**	**03 26 02.3**	**+5.3**
MEZF	**Maizieres J'vi**	**82.52**	**339**	*e*P		**P**	**03 26 02.3**	**+5.3**
SFTF	**Sexfontaines**	**82.80**	**339**	*e*P		**P**	**03 26 04.4**	**+6.0**
SFTF	**Sexfontaines**	**82.80**	**339**	*e*P		**P**	**03 26 04.4**	**+6.0**
LOR	**Lormes**	**83.97**	**340**	*e*P		**P**	**03 26 09.7**	**+5.3**
GRR	**Gorron** comp=Z,10nm,0.6s,mb4.8	**83.99**	**343**	*e*P		**P**	**03 26 10.2**	**+5.7**
GRR	**Gorron** comp=Z,5.1nm,0.6s,mb4.8	**83.99**	**343**	*e*P		**P**	**03 26 10.2**	**+5.7**
GRR	**Gorron**	**83.99**	**343**	*e*P		**P**	**03 26 10.2**	**+5.7**
GRR	comp=Z,5.0nm,0.6s,mb4.8			pmax	pmax			
SSF	**Saint Saulge**	**84.25**	**340**	*e*P		**P**	**03 26 11.3**	**+5.4**
SGMF	**Saint Gilles** comp=Z,12nm,0.7s,mb4.8	**84.46**	**344**	*e*P		**P**	**03 26 12.7**	**+5.8**
SGMF	**Saint Gilles**	**84.46**	**344**	*e*P		**P**	**03 26 12.7**	**+5.8**
SGMF	**Saint Gilles** comp=Z,5.9nm,0.7s,mb4.8	**84.46**	**344**	*e*P		**P**	**03 26 12.7**	**+5.8**
SGMF	comp=Z,6.0nm,0.7s,mb4.8			pmax	pmax			
ROSF	**Rostrenen**	**84.52**	**344**	*e*P		**P**	**03 26 13.7**	**+6.5**
ROSF	**Rostrenen**	**84.52**	**344**	*e*P		**P**	**03 26 13.7**	**+6.5**
ROSF	**Rostrenen**	**84.52**	**344**	*e*P		**P**	**03 26 13.7**	**+6.5**
AVF	**Avril sur Loir** comp=Z,9.7nm,0.9s,mb4.7	**84.54**	**340**	*e*P		**P**	**03 26 12.9**	**+5.6**
SMF	**Signal de Mont**	**84.55**	**339**	*e*P		**P**	**03 26 12.9**	**+5.5**
SMF	**Signal de Mont**	**84.55**	**339**	*e*P		**P**	**03 26 12.9**	**+5.5**
SMF	**Signal de Mont**	**84.55**	**339**	*e*P		**P**	**03 26 12.9**	**+5.5**
LPL	**La Plagne** comp=Z,25nm,1.2s,mb4.9	**84.84**	**337**	*e*P		**P**	**03 26 15.0**	**+6.1**
LPL	**La Plagne** comp=Z,13nm,1.2s,mb4.9	**84.84**	**337**	*e*P		**P**	**03 26 15.0**	**+6.1**
LPL	**La Plagne**	**84.84**	**337**	*e*P		**P**	**03 26 15.0**	**+6.1**
LPL	comp=Z,13nm,1.2s,mb4.9			pmax	pmax			
LPG	**La Plagne** comp=Z,11nm,0.8s,mb4.7	**84.85**	**337**	*e*P		**P**	**03 26 15.2**	**+6.3**
LPG	**La Plagne** comp=Z,5.5nm,0.8s,mb4.7	**84.85**	**337**	*e*P		**P**	**03 26 15.2**	**+6.3**
LPG	**La Plagne**	**84.85**	**337**	*e*P		**P**	**03 26 15.2**	**+6.3**
LPG	comp=Z,6.0nm,0.8s,mb4.8			pmax	pmax			
BGF	**Bois d'Agland**	**84.88**	**340**	*e*P		**P**	**03 26 15.9**	**+6.8**
TCF	**Toulx Ste Croi** comp=Z,13nm,1.1s,mb4.7	**85.29**	**340**	*e*P		**P**	**03 26 17.9**	**+6.8**
TCF	**Toulx Ste Croi** comp=Z,6.6nm,1.1s,mb4.7	**85.29**	**340**	*e*P		**P**	**03 26 17.9**	**+6.8**
TCF	**Toulx Ste Croi**	**85.29**	**340**	*e*P		**P**	**03 26 17.9**	**+6.8**
TCF	comp=Z,7.0nm,1.1s,mb4.7			pmax	pmax			
MFF	**Saint Martin d** comp=Z,6.7nm,0.6s,mb4.7	**85.53**	**342**	*e*P		**P**	**03 26 18.5**	**+6.2**
MFF	**Saint Martin d** comp=Z,3.3nm,0.6s,mb4.7	**85.53**	**342**	*e*P		**P**	**03 26 18.5**	**+6.2**
MFF	**Saint Martin d**	**85.53**	**342**	*e*P		**P**	**03 26 18.5**	**+6.2**
MFF	comp=Z,3.0nm,0.6s,mb4.7			pmax	pmax			
RJF	**Les Rejaudoux**	**86.38**	**340**	*e*P		**P**	**03 26 22.6**	**+6.1**
CAF	**Calviac** comp=Z,14nm,1.0s,mb4.8	**86.60**	**340**	*e*P		**P**	**03 26 25.0**	**+7.4**
CAF	**Calviac** comp=Z,6.8nm,1.0s,mb4.8	**86.60**	**340**	*e*P		**P**	**03 26 25.0**	**+7.4**
CAF	**Calviac**	**86.60**	**340**	*e*P		**P**	**03 26 25.0**	**+7.4**
CAF	comp=Z,7.0nm,1.0s,mb4.8			pmax	pmax			
LFF	**La Frestale**	**86.90**	**341**	*e*P		**P**	**03 26 26.3**	**+7.2**
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.6s,baz=17,slow=1.6,SNR=12	**116.37**	**329**	PKP	PKPdf		03 32 17.1	-1.2
TORD				pPKP	pPKPdf		03 32 30.6	-1.7
	comp=Z,0.2nm,0.5s,baz=19,slow=1.6,SNR=2.1							
TORD	**Torodi Ar. Bea**	**116.37**	**329**	PKP	PKPdf		03 32 17.1	-1.2
TORD				pPKP	pPKPdf		03 32 30.6	-1.7
DBIC	**Dimbokro** comp=Z,3.3nm,0.8s,baz=40,slow=7.9,SNR=3.2	**124.65**	**333**	PKP	PKPdf		03 32 33.2	-1.0
DBIC	**Dimbokro**	**124.65**	**333**	PKP	PKPdf		03 32 33.2	-1.0
DBIC	**Dimbokro**	**124.65**	**333**	PKIKP	PKPdf		03 32 33.2	-1.0
DBIC	comp=Z,3.0nm,0.9s			pmax	pmax			
PLCA	**Paso Flores** comp=Z,2.7nm,0.7s,baz=241,slow=5.7,SNR=5.1	**148.03**	**98**	PKPbc	PKPbc		03 33 18.9	-0.5
PLCA	**Paso Flores**	**148.03**	**98**	*e*PKPbc	PKPbc		03 33 19.0	-0.4
PLCA	**Paso Flores**	**148.03**	**98**	*e*PKP2	PKPab		03 33 19.0	-3.2
CPUP	**Villa Florida** comp=Z,1.6nm,0.6s,baz=233,slow=3.1,SNR=6.0	**149.17**	**63**	PKPbc	PKPbc		03 33 22.1	-0.6
CPUP	**Villa Florida**	**149.17**	**63**	PKP2	PKPab		03 33 22.2	-5.0
CPUP	comp=Z,2.0nm,0.6s			pmax	pmax			
VNA2	**Neumayer--Watz** baz=108,slow=1.5	**152.57**	**194**	*e*	PKPbc		03 33 26.4	-2.9
VNA2				*e*			03 33 30.7	
VNA2				*e*			03 33 40.4	
VNA3	**Neumayer Olymp**	**152.65**	**192**	*e*	PKPbc		03 33 26.3	-3.2
VNA3				*e*			03 33 31.0	
VNA3				*e*			03 33 40.4	

IDC 05 03:25:23.8±4.3, 29.64N×90.03E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.4/24, mbtmp3.6/4, Error ellipse: s-maj=149.6km s-min=30.0km az=86.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array** 1.3nm,0.6s,baz=213,slow=11,SNR=5.0	**22.12**	**30**	P	P	03 30 21.0	+0.2
WRA	**Warramunga Arr** 0.3nm,0.5s,baz=325,slow=6.3,SNR=4.8	**65.21**	**134**	P	P	03 36 06.9	-0.3
ASAR	**Alice Springs** 0.2nm,0.3s,baz=313,slow=7.1,SNR=4.2	**67.73**	**137**	P	P	03 36 23.6	+0.4
ILAR	**Eielson Array** 0.6nm,1.0s,baz=292,slow=4.8,SNR=4.4	**76.06**	**22**	P	P	03 37 12.9	+0.1

*CSEM **05** 03:25:25.8, 45.12N×6.47E, h10km, ML1.5/1, After LDG*

LDG 05 03:25:25.8±0.1, 45.12N×6.47E, h10km, Md1.5/4, Ml1.5/1, Error ellipse: s-maj=2.1km s-min=1.4km az=132.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPG	**La Plagne** 1.9nm,0.2s	**0.43**	**28**	*e*Pg	Pg	03 25 34.3	+0.1
LPG				*e*Sg	Sg	03 25 40.0	+0.1
LPG	**La Plagne** 0.9nm,0.2s	**0.43**	**28**	*e*Pg	Pg	03 25 34.3	+0.1
LPG				*e*Sg	Sg	03 25 40.0	+0.1
LPL	**La Plagne** 1.3nm,0.2s	**0.44**	**25**	*e*Pg	Pg	03 25 34.9	+0.5
LPL				*e*Sg	Sg	03 25 40.4	+0.1
LPL	**La Plagne** 0.6nm,0.2s	**0.44**	**25**	*e*Pg	Pg	03 25 34.9	+0.5
LPL				*e*Sg	Sg	03 25 40.4	+0.1
MBDF	**Montbardon** 3.5nm,0.3s	**0.45**	**151**	*e*Pg	Pg	03 25 34.6	+0.1
MBDF				*e*Sg	Sg	03 25 40.5	+0.1
MBDF	**Montbardon** 1.8nm,0.3s	**0.45**	**151**	*e*Pg	Pg	03 25 34.6	+0.1
MBDF				*e*Sg	Sg	03 25 40.5	+0.1
ORIF	**Oris-en-Rattie** 2.8nm,0.2s	**0.46**	**245**	*e*Pg	Pg	03 25 35.1	+0.3
ORIF				*e*Sg	Sg	03 25 41.0	+0.1
ORIF	**Oris-en-Rattie** 1.4nm,0.2s	**0.46**	**245**	*e*Pg	Pg	03 25 35.1	+0.3
ORIF				*e*Sg	Sg	03 25 41.0	+0.1
VIVF	**Saint-Julien-l** 1.0nm,0.3s	**1.30**	**259**	*e*Pg	Pg	03 25 49.9	-0.9
VIVF				*e*Sg	Sg	03 26 07.0	-0.6
VIVF	**Saint-Julien-l** 0.5nm,0.3s	**1.30**	**259**	*e*Pg	Pg	03 25 49.9	-0.9
VIVF				*e*Sg	Sg	03 26 07.0	-0.6

*DJA **05** 03:41:30, 17.43S×174.50W, h54km, mb5.4/44*
*BJI **05** 03:41:42.5, 16.77S×174.04W, h187km, mB5.3/31, mb5.2/39*
*ISCJB **05** 03:41:42.1±0.1, 17.34S±0.04×174.37W±0.03, h188km, mb5.0/188, Error ellipse: s-maj=6.1km s-min=3.0km az=163.1*
*IDC **05** 03:41:42.9±0.5, 17.33S×174.38W, h189km±4km, mb4.7/20, mb1 4.8/21, mb1mx4.8/21, mbtmp4.7/21, MS4.3/17, Ms1 4.3/17, ms1mx4.2/26, Error ellipse: s-maj=12.4km s-min=9.1km az=130.0*
*NEIC **05** 03:41:43.2±0.1, 17.32S×174.36W, mb5.1/128, MW5.7, MW5.6, Error ellipse: s-maj=6.2km s-min=3.6km az=152.0, Moment Tensor Solution. s52 Moment tensor: Scale 10^17Nm; Mrr=0.11; Mθθ2.17; Mϕϕ-2.06; Mrθ2.32; Mrϕ-1.11; Mθϕ1.74; Best double couple: M0 3.80000×10^17 NP1: ϕs238.00000°, δ89.00000°, λ-130.00000°. NP2: ϕs147.00000°, δ40.00000°, λ-2.00000°. Principal axes: T 3.6200, Plg31.0000°, Azm0.0000°; N 0.2700, Plg39.0000°, Azm239.0000°; P -3.8900, Plg34.0000°, Azm115.0000°;*
*MOS **05** 03:41:45.9±1.7, 16.18S×174.41W, h180km, mb5.2/40, MS4.7/6 Error ellipse: s-maj=11.7km s-min=7.8km az=68.3*
*GCMT **05** 03:41:46.0±0.1, 17.22S×174.06W, h186km, MW5.7, Moment Tensor Solution. s97,c181; s48,c57; Moment tensor: Scale 10^17Nm; Mrr-0.53±.04; Mθθ3.89±.05; Mϕϕ-3.37±.05; Mrθ2.01±.04; Mrϕ-0.77±.05; Mθϕ1.98±.03; Best double couple: M0 4.70000×10^17 NP1: ϕs139.00000°, δ53.00000°, λ-7.00000°. NP2: ϕs233.00000°, δ85.00000°, λ-143.00000°. Principal axes: T 4.6700, Plg21.0000°, Azm0.0000°; N 0.0200, Plg52.0000°, Azm240.0000°; P -4.7000, Plg30.0000°, Azm103.0000°; Data Used: ll IU CN IC G. Surface waves: sta=115, comp=234, per= 50.*

ISC 05 03:41:43.9±0.1, 17.32S±0.04×174.34W±0.03, h190km, h190km±1.6km: pP-P, n1080, σ0.70/786, mb5.0/188, 216C-205D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.27**	**266**	*e*Pn	**Pn**	**03 43 29.9**	**+2.3**
MSVF	**Nonsavu**	**7.27**	**266**	*e*P	**Pn**	**03 43 29.9**	**+2.3**
MSVF	**Nonsavu** 14um,1.2s	**7.27**	**266**	Pn	**Pn**	**03 43 30.0**	**+2.4**
FUNA	**Funafuti**	**10.77**	**323**	*e*Pn	**Pn**	**03 44 12.8**	**-0.6**
RAR	**Rarotonga** 0.8nm,0.3s,baz=217,slow=4.4,SNR=8.0	**14.29**	**108**	P	**Pn**	**03 44 55.6**	**-2.2**
RAR	baz=167,slow=18,SNR=2.5			S	**Sn**	**03 47 30.4**	**-6.9**
RAR	comp=Z,992nm,18.1s,baz=286,slow=34			LR	LR	03 49 51.3	
RAR	**Rarotonga**	**14.29**	**108**	*e*Pn	**Pn**	**03 44 55.2**	**-2.6**
RAR	**Rarotonga**	**14.29**	**108**	*e*P	**Pn**	**03 44 55.3**	**-2.5**
DZM	**Mont Dzumac** 619nm,1.3s	**18.70**	**252**	*e*P	**P**	**03 45 51.5**	**+3.5**
DZM	**Mont Dzumac** 287nm,1.2s	**18.70**	**252**	*e*P	**P**	**03 45 47.1**	**-0.8**
OUZ	**Omahuta** 105nm,1.2s	**20.82**	**209**	*e*P	**P**	**03 46 12.1**	**+1.5**
URZ	**Urewera** 92nm,0.5s,mb5.5,baz=36,slow=2.2,SNR=29	**22.17**	**198**	P	**P**	**03 46 22.5**	**-1.9**
URZ	10nm,0.4s,baz=252,slow=19,SNR=8.4			S	**S**	**03 50 15.7**	**+1.2**
URZ	**Urewera** 155nm,0.7s,mb5.5	**22.17**	**198**	*e*P	**P**	**03 46 22.8**	**-1.6**
PAE	**Paea** 36nm,1.3s,mb4.7	**23.62**	**95**	*e*P	**P**	**03 46 35.4**	**-2.4**
PAE	**Paea** 36nm,1.3s,mb4.7	**23.62**	**95**	*e*P	**P**	**03 46 35.4**	**-2.4**
PAE	**Paea**	**23.62**	**95**	*e*P	**P**	**03 46 35.4**	**-2.4**
PAE	comp=Z,36nm,1.3s,mb4.7			pmax	pmax		
PPT	**Papeete** comp=Z,108nm,1.2s,mb5.2	**23.62**	**94**	*e*P	**P**	**03 46 36.2**	**-1.7**
PPT	**Papeete** comp=Z,68nm,1.0s,mb5.2,baz=272,slow=15,SNR=4.9	**23.62**	**94**	P	**P**	**03 46 36.2**	**-1.7**
PPT	comp=Z,832nm,18.8s,baz=86,slow=30			LR	LR	03 53 27.3	
PPT	**Papeete**	**23.62**	**94**	P	**P**	**03 46 36.2**	**-1.7**
PPT				LR	LR	03 53 27.3	
PPT	**Papeete**	**23.62**	**94**	P	**P**	**03 46 36.2**	**-1.7**
TIAR	**Tiarei** comp=Z,173nm,1.1s,mb5.5	**23.84**	**94**	*e*P	**P**	**03 46 37.8**	**-2.1**
TIAR	**Tiarei** comp=Z,173nm,1.1s,mb5.5	**23.84**	**94**	*e*P	**P**	**03 46 37.8**	**-2.1**
MEH	**Mehetia** comp=Z,229nm,1.2s,mb5.6	**25.05**	**95**	*e*P	**P**	**03 46 49.4**	**-1.4**
MEH	**Mehetia** comp=Z,229nm,1.2s,mb5.6	**25.05**	**95**	*e*P	**P**	**03 46 49.4**	**-1.4**
XMAS	**Kiritimati** comp=Z,139nm,0.9s,mb5.5	**25.45**	**43**	*e*P	**P**	**03 46 54.2**	**-0.3**
PMOR	**Pomariorio Ree** comp=Z,282nm,1.3s,mb5.6	**25.50**	**89**	*e*P	**P**	**03 46 53.1**	**-1.8**
PMOR	**Pomariorio Ree** comp=Z,282nm,1.3s,mb5.6	**25.50**	**89**	*e*P	**P**	**03 46 53.1**	**-1.8**
RPZ	**Rata Peaks** comp=Z,16nm,0.7s,mb4.8,baz=84,slow=13,SNR=7.0	**29.07**	**202**	P	**P**	**03 47 25.2**	**-1.2**
RPZ	comp=Z,673nm,18.6s,baz=196,slow=32			LR	LR	03 57 18.9	
RPZ	**Rata Peaks**	**29.07**	**202**	P	**P**	**03 47 25.2**	**-1.2**
RPZ				LR	LR	03 57 18.9	
KWAJ	**Kwajalein Atol** comp=Z,324nm,1.1s,mb6.0	**31.49**	**324**	*e*P	**P**	**03 47 47.6**	**-0.4**
KWAJ	**Kwajalein Atol** comp=Z,324nm,1.1s,mb6.0	**31.49**	**324**	*e*P	**P**	**03 47 47.6**	**-0.4**
KWAJ				pmax	pmax		
EIDS	**Eidsvold** comp=Z,17nm,0.9s,mb4.8	**33.11**	**250**	*e*P	**P**	**03 48 02.0**	**-

comp=Z,218nm,1.1s,mb5.7
KIP Kipapa 41.70 23 *e*P P 03 49 13.5 -0.6
KIP pmax pmax
comp=Z,218nm,1.1s,mb5.7
STKA Stephens Creek 42.31 242 P P 03 49 17.6 -1.5
comp=Z,49nm,0.7s,mb5.2,baz=81,slow=8.6,SNR=37
STKA LR LR 04 03 55.0
comp=Z,933nm,21.4s,baz=70,slow=32
STKA Stephens Creek 42.31 242 *e*P P 03 49 18.9 -0.2
comp=Z,13nm,0.8s,mb4.6
STKA Stephens Creek 42.31 242 *e*P P 03 49 18.9 -0.2
STKA pmax pmax
comp=Z,13nm,0.8s
MIDW Midway 45.36 356 *e*P P 03 49 42.4 -0.9
comp=Z,344nm,1.4s,mb5.8
BBOO Buckleboo 47.08 241 *e*P P 03 49 56.5 -0.3
comp=Z,229nm,1.4s,mb5.6
WB2 Warramunga Arr 48.54 258 *e*P P 03 50 05.7 -2.4
WRAB Tennant Creek 48.54 258 *e*P P 03 50 05.2 -3.0
WRAB Tennant Creek 48.54 258 *e*P P 03 50 05.2 -3.0
WRAB Tennant Creek 48.54 258 P P 03 50 06.6 -1.6
comp=Z,217nm,0.7s,mb5.9,SNR=33
WRAB Tennant Creek 48.54 258 P P 03 50 05.6 -2.5
comp=Z,68nm,1.1s,mb5.2
WRAB Tennant Creek 48.54 258 P P 03 50 06.3 -1.9
comp=Z,68nm,1.1s,mb5.2
WRA Warramunga Ar 48.55 258 P P 03 50 06.0 -2.2
comp=Z,23nm,0.7s,mb4.9,baz=95,slow=7.2,SNR=145
WRA LR LR 04 10 37.3
comp=Z,585nm,19.8s,baz=90,slow=36
WRA Warramunga Ar 48.55 258 P P 03 50 06.0 -2.2
WRA LR LR 04 10 37.3
WRA Warramunga Ar 48.55 258 P P 03 50 06.1 -2.1
ASAR Alice Springs 48.68 253 P P 03 50 07.5 -1.7
comp=Z,143nm,0.7s,mb5.7,baz=88,slow=7.9,SNR=268
ASAR S S 03 56 53.7 -3.4
comp=Z,6.8nm,1.1s,baz=87,slow=15,SNR=19
ASAR Alice Springs 48.68 253 P P 03 50 07.5 -1.7
ASAR S S 03 56 53.7 -3.4
ASAR Alice Springs 48.68 253 P P 03 50 07.5 -1.7
KAKA Kakadu 51.48 267 *e*P P 03 50 28.1 -2.3
comp=Z,38nm,0.5s,mb5.3
KAKA Kakadu 51.48 267 P P 03 50 28.9 -1.4
comp=Z,491nmcomp=Z,44nm,0.6s,mb5.3
KAKA Kakadu 51.48 267 P P 03 50 29.0 -1.3
comp=Z,491nmcomp=Z,44nm,0.6s,mb5.3
FORT Forrest 53.76 244 *e*P P 03 50 46.9 +0.1
comp=Z,65nm,1.1s,mb5.3
FITZ Fitzroy Crossi 56.95 259 P P 03 51 09.8 0.0
comp=Z,18nm,1.1s,mb4.8
FITZ Fitzroy Crossi 56.95 259 P P 03 51 10.1 +0.3
comp=Z,18nm,1.1s,mb4.8
AAI Ambon 57.89 277 P P 03 51 15.4 -1.0
comp=Z,98nm,1.2s,mb5.5
AAI Ambon 57.89 277 P P 03 51 16.7 +0.3
comp=Z,98nm,1.2s,mb5.5
NLAI Namlea 59.06 277 P P 03 51 25.3 +0.7
comp=Z,1µmcomp=Z,102nm,0.9s,mb5.7
NLAI Namlea 59.06 277 P P 03 51 24.8 +0.2
comp=Z,1µmcomp=Z,102nm,0.9s,mb5.7
LBMI Labuha 59.52 280 P P 03 51 28.5 +0.8
comp=Z,1µmcomp=Z,95nm,1.2s,mb5.5
LBMI Labuha 59.52 280 P P 03 51 28.9 +1.2
comp=Z,1µmcomp=Z,95nm,1.2s,mb5.5
TNTI Ternate 60.13 281 P P 03 51 32.2 +0.4
comp=Z,2µmcomp=Z,78nm,1.5s,mb5.3
TNTI Ternate 60.13 281 P P 03 51 32.5 +0.7
comp=Z,2µmcomp=Z,78nm,1.5s,mb5.3
SBA Scott Base 61.27 184 *e*P P 03 51 40.3 +1.8
comp=Z,28nm,0.9s,mb5.1
SBA *ep*P pP 03 52 22.7 +0.3
SBA Scott Base 61.27 184 *e*P P 03 51 40.3 +1.8
SBA *e**PP pP 03 52 22.7 +0.3
SBA pmax pmax
comp=Z,28nm,0.9s,mb5.1
MBWA Marble Bar 61.98 255 *e*P P 03 51 43.3 -0.8
comp=Z,20nm,0.9s,mb5.0
MBWA *ep*P pP 03 52 28.1 0.0
MBWA Marble Bar 61.98 255 P P 03 51 42.9 -1.2
comp=Z,34nm,1.8s,mb4.9
MBWA Marble Bar 61.98 255 P P 03 51 44.7 +0.6
comp=Z,34nm,1.8s,mb4.9
LUWI Luwuk 63.86 278 P P 03 51 55.9 -0.8
comp=Z,2µmcomp=Z,183nm,1.3s,mb5.8
LUWI Luwuk 63.86 278 P P 03 51 58.0 +1.3
comp=Z,2µmcomp=Z,183nm,1.3s,mb5.8
BKSI Bulukumba 65.09 272 P P 03 52 05.0 +0.3
BKSI Bulukumba 65.09 272 P P 03 52 03.9 -0.8
comp=Z,20nm,1.4s,mb4.7
BKSI Bulukumba 65.09 272 P P 03 52 05.0 +0.3
comp=Z,20nm,1.4s,mb4.7
MRSI Marisa 65.13 279 P P 03 52 04.4 -0.6
comp=Z,592nmcomp=Z,30nm,1.4s,mb4.9
MRSI Marisa 65.13 279 P P 03 52 05.0 0.0
comp=Z,594nmcomp=Z,30nm,1.4s,mb4.9
BNSI Bone 65.37 273 P P 03 52 07.4 +0.9
BNSI Bone 65.37 273 P P 03 52 06.4 -0.1
comp=Z,74nm,1.2s,mb5.4
BNSI Bone 65.37 273 P P 03 52 07.4 +0.9
comp=Z,74nm,1.2s,mb5.4
KAPI Kappang 65.53 272 *e*P P 03 52 06.4 -1.1
comp=Z,32nm,1.0s,mb5.1
KAPI Kappang 65.53 272 P P 03 52 07.3 -0.2
KAPI Kappang 65.53 272 P P 03 52 06.6 -0.9
comp=Z,622nmcomp=Z,36nm,1.4s,mb5.0
KAPI Kappang 65.53 272 P P 03 52 07.3 -0.2
comp=Z,619nmcomp=Z,36nm,1.4s,mb5.0
BMNI Bima 65.59 268 P P 03 52 06.3 -1.6
BMNI Bima 65.59 268 P P 03 52 06.2 -1.7
comp=Z,2µmcomp=Z,204nm,1.0s,mb5.9
BMNI Bima 65.59 268 P P 03 52 06.3 -1.6
comp=Z,2µmcomp=Z,204nm,1.0s,mb5.9
SPSI Sidrap Palu 65.82 273 P P 03 52 09.0 -0.4
SPSI Sidrap Palu 65.82 273 P P 03 52 07.6 -1.8
comp=Z,691nmcomp=Z,27nm,0.9s,mb5.1
SPSI Sidrap Palu 65.82 273 P P 03 52 09.0 -0.4
comp=Z,700nmcomp=Z,27nm,0.9s,mb5.1
TTSI Tana Toraja 66.05 274 P P 03 52 10.5 -0.3
comp=Z,26nm,1.1s,mb5.0
JHJ Hachijo jima 2 66.60 319 LR LR 04 15 13.8
comp=Z,133nm,20.3s,baz=196,slow=30
MJSI Majene 66.69 274 P P 03 52 17.2 +2.3
MJSI Majene 66.69 274 P P 03 52 15.5 +0.6
comp=Z,2µmcomp=Z,140nm,1.1s,mb5.7
MJSI Majene 66.69 274 P P 03 52 17.2 +2.3
comp=Z,2µmcomp=Z,140nm,1.1s,mb5.7
MTNI Mataram 67.97 268 P P 03 52 23.1 +0.2
MTNI Mataram 67.97 268 P P 03 52 22.2 -0.7
comp=Z,108nm,0.8s,mb5.6
MTNI Mataram 67.97 268 P P 03 52 23.1 +0.2
comp=Z,108nm,0.8s,mb5.6
CASY Casey 68.30 205 *e*P P 03 52 23.6 -0.4
comp=Z,7.6nm,0.8s,mb4.5
CASY *ep*P pP 03 53 07.5 -1.3
SRBI Singaraja 69.03 268 P P 03 52 30.2 +0.7
comp=Z,0.3nmcomp=Z,1µmcomp=Z,93nm,1.5s,mb5.3
SRBI Singaraja 69.03 268 P P 03 52 28.5 -1.0
comp=Z,1µmcomp=Z,93nm,1.5s,mb5.3
SRBI Singaraja 69.03 268 P P 03 52 30.2 +0.7
comp=Z,1µmcomp=Z,93nm,1.5s,mb5.3
KBKI Kotabaru 69.45 273 P P 03 52 33.7 +1.6
comp=Z,0.2nmcomp=Z,922nmcomp=Z,40nm,1.4s,mb5.0
KBKI Kotabaru 69.45 273 P P 03 52 31.4 -0.7
comp=Z,918nmcomp=Z,40nm,1.4s,mb5.0
KBKI Kotabaru 69.45 273 P P 03 52 33.7 +1.6
comp=Z,922nmcomp=Z,40nm,1.4s,mb5.0
MJAR Matsushiro Arr 69.83 321 P P 03 52 32.8 -1.1
comp=Z,28nm,1.0s,mb4.9,baz=163,slow=6.1,SNR=40
MJAR Matsushiro Arr 69.83 321 P P 03 52 32.8 -1.1
MJAR Matsushiro Arr 69.83 321 P P 03 52 32.8 -1.1
MAJO Matsushiro 69.83 321 *e*P P 03 52 32.5 -1.4
comp=Z,76nm,1.2s,mb5.3
MAJO Matsushiro 69.83 321 *e*P P 03 52 32.5 -1.4
MAJO pmax pmax
comp=Z,76nm,1.2s,mb5.3
JAGI Jajag, Banyuwa 69.94 267 P P 03 52 34.6 -0.5
comp=Z,0.4nmcomp=Z,119nm,1.1s,mb5.5
JAGI Jajag, Banyuwa 69.94 267 P P 03 52 33.0 -2.1
comp=Z,119nm,1.1s,mb5.5
JAGI Jajag, Banyuwa 69.94 267 P P 03 52 34.6 -0.5
comp=Z,119nm,1.1s,mb5.5
MYLDM Lahad Datu 69.95 282 P P 03 52 36.4 +1.3
comp=Z,839nmcomp=Z,55nm,1.2s,mb5.2
MYLDM Lahad Datu 69.95 282 P P 03 52 38.0 +2.9
comp=Z,836nmcomp=Z,55nm,1.2s,mb5.2
KMMI Kalianget 70.50 269 P P 03 52 41.6 +3.2
comp=Z,77nm,0.9s,mb5.5
GMJI Gumukmas 70.67 267 P P 03 52 40.2 +0.7
comp=Z,46nm,1.0s,mb5.2
BBKI Banjar Baru 70.67 272 P P 03 52 41.4 +1.9
BBKI Banjar Baru 70.67 272 P P 03 52 40.3 +0.8
comp=Z,4µmcomp=Z,92nm,1.1s,mb5.4
BBKI Banjar Baru 70.67 272 P P 03 52 41.4 +1.9
comp=Z,4µmcomp=Z,92nm,1.1s,mb5.4
FX1 Attu Island--F 70.74 352 LR LR 04 16 57.9
comp=Z,360nm,21.8s,baz=179,slow=30
FX1 Attu Island--F 70.74 352 *e*P P 03 52 38.7 -0.3
FX1 Attu Island--F 70.74 352 *e*P P 03 52 38.7 -0.3
JOW Kunigami 70.90 307 *e*P P 03 52 40.6 0.0
YUK Yuzh-Kuril'sk 71.07 331 ⇑*i*P P 03 52 35.3 -5.9
YUK *e* 03 55 17.9
YUK *e*S S 04 01 29.1 -13
YUK *e*SS SS 04 06 05.0 -15
YUK pmax pmax
comp=Z,90nm,2.4s,mb5.1
PWJI Pagerwojo 72.30 267 P P 03 52 49.6 +0.4
comp=Z,61nm,1.6s,mb5.1
PWJI Pagerwojo 72.30 267 P P 03 52 52.7 +3.5
comp=Z,61nm,1.6s,mb5.1
KKM Kota Kinabalu 72.39 282 *e*P P 03 52 49.2 -0.5
comp=Z,15nm,0.6s,mb4.9
SJI Sawahan 72.41 267 P P 03 52 50.0 +0.1
comp=Z,71nm,1.0s,mb5.3
SJI Sawahan 72.41 267 P P 03 52 50.8 +0.9
comp=Z,70nm,1.0s,mb5.3
JNU Nakatsue 72.46 314 *e*P P 03 52 49.1 -0.7
comp=Z,23nm,1.1s,mb4.8
ASAJ Asahikawa 72.70 329 *e*P P 03 52 51.5 +0.6
comp=Z,21nm,0.9s,mb4.9
QSPA South Pole Qui 72.73 180 *e*P P 03 52 50.7 0.0
comp=Z,46nm,0.8s,mb5.3
PCJI Pacitan 72.85 267 P P 03 52 53.2 +0.7
comp=Z,256nm,0.9s,mb6.0
PCJI Pacitan 72.85 267 P P 03 52 53.7 +1.2
comp=Z,256nm,0.9s,mb6.0
SMMC Simmler 73.43 44 ⇓P P 03 52 55.7 +0.3
baz=74
HOPS Hopland 73.72 39 *e*P P 03 52 57.2 +0.2
comp=Z,77nm,1.2s,mb5.3
PET Petropavlovsk 73.84 343 *e*P P 03 52 56.3 -1.0
PET Petropavlovsk 73.84 343 *e*P P 03 52 56.8 -0.6
PET *e*S S 04 02 11.7 -1.2
PET pmax pmax
comp=Z,97nm,2.1s,mb5.2
KIPM Iron Peak 73.99 38 *e*P P 03 52 59.5 +0.9
comp=Z,160nm,1.8s,mb5.5
ARVC Arvin 74.11 45 ⇓P P 03 52 59.8 +0.5
baz=74
MWC Mount Wilson 74.12 46 *e*P P 03 52 59.9 +0.5
MWC Mount Wilson 74.12 46 *e*P P 03 52 59.9 +0.5
PEA0B Petropavlovsk- 74.18 343 *e*P P 03 52 58.9 -0.4
PETK Petropavlovsk- 74.18 343 P P 03 52 58.1 -1.2
comp=Z,98nm,1.0s,mb5.5,baz=121,slow=7.5,SNR=38
PETK LR LR 04 22 19.0
comp=Z,190nm,18.6s,baz=349,slow=33
PETK Petropavlovsk- 74.18 343 P P 03 52 58.1 -1.2
PETK LR LR 04 22 19.1
PETK Petropavlovsk- 74.18 343 P P 03 52 58.1 -1.2
VES Vestal, Richgr 74.35 44 ⇑P P 03 53 00.7 0.0
baz=74
MURC Murrieta 74.36 47 ⇓P P 03 53 01.0 +0.2
baz=74
BFSC Mount Baldy Ra 74.40 46 ⇓P P 03 53 01.6 +0.6
baz=75
MONP Monument Peak 74.52 48 ⇓P P 03 53 02.2 +0.4
baz=75
KHMM Horse Mountain 74.53 37 *e*P P 03 53 03.7 +2.1
EDW2 Edwards Air Fo 74.53 45 ⇓P P 03 53 02.4 +0.6
baz=75
CHGN Chignik 74.55 9 *e*P P 03 52 59.5 -1.9
ISA Isabella 74.65 44 ⇓P P 03 53 02.9 +0.5
baz=75
ISA Isabella 74.65 44 *e*P P 03 53 02.6 +0.2
comp=Z,50nm,1.3s,mb5.0
ISA Isabella 74.65 44 *e*P P 03 53 02.6 +0.2
ISA pmax pmax
comp=Z,50nm,1.3s,mb5.0
YSS Yuzh-Sakhalins 74.71 331 *e*P P 03 53 02.5 0.0
comp=Z,132nm,1.3s,mb5.4
YSS Yuzh-Sakhalins 74.71 331 ⇑*i*P P 03 53 02.3 -0.2
YSS *e**PP pP 03 53 50.1 +2.0
YSS *e**SP sP 03 54 04.0 -4.3
YSS *e*S S 04 02 20.0 -2.8
YSS pmax pmax
comp=E,130nm,1.2s
YSS pmax pmax
comp=Z,150nm,1.2s,mb5.5
CMB Columbia Colle 74.79 41 *e*P P 03 53 02.8 -0.4
comp=Z,37nm,1.1s,mb4.9
CMB Columbia Colle 74.79 41 *e*P P 03 53 02.8 -0.4
CMB pmax pmax
comp=Z,37nm,1.1s,mb4.9
NACB Ninganchiao 74.87 302 *e*P P 03 52 02.0 -1.9
comp=Z,99nm,1.2s,mb5.3
PFO Pinyon Flat Ob 74.89 47 ⇓P P 03 53 04.2 +0.4
baz=75
PFO Pinyon Flat Ob 74.89 47 *e*P P 03 53 05.4 +1.6
PFO Pinyon Flat Ob 74.89 47 *e*P P 03 53 05.4 +1.6
OHCM Honcut 74.90 40 *e*P P 03 53 04.3 +0.5
BBRC Big Bear Solar 74.92 46 ⇑P P 03 53 04.8 +0.8
baz=75
STKI Sintang 74.93 275 P P 03 53 06.1 +1.5
comp=Z,66nm,1.4s,mb5.1
STKI Sintang 74.93 275 P P 03 53 06.6 +2.0
comp=Z,66nm,1.4s,mb5.1
SBUM Sibu 74.96 277 P P 03 53 05.8 +1.0
comp=Z,416nmcomp=Z,15nm,1.3s,mb4.4
SBUM Sibu 74.96 277 P P 03 53 05.9 +1.1
comp=Z,416nmcomp=Z,15nm,1.3s,mb4.4
SWSC Sam W. Stewart 74.99 48 ⇓P P 03 53 05.8 +1.4
baz=75
WDC Whiskeytown Da 75.04 38 *e*P P 03 53 05.2 +0.6
comp=Z,81nm,1.4s,mb5.2
WDC Whiskeytown Da 75.04 38 *e*P P 03 53 05.2 +0.6
WDC pmax pmax
comp=Z,81nm,1.4s,mb5.2
LRMC Laurel Mountai 75.07 45 ⇓P P 03 53 05.6 +0.8
baz=75,SNR=13
RRX Edison Barstow 75.21 46 ⇑P P 03 53 05.7 +0.1
baz=75
TPUB Ta-pu 75.26 300 *e*P P 03 53 04.3 -1.9
comp=Z,236nm,1.6s,mb5.6
YHNB Yeheng 75.27 302 *e*P P 03 53 06.1 -0.2
CWC Cottonwood Cre 75.36 44 ⇑P P 03 53 07.3 +0.9
baz=76
KTRM Thompson Ridge 75.39 37 P P 03 53 08.1 +1.5
BELC Belle Mtn. Jos 75.42 47 ⇓P P 03 53 07.7 +0.8
baz=76,SNR=7.8
MPMC Manual Prospec 75.53 44 ⇓P P 03 53 08.5 +1.0
baz=76,SNR=31
MLAC Mammoth Lakes 75.55 43 ⇑P P 03 53 08.2 +0.7
baz=76
MTUM Tungsten Hills 75.56 43 *e*P P 03 53 08.6 +0.9
GSC Goldstone 75.57 45 ⇓P P 03 53 08.3 +0.6
baz=76,SNR=13
GSC Goldstone 75.57 45 *e*P P 03 53 08.0 +0.2
comp=Z,34nm,1.1s,mb4.9
GSC Goldstone 75.57 45 *e*P P 03 53 08.0 +0.3
GSC pmax pmax
comp=Z,34nm,1.1s,mb4.9
TIN Tinemaha 75.61 43 ⇑P P 03 53 08.4 +0.5
baz=76
BC3 Big Chuckawall 75.61 47 ⇓P P 03 53 08.9 +0.9
baz=76
HEC Hector,Ludlow 75.64 46 ⇑P P 03 53 08.4 +0.3
baz=76,SNR=7.0
YBH Yreka Blue Hor 75.67 37 *e*P P 03 53 08.2 +0.1
comp=Z,52nm,1.0s,mb5.1
YBH Yreka Blue Hor 75.67 37 *e*P P 03 53 08.2 +0.1
YBH pmax pmax
comp=Z,52nm,1.0s
GLA Glamis 75.74 48 ⇓P P 03 53 09.3 +0.6
baz=76
GLA Glamis 75.74 48 *e*P P 03 53 10.1 +1.3
GLA Glamis 75.74 48 *e*P P 03 53 10.1 +1.4
WCN Washoe City 75.95 41 ⇑P P 03 53 10.5 +0.7
baz=76,SNR=18
WCN Washoe City 75.95 41 *e*P P 03 53 10.0 +0.3
comp=Z,45nm,1.1s,mb5.0
WCN Washoe City 75.95 41 *e*P P 03 53 10.0 +0.2
WCN pmax pmax
comp=Z,45nm,1.1s,mb5.0
GMRC Granite Mounta 76.07 46 ⇓P P 03 53 10.5 -0.1
baz=76,SNR=5.1
HUMO Hull Mountain 76.08 36 *e*P P 03 53 11.3 +0.8
comp=Z,25nm,0.9s,mb4.8
IRM Iron Mountain 76.09 47 ⇑P P 03 53 10.9 +0.2
baz=76
GRAC Grapevine Rang 76.14 44 ⇓P P 03 53 11.4 +0.5
baz=76
FURC Furnace Creek, 76.18 44 ⇑P P 03 53 11.5 +0.3
baz=76,SNR=5.8
LASM Arnica Sink 76.24 38 P P 03 53 12.6 +1.2
TUQ Turquoise Moun 76.25 46 ⇑P P 03 53 11.9 +0.3
baz=76,SNR=8.2
OHAK Old Harbor 76.31 12 *e*P P 03 53 10.2 -1.2
comp=Z,152nm,1.7s,mb5.3
Y12C Blythe 76.32 48 ⇓P P 03 53 12.0 0.0
baz=76,SNR=6.4
113A Mohawk Valley, 76.35 49 ⇓P P 03 53 12.3 +0.1
baz=76
NVAR Mina Array Bea 76.35 42 P P 03 53 11.5 -0.6
comp=Z,29nm,1.0s,mb4.9,baz=229,slow=8.1,SNR=77
NVAR pP pP 03 53 57.8 -0.1
comp=Z,5.4nm,0.9s,baz=231,slow=9.7,SNR=2.1
NVAR LR LR 04 18 16.2
comp=Z,394nm,21.0s,baz=297,slow=29
NVAR Mina Array Bea 76.35 42 P P 03 53 11.5 -0.6
NVAR pP pP 03 53 57.8 -0.1
NVAR LR LR 04 18 16.2
PAHR Pah Rah Range 76.42 41 *e*P P 03 53 13.3 +0.9
comp=Z,33nm,1.0s,mb4.9
KSM Kuching 76.47 276 *e*P P 03 53 13.6 +0.3
comp=Z,101nm,1.2s,mb5.3
KSM Kuching 76.47 276 P P 03 53 14.9 +1.6
comp=Z,997nmcomp=Z,78nm,1.2s,mb5.2
KSM Kuching 76.47 276 P P 03 53 14.2 +0.9
comp=Z,999nmcomp=Z,78nm,1.2s,mb5.2
214A Organ Pipe Nat 76.63 50 ⇓P P 03 53 13.3 -0.4
baz=77,SNR=6.5
Z13A Yuma Proving G 76.65 49 ⇓P P 03 53 13.7 -0.1
baz=77,SNR=13
PDMCI Parker Dam,Lak 76.88 48 ⇓P P 03 53 15.4 +0.3
baz=77,SNR=6.3
KSRS Korea Array 76.90 316 P P 03 53 15.9 +0.7
comp=Z,31nm,1.1s,mb4.8,baz=132,slow=6.2,SNR=50
KSRS LR LR 04 23 48.5
comp=Z,124nm,20.3s,baz=155,slow=33
KDAK Kodiak Island 76.97 12 LR LR 04 20 24.3
comp=Z,159nm,21.4s,baz=24,slow=30
KDAK Kodiak Island 76.97 12 *e*P P 03 53 15.2 +0.1
KDAK Kodiak Island 76.97 12 *ce*P P 03 53 15.0 -0.1
114A Black Gap (USA 76.98 49 ⇓P P 03 53 16.4 +0.7
baz=77,SNR=6.1
MOD Modoc 77.18 38 *e*P P 03 53 17.3 +0.7
comp=Z,52nm,1.2s,mb5.0
Z14A Wintersburg 77.25 49 ⇑P P 03 53 17.4 +0.2
baz=77,SNR=12
SHPR Sheep Range 77.35 45 *e*P P 03 53 17.6 0.0
115A Sonoran Desert 77.43 50 ⇑P P 03 53 17.9 -0.3
baz=78
Y14A Wickenburg 77.50 48 ⇓P P 03 53 18.4 -0.1
baz=78,SNR=12
216A Three Points, 77.65 51 ⇓P P 03 53 19.9 +0.4
baz=78,SNR=9.4
QZH Quanzhou 77.66 301 ⇑*i*P P 03 53 18.3 -1.3
QZH S S 04 02 55.1 -0.8
QZH pmax pmax
comp=Z,630nm,9.3s
116A Eloy 77.75 50 ⇓P P 03 53 19.9 -0.1
baz=78
Z15A Gila River Ind 77.78 49 ⇑P P 03 53 20.5 +0.3
baz=78
H04A Detroit Lake 77.84 35 ⇓P P 03 53 20.5 +0.4
baz=78,SNR=5.5
X14A Yava 77.85 48 ⇓P P 03 53 20.6 +0.1
baz=78,SNR=12
F03A Seaside 77.90 34 ⇓P P 03 53 21.0 +0.5
baz=78
Y15A Casa Rosa Ranc 77.98 49 ⇓P P 03 53 21.4 +0.1
baz=78,SNR=26
217A Green Valley 78.02 51 ⇑P P 03 53 21.2 -0.2
baz=78,SNR=10
R11A Troy Canyon, C 78.07 43 ⇑P P 03 53 21.2 -0.4
baz=78,SNR=28
U13A Pakoon Wash 78.11 46 ⇓P P 03 53 22.0 +0.1
baz=78,SNR=54
V14A Boquillas Ranc 78.30 47 ⇑P P 03 53 23.3 +0.4
baz=78,SNR=34
TUC Tucson 78.30 51 *e*P P 03 53 22.4 -0.6
comp=Z,28nm,1.3s,mb4.7
TUC Tucson 78.30 51 *e*P P 03 53 22.5 -0.5
TUC pmax pmax
comp=Z,28nm,1.3s,mb4.7
X15A Humboldt 78.32 48 ⇑P P 03 53 23.3 +0.2
baz=78,SNR=19
Z16A Peralta Trail, 78.33 50 ⇓P P 03 53 23.2 +0.1
baz=78,SNR=8.6
SSE Sheshan 78.40 308 P P 03 53 23.6 0.0
SSE sP sP 03 54 28.2 -1.6
SSE S S 04 03 04.8 +1.1
SSE SS SS 04 08 12.4 +1.0
SSE pmax pmax
comp=Z,40nm,0.7s,mb5.2
SSE pmax pmax
comp=Z,160nm,7.4s
SSE LR LR
comp=N,740nm,27.2s
SSE LR LR
comp=E,600nm,27.3s
SSE LR LR
comp=Z,180nm,6.6s
117A Oracle 78.46 51 ⇑P P 03 53 23.7 -0.2
baz=79,SNR=12
318A Bisbee 78.47 52 ⇑P P 03 53 23.7 -0.3
baz=79,SNR=11
WVOR Wild Horse Val 78.49 39 *e*P P 03 53 24.5 +0.7
comp=Z,45nm,1.1s,mb5.0
WVOR Wild Horse Val 78.49 39 *e*P P 03 53 24.5 +0.7
WVOR pmax pmax
comp=Z,45nm,1.1s,mb5.0
CGJI Cibinong 78.51 267 P P 03 53 24.3 -0.3
comp=Z,87nm,0.7s,mb5.5
CGJI Cibinong 78.51 267 P P 03 53 24.6 0.0
comp=Z,87nm,0.7s,mb5.5
HOOD Mount Hood Mea 78.53 35 *e*P P 03 53 25.0 +1.0
comp=Z,33nm,1.0s,mb4.9
Y16A Circle Bar Ran 78.56 49 ⇑P P 03 53 24.8 +0.3
baz=79,SNR=12
VIPM Ingram Point 78.60 36 P P 03 53 25.2 +0.8
VIPM Ingram Point 78.60 36 P P 03 53 25.2 +0.8
U14A Mt Trumbull 78.65 46 ⇓P P 03 53 25.0 +0.2
baz=79,SNR=44
W15A Williams 78.65 48 ⇑P P 03 53 25.4 +0.5
baz=79,SNR=5.4
218A Dragoon 78.69 51 ⇑P P 03 53 25.4 +0.2
baz=79,SNR=10.0
X16A Lo Mia Camp, P 78.86 49 ⇑P P 03 53 26.5 +0.4
baz=79,SNR=28
TDL Tradedollar La 78.88 34 P P 03 53 26.9 +1.0
Y17A Roosevelt 78.93 49 ⇓P P 03 53 26.4 -0.1
baz=79,SNR=7.9
I07A Izee 78.97 37 ⇑P P 03 53 26.8 +0.4
baz=79,SNR=12
G06A Carlson Farm, 79.04 35 ⇓P P 03 53 27.1 +0.3
baz=79,SNR=5.3
V15A Kaibab Nationa 79.04 47 ⇓P P 03 53 27.8 +0.7
baz=79,SNR=25
R13A O'Grain Ranch, 79.05 44 ⇑P P 03 53 27.1 +0.1
baz=79,SNR=12
118A Homack Ranch, 79.06 51 ⇓P P 03 53 27.1 -0.1
baz=79,SNR=18
OSD Olympics--Snow 79.07 32 P P 03 53 28.1 +1.2
CCUT Cedar City 79.12 45 *e*P P 03 53 27.4 +0.1
comp=Z,36nm,1.3s,mb4.8
W16A Flagstaff 79.13 48 ⇑P P 03 53 27.8 +0.3
baz=79,SNR=7.9
J08A Circle Bar Ran 79.13 38 ⇓P P 03 53 27.1 -0.2
baz=79,SNR=18
ARUT Antelope Range 79.19 45 *e*P P 03 53 27.5 -0.3
comp=Z,30nm,1.2s,mb4.8
ARUT Antelope Range 79.19 45 *e*P P 03 53 27.5 -0.3
ARUT pmax pmax
comp=Z,30nm,1.2s,mb4.8
Z18A Geronimo 79.22 50 ⇓P P 03 53 28.1 0.0
baz=79
U15A North Rim 79.27 46 ⇑P P 03 53 28.7 +0.5
baz=79,SNR=28
X17A Forest Lakes 79.27 49 ⇑P P 03 53 28.4 +0.1
baz=79

219A	**White Tail Can**	79.29	52	⇓P		P	03 53 28.5	+0.1
	baz=80,SNR=9.9							
LON	**Longmire**	79.36	34	*e*P		P	03 53 28.2	-0.2
	comp=Z,16nm,1.3s,mb4.5							
LON	**Longmire**	79.36	34	*e*P		P	03 53 28.2	-0.2
LON				pmax	pmax			
	comp=Z,17nm,1.3s,mb4.5							
PPBI	**Pangkal Pinang**	79.36	271	P		P	03 53 31.3	+2.0
	comp=Z,5µmcomp=Z,28nm,1.4s,mb4.7							
PPBI	**Pangkal Pinang**	79.36	271	P		P	03 53 31.2	+1.9
	comp=Z,5µmcomp=Z,28nm,1.4s,mb4.7							
RSO	**Redoubt South**	79.45	11	*e*P		P	03 53 28.0	-0.6
WUAZ	**Wupatki**	79.45	48	⇑P		P	03 53 29.5	+0.2
	baz=80,SNR=5.0							
WUAZ	**Wupatki**	79.45	48	*e*P		P	03 53 29.3	0.0
	comp=Z,24nm,1.1s,mb4.7							
T15A	**Red Dirt Ranch**	79.51	46	⇓P		P	03 53 29.4	-0.1
	baz=80,SNR=47							
320A	**Kipp Ranch, An**	79.53	53	⇓P		P	03 53 30.3	+0.6
	baz=80,SNR=16							
D05A	**Enumclaw**	79.54	33	⇑P		P	03 53 29.8	+0.4
	baz=80,SNR=7.2							
Y18A	**Canyon Day Jun**	79.56	50	⇓P		P	03 53 30.3	+0.4
	baz=80,SNR=13							
SVW2	**Sparrevohn**	79.58	9	*e*P		P	03 53 29.0	-0.3
	comp=Z,54nm,1.3s,mb5.0							
119A	**Ashpeak Ranch,**	79.61	51	⇑P		P	03 53 30.7	+0.5
	baz=80,SNR=9.8							
JBO	**Jordan Butte**	79.62	36	P		P	03 53 30.5	+0.6
W17A	**Winslow**	79.70	48	⇑P		P	03 53 30.8	+0.2
	baz=80							
SEW	**Seward**	79.75	12	*e*P		P	03 53 28.6	-1.6
220A	**Playas Peak, P**	79.79	52	⇑P		P	03 53 31.5	+0.3
	baz=80,SNR=22							
F07A	**Phinny Hill Vi**	79.84	35	⇓P		P	03 53 31.1	+0.1
	baz=80							
S15A	**Panguitch**	79.86	45	⇑P		P	03 53 32.4	+1.0
	baz=80,SNR=17							
Z19A	**T-Link Ranch,**	79.89	50	⇓P		P	03 53 32.0	+0.4
	baz=80							
V17A	**Tonalea, Kykot**	79.92	48	⇑P		P	03 53 31.9	+0.2
	baz=80,SNR=20							
Q14A	**Sevier Lake (B**	79.94	44	⇓P		P	03 53 32.2	+0.5
	baz=80,SNR=32							
U16A	**Tuba City**	79.94	47	⇑P		P	03 53 32.2	+0.3
	baz=80,SNR=18							
SLKM	**Skilak Lake**	79.97	12	*e*P		P	03 53 30.2	-1.1
SLKM	**Skilak Lake**	79.97	12	*e*P		P	03 53 30.2	-1.2
X18A	**Snowflake**	79.98	49	⇑P		P	03 53 32.3	+0.2
	baz=80,SNR=11							
MDJ	**Mudanjiang**	80.00	323	P		P	03 53 32.8	+0.9
MDJ				pP	pP		03 54 15.9	-2.2
MDJ				sP	sP		03 54 35.8	-2.4
MDJ				PP	PP		03 56 34.5	-2.3
MDJ				S	S		04 03 20.1	+0.2
MDJ				SS	SS		04 08 36.8	+2.0
MDJ				pmax	pmax			
	comp=Z,39nm,1.6s,mb4.8							
MDJ				pmax	pmax			
	comp=Z,340nm,4.1s							
MDJ				LR	LR			
	comp=N,920nm,32.1s							
MDJ				LR	LR			
	comp=E,770nm,33.0s							
MDJ				LR	LR			
	comp=Z,430nm,28.6s							
MDJ	**Mudanjiang**	80.00	323	*e*P		P	03 53 32.1	+0.1
	comp=Z,118nm,1.6s,mb5.3							
G08A	**Pilot Rock**	80.01	36	⇓P		P	03 53 31.9	-0.1
	baz=80,SNR=35							
120A	**U Bar Ranch, L**	80.01	51	⇑P		P	03 53 32.4	+0.1
	baz=80,SNR=8.4							
T16A	**Glen Canyon Da**	80.10	46	⇓P		P	03 53 33.5	+0.9
	baz=80							
JCW	**Jim Creek**	80.21	33	*e*P		P	03 53 32.8	-0.2
	comp=Z,31nm,1.0s,mb4.9							
Y19A	**Nutrioso**	80.22	50	⇑P		P	03 53 33.9	+0.5
	baz=80							
E07A	**Sunnyside**	80.29	35	⇓P		P	03 53 33.5	+0.1
	baz=80							
Z20A	**Nine Sixteen R**	80.31	51	⇑P		P	03 53 34.2	+0.4
	baz=80,SNR=18							
RSW	**Rattlesnake Hi**	80.33	35	*e*P		P	03 53 34.4	+0.7
	comp=Z,32nm,1.1s,mb4.9							
REDWA	**Red Mountain**	80.35	35	P		P	03 53 34.4	+0.6
P14A	**Drum Mountains**	80.39	43	⇓P		P	03 53 34.1	0.0
	baz=81,SNR=27							
S16A	**Weppner Ranch,**	80.41	46	⇓P		P	03 53 34.3	0.0
	baz=81,SNR=9.3							
X19A	**St. Johns**	80.41	49	⇓P		P	03 53 34.9	+0.5
	baz=81,SNR=25							
MSU	**Marysvale**	80.42	45	*e*P		P	03 53 34.6	+0.3
	comp=Z,28nm,1.1s,mb4.8							
MSU	**Marysvale**	80.42	45	*e*P		P	03 53 34.6	+0.2
MSU				pmax	pmax			
	comp=Z,28nm,1.1s,mb4.8							
W18A	**Petrified Fore**	80.42	49	⇑P		P	03 53 34.8	+0.3
	baz=81							
Q15A	**Fillmore**	80.54	44	⇑P		P	03 53 35.5	+0.6
	baz=81,SNR=13							
MDSI	**Maura Dua**	80.56	268	P		P	03 53 34.6	-1.1
	comp=Z,20nm,1.9s,mb4.4							
V18A	**Ganado**	80.57	48	⇑P		P	03 53 35.7	+0.4
	baz=81,SNR=20							
T17A	**Navajo Res., N**	80.59	47	⇓P		P	03 53 35.9	+0.6
	baz=81,SNR=8.2							
NJ2	**Nanjing**	80.61	308	*e*P		P	03 53 36.5	+1.0
NJ2				sP	sP		03 54 40.9	-0.9
NJ2				S	S		04 03 27.0	+0.2
NJ2				pmax	pmax			
	comp=Z,50nm,1.5s,mb4.9							
NJ2				pmax	pmax			
	comp=Z,270nm,7.4s							
NJ2				LR	LR			
	comp=N,880nm,22.0s							
NJ2				LR	LR			
	comp=E,410nm,19.8s							
NJ2				LR	LR			
	comp=Z,230nm,14.0s							
MBW	**Mount Baker**	80.61	32	P		P	03 53 35.6	+0.6
121A	**Cookes Peak, D**	80.64	52	⇑P		P	03 53 36.5	+0.8
	baz=81,SNR=14							
B06A	**Marblemount**	80.65	32	⇓P		P	03 53 34.6	-0.7
	baz=81							
A05A	**Maple Falls**	80.65	32	⇓P		P	03 53 34.7	-0.6
	baz=81							
W19A	**Sanders**	80.67	49	⇑P		P	03 53 36.3	+0.5
	baz=81							
ETW	**Entiat**	80.68	34	P		P	03 53 36.1	+0.6
E08A	**Dider Farm, El**	80.68	35	⇑P		P	03 53 35.3	-0.2
	baz=81,SNR=8.5							
BMO	**Blue Mountains**	80.69	37	*e*P		P	03 53 35.1	-0.5
	comp=Z,21nm,1.1s,mb4.7							
BMO	**Blue Mountains**	80.69	37	*e*P		P	03 53 35.1	-0.5
BMO				pmax	pmax			
	comp=Z,21nm,1.1s,mb4.7							
MFID	**Camas Ranch**	80.74	39	⇑P		P	03 53 36.0	+0.1
	baz=81,SNR=15							
MFID	**Camas Ranch**	80.74	39	*e*P		P	03 53 36.2	+0.3
	comp=Z,36nm,1.2s,mb4.9							
R16A	**Teasdale**	80.77	45	⇓P		P	03 53 36.9	+0.6
	baz=81,SNR=11							
Y20A	**Horse Springs,**	80.84	50	⇑P		P	03 53 37.3	+0.6
	baz=81,SNR=21							
DUG	**Dugway**	80.88	43	⇓P		P	03 53 36.3	-0.4
	baz=81,SNR=13							
DUG	**Dugway**	80.88	43	*e*P		P	03 53 36.3	-0.4
	comp=Z,22nm,1.3s,mb4.6							
DUG	**Dugway**	80.88	43	*e*P		P	03 53 36.3	-0.4
DUG				pmax	pmax			
	comp=Z,22nm,1.3s,mb4.6							
P15A	**Leamington**	80.90	44	⇑P		P	03 53 37.1	+0.2
	baz=81,SNR=6.7							
S17A	**Black Ridge (B**	80.91	46	⇑P		P	03 53 37.0	0.0
	baz=81							
WTV	**Waterville**	80.94	34	P		P	03 53 37.2	+0.3
U18A	**Rough Rock, Ch**	80.96	47	⇑P		P	03 53 37.6	+0.3
	baz=81,SNR=7.8							
222A	**Williams Famil**	80.96	52	⇑P		P	03 53 37.8	+0.4
	baz=81							
X20A	**Quemado**	81.04	50	⇓P		P	03 53 38.5	+0.8
	baz=81,SNR=18							
Z21A	**St. Cloud Mine**	81.08	51	⇓P		P	03 53 38.9	+1.0
	baz=81,SNR=25							
D08A	**Wollman Farm,**	81.10	35	⇑P		P	03 53 37.8	+0.1
	baz=81,SNR=15							
O15A	**The Old Anders**	81.14	43	⇑P		P	03 53 39.7	+1.6
	baz=81							
PMR	**Palmer**	81.17	12	*e*P		P	03 53 37.2	-0.6
	comp=Z,120nm,1.4s,mb5.3							
PMR	**Palmer**	81.17	12	*e*P		P	03 53 37.2	-0.6
PMR				pmax	pmax			
	comp=Z,120nm,1.4s,mb5.3							
E09A	**Wood Farm, Sta**	81.20	36	⇑P		P	03 53 38.1	-0.2
	baz=81,SNR=7.4							
Q16A	**Castle Valley**	81.30	45	⇓P		P	03 53 39.3	+0.3
	baz=82							
122A	**Conniff Cattle**	81.30	52	⇑P		P	03 53 39.7	+0.6
	baz=82							
T18A	**Mexican Hat**	81.31	47	⇑P		P	03 53 39.5	+0.5
	baz=82,SNR=51							
W20A	**Ramah**	81.32	49	⇓P		P	03 53 39.7	+0.5
	baz=82,SNR=44							
P16A	**Fountain Green**	81.33	44	⇓P		P	03 53 40.1	+0.9
	baz=82							
R17A	**Hanksville Air**	81.36	45	⇓P		P	03 53 39.5	+0.1
	baz=82,SNR=17							
U19A	**Dine' College,**	81.36	48	⇑P		P	03 53 39.7	+0.3
	baz=82,SNR=6.6							
I12A	**Atlanta**	81.37	39	⇓P		P	03 53 39.4	+0.2
	baz=82,SNR=39							
F10A	**Beach Ranch, E**	81.39	36	⇓P		P	03 53 38.8	-0.5
	baz=82,SNR=18							
Y21A	**Point of Rocks**	81.40	50	⇑P		P	03 53 40.6	+1.0
	baz=82,SNR=13							
OD2	**Odessa Site #2**	81.41	35	*e*P		P	03 53 39.7	+0.3
	comp=Z,34nm,1.3s,mb4.8							
WRAK	**Wrangell Islan**	81.46	22	*e*P		P	03 53 39.6	+0.2
	comp=Z,31nm,1.2s,mb4.8							
DIV	**Divide**	81.46	14	*e*P		P	03 53 38.3	-1.0
S18A	**Hurst Farm, Bl**	81.49	46	⇑P		P	03 53 40.6	+0.6
	baz=82,SNR=6.9							
X21A	**Alamocita Cree**	81.52	50	⇑P		P	03 53 40.5	+0.2
	baz=82,SNR=7.9							
SML	**Sawmill**	81.53	12	*e*P		P	03 53 39.0	-0.6
SML	**Sawmill**	81.53	12	*e*P		P	03 53 39.0	-0.7
L14A	**Malta**	81.58	41	⇓P		P	03 53 40.6	+0.2
	baz=82,SNR=10							
BMRM	**Bremner River**	81.59	14	*e*P		P	03 53 39.1	-0.9
KLR	**Kul'dur**	81.64	328	*e*P		P	03 53 36.8	-3.7
KLR				*e*			03 56 44.1	
KLR				*e*S	S		04 03 33.0	-3.7
KLR				*e*PS			04 04 44.0	
KLR				pmax	pmax			
	comp=Z,85nm,1.6s,mb5.1							
V20A	**Brimhall**	81.66	49	⇓P		P	03 53 41.1	+0.2
	baz=82,SNR=8.0							
B08A	**Colville Reser**	81.67	34	⇓P		P	03 53 40.0	-0.7
	baz=82,SNR=15							
HLID	**Hailey**	81.68	39	⇓P		P	03 53 41.2	+0.3
	baz=82,SNR=34							
HLID	**Hailey**	81.68	39	*e*P		P	03 53 40.9	0.0
	comp=Z,53nm,1.4s,mb5.0							
HLID				*e*pP	pP		03 54 29.7	+2.5
J13A	**Cove Ranch, Pi**	81.73	40	⇓P		P	03 53 41.3	+0.2
	baz=82,SNR=44							
HVU	**Hansel Valley**	81.73	42	*e*P		P	03 53 41.4	+0.2
	comp=Z,34nm,1.2s,mb4.8							
HVU	**Hansel Valley**	81.73	42	*e*P		P	03 53 41.4	+0.2
HVU				pmax	pmax			
	comp=Z,34nm,1.2s,mb4.8							
O16A	**Springville**	81.74	44	⇑P		P	03 53 41.4	+0.2
	baz=82							
T19A	**Beclabito**	81.75	47	⇓P		P	03 53 41.4	-0.1
	baz=82,SNR=20							
M15A	**Larsen Ranch,**	81.78	42	⇓P		P	03 53 41.2	-0.3
	baz=82,SNR=6.3							
SRU	**San Rafael**	81.84	45	⇑P		P	03 53 41.8	0.0
	baz=82,SNR=14							
SRU	**San Rafael**	81.84	45	*e*P		P	03 53 41.3	-0.5
	comp=Z,48nm,1.3s,mb5.0							
SRU	**San Rafael**	81.84	45	*e*P		P	03 53 41.3	-0.5
SRU				pmax	pmax			
	comp=Z,48nm,1.3s,mb5.0							
P17A	**Butcher Ranch,**	81.87	44	⇓P		P	03 53 42.6	+0.6
	baz=82							
DL2	**Dalian**	81.88	315	P		P	03 53 42.9	+0.9
DL2				sP	sP		03 54 43.9	-4.6
DL2				S	S		04 03 41.3	+1.7
DL2				pmax	pmax			
	comp=Z,40nm,1.1s,mb5.0							
DL2				pmax	pmax			
	comp=Z,130nm,5.3s							
K14A	**Jones Ranch, D**	81.89	41	⇑P		P	03 53 42.2	+0.3
	baz=82,SNR=9.5							
Y22A	**Socorro**	81.89	51	⇑P		P	03 53 42.5	+0.3
	baz=82							
U20A	**Newcomb**	81.89	48	⇑P		P	03 53 42.0	-0.2
	baz=82,SNR=9.7							
C09A	**Chrisman Ranch**	81.90	34	⇓P		P	03 53 41.3	-0.6
	baz=82,SNR=6.5							
324A	**Moseley Ranch,**	81.90	54	⇑P		P	03 53 42.3	0.0
	baz=82,SNR=38							
R18A	**Canyonlands Na**	81.90	46	⇓P		P	03 53 42.2	0.0
	baz=82,SNR=26							
W21A	**San Fidel**	81.93	50	⇓P		P	03 53 42.9	+0.5
	baz=82							
H12A	**Diamond D Ranc**	81.96	38	⇓P		P	03 53 42.2	-0.1
	baz=82,SNR=24							
LAZ	**Ladron**	81.97	50	*e*P		P	03 53 42.1	-0.5
	comp=Z,6.3nm,1.0s,mb4.2							
JLU	**Jordanelle**	81.97	43	*e*P		P	03 53 42.0	-0.5
	comp=Z,37nm,1.5s,mb4.8							
CN2	**Changchun**	81.98	321	*e*P		P	03 53 42.2	-0.2
CN2				*e*pP	pP		03 54 28.8	0.0
CN2				*e*sP	sP		03 54 48.9	0.0
CN2				*e*S	S		04 03 38.7	-1.7
CN2				pmax	pmax			
	comp=Z,40nm,1.2s,mb4.9							
CN2				pmax	pmax			
	comp=Z,200nm,5.0s							
LENM	**Lemitar**	81.99	51	*e*P		P	03 53 42.6	-0.1
	comp=Z,15nm,1.0s,mb4.6							
425A	**Indio Mountain**	82.00	54	⇑P		P	03 53 43.1	+0.2
	baz=82,SNR=35							
G12A	**Big Creek, Yel**	82.00	38	⇑P		P	03 53 42.7	+0.2
	baz=82							
DAU	**Daniels Canyon**	82.01	43	*e*P		P	03 53 43.5	+0.9
	comp=Z,43nm,1.6s,mb4.8							
DAU	**Daniels Canyon**	82.01	43	*e*P		P	03 53 43.6	+0.9
DAU				pmax	pmax			
	comp=Z,43nm,1.6s,mb4.8							
I13A	**Wildhorse Cree**	82.05	39	⇑P		P	03 53 43.5	+0.7
	baz=82,SNR=11							
J14A	**Carey**	82.09	40	⇑P		P	03 53 43.6	+0.5
	baz=82,SNR=30							
Q18A	**Rafter H Ranch**	82.10	45	⇓P		P	03 53 43.4	+0.3
	baz=82,SNR=25							
L15A	**Malad City**	82.10	42	⇓P		P	03 53 42.7	-0.4
	baz=82,SNR=24							
S19A	**Harvey Farm, M**	82.11	47	⇓P		P	03 53 43.5	+0.2
	baz=82,SNR=14							
N16A	**Rees Ranch, Co**	82.13	43	⇑P		P	03 53 43.2	-0.1
	baz=82,SNR=9.1							
Z23A	**Rita Site, Whi**	82.13	52	⇓P		P	03 53 43.5	+0.1
	baz=82,SNR=5.9							
224A	**Cornudas Mount**	82.15	53	⇑P		P	03 53 44.2	+0.6
	baz=82,SNR=24							
626A	**Big Bend Ranch**	82.15	56	⇑P		P	03 53 43.6	-0.1
	baz=82,SNR=31							
M16A	**Huntsville**	82.22	43	⇓P		P	03 53 43.5	-0.3
	baz=82,SNR=21							
BNM	**Barren Site**	82.24	51	*e*P		P	03 53 43.8	-0.3
	comp=Z,14nm,1.0s,mb4.5							
BNM				*e*pP	pP		03 54 33.5	+3.0
O17A	**Robinson Place**	82.24	44	⇑P		P	03 53 44.5	+0.7
	baz=82,SNR=31							
V21A	**Milan**	82.26	49	⇑P		P	03 53 44.2	+0.1
	baz=82,SNR=16							
325A	**Bean Ranch, Si**	82.27	54	⇑P		P	03 53 44.0	-0.3
	baz=82,SNR=55							
P18A	**Preston Nutter**	82.28	45	⇑P		P	03 53 44.1	0.0
	baz=82,SNR=9.8							
R19A	**Curley Farm, L**	82.29	46	⇓P		P	03 53 44.3	+0.1
	baz=82,SNR=17							
MVCO	**Mesa Verde**	82.30	47	⇓P		P	03 53 44.5	+0.2
	baz=82							
MVCO	**Mesa Verde**	82.30	47	*e*P		P	03 53 44.6	+0.3
	comp=Z,18nm,1.2s,mb4.6							
LPM	**Los Pinos Moun**	82.31	51	*e*P		P	03 53 44.5	+0.1
	comp=Z,18nm,1.0s,mb4.7							
H13A	**Challis**	82.32	39	⇑P		P	03 53 44.0	-0.2
	baz=82,SNR=18							
K15A	**Arbon**	82.37	41	⇑P		P	03 53 44.2	-0.3
	baz=82,SNR=10							
526A	**Mary Lane Ranc**	82.39	55	⇓P		P	03 53 44.1	-0.8
	baz=82							
F12A	**Elk City**	82.40	37	⇑P		P	03 53 44.4	-0.2
	baz=83,SNR=43							
HWUT	**Hardware Ranch**	82.42	42	*e*P		P	03 53 44.4	-0.3
	comp=Z,18nm,1.0s,mb4.7							
TXAR	**Lajitas Array**	82.43	56	P		P	03 53 45.2	+0.1
	comp=Z,14nm,1.0s,mb4.5,baz=221,slow=5.1,SNR=57							
TXAR				pP	pP		03 54 30.8	-0.7
	comp=Z,4.4nm,1.1s,baz=265,slow=9.8,SNR=1.6							
TXAR				LR	LR		04 24 02.9	
	comp=Z,110nm,18.4s,baz=190,slow=31							
TXAR	**Lajitas Array**	82.43	56	P		P	03 53 45.2	+0.1
TXAR				pP	pP		03 54 30.8	-0.7
TXAR				LR	LR		04 24 02.9	
TXAR	**Lajitas Array**	82.43	56	P		P	03 53 45.3	+0.2
TXAR				*PP	pP		03 54 30.8	-0.8
I14A	**Mackay**	82.46	40	⇓P		P	03 53 45.3	+0.4
	baz=83,SNR=16							
124A	**Stringfield Ra**	82.47	53	⇑P		P	03 53 45.5	+0.3
	baz=83,SNR=8.4							
W22A	**Albuquerque**	82.48	50	⇓P		P	03 53 46.3	+1.1
	baz=83,SNR=6.2							
U21A	**Nageezi**	82.53	48	⇓P		P	03 53 45.5	0.0
	baz=83,SNR=35							
N17A	**Moffit Pass**	82.55	43	⇓P		P	03 53 45.5	0.0
	baz=83,SNR=15							
Y23A	**Lovelace Mesa,**	82.56	51	⇑P		P	03 53 45.8	+0.1
	baz=83,SNR=9.9							
PV04	**Paradox Valley**	82.59	46	*e*P		P	03 53 45.2	-0.5
E12A	**Beaver Dam Sad**	82.59	37	⇑P		P	03 53 44.9	-0.6
	baz=83,SNR=8.3							
Q19A	**Hogan Spring (**	82.61	45	⇓P		P	03 53 45.6	-0.3
	baz=83,SNR=32							
G13A	**Cobalt**	82.63	38	⇓P		P	03 53 45.7	-0.1
	baz=83,SNR=16							
TRF	**Thorofare Moun**	82.67	11	*e*P		P	03 53 43.7	-1.8
	comp=Z,45nm,0.8s,mb5.2							
PV01	**Paradox Valley**	82.69	46	*e*P		P	03 53 45.7	-0.5
	comp=Z,3µm,1.0s							
S20A	**Disappointment**	82.69	47	⇑P		P	03 53 46.6	+0.3
	baz=83,SNR=26							
627A	**Terlingua Ranc**	82.70	56	⇑P		P	03 53 46.4	-0.1
	baz=83,SNR=30							
225A	**Deer Hill, Car**	82.70	53	⇓P		P	03 53 46.8	+0.4
	baz=83,SNR=22							
426A	**McDonald Obser**	82.70	55	⇑P		P	03 53 45.7	-0.8
	baz=83,SNR=35							
L16A	**Fish Haven**	82.71	42	⇓P		P	03 53 45.9	-0.4
	baz=83,SNR=30							
ANMO	**Albuquerque**	82.72	50	*e*P		P	03 53 46.1	-0.4
	comp=Z,28nm,1.0s,mb5.0							
ANMO	**Albuquerque**	82.72	50	*e*P		P	03 53 46.1	-0.4
ANMO				pmax	pmax			
	comp=Z,28nm,1.0s							
X23A	**Hourglass Bar**	82.75	51	⇓P		P	03 53 47.1	+0.4
	baz=83							
O18A	**Roosevelt**	82.76	44	⇑P		P	03 53 46.6	0.0
	baz=83,SNR=5.9							
QIZ	**Qiongzhong**	82.79	292	P		P	03 53 47.4	+0.2
QIZ				pP	pP		03 54 31.0	-2.7
QIZ				sP	sP		03 54 49.8	-3.9
QIZ				S	S		04 03 50.7	+1.0
QIZ				sS	sS		04 05 07.2	-3.4
QIZ				pmax	pmax			
	comp=Z,180nm,6.3s							
NEW	**Newport**	82.79	34	⇓P		P	03 53 46.4	-0.1
	baz=83,SNR=5.1							
J15A	**Blackfoot**	82.80	40	⇑P		P	03 53 47.2	+0.5
	baz=83,SNR=42							
527A	**Woodward Ranch**	82.81	56	⇓P		P	03 53 47.0	-0.1
	baz=83,SNR=30							
Z24A	**Sheeppen Canyo**	82.81	52	⇓P		P	03 53 46.9	-0.1
	baz=83,SNR=9.1							
V22A	**San Miguel Ran**	82.83	49	⇓P		P	03 53 47.2	+0.1
	baz=83,SNR=8.6							
SKAG	**Skagway**	82.84	19	*e*P		P	03 53 47.7	+1.2
	comp=Z,123nm,1.7s,mb5.4							
R20A	**Redvale**	82.85	46	⇓P		P	03 53 46.5	-0.6
	baz=83,SNR=9.9							
T21A	**Navajo Lake**	82.88	48	⇓P		P	03 53 47.3	0.0
	baz=83,SNR=14							
H14A	**Leadore**	82.88	39	⇑P		P	03 53 47.1	0.0
	baz=83,SNR=20							
M17A	**Scullys Gap (B**	82.93	43	⇑P		P	03 53 47.1	-0.3
	baz=83,SNR=8.1							
F13A	**Darby**	82.95	38	⇑P		P	03 53 47.0	-0.4
	baz=83,SNR=24							
326A	**Caldwell Ranch**	83.01	54	⇓P		P	03 53 47.7	-0.4
	baz=83							
S21A	**Coal Bank Pass**	83.01	47	⇑P		P	03 53 48.4	+0.4
	baz=83,SNR=60							
C11A	**Tepee Creek (N**	83.02	35	⇑P		P	03 53 47.3	-0.4
	baz=83,SNR=24							
K16A	**Soda Springs**	83.03	41	⇓P		P	03 53 48.0	+0.1
	baz=83,SNR=23							
W23A	**Werner Place,**	83.04	50	⇑P		P	03 53 48.6	+0.5
	baz=83,SNR=7.0							
125A	**Gardner Draw,**	83.06	53	⇓P		P	03 53 47.8	-0.5
	baz=83,SNR=12							
D12A	**Red Ives Fores**	83.07	36	⇓P		P	03 53 47.5	-0.5
	baz=83							
U22A	**Llaves**	83.08	49	⇑P		P	03 53 48.6	+0.2
	baz=83							
I15A	**Monteview**	83.09

U23A **El Rito** 83.54 49 ⇓P P 03 53 49.9 -0.8
baz=84,SNR=28
126A **Clayton Basin,** 83.54 53 ⇓P P 03 53 50.6 -0.1
baz=84,SNR=16
L18A **Fontenelle, Gr** 83.56 43 ⇓P P 03 53 50.4 -0.2
baz=84,SNR=8.4
Y25A **Mesa, Roswell** 83.58 52 ⇑P P 03 53 50.9 0.0
baz=84,SNR=26
D13A **Huson** 83.60 36 ⇑P P 03 53 50.2 -0.5
baz=84,SNR=13
W24A **Lazy 6 Ranch,** 83.61 50 ⇑P P 03 53 50.7 -0.3
baz=84,SNR=25
N19A **John Jarvie Ra** 83.62 44 ⇑P P 03 53 50.9 0.0
baz=84,SNR=18
I16A **Newdale** 83.64 40 ⇓P P 03 53 51.9 +1.0
baz=84,SNR=14
DCID1 **Drake Creek** 83.68 41 *e*P P 03 53 52.1 +0.9
comp=Z,35nm,1.0s,mb5.0
G15A **Dillon** 83.70 39 ⇑P P 03 53 51.5 +0.3
baz=84,SNR=34
Q21A **Lamborn Mesa,** 83.71 46 ⇓P P 03 53 51.8 +0.3
baz=84,SNR=14
S22A **4UR Ranch, Cre** 83.73 47 ⇑P P 03 53 52.2 +0.6
baz=84,SNR=25
DLMT **Dillon** 83.75 39 *e*P P 03 53 51.9 +0.5
comp=Z,42nm,1.2s,mb5.0
B12A **Libby** 83.75 35 ⇑P P 03 53 51.6 +0.2
baz=84
MSO **Missoula** 83.75 37 ⇓P P 03 53 50.9 -0.6
baz=84,SNR=10
MSO **Missoula** 83.75 37 *e*P P 03 53 51.0 -0.5
comp=Z,24nm,1.4s,mb4.7
REDW **Red Top Meadow** 83.77 41 *e*P P 03 53 51.4 -0.2
comp=Z,54nm,1.2s,mb5.2
TPAW **Teton Pass** 83.77 41 *e*P P 03 53 51.5 -0.2
comp=Z,43nm,1.1s,mb5.1
428A **Kincaid Ranch,** 83.78 55 ⇑P P 03 53 52.3 +0.3
baz=84,SNR=12
E14A **Clinton** 83.78 37 ⇑P P 03 53 51.4 -0.2
baz=84,SNR=20
DLBC **Dease Lake** 83.81 22 *e*P P 03 53 51.2 -0.3
CPRX **Cap Rock** 83.82 53 *e*P P 03 53 51.9 -0.2
comp=Z,46nm,0.9s,mb5.2
227A **Bennet, Jal** 83.83 54 ⇑P P 03 53 51.7 -0.6
baz=84
Z26A **Caprock** 83.83 53 ⇑P P 03 53 52.2 0.0
baz=84,SNR=68
BSMT **Bassoo Peak** 83.84 36 *e*P P 03 53 51.9 0.0
comp=Z,57nm,1.6s,mb5.0
J17A **Brown Place, J** 83.86 41 ⇓P P 03 53 52.0 -0.1
baz=84,SNR=19
C13A **Hot Springs** 83.86 36 ⇑P P 03 53 51.4 -0.7
baz=84,SNR=7.1
O20A **White River Ci** 83.87 45 ⇓P P 03 53 51.9 -0.4
baz=84,SNR=20
SNOW **Snow King Moun** 83.88 41 *e*P P 03 53 51.9 -0.3
comp=Z,53nm,1.0s,mb5.2
SNOW *e*pP pP 03 54 39.2 +0.4
K18A **Toltan Ranch,** 83.92 42 ⇓P P 03 53 52.0 -0.5
baz=84,SNR=46
M19A **Rock Springs** 83.93 43 ⇓P P 03 53 52.3 -0.2
baz=84,SNR=12
V24A **Rampart Ranch,** 83.94 50 ⇓P P 03 53 53.0 +0.3
baz=84,SNR=20
328A **Wristen Ranch,** 83.95 55 ⇑P P 03 53 52.5 -0.3
baz=84,SNR=12
T23A **Casias Ranch,** 83.97 48 ⇑P P 03 53 52.9 +0.1
baz=84
A12A **Yaak River Ran** 83.98 35 ⇓P P 03 53 51.9 -0.6
baz=84
IMW **Indian Meadow** 83.99 41 *e*P P 03 53 52.9 +0.1
comp=Z,49nm,1.2s,mb5.1
R22A **Saguache, Gunn** 84.00 47 ⇓P P 03 53 54.0 +1.0
baz=84,SNR=27
MOOW **Moose Ponds** 84.03 41 *e*P P 03 53 53.4 +0.4
comp=Z,22nm,1.3s,mb4.7
LOHW **Long Hollow** 84.05 41 *e*P P 03 53 53.0 -0.1
comp=Z,34nm,1.3s,mb4.9
127A **Arkansas Junct** 84.06 53 ⇓P P 03 53 53.1 -0.3
baz=84
F15A **Butte** 84.06 38 ⇑P P 03 53 53.2 +0.1
baz=84,SNR=12
DOT **Dot Lake** 84.07 13 *e*P P 03 53 51.3 -1.4
LRM **Limekiln Ridge** 84.08 38 *e*P P 03 53 53.5 +0.3
comp=Z,171nm,1.2s,mb5.7
L19A **Farson** 84.09 43 ⇓P P 03 53 53.3 0.0
baz=84,SNR=31
SEY **Seymchan** 84.13 345 *e*P P 03 53 53.0 0.0
D14A **Greenough** 84.14 37 ⇓P P 03 53 52.5 -0.9
baz=84,SNR=12
G16A **Moss Hill, Enn** 84.15 39 ⇑P P 03 53 53.4 -0.1
baz=84,SNR=15
QLMT **Earthquake Lak** 84.17 40 *e*P P 03 53 54.7 +1.1
comp=Z,6.1nm,1.2s,mb4.2
QLMT *e*pP pP 03 54 41.3 +1.1
Q22A **Crested Butte,** 84.19 46 ⇑P P 03 53 53.9 0.0
baz=84,SNR=24
CHMT **Chamberlain Mo** 84.19 37 *e*P P 03 53 53.7 0.0
comp=Z,22nm,1.3s,mb4.7
H16A **Russell Place,** 84.21 40 ⇓P P 03 53 54.7 +0.8
baz=84,SNR=43
J18A **Kendall Valley** 84.22 41 ⇓P P 03 53 54.2 +0.3
baz=84,SNR=99
I17A **Pilgrim Ck.** 84.23 41 ⇓P P 03 53 54.4 +0.4
baz=84
Y26A **Elida** 84.23 52 ⇓P P 03 53 54.7 +0.5
baz=84,SNR=7.3
FLWY **Flagg Ranch** 84.23 40 *e*P P 03 53 54.0 0.0
comp=Z,52nm,1.1s,mb5.2
U24A **Moreno Valley** 84.23 49 ⇑P P 03 53 54.1 0.0
baz=84
SLMT **Seeley Lake** 84.23 37 *e*P P 03 53 53.1 -0.8
comp=Z,5.7nm,1.0s,mb4.3
E15A **Deer Lodge** 84.28 38 ⇓P P 03 53 53.7 -0.5
baz=84,SNR=14
SMCO **Snowmass** 84.29 46 *e*P P 03 53 53.8 -0.6
comp=Z,22nm,1.0s,mb4.8
BW06 **Boulder Array** 84.29 42 ⇑P P 03 53 54.1 -0.2
baz=84,SNR=27
PDAR **Pinedale Array** 84.29 42 P P 03 53 53.2 -1.1
comp=Z,20nm,0.8s,mb4.9,baz=223,slow=2.0,SNR=111
PDAR **Pinedale Array** 84.29 42 P P 03 53 53.2 -1.1
S23A **Nye Farm, Mont** 84.29 48 ⇑P P 03 53 54.6 +0.1
baz=84
W25A **X Bar L Ranch,** 84.31 51 ⇑P P 03 53 54.2 -0.3
baz=84,SNR=12
B13A **Whitefish** 84.31 35 ⇓P P 03 53 53.5 -0.8
baz=84,SNR=5.5
YFT **Old Faithful** 84.34 40 *e*P P 03 53 56.6 +2.2
comp=Z,17nm,1.0s,mb4.7
YMR **Madison River** 84.37 40 *e*P P 03 53 55.2 +0.6
comp=Z,75nm,1.4s,mb5.2
COLA **College** 84.41 11 *e*P P 03 53 52.7 -1.7
COLA *e*pP pP 03 54 39.7 -1.4
COLA **College** 84.41 11 *e*P P 03 53 52.7 -1.7
COLA *e**PP pP 03 54 39.7 -1.3
O21A **Pagoda** 84.43 45 ⇑P P 03 53 55.3 +0.2
baz=85,SNR=9.5
Z27A **Tatum** 84.44 53 ⇓P P 03 53 54.5 -0.8
baz=85,SNR=15
H17A **Grant Village** 84.47 40 ⇑P P 03 53 55.8 +0.7
baz=85,SNR=5.1
BOZ **Bozeman (W)** 84.47 39 ⇓P P 03 53 55.1 0.0
baz=85,SNR=26
BOZ **Bozeman (W)** 84.47 39 *e*P P 03 53 54.9 -0.3
comp=Z,30nm,1.3s,mb4.9
BOZ **Bozeman (W)** 84.47 39 *e*P P 03 53 54.9 -0.2
BOZ pmax pmax
comp=Z,30nm,1.3s,mb4.9
ILAR **Eielson Array** 84.50 11 P P 03 53 52.9 -1.9
comp=Z,67nm,1.2s,mb5.3,baz=218,slow=5.3,SNR=75
ILAR PP PP 03 57 02.8 -10
comp=Z,2.8nm,0.9s,baz=212,slow=7.7,SNR=4.0
ILAR LR LR 04 24 09.1
comp=Z,145nm,21.9s,baz=290,slow=30
ILAR **Eielson Array** 84.50 11 P P 03 53 52.9 -1.9
ILAR PP PP 03 57 02.8 -10
ILAR LR LR 04 24 09.1
ILAR **Eielson Array** 84.50 11 P P 03 53 52.9 -1.9
ILAR 03 57 02.8
X26A **CR and CF Fran** 84.51 51 ⇑P P 03 53 55.3 -0.2
baz=85
F16A **Kennard Place,** 84.55 39 ⇓P P 03 53 55.6 +0.1
baz=85,SNR=9.6
M20A **Sweetwater, Wa** 84.56 44 ⇑P P 03 53 55.9 +0.2
baz=85,SNR=20
YNR **Norris Junctio** 84.57 40 *e*P P 03 53 57.2 +1.5
comp=Z,25nm,1.2s,mb4.8

I18A **Diamond G Ranc** 84.59 41 ⇑P P 03 53 55.7 -0.1
baz=85,SNR=11
P22A **Eagle** 84.63 46 ⇓P P 03 53 56.1 0.0
baz=85,SNR=8.3
A13A **Flathead Natio** 84.65 35 ⇓P P 03 53 55.9 0.0
baz=85
N21A **Black Mountain** 84.66 45 ⇑P P 03 53 55.9 -0.3
baz=85,SNR=43
SDCO **Great Sand Dun** 84.67 48 ⇑P P 03 53 56.4 +0.1
baz=85,SNR=12
SDCO **Great Sand Dun** 84.67 48 *e*P P 03 53 56.4 +0.1
comp=Z,9.8nm,1.1s,mb4.5
D15A **Lincoln** 84.69 37 ⇓P P 03 53 56.1 -0.1
baz=85,SNR=15
T24A **Torres, Weston** 84.69 49 ⇓P P 03 53 56.5 +0.1
baz=85
L20A **Wamsutter** 84.71 43 ⇑P P 03 53 56.5 +0.1
baz=85,SNR=16
Y27A **Causey** 84.71 52 ⇓P P 03 53 55.9 -0.8
baz=85,SNR=34
W26A **Owens Ranch, T** 84.77 51 ⇑P P 03 53 55.8 -1.1
baz=85
K19A **Absolon Red Bu** 84.77 42 ⇑P P 03 53 56.0 -0.7
baz=85,SNR=15
S24A **Houchin Ranch,** 84.82 48 ⇑P P 03 53 57.4 +0.3
baz=85,SNR=10
G17A **Pierce Place,** 84.84 39 ⇓P P 03 53 57.5 +0.5
baz=85
U25A **Circle Dot Ran** 84.86 50 ⇑P P 03 53 56.9 -0.4
baz=85,SNR=7.7
E16A **East Helena** 84.91 38 ⇓P P 03 53 57.1 -0.2
baz=85,SNR=9.4
B14A **Marquette Ranc** 84.97 36 ⇑P P 03 53 57.0 -0.6
baz=85,SNR=9.8
WALA **Waterton Lakes** 85.00 35 *e*P P 03 53 57.6 0.0
comp=Z,14nm,1.5s
K20A **Yellowstone Ra** 85.02 43 ⇓P P 03 53 57.2 -0.7
baz=85,SNR=11
C15A **Salmond Ranch,** 85.03 37 ⇑P P 03 53 57.3 -0.6
baz=85
O22A **Kremmling** 85.03 45 ⇑P P 03 53 57.9 -0.2
baz=85,SNR=17
MSTX **Muleshoe** 85.04 52 ⇓P P 03 53 57.8 -0.5
baz=85,SNR=27
V26A **Tequesquite Ra** 85.05 50 ⇓P P 03 53 58.0 -0.3
baz=85,SNR=8.7
X27A **F and S Farms,** 85.08 52 ⇑P P 03 53 57.9 -0.5
baz=85,SNR=10
M21A **Separation Pea** 85.16 44 ⇓P P 03 53 58.4 -0.3
baz=85,SNR=10
P23A **Jefferson** 85.16 46 ⇑P P 03 53 58.7 0.0
baz=85
H18A **Shoshone NF, C** 85.17 40 ⇓P P 03 53 58.8 +0.2
baz=85
T25A **Trinidad** 85.18 49 ⇑P P 03 53 59.1 +0.2
baz=85
F17A **Fitzpatrick Pl** 85.19 39 ⇑P P 03 53 58.8 +0.1
baz=85,SNR=8.8
A14A **Double T Ranch** 85.22 35 ⇓P P 03 53 58.5 -0.3
baz=85,SNR=19
D16A **Dana Ranch, Ca** 85.24 38 ⇑P P 03 53 58.6 -0.4
baz=85,SNR=6.6
I19A **Meeteetse** 85.27 41 ⇓P P 03 53 58.7 -0.5
baz=85,SNR=12
W27A **Bowe Ranch, En** 85.28 51 ⇓P P 03 53 58.7 -0.7
baz=85,SNR=9.9
RWWY **Rawlins** 85.30 44 *e*P P 03 53 58.8 -0.6
comp=Z,25nm,1.0s,mb4.9
L21A **Rawlins** 85.32 44 ⇑P P 03 53 59.1 -0.4
baz=86,SNR=6.2
U26A **Atchley Ranch,** 85.34 50 ⇓P P 03 53 59.1 -0.6
baz=86,SNR=5.8
B15A **Bradely Ranch,** 85.34 36 ⇓P P 03 53 58.6 -0.8
baz=86,SNR=11
E17A **Martinsdale** 85.36 38 ⇑P P 03 53 59.1 -0.4
baz=86,SNR=5.7
S25A **Robets Cordova** 85.39 48 ⇑P P 03 53 60.0 +0.1
baz=86,SNR=8.3
N22A **Wattenberg Ran** 85.39 45 ⇑P P 03 54 00.1 +0.3
baz=86,SNR=9.1
Q24A **Divide** 85.46 47 ⇓P P 03 54 00.6 +0.4
baz=86
O23A **Lake Granby, G** 85.48 46 ⇑P P 03 54 00.2 -0.1
baz=86,SNR=6.7
DAWY **Dawson** 85.50 15 *e*P P 03 53 58.8 -1.0
ISCO **Idaho Springs** 85.51 46 ⇓P P 03 54 00.2 -0.2
baz=86,SNR=6.0
ISCO **Idaho Springs** 85.51 46 *e*P P 03 54 01.0 +0.6
comp=Z,7.4nm,1.3s,mb4.3
ISCO **Idaho Springs** 85.51 46 *e*P P 03 54 01.0 +0.6
ISCO pmax pmax
comp=Z,7.0nm,1.3s,mb4.2
J20A **Shoshoni** 85.52 42 ⇑P P 03 54 00.3 -0.1
baz=86,SNR=9.8
C16A **Fuhringer Ranc** 85.53 37 ⇑P P 03 54 00.0 -0.4
baz=86,SNR=15
G18A **Lazy EL Ranch,** 85.55 40 ⇓P P 03 54 00.5 -0.1
baz=86,SNR=7.6
M22A **Cedar Creek Ra** 85.57 44 ⇓P P 03 54 00.4 -0.3
baz=86,SNR=7.0
H19A **Powell** 85.59 41 ⇑P P 03 54 00.9 +0.2
baz=86,SNR=9.2
A15A **Johnson Ranch,** 85.60 36 ⇓P P 03 54 00.2 -0.4
baz=86,SNR=18
RLMT **Red Lodge** 85.64 40 ⇑P P 03 54 00.8 -0.2
baz=86,SNR=8.9
RLMT **Red Lodge** 85.64 40 *e*P P 03 54 01.7 +0.7
comp=Z,16nm,1.3s,mb4.6
RLMT *e*pP pP 03 54 46.4 -1.3
EGAK **Eagle** 85.69 14 *e*P P 03 53 59.8 -1.0
MAW **Mawson** 85.69 199 P P 03 54 00.4 -0.6
comp=Z,8.8nm,0.5s,mb4.7,baz=132,slow=7.0,SNR=30
MAW pP pP 03 54 46.6 -1.1
comp=Z,6.2nm,0.8s,baz=134,slow=5.5,SNR=2.8
MAW LR LR 04 32 22.4
comp=Z,163nm,18.6s,baz=296,slow=36
MAW **Mawson** 85.69 199 *e*P P 03 54 00.3 -0.6
comp=Z,1.8nm,0.7s,mb3.9
MAW **Mawson** 85.69 199 *e*P P 03 54 00.4 -0.5
MAW pmax pmax
comp=Z,2.0nm,0.7s
R25A **Fountain Ranch** 85.71 48 ⇑P P 03 54 00.7 -0.8
baz=86
K21A **Alcova** 85.71 43 ⇑P P 03 54 01.0 -0.4
baz=86,SNR=7.5
GCMT **Greycliff** 85.73 39 *e*P P 03 54 02.2 +0.8
comp=Z,15nm,1.4s,mb4.5
F18A **Big Timber** 85.75 39 ⇓P P 03 54 01.7 +0.2
baz=86,SNR=6.5
I20A **Worland** 85.78 42 ⇓P P 03 54 01.6 -0.1
baz=86,SNR=10.0
D17A **Six Diamond Ra** 85.81 38 ⇓P P 03 54 02.0 +0.2
baz=86,SNR=14
B16A **M & M Farms, S** 85.88 36 ⇑P P 03 54 01.4 -0.6
baz=86
J21A **Lysite** 85.92 42 ⇑P P 03 54 02.4 0.0
baz=86,SNR=19
JCT **Junction City** 85.96 57 ⇓P P 03 54 02.6 -0.3
baz=86
JCT **Junction City** 85.96 57 *e*P P 03 54 03.0 +0.1
comp=Z,21nm,0.9s,mb4.9
JCT **Junction City** 85.96 57 *e*P P 03 54 03.0 +0.1
JCT pmax pmax
comp=Z,21nm,0.9s,mb4.9
E18A **Harlowton** 85.97 39 ⇓P P 03 54 02.9 +0.3
baz=86,SNR=10
C17A **Wharram Farm,** 86.01 37 ⇓P P 03 54 02.7 0.0
baz=86,SNR=16
O24A **Longmont** 86.02 46 ⇑P P 03 54 02.7 -0.2
baz=86
H20A **Greybull** 86.12 41 ⇑P P 03 54 02.8 -0.5
baz=86
BJI **Beijing** 86.14 314 P P 03 54 04.0 +0.5
BJI pP pP 03 54 47.6 -2.8
BJI sP sP 03 55 06.7 -3.6
BJI SKS 04 04 11.4
BJI S S 04 04 22.7 +0.7
BJI SS SS 04 10 07.0 +1.3
BJI pmax pmax
comp=Z,35nm,1.3s,mb4.9
BJI pmax pmax
comp=Z,500nm,3.0s
COLD **Coldfoot** 86.17 9 *e*P P 03 54 02.4 -0.6
comp=Z,67nm,1.3s,mb5.2
M23A **Laramie** 86.19 45 ⇑P P 03 54 03.5 -0.2
baz=86
K22A **Casper** 86.20 43 ⇑P P 03 54 03.3 -0.4
baz=86

F19A **Roth Farm, Mol** 86.20 40 ⇑P P 03 54 03.6 -0.1
baz=86,SNR=6.1
IPM **Ipoh** 86.21 276 *e*P P 03 54 05.8 +1.3
comp=Z,20nm,0.9s,mb4.8
IPM **Ipoh** 86.21 276 P P 03 54 05.3 +0.8
comp=Z,496nmcomp=Z,30nm,1.4s,mb4.8
IPM **Ipoh** 86.21 276 P P 03 54 06.8 +2.3
comp=Z,500nmcomp=Z,30nm,1.4s,mb4.8
AMTX **Amarillo** 86.24 52 ⇑P P 03 54 03.8 -0.4
baz=86
I21A **Big Trails, Te** 86.24 42 ⇑P P 03 54 03.5 -0.5
baz=86,SNR=7.8
BILL **Bilibino** 86.29 353 *e*P P 03 54 02.6 -1.0
comp=Z,86nm,1.2s,mb5.3
BILL **Bilibino** 86.29 353 ⇑*i*P P 03 54 03.1 -0.5
BILL *i* S SKSac 04 04 05.0 -6.2
BILL pmax pmax
comp=Z,110nm,1.4s,mb5.4
PHWY **Pilot Hill** 86.29 45 *e*P P 03 54 04.5 +0.3
comp=Z,6.1nm,0.8s,mb4.4
B17A **L&G Farms, Che** 86.33 37 ⇑P P 03 54 04.0 -0.2
baz=86,SNR=5.7
G20A **Bridger** 86.34 40 ⇓P P 03 54 04.2 -0.2
baz=86
D18A **Linhart Farms,** 86.35 38 ⇑P P 03 54 04.6 +0.2
baz=86
P25A **Willow Gulch B** 86.38 47 ⇓P P 03 54 04.6 -0.1
baz=86,SNR=13
N24A **Carr** 86.47 45 ⇑P P 03 54 05.1 0.0
baz=87,SNR=6.4
MNSI **Mandailing Nat** 86.49 272 PP PP 03 57 34.8 +4.4
comp=Z,72nm,0.4s
L23A **Garrett** 86.49 44 ⇑P P 03 54 05.0 -0.2
baz=87,SNR=10.0
J22A **Midwest** 86.58 43 ⇓P P 03 54 05.3 -0.3
baz=87
E19A **Rath Farm, Rou** 86.59 39 ⇑P P 03 54 05.4 -0.2
baz=87,SNR=8.3
F20A **Billings** 86.66 40 ⇓P P 03 54 05.6 -0.3
baz=87
A17A **Triple J Farms** 86.72 36 ⇓P P 03 54 05.8 -0.4
baz=87,SNR=13
H21A **Big Horn, Sher** 86.79 41 ⇓P P 03 54 06.1 -0.5
baz=87
M24A **Cheyenne** 86.79 45 ⇓P P 03 54 06.2 -0.5
baz=87
EGMT **Eagleton** 86.80 37 ⇑P P 03 54 06.4 -0.2
baz=87
EGMT **Eagleton** 86.80 37 *e*P P 03 54 06.5 0.0
I22A **9 Mile Ranch,** 86.80 42 ⇑P P 03 54 06.2 -0.4
baz=87
D19A **Cripps Ranch,** 86.88 38 ⇓P P 03 54 06.9 -0.1
baz=87,SNR=9.9
G21A **Lodge Grass** 86.96 41 ⇓P P 03 54 07.4 0.0
baz=87
B18A **Beardsley Farm** 86.97 37 ⇓P P 03 54 07.2 -0.2
baz=87,SNR=6.5
L24A **Wheatland** 86.97 44 ⇓P P 03 54 07.3 -0.2
baz=87
E20A **Meyer Farm, Mu** 87.01 39 ⇑P P 03 54 07.8 +0.2
baz=87
C19A **Slack Wire Ran** 87.06 38 ⇑P P 03 54 07.8 -0.1
baz=87,SNR=14
ENH **Enshi** 87.19 303 *e*P P 03 54 09.5 +0.7
comp=Z,127nm,1.5s,mb5.5
A18A **Metzger Ranch,** 87.20 37 ⇓P P 03 54 08.0 -0.4
baz=87,SNR=11
H22A **Clearmont** 87.21 42 ⇑P P 03 54 08.8 +0.2
baz=87
D20A **Manuel Ranch,** 87.29 39 ⇓P P 03 54 09.1 +0.2
baz=88,SNR=8.9
F21A **Absaloka Mine,** 87.30 40 ⇑P P 03 54 08.2 -0.7
baz=88
B19A **Brinkman Farms** 87.48 37 ⇑P P 03 54 10.0 +0.2
baz=88,SNR=9.0
E21A **Keefer Ranch,** 87.67 40 ⇑P P 03 54 10.6 -0.1
baz=88
C20A **Veseth Ranch,** 87.67 38 ⇑P P 03 54 10.6 -0.1
baz=88
A19A **Klindworth Far** 87.83 37 ⇓P P 03 54 11.3 -0.2
baz=88
D21A **La Casta Ranch** 87.96 39 ⇓P P 03 54 12.6 +0.5
baz=88,SNR=6.5
B20A **Solberg Farm,** 88.01 38 ⇑P P 03 54 12.3 +0.1
baz=88,SNR=6.6
GYA **Guiyang** 88.15 298 P P 03 54 14.1 +0.6
GYA pP pP 03 55 01.3 +0.7
GYA sP sP 03 55 21.3 +0.8
GYA PP PP 03 57 47.0 +3.5
GYA sS sS 04 06 03.6 -0.2
GYA SS SS 04 10 39.1 +3.6
GYA pmax pmax
comp=Z,30nm,1.0s,mb5.1
GYA pmax pmax
comp=Z,180nm,5.5s
HIA **Hailar** 88.18 323 *e*P P 03 54 13.1 0.0
comp=Z,90nm,1.5s,mb5.4
HIA **Hailar** 88.18 323 *e*P P 03 54 13.1 0.0
HIA pmax pmax
comp=Z,90nm,1.5s
LAO **LASA Array** 88.25 40 ⇓P P 03 54 13.5 0.0
baz=88,SNR=5.5
C21A **Desert Coulee** 88.26 38 ⇑P P 03 54 13.4 -0.1
baz=88
A20A **Cobblestone Ra** 88.28 37 ⇓P P 03 54 13.5 -0.1
baz=88,SNR=9.3
H24A **Dirks Ranch, A** 88.42 42 ⇑P P 03 54 14.1 -0.2
baz=89,SNR=10
RSSD **Black Hills** 88.48 43 *e*P P 03 54 13.5 -1.2
comp=Z,17nm,1.0s,mb4.8
RSSD **Black Hills** 88.48 43 *e*P P 03 54 13.5 -1.1
RSSD pmax pmax
comp=Z,17nm,1.0s,mb4.8
D22A **Cohagen** 88.49 39 ⇓P P 03 54 14.4 -0.3
baz=89
B21A **Ellsworth Farm** 88.59 38 ⇑P P 03 54 15.1 0.0
baz=89
E23A **Ismay** 88.73 40 ⇑P P 03 54 15.7 0.0
baz=89
PLCA **Paso Flores** 88.89 132 P P 03 54 17.9 +1.1
comp=Z,2.0nm,0.8s,mb4.1,baz=219,slow=7.9,SNR=3.0
PLCA **Paso Flores** 88.89 132 *e*P P 03 54 17.8 +1.0
comp=Z,58nm,2.1s,mb5.1
PLCA **Paso Flores** 88.89 132 *e*P P 03 54 17.8 +1.0
PLCA pmax pmax
comp=Z,59nm,2.1s
A21A **Bergtoll Ranch** 88.91 37 ⇑P P 03 54 16.2 -0.3
baz=89
HKT **Hockley** 88.96 58 *e*P P 03 54 17.5 +0.2
comp=Z,44nm,2.0s,mb5.0
HKT **Hockley** 88.96 58 *e*P P 03 54 17.5 +0.3
HKT pmax pmax
comp=Z,44nm,2.0s,mb5.0
XAN **Xi'an** 89.02 306 P P 03 54 18.0 +0.6
XAN sP sP 03 55 19.7 -4.7
XAN pmax pmax
comp=Z,12nm,1.4s,mb4.6
XAN pmax pmax
comp=Z,50nm,7.5s
XAN LR LR
comp=N,520nm,34.9s
XAN LR LR
comp=E,100nm,30.8s
XAN LR LR
comp=Z,66nm,22.8s
D23A **Lindsay** 89.10 40 ⇑P P 03 54 17.2 -0.3
baz=89
B22A **Reddig Ranch S** 89.14 38 ⇑P P 03 54 17.4 -0.2
baz=89
C23A **Lambert** 89.39 39 ⇓P P 03 54 19.0 +0.2
baz=90
A22A **Carney Farms,** 89.50 38 ⇓P P 03 54 19.1 -0.2
baz=90
D24A **Glendive** 89.61 40 ⇓P P 03 54 20.2 +0.3
baz=90,SNR=8.5
HHC **Hu-ho-hao-te** 89.67 313 *e*P P 03 54 21.6 +1.3
HHC pP pP 03 55 12.5 +5.1
HHC sP sP 03 55 22.7 -4.6
HHC PP PP 03 57 57.3 +2.0
HHC SKS 04 04 28.0
HHC SS SS 04 10 55.8 -1.2
HHC pmax pmax
comp=Z,41nm,1.1s,mb5.3
HHC pmax pmax
comp=Z,190nm,4.8s
HHC LR LR
comp=N,250nm,12.9s

HHC LR LR
comp=E,230nm,14.5s
HHC LR LR
comp=Z,250nm,21.6s
C24A Savage 89.73 40 ⇑P **P 03 54 21.1 +0.7**
baz=90
B23A Brockton 89.81 39 ⇓P **P 03 54 21.3 +0.6**
baz=90,SNR=6.8
DGMT Dagmar 90.28 39 ⇑P **P 03 54 23.4 +0.5**
baz=90,SNR=8.7
DGMT Dagmar 90.28 39 *e*P **P 03 54 23.2 +0.3**
comp=Z,35nm,1.1s,mb5.2
INK Inuvik 90.34 14 *e*P **P 03 54 21.4 -1.3**
comp=Z,47nm,1.3s,mb5.3
INK Inuvik 90.34 14 *e*P **P 03 54 21.4 -1.3**
INK pmax pmax
comp=Z,47nm,1.3s
YAK Yakutsk 90.51 337 *e*P **P 03 54 22.6 -1.1**
comp=Z,28nm,0.7s,mb5.4
YAK Yakutsk 90.51 337 *e*P **P 03 54 21.4 -2.3**
YAK *e**PP pP 03 55 09.0 -1.9
YAK *e* 03 58 00.1
YAK *e*PPP 03 59 52.4
YAK *e*S S 04 04 32.3 -30
YAK *e* 04 05 00.2
YAK *e**SS sS 04 06 01.2 -23
YAK *e*SSS 04 14 36.0
YAK pmax pmax
comp=Z,40nm,1.1s,mb5.4
YAK pmax pmax
comp=N,14nm,1.3s
YAK pmax pmax
comp=E,10.0nm,1.3s
YAK pmax pmax
comp=Z,361nm,4.5s
YAK pmax pmax
comp=N,538nm,3.7s
YAK pmax pmax
comp=E,463nm,4.2s
YAK smax
comp=N,10.0nm,4.2s
A24A Westby 90.60 38 ⇓P **P 03 54 24.7 +0.4**
baz=91
KMI Kunming 91.04 296 P **P 03 54 29.3 +2.3**
KMI pP pP 03 55 14.4 +0.2
KMI sP sP 03 55 33.9 -0.2
KMI PP PP 03 58 08.1 +1.6
KMI SKS 04 04 39.7
KMI S S 04 05 04.9 -3.7
KMI sS sS 04 06 29.3 -1.8
KMI SS SS 04 11 17.6 +0.1
KMI pmax pmax
comp=Z,25nm,1.3s,mb5.1
KMI pmax pmax
comp=Z,130nm,3.2s
KMI LR LR
comp=N,340nm,28.6s
KMI LR LR
comp=E,140nm,31.6s
KMI LR LR
comp=Z,280nm,24.7s
TUL1 Tulsa 91.08 53 ⇓P **P 03 54 26.9 0.0**
baz=91
CD2 Chengdu 92.04 302 P **P 03 54 33.3 +1.8**
CD2 pP pP 03 55 20.7 +1.9
CD2 sP sP 03 55 40.6 +2.0
CD2 PP PP 03 58 18.1 +3.9
CD2 SKS 04 04 46.3
CD2 S S 04 05 15.6 -1.7
CD2 sS sS 04 06 38.8 -1.2
CD2 SS SS 04 11 32.7 +1.1
CD2 pmax pmax
comp=Z,20nm,0.8s,mb5.2
CD2 pmax pmax
comp=Z,140nm,7.5s
YKA Yellowknife Ar 92.21 24 P **P 03 54 31.4 -0.2**
comp=Z,2.6nm,0.9s,mb4.3,baz=229,slow=4.0,SNR=3.0
YKA pP pP 03 55 18.9 +0.1
comp=Z,3.2nm,0.9s,baz=69,slow=20,SNR=3.1
YKA LR LR 04 31 44.0
comp=Z,16nm,18.6s,baz=315,slow=32
YKA Yellowknife Ar 92.21 24 P **P 03 54 31.4 -0.2**
YKA pP pP 03 55 18.9 +0.1
YKA LR LR 04 31 44.0
YKA Yellowknife Ar 92.21 24 P **P 03 54 31.4 -0.1**
YKA *PP pP 03 55 18.9 +0.1
TEIG Tepich 92.30 70 *e*P **P 03 54 33.2 +0.2**
comp=Z,17nm,1.3s,mb4.9
CMAR Chiang Mai Arr 92.36 288 P **P 03 54 34.2 +0.9**
comp=Z,0.5nm,0.3s,mb4.0,baz=51,slow=15,SNR=4.9
CMAR pP pP 03 55 19.9 -0.6
comp=Z,5.6nm,1.0s,baz=99,slow=3.0,SNR=3.3
CMAR Chiang Mai Arr 92.36 288 P **P 03 54 34.2 +0.9**
CMAR pP pP 03 55 19.9 -0.6
CMAR Chiang Mai Arr 92.36 288 P **P 03 54 34.2 +0.9**
CMAR *PP pP 03 55 19.9 -0.6
CHTO Chiang Mai 92.47 289 *e*P **P 03 54 34.3 +0.5**
comp=Z,29nm,1.5s,mb5.1
CHTO Chiang Mai 92.47 289 *e*P **P 03 54 34.3 +0.6**
CHTO pmax pmax
comp=Z,29nm,1.5s,mb5.1
CHTO Chiang Mai 92.47 289 P **P 03 54 35.4 +1.7**
comp=Z,352nmcomp=Z,19nm,1.4s,mb4.9
CHTO Chiang Mai 92.47 289 P **P 03 54 35.2 +1.5**
MDND Maddock 92.83 41 ⇑P **P 03 54 34.6 -0.1**
baz=93
UALR University of 93.36 55 *e*P **P 03 54 36.9 -0.6**
comp=Z,16nm,0.8s,mb5.2
LZH Lanzhou 93.63 307 *e*P **P 03 54 40.8 +2.1**
LZH pP pP 03 55 27.1 +1.1
LZH sP sP 03 55 46.0 +0.2
LZH PP PP 03 58 33.1 +6.5
LZH SKS 04 04 58.7
LZH pmax pmax
comp=Z,18nm,1.1s,mb5.1
LZH pmax pmax
comp=Z,81nm,5.0s
BOD Bodaibo 95.11 329 *e*P **P 03 54 43.4 -1.6**
BOD pmax pmax
comp=Z,6.0nm,1.5s,mb4.6
CCM Cathedral Cave 95.22 52 *e*P **P 03 54 44.7 -1.3**
comp=Z,7.3nm,1.1s,mb4.8
CCM Cathedral Cave 95.22 52 *e*P **P 03 54 44.7 -1.3**
CCM pmax pmax
comp=Z,7.0nm,1.1s,mb4.8
ULN Ulaanbaatar 95.26 318 P **P 03 54 46.6 +0.7**
SONM Songino Array 95.67 318 P **P 03 54 47.2 -0.6**
comp=Z,0.5nm,0.4s,mb4.2,baz=85,slow=5.1,SNR=3.5
SONM pP pP 03 55 34.7 -0.3
comp=Z,2.0nm,0.9s,baz=113,slow=3.4,SNR=3.1
SONM PP PP 03 58 38.1 -4.0
comp=Z,2.8nm,1.0s,baz=117,slow=9.0,SNR=5.4
SONM LR LR 04 40 51.0
comp=Z,112nm,18.2s,baz=96,slow=37
SONM Songino Array 95.67 318 P **P 03 54 47.2 -0.6**
SONM pP pP 03 55 34.7 -0.3
SONM PP PP 03 58 38.1 -4.0
SONM LR LR 04 40 51.0
SONM Songino Array 95.67 318 P **P 03 54 47.2 -0.5**
SONM *PP pP 03 55 34.7 -0.4
SONM 03 58 38.1
FVM French Village 95.82 52 *e*P **P 03 54 47.4 -1.2**
comp=Z,16nm,1.1s,mb5.3
FVM French Village 95.82 52 *e*P **P 03 54 47.4 -1.3**
FVM pmax pmax
comp=Z,16nm,1.1s,mb5.3
ULM Lac du Bonnet 95.98 39 P **P 03 54 47.0 -2.2**
comp=Z,1.7nm,0.7s,mb4.5,baz=270,slow=3.0,SNR=3.9
ULM LR LR 04 30 17.3
comp=Z,259nm,19.9s,baz=6.6,slow=30
ULM Lac du Bonnet 95.98 39 P **P 03 54 47.0 -2.2**
ULM LR LR 04 30 17.3
ULM Lac du Bonnet 95.98 39 P **P 03 54 47.0 -2.1**
SPMN St. Paul 96.31 45 ⇓P **P 03 54 50.6 -0.1**
baz=96
WMQ Urumqi 107.46 311 *e*P PP 04 00 02.2 -8.4
WMQ Urumqi 107.46 311 Pdif Pdif 03 55 40.2 -0.2
WMQ AMB AMB
comp=Z,85nm,15.0s
WMQ LR LR
comp=Z,180nm,30.2s
ZALV Zalesovo Beam 110.17 322 PKiKP PKiKP 03 59 52.8 +0.1
comp=Z,0.7nm,0.5s,baz=119,slow=1.9,SNR=5.1
ZALV PP PP 04 00 25.6 -4.4
comp=Z,3.3nm,0.9s,baz=93,slow=5.0,SNR=11
ZALV Zalesovo Beam 110.17 322 PKPdf PKiKP 03 59 52.8 +0.1
ZALV PP PP 04 00 25.6 -4.4
MK31 Makanchi Array 111.52 314 *e*PKP PKiKP 03 59 54.9 -0.6
MK31 *e*PP PP 04 00 35.8 -4.0
MK31 Makanchi Array 111.52 314 *e*PKIKP PKiKP 03 59 54.9 -0.6
MK31 *e* 04 00 35.8
MKAR Makanchi Array 111.52 314 PKiKP PKiKP 03 59 55.5 0.0
comp=Z,0.9nm,0.5s,baz=166,slow=1.0,SNR=10
MKAR PP PP 04 00 35.2 -4.6
comp=Z,1.9nm,0.9s,baz=90,slow=10,SNR=4.9
MKAR Makanchi Array 111.52 314 PKPdf PKiKP 03 59 55.5 0.0
MKAR PP PP 04 00 35.2 -4.6
MKAR Makanchi Array 111.52 314 PKIKP PKiKP 03 59 55.5 0.0
MKAR 04 00 35.2
TKM2 Tokmak 2 116.20 310 *e*PKPdf PKPdf 04 00 03.7 -0.8
TKM2 Tokmak 2 116.20 310 *e*PKIKP PKPdf 04 00 03.7 -0.9
AAK Ala-Archa 117.01 309 *e*PKPdf PKPdf 04 00 06.6 +0.4
AAK Ala-Archa 117.01 309 *e*PKIKP PKPdf 04 00 06.6 +0.5
AAK Ala-Archa 117.01 309 SKKP 04 14 13.0
EKS2 Erkin-Say 117.54 309 *e*PKPdf PKPdf 04 00 07.7 +0.5
EKS2 Erkin-Say 117.54 309 *e*PKIKP PKPdf 04 00 07.7 +0.5
BRVK Borovoye 118.88 321 *e*PKPdf PKPdf 04 00 09.2 -0.2
BRVK Borovoye 118.88 321 *e*PKIKP PKPdf 04 00 09.2 -0.2
KKAR Karatay Array 119.92 310 *e*PKPdf PKPdf 04 00 10.8 -0.9
KKAR Karatay Array 119.92 310 *e*PKIKP PKPdf 04 00 10.8 -0.9
KBL Kabul 121.35 300 *e*PKPdf PKPdf 04 00 16.0 +1.2
KBL Kabul 121.35 300 *e*PKIKP PKPdf 04 00 16.0 +1.3
ARU Arti 124.48 327 *e*PKPdf PKPdf 04 00 20.4 +0.4
ARU Arti 124.48 327 *i* PKIKP PKPdf 04 00 19.1 -0.9
ARU 04 02 08.3
ARU 04 07 03.3
ARU SS SS 04 18 41.2 -4.9
KEV Kevo 125.95 351 *e*PKIKP PKPdf 04 00 20.8 -1.7
ABKAR Akbulak array 126.08 319 *e*PKPdf PKPdf 04 00 23.9 +0.6
ARCES ARCESS Array B 126.37 351 PKP PKPdf 04 00 22.1 -1.2
comp=Z,5.3nm,0.8s,baz=12,slow=0.9,SNR=11
ARCES ARCESS Array B 126.37 351 PKP PKPdf 04 00 22.1 -1.2
ARCES ARCESS Array B 126.37 351 PKIKP PKPdf 04 00 22.1 -1.2
APA Apatity 126.70 347 *e*PKIKP PKPdf 04 00 27.0 +3.0
APA *i* *PP 04 01 13.0
APA *i* 04 02 30.0
APA *i* 04 07 18.0
APA *i* PS PS 04 12 30.0 +0.5
APA MLR MLR
comp=Z,1μm,20.0s
BOSA Boshof 130.56 203 PKP PKPdf 04 00 33.0 +0.4
comp=Z,2.2nm,0.8s,baz=146,slow=5.1,SNR=4.2
BOSA Boshof 130.56 203 PKP PKPdf 04 00 33.0 +0.4
BOSA Boshof 130.56 203 PKIKP PKPdf 04 00 33.0 +0.4
JOF Joensuu 131.09 345 *e*PKIKP PKPdf 04 00 31.7 -0.8
KAF Kangasniemi 132.96 347 *e*PKIKP PKPpre 04 00 30.1
FINES FINESS Array B 133.60 347 PKhKP PKPpre 04 00 31.1
comp=Z,4.3nm,1.0s,baz=31,slow=1.1,SNR=6.0
FINES PKP PKPdf 04 00 38.1 +0.8
comp=Z,3.0nm,0.7s,baz=40,slow=2.5,SNR=10
FINES FINESS Array B 133.60 347 PKP PKPpre 04 00 31.1
FINES PKP PKPdf 04 00 38.1 +0.8
FINES FINESS Array B 133.60 347 PKIKP PKPpre 04 00 31.2
OBN Obninsk 135.49 335 *i* PKIKP PKPdf 04 00 41.3 +0.3
OBN *i* 04 03 20.4
OBN pmax pmax
comp=Z,8.0nm,1.1s
OBN MLR MLR
comp=Z,100nm,17.0s
VRHR Novokhopersk 135.82 328 *e*PKIKP PKPdf 04 00 40.6 -1.1
VRHR pmax pmax
comp=Z,6.0nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.9s
NB2 NORSAR Subarra136.16 356 PKPdf PKPpre 04 00 31.0
comp=Z,5.4nm,1.2s,baz=14,slow=1.8
NOA NORSAR Array B136.16 356 PKP PKPdf 04 00 41.5 -0.5
comp=Z,2.3nm,1.0s,baz=14,slow=3.9,SNR=3.8
NOA PP PP 04 03 18.4 -5.2
comp=Z,2.7nm,1.0s,baz=9.9,slow=6.5,SNR=5.3
NOA NORSAR Array B136.16 356 PKP PKPdf 04 00 41.5 -0.5
NOA PP PP 04 03 18.4 -5.2
NOA NORSAR Array B136.16 356 PKIKP PKPdf 04 00 41.6 -0.4
VSR Storozhevoye 136.97 329 *e*PKIKP PKPdf 04 00 42.5 -1.3
VSR pmax pmax
comp=Z,7.0nm,0.7s
VSR pmax pmax
comp=N,10.0nm,1.3s
VSR pmax pmax
comp=E,5.0nm,1.1s
KIV Kislovodsk 139.06 318 *i* PKIKP PKPdf 04 00 50.2 +2.3
KIV *e* 04 03 42.3
KIV *e*SS SS 04 21 42.9 -0.9
KIV pmax pmax
comp=Z,6.0nm,0.9s
LSZ Lusaka 140.72 216 *e*PKPdf PKPdf 04 00 52.3 +0.5
LSZ Lusaka 140.72 216 *e*PKHKP PKPpre 04 00 52.3
SUW Suwalki 140.94 344 *e*PKIKP PKPdf 04 00 50.8 -0.2
AKASG Malin Array Be 141.74 336 PKhKP PKPpre 04 00 47.5
comp=Z,0.7nm,0.3s,baz=36,slow=3.0,SNR=9.5
AKASG PKP PKPdf 04 00 52.3 -0.2
comp=Z,3.0nm,0.7s,baz=33,slow=2.4,SNR=9.4
AKASG PP PP 04 03 52.4 -5.9
comp=Z,1.2nm,0.8s,baz=29,slow=4.7,SNR=5.0
AKASG Malin Array Be 141.74 336 PKP PKPpre 04 00 47.5
AKASG PKP PKPdf 04 00 52.3 -0.2
AKASG PP PP 04 03 52.4 -5.9
AKASG Malin Array Be 141.74 336 PKHKP PKPpre 04 00 47.5
AKASG 04 00 52.3
AKASG 04 03 52.4
AKBB Malin Array Si 141.74 336 *e*PKPdf PKPdf 04 00 51.9 -0.6
AKBB Malin Array Si 141.74 336 *e*PKIKP PKPdf 04 00 51.9 -0.6
KMBO Kilima Mbogo 143.87 243 PKP PKPdf 04 00 56.7 -0.8
comp=Z,13nm,0.8s,baz=360,slow=24,SNR=33
KMBO PKP PKPdf 04 01 46.3 -0.7
comp=Z,4.3nm,0.8s,baz=1.0,slow=24,SNR=2.6
KMBO Kilima Mbogo 143.87 243 *e*PKPdf PKPdf 04 00 56.2 -1.3
KMBO Kilima Mbogo 143.87 243 *e*PKHKP PKPdf 04 00 56.2 -1.3
CWF Charnwood Fore 144.24 7 *e*P PKPdf 04 00 53.8 -3.1
CWF AMB AMB 04 00 55.5
comp=Z,31nm,1.7s
LVV L'vov 144.35 339 *e*PKHKP PKPpre 04 00 54.7
MCH1 Michaelchurch 144.73 9 *e*P PKPdf 04 00 57.9 +0.1
MCH1 AMB AMB 04 01 00.4
comp=Z,34nm,2.6s
KWP Kalwaria Pacla 144.95 341 *e*PKPdf PKPdf 04 00 56.9 -1.3
KWP eSKP 04 04 11.8
KWP Kalwaria Pacla 144.95 341 *e*PKHKP PKPdf 04 00 56.9 -1.3
KWP *e* 04 04 11.8
HGH Gray Hill 145.11 9 *e*P PKPbc 04 00 56.4 -1.9
OJC Ojcow 145.27 344 *e*PKIKP PKPdf 04 00 59.0 +0.3
SWN1 Swindon 145.37 8 *e*P PKPdf 04 00 59.2 +0.3
SWN1 AMB AMB 04 01 00.5
comp=Z,204nm,1.8s
HTL Hartland 145.44 11 *e*P PKPdf 04 00 57.5 -1.5
HTL AMB AMB 04 00 58.7
comp=Z,75nm,4.1s
STHS Stebnicka Huta 145.59 342 *e*PKIKP PKPdf 04 01 00.4 +1.1
CLL Collm 145.59 352 *i* PKIKP PKPdf 04 00 59.3 0.0
CLL *e* 04 02 08.0
CLL pmax pmax
comp=Z,138nm,1.1s
WOL Wolverton 145.65 8 *e*P PKPdf 04 00 58.8 -0.6
WOL AMB AMB 04 01 01.3
comp=Z,196nm,1.0s
KOLS Kolonicke sedl 145.70 340 *e*PKIKP PKPdf 04 01 00.5 +1.0
BUR08 Bucovina Ar. S 145.76 336 *e*PKPdf PKPdf 04 01 00.6 +0.9
BURAR Bucovina Array 145.78 336 ⇓PKIKP PKPdf 04 01 01.4 +1.7
NIE Niedzica 145.85 343 *e*PKIKP PKPdf 04 01 00.6 +0.8
UPC Upice 145.87 348 *e*PKIKP PKPdf 04 01 01.3 +1.5
UPC *e* 04 01 47.4
UPC Upice 145.87 348 *e*PKP PKPdf 04 01 01.3 +1.5
UPC *e*PKP pPKPdf 04 01 47.4 -1.9
BRG Berggiesshubel 145.88 351 *i* PKIKP PKPdf 04 01 00.7 +0.9
BRG *i* 04 01 47.2
BRG *e* 04 04 21.7
BRG pmax pmax
comp=Z,121nm,1.4s
BRG pmax pmax
comp=Z,23nm,1.4s
BRG pmax pmax
comp=Z,10.0nm,1.7s
BRG MLR MLR
comp=N,301nm,17.2s
BRG MLR MLR
comp=E,141nm,13.0s
BRG MLR MLR
comp=Z,402nm,23.3s
DPC Dobruska-Polom 145.96 348 *e*PKIKP PKPdf 04 01 01.8 +1.9
DPC *e* 04 01 47.7
DPC Dobruska-Polom 145.96 348 *e*PKP PKPdf 04 01 01.8 +1.9
DPC *ep*PKP pPKPdf 04 01 47.7 -1.8
UZH Uzhgorod 145.96 340 *e*PKIKP PKPdf 04 01 00.5 +0.5
UZH *i* 04 01 47.5
CRVS Cervenica-Dubn 145.98 341 *e*PKIKP PKPdf 04 01 01.5 +1.5
OKC Ostrava-Krasne 146.03 345 *e*PKIKP PKPdf 04 01 00.4 +0.3
OKC *e* 04 01 48.8
OKC Ostrava-Krasne 146.03 345 *e*PKP PKPdf 04 01 00.4 +0.3
OKC *ep*PKP pPKPdf 04 01 48.8 -0.8
ELSH Elham, Standar 146.06 5 *e*P PKPdf 04 01 00.0 -0.1
ELSH AMB AMB 04 01 02.3
comp=Z,234nm,1.3s
DYA Yadsworthy 146.08 11 *e*P PKPdf 04 00 59.6 -0.5
DYA AMB AMB 04 01 01.6
comp=Z,81nm,1.6s
PVCC Panska Ves 146.11 350 *e*PKIKP PKPdf 04 01 01.5 +1.3
PVCC Panska Ves 146.11 350 *e*PKP PKPdf 04 01 01.5 +1.3
TLCR 146.13 330 ⇑PKIKP PKPab 04 01 02.9 +0.3
MORC Moravsky Berou 146.23 346 *e*PKPdf PKPdf 04 01 01.7 +1.3
MORC Moravsky Berou 146.23 346 PKIKP PKPab 04 01 02.7 -0.2
BMR Baia Mare 146.37 338 PKP2 PKPab 04 01 03.3 -0.2
CFR Carcaliu 146.46 331 PKP2 PKPab 04 01 03.9 0.0
VRI Vrincioaia 146.57 333 ⇓PKIKP PKPdf 04 01 03.0 +1.9
PRA Prague 146.57 350 PKP PKPdf 04 01 03.0 +2.0
PRA pPKP pPKPdf 04 01 49.0 -1.5
PLOR Plostina 146.61 333 ⇓PKP2 PKPab 04 01 03.6 -0.9
PRU Pruhonice 146.64 350 *e*PKP2 PKPab 04 01 03.0 -1.4
PRU Pruhonice 146.64 350 *e*PKP PKPdf 04 01 03.0 +1.9
PRU *ep*PKP pPKPdf 04 01 50.9 +0.3
TIRR Tirgusor 146.86 330 *e*PKPbc PKPbc 04 01 04.6 +0.8
TIRR Tirgusor 146.86 330 PKP2 PKPab 04 01 05.1 -0.4
VRAC Vranov 146.88 347 PKP2 PKPab 04 01 05.2 -0.2
BR131 Keskin Array S 147.03 318 *e*PKPdf PKPdf 04 01 01.9 -0.1
BR131 *e*PKPbc PKPbc 04 01 04.4 0.0
BRTR Keskin Array B 147.03 318 PKPbc PKPbc 04 01 02.4 -2.0
comp=Z,19nm,0.9s,baz=127,slow=2.8,SNR=45
BRTR pPKPbc pPKPbc 04 01 51.9 -1.4
comp=Z,16nm,0.9s,baz=101,slow=2.6,SNR=3.4
BRTR Keskin Array B 147.03 318 PKPbc PKPbc 04 01 02.4 -2.0
BRTR pPKPbc pPKPbc 04 01 51.9 -1.4
BRTR Keskin Array B 147.03 318 PKHKP PKPbc 04 01 02.4 -2.0
VYHS Vyhne 147.10 344 *e*PKP2 PKPab 04 01 04.9 -1.4
TREC Trest 147.13 348 *e*PKP2 PKPab 04 01 05.2 -1.2
TREC Trest 147.13 348 *e*PKP PKPab 04 01 05.2 -1.2
KOLL Kolacno 147.14 344 *e*PKP2 PKPab 04 01 06.0 -0.4
MLR Muntele Rosu 147.20 333 ⇑PKP2 PKPab 04 01 05.7 -1.1
GIVF Givet 147.29 1 *e*PKP1 PKPbc 04 01 05.3 +0.5
comp=Z,111nm,1.2s
GIVF Givet 147.29 1 *e*PKP PKPbc 04 01 05.3 +0.5
GIVF Givet 147.29 1 *e*PKP2 PKPab 04 01 05.3 -1.7
BAIF Baives 147.32 2 *e*PKP1 PKPbc 04 01 05.6 +0.7
comp=Z,192nm,1.3s
BAIF Baives 147.32 2 *e*PKP PKPbc 04 01 05.6 +0.7
BAIF Baives 147.32 2 *e*PKP2 PKPab 04 01 05.6 -1.5
PSZ Piszkesteto 147.33 342 *e*PKPbc PKPbc 04 01 05.1 +0.2
PSZ Piszkesteto 147.33 342 ⇑PKP2 PKPbc 04 01 05.9 +1.0
GRFO Grafenberg 147.40 353 *e*PKPbc PKPbc 04 01 06.3 +1.2
GRFO Grafenberg 147.40 353 *e*PKP2 PKPbc 04 01 06.3 +1.2
DRGR 147.40 338 ⇑PKIKP PKPdf 04 01 04.6 +2.1
SMOL Smolenice 147.44 345 *e*PKP2 PKPab 04 01 07.1 -0.5
JSA Saint Aubin 147.59 10 *e*P PKPdf 04 01 03.3 +0.6
JSA AMB AMB 04 01 06.1
comp=Z,102nm,1.2s
VOIR 147.62 334 ⇓PKP2 PKPbc 04 01 06.3 +0.5
KHC Kasperske Hory 147.63 350 *e*PKPdf PKPdf 04 01 03.6 +0.8
KHC *e*PKPbc PKPbc 04 01 06.2 +0.5
KHC Kasperske Hory 147.63 350 *e*PKIKP PKPdf 04 01 04.0 +1.2
KHC *e* 04 01 53.7
KHC Kasperske Hory 147.63 350 *e*PKP PKPdf 04 01 04.0 +1.2
KHC *ep*PKP pPKPdf 04 01 53.7 +1.4
RUP Ruppelstein 147.68 358 PKP PKPbc 04 01 06.6 +0.8
RUP Ruppelstein 147.68 358 PKP2 PKPbc 04 01 06.6 +0.8
TOD Tromm 147.70 356 PKP PKPbc 04 01 06.3 +0.4
TOD Tromm 147.70 356 PKP2 PKPbc 04 01 06.3 +0.4
WLF Walferdange 147.74 359 *e*PKPbc PKPbc 04 01 06.5 +0.6
WLF Walferdange 147.74 359 *e*PKP2 PKPbc 04 01 06.5 +0.5
ZST Bratislava 147.81 346 *e*PKP2 PKPbc 04 01 07.7 +1.5
GERES GERESS Array B 147.88 350 PKPbc PKPbc 04 01 04.0 -2.3
comp=Z,15nm,0.9s,baz=23,slow=1.7,SNR=56
GERES pPKPbc pPKPbc 04 01 53.8 -1.7
comp=Z,7.6nm,1.1s,baz=20,slow=4.3,SNR=2.5
GERES GERESS Array B 147.88 350 PKPbc PKPbc 04 01 04.0 -2.3
GERES pPKPbc pPKPbc 04 01 53.8 -1.7
GERES GERESS Array B 147.88 350 PKIKP PKPdf 04 01 04.1 +0.9
GERES 04 01 53.8
ROSF Rostrenen 148.22 11 *e*PKP1 PKPbc 04 01 07.4 +0.1
comp=Z,37nm,0.8s
ROSF Rostrenen 148.22 11 *e*PKP PKPbc 04 01 07.4 +0.1
ROSF Rostrenen 148.22 11 *e*PKP2 PKPbc 04 01 07.4 +0.1
FLN La Foliniere 148.24 8 *e*PKP1 PKPbc 04 01 07.6 +0.3
comp=Z,215nm,1.2s
FLN *e*R
comp=Z,169nm,19.8s
FLN La Foliniere 148.24 8 *e*PKP PKPbc 04 01 07.6 +0.3
FLN LR LR
comp=Z,170nm,19.8s
FLN La Foliniere 148.24 8 *e*PKP2 PKPbc 04 01 07.6 +0.3
FLN MLR MLR
comp=Z,170nm,19.8s
CONA Conrad Observa 148.35 347 ⇑*i*PKPbc PKPbc 04 01 04.8 -2.9
comp=Z,3.8nm,1.1s,SNR=18
CONA ⇓*i*PKiKP PKiKP 04 01 09.3 +0.1
comp=Z,67nm,1.2s
LANF Langenberg 148.37 357 PKP PKPbc 04 01 08.1 +0.4
LANF Langenberg 148.37 357 PKP2 PKPbc 04 01 08.1 +0.4
SGMF Saint Gilles 148.43 11 *e*PKP1 PKPbc 04 01 08.0 +0.2
comp=Z,114nm,1.0s
SGMF Saint Gilles 148.43 11 *e*PKP PKPbc 04 01 08.0 +0.2
SGMF Saint Gilles 148.43 11 *e*PKP2 PKPbc 04 01 08.0 +0.2
LDF La Druitiere 148.46 7 *e*PKP1 PKPbc 04 01 07.9 0.0
comp=Z,20nm,0.6s
LDF La Druitiere 148.46 7 *e*PKP PKPbc 04 01 07.9 0.0
LDF La Druitiere 148.46 7 *e*PKIKP PKPbc 04 01 07.9 0.0
STU Stuttgart 148.50 356 *e*PKPbc PKPbc 04 01 08.8 +0.8
STU Stuttgart 148.50 356 *e*PKP2 PKPbc 04 01 08.8 +0.8
GRR Gorron 148.56 8 *e*PKP1 PKPbc 04 01 08.6 +0.4
comp=Z,118nm,0.9s
GRR Gorron 148.56 8 *e*PKP PKPbc 04 01 08.6 +0.4
GRR Gorron 148.56 8 *e*PKP2 PKPbc 04 01 08.6 +0.4
QUIF Quistinic 148.64 11 *e*PKP1 PKPbc 04 01 08.6 +0.2
comp=Z,88nm,1.1s
QUIF Quistinic 148.64 11 *e*PKP PKPbc 04 01 08.6 +0.2
QUIF Quistinic 148.64 11 *e*PKP2 PKPbc 04 01 08.6 +0.2
MOA Molln 148.75 349 ⇑*i*PKPdf PKPdf 04 01 04.6 0.0
comp=Z,3.2nm,1.2s,SNR=16
MOA ⇑*i*PKiKP PKiKP 04 01 09.2 -0.7
comp=Z,41nm,1.4s
BZS Buzias 148.80 338 ⇑PKIKP PKPbc 04 01 08.1 -0.8
PAGF Fort de Pagny 148.85 360 *e*PKP1 PKPbc 04 01 09.9 +1.0
comp=Z,31nm,1.2s
MEZF Maizieres J'vi 148.90 1 *e*PKP1 PKPbc 04 01 09.9 +0.9
comp=Z,93nm,1.1s
MEZF Maizieres J'vi 148.90 1 *e*PKP PKPbc 04 01 09.9 +0.9
CDF Champ du Feu 148.96 358 *e*PKP1 PKPbc 04 01 09.9 +0.7
comp=Z,122nm,1.1s
CDF Champ du Feu 148.96 358 *e*PKP PKPbc 04 01 09.9 +0.7
CDF Champ du Feu 148.96 358 *e*PKP2 PKPbc 04 01 09.9 +0.7
BFO Black Forest 149.00 357 *e*PKPbc PKPbc 04 01 08.8 -0.5
BFO Black Forest 149.00 357 *e*PKIKP PKPbc 04 01 08.8 -0.5
ARSA Arzberg 149.06 347 ⇑*i*PKPdf PKPdf 04 01 05.6 +0.4
comp=Z,3.9nm,1.4s,SNR=9.7
ARSA ⇑*i*PKiKP PKiKP 04 01 10.0 -0.7
comp=Z,28nm,1.2s
ECH Echery 149.16 358 *e*PKPbc PKPbc 04 01 10.3 +0.6
ECH Echery 149.16 358 *e*PKP2 PKPbc 04 01 10.3 +0.6
THEF They Montfort 149.18 360 PKP PKPbc 04 01 09.6 -0.1
THEF They Montfort 149.18 360 PKIKP PKPbc 04 01 09.6 -0.1
SFTF Sexfontaines 149.19 1 *e*PKP1 PKPbc 04 01 10.6 +0.8
comp=Z,234nm,1.2s
SFTF Sexfontaines 149.19 1 *e*PKP PKPbc 04 01 10.6 +0.8
SPAK Spaichingen-Ko 149.19 356 PKP PKPbc 04 01 10.5 +0.7
PKSM Moragy 149.24 342 ⇑PKIKP PKPbc 04 01 09.7 -0.2
HAU Haudompre 149.39 359 *e*PKP1 PKPbc 04 01 11.0 +0.7
comp=Z,111nm,1.2s
HAU *e*R
comp=Z,155nm,20.8s
HAU Haudompre 149.39 359 *e*PKP PKPbc 04 01 11.0 +0.7
HAU LR LR
comp=Z,150nm,20.8s

HAU	**Haudompre**	**149.39**	**359**	*e*PKP2	PKPbc	04 01 11.0	+0.7
HAU				MLR	MLR			
	comp=Z,150nm,20.8s							
FELD	**Feldberg im Sc**	**149.47**	**357**	PKP	PKPbc	04 01 10.0	-0.4
MOF	**Molkenrain**	**149.53**	**358**	PKP	PKPbc	04 01 08.5	-2.1
MOF	**Molkenrain**	**149.53**	**358**	PKIKP	PKPbc	04 01 08.5	-2.1
HINF	**Hinteralfeld**	**149.57**	**358**	*e*PKP1	PKPbc	04 01 11.1	+0.4
HINF	**Hinteralfeld**	**149.57**	**358**	*e*PKP	PKPbc	04 01 11.1	+0.4
HINF	**Hinteralfeld**	**149.57**	**358**	*e*PKP2	PKPbc	04 01 11.1	+0.4
KBA	**Koelnbreinsper**	**149.65**	**350**	*i* PKiKP	PKiKP	04 01 11.3	-0.6
	comp=Z,19nm,0.9s,SNR=6.9							
MOTA	**Moosalm**	**149.72**	**353**	⇑*i*PKPbc	PKPbc	04 01 07.5	-3.6
	comp=Z,2.7nm,0.9s,SNR=18							
MOTA				⇑*i*PKPbc	PKPbc	04 01 10.6	-0.5
	comp=Z,45nm,1.1s							
CSS	**Prodhromos**	**149.73**	**311**	*e*PKPbc	PKPbc	04 01 11.8	+0.3
WTTA	**Wattenberg**	**149.74**	**352**	⇓*i*PKPbc	PKPbc	04 01 09.5	-1.6
	comp=Z,3.0nm,0.4s,SNR=13							
WTTA				⇓*i*PKiKP	PKiKP	04 01 12.2	+0.2
	comp=Z,37nm,0.6s							
BBS	**Basel-Blauen**	**149.90**	**357**	PKP	PKPbc	04 01 12.4	+0.9
BBS	**Basel-Blauen**	**149.90**	**357**	PKP2	PKPbc	04 01 12.4	+0.9
DAVA	**Damuels**	**149.92**	**354**	⇑*i*PKPbc	PKPbc	04 01 09.3	-2.3
	comp=Z,5.1nm,1.3s,SNR=20							
DAVA				⇑*i*PKiKP	PKiKP	04 01 12.1	-0.3
	comp=Z,73nm,1.1s							
HYF	**Humbligny**	**150.03**	**4**	*e*PKP1	PKPbc	04 01 12.8	+1.0
HYF	**Humbligny**	**150.03**	**4**	*e*PKP	PKPbc	04 01 12.8	+1.0
LOMF	**Lomont**	**150.04**	**358**	PKP	PKPbc	04 01 11.8	0.0
LOMF	**Lomont**	**150.04**	**358**	PKIKP	PKPbc	04 01 11.8	0.0
FETA	**Feichten**	**150.09**	**353**	⇑*i*PKPbc	PKPbc	04 01 08.4	-3.6
	comp=Z,9.0nm,1.1s,SNR=13							
FETA				⇓*i*PKiKP	PKiKP	04 01 13.2	+0.5
	comp=Z,63nm,1.1s							
LOR	**Lormes**	**150.10**	**2**	*e*PKP1	PKPbc	04 01 12.8	+0.8
	comp=Z,148nm,1.3s							
LOR				*e*R				
	comp=Z,212nm,20.5s							
LOR	**Lormes**	**150.10**	**2**	*e*PKP	PKPbc	04 01 12.8	+0.8
LOR				LR	LR			
	comp=Z,210nm,20.5s							
LOR	**Lormes**	**150.10**	**2**	*e*PKP2	PKPbc	04 01 12.8	+0.8
LOR				MLR	MLR			
	comp=Z,210nm,20.5s							
ABTA	**Abfaltersbach**	**150.11**	**351**	⇑*i*PKPdf	PKPdf	04 01 04.8	-2.0
	comp=Z,14nm,1.3s							
ABTA				⇓*i*PKiKP	PKiKP	04 01 12.5	-0.4
	comp=Z,71nm,1.2s							
SSF	**Saint Saulge**	**150.29**	**3**	*e*PKP1	PKPbc	04 01 13.3	+0.8
	comp=Z,190nm,1.2s							
SSF	**Saint Saulge**	**150.29**	**3**	*e*PKP	PKPbc	04 01 13.3	+0.8
SSF	**Saint Saulge**	**150.29**	**3**	*e*PKP2	PKPbc	04 01 13.3	+0.8
MFF	**Saint Martin d**	**150.41**	**8**	*e*PKP1	PKPbc	04 01 13.2	+0.4
	comp=Z,190nm,1.3s							
MFF	**Saint Martin d**	**150.41**	**8**	*e*PKP	PKPbc	04 01 13.2	+0.4
MFF	**Saint Martin d**	**150.41**	**8**	*e*PKHKP	PKPbc	04 01 13.2	+0.4
AVF	**Avril sur Loir**	**150.55**	**3**	*e*PKP1	PKPbc	04 01 13.5	+0.4
	comp=Z,112nm,1.3s							
AVF	**Avril sur Loir**	**150.55**	**3**	*e*PKP	PKPbc	04 01 13.5	+0.4
AVF	**Avril sur Loir**	**150.55**	**3**	*e*PKHKP	PKPbc	04 01 13.5	+0.4
VTS	**Vitosha**	**150.70**	**333**	⇑PKHKP	PKPbc	04 01 12.8	-0.8
SMF	**Signal de Mont**	**150.72**	**3**	*e*PKP1	PKPbc	04 01 14.0	+0.5
	comp=Z,87nm,1.2s							
SMF	**Signal de Mont**	**150.72**	**3**	*e*PKP	PKPbc	04 01 14.0	+0.5
SMF	**Signal de Mont**	**150.72**	**3**	*e*PKHKP	PKPbc	04 01 14.0	+0.5
BGF	**Bois d'Agland**	**150.75**	**4**	*e*PKP1	PKPbc	04 01 14.2	+0.6
	comp=Z,125nm,1.1s							
BGF	**Bois d'Agland**	**150.75**	**4**	*e*PKP	PKPbc	04 01 14.2	+0.6
BGF	**Bois d'Agland**	**150.75**	**4**	*e*PKHKP	PKPbc	04 01 14.2	+0.6
TUE	**Stuetta**	**150.77**	**355**	*e*PKPbc	PKPbc	04 01 13.3	-0.3
CABF	**La Chapelle**	**150.79**	**359**	*e*PKP1	PKPbc	04 01 15.0	+1.3
	comp=Z,214nm,1.2s							
CABF	**La Chapelle**	**150.79**	**359**	*e*PKP	PKPbc	04 01 15.0	+1.3
CABF	**La Chapelle**	**150.79**	**359**	*e*PKP2	PKPbc	04 01 15.0	+1.3
TCF	**Toulx Ste Croi**	**150.97**	**5**	*e*PKP1	PKPbc	04 01 14.6	+0.5
	comp=Z,92nm,1.2s							
TCF	**Toulx Ste Croi**	**150.97**	**5**	*e*PKP	PKPbc	04 01 14.6	+0.5
TCF	**Toulx Ste Croi**	**150.97**	**5**	*e*PKHKP	PKPbc	04 01 14.6	+0.5
PLDF	**La Plantade**	**151.38**	**3**	PKP	PKPbc	04 01 16.0	+1.0
PLDF	**La Plantade**	**151.38**	**3**	PKIKP	PKPbc	04 01 16.0	+1.0
PYM	**Petit Puy Mans**	**151.57**	**4**	PKP	PKPbc	04 01 16.5	+1.0
PYM	**Petit Puy Mans**	**151.57**	**4**	PKIKP	PKPbc	04 01 16.5	+1.0
LPL	**La Plagne**	**151.87**	**358**	*e*PKP1	PKPbc	04 01 17.8	+1.6
	comp=Z,53nm,1.1s							
LPL	**La Plagne**	**151.87**	**358**	*e*PKP	PKPbc	04 01 17.8	+1.6
LPL	**La Plagne**	**151.87**	**358**	*e*PKIKP	PKPbc	04 01 17.8	+1.6
RJF	**Les Rejaudoux**	**151.89**	**6**	*e*PKP1	PKPbc	04 01 16.8	+0.6
	comp=Z,90nm,1.4s							
RJF				*e*R				
	comp=Z,191nm,21.0s							
RJF	**Les Rejaudoux**	**151.89**	**6**	*e*PKP	PKPbc	04 01 16.8	+0.6
RJF				LR	LR			
	comp=Z,190nm,21.0s							
RJF	**Les Rejaudoux**	**151.89**	**6**	*e*PKIKP	PKPbc	04 01 16.8	+0.6
RJF				MLR	MLR			
	comp=Z,190nm,21.0s							
LPG	**La Plagne**	**151.89**	**358**	*e*PKP1	PKPbc	04 01 17.9	+1.7
	comp=Z,91nm,1.3s							
LPG	**La Plagne**	**151.89**	**358**	*e*PKP	PKPbc	04 01 17.9	+1.7
LPG	**La Plagne**	**151.89**	**358**	*e*PKIKP	PKPbc	04 01 17.9	+1.7
SKO	**Skopje**	**151.96**	**334**	*e*PKP	PKPbc	04 01 16.3	-0.2
VAY	**Valandovo**	**152.01**	**332**	*e*PKP	PKPbc	04 01 16.1	-0.6
VAY				*e*PKP	PKPab	04 01 25.6	-1.1
LBL	**Lubilhac**	**152.10**	**4**	PKP	PKPbc	04 01 18.4	+1.7
LBL	**Lubilhac**	**152.10**	**4**	PKIKP	PKPbc	04 01 18.4	+1.7
SSB	**Saint Sauveur**	**152.11**	**2**	*e*PKPbc	PKPbc	04 01 16.8	+0.1
SSB	**Saint Sauveur**	**152.11**	**2**	*e*PKIKP	PKPbc	04 01 16.8	+0.1
LFF	**La Frestale**	**152.16**	**7**	*e*PKP1	PKPbc	04 01 17.3	+0.5
	comp=Z,57nm,1.2s							
LFF	**La Frestale**	**152.16**	**7**	*e*PKP	PKPbc	04 01 17.3	+0.5
LFF	**La Frestale**	**152.16**	**7**	*e*PKIKP	PKPbc	04 01 17.3	+0.5
CAF	**Calviac**	**152.31**	**6**	*e*PKP1	PKPbc	04 01 17.9	+0.7
	comp=Z,72nm,1.4s							
CAF	**Calviac**	**152.31**	**6**	*e*PKP	PKPbc	04 01 17.9	+0.7
CAF	**Calviac**	**152.31**	**6**	*e*PKIKP	PKPbc	04 01 17.9	+0.7
ORIF	**Oris-en-Rattie**	**152.49**	**360**	*e*PKP1	PKPbc	04 01 18.5	+0.9
ORIF				*e*R				
	comp=Z,184nm,23.0s							
ORIF	**Oris-en-Rattie**	**152.49**	**360**	*e*PKP	PKPbc	04 01 18.5	+0.9
ORIF	**Oris-en-Rattie**	**152.49**	**360**	*e*PKIKP	PKPbc	04 01 18.5	+0.9
VIVF	**Saint-Julien-l**	**152.54**	**2**	*e*PKP1	PKPbc	04 01 18.6	+0.9
	comp=Z,155nm,1.6s							
VIVF	**Saint-Julien-l**	**152.54**	**2**	*e*PKP	PKPbc	04 01 18.6	+0.9
VIVF	**Saint-Julien-l**	**152.54**	**2**	*e*PKIKP	PKPbc	04 01 18.6	+0.9
KRUS	**Krusevo**	**152.54**	**334**	*e*PKP	PKPbc	04 01 16.8	-1.1
KRUS				*e*PKP	PKPab	04 01 27.0	-1.9
MBDF	**Montbardon**	**152.66**	**358**	*e*PKP1	PKPbc	04 01 19.0	+1.0
MBDF	**Montbardon**	**152.66**	**358**	*e*PKP	PKPbc	04 01 19.0	+1.0
MBDF	**Montbardon**	**152.66**	**358**	*e*PKIKP	PKPbc	04 01 19.0	+1.0
PGAV	**Gavieira, Arco**	**152.69**	**23**	*e*PKPdf	PKPdf	04 01 19.6	-1.3
PGAV	**Gavieira, Arco**	**152.69**	**23**	PKPbc	PKPbc	04 01 17.8	-0.3
BIA	**Bitola**	**152.80**	**333**	*e*PKP	PKPbc	04 01 18.2	-0.2
BIA				*e*PKP	PKPab	04 01 28.5	-1.4
PCAB	**Cabril**	**153.00**	**23**	*e*PKPbc	PKPbc	04 01 19.8	+1.0
LASF	**Ste Croix**	**153.28**	**3**	*e*PKP1	PKPbc	04 01 20.5	+1.2
	comp=Z,60nm,1.2s							
LASF	**Ste Croix**	**153.28**	**3**	*e*PKP	PKPbc	04 01 20.5	+1.2
SMRF	**Simiane la Rot**	**153.43**	**0**	*e*PKP1	PKPbc	04 01 21.0	+1.3
	comp=Z,328nm,1.8s							
SMRF	**Simiane la Rot**	**153.43**	**0**	*e*PKP	PKPbc	04 01 21.0	+1.3
PVRL	**Vila Real**	**153.50**	**23**	*e*PKPdf	PKPdf	04 01 11.3	-0.8
PVRL	**Vila Real**	**153.50**	**23**	*e*PKPab	PKPab	04 01 33.5	+0.6
SJPF	**Ste Jean**	**153.63**	**11**	*e*PKP1	PKPbc	04 01 20.7	+0.6
	comp=Z,26nm,1.1s							
SJPF	**Ste Jean**	**153.63**	**11**	*e*PKP	PKPbc	04 01 20.7	+0.6
SJPF	**Ste Jean**	**153.63**	**11**	*e*PKIKP	PKPbc	04 01 20.7	+0.6
MVO	**Moncorvo**	**153.85**	**22**	PKPbc	PKPbc	04 01 21.6	+0.9
ETSF	**Etsaut**	**153.96**	**10**	*e*PKP1	PKPbc	04 01 21.8	+1.0
	comp=Z,51nm,1.2s							
ETSF	**Etsaut**	**153.96**	**10**	*e*PKP	PKPbc	04 01 21.8	+1.0
ETSF	**Etsaut**	**153.96**	**10**	*e*PKIKP	PKPbc	04 01 21.8	+1.0
MTE	**Manteigas**	**154.32**	**24**	PKPbc	PKPbc	04 01 22.4	+0.7
PMRV	**Marv??o**	**155.22**	**25**	*e*PKPab	PKPab	04 01 40.6	+0.3
PESTR	**Estremoz**	**155.61**	**26**	*e*PKPdf	PKPdf	04 01 13.0	-2.1
PESTR	**Estremoz**	**155.61**	**26**	*e*PKPab	PKPab	04 01 42.1	+0.1
EVO	**Evora**	**155.72**	**27**	*e*PKPab	PKPab	04 01 41.9	-0.6
PNCL	**Nicolau / Gran**	**155.84**	**28**	*e*PKPab	PKPab	04 01 43.4	+0.4
ESDC	**Sonseca Array**	**156.21**	**19**	PKPab	PKPdf	04 01 16.6	+0.8
	comp=Z,0.2nm,0.4s,baz=358,slow=4.5,SNR=5.2							
ESDC				PKPab	PKPab	04 01 45.0	+0.4
	comp=Z,4.1nm,1.0s,baz=328,slow=4.1,SNR=13							
ESDC				PP	PP	04 05 21.0	-0.8
	comp=Z,0.1nm,0.3s,baz=308,slow=6.3,SNR=3.4							
ESDC	**Sonseca Array**	**156.21**	**19**	PKP	PKPdf	04 01 16.6	+0.8
ESDC				PKPab	PKPab	04 01 45.0	+0.4
ESDC				PP	PP	04 05 21.0	-0.8
PBAR	**Barrancos**	**156.43**	**26**	*e*PKPdf	PKPdf	04 01 17.4	+1.2
PCVE	**Castro Verde**	**156.45**	**28**	*e*PKPab	PKPab	04 01 45.6	-0.1
PFVI	**Vila Bisbo**	**156.49**	**30**	*e*PKPdf	PKPdf	04 01 17.0	+0.7
PVAQ	**Vaqueiros**	**156.78**	**28**	*e*PKPab	PKPab	04 01 47.7	+0.6
TORD	**Torodi Ar. Bea**	**174.36**	**137**	PKP	PKPdf	04 01 29.9	-1.7
	comp=Z,4.3nm,1.0s,baz=330,slow=0.8,SNR=17							
TORD				pPKP	pPKPdf	04 02 18.4	-3.1
	comp=Z,1.6nm,1.1s,baz=324,slow=1.9,SNR=2.5							
TORD				PKPab	PKPab	04 03 03.1	-1.9
	comp=Z,6.2nm,1.1s,baz=248,slow=3.9,SNR=10							
TORD				PP	PP	04 06 57.5	+0.8
	comp=Z,1.0nm,1.1s,baz=201,slow=2.8,SNR=3.6							
TORD	**Torodi Ar. Bea**	**174.36**	**137**	PKP	PKPdf	04 01 29.9	-1.7
TORD				pPKP	pPKPdf	04 02 18.4	-3.1
TORD				PKPab	PKPab	04 03 03.1	-1.9
TORD				PP	PP	04 06 57.5	+0.8
TAM	**Tamanrasset**	**174.56**	**1**	*e*PKPdf	PKPdf	04 01 32.5	+1.0
TAM				*e*PKPab	PKPab	04 03 05.6	+0.1
TAM	**Tamanrasset**	**174.56**	**1**	*e*PKIKP	PKPdf	04 01 32.5	+1.0
TAM				*e*		04 03 05.6	

RSPR 05 03:45:43.8, 19.40N×65.90W, h42km±19km, 2C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBYP	**Canovanas**	**1.12**	**178**	⇓*e*P	Pn	03 46 01.6	-1.5
CBYP	**Canovanas**	**1.12**	**178**	⇓*e*P	Pn	03 46 01.6	-1.5
CBYP				*e*S	Sn	03 46 16.1	-1.1
HUMP	**Col San Antoni**	**1.25**	**178**	⇓*e*P	Pn	03 46 03.7	-1.1
HUMP	**Col San Antoni**	**1.25**	**178**	⇓*e*P	Pn	03 46 03.7	-1.1
HUMP				*e*S	Sn	03 46 19.4	-1.0
MTP	**Monte Pirata**	**1.33**	**166**	⇓*e*P	Pn	03 46 05.3	-0.7
MTP	**Monte Pirata**	**1.33**	**166**	⇓*e*P	Pn	03 46 05.3	-0.7
MTP				*e*S	Sn	03 46 21.1	-1.4

JMA 05 04:03:02.3±0.8, 32.14N×142.01E, h16km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.09**	**298**	P	Pn	04 03 37.5	+0.9
BSO1	**Boso 1**	**2.65**	**341**	P	Pn	04 03 44.9	+0.5
BSO1				*e*S	Sn	04 04 16.5	+0.3
BSO2	**Boso 2**	**2.81**	**338**	*e*S	Sn	04 04 22.7	+2.7
BSO3	**Boso 3**	**2.94**	**335**	*e*S	Sn	04 04 24.9	+1.7
BSO4	**Boso 4**	**3.17**	**334**	P	Pn	04 03 53.2	+1.7
BSO4				*e*S	Sn	04 04 32.1	+3.2
JYN	**Shimob**	**4.42**	**320**	P	Pn	04 04 12.1	+3.4

*ISCJB **05** 04:10:31.4±0.4, 36.06N±0.03×140.05E±0.05, h80km±3km, mb3.7/10, Error ellipse: s-maj=7.2km s-min=5.3km az=17.7*
*NEIC **05** 04:10:32.2±1.7, 36.01N×140.03E, h77km±12km, MG3.5(JMA), Error ellipse: s-maj=22.2km s-min=16.9km az=74.0*
*IDC **05** 04:10:32.8±2.0, 36.01N×140.04E, h82km±17km, mb3.5/10, mb1 3.7/11, mb1mx3.5/25, mbtmp3.6/11, MS4.1/4, Ms1 4.1/4, ms1mx3.3/37, Error ellipse: s-maj=28.5km s-min=8.1km az=63.0*
*JMA **05** 04:10:32.9±0.1, 36.09N×140.02E, h67km±1km, M3.5 Broadband fault plane solution: P waves. NP1: ϕ±194.00000°, δ29.00000°, λ100.00000°. NP2:ϕ±2.00000°, δ61.00000°, λ84.00000°. Principal axes: T Plg73.0000°, Azm258.0000°; N Plg5.0000°, Azm5.0000°; P Plg16.0000°, Azm96.0000°;*
JMA Felt II J1.

ISC 05 04:10:32.4±0.4, 36.06N±0.03×140.04E±0.05, h74km±3km, n41, σ0852/50, mb3.7/10, 1C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.20**	**36**	⇑P	**Pn**	**04 10 43.3**	**-0.2**
JYT				S	**Sn**	**04 10 50.9**	**-0.7**
JAG	**Ashikaga**	**0.60**	**307**	⇓P	**Pn**	**04 10 46.3**	**-0.2**
JAG				S	**Sn**	**04 10 56.1**	**-0.8**
JRY	**Ryogami san**	**0.93**	**268**	⇓P	**Pn**	**04 10 50.2**	**+0.1**
JRY				S	**Sn**	**04 11 02.9**	**-0.5**
JKT	**Katashina**	**0.95**	**318**	⇓P	**Pn**	**04 10 50.2**	**-0.3**
JKT				S	**Sn**	**04 11 03.5**	**-0.4**
JOD2	**Odawara 2**	**1.11**	**225**	P	**Pn**	**04 10 52.6**	**+0.1**
JOD2				S	**Sn**	**04 11 06.7**	**-0.8**
BSO3	**Boso 3**	**1.31**	**163**	P	**Pn**	**04 10 56.4**	**+1.4**
JYN	**Shimob**	**1.34**	**246**	P	**Pn**	**04 10 56.0**	**+0.6**
JFY	**Yanaizu**	**1.37**	**349**	P	**Pn**	**04 10 55.9**	**+0.2**
JFY				*e*S	**Sn**	**04 11 13.3**	**0.0**
JHK	**Hiroka**	**1.44**	**325**	⇓P	**Pn**	**04 10 56.8**	**+0.1**
JFK	**Kawauchi**	**1.46**	**27**	P	**Pn**	**04 10 57.0**	**0.0**
JFK				*e*S	**Sn**	**04 11 15.7**	**+0.2**
JFT	**Otama**	**1.47**	**9**	P	**Pn**	**04 10 57.5**	**+0.4**
JFT				*e*S	**Sn**	**04 11 15.9**	**+0.2**
MJAR	**Matsushiro Arr**	**1.56**	**288**	P	**Pn**	**04 10 57.9**	**-0.3**
	52nm,0.3s,baz=81,slow=9.2,SNR=229						
MJAR				S	**Sn**	**04 11 18.4**	**+0.7**
	25nm,0.3s,baz=5.2,slow=30,SNR=12						
MJAR	**Matsushiro Arr**	**1.56**	**288**	P	**Pn**	**04 10 57.9**	**-0.3**
MJAR				S	**Sn**	**04 11 18.4**	**+0.7**
MAJO	**Matsushiro**	**1.56**	**288**	*e*Pn	**Pn**	**04 10 58.7**	**+0.5**
MAT	**Matsushiro**	**1.56**	**288**	P	**Pn**	**04 10 58.7**	**+0.5**
MAT				S	**Sn**	**04 11 18.6**	**+0.9**
MAT	**Matsushiro**	**1.56**	**288**	P	**Pn**	**04 10 58.7**	**+0.5**
JHJ	**Hachijo jima 2**	**2.94**	**184**	P	**Pn**	**04 11 17.5**	**+0.6**
	39nm,0.3s,baz=60,slow=15,SNR=9.3						
JHJ				S	**Sn**	**04 11 50.7**	**-0.4**
	34nm,0.3s,baz=73,slow=19,SNR=7.8						
SONM	**Songino Array**	**27.43**	**306**	P	**P**	**04 16 11.7**	**+0.6**
	0.5nm,0.4s,mb3.4,baz=96,slow=8.9,SNR=2.5						
SONM	**Songino Array**	**27.43**	**306**	P	**P**	**04 16 11.7**	**+0.6**
ZALV	**Zalesovo Beam**	**41.76**	**313**	P	**P**	**04 18 13.7**	**-0.5**
	1.8nm,0.8s,mb3.8,baz=84,slow=4.6,SNR=6.7						
ZALV				PcP	PcP	04 20 08.5	-0.6
	0.9nm,0.4s,baz=66,slow=3.6,SNR=4.4						
ZALV	**Zalesovo Beam**	**41.76**	**313**	P	**P**	**04 18 13.7**	**-0.5**
ZALV				PcP	PcP	04 20 08.5	-0.6
MKAR	**Makanchi Array**	**43.71**	**303**	P	**P**	**04 18 30.1**	**+0.2**
	1.6nm,0.6s,mb3.9,baz=91,slow=9.8,SNR=12						
MKAR	**Makanchi Array**	**43.71**	**303**	P	**P**	**04 18 30.1**	**+0.2**
ILAR	**Eielson Array**	**50.90**	**32**	P	**P**	**04 19 25.6**	**+0.1**
	0.4nm,0.9s,mb3.5,baz=264,slow=5.3,SNR=4.0						
ILAR	**Eielson Array**	**50.90**	**32**	P	**P**	**04 19 25.6**	**+0.1**
WRA	**Warramunga Arr**	**55.96**	**186**	P	**P**	**04 20 02.4**	**-0.6**
	0.5nm,0.5s,mb3.8,baz=1.8,slow=7.5,SNR=19						
WRA	**Warramunga Arr**	**55.96**	**186**	P	**P**	**04 20 02.4**	**-0.6**
ARCES	**ARCESS Array B**	**64.52**	**339**	P	**P**	**04 21 01.0**	**+0.1**
	3.4nm,0.9s,mb4.2,baz=57,slow=6.7,SNR=3.6						
ARCES				LR	LR	04 56 08.8	
	comp=Z,184nm,19.4s,baz=167,slow=42						
ARCES	**ARCESS Array B**	**64.52**	**339**	P	**P**	**04 21 01.0**	**+0.1**
ARCES				LR	LR	04 56 08.8	
FINES	**FINESS Array B**	**69.16**	**332**	P	**P**	**04 21 30.1**	**-0.4**
	0.9nm,0.5s,mb3.9,baz=62,slow=4.5,SNR=5.7						
FINES	**FINESS Array B**	**69.16**	**332**	P	**P**	**04 21 30.1**	**-0.4**
AKASG	**Malin Array Be**	**74.39**	**322**	P	**P**	**04 22 01.0**	**-1.0**
	0.9nm,0.6s,mb3.7,baz=46,slow=6.1,SNR=4.3						
AKASG	**Malin Array Be**	**74.39**	**322**	P	**P**	**04 22 01.0**	**-1.0**
NB2	**NORSAR Subarra**	**74.65**	**337**	P	**P**	**04 22 03.0**	**-0.4**
	comp=Z,0.8nm,0.5s,mb3.7,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**74.65**	**337**	P	**P**	**04 22 03.6**	**+0.3**
	comp=Z,1.0nm,0.6s,mb3.7,baz=38,slow=5.9,SNR=7.2						
NOA	**NORSAR Array B**	**74.65**	**337**	P	**P**	**04 22 03.6**	**+0.3**
BRTR	**Keskin Array B**	**78.66**	**311**	P	**P**	**04 22 25.9**	**-0.5**
	comp=Z,0.6nm,0.8s,mb3.5,baz=101,slow=3.5,SNR=3.7						
BRTR	**Keskin Array B**	**78.66**	**311**	P	**P**	**04 22 25.9**	**-0.5**
ASF	**Jabal al Asfar**	**81.12**	**303**	LR	LR	05 03 37.9	
	comp=Z,71nm,20.7s,baz=101,slow=39						
GERES	**GERESS Array B**	**82.95**	**328**	LR	LR	05 05 07.8	
	comp=Z,126nm,21.0s,baz=207,slow=40						
EIL	**Elat**	**83.97**	**302**	LR	LR	05 03 41.9	
	comp=Z,80nm,21.2s,baz=253,slow=38						

*MOS **05** 04:28:39.9±3.0, 43.42N×41.11E, h17km, mb3.9/1, Error ellipse: s-maj=17.6km s-min=11.8km az=8.2*
*CSEM **05** 04:28:41.4±0.3, 43.23N×40.87E, h2km, ML3.6, Error ellipse: s-maj=7.4km s-min=5.0km az=9.0*

*DDA **05** 04:28:43.8, 42.94N×40.99E, h11km±1km, Md3.4, Md3.4*

ISC 05 04:28:39.9±0.6, 43.31N±0.04×40.96E±0.03, h0km±5km, n52, σ1830/84, 5C-2D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DOMR	**Dombai**	**0.49**	**92**	*i* PG	**Pg**	**04 28 47.8**	**-1.5**
DOMR				*e*S	**Sg**	**04 28 54.1**	**-1.5**
DOMR	**Dombai**	**0.49**	**92**	*i* Pg	**Pg**	**04 28 47.8**	**-1.5**
DOMR				*e*Sg	**Sg**	**04 28 54.1**	**-1.5**
SOC	**Sochi**	**0.94**	**287**	*c i* PG	**Pg**	**04 28 56.6**	**-1.4**
SOC				*e*		04 29 09.6	
SOC				pmax	pmax		
	comp=Z,31nm,0.2s						
SOC				smax			
	comp=N,93nm,0.2s						
SOC				smax			
	comp=E,223nm,0.2s						
SOC	**Sochi**	**0.94**	**287**	*i* Pg	**Pg**	**04 28 56.6**	**-1.4**
	comp=E,31nm,0.2s						
SOC				*e*Sg	**Sg**	**04 29 09.6**	**-0.6**
KIV	**Kislovodsk**	**1.41**	**62**	⇑*e*PG	**Pg**	**04 29 03.7**	**-3.3**
KUBR	**Kubataba**	**1.85**	**74**	⇑*e*PN	**Pn**	**04 29 11.3**	**-1.5**
KUBR				*e*S	**Sn**	**04 29 34.7**	**-2.2**
KUBR	**Kubataba**	**1.85**	**74**	*e*Pn	**Pn**	**04 29 11.3**	**-1.5**
BCA	**Borcka**	**1.93**	**165**	*e*PN	**Pn**	**04 29 13.8**	**-0.1**
BCA				*e*SN	**Sn**	**04 29 37.9**	**-0.9**
BCA	**Borcka**	**1.93**	**165**	*e*Pn	**Pn**	**04 29 13.8**	**-0.1**
BCA				*e*Sn	**Sn**	**04 29 37.9**	**-0.8**
DIGR	**Digorskoe uzhe**	**1.97**	**101**	⇓*i*PN	**Pg**	**04 29 17.9**	**+0.3**
DIGR				*i* S	**Sg**	**04 29 47.0**	**+4.0**
DIGR	**Digorskoe uzhe**	**1.97**	**101**	*i* Pn	**Pg**	**04 29 17.9**	**+0.3**
DIGR				*i* Sg	**Sg**	**04 29 47.0**	**+4.0**
ONI	**Oni**	**1.97**	**111**	P	**Pn**	**04 29 16.1**	**+1.7**
ONI				S	**Sg**	**04 29 44.5**	**+1.3**
ONI	**Oni**	**1.97**	**111**	P	**Pn**	**04 29 16.1**	**+1.7**
DBOC	**Borcka**	**2.03**	**165**	*e*P	**Pn**	**04 29 15.1**	**-0.2**
DBOC				*e*S	**Sn**	**04 29 38.8**	**-2.5**
DBOC	**Borcka**	**2.03**	**165**	*e*P	**Pn**	**04 29 15.1**	**-0.2**
DBOC				*e*S	**Sn**	**04 29 38.8**	**-2.5**
PZAR	**Pazar-Rize**	**2.13**	**181**	*e*PN	**Pn**	**04 29 16.4**	**-0.2**
PZAR				*e*SN	**Sn**	**04 29 44.3**	**+0.5**
PZAR	**

ISC 05 04:38:52.0±0.5,**50.15N**±0.04×**19.03E**±0.03,**h0**km,**n26**, σ0**98**/43,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.50**	**81**	*e*Pg	**Pg**	**04 39 00.5**	**-1.1**
OJC				*e*Sg	**Sg**	**04 39 07.0**	**-1.0**
OJC	**Ojcow**	**0.50**	**81**	*e*Pg	**Pg**	**04 39 00.5**	**-1.1**
OJC				*e*Sg	**Sg**	**04 39 07.0**	**-1.0**
OKC	**Ostrava-Krasne**	**0.65**	**242**	*e*PG	**Pg**	**04 39 05.3**	**+0.8**
OKC				*e*SG	**Sg**	**04 39 13.5**	**+0.6**
	comp=Z,24nm,0.4s						
OKC	**Ostrava-Krasne**	**0.65**	**242**	Pg	**Pg**	**04 39 05.3**	**+0.8**
OKC				Sg	**Sg**	**04 39 13.5**	**+0.6**
	comp=Z,24nm,0.4s						
NIE	**Niedzica**	**1.10**	**131**	*e*Pg	**Pg**	**04 39 11.7**	**-1.5**
NIE				*e*Sg	**Sg**	**04 39 27.9**	**+0.4**
NIE	**Niedzica**	**1.10**	**131**	*e*Pg	**Pg**	**04 39 11.7**	**-1.5**
NIE				*e*Sg	**Sg**	**04 39 27.9**	**+0.4**
STHS	**Stebnicka Huta**	**1.61**	**116**	*e*PN	**Pn**	**04 39 21.7**	**+0.1**
STHS				*e*SN	**Sn**	**04 39 44.2**	**+1.1**
STHS	**Stebnicka Huta**	**1.61**	**116**	*e*Pn	**Pn**	**04 39 21.7**	**+0.1**
STHS				*e*Sn	**Sn**	**04 39 44.2**	**+1.1**
KOLL	**Kolacno**	**1.62**	**195**	*e*SN	**Sn**	**04 39 43.3**	**-0.1**
KOLL	**Kolacno**	**1.62**	**195**	*e*Sn	**Sn**	**04 39 43.3**	**-0.1**
VYHS	**Vyhne**	**1.66**	**185**	*e*PN	**Pn**	**04 39 21.0**	**-1.3**
VYHS				*e*SN	**Sn**	**04 39 42.8**	**-1.5**
VYHS	**Vyhne**	**1.66**	**185**	*e*Pn	**Pn**	**04 39 21.0**	**-1.3**
VYHS				*e*Sn	**Sn**	**04 39 42.8**	**-1.5**
DPC	**Dobruska-Polom**	**1.75**	**278**	*e*PG	**Pg**	**04 39 24.5**	**-1.1**
DPC				*e*SG	**Sg**	**04 39 48.0**	**-0.3**
	comp=Z,9.9nm,0.3s						
DPC	**Dobruska-Polom**	**1.75**	**278**	Pg	**Pg**	**04 39 24.5**	**-1.1**
DPC				Sg	**Sg**	**04 39 48.0**	**-0.3**
	comp=Z,9.9nm,0.3s						
KSP	**Ksiaz**	**1.88**	**293**	*e*Pg	**Pg**	**04 39 28.7**	**+0.6**
KSP				*e*Sg	**Sg**	**04 39 53.8**	**+1.3**
UPC	**Upice**	**1.97**	**282**	*e*SG	**Sg**	**04 39 55.0**	**-0.2**
UPC	**Upice**	**1.97**	**282**	Sg	**Sg**	**04 39 55.0**	**-0.2**
CRVS	**Cervenica-Dubn**	**2.01**	**127**	*e*PN	**Pn**	**04 39 28.6**	**+1.4**
CRVS				*e*SN	**Sn**	**04 39 54.2**	**+1.1**
CRVS	**Cervenica-Dubn**	**2.01**	**127**	*e*Pn	**Pn**	**04 39 28.6**	**+1.4**
CRVS				*e*Sn	**Sn**	**04 39 54.2**	**+1.1**
KOLS	**Kolonicke sedl**	**2.44**	**119**	*e*PN	**Pn**	**04 39 36.0**	**+3.0**
KOLS				*e*SN	**Sn**	**04 40 03.4**	**-0.1**
KOLS	**Kolonicke sedl**	**2.44**	**119**	*e*Pn	**Pn**	**04 39 36.0**	**+3.0**
KOLS				*e*Sn	**Sn**	**04 40 03.4**	**-0.1**
PRU	**Pruhonice**	**2.90**	**269**	*e*SG	**Sg**	**04 40 24.7**	**-0.4**
	comp=Z,5.5nm,0.6s						
PRU	**Pruhonice**	**2.90**	**269**	Sg	**Sg**	**04 40 24.7**	**-0.4**
	comp=Z,5.5nm,0.6s						
BRG	**Berggiesshubel**	**3.33**	**285**	SG	**Sg**	**04 40 38.4**	**-0.5**
	comp=Z,2.2nm,0.5s						
KHC	**Kasperske Hory**	**3.69**	**256**	*e*SG	**Sg**	**04 40 50.5**	**+0.1**
	comp=Z,9.9nm,0.9s						
KHC	**Kasperske Hory**	**3.69**	**256**	Sg	**Sg**	**04 40 50.5**	**+0.1**
	comp=Z,9.9nm,0.9s						

*IDC **05** 04:44:07.5±0.8,32°.25N×104°.85E,h0km,mb3.8/10, mb1 4.0/10,mb1mx3.8/26,mbtmp3.8/10,Error ellipse: s-maj=54.6km s-min=16.3km az=55.0*

*NEIC **05** 04:44:09.0±0.5,32°.09N×104°.61E,h10km,mb3.7/1,Error ellipse: s-maj=18.5km s-min=7.6km az=49.0*

*BJI **05** 04:44:11.8,32°.19N×104°.70E,h18km,ML3.6/12,Ms3.5/3, Ms7 3.3/3*

ISC 05 04:44:08.3±0.8,**32°.20N**±0°.03×**104°.78E**±0°.05,**h5**km±5km, **n32**,σ0**91**/44,**mb3.8**/11,**Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**1.55**	**214**	Pg	**Pg**	**04 44 37.5**	**-0.5**
CD2				Sg	**Sg**	**04 44 58.5**	**+0.3**
CD2				smax			
	comp=N,7μm,0.7s						
CD2				smax			
	comp=E,3μm,0.6s						
XAN	**Xi'an**	**3.93**	**61**	Pn	**Pn**	**04 45 11.3**	**+2.0**
XAN				Pg	**Pg**	**04 45 23.8**	**+0.1**
XAN				Sn	**Sn**	**04 45 54.1**	**-1.6**
XAN				Sg	**Sg**	**04 46 14.3**	**-0.3**
XAN				smax			
	comp=N,170nm,0.8s						
XAN				smax			
	comp=E,91nm,1.0s						
XAN				LR	LR		
	comp=N,210nm,7.4s						
XAN				LR	LR		
	comp=E,54nm,7.7s						
XAN				LR	LR		
	comp=Z,76nm,7.4s						
LZH	**Lanzhou**	**3.96**	**349**	*e*Pn	**Pn**	**04 45 16.8**	**+7.2**
LZH				Pg	**Pg**	**04 45 23.7**	**-0.4**
LZH				Sn	**Sn**	**04 46 01.5**	**+5.2**
LZH				Sg	**Sg**	**04 46 11.9**	**-3.4**
LZH				smax			
	comp=N,210nm,0.6s						
LZH				smax			
	comp=E,300nm,0.5s						
LZH				LR	LR		
	comp=N,440nm,7.1s						
LZH				LR	LR		
	comp=E,310nm,5.8s						
LZH				LR	LR		
	comp=Z,300nm,7.2s						
LZH	**Lanzhou**	**3.96**	**349**	Pg	**Pg**	**04 45 23.7**	**-0.4**
LZH				Sn	**Sn**	**04 46 01.5**	**+5.2**
LZH				Sg	**Sg**	**04 46 11.9**	**-3.4**
LZH				smax			
	comp=N,210nm,0.6s						
LZH				smax			
	comp=E,300nm,0.5s						
LZH				LR	LR		
	comp=N,440nm,7.1s						
LZH				LR	LR		
	comp=E,310nm,5.8s						
LZH				LR	LR		
	comp=Z,300nm,7.2s						
ENH	**Enshi**	**4.47**	**114**	*e*Pn	**Pn**	**04 45 18.2**	**+1.6**
GYA	**Guiyang**	**5.95**	**163**	*e*Pn	**Pn**	**04 45 49.2**	**+12**
GYA				Pg	**Pg**	**04 46 01.9**	**-0.4**
GYA				Sn	**Sn**	**04 46 44.9**	**-0.7**
GYA				Sg	**Sg**	**04 47 02.3**	**-17**
GYA				smax			
	comp=N,80nm,0.8s						
GYA				smax			
	comp=E,110nm,0.9s						
GTA	**Gaotai**	**8.25**	**332**	*e*P	**Pn**	**04 46 14.2**	**+5.7**
GTA				pP		**04 46 18.4**	
GTA				sP		**04 46 21.9**	
SONM	**Songino Array**	**15.67**	**4**	Pn	**Pn**	**04 47 52.4**	**+2.9**
	comp=E,0.2nm,0.3s,baz=198,slow=14,SNR=2.6						
SONM	**Songino Array**	**15.67**	**4**	Pn	**Pn**	**04 47 52.4**	**+2.9**
MKAR	**Makanchi Array**	**22.55**	**317**	P	**P**	**04 49 09.9**	**+0.8**
	comp=E,0.4nm,0.4s,mb3.2,baz=118,slow=11,SNR=6.6						
MKAR	**Makanchi Array**	**22.55**	**317**	P	**P**	**04 49 09.9**	**+0.8**
ZAA0	**Zalesovo Array**	**26.00**	**333**	*e*P	**P**	**04 49 42.1**	**+0.2**
ZALV	**Zalesovo Beam**	**26.00**	**333**	P	**P**	**04 49 42.4**	**+0.6**
	comp=E,1.9nm,0.6s,mb3.8,baz=136,slow=11,SNR=6.4						
ZALV	**Zalesovo Beam**	**26.00**	**333**	P	**P**	**04 49 42.4**	**+0.6**
KURK	**Kurchatov**	**26.73**	**321**	P	**P**	**04 49 49.0**	**+0.5**
	comp=E,0.3nm,0.3s,mb3.3,baz=118,slow=12,SNR=2.9						
KURK				ScP	ScP	04 56 53.8	+1.4
	comp=E,0.5nm,0.3s,baz=128,slow=1.0,SNR=5.7						
KURK	**Kurchatov**	**26.73**	**321**	P	**P**	**04 49 49.0**	**+0.5**
KURK				ScP	ScP	04 56 53.8	+1.4
ABKAR	**Akbulak array**	**37.39**	**310**	*e*P	**P**	**04 51 21.7**	**-0.1**
	comp=E,0.6nm,0.4s,mb3.8						
AKTK	**Aktyubinsk**	**38.82**	**312**	P	**P**	**04 51 33.2**	**-0.7**
AKTO	**Aktyubinsk**	**38.82**	**312**	P	**P**	**04 51 33.2**	**-0.7**
	comp=E,0.5nm,0.3s,mb3.7,baz=81,slow=13,SNR=3.1						
ARCES	**ARCESS Array B**	**56.50**	**336**	P	**P**	**04 53 50.9**	**0.0**
	comp=E,6.6nm,1.0s,mb4.6,baz=88,slow=8.6,SNR=7.8						
ARCES	**ARCESS Array B**	**56.50**	**336**	P	**P**	**04 53 50.9**	**0.0**
FINES	**FINESS Array B**	**56.98**	**326**	P	**P**	**04 53 54.1**	**-0.3**
	comp=E,2.4nm,0.7s,mb4.3,baz=79,slow=9.9,SNR=6.0						
FINES	**FINESS Array B**	**56.98**	**326**	P	**P**	**04 53 54.1**	**-0.3**
WRA	**Warramunga Arr**	**59.07**	**147**	P	**P**	**04 54 09.6**	**+0.1**
	comp=E,0.9nm,0.4s,mb4.1,baz=341,slow=7.8,SNR=28						
WRA	**Warramunga Arr**	**59.07**	**147**	P	**P**	**04 54 09.6**	**+0.1**
WB2	**Warramunga Arr**	**59.08**	**147**	*e*P	**P**	**04 54 09.4**	**-0.1**
ASAR	**Alice Springs**	**62.13**	**150**	P	**P**	**04 54 30.8**	**+0.4**
	comp=E,0.4nm,0.4s,mb3.9,baz=334,slow=6.7,SNR=7.9						
ASAR	**Alice Springs**	**62.13**	**150**	P	**P**	**04 54 30.8**	**+0.4**
NOA	**NORSAR Array B**	**64.05**	**327**	P	**P**	**04 54 41.6**	**-1.1**
	comp=E,0.6nm,0.6s,mb3.8,baz=73,slow=6.8,SNR=4.4						
NOA	**NORSAR Array B**	**64.05**	**327**	P	**P**	**04 54 41.6**	**-1.1**
ILAR	**Eielson Array**	**68.61**	**26**	P	**P**	**04 55 11.3**	**-0.5**
	comp=E,0.1nm,0.4s,mb3.1,baz=291,slow=4.3,SNR=4.4						
ILAR	**Eielson Array**	**68.61**	**26**	P	**P**	**04 55 11.3**	**-0.5**

*ISCJB **05** 04:44:36.1±0.5,33°.74N×0°.06×89°.6E±0°.1,h10km, mb3.7/10,Error ellipse: s-maj=14.3km s-min=6.4km az=154.2*

*IDC **05** 04:44:36.6±0.8,33°.72N×89°.46E,h0km,mb3.7/10, mb1 3.9/13,mb1mx3.8/27,mbtmp3.7/13,ML3.9/3,MS2.7/1, Ms1 2.9/1,ms1mx2.5/36,Error ellipse: s-maj=32.1km s-min=16.6km az=53.0*

*NEIC **05** 04:44:37.9±0.4,33°.72N×89°.57E,h10km,mb3.6/4,Error ellipse: s-maj=13.5km s-min=7.2km az=56.0*

ISC 05 04:44:37.8±0.4,**33°.72N**±0°.05×**89°.6E**±0°.1,**h10**km,**n32**, σ0**89**/35,**mb3.7**/10,**Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.21**	**162**	*e*Pn	**Pn**	**04 45 42.7**	**+0.7**
LSA				*e*Pb	**Pb**	**04 45 51.5**	**-0.4**
LSA				*e*Pg	**Pg**	**04 45 57.8**	**-0.6**
LSA				*e*Sg	**Sg**	**04 46 52.5**	**-0.5**
TKM2	**Tokmak 2**	**14.32**	**314**	*e*Pn	**Pn**	**04 48 01.6**	**+1.0**
EKS2	**Erkin-Say**	**15.31**	**310**	*e*Pn	**Pn**	**04 48 14.4**	**+0.6**
	3.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**17.33**	**149**	P	**Pn**	**04 48 39.6**	**-0.2**
	0.6nm,0.3s,baz=325,slow=15,SNR=4.1						
CMAR				LR	LR	04 55 24.3	
	comp=Z,26nm,20.6s,baz=265,slow=37						
CMAR	**Chiang Mai Arr**	**17.33**	**149**	P	**Pn**	**04 48 39.6**	**-0.2**
CMAR				LR	LR	04 55 24.3	
KURK	**Kurchatov**	**18.80**	**338**	P	**Pn**	**04 48 56.3**	**-1.5**
	0.0nm,0.3s,baz=150,slow=12,SNR=4.3						
KURK	**Kurchatov**	**18.80**	**338**	*e*P	**Pn**	**04 48 56.7**	**-1.0**
	2.3nm,0.9s						
SONM	**Songino Array**	**18.92**	**37**	P	**Pn**	**04 48 58.4**	**-0.8**
	0.2nm,0.3s,baz=222,slow=12,SNR=4.3						
SONM	**Songino Array**	**18.92**	**37**	P	**Pn**	**04 48 58.4**	**-0.8**
ULN	**Ulaanbaatar**	**19.28**	**38**	*e*P	**Pn**	**04 49 03.3**	**-0.1**
	1.9nm,0.4s						
ZALV	**Zalesovo Beam**	**20.51**	**352**	P	**P**	**04 49 15.3**	**-0.5**
	0.7nm,0.5s,baz=170,slow=9.0,SNR=4.2						
ZALV	**Zalesovo Beam**	**20.51**	**352**	P	**P**	**04 49 15.3**	**-0.5**
BVAR	**Borovoye Array**	**23.70**	**330**	P	**P**	**04 49 50.2**	**+0.9**
	0.5nm,0.5s,mb3.2,baz=151,slow=9.2,SNR=2.8						
BVAR	**Borovoye Array**	**23.70**	**330**	P	**P**	**04 49 50.2**	**+0.6**
ABKAR	**Akbulak array**	**26.89**	**314**	*e*P	**P**	**04 50 18.3**	**-0.4**
	0.8nm,0.7s,mb3.4						
AKASG	**Malin Array Be**	**46.51**	**310**	P	**P**	**04 53 03.8**	**-1.3**
	0.3nm,0.3s,mb3.7,baz=75,slow=7.8,SNR=4.3						
AKASG	**Malin Array Be**	**46.51**	**310**	P	**P**	**04 53 03.8**	**-1.3**
FINES	**FINESS Array B**	**48.48**	**325**	P	**P**	**04 53 20.6**	**+0.4**
	2.0nm,0.7s,mb4.2,baz=118,slow=5.0,SNR=3.3						
FINES	**FINESS Array B**	**48.48**	**325**	P	**P**	**04 53 20.6**	**+0.4**
NB2	**NORSAR Subarra**	**55.66**	**325**	P	**P**	**04 54 13.2**	**-0.5**
	comp=Z,0.8nm,0.6s,mb3.9,baz=82,slow=7.4						
NOA	**NORSAR Array B**	**55.66**	**325**	P	**P**	**04 54 13.2**	**-0.4**
	comp=Z,1.6nm,0.8s,mb4.1,baz=83,slow=7.4,SNR=7.5						
NOA	**NORSAR Array B**	**55.66**	**325**	P	**P**	**04 54 13.2**	**-0.4**
GERES	**GERESS Array B**	**56.72**	**310**	P	**P**	**04 54 22.4**	**+0.9**
	comp=Z,1.0nm,0.8s,mb3.9,baz=22,slow=7.6,SNR=5.6						
GERES	**GERESS Array B**	**56.72**	**310**	P	**P**	**04 54 22.4**	**+0.9**
WRA	**Warramunga Arr**	**68.29**	**135**	P	**P**	**04 55 40.6**	**+1.5**
	comp=Z,0.9nm,0.7s,mb3.9,baz=328,slow=6.4,SNR=5.8						
WRA	**Warramunga Arr**	**68.29**	**135**	P	**P**	**04 55 40.6**	**+1.5**
ASAR	**Alice Springs**	**70.94**	**137**	P	**P**	**04 55 57.2**	**+1.8**
	comp=Z,0.5nm,0.5s,mb3.7,baz=331,slow=6.3,SNR=6.9						
ASAR	**Alice Springs**	**70.94**	**137**	P	**P**	**04 55 57.2**	**+1.8**
ILAR	**Eielson Array**	**72.42**	**22**	P	**P**	**04 56 04.5**	**+0.7**
	comp=Z,0.5nm,0.8s,mb3.5,baz=301,slow=5.7,SNR=6.7						
ILAR	**Eielson Array**	**72.42**	**22**	P	**P**	**04 56 04.5**	**+0.7**
TORD	**Torodi Ar. Bea**	**81.13**	**280**	P	**P**	**04 56 52.2**	**-1.6**
	comp=Z,0.2nm,0.7s,mb3.2,baz=46,slow=4.7,SNR=2.8						
TORD	**Torodi Ar. Bea**	**81.13**	**280**	P	**P**	**04 56 52.2**	**-1.6**

*ISCJB **05** 05:04:44.9±0.1,51°.97N×0°.02×170°.51W±0°.02,h36km, mb5.3/375,MS4.8/57,Error ellipse: s-maj=3.6km s-min=1.6km az=8.4*

*MOS **05** 05:04:45.9±0.9,52°.19N×170°.74W,h33km,mb5.6/131, MS4.7/27,Error ellipse: s-maj=9.2km s-min=4.0km az=91.3*

*BJI **05** 05:04:45.2,52°.56N×171°.09W,h19km,mB5.4/35, mb5.3/57,Ms5.2/56,Ms7 4.9/54*

*IDC **05** 05:04:45.2±2.1,52°.05N×170°.56W,h26km±12km,mb4.9/34, mb1 5.0/37,mb1mx4.9/39,mbtmp4.9/37,ML4.3/3,MS4.6/24, Ms1 4.6/24,ms1mx4.4/38,Error ellipse: s-maj=16.0km s-min=8.8km az=172.0*

*NEIC **05** 05:04:46.1±0.9,52°.04N×170°.54W,h30km±6km,mb5.4/227, MS5.0/4,ML5.3(PMR),ML5.0(AEIC),Error ellipse: s-maj=4.2km s-min=2.2km az=185.0*

*BGS **05** 05:04:46.2±2.0,52°.04N×170°.54W,h33km,mb4.8*

*GCMT **05** 05:04:47.7±0.2,51°.83N×170°.56W,h17km,MW5.3, Moment Tensor Solution. s70,c108; s85,c141; Moment tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{\phi r}$0.00; Best double couple: $M_0$1.20000×10^{17} NP1:ϕ_s280.00000°,δ22.00000°, λ125.00000°. NP2:ϕ_s64.00000°,δ72.00000°,λ77.00000°. Principal axes: T 1.1600, Plg61.0000°, Azm315.0000°; N 0.0500, Plg12.0000°, Azm68.0000°; P -1.2100, Plg26.0000°, Azm164.0000°; Data Used: IU II IC G CN.*

*DJA **05** 05:05:38,52°.34N×174°.36W,h419km,mb4.9/21*

ISC 05 05:04:46.9±0.1,**52°.01N**±0°.02×**170°.53W**±0°.02,**h38**km, **h38**km±.8km:**pP-P**,**n1396**,σ0**74**/1358,**mb5.3**/375,**MS4.8**/57, **240C-194D**,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**1.41**	**46**	P	**Pn**	**05 05 07.7**	**-2.4**
NIKO				S	**Sn**	**05 05 26.8**	**-0.6**
ATKA	**Atka Island**	**2.27**	**276**	P	**Pn**	**05 05 21.6**	**-0.1**
ATKA				S	**Sn**	**05 05 50.0**	**+1.5**
UNV	**Unalaska Valle**	**3.06**	**51**	P	**Pn**	**05 05 32.0**	**-0.6**
UNV				S	**Sn**	**05 06 08.7**	**+0.8**
GSTR	**Great Sitkin T**	**3.41**	**274**	*e*Pn	**Pn**	**05 05 38.6**	**+1.0**
AKUT	**Akutan**	**3.58**	**52**	*e*P	**Pn**	**05 05 40.5**	**+0.7**
FALS	**False Pass**	**5.12**	**53**	*e*Pn	**Pn**	**05 06 00.9**	**-0.1**
SPIA	**Saint Paul Isl**	**5.18**	**2**	P	**Pn**	**05 06 04.8**	**+2.9**
AMKA	**Amchitka**	**6.35**	**268**	P	**Pn**	**05 06 18.4**	**+0.5**
SDPT	**Sand Point**	**6.85**	**57**	P	**Pn**	**05 06 24.4**	**-0.3**
CHGN	**Chignik**	**8.31**	**54**	*e*P	**Pn**	**05 06 44.4**	**-0.3**
FX1	**Attu Island--F**	**10.00**	**281**	Pn	**Pn**	**05 07 07.7**	**-0.1**
	3.2nm,0.3s,baz=90,slow=15,SNR=18						
FX1				LR	LR	05 10 46.4	
	comp=Z,4μm,21.4s,baz=121,slow=36						
FX1	**Attu Island--F**	**10.00**	**281**	Pn	**Pn**	**05 07 07.7**	**-0.1**
FX1				LR	LR	05 10 46.4	
FX1	**Attu Island--F**	**10.00**	**281**	P	**Pn**	**05 07 07.7**	**-0.1**
FX1				pmax	pmax		
	comp=Z,3.0nm,0.3s						
FX1				MLR	MLR		
	comp=Z,4μm,21.5s						
OHAK	**Old Harbor**	**11.27**	**56**	*e*Pn	**Pn**	**05 07 22.4**	**-2.8**
KDAK	**Kodiak Island**	**11.82**	**54**	Pn	**Pn**	**05 07 29.2**	**-3.5**
	comp=Z,3.2nm,0.3s,baz=240,slow=8.1,SNR=25						
KDAK	**Kodiak Island**	**11.82**	**54**	*e*Pn	**Pn**	**05 07 29.8**	**-3.0**
KDAK	**Kodiak Island**	**11.82**	**54**	*e*P	**Pn**	**05 07 29.8**	**-2.9**
RSO	**Redoubt South**	**12.98**	**42**	*e*Pn	**Pn**	**05 07 48.2**	**-0.3**
SLKM	**Skilak Lake**	**14.09**	**45**	*e*Pn	**Pn**	**05 08 03.3**	**-0.2**
SLKM	**Skilak Lake**	**14.09**	**45**	*e*P	**Pn**	**05 08 03.3**	**-0.3**
SEW	**Seward**	**14.24**	**47**	*e*Pn	**Pn**	**05 08 02.8**	**-3.0**
PPLA	**Purkeypile**	**14.65**	**35**	*e*Pn	**Pn**	**05 08 13.3**	**+2.1**
PMR	**Palmer**	**15.08**	**42**	*e*P	**Pn**	**05 08 17.7**	**+0.8**
	comp=Z,2.6nm,0.3s						
PMR	**Palmer**	**15.08**	**42**	*e*P	**Pn**	**05 08 17.7**	**+0.8**
PMR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
SML	**Sawmill**	**15.51**	**42**	*e*Pn	**Pn**	**05 08 23.2**	**+0.7**
	comp=Z,38nm,1.2s						
SML	**Sawmill**	**15.51**	**42**	*e*P	**Pn**	**05 08 23.2**	**+0.6**
SML				pmax	pmax		
	comp=Z,38nm,1.2s						
TRF	**Thorofare Moun**	**15.67**	**35**	*e*Pn	**Pn**	**05 08 26.1**	**+1.5**
	comp=Z,126nm,1.1s						
BPAW	**Bear Paw Mtn.**	**15.84**	**33**	*e*Pn	**Pn**	**05 08 26.5**	**-0.3**
	comp=Z,147nm,0.9s						
DIV	**Divide**	**16.32**	**46**	*e*Pn	**Pn**	**05 08 29.5**	**-3.4**
	comp=Z,61nm,1.0s						
MCK	**McKinley**	**16.32**	**36**	*e*Pn	**Pn**	**05 08 32.5**	**-0.4**
	comp=Z,108nm,1.0s						
MCK	**McKinley**	**16.32**	**36**	*e*P	**Pn**	**05 08 32.5**	**-0.4**
MCK				pmax	pmax		
	comp=Z,107nm,1.0s						
RAGM	**Ragged Mountai**	**16.56**	**49**	*e*Pn	**Pn**	**05 08 35.0**	**-0.9**
BMRM	**Bremner River**	**16.79**	**48**	*e*Pn	**Pn**	**05 08 36.5**	**-2.3**
	comp=Z,159nm,1.1s						
PAX	**Paxson**	**17.24**	**41**	*e*Pn	**Pn**	**05 08 43.6**	**-0.8**
	comp=Z,87nm,1.1s						
PAX	**Paxson**	**17.24**	**41**	*e*P	**Pn**	**05 08 43.7**	**-0.8**
PAX				pmax	pmax		
	comp=Z,87nm,1.1s						
COLA	**College**	**17.38**	**33**	*e*Pn	**Pn**	**05 08 44.5**	**-1.7**
	comp=Z,93nm,1.0s						
COLA	**College**	**17.38**	**33**	*e*P	**Pn**	**05 08 44.5**	**-1.7**
COLA				pmax	pmax		
	comp=Z,93nm,1.0s						
ILAR	**Eielson Array**	**17.66**	**35**	P	**Pn**	**05 08 46.8**	**-2.7**
	comp=Z,0.5nm,0.3s,baz=225,slow=12,SNR=39						
ILAR				ScP	ScP	05 16 58.6	+0.5
	baz=265,slow=3.2,SNR=8.7						
ILAR	**Eielson Array**	**17.66**	**35**	P	**Pn**	**05 08 46.8**	**-2.7**
ILAR				ScP	ScP	05 16 58.6	+0.5
ILAR	**Eielson Array**	**17.66**	**35**	P	**Pn**	**05 08 46.8**	**-2.7**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MENT	**Mentasta**	**17.95**	**42**	*e*Pn	**Pn**	**05 08 52.7**	**-0.4**
DOT	**Dot Lake**	**18.12**	**40**	*e*Pn	**Pn**	**05 08 54.2**	**-1.1**
	comp=Z,177nm,1.2s						
COLD	**Coldfoot**	**18.25**	**26**	*e*Pn	**Pn**	**05 08 57.6**	**+0.9**
	comp=Z,58nm,1.0s						
PET	**Petropavlovsk**	**18.71**	**285**	*e*P	**Pn**	**05 09 05.3**	**+2.8**
PET				pmax	pmax		
	comp=Z,96nm,0.7s						
PET				MLR	MLR		
	comp=Z,2μm,14.0s						
PET				MLR	MLR		
	comp=Z,2μm,14.0s						
PNL	**Peninsula**	**18.95**	**54**	*e*P	**Pn**	**05 09 04.3**	**-0.9**
	comp=Z,107nm,0.7s						
PEA0B	**Petropavlovsk-**	**19.27**	**286**	*e*P	**Pn**	**05 09 08.5**	**-0.7**
PETK	**Petropavlovsk-**	**19.27**	**286**	P	**Pn**	**05 09 08.5**	**-0.6**
	comp=Z,7.1nm,0.3s,baz=89,slow=14,SNR=80						
PETK				LR	LR	05 15 42.2	
	comp=Z,1μm,20.4s,baz=90,slow=34						
PETK	**Petropavlovsk-**	**19.27**	**286**	P	**Pn**	**05 09 08.5**	**-0.7**
PETK				LR	LR	05 15 42.2	
PETK	**Petropavlovsk-**	**19.27**	**286**	P	**Pn**	**05 09 08.5**	**-0.7**
PETK				pmax	pmax		
	comp=Z,7.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,1μm,20.4s						
BILL	**Bilibino**	**19.60**	**334**	*e*P	**Pn**	**05 09 12.6**	**-0.4**
	comp=Z,116nm,1.1s						
BILL	**Bilibino**	**19.60**	**334**	⇓*i*P	**Pn**	**05 09 13.2**	**+0.2**
BILL				pmax	pmax		
	comp=Z,78nm,1.2s						
BILL				MLR	MLR		
	comp=Z,2μm,16.0s						
EGAK	**Eagle**	**19.77**	**38**	*e*P	**Pn**	**05 09 13.2**	**-1.9**
	comp=Z,64nm,0.9s						
DAWY	**Dawson**	**20.18**	**41**	*e*P	**P**	**05 09 16.7**	**-1.1**
SKR	**Severo-Kuril's**	**20.77**	**280**	*e*P	**P**	**05 09 23.7**	**-0.6**
SKR				pmax	pmax		
	comp=Z,220nm,1.0s						
SKR				MLR	MLR		
	comp=Z,3μm,20.0s,MS4.7						
SIT	**Sitka**	**20.88**	**62**	*e*P	**P**	**05 09 25.4**	**0.0**
	comp=Z,121nm,1.0s						
SIT	**Sitka**	**20.88**	**62**	*e*P	**P**	**05 09 25.4**	**0.0**
SIT				pmax	pmax		
	comp=Z,121nm,1.0s						
SKAG	**Skagway**	**20.97**	**55**	*e*P	**P**	**05 09 27.6**	**+1.3**
	comp=Z,228nm,0.9s						
SEY	**Seymchan**	**22.39**	**314**	*e*P	**P**	**05 09 42.0**	**+0.4**
WRAK	**Wrangell Islan**	**22.55**	**64**	*e*P	**P**	**05 09 44.4**	**+1.1**
	comp=Z,57nm,1.0s,mb5.0						
DLBC	**Dease Lake**	**23.69**	**58**	P	**P**	**05 09 54.9**	**+0.1**
	comp=Z,90nm,1.0s,mb5.1,baz=268,slow=10,SNR=74						
DLBC				ScP	ScP	05 17 13.3	+0.5
	comp=Z,4.4nm,1.1s,baz=204,slow=2.8,SNR=3.5						

	comp=Z,50nm,0.9s,mb5.4								
YAK					pmax	pmax			
	comp=E,29nm,1.1s								
YAK					pmax	pmax			
	comp=Z,237nm,4.7s								
YAK					pmax	pmax			
	comp=N,80nm,3.1s								
YAK					pmax	pmax			
	comp=E,142nm,3.2s								
YAK					smax				
	comp=N,157nm,23.7s								
YAK					smax				
	comp=E,503nm,18.8s								
YAK					MLR	MLR			
	comp=Z,2µm,21.0s,MS4.7								
YAK					MLR	MLR			
	comp=N,2µm,18.0s,MS4.9								
YAK					MLR	MLR			
	comp=E,1µm,20.0s,MS4.9								
E07A	**Sunnyside**	**32.94**	**79**	⇓P	**P**		**05 11 18.4**	**+0.9**	
	baz=33								
G06A	**Carlson Farm,**	**33.11**	**82**	⇓P	**P**		**05 11 19.9**	**+0.9**	
	baz=33								
RSW	**Rattlesnake Hi**	**33.18**	**79**	*e*P	**P**		**05 11 20.1**	**+0.5**	
HAWA	**Hanford**	**33.22**	**79**	*e*P	**P**		**05 11 20.6**	**+0.7**	
	comp=E,57nm,1.1s,mb5.4								
F07A	**Phinny Hill Vi**	**33.22**	**80**	⇑P	**P**		**05 11 20.3**	**+0.4**	
	baz=33								
OD2	**Odessa Site #2**	**33.24**	**77**	*e*P	**P**		**05 11 20.5**	**+0.4**	
OD2				*ep*P	pP		05 11 31.3	+0.6	
D08A	**Wollman Farm,**	**33.27**	**78**	⇑P	**P**		**05 11 20.7**	**+0.3**	
	baz=33								
C09A	**Chrisman Ranch**	**33.32**	**76**	⇓P	**P**		**05 11 21.0**	**+0.3**	
	baz=33								
NEW	**Newport**	**33.80**	**75**	⇑P	**P**		**05 11 24.8**	**-0.1**	
	baz=34,SNR=7.8								
NEW	**Newport**	**33.80**	**75**	*e*P	**P**		**05 11 25.2**	**+0.4**	
	comp=E,42nm,1.0s,mb5.3								
NEW				*e*ScP	ScP		05 17 46.0	+1.3	
NEW	**Newport**	**33.80**	**75**	*e*P	**P**		**05 11 25.3**	**+0.4**	
NEW				pmax	pmax				
	comp=Z,42nm,1.0s								
E09A	**Wood Farm, Sta**	**34.00**	**78**	⇑P	**P**		**05 11 26.8**	**+0.1**	
	baz=34								
G08A	**Pilot Rock**	**34.11**	**80**	⇓P	**P**		**05 11 27.7**	**0.0**	
	baz=34								
LNOR	**Lincton Mounta**	**34.23**	**79**	*e*P	**P**		**05 11 29.5**	**+0.8**	
LNOR	**Lincton Mounta**	**34.23**	**79**	*e*P	**P**		**05 11 29.5**	**+0.8**	
KCPM	**Cahto Peak**	**34.35**	**92**	*e*P	**P**		**05 11 30.2**	**+0.4**	
	comp=Z,222nm,2.7s,mb5.6								
A12A	**Yaak River Ran**	**34.37**	**73**	⇑P	**P**		**05 11 29.7**	**-0.2**	
	baz=34,SNR=8.1								
I07A	**Izee**	**34.40**	**83**	⇑P	**P**		**05 11 30.6**	**+0.4**	
	baz=34								
WDC	**Whiskeytown Da**	**34.47**	**90**	*e*P	**P**		**05 11 31.6**	**+0.8**	
	comp=Z,17nm,1.2s,mb4.9								
WDC				*ep*P	pP		05 11 41.3	-0.2	
WDC	**Whiskeytown Da**	**34.47**	**90**	*e*P	**P**		**05 11 31.6**	**+0.8**	
WDC				*e**PP	pP		05 11 41.3	-0.2	
WDC				pmax	pmax				
	comp=Z,17nm,1.2s,mb4.8								
C11A	**Tepee Creek (N**	**34.51**	**75**	⇑P	**P**		**05 11 31.4**	**+0.4**	
	baz=34								
F10A	**Beach Ranch, E**	**34.82**	**78**	⇑P	**P**		**05 11 33.7**	**-0.1**	
	baz=35								
C12B	**Naegeli Ranch,**	**35.03**	**75**	⇑P	**P**		**05 11 35.6**	**0.0**	
	baz=35,SNR=9.7								
MOD	**Modoc**	**35.09**	**86**	*e*P	**P**		**05 11 37.5**	**+1.3**	
	comp=Z,69nm,1.3s,mb5.4								
A13A	**Flathead Natio**	**35.10**	**72**	⇑P	**P**		**05 11 36.2**	**0.0**	
	baz=35								
B13A	**Whitefish**	**35.32**	**73**	⇓P	**P**		**05 11 38.4**	**+0.3**	
	baz=35								
WALA	**Waterton Lakes**	**35.34**	**72**	*e*P	**P**		**05 11 38.5**	**+0.3**	
	comp=Z,1.3nm,1.0s								
BMO	**Blue Mountains**	**35.34**	**80**	*e*P	**P**		**05 11 38.6**	**+0.3**	
	comp=Z,101nm,2.0s,mb5.4								
BSMT	**Bassoo Peak**	**35.38**	**74**	*e*P	**P**		**05 11 39.0**	**+0.5**	
BSMT				*e*ScP	ScP		05 17 51.9	+1.6	
J08A	**Circle Bar Ran**	**35.42**	**83**	⇓P	**P**		**05 11 39.2**	**+0.3**	
	baz=35								
D12A	**Red Ives Fores**	**35.42**	**76**	⇓P	**P**		**05 11 38.9**	**0.0**	
	baz=35								
C13A	**Hot Springs**	**35.59**	**74**	⇓P	**P**		**05 11 40.0**	**-0.3**	
	baz=35								
E12A	**Beaver Dam Sad**	**35.60**	**77**	⇓P	**P**		**05 11 40.0**	**-0.5**	
	baz=36,SNR=15								
A14A	**Double T Ranch**	**35.66**	**72**	⇑P	**P**		**05 11 40.9**	**-0.1**	
	baz=36,SNR=32								
JTMT	**Jette**	**35.73**	**74**	*e*P	**P**		**05 11 41.9**	**+0.4**	
WVOR	**Wild Horse Val**	**35.82**	**84**	*e*P	**P**		**05 11 43.1**	**+0.7**	
	comp=Z,45nm,1.1s,mb5.3								
WVOR	**Wild Horse Val**	**35.82**	**84**	*e*P	**P**		**05 11 43.1**	**+0.7**	
WVOR				pmax	pmax				
	comp=Z,45nm,1.1s,mb5.3								
YBMT	**Yellow Bay**	**35.83**	**74**	*e*P	**P**		**05 11 44.0**	**+1.5**	
OHCM	**Honcut**	**35.86**	**91**	*e*P	**P**		**05 11 46.9**	**+4.1**	
KLR	**Kul'dur**	**35.90**	**289**	*e*P	**P**		**05 11 37.8**	**-5.2**	
KLR				pmax	pmax				
	comp=E,64nm,1.8s								
KLR				pmax	pmax				
	comp=Z,180nm,1.8s,mb5.7								
D13A	**Huson**	**35.94**	**75**	⇑P	**P**		**05 11 42.8**	**-0.6**	
	baz=36,SNR=6.8								
SWMT	**Swartz Lake**	**36.01**	**74**	*e*P	**P**		**05 11 45.8**	**+1.8**	
B14A	**Marquette Ranc**	**36.03**	**72**	⇓P	**P**		**05 11 43.9**	**-0.2**	
	baz=36,SNR=8.6								
C14A	**Swan Lake**	**36.03**	**74**	⇓P	**P**		**05 11 44.0**	**-0.2**	
	baz=36								
A15A	**Johnson Ranch,**	**36.06**	**71**	⇓P	**P**		**05 11 44.0**	**-0.4**	
	baz=36,SNR=22								
MSO	**Missoula**	**36.37**	**75**	⇓P	**P**		**05 11 46.8**	**-0.3**	
	baz=36,SNR=6.5								
MSO	**Missoula**	**36.37**	**75**	*e*P	**P**		**05 11 46.9**	**-0.2**	
	comp=Z,43nm,1.4s,mb5.2								
G12A	**Big Creek, Yel**	**36.40**	**78**	⇑P	**P**		**05 11 47.1**	**-0.2**	
	baz=36								
E13A	**Victor**	**36.42**	**76**	⇓P	**P**		**05 11 46.9**	**-0.5**	
	baz=36,SNR=5.2								
SLMT	**Seeley Lake**	**36.44**	**74**	*e*P	**P**		**05 11 48.5**	**+0.8**	
B15A	**Bradely Ranch,**	**36.48**	**72**	⇑P	**P**		**05 11 47.6**	**-0.4**	
	baz=36,SNR=10								
D14A	**Greenough**	**36.51**	**75**	⇑P	**P**		**05 11 47.8**	**-0.5**	
	baz=36,SNR=18								
CLNS	**Chul'man**	**36.62**	**304**	*e*P	**P**		**05 11 48.1**	**-1.0**	
CLNS				*e*			05 13 08.5		
CLNS				*e*			05 14 11.8		
CLNS				*e*S	**S**		**05 17 25.6**	**-3.5**	
CLNS				*e*SS	SS		05 19 56.7	-13	
CLNS				pmax	pmax				
	comp=Z,34nm,1.5s,mb5.0								
CLNS				pmax	pmax				
	comp=N,18nm,1.6s								
CLNS				pmax	pmax				
	comp=E,28nm,1.6s								
CLNS				pmax	pmax				
	comp=Z,7.0nm,1.0s,mb4.5								
CLNS				pmax	pmax				
	comp=N,8.0nm,1.1s								
CLNS				pmax	pmax				
	comp=E,10.0nm,1.1s								
CLNS				smax					
	comp=N,89nm,14.7s								
CLNS				smax					
	comp=E,261nm,17.3s								
CLNS				MLR	MLR				
	comp=Z,791nm,17.0s,MS4.6								
CLNS				MLR	MLR				
	comp=N,408nm,19.0s,MS4.7								
CLNS				MLR	MLR				
	comp=E,1µm,19.0s,MS4.7								
F13A	**Darby**	**36.66**	**77**	⇓P	**P**		**05 11 48.7**	**-0.9**	
	baz=36,SNR=8.4								
C15A	**Salmond Ranch,**	**36.70**	**73**	⇓P	**P**		**05 11 49.4**	**-0.5**	
	baz=36								
CHMT	**Chamberlain Mo**	**36.74**	**75**	*e*P	**P**		**05 11 51.2**	**+1.0**	
E14A	**Clinton**	**36.85**	**75**	⇑P	**P**		**05 11 50.9**	**-0.2**	
	baz=37,SNR=8.3								
B16A	**M & M Farms, S**	**36.93**	**72**	⇓P	**P**		**05 11 50.8**	**-1.0**	
	baz=37,SNR=5.8								
PAHR	**Pah Rah Range**	**36.94**	**89**	*e*P	**P**		**05 11 53.2**	**+1.2**	
	comp=E,35nm,1.2s,mb5.1								
PAHR				*e*ScP	ScP		05 17 57.0	+0.8	
WCN	**Washoe City**	**36.95**	**90**	⇓P	**P**		**05 11 52.5**	**+0.4**	
	baz=37								
WCN	**Washoe City**	**36.95**	**90**	*e*P	**P**		**05 11 52.2**	**+0.1**	
	comp=E,38nm,1.4s,mb5.0								
WCN	**Washoe City**	**36.95**	**90**	*e*P	**P**		**05 11 52.2**	**+0.1**	
WCN				pmax	pmax				
	comp=Z,38nm,1.4s,mb5.0								
H12A	**Diamond D Ranc**	**36.99**	**79**	⇑P	**P**		**05 11 52.1**	**-0.2**	
	baz=37								
MFID	**Camas Ranch**	**37.01**	**81**	⇑P	**P**		**05 11 52.5**	**-0.1**	
	baz=37								
MFID	**Camas Ranch**	**37.01**	**81**	*e*P	**P**		**05 11 52.8**	**+0.3**	
	comp=Z,31nm,1.1s,mb5.1								
RES	**Resolute Bay**	**37.01**	**25**	*e*P	**P**		**05 11 51.8**	**-0.4**	
	comp=Z,23nm,1.0s,mb5.0								
RES	**Resolute Bay**	**37.01**	**25**	*e*P	**P**		**05 11 51.8**	**-0.4**	
RES				pmax	pmax				
	comp=Z,23nm,1.0s,mb5.0								
G13A	**Cobalt**	**37.08**	**78**	⇓P	**P**		**05 11 52.5**	**-0.6**	
	baz=37,SNR=11								
D15A	**Lincoln**	**37.12**	**74**	⇑P	**P**		**05 11 52.5**	**-0.9**	
	baz=37,SNR=10.0								
C16A	**Fuhringer Ranc**	**37.20**	**72**	⇑P	**P**		**05 11 53.4**	**-0.8**	
	baz=37,SNR=12								
I12A	**Atlanta**	**37.22**	**80**	⇓P	**P**		**05 11 53.9**	**-0.5**	
	baz=37,SNR=10								
F14A	**Wisdom**	**37.23**	**76**	⇑P	**P**		**05 11 54.2**	**-0.2**	
	baz=37								
A17A	**Triple J Farms**	**37.27**	**70**	⇓P	**P**		**05 11 54.0**	**-0.7**	
	baz=37,SNR=36								
CMB	**Columbia Colle**	**37.34**	**92**	*e*P	**P**		**05 11 55.3**	**-0.1**	
CMB	**Columbia Colle**	**37.34**	**92**	*e*P	**P**		**05 11 55.3**	**-0.1**	
H13A	**Challis**	**37.34**	**79**	⇑P	**P**		**05 11 55.1**	**-0.3**	
	baz=37								
E15A	**Deer Lodge**	**37.35**	**75**	⇓P	**P**		**05 11 54.3**	**-1.1**	
	baz=37,SNR=6.3								
G14A	**Jackson**	**37.47**	**77**	⇓P	**P**		**05 11 56.1**	**-0.3**	
	baz=37								
B17A	**L&G Farms, Che**	**37.52**	**71**	⇓P	**P**		**05 11 55.8**	**-1.1**	
	baz=37,SNR=28								
HRY	**Holter Researc**	**37.69**	**74**	*e*P	**P**		**05 11 58.0**	**-0.3**	
D16A	**Dana Ranch, Ca**	**37.70**	**73**	⇓P	**P**		**05 11 58.3**	**0.0**	
	baz=38								
F15A	**Butte**	**37.74**	**76**	⇑P	**P**		**05 11 58.5**	**-0.2**	
	baz=38								
LRM	**Limekiln Ridge**	**37.77**	**76**	*e*P	**P**		**05 11 58.7**	**-0.3**	
LRM				*ep*P	pP		05 12 11.3	+1.6	
A18A	**Metzger Ranch,**	**37.77**	**70**	⇓P	**P**		**05 11 58.4**	**-0.6**	
	baz=38,SNR=15								
I13A	**Wildhorse Cree**	**37.78**	**79**	⇑P	**P**		**05 11 58.7**	**-0.4**	
	baz=38,SNR=11								
HLID	**Hailey**	**37.79**	**80**	⇓P	**P**		**05 11 58.8**	**-0.3**	
	baz=38,SNR=36								
HLID	**Hailey**	**37.79**	**80**	*e*P	**P**		**05 11 59.5**	**+0.4**	
HLID				*ep*P	pP		05 12 10.6	+0.7	
H14A	**Leadore**	**37.85**	**78**	⇓P	**P**		**05 11 59.2**	**-0.5**	
	baz=38,SNR=8.2								
C17A	**Wharram Farm,**	**37.86**	**72**	⇓P	**P**		**05 11 59.4**	**-0.3**	
	baz=38,SNR=5.8								
DLMT	**Dillon**	**37.92**	**76**	*e*P	**P**		**05 12 00.6**	**+0.4**	
	comp=Z,16nm,0.9s,mb4.8								
J13A	**Cove Ranch, Pi**	**38.02**	**80**	⇑P	**P**		**05 12 01.0**	**-0.1**	
	baz=38,SNR=13								
B18A	**Beardsley Farm**	**38.07**	**71**	⇓P	**P**		**05 12 01.1**	**-0.3**	
	baz=38,SNR=36								
G15A	**Dillon**	**38.09**	**77**	⇓P	**P**		**05 12 01.2**	**-0.4**	
	baz=38								
D17A	**Six Diamond Ra**	**38.15**	**73**	⇓P	**P**		**05 12 01.9**	**-0.2**	
	baz=38								
I14A	**Mackay**	**38.17**	**79**	⇓P	**P**		**05 12 02.2**	**-0.1**	
	baz=38,SNR=12								
EGMT	**Eagleton**	**38.26**	**71**	⇓P	**P**		**05 12 02.7**	**-0.3**	
	baz=38,SNR=17								
F16A	**Kennard Place,**	**38.29**	**75**	⇓P	**P**		**05 12 02.8**	**-0.5**	
	baz=38,SNR=6.9								
H15A	**Lima**	**38.29**	**77**	⇓P	**P**		**05 12 03.1**	**-0.3**	
	baz=38								
BOZ	**Bozeman (W)**	**38.36**	**75**	⇑P	**P**		**05 12 03.4**	**-0.5**	
	baz=38,SNR=18								
BOZ	**Bozeman (W)**	**38.36**	**75**	*e*P	**P**		**05 12 04.0**	**+0.1**	
	comp=Z,23nm,1.0s,mb4.8								
BOZ	**Bozeman (W)**	**38.36**	**75**	*e*P	**P**		**05 12 04.0**	**+0.1**	
BOZ				pmax	pmax				
	comp=Z,23nm,1.0s,mb4.9								
NVAR	**Mina Array Bea**	**38.38**	**90**	P	**P**		**05 12 04.6**	**+0.4**	
	comp=Z,3.6nm,0.8s,mb4.1,baz=292,slow=8.4,SNR=18								
NVAR				ScP	ScP		05 18 02.2	+0.6	
	comp=Z,2.2nm,0.9s,baz=291,slow=4.2,SNR=7.3								
NVAR	**Mina Array Bea**	**38.38**	**90**	P	**P**		**05 12 04.6**	**+0.4**	
NVAR				ScP	ScP		05 18 02.2	+0.6	
E17A	**Martinsdale**	**38.40**	**74**	⇑P	**P**		**05 12 03.8**	**-0.4**	
	baz=38								
A19A	**Klindworth Far**	**38.41**	**69**	⇑P	**P**		**05 12 03.6**	**-0.7**	
	baz=38,SNR=14								
J14A	**Carey**	**38.46**	**80**	⇓P	**P**		**05 12 04.8**	**0.0**	
	baz=38,SNR=6.9								
G16A	**Moss Hill, Enn**	**38.47**	**76**	⇑P	**P**		**05 12 04.5**	**-0.3**	
	baz=38,SNR=16								
B19A	**Brinkman Farms**	**38.52**	**70**	⇑P	**P**		**05 12 05.0**	**-0.2**	
	baz=38,SNR=35								
D18A	**Linhart Farms,**	**38.65**	**72**	⇑P	**P**		**05 12 06.0**	**-0.3**	
	baz=38,SNR=11								
I15A	**Monteview**	**38.72**	**78**	⇓P	**P**		**05 12 07.4**	**+0.5**	
	baz=39								
F17A	**Fitzpatrick Pl**	**38.80**	**75**	⇓P	**P**		**05 12 08.0**	**+0.4**	
	baz=39								
C19A	**Slack Wire Ran**	**38.82**	**71**	⇑P	**P**		**05 12 08.0**	**+0.3**	
	baz=39,SNR=47								
MTUM	**Tungsten Hills**	**38.89**	**91**	*e*P	**P**		**05 12 09.7**	**+1.3**	
E18A	**Harlowton**	**38.90**	**73**	⇓P	**P**		**05 12 08.5**	**+0.1**	
	baz=39,SNR=15								
A20A	**Cobblestone Ra**	**38.91**	**69**	⇑P	**P**		**05 12 08.0**	**-0.5**	
	baz=39,SNR=18								
QLMT	**Earthquake Lak**	**38.91**	**76**	*e*P	**P**		**05 12 08.4**	**-0.1**	
VLA	**Vladivostok**	**38.92**	**280**	*e*P	**P**		**05 12 07.9**	**-0.7**	
VLA				pmax	pmax				
	comp=Z,40nm,1.0s,mb5.1								
MAJO	**Matsushiro**	**38.97**	**267**	*e*P	**P**		**05 12 09.1**	**-0.1**	
	comp=Z,69nm,1.0s,mb5.3								
MAJO	**Matsushiro**	**38.97**	**267**	*e*P	**P**		**05 12 09.1**	**0.0**	
MAJO				pmax	pmax				
	comp=Z,69nm,1.0s,mb5.3								
MAT	**Matsushiro**	**38.97**	**267**	P	**P**		**05 12 08.8**	**-0.3**	
MAT				S	**S**		**05 18 04.0**	**-1.0**	
MJAR	**Matsushiro Arr**	**38.97**	**267**	P	**P**		**05 12 08.7**	**-0.4**	
	comp=Z,14nm,1.0s,mb4.6,baz=47,slow=8.0,SNR=21								
MJAR				PcP	PcP		05 14 19.2	+0.3	
	comp=Z,12nm,0.9s,baz=204,slow=0.1,SNR=8.5								
MJAR				LR	LR		05 27 27.6		
	comp=Z,942nm,20.5s,MS4.6,baz=65,slow=35								
MJAR	**Matsushiro Arr**	**38.97**	**267**	P	**P**		**05 12 08.7**	**-0.4**	
MJAR				PcP	PcP		05 14 19.2	+0.3	
MJAR				LR	LR		05 27 27.6		
MJAR	**Matsushiro Arr**	**38.97**	**267**	P	**P**		**05 12 08.7**	**-0.4**	
MJAR							05 14 19.2		
MJAR				pmax	pmax				
	comp=Z,14nm,1.0s								
MJAR				pmax	pmax				
	comp=Z,12nm,0.9s								
MJAR				MLR	MLR				
	comp=Z,942nm,20.5s								
G17A	**Pierce Place,**	**39.06**	**75**	⇓P	**P**		**05 12 10.2**	**+0.4**	
	baz=39								
B20A	**Solberg Farm,**	**39.07**	**70**	⇑P	**P**		**05 12 09.4**	**-0.4**	
	baz=39,SNR=16								
J15A	**Blackfoot**	**39.08**	**79**	⇓P	**P**		**05 12 10.1**	**+0.1**	
	baz=39								
H16A	**Russell Place,**	**39.09**	**77**	⇓P	**P**		**05 12 09.8**	**-0.2**	
	baz=39								
D19A	**Cripps Ranch,**	**39.20**	**72**	⇓P	**P**		**05 12 10.9**	**-0.1**	
	baz=39,SNR=24								
YMR	**Madison River**	**39.27**	**76**	*e*P	**P**		**05 12 14.2**	**+2.6**	
	comp=Z,49nm,1.0s,mb5.2								
L14A	**Malta**	**39.36**	**81**	⇓P	**P**		**05 12 12.4**	**0.0**	
	baz=39								
F18A	**Big Timber**	**39.36**	**74**	⇓P	**P**		**05 12 11.4**	**-0.9**	
	baz=39								
I16A	**Newdale**	**39.39**	**78**	⇑P	**P**		**05 12 11.8**	**-0.8**	
	baz=39								
YNR	**Norris Junctio**	**39.42**	**76**	*e*P	**P**		**05 12 14.3**	**+1.5**	
	comp=Z,60nm,1.0s,mb5.3								
K15A	**Arbon**	**39.42**	**80**	⇓P	**P**		**05 12 13.5**	**+0.6**	
	baz=39								
A21A	**Bergtoll Ranch**	**39.43**	**68**	⇑P	**P**		**05 12 13.0**	**+0.2**	
	baz=39								
C20A	**Veseth Ranch,**	**39.44**	**71**	⇑P	**P**		**05 12 13.6**	**+0.6**	
	baz=39								
YFT	**Old Faithful**	**39.47**	**77**	*e*P	**P**		**05 12 15.0**	**+1.7**	
MDJ	**Mudanjiang**	**39.49**	**284**	P	**P**		**05 12 12.3**	**-1.1**	
MDJ				pP	pP		05 12 21.6	-2.6	
MDJ				sP	sP		05 12 27.1	-1.6	
MDJ				PP	PP		05 13 42.1	-2.1	
MDJ				PcP	PcP		05 14 22.3	+1.9	
MDJ				ScP	ScP		05 18 07.0	+1.2	
MDJ				S	**S**		**05 18 11.0**	**-1.7**	
MDJ				ScS	ScS		05 22 19.3	+1.4	
MDJ				pmax	pmax				
	comp=Z,8.0nm,0.8s,mb4.5								
MDJ				pmax	pmax				
	comp=Z,180nm,6.0s								
MDJ				LR	LR				
	comp=N,860nm,20.1s,MS4.7								
MDJ				LR	LR				
	comp=E,900nm,20.1s,MS4.7								
MDJ				LR	LR				
	comp=Z,2µm,20.1s,MS4.8								
FFC	**Flin Flon**	**39.52**	**58**	*e*P	**P**		**05 12 13.0**	**-0.5**	
	comp=Z,32nm,0.9s,mb5.0								
FFC	**Flin Flon**	**39.52**	**58**	*i* P	**P**		**05 12 14.5**	**+1.0**	
VES	**Vestal, Richgr**	**39.53**	**93**	⇓P	**P**		**05 12 14.0**	**+0.2**	
	baz=40								
E19A	**Rath Farm, Rou**	**39.62**	**73**	⇓P	**P**		**05 12 14.3**	**-0.2**	
	baz=40,SNR=7.5								
J16A	**Bone**	**39.65**	**79**	⇑P	**P**		**05 12 15.3**	**+0.6**	
	baz=40								
B21A	**Ellsworth Farm**	**39.65**	**69**	⇑P	**P**		**05 12 14.6**	**-0.1**	
	baz=40,SNR=9.7								
H17A	**Grant Village**	**39.66**	**77**	⇓P	**P**		**05 12 15.4**	**+0.6**	
	baz=40								
D20A	**Manuel Ranch,**	**39.68**	**72**	⇑P	**P**		**05 12 14.5**	**-0.5**	
	baz=40,SNR=9.8								
IMW	**Indian Meadow**	**39.71**	**77**	*e*P	**P**		**05 12 16.1**	**+0.9**	
	comp=Z,31nm,0.9s,mb5.0								
DCID1	**Drake Creek**	**39.73**	**78**	*e*P	**P**		**05 12 16.2**	**+0.8**	
	comp=Z,37nm,1.0s,mb5.1								
FLWY	**Flagg Ranch**	**39.75**	**77**	*e*P	**P**		**05 12 19.1**	**+3.5**	
	comp=Z,43nm,1.2s,mb5.0								
G18A	**Lazy EL Ranch,**	**39.77**	**75**	⇑P	**P**		**05 12 16.1**	**+0.5**	
	baz=40								
RRI2	**Red Ridge**	**39.78**	**78**	*e*P	**P**		**05 12 16.8**	**+0.9**	
	comp=Z,46nm,0.8s,mb5.3								
HVU	**Hansel Valley**	**39.79**	**81**	*e*P	**P**		**05 12 17.8**	**+1.9**	
HVU	**Hansel Valley**	**39.79**	**81**	*e*P	**P**		**05 12 17.8**	**+1.9**	
F19A	**Roth Farm, Mol**	**39.85**	**74**	⇑P	**P**		**05 12 16.9**	**+0.6**	
	baz=40								
L15A	**Malad City**	**39.90**	**81**	⇓P	**P**		**05 12 17.1**	**+0.3**	
	baz=40								
MOOW	**Moose Ponds**	**39.91**	**77**	*e*P	**P**		**05 12 18.3**	**+1.4**	
	comp=Z,14nm,1.3s,mb4.5								
C21A	**Desert Coulee**	**39.91**	**70**	⇓P	**P**		**05 12 16.7**	**-0.1**	
	baz=40,SNR=10.0								
K16A	**Soda Springs**	**39.91**	**79**	⇓P	**P**		**05 12 17.6**	**+0.7**	
	baz=40,SNR=12								
TPAW	**Teton Pass**	**39.93**	**78**	*e*P	**P**		**05 12 18.0**	**+0.9**	
	comp=Z,209nm,2.4s,mb5.4								
E20A	**Meyer Farm, Mu**	**39.99**	**72**	⇑P	**P**		**05 12 17.4**	**-0.1**	
	baz=40,SNR=5.4								
A22A	**Carney Farms,**	**40.01**	**68**	⇑P	**P**		**05 12 17.6**	**-0.1**	
	baz=40,SNR=10								
ISA	**Isabella**	**40.03**	**93**	⇑P	**P**		**05 12 18.2**	**+0.3**	
	baz=40								
ISA	**Isabella**	**40.03**	**93**	*e*P	**P**		**05 12 18.2**	**+0.3**	
	comp=Z,14nm,1.0s,mb4.7								
ISA	**Isabella**	**40.03**	**93**	*e*P	**P**		**05 12 17.5**	**-0.5**	
ISA				pmax	pmax				
	comp=Z,14nm,1.0s,mb4.7								
RLMT	**Red Lodge**	**40.05**	**75**	⇑P	**P**		**05 12 17.7**	**-0.3**	
	baz=40								
RLMT	**Red Lodge**	**40.05**	**75**	*e*P	**P**		**05 12 18.5**	**+0.5**	
	comp=Z,55nm,0.9s,mb5.3								
H18A	**Shoshone NF, C**	**40.05**	**76**	⇓P	**P**		**05 12 17.7**	**-0.4**	
	baz=40								
REDW	**Red Top Meadow**	**40.06**	**78**	*e*P	**P**		**05 12 18.9**	**+0.8**	
	comp=Z,48nm,1.3s,mb5.1								
SNOW	**Snow King Moun**	**40.06**	**78**	*e*P	**P**		**05 12 19.7**	**+1.5**	
	comp=Z,60nm,1.6s,mb5.1								
SBC	**Santa Barbara**	**40.07**	**96**	⇑P	**P**		**05 12 19.0**	**+0.7**	
	baz=40								
LOHW	**Long Hollow**	**40.07**	**78**	*e*P	**P**		**05 12 18.6**	**+0.4**	
	comp=Z,122nm,2.4s,mb5.2								
R11A	**Troy Canyon, C**	**40.11**	**88**	⇓P	**P**		**05 12 18.3**	**

DGMT	**Dagmar**	41.25	68	eP		P	05 12 28.1	+0.2
	comp=Z,78nm,1.2s,mb5.2							
M17A	**Scullys Gap (B**	41.25	80	⇑P		P	05 12 28.1	+0.1
	baz=41							
JLU	**Jordanelle**	41.29	82	eP		P	05 12 28.6	+0.3
	comp=Z,174nm,2.0s,mb5.3							
JLU				eP		pP	05 12 39.2	0.0
NLU	**North Lily Min**	41.29	83	eP		P	05 12 28.5	+0.1
	comp=Z,27nm,1.0s,mb4.8							
GSC	**Goldstone**	41.29	92	⇓P		P	05 12 28.4	0.0
	baz=41,SNR=9.4							
GSC	**Goldstone**	41.29	92	eP		P	05 12 28.7	+0.3
	comp=Z,40nm,1.0s,mb5.0							
GSC	**Goldstone**	41.29	92	eP		P	05 12 28.7	+0.3
GSC					pmax	pmax		
	comp=Z,40nm,1.0s,mb5.0							
E22A	**Miles City**	41.30	71	⇑P		P	05 12 29.5	+1.1
	baz=41							
D23A	**Lindsay**	41.34	70	⇑P		P	05 12 28.5	-0.2
	baz=41							
I20A	**Worland**	41.37	76	⇑P		P	05 12 28.9	0.0
	baz=41							
L18A	**Fontenelle, Gr**	41.37	79	⇑P		P	05 12 28.9	0.0
	baz=41							
P15A	**Leamington**	41.40	84	⇑P		P	05 12 29.2	0.0
	baz=41							
N17A	**Moffit Pass**	41.46	81	⇑P		P	05 12 29.6	-0.1
	baz=41							
BFSC	**Mount Baldy Ra**	41.47	94	⇑P		P	05 12 30.4	+0.6
	baz=41							
O16A	**Springville**	41.49	82	⇓P		P	05 12 30.3	+0.3
	baz=41							
DAU	**Daniels Canyon**	41.52	82	eP		P	05 12 31.1	+0.9
DAU	**Daniels Canyon**	41.52	82	eP		P	05 12 31.1	+0.9
MPU	**Maple Canyon**	41.53	83	eP		P	05 12 32.3	+2.0
	comp=Z,29nm,1.0s,mb4.9							
SHPR	**Sheep Range**	41.53	89	eP		P	05 12 30.3	0.0
K19A	**Absolon Red Bu**	41.58	77	⇓P		P	05 12 30.0	-0.6
	baz=41,SNR=15							
C24A	**Savage**	41.61	69	⇑P		P	05 12 31.2	+0.3
	baz=41,SNR=12							
H21A	**Big Horn, Sher**	41.64	74	⇑P		P	05 12 30.5	-0.7
	baz=42							
E23A	**Ismay**	41.65	71	⇓P		P	05 12 30.0	-1.1
	baz=42							
M18A	**Lyman**	41.65	80	⇑P		P	05 12 30.8	-0.4
	baz=42							
BOD	**Bodaibo**	41.66	309	eP		P	05 12 30.2	-1.0
BOD					pmax	pmax		
	comp=Z,32nm,1.3s,mb4.8							
L19A	**Farson**	41.68	79	⇓P		P	05 12 31.2	-0.3
	baz=42							
FCC	**Fort Churchill**	41.72	50	eP		P	05 12 30.3	-1.3
	comp=Z,3.7nm,1.1s,mb3.9							
FCC	**Fort Churchill**	41.72	50	eP		P	05 12 30.3	-1.3
FCC					pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.0							
J20A	**Shoshoni**	41.73	76	⇑P		P	05 12 32.3	+0.4
	baz=42							
TUQ	**Turquoise Moun**	41.75	91	⇑P		P	05 12 32.5	+0.3
	baz=42							
D24A	**Glendive**	41.88	69	⇑P		P	05 12 33.0	-0.1
	baz=42,SNR=34							
HEC	**Hector,Ludlow**	41.90	92	⇓P		P	05 12 33.3	0.0
	baz=42							
I21A	**Big Trails, Te**	41.95	75	⇑P		P	05 12 33.4	-0.3
	baz=42							
O17A	**Robinson Place**	41.97	82	⇓P		P	05 12 33.8	-0.1
	baz=42							
K20A	**Yellowstone Ra**	41.98	77	⇑P		P	05 12 33.3	-0.6
	baz=42							
CCUT	**Cedar City**	41.98	87	eP		P	05 12 34.6	+0.6
	comp=Z,136nm,2.0s,mb5.2							
H22A	**Clearmont**	42.07	74	⇑P		P	05 12 34.1	-0.6
	baz=42							
MSU	**Marysvale**	42.11	85	eP		P	05 12 35.8	+0.7
MSU	**Marysvale**	42.11	85	eP		P	05 12 35.8	+0.7
J21A	**Lysite**	42.12	76	⇑P		P	05 12 34.9	-0.1
	baz=42							
N18A	**Larsen Ranch,**	42.15	80	⇓P		P	05 12 35.1	-0.3
	baz=42							
M19A	**Rock Springs**	42.15	79	⇑P		P	05 12 35.6	+0.2
	baz=42							
U13A	**Pakoon Wash**	42.33	89	⇑P		P	05 12 37.0	+0.1
	baz=42,SNR=16							
GMRC	**Granite Mounta**	42.34	92	⇑P		P	05 12 37.0	-0.1
	baz=42							
L20A	**Wamsutter**	42.35	78	⇑P		P	05 12 36.3	-0.7
	baz=42							
O18A	**Roosevelt**	42.37	81	⇓P		P	05 12 36.9	-0.2
	baz=42							
I22A	**9 Mile Ranch,**	42.38	75	⇓P		P	05 12 37.0	-0.2
	baz=42							
P17A	**Butcher Ranch,**	42.40	83	⇓P		P	05 12 37.4	-0.1
	baz=42							
CN2	**Changchun**	42.42	285	eP		P	05 12 36.3	-1.2
CN2				epP		pP	05 12 46.0	-2.4
CN2				esP		sP	05 12 50.1	-2.8
CN2				eS		S	05 18 54.0	-2.2
CN2					pmax	pmax		
	comp=Z,40nm,1.0s,mb5.0							
CN2					pmax	pmax		
	comp=Z,200nm,5.0s							
CN2					LR	LR		
	comp=N,1μm,20.0s,MS4.9							
CN2					LR	LR		
	comp=E,1μm,20.0s,MS4.9							
CN2					LR	LR		
	comp=Z,1μm,21.0s,MS4.8							
N19A	**John Jarvie Ra**	42.50	80	⇓P		P	05 12 38.1	-0.2
	baz=42							
P18A	**Preston Nutter**	42.61	82	⇓P		P	05 12 38.9	-0.2
	baz=42,SNR=11							
PFO	**Pinyon Flat Ob**	42.63	94	⇑P		P	05 12 39.6	+0.3
	baz=42							
PFO	**Pinyon Flat Ob**	42.63	94	eP		P	05 12 40.1	+0.8
PFO	**Pinyon Flat Ob**	42.63	94	eP		P	05 12 40.2	+0.8
K21A	**Alcova**	42.65	77	⇑P		P	05 12 39.1	-0.3
	baz=42							
BELC	**Belle Mtn. Jos**	42.65	93	⇓P		P	05 12 39.4	-0.1
	baz=43							
J22A	**Midwest**	42.66	75	⇑P		P	05 12 38.8	-0.7
	baz=42,SNR=8.5							
R16A	**Teasdale**	42.68	85	⇑P		P	05 12 39.4	-0.3
	baz=43,SNR=8.8							
M20A	**Sweetwater, Wa**	42.75	79	⇓P		P	05 12 40.3	0.0
	baz=43							
HIA	**Hailar**	42.76	295	eP		P	05 12 39.2	-0.9
	comp=Z,42nm,0.8s,mb5.2							
HIA	**Hailar**	42.76	295	eP		P	05 12 39.2	-1.0
HIA					pmax	pmax		
	comp=Z,42nm,0.8s							
SRU	**San Rafael**	42.76	83	⇓P		P	05 12 40.2	-0.1
	baz=43							
SRU	**San Rafael**	42.76	83	eP		P	05 12 40.2	-0.1
	comp=Z,41nm,1.0s,mb5.1							
SRU	**San Rafael**	42.76	83	eP		P	05 12 40.2	-0.1
SRU					pmax	pmax		
	comp=Z,41nm,1.0s,mb5.1							
U14A	**Mt Trumbull**	42.81	88	⇑P		P	05 12 41.0	+0.2
	baz=43							
O19A	**Miners Draw (B**	42.89	81	⇓P		P	05 12 40.9	-0.5
	baz=43,SNR=10							
T15A	**Red Dirt Ranch**	42.92	87	⇑P		P	05 12 41.7	0.0
	baz=43,SNR=7.7							
S16A	**Weppner Ranch,**	42.96	85	⇑P		P	05 12 42.1	+0.1
	baz=43,SNR=6.7							
L21A	**Rawlins**	42.97	78	⇑P		P	05 12 41.1	-0.9
	baz=43,SNR=8.4							
NEE2	**Needles Airpor**	42.99	91	⇑P		P	05 12 42.2	-0.1
	baz=43							
Q18A	**Rafter H Ranch**	43.00	83	⇓P		P	05 12 42.0	-0.3
	baz=43,SNR=8.4							
H24A	**Dirks Ranch, A**	43.05	72	⇑P		P	05 12 42.0	-0.6
	baz=43,SNR=5.4							
IRM	**Iron Mountain**	43.07	92	⇑P		P	05 12 42.7	-0.2
	baz=43							
R17A	**Hanksville Air**	43.07	84	⇓P		P	05 12 42.7	-0.2
	baz=43							
K22A	**Casper**	43.07	76	⇑P		P	05 12 42.2	-0.6
	baz=43							
MONP	**Monument Peak**	43.14	94	⇑P		P	05 12 43.4	-0.1
	baz=43							
M21A	**Separation Pea**	43.18	78	⇑P		P	05 12 42.8	-0.8
	baz=43							
BC3	**Big Chuckawall**	43.22	93	⇓P		P	05 12 44.0	-0.1
	baz=43							
J23A	**Dilts Ranch, B**	43.22	75	⇓P		P	05 12 43.8	-0.2
	baz=43							
RWWY	**Rawlins**	43.22	78	P		P	05 12 43.5	-0.5
U15A	**North Rim**	43.35	87	⇓P		P	05 12 45.5	+0.3
	baz=43,SNR=16							
V14A	**Boquillas Ranc**	43.36	89	⇑P		P	05 12 45.2	0.0
	baz=43,SNR=8.0							
P19A	**Cripple Cowboy**	43.38	81	⇑P		P	05 12 44.6	-0.7
	baz=43,SNR=11							
S17A	**Black Ridge (B**	43.50	85	⇑P		P	05 12 46.0	-0.4
	baz=43							
O20A	**White River Ci**	43.53	80	⇑P		P	05 12 46.0	-0.5
	baz=43,SNR=12							
N21A	**Black Mountain**	43.59	79	⇑P		P	05 12 46.3	-0.7
	baz=43							
R18A	**Canyonlands Na**	43.59	83	⇑P		P	05 12 46.5	-0.6
	baz=44							
PDMCI	**Parker Dam,Lak**	43.60	91	⇓P		P	05 12 47.0	-0.2
	baz=44							
Q19A	**Hogan Spring (**	43.63	82	⇓P		P	05 12 46.5	-0.8
	baz=44,SNR=9.7							
RSSD	**Black Hills**	43.71	73	eP		P	05 12 47.6	-0.3
	comp=Z,21nm,1.0s,mb4.8							
RSSD	**Black Hills**	43.71	73	eP		P	05 12 47.6	-0.3
RSSD					pmax	pmax		
	comp=Z,21nm,1.0s,mb4.8							
Y12C	**Blythe**	43.73	92	⇑P		P	05 12 48.0	-0.3
	baz=44,SNR=8.3							
M22A	**Cedar Creek Ra**	43.76	78	⇓P		P	05 12 48.2	-0.2
	baz=44							
V15A	**Kaibab Nationa**	43.82	88	⇓P		P	05 12 49.3	+0.3
	baz=44,SNR=13							
P20A	**De Beque**	43.82	81	⇓P		P	05 12 48.8	-0.1
	baz=44							
L23A	**Garrett**	43.88	76	⇓P		P	05 12 48.9	-0.4
	baz=44							
O21A	**Pagoda**	43.95	80	⇑P		P	05 12 49.3	-0.6
	baz=44							
S18A	**Hurst Farm, Bl**	43.97	84	⇑P		P	05 12 49.9	-0.2
	baz=44,SNR=13							
GLA	**Glamis**	44.01	93	⇓P		P	05 12 50.3	-0.2
	baz=44							
GLA	**Glamis**	44.01	93	eP		P	05 12 50.7	+0.2
	comp=Z,77nm,1.8s,mb5.1							
GLA	**Glamis**	44.01	93	eP		P	05 12 50.7	+0.2
GLA					pmax	pmax		
	comp=Z,77nm,1.8s,mb5.1							
R19A	**Curley Farm, L**	44.04	83	⇑P		P	05 12 50.2	-0.4
	baz=44							
W15A	**Williams**	44.18	89	⇑P		P	05 12 51.9	+0.1
	baz=44							
MDND	**Maddock**	44.19	66	⇓P		P	05 12 51.3	-0.4
	baz=44,SNR=16							
PV04	**Paradox Valley**	44.19	83	eP		P	05 12 51.8	-0.1
N22A	**Wattenberg Ran**	44.21	78	⇓P		P	05 12 51.4	-0.6
	baz=44							
Q20A	**Ridgley Place,**	44.22	82	⇑P		P	05 12 51.3	-0.7
	baz=44,SNR=6.7							
X14A	**Yava**	44.26	90	⇓P		P	05 12 52.4	-0.1
	baz=44,SNR=8.6							
T18A	**Mexican Hat**	44.39	85	⇑P		P	05 12 52.6	-0.9
	baz=44,SNR=12							
S19A	**Harvey Farm, M**	44.46	84	⇑P		P	05 12 53.5	-0.6
	baz=44,SNR=13							
WUAZ	**Wupatki**	44.51	88	⇑P		P	05 12 54.3	-0.2
	baz=44,SNR=6.1							
WUAZ	**Wupatki**	44.51	88	eP		P	05 12 55.0	+0.6
	comp=Z,24nm,0.8s,mb5.1							
PHWY	**Pilot Hill**	44.51	77	eP		P	05 12 56.1	+1.8
O22A	**Kremmling**	44.54	79	⇑P		P	05 12 54.0	-0.7
	baz=44							
Y14A	**Wickenburg**	44.54	91	⇑P		P	05 12 54.2	-0.6
	baz=44,SNR=9.5							
Z13A	**Yuma Proving G**	44.63	92	⇑P		P	05 12 55.1	-0.4
	baz=44,SNR=9.1							
R20A	**Redvale**	44.64	83	⇓P		P	05 12 55.2	-0.3
	baz=44							
X15A	**Humboldt**	44.65	89	⇑P		P	05 12 55.5	-0.1
	baz=45,SNR=11							
SNY	**Shenyang**	44.69	284	⇑P		P	05 12 55.9	+0.1
SNY					pmax	pmax		
	comp=Z,44nm,1.2s,mb5.2							
SNY					pmax	pmax		
	comp=Z,220nm,8.0s							
SNY					LR	LR		
	comp=N,1μm,19.4s,MS4.8							
SNY					LR	LR		
	comp=E,730nm,20.5s,MS4.8							
SNY					LR	LR		
	comp=Z,1μm,19.6s,MS4.9							
W16A	**Flagstaff**	44.69	88	⇓P		P	05 12 56.2	+0.3
	baz=45							
KSRS	**Korea Array**	44.73	276	P		P	05 12 56.1	-0.1
	comp=Z,16nm,0.9s,mb4.8,baz=55,slow=7.8,SNR=42							
KSRS					PcP	PcP	05 14 38.6	+0.7
	comp=Z,4.0nm,0.8s,baz=90,slow=4.2,SNR=3.4							
KSRS					LR	LR	05 29 35.0	
	comp=Z,679nm,20.6s,MS4.6,baz=55,slow=33							
KSRS	**Korea Array**	44.73	276	P		P	05 12 56.1	-0.1
KSRS							05 14 38.6	
KSRS					pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8							
KSRS					pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3							
Q21A	**Lamborn Mesa,**	44.73	81	⇓P		P	05 12 55.7	-0.5
	baz=45							
P22A	**Eagle**	44.76	80	⇓P		P	05 12 56.1	-0.3
	baz=45							
M24A	**Cheyenne**	44.79	76	⇑P		P	05 12 56.1	-0.5
	baz=45							
V17A	**Tonalea, Kykot**	44.80	87	⇑P		P	05 12 56.8	+0.1
	baz=45,SNR=9.4							
U18A	**Rough Rock, Ch**	44.85	86	⇓P		P	05 12 57.5	+0.4
	baz=45							
113A	**Mohawk Valley,**	44.86	92	⇑P		P	05 12 57.5	+0.2
	baz=45							
S20A	**Disappointment**	44.88	83	⇓P		P	05 12 56.8	-0.6
	baz=45,SNR=16							
SMCO	**Snowmass**	44.89	80	eP		P	05 12 57.2	-0.2
	comp=Z,65nm,1.9s,mb5.1							
O23A	**Lake Granby, G**	44.89	79	⇓P		P	05 12 57.4	-0.1
	baz=45							
Y15A	**Casa Rosa Ranc**	44.95	90	⇑P		P	05 12 58.0	0.0
	baz=45,SNR=9.3							
ULM	**Lac du Bonnet**	44.95	61	P		P	05 12 57.5	-0.3
	comp=Z,21nm,1.0s,mb4.9,baz=297,slow=10.0,SNR=14							
ULM					LR	LR	05 33 02.2	
	comp=Z,1μm,18.7s,MS4.9,baz=153,slow=38							
ULM	**Lac du Bonnet**	44.95	61	eP		P	05 12 57.3	-0.5
	comp=Z,57nm,1.2s,mb5.3							
ULM	**Lac du Bonnet**	44.95	61	eP		P	05 12 57.3	-0.5
ULM					pmax	pmax		
	comp=Z,57nm,1.2s							
Z14A	**Wintersburg**	44.97	91	⇑P		P	05 12 57.7	-0.4
	baz=45,SNR=5.3							
R21A	**Cimarron**	45.04	82	⇓P		P	05 12 58.3	-0.4
	baz=45							
T19A	**Beclabito**	45.11	84	⇓P		P	05 12 58.9	-0.3
	baz=45,SNR=18							
Q22A	**Crested Butte,**	45.12	81	⇓P		P	05 12 59.3	0.0
	baz=45							
MVCO	**Mesa Verde**	45.19	84	⇑P		P	05 12 59.3	-0.6
	baz=45							
MVCO	**Mesa Verde**	45.19	84	eP		P	05 13 01.3	+1.4
	comp=Z,124nm,1.8s,mb5.4							
X16A	**Lo Mia Camp, P**	45.19	89	⇓P		P	05 13 00.1	+0.2
	baz=45,SNR=6.0							
V18A	**Ganado**	45.27	86	⇓P		P	05 13 00.2	-0.3
	baz=45							
ISCO	**Idaho Springs**	45.33	79	⇓P		P	05 13 00.8	-0.1
	baz=45							
ISCO	**Idaho Springs**	45.33	79	eP		P	05 13 01.7	+0.8
	comp=Z,28nm,1.4s,mb4.9							
ISCO	**Idaho Springs**	45.33	79	eP		P	05 13 01.7	+0.8
ISCO					pmax	pmax		
	comp=Z,28nm,1.4s,mb4.9							
S21A	**Coal Bank Pass**	45.34	83	⇑P		P	05 13 00.8	-0.2
	baz=45,SNR=8.9							
U19A	**Dine' College,**	45.34	85	⇓P		P	05 13 00.9	-0.1
	baz=45							
114A	**Black Gap (USA**	45.42	92	⇑P		P	05 13 01.5	-0.2
	baz=45,SNR=9.7							
P23A	**Jefferson**	45.46	79	⇓P		P	05 13 02.2	+0.3
	baz=45							
Y16A	**Circle Bar Ran**	45.52	89	⇓P		P	05 13 02.6	0.0
	baz=45,SNR=7.6							
R22A	**Saguache, Gunn**	45.61	81	⇓P		P	05 13 03.2	0.0
	baz=46,SNR=6.3							
JNU	**Nakatsue**	45.74	269	eP		P	05 13 04.7	+0.4
	comp=Z,32nm,1.1s,mb5.2							
Q23A	**Hartsel**	45.75	80	⇓P		P	05 13 04.2	0.0
	baz=46							
W18A	**Petrified Fore**	45.78	87	⇓P		P	05 13 04.8	+0.3
	baz=46							
115A	**Sonoran Desert**	45.86	91	⇓P		P	05 13 05.1	0.0
	baz=46,SNR=6.6							
S22A	**4UR Ranch, Cre**	45.87	82	⇓P		P	05 13 05.1	-0.1
	baz=46,SNR=13							
Z16A	**Peralta Trail,**	45.92	90	⇓P		P	05 13 05.6	-0.1
	baz=46							
T21A	**Navajo Lake**	45.92	83	⇑P		P	05 13 05.6	-0.1
	baz=46							
214A	**Organ Pipe Nat**	46.00	92	⇓P		P	05 13 06.1	-0.2
	baz=46,SNR=11							
AGMN	**Agassiz Nation**	46.03	63	eP		P	05 13 05.4	-1.0
	comp=Z,114nm,1.3s,mb5.6							
X18A	**Snowflake**	46.04	88	⇑P		P	05 13 06.5	0.0
	baz=46							
Y17A	**Roosevelt**	46.04	89	⇑P		P	05 13 06.5	-0.1
	baz=46,SNR=9.3							
O25A	**Wiggins**	46.04	78	⇑P		P	05 13 06.7	+0.1
	baz=46							
V20A	**Brimhall**	46.12	85	⇑P		P	05 13 07.6	+0.4
	baz=46							
U21A	**Nageezi**	46.21	84	⇑P		P	05 13 07.5	-0.4
	baz=46,SNR=14							
116A	**Eloy**	46.27	91	⇓P		P	05 13 08.1	-0.3
	baz=46,SNR=6.1							
T22A	**Edith**	46.30	83	⇑P		P	05 13 08.5	-0.1
	baz=46,SNR=12							
P25A	**Willow Gulch B**	46.38	78	⇑P		P	05 13 09.2	0.0
	baz=46,SNR=6.1							
Y18A	**Canyon Day Jun**	46.49	88	⇓P		P	05 13 10.0	-0.1
	baz=46,SNR=11							
BRSD	**Miller**	46.49	70	⇑P		P	05 13 09.1	-1.0
	baz=46							
X19A	**St. Johns**	46.51	87	⇑P		P	05 13 10.1	-0.2
	baz=46,SNR=7.8							
Z17A	**San Carlos Hig**	46.54	89	⇓P		P	05 13 10.5	0.0
	baz=46							
W20A	**Ramah**	46.54	86	⇓P		P	05 13 10.5	0.0
	baz=46,SNR=7.9							
SDCO	**Great Sand Dun**	46.69	81	⇑P		P	05 13 11.5	-0.1
	baz=46,SNR=5.4							
SDCO	**Great Sand Dun**	46.69	81	eP		P	05 13 12.0	+0.4
	comp=Z,28nm,1.1s,mb5.1							
Q25A	**Bedland, Calha**	46.71	79	⇓P		P	05 13 11.6	-0.2
	baz=47							
U22A	**Llaves**	46.73	83	⇑P		P	05 13 12.1	+0.1
	baz=47							
OGNE	**Ogallala**	46.78	75	⇓P		P	05 13 12.8	+0.4
	baz=47							
OGNE	**Ogallala**	46.78	75	eP		P	05 13 13.6	+1.3
	comp=Z,399nm,2.1s,mb6.0							
216A	**Three Points,**	46.81	91	⇓P		P	05 13 12.6	0.0
	baz=47							
T23A	**Casias Ranch,**	46.81	82	⇑P		P	05 13 12.6	0.0
	baz=47							
117A	**Oracle**	46.86	90	⇑P		P	05 13 13.4	+0.3
	baz=47							
X20A	**Quemado**	46.93	86	⇑P		P	05 13 13.8	+0.3
	baz=47,SNR=9.0							
S24A	**Houchin Ranch,**	46.93	81	⇓P		P	05 13 13.5	0.0
	baz=47,SNR=7.0							
Z18A	**Geronimo**	46.95	89	⇓P		P	05 13 14.0	+0.3
	baz=47							
V22A	**San Miguel Ran**	47.00	84	⇓P		P	05 13 14.1	0.0
	baz=47							
TUC	**Tucson**	47.01	91	eP		P	05 13 13.9	-0.4
	comp=Z,37nm,1.4s,mb5.1							
TUC	**Tucson**	47.01	91	eP		P	05 13 13.9	-0.3
TUC					pmax	pmax		
	comp=Z,37nm,1.4s,mb5.1							
W21A	**San Fidel**	47.07	85	⇑P		P	05 13 14.5	-0.1
	baz=47							
U23A	**El Rito**	47.17	83	⇑P		P	05 13 15.7	+0.3
	baz=47,SNR=6.8							
118A	**Homack Ranch,**	47.29	90	⇓P		P	05 13 16.4	0.0
	baz=47,SNR=15							
217A	**Green Valley**	47.36	91	⇑P		P	05 13 16.9	0.0
	baz=47,SNR=5.6							
S25A	**Robets Cordova**	47.39	80	⇑P		P	05 13 16.5	-0.7
	baz=47							
Y20A	**Horse Springs,**	47.42	87	⇓P		P	05 13 17.8	+0.4
	baz=47,SNR=8.8							
X21A	**Alamocita Cree**	47.43	86	⇑P		P	05 13 17.7	+0.3
	baz=47,SNR=13							
V23A	**Ortiz Mt. (NFS**	47.56	84	⇑P		P	05 13 18.5	+0.1
	baz=47							
119A	**Ashpeak Ranch,**	47.62	89	⇑P		P	05 13 19.0	0.0
	baz=48,SNR=10							
U24A	**Moreno Valley**	47.68	82	⇑P		P	05 13 19.5	+0.1
	baz=48							
218A	**Dragoon**	47.70	90	⇓P		P	05 13 19.8	+0.2
	baz=48							
T25A	**Trinidad**	47.74	81	⇓P		P	05 13 19.6	-0.3
	baz=48,SNR=12							
Y21A	**Point of Rocks**	47.79	86	⇑P		P	05 13 20.7	+0.4
	baz=48,SNR=8.2							
Z20A	**Nine Sixteen R**	47.82	88	⇓P		P	05 13 20.6	+0.1
	baz=48,SNR=9.5							
ANMO	**Albuquerque**	47.91	85	eP		P	05 13 21.7	+0.5
	comp=Z,38nm,1.4s,mb5.2							
ANMO	**Albuquerque**	47.91	85	eP		P	05 13 21.7	+0.5
ANMO					pmax	pmax		
	comp=Z,38nm,1.4s							
W23A	**Werner Place,**	47.96	84	⇑P		P	05 13 21.6	0.0
	baz=48							
318A	**Bisbee**	48.10	91	⇑P		P	05 13 22.5	-0.2
	baz=48,SNR=14							
LENM	**Lemitar**	48.12	86	eP		P	05 13 23.1	+0.4
219A	**White Tail Can**	48.17	90	⇓P		P	05 13 23.1	-0.1
	baz=48,SNR=8.7							
120A	**U Bar Ranch, L**	48.18	89	⇑P		P	05 13 23.3	0.0

baz=50,SNR=8.7
Y25A Mesa, Roswell 49.68 84 ⇑P P 05 13 34.2 -0.6
baz=50,SNR=12
X26A CR and CF Fran 49.80 83 ⇓P P 05 13 35.4 -0.3
baz=50
223A Chaparral, Ant 49.91 87 ⇓P P 05 13 36.7 +0.1
baz=50
W27A Bowe Ranch, En 49.92 82 ⇑P P 05 13 35.9 -0.7
baz=50
TLY Talaya 49.97 306 *e*P P 05 13 36.8 0.0
comp=Z,114nm,1.0s,mb5.8
TLY Talaya 49.97 306 *e*P P 05 13 34.1 -2.6
TLY *e*S **S** **05 20 36.5 -7.8**
TLY *e*SS SS 05 24 14.8 -2.1
TLY pmax pmax
comp=Z,108nm,0.9s,mb5.9
TLY MLR MLR
comp=Z,931nm,20.0s,MS4.8
TLY Talaya 49.97 306 P P 05 13 36.6 -0.1
comp=Z,625nm,1.1s,mb6.5,SNR=29
TLY Talaya 49.97 306 P P 05 13 37.2 +0.4
SNR=28
SPB4 Spitsbergen Ar 50.01 358 *e*P P 05 13 36.9 +0.1
124A Stringfield Ra 50.04 86 ⇑P P 05 13 37.1 -0.5
baz=50,SNR=6.7
Z25A Roswell 50.10 85 ⇓P P 05 13 37.6 -0.4
baz=50,SNR=5.9
BJI Beijing 50.20 287 P P 05 13 38.3 -0.3
BJI PP PP 05 15 34.9 +1.1
BJI S **S** **05 20 48.7 +0.9**
BJI SS SS 05 24 19.0 -2.0
BJI pmax pmax
comp=Z,22nm,1.2s,mb5.1
BJI pmax pmax
comp=Z,320nm,4.5s
BJI LR LR
comp=N,1μm,20.4s,MS5.0
BJI LR LR
comp=E,960nm,22.3s,MS5.0
BJI LR LR
comp=Z,720nm,22.9s,MS4.6
Y26A Elida 50.22 84 ⇓P P 05 13 38.9 +0.1
baz=50
DAG Danmarks Havn 50.25 8 *i* P P 05 13 38.0 -0.6
DAG Danmarks Havn 50.25 8 *i* P P 05 13 38.0 -0.6
comp=Z,56nm,0.8s,mb5.7
224A Cornudas Mount 50.42 87 ⇑P P 05 13 39.9 -0.5
baz=50,SNR=14
ULN Ulaanbaatar 50.50 300 *e*P P 05 13 40.5 -0.2
comp=Z,39nm,0.9s,mb5.4
ULN Ulaanbaatar 50.50 300 *e*P P 05 13 40.5 -0.3
ULN pmax pmax
comp=Z,39nm,0.9s,mb5.4
ULN Ulaanbaatar 50.50 300 P P 05 13 40.3 -0.5
comp=Z,593nmcomp=Z,53nm,1.2s,mb5.4
ULN Ulaanbaatar 50.50 300 P P 05 13 41.0 +0.2
SNR=15
125A Gardner Draw, 50.56 85 ⇑P P 05 13 41.2 -0.2
baz=50,SNR=7.0
Z26A Caprock 50.56 84 ⇑P P 05 13 41.2 -0.3
baz=50
Y27A Causey 50.65 83 ⇑P P 05 13 41.7 -0.4
baz=50,SNR=15
MSTX Muleshoe 50.83 83 ⇑P P 05 13 43.1 -0.4
baz=51,SNR=8.0
225A Deer Hill, Car 50.83 86 ⇓P P 05 13 43.4 -0.1
baz=51,SNR=7.8
SONM Songino Array 50.87 300 P P 05 13 43.6 0.0
comp=Z,98nm,1.3s,mb5.6,baz=54,slow=6.6,SNR=72
SONM PcP PcP 05 15 00.4 +0.7
comp=Z,7.1nm,1.1s,baz=66,slow=5.2,SNR=1.9
SONM ScP ScP 05 18 54.0 +1.4
comp=Z,2.4nm,0.9s,baz=56,slow=2.4,SNR=4.6
SONM LR LR 05 35 38.1
comp=Z,1μm,20.4s,MS4.8,baz=52,slow=36
SONM Songino Array 50.87 300 P P **05 13 43.6 0.0**
SONM PcP PcP 05 15 00.4 +0.7
SONM ScP ScP 05 18 54.0 +1.4
SONM LR LR 05 35 38.0
SONM Songino Array 50.87 300 P P **05 13 43.6 0.0**
SONM 05 15 00.4
SONM pmax pmax
comp=Z,98nm,1.3s
SONM pmax pmax
comp=Z,7.0nm,1.1s
SONM pmax pmax
comp=N,2.0nm,0.9s
SONM MLR MLR
comp=Z,1μm,20.4s
324A Moseley Ranch, 50.88 87 ⇓P P 05 13 43.5 -0.4
baz=51,SNR=5.9
AMTX Amarillo 50.89 81 ⇓P P 05 13 43.0 -0.9
baz=51
AMTX Amarillo 50.89 81 *e*P P 05 13 43.3 -0.6
AMTX *e*pP pP 05 13 54.1 -0.9
ZAK Zakamensk 50.94 305 ⇑*i*P P 05 13 43.9 -0.1
ZAK *e* 05 14 58.3
ZAK pmax pmax
comp=Z,36nm,1.1s,mb5.2
126A Clayton Basin, 50.96 85 ⇓P P 05 13 44.0 -0.5
baz=51,SNR=5.4
Z27A Tatum 51.00 84 ⇓P P 05 13 43.9 -0.9
baz=51,SNR=9.2
COWI Conover 51.03 62 *e*P P 05 13 43.8 -1.0
comp=Z,40nm,1.1s,mb5.3
325A Bean Ranch, Si 51.25 87 ⇓P P 05 13 46.6 0.0
baz=51,SNR=23
MOY Mondy 51.30 307 *e*P P 05 13 47.3 +0.6
MOY pmax pmax
comp=Z,92nm,1.3s,mb5.5
226A Malaga, Loving 51.31 86 ⇓P P 05 13 46.9 -0.2
baz=51,SNR=7.9
SUMG Summit 51.34 17 *e*P P 05 13 47.5 +0.8
comp=Z,169nm,1.1s,mb5.9
SUMG Summit 51.34 17 *e*P P 05 13 47.5 +0.7
SUMG pmax pmax
comp=Z,169nm,1.1s
SUMG Summit 51.34 17 *i* P P 05 13 47.6 +0.8
SCIA State Center 51.36 69 *e*P P 05 13 49.7 +2.3
comp=Z,211nm,1.8s,mb5.8
425A Indio Mountain 51.65 87 ⇓P P 05 13 49.6 0.0
baz=52,SNR=22
326A Caldwell Ranch 51.90 86 ⇓P P 05 13 51.1 -0.4
baz=52,SNR=7.5
GUMO Guam 52.30 240 LR LR 05 36 02.1
comp=Z,163nm,18.2s,MS4.1,baz=87,slow=36
426A McDonald Obser 52.32 87 ⇓P P 05 13 54.2 -0.4
baz=52,SNR=10
TARA Tarawa 52.35 201 *e*P P 05 14 00.7 +5.7
comp=Z,218nm,1.0s,mb6.0
TARA *e*pP pP 05 14 11.7 +5.6
TARA *e*ScP ScP 05 19 00.5 +1.1
HHC Hu-ho-hao-te 52.38 291 *e*P P **05 13 55.7 +0.8**
HHC pP pP 05 14 06.1 0.0
HHC sP sP 05 14 09.1 -1.4
HHC PP PP 05 15 53.8 +0.2
HHC S **S** **05 21 22.7 +4.8**
HHC SS SS 05 24 52.2 -3.2
HHC pmax pmax
comp=Z,38nm,1.2s,mb5.2
HHC pmax pmax
comp=Z,190nm,5.6s
HHC LR LR
comp=N,580nm,17.2s,MS4.9
HHC LR LR
comp=E,820nm,16.1s,MS4.9
HHC LR LR
comp=Z,950nm,18.6s,MS4.9
JFWS Jewell Farm 52.42 66 *e*P P 05 13 55.1 -0.1
comp=Z,41nm,0.9s,mb5.4
JFWS Jewell Farm 52.42 66 *e*P P 05 13 55.1 -0.1
JFWS pmax pmax
comp=Z,41nm,0.9s,mb5.4
328A Wristen Ranch, 52.57 85 ⇓P P 05 13 55.9 -0.6
baz=52
427A Hayter Ranch, 52.58 86 ⇓P P 05 13 55.8 -0.8
baz=52,SNR=6.8
526A Mary Lane Ranc 52.70 87 ⇓P P 05 13 57.2 -0.2
baz=53
WMOK Wichita Mounta 52.75 79 *e*P P 05 13 57.2 -0.6
comp=Z,23nm,0.9s,mb5.1
WMOK *e*pP pP 05 14 09.1 +0.2
WMOK Wichita Mounta 52.75 79 *e*P P **05 13 57.2 -0.6**
WMOK *e**PP pP 05 14 09.1 +0.2
WMOK pmax pmax
comp=Z,23nm,0.9s,mb5.1

527A Woodward Ranch 52.94 87 ⇓P P 05 13 58.5 -0.8
baz=53,SNR=12
SFJD Kangerlussuaq 53.01 25 *e*P P 05 13 58.8 -0.5
comp=Z,330nm,1.1s,mb6.2
SFJD Kangerlussuaq 53.01 25 *i* P P 05 13 59.3 +0.1
SFJD pmax pmax
comp=Z,42nm,1.0s,mb5.3
SFJD Kangerlussuaq 53.01 25 *i* P P 05 13 59.3 +0.1
comp=Z,42nm,1.0s,mb5.3
626A Big Bend Ranch 53.03 88 ⇑P P 05 13 59.4 -0.5
baz=53,SNR=23
428A Kincaid Ranch, 53.11 86 ⇓P P 05 14 00.3 -0.2
baz=53,SNR=15
SSE Sheshan 53.12 275 P P 05 14 00.9 +0.4
SSE sP sP 05 14 13.7 -2.4
SSE S **S** **05 21 27.2 -0.9**
SSE sS sS 05 21 42.3 -4.2
SSE pmax pmax
comp=Z,64nm,1.2s,mb5.4
SSE pmax pmax
comp=Z,160nm,2.8s,mb5.5
SSE LR LR
comp=N,200nm,18.3s,MS4.5
SSE LR LR
comp=E,330nm,18.3s,MS4.5
SSE LR LR
comp=Z,410nm,21.1s,MS4.5
BTO Baotou 53.43 291 *e*P P 05 14 03.2 +0.5
BTO pmax pmax
comp=Z,28nm,1.7s,mb4.9
528A Cox Ranch, San 53.44 86 ⇓P P 05 14 02.6 -0.3
baz=53,SNR=13
TXAR Lajitas Array 53.48 88 P P 05 14 02.8 -0.4
comp=Z,13nm,0.7s,mb5.0,baz=297,slow=5.6,SNR=184
TXAR ScP ScP 05 19 05.2 +0.9
comp=Z,1.4nm,1.1s,baz=316,slow=3.8,SNR=4.5
TXAR LR LR 05 34 07.6
comp=Z,328nm,19.3s,MS4.4,baz=5.0,slow=33
TXAR Lajitas Array 53.48 88 P P 05 14 02.8 -0.3
TXAR ScP ScP 05 19 05.2 +0.9
TXAR LR LR 05 34 07.6
TXAR Lajitas Array 53.48 88 P P 05 14 02.8 -0.4
TXAR pmax pmax
comp=Z,13nm,0.7s
TXAR pmax pmax
comp=N,1.0nm,1.1s
627A Terlingua Ranc 53.56 87 ⇓P P 05 14 03.5 -0.4
baz=54,SNR=17
TUL1 Tulsa 53.77 76 ⇓P P 05 14 03.9 -1.4
baz=54
628A Black Gap, Mar 53.85 87 ⇑P P 05 14 05.5 -0.4
baz=54,SNR=23
NJ2 Nanjing 53.89 277 *e*P P 05 14 05.9 -0.3
NJ2 pP pP 05 14 16.2 -1.1
NJ2 sP sP 05 14 19.0 -2.8
NJ2 S **S** **05 21 31.0 -7.6**
NJ2 sS sS 05 21 45.5 -12
NJ2 pmax pmax
comp=Z,50nm,0.9s,mb5.4
NJ2 pmax pmax
comp=Z,180nm,10.0s
NJ2 LR LR
comp=N,1μm,25.0s
NJ2 LR LR
comp=E,400nm,19.5s
NJ2 LR LR
comp=Z,590nm,21.3s,MS4.6
GLMI Grayling 54.30 61 *e*P P 05 14 08.5 -0.5
comp=Z,115nm,1.1s,mb5.7
HDIL Hopedale 54.49 68 *e*P P 05 14 11.5 +1.1
comp=Z,127nm,1.1s,mb5.8
CCM Cathedral Cave 55.02 71 *e*P P 05 14 14.3 0.0
comp=Z,121nm,2.0s,mb5.6
CCM Cathedral Cave 55.02 71 *e*P P 05 14 14.3 0.0
CCM pmax pmax
comp=Z,121nm,2.0s,mb5.6
JCT Junction City 55.05 84 ⇑P P 05 14 13.1 -1.6
baz=55,SNR=6.2
JCT Junction City 55.05 84 *e*P P 05 14 13.5 -1.2
comp=Z,136nm,2.0s,mb5.6
JCT Junction City 55.05 84 *e*P P 05 14 13.5 -1.1
JCT pmax pmax
comp=Z,136nm,2.0s,mb5.6
FVM French Village 55.55 71 *e*P P 05 14 18.8 +0.7
comp=Z,38nm,1.0s,mb5.4
FVM French Village 55.55 71 *e*P P 05 14 18.8 +0.7
FVM pmax pmax
comp=Z,38nm,1.0s,mb5.4
SFIN Scholer Farm 55.86 66 ⇑P P 05 14 18.5 -1.8
baz=56
MIAR Mount Ida 56.02 76 *e*P P 05 14 20.6 -1.0
comp=Z,57nm,1.1s,mb5.5
MIAR Mount Ida 56.02 76 *e*P P 05 14 20.6 -1.0
MIAR pmax pmax
comp=Z,57nm,1.1s,mb5.5
SCHQ Schefferville 56.19 43 P P 05 14 22.6 +0.1
comp=Z,68nm,0.8s,mb5.7,baz=331,slow=7.9,SNR=18
SCHQ LR LR 05 41 20.8
comp=Z,1μm,18.1s,MS5.0,baz=300,slow=39
SCHQ Schefferville 56.19 43 *e*P P 05 14 22.9 +0.4
comp=Z,157nm,1.0s,mb6.0
OLIL Olney 56.39 69 *e*P P 05 14 25.0 +0.8
comp=Z,72nm,1.0s,mb5.7
AAM Ann Arbor 56.49 63 *e*P P 05 14 25.2 +0.5
AAM Ann Arbor 56.49 63 *e*P P 05 14 25.2 +0.4
PARMO Parma 56.84 71 *e*P P 05 14 28.5 +1.2
BLO Bloomington 57.00 67 *e*P P 05 14 29.9 +1.4
comp=Z,137nm,1.5s,mb5.8
BLO Bloomington 57.00 67 *e*P P 05 14 29.9 +1.4
BLO pmax pmax
comp=Z,137nm,1.5s,mb5.8
USIN University of 57.17 69 *e*P P 05 14 30.1 +0.4
comp=Z,83nm,0.8s,mb5.8
ZAA0 Zalesovo Array 57.20 317 *e*P P 05 14 29.0 -0.7
ZALV Zalesovo Beam 57.20 317 P P 05 14 28.7 -0.9
comp=Z,3.5nm,0.5s,mb4.7,baz=37,slow=6.1,SNR=26
ZALV PcP PcP 05 15 24.1 +0.4
comp=Z,11nm,0.7s,baz=32,slow=3.3,SNR=8.7
ZALV LR LR 05 40 22.2
comp=Z,511nm,20.5s,MS4.6,baz=181,slow=37
ZALV Zalesovo Beam 57.20 317 P P 05 14 28.7 -0.9
ZALV PcP PcP 05 15 24.1 +0.4
ZALV LR LR 05 40 22.2
ZALV Zalesovo Beam 57.20 317 P P 05 14 28.7 -1.0
ZALV 05 15 24.1
ZALV pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
ZALV pmax pmax
comp=Z,11nm,0.7s,mb5.0
ZALV MLR MLR
comp=Z,511nm,20.5s,MS4.6
NVS Novosibirsk 57.23 319 *e*P P 05 14 26.1 -3.7
NVS *e* 05 15 22.1
NVS *e*S **S** **05 22 15.8 -6.7**
NVS pmax pmax
comp=Z,53nm,1.4s,mb5.4
NVS pmax pmax
comp=N,20nm,1.6s
NVS pmax pmax
comp=E,25nm,1.3s
NVS smax
comp=E,30nm,2.3s
NATX Nacogdoches 57.30 79 *e*P P 05 14 31.1 +0.4
comp=E,44nm,1.0s,mb5.4
HALT Halls 57.60 72 *e*P P 05 14 32.1 -0.6
WHN Wuhan 57.69 279 P P 05 14 28.3 -5.2
WHN S **S** **05 22 33.9 +4.6**
WHN pmax pmax
comp=Z,130nm,0.9s,mb6.0
WHN pmax pmax
comp=Z,750nm,2.7s,mb6.2
WHN pmax pmax
comp=Z,610nm,5.1s
WHN LR LR
comp=N,340nm,7.9s
WHN LR LR
comp=E,2μm,19.5s
WHN LR LR
comp=Z,950nm,19.6s,MS4.9
WCI Wyandotte Cave 57.77 68 *e*P P 05 14 34.2 +0.3
comp=Z,43nm,1.0s,mb5.4
WCI Wyandotte Cave 57.77 68 *e*P P 05 14 34.2 +0.3
WCI pmax pmax
comp=Z,43nm,1.0s,mb5.4
HKT Hockley 57.86 81 *e*P P 05 14 35.7 +1.1
HKT Hockley 57.86 81 *e*P P 05 14 35.7 +1.1

KEV Kevo 57.88 353 *e*P P 05 14 33.9 -0.3
comp=Z,240nm,1.0s,mb6.2
KEV Kevo 57.88 353 *e*P P 05 14 33.9 -0.3
KEV pmax pmax
comp=Z,240nm,1.0s,mb6.2
KEV Kevo 57.88 353 *e*p P 05 14 33.7 -0.5
comp=Z,1.8nm,0.4s,mb4.5
ARCES ARCESS Array B 58.20 353 P P 05 14 36.1 -0.4
comp=Z,25nm,0.8s,mb5.3,baz=19,slow=7.7,SNR=23
ARCES PcP PcP 05 15 27.8 +0.3
comp=Z,16nm,1.0s,baz=355,slow=7.4,SNR=3.6
ARCES LR LR 05 38 57.8
comp=Z,784nm,20.6s,MS4.8,baz=13,slow=35
ARCES ARCESS Array B 58.20 353 P P 05 14 36.1 -0.4
ARCES ARCESS Array B 58.20 353 P P 05 14 36.1 -0.4
ARCES 05 15 27.8
ARCES pmax pmax
comp=Z,25nm,0.8s
ARCES pmax pmax
comp=Z,16nm,1.0s
ARCES ARCESS Array B 58.20 353 P P 05 14 36.1 -0.4
ACSO Alum Creek Sta 58.27 64 *e*P P 05 14 38.4 +1.1
comp=Z,34nm,1.0s,mb5.3
TRO Tromso 58.48 356 *e*P P 05 14 44.6 +6.3
TRO AMB AMB 05 15 13.8
comp=Z,232nm,2.0s,mb5.9
SSLB Suanglung 58.49 269 *e*P P 05 14 39.0 -0.1
comp=Z,62nm,0.9s,mb5.6
XAN Xi'an 58.51 286 P P 05 14 38.3 -0.8
XAN pP pP 05 14 47.3 -3.1
XAN S **S** **05 22 39.0 -0.9**
XAN ScS ScS 05 24 20.9 -4.8
XAN pmax pmax
comp=Z,15nm,1.4s,mb4.8
XAN pmax pmax
comp=Z,32nm,3.3s
XAN LR LR
comp=N,450nm,21.4s,MS4.6
XAN LR LR
comp=E,270nm,20.1s,MS4.6
XAN LR LR
comp=Z,340nm,21.4s,MS4.4
OXF Oxford 58.53 73 *e*P P 05 14 41.3 +2.0
comp=Z,105nm,1.1s,mb5.8
OXF Oxford 58.53 73 *e*P P 05 14 41.3 +2.1
OXF pmax pmax
comp=Z,105nm,1.1s,mb5.8
YULB Yu-li 58.57 268 *e*P P 05 14 42.1 +2.5
comp=Z,28nm,1.1s,mb5.2
ERPA Erie 58.61 61 *e*P P 05 14 39.8 +0.1
comp=Z,75nm,1.1s,mb5.6
LVZ Lovozero 58.94 349 *e*P P 05 14 41.1 -0.5
comp=Z,111nm,0.8s,mb5.9
LVZ Lovozero 58.94 349 *e*P P 05 14 41.4 -0.2
LVZ pmax pmax
comp=Z,153nm,1.0s,mb6.0
LVZ Lovozero 58.94 349 P P 05 14 41.6 0.0
comp=Z,793nm,0.9s,mb6.7,SNR=7.4
PLAL Pickwick Lake 58.99 72 *e*P P 05 14 40.8 -1.6
comp=Z,42nm,0.9s,mb5.5
QZH Quanzhou 59.10 272 P P 05 14 47.5 +4.2
QZH S **S** **05 22 51.1 +3.4**
QZH LR LR
comp=Z,660nm,16.9s,MS4.8
MSNY Massena 59.30 55 *e*P P 05 14 43.9 -0.5
comp=Z,806nm,0.9s,mb6.8
MSNY *e*pP pP 05 14 55.5 -0.1
APA Apatity 59.40 350 ⇑*i*P P 05 14 44.0 -0.8
APA *i* pP 05 14 55.0 -1.0
APA MLR MLR
comp=Z,1μm,22.0s,MS4.9
VBMS Vicksburg 59.48 76 *e*P P 05 14 46.4 +0.5
GTA Gaotai 60.00 297 P P 05 14 48.9 -0.5
GTA pP pP 05 14 59.1 -1.6
GTA sP sP 05 15 03.7 -1.4
GTA S **S** **05 22 57.0 -2.0**
GTA sS sS 05 23 14.1 -3.6
GTA SS SS 05 26 53.3 -2.1
GTA pmax pmax
comp=Z,52nm,1.4s,mb5.4
GTA pmax pmax
comp=Z,360nm,5.7s
GTA LR LR
comp=N,1μm,18.3s,MS5.2
GTA LR LR
comp=E,1μm,18.7s,MS5.2
GTA LR LR
comp=Z,2μm,16.8s,MS5.3
LZH Lanzhou 60.05 291 *e*P P 05 14 50.5 +0.7
LZH pP pP 05 15 02.6 +1.5
LZH sP sP 05 15 06.2 +0.7
LZH PcP PcP 05 15 32.4 -3.0
LZH PP PP 05 17 01.5 -0.6
LZH *e*S **S** **05 22 58.0 -1.8**
LZH SS SS 05 26 57.6 +1.3
LZH pmax pmax
comp=Z,50nm,1.4s,mb5.3
LZH pmax pmax
comp=Z,240nm,4.5s
LZH LR LR
comp=N,1μm,15.8s
LZH LR LR
comp=E,250nm,10.0s
LZH LR LR
comp=Z,2μm,17.2s,MS5.2
FRNY Flat Rock 60.05 55 *e*P P 05 14 48.9 -0.7
comp=Z,25nm,0.9s,mb5.2
FRNY *e*pP pP 05 14 60.0 -1.0
SWET Sewanee 60.07 70 *e*P P 05 14 51.5 +1.6
STEI Steigen 60.31 357 *e*P P 05 14 50.9 -0.1
NCB Newcomb 60.34 56 *e*P P 05 14 51.3 -0.3
comp=Z,105nm,1.6s,mb5.6
BINY Binghamton 60.68 58 *e*P P 05 14 53.9 -0.1
comp=Z,521nm,2.5s,mb6.2
CPCT Cooper Cave 60.73 69 *e*P P 05 14 55.1 +0.7
SSPA Standing Stone 60.78 61 *e*P P 05 14 53.9 -0.7
comp=Z,33nm,0.9s,mb5.5
ENH Enshi 60.84 283 *e*P P 05 14 54.9 -0.3
comp=Z,28nm,0.9s,mb5.4
LRAL Lakeview Retre 60.99 73 *e*P P 05 14 55.8 -0.4
LBNH Lisbon 61.31 54 *e*P P 05 14 57.5 -0.7
comp=Z,26nm,1.1s,mb5.3
LBNH Lisbon 61.31 54 *e*P P 05 14 57.5 -0.7
LBNH pmax pmax
comp=Z,26nm,1.1s,mb5.3
TRY Troy 61.51 56 *e*P P 05 14 58.7 -0.9
BLA Blacksburg 61.81 65 *e*P P 05 15 01.2 -0.5
comp=Z,76nm,0.9s,mb5.8
BLA Blacksburg 61.81 65 *e*P P 05 15 01.2 -0.5
BLA pmax pmax
comp=Z,76nm,0.9s,mb5.8
STOK Stokkvaagen 61.96 358 *e*P P 05 15 02.3 +0.1
STOK AMB AMB 05 15 23.8
comp=Z,204nm,1.9s,mb5.9
FFD Franklin Falls 62.01 55 *e*P P 05 15 02.3 -0.5
comp=Z,59nm,1.0s,mb5.7
FFD *e*pP pP 05 15 14.3 +0.1
MVL Millersville 62.05 60 *e*P P 05 15 04.1 +0.8
comp=Z,26nm,1.1s,mb5.3
MOR8 Moi Rana 62.09 358 *e*P P 05 15 01.8 -1.3
MOR8 AMB AMB 05 15 03.4
comp=Z,61nm,1.0s,mb5.7
KURK Kurchatov 62.16 318 P P 05 15 04.1 +0.3
comp=Z,38nm,1.0s,mb5.5,baz=41,slow=7.4,SNR=32
KURK PcP PcP 05 15 44.1 +0.4
comp=Z,9.6nm,0.9s,baz=41,slow=4.4,SNR=5.4
KURK Kurchatov 62.16 318 *e*P P 05 15 03.1 -0.7
comp=Z,57nm,1.1s,mb5.6
KURK Kurchatov 62.16 318 P P 05 15 04.1 +0.3
KURK 05 15 44.1
KURK pmax pmax
comp=Z,38nm,1.0s,mb5.5
KURK pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
KURK Kurchatov 62.16 318 P P 05 15 03.5 -0.4
SNR=22
WVL Waterville 62.20 53 *e*P P 05 15 02.5 -1.7
comp=Z,73nm,1.1s,mb5.7
SDMD Soldier's Deli 62.21 61 *e*P P 05 15 03.5 -0.8
comp=Z,252nm,2.1s,mb6.0
SDMD *e*pP pP 05 15 15.2 -0.4
BRAL Brewton 62.40 74 *e*P P 05 15 10.4 +4.7
QUA2 Belchertown 62.51 56 *e*P P 05 15 06.0 -0.3
comp=Z,87nm,1.1s,mb5.8
PAL Palisades 62.63 58 *e*P P 05 15 07.0 0.0
comp=Z,93nm,1.5s,mb5.7

PAL Palisades 62.63 58 *e*P **P** **05 15 07.1 0.0**
PAL pmax pmax
comp=Z,93nm,1.5s,mb5.7
HRV Adam Dziewonsk 62.75 55 *e*P **P** **05 15 07.3 -0.6**
comp=Z,58nm,1.1s,mb5.6
HRV *e*pP pP 05 15 19.2 -0.1
HRV Adam Dziewonsk 62.75 55 *e*P **P** **05 15 07.3 -0.6**
HRV *e**PP pP 05 15 19.2 0.0
HRV pmax pmax
comp=Z,58nm,1.1s,mb5.6
KMSC Kings Mountain 62.77 67 ⇑P **P** **05 15 06.4 -1.8**
baz=62
GOGA Godfrey 62.79 70 *e*P **P** **05 15 08.7 +0.4**
comp=Z,21nm,0.8s,mb5.3
GOGA Godfrey 62.79 70 *e*P **P** **05 15 08.7 +0.4**
GOGA pmax pmax
comp=Z,21nm,0.8s,mb5.3
WES Weston 62.96 55 *e*P **P** **05 15 08.0 -1.3**
comp=Z,132nm,1.0s,mb6.0
WES Weston 62.96 55 *e*P **P** **05 15 08.0 -1.3**
WES pmax pmax
comp=Z,133nm,1.0s,mb6.0
EMMW East Machias 63.17 51 *e*P **P** **05 15 09.4 -1.2**
comp=Z,116nm,0.9s,mb6.0
WMQ Urumqi 63.19 307 P **P** **05 15 10.5 -0.3**
WMQ pP pP 05 15 20.7 -1.4
WMQ sP sP 05 15 24.6 -1.9
WMQ PP PP 05 17 30.8 +1.3
WMQ S **S** **05 23 37.4 -1.8**
WMQ ScS ScS 05 24 56.9 -3.5
WMQ pmax pmax
comp=Z,73nm,1.0s,mb5.8
WMQ pmax pmax
comp=Z,51nm,4.0s
WMQ LR LR
comp=N,2μm,20.1s,MS5.2
WMQ LR LR
comp=E,1μm,21.2s,MS5.2
WMQ LR LR
comp=Z,560nm,23.5s,MS4.7
BRYW Bryant College 63.19 56 *e*P **P** **05 15 10.3 -0.5**
comp=Z,53nm,0.9s,mb5.7
BRYW *e*pP pP 05 15 21.1 -1.0
JSC Jenkinsville 63.44 68 *e*P **P** **05 15 11.3 -1.3**
JSC Jenkinsville 63.44 68 *e*P **P** **05 15 11.3 -1.2**
MK31 Makanchi Array 63.53 313 *e*P **P** **05 15 12.2 -0.8**
MK31 Makanchi Array 63.53 313 *e*P **P** **05 15 12.2 -0.8**
MKAR Makanchi Array 63.53 313 P **P** **05 15 12.0 -1.0**
comp=Z,19nm,0.9s,mb5.1,baz=54,slow=6.2,SNR=72
MKAR LR LR 05 45 54.2
comp=Z,723nm,18.6s,MS4.9,baz=37,slow=39
MKAR Makanchi Array 63.53 313 P **P** **05 15 12.0 -1.0**
MKAR LR LR 05 45 54.2
MKAR Makanchi Array 63.53 313 P **P** **05 15 12.0 -1.0**
MKAR pmax pmax
comp=Z,19nm,0.9s
MKAR MLR MLR
comp=Z,723nm,18.6s
BVAR Borovoye Array 63.58 324 P **P** **05 15 12.9 -0.2**
comp=Z,10nm,0.4s,mb5.2,baz=53,slow=5.7,SNR=71
BVAR Borovoye Array 63.58 324 P **P** **05 15 12.9 -0.2**
BVAR Borovoye Array 63.58 324 P **P** **05 15 12.9 -0.3**
BVAR pmax pmax
comp=Z,10.0nm,0.4s
BRVK Borovoye 63.59 324 *e*P **P** **05 15 13.1 -0.2**
comp=Z,90nm,1.3s,mb5.6
BRVK Borovoye 63.59 324 P **P** **05 15 12.5 -0.8**
BRVK pmax pmax
comp=Z,133nm,1.3s,mb5.8
BRVK Borovoye 63.59 324 P **P** **05 15 13.4 +0.2**
SNR=25
VOSK Vostochnaya 63.60 323 P **P** **05 15 12.4 -0.9**
VOSK pmax pmax
comp=Z,98nm,1.4s,mb5.7
SVE Sverdlovsk 63.67 331 ⇑*i*P **P** **05 15 14.1 +0.4**
SVE pmax pmax
comp=Z,63nm,1.2s,mb5.5
NSS Namsos 63.78 359 *e*P **P** **05 15 14.4 +0.1**
CD2 Chengdu 63.80 287 P **P** **05 15 15.4 +0.4**
CD2 pP pP 05 15 25.6 -0.7
CD2 sP sP 05 15 29.5 -1.2
CD2 PP PP 05 17 38.0 +2.8
CD2 S **S** **05 23 45.2 -2.0**
CD2 sS sS 05 24 02.4 -3.6
CD2 ScS ScS 05 25 01.6 -3.8
CD2 SS SS 05 27 54.6 -0.5
CD2 pmax pmax
comp=Z,80nm,0.9s,mb5.8
CD2 pmax pmax
comp=Z,290nm,6.1s
CD2 LR LR
comp=N,1μm,17.8s
CD2 LR LR
comp=Z,1μm,19.6s,MS5.0
JOF Joensuu 64.13 349 *e*P **P** **05 15 16.2 -0.5**
JOF pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
JOF Joensuu 64.13 349 *ep* **P** **05 15 16.2 -0.5**
comp=Z,3.6nm,0.4s,mb4.8
COW Cow Castle Cre 64.41 68 *e*P **P** **05 15 18.8 -0.2**
ARU Arti 64.61 332 *e*P **P** **05 15 19.6 -0.3**
comp=Z,55nm,1.0s,mb5.5
ARU Arti 64.61 332 *d i*P **P** **05 15 19.5 -0.4**
ARU *e* 05 15 52.5
ARU *e* 05 17 39.2
ARU S **S** **05 23 57.5 +1.0**
ARU SS SS 05 28 04.7 -1.8
ARU pmax pmax
comp=Z,73nm,1.2s,mb5.6
ARU MLR MLR
comp=Z,1μm,18.0s,MS5.1
NHSC New Hope 64.91 68 *e*P **P** **05 15 25.0 +2.7**
comp=Z,201nm,1.0s,mb6.1
GYA Guiyang 65.31 282 ⇑*i*P **P** **05 15 24.8 -0.1**
GYA pP pP 05 15 35.1 -1.2
GYA sP sP 05 15 39.0 -1.7
GYA PcP PcP 05 15 58.0 +1.1
GYA PP PP 05 17 49.4 +0.8
GYA ScP 05 19 56.8
GYA S S 05 24 01.8 -4.1
GYA sS sS 05 24 18.7 -6.0
GYA SS SS 05 28 15.0 -3.7
GYA pmax pmax
comp=Z,20nm,1.0s,mb5.1
GYA pmax pmax
comp=Z,80nm,3.8s
GYA LR LR
comp=N,390nm,20.2s,MS4.8
GYA LR LR
comp=E,420nm,21.7s,MS4.8
GYA LR LR
comp=Z,590nm,17.7s,MS4.8
KAF Kangasniemi 65.44 351 *e*P **P** **05 15 23.9 -1.3**
KAF pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
KAF Kangasniemi 65.44 351 *ep* **P** **05 15 23.9 -1.3**
comp=Z,3.3nm,0.4s,mb4.7
TAOE Nuku Hiva Isla 66.00 147 *e*S S 05 24 18.5 +4.2
comp=Z,226nm,25.3s
TAOE *e*LR LR 05 35 26.1
comp=Z,874nm,21.7s
FINES FINESS Array B 66.12 351 P **P** **05 15 28.9 -0.8**
comp=Z,44nm,0.9s,mb5.5,baz=27,slow=9.0,SNR=41
FINES LR LR 05 48 20.7
comp=Z,782nm,19.1s,MS4.9,baz=343,slow=40
FINES FINESS Array B 66.12 351 P **P** **05 15 28.9 -0.8**
FINES LR LR 05 48 20.7
FINES FINESS Array B 66.12 351 P **P** **05 15 28.9 -0.7**
FINES pmax pmax
comp=Z,44nm,0.9s
FINES MLR MLR
comp=Z,782nm,19.1s
NB2 NORSAR Subarra 67.30 359 P **P** **05 15 36.8 -0.3**
comp=Z,13nm,0.7s,mb5.1,baz=2.1,slow=6.5
NOA NORSAR Array B 67.30 359 P **P** **05 15 36.7 -0.4**
comp=Z,11nm,0.7s,mb5.0,baz=1.1,slow=6.3,SNR=37
NOA LR LR 05 47 29.7
comp=Z,398nm,18.6s,MS4.7,baz=20,slow=38
NOA NORSAR Array B 67.30 359 P **P** **05 15 36.7 -0.4**
NOA LR LR 05 47 29.6
NOA NORSAR Array B 67.30 359 P **P** **05 15 36.7 -0.4**
NOA pmax pmax
comp=Z,11nm,0.7s
NOA MLR MLR
comp=Z,398nm,18.6s

NAO01 NORSAR Array S 67.50 359 *e*P **P** **05 15 37.8 -0.6**
NC602 NORSAR Array S 67.60 359 *e*P **P** **05 15 38.5 -0.4**
ASK Askoy 67.81 2 *e*P **P** **05 15 39.9 -0.4**
RUND Rundenannen 67.89 2 *e*P **P** **05 15 40.4 -0.4**
OSL Oslo 68.41 359 *e*P **P** **05 15 44.6 +0.5**
ODD1 Odda 68.41 2 *e*P **P** **05 15 44.5 +0.4**
ODD1 AMB AMB 05 15 53.5
comp=Z,53nm,1.4s,mb5.4
KMI Kunming 68.66 284 P **P** **05 15 46.7 +0.5**
KMI pP pP 05 15 58.2 +0.5
KMI sP sP 05 16 02.8 +0.7
KMI PcP PcP 05 16 09.9 -1.0
KMI PP PP 05 18 20.2 +2.4
KMI S S 05 24 44.4 -2.0
KMI sS sS 05 25 04.0 -1.3
KMI SS SS 05 29 10.7 0.0
KMI pmax pmax
comp=Z,46nm,1.2s,mb5.3
KMI pmax pmax
comp=Z,310nm,3.6s
KMI LR LR
comp=N,240nm,15.7s,MS4.9
KMI LR LR
comp=E,550nm,19.1s,MS4.9
KMI LR LR
comp=Z,350nm,22.5s,MS4.5
KONO Kongsberg 68.70 360 *e*P **P** **05 15 46.2 +0.3**
KONO AMB AMB 05 15 47.9
comp=Z,58nm,1.6s,mb5.3
KONO Kongsberg 68.70 360 *e*P **P** **05 15 46.1 +0.1**
comp=Z,27nm,0.8s,mb5.2
KONO Kongsberg 68.70 360 *e*P **P** **05 15 46.1 +0.2**
KONO pmax pmax
comp=Z,27nm,0.8s,mb5.2
QIZ Qiongzhong 68.89 274 P **P** **05 15 46.5 -1.2**
QIZ S S 05 24 49.5 +0.3
QIZ sS sS 05 25 04.9 -3.3
QIZ LR LR
comp=N,300nm,20.9s,MS4.5
QIZ LR LR
comp=E,130nm,20.9s,MS4.5
QIZ LR LR
comp=Z,400nm,21.8s,MS4.6
MVH1 Achvaich 69.86 8 *e*P **P** **05 15 52.7 -0.4**
MVH1 Achvaich 69.86 8 P **P** **05 15 52.7 -0.4**
AKTK Aktyubinsk 69.96 329 P **P** **05 15 53.7 -0.2**
AKTO Aktyubinsk 69.96 329 P **P** **05 15 53.7 -0.2**
comp=Z,58nm,0.8s,mb5.6,baz=44,slow=6.2,SNR=167
AKTO Aktyubinsk 69.96 329 P **P** **05 15 53.7 -0.2**
AKTO pmax pmax
comp=Z,58nm,0.8s,mb5.6
FRU Bishkek 70.04 315 *i* P **P** **05 15 47.0 -7.5**
FRU *i* 05 16 18.0
FRU pmax pmax
comp=Z,120nm,1.0s,mb5.8
MOS Moscow 70.12 344 *e*P **P** **05 15 53.0 -1.7**
MOS *e* 05 16 16.0
MOS *e* 05 18 25.5
MOS pmax pmax
comp=Z,114nm,1.2s,mb5.7
MCD Coleburn Disti 70.28 7 *e*P **P** **05 15 55.3 -0.4**
MCD Coleburn Disti 70.28 7 P **P** **05 15 55.3 -0.4**
MDO Dochfour 70.33 8 *e*P **P** **05 15 55.6 -0.3**
MDO Dochfour 70.33 8 P **P** **05 15 55.6 -0.3**
AB31 Akbulak array 70.36 328 P **P** **05 15 55.2 -1.1**
AB31 pmax pmax
comp=Z,121nm,1.2s,mb5.7
ABKAR Akbulak array 70.36 328 *e*P **P** **05 15 56.1 -0.2**
MME1 Meikle Cairn 70.56 7 *e*P **P** **05 15 56.9 -0.6**
MME1 Meikle Cairn 70.56 7 P **P** **05 15 56.9 -0.6**
OBN Obninsk 70.90 344 *e*P **P** **05 15 58.6 -0.9**
comp=Z,56nm,0.9s,mb5.5
OBN Obninsk 70.90 344 *e*P **P** **05 15 58.5 -1.0**
OBN *i* 05 16 17.9
OBN pmax pmax
comp=Z,97nm,1.2s,mb5.6
PMG Port Moresby 71.13 225 P PcP 05 16 20.0 -1.3
EAB Aberfoyle 71.57 8 *e*P **P** **05 16 03.2 -0.4**
EAB Aberfoyle 71.57 8 P **P** **05 16 03.2 -0.4**
KK31 Karatay Array 71.58 318 P **P** **05 15 57.5 -6.3**
KKAR Karatay Array 71.58 318 *e*P **P** **05 15 57.6 -6.2**
KKAR Karatay Array 71.58 318 *e*P **P** **05 15 57.6 -6.2**
EBH Black Hill 71.58 8 *e*P **P** **05 16 03.5 -0.1**
EBH Black Hill 71.58 8 P **P** **05 16 03.5 -0.1**
PPT Papeete 71.65 159 *e*S S 05 25 27.8 +6.7
comp=Z,1μm,26.0s
PPT *e*LR LR 05 37 38.8
comp=Z,995nm,31.8s,baz=346
PPT Papeete 71.65 159 LR LR 05 41 21.8
comp=Z,337nm,18.5s,MS4.6,baz=316,slow=31
IZAR Zarasai 71.72 350 *e*P **P** **05 16 04.6 +0.2**
IZAR AMB AMB 05 16 06.0
comp=Z,26nm,1.1s,mb5.1
MUD Monsted U'grnd 71.90 0 ⇑*i*P **P** **05 16 05.7 +0.2**
MUD pmax pmax
comp=Z,17nm,0.8s,mb5.0
MUD Monsted U'grnd 71.90 0 ⇑*i*P **P** **05 16 05.7 +0.2**
comp=Z,17nm,0.8s,mb5.0
ISAL Salakas 71.90 350 *e*P **P** **05 16 05.7 +0.2**
ISAL AMB AMB 05 16 07.2
comp=Z,34nm,1.2s,mb5.1
LSA Lhasa 71.96 295 *e*P **P** **05 16 07.9 +1.6**
comp=Z,79nm,0.8s,mb5.7
LSA Lhasa 71.96 295 *e*P **P** **05 16 07.9 +1.6**
LSA pmax pmax
comp=Z,79nm,0.8s,mb5.7
EAU Auchinoon 71.98 8 *e*P **P** **05 16 05.7 -0.4**
EAU Auchinoon 71.98 8 P **P** **05 16 05.7 -0.4**
KSH Kashi 72.09 312 *e*P **P** **05 16 10.1 +3.1**
KSH pP pP 05 16 20.3 +1.8
KSH sP sP 05 16 24.3 +1.5
KSH PcP PcP 05 16 28.4 +3.2
KSH PP PP 05 18 52.4 +5.6
KSH S S 05 25 27.3 +1.3
KSH sS sS 05 25 46.2 +1.2
KSH SKS 05 26 07.3
KSH ScS ScS 05 26 10.2 +0.3
KSH SS SS 05 30 08.8 +6.2
KSH pmax pmax
comp=Z,130nm,0.8s,mb5.9
KSH LR LR
comp=N,430nm,8.7s
KSH LR LR
comp=E,180nm,8.5s
KSH LR LR
comp=Z,600nm,13.2s,MS5.0
IDID Didziasalis 72.09 350 *e*P **P** **05 16 06.9 +0.2**
IDID AMB AMB 05 16 08.2
comp=Z,32nm,1.2s,mb5.1
IIGN Ignalina 72.11 350 *e*P **P** **05 16 07.1 +0.3**
IIGN AMB AMB 05 16 08.4
comp=Z,42nm,1.2s,mb5.2
NACGM Naroch 72.49 350 *e* **P** **05 16 07.0 -2.1**
ESK Eskdalemuir 72.53 8 *e*P **P** **05 16 07.6 -1.7**
ESK AMB AMB 05 16 11.2
comp=Z,36nm,2.9s,mb4.8
ESK Eskdalemuir 72.53 8 P **P** **05 16 07.6 -1.7**
ESK AMB AMB 05 16 11.2
comp=Z,36nm,2.9s,mb4.8
ESK Eskdalemuir 72.53 8 *e*P **P** **05 16 09.2 -0.1**
comp=Z,16nm,0.8s,mb5.0
ESK Eskdalemuir 72.53 8 *i* P **P** **05 16 09.8 +0.5**
ECK Cauldkaine Hil 72.67 8 *e*P **P** **05 16 09.8 -0.4**
ECK Cauldkaine Hil 72.67 8 P **P** **05 16 09.8 -0.4**
MICGM Minsk 72.76 349 *e*P **P** **05 16 10.0 -0.7**
MNK Minsk 72.77 349 *e*P **P** **05 16 10.0 -0.7**
MNK pmax pmax
comp=Z,340nm,1.0s,mb6.2
GAL1 Galloway 72.84 9 *e*P **P** **05 16 09.8 -1.4**
GAL1 AMB AMB 05 16 14.4
comp=Z,47nm,3.0s,mb4.9
GAL1 Galloway 72.84 9 P **P** **05 16 09.8 -1.4**
GAL1 AMB AMB 05 16 14.4
comp=Z,47nm,3.0s,mb4.9
XAL Allendale 73.06 7 *e*P **P** **05 16 12.3 -0.2**
XAL Allendale 73.06 7 P **P** **05 16 12.3 -0.2**
KESW Keswick, Cumbr 73.26 8 *e*P **P** **05 16 13.3 -0.3**
KESW AMB AMB 05 16 14.3
comp=Z,34nm,2.3s,mb4.9
KESW Keswick, Cumbr 73.26 8 P **P** **05 16 13.3 -0.3**
KESW AMB AMB 05 16 14.3
comp=Z,34nm,2.3s,mb4.9
SUW Suwalki 73.73 352 *e*P **P** **05 16 15.7 -0.7**
SUW Suwalki 73.73 352 *e*P **P** **05 16 16.0 -0.5**
comp=Z,198nm,1.1s,mb6.0
SUW Suwalki 73.73 352 *e*P **P** **05 16 16.0 -0.4**
SUW pmax pmax
comp=Z,198nm,1.1s,mb6.0
VRHR Novokhopersk 73.73 340 *e*P **P** **05 16 14.9 -1.6**
VRHR pmax pmax
comp=Z,70nm,0.9s,mb5.6
VRHR pmax pmax
comp=N,50nm,1.0s
VRHR pmax pmax
comp=E,40nm,1.4s
VSR Storozhevoye 74.13 341 *e*P **P** **05 16 17.8 -1.0**
VSR pmax pmax
comp=Z,70nm,1.1s,mb5.5
VSR pmax pmax
comp=N,30nm,0.7s
VSR pmax pmax
comp=E,9.0nm,0.7s
MYLDM Lahad Datu 74.26 258 P **P** **05 16 20.1 0.0**
comp=E,658nmcomp=E,43nm,1.3s,mb5.2
WME Myndd Eilian 74.34 9 *e*P **P** **05 16 19.4 -0.5**
WME Myndd Eilian 74.34 9 P **P** **05 16 19.4 -0.5**
CHRT Chiangrai 74.41 282 ⇑P **P** **05 16 20.0 -0.9**
comp=E,145nm,1.0s,mb5.9
WLF1 Llynfaes 74.43 9 *e*P **P** **05 16 20.8 +0.2**
WLF1 AMB AMB 05 16 24.5
comp=Z,22nm,2.0s,mb4.8
WLF1 Llynfaes 74.43 9 P **P** **05 16 20.8 +0.2**
WLF1 AMB AMB 05 16 24.5
comp=Z,22nm,2.0s,mb4.8
WPM1 Penmaenmawr 74.51 8 *e*P **P** **05 16 19.7 -1.2**
WPM1 Penmaenmawr 74.51 8 P **P** **05 16 19.7 -1.2**
KMSI Cibinong 74.67 251 P **P** **05 16 27.0 +4.5**
comp=Z,179nm,0.9s,mb6.0
KBI1 Birley Grange 74.71 7 *e*P **P** **05 16 22.2 +0.1**
KBI1 Birley Grange 74.71 7 P **P** **05 16 22.2 +0.1**
GKP Gorka Klasztor 74.89 355 *e*P **P** **05 16 23.8 +0.6**
GKP Gorka Klasztor 74.89 355 *e*P **P** **05 16 23.8 +0.6**
CWF Charnwood Fore 75.24 7 *e*P **P** **05 16 23.7 -1.5**
CWF AMB AMB 05 16 25.5
comp=Z,18nm,1.7s,mb4.7
CWF Charnwood Fore 75.24 7 P **P** **05 16 23.7 -1.5**
CWF AMB AMB 05 16 25.5
comp=Z,18nm,1.7s,mb4.7
CHTO Chiang Mai 75.72 282 *e*P **P** **05 16 28.3 -0.2**
comp=Z,15nm,0.9s,mb4.9
CHTO Chiang Mai 75.72 282 *e*P **P** **05 16 28.3 -0.2**
CHTO pmax pmax
comp=Z,15nm,0.9s,mb4.9
CHTO Chiang Mai 75.72 282 P **P** **05 16 28.2 -0.3**
comp=Z,357nmcomp=Z,28nm,0.9s,mb5.2
CHTO Chiang Mai 75.72 282 P **P** **05 16 28.5 0.0**
SNR=10
RUE Ruedersdorf 75.82 357 *e*P **P** **05 16 28.5 -0.1**
MCH1 Michaelchurch 75.84 8 AMB AMB 05 16 33.8
comp=Z,33nm,2.0s,mb4.9
MRSI Marisa 75.95 252 P **P** **05 16 29.3 -0.5**
comp=Z,2μmcomp=Z,55nm,1.1s,mb5.4
CM31 Chiang Mai Arr 76.00 282 *e*P **P** **05 16 30.6 +0.6**
comp=Z,21nm,0.8s,mb5.1
CMAR Chiang Mai Arr 76.00 282 P **P** **05 16 29.9 -0.2**
comp=Z,15nm,0.7s,mb5.0,baz=26,slow=6.7,SNR=92
CMAR Chiang Mai Arr 76.00 282 P **P** **05 16 29.9 -0.2**
CMAR Chiang Mai Arr 76.00 282 P **P** **05 16 29.9 -0.1**
CMAR pmax pmax
comp=Z,15nm,0.7s
BEL Belsk 76.09 353 *e*P **P** **05 16 30.6 +0.5**
BEL Belsk 76.09 353 *e*P **P** **05 16 30.6 +0.5**
ODAN Odare 76.25 296 *e*P **P** **05 16 32.6 +1.2**
ODAN Odare 76.25 296 *e*P **P** **05 16 32.6 +1.2**
GUN Gumba 76.26 298 *e*P **P** **05 16 32.0 +0.5**
GUN Gumba 76.26 298 *e*P **P** **05 16 32.0 +0.5**
AKASG Malin Array Be 76.31 347 P **P** **05 16 30.1 -1.2**
comp=Z,15nm,0.7s,mb5.1,baz=13,slow=5.7,SNR=73
AKASG LR LR 05 51 08.2
comp=Z,847nm,21.9s,MS5.0,baz=35,slow=36
AKASG Malin Array Be 76.31 347 P **P** **05 16 30.1 -1.2**
AKASG LR LR 05 51 08.2
AKASG Malin Array Be 76.31 347 P **P** **05 16 30.1 -1.2**
AKASG pmax pmax
comp=Z,15nm,0.7s
AKASG MLR MLR
comp=Z,847nm,21.9s
AKBB Malin Array Si 76.31 347 *e*P **P** **05 16 29.9 -1.4**
AKBB Malin Array Si 76.31 347 *e*P **P** **05 16 29.9 -1.4**
KIEV Kiev 76.32 347 *e*P **P** **05 16 30.2 -1.2**
comp=Z,54nm,1.1s,mb5.4
KIEV Kiev 76.32 347 *e*P **P** **05 16 30.2 -1.2**
KIEV pmax pmax
comp=Z,54nm,1.1s,mb5.4
AGT Agartala 76.37 291 *e*PKP **P** **05 16 31.0 -1.1**
AGT *ex* x 05 16 54.0
WTSB Winterswijk 76.38 2 *e*P **P** **05 16 31.6 -0.1**
comp=Z,20nm,1.7s,mb4.8
DZM Mont Dzumac 76.46 202 *e*LR LR 05 39 37.9
comp=Z,664nm,21.5s
KKN Kakani 76.68 298 *e*P **P** **05 16 34.1 +0.3**
comp=Z,120nm,0.9s,mb5.8
KKN Kakani 76.68 298 *e*P **P** **05 16 34.1 +0.3**
comp=Z,120nm,0.9s,mb5.8
KKN Kakani 76.68 298 *e*P **P** **05 16 34.1 +0.3**
KKN pmax pmax
comp=Z,120nm,0.9s,mb5.8
LUWI Luwuk 76.68 251 P **P** **05 16 32.8 -1.2**
comp=Z,3μmcomp=Z,125nm,1.1s,mb5.7
PKI Pulchoki 76.78 298 *e*P **P** **05 16 34.6 +0.2**
PKI Pulchoki 76.78 298 *e*P **P** **05 16 34.6 +0.2**
comp=Z,50nm,0.6s,mb5.6
PKI Pulchoki 76.78 298 *e*P **P** **05 16 34.6 +0.2**
PKI pmax pmax
comp=Z,50nm,0.6s,mb5.6
PKIN Phulchoki 76.79 298 *e*P **P** **05 16 34.6 +0.2**
comp=Z,50nm,0.6s,mb5.6
GKN Gorkha 76.86 299 *e*P **P** **05 16 34.8 -0.1**
comp=Z,147nm,0.8s,mb6.0
GKN Gorkha 76.86 299 *e*P **P** **05 16 34.8 -0.1**
comp=Z,147nm,0.8s,mb6.0
BDT Bhumibol Dam 76.89 281 P **P** **05 16 34.0 -1.1**
comp=Z,22nm,0.9s,mb5.1
DMN Daman 76.92 298 *e*P **P** **05 16 35.6 +0.4**
DMN Daman 76.92 298 *e*P **P** **05 16 35.6 +0.4**
COEN Coen 76.92 226 P sP 05 16 52.1 +1.0
CLL Collm 77.02 358 ⇑*i*P **P** **05 16 35.1 -0.2**
CLL *i* pP 05 16 46.0 -0.9
CLL *e*S S 05 26 18.0 -2.6
CLL pmax pmax
comp=Z,26nm,1.0s,mb5.1
CLL MLR MLR
comp=Z,300nm,18.2s,MS4.7
CLL Collm 77.02 358 ⇑*i*P **P** **05 16 35.1 -0.2**
comp=Z,26nm,1.0s,mb5.1
CLL *i* pP pP 05 16 46.0 -0.9
CLL *e*PP PP 05 19 36.0 +7.9
CLL *e*S S 05 26 18.0 -2.6
CLL *e*PS 05 27 00.0
CLL *e*SS SS 05 31 30.0 +13
CLL *e* 05 35 32.0
CLL LmV 05 58 00.0
comp=Z,300nm,18.2s
DANN Dangsing 77.07 299 *e*P **P** **05 16 36.5 +0.5**
comp=Z,205nm,0.7s,mb6.1
DANN Dangsing 77.07 299 *e*P **P** **05 16 36.5 +0.5**
comp=Z,205nm,0.7s,mb6.2
TBI Tubuai 77.27 160 *e*S S 05 26 25.3 +1.5
comp=Z,548nm,31.0s
TBI *e*LR LR 05 40 04.3
comp=Z,489nm,34.0s,baz=338
KSP Ksiaz 77.36 356 *e*P **P** **05 16 37.6 +0.4**
NST Nakhon Sawan 77.41 279 P **P** **05 16 38.5 +0.4**
BRG Berggiesshubel 77.43 357 *e*P **P** **05 16 37.9 +0.3**
comp=Z,43nm,1.1s,mb5.3
BRG *i* pP 05 16 48.8 -0.5
comp=Z,25nm,0.9s
BRG
comp=N,447nm,23.5s
BRG
comp=E,201nm,14.4s
BRG
comp=Z,518nm,23.1s
BRG Berggiesshubel 77.43 357 *e*P **P** **05 16 37.9 +0.3**
BRG *i* pP 05 16 48.8 -0.4
BRG pmax pmax
comp=Z,43nm,1.1s,mb5.3
BRG pmax pmax
comp=Z,25nm,1.0s,mb5.1

BRG MLR MLR
comp=N,447nm,23.5s
BRG MLR MLR
comp=E,201nm,14.4s
BRG MLR MLR
comp=Z,518nm,23.1s,MS4.8
HGN Heimansgroeve 77.56 2 *eP* **P 05 16 38.6 +0.2**
comp=Z,32nm,1.6s,mb5.0
KOLN Koldanda 77.61 299 *eP* **P 05 16 38.9 -0.2**
comp=Z,147nm,1.2s,mb5.8
KOLN Koldanda 77.61 299 *eP* **P 05 16 38.9 -0.2**
comp=Z,147nm,1.2s,mb5.8
UPC Upice 77.71 356 *eP* **P**
UPC *e* pP 05 16 50.2 -0.6
UPC Upice 77.71 356⇑ *eP* **P 05 16 39.7 +0.5**
UPC *epP* pP 05 16 50.2 -0.6
MEM Membach 77.72 2 P **P 05 16 38.4 -0.9**
comp=Z,15nm,1.3s,mb4.8
PVCC Panska Ves 77.75 357 *eP* **P 05 16 39.9 +0.5**
PVCC MLR MLR
comp=Z,500nm,22.8s,MS4.8
PVCC Panska Ves 77.75 357⇑ *eP* **P 05 16 39.9 +0.5**
PVCC AMS AMS 05 59 30.0
comp=Z,500nm,22.8s
SNF Seneffe 77.77 3 P **P 05 16 39.8 +0.2**
comp=Z,17nm,1.3s,mb4.8
SNF AP pP 05 16 50.6 -0.6
OJC Ojcow 77.77 353 *eP* **P 05 16 39.0 -0.6**
OJC Ojcow 77.77 353 *eP* **P 05 16 38.8 -0.8**
comp=Z,61nm,1.3s,mb5.0
OJC Ojcow 77.77 353 *eP* **P 05 16 39.0 -0.6**
LVV L'vov 77.80 350 *eP* **P 05 16 38.7 -1.0**
LVV MLR MLR
comp=N,500nm,22.0s,MS4.9
LVV MLR MLR
comp=E,400nm,22.0s,MS4.9
LVV MLR MLR
comp=Z,900nm,22.0s,MS5.0
DPC Dobruska-Polom 77.85 356 *eP* **P 05 16 40.8 +0.8**
comp=Z,134nm,1.3s,mb5.7
DPC Dobruska-Polom 77.85 356 *eP* **P 05 16 40.8 +0.8**
DPC pmax pmax
comp=Z,134nm,1.3s,mb5.7
DPC Dobruska-Polom 77.85 356⇑ *iP* **P 05 16 40.8 +0.8**
DPC *epP* pP 05 16 51.3 -0.3
DPC AMS AMS 05 57 10.0
comp=Z,400nm,18.0s
BCLA Clavier 77.89 3 P **P 05 16 40.1 -0.1**
comp=Z,16nm,1.3s,mb4.8
KWP Kalwaria Pacla 78.11 351 *eP* **P 05 16 41.9 +0.4**
KWP Kalwaria Pacla 78.11 351 *eP* **P 05 16 41.4 -0.1**
comp=Z,101nm,1.0s,mb5.7
KWP Kalwaria Pacla 78.11 351 *eP* **P 05 16 41.9 +0.4**
KWP Kalwaria Pacla 78.11 351⇑ *iP* **P 05 16 41.9 +0.4**
DOU Dourbes 78.19 3 P **P 05 16 42.1 +0.2**
comp=Z,14nm,1.3s,mb4.7
GIVF Givet 78.19 3 *eP* **P 05 16 42.1 +0.2**
comp=Z,67nm,1.0s,mb5.2
GIVF Givet 78.19 3 *eP* **P 05 16 42.1 +0.2**
comp=Z,34nm,1.0s,mb5.2
GIVF Givet 78.19 3 *eP* **P 05 16 42.1 +0.2**
GIVF pmax pmax
comp=Z,33nm,1.0s,mb5.2
BAIF Baives 78.21 3 *eP* **P 05 16 42.4 +0.4**
comp=Z,29nm,0.7s,mb5.0
BAIF Baives 78.21 3 *eP* **P 05 16 42.4 +0.4**
comp=Z,15nm,0.7s,mb5.0
BAIF Baives 78.21 3 *eP* **P 05 16 42.4 +0.4**
BAIF pmax pmax
comp=Z,15nm,0.7s,mb5.0
OKC Ostrava-Krasne 78.27 354⇑ *iP* **P 05 16 42.6 +0.3**
OKC MLR MLR
comp=Z,500nm,18.7s,MS4.9
OKC Ostrava-Krasne 78.27 354⇑ *iP* **P 05 16 42.6 +0.3**
OKC AMS AMS 05 55 10.0
comp=Z,500nm,18.7s
PRU Pruhonice 78.29 357⇑ *iP* **P 05 16 43.6 +1.2**
PRU MLR MLR
comp=Z,500nm,17.8s,MS4.9
PRU Pruhonice 78.29 357⇑ *iP* **P 05 16 43.6 +1.2**
PRU AMS AMS 05 54 10.0
comp=Z,500nm,17.8s
MORC Moravsky Berou 78.36 355 *eP* **P 05 16 42.9 0.0**
comp=Z,41nm,1.2s,mb5.2
MORC Moravsky Berou 78.36 355 P **P 05 16 43.6 +0.8**
MORC Moravsky Berou 78.36 355⇑ *iP* **P 05 16 43.3 +0.5**
STHS Stebnicka Huta 78.46 352 *eP* **P 05 16 45.0 +1.6**
STHS pmax pmax
comp=Z,29nm,1.1s,mb5.1
STHS Stebnicka Huta 78.46 352 *eP* **P 05 16 45.0 +1.6**
ABH Alteburg 78.48 1 *eP* **P 05 16 44.0 +0.5**
NIE Niedzica 78.53 353 *eP* **P 05 16 44.2 +0.4**
NIE Niedzica 78.53 353 *eP* **P 05 16 44.2 +0.4**
RUP Ruppelstein 78.65 2 *eP* **P 05 16 44.3 -0.1**
RUP Ruppelstein 78.65 2 *eP* **P 05 16 44.3 -0.1**
WLF Walferdange 78.67 2 P **P 05 16 45.6 +1.1**
comp=Z,17nm,1.8s,mb4.7
WLF Walferdange 78.67 2 *eP* **P 05 16 45.7 +1.2**
comp=Z,13nm,0.8s,mb4.9
WLF Walferdange 78.67 2 *eP* **P 05 16 45.7 +1.2**
WLF pmax pmax
comp=Z,13nm,0.8s,mb4.9
GRFO Grafenberg 78.67 359 *eP* **P 05 16 45.4 +0.9**
comp=Z,61nm,1.1s,mb5.4
GRFO Grafenberg 78.67 359 *eP* **P 05 16 45.4 +0.9**
GRFO pmax pmax
comp=Z,61nm,1.1s,mb5.4
TOD Tromm 78.76 0 *eP* **P 05 16 45.6 +0.5**
TOD Tromm 78.76 0 *eP* **P 05 16 45.6 +0.5**
KOLS Kolonicke sedl 78.85 351 *eP* **P 05 16 46.0 +0.5**
KOLS pmax pmax
comp=Z,22nm,1.3s,mb4.9
KOLS Kolonicke sedl 78.85 351 *eP* **P 05 16 45.9 +0.4**
VRAC Vranov 78.88 355 ⇓P **P 05 16 46.9 +1.2**
VRAC Vranov 78.88 355 ⇓*iP* **P 05 16 46.9 +1.2**
TREC Trest 78.95 356 *eP* **P 05 16 46.8 +0.7**
TREC MLR MLR
comp=Z,600nm,20.0s,MS4.9
TREC Trest 78.95 356⇑ *eP* **P 05 16 46.8 +0.7**
TREC AMS AMS 05 55 10.0
comp=Z,600nm,20.0s
CRVS Cervenica-Dubn 78.95 352 *eP* **P 05 16 46.1 0.0**
CRVS pmax pmax
comp=Z,15nm,1.2s,mb4.8
CRVS Cervenica-Dubn 78.95 352 *eP* **P 05 16 46.1 0.0**
GOF Gofitskoye 79.08 336⇑ *iP* sP 05 17 03.5 +0.6
GOF pmax pmax
comp=Z,271nm,1.0s,mb6.1
UZH Uzhgorod 79.14 351 *c iP* **P 05 16 47.3 +0.1**
UZH *e* pP 05 16 58.0 -0.8
UZH *eS* S 05 26 40.0 -3.6
UZH *ePS* 05 27 23.0
KHC Kasperske Hory 79.18 357 *eP* **P 05 16 48.0 +0.7**
comp=Z,81nm,1.4s,mb5.5
KHC Kasperske Hory 79.18 357⇑ *iP* **P 05 16 48.2 +0.9**
KHC *e* pP 05 16 59.0 0.0
KHC Kasperske Hory 79.18 357⇑ *iP* **P 05 16 48.2 +0.9**
KHC *epP* pP 05 16 59.0 0.0
KHC AMS AMS 05 56 10.0
FLN La Foliniere 79.25 7 *eP* **P 05 16 47.6 -0.1**
comp=Z,83nm,1.2s,mb5.2
FLN *eR*
comp=Z,512nm,19.0s
FLN La Foliniere 79.25 7 *eP* **P 05 16 47.6 -0.1**
comp=Z,42nm,1.2s,mb5.2
FLN LR LR
comp=Z,510nm,19.0s,MS4.9
FLN La Foliniere 79.25 7 *eP* **P 05 16 47.6 -0.1**
FLN pmax pmax
comp=Z,41nm,1.2s,mb5.2
FLN MLR MLR
comp=Z,510nm,19.0s,MS4.9
KBL Kabul 79.32 314 *eP* **P 05 16 47.9 -0.5**
comp=Z,126nm,1.1s,mb5.8
KBL Kabul 79.32 314 *eP* **P 05 16 47.9 -0.5**
KBL pmax pmax
comp=Z,126nm,1.1s,mb5.8
KKR Kurukshetra 79.39 305 *ePKP* **P 05 16 48.5 -0.3**
LDF La Druitiere 79.44 6 *eP* **P 05 16 48.5 -0.3**
comp=Z,16nm,0.5s,mb4.9
LDF La Druitiere 79.44 6 *eP* **P 05 16 48.5 -0.3**
comp=Z,8.1nm,0.5s,mb4.9
LDF La Druitiere 79.44 6 *eP* **P 05 16 48.5 -0.3**
LDF pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
ROSF Rostrenen 79.44 9 *eP* **P 05 16 48.8 0.0**
comp=Z,25nm,0.8s,mb4.9
ROSF Rostrenen 79.44 9 *eP* **P 05 16 48.8 0.0**
comp=Z,12nm,0.8s,mb4.9
ROSF Rostrenen 79.44 9 *eP* **P 05 16 48.8 0.0**
ROSF pmax pmax
comp=Z,12nm,0.8s,mb4.9
GERES GERESS Array B 79.46 357 P **P 05 16 49.2 +0.4**
comp=Z,7.5nm,0.7s,mb4.7,baz=20,slow=4.3,SNR=43
GERES GERESS Array B 79.46 357 P **P 05 16 49.2 +0.4**
GERES GERESS Array B 79.46 357 P **P 05 16 49.3 +0.4**
KOLL Kolacno 79.50 354 *eP* **P 05 16 50.3 +1.2**
KOLL Kolacno 79.50 354 *eP* **P 05 16 50.3 +1.2**
VYHS Vyhne 79.56 354 *eP* **P 05 16 50.1 +0.7**
VYHS pmax pmax
comp=Z,20nm,1.2s,mb4.9
VYHS Vyhne 79.56 354 *eP* **P 05 16 50.1 +0.7**
SGMF Saint Gilles 79.59 8 *eP* **P 05 16 49.6 0.0**
SGMF Saint Gilles 79.59 8 *eP* **P 05 16 49.6 0.0**
SGMF Saint Gilles 79.59 8 *eP* **P 05 16 49.6 0.0**
GRR Gorron 79.60 7 *eP* **P 05 16 49.6 0.0**
comp=Z,29nm,0.9s,mb4.9
GRR Gorron 79.60 7 *eP* **P 05 16 49.6 0.0**
comp=Z,15nm,0.9s,mb4.9
GRR Gorron 79.60 7 *eP* **P 05 16 49.6 0.0**
GRR pmax pmax
comp=Z,15nm,0.9s,mb4.9
TRPA Tarpa 79.62 351⇑ *iP* **P 05 16 50.7 +0.9**
SMOL Smolenice 79.63 355 *eP* **P 05 16 51.5 +1.7**
SMOL Smolenice 79.63 355 *eP* **P 05 16 51.5 +1.7**
PAGF Fort de Pagny 79.77 3 *eP* **P 05 16 51.3 +0.8**
comp=Z,44nm,1.3s,mb4.9
MEZF Maizieres J'vi 79.80 3 *eP* **P 05 16 51.1 +0.4**
comp=Z,42nm,1.0s,mb5.0
MEZF Maizieres J'vi 79.80 3 *eP* **P 05 16 51.1 +0.4**
comp=Z,42nm,1.0s,mb5.3
BUR08 Bucovina Ar. S 79.82 349 *eP* **P 05 16 50.9 0.0**
MAK Makhachkala 79.84 333 *eP* **P 05 16 50.1 -1.0**
MAK S S 05 26 52.2 +1.0
MAK pmax pmax
comp=Z,166nm,1.0s,mb5.9
BURAR Bucovina Array 79.84 349 ⇑P **P 05 16 50.7 -0.3**
BURAR Bucovina Array 79.84 349⇑ *iP* **P 05 16 50.7 -0.3**
QUIF Quistinic 79.87 9 *eP* **P 05 16 51.0 -0.1**
QUIF Quistinic 79.87 9 *eP* **P 05 16 51.0 -0.1**
QUIF Quistinic 79.87 9 *eP* **P 05 16 51.0 -0.1**
CDF Champ du Feu 79.94 1 *eP* **P 05 16 51.9 +0.4**
comp=Z,76nm,1.3s,mb5.2
CDF Champ du Feu 79.94 1 *eP* **P 05 16 51.9 +0.4**
comp=Z,38nm,1.3s,mb5.2
CDF Champ du Feu 79.94 1 *eP* **P 05 16 51.9 +0.4**
CDF pmax pmax
comp=Z,38nm,1.3s,mb5.2
ZST Bratislava 79.96 355 *eP* **P 05 16 52.6 +1.0**
ZST pmax pmax
comp=Z,36nm,1.2s,mb5.2
ZST Bratislava 79.96 355 *eP* **P 05 16 52.6 +1.0**
KIS Kishinev 79.99 347 *eP* **P 05 16 51.0 -0.8**
KIS LRM 05 57 20.0
comp=Z,1µm,20.0s
KIS Kishinev 79.99 347 *eP* **P 05 16 51.0 -0.8**
KIS *e* 05 19 54.0
TTSI Tana Toraja 80.03 252 P **P 05 16 52.2 -0.2**
comp=Z,44nm,1.0s,mb5.4
BFO Black Forest 80.04 1 *eP* **P 05 16 52.3 +0.3**
comp=Z,48nm,1.6s,mb5.2
BFO Black Forest 80.04 1 *eP* **P 05 16 52.3 +0.3**
BFO pmax pmax
comp=Z,48nm,1.6s,mb5.2
PSZ Piszkesteto 80.06 353 *eP* **P 05 16 52.8 +0.7**
comp=Z,65nm,1.4s,mb5.4
PSZ Piszkesteto 80.06 353 ⇑P **P 05 16 53.6 +1.5**
PSZ Piszkesteto 80.06 353⇑ *eP* **P 05 16 53.1 +1.0**
PSZ Piszkesteto 80.06 353⇑ *iP* **P 05 16 53.6 +1.5**
SFTF Sexfontaines 80.10 3 *eP* **P 05 16 52.7 +0.4**
comp=Z,172nm,1.4s,mb5.5
SFTF Sexfontaines 80.10 3 *eP* **P 05 16 52.7 +0.4**
comp=Z,172nm,1.4s,mb5.8
THEF They Montfort 80.10 2 *eP* **P 05 16 53.1 +0.7**
THEF They Montfort 80.10 2 *eP* **P 05 16 53.1 +0.7**
THEF They Montfort 80.10 2 *eP* **P 05 16 53.1 +0.7**
ECH Echery 80.14 2 *eP* **P 05 16 52.9 +0.3**
ECH Echery 80.14 2 *eP* **P 05 16 52.9 +0.3**
ECH Echery 80.14 2 *eP* **P 05 16 52.9 +0.3**
KIV Kislovodsk 80.20 336 *eP* **P 05 16 54.1 +1.1**
comp=Z,51nm,0.9s,mb5.5
KIV Kislovodsk 80.20 336 *eP* **P 05 16 53.8 +0.8**
KIV *eS* S 05 26 56.4 +1.5
KIV pmax pmax
comp=Z,60nm,1.0s,mb5.5
KIV pmax pmax
comp=Z,42nm,2.8s,mb4.9
KIV Kislovodsk 80.20 336 P **P 05 16 54.0 +1.0**
comp=Z,344nm,0.9s,mb6.3,SNR=7.0
KIV Kislovodsk 80.20 336 P **P 05 16 53.5 +0.5**
SNR=11
SBUM Sibu 80.23 261 P **P 05 16 53.7 +0.1**
comp=Z,311nmcomp=Z,15nm,2.3s,mb4.5
SPAK Spaichingen-Ko 80.27 0 *eP* **P 05 16 54.1 +0.8**
CONA Conrad Observa 80.29 356 ⇑*iP* **P 05 16 54.3 +0.9**
comp=Z,45nm,1.1s,mb5.3,SNR=18
CSNA Conrad Observa 80.29 356⇑ *iP* **P 05 16 54.3 +0.9**
comp=Z,44nm,1.1s,mb5.3
HAU Haudompre 80.33 2 *eP* **P 05 16 53.9 +0.3**
comp=Z,35nm,0.8s,mb5.0
HAU *eR*
comp=Z,572nm,20.0s
HAU Haudompre 80.33 2 *eP* **P 05 16 53.9 +0.3**
comp=Z,18nm,0.8s,mb5.0
HAU LR LR
comp=Z,570nm,20.0s,MS4.9
HAU Haudompre 80.33 2 *eP* **P 05 16 53.9 +0.3**
HAU pmax pmax
comp=Z,18nm,0.8s,mb5.0
HAU MLR MLR
comp=Z,570nm,20.0s,MS4.9
MOA Molln 80.44 357⇑ *eP* **P 05 16 54.9 +0.7**
comp=Z,12nm,0.8s,mb4.9,SNR=8.3
AYAN Aya Nagar 80.44 304 *ePKP* **P 05 16 53.6 -0.9**
AYAN AMb AMB 05 16 55.3
comp=Z,50nm,1.1s,mb5.3
FELD Feldberg im Sc 80.49 1 *eP* **P 05 16 54.9 +0.4**
MOF Molkenrain 80.50 2 *eP* **P 05 16 54.9 +0.4**
MOF Molkenrain 80.50 2 *eP* **P 05 16 54.9 +0.4**
MOF Molkenrain 80.50 2 *eP* **P 05 16 54.9 +0.4**
SOP Sopron 80.50 355⇑ *eP* **P 05 16 55.4 +0.9**
HINF Hinteralfeld 80.53 2 *eP* **P 05 16 54.9 +0.2**
comp=Z,30nm,0.7s,mb5.0
HINF Hinteralfeld 80.53 2 *eP* **P 05 16 54.9 +0.2**
comp=Z,15nm,0.7s,mb5.0
HINF Hinteralfeld 80.53 2 *eP* **P 05 16 54.9 +0.2**
HINF pmax pmax
comp=Z,15nm,0.7s,mb5.0
BUD Budapest 80.55 353 ⇓*eP* **P 05 16 56.2 +1.4**
ANN Anapa 80.60 340 *eP* **P 05 16 53.6 -1.5**
ANN *eS* S 05 26 58.2 -0.9
ANN pmax pmax
comp=Z,65nm,1.3s,mb5.4
SONA Sohna 80.65 304 *ePKP* **P 05 16 55.5 -0.1**
SONA AMb AMB 05 16 56.7
comp=Z,80nm,0.7s,mb5.8
TESR 80.76 348 ⇓*iP* **P 05 16 55.8 -0.1**
SDDR Presa de Saban 80.78 71 *eP* **P 05 16 57.4 +0.9**
SPSI Sidrap Palu 80.79 251 P **P 05 16 57.3 +0.8**
comp=Z,16nm,1.1s,mb4.8
RETA Reutte 80.88 359⇑ *eP* **P 05 16 57.0 +0.4**
comp=Z,18nm,0.9s,mb5.0
ABKT Ailbek 80.89 323 P **P 05 16 57.7 +0.9**
comp=Z,175nm,0.8s,mb6.0,SNR=7.0
DRGR 80.93 351 ⇓P **P 05 16 56.9 +0.1**
DRGR 80.93 351 ⇓*iP* **P 05 16 56.9 +0.1**
HYF Humbligny 80.93 5 *eP* **P 05 16 57.4 +0.6**
HYF Humbligny 80.93 5 *eP* **P 05 16 57.4 +0.6**
BNSI Bone 80.95 251 P **P 05 16 56.9 -0.5**
ARSA Arzberg 80.99 356⇑ *eP* **P 05 16 58.0 +0.8**
comp=Z,26nm,0.9s,mb5.1,SNR=14
LOR Lormes 80.99 4 *eP* **P 05 16 57.4 +0.3**
comp=Z,54nm,0.8s,mb5.2
LOR *eR*
comp=Z,712nm,21.0s
LOR Lormes 80.99 4 *eP* **P 05 16 57.4 +0.3**
comp=Z,27nm,0.8s,mb5.2
LOR LR LR
comp=Z,710nm,21.0s,MS5.0
LOR Lormes 80.99 4 *eP* **P 05 16 57.4 +0.3**
LOR pmax pmax
comp=Z,27nm,0.8s,mb5.2
LOR MLR MLR
comp=Z,710nm,21.0s,MS5.0
LOMF Lomont 81.00 2 *eP* **P 05 16 57.9 +0.7**
LOMF Lomont 81.00 2 *eP* **P 05 16 57.9 +0.7**
LOMF Lomont 81.00 2 *eP* **P 05 16 57.9 +0.7**
KAKA Kakadu 81.00 236 *eP* **P 05 16 56.3 -1.2**
comp=Z,23nm,0.8s,mb5.2
KAKA Kakadu 81.00 236 *eP* **P 05 16 56.2 -1.3**
comp=Z,108nm,1.0s,mb5.7
KAKA Kakadu 81.00 236 P **P 05 16 58.0 +0.5**
comp=Z,534nmcomp=Z,80nm,0.9s,mb5.6
ZEI Tsey 81.00 335 *eP* **P 05 16 57.2 -0.1**
ZEI pmax pmax
comp=Z,45nm,1.0s,mb5.3
MOTA Moosalm 81.02 359 ⇓*eP* **P 05 16 58.0 +0.7**
comp=Z,49nm,1.4s,mb5.2,SNR=9.8
WATA Walderalm 81.02 359⇑ *eP* **P 05 16 58.1 +0.8**
comp=Z,14nm,0.7s,mb5.0
AGRA Agra 81.03 303 *ePKP* **P 05 16 56.6 -1.1**
KUDL Kundal 81.04 305 *ePKP* **P 05 16 58.1 +0.3**
KUDL AMb AMB 05 17 00.2
comp=Z,228nm,1.6s,mb5.9
WTTA Wattenberg 81.09 359⇑ *eP* **P 05 16 58.9 +1.2**
comp=Z,34nm,0.8s,mb5.3,SNR=14
SIM Simferopol' 81.11 343 *c iP* **P 05 16 59.0 +1.2**
SIM *e* pP 05 17 09.0 -0.5
SIM pmax pmax
comp=Z,68nm,1.0s,mb5.5
SQTA Sankt Quirin 81.14 359⇑ *eP* **P 05 16 59.0 +1.0**
comp=Z,14nm,0.7s,mb5.0
SSF Saint Saulge 81.18 4 *eP* **P 05 16 58.5 +0.3**
comp=Z,57nm,0.9s,mb5.2
SSF Saint Saulge 81.18 4 *eP* **P 05 16 58.5 +0.3**
comp=Z,28nm,0.9s,mb5.2
SSF Saint Saulge 81.18 4 *eP* **P 05 16 58.5 +0.3**
SSF pmax pmax
comp=Z,29nm,0.9s,mb5.2
KBA Koelnbreinsper 81.24 357⇑ *eP* **P 05 16 60.0 +1.5**
comp=Z,73nm,1.0s,mb5.6,SNR=23
SOC Sochi 81.26 338 *c iP* **P 05 16 58.4 -0.2**
SOC *e* 05 20 10.6
SOC *eS* S 05 27 06.7 +0.7
SOC pmax pmax
comp=Z,53nm,1.1s,mb5.4
ONI Oni 81.28 335 P **P 05 17 04.0 +5.2**
FETA Feichten 81.35 359⇑ *iP* **P 05 17 00.2 +1.2**
comp=Z,60nm,1.6s,mb5.3
MFF Saint Martin d 81.42 7 *eP* **P 05 16 59.9 +0.4**
comp=Z,160nm,1.4s,mb5.5
MFF Saint Martin d 81.42 7 *eP* **P 05 16 59.9 +0.4**
comp=Z,80nm,1.4s,mb5.5
MFF Saint Martin d 81.42 7 *eP* **P 05 16 59.9 +0.4**
MFF pmax pmax
comp=Z,80nm,1.4s,mb5.5
AVF Avril sur Loir 81.44 4 *eP* **P 05 16 59.8 +0.2**
comp=Z,51nm,0.9s,mb5.2
AVF Avril sur Loir 81.44 4 *eP* **P 05 16 59.8 +0.2**
comp=Z,26nm,0.9s,mb5.2
AVF Avril sur Loir 81.44 4 *eP* **P 05 16 59.8 +0.2**
AVF pmax pmax
comp=Z,26nm,0.9s,mb5.2
KHET Khetri 81.44 305 *ePKP* **P 05 16 59.1 -0.7**
KHET AMb AMB 05 17 01.4
comp=Z,116nm,1.2s,mb5.7
SOKA Soboth 81.58 356⇑ *iP* **P 05 17 00.9 +0.6**
comp=Z,79nm,1.6s,mb5.4
ABTA Abfaltersbach 81.59 358⇑ *iP* **P 05 17 00.8 +0.5**
comp=Z,47nm,1.4s,mb5.2,SNR=8.1
DAVOX Davos/Dischmat 81.59 360 LR LR 05 53 21.3
comp=Z,184nm,20.0s,MS4.4,baz=82,slow=36
SMF Signal de Mont 81.61 4 *eP* **P 05 17 00.7 +0.3**
comp=Z,56nm,0.8s,mb5.3
SMF Signal de Mont 81.61 4 *eP* **P 05 17 00.7 +0.3**
comp=Z,28nm,0.8s,mb5.2
SMF Signal de Mont 81.61 4 *eP* **P 05 17 00.7 +0.3**
SMF pmax pmax
comp=Z,28nm,0.8s,mb5.2
PERS Pernice 81.62 356 *eP* **P 05 17 01.2 +0.7**
PERS *e* pP 05 17 12.0 -0.2
KAPI Kappang 81.65 251 *eP* **P 05 17 00.3 -0.7**
comp=Z,79nm,1.6s,mb5.4
KAPI Kappang 81.65 251 P **P 05 17 00.7 -0.4**
comp=Z,665nmcomp=Z,27nm,1.5s,mb5.0
KAPI Kappang 81.65 251 P **P 05 17 00.7 -0.4**
SNR=5.5
BGF Bois d'Agland 81.65 5 *eP* **P 05 17 00.9 +0.2**
comp=Z,80nm,1.1s,mb5.3
BGF Bois d'Agland 81.65 5 *eP* **P 05 17 00.9 +0.2**
comp=Z,40nm,1.1s,mb5.5
BGF Bois d'Agland 81.65 5 *eP* **P 05 17 00.9 +0.2**
BGF pmax pmax
comp=Z,40nm,1.1s,mb5.3
MYKA Terra Mystica 81.68 357⇑ *iP* **P 05 17 00.5 -0.3**
comp=Z,37nm,1.6s,mb5.1
BKSI Bulukumba 81.68 250 P **P 05 17 00.0 -1.2**
comp=Z,566nmcomp=Z,53nm,1.2s,mb5.3
CABF La Chapelle 81.72 2 *eP* **P 05 17 01.9 +0.9**
comp=Z,96nm,1.2s,mb5.3
CABF La Chapelle 81.72 2 *eP* **P 05 17 01.9 +0.9**
comp=Z,48nm,1.2s,mb5.3
CABF La Chapelle 81.72 2 *eP* **P 05 17 01.9 +0.9**
CABF pmax pmax
comp=Z,48nm,1.2s,mb5.3
TBLG Delisi 81.75 334 *eP* **P 05 17 02.2 +0.9**
TBLG Delisi 81.75 334 P **P 05 17 02.2 +0.9**
TLCR 81.76 346 ⇑P **P 05 17 01.7 +0.4**
TLCR 81.76 346⇑ *iP* **P 05 17 01.7 +0.4**
OBKA Obir 81.77 356⇑ *eP* **P 05 17 01.5 +0.2**
comp=Z,26nm,1.1s,mb5.1,SNR=10
MTA Mtatsminda 81.77 334 P **P 05 17 01.6 +0.3**
GROS Grobnik 81.78 356 *eP* **P 05 17 01.6 +0.3**
DGRG David-gareji 81.84 334 P **P 05 17 01.1 -0.6**
MLR Muntele Rosu 81.85 348 P **P 05 17 02.9 +1.1**
comp=Z,3.2nm,1.0s,mb4.2,baz=353,slow=6.6
MLR Muntele Rosu 81.85 348 P **P 05 17 02.9 +1.1**
MLR Muntele Rosu 81.85 348 P **P 05 17 02.9 +1.2**
MLR Muntele Rosu 81.85 348⇑ *iP* **P 05 17 02.0 +0.3**
TCF Toulx Ste Croi 81.89 5 *eP* **P 05 17 02.1 +0.2**
comp=Z,62nm,1.2s,mb5.1
TCF Toulx Ste Croi 81.89 5 *eP* **P 05 17 02.1 +0.2**
comp=Z,31nm,1.2s,mb5.1
TCF Toulx Ste Croi 81.89 5 *eP* **P 05 17 02.1 +0.2**
TCF pmax pmax
comp=Z,31nm,1.2s,mb5.1
TUE Stuetta 81.90 0 *eP* **P 05 17 03.2 +1.2**
comp=Z,120nm,1.7s,mb5.5
VOIR 82.01 349 ⇑P **P 05 17 03.6 +1.0**
VOIR 82.01 349⇑ *iP* **P 05 17 03.6 +1.0**
KSM Kuching 82.17 262 *eP* **P 05 17 03.7 -0.1**
comp=Z,51nm,1.2s,mb5.3
KSM Kuching 82.17 262 P **P 05 17 03.7 -0.1**
comp=Z,38nm,1.2s,mb5.2
BZS Buzias 82.19 351 ⇓P **P 05 17 03.8 +0.3**
BZS Buzias 82.19 351 ⇓*iP* **P 05 17 03.8 +0.3**
PLDF La Plantade 82.27 4 *eP* **P 05 17 05.0 +1.1**
PLDF La Plantade 82.27 4 *eP* **P 05 17 05.0 +1.1**
PLDF La Plantade 82.27 4 *eP* **P 05 17 05.0 +1.1**
AKH Akhalkalaki 82.38 335 P **P 05 17 04.3 -0.2**
KBKI Kotabaru 82.39 255 P **P 05 17 04.6 -0.4**
comp=Z,21nm,1.1s,mb5.0
PYM Petit Puy Mans 82.46 5 *eP* **P 05 17 05.7 +0.8**
PYM Petit Puy Mans 82.46 5 *eP* **P 05 17 05.7 +0.8**
PYM Petit Puy Mans 82.46 5 *eP* **P 05 17 05.7 +0.8**
TIRR Tirgusor 82.53 346 *eP* **P 05 17 05.4 +0.1**
TIRR Tirgusor 82.53 346 ⇑P **P 05 17 06.2 +0.9**
TIRR Tirgusor 82.53 346⇑ *iP* **P 05 17 06.2 +0.9**
STKI Sintang 82.56 261 P **P 05 17 06.2 +0.3**
comp=Z,46nm,0.6s,mb5.7
BOJS Bojanci 82.74 356 *eP* **P 05 17 06.4 0.0**
RJF Les Rejaudoux 82.83 6 *eP* **P 05 17 06.9 +0.1**
comp=Z,22nm,0.8s,mb4.9
RJF *eR*
comp=Z,827nm,20.2s
RJF Les Rejaudoux 82.83 6 *eP* **P 05 17 06.9 +0.1**
comp=Z,11nm,0.8s,mb5.0
RJF LR LR
comp=Z,830nm,20.3s,MS5.1
RJF Les Rejaudoux 82.83 6 *eP* **P 05 17 06.9 +0.1**
RJF pmax pmax
comp=Z,11nm,0.8s,mb4.9
RJF MLR MLR
comp=Z,830nm,20.3s,MS5.1
LPL La Plagne 82.83 2 *eP* **P 05 17 08.3 +1.5**
comp=Z,30nm,0.8s,mb5.1

LPL La Plagne 82.83 2 *e*P **P 05 17 08.3 +1.5**
comp=Z,15nm,0.8s,mb5.1
LPL La Plagne 82.83 2 *e*P **P 05 17 08.3 +1.5**
LPL pmax pmax
comp=Z,15nm,0.8s,mb5.1
LPG La Plagne 82.85 2 *e*P **P 05 17 08.6 +1.7**
comp=Z,68nm,1.3s,mb5.2
LPG La Plagne 82.85 2 *e*P **P 05 17 08.6 +1.7**
comp=Z,34nm,1.3s,mb5.2
LPG La Plagne 82.85 2 *e*P **P 05 17 08.6 +1.7**
LPG pmax pmax
comp=Z,34nm,1.3s,mb5.2
LBL Lubilhac 82.99 4 *e*P **P 05 17 09.2 +1.5**
LBL Lubilhac 82.99 4 *e*P **P 05 17 09.2 +1.5**
LBL Lubilhac 82.99 4 *e*P **P 05 17 09.2 +1.5**
SSB Saint Sauveur 83.00 4 *e*P **P 05 17 08.6 +0.8**
comp=Z,26nm,1.1s,mb5.2
SSB Saint Sauveur 83.00 4 *e*P **P 05 17 08.6 +0.9**
SSB pmax pmax
comp=Z,26nm,1.1s,mb5.2
LFF La Frestale 83.14 6 *e*P **P 05 17 08.9 +0.4**
comp=Z,56nm,0.8s,mb5.3
LFF La Frestale 83.14 6 *e*P **P 05 17 08.9 +0.4**
comp=Z,28nm,0.8s,mb5.3
LFF La Frestale 83.14 6 *e*P **P 05 17 08.9 +0.4**
LFF pmax pmax
comp=Z,28nm,0.8s,mb5.3
GNI Garni 83.22 334 *e*P **P 05 17 10.2 +1.2**
comp=Z,23nm,0.8s,mb5.3
GNI Garni 83.22 334 *e*P **P 05 17 11.2 +2.2**
GNI pmax pmax
comp=Z,28nm,1.2s
CAF Calviac 83.24 5 *e*P **P 05 17 09.6 +0.6**
comp=Z,38nm,0.9s,mb5.1
CAF Calviac 83.24 5 *e*P **P 05 17 09.6 +0.6**
comp=Z,19nm,0.9s,mb5.1
CAF Calviac 83.24 5 *e*P **P 05 17 09.6 +0.6**
CAF pmax pmax
comp=Z,19nm,0.9s,mb5.1
ORIF Oris-en-Rattie 83.41 3 *e*P **P 05 17 10.2 +0.4**
comp=Z,42nm,0.8s,mb5.2
ORIF eR
comp=Z,477nm,19.5s
ORIF Oris-en-Rattie 83.41 3 *e*P **P 05 17 10.2 +0.4**
comp=Z,21nm,0.8s,mb5.2
ORIF Oris-en-Rattie 83.41 3 *e*P **P 05 17 10.2 +0.4**
ORIF pmax pmax
comp=Z,21nm,0.8s,mb5.2
VIVF Saint-Julien-I 83.43 3 *e*P **P 05 17 10.7 +0.7**
comp=Z,40nm,0.8s,mb5.2
VIVF Saint-Julien-I 83.43 3 *e*P **P 05 17 10.7 +0.7**
comp=Z,20nm,0.8s,mb5.2
VIVF Saint-Julien-I 83.43 3 *e*P **P 05 17 10.7 +0.7**
VIVF pmax pmax
comp=Z,20nm,0.8s,mb5.2
MBDF Montbardon 83.62 2 *e*P **P 05 17 12.6 +1.7**
comp=Z,107nm,1.3s,mb5.5
MBDF Montbardon 83.62 2 *e*P **P 05 17 12.6 +1.7**
comp=Z,53nm,1.3s,mb5.5
MBDF Montbardon 83.62 2 *e*P **P 05 17 12.6 +1.7**
MBDF pmax pmax
comp=Z,53nm,1.3s,mb5.5
LRS Lares 83.90 68 *e*P **P 05 17 12.4 -0.4**
PRD Provadia 83.91 347 *e*P **P 05 17 12.9 +0.5**
EPON Pontenova 83.96 12 P **P 05 17 13.0 +0.3**
comp=Z,33nm,0.9s,mb5.5
CRPR Cabo Rojo, PR 83.98 69 *e*P **P 05 17 13.6 +0.4**
EMAZ Mazaricos 84.08 14 P **P 05 17 14.0 +0.6**
comp=Z,103nm,1.2s,mb5.8
LASF Ste Croix 84.17 4 *e*P **P 05 17 14.9 +1.1**
comp=Z,43nm,1.0s,mb5.2
LASF Ste Croix 84.17 4 *e*P **P 05 17 14.9 +1.1**
STS Santiago 84.20 13 P **P 05 17 14.8 +0.9**
STS Santiago 84.20 13 P **P 05 17 14.9 +0.9**
EARI Arriondas 84.22 11 P **P 05 17 14.5 +0.5**
comp=Z,181nm,1.9s,mb5.9
CELP Cerrillos 84.23 68 *e*P **P 05 17 13.9 -0.5**
OBIP Obispado Ponce 84.24 68 *e*P **P 05 17 13.4 -1.1**
SMRF Simiane la Rot 84.34 3 *e*P **P 05 17 16.1 +1.5**
comp=Z,87nm,1.1s,mb5.5
SMRF Simiane la Rot 84.34 3 *e*P **P 05 17 16.1 +1.5**
comp=Z,87nm,1.1s,mb5.8
TOUF Mont Tournerai 84.34 2 *e*P **P 05 17 15.9 +1.3**
TOUF Mont Tournerai 84.34 2 *e*P **P 05 17 15.9 +1.3**
TOUF Mont Tournerai 84.34 2 *e*P **P 05 17 15.9 +1.3**
SJG San Juan 84.44 68 *e*P **P 05 17 15.3 -0.2**
SJG San Juan 84.44 68 *e*P **P 05 17 15.4 -0.1**
ELAN Lanestosa 84.49 9 ⇑P **P 05 17 16.1 +0.7**
comp=Z,153nm,1.0s,mb6.1
SBF Sospel 84.49 1 *e*P **P 05 17 15.9 +0.5**
comp=Z,146nm,1.0s,mb5.8
SBF Sospel 84.49 1 *e*P **P 05 17 15.9 +0.5**
comp=Z,73nm,1.0s,mb5.8
SBF Sospel 84.49 1 *e*P **P 05 17 15.9 +0.5**
SBF pmax pmax
comp=Z,73nm,1.0s,mb5.8
BHPL Bhopal 84.55 301 *e*PKP **P 05 17 14.8 -1.2**
BHPL AMb AMB 05 17 18.1
comp=Z,106nm,1.6s,mb5.7
HUMP Col San Antoni 84.59 68 *e*P **P 05 17 20.9 +4.6**
comp=Z,27nm,1.4s,mb5.2
EALK Alkurruntz 84.68 8 P **P 05 17 16.6 +0.2**
comp=Z,124nm,1.8s,mb5.7
FRF La Foret Royal 84.78 2 *e*P **P 05 17 17.5 +0.6**
comp=Z,65nm,1.0s,mb5.4
FRF La Foret Royal 84.78 2 *e*P **P 05 17 17.5 +0.6**
comp=Z,33nm,1.0s,mb5.4
FRF La Foret Royal 84.78 2 *e*P **P 05 17 17.5 +0.6**
FRF pmax pmax
comp=Z,33nm,1.0s,mb5.4
MTP Monte Pirata 84.80 67 *e*P **P 05 17 17.2 -0.1**
comp=Z,39nm,0.9s,mb5.5
SJPF Ste Jean 84.81 8 *e*P **P 05 17 18.1 +1.1**
comp=Z,41nm,0.8s,mb5.3
SJPF Ste Jean 84.81 8 *e*P **P 05 17 18.1 +1.1**
comp=Z,21nm,0.8s,mb5.3
SJPF Ste Jean 84.81 8 *e*P **P 05 17 18.1 +1.1**
SJPF pmax pmax
comp=Z,21nm,0.8s,mb5.3
MTLF Montolieu 84.83 5 *e*P **P 05 17 17.8 +0.7**
comp=Z,75nm,1.2s,mb5.4
MTLF Montolieu 84.83 5 *e*P **P 05 17 17.8 +0.7**
comp=Z,38nm,1.2s,mb5.4
MTLF Montolieu 84.83 5 *e*P **P 05 17 17.8 +0.7**
MTLF pmax pmax
comp=Z,38nm,1.2s,mb5.4
STVI Saint Thomas 84.93 67 *e*P **P 05 17 17.9 -0.1**
comp=Z,17nm,1.0s,mb5.1
PGB Panagyurishte 84.96 349 *e*P **P 05 17 17.1 -0.7**
LMR La Mourre 85.00 2 *e*P **P 05 17 18.7 +0.7**
comp=Z,354nm,1.7s,mb5.9
LMR La Mourre 85.00 2 *e*P **P 05 17 18.7 +0.7**
comp=Z,177nm,1.7s,mb5.9
LMR La Mourre 85.00 2 *e*P **P 05 17 18.7 +0.7**
LMR pmax pmax
comp=Z,177nm,1.7s,mb5.9
EPF Esparros 85.01 7 *e*P **P 05 17 18.0 0.0**
comp=Z,37nm,0.9s,mb5.2
EPF Esparros 85.01 7 *e*P **P 05 17 18.0 0.0**
comp=Z,19nm,0.9s,mb5.2
EPF Esparros 85.01 7 *e*P **P 05 17 18.0 0.0**
EPF pmax pmax
comp=Z,19nm,0.9s,mb5.2
VTS Vitosha 85.03 350 ⇑P **P 05 17 18.6 +0.5**
VTS Vitosha 85.03 350 ⇑*i*P **P 05 17 18.6 +0.5**
VTS Vitosha 85.03 350 *e*P **P 05 17 16.8 -1.3**
ETSF Etsaut 85.08 7 *e*P **P 05 17 19.4 +1.0**
comp=Z,63nm,0.8s,mb5.5
ETSF Etsaut 85.08 7 *e*P **P 05 17 19.4 +1.0**
comp=Z,32nm,0.8s,mb5.5
ETSF Etsaut 85.08 7 *e*P **P 05 17 19.4 +1.0**
ETSF pmax pmax
comp=Z,32nm,0.8s,mb5.5
BMNI Bima 85.10 250 P **P 05 17 20.6 +1.8**
comp=Z,1µmcomp=Z,20nm,1.1s,mb5.2
VIEF Viey 85.14 7 *e*P **P 05 17 19.8 +1.1**
VIEF Viey 85.14 7 *e*P **P 05 17 19.8 +1.1**
MLS Moulis 85.14 6 *e*P **P 05 17 19.3 +0.6**
MLS Moulis 85.14 6 *e*P **P 05 17 19.3 +0.6**
KULM Kulim 85.14 272 P **P 05 17 17.8 -1.3**
comp=Z,495nmcomp=Z,26nm,1.7s,mb5.1
PGAV Gavieira, Arco 85.15 13 *e*P **P 05 17 18.7 0.0**
comp=Z,47nm,1.4s,mb5.4
PGAV Gavieira, Arco 85.15 13 *e*LQ 05 44 24.8
PGAV A 05 59 20.0
comp=Z,358nm,20.0s

RESF Ens 85.23 7 *e*P **P 05 17 20.4 +1.3**
RESF Ens 85.23 7 *e*P **P 05 17 20.4 +1.3**
DIM Dimitrovgrad 85.29 348 *e*P **P 05 17 20.5 +1.1**
EBIE Bielsa 85.34 7 P **P 05 17 21.3 +1.6**
comp=Z,102nm,1.8s,mb5.7
PCAB Cabril 85.43 13 *e*P **P 05 17 21.7 +1.5**
comp=Z,53nm,1.9s,mb5.3
PBRG Braganca 85.51 12 *e*P **P 05 17 20.9 +0.3**
comp=Z,40nm,1.6s,mb5.4
PBRG Braganca 85.51 12 *e*PP PP 05 20 40.5 +2.2
PBRG Braganca 85.51 12 *e*LQ 05 41 32.2
PBRG A 06 02 05.8
comp=Z,384nm,16.0s
IPM Ipoh 85.54 272 *e*P **P 05 17 20.9 -0.2**
comp=Z,14nm,0.8s,mb5.2
CLLI Llivia 85.67 6 P **P 05 17 23.0 +1.7**
comp=Z,59nm,1.1s,mb5.7
KDZ Kurdzhali 85.70 348 *e*P **P 05 17 21.8 +0.3**
CSOR Sort 85.72 6 P **P 05 17 23.0 +1.4**
comp=Z,385nm,3.4s
EJON La Jonquera 85.75 5 P **P 05 17 23.7 +2.0**
comp=Z,3.9nm,0.9s,mb4.6
VIS Vishakhapatnam 85.75 293 *ex* **P 05 17 19.0 -3.1**
VIS AMb AMB 05 17 19.7
comp=Z,26nm,1.0s,mb5.4
KKB Krupnik 85.76 350 *e*P **P 05 17 21.8 0.0**
PGF Pioggiola 85.82 0 *e*P **P 05 17 22.7 +0.6**
comp=Z,203nm,1.1s,mb6.0
PGF Pioggiola 85.82 0 *e*P **P 05 17 22.7 +0.6**
comp=Z,102nm,1.1s,mb6.0
PGF Pioggiola 85.82 0 *e*P **P 05 17 22.7 +0.6**
PGF pmax pmax
comp=Z,102nm,1.1s,mb6.0
SKO Skopje 85.83 351 *e*P **P 05 17 22.6 +0.5**
PVRL Vila Real 85.90 13 *e*P **P 05 17 23.1 +0.6**
comp=Z,40nm,1.6s,mb5.4
AQU L'Aquila 85.96 357 *e*P **P 05 17 22.2 -0.5**
comp=Z,51nm,0.9s,mb5.8
AQU L'Aquila 85.96 357 *e*P **P 05 17 22.2 -0.5**
AQU pmax pmax
comp=Z,51nm,0.9s,mb5.8
MMB Musomiste 85.96 349 *e*P **P 05 17 23.1 +0.3**
MVO Moncorvo 86.11 12 P **P 05 17 23.9 +0.4**
comp=Z,3.4nm,0.5s,mb4.8
MVO Moncorvo 86.11 12 *e*P **P 05 17 23.0 -0.5**
comp=Z,21nm,1.4s,mb5.2
MVO Moncorvo 86.11 12 *e*LQ 05 40 31.9
MVO A 06 02 48.8
comp=Z,293nm,18.0s
NVR Nevrokopi 86.18 349 P **P 05 17 24.2 +0.3**
EMIR Miracle 86.20 6 P **P 05 17 25.2 +1.2**
comp=Z,8.8nm,0.4s,mb5.3
WRAB Tennant Creek 86.20 231 *e*P **P 05 17 21.2 -2.9**
comp=Z,14nm,1.1s,mb5.1
WRAB Tennant Creek 86.20 231 *e*P **P 05 17 21.2 -2.9**
WRAB pmax pmax
comp=Z,14nm,1.1s,mb5.1
WRAB Tennant Creek 86.20 231 P **P 05 17 29.9 +5.8**
comp=Z,23nm,1.9s,mb5.1
WB2 Warramunga Arr 86.21 231 *e*P **P 05 17 25.8 +1.7**
WRA Warramunga Arr 86.22 231 P **P 05 17 22.6 -1.5**
comp=Z,4.4nm,0.9s,mb4.7,baz=33,slow=5.7,SNR=17
WRA Warramunga Arr 86.22 231 P **P 05 17 22.6 -1.5**
WRA Warramunga Arr 86.22 231 P **P 05 17 22.6 -1.5**
BR131 Keskin Array S 86.25 342 *e*P **P 05 17 25.0 +0.7**
comp=Z,10.0nm,0.9s,mb5.0
BRTR Keskin Array B 86.25 342 P **P 05 17 24.6 +0.4**
comp=Z,12nm,0.9s,mb5.1,baz=47,slow=2.4,SNR=29
BRTR PKKP PKKPbc 05 35 19.4 -0.5
comp=Z,0.9nm,0.8s,baz=162,slow=5.2,SNR=4.6
BRTR Keskin Array B 86.25 342 P **P 05 17 24.6 +0.4**
BRTR PKKP PKKPbc 05 35 19.4 -0.5
BRTR Keskin Array B 86.25 342 P **P 05 17 24.7 +0.5**
ESAC San Caprasio 86.25 7 P **P 05 17 25.7 +1.5**
comp=Z,6.4nm,0.4s,mb5.2
VAY Valandovo 86.36 350 P **P 05 17 24.4 -0.3**
VAY Valandovo 86.36 350 *e*P **P 05 17 24.4 -0.4**
ALN Alexandroupoli 86.36 347 P **P 05 17 24.9 +0.2**
CFON Fontmartina 86.41 5 P **P 05 17 26.7 +1.7**
comp=Z,2.8nm,0.6s,mb4.7
PVIS Viseu 86.43 13 *e*P **P 05 17 25.2 +0.1**
comp=Z,37nm,1.9s,mb5.3
KRUS Krusevo 86.44 351 *e*P **P 05 17 24.8 -0.4**
SRS Serrai 86.44 349 P **P 05 17 25.2 +1.0**
KNT Kondrikon 86.48 350 P **P 05 17 25.8 +0.5**
EPOB Poblet 86.73 6 P **P 05 17 28.0 +1.4**
comp=Z,386nm,2.5s,mb6.2
SOH Sokhos 86.76 349 P **P 05 17 26.6 -0.1**
BIA Bitola 86.78 351 *e*P **P 05 17 26.6 -0.2**
MTE Manteigas 86.79 13 *e*P **P 05 17 27.4 +0.5**
comp=Z,36nm,1.5s,mb5.4
MTE Manteigas 86.79 13 *e*PP PP 05 20 48.8 +0.1
MTE A 06 00 19.3
comp=Z,490nm,18.0s
GUD Guadarrama 86.97 10 P **P 05 17 28.2 +0.5**
comp=Z,13nm,0.7s,mb5.3
GUD Guadarrama 86.97 10 P **P 05 17 28.2 +0.4**
GUD pmax pmax
comp=Z,13nm,0.7s,mb5.3
FNA Florina 87.01 351 P **P 05 17 27.4 -0.5**
ETOR Torete 87.01 9 P **P 05 17 27.3 -0.6**
comp=Z,130nm,3.8s
ETOR Torete 87.01 9 P **P 05 17 27.3 -0.6**
ETOR pmax pmax
comp=Z,130nm,3.8s
OUR Ouranopolis 87.17 349 P **P 05 17 28.5 -0.2**
PLG Polygyros 87.19 349 P **P 05 17 28.5 -0.4**
EPLA Plasencia 87.31 12 P **P 05 17 28.7 -0.7**
comp=Z,34nm,1.3s,mb5.4
EPLA Plasencia 87.31 12 P **P 05 17 28.7 -0.7**
EPLA pmax pmax
comp=Z,34nm,1.3s,mb5.4
PCBR Castelo Branco 87.35 13 *e*P **P 05 17 29.4 -0.2**
comp=Z,17nm,1.3s,mb5.1
PCBR Castelo Branco 87.35 13 *e*PP PP 05 20 52.8 -0.4
KZN Kozani 87.44 351 P **P 05 17 29.6 -0.4**
LIT Litokhoron 87.57 350 P **P 05 17 30.1 -0.6**
PPBI Pangkal Pinang 87.58 263 P **P 05 17 30.8 -0.2**
comp=Z,18nm,1.4s,mb5.1
EMOS Mosqueruela 87.60 8 P **P 05 17 31.6 +0.8**
comp=Z,162nm,2.3s,mb5.8
PMRV Marv??o 87.76 13 *e*P **P 05 17 31.4 -0.2**
comp=Z,31nm,1.5s,mb5.3
PMRV Marv??o 87.76 13 *e*LR LR 05 47 44.3
comp=Z,473nm,18.0s
ESDC Sonseca Array 87.95 10 P **P 05 17 32.4 -0.1**
comp=Z,12nm,0.9s,mb5.1,baz=351,slow=4.7,SNR=44
ESDC LR LR 06 02 32.9
comp=Z,257nm,18.4s,MS4.7,baz=330,slow=39
ESDC Sonseca Array 87.95 10 P **P 05 17 32.8 +0.3**
comp=Z,9.9nm,0.9s,mb5.0
ESLA Sonseca Array 87.95 10 *e*P **P 05 17 31.1 -1.4**
comp=Z,3.5nm,0.8s,mb4.6
PMAFR Mafra 87.95 15 *e*P **P 05 17 32.3 -0.2**
comp=Z,158nm,1.5s,mb6.0
PMAFR Mafra 87.95 15 A 06 00 18.3
comp=Z,296nm,20.0s
PMTG Montargil 88.00 14 *e*P **P 05 17 32.5 -0.2**
comp=Z,32nm,1.5s,mb5.3
PMTG Montargil 88.00 14 A 06 00 51.9
comp=Z,465nm,20.0s
PAB San Pablo 88.03 11 *e*P **P 05 17 32.7 -0.2**
comp=Z,9.5nm,0.9s,mb5.0
PAB San Pablo 88.03 11 *e*P **P 05 17 32.7 -0.2**
PAB pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
PSI Prapat 88.15 272 P **P 05 17 33.7 -0.1**
comp=Z,60nm,1.0s,mb5.8,baz=22,slow=2.6,SNR=37
PSI Prapat 88.15 272 P **P 05 17 33.7 -0.1**
PSI Prapat 88.15 272 P **P 05 17 33.7 -0.1**
THL Klokotos Trika 88.15 350 P **P 05 17 32.0 -1.4**
NEO Neokhori 88.28 349 P **P 05 17 33.3 -0.7**
PESTR Estremoz 88.29 13 *e*P **P 05 17 34.0 -0.1**
comp=Z,27nm,1.7s,mb5.2
PESTR Estremoz 88.29 13 A 06 04 19.1
comp=Z,416nm,18.0s
ECHE Chera 88.33 8 P **P 05 17 35.2 +0.9**
ECHE Chera 88.33 8 P **P 05 17 35.2 +0.9**
IGT Igumenitsa 88.35 352 P **P 05 17 32.7 -1.7**
EBAD Badajoz 88.48 13 P **P 05 17 34.9 -0.1**
RGRI Rengat 88.50 268 P **P 05 17 28.8 -6.6**
EVOP Sao Brissos 88.54 14 *e*P **P 05 17 34.3 -1.0**
comp=Z,69nm,1.5s,mb5.8
EVOP LR LR
comp=Z,663µm,20.8s
EVOP Sao Brissos 88.54 14 *e*P **P 05 17 34.3 -1.0**

EVOP pmax pmax
comp=Z,69nm,1.5s,mb5.8
EVOP MLR MLR
comp=Z,663µm,20.8s
EVO Evora 88.55 14 *e*P **P 05 17 34.3 -1.1**
comp=Z,69nm,1.5s,mb5.5
EVO eR
comp=Z,663nm,20.8s
EVO Evora 88.55 14 *e*P **P 05 17 35.1 -0.3**
comp=Z,29nm,1.7s,mb5.3
HYB Hyderabad 88.67 297 *i*P **P 05 17 36.0 -0.2**
PNCL Nicolau / Gran 88.89 14 *e*P **P 05 17 36.9 0.0**
comp=Z,44nm,1.5s,mb5.6
PNCL Nicolau / Gran 88.89 14 *e*LR LR 05 49 25.0
comp=Z,389nm,25.6s
LKR Lokris 88.95 349 P **P 05 17 35.6 -1.6**
PBAR Barrancos 89.04 13 *e*P **P 05 17 37.6 -0.1**
comp=Z,28nm,1.0s,mb5.5
PBAR Barrancos 89.04 13 *e*LR LR 05 48 35.3
comp=Z,463nm,18.0s
FITZ Fitzroy Crossi 89.05 239 *e*P **P 05 17 37.4 -0.4**
comp=Z,20nm,1.1s,mb5.4
FITZ Fitzroy Crossi 89.05 239 *e*P **P 05 17 37.0 -0.8**
comp=Z,20nm,1.2s,mb5.3
FITZ Fitzroy Crossi 89.05 239 P **P 05 17 37.3 -0.5**
PBEJ Beja 89.07 14 *e*P **P 05 17 37.3 -0.5**
comp=Z,27nm,1.5s,mb5.4
SDV Santo Domingo 89.11 77 *e*P **P 05 17 38.1 -0.2**
EVIA Vianos 89.13 9 P **P 05 17 38.7 +0.6**
EVIA Vianos 89.13 9 P **P 05 17 38.7 +0.6**
DSF Desfina 89.24 350 P **P 05 17 37.0 -1.6**
EFP Efpalio 89.29 350 P **P 05 17 38.8 0.0**
EADA Adamuz 89.37 11 P **P 05 17 39.8 +0.6**
comp=Z,94nm,1.5s,mb5.9
PCVE Castro Verde 89.43 14 *e*P **P 05 17 39.6 +0.1**
comp=Z,32nm,1.7s,mb5.4
PCVE Castro Verde 89.43 14 A 05 58 47.4
comp=Z,444nm,18.0s
LAKA Lakka 89.47 350 P **P 05 17 39.0 -0.7**
EMIN Mina Concepcio 89.49 13 P **P 05 17 39.5 -0.3**
comp=Z,20nm,0.9s,mb5.5
ASAR Alice Springs 89.61 229 P **P 05 17 39.6 -0.7**
comp=Z,6.1nm,0.8s,mb5.0,baz=36,slow=4.5,SNR=33
ASAR Alice Springs 89.61 229 P **P 05 17 39.6 -0.7**
ASAR Alice Springs 89.61 229 P **P 05 17 39.6 -0.7**
MORF Marmelete 89.66 14 *e*P **P 05 17 41.1 +0.5**
comp=Z,76nm,1.5s,mb5.8
MORF Marmelete 89.66 14 A 06 02 19.3
comp=Z,460nm,18.0s
PVAQ Vaqueiros 89.70 14 *e*P **P 05 17 40.4 -0.4**
comp=Z,34nm,1.9s,mb5.4
PVAQ Vaqueiros 89.70 14 *e*PP PP 05 21 12.6 +0.5
PVAQ Vaqueiros 89.70 14 *e*LQ 05 44 37.3
PVAQ A 05 58 56.3
comp=Z,405nm,20.0s
GUR Goura 89.73 350 P **P 05 17 40.5 -0.4**
PFVI Vila Bisbo 89.80 15 *e*P **P 05 17 39.1 -2.1**
comp=Z,115nm,1.6s,mb6.0
PFVI Vila Bisbo 89.80 15 A 06 02 10.8
comp=Z,386nm,18.0s
PBDV Barranco-do-Ve 89.83 14 *e*LR LR 05 49 16.6
comp=Z,396nm,18.0s
POO Poona 90.30 301 *e*PKP **P 05 17 43.6 -0.2**
POO AMb AMB 05 17 46.6
comp=Z,65nm,1.2s,mb5.8
ECOG Cogollos-Vega 90.36 10 P **P 05 17 44.3 +0.4**
ECOG Cogollos-Vega 90.36 10 P **P 05 17 44.3 +0.5**
ELOJ Sierra Loja 90.42 11 P **P 05 17 45.1 +1.0**
ELOJ Sierra Loja 90.42 11 P **P 05 17 45.1 +1.0**
ESPR Espera 90.49 12 P **P 05 17 45.0 +0.5**
ERON Agron 90.59 11 P **P 05 17 46.4 +1.5**
EGUA Guajares 90.80 10 P **P 05 17 46.9 +1.0**
EGUA Guajares 90.80 10 P **P 05 17 46.9 +1.0**
OTAV Otavalo 91.10 88 *e*P **P 05 17 48.0 +0.4**
comp=Z,11nm,1.1s,mb5.1
KAD Karad 91.13 300 *e*PKP **P 05 17 47.1 -0.6**
KAD AMb AMB 05 17 50.3
comp=Z,34nm,1.7s,mb5.4
KARN Karanos 92.05 348 P **P 05 17 50.8 -0.9**
LAST Lasithi 92.07 347 P **P 05 17 50.4 -1.4**
MMAI Mount Meron Ar 92.34 338 P **P 05 17 53.7 +0.6**
comp=Z,15nm,0.9s,mb5.3,baz=17,slow=8.7,SNR=9.0
MMAI LR LR 06 04 25.9
comp=Z,157nm,18.7s,MS4.5,baz=30,slow=39
KEST Kesra 92.63 0 P **P 05 17 54.0 -0.4**
comp=Z,2.2nm,1.1s,mb4.5,baz=327,slow=10,SNR=2.5
KEST Kesra 92.63 0 P **P 05 17 54.0 -0.4**
ASF Jabal al Asfar 92.79 337 P **P 05 17 55.3 +0.1**
comp=Z,11nm,1.1s,mb5.2,baz=75,slow=0.1,SNR=8.0
ASF LR LR 06 05 57.9
comp=Z,236nm,21.3s,MS4.6,baz=114,slow=40
ASF Jabal al Asfar 92.79 337 P **P 05 17 55.3 +0.1**
ASF LR LR 06 05 57.9
ASF Jabal al Asfar 92.79 337 P **P 05 17 55.3 +0.1**
HATD Hatta, Dubai 93.28 319 ⇓P **P 05 17 56.8 -0.7**
SNR=5.8
ASHO Ashiyiah 93.44 319 ⇓P **P 05 17 57.2 -1.1**
SNR=5.9
STKA Stephens Creek 93.46 219 P **P 05 17 59.8 +1.8**
comp=Z,3.3nm,1.0s,mb4.7,baz=354,slow=9.2,SNR=2.4
STKA LR LR 05 55 38.1
comp=Z,447nm,19.9s,MS4.9,baz=282,slow=33
STKA Stephens Creek 93.46 219 P **P 05 17 59.8 +1.8**
STKA LR LR 05 55 38.1
STKA Stephens Creek 93.46 219 P **P 05 17 59.8 +1.9**
HOQA Hoqain 93.89 317 ⇓P **P 05 17 59.0 -1.4**
SNR=5.8
WBK Wadi Bani Khal 94.04 315 ⇑P **P 05 18 01.8 +0.7**
SNR=6.0
SMDO Samad 94.04 316 P **P 05 18 01.1 0.0**
SNR=7.6
ARQ Araqi 94.44 318 ⇓P **P 05 18 03.0 +0.1**
SNR=10
JMDO Jabal Madar 94.63 316 ⇑P **P 05 18 03.9 +0.1**
SNR=7.9
MDT Midelt 94.64 12 P **P 05 18 03.6 -0.1**
comp=Z,9.0nm,1.0s,mb5.2,baz=348,slow=4.5,SNR=4.0
MDT Midelt 94.64 12 P **P 05 18 03.6 -0.1**
BSY Bisya 94.68 317 P **P 05 18 03.8 -0.2**
SNR=7.8
PALK Pallekele 95.65 289 *i*P **P 05 18 09.1 +0.6**
TORD Torodi Ar. Bea 114.77 8 PKP PKiKP 05 23 22.9 -0.5
comp=Z,1.0nm,0.8s,baz=348,slow=2.6,SNR=6.8
TORD PKKPbc PKKPbc 05 33 58.3 -0.3
comp=Z,0.6nm,0.7s,baz=172,slow=1.9,SNR=8.2
TORD PKKPab PKKPab 05 34 07.7 -1.6
comp=Z,2.0nm,0.9s,baz=167,slow=3.0,SNR=8.8
TORD Torodi Ar. Bea 114.77 8 PKP PKiKP 05 23 22.9 -0.5
TORD PKKPbc PKKPbc 05 33 58.3 -0.3
TORD PKKPab PKKPab 05 34 07.7 -1.6
DBIC Dimbokro 120.28 17 PKP PKPdf 05 23 33.4 -0.6
comp=Z,8.7nm,1.2s,baz=352,slow=2.3,SNR=4.7
DBIC Dimbokro 120.28 17 PKP PKPdf 05 23 33.4 -0.6
DBIC Dimbokro 120.28 17 PKIKP PKPdf 05 23 33.4 -0.6
KMBO Kilima Mbogo 124.20 326 PKP PKPdf 05 23 41.4 -0.2
comp=Z,2.9nm,0.8s,baz=0.2,slow=24,SNR=8.0
KMBO Kilima Mbogo 124.20 326 PKP PKPdf 05 23 41.4 -0.2
KMBO Kilima Mbogo 124.20 326 PKIKP PKPdf 05 23 41.4 -0.2
CPUP Villa Florida 124.43 90 PKP PKPdf 05 23 40.8 -0.7
comp=Z,0.5nm,0.4s,baz=203,slow=5.4,SNR=3.3
CPUP Villa Florida 124.43 90 PKP PKPdf 05 23 40.8 -0.7
CPUP Villa Florida 124.43 90 PKIKP PKPdf 05 23 40.8 -0.7
PLCA Paso Flores 126.33 112 PKP PKPdf 05 23 44.4 -0.3
comp=Z,2.8nm,0.8s,baz=113,slow=2.1,SNR=3.5
PLCA Paso Flores 126.33 112 PKP PKPdf 05 23 44.4 -0.3
PLCA Paso Flores 126.33 112 PKIKP PKPdf 05 23 44.4 -0.3
SBA Scott Base 130.35 186 *e*PKPdf PKPdf 05 23 51.9 +0.6
SBA Scott Base 130.35 186 *e*PKIKP PKPdf 05 23 51.9 +0.6
LSZ Lusaka 140.43 331 *e*PKPdf PKPdf 05 24 10.8 -1.0
LSZ Lusaka 140.43 331 *e*PKIKP PKPdf 05 24 10.9 -1.0
TSUM Tsumeb 146.65 346 *e*PKPbc PKPbc 05 24 24.5 +0.2
MAW Mawson 150.14 218 PKPbc PKPbc 05 24 31.4 -0.6
comp=Z,27nm,1.0s,baz=29,slow=1.7,SNR=30
MAW Mawson 150.14 218 PKPbc PKPbc 05 24 31.4 -0.6
MAW Mawson 150.14 218 PKIKP PKPdf 05 24 31.4 +4.5
LBTB Lobatse 150.38 329 PKP PKPdf 05 24 28.6 0.0
comp=Z,57nm,1.0s,baz=327,slow=2.9,SNR=4.7
LBTB PKPbc PKPbc 05 24 34.5 +0.6
comp=Z,46nm,0.8s,baz=42,slow=2.0,SNR=41
LBTB Lobatse 150.38 329 PKP PKPdf 05 24 28.6 0.0
LBTB PKPbc PKPbc 05 24 34.5 +0.6
LBTB Lobatse 150.38 329 PKIKP PKPdf 05 24 28.6 0.0
LBTB 05 24 34.5
BOSA Boshof 153.83 327 PKP PKPdf 05 24 35.4 +1.7
comp=Z,8.5nm,1.2s,baz=333,slow=4.5,SNR=3.0

BOSA				PKPbc	PKPbc	05 24 45.4	+3.8	
	comp=Z,6.1nm,0.5s,baz=4.1,slow=2.1,SNR=19							
BOSA	**Boshof**	**153.83**	**327**	PKP	PKPdf	05 24 35.4	+1.7	
BOSA				PKPbc	PKPbc	05 24 45.4	+3.8	
BOSA	**Boshof**	**153.83**	**327**	PKIKP	PKPdf	05 24 35.4	+1.7	
BOSA						05 24 45.4		
SYO	**Syowa Base**	**157.81**	**209**⇑	*eP*	PKPdf	05 24 45.6	+7.9	
SYO	**Syowa Base**	**157.81**	**209**⇓	*eP*	PKPab	05 25 15.5	+4.8	
VNA2	**Neumayer--Watz**	**159.53**	**164**	*e*	PKPdf	05 24 35.8	-3.9	
	baz=303,slow=2.0							

ISCJB ***05*** *05:05:20.7±0.8, 17°.6N±0°.1×40°.15E±0°.09, h10km, mb3.8/12, Error ellipse: s-maj=19.5km s-min=7.4km az=30.6*

CSEM ***05*** *05:05:21.2±0.4, 17°.62N×40°.18E, h2km, mb3.9/2, Error ellipse: s-maj=20.0km s-min=9.5km az=30.0*

IDC ***05*** *05:05:21.7±1.6, 17°.72N×40°.11E, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.9/26, mbtmp3.8/11, Error ellipse: s-maj=35.6km s-min=22.0km az=176.0*

NEIC ***05*** *05:05:22.7±1.0, 17°.66N×40°.11E, h10km, mb3.9/2, Error ellipse: s-maj=20.0km s-min=12.7km az=173.0*

SGS ***05*** *05:05:22.1, 17°.94N×40°.09E, h26km*

ISC 05 05:05:22.2±0.8, 17°.6N±0°.1×40°.18E±0°.09, h10km, n41, σ0s81/42, mb3.8/12, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FRSS	**Farasan al Kab**	**2.04**	**114**	P		**Pn**	**05 05 56.6**	**0.0**
FRSS	**Farasan al Kab**	**2.04**	**114**	P		**Pn**	**05 05 56.6**	**0.0**
FRSS				S		**Sn**	**05 06 22.2**	**+0.1**
JAZS	**Jizan**	**2.67**	**101**	P		**Pn**	**05 06 04.0**	**-1.3**
JAZS	**Jizan**	**2.67**	**101**	P		**Pn**	**05 06 04.0**	**-1.3**
BRTR	**Keskin Array B**	**22.78**	**347**	P		**P**	**05 10 25.2**	**+0.3**
	3.7nm,1.0s,mb3.8,baz=160,slow=11,SNR=14							
BRTR	**Keskin Array B**	**22.78**	**347**	P		**P**	**05 10 25.2**	**+0.3**
BRTR	**Keskin Array B**	**22.78**	**347**	P		**P**	**05 10 25.2**	**+0.3**
BR131	**Keskin Array S**	**22.78**	**347**	*eP*		**P**	**05 10 25.3**	**+0.4**
	1.4nm,0.6s,mb3.6							
BR131	**Keskin Array S**	**22.78**	**347**	*eP*		**P**	**05 10 25.3**	**+0.4**
	1.4nm,0.6s,mb3.6							
MLR	**Muntele Rosu**	**30.26**	**340**	P		**P**	**05 11 34.1**	**+0.8**
	0.2nm,0.6s,mb3.0,baz=163,slow=14,SNR=2.5							
MLR	**Muntele Rosu**	**30.26**	**340**	P		**P**	**05 11 34.1**	**+0.8**
MLR	**Muntele Rosu**	**30.26**	**340**	P		**P**	**05 11 34.1**	**+0.8**
TAM	**Tamanrasset**	**32.88**	**285**	*eP*		**P**	**05 11 56.3**	**-0.4**
	1.0nm,0.3s,mb4.2							
TAM	**Tamanrasset**	**32.88**	**285**	*eP*		**P**	**05 11 56.3**	**-0.4**
	1.0nm,0.3s,mb4.2							
AKASG	**Malin Array Be**	**34.18**	**348**	P		**P**	**05 12 06.0**	**-1.6**
	0.6nm,0.5s,mb3.8,baz=173,slow=8.4,SNR=3.0							
AKASG	**Malin Array Be**	**34.18**	**348**	P		**P**	**05 12 06.0**	**-1.6**
AKASG	**Malin Array Be**	**34.18**	**348**	P		**P**	**05 12 06.0**	**-1.6**
TORD	**Torodi Ar. Bea**	**37.32**	**269**	P		**P**	**05 12 35.4**	**+0.4**
	1.5nm,0.9s,mb3.8,baz=82,slow=8.4,SNR=11							
TORD	**Torodi Ar. Bea**	**37.32**	**269**	P		**P**	**05 12 35.4**	**+0.4**
TORD	**Torodi Ar. Bea**	**37.32**	**269**	P		**P**	**05 12 35.4**	**+0.3**
GERES	**GERESS Array B**	**37.87**	**331**	P		**P**	**05 12 39.2**	**0.0**
	0.7nm,0.8s,mb3.5,baz=140,slow=8.7,SNR=4.5							
GERES	**GERESS Array B**	**37.87**	**331**	P		**P**	**05 12 39.2**	**0.0**
GERES	**GERESS Array B**	**37.87**	**331**	P		**P**	**05 12 39.2**	**0.0**
BVAR	**Borovoye Array**	**42.51**	**27**	P		**P**	**05 13 18.5**	**+0.8**
	0.4nm,0.4s,mb3.5,baz=215,slow=7.2,SNR=4.4							
BVAR	**Borovoye Array**	**42.51**	**27**	P		**P**	**05 13 18.5**	**+0.8**
BVAR	**Borovoye Array**	**42.51**	**27**	P		**P**	**05 13 18.5**	**+0.9**
KURK	**Kurchatov**	**45.03**	**34**	P		**P**	**05 13 38.5**	**+0.5**
	0.6nm,0.4s,mb3.8,baz=237,slow=8.2,SNR=7.0							
KURK	**Kurchatov**	**45.03**	**34**	P		**P**	**05 13 38.5**	**+0.5**
KURK	**Kurchatov**	**45.03**	**34**	P		**P**	**05 13 38.5**	**+0.5**
MKAR	**Makanchi Array**	**45.23**	**40**	P		**P**	**05 13 38.9**	**-0.7**
	0.9nm,0.9s,mb3.6,baz=236,slow=8.3,SNR=3.4							
MKAR	**Makanchi Array**	**45.23**	**40**	P		**P**	**05 13 38.9**	**-0.7**
MKAR	**Makanchi Array**	**45.23**	**40**	P		**P**	**05 13 38.9**	**-0.7**
NOA	**NORSAR Array B**	**48.05**	**342**	P		**P**	**05 14 00.9**	**-0.6**
	2.4nm,1.0s,mb4.2,baz=138,slow=8.4,SNR=3.5							
NOA	**NORSAR Array B**	**48.05**	**342**	P		**P**	**05 14 00.9**	**-0.6**
NOA	**NORSAR Array B**	**48.05**	**342**	P		**P**	**05 14 00.9**	**-0.6**
ZALV	**Zalesovo Beam**	**49.96**	**33**	P		**P**	**05 14 16.1**	**-0.2**
	2.7nm,0.8s,mb4.3,baz=248,slow=7.8,SNR=14							
ZALV	**Zalesovo Beam**	**49.96**	**33**	P		**P**	**05 14 16.1**	**-0.2**
ZALV	**Zalesovo Beam**	**49.96**	**33**	P		**P**	**05 14 16.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**55.67**	**79**	P		**P**	**05 15 00.8**	**+1.8**
	0.7nm,0.3s,mb4.1,baz=287,slow=8.0,SNR=4.8							
CMAR	**Chiang Mai Arr**	**55.67**	**79**	P		**P**	**05 15 00.8**	**+1.8**
CMAR	**Chiang Mai Arr**	**55.67**	**79**	P		**P**	**05 15 00.9**	**+1.8**

ISCJB ***05*** *05:10:58.4±0.6, 40°.73N±0°.05×27°.52E±0°.04, h3km±10km, Error ellipse: s-maj=8.8km s-min=4.8km az=158.1*

CSEM ***05*** *05:10:58.9±0.2, 40°.72N×27°.52E, h8km, MD2.5, Error ellipse: s-maj=5.4km s-min=4.2km az=146.0*

DDA ***05*** *05:10:58.9, 40°.66N×27°.45E, h7km±2km, Md2.8*

ISK ***05*** *05:10:58.0, 40°.72N×27°.53E, h7km, MD2.5*

ISC 05 05:10:58.8±0.6, 40°.72N±0°.04×27°.51E±0°.04, h7km±8km, n19, σ0s60/28, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SART	**Tekirdag**	**0.25**	**262**	*i*	Pg	**Pg**	**05 11 03.1**	**-0.6**
SART				*i*	Sg	**Sg**	**05 11 06.7**	**-0.4**
RKY	**Sarkoy-Tekirda**	**0.25**	**262**	*e*	PG	**Pg**	**05 11 04.1**	**+0.3**
RKY				*e*	SG	**Sg**	**05 11 07.8**	**+0.7**
RKY	**Sarkoy-Tekirda**	**0.25**	**262**	*e*	Pg	**Pg**	**05 11 04.1**	**+0.3**
RKY				*e*	Sg	**Sg**	**05 11 07.8**	**+0.6**
KRBG	**Karabiga-Canak**	**0.37**	**206**	*e*	PG	**Pg**	**05 11 05.9**	**0.0**
KRBG	**Karabiga-Canak**	**0.37**	**206**	*e*	Pg	**Pg**	**05 11 05.9**	**0.0**
ELBA	**Catalca**	**0.82**	**59**	*e*	P	**Pg**	**05 11 16.0**	**+1.5**
ELBA				*e*	S	**Sg**	**05 11 25.3**	**+0.2**
ELBA	**Catalca**	**0.82**	**59**	*e*	P	**Pg**	**05 11 16.0**	**+1.5**
ELBA				*e*	S	**Sg**	**05 11 25.3**	**+0.2**
CTKS	**Kestanelik-??a**	**0.91**	**56**	*e*	PG	**Pg**	**05 11 15.6**	**-0.8**
CTKS	**Kestanelik-??a**	**0.91**	**56**	*e*	Pg	**Pg**	**05 11 15.6**	**-0.8**
BALY	**Balya**	**0.99**	**175**	*e*	P	**Pg**	**05 11 18.1**	**+0.4**
BALY				*e*	S	**Sg**	**05 11 30.3**	**-0.3**
BALY	**Balya**	**0.99**	**175**	*e*	P	**Pg**	**05 11 18.1**	**+0.4**
BALY				*e*	S	**Sg**	**05 11 30.3**	**-0.2**
ARMT	**Armutlu**	**1.04**	**98**	*e*	PG	**Pg**	**05 11 18.0**	**-0.8**
ARMT	**Armutlu**	**1.04**	**98**	*e*	Pg	**Pg**	**05 11 18.0**	**-0.8**
EDRB	**Edirne**	**1.26**	**333**	*e*	PN	**Pn**	**05 11 22.9**	**0.0**
EDRB	**Edirne**	**1.26**	**333**	*e*	Pn	**Pn**	**05 11 22.9**	**0.0**
GEMT	**Gemlik**	**1.31**	**102**	*e*	PN	**Pn**	**05 11 22.9**	**-0.7**
GEMT	**Gemlik**	**1.31**	**102**	*e*	Pn	**Pn**	**05 11 22.9**	**-0.7**
DURS	**Dursunbey**	**1.34**	**146**	*e*	P	**Pn**	**05 11 24.1**	**+0.1**
DURS				*e*	S	**Sb**	**05 11 42.3**	**+0.6**
DURS	**Dursunbey**	**1.34**	**146**	*e*	P	**Pn**	**05 11 24.1**	**+0.1**
DURS				*e*	S	**Sb**	**05 11 42.3**	**+0.6**

NEIC ***05*** *05:14:20.2±1.0, 38°.09N×76°.43E, h10km, Error ellipse: s-maj=19.3km s-min=11.6km az=130.0*

IDC ***05*** *05:14:20.0±1.4, 38°.36N×76°.31E, h0km, mb3.9/11, mb1 4.1/14, mb1mx3.9/30, mbtmp3.9/14, ML3.3/3, Error ellipse: s-maj=25.6km s-min=18.6km az=141.0*

BJI ***05*** *05:14:23.1, 38°.53N×76°.42E, h9km, ML3.8/5*

ISC 05 05:14:25.2±1.9, 38°.71N±0°.06×76°.2E±0°.1, h18km±11km, n43, σ1s20/46, mb3.9/11, 3C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.83**	**346**	*e*	Pg	**Pn**	**05 14 38.9**	**-3.2**
KSH					Sg	**Sn**	**05 14 50.2**	**-3.8**
KSH					smax			
	comp=N,1μm,0.4s							
KSH					smax			
	comp=E,2μm,0.5s							
AAK	**Ala-Archa**	**4.14**	**342**		Pn	**Pn**	**05 15 32.0**	**+4.4**
	comp=E,0.0nm,0.3s,baz=151,slow=8.4,SNR=22							
AAK					Pg	**Pg**	**05 15 43.1**	**-1.4**
	comp=E,0.1nm,0.3s,baz=143,slow=15,SNR=40							
AAK					Lg		05 16 36.3	
	comp=E,0.1nm,0.3s,baz=8.4,slow=15,SNR=5.2							
AAK	**Ala-Archa**	**4.14**	**342**		Pn	**Pn**	**05 15 31.9**	**+4.4**
AAK					Pg	**Pg**	**05 15 43.1**	**-1.4**
AAK					Lg		05 16 36.3	
AAK	**Ala-Archa**	**4.14**	**342**		P	**Pn**	**05 15 34.9**	**+7.4**
TKM2	**Tokmak 2**	**4.24**	**354**	⇓	Pg	**Pg**	**05 15 46.0**	**-0.4**
	comp=E,17nm,0.7s							
TKM2				⇑	Lg		05 16 48.7	
	comp=E,129nm,0.7s							
TKM2	**Tokmak 2**	**4.24**	**354**	*e*	Pn	**Pn**	**05 15 33.4**	**+4.5**
EKS2	**Erkin-Say**	**4.37**	**335**	*e*	Pn	**Pn**	**05 15 38.4**	**+7.7**

CHCP	**Chirah Chowk**	**5.58**	**206**		P	**Pn**	**05 15 48.5**	**+1.1**
CEP	**Cherat**	**6.00**	**217**	⇑	P	**Pn**	**05 15 54.2**	**+1.1**
CEP					S	**Sn**	**05 17 01.0**	**-0.4**
KK31	**Karatay Array**	**6.17**	**317**	⇓	Pn	**Pn**	**05 15 58.1**	**+2.7**
	comp=E,25nm,0.8s,baz=134,slow=13							
KK31				⇓	Sn	**Sn**	**05 17 16.0**	**+10**
	comp=E,9.1nm,0.6s							
KK31				⇑	Lg		05 17 41.3	
	comp=E,58nm,0.9s,baz=138,slow=28							
THW	**Thamme Wali**	**6.94**	**213**		P	**Pn**	**05 16 05.7**	**-0.3**
KBL	**Kabul**	**7.12**	**236**	*e*	Pn	**Pn**	**05 16 02.5**	**-6.1**
	comp=E,5.7nm,0.4s							
DDI	**Dehra Dun**	**8.50**	**169**	*ex*		x	05 16 23.8	
DDI				*ex*		x	05 18 31.5	
AYAN	**Aya Nagar**	**10.22**	**176**	*ex*		x	05 16 46.4	
KURK	**Kurchatov**	**12.12**	**7**		Pn	**Pn**	**05 17 16.8**	**-0.2**
	comp=E,0.1nm,0.3s,baz=190,slow=12,SNR=2.8							
KURK					Lg		05 20 51.7	
	baz=194,slow=29,SNR=4.3							
KURK	**Kurchatov**	**12.12**	**7**		Pn	**Pn**	**05 17 16.8**	**-0.2**
KURK					Lg		05 20 51.7	
BVAR	**Borovoye Array**	**14.88**	**346**		Pn	**Pn**	**05 17 58.8**	**+4.2**
	comp=E,0.1nm,0.3s,baz=163,slow=15,SNR=4.3							
BVAR					Lg		05 22 25.8	
	baz=167,slow=33,SNR=3.4							
BVAR	**Borovoye Array**	**14.88**	**346**		Pn	**Pn**	**05 17 58.8**	**+4.2**
BVAR					Lg		05 22 25.8	
ZALV	**Zalesovo Beam**	**16.34**	**18**		Pn	**Pn**	**05 18 15.8**	**+2.4**
	comp=E,0.3nm,0.3s,baz=209,slow=12,SNR=4.3							
ZALV	**Zalesovo Beam**	**16.34**	**18**		Pn	**Pn**	**05 18 15.8**	**+2.4**
SONM	**Songino Array**	**23.65**	**58**		P	**P**	**05 19 35.5**	**0.0**
	comp=E,5.1nm,0.7s,mb4.1,baz=258,slow=10,SNR=12							
SONM	**Songino Array**	**23.65**	**58**		P	**P**	**05 19 35.5**	**0.0**
BRTR	**Keskin Array B**	**32.80**	**285**		P	**P**	**05 20 58.1**	**+0.7**
	comp=E,2.7nm,0.8s,mb4.2,baz=90,slow=7.6,SNR=6.2							
BRTR	**Keskin Array B**	**32.80**	**285**		P	**P**	**05 20 58.1**	**+0.7**
AKASG	**Malin Array Be**	**34.93**	**306**		P	**P**	**05 21 15.6**	**-0.2**
	comp=E,1.1nm,0.6s,mb4.0,baz=75,slow=7.9,SNR=4.0							
AKASG	**Malin Array Be**	**34.93**	**306**		P	**P**	**05 21 15.6**	**-0.2**
MLR	**Muntele Rosu**	**37.42**	**297**		P	**P**	**05 21 36.4**	**-0.8**
	comp=E,1.0nm,0.8s,mb3.7,baz=152,slow=7.4,SNR=5.9							
MLR	**Muntele Rosu**	**37.42**	**297**		P	**P**	**05 21 36.4**	**-0.7**
ARCES	**ARCESS Array B**	**40.79**	**335**		P	**P**	**05 22 05.4**	**+0.4**
	comp=E,2.9nm,0.5s,mb4.2,baz=112,slow=9.7,SNR=20							
ARCES	**ARCESS Array B**	**40.79**	**335**		P	**P**	**05 22 05.4**	**+0.4**
GERES	**GERESS Array B**	**45.10**	**304**		P	**P**	**05 22 40.7**	**+0.5**
	comp=E,0.5nm,0.6s,mb3.5,baz=63,slow=9.0,SNR=3.7							
GERES	**GERESS Array B**	**45.10**	**304**		P	**P**	**05 22 40.6**	**+0.5**
NB2	**NORSAR Subarra**	**45.19**	**322**		P	**P**	**05 22 40.1**	**-0.6**
	comp=Z,4.2nm,1.1s,mb4.2,baz=89,slow=7.9							
NOA	**NORSAR Array B**	**45.19**	**322**		P	**P**	**05 22 40.0**	**-0.7**
	comp=Z,1.5nm,0.9s,mb3.8,baz=89,slow=7.8,SNR=4.3							
NOA	**NORSAR Array B**	**45.19**	**322**		P	**P**	**05 22 40.0**	**-0.7**
ESDC	**Sonseca Array**	**60.08**	**299**		P	**P**	**05 24 30.0**	**-1.2**
	comp=Z,0.4nm,0.4s,mb3.8,baz=52,slow=7.2,SNR=5.8							
ESDC	**Sonseca Array**	**60.08**	**299**		P	**P**	**05 24 30.0**	**-1.2**
TORD	**Torodi Ar. Bea**	**69.89**	**271**		P	**P**	**05 25 32.7**	**-2.7**
	comp=Z,0.7nm,0.7s,mb3.7,baz=46,slow=5.8,SNR=7.6							
TORD	**Torodi Ar. Bea**	**69.89**	**271**		P	**P**	**05 25 32.7**	**-2.7**
INK	**Inuvik**	**71.00**	**11**		P	**P**	**05 25 41.1**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.6,baz=14,slow=4.2,SNR=3.2							
INK	**Inuvik**	**71.00**	**11**		P	**P**	**05 25 41.1**	**-0.2**
ILAR	**Eielson Array**	**71.46**	**18**		P	**P**	**05 25 42.8**	**-1.4**
	comp=Z,0.8nm,0.8s,mb3.7,baz=308,slow=4.6,SNR=8.2							
ILAR	**Eielson Array**	**71.46**	**18**		P	**P**	**05 25 42.8**	**-1.4**

ISCJB ***05*** *05:14:49.9±0.4, 37°.99N±0°.03×31°.00E±0°.05, h10km, Error ellipse: s-maj=5.3km s-min=3.5km az=16.4*

CSEM ***05*** *05:14:49.6±0.1, 37°.99N×31°.00E, h8km, MD3.1, Error ellipse: s-maj=3.5km s-min=2.4km az=105.0*

DDA ***05*** *05:14:49.7, 37°.99N×30°.96E, h17km±3km, Md3.3*

ISK ***05*** *05:14:49.2, 38°.00N×30°.97E, h8km, MD3.1*

ISC 05 05:14:49.9±0.6, 37°.99N±0°.03×30°.99E±0°.05, h6km±5km, n47, σ0s97/63, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SUTC	**Sutluce-Ispart**	**0.51**	**179**	*e*	PG	**Pg**	**05 14 59.3**	**-0.4**
SUTC				*e*	SG	**Sg**	**05 15 07.5**	**+1.1**
SUTC	**Sutluce-Ispart**	**0.51**	**179**	*e*	Pg	**Pg**	**05 14 59.3**	**-0.4**
SUTC				*e*	Sg	**Sg**	**05 15 07.5**	**+1.2**
BCK	**Bucak**	**0.61**	**211**	*e*	PG	**Pg**	**05 15 01.6**	**-0.1**
BCK	**Bucak**	**0.61**	**211**	*e*	Pg	**Pg**	**05 15 01.6**	**-0.2**
SHUT	**Suhut-Afyon**	**0.66**	**329**	*e*	PG	**Pg**	**05 15 02.2**	**-0.5**
SHUT	**Suhut-Afyon**	**0.66**	**329**	*e*	Pg	**Pg**	**05 15 02.2**	**-0.5**
BOLV	**Bolvadin**	**0.73**	**357**	*e*	P	**Pg**	**05 15 03.5**	**-0.5**
BOLV				*e*	S	**Sg**	**05 15 14.3**	**+0.8**
BOLV	**Bolvadin**	**0.73**	**357**	*e*	P	**Pg**	**05 15 03.5**	**-0.5**
BOLV				*e*	S	**Sg**	**05 15 14.3**	**+0.8**
KDHN	**Kadinhani**	**1.03**	**59**	*e*	P	**Pg**	**05 15 09.4**	**-0.4**
KDHN				*e*	S	**Sg**	**05 15 25.9**	**+2.7**
KDHN	**Kadinhani**	**1.03**	**59**	*e*	P	**Pg**	**05 15 09.4**	**-0.4**
KDHN				*e*	S	**Sg**	**05 15 25.9**	**+2.7**
KONT	**Konya--Tatoy**	**1.08**	**92**	*e*	PN	**Pn**	**05 15 10.7**	**-0.9**
KONT	**Konya--Tatoy**	**1.08**	**92**	*e*	Pn	**Pn**	**05 15 10.7**	**-0.9**
ANTB	**Antalya**	**1.12**	**194**	*e*	PN	**Pn**	**05 15 11.1**	**-1.0**
ANTB	**Antalya**	**1.12**	**194**	*e*	Pn	**Pn**	**05 15 11.1**	**-1.0**
KIZT	**Kizilcal**	**1.13**	**38**	*e*	PN	**Pn**	**05 15 11.6**	**-0.7**
KIZT	**Kizilcal**	**1.13**	**38**	*e*	Pn	**Pn**	**05 15 11.6**	**-0.7**
ALT	**Altintas**	**1.27**	**327**	*e*	PN	**Pn**	**05 15 13.3**	**-0.9**
ALT	**Altintas**	**1.27**	**327**	*e*	Pn	**Pn**	**05 15 13.3**	**-0.9**
GOLH	**Golhisar**	**1.36**	**237**	*e*	P	**Pn**	**05 15 14.2**	**-1.2**
GOLH				*e*	S	**Sb**	**05 15 33.2**	**-0.2**
GOLH	**Golhisar**	**1.36**	**237**	*e*	P	**Pn**	**05 15 14.2**	**-1.2**
GOLH				*e*	S	**Sb**	**05 15 33.2**	**-0.2**
ELL	**Elmali**	**1.51**	**215**	*e*	PN	**Pn**	**05 15 17.3**	**-0.1**
ELL	**Elmali**	**1.51**	**215**	*e*	Pn	**Pn**	**05 15 17.3**	**-0.2**
SVRH	**Sivrihisar-ESK**	**1.52**	**16**	*e*	PN	**Pn**	**05 15 17.4**	**-0.2**
SVRH	**Sivrihisar-ESK**	**1.52**	**16**	*e*	Pn	**Pn**	**05 15 17.4**	**-0.2**
ESKT	**Eskisehir**	**1.54**	**356**	*e*	PN	**Pn**	**05 15 17.1**	**-0.8**
ESKT	**Eskisehir**	**1.54**	**356**	*e*	Pn	**Pn**	**05 15 17.1**	**-0.8**
HDMB	**Hadim**	**1.57**	**130**	*e*	PN	**Pn**	**05 15 18.4**	**+0.1**
HDMB	**Hadim**	**1.57**	**130**	*e*	Pn	**Pn**	**05 15 18.4**	**+0.1**
DNZL	**Cakiroluk**	**1.57**	**260**	*e*	P	**Pn**	**05 15 19.4**	**+1.1**
DNZL				*e*	S	**Sn**	**05 15 41.6**	**+2.6**
DNZL	**Cakiroluk**	**1.57**	**260**	*e*	P	**Pn**	**05 15 19.4**	**+1.1**
DNZL				*e*	S	**Sn**	**05 15 41.6**	**+2.7**
KULA	**Kula-Manisa**	**1.91**	**287**	*e*	PN	**Pn**	**05 15 22.5**	**-0.5**
KULA	**Kula-Manisa**	**1.91**	**287**	*e*	Pn	**Pn**	**05 15 22.5**	**-0.5**
BORA	**Eskisehir**	**1.94**	**348**	*e*	P	**Pn**	**05 15 23.2**	**-0.2**
BORA				*e*	S	**Sn**	**05 15 50.7**	**+2.7**
BORA	**Eskisehir**	**1.94**	**348**	*e*	P	**Pn**	**05 15 23.2**	**-0.2**
BORA				*e*	S	**Sn**	**05 15 50.7**	**+2.7**
SULT	**Sultanhani-AKS**	**2.00**	**83**	*e*	PN	**Pn**	**05 15 24.5**	**+0.2**
SULT	**Sultanhani-AKS**	**2.00**	**83**	*e*	Pn	**Pn**	**05 15 24.5**	**+0.2**
FETY	**Fethiye**	**2.03**	**229**	*e*	PN	**Pn**	**05 15 24.6**	**-0.1**
FETY	**Fethiye**	**2.03**	**229**	*e*	Pn	**Pn**	**05 15 24.6**	**-0.1**
ERMK	**Ermenek**	**2.04**	**131**	*e*	P	**Pn**	**05 15 14.3**	**-10**
ERMK				*e*	S	**Sn**	**05 15 44.4**	**-6.1**
GAZI	**Gazipasa**	**2.04**	**148**	*e*	P	**Pn**	**05 15 28.6**	**+3.7**
GAZI				*e*	S	**Sn**	**05 15 56.9**	**+6.2**
GAZI	**Gazipasa**	**2.04**	**148**	*e*	P	**Pn**	**05 15 28.6**	**+3.8**
AKAS	**Kas**	**2.07**	**213**	*e*	P	**Pn**	**05 15 25.6**	**+0.4**
AKAS				*e*	S	**Sn**	**05 15 55.1**	**+3.7**
AKAS	**Kas**	**2.07**	**213**	*e*	P	**Pn**	**05 15 25.6**	**+0.4**
AKAS				*e*	S	**Sn**	**05 15 55.1**	**+3.8**
GULT	**Gulveren**	**2.47**	**352**	*e*	PN	**Pn**	**05 15 30.7**	**0.0**
GULT	**Gulveren**	**2.47**	**352**	*e*	Pn	**Pn**	**05 15 30.7**	**0.0**
DURS	**Dursunbey**	**2.54**	**310**	*e*	P	**Pn**	**05 15 31.2**	**-0.5**
DURS	**Dursunbey**	**2.54**	**310**	*e*	P	**Pn**	**05 15 31.2**	**-0.5**

ISK ***05*** *05:37:03.9, 36°.95N×29°.16E, h26km, MD2.5*

CSEM ***05*** *05:37:04.3±0.2, 36°.92N×29°.19E, h30km, MD2.5, Error ellipse: s-maj=4.7km s-min=3.6km az=151.0*

ISCJB ***05*** *05:37:05.2±0.7, 36°.92N±0°.04×29°.20E±0°.07, h23km±10km, Error ellipse: s-maj=10.6km s-min=6.0km az=26.1*

DDA ***05*** *05:37:06.4, 37°.00N×29°.18E, h7km±2km, Md3.1*

ISC 05 05:37:05.5±0.6, 36°.95N±0°.03×29°.16E±0°.06, h15km±7km, n21, σ1s27/33, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.32**	**191**	*e*	PG	**Pg**	**05 37 11.8**	**-0.2**
FETY				*e*	SG	**Sg**	**05 37 17.5**	**+1.0**
FETY	**Fethiye**	**0.32**	**191**	*e*	Pg	**Pg**	**05 37 11.8**	**-0.3**
FETY				*e*	Sg	**Sg**	**05 37 17.5**	**+1.0**
GLHS	**Glhisar (BURDU**	**0.34**	**52**	*e*	PG	**Pg**	**05 37 12.0**	**-0.6**
GLHS				*e*	SG	**Sg**	**05 37 17.9**	**+0.5**
GLHS	**Glhisar (BURDU**	**0.34**	**52**	*e*	Pg	**Pg**	**05 37 12.0**	**-0.6**
GLHS				*e*	Sg	**Sg**	**05 37 17.9**	**+0.5**
GOLH	**Golhisar**	**0.43**	**48**	*e*	P	**Pg**	**05 37 13.8**	**-0.4**
GOLH				*e*	S	**Sg**	**05 37 20.0**	**-0.2**
GOLH	**Golhisar**	**0.43**	**48**	*e*	P	**Pg**	**05 37 13.8**	**-0.4**
GOLH				*e*	S	**Sg**	**05 37 20.0**	**-0.1**
TURN	**Turunc**	**0.45**	**261**	*e*	P	**Pg**	**05 37 21.2**	**+6.7**
TURN				*e*	S	**Sg**	**05 37 32.8**	**+12**
ELL	**Elmali**	**0.63**	**108**	*e*	PG	**Pg**	**05 37 17.1**	**-0.8**
ELL	**Elmali**	**0.63**	**108**	*e*	Pg	**Pg**	**05 37 17.1**	**-0.8**
YER	**Yerkesik**	**0.73**	**285**	*e*	PG	**Pg**	**05 37 18.8**	**-0.8**
YER	**Yerkesik**	**0.73**	**285**	*e*	Pg	**Pg**	**05 37 18.8**	**-0.9**
DNZL	**Cakiroluk**	**0.75**	**353**	*e*	P	**Pg**	**05 37 20.0**	**-0.1**
DNZL				*e*	S	**Sg**	**05 37 30.6**	**+0.6**
DNZL	**Cakiroluk**	**0.75**	**353**	*e*	P	**Pg**	**05 37 20.0**	**-0.1**
DNZL				*e*	S	**Sg**	**05 37 30.6**	**+0.6**
AKAS	**Kas**	**0.80**	**153**	*e*	P	**Pb**	**05 37 23.0**	**+1.9**
AKAS				*e*	S	**Sb**	**05 37 39.7**	**+8.1**
AKAS	**Kas**	**0.80**	**153**	*e*	P	**Pb**	**05 37 23.0**	**+2.0**
AYDN	**Tasoluk**	**1.25**	**305**	*e*	P	**Pn**	**05 37 30.6**	**+2.3**
AYDN				*e*	S	**Sb**	**05 37 47.3**	**+2.7**
AYDN	**Tasoluk**	**1.25**	**305**	*e*	P	**Pn**	**05 37 30.6**	**+2.3**
AYDN				*e*	S	**Sb**	**05 37 47.3**	**+2.8**
DAT	**Datca**	**1.29**	**261**	*e*	PN	**Pn**	**05 37 26.6**	**-2.3**
DAT	**Datca**	**1.29**	**261**	*e*	Pn	**Pn**	**05 37 26.6**	**-2.3**
BODT	**Bodrum**	**1.48**	**275**	*e*	PN	**Pn**	**05 37 29.7**	**-1.9**
BODT	**Bodrum**	**1.48**	**275**	*e*	Pn	**Pn**	**05 37 29.7**	**-1.9**

TUN ***05*** *05:38:34.1, 36°.22N×6°.36E, h10km, MD3.9*

IDC ***05*** *05:38:43.9±1.3, 35°.72N×7°.62E

0.3nm,0.3s
SJPF Ste Jean 10.05 319 *e*Pn **Pn 05 41 06.2 -4.3**
SJPF Ste Jean 10.05 319 *e*P **Pn 05 41 11.6 +1.1**
SJPF Ste Jean 10.05 319 *e*Pn **Pn 05 41 06.2 -4.3**
SJPF Ste Jean 10.05 319 *e*P **Pn 05 41 11.6 +1.1**
CAF Calviac 10.09 337 *e*Pn **Pn 05 41 06.3 -4.7**
CAF Calviac 10.09 337 *e*Pn **Pn 05 41 06.3 -4.7**
ELIZ Elizondo 10.25 319 P **Pn 05 41 14.0 +0.9**
11nm,0.6s
ELIZ Elizondo 10.25 319 P **Pn 05 41 14.0 +0.8**
11nm,0.6s
EALK Alkurruntz 10.28 319 P **Pn 05 41 15.3 +1.8**
6.3nm,0.4s
EALK Alkurruntz 10.28 319 P **Pn 05 41 15.3 +1.7**
6.3nm,0.4s
MDT Midelt 10.61 257 Pn **Pn 05 41 17.0 -1.2**
0.1nm,0.3s,baz=72,slow=20,SNR=3.8
TAM Tamanrasset 13.09 189 *e*Pn **Pn 05 41 51.0 -1.1**
TAM Tamanrasset 13.09 189 *e*Pn **Pn 05 41 51.0 -1.1**
QUIF Quistinic 14.56 330 *e*Pn **Pn 05 42 07.3 -4.7**
SGMF Saint Gilles 14.59 332 *e*Pn **Pn 05 42 07.4 -5.0**
MLR Muntele Rosu 16.87 49 Pn **Pn 05 42 45.5 +3.3**
0.0nm,0.3s,baz=254,slow=7.4,SNR=3.6
BRTR Keskin Array B 20.86 71 P **P 05 43 29.6 +1.5**
0.6nm,0.6s,baz=271,slow=10.0,SNR=4.1
AKASG Malin Array Be 21.52 39 P **P 05 43 33.8 -1.3**
0.2nm,0.3s,mb3.1,baz=242,slow=9.1,SNR=7.5
TORD Torodi Ar. Bea 23.18 195 P **P 05 43 51.0 -2.0**
1.5nm,0.7s,mb3.6,baz=7.6,slow=9.7,SNR=16
MKAR Makanchi Array 55.15 54 P **P 05 48 17.8 -0.8**
0.4nm,0.6s,mb3.6,baz=275,slow=6.5,SNR=2.6

*ISCJB **05** 05:42:06.3±0.5,24°.43N±0°.01×121°.85E±0°.03,h7$^{km}_{\pm 2km}$, Error ellipse: s-maj=4.6km s-min=2.2km az=12.1*
*NEIC **05** 05:42:06.4±2.9,24°.42N×121°.83E,h10^{km},ML3.9(TAP), Error ellipse: s-maj=34.2km s-min=7.9km az=88.0*
NEIC Recorded [4 TAP] in I-lan and [3 TAP] in Hua-lien.
*TAP **05** 05:42:06.1,24°.44N×121°.83E,h17^{km},ML3.3,C*
ISC 05 05:42:06.6±0.5,24°.42N±0°.01×121°.86E±0°.03,h7$^{km}_{\pm 3km}$,3, n43,σ0°91/77,4C-5D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.10**	**275**	⇓*i*P	**Pg**	**05 42 09.7**	**+0.8**
	baz=262						
ENA				*e*S	**Sg**	**05 42 11.9**	**+1.4**
	baz=262						
EHP	**Heping Village**	**0.15**	**224**	*i*P	**Pg**	**05 42 10.4**	**+0.7**
	baz=210						
EHP				*i*S	**Sg**	**05 42 13.3**	**+1.5**
	baz=210						
TWC	**Suao**	**0.19**	**358**	⇑*i*P	**Pg**	**05 42 10.8**	**+0.4**
	baz=15						
TWC				*i*S	**Sg**	**05 42 13.4**	**+0.4**
	baz=15						
NACB	**Ninganchiao**	**0.34**	**224**	*e*Pg	**Pg**	**05 42 12.9**	**-0.3**
NACB				*e*Sg	**Sg**	**05 42 17.9**	**+0.2**
ENTT	**Nioudou**	**0.34**	**310**	⇓*i*P	**Pg**	**05 42 13.2**	**-0.1**
	baz=311						
ENTT				S	**Sg**	**05 42 17.6**	**-0.2**
	baz=311						
TWE	**Neicheng**	**0.35**	**330**	⇓*i*P	**Pg**	**05 42 13.3**	**-0.1**
	baz=334						
TWE				*i*S	**Sg**	**05 42 17.7**	**-0.2**
	baz=334						
ILA	**Ilan**	**0.36**	**344**	P	**Pg**	**05 42 13.8**	**+0.2**
	baz=349						
ILA				S	**Sg**	**05 42 18.8**	**+0.5**
	baz=349						
TWD	**Chiawan**	**0.41**	**215**	*i*P	**Pg**	**05 42 14.5**	**0.0**
	baz=210						
TWD				S	**Sg**	**05 42 20.2**	**+0.3**
	baz=210						
EGS		**0.43**	**9**	P	**Pg**	**05 42 14.8**	**-0.1**
	baz=19						
EGS				S	**Sg**	**05 42 21.1**	**+0.5**
	baz=19						
NNS	**Nan Shan**	**0.44**	**273**	⇑P	**Pg**	**05 42 14.9**	**-0.2**
	baz=271						
NNS				S	**Sg**	**05 42 20.5**	**-0.4**
	baz=271						
HWA	**Hwalien**	**0.50**	**208**	*e*P	**Pg**	**05 42 16.8**	**+0.7**
	baz=211						
HWA				*e*S	**Sg**	**05 42 23.9**	**+1.3**
	baz=211						
YHNB	**Yeheng**	**0.50**	**300**	*e*Pg	**Pg**	**05 42 16.0**	**-0.3**
YHNB				*e*Sg	**Sg**	**05 42 21.9**	**-1.0**
NSK	**Sanguang**	**0.52**	**300**	⇓*i*P	**Pg**	**05 42 16.4**	**-0.2**
	baz=300						
NSK				*i*S	**Sg**	**05 42 22.8**	**-0.6**
	baz=300						
TWB1	**Santiao Chiao**	**0.60**	**12**	P	**Pg**	**05 42 17.7**	**-0.5**
	baz=15						
TWB1				S	**Sg**	**05 42 25.1**	**-0.8**
	baz=15						
WHF	**Hehuan Shan**	**0.60**	**243**	⇑*i*P	**Pg**	**05 42 18.1**	**-0.1**
	baz=240						
WHF				S	**Sg**	**05 42 25.9**	**-0.2**
	baz=240						
TWA	**Mucha**	**0.61**	**336**	P	**Pg**	**05 42 19.1**	**+0.7**
	baz=328						
TWA				S	**Sg**	**05 42 25.9**	**-0.4**
	baz=328						
TWT	**Tachien**	**0.64**	**255**	⇓P	**Pg**	**05 42 19.3**	**+0.4**
	baz=246						
TWT				*e*S	**Sg**	**05 42 27.6**	**+0.3**
	baz=246						
TATO	**Taipei**	**0.65**	**329**	*e*Pg	**Pg**	**05 42 18.5**	**-0.6**
TATO				*e*Sg	**Sg**	**05 42 26.8**	**-0.7**
NWF	**Wu-fen Shan**	**0.65**	**354**	⇑P	**Pg**	**05 42 19.2**	**+0.1**
	baz=349						
NWF				S	**Sg**	**05 42 27.6**	**-0.1**
	baz=349						
TAP1	**Taipei**	**0.69**	**334**	*e*P	**Pg**	**05 42 19.7**	**-0.1**
	baz=334						
ESL	**Shilin**	**0.72**	**213**	*e*P	**Pg**	**05 42 19.9**	**-0.4**
	baz=216						
TWS1	**Kuangyinshan**	**0.79**	**330**	P	**Pg**	**05 42 21.8**	**+0.1**
	baz=331						
TWS1				*e*S	**Sg**	**05 42 33.5**	**+1.6**
	baz=331						
NSTT	**Nanjuang**	**0.81**	**285**	*e*P	**Pg**	**05 42 22.2**	**+0.1**
	baz=277						
NSTT				*e*S	**Sg**	**05 42 31.8**	**-0.8**
	baz=277						
NCU	**National Centr**	**0.82**	**312**	*e*P	**Pg**	**05 42 21.9**	**-0.4**
	baz=320						
NCU				*e*S	**Sg**	**05 42 34.5**	**+1.6**
	baz=320						
TWY	**Chenhua**	**0.88**	**345**	*e*P	**Pg**	**05 42 23.5**	**0.0**
	baz=347						
TWY				S	**Sg**	**05 42 35.7**	**+0.6**
	baz=347						
HSN	**Hsinchu**	**0.89**	**295**	*e*P	**Pg**	**05 42 23.3**	**-0.5**
	baz=299						
HSN				*e*S	**Sg**	**05 42 36.3**	**+1.0**
	baz=299						
TWQ1	**Liyutan**	**0.99**	**266**	P	**Pg**	**05 42 25.6**	**0.0**
	baz=265						
TWQ1				S	**Sg**	**05 42 38.0**	**-0.4**
	baz=265						
NSY	**Sanyi**	**1.00**	**270**	*e*P	**Pg**	**05 42 23.6**	**-2.2**
	baz=282						
SMLT	**Sun Moon Lake**	**1.02**	**239**	P	**Pg**	**05 42 25.8**	**-0.4**
	baz=237						
SMLT				*e*S	**Sg**	**05 42 38.9**	**-0.6**
	baz=237						
EHY	**Hungye**	**1.03**	**208**	*e*P	**Pg**	**05 42 25.0**	**-1.4**
	baz=217						
EHY				*e*S	**Sg**	**05 42 41.0**	**+1.2**
	baz=217						
SSLB	**Suanglung**	**1.04**	**233**	*e*Pg	**Pg**	**05 42 25.6**	**-0.9**
SSLB				*e*Sg	**Sg**	**05 42 37.9**	**-2.0**
TYC	**Yuchr**	**1.05**	**241**	P	**Pg**	**05 42 25.3**	**-1.3**
	baz=239						
TYC				*e*S	**Sg**	**05 42 39.4**	**-0.8**
	baz=239						
TCU	**Taichung**	**1.11**	**256**	*e*P	**Pg**	**05 42 28.2**	**+0.3**
	baz=255						
YULB	**Yu-li**	**1.14**	**207**	*e*Pg	**Pg**	**05 42 27.6**	**-0.9**
TWF1	**Yuli**	**1.18**	**206**	*e*P	**Pb**	**05 42 27.7**	**-1.6**
	baz=214						
CHN5	**Tsauling**	**1.35**	**233**	P	**Pn**	**05 42 32.2**	**+0.4**
	baz=234						
CHN5				*e*S	**Sb**	**05 42 51.9**	**+2.1**
	baz=234						
CHKT	**Chengkung**	**1.39**	**199**	*e*P	**Pn**	**05 42 29.9**	**-2.4**
	baz=182						
CHN4	**Tsaushan**	**1.57**	**228**	*e*P	**Pn**	**05 42 36.0**	**+1.1**
	baz=215						
CHN4				*e*S	**Sn**	**05 42 58.7**	**+3.2**
	baz=215						
TPUB	**Ta-pu**	**1.58**	**225**	*e*Pn	**Pn**	**05 42 35.2**	**+0.2**
TPUB				*e*Sn	**Sn**	**05 42 55.4**	**-0.4**
WTP	**Ta-pu**	**1.63**	**224**	*e*P	**Pn**	**05 42 36.2**	**+0.5**
	baz=210						
WTP				*e*S	**Sn**	**05 42 59.8**	**+2.9**
	baz=210						
CHN1	**Nanshi**	**1.73**	**225**	*e*P	**Pn**	**05 42 37.9**	**+0.8**
	baz=226						
CHN1				*e*S	**Sn**	**05 43 02.7**	**+3.4**
	baz=226						
TWG	**Pinlang**	**1.75**	**204**	*e*P	**Pn**	**05 42 34.1**	**-3.2**
	baz=189						
SGST	**Jiashian**	**1.77**	**221**	*e*P	**Pn**	**05 42 38.4**	**+0.8**
	baz=207						

KRSC 05 06:01:34.9±0.2,54°.53N×160°.59E,h87$^{km}_{\pm 27km}$,ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.67**	**87**	*e*P	Pn	06 01 52.0	+1.3
MKZ				*e*S	Sn	06 02 04.7	+2.1
TUMR	**Tumrok**	**0.80**	**341**	P	Pn	06 01 52.4	+0.3
TUMR				S	Sn	06 02 05.8	+0.9
KII	**Karymskiy**	**0.83**	**234**	*e*P	Pn	06 01 52.8	+0.3
SPN	**Mys Shipunski**	**1.47**	**193**	P	Pn	06 02 00.6	+0.5
SPN				*e*S	Sn	06 02 19.7	+0.5
NLC	**Nalytchevo**	**1.55**	**209**	P	Pn	06 02 01.7	+0.6
NLC				*e*S	Sn	06 02 21.9	+1.0
AVH	**Avacha**	**1.68**	**222**	*e*P	Pn	06 02 03.9	+1.2
AVH				S	Sn	06 02 25.7	+1.9
GNL	**Ganaly**	**1.77**	**243**	*e*P	Pn	06 02 04.4	+0.5
KBTR	**Krutoberegovo**	**2.11**	**36**	*e*P	Pn	06 02 09.7	+1.4
KBTR				*e*S	Sn	06 02 34.2	+0.3
RUS	**Russkaya**	**2.44**	**211**	P	Pn	06 02 14.5	+1.7
BKI	**Bering**	**3.18**	**76**	S	Sn	06 02 56.8	-2.8

*PDA **05** 06:05:08.5±0.9,38°.05N×26°.43W,h3$^{km}_{\pm 7km}$,MD3.6, ML2.2,Error ellipse: s-maj=7.0km s-min=4.1km az=43.0*
CSEM 05 06:05:08.5,38°.05N×26°.43W,h3^{km},ML2.2,After PDA, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDA	**Ponta Delgada**	**0.68**	**116**	*e*P	Pg	06 05 19.8	-1.7
PDA				*e*S	Sg	06 05 28.7	-1.5
PDA				A		06 05 29.9	
	22nm,0.1s						
PDA	**Ponta Delgada**	**0.68**	**116**	*e*P	Pg	06 05 19.8	-1.7
PDA				*e*S	Sg	06 05 28.7	-1.5
ADH	**Angra Heroismo**	**0.88**	**314**	*e*P	Pg	06 05 22.4	-2.9
ADH				*e*S	Sg	06 05 33.3	-3.4
ADH				A		06 05 35.4	
	28nm,0.3s						
ADH	**Angra Heroismo**	**0.88**	**314**	*e*P	Pg	06 05 22.4	-2.9
ADH				*e*S	Sg	06 05 33.3	-3.4
BART	**Pico Bartolome**	**1.03**	**105**	*e*S	Sg	06 05 37.6	-4.1
BART				A		06 05 45.7	
	18nm,0.1s						
BART	**Pico Bartolome**	**1.03**	**105**	*e*S	Sg	06 05 37.6	-4.1
PMAN	**Manadas**	**1.43**	**295**	*e*S	Sb	06 05 47.1	-7.3
PMAN				A		06 05 50.0	
	34nm,0.3s						
PMAN	**Manadas**	**1.43**	**295**	*e*S	Sb	06 05 47.1	-7.3
PSMA	**Santa Maria**	**1.47**	**135**	*e*P	Pn	06 05 31.2	-4.8
PSMA				*e*S	Sb	06 05 47.9	-7.8
PSMA				A		06 05 49.5	
	9.3nm,0.2s						
PSMN	**Pico do Norte,**	**1.50**	**133**	*e*P	Pn	06 05 31.7	-4.7
PSMN				*e*S	Sn	06 05 48.4	-8.1
PSMN	**Pico do Norte,**	**1.50**	**133**	*e*P	Pn	06 05 31.7	-4.7
PSMN				*e*S	Sn	06 05 48.4	-8.1
ROSA	**Rosais**	**1.57**	**296**	*e*P	Pn	06 05 32.7	-4.6
ROSA	**Rosais**	**1.57**	**296**	*e*P	Pn	06 05 32.7	-4.6

IDC 05 06:12:36.1±1.8,7°.10S×155°.18E,h0^{km},mb3.6/5, mb1 3.9/5,mb1mx3.7/17,mbtmp3.6/5,Error ellipse: s-maj=74.7km s-min=25.3km az=127.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.90**	**236**	P	P	06 17 51.2	-0.6
	1.2nm,0.9s,baz=60,slow=9.6,SNR=5.3						
ASAR	**Alice Springs**	**26.24**	**229**	P	P	06 18 13.6	+0.6
	0.1nm,0.3s,baz=64,slow=9.6,SNR=3.1						
SONM	**Songino Array**	**69.52**	**327**	P	P	06 23 47.2	+0.6
	0.6nm,0.8s,baz=123,slow=7.4,SNR=3.1						
ILAR	**Eielson Array**	**83.41**	**21**	P	P	06 25 04.5	-0.4
	0.6nm,0.9s,baz=238,slow=5.1,SNR=6.1						
INK	**Inuvik**	**89.75**	**21**	P	P	06 25 36.6	+0.6
	1.3nm,1.1s,baz=223,slow=4.5,SNR=3.8						
TORD	**Torodi Ar. Bea**	**153.22**	**285**	PKPbc	PKPbc	06 32 36.4	-0.7
	0.6nm,0.8s,baz=72,slow=2.4,SNR=4.9						

*NIED **05** 06:21:00,33°.00N×140°.30E,h29^{km},Mw3.6 Best double couple: Mo3.11000×10^{14} NP1:ϕ$_0$132.00000°,δ72.00000°, λ-111.00000°. NP2:ϕ$_0$3.00000°,δ27.00000°,λ-43.00000°.*
JMA 05 06:21:59.5±0.2,33°.01N×140°.32E,h49$^{km}_{\pm 3km}$,M3.8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.43**	**284**	P	Pn	06 22 10.0	+0.1
JHJ2				S	Sn	06 22 17.4	+0.1
JMY	**Miyakejima3**	**1.25**	**328**	P	Pn	06 22 21.1	+0.5
JMY				S	Sn	06 22 37.1	+0.7
JKO	**Kozu shima**	**1.53**	**320**	P	Pn	06 22 25.7	+1.3
JKO				S	Sn	06 22 45.0	+1.8
BSO1	**Boso 1**	**1.73**	**18**	P	Pn	06 22 25.5	-1.6
BSO1				S	Sn	06 22 45.3	-2.7
BSO3	**Boso 3**	**1.79**	**5**	P	Pn	06 22 27.6	-0.4
BSO3				S	Sn	06 22 48.7	-0.9
JIM2	**Oshima 3**	**1.86**	**337**	P	Pn	06 22 29.4	+0.5
JIM2				S	Sn	06 22 50.4	-0.7
BSO4	**Boso 4**	**1.98**	**0**	P	Pn	06 22 31.0	+0.5
BSO4				S	Sn	06 22 54.2	+0.2
KTJJ	**Kamata 2**	**2.18**	**332**	P	Pn	06 22 34.4	+1.2
KTJJ				S	Sn	06 22 59.4	+0.4
TK04	**Tokai 4**	**2.46**	**305**	P	Pn	06 22 39.3	+2.2
TK04				*e*S	Sn	06 23 09.9	+4.0
JOD2	**Odawara 2**	**2.47**	**336**	P	Pn	06 22 38.1	+0.9
JOD2				S	Sn	06 23 05.7	-0.5
TTO5	**TONANKAI O.B.S**	**2.50**	**300**	*e*S	Sn	06 23 09.5	+2.6
JHU	**Hanno**	**2.96**	**343**	P	Pn	06 22 45.2	+1.2
JHU				S	Sn	06 23 16.8	-1.5
JKN2	**Miekihoku**	**3.59**	**291**	P	Pn	06 22 54.8	+2.2
MAT	**Matsushiro**	**3.93**	**334**	P	Pn	06 23 00.6	+3.3
MAT				S	Sn	06 23 44.2	+2.1

*IDC **05** 06:25:34.6±1.1,3°.29S×130°.49E,h0^{km},mb4.0/5, mb1 4.1/7,mb1mx3.9/21,mbtmp4.0/7,ML3.9/2,Error ellipse: s-maj=58.6km s-min=19.4km az=65.0*
*DJA **05** 06:25:37,2°.72S×130°.76E,h20^{km},MLv3.9/6*
*NEIC **05** 06:25:39.8±0.8,3°.38S×130°.51E,h35^{km},mb3.8/1,Error ellipse: s-maj=28.3km s-min=10.7km az=73.0*
ISC 05 06:25:40.3±1.9,3°.3S±0°.1×130°.8E±0°.1,h39$^{km}_{\pm 18km}$,n25, σ1§18/29,mb3.8/4,Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.50**	**217**	P	**Pn**	**06 26 08.0**	**+3.3**
MSAI	**Masohi**	**1.88**	**269**	P	**Pn**	**06 26 10.4**	**+0.5**
AAI	**Ambon**	**2.63**	**262**	P	**Pn**	**06 26 21.8**	**+1.5**
NLAI	**Namlea**	**3.70**	**271**	P	**Pn**	**06 26 34.7**	**-0.3**
NLAI				S	**Sn**	**06 27 17.2**	**-0.3**
LBMI	**Labuha**	**4.25**	**309**	P	**Pn**	**06 26 34.1**	**-8.4**
KAKA	**Kakadu**	**9.47**	**170**	*e*Pn	**Pn**	**06 27 52.4**	**-1.8**
	20nm,0.5s						
KAKA				*e*Sn	**Sn**	**06 29 39.5**	**+0.1**
BKSI	**Bulukumba**	**10.84**	**259**	P	**Pn**	**06 28 19.0**	**+6.0**
FITZ	**Fitzroy Crossi**	**15.54**	**199**	Pn	**Pn**	**06 29 14.7**	**-2.0**
	0.2nm,0.3s,baz=20,slow=15,SNR=6.2						
FITZ	**Fitzroy Crossi**	**15.54**	**199**	Pn	**Pn**	**06 29 14.7**	**-2.0**
WRAB	**Tennant Creek**	**16.87**	**168**	*e*Pn	**Pn**	**06 29 33.1**	**-0.4**
	3.9nm,0.6s						
WRA	**Warramunga Arr**	**16.88**	**168**	Pn	**Pn**	**06 29 34.8**	**+1.1**
	0.6nm,0.3s,baz=346,slow=12,SNR=19						
WRA				Sn	**Sn**	**06 32 32.7**	**-7.6**
	0.2nm,0.3s,baz=333,slow=24,SNR=4.6						
WRA	**Warramunga Arr**	**16.88**	**168**	Pn	**Pn**	**06 29 34.8**	**+1.1**
WRA				Sn	**Sn**	**06 32 32.6**	**-7.6**
WB2	**Warramunga Arr**	**16.88**	**168**	*e*Pn	**Pn**	**06 29 32.1**	**-1.6**
ASAR	**Alice Springs**	**20.45**	**172**	P	**P**	**06 30 15.4**	**+0.9**
	16nm,0.6s,baz=350,slow=11,SNR=300						
ASAR				S	**S**	**06 34 01.7**	**+0.3**
	0.5nm,0.7s,baz=350,slow=16,SNR=5.4						
ASAR	**Alice Springs**	**20.45**	**172**	P	**P**	**06 30 15.4**	**+0.9**
ASAR				S	**S**	**06 34 01.7**	**+0.3**
CTA	**Charters Tower**	**22.47**	**139**	P	**P**	**06 30 38.0**	**+1.8**
	3.8nm,0.7s,mb4.0,baz=316,slow=11,SNR=4.7						
CTA	**Charters Tower**	**22.47**	**139**	P	**P**	**06 30 38.0**	**+1.8**
STKA	**Stephens Creek**	**30.16**	**162**	P	**P**	**06 31 47.7**	**+1.0**
	2.0nm,0.9s,mb3.9,baz=320,slow=7.9,SNR=5.3						
STKA	**Stephens Creek**	**30.16**	**162**	P	**P**	**06 31 47.7**	**+1.0**
MKAR	**Makanchi Array**	**65.64**	**326**	P	**P**	**06 36 19.8**	**-0.6**
	0.6nm,0.5s,mb3.9,baz=121,slow=7.8,SNR=9.9						
MKAR	**Makanchi Array**	**65.64**	**326**	P	**P**	**06 36 19.8**	**-0.7**
KURK	**Kurchatov**	**69.84**	**328**	P	**P**	**06 36 46.0**	**-0.9**
	0.3nm,0.6s,mb3.4,baz=126,slow=6.0,SNR=1.7						
KURK	**Kurchatov**	**69.84**	**328**	P	**P**	**06 36 46.0**	**-0.9**
LPAZ	**La Paz**	**152.98**	**137**	PKPbc	PKPbc	06 45 35.1	+0.6
	0.7nm,0.8s,baz=239,slow=5.9,SNR=3.5						
LPAZ	**La Paz**	**152.98**	**137**	PKPbc	PKPbc	06 45 35.1	+0.6

*CSEM **05** 06:29:47.8,33°.32N×35°.42E,h0^{km},ML3.3,After GRAL*
GRAL 05 06:29:47.8±0.3,33°.32N×35°.42E,h0$^{km}_{\pm 2km}$,MD3.3, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATL	**Matarih**	**0.18**	**337**	*e*P	Pg	06 29 51.1	-0.2
MATL	**Matarih**	**0.18**	**337**	*e*P	Pg	06 29 51.1	-0.2
RCY	**Rachaya**	**0.39**	**64**	*e*P	Pg	06 29 54.8	-0.5
RCY				*e*S	Sg	06 30 00.1	-0.3
RCY	**Rachaya**	**0.39**	**64**	*e*P	Pg	06 29 54.8	-0.5
RCY				*e*S	Sg	06 30 00.1	-0.3
BHL	**Bhannes**	**0.61**	**19**	*e*P	Pg	06 29 58.7	-0.9
BHL				*e*S	Sg	06 30 07.0	-0.6
BHL	**Bhannes**	**0.61**	**19**	*e*P	Pg	06 29 58.7	-0.9
BHL				*e*S	Sg	06 30 07.0	-0.6
HWQ	**Hawqa**	**1.05**	**25**	*e*P	Pg	06 30 06.7	-1.2
HWQ				*e*S	Sg	06 30 20.5	-1.1
HWQ	**Hawqa**	**1.05**	**25**	*e*P	Pg	06 30 06.7	-1.3
HWQ				*e*S	Sg	06 30 20.5	-1.1
FKH	**Fakeheh**	**1.24**	**42**	*e*P	Pg	06 30 10.0	-1.5
FKH				*e*S	Sg	06 30 26.4	-1.2
FKH	**Fakeheh**	**1.24**	**42**	*e*P	Pg	06 30 10.0	-1.5
FKH				*e*S	Sg	06 30 26.4	-1.2

*IDC **05** 06:51:27.1±5.9,20°.57S×177°.93W,h444$^{km}_{\pm 68km}$, mb3.4/10,mb1 3.6/11,mb1mx3.5/18,mbtmp3.4/11,Error ellipse: s-maj=42.4km s-min=21.0km az=167.0*
*ISCJB **05** 06:51:30.9±1.5,20°.8S±0°.1×178°.0W±0°.1,h507$^{km}_{\pm 15km}$, mb3.8/13,Error ellipse: s-maj=22.5km s-min=15.8km az=34.7*
*NEIC **05** 06:51:31.4±1.3,20°.76S×177°.93W,h503$^{km}_{\pm 12km}$,mb4.2/3, Error ellipse: s-maj=20.8km s-min=12.3km az=138.0*
ISC 05 06:51:31.0±1.5,20°.9S±0°.1×177°.9W±0°.1,h499$^{km}_{\pm 16km}$, n34,σ0§81/30,mb3.8/13,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.94**	**308**	*e*P	**P**	**06 52 57.3**	**-0.3**
URZ	**Urewera**	**17.87**	**193**	P	**P**	**06 55 11.0**	**+0.9**
	1.1nm,0.3s,baz=351,slow=6.0,SNR=2.2						
URZ	**Urewera**	**17.87**	**193**	P	**P**	**06 55 11.0**	**+0.9**
CTA	**Charters Tower**	**33.57**	**265**	P	**P**	**06 57 28.9**	**-0.3**
	1.4nm,0.8s,mb3.8,baz=64,slow=12,SNR=1.7						
CTA	**Charters Tower**	**33.57**	**265**	P	**P**	**06 57 28.9**	**-0.3**
CTAO	**Charters Tower**	**33.57**	**265**	*e*P	**P**	**06 57 29.2**	**+0.1**
STKA	**Stephens Creek**	**37.73**	**245**	P	**P**	**06 58 04.1**	**+0.5**
	3.6nm,0.8s,mb3.9,baz=118,slow=4.2,SNR=6.1						
STKA	**Stephens Creek**	**37.73**	**245**	P	**P**	**06 58 04.1**	**+0.5**
ASAR	**Alice Springs**	**44.55**	**257**	P	**P**	**06 58 58.3**	**+0.3**
	1.9nm,0.5s,mb3.8,baz=95,slow=8.0,SNR=38						
ASAR				PcP	PcP	07 00 31.8	+1.2
	0.6nm,0.7s,baz=99,slow=4.0,SNR=5.2						
ASAR	**Alice Springs**	**44.55**	**257**	P	**P**	**06 58 58.3**	**+0.3**
ASAR				PcP	PcP	07 00 31.8	+1.2
WRAB	**Tennant Creek**	**44.66**	**262**	*e*P	**P**	**06 58 58.9**	**0.0**
WRA	**Warramunga Arr**	**44.66**	**262**	P	**P**	**06 58 58.4**	**-0.5**
	0.6nm,0.3s,mb3.6,baz=96,slow=7.4,SNR=11						
WRA	**Warramunga Arr**	**44.66**	**262**	P	**P**	**06 58 58.4**	**-0.5**
JNU	**Nakatsue**	**72.61**	**317**	*e*P	**P**	**07 02 07.6**	**+0.2**
	4.0nm,0.8s,mb4.0						
PETK	**Petropavlovsk-**	**76.64**	**345**	P	**P**	**07 02 29.2**	**-0.4**
	4.7nm,0.7s,mb4.1,baz=160,slow=4.7,SNR=2.7						
PETK	**Petropavlovsk-**	**76.64**	**345**	P	**P**	**07 02 29.2**	**-0.4**
NVAR	**Mina Array Bea**	**81.21**	**43**	P	**P**	**07 02 55.2**	**+0.9**
	0.7nm,0.6s,mb3.3,baz=232,slow=8.2,SNR=4.8						
NVAR	**Mina Array Bea**	**81.21**	**43**	P	**P**	**07 02 55.2**	**+0.9**
TRF	**Thorofare Moun**	**86.78**	**12**	*e*P	**P**	**07 03 20.8**	**-0.4**
	4.7nm,0.9s,mb4.2						
TXAR	**Lajitas Array**	**87.15**	**57**	P	**P**	**07 03 24.8**	**+1.0**
	0.4nm,0.8s,mb3.2,baz=216,slow=6.2,SNR=5.4						
TXAR	**Lajitas Array**	**87.15**	**57**	P	**P**	**07 03 24.8**	**+0.9**
VNA3	**Neumayer Olymp**	**87.78**	**176**	*e*	**P**	**07 03 24.6**	**-1.4**
VNA2	**

ARMA	**Armidale**	**29.67**	**243**	*eP*	**P**	**Pg**	07 15 51.5	+1.2
CTA	**Charters Tower**	**33.92**	**263**	P	**P**	**Pn**	07 16 26.7	+0.2
	11nm,0.5s,mb4.8,baz=94,slow=10,SNR=22							
CTA	**Charters Tower**	**33.92**	**263**	*eP*	**P**	**Pn**	07 16 26.6	+0.1
	8.0nm,0.4s,mb4.7							
CTA	**Charters Tower**	**33.92**	**263**	P	**P**	**Pn**	07 16 26.7	+0.2
CTAO	**Charters Tower**	**33.92**	**263**	*eP*	**P**	**Pn**	07 16 26.2	-0.3
TOO	**Toolangi**	**36.56**	**233**	*eP*	**P**	**Pn**	07 16 49.1	+1.0
STKA	**Stephens Creek**	**38.39**	**244**	P	**P**	**Pn**	07 17 04.3	+1.2
	7.1nm,0.8s,mb4.2,baz=87,slow=8.4,SNR=15							
STKA	**Stephens Creek**	**38.39**	**244**	*eP*	**P**	**Pn**	07 17 03.8	+0.7
	5.7nm,1.2s,mb4.0							
STKA	**Stephens Creek**	**38.39**	**244**	P	**P**	**Pn**	07 17 04.3	+1.2
ASAR	**Alice Springs**	**45.02**	**256**	P	**P**	**Pn**	07 17 55.5	+0.1
	9.9nm,0.7s,mb4.4,baz=89,slow=7.7,SNR=140							
ASAR				PcP	PcP		07 19 24.3	+0.5
	1.6nm,0.7s,baz=101,slow=4.2,SNR=6.7							
ASAR				S	**S**		**07 23 52.6**	**-0.2**
	0.6nm,0.7s,baz=93,slow=15,SNR=7.8							
ASAR	**Alice Springs**	**45.02**	**256**	P	**P**	**Pn**	07 17 55.5	+0.1
ASAR				PcP	PcP		07 19 24.3	+0.5
ASAR				S	**S**		**07 23 52.6**	**-0.2**
WB2	**Warramunga Arr**	**45.04**	**261**	*eP*	**P**		**07 17 54.8**	**-0.8**
WRAB	**Tennant Creek**	**45.04**	**261**	*eP*	**P**		**07 17 54.6**	**-1.0**
	4.4nm,0.8s,mb4.0							
WRA	**Warramunga Arr**	**45.05**	**261**	P	**P**		**07 17 55.2**	**-0.5**
	2.3nm,0.3s,mb4.1,baz=97,slow=8.1,SNR=62							
WRA	**Warramunga Arr**	**45.05**	**261**	P	**P**		**07 17 55.2**	**-0.5**
FORT	**Forrest**	**49.88**	**246**	*eP*	**P**		**07 18 31.4**	**-0.2**
	17nm,0.8s,mb4.5							
FITZ	**Fitzroy Crossi**	**53.47**	**262**	*eP*	**P**		**07 18 57.4**	**-0.2**
	6.4nm,0.4s,mb4.3							
MBWA	**Marble Bar**	**58.35**	**257**	*eP*	**P**		**07 19 30.8**	**-0.4**
MBWA	**Marble Bar**	**58.35**	**257**	*eP*	**P**		**07 19 30.6**	**-0.6**
QSPA	**South Pole Qui**	**70.19**	**180**	*eP*	**P**		**07 20 46.1**	**+1.1**
	14nm,1.4s,mb4.2							
NVAR	**Mina Array Bea**	**80.32**	**43**	P	**P**		**07 21 42.6**	**+0.8**
	0.3nm,0.6s,baz=213,slow=8.1,SNR=2.6							
NVAR	**Mina Array Bea**	**80.32**	**43**	P	**P**		**07 21 42.6**	**+0.8**
MAW	**Mawson**	**82.28**	**200**	P	**P**		**07 21 52.9**	**+1.5**
	1.2nm,0.6s,mb3.6,baz=121,slow=6.6,SNR=2.4							
MAW	**Mawson**	**82.28**	**200**	P	**P**		**07 21 52.9**	**+1.5**
RSO	**Redoubt South**	**82.55**	**12**	P	**P**		**07 21 46.4**	**-6.3**
	46nm,0.7s,mb5.1							
TXAR	**Lajitas Array**	**86.41**	**57**	P	**P**		**07 22 13.6**	**+1.3**
	0.9nm,0.7s,mb3.5,baz=220,slow=6.7,SNR=15							
TXAR	**Lajitas Array**	**86.41**	**57**	P	**P**		**07 22 13.6**	**+1.3**
ILAR	**Eielson Array**	**87.62**	**13**	P	**P**		**07 22 15.8**	**-1.4**
	0.2nm,0.4s,mb3.2,baz=226,slow=5.4,SNR=6.1							
ILAR	**Eielson Array**	**87.62**	**13**	P	**P**		**07 22 15.8**	**-1.4**
PDAR	**Pinedale Array**	**88.26**	**43**	P	**P**		**07 22 20.8**	**+0.2**
	0.5nm,0.6s,mb3.4,baz=198,slow=2.4,SNR=5.0							
PDAR	**Pinedale Array**	**88.26**	**43**	P	**P**		**07 22 20.8**	**+0.2**
VNA3	**Neumayer Olymp**	**88.74**	**176**	*e*	**P**		**07 22 20.6**	**-1.9**
VNA2	**Neumayer--Watz**	**89.19**	**177**	*e*	**P**		**07 22 22.9**	**-1.6**
	baz=194,slow=4.0							
VNA1	**Neumayer--Stat**	**89.41**	**176**	*e*	**P**		**07 22 24.2**	**-1.4**
CMAR	**Chiang Mai Arr**	**90.25**	**289**	P	**P**		**07 22 31.9**	**+1.4**
	1.0nm,0.3s,mb4.1,baz=129,slow=1.8,SNR=7.2							
CMAR	**Chiang Mai Arr**	**90.25**	**289**	P	**P**		**07 22 31.9**	**+1.4**
MKAR	**Makanchi Array**	**111.03**	**314**	PKiKP	PKiKP		07 27 57.5	-1.0
	0.3nm,0.5s,baz=203,slow=0.8,SNR=3.0							
MKAR	**Makanchi Array**	**111.03**	**314**	PKPdf	PKiKP		07 27 57.5	-1.0
ARCES	**ARCESS Array B**	**128.37**	**350**	PKP	PKPdf		07 28 30.6	-0.5
	8.6nm,1.5s,baz=20,slow=2.9,SNR=6.4							
ARCES	**ARCESS Array B**	**128.37**	**350**	PKP	PKPdf		07 28 30.6	-0.5
BRTR	**Keskin Array B**	**146.68**	**313**	PKPbc	PKPbc		07 29 07.7	-0.3
	1.6nm,0.5s,baz=135,slow=3.3,SNR=7.9							
BRTR	**Keskin Array B**	**146.68**	**313**	PKPbc	PKPbc		07 29 07.7	-0.3
CLL	**Collm**	**147.53**	**348**	∥*i* PKPbc	PKPbc		07 29 09.4	-0.4
	comp=Z,8.0nm,0.7s							
GERES	**GERESS Array B**	**149.69**	**345**	PKPbc	PKPbc		07 29 14.9	-0.3
	comp=Z,1.6nm,0.6s,baz=19,slow=3.3,SNR=10							
GERES	**GERESS Array B**	**149.69**	**345**	PKPbc	PKPbc		07 29 14.9	-0.3
TORD	**Torodi Ar. Bea**	**173.28**	**174**	PKP	PKPdf		07 29 33.2	-1.3
	comp=Z,0.4nm,0.8s,baz=318,slow=2.3,SNR=3.4							
TORD				PKPab	PKPab		07 31 07.8	+1.2
	comp=Z,0.2nm,0.5s,baz=197,slow=4.4,SNR=2.9							
TORD	**Torodi Ar. Bea**	**173.28**	**174**	PKP	PKPdf		07 29 33.2	-1.3
TORD				PKPab	PKPab		07 31 07.8	+1.2

DDA ***05*** *07:36:50.4, 43˙.45N±27˙.39E, h11km±1km, Md3.8*
MOS ***05*** *07:36:52.5±1.3, 42˙.98N±27˙.61E, h15km, mb3.8/6, Error ellipse: s-maj=6.9km s-min=4.8km az=102.3*
IDC ***05*** *07:36:53.4±1.0, 43˙.12N±27˙.60E, h0km, mb3.7/6, mb1 3.8/11, mb1mx3.6/29, mbtmp3.7/11, ML3.2/3, MS3.2/3, Ms1 3.2/3, ms1mx2.6/40, Error ellipse: s-maj=18.3km s-min=11.7km az=90.0*
SOF ***05*** *07:36:53.5, 43˙.13N±27˙.48E, h10km, MD3.8*
NEIC ***05*** *07:36:53.1, 42˙.93N±27˙.65E, h10km, mb3.8/1, ML4.1(BUC), After BUC.*
SKO ***05*** *07:36:53.5, 43˙.30N±27˙.43E, h0km, M3.6, ML4.4*
ISCJB ***05*** *07:36:54.0±0.1, 43˙.10N±0˙.01×27˙.47E±0˙.02, h10km, mb3.8/9, Error ellipse: s-maj=2.1km s-min=1.6km az=14.9*
CSEM ***05*** *07:36:54.1±0.1, 43˙.10N±27˙.53E, h5km, mb3.9/6, Error ellipse: s-maj=2.3km s-min=2.1km az=85.0*
THE ***05*** *07:36:56.2, 43˙.13N±27˙.48E, h19km±2km, ML3.7/5, Error ellipse: s-maj=3.3km s-min=1.9km az=70.0*
BEO ***05*** *07:36:57.0±0.7, 43˙.12N±27˙.31E, h12km±4km, ML4.3/1*
ISC 05 07:36:55.0±0.1, **43˙.10N**±0˙.01×**27˙.50E**±0˙.02, **h10**km, **n368**, σ1§**16**/474, **mb3.8/9, 42C-29D, Bulgaria**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
ROIA	**ROIAK**	**0.09**	**268**	*e*Pg	**Pg**	**07 36 55.9**	**-1.5**
ROIA	**ROIAK**	**0.09**	**268**	*e*Pg	**Pg**	**07 36 55.9**	**-1.5**
PRD	**Provadia**	**0.13**	**325**	*i* Pg	**Pg**	**07 36 55.0**	**-3.0**
PRD	**Provadia**	**0.13**	**325**	*i* Pg	**Pg**	**07 36 55.0**	**-3.0**
PRD	**Provadia**	**0.13**	**325**	*i* Pg	**Pg**	**07 36 55.0**	**-3.0**
PSN	**Preselentsi**	**0.77**	**40**	*i* Pg	**Pg**	**07 37 07.5**	**-2.3**
PSN	**Preselentsi**	**0.77**	**40**	*i* Pg	**Pg**	**07 37 07.5**	**-2.3**
PSN	**Preselentsi**	**0.77**	**40**	*i* Pg	**Pg**	**07 37 07.5**	**-2.3**
JMB	**Yambol**	**0.92**	**227**	⇑*i*Pg	**Pg**	**07 37 13.3**	**+0.6**
JMB				*e*Sg	**Sg**	**07 37 25.7**	**+1.0**
JMB	**Yambol**	**0.92**	**227**	P	**Pg**	**07 37 13.4**	**+0.7**
JMB				S	**Sg**	**07 37 26.9**	**+2.2**
JMB	**Yambol**	**0.92**	**227**	*e*P	**Pg**	**07 37 13.4**	**+0.7**
JMB				Pg	**Pg**	**07 37 14.9**	**+2.2**
JMB	**Yambol**	**0.92**	**227**	*e*P	**Pg**	**07 37 13.4**	**+0.7**
JMB				Pg	**Pg**	**07 37 14.9**	**+2.2**
JMB	**Yambol**	**0.92**	**227**	*e*P	**Pg**	**07 37 13.4**	**+0.7**
JMB				S	**Sg**	**07 37 26.9**	**+2.2**
MANR	**Mangalia**	**1.07**	**47**	⇑*i*P	**Pg**	**07 37 14.4**	**-1.2**
MANR	**Mangalia**	**1.07**	**47**	⇑*i*P	**Pg**	**07 37 14.4**	**-1.2**
MANR				S	**Sg**	**07 37 29.8**	**+0.3**
SZH	**Strazhica**	**1.16**	**279**	*i* Pg	**Pg**	**07 37 16.2**	**-1.0**
SZH	**Strazhica**	**1.16**	**279**	*i* Pg	**Pg**	**07 37 16.2**	**-1.0**
SZH	**Strazhica**	**1.16**	**279**	*i* Pg	**Pg**	**07 37 16.2**	**-1.0**
CVD	**Cernavoda**	**1.28**	**17**	⇑P	**Pn**	**07 37 18.5**	**-0.4**
CVD				S	**Sb**	**07 37 38.5**	**+2.9**
CVD	**Cernavoda**	**1.28**	**17**	⇑*i*P	**Pn**	**07 37 18.5**	**-0.4**
CVD	**Cernavoda**	**1.28**	**17**	⇑*i*P	**Pn**	**07 37 18.5**	**-0.4**
CVD				S	**Sb**	**07 37 38.5**	**+2.9**
EDRB	**Edirne**	**1.37**	**204**	PN	**Pn**	**07 37 19.2**	**-0.9**
EDRB				*e*SN	**Sn**	**07 37 40.8**	**+2.6**
TIRR	**Tirgusor**	**1.51**	**26**	*e*Pn	**Pn**	**07 37 21.6**	**-0.5**
TIRR				*e*Sn	**Sn**	**07 37 42.8**	**+0.9**
TIRR	**Tirgusor**	**1.51**	**26**	∥P	**Pn**	**07 37 21.8**	**-0.3**
TIRR				S	**Sn**	**07 37 43.3**	**+1.4**
TIRR	**Tirgusor**	**1.51**	**26**	∥*i*P	**Pn**	**07 37 21.8**	**-0.3**
TIRR	**Tirgusor**	**1.51**	**26**	*e*Pn	**Pn**	**07 37 21.6**	**-0.5**
TIRR				*e*Sn	**Sn**	**07 37 42.8**	**+0.9**
TIRR				S	**Sn**	**07 37 43.3**	**+1.4**
AMRR	**Amara**	**1.52**	**356**	⇑*i*P	**Pn**	**07 37 22.1**	**-0.1**
AMRR	**Amara**	**1.52**	**356**	⇑*i*P	**Pn**	**07 37 22.1**	**-0.1**
AMRR				S	**Sn**	**07 37 44.4**	**+2.4**
PVL	**Pavlikeni**	**1.59**	**275**	*i* P	**Pn**	**07 37 24.3**	**+1.2**
PVL	**Pavlikeni**	**1.59**	**275**	*i* P	**Pn**	**07 37 24.3**	**+1.2**
PVL	**Pavlikeni**	**1.59**	**275**	*i* P	**Pn**	**07 37 24.3**	**+1.2**
BUC1	**Bucharest**	**1.64**	**320**	∥*i*P	**Pn**	**07 37 25.3**	**+1.4**
BUC1	**Bucharest**	**1.64**	**320**	∥*i*P	**Pn**	**07 37 25.3**	**+1.4**
BUC1				S	**Sn**	**07 37 49.2**	**+4.1**
ZIMR		**1.65**	**291**	⇑P	**Pn**	**07 37 24.6**	**+0.6**
ZIMR				S	**Sn**	**07 37 48.5**	**+3.2**
ZIMR		**1.65**	**291**	⇑*i*P	**Pn**	**07 37 24.6**	**+0.6**
BUC	**Bucharest**	**1.66**	**323**	∥P	**Pn**	**07 37 25.3**	**+1.1**
BUC				S	**Sn**	**07 37 49.2**	**+3.7**
CTYL	**Yal??k??y-??at**	**1.72**	**160**	*e*PN	**Pn**	**07 37 24.8**	**-0.2**
CTYL	**Yal??k??y-??at**	**1.72**	**160**	*e*Pn	**Pn**	**07 37 24.8**	**-0.2**
DIM	**Dimitrovgrad**	**1.79**	**235**	*e*P	**Pn**	**07 37 25.9**	**0.0**
DIM				Pg	**Pg**	**07 37 27.7**	**-1.6**
DIM	**Dimitrovgrad**	**1.79**	**235**	*e*P	**Pn**	**07 37 25.9**	**0.0**
DIM				Pg	**Pg**	**07 37 27.7**	**-1.6**
DIM	**Dimitrovgrad**	**1.79**	**235**	*e*P	**Pn**	**07 37 25.9**	**0.0**
SULR		**1.82**	**331**	⇑*i*P	**Pn**	**07 37 27.4**	**+1.1**
SULR		**1.82**	**331**	⇑*i*P	**Pn**	**07 37 27.4**	**+1.1**
SULR				S	**Sn**	**07 37 52.2**	**+2.8**
PGOR	**Pogoanele**	**1.85**	**349**	S	**Sn**	**07 37 53.9**	**+3.8**
PGOR	**Pogoanele**	**1.85**	**349**	S	**Sn**	**07 37 53.9**	**+3.8**
SLVT	**Silivri**	**1.94**	**164**	*e*PN	**Pn**	**07 37 28.4**	**+0.5**
SLVT	**Silivri**	**1.94**	**164**	*e*Pn	**Pn**	**07 37 28.5**	**+0.6**
CRLT	**Corlu**	**1.97**	**175**	*e*Pn	**Pn**	**07 37 28.5**	**+0.1**
CRLT	**Corlu**	**1.97**	**175**	*e*Pn	**Pn**	**07 37 28.5**	**+0.1**
CTKS	**Kestanelik-??a**	**2.00**	**158**	*e*PN	**Pn**	**07 37 28.8**	**0.0**
CTKS	**Kestanelik-??a**	**2.00**	**158**	*e*Pn	**Pn**	**07 37 28.8**	**0.0**
ELBA	**Catalca**	**2.07**	**160**	*i* P	**Pn**	**07 37 29.1**	**-0.7**
ELBA				*i* S	**Sn**	**07 37 56.4**	**+0.9**
ELBA	**Catalca**	**2.07**	**160**	*i* P	**Pn**	**07 37 29.0**	**-0.7**
ELBA				*i* S	**Sn**	**07 37 56.4**	**+0.9**
TKR	**Tekirdag**	**2.10**	**179**	*e*PN	**Pn**	**07 37 30.4**	**+0.2**
CFR	**Carcaliu**	**2.13**	**12**	⇑P	**Pn**	**07 37 30.9**	**+0.3**
CFR				S	**Sn**	**07 38 00.3**	**+3.2**
CFR	**Carcaliu**	**2.13**	**12**	⇑*i*P	**Pn**	**07 37 30.9**	**+0.3**
CFR	**Carcaliu**	**2.13**	**12**	P	**Pn**	**07 37 30.9**	**+0.3**
CFR				S	**Sn**	**07 38 00.3**	**+3.2**
BGKT	**Bogazkoy**	**2.13**	**153**	*e*PN	**Pn**	**07 37 30.5**	**-0.2**
BGKT	**Bogazkoy**	**2.13**	**153**	*e*Pn	**Pn**	**07 37 30.5**	**-0.1**
ISR	**Istrita**	**2.14**	**342**	∥P	**Pn**	**07 37 32.4**	**+1.7**
ISR				S	**Sn**	**07 38 01.8**	**+4.6**
ISR	**Istrita**	**2.14**	**342**	∥*i*P	**Pn**	**07 37 32.4**	**+1.7**
ISR	**Istrita**	**2.14**	**342**	P	**Pn**	**07 37 32.4**	**+1.7**
KLYT	**Kilyos**	**2.17**	**148**	*e*PN	**Pn**	**07 37 31.1**	**0.0**
KLYT	**Kilyos**	**2.17**	**148**	*e*Pn	**Pn**	**07 37 31.1**	**0.0**
PLD	**Plovdiv**	**2.29**	**245**	*e*Pn	**Pn**	**07 37 34.3**	**+1.5**
PLD				*e*Sg	**Sg**	**07 38 05.7**	**-2.8**
PLD	**Plovdiv**	**2.29**	**245**	P	**Pn**	**07 37 32.1**	**-0.7**
PLD				S	**Sn**	**07 38 00.0**	**-1.0**
PLD	**Plovdiv**	**2.29**	**245**	P	**Pn**	**07 37 32.1**	**-0.7**
PLD	**Plovdiv**	**2.29**	**245**	*e*Pn	**Pn**	**07 37 34.3**	**+1.5**
PLD				S	**Sn**	**07 38 00.0**	**-1.0**
PLD				*e*Sg	**Sg**	**07 38 05.7**	**-2.8**
TLCR		**2.29**	**24**	⇑P	**Pn**	**07 37 33.1**	**+0.3**
TLCR				S	**Sn**	**07 38 03.6**	**+2.5**
TLCR		**2.29**	**24**	⇑*i*P	**Pn**	**07 37 33.1**	**+0.3**
TLCR		**2.29**	**24**	P	**Pn**	**07 37 33.1**	**+0.3**
TLCR				S	**Sn**	**07 38 03.6**	**+2.5**
MFT	**Murefte**	**2.31**	**184**	*e*PN	**Pn**	**07 37 33.5**	**+0.4**
GRER		**2.31**	**351**	∥*i*P	**Pn**	**07 37 33.9**	**+0.8**
GRER		**2.31**	**351**	S	**Sn**	**07 38 05.9**	**+4.3**
GRER		**2.31**	**351**	∥*i*P	**Pn**	**07 37 33.9**	**+0.8**
HUMR	**Humele**	**2.32**	**309**	⇑*i*P	**Pn**	**07 37 32.9**	**-0.3**
HUMR	**Humele**	**2.32**	**309**	S	**Sn**	**07 38 05.5**	**+3.8**
HUMR	**Humele**	**2.32**	**309**	⇑*i*P	**Pn**	**07 37 32.9**	**-0.3**
ISK	**Istanbul-Kandi**	**2.34**	**150**	*e*PN	**Pn**	**07 37 33.4**	**0.0**
ISK	**Istanbul-Kandi**	**2.34**	**150**	*e*Pn	**Pn**	**07 37 33.4**	**0.0**
SART	**Tekirdag**	**2.42**	**186**	*i* P	**Pn**	**07 37 33.8**	**-0.7**
SART				*i* S	**Sn**	**07 38 05.4**	**+1.3**
RKY	**Sarkoy-Tekirda**	**2.42**	**186**	*e*PN	**Pn**	**07 37 34.7**	**+0.2**
RKY	**Sarkoy-Tekirda**	**2.42**	**186**	*e*Pn	**Pn**	**07 37 34.7**	**+0.2**
RDO	**Rodhopi**	**2.43**	**217**	P	**Pn**	**07 37 34.7**	**0.0**
RDO				S	**Sn**	**07 38 05.3**	**+0.8**
RDO	**Rodhopi**	**2.43**	**217**	P	**Pn**	**07 37 34.7**	**0.0**
RDO				S	**Sn**	**07 38 05.3**	**+0.8**
ALN	**Alexandroupoli**	**2.45**	**207**	P	**Pn**	**07 37 35.0**	**0.0**
ALN				S	**Sn**	**07 38 05.7**	**+0.8**
ALN	**Alexandroupoli**	**2.45**	**207**	P	**Pn**	**07 37 35.0**	**0.0**
ALN				S	**Sn**	**07 38 05.7**	**+0.8**
RZN	**Rozhen**	**2.50**	**237**	P	**Pn**	**07 37 35.6**	**0.0**
RZN	**Rozhen**	**2.50**	**237**	P	**Pn**	**07 37 35.6**	**0.0**
RZN	**Rozhen**	**2.50**	**237**	P	**Pn**	**07 37 35.6**	**0.0**
PGB	**Panagyurishte**	**2.51**	**259**	P	**Pn**	**07 37 36.1**	**+0.3**
PGB	**Panagyurishte**	**2.51**	**259**	P	**Pn**	**07 37 36.1**	**+0.3**
PGB	**Panagyurishte**	**2.51**	**259**	P	**Pn**	**07 37 36.1**	**+0.3**
SILT	**Sile**	**2.51**	**140**	*e*PN	**Pn**	**07 37 35.0**	**-0.8**
SILT	**Sile**	**2.51**	**140**	*e*Pn	**Pn**	**07 37 35.0**	**-0.8**
ERIK	**Erikli-Kesan**	**2.53**	**197**	*e*PN	**Pn**	**07 37 36.0**	**-0.1**
ERIK	**Erikli-Kesan**	**2.53**	**197**	*e*Pn	**Pn**	**07 37 36.1**	**0.0**
BUY	**Buyukada**	**2.55**	**151**	*i* P	**Pn**	**07 37 36.1**	**-0.2**
BUY				*i* S	**Sn**	**07 38 09.7**	**+2.4**
BUY	**Buyukada**	**2.55**	**151**	*i* P	**Pn**	**07 37 36.1**	**-0.2**
BUY				*i* S	**Sn**	**07 38 09.7**	**+2.4**
ENEZ	**Enez**	**2.56**	**204**	*e*PN	**Pn**	**07 37 35.9**	**-0.6**
ENEZ	**Enez**	**2.56**	**204**	*e*Pn	**Pn**	**07 37 35.9**	**-0.6**
PETR		**2.63**	**356**	⇑*i*P	**Pn**	**07 37 38.8**	**+1.3**
PETR		**2.63**	**356**	S	**Sn**	**07 38 13.1**	**+4.4**
PETR		**2.63**	**356**	⇑*i*P	**Pn**	**07 37 38.8**	**+1.3**
MLR	**Muntele Rosu**	**2.64**	**336**	*e*Pn	**Pn**	**07 37 39.1**	**+1.5**
MLR				*e*Sg	**Sg**	**07 38 19.4**	**-0.4**
MLR	**Muntele Rosu**	**2.64**	**336**	Pn	**Pn**	**07 37 38.7**	**+1.1**
	0.6nm,0.3s,baz=158,slow=3.7,SNR=15						
MLR				Lg		07 38 19.0	
	18nm,0.3s,baz=261,slow=23,SNR=11						
MLR	**Muntele Rosu**	**2.64**	**336**	Pn	**Pn**	**07 37 38.7**	**+1.1**
MLR				Lg		07 38 19.0	
MLR	**Muntele Rosu**	**2.64**	**336**	∥P	**Pn**	**07 37 39.1**	**+1.5**
MLR				S	**Sn**	**07 38 13.6**	**+3.9**
MLR	**Muntele Rosu**	**2.64**	**336**	∥*i*P	**Pn**	**07 37 39.1**	**+1.5**
MLR	**Muntele Rosu**	**2.64**	**336**	Pn	**Pn**	**07 37 38.7**	**+1.1**
MLR	**Muntele Rosu**	**2.64**	**336**	∥*i*P	**Pn**	**07 37 39.1**	**+1.5**
MLR				S	**Sn**	**07 38 13.6**	**+3.9**
MLR				Lg		07 38 19.0	
MLR				*e*Sg	**Sg**	**07 38 19.4**	**-0.4**
KRBG	**Karabiga-Canak**	**2.71**	**183**	*e*PN	**Pn**	**07 37 38.5**	**0.0**
KRBG	**Karabiga-Canak**	**2.71**	**183**	*e*Pn	**Pn**	**07 37 38.5**	**0.0**
ARMT	**Armutlu**	**2.73**	**158**	*e*PN	**Pn**	**07 37 39.3**	**+0.5**
ARMT	**Armutlu**	**2.73**	**158**	*e*Pn	**Pn**	**07 37 39.3**	**+0.5**
LPK	**Lapseki**	**2.78**	**192**	*e*PN	**Pn**	**07 37 39.5**	**+0.1**
LPK	**Lapseki**	**2.78**	**192**	*e*Pn	**Pn**	**07 37 39.5**	**0.0**
HRT	**Hereke**	**2.79**	**144**	*e*PN	**Pn**	**07 37 39.9**	**+0.2**
HRT	**Hereke**	**2.79**	**144**	*e*Pn	**Pn**	**07 37 39.9**	**+0.3**
GELI	**Tayfur-Gelibol**	**2.80**	**196**	*e*PN	**Pn**	**07 37 39.4**	**-0.4**
GELI	**Tayfur-Gelibol**	**2.80**	**196**	*e*Pn	**Pn**	**07 37 39.4**	**-0.4**
PLOR	**Plostina**	**2.82**	**348**	⇑P	**Pn**	**07 37 41.7**	**+1.6**
PLOR	**Plostina**	**2.82**	**348**	⇑*i*P	**Pn**	**07 37 41.7**	**+1.6**
PLOR	**Plostina**	**2.82**	**348**	P	**Pn**	**07 37 41.7**	**+1.6**
VRI	**Vrincioaia**	**2.83**	**349**	⇑P	**Pn**	**07 37 41.4**	**+1.3**
VRI				S	**Sn**	**07 38 08.8**	**+4.6**
VRI	**Vrincioaia**	**2.83**	**349**	⇑*i*P	**Pn**	**07 37 41.4**	**+1.3**
VRI	**Vrincioaia**	**2.83**	**349**	P	**Pn**	**07 37 41.4**	**+1.3**
YLV	**Yalova**	**2.89**	**150**	*e*PN	**Pn**	**07 37 42.0**	**+1.0**
YLV	**Yalova**	**2.89**	**150**	*e*Pn	**Pn**	**07 37 42.0**	**+1.0**
KCTX	**Karacabey (Bur**	**2.90**	**167**	*e*PN	**Pn**	**07 37 41.6**	**+0.5**
KCTX	**Karacabey (Bur**	**2.90**	**167**	*e*Pn	**Pn**	**07 37 41.6**	**+0.4**
MDNY	**Mudanya-Bursa**	**2.92**	**159**	*e*PN	**Pn**	**07 37 42.0**	**+0.6**
MDNY	**Mudanya-Bursa**	**2.92**	**159**	*e*Pn	**Pn**	**07 37 42.0**	**+0.6**
VOIR		**2.93**	**324**	⇑P	**Pn**	**07 37 42.1**	**+0.6**
VOIR				S	**Sn**	**07 38 21.5**	**+4.8**
VOIR		**2.93**	**324**	⇑*i*P	**Pn**	**07 37 42.1**	**+0.6**
VOIR		**2.93**	**324**	P	**Pn**	**07 37 42.1**	**+0.6**
GEMT	**Gemlik**	**2.94**	**154**	*e*PN	**Pn**	**07 37 42.0**	**+0.2**
GEMT	**Gemlik**	**2.94**	**154**	*e*Pn	**Pn**	**07 37 42.0**	**+0.2**
CRAR	**CRAIOVA**	**2.95**	**296**	S	**Sn**	**07 38 20.9**	**+3.6**
CRAR	**CRAIOVA**	**2.95**	**296**	S	**Sn**	**07 38 20.9**	**+3.6**
GONE	**Gonen-Balikesi**	**3.05**	**177**	*e*PN	**Pn**	**07 37 43.7**	**+0.5**
GONE	**Gonen-Balikesi**	**3.05**	**177**	*e*Pn	**Pn**	**07 37 43.7**	**+0.5**
KAVA	**Kavala**	**3.06**	**228**	P	**Pn**	**07 37 44.0**	**+0.7**
KAVA				S	**Sn**	**07 38 20.2**	**+0.3**
KAVA	**Kavala**	**3.06**	**228**	P	**Pn**	**07 37 44.0**	**+0.7**
KAVA				S	**Sn**	**07 38 20.2**	**+0.3**
GADA	**Gvkgeada**	**3.14**	**203**	*e*PN	**Pn**	**07 37 44.2**	**-0.2**
GADA	**Gvkgeada**	**3.14**	**203**	*e*Pn	**Pn**	**07 37 44.2**	**-0.3**
ADVT	**Abdulvahap**	**3.14**	**147**	*e*PN	**Pn**	**07 37 45.0**	**+0.5**
ADVT	**Abdulvahap**	**3.14**	**147**	*e*Pn	**Pn**	**07 37 45.0**	**+0.5**
MMB	**Musomiste**	**3.17**	**243**	*e*P	**Pn**	**07 37 46.3**	**+1.4**
MMB	**Musomiste**	**3.17**	**243**	*e*P	**Pn**	**07 37 46.3**	**+1.4**
MMB	**Musomiste**	**3.17**	**243**	*e*P	**Pn**	**07 37 46.3**	**+1.4**
VTS	**Vitosha**	**3.19**	**262**	*e*Pn	**Pn**	**07 37 45.6**	**+0.4**
VTS				*e*Sg	**Sg**	**07 38 34.0**	**-3.6**
VTS	**Vitosha**	**3.19**	**262**	P	**Pn**	**07 37 45.7**	**+0.5**
VTS				S	**Sn**	**07 38 22.8**	**-0.5**
VTS	**Vitosha**	**3.19**	**262**	∥P	**Pn**	**07 37 45.4**	**+0.2**
VTS				S	**Sn**	**07 38 25.2**	**+1.9**
VTS	**Vitosha**	**3.19**	**262**	∥*i*P	**Pn**	**07 37 45.4**	**+0.2**
VTS	**Vitosha**	**3.19**	**262**	P	**Pn**	**07 37 51.6**	**+6.4**
VTS	**Vitosha**	**3.19**	**262**	P	**Pn**	**07 37 51.6**	**+6.4**
VTS	**Vitosha**	**3.19**	**262**	P	**Pn**	**07 37 45.4**	**+0.2**
VTS				S	**Sn**	**07 38 22.8**	**-0.5**
ULDT	**Uludag**	**3.20**	**157**	*e*P	**Pn**	**07 37 44.1**	**-1.2**
ULDT	**Uludag**	**3.20**	**157**	*e*P	**Pn**	**07 37 44.1**	**-1.1**
NVR	**Nevrokopi**	**3.21**	**238**	P	**Pn**	**07 37 45.8**	**+0.3**
NVR	**Nevrokopi**	**3.21**	**238**	P	**Pn**	**07 37 45.8**	**+0.3**
DOPR	**Dopca**	**3.24**	**333**	⇑*i*P	**Pn**	**07 37 46.8**	**+0.9**
DOPR	**Dopca**	**3.24**	**333**	⇑*i*P	**Pn**	**07 37 46.8**	**+0.9**
BALY	**Balya**	**3.35**	**178**	*i* P	**Pn**	**07 37 48.0**	**+0.6**
CAVI	**Cavuskoy**	**3.38**	**148**	*e*PN	**Pn**	**07 37 48.4**	**+0.6**
**CAVI

YAL					*e*S		**Sn**	07 39 06.6	-1.6
DRGR			5.02	319	⇓P		**Pn**	07 38 09.7	-0.6
DRGR			5.02	319	⇓*i*P		**Pn**	07 38 09.7	-0.6
DRGR			5.02	319	P		**Pn**	07 38 09.7	-0.6
ILGA	**Ilgaz**		5.06	112	*i* P		**Pn**	07 38 13.8	+3.0
ILGA	**Ilgaz**		5.06	112	*i* P		**Pn**	07 38 13.8	+3.0
SIM	**Simferopol'**		5.12	67	*e*P		**Pn**	07 38 11.6	0.0
SIM					*i* S		**Sn**	07 39 14.1	+3.4
SIM					pmax	pmax			
	comp=Z,82nm,0.5s								
ALU	**Alushta**		5.24	70	*e*P		**Pn**	07 38 11.8	-1.4
ALU					*e*S		**Sn**	07 39 10.7	-2.9
ALU	**Alushta**		5.24	70	*e*P		**Pn**	07 38 11.8	-1.4
ALU					*e*S		**Sn**	07 39 10.7	-2.9
SJES	**Sjenica**		5.50	274	*e*Pn		**Pn**	07 38 17.3	+0.3
SJES					*e*Sg		**Sg**	07 39 48.2	-3.4
DIVS	**Divibare**		5.54	283	⇑*i*Pn		**Pn**	07 38 16.3	-1.2
DIVS					*e*Sg		**Sg**	07 39 49.2	-3.7
DIVS	**Divibare**		5.54	283	P		**Pn**	07 38 16.9	-0.6
DIVS	**Divibare**		5.54	283	⇑*i*Pn		**Pn**	07 38 16.3	-1.2
DIVS	**Divibare**		5.54	283	P		**Pn**	07 38 16.9	-0.6
SUDU	**Sudak**		5.70	69	⇓*i*P		**Pn**	07 38 19.0	-0.6
SUDU					*e*S		**Sn**	07 39 23.1	-2.0
BR131	**Keskin Array S**		5.71	124	*e*Pn		**Pn**	07 38 19.9	+0.1
	comp=Z,6.4nm,0.8s								
BR131	**Keskin Array S**		5.71	124	*e*Pn		**Pn**	07 38 20.0	+0.2
	comp=Z,6.3nm,0.8s								
BRTR	**Keskin Array B**		5.71	124	Pn		**Pn**	07 38 20.0	+0.2
	comp=Z,0.4nm,0.3s,baz=304,slow=11,SNR=18								
BRTR					Sn		**Sn**	07 39 20.2	-5.2
	comp=Z,0.1nm,0.3s,baz=322,slow=12,SNR=2.7								
BRTR	**Keskin Array B**		5.71	124	Pn		**Pn**	07 38 20.0	+0.2
BRTR					Sn		**Sn**	07 39 20.2	-5.2
BRTR	**Keskin Array B**		5.71	124	P		**Pn**	07 38 20.0	+0.2
BRTR								07 39 20.2	
BRTR	**Keskin Array B**		5.71	124	P		**Pn**	07 38 20.0	+0.2
FGSL	**Fruska Gora**		5.91	293	*e*Pn		**Pn**	07 38 22.2	-0.2
FRGS	**Fruska Gora**		5.91	293	*e*Pn		**Pn**	07 38 22.2	-0.2
BBLS	**Lazići**		5.94	280	⇓*i*Pn		**Pn**	07 38 22.6	-0.3
BBLS					*e*Sn		**Sn**	07 39 28.5	-2.5
BBLS	**Lazići**		5.94	280	⇓P		**Pn**	07 38 22.6	-0.3
BBLS					*e*Sn		**Sn**	07 39 28.5	-2.5
CTKT	**Corum**		5.98	112	*i* P		**Pn**	07 38 23.2	-0.2
CTKT					*i* S		**Sn**	07 39 30.3	-1.7
CTKT	**Corum**		5.98	112	*i* P		**Pn**	07 38 23.2	-0.3
CTKT					*i* S		**Sn**	07 39 30.3	-1.6
UZH	**Uzhgorod**		6.62	329	*e*P		**Pn**	07 38 36.0	+3.8
UZH					*e*S		**Sn**	07 39 54.0	+6.3
UZH					smax				
	comp=N,40nm,1.0s								
UZH					smax				
	comp=E,58nm,1.0s								
KOLS	**Kolonicke sedl**		6.88	330	*e*P		**Pn**	07 38 36.2	+0.4
KOLS					*e*			07 39 50.4	
KOLS	**Kolonicke sedl**		6.88	330	*e*PN		**Pn**	07 38 36.2	+0.4
KOLS					*e*SN		**Sn**	07 39 50.4	-3.6
KOLS	**Kolonicke sedl**		6.88	330	*e*P		**Pn**	07 38 36.2	+0.4
CRVS	**Cervenica-Dubn**		7.17	326	*e*P		**Pn**	07 38 39.1	-0.6
CRVS					*e*			07 39 55.8	
CRVS	**Cervenica-Dubn**		7.17	326	*e*PN		**Pn**	07 38 39.1	-0.6
CRVS					*e*SN		**Sn**	07 39 55.8	-5.3
CRVS	**Cervenica-Dubn**		7.17	326	*e*P		**Pn**	07 38 39.1	-0.6
PSZ	**Piszkesteto**		7.20	315	*e*Pn		**Pn**	07 38 41.6	+1.5
	comp=E,5.8nm,0.8s								
PSZ	**Piszkesteto**		7.20	315	⇓P		**Pn**	07 38 38.4	-1.7
PSZ	**Piszkesteto**		7.20	315	⇓*i*P		**Pn**	07 38 38.4	-1.7
PSZ	**Piszkesteto**		7.20	315	P		**Pn**	07 38 38.4	-1.7
PSZ	**Piszkesteto**		7.20	315	*e*Pn		**Pn**	07 38 41.6	+1.5
	comp=E,5.8nm,0.8s								
KWP	**Kalwaria Pacla**		7.33	335	Pn		**Pn**	07 38 42.1	+0.1
	comp=E,56nm,0.3s								
KWP	**Kalwaria Pacla**		7.33	335	Pn		**Pn**	07 38 42.1	+0.2
	comp=E,56nm,0.3s								
ANN	**Anapa**		7.37	73	*e*P		**Pn**	07 38 36.7	-5.8
ANN					*e*S		**Sn**	07 39 59.9	-6.3
ANN					pmax	pmax			
	comp=Z,5.0nm,0.6s								
KIEV	**Kiev**		7.69	8	*e*Pn		**Pn**	07 38 46.8	-0.2
	comp=Z,8.1nm,0.8s								
KIEV	**Kiev**		7.69	8	*e*Pn		**Pn**	07 38 46.8	-0.1
	comp=Z,8.1nm,0.8s								
AKASG	**Malin Array Be**		7.70	8	Pn		**Pn**	07 38 45.5	-1.5
	comp=Z,2.5nm,0.3s,baz=203,slow=20,SNR=6.3								
AKASG					Sn		**Sn**	07 40 08.2	-6.0
	comp=Z,8.2nm,0.3s,baz=197,slow=21,SNR=9.3								
AKASG					Lg			07 40 54.6	
	comp=Z,6.3nm,0.3s,baz=182,slow=30,SNR=7.0								
AKASG	**Malin Array Be**		7.70	8	Pn		**Pn**	07 38 45.5	-1.5
AKASG					Sn		**Sn**	07 40 08.2	-6.0
AKASG					Lg			07 40 54.6	
AKASG	**Malin Array Be**		7.70	8	P		**Pn**	07 38 45.5	-1.5
AKASG								07 40 08.2	
AKASG					pmax	pmax			
	comp=Z,3.0nm,0.3s								
AKASG					smax				
	comp=N,8.0nm,0.3s								
AKASG	**Malin Array Be**		7.70	8	P		**Pn**	07 38 45.5	-1.5
	comp=N,3.0nm,0.3s								
VYHS	**Vyhne**		8.11	315	*e*P		**Pn**	07 38 47.9	-4.7
VYHS	**Vyhne**		8.11	315	*e*PN		**Pn**	07 38 47.9	-4.7
VYHS					*e*SN		**Sn**	07 40 14.5	-10
ZST	**Bratislava**		8.89	309	*e*P		**Pn**	07 38 56.7	-6.6
ZST	**Bratislava**		8.89	309	*e*PN		**Pn**	07 38 56.7	-6.6
SOC	**Sochi**		8.92	83	*c i*P		**Pn**	07 39 02.0	-1.8
SOC					*e*			07 40 39.5	
SOC					pmax	pmax			
	comp=Z,91nm,0.9s								
SOC					smax				
	comp=N,76nm,0.8s								
SOC					smax				
	comp=E,73nm,0.9s								
SOC	**Sochi**		8.92	83	*i* P		**Pn**	07 39 02.0	-1.8
	comp=E,76nm,0.8s								
DOMR	**Dombai**		10.32	84	⇑*e*P		**Pn**	07 39 19.6	-3.4
KIV	**Kislovodsk**		11.06	80	*e*P		**Pn**	07 39 30.9	-2.3
KIV					pmax	pmax			
	comp=Z,11nm,0.8s								
KIV	**Kislovodsk**		11.06	80	*e*P		**Pn**	07 39 30.9	-2.3
	comp=Z,11nm,0.8s								
GERES	**GERESS Array B**		11.19	306	LR		LR	07 44 22.9	
	comp=Z,97nm,18.2s,baz=110,slow=40								
VSR	**Storozhevoye**		11.35	40	*e*P		**Pn**	07 39 38.4	+1.4
VSR					pmax	pmax			
	comp=Z,10.0nm,0.8s								
VSR					pmax	pmax			
	comp=N,10.0nm,0.6s								
VSR					pmax	pmax			
	comp=E,10.0nm,0.7s								
VSR	**Storozhevoye**		11.35	40	*e*P		**Pn**	07 39 38.4	+1.4
	comp=E,10.0nm,0.6s								
NACGM	**Naroch**		11.82	358	*e*		**Pn**	07 39 38.0	-5.5
ZEI	**Tsey**		12.03	86	*e*P		**Pn**	07 39 45.3	-1.1
ZEI					pmax	pmax			
	comp=Z,7.0nm,0.5s								
ZEI	**Tsey**		12.03	86	*e*P		**Pn**	07 39 45.3	-1.1
	comp=Z,7.0nm,0.5s								
DAVOX	**Davos/Dischmat**		13.01	293	LR		LR	07 45 07.9	
	comp=Z,95nm,18.3s,baz=90,slow=38								
GNI	**Garni**		13.23	97	⇓*i*P		**Pn**	07 40 00.8	-2.0
GNI	**Garni**		13.23	97	*i* P		**Pn**	07 40 00.8	-2.0
MOS	**Moscow**		14.24	24	*e*P		**Pn**	07 40 09.6	-6.9
MOS					*e*SS			07 42 55.4	
VSU	**Vasula**		15.39	358	⇓*e*P		**Pn**	07 40 27.8	-4.2
VSU					pmax	pmax			
	comp=Z,17nm,1.0s								
FINES	**FINESS Array B**		18.40	358	Pn		**Pn**	07 41 04.5	-5.3
	comp=Z,0.3nm,0.3s,baz=160,slow=12,SNR=5.2								
FINES	**FINESS Array B**		18.40	358	Pn		**Pn**	07 41 04.5	-5.3
FINES	**FINESS Array B**		18.40	358	P		**Pn**	07 41 04.5	-5.3
HFS	**Hagfors**		19.02	339	Pn		**Pn**	07 41 15.1	-2.3
	comp=Z,0.2nm,0.3s,baz=132,slow=6.6,SNR=6.0								
HFS	**Hagfors**		19.02	339	Pn		**Pn**	07 41 15.1	-2.3
HFS	**Hagfors**		19.02	339	P		**Pn**	07 41 15.1	-2.3
HFS	**Hagfors**		19.02	339	P		**Pn**	07 41 15.1	-2.3
NB2	**NORSAR Subarra**		20.46	337	P		**P**	07 41 30.4	-2.0
	comp=Z,2.3nm,0.9s,baz=144,slow=11								
NB2	**NORSAR Subarra**		20.46	337	P		**P**	07 41 30.4	-2.0
	comp=Z,2.3nm,0.9s,baz=144,slow=11,SNR=6.1								
NOA	**NORSAR Array B**		20.46	337	P		**P**	07 41 32.6	+0.2
	comp=Z,1.4nm,0.7s,baz=134,slow=12,SNR=5.1								
NOA	**NORSAR Array B**		20.46	337	P		**P**	07 41 32.6	+0.2
NOA	**NORSAR Array B**		20.46	337	P		**P**	07 41 32.6	+0.2
NOA					pmax	pmax			
	comp=Z,1.0nm,0.7s								
NOA	**NORSAR Array B**		20.46	337	P		**P**	07 41 32.6	+0.2
	comp=Z,1.0nm,0.7s								
AKTK	**Aktyubinsk**		22.04	60	P		**P**	07 41 49.1	-0.4
AKTK	**Aktyubinsk**		22.04	60	P		**P**	07 41 49.1	-0.4
	comp=Z,2.0nm,0.6s,mb3.7								
AKTO	**Aktyubinsk**		22.04	60	P		**P**	07 41 49.1	-0.4
	comp=Z,2.0nm,0.6s,mb3.7,baz=267,slow=14,SNR=8.1								
AKTO	**Aktyubinsk**		22.04	60	P		**P**	07 41 49.1	-0.4
AKTO					pmax	pmax			
	comp=Z,2.0nm,0.6s,mb3.7								
ABKAR	**Akbulak array**		23.18	63	*e*P		**P**	07 42 01.3	-0.3
	comp=Z,2.7nm,0.8s,mb3.7								
ABKAR	**Akbulak array**		23.18	63	*e*P		**P**	07 42 01.3	-0.2
	comp=Z,2.7nm,0.8s,mb3.7								
EKA	**Eskdalemuir Ar**		23.26	312	P		**P**	07 42 01.2	-1.2
	comp=Z,1.1nm,0.8s,mb3.3,baz=98,slow=15,SNR=2.4								
EKA	**Eskdalemuir Ar**		23.26	312	P		**P**	07 42 01.1	-1.2
EKA	**Eskdalemuir Ar**		23.26	312	P		**P**	07 42 01.2	-1.2
EKA					pmax	pmax			
	comp=Z,1.0nm,0.8s								
EKA	**Eskdalemuir Ar**		23.26	312	P		**P**	07 42 01.2	-1.2
	comp=Z,1.0nm,0.8s,mb3.3								
ARU	**Arti**		23.85	45	*d i*P		**P**	07 42 05.7	-2.4
ARU					S		**S**	07 46 23.7	0.0
ARU					SS			07 47 02.4	
ARU					pmax	pmax			
	comp=Z,7.0nm,1.2s,mb4.0								
ARU	**Arti**		23.85	45	*i* P		**P**	07 42 05.7	-2.4
	comp=Z,7.0nm,1.2s,mb4.0								
ARU					S		**S**	07 46 23.7	0.0
MDT	**Midelt**		27.17	259	LR		LR	07 54 02.7	
	comp=Z,43nm,19.9s,baz=340,slow=38								
AAK	**Ala-Archa**		34.10	74	⇑*e*P		**P**	07 43 35.5	-4.0
AAK					pmax	pmax			
	comp=Z,3.0nm,2.5s,mb3.8								
TORD	**Torodi Ar. Bea**		37.23	225	P		**P**	07 44 06.3	-0.3
	comp=Z,1.0nm,0.7s,mb3.8,baz=32,slow=9.3,SNR=9.6								
TORD	**Torodi Ar. Bea**		37.23	225	P		**P**	07 44 06.3	-0.3
TORD	**Torodi Ar. Bea**		37.23	225	P		**P**	07 44 06.3	-0.3
ZALV	**Zalesovo Beam**		38.48	53	P		**P**	07 44 16.4	-0.4
ZALV	**Zalesovo Beam**		38.48	53	P		**P**	07 44 16.4	-0.4
ZALV					pmax	pmax			
	comp=Z,1.0nm,0.3s,mb4.0								
ZALV	**Zalesovo Beam**		38.48	53	P		**P**	07 44 16.4	-0.4
	comp=Z,1.0nm,0.3s,mb4.0								
DBIC	**Dimbokro**		46.12	228	P		**P**	07 45 19.3	-0.2
	comp=Z,5.0nm,1.0s,mb4.4,baz=322,slow=5.8,SNR=3.6								
DBIC	**Dimbokro**		46.12	228	P		**P**	07 45 19.3	-0.2
DBIC	**Dimbokro**		46.12	228	P		**P**	07 45 19.3	-0.2
DBIC					pmax	pmax			
	comp=Z,5.0nm,1.0s								
DBIC	**Dimbokro**		46.12	228	P		**P**	07 45 19.3	-0.2
	comp=Z,5.0nm,1.0s,mb4.4								
SFJD	**Kangerlussuaq**		46.74	328	*i* P		**P**	07 45 27.6	+3.8

*ISCJB **05** 07:44:51.8±0.6, 41.8°S±0.1°×79.9°E±0.1°, h10km, mb4.1/9, MS3.8/7, Error ellipse: s-maj=17.7km s-min=10.9km az=137.5*

*IDC **05** 07:44:52.4±1.0, 41.7°S×79.9°E, h0km, mb4.0/8, mb1 4.1/8, mb1mx4.0/17, mbtmp4.0/8, MS3.8/7, Ms1 3.8/7, ms1mx3.5/22, Error ellipse: s-maj=35.4km s-min=19.9km az=121.0*

*NEIC **05** 07:44:53.9±0.4, 41.8°S×80.0°E±0.1, h10km, mb4.4/1, Error ellipse: s-maj=12.8km s-min=8.5km az=137.0*

ISC 05 07:44:53.9±0.6, **41.8°S**±0.1×**80.0°E**±0.1, **h10km**, **n30, σ0s70/23, mb4.1/9, MS3.8/7, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAF	**Port-aux-Franc**	**10.15**	**219**	Pn	**Pn**	**07 47 19.1**	**-0.5**
MAW	**Mawson**	**27.45**	**194**	P	**P**	**07 50 40.0**	**+0.5**
	2.2nm,0.8s,mb3.8,baz=23,slow=13,SNR=3.9						
MAW				LR	LR	07 58 56.7	
	comp=Z,143nm,21.7s,MS3.5,baz=196,slow=31						
MAW	**Mawson**	**27.45**	**194**	P	**P**	**07 50 40.0**	**+0.5**
MAW				LR	LR	07 58 56.7	
RER	**Riviere de l'E**	**29.00**	**308**	*e*P	**P**	**07 50 54.4**	**+0.6**
NWAO	**Narrogin (SRO)**	**30.73**	**85**	LR	LR	08 00 44.9	
	comp=Z,107nm,20.7s,MS3.5,baz=152,slow=31						
NWAO	**Narrogin (SRO)**	**30.73**	**85**	P	**P**	**07 51 08.7**	**-0.3**
BOSA	**Boshof**	**45.88**	**269**	LR	LR	08 08 40.1	
	comp=Z,150nm,18.2s,MS4.0,baz=146,slow=31						
ASAR	**Alice Springs**	**48.05**	**85**	P	**P**	**07 53 33.4**	**0.0**
	1.8nm,0.9s,mb4.1,baz=234,slow=6.9,SNR=16						
ASAR	**Alice Springs**	**48.05**	**85**	P	**P**	**07 53 33.4**	**0.0**
QSPA	**South Pole Qui**	**48.33**	**180**	P	**P**	**07 53 36.3**	**+1.4**
	4.9nm,1.0s,mb4.5,baz=286,slow=5.5,SNR=11						
QSPA	**South Pole Qui**	**48.33**	**180**	P	**P**	**07 53 36.3**	**+1.4**
SNAA	**Sanae**	**48.71**	**205**	P	**P**	**07 53 38.4**	**+0.6**
	0.3nm,0.6s,mb3.5,baz=125,slow=10,SNR=7.0						
SNAA	**Sanae**	**48.71**	**205**	P	**P**	**07 53 38.4**	**+0.6**
STKA	**Stephens Creek**	**49.37**	**99**	P	**P**	**07 53 43.9**	**+0.5**
	1.3nm,0.6s,mb4.2,baz=271,slow=5.3,SNR=4.3						
STKA				LR	LR	08 10 26.1	
	comp=Z,108nm,21.0s,MS3.8,baz=204,slow=31						
STKA	**Stephens Creek**	**49.37**	**99**	P	**P**	**07 53 43.9**	**+0.5**
STKA				LR	LR	08 10 26.1	
VNA2	**Neumayer--Watz**	**50.30**	**205**	*e*	**P**	**07 53 48.9**	**-1.1**
VNA2				*e*		07 53 56.1	
WRA	**Warramunga Arr**	**50.60**	**82**	P	**P**	**07 53 52.8**	**-0.2**
	3.3nm,0.9s,mb4.2,baz=232,slow=7.7,SNR=14						
WRA	**Warramunga Arr**	**50.60**	**82**	P	**P**	**07 53 52.8**	**-0.2**
WRAB	**Tennant Creek**	**50.61**	**82**	*e*P	**P**	**07 53 52.9**	**-0.1**
	4.9nm,1.1s,mb4.3						
VNA1	**Neumayer--Stat**	**50.65**	**206**	*e*	**P**	**07 53 59.3**	**+6.7**
VNA3	**Neumayer Olymp**	**50.93**	**205**	*e*	**P**	**07 53 53.8**	**-1.0**
VNA3				*e*		07 53 59.8	
CMAR	**Chiang Mai Arr**	**62.50**	**20**	P	**P**	**07 55 16.6**	**-0.9**
	1.0nm,0.3s,mb4.4,baz=212,slow=6.3,SNR=9.6						
CMAR				LR	LR	08 17 42.6	
	comp=Z,47nm,18.6s,MS3.7,baz=275,slow=32						
CMAR	**Chiang Mai Arr**	**62.50**	**20**	P	**P**	**07 55 16.6**	**-0.9**
CMAR				LR	LR	08 17 42.5	
MKAR	**Makanchi Array**	**88.26**	**2**	P	**P**	**07 57 45.4**	**+0.6**
	0.3nm,0.7s,mb3.6,baz=188,slow=8.0,SNR=3.1						
MKAR	**Makanchi Array**	**88.26**	**2**	P	**P**	**07 57 45.4**	**+0.6**
TORD	**Torodi Ar. Bea**	**90.12**	**287**	LR	LR	08 35 13.0	
	comp=Z,78nm,18.1s,MS4.2,baz=65,slow=34						
DBIC	**Dimbokro**	**90.55**	**278**	LR	LR	08 38 56.9	
	comp=Z,61nm,18.2s,MS4.1,baz=312,slow=36						
ILAR	**Eielson Array**	**145.02**	**33**	PKP	PKPdf	08 04 29.2	-0.9
	0.5nm,0.9s,baz=276,slow=3.4,SNR=4.2						
ILAR	**Eielson Array**	**145.02**	**33**	PKP	PKPdf	08 04 29.2	-0.9
PDAR	**Pinedale Array**	**172.88**	**79**	PKPab	PKPab	08 06 30.9	+1.5
	0.5nm,0.9s,baz=232,slow=4.4,SNR=2.4						

*ISCJB **05** 07:46:13.5±1.3, 33.3°N±0.05×35.2°E±0.0°, h5km±6km, Error ellipse: s-maj=10.2km s-min=6.4km az=140.9*

*CSEM **05** 07:46:13.4±0.3, 33.3°N×35.4°E, h5km, ML3.2, Error ellipse: s-maj=5.5km s-min=3.6km az=55.0*

*GRAL **05** 07:46:14.0±0.3, 33.2°N×35.4°E, h0km±4km, MD3.2*

*NSSC **05** 07:46:15, 33.3°N×35.5°E, h12km±2km*

ISC 05 07:46:13.1±1.4, **33.2°N**±0.05×**35.3°E**±0.0°, **h2**km±9km, **n18, σ0s46/32, 8D, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATL	**Matarih**	**0.17**	**345**	*e*P	**Pg**	**07 46 17.4**	**+0.9**
MATL	**Matarih**	**0.17**	**345**	*e*P	**Pg**	**07 46 17.4**	**+0.9**
RCY	**Rachaya**	**0.40**	**66**	*e*P	**Pg**	**07 46 21.1**	**+0.3**
RCY				*e*S	**Sg**	**07 46 26.2**	**+0.2**
RCY	**Rachaya**	**0.40**	**66**	*e*P	**Pg**	**07 46 21.1**	**+0.3**
RCY				*e*S	**Sg**	**07 46 26.2**	**+0.2**
BRBR	**Barbar**	**0.48**	**79**	⇑P	**Pg**	**07 46 22.0**	**-0.4**
BRBR				⇓S	**Sg**	**07 46 29.0**	**+0.3**
BRBR	**Barbar**	**0.48**	**79**	⇑*i*P	**Pg**	**07 46 22.7**	**+0.3**
BRBR				⇓*i*S	**Sg**	**07 46 29.1**	**+0.4**
BHL	**Bhannes**	**0.62**	**21**	*e*P	**Pg**	**07 46 25.0**	**-0.1**
BHL				*e*S	**Sg**	**07 46 33.3**	**0.0**
BHL	**Bhannes**	**0.62**	**21**	*e*P	**Pg**	**07 46 25.0**	**-0.1**
BHL				*e*S	**Sg**	**07 46 33.3**	**+0.1**
QASN	**Qassioun**	**0.78**	**74**	⇑P	**Pg**	**07 46 28.0**	**0.0**
QASN				⇓S	**Sg**	**07 46 38.0**	**-0.1**
QASN	**Qassioun**	**0.78**	**74**	⇑*i*P	**Pg**	**07 46 28.7**	**+0.7**
QASN				⇓*i*S	**Sg**	**07 46 38.4**	**+0.3**
HWQ	**Hawqa**	**1.06**	**26**	*e*P	**Pg**	**07 46 33.0**	**-0.6**
HWQ				*e*S	**Sg**	**07 46 46.9**	**-0.5**
HWQ	**Hawqa**	**1.06**	**26**	*e*P	**Pg**	**07 46 33.0**	**-0.5**
HWQ				*e*S	**Sg**	**07 46 46.9**	**-0.5**
FKH	**Fakeheh**	**1.25**	**43**	*e*P	**Pg**	**07 46 36.3**	**-0.8**
FKH	**Fakeheh**	**1.25**	**43**	*e*P	**Pg**	**07 46 36.3**	**-0.7**
SALA	**Sala**	**1.29**	**118**	⇑P	**Pg**	**07 46 37.0**	**-0.8**
SALA				⇓S	**Sg**	**07 46 54.0**	**-0.4**
SALA	**Sala**	**1.29**	**118**	⇑*i*P	**Pg**	**07 46 37.3**	**-0.5**
SALA				⇓*i*S	**Sg**	**07 46 55.0**	**+0.6**
BIDA	**Albida**	**1.86**	**24**	⇑P	**Pn**	**07 46 46.0**	**0.0**
BIDA				⇓S	**Sn**	**07 47 10.0**	**-0.1**
BIDA	**Albida**	**1.86**	**24**	⇑*i*P	**Pn**	**07 46 46.2**	**+0.2**
BIDA				⇓*i*S	**Sn**	**07 47 10.4**	**+0.3**

IDC 05 08:05:49.4±20.0, **36.52S**×**103.95W**, **h0**km, **mb4.0**/3, **mb1 4.5**/3, **mb1mx3.9**/15, **mbtmp4.0**/3, **MS3.3**/1, **Ms1 3.4**/1, **ms1mx3.0**/13, **Error ellipse: s-maj=608.5km s-min=287.9km az=137.0, Southeast of Easter Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**37.58**	**67**	LR	LR	08 23 51.1	
	comp=Z,37nm,18.8s,baz=85,slow=29						
VNA3	**Neumayer Olymp**	**57.24**	**157**	*e*	P	08 15 55.7	+18
VNA3				*e*		08 16 01.8	
VNA2	**Neumayer--Watz**	**58.04**	**157**	*e*	P	08 16 01.3	+18
	baz=241,slow=6.8						
VNA2				*e*		08 16 07.1	
TXAR	**Lajitas Array**	**65.50**	**0**	P	P	08 16 34.3	0.0
	0.5nm,0.7s,baz=193,slow=8.2,SNR=6.6						
NVAR	**Mina Array Bea**	**75.75**	**348**	P	P	08 17 37.3	+0.7
	1.3nm,0.6s,baz=181,slow=8.3,SNR=5.8						
PDAR	**Pinedale Array**	**79.07**	**356**	P	P	08 17 55.4	+0.3
	2.1nm,0.8s,baz=161,slow=6.4,SNR=17						

IDC 05 08:18:01.7±8.0, **20.44N**×**145.61E**, **h0**km, **mb3.7**/3, **mb1 4.0**/3, **mb1mx3.6**/22, **mbtmp3.7**/3, **MS2.7**/1, **Ms1 2.7**/1, **ms1mx1.8**/36, **Error ellipse: s-maj=302.4km s-min=27.9km az=77.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**22.89**	**322**	LR	LR	08 30 33.9	
	comp=Z,18nm,19.6s,baz=175,slow=33						
WRA	**Warramunga Arr**	**41.62**	**196**	P	P	08 25 52.0	+0.2
	1.7nm,0.5s,baz=18,slow=8.9,SNR=48						
SONM	**Songino Array**	**41.75**	**320**	P	P	08 25 52.7	+0.1
	0.3nm,0.5s,baz=131,slow=5.9,SNR=2.8						
ASAR	**Alice Springs**	**45.30**	**195**	P	P	08 26 21.1	-0.3
	0.6nm,0.5s,baz=18,slow=7.4,SNR=15						

*IDC **05** 08:21:07.5±0.6, 30.36°N×67.55°E, h0km, mb4.3/20, mb1 4.5/22, mb1mx4.4/31, mbtmp4.4/22, ML4.0/1, MS3.9/14, Ms1 3.9/14, ms1mx3.6/39, Error ellipse: s-maj=16.1km s-min=14.3km az=27.0*

*ISCJB **05** 08:21:08.3±1.5, 30.4°N±0.0°×67.70E±0.0°, h15km±10km, mb4.6/52,

KKN	**Kakani**	**15.57**	**95**	*e*P		**Pn**	**08 24 49.1**	**-0.1**		
	comp=E,68nm,0.7s									
KKN	**Kakani**	**15.57**	**95**	*e*P		**Pn**	**08 24 49.1**	**-0.1**		
KKN				pmax	pmax					
	comp=Z,68nm,0.7s									
PKIN	**Phulchoki**	**15.72**	**96**	*e*P		**Pn**	**08 24 50.5**	**-0.7**		
	comp=Z,50nm,0.6s									
PKI	**Pulchoki**	**15.73**	**96**	*e*P		**Pn**	**08 24 50.9**	**-0.5**		
	comp=Z,64nm,0.6s									
PKI	**Pulchoki**	**15.73**	**96**	*e*P		**Pn**	**08 24 50.9**	**-0.5**		
PKI				pmax	pmax					
	comp=Z,64nm,0.6s									
GUN	**Gumba**	**16.06**	**94**	*e*P		**Pn**	**08 24 55.1**	**-0.5**		
	comp=Z,237nm,0.6s									
GUN	**Gumba**	**16.06**	**94**	*e*P		**Pn**	**08 24 55.1**	**-0.5**		
	comp=Z,237nm,0.6s									
HYB	**Hyderabad**	**16.26**	**140**	*i* P		**Pn**	**08 25 02.5**	**+4.3**		
HYB				*e*S		**Sn**	**08 27 53.0**	**-5.0**		
ODAN	**Odare**	**17.62**	**97**	*e*P		**Pn**	**08 25 16.4**	**+1.1**		
	comp=Z,207nm,0.8s									
ODAN	**Odare**	**17.62**	**97**	*e*P		**Pn**	**08 25 16.4**	**+1.1**		
	comp=Z,207nm,0.8s									
TAPN	**Taplejung**	**17.77**	**95**	*e*P		**Pn**	**08 25 17.9**	**+0.8**		
TAPN	**Taplejung**	**17.77**	**95**	*e*P		**Pn**	**08 25 17.9**	**+0.8**		
AB31	**Akbulak array**	**19.75**	**345**	*i* P		**Pn**	**08 25 39.3**	**-1.6**		
AB31				pmax	pmax					
	comp=Z,9.0nm,0.6s									
ABKAR	**Akbulak array**	**19.75**	**345**	*e*Pn		**Pn**	**08 25 39.7**	**-1.2**		
MK31	**Makanchi Array**	**19.90**	**31**	*e*P		**Pn**	**08 25 40.5**	**-2.2**		
MK31	**Makanchi Array**	**19.90**	**31**	*i* P		**Pn**	**08 25 40.5**	**-2.2**		
MK31				pmax	pmax					
	comp=Z,10.0nm,0.6s									
MKAR	**Makanchi Array**	**19.90**	**31**	P		**Pn**	**08 25 40.7**	**-2.0**		
	comp=Z,1.2nm,0.3s,baz=208,slow=10,SNR=47									
MKAR				LR	LR		08 34 15.5			
	comp=Z,438nm,19.1s,baz=216,slow=39									
MKAR	**Makanchi Array**	**19.90**	**31**	P		**Pn**	**08 25 40.7**	**-2.0**		
MKAR				LR	LR		08 34 15.5			
MKAR	**Makanchi Array**	**19.90**	**31**	P		**Pn**	**08 25 40.7**	**-2.0**		
LSA	**Lhasa**	**20.29**	**86**	P		**P**	**08 25 48.5**	**+3.0**		
LSA	**Lhasa**	**20.29**	**86**	*e*Pn		**P**	**08 25 49.2**	**+3.7**		
	comp=Z,32nm,0.9s									
LSA	**Lhasa**	**20.29**	**86**	*e*P		**P**	**08 25 49.2**	**+3.7**		
LSA				pmax	pmax					
	comp=Z,32nm,0.9s									
WMQ	**Urumqi**	**20.76**	**44**	P		**P**	**08 25 53.8**	**+3.5**		
WMQ				pP			08 26 03.5			
WMQ				pmax	pmax					
	comp=Z,44nm,1.6s									
WMQ				pmax	pmax					
	comp=Z,630nm,5.0s									
WMQ				LR	LR					
	comp=N,500nm,7.6s									
WMQ				LR	LR					
	comp=E,380nm,8.3s									
WMQ				LR	LR					
	comp=Z,250nm,17.0s,MS3.6									
GNI	**Garni**	**21.09**	**304**	*de*P		**P**	**08 25 55.0**	**+1.0**		
GNI				pmax	pmax					
	comp=Z,25nm,1.7s									
AKTK	**Aktyubinsk**	**21.31**	**343**	P		**P**	**08 25 56.1**	**-0.2**		
AKTK				LR	LR		08 35 28.8			
AKTO	**Aktyubinsk**	**21.31**	**343**	P		**P**	**08 25 56.1**	**-0.2**		
	comp=Z,7.2nm,0.7s,mb4.1,baz=156,slow=10,SNR=30									
AKTO				LR	LR		08 35 28.8			
	comp=Z,251nm,20.6s,MS3.6,baz=259,slow=40									
AKTO	**Aktyubinsk**	**21.31**	**343**	P		**P**	**08 25 56.1**	**-0.2**		
KURK	**Kurchatov**	**21.89**	**19**	P		**P**	**08 26 00.6**	**-1.8**		
	comp=Z,17nm,0.7s,mb4.6,baz=211,slow=9.7,SNR=34									
KURK	**Kurchatov**	**21.89**	**19**	*e*P		**P**	**08 26 01.3**	**-1.2**		
	comp=Z,37nm,1.0s,mb4.8									
KURK	**Kurchatov**	**21.89**	**19**	*e*P		**P**	**08 26 01.3**	**-1.1**		
KURK				pmax	pmax					
	comp=Z,37nm,1.0s,mb4.8									
ZEI	**Tsey**	**22.69**	**310**	*e*P		**P**	**08 26 15.1**	**+4.0**		
ZEI				pmax	pmax					
	comp=Z,9.0nm,0.8s,mb4.2									
BVA0	**Borovoye Array**	**22.71**	**4**	P		**P**	**08 26 10.6**	**-0.5**		
BVA0				pmax	pmax					
	comp=Z,12nm,1.9s,mb4.0									
BVAR	**Borovoye Array**	**22.71**	**4**	P		**P**	**08 26 11.4**	**+0.2**		
	comp=Z,6.2nm,0.7s,mb4.1,baz=163,slow=11,SNR=21									
BVAR				LR	LR		08 36 36.1			
	comp=Z,620nm,18.6s,MS4.1,baz=236,slow=41									
BVAR	**Borovoye Array**	**22.71**	**4**	P		**P**	**08 26 11.4**	**+0.2**		
BVAR				LR	LR		08 36 36.1			
BVAR	**Borovoye Array**	**22.71**	**4**	P		**P**	**08 26 11.4**	**+0.3**		
BRVK	**Borovoye**	**22.73**	**4**	*e*P		**P**	**08 26 10.6**	**-0.8**		
	comp=Z,23nm,0.8s,mb4.7									
BRVK	**Borovoye**	**22.73**	**4**	*c i*P		**P**	**08 26 11.3**	**-0.1**		
BRVK				pmax	pmax					
	comp=Z,33nm,1.5s,mb4.5									
BRVK	**Borovoye**	**22.73**	**4**	P		**P**	**08 26 11.8**	**+0.4**		
	SNR=12									
KIV	**Kislovodsk**	**24.00**	**311**	*e*P		**P**	**08 26 25.7**	**+1.6**		
KIV				pmax	pmax					
	comp=Z,11nm,0.9s,mb4.3									
KIV				MLR	MLR					
	comp=Z,44nm,14.0s,MS3.1									
GOF	**Gofitskoye**	**24.28**	**314**	*e*P		**P**	**08 26 28.0**	**+1.3**		
ASF	**Jabal al Asfar**	**26.36**	**282**	LR		LR	08 38 40.0			
	comp=Z,81nm,18.8s,MS3.3,baz=334,slow=40									
ZAA0	**Zalesovo Array**	**26.60**	**23**	*e*P		**P**	**08 26 48.2**	**+0.6**		
ZALV	**Zalesovo Beam**	**26.60**	**23**	P		**P**	**08 26 47.9**	**+0.2**		
	comp=Z,11nm,0.5s,mb4.6,baz=230,slow=11,SNR=44									
ZALV	**Zalesovo Beam**	**26.60**	**23**	P		**P**	**08 26 47.9**	**+0.2**		
ZALV	**Zalesovo Beam**	**26.60**	**23**	P		**P**	**08 26 47.9**	**+0.3**		
ARU	**Arti**	**26.82**	**349**	*e*P		**P**	**08 26 50.2**	**+0.6**		
	comp=Z,34nm,1.5s,mb4.7									
ARU	**Arti**	**26.82**	**349**	*d i*P		**P**	**08 26 49.6**	**0.0**		
ARU				*e*			08 27 27.8			
ARU				S		**S**	**08 31 27.6**	**+3.0**		
ARU				pmax	pmax					
	comp=Z,12nm,1.7s,mb4.2									
NVS	**Novosibirsk**	**26.85**	**20**	*e*P		**P**	**08 26 51.4**	**+1.5**		
GTA	**Gaotai**	**27.70**	**62**	*e*P		**P**	**08 27 03.6**	**+5.9**		
GTA				pP		pP	08 27 08.0	+4.0		
GTA				sP		sP	08 27 11.0	+4.5		
GTA				pmax	pmax					
	comp=Z,9.0nm,1.5s,mb4.2									
ATD	**Arta Tunnel**	**29.74**	**236**	LR		LR	08 40 22.1			
	comp=Z,101nm,20.2s,MS3.4,baz=125,slow=39									
CHTO	**Chiang Mai**	**30.54**	**105**	*e*P		**P**	**08 27 24.1**	**+1.0**		
	comp=Z,12nm,0.9s,mb4.7									
CHTO	**Chiang Mai**	**30.54**	**105**	*e*P		**P**	**08 27 24.1**	**+1.0**		
CHTO				pmax	pmax					
	comp=Z,12nm,0.9s,mb4.7									
CHTO	**Chiang Mai**	**30.54**	**105**	P		**P**	**08 27 24.8**	**+1.7**		
	SNR=6.4									
CM31	**Chiang Mai Arr**	**30.71**	**106**	P		**P**	**08 27 25.2**	**+0.6**		
CMAR	**Chiang Mai Arr**	**30.71**	**106**	P		**P**	**08 27 26.3**	**+1.7**		
	comp=Z,3.4nm,0.8s,mb4.3,baz=301,slow=8.0,SNR=15									
CMAR	**Chiang Mai Arr**	**30.71**	**106**	P		**P**	**08 27 26.3**	**+1.7**		
CMAR	**Chiang Mai Arr**	**30.71**	**106**	P		**P**	**08 27 26.3**	**+1.7**		
MOS	**Moscow**	**33.08**	**329**	*e*P		**P**	**08 27 45.7**	**+0.6**		
OBN	**Obninsk**	**33.20**	**327**	*e*P		**P**	**08 27 46.2**	**+0.1**		
OBN				*i*			08 27 56.8			
OBN				*e*			08 28 56.0			
OBN				pmax	pmax					
	comp=Z,34nm,1.4s,mb5.1									
OBN				MLR	MLR					
	comp=Z,100nm,14.0s,MS3.7									
SONM	**Songino Array**	**34.27**	**48**	P		**P**	**08 27 57.0**	**+1.5**		
	comp=Z,0.6nm,0.4s,mb3.9,baz=250,slow=9.1,SNR=6.3									
SONM				LR	LR		08 44 10.6			
	comp=Z,329nm,18.2s,MS4.1,baz=15,slow=40									
SONM	**Songino Array**	**34.27**	**48**	P		**P**	**08 27 57.0**	**+1.5**		
SONM				LR	LR		08 44 10.6			
SONM	**Songino Array**	**34.27**	**48**	P		**P**	**08 27 57.0**	**+1.5**		
AKASG	**Malin Array Be**	**35.07**	**316**	P		**P**	**08 28 00.8**	**-1.5**		
	comp=Z,3.4nm,0.7s,mb4.4,baz=102,slow=7.4,SNR=8.0									
AKASG	**Malin Array Be**	**35.07**	**316**	P		**P**	**08 28 00.8**	**-1.5**		
AKASG	**Malin Array Be**	**35.07**	**316**	P		**P**	**08 28 00.8**	**-1.5**		
KIEV	**Kiev**	**35.07**	**316**	*e*P		**P**	**08 28 01.6**	**-0.8**		
	comp=Z,92nm,2.6s,mb5.2									
KIEV	**Kiev**	**35.07**	**316**	*e*P		**P**	**08 28 01.6**	**-0.8**		
KIEV				pmax	pmax					
	comp=Z,92nm,2.6s,mb5.2									
ENH	**Enshi**	**35.90**	**79**	*e*P		**P**	**08 28 09.9**	**+0.1**		
	comp=Z,9.5nm,0.5s,mb5.0									
BUR08	**Bucovina Ar. S**	**36.73**	**310**	*e*P		**P**	**08 28 16.8**	**+0.1**		
UZH	**Uzhgorod**	**38.84**	**311**	*e*P		**P**	**08 28 35.0**	**+0.6**		
UZH				*e*			08 28 45.7			
UZH				*i*			08 28 52.0			
VSU	**Vasula**	**39.55**	**327**	⇓*e*P		**P**	**08 28 38.1**	**-2.2**		
VSU				pmax	pmax					
	comp=Z,9.0nm,0.7s,mb4.6									
PSZ	**Piszkesteto**	**40.30**	**310**	*e*P		**P**	**08 28 46.2**	**-0.4**		
	comp=Z,9.6nm,0.8s,mb4.6									
PSZ	**Piszkesteto**	**40.30**	**310**	*e*P		**P**	**08 28 46.3**	**-0.3**		
PSZ				pmax	pmax					
	comp=Z,10.0nm,0.8s,mb4.6									
FINES	**FINESS Array B**	**41.27**	**331**	P		**P**	**08 28 53.8**	**-0.6**		
	comp=Z,3.7nm,0.7s,mb4.1,baz=115,slow=8.6,SNR=3.4									
FINES				LR	LR		08 49 37.4			
	comp=Z,249nm,19.1s,MS4.1,baz=168,slow=42									
FINES	**FINESS Array B**	**41.27**	**331**	P		**P**	**08 28 53.8**	**-0.6**		
FINES				LR	LR		08 49 37.4			
FINES	**FINESS Array B**	**41.27**	**331**	P		**P**	**08 28 53.8**	**-0.6**		
BOD	**Bodaibo**	**41.87**	**35**	*e*P		**P**	**08 29 00.0**	**+0.6**		
BOD				pmax	pmax					
	comp=Z,10.0nm,1.6s,mb4.2									
KMBO	**Kilima Mbogo**	**42.71**	**228**	LR		LR	08 48 02.4			
	comp=Z,39nm,18.1s,MS3.3,baz=91,slow=38									
KMBO	**Kilima Mbogo**	**42.71**	**228**	*e*P		**P**	**08 29 08.0**	**+1.3**		
	comp=Z,7.3nm,1.3s,mb4.2									
KMBO	**Kilima Mbogo**	**42.71**	**228**	*e*P		**P**	**08 29 08.0**	**+1.3**		
KMBO				pmax	pmax					
	comp=Z,7.0nm,1.3s									
DPC	**Dobruska-Polom**	**42.96**	**313**	*e*P		**P**	**08 29 10.7**	**+2.3**		
	comp=Z,29nm,1.6s,mb4.8									
DPC	**Dobruska-Polom**	**42.96**	**313**	*e*P		**P**	**08 29 10.7**	**+2.3**		
DPC				pmax	pmax					
	comp=Z,29nm,1.6s,mb4.8									
DPC	**Dobruska-Polom**	**42.96**	**313**	*e*P		**P**	**08 29 10.6**	**+2.2**		
UPC	**Upice**	**43.18**	**313**	*e*P		**P**	**08 29 12.9**	**+2.8**		
UPC	**Upice**	**43.18**	**313**	*e*P		**P**	**08 29 12.9**	**+2.8**		
GERES	**GERESS Array B**	**44.50**	**310**	P		**P**	**08 29 20.5**	**-0.3**		
	comp=Z,1.1nm,0.5s,mb3.9,baz=102,slow=11,SNR=8.8									
GERES	**GERESS Array B**	**44.50**	**310**	P		**P**	**08 29 20.6**	**-0.3**		
GERES	**GERESS Array B**	**44.50**	**310**	P		**P**	**08 29 20.6**	**-0.2**		
BRG	**Berggiesshubel**	**44.53**	**313**	*e*P		**P**	**08 29 24.5**	**+3.5**		
BRG				pmax	pmax					
	comp=Z,5.0nm,1.0s,mb4.3									
KHC	**Kasperske Hory**	**44.60**	**311**	*e*P		**P**	**08 29 27.6**	**+6.0**		
KHC	**Kasperske Hory**	**44.60**	**311**	*e*pP		pP	08 29 27.6	-0.4		
KBA	**Koelnbreinsper**	**44.65**	**308**	⇑*i*P		**P**	**08 29 21.5**	**-0.6**		
	comp=Z,18nm,1.6s,mb4.7									
ARCES	**ARCESS Array B**	**45.88**	**341**	P		**P**	**08 29 31.0**	**-0.4**		
	comp=Z,6.6nm,0.8s,mb4.6,baz=126,slow=6.6,SNR=18									
ARCES				LR	LR		08 50 44.2			
	comp=Z,190nm,18.7s,MS4.1,baz=352,slow=39									
ARCES	**ARCESS Array B**	**45.88**	**341**	P		**P**	**08 29 31.0**	**-0.4**		
ARCES				LR	LR		08 50 44.1			
ARCES	**ARCESS Array B**	**45.88**	**341**	P		**P**	**08 29 31.0**	**-0.4**		
GRFO	**Grafenberg**	**46.18**	**311**	*e*P		**P**	**08 29 33.8**	**-0.3**		
	comp=Z,18nm,1.3s,mb4.8									
GRFO	**Grafenberg**	**46.18**	**311**	*e*P		**P**	**08 29 33.8**	**-0.3**		
GRFO				pmax	pmax					
	comp=Z,18nm,1.3s,mb4.8									
FETA	**Feichten**	**46.44**	**308**	⇑*i*P		**P**	**08 29 32.7**	**-3.5**		
	comp=Z,10nm,1.0s,mb4.7									
NB2	**NORSAR Subarra**	**47.80**	**327**	P		**P**	**08 29 45.2**	**-1.4**		
	comp=Z,3.9nm,0.9s,mb4.4,baz=105,slow=7.9									
NOA	**NORSAR Array B**	**47.80**	**327**	P		**P**	**08 29 45.1**	**-1.5**		
	comp=Z,2.7nm,0.8s,mb4.3,baz=105,slow=7.8,SNR=8.4									
NOA				LR	LR		08 54 47.5			
	comp=Z,65nm,18.3s,MS3.6,baz=300,slow=42									
NOA	**NORSAR Array B**	**47.80**	**327**	P		**P**	**08 29 45.1**	**-1.5**		
NOA				LR	LR		08 54 47.5			
NOA	**NORSAR Array B**	**47.80**	**327**	P		**P**	**08 29 45.1**	**-1.5**		
SBF	**Sospel**	**48.90**	**304**	*e*P		**P**	**08 29 54.7**	**-0.7**		
	comp=Z,106nm,1.0s,mb5.5									
SBF	**Sospel**	**48.90**	**304**	*e*P		**P**	**08 29 54.7**	**-0.7**		
	comp=Z,53nm,1.0s,mb5.5									
SBF	**Sospel**	**48.90**	**304**	*e*P		**P**	**08 29 54.7**	**-0.7**		
SBF				pmax	pmax					
	comp=Z,53nm,1.0s,mb5.5									
LPG	**La Plagne**	**49.26**	**306**	*e*P		**P**	**08 29 58.0**	**0.0**		
LPG	**La Plagne**	**49.26**	**306**	*e*P		**P**	**08 29 58.0**	**0.0**		
LPG	**La Plagne**	**49.26**	**306**	*e*P		**P**	**08 29 58.0**	**0.0**		
LPL	**La Plagne**	**49.27**	**306**	*e*P		**P**	**08 29 57.6**	**-0.5**		
	comp=Z,24nm,0.9s,mb4.9									
LPL	**La Plagne**	**49.27**	**306**	*e*P		**P**	**08 29 57.6**	**-0.5**		
	comp=Z,12nm,0.9s,mb4.9									
LPL	**La Plagne**	**49.27**	**306**	*e*P		**P**	**08 29 57.6**	**-0.5**		
LPL				pmax	pmax					
	comp=Z,12nm,0.9s,mb4.9									
MBDF	**Montbardon**	**49.30**	**305**	*e*P		**P**	**08 29 57.8**	**-0.6**		
	comp=Z,22nm,1.0s,mb4.8									
MBDF	**Montbardon**	**49.30**	**305**	*e*P		**P**	**08 29 57.8**	**-0.6**		
	comp=Z,11nm,1.0s,mb4.8									
MBDF	**Montbardon**	**49.30**	**305**	*e*P		**P**	**08 29 57.8**	**-0.6**		
MBDF				pmax	pmax					
	comp=Z,11nm,1.0s,mb4.8									
CABF	**La Chapelle**	**49.64**	**307**	*e*P		**P**	**08 30 00.3**	**-0.6**		
CABF	**La Chapelle**	**49.64**	**307**	*e*P		**P**	**08 30 00.3**	**-0.6**		
CABF	**La Chapelle**	**49.64**	**307**	*e*P		**P**	**08 30 00.3**	**-0.6**		
KSRS	**Korea Array**	**49.72**	**65**	P		**P**	**08 30 02.5**	**+0.8**		
	comp=Z,0.6nm,0.3s,mb4.1,baz=265,slow=7.0,SNR=2.7									
KSRS				LR	LR		08 55 22.3			
	comp=Z,70nm,19.0s,MS3.7,baz=310,slow=41									
KSRS	**Korea Array**	**49.72**	**65**	P		**P**	**08 30 02.5**	**+0.8**		
KSRS				pmax	pmax					
	comp=Z,1.0nm,0.3s,mb4.3									
KSRS				MLR	MLR					
	comp=Z,71nm,19.0s,MS3.7									
PAGF	**Fort de Pagny**	**49.78**	**310**	*e*P		**P**	**08 30 01.8**	**-0.2**		
SFTF	**Sexfontaines**	**50.26**	**309**	*e*P		**P**	**08 30 05.4**	**-0.2**		
	comp=Z,20nm,0.7s,mb4.9									
SFTF	**Sexfontaines**	**50.26**	**309**	*e*P		**P**	**08 30 05.4**	**-0.2**		
	comp=Z,20nm,0.7s,mb5.3									
YAK	**Yakutsk**	**50.56**	**33**	*e*P		**P**	**08 30 07.2**	**-0.4**		
YAK				pmax	pmax					
	comp=Z,30nm,1.1s,mb5.1									
YAK				pmax	pmax					
	comp=E,15nm,1.1s									
VIVF	**Saint-Julien-l**	**50.78**	**305**	*e*P		**P**	**08 30 09.3**	**-0.3**		
VIVF	**Saint-Julien-l**	**50.78**	**305**	*e*P		**P**	**08 30 09.3**	**-0.3**		
VIVF	**Saint-Julien-l**	**50.78**	**305**	*e*P		**P**	**08 30 09.3**	**-0.3**		
SMF	**Signal de Mont**	**51.18**	**307**	*e*P		**P**	**08 30 13.0**	**+0.4**		
SMF	**Signal de Mont**	**51.18**	**307**	*e*P		**P**	**08 30 13.0**	**+0.4**		
SMF	**Signal de Mont**	**51.18**	**307**	*e*P		**P**	**08 30 13.0**	**+0.4**		
SSF	**Saint Saulge**	**51.37**	**308**	*e*P		**P**	**08 30 13.7**	**-0.3**		
SSF	**Saint Saulge**	**51.37**	**308**	*e*P		**P**	**08 30 13.7**	**-0.3**		
SSF	**Saint Saulge**	**51.37**	**308**	*e*P		**P**	**08 30 13.7**	**-0.3**		
AVF	**Avril sur Loir**	**51.50**	**308**	*e*P		**P**	**08 30 14.7**	**-0.3**		
AVF	**Avril sur Loir**	**51.50**	**308**	*e*P		**P**	**08 30 14.7**	**-0.3**		
AVF	**Avril sur Loir**	**51.50**	**308**	*e*P		**P**	**08 30 14.7**	**-0.3**		
VLA	**Vladivostok**	**51.80**	**57**	⇑*e*P		**P**	**08 30 16.8**	**-0.5**		
VLA				pmax	pmax					
	comp=Z,33nm,1.2s,mb5.1									
CAF	**Calviac**	**52.61**	**305**	*e*P		**P**	**08 30 22.4**	**-0.9**		
CAF	**Calviac**	**52.61**	**305**	*e*P		**P**	**08 30 22.4**	**-0.9**		
CAF	**Calviac**	**52.61**	**305**	*e*P		**P**	**08 30 22.4**	**-0.9**		
JNU	**Nakatsue**	**53.05**	**70**	*e*P		**P**	**08 30 31.6**	**+4.9**		
	comp=Z,6.5nm,1.1s,mb4.5									
ETSF	**Etsaut**	**54.81**	**303**	*e*P		**P**	**08 30 39.6**	**+0.2**		
	comp=Z,13nm,0.7s,mb4.8									
ETSF	**Etsaut**	**54.81**	**303**	*e*P		**P**	**08 30 39.6**	**+0.2**		
	comp=Z,6.7nm,0.7s,mb4.8									
ETSF	**Etsaut**	**54.81**	**303**	*e*P		**P**	**08 30 39.6**	**+0.2**		
ETSF				pmax	pmax					
	comp=Z,7.0nm,0.7s,mb4.8									
MJAR	**Matsushiro Arr**	**57.94**	**64**	P		**P**	**08 31 03.2**	**+1.3**		
	comp=Z,2.5nm,0.9s,mb4.3,baz=277,slow=12,SNR=6.8									
MJAR	**Matsushiro Arr**	**57.94**	**64**	P		**P**	**08 31 03.2**	**+1.3**		
MJAR	**Matsushiro Arr**	**57.94**	**64**	P		**P**	**08 31 03.2**	**+1.3**		
ESDC	**Sonseca Array**	**58.02**	**300**	P		**P**	**08 31 02.5**	**+0.1**		
	comp=Z,0.9nm,0.5s,mb4.0,baz=63,slow=7.1,SNR=7.5									
ESDC	**Sonseca Array**	**58.02**	**300**	P		**P**	**08 31 02.5**	**+0.1**		
SEY	**Seymchan**	**61.03**	**31**	⇑*e*P		**P**	**08 31 22.9**	**+0.1**		
EVO	**Evora**	**61.36**	**300**	*e*P		**P**	**08 31 25.9**	**+0.5**		
	comp=Z,34nm,1.2s,mb5.0									
EVOP	**Sao Brissos**	**61.45**	**300**	*e*P		**P**	**08 31 25.9**	**-0.1**		
	comp=Z,34nm,1.2s,mb5.3									
EVOP	**Sao Brissos**	**61.45**	**300**	*e*P		**P**	**08 31 25.9**	**-0.1**		
EVOP				pmax	pmax					
	comp=Z,34nm,1.2s,mb5.3									
TORD	**Torodi Ar. Bea**	**62.88**	**270**	P		**P**	**08 31 33.9**	**-2.0**		
	comp=Z,6.4nm,0.8s,mb4.8,baz=60,slow=5.1,SNR=48									
TORD				LR	LR		09 02 51.9			
	comp=Z,79nm,18.4s,MS3.9,baz=60,slow=40									
TORD	**Torodi Ar. Bea**	**62.88**	**270**	P		**P**	**08 31 33.9**	**-2.0**		
TORD				LR	LR		09 02 51.9			
BILL	**Bilibino**	**65.29**	**24**	⇑*i*P		**P**	**08 31 51.2**	**+0.3**		
BILL				*e*			08 32 04.5			
BILL				*e*			08 32 25.2			
BILL				pmax	pmax					
	comp=Z,18nm,1.4s,mb4.9									
BOSA	**Boshof**	**71.29**	**219**	P		**P**	**08 32 27.9**	**-1.0**		
	comp=Z,1.8nm,0.6s,mb4.2,baz=25,slow=13,SNR=4.1									
BOSA	**Boshof**	**71.29**	**219**	P		**P**	**08 32 27.9**	**-1.0**		
BOSA	**Boshof**	**71.29**	**219**	P		**P**	**08 32 28.0**	**-1.0**		
FITZ	**Fitzroy Crossi**	**73.67**	**123**	LR		LR	09 05 59.3			
	comp=Z,80nm,18.9s,MS4.0,baz=187,slow=36									
INK	**Inuvik**	**80.34**	**8**	*e*P		**P**	**08 33 20.6**	**+0.4**		
	comp=Z,16nm,1.1s,mb4.9									
INK	**Inuvik**	**80.34**	**8**	*e*P		**P**	**08 33 20.6**	**+0.4**		
INK				pmax	pmax					
	comp=Z,17nm,1.1s									
WRA	**Warramunga Arr**	**81.26**	**119**	P		**P**	**08 33 26.2**	**+0.4**		
	comp=Z,2.6nm,0.7s,mb4.3,baz=320,slow=4.9,SNR=30									
WRA	**Warramunga Arr**	**81.26**	**119**	P		**P**	**08 33 26.2**	**+0.3**		
WRA	**Warramunga Arr**	**81.26**	**119**	P		**P**	**08 33 26.2**	**+0.4**		
ILAR	**Eielson Array**	**81.38**	**14**	P		**P**	**08 33 25.7**	**-0.1**		
	comp=Z,3.0nm,1.1s,mb4.1,baz=338,slow=2.3,SNR=14									
ILAR	**Eielson Array**	**81.38**	**14**	P		**P**	**08 33 25.7**	**-0.1**		
ILAR	**Eielson Array**	**81.38**	**14**	P		**P**	**08 33 25.7**	**-0.1**		
ASAR	**Alice Springs**	**83.16**	**122**	P		**P**	**08 33 35.9**	**+0.1**		
	comp=Z,3.2nm,0.7s,mb4.4,baz=309,slow=5.2,SNR=47									
ASAR	**Alice Springs**	**83.16**	**122**	P		**P**	**08 33 35.9**	**+0.1**		
ASAR	**Alice Springs**	**83.16**	**122**	P		**P**	**08 33 35.9**	**+0.2**		
PAX	**Paxson**	**83.27**	**15**	*e*P		**P**	**08 33 36.0**	**+0.3**		
	comp=Z,4.2nm,1.0s,mb4.4									
PAX	**Paxson**	**83.27**	**15**	*e*P		**P**	**08 33 36.0**	**+0.3**		
PAX				pmax	pmax					
	comp=Z,4.0nm,1.0s,mb4.4									
DAWY	**Dawson**	**83.47**	**12**	*e*P		**P**	**08 33 37.6**	**+0.9**		
YKA	**Yellowknife Ar**	**87.43**	**1**	P		**P**	**08 33 57.7**	**+1.2**		
	comp=Z,12nm,0.9s,mb5.1,baz=347,slow=5.0,SNR=9.5									
YKA	**Yellowknife Ar**	**87.43**	**1**	P		**P

comp=Z,149nm,21.3s,MS4.3,baz=167,slow=31
CMAR Chiang Mai Arr 84.38 315 P **P** **09 06 12.1 +1.8**
0.5nm,0.3s,mb4.2,baz=193,slow=3.7,SNR=7.2
CMAR LR LR 09 42 27.5
comp=Z,185nm,18.6s,MS4.5,baz=166,slow=35
CMAR Chiang Mai Arr 84.38 315 P **P** **09 06 12.1 +1.8**
CMAR LR LR 09 42 27.6
MJAR Matsushiro Arr 92.29 353 LR LR 09 43 31.2
comp=Z,83nm,21.8s,MS4.1,baz=155,slow=32
KSRS Korea Array 94.31 345 LR LR 09 44 44.1
comp=Z,83nm,21.3s,MS4.2,baz=349,slow=32
CPUP Villa Florida 95.59 158 LR LR 09 50 55.4
comp=Z,110nm,18.6s,MS4.4,baz=177,slow=36
TORD Torodi Ar. Bea 129.74 226 PKP PKPdf 09 12 49.1 +1.8
0.6nm,1.0s,baz=70,slow=1.7,SNR=3.3
TORD Torodi Ar. Bea 129.74 226 PKP PKPdf 09 12 49.1 +1.8
ILAR Eielson Array 130.34 31 PKP PKPdf 09 12 49.6 +2.7
0.5nm,0.7s,baz=283,slow=2.1,SNR=5.8
ILAR Eielson Array 130.34 31 PKP PKPdf 09 12 49.6 +2.7
AKASG Malin Array Be 143.59 289 PKP PKPdf 09 13 09.5 -2.2
1.1nm,0.6s,baz=142,slow=2.5,SNR=4.5
AKASG Malin Array Be 143.59 289 PKP PKPdf 09 13 09.5 -2.2
FINES FINESS Array B 149.72 305 PKPbc PKPbc 09 13 26.4 0.0
4.6nm,0.9s,baz=100,slow=7.9,SNR=4.4
FINES FINESS Array B 149.72 305 PKPbc PKPbc 09 13 26.4 0.0
GERES GERESS Array B 151.14 276 PKPbc PKPbc 09 13 29.2 -1.0
3.9nm,0.9s,baz=132,slow=2.0,SNR=12
GERES GERESS Array B 151.14 276 PKPbc PKPbc 09 13 29.2 -1.0
ARCES ARCESS Array B 151.23 321 PKPbc PKPbc 09 13 28.9 -1.0
6.3nm,0.9s,baz=76,slow=3.8,SNR=4.9
ARCES ARCESS Array B 151.23 321 PKPbc PKPbc 09 13 28.9 -1.0
BRG Berggiesshubel 152.03 280 *eP* PKPbc 09 13 37.6 +5.4
3.2nm,0.7s

IDC 05 09:05:20.3±5.4, 28.43S×176.74W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/15, mbtmp3.8/3, Error ellipse: s-maj=175.0km s-min=85.1km az=153.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**36.03**	**254**	P		P	09 12 23.7	+0.3
	1.5nm,0.7s,baz=112,slow=13,SNR=4.7							
ASAR	**Alice Springs**	**44.35**	**264**	P		P	09 13 32.2	-0.3
	0.3nm,0.6s,baz=104,slow=7.3,SNR=8.1							
WRA	**Warramunga Arr**	**45.17**	**270**	P		P	09 13 38.9	-0.1
	0.9nm,0.4s,baz=110,slow=7.7,SNR=24							

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*NIED **05** 09:13:00, 30.50N×142.80E, h8km, Mw3.9 Best double couple: M0 6.89000×10^14 NP1:ϕ232.00000°, δ60.00000°, λ-54.00000°. NP2:ϕ356.00000°, δ46.00000°, λ-136.00000°.*
*IDC **05** 09:13:12.5±0.6, 30.44N×142.73E, h0km, mb4.1/16, mb1 4.2/20, mb1mx4.2/29, mbtmp4.1/20, ML3.7/3, MS3.5/4, Ms1 3.5/4, ms1mx3.0/41, Error ellipse: s-maj=18.2km s-min=14.8km az=67.0*
*JMA **05** 09:13:13.4±0.2, 30.53N×142.84E, h51km, M4.0*
*ISCJB **05** 09:13:15.5±0.4, 30.48N±0.03×142.53E±0.08, h33km, mb4.3/22, MS4.0/2, Error ellipse: s-maj=10.4km s-min=3.3km az=164.5*
*NEIC **05** 09:13:18.0±0.3, 30.48N×142.71E, h35km, mb4.5/6, MW3.8(NIED), Error ellipse: s-maj=11.2km s-min=7.1km az=68.0*
ISC 05 09:13:15.5±1.9, 30.50N±0.03×142.60E±0.08, h18km±12km, n70, σ1s11/77, mb4.3/22, MS4.0/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.41**	**186**	Pn		**Pn**	**09 14 05.3**	**-2.4**
	13nm,0.3s,baz=11,slow=20,SNR=21							
CBIJ				Sn		**Sn**	**09 14 45.4**	**-2.3**
	24nm,0.3s,baz=132,slow=22,SNR=5.8							
CBIJ	**Chichi jima**	**3.41**	**186**	P		**Pn**	**09 14 06.5**	**-1.2**
CBIJ				*eS*		**Sn**	**09 14 44.1**	**-3.6**
JHJ2	**Mitsune**	**3.52**	**318**	P		**Pn**	**09 14 08.8**	**-0.5**
JHJ2				*eS*		**Sn**	**09 14 49.7**	**-0.8**
JHJ	**Hachijo jima 2**	**3.55**	**318**	Pn		**Pn**	**09 14 08.8**	**-0.8**
	9.1nm,0.3s,baz=250,slow=20,SNR=11							
JHJ				Sn		**Sn**	**09 14 49.8**	**-1.4**
	18nm,0.3s,baz=90,slow=20,SNR=3.6							
JHHJ	**Haha-jima-NKT**	**3.87**	**186**	*eS*		**Sn**	**09 14 57.4**	**-1.7**
BSO1	**Boso 1**	**4.37**	**342**	P		**Pn**	**09 14 19.3**	**-1.6**
BSO1				*eS*		**Sn**	**09 15 09.5**	**-1.8**
BSO3	**Boso 3**	**4.64**	**338**	P		**Pn**	**09 14 23.4**	**-1.3**
BSO3				*eS*		**Sn**	**09 15 16.9**	**-1.2**
JKO	**Kozu shima**	**4.70**	**322**	*eS*		**Sn**	**09 15 19.1**	**-0.6**
BSO4	**Boso 4**	**4.87**	**338**	*eS*		**Sn**	**09 15 24.4**	**+0.6**
JHU	**Hanno**	**6.02**	**333**	P		**Pn**	**09 14 43.4**	**-0.3**
JHU				*eS*		**Sn**	**09 15 48.3**	**-3.8**
JNY	**Yasuok**	**6.27**	**322**	P		**Pn**	**09 14 50.0**	**+2.9**
JRY	**Ryogami san**	**6.32**	**332**	P		**Pn**	**09 14 47.5**	**-0.2**
JRY				*eS*		**Sn**	**09 15 55.7**	**-3.7**
JAG	**Ashikaga**	**6.47**	**337**	P		**Pn**	**09 14 49.5**	**-0.3**
JAG				*eS*		**Sn**	**09 15 58.7**	**-4.5**
MJAR	**Matsushiro Arr**	**7.06**	**330**	Pn		**Pn**	**09 14 58.0**	**+0.1**
	1.6nm,0.3s,baz=155,slow=12,SNR=17							
MJAR	**Matsushiro Arr**	**7.06**	**330**	Pn		**Pn**	**09 14 58.0**	**+0.1**
MAJO	**Matsushiro**	**7.06**	**330**	*ePn*		**Pn**	**09 14 58.2**	**+0.3**
	13nm,0.7s							
MAJO				*eSn*		**Sn**	**09 16 18.7**	**+1.0**
MAT	**Matsushiro**	**7.06**	**330**	P		**Pn**	**09 14 57.8**	**-0.1**
MAT				*eS*		**Sn**	**09 16 12.5**	**-5.1**
MAT	**Matsushiro**	**7.06**	**330**	P		**Pn**	**09 14 58.2**	**+0.3**
JMK	**Ichinoseki**	**8.51**	**353**	P		**Pn**	**09 15 16.1**	**-1.8**
JMK				*eS*		**Sn**	**09 16 43.1**	**-10**
ASAJ	**Asahikawa**	**13.60**	**360**	LR		LR	09 21 21.2	
	comp=Z,72nm,19.1s,baz=155,slow=36							
KSRS	**Korea Array**	**14.01**	**304**	Pn		**Pn**	**09 16 35.5**	**+2.5**
	baz=110,slow=13,SNR=7.1							
KSRS				LR		LR	09 22 10.2	
	comp=Z,36nm,18.5s,baz=140,slow=38							
ULN	**Ulaanbaatar**	**32.20**	**313**	*eP*		**P**	**09 19 45.0**	**+2.6**
	6.2nm,0.9s,mb4.4							
SONM	**Songino Array**	**32.61**	**312**	P		**P**	**09 19 48.5**	**+2.5**
	2.4nm,0.8s,mb4.2,baz=110,slow=8.7,SNR=12							
SONM	**Songino Array**	**32.61**	**312**	P		**P**	**09 19 48.5**	**+2.5**
CMAR	**Chiang Mai Arr**	**41.26**	**263**	P		**P**	**09 21 00.9**	**+1.0**
	0.6nm,0.3s,mb3.7,baz=67,slow=6.3,SNR=4.1							
CMAR	**Chiang Mai Arr**	**41.26**	**263**	P		**P**	**09 21 00.9**	**+1.0**
COEN	**Coen**	**44.20**	**179**	*eP*		**P**	**09 21 24.2**	**+0.6**
	77nm,0.9s,mb5.4							
ZALV	**Zalesovo Beam**	**47.21**	**317**	P		**P**	**09 21 47.7**	**+0.7**
	0.9nm,0.5s,mb4.0,baz=101,slow=6.3,SNR=4.1							
ZALV				PcP		PcP	09 23 18.0	-0.2
	1.1nm,0.4s,baz=97,slow=3.6,SNR=5.1							
ZALV	**Zalesovo Beam**	**47.21**	**317**	P		**P**	**09 21 47.7**	**+0.7**
ZALV				PcP		PcP	09 23 18.0	-0.2
MK31	**Makanchi Array**	**48.65**	**307**	*eP*		**P**	**09 21 59.7**	**+1.4**
MKAR	**Makanchi Array**	**48.65**	**307**	P		**P**	**09 21 59.6**	**+1.3**
	3.2nm,0.8s,mb4.4,baz=90,slow=9.3,SNR=21							
MKAR	**Makanchi Array**	**48.65**	**307**	P		**P**	**09 21 59.6**	**+1.3**
WRAB	**Tennant Creek**	**50.76**	**190**	*eP*		**P**	**09 22 14.2**	**-0.3**
	17nm,0.8s,mb5.0							
WB2	**Warramunga Arr**	**50.77**	**190**	*eP*		**P**	**09 22 14.0**	**-0.6**
WRA	**Warramunga Arr**	**50.77**	**190**	P		**P**	**09 22 14.4**	**-0.2**
	17nm,0.8s,mb5.0,baz=10,slow=7.9,SNR=98							
WRA	**Warramunga Arr**	**50.77**	**190**	P		**P**	**09 22 14.4**	**-0.2**
KURK	**Kurchatov**	**50.91**	**313**	P		**P**	**09 22 16.3**	**+0.9**
	0.6nm,0.3s,mb4.0,baz=90,slow=7.6,SNR=6.1							
KURK	**Kurchatov**	**50.91**	**313**	P		**P**	**09 22 16.3**	**+0.9**
ASAR	**Alice Springs**	**54.49**	**190**	P		**P**	**09 22 42.0**	**-0.2**
	4.0nm,0.7s,mb4.5,baz=5.1,slow=5.9,SNR=89							
ASAR	**Alice Springs**	**54.49**	**190**	P		**P**	**09 22 42.0**	**-0.2**
ILAR	**Eielson Array**	**54.58**	**30**	P		**P**	**09 22 41.7**	**-0.6**
	0.8nm,0.6s,mb3.9,baz=258,slow=6.1,SNR=14							
ILAR	**Eielson Array**	**54.58**	**30**	P		**P**	**09 22 41.7**	**-0.6**
BVAR	**Borovoye Array**	**55.83**	**316**	P		**P**	**09 22 52.4**	**+0.9**
	2.0nm,0.8s,mb4.2,baz=90,slow=10,SNR=8.1							
BVAR	**Borovoye Array**	**55.83**	**316**	P		**P**	**09 22 52.4**	**+0.9**
KKAR	**Karatay Array**	**57.44**	**304**	*eP*		**P**	**09 23 04.6**	**+1.5**
	1.8nm,0.6s,mb4.3							
INK	**Inuvik**	**59.81**	**25**	P		**P**	**09 23 19.4**	**+0.2**
	1.5nm,0.7s,mb4.1,baz=314,slow=10,SNR=8.9							
INK	**Inuvik**	**59.81**	**25**	P		**P**	**09 23 19.4**	**+0.2**
ABKAR	**Akbulak array**	**63.02**	**313**	*eP*		**P**	**09 23 41.8**	**+0.6**
	0.5nm,0.4s,mb4.0							
AKTK	**Aktyubinsk**	**63.88**	**315**	P		**P**	**09 23 46.6**	**-0.3**
AKTO	**Aktyubinsk**	**63.88**	**315**	P		**P**	**09 23 46.6**	**-0.3**
	0.5nm,0.3s,mb4.0,baz=85,slow=12,SNR=3.1							
FINES	**FINESS Array B**	**75.07**	**334**	PKP		**P**	**09 24 55.9**	**0.0**
	0.7nm,0.5s,mb3.8,baz=11,slow=1.4,SNR=3.9							
FINES	**FINESS Array B**	**75.07**	**334**	PKP		**P**	**09 24 55.9**	**0.0**
NVAR	**Mina Array Bea**	**78.15**	**52**	P		**P**	**09 25 14.1**	**+0.4**
	1.5nm,0.8s,mb4.0,baz=286,slow=6.0,SNR=5.4							
NVAR				LR		LR	09 54 41.8	
	comp=Z,124nm,20.2s,MS4.2,baz=114,slow=32							
NVAR	**Mina Array Bea**	**78.15**	**52**	P		**P**	**09 25 14.1**	**+0.4**
NVAR				LR		LR	09 54 41.8	
AKASG	**Malin Array Be**	**80.10**	**324**	P		**P**	**09 25 24.4**	**+0.2**
	0.6nm,0.4s,mb3.9,baz=48,slow=5.5,SNR=5.1							
AKASG	**Malin Array Be**	**80.10**	**324**	P		**P**	**09 25 24.4**	**+0.2**
NB2	**NORSAR Subarra**	**80.60**	**338**	P		**P**	**09 25 26.4**	**-0.3**
	comp=Z,2.9nm,1.0s,mb4.2,baz=42,slow=5.9							
NOA	**NORSAR Array B**	**80.60**	**338**	P		**P**	**09 25 26.6**	**-0.1**
	comp=Z,2.2nm,0.9s,mb4.1,baz=40,slow=5.2,SNR=6.7							
NOA	**NORSAR Array B**	**80.60**	**338**	P		**P**	**09 25 26.6**	**-0.1**
PDAR	**Pinedale Array**	**81.56**	**45**	P		**P**	**09 25 32.5**	**+0.3**
	comp=Z,0.1nm,0.5s,baz=52,slow=48,SNR=2.6							
PDAR	**Pinedale Array**	**81.56**	**45**	P		**P**	**09 25 32.5**	**+0.3**
BR131	**Keskin Array S**	**83.97**	**313**	*eP*		**P**	**09 25 45.9**	**+1.2**
	comp=Z,2.4nm,0.8s,mb4.4							
BRTR	**Keskin Array B**	**83.97**	**313**	P		**P**	**09 25 45.6**	**+0.9**
	comp=Z,3.2nm,0.8s,mb4.5,baz=101,slow=3.9,SNR=14							
BRTR				LR		LR	10 04 44.9	
	comp=Z,51nm,21.4s,MS3.9,baz=292,slow=37							
BRTR	**Keskin Array B**	**83.97**	**313**	P		**P**	**09 25 45.6**	**+0.9**
BRTR				LR		LR	10 04 44.9	
TXAR	**Lajitas Array**	**93.28**	**53**	P		**P**	**09 26 30.1**	**+0.6**
	comp=Z,1.1nm,0.8s,mb4.3,baz=295,slow=2.9,SNR=13							
TXAR	**Lajitas Array**	**93.28**	**53**	P		**P**	**09 26 30.1**	**+0.6**
LPAZ	**La Paz**	**148.57**	**70**	PKPbc		PKPbc	09 33 02.7	+0.8
	comp=Z,3.4nm,0.8s,baz=19,slow=5.9,SNR=16							
LPAZ	**La Paz**	**148.57**	**70**	PKPbc		PKPbc	09 33 02.7	+0.8
PLCA	**Paso Flores**	**151.33**	**120**	PKPbc		PKPbc	09 33 06.1	-1.8
	comp=Z,1.5nm,0.8s,baz=223,slow=12,SNR=2.4							
PLCA	**Paso Flores**	**151.33**	**120**	PKPbc		PKPbc	09 33 06.1	-1.8

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*ISCJB **05** 09:15:38.7±0.5, 10.85N±0.03×62.21W±0.03, h95km±6km, Error ellipse: s-maj=6.1km s-min=4.4km az=143.9*
*FUNV **05** 09:15:41.8, 10.79N×62.20W, h83km, MW3.0*
*TRN **05** 09:15:42.3, 10.96N×62.12W, h72km, MD3.0*
ISC 05 09:15:39.7±0.6, 10.85N±0.03×62.21W±0.03, h88km±7km, n20, σ1s19/36, 1C-3D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUIV	**Guiria**	**0.20**	**184**	*iP*		**Pn**	**09 15 53.9**	**+1.3**
GUIV				*eS*		**Sn**	**09 16 01.7**	**-0.3**
TRN	**Trinidad (W)**	**0.82**	**104**	*iP*		**Pn**	**09 15 58.4**	**+1.1**
TRN				*eS*		**Sn**	**09 16 10.0**	**-0.4**
GUNV	**Guanoco**	**1.00**	**226**	*eP*		**Pn**	**09 16 01.2**	**+1.9**
GUNV				*eS*		**Sn**	**09 16 14.5**	**+0.6**
CRUV	**Carupano**	**1.02**	**260**	*iP*		**Pn**	**09 16 00.8**	**+1.3**
CRUV				*eS*		**Sn**	**09 16 14.2**	**-0.3**
TBH	**Brigand Hill**	**1.18**	**108**	*eP*		**Pn**	**09 16 03.4**	**+2.0**
TBH				*eS*		**Sn**	**09 16 17.1**	**-0.7**
GRW	**Mount Saint Ca**	**1.41**	**22**	*eP*		**Pn**	**09 16 04.2**	**0.0**
GRW				*eS*		**Sn**	**09 16 21.2**	**-1.5**
TOSP	**Speyside**	**1.70**	**75**	*eP*		**Pn**	**09 16 08.9**	**+1.0**
TOSP				*eS*		**Sn**	**09 16 28.4**	**-1.0**
ORIV	**Oritupano**	**2.13**	**214**	*eP*		**Pn**	**09 16 14.6**	**+1.0**
ORIV				*eS*		**Sn**	**09 16 38.0**	**-1.5**
IBAV	**Isla La Blanqu**	**2.52**	**293**	*eP*		**Pn**	**09 16 20.1**	**+1.4**
IBAV				*eS*		**Sn**	**09 16 49.0**	**+0.4**
SVB	**Belmont**	**2.58**	**21**	*eP*		**Pn**	**09 16 20.2**	**+0.6**
SVB				*eS*		**Sn**	**09 16 48.6**	**-1.6**
RIOV	**Rio Grande**	**2.79**	**172**	*eP*		**Pn**	**09 16 23.6**	**+1.1**
RIOV				*eS*		**Sn**	**09 16 53.6**	**-1.7**
MCLT	**Moule a Chique**	**3.10**	**23**	*eP*		**Pn**	**09 16 27.6**	**+1.0**
MCLT				*eS*		**Sn**	**09 17 00.1**	**-2.6**
PRGV	**PARIAGUAN**	**3.18**	**229**	*eS*		**Sn**	**09 17 01.8**	**-2.8**
GURV	**El Guri**	**3.19**	**196**	*eP*		**Pn**	**09 16 27.9**	**+0.1**
CUPV	**Cœpira**	**3.61**	**258**	*eP*		**Pn**	**09 16 34.7**	**+1.2**
CUPV				*eS*		**Sn**	**09 17 13.9**	**-1.1**
MERV	**Las Mercedes**	**4.33**	**249**	*eP*		**Pn**	**09 16 43.5**	**+0.3**
MERV				*eS*		**Sn**	**09 17 29.4**	**-3.1**
LUEV	**Luepa**	**5.03**	**171**	*eP*		**Pn**	**09 16 52.1**	**-0.7**
CAOV	**Caicara del Or**	**5.36**	**230**	*eP*		**Pn**	**09 16 57.6**	**+0.2**
CAOV				*eS*		**Sn**	**09 17 53.7**	**-4.1**
BAUV	**El Baul**	**6.05**	**252**	*eP*		**Pn**	**09 17 06.2**	**-0.4**
BAUV				*eS*		**Sn**	**09 18 10.1**	**-4.5**
MAPV	**Macapo**	**6.23**	**261**	*eP*		**Pn**	**09 17 09.0**	**-0.1**

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*IDC **05** 09:25:58.1±0.8, 30.49N×142.90E, h0km, mb3.9/6, mb1 3.9/10, mb1mx3.8/25, mbtmp3.9/10, ML3.5/4, Error ellipse: s-maj=27.4km s-min=16.7km az=82.0*
*JMA **05** 09:25:59.8±0.2, 30.50N×142.74E, h50km, M4.0*
*ISCJB **05** 09:26:00.5±2.0, 30.48N±0.04×142.6E±0.1, h33km±16km, mb4.1/7, Error ellipse: s-maj=16.7km s-min=4.9km az=166.0*
*NEIC **05** 09:26:03.0±0.9, 30.54N×142.91E, h35km, MG4.0(JMA), Error ellipse: s-maj=30.0km s-min=12.6km az=72.0*
ISC 05 09:26:02.5±2.1, 30.46N±0.04×142.6E±0.1, h31km±16km, n35, σ1s24/40, mb4.1/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.37**	**186**	Pn		**Pn**	**09 26 52.6**	**-0.4**
	9.8nm,0.3s,baz=157,slow=22,SNR=24							
CBIJ				Sn		**Sn**	**09 27 30.0**	**-1.9**
	43nm,0.3s,baz=301,slow=21,SNR=10.0							
CBIJ	**Chichi jima**	**3.37**	**186**	P		**Pn**	**09 26 52.2**	**-0.8**
CBIJ				*eS*		**Sn**	**09 27 29.9**	**-2.0**
JHJ2	**Mitsune**	**3.52**	**319**	P		**Pn**	**09 26 54.4**	**-0.6**
JHJ2				*eS*		**Sn**	**09 27 35.4**	**-0.2**
JHJ	**Hachijo jima 2**	**3.54**	**319**	Pn		**Pn**	**09 26 54.8**	**-0.6**
	9.6nm,0.3s,baz=288,slow=20,SNR=4.5							
JHJ				Sn		**Sn**	**09 27 34.6**	**-1.6**
	28nm,0.3s,baz=261,slow=23,SNR=6.4							
JHHJ	**Haha-jima-NKT**	**3.83**	**185**	*eS*		**Sn**	**09 27 43.1**	**-0.2**
BSO1	**Boso 1**	**4.38**	**343**	P		**Pn**	**09 27 05.5**	**-1.4**
BSO1				*eS*		**Sn**	**09 27 53.6**	**-3.3**
BSO2	**Boso 2**	**4.54**	**341**	*eS*		**Sn**	**09 28 01.3**	**+0.7**
BSO3	**Boso 3**	**4.66**	**339**	P		**Pn**	**09 27 11.0**	**+0.4**
BSO3				*eS*		**Sn**	**09 28 04.3**	**+0.7**
JKO	**Kozu shima**	**4.70**	**323**	*eS*		**Sn**	**09 28 04.0**	**-0.8**
BSO4	**Boso 4**	**4.88**	**338**	*eS*		**Sn**	**09 28 08.2**	**-1.0**
JOD2	**Odawara 2**	**5.60**	**330**	P		**Pn**	**09 27 22.5**	**-1.1**
JOD2				*eS*		**Sn**	**09 28 22.9**	**-4.0**
JHU	**Hanno**	**6.03**	**334**	P		**Pn**	**09 27 29.4**	**-0.1**
JHU				*eS*		Sx	09 28 34.6	
JNY	**Yasuok**	**6.27**	**322**	P		**Pn**	**09 27 35.5**	**+2.7**
JRY	**Ryogami san**	**6.33**	**332**	P		**Pn**	**09 27 33.3**	**-0.3**
JRY				*eS*		Sx	09 28 42.3	
JAG	**Ashikaga**	**6.48**	**337**	P		**Pn**	**09 27 35.5**	**-0.2**
JAG				*eS*		Sx	09 28 45.3	
MJAR	**Matsushiro Arr**	**7.06**	**330**	Pn		**Pn**	**09 27 43.8**	**+0.2**
	1.2nm,0.3s,baz=156,slow=11,SNR=12							
MJAR	**Matsushiro Arr**	**7.06**	**330**	Pn		**Pn**	**09 27 43.8**	**+0.2**
MAJO	**Matsushiro**	**7.06**	**330**	*ePn*		**Pn**	**09 27 45.4**	**+1.6**
MAJO				*eSn*		Sx	09 29 00.3	
MAT	**Matsushiro**	**7.06**	**330**	P		**Pn**	**09 27 44.9**	**+1.2**
MAT				S		Sx	09 29 02.3	
MAT	**Matsushiro**	**7.06**	**330**	P		**Pn**	**09 27 45.0**	**+1.3**
MAT				*eS*		Sx	09 29 01.2	
JMK	**Ichinoseki**	**8.54**	**353**	*eS*		Sx	09 29 28.6	
KSRS	**Korea Array**	**13.99**	**304**	Pn		**Pn**	**09 29 22.2**	**+3.7**
	0.1nm,0.3s,baz=115,slow=12,SNR=4.0							
SONM	**Songino Array**	**32.60**	**312**	P		**P**	**09 32 33.8**	**+2.7**
	1.3nm,0.7s,mb4.0,baz=110,slow=7.7,SNR=5.9							
SONM	**Songino Array**	**32.60**	**312**	P		**P**	**09 32 33.8**	**+2.7**
MKAR	**Makanchi Array**	**48.64**	**307**	P		**P**	**09 34 45.6**	**+2.3**
	1.3nm,0.7s,mb4.1,baz=92,slow=8.5,SNR=12							
MKAR	**Makanchi Array**	**48.64**	**307**	P		**P**	**09 34 45.6**	**+2.3**
WRA	**Warramunga Arr**	**50.73**	**190**	P		**P**	**09 35 00.2**	**+0.8**
	11nm,0.7s,mb4.9,baz=7.6,slow=7.6,SNR=72							
WRA	**Warramunga Arr**	**50.73**	**190**	P		**P**	**09 35 00.2**	**+0.8**
ASAR	**Alice Springs**	**54.45**	**190**	P		**P**	**09 35 27.8**	**+0.8**
	2.1nm,0.5s,mb4.4,baz=11,slow=7.5,SNR=74							
ASAR	**Alice Springs**	**54.45**	**190**	P		**P**	**09 35 27.8**	**+0.8**
ILAR	**Eielson Array**	**54.63**	**30**	P		**P**	**09 35 26.4**	**-1.4**
	0.2nm,0.5s,mb3.4,baz=257,slow=6.2,SNR=6.4							
ILAR	**Eielson Array**	**54.63**	**30**	P		**P**	**09 35 26.4**	**-1.4**
INK	**Inuvik**	**59.85**	**25**	P		**P**	**09 36 03.8**	**-0.8**
	0.3nm,0.4s,mb3.7,baz=328,slow=5.6,SNR=3.6							
BRTR	**Keskin Array B**	**83.96**	**313**	P		**P**	**09 38 31.6**	**+1.9**
	1.4nm,0.8s,mb4.1,baz=84,slow=3.8,SNR=6.1							
LPAZ	**La Paz**	**148.62**	**70**	PKPbc		PKPbc	09 45 48.1	+1.1
	1.0nm,0.8s,baz=18,slow=5.3,SNR=4.1							

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*IDC **05** 09:31:18.9±3.8, 19.86S×169.16E, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.8/15, mbtmp4.0/2, Error ellipse: s-maj=184.6km s-min=42.0km az=153.0*
*NEIC **05** 09:31:19.9±7.1, 20.52S×169.66E, h35km, mb4.0/1, Error ellipse: s-maj=118.0km s-min=34.8km az=111.0*
ISC 05 09:31:23.3±2.9, 20.55S±0.2×169.4E±0.2, h46km±22km, n18, σ0s66/17, mb4.0/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BAYA	**Yate Dam**	**2.84**	**235**	*eP*		**Pn**	**09 32 07.3**	**+1.2**
BAYA				*eS*		**Sn**	**09 32 39.2**	**+0.1**
DZM	**Mont Dzumac**	**3.14**	**240**	*ePn*		**Pn**	**09 32 09.9**	**-0.4**
DZM				*eSn*		**Sn**	**09 32 46.2**	**-0.4**
NOUC	**Port Laguerre**	**3.27**	**241**	*eP*		**Pn**	**09 32 11.4**	**-0.7**
NOUC				*eS*		**Sn**	**09 32 49.9**	**+0.1**
CTA	**Charters Tower**	**21.70**	**267**	P		**P**	**09 36 12.0**	**+1.6**
	1.7nm,0.4s,mb3.9,baz=90,slow=10.0,SNR=3.8							
CTA	**Charters Tower**	**21.70**	**267**	P		**P**	**09 36 12.0**	**+1.6**
CTAO	**Charters Tower**	**21.70**	**267**	*eP*		**P**	**09 36 10.0**	**-0.4**
	3.2nm,0.5s,mb4.0							
PMG	**Port Moresby**	**24.11**	**294**	P		**P**	**09 36 34.4**	**-0.4**
	3.5nm,0.5s,mb4.0,baz=70,slow=10,SNR=2.4							
PMG	**Port Moresby**	**24.11**	**294**	P		**P**	**09 36 34.4**	**-0.4**
WRA	**Warramunga Arr**	**32.85**	**265**	P		**P**	**09 37 52.2**	**-0.6**
	0.3nm,0.4s,mb3.6,baz=90,slow=8.6,SNR=13							
WRA	**Warramunga Arr**	**32.85**	**265**	P		**P**	**09 37 52.2**	**-0.6**
ASAR	**Alice Springs**	**32.97**	**258**	P		**P**	**09 37 54.5**	**+0.6**
	3.6nm,0.6s,mb4.5,baz=86,slow=9.0,SNR=63							
ASAR	**Alice Springs**	**32.97**	**258**	P		**P**	**09 37 54.5**	**+0.6**
VNA3	**Neumayer Olymp**	**88.48**	**180**	*e*		**P**	**09 44 10.6**	**+0.3**
VNA2	**Neumayer--Watz**	**88.77**	**181**	*e*		**P**	**09 44 11.1**	**-0.6**
	baz=190,slow=4.9							
ARCES	**ARCESS Array B**	**126.33**	**345**	PKP		PKPdf	09 50 20.6	+0.5
	8.6nm,1.2s,baz=98,slow=1.8,SNR=3.6							
ARCES	**ARCESS Array B**	**126.33**	**345**	PKP		PKPdf	09 50 20.6	+0.5
GERES	**GERESS Array B**	**145.68**	**331**	PKPbc		PKPbc	09 50 57.1	+0.3
	0.8nm,0.6s,baz=54,slow=2.3,SNR=7.0							
GERES	**GERESS Array B**	**145.68**	**331**	PKPbc		PKPbc	09 50 57.1	+0.3

IDC 05 09:36:51.0±19.0, 22.28S×174.36W, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.9/20, mbtmp4.1/5, Error ellipse: s-maj=357.5km s-min=142.1km az=82.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**36.72**	**266**	P		P	09 44 01.1	+1.0
	3.7nm,0.4s,baz=98,slow=8.4,SNR=6.4							
STKA	**Stephens Creek**	**40.13**	**247**	P		P	09 44 27.9	-0.8
	0.7nm,0.5s,baz=90,slow=6.1,SNR=3.0

AKHS				*i* S		**Sg**	10 06 10.1	-0.6
GONE	**Gonen-Balikesi**	0.68	325	*e*PG		**Pg**	10 06 02.1	0.0
GONE	**Gonen-Balikesi**	0.68	325	*e*Pg		**Pg**	10 06 02.1	0.0
KCTX	**Karacabey (Bur**	0.79	9	*e*PG		**Pg**	10 06 03.2	-0.8
KCTX	**Karacabey (Bur**	0.79	9	*e*Pg		**Pg**	10 06 03.3	-0.8
ULDT	**Uludag**	0.98	48	*i* P		**Pg**	10 06 08.0	+0.3
ULDT				*i* S		**Sg**	10 06 22.0	+1.7
ULDT	**Uludag**	0.98	48	*i* P		**Pg**	10 06 08.0	+0.3
ULDT				*i* S		**Sg**	10 06 22.0	+1.6
MDNY	**Mudanya-Bursa**	1.03	31	*e*PG		**Pg**	10 06 07.8	-0.9
MDNY	**Mudanya-Bursa**	1.03	31	*e*Pg		**Pg**	10 06 07.8	-0.9
MANT	**Manisa**	1.03	164	*i* P		**Pg**	10 06 08.7	-0.2
MANT				*i* S		**Sg**	10 06 23.2	+0.9
MANT	**Manisa**	1.03	164	*i* P		**Pg**	10 06 08.7	-0.1
MANT				*i* S		**Sg**	10 06 23.2	+1.0
KULA	**Kula-Manisa**	1.04	159	*e*PG		**Pg**	10 06 09.2	+0.3
KULA	**Kula-Manisa**	1.04	159	*e*Pg		**Pg**	10 06 09.2	+0.3
GDZ	**Gediz**	1.07	111	*i* P		**Pg**	10 06 09.6	0.0
GDZ				*i* S		**Sg**	10 06 23.1	-0.4
GDZ	**Gediz**	1.07	111	*i* P		**Pg**	10 06 09.6	0.0
GDZ				*i* S		**Sg**	10 06 23.1	-0.4
KRBG	**Karabiga-Canak**	1.14	323	*e*PN		**Pn**	10 06 10.7	-1.0
KRBG	**Karabiga-Canak**	1.14	323	*e*Pn		**Pn**	10 06 10.7	-1.0
AYVA	**Ayvalik**	1.18	262	*i* P		**Pg**	10 06 11.5	-0.1
AYVA				*i* S		**Sg**	10 06 25.1	-1.8
AYVA	**Ayvalik**	1.18	262	*i* P		**Pg**	10 06 11.5	-0.1
AYVA				*i* S		**Sg**	10 06 25.1	-1.8
ARMT	**Armutlu**	1.19	25	*e*PN		**Pn**	10 06 11.0	-1.5
ARMT	**Armutlu**	1.19	25	*e*Pn		**Pn**	10 06 11.0	-1.5
GEMT	**Gemlik**	1.22	39	*e*PN		**Pn**	10 06 11.2	-1.6
GEMT	**Gemlik**	1.22	39	*e*Pn		**Pn**	10 06 11.2	-1.6
YLV	**Yalova**	1.41	40	*e*PN		**Pn**	10 06 15.0	-0.4
YLV	**Yalova**	1.41	40	*e*Pn		**Pn**	10 06 15.0	-0.4
LPK	**Lapseki**	1.41	309	*e*PN		**Pn**	10 06 15.7	+0.2
LPK	**Lapseki**	1.41	309	*e*Pn		**Pn**	10 06 15.7	+0.2
MFT	**Murefte**	1.47	332	*e*PN		**Pn**	10 06 16.4	+0.1
MFT	**Murefte**	1.47	332	*e*Pn		**Pn**	10 06 16.4	+0.1
EZN	**Ezine**	1.48	284	*e*PN		**Pn**	10 06 17.0	+0.5
EZN	**Ezine**	1.48	284	*e*Pn		**Pn**	10 06 17.0	+0.6
GELI	**Tayfur-Gelibol**	1.60	305	*e*PN		**Pn**	10 06 18.4	+0.3
GELI	**Tayfur-Gelibol**	1.60	305	*e*Pn		**Pn**	10 06 18.5	+0.4
ERIK	**Erikli-Kesan**	1.75	313	*e*PN		**Pn**	10 06 20.5	+0.4
ERIK	**Erikli-Kesan**	1.75	313	*e*Pn		**Pn**	10 06 20.5	+0.4
AYDN	**Tasoluk**	1.84	188	*i* P		**Pn**	10 06 22.8	+1.4
AYDN				*i* S		**Sn**	10 06 46.5	+1.4
AYDN	**Tasoluk**	1.84	188	*i* P		**Pn**	10 06 22.8	+1.4
AYDN				*i* S		**Sn**	10 06 46.5	+1.4

IDC 05 10:25:55.0±9.4, 2°70'S×128°75'E, h0km, mb4.1/1, mb1 3.7/2, mb1mx3.3/17, mbtmp3.5/2, ML3.1/1, Error ellipse: s-maj=180.2km s-min=128.5km az=88.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.99**	**163**	P	Pn	10 30 07.0	+0.3
	0.1nm,0.3s,baz=344,slow=12,SNR=6.2						
ASAR	**Alice Springs**	**21.44**	**167**	P	P	10 30 45.7	+0.8
	0.3nm,0.4s,baz=347,slow=11,SNR=10						
STKA	**Stephens Creek**	**31.45**	**159**	P	P	10 32 17.7	-0.6
	1.3nm,0.9s,baz=330,slow=8.1,SNR=3.8						

*ROM **05** 10:29:03.8±0.2, 42°.08N×15°.40E, h1km, Ml3.2/31, Error ellipse: s-maj=3.5km s-min=1.5km az=34.0*
*ISCJB **05** 10:29:04.4±0.6, 42°.10N±0°.03×15°.36E±0°.03, h5km±4km, Error ellipse: s-maj=5.0km s-min=3.0km az=34.7*
*CSEM **05** 10:29:04.6±0.2, 42°.08N×15°.35E, h2km, ML3.3/2, Ms3.4, Error ellipse: s-maj=4.4km s-min=2.9km az=45.0*
*VIE **05** 10:29:10.4±0.8, 42°.36N×15°.05E, h10km, mb2.7/3, ML3.3/2, Ms3.4/1, Error ellipse: s-maj=7.6km s-min=6.1km az=91.0*
173 km SW of Split

ISC 05 10:29:05.4±0.5, 42°.08N±0°.03×15°.35E±0°.03, h10km±4km, n94, σ1s08/117, 6C-3D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FG2	**Serracapriola**	**0.30**	**207**	⇑*i* Pg	**Pg**	10 29 11.3	-0.1
FG2	**Serracapriola**	**0.30**	**207**	⇑*i* Pg	**Pg**	10 29 11.3	-0.1
SGRT	**San Giovanni R**	**0.44**	**137**	Pg	**Pg**	10 29 13.1	-0.8
SGRT				Sg	**Sg**	10 29 19.8	+0.1
	1µm,0.2s						
SGRT	**San Giovanni R**	**0.44**	**137**	Pg	**Pg**	10 29 13.1	-0.8
SGRT				Sg	**Sg**	10 29 19.8	+0.1
	1µm,0.2s						
RGNG	**Rignano Grg**	**0.44**	**156**	Pg	**Pg**	10 29 13.1	-0.9
RGNG				Sg	**Sg**	10 29 19.8	0.0
RGNG	**Rignano Grg**	**0.44**	**156**	Pg	**Pg**	10 29 13.1	-0.9
RGNG				Sg	**Sg**	10 29 19.8	0.0
CIGN	**Sant'Elia a Pi**	**0.54**	**218**	⇑*i* Pg	**Pg**	10 29 15.5	-0.3
CIGN				Sg	**Sg**	10 29 24.1	+1.3
	354nm,0.4s						
CIGN	**Sant'Elia a Pi**	**0.54**	**218**	⇑*i* Pg	**Pg**	10 29 15.5	-0.3
CIGN				Sg	**Sg**	10 29 24.1	+1.3
	354nm,0.4s						
MSAG	**Monte S. Angel**	**0.56**	**131**	Pg	**Pg**	10 29 15.4	-0.8
MSAG				Sg	**Sg**	10 29 23.8	+0.3
	1µm,0.3s						
MSAG	**Monte S. Angel**	**0.56**	**131**	Pg	**Pg**	10 29 15.4	-0.8
MSAG				Sg	**Sg**	10 29 23.8	+0.3
	1µm,0.3s						
MS1	**Monte Sant'Ang**	**0.58**	**130**	⇑*i* Pg	**Pg**	10 29 16.1	-0.5
MS1				*e*Sg	**Sg**	10 29 25.0	+0.8
MOCO	**Biccari - m.te**	**0.72**	**191**	Pg	**Pg**	10 29 18.6	-0.7
CAFR	**Castel Frentan**	**0.76**	**282**	Pg	**Pg**	10 29 21.0	+1.0
	2µm,0.3s						
CAFR	**Castel Frentan**	**0.76**	**282**	Pg	**Pg**	10 29 21.0	+1.0
	2µm,0.3s						
LPEL	**Lama dei Pelig**	**0.87**	**268**	Pg	**Pg**	10 29 21.3	-0.8
LPEL				Sg	**Sg**	10 29 36.0	+2.6
	914nm,0.2s						
LPEL	**Lama dei Pelig**	**0.87**	**268**	Pg	**Pg**	10 29 21.3	-0.8
PTRJ	**Pietraroja**	**0.94**	**221**	Pn	**Pn**	10 29 22.0	-2.6
	836nm,0.4s						
SGTA	**Sant Agata di**	**0.94**	**179**	Pg	**Pg**	10 29 22.8	-0.7
SGTA				Sg	**Sg**	10 29 37.8	+2.1
	934nm,0.5s						
SGTA	**Sant Agata di**	**0.94**	**179**	Pg	**Pg**	10 29 22.8	-0.7
SGTA				Sg	**Sg**	10 29 37.8	+2.1
MRB1	**Monte Rocchett**	**0.99**	**197**	Pg	**Pg**	10 29 24.7	+0.3
	637nm,0.5s						
MRB1	**Monte Rocchett**	**0.99**	**197**	Pg	**Pg**	10 29 24.7	+0.3
	637nm,0.5s						
SGG	**Gregorio Mates**	**1.00**	**227**	Pn	**Pn**	10 29 24.2	-1.3
	489nm,0.4s						
SGG	**Gregorio Mates**	**1.00**	**227**	Pn	**Pn**	10 29 24.2	-1.3
	489nm,0.4s						
CAFE	**Carife**	**1.05**	**185**	Pg	**Pg**	10 29 25.3	-0.3
CAFE	**Carife**	**1.05**	**185**	Pg	**Pg**	10 29 25.3	-0.3
CERA	**Filignano**	**1.10**	**245**	Pg	**Pg**	10 29 25.5	-1.0
	510nm,0.6s						
CERA	**Filignano**	**1.10**	**245**	Pg	**Pg**	10 29 25.5	-1.0
	510nm,0.6s						
VULT	**Monte Vulture**	**1.14**	**170**	Pn	**Pn**	10 29 27.3	-0.1
	1µm,0.5s						
VULT	**Monte Vulture**	**1.14**	**170**	Pn	**Pn**	10 29 27.3	-0.1
	1µm,0.5s						
VCEL	**Villa Celiera**	**1.16**	**286**	Pg	**Pn**	10 29 26.8	-0.9
	268nm,0.4s						
VCEL	**Villa Celiera**	**1.16**	**286**	Pg	**Pn**	10 29 26.8	-0.9
	268nm,0.4s						
MRVN	**Minervino Murg**	**1.20**	**148**	Pg	**Pn**	10 29 26.9	-1.3
	310nm,0.4s						
MRVN	**Minervino Murg**	**1.20**	**148**	Pg	**Pn**	10 29 26.9	-1.3
	310nm,0.4s						
SDI	**San Donato**	**1.21**	**253**	Pg	**Pn**	10 29 27.4	-0.9
SDI	**San Donato**	**1.21**	**253**	Pg	**Pn**	10 29 27.4	-0.9
PALZ	**Palazzo San Ge**	**1.22**	**158**	Pn	**Pn**	10 29 28.7	+0.2
	899nm,0.5s						
PALZ	**Palazzo San Ge**	**1.22**	**158**	Pn	**Pn**	10 29 28.7	+0.2
	899nm,0.5s						
CSSN	**Cassano Irpino**	**1.24**	**191**	Pg	**Pn**	10 29 28.7	0.0
	72nm,0.4s						
CSSN	**Cassano Irpino**	**1.24**	**191**	Pg	**Pn**	10 29 28.7	0.0
	72nm,0.4s						
POFI	**Posta Fibreno**	**1.27**	**254**	Pn	**Pn**	10 29 28.6	-0.6
	248nm,0.6s						
POFI	**Posta Fibreno**	**1.27**	**254**	Pn	**Pn**	10 29 28.6	-0.6
	248nm,0.6s						
RFI	**Roccamonfina**	**1.28**	**233**	Pn	**Pn**	10 29 30.1	+0.8
	18nm,0.5s						
RFI	**Roccamonfina**	**1.28**	**233**	Pn	**Pn**	10 29 30.1	+0.8
	18nm,0.5s						
MCRV	**Calabrutti - M**	**1.30**	**186**	Pg	**Pn**	10 29 29.3	-0.3
MCRV	**Calabrutti - M**	**1.30**	**186**	Pg	**Pn**	10 29 29.3	-0.3
VVLD	**Villa Vallelon**	**1.30**	**262**	Pg	**Pn**	10 29 28.0	-1.6
	569nm,0.5s						
VVLD	**Villa Vallelon**	**1.30**	**262**	Pg	**Pn**	10 29 28.0	-1.6
	569nm,0.5s						
FAGN	**Fagnano**	**1.32**	**279**	Pn	**Pn**	10 29 30.2	+0.3
	772nm,0.4s						
FAGN	**Fagnano**	**1.32**	**279**	Pn	**Pn**	10 29 30.2	+0.3
	772nm,0.4s						
MODR	**Mondragone**	**1.44**	**230**	Pn	**Pn**	10 29 31.9	+0.4
	59nm,0.4s						
MODR	**Mondragone**	**1.44**	**230**	Pn	**Pn**	10 29 31.9	+0.4
	59nm,0.4s						
PTQR	**Pietraquaria**	**1.45**	**268**	Pn	**Pn**	10 29 33.1	+1.4
	42nm,0.5s						
PTQR	**Pietraquaria**	**1.45**	**268**	Pn	**Pn**	10 29 33.1	+1.4
	42nm,0.5s						
AMUR	**Altamura**	**1.50**	**141**	Pn	**Pn**	10 29 31.3	-1.1
	290nm,0.4s						
AMUR	**Altamura**	**1.50**	**141**	Pn	**Pn**	10 29 31.3	-1.1
	290nm,0.4s						
BAI	**Bari**	**1.50**	**130**	*e*Sn	**Sn**	10 29 53.7	+1.7
CAMP	**Campotosto**	**1.51**	**288**	Pg	**Pn**	10 29 31.5	-1.0
	42nm,0.6s						
CAMP	**Campotosto**	**1.51**	**288**	Pg	**Pn**	10 29 31.5	-1.0
	42nm,0.6s						
SGO	**Sicignano**	**1.52**	**181**	Pg	**Pn**	10 29 30.7	-1.8
	84nm,0.3s						
GUAR	**Guarcino**	**1.54**	**260**	Pn	**Pn**	10 29 33.5	+0.6
	171nm,0.4s						
GUAR	**Guarcino**	**1.54**	**260**	Pn	**Pn**	10 29 33.5	+0.6
	171nm,0.4s						
CDRU	**Civita di Ruta**	**1.59**	**181**	Pn	**Pn**	10 29 34.3	+0.8
	132nm,0.5s						
CDRU	**Civita di Ruta**	**1.59**	**181**	Pn	**Pn**	10 29 34.3	+0.8
	132nm,0.5s						
SG1	**Sgolgore (BA)**	**1.59**	**141**	*e*Sn	**Sn**	10 29 56.5	+2.3
PTRP	**Pietrapertosa**	**1.64**	**161**	Pn	**Pn**	10 29 35.4	+1.1
	630nm,0.7s						
PTRP	**Pietrapertosa**	**1.64**	**161**	Pn	**Pn**	10 29 35.4	+1.1
	630nm,0.7s						
MIGL	**Miglionico**	**1.69**	**150**	Pn	**Pn**	10 29 34.2	-0.7
	760nm,0.3s						
MIGL	**Miglionico**	**1.69**	**150**	Pn	**Pn**	10 29 34.2	-0.7
	760nm,0.3s						
MATE	**Matera**	**1.75**	**144**	Pg	**Pn**	10 29 34.9	-0.9
	422nm,0.4s						
CMPR	**Campora**	**1.76**	**181**	Pn	**Pn**	10 29 36.1	+0.2
	106nm,0.5s						
CMPR	**Campora**	**1.76**	**181**	Pn	**Pn**	10 29 36.1	+0.2
	106nm,0.5s						
LNSS	**Leonessa**	**1.79**	**288**	Pn	**Pn**	10 29 37.8	+1.5
	313nm,0.4s						
LNSS	**Leonessa**	**1.79**	**288**	Pn	**Pn**	10 29 37.8	+1.5
	313nm,0.4s						
NOCI	**Noci**	**1.82**	**134**	Pg	**Pn**	10 29 35.7	-1.1
	327nm,0.4s						
STON	**Ston**	**1.91**	**65**	*e*Pn	**Pn**	10 29 39.5	+1.5
STON				Sn	**Sn**	10 30 03.5	+1.4
STON	**Ston**	**1.91**	**65**	*e*Pn	**Pn**	10 29 39.5	+1.5
STON				Sn	**Sn**	10 30 03.5	+1.3
FDMO	**Fiordimonte**	**1.93**	**301**	Pn	**Pn**	10 29 39.2	+1.0
	97nm,0.4s						
FDMO	**Fiordimonte**	**1.93**	**301**	Pn	**Pn**	10 29 39.2	+1.0
	97nm,0.4s						
SIRI	**Monte Sirino -**	**1.93**	**168**	Pn	**Pn**	10 29 38.2	-0.1
	135nm,0.7s						
SIRI	**Monte Sirino -**	**1.93**	**168**	Pn	**Pn**	10 29 38.2	-0.1
	135nm,0.7s						
PE1	**Pezze di Greco**	**2.01**	**128**	*e*Pn	**Pn**	10 29 37.8	-1.6
PE1				*e*Sn	**Sn**	10 30 09.5	+4.9
CESI	**CESI - Serrava**	**2.03**	**298**	Pn	**Pn**	10 29 40.8	+1.2
	57nm,0.5s						
CESI	**CESI - Serrava**	**2.03**	**298**	Pn	**Pn**	10 29 40.8	+1.2
	57nm,0.5s						
TAR1	**Taranto**	**2.13**	**136**	*e*Sn	**Sn**	10 30 12.1	+4.6
NVLJ	**Novalja**	**2.51**	**352**	*e*Pn	**Pn**	10 29 46.3	+0.1
NVLJ				Sn	**Sn**	10 30 17.5	+0.6
NVLJ	**Novalja**	**2.51**	**352**	*e*Pn	**Pn**	10 29 46.3	+0.1
NVLJ				Sn	**Sn**	10 30 17.4	+0.5
BADI	**Badiali**	**2.70**	**303**	Pn	**Pn**	10 29 50.5	+1.7
BADI	**Badiali**	**2.70**	**303**	Pn	**Pn**	10 29 50.5	+1.7
VOY	**Vojsko**	**4.09**	**346**	*e*Pn	**Pn**	10 30 12.5	+4.6
VOY				*e*		10 30 27.0	
VOY				*e*Sn	**Sn**	10 30 54.7	-1.1
VOY	**Vojsko**	**4.09**	**346**	*e*Pn	**Pn**	10 30 12.5	+4.6
VOY				*e*Sn	**Sn**	10 30 54.7	-1.1
OBKA	**Obir**	**4.47**	**353**	⇓*i* Pn	**Pn**	10 30 13.8	+0.7
OBKA				⇓*i* Sn	**Sn**	10 31 03.8	-1.4
OBKA	**Obir**	**4.47**	**353**	Pn	**Pn**	10 30 13.8	+0.7
OBKA				Sn	**Sn**	10 31 03.8	-1.4
MOA	**Molln**	**5.82**	**353**	⇓*i* Pn	**Pn**	10 30 33.5	+1.7
MOA				⇑*i* Sn	**Sn**	10 31 36.9	-1.6
MOA	**Molln**	**5.82**	**353**	Pn	**Pn**	10 30 33.5	+1.8
MOA				Sn	**Sn**	10 31 36.9	-1.6

MEX 05 10:33:27.9±1.2, 16°.10N×97°.20W, h16km±22km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.94**	**288**	*e*P	Pb	10 33 42.0	-3.9
PNIG				*i* S	Sb	10 33 54.0	-4.1
VHO	**Vista Hermosa**	**1.07**	**24**	*e*P	Pb	10 33 44.2	-3.8
VHO				*i* S	Sb	10 33 57.0	-4.8
OXX	**Oaxaca**	**1.08**	**25**	*i* P	Pb	10 33 45.4	-2.8
OXX				*i* S	Sb	10 33 58.3	-3.8
HUIG	**Huatulco**	**1.09**	**107**	*i* P	Pb	10 33 46.1	-2.4
HUIG				*i* S	Sb	10 33 59.0	-3.6
UTMO	**Huajuapan**	**1.82**	**341**	*i* P	Pn	10 33 56.8	-1.8
UTMO				*i* S	Sn	10 34 16.2	-5.1
TPIG	**Tehuac#an**	**2.32**	**356**	*i* P	Pn	10 34 03.2	-2.2
TPIG				*i* S	Sn	10 34 29.2	-4.4
CMIG	**Matias Romero**	**2.43**	**66**	*i* P	Pn	10 34 03.7	-3.2
CMIG				*i* S	Sn	10 34 32.7	-3.6

MAN 05 10:38:06, 16°.29N×120°.06E, h7km, mb3.8, ML2.5, MS2.1, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.17**	**304**	*e*P	Pg	10 38 10.7	+1.2
BOLP				*e*S	Sg	10 38 13.7	+2.0
BCPH	**Baguio City Da**	**0.51**	**80**	⇑*i* P	Pg	10 38 17.7	+1.8
BALP	**Baler**	**1.56**	**110**	*e*P	Pn	10 38 34.0	-0.2
CAUP	**Cauayan**	**1.81**	**69**	*e*P	Pn	10 38 39.4	+1.7

*IDC **05** 11:11:11.6±1.0, 35°.20N×23°.22E, h0km, mb3.9/7, mb1 3.9/10, mb1mx3.7/27, mbtmp3.8/10, ML3.7/3, MS3.4/2, Ms1 3.4/2, ms1mx2.5/47, Error ellipse: s-maj=30.2km s-min=18.3km az=103.0*
*ISCJB **05** 11:11:13.1±1.1, 35°.05N±0°.05×23°.13E±0°.04, h3km±7km, mb3.8/8, MS3.3/2, Error ellipse: s-maj=8.6km s-min=4.6km az=30.7*
*ATH **05** 11:11:14.9, 35°.21N×23°.23E, h9km±1km, MD3.7/14, ML3.5*
*THE **05** 11:11:15.0, 35°.17N×23°.22E, h0km±7km, Error ellipse: s-maj=9.5km s-min=1.4km az=198.0*
*CSEM **05** 11:11:16.2±0.4, 35°.21N×23°.25E, h2km, MD3.7, Error ellipse: s-maj=11.7km s-min=3.7km az=29.0*

ISC 05 11:11:14.4±1.2, 35°.07N±0°.05×23°.15E±0°.04, h2km±7km, n118, σ1s13/129, mb3.8/8, MS3.3/2, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARN	**Karanos**	**0.71**	**62**	*e*PB	**Pg**	11 11 26.5	-1.5
KARN	**Karanos**	**0.71**	**62**	P	**Pg**	11 11 27.2	-0.8
KARN				S	**Sg**	11 11 36.4	-0.8
KARN	**Karanos**	**0.71**	**62**	*e*Pb	**Pg**	11 11 26.5	-1.5
KARN	**Karanos**	**0.71**	**62**	P	**Pg**	11 11 27.2	-0.8
KARN				S	**Sg**	11 11 36.4	-0.8
VAM	**Vamos**	**0.92**	**68**	*e*PB	**Pg**	11 11 31.0	-1.1
VAM	**Vamos**	**0.92**	**68**	P	**Pg**	11 11 30.7	-1.4
VAM	**Vamos**	**0.92**	**68**	P	**Pg**	11 11 30.7	-1.4
VAM	**Vamos**	**0.92**	**68**	*e*Pb	**Pg**	11 11 31.0	-1.1
KYTH	**Kithira**	**1.21**	**356**	*e*PG	**Pn**	11 11 35.0	-3.3
KYTH	**Kithira**	**1.21**	**356**	P	**Pn**	11 11 34.6	-3.7
KYTH	**Kithira**	**1.21**	**356**	P	**Pn**	11 11 34.6	-3.7
KYTH	**Kithira**	**1.21**	**356**	*e*Pg	**Pn**	11 11 35.0	-3.3
SIVA	**Sivas**	**1.36**	**92**	*e*PG	**Pn**	11 11 39.4	-1.0
SIVA	**Sivas**	**1.36**	**92**	P	**Pn**	11 11 39.5	-0.9
SIVA	**Sivas**	**1.36**	**92**	P	**Pn**	11 11 39.5	-0.9
VLI	**Veliai**	**1.65**	**354**	*e*PG	**Pn**	11 11 42.8	-1.6
VLI				*e*SB	**Sn**	11 12 04.8	-1.3
VLI	**Veliai**	**1.65**	**354**	P	**Pn**	11 11 42.9	-1.5
VLI	**Veliai**	**1.65**	**354**	P	**Pn**	11 11 42.9	-1.5
VLI				*e*Sb	**Sn**	11 12 04.8	-1.3
LAST	**Lasithi**	**1.91**	**87**	*e*PN	**Pn**	11 11 48.5	+0.6
LAST				*e*SN	**Sn**	11 12 12.9	+0.4
LAST	**Lasithi**	**1.91**	**87**	P	**Pn**	11 11 48.5	+0.6
LAST	**Lasithi**	**1.91**	**87**	P	**Pn**	11 11 48.5	+0.6
LAST				*e*Sn	**Sn**	11 12 12.9	+0.4
NPS	**Neapolis**	**2.03**	**84**	*e*PN	**Pn**	11 11 50.2	+0.7
NPS				*e*SN	**Sn**	11 12 16.2	+0.8
NPS	**Neapolis**	**2.03**	**84**	P	**Pn**	11 11 51.3	+1.8
NPS	**Neapolis**	**2.03**	**84**	*e*Pn	**Pn**	11 11 50.2	+0.7
NPS	**Neapolis**	**2.03**	**84**	P	**Pn**	11 11 51.3	+1.8
NPS				*e*Sn	**Sn**	11 12 16.2	+0.8
XRY	**Khrisi**	**2.10**	**95**	*e*PN	**Pn**	11 11 51.6	+1.1
XRY	**Khrisi**	**2.10**	**95**	*e*Pn	**Pn**	11 11 51.6	+1.1
PYL	**PYLOS**	**2.15**	**328**	*e*PN	**Pn**	11 11 51.8	+0.6
PYL	**PYLOS**	**2.15**	**328**	P	**Pn**	11 11 50.4	-0.8
PYL	**PYLOS**	**2.15**	**328**	P	**Pn**	11 11 50.4	-0.8
PYL	**PYLOS**	**2.15**	**328**	*e*Pn	**Pn**	11 11 51.8	+0.6
THR3	**Thira Island,**	**2.27**	**53**	P	**Pn**	11 11 53.0	+0.2
THR3	**Thira Island,**	**2.27**	**53**	P	**Pn**	11 11 53.0	+0.2
ITM	**Ithomi**	**2.33**	**335**	*e*PN	**Pn**	11 11 54.2	+0.6
ITM	**Ithomi**	**2.33**	**335**	P	**Pn**	11 11 54.7	+1.1
ITM	**Ithomi**	**2.33**	**335**	*e*Pn	**Pn**	11 11 54.2	+0.6
ITM	**Ithomi**	**2.33**	**335**	P	**Pn**	11 11 54.7	+1.1
VLX	**Vlachokerasia**	**2.38**	**345**	*e*PN	**Pn**	11 11 54.6	+0.3
VLX				*e*SN	**Sn**	11 12 24.0	0.0
VLX	**Vlachokerasia**	**2.38**	**345**	P	**Pn**	11 11 53.9	-0.4
VLX	**Vlachokerasia**	**2.38**	**345**	P	**Pn**	11 11 53.9	-0.4
VLX	**Vlachokerasia**	**2.38**	**345**	*e*Pn	**Pn**	11 11 54.6	+0.3
VLX				*e*Sn	**Sn**	11 12 24.0	0.0
DID	**Didima**	**2.43**	**2**	*e*PN	**Pn**	11 11 55.2	+0.1
DID	**Didima**	**2.43**	**2**	P	**Pn**	11 11 52.9	-2.2
DID	**Didima**	**2.43**	**2**	P	**Pn**	11 11 52.9	-2.2
DID	**Didima**	**2.43**	**2**	*e*Pn	**Pn**	11 11 55.2	+0.1
ZKR	**Zakros**	**2.52**	**88**	*e*PN	**Pn**	11 11 57.7	+1.5
ZKR	**Zakros**	**2.52**	**88**	P	**Pn**	11 11 58.0	+1.8
ZKR	**Zakros**	**2.52**	**88**	*e*Pn	**Pn**	11 11 57.7	+1.5
ZKR	**Zakros**	**2.52**	**88**	P	**Pn**	11 11 58.0	+1.8
NAIG	**Nisos Aigina**	**2.69**	**6**	*e*PN	**Pn**	11 11 58.5	-0.2
NAIG	**Nisos Aigina**	**2.69**	**6**	*e*Pn	**Pn**	11 11 58.5	-0.2
APE	**Apeiranthos**	**2.77**	**43**	*e*PN	**Pn**	11 12 00.0	+0.2
APE	**Apeiranthos**	**2.77**	**43**	P	**Pn**	11 11 59.1	-0.7
APE	**Apeiranthos**	**2.77**	**43**	P	**Pn**	11 11 59.1	-0.7
APE	**Apeiranthos**	**2.77**	**43**	*e*Pn	**Pn**	11 12 00.0	+0.2
VLY	**Voula,Athens**	**2.82**	**10**	P	**Pn**	11 12 00.8	+0.3
VLY	**Voula,Athens**	**2.82**	**10**	P	**Pn**	11 12 00.8	+0.3
ATH	**Athens Observa**	**2.93**	**9**	*e*PN	**Pn**	11 12 02.3	+0.4
ATH				*e*SN	**Sn**	11 12 35.6	-2.1
ATH	**Athens Observa**	**2.93**	**9**	*e*Pn	**Pn**	11 12 02.3	+0.4
ATH				*e*Sn	**Sn**	11 12 35.6	-2.1
GUR	**Goura**	**2.93**	**347**	*e*PN	**Pn**	11 12 04.0	+2.0
GUR	**Goura**

mb4.1/12, Error ellipse: s-maj=29.1km s-min=23.9km az=25.6
*NEIC **05** 11:43:24.1±2.6, 17°.24S×174°.59W, h238km±22km, mb4.4/5, Error ellipse: s-maj=23.1km s-min=18.5km az=110.0*
ISC 05 11:43:25.6±2.9, 17°.1S±0°.2×174°.7W±0°.2, h251km±25km, n23, σ0938/21, mb4.1/12, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.96**	**264**	*e*Pn	**Pn**	**11 45 05.8**	**+0.1**
	44nm,1.0s						
URZ	**Urewera**	**22.28**	**197**	P	**P**	**11 47 58.3**	**-3.7**
	11nm,0.5s,mb4.7,baz=19,slow=6.5,SNR=12						
URZ	**Urewera**	**22.28**	**197**	P	**P**	**11 47 58.3**	**-3.7**
ARMA	**Armidale**	**33.42**	**240**	*e*P	**P**	**11 49 41.2**	**+0.2**
	6.1nm,0.5s,mb4.4						
STKA	**Stephens Creek**	**42.13**	**241**	P	**P**	**11 50 53.7**	**+0.1**
	7.4nm,0.7s,mb4.3,baz=85,slow=9.7,SNR=20						
STKA	**Stephens Creek**	**42.13**	**241**	P	**P**	**11 50 53.7**	**+0.1**
WRAB	**Tennant Creek**	**48.26**	**258**	*e*P	**P**	**11 51 41.6**	**-0.2**
	3.7nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**48.27**	**258**	P	**P**	**11 51 41.8**	**-0.1**
	3.5nm,0.6s,mb3.9,baz=95,slow=7.3,SNR=105						
WRA	**Warramunga Arr**	**48.27**	**258**	P	**P**	**11 51 41.8**	**-0.1**
ASAR	**Alice Springs**	**48.42**	**253**	P	**P**	**11 51 43.1**	**+0.1**
	19nm,0.6s,mb4.6,baz=88,slow=8.7,SNR=366						
ASAR	**Alice Springs**	**48.42**	**253**	P	**P**	**11 51 43.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**56.66**	**259**	P	**P**	**11 52 43.3**	**-0.1**
	1.1nm,0.5s,mb3.8,baz=62,slow=8.1,SNR=2.5						
FITZ	**Fitzroy Crossi**	**56.66**	**259**	P	**P**	**11 52 43.3**	**-0.1**
SBA	**Scott Base**	**61.48**	**184**	*e*P	**P**	**11 53 15.7**	**+0.3**
	3.4nm,0.8s,mb4.0						
QSPA	**South Pole Qui**	**72.96**	**180**	*e*P	**P**	**11 54 27.0**	**-0.2**
	9.3nm,0.9s,mb4.4						
ILAR	**Eielson Array**	**84.34**	**12**	P	**P**	**11 55 29.0**	**0.0**
	0.3nm,0.5s,mb3.3,baz=231,slow=5.5,SNR=14						
ILAR	**Eielson Array**	**84.34**	**12**	P	**P**	**11 55 29.0**	**0.0**
PDAR	**Pinedale Array**	**84.34**	**42**	P	**P**	**11 55 29.6**	**0.0**
	0.6nm,0.7s,mb3.4,baz=254,slow=4.6,SNR=6.1						
PDAR	**Pinedale Array**	**84.34**	**42**	P	**P**	**11 55 29.6**	**0.0**
MAW	**Mawson**	**85.80**	**199**	P	**P**	**11 55 36.8**	**+0.4**
	2.3nm,0.5s,mb4.2,baz=123,slow=8.3,SNR=10						
MAW	**Mawson**	**85.80**	**199**	P	**P**	**11 55 36.8**	**+0.4**
BRTR	**Keskin Array B**	**146.64**	**318**	PKPbc	PKPbc	12 02 39.5	+1.6
	0.5nm,0.4s,baz=45,slow=4.3,SNR=3.5						
BRTR	**Keskin Array B**	**146.64**	**318**	PKPbc	PKPbc	12 02 39.5	+1.6

*ISCJB **05** 11:48:56.3±0.8, 40°.11N±0°.03×34°.68E±0°.08, h10km, Error ellipse: s-maj=9.3km s-min=4.8km az=4.9*
*CSEM **05** 11:48:56.1±0.3, 40°.11N×34°.66E, h8km, MD2.8, Error ellipse: s-maj=10.7km s-min=4.6km az=98.0*
*DDA **05** 11:48:56.1, 40°.09N×34°.69E, h7km±1km, Md2.8*
ISC 05 11:48:56.8±0.8, 40°.11N±0°.04×34°.67E±0°.09, h8km±11km, n8, σ0857/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTKT	**Corum**	**0.53**	**10**	*i* P	**Pg**	**11 49 06.2**	**-0.7**
CTKT				*i* S	**Sg**	**11 49 14.7**	**+0.9**
CTKT	**Corum**	**0.53**	**10**	*i* P	**Pg**	**11 49 06.2**	**-0.7**
CTKT				*i* S	**Sg**	**11 49 14.7**	**+0.9**
CDAG	**Cicekdag**	**0.53**	**206**	*i* P	**Pg**	**11 49 06.4**	**-0.7**
CDAG				*i* S	**Sg**	**11 49 14.5**	**+0.6**
CDAG	**Cicekdag**	**0.53**	**206**	*i* P	**Pg**	**11 49 06.4**	**-0.6**
CDAG				*i* S	**Sg**	**11 49 14.5**	**+0.5**
YOZ	**Yozgat**	**0.68**	**133**	*e*PG	**Pg**	**11 49 09.6**	**-0.3**
YOZ				*e*SG	**Sg**	**11 49 18.9**	**+0.1**
YOZ	**Yozgat**	**0.68**	**133**	*e*Pg	**Pg**	**11 49 09.6**	**-0.3**
AVNT	**Avonos**	**1.33**	**174**	*i* P	**Pn**	**11 49 21.2**	**-0.4**
AVNT				*i* S	**Sb**	**11 49 39.8**	**+0.6**
AVNT	**Avonos**	**1.33**	**174**	*i* P	**Pn**	**11 49 21.2**	**-0.5**
AVNT				*i* S	**Sb**	**11 49 39.8**	**+0.6**

*ISK **05** 11:57:24.7, 34°.84N×27°.34E, h49km, ML3.4*
*ISCJB **05** 11:57:25.4±0.8, 35°.06N±0°.03×27°.48E±0°.02, h4km±5km, mb3.9/4, Error ellipse: s-maj=5.5km s-min=3.0km az=176.9*
*IDC **05** 11:57:25.2±1.2, 35°.18N×27°.32E, h0km, mb3.9/4, mb1 3.9/9, mb1mx3.7/26, mbtmp3.8/9, ML3.7/5, Error ellipse: s-maj=23.7km s-min=20.4km az=2.0*
*ATH **05** 11:57:26.7, 35°.08N×27°.40E, h18km±2km, MD3.6/16*
*CSEM **05** 11:57:27.0±0.2, 35°.15N×27°.46E, h2km, MD3.6, Error ellipse: s-maj=5.9km s-min=2.6km az=168.0*
*THE **05** 11:57:29.2, 35°.27N×27°.40E, h0km±1km, Error ellipse: s-maj=3.5km s-min=1.5km az=119.0*
ISC 05 11:57:26.9±0.8, 35°.10N±0°.03×27°.46E±0°.02, h4km±5km, n123, σ0994/149, mb3.9/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.51**	**332**	*e*Pn	**Pg**	**11 57 35.9**	**-0.7**
KARP				*e*SN	**Sg**	**11 57 43.5**	**+0.3**
KARP	**Karpathos**	**0.51**	**332**	P	**Pg**	**11 57 35.9**	**-0.7**
KARP				S	**Sg**	**11 57 42.8**	**-0.4**
KARP	**Karpathos**	**0.51**	**332**	P	**Pg**	**11 57 35.9**	**-0.7**
KARP				S	**Sg**	**11 57 42.8**	**-0.4**
ZKR	**Zakros**	**1.02**	**271**	*e*PN	**Pg**	**11 57 45.3**	**-1.1**
ZKR				*e*SN	**Sg**	**11 57 58.0**	**-1.6**
ZKR	**Zakros**	**1.02**	**271**	P	**Pg**	**11 57 45.1**	**-1.3**
ZKR				S	**Sg**	**11 58 02.3**	**+2.7**
ZKR	**Zakros**	**1.02**	**271**	P	**Pg**	**11 57 45.1**	**-1.3**
ZKR				S	**Sg**	**11 58 02.3**	**+2.7**
ARG	**Arkhangelos**	**1.24**	**26**	*e*PN	**Pn**	**11 57 51.0**	**+0.1**
ARG				*e*SN	**Sn**	**11 58 09.2**	**+1.1**
ARG	**Arkhangelos**	**1.24**	**26**	P	**Pg**	**11 57 50.8**	**+0.2**
ARG	**Arkhangelos**	**1.24**	**26**	*e*Pn	**Pn**	**11 57 51.0**	**+0.1**
ARG				*e*Sn	**Sn**	**11 58 09.2**	**+1.1**
XRY	**Khrisi**	**1.47**	**262**	*e*PN	**Pn**	**11 57 53.7**	**-0.4**
XRY	**Khrisi**	**1.47**	**262**	*e*Pn	**Pn**	**11 57 53.7**	**-0.4**
NPS	**Neapolis**	**1.52**	**277**	*e*PN	**Pn**	**11 57 55.0**	**+0.2**
NPS				*e*SN	**Sn**	**11 58 13.8**	**-1.2**
NPS	**Neapolis**	**1.52**	**277**	P	**Pn**	**11 57 54.9**	**+0.1**
NPS				S	**Sn**	**11 58 16.5**	**+1.5**
NPS	**Neapolis**	**1.52**	**277**	P	**Pn**	**11 57 54.9**	**+0.1**
NPS				*e*Sn	**Sn**	**11 58 13.8**	**-1.2**
NPS				S	**Sn**	**11 58 16.5**	**+1.5**
LAST	**Lasithi**	**1.62**	**273**	*e*PN	**Pn**	**11 57 56.9**	**+0.7**
LAST				*e*SN	**Sn**	**11 58 17.8**	**+0.2**
LAST	**Lasithi**	**1.62**	**273**	P	**Pn**	**11 57 56.7**	**+0.5**
LAST	**Lasithi**	**1.62**	**273**	*e*Pn	**Pn**	**11 57 56.9**	**+0.7**
LAST				*e*Sn	**Sn**	**11 58 17.8**	**+0.2**
DAT	**Datca**	**1.63**	**3**	*e*PN	**Pn**	**11 57 55.7**	**-0.6**
DAT				*e*SN	**Sn**	**11 58 18.5**	**+0.8**
DAT	**Datca**	**1.63**	**3**	*e*Pn	**Pn**	**11 57 55.7**	**-0.6**
DAT				*e*Sn	**Sn**	**11 58 18.5**	**+0.8**
BODT	**Bodrum**	**1.96**	**357**	*e*PN	**Pn**	**11 58 00.1**	**-0.7**
BODT	**Bodrum**	**1.96**	**357**	*e*Pn	**Pn**	**11 58 00.1**	**-0.8**
TURN	**Turunc**	**2.00**	**27**	*i* P	**Pn**	**11 57 59.8**	**-1.6**
TURN	**Turunc**	**2.00**	**27**	*i* P	**Pn**	**11 57 59.8**	**-1.6**
FETY	**Fethiye**	**2.02**	**40**	*e*PN	**Pn**	**11 58 01.3**	**-0.4**
FETY	**Fethiye**	**2.02**	**40**	*e*Pn	**Pn**	**11 58 01.3**	**-0.4**
KSL	**Kastellorizon**	**2.02**	**58**	*e*PN	**Pn**	**11 58 02.7**	**+1.0**
KSL	**Kastellorizon**	**2.02**	**58**	*e*PB	**Pn**	**11 58 02.3**	**+0.6**
AKAS	**Kas**	**2.08**	**57**	*i* P	**Pn**	**11 58 02.6**	**+0.1**
AKAS	**Kas**	**2.08**	**57**	*i* P	**Pn**	**11 58 02.6**	**+0.1**
AKAS				*i* S	**Sn**	**11 58 29.4**	**+0.5**
THR3	**Thira Island,**	**2.12**	**309**	P	**Pn**	**11 58 02.6**	**-0.5**
THR3	**Thira Island,**	**2.12**	**309**	P	**Pn**	**11 58 02.6**	**-0.5**
YER	**Yerkesik**	**2.14**	**18**	*e*PN	**Pn**	**11 58 03.1**	**-0.2**
YER	**Yerkesik**	**2.14**	**18**	*e*Pn	**Pn**	**11 58 03.1**	**-0.2**
SIVA	**Sivas**	**2.17**	**269**	*e*PN	**Pn**	**11 58 04.7**	**+0.9**
SIVA	**Sivas**	**2.17**	**269**	P	**Pn**	**11 58 04.7**	**+0.9**
SIVA	**Sivas**	**2.17**	**269**	P	**Pn**	**11 58 04.7**	**+0.9**
MLSB	**Milas**	**2.21**	**7**	*e*PN	**Pn**	**11 58 04.0**	**-0.3**
MLSB	**Milas**	**2.21**	**7**	*e*Pn	**Pn**	**11 58 04.0**	**-0.2**
APE	**Apeiranthos**	**2.51**	**322**	*e*PN	**Pn**	**11 58 06.8**	**-1.6**
APE	**Apeiranthos**	**2.51**	**322**	*e*PN	**Pn**	**11 58 08.0**	**-0.4**
APE				*e*SN	**Sn**	**11 58 39.4**	**0.0**
APE	**Apeiranthos**	**2.51**	**322**	P	**Pn**	**11 58 07.8**	**-0.6**
APE	**Apeiranthos**	**2.51**	**322**	*e*Pn	**Pn**	**11 58 08.0**	**-0.4**
APE				*e*Sn	**Sn**	**11 58 39.4**	**0.0**
AYDN	**Tasoluk**	**2.58**	**7**	*i* P	**Pn**	**11 58 09.7**	**+0.3**
AYDN	**Tasoluk**	**2.58**	**7**	*i* P	**Pn**	**11 58 09.6**	**+0.3**
ELL	**Elmali**	**2.58**	**50**	*e*PN	**Pn**	**11 58 09.1**	**-0.3**
ELL	**Elmali**	**2.58**	**50**	*e*Pn	**Pn**	**11 58 09.1**	**-0.3**
GLHS	**Glhisar (BURDU**	**2.63**	**38**	*e*PN	**Pn**	**11 58 10.2**	**0.0**
GLHS	**Glhisar (BURDU**	**2.63**	**38**	*e*Pn	**Pn**	**11 58 10.2**	**+0.1**
SMG	**Samos**	**2.65**	**349**	*e*PB	**Pn**	**11 58 12.5**	**+2.2**
SMG	**Samos**	**2.65**	**349**	*e*Pb	**Pn**	**11 58 12.5**	**+2.2**
VAM	**Vamos**	**2.68**	**277**	*e*PN	**Pn**	**11 58 11.1**	**+0.3**
VAM				*e*Sn	**Sn**	**11 58 43.7**	**-0.1**
VAM	**Vamos**	**2.68**	**277**	P	**Pn**	**11 58 11.7**	**+0.9**
VAM	**Vamos**	**2.68**	**277**	*e*Pn	**Pn**	**11 58 11.1**	**+0.3**
VAM	**Vamos**	**2.68**	**277**	P	**Pn**	**11 58 11.7**	**+0.9**
VAM				*e*Sn	**Sn**	**11 58 43.7**	**-0.1**
GOLH	**Golhisar**	**2.73**	**38**	*i* P	**Pn**	**11 58 12.0**	**+0.6**
GOLH	**Golhisar**	**2.73**	**38**	*i* P	**Pn**	**11 58 12.0**	**+0.6**
DNZL	**Cakiroluk**	**2.88**	**26**	*i* P	**Pn**	**11 58 13.8**	**+0.2**
DNZL	**Cakiroluk**	**2.88**	**26**	*i* P	**Pn**	**11 58 13.8**	**+0.2**
KARN	**Karanos**	**2.91**	**277**	*e*PB	**Pn**	**11 58 15.8**	**+1.8**
KARN	**Karanos**	**2.91**	**277**	P	**Pn**	**11 58 15.7**	**+1.7**
KARN	**Karanos**	**2.91**	**277**	P	**Pn**	**11 58 15.7**	**+1.7**
KORT	**Korkueli**	**3.01**	**50**	*i* P	**Pn**	**11 58 16.8**	**+1.5**
KORT	**Korkueli**	**3.01**	**50**	*i* P	**Pn**	**11 58 16.8**	**+1.4**
URLA	**Izmir**	**3.33**	**348**	*i* P	**Pn**	**11 58 18.6**	**-1.1**
URLA	**Izmir**	**3.33**	**348**	*i* P	**Pn**	**11 58 18.6**	**-1.0**
CHOS	**Chios island**	**3.47**	**341**	*e*PN	**Pn**	**11 58 21.5**	**-0.1**
CHOS	**Chios island**	**3.47**	**341**	*e*Pn	**Pn**	**11 58 21.5**	**-0.1**
MANT	**Manisa**	**3.50**	**14**	*i* P	**Pn**	**11 58 21.1**	**-0.8**
MANT	**Manisa**	**3.50**	**14**	*i* P	**Pn**	**11 58 21.1**	**-0.9**
KULA	**Kula-Manisa**	**3.54**	**15**	*e*PN	**Pn**	**11 58 22.5**	**-0.1**
KULA	**Kula-Manisa**	**3.54**	**15**	*e*Pn	**Pn**	**11 58 22.5**	**-0.1**
KHAL	**Karahalli**	**3.65**	**26**	*i* P	**Pn**	**11 58 23.7**	**-0.3**
KHAL	**Karahalli**	**3.65**	**26**	*i* P	**Pn**	**11 58 23.7**	**-0.4**
SUTC	**Sutluce-Ispart**	**3.71**	**49**	*e*PN	**Pn**	**11 58 25.3**	**+0.3**
SUTC	**Sutluce-Ispart**	**3.71**	**49**	*e*Pn	**Pn**	**11 58 25.3**	**+0.3**
KYTH	**Kithira**	**3.79**	**289**	*e*PN	**Pn**	**11 58 26.2**	**+0.2**
KYTH	**Kithira**	**3.79**	**289**	P	**Pn**	**11 58 26.1**	**+0.1**
KYTH	**Kithira**	**3.79**	**289**	*e*Pn	**Pn**	**11 58 26.2**	**+0.2**
VLI	**Veliai**	**4.01**	**295**	*e*PN	**Pn**	**11 58 29.4**	**+0.4**
VLI				*e*SN	**Sn**	**11 59 15.6**	**-0.8**
VLI	**Veliai**	**4.01**	**295**	P	**Pn**	**11 58 28.5**	**-0.5**
VLI	**Veliai**	**4.01**	**295**	P	**Pn**	**11 58 28.5**	**-0.5**
VLI	**Veliai**	**4.01**	**295**	*e*Pn	**Pn**	**11 58 29.4**	**+0.4**
VLI				*e*Sn	**Sn**	**11 59 15.6**	**-0.8**
DEMI	**Demirci**	**4.06**	**14**	*i* P	**Pn**	**11 58 29.4**	**-0.3**
DEMI	**Demirci**	**4.06**	**14**	*i* P	**Pn**	**11 58 29.4**	**-0.3**
GAZI	**Gazipasa**	**4.11**	**73**	*i* P	**Pn**	**11 58 31.9**	**+1.5**
GAZI	**Gazipasa**	**4.11**	**73**	*i* P	**Pn**	**11 58 31.9**	**+1.4**
GAZI				*i* S	**Sn**	**11 59 16.3**	**-2.7**
DID	**Didima**	**4.17**	**306**	*e*PN	**Pn**	**11 58 31.6**	**+0.4**
DID	**Didima**	**4.17**	**306**	P	**Pn**	**11 58 31.7**	**+0.5**
DID	**Didima**	**4.17**	**306**	*e*Pn	**Pn**	**11 58 31.6**	**+0.4**
GDZ	**Gediz**	**4.30**	**22**	*i* P	**Pn**	**11 58 31.4**	**-1.5**
GDZ	**Gediz**	**4.30**	**22**	*i* P	**Pn**	**11 58 31.4**	**-1.6**
HDMB	**Hadim**	**4.48**	**64**	*e*PN	**Pn**	**11 58 35.6**	**+0.2**
HDMB	**Hadim**	**4.48**	**64**	*e*Pn	**Pn**	**11 58 35.7**	**+0.2**
DURS	**Dursunbey**	**4.56**	**10**	*i* P	**Pn**	**11 58 35.8**	**-0.8**
DURS	**Dursunbey**	**4.56**	**10**	*i* P	**Pn**	**11 58 35.8**	**-0.9**
LTK	**Loutraki**	**4.64**	**310**	*e*PN	**Pn**	**11 58 38.9**	**+1.1**
LTK	**Loutraki**	**4.64**	**310**	*e*Pn	**Pn**	**11 58 38.9**	**+1.1**
ERMK	**Ermenek**	**4.69**	**69**	*i* P	**Pn**	**11 58 27.1**	**-11**
CSS	**Prodhromos**	**4.82**	**90**	*e*PN	**Pn**	**11 58 39.1**	**-1.1**
CSS	**Prodhromos**	**4.82**	**90**	*e*Pn	**Pn**	**11 58 39.1**	**-1.1**
KONT	**Konya--Tatoy**	**4.86**	**53**	*e*PN	**Pn**	**11 58 41.2**	**+0.5**
KONT	**Konya--Tatoy**	**4.86**	**53**	*e*Pn	**Pn**	**11 58 41.2**	**+0.4**
ITM	**Ithomi**	**4.93**	**296**	*e*PN	**Pn**	**11 58 42.7**	**+1.0**
ITM	**Ithomi**	**4.93**	**296**	*e*Pn	**Pn**	**11 58 42.7**	**+1.0**
PYL	**PYLOS**	**4.97**	**293**	*e*PN	**Pn**	**11 58 42.5**	**+0.3**
PYL	**PYLOS**	**4.97**	**293**	*e*Pn	**Pn**	**11 58 42.5**	**+0.3**
LFK	**Lefkose**	**4.98**	**86**	*e*PN	**Pn**	**11 58 41.4**	**-1.0**
LFK	**Lefkose**	**4.98**	**86**	*e*Pn	**Pn**	**11 58 41.4**	**-1.0**
GUR	**Goura**	**5.00**	**306**	*e*PN	**Pn**	**11 58 42.9**	**+0.3**
GUR	**Goura**	**5.00**	**306**	*e*Pn	**Pn**	**11 58 42.9**	**+0.3**
KIZT	**Kizilcal**	**5.17**	**42**	*e*PN	**Pn**	**11 58 46.1**	**+1.1**
KIZT	**Kizilcal**	**5.17**	**42**	*e*Pn	**Pn**	**11 58 46.1**	**+1.1**
GULE	**Gulek**	**6.31**	**68**	*i* P	**Pn**	**11 59 02.1**	**+1.5**
GULE	**Gulek**	**6.31**	**68**	*i* P	**Pn**	**11 59 02.1**	**+1.5**
BRTR	**Keskin Array B**	**6.74**	**45**	Pn	**Pn**	**11 59 07.7**	**+1.1**
	0.2nm,0.3s,baz=219,slow=11,SNR=9.5						
MMAI	**Mount Meron Ar**	**6.91**	**105**	Pn	**Pn**	**11 59 09.7**	**+0.7**
	3.3nm,0.3s,baz=310,slow=13,SNR=6.2						
MMAI				Sn	**Sn**	**12 00 28.9**	**+0.9**
	2.6nm,0.3s,baz=296,slow=27,SNR=3.2						
EIL	**Elat**	**8.33**	**128**	Pn	**Pn**	**11 59 28.4**	**0.0**
	1.7nm,0.3s,baz=360,slow=10,SNR=7.6						
EIL				Sn	**Sn**	**12 01 00.6**	**-2.4**
	0.8nm,0.3s,baz=39,slow=16,SNR=4.8						
ASF	**Jabal al Asfar**	**8.39**	**108**	Pn	**Pn**	**11 59 30.2**	**+0.9**
	0.5nm,0.3s,baz=31,slow=4.8,SNR=2.3						
GERES	**GERESS Array B**	**17.08**	**328**	Pn	**Pn**	**12 01 24.9**	**-1.6**
	0.2nm,0.3s,baz=139,slow=12,SNR=3						
TORD	**Torodi Ar. Bea**	**31.93**	**233**	P	**P**	**12 03 52.6**	**-1.1**
	2.0nm,0.6s,mb4.1,baz=36,slow=9.5,SNR=20						
ARCES	**ARCESS Array B**	**34.51**	**359**	P	**P**	**12 04 12.8**	**-2.8**
	2.9nm,1.0s,mb4.2,baz=165,slow=7.5,SNR=3.2						
MKAR	**Makanchi Array**	**42.23**	**57**	P	**P**	**12 05 20.8**	**-0.2**
	0.6nm,0.5s,mb3.5,baz=274,slow=6.5,SNR=9.0						
ZALV	**Zalesovo Beam**	**43.69**	**46**	P	**P**	**12 05 31.7**	**-0.9**
	0.4nm,0.3s,mb3.6,baz=261,slow=8.6,SNR=2.4						

*ISCJB **05** 12:01:32.4±0.5, 39°.82N±0°.03×26°.54E±0°.04, h10km, Error ellipse: s-maj=4.9km s-min=4.1km az=32.6*
*CSEM **05** 12:01:32.9±0.2, 39°.83N×26°.55E, h2km, MD2.4, Error ellipse: s-maj=4.3km s-min=3.6km az=49.0*
*DDA **05** 12:01:32.3, 39°.80N×26°.55E, h7km±2km, Md2.8*
*ISK **05** 12:01:32.5, 39°.84N×26°.55E, h12km, MD2.4*
ISC 05 12:01:33.0±0.5, 39°.82N±0°.03×26°.53E±0°.04, h10km, n25, σ0974/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EZN	**Ezine**	**0.16**	**272**	*e*PG	**Pg**	**12 01 36.8**	**+0.3**
EZN	**Ezine**	**0.16**	**272**	*e*Pg	**Pg**	**12 01 36.8**	**+0.3**
BOZC	**Bozcaada**	**0.37**	**273**	*i* P	**Pg**	**12 01 40.4**	**+0.1**
BOZC				*i* S	**Sg**	**12 01 45.8**	**+0.6**
AYVA	**Ayvalik**	**0.53**	**167**	*i* P	**Pg**	**12 01 42.6**	**-0.6**
AYVA				*i* S	**Sg**	**12 01 49.2**	**-0.9**
AYVA	**Ayvalik**	**0.53**	**167**	*i* P	**Pg**	**12 01 42.6**	**-0.6**
AYVA				*i* S	**Sg**	**12 01 49.2**	**-0.9**
GELI	**Tayfur-Gelibol**	**0.58**	**356**	*e*PG	**Pg**	**12 01 43.9**	**-0.3**
GELI				*e*SG	**Sg**	**12 01 52.1**	**+0.3**
GELI	**Tayfur-Gelibol**	**0.58**	**356**	*e*Pg	**Pg**	**12 01 43.9**	**-0.3**
GELI				*e*Sg	**Sg**	**12 01 52.1**	**+0.3**
GADA	**Gvkgeada**	**0.61**	**307**	*e*PG	**Pg**	**12 01 44.8**	**-0.1**
GADA	**Gvkgeada**	**0.61**	**307**	*e*Pg	**Pg**	**12 01 44.8**	**0.0**
KRBG	**Karabiga-Canak**	**0.82**	**45**	*e*PG	**Pg**	**12 01 48.2**	**-0.6**
KRBG	**Karabiga-Canak**	**0.82**	**45**	*e*Pg	**Pg**	**12 01 48.2**	**-0.6**
BALY	**Balya**	**0.84**	**95**	*i* P	**Pg**	**12 01 43.9**	**-5.3**
BALY				*i* S	**Sg**	**12 01 59.9**	**-0.3**
BALY	**Balya**	**0.84**	**95**	*i* P	**Pg**	**12 01 43.9**	**-5.3**
BALY				*i* S	**Sg**	**12 01 59.9**	**-0.3**
ERIK	**Erikli-Kesan**	**0.85**	**359**	*e*PG	**Pg**	**12 01 49.1**	**-0.3**
ERIK	**Erikli-Kesan**	**0.85**	**359**	*e*Pg	**Pg**	**12 01 49.1**	**-0.3**
GONE	**Gonen-Balikesi**	**0.92**	**75**	*e*PG	**Pg**	**12 01 50.4**	**-0.2**
GONE	**Gonen-Balikesi**	**0.92**	**75**	*e*Pg	**Pg**	**12 01 50.4**	**-0.2**
ENEZ	**Enez**	**0.96**	**342**	*e*PG	**Pg**	**12 01 51.2**	**-0.3**
ENEZ	**Enez**	**0.96**	**342**	*e*Pg	**Pg**	**12 01 51.2**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.00**	**29**	*e*PG	**Pg**	**12 01 51.5**	**-0.7**
RKY	**Sarkoy-Tekirda**	**1.00**	**29**	*e*Pg	**Pg**	**12 01 51.5**	**-0.7**
MFT	**Murefte**	**1.12**	**30**	*e*PN	**Pn**	**12 01 54.4**	**-0.3**
MFT	**Murefte**	**1.12**	**30**	*e*Pn	**Pn**	**12 01 54.4**	**-0.3**
DURS	**Dursunbey**	**1.51**	**98**	*e*P	**Pn**	**12 02 01.8**	**+1.7**
DURS				*i* S	**Sn**	**12 02 21.9**	**+2.0**
DURS	**Dursunbey**	**1.51**	**98**	*e*P	**Pn**	**12 02 01.8**	**+1.7**
DURS				*i* S	**Sn**	**12 02 21.9**	**+2.0**

MEX 05 12:17:40.3±0.9, 16°.00N×97°.15W, h27km±16km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**1.02**	**293**	*e*P	Pn	12 17 55.8	-3.1
PNIG				*i* S	Sn	12 18 09.0	-3.4
HUIG	**Huatulco**	**1.02**	**103**	*e*P	Pn	12 17 56.5	-2.4
HUIG				*i* S	Sn	12 18 09.0	-3.4
VHO	**Vista Hermosa**	**1.14**	**20**	*e*P	Pn	12 17 57.6	-2.9
VHO				*i* S	Sn	12 18 11.3	-3.9
OXX	**Oaxaca**	**1.15**	**21**	*i* P	Pn	12 17 58.6	-2.1
OXX				*i* S	Sn	12 18 12.2	-3.3
UTMO	**Huajuapan**	**1.93**	**341**	*e*P	Pn	12 18 10.3	-1.0
UTMO				*i* S	Sn	12 18 32.6	-2.1
TPIG	**Tehuac#an**	**2.42**	**355**	*e*P	Pn	12 18 20.2	+2.1
TPIG				*i* S	Sn	12 18 44.6	-2.2
CMIG	**Matias Romero**	**2.43**	**63**	*i* P	Pn	12 18 16.2	-2.0
CMIG				*i* S	Sn	12 18 44.3	-2.8
PCIG		**3.79**	**94**	*e*P	Pn	12 18 34.6	-2.4
PCIG				*i* S	Sn	12 19 17.8	-2.9
TGIG		**3.94**	**78**	*i* P	Pn	12 18 36.8	-2.3
TGIG				*i* S	Sn	12 19 22.5	-1.9

*ISCJB **05** 12:34:07.7±1.1, 21°.3S±0°.1×68°.6W±0°.3, h124km±25km, mb4.1/3, Error ellipse: s-maj=55.8km s-min=12.2km az=17.7*
*IDC **05** 12:34:08.3±2.5, 21°.24S×68°.50W, h107km±29km, mb4.0/3, mb1 3.6/6, mb1mx3.4/18, mbtmp3.6/6, Error ellipse: s-maj=61.8km s-min=22.2km az=101.0*
*GUC **05** 12:34:09.6±0.3, 21°.36S×68°.84W, h133km±6km, ML3.8*
ISC 05 12:34:08.7±1.0, 21°.3S±0°.1×68°.6W±0°.3, h115km±25km, n10, σ1900/12, mb4.1/3, 1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MACH	**Maria Elena**	**1.42**	**230**	*i* P	**Pn**	**12 34 35.5**	**+0.7**
MACH				*i* S	**Sn**	**12 34 55.4**	**+0.7**
MECH	**Mejillones**	**2.50**	**223**	*i* P	**Pn**	**12 34 49.0**	**+0.6**
MECH				*i* S	**Sn**	**12 35 18.3**	**-0.5**
MECH				AML	AML	12 35 18.9	
	comp=N,721nm,0.3s						
ANCH	**Antofagasta**	**2.92**	**215**	*e*P	**Pn**	**12 34 54.0**	**+0.1**
ANCH				*e*S	**Sn**	**12 35 27.4**	**-1.3**
ANCH				AML	AML	12 35 31.0	
	comp=E,381nm,0.1s						
LPAZ	**La Paz**	**4.98**	**5**	P	**Pn**	**12 35 20.9**	**-0.6**
	comp=E,2.7nm,0.3s,baz=193,slow=7.4,SNR=43						
CFAA	**Coronel Fontan**	**10.29**	**178**	P	**Pn**	**12 36 32.2**	**-1.0**
	comp=E,0.2nm,0.3s,baz=0,slow=13,SNR=7.5						
PLCA	**Paso Flores**	**19.47**	**184**	P	**P**	**12 38 28.6**	**+2.2**
	comp=E,0.1nm,0.3s,baz=351,slow=13,SNR=2.8						
RCBR	**Riachuelo**	**35.18**	**69**	P	**P**	**12 40 53.3**	**+1.3**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**4.42**	**16**	*e*Pn	**Pn**	**12 59 45.5**	**+1.7**
EKS2	**Erkin-Say**	**13.31**	**20**	*e*Pn	**Pn**	**13 01 44.5**	**-1.1**
	2.8nm,0.5s						
AAK	**Ala-Archa**	**13.51**	**22**	Pn	**Pn**	**13 01 48.7**	**+0.3**
	0.0nm,0.3s,baz=204,slow=5.7,SNR=12						
AAK				LR	LR	13 07 20.1	
	comp=Z,22nm,20.1s,baz=216,slow=39						
AAK	**Ala-Archa**	**13.51**	**22**	Pn	**Pn**	**13 01 48.7**	**+0.3**
AAK				LR	LR	13 07 20.1	
TKM2	**Tokmak 2**	**14.15**	**25**	*e*Pn	**Pn**	**13 01 56.5**	**-0.6**
	6.0nm,0.8s						
KOLN	**Koldanda**	**14.24**	**96**	*e*P	**Pn**	**13 01 59.0**	**+0.6**
KOLN	**Koldanda**	**14.24**	**96**	*e*P	**Pn**	**13 01 59.0**	**+0.6**
DANN	**Dangsing**	**14.25**	**94**	*e*P	**Pn**	**13 01 58.6**	**0.0**
	12nm,0.4s						
DANN	**Dangsing**	**14.25**	**94**	*e*P	**Pn**	**13 01 58.6**	**0.0**
	12nm,0.4s						
GKN	**Gorkha**	**15.08**	**94**	*e*P	**Pn**	**13 02 09.4**	**-0.5**
GKN				*e*S	**Sn**	**13 04 50.6**	**-6.4**
GKN	**Gorkha**	**15.08**	**94**	*e*P	**Pn**	**13 02 09.4**	**-0.5**
GKN				*e*S	**Sn**	**13 04 50.6**	**-6.4**
KKN	**Kakani**	**15.69**	**95**	*e*P	**Pn**	**13 02 17.2**	**-0.6**
	9.7nm,0.5s						
KKN	**Kakani**	**15.69**	**95**	*e*P	**Pn**	**13 02 17.2**	**-0.6**
	9.7nm,0.5s						
PKIN	**Phulchoki**	**15.84**	**95**	*e*P	**Pn**	**13 02 19.1**	**-0.6**
PKI	**Pulchoki**	**15.85**	**95**	*e*P	**Pn**	**13 02 20.1**	**+0.2**
	9.8nm,0.6s						
PKI	**Pulchoki**	**15.85**	**95**	*e*P	**Pn**	**13 02 20.1**	**+0.2**
	9.8nm,0.6s						
GUN	**Gumba**	**16.18**	**94**	*e*P	**Pn**	**13 02 22.8**	**-1.3**
GUN	**Gumba**	**16.18**	**94**	*e*P	**Pn**	**13 02 22.8**	**-1.3**
ABKAR	**Akbulak array**	**19.81**	**345**	*e*P	**Pn**	**13 03 07.6**	**-1.1**
	0.5nm,0.5s						
MK31	**Makanchi Array**	**20.05**	**31**	*e*P	**P**	**13 03 09.0**	**-0.8**
MKAR	**Makanchi Array**	**20.05**	**31**	P	**P**	**13 03 09.6**	**-0.2**
	1.2nm,0.6s,baz=207,slow=11,SNR=12						
MKAR	**Makanchi Array**	**20.05**	**31**	P	**P**	**13 03 09.6**	**-0.2**
KURK	**Kurchatov**	**22.02**	**19**	P	**P**	**13 03 31.7**	**+0.7**
	2.6nm,0.7s,mb3.8,baz=209,slow=11,SNR=15						
KURK				LR	LR	13 13 25.3	
	comp=Z,37nm,20.7s,MS2.8,baz=325,slow=40						
KURK	**Kurchatov**	**22.02**	**19**	P	**P**	**13 03 31.7**	**+0.7**
	0.5nm,1.6s,mb2.7						
BRVK	**Borovoye**	**22.84**	**4**	*e*P	**P**	**13 03 40.0**	**+0.3**
	2.0nm,0.7s,mb3.7						
ZALV	**Zalesovo Beam**	**26.74**	**23**	P	**P**	**13 04 18.1**	**+1.9**
	1.8nm,0.5s,mb3.9,baz=227,slow=10,SNR=11						
ZALV	**Zalesovo Beam**	**26.74**	**23**	P	**P**	**13 04 18.1**	**+1.9**
MMAI	**Mount Meron Ar**	**27.47**	**284**	LR	LR	13 17 08.2	
	comp=Z,42nm,19.2s,MS3.0,baz=140,slow=41						
EIL	**Elat**	**28.22**	**277**	LR	LR	13 15 32.3	
	comp=Z,32nm,19.5s,MS2.9,baz=107,slow=36						
TORD	**Torodi Ar. Bea**	**62.76**	**270**	P	**P**	**13 09 01.0**	**-1.5**
	1.3nm,0.7s,mb4.2,baz=56,slow=6.3,SNR=14						
TORD	**Torodi Ar. Bea**	**62.76**	**270**	P	**P**	**13 09 01.0**	**-1.5**
WRA	**Warramunga Arr**	**81.32**	**119**	P	**P**	**13 10 54.4**	**+0.8**
	0.3nm,0.8s,mb3.3,baz=298,slow=6.7,SNR=2.8						
WRA	**Warramunga Arr**	**81.32**	**119**	P	**P**	**13 10 54.4**	**+0.8**
ILAR	**Eielson Array**	**81.51**	**14**	P	**P**	**13 10 54.0**	**+0.1**
	0.1nm,0.5s,mb3.0,baz=304,slow=5.0,SNR=3.5						
ILAR	**Eielson Array**	**81.51**	**14**	P	**P**	**13 10 54.0**	**+0.1**
ASAR	**Alice Springs**	**83.22**	**122**	P	**P**	**13 11 05.7**	**+2.3**
	0.4nm,0.8s,mb3.5,baz=310,slow=5.0,SNR=5.7						
ASAR	**Alice Springs**	**83.22**	**122**	P	**P**	**13 11 05.7**	**+2.3**

*ISCJB **05** 13:10:22.2±0.4,59.77N±0.03×22.28E±0.04,h0km,Error ellipse: s-maj=4.0km s-min=3.3km az=25.4*
*CSEM **05** 13:10:23.1±0.2,59.80N×22.27E,h2km,ML2.1,Error ellipse: s-maj=4.3km s-min=3.8km az=6.0,Mining explosion.*
*HEL **05** 13:10:23.9±0.1,59.73N×22.27E,h0km,ML2.2, ML2.5(NAO),Explosion*
*IDC **05** 13:10:25.0±1.6,59.87N×22.36E,h0km,mb1 3.1/4, mb1mx2.9/26,mbtmp3.0/4,ML2.8/4,Error ellipse: s-maj=21.8km s-min=6.1km az=159.0*
*NAO **05** 13:10:25.2±1.2,59.89N×22.24E,ML2.5*
*BER **05** 13:10:26.9±2.9,59.95N×22.22E,h0km±13km, ML2.5(NAO)*

ISC 05 13:10:22.9±0.4,59.77N±0.03×22.28E±0.04,h0km,n39, σ1§19/71,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**1.15**	**66**	*e*P	**Pg**	**13 10 44.6**	**-0.3**
MEF				*e*S	**Sg**	**13 11 00.4**	**+0.5**
MEF	**Metsahovi**	**1.15**	**66**	*e*P	**Pg**	**13 10 45.0**	**0.0**
	SNR=90						
MEF				*e*S	**Sg**	**13 11 00.0**	**+0.1**
	29nm,0.3s,SNR=90						
AAL	**Aland**	**1.22**	**290**	*e*P	**Pg**	**13 10 46.0**	**-0.3**
AAL				*e*S	**Sg**	**13 11 02.0**	**-0.1**
AAL	**Aland**	**1.22**	**290**	P	**Pg**	**13 10 45.9**	**-0.3**
AAL				S	**Sg**	**13 11 01.9**	**-0.1**
RAF	**Rauma**	**1.28**	**349**	*e*P	**Pg**	**13 10 47.3**	**-0.1**
RAF				*e*S	**Sg**	**13 11 04.5**	**+0.5**
RAF	**Rauma**	**1.28**	**349**	P	**Pg**	**13 10 47.3**	**-0.1**
RAF				S	**Sg**	**13 11 04.5**	**+0.5**
MTSE	**Matsula**	**1.32**	**143**	*e*P	**Pg**	**13 10 47.1**	**-1.1**
MTSE				*e*S	**Sg**	**13 11 04.2**	**-1.1**
MTSE	**Matsula**	**1.32**	**143**	P	**Pg**	**13 10 47.0**	**-1.2**
MTSE				S	**Sg**	**13 11 04.1**	**-1.2**
PVF	**Pernaja**	**1.95**	**65**	*e*P	**Pn**	**13 10 58.5**	**+1.3**
PVF				*e*SG	**Sg**	**13 11 24.9**	**-0.6**
PVF				MSG		13 11 28.6	
	comp=Z,17nm,0.1s						
PVF	**Pernaja**	**1.95**	**65**	P	**Pn**	**13 10 58.4**	**+1.2**
PVF				Sg	**Sg**	**13 11 24.8**	**-0.7**
SLIT	**Slitere, Latvi**	**2.15**	**180**	*e*P	**Pn**	**13 11 01.5**	**+1.6**
	SNR=50						
SLIT				*e*S	**Sn**	**13 11 30.0**	**+2.7**
	comp=Z,90nm,0.4s,SNR=50						
FIA0	**FINESS Array S**	**2.51**	**47**	Pn	**Pn**	**13 11 07.8**	**+2.9**
	baz=231,slow=12						
FIA0				Lg		13 11 40.7	
	baz=236,slow=28						
FIA0	**FINESS Array S**	**2.51**	**47**	*e*PB	**Pb**	**13 11 08.5**	**-0.4**
FIA0				*e*SB	**Sb**	**13 11 40.6**	**+0.3**
FIA0	**FINESS Array S**	**2.51**	**47**	Pn	**Pn**	**13 11 07.8**	**+2.9**
	baz=231,slow=12,SNR=50						
FIA0	**FINESS Array S**	**2.51**	**47**	Pb	**Pb**	**13 11 08.4**	**-0.4**
FIA0				Sb	**Sb**	**13 11 40.5**	**+0.2**
FIA0				Lg		13 11 40.7	
	baz=236,slow=25						
FINES	**FINESS Array B**	**2.51**	**47**	Pn	**Pn**	**13 11 07.6**	**+2.7**
	comp=Z,1.6nm,0.3s,baz=220,slow=13,SNR=19						
FINES				Lg		13 11 39.4	
	comp=Z,8.1nm,0.3s,baz=235,slow=25,SNR=36						
VSU	**Vasula**	**2.65**	**118**	Pn	**Pn**	**13 11 10.9**	**+4.1**
VSU				Sn	**Sn**	**13 11 42.1**	**+2.6**
VSU	**Vasula**	**2.65**	**118**	*e*PG	**Pg**	**13 11 10.7**	**-2.9**
VSU				*e*SB	**Sb**	**13 11 43.0**	**-1.1**
VSU	**Vasula**	**2.65**	**118**	Pn	**Pn**	**13 11 10.9**	**+4.1**
	SNR=50						
VSU				Sn	**Sn**	**13 11 42.1**	**+2.6**
	SNR=50						
VSU				Sb	**Sb**	**13 11 42.9**	**-1.2**
KEF	**Keuruu**	**2.71**	**27**	*e*PB	**Pb**	**13 11 12.0**	**-0.2**
KEF				*e*SB	**Sb**	**13 11 46.8**	**+0.7**
KEF	**Keuruu**	**2.71**	**27**	Pb	**Pb**	**13 11 12.0**	**-0.3**
KEF				Sb	**Sb**	**13 11 46.7**	**+0.7**
KAF	**Kangasniemi**	**3.06**	**38**	MSG		13 11 57.0	
	comp=Z,8.7nm,0.2s						
VAF	**Ylistaro**	**3.29**	**3**	*e*PB	**Pb**	**13 11 20.4**	**-1.6**
VAF				*e*SB	**Sb**	**13 12 03.6**	**+1.1**
VAF				MSG		13 12 11.7	
	comp=Z,3.3nm,0.2s						
VAF	**Ylistaro**	**3.29**	**3**	Pb	**Pb**	**13 11 20.4**	**-1.6**
VAF				Sb	**Sb**	**13 12 03.6**	**+1.1**
HFS	**Hagfors**	**4.33**	**278**	Pn	**Pn**	**13 11 30.0**	**+0.1**
	baz=80,slow=12						
HFS				Sn	**Sn**	**13 12 20.4**	**-0.6**
	baz=77,slow=22						
HFS				Lg		13 12 38.8	
	baz=92,slow=28						
HFS	**Hagfors**	**4.33**	**278**	Pn	**Pn**	**13 11 31.3**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=96,slow=14,SNR=14						
HFS				Pg	**Pg**	**13 11 40.8**	**-5.1**
	comp=Z,0.6nm,0.3s,baz=84,slow=15,SNR=7.0						
HFS				Sn	**Sn**	**13 12 21.5**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=67,slow=31,SNR=5.3						
HFS				Lg		13 12 37.6	
	comp=Z,1.8nm,0.3s,baz=95,slow=33,SNR=8.9						
HFS	**Hagfors**	**4.33**	**278**	*e*P	**Pn**	**13 11 30.0**	**+0.1**
HFS				*e*S	**Sn**	**13 12 20.4**	**-0.6**
HFS				*e*SG	**Sg**	**13 12 38.8**	**-3.1**
HFS	**Hagfors**	**4.33**	**278**	P	**Pn**	**13 11 30.0**	**+0.1**
HFS				S	**Sn**	**13 12 20.4**	**-0.6**
HFS				Sg	**Sg**	**13 12 38.8**	**-3.1**
HFS				Lg		13 12 38.8	
	baz=92,slow=26,SNR=50						
NB2	**NORSAR Subarra**	**5.63**	**288**	Pn	**Pn**	**13 11 47.9**	**+0.1**
	baz=100,slow=14						
NB2				Lg		13 13 18.0	
NB2	**NORSAR Subarra**	**5.63**	**288**	*e*P	**Pn**	**13 11 47.9**	**+0.1**
NB2				*e*SG	**Sg**	**13 13 18.0**	**-5.5**
NB2	**NORSAR Subarra**	**5.63**	**288**	P	**Pn**	**13 11 47.8**	**+0.1**
NOA	**NORSAR Array B**	**5.63**	**288**	Pn	**Pn**	**13 11 47.7**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=94,slow=13,SNR=5.0						
NOA				Sn	**Sn**	**13 12 54.2**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=84,slow=15,SNR=3.8						
NOA				Lg		13 13 15.7	
	comp=Z,1.1nm,0.3s,baz=83,slow=17,SNR=7.5						
ARA0	**ARCESS Array S**	**9.90**	**7**	Pn	**Pn**	**13 12 45.6**	**-0.6**
	baz=190,slow=14						
ARA0				Sn	**Sn**	**13 14 30.4**	**-7.4**
	baz=192,slow=28						
ARA0	**ARCESS Array S**	**9.90**	**7**	*e*P	**Pn**	**13 12 45.6**	**-0.6**
ARA0				*e*S	**Sn**	**13 14 30.4**	**-7.4**
ARA0	**ARCESS Array S**	**9.90**	**7**	P	**Pn**	**13 12 45.6**	**-0.6**
ARCES	**ARCESS Array B**	**9.90**	**7**	Pn	**Pn**	**13 12 44.9**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=190,slow=16,SNR=14						
ARCES				Sn	**Sn**	**13 14 31.2**	**-6.6**
	comp=Z,0.4nm,0.3s,baz=192,slow=23,SNR=5.7						
ARCES				Lg		13 15 27.2	
	comp=Z,0.3nm,0.3s,baz=181,slow=27,SNR=3.5						
SPA0	**Spitsbergen Ar**	**18.60**	**356**	P	**Pn**	**13 14 40.5**	**-0.9**
SPA0	**Spitsbergen Ar**	**18.60**	**356**	*e*P	**Pn**	**13 14 40.5**	**-0.9**
SPA0	**Spitsbergen Ar**	**18.60**	**356**	P	**Pn**	**13 14 40.5**	**-0.8**
	SNR=47						

*ISCJB **05** 13:11:25.2±0.6,30.30N±0.05×67.63E±0.05,h10km, mb3.9/11,MS3.4/11,Error ellipse: s-maj=8.9km s-min=4.8km az=35.1*
*IDC **05** 13:11:25.2±1.2,30.30N×67.43E,h0km,mb3.8/11, mb1 4.1/12,mb1mx3.8/31,mbtmp3.9/12,MS3.4/12, Ms1 3.4/12,ms1mx3.3/39,Error ellipse: s-maj=25.9km s-min=21.1km az=149.0*
*NEIC **05** 13:11:26.4±0.8,30.28N×67.55E,h10km,mb4.5/7,Error ellipse: s-maj=14.7km s-min=7.5km az=39.0*
*MOS **05** 13:11:30.6±0.9,30.54N×67.82E,h33km,mb4.3/3,Error ellipse: s-maj=15.7km s-min=8.3km az=73.7*

ISC 05 13:11:27.0±0.6,30.29N±0.05×67.59E±0.05,h10km,n91, σ1§26/91,mb3.9/11,MS3.4/11,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THW	**Thamme Wali**	**4.33**	**54**	P	**Pn**	**13 12 34.8**	**+1.9**
KBL	**Kabul**	**4.41**	**16**	*e*P	**Pn**	**13 12 35.7**	**+1.7**
KBL	**Kabul**	**4.41**	**16**	*e*P	**Pn**	**13 12 35.7**	**+1.7**
CEP	**Cherat**	**5.08**	**45**	P	**Pn**	**13 12 45.1**	**+1.9**
CEP				S	**Sn**	**13 13 43.0**	**+1.1**
CHCP	**Chirah Chowk**	**5.87**	**54**	P	**Pn**	**13 12 55.8**	**+1.7**
AJM	**Ajmer**	**7.28**	**120**	*e*PKP	**Pn**	**13 13 15.0**	**+1.6**
AJM				*ex*	x	13 14 40.0	
KHET	**Khetri**	**7.51**	**105**	*ex*	**Pn**	**13 13 15.5**	**-1.1**
KHET				*e*S	**Sn**	**13 14 40.8**	**-1.1**
BHK	**Bhakra**	**7.67**	**79**	*e*S	**Sn**	**13 14 45.0**	**-0.7**
SDNR	**Sundarnagar**	**8.15**	**79**	*e*PKP	**Pn**	**13 13 27.0**	**+1.7**
SDNR				*ex*	x	13 15 06.0	
SONA	**Sohna**	**8.54**	**101**	*e*PKP	**Pn**	**13 13 32.8**	**+2.2**
SONA				*e*S	**Sn**	**13 15 03.5**	**-3.5**
NDI	**New Delhi**	**8.54**	**98**	*ex*	**Pn**	**13 13 35.0**	**+4.3**
NDI				*e*S	**Sn**	**13 15 07.0**	**-0.1**
DDI	**Dehra Dun**	**9.04**	**87**	*e*PKP	**Pn**	**13 13 41.0**	**+3.4**
DDI				*ex*	x	13 15 15.0	
KLP	**Kalpa**	**9.24**	**80**	*e*PKP	**Pn**	**13 13 41.3**	**+1.0**
KLP				*e*S	**Sn**	**13 15 22.2**	**-2.0**
KLP				AML	AML	13 15 35.5	
	comp=N,191nm,0.7s						
KLP				AML	AML	13 15 36.0	
	comp=E,141nm,0.7s						
KKAR	**Karatay Array**	**13.00**	**10**	P	**Pn**	**13 14 31.6**	**-0.1**
	comp=E,2.0nm,0.3s						
KKAR	**Karatay Array**	**13.00**	**10**	P	**Pn**	**13 14 31.6**	**-0.1**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
EKS2	**Erkin-Say**	**13.30**	**20**	*e*P	**Pn**	**13 14 35.1**	**-0.7**
	comp=Z,9.2nm,0.8s						
EKS2	**Erkin-Say**	**13.30**	**20**	*e*P	**Pn**	**13 14 35.1**	**-0.7**
EKS2				pmax	pmax		
	comp=Z,9.0nm,0.8s						
AAK	**Ala-Archa**	**13.50**	**22**	Pn	**Pn**	**13 14 38.3**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=190,slow=7.0,SNR=14						
AAK				Sn	**Sn**	**13 17 05.9**	**-2.7**
	comp=Z,0.0nm,0.3s,baz=248,slow=17,SNR=2.2						
AAK				LR	LR	13 19 25.3	
	comp=Z,40nm,19.1s,baz=195,slow=35						
AAK	**Ala-Archa**	**13.50**	**22**	*e*P	**Pn**	**13 14 37.8**	**-0.8**
AAK				Sn	**Sn**	**13 17 06.0**	**-2.7**
AAK				LR	LR	13 19 25.3	
AAK	**Ala-Archa**	**13.50**	**22**	*e*P	**Pn**	**13 14 37.8**	**-0.8**
AAK						13 17 06.0	
FRU	**Bishkek**	**13.72**	**22**	*e*P	**Pn**	**13 14 43.0**	**+1.4**
FRU				*e*		13 17 14.0	
TKM2	**Tokmak 2**	**14.14**	**25**	*e*P	**Pn**	**13 14 45.8**	**-1.4**
	comp=Z,17nm,1.0s						
TKM2	**Tokmak 2**	**14.14**	**25**	*e*P	**Pn**	**13 14 45.8**	**-1.4**
TKM2				pmax	pmax		
	comp=Z,17nm,1.0s						
KOLN	**Koldanda**	**14.23**	**96**	*e*P	**Pn**	**13 14 48.2**	**-0.4**
	comp=Z,38nm,0.7s						
KOLN	**Koldanda**	**14.23**	**96**	*e*P	**Pn**	**13 14 48.2**	**-0.4**
	comp=Z,38nm,0.7s						
DANN	**Dangsing**	**14.24**	**94**	*e*P	**Pn**	**13 14 47.6**	**-1.1**
	comp=Z,50nm,0.8s						
DANN	**Dangsing**	**14.24**	**94**	*e*P	**Pn**	**13 14 47.6**	**-1.1**
	comp=Z,50nm,0.8s						
GKN	**Gorkha**	**15.07**	**94**	*e*P	**Pn**	**13 14 58.7**	**-1.3**
GKN	**Gorkha**	**15.07**	**94**	*e*P	**Pn**	**13 14 58.7**	**-1.3**
DMN	**Daman**	**15.56**	**96**	*e*P	**Pn**	**13 15 07.0**	**+0.5**
DMN	**Daman**	**15.56**	**96**	*e*P	**Pn**	**13 15 07.0**	**+0.5**
KKN	**Kakani**	**15.67**	**95**	*e*P	**Pn**	**13 15 07.2**	**-0.7**
	comp=Z,30nm,0.7s						
KKN	**Kakani**	**15.67**	**95**	*e*P	**Pn**	**13 15 07.2**	**-0.7**
	comp=Z,30nm,0.7s						
KKN	**Kakani**	**15.67**	**95**	*e*P	**Pn**	**13 15 07.2**	**-0.7**
KKN				pmax	pmax		
	comp=Z,30nm,0.7s						
PKIN	**Phulchoki**	**15.82**	**95**	*e*P	**Pn**	**13 15 09.5**	**-0.4**
	comp=Z,12nm,0.5s						
PKI	**Pulchoki**	**15.83**	**95**	*e*P	**Pn**	**13 15 09.4**	**-0.6**
	comp=Z,24nm,0.6s						
PKI	**Pulchoki**	**15.83**	**95**	*e*P	**Pn**	**13 15 09.5**	**-0.5**
	comp=Z,12nm,0.5s						
PKI	**Pulchoki**	**15.83**	**95**	*e*P	**Pn**	**13 15 09.5**	**-0.5**
PKI				pmax	pmax		
	comp=Z,12nm,0.5s						
GUN	**Gumba**	**16.16**	**94**	*e*P	**Pn**	**13 15 12.3**	**-2.0**
	comp=Z,145nm,0.9s						
GUN	**Gumba**	**16.16**	**94**	*e*P	**Pn**	**13 15 12.3**	**-2.0**
	comp=Z,145nm,0.9s						
ODAN	**Odare**	**17.72**	**96**	*e*P	**Pn**	**13 15 36.4**	**+2.5**
	comp=Z,57nm,0.9s						
ODAN	**Odare**	**17.72**	**96**	*e*P	**Pn**	**13 15 36.4**	**+2.5**
	comp=Z,57nm,0.9s						
TAPN	**Taplejung**	**17.87**	**94**	*e*P	**Pn**	**13 15 35.8**	**0.0**
TAPN	**Taplejung**	**17.87**	**94**	*e*P	**Pn**	**13 15 35.8**	**0.0**
ABKAR	**Akbulak array**	**19.81**	**345**	*e*P	**Pn**	**13 15 54.9**	**-4.2**
	comp=Z,1.6nm,0.6s						
MK31	**Makanchi Array**	**20.03**	**31**	*e*P	**P**	**13 15 59.1**	**-0.9**
MK31	**Makanchi Array**	**20.03**	**31**	*e*P	**P**	**13 15 59.1**	**-0.9**
MKAR	**Makanchi Array**	**20.03**	**31**	P	**P**	**13 15 59.6**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=212,slow=9.9,SNR=19						
MKAR				LR	LR	13 24 49.1	
	comp=Z,196nm,20.7s,MS3.4,baz=55,slow=40						
MKAR	**Makanchi Array**	**20.03**	**31**	P	**P**	**13 15 59.6**	**-0.4**
MKAR				LR	LR	13 24 49.1	
MKAR	**Makanchi Array**	**20.03**	**31**	P	**P**	**13 15 59.6**	**-0.4**
LSA	**Lhasa**	**20.41**	**86**	*e*P	**P**	**13 16 07.4**	**+3.2**
	comp=Z,15nm,0.9s						
LSA	**Lhasa**	**20.41**	**86**	*e*P	**P**	**13 16 07.4**	**+3.2**
LSA				pmax	pmax		
	comp=Z,15nm,0.9s						
AKTK	**Aktyubinsk**	**21.37**	**343**	P	**P**	**13 16 14.7**	**+0.3**
AKTO	**Aktyubinsk**	**21.37**	**343**	P	**P**	**13 16 14.7**	**+0.3**
	comp=Z,1.9nm,0.5s,mb3.7,baz=221,slow=8.2,SNR=6.7						
AKTO	**Aktyubinsk**	**21.37**	**343**	P	**P**	**13 16 14.7**	**+0.3**
KURK	**Kurchatov**	**22.01**	**19**	P	**P**	**13 16 21.0**	**-0.2**
	comp=Z,5.0nm,0.9s,mb4.0,baz=210,slow=10.0,SNR=14						
KURK				LR	LR	13 25 11.0	
	comp=Z,54nm,21.2s,MS2.9,baz=275,slow=38						
KURK	**Kurchatov**	**22.01**	**19**	*e*P	**P**	**13 16 22.5**	**+1.3**
KURK				LR	LR	13 25 11.0	
KURK	**Kurchatov**	**22.01**	**19**	P	**P**	**13 16 21.0**	**-0.3**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.9						
KURK				MLR	MLR		
	comp=Z,54nm,21.3s,MS2.9						
BVAR	**Borovoye Array**	**22.81**	**4**	P	**P**	**13 16 29.5**	**-0.2**
	comp=Z,2.9nm,0.7s,mb3.8,baz=169,slow=8.9,SNR=11						
BVAR				LR	LR	13 26 04.4	
	comp=Z,106nm,18.5s,MS3.3,baz=51,slow=38						
BVAR	**Borovoye Array**	**22.81**	**4**	P	**P**	**13 16 29.5**	**-0.2**
BVAR				LR	LR	13 26 04.3	
BVAR	**Borovoye Array**	**22.81**	**4**	P	**P**	**13 16 29.5**	**-0.2**
BRVK	**Borovoye**	**22.83**	**4**	*e*P	**P**	**13 16 29.4**	**-0.6**
	comp=Z,9.2nm,0.9s,mb4.2						
BRVK	**Borovoye**	**22.83**	**4**	*e*P	**P**	**13 16 29.4**	**-0.6**
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.2						
ASF	**Jabal al Asfar**	**26.27**	**282**	LR	LR	13 29 22.8	
	comp=Z,98nm,18.3s,MS3.4,baz=150,slow=41						
ZAA0	**Zalesovo Array**	**26.73**	**23**	*e*P	**P**	**13 17 05.3**	**-1.1**
ZALV	**Zalesovo Beam**	**26.73**	**23**	P	**P**	**13 17 06.2**	**-0.3**
	comp=Z,3.6nm,0.6s,mb4.1,baz=220,slow=11,SNR=23						
ZALV	**Zalesovo Beam**	**26.73**	**23**	P	**P**	**13 17 06.2**	**-0.3**
ZALV	**Zalesovo Beam**	**26.73**	**23**	P	**P**	**13 17 06.2**	**-0.2**
MMAI	**Mount Meron Ar**	**27.48**	**284**	LR	LR	13 30 01.7	
	comp=Z,106nm,18.3s,MS3.5,baz=80,slow=41						
EIL	**Elat**	**28.23**	**277**	LR	LR	13 30 36.7	
	comp=Z,140nm,18.5s,MS3.6,baz=276,slow=41						
ATD	**Arta Tunnel**	**29.60**	**236**	LR	LR	13 30 56.2	
	comp=Z,40nm,19.7s,MS3.0,baz=83,slow=40						
CMAR	**Chiang Mai Arr**	**30.79**	**105**	P	**P**	**13 17 44.6**	**+1.7**
	comp=Z,0.5nm,0.4s,mb3.7,baz=300,slow=7.7,SNR=8.8						
CMAR	**Chiang Mai Arr**	**30.79**	**105**	P	**P**	**13 17 44.6**	**+1.7**
CMAR	**Chiang Mai Arr**	**30.79**	**105**	P	**P**	**13 17 44.6**	**+1.7**
SONM	**Songino Array**	**34.41**	**48**	LR	LR	13 34 12.7	
	comp=Z,70nm,20.6s,MS3.4,baz=165,slow=40						
FINES	**FINESS Array B**	**41.29**	**331**	LR	LR	13 39 22.3	
	comp=Z,128nm,19.2s,MS3.8,baz=313,slow=41						
ARCES	**ARCESS Array B**	**45.93**	**341**	P	**P**	**13 19 50.0**	**+0.5**
	comp=Z,3.4nm,0.9s,mb4.3,baz=133,slow=8.4,SNR=4.9						
ARCES	**ARCESS Array B**	**45.93**	**341**	P	**P**	**13 19 50.0**	**+0.5**
ARCES	**ARCESS Array B**	**45.93**	**341**	P	**P**	**13 19 50.0**	**+0.5**
NB2	**NORSAR Subarra**	**47.81**	**327**	P	**P**	**13 20 03.7**	**-0.7**
	comp=Z,3.7nm,1.1s,mb4.3,baz=106,slow=7.9						
NOA	**NORSAR Array B**	**47.81**	**327**	P	**P**	**13 20 03.8**	**-0.6**
	comp=Z,1.3nm,0.9s,mb4.0,baz=106,slow=7.8,SNR=3.7						
NOA				LR	LR	13 42 41.2	
	comp=Z,65nm,18.6s,MS3.6,baz=310,slow=39						
NOA	**NORSAR Array B**	**47.81**	**327**	P	**P**	**13 20 03.8**	**-0.6**
NOA				LR	LR	13 42 41.2	
NOA	**NORSAR Array B**	**47.81**	**327**	P	**P**	**13 20 03.8**	**-0.6**
KSRS	**Korea Array**	**49.86**	**65**	LR	LR	13 45 31.9	
	comp=Z,27nm,20.5s,MS3.2,baz=275,slow=41						
ESDC	**Sonseca Array**	**57.97**	**300**	P	**P**	**13 21 19.6**	**-0.2**
	comp=Z,0.2nm,0.3s,mb3.6,baz=65,slow=7.4,SNR=3.9						
ESDC	**Sonseca Array**	**57.97**	**300**	P	**P**	**13 21 19.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**62.77**	**270**	P	**P**	**13 21 50.6**	**-2.3**
	comp=Z

*IDC **05** 13:17:35.2±0.7,6°53S×154°28E,h0km,mb4.4/14, mb1 4.5/15,mb1mx4.5/19,mbtmp4.4/15,ML3.5/1,MS3.8/5, Ms1 3.7/5,ms1mx3.3/24,Error ellipse: s-maj=25.5km s-min=16.6km az=116.0*

*ISCJB **05** 13:17:36.9±4.9,6°52S±0.08×154°19E±0.07,h18km±34km, mb4.6/32,MS3.8/4, Error ellipse: s-maj=13.5km s-min=11.7km az=177.6*

*NEIC **05** 13:17:42.8±1.9,6°58S×154°11E,h51km±16km,mb4.7/19, Error ellipse: s-maj=11.8km s-min=8.3km az=60.0*

ISC 05 13:17:37.1±5.0,6°51S±0.07×154°24E±0.07,h11km±31km, n77,σ0°89/70,mb4.6/32,MS3.8/4,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.58**	**247**	Pn	**Pn**	**13 19 29.1**	**+1.3**
	4.4nm,0.3s,baz=46,slow=4.9,SNR=18						
PMG				Sn	**Sn**	**13 20 54.8**	**+1.0**
	6.2nm,0.3s,baz=130,slow=22,SNR=7.4						
PMG	**Port Moresby**	**7.58**	**247**	*eP*	**Pn**	**13 19 28.7**	**+0.9**
PMG				Sn	**Sn**	**13 20 54.8**	**+1.0**
CTA	**Charters Tower**	**15.57**	**209**	Pn	**Pn**	**13 21 22.8**	**+6.0**
	0.3nm,0.3s,baz=29,slow=11,SNR=7.8						
CTA				LR	LR	13 26 46.6	
	comp=Z,174nm,18.2s,baz=50,slow=35						
CTA	**Charters Tower**	**15.57**	**209**	Pn	**Pn**	**13 21 22.8**	**+6.0**
CTA				LR	LR	13 26 46.6	
CTAO	**Charters Tower**	**15.57**	**209**	*eP*	**Pn**	**13 21 22.3**	**+5.6**
EIDS	**Eidsvold**	**19.00**	**189**	*eP*	**Pn**	**13 22 00.7**	**+1.1**
DZM	**Mont Dzumac**	**19.45**	**144**	P	**Pn**	**13 22 06.5**	**+1.4**
	44nm,1.6s						
QLP	**Quilpie**	**22.12**	**204**	*eP*	**P**	**13 22 33.2**	**+0.3**
KAKA	**Kakadu**	**22.35**	**252**	*eP*	**P**	**13 22 35.0**	**-0.5**
	9.3nm,0.6s,mb4.4						
KAKA	**Kakadu**	**22.35**	**252**	*eP*	**P**	**13 22 34.5**	**-0.9**
	42nm,0.6s,mb5.0						
WRAB	**Tennant Creek**	**23.48**	**233**	*eP*	**P**	**13 22 46.1**	**-1.2**
	14nm,0.8s,mb4.4						
WB2	**Warramunga Arr**	**23.48**	**233**	*eP*	**P**	**13 22 46.1**	**-1.2**
WRA	**Warramunga Arr**	**23.49**	**233**	P	**P**	**13 22 46.3**	**-1.1**
	12nm,0.8s,mb4.4,baz=57,slow=9.3,SNR=65						
WRA				PcP	PcP	13 26 33.6	+0.4
	0.7nm,0.6s,baz=63,slow=2.3,SNR=4.6						
WRA				LR	LR	13 31 49.3	
	comp=Z,104nm,18.4s,MS3.3,baz=55,slow=36						
WRA	**Warramunga Arr**	**23.49**	**233**	P	**P**	**13 22 46.3**	**-1.1**
WRA				PcP	PcP	13 26 33.6	+0.4
WRA				LR	LR	13 31 49.3	
ASAR	**Alice Springs**	**25.95**	**227**	P	**P**	**13 23 09.0**	**-0.8**
	1.7nm,0.6s,mb3.7,baz=59,slow=8.1,SNR=16						
ASAR	**Alice Springs**	**25.95**	**227**	P	**P**	**13 23 09.0**	**-0.8**
CMSA	**Cobar Meteorol**	**26.15**	**197**	*eP*	**P**	**13 23 12.6**	**+1.0**
STKA	**Stephens Creek**	**27.87**	**203**	P	**P**	**13 23 25.6**	**-1.4**
	2.5nm,0.5s,mb4.1,baz=29,slow=13,SNR=7.3						
STKA				LR	LR	13 34 43.3	
	comp=Z,187nm,18.3s,MS3.7,baz=23,slow=37						
STKA	**Stephens Creek**	**27.87**	**203**	*eP*	**P**	**13 23 25.2**	**-1.8**
	2.8nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**27.87**	**203**	*eP*	**P**	**13 23 26.2**	**-0.8**
STKA				LR	LR	13 34 43.3	
FITZ	**Fitzroy Crossi**	**30.18**	**245**	*eP*	**P**	**13 23 46.4**	**-1.3**
	22nm,0.9s,mb4.9						
FITZ	**Fitzroy Crossi**	**30.18**	**245**	*eP*	**P**	**13 23 46.6**	**-1.1**
	16nm,0.9s,mb4.7						
YULB	**Yu-li**	**43.81**	**314**	P	**P**	**13 25 43.5**	**0.0**
	12nm,0.8s,mb4.7						
KSRS	**Korea Array**	**50.17**	**333**	P	**P**	**13 26 32.3**	**-0.6**
	2.1nm,0.9s,mb4.2,baz=152,slow=8.9,SNR=6.1						
CMAR	**Chiang Mai Arr**	**59.90**	**296**	P	**P**	**13 27 44.5**	**+0.8**
	2.4nm,0.8s,mb4.3,baz=126,slow=5.4,SNR=20						
CMAR	**Chiang Mai Arr**	**59.90**	**296**	P	**P**	**13 27 44.5**	**+0.8**
CASY	**Casey**	**66.82**	**198**	*eP*	**P**	**13 28 26.6**	**-2.1**
	3.9nm,0.6s,mb4.6						
SONM	**Songino Array**	**68.53**	**328**	P	**P**	**13 28 40.5**	**+0.8**
	1.9nm,0.5s,mb4.2,baz=143,slow=5.3,SNR=15						
SONM				LR	LR	13 58 59.9	
	comp=Z,74nm,19.0s,MS3.9,baz=28,slow=36						
SONM	**Songino Array**	**68.53**	**328**	P	**P**	**13 28 40.5**	**+0.8**
SONM				LR	LR	13 58 59.9	
LSA	**Lhasa**	**70.39**	**305**	*eP*	**P**	**13 28 52.9**	**+1.2**
	5.7nm,0.8s,mb4.5						
GUN	**Gumba**	**74.23**	**301**	*eP*	**P**	**13 29 15.1**	**+0.4**
	16nm,0.7s,mb5.1						
GUN	**Gumba**	**74.23**	**301**	*eP*	**P**	**13 29 15.1**	**+0.4**
	16nm,0.7s,mb5.1						
PKI	**Pulchoki**	**74.54**	**301**	*eP*	**P**	**13 29 16.8**	**+0.3**
	3.1nm,0.3s,mb4.7						
PKI	**Pulchoki**	**74.54**	**301**	*eP*	**P**	**13 29 16.8**	**+0.3**
	3.1nm,0.3s,mb4.7						
PKIN	**Phulchoki**	**74.55**	**301**	*eP*	**P**	**13 29 16.8**	**+0.3**
	4.1nm,0.5s,mb4.7						
KKN	**Kakani**	**74.71**	**301**	*eP*	**P**	**13 29 17.9**	**+0.4**
	12nm,0.6s,mb5.0						
KKN	**Kakani**	**74.71**	**301**	*eP*	**P**	**13 29 17.9**	**+0.4**
	12nm,0.6s,mb5.0						
DMN	**Daman**	**74.81**	**301**	*eP*	**P**	**13 29 18.6**	**+0.6**
	7.9nm,0.5s,mb4.9						
DMN	**Daman**	**74.81**	**301**	*eP*	**P**	**13 29 18.6**	**+0.6**
	7.9nm,0.5s,mb4.9						
GKN	**Gorkha**	**75.31**	**301**	*eP*	**P**	**13 29 21.1**	**+0.2**
	14nm,0.8s,mb5.0						
GKN	**Gorkha**	**75.31**	**301**	*eP*	**P**	**13 29 21.1**	**+0.2**
	14nm,0.8s,mb5.0						
KOLN	**Koldanda**	**76.14**	**301**	*eP*	**P**	**13 29 25.7**	**0.0**
	20nm,0.7s,mb5.1						
KOLN	**Koldanda**	**76.14**	**301**	*eP*	**P**	**13 29 25.7**	**0.0**
	20nm,0.7s,mb5.2						
DANN	**Dangsing**	**76.15**	**301**	*eP*	**P**	**13 29 27.3**	**+1.6**
	25nm,0.7s,mb5.2						
DANN	**Dangsing**	**76.15**	**301**	*eP*	**P**	**13 29 27.3**	**+1.6**
	25nm,0.7s,mb5.3						
MK31	**Makanchi Array**	**82.55**	**319**	*eP*	**P**	**13 30 00.1**	**-0.1**
MKAR	**Makanchi Array**	**82.55**	**319**	P	**P**	**13 30 00.5**	**+0.2**
	7.2nm,0.8s,mb4.7,baz=104,slow=5.1,SNR=46						
MKAR	**Makanchi Array**	**82.55**	**319**	P	**P**	**13 30 00.5**	**+0.3**
ILAR	**Eielson Array**	**83.20**	**22**	P	**P**	**13 30 01.4**	**-1.8**
	0.7nm,0.6s,mb3.9,baz=244,slow=5.3,SNR=9.0						
ILAR	**Eielson Array**	**83.20**	**22**	P	**P**	**13 30 01.4**	**-1.8**
ZAA0	**Zalesovo Array**	**83.36**	**326**	*eP*	**P**	**13 30 03.5**	**-0.8**
ZALV	**Zalesovo Beam**	**83.36**	**326**	P	**P**	**13 30 03.6**	**-0.6**
	2.8nm,0.6s,mb4.5,baz=115,slow=5.1,SNR=16						
ZALV	**Zalesovo Beam**	**83.36**	**326**	P	**P**	**13 30 03.6**	**-0.6**
QSPA	**South Pole Qui**	**83.46**	**180**	*eP*	**P**	**13 30 04.7**	**+0.3**
	5.8nm,0.9s,mb4.6						
MAW	**Mawson**	**84.55**	**203**	P	**P**	**13 30 10.6**	**+0.4**
	2.4nm,0.6s,mb4.5,baz=94,slow=7.2,SNR=17						
MAW	**Mawson**	**84.55**	**203**	P	**P**	**13 30 10.6**	**+0.4**
KURK	**Kurchatov**	**85.99**	**322**	P	**P**	**13 30 18.0**	**+0.3**
	0.8nm,0.4s,mb4.3,baz=104,slow=4.8,SNR=7.2						
KURK	**Kurchatov**	**85.99**	**322**	*eP*	**P**	**13 30 17.3**	**-0.3**
	8.9nm,1.3s,mb4.8						
TKM2	**Tokmak 2**	**86.14**	**314**	*eP*	**P**	**13 30 18.9**	**+0.3**
	2.3nm,0.6s,mb4.6						
AAK	**Ala-Archa**	**86.88**	**313**	*eP*	**P**	**13 30 22.3**	**+0.1**
	2.2nm,0.6s,mb4.6						
EKS2	**Erkin-Say**	**87.40**	**313**	*eP*	**P**	**13 30 25.2**	**+0.5**
	3.2nm,0.7s,mb4.7						
INK	**Inuvik**	**89.53**	**21**	LR	LR	14 10 42.9	
	comp=Z,93nm,19.9s,MS4.2,baz=333,slow=36						
BVAR	**Borovoye Array**	**91.46**	**323**	P	**P**	**13 30 42.9**	**-0.7**
	2.2nm,0.7s,mb4.6,baz=98,slow=6.1,SNR=11						
BVAR	**Borovoye Array**	**91.46**	**323**	P	**P**	**13 30 42.9**	**-0.7**
BRVK	**Borovoye**	**91.53**	**323**	*eP*	**P**	**13 30 42.6**	**-1.2**
NVAR	**Mina Array Bea**	**92.01**	**52**	P	**P**	**13 30 47.6**	**+1.1**
	1.8nm,0.9s,mb4.4,baz=256,slow=6.2,SNR=10						
NVAR	**Mina Array Bea**	**92.01**	**52**	P	**P**	**13 30 47.6**	**+1.1**
PDAR	**Pinedale Array**	**98.93**	**48**	P	**P**	**13 31 17.4**	**-0.5**
	0.5nm,0.7s,mb4.2,baz=270,slow=1.5,SNR=3.5						
PDAR	**Pinedale Array**	**98.93**	**48**	P	**P**	**13 31 17.4**	**-0.5**
CFAA	**Coronel Fontan**	**124.51**	**136**	PKP	PKPdf	13 36 37.5	+0.2
	0.2nm,0.4s,baz=225,slow=4.1,SNR=3.8						
CFAA	**Coronel Fontan**	**124.51**	**136**	PKP	PKPdf	13 36 37.5	+0.2
GERES	**GERESS Array B**	**126.25**	**329**	PKP	PKPdf	13 36 40.4	+0.4
	0.3nm,0.5s,baz=37,slow=0.5,SNR=7.2						
GERES	**GERESS Array B**	**126.25**	**329**	PKP	PKPdf	13 36 40.5	+0.4
CPUP	**Villa Florida**	**135.24**	**138**	PKP	PKPdf	13 36 57.9	+0.1
	0.9nm,0.6s,baz=200,slow=4.9,SNR=4.7						
CPUP	**Villa Florida**	**135.24**	**138**	PKP	PKPdf	13 36 57.9	+0.1
TORD	**Torodi Ar. Bea**	**152.18**	**286**	PKPbc	PKPbc	13 37 33.5	-0.5
	3.5nm,0.6s,baz=6.4,slow=2.5,SNR=3.6						
TORD	**Torodi Ar. Bea**	**152.18**	**286**	PKPbc	PKPbc	13 37 33.5	-0.5

*ISCJB **05** 13:19:56.2±0.4,59°76N±0.03×22°26E±0.04,h0km,Error ellipse: s-maj=4.3km s-min=3.0km az=10.5*

*HEL **05** 13:19:57.6±0.1,59°74N×22°27E,h0km,ML2.0, ML2.1(UPP),ML2.0(NAO),Explosion*

*UPP **05** 13:19:58.4,59°81N×22°12E,h0km,ML2.1,Suspected Mining explosion.*

*CSEM **05** 13:19:58.0±0.2,59°89N×22°25E,h2km,ML2.1,Error ellipse: s-maj=4.8km s-min=2.7km az=171.0,Mining explosion.*

*IDC **05** 13:19:58.1±2.6,59°80N×22°39E,h0km,mb1 3.1/3, mb1mx3.0/25,mbtmp3.0/3,ML2.6/3,Error ellipse: s-maj=36.0km s-min=8.7km az=160.0*

*NAO **05** 13:19:58.4±1.3,59°85N×22°26E,ML2.0*

*BER **05** 13:20:00.5±4.1,59°93N×22°24E,h0km±20km, ML2.0(NAO)*

ISC 05 13:19:56.8±0.4,59°78N±0.03×22°32E±0.04,h0km,n49, σ1°03/78,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**1.13**	**66**	*eP*	**Pg**	**13 20 18.1**	**-0.4**
MEF				*eS*	**Sg**	**13 20 33.8**	**+0.7**
MEF	**Metsahovi**	**1.13**	**66**	*eP*	**Pg**	**13 20 18.3**	**-0.2**
	SNR=90						
MEF				S	**Sg**	**13 20 33.8**	**+0.6**
AAL	**Aland**	**1.24**	**290**	*eP*	**Pg**	**13 20 19.5**	**-0.9**
AAL				*eS*	**Sg**	**13 20 36.1**	**-0.3**
AAL	**Aland**	**1.24**	**290**	P	**Pg**	**13 20 19.5**	**-1.0**
AAL				S	**Sg**	**13 20 36.1**	**-0.4**
RAF	**Rauma**	**1.28**	**348**	*eP*	**Pg**	**13 20 20.9**	**-0.5**
RAF				*eS*	**Sg**	**13 20 38.3**	**+0.4**
RAF	**Rauma**	**1.28**	**348**	P	**Pg**	**13 20 20.8**	**-0.5**
RAF				S	**Sg**	**13 20 38.3**	**+0.4**
MTSE	**Matsula**	**1.31**	**144**	*eP*	**Pg**	**13 20 21.0**	**-0.9**
MTSE				*eS*	**Sg**	**13 20 37.6**	**-1.3**
MTSE	**Matsula**	**1.31**	**144**	P	**Pg**	**13 20 21.0**	**-0.9**
NRTU	**Norrtaelje**	**1.87**	**269**	*eP*	**Pn**	**13 20 29.8**	**-0.2**
NRTU	**Norrtaelje**	**1.87**	**269**	P	**Pn**	**13 20 29.8**	**-0.2**
PVF	**Pernaja**	**1.93**	**65**	*eP*	**Pn**	**13 20 32.1**	**+1.3**
PVF				*eS*	**Sn**	**13 20 57.5**	**+1.7**
PVF	**Pernaja**	**1.93**	**65**	P	**Pn**	**13 20 32.0**	**+1.2**
PVF				S	**Sn**	**13 20 57.4**	**+1.6**
GRAU	**Graesoe**	**1.98**	**288**	*eP*	**Pn**	**13 20 31.5**	**+0.1**
GRAU	**Graesoe**	**1.98**	**288**	P	**Pn**	**13 20 31.5**	**+0.1**
NYNU	**Nynaeshamn**	**2.34**	**253**	*eP*	**Pn**	**13 20 37.8**	**+1.4**
NYNU	**Nynaeshamn**	**2.34**	**253**	P	**Pn**	**13 20 37.8**	**+1.4**
FIA0	**FINESS Array S**	**2.50**	**46**	Pn	**Pn**	**13 20 41.2**	**+2.6**
	baz=226,slow=16						
FIA0				Lg		13 21 14.0	
	baz=233,slow=28						
FIA0	**FINESS Array S**	**2.50**	**46**	*ePB*	**Pb**	**13 20 41.3**	**-1.1**
FIA0				*eSB*	**Sb**	**13 21 14.0**	**+0.3**
FIA0				MSG		13 21 16.4	
	comp=Z,7.3nm,0.2s						
FIA0	**FINESS Array S**	**2.50**	**46**	Pb	**Pb**	**13 20 41.3**	**-1.1**
FIA0				Sb	**Sb**	**13 21 13.9**	**+0.2**
FIA0				Lg		13 21 14.0	
	baz=233,slow=24						
FINES	**FINESS Array B**	**2.50**	**46**	Pn	**Pn**	**13 20 41.0**	**+2.5**
	comp=Z,0.7nm,0.3s,baz=228,slow=15,SNR=9.4						
FINES				Lg		13 21 13.7	
	comp=Z,2.2nm,0.3s,baz=230,slow=22,SNR=15						
VSU	**Vasula**	**2.63**	**118**	Pn	**Pn**	**13 20 43.2**	**+2.8**
VSU				Sn	**Sn**	**13 21 16.5**	**+3.6**
VSU	**Vasula**	**2.63**	**118**	*ePB*	**Pb**	**13 20 43.6**	**-1.1**
VSU				*eSB*	**Sb**	**13 21 16.9**	**-0.6**
VSU	**Vasula**	**2.63**	**118**	Pn	**Pn**	**13 20 43.2**	**+2.8**
	SNR=50						
VSU	**Vasula**	**2.63**	**118**	Pb	**Pb**	**13 20 43.6**	**-1.1**
VSU				Sn	**Sn**	**13 21 16.5**	**+3.5**
	SNR=50						
VSU				*eS*	**Sn**	**13 21 17.7**	**+4.7**
	comp=Z,23nm,0.4s,SNR=50						
BACU	**Backbrunna**	**2.63**	**274**	*eP*	**Pn**	**13 20 41.2**	**+0.7**
BACU	**Backbrunna**	**2.63**	**274**	P	**Pn**	**13 20 41.1**	**+0.6**
OSTU	**Oestervaala**	**2.64**	**282**	*eP*	**Pn**	**13 20 41.1**	**+0.5**
OSTU	**Oestervaala**	**2.64**	**282**	P	**Pn**	**13 20 41.0**	**+0.4**
KEF	**Keuruu**	**2.70**	**26**	*ePB*	**Pb**	**13 20 45.1**	**-0.8**
KEF				*eSG*	**Sg**	**13 21 21.1**	**-2.5**
KEF				MSG		13 21 23.9	
	comp=Z,4.0nm,0.2s						
KEF	**Keuruu**	**2.70**	**26**	Pb	**Pb**	**13 20 45.1**	**-0.9**
KEF				Sg	**Sg**	**13 21 21.0**	**-2.5**
IGGU	**Iggoen**	**2.72**	**296**	*eP*	**Pn**	**13 20 42.1**	**+0.5**
IGGU	**Iggoen**	**2.72**	**296**	P	**Pn**	**13 20 42.1**	**+0.4**
ESKU	**Eskilstuna**	**3.07**	**262**	*eP*	**Pn**	**13 20 47.3**	**+0.9**
ESKU	**Eskilstuna**	**3.07**	**262**	P	**Pn**	**13 20 47.3**	**+0.9**
ARNU	**Arnoeviken**	**3.10**	**311**	*eP*	**Pn**	**13 20 47.9**	**+1.1**
ARNU	**Arnoeviken**	**3.10**	**311**	P	**Pn**	**13 20 47.9**	**+1.1**
VAF	**Ylistaro**	**3.28**	**3**	*ePB*	**Pb**	**13 20 55.1**	**-0.7**
VAF				*eSB*	**Sb**	**13 21 36.8**	**+0.5**
VAF				MSG		13 21 42.4	
	comp=Z,2.7nm,0.2s						
VAF	**Ylistaro**	**3.28**	**3**	Pb	**Pb**	**13 20 55.1**	**-0.7**
VAF				Sb	**Sb**	**13 21 36.7**	**+0.4**
HFS	**Hagfors**	**4.35**	**278**	Pn	**Pn**	**13 21 04.5**	**+0.4**
	baz=93,slow=14						
HFS				Sn	**Sn**	**13 21 54.4**	**-1.0**
	baz=79,slow=28						
HFS				Lg		13 22 09.5	
	baz=94,slow=37						
HFS	**Hagfors**	**4.35**	**278**	*eP*	**Pn**	**13 21 04.5**	**+0.4**
HFS				*eS*	**Sn**	**13 21 54.4**	**-1.0**
HFS				*eSG*	**Sg**	**13 22 09.5**	**-6.9**
HFS	**Hagfors**	**4.35**	**278**	Pn	**Pn**	**13 21 04.5**	**+0.5**
	baz=93,slow=14,SNR=50						
HFS				S	**Sn**	**13 21 54.4**	**-1.0**
NB2	**NORSAR Subarra**	**5.65**	**288**	Pn	**Pn**	**13 21 21.9**	**0.0**
	baz=99,slow=12						
NB2				Sn	**Sn**	**13 22 27.0**	**-0.3**
	baz=93,slow=22						
NB2	**NORSAR Subarra**	**5.65**	**288**	*eP*	**Pn**	**13 21 21.9**	**0.0**
NB2				*eS*	**Sn**	**13 22 27.0**	**-0.3**
NB2	**NORSAR Subarra**	**5.65**	**288**	Pn	**Pn**	**13 21 21.9**	**+0.1**
	baz=99,slow=12,SNR=50						
NB2				S	**Sn**	**13 22 27.0**	**-0.3**
NOA	**NORSAR Array B**	**5.65**	**288**	Pn	**Pn**	**13 21 20.9**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=97,slow=15,SNR=9.8						
NOA				Sn	**Sn**	**13 22 24.3**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=337,slow=13,SNR=1.4						
NOA				Lg		13 22 52.3	
	comp=Z,0.4nm,0.3s,baz=56,slow=9.7,SNR=3.7						
ARA0	**ARCESS Array S**	**9.89**	**7**	Pn	**Pn**	**13 22 19.3**	**-0.7**
	baz=179,slow=16						
ARA0				Sn	**Sn**	**13 24 04.6**	**-6.9**
	baz=194,slow=22						
ARA0	**ARCESS Array S**	**9.89**	**7**	*eP*	**Pn**	**13 22 19.3**	**-0.7**
ARA0				*eS*	**Sn**	**13 24 04.6**	**-6.9**
ARA0	**ARCESS Array S**	**9.89**	**7**	P	**Pn**	**13 22 19.3**	**-0.7**
ARCES	**ARCESS Array B**	**9.89**	**7**	Pn	**Pn**	**13 22 19.3**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=192,slow=14,SNR=13						

*CSEM **05** 13:24:14.8±0.2,36°79N×22°94E,h8km,MD2.6,Error ellipse: s-maj=10.0km s-min=4.4km az=97.0*

*THE **05** 13:24:14.8,36°79N×22°88E,h0km±9km,ML1.0/1,Error ellipse: s-maj=13.3km s-min=1.2km az=264.0*

ATH 05 13:24:15.1,36°78N×22°98E,h9km±4km,MD2.6/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLI	**Veliai**	**0.07**	**209**	*ePG*	Pg	13 24 16.1	-1.1
VLI				*eSG*	Sg	13 24 19.3	+0.7
VLI	**Veliai**	**0.07**	**209**	P	Pg	13 24 16.0	-1.2
VLI				S	Sg	13 24 18.8	+0.2
VLI	**Veliai**	**0.07**	**209**	*ePg*	Pg	13 24 16.1	-1.1
VLI				*S*	Sg	13 24 18.8	+0.2
VLI				*eSg*	Sg	13 24 19.3	+0.7
KYTH	**Kithira**	**0.50**	**175**	*ePB*	Pg	13 24 25.0	+0.2
KYTH	**Kithira**	**0.50**	**175**	P	Pg	13 24 25.5	+0.7
KYTH	**Kithira**	**0.50**	**175**	*ePb*	Pg	13 24 25.0	+0.2
KYTH	**Kithira**	**0.50**	**175**	P	Pg	13 24 25.5	+0.7
DID	**Didima**	**0.75**	**16**	*ePG*	Pg	13 24 28.9	-0.7
DID				*eSB*	Sb	13 24 40.2	-0.6
DID	**Didima**	**0.75**	**16**	P	Pg	13 24 29.3	-0.3
DID				S	Sg	13 24 41.2	+1.7
DID	**Didima**	**0.75**	**16**	*ePg*	Pg	13 24 28.9	-0.7
DID	**Didima**	**0.75**	**16**	P	Pg	13 24 29.3	-0.3
DID				*eSb*	Sb	13 24 40.2	-0.6
DID				S	Sg	13 24 41.2	+1.7
PYL	**PYLOS**	**1.00**	**277**	*ePB*	Pb	13 24 34.0	-0.6
PYL	**PYLOS**	**1.00**	**277**	*ePb*	Pb	13 24 34.0	-0.6

*ISCJB **05** 13:36:06.6±0.9,24°12S±0.05×66°7W±0.2,h198km±14km, mb3.7/2,Error ellipse: s-maj=22.7km s-min=8.8km az=178.1*

*IDC **05** 13:36:06.8±1.7,24°05S×66°58W,h181km±16km,mb3.5/2, mb1 3.3/4,mb1mx3.2/17,mbtmp3.3/4,Error ellipse: s-maj=29.1km s-min=14.4km az=94.0*

*NEIC **05** 13:36:08.1±1.1,24°03S×66°58W,h198km±10km,mb4.1/1, Error ellipse: s-maj=19.8km s-min=12.6km az=86.0*

ISC 05 13:36:07.8±1.0,24°05S±0.07×66°6W±0.2,h191km±14km, n20,σ0°86/15,mb3.8/2,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**7.66**	**191**	P	**Pn**	**13 37 56.5**	**0.0**
	0.0nm,0.3s,baz=230,slow=7.9,SNR=3.0						
CFAA				S	**Sn**	**13 39 18.4**	**-4.5**
	0.1nm,0.3s,baz=284,slow=18,SNR=3.1						
CFAA	**Coronel Fontan**	**7.66**	**191**	P	**Pn**	**13 37 56.5**	**0.0**
CFAA				S	**Sn**	**13 39 18.4**	**-4.5**
LPAZ	**La Paz**	**7.86**	**349**	P	**Pn**	**13 38 00.2**	**+1.0**
	0.2nm,0.3s,baz=186,slow=10,SNR=2.9						
LPAZ				S	**Sn**	**13 39 27.1**	**-0.6**
	0.1nm,0.3s,baz=320,slow=23,SNR=4.6						
LPAZ	**La Paz**	**7.86**	**349**	P	**Pn**	**13 38 00.2**	**+1.0**
LPAZ				S	**Sn**	**13 39 27.1**	**-0.6**
CPUP	**Villa Florida**	**8.70**	**107**	P	**Pn**	**13 38 10.6**	**+0.4**
	0.5nm,0.3s,baz=272,slow=13,SNR=8.1						
CPUP	**Villa Florida**	**8.70**	**107**	P	**Pn**	**13 38 10.6**	**+0.4**
SNAA	**Sanae**	**59.18**	**161**	*eP*	**P**	**13 45 47.9**	**-0.3**
QSPA	**South Pole Qui**	**66.15**	**180**	*eP*	**P**	**13 46 35.6**	**+1.5**
	1.5nm,0.4s,mb4.1,baz=220,slow=1.0,SNR=16						
QSPA	**South Pole Qui**	**66.15**	**180**	*eP*	**P**	**13 46 35.3**	**+1.2**
	1.6nm,0.4s,mb4.2						
TORD	**Torodi Ar. Bea**	**76.25**	**69**	P	**P**	**13 47 34.4**	**-1.3**
	0.4nm,0.5s,mb3.3,baz=258,slow=6.4,SNR=7.3						
TORD	**Torodi Ar. Bea**	**76.25**	**69**	P	**P**	**13 47 34.4**	**-1.3**
ASAR	**Alice Springs**	**128.56**	**204**	PKP	PKPdf	13 54 52.4	-0.2
	0.4nm,0.7s,baz=113,slow=2.1,SNR=3.8						
ASAR	**Alice Springs**	**128.56**	**204**	PKP	PKPdf	13 54 52.5	-0.2
WRA	**Warramunga Arr**	**131.74**	**207**	PKP	PKPdf	13 54 58.7	-0.1
	0.2nm,0.5s,baz=164,slow=1.6,SNR=4.6						
WRA	**Warramunga Arr**	**131.74**	**207**	PKP	PKPdf	13 54 58.7	-0.1
ZALV	**Zalesovo Beam**	**143.27**	**28**	PKP	PKPdf	13 55 16.3	-2.5
	0.4nm,0.5s,baz=285,slow=5.7,SNR=3.1						
ZALV	**Zalesovo Beam**	**143.27**	**28**	PKP	PKPdf	13 55 16.3	-2.5
MK31	**Makanchi Array**	**146.34**	**40**	*ePKPbc*	PKPbc	13 55 25.8	-0.1
MKAR	**Makanchi Array**	**146.34**	**40**	PKPbc	PKPbc	13 55 25.9	0.0
	0.8nm,0.6s,baz=303,slow=3.3,SNR=6.6						
MKAR	**Makanchi Array**	**146.34**	**40**	PKPbc	PKPbc	13 55 25.9	0.0

*IDC **05** 13:45:33.2±2.2,21°99S×171°27E,h0km,mb4.0/7, mb1 4.3/7,mb1mx4.1/16,mbtmp4.1/7,MS3.3/1,Ms1 3.3/1, ms1mx2.8/22,Error ellipse: s-maj=86.5km s-min=28.8km az=154.0*

*ISCJB **05** 13:45:45.1±1.4,22°05S±0.3×171°05E±0.09,h100km±10km, mb4.0/9,Error ellipse: s-maj=43.2km s-min=9.7km az=165.6*

*NOU **05** 13:45:45.2±1.0,19°94S×170°56E,h10km,MD2.9,ML3.8*

*NEIC **05** 13:45:46.3±1.9,22°07S×171°13E,h104km±14km,mb4.1/3, Error ellipse: s-maj=61.7km s-min=12.4km az=159.0*

ISC 05 13:45:46.5±1.3,22°05S±0.3×171°05E±0.09,h99km±9km, n30,σ0°83/35,mb4.0/9,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.87**	**267**	*eS*	**Sn**	**13 47 28.0**	**-0.3**

SEW	Seward	1.96	159	*e*P		Pn	14 03 42.2	+1.1
DHY	Denali Highway	1.98	53	P		Pn	14 03 41.6	+0.3
MCK	McKinley	2.00	25	P		Pn	14 03 42.2	+0.6
CHUM	Lake Minchumin	2.06	342	P		Pn	14 03 42.9	+0.5
CHUM				S		Sn	14 04 06.5	-0.6
BPAW	Bear Paw Mtn.	2.17	358	P		Pn	14 03 43.9	0.0
BRLK	Bradley Lake	2.18	180	P		Pn	14 03 43.5	-0.5
KLU	Klutina	2.39	99	P		Pn	14 03 46.2	-0.6
SVW2	Sparrevohn	2.42	252	*e*P		Pn	14 03 46.9	-0.4
CNPM	China Poot	2.43	185	P		Pn	14 03 46.9	-0.5
DIV	Divide	2.56	106	*e*P		Pn	14 03 48.2	-1.1
TT01	Tatalina	2.59	294	P		Pn	14 03 49.1	-0.5
PAX	Paxson	2.71	65	P		Pn	14 03 52.0	+0.8
PAX				S		Sn	14 04 23.8	+1.1
EYAK	Cordova Ski Ar	2.83	117	P		Pn	14 03 52.6	-0.3
DDM	Donnelly Dome	2.94	49	P		Pn	14 03 56.5	+2.2
HDA	Harding Lake	3.04	34	P		Pn	14 03 56.2	+0.5
BMRM	Bremner River	3.15	105	*e*P		Pn	14 03 55.7	-1.5
COLA	College	3.24	23	P		Pn	14 03 58.5	+0.1
COLA				S		Sn	14 04 35.6	-0.2
MDM	Murphy Dome	3.25	20	P		Pn	14 03 58.7	+0.1
MID	Middleton Isla	3.36	137	P		Pn	14 04 00.1	+0.1
ILAR	Eielson Array	3.36	30	P		Pn	14 03 59.8	-0.2
	4.3nm,0.3s,baz=218,slow=14,SNR=294							
ILAR				S		Sn	14 04 36.4	-2.2
	15nm,0.3s,baz=7.7,slow=28,SNR=15							
ILAR	Eielson Array	3.36	30	P		Pn	14 03 59.8	-0.2
ILAR				S		Sn	14 04 36.4	-2.2
IL1	Eielson Array	3.36	30	P		Pn	14 04 00.1	+0.1
MENT	Mentasta	3.46	70	*e*P		Pn	14 04 01.6	+0.1
DOT	Dot Lake	3.56	58	*e*P		Pn	14 04 03.0	+0.2
IM3	Indian Mountai	4.26	344	P		Pn	14 04 12.4	+0.2
KDAK	Kodiak Island	4.26	193	P		Pn	14 04 12.8	+0.4
	1.8nm,0.3s,baz=56,slow=9.7,SNR=48							
KDAK				S		Sn	14 05 00.4	-0.4
	6.4nm,0.3s,baz=357,slow=19,SNR=7.0							
KDAK	Kodiak Island	4.26	193	*e*P		Pn	14 04 12.6	+0.2
BCA3	Beaver Creek A	4.35	71	P		Pn	14 04 13.4	-0.2
OHAK	Old Harbor	4.89	196	P		Pn	14 04 18.8	-2.2
EGAK	Eagle	5.21	53	*e*P		Pn	14 04 25.0	-0.3
COLD	Coldfoot	5.32	3	*e*P		Pn	14 04 27.8	+1.0
DAWY	Dawson	5.64	63	P		Pn	14 04 31.1	0.0
PNL	Peninsula	6.05	107	*e*P		Pn	14 04 36.4	+0.4
BM3	Burnt Mountain	6.12	23	P		Pn	14 04 38.3	+0.6
SKAG	Skagway	8.01	101	*e*P		Pn	14 05 02.4	-1.1
INK	Inuvik	9.67	41	P		Pn	14 05 25.8	-0.4
	0.1nm,0.3s,baz=257,slow=13,SNR=11							
INK				S		Sn	14 07 11.3	-1.7
	0.2nm,0.3s,baz=258,slow=3.1,SNR=1.8							
INK	Inuvik	9.67	41	P		Pn	14 05 25.8	-0.4
INK				S		Sn	14 07 11.3	-1.7
DLBC	Dease Lake	10.93	99	P		Pn	14 05 42.2	-1.2
	0.2nm,0.3s,baz=237,slow=9.4,SNR=5.2							
DLBC	Dease Lake	10.93	99	P		Pn	14 05 42.2	-1.2
YKA	Yellowknife Ar	16.77	72	P		Pn	14 06 59.6	-0.6
	0.2nm,0.3s,baz=285,slow=11,SNR=4.2							
YKA	Yellowknife Ar	16.77	72	P		Pn	14 06 59.6	-0.6
NVAR	Mina Array Bea	30.85	125	P		P	14 09 21.6	+2.0
	0.7nm,0.7s,mb3.5,baz=313,slow=9.3,SNR=4.3							
NVAR	Mina Array Bea	30.85	125	P		P	14 09 21.6	+2.0
PDAR	Pinedale Array	30.93	109	P		P	14 09 21.4	+1.1
	0.4nm,0.5s,mb3.4,baz=329,slow=3.8,SNR=4.0							
PDAR	Pinedale Array	30.93	109	P		P	14 09 21.4	+1.1
TXAR	Lajitas Array	44.76	115	P		P	14 11 17.6	+0.9
	0.3nm,0.8s,mb3.1,baz=358,slow=4.9,SNR=3.9							
TXAR	Lajitas Array	44.76	115	P		P	14 11 17.6	+0.9
SONM	Songino Array	54.50	306	P		P	14 12 31.4	+1.0
	0.2nm,0.4s,mb3.5,baz=56,slow=10.0,SNR=2.5							
SONM	Songino Array	54.50	306	P		P	14 12 31.4	+1.0
AKASG	Malin Array Be	67.71	360	P		P	14 13 58.3	-1.5
	0.6nm,0.4s,mb3.8,baz=354,slow=5.3,SNR=3.3							
AKASG	Malin Array Be	67.71	360	P		P	14 13 58.3	-1.5

*IDC **05** 14:17:46.8±1.2,36°.21N×70°.47E,h0km,mb3.5/6, mb1 3.8/11,mb1mx3.6/30,mbtmp3.7/11,ML3.7/5,MS2.8/1, Ms1 2.8/1,ms1mx2.4/39,Error ellipse: s-maj=25.2km s-min=18.6km az=101.0*

*NNC **05** 14:17:51.2±4.1,36°.62N×69°.56E,h0km,mb4.3,mpv4.2, Error ellipse: s-maj=40.8km s-min=31.6km az=52.0*

*ISCJB **05** 14:17:53.7±0.5,36°.47N±0°.03×70°.28E±0°.07,h87km±8km, mb3.3/5,Error ellipse: s-maj=8.8km s-min=4.9km az=178.8*

*NEIC **05** 14:17:53.6±1.0,36°.36N×70°.40E,h57km±13km,mb4.0/1, Error ellipse: s-maj=13.2km s-min=8.0km az=71.0*

*MOS **05** 14:17:53.6±3.0,36°.20N×70°.50E,h33km,mb4.0/1,Error ellipse: s-maj=16.8km s-min=7.4km az=78.2*

*DMN **05** 14:20:08.5±3.4,31°.49N×81°.39E,h33km,Error ellipse: s-maj=90.4km s-min=8.5km az=139.0*

ISC 05 14:17:55.1±0.5,**36°.43N**±0°.03×**70°.27E**±0°.07,**h87**km±8km, **n79,**σ1°.**45**/86,**mb3.3**/5,**4C-3D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KBL	Kabul	2.13	208	*e*P		Pn	14 18 27.7	-1.2
KBL				*e*S		Sn	14 18 55.4	+0.6
KBL	Kabul	2.13	208	*e*PN		Pn	14 18 27.7	-1.3
KBL				*e*S		Sn	14 18 55.4	+0.6
CEP	Cherat	2.93	152	P		Pn	14 18 41.6	+2.0
CEP				S		Sn	14 19 22.0	+8.2
CHCP	Chirah Chowk	3.70	138	P		Pn	14 18 51.4	+1.4
THW	Thamme Wali	3.83	161	P		Pn	14 18 52.6	+0.9
AML	Almayashu	6.28	24	P		Pn	14 19 25.4	+0.3
	SNR=9.7							
KK31	Karatay Array	6.67	2	P		Pn	14 19 29.8	-0.5
	9.8nm,0.5s,baz=190,slow=13,SNR=122							
KK31				⇑S		Sn	14 20 44.8	+0.1
	1.2nm,0.2s,baz=178,slow=29,SNR=6.1							
KKAR	Karatay Array	6.67	2	*e*P		Pn	14 19 29.6	-0.7
	12nm,0.3s							
KKAR	Karatay Array	6.67	2	*e*PN		Pn	14 19 29.6	-0.7
KKAR				pmax	pmax			
	comp=Z,12nm,0.3s							
EKS2	Erkin-Say	6.79	22	P		Pn	14 19 32.6	+0.7
	SNR=7.5							
EKS2	Erkin-Say	6.79	22	*e*P		Pn	14 19 32.5	+0.5
	comp=Z,7.5nm,0.6s							
EKS2	Erkin-Say	6.79	22	*e*PN		Pn	14 19 32.5	+0.6
EKS2				pmax	pmax			
	comp=Z,8.0nm,0.6s							
AAK	Ala-Archa	7.00	27	P		Pn	14 19 35.7	+0.8
	SNR=14							
AAK	Ala-Archa	7.00	27	Pn		Pn	14 19 35.6	+0.7
	comp=Z,0.1nm,0.3s,baz=194,slow=7.2,SNR=43							
AAK				Sn		Sn	14 20 53.7	+0.8
	comp=Z,0.0nm,0.3s,baz=264,slow=17,SNR=1.4							
AAK				Lg			14 21 29.3	
	comp=Z,0.0nm,0.3s,baz=297,slow=18,SNR=2.5							
AAK				LR		LR	14 22 24.6	
	comp=Z,74nm,18.4s,baz=0.6,slow=39							
AAK	Ala-Archa	7.00	27	*e*P		Pn	14 19 35.3	+0.4
AAK				Sn		Sn	14 20 53.7	+0.8
AAK				Lg			14 21 29.3	
AAK				LR		LR	14 22 24.6	
AAK	Ala-Archa	7.00	27	*e*PN		Pn	14 19 35.3	+0.4
KBK	Karagaybulak	7.19	29	P		Pn	14 19 39.0	+1.5
	SNR=8.6							
FRU	Bishkek	7.22	26	*e*P		Pn	14 19 38.0	+0.2
FRU				*e*			14 21 10.0	
FRU				pmax	pmax			
	comp=Z,20nm,1.2s							
FRU				pmax	pmax			
	comp=N,80nm,2.0s							
CHMS	Chumysh	7.41	26	P		Pn	14 19 40.8	+0.3
	SNR=8.9							
ULHL	Ulahol	7.42	37	P		Pn	14 19 42.6	+1.9
	SNR=7.4							
USP	Ospenovka	7.56	24	P		Pn	14 19 42.8	+0.3
	SNR=15							
TKM2	Tokmak 2	7.67	31	⇑P		Pn	14 19 44.3	+0.3
	comp=N,14nm,0.8s							
TKM2	Tokmak 2	7.67	31	*e*P		Pn	14 19 43.8	-0.2
	comp=N,17nm,0.8s							
TKM2	Tokmak 2	7.67	31	*e*P		Pn	14 19 43.8	-0.2
TKM2				pmax	pmax			
	comp=Z,17nm,0.8s							
MK31	Makanchi Array	13.70	37	⇓P		Pn	14 21 11.7	+6.4
	comp=Z,2.1nm,0.8s,baz=207,slow=9.0,SNR=4.5							
MK31	Makanchi Array	13.70	37	*e*P		Pn	14 21 06.1	+0.7
MK31	Makanchi Array	13.70	37	*e*P		Pn	14 21 06.1	+0.7
MKAR	Makanchi Array	13.70	37	Pn		Pn	14 21 04.5	-0.9
	comp=Z,0.1nm,0.3s,baz=217,slow=12,SNR=8.4							
MKAR	Makanchi Array	13.70	37	Pn		Pn	14 21 04.5	-0.9
MKAR	Makanchi Array	13.70	37	P		Pn	14 21 04.5	-0.9
KOLN	Koldanda	14.21	124	*e*P		Pn	14 21 12.1	-0.1
KOLN	Koldanda	14.21	124	*e*P		Pn	14 21 12.1	-0.1
GKN	Gorkha	14.77	121	*e*P		Pn	14 21 16.1	-3.3
GKN	Gorkha	14.77	121	*e*P		Pn	14 21 16.1	-3.3
AB31	Akbulak array	14.87	333	P		Pn	14 21 17.7	-2.8
	comp=Z,2.9nm,0.2s,baz=147,slow=13,SNR=101							
AB31				S		Sn	14 23 56.6	-7.5
	comp=Z,1.0nm,0.5s,baz=153,slow=23,SNR=5.9							
ABKAR	Akbulak array	14.87	333	*e*P		Pn	14 21 17.6	-2.9
	comp=Z,4.3nm,0.4s							
DMN	Daman	15.34	121	*e*P		Pn	14 21 24.5	-2.2
DMN	Daman	15.34	121	*e*P		Pn	14 21 24.5	-2.2
KKN	Kakani	15.35	120	*e*P		Pn	14 21 23.7	-3.1
KKN	Kakani	15.35	120	*e*P		Pn	14 21 23.7	-3.1
KKN	Kakani	15.35	120	*e*P		Pn	14 21 23.7	-3.1
KURK	Kurchatov	15.49	20	Pn		Pn	14 21 25.0	-3.5
	comp=Z,0.0nm,0.3s,baz=213,slow=10,SNR=3.3							
KURK	Kurchatov	15.49	20	Pn		Pn	14 21 25.0	-3.4
KURK	Kurchatov	15.49	20	P		Pn	14 21 25.0	-3.4
PKIN	Phulchoki	15.56	120	*e*P		Pn	14 21 27.2	-2.3
PKI	Pulchoki	15.57	120	*e*P		Pn	14 21 27.2	-2.5
PKI	Pulchoki	15.57	120	*e*P		Pn	14 21 27.2	-2.5
VOSK	Vostochnaya	16.30	2	⇓P		Pn	14 21 36.3	-2.2
	comp=Z,3.1nm,0.7s							
ZRNK	Zerenda	16.54	357	⇑P		Pn	14 21 39.5	-2.0
	comp=Z,3.0nm,0.5s							
AKTK	Aktyubinsk	16.55	332	Pn		Pn	14 21 41.5	-0.2
AKTO	Aktyubinsk	16.55	332	Pn		Pn	14 21 41.5	-0.2
	comp=Z,1.0nm,0.3s,baz=134,slow=15,SNR=17							
AKTO	Aktyubinsk	16.55	332	P		Pn	14 21 41.5	-0.2
BVA0	Borovoye Array	16.59	0	⇑P		Pn	14 21 45.2	+3.1
	comp=Z,0.9nm,0.4s,baz=168,slow=12,SNR=21							
BVAR	Borovoye Array	16.59	0	Pn		Pn	14 21 40.5	-1.6
	comp=Z,2.2nm,0.3s,baz=167,slow=10.0,SNR=23							
BVAR	Borovoye Array	16.59	0	Pn		Pn	14 21 40.5	-1.6
BVAR	Borovoye Array	16.59	0	P		Pn	14 21 40.5	-1.6
BRVK	Borovoye	16.63	0	⇓P		Pn	14 21 43.7	+1.2
	comp=Z,8.7nm,0.6s							
BRVK	Borovoye	16.63	0	P		Pn	14 21 41.3	-1.2
	comp=Z,6.4nm,0.6s							
BRVK	Borovoye	16.63	0	P		Pn	14 21 41.3	-1.2
BRVK				pmax	pmax			
	comp=Z,6.0nm,0.6s							
TAPN	Taplejung	17.34	117	*e*P		Pn	14 21 50.3	-1.2
TAPN	Taplejung	17.34	117	*e*P		Pn	14 21 50.3	-1.2
ZAA0	Zalesovo Array	20.23	25	*e*P		P	14 22 22.8	-0.1
ZALV	Zalesovo Beam	20.23	25	P		P	14 22 23.5	+0.5
	comp=Z,2.4nm,0.4s,baz=215,slow=11,SNR=9.3							
ZALV	Zalesovo Beam	20.23	25	P		P	14 22 23.5	+0.5
ZALV	Zalesovo Beam	20.23	25	P		P	14 22 23.5	+0.6
SONM	Songino Array	28.86	55	P		P	14 23 48.2	+3.0
	comp=Z,0.3nm,0.4s,mb3.3,baz=272,slow=8.5,SNR=2.9							
SONM	Songino Array	28.86	55	P		P	14 23 48.2	+3.0
SONM	Songino Array	28.86	55	P		P	14 23 48.2	+3.0
ARCES	ARCESS Array B	40.98	338	P		P	14 25 33.7	+4.7
	comp=Z,7.7nm,1.0s,mb4.0,baz=94,slow=10.0,SNR=3.4							
ARCES	ARCESS Array B	40.98	338	P		P	14 25 33.7	+4.7
ARCES	ARCESS Array B	40.98	338	P		P	14 25 33.7	+4.7
TORD	Torodi Ar. Bea	65.13	268	P		P	14 28 29.9	+2.9
	comp=Z,0.4nm,0.9s,mb3.2,baz=46,slow=7.2,SNR=2.5							
TORD	Torodi Ar. Bea	65.13	268	P		P	14 28 29.9	+2.9
WRA	Warramunga Arr	82.46	121	P		P	14 30 09.8	+1.8
	comp=Z,0.2nm,0.7s,mb3.1,baz=324,slow=4.9,SNR=6.5							
WRA	Warramunga Arr	82.46	121	P		P	14 30 09.8	+1.8
WRA	Warramunga Arr	82.46	121	P		P	14 30 09.8	+1.7
ASAR	Alice Springs	84.70	124	P		P	14 30 21.3	+1.9
	comp=Z,0.1nm,0.8s,mb2.8,baz=317,slow=5.2,SNR=3.1							
ASAR	Alice Springs	84.70	124	P		P	14 30 21.3	+1.9
ASAR	Alice Springs	84.70	124	P		P	14 30 21.3	+1.8

*IDC **05** 14:24:53.0±2.0,1°.02N×97°.05E,h0km,mb3.8/6,mb1 3.8/8, mb1mx3.6/25,mbtmp3.7/8,ML3.1/2,MS4.2/1,Ms1 4.2/1, ms1mx2.8/35,Error ellipse: s-maj=46.9km s-min=27.7km az=51.0*

*ISCJB **05** 14:24:56.2±1.4,1°.1N±0°.1×97°.1E±0°.1,h33km,mb3.7/6, Error ellipse: s-maj=20.9km s-min=18.5km az=9.7*

*NEIC **05** 14:24:58.5±1.1,1°.12N×97°.15E,h35km,Error ellipse: s-maj=17.3km s-min=15.2km az=193.0*

ISC 05 14:24:58.6±1.4,**1°.1N**±0°.1×**97°.2E**±0°.1,**h35**km,**n17,** σ0.**57**/**17,mb3.7/6,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PSI	Prapat	2.43	47	Pn		Pn	14 25 35.7	-0.2
	1.2nm,0.3s,baz=192,slow=9.3,SNR=10							
PSI	Prapat	2.43	47	Pn		Pn	14 25 35.7	-0.2
IPM	Ipoh	5.11	49	*e*P		Pn	14 26 13.5	+0.8
KULM	Kulim	5.42	40	*e*P		Pn	14 26 16.6	-0.4
	17nm,0.9s							
CMAR	Chiang Mai Arr	17.32	6	P		Pn	14 28 56.9	-0.9
	0.1nm,0.3s,baz=192,slow=11,SNR=7.7							
CMAR	Chiang Mai Arr	17.32	6	P		Pn	14 28 56.9	-0.9
WRA	Warramunga Arr	42.04	122	P		P	14 32 46.8	-0.4
	0.5nm,0.7s,mb3.2,baz=300,slow=9.1,SNR=4.6							
WRA	Warramunga Arr	42.04	122	P		P	14 32 46.8	-0.4
KSRS	Korea Array	45.94	35	P		P	14 33 18.1	-0.1
	1.7nm,0.8s,mb4.0,baz=224,slow=9.5,SNR=6.7							
SONM	Songino Array	47.21	8	P		P	14 33 28.9	+0.9
	0.6nm,0.7s,mb3.6,baz=197,slow=7.6,SNR=4.1							
SONM	Songino Array	47.21	8	P		P	14 33 28.9	+0.9
MKAR	Makanchi Array	47.30	346	P		P	14 33 28.2	-0.5
	0.8nm,0.7s,mb3.7,baz=159,slow=8.6,SNR=5.0							
MKAR	Makanchi Array	47.30	346	P		P	14 33 28.2	-0.5
KURK	Kurchatov	51.85	345	P		P	14 34 03.9	+0.6
	0.5nm,0.6s,mb3.6,baz=168,slow=7.4,SNR=4.5							
KURK	Kurchatov	51.85	345	P		P	14 34 03.9	+0.6
ZALV	Zalesovo Beam	53.62	351	P		P	14 34 16.4	0.0
	0.7nm,0.3s,mb4.1,baz=182,slow=5.5,SNR=8.5							
ZALV	Zalesovo Beam	53.62	351	P		P	14 34 16.4	0.0

WEL 05 14:35:36.5±0.5,**42°.59S**×**177°.27E,h12**km,**ML3.8**/34, **Error ellipse: s-maj=4.0km s-min=3.5km az=0.0,Off east coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
TRWZ	Traveller	1.68	315	PN		Pn	14 36 04.9	-0.7
TRWZ				SN		Sn	14 36 25.6	-1.3
TMWZ	Te Maipa	1.81	325	PN		Pn	14 36 06.8	-0.6
PLWZ	Palliser	1.81	303	PN		Pn	14 36 06.7	-0.8
PAWZ	Paruwai Farm	1.83	311	PN		Pn	14 36 06.9	-0.8
PAWZ				SN		Sn	14 36 29.0	-1.8
MSWZ	Moikau Station	1.91	307	PN		Pn	14 36 07.7	-1.0
MSWZ				SN		Sn	14 36 30.5	-2.3
TIWZ	Tintock	2.09	330	PN		Pn	14 36 10.6	-0.6
CAW	Cannon Point	2.21	311	PN		Pn	14 36 12.2	-0.7
WEL	Wellington	2.28	304	PN		Pn	14 36 13.2	-0.7
SNZO	South Karori	2.30	303	PN		Pn	14 36 13.5	-0.7
MRZ	Mangatainoka R	2.31	326	PN		Pn	14 36 13.6	-0.7
PRHZ	Porangahau	2.37	348	PN		Pn	14 36 14.2	-0.9
OGWZ	Otaki Gorge	2.37	318	PN		Pn	14 36 14.5	-0.6
DVHZ	Dannevirke	2.43	340	PN		Pn	14 36 15.3	-0.7
POWZ	Post Office Ro	2.47	332	PN		Pn	14 36 16.3	-0.1
KIW	Kapiti Island	2.47	313	PN		Pn	14 36 16.2	-0.3
PXZ	Pawanui	2.57	353	PN		Pn	14 36 17.4	-1.5
WPHZ	Waipukurau	2.60	346	PN		Pn	14 36 17.7	-0.5
TCW	Tory Channel	2.63	301	PN		Pn	14 36 18.0	-0.6
TSZ	Takapari Road	2.71	338	PN		Pn	14 36 19.3	-0.5
TUWZ	Tuamarina	2.74	294	PN		Pn	14 36 19.2	-1.0
KHZ	Kahutara	2.77	272	PN		Pn	14 36 17.4	-3.1
PNHZ	Pukenui	2.79	343	PN		Pn	14 36 20.4	-0.5
KAHZ	Kahuranaki	2.81	354	PN		Pn	14 36 20.0	-1.2
CKHZ	Cape Kidnapper	2.93	357	PN		Pn	14 36 21.2	-1.6
DUWZ	D'Urville Isla	3.08	304	PN		Pn	14 36 25.1	+0.3
NNZ	Nelson	3.21	294	PN		Pn	14 36 25.8	-0.9
BHHZ	Black Hill Sta	3.23	343	PN		Pn	14 36 26.4	-0.5
WAZ	Wanganui	3.31	328	PN		Pn	14 36 29.3	+1.2
THZ	Tophouse	3.35	283	PN		Pn	14 36 26.4	-2.2
MOVZ	Moawhango	3.38	340	PN		Pn	14 36 29.2	+0.2
BKZ	Black Stump Fm	3.47	350	PN		Pn	14 36 29.3	-0.9
MTVZ	Mangateitei	3.48	336	PN		Pn	14 36 31.4	+1.0
WNAZ	Wahianoa	3.50	338	PN		Pn	14 36 31.0	+0.4
NMHZ	Naumai	3.50	354	PN		Pn	14 36 29.7	-1.1
CRLZ	Canterbury Las	3.55	252	PN		Pn	14 36 27.4	-3.9
MQZ	McQueen's Vall	3.56	250	PN		Pn	14 36 27.5	-4.0
FWVZ	Far West T-bar	3.58	338	PN		Pn	14 36 31.9	+0.2
KNZ	Kokohu	3.58	5	PN		Pn	14 36 28.9	-2.8
PKVZ	Pokaka	3.60	335	PN		Pn	14 36 32.6	+0.6
WPVZ	Whakapapa	3.62	338	PN		Pn	14 36 32.7	+0.4
NGZ	Ngauruhoe	3.64	339	PN		Pn	14 36 32.8	+0.3
PRGZ	Paritu Road	3.69	7	PN		Pn	14 36 30.6	-2.6
WTVZ	West Tongariro	3.70	339	PN		Pn	14 36 33.4	0.0
RITZ	Rihia Road	3.76	343	PN		Pn	14 36 34.6	+0.4
VRZ	Vera Road	3.95	330	PN		Pn	14 36 37.2	+0.3
QRZ	Quartz Range	3.96	295	PN		Pn	14 36 36.7	-0.4
PRRZ	Plateau Road	4.14	350	PN		Pn	14 36 38.2	-1.3
DSZ	Denniston Nort	4.15	280	PN		Pn	14 36 38.2	-1.5
CNGZ	Carnagh Statio	4.16	10	PN		Pn	14 36 37.1	-2.6
MWZ	Matawai	4.25	3	PN		Pn	14 36 38.4	-2.6
RRRZ	Republican Roa	4.28	352	PN		Pn	14 36 40.0	-1.4
URZ	Urewera	4.33	358	PN		Pn	14 36 39.8	-2.2
HIZ	Hauiti	4.47	335	PN		Pn	14 36 43.9	-0.1
PUZ	Puketiti	4.57	10	PN		Pn	14 36 42.0	-3.4
RPZ	Rata Peaks	4.69	254	PN		Pn	14 36 44.5	-2.5
ODZ	Otahua Downs	5.39	241	PN		Pn	14 36 52.3	-4.3
LBZ	Lake Benmore	5.46	248	PN		Pn	14 36 54.3	-3.3
EAZ	Earnscleugh	6.33	243	PN		Pn	14 37 05.9	-3.6
TUZ	Tuapeka	6.43	236	PN		Pn	14 37 06.9	-4.1

*ISK **05** 14:38:42.2,37°.27N×28°.22E,h4km,MD2.4*

*ISCJB **05** 14:38:43.2±0.5,37°.24N±0°.04×28°.18E±0°.05,h10km,Error ellipse: s-maj=7.0km s-min=3.7km az=39.3*

*CSEM **05** 14:38:43.2±0.2,37°.25N×28°.21E,h2km,MD2.4,Error ellipse: s-maj=4.6km s-min=3.4km az=37.0*

*DDA **05** 14:38:43.3,37°.25N×28°.16E,h7km±3km,Md2.8*

ISC 05 14:38:43.6±0.5,**37°.25N**±0°.04×**28°.19E**±0°.05,**h10**km,**n20,** σ0.**95**/**28,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
YER	Yerkesik	0.14	147	*e*PG		Pg	14 38 45.8	-1.0
YER	Yerkesik	0.14	147	*e*Pg		Pg	14 38 45.8	-1.0
MLSB	Milas	0.33	277	*e*PG		Pg	14 38 49.8	-0.4
MLSB				*e*SG		Sg	14 38 55.3	+0.7
MLSB	Milas	0.33	277	*e*Pg		Pg	14 38 49.8	-0.3
MLSB				*e*Sg		Sg	14 38 55.3	+0.7
AYDN	Tasoluk	0.47	329	*i* P		Pg	14 38 53.1	+0.2
AYDN				*i* S		Sg	14 38 59.6	+0.5
AYDN	Tasoluk	0.47	329	*i* P		Pg	14 38 53.1	+0.2
AYDN				*i* S		Sg	14 38 59.6	+0.4
TURN	Turunc	0.50	139	*i* P		Pg	14 38 51.9	-1.5
TURN				*i* S		Sg	14 39 00.5	+0.5
TURN	Turunc	0.50	139	*i* P		Pg	14 38 51.9	-1.5
TURN				*i* S		Sg	14 39 00.5	+0.5
DAT	Datca	0.72	223	*e*PG		Pg	14 38 57.2	-0.2
DAT	Datca	0.72	223	*e*Pg		Pg	14 38 57.2	-0.2
BODT	Bodrum	0.73	255	*e*PG		Pg	14 38 57.3	-0.3
BODT	Bodrum	0.73	255	*e*Pg		Pg	14 38 57.3	-0.3
DNZL	Cakiroluk	0.81	57	*i* P		Pg	14 38 58.8	-0.4
DNZL	Cakiroluk	0.81	57	*i* P		Pg	14 38 58.8	-0.4
FETY	Fethiye	0.95	130	*e*PG		Pg	14 39 00.8	-1.0
FETY	Fethiye	0.95	130	*e*Pg		Pg	14 39 00.8	-1.0
MANT	Manisa	1.27	13	*i* P		Pn	14 39 07.1	-0.3
MANT	Manisa	1.27

FINES	**FINESS Array B**	**92.13**	**335**	P	**P**	**15 00 15.6**	**-1.3**
PDAR	**Pinedale Array**	**93.68**	**45**	P	**P**	**15 00 25.6**	**+1.2**
	0.3nm,0.6s,mb3.9,baz=146,slow=0.7,SNR=2.8						
PDAR	**Pinedale Array**	**93.68**	**45**	P	**P**	**15 00 25.6**	**+1.2**
TORD	**Torodi Ar. Bea**	**134.92**	**303**	PKP	PKPdf	15 06 26.3	-1.5
	0.4nm,0.8s,baz=325,slow=1.8,SNR=2.3						
TORD	**Torodi Ar. Bea**	**134.92**	**303**	PKP	PKPdf	15 06 26.3	-1.5
DBIC	**Dimbokro**	**143.79**	**299**	PKP	PKPdf	15 06 41.7	-2.3
	4.7nm,0.9s,baz=26,slow=10,SNR=4.1						
DBIC	**Dimbokro**	**143.79**	**299**	PKP	PKPdf	15 06 41.7	-2.3
CFAA	**Coronel Fontan**	**144.59**	**128**	PKP	PKPdf	15 06 43.8	-1.1
	0.2nm,0.6s,baz=218,slow=5.4,SNR=4.1						
CFAA	**Coronel Fontan**	**144.59**	**128**	PKP	PKPdf	15 06 43.8	-1.1
LPAZ	**La Paz**	**148.66**	**101**	PKPbc	PKPbc	15 06 54.4	-1.5
	1.0nm,0.8s,baz=213,slow=2.5,SNR=4.1						
LPAZ	**La Paz**	**148.66**	**101**	PKPbc	PKPbc	15 06 54.4	-1.5

*IDC **05** 15:01:36.4±0.9, 10°.45N×60°.21W, h0km, mb3.8/8, mb1 4.1/8, mb1mx3.8/25, mbtmp3.8/8, MS3.6/2, Ms1 3.6/2, ms1mx3.0/33, Error ellipse: s-maj=26.9km s-min=19.4km az=76.0*

*FUNV **05** 15:01:40.0, 10°.38N×60°.09W, h35km, MW4.1*

*NEIC **05** 15:01:41.4±1.8, 10°.24N×60°.42W, h38km±15km, Error ellipse: s-maj=20.3km s-min=15.3km az=86.0*

*ISCJB **05** 15:01:42.1±0.6, 10°.38N±0°.03×60°.50W±0°.04, h75km±5km, mb3.8/8, Error ellipse: s-maj=7.7km s-min=4.5km az=31.0*

*TRN **05** 15:01:43.7, 10°.47N×60°.49W, h72km, MD3.9*

ISC 05 15:01:42.4±0.6, 10°.34N±0°.03×60°.41W±0°.04, h51km±7km, n53, σ1§20/69, mb3.8/8, MS3.5/2, 4C, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBH	**Brigand Hill**	**0.67**	**283**	⇑*e*P	**Pn**	**15 01 57.2**	**+1.5**
TBH				*e*S	**Sn**	**15 02 07.7**	**+2.3**
TPR	**Prospect**	**0.92**	**337**	*e*P	**Pn**	**15 01 60.0**	**+0.9**
TPR				*e*S	**Sn**	**15 02 11.2**	**-0.1**
TOSP	**Speyside**	**0.96**	**352**	*e*P	**Pn**	**15 01 59.4**	**-0.2**
TOSP				*e*S	**Sn**	**15 02 12.9**	**+0.5**
TRN	**Trinidad (W)**	**1.03**	**288**	*e*P	**Pn**	**15 02 02.3**	**+1.8**
TRN				*e*S	**Sn**	**15 02 13.6**	**-0.3**
TPP	**Pointe-a-Pierr**	**1.03**	**269**	*e*S	**Sn**	**15 02 15.5**	**+1.6**
GUIV	**Guiria**	**1.81**	**280**	⇑*i*P	**Pn**	**15 02 11.7**	**+0.5**
GUIV				*e*S	**Sn**	**15 02 35.5**	**+2.5**
GRGR	**Grenville**	**2.16**	**326**	*e*P	**Pn**	**15 02 17.4**	**+1.4**
GRW	**Mount Saint Ca**	**2.19**	**326**	⇑*e*P	**Pn**	**15 02 16.5**	**+0.1**
GRW				*e*S	**Sn**	**15 02 39.7**	**-2.6**
GUNV	**Guanoco**	**2.50**	**266**	⇑*i*P	**Pn**	**15 02 22.4**	**+1.8**
GUNV				*e*S	**Sn**	**15 02 52.6**	**+2.6**
RIOV	**Rio Grande**	**2.65**	**212**	*e*P	**Pn**	**15 02 22.9**	**+0.2**
RIOV				*e*S	**Sn**	**15 02 53.4**	**-0.2**
CRUV	**Carupano**	**2.81**	**277**	*e*P	**Pn**	**15 02 24.2**	**-0.5**
CRUV				*e*S	**Sn**	**15 02 57.8**	**+0.4**
SVB	**Belmont**	**3.03**	**344**	*e*P	**Pn**	**15 02 27.5**	**-0.4**
SVB				*e*S	**Sn**	**15 03 00.4**	**-2.5**
ORIV	**Oritupano**	**3.22**	**247**	*e*P	**Pn**	**15 02 31.9**	**+1.5**
ORIV				*e*S	**Sn**	**15 03 08.9**	**+1.3**
MCLT	**Moule a Chique**	**3.39**	**351**	*e*P	**Pn**	**15 02 32.4**	**-0.4**
MCLT				*e*S	**Sn**	**15 03 08.3**	**-3.6**
GURV	**El Guri**	**3.68**	**226**	*e*P	**Pn**	**15 02 37.2**	**+0.4**
GURV				*e*S	**Sn**	**15 03 17.9**	**-1.1**
PCRV	**Puerto La Cruz**	**4.17**	**268**	*e*P	**Pn**	**15 02 43.6**	**+0.1**
PCRV				*e*S	**Sn**	**15 03 30.9**	**-0.1**
IBAV	**Isla La Blanqu**	**4.35**	**290**	*e*P	**Pn**	**15 02 45.4**	**-0.6**
IBAV				*e*S	**Sn**	**15 03 35.3**	**-0.2**
PRGV	**PARIAGUAN**	**4.47**	**250**	*e*P	**Pn**	**15 02 47.8**	**+0.2**
LUEV	**Luepa**	**4.59**	**193**	*e*P	**Pn**	**15 02 46.8**	**-2.5**
CUPV	**Cœpira**	**5.31**	**267**	*e*P	**Pn**	**15 02 59.0**	**-0.1**
CUPV				*e*S	**Sn**	**15 03 58.3**	**-0.7**
BIRV	**Birongo**	**5.77**	**272**	*e*P	**Pn**	**15 03 05.9**	**+0.4**
BIRV				*e*S	**Sn**	**15 04 09.0**	**-1.4**
MERV	**Las Mercedes**	**5.91**	**260**	*e*P	**Pn**	**15 03 07.2**	**-0.2**
MERV				*e*S	**Sn**	**15 04 12.3**	**-1.5**
CAOV	**Caicara del Or**	**6.57**	**243**	*e*P	**Pn**	**15 03 16.2**	**-0.2**
CAOV				*e*S	**Sn**	**15 04 26.6**	**-3.5**
TURV	**Turiamo**	**7.32**	**272**	*e*P	**Pn**	**15 03 26.3**	**-0.4**
BAUV	**El Baul**	**7.66**	**260**	*e*P	**Pn**	**15 03 30.2**	**-1.1**
BAUV				*e*S	**Sn**	**15 04 51.8**	**-4.9**
MAPV	**Macapo**	**7.95**	**267**	*e*P	**Pn**	**15 03 33.9**	**-1.4**
TEPV	**Terepaima**	**8.66**	**268**	*e*P	**Pn**	**15 03 44.0**	**-1.1**
STVI	**Saint Thomas**	**9.10**	**332**	*e*P	**Pn**	**15 03 51.2**	**+0.1**
MTP	**Monte Pirata**	**9.19**	**328**	*e*P	**Pn**	**15 03 52.2**	**-0.1**
CURV	**Curarigua**	**9.41**	**269**	*e*P	**Pn**	**15 03 54.0**	**-1.5**
MONV	**Montecano**	**9.52**	**281**	*e*P	**Pn**	**15 03 55.5**	**-1.5**
SDV	**Santo Domingo**	**10.19**	**263**	*e*P	**Pn**	**15 04 04.1**	**-1.9**
	6.8nm,0.6s						
SOCV	**Socops**	**10.51**	**260**	*e*P	**Pn**	**15 04 08.4**	**-2.1**
ROSC	**El Rosal**	**14.83**	**249**	Pn	**Pn**	**15 05 19.3**	**+10**
	1.4nm,0.3s,baz=111,slow=13,SNR=5.3						
ATAH	**Atahualpa**	**24.94**	**227**	P	**P**	**15 07 04.7**	**+3.6**
	3.2nm,0.6s,mb4.1,baz=42,slow=15,SNR=2.3						
LPAZ	**La Paz**	**27.54**	**196**	LR	LR	15 19 26.7	
	comp=Z,130nm,19.9s,MS3.5,baz=50,slow=39						
CPUP	**Villa Florida**	**36.57**	**175**	P	**P**	**15 08 44.1**	**+0.7**
	0.9nm,0.6s,mb3.8,baz=38,slow=3.2,SNR=4.3						
CPUP				LR	LR	15 24 46.2	
	comp=Z,76nm,19.7s,MS3.5,baz=108,slow=38						
CPUP	**Villa Florida**	**36.57**	**175**	P	**P**	**15 08 44.1**	**+0.7**
CPUP				LR	LR	15 24 46.2	
TXAR	**Lajitas Array**	**44.55**	**301**	P	**P**	**15 09 50.3**	**+0.8**
	0.2nm,0.5s,mb3.2,baz=95,slow=13,SNR=4.1						
TXAR				PcP	PcP	15 11 35.6	+3.7
	0.2nm,0.6s,baz=115,slow=6.5,SNR=2.8						
TXAR	**Lajitas Array**	**44.55**	**301**	P	**P**	**15 09 50.3**	**+0.8**
TXAR				PcP	PcP	15 11 35.6	+3.7
ULM	**Lac du Bonnet**	**49.37**	**331**	P	**P**	**15 10 26.9**	**+0.3**
	2.7nm,0.7s,mb4.4,baz=119,slow=13,SNR=3.1						
ULM	**Lac du Bonnet**	**49.37**	**331**	P	**P**	**15 10 26.9**	**+0.3**
PDAR	**Pinedale Array**	**53.52**	**316**	P	**P**	**15 10 58.8**	**+0.9**
	1.6nm,0.6s,mb4.1,baz=116,slow=9.7,SNR=14						
PDAR	**Pinedale Array**	**53.52**	**316**	P	**P**	**15 10 58.8**	**+0.9**
NVAR	**Mina Array Bea**	**58.60**	**309**	P	**P**	**15 11 35.7**	**+1.5**
	0.4nm,0.6s,mb3.6,baz=100,slow=6.9,SNR=3.8						
NVAR	**Mina Array Bea**	**58.60**	**309**	P	**P**	**15 11 35.7**	**+1.5**
TORD	**Torodi Ar. Bea**	**60.74**	**81**	P	**P**	**15 11 48.7**	**-0.6**
	0.5nm,1.0s,mb3.6,baz=258,slow=7.2,SNR=2.9						
TORD	**Torodi Ar. Bea**	**60.74**	**81**	P	**P**	**15 11 48.7**	**-0.6**
INK	**Inuvik**	**74.23**	**338**	P	**P**	**15 13 15.2**	**+1.6**
	0.6nm,0.5s,mb3.8,baz=109,slow=2.5,SNR=6.0						
INK	**Inuvik**	**74.23**	**338**	P	**P**	**15 13 15.2**	**+1.6**
CMAR	**Chiang Mai Arr**	**144.87**	**36**	PKP	PKPdf	15 21 15.8	+1.1
	0.5nm,0.8s,baz=324,slow=4.2,SNR=4.3						
CMAR	**Chiang Mai Arr**	**144.87**	**36**	PKP	PKPdf	15 21 15.8	+1.1
ASAR	**Alice Springs**	**160.97**	**224**	PKPab	PKPab	15 22 22.8	+2.2
	0.3nm,1.0s,baz=122,slow=4.7,SNR=4.3						

*IDC **05** 15:16:43.1±1.5, 17°.10S×174°.36W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/17, mbtmp4.0/5, Error ellipse: s-maj=62.6km s-min=30.4km az=135.0*

*ISCJB **05** 15:17:20.0±3.1, 17°.2S±0°.2×175°.1W±0°.3, h324km±23km, mb3.4/6, Error ellipse: s-maj=38.8km s-min=31.5km az=8.6*

*NEIC **05** 15:17:20.1±2.4, 17°.18S×174°.98W, h312km±18km, mb3.6/2, Error ellipse: s-maj=27.0km s-min=20.1km az=104.0*

ISC 05 15:17:20.0±3.2, 17°.2S±0°.2×175°.0W±0°.3, h313km±24km, n16, σ0§40/14, mb3.5/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.70**	**264**	*e*P	**Pn**	**15 18 58.1**	**+0.2**
	25nm,1.3s						
URZ	**Urewera**	**22.14**	**197**	*e*P	**P**	**15 21 49.5**	**-0.6**
STKA	**Stephens Creek**	**41.87**	**241**	P	**P**	**15 24 40.4**	**0.0**
	2.4nm,0.7s,mb3.5,baz=72,slow=9.6,SNR=9.7						
STKA	**Stephens Creek**	**41.87**	**241**	P	**P**	**15 24 40.4**	**0.0**
WB2	**Warramunga Arr**	**47.99**	**258**	*e*P	**P**	**15 25 28.3**	**-0.2**
WRAB	**Tennant Creek**	**48.00**	**258**	*e*P	**P**	**15 25 28.4**	**0.0**
	0.7nm,0.5s,mb3.2						
WRA	**Warramunga Arr**	**48.01**	**258**	P	**P**	**15 25 28.3**	**-0.2**
	0.5nm,0.4s,mb3.2,baz=95,slow=7.6,SNR=38						
WRA	**Warramunga Arr**	**48.01**	**258**	P	**P**	**15 25 28.3**	**-0.2**
ASAR	**Alice Springs**	**48.16**	**253**	P	**P**	**15 25 29.8**	**+0.1**
	6.4nm,0.7s,mb4.1,baz=88,slow=8.5,SNR=174						
ASAR	**Alice Springs**	**48.16**	**253**	P	**P**	**15 25 29.8**	**+0.1**
ILAR	**Eielson Array**	**84.46**	**12**	P	**P**	**15 29 17.1**	**-0.2**
	0.2nm,0.9s,mb2.9,baz=225,slow=6.1,SNR=3.8						
ILAR	**Eielson Array**	**84.46**	**12**	P	**P**	**15 29 17.1**	**-0.2**
MAW	**Mawson**	**85.65**	**199**	P	**P**	**15 29 24.4**	**+1.0**
	1.0nm,0.7s,mb3.8,baz=118,slow=5.6,SNR=5.0						
MAW	**Mawson**	**85.65**	**199**	P	**P**	**15 29 24.4**	**+1.0**
BRTR	**Keskin Array B**	**146.52**	**318**	PKPbc	PKPbc	15 36 26.0	+1.2
	0.5nm,0.6s,baz=66,slow=3.5,SNR=3.0						
BRTR	**Keskin Array B**	**146.52**	**318**	PKPbc	PKPbc	15 36 26.0	+1.2

*ISK **05** 15:23:01.3, 36°.96N×28°.20E, h24km, MD2.2*

*ISCJB **05** 15:23:02.5±0.8, 36°.90N±0°.06×28°.19E±0°.06, h33km, Error ellipse: s-maj=9.9km s-min=6.5km az=150.9*

*CSEM **05** 15:23:02.2±0.2, 36°.91N×28°.23E, h2km, MD2.8, Error ellipse: s-maj=5.2km s-min=3.9km az=174.0*

*DDA **05** 15:23:03.2, 36°.97N×28°.23E, h8km±4km, Md2.8*

ISC 05 15:23:02.8±0.8, 36°.90N±0°.07×28°.16E±0°.07, h35km, n15, σ0§94/24, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.26**	**22**	PG	**Pn**	**15 23 07.0**	**-3.2**
YER	**Yerkesik**	**0.26**	**22**	*i* Pg	**Pn**	**15 23 07.0**	**-3.2**
TURN	**Turunc**	**0.35**	**94**	*i* P	**Pn**	**15 23 07.5**	**-4.0**
TURN				*i* S	**Sn**	**15 23 11.0**	**-6.3**
TURN	**Turunc**	**0.35**	**94**	*i* P	**Pn**	**15 23 07.5**	**-3.9**
TURN				*i* S	**Sn**	**15 23 11.0**	**-6.3**
DAT	**Datca**	**0.50**	**250**	*e*PG	**Pn**	**15 23 12.8**	**-0.6**
DAT				*e*SG	**Sn**	**15 23 21.5**	**+0.7**
DAT	**Datca**	**0.50**	**250**	*e*Pg	**Pn**	**15 23 12.8**	**-0.6**
DAT				*e*Sg	**Sn**	**15 23 21.5**	**+0.7**
BODT	**Bodrum**	**0.70**	**284**	*e*PG	**Pn**	**15 23 16.1**	**-0.1**
BODT	**Bodrum**	**0.70**	**284**	*e*Pg	**Pn**	**15 23 16.1**	**-0.1**
FETY	**Fethiye**	**0.79**	**109**	*e*PG	**Pn**	**15 23 17.2**	**-0.2**
FETY	**Fethiye**	**0.79**	**109**	*e*Pg	**Pn**	**15 23 17.2**	**-0.1**
AYDN	**Tasoluk**	**0.79**	**344**	*i* P	**Pn**	**15 23 18.1**	**+0.6**
AYDN				*i* S	**Sn**	**15 23 27.6**	**-0.5**
AYDN	**Tasoluk**	**0.79**	**344**	*i* P	**Pn**	**15 23 18.1**	**+0.6**
AYDN				*i* S	**Sn**	**15 23 27.6**	**-0.5**
DNZL	**Cakiroluk**	**1.06**	**41**	*i* P	**Pn**	**15 23 22.0**	**+0.9**
DNZL				*i* S	**Sn**	**15 23 35.0**	**+0.4**
DNZL	**Cakiroluk**	**1.06**	**41**	*i* P	**Pn**	**15 23 22.0**	**+0.9**
DNZL				*i* S	**Sn**	**15 23 35.0**	**+0.4**
GOLH	**Golhisar**	**1.17**	**73**	*i* P	**Pn**	**15 23 26.5**	**+3.8**
GOLH				*i* S	**Sn**	**15 23 43.5**	**+6.2**

*IDC **05** 15:32:14.2±1.6, 13°.68N×125°.39E, h0km, mb3.2/4, mb1 3.4/4, mb1mx3.2/21, mbtmp3.2/4, MS3.3/1, Ms1 3.3/1, ms1mx2.6/15, Error ellipse: s-maj=64.9km s-min=22.8km az=63.0*

*ISCJB **05** 15:32:22.3±1.7, 13°.5N±0°.2×124°.9E±0°.1, h72km±13km, mb3.1/4, Error ellipse: s-maj=29.7km s-min=19.9km az=27.1*

ISC 05 15:32:23.0±2.1, 13°.5N±0°.2×125°.0E±0°.2, h62km±18km, n7, σ1§68/8, mb3.1/4, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.78**	**278**	*e*P	**Pn**	**15 32 37.9**	**-0.4**
PVCP				*e*S	**Sn**	**15 32 49.9**	**+0.3**
BOAC	**Boac**	**3.02**	**270**	*e*P	**Pn**	**15 33 10.0**	**+1.6**
BOAC				*e*S	**Sn**	**15 33 41.9**	**-1.5**
CMAR	**Chiang Mai Arr**	**25.47**	**285**	P	**P**	**15 37 47.7**	**+2.1**
	0.6nm,0.7s,mb3.2,baz=92,slow=8.4,SNR=4.6						
WRA	**Warramunga Arr**	**34.48**	**164**	P	**P**	**15 39 05.6**	**+0.4**
	0.1nm,0.5s,mb3.0,baz=346,slow=9.3,SNR=3.2						
SONM	**Songino Array**	**37.57**	**339**	P	**P**	**15 39 30.2**	**-1.2**
	0.2nm,0.4s,mb3.2,baz=160,slow=4.6,SNR=2.6						
ASAR	**Alice Springs**	**37.95**	**167**	P	**P**	**15 39 33.8**	**-1.0**
	0.2nm,0.6s,mb3.1,baz=351,slow=6.8,SNR=10						
CTA	**Charters Tower**	**39.40**	**147**	LR	LR	15 54 40.0	
	comp=Z,42nm,20.6s,baz=226,slow=34						

*MOS **05** 15:33:01.5±1.6, 5°.86N×82°.47W, h10km, mb5.2/15, Error ellipse: s-maj=19.5km s-min=8.2km az=108.8*

*ISCJB **05** 15:33:01.8±0.3, 5°.96N±0°.04×82°.28W±0°.04, h10km, mb4.7/54, MS4.4/21, Error ellipse: s-maj=7.0km s-min=4.5km az=34.5*

*IDC **05** 15:33:01.5±0.5, 5°.91N×82°.32W, h0km, mb4.2/15, mb1 4.5/18, mb1mx4.4/24, mbtmp4.3/18, ML4.3/1, MS4.3/25, Ms1 4.3/25, ms1mx4.3/29, Error ellipse: s-maj=25.7km s-min=12.8km az=65.0*

*NEIC **05** 15:33:02.4±0.3, 5°.86N×82°.42W, h10km, mb5.0/46, Error ellipse: s-maj=7.6km s-min=5.8km az=40.0*

*BJI **05** 15:33:02.6, 5°.90N×82°.40W, h10km, mB5.3/10, Ms5.3/9, Ms7 5.2/9*

*GCMT **05** 15:33:07.0±0.2, 5°.92N×82°.34W, h17km±1km, MW5.1, Moment Tensor Solution. s42,c58; s87,c142; Moment tensor: Scale 10^{16}Nm; M_{rr}0.61±.14; $M_{\theta\theta}$0.61±.12; $M_{\phi\phi}$-1.21±.16; $M_{r\theta}$-0.45±.29; $M_{\theta\phi}$4.80±.12; $M_{\phi r}$0.20±.31; Best double couple: $M_0$4.90000×10^{16} NP1:φs185.00000°, δ85.00000°, λ-179.00000°. NP2:φs95.00000°, δ89.00000°, λ-5.00000°. Principal axes: T 4.5900, Plg3.0000°, Azm140.0000°; N 0.6300, Plg85.0000°, Azm267.0000°; P -5.2200, Plg4.0000°, Azm50.0000°; Data Used: II IU IC G CN.*

*CASC **05** 15:33:33.7±0.8, 8°.07N×83°.66W, h20km, MD4.3, mb5.0(NEIC)*

ISC 05 15:33:03.5±0.3, 5°.93N±0°.04×82°.28W±0°.04, h10km, n404, σ0§73/342, mb4.7/54, MS4.4/21, 91C-121D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**3.89**	**338**	⇑*i*P	**Pn**	**15 33 59.7**	**-3.6**
QCR	**Quepos**	**3.94**	**332**	⇑*e*P	**Pn**	**15 33 58.6**	**-5.5**
BCIP	**Isla Barro Col**	**4.02**	**37**	*e*P	**Pn**	**15 34 04.2**	**-1.0**
URSC	**Urasca**	**4.15**	**339**	*e*P	**Pn**	**15 34 03.3**	**-3.7**
SJS	**Escuela Geolog**	**4.35**	**336**	*e*P	**Pn**	**15 34 05.8**	**-3.9**
PRS1	**Puriscal**	**4.50**	**334**	*e*P	**Pn**	**15 34 05.6**	**-6.2**
CGA2	**Cerro Gallo 2**	**4.60**	**332**	*e*P	**Pn**	**15 34 07.1**	**-6.0**
JCR	**Jicaral**	**4.80**	**324**	⇑*e*P	**Pn**	**15 34 10.4**	**-5.5**
JTS	**JuntasAbangare**	**5.08**	**329**	Pn	**Pn**	**15 34 15.1**	**-4.6**
	11nm,0.3s,baz=120,slow=6.6,SNR=32						
JTS				Sn	**Sn**	**15 35 12.1**	**-6.4**
	16nm,0.3s,baz=313,slow=22,SNR=6.2						
JTS				LR	LR	15 36 06.3	
	comp=Z,8µm,20.2s,baz=168,slow=36						
JTS	**JuntasAbangare**	**5.08**	**329**	*e*P	**Pn**	**15 34 14.2**	**-5.4**
	70nm,0.4s						
JTS	**JuntasAbangare**	**5.08**	**329**	⇓*i*P	**Pn**	**15 34 15.2**	**-4.5**
JTS	**JuntasAbangare**	**5.08**	**329**	Pn	**Pn**	**15 34 15.4**	**-4.3**
	690nm,0.5s,SNR=25						
VCR	**Vista de Mar**	**5.33**	**322**	*e*P	**Pn**	**15 34 17.9**	**-5.2**
OTAV	**Otavalo**	**6.82**	**146**	*e*P	**Pn**	**15 34 43.0**	**-0.7**
	22nm,0.8s						
ROSC	**El Rosal**	**7.98**	**97**	Pn	**Pn**	**15 35 04.8**	**+5.2**
	3.2nm,0.3s,baz=97,slow=22,SNR=13						
ROSC				LR	LR	15 38 23.7	
	comp=Z,198nm,18.9s,baz=359,slow=40						
ROSC	**El Rosal**	**7.98**	**97**	*e*P	**Pn**	**15 35 05.1**	**+5.5**
TGUH	**Tegucigalpa,Un**	**9.45**	**329**	*e*P	**Pn**	**15 35 20.9**	**+1.1**
	59nm,0.9s						
SDV	**Santo Domingo**	**11.91**	**75**	*e*P	**Pn**	**15 35 56.0**	**+2.5**
	128nm,1.6s						
ATAH	**Atahualpa**	**13.54**	**163**	Pn	**Pn**	**15 36 19.4**	**+3.5**
	0.7nm,0.3s,baz=64,slow=9.6,SNR=5.5						
ATAH				LR	LR	15 41 01.6	
	comp=Z,3µm,19.5s,baz=340,slow=36						
TEIG	**Tepich**	**15.36**	**338**	LR	LR	15 42 26.1	
	comp=Z,1µm,18.8s,baz=126,slow=37						
CMIG	**Matias Romero**	**16.59**	**313**	Pn	**Pn**	**15 36 56.7**	**+0.4**
	0.4nm,0.3s,baz=146,slow=9.6,SNR=6.2						
CMIG				LR	LR	15 42 29.6	
	comp=Z,1µm,18.4s,baz=116,slow=34						
CMIG	**Matias Romero**	**16.59**	**313**	Pn	**Pn**	**15 36 56.7**	**+0.4**
CMIG				LR	LR	15 42 29.6	
SDDR	**Presa de Saban**	**16.82**	**39**	*e*P	**Pn**	**15 37 01.5**	**+2.3**
	393nm,2.1s						
NNA	**Nana**	**18.60**	**163**	P	**Pn**	**15 37 21.4**	**+0.1**
	0.9nm,0.3s,baz=346,slow=9.4,SNR=17						
NNA				LR	LR	15 43 52.8	
	comp=Z,526nm,18.2s,baz=142,slow=35						
NNA	**Nana**	**18.60**	**163**	*e*P	**Pn**	**15 37 21.3**	**0.0**
	78nm,1.0s						
NNA	**Nana**	**18.60**	**163**	*e*P	**Pn**	**15 37 21.3**	**0.0**
NNA				pmax	pmax		
	comp=Z,78nm,1.0s						
NNA	**Nana**	**18.60**	**163**	P	**Pn**	**15 37 21.0**	**-0.3**
	comp=Z,447nm,0.9s,SNR=8.2						
CRPR	**Cabo Rojo, PR**	**19.06**	**50**	*e*P	**Pn**	**15 37 26.9**	**0.0**
	comp=Z,15nm,0.9s						
LRS	**Lares**	**19.43**	**49**	*e*P	**Pn**	**15 37 31.5**	**+0.1**
ICM	**Isla Caja Muer**	**19.44**	**51**	*e*P	**Pn**	**15 37 31.4**	**-0.1**
OBIP	**Obispado Ponce**	**19.47**	**50**	P	**Pn**	**15 37 32.2**	**+0.5**
	comp=Z,66nm,1.1s						
CELP	**Cerrillos**	**19.51**	**50**	*e*P	**Pn**	**15 37 32.3**	**+0.1**
SJG	**San Juan**	**19.86**	**51**	P	**Pn**	**15 37 35.6**	**-0.8**
	comp=Z,2.3nm,0.3s,baz=331,slow=17,SNR=13						
SJG				LR	LR	15 44 40.2	
	comp=Z,857nm,21.8s,baz=20,slow=35						
SJG	**San Juan**	**19.86**	**51**	*e*P	**Pn**	**15 37 36.8**	**+0.3**
	comp=Z,74nm,1.3s						
SJG	**San Juan**	**19.86**	**51**	*e*P	**Pn**	**15 37 36.8**	**+0.4**
SJG				pmax	pmax		
	comp=Z,74nm,1.3s						
CBYP	**Canovanas**	**20.18**	**51**	*e*P	**P**	**15 37 39.4**	**+1.1**
	comp=Z,268nm,2.0s						
MTP	**Monte Pirata**	**20.32**	**52**	*e*P	**P**	**15 37 40.2**	**+0.4**
	comp=Z,176nm,1.7s						
STVI	**Saint Thomas**	**20.93**	**52**	*e*P	**P**	**15 37 45.9**	**-0.6**
	comp=Z,22nm,1.0s						
BRAL	**Brewton**	**25.35**	**350**	P	**P**	**15 38 33.6**	**+2.8**
	comp=Z,349nm,1.4s,mb5.7						
LPAZ	**La Paz**	**26.14**	**148**	P	**P**	**15 38 38.9**	**+0.9**
	comp=Z,1.1nm,0.5s,mb3.7,baz=343,slow=10,SNR=6.6						
LPAZ				LR	LR	15 50 03.9	
	comp=Z,2µm,20.1s,MS4.6,baz=303,slow=39						
LPAZ	**La Paz**	**26.14**	**148**	*e*P	**P**	**15 38 38.5**	**+0.5**
	comp=Z,14nm,1.2s,mb4.4						
LPAZ	**La Paz**	**26.14**	**148**	*e*P	**P**	**15 38 38.5**	**+0.5**
LPAZ				pmax	pmax		
	comp=Z,14nm,1.2s						
LRAL	**Lakeview Retre**	**27.32**	**351**	P	**P**	**15 38 44.2**	**-4.3**
	comp=Z,32nm,1.2s,mb4.7						
628A	**Black Gap, Mar**	**30.45**	**323**	⇓P	**P**	**15 39 15.9**	**-0.6**
	baz=30						
627A	**Terlingua Ranc**	**30.73**	**322**	⇑P	**P**	**15 39 18.9**	**0.0**
	baz=31						
TXAR	**Lajitas Array**	**30.82**	**322**	P	**P**	**15 39 20.4**	**+0.7**
	comp=Z,0.5nm,0.3s,mb3.8,baz=142,slow=10,SNR=6.6						
TXAR				PcP	PcP	15 42 16.7	-0.2
	comp=Z,0.3nm,0.8s,baz=138,slow=7.7,SNR=3.8						
TXAR				LR	LR	15 51 57.9	
	comp=Z,314nm,19.5s,MS4.0,baz=145,slow=37						
TXAR	**Lajitas Array**	**30.82**	**322**	P	**P**	**15 39 20.4**	**+0.7**
TXAR				PcP	PcP	15 42 16.7	-0.2
TXAR				LR	LR	15 51 57.9	
TXAR	**Lajitas Array**	**30.82**	**322**	P	**P**	**15 39 20.4**	**+0.7**
TXAR						15 42 16.7	
428A	**Kincaid Ranch,**	**31.24**	**325**	⇑P	**P**	**15 39 23.8**	**+0.4**
	baz=31						
626A	**Big Bend Ranch**	**31.27**	**321**	⇑P	**P**	**15 39 23.3**	**-0.3**
	baz=31						
527A	**Woodward Ranch**	**31.36**	**323**	⇑P	**P**	**15 39 24.3**	**-0.2**
	baz=31						
526A	**Mary Lane Ranc**	**31.59**	**322**	⇑P	**P**	**15 39 26.7**	**+0.2**
	baz=32						
328A	**Wristen Ranch,**	**31.80**	**325**	⇑P	**P**	**15 39 28.3**	**0.0**
	baz=32						
426A	**McDonald Obser**	**31.99**	**323**	⇑P	**P**	**15 39 29.9**	**-0.1**
	baz=32						
425A	**Indio Mountain**	**32.65**	**322**	⇓P	**P**	**15 39 35.1**	**-0.7**
	baz=33,SNR=10.0						
FVM	**French Village**	**32.76**	**348**	P	**P**	**15 39 35.0**	**-1.6**
	comp=Z,49nm,1.4s,mb5.2						
FVM	**French Village**	**32.76**	**348**	P	**P**	**15 39 35.0**	**-1.6**
FVM				pmax	pmax		
	comp=Z,49nm,1.4s,mb5.2						
CCM	**Cathedral Cave**	**33.00**	**347**	*e*P	**P**	**15 39 36.1**	**-2.6**
	comp=Z,25nm,1.0s,mb5.1						
CCM	**Cathedral Cave**	**33.00**	**347**	*e*P	**P**	**15 39 36.2**	**-2.5**
CCM				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.1						
OLIL	**Olney**	**33.08**	**352**	*e*P	**P**	**15 39 35.6**	**-3.8**
	comp=Z,42nm,1.1s,mb5.3						
BLO	**Bloomington**	**33.31**	**354**	*e

comp=Z,18nm,1.2s,mb4.7
R24A Sanders Place, 38.26 330 ⇑P P **P** 15 40 24.2 +0.3
baz=38
S22A 4UR Ranch, Cre 38.76 328 ⇑P P **P** 15 40 28.9 +0.8
baz=39,SNR=5.8
R22A Saguache, Gunn 39.08 329 ⇑P P **P** 15 40 31.5 +0.7
baz=39
OGNE Ogallala 39.09 336 ⇓P P **P** 15 40 31.4 +0.6
baz=39
X16A Lo Mia Camp, P 39.12 320 ⇓P P **P** 15 40 31.8 +0.6
baz=39
S21A Coal Bank Pass 39.21 327 ⇓P P **P** 15 40 32.0 +0.1
baz=39
MVCO Mesa Verde 39.26 326 ⇓P P **P** 15 40 32.4 0.0
baz=39
MVCO Mesa Verde 39.26 326 P P **P** 15 40 32.1 -0.3
comp=Z,65nm,1.7s,mb5.1
T19A Beclabito 39.29 325 ⇓P P **P** 15 40 33.0 +0.4
baz=39
V17A Tonalea, Kykot 39.50 322 ⇓P P **P** 15 40 35.5 +1.1
baz=40,SNR=12
P23A Jefferson 39.50 331 ⇓P P **P** 15 40 35.7 +1.4
baz=40,SNR=5.7
R21A Cimarron 39.60 328 ⇑P P **P** 15 40 35.6 +0.5
baz=40
S20A Disappointment 39.64 327 ⇓P P **P** 15 40 35.8 +0.4
baz=40
Q22A Crested Butte, 39.64 329 ⇓P P **P** 15 40 36.1 +0.6
baz=40
CFAA Coronel Fontan 39.66 161 P P **P** 15 40 35.8 +0.1
comp=Z,1.2nm,1.0s,mb3.6,baz=341,slow=8.3,SNR=13
CFAA Coronel Fontan 39.66 161 P P **P** 15 40 35.8 +0.1
X15A Humboldt 39.67 320 ⇓P P **P** 15 40 36.6 +0.8
baz=40
ISCO Idaho Springs 39.73 331 ⇓P P **P** 15 40 36.6 +0.4
baz=40
R20A Redvale 39.91 327 ⇓P P **P** 15 40 38.2 +0.5
baz=40
SMCO Snowmass 39.91 330 *e*P P **P** 15 40 37.8 +0.1
comp=Z,24nm,1.4s,mb4.7
PV01 Paradox Valley 39.97 327 *e*P P **P** 15 40 38.1 -0.2
comp=Z,1µm,1.5s
T18A Mexican Hat 39.99 325 ⇓P P **P** 15 40 38.8 +0.4
baz=40
S19A Harvey Farm, M 40.00 326 ⇓P P **P** 15 40 38.1 -0.5
baz=40
U16A Tuba City 40.05 323 ⇓P P **P** 15 40 39.1 +0.1
baz=40
P22A Eagle 40.12 330 ⇑P P **P** 15 40 40.3 +0.8
baz=40
CPUP Villa Florida 40.17 144 P P 15 40 38.6 -1.5
comp=Z,1.4nm,0.7s,mb3.8,baz=326,slow=11,SNR=4.9
CPUP Villa Florida 40.17 144 P P 15 40 38.6 -1.5
CPUP Villa Florida 40.17 144 P P 15 40 38.6 -1.4
O23A Lake Granby, G 40.20 332 ⇓P P **P** 15 40 40.3 +0.2
baz=40
SPMN St. Paul 40.20 348 ⇑P P **P** 15 40 40.2 +0.2
baz=40
T17A Navajo Res., N 40.43 324 ⇑P P **P** 15 40 42.4 +0.3
baz=40
S18A Hurst Farm, BI 40.44 325 ⇓P P **P** 15 40 43.0 +0.8
baz=40
O22A Kremmling 40.46 331 ⇑P P **P** 15 40 42.6 +0.4
baz=40
R19A Curley Farm, L 40.46 327 ⇓P P **P** 15 40 43.1 +0.7
baz=40
V15A Kaibab Nationa 40.48 321 ⇓P P **P** 15 40 43.5 +1.0
baz=40
S17A Black Ridge (B 40.87 325 ⇓P P **P** 15 40 46.5 +0.8
baz=41
R18A Canyonlands Na 40.88 326 ⇓P P **P** 15 40 46.5 +0.8
baz=41
N22A Wattenberg Ran 40.91 332 ⇑P P **P** 15 40 46.1 +0.1
baz=41
Q19A Hogan Spring (40.94 327 ⇓P P **P** 15 40 46.7 +0.5
baz=41
U15A North Rim 40.94 322 ⇑P P **P** 15 40 47.2 +0.9
baz=41
V14A Boquillas Ranc 40.95 320 ⇓P P **P** 15 40 47.2 +0.9
baz=41
O21A Pagoda 40.95 330 ⇓P P **P** 15 40 46.8 +0.5
baz=41
O20A White River Ci 41.28 329 ⇓P P **P** 15 40 49.8 +0.8
baz=41
S16A Weppner Ranch, 41.38 324 ⇑P P **P** 15 40 51.0 +1.0
baz=41
N21A Black Mountain 41.39 331 ⇓P P **P** 15 40 51.0 +1.1
baz=41,SNR=6.7
U14A Mt Trumbull 41.49 321 ⇑P P **P** 15 40 51.4 +0.6
baz=42
Q18A Rafter H Ranch 41.52 327 ⇓P P **P** 15 40 50.9 -0.1
baz=42
L23A Garrett 41.61 334 ⇓P P **P** 15 40 51.4 -0.3
baz=42
SRU San Rafael 41.74 326 ⇑P P **P** 15 40 52.7 -0.1
baz=42,SNR=5.3
SRU San Rafael 41.74 326 *e*P P **P** 15 40 52.3 -0.5
comp=Z,15nm,1.1s,mb4.5
SRU San Rafael 41.74 326 *e*P P **P** 15 40 52.3 -0.5
SRU pmax pmax
comp=Z,15nm,1.1s,mb4.5
N20A Spence Gulch, 41.81 330 ⇓P P **P** 15 40 53.7 +0.3
baz=42
L22A Ellis Ranch, M 41.87 333 ⇓P P **P** 15 40 53.2 -0.6
baz=42
P18A Preston Nutter 41.95 327 ⇓P P **P** 15 40 55.4 +0.8
baz=42
M21A Separation Pea 41.97 332 ⇑P P **P** 15 40 54.7 +0.1
baz=42
U13A Pakoon Wash 41.98 321 ⇓P P **P** 15 40 54.8 0.0
baz=42
RPN Rapa Nui 42.02 217 LR LR 15 53 46.8
comp=Z,692nm,18.2s,MS4.6,baz=317,slow=30
GMRC Granite Mounta 42.10 317 ⇓P P **P** 15 40 56.2 +0.3
baz=42
L21A Rawlins 42.25 332 ⇓P P **P** 15 40 56.9 -0.1
baz=42
MSU Marysvale 42.26 324 P P **P** 15 40 59.5 +2.5
comp=Z,25nm,1.9s,mb4.5
MSU Marysvale 42.26 324 P P **P** 15 40 59.5 +2.4
MSU pmax pmax
comp=Z,25nn,1.9s,mb4.5
M20A Sweetwater, Wa 42.27 331 ⇑P P **P** 15 40 56.9 -0.3
baz=42
K22A Casper 42.40 333 ⇑P P **P** 15 40 59.1 +0.9
baz=42
RSSD Black Hills 42.56 337 *e*P P **P** 15 40 57.2 -2.2
comp=Z,14nm,1.3s,mb4.5
RSSD Black Hills 42.56 337 *e*P P **P** 15 40 57.2 -2.2
RSSD pmax pmax
comp=Z,14nm,1.3s,mb4.5
K21A Alcova 42.72 333 ⇓P P **P** 15 41 00.5 -0.2
baz=43
J22A Midwest 42.99 334 ⇑P P **P** 15 41 03.1 +0.1
baz=43
R13A O'Grain Ranch, 43.10 323 ⇓P P **P** 15 41 04.1 +0.2
baz=43
M18A Lyman 43.16 329 ⇓P P **P** 15 41 04.1 -0.2
baz=43
N17A Moffit Pass 43.21 328 ⇑P P **P** 15 41 04.8 0.0
baz=43
Q14A Sevier Lake (B 43.21 324 ⇓P P **P** 15 41 04.7 -0.1
baz=43
K20A Yellowstone Ra 43.24 332 ⇓P P **P** 15 41 04.7 -0.3
baz=43
H24A Dirks Ranch, A 43.29 337 ⇓P P **P** 15 41 04.3 -1.0
baz=43
I22A 9 Mile Ranch, 43.38 334 ⇑P P **P** 15 41 05.8 -0.3
baz=43
N16A Rees Ranch, Co 43.49 328 ⇓P P **P** 15 41 06.8 -0.2
baz=44
P14A Drum Mountains 43.49 325 ⇓P P **P** 15 41 07.1 0.0
baz=44
M17A Scullys Gap (B 43.50 329 ⇓P P **P** 15 41 07.0 -0.1
baz=44
L18A Fontenelle, Gr 43.51 330 ⇓P P **P** 15 41 06.9 -0.3
baz=44
K19A Absolon Red Bu 43.61 332 ⇑P P **P** 15 41 07.1 -0.9
baz=44,SNR=8.0
J20A Shoshoni 43.66 333 ⇑P P **P** 15 41 08.5 +0.1
baz=44
I21A Big Trails, Te 43.67 334 ⇑P P **P** 15 41 08.8 +0.4
baz=44
AGMN Agassiz Nation 43.78 347 *e*P P **P** 15 41 06.7 -2.5
comp=Z,15nm,0.9s,mb4.7
BW06 Boulder Array 43.91 331 ⇓P P **P** 15 41 10.1 -0.3
baz=44
PDAR Pinedale Array 43.91 331 P P **P** 15 41 09.9 -0.5
comp=Z,7.7nm,1.3s,mb4.3,baz=141,slow=5.7,SNR=8.7
PDAR PcP PcP 15 42 56.8 +0.4
comp=Z,1.6nm,1.0s,baz=159,slow=4.5,SNR=3.8
PDAR LR LR 16 01 25.7
comp=Z,348nm,18.3s,MS4.3,baz=298,slow=39
PDAR Pinedale Array 43.91 331 P P **P** 15 41 09.9 -0.5
PDAR PcP PcP 15 42 56.8 +0.4
PDAR LR LR 16 01 25.7
HWUT Hardware Ranch 44.07 328 *e*P P **P** 15 41 10.6 -1.1
comp=Z,12nnn,1.0s,mb4.6
I20A Worland 44.15 333 ⇓P P **P** 15 41 12.3 0.0
baz=44
R11A Troy Canyon, C 44.19 322 ⇓P P **P** 15 41 13.2 +0.5
baz=44
J18A Kendall Valley 44.46 331 ⇑P P **P** 15 41 14.2 -0.6
baz=44,SNR=7.7
H20A Greybull 44.51 334 ⇑P P **P** 15 41 15.1 0.0
baz=45
I18A Diamond G Ranc 44.74 332 ⇑P P **P** 15 41 16.4 -0.5
baz=45
G21A Lodge Grass 44.76 335 ⇑P P **P** 15 41 17.1 0.0
baz=45
L15A Malad City 44.78 328 ⇓P P **P** 15 41 16.9 -0.5
baz=45,SNR=6.0
HVU Hansel Valley 44.83 327 P P **P** 15 41 17.7 0.0
HVU Hansel Valley 44.83 327 P P **P** 15 41 17.7 -0.1
REDW Red Top Meadow 44.98 330 *e*P P **P** 15 41 18.7 -0.2
comp=Z,47nn,1.5s,mb5.1
LOHW Long Hollow 45.05 331 *e*P P **P** 15 41 18.6 -0.9
comp=Z,29nn,1.6s,mb4.9
H19A Powell 45.09 333 ⇑P P **P** 15 41 20.6 +0.7
baz=45
TPAW Teton Pass 45.12 330 P P **P** 15 41 21.5 +1.4
comp=Z,28nn,1.3s,mb4.9
G20A Bridger 45.18 334 ⇓P P **P** 15 41 19.2 -1.4
baz=45,SNR=7.7
D24A Glendive 45.20 339 ⇓P P **P** 15 41 20.6 0.0
baz=45
RRI2 Red Ridge 45.20 330 *e*P P **P** 15 41 18.9 -1.8
comp=Z,26nn,1.4s,mb4.9
E22A Miles City 45.24 337 ⇓P P **P** 15 41 20.5 -0.4
baz=45
J16A Bone 45.29 330 ⇓P P **P** 15 41 21.5 +0.1
baz=45
H18A Shoshone NF, C 45.41 333 ⇓P P **P** 15 41 22.0 -0.3
baz=46
IMW Indian Meadow 45.42 331 *e*P P **P** 15 41 21.5 -0.9
comp=Z,12nn,1.2s,mb4.6
FLWY Flagg Ranch 45.44 331 P P **P** 15 41 22.9 +0.3
comp=Z,79nn,1.7s,mb5.3
D23A Lindsay 45.57 338 ⇑P P **P** 15 41 23.0 -0.6
baz=46
RLMT Red Lodge 45.57 333 ⇑P P **P** 15 41 23.6 0.0
baz=46
RLMT Red Lodge 45.57 333 *e*P P **P** 15 41 21.4 -2.2
comp=Z,19nn,1.2s,mb4.8
K14A Jones Ranch, D 45.58 328 ⇓P P **P** 15 41 24.0 +0.2
baz=46
ULM Lac du Bonnet 45.62 348 P P **P** 15 41 21.6 -2.3
comp=Z,13nn,0.8s,mb4.9,baz=165,slow=7.1,SNR=12
ULM LR LR 16 00 58.4
comp=Z,190nm,20.2s,MS4.0,baz=126,slow=37
ULM Lac du Bonnet 45.62 348 P P **P** 15 41 21.6 -2.3
ULM LR LR 16 00 58.4
ULM Lac du Bonnet 45.62 348 P P **P** 15 41 21.6 -2.3
YFT Old Faithful 45.78 331 P P **P** 15 41 25.3 0.0
comp=Z,26nn,0.4s,mb5.5
J15A Blackfoot 45.80 329 ⇓P P **P** 15 41 25.6 +0.2
baz=46
G18A Lazy EL Ranch, 45.85 333 ⇓P P **P** 15 41 25.4 -0.4
baz=46
NVAR Mina Array Bea 45.94 320 P P **P** 15 41 27.5 +0.8
comp=Z,1.7nm,0.9s,mb4.0,baz=134,slow=7.1,SNR=11
NVAR PcP PcP 15 43 04.0 +0.5
comp=Z,0.8nm,0.8s,baz=108,slow=5.9,SNR=2.7
NVAR LR LR 16 01 15.7
comp=Z,408nm,18.2s,MS4.4,baz=131,slow=37
NVAR Mina Array Bea 45.94 320 P P **P** 15 41 27.5 +0.8
NVAR PcP PcP 15 43 04.0 +0.5
NVAR LR LR 16 01 15.7
F19A Roth Farm, Mol 46.00 334 ⇓P P **P** 15 41 27.0 +0.1
baz=46
YMR Madison River 46.01 332 *e*P P **P** 15 41 26.1 -1.0
comp=Z,24nn,1.2s,mb5.0
C23A Lambert 46.09 339 ⇓P P **P** 15 41 26.9 -0.7
baz=46
D21A La Casta Ranch 46.16 337 ⇓P P **P** 15 41 27.5 -0.8
baz=46
E20A Meyer Farm, Mu 46.17 335 ⇑P P **P** 15 41 27.9 -0.3
baz=46,SNR=7.8
H16A Russell Place, 46.17 331 ⇑P P **P** 15 41 28.7 +0.4
baz=46
GCMT Greycliff 46.27 334 *e*P P **P** 15 41 28.4 -0.7
comp=Z,22nn,1.3s,mb4.9
C22A Vida 46.30 338 ⇑P P **P** 15 41 29.1 -0.2
baz=46
J14A Carey 46.30 328 ⇓P P **P** 15 41 30.3 +0.8
baz=46,SNR=6.6
QLMT Earthquake Lak 46.35 331 *e*P P **P** 15 41 29.1 -0.7
comp=Z,4.5nm,1.3s,mb4.2
F18A Big Timber 46.38 334 ⇓P P **P** 15 41 29.9 0.0
baz=46
G17A Pierce Place, 46.39 332 ⇑P P **P** 15 41 30.3 +0.2
baz=46
E19A Rath Farm, Rou 46.41 335 ⇓P P **P** 15 41 30.1 -0.1
baz=46
B23A Brockton 46.58 339 ⇑P P **P** 15 41 31.3 -0.2
baz=47
A24A Westby 46.63 340 ⇑P P **P** 15 41 31.9 0.0
baz=47
D20A Manuel Ranch, 46.64 336 ⇑P P **P** 15 41 32.1 +0.1
baz=47
I14A Mackay 46.69 329 ⇓P P **P** 15 41 32.8 +0.3
baz=47
J13A Cove Ranch, Pi 46.70 328 ⇑P P **P** 15 41 32.7 +0.2
baz=47
H15A Lima 46.78 330 ⇓P P **P** 15 41 33.8 +0.6
baz=47
F17A Fitzpatrick Pl 46.80 333 ⇓P P **P** 15 41 33.0 -0.3
baz=47
G16A Moss Hill, Enn 46.82 331 ⇓P P **P** 15 41 34.9 +1.5
baz=47,SNR=13
HLID Hailey 46.94 328 ⇑P P **P** 15 41 34.1 -0.3
baz=47
E18A Harlowton 46.98 334 ⇑P P **P** 15 41 34.3 -0.3
baz=47
D19A Cripps Ranch, 47.01 335 ⇑P P **P** 15 41 34.3 -0.6
baz=47,SNR=6.8
I13A Wildhorse Cree 47.03 329 ⇓P P **P** 15 41 34.8 -0.2
baz=47,SNR=5.6
BOZ Bozeman (W) 47.05 332 ⇑P P **P** 15 41 34.8 -0.4
baz=47,SNR=7.5
BOZ Bozeman (W) 47.05 332 *e*P P **P** 15 41 34.5 -0.7
comp=Z,27nn,1.4s,mb5.0
BOZ Bozeman (W) 47.05 332 *e*P P **P** 15 41 34.5 -0.7
BOZ pmax pmax
comp=Z,27nn,1.4s,mb5.0
C20A Veseth Ranch, 47.09 336 ⇑P P **P** 15 41 35.0 -0.5
baz=47
G15A Dillon 47.10 331 ⇑P P **P** 15 41 35.8 +0.1
baz=47
H14A Leadore 47.14 330 ⇓P P **P** 15 41 36.2 +0.3
baz=47
F16A Kennard Place, 47.15 332 ⇑P P **P** 15 41 36.2 +0.2
baz=47
E17A Martinsdale 47.31 333 ⇑P P **P** 15 41 36.8 -0.4
baz=47
A22A Carney Farms, 47.35 339 ⇓P P **P** 15 41 37.1 -0.5
baz=47
D18A Linhart Farms, 47.42 335 ⇑P P **P** 15 41 38.2 +0.2
baz=48
I12A Atlanta 47.48 328 ⇓P P **P** 15 41 38.6 0.0
baz=48
C19A Slack Wire Ran 47.53 336 ⇑P P **P** 15 41 39.4 +0.5
baz=48
F15A Butte 47.60 332 ⇓P P **P** 15 41 39.8 +0.2
baz=48
PLCA Paso Flores 47.67 168 P P **P** 15 41 39.1 -0.9
comp=Z,6.2nm,0.9s,mb4.6,baz=352,slow=5.6,SNR=4.8
PLCA Paso Flores 47.67 168 P P 15 41 39.1 -0.9
PLCA Paso Flores 47.67 168 P P 15 41 39.2 -0.9
B20A Solberg Farm, 47.68 337 ⇑P P **P** 15 41 39.6 -0.5
baz=48
A21A Bergtoll Ranch 47.72 338 ⇓P P **P** 15 41 40.9 +0.5
baz=48
E16A East Helena 47.74 333 ⇓P P **P** 15 41 40.4 -0.1
baz=48
D17A Six Diamond Ra 47.77 334 ⇓P P **P** 15 41 40.8 0.0
baz=48
H12A Diamond D Ranc 47.85 329 ⇑P P **P** 15 41 42.0 +0.6
baz=48
A20A Cobblestone Ra 48.01 337 ⇓P P **P** 15 41 42.7 +0.1
baz=48
EGMT Eagleton 48.05 335 ⇓P P **P** 15 41 42.7 -0.3
baz=48
D16A Dana Ranch, Ca 48.05 333 ⇓P P **P** 15 41 43.0 0.0
baz=48,SNR=5.6
B19A Brinkman Farms 48.06 336 ⇑P P **P** 15 41 42.4 -0.7
baz=48
E15A Deer Lodge 48.10 332 ⇓P P **P** 15 41 43.7 +0.3
baz=48
B18A Beardsley Farm 48.35 336 ⇓P P **P** 15 41 44.7 -0.5
baz=48
A19A Klindworth Far 48.36 337 ⇓P P **P** 15 41 44.7 -0.7
baz=48
F13A Darby 48.45 330 ⇓P P **P** 15 41 46.1 0.0
baz=48
G12A Big Creek, Yel 48.49 329 ⇓P P **P** 15 41 45.7 -0.7
baz=48
E14A Clinton 48.50 331 ⇑P P **P** 15 41 46.7 +0.2
baz=48
D15A Lincoln 48.50 333 ⇓P P **P** 15 41 46.4 -0.1
baz=48
WVOR Wild Horse Val 48.55 324 *e*P P **P** 15 41 46.0 -0.9
comp=Z,19nm,1.3s,mb5.0
WVOR Wild Horse Val 48.55 324 *e*P P **P** 15 41 46.0 -0.9
WVOR pmax pmax
comp=Z,19nm,1.3s,mb5.0
B17A L&G Farms, Che 48.69 335 ⇑P P **P** 15 41 48.2 +0.3
baz=49
C16A Fuhringer Ranc 48.73 334 ⇓P P **P** 15 41 48.2 0.0
baz=49
A18A Metzger Ranch, 48.79 336 ⇓P P **P** 15 41 48.2 -0.5
baz=49
E13A Victor 48.85 331 ⇓P P **P** 15 41 49.1 0.0
baz=49
F12A Elk City 48.89 330 ⇑P P **P** 15 41 48.3 -1.2
baz=49
D14A Greenough 48.99 332 ⇓P P **P** 15 41 50.4 +0.2
baz=49
C15A Salmond Ranch, 49.09 333 ⇑P P **P** 15 41 50.5 -0.5
baz=49
A17A Triple J Farms 49.16 335 ⇑P P **P** 15 41 51.1 -0.4
baz=49
B16A M & M Farms, S 49.17 334 ⇓P P **P** 15 41 51.5 -0.1
baz=49
D13A Huson 49.45 331 ⇑P P **P** 15 41 53.5 -0.2
baz=50
B15A Bradely Ranch, 49.47 334 ⇓P P **P** 15 41 53.7 -0.2
baz=50
E12A Beaver Dam Sad 49.51 330 ⇓P P **P** 15 41 53.7 -0.5
baz=50
A16A West Butte Ran 49.54 335 ⇓P P **P** 15 41 54.9 +0.5
baz=50
B14A Marquette Ranc 49.82 333 ⇓P P **P** 15 41 56.2 -0.3
baz=50
A15A Johnson Ranch, 50.05 334 ⇓P P **P** 15 41 58.4 +0.1
baz=50
I07A Izee 50.06 325 ⇑P P **P** 15 41 58.3 -0.2
baz=50
SCHQ Schefferville 50.32 12 P P **P** 15 41 59.2 -1.0
comp=Z,7.7nm,0.9s,mb4.7,baz=222,slow=16,SNR=2.7
SCHQ LR LR 16 01 49.9
comp=Z,236nm,21.4s,MS4.2,baz=296,slow=34
SCHQ Schefferville 50.32 12 P P **P** 15 41 59.2 -1.0
SCHQ LR LR 16 01 49.9
A14A Double T Ranch 50.34 334 ⇓P P **P** 15 41 59.7 -0.8
baz=50
B13A Whitefish 50.37 333 ⇑P P **P** 15 42 00.6 -0.2
baz=50
A13A Flathead Natio 50.76 333 ⇓P P **P** 15 42 03.5 -0.1
baz=51
C11A Tepee Creek (N 50.84 331 ⇓P P **P** 15 42 04.0 -0.2
baz=51
E09A Wood Farm, Sta 50.88 329 ⇑P P **P** 15 42 04.3 -0.4
baz=51
FFC Flin Flon 51.18 345 *i* P P **P** 15 42 10.3 +3.6
ETW Entiat 52.73 328 *e*P P **P** 15 42 18.9 +0.5
TAOE Nuku Hiva Isla 59.53 256 *e*LR LR 16 01 07.2
comp=Z,359nm,25.2s
EFI East Falkland 61.01 163⇑*e*P P **P** 15 43 15.7 -1.3
YKA Yellowknife Ar 61.24 344 P P **P** 15 43 18.0 -0.4
comp=Z,2.2nm,0.8s,mb4.4,baz=122,slow=9.1,SNR=3.7
YKA Yellowknife Ar 61.24 344 P P **P** 15 43 18.1 -0.4
YKA Yellowknife Ar 61.24 344 P P **P** 15 43 18.1 -0.3
DLBC Dease Lake 63.95 334 *e*P P **P** 15 43 37.7 +1.0
PPT Papeete 70.40 249 *e*S S 15 53 50.0 +18
comp=Z,71nm,27.2s
PPT *e*LR LR 16 06 16.2
comp=Z,482nm,23.8s
PPT Papeete 70.40 249 LR LR 16 06 44.0
comp=Z,360nm,19.5s,MS4.6,baz=324,slow=29
DAWY Dawson 70.75 337 *e*P P **P** 15 44 19.0 -0.6
INK Inuvik 70.92 342 *e*P P **P** 15 44 20.1 -0.5
comp=Z,22nn,0.9s,mb5.1
INK Inuvik 70.92 342 *e*P P **P** 15 44 20.1 -0.5
INK pmax pmax
comp=Z,22nn,0.9s
TBI Tubuai 71.70 243 *e*LR LR 16 06 58.2
comp=Z,760nm,28.5s
EGAK Eagle 71.76 337 P P **P** 15 44 24.9 -0.8
comp=Z,8.0nm,0.8s,mb4.7
DOT Dot Lake 72.44 336 *e*P P **P** 15 44 27.3 -2.5
comp=Z,32nn,0.9s,mb5.2
ILAR Eielson Array 74.01 336 P P **P** 15 44 38.4 -0.6
comp=Z,3.9nm,0.9s,mb4.3,baz=113,slow=4.7,SNR=13
ILAR LR LR 16 20 25.7
comp=Z,166nm,18.1s,MS4.4,baz=307,slow=38
ILAR Eielson Array 74.01 336 P P **P** 15 44 38.4 -0.6
ILAR LR LR 16 20 25.7
ILAR Eielson Array 74.01 336 P P **P** 15 44 38.4 -0.6
KDAK Kodiak Island 74.56 328 LR LR 16 17 55.9
comp=Z,190nm,21.3s,MS4.4,baz=113,slow=36
PPLA Purkeypile 75.66 334 *e*P P **P** 15 44 48.4 -0.2
comp=Z,51nn,1.6s,mb5.2
COLD Coldfoot 76.11 338 P P **P** 15 44 50.0 -1.2
comp=Z,9.7nm,1.0s,mb4.7
DBIC Dimbokro 76.88 85 LR LR 16 15 55.0
comp=Z,132nm,18.5s,MS4.3,baz=265,slow=34
ESDC Sonseca Array 77.24 51 P P **P** 15 44 58.4 +0.3
comp=Z,0.9nm,0.6s,mb3.9,baz=335,slow=37,SNR=3.7
ESDC LR LR 16 12 58.0
comp=Z,184nm,21.1s,MS4.4,baz=315,slow=31
ESDC Sonseca Array 77.24 51 P P **P** 15 44 58.4 +0.3
ESDC LR LR 16 12 58.0
ESK Eskdalemuir 78.93 35 *e*P P **P** 15 45 10.2 +3.0
comp=Z,30nn,1.0s,mb5.2
ESK Eskdalemuir 78.93 35 *e*P P **P** 15 45 10.2 +3.1
ESK pmax pmax
comp=Z,30nn,1.0s,mb5.2
TORD Torodi Ar. Bea 82.82 78 P P **P** 15 45 28.8 +0.1
comp=Z,1.4nm,0.8s,mb4.0,baz=280,slow=5.2,SNR=6.8
TORD LR LR 16 17 26.5
comp=Z,109nm,21.4s,MS4.2,baz=250,slow=32
TORD Torodi Ar. Bea 82.82 78 P P **P** 15 45 28.9 +0.1
TORD LR LR 16 17 26.5
NB2 NORSAR Subarra 86.55 29 P P **P** 15 45 45.6 -1.0
comp=Z,5.1nm,1.1s,mb4.7,baz=271,slow=4.8
NOA NORSAR Array B 86.55 29 P P **P** 15 45 46.4 -0.2
comp=Z,1.4nm,0.9s,mb4.2,baz=277,slow=4.5,SNR=3.0
NOA LR LR 16 16 47.5
comp=Z,94nm,20.5s,MS4.2,baz=270,slow=30
NOA NORSAR Array B 86.55 29 P P **P** 15 45 46.4 -0.2
NOA LR LR 16 16 47.5
NOA NORSAR Array B 86.55 29 P P **P** 15 45 46.4 -0.2
FETA Feichten 87.75 43⇑*i*PcP PcP 15 45 53.3 -1.4
comp=Z,5.3nm,1.0s
KEST Kesra 87.89 54 LR LR 16 22 39.8
comp=Z,46nm,18.7s,MS3.9,baz=220,slow=34
CLL Collm 88.71 39 *e*P P **P** 15 45 58.0 +0.8
CLL *e* 15 46 06.0
CLL pmax pmax
comp=Z,21nm,1.8s,mb5.2
CLL MLR MLR
comp=Z,200nm,19.2s,MS4.5
KHC Kasperske Hory 89.38 41 *e*P P **P** 15 46 02.5 +2.0
KHC *e* 15 46 08.7
KHC Kasperske Hory 89.38 41 *e*P P **P** 15 46 02.5 +2.0
KHC *ex* x 15 46 08.7
GERES GERESS Array B 89.50 41 P P **P** 15 46 01.6 +0.5
comp=Z,0.3nm,0.3s,mb4.1,baz=258,slow=6.7,SNR=5.1
GERES LR LR 16 19 36.5
comp=Z,214nm,19.4s,MS4.6,baz=305,slow=31
GERES GERESS Array B 89.50 41 P P **P** 15 46 01.6 +0.5
GERES LR LR 16 19 36.5

GERES	**GERESS Array B**	**89.50**	**41**	P		**P**		**15 46 01.6**	**+0.6**
ARCES	**ARCESS Array B**	**90.62**	**20**	LR		LR		16 24 00.4	
	comp=Z,114nm,19.5s,MS4.3,baz=79,slow=34								
BILL	**Bilibino**	**92.39**	**339**⇑	*e*P		**P**		**15 46 14.1**	**+0.1**
BILL				pmax		pmax			
	comp=Z,30nm,2.5s,mb5.2								
FINES	**FINESS Array B**	**93.47**	**27**	LR		LR		16 21 48.1	
	comp=Z,292nm,20.7s,MS4.7,baz=158,slow=31								
LVZ	**Lovozero**	**94.33**	**20**⇑	*e*P		**P**		**15 46 23.0**	**0.0**
LVZ				pmax		pmax			
	comp=Z,105nm,1.7s								
AKASG	**Malin Array Be**	**98.78**	**37**	LR		LR		16 27 12.8	
	comp=Z,184nm,18.4s,MS4.6,baz=295,slow=33								
OBN	**Obninsk**	**101.05**	**31**	*e*P		Pdif		15 46 53.2	-0.3
OBN				pmax		pmax			
	comp=Z,8.0nm,1.1s								
DZM	**Mont Dzumac**	**111.92**	**249**	*e*LR		LR		16 25 32.0	
	comp=Z,147nm,24.9s								
ZALV	**Zalesovo Beam**	**119.36**	**9**	PKP		PKPdf		15 51 53.4	+0.2
	comp=Z,0.4nm,0.3s,baz=56,slow=2.6,SNR=2.9								
ZALV	**Zalesovo Beam**	**119.36**	**9**	PKP		PKPdf		15 51 53.4	+0.2
ZALV	**Zalesovo Beam**	**119.36**	**9**	PKIKP		PKPdf		15 51 53.4	+0.3
MDJ	**Mudanjiang**	**122.11**	**334**	PKP		PKPdf		15 51 57.1	-1.6
MKAR	**Makanchi Array**	**125.75**	**13**	PKP		PKPdf		15 52 06.0	+0.3
	comp=Z,0.5nm,1.0s,baz=53,slow=7.4,SNR=2.6								
MKAR	**Makanchi Array**	**125.75**	**13**	PKP		PKPdf		15 52 06.0	+0.3
MKAR	**Makanchi Array**	**125.75**	**13**	PKIKP		PKPdf		15 52 06.0	+0.4
SONM	**Songino Array**	**125.92**	**353**	PKP		PKPdf		15 52 05.2	-0.7
	comp=Z,0.5nm,0.7s,baz=147,slow=2.9,SNR=4.3								
SONM	**Songino Array**	**125.92**	**353**	PKP		PKPdf		15 52 05.2	-0.7
SONM	**Songino Array**	**125.92**	**353**	PKIKP		PKPdf		15 52 05.2	-0.7
AAK	**Ala-Archa**	**127.25**	**21**	∥*i*PKIKP		PKPdf		15 52 11.2	+2.6
KSRS	**Korea Array**	**128.46**	**329**	PKP		PKPdf		15 52 10.1	-1.1
	comp=Z,1.5nm,0.8s,baz=355,slow=1.4,SNR=5.2								
WMQ	**Urumqi**	**129.66**	**9**	PKP		PKPdf		15 52 11.8	-1.4
HHC	**Hu-ho-hao-te**	**131.75**	**346**	*e*PKP		PKPdf		15 52 13.6	-3.6
HHC				PP		PP		15 54 36.2	+0.3
HHC				PKS				15 55 48.7	
HHC				SKS		SKSdf		15 59 21.6	-7.4
HHC				AMB		AMB			
	comp=Z,84nm,5.4s								
HHC				LR		LR			
	comp=N,120nm,4.4s								
HHC				LR		LR			
	comp=E,270nm,5.2s								
HHC				LR		LR			
	comp=Z,140nm,5.8s								
NJ2	**Nanjing**	**137.20**	**333**	*e*PKP		PKPdf		15 52 23.4	-4.3
ASAR	**Alice Springs**	**141.00**	**239**	PKP		PKPdf		15 52 32.0	-2.8
	comp=Z,1.3nm,0.7s,baz=101,slow=2.1,SNR=9.4								
ASAR	**Alice Springs**	**141.00**	**239**	PKP		PKPdf		15 52 32.0	-2.8
ASAR	**Alice Springs**	**141.00**	**239**	PKIKP		PKPdf		15 52 32.0	-2.8
WRA	**Warramunga Arr**	**141.81**	**245**	PKhKP		PKPpre		15 52 29.4	
	comp=Z,0.5nm,0.9s,baz=109,slow=2.1,SNR=5.7								
WRA				PKP		PKPdf		15 52 35.2	-1.1
	comp=Z,1.1nm,0.6s,baz=97,slow=2.5,SNR=7.4								
WRA	**Warramunga Arr**	**141.81**	**245**	PKP		PKPpre		15 52 29.4	
WRA				PKP		PKPdf		15 52 35.2	-1.1
WRA	**Warramunga Arr**	**141.81**	**245**	PKHKP		PKPpre		15 52 29.5	
WRA								15 52 35.3	
CD2	**Chengdu**	**142.92**	**351**	PKP		PKPdf		15 52 37.2	-0.9
CD2				PP		PP		15 55 49.6	+4.1
CD2				PKS				15 56 11.5	
CD2				SKS		SKSdf		15 59 45.4	-2.9
CD2				SKKS		SKKSac		16 02 39.6	-0.9
CD2				SS		SS		16 14 24.2	+1.3
CD2				AMB		AMB			
	comp=Z,180nm,4.8s								
CD2				LR		LR			
	comp=N,180nm,6.5s								
CD2				LR		LR			
	comp=Z,220nm,5.4s								
DANN	**Dangsing**	**143.35**	**21**	*e*P		PKPdf		15 52 36.0	-3.0
DANN	**Dangsing**	**143.35**	**21**	*e*P		PKPdf		15 52 36.0	-3.0
GKN	**Gorkha**	**143.98**	**20**	*e*P		PKPdf		15 52 37.6	-2.5
	comp=Z,42nm,1.5s								
GKN	**Gorkha**	**143.98**	**20**	*e*P		PKPdf		15 52 37.6	-2.5
KKN	**Kakani**	**144.39**	**19**	*e*P		PKPdf		15 52 38.5	-2.3
	comp=Z,18nm,0.9s								
KKN	**Kakani**	**144.39**	**19**	*e*P		PKPdf		15 52 38.5	-2.3
KKN	**Kakani**	**144.39**	**19**	*e*PKIKP		PKPdf		15 52 38.5	-2.3
GUN	**Gumba**	**144.47**	**18**	*e*P		PKPdf		15 52 39.2	-1.7
	comp=Z,46nm,1.0s								
GUN	**Gumba**	**144.47**	**18**	*e*P		PKPdf		15 52 39.2	-1.7
DMN	**Daman**	**144.50**	**20**	*e*P		PKPdf		15 52 39.0	-2.0
	comp=Z,21nm,0.7s								
DMN	**Daman**	**144.50**	**20**	*e*P		PKPdf		15 52 39.0	-2.0
PKI	**Pulchoki**	**144.63**	**19**	*e*P		PKPdf		15 52 39.1	-2.1
PKI	**Pulchoki**	**144.63**	**19**	*e*P		PKPdf		15 52 39.1	-2.1
PKI	**Pulchoki**	**144.63**	**19**	*e*PKIKP		PKPdf		15 52 39.1	-2.1
KAKA	**Kakadu**	**145.12**	**256**	*e*PKP		PKPdf		15 52 37.7	-4.7
TAPN	**Taplejung**	**145.53**	**16**	*e*P		PKPbc		15 52 41.9	-0.9
	comp=Z,26nm,0.8s								
TAPN	**Taplejung**	**145.53**	**16**	*e*P		PKPbc		15 52 41.9	-0.9
ODAN	**Odare**	**145.90**	**17**	*e*P		PKPdf		15 52 43.2	-0.2
	comp=Z,60nm,1.4s								
ODAN	**Odare**	**145.90**	**17**	*e*P		PKPdf		15 52 43.2	-0.2
GYA	**Guiyang**	**146.66**	**345**	PKPbc		PKPbc		15 52 43.0	-3.2
GYA				PKPab		PKPab		15 52 46.8	-0.5
GYA				PP		PP		15 56 10.0	+2.0
GYA				PKS				15 56 16.3	
GYA				SKKS		SKKSac		16 02 58.4	-3.5
GYA				AMB		AMB			
	comp=Z,120nm,8.0s								
GYA				LR		LR			
	comp=N,130nm,24.2s,MS4.8								
GYA				LR		LR			
	comp=E,120nm,25.7s,MS4.8								
GYA				LR		LR			
	comp=Z,140nm,23.7s,MS4.7								
KMI	**Kunming**	**148.75**	**351**	PKPbc		PKPbc		15 52 46.7	-5.3
KMI				pPKP		pPKPdf		15 52 51.6	0.0
KMI				PP		PP		15 56 22.9	+2.8
KMI				SS		SS		16 15 28.8	-0.6
KMI				AMB		AMB			
	comp=Z,67nm,4.7s								
KMI				LR		LR			
	comp=N,120nm,25.6s								
KMI				LR		LR			
	comp=E,110nm,20.0s								
KMI				LR		LR			
	comp=Z,120nm,20.0s								
FITZ	**Fitzroy Crossi**	**150.19**	**244**	PKPbc		PKPbc		15 52 53.2	-2.5
	comp=Z,9.7nm,1.0s,baz=168,slow=1.8,SNR=11								
FITZ	**Fitzroy Crossi**	**150.19**	**244**	*e*PKPbc		PKPbc		15 52 53.0	-2.7
CMAR	**Chiang Mai Arr**	**155.74**	**357**	PKP		PKPdf		15 52 59.5	+0.8
	comp=Z,1.0nm,0.9s,baz=300,slow=2.3,SNR=6.7								
CMAR	**Chiang Mai Arr**	**155.74**	**357**	PKP		PKPdf		15 52 59.5	+0.8
CMAR	**Chiang Mai Arr**	**155.74**	**357**	PKIKP		PKPdf		15 52 59.5	+0.8

IDC 05 15:40:43.9±17.0, 23.12°S×174.10°W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/18, mbtmp4.0/5, Error ellipse: s-maj=322.5km s-min=150.0km az=82.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.91**	**267**	P	P	15 47 55.5	+0.9
	2.0nm,0.3s,baz=88,slow=7.7,SNR=3.9						
STKA	**Stephens Creek**	**40.04**	**247**	P	P	15 48 19.5	-1.3
	0.3nm,0.3s,baz=90,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**47.51**	**258**	P	P	15 49 20.1	-0.9
	0.5nm,0.3s,baz=93,slow=7.0,SNR=36						
WRA	**Warramunga Arr**	**47.87**	**264**	P	P	15 49 23.6	-0.3
	1.2nm,0.3s,baz=99,slow=7.0,SNR=65						
FITZ	**Fitzroy Crossi**	**56.30**	**263**	P	P	15 50 27.9	+1.2
	1.0nm,0.8s,baz=102,slow=9.2,SNR=4.0						

*IDC **05** 16:09:29.2±1.1, 1.44N×126.07E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.7/19, mbtmp3.8/6, ML3.6/1, Error ellipse: s-maj=98.7km s-min=17.6km az=70.0*
*ISCJB **05** 16:09:32.1±0.7, 1.40N±0.08×125.9E±0.2, h33km, mb4.0/7, Error ellipse: s-maj=23.6km s-min=11.0km az=165.7*
*NEIC **05** 16:09:34.3±0.5, 1.39N×125.97E, h35km, mb4.4/3, Error ellipse: s-maj=16.4km s-min=7.6km az=75.0*

ISC 05 16:09:34.3±0.7, 1.37N±0.08×126.0E±0.2, h35km, n18, σ0§42/18, mb4.0/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.87**	**224**	*e*Pn	**Pn**	**16 11 40.3**	**+0.3**
KAKA	**Kakadu**	**15.39**	**156**	*e*P	**Pn**	**16 13 14.5**	**+5.5**
	14nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.35**	**181**	P	**Pn**	**16 13 57.4**	**-0.7**
	0.1nm,0.3s,baz=4.8,slow=12,SNR=5.2						
FITZ	**Fitzroy Crossi**	**19.35**	**181**	P	**Pn**	**16 13 57.4**	**-0.7**
WRAB	**Tennant Creek**	**22.71**	**159**	*e*P	**P**	**16 14 32.9**	**-0.3**
	6.6nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**22.71**	**159**	P	**P**	**16 14 32.9**	**-0.3**
	8.1nm,0.7s,mb4.3,baz=339,slow=11,SNR=57						
WRA	**Warramunga Arr**	**22.71**	**159**	P	**P**	**16 14 32.9**	**-0.3**
MBWA	**Marble Bar**	**23.20**	**195**	*e*P	**P**	**16 14 38.4**	**+0.1**
ASAR	**Alice Springs**	**26.05**	**163**	P	**P**	**16 15 05.3**	**+0.8**
	2.7nm,0.5s,mb4.0,baz=344,slow=8.7,SNR=52						
ASAR	**Alice Springs**	**26.05**	**163**	P	**P**	**16 15 05.3**	**+0.8**
STKA	**Stephens Creek**	**36.23**	**157**	*e*P	**P**	**16 16 34.1**	**+0.1**
	0.6nm,0.4s,mb3.9,baz=326,slow=12,SNR=3.7						
STKA	**Stephens Creek**	**36.23**	**157**	*e*P	**P**	**16 16 34.5**	**+0.5**
SONM	**Songino Array**	**49.30**	**343**	P	**P**	**16 18 20.2**	**+0.5**
	0.3nm,0.6s,mb3.5,baz=170,slow=9.8,SNR=3.0						
SONM	**Songino Array**	**49.30**	**343**	P	**P**	**16 18 20.2**	**+0.5**
MK31	**Makanchi Array**	**59.07**	**326**	*e*P	**P**	**16 19 30.7**	**-0.3**
MKAR	**Makanchi Array**	**59.07**	**326**	P	**P**	**16 19 30.8**	**-0.2**
	0.6nm,0.4s,mb4.0,baz=119,slow=8.3,SNR=15						
MKAR	**Makanchi Array**	**59.07**	**326**	P	**P**	**16 19 30.8**	**-0.2**
KURK	**Kurchatov**	**63.33**	**328**	*e*P	**P**	**16 19 59.5**	**-0.3**
	1.7nm,0.6s,mb4.3						

IDC 05 16:15:28.5±3.0, 22.81N×11.55W, h0km, mb3.6/2, mb1 3.5/3, mb1mx3.2/25, mbtmp3.5/3, ML2.7/1, Error ellipse: s-maj=94.8km s-min=46.3km az=63.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**15.83**	**125**	Pn	Pn	16 19 13.6	+0.8
	0.0nm,0.3s,baz=309,slow=12,SNR=2.5						
TORD				Sn	Sn	16 22 09.0	-0.1
	0.1nm,0.3s,baz=306,slow=22,SNR=3.1						
KURK	**Kurchatov**	**72.79**	**42**	P	P	16 26 58.6	-0.2
	0.2nm,0.5s,baz=282,slow=5.8,SNR=4.1						
MKAR	**Makanchi Array**	**76.25**	**45**	P	P	16 27 19.1	+0.2
	0.3nm,0.5s,baz=292,slow=5.4,SNR=5.1						
WRA	**Warramunga Arr**	**148.15**	**91**	PKPbc	PKPbc	16 35 16.5	-0.5
	0.3nm,0.7s,baz=295,slow=2.4,SNR=4.2						
ASAR	**Alice Springs**	**148.29**	**98**	PKPbc	PKPbc	16 35 16.6	-0.7
	0.3nm,0.7s,baz=280,slow=2.5,SNR=7.1						

*BYKL **05** 16:24:30.8±0.2, 53.18N×108.92E, h22km±4km*
*IDC **05** 16:24:30.5±2.5, 53.16N×108.96E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.2/26, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=109.0km s-min=21.0km az=112.0*
*MOS **05** 16:24:30.5±1.0, 53.19N×108.95E, h15km, mb4.3/1, Error ellipse: s-maj=23.1km s-min=10.8km az=68.3*

ISC 05 16:24:28.8±0.3, 53.14N±0.02×109.07E±0.03, h10km, n45, σ1§57/81, mb3.3/2, 6C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXMB	**Maximikha**	**0.23**	**302**	*i*Pg	**Pg**	**16 24 35.5**	**+1.9**
MXMB				*e*Sg	**Sg**	**16 24 38.8**	**+2.0**
SYVR	**Suvo**	**0.76**	**46**	*e*PG	**Pg**	**16 24 45.4**	**+2.0**
SYVR				*e*		16 24 56.4	
SYVR				pmax	pmax		
	comp=Z,106nm,0.1s						
SYVR				smax			
	comp=N,615nm,0.1s						
SYVR	**Suvo**	**0.76**	**46**⇑	*i*Pg	**Pg**	**16 24 45.5**	**+2.1**
SYVR				*e*Sg	**Sg**	**16 24 56.6**	**+3.3**
SYVR				Pmax			
	comp=N,92nm,0.1s						
SYVR				Smax			
	comp=N,554nm,0.3s						
OGRR	**Ongureny**	**1.02**	**300**⇑	*i*PG	**Pg**	**16 24 48.2**	**-0.2**
OGRR				*e*		16 25 00.6	
OGRR				pmax	pmax		
	comp=Z,276nm,0.8s						
OGRR				smax			
	comp=E,1μm,0.2s						
OGRR	**Ongureny**	**1.02**	**300**⇑	*i*Pg	**Pg**	**16 24 48.2**	**-0.2**
OGRR				*e*Sg	**Sg**	**16 25 00.5**	**-1.1**
OGRR				Pmax			
	comp=E,274nm,0.3s						
OGRR				Smax			
	comp=E,1μm,0.2s						
ZRHB	**Zarechye**	**1.30**	**244**	*e*Pg	**Pg**	**16 24 54.1**	**+0.3**
ZRHB				*e*Sg	**Sg**	**16 25 12.0**	**+1.3**
ZRHB				Pmax			
	comp=E,405nm,1.0s						
ZRHB				Smax			
	comp=E,2μm,1.2s						
TRG	**Tyrgan**	**1.69**	**258**	*e*Pg	**Pg**	**16 24 58.6**	**+0.3**
TRG				⇓*i*		16 24 59.9	
TRG				*e*Sg	**Sn**	**16 25 19.6**	**-0.4**
TRG				max			
	comp=E,38nm,0.1s						
TRG				Smax			
	comp=E,320nm,0.5s						
FFNB	**Fofonovo**	**1.78**	**233**⇑	*i*Pg	**Pg**	**16 25 02.2**	**-0.8**
FFNB				*e*Sg	**Sg**	**16 25 25.7**	**-0.4**
FFNB				Pmax			
	comp=E,54nm,0.2s						
FFNB				Smax			
	comp=E,463nm,0.5s						
KAB	**Kabansk**	**1.83**	**235**	*e*PN	**Pg**	**16 25 03.5**	**-0.4**
KAB				*e*		16 25 28.4	
KAB				pmax	pmax		
	comp=Z,107nm,0.3s						
KAB				smax			
	comp=N,1μm,0.5s						
KAB	**Kabansk**	**1.83**	**235**	*e*Pg	**Pg**	**16 25 04.0**	**+0.1**
KAB				*e*Sg	**Sg**	**16 25 27.9**	**+0.2**
KAB				Pmax			
	comp=N,54nm,0.3s						
KAB				Smax			
	comp=N,1μm,0.5s						
HRMR	**Khuramsha**	**1.99**	**221**⇑	*i*Pg	**Pg**	**16 25 06.0**	**-1.0**
HRMR				*e*Sg	**Sg**	**16 25 32.9**	**+0.1**
HRMR				Pmax			
	comp=N,197nm,0.2s						
HRMR				Smax			
	comp=N,1μm,0.7s						
YLYR	**Ulyunkhan**	**2.13**	**34**	*e*PN	**Pn**	**16 25 06.3**	**+1.9**
YLYR				*e*		16 25 08.4	
YLYR				*e*		16 25 36.4	
YLYR				pmax	pmax		
	comp=Z,34nm,0.3s						
YLYR				smax			
	comp=N,226nm,0.5s						
YLYR	**Ulyunkhan**	**2.13**	**34**⇓	*i*Pn	**Pn**	**16 25 06.3**	**+1.9**
YLYR				*e*Pg	**Pg**	**16 25 09.6**	**0.0**
YLYR				*e*Sg	**Sg**	**16 25 37.3**	**0.0**
YLYR				Pmax			
	comp=N,21nm,0.3s						
YLYR				Smax			
	comp=N,224nm,0.6s						
NIZ	**Nizh Angarsk**	**2.66**	**6**	*e*PN	**Pn**	**16 25 14.5**	**+2.9**
NIZ				*e*		16 25 18.1	
NIZ				*e*S	**Sn**	**16 25 45.1**	**+1.3**
NIZ				*e*		16 25 50.8	
NIZ				pmax	pmax		
	comp=Z,36nm,0.9s						
NIZ				Smax			
	comp=N,155nm,0.4s						
NIZ	**Nizh Angarsk**	**2.66**	**6**	*e*Pn	**Pn**	**16 25 12.8**	**+1.2**
NIZ				*e*Pg	**Pg**	**16 25 16.7**	**-2.7**
NIZ				*e*		16 25 44.7	
NIZ				*e*Sg	**Sg**	**16 25 50.6**	**-3.4**
NIZ				Pmax			
	comp=N,36nm,0.9s						
NIZ				Smax			
	comp=N,154nm,0.7s						
LSTR	**Listvyanka**	**2.89**	**246**	*e*Pn	**Pn**	**16 25 15.3**	**+0.5**
LSTR				*e*Pg	**Pg**	**16 25 21.1**	**-3.0**
LSTR				*e*Sn	**Sn**	**16 25 48.1**	**-1.4**
LSTR				*e*Sg	**Sg**	**16 25 58.0**	**-3.5**
LSTR				Pmax			
	comp=N,5.0nm,0.2s						
LSTR				Smax			
	comp=N,90nm,0.6s						
CIT	**Chita**	**2.95**	**110**	*e*PN	**Pg**	**16 25 26.0**	**+0.7**
CIT				*e*		16 26 06.0	
CIT				pmax	pmax		
	comp=Z,50nm,1.2s						
CIT				smax			
	comp=N,185nm,1.6s						
CIT	**Chita**	**2.95**	**110**	*e*	**Pn**	**16 25 17.7**	**+2.0**
CIT				*e*Pg	**Pg**	**16 25 25.6**	**+0.3**
CIT				*e*		16 25 54.9	
CIT				*e*Sg	**Sg**	**16 26 05.0**	**+1.5**
CIT				Pmax			
	comp=N,59nm,0.2s						
CIT				Smax			
	comp=N,414nm,0.2s						
KMO	**Kumora**	**3.02**	**23**	*e*PN	**Pn**	**16 25 19.1**	**+2.5**
KMO				*e*		16 25 24.5	
KMO				*e*S	**Sn**	**16 25 53.8**	**+1.0**
KMO	**Kumora**	**3.02**	**23**	*e*Pn	**Pn**	**16 25 18.6**	**+2.0**
KMO				*e*Pg	**Pg**	**16 25 24.6**	**-2.0**
KMO				*e*Sg	**Sg**	**16 26 03.7**	**-2.0**
KMO				Pmax			
	comp=N,68nm,0.6s						
KMO				Smax			
	comp=N,227nm,1.2s						
IRK	**Irkutsk**	**3.06**	**255**	*e*Sg	**Sg**	**16 26 02.5**	**-4.4**
IRK				Smax			
	comp=N,298nm,0.5s						
YOA	**Uoyan**	**3.37**	**26**	*e*PN	**Pg**	**16 25 33.3**	**0.0**
YOA				*e*		16 26 16.3	
YOA				pmax	pmax		
	comp=Z,35nm,0.2s						
YOA				smax			
	comp=N,458nm,0.5s						
YOA	**Uoyan**	**3.37**	**26**	*e*	**Pg**	**16 25 33.4**	**+0.1**
YOA				*e*Sg	**Sg**	**16 26 16.7**	**-0.3**
YOA				Smax			
	comp=N,480nm,1.6s						
UKT	**Uakit**	**3.56**	**47**	*e*PN	**Pg**	**16 25 35.5**	**-1.4**
UKT				*e*		16 26 21.5	
UKT				pmax	pmax		
	comp=Z,64nm,0.6s						
UKT				smax			
	comp=N,73nm,0.4s						
UKT	**Uakit**	**3.56**	**47**	*e*Pn	**Pn**	**16 25 26.4**	**+2.4**
UKT				*e*Pg	**Pg**	**16 25 35.1**	**-1.8**
UKT				*e*Sg	**Sg**	**16 26 22.3**	**-0.6**
UKT				Pmax			
	comp=N,5.0nm,0.4s						
UKT				Smax			
	comp=N,94nm,1.1s						
TLY	**Talaya**	**3.63**	**248**	*e*Pg	**Pg**	**16 25 34.2**	**-4.1**
TLY				*e*		16 26 13.9	
TLY				*e*Sg	**Sg**	**16 26 19.9**	**-5.4**
TLY				Pmax			
	comp=N,8.0nm,0.5s						
TLY				Smax			
	comp=N,47nm,0.3s						
KPC	**Khapcheranga**	**4.01**	**148**	*e*Pn	**Pn**	**16 25 32.0**	**+1.8**
KPC				*e*Pg	**Pg**	**16 25 44.0**	**-1.6**
KPC				*e*Sg	**Sg**	**16 26 36.1**	**-1.5**
KPC				Pmax			
	comp=N,30nm,0.7s						
KPC				Smax			
	comp=N,80nm,1.0s						
ARS	**Arshan**	**4.24**	**256**	*e*PN	**Pn**	**16 25 34.3**	**+0.9**
ARS				*e*		16 25 46.8	
ARS				*e*		16 26 38.3	
ARS				pmax	pmax		
	comp=Z,6.0nm,0.1s						
ARS				smax			
	comp=E,166nm,0.6s						
ARS	**Arshan**	**4.24**	**256**	*e*Pg	**Pg**	**16 25 45.2**	**-4.7**
ARS				*e*Sg	**Sg**	**16 26 38.5**	**-6.3**
ARS				Pmax			
	comp=E,21nm,0.7s						
ARS				Smax			
	comp=E,157nm,1.2s						
ZAK	**Zakamensk**	**4.54**	**235**	*e*	**Pn**	**16 25 43.1**	**+5.7**
ZAK				*e*Pg	**Pg**	**16 25 52.3**	**-3.3**
ZAK				*e*Sg	**Sg**	**16 26 50.9**	**-3.4**
ZAK				Pmax			
	comp=E,3.0nm,0.4s						
ZAK				Smax			
	comp=E,38nm,0.8s						
NLYR	**Nelyaty**	**5.10**	**46**	*e*	**Pg**	**16 25 58.5**	**-7.8**
NLYR				*e*		16 26 08.2	
NLYR				*e*Sg	**Sg**	**16 27 10.1**	**-2.1**
NLYR				max			
	comp=E,24nm,0.2s						
NLYR				Smax			
	comp=E,100nm,0.8s						
MOY	**Mondy**	**5.16**	**257**	*e*Pn	**Pn**	**16 25 48.0**	**+2.0**
MOY				*e*Pg	**Pg**	**16 26 01.6**	**-6.0**
MOY				*e*		16 26 45.9	
MOY				*e*Sg	**Sg**	**16 27 07.2**	**-7.2**
MOY				Pmax			
	comp=E,8.0nm,1.3s						
MOY				Smax			
	comp=E,34nm,1.0s						
BOD	**Bodaibo**	**5.46**	**29**	*e*Sg	**Sg**	**16 27 19.4**	**-4.6**
BOD				*e*		16 27 43.0	
BOD				Smax			
	comp=E,31nm,1.0s						
SONM	**Songino Array**	**5.58**	**199**	Pn	**Pn**	**16 25 54.4**	**+2.6**
	comp=E,0.6nm,0.3s,baz=11,slow=13,SNR=23						
SONM				Pg	**Pg**	**16 26 11.6**	**-3.9**
	comp=E,1.7nm,0.3s,baz=20,slow=14,SNR=7.3						
SONM				Lg		16 27 27.5	
	comp=E,7.6nm,0.3s,baz=23,slow=29,SNR=13						
SONM	**Songino Array**	**5.58**	**199**	PN	**Pn**	**16 25 54.4**	**+2.7**
SONM						16 26 11.6	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ORL	**Orlik**	**5.65**	**268**	*e*	**Pn**	**16 25 53.8**	**+1.1**
ORL				*e*		16 26 01.6	
ORL				*e*		16 26 59.0	
ORL				*e*Sg	**Sg**	**16 27 22.0**	**-7.9**
ORL				max			
	comp=Z,5.0nm,1.0s						
ORL				Smax			
	comp=Z,38nm,1.8s						
CRS	**Chara**	**6.49**	**51**	*e*PG	**Pg**	**16 26 29.0**	**-4.0**
CRS				*e*		16 27 52.8	
CRS				pmax	pmax		
	comp=Z,35nm,2.1s						
CRS				smax			
	comp=E,63nm,1.3s						
CRS	**Chara**	**6.49**	**51**	*e*	**Pg**	**16 26 29.0**	**-4.0**
CRS				*e*Sg	**Sg**	**16 27 54.0**	**-3.0**
CRS				max			
	comp=E,4.0nm,1.6s						
CRS				Smax			
	comp=E,29nm,1.0s						
TUP	**Tupik**	**6.58**	**74**	*e*PN	**Pn**	**16 26 10.5**	**+5.1**
TUP				*e*		16 26 31.3	
TUP				*e*		16 27 56.2	
TUP				pmax	pm

	1.1nm,0.3s,baz=183,slow=5.7,SNR=7.2						
CTA	**Charters Tower**	**34.16 278**	P	P	16 50 45.4	+1.3	
	9.5nm,1.2s,baz=111,slow=16,SNR=3.5						
STKA	**Stephens Creek**	**34.95 256**	P	P	16 50 52.4	+1.6	
	1.4nm,0.5s,baz=94,slow=11,SNR=6.5						
ASAR	**Alice Springs**	**43.54 266**	P	P	16 52 01.7	-1.0	
	0.6nm,0.6s,baz=102,slow=7.3,SNR=25						
WRA	**Warramunga Arr**	**44.50 272**	P	P	16 52 09.4	-1.1	
	1.8nm,0.5s,baz=110,slow=8.1,SNR=41						
FINES	**FINESS Array B**	**145.00 340**	PKPbc	PKPbc	17 03 34.2	-0.6	
	1.3nm,0.4s,baz=46,slow=4.0,SNR=11						

IDC 05 16:45:01.3±3.4, 22°.23N×143°.65E, h108km±57km, mb3.1/5, mb1 3.2/6, mb1mx3.2/23, mbtmp3.2/6, MS2.7/1, Ms1 2.7/1, ms1mx2.3/14, Error ellipse: s-maj=256.3km s-min=18.5km az=76.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.03 345**		P	Pn	16 46 16.5	+2.0
	3.7nm,0.3s,baz=318,slow=23,SNR=9.3						
CBIJ				S	Sn	16 47 10.8	-0.6
	19nm,0.3s,baz=280,slow=22,SNR=15						
GUMO	**Guam**	**8.67 172**		LR	LR	16 50 02.8	
	comp=Z,43nm,19.1s,baz=172,slow=35						
MJAR	**Matsushiro Arr**	**15.03 343**		P	Pn	16 48 30.1	+2.2
	0.7nm,0.3s,baz=169,slow=8.2,SNR=6.2						
KSRS	**Korea Array**	**20.36 322**		P	P	16 49 34.1	+5.0
	2.2nm,0.5s,baz=148,slow=8.6,SNR=14						
SONM	**Songino Array**	**39.21 320**		P	P	16 52 20.1	+1.3
	0.3nm,0.4s,baz=130,slow=9.3,SNR=5.3						
WRA	**Warramunga Arr**	**42.88 193**		P	P	16 52 49.1	-0.1
	0.3nm,0.2s,baz=14,slow=9.1,SNR=13						
ASAR	**Alice Springs**	**46.59 192**		P	P	16 53 18.0	-0.5
	0.1nm,0.4s,baz=15,slow=6.8,SNR=4.1						
ZALV	**Zalesovo Beam**	**54.07 321**		P	P	16 54 13.9	-0.7
	0.7nm,0.5s,baz=96,slow=8.1,SNR=4.0						
MKAR	**Makanchi Array**	**54.66 312**		P	P	16 54 18.8	-0.2
	0.3nm,0.6s,baz=87,slow=8.8,SNR=5.7						

*IDC **05** 17:11:20.1±2.2, 8°.71S×112°.55E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=128.4km s-min=24.3km az=50.0*
*ISCJB **05** 17:11:26.6±1.1, 9°.0S±0°.1×112°.31E±0°.05, h70km±15km, mb3.5/5, Error ellipse: s-maj=24.2km s-min=7.6km az=12.2*
*NEIC **05** 17:11:26.6±2.4, 8°.38S×113°.11E, h35km, mb3.8/1, Error ellipse: s-maj=159.0km s-min=19.9km az=49.0*
*DJA **05** 17:11:26, 9°.08S×112°.28E, h35km, MLv3.9/9*
ISC 05 17:11:27.1±1.1, 9°.1S±0°.1×112°.31E±0°.05, h58km±16km, n21, σ0°.80/27, mb3.6/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRKI	**Karangkates**	**0.90**	**9**	P	**Pn**	**17 11 44.0**	**+0.2**
KRKI				S	**Sn**	**17 11 56.6**	**+0.5**
PWJI	**Pagerwojo**	**1.14**	**334**	P	**Pn**	**17 11 46.7**	**-0.2**
PWJI				S	**Sn**	**17 12 01.4**	**-0.3**
GMJI	**Gumukmas**	**1.36**	**55**	P	**Pn**	**17 11 48.6**	**-1.3**
PCJI	**Pacitan**	**1.41**	**307**	P	**Pn**	**17 11 50.1**	**-0.4**
PCJI				S	**Sn**	**17 12 07.1**	**-0.9**
SJI	**Sawahan**	**1.42**	**338**	P	**Pn**	**17 11 50.8**	**+0.2**
BLJI	**Banyuglugur**	**1.82**	**44**	P	**Pn**	**17 11 57.2**	**+1.1**
JAGI	**Jajag, Banyuwa**	**1.91**	**72**	P	**Pn**	**17 11 56.8**	**-0.5**
UGM	**Wanagama**	**2.10**	**303**	P	**Pn**	**17 12 00.4**	**+0.5**
UGM				S	**Sn**	**17 12 26.3**	**+1.4**
SMRI	**Semarang**	**2.72**	**317**	P	**Pn**	**17 12 07.4**	**-0.9**
SRBI	**Singaraja**	**3.03**	**72**	P	**Pn**	**17 12 13.2**	**+0.6**
FITZ	**Fitzroy Crossi**	**15.76**	**126**	Pn	**Pn**	**17 15 01.3**	**-4.2**
	0.1nm,0.3s,baz=300,slow=8.1,SNR=4.5						
FITZ				Sn	**Sn**	**17 17 44.2**	**-15**
	0.1nm,0.3s,baz=225,slow=19,SNR=4.1						
FITZ	**Fitzroy Crossi**	**15.76**	**126**	Pn	**Pn**	**17 15 01.3**	**-4.2**
FITZ				Sn	**Sn**	**17 17 44.2**	**-15**
WRA	**Warramunga Arr**	**23.89**	**119**	P	**P**	**17 16 34.9**	**-0.6**
	0.9nm,0.6s,mb3.4,baz=294,slow=11,SNR=16						
WRA	**Warramunga Arr**	**23.89**	**119**	P	**P**	**17 16 34.9**	**-0.6**
WRAB	**Tennant Creek**	**23.89**	**119**	*eP*	**P**	**17 16 34.7**	**-0.8**
	1.7nm,0.9s,mb3.5						
ASAR	**Alice Springs**	**25.25**	**128**	P	**P**	**17 16 48.5**	**+0.6**
	0.9nm,0.5s,mb3.5,baz=304,slow=9.2,SNR=54						
ASAR	**Alice Springs**	**25.25**	**128**	P	**P**	**17 16 48.5**	**+0.6**
STKA	**Stephens Creek**	**35.41**	**134**	P	**P**	**17 18 18.9**	**+1.4**
	0.7nm,0.7s,mb3.7,baz=304,slow=11,SNR=3.3						
STKA	**Stephens Creek**	**35.41**	**134**	P	**P**	**17 18 18.9**	**+1.4**
MKAR	**Makanchi Array**	**61.70**	**337**	P	**P**	**17 21 38.7**	**-0.4**
	0.3nm,0.4s,mb3.8,baz=150,slow=7.8,SNR=6.6						
MKAR	**Makanchi Array**	**61.70**	**337**	P	**P**	**17 21 38.7**	**-0.4**

*IDC **05** 17:21:20.6±9.0, 23°.83S×179°.49W, h390km±84km, mb3.5/6, mb1 3.6/7, mb1mx3.3/20, mbtmp3.5/7, Error ellipse: s-maj=58.7km s-min=26.6km az=52.0*
*NEIC **05** 17:21:25.5±1.1, 23°.99S×179°.47W, h459km±14km, mb4.1/4, Error ellipse: s-maj=23.9km s-min=12.3km az=71.0*
ISC 05 17:21:25.9±1.6, 23°.9S±0°.1×179°.5W±0°.3, h466km±22km, n22, σ1°.04/20, mb3.8/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.54**	**339**	*eP*	**P**	**17 23 07.0**	**+0.6**
	23nm,0.8s						
URZ	**Urewera**	**14.63**	**191**	P	**P**	**17 24 30.7**	**-2.0**
	1.1nm,0.3s,baz=27,slow=2.3,SNR=8.6						
URZ				S	**S**	**17 27 09.1**	**+2.2**
	0.3nm,0.3s,baz=78,slow=20,SNR=2.2						
URZ	**Urewera**	**14.63**	**191**	P	**P**	**17 24 30.7**	**-2.0**
URZ				S	**S**	**17 27 09.1**	**+2.2**
RPZ	**Rata Peaks**	**21.27**	**199**	P	**P**	**17 25 36.6**	**-1.2**
	7.0nm,0.6s,mb4.3,baz=355,slow=12,SNR=2.4						
RPZ	**Rata Peaks**	**21.27**	**199**	P	**P**	**17 25 36.6**	**-1.2**
CTA	**Charters Tower**	**31.96**	**270**	P	**P**	**17 27 13.1**	**+0.7**
	6.3nm,0.3s,mb4.5,baz=94,slow=9.3,SNR=19						
CTA	**Charters Tower**	**31.96**	**270**	P	**P**	**17 27 13.1**	**+0.7**
CTAO	**Charters Tower**	**31.96**	**270**	*eP*	**P**	**17 27 13.0**	**+0.6**
	8.8nm,0.5s,mb4.5						
PMG	**Port Moresby**	**34.94**	**289**	P	**P**	**17 27 38.1**	**+0.3**
	7.3nm,0.7s,mb4.2,baz=121,slow=5.9,SNR=5.1						
PMG	**Port Moresby**	**34.94**	**289**	P	**P**	**17 27 38.1**	**+0.3**
ASAR	**Alice Springs**	**42.51**	**260**	P	**P**	**17 28 39.2**	**-0.1**
	0.3nm,0.4s,mb3.1,baz=94,slow=7.3,SNR=29						
ASAR	**Alice Springs**	**42.51**	**260**	P	**P**	**17 28 39.2**	**-0.1**
WRAB	**Tennant Creek**	**42.88**	**266**	*eP*	**P**	**17 28 41.6**	**-0.7**
	1.3nm,0.5s,mb3.6						
WRA	**Warramunga Arr**	**42.89**	**266**	P	**P**	**17 28 41.8**	**-0.6**
	1.1nm,0.4s,mb3.7,baz=94,slow=8.5,SNR=76						
WRA	**Warramunga Arr**	**42.89**	**266**	P	**P**	**17 28 41.8**	**-0.6**
FITZ	**Fitzroy Crossi**	**51.31**	**265**	P	**P**	**17 29 46.5**	**+0.3**
	2.0nm,0.8s,mb3.5,baz=117,slow=4.5,SNR=4.1						
FITZ	**Fitzroy Crossi**	**51.31**	**265**	P	**P**	**17 29 46.5**	**+0.3**
QSPA	**South Pole Qui**	**66.21**	**180**	*eP*	**P**	**17 31 26.9**	**+0.9**
	2.1nm,0.7s,mb3.9						
AKASG	**Malin Array Be**	**145.21**	**328**	PKPbc	PKPbc	17 40 10.1	-0.2
	0.7nm,0.4s,baz=48,slow=3.8,SNR=4.5						
AKASG	**Malin Array Be**	**145.21**	**328**	PKPbc	PKPbc	17 40 10.1	-0.2
BRTR	**Keskin Array B**	**147.95**	**307**	PKPbc	PKPbc	17 40 22.5	+4.4
	0.6nm,0.5s,baz=77,slow=5.7,SNR=4.5						
BRTR	**Keskin Array B**	**147.95**	**307**	PKPbc	PKPbc	17 40 22.5	+4.4

*ROM **05** 17:43:18.7±0.3, 38°.70N×14°.94E, h289km±5km, MI3.6/23, Error ellipse: s-maj=6.2km s-min=3.3km az=124.0*
*ISCJB **05** 17:43:19.7±0.3, 38°.78N±0°.04×14°.79E±0°.04, h282km±3km, mb3.4/8, Error ellipse: s-maj=6.8km s-min=5.5km az=170.2*
*CSEM **05** 17:43:20.6±0.2, 39°.05N×14°.71E, h273km±2km, mb4.0/12, Error ellipse: s-maj=7.2km s-min=6.0km az=94.0*
*NEIC **05** 17:43:20.3±0.7, 38°.87N×14°.82E, h285km×7km, mb4.0/12, Error ellipse: s-maj=10.8km s-min=9.2km az=182.0*
*IDC **05** 17:43:21.5±1.6, 39°.02N×14°.55E, h295km±21km, mb3.0/8, mb1 3.0/15, mb1mx3.0/33, mbtmp2.9/15, Error ellipse: s-maj=17.4km s-min=12.2km az=115.0*
ISC 05 17:43:20.7±0.3, 38°.79N±0°.04×14°.76E±0°.04, h275km±3km, n198, σ1°.31/203, mb3.4/8, 13C-6D, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IFIL	**Filicudi I Eol**	**0.27**	**214**	Pg	**Pn**	**17 43 56.9**	**+0.9**
LLI	**Lipari**	**0.37**	**157**	Pg	**Pn**	**17 43 57.0**	**+0.8**
	975nm,0.8s						
IACL	**Alicudi**	**0.41**	**231**	Pg	**Pn**	**17 43 56.8**	**+0.6**
	446nm,1.6s						
VPL	**Vulcano Piano**	**0.45**	**157**	Pg	**Pn**	**17 43 56.6**	**+0.2**
MILZ	**Milazzo**	**0.64**	**144**	Pg	**Pn**	**17 43 56.5**	**-0.4**
	185nm,0.4s						
MSRU	**Castanea**	**0.79**	**132**	Pg	**Pn**	**17 43 56.9**	**-0.5**
JOPP	**Joppolo**	**0.90**	**101**	Pg	**Pn**	**17 43 57.7**	**-0.2**
SCLL	**Scilla**	**0.92**	**125**	Pg	**Pn**	**17 43 57.2**	**-0.8**
	76nm,0.4s						
MSCL	**Scilla**	**0.98**	**124**	Pg	**Pn**	**17 43 57.7**	**-0.6**
	233nm,0.5s						
GIB	**Gibilmanna**	**0.98**	**216**	Pn	**Pn**	**17 43 58.6**	**+0.3**
	408nm,1.0s						
GIB	**Gibilmanna**	**0.98**	**216**	Pn	**Pn**	**17 43 58.6**	**+0.3**
	408nm,1.0s						
CSLB	**Castelbuono**	**1.01**	**213**	Pn	**Pn**	**17 43 58.9**	**+0.4**
	31nm,0.2s						
CSLB	**Castelbuono**	**1.01**	**213**	Pn	**Pn**	**17 43 58.9**	**+0.4**
	31nm,0.2s						
CEL	**Celeste**	**1.03**	**120**	*e*Pn	**Pn**	**17 43 57.7**	**-0.9**
CEL	**Celeste**	**1.03**	**120**	Pg	**Pn**	**17 43 58.0**	**-0.6**
	170nm,0.4s						
CEL	**Celeste**	**1.03**	**120**	*e*Pn	**Pn**	**17 43 57.7**	**-0.9**
MTTG	**Motta San Giov**	**1.07**	**137**	Pn	**Pn**	**17 43 58.8**	**0.0**
	198nm,0.6s						
MTTG	**Motta San Giov**	**1.07**	**137**	Pn	**Pn**	**17 43 58.8**	**0.0**
	198nm,0.6s						
GALF	**Gagliano Caste**	**1.09**	**188**	Pn	**Pn**	**17 43 59.7**	**+0.8**
	83nm,0.6s						
GALF	**Gagliano Caste**	**1.09**	**188**	Pn	**Pn**	**17 43 59.7**	**+0.8**
	83nm,0.6s						
ECNV	**Catenanuova**	**1.19**	**182**	Pn	**Pn**	**17 44 00.5**	**+1.0**
	322nm,1.0s						
ECNV	**Catenanuova**	**1.19**	**182**	Pn	**Pn**	**17 44 00.5**	**+1.0**
	322nm,1.0s						
CARO	**Carolei**	**1.23**	**67**	Pn	**Pn**	**17 43 59.3**	**-0.3**
CARO				Sg	**S**	**17 44 29.6**	**-0.7**
	808nm,0.8s						
CARO	**Carolei**	**1.23**	**67**	Pn	**Pn**	**17 43 59.3**	**-0.3**
SOI	**Samo**	**1.24**	**125**	Pn	**Pn**	**17 43 59.3**	**-0.4**
SOI				Sg	**S**	**17 44 29.1**	**-1.5**
	115nm,0.4s						
SOI	**Samo**	**1.24**	**125**	Pn	**Pn**	**17 43 59.3**	**-0.4**
MPAZ	**Palizzi**	**1.29**	**130**	Pn	**Pn**	**17 43 59.8**	**-0.2**
MPAZ				Sg	**S**	**17 44 29.7**	**-1.4**
	181nm,0.2s						
MPAZ	**Palizzi**	**1.29**	**130**	Pn	**Pn**	**17 43 59.8**	**-0.2**
GRI	**Girifalco**	**1.30**	**88**	Pn	**Pn**	**17 44 00.1**	**+0.1**
GRI				Sg	**S**	**17 44 30.8**	**-0.3**
	432nm,0.5s						
GRI	**Girifalco**	**1.30**	**88**	Pn	**Pn**	**17 44 00.1**	**+0.1**
ALJA	**Alia**	**1.31**	**218**	Pn	**Pn**	**17 44 01.1**	**+0.9**
	364nm,0.6s						
ALJA	**Alia**	**1.31**	**218**	Pn	**Pn**	**17 44 01.1**	**+0.9**
	364nm,0.6s						
PLAC	**Placanica**	**1.36**	**104**	Pn	**Pn**	**17 44 00.1**	**-0.3**
PLAC				Sg	**S**	**17 44 30.0**	**-1.9**
	165nm,0.3s						
PLAC	**Placanica**	**1.36**	**104**	Pn	**Pn**	**17 44 00.1**	**-0.3**
BULG	**Bulgheria - Ca**	**1.37**	**20**	⇓*i*Pg	**Pn**	**17 44 01.6**	**+1.2**
	98nm,0.9s						
CUC	**Castrocucco**	**1.45**	**34**	*e*Pn	**Pn**	**17 44 00.9**	**-0.1**
CUC	**Castrocucco**	**1.45**	**34**	Pn	**Pn**	**17 44 01.4**	**+0.4**
	57nm,0.8s						
CUC	**Castrocucco**	**1.45**	**34**	*e*Pn	**Pn**	**17 44 00.9**	**-0.1**
HCRL	**Carlentini**	**1.52**	**172**	Pg	**Pn**	**17 44 01.5**	**-0.1**
	1µm,2.9s						
HCRL	**Carlentini**	**1.52**	**172**	Pg	**Pn**	**17 44 01.5**	**-0.1**
	1µm,2.9s						
SERS	**Sersale**	**1.52**	**80**	Pn	**Pn**	**17 44 01.7**	**+0.2**
	373nm,0.6s						
SERS	**Sersale**	**1.52**	**80**	Pn	**Pn**	**17 44 01.7**	**+0.2**
	373nm,0.6s						
RAFF	**Raffo Rosso**	**1.59**	**191**	Pg	**Pn**	**17 44 02.6**	**+0.5**
RAFF	**Raffo Rosso**	**1.59**	**191**	Pg	**Pn**	**17 44 02.6**	**+0.5**
HVZN	**Vizzini**	**1.61**	**181**	Pg	**Pn**	**17 44 02.2**	**0.0**
	427nm,1.0s						
HVZN	**Vizzini**	**1.61**	**181**	Pg	**Pn**	**17 44 02.2**	**0.0**
	427nm,1.0s						
SSY	**Sortino**	**1.65**	**171**	Pg	**Pn**	**17 44 02.4**	**-0.1**
	191nm,0.9s						
SSY	**Sortino**	**1.65**	**171**	Pg	**Pn**	**17 44 02.4**	**-0.1**
	191nm,0.9s						
SCHR	**S. Chirico Rap**	**1.74**	**35**	Pg	**Pn**	**17 44 04.3**	**+1.3**
	65nm,1.0s						
PIPA	**Pietrapaola**	**1.74**	**66**	⇓*i*Pg	**Pn**	**17 44 03.5**	**+0.4**
	687nm,0.3s						
LADO	**San Nicola del**	**1.80**	**73**	⇓*i*Pg	**Pn**	**17 44 03.5**	**0.0**
	524nm,0.6s						
TAR1	**Taranto**	**2.61**	**48**	*e*Pn	**Pn**	**17 44 08.0**	**-2.7**
VSL	**Villasalto**	**4.24**	**281**	*e*Pn	**Pn**	**17 44 28.3**	**-0.1**
VSL	**Villasalto**	**4.24**	**281**	*e*Pn	**Pn**	**17 44 28.3**	**-0.1**
KEST	**Kesra**	**5.29**	**236**	P	**Pn**	**17 44 41.9**	**+1.1**
	0.2nm,0.3s,baz=0.5,slow=6.8,SNR=19						
KEST	**Kesra**	**5.29**	**236**	P	**Pn**	**17 44 41.9**	**+1.1**
KEST	**Kesra**	**5.29**	**236**	P	**Pn**	**17 44 41.9**	**+1.2**
SJES	**Sjenica**	**5.96**	**40**	⇑*i*P	**Pn**	**17 44 49.0**	**+0.3**
KKB	**Krupnik**	**7.06**	**62**	*e*P	**Pn**	**17 45 03.1**	**+0.8**
MMB	**Musomiste**	**7.41**	**65**	*e*P	**Pn**	**17 45 06.8**	**+0.1**
VTS	**Vitosha**	**7.46**	**57**	⇓*i*P	**Pn**	**17 45 08.0**	**+0.8**
VTS	**Vitosha**	**7.46**	**57**	*e*P	**Pn**	**17 45 07.8**	**+0.6**
LMR	**La Mourre**	**7.71**	**309**	*e*P	**Pn**	**17 45 18.3**	**+8.0**
FRF	**La Foret Royal**	**7.76**	**311**	*e*P	**Pn**	**17 45 17.7**	**+6.8**
FRF	**La Foret Royal**	**7.76**	**311**	*e*P	**Pn**	**17 45 17.7**	**+6.8**
PKSM	**Moragy**	**7.95**	**20**	⇓*i*P	**Pn**	**17 45 13.1**	**-0.2**
MBDF	**Montbardon**	**8.41**	**317**	*e*P	**Pn**	**17 45 23.4**	**+4.3**
	16nm,0.7s						
MBDF	**Montbardon**	**8.41**	**317**	*e*P	**Pn**	**17 45 23.4**	**+4.3**
	8.1nm,0.7s						
SMRF	**Simiane la Rot**	**8.63**	**310**	*e*P	**Pn**	**17 45 28.2**	**+6.4**
SMRF	**Simiane la Rot**	**8.63**	**310**	*e*P	**Pn**	**17 45 28.2**	**+6.4**
FETA	**Feichten**	**8.74**	**342**	⇑*i*Pn	**Pn**	**17 45 26.0**	**+2.9**
	6.8nm,0.7s						
DAVOX	**Davos/Dischmat**	**8.75**	**337**	P	**Pn**	**17 45 25.6**	**+2.3**
	0.9nm,0.3s,baz=155,slow=12,SNR=5.8						
DAVOX	**Davos/Dischmat**	**8.75**	**337**	P	**Pn**	**17 45 25.6**	**+2.3**
LPG	**La Plagne**	**8.96**	**321**	*e*P	**Pn**	**17 45 27.7**	**+1.9**
LPG	**La Plagne**	**8.96**	**321**	*e*P	**Pn**	**17 45 27.7**	**+1.9**
LPL	**La Plagne**	**8.98**	**321**	*e*P	**Pn**	**17 45 28.9**	**+2.8**
	6.4nm,0.4s						
LPL	**La Plagne**	**8.98**	**321**	*e*P	**Pn**	**17 45 28.9**	**+2.8**
	3.2nm,0.4s						
ORIF	**Oris-en-Rattie**	**9.02**	**316**	*e*P	**Pn**	**17 45 32.0**	**+5.4**
	23nm,0.8s						
ORIF	**Oris-en-Rattie**	**9.02**	**316**	*e*P	**Pn**	**17 45 32.0**	**+5.4**
	11nm,0.8s						
MOA	**Mon**	**9.06**	**358**	⇑*i*Pn	**Pn**	**17 45 28.8**	**+1.7**
	2.0nm,0.4s						
VIVF	**Saint-Julien-l**	**9.66**	**312**	*e*P	**Pn**	**17 45 39.9**	**+5.3**
VIVF	**Saint-Julien-l**	**9.66**	**312**	*e*P	**Pn**	**17 45 39.9**	**+5.3**
GERES	**GERESS Array B**	**10.08**	**356**	P	**Pn**	**17 45 38.3**	**-1.5**
	0.1nm,0.3s,baz=173,slow=12,SNR=4.9						
GERES	**GERESS Array B**	**10.08**	**356**	P	**Pn**	**17 45 38.3**	**-1.5**
GERES	**GERESS Array B**	**10.08**	**356**	P	**Pn**	**17 45 38.3**	**-1.5**
CABF	**La Chapelle**	**10.09**	**324**	*e*P	**Pn**	**17 45 38.8**	**-1.1**
	22nm,0.7s						
CABF	**La Chapelle**	**10.09**	**324**	*e*P	**Pn**	**17 45 38.8**	**-1.1**
CABF	**La Chapelle**	**10.09**	**324**	*e*P	**Pn**	**17 45 38.8**	**-1.1**
VOIR		**10.12**	**46**	⇑*i*P	**Pn**	**17 45 41.8**	**+1.5**
VOIR		**10.12**	**46**	⇑*i*P	**Pn**	**17 45 41.8**	**+1.5**
VYHS	**Vyhne**	**10.14**	**16**	*e*PN	**Pn**	**17 45 39.6**	**-0.9**
VYHS	**Vyhne**	**10.14**	**16**	*e*P	**Pn**	**17 45 39.6**	**-0.9**
MLR	**Muntele Rosu**	**10.66**	**48**	P	**Pn**	**17 45 48.0**	**+1.0**
	0.3nm,0.3s,baz=299,slow=4.8,SNR=20						
MLR	**Muntele Rosu**	**10.66**	**48**	P	**Pn**	**17 45 48.0**	**+1.0**
MLR	**Muntele Rosu**	**10.66**	**48**	⇑*i*P	**Pn**	**17 45 49.6**	**+2.6**
MLR	**Muntele Rosu**	**10.66**	**48**	P	**Pn**	**17 45 48.0**	**+1.0**
HINF	**Hinteralfeld**	**10.70**	**330**	*e*P	**Pn**	**17 45 46.0**	**-1.5**
	1.6nm,0.2s						
HINF	**Hinteralfeld**	**10.70**	**330**	*e*P	**Pn**	**17 45 46.0**	**-1.5**
HINF	**Hinteralfeld**	**10.70**	**330**	*e*P	**Pn**	**17 45 46.0**	**-1.5**
CDF	**Champ du Feu**	**11.04**	**333**	*e*P	**Pn**	**17 45 50.7**	**-0.9**
	5.7nm,0.7s						
CDF	**Champ du Feu**	**11.04**	**333**	*e*P	**Pn**	**17 45 50.7**	**-0.9**
CDF	**Champ du Feu**	**11.04**	**333**	*e*P	**Pn**	**17 45 50.7**	**-0.9**
HAU	**Haudompre**	**11.05**	**329**	*e*P	**Pn**	**17 45 50.7**	**-1.1**
	3.7nm,0.4s						
HAU	**Haudompre**	**11.05**	**329**	*e*P	**Pn**	**17 45 50.7**	**-1.1**
HAU	**Haudompre**	**11.05**	**329**	*e*P	**Pn**	**17 45 50.7**	**-1.1**
SMF	**Signal de Mont**	**11.22**	**318**	*e*P	**Pn**	**17 45 52.5**	**-1.5**
	14nm,0.6s						
SMF	**Signal de Mont**	**11.22**	**318**	*e*P	**Pn**	**17 45 52.5**	**-1.5**
	6.8nm,0.6s						
SMF	**Signal de Mont**	**11.22**	**318**	*e*P	**Pn**	**17 45 52.5**	**-1.5**
	6.8nm,0.6s						
PLOR	**Plostina**	**11.27**	**47**	⇑*i*P	**Pn**	**17 45 56.4**	**+1.8**
PLOR	**Plostina**	**11.27**	**47**	⇑*i*P	**Pn**	**17 45 56.4**	**+1.8**
VRI	**Vrincioaia**	**11.33**	**48**	⇑*i*P	**Pn**	**17 45 55.8**	**+0.6**
VRI	**Vrincioaia**	**11.33**	**48**	⇑*i*P	**Pn**	**17 45 55.8**	**+0.6**
AVF	**Avril sur Loir**	**11.57**	**317**	*e*P	**Pn**	**17 45 57.5**	**-0.8**
	24nm,1.0s						
AVF	**Avril sur Loir**	**11.57**	**317**	*e*P	**Pn**	**17 45 57.5**	**-0.8**
	12nm,1.0s						
AVF	**Avril sur Loir**	**11.57**	**317**	*e*P	**Pn**	**17 45 57.5**	**-0.8**
	12nm,1.0s						
LOR	**Lormes**	**11.63**	**320**	*e*P	**Pn**	**17 45 58.7**	**-0.2**
LOR	**Lormes**	**11.63**	**320**	*e*P	**Pn**	**17 45 58.7**	**-0.2**
LOR	**Lormes**	**11.63**	**320**	*e*P	**Pn**	**17 45 58.7**	**-0.2**
BURAR	**Bucovina Array**	**11.65**	**37**	⇑*i*P	**Pn**	**17 46 02.4**	**+3.2**
BUR08	**Bucovina Ar. S**	**11.67**	**37**	*e*P	**Pn**	**17 46 01.7**	**+2.3**
SSF	**Saint Saulge**	**11.67**	**319**	*e*P	**Pn**	**17 46 00.0**	**+0.6**
	11nm,0.6s						
SSF	**Saint Saulge**	**11.67**	**319**	*e*P	**Pn**	**17 46 00.0**	**+0.6**
	5.5nm,0.6s						
SSF	**Saint Saulge**	**11.67**	**319**	*e*P	**Pn**	**17 46 00.0**	**+0.6**
	5.5nm,0.6s						
TIRR	**Tirgusor**	**11.68**	**57**	⇓*i*P	**Pn**	**17 46 03.2**	**+3.6**
BGF	**Bois d'Agland**	**11.70**	**315**	*e*P	**Pn**	**17 46 01.6**	**+1.7**
	20nm,0.7s						
BGF	**Bois d'Agland**	**11.70**	**315**	*e*P	**Pn**	**17 46 01.6**	**+1.7**
	9.9nm,0.7s						
SFTF	**Sexfontaines**	**11.76**	**326**	*e*P	**Pn**	**17 46 01.3**	**+0.8**
SFTF	**Sexfontaines**	**11.76**	**326**	*e*P	**Pn**	**17 46 01.3**	**+0.8**
SFTF	**Sexfontaines**	**11.76**	**326**	*e*P	**Pn**	**17 46 01.3**	**+0.8**
LFF	**La Frestale**	**12.12**	**305**	*e*P	**Pn**	**17 46 08.4**	**+3.4**
LFF	**La Frestale**	**12.12**	**305**	*e*P	**Pn**	**17 46 08.4**	**+3.4**
KWP	**Kalwaria Pacla**	**12.24**	**25**	*e*Pn	**Pn**	**17 46 07.9**	**+1.5**
	13nm,1.1s						
KWP	**Kalwaria Pacla**	**12.24**	**25**	⇑*i*P	**Pn**	**17 46 08.2**	**+1.8**
KWP	**Kalwaria Pacla**	**12.24**	**25**	⇑*i*P	**Pn**	**17 46 08.2**	**+1.8**
ETSF	**Etsaut**	**12.30**	**294**	*e*P	**Pn**	**17 46 09.9**	**+2.6**
	7.5nm,0.5s						
ETSF	**Etsaut**	**12.30**	**294**	*e*P	**Pn**	**17 46 09.9**	**+2.6**
ETSF	**Etsaut**	**12.30**	**294**	*e*P	**Pn**	**17 46 09.9**	**+2.6**
CLL	**Collm**	**12.58**	**355**	*i* (P)	**Pn**	**17 46 11.6**	**+1.1**
SJPF	**Ste Jean**	**12.83**	**295**	*e*P	**Pn**	**17 46 16.4**	**+2.7**
	9.8nm,0.6s						
SJPF	**Ste Jean**	**12.83**	**295**	*e*P	**Pn**	**17 46 16.4**	**+2.7**
MFF	**Saint Martin d**	**13.45**	**310**	*e*P	**Pn**	**17 46 21.3**	**+0.2**
MFF	**Saint Martin d**	**13.45**	**310**	*e*P	**Pn**	**17 46 21.3**	**+0.2**
MFF	**Saint Martin d**	**13.45**	**310**	*e*P	**Pn**	**17 46 21.3**	**+0.2**
LDF	**La Druitiere**	**14.53**	**317**	*e*P	**Pn**	**17 46 32.0**	**-2.2**
	10nm,0.5s						
**LDF

baz=212
TTN Taitung 0.68 212 *e*P **Pb 18 02 57.5 -0.4**
baz=204
TTN *e*S **Sb 18 03 07.4 +0.5**
baz=204
STYT Tauyuan 0.74 257⇑*i*P **Pb 18 02 58.4 -0.5**
baz=248
STYT S **Sb 18 03 08.0 -0.7**
baz=248
TWD Chiawan 0.75 4 P **Pb 18 02 58.4 -0.8**
baz=1.0
SMLT Sun Moon Lake 0.80 313 *i* P **Pb 18 02 59.9 -0.1**
baz=317
SMLT S **Sb 18 03 10.2 -0.4**
baz=317
CHN5 Tsauling 0.83 289 P **Pb 18 03 00.7 +0.1**
baz=288
CHN5 S **Sb 18 03 11.8 +0.4**
baz=288
TYC Yuchr 0.85 313⇓*i*P **Pn 18 03 00.5 -0.3**
baz=322
TYC S **Sb 18 03 10.8 -1.0**
baz=322
WHF Hehuan Shan 0.85 343 P **Pn 18 02 59.9 -0.9**
baz=354
WHF *e*S **Sb 18 03 10.7 -1.2**
baz=354
WTP Ta-pu 0.85 265⇑*i*P **Pn 18 03 00.7 -0.2**
baz=261
WTP *e*S **Sb 18 03 11.5 -0.5**
baz=261
CHN4 Tsaushan 0.87 272 P **Pn 18 03 01.1 +0.1**
baz=269
CHN4 *e*S **Sb 18 03 12.7 +0.2**
baz=269
ECL Taimali 0.91 217 *e*P **Pn 18 02 59.4 -2.2**
baz=202
ECL *e*S **Sb 18 03 10.2 -3.3**
baz=202
SGST Jiashian 0.91 254 P **Pn 18 03 01.7 +0.1**
baz=250
SGST *e*S **Sb 18 03 13.6 0.0**
baz=250
CHN1 Nanshi 0.94 261 *i* P **Pn 18 03 02.3 +0.3**
baz=258
CHN1 S **Sb 18 03 15.1 +0.6**
baz=258
WNT Mingjian 0.95 305 *e*S **Sb 18 03 15.3 +0.4**
baz=305
WGK Gukeng 0.96 292 *e*P **Pn 18 03 02.4 0.0**
baz=291
WGK *e*S **Sb 18 03 16.1 +0.9**
baz=291
TWT Tachien 0.98 340 *e*P **Pn 18 03 02.2 -0.3**
baz=342
TWT *e*S **Sn 18 03 14.4 -1.1**
baz=342
SSD Sandimen 1.02 235 P **Pn 18 03 03.1 0.0**
baz=230
SSD *e*S **Sn 18 03 16.0 -0.4**
baz=230
CHN3 Shinhua 1.11 257 *e*S **Sn 18 03 22.1 +3.3**
baz=253
ENA Nanau 1.11 10 *e*P **Pn 18 03 03.3 -1.0**
baz=2.0
ENA *e*S **Sn 18 03 18.1 -0.7**
baz=2.0
NNS Nan Shan 1.11 352 *e*P **Pn 18 03 04.1 -0.4**
baz=5.0
NNS *e*S **Sn 18 03 17.8 -1.2**
baz=5.0
EAST Anshuo 1.14 214 *e*P **Pn 18 03 03.2 -1.6**
baz=201
SGLT Jiouru 1.14 238 *e*P **Pn 18 03 06.7 +1.9**
baz=233
TWM1 Shoushan 1.14 244 *e*P **Pn 18 03 06.4 +1.5**
baz=239
CHN8 Yiju 1.22 271 *e*S **Sn 18 03 22.4 +0.9**
baz=268
TWQ1 Liyutan 1.23 325 P **Pn 18 03 07.3 +1.2**
baz=327
TWQ1 S **Sn 18 03 23.4 +1.7**
baz=327
SCZT Fangliau 1.27 222 *e*P **Pn 18 03 07.6 +0.9**
baz=205
LAY Lan-yu 1.28 179 P **Pn 18 03 05.5 -1.3**
baz=174
LAY *e*S **Sn 18 03 21.3 -1.8**
baz=174
NSY Sanyi 1.29 327 *e*P **Pn 18 03 09.0 +2.1**
baz=328
NSY S **Sn 18 03 25.7 +2.4**
baz=328
ENTT Nioudou 1.30 1 *e*P **Pn 18 03 06.8 -0.3**
baz=4.0
ENTT *e*S **Sn 18 03 22.0 -1.6**
baz=4.0
TWC Suao 1.30 13 *e*P **Pn 18 03 07.0 -0.1**
baz=4.0
TWC *e*S **Sn 18 03 22.2 -1.4**
baz=4.0
NSK Sanguang 1.35 353 *e*P **Pn 18 03 07.6 -0.1**
baz=7.0
NSK *e*S **Sn 18 03 23.6 -1.1**
baz=7.0
NSTT Nanjuang 1.39 339 *e*P **Pn 18 03 09.5 +1.3**
baz=341
NSTT *e*S **Sn 18 03 25.1 -0.4**
baz=341
TWE Neicheng 1.39 5 *e*P **Pn 18 03 10.1 +1.9**
baz=9.0
TWK1 Hengchun 1.54 206 *e*P **Pn 18 03 10.1 -0.2**
baz=199
TWK1 *e*S **Sn 18 03 29.6 +0.3**
baz=199
TSEB Hengchuen, Pin 1.54 203 *e*P **Pn 18 03 11.2 +0.9**
baz=200
TSEB *e*S **Sn 18 03 30.0 +0.6**
baz=200
YOJ Yonaguni jima 1.76 50 P **Pn 18 03 14.0 +0.7**
YOJ S **Sn 18 03 34.8 0.0**
HATJ Hateruma jima 2.20 70 S **Sn 18 03 45.1 -0.6**
IRIF Iriomote-Funau 2.24 63 P **Pn 18 03 21.1 +1.1**
IRIF S **Sn 18 03 47.6 +0.8**
JKRS Kuro-shima 2.44 68 P **Pn 18 03 23.5 +0.8**
JKRS S **Sn 18 03 52.4 +0.8**
JIJ Ishigaki jima 2.60 66 P **Pn 18 03 25.9 +1.0**
JIJ S **Sn 18 03 54.6 -0.9**
JTJ Tarama 3.17 65 P **Pn 18 03 33.6 +0.8**
JTJ *e*S **Sn 18 04 09.6 -0.2**

IDC 05 18:07:59.5±3.0, 5.40S×107.82E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/20, mbtmp3.7/4, Error ellipse: s-maj=186.1km s-min=23.7km az=52.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.51**	**127**	P	P	18 12 54.3	+4.1
	0.8nm,0.7s,baz=313,slow=10,SNR=2.7						
WRA	**Warramunga Arr**	**29.57**	**122**	P	P	18 14 07.2	+0.9
	0.2nm,0.3s,baz=298,slow=10,SNR=11						
ASAR	**Alice Springs**	**31.00**	**128**	P	P	18 14 19.1	+0.2
	0.4nm,0.4s,baz=303,slow=8.0,SNR=15						
STKA	**Stephens Creek**	**41.13**	**134**	P	P	18 15 44.4	-1.2
	1.2nm,0.5s,baz=305,slow=12,SNR=4.9						
MKAR	**Makanchi Array**	**56.67**	**339**	P	P	18 17 44.7	+0.1
	0.7nm,0.5s,baz=148,slow=8.1,SNR=12						

IDC 05 18:24:04.5±2.0, 2.71N×128.41E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.5/4, Error ellipse: s-maj=134.8km s-min=25.4km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.25**	**166**	P	P	18 29 14.6	+0.9
	0.5nm,0.3s,baz=345,slow=11,SNR=19						
ASAR	**Alice Springs**	**26.76**	**169**	P	P	18 29 45.9	-0.2
	0.3nm,0.6s,baz=358,slow=7.7,SNR=5.7						
STKA	**Stephens Creek**	**36.60**	**161**	P	P	18 31 11.8	-0.8
	0.6nm,0.5s,baz=341,slow=8.1,SNR=6.9						
MKAR	**Makanchi Array**	**59.35**	**325**	P	P	18 34 08.8	+0.3
	0.1nm,0.4s,baz=118,slow=7.4,SNR=4.2						

*IDC **05** 18:32:15.7±1.7, 5.41N×82.24W, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.9/23, mbtmp3.9/7, ML3.5/1, MS3.8/13, Ms1 3.8/13, ms1mx3.6/26, Error ellipse: s-maj=47.0km s-min=33.7km az=8.0*
*ISCJB **05** 18:32:18.6±0.9, 6.09N±0.09×82.32W±0.07, h10km, mb4.0/10, MS3.9/9, Error ellipse: s-maj=13.5km s-min=9.1km az=19.5*
*CASC **05** 18:32:19.4±2.5, 6.05N×82.64W, h20km±88km, mb4.4(NEIC)*
*NEIC **05** 18:32:20.0±6.7, 5.61N×82.25W, h25km±44km, mb4.4/8, Error ellipse: s-maj=31.8km s-min=13.5km az=194.0*
ISC 05 18:32:21.1±0.9, 6.16N±0.10×82.31W±0.07, h10km, n45, σ1§29/34, mb4.0/10, MS3.9/9, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**2.64**	**352**	*e*P	**Pn**	**18 33 02.1**	**-1.7**
BRU2				*e*S	**Sn**	**18 33 37.1**	**+1.1**
BCIP	**Isla Barro Col**	**3.86**	**39**	*e*Pn	**Pn**	**18 33 20.9**	**+0.2**
URSC	**Urasca**	**3.93**	**338**	*e*P	**Pn**	**18 33 19.9**	**-1.6**
UPIG		**3.94**	**44**	*e*P	**Pn**	**18 33 23.2**	**+1.5**
UPIG				*e*S	**Sn**	**18 33 41.2**	**+4.9**
CGA2	**Cerro Gallo 2**	**4.38**	**331**	*e*P	**Pn**	**18 33 25.2**	**-2.6**
CGA2				*e*S	**Sn**	**18 34 14.8**	**-4.1**
JTS	**JuntasAbangare**	**4.86**	**328**	*e*Pn	**Pn**	**18 33 31.4**	**-3.0**
	68nm,0.8s						
ROSC	**El Rosal**	**8.05**	**99**	LR	LR	18 37 30.8	
	comp=Z,91nm,18.7s,baz=356,slow=40						
SDV	**Santo Domingo**	**11.89**	**76**	*e*Pn	**Pn**	**18 35 10.1**	**-0.8**
	39nm,1.4s						
TEIG	**Tepich**	**15.13**	**338**	LR	LR	18 41 23.1	
	comp=Z,414nm,19.8s,baz=125,slow=34						
CMIG	**Matias Romero**	**16.40**	**313**	Pn	**Pn**	**18 36 14.7**	**+3.0**
	0.2nm,0.3s,baz=112,slow=10,SNR=3.6						
CMIG				LR	LR	18 41 46.6	
	comp=Z,365nm,18.6s,baz=304,slow=34						
CMIG	**Matias Romero**	**16.40**	**313**	Pn	**Pn**	**18 36 14.7**	**+3.0**
CMIG				LR	LR	18 41 46.6	
SDDR	**Presa de Saban**	**16.66**	**39**	*e*Pn	**Pn**	**18 36 10.7**	**-4.2**
	30nm,1.1s						
LRS	**Lares**	**19.31**	**50**	*e*P	**Pn**	**18 36 48.8**	**+1.1**
SJG	**San Juan**	**19.74**	**52**	P	**Pn**	**18 36 52.8**	**0.0**
	7.9nm,0.3s,baz=262,slow=7.1,SNR=6.3						
SJG				LR	LR	18 45 01.9	
	comp=Z,174nm,18.9s,baz=268,slow=38						
SJG	**San Juan**	**19.74**	**52**	P	**Pn**	**18 36 52.8**	**0.0**
SJG				LR	LR	18 45 01.9	
CBYP	**Canovanas**	**20.06**	**52**	*e*P	**P**	**18 36 54.9**	**+0.1**
	19nm,1.1s						
MTP	**Monte Pirata**	**20.20**	**53**	*e*P	**P**	**18 36 55.5**	**-0.8**
	38nm,1.3s						
TKL	**Tuckaleechee C**	**29.38**	**358**	LR	LR	18 50 49.5	
	comp=Z,93nm,18.4s,MS3.4,baz=56,slow=37						
TXAR	**Lajitas Array**	**30.62**	**321**	LR	LR	18 51 24.3	
	comp=Z,124nm,20.0s,MS3.6,baz=195,slow=37						
CCM	**Cathedral Cave**	**32.77**	**347**	*e*P	**P**	**18 38 53.9**	**-0.5**
	22nm,1.3s,mb4.9						
SDCO	**Great Sand Dun**	**37.86**	**329**	*e*P	**P**	**18 39 39.4**	**+1.2**
	9.2nm,1.3s,mb4.3						
CPUP	**Villa Florida**	**40.38**	**144**	LR	LR	18 58 11.9	
	comp=Z,120nm,18.9s,MS3.8,baz=317,slow=39						
PDAR	**Pinedale Array**	**43.69**	**331**	P	**P**	**18 40 30.1**	**+3.8**
	1.7nm,1.0s,mb3.7,baz=134,slow=6.4,SNR=5.0						
PDAR				LR	LR	19 00 22.3	
	comp=Z,125nm,18.4s,MS3.9,baz=294,slow=38						
PDAR	**Pinedale Array**	**43.69**	**331**	P	**P**	**18 40 30.1**	**+3.8**
PDAR				LR	LR	19 00 22.3	
HWUT	**Hardware Ranch**	**43.85**	**328**	*e*P	**P**	**18 40 28.8**	**+1.2**
	4.1nm,0.9s,mb4.2						
NVAR	**Mina Array Bea**	**45.74**	**320**	P	**P**	**18 40 44.1**	**+1.3**
	0.2nm,0.3s,mb3.5,baz=146,slow=9.8,SNR=3.1						
NVAR				LR	LR	19 04 32.0	
	comp=Z,129nm,19.4s,MS3.9,baz=127,slow=42						
NVAR	**Mina Array Bea**	**45.74**	**320**	P	**P**	**18 40 44.1**	**+1.3**
NVAR				LR	LR	19 04 32.0	
QLMT	**Earthquake Lak**	**46.13**	**331**	*e*P	**P**	**18 40 46.9**	**+1.2**
	0.3nm,0.4s,mb3.6						
BOZ	**Bozeman (W)**	**46.83**	**332**	*e*P	**P**	**18 40 50.5**	**-0.7**
	8.5nm,1.2s,mb4.5						
DAWY	**Dawson**	**70.52**	**337**	*e*P	**P**	**18 43 36.7**	**+0.8**
INK	**Inuvik**	**70.69**	**342**	P	**P**	**18 43 36.8**	**-0.1**
	3.4nm,1.1s,mb4.2,baz=122,slow=6.2,SNR=6.1						
INK	**Inuvik**	**70.69**	**342**	P	**P**	**18 43 36.8**	**-0.1**
ILAR	**Eielson Array**	**73.78**	**336**	P	**P**	**18 43 54.6**	**-0.8**
	2.2nm,1.2s,mb4.0,baz=120,slow=4.5,SNR=4.3						
ILAR	**Eielson Array**	**73.78**	**336**	P	**P**	**18 43 54.6**	**-0.8**
ESDC	**Sonseca Array**	**77.13**	**51**	P	**P**	**18 44 13.6**	**-1.6**
	0.2nm,0.5s,mb3.3,baz=280,slow=7.4,SNR=2.4						
ESDC				LR	LR	19 11 39.6	
	comp=Z,93nm,21.3s,MS4.1,baz=20,slow=30						
ESDC	**Sonseca Array**	**77.13**	**51**	P	**P**	**18 44 13.6**	**-1.6**
ESDC				LR	LR	19 11 39.6	
TORD	**Torodi Ar. Bea**	**82.81**	**78**	LR	LR	19 18 10.2	
	comp=Z,62nm,19.1s,MS4.0,baz=50,slow=33						
GERES	**GERESS Array B**	**89.36**	**41**	LR	LR	19 20 35.8	
	comp=Z,136nm,18.3s,MS4.4,baz=311,slow=32						
FINES	**FINESS Array B**	**93.28**	**27**	LR	LR	19 27 12.8	
	comp=Z,127nm,19.0s,MS4.4,baz=297,slow=35						
ASAR	**Alice Springs**	**141.09**	**240**	PKP	PKPdf	18 51 47.9	-4.8
	0.2nm,0.7s,baz=125,slow=1.8,SNR=4.2						
ASAR	**Alice Springs**	**141.09**	**240**	PKP	PKPdf	18 51 47.9	-4.8
WRA	**Warramunga Arr**	**141.87**	**245**	PKP	PKPdf	18 51 49.1	-5.1
	0.3nm,0.6s,baz=90,slow=2.1,SNR=7.2						
WRA	**Warramunga Arr**	**141.87**	**245**	PKP	PKPdf	18 51 49.1	-5.1
FITZ	**Fitzroy Crossi**	**150.26**	**244**	PKPbc	PKPbc	18 52 09.5	-4.0
	1.7nm,0.8s,baz=117,slow=6.8,SNR=4.1						
FITZ	**Fitzroy Crossi**	**150.26**	**244**	PKPbc	PKPbc	18 52 09.5	-4.0

*ISCJB **05** 18:56:29.8±0.8, 18.50S±0.08×178.19W±0.05, h590km±9km, mb4.5/63, Error ellipse: s-maj=12.6km s-min=5.0km az=158.5*
*NEIC **05** 18:56:30.2±0.8, 18.48S×178.11W, h587km±8km, mb4.5/25, Error ellipse: s-maj=13.8km s-min=7.7km az=145.0*
*BJI **05** 18:56:30.2, 18.40S×178.10W, h584km, mB4.9/19, mb4.5/30*
*BGS **05** 18:56:30.4±2.3, 18.48S×178.11W, h587km, mb4.5(NEIC)*
*IDC **05** 18:56:32.6±2.0, 18.57S×178.09W, h618km±22km, mb3.8/17, mb1 4.0/17, mb1mx4.0/21, mbtmp3.8/17, Error ellipse: s-maj=20.0km s-min=10.0km az=149.0*
*DJA **05** 18:56:43, 19.22S×179.52W, h650km, mb4.8/15*
ISC 05 18:56:30.5±0.8, 18.46S±0.08×178.16W±0.05, h583km±9km, n387, σ0§57/266, mb4.5/63, 96C-93D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.67**	**281**	*e*P	**P**	**18 57 52.1**	**-0.4**
FUNA	**Funafuti**	**10.21**	**345**	*e*P	**P**	**18 58 51.1**	**0.0**
DZM	**Mont Dzumac**	**14.88**	**253**	*e*P	**P**	**18 59 36.7**	**-1.6**
	20nm,1.0s						
CNB	**Canberra Magne**	**33.28**	**233**	*e*P	**P**	**19 02 21.7**	**+0.8**
CTA	**Charters Tower**	**33.59**	**261**	P	**P**	**19 02 24.2**	**+0.4**
	14nm,0.8s,mb4.7,baz=94,slow=10,SNR=12						
CTA	**Charters Tower**	**33.59**	**261**	*e*P	**P**	**19 02 24.3**	**+0.6**
	6.5nm,0.6s,mb4.4						
CTA	**Charters Tower**	**33.59**	**261**	P	**P**	**19 02 24.2**	**+0.4**
CTAO	**Charters Tower**	**33.59**	**261**	*e*P	**P**	**19 02 24.2**	**+0.5**
	13nm,0.8s,mb4.6						
PMG	**Port Moresby**	**34.78**	**280**	P	**P**	**19 02 34.6**	**+0.8**
	41nm,0.9s,mb5.0,baz=76,slow=5.7,SNR=15						
PMG	**Port Moresby**	**34.78**	**280**	P	**P**	**19 02 34.6**	**+0.8**
TOO	**Toolangi**	**37.01**	**231**	*e*P	**P**	**19 02 52.5**	**+0.8**
COEN	**Coen**	**37.35**	**271**	*e*P	**P**	**19 02 55.9**	**+1.1**
	20nm,0.3s,mb5.1						
STKA	**Stephens Creek**	**38.57**	**242**	P	**P**	**19 03 05.2**	**+0.6**
	9.2nm,0.6s,mb4.5,baz=86,slow=9.6,SNR=34						
STKA				PcP	PcP	19 05 00.1	-1.7
	2.2nm,0.7s,baz=60,slow=5.6,SNR=3.4						
STKA	**Stephens Creek**	**38.57**	**242**	*e*P	**P**	**19 03 05.1**	**+0.5**
	10nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**38.57**	**242**	*e*P	**P**	**19 03 05.3**	**+0.7**
WRAB	**Tennant Creek**	**44.76**	**260**	*e*P	**P**	**19 03 52.7**	**-0.7**
	8.1nm,0.4s,mb4.6						
WRA	**Warramunga Arr**	**44.77**	**260**	P	**P**	**19 03 53.2**	**-0.2**
	8.6nm,0.5s,mb4.5,baz=97,slow=6.9,SNR=210						
WRA				PcP	PcP	19 05 21.6	-1.2
	5.2nm,0.8s,baz=90,slow=3.7,SNR=11						
WRA				S	**S**	**19 09 47.1**	**-1.8**
	1.5nm,0.8s,baz=96,slow=13,SNR=5.6						
WRA	**Warramunga Arr**	**44.77**	**260**	P	**P**	**19 03 53.2**	**-0.2**
WRA				PcP	PcP	19 05 21.6	-1.2
WRA				S	**S**	**19 09 47.1**	**-1.8**
ASAR	**Alice Springs**	**44.87**	**255**	P	**P**	**19 03 54.2**	**+0.1**
	27nm,0.7s,mb4.9,baz=89,slow=8.5,SNR=429						
ASAR				PcP	PcP	19 05 22.6	-0.6
	4.0nm,0.6s,baz=101,slow=3.8,SNR=10						
ASAR				S	**S**	**19 09 50.2**	**-0.1**
	8.2nm,1.1s,baz=88,slow=15,SNR=24						
ASAR	**Alice Springs**	**44.87**	**255**	P	**P**	**19 03 54.2**	**+0.1**
ASAR				PcP	PcP	19 05 22.6	-0.6
ASAR				S	**S**	**19 09 50.2**	**-0.1**
KAKA	**Kakadu**	**47.81**	**269**⇓*i*P		**P**	**19 04 16.2**	**-0.3**
	15nm,0.3s,mb5.0						
KAKA	**Kakadu**	**47.81**	**269**	*e*P	**P**	**19 04 16.0**	**-0.5**
	42nm,0.4s,mb5.3						
FORT	**Forrest**	**49.98**	**245**	*e*P	**P**	**19 04 31.7**	**-0.6**
	9.3nm,0.5s,mb4.5						
BNDI	**Bandanaira**	**52.55**	**279**	P	**P**	**19 04 51.3**	**+0.3**
	41nm,1.6s,mb4.5						
SWI	**Sorong**	**52.60**	**284**	P	**P**	**19 04 51.7**	**+0.3**
	856nm192nm,0.9s,mb5.2						
FITZ	**Fitzroy Crossi**	**53.17**	**261**	P	**P**	**19 04 55.3**	**-0.1**
	4.8nm,0.6s,mb4.0,baz=123,slow=6.0,SNR=41						
FITZ	**Fitzroy Crossi**	**53.17**	**261**	*e*P	**P**	**19 04 55.6**	**+0.2**
	8.9nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**53.17**	**261**	*e*P	**P**	**19 04 55.5**	**+0.1**
	3.9nm,0.6s,mb3.9						
AAI	**Ambon**	**54.44**	**279**	P	**P**	**19 05 04.0**	**-0.4**
	527nm25nm,0.5s,mb4.8						
NLAI	**Namlea**	**55.61**	**279**	P	**P**	**19 05 12.7**	**+0.1**
	450nm29nm,0.9s,mb4.5						
TNTI	**Ternate**	**56.82**	**284**	P	**P**	**19 05 21.1**	**+0.3**
	722nm71nm,0.9s,mb4.9						
MBWA	**Marble Bar**	**58.17**	**256**	*e*P	**P**	**19 05 29.1**	**-0.8**
MMRI	**Maumere**	**58.54**	**271**	P	**P**	**19 05 32.4**	**-0.1**
	5µm155nm,0.7s,mb5.2						
KLBR	**Kellerberrin**	**58.80**	**244**	*e*P	**P**	**19 05 33.5**	**-0.4**
	13nm,0.6s,mb4.2						
SBA	**Scott Base**	**59.88**	**184**	*e*P	**P**	**19 05 41.2**	**+0.8**
LUWI	**Luwuk**	**60.43**	**280**	P	**P**	**19 05 45.9**	**+0.8**
	439nm41nm,1.1s,mb4.6						
BNSI	**Bone**	**61.82**	**275**	P	**P**	**19 05 53.6**	**-0.6**
	17nm,1.0s,mb4.2						
SPSI	**Sidrap Palu**	**62.28**	**275**	P	**P**	**19 05 55.6**	**-1.5**
	10nm,0.8s,mb4.1						
BBKI	**Banjar Baru**	**67.10**	**274**	P	**P**	**19 06 28.0**	**+0.5**
	26nm,1.0s,mb4.6						
MJAR	**Matsushiro Arr**	**68.49**	**323**	P	**P**	**19 06 35.1**	**-0.3**
	10nm,0.7s,mb4.4,baz=166,slow=6.6,SNR=33						
MJAR	**Matsushiro Arr**	**68.49**	**323**	P	**P**	**19 06 35.1**	**-0.3**
MAT	**Matsushiro**	**68.49**	**323**	P	**P**	**19 06 35.1**	**-0.3**
STKI	**Sintang**	**71.42**	**276**	P	**P**	**19 06 54.5**	**+1.2**
	1µm19nm,1.1s,mb4.5						
SBUM	**Sibu**	**71.52**	**279**	P	**P**	**19 06 54.6**	**+0.7**
	12nm,0.9s,mb4.5						
QSPA	**South Pole Qui**	**71.59**	**180**	*e*P	**P**	**19 06 52.5**	**-0.5**
	12nm,1.3s,mb4.2						
YULB	**Yu-li**	**72.26**	**303**	*e*P	**P**	**19 06 57.2**	**-0.7**
	21nm,1.2s,mb4.5						
TPUB	**Ta-pu**	**72.75**	**302**	*e*P	**P**	**19 06 59.8**	**-0.9**
	44nm,0.6s,mb5.2						
KSM	**Kuching**	**72.99**	**277**	P	**P**	**19 07 03.0**	**+0.7**
	36nm,1.0s,mb4.9						
PETK	**Petropavlovsk-**	**74.27**	**345**	P	**P**	**19 07 08.5**	**-0.2**
	14nm,0.6s,mb4.7,baz=119,slow=8.0,SNR=17						
PETK	**Petropavlovsk-**	**74.27**	**345**	P	**P**	**19 07 08.5**	**-0.2**
CGJI	**Cibinong**	**74.82**	**268**	P	**P**	**19 07 12.0**	**-0.7**
KSRS	**Korea Array**	**75.27**	**318**	P	**P**	**19 07 15.7**	**+1.0**
	2.4nm,0.7s,mb3.8,baz=128,slow=6.3,SNR=9.0						
EDW2	**Edwards Air Fo**	**77.94**	**47**	⇑P	**P**	**19 07 29.1**	**-0.2**
	baz=78						
MONP	**Monument Peak**	**78.00**	**49**	⇑P	**P**	**19 07 29.9**	**+0.3**
	baz=78						
ISA	**Isabella**	**78.03**	**46**	⇓P	**P**	**19 07 29.9**	**+0.2**
	baz=78						
CMB	**Columbia Colle**	**78.08**	**43**	*e*P	**P**	**19 07 29.4**	**-0.5**
	2.6nm,0.8s,mb3.7						
DVTC	**Desert V Tower**	**78.11**	**50**	⇑P	**P**	**19 07 30.2**	**-0.1**
	baz=78						
MDJ	**Mudanjiang**	**78.77**	**325**	P	**P**	**19 07 34.5**	**+1.0**
MDJ				pP	pP	19 09 36.2	+0.2
MDJ				sP	sP	19 10 35.8	+0.5
MDJ				S	S	19 16 47.3	+3.2
MDJ				ScS	ScS	19 17 03.6	+1.7
MDJ				sS	sS	19 20 26.0	+3.6
MDJ				SS	SS	19 22 08.5	+2.1
MDJ				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.5						
MDJ				pmax	pmax		
	comp=Z,100nm,4.1s						
MDJ	**Mudanjiang**	**78.77**	**325**	*e*P	**P**	**19 07 34.6**	**+1.2**
	comp=Z,22nm,1.0s,mb4.4						
BELC	**Belle Mtn. Jos**	**78.87**	**48**	⇓P	**P**	**19 07 34.3**	**+0.1**
	baz=79						
MPMC	**Manual Prospec**	**78.92**	**46**	⇑P	**P**	**19 07 34.8**	**+0.4**
	baz=79						
HEC	**Hector,Ludlow**	**79.07**	**48**	⇑P	**P**	**19 07 35.1**	**-0.2**
	baz=79						
BC3	**Big Chuckawall**	**79.08**	**49**	⇓P	**P**	**19 07 35.5**	**+0.1**
	baz=79						
WCN	**Washoe City**	**79.21**	**42**	⇑P	**P**	**19 07 36.2**	**+0.3**
	baz=79						
GRAC	**Grapevine Rang**	**79.50**	**45**	⇓P	**P**	**19 07 37.5**	**0.0**
	baz=80						
GMRC	**Granite Mounta**	**79.51**	**48**	⇓P	**P**	**19 07 37.8**	**+0.2**
	baz=80						
NVAR	**Mina Array Bea**	**79.66**	**44**	P	**P**	**19 07 38.1**	**-0.2**
	comp=Z,4.4nm,0.7s,mb3.9,baz=224,slow=8.9,SNR=37						
NVAR	**Mina Array Bea**	**79.66**	**44**	P	**P**	**19 07 38.1**	**-0.2**
113A	**Mohawk Valley,**	**79.86**	**51**	⇓P	**P**	**19 07 39.4**	**0.0**
	baz=80						
Z13A	**Yuma Proving G**	**80.15**	**50**	⇑P	**P**	**19 07 41.0**	**0.0**
	baz=80						
214A	**Organ Pipe Nat**	**80.17**	**52**	⇑P	**P**	**19 07 41.2**	**+0.1**
	baz=80						
MOD	**Modoc**	**80.36**	**40**	*e*P	**P**	**19 07 41.6**	**-0.2**
	comp=Z,3.0nm,0.6s,mb3.8						
K05A	**Summer Lake**	**80.48**	**39**	⇑P	**P**	**19 07 42.7**	**+0.3**
	baz=81						
114A	**Black Gap (USA**	**80.50**	**51**	⇑P	**P**	**19 07 42.9**	**+0.1**
	baz=81						
CN2	**Changchun**	**80.60**	**322**	*e*P	**P**	**19 07 43.4**	**+0.3**
CN2				eS	S	19 17 02.7	-0.1
CN2				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.5						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
Z14A	**Wintersburg**	**80.75**	**50**	⇓P	**P**	**19 07 44.2**	**+0.1**
	baz=81						
H04A	**Detroit Lake**	**80.89**	**37**	⇑P	**P**	**19 07 44.4**	**-0.2**
	baz=81						
115A	**Sonoran Desert**	**80.96**	**51**	⇓P	**P**	**19 07 44.9**	**-0.3**
	baz=81						
116A	**Eloy**	**81.28**	**52**	⇓P	**P**	**19 07 47.2**	**+0.3**
	baz=81						
R11A	**Troy Canyon, C**	**81.42**	**45**	⇓P	**P**	**19 07 47.0**	**-0.4**
	baz=82						
Y15A	**Casa Rosa Ranc**	**81.48**	**50**	⇓P	**P**	**19 07 48.0**	**+0.2**
	baz=82						
U13A	**Pakoon Wash**	**81.53**	**47**	⇓P	**P**	**19 07 48.2**	**+0.2**
	baz=82,SNR=5.3						
217A	**Green Valley**	**81.58**	**53**	⇓P	**P**	**19 07 48.6**	**+0.2**
	baz=82						
WVOR	**Wild Horse Val**	**81.68**	**40**	*e*P	**P**	**19 07 48.4**	**-0.2**
	comp=Z,8.7nm,1.0s,mb4.2						
V14A	**Boquillas Ranc**	**81.75**	**48**	⇓P	**P**	**19 07 49.5**	**+0.3**
	baz=82,SNR=6.8			

baz=83
118A Homack Ranch, 82.61 52 ⇑P P 19 07 53.9 +0.3
baz=83
U15A North Rim 82.71 48 ⇓P P 19 07 54.3 +0.3
baz=83,SNR=10
IPM Ipoh 82.72 277 *e*P P 19 07 55.0 +0.4
comp=Z,24nm,0.9s,mb4.7
T15A Red Dirt Ranch 82.94 47 ⇑P P 19 07 55.4 +0.3
baz=83,SNR=6.1
Y18A Canyon Day Jun 83.09 51 ⇓P P 19 07 56.3 +0.4
baz=83
G08A Pilot Rock 83.10 38 ⇑P P 19 07 55.2 -0.5
baz=83,SNR=6.3
119A Ashpeak Ranch, 83.17 52 ⇓P P 19 07 56.5 +0.2
baz=83
Q14A Sevier Lake (B 83.30 45 ⇓P P 19 07 56.8 -0.1
baz=83,SNR=11
E07A Sunnyside 83.32 36 ⇑P P 19 07 57.0 +0.2
baz=84
220A Playas Peak, P 83.37 53 ⇑P P 19 07 57.6 +0.2
baz=84
V17A Tonalea, Kykot 83.39 49 ⇑P P 19 07 57.9 +0.5
baz=84
U16A Tuba City 83.40 49 ⇓P P 19 07 58.5 +1.1
baz=84
MAW Mawson 83.42 200 P P 19 07 55.6 -1.4
comp=Z,0.9nm,0.5s,mb3.6,baz=129,slow=10,SNR=4.2
MAW Mawson 83.42 200 *e*P P 19 07 56.1 -0.9
X18A Snowflake 83.50 50 ⇑P P 19 07 58.2 +0.3
baz=84
BMRM Bremner River 83.62 16 *e*P P 19 07 57.1 -0.8
comp=Z,25nm,1.3s,mb4.6
ETW Entiat 83.67 35 *e*P P 19 07 57.9 -0.6
comp=Z,5.4nm,0.6s,mb4.2
E08A Dider Farm, El 83.73 37 ⇓P P 19 07 58.6 -0.2
baz=84
Y19A Nutrioso 83.75 51 ⇑P P 19 07 59.7 +0.5
baz=84
MSU Marysvale 83.81 46 *e*P P 19 07 59.7 +0.3
comp=Z,2.6nm,1.0s,mb3.7
Z20A Nine Sixteen R 83.86 52 ⇑P P 19 08 00.1 +0.3
baz=84
Q15A Fillmore 83.91 46 ⇑P P 19 07 59.9 0.0
baz=84
MFID Camas Ranch 83.94 40 ⇓P P 19 07 60.0 +0.1
baz=84
D08A Wollman Farm, 84.13 36 ⇓P P 19 08 00.4 -0.3
baz=84
PSI Prapat 84.16 275 P P 19 08 00.2 -1.6
comp=Z,9.3nm,0.8s,mb4.3,baz=104,slow=2.6,SNR=9.2
PSI Prapat 84.16 275 P P 19 08 00.2 -1.6
E09A Wood Farm, Sta 84.26 37 ⇑P P 19 08 01.0 -0.4
baz=84
S17A Black Ridge (B 84.34 47 ⇓P P 19 08 01.9 -0.2
baz=84
BJI Beijing 84.34 315 P P 19 08 01.6 -0.4
BJI pmax pmax
comp=Z,12nm,1.2s,mb4.3
BJI pmax pmax
comp=Z,120nm,4.1s
F10A Beach Ranch, E 84.49 38 ⇑P P 19 08 01.9 -0.7
baz=85,SNR=7.7
TRF Thorofare Moun 84.50 12 *e*P P 19 08 00.7 -1.5
comp=Z,21nm,0.7s,mb4.8
I12A Atlanta 84.57 40 ⇑P P 19 08 02.9 -0.1
baz=85,SNR=6.0
B08A Colville Reser 84.66 35 ⇑P P 19 08 02.4 -0.9
baz=85
T18A Mexican Hat 84.76 48 ⇑P P 19 08 03.9 -0.2
baz=85
ENH Enshi 84.77 304 *e*P P 19 08 05.1 +0.8
HLID Hailey 84.89 41 ⇓P P 19 08 04.8 +0.2
baz=85
C09A Chrisman Ranch 84.92 36 ⇑P P 19 08 04.0 -0.6
baz=85
J13A Cove Ranch, Pi 84.96 41 ⇑P P 19 08 04.8 -0.1
baz=85,SNR=5.0
MCK McKinley 85.03 13 *e*P P 19 08 03.1 -1.6
comp=Z,23nm,1.0s,mb4.8
H12A Diamond D Ranc 85.14 40 ⇑P P 19 08 05.5 -0.3
baz=85,SNR=9.4
G12A Big Creek, Yel 85.16 39 ⇑P P 19 08 05.5 -0.3
baz=85,SNR=9.9
I13A Wildhorse Cree 85.26 41 ⇓P P 19 08 06.6 +0.3
baz=85
J14A Carey 85.33 41 ⇓P P 19 08 06.8 +0.2
baz=86,SNR=7.2
H13A Challis 85.51 40 ⇓P P 19 08 07.4 -0.1
baz=86
GYA Guiyang 85.51 300 *e*P P 19 08 08.5 +0.5
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.4
F12A Elk City 85.53 39 ⇓P P 19 08 06.9 -0.6
baz=86
O17A Robinson Place 85.60 45 ⇓P P 19 08 08.4 +0.3
baz=86
425A Indio Mountain 85.64 56 ⇑P P 19 08 08.4 0.0
baz=86
I14A Mackay 85.68 41 ⇓P P 19 08 08.9 +0.6
baz=86
E12A Beaver Dam Sad 85.70 38 ⇓P P 19 08 07.8 -0.6
baz=86
626A Big Bend Ranch 85.81 57 ⇑P P 19 08 09.8 +0.5
baz=86
325A Bean Ranch, Si 85.89 55 ⇑P P 19 08 10.0 +0.3
baz=86
U21A Nageezi 86.02 50 ⇑P P 19 08 10.3 +0.1
baz=86
Q19A Hogan Spring (86.02 47 ⇑P P 19 08 10.4 +0.3
baz=86
526A Mary Lane Ranc 86.05 57 ⇓P P 19 08 10.4 -0.1
baz=86
J15A Blackfoot 86.05 42 ⇓P P 19 08 10.3 +0.2
baz=86
124A Stringfield Ra 86.06 54 ⇓P P 19 08 10.9 +0.4
baz=86
C11A Tepee Creek (N 86.07 37 ⇓P P 19 08 10.1 0.0
baz=86
H14A Leadore 86.08 40 ⇓P P 19 08 10.2 -0.1
baz=86
TXAR Lajitas Array 86.09 57 P P 19 08 11.0 +0.3
comp=Z,5.3nm,0.8s,mb4.2,baz=219,slow=6.3,SNR=51
TXAR Lajitas Array 86.09 57 P P 19 08 11.0 +0.3
F13A Darby 86.10 39 ⇓P P 19 08 09.9 -0.4
baz=86
Y23A Lovelace Mesa, 86.12 52 ⇑P P 19 08 10.3 -0.4
baz=86
S20A Disappointment 86.14 48 ⇑P P 19 08 10.6 0.0
baz=86
D12A Red Ives Fores 86.17 38 ⇓P P 19 08 10.3 -0.3
baz=86
COLA College 86.26 12 *e*P P 19 08 09.2 -1.4
comp=Z,9.2nm,0.8s,mb4.5
K16A Soda Springs 86.31 43 ⇑P P 19 08 11.4 0.0
baz=86
I15A Monteview 86.32 41 ⇑P P 19 08 11.6 +0.2
baz=86
426A McDonald Obser 86.34 56 ⇑P P 19 08 12.0 +0.2
baz=86
G14A Jackson 86.34 40 ⇓P P 19 08 11.2 -0.2
baz=86
627A Terlingua Ranc 86.36 57 ⇓P P 19 08 12.4 +0.4
baz=86
ILAR Eielson Array 86.37 13 P P 19 08 09.4 -1.7
comp=Z,3.2nm,0.5s,mb4.2,baz=219,slow=4.8,SNR=62
ILAR Eielson Array 86.37 13 P P 19 08 09.4 -1.7
Z24A Sheeppen Canyo 86.39 53 ⇓P P 19 08 12.2 +0.2
baz=86
527A Woodward Ranch 86.46 57 ⇑P P 19 08 12.7 +0.4
baz=86
S21A Coal Bank Pass 86.47 48 ⇑P P 19 08 12.3 +0.1
baz=87
J16A Bone 86.51 42 ⇓P P 19 08 12.6 +0.4
baz=87
H15A Lima 86.53 41 ⇑P P 19 08 12.6 +0.3
baz=87
Y24A Capitan 86.59 53 ⇑P P 19 08 13.0 +0.1
baz=87
RRI2 Red Ridge 86.73 42 *e*P P 19 08 13.3 0.0
comp=Z,23nm,1.4s,mb4.7
628A Black Gap, Mar 86.78 58 ⇓P P 19 08 13.8 -0.1
baz=87
XAN Xi'an 86.78 307 P P 19 08 14.5 +0.7
XAN pmax pmax
comp=Z,5.0nm,1.1s,mb4.2
XAN pmax pmax
comp=Z,23nm,5.3s
I16A Newdale 86.88 42 ⇓P P 19 08 14.5 +0.5
baz=87
G15A Dillon 86.90 40 ⇑P P 19 08 14.2 +0.2
baz=87,SNR=5.1
427A Hayter Ranch, 86.91 56 ⇑P P 19 08 14.7 +0.2
baz=87
HIA Hailar 86.95 325 *e*P P 19 08 14.5 +0.3
R21A Cimarron 86.96 48 ⇓P P 19 08 14.5 0.0
baz=87
528A Cox Ranch, San 87.12 57 ⇓P P 19 08 15.7 +0.3
baz=87
J17A Brown Place, J 87.13 42 ⇓P P 19 08 15.3 +0.1
baz=87
S22A 4UR Ranch, Cre 87.19 49 ⇓P P 19 08 15.7 +0.1
baz=87
K18A Toltan Ranch, 87.22 43 ⇓P P 19 08 15.9 +0.3
baz=87
QLMT Earthquake Lak 87.38 41 *e*P P 19 08 16.9 +0.6
comp=Z,0.5nm,0.7s,mb3.4
L19A Farson 87.41 44 ⇑P P 19 08 16.6 +0.1
baz=88
H16A Russell Place, 87.44 41 ⇑P P 19 08 17.0 +0.4
baz=88,SNR=8.6
J18A Kendall Valley 87.50 43 ⇑P P 19 08 17.1 +0.2
baz=88
BW06 Boulder Array 87.59 43 ⇓P P 19 08 16.8 -0.5
baz=88
PDAR Pinedale Array 87.59 43 P P 19 08 16.8 -0.6
comp=Z,3.8nm,0.9s,mb4.1,baz=220,slow=3.4,SNR=18
PDAR Pinedale Array 87.59 43 P P 19 08 16.8 -0.6
BOZ Bozeman (W) 87.66 40 ⇓P P 19 08 18.1 +0.5
baz=88
HHC Hu-ho-hao-te 87.83 314 *e*P P 19 08 19.8 +1.3
HHC pP pP 19 10 20.9 -3.7
HHC sP sP 19 11 20.1 -3.0
HHC PP PP 19 11 58.6 +2.8
HHC SKS 19 17 52.4
HHC S S 19 18 14.9 +2.0
HHC pmax pmax
comp=Z,17nm,0.5s,mb5.0
HHC pmax pmax
comp=Z,97nm,5.6s
I18A Diamond G Ranc 87.86 42 ⇑P P 19 08 18.6 0.0
baz=88
Z27A Tatum 88.03 54 ⇑P P 19 08 19.2 -0.5
baz=88
B14A Marquette Ranc 88.05 37 ⇑P P 19 08 18.6 -0.8
baz=88
K19A Absolon Red Bu 88.08 44 ⇓P P 19 08 19.2 -0.4
baz=88
A14A Double T Ranch 88.27 37 ⇓P P 19 08 19.7 -0.7
baz=88
KMI Kunming 88.29 297 P P 19 08 22.6 +1.5
KMI pmax pmax
comp=Z,7.0nm,1.3s,mb4.2
K20A Yellowstone Ra 88.34 44 ⇑P P 19 08 20.4 -0.4
baz=88
B15A Bradely Ranch, 88.43 37 ⇑P P 19 08 20.6 -0.5
baz=89
O22A Kremmling 88.44 47 ⇑P P 19 08 21.6 +0.2
baz=89
M21A Separation Pea 88.52 45 ⇓P P 19 08 21.5 -0.2
baz=89
I19A Meeteetse 88.54 42 ⇑P P 19 08 21.7 -0.1
baz=89
MSTX Muleshoe 88.63 54 ⇓P P 19 08 21.8 -0.6
baz=89
X27A F and S Farms, 88.65 53 ⇑P P 19 08 22.1 -0.4
baz=89
A15A Johnson Ranch, 88.67 37 ⇑P P 19 08 21.8 -0.4
baz=89
SYO Syowa Base 88.67 193 ⇓*e*P P 19 08 19.0 -3.0
G18A Lazy EL Ranch, 88.78 41 ⇑P P 19 08 22.8 0.0
baz=89
J20A Shoshoni 88.82 43 ⇑P P 19 08 23.2 +0.1
baz=89
H19A Powell 88.84 42 ⇑P P 19 08 23.1 -0.1
baz=89
RLMT Red Lodge 88.87 41 ⇓P P 19 08 23.5 +0.3
baz=89
RLMT Red Lodge 88.87 41 *e*P P 19 08 23.6 +0.3
comp=Z,3.6nm,1.2s,mb4.1
K21A Alcova 89.05 44 ⇑P P 19 08 24.0 -0.1
baz=89
I20A Worland 89.06 43 ⇑P P 19 08 24.1 -0.1
baz=89
C17A Wigram Farm, 89.15 39 ⇓P P 19 08 24.7 +0.2
baz=89
CMAR Chiang Mai Arr 89.29 290 P P 19 08 27.3 +1.5
comp=Z,6.1nm,0.9s,mb4.4,baz=115,slow=2.9,SNR=42
CMAR Chiang Mai Arr 89.29 290 P P 19 08 27.3 +1.5
A16A West Butte Ran 89.30 37 ⇓P P 19 08 25.1 -0.1
baz=89
H20A Greybull 89.39 42 ⇓P P 19 08 25.1 -0.6
baz=90
CHTO Chiang Mai 89.41 290 *e*P P 19 08 27.4 +1.0
comp=Z,8.4nm,1.0s,mb4.5
K22A Casper 89.53 44 ⇑P P 19 08 26.3 -0.1
baz=90
I21A Big Trails, Te 89.54 43 ⇑P P 19 08 26.0 -0.4
baz=90
CD2 Chengdu 89.56 303 P P 19 08 26.0 -0.8
CD2 pP pP 19 10 36.5 +3.0
CD2 sP sP 19 11 35.3 +3.6
CD2 PP PP 19 12 11.7 +2.0
CD2 SKS 19 17 59.2
CD2 S S 19 18 25.6 -3.6
CD2 sS sS 19 22 16.8 +1.6
CD2 SS SS 19 24 45.0 +1.1
CD2 pmax pmax
comp=Z,10.0nm,0.5s,mb4.9
CD2 pmax pmax
comp=Z,130nm,5.9s
A17A Triple J Farms 89.82 38 ⇓P P 19 08 27.0 -0.5
baz=90
L23A Garrett 89.86 45 ⇑P P 19 08 27.4 -0.5
baz=90
J22A Midwest 89.90 44 ⇓P P 19 08 27.5 -0.5
baz=90
EGMT Eagleton 89.93 39 ⇓P P 19 08 27.8 -0.3
baz=90
D19A Cripps Ranch, 90.06 40 ⇓P P 19 08 29.2 +0.5
baz=90
H21A Big Horn, Sher 90.06 43 ⇓P P 19 08 29.0 +0.2
baz=90
B18A Beardsley Farm 90.09 38 ⇓P P 19 08 28.5 -0.3
baz=90
I22A 9 Mile Ranch, 90.10 43 ⇑P P 19 08 28.6 -0.4
baz=90
VNA3 Neumayer Olymp 90.17 176 *e* P 19 08 24.7 -4.2
E20A Meyer Farm, Mu 90.21 40 ⇓P P 19 08 29.5 0.0
baz=90
C19A Slack Wire Ran 90.22 39 ⇓P P 19 08 29.7 +0.3
baz=90
A18A Metzger Ranch, 90.30 38 ⇑P P 19 08 29.5 -0.3
baz=90
D20A Manuel Ranch, 90.47 40 ⇑P P 19 08 30.5 -0.2
baz=91
B19A Brinkman Farms 90.61 38 ⇑P P 19 08 31.3 +0.1
baz=91
VNA2 Neumayer--Watz 90.62 177 *e* P 19 08 27.0 -4.0
baz=195,slow=4.8
K24A Anderson Ranch 90.71 45 ⇓P P 19 08 32.3 +0.5
baz=91
I23A Meade Ranch, G 90.80 44 ⇑P P 19 08 32.1 -0.1
baz=91
C20A Veseth Ranch, 90.83 39 ⇓P P 19 08 32.6 +0.3
baz=91
A19A Klindworth Far 90.95 38 ⇑P P 19 08 33.0 +0.2
baz=91
B20A Solberg Farm, 91.15 39 ⇑P P 19 08 33.9 +0.2
baz=91
D21A La Casta Ranch 91.16 40 ⇓P P 19 08 34.0 +0.2
baz=91
A20A Cobblestone Ra 91.41 38 ⇑P P 19 08 34.9 0.0
baz=92
LZH Lanzhou 91.41 308 *e*P P 19 08 37.0 +1.7
LZH sP sP 19 11 45.8 +5.5
LZH pmax pmax
comp=Z,20nm,1.2s,mb4.9
H24A Dirks Ranch, A 91.72 43 ⇓P P 19 08 36.0 -0.4
baz=92
B22A Reddig Ranch S 92.31 40 ⇓P P 19 08 39.0 -0.1
baz=92
D23A Lindsay 92.31 41 ⇑P P 19 08 39.1 0.0
baz=92
INK Inuvik 92.36 15 *e*P P 19 08 37.2 -1.6
comp=Z,8.1nm,1.1s,mb4.7
C23A Lambert 92.59 40 ⇑P P 19 08 40.5 +0.2
baz=93
D24A Glendive 92.83 41 ⇑P P 19 08 41.6 +0.1
baz=93
C24A Savage 92.94 41 ⇑P P 19 08 42.2 +0.2
baz=93
B23A Brockton 92.98 40 ⇑P P 19 08 42.2 +0.1
baz=93
DGMT Dagmar 93.47 40 ⇓P P 19 08 44.4 +0.1
baz=94
SONM Songino Array 94.12 319 P P 19 08 46.5 -0.9
comp=Z,0.7nm,0.6s,mb4.0,baz=120,slow=3.8,SNR=6.7
SONM Songino Array 94.12 319 P P 19 08 46.5 -0.9
ZALV Zalesovo Beam 108.81 322 PKiKP PKiKP 19 13 51.9 -1.9
comp=Z,0.9nm,0.6s,baz=143,slow=0.7,SNR=7.0
ZALV Zalesovo Beam 108.81 322 PKPdf PKiKP 19 13 51.9 -1.9
MKAR Makanchi Array 109.69 314 PKiKP PKiKP 19 13 54.0 -1.7
comp=Z,1.3nm,0.5s,baz=149,slow=3.0,SNR=26
MKAR Makanchi Array 109.69 314 PKPdf PKiKP 19 13 54.0 -1.7
KURK Kurchatov 112.39 318 *e*PKPdf PKiKP 19 13 59.0 -1.7
BRVK Borovoye 117.48 321 *e*PKPdf PKPdf 19 14 08.1 -2.3
ABKAR Akbulak array 124.50 318 *e*PKPdf PKPdf 19 14 22.6 -1.4
KEV Kevo 126.45 349 *ep* PKPdf 19 14 25.3 -1.8
comp=Z,0.6nm,0.4s
ARCES ARCESS Array B 126.90 350 PKP PKPdf 19 14 27.1 -0.9
comp=Z,2.9nm,0.4s,baz=25,slow=1.5,SNR=35
ARCES ARCESS Array B 126.90 350 PKP PKPdf 19 14 27.1 -0.9
JOF Joensuu 131.15 343 *ep* PKPdf 19 14 34.6 -1.7
comp=Z,1.3nm,0.4s
KAF Kangasniemi 133.16 345 *ep* PKPdf 19 14 35.8 -4.3
comp=Z,1.1nm,0.5s
FINES FINESS Array B 133.78 344 PKhKP PKPpre 19 14 35.0
comp=Z,2.5nm,0.8s,baz=84,slow=5.9,SNR=5.3
FINES PKP PKPdf 19 14 40.8 -0.5
comp=Z,2.7nm,0.7s,baz=48,slow=2.1,SNR=7.4
FINES FINESS Array B 133.78 344 PKP PKPpre 19 14 35.0
FINES PKP PKPdf 19 14 40.8 -0.5
NOA NORSAR Array B 136.95 353 PKP PKPdf 19 14 46.0 -1.2
comp=Z,1.1nm,0.6s,baz=14,slow=3.9,SNR=5.3
NOA NORSAR Array B 136.95 353 PKP PKPdf 19 14 46.0 -1.2
AKASG Malin Array Be 141.16 332 PKhKP PKPpre 19 14 49.0
comp=Z,3.7nm,0.5s,baz=43,slow=4.0,SNR=27
AKASG Malin Array Be 141.16 332 PKP PKPpre 19 14 49.0
AKBB Malin Array Si 141.16 332 *e*PKPpre PKPpre 19 14 48.9
KIEV Kiev 141.17 332 *e*PKPpre PKPpre 19 14 48.9
ESK Eskdalemuir 143.01 5 *e*P PKPdf 19 14 53.6 -4.7
GAL1 Galloway 143.32 6 *e*P PKPdf 19 14 55.6 -3.2
BEL Belsk 143.50 340 *e*PKP PKPdf 19 14 58.4 -0.9
XAL Allendale 143.53 4 *e*P PKPdf 19 14 56.6 -2.6
KESW Keswick, Cumbr 143.74 5 *e*P PKPdf 19 14 57.2 -2.4
GMM Mts of Mourne 143.79 8 *e*P PKPdf 19 14 57.6 -2.0
XDE Dent Fell 143.79 5 *e*P PKPdf 19 14 57.4 -2.3
KWP Kalwaria Pacla 144.67 336 *e*PKP PKPdf 19 15 01.7 +0.4
KWP Kalwaria Pacla 144.67 336 *e*PKPdf PKPdf 19 15 01.5 +0.2
KWP Kalwaria Pacla 144.67 336 ⇑*i*P PKPdf 19 15 01.9 +0.6
WME Mynydd Eilian 144.81 6 *e*P PKPdf 19 15 00.7 -0.8
YRC Rhoscolyn 144.92 7 *e*P PKPdf 19 15 00.5 -1.1
WPM1 Penmaenmawr 144.99 6 *e*P PKPdf 19 15 01.4 -0.3
YLL Llanberis 145.08 6 *e*P PKPdf 19 15 01.3 -0.6
KBI1 Birley Grange 145.18 4 *e*P PKPdf 19 15 02.0 0.0
BUR08 Bucovina Ar. S 145.20 332 *e*PKPdf PKPbc 19 15 03.8 +0.4
BURAR Bucovina Array 145.21 332 ⇓*i*P PKPbc 19 15 03.8 +0.4
OJC Ojcow 145.21 340 *e*PKP PKPdf 19 15 02.8 +0.6
BR131 Keskin Array S 145.34 314 *e*PKPdf PKPdf 19 15 03.8 +1.0
BRTR Keskin Array B 145.34 314 PKPbc PKPbc 19 15 02.4 -1.6
comp=Z,8.0nm,0.8s,baz=75,slow=2.8,SNR=42
BRTR Keskin Array B 145.34 314 PKPbc PKPbc 19 15 02.4 -1.6
STHS Stebnicka Huta 145.39 338 *e*PKP PKPbc 19 15 03.8 -0.1
KOLS Kolonicke sedl 145.40 336 *e*PKP PKPbc 19 15 04.3 +0.4
FOEL Foel Wylfa 145.42 5 *e*P PKPdf 19 15 02.0 -0.5
KSIP Ksiaz 145.71 344 *e*PKP PKPbc 19 15 04.0 +0.2
NIE Niedzica 145.72 338 *e*PKP PKPbc 19 15 05.0 +0.2
CRVS Cervenica-Dubn 145.74 337 *e*PKP PKPbc 19 15 05.1 +0.2
VRI Vrincioaia 145.77 328 ⇑*i*P PKPbc 19 15 04.7 -0.4
PLOR Plostina 145.82 329 ⇑*i*P PKPbc 19 15 05.1 -0.1
TIRR Tirgusor 145.85 325 ⇑*i*P PKPbc 19 15 05.3 -0.1
TRPA Tarpa 145.95 335 ⇑*i*P PKPbc 19 15 05.6 +0.1
CLL Collm 146.05 347 ⇓*i*PKPbc PKPbc 19 15 05.2 -0.5
comp=Z,41nm,0.9s
CLL *i* PKPab PKPab 19 15 07.5 -0.3
comp=Z,18nm,1.0s
OKC Ostrava-Krasne 146.07 341 *e*PKP PKPbc 19 15 05.6 -0.2
UPC Upice 146.09 344 *e*PKP PKPbc 19 15 05.7 -0.1
UPC *ex* x 19 15 08.4
DPC Dobruska-Polom 146.14 343 *e*PKP PKPbc 19 15 05.9 -0.1
DPC *ex* x 19 15 08.4
BRG Berggiesshubel 146.26 346 *i* PKP PKPbc 19 15 06.0 -0.2
comp=Z,15nm,0.7s
MORC Moravsky Berou 146.31 342 *e*PKPbc PKPbc 19 15 06.5 +0.1
WTSB Winterswijk 146.34 354 *e*P PKPbc 19 15 05.7 -0.7
comp=Z,38nm,0.8s
MLR Muntele Rosu 146.43 329 ⇑*i*P PKPbc 19 15 06.7 -0.2
PVCC Panska Ves 146.43 345 *e*PKP PKPbc 19 15 06.9 +0.2
PVCC *ex* x 19 15 11.0
HGH Gray Hill 146.69 5 *e*P PKPdf 19 15 05.5 +0.9
VOIR 146.90 329 ⇓*i*P PKPbc 19 15 08.0 -0.2
DRGR 146.94 333 ⇑*i*P PKPbc 19 15 08.6 +0.4
PRU Pruhonice 146.94 345 *e*PKP PKPbc 19 15 08.7 +0.6
PRU *ex* x 19 15 12.1
VYHS Vyhne 147.02 339 *e*PKP PKPbc 19 15 08.3 -0.1
KOLL Kolacno 147.09 340 *e*PKP PKPbc 19 15 09.0 +0.4
PSZ Piszkesteto 147.13 337 ⇑*i*P PKPbc 19 15 08.6 -0.1
NKC Novy Kostel 147.19 347 ⇑*e*PKP PKPbc 19 15 08.5 -0.3
NKC *e*PKPAB PKPab 19 15 11.7 -0.7
TREC Trest 147.33 343 ⇑*e*PKP PKPbc 19 15 08.7 -0.5
CSS Prodhromos 147.60 307 *e*PKPbc PKPbc 19 15 09.8 -0.6
HGN Heimansgroeve 147.61 355 *e*P PKPbc 19 15 09.6 -0.3
comp=Z,14nm,1.0s
MEM Membach 147.75 355 PKPbc PKPbc 19 15 09.7 -0.5
SNF Seneffe 147.97 357 PKPab PKPab 19 15 14.1 -1.5
KHC Kasperske Hory 147.97 345 *e*PKPbc PKPbc 19 15 10.2 -0.6
KHC Kasperske Hory 147.97 345 ⇑*e*PKP PKPdf 19 15 10.6 +3.8
KHC *e*PKPAB PKPab 19 15 15.1 -0.5
BCLA Clavier 148.00 356 PKPbc PKPbc 19 15 10.1 -0.7
BCLA PKPab PKPab 19 15 14.7 -1.0
GERES GERESS Array B 148.21 345 PKPbc PKPbc 19 15 10.7 -0.7
comp=Z,6.7nm,0.7s,baz=27,slow=2.8,SNR=40
GERES GERESS Array B 148.21 345 PKPbc PKPbc 19 15 10.7 -0.7
BZS Buzias 148.33 333 ⇑*i*P PKPbc 19 15 11.6 -0.2
GIVF Givet 148.34 356 *e*PKP1 PKPbc 19 15 11.2 -0.5
comp=Z,17nm,0.6s
DOU Dourbes 148.36 357 PKPbc PKPbc 19 15 11.6 -0.2
DOU PKPab PKPab 19 15 16.0 -1.2
BAIF Baives 148.42 357 *e*PKP1 PKPbc 19 15 11.5 -0.4
comp=Z,18nm,0.8s
CONA Conrad Observa 148.46 342 ⇓*i*PKiKP PKiKP 19 15 12.0 -1.2
comp=Z,31nm,1.3s
WLF Walferdange 148.68 355 PKPbc PKPbc 19 15 12.6 0.0
WLF Walferdange 148.68 355 *e*PKPbc PKPbc 19 15 12.4 -0.1
PKSM Moragy 149.03 337 ⇓*i*P PKPbc 19 15 13.2 -0.3
FLN La Foliniere 149.72 3 *e*PKP1 PKPbc 19 15 14.0 -1.1
comp=Z,18nm,0.6s
BFO Black Forest 149.74 351 *e*PKPbc PKPbc 19 15 14.3 -0.9
CDF Champ du Feu 149.80 353 *e*PKP1 PKPbc 19 15 14.7 -0.6
comp=Z,24nm,0.9s
PAGF Fort de Pagny 149.82 355 *e*PKP1 PKPbc 19 15 15.1 -0.2
comp=Z,8.5nm,0.9s
SOKA Soboth 149.83 342 ⇓*i*PKPbc PKPbc 19 15 14.3 -1.1
comp=Z,14nm,1.1s
VTS Vitosha 149.88 328 ⇓*i*P PKPbc 19 15 15.6 -0.1
LDF La Druitiere 149.90 3 *e*PKP1 PKPbc 19 15 14.4 -1.1
comp=Z,9.7nm,0.5s
ROSF Rostrenen 149.91 7 *e*PKP1 PKPbc 19 15 13.6 -1.9
MEZF Maizieres J'vi 149.92 356 *e*PKP1 PKPbc 19 15 15.2 -0.3
KBA Koelnbreinsper 149.94 344 ⇓*i*PKPbc PKPbc 19 15 14.6 -1.0
comp=Z,12nm,0.8s,SNR=8.9
GRR Gorron 150.07 4 *e*PKP1 PKPbc 19 15 15.1 -0.8
comp=Z,14nm,0.5s
SGMF Saint Gilles 150.07 6 *e*PKP1 PKPbc 19 15 14.7 -1.2
WTTA Wattenberg 150.17 347 ⇓*i*PKiKP PKiKP 19 15 15.6 -1.1
comp=Z,19nm,0.6s
MOTA Moosalm 150.21 347 ⇓*i*PKPbc PKPbc 19 15 15.4 -0.8
comp=Z,8.6nm,0.7s
SFTF Sexfontaines 150.22 356 *e*PKP1 PKPbc 19 15 15.9 -0.3
comp=Z,78nm,0.9s
HAU Haudompre 150.30 354 *e*PKP1 PKPbc 19 15 15.8 -0.7
comp=Z,13nm,0.6s
HINF Hinteralfeld 150.44 353 *e*PKP1 PKPbc 19 15 15.9 -0.9
comp=Z,9.6nm,0.7s
ABTA Abfaltersbach 150.45 345 ⇓*i*PKPbc PKPbc 19 15 15.7 -1.2
comp=Z,21nm,0.6s,SNR=16
DAVA Damuels 150.50 349 ⇓*i*PKiKP PKiKP 19 15 16.5 -0.9
comp=Z,22nm,1.2s
FETA Feichten 150.59 348 *i* PKiKP PKiKP 19 15 16.9 -0.7

	comp=Z,11nm,0.7s,SNR=7.6						
LOR	**Lormes**	**151.22 357**	*e*PKP1	PKPbc	19 15 17.9	-0.7	
	comp=Z,16nm,0.7s						
HYF	**Humbligny**	**151.26 359**	*e*PKP1	PKPbc	19 15 18.3	-0.4	
SSF	**Saint Saulge**	**151.44 358**	*e*PKP1	PKPbc	19 15 18.5	-0.6	
	comp=Z,14nm,0.7s						
CABF	**La Chapelle**	**151.71 354**	*e*PKP1	PKPbc	19 15 19.6	-0.1	
	comp=Z,49nm,1.2s						
AVF	**Avril sur Loir**	**151.72 358**	*e*PKP1	PKPbc	19 15 18.7	-1.0	
SMF	**Signal de Mont**	**151.85 357**	*e*PKP1	PKPbc	19 15 19.3	-0.7	
MFF	**Saint Martin d**	**151.89 3**	*e*PKP1	PKPbc	19 15 19.1	-1.0	
	comp=Z,11nm,0.6s						
BGF	**Bois d'Agland**	**151.97 359**	*e*PKP1	PKPbc	19 15 19.5	-0.8	
	comp=Z,21nm,0.8s						
TCF	**Toulx Ste Croi**	**152.25 359**	*e*PKP1	PKPbc	19 15 20.1	-0.8	
	comp=Z,6.9nm,0.7s						
LPL	**La Plagne**	**152.72 352**	*e*PKP1	PKPbc	19 15 22.1	+0.2	
LPG	**La Plagne**	**152.73 352**	*e*PKP1	PKPbc	19 15 22.1	+0.1	
RJF	**Les Rejaudoux**	**153.23 1**	*e*PKP1	PKPbc	19 15 22.1	-1.0	
MBDF	**Montbardon**	**153.49 352**	*e*PKP1	PKPbc	19 15 23.1	-0.5	
	comp=Z,11nm,0.7s						
CAF	**Calviac**	**153.61 360**	*e*PKP1	PKPbc	19 15 23.3	-0.6	
	comp=Z,10nm,0.9s						
ESDC	**Sonseca Array**	**158.27 12**	PKPab	PKPab	19 15 58.8	-0.9	
	comp=Z,0.2nm,0.5s,baz=355,slow=4.6,SNR=6.4						
DBIC	**Dimbokro**	**166.59 150**	PKP	PKPdf	19 15 28.1	-2.6	
	comp=Z,2.3nm,0.7s,baz=264,slow=9.2,SNR=3.6						
DBIC	**Dimbokro**	**166.59 150**	PKP	PKPdf	19 15 28.1	-2.6	
TORD	**Torodi Ar. Bea**	**174.71 178**	PKP	PKPdf	19 15 32.7	-2.1	
	comp=Z,2.1nm,1.1s,baz=262,slow=0.3,SNR=7.8						
TORD			PKPab	PKPab	19 17 09.7	-3.1	
	comp=Z,0.8nm,1.0s,baz=209,slow=3.6,SNR=3.5						
TORD	**Torodi Ar. Bea**	**174.71 178**	PKP	PKPdf	19 15 32.7	-2.1	
TORD			PKPab	PKPab	19 17 09.7	-3.1	

*IDC **05** 19:05:00.8±1.0,8.53S×124.56E, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.8/19, mbtmp3.8/8, ML4.0/3, Error ellipse: s-maj=98.4km s-min=18.1km az=61.0*
*NEIC **05** 19:05:06.4±0.5, 8.91S×124.03E, h35km, mb4.1/2, Error ellipse: s-maj=28.3km s-min=7.3km az=52.0*
*ISCJB **05** 19:05:09.6±2.2, 9.1S±0.1×124.1E±0.2, h96km±25km, mb4.0/8, Error ellipse: s-maj=32.2km s-min=12.2km az=146.0*

ISC 05 19:05:11.4±2.7, 9.3S±0.1×124.1E±0.2, h99km±34km, n33, σ0.93/39, mb4.0/8, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**8.89**	**113**	*e*P	**Pn**	**19 07 16.5**	**-0.7**
	20nm,0.5s						
FITZ	**Fitzroy Crossi**	**8.93**	**170**	Pn	**Pn**	**19 07 18.2**	**+0.7**
	0.9nm,0.3s,baz=356,slow=12,SNR=22						
FITZ				Sn	**Sn**	**19 08 55.0**	**-1.4**
	4.0nm,0.3s,baz=303,slow=20,SNR=15						
FITZ	**Fitzroy Crossi**	**8.93**	**170**	Pn	**Pn**	**19 07 18.2**	**+0.7**
FITZ				Sn	**Sn**	**19 08 55.0**	**-1.4**
WRA	**Warramunga Arr**	**14.53**	**138**	Pn	**Pn**	**19 08 31.8**	**-0.6**
	0.8nm,0.3s,baz=318,slow=14,SNR=32						
WRA				Sn	**Sn**	**19 11 03.7**	**-8.8**
	1.4nm,0.3s,baz=309,slow=25,SNR=12						
WRA	**Warramunga Arr**	**14.53**	**138**	Pn	**Pn**	**19 08 31.8**	**-0.6**
WRA				Sn	**Sn**	**19 11 03.7**	**-8.8**
WRAB	**Tennant Creek**	**14.53**	**138**	*e*P	**Pn**	**19 08 33.3**	**+1.0**
	3.0nm,0.4s						
ASAR	**Alice Springs**	**17.14**	**148**	P	**Pn**	**19 09 07.4**	**+2.6**
	0.5nm,0.3s,baz=335,slow=14,SNR=21						
ASAR				S	**S**	**19 12 11.2**	**-5.1**
	0.3nm,0.3s,baz=317,slow=20,SNR=11						
ASAR	**Alice Springs**	**17.14**	**148**	P	**Pn**	**19 09 07.4**	**+2.6**
ASAR				S	**S**	**19 12 11.2**	**-5.1**
STKA	**Stephens Creek**	**27.76**	**147**	P	**P**	**19 10 54.9**	**+3.9**
	1.0nm,0.9s,mb3.4,baz=339,slow=14,SNR=2.9						
STKA	**Stephens Creek**	**27.76**	**147**	P	**P**	**19 10 54.9**	**+3.9**
CMAR	**Chiang Mai Arr**	**37.06**	**318**	P	**P**	**19 12 12.2**	**-0.1**
	0.7nm,0.7s,mb3.7,baz=146,slow=6.6,SNR=5.5						
CMAR	**Chiang Mai Arr**	**37.06**	**318**	P	**P**	**19 12 12.2**	**-0.1**
LSA	**Lhasa**	**50.05**	**322**	*e*P	**P**	**19 13 57.5**	**+1.2**
	2.4nm,0.6s,mb4.3						
ODAN	**Odare**	**50.56**	**316**	*e*P	**P**	**19 14 00.3**	**+0.1**
	5.5nm,0.6s,mb4.8						
ODAN	**Odare**	**50.56**	**316**	*e*P	**P**	**19 14 00.3**	**+0.1**
TAPN	**Taplejung**	**50.66**	**317**	*e*P	**P**	**19 14 01.4**	**+0.5**
	6.1nm,0.4s,mb5.0						
GUN	**Gumba**	**52.26**	**316**	*e*P	**P**	**19 14 13.2**	**+0.4**
KKN	**Kakani**	**52.59**	**316**	*e*P	**P**	**19 14 15.4**	**+0.1**
KKN	**Kakani**	**52.59**	**316**	*e*P	**P**	**19 14 15.4**	**+0.1**
DMN	**Daman**	**52.60**	**315**	*e*P	**P**	**19 14 15.6**	**+0.2**
DMN	**Daman**	**52.60**	**315**	*e*P	**P**	**19 14 15.6**	**+0.2**
GKN	**Gorkha**	**53.17**	**315**	*e*P	**P**	**19 14 19.0**	**-0.6**
GKN	**Gorkha**	**53.17**	**315**	*e*P	**P**	**19 14 19.0**	**-0.6**
KOLN	**Koldanda**	**53.75**	**314**	*e*P	**P**	**19 14 24.0**	**+0.2**
KOLN	**Koldanda**	**53.75**	**314**	*e*P	**P**	**19 14 24.0**	**+0.2**
DANN	**Dangsing**	**53.99**	**315**	*e*P	**P**	**19 14 25.8**	**+0.2**
DANN	**Dangsing**	**53.99**	**315**	*e*P	**P**	**19 14 25.8**	**+0.2**
MKAR	**Makanchi Array**	**67.07**	**330**	P	**P**	**19 15 53.7**	**-0.4**
	1.0nm,0.8s,mb3.7,baz=134,slow=7.2,SNR=6.3						
MKAR	**Makanchi Array**	**67.07**	**330**	P	**P**	**19 15 53.7**	**-0.4**
ZALV	**Zalesovo Beam**	**71.16**	**337**	P	**P**	**19 16 17.3**	**-1.9**
	0.3nm,0.3s,mb3.5,baz=133,slow=6.3,SNR=2.9						
ZALV	**Zalesovo Beam**	**71.16**	**337**	P	**P**	**19 16 17.3**	**-1.9**
KURK	**Kurchatov**	**71.53**	**331**	P	**P**	**19 16 20.5**	**-1.0**
	0.6nm,0.8s,mb3.5,baz=136,slow=6.5,SNR=5.5						
KURK	**Kurchatov**	**71.53**	**331**	P	**P**	**19 16 20.8**	**-0.8**
	1.0nm,0.8s,mb3.7						

*IDC **05** 19:05:59.7±0.9, 6.24S×76.80W, h0km, mb3.7/6, mb1 4.0/8, mb1mx3.9/19, mbtmp3.7/8, ML3.5/1, Error ellipse: s-maj=19.4km s-min=13.3km az=127.0*
*ISCJB **05** 19:06:02.5±0.7, 6.29S±0.06×76.7W±0.1, h33km, mb3.7/6, Error ellipse: s-maj=16.6km s-min=8.4km az=172.1*
*NEIC **05** 19:06:03.5±3.4, 6.29S×76.72W, h28km±24km, Error ellipse: s-maj=19.2km s-min=11.5km az=64.0*

ISC 05 19:06:04.8±0.7, 6.28S±0.06×76.7W±0.1, h35km, n26, σ0.37/19, mb3.7/6, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**1.86**	**243**	Pg	**Pn**	**19 06 33.9**	**-0.3**
	63nm,0.3s,baz=57,slow=9.0,SNR=296						
ATAH				Lg		19 06 56.5	
	36nm,0.3s,baz=38,slow=12,SNR=9.3						
NNA	**Nana**	**5.68**	**181**	Pn	**Pn**	**19 07 26.4**	**-0.3**
	1.5nm,0.3s,baz=34,slow=3.6,SNR=3.5						
NNA				Sn	**Sn**	**19 08 31.3**	**+0.6**
	8.0nm,0.3s,baz=309,slow=20,SNR=4.4						
NNA				Lg		19 09 04.0	
	3.5nm,0.3s,baz=243,slow=9.0,SNR=2.8						
NNA	**Nana**	**5.68**	**181**	*e*Pn	**Pn**	**19 07 26.4**	**-0.4**
NNA				Sn	**Sn**	**19 08 31.3**	**+0.6**
NNA				Lg		19 09 04.0	
LPAZ	**La Paz**	**13.04**	**140**	Pn	**Pn**	**19 09 07.3**	**-0.4**
	baz=0.0,slow=4.0,SNR=2.7						
LPAZ	**La Paz**	**13.04**	**140**	P	**Pn**	**19 09 07.0**	**-0.7**
TXAR	**Lajitas Array**	**43.87**	**325**	P	**P**	**19 14 07.9**	**-0.1**
	0.4nm,0.5s,mb3.4,baz=145,slow=10,SNR=6.2						
TXAR	**Lajitas Array**	**43.87**	**325**	P	**P**	**19 14 07.9**	**-0.1**
PDAR	**Pinedale Array**	**57.20**	**332**	P	**P**	**19 15 48.7**	**+0.3**
	0.5nm,0.5s,mb3.8,baz=130,slow=8.3,SNR=3.4						
PDAR	**Pinedale Array**	**57.20**	**332**	P	**P**	**19 15 48.7**	**+0.3**
NVAR	**Mina Array Bea**	**58.87**	**322**	P	**P**	**19 16 00.5**	**+0.2**
	0.7nm,0.7s,mb3.8,baz=136,slow=6.9,SNR=7.3						
NVAR	**Mina Array Bea**	**58.87**	**322**	P	**P**	**19 16 00.5**	**+0.2**
YKA	**Yellowknife Ar**	**74.44**	**343**	P	**P**	**19 17 38.7**	**-0.4**
	1.2nm,0.6s,mb4.0,baz=141,slow=6.3,SNR=4.1						
YKA	**Yellowknife Ar**	**74.44**	**343**	P	**P**	**19 17 38.7**	**-0.4**
TORD	**Torodi Ar. Bea**	**80.23**	**76**	P	**P**	**19 18 13.0**	**+0.5**
	0.3nm,0.6s,mb3.4,baz=283,slow=5.8,SNR=4.3						
TORD	**Torodi Ar. Bea**	**80.23**	**76**	P	**P**	**19 18 13.0**	**+0.5**
ILAR	**Eielson Array**	**87.33**	**336**	P	**P**	**19 18 47.9**	**+0.1**
	0.3nm,0.8s,mb3.6,baz=94,slow=3.6,SNR=3.3						
ILAR	**Eielson Array**	**87.33**	**336**	P	**P**	**19 18 47.9**	**+0.1**
MKAR	**Makanchi Array**	**135.78**	**21**	PKP	PKPdf	19 25 22.3	+0.4
	0.3nm,0.7s,baz=297,slow=4.7,SNR=2.8						
MKAR	**Makanchi Array**	**135.78**	**21**	PKP	PKPdf	19 25 22.3	+0.4
ASAR	**Alice Springs**	**137.81**	**224**	PKP	PKPdf	19 25 26.2	-0.2
	0.2nm,0.5s,baz=118,slow=2.3,SNR=4.3						
ASAR	**Alice Springs**	**137.81**	**224**	PKP	PKPdf	19 25 26.2	-0.2
WRAB	**Tennant Creek**	**139.83**	**229**	PKPdf	PKPdf	19 25 30.1	-0.2
WRA	**Warramunga Arr**	**139.84**	**229**	PKP	PKPdf	19 25 30.2	0.0
	0.5nm,0.5s,baz=132,slow=1.4,SNR=7.8						
WRA	**Warramunga Arr**	**139.84**	**229**	PKP	PKPdf	19 25 30.2	0.0
FITZ	**Fitzroy Crossi**	**147.22**	**222**	PKPbc	PKPbc	19 25 44.7	-0.8
	0.6nm,0.6s,baz=139,slow=9.3,SNR=4.8						
FITZ	**Fitzroy Crossi**	**147.22**	**222**	PKPbc	PKPbc	19 25 44.7	-0.8

*IDC **05** 19:17:24.0±0.6, 15.25S×173.47W, h0km, mb4.4/14, mb1 4.6/14, mb1mx4.4/22, mbtmp4.4/14, MS3.7/8, Ms1 3.6/8, ms1mx3.5/23, Error ellipse: s-maj=27.0km s-min=15.1km az=134.0*
*NEIC **05** 19:17:41.6±2.3, 15.30S×173.56W, h144km±20km, mb4.3/14, Error ellipse: s-maj=18.7km s-min=10.3km az=140.0*
*ISCJB **05** 19:17:42.8±2.5, 15.3S±0.1×173.7W±0.1, h171km±22km, mb4.2/26, Error ellipse: s-maj=21.0km s-min=11.2km az=136.7*

ISC 05 19:17:43.4±2.5, 15.4S±0.1×173.6W±0.1, h162km±22km, n79, σ0.93/50, mb4.2/26, 2C-5D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**8.35**	**252**	*e*P	**Pn**	**19 19 41.5**	**+0.1**
	41nm,1.1s						
RAR	**Rarotonga**	**14.36**	**116**	LR	LR	19 25 43.2	
	comp=Z,244nm,18.1s,baz=295,slow=35						
RAR				T		19 35 09.7	
	14nm,0.3s,baz=113,slow=15,SNR=6.3						
DZM	**Mont Dzumac**	**20.04**	**248**	*e*LR	LR	19 27 56.0	
	406nm,27.1s						
DZM	**Mont Dzumac**	**20.04**	**248**	*e*P	**P**	**19 22 05.7**	**+1.8**
	15nm,1.1s						
PAE	**Paea**	**23.14**	**99**	*e*T		19 45 34.3	
	3.7nm,0.3s						
PPT	**Papeete**	**23.14**	**99**	*e*LR	LR	19 27 45.6	
	194nm,27.8s						
PPT	**Papeete**	**23.14**	**99**	LR	LR	19 30 17.8	
	comp=Z,92nm,19.1s,baz=298,slow=34						
TIAR	**Tiarei**	**23.36**	**99**	*e*T		19 45 50.0	
	14nm,0.3s						
TBI	**Tubuai**	**24.10**	**113**	*e*T		19 46 54.9	
	16nm,0.9s						
URZ	**Urewera**	**24.25**	**198**	P	**P**	**19 22 44.4**	**-0.9**
	12nm,0.3s,mb4.8,baz=0.2,slow=5.0,SNR=11						
URZ	**Urewera**	**24.25**	**198**	P	**P**	**19 22 44.4**	**-0.9**
PMOR	**Pomariorio Ree**	**24.81**	**93**	*e*T		19 47 36.8	
	2.8nm,0.3s						
VAH	**Vaihoa**	**25.05**	**93**	*e*T		19 47 53.1	
	6.2nm,0.3s						
ARMA	**Armidale**	**35.20**	**239**	*e*P	**P**	**19 24 21.5**	**-0.6**
RKT	**Rikitea**	**37.19**	**108**	*e*T		20 03 14.0	
	10nm,0.4s						
CTA	**Charters Tower**	**38.47**	**257**	P	**P**	**19 24 48.7**	**-1.2**
	2.3nm,0.6s,mb4.0,baz=80,slow=11,SNR=2.5						
CTA				LR	LR	19 38 13.4	
	comp=Z,82nm,20.3s,baz=59,slow=32						
CTA	**Charters Tower**	**38.47**	**257**	P	**P**	**19 24 48.7**	**-1.2**
CTA				LR	LR	19 38 13.4	
CNB	**Canberra Magne**	**38.63**	**232**	*e*P	**P**	**19 24 51.2**	**+0.2**
TOO	**Toolangi**	**42.35**	**231**	*e*P	**P**	**19 25 21.1**	**-0.4**
STKA	**Stephens Creek**	**43.89**	**240**	P	**P**	**19 25 33.1**	**-0.9**
	7.4nm,0.8s,mb4.3,baz=83,slow=9.4,SNR=15						
STKA				LR	LR	19 41 15.6	
	comp=Z,69nm,21.1s,baz=24,slow=32						
STKA	**Stephens Creek**	**43.89**	**240**	*e*P	**P**	**19 25 33.6**	**-0.4**
	5.9nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**43.89**	**240**	*e*P	**P**	**19 25 32.7**	**-1.3**
	1.7nm,0.9s,mb3.7						
STKA				LR	LR	19 41 15.6	
WB2	**Warramunga Arr**	**49.66**	**257**	*e*P	**P**	**19 26 18.3**	**-0.6**
WRAB	**Tennant Creek**	**49.66**	**257**	*e*P	**P**	**19 26 17.9**	**-1.0**
	3.1nm,0.4s,mb4.3						
WRA	**Warramunga Arr**	**49.67**	**257**	P	**P**	**19 26 18.3**	**-0.8**
	2.9nm,0.4s,mb4.3,baz=96,slow=6.2,SNR=112						
WRA				PcP	PcP	19 27 39.7	+1.7
	0.7nm,0.6s,baz=87,slow=3.9,SNR=5.8						
WRA	**Warramunga Arr**	**49.67**	**257**	P	**P**	**19 26 18.3**	**-0.8**
WRA				PcP	PcP	19 27 39.7	+1.7
ASAR	**Alice Springs**	**49.94**	**252**	P	**P**	**19 26 20.8**	**-0.2**
	14nm,0.7s,mb4.7,baz=88,slow=8.0,SNR=246						
ASAR	**Alice Springs**	**49.94**	**252**	P	**P**	**19 26 20.8**	**-0.2**
KAKA	**Kakadu**	**52.31**	**266**	*e*P	**P**	**19 26 38.6**	**-0.2**
	4.9nm,0.7s,mb4.2						
KAKA	**Kakadu**	**52.31**	**266**	*e*P	**P**	**19 26 39.1**	**+0.3**
	11nm,0.6s,mb4.7						
FORT	**Forrest**	**55.27**	**243**	*e*P	**P**	**19 26 59.5**	**-0.6**
	12nm,0.5s,mb4.9						
FITZ	**Fitzroy Crossi**	**58.03**	**258**	P	**P**	**19 27 21.2**	**+1.4**
	0.9nm,0.8s,mb3.7,baz=131,slow=20,SNR=3.4						
FITZ	**Fitzroy Crossi**	**58.03**	**258**	P	**P**	**19 27 21.2**	**+1.4**
SBA	**Scott Base**	**63.28**	**185**	*e*P	**P**	**19 27 56.6**	**+2.3**
	1.9nm,0.7s,mb4.0						
PETK	**Petropavlovsk-**	**72.53**	**342**	P	**P**	**19 28 53.4**	**+1.2**
	3.2nm,0.7s,mb4.1,baz=145,slow=5.3,SNR=5.8						
PETK				LR	LR	19 55 56.2	
	comp=Z,48nm,21.6s,baz=35,slow=32						
PETK	**Petropavlovsk-**	**72.53**	**342**	P	**P**	**19 28 53.4**	**+1.2**
PETK				LR	LR	19 55 56.2	
NVAR	**Mina Array Bea**	**74.42**	**42**	P	**P**	**19 29 03.5**	**-0.2**
	1.5nm,0.7s,mb3.9,baz=227,slow=9.9,SNR=13						
NVAR	**Mina Array Bea**	**74.42**	**42**	P	**P**	**19 29 03.5**	**-0.2**
QSPA	**South Pole Qui**	**74.69**	**180**	P	**P**	**19 29 06.5**	**+1.9**
	8.9nm,0.8s,mb4.4,baz=43,slow=1.6,SNR=26						
QSPA	**South Pole Qui**	**74.69**	**180**	*e*P	**P**	**19 29 06.1**	**+1.5**
MOD	**Modoc**	**75.20**	**38**	*e*P	**P**	**19 29 07.8**	**-0.3**
	7.5nm,1.1s,mb4.2						
WVOR	**Wild Horse Val**	**76.52**	**39**	*e*P	**P**	**19 29 15.6**	**0.0**
	3.3nm,0.9s,mb4.0						
CCUT	**Cedar City**	**77.23**	**45**	*e*P	**P**	**19 29 19.0**	**-0.7**
	5.8nm,1.5s,mb4.0						
MSU	**Marysvale**	**78.53**	**45**	*e*P	**P**	**19 29 26.6**	**-0.2**
	6.0nm,1.1s,mb4.1						
HLID	**Hailey**	**79.71**	**39**	*e*P	**P**	**19 29 33.5**	**+0.4**
	7.4nm,0.9s,mb4.3						
TXAR	**Lajitas Array**	**80.75**	**56**	P	**P**	**19 29 38.5**	**-0.5**
	2.7nm,1.1s,mb3.8,baz=226,slow=5.0,SNR=12						
TXAR				LR	LR	20 00 39.8	
	comp=Z,87nm,18.3s,baz=180,slow=32						
TXAR	**Lajitas Array**	**80.75**	**56**	P	**P**	**19 29 38.5**	**-0.5**
TXAR				LR	LR	20 00 39.8	
MCMT	**McKenzie Canyo**	**81.34**	**39**	*e*P	**P**	**19 29 42.3**	**+0.6**
	2.4nm,1.0s,mb3.8						
RRI2	**Red Ridge**	**81.52**	**41**	*e*P	**P**	**19 29 42.8**	**+0.1**
	4.1nm,0.8s,mb4.1						
TPAW	**Tepa**	**81.83**	**41**	*e*P	**P**	**19 29 44.1**	**-0.2**
	4.9nm,0.9s,mb4.1						
PDAR	**Pinedale Array**	**82.36**	**42**	P	**P**	**19 29 46.9**	**-0.3**
	2.1nm,0.8s,mb3.8,baz=208,slow=2.9,SNR=11						
PDAR	**Pinedale Array**	**82.36**	**42**	P	**P**	**19 29 46.9**	**-0.3**
ILAR	**Eielson Array**	**82.44**	**11**	P	**P**	**19 29 46.5**	**-0.4**
	1.0nm,0.6s,mb3.6,baz=232,slow=6.3,SNR=27						
ILAR	**Eielson Array**	**82.44**	**11**	P	**P**	**19 29 46.5**	**-0.4**
MAW	**Mawson**	**87.78**	**199**	P	**P**	**19 30 15.5**	**+1.8**
	4.4nm,0.7s,mb4.4,baz=138,slow=9.6,SNR=7.4						
MAW	**Mawson**	**87.78**	**199**	P	**P**	**19 30 15.5**	**+1.8**
YKA	**Yellowknife Ar**	**90.13**	**23**	LR	LR	20 06 21.9	
	comp=Z,9.6nm,18.9s,baz=355,slow=33						
CMAR	**Chiang Mai Arr**	**92.42**	**288**	P	**P**	**19 30 38.0**	**+1.8**
	1.7nm,1.1s,mb4.0,baz=102,slow=2.6,SNR=4.3						
CMAR	**Chiang Mai Arr**	**92.42**	**288**	P	**P**	**19 30 38.0**	**+1.8**
VNA3	**Neumayer Olymp**	**92.92**	**175**	*e*	**P**	**19 30 36.4**	**-1.2**
VNA2	**Neumayer--Watz**	**93.42**	**175**	*e*	**P**	**19 30 38.8**	**-1.1**
ULM	**Lac du Bonnet**	**94.02**	**39**	LR	LR	20 10 30.9	
	comp=Z,105nm,18.2s,baz=340,slow=34						
MKAR	**Makanchi Array**	**110.66**	**315**	PKiKP	PKiKP	19 35 57.8	+1.1
	0.3nm,0.7s,baz=160,slow=0.8,SNR=2.8						
MKAR	**Makanchi Array**	**110.66**	**315**	PKPdf	PKiKP	19 35 57.8	+1.1
KURK	**Kurchatov**	**112.98**	**319**	*e*P	PKiKP	19 36 02.2	+1.2
ARCES	**ARCESS Array B**	**124.54**	**352**	PKP	PKPdf	19 36 24.4	+1.7
	5.3nm,1.1s,baz=35,slow=3.3,SNR=5.7						
ARCES	**ARCESS Array B**	**124.54**	**352**	PKP	PKPdf	19 36 24.4	+1.7
BURAR	**Bucovina Array**	**144.25**	**338**	∥*i*P	PKPdf	19 37 01.6	+1.6
TRPA	**Tarpa**	**144.71**	**341**	∥*i*P	PKPdf	19 37 01.9	+1.1
VRI	**Vrincioaia**	**145.12**	**335**	∥*i*P	PKPbc	19 37 03.5	+2.1
VYHS	**Vyhne**	**145.40**	**345**	*e*PKP	PKPdf	19 37 04.0	+2.0
TIRR	**Tirgusor**	**145.50**	**332**	∥*i*P	PKPdf	19 37 05.1	+2.8
MLR	**Muntele Rosu**	**145.75**	**335**	∥*i*P	PKPdf	19 37 06.1	+3.4
BRTR	**Keskin Array B**	**146.00**	**321**	PKPbc	PKPbc	19 37 06.8	+2.4
	7.5nm,0.9s,baz=79,slow=2.3,SNR=43						
BRTR	**Keskin Array B**	**146.00**	**321**	PKPbc	PKPbc	19 37 06.8	+2.4
GERES	**GERESS Array B**	**146.07**	**351**	PKPbc	PKPbc	19 37 05.3	+1.1
	0.8nm,0.6s,baz=20,slow=4.3,SNR=7.4						
GERES	**GERESS Array B**	**146.07**	**351**	PKPbc	PKPbc	19 37 05.3	+1.1
VOIR		**146.15**	**336**	∥*i*P	PKPdf	19 37 07.5	+4.2
BZS	**Buzias**	**147.23**	**340**	∥*i*P	PKPdf	19 37 05.9	+0.8

DJA 05 19:21:33.0±0.8S×124.66E, h16km, MLv4.2/3, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.94**	**314**	P	Pb	19 21 50.7	-0.2
KMSI				S	Sb	19 22 03.9	+0.7
LUWI	**Luwuk**	**2.12**	**243**	P	Pn	19 22 08.5	+0.8
LUWI				S	Sn	19 22 35.6	+1.9
MRSI	**Marisa**	**2.77**	**282**	P	Pn	19 22 18.0	+1.2
MRSI				S	Sn	19 22 52.2	+2.2
APSI	**Ampana**	**3.12**	**255**	P	Pn	19 22 22.1	+0.5

IDC 05 19:22:36.4±7.6, 30.49S×177.52W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/16, mbtmp3.4/2, Error ellipse: s-maj=321.1km s-min=59.6km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.52**	**267**	P	P	19 30 41.8	-0.1
	0.2nm,0.6s,baz=115,slow=7.9,SNR=4.2						
WRA	**Warramunga Arr**	**44.52**	**272**	P	P	19 30 49.9	0.0
	0.4nm,0.4s,baz=110,slow=8.2,SNR=5.2						
FINES	**FINESS Array B**	**145.37**	**340**	PKPbc	PKPbc	19 42 14.5	-0.9
	3.4nm,0.9s,baz=46,slow=4.2,SNR=5.8						

*IDC **05** 19:46:49.1±4.4, 36.29N×70.85E, h147km±39km, mb3.6/8, mb1 3.7/13, mb1mx3.4/29, mbtmp3.5/13, Error ellipse: s-maj=30.1km s-min=16.1km az=33.0*
*ISCJB **05** 19:46:53.0±0.7, 36.55N±0.04×70.95E±0.07, h191km±7km, mb3.7/9, Error ellipse: s-maj=9.5km s-min=5.5km az=155.2*
*NEIC **05** 19:46:53.6±0.7, 36.51N×70.95E, h182km±7km, mb4.4/9, Error ellipse: s-maj=10.1km s-min=5.5km az=60.0*
*NNC **05** 19:46:56.4±3.9, 37.29N×70.41E, h0km, mb4.2, mpv4.3, Error ellipse: s-maj=31.9km s-min=29.8km az=103.0*

ISC 05 19:46:53.9±0.7, 36.55N±0.04×70.96E±0.07, h187km±7km, n69, σ0.95/79, mb3.7/9, 5C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.54**	**219**	*e*P	**Pn**	**19 47 37.6**	**+0.1**
AML	**Almayashu**	**5.96**	**20**	P	**Pn**	**19 48 21.2**	**+0.8**
	SNR=119						
UCH	**Uchtor**	**6.30**	**25**	P	**Sn**	**19 49 35.4**	**-1.2**
	SNR=6.1						
EKS2	**Erkin-Say**	**6.48**	**19**	P	**Pn**	**19 48 27.3**	**+0.2**
	SNR=39						
EKS2	**Erkin-Say**	**6.48**	**19**	*e*P	**Pn**	**19 48 27.2**	**+0.1**
	18nm,0.4s						
KK31	**Karatay Array**	**6.56**	**357**	⇓Pn	**Pn**	**19 48 28.1**	**0.0**
	5.5nm,0.3s,baz=186,slow=12,SNR=198						
KK31				⇓Sn	**Sn**	**19 49 37.7**	**-4.9**
	28nm,0.7s,baz=180,slow=17,SNR=13						
KKAR	**Karatay Array**	**6.56**	**357**	*e*P	**Pn**	**19 48 27.9**	**-0.2**
	24nm,0.8s						
AAK	**Ala-Archa**	**6.66**	**23**	P	**Pn**	**19 48 30.0**	**+0.5**
	SNR=16						
AAK	**Ala-Archa**	**6.66

comp=Z,1.3nm,0.6s,mb3.7
ASAR Alice Springs 84.31 125 P P 19 59 04.2 -0.6
comp=Z,1.2nm,0.6s,mb3.8,baz=310,slow=5.0,SNR=38
ASAR Alice Springs 84.31 125 P P 19 59 04.2 -0.6
SDMD Soldier's Deli 98.80 335 *eP* **P 20 00 14.8 +2.4**
comp=Z,21nm,0.6s

*ISCJB **05** 20:00:33.8±0.4, 22.76N±0.02×121.66E±0.02, h16km±4km, Error ellipse: s-maj=3.0km s-min=2.6km az=11.3*
*TAP **05** 20:00:34.3, 22.76N×121.63E, h14km, ML3.8, C*
*JMA **05** 20:00:35.8±0.3, 22.80N×121.72E, h24km, M3.3*
ISC 05 20:00:33.8±0.4, 22.76N±0.02×121.62E±0.02, h12km±2km, n67, σ0.978/133, 11C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
CHKT	**Chengkung**	**0.41**	**325**	⇑*iP*		**Pg**	**20 00 42.6**	**+0.7**
	baz=324							
CHKT				*i* S		**Sg**	**20 00 47.7**	**+0.3**
	baz=324							
TTN	**Taitung**	**0.44**	**269**	⇑*iP*		**Pg**	**20 00 43.0**	**+0.5**
	baz=268							
TTN				*i* S		**Sg**	**20 00 49.2**	**+0.8**
	baz=268							
TWG	**Pinlang**	**0.51**	**276**	⇑*iP*		**Pg**	**20 00 43.8**	**0.0**
	baz=276							
TWG				S		**Sg**	**20 00 51.2**	**+0.6**
	baz=276							
ECL	**Taimali**	**0.64**	**255**	⇑*iP*		**Pg**	**20 00 46.0**	**-0.2**
	baz=254							
ECL				*eS*		**Sg**	**20 00 53.9**	**-0.8**
	baz=254							
TWF1	**Yuli**	**0.66**	**333**	⇑*iP*		**Pg**	**20 00 46.7**	**+0.1**
	baz=332							
TWF1				S		**Sg**	**20 00 55.7**	**+0.4**
	baz=332							
ELDTW	**Lidau**	**0.70**	**307**	P		**Pg**	**20 00 46.8**	**-0.6**
	baz=307							
ELDTW				*eS*		**Sg**	**20 00 55.2**	**-1.4**
	baz=307							
LAY	**Lan-yu**	**0.72**	**185**	⇑*iP*		**Pg**	**20 00 48.0**	**+0.2**
	baz=185							
LAY				S		**Sg**	**20 00 57.3**	**0.0**
	baz=185							
TAW	**Tawu**	**0.78**	**239**	P		**Pg**	**20 00 48.6**	**-0.4**
	baz=238							
TAW				*eS*		**Sg**	**20 00 58.2**	**-1.0**
	baz=238							
EHY	**Hungye**	**0.79**	**339**	*iP*		**Pg**	**20 00 49.0**	**-0.1**
	baz=339							
EHY				S		**Sg**	**20 00 59.0**	**-0.4**
	baz=339							
EAST	**Anshuo**	**0.81**	**242**	⇑*iP*		**Pg**	**20 00 49.0**	**-0.5**
	baz=242							
EAST				S		**Sg**	**20 00 58.7**	**-1.3**
	baz=242							
STYT	**Tauyuan**	**0.89**	**297**	⇑*iP*		**Pg**	**20 00 50.1**	**-0.9**
	baz=296							
STYT				*eS*		**Sg**	**20 01 02.9**	**+0.2**
	baz=296							
SSD	**Sandimen**	**0.92**	**269**	*eP*		**Pg**	**20 00 50.4**	**-1.0**
	baz=268							
SSD				*eS*		**Sg**	**20 01 04.0**	**+0.6**
	baz=268							
SCZT	**Fangliau**	**1.01**	**247**	*eP*		**Pb**	**20 00 52.4**	**-0.8**
	baz=247							
SCZT				*eS*		**Sg**	**20 01 07.3**	**+1.0**
	baz=247							
SGST	**Jiashian**	**1.01**	**288**	P		**Pb**	**20 00 53.0**	**-0.2**
	baz=288							
SGST				*eS*		**Sb**	**20 01 06.7**	**+0.3**
	baz=288							
SGLT	**Jiouru**	**1.05**	**268**	*eP*		**Pb**	**20 00 53.3**	**-0.5**
	baz=267							
SGLT				*eS*		**Sb**	**20 01 07.9**	**+0.5**
	baz=267							
WTP	**Ta-pu**	**1.05**	**298**	⇑*iP*		**Pb**	**20 00 53.3**	**-0.5**
	baz=297							
WTP				*eS*		**Sb**	**20 01 07.7**	**+0.2**
	baz=297							
ESL	**Shilin**	**1.06**	**351**	⇓*iP*		**Pb**	**20 00 52.8**	**-1.2**
	baz=350							
ESL				*eS*		**Sb**	**20 01 06.0**	**-1.8**
	baz=350							
TSEB	**Hengchuen, Pin**	**1.09**	**218**	*eP*		**Pb**	**20 00 54.9**	**+0.4**
	baz=219							
TSEB				*eS*		**Sb**	**20 01 09.0**	**+0.3**
	baz=219							
CHN1	**Nanshi**	**1.09**	**293**	⇑*iP*		**Pb**	**20 00 54.7**	**+0.1**
	baz=292							
CHN1				*eS*		**Sb**	**20 01 08.5**	**-0.3**
	baz=292							
TWM1	**Shoushan**	**1.11**	**273**	*eP*		**Pb**	**20 00 55.2**	**+0.4**
	baz=273							
TWM1				*eS*		**Sb**	**20 01 09.3**	**0.0**
	baz=273							
HEN	**Hengchun**	**1.11**	**228**	*eP*		**Pb**	**20 00 54.5**	**-0.4**
	baz=227							
HEN				*eS*		**Sb**	**20 01 09.0**	**-0.4**
	baz=227							
TWK1	**Hengchun**	**1.11**	**223**	*eP*		**Pb**	**20 00 54.4**	**-0.6**
	baz=222							
TWK1				*eS*		**Sb**	**20 01 08.1**	**-1.3**
	baz=222							
CHN4	**Tsaushan**	**1.11**	**302**	⇑*iP*		**Pb**	**20 00 54.7**	**-0.3**
	baz=301							
CHN4				*eS*		**Sb**	**20 01 09.8**	**+0.3**
	baz=301							
CHN3	**Shinhua**	**1.20**	**285**	P		**Pn**	**20 00 57.6**	**+1.3**
	baz=284							
CHN3				*eS*		**Sb**	**20 01 12.9**	**+0.9**
	baz=284							
CHN5	**Tsauling**	**1.20**	**314**	*iP*		**Pn**	**20 00 56.4**	**0.0**
	baz=313							
CHN5				*eS*		**Sb**	**20 01 12.7**	**+0.7**
	baz=313							
HWA	**Hwalien**	**1.21**	**359**	*eP*		**Pn**	**20 00 56.0**	**-0.5**
	baz=359							
HWA				*eS*		**Sb**	**20 01 12.9**	**+0.7**
	baz=359							
KAU	**Kaohsiung**	**1.23**	**261**	*eP*		**Pn**	**20 00 56.5**	**-0.2**
	baz=260							
KAU				*eS*		**Sb**	**20 01 13.3**	**+0.5**
	baz=260							
TWP	**Hsiaoliuchiu**	**1.24**	**251**	*eP*		**Pn**	**20 00 57.5**	**+0.6**
	baz=250							
TWP				*eS*		**Sb**	**20 01 13.1**	**+0.1**
	baz=250							
SMLT	**Sun Moon Lake**	**1.30**	**329**	⇓*iP*		**Pn**	**20 00 57.9**	**+0.2**
	baz=329							
SMLT				*eS*		**Sb**	**20 01 14.6**	**-0.1**
	baz=329							
TWD	**Chiawan**	**1.31**	**359**	*eP*		**Pn**	**20 00 56.6**	**-1.3**
	baz=358							
TWD				*eS*		**Sb**	**20 01 13.1**	**-2.0**
	baz=358							
TAI1	**Yung-k'ang**	**1.32**	**282**	*eP*		**Pn**	**20 00 57.3**	**-0.7**
	baz=282							
TAI1				*eS*		**Sb**	**20 01 14.6**	**-0.7**
	baz=282							
CHY	**Chiayi**	**1.32**	**304**	*eP*		**Pn**	**20 00 58.1**	**+0.1**
	baz=303							
CHY				*eS*		**Sb**	**20 01 15.6**	**+0.1**
	baz=303							
TYC	**Yuchr**	**1.34**	**328**	*iP*		**Pn**	**20 00 58.5**	**+0.3**
	baz=328							
TYC				*eS*		**Sb**	**20 01 16.4**	**+0.6**
	baz=328							
WGK	**Gukeng**	**1.34**	**313**	*eP*		**Pn**	**20 00 59.4**	**+1.1**
	baz=313							
WGK				*eS*		**Sb**	**20 01 15.7**	**-0.3**
	baz=313							
SCLT	**Jiali**	**1.38**	**288**	*eP*		**Pn**	**20 00 58.5**	**-0.3**
	baz=287							
SCLT				*eS*		**Sn**	**20 01 17.6**	**+0.7**
	baz=287							
WNT	**Mingjian**	**1.41**	**322**	*eP*		**Pn**	**20 00 59.2**	**0.0**
	baz=322							
WNT				*eS*		**Sn**	**20 01 17.4**	**-0.3**
	baz=322							
WHF	**Hehuan Shan**	**1.41**	**347**	P		**Pn**	**20 00 58.8**	**-0.5**
	baz=346							
WHF				*eS*		**Sn**	**20 01 15.3**	**-2.5**
	baz=346							
CHN8	**Yiju**	**1.42**	**294**	*eP*		**Pn**	**20 00 59.5**	**+0.1**
	baz=294							
CHN8				*eS*		**Sn**	**20 01 18.1**	**+0.1**
	baz=294							
TWT	**Tachien**	**1.54**	**345**	*eP*		**Pn**	**20 01 00.7**	**-0.3**
	baz=343							
TWT				*eS*		**Sn**	**20 01 19.9**	**-1.0**
	baz=343							
WSF	**Szhu**	**1.56**	**304**	*eP*		**Pn**	**20 01 01.2**	**0.0**
	baz=304							
WSF				*eS*		**Sn**	**20 01 21.6**	**+0.3**
	baz=304							
TCU	**Taichung**	**1.63**	**328**	*eP*		**Pn**	**20 01 04.5**	**+2.2**
	baz=327							
TCU				*eS*		**Sn**	**20 01 23.3**	**+0.2**
	baz=327							
WTCT	**Ta-ch'eng**	**1.65**	**312**	*eP*		**Pn**	**20 01 02.0**	**-0.5**
	baz=311							
WTCT				*eS*		**Sn**	**20 01 23.6**	**-0.1**
	baz=311							
ENA	**Nanau**	**1.66**	**4**	P		**Pn**	**20 01 01.8**	**-0.8**
	baz=3.0							
ENA				*eS*		**Sn**	**20 01 22.5**	**-1.5**
	baz=3.0							
NNS	**Nan Shan**	**1.68**	**352**	*eP*		**Pn**	**20 01 03.1**	**0.0**
	baz=352							
NNS				*eS*		**Sn**	**20 01 24.5**	**0.0**
	baz=352							
TWQ1	**Liyutan**	**1.76**	**334**	P		**Pn**	**20 01 06.0**	**+1.9**
	baz=333							
TWQ1				*eS*		**Sn**	**20 01 27.0**	**+0.6**
	baz=333							
NSY	**Sanyi**	**1.82**	**334**	*eP*		**Pn**	**20 01 06.9**	**+1.9**
	baz=334							
NSY				*eS*		**Sn**	**20 01 27.5**	**-0.5**
	baz=334							
TWC	**Suao**	**1.85**	**6**	*eP*		**Pn**	**20 01 05.8**	**+0.6**
	baz=6.0							
TWC				*eS*		**Sn**	**20 01 27.3**	**-1.3**
	baz=6.0							
ENTT	**Nioudou**	**1.87**	**358**	P		**Pn**	**20 01 05.3**	**-0.3**
	baz=358							
ENTT				*eS*		**Sn**	**20 01 29.2**	**+0.1**
	baz=358							
NSK	**Sanguang**	**1.92**	**353**	*eP*		**Pn**	**20 01 06.7**	**+0.4**
	baz=352							
NSK				*eS*		**Sn**	**20 01 28.8**	**-1.6**
	baz=352							
NSTT	**Nanjuang**	**1.94**	**343**	*eP*		**Pn**	**20 01 07.1**	**+0.5**
	baz=342							
NSTT				*eS*		**Sn**	**20 01 31.6**	**+0.7**
	baz=342							
TWE	**Neicheng**	**1.95**	**1**	*eP*		**Pn**	**20 01 07.3**	**+0.7**
	baz=1.0							
TWE				*eS*		**Sn**	**20 01 31.3**	**+0.3**
	baz=1.0							
PNG	**Penghu**	**2.06**	**293**	*eP*		**Pn**	**20 01 08.1**	**-0.2**
	baz=292							
PNG				*eS*		**Sn**	**20 01 31.3**	**-2.6**
	baz=292							
EGS		**2.09**	**8**	*eP*		**Pn**	**20 01 09.4**	**+0.8**
	baz=7.0							
EGS				*eS*		**Sn**	**20 01 34.4**	**-0.1**
	baz=7.0							
HSN	**Hsinchu**	**2.12**	**344**	*eP*		**Pn**	**20 01 09.2**	**+0.2**
	baz=344							
HSN				*eS*		**Sn**	**20 01 36.2**	**+1.0**
	baz=344							
YOJ	**Yonaguni jima**	**2.12**	**37**	P		**Pn**	**20 01 09.5**	**+0.5**
YOJ				*eS*		**Sn**	**20 01 34.8**	**-0.4**
TWA	**Mucha**	**2.21**	**359**	*eP*		**Pn**	**20 01 10.5**	**+0.3**
	baz=359							
TWA				*eS*		**Sn**	**20 01 38.1**	**+0.7**
	baz=359							
NCU	**National Centr**	**2.23**	**350**	*eP*		**Pn**	**20 01 11.3**	**+0.7**
	baz=349							
NCU				*eS*		**Sn**	**20 01 38.4**	**+0.3**
	baz=349							
TWB1	**Santiao Chiao**	**2.26**	**8**	*eP*		**Pn**	**20 01 12.0**	**+1.1**
	baz=8.0							
TWB1				*eS*		**Sn**	**20 01 39.1**	**+0.4**
	baz=8.0							
NWF	**Wu-fen Shan**	**2.30**	**4**	*eP*		**Pn**	**20 01 12.0**	**+0.5**
	baz=3.0							
NWF				*eS*		**Sn**	**20 01 40.0**	**+0.2**
	baz=3.0							
TWS1	**Kuangyinshan**	**2.33**	**355**	*eP*		**Pn**	**20 01 13.0**	**+1.1**
	baz=355							
TWS1				*eS*		**Sn**	**20 01 41.0**	**+0.4**
	baz=355							
HATJ	**Hateruma jima**	**2.38**	**57**	P		**Pn**	**20 01 13.1**	**+0.5**
HATJ				S		**Sn**	**20 01 40.3**	**-1.4**
IRIF	**Iriomote-Funau**	**2.49**	**51**	P		**Pn**	**20 01 15.1**	**+1.0**
IRIF				S		**Sn**	**20 01 44.3**	**0.0**
JKRS	**Kuro-shima**	**2.64**	**56**	P		**Pn**	**20 01 16.9**	**+0.8**
JKRS				S		**Sn**	**20 01 47.8**	**-0.2**
JIJ	**Ishigaki jima**	**2.81**	**55**	P		**Pn**	**20 01 19.7**	**+1.2**
JIJ				S		**Sn**	**20 01 50.5**	**-1.7**
JTJ	**Tarama**	**3.38**	**56**	P		**Pn**	**20 01 27.3**	**+0.9**
JTJ				S		**Sn**	**20 02 05.6**	**-0.9**
JMJ	**Miyako jima 2**	**3.93**	**58**	*eS*		**Sn**	**20 02 19.3**	**-0.7**
JOGS	**Gusukube**	**4.00**	**59**	P		**Pn**	**20 01 35.8**	**+1.0**
JOGS				S		**Sn**	**20 02 21.9**	**+0.3**

*ISK **05** 20:01:04.8, 39.34N×27.39E, h5km, MD3.1*
*DDA **05** 20:01:05.8, 39.34N×27.44E, h7km±3km, Ml3.0*
*ISCJB **05** 20:01:05.9±0.4, 39.34N±0.02×27.43E±0.02, h4km±4km, Error ellipse: s-maj=3.3km s-min=2.9km az=174.4*
*THE **05** 20:01:06.3, 39.51N×27.42E, h10km±2km, ML2.5/3, Error ellipse: s-maj=6.2km s-min=3.3km az=3.0*
*CSEM **05** 20:01:06.3±0.1, 39.33N×27.42E, h8km, MD3.1, Error ellipse: s-maj=2.3km s-min=2.3km az=20.0*
*ATH **05** 20:01:07.3, 39.21N×27.38E, h23km, MD2.9/3*
ISC 05 20:01:06.5±0.4, 39.33N±0.02×27.42E±0.02, h9km±3km, n84, σ0.978/111, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
BALY	**Balya**	**0.43**	**20**	*iP*		**Pg**	**20 01 15.2**	**+0.2**
BALY				*iS*		**Sg**	**20 01 20.7**	**0.0**
BALY	**Balya**	**0.43**	**20**	*iP*		**Pg**	**20 01 15.2**	**+0.2**
BALY				*iS*		**Sg**	**20 01 20.7**	**0.0**
BALB	**Balikesir**	**0.47**	**49**	PG		**Pg**	**20 01 15.5**	**-0.1**
BALB	**Balikesir**	**0.47**	**49**	*i* Pg		**Pg**	**20 01 15.5**	**-0.1**
AKS	**Akhisar**	**0.55**	**146**	*e*PG		**Pg**	**20 01 16.7**	**-0.4**
AKS	**Akhisar**	**0.55**	**146**	*e*Pg		**Pg**	**20 01 16.7**	**-0.4**
AKHS	**Akhisar**	**0.55**	**146**	*i* P		**Pg**	**20 01 17.0**	**-0.1**
AKHS				*i* S		**Sg**	**20 01 24.4**	**+0.2**
AKHS	**Akhisar**	**0.55**	**146**	*i* P		**Pg**	**20 01 17.0**	**-0.1**
AKHS				*i* S		**Sg**	**20 01 24.5**	**+0.2**
AYVA	**Ayvalik**	**0.57**	**268**	*i* P		**Pg**	**20 01 17.4**	**-0.1**
AYVA				*i* S		**Sg**	**20 01 25.5**	**+0.6**
AYVA	**Ayvalik**	**0.57**	**268**	*i* P		**Pg**	**20 01 17.4**	**-0.1**
AYVA				*i* S		**Sg**	**20 01 25.5**	**+0.5**
GONE	**Gonen-Balikesi**	**0.74**	**16**	*e*PG		**Pg**	**20 01 20.2**	**-0.6**
GONE				*e*SG		**Sg**	**20 01 31.6**	**+1.2**
GONE	**Gonen-Balikesi**	**0.74**	**16**	*e*Pg		**Pg**	**20 01 20.2**	**-0.6**
GONE				*e*Sg		**Sg**	**20 01 31.6**	**+1.1**
DURS	**Dursunbey**	**0.86**	**72**	*i* P		**Pg**	**20 01 22.3**	**-0.7**
DURS				*i* S		**Sg**	**20 01 34.2**	**0.0**
DURS	**Dursunbey**	**0.86**	**72**	*i* P		**Pg**	**20 01 22.3**	**-0.7**
DURS				*i* S		**Sg**	**20 01 34.2**	**+0.1**
PRK	**Paraskevi**	**0.90**	**265**	*e*PN		**Pn**	**20 01 24.0**	**-1.3**
PRK				*e*SN		**Sn**	**20 01 35.9**	**-2.4**
PRK	**Paraskevi**	**0.90**	**265**	P		**Pg**	**20 01 24.1**	**+0.3**
PRK				S		**Sg**	**20 01 37.2**	**+1.8**
PRK	**Paraskevi**	**0.90**	**265**	P		**Pg**	**20 01 24.1**	**+0.3**
PRK				*e*Sn		**Sn**	**20 01 35.9**	**-2.4**
PRK				S		**Sg**	**20 01 37.2**	**+1.8**
IZM	**Izmir**	**0.94**	**188**	*e*PG		**Pg**	**20 01 24.2**	**-0.4**
IZM	**Izmir**	**0.94**	**188**	*e*Pg		**Pg**	**20 01 24.2**	**-0.4**
DST	**Dursunbey**	**0.96**	**73**	*e*PG		**Pg**	**20 01 24.8**	**-0.3**
DST	**Dursunbey**	**0.96**	**73**	*e*Pg		**Pg**	**20 01 24.8**	**-0.2**
EZN	**Ezine**	**0.98**	**300**	*e*PG		**Pg**	**20 01 24.2**	**-1.1**
EZN	**Ezine**	**0.98**	**300**	*e*Pg		**Pg**	**20 01 24.3**	**-1.0**
BLCB	**Balcova**	**0.99**	**198**	*e*PG		**Pg**	**20 01 25.1**	**-0.4**
BLCB	**Balcova**	**0.99**	**198**	*e*Pg		**Pg**	**20 01 25.1**	**-0.5**
DEMI	**Demirci**	**1.05**	**106**	*i* P		**Pg**	**20 01 26.8**	**+0.2**
DEMI				*i* S		**Sg**	**20 01 40.0**	**-0.2**
DEMI	**Demirci**	**1.05**	**106**	*i* P		**Pg**	**20 01 26.8**	**+0.2**
DEMI				*i* S		**Sg**	**20 01 40.0**	**-0.2**
KRBG	**Karabiga-Canak**	**1.06**	**355**	*e*PG		**Pg**	**20 01 26.1**	**-0.9**
KRBG	**Karabiga-Canak**	**1.06**	**355**	*e*Pg		**Pg**	**20 01 26.1**	**-0.8**
BNT	**Bandirma**	**1.09**	**20**	*e*PN		**Pn**	**20 01 26.8**	**-1.2**
BNT	**Bandirma**	**1.09**	**20**	*e*Pn		**Pn**	**20 01 26.8**	**-1.1**
LPK	**Lapseki**	**1.16**	**334**	*e*PN		**Pn**	**20 01 27.6**	**-1.2**
LPK	**Lapseki**	**1.16**	**334**	*e*Pn		**Pn**	**20 01 27.6**	**-1.2**
BOZC	**Bozcaada**	**1.17**	**296**	*i* P		**Pb**	**20 01 29.4**	**+0.4**
BOZC				*i* S		**Sb**	**20 01 44.0**	**-0.2**
KCTX	**Karacabey (Bur**	**1.18**	**37**	*e*PN		**Pn**	**20 01 28.2**	**-0.9**
KCTX	**Karacabey (Bur**	**1.18**	**37**	*e*Pn		**Pn**	**20 01 28.2**	**-0.9**
MANT	**Manisa**	**1.22**	**133**	*i* P		**Pn**	**20 01 29.4**	**-0.3**
MANT				*i* S		**Sb**	**20 01 45.2**	**-0.4**
MANT	**Manisa**	**1.22**	**133**	*i* P		**Pn**	**20 01 29.4**	**-0.3**
MANT				*i* S		**Sb**	**20 01 45.2**	**-0.4**
SIGR	**SIGRI**	**1.22**	**265**	P		**Pn**	**20 01 29.1**	**-0.6**
SIGR				S		**Sb**	**20 01 45.7**	**+0.1**
SIGR	**SIGRI**	**1.22**	**265**	P		**Pn**	**20 01 29.1**	**-0.6**
SIGR				S		**Sb**	**20 01 45.7**	**+0.1**
KULA	**Kula-Manisa**	**1.27**	**130**	*e*PN		**Pn**	**20 01 30.5**	**+0.2**
KULA	**Kula-Manisa**	**1.27**	**130**	*e*Pn		**Pn**	**20 01 30.5**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.29**	**326**	*e*PN		**Pn**	**20 01 30.0**	**-0.6**
GELI	**Tayfur-Gelibol**	**1.29**	**326**	*e*Pn		**Pn**	**20 01 30.0**	**-0.7**
RKY	**Sarkoy-Tekirda**	**1.36**	**352**	*e*PN		**Pn**	**20 01 31.9**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.36**	**352**	*e*Pn		**Pn**	**20 01 31.9**	**+0.2**
SART	**Tekirdag**	**1.37**	**352**	*i* P		**Pn**	**20 01 31.1**	**-0.6**
SART				*i* S		**Sb**	**20 01 49.0**	**-0.7**
SART	**Tekirdag**	**1.37**	**352**	*i* P		**Pn**	**20 01 31.1**	**-0.6**
SART				*i* S		**Sb**	**20 01 49.0**	**-0.8**
CHOS	**Chios island**	**1.43**	**229**	P		**Pn**	**20 01 31.9**	**-0.6**
CHOS				S		**Sn**	**20 01 53.9**	**+2.5**
CHOS	**Chios island**	**1.43**	**229**	P		**Pn**	**20 01 31.9**	**-0.6**
CHOS				S		**Sn**	**20 01 53.9**	**+2.5**
GADA	**Gvkgeada**	**1.45**	**307**	*e*PN		**Pn**	**20 01 32.8**	**-0.1**
GADA	**Gvkgeada**	**1.45**	**307**	*e*Pn		**Pn**	**20 01 32.8**	**-0.1**
MFT	**Murefte**	**1.46**	**356**	*e*PN		**Pn**	**20 01 33.2**	**+0.2**
MFT	**Murefte**	**1.46**	**356**	*e*Pn		**Pn**	**20 01 33.2**	**+0.3**
ERIK	**Erikli-Kesan**	**1.51**	**333**	*e*PN		**Pn**	**20 01 33.7**	**+0.1**
ERIK	**Erikli-Kesan**	**1.51**	**333**	*e*Pn		**Pn**	**20 01 33.7**	**0.0**
MDNY	**Mudanya-Bursa**	**1.53**	**47**	*e*PN		**Pn**	**20 01 34.6**	**+0.6**
MDNY	**Mudanya-Bursa**	**1.53**	**47**	*e*Pn		**Pn**	**20 01 34.6**	**+0.7**
ULDT	**Uludag**	**1.55**	**58**	*i* P		**Pn**	**20 01 34.0**	**-0.2**
ULDT				*i* S		**Sn**	**20 01 53.7**	**-0.7**
ULDT	**Uludag**	**1.55**	**58**	*i* P		**Pn**	**20 01 34.0**	**-0.2**
ULDT				*i* S		**Sn**	**20 01 53.7**	**-0.7**
GDZ	**Gediz**	**1.62**	**98**	*i* P		**Pn**	**20 01 36.3**	**+1.2**
GDZ	**Gediz**	**1.62**	**98**	*i* P		**Pn**	**20 01 36.3**	**+1.1**
ARMT	**Armutlu**	**1.65**	**42**	*e*PN		**Pn**	**20 01 36.3**	**+0.6**
ARMT	**Armutlu**	**1.65**	**42**	*e*Pn		**Pn**	**20 01 36.3**	**+0.6**
SMG	**Samos**	**1.69**	**196**	*e*PN		**Pn**	**20 01 35.7**	**-0.4**
SMG	**Samos**	**1.69**	**196**	*e*Pn		**Pn**	**20 01 35.7**	**-0.4**
ENEZ	**Enez**	**1.71**	**326**	*e*PN		**Pn**	**20 01 36.6**	**+0.2**
ENEZ	**Enez**	**1.71**	**326**	*e*Pn		**Pn**	**20 01 36.6**	**+0.2**
LIA	**Limnos Island**	**1.82**	**289**	*e*PN		**Pn**	**20 01 39.5**	**+1.6**
LIA	**Limnos Island**	**1.82**	**289**	*e*Pn		**Pn**	**20 01 39.5**	**+1.6**
YLV	**Yalova**	**1.94**	**50**	*e*PN		**Pn**	**20 01 40.5**	**+0.9**
YLV	**Yalova**	**1.94**	**50**	*e*Pn		**Pn**	**20 01 40.6**	**+1.0**
SLVT	**Silivri**	**1.99**	**17**	*e*PN		**Pn**	**20 01 40.9**	**+0.6**
SLVT	**Silivri**	**1.99**	**17**	*e*Pn		**Pn**	**20 01 40.9**	**+0.6**
CTKS	**Kestanelik-??a**	**2.07**	**23**	*e*PN		**Pn**	**20 01 42.2**	**+0.8**
CTKS	**Kestanelik-??a**	**2.07**	**23**	*e*Pn		**Pn**	**20 01 42.2**	**+0.8**
ALT	**Altintas**	**2.11**	**97**	*e*PN		**Pn**	**20 01 42.8**	**+0.9**
ALT	**Altintas**	**2.11**	**97**	*e*Pn		**Pn**	**20 01 42.8**	**+0.9**
CTYL	**Yal??k??y-??at**	**2.24**	**17**	*e*PN		**Pn**	**20 01 44.6**	**+0.9**
CTYL	**Yal??k??y-??at**	**2.24**	**17**	*e*Pn		**Pn**	**20 01 44.6**	**+0.9**
KLYT	**Kilyos**	**2.28**	**32**	*e*PN		**Pn**	**20 01 45.2**	**+0.9**
KLYT	**Kilyos**	**2.28**	**32**	*e*Pn		**Pn**	**20 01 45.2**	**+0.9**
EDRB	**Edirne**	**2.56**	**349**	*e*PN		**Pn**	**20 01 48.9**	**+0.7**
EDRB	**Edirne**	**2.56**	**349**	*e*Pn		**Pn**	**20 01 48.9**	**+0.7**

IDC 05 20:07:17.7±16.0, 6.26S×130.23E, h91km±175km, mb3.6/2, mb1 3.5/5, mb1mx3.3/16, mbtmp3.4/5, ML3.8/3, Error ellipse: s-maj=121.4km s-min=62.6km az=36.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.60**	**200**	P		Pn	20 10 14.2	+0.6
	0.5nm,0.3s,baz=38,slow=11,SNR=12							
FITZ				S		Sn	20 12 19.3	-13
	1.4nm,0.3s,baz=228,slow=17,SNR=8.5							
WRA	**Warramunga Arr**	**14.18**	**164**	P		Pn	20 10 32.9	-1.5
	0.5nm,0.3s,baz=345,slow=13,SNR=19							
WRA				S		Sn	20 12 58.7	-12
	1.1nm,0.3s,baz=338,slow=21,SNR=10.0							
ASAR	**Alice Springs**	**17.67**	**169**	P		Pn	20 11 18.4	+0.4
	0.2nm,0.3s,baz=344,slow=10,SNR=9.7							
MKAR	**Makanchi Array**	**67.73**	**327**	P		P	20 18 06.1	+0.6
	1.4nm,0.5s,baz=116,slow=8.6,SNR=20							
ZALV	**Zalesovo Beam**	**71.02**	**334**	P		P	20 18 25.0	-0.6
	0.4nm,0.5s,baz=103,slow=3.1,SNR=3.1							

*NIED **05** 20:26:00, 28.60N×129.40E, h26km, Mw3.5 Best double couple: M0 2.16000×10^14 NP1:φs128.00000°, δ71.00000°, λ-54.00000°. NP2:φs242.00000°, δ40.00000°, λ-150.00000°.*
JMA 05 20:26:04.0±0.1, 28.61N×129.39E, h25km±1km, M3.5, Ryukyu Islands

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

JOW				S	Sn	20 30 49.4	-5.7
KSRS	**Korea Array**	**6.58**	**342**	P	Pn	20 30 25.2	+1.5
	0.4nm,0.3s,baz=170,slow=14,SNR=6.9						
JHJ	**Hachijo jima 2**	**8.09**	**74**	P	Pn	20 30 49.2	+5.4
	12nm,0.3s,baz=92,slow=21,SNR=5.6						
MAT	**Matsushiro**	**8.32**	**48**	P	Pn	20 30 50.8	+3.9
MAT				S	Sn	20 32 18.3	-1.2
MJAR	**Matsushiro Arr**	**8.32**	**48**	P	Pn	20 30 51.1	+4.2
	0.6nm,0.3s,baz=237,slow=15,SNR=12						
MJAR				S	Sn	20 32 14.6	-4.9
	0.5nm,0.3s,baz=226,slow=15,SNR=6.5						
MJAR	**Matsushiro Arr**	**8.32**	**48**	P	Pn	20 30 51.1	+4.2
MJAR				S	Sn	20 32 14.6	-4.9
ENH	**Enshi**	**18.10**	**272**	*e*P	P	20 32 50.2	+0.9
	46nm,0.8s						
SONM	**Songino Array**	**24.78**	**319**	P	P	20 33 56.5	-0.1
	1.0nm,0.4s,mb3.7,baz=143,slow=9.9,SNR=11						
SONM	**Songino Array**	**24.78**	**319**	P	P	20 33 56.5	-0.1
CMAR	**Chiang Mai Arr**	**31.22**	**253**	P	P	20 34 54.5	+0.3
	0.4nm,0.4s,mb3.5,baz=47,slow=7.5,SNR=5.4						
CMAR	**Chiang Mai Arr**	**31.22**	**253**	P	P	20 34 54.5	+0.3
LSA	**Lhasa**	**33.84**	**278**	P	P	20 35 16.2	-0.8
ZALV	**Zalesovo Beam**	**39.67**	**319**	PcP	PcP	20 38 09.0	-0.5
	0.3nm,0.3s,baz=113,slow=3.3,SNR=1.9						
MKAR	**Makanchi Array**	**39.92**	**307**	P	P	20 36 07.7	-0.4
	0.8nm,0.8s,mb3.4,baz=89,slow=11,SNR=5.4						
MKAR				PcP	PcP	20 38 09.8	-0.7
	1.1nm,1.0s,baz=77,slow=3.8,SNR=4.4						
MKAR	**Makanchi Array**	**39.92**	**307**	P	P	20 36 07.7	-0.4
MKAR				PcP	PcP	20 38 09.8	-0.7
KURK	**Kurchatov**	**42.76**	**313**	P	P	20 36 31.1	-0.1
	1.0nm,0.4s,mb3.8,baz=95,slow=8.6,SNR=8.8						
KURK	**Kurchatov**	**42.76**	**313**	*e*P	P	20 36 30.6	-0.6
BRVK	**Borovoye**	**48.09**	**315**	*e*P	P	20 37 13.2	+0.1
	3.2nm,0.7s,mb4.1						
ASAR	**Alice Springs**	**54.66**	**176**	P	P	20 38 01.6	-0.6
	0.7nm,1.1s,mb3.3,baz=5.2,slow=11,SNR=6.3						
ASAR	**Alice Springs**	**54.66**	**176**	P	P	20 38 01.6	-0.6
ABKAR	**Akbulak array**	**54.81**	**311**	*e*P	P	20 38 03.2	+0.2
	1.2nm,0.4s,mb4.0						
KDAK	**Kodiak Island**	**57.36**	**38**	P	P	20 38 21.2	+0.2
	14nm,1.1s,mb4.7,baz=357,slow=3.1,SNR=5.4						
KDAK	**Kodiak Island**	**57.36**	**38**	P	P	20 38 21.2	+0.2
ILAR	**Eielson Array**	**59.13**	**30**	P	P	20 38 33.1	0.0
	0.3nm,0.6s,mb3.3,baz=271,slow=6.4,SNR=5.9						
ILAR	**Eielson Array**	**59.13**	**30**	P	P	20 38 33.1	0.0
INK	**Inuvik**	**63.54**	**24**	P	P	20 39 03.5	+0.7
	0.5nm,0.5s,mb3.6,baz=323,slow=11,SNR=4.1						
INK	**Inuvik**	**63.54**	**24**	P	P	20 39 03.5	+0.7
KEV	**Kevo**	**65.56**	**338**	*ep*	P	20 39 14.3	-1.5
	1.0nm,0.4s,mb4.0						
ARCES	**ARCESS Array B**	**66.13**	**338**	P	P	20 39 18.2	-1.2
	1.6nm,0.6s,mb4.0,baz=71,slow=9.1,SNR=8.4						
ARCES	**ARCESS Array B**	**66.13**	**338**	P	P	20 39 18.2	-1.2
JOF	**Joensuu**	**66.68**	**331**	*ep*	P	20 39 20.5	-2.6
	1.5nm,0.4s,mb4.2						
KAF	**Kangasniemi**	**69.13**	**331**	*ep*	P	20 39 34.6	-3.8
	0.5nm,0.4s,mb3.6						
FINES	**FINESS Array B**	**69.54**	**330**	P	P	20 39 40.1	-0.8
	4.8nm,0.6s,mb4.4,baz=68,slow=5.5,SNR=23						
FINES	**FINESS Array B**	**69.54**	**330**	P	P	20 39 40.1	-0.8
AKASG	**Malin Array Be**	**73.06**	**319**	P	P	20 40 01.5	-0.8
	3.4nm,0.6s,mb4.3,baz=54,slow=6.3,SNR=14						
AKASG	**Malin Array Be**	**73.06**	**319**	P	P	20 40 01.5	-0.8
BRTR	**Keskin Array B**	**75.57**	**308**	P	P	20 40 17.3	+0.3
	3.6nm,0.8s,mb4.1,baz=101,slow=5.3,SNR=25						
BRTR	**Keskin Array B**	**75.57**	**308**	P	P	20 40 17.3	+0.3
NB2	**NORSAR Subarra**	**75.73**	**334**	P	P	20 40 16.3	-1.2
	comp=Z,0.9nm,0.6s,mb3.6,baz=50,slow=5.9						
NOA	**NORSAR Array B**	**75.73**	**334**	P	P	20 40 16.6	-0.9
	comp=Z,0.9nm,0.6s,mb3.6,baz=49,slow=5.6,SNR=6.3						
NOA	**NORSAR Array B**	**75.73**	**334**	P	P	20 40 16.6	-0.9
TESR		**76.63**	**316**	⇑*i*P	P	20 40 22.5	-0.4
VRI	**Vrincioaia**	**76.92**	**316**	⇑*i*P	P	20 40 25.6	+1.1
KWP	**Kalwaria Pacla**	**77.21**	**321**	⇓*i*P	P	20 40 26.9	+0.9
MLR	**Muntele Rosu**	**77.59**	**316**	⇑*i*P	P	20 40 28.5	+0.3
KOLS	**Kolonicke sedl**	**77.83**	**320**	*e*P	P	20 40 29.5	0.0
VOIR		**78.15**	**316**	⇓*i*P	P	20 40 20.4	-11
CRVS	**Cervenica-Dubn**	**78.29**	**320**	*e*P	P	20 40 31.0	-1.0
OJC	**Ojcow**	**78.43**	**322**	*e*PX	P	20 40 32.9	+0.1
NIE	**Niedzica**	**78.62**	**321**	*e*PX	P	20 40 34.7	+0.9
VYHS	**Vyhne**	**79.95**	**321**	*e*P	P	20 40 41.6	+0.6
VRAC	**Vranov**	**80.65**	**323**	⇑*i*P	P	20 40 45.7	+0.9
CLL	**Collm**	**81.20**	**326**	⇓*i*P	P	20 40 47.7	+0.1
	comp=Z,7.0nm,0.9s,mb4.3						
GERES	**GERESS Array B**	**82.42**	**324**	P	P	20 40 54.9	+0.8
	comp=Z,0.8nm,0.8s,mb3.4,baz=54,slow=3.4,SNR=5.6						
GERES	**GERESS Array B**	**82.42**	**324**	P	P	20 40 54.9	+0.8
NVAR	**Mina Array Bea**	**85.64**	**47**	P	P	20 41 12.0	+1.4
	comp=Z,0.3nm,0.5s,mb3.3,baz=309,slow=5.2,SNR=5.0						
NVAR	**Mina Array Bea**	**85.64**	**47**	P	P	20 41 12.0	+1.4

*ISK **05** 20:46:03.7, 37.57N×35.66E, h3km, MD2.3*
*DDA **05** 20:46:04.9, 37.57N×35.69E, h7km±4km, Ml2.9*
*ISCJB **05** 20:46:05.2±0.6, 37.51N±0.03×35.71E±0.04, h12km±5km, Error ellipse: s-maj=5.7km s-min=5.2km az=11.0*
*CSEM **05** 20:46:05.0±0.2, 37.50N×35.70E, h15km, MD2.3, Error ellipse: s-maj=5.8km s-min=4.5km az=5.0*
ISC 05 20:46:05.5±0.6, 37.51N±0.04×35.71E±0.04, h16km±5km, n17, σ0990/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.10**	**106**	PG	Pg	20 46 07.7	-1.1
CEYT	**Ceyhan**	**0.50**	**176**	*e*PG	Pg	20 46 15.5	+0.1
CEYT				*e*SG	Sg	20 46 24.0	+1.9
CEYT	**Ceyhan**	**0.50**	**176**	*e*Pg	Pg	20 46 15.5	+0.1
ANDN	**Andirin**	**0.51**	**82**	*i* P	Pg	20 46 15.8	+0.2
ANDN				*i* S	Sg	20 46 23.7	+1.2
ANDN	**Andirin**	**0.51**	**82**	*i* P	Pg	20 46 15.8	+0.1
ANDN				*i* S	Sg	20 46 23.7	+1.2
KARA	**Karaisali**	**0.58**	**245**	*e*PG	Pg	20 46 15.7	-1.2
KARA				*e*SG	Sg	20 46 24.4	-0.1
KARA	**Karaisali**	**0.58**	**245**	*e*Pg	Pg	20 46 15.7	-1.1
KARA				*e*Sg	Sg	20 46 24.4	-0.1
GULE	**Gulek**	**0.78**	**253**	*i* P	Pg	20 46 20.3	-0.3
GULE				*i* S	Sg	20 46 31.9	+1.0
GULE	**Gulek**	**0.78**	**253**	*i* P	Pg	20 46 20.3	-0.3
GULE				*i* S	Sg	20 46 31.9	+1.1
KMRS	**Kahramanmaras**	**0.95**	**90**	*e*PG	Pg	20 46 23.4	-0.5
COBT	**Iskenderun**	**1.08**	**156**	*i* P	Pb	20 46 25.0	-0.8
COBT				*i* S	Sb	20 46 39.5	-0.1
COBT	**Iskenderun**	**1.08**	**156**	*i* P	Pb	20 46 25.0	-0.8
COBT				*i* S	Sb	20 46 39.5	-0.1
SARI	**SarD1z-Kayseri**	**1.41**	**33**	*e*PG	Pg	20 46 24.1	-8.4
AVNT	**Avonos**	**1.44**	**332**	*i* P	Pn	20 46 30.3	-0.6
AVNT				*i* S	Sn	20 46 50.7	+1.3
AVNT	**Avonos**	**1.44**	**332**	*i* P	Pn	20 46 30.3	-0.6
AVNT				*i* S	Sn	20 46 50.7	+1.3
YAYL	**Yayladag**	**1.51**	**168**	*i* P	Pn	20 46 30.6	-1.2
YAYL				*i* S	Sn	20 46 51.5	+0.4
YAYL	**Yayladag**	**1.51**	**168**	*i* P	Pn	20 46 30.6	-1.2
YAYL				*i* S	Sn	20 46 51.5	+0.4

WEL 05 20:49:34.3±0.1, 41.09S×174.58E, h60km±1km, ML3.6/16, 3C-7D, Error ellipse: s-maj=0.8km s-min=0.8km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNZO	**South Karori**	**0.24**	**157**	PN	Pn	20 49 43.6	-0.4
SNZO				SN	Sn	20 49 50.7	-0.3
WEL	**Wellington**	**0.24**	**144**	⇓PN	Pn	20 49 43.7	-0.3
WEL				SN	Sn	20 49 51.1	0.0
TCW	**Tory Channel**	**0.26**	**242**	⇓PN	Pn	20 49 43.7	-0.4
TCW				SN	Sn	20 49 50.6	-0.7
KIW	**Kapiti Island**	**0.34**	**47**	⇓PN	Pn	20 49 44.6	-0.1
KIW				SN	Sn	20 49 52.1	-0.2
CAW	**Cannon Point**	**0.37**	**93**	⇓PN	Pn	20 49 44.8	-0.2
CAW				SN	Sn	20 49 51.7	-1.0
BHW	**Baring Head**	**0.38**	**145**	⇓PN	Pn	20 49 44.7	-0.4
OGWZ	**Otaki Gorge**	**0.52**	**59**	⇓PN	Pn	20 49 46.3	-0.2
DUWZ	**D'Urville Isla**	**0.58**	**300**	⇑PN	Pn	20 49 46.8	-0.3
TUWZ	**Tuamarina**	**0.59**	**235**	⇓PN	Pn	20 49 46.6	-0.6
MSWZ	**Moikau Station**	**0.60**	**123**	PN	Pn	20 49 47.0	-0.3
PLWZ	**Palliser**	**0.70**	**134**	⇑PN	Pn	20 49 48.0	-0.5
MTW	**Mount Morrison**	**0.70**	**96**	⇑PN	Pn	20 49 48.0	-0.5
PAWZ	**Paruwai Farm**	**0.70**	**115**	PN	Pn	20 49 48.6	+0.1
CMWZ	**Cape Campbell**	**0.71**	**203**	PN	Pn	20 49 48.7	+0.1
HOWZ	**Holdsworth Sta**	**0.73**	**75**	PN	Pn	20 49 48.4	-0.5
BSWZ	**Blackbirch Sta**	**0.82**	**220**	PN	Pn	20 49 49.4	-0.6
MRZ	**Mangatainoka R**	**0.87**	**61**	PN	Pn	20 49 50.1	-0.6
TRWZ	**Traveller**	**0.89**	**111**	PN	Pn	20 49 50.4	-0.5
NNZ	**Nelson**	**0.92**	**262**	PN	Pn	20 49 50.6	-0.6
TMWZ	**Te Maipa**	**0.99**	**91**	PN	Pn	20 49 51.5	-0.7
BFZ	**Birch Farm**	**1.33**	**73**	PN	Pn	20 49 55.3	-1.3
WAZ	**Wanganui**	**1.37**	**13**	PN	Pn	20 49 58.0	+0.8
TSZ	**Takapari Road**	**1.47**	**46**	PN	Pn	20 49 57.7	-0.9
KHZ	**Kahutara**	**1.54**	**210**	PN	Pn	20 49 58.5	-0.9
QRZ	**Quartz Range**	**1.58**	**279**	PN	Pn	20 49 59.2	-0.8
MOVZ	**Moawhango**	**1.91**	**28**	PN	Pn	20 50 03.8	-0.7
BHHZ	**Black Hill Sta**	**1.96**	**36**	PN	Pn	20 50 04.6	-0.5
VRZ	**Vera Road**	**1.97**	**4**	PN	Pn	20 50 05.8	+0.5
WTVZ	**West Tongariro**	**2.12**	**22**	PN	Pn	20 50 07.5	+0.2
DSZ	**Denniston Nort**	**2.19**	**252**	PN	Pn	20 50 07.2	-1.1
LTZ	**Lake Taylor**	**2.41**	**225**	PN	Pn	20 50 09.7	-1.6
HIZ	**Hauiti**	**2.58**	**5**	PN	Pn	20 50 14.2	+0.5
MQZ	**McQueen's Vall**	**2.98**	**208**	PN	Pn	20 50 15.8	-3.2
ODZ	**Otahua Downs**	**4.89**	**215**	PN	Pn	20 50 41.9	-3.3
JCZ	**Jackson Bay**	**5.23**	**233**	PN	Pn	20 50 53.3	+3.5

*ISCJB **05** 21:18:38.6±0.3, 24.32N±0.03×122.96E±0.02, h44km±8km, Error ellipse: s-maj=4.7km s-min=2.6km az=176.6*
*JMA **05** 21:18:38.8±0.1, 24.36N×122.99E, h48km±1km, M2.8*
*TAP **05** 21:18:40.3, 24.32N×122.82E, h35km±1km, ML3.5, D*
ISC 05 21:18:39.3±0.3, 24.35N±0.03×122.96E±0.02, h40km±8km, n54, σ0999/105, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.12**	**21**	P	Pn	21 18 46.3	+0.2
YOJ				S	Sn	21 18 51.6	+0.8
IRIF	**Iriomote-Funau**	**0.70**	**91**	P	Pn	21 18 52.1	-0.6
IRIF				S	Sn	21 19 02.1	-0.3
HATJ	**Hateruma jima**	**0.82**	**110**	P	Pn	21 18 53.7	-0.7
JKRS	**Kuro-shima**	**0.96**	**96**	P	Pn	21 18 55.9	-0.4
JKRS				S	Sn	21 19 08.9	+0.1
TWC	**Suao**	**1.05**	**285**	*i* P	Pn	21 18 56.5	-1.0
	baz=300						
TWC				*i* S	Sn	21 19 08.9	-2.0
	baz=300						
EGS		**1.06**	**298**	*e*P	Pn	21 18 57.1	-0.6
	baz=312						
EGS				*e*S	Sn	21 19 10.4	-0.9
	baz=312						
JIJ	**Ishigaki jima**	**1.08**	**89**	P	Pn	21 18 57.0	-0.9
JIJ				S	Sn	21 19 10.1	-1.5
TWB1	**Santiao Chiao**	**1.10**	**307**	P	Pn	21 18 58.4	+0.1
	baz=324						
TWB1				S	Sn	21 19 11.7	-0.7
	baz=324						
ENA	**Nanau**	**1.12**	**274**	*i* P	Pn	21 18 58.2	-0.2
	baz=287						
ENA				*i* S	Sn	21 19 11.4	-1.2
	baz=287						
TWE	**Neicheng**	**1.24**	**288**	P	Pn	21 18 59.9	-0.2
	baz=302						
TWE				S	Sn	21 19 14.4	-1.2
	baz=302						
TWD	**Chiawan**	**1.27**	**258**	P	Pn	21 19 00.8	+0.1
	baz=245						
TWD				S	Sn	21 19 16.0	-0.5
	baz=245						
NWF	**Wu-fen Shan**	**1.29**	**304**	P	Pn	21 19 01.4	+0.5
	baz=309						
NWF				*e*S	Sn	21 19 16.4	-0.6
	baz=309						
ENTT	**Nioudou**	**1.30**	**283**	P	Pn	21 19 01.3	+0.3
	baz=295						
ENTT				S	Sn	21 19 16.8	-0.5
	baz=295						
TWA	**Mucha**	**1.40**	**297**	P	Pn	21 19 03.1	+0.7
	baz=314						
TWA				S	Sn	21 19 19.8	+0.1
	baz=314						
NNS	**Nan Shan**	**1.45**	**274**	P	Pn	21 19 03.7	+0.7
	baz=264						
NNS				S	Sn	21 19 20.4	-0.4
	baz=264						
ESL	**Shilin**	**1.49**	**250**	*e*P	Pn	21 19 02.7	-0.9
	baz=237						
ESL				*e*S	Sn	21 19 20.0	-1.9
	baz=237						
NSK	**Sanguang**	**1.50**	**283**	*e*P	Pn	21 19 03.9	+0.3
	baz=296						
NSK				S	Sn	21 19 21.8	-0.2
	baz=296						
WHF	**Hehuan Shan**	**1.56**	**263**	*i* P	Pn	21 19 04.7	+0.1
	baz=265						
WHF				*e*S	Sn	21 19 23.3	-0.3
	baz=265						
TWS1	**Kuangyinshan**	**1.59**	**299**	*e*P	Pn	21 19 06.3	+1.3
	baz=302						
TWS1				*e*S	Sn	21 19 24.6	+0.2
	baz=302						
JTJ	**Tarama**	**1.61**	**79**	P	Pn	21 19 05.0	-0.3
JTJ				S	Sn	21 19 24.2	-0.6
TWT	**Tachien**	**1.63**	**267**	*e*P	Pn	21 19 05.6	0.0
	baz=269						
TWT				*e*S	Sn	21 19 25.7	+0.4
	baz=269						
EHY	**Hungye**	**1.72**	**241**	*e*P	Pn	21 19 05.4	-1.3
	baz=241						
EHY				*e*S	Sn	21 19 26.4	-1.0
	baz=241						
NSTT	**Nanjuang**	**1.81**	**279**	*e*P	Pn	21 19 08.3	+0.4
	baz=296						
NSTT				*e*S	Sn	21 19 29.4	-0.2
	baz=296						
TWF1	**Yuli**	**1.82**	**237**	*e*P	Pn	21 19 07.3	-0.7
	baz=237						
TWF1				*e*S	Sn	21 19 28.4	-1.5
	baz=237						
CHKT	**Chengkung**	**1.92**	**230**	*e*P	Pn	21 19 08.7	-0.8
	baz=219						
CHKT				*e*S	Sn	21 19 28.4	-3.9
	baz=219						
SMLT	**Sun Moon Lake**	**1.94**	**257**	*e*P	Pn	21 19 10.1	+0.3
	baz=258						
SMLT				*e*S	Sn	21 19 32.6	-0.3
	baz=258						
TYC	**Yuchr**	**1.97**	**258**	P	Pn	21 19 10.6	+0.4
	baz=259						
TYC				S	Sn	21 19 33.3	-0.4
	baz=259						
TWQ1	**Liyutan**	**2.00**	**271**	P	Pn	21 19 12.4	+1.9
	baz=273						
TWQ1				*e*S	Sn	21 19 34.2	-0.1
	baz=273						
TCU	**Taichung**	**2.10**	**265**	*e*P	Pn	21 19 13.3	+1.4
	baz=267						
TCU				*e*S	Sn	21 19 37.1	+0.4
	baz=267						
ELDTW	**Lidau**	**2.12**	**238**	*e*P	Pn	21 19 11.0	-1.2
	baz=237						
ELDTW				*e*S	Sn	21 19 36.0	-1.4
	baz=237						
JMJ	**Miyako jima 2**	**2.17**	**77**	*e*S	Sn	21 19 38.6	-0.1
CHN5	**Tsauling**	**2.22**	**251**	P	Pn	21 19 14.6	+1.0
	baz=252						
CHN5				*e*S	Sn	21 19 40.3	+0.5
	baz=252						
JOGS	**Gusukube**	**2.26**	**79**	P	Pn	21 19 14.5	+0.3
JOGS				S	Sn	21 19 41.3	+0.4
TTN	**Taitung**	**2.30**	**227**	*e*P	Pn	21 19 16.8	+2.1
	baz=218						
TTN				*e*S	Sn	21 19 39.7	-2.0
	baz=218						
TWG	**Pinlang**	**2.30**	**229**	*e*P	Pn	21 19 13.4	-1.4
	baz=240						
TWG				*e*S	Sn	21 19 38.9	-3.0
	baz=240						
STYT	**Tauyuan**	**2.34**	**240**	*e*P	Pn	21 19 15.5	+0.3
	baz=231						
STYT				*e*S	Sn	21 19 41.6	-1.1
	baz=231						
CHN4	**Tsaushan**	**2.38**	**246**	*e*P	Pn	21 19 17.1	+1.2
	baz=247						
CHN4				*e*S	Sn	21 19 44.8	+0.9
	baz=247						
WTP	**Ta-pu**	**2.41**	**244**	*e*P	Pn	21 19 17.5	+1.3
	baz=244						
WTP				*e*S	Sn	21 19 45.4	+0.9
	baz=244						
CHY	**Chiayi**	**2.47**	**251**	*e*P	Pn	21 19 18.0	+1.0
	baz=252						
CHY				*e*S	Sn	21 19 46.4	+0.4
	baz=252						
CHN1	**Nanshi**	**2.51**	**243**	P	Pn	21 19 18.9	+1.3
	baz=244						
CHN1				*e*S	Sn	21 19 48.2	+1.3
	baz=244						
SGST	**Jiashian**	**2.52**	**241**	*e*P	Pn	21 19 19.5	+1.8
	baz=230						
SGST				*e*S	Sn	21 19 48.1	+0.9
	baz=230						
ECL	**Taimali**	**2.54**	**227**	*e*P	Pn	21 19 16.6	-1.3
	baz=237						
ECL				*e*S	Sn	21 19 43.1	-4.4
	baz=237						
WSF	**Szhu**	**2.60**	**255**	*e*P	Pn	21 19 19.7	+0.8
	baz=257						
WSF				*e*S	Sn	21 19 48.5	-0.8
	baz=257						
LAY	**Lan-yu**	**2.64**	**210**	*e*P	Pn	21 19 16.9	-2.5
	baz=208						
LAY				*e*S	Sn	21 19 44.3	-5.8
	baz=208						
SSD	**Sandimen**	**2.67**	**234**	P	Pn	21 19 20.4	+0.6
	baz=226						
CHN3	**Shinhua**	**2.69**	**243**	*e*P	Pn	21 19 21.9	+1.8
	baz=243						
CHN3				*e*S	Sn	21 19 51.9	+0.4
	baz=243						
CHN8	**Yiju**	**2.71**	**249**	*e*P	Pn	21 19 21.9	+1.5
	baz=250						
CHN8				*e*S	Sn	21 19 50.8	-1.0
	baz=250						
EAST	**Anshuo**	**2.75**	**225**	*e*P	Pn	21 19 19.6	-1.3
	baz=233						
EAST				*e*S	Sn	21 19 51.8	-1.2
	baz=233						
TWM1	**Shoushan**	**2.78**	**237**	*e*P	Pn	21 19 22.2	+0.9
	baz=237						
TWM1				*e*S	Sn	21 19 54.4	+0.8
	baz=237						
SGLT	**Jiouru**	**2.78**	**235**	*e*P	Pn	21 19 22.7	+1.4
	baz=235						
SGLT				*e*S	Sn	21 19 54.0	+0.3
	baz=235						
SCZT	**Fangliau**	**2.91**	**228**	*e*P	Pn	21 19 25.1	+1.9
	baz=221						
SCZT				*e*S	Sn	21 19 57.2	+0.3
	baz=221						
HEN	**Hengchun**	**3.10**	**222**	*e*P	Pn	21 19 27.6	+1.9
	baz=221						
HEN				*e*S	Sn	21 20 01.5	-0.1
	baz=221						
TWK1	**Hengchun**	**3.11**	**220**	*e*P	Pn	21 19 27.9	+2.1
	baz=211						
TWK1				*e*S	Sn	21 20 01.7	0.0
	baz=211						
PNG	**Penghu**	**3.21**	**257**	*e*P	Pn	21 19 28.1	+0.8
	baz=259						
PNG				*e*S	Sn	21 20 04.1	-0.2
	baz=259						

*CSEM **05** 21:57:43.9±0.6, 36.80N×26.47E, h2km, MD3.1, Error ellipse: s-maj=16.0km s-min=9.4km az=170.0*
ATH 05 21:57:46.0, 36.79N×26.40E, h31km±3km, MD3.1/8, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**1.39**	**153**	*e*PN	Pn	21 58 11.1	+1.9
KARP	**Karpathos**	**1.39**	**153**	*e*Pn	Pn	21 58 11.1	+1.9
AYDN	**Tasoluk**	**1.47**	**53**	*i* P	Pn	21 58 14.8	+4.5
AYDN	**Tasoluk**	**1.47**	**53**	*i* P	Pn	21 58 14.8	+4.5
ARG	**Arkhangelos**	**1.50**	**112**	*e*PN	Pn	21 58 12.9	+2.1
ARG	**Arkhangelos**	**1.50**	**112**	*e*Pn	Pn	21 58 12.9	+2.1
NPS	**Neapolis**	**1.65**	**203**	*e*PB	Pn	21 58 15.1	+2.3
NPS				*e*SN	Sn	21 58 35.6	+2.6
NPS	**Neapolis**	**1.65**	**203**	*e*Pb	Pn	21 58 15.1	+2.3
NPS				*e*Sn	Sn	21 58 35.6	+2.6
ZKR	**Zakros**	**1.68**	**185**	*e*PB	Pn	21 58 15.1	+1.9
ZKR	**Zakros**	**1.68**	**185**	*e*Pb	Pn	21 58 15.1	+1.9
TURN	**Turunc**	**1.77**	**87**	*i* P	Pn	21 58 13.3	-1.2
TURN	**Turunc**	**1.77**	**87**	*i* P	Pn	21 58 13.3	-1.1
TURN				*i* S	Sn	21 58 32.8	-3.1
LAST	**Lasithi**	**1.79**	**205**	*e*PN	Pn	21 58 16.7	+2.0
LAST				*e*SN	Sn	21 58 39.4	+3.0
LAST	**Lasithi**	**1.79**	**205**	*e*Pn	Pn	21 58 16.7	+2.0
LAST				*e*Sn	Sn	21 58 39.4	+3.0
SIVA	**Sivas**	**2.19**	**217**	*e*PN	Pn	21 58 22.3	+2.1
SIVA	**Sivas**	**2.19**	**217**	*e*Pn	Pn	21 58 22.3	+2.1
VAM	**Vamos**	**2.25**	**233**	*e*PN	Pn	21 58 23.4	+2.3
VAM				*e*SN	Sn	21 58 50.5	+2.7
VAM	**Vamos**	**2.25**	**233**	*e*Pn	Pn	21 58 23.4	+2.3
VAM				*e*Sn	Sn	21 58 50.5	+2.7
KARN	**Karanos**	**2.44**	**236**	*e*PN	Pn	21 58 26.5	+2.8
KARN				*e*SN	Sn	21 58 54.9	+2.4
KARN	**Karanos**	**2.44**	**236**	*e*Pn	Pn	21 58 26.5	+2.8
KARN				*e*Sn	Sn	21 58 54.9	+2.4
AKAS	**Kas**	**2.64**	**101**	*i* P	Pn	21 58 25.5	-1.0
AKAS	**Kas**	**2.64**	**101**	*i* P	Pn	21 58 25.5	-0.9
AKAS				*i* S	Sn	21 58 52.6	-4.8
VLI	**Veliai**	**2.78**	**270**	*e*PN	Pn	21

SNR=8.2
JMDO Jabal Madar 11.72 229 ⇑P **Pn 22 01 25.2 -0.2**
SNR=9.1
ASHO Ashiyiah 11.77 244 ⇑P **Pn 22 01 24.0 -2.2**
SNR=7.6
BSY Bisya 12.08 233 ⇑P **Pn 22 01 29.4 -0.9**
SNR=17
AML Almayashu 12.68 21 P **Pn 22 01 38.2 -0.2**
SNR=30
KK31 Karatay Array 12.89 9 ⇑P **Pn 22 01 39.2 -2.1**
comp=E,5.1nm,0.7s,baz=195,slow=14,SNR=19
KK31 ⇓S **Sn 22 04 06.3 +1.3**
comp=E,5.5nm,0.8s
KK31 Karatay Array 12.89 9*c i*P **Pn 22 01 38.8 -2.5**
KK31 pmax pmax
comp=Z,4.0nm,0.5s
KKAR Karatay Array 12.89 9 *e*Pn **Pn 22 01 41.8 +0.5**
KKAR *e*Sn **Sn 22 04 01.4 -3.6**
KKAR Karatay Array 12.89 9 *e*P **Pn 22 01 41.8 +0.5**
KKAR *e* 22 04 01.4
EKS2 Erkin-Say 13.19 20 P **Pn 22 01 44.6 -0.7**
SNR=19
EKS2 Erkin-Say 13.19 20 *e*Pn **Pn 22 01 45.3 -0.1**
EKS2 *e*Sn **Sn 22 04 07.7 -4.6**
EKS2 Erkin-Say 13.19 20 *e*P **Pn 22 01 45.3 -0.1**
EKS2 *e* 22 04 07.7
AAK Ala-Archa 13.39 22 P **Pn 22 01 47.7 -0.4**
SNR=12
AAK Ala-Archa 13.39 22 Pn **Pn 22 01 47.7 -0.4**
comp=Z,0.0nm,0.3s,baz=209,slow=7.1,SNR=16
AAK Sn **Sn 22 04 16.7 -0.4**
comp=Z,0.0nm,0.3s,baz=330,slow=16,SNR=3.9
AAK LR LR 22 08 15.9
comp=Z,397nm,21.9s,baz=206,slow=43
AAK Ala-Archa 13.39 22 *e*Pn **Pn 22 01 47.5 -0.6**
AAK *e*Sn **Sn 22 04 14.8 -2.3**
AAK Ala-Archa 13.39 22*c i*P **Pn 22 01 47.2 -0.9**
AAK pmax pmax
comp=Z,10.0nm,1.6s
CHMS Chumysh 13.80 22 P **Pn 22 01 52.4 -1.3**
SNR=15
USP Ospenovka 13.96 21 P **Pn 22 01 53.9 -2.0**
SNR=5.2
TKM2 Tokmak 2 14.02 25 P **Pn 22 01 55.8 -0.9**
SNR=24
TKM2 Tokmak 2 14.02 25 ⇑P **Pn 22 01 55.6 -1.1**
comp=Z,14nm,0.8s
TKM2 Tokmak 2 14.02 25 *e*Pn **Pn 22 01 55.8 -1.0**
TKM2 *e*Sn **Sn 22 04 34.2 +1.6**
TKM2 Tokmak 2 14.02 25 *e*P **Pn 22 01 55.8 -0.9**
TKM2 *e* 22 04 34.2
KOLN Koldanda 14.16 97 *e*P **Pn 22 01 57.2 -1.5**
comp=Z,50nm,0.8s
KOLN Koldanda 14.16 97 *e*P **Pn 22 01 57.2 -1.5**
comp=Z,50nm,0.8s
DANN Dangsing 14.17 94 *e*P **Pn 22 01 58.0 -0.8**
comp=Z,79nm,0.7s
DANN Dangsing 14.17 94 *e*P **Pn 22 01 58.0 -0.8**
comp=Z,79nm,0.7s
GKN Gorkha 15.00 95 *e*P **Pn 22 02 07.7 -2.4**
comp=Z,64nm,0.9s
GKN Gorkha 15.00 95 *e*P **Pn 22 02 07.7 -2.4**
comp=Z,64nm,0.9s
DMN Daman 15.49 96 *e*P **Pn 22 02 15.3 -1.4**
DMN Daman 15.49 96 *e*P **Pn 22 02 15.3 -1.4**
KKN Kakani 15.60 95 *e*P **Pn 22 02 16.1 -2.0**
comp=Z,35nm,0.5s
KKN Kakani 15.60 95 *e*P **Pn 22 02 16.1 -2.0**
comp=Z,35nm,0.5s
KKN Kakani 15.60 95 *e*P **Pn 22 02 16.1 -2.0**
KKN pmax pmax
comp=Z,35nm,0.5s
PKIN Phulchoki 15.75 96 *e*P **Pn 22 02 18.5 -1.6**
PKIN *e*S **Sn 22 05 08.0 -6.9**
PKI Pulchoki 15.76 96 *e*P **Pn 22 02 18.7 -1.5**
comp=Z,50nm,0.8s
PKI Pulchoki 15.76 96 *e*P **Pn 22 02 18.7 -1.5**
comp=Z,50nm,0.8s
PKI Pulchoki 15.76 96 *e*P **Pn 22 02 18.7 -1.5**
PKI pmax pmax
comp=Z,50nm,0.8s
GUN Gumba 16.09 94 *e*P **Pn 22 02 21.6 -2.8**
comp=Z,413nm,1.0s
GUN Gumba 16.09 94 *e*P **Pn 22 02 21.6 -2.8**
comp=Z,413nm,1.0s
MIB Mutribah 17.62 273 *e*P **Pn 22 02 39.9 -3.9**
MIB AMb AMB 22 03 05.5
comp=Z,36nm,1.2s
ODAN Odare 17.65 97 *e*P **Pn 22 02 43.4 -0.8**
comp=Z,126nm,1.0s
ODAN Odare 17.65 97 *e*P **Pn 22 02 43.4 -0.8**
comp=Z,126nm,1.0s
NAY Al-Naaiem 17.78 271 *e*P **Pn 22 02 42.7 -3.0**
NAY AMb AMB 22 02 47.1
comp=Z,24nm,0.9s
TAPN Taplejung 17.80 95 *e*P **Pn 22 02 44.5 -1.5**
TAPN Taplejung 17.80 95 *e*P **Pn 22 02 44.5 -1.5**
RST Umm Al-Ruwaisa 17.95 272 *e*P **Pn 22 02 43.6 -4.3**
RST AMb AMB 22 02 52.2
comp=Z,6.7nm,1.1s
AB31 Akbulak array 19.74 345 P **Pn 22 03 07.1 -2.3**
comp=Z,3.6nm,0.6s,baz=153,slow=11,SNR=56
AB31 Akbulak array 19.74 345*c e*P **Pn 22 03 07.1 -2.3**
AB31 pmax pmax
comp=Z,3.0nm,0.5s
ABKAR Akbulak array 19.74 345 *e*P **Pn 22 03 07.2 -2.1**
ABKAR *e*S **Sn 22 06 50.0 -1.2**
MK31 Makanchi Array 19.91 31 ⇓P **Pn 22 03 10.5 -0.9**
comp=Z,4.4nm,0.6s,baz=207,slow=10.0,SNR=55
MK31 Makanchi Array 19.91 31*c e*P **Pn 22 03 10.5 -1.0**
MK31 pmax pmax
comp=Z,3.0nm,0.4s
MKAR Makanchi Array 19.91 31 P **Pn 22 03 08.8 -2.7**
comp=Z,0.9nm,0.3s,baz=212,slow=11,SNR=27
MKAR LR LR 22 11 57.9
comp=Z,316nm,19.9s,baz=220,slow=40
MKAR Makanchi Array 19.91 31 P **Pn 22 03 08.8 -2.7**
MKAR LR LR 22 11 57.9
MKAR Makanchi Array 19.91 31 P **Pn 22 03 08.8 -2.7**
CAL Calcutta 20.05 108 *ex* x 22 04 03.4
CAL *ex* x 22 07 12.3
LSA Lhasa 20.32 86 *e*P **P 22 03 17.5 +3.0**
comp=Z,26nm,0.8s
LSA Lhasa 20.32 86 *e*P **P 22 03 17.5 +3.1**
LSA pmax pmax
comp=Z,25nm,0.8s
GNI Garni 21.06 304 *e*P **P 22 03 22.1 -0.3**
comp=Z,17nm,1.0s,mb4.3
GNI Garni 21.06 304*i e*P **P 22 03 23.7 +1.3**
GNI pmax pmax
comp=Z,6.0nm,0.8s
DGRG David-gareji 21.11 308 P **P 22 03 27.0 +4.1**
AKTK Aktyubinsk 21.30 343 P **P 22 03 23.7 -1.1**
AKTK LR LR 22 11 10.6
AKTO Aktyubinsk 21.30 343 ⇓P **P 22 03 23.0 -1.8**
comp=Z,1.7nm,1.0s,mb3.3
AKTO Aktyubinsk 21.30 343 P **P 22 03 23.7 -1.1**
comp=Z,4.1nm,0.7s,mb3.9,baz=161,slow=13,SNR=11
AKTO LR LR 22 11 10.6
comp=Z,190nm,19.2s,MS3.5,baz=154,slow=36
AKTO Aktyubinsk 21.30 343 P **P 22 03 23.7 -1.1**
MTA Mtatsminda 21.61 308 P **P 22 03 30.8 +2.6**
TBLG Delisi 21.66 308 *e*P **P 22 03 30.0 +1.2**
TBLG Delisi 21.66 308 P **P 22 03 30.1 +1.2**
SHL Shillong 21.89 97 *ex* x 22 04 27.0
KURK Kurchatov 21.90 19 ⇑P **P 22 03 31.2 0.0**
comp=Z,24nm,1.2s,mb4.5
KURK Kurchatov 21.90 19 P **P 22 03 30.2 -1.0**
comp=Z,7.6nm,1.0s,mb4.1,baz=210,slow=10,SNR=20
KURK LR LR 22 13 29.3
comp=Z,71nm,18.0s,MS3.1,baz=205,slow=41
KURK Kurchatov 21.90 19 *e*P **P 22 03 31.3 +0.1**
comp=Z,20nm,1.1s,mb4.5
KURK Kurchatov 21.90 19*c e*P **P 22 03 31.2 0.0**
KURK pmax pmax
comp=Z,24nm,1.2s,mb4.5
KURK Kurchatov 21.90 19 P **P 22 03 34.2 +3.0**
SNR=9.8
GOR Gori 22.20 308 P **P 22 03 35.5 +1.0**
AKH Akhalkalaki 22.40 306 P **P 22 03 41.2 +4.5**
VOSK Vostochnaya 22.45 5 ⇑P **P 22 03 36.7 -0.4**
comp=Z,8.0nm,0.8s,mb4.2
ZRNK Zerenda 22.57 2 ⇓P **P 22 03 37.5 -0.8**
comp=Z,0.2nm,1.0s
ZRNK Zerenda 22.57 2 *i* P **P 22 03 37.5 -0.9**
ZEI Tsey 22.66 310 *e*P **P 22 03 40.6 +1.1**
ZEI pmax pmax
comp=Z,10.0nm,1.2s,mb4.1
BVAR Borovoye Array 22.71 4 P **P 22 03 39.1 -0.7**
comp=Z,4.2nm,0.8s,mb3.9,baz=168,slow=7.6,SNR=16
BVAR LR LR 22 14 05.9
comp=Z,312nm,20.4s,MS3.7,baz=86,slow=41
BVAR Borovoye Array 22.71 4 P **P 22 03 39.1 -0.7**
BVAR LR LR 22 14 05.9
BVAR Borovoye Array 22.71 4 P **P 22 03 39.1 -0.7**
BRVK Borovoye 22.73 4 ⇑P **P 22 03 38.0 -2.1**
comp=Z,27nm,1.4s,mb4.5
BRVK Borovoye 22.73 4 *e*P **P 22 03 40.7 +0.6**
comp=Z,10nm,0.9s,mb4.2
BRVK Borovoye 22.73 4*c e*P **P 22 03 39.2 -0.9**
BRVK pmax pmax
comp=Z,13nm,1.3s,mb4.2
ONI Oni 22.89 309 P **P 22 03 46.2 +4.3**
KIV Kislovodsk 23.98 311 *e*P **P 22 03 55.0 +2.3**
KIV pmax pmax
comp=Z,5.0nm,0.8s,mb4.0
KIV MLR MLR
comp=Z,56nm,15.0s,MS3.2
ASF Jabal al Asfar 26.33 282 P **P 22 04 12.5 -1.7**
comp=Z,1.5nm,0.7s,mb3.6,baz=29,slow=10,SNR=2.4
ASF LR LR 22 16 15.2
comp=Z,159nm,18.4s,MS3.6,baz=122,slow=41
ASF Jabal al Asfar 26.33 282 P **P 22 04 12.5 -1.7**
ASF LR LR 22 16 15.2
ASF Jabal al Asfar 26.33 282 P **P 22 04 12.5 -1.8**
ZALV Zalesovo Beam 26.61 23 P **P 22 04 17.2 +0.7**
comp=Z,7.3nm,0.6s,mb4.4,baz=226,slow=11,SNR=36
ZALV Zalesovo Beam 26.61 23 P **P 22 04 17.2 +0.7**
ZALV Zalesovo Beam 26.61 23 P **P 22 04 17.2 +0.7**
ARU Arti 26.82 349*d i*P **P 22 04 19.5 +1.1**
ARU *e* 22 04 57.9
ARU S **S 22 08 53.7 -1.0**
ARU pmax pmax
comp=Z,4.0nm,1.0s,mb3.9
SVE Sverdlovsk 26.89 351 *e*P **P 22 04 22.3 +3.3**
SVE pmax pmax
comp=Z,12nm,1.7s,mb4.2
SVE MLR MLR
comp=Z,409nm,12.0s,MS4.2
MMAI Mount Meron Ar 27.53 284 LR LR 22 16 28.0
comp=Z,178nm,19.5s,MS3.6,baz=60,slow=39
GTA Gaotai 27.73 62 *e*P **P 22 04 29.7 +2.9**
GTA pP pP 22 04 34.1 +5.2
GTA sP sP 22 04 37.2 +7.4
GTA S **S 22 09 07.2 -2.3**
GTA sS sS 22 09 13.1 +0.1
GTA pmax pmax
comp=Z,4.0nm,1.4s,mb3.9
GTA pmax pmax
comp=Z,100nm,5.5s
GTA LR LR
comp=N,340nm,17.1s
GTA LR LR
comp=E,170nm,12.1s
GTA LR LR
comp=Z,200nm,14.0s,MS3.9
EIL Elat 28.30 277 LR LR 22 17 26.0
comp=Z,216nm,18.2s,MS3.8,baz=273,slow=40
BRTR Keskin Array B 29.24 298 P **P 22 04 38.6 -1.7**
comp=Z,0.5nm,0.7s,mb3.4,baz=106,slow=7.8,SNR=4.3
BRTR Keskin Array B 29.24 298 P **P 22 04 38.6 -1.7**
BRTR Keskin Array B 29.24 298 P **P 22 04 38.6 -1.6**
CHTO Chiang Mai 30.57 105 *e*P **P 22 04 51.5 -0.7**
comp=Z,9.3nm,1.1s,mb4.5
CHTO Chiang Mai 30.57 105 *e*P **P 22 04 51.5 -0.7**
CHTO pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
CHTO Chiang Mai 30.57 105 P **P 22 04 55.2 +3.1**
SNR=6.3
LZH Lanzhou 30.66 70 *e*P **P 22 04 55.0 +2.2**
LZH pP pP 22 05 01.2 +6.3
LZH sP sP 22 05 03.5 +7.7
LZH pmax pmax
comp=Z,18nm,1.4s,mb4.7
CMAR Chiang Mai Arr 30.74 105 P **P 22 04 55.6 +1.9**
comp=Z,1.7nm,0.9s,mb3.9,baz=302,slow=7.6,SNR=17
CMAR LR LR 22 19 25.5
comp=Z,135nm,21.9s,MS3.6,baz=288,slow=40
CMAR Chiang Mai Arr 30.74 105 P **P 22 04 55.6 +1.9**
CMAR LR LR 22 19 25.4
CMAR Chiang Mai Arr 30.74 105 P **P 22 04 55.6 +1.9**
KMI Kunming 31.38 91 P **P 22 05 01.4 +2.1**
KMI pmax pmax
comp=Z,8.0nm,1.5s,mb4.3
KMI pmax pmax
comp=Z,75nm,4.2s
KMI LR LR
comp=N,100nm,16.8s,MS3.8
KMI LR LR
comp=E,150nm,18.3s,MS3.8
KMI LR LR
comp=Z,210nm,14.7s,MS3.9
OBN Obninsk 33.18 327 *e*P **P 22 05 16.8 +2.1**
OBN pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
OBN MLR MLR
comp=Z,200nm,22.0s,MS3.8
SONM Songino Array 34.29 48 P **P 22 05 26.7 +2.3**
comp=Z,0.8nm,0.8s,mb3.7,baz=252,slow=4.6,SNR=6.4
SONM LR LR 22 22 19.9
comp=Z,219nm,19.4s,MS3.9,baz=218,slow=41
SONM Songino Array 34.29 48 P **P 22 05 26.7 +2.3**
SONM LR LR 22 22 19.9
SONM Songino Array 34.29 48 P **P 22 05 26.7 +2.2**
XAN Xi'an 34.91 73 P **P 22 05 32.1 +2.0**
XAN pP pP 22 05 39.3 +7.1
XAN pmax pmax
comp=Z,2.0nm,1.2s,mb3.9
XAN LR LR
comp=N,170nm,15.9s
XAN LR LR
comp=Z,82nm,16.4s,MS3.6
AKASG Malin Array Be 35.05 316 P **P 22 05 31.4 +0.5**
comp=Z,1.7nm,0.6s,mb4.2,baz=100,slow=7.3,SNR=8.1
AKASG Malin Array Be 35.05 316 P **P 22 05 31.4 +0.5**
AKASG Malin Array Be 35.05 316 P **P 22 05 31.5 +0.5**
VRI Vrincioaia 35.31 308 ⇓P **P 22 05 36.4 +3.1**
VRI Vrincioaia 35.31 308 ⇓*i*P **P 22 05 36.4 +3.1**
PLOR Plostina 35.36 308 ⇑P **P 22 05 34.2 +0.4**
PLOR Plostina 35.36 308 ⇑*i*P **P 22 05 34.2 +0.4**
TESR 35.50 309 ⇑*i*P **P 22 05 38.0 +3.1**
MLR Muntele Rosu 35.78 307 ⇓P **P 22 05 38.3 +0.9**
MLR Muntele Rosu 35.78 307 ⇓*i*P **P 22 05 38.3 +0.9**
VOIR 36.39 307 ⇑P **P 22 05 44.8 +2.2**
VOIR 36.39 307 ⇑*i*P **P 22 05 44.8 +2.2**
BURAR Bucovina Array 36.69 310 ⇓P **P 22 05 46.0 +0.9**
BURAR Bucovina Array 36.69 310 ⇓*i*P **P 22 05 46.0 +0.9**
BZS Buzias 38.80 306 ⇓P **P 22 06 01.3 -1.8**
BZS Buzias 38.80 306 ⇓*i*P **P 22 06 01.3 -1.8**
VSU Vasula 39.54 327*i e*P **P 22 06 10.0 +1.0**
VSU pmax pmax
comp=Z,29nm,1.2s,mb4.9
WHN Wuhan 39.99 78 P **P 22 06 16.0 +2.8**
PSZ Piszkesteto 40.28 310 *e*P **P 22 06 16.7 +1.4**
comp=Z,9.1nm,1.1s,mb4.4
PSZ Piszkesteto 40.28 310 *e*P **P 22 06 16.7 +1.4**
PSZ pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
FINES FINESS Array B 41.25 331 P **P 22 06 22.4 -0.7**
comp=Z,3.8nm,0.8s,mb4.1,baz=123,slow=7.0,SNR=8.0
FINES LR LR 22 25 43.6
comp=Z,277nm,18.8s,MS4.2,baz=151,slow=40
FINES FINESS Array B 41.25 331 P **P 22 06 22.4 -0.7**
FINES LR LR 22 25 43.6
FINES FINESS Array B 41.25 331 P **P 22 06 22.4 -0.7**
KMBO Kilima Mbogo 42.69 228 LR LR 22 24 42.4
comp=Z,44nm,18.5s,MS3.4,baz=89,slow=37
GERES GERESS Array B 44.48 310 P **P 22 06 47.5 -2.0**
comp=Z,0.4nm,0.6s,mb3.3,baz=99,slow=8.6,SNR=4.9
GERES GERESS Array B 44.48 310 P **P 22 06 47.5 -2.0**
GERES GERESS Array B 44.48 310 P **P 22 06 47.5 -2.0**
ARCES ARCESS Array B 45.87 341 P **P 22 06 59.3 -0.9**
comp=Z,2.3nm,0.6s,mb4.3,baz=122,slow=9.0,SNR=12
ARCES LR LR 22 25 45.4
comp=Z,157nm,18.3s,MS4.0,baz=329,slow=36
ARCES ARCESS Array B 45.87 341 P **P 22 06 59.3 -0.9**
ARCES LR LR 22 25 45.4
ARCES ARCESS Array B 45.87 341 P **P 22 06 59.3 -0.9**
NB2 NORSAR Subarra 47.78 327 P **P 22 07 13.3 -2.0**
comp=Z,2.1nm,0.8s,mb4.2,baz=107,slow=7.9
NOA NORSAR Array B 47.78 327 P **P 22 07 12.9 -2.5**
comp=Z,1.8nm,0.8s,mb4.2,baz=106,slow=7.7,SNR=5.9
NOA LR LR 22 29 43.0
comp=Z,134nm,21.7s,MS3.9,baz=110,slow=39
NOA NORSAR Array B 47.78 327 P **P 22 07 12.9 -2.5**
NOA LR LR 22 29 43.0
NOA NORSAR Array B 47.78 327 P **P 22 07 12.9 -2.4**
SBF Sospel 48.88 304 *e*P **P 22 07 23.9 -0.1**
comp=Z,126nm,1.3s
SBF Sospel 48.88 304 *e*P **P 22 07 23.9 -0.1**
comp=Z,63nm,1.3s
SBF Sospel 48.88 304 *e*P **P 22 07 23.9 -0.1**
SBF pmax pmax
comp=Z,63nm,1.3s
LPG La Plagne 49.23 306 *e*P **P 22 07 27.7 +1.0**
comp=Z,15nm,0.9s,mb4.7
LPG La Plagne 49.23 306 *e*P **P 22 07 27.7 +1.0**
comp=Z,7.6nm,0.9s,mb4.7
LPG La Plagne 49.23 306 *e*P **P 22 07 27.7 +1.0**
LPG pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
LPL La Plagne 49.24 306 *e*P **P 22 07 26.9 +0.1**
comp=Z,5.7nm,0.6s,mb4.5
LPL La Plagne 49.24 306 *e*P **P 22 07 26.9 +0.1**
comp=Z,2.8nm,0.6s,mb4.5
LPL La Plagne 49.24 306 *e*P **P 22 07 26.9 +0.1**
LPL pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
MBDF Montbardon 49.28 305 *e*P **P 22 07 27.6 +0.5**
MBDF Montbardon 49.28 305 *e*P **P 22 07 27.6 +0.5**
MBDF Montbardon 49.28 305 *e*P **P 22 07 27.6 +0.5**
CABF La Chapelle 49.61 307 *e*P **P 22 07 29.7 +0.1**
CABF La Chapelle 49.61 307 *e*P **P 22 07 29.7 +0.1**
CABF La Chapelle 49.61 307 *e*P **P 22 07 29.7 +0.1**
KSRS Korea Array 49.75 65 P **P 22 07 30.4 -0.5**
comp=Z,0.6nm,0.3s,mb4.2,baz=224,slow=5.9,SNR=4.4
KSRS LR LR 22 31 23.3
comp=Z,74nm,21.2s,MS3.7,baz=112,slow=39
KSRS Korea Array 49.75 65 P **P 22 07 30.4 -0.4**
KSRS pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
KSRS MLR MLR
comp=Z,74nm,21.2s,MS3.7
SFTF Sexfontaines 50.23 309 *e*P **P 22 07 34.9 +0.6**
comp=Z,11nm,0.8s,mb4.7
SFTF Sexfontaines 50.23 309 *e*P **P 22 07 34.9 +0.6**
comp=Z,11nm,0.8s,mb4.9
VIVF Saint-Julien-l 50.75 305 *e*P **P 22 07 39.0 +0.7**
comp=Z,15nm,0.8s,mb4.7
VIVF Saint-Julien-l 50.75 305 *e*P **P 22 07 39.0 +0.7**
comp=Z,7.6nm,0.8s,mb4.7
VIVF Saint-Julien-l 50.75 305 *e*P **P 22 07 39.0 +0.7**
VIVF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
SMF Signal de Mont 51.15 307 *e*P **P 22 07 42.3 +1.0**
SMF Signal de Mont 51.15 307 *e*P **P 22 07 42.3 +1.0**
SMF Signal de Mont 51.15 307 *e*P **P 22 07 42.3 +1.0**
SSF Saint Saulge 51.35 308 *e*P **P 22 07 43.1 +0.4**
comp=Z,4.7nm,0.7s,mb4.2
SSF Saint Saulge 51.35 308 *e*P **P 22 07 43.1 +0.4**
comp=Z,2.3nm,0.7s,mb4.2
SSF Saint Saulge 51.35 308 *e*P **P 22 07 43.1 +0.4**
SSF pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
LDF La Druitiere 53.62 310 *e*P **P 22 07 59.8 +0.2**
comp=Z,7.4nm,0.8s,mb4.4
LDF La Druitiere 53.62 310 *e*P **P 22 07 59.8 +0.2**
comp=Z,3.7nm,0.8s,mb4.4
LDF La Druitiere 53.62 310 *e*P **P 22 07 59.8 +0.2**
LDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ETSF Etsaut 54.78 303 *e*P **P 22 08 09.4 +1.3**
ETSF Etsaut 54.78 303 *e*P **P 22 08 09.4 +1.3**
ETSF Etsaut 54.78 303 *e*P **P 22 08 09.4 +1.3**
ESDC Sonseca Array 57.99 300 P **P 22 08 29.1 -2.0**
comp=Z,0.4nm,0.3s,mb3.9,baz=66,slow=8.2,SNR=5.9
ESDC Sonseca Array 57.99 300 P **P 22 08 29.1 -2.0**
TORD Torodi Ar. Bea 62.85 270 P **P 22 09 02.0 -2.7**
comp=Z,1.1nm,0.7s,mb4.1,baz=53,slow=3.6,SNR=20
TORD LR LR 22 39 10.3
comp=Z,185nm,18.5s,MS4.3,baz=55,slow=39
TORD Torodi Ar. Bea 62.85 270 P **P 22 09 02.0 -2.7**
TORD LR LR 22 39 10.3
PETK Petropavlovsk- 66.33 41 LR LR 22 41 33.4
comp=Z,96nm,19.8s,MS4.0,baz=286,slow=39
BOSA Boshof 71.28 219 LR LR 22 39 48.2
comp=Z,57nm,20.1s,MS3.8,baz=166,slow=35
DBIC Dimbokro 71.60 267 LR LR 22 42 34.2
comp=Z,116nm,20.9s,MS4.1,baz=46,slow=37
INK Inuvik 80.35 8 *e*P **P 22 10 48.0 -1.2**
comp=Z,3.3nm,0.8s,mb4.3
INK Inuvik 80.35 8 *e*P **P 22 10 48.0 -1.2**
INK pmax pmax
comp=Z,3.0nm,0.8s
WRA Warramunga Arr 81.29 119 P **P 22 10 56.0 +1.0**
comp=Z,0.7nm,0.7s,mb3.7,baz=321,slow=4.8,SNR=12
WRA Warramunga Arr 81.29 119 P **P 22 10 56.0 +1.0**
WRA Warramunga Arr 81.29 119 P **P 22 10 56.0 +1.0**
ILAR Eielson Array 81.39 14 P **P 22 10 54.3 -0.5**
comp=Z,1.1nm,1.0s,mb3.7,baz=324,slow=5.8,SNR=7.6
ILAR LR LR 22 54 48.7
comp=Z,86nm,18.9s,MS4.1,baz=221,slow=41
ILAR Eielson Array 81.39 14 P **P 22 10 54.3 -0.5**
ILAR LR LR 22 54 48.7
ILAR Eielson Array 81.39 14 P **P 22 10 54.3 -0.5**
ASAR Alice Springs 83.19 122 P **P 22 11 05.8 +0.9**
comp=Z,1.0nm,0.6s,mb4.0,baz=308,slow=5.1,SNR=16
ASAR Alice Springs 83.19 122 P **P 22 11 05.8 +0.9**
ASAR Alice Springs 83.19 122 P **P 22 11 05.8 +0.9**
YKA Yellowknife Ar 87.43 1 P **P 22 11 25.6 +0.1**
comp=Z,3.2nm,0.9s,mb4.6,baz=349,slow=5.1,SNR=4.0
YKA LR LR 22 55 48.3
comp=Z,7.8nm,18.8s,MS3.1,baz=305,slow=39
YKA Yellowknife Ar 87.43 1 P **P 22 11 25.6 +0.1**
YKA LR LR 22 55 48.3
YKA Yellowknife Ar 87.43 1 P **P 22 11 25.6 +0.1**
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA MLR MLR
comp=Z,8.0nm,18.8s
STKA Stephens Creek 93.48 125 LR LR 22 56 29.3
comp=Z,93nm,19.1s,MS4.3,baz=206,slow=37

ATH ***05*** *22:10:28.1, 36.35N×27.86E, h51km±5km, MD2.7/3*
ISCJB ***05*** *22:10:29.8±0.7, 36.36N±0.04×27.78E±0.08, h32km±6km, Error ellipse: s-maj=10.5km s-min=7.3km az=3.0*
CSEM ***05*** *22:10:29.1±0.2, 36.41N×27.87E, h40km, MD2.3, Error ellipse: s-maj=6.8km s-min=5.7km az=109.0*
ISK ***05*** *22:10:32.0, 36.60N×27.90E, h28km, MD2.3*
ISC 05 22:10:29.9±0.8, 36.36N±0.05×27.79E±0.08, h31km±7km, n18, σ0.966/24, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
ARG	**Arkhangelos**	**0.31**	**118**	*e*P	**Pb**	**22 10 37.4**	**-0.2**
ARG	**Arkhangelos**	**0.31**	**118**	*e*P	**Pb**	**22 10 37.4**	**-0.2**
DAT	**Datca**	**0.40**	**335**	*e*PG	**Pb**	**22 10 39.5**	**+0.6**
DAT				*e*SG	**Sb**	**22 10 44.9**	**-0.2**
DAT	**Datca**	**0.40**	**335**	*e*Pg	**Pb**	**22 10 39.5**	**+0.6**
DAT				*e*Sg	**Sb**	**22 10 44.9**	**-0.2**
BODT	**Bodrum**	**0.80**	**331**	*e*PG	**Pn**	**22 10 45.8**	**+0.7**
BODT				*e*SG	**Sb**	**22 10 55.5**	**-0.2**
BODT	**Bodrum**	**0.80**	**331**	*e*Pg	**Pn**	**22 10 45.8**	**+0.8**
BODT				*e*Sg	**Sb**	**22 10 55.5**	**-0.3**
YER	**Yerkesik**	**0.87**	**27**	*e*PG	**Pn**	**22 10 45.0**	**-0.9**
YER	**Yerkesik**	**0.87**	**27**	*e*Pg	**Pn**	**22 10 45.0**	**-1.0**
MLSB	**Milas**	**0.93**	**359**	*e*PG	**Pn**	**22 10 46.3**	**-0.5**
MLSB	**Milas**	**0.93**	**359**	*e*Pg	**Pn**	**22 10 46.3**	**-0.6**
KARP	**Karpathos**	**0.96**	**212**	*e*P	**Pn**	**22 10 46.5**	**-0.8**
KARP				*e*S	**Sn**	**22 10 59.9**	**0.0**
KARP	**Karpathos**	**0.96**	**212**	*e*P	**Pn**	**22 10 46.5**	**-0.8**
KARP				*e*S	**Sn**	**22 10 59.9**	**0.0**
FETY	**Fethiye**	**1.08**	**75**	*e*PG	**Pn**	**22 10 49.9**	**+1.0**
FETY	**Fethiye**	**1.08**	**75**	*e*Pg	**Pn**	**22 10 49.9**	**+1.0**
NPS	**Neapolis**	**2.08**	**239**	*e*P	**Pn**	**22 11 02.2**	**-0.5**
NPS	**Neapolis**	**2.08**	**239**	*e*P	**Pn**	**22 11 02.2**	**-0.5**
VAM	**Vamos**	**3.07**	**253**	*e*P	**Pn**	**22 11 17.3**	**+1.0**
VAM	**Vamos**	**3.07**	**253**	*e*P	**Pn**	**22 11 17.3**	**+1.0**

TRN ***05*** *22:25:25.4, 18.78N×64.44W, h29km, M2.6(RSPR)*
RSPR 05 22:25:26.7, 18.78N×64.29W, h35km±1km, MD2.6/4, 7C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.06**	**223**↑	*e*P	Pn	22 25 32.0	-0.7
ABV				*e*S	Sn	22 25 36.4	-0.3
ABV	**Anegada**	**0.06**	**223**↑	*e*P	Pn	22 25 32.0	-0.7
ABV				*e*S	Sn	22 25 36.4	-0.3
TBVI	**Tortola**	**0.47**	**221**↑	*i*P	Pn	22 25 35.9	-1.1
TBVI				*e*S	Sn	22 25 43.1	-1.1
TBVI	**Tortola**	**0.47**	**221**↑	*i*P	Pn	22 25 35.9	-1.1
TBVI				*e*S	Sn	22 25 43.6	-0.6
STVI	**Saint Thomas**	**0.76**	**236**↑	*e*P	Pn	22 25 40.0	-0.9
STVI	**Saint Thomas**	**0.76**	**236**↑	*e*P	Pn	22 25 40.3	-0.7
STVI				*e*S	Sn	22 25 50.6	-0.6
MTP	**Monte Pirata**	**1.38**	**241**↑	*e*P	Pn	22 25 48.4	-1.0
MTP	**Monte Pirata**	**1.38**	**241**↑	*e*P	Pn	22 25 48.4	-1.0
MTP				*e*S	Sn	22 26 05.3	-1.2
CBYP	**Canovanas**	**1.57**	**252**	*e*S	Sn	22 26 09.8	-1.5
CBYP	**Canovanas**	**1.57**	**252**	*e*S	Sn	22 26 09.8	-1.5

CRAAG ***05*** *22:25:55.6,36.35N×4.68E,Ml3.6*
ISCJB ***05*** *22:25:58.8±0.5,36.69N±0.04×4.85E±0.05,h10km,Error ellipse: s-maj=6.8km s-min=4.2km az=36.1*
CSEM ***05*** *22:25:59.1±0.3,36.50N×4.86E,h10km,ML3.6,Error ellipse: s-maj=8.9km s-min=4.4km az=35.0*
LDG ***05*** *22:26:01.0±0.7,36.49N×4.94E,h10km,Error ellipse: s-maj=14.5km s-min=6.9km az=158.0*
NEIC ***05*** *22:26:02.4,36.63N×4.62E,h0km,MG4.3(MDD),After MDD.*
MDD ***05*** *22:26:02.3±1.0,36.62N×4.57E,h0km,mbLg2.5/4,Error ellipse: s-maj=11.4km s-min=9.3km az=159.0,PRIMO*

ISC 05 22:25:59.5±0.5,36.55N±0.04×4.87E±0.05,h10km,n125,σ1s04/143,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET	**Setif**	**0.55**	**129**	P	**Pg**	**22 26 08.0**	**-2.2**
SET	**Setif**	**0.55**	**129**	P	**Pg**	**22 26 08.0**	**-2.2**
SET	**Setif**	**0.55**	**129**	P	**Pg**	**22 26 08.0**	**-2.2**
CKHR	**Kef el Ahmar**	**0.74**	**136**	P	**Pg**	**22 26 12.8**	**-1.1**
CKHR	**Kef el Ahmar**	**0.74**	**136**	P	**Pg**	**22 26 12.8**	**-1.1**
CKHR	**Kef el Ahmar**	**0.74**	**136**	P	**Pg**	**22 26 12.8**	**-1.1**
DFRA	**Djebel Bou Aff**	**0.81**	**90**	P	**Pg**	**22 26 16.0**	**+0.8**
DFRA	**Djebel Bou Aff**	**0.81**	**90**	P	**Pg**	**22 26 16.0**	**+0.8**
DFRA	**Djebel Bou Aff**	**0.81**	**90**	P	**Pg**	**22 26 16.0**	**+0.8**
CTEI	**Djebel Teioual**	**1.33**	**111**	P	**Pn**	**22 26 24.0**	**-0.2**
CTEI	**Djebel Teioual**	**1.33**	**111**	P	**Pn**	**22 26 24.0**	**-0.2**
CTEI	**Djebel Teioual**	**1.33**	**111**	P	**Pn**	**22 26 24.0**	**-0.2**
CASM	**Ain Smara**	**1.34**	**102**	P	**Pn**	**22 26 25.5**	**+1.3**
CASM	**Ain Smara**	**1.34**	**102**	P	**Pn**	**22 26 25.5**	**+1.3**
CASM	**Ain Smara**	**1.34**	**102**	P	**Pn**	**22 26 25.5**	**+1.3**
ABA	**Alger-Bouzarea**	**1.50**	**280**	P	**Pn**	**22 26 24.5**	**-1.9**
ABA	**Alger-Bouzarea**	**1.50**	**280**	P	**Pn**	**22 26 24.5**	**-1.9**
ABA	**Alger-Bouzarea**	**1.50**	**280**	P	**Pn**	**22 26 24.5**	**-1.9**
CKFL	**Kef-Lekhel**	**1.50**	**95**	P	**Pn**	**22 26 27.0**	**+0.6**
CKFL	**Kef-Lekhel**	**1.50**	**95**	P	**Pn**	**22 26 27.0**	**+0.6**
CKFL	**Kef-Lekhel**	**1.50**	**95**	P	**Pn**	**22 26 27.0**	**+0.6**
EMHD	**Djebel Mahouad**	**1.58**	**258**	P	**Pn**	**22 26 27.0**	**-0.6**
EMHD	**Djebel Mahouad**	**1.58**	**258**	P	**Pn**	**22 26 27.0**	**-0.6**
EMHD	**Djebel Mahouad**	**1.58**	**258**	P	**Pn**	**22 26 27.0**	**-0.6**
CAEH	**'Ain El Ouahch**	**1.61**	**81**	P	**Pn**	**22 26 34.0**	**+6.0**
CAEH	**'Ain El Ouahch**	**1.61**	**81**	P	**Pn**	**22 26 34.0**	**+6.0**
CMAH	**Djebel Manchou**	**2.05**	**87**	P	**Pn**	**22 26 34.0**	**-0.1**
CMAH	**Djebel Manchou**	**2.05**	**87**	P	**Pn**	**22 26 34.0**	**-0.1**
CMAH	**Djebel Manchou**	**2.05**	**87**	P	**Pn**	**22 26 34.0**	**-0.1**
ETOS	**Mallorca**	**3.60**	**334**	P	**Pn**	**22 26 55.6**	**+0.3**
ETOS				S	**Sn**	**22 27 36.2**	**-1.6**
ETOS	**Mallorca** 7.1nm,0.3s,SNR=20	**3.60**	**334**	P	**Pn**	**22 26 55.6**	**+0.3**
ETOS				S	**Sn**	**22 27 36.2**	**-1.6**
ETOS	**Mallorca** 0.3nm,0.3s,SNR=5.5	**3.60**	**334**	P	**Pn**	**22 26 55.6**	**+0.3**
ETOS	**Mallorca** 7.1nm,0.3s,SNR=20	**3.60**	**334**	P	**Pn**	**22 26 55.6**	**+0.3**
ETOS				S	**Sn**	**22 27 36.2**	**-1.6**
ETOS	**Mallorca** 0.3nm,0.3s,SNR=5.5	**3.60**	**334**	P	**Pn**	**22 26 55.6**	**+0.3**
EIBI	**Ibiza**	**3.73**	**313**	P	**Pn**	**22 26 57.4**	**+0.2**
EIBI				S	**Sn**	**22 27 37.8**	**-3.2**
EIBI	**Ibiza** 3.2nm,0.2s,SNR=16	**3.73**	**313**	P	**Pn**	**22 26 56.9**	**-0.2**
EIBI				S	**Sn**	**22 27 37.8**	**-3.2**
EIBI	**Ibiza** 2.2nm,0.2s,SNR=7.9	**3.73**	**313**	P	**Pn**	**22 26 56.9**	**-0.2**
EIBI				S	**Sn**	**22 27 37.8**	**-3.3**
EBEN	**Beniarda** 2.2nm,0.2s,SNR=7.9	**4.58**	**300**	P	**Pn**	**22 27 07.9**	**-0.9**
EMUR	**La Murta** 0.5nm,0.2s,SNR=7.9	**5.04**	**287**	P	**Pn**	**22 27 16.0**	**+0.8**
ETOB	**Tobarra** 3.0nm,0.3s	**5.51**	**294**	P	**Pn**	**22 27 21.4**	**-0.1**
ETOB	**Tobarra** 2.3nm,0.2s,SNR=11	**5.51**	**294**	P	**Pn**	**22 27 21.4**	**-0.1**
ETOB	**Tobarra** 2.3nm,0.2s,SNR=11	**5.51**	**294**	P	**Pn**	**22 27 21.4**	**-0.1**
CFON	**Fontmartina** 4.4nm,0.2s	**5.54**	**341**	P	**Pn**	**22 27 22.2**	**+0.3**
CFON				S	**Sn**	**22 28 21.1**	**-4.6**
CFON	**Fontmartina** 4.4nm,0.2s,SNR=15	**5.54**	**341**	P	**Pn**	**22 27 22.2**	**+0.3**
CFON				S	**Sn**	**22 28 21.5**	**-4.1**
CFON	**Fontmartina** 1.1nm,0.2s,SNR=9.4	**5.54**	**341**	P	**Pn**	**22 27 22.2**	**+0.3**
CFON	**Fontmartina** 4.4nm,0.2s,SNR=15	**5.54**	**341**	P	**Pn**	**22 27 22.2**	**+0.3**
EPOB	**Poblet** 1.0nm,0.2s	**5.63**	**330**	P	**Pn**	**22 27 22.6**	**-0.6**
EPOB				S	**Sn**	**22 28 22.7**	**-5.3**
EPOB	**Poblet** 1.7nm,0.3s,SNR=7.9	**5.63**	**330**	P	**Pn**	**22 27 23.3**	**0.0**
EPOB				S	**Sn**	**22 28 22.7**	**-5.3**
EPOB	**Poblet** 0.9nm,0.2s,SNR=7.9	**5.63**	**330**	P	**Pn**	**22 27 23.3**	**+0.1**
EMOS	**Mosqueruela** 1.7nm,0.3s,SNR=7.9	**5.66**	**314**	P	**Pn**	**22 27 24.0**	**+0.4**
EMOS	**Mosqueruela** 1.5nm,0.4s,SNR=7.9	**5.66**	**314**	P	**Pn**	**22 27 24.0**	**+0.4**
EMOS	**Mosqueruela** 1.5nm,0.4s,SNR=7.9	**5.66**	**314**	P	**Pn**	**22 27 24.0**	**+0.3**
EMIR	**Miracle** 17nm,0.2s	**5.95**	**335**	P	**Pn**	**22 27 29.2**	**+1.5**
EMIR				S	**Sn**	**22 28 33.2**	**-2.6**
EMIR	**Miracle** 14nm,0.2s,SNR=35	**5.95**	**335**	P	**Pn**	**22 27 29.1**	**+1.4**
EMIR				S	**Sn**	**22 28 32.0**	**-3.8**
EMIR	**Miracle** 2.3nm,0.2s	**5.95**	**335**	P	**Pn**	**22 27 29.2**	**+1.6**
EJON	**La Jonquera** 17nm,0.2s	**6.09**	**346**	P	**Pn**	**22 27 30.3**	**+0.9**
EJON	**La Jonquera** 7.3nm,0.3s	**6.09**	**346**	P	**Pn**	**22 27 30.3**	**+0.9**
EJON	**La Jonquera** 1.9nm,0.2s,SNR=7.9	**6.09**	**346**	P	**Pn**	**22 27 30.3**	**+0.8**
EJON	**La Jonquera** 1.9nm,0.2s,SNR=7.9	**6.09**	**346**	P	**Pn**	**22 27 30.3**	**+0.8**
CLLI	**Llivia** 2.5nm,0.3s	**6.33**	**340**	P	**Pn**	**22 27 34.8**	**+2.0**
CLLI	**Llivia** 1.1nm,0.1s,SNR=19	**6.33**	**340**	P	**Pn**	**22 27 34.8**	**+2.0**
CLLI	**Llivia** 1.1nm,0.1s,SNR=19	**6.33**	**340**	P	**Pn**	**22 27 34.8**	**+2.0**
EQES	**Quesada** 0.5nm,0.3s,SNR=7.9	**6.46**	**284**	P	**Pn**	**22 27 35.5**	**+0.8**
CSOR	**Sort**	**6.49**	**335**	P	**Pn**	**22 27 37.8**	**+2.7**
CSOR				S	**Sn**	**22 28 48.4**	**-0.8**
CSOR	**Sort** 3.9nm,0.5s,SNR=8.2	**6.49**	**335**	P	**Pn**	**22 27 36.8**	**+1.7**
CSOR				S	**Sn**	**22 28 44.7**	**-4.5**
CSOR	**Sort** 3.2nm,0.4s	**6.49**	**335**	P	**Pn**	**22 27 36.8**	**+1.7**
CSOR	**Sort** 3.9nm,0.5s,SNR=8.2	**6.49**	**335**	P	**Pn**	**22 27 36.8**	**+1.7**
CSOR				S	**Sn**	**22 28 48.4**	**-0.8**
PGF	**Pioggiola** 3.2nm,0.4s	**6.79**	**27**	*e*Pn	**Pn**	**22 27 37.6**	**-1.5**
PGF				*e*Sn	**Sn**	**22 28 52.7**	**-3.7**
PGF	**Pioggiola**	**6.79**	**27**	*e*Pn	**Pn**	**22 27 37.6**	**-1.5**
PGF				*e*Sn	**Sn**	**22 28 52.7**	**-3.7**
PGF	**Pioggiola**	**6.79**	**27**	P	**Pn**	**22 27 37.6**	**-1.5**
PGF				S	**Sn**	**22 28 52.7**	**-3.7**
PGF	**Pioggiola**	**6.79**	**27**	*e*Pn	**Pn**	**22 27 37.6**	**-1.5**
LMR	**La Mourre**	**6.89**	**10**	*e*Pn	**Pn**	**22 27 40.2**	**-0.3**
LMR	**La Mourre**	**6.89**	**10**	*e*Pn	**Pn**	**22 27 40.2**	**-0.3**
LMR	**La Mourre**	**6.89**	**10**	P	**Pn**	**22 27 40.2**	**-0.3**
LMR	**La Mourre**	**6.89**	**10**	*e*Pn	**Pn**	**22 27 40.2**	**-0.3**
MTLF	**Montolieu**	**7.08**	**344**	*e*Pn	**Pn**	**22 27 43.1**	**0.0**
MTLF	**Montolieu**	**7.08**	**344**	P	**Pn**	**22 27 43.1**	**0.0**
MTLF	**Montolieu**	**7.08**	**344**	*e*Pn	**Pn**	**22 27 43.1**	**0.0**
EBIE	**Bielsa**	**7.13**	**331**	P	**Pn**	**22 27 48.0**	**+4.2**
EBIE	**Bielsa** 0.8nm,0.3s,SNR=4.0	**7.13**	**331**	P	**Pn**	**22 27 45.3**	**+1.5**
EBIE	**Bielsa** 0.8nm,0.3s,SNR=4.0	**7.13**	**331**	P	**Pn**	**22 27 46.6**	**+2.8**
FRF	**La Foret Royal**	**7.13**	**10**	*e*Pn	**Pn**	**22 27 43.2**	**-0.6**
FRF	**La Foret Royal**	**7.13**	**10**	*e*Pn	**Pn**	**22 27 43.2**	**-0.6**
FRF	**La Foret Royal**	**7.13**	**10**	P	**Pn**	**22 27 43.2**	**-0.6**
FRF	**La Foret Royal**	**7.13**	**10**	*e*Pn	**Pn**	**22 27 43.2**	**-0.6**
EPF	**Esparros**	**7.35**	**333**	*e*Pn	**Pn**	**22 27 48.0**	**+1.2**
EPF	**Esparros**	**7.35**	**333**	*e*Pn	**Pn**	**22 27 48.0**	**+1.2**
EPF	**Esparros**	**7.35**	**333**	P	**Pn**	**22 27 48.0**	**+1.2**
EPF	**Esparros**	**7.35**	**333**	*e*Pn	**Pn**	**22 27 48.0**	**+1.2**
LASF	**Ste Croix**	**7.56**	**354**	*e*Pn	**Pn**	**22 27 49.6**	**-0.1**
LASF	**Ste Croix**	**7.56**	**354**	*e*Pn	**Pn**	**22 27 49.6**	**-0.1**
LASF	**Ste Croix**	**7.56**	**354**	P	**Pn**	**22 27 49.6**	**-0.1**
LASF	**Ste Croix**	**7.56**	**354**	*e*Pn	**Pn**	**22 27 49.6**	**-0.1**
SBF	**Sospel**	**7.56**	**14**	*e*Pn	**Pn**	**22 27 49.3**	**-0.4**
SBF	**Sospel**	**7.56**	**14**	*e*Pn	**Pn**	**22 27 49.3**	**-0.4**
SBF	**Sospel**	**7.56**	**14**	P	**Pn**	**22 27 49.3**	**-0.4**
SBF	**Sospel**	**7.56**	**14**	*e*Pn	**Pn**	**22 27 49.3**	**-0.4**
ETSF	**Etsaut**	**7.59**	**328**	*e*Pn	**Pn**	**22 27 50.4**	**+0.2**
ETSF	**Etsaut**	**7.59**	**328**	*e*Pn	**Pn**	**22 27 50.4**	**+0.2**
ETSF	**Etsaut**	**7.59**	**328**	P	**Pn**	**22 27 50.4**	**+0.2**
ETSF	**Etsaut**	**7.59**	**328**	*e*Pn	**Pn**	**22 27 50.4**	**+0.2**
SJPF	**Ste Jean**	**8.06**	**326**	*e*Pn	**Pn**	**22 27 57.4**	**+0.9**
SJPF	**Ste Jean**	**8.06**	**326**	*e*Pn	**Pn**	**22 27 57.4**	**+0.9**
SJPF	**Ste Jean**	**8.06**	**326**	P	**Pn**	**22 27 57.4**	**+0.9**
SJPF	**Ste Jean**	**8.06**	**326**	*e*Pn	**Pn**	**22 27 57.4**	**+0.9**
VIVF	**Saint-Julien-l**	**8.30**	**359**	*e*Pn	**Pn**	**22 27 59.3**	**-0.5**
VIVF	**Saint-Julien-l**	**8.30**	**359**	*e*Pn	**Pn**	**22 27 59.3**	**-0.5**
VIVF	**Saint-Julien-l**	**8.30**	**359**	P	**Pn**	**22 27 59.3**	**-0.5**
VIVF	**Saint-Julien-l**	**8.30**	**359**	*e*Pn	**Pn**	**22 27 59.3**	**-0.5**
CAF	**Calviac**	**8.63**	**347**	*e*Pn	**Pn**	**22 28 04.5**	**+0.1**
CAF	**Calviac**	**8.63**	**347**	*e*Pn	**Pn**	**22 28 04.5**	**+0.1**
CAF	**Calviac**	**8.63**	**347**	P	**Pn**	**22 28 04.5**	**+0.1**
CAF	**Calviac**	**8.63**	**347**	*e*Pn	**Pn**	**22 28 04.5**	**+0.1**
LFF	**La Frestale**	**8.95**	**341**	*e*Pn	**Pn**	**22 28 09.4**	**+0.7**
LFF	**La Frestale**	**8.95**	**341**	*e*Pn	**Pn**	**22 28 09.4**	**+0.7**
LFF	**La Frestale**	**8.95**	**341**	P	**Pn**	**22 28 09.4**	**+0.7**
LFF	**La Frestale**	**8.95**	**341**	*e*Pn	**Pn**	**22 28 09.4**	**+0.7**
LPL	**La Plagne**	**9.07**	**8**	*e*Pn	**Pn**	**22 28 10.3**	**-0.1**
LPL	**La Plagne**	**9.07**	**8**	*e*Pn	**Pn**	**22 28 10.3**	**-0.1**
LPL	**La Plagne**	**9.07**	**8**	P	**Pn**	**22 28 10.3**	**-0.1**
LPL	**La Plagne**	**9.07**	**8**	*e*Pn	**Pn**	**22 28 10.3**	**-0.1**
RJF	**Les Rejaudoux**	**9.10**	**345**	*e*Pn	**Pn**	**22 28 10.9**	**0.0**
RJF	**Les Rejaudoux**	**9.10**	**345**	*e*Pn	**Pn**	**22 28 10.9**	**0.0**
RJF	**Les Rejaudoux**	**9.10**	**345**	P	**Pn**	**22 28 10.9**	**0.0**
RJF	**Les Rejaudoux**	**9.10**	**345**	*e*Pn	**Pn**	**22 28 10.9**	**0.0**
MFF	**Saint Martin d**	**10.72**	**341**	*e*Pn	**Pn**	**22 28 33.4**	**+0.4**
MFF	**Saint Martin d**	**10.72**	**341**	*e*Pn	**Pn**	**22 28 33.4**	**+0.4**
MFF	**Saint Martin d**	**10.72**	**341**	P	**Pn**	**22 28 33.4**	**+0.4**
MFF	**Saint Martin d**	**10.72**	**341**	*e*Pn	**Pn**	**22 28 33.4**	**+0.4**

WEL 05 22:33:49.5±0.1,40.54S×175.95E,h26km±1km,ML3.9/44,4C-6D,Error ellipse: s-maj=1.3km s-min=0.8km az=90.0,MM 4.,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POWZ	**Post Office Ro**	**0.20**	**316**	↓P*	Pb	22 33 55.2	-0.1
POWZ				S*	Sb	22 33 59.1	0.0
TIWZ	**Tintock**	**0.24**	**192**	P*	Pb	22 33 56.3	+0.5
TIWZ				S*	Sb	22 34 01.3	+1.2
BFZ	**Birch Farm**	**0.27**	**122**	↑P*	Pb	22 33 56.3	+0.2
BFZ				S*	Sb	22 34 01.4	+0.8
DVHZ	**Dannevirke**	**0.29**	**35**	↑P*	Pb	22 33 56.0	-0.4
DVHZ				S*	Sb	22 34 00.4	-0.7
MRZ	**Mangatainoka R**	**0.31**	**246**	↓P*	Pb	22 33 56.8	+0.1
MRZ				S*	Sb	22 34 01.7	+0.1
TSZ	**Takapari Road**	**0.48**	**1**	↓P*	Pb	22 33 59.1	-0.3
TSZ				S*	Sb	22 34 05.9	-0.2
HOWZ	**Holdsworth Sta**	**0.49**	**222**	P*	Pb	22 33 59.9	+0.4
TMWZ	**Te Maipa**	**0.57**	**185**	↓P*	Pb	22 34 01.7	+0.8
PRHZ	**Porangahau**	**0.59**	**63**	↓P*	Pb	22 34 01.6	+0.3
WPHZ	**Waipukurau**	**0.60**	**39**	↑P*	Pb	22 34 01.8	+0.4
PNHZ	**Pukenui**	**0.65**	**17**	P*	Pb	22 34 02.4	+0.1
OGWZ	**Otaki Gorge**	**0.66**	**245**	↓P*	Pb	22 34 02.7	+0.4
MTW	**Mount Morrison**	**0.71**	**209**	P*	Pb	22 34 03.4	+0.2
KIW	**Kapiti Island**	**0.85**	**247**	↑P*	Pb	22 34 06.1	+0.4
PXZ	**Pawanui**	**0.86**	**54**	P*	Pb	22 34 05.3	-0.6
CAW	**Cannon Point**	**0.88**	**229**	P*	Pb	22 34 06.0	-0.1
TRWZ	**Traveller**	**0.88**	**193**	P*	Pb	22 34 05.7	-0.5
PAWZ	**Paruwai Farm**	**0.93**	**205**	P*	Pb	22 34 06.4	-0.6
MSWZ	**Moikau Station**	**1.02**	**211**	P*	Pb	22 34 07.4	-1.2
KAHZ	**Kahuranaki**	**1.03**	**44**	PN	Pn	22 34 07.8	-0.4
BHHZ	**Black Hill Sta**	**1.05**	**5**	PN	Pn	22 34 08.6	0.0
WAZ	**Wanganui**	**1.08**	**316**	PN	Pn	22 34 10.4	+1.5
MOVZ	**Moawhango**	**1.14**	**352**	PN	Pn	22 34 10.3	+0.5
PLWZ	**Palliser**	**1.16**	**207**	P*	Pb	22 34 09.0	-1.8
WEL	**Wellington**	**1.17**	**230**	P*	Pb	22 34 09.8	-1.2
BHW	**Baring Head**	**1.19**	**223**	P*	Pb	22 34 09.8	-1.6
MTVZ	**Mangateitei**	**1.21**	**342**	PN	Pn	22 34 11.9	+1.2
SNZO	**South Karori**	**1.22**	**230**	P*	Pb	22 34 10.4	-1.5
CKHZ	**Cape Kidnapper**	**1.23**	**45**	PN	Pn	22 34 10.2	-0.8
MCHZ	**McNeill Hill**	**1.23**	**28**	PN	Pn	22 34 10.9	-0.2
WNVZ	**Wahianoa**	**1.24**	**347**	PN	Pn	22 34 12.2	+1.1
DRZ	**Dome Shelter**	**1.30**	**347**	PN	Pn	22 34 13.3	+1.4
FWVZ	**Far West T-bar**	**1.32**	**346**	PN	Pn	22 34 13.4	+1.2
PKVZ	**Pokaka**	**1.33**	**339**	PN	Pn	22 34 13.7	+1.3
WPVZ	**Whakapapa**	**1.37**	**347**	PN	Pn	22 34 14.3	+1.4
NGZ	**Ngauruhoe**	**1.39**	**349**	PN	Pn	22 34 14.5	+1.4
OTVZ	**Oturere**	**1.39**	**351**	PN	Pn	22 34 14.5	+1.3
BKZ	**Black Stump Fm**	**1.43**	**17**	PN	Pn	22 34 14.1	+0.3
TCW	**Tory Channel**	**1.44**	**242**	PN	Pn	22 34 13.5	-0.4
WTVZ	**West Tongariro**	**1.45**	**349**	PN	Pn	22 34 15.4	+1.3
KRVZ	**Karewarewa**	**1.46**	**351**	PN	Pn	22 34 15.6	+1.4
TWVZ	**Taurewa**	**1.52**	**345**	PN	Pn	22 34 16.3	+1.4
DUWZ	**D'Urville Isla**	**1.56**	**260**	PN	Pn	22 34 15.8	+0.2
NMHZ	**Naumai**	**1.58**	**25**	PN	Pn	22 34 16.4	+0.5
VRZ	**Vera Road**	**1.68**	**327**	PN	Pn	22 34 18.5	+1.2
RAEZ	**Rainy Point**	**1.73**	**316**	PN	Pn	22 34 20.2	+2.3
TUWZ	**Tuamarina**	**1.76**	**239**	PN	Pn	22 34 17.3	-1.0
DFE	**Dawson Falls**	**1.86**	**310**	PN	Pn	22 34 22.4	+2.6
NEZ	**North Egmont**	**1.91**	**311**	PN	Pn	22 34 22.4	+2.1
KNZ	**Kokohu**	**2.02**	**42**	PN	Pn	22 34 20.5	-1.4
PKE	**Pukeiti**	**2.02**	**311**	PN	Pn	22 34 24.0	+2.1
NNZ	**Nelson**	**2.06**	**250**	PN	Pn	22 34 22.2	-0.2
HIZ	**Hauiti**	**2.19**	**337**	PN	Pn	22 34 26.2	+1.9
PRGZ	**Paritu Road**	**2.20**	**43**	PN	Pn	22 34 22.8	-1.6
URZ	**Urewera**	**2.45**	**22**	PN	Pn	22 34 27.1	-0.6
MWZ	**Matawai**	**2.52**	**30**	PN	Pn	22 34 27.0	-1.3
THZ	**Tophouse**	**2.60**	**241**	PN	Pn	22 34 28.7	-1.3
QRZ	**Quartz Range**	**2.62**	**263**	PN	Pn	22 34 29.6	-0.5
LTZ	**Lake Taylor**	**3.55**	**230**	PN	Pn	22 34 41.4	-1.6
WVZ	**Waitaha Valley**	**4.65**	**235**	PN	Pn	22 34 56.1	-1.9
ODZ	**Otahua Downs**	**5.96**	**219**	PN	Pn	22 35 13.0	-2.9

IDC ***05*** *22:34:47.5±1.3,31.33S×72.10W,h0km,mb4.5/2, mb1 4.0/5,mb1mx3.9/16,mbtmp4.0/5,ML3.9/3,MS3.0/1, Ms1 3.0/1,ms1mx2.4/19,Error ellipse: s-maj=44.7km s-min=32.5km az=8.0*
GUC ***05*** *22:34:52.9±0.4,31.51S×71.73W,h25km±7km,MD4.1, ML3.9*
NEIC ***05*** *22:34:52.5±0.9,31.37S×72.00W,h35km,mb4.1/1,Error ellipse: s-maj=17.6km s-min=11.9km az=84.0*

ISC 05 22:34:49.6±1.4,31.47S±0.03×71.97W±0.09,h9km±6km,n26,σ1s22/30,mb4.3/3,3C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.58**	**136**	↓*i*P	**Pg**	**22 35 01.6**	**+0.8**
CHNG				*i* S	**Sg**	**22 35 08.2**	**-0.2**
CHNG	comp=N,17μm,0.3s			AML	AML	22 35 08.7	
CMCH	**Combarbala**	**0.88**	**71**↑	*i*P	**Pg**	**22 35 06.1**	**-0.4**
CMCH				*i* S	**Sg**	**22 35 16.4**	**-1.5**
CMCH	comp=E,19μm,0.4s			AML	AML	22 35 16.9	
OVCH	**Ovalle**	**1.08**	**38**↑	*i*P	**Pg**	**22 35 10.9**	**+0.6**
OVCH				*i* S	**Sg**	**22 35 24.2**	**-0.1**
OVCH	comp=N,5μm,0.2s			AML	AML	22 35 28.9	
TLL	**Tololo Astrono**	**1.64**	**38**↓	*i*P	**Pn**	**22 35 19.9**	**+1.4**
TLL				*i* S	**Sn**	**22 35 40.7**	**+1.1**
TLL	comp=E,2μm,0.4s			AML	AML	22 35 45.9	
JACH	**Jahuel**	**1.68**	**136**↓	*i*P	**Pn**	**22 35 19.2**	**0.0**
JACH				*i* S	**Sn**	**22 35 39.0**	**-1.9**
ROCH	**El Roble**	**1.71**	**152**↑	*i*P	**Pn**	**22 35 19.6**	**0.0**
ROCH				*i* S	**Sn**	**22 35 40.5**	**-1.0**
ROCH	comp=N,4μm,0.6s			AML	AML	22 35 45.4	
LCO	**Las Campanas**	**2.68**	**24**	*e*Pn	**Pn**	**22 35 31.2**	**-1.7**
LCO				*e*Sg	**Sg**	**22 36 10.0**	**-5.7**
CFAA	**Coronel Fontan** comp=N,2.7nm,0.3s,baz=283,slow=5.1,SNR=83	**3.19**	**93**	Pn	**Pn**	**22 35 42.1**	**+2.2**
CFAA				Sn	**Sn**	**22 36 23.7**	**+5.7**
CFAA	**Coronel Fontan** comp=N,12nm,0.3s,baz=71,slow=8.0,SNR=9.6	**3.19**	**93**	Pn	**Pn**	**22 35 42.1**	**+2.2**
CFAA				Sn	**Sn**	**22 36 23.7**	**+5.7**
PLCA	**Paso Flores** comp=N,0.3nm,0.3s,baz=333,slow=12,SNR=3.6	**9.32**	**173**	Pn	**Pn**	**22 37 04.7**	**+0.6**
PLCA	**Paso Flores**	**9.32**	**173**	Pn	**Pn**	**22 37 04.7**	**+0.6**
TRQA	**Tornquist**	**10.52**	**131**	*e*Pn	**Pn**	**22 37 21.1**	**+0.6**
TRQA				*e*Sn	**Sn**	**22 39 20.8**	**+2.4**
CPUP	**Villa Florida** comp=N,0.3nm,0.3s,baz=248,slow=16,SNR=1.9	**13.80**	**72**	Pn	**Pn**	**22 38 05.3**	**-0.2**
CPUP				LR	LR	22 43 46.6	
CPUP	comp=N,63nm,19.1s,baz=154,slow=39			LR	LR	22 43 46.6	
CPUP	**Villa Florida**	**13.80**	**72**	Pn	**Pn**	**22 38 05.3**	**-0.2**
LPAZ	**La Paz** comp=N,0.1nm,0.3s,baz=217,slow=11,SNR=2.8	**15.51**	**14**	Pn	**Pn**	**22 38 30.4**	**+1.8**
SDV	**Santo Domingo** comp=N,4.6nm,1.3s,mb4.0	**40.14**	**2**	P	**P**	**22 42 23.6**	**-2.4**
DBIC	**Dimbokro** comp=N,6.9nm,1.1s,mb4.5,baz=231,slow=5.8,SNR=7.0	**74.32**	**72**	P	**P**	**22 46 26.6**	**-1.3**
DBIC	**Dimbokro**	**74.32**	**72**	P	**P**	**22 46 26.6**	**-1.3**
TORD	**Torodi Ar. Bea** comp=N,2.2nm,0.7s,mb4.3,baz=259,slow=4.7,SNR=22	**83.30**	**70**	P	**P**	**22 47 16.4**	**-0.8**
TORD	**Torodi Ar. Bea**	**83.30**	**70**	P	**P**	**22 47 16.4**	**-0.8**
KURK	**Kurchatov** comp=N,1.3nm,0.7s,baz=300,slow=3.0,SNR=15	**150.95**	**40**	PKPbc	PKPbc	22 54 42.1	-0.2
KURK	**Kurchatov**	**150.95**	**40**	PKPbc	PKPbc	22 54 42.1	-0.2
ZALV	**Zalesovo Beam** comp=N,4.2nm,0.4s,baz=295,slow=3.1,SNR=28	**152.03**	**30**	PKPbc	PKPbc	22 54 44.4	-0.3
ZALV	**Zalesovo Beam**	**152.03**	**30**	PKPbc	PKPbc	22 54 44.4	-0.3
MKAR	**Makanchi Array** comp=N,0.6nm,0.8s,baz=252,slow=2.6,SNR=3.9	**154.99**	**45**	PKPbc	PKPbc	22 54 51.2

BCPH eS Sb 01 06 59.5 +1.9
APYP Conner 5.71 328 eP Pn 01 05 57.2 +2.3
ABRA Dolores 5.83 323 eP Pn 01 05 58.6 +2.0
DMPH Davao City--Mi 5.98 169 eP Pn 01 06 07.0 +8.4
DAV Davao City (W) 6.00 169 Pn Pn 01 06 03.4 +4.5
67nm,0.3s,baz=352,slow=7.2,SNR=2.7
DAV Sn Sb 01 07 25.9 -0.9
50nm,0.3s,baz=47,slow=24,SNR=1.6
DAV Davao City (W) 6.00 169 Pn Pn 01 06 04.1 +5.1
DAV Davao City (W) 6.00 169 P Px 01 06 17.5
675nm,1.2s,5.1nm
MYLDM Lahad Datu 9.71 217 P Px 01 07 04.1
81nm,1.0s,2µm
TWG Pinlang 10.27 343 ePn Pn 01 07 00.4 +2.9
YULB Yu-li 10.75 345 ePn Pn 01 07 04.4 +0.4
YULB eS Sn 01 09 00.5 -4.0
SSLB Suanglung 11.22 344 ePn Pn 01 07 13.3 +2.8
30nm,0.8s
NACB Ninganchiao 11.43 347 ePn Pn 01 07 15.2 +1.9
63nm,1.4s
YHNB Yeheng 11.96 347 ePn Pn 01 07 22.7 +2.1
YHNB eSn Sn 01 09 33.8 -0.3
TNTI Ternate 12.50 166 P Pn 01 07 38.0 +10
157nm,1.6s
MRSI Marisa 12.68 191 P Px 01 07 45.0
65nm,1.1s,1µm
QZH Quanzhou 13.08 336 ⇓*i*P Pn 01 07 37.0 +1.0
QZH S Sn 01 10 06.0 +4.3
QZH pmax pmax
comp=Z,1µm,8.9s
QZH LR LR
comp=N,3µm,16.2s
QZH LR LR
comp=E,3µm,15.6s
QZH LR LR
comp=Z,4µm,15.8s
LBMI Labuha 13.89 167 P Px 01 07 58.5
comp=Z,130nm,1.4s,comp=Z,4µm
LUWI Luwuk 14.04 187 P Pn 01 07 56.7 +7.6
comp=Z,3µmcomp=Z,303nm,1.3s
JOW Kunigami 14.24 14 Pn Pn 01 07 52.8 +1.1
JOW LR LR 01 12 50.3
comp=Z,2µm,20.2s,baz=303,slow=35
JOW Kunigami 14.24 14 Pn Pn 01 07 52.8 +1.1
JOW LR LR 01 12 50.3
QIZ Qiongzhong 15.21 295 P Pn 01 08 01.4 -3.6
QIZ pP pP 01 08 10.2 -2.7
QIZ sP sP 01 08 13.9 -0.3
QIZ S Sn 01 10 53.9 +0.1
QIZ LR LR
comp=N,1µm,13.7s
QIZ LR LR
comp=E,460nm,17.9s
QIZ LR LR
comp=Z,1µm,17.4s
SBUM Sibu 15.97 230 P Pn 01 08 20.9 +6.0
comp=Z,1µmcomp=Z,102nm,1.6s
MSSI Masamba 15.97 195 P Px 01 08 27.2
comp=Z,289nm,0.5s
NLAI Namlea 16.35 170 P Pn 01 08 25.1 +5.2
comp=Z,1µmcomp=Z,79nm,1.3s
TTSI Tana Toraja 16.57 196 P Pn 01 08 29.2 +6.5
comp=Z,4µmcomp=Z,254nm,0.9s
MSAI Masohi 16.85 164 P Pn 01 08 33.3 +7.1
comp=Z,2µmcomp=Z,54nm,1.2s
AAI Ambon 17.00 167 P Px 01 08 38.8
comp=Z,118nm,0.9s
MJSI Majene 17.30 198 P Px 01 08 48.1
SPSI Sidrap Palu 17.47 196 P Pn 01 08 39.0 +5.1
comp=Z,1µmcomp=Z,116nm,1.0s
BNSI Bone 17.80 194 P Pn 01 08 43.3 +5.3
comp=Z,3µmcomp=Z,266nm,1.5s
KSM Kuching 18.05 232 ePn Pn 01 08 43.1 +2.0
comp=Z,36nm,0.9s
KSM Kuching 18.05 232 P Pn 01 08 45.4 +4.3
comp=Z,985nmcomp=Z,59nm,1.1s
KBKI Kotabaru 18.14 207 P Px 01 08 56.4
BNDI Bandanaira 18.25 162 P Pn 01 08 53.0 +9.5
comp=Z,4µmcomp=Z,224nm,1.9s
SSE Sheshan 18.25 351 P Pn 01 08 45.7 +2.2
SSE sP sP 01 08 57.9 +10
SSE S Sn 01 12 07.1 -0.2
SSE sS sS 01 12 25.2 +8.2
SSE pmax pmax
comp=Z,27nm,0.8s
SSE pmax pmax
comp=Z,480nm,6.7s
SSE LR LR
comp=N,1µm,18.3s
SSE LR LR
comp=E,270nm,18.4s
SSE LR LR
comp=Z,1µm,18.6s
BBSI Bau Bau 18.45 186 P Pn 01 08 53.6 +7.6
comp=Z,3µmcomp=Z,81nm,1.3s
KAPI Kappang 18.48 195 ePn Pn 01 08 47.6 +1.2
comp=Z,126nm,1.0s
KAPI Kappang 18.48 195 P Pn 01 08 48.5 +2.1
comp=Z,2µmcomp=Z,142nm,1.4s
BKSI Bulukumba 18.69 193 P Pn 01 08 51.1 +2.2
comp=Z,1µmcomp=Z,76nm,1.9s
BBKI Banjar Baru 18.91 211 P Pn 01 08 58.6 +7.0
comp=Z,86nm,1.4s
NJ2 Nanjing 19.64 346 eP Pn 01 09 03.5 +3.3
NJ2 pP pP 01 09 11.9 +10
NJ2 sP sP 01 09 16.1 +13
NJ2 PP 01 09 22.0
NJ2 S Sn 01 12 40.0 -0.7
NJ2 sS sS 01 12 52.0 +7.1
NJ2 pmax pmax
comp=Z,20nm,0.6s
NJ2 pmax pmax
comp=Z,420nm,6.2s
NJ2 LR LR
comp=N,1µm,22.6s
NJ2 LR LR
comp=E,550nm,21.2s
NJ2 LR LR
comp=Z,1µm,22.5s
WHN Wuhan 19.77 334 P Pn 01 09 01.9 0.0
WHN sP sP 01 09 16.3 +12
WHN S Sn 01 12 42.0 -2.1
WHN LR LR
comp=N,5µm,17.1s
WHN LR LR
comp=E,2µm,14.0s
WHN LR LR
comp=Z,5µm,15.5s
GUMO Guam 19.93 86 P Pn 01 09 04.0 +0.1
comp=Z,6.4nm,0.3s,baz=198,slow=6.2,SNR=4.3
GUMO S Sn 01 12 56.0 +7.8
comp=Z,6.0nm,0.3s,baz=322,slow=15,SNR=2.7
GUMO LR LR 01 16 35.2
comp=Z,572nm,18.1s,baz=256,slow=36
GUMO Guam 19.93 86 P Pn 01 09 04.0 +0.1
GUMO S Sn 01 12 56.0 +7.8
GUMO LR LR 01 16 35.2
GUMO Guam 19.93 86 P Pn 01 09 04.0 +0.1
SMPI Sarmi 20.58 135 P P 01 09 11.2 +1.9
comp=Z,5µmcomp=Z,398nm,1.4s
JNU Nakatsue 20.89 15 ePn P 01 09 14.1 +1.7
comp=Z,25nm,1.1s
GYA Guiyang 21.36 311 P P 01 09 20.0 +2.4
GYA pP 01 09 28.8
GYA sP sP 01 09 35.4 +14
GYA PP 01 09 46.0
GYA S S 01 13 11.7 -3.2
GYA PcP PcP 01 13 24.9 +3.2
GYA SS 01 13 47.0
GYA pmax pmax
comp=Z,30nm,1.0s,mb4.6
GYA pmax pmax
comp=Z,130nm,5.9s
GYA LR LR
comp=N,570nm,16.8s,MS4.1
GYA LR LR
comp=E,470nm,17.4s,MS4.1
GYA LR LR
comp=Z,630nm,18.2s,MS4.0
MMRI Maumere 21.60 186 P P 01 09 29.3 +9.1
comp=Z,2µmcomp=Z,107nm,1.6s,mb5.0
CBIJ Chichi jima 21.78 47 LR LR 01 15 48.0
comp=Z,718nm,19.8s,MS4.1,baz=217,slow=31
ENH Enshi 22.04 324 eP P 01 09 24.3 -0.5
BMNI Bima 22.13 195 P P 01 09 28.7 +2.7
comp=Z,1µmcomp=Z,42nm,1.7s,mb4.6

JAY Jayapura 22.35 132 P P 01 09 38.5 +10
comp=Z,62nm,1.6s,mb4.8
KMMI Kalianget 22.45 208 P P 01 09 32.9 +3.5
comp=Z,3µmcomp=Z,117nm,1.1s,mb5.2
SRBI Singaraja 22.84 204 P P 01 09 38.5 +5.0
comp=Z,2µmcomp=Z,96nm,0.9s,mb5.2
MTNI Mataram 22.99 201 P P 01 09 40.3 +5.2
comp=Z,61nm,0.9s,mb5.0
MYKOM Kota Tinggi 23.19 243 P Px 01 09 49.7
comp=Z,34nm,1.7s
BLJI Banyuglugur 23.23 208 P Px 01 09 53.6
KMI Kunming 23.71 304 P P 01 09 41.7 -0.7
KMI pP 01 09 50.2
KMI sP sP 01 09 54.3 +7.6
KMI PP 01 10 14.6
KMI S S 01 13 51.0 -6.4
KMI sS sS 01 14 05.4 +3.0
KMI SS 01 14 40.4
KMI pmax pmax
comp=Z,13nm,0.8s,mb4.4
KMI pmax pmax
comp=Z,170nm,6.4s
KMI LR LR
comp=N,850nm,17.3s,MS4.3
KMI LR LR
comp=E,570nm,19.0s,MS4.3
KMI LR LR
comp=Z,900nm,20.4s,MS4.2
NGJI Ngawi 23.97 213 P P 01 09 52.2 +7.4
comp=Z,6µm,1.2s
SJI Sawahan 24.12 212 P P 01 09 54.6 +8.4
comp=Z,9µmcomp=Z,110nm,1.1s,mb5.2
SMRI Semarang 24.27 216 P Px 01 10 05.0
PWJI Pagerwojo 24.34 212 P P 01 09 56.4 +8.2
comp=Z,89nm,1.6s,mb4.9
JHJ Hachijo jima 2 24.47 33 LR LR 01 18 20.4
comp=Z,1µm,18.1s,MS4.4,baz=241,slow=34
KSRS Korea Array 24.56 7 P P 01 09 50.4 +0.4
comp=Z,15nm,1.0s,mb4.5,baz=185,slow=10.0,SNR=33
KSRS LR LR 01 19 04.4
comp=Z,832nm,19.6s,MS4.2,baz=221,slow=36
IPM Ipoh 24.58 252 eP P 01 09 50.9 +0.4
comp=Z,8.4nm,0.6s,mb4.5
IPM Ipoh 24.58 252 P P 01 09 56.6 +6.2
comp=Z,665nmcomp=Z,35nm,2.2s,mb4.5
KULM Kulim 24.64 254 eP P 01 09 52.2 +1.2
comp=Z,54nm,1.4s,mb4.9
KULM Kulim 24.64 254 P P 01 09 58.6 +7.6
comp=Z,32nm,2.2s,mb4.5
CMAR Chiang Mai Arr 25.08 286 P P 01 09 54.2 -0.7
comp=Z,8.5nm,0.8s,mb4.3,baz=102,slow=8.3,SNR=26
CMAR PcP PcP 01 13 29.9 +0.3
comp=Z,1.5nm,0.6s,baz=80,slow=1.0,SNR=5.2
CMAR LR LR 01 21 50.8
comp=Z,318nm,18.9s,MS3.9,baz=220,slow=42
CMAR Chiang Mai Arr 25.08 286 P P 01 09 54.2 -0.7
CMAR PcP PcP 01 13 29.9 +0.3
CMAR LR LR 01 21 50.8
CMAR Chiang Mai Arr 25.08 286 P P 01 09 54.3 -0.6
CMAR 01 13 29.9
CHTO Chiang Mai 25.14 287 eP P 01 09 54.9 -0.5
comp=Z,6.0nm,0.8s,mb4.2
CHTO Chiang Mai 25.14 287 eP P 01 09 54.9 -0.5
CHTO pmax pmax
comp=Z,6.0nm,0.8s,mb4.2
XAN Xi'an 25.23 329 P P 01 09 56.2 0.0
XAN pP pP 01 10 05.0 +5.8
XAN sP sP 01 10 09.2 +8.7
XAN PP 01 10 35.2
XAN S S 01 14 18.5 -3.2
XAN SS 01 15 19.0
XAN pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
XAN pmax pmax
comp=Z,52nm,14.0s
XAN LR LR
comp=N,550nm,15.6s,MS4.2
XAN LR LR
comp=E,110nm,14.0s,MS4.2
XAN LR LR
comp=Z,310nm,16.0s,MS3.9
DL2 Dalian 25.92 355 P P 01 10 04.2 +1.9
DL2 S S 01 14 33.8 +1.3
DL2 pmax pmax
comp=Z,30nm,1.2s,mb4.7
DL2 pmax pmax
comp=Z,140nm,5.6s
DL2 LR LR
comp=N,470nm,18.0s,MS4.2
DL2 LR LR
comp=E,300nm,15.3s,MS4.2
DL2 LR LR
comp=Z,640nm,17.8s,MS4.2
CD2 Chengdu 26.07 316 ⇑*i*P P 01 10 03.9 +0.1
CD2 pP pP 01 10 13.2 +6.3
CD2 sP sP 01 10 17.4 +9.3
CD2 PP 01 10 46.5
CD2 S S 01 14 31.3 -3.8
CD2 sS sS 01 14 49.7 +10
CD2 SS 01 15 42.8
CD2 pmax pmax
comp=Z,60nm,1.0s,mb5.1
CD2 pmax pmax
comp=Z,220nm,5.9s
CD2 LR LR
comp=N,2µm,21.4s
CD2 LR LR
comp=Z,2µm,18.4s,MS4.6
MAT Matsushiro 26.52 26 P P 01 10 08.7 +0.9
MAT S S 01 14 39.0 -3.1
MJAR Matsushiro Arr 26.52 26 P P 01 10 07.1 -0.7
comp=Z,4.9nm,0.9s,mb4.0,baz=204,slow=9.6,SNR=7.9
MJAR PcP PcP 01 13 33.0 +0.4
comp=Z,2.9nm,0.6s,baz=210,slow=3.5,SNR=5.0
MJAR LR LR 01 19 37.6
comp=Z,1µm,18.5s,MS4.4,baz=210,slow=34
MJAR Matsushiro Arr 26.52 26 P P 01 10 07.1 -0.7
MJAR PcP PcP 01 13 33.0 +0.4
MJAR LR LR 01 19 37.6
MJAR Matsushiro Arr 26.52 26 P P 01 10 07.1 -0.7
MJAR 01 13 33.0
KAKA Kakadu 26.76 162 eP P 01 10 08.0 -2.1
comp=Z,24nm,0.5s,mb5.0
KAKA Kakadu 26.76 162 eP P 01 10 08.1 -2.1
comp=Z,96nm,0.6s,mb5.5
PSI Prapat 27.15 250 P P 01 10 14.3 +0.5
comp=Z,5.5nm,0.7s,mb4.2,baz=62,slow=8.8,SNR=6.4
PSI PcP PcP 01 13 33.7 -0.8
comp=Z,1.9nm,0.2s,baz=137,slow=19,SNR=14
PSI LR LR 01 21 33.9
comp=Z,578nm,19.3s,MS4.2,baz=76,slow=38
PSI Prapat 27.15 250 P P 01 10 14.3 +0.5
PSI PcP PcP 01 13 33.7 -0.8
PSI LR LR 01 21 33.9
PSI Prapat 27.15 250 P P 01 10 14.3 +0.5
PSI 01 13 33.7
BJT Baijiatuau 27.87 346 eP P 01 10 20.1 +0.2
comp=Z,15nm,0.3s,mb5.1
BJT Baijiatuau 27.87 346 eP P 01 10 20.1 +0.2
BJT pmax pmax
comp=Z,15nm,0.3s
BJI Beijing 27.89 346 P P 01 10 21.1 +1.0
BJI pP pP 01 10 30.6 +7.4
BJI S S 01 15 03.2 -0.4
BJI sS sS 01 15 20.9 +12
BJI pmax pmax
comp=Z,33nm,0.8s,mb5.0
BJI pmax pmax
comp=Z,130nm,6.7s
BJI LR LR
comp=N,690nm,21.3s,MS4.3
BJI LR LR
comp=E,480nm,16.4s,MS4.3
BJI LR LR
comp=Z,540nm,19.5s,MS4.1
SNY Shenyang 28.73 359 ⇑P P 01 10 28.8 +1.3
SNY S S 01 15 15.8 -1.0
SNY pmax pmax
comp=Z,19nm,0.9s,mb4.8
SNY LR LR
comp=N,1µm,17.8s,MS4.6
SNY LR LR
comp=E,690nm,14.1s,MS4.6
SNY LR LR
comp=Z,1µm,18.4s,MS4.5
LZH Lanzhou 29.50 325 eP P 01 10 42.0 +7.5

LZH pP pP 01 10 53.0 +15
LZH sP sP 01 10 57.5 +19
LZH S S 01 15 33.0 +3.9
LZH sS sS 01 15 50.0 +16
LZH SS SS 01 17 28.4 -6.0
LZH pmax pmax
comp=Z,49nm,1.5s,mb5.0
LZH pmax pmax
comp=Z,220nm,7.3s
LZH LR LR
comp=N,2µm,15.0s,MS4.9
LZH LR LR
comp=E,1µm,15.4s,MS4.9
LZH LR LR
comp=Z,2µm,17.5s,MS4.8
HHC Hu-ho-hao-te 29.94 340 eP P 01 10 39.1 +0.8
HHC pP pP 01 10 48.7 +7.4
HHC sP sP 01 10 52.7 +10
HHC PP PP 01 11 37.6 -8.3
HHC S S 01 15 34.2 -1.6
HHC sS sS 01 15 50.3 +9.5
HHC SS SS 01 17 13.1 -30
HHC pmax pmax
comp=Z,16nm,0.5s,mb5.0
HHC pmax pmax
comp=Z,160nm,4.5s
HHC LR LR
comp=N,850nm,14.9s,MS4.6
HHC LR LR
comp=E,620nm,15.7s,MS4.6
HHC LR LR
comp=Z,850nm,15.0s,MS4.5
CN2 Changchun 30.71 1 eP P 01 10 49.6 +4.6
CN2 esP sP 01 11 03.1 +14
CN2 eS S 01 15 50.9 +3.1
CN2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,600nm,19.0s,MS4.4
CN2 LR LR
comp=E,500nm,19.0s,MS4.4
CN2 LR LR
comp=Z,600nm,19.0s,MS4.3
FITZ Fitzroy Crossi 30.93 178 P P 01 10 45.2 -2.0
comp=Z,3.6nm,0.9s,mb4.2,baz=25,slow=9.5,SNR=11
FITZ Fitzroy Crossi 30.93 178 eP P 01 10 45.4 -1.8
comp=Z,8.1nm,0.8s,mb4.6
FITZ Fitzroy Crossi 30.93 178 eP P 01 10 45.5 -1.7
comp=Z,7.5nm,0.8s,mb4.6
PMG Port Moresby 31.73 133 P P 01 10 52.8 -1.5
comp=Z,9.8nm,0.8s,mb4.7,baz=310,slow=13,SNR=5.7
PMG Port Moresby 31.73 133 eP P 01 10 52.8 -1.5
comp=Z,28nm,1.2s,mb5.0
PMG Port Moresby 31.73 133 eP P 01 10 52.8 -1.5
PMG pmax pmax
comp=Z,28nm,1.2s
MDJ Mudanjiang 31.82 7 P P 01 10 56.8 +2.0
MDJ S S 01 16 07.4 +2.2
MDJ pmax pmax
comp=Z,23nm,1.2s,mb4.9
MDJ pmax pmax
comp=Z,120nm,5.0s
MDJ LR LR
comp=N,560nm,20.2s,MS4.3
MDJ LR LR
comp=E,220nm,15.6s,MS4.3
MDJ LR LR
comp=Z,620nm,20.2s,MS4.3
MDJ Mudanjiang 31.82 7 eP P 01 10 56.9 +2.1
comp=Z,137nm,1.8s,mb5.5
COEN Coen 32.61 145 eP P 01 10 59.2 -2.8
comp=Z,486nm,1.5s
SHL Shillong 33.04 297 ePKP P 01 11 06.5 +0.7
GTA Gaotai 34.11 325 eP P 01 11 15.8 +0.9
GTA pP pP 01 11 25.6 +7.6
GTA sP sP 01 11 29.7 +10
GTA S S 01 16 40.2 -0.7
GTA sS sS 01 16 56.6 +11
GTA SS SS 01 18 51.4 -17
GTA pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
GTA pmax pmax
comp=Z,110nm,5.5s
GTA LR LR
comp=N,510nm,15.2s,MS4.5
GTA LR LR
comp=E,550nm,15.7s,MS4.5
GTA LR LR
comp=Z,830nm,15.2s,MS4.6
WRAB Tennant Creek 34.16 163 eP P 01 11 13.7 -1.9
comp=Z,52nm,1.8s,mb5.2
WRAB Tennant Creek 34.16 163 eP P 01 11 13.7 -1.8
WRAB pmax pmax
comp=Z,52nm,1.8s,mb5.2
WRAB Tennant Creek 34.16 163 P P 01 11 12.2 -3.3
comp=Z,69nm,0.6s,mb5.8,SNR=13
WRA Warramunga Arr 34.16 163 P P 01 11 13.6 -2.0
comp=Z,3.6nm,0.5s,mb4.5,baz=328,slow=11,SNR=69
WRA Warramunga Arr 34.16 163 P P 01 11 13.6 -2.0
WRA Warramunga Arr 34.16 163 P P 01 11 13.6 -1.9
LSA Lhasa 34.97 304 P P 01 11 22.6 +0.1
LSA Lhasa 34.97 304 eP P 01 11 23.7 +1.1
comp=Z,7.3nm,0.6s,mb4.8
LSA Lhasa 34.97 304 eP P 01 11 23.7 +1.1
LSA pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
HIA Hailar 36.37 355 eP P 01 11 33.7 -0.5
comp=Z,2.0nm,0.4s,mb4.4
HIA Hailar 36.37 355 eP P 01 11 33.7 -0.5
HIA pmax pmax
comp=Z,2.0nm,0.4s
KLR Kul'dur 36.63 8 eP P 01 11 33.2 -3.3
KLR eS S 01 17 19.5 +0.1
KLR eSS SS 01 19 51.5 -8.1
ASAR Alice Springs 37.61 166 P P 01 11 44.2 -0.8
comp=Z,7.4nm,0.4s,mb4.8,baz=337,slow=7.0,SNR=134
ASAR Alice Springs 37.61 166 P P 01 11 44.2 -0.8
ASAR Alice Springs 37.61 166 P P 01 11 44.2 -0.8
ULN Ulaanbaatar 37.65 341 eP P 01 11 46.5 +1.4
comp=Z,28nm,1.0s,mb5.0
ULN Ulaanbaatar 37.65 341 eP P 01 11 46.5 +1.3
ULN pmax pmax
comp=Z,28nm,1.0s,mb5.0
SONM Songino Array 37.84 340 P P 01 11 47.3 +0.5
comp=Z,8.9nm,0.9s,mb4.5,baz=157,slow=6.5,SNR=45
SONM LR LR 01 27 51.9
comp=Z,623nm,20.7s,MS4.4,baz=167,slow=37
SONM Songino Array 37.84 340 P P 01 11 47.3 +0.5
SONM LR LR 01 27 51.9
SONM Songino Array 37.84 340 P P 01 11 47.3 +0.5
GUN Gumba 38.83 298 eP P 01 11 54.8 -0.6
comp=Z,65nm,0.9s,mb5.4
GUN Gumba 38.83 298 eP P 01 11 54.8 -0.6
comp=Z,65nm,0.9s,mb5.4
PKI Pulchoki 39.15 298 eP P 01 11 56.9 -1.2
comp=Z,31nm,0.8s,mb5.1
PKI Pulchoki 39.15 298 eP P 01 11 58.0 -0.1
comp=Z,25nm,0.6s,mb5.1
PKI Pulchoki 39.15 298 eP P 01 11 58.0 -0.1
PKI pmax pmax
comp=Z,25nm,0.6s,mb5.1
PKIN Phulchoki 39.16 298 eP P 01 11 58.0 -0.2
comp=Z,25nm,0.6s,mb5.1
CTA Charters Tower 39.29 146 P P 01 11 58.6 -0.6
comp=Z,7.3nm,0.9s,mb4.4,baz=336,slow=11,SNR=6.3
CTA Charters Tower 39.29 146 eP P 01 11 57.8 -1.5
comp=Z,13nm,1.2s,mb4.5
CTA Charters Tower 39.29 146 P P 01 11 58.6 -0.6
CTA Charters Tower 39.29 146 P P 01 11 58.7 -0.6
CTAO Charters Tower 39.29 146 eP P 01 11 58.2 -1.1
comp=Z,47nm,1.4s,mb5.0
CTAO Charters Tower 39.29 146 eP P 01 11 58.2 -1.1
CTAO pmax pmax
comp=Z,47nm,1.4s,mb5.0
CTAO Charters Tower 39.29 146 P P 01 12 04.8 +5.5
KKN Kakani 39.32 298 eP P 01 11 58.7 -0.8
comp=Z,27nm,0.9s,mb5.0
KKN Kakani 39.32 298 eP P 01 11 58.7 -0.8
comp=Z,27nm,0.9s,mb5.0
KKN Kakani 39.32 298 eP P 01 11 58.7 -0.8
KKN pmax pmax
comp=Z,27nm,0.9s,mb5.0
DMN Daman 39.42 298 eP P 01 11 59.7 -0.7
comp=Z,33nm,0.9s,mb5.0

DMN **Daman** 39.42 298 *e*P P 01 11 59.7 -0.7
comp=Z,33nm,0.9s,mb5.1
GKN **Gorkha** 39.92 298 *e*P P 01 12 03.1 -1.4
comp=Z,34nm,0.9s,mb5.1
GKN **Gorkha** 39.92 298 *e*P P 01 12 03.1 -1.4
comp=Z,34nm,0.9s,mb5.1
DANN **Dangsing** 40.75 298 *e*P P 01 12 10.2 -1.2
comp=Z,47nm,0.7s,mb5.2
DANN **Dangsing** 40.75 298 *e*P P 01 12 10.2 -1.2
comp=Z,47nm,0.7s,mb5.2
KOLN **Koldanda** 40.76 298 *e*P P 01 12 10.2 -1.3
comp=Z,36nm,0.8s,mb5.0
KOLN **Koldanda** 40.76 298 *e*P P 01 12 10.2 -1.3
comp=Z,36nm,0.8s,mb5.0
ZAK **Zakamensk** 41.08 339 *e*P P 01 12 13.6 -0.2
ZAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.0
MOY **Mondy** 42.95 339 *e*P P 01 12 33.5 +4.5
MDRS **Chennai** 42.97 275 *ex* x 01 12 47.2
MDRS *ex* x 01 24 31.2
MDRS *ex* x 01 26 47.2
MDRS *ex* x 01 38 39.2
MDRS *ex* x 01 52 55.2
MDRS *ex* x 02 00 31.2
MDRS *ex* x 02 16 23.2
FORT **Forrest** 43.67 175 *e*P P 01 12 34.1 -0.9
comp=Z,26nm,0.6s,mb5.1
FORT **Forrest** 43.67 175 *e*P P 01 12 34.1 -0.9
comp=Z,44nm,0.6s,mb5.4
CLNS **Chul'man** 43.75 0 *e*P P 01 12 35.7 +0.3
CLNS pmax pmax
comp=Z,25nm,1.2s,mb4.8
CLNS pmax pmax
comp=N,17nm,1.3s
CLNS pmax pmax
comp=E,6.0nm,1.1s
WMQ **Urumqi** 43.96 321 P P 01 12 39.0 +1.7
WMQ pP pP 01 12 48.9 +8.5
WMQ sP sP 01 12 52.8 +11
WMQ PP PP 01 14 23.2 +3.5
WMQ S S 01 19 08.3 -0.7
WMQ pmax pmax
comp=Z,9.0nm,1.3s,mb4.3
WMQ pmax pmax
comp=Z,200nm,4.0s
WMQ LR LR
comp=N,1µm,19.5s,MS4.9
WMQ LR LR
comp=E,750nm,17.7s,MS4.9
WMQ LR LR
comp=Z,580nm,21.6s,MS4.5
HYB **Hyderabad** 44.38 282 *i* P P 01 12 41.5 +0.5
BOD **Bodaibo** 45.42 352 *e*P P 01 12 48.2 -0.5
BOD pmax pmax
comp=Z,11nm,1.6s,mb4.4
EIDS **Eidsvold** 46.16 146 *e*P P 01 12 54.2 -0.8
comp=Z,26nm,1.0s,mb5.1
NWAO **Narrogin (SRO)** 46.17 188 P P 01 12 53.4 -1.5
comp=Z,7.1nm,0.7s,mb4.7,baz=277,slow=0.9,SNR=4.0
NWAO **Narrogin (SRO)** 46.17 188 P P 01 12 53.4 -1.5
NWAO **Narrogin (SRO)** 46.17 188 P P 01 12 53.4 -1.6
BBOO **Buckleboo** 46.89 167 *e*P P 01 12 58.1 -2.5
comp=Z,1µm,2.7s
STKA **Stephens Creek** 47.57 160 P P 01 13 05.5 -0.4
comp=Z,10.0nm,0.6s,mb5.0,baz=338,slow=7.8,SNR=21
STKA **Stephens Creek** 47.57 160 *e*P P 01 13 05.5 -0.4
comp=Z,13nm,0.8s,mb5.0
STKA **Stephens Creek** 47.57 160 P P 01 13 05.5 -0.4
STKA **Stephens Creek** 47.57 160 P P 01 13 05.5 -0.4
PETK **Petropavlovsk-** 47.98 26 P P 01 13 09.4 +0.5
comp=Z,13nm,0.9s,mb5.0,baz=210,slow=3.6,SNR=9.7
PETK LR LR 01 32 55.9
comp=Z,297nm,18.1s,MS4.3,baz=220,slow=36
PETK **Petropavlovsk-** 47.98 26 P P 01 13 09.4 +0.5
PETK LR LR 01 32 55.9
PETK **Petropavlovsk-** 47.98 26 P P 01 13 09.4 +0.6
PET **Petropavlovsk** 48.34 27 *e*P P 01 13 18.6 +7.0
PET *e*S S 01 20 16.7 +5.0
PET MLR MLR
comp=Z,300nm,17.0s,MS4.3
MK31 **Makanchi Array** 48.76 322 *i* P P 01 13 15.0 0.0
MK31 pmax pmax
comp=Z,27nm,0.9s,mb5.3
MKAR **Makanchi Array** 48.76 322 P P 01 13 15.1 +0.1
comp=Z,13nm,0.8s,mb5.0,baz=117,slow=7.8,SNR=67
MKAR **Makanchi Array** 48.76 322 P P 01 13 15.1 +0.1
MKAR **Makanchi Array** 48.76 322 P P 01 13 15.1 +0.1
POO **Poona** 48.83 283 *ex* x 01 13 09.0
YAK **Yakutsk** 49.10 3 *e*P P 01 13 12.8 -4.6
YAK pmax pmax
comp=Z,25nm,0.9s,mb5.2
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.1s
KSH **Kashi** 50.06 311 P P 01 13 27.1 +2.0
KSH pP pP 01 13 36.9 +8.7
KSH sP sP 01 13 40.8 +11
KSH PcP PcP 01 14 46.1 +1.3
KSH PP PP 01 15 23.2 +3.1
KSH ScP ScP 01 18 37.9 -3.0
KSH PcS PcS 01 18 41.7 0.0
KSH S S 01 20 34.3 -2.0
KSH sS sS 01 20 52.1 +11
KSH SS SS 01 24 05.8 -3.6
KSH pmax pmax
comp=Z,11nm,1.2s,mb4.8
KSH pmax pmax
comp=Z,92nm,3.1s
KSH LR LR
comp=N,810nm,18.7s,MS4.8
KSH LR LR
comp=E,400nm,17.0s,MS4.8
KSH LR LR
comp=Z,250nm,6.6s
ARMA **Armidale** 50.50 149 *e*P P 01 13 28.3 -0.1
ARMA **Armidale** 50.50 149 *e*P P 01 13 28.3 -0.2
comp=Z,70nm,1.4s,mb5.4
ZALV **Zalesovo Beam** 51.37 331 P P 01 13 34.0 -0.6
comp=Z,12nm,0.8s,mb4.9,baz=119,slow=6.0,SNR=46
ZALV LR LR 01 36 41.0
comp=Z,229nm,18.3s,MS4.2,baz=136,slow=38
ZALV **Zalesovo Beam** 51.37 331 P P 01 13 34.0 -0.6
ZALV LR LR 01 36 41.0
ZALV **Zalesovo Beam** 51.37 331 P P 01 13 34.0 -0.7
TKM2 **Tokmak 2** 51.44 315 *e*P P 01 13 36.2 +0.7
comp=Z,64nm,2.2s,mb5.2
TKM2 **Tokmak 2** 51.44 315 *e*P P 01 13 36.2 +0.8
TKM2 pmax pmax
comp=Z,64nm,2.2s,mb5.2
FRU **Bishkek** 52.09 315 *e*P P 01 13 42.0 +1.7
FRU pmax pmax
comp=Z,20nm,2.0s,mb4.7
AAK **Ala-Archa** 52.11 314 P P 01 13 41.3 +0.9
comp=Z,0.6nm,0.4s,mb3.9,baz=181,slow=15,SNR=5.6
AAK **Ala-Archa** 52.11 314 *e*P P 01 13 41.0 +0.5
comp=Z,14nm,1.4s,mb4.7
AAK **Ala-Archa** 52.11 314⇓ *i*P P 01 13 40.3 -0.1
AAK pmax pmax
comp=Z,6.0nm,2.5s,mb4.1
EKS2 **Erkin-Say** 52.62 314 *e*P P 01 13 44.7 +0.4
comp=Z,14nm,1.2s,mb4.8
EKS2 **Erkin-Say** 52.62 314 *e*P P 01 13 44.7 +0.5
EKS2 pmax pmax
comp=Z,14nm,1.2s,mb4.8
NVS **Novosibirsk** 52.64 331 *e*P P 01 13 41.9 -2.3
NVS pmax pmax
comp=Z,62nm,1.4s,mb5.3
NVS pmax pmax
comp=N,27nm,1.6s
NVS pmax pmax
comp=E,28nm,1.3s
KURK **Kurchatov** 52.79 325 P P 01 13 44.8 -0.6
comp=E,13nm,0.8s,mb4.9,baz=120,slow=7.4,SNR=43
KURK **Kurchatov** 52.79 325 *e*P P 01 13 45.4 +0.1
comp=E,50nm,1.1s,mb5.4
KURK **Kurchatov** 52.79 325 *e*P P 01 13 45.4 +0.1
KURK pmax pmax
comp=Z,50nm,1.1s,mb5.4
KURK **Kurchatov** 52.79 325 P P 01 13 45.5 +0.2
comp=Z,253nm,0.7s,SNR=20
CAN **Canberra** 53.41 155 *e*P P 01 13 51.0 +0.9
comp=Z,19nm,0.9s,mb5.0
CAN **Canberra** 53.41 155 *e*P P 01 13 51.0 +1.0
CAN pmax pmax
comp=Z,19nm,0.9s,mb5.0
CNB **Canberra Magne** 53.56 155 *e*P P 01 13 50.8 -0.3
DZM **Mont Dzumac** 53.99 130 *e*P P 01 13 58.2 +3.6
comp=Z,70nm,1.2s,mb5.5
DZM *e*LR LR 01 29 36.4
comp=Z,396nm,26.1s
DZM **Mont Dzumac** 53.99 130 *e*P P 01 13 53.4 -1.2
comp=Z,13nm,0.7s,mb5.0
TOO **Toolangi** 54.06 159 *e*P P 01 13 54.7 -0.1
KK31 **Karatay Array** 55.04 314 *i* P P 01 14 01.4 -0.6
KK31 pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
KKAR **Karatay Array** 55.04 314 *e*P P 01 14 01.8 -0.2
KKAR **Karatay Array** 55.04 314 *e*P P 01 14 01.8 -0.2
VOSK **Vostochnaya** 57.94 325 P P 01 14 21.0 -1.4
VOSK pmax pmax
comp=Z,11nm,0.8s,mb4.9
BVAR **Borovoye Array** 58.39 325 P P 01 14 25.1 -0.4
comp=Z,9.1nm,0.8s,mb4.8,baz=116,slow=9.2,SNR=28
BVAR **Borovoye Array** 58.39 325 P P 01 14 25.1 -0.4
BVAR **Borovoye Array** 58.39 325 P P 01 14 25.1 -0.5
BRVK **Borovoye** 58.46 325 *e*P P 01 14 25.9 -0.2
comp=Z,23nm,0.9s,mb5.2
BRVK **Borovoye** 58.46 325 *d*⇓ *i*P P 01 14 25.5 -0.6
BRVK pmax pmax
comp=Z,27nm,1.0s,mb5.2
BRVK **Borovoye** 58.46 325 P P 01 14 26.5 +0.4
comp=Z,162nm,0.8s,mb6.1,SNR=9.6
MSVF **Nonsavu** 61.12 119 *e*P P 01 14 46.0 +1.1
comp=Z,43nm,1.1s,mb5.5
MSVF **Nonsavu** 61.12 119 *e*P P 01 14 46.0 +1.1
MSVF pmax pmax
comp=Z,43nm,1.1s,mb5.5
BILL **Bilibino** 61.31 17 *e*P P 01 14 45.5 +0.1
comp=Z,26nm,1.3s,mb5.2
BILL **Bilibino** 61.31 17⇓ *e*P P 01 14 46.5 +1.1
BILL *e* 01 14 56.9
BILL pmax pmax
comp=Z,30nm,1.3s,mb5.3
BILL MLR MLR
comp=Z,200nm,16.0s,MS4.4
IMYA **Miami** 61.76 304 *e*P P 01 14 47.8 -1.2
IMOG **Moghan** 62.35 304 *e*P P 01 14 52.6 -0.4
IPAY **Payeh** 62.65 304 *e*P P 01 14 54.2 -0.8
IKRD **Kardeh** 63.06 305 *e*P P 01 14 52.3 -5.4
AB31 **Akbulak array** 63.62 319 *i* P P 01 15 00.2 -1.0
AB31 pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
ABKAR **Akbulak array** 63.62 319 *e*P P 01 15 00.5 -0.7
comp=Z,5.7nm,0.6s,mb4.8
SVE **Sverdlovsk** 64.94 327⇑ *e*P P 01 15 08.9 -0.8
SVE *e* 01 17 30.0
SVE *e*PPP 01 19 14.8
SVE *e*S S 01 23 52.1 +0.9
SVE *e* 01 24 54.1
SVE pmax pmax
comp=Z,29nm,0.8s,mb5.4
AKTK **Aktyubinsk** 65.07 320 P P 01 15 09.7 -0.9
AKTO **Aktyubinsk** 65.07 320 P P 01 15 09.7 -0.9
comp=Z,5.5nm,0.8s,mb4.7,baz=99,slow=6.8,SNR=21
AKTO **Aktyubinsk** 65.07 320 P P 01 15 09.7 -0.9
ARU **Arti** 65.95 326 *e*P P 01 15 14.9 -1.3
comp=Z,23nm,0.7s,mb5.3
ARU **Arti** 65.95 326 *d*⇓ *i*P P 01 15 14.9 -1.3
ARU *e* 01 15 44.4
ARU *e* 01 17 39.6
ARU S S 01 24 02.1 -1.5
ARU SS SS 01 28 15.9 -2.6
ARU pmax pmax
comp=Z,20nm,0.6s,mb5.3
ARU MLR MLR
comp=Z,327nm,19.0s,MS4.6
ARU **Arti** 65.95 326 P P 01 15 14.9 -1.3
comp=Z,228nm,0.6s,SNR=5.4
IMEH **Mehriz** 66.18 299 *e*P P 01 15 10.1 -8.1
ICHK **Chekchek** 66.34 300 *e*P P 01 15 17.5 -1.7
IANJ **Anjilo** 66.74 303 *e*P P 01 15 20.5 -1.2
ILAS **Lasjerd** 67.52 303 *e*P P 01 15 23.7 -3.0
SOKR **Solikamsk** 67.58 329 *e*P P 01 15 35.7 +9.1
SOKR pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
SOKR MLR MLR
comp=Z,460nm,16.0s,MS4.8
IHRS **Heris** 72.19 306 *e*P P 01 15 55.4 0.0
MIB **Mutribah** 72.53 297 *e*P P 01 15 55.6 -1.9
MIB AMb AMB 01 15 58.0
comp=Z,34nm,0.6s,mb5.5
NAY **Al-Naaiem** 72.66 297 *e*P P 01 15 55.9 -2.5
NAY AMb AMB 01 15 59.0
comp=Z,25nm,1.3s,mb5.0
RST **Umm Al-Ruwaisa** 72.85 297 *e*P P 01 15 56.8 -2.7
RST AMb AMB 01 15 59.0
comp=Z,5.6nm,0.9s,mb4.5
IMRD **Marand** 73.22 307 *e*P P 01 16 01.3 -0.2
ISHB **Shabestar** 73.31 306 *e*P P 01 16 01.3 -0.7
GNI **Garni** 73.88 308 *e*P P 01 16 07.7 +2.4
comp=Z,22nm,1.5s,mb4.9
GNI **Garni** 73.88 308⇑ *e*P P 01 16 05.4 +0.1
GNI pmax pmax
comp=Z,14nm,1.7s
ZEI **Tsey** 74.35 311 *e*P P 01 16 06.1 -2.0
ZEI pmax pmax
comp=Z,14nm,1.4s,mb4.7
KIV **Kislovodsk** 75.16 312 *e*P P 01 16 14.0 +1.3
comp=Z,15nm,1.0s,mb4.9
KIV **Kislovodsk** 75.16 312 *e*P P 01 16 13.5 +0.8
KIV *e*S S 01 25 50.1 -1.4
KIV pmax pmax
comp=Z,14nm,1.0s,mb4.8
KIV MLR MLR
comp=Z,462nm,19.0s,MS4.8
RSO **Redoubt South** 75.27 31 *e*P P 01 16 12.4 -0.6
KDAK **Kodiak Island** 75.39 33 P P 01 16 13.8 +0.1
comp=Z,11nm,0.9s,mb4.8,baz=324,slow=21,SNR=5.5
KDAK **Kodiak Island** 75.39 33 P P 01 16 13.8 +0.1
KDAK **Kodiak Island** 75.39 33 *i* P P 01 16 14.8 +1.0
VRHR **Novokhopersk** 75.47 320 *e*P P 01 16 12.2 -2.2
VRHR pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.6s
PPLA **Purkeypile** 75.53 28 *e*P P 01 16 16.0 +1.5
comp=E,44nm,1.4s,mb5.2
BPAW **Bear Paw Mtn.** 76.06 27 P P 01 16 17.1 -0.3
comp=E,63nm,1.2s,mb5.4
COLD **Coldfoot** 76.33 24 *e*P P 01 16 20.1 +1.1
comp=E,22nm,1.2s,mb5.0
TRF **Thorofare Moun** 76.39 27 *e*P P 01 16 19.4 +0.1
comp=E,33nm,1.4s,mb5.1
MCK **McKinley** 76.98 27 *e*P P 01 16 21.8 -0.8
comp=E,81nm,1.4s,mb5.5
MCK **McKinley** 76.98 27 *e*P P 01 16 21.8 -0.9
MCK pmax pmax
comp=Z,81nm,1.4s,mb5.5
PMR **Palmer** 77.00 29 *e*P P 01 16 23.3 +0.5
comp=Z,18nm,1.1s,mb4.9
PMR **Palmer** 77.00 29 *e*P P 01 16 23.3 +0.5
PMR pmax pmax
comp=Z,18nm,1.1s,mb4.9
VSR **Storozhevoye** 77.01 320 *e*P P 01 16 21.5 -1.6
VSR pmax pmax
comp=N,6.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
VSR pmax pmax
comp=E,10.0nm,1.2s
SML **Sawmill** 77.37 29 *e*P P 01 16 26.3 +1.5
comp=E,6.1nm,1.0s,mb4.5
SML **Sawmill** 77.37 29 *e*P P 01 16 26.3 +1.4
SML pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
ILAR **Eielson Array** 77.80 26 P P 01 16 26.8 -0.5
comp=Z,1.9nm,0.7s,mb4.2,baz=244,slow=5.2,SNR=22
ILAR LR LR 01 47 46.4
comp=Z,134nm,21.5s,MS4.2,baz=279,slow=33
ILAR **Eielson Array** 77.80 26 P P 01 16 26.8 -0.5
ILAR LR LR 01 47 46.4
ILAR **Eielson Array** 77.80 26 P P 01 16 26.8 -0.5
OBN **Obninsk** 78.22 324 ⇑P P 01 16 28.5 -1.3
OBN *e* 01 16 34.7
OBN *e* 01 16 39.7
OBN *e* 01 26 38.2
OBN SS SS 01 31 28.0 +1.8
OBN SSS 01 34 50.0
OBN pmax pmax
comp=Z,34nm,1.7s,mb5.0
OBN MLR MLR
comp=Z,300nm,17.0s,MS4.7
APA **Apatity** 78.47 337⇓ *e*P P 01 16 34.0 +3.1
APA MLR MLR
comp=Z,1µm,14.0s,MS5.4
PAX **Paxson** 78.59 28 *e*P P 01 16 32.2 +0.5
comp=Z,15nm,1.1s,mb4.8
PAX **Paxson** 78.59 28 *e*P P 01 16 32.2 +0.5
PAX pmax pmax
comp=Z,15nm,1.1s,mb4.8
DIV **Divide** 78.65 30 *e*P P 01 16 33.7 +1.7
comp=Z,52nm,1.3s,mb5.3
ANN **Anapa** 78.83 314 *e*P P 01 16 29.6 -3.8
ANN *e*S S 01 26 26.5 -5.0
ANN pmax pmax
comp=Z,18nm,1.6s,mb4.8
DOT **Dot Lake** 79.15 27 *e*P P 01 16 35.0 +0.3
comp=Z,121nm,1.6s,mb5.6
BMRM **Bremner River** 79.23 30 *e*P P 01 16 35.6 +0.4
comp=Z,53nm,1.4s,mb5.3
RAGM **Ragged Mountai** 79.27 30 *e*P P 01 16 35.6 +0.2
comp=Z,376nm,1.8s,mb6.0
CASY **Casey** 79.72 186 *e*P P 01 16 35.0 -2.6
CASY **Casey** 79.72 186 *e*P P 01 16 35.3 -2.3
comp=Z,5.8nm,1.1s,mb4.4
JOF **Joensuu** 79.94 332 *e*P P 01 16 37.7 -1.3
JOF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
JOF **Joensuu** 79.94 332 *e*p P 01 16 37.7 -1.3
comp=Z,3.9nm,0.7s,mb4.5
EGAK **Eagle** 80.24 26 *e*P P 01 16 41.8 +1.2
comp=Z,38nm,1.9s,mb5.0
DRV **Dumont d'Urvil** 80.27 174 SS SS 01 31 53.0 -4.2
DRV R 01 43 00.0
SPITS **Spitsbergen Ar** 81.00 349 P P 01 16 45.5 +1.0
comp=Z,6.0nm,0.7s,mb4.6,baz=83,slow=6.8,SNR=5.2
SPITS **Spitsbergen Ar** 81.00 349 P P 01 16 45.5 +1.0
SPITS **Spitsbergen Ar** 81.00 349 P P 01 16 45.5 +1.0
ARCES **ARCESS Array B** 81.01 339 P P 01 16 44.0 -0.7
comp=Z,2.2nm,0.6s,mb4.3,baz=94,slow=7.3,SNR=9.7
ARCES LR LR 01 54 43.9
comp=Z,218nm,20.8s,MS4.5,baz=275,slow=37
ARCES **ARCESS Array B** 81.01 339 P P 01 16 44.0 -0.7
ARCES LR LR 01 54 43.9
ARCES **ARCESS Array B** 81.01 339 P P 01 16 44.0 -0.7
ASF **Jabal al Asfar** 81.11 301 P P 01 16 45.8 -0.2
comp=Z,3.1nm,0.8s,mb4.3,baz=142,slow=1.0,SNR=6.8
ASF **Jabal al Asfar** 81.11 301 P P 01 16 45.8 -0.2
ASF **Jabal al Asfar** 81.11 301 P P 01 16 45.8 -0.2
DAWY **Dawson** 81.12 26 *e*P P 01 16 45.8 +0.4
MMAI **Mount Meron Ar** 82.21 302 P P 01 16 52.5 +0.8
comp=Z,2.9nm,0.8s,mb4.3,baz=79,slow=10,SNR=5.5
KAF **Kangasniemi** 82.37 332 *e*P P 01 16 50.4 -1.6
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
KAF **Kangasniemi** 82.37 332 *e*p P 01 16 50.4 -1.6
comp=Z,2.8nm,0.6s,mb4.4
BRTR **Keskin Array B** 82.39 309 P P 01 16 51.7 -0.9
comp=Z,1.1nm,0.8s,mb3.8,baz=145,slow=4.5,SNR=6.1
BRTR **Keskin Array B** 82.39 309 P P 01 16 51.7 -0.9
BRTR **Keskin Array B** 82.39 309 P P 01 16 51.7 -0.9
INK **Inuvik** 82.44 22 P P 01 16 52.1 -0.1
comp=Z,6.6nm,0.8s,mb4.6,baz=285,slow=8.0,SNR=28
INK LR LR 01 54 05.0
comp=Z,112nm,18.6s,MS4.3,baz=312,slow=36
INK **Inuvik** 82.44 22 *e*P P 01 16 51.7 -0.6
comp=Z,21nm,1.1s,mb5.0
INK **Inuvik** 82.44 22 *e*P P 01 16 51.7 -0.5
INK pmax pmax
comp=Z,21nm,1.1s
FINES **FINESS Array B** 82.63 331 P P 01 16 53.4 +0.1
comp=Z,5.4nm,0.9s,mb4.6,baz=86,slow=4.8,SNR=10
FINES LR LR 01 53 46.8
comp=Z,266nm,21.5s,MS4.6,baz=306,slow=36
FINES **FINESS Array B** 82.63 331 P P 01 16 53.4 +0.1
FINES LR LR 01 53 46.9
FINES **FINESS Array B** 82.63 331 P P 01 16 53.4 0.0
EIL **Elat** 83.21 299 P P 01 16 56.7 -0.3
comp=Z,4.9nm,1.0s,mb4.5,baz=349,slow=8.5,SNR=3.5
EIL **Elat** 83.21 299 P P 01 16 56.7 -0.3
AKASG **Malin Array Be** 83.30 320 P P 01 16 55.1 -1.9
comp=Z,1.6nm,0.6s,mb4.2,baz=67,slow=4.4,SNR=9.2
AKASG LR LR 01 57 58.0
comp=Z,228nm,20.3s,MS4.5,baz=110,slow=38
AKASG **Malin Array Be** 83.30 320 P P 01 16 55.1 -1.9
AKASG LR LR 01 57 58.0
AKASG **Malin Array Be** 83.30 320 P P 01 16 55.2 -1.9
TESR 85.94 317⇓ *i*P P 01 17 10.6 +0.1
VRI **Vrincioaia** 86.04 316 ⇑P P 01 17 10.7 -0.3
VRI **Vrincioaia** 86.04 316 ⇑ *i*P P 01 17 10.7 -0.3
PLOR **Plostina** 86.10 316 ⇑P P 01 17 10.8 -0.5
PLOR **Plostina** 86.10 316 ⇑ *i*P P 01 17 10.8 -0.5
BURAR **Bucovina Array** 86.60 318 ⇑P P 01 17 12.7 -1.0
BURAR **Bucovina Array** 86.60 318 ⇑ *i*P P 01 17 12.7 -1.0
MLR **Muntele Rosu** 86.67 316 P P 01 17 13.7 -0.4
comp=Z,0.9nm,1.0s,mb4.0
MLR **Muntele Rosu** 86.67 316 P P 01 17 13.7 -0.4
MLR **Muntele Rosu** 86.67 316 ⇓P P 01 17 13.6 -0.5
MLR **Muntele Rosu** 86.67 316 ⇓ *i*P P 01 17 13.6 -0.5
LVV **L'vov** 86.75 320 *e*P P 01 17 21.5 +7.1
DLBC **Dease Lake** 87.00 30 LR LR 01 54 56.1
comp=Z,147nm,18.6s,MS4.4,baz=344,slow=35
KMBO **Kilima Mbogo** 87.47 268 P P 01 17 18.3 -0.3
comp=Z,0.8nm,0.8s,mb4.0,baz=180,slow=24,SNR=4.8
KMBO **Kilima Mbogo** 87.47 268 *e*P P 01 17 18.9 +0.3
comp=Z,41nm,2.0s,mb5.3
KMBO **Kilima Mbogo** 87.47 268 *e*P P 01 17 18.9 +0.3
KMBO pmax pmax
comp=Z,41nm,2.0s
KWP **Kalwaria Pacla** 87.63 320 ⇓P P 01 17 18.5 -0.2
KWP **Kalwaria Pacla** 87.63 320 ⇓ *i*P P 01 17 18.5 -0.2
KOLS **Kolonicke sedl** 88.11 320 *e*P P 01 17 20.2 -0.8
KOLS pmax pmax
comp=Z,24nm,2.5s,mb5.0
KOLS **Kolonicke sedl** 88.11 320 *e*P P 01 17 20.2 -0.8
UZH **Uzhgorod** 88.19 320 *e*P P 01 17 20.9 -0.4
UZH *e* 01 17 28.5
UZH *e* 01 17 33.3
DRGR 88.47 318 ⇑P P 01 17 21.1 -1.6
DRGR 88.47 318 ⇑ *i*P P 01 17 21.1 -1.6
CRVS **Cervenica-Dubn** 88.63 320 *e*P P 01 17 24.2 +0.8
CRVS pmax pmax
comp=Z,13nm,1.5s,mb5.0
CRVS **Cervenica-Dubn** 88.63 320 *e*P P 01 17 24.2 +0.8
HFS **Hagfors** 88.80 332 P P 01 17 22.9 -1.1
comp=Z,1.3nm,0.5s,mb4.5,baz=94,slow=5.9,SNR=9.0
HFS **Hagfors** 88.80 332 P P 01 17 22.9 -1.1
HFS **Hagfors** 88.80 332 P P 01 17 22.9 -1.1
RES **Resolute Bay** 89.14 10 LR LR 01 58 59.2
comp=Z,200nm,18.8s,MS4.6,baz=313,slow=37
RES **Resolute Bay** 89.14 10 *e*P P 01 17 25.8 +0.4
comp=Z,129nm,2.6s,mb5.8
RES **Resolute Bay** 89.14 10 *e*P P 01 17 25.8 +0.4
RES pmax pmax
comp=Z,129nm,2.6s,mb5.8
NB2 **NORSAR Subarra** 89.51 333 P P 01 17 25.2 -2.1
comp=Z,2.3nm,0.8s,mb4.6,baz=67,slow=5.1
NOA **NORSAR Array B** 89.51 333 P P 01 17 26.6 -0.7
comp=Z,1.4nm,0.7s,mb4.4,baz=67,slow=4.8,SNR=6.5
NOA LR LR 01 58 12.7
comp=Z,213nm,19.0s,MS4.6,baz=55,slow=36
NOA **NORSAR Array B** 89.51 333 P P 01 17 26.6 -0.7
NOA LR LR 01 58 12.7
NOA **NORSAR Array B** 89.51 333 P P 01 17 26.6 -0.7
PPT **Papeete** 90.15 108 *e*S S 01 28 26.4 +1.0
comp=Z,133nm,23.5s
PPT *e*LR LR 01 46 22.0
comp=Z,380nm,24.0s
PPT **Papeete** 90.15 108 LR LR 01 50 56.9
comp=Z,114nm,20.1s,MS4.3,baz=309,slow=31
BBB **Bella Bella** 90.25 36 LR LR 01 56 48.3
comp=Z,83nm,19.9s,MS5.2,baz=235,slow=35
VYHS **Vyhne** 90.40 320 *e*P P 01 17 31.1 -0.7
VYHS pmax pmax
comp=Z,19nm,2.5s,mb5.0
VYHS **Vyhne** 90.40 320 *e*P P 01 17 31.1 -0.7
TBI **Tubuai** 91.59 113 *e*LR LR 01 46 59.8
comp=Z,315nm,28.0s
MAW **Mawson** 91.62 200 LR LR 01 52 03.3
comp=Z,125nm,20.2s,MS4.3,baz=237,slow=31
YKA **Yellowknife Ar** 92.02 23 P P 01 17 39.0 +0.1
comp=Z,1.9nm,0.8s,mb4.5,baz=80,slow=18,SNR=4.1

YKA				LR	LR	02 00 45.0	
	comp=Z,12nm,18.8s,MS3.4,baz=100,slow=37						
YKA	**Yellowknife Ar**	**92.02**	**23**	P	**P**	**01 17 39.0**	**+0.1**
YKA				LR	LR	02 00 45.0	
YKA	**Yellowknife Ar**	**92.02**	**23**	P	**P**	**01 17 39.0**	**+0.1**
CLL	**Collm**	**92.82**	**324**	*e*SS	SS	01 35 24.0	+23
CLL				LmH		01 55 00.0	
	comp=N,400nm,20.8s						
CLL				LmH		01 55 00.0	
	comp=E,200nm,21.7s						
GERES	**GERESS Array B**	**93.43**	**322**	LR	LR	02 05 20.7	
	comp=E,257nm,19.0s,MS4.7,baz=261,slow=39						
TAOE	**Nuku Hiva Isla**	**97.23**	**97**	*e*LR	LR	01 49 50.5	
	comp=E,189nm,28.3s						
YBH	**Yreka Blue Hor**	**97.80**	**44**	LR	LR	01 58 08.8	
	comp=E,145nm,18.1s,MS4.5,baz=303,slow=33						
NVAR	**Mina Array Bea**	**102.29**	**46**	P	Pdif	01 18 27.6	+2.1
	comp=E,0.7nm,0.7s,baz=266,slow=4.4,SNR=5.9						
NVAR	**Mina Array Bea**	**102.29**	**46**	P	Pdif	01 18 27.6	+2.1
SMCO	**Snowmass**	**109.41**	**40**	*e*Pdif	Pdif	01 19 02.6	+5.4
VNA2	**Neumayer--Watz**	**115.13**	**196**	*e*	PKiKP	01 23 06.3	-4.6
	baz=356,slow=1.2						
VNA2				*e*		01 23 13.4	
VNA3	**Neumayer Olymp**	**115.52**	**195**	*e*	PKiKP	01 23 07.4	-4.2
TXAR	**Lajitas Array**	**117.38**	**47**	PKP	PKPdf	01 23 16.5	0.0
	comp=E,0.6nm,0.9s,baz=2.8,slow=1.2,SNR=7.3						
TXAR				PP	PP	01 24 26.4	-0.7
	comp=E,0.5nm,0.9s,baz=291,slow=3.8,SNR=4.1						
TXAR	**Lajitas Array**	**117.38**	**47**	PKP	PKPdf	01 23 16.5	0.0
TXAR				PP	PP	01 24 26.4	-0.7
TXAR	**Lajitas Array**	**117.38**	**47**	PKIKP	PKPdf	01 23 16.5	-0.1
TXAR						01 24 26.4	
TORD	**Torodi Ar. Bea**	**117.55**	**292**	PKP	PKPdf	01 23 18.0	+0.8
	comp=E,0.4nm,0.7s,baz=139,slow=1.8,SNR=4.5						
TORD	**Torodi Ar. Bea**	**117.55**	**292**	PKP	PKPdf	01 23 18.0	+0.8
JCT	**Junction City**	**119.37**	**44**	*e*PKPdf	PKPdf	01 23 20.1	-0.3
JCT	**Junction City**	**119.37**	**44**	*e*PKIKP	PKPdf	01 23 20.1	-0.3
SDDR	**Presa de Saban**	**144.66**	**26**	*e*PKPdf	PKPdf	01 24 07.5	-0.5
MPR	**Mayaguez**	**146.97**	**20**	*e*PKPab	PKPab	01 24 13.4	-1.7
AOPR	**Arecibo Observ**	**146.97**	**20**	*e*PKPab	PKPab	01 24 15.5	+0.4
LRS	**Lares**	**146.99**	**20**	*e*PKPbc	PKPbc	01 24 12.8	-1.0
LSP	**Las Mesas**	**147.02**	**20**	*e*PKPbc	PKPbc	01 24 14.2	+0.2
CRPR	**Cabo Rojo, PR**	**147.17**	**20**	*e*PKPbc	PKPbc	01 24 14.7	+0.3
CELP	**Cerrillos**	**147.28**	**20**	*e*PKPbc	PKPbc	01 24 14.9	+0.2
OBIP	**Obispado Ponce**	**147.30**	**20**	*e*PKPbc	PKPbc	01 24 14.5	-0.3
CBYP	**Canovanas**	**147.32**	**18**	*e*PKPdf	PKPdf	01 24 13.4	+0.9
CBYP				*e*PKPbc	PKPbc	01 24 15.2	+0.4
SJG	**San Juan**	**147.38**	**19**	*e*PKPdf	PKPdf	01 24 11.8	-0.8
SJG				*e*PKPbc	PKPbc	01 24 14.6	-0.4
SJG	**San Juan**	**147.38**	**19**	*e*PKIKP	PKPdf	01 24 11.8	-0.8
SJG				*e*		01 24 14.6	
HUMP	**Col San Antoni**	**147.45**	**18**	*e*PKPab	PKPab	01 24 14.8	-2.2
ICM	**Isla Caja Muer**	**147.47**	**20**	*e*PKPbc	PKPbc	01 24 14.5	-0.7
STVI	**Saint Thomas**	**147.51**	**17**	*e*PKPbc	PKPbc	01 24 14.9	-0.4
MTP	**Monte Pirata**	**147.58**	**18**	*e*PKPbc	PKPbc	01 24 15.5	0.0
SDV	**Santo Domingo**	**153.63**	**35**	*e*PKPdf	PKPdf	01 24 22.3	-0.1
SDV				*e*PKPbc	PKPbc	01 24 30.2	0.0
OTAV	**Otavalo**	**153.81**	**62**	*e*PKPdf	PKPdf	01 24 21.2	-1.5
LPAZ	**La Paz**	**167.45**	**107**	PKP	PKPdf	01 24 38.3	+1.0
	comp=E,0.5nm,0.7s,baz=271,slow=14,SNR=4.0						
LPAZ				PKPab	PKPab	01 25 45.0	+2.2
	comp=E,1.4nm,0.9s,baz=9.4,slow=1.8,SNR=3.9						
LPAZ	**La Paz**	**167.45**	**107**	PKP	PKPdf	01 24 38.3	+1.0
LPAZ				PKPab	PKPab	01 25 45.0	+2.2
LPAZ	**La Paz**	**167.45**	**107**	PKIKP	PKPdf	01 24 38.3	+1.0

*IDC **06** 01:05:46.9±2.5, 39.°34N×74.°25E, h0km, mb3.8/3, mb1 3.7/7, mb1mx3.4/30, mbtmp3.5/7, ML2.7/4, Error ellipse: s-maj=36.1km s-min=21.8km az=127.0*
*NEIC **06** 01:05:57.3±3.1, 39.°72N×73.°54E, h35km, Error ellipse: s-maj=41.5km s-min=18.3km az=154.0*
ISC 06 01:05:52.8±1.4, 39°20'N±0'.08×73°4'E±0'.1, h35km, n26, σ1s 22/31, mb3.9/3, 3C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.94**	**5**	P	**Pn**	**01 06 37.5**	**+0.5**
	SNR=28						
UCH	**Uchtor**	**3.15**	**16**	P	**Sn**	**01 07 16.8**	**+0.6**
	SNR=8.2						
EKS2	**Erkin-Say**	**3.48**	**5**	P	**Pn**	**01 06 44.8**	**+0.4**
	SNR=6.8						
EKS2	**Erkin-Say**	**3.48**	**5**	*e*Pn	**Pn**	**01 06 43.0**	**-1.4**
EKS2				*e*S	**Sn**	**01 07 24.1**	**-0.1**
AAK	**Ala-Archa**	**3.54**	**14**	Pn	**Pn**	**01 06 44.3**	**-0.9**
	0.0nm,0.3s,baz=153,slow=6.9,SNR=20						
AAK				Lg		01 07 30.7	
	0.1nm,0.3s,baz=40,slow=20,SNR=9.0						
AAK	**Ala-Archa**	**3.54**	**14**	*e*Pn	**Pn**	**01 06 42.3**	**-2.9**
AAK				*e*S	**Sn**	**01 07 26.6**	**+0.8**
KBK	**Karagaybulak**	**3.66**	**19**	P	**Pn**	**01 06 45.8**	**-1.1**
	SNR=11						
ULHL	**Ulahol**	**3.75**	**35**	P	**Pn**	**01 06 50.9**	**+2.8**
	SNR=6.4						
TKM2	**Tokmak 2**	**4.08**	**24**	P	**Pn**	**01 06 51.6**	**-1.2**
	SNR=6.4						
TKM2	**Tokmak 2**	**4.08**	**24**	⇓Pn	**Pn**	**01 06 52.1**	**-0.7**
	5.6nm,0.8s						
TKM2				⇑Lg		01 07 45.6	
	14nm,0.7s						
TKM2	**Tokmak 2**	**4.08**	**24**	*e*Pn	**Pn**	**01 06 50.5**	**-2.3**
KK31	**Karatay Array**	**4.46**	**332**	Pn	**Pn**	**01 06 58.9**	**+1.0**
	0.9nm,0.3s,baz=139,slow=14,SNR=55						
KK31				⇑Pg	**Pn**	**01 07 09.0**	**+11**
	2.6nm,0.5s,baz=147,slow=16,SNR=7.0						
KK31				⇑Sn	**Sn**	**01 07 49.6**	**+1.2**
	2.5nm,0.3s,baz=139,slow=25,SNR=6.5						
KK31				⇓Lg		01 08 04.0	
	5.0nm,0.3s,baz=134,slow=30,SNR=4.7						
KKAR	**Karatay Array**	**4.46**	**332**	*e*Pn	**Pn**	**01 06 58.9**	**+1.0**
KKAR				*e*S	**Sn**	**01 07 46.2**	**-2.3**
MKAR	**Makanchi Array**	**10.01**	**38**	Pn	**Pn**	**01 08 04.9**	**-9.1**
	0.1nm,0.3s,baz=248,slow=15,SNR=2.9						
MKAR	**Makanchi Array**	**10.01**	**38**	Pn	**Pn**	**01 08 04.9**	**-9.1**
ABKAR	**Akbulak array**	**13.90**	**321**	*e*Pn	**Pn**	**01 09 08.0**	**+0.9**
BVAR	**Borovoye Array**	**13.98**	**353**	Pn	**Pn**	**01 09 03.7**	**-4.5**
	0.1nm,0.3s,baz=170,slow=17,SNR=3.2						
BVAR				Lg		01 13 10.0	
	0.2nm,0.3s,baz=36,slow=32,SNR=3.8						
BVAR	**Borovoye Array**	**13.98**	**353**	Pn	**Pn**	**01 09 03.7**	**-4.5**
AKTK	**Aktyubinsk**	**15.61**	**321**	Pn	**Pn**	**01 09 28.8**	**-1.2**
AKTO	**Aktyubinsk**	**15.61**	**321**	Pn	**Pn**	**01 09 28.8**	**-1.2**
	0.1nm,0.3s,baz=134,slow=12,SNR=3.7						
MLR	**Muntele Rosu**	**35.19**	**296**	P	**P**	**01 12 47.7**	**+4.3**
	0.3nm,0.8s,mb3.2,baz=98,slow=8.4,SNR=4.2						
MLR	**Muntele Rosu**	**35.19**	**296**	P	**P**	**01 12 47.7**	**+4.3**
FINES	**FINESS Array B**	**36.36**	**323**	P	**P**	**01 12 54.0**	**+0.8**
	3.7nm,1.0s,mb4.3,baz=116,slow=9.4,SNR=5.0						
FINES	**FINESS Array B**	**36.36**	**323**	P	**P**	**01 12 54.0**	**+0.8**
ARCES	**ARCESS Array B**	**39.41**	**336**	P	**P**	**01 13 19.6**	**+0.8**
	3.4nm,1.0s,mb4.0,baz=102,slow=8.4,SNR=5.4						
ARCES	**ARCESS Array B**	**39.41**	**336**	P	**P**	**01 13 19.6**	**+0.8**

*ISCJB **06** 01:18:55.4±0.6, 39.°66N±0'.03×38.°78E±0'.05, h2km±8km, Error ellipse: s-maj=6.1km s-min=5.0km az=163.3*
*CSEM **06** 01:18:55.7±0.2, 39.°66N×38.°77E, h8km, MD2.7, Error ellipse: s-maj=5.0km s-min=4.4km az=91.0*
*ISK **06** 01:18:55.1, 39.°63N×38.°72E, h16km, MD2.7*
*DDA **06** 01:18:55.4, 39.°65N×38.°74E, h7km±3km, Ml3.0*
ISC 06 01:18:56.0±0.6, 39°66N±0'.03×38°77E±0'.05, h7km±6km, n21, σ0s 76/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEMA	**Kemaliye**	**0.45**	**209**	*i* P	**Pg**	**01 19 04.0**	**-0.6**
KEMA				*i* S	**Sg**	**01 19 09.8**	**-0.6**
KEMA	**Kemaliye**	**0.45**	**209**	*i* P	**Pg**	**01 19 04.0**	**-0.6**
KEMA				*i* S	**Sg**	**01 19 09.8**	**-0.7**
EZC	**Erzincan**	**0.46**	**79**	*e*PG	**Pg**	**01 19 05.8**	**+0.9**
EZC	**Erzincan**	**0.46**	**79**	*e*Pg	**Pg**	**01 19 05.9**	**+1.0**
SUSE	**Susehri**	**0.70**	**322**	*i* P	**Pg**	**01 19 09.1**	**-0.3**
SUSE				*i* S	**Sg**	**01 19 18.8**	**+0.2**
SUSE	**Susehri**	**0.70**	**322**	*i* P	**Pg**	**01 19 09.1**	**-0.3**
SUSE				*i* S	**Sg**	**01 19 18.8**	**+0.3**
ERZN	**Erzincan**	**0.74**	**96**	*e*PG	**Pg**	**01 19 10.5**	**+0.3**
PTK	**Pertek**	**0.91**	**148**	*e*PG	**Pg**	**01 19 13.0**	**-0.4**
PTK				*e*SG	**Sg**	**01 19 26.0**	**+0.7**
PTK	**Pertek**	**0.91**	**148**	*e*Pg	**Pg**	**01 19 13.0**	**-0.4**
PTK				*e*Sg	**Sg**	**01 19 26.0**	**+0.8**
GUMT	**Gumushane**	**0.97**	**34**	*e*PG	**Pg**	**01 19 15.1**	**+0.6**
GUMT	**Gumushane**	**0.97**	**34**	*e*Pg	**Pg**	**01 19 15.1**	**+0.5**
ESPY	**Espiye-Giresun**	**1.25**	**359**	*e*PN	**Pn**	**01 19 19.1**	**-0.8**
ESPY	**Espiye-Giresun**	**1.25**	**359**	*e*Pn	**Pn**	**01 19 19.2**	**-0.8**
SCER	**sogukcermik**	**1.28**	**279**	*i* P	**Pn**	**01 19 19.9**	**-0.4**
SCER				*i* S	**Sb**	**01 19 38.0**	**+0.9**
SCER	**sogukcermik**	**1.28**	**279**	*i* P	**Pn**	**01 19 19.9**	**-0.4**
SCER				*i* S	**Sb**	**01 19 38.0**	**+0.9**
BAYT	**Ayd¨--ntepe-Bay**	**1.28**	**55**	*e*PN	**Pn**	**01 19 19.6**	**-0.8**
BAYT	**Ayd¨--ntepe-Bay**	**1.28**	**55**	*e*Pn	**Pn**	**01 19 19.6**	**-0.8**
SVRC	**Sivrice-ELAZID**	**1.35**	**162**	*e*PN	**Pn**	**01 19 19.8**	**-1.4**
SVRC	**Sivrice-ELAZID**	**1.35**	**162**	*e*Pn	**Pn**	**01 19 19.8**	**-1.4**
AKCD	**Akcadag**	**1.52**	**206**	*i* P	**Pn**	**01 19 23.8**	**+0.3**
AKCD				*i* S	**Sn**	**01 19 44.9**	**+1.4**
AKCD	**Akcadag**	**1.52**	**206**	*i* P	**Pn**	**01 19 23.8**	**+0.3**
AKCD				*i* S	**Sn**	**01 19 44.9**	**+1.4**

*NEIC **06** 01:31:29.5, 31.°51S×71.°72W, h12km, ML3.1(GUC), After GUC.*
GUC 06 01:31:29.5±0.4, 31°51'S×71°72'W, h12km±3km, MD3.6, ML3.1, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.42**	**154**	⇓*i* P	Pg	01 31 38.3	+0.6
CHNG				*i* S	Sg	01 31 45.0	+1.7
CHNG				AML	AML	01 31 45.3	
	comp=N,2μm,0.3s						
CMCH	**Combarbala**	**0.70**	**62**	⇑*i* P	Pg	01 31 42.7	-0.2
CMCH				*i* S	Sg	01 31 53.1	+0.9
CMCH	**Combarbala**	**0.70**	**62**	⇑*i* P	Pg	01 31 42.7	-0.2
CMCH				*i* S	Sg	01 31 53.1	+0.9
CMCH				AML	AML	01 31 53.5	
	comp=N,3μm,0.3s						
OVCH	**Ovalle**	**1.00**	**26**	⇑*i* P	Pg	01 31 47.6	-1.1
OVCH				*i* S	Sg	01 32 01.4	-0.4
OVCH	**Ovalle**	**1.00**	**26**	⇑*i* P	Pg	01 31 47.6	-1.1
OVCH				*i* S	Sg	01 32 01.4	-0.4
OVCH				AML	AML	01 32 05.8	
	comp=N,620nm,0.3s						
JACH	**Jahuel**	**1.51**	**141**	*e*P	Pn	01 31 55.8	-0.6
JACH				*i* S	Sn	01 32 15.8	-0.2
JACH	**Jahuel**	**1.51**	**141**	*e*P	Pn	01 31 55.8	-0.6
JACH				*i* S	Sn	01 32 15.8	-0.2
TLL	**Tololo Astrono**	**1.55**	**31**	*e*P	Pn	01 31 56.8	-0.1
TLL				*i* S	Sn	01 32 17.7	+0.8
TLL	**Tololo Astrono**	**1.55**	**31**	*e*P	Pn	01 31 56.8	-0.1
TLL				*i* S	Sn	01 32 17.7	+0.8
TLL				AML	AML	01 32 21.6	
	comp=E,289nm,0.3s						
ROCH	**El Roble**	**1.58**	**158**	⇓*i* P	Pn	01 31 56.5	-0.8
ROCH				*i* S	Sn	01 32 17.7	0.0
ROCH	**El Roble**	**1.58**	**158**	⇓*i* P	Pn	01 31 56.5	-0.8
ROCH				*i* S	Sn	01 32 17.7	0.0
RCDM	**Rinconada Maip**	**2.12**	**159**	AML	AML	01 32 32.4	
	comp=E,173nm,0.4s						
LCO	**Las Campanas**	**2.64**	**20**	*e*Pn	Pn	01 32 10.6	-1.3
LCO				*e*S	Sn	01 32 44.4	+0.5
LMEL	**Las Melosas**	**2.66**	**152**	AML	AML	01 32 55.0	
	comp=N,122nm,0.5s						

MEX 06 01:32:45.8±1.0, 18°82N×104°96W, h12km±35km, MD3.8, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R15V		**0.99**	**69**	*i* P	Pb	01 33 01.1	-3.7
R15V				*i* S	Sg	01 33 13.4	-4.4
EZ5V		**1.44**	**63**	*e*P	Pn	01 33 08.5	-3.2
EZ5V				*i* S	Sn	01 33 26.9	-3.6
MMIG	**Aquila**	**1.62**	**109**	*i* P	Pn	01 33 11.8	-2.4
MMIG				*i* S	Sn	01 33 30.1	-4.8
ANIG	**Ahuacatlan**	**2.26**	**10**	*i* P	Pn	01 33 20.5	-2.4
ANIG				*i* S	Sn	01 33 46.4	-4.4
SFJM	**Santa Fe**	**2.45**	**47**	*i* P	Pn	01 33 24.7	-0.9
SFJM				*i* S	Sn	01 33 51.2	-4.3

*ISCJB **06** 01:45:17.0±0.4, 57.°14N±0'.06×156.°51W±0'.09, h67km±6km, mb3.6/12, Error ellipse: s-maj=12.2km s-min=4.1km az=142.5*
*NEIC **06** 01:45:18.7, 56.°85N×156.°28W, h55km, ML3.9(PMR), ML3.5(AEIC), After AEIC.*
*IDC **06** 01:45:19.5±1.2, 57.°37N×156.°42W, h66km±10km, mb3.4/12, mb1 3.6/15, mb1mx3.5/28, mbtmp3.4/15, MS3.4/2, Ms1 3.4/2, ms1mx2.7/32, Error ellipse: s-maj=18.6km s-min=11.5km az=176.0*
ISC 06 01:45:18.6±0.4, 57°08N±0'.06×156°44W±0'.09, h67km±5km, h67km±3.3km: pP-P, n47, σ1s 32/58, mb3.6/12, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**1.34**	**235**	*e*Pn	**Pn**	**01 45 39.5**	**-1.8**
CHGN				*e*S	**Sn**	**01 45 56.5**	**-1.7**
OHAK	**Old Harbor**	**1.72**	**84**	*e*P	**Pn**	**01 45 45.0**	**-1.3**
KDAK	**Kodiak Island**	**2.20**	**70**	P	**Pn**	**01 45 52.0**	**-0.8**
	84nm,0.3s,baz=210,slow=5.2,SNR=1595						
KDAK				S	**Sn**	**01 46 18.0**	**-0.9**
	55nm,0.3s,baz=245,slow=10,SNR=23						
KDAK				LR	LR	01 46 24.0	
	comp=Z,893nm,20.2s,baz=327,slow=31						
KDAK	**Kodiak Island**	**2.20**	**70**	*e*Pn	**Pn**	**01 45 52.1**	**-0.7**
SDPT	**Sand Point**	**2.84**	**234**	*e*Pn	**Pn**	**01 46 00.7**	**-0.8**
SDPT				*e*S	**Sn**	**01 46 35.5**	**+0.9**
RSO	**Redoubt South**	**3.90**	**28**	*e*Pn	**Pn**	**01 46 18.2**	**+2.3**
RSO				*e*S	**Sn**	**01 46 58.5**	**-1.8**
SVW2	**Sparrevohn**	**4.06**	**6**	*e*P	**Pn**	**01 46 20.4**	**+2.4**
FALS	**False Pass**	**4.51**	**243**	*e*Pn	**Pn**	**01 46 19.3**	**-4.9**
FALS				*e*S	**Sn**	**01 47 17.0**	**+1.7**
SLKM	**Skilak Lake**	**4.72**	**41**	*e*Pn	**Pn**	**01 46 27.6**	**+0.6**
SLKM				*e*S	**Sn**	**01 47 18.9**	**-1.5**
SEW	**Seward**	**4.75**	**47**	*e*Pn	**Pn**	**01 46 27.1**	**-0.4**
SEW				*e*S	**Sn**	**01 47 22.0**	**+0.9**
PMR	**Palmer**	**5.87**	**36**	*e*Pn	**Pn**	**01 46 45.0**	**+2.3**
	15nm,0.8s						
AKUT	**Akutan**	**6.06**	**245**	*e*Pn	**Pn**	**01 46 46.6**	**+1.2**
PPLA	**Purkeypile**	**6.21**	**18**	*e*Pn	**Pn**	**01 46 51.0**	**+3.5**
	37nm,1.2s						
UNV	**Unalaska Valle**	**6.58**	**245**	*e*Pn	**Pn**	**01 46 51.6**	**-0.9**
DIV	**Divide**	**6.83**	**49**	*e*Pn	**Pn**	**01 46 56.8**	**+0.9**
TRF	**Thorofare Moun**	**7.08**	**23**	*e*Pn	**Pn**	**01 47 00.6**	**+1.2**
	10nm,0.8s						
MCK	**McKinley**	**7.63**	**26**	*e*Pn	**Pn**	**01 47 09.8**	**+2.9**
	8.4nm,0.9s						
PAX	**Paxson**	**8.06**	**38**	*e*Pn	**Pn**	**01 47 13.8**	**+1.1**
	4.7nm,0.5s						
PAX				*e*S	**Sn**	**01 48 38.6**	**-3.5**
ILAR	**Eielson Array**	**9.00**	**27**	P	**Pn**	**01 47 24.2**	**-1.3**
	0.6nm,0.3s,baz=216,slow=13,SNR=42						
ILAR				S	**Sn**	**01 48 59.8**	**-5.3**
	0.5nm,0.3s,baz=344,slow=24,SNR=6.0						
ILAR	**Eielson Array**	**9.00**	**27**	P	**Pn**	**01 47 24.2**	**-1.3**
ILAR				S	**Sn**	**01 48 59.8**	**-5.3**
INK	**Inuvik**	**15.27**	**33**	P	**Pn**	**01 48 49.2**	**-0.6**
	0.2nm,0.3s,baz=231,slow=14,SNR=4.6						
INK				S	**S**	**01 51 45.4**	**-5.2**
	0.0nm,0.3s,baz=204,slow=16,SNR=3.5						
INK	**Inuvik**	**15.27**	**33**	P	**Pn**	**01 48 49.2**	**-0.6**
INK				S	**S**	**01 51 45.4**	**-5.2**
PETK	**Petropavlovsk-**	**26.15**	**281**	LR	LR	02 01 14.5	
	comp=Z,67nm,18.8s,baz=148,slow=37						
NVAR	**Mina Array Bea**	**31.14**	**110**	P	**P**	**01 51 33.8**	**+3.1**
	0.2nm,0.6s,mb3.0,baz=319,slow=9.5,SNR=2.7						
NVAR				pP	pP	01 51 50.2	+3.5
	0.3nm,0.6s,baz=317,slow=9.6,SNR=3.2						
NVAR	**Mina Array Bea**	**31.14**	**110**	P	**P**	**01 51 33.8**	**+3.1**
NVAR				pP	pP	01 51 50.2	+3.5
PDAR	**Pinedale Array**	**32.69**	**96**	P	**P**	**01 51 45.2**	**+1.1**
	0.3nm,0.8s,mb3.2,baz=295,slow=4.9,SNR=2.8						
PDAR				pP	pP	01 52 00.1	-0.2
	0.4nm,0.6s,baz=276,slow=4.3,SNR=3.2						
PDAR	**Pinedale Array**	**32.69**	**96**	P	**P**	**01 51 45.2**	**+1.1**
PDAR				pP	pP	01 52 00.1	-0.2
TXAR	**Lajitas Array**	**45.83**	**104**	P	**P**	**01 53 34.6**	**+1.0**
	0.1nm,0.7s,mb2.7,baz=340,slow=9.1,SNR=3.0						
TXAR				pP	pP	01 53 51.7	+1.2
	0.3nm,0.6s,baz=310,slow=3.6,SNR=3.6						
TXAR	**Lajitas Array**	**45.83**	**104**	P	**P**	**01 53 34.6**	**+1.0**
TXAR				pP	pP	01 53 51.7	+1.2
ARCES	**ARCESS Array B**	**53.68**	**359**	P	**P**	**01 54 31.5**	**-1.2**
	4.2nm,1.0s,mb4.4,baz=7.8,slow=7.3,SNR=4.5						
ARCES	**ARCESS Array B**	**53.68**	**359**	P	**P**	**01 54 31.5**	**-1.2**
SONM	**Songino Array**	**55.03**	**305**	P	**P**	**01 54 42.9**	**+0.1**
	0.9nm,0.5s,mb4.1,baz=35,slow=6.4,SNR=6.4						
SONM				PcP	PcP	01 55 43.8	+0.2
	0.3nm,0.3s,baz=8.6,slow=2.2,SNR=3.7						
SONM	**Songino Array**	**55.03**	**305**	P	**P**	**01 54 42.9**	**+0.1**
SONM				PcP	PcP	01 55 43.8	+0.2
FINES	**FINESS Array B**	**61.80**	**359**	P	**P**	**01 55 28.7**	**-1.0**
	0.9nm,0.7s,mb3.9,baz=19,slow=8.1,SNR=5.7						
FINES	**FINESS Array B**	**61.80**	**359**	P	**P**	**01 55 28.7**	**-1.0**
NB2	**NORSAR Subarra**	**61.82**	**7**	P	**P**	**01 55 29.4**	**-0.4**
	comp=Z,0.9nm,0.7s,mb3.9,baz=355,slow=6.9						
NOA	**NORSAR Array B**	**61.82**	**7**	P	**P**	**01 55 29.4**	**-0.4**
	comp=Z,1.2nm,0.7s,mb4.0,baz=354,slow=6.8,SNR=4.7						
NOA	**NORSAR Array B**	**61.82**	**7**	P	**P**	**01 55 29.4**	**-0.4**
MKAR	**Makanchi Array**	**65.55**	**320**	P	**P**	**01 55 53.7**	**-0.9**
	comp=Z,0.4nm,0.6s,mb3.4,baz=37,slow=10,SNR=3.8						
MKAR	**Makanchi Array**	**65.55**	**320**	P	**P**	**01 55 53.7**	**-0.9**
AKASG	**Malin Array Be**	**72.49**	**356**	P	**P**	**01 56 36.0**	**-1.5**
	comp=Z,1.4nm,0.5s,mb4.1,baz=4.5,slow=5.5,SNR=6.6						
AKASG	**Malin Array Be**	**72.49**	**356**	P	**P**	**01 56 36.0**	**-1.5**
GERES	**GERESS Array B**	**74.13**	**7**	P	**P**	**01 56 46.6**	**-0.5**
	comp=Z,0.6nm,0.6s,mb3.5,baz=347,slow=5.5,SNR=7.8						
ESDC	**Sonseca Array**	**80.86**	**21**	P	**P**	**01 57 25.5**	**+0.7**
	comp=Z,0.2nm,0.4s,mb3.3,baz=334,slow=7.0,SNR=4.0						
ESDC	**Sonseca Array**	**80.86**	**21**	P	**P**	**01 57 25.5**	**+0.7**
BRTR	**Keskin Array B**	**83.19**	**352**	P	**P**	**01 57 37.0**	**0.0**
	comp=Z,0.6nm,0.8s,mb3.5,baz=8.2,slow=4.7,SNR=3.2						
BRTR	**Keskin Array B**	**83.19**	**352**	P	**P**	**01 57 37.0**	**0.0**

IDC 06 01:52:09.5±4.7, 13°08N×125°07E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/21, mbtmp3.4/3, 1C-1D, Error ellipse: s-maj=387.2km s-min=28.2km az=64.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**1.03**	**300**	⇓*i* P	Pg	01 52 25.4	-3.9
RCP	**Roxas**	**2.73**	**237**	*e*P	Pn	01 52 50.9	-3.7
WRA	**Warramunga Arr**	**34.06**	**164**	P	P	01 58 53.8	-1.9
	0.1nm,0.4s,baz=344,slow=9.1,SNR=7.4						
ASAR	**Alice Springs**	**37.53**	**167**	P	P	01 59 27.3	+1.9
	0.2nm,0.3s,baz=344,slow=7.3,SNR=5.0						
MKAR	**Makanchi Array**	**49.10**	**322**	P	P	02 00 58.6	0.0
	0.9nm,0.9s,baz=137,slow=6.9,SNR=4.6						

*IDC **06** 01:53:47.0±1.7, 38.°45N×22.°16E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.3/25, mbtmp3.6/4, ML2.9/1, Error ellipse: s-maj=109.5km s-min=24.4km az=141.0*
*ISCJB **06** 01:53:48.8±0.4, 38.°17N±0'.01×22.°53E±0'.02, h12km±3km, mb3.6/3, Error ellipse: s-maj=2.7km s-min=2.3km az=161.3*
*CSEM **06** 01:53:48.9±0.1, 38.°16N×22.°54E, h9km, ML3.3/6, Error ellipse: s-maj=2.9km s-min=2.4km az=57.0*
*ATH **06** 01:53:48.5, 38.°16N×22.°52E, h20km±1km, ML3.2*
*THE **06** 01:53:48.9, 38.°17N×22.°55E, h5km, ML3.3/6, Error ellipse: s-maj=0.8km s-min=0.3km az=280.0*
ISC 06 01:53:49.1±0.3, 38°16N±0'.01×22°54E±0'.02, h11km±2km, n138, σ1s 07/198, mb3.6/3, 4C-5D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSF	**Desfina**	**0.25**	**358**	P	**Pg**

PTL					S	**Sb**	**01 54 23.5**	**+0.5**
PTL					*e*Sn	**Sn**	**01 54 23.9**	**-0.5**
ITM	**Ithomi**	**1.09**	**207**		*e*PN	**Pb**	**01 54 09.1**	**-0.8**
ITM					*e*SN	**Sn**	**01 54 24.1**	**-1.2**
ITM	**Ithomi**	**1.09**	**207**		P	**Pb**	**01 54 09.1**	**-0.8**
ITM	**Ithomi**	**1.09**	**207**		P	**Pb**	**01 54 09.1**	**-0.8**
ITM					*e*Sn	**Sn**	**01 54 24.1**	**-1.2**
NEO	**Neokhori**	**1.27**	**25**		*e*PN	**Pn**	**01 54 12.4**	**-0.3**
NEO					*e*SN	**Sn**	**01 54 30.2**	**+0.6**
NEO	**Neokhori**	**1.27**	**25**		P	**Pn**	**01 54 12.0**	**-0.7**
NEO	**Neokhori**	**1.27**	**25**		P	**Pn**	**01 54 12.0**	**-0.7**
NEO	**Neokhori**	**1.27**	**25**		*e*Pn	**Pn**	**01 54 12.4**	**-0.3**
NEO					*e*Sn	**Sn**	**01 54 30.2**	**+0.6**
KFL	**Anninata**	**1.38**	**268**		P	**Pn**	**01 54 15.4**	**+1.2**
KFL	**Anninata**	**1.38**	**268**		P	**Pn**	**01 54 15.4**	**+1.2**
PYL	**PYLOS**	**1.41**	**207**		*e*PN	**Pn**	**01 54 15.2**	**+0.6**
PYL					*e*SN	**Sn**	**01 54 34.5**	**+1.3**
PYL	**PYLOS**	**1.41**	**207**		P	**Pn**	**01 54 14.4**	**-0.2**
PYL	**PYLOS**	**1.41**	**207**		P	**Pn**	**01 54 14.4**	**-0.2**
PYL	**PYLOS**	**1.41**	**207**		*e*Pn	**Pn**	**01 54 15.2**	**+0.6**
PYL					*e*Sn	**Sn**	**01 54 34.5**	**+1.3**
AOS	**Alonnisos**	**1.46**	**46**		P	**Pn**	**01 54 14.5**	**-0.8**
AOS					S	**Sn**	**01 54 34.4**	**0.0**
AOS	**Alonnisos**	**1.46**	**46**		P	**Pn**	**01 54 14.5**	**-0.8**
AOS					S	**Sn**	**01 54 34.4**	**0.0**
THL	**Klokotos Trika**	**1.46**	**344**		P	**Pn**	**01 54 15.9**	**+0.5**
THL					S	**Sn**	**01 54 34.6**	**+0.1**
THL	**Klokotos Trika**	**1.46**	**344**		P	**Pn**	**01 54 15.9**	**+0.5**
THL					S	**Sn**	**01 54 34.6**	**+0.1**
VLI	**Veliai**	**1.47**	**167**		*e*PN	**Pn**	**01 54 16.0**	**+0.5**
VLI	**Veliai**	**1.47**	**167**		P	**Pn**	**01 54 15.7**	**+0.2**
VLI					S	**Sn**	**01 54 35.9**	**+1.2**
VLI	**Veliai**	**1.47**	**167**		P	**Pn**	**01 54 15.7**	**+0.2**
VLI	**Veliai**	**1.47**	**167**		*e*Pn	**Pn**	**01 54 16.0**	**+0.5**
VLI					S	**Sn**	**01 54 35.9**	**+1.2**
VLS	**Valsamata**	**1.54**	**271**		*e*PN	**Pn**	**01 54 17.1**	**+0.7**
VLS	**Valsamata**	**1.54**	**271**		P	**Pn**	**01 54 16.9**	**+0.5**
VLS	**Valsamata**	**1.54**	**271**		P	**Pn**	**01 54 16.9**	**+0.5**
LKD2	**Lefkada island**	**1.60**	**294**		P	**Pn**	**01 54 20.5**	**+3.2**
KYTH	**Kithira**	**1.92**	**168**		P	**Pn**	**01 54 23.0**	**+1.4**
KYTH	**Kithira**	**1.92**	**168**		P	**Pn**	**01 54 23.0**	**+1.4**
LIT	**Litokhoron**	**1.94**	**359**		*e*PN	**Pn**	**01 54 22.3**	**+0.4**
LIT	**Litokhoron**	**1.94**	**359**		P	**Pn**	**01 54 21.8**	**-0.1**
LIT	**Litokhoron**	**1.94**	**359**		P	**Pn**	**01 54 21.8**	**-0.1**
LIT	**Litokhoron**	**1.94**	**359**		*e*Pn	**Pn**	**01 54 22.3**	**+0.4**
PAIG	**Paliouri**	**1.98**	**26**		P	**Pn**	**01 54 21.9**	**-0.5**
PAIG	**Paliouri**	**1.98**	**26**		P	**Pn**	**01 54 21.9**	**-0.5**
JAN	**Janina**	**1.99**	**319**		P	**Pn**	**01 54 26.6**	**+4.0**
KZN	**Kozani**	**2.23**	**345**		P	**Pn**	**01 54 27.7**	**+1.8**
KZN	**Kozani**	**2.23**	**345**		P	**Pn**	**01 54 27.7**	**+1.8**
PLG	**Polygyros**	**2.32**	**17**		*e*PN	**Pn**	**01 54 26.7**	**-0.5**
PLG	**Polygyros**	**2.32**	**17**		P	**Pn**	**01 54 27.1**	**-0.1**
PLG	**Polygyros**	**2.32**	**17**		*e*Pn	**Pn**	**01 54 26.7**	**-0.5**
PLG	**Polygyros**	**2.32**	**17**		P	**Pn**	**01 54 27.1**	**-0.1**
OUR	**Ouranopolis**	**2.44**	**27**		P	**Pn**	**01 54 28.5**	**-0.4**
OUR	**Ouranopolis**	**2.44**	**27**		P	**Pn**	**01 54 28.5**	**-0.4**
NEST	**Nestorio**	**2.53**	**333**		P	**Pn**	**01 54 32.7**	**+2.6**
SOH	**Sokhos**	**2.73**	**13**		*e*PN	**Pn**	**01 54 33.5**	**+0.7**
SOH	**Sokhos**	**2.73**	**13**		P	**Pn**	**01 54 33.5**	**+0.7**
SOH	**Sokhos**	**2.73**	**13**		P	**Pn**	**01 54 33.5**	**+0.7**
FNA	**Florina**	**2.77**	**341**		P	**Pn**	**01 54 34.7**	**+1.4**
FNA	**Florina**	**2.77**	**341**		P	**Pn**	**01 54 34.7**	**+1.4**
CHOS	**Chios island**	**2.78**	**84**		*e*PN	**Pn**	**01 54 33.8**	**+0.4**
CHOS	**Chios island**	**2.78**	**84**		*e*Pn	**Pn**	**01 54 33.8**	**+0.4**
KARN	**Karanos**	**2.97**	**158**		P	**Pn**	**01 54 37.0**	**+1.0**
KARN	**Karanos**	**2.97**	**158**		P	**Pn**	**01 54 37.0**	**+1.0**
BIA	**Bitola**	**3.01**	**342**		*e*Pn	**Pn**	**01 54 38.8**	**+2.2**
BIA					*e*Sg	**Sg**	**01 55 20.3**	**-5.3**
BIA	**Bitola**	**3.01**	**342**		*e*Pn	**Pn**	**01 54 38.8**	**+2.2**
BIA					*e*Sg	**Sg**	**01 55 20.3**	**-5.3**
KNT	**Kendrikon**	**3.01**	**5**		P	**Pn**	**01 54 38.0**	**+1.3**
KNT	**Kendrikon**	**3.01**	**5**		P	**Pn**	**01 54 38.0**	**+1.3**
VAM	**Vamos**	**3.05**	**154**		P	**Pn**	**01 54 37.6**	**+0.4**
VAM	**Vamos**	**3.05**	**154**		P	**Pn**	**01 54 37.6**	**+0.4**
SRS	**Serrai**	**3.06**	**15**		P	**Pn**	**01 54 37.4**	**0.0**
SRS	**Serrai**	**3.06**	**15**		P	**Pn**	**01 54 37.4**	**0.0**
VAY	**Valandovo**	**3.16**	**0**		*e*Pn	**Pn**	**01 54 37.7**	**-1.0**
VAY					*e*Sg	**Sn**	**01 55 15.1**	**-1.2**
VAY	**Valandovo**	**3.16**	**0**		*e*Pn	**Pn**	**01 54 37.6**	**-1.1**
KRUS	**Krusevo**	**3.36**	**343**		*e*Pn	**Pn**	**01 54 42.5**	**+1.1**
KRUS	**Krusevo**	**3.36**	**343**		*e*Pn	**Pn**	**01 54 42.4**	**+1.0**
SIVA	**Sivas**	**3.63**	**149**		P	**Pn**	**01 54 48.1**	**+2.9**
LAST	**Lasithi**	**3.81**	**141**		P	**Pn**	**01 54 48.3**	**+0.6**
LAST	**Lasithi**	**3.81**	**141**		P	**Pn**	**01 54 48.3**	**+0.6**
VTS	**Vitosha**	**4.46**	**6**	ǁ	*i*P	**Pn**	**01 54 58.9**	**+2.4**
VTS	**Vitosha**	**4.46**	**6**	ǁ	*i*P	**Pn**	**01 54 58.9**	**+2.4**
STON	**Ston**	**5.98**	**323**		*e*Pn	**Pn**	**01 55 16.3**	**-1.1**
STON					Sn	**Sn**	**01 56 21.0**	**-4.8**
STON	**Ston**	**5.98**	**323**		*e*Pn	**Pn**	**01 55 16.3**	**-1.1**
VOIR		**7.51**	**14**	ǁ	*i*P	**Pn**	**01 55 38.3**	**-0.1**
VOIR		**7.51**	**14**	ǁ	*i*P	**Pn**	**01 55 38.3**	**-0.1**
MLR	**Muntele Rosu**	**7.75**	**18**	ǁ	*i*P	**Pn**	**01 55 42.3**	**+0.5**
MLR	**Muntele Rosu**	**7.75**	**18**	ǁ	*i*P	**Pn**	**01 55 42.3**	**+0.5**
PLOR	**Plostina**	**8.27**	**20**	ǁ	*i*P	**Pn**	**01 55 51.2**	**+2.3**
PLOR	**Plostina**	**8.27**	**20**	ǁ	*i*P	**Pn**	**01 55 51.2**	**+2.3**
VRI	**Vrincioaia**	**8.31**	**21**	ǁ	*i*P	**Pn**	**01 55 55.0**	**+5.6**
NVLJ	**Novalja**	**8.61**	**320**		*e*Pn	**Pn**	**01 55 53.1**	**-0.4**
NVLJ					Sn	**Sn**	**01 57 26.4**	**-4.1**
NVLJ	**Novalja**	**8.61**	**320**		*e*Pn	**Pn**	**01 55 53.1**	**-0.4**
BRTR	**Keskin Array B**	**8.79**	**76**		Pn	**Pn**	**01 55 58.9**	**+2.9**
	0.1nm,0.3s,baz=261,slow=14,SNR=11							
TORD	**Torodi Ar. Bea**	**31.05**	**222**		P	**P**	**02 00 06.9**	**-0.1**
	0.2nm,0.6s,mb3.1,baz=18,slow=6.9,SNR=3.0							
MKAR	**Makanchi Array**	**43.95**	**59**		P	**P**	**02 01 56.1**	**+0.2**
	0.9nm,0.5s,mb3.8,baz=274,slow=7.5,SNR=13							
ZALV	**Zalesovo Beam**	**44.52**	**48**		P	**P**	**02 02 00.3**	**0.0**
	0.9nm,0.6s,mb3.8,baz=280,slow=8.1,SNR=5.5							

*IDC **06** 02:07:34.5±0.9, 30°.37N×67°.50E, h0km, mb3.9/19, mb1 4.1/20, mb1mx4.0/31, mbtmp3.9/20, ML3.6/1, MS3.1/2, Ms1 3.1/2, ms1mx2.7/36, Error ellipse: s-maj=20.6km s-min=15.8km az=176.0*

*NEIC **06** 02:07:35.3±0.3, 30°.30N×67°.60E, h10km, mb4.4/14, Error ellipse: s-maj=7.8km s-min=4.4km az=197.0*

*ISCJB **06** 02:07:37.0±1.8, 30°.40N±0°.05×67°.63E±0°.04, h32km±14km, mb4.0/27, Error ellipse: s-maj=8.2km s-min=5.6km az=14.5*

*MOS **06** 02:07:37.7±1.1, 30°.45N×67°.56E, h33km, mb4.2/20, Error ellipse: s-maj=10.2km s-min=7.5km az=94.4*

ISC 06 02:07:37.6±1.8, 30°36N±0°05×67°57E±0°04, h22km±13km, n133, σ1§06/143, mb4.0/27, 1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THW	**Thamme Wali**	**4.31**	**55**	P	**Pn**	**02 08 43.6**	**+1.7**
SARP	**Sargodha**	**4.65**	**69**	P	**Pn**	**02 08 47.6**	**+1.1**
CEP	**Cherat**	**5.05**	**46**	P	**Pn**	**02 08 54.2**	**+2.2**
CEP				S	**Sn**	**02 09 53.0**	**+3.3**
CHCP	**Chirah Chowk**	**5.85**	**54**	P	**Pn**	**02 09 04.6**	**+1.6**
KHET	**Khetri**	**7.55**	**106**	*e*PKP	**Pn**	**02 09 26.6**	**+0.1**
KHET				*e*S	**Sn**	**02 10 47.8**	**-3.7**
SDNR	**Sundarnagar**	**8.16**	**80**	*e*PKP	**Pn**	**02 09 36.0**	**+1.3**
SDNR				*e*S	**Sn**	**02 11 07.0**	**+0.7**
SMLA	**Simla**	**8.30**	**82**	*i*P	**Pn**	**02 09 37.1**	**+0.5**
SMLA				*i*S	**Sn**	**02 11 09.5**	**-0.2**
SMLA				*i*S	**Sn**	**02 11 09.8**	**+0.1**
SMLA				ǁAML	AML	02 11 12.4	
	comp=E,637nm,0.4s						
SMLA				AML	AML	02 11 12.5	
	comp=N,438nm,0.2s						
NDI	**New Delhi**	**8.57**	**99**	*e*PKP	**Pn**	**02 09 41.6**	**+1.2**
NDI				*ex*	x	02 11 25.0	
DDI	**Dehra Dun**	**9.07**	**88**	*e*PKP	**Pn**	**02 09 49.5**	**+2.3**
KLP	**Kalpa**	**9.25**	**80**	*e*PKP	**Pn**	**02 09 50.9**	**+1.2**
KLP				*e*S	**Sn**	**02 11 31.6**	**-1.5**
KLP				AML	AML	02 11 42.2	
	comp=N,71nm,0.9s						
KLP				AML	AML	02 11 46.1	
	comp=E,97nm,0.6s						
AML	**Almayashu**	**12.74**	**21**	P	**Pn**	**02 10 37.6**	**+0.2**
	SNR=36						
KKAR	**Karatay Array**	**12.93**	**10**	*e*Pn	**Pn**	**02 10 38.3**	**-1.8**
	comp=E,2.2nm,0.4s						
KKAR	**Karatay Array**	**12.93**	**10**	*e*P	**Pn**	**02 10 38.3**	**-1.7**
KKAR				pmax	pmax		
	comp=E,2.0nm,0.4s						
EKS2	**Erkin-Say**	**13.25**	**20**	P	**Pn**	**02 10 44.3**	**0.0**
	SNR=7.4						
EKS2	**Erkin-Say**	**13.25**	**20**	*e*Pn	**Pn**	**02 10 43.9**	**-0.4**
	comp=Z,8.4nm,0.7s						
EKS2				*e*S	**Sn**	**02 13 10.4**	**-0.4**
EKS2	**Erkin-Say**	**13.25**	**20**	*e*P	**Pn**	**02 10 43.9**	**-0.4**
EKS2				*e*S	**Sn**	**02 13 10.5**	**-0.4**
EKS2				pmax	pmax		
	comp=E,8.0nm,0.7s						
AAK	**Ala-Archa**	**13.45**	**23**	P	**Pn**	**02 10 47.3**	**+0.3**
	SNR=8.5						
AAK	**Ala-Archa**	**13.45**	**23**	Pn	**Pn**	**02 10 47.4**	**+0.4**
	comp=Z,0.0nm,0.3s,baz=173,slow=5.4,SNR=18						
AAK				Sn	**Sn**	**02 13 13.6**	**-2.2**
	comp=Z,0.0nm,0.3s,baz=353,slow=16,SNR=4.1						
AAK				LR	LR	02 16 55.1	
	comp=Z,68nm,18.5s,baz=190,slow=42						
AAK	**Ala-Archa**	**13.45**	**23**	*e*Pn	**Pn**	**02 10 46.8**	**-0.3**
AAK				Sn	**Sn**	**02 13 13.6**	**-2.2**
AAK				LR	LR	02 16 55.1	
AAK	**Ala-Archa**	**13.45**	**23**	*e*P	**Pn**	**02 10 46.8**	**-0.3**
AAK						02 13 13.6	
CHMS	**Chumysh**	**13.86**	**23**	P	**Pn**	**02 10 52.1**	**-0.6**
	SNR=5.1						
USP	**Ospenovka**	**14.02**	**21**	P	**Pn**	**02 10 50.3**	**-4.5**
	SNR=5.8						
TKM2	**Tokmak 2**	**14.09**	**25**	P	**Pn**	**02 10 55.9**	**+0.2**
	SNR=15						
TKM2	**Tokmak 2**	**14.09**	**25**	*e*Pn	**Pn**	**02 10 55.1**	**-0.7**
	comp=Z,7.4nm,0.8s						
TKM2	**Tokmak 2**	**14.09**	**25**	*e*P	**Pn**	**02 10 55.1**	**-0.6**
TKM2				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KOLN	**Koldanda**	**14.26**	**96**	*e*P	**Pn**	**02 10 57.1**	**-1.1**
	comp=Z,18nm,0.4s						
KOLN	**Koldanda**	**14.26**	**96**	*e*P	**Pn**	**02 10 57.1**	**-1.1**
	comp=Z,18nm,0.4s						
DANN	**Dangsing**	**14.27**	**94**	*e*P	**Pn**	**02 10 56.6**	**-1.7**
	comp=Z,22nm,0.3s						
DANN	**Dangsing**	**14.27**	**94**	*e*P	**Pn**	**02 10 56.6**	**-1.7**
	comp=Z,22nm,0.3s						
GKN	**Gorkha**	**15.10**	**95**	*e*P	**Pn**	**02 11 07.1**	**-2.5**
	comp=Z,17nm,0.4s						
GKN	**Gorkha**	**15.10**	**95**	*e*P	**Pn**	**02 11 07.1**	**-2.5**
	comp=Z,17nm,0.4s						
DMN	**Daman**	**15.60**	**96**	*e*P	**Pn**	**02 11 15.3**	**-0.8**
DMN	**Daman**	**15.60**	**96**	*e*P	**Pn**	**02 11 15.3**	**-0.8**
KKN	**Kakani**	**15.70**	**95**	*e*P	**Pn**	**02 11 16.0**	**-1.5**
	comp=Z,23nm,0.5s						
KKN	**Kakani**	**15.70**	**95**	*e*P	**Pn**	**02 11 16.0**	**-1.5**
	comp=Z,23nm,0.5s						
KKN	**Kakani**	**15.70**	**95**	*e*P	**Pn**	**02 11 16.0**	**-1.5**
KKN				pmax	pmax		
	comp=Z,23nm,0.5s						
PKIN	**Phulchoki**	**15.85**	**96**	*e*P	**Pn**	**02 11 18.3**	**-1.1**
	comp=Z,19nm,0.7s						
PKI	**Pulchoki**	**15.87**	**96**	*e*P	**Pn**	**02 11 18.5**	**-1.1**
	comp=Z,21nm,0.6s						
PKI	**Pulchoki**	**15.87**	**96**	*e*P	**Pn**	**02 11 18.5**	**-1.1**
	comp=Z,21nm,0.6s						
PKI	**Pulchoki**	**15.87**	**96**	*e*P	**Pn**	**02 11 18.5**	**-1.1**
PKI				pmax	pmax		
	comp=Z,21nm,0.6s						
GUN	**Gumba**	**16.19**	**94**	*e*P	**Pn**	**02 11 21.6**	**-2.2**
	comp=Z,139nm,0.9s						
GUN	**Gumba**	**16.19**	**94**	*e*P	**Pn**	**02 11 21.6**	**-2.2**
	comp=Z,139nm,0.9s						
ABKAR	**Akbulak array**	**19.74**	**345**	*e*P	**Pn**	**02 12 06.6**	**-0.6**
	comp=Z,1.2nm,0.5s						
MKAR	**Makanchi Array**	**19.99**	**31**	P	**Pn**	**02 12 08.1**	**-2.1**
	comp=Z,2.1nm,0.5s,baz=208,slow=10,SNR=19						
MKAR				LR	LR	02 20 40.4	
	comp=Z,73nm,19.9s,baz=216,slow=39						
MKAR	**Makanchi Array**	**19.99**	**31**	P	**Pn**	**02 12 08.1**	**-2.1**
MKAR				LR	LR	02 20 40.4	
MKAR	**Makanchi Array**	**19.99**	**31**	P	**Pn**	**02 12 08.1**	**-2.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,73nm,19.9s						
LSA	**Lhasa**	**20.43**	**86**	*e*P	**P**	**02 12 16.8**	**+3.4**
LSA	**Lhasa**	**20.43**	**86**	*e*P	**P**	**02 12 16.8**	**+3.4**
AKTK	**Aktyubinsk**	**21.29**	**343**	P	**P**	**02 12 23.0**	**+0.4**
AKTO	**Aktyubinsk**	**21.29**	**343**	P	**P**	**02 12 23.0**	**+0.4**
	comp=Z,0.8nm,0.3s,mb3.5,baz=172,slow=8.1,SNR=6.1						
AKTO	**Aktyubinsk**	**21.29**	**343**	P	**P**	**02 12 23.0**	**+0.4**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.6						
KURK	**Kurchatov**	**21.95**	**19**	P	**P**	**02 12 28.0**	**-1.7**
	comp=Z,5.3nm,0.8s,mb4.0,baz=208,slow=11,SNR=18						
KURK	**Kurchatov**	**21.95**	**19**	*e*P	**P**	**02 12 31.9**	**+2.3**
	comp=Z,3.6nm,0.8s,mb3.9						
KURK	**Kurchatov**	**21.95**	**19**	*e*P	**P**	**02 12 31.9**	**+2.3**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
ZEI	**Tsey**	**22.60**	**310**	*e*P	**P**	**02 12 42.4**	**+5.8**
ZEI				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb3.8						
BVAR	**Borovoye Array**	**22.74**	**4**	P	**P**	**02 12 38.2**	**+0.2**
	comp=Z,1.4nm,0.6s,mb3.6,baz=161,slow=9.4,SNR=7.8						
BVAR	**Borovoye Array**	**22.74**	**4**	P	**P**	**02 12 38.2**	**+0.2**
BVAR	**Borovoye Array**	**22.74**	**4**	P	**P**	**02 12 38.2**	**+0.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**22.77**	**4**	*e*P	**P**	**02 12 38.3**	**+0.1**
	comp=Z,5.3nm,0.8s,mb4.0						
BRVK	**Borovoye**	**22.77**	**4**	*e*P	**P**	**02 12 38.3**	**+0.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.0						
ZALV	**Zalesovo Beam**	**26.67**	**23**	P	**P**	**02 13 15.6**	**+0.8**
	comp=Z,3.3nm,0.4s,mb4.2,baz=220,slow=11,SNR=18						
ZALV	**Zalesovo Beam**	**26.67**	**23**	P	**P**	**02 13 15.6**	**+0.8**
ZALV	**Zalesovo Beam**	**26.67**	**23**	P	**P**	**02 13 15.6**	**+0.8**
ZALV				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.2						
CMAR	**Chiang Mai Arr**	**30.83**	**105**	P	**P**	**02 13 53.4**	**+1.2**
	comp=Z,1.0nm,0.4s,mb4.0,baz=309,slow=7.6,SNR=4.2						
CMAR	**Chiang Mai Arr**	**30.83**	**105**	P	**P**	**02 13 53.4**	**+1.2**
CMAR	**Chiang Mai Arr**	**30.83**	**105**	P	**P**	**02 13 53.4**	**+1.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM	**Songino Array**	**34.38**	**48**	P	**P**	**02 14 24.0**	**+1.0**
	comp=Z,0.4nm,0.5s,mb3.6,baz=246,slow=9.7,SNR=4.8						
SONM	**Songino Array**	**34.38**	**48**	P	**P**	**02 14 24.0**	**+1.0**
SONM	**Songino Array**	**34.38**	**48**	P	**P**	**02 14 24.0**	**+1.1**
AKASG	**Malin Array Be**	**34.99**	**317**	P	**P**	**02 14 28.1**	**-0.1**
	comp=Z,0.5nm,0.4s,mb3.8,baz=102,slow=7.1,SNR=5.1						
AKASG	**Malin Array Be**	**34.99**	**317**	P	**P**	**02 14 28.1**	**-0.1**
AKASG	**Malin Array Be**	**34.99**	**317**	P	**P**	**02 14 28.1**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PSZ	**Piszkesteto**	**40.21**	**310**	*e*P	**P**	**02 15 12.4**	**0.0**
PSZ	**Piszkesteto**	**40.21**	**310**	*e*P	**P**	**02 15 12.4**	**0.0**
FINES	**FINESS Array B**	**41.22**	**331**	P	**P**	**02 15 20.4**	**-0.2**
	comp=Z,1.6nm,0.7s,mb3.8,baz=112,slow=8.5,SNR=5.4						
FINES	**FINESS Array B**	**41.22**	**331**	P	**P**	**02 15 20.4**	**-0.2**
FINES	**FINESS Array B**	**41.22**	**331**	P	**P**	**02 15 20.4**	**-0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GERES	**GERESS Array B**	**44.42**	**310**	P	**P**	**02 15 47.2**	**+0.7**
	comp=Z,0.7nm,0.8s,mb3.5,baz=106,slow=9.8,SNR=6.0						
GERES	**GERESS Array B**	**44.42**	**310**	P	**P**	**02 15 47.2**	**+0.7**
GERES	**GERESS Array B**	**44.42**	**310**	P	**P**	**02 15 47.3**	**+0.7**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**45.85**	**341**	P	**P**	**02 15 57.8**	**+0.1**
	comp=Z,1.7nm,0.6s,mb4.2,baz=122,slow=7.1,SNR=12						
ARCES	**ARCESS Array B**	**45.85**	**341**	P	**P**	**02 15 57.8**	**+0.1**
ARCES	**ARCESS Array B**	**45.85**	**341**	P	**P**	**02 15 57.8**	**+0.1**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	**NORSAR Array B**	**47.74**	**327**	P	**P**	**02 16 11.6**	**-1.0**
	comp=Z,0.7nm,0.9s,mb3.7,baz=102,slow=4.5,SNR=3.3						
NOA	**NORSAR Array B**	**47.74**	**327**	P	**P**	**02 16 11.6**	**-1.0**
NOA	**NORSAR Array B**	**47.74**	**327**	P	**P**	**02 16 11.6**	**-1.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KEST	**Kesra**	**48.49**	**293**	P	**P**	**02 16 19.5**	**+0.7**
	comp=Z,0.7nm,0.8s,mb3.7,baz=202,slow=22,SNR=3.5						
KEST	**Kesra**	**48.49**	**293**	P	**P**	**02 16 19.5**	**+0.7**
LPG	**La Plagne**	**49.16**	**306**	*e*P	**P**	**02 16 24.1**	**+0.3**
	comp=Z,2.0nm,0.4s,mb4.2						
LPG	**La Plagne**	**49.16**	**306**	*e*P	**P**	**02 16 24.1**	**+0.3**
	comp=Z,1.0nm,0.4s,mb4.2						
LPG	**La Plagne**	**49.16**	**306**	*e*P	**P**	**02 16 24.1**	**+0.3**
LPG				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
LPL	**La Plagne**	**49.17**	**306**	*e*P	**P**	**02 16 23.9**	**0.0**
	comp=Z,5.4nm,0.7s,mb4.4						
LPL	**La Plagne**	**49.17**	**306**	*e*P	**P**	**02 16 23.9**	**0.0**
	comp=Z,7.2nm,0.6s,mb4.5						
LPL	**La Plagne**	**49.17**	**306**	*e*P	**P**	**02 16 23.9**	**0.0**
LPL				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ORIF	**Oris-en-Rattie**	**49.82**	**305**	*e*P	**P**	**02 16 28.3**	**-0.5**
	comp=Z,10nm,1.0s,mb4.5						
ORIF	**Oris-en-Rattie**	**49.82**	**305**	*e*P	**P**	**02 16 28.3**	**-0.5**
	comp=Z,5.2nm,1.0s,mb4.5						
ORIF	**Oris-en-Rattie**	**49.82**	**305**	*e*P	**P**	**02 16 28.3**	**-0.5**
ORIF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
KSRS	**Korea Array**	**49.85**	**65**	P	**P**	**02 16 29.8**	**+0.6**
	comp=Z,0.8nm,0.5s,mb4.0,baz=297,slow=11,SNR=4.2						
KSRS	**Korea Array**	**49.85**	**65**	P	**P**	**02 16 29.8**	**+0.6**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
SFTF	**Sexfontaines**	**50.17**	**309**	*e*P	**P**	**02 16 31.5**	**+0.1**
SFTF	**Sexfontaines**	**50.17**	**309**	*e*P	**P**	**02 16 31.5**	**+0.1**
VIVF	**Saint-Julien-l**	**50.68**	**305**	*e*P	**P**	**02 16 35.2**	**-0.1**
	comp=Z,12nm,0.9s,mb4.5						
VIVF	**Saint-Julien-l**	**50.68**	**305**	*e*P	**P**	**02 16 35.2**	**-0.1**
	comp=Z,5.9nm,0.9s,mb4.5						
VIVF	**Saint-Julien-l**	**50.68**	**305**	*e*P	**P**	**02 16 35.2**	**-0.1**
VIVF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
LOR	**Lormes**	**51.02**	**308**	*e*P	**P**	**02 16 37.5**	**-0.4**
	comp=Z,2.3nm,0.6s,mb4.0						
LOR	**Lormes**	**51.02**	**308**	*e*P	**P**	**02 16 37.5**	**-0.4**
	comp=Z,1.1nm,0.6s,mb4.0						
LOR	**Lormes**	**51.02**	**308**	*e*P	**P**	**02 16 37.5**	**-0.4**
LOR				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
SSF	**Saint Saulge**	**51.28**	**308**	*e*P	**P**	**02 16 39.7**	**-0.1**
SSF	**Saint Saulge**	**51.28**	**308**	*e*P	**P**	**02 16 39.7**	**-0.1**
CAF	**Calviac**	**52.51**	**305**	*e*P	**P**	**02 16 48.8**	**-0.2**
CAF	**Calviac**	**52.51**	**305**	*e*P	**P**	**02 16 48.8**	**-0.2**
CAF	**Calviac**	**52.51**	**305**	*e*P	**P**	**02 16 48.8**	**-0.2**
LDF	**La Druitiere**	**53.56**	**310**	*e*P	**P**	**02 16 56.3**	**-0.4**
	comp=Z,2.2nm,0.4s,mb4.1						
LDF	**La Druitiere**	**53.56**	**310**	*e*P	**P**	**02 16 56.3**	**-0.4**
	comp=Z,1.1nm,0.4s,mb4.1						
LDF	**La Druitiere**	**53.56**	**310**	*e*P	**P**	**02 16 56.3**	**-0.4**
LDF

BVAR	**Borovoye Array**	**126.53**	**316**	PKP		PKPdf	02 27 46.5	-0.3
ARCES	**ARCESS Array B**	**138.23**	**348**	PKhKP		PKPpre	02 28 02.4	
	1.6nm,0.9s,baz=64,slow=5.6,SNR=2.7							
ARCES				PKP		PKPdf	02 28 09.7	+1.3
	1.9nm,0.7s,baz=8.6,slow=4.0,SNR=3.8							
ARCES	**ARCESS Array B**	**138.23**	**348**	PKP		PKPdf	02 28 02.4	-6.0
ARCES				PKP		PKPdf	02 28 09.7	+1.3
JOF	**Joensuu**	**142.19**	**339**	*ep*		PKPdf	02 28 21.2	+5.5
	1.9nm,0.7s							
KAF	**Kangasniemi**	**144.29**	**341**	*ep*		PKPdf	02 28 18.1	-1.3
	2.1nm,0.6s							
FINES	**FINESS Array B**	**144.89**	**341**	PKP		PKPdf	02 28 19.0	-1.5
	5.5nm,0.5s,baz=52,slow=3.1,SNR=30							
FINES	**FINESS Array B**	**144.89**	**341**	PKP		PKPdf	02 28 19.0	-1.5
NB2	**NORSAR Subarra**	**148.34**	**352**	PKP		PKPdf	02 28 29.0	+2.7
	comp=Z,1.9nm,0.7s,baz=12,slow=2.9							
NOA	**NORSAR Array B**	**148.34**	**352**	PKPbc		PKPbc	02 28 29.1	-0.7
	comp=Z,3.3nm,0.8s,baz=14,slow=4.3,SNR=9.1							
NOA	**NORSAR Array B**	**148.34**	**352**	PKPbc		PKPbc	02 28 29.1	-0.7
HFS	**Hagfors**	**148.87**	**349**	PKPbc		PKPbc	02 28 30.3	-0.9
	comp=Z,4.4nm,0.8s,baz=76,slow=6.6,SNR=9.9							
HFS	**Hagfors**	**148.87**	**349**	PKPbc		PKPbc	02 28 30.3	-0.9
ASF	**Jabal al Asfar**	**150.78**	**283**	PKPbc		PKPbc	02 28 38.0	+1.2
	comp=Z,1.3nm,0.5s,baz=42,slow=5.8,SNR=5.1							
ASF	**Jabal al Asfar**	**150.78**	**283**	PKPbc		PKPbc	02 28 38.0	+1.2
AKASG	**Malin Array Be**	**151.31**	**324**	PKPbc		PKPbc	02 28 36.8	-0.6
	comp=Z,3.0nm,0.5s,baz=50,slow=2.0,SNR=13							
AKASG				PKPab		PKPab	02 28 45.9	+0.3
	comp=Z,4.5nm,0.6s,baz=46,slow=3.8,SNR=12							
AKASG	**Malin Array Be**	**151.31**	**324**	PKPbc		PKPbc	02 28 36.8	-0.6
AKASG				PKPab		PKPab	02 28 45.9	+0.3
MMAI	**Mount Meron Ar**	**152.09**	**285**	PKPbc		PKPbc	02 28 40.9	+1.1
	comp=Z,2.6nm,0.6s,baz=70,slow=7.2,SNR=6.4							
MMAI				PKPab		PKPab	02 28 49.6	+0.2
	comp=Z,3.6nm,0.7s,baz=67,slow=6.4,SNR=4.6							
BRTR	**Keskin Array B**	**152.97**	**300**	PKPbc		PKPbc	02 28 41.2	-0.3
	comp=Z,0.6nm,0.8s,baz=131,slow=5.7,SNR=4.7							
BRTR				PKPab		PKPab	02 28 50.6	-2.3
	comp=Z,1.4nm,0.8s,baz=138,slow=4.5,SNR=6.2							
BRTR	**Keskin Array B**	**152.97**	**300**	PKPbc		PKPbc	02 28 41.2	-0.3
BRTR				PKPab		PKPab	02 28 50.6	-2.3
EKA	**Eskdalemuir Ar**	**154.20**	**8**	PKPab		PKPab	02 28 56.0	-1.5
	comp=Z,0.7nm,0.9s,baz=311,slow=31,SNR=2.8							
EKA	**Eskdalemuir Ar**	**154.20**	**8**	PKPab		PKPab	02 28 56.0	-1.5
TESR		**155.12**	**318**	*iP*		PKPab	02 29 01.7	-0.1
KWP	**Kalwaria Pacla**	**155.18**	**328**	P		PKPab	02 29 02.2	+0.3
BURAR	**Bucovina Array**	**155.27**	**322**	P		PKPab	02 29 02.9	+0.5
VRI	**Vrincioaia**	**155.42**	**317**	P		PKPab	02 29 02.5	-0.6
GERES	**GERESS Array B**	**159.31**	**339**	PKPab		PKPab	02 29 19.6	-0.1
	comp=Z,0.6nm,0.8s,baz=348,slow=4.6,SNR=5.5							
APE	**Apeiranthos**	**159.77**	**297**	P		PKPab	02 29 27.5	+5.3
TORD	**Torodi Ar. Bea**	**163.32**	**176**	PKPab		PKPab	02 29 39.1	+1.2
	comp=Z,0.3nm,0.5s,baz=188,slow=3.7,SNR=5.4							

CSEM ***06*** *02:15:15.2±1.2,38.33°N×20.37°E,h2km,MD2.5,Error ellipse: s-maj=29.5km s-min=5.8km az=78.0*
THE ***06*** *02:15:15.4,38.34°N×20.44°E,h9km±3km,Error ellipse: s-maj=3.8km s-min=0.4km az=111.0*

ATH 06 02:15:15.7,38.17N×20.40E,h15km±1km,MD2.5/3, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.15**	**87**	*e*PB	Pg	02 15 19.9	+0.3
VLS				*e*SB	Sg	02 15 23.0	+0.8
VLS	**Valsamata**	**0.15**	**87**	P	Pg	02 15 19.8	+0.2
VLS				S	Sg	02 15 22.8	+0.6
VLS	**Valsamata**	**0.15**	**87**	*e*Pb	Pg	02 15 19.9	+0.3
VLS				*e*Sb	Sg	02 15 23.0	+0.8
KFL	**Anninata**	**0.31**	**101**	P	Pg	02 15 22.3	+0.1
KFL				S	Sg	02 15 28.0	+1.4
KFL	**Anninata**	**0.31**	**101**	P	Pg	02 15 22.3	+0.1
KFL				S	Sg	02 15 28.0	+1.4
LKD2	**Lefkada island**	**0.65**	**18**	P	Pg	02 15 24.6	-3.8
LKD2				S	Sg	02 15 31.7	-5.4
LKD2	**Lefkada island**	**0.65**	**18**	P	Pg	02 15 24.6	-3.8
LKD2				S	Sg	02 15 31.7	-5.4
RLS	**Riolos of Patr**	**0.85**	**97**	*e*PN	Pn	02 15 31.7	-1.4
EVR	**Evrytania**	**1.33**	**56**	*e*PN	Pn	02 15 40.8	+1.1
EVR	**Evrytania**	**1.33**	**56**	*e*Pn	Pn	02 15 40.8	+1.1
GUR	**Goura**	**1.55**	**98**	*e*PN	Pn	02 15 45.0	+2.3
GUR	**Goura**	**1.55**	**98**	*e*Pn	Pn	02 15 45.0	+2.3

CSEM ***06*** *02:17:55.4,38.82N×22.13E,h16km,ML1.2/4,After THE*
THE 06 02:17:55.4,38.82N×22.13E,h16km±2km,ML1.2/4,Error ellipse: s-maj=2.2km s-min=0.4km az=340.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.25**	**38**	P	Pg	02 18 01.0	0.0
AGG				S	Sg	02 18 05.3	+0.5
AGG	**Agios Georgios**	**0.25**	**38**	P	Pg	02 18 01.0	0.0
AGG				S	Sg	02 18 05.3	+0.5
EVR	**Evrytania**	**0.27**	**291**	P	Pg	02 18 01.3	+0.1
EVR				S	Sg	02 18 05.5	+0.3
EVR	**Evrytania**	**0.27**	**291**	P	Pg	02 18 01.3	+0.1
EVR				S	Sg	02 18 05.5	+0.3
KALE	**Kalithea**	**0.43**	**179**	P	Pg	02 18 04.1	0.0
KALE				S	Sg	02 18 10.6	+0.6
KALE	**Kalithea**	**0.43**	**179**	P	Pg	02 18 04.1	0.0
KALE				S	Sg	02 18 10.6	+0.6
EFP	**Efpalio**	**0.43**	**204**	P	Pg	02 18 03.8	-0.3
EFP				S	Sg	02 18 10.8	+0.8
EFP	**Efpalio**	**0.43**	**204**	P	Pg	02 18 03.8	-0.3
EFP				S	Sg	02 18 10.8	+0.8
DSF	**Desfina**	**0.52**	**143**	P	Pg	02 18 05.4	-0.3
DSF				S	Sg	02 18 13.3	+0.7
DSF	**Desfina**	**0.52**	**143**	P	Pg	02 18 05.4	-0.3
DSF				S	Sg	02 18 13.3	+0.7

ISK ***06*** *02:18:54.5,35.16N×27.21E,h5km,MD4.1,ML3.7*
IDC ***06*** *02:18:54.0±0.6,35.13N×27.00E,h0km,mb4.2/21, mb1 4.1/28,mb1mx4.1/36,mbtmp4.1/28,ML3.7/5,MS3.1/1, Ms1 3.1/1,ms1mx2.4/33,Error ellipse: s-maj=14.7km s-min=11.4km az=6.0*
ISCJB ***06*** *02:18:54.5±0.6,35.03N±0.02×27.17E±0.02,h12km±4km, mb4.0/38,Error ellipse: s-maj=2.6km s-min=2.3km az=11.9*
ATH ***06*** *02:18:55.9,35.15N×27.07E,h18km,MD4.0/24,ML3.8*
NEIC ***06*** *02:18:55.9,35.15N×27.07E,h18km,mb4.0/22, ML3.8(ATH),After ATH,*
MOS ***06*** *02:18:56.0±1.2,35.04N×27.11E,h23km,mb4.3/26,Error ellipse: s-maj=7.9km s-min=4.6km az=105.1*
THE ***06*** *02:18:56.2,35.11N×27.04E,h0km±1km,ML4.1/2,Error ellipse: s-maj=3.6km s-min=1.0km az=148.0*
HLW ***06*** *02:18:56.6,35.20N×27.31E,h31km±22km,Md3.7,Ml3.5*
CSEM ***06*** *02:18:56.8±0.1,35.07N×27.17E,h15km,mb4.2/26,Error ellipse: s-maj=2.9km s-min=2.3km az=10.0*
TEH ***06*** *02:18:58.7,35.35N×27.20E,h10km*
ISC 06 02:18:56.3±0.6,35.06N±0.02×27.13E±0.02,h12km±4km, n570,σ1§14/604,mb4.0/37,16C-2D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.49**	**3**	*e*PB	**Pg**	**02 19 04.5**	**-1.4**
KARP				*e*SB	**Sg**	**02 19 10.1**	**-2.3**
KARP	**Karpathos**	**0.49**	**3**	P	**Pg**	**02 19 04.6**	**-1.3**
KARP				S	**Sg**	**02 19 12.8**	**+0.4**
KARP	**Karpathos**	**0.49**	**3**	P	**Pg**	**02 19 04.6**	**-1.3**
KARP				*e*Sb	**Sg**	**02 19 10.1**	**-2.3**
KARP				S	**Sg**	**02 19 12.8**	**+0.4**
ZKR	**Zakros**	**0.75**	**275**	P	**Pg**	**02 19 08.9**	**-1.9**
ZKR				S	**Sg**	**02 19 20.7**	**+0.1**
ZKR	**Zakros**	**0.75**	**275**	P	**Pg**	**02 19 08.9**	**-1.9**
ZKR				S	**Sg**	**02 19 20.7**	**+0.1**
NPS	**Neapolis**	**1.26**	**280**	*e*PN	**Pn**	**02 19 18.5**	**-1.2**
NPS				*e*SN	**Sn**	**02 19 33.9**	**-2.7**
NPS	**Neapolis**	**1.26**	**280**	P	**Pn**	**02 19 18.1**	**-1.6**
NPS				S	**Sb**	**02 19 35.5**	**-0.7**
NPS	**Neapolis**	**1.26**	**280**	P	**Pn**	**02 19 18.1**	**-1.6**
NPS	**Neapolis**	**1.26**	**280**	*e*Pn	**Pn**	**02 19 18.5**	**-1.2**
NPS				S	**Sb**	**02 19 35.5**	**-0.7**
LAST	**Lasithi**	**1.36**	**275**	*e*PN	**Pn**	**02 19 20.1**	**-1.0**
LAST				*e*SN	**Sn**	**02 19 38.3**	**-0.7**
LAST	**Lasithi**	**1.36**	**275**	P	**Pn**	**02 19 19.8**	**-1.3**
LAST	**Lasithi**	**1.36**	**275**	P	**Pn**	**02 19 19.8**	**-1.3**
LAST	**Lasithi**	**1.36**	**275**	*e*Pn	**Pn**	**02 19 20.1**	**-1.0**
LAST				*e*Sn	**Sn**	**02 19 38.3**	**-0.7**
ARG	**Arkhangelos**	**1.41**	**35**	*e*PN	**Pn**	**02 19 22.0**	**+0.1**
ARG				*e*SB	**Sb**	**02 19 41.3**	**+0.7**
ARG	**Arkhangelos**	**1.41**	**35**	P	**Pn**	**02 19 22.2**	**+0.3**
ARG				S	**Sb**	**02 19 41.3**	**+0.7**
ARG	**Arkhangelos**	**1.41**	**35**	*e*Pn	**Pn**	**02 19 22.0**	**+0.1**
ARG				S	**Sb**	**02 19 41.3**	**+0.7**
NIS1	**Nisyros Isl.**	**1.54**	**1**	P	**Pn**	**02 19 22.8**	**-0.8**
NIS1				S	**Sn**	**02 19 44.1**	**+0.5**
NIS1	**Nisyros Isl.**	**1.54**	**1**	P	**Pn**	**02 19 22.8**	**-0.8**
NIS1				S	**Sn**	**02 19 44.1**	**+0.5**
DAT	**Datca**	**1.71**	**12**	*e*PN	**Pn**	**02 19 24.0**	**-1.9**
DAT				*e*SN	**Sn**	**02 19 45.6**	**-2.1**
DAT	**Datca**	**1.71**	**12**	*e*Pn	**Pn**	**02 19 24.0**	**-1.9**
DAT				*e*Sn	**Sn**	**02 19 45.6**	**-2.1**
THR1	**Thera Island**	**1.89**	**314**	P	**Pn**	**02 19 27.6**	**-0.8**
THR1	**Thera Island**	**1.89**	**314**	P	**Pn**	**02 19 27.6**	**-0.8**
SIVA	**Sivas**	**1.90**	**269**	*e*PN	**Pn**	**02 19 29.3**	**+0.7**
SIVA	**Sivas**	**1.90**	**269**	P	**Pn**	**02 19 29.7**	**+1.1**
SIVA	**Sivas**	**1.90**	**269**	*e*Pn	**Pn**	**02 19 29.3**	**+0.7**
SIVA	**Sivas**	**1.90**	**269**	P	**Pn**	**02 19 29.7**	**+1.1**
THR3	**Thira Island,**	**1.95**	**314**	P	**Pn**	**02 19 28.6**	**-0.6**
THR3	**Thira Island,**	**1.95**	**314**	P	**Pn**	**02 19 28.6**	**-0.6**
BODT	**Bodrum**	**2.01**	**4**	*e*PN	**Pn**	**02 19 28.3**	**-1.7**
BODT	**Bodrum**	**2.01**	**4**	*e*Pn	**Pn**	**02 19 28.3**	**-1.7**
FETY	**Fethiye**	**2.24**	**45**	*e*PN	**Pn**	**02 19 31.6**	**-1.6**
FETY	**Fethiye**	**2.24**	**45**	*e*Pn	**Pn**	**02 19 31.6**	**-1.6**
YER	**Yerkesik**	**2.27**	**24**	*e*PN	**Pn**	**02 19 32.5**	**-1.2**
YER	**Yerkesik**	**2.27**	**24**	*e*Pn	**Pn**	**02 19 32.5**	**-1.2**
KSL	**Kastellorizon**	**2.28**	**61**	*e*PB	**Pb**	**02 19 34.2**	**-3.2**
MLSB	**Milas**	**2.29**	**13**	*e*PN	**Pn**	**02 19 32.5**	**-1.5**
MLSB	**Milas**	**2.29**	**13**	*e*Pn	**Pn**	**02 19 32.5**	**-1.5**
AKAS	**Kas**	**2.33**	**59**	*i*P	**Pn**	**02 19 34.1**	**-0.4**
AKAS	**Kas**	**2.33**	**59**	*i*P	**Pn**	**02 19 34.1**	**-0.4**
APE	**Apeiranthos**	**2.39**	**328**	*e*PN	**Pn**	**02 19 35.0**	**-0.3**
APE	**Apeiranthos**	**2.39**	**328**	*e*PB	**Pn**	**02 19 34.8**	**-0.5**
APE				*e*SN	**Sn**	**02 20 03.5**	**-1.0**
APE	**Apeiranthos**	**2.39**	**328**	P	**Pn**	**02 19 34.8**	**-0.5**
APE				S	**Sn**	**02 20 03.7**	**-0.8**
APE	**Apeiranthos**	**2.39**	**328**	*e*Pn	**Pn**	**02 19 35.0**	**-0.3**
APE				S	**Sn**	**02 20 03.7**	**-0.8**
VAM	**Vamos**	**2.42**	**279**	*e*PN	**Pn**	**02 19 36.8**	**+1.0**
VAM				*e*SN	**Sn**	**02 20 06.1**	**+0.7**
VAM	**Vamos**	**2.42**	**279**	P	**Pn**	**02 19 36.8**	**+1.0**
VAM	**Vamos**	**2.42**	**279**	P	**Pn**	**02 19 36.8**	**+1.0**
VAM				*e*Sn	**Sn**	**02 20 06.1**	**+0.7**
GCAM	**G?zelcaml?**	**2.64**	**2**	*i*P	**Pn**	**02 19 39.6**	**+0.9**
GCAM	**G?zelcaml?**	**2.64**	**2**	*i*P	**Pn**	**02 19 39.6**	**+0.9**
KARN	**Karanos**	**2.65**	**278**	P	**Pn**	**02 19 40.5**	**+1.6**
KARN	**Karanos**	**2.65**	**278**	P	**Pn**	**02 19 40.5**	**+1.6**
SMG	**Samos**	**2.66**	**355**	*e*PN	**Pn**	**02 19 38.7**	**-0.3**
SMG	**Samos**	**2.66**	**355**	*e*Pn	**Pn**	**02 19 38.7**	**-0.3**
AYDN	**Tasoluk**	**2.67**	**13**	*i*P	**Pn**	**02 19 40.1**	**+1.0**
AYDN	**Tasoluk**	**2.67**	**13**	*i*P	**Pn**	**02 19 40.1**	**+1.0**
ELL	**Elmali**	**2.82**	**52**	*e*PN	**Pn**	**02 19 39.2**	**-2.0**
ELL	**Elmali**	**2.82**	**52**	*e*Pn	**Pn**	**02 19 39.2**	**-2.0**
GLHS	**Glhisar (BURDU**	**2.84**	**42**	*e*PN	**Pn**	**02 19 40.4**	**-1.1**
GLHS	**Glhisar (BURDU**	**2.84**	**42**	*e*Pn	**Pn**	**02 19 40.4**	**-1.1**
GOLH	**Golhisar**	**2.93**	**41**	*i*P	**Pn**	**02 19 43.6**	**+0.9**
GOLH	**Golhisar**	**2.93**	**41**	*i*P	**Pn**	**02 19 43.6**	**+0.8**
DNZL	**Cakiroluk**	**3.05**	**30**	*i*P	**Pn**	**02 19 45.1**	**+0.8**
DNZL	**Cakiroluk**	**3.05**	**30**	*i*P	**Pn**	**02 19 45.2**	**+0.8**
DENT	**Denizli**	**3.10**	**29**	*e*PN	**Pn**	**02 19 43.9**	**-1.2**
DENT	**Denizli**	**3.10**	**29**	*e*Pn	**Pn**	**02 19 43.9**	**-1.1**
KORT	**Korkueli**	**3.25**	**52**	*i*P	**Pn**	**02 19 49.1**	**+2.0**
KORT	**Korkueli**	**3.25**	**52**	*i*P	**Pn**	**02 19 49.1**	**+2.0**
BLCB	**Balcova**	**3.32**	**359**	*e*PN	**Pn**	**02 19 47.2**	**-0.9**
BLCB	**Balcova**	**3.32**	**359**	*e*Pn	**Pn**	**02 19 47.2**	**-0.9**
URLA	**Izmir**	**3.32**	**353**	*i*P	**Pn**	**02 19 47.1**	**-1.0**
URLA	**Izmir**	**3.32**	**353**	*i*P	**Pn**	**02 19 47.2**	**-0.9**
IZM	**Izmir**	**3.33**	**2**	*e*PN	**Pn**	**02 19 47.6**	**-0.6**
IZM	**Izmir**	**3.33**	**2**	*e*Pn	**Pn**	**02 19 47.7**	**-0.6**
ANTB	**Antalya**	**3.40**	**56**	*e*PN	**Pn**	**02 19 48.6**	**-0.6**
ANTB	**Antalya**	**3.40**	**56**	*e*Pn	**Pn**	**02 19 48.6**	**-0.6**
CHOS	**Chios island**	**3.43**	**346**	*e*PN	**Pn**	**02 19 49.7**	**+0.1**
CHOS				*e*SN	**Sn**	**02 20 29.4**	**-0.9**
CHOS	**Chios island**	**3.43**	**346**	P	**Pn**	**02 19 49.8**	**+0.2**
CHOS	**Chios island**	**3.43**	**346**	P	**Pn**	**02 19 49.8**	**+0.2**
CHOS				*e*Sn	**Sn**	**02 20 29.4**	**-0.9**
KYTH	**Kithira**	**3.55**	**291**	*e*PN	**Pn**	**02 19 52.1**	**+0.9**
KYTH	**Kithira**	**3.55**	**291**	P	**Pn**	**02 19 51.7**	**+0.5**
KYTH	**Kithira**	**3.55**	**291**	P	**Pn**	**02 19 51.7**	**+0.5**
KYTH	**Kithira**	**3.55**	**291**	*e*Pn	**Pn**	**02 19 52.1**	**+0.9**
MANT	**Manisa**	**3.61**	**18**	*i*P	**Pn**	**02 19 52.7**	**+0.6**
MANT	**Manisa**	**3.61**	**18**	*i*P	**Pn**	**02 19 52.7**	**+0.6**
KULA	**Kula-Manisa**	**3.66**	**19**	*e*PN	**Pn**	**02 19 51.8**	**-1.0**
KULA	**Kula-Manisa**	**3.66**	**19**	*e*Pn	**Pn**	**02 19 51.8**	**-1.0**
BCK	**Bucak**	**3.68**	**48**	*e*PN	**Pn**	**02 19 52.1**	**-0.9**
BCK	**Bucak**	**3.68**	**48**	*e*Pn	**Pn**	**02 19 52.1**	**-1.0**
VLI	**Veliai**	**3.79**	**297**	*e*PN	**Pn**	**02 19 54.9**	**+0.4**
VLI	**Veliai**	**3.79**	**297**	P	**Pn**	**02 19 55.1**	**+0.6**
VLI				S	**Sn**	**02 20 36.0**	**-3.0**
VLI	**Veliai**	**3.79**	**297**	P	**Pn**	**02 19 55.1**	**+0.6**
VLI				S	**Sn**	**02 20 36.0**	**-3.0**
KHAL	**Karahalli**	**3.81**	**29**	*i*P	**Pn**	**02 19 55.1**	**+0.3**
KHAL	**Karahalli**	**3.81**	**29**	*i*P	**Pn**	**02 19 55.1**	**+0.3**
AKHS	**Akhisar**	**3.85**	**8**	*i*P	**Pn**	**02 19 56.2**	**+0.8**
AKHS	**Akhisar**	**3.85**	**8**	*i*P	**Pn**	**02 19 56.2**	**+0.8**
AKS	**Akhisar**	**3.85**	**8**	*e*PN	**Pn**	**02 19 54.9**	**-0.5**
AKS	**Akhisar**	**3.85**	**8**	*e*Pn	**Pn**	**02 19 54.9**	**-0.5**
VLY	**Voula,Athens**	**3.87**	**317**	P	**Pn**	**02 19 56.2**	**+0.5**
VLY	**Voula,Athens**	**3.87**	**317**	P	**Pn**	**02 19 56.2**	**+0.5**
SLUM	baz=207	**3.90**	**205**	P	**Pn**	**02 19 56.8**	**+0.7**
SLUM	baz=207			S	**Sn**	**02 20 42.3**	**+0.5**
SLUM		**3.90**	**205**	P	**Pn**	**02 19 56.4**	**+0.3**
SUTC	**Sutluce-Ispart**	**3.95**	**51**	*e*PN	**Pn**	**02 19 56.2**	**-0.5**
SUTC	**Sutluce-Ispart**	**3.95**	**51**	*e*Pn	**Pn**	**02 19 56.3**	**-0.4**
HMAT	**Matruh** baz=183	**3.95**	**180**	P	**Pn**	**02 19 57.5**	**+0.7**
HMAT	baz=183			S	**Sn**	**02 20 42.2**	**-0.9**
HMAT	**Matruh**	**3.95**	**180**	P	**Pn**	**02 19 58.0**	**+1.2**
HMAT				S	**Sn**	**02 20 44.4**	**+1.3**
PTL	**Penteli**	**3.98**	**320**	P	**Pn**	**02 19 58.3**	**+1.2**
PTL	**Penteli**	**3.98**	**320**	P	**Pn**	**02 19 58.3**	**+1.2**
DID	**Didima**	**3.98**	**309**	*e*PN	**Pn**	**02 19 58.4**	**+1.2**
DID	**Didima**	**3.98**	**309**	P	**Pn**	**02 19 58.1**	**+0.9**
DID	**Didima**	**3.98**	**309**	P	**Pn**	**02 19 58.1**	**+0.9**
DID	**Didima**	**3.98**	**309**	*e*Pn	**Pn**	**02 19 58.4**	**+1.2**
NAIG	**Nisos Aigina**	**3.99**	**314**	*e*PN	**Pn**	**02 19 57.7**	**+0.5**
NAIG	**Nisos Aigina**	**3.99**	**314**	*e*Pn	**Pn**	**02 19 57.7**	**+0.5**
ATH	**Athens Observa**	**4.00**	**318**	*e*PN	**Pn**	**02 19 58.0**	**+0.5**
ATH	**Athens Observa**	**4.00**	**318**	*e*Pn	**Pn**	**02 19 58.0**	**+0.5**
DEMI	**Demirci**	**4.17**	**17**	*i*P	**Pn**	**02 20 00.5**	**+0.7**
DEMI	**Demirci**	**4.17**	**17**	*i*P	**Pn**	**02 20 00.5**	**+0.7**
PRK	**Paraskevi**	**4.24**	**351**	*e*PN	**Pn**	**02 20 00.4**	**-0.3**
PRK	**Paraskevi**	**4.24**	**351**	P	**Pn**	**02 20 00.7**	**0.0**
PRK	**Paraskevi**	**4.24**	**351**	*e*Pn	**Pn**	**02 20 00.4**	**-0.3**
PRK	**Paraskevi**	**4.24**	**351**	P	**Pn**	**02 20 00.7**	**0.0**
AYVA	**Ayvalik**	**4.26**	**355**	*i*P	**Pn**	**02 19 60.0**	**-1.0**
AYVA	**Ayvalik**	**4.26**	**355**	*i*P	**Pn**	**02 20 00.0**	**-1.0**
PPCY	**Paphos**	**4.29**	**91**	P	**Pn**	**02 20 00.3**	**-1.1**
PPCY	**Paphos**	**4.29**	**91**	P	**Pn**	**02 20 00.3**	**-1.1**
GAZI	**Gazipasa**	**4.38**	**73**	*i*P	**Pn**	**02 20 03.5**	**+0.8**
GAZI	**Gazipasa**	**4.38**	**73**	*i*P	**Pn**	**02 20 03.5**	**+0.8**
SHUT	**Suhut-Afyon**	**4.44**	**37**	*e*PN	**Pn**	**02 20 02.7**	**-0.7**
SHUT	**Suhut-Afyon**	**4.44**	**37**	*e*Pn	**Pn**	**02 20 02.7**	**-0.8**
GDZ	**Gediz**	**4.44**	**24**	*i*P	**Pn**	**02 20 03.0**	**-0.5**
GDZ	**Gediz**	**4.44**	**24**	*i*P	**Pn**	**02 20 03.0**	**-0.5**
LTK	**Loutraki**	**4.47**	**313**	*e*PN	**Pn**	**02 20 04.2**	**+0.3**
LTK	**Loutraki**	**4.47**	**313**	P	**Pn**	**02 20 06.7**	**+2.8**
LTK	**Loutraki**	**4.47**	**313**	*e*Pn	**Pn**	**02 20 04.2**	**+0.3**
LTK	**Loutraki**	**4.47**	**313**	P	**Pn**	**02 20 06.7**	**+2.8**
VLX	**Vlachokerasia**	**4.48**	**302**	*e*PN	**Pn**	**02 20 05.2**	**+1.2**
VLX	**Vlachokerasia**	**4.48**	**302**	P	**Pn**	**02 20 05.7**	**+1.7**
VLX	**Vlachokerasia**	**4.48**	**302**	*e*Pn	**Pn**	**02 20 05.2**	**+1.2**
VLX	**Vlachokerasia**	**4.48**	**302**	P	**Pn**	**02 20 05.7**	**+1.7**
ALFC	**Alevga** 4.9nm,0.4s	**4.49**	**87**	P	**Pn**	**02 20 03.4**	**-0.7**
ALFC	**Alevga** 4.9nm,0.4s	**4.49**	**87**	P	**Pn**	**02 20 03.4**	**-0.7**
BALB	**Balikesir**	**4.61**	**7**	*e*PN	**Pn**	**02 20 05.5**	**-0.4**
BALB	**Balikesir**	**4.61**	**7**	*e*Pn	**Pn**	**02 20 05.5**	**-0.4**
ALT	**Altintas**	**4.65**	**30**	*e*PN	**Pn**	**02 20 05.7**	**-0.6**
ALT	**Altintas**	**4.65**	**30**	*e*Pn	**Pn**	**02 20 05.7**	**-0.6**
DURS	**Dursunbey**	**4.66**	**13**	*i*P	**Pn**	**02 20 07.2**	**+0.7**
DURS	**Dursunbey**	**4.66**	**13**	*i*P	**Pn**	**02 20 07.2**	**+0.7**
BALY	**Balya**	**4.69**	**5**	*i*P	**Pn**	**02 20 07.8**	**+0.9**
BALY	**Balya**	**4.69**	**5**	*i*P	**Pn**	**02 20 07.8**	**+0.9**
DST	**Dursunbey**	**4.69**	**14**	*e*PN	**Pn**	**02 20 06.5**	**-0.4**
DST	**Dursunbey**	**4.69**	**14**	*e*Pn	**Pn**	**02 20 06.5**	**-0.4**
ITM	**Ithomi**	**4.71**	**298**	*e*PN	**Pn**	**02 20 08.5**	**+1.3**
ITM	**Ithomi**	**4.71**	**298**	P	**Pn**	**02 20 08.6**	**+1.4**
ITM	**Ithomi**	**4.71**	**298**	*e*Pn	**Pn**	**02 20 08.5**	**+1.3**
LEF	**Lefka**	**4.72**	**88**	*e*PN	**Pn**	**02 20 07.2**	**-0.2**
LEF	**Lefka**	**4.72**	**88**	*e*Pn	**Pn**	**02 20 07.2**	**-0.2**
PYL	**PYLOS**	**4.74**	**294**	*e*PN	**Pn**	**02 20 08.8**	**+1.2**
PYL	**PYLOS**	**4.74**	**294**	*e*Pn	**Pn**	**02 20 08.8**	**+1.2**
HDMB	**Hadim**	**4.74**	**65**	*e*PN	**Pn**	**02 20 07.5**	**-0.1**
HDMB	**Hadim**	**4.74**	**65**	*e*Pn	**Pn**	**02 20 07.5**	**-0.1**
BOLV	**Bolvadin**	**4.77**	**39**	*i*P	**Pn**	**02 20 08.6**	**+0.7**
BOLV	**Bolvadin**	**4.77**	**39**	*i*P	**Pn**	**02 20 08.6**	**+0.6**
EZN	**Ezine**	**4.80**	**353**	*e*PN	**Pn**	**02 20 07.6**	**-0.8**
EZN	**Ezine**	**4.80**	**353**	*e*Pn	**Pn**	**02 20 07.6**	**-0.9**
GUR	**Goura**	**4.81**	**308**	*e*PN	**Pn**	**02 20 09.2**	**+0.7**
GUR	**Goura**	**4.81**	**308**	P	**Pn**	**02 20 10.6**	**+2.1**
GUR	**Goura**	**4.81**	**308**	*e*Pn	**Pn**	**02 20 09.2**	**+0.7**
GUR	**Goura**	**4.81**	**308**	P	**Pn**	**02 20 10.6**	**+2.1**
BOZC	**Bozcaada**	**4.85**	**350**	*i*P	**Pn**	**02 20 08.8**	**-0.4**
AOS	**Alonnisos**	**4.86**	**329**	P	**Pn**	**02 20 09.8**	**+0.6**
AOS	**Alonnisos**	**4.86**	**329**	P	**Pn**	**02 20 09.8**	**+0.6**
LKR	**Lokris**	**4.88**	**318**	*e*PN	**Pn**	**02 20 09.9**	**+0.4**
LKR	**Lokris**	**4.88**	**318

ZAF 7.37 140 P Pn 02 20 42.7 -1.0
baz=141
HNKL Nakhl 7.72 130 P Pn 02 20 47.3 -1.3
baz=131
HNKL AMP 02 22 00.0
comp=E,30µm,0.9s,logA/T=4.5,baz=131
HNKL S Sn 02 22 10.0 -6.0
baz=131
HNKL Nakhl 7.72 130 P Pn 02 20 47.3 -1.3
HFRF Wahat Farafira 7.95 172 P Pn 02 20 52.3 +0.6
baz=173
HFRF Wahat Farafira 7.95 172 P Pn 02 20 52.3 +0.6
VTS Vitosha 8.12 339 ⇑P Pn 02 20 55.8 +1.8
VTS Vitosha 8.12 339 ⇑iP Pn 02 20 55.8 +1.8
VTS Vitosha 8.12 339 P Pn 02 20 55.8 +1.8
GRB Gharib 8.31 143 P Pn 02 20 56.0 -0.6
baz=144
EIL Elat 8.52 127 Pn Pn 02 20 59.2 -0.3
comp=E,1.0nm,0.3s,baz=318,slow=9.2,SNR=17
EIL Sn Sn 02 22 31.7 -3.9
comp=E,1.9nm,0.3s,baz=341,slow=21,SNR=6.8
EIL Elat 8.52 127 Pn Pn 02 20 59.2 -0.3
EIL Sn Sn 02 22 31.7 -3.9
EIL Elat 8.52 127 Pn Pn 02 20 59.2 -0.3
ASF Jabal al Asfar 8.64 107 Pn Pn 02 21 01.1 -0.1
comp=E,0.3nm,0.3s,baz=171,slow=3.0,SNR=3.8
ASF Sn Sn 02 22 41.7 +3.1
comp=E,0.2nm,0.3s,baz=274,slow=23,SNR=2.3
ASF Jabal al Asfar 8.64 107 Pn Pn 02 21 01.1 -0.1
ASF Sn Sn 02 22 41.6 +3.1
ASF Jabal al Asfar 8.64 107 P Pn 02 21 01.1 -0.1
ASF 02 22 41.7
HKAT Jabal Katrina 8.75 136 P Pn 02 21 02.0 -0.7
baz=137
HKAT Jabal Katrina 8.75 136 P Pn 02 21 02.0 -0.7
TIRR Tirgusor 9.44 6 ePn Pn 02 21 14.7 +2.6
TIRR Tirgusor 9.44 6 ⇑P Pn 02 21 14.6 +2.5
TIRR Tirgusor 9.44 6 ⇑iP Pn 02 21 14.6 +2.5
TIRR Tirgusor 9.44 6 P Pn 02 21 14.6 +2.5
CEL Celeste 9.57 293 ePn Pn 02 21 13.2 -0.8
CEL eS Sn 02 23 00.1 -1.4
CEL Celeste 9.57 293 ePn Pn 02 21 13.2 -0.8
CUC Castrocucco 10.24 302 ePn Pn 02 21 25.2 +2.1
CUC eS Sn 02 23 12.3 -5.6
CUC Castrocucco 10.24 302 ePn Pn 02 21 25.2 +2.1
MLR Muntele Rosu 10.46 355 Pn Pn 02 21 27.4 +1.3
MLR Muntele Rosu 10.46 355 Pn Pn 02 21 27.4 +1.3
MLR Muntele Rosu 10.46 355 ⇑P Pn 02 21 27.5 +1.4
MLR Muntele Rosu 10.46 355 ⇑iP Pn 02 21 27.5 +1.4
MLR Muntele Rosu 10.46 355 Pn Pn 02 21 27.4 +1.3
VOIR 10.49 352 ⇑jP Pn 02 21 23.5 -2.9
PLOR Plostina 10.79 358 ⇑P Pn 02 21 33.4 +2.9
PLOR Plostina 10.79 358 ⇑iP Pn 02 21 33.4 +2.9
VRI Vrincioaia 10.80 359 ⇑P Pn 02 21 33.0 +2.3
VRI Vrincioaia 10.80 359 ⇑iP Pn 02 21 33.0 +2.3
VRI Vrincioaia 10.80 359 P Pn 02 21 33.0 +2.3
TESR 11.45 358 ⇑jP Pn 02 21 42.5 +2.9
BURAR Bucovina Array 12.63 354 ⇑P Pn 02 21 59.0 +3.3
BURAR Bucovina Array 12.63 354 ⇑iP Pn 02 21 59.0 +3.3
KEST Kesra 14.53 278 Pn Pn 02 22 19.7 -2.0
comp=E,0.0nm,0.3s,baz=276,slow=19,SNR=3.0
KEST Kesra 14.53 278 Pn Pn 02 22 19.7 -2.0
ONI Oni 14.77 55 P Pn 02 22 31.6 +6.7
KIV Kislovodsk 14.92 49 ePn Pn 02 22 33.2 +6.2
KIV Kislovodsk 14.92 49 eP Pn 02 22 33.2 +6.2
KIV Kislovodsk 14.92 49 eP Pn 02 22 33.2 +6.2
ARSA Arzberg 14.97 328 ⇓iPn Pn 02 22 32.0 +4.4
comp=E,4.4nm,1.2s
ZEI Tsey 15.14 54 eP Pn 02 22 36.3 +6.4
ZEI pmax pmax
comp=Z,17nm,1.2s
ZEI Tsey 15.14 54 eP Pn 02 22 36.3 +6.4
comp=Z,17nm,1.2s
DGRG David-gareji 15.68 61 P Pn 02 22 41.4 +4.4
KIEV Kiev 15.70 5 ePn Pn 02 22 38.4 +1.1
KIEV Kiev 15.70 5 eP Pn 02 22 38.4 +1.2
KIEV Kiev 15.70 5 ePn Pn 02 22 38.4 +1.2
AKASG Malin Array Be 15.71 5 Pn Pn 02 22 39.4 +2.1
comp=Z,1.0nm,0.3s,baz=193,slow=11,SNR=6.2
AKASG Malin Array Be 15.71 5 Pn Pn 02 22 39.4 +2.1
AKASG Malin Array Be 15.71 5 P Pn 02 22 39.4 +2.1
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 15.71 5 P Pn 02 22 39.4 +2.1
comp=Z,1.0nm,0.3s
IDHR Dehrash 15.81 86 eP Pn 02 22 42.3 +3.5
IDHR Dehrash 15.81 86 eP Pn 02 22 42.3 +3.5
KBA Koelnbreinsper 15.85 323 ⇓jsP sP 02 22 47.2 -0.5
comp=Z,5.5nm,0.8s
MOA Molln 15.98 327 ⇑ipP pP 02 22 47.1 -0.5
comp=Z,3.9nm,0.9s
IGHG Ghaleghazi 16.01 87 eP Pn 02 22 45.4 +4.1
IGHG Ghaleghazi 16.01 87 eP Pn 02 22 45.4 +4.1
IHRS Heris 16.30 73 eP Pn 02 22 47.9 +2.9
IHRS Heris 16.30 73 eP Pn 02 22 47.9 +2.9
IKOM Komasi 16.80 87 eP Pn 02 22 53.6 +2.1
IKOM Komasi 16.80 87 eP Pn 02 22 53.6 +2.1
GERES GERESS Array B 16.98 328 Pn Pn 02 22 54.1 +0.5
comp=Z,0.1nm,0.3s,baz=138,slow=13,SNR=12
GERES GERESS Array B 16.98 328 Pn Pn 02 22 54.1 +0.5
GERES GERESS Array B 16.98 328 P Pn 02 22 54.1 +0.5
GERES GERESS Array B 16.98 328 P Pn 02 22 54.1 +0.5
DPC Dobruska-Polom 17.19 336 eP Pn 02 22 58.3 +2.1
DPC Dobruska-Polom 17.19 336 eP Pn 02 22 58.3 +2.1
DPC Dobruska-Polom 17.19 336 eP Pn 02 22 58.3 +2.1
KHC Kasperske Hory 17.25 329 ePn Pn 02 22 56.7 -0.3
comp=Z,2.7nm,0.7s
KHC Kasperske Hory 17.25 329 eP Pn 02 22 57.9 +1.0
KHC Kasperske Hory 17.25 329 eP Pn 02 22 57.9 +1.0
KHC ex x 02 23 05.5
KHC Kasperske Hory 17.25 329 ePn Pn 02 22 56.7 -0.2
comp=Z,2.7nm,0.7s
KHC Kasperske Hory 17.25 329 eP Pn 02 22 57.9 +1.0
RETA Reutte 17.43 320 ⇑ePn Pn 02 23 02.6 +3.3
comp=Z,5.9nm,1.8s
DAVOX Davos/Dischmat 17.48 317 P Pn 02 23 03.1 +3.3
comp=Z,0.1nm,0.3s,baz=167,slow=15,SNR=2.7
DAVOX Davos/Dischmat 17.48 317 P Pn 02 23 03.1 +3.3
DAVOX Davos/Dischmat 17.48 317 P Pn 02 23 03.1 +3.3
DAVOX Davos/Dischmat 17.48 317 P Pn 02 23 03.1 +3.3
PRU Pruhonice 17.53 332 eP Pn 02 22 52.8 -7.6
TUE Stuetta 17.60 316 ePn Pn 02 23 03.7 +2.4
TUE Stuetta 17.60 316 ePn Pn 02 23 03.7 +2.3
MBDF Montbardon 18.32 308 eP Pn 02 23 11.0 +0.8
comp=Z,8.6nm,0.7s
MBDF Montbardon 18.32 308 eP Pn 02 23 11.0 +0.8
comp=Z,4.3nm,0.7s
MBDF Montbardon 18.32 308 eP Pn 02 23 11.0 +0.8
MBDF pmax pmax
comp=Z,4.0nm,0.7s
MBDF Montbardon 18.32 308 eP Pn 02 23 11.0 +0.8
comp=Z,4.3nm,0.7s
VSR Storozhevoye 18.34 25 eP Pn 02 23 09.7 -0.7
VSR pmax pmax
comp=Z,7.0nm,0.5s
VSR pmax pmax
comp=N,3.0nm,0.6s
VSR pmax pmax
comp=E,4.0nm,0.7s
VSR Storozhevoye 18.34 25 eP Pn 02 23 09.7 -0.7
comp=E,3.0nm,0.6s
BRG Berggiesshubel 18.47 333 e(P) Px 02 23 26.0
comp=E,12nm,1.5s
BRG Berggiesshubel 18.47 333 eP Px 02 23 26.0
BRG pmax pmax
comp=Z,12nm,1.5s
LPG La Plagne 18.67 310 eP Pn 02 23 15.0 +0.5
LPG La Plagne 18.67 310 eP Pn 02 23 15.0 +0.5
LPG La Plagne 18.67 310 eP Pn 02 23 15.0 +0.5
LPG La Plagne 18.67 310 eP Pn 02 23 15.0 +0.5
LPL La Plagne 18.69 310 eP Pn 02 23 15.0 +0.3
comp=Z,4.0nm,0.5s
LPL La Plagne 18.69 310 eP Pn 02 23 15.0 +0.3
comp=Z,2.0nm,0.5s
LPL La Plagne 18.69 310 eP Pn 02 23 15.0 +0.3
LPL pmax pmax
comp=Z,2.0nm,0.5s
LPL La Plagne 18.69 310 eP Pn 02 23 15.0 +0.3
comp=Z,2.0nm,0.5s
SENIN Lac Senin/Sane 18.75 313 eP Pn 02 23 16.4 +1.1
comp=Z,36nm,1.9s
SENIN Lac Senin/Sane 18.75 313 eP Pn 02 23 16.5 +1.1
comp=Z,36nm,1.9s
ORIF Oris-en-Rattie 18.98 308 eP Pn 02 23 19.5 +1.3
ORIF Oris-en-Rattie 18.98 308 eP Pn 02 23 19.5 +1.3
ORIF Oris-en-Rattie 18.98 308 eP Pn 02 23 19.5 +1.3
VRHR Novokhopersk 19.15 29 eP Pn 02 23 19.6 -0.6
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,5.0nm,1.0s
VRHR Novokhopersk 19.15 29 eP Pn 02 23 19.6 -0.6
comp=E,10.0nm,0.8s
CLL Collm 19.18 332 eP Pn 02 23 21.0 +0.5
CLL Collm 19.18 332 epP Pn 02 23 21.0 +0.5
CLL e 02 23 22.0
CLL ePPP 02 23 38.0
CLL Collm 19.18 332 eP Pn 02 23 21.0 +0.5
CABF La Chapelle 19.60 312 eP Pn 02 23 24.4 -1.2
comp=E,18nm,0.9s
CABF La Chapelle 19.60 312 eP Pn 02 23 24.4 -1.2
comp=E,8.8nm,0.9s
CABF La Chapelle 19.60 312 eP Pn 02 23 24.4 -1.2
CABF pmax pmax
comp=Z,9.0nm,0.9s
CABF La Chapelle 19.60 312 eP Pn 02 23 24.4 -1.2
comp=Z,8.8nm,0.9s
HINF Hinteralfeld 19.77 316 eP Pn 02 23 27.7 +0.1
comp=Z,3.1nm,0.5s
HINF Hinteralfeld 19.77 316 eP Pn 02 23 27.7 +0.1
comp=Z,1.5nm,0.5s
HINF Hinteralfeld 19.77 316 eP Pn 02 23 27.7 +0.1
HINF pmax pmax
comp=Z,2.0nm,0.5s
HINF Hinteralfeld 19.77 316 eP Pn 02 23 27.7 +0.1
comp=Z,1.5nm,0.5s
CDF Champ du Feu 19.86 318 eP Pn 02 23 27.9 -0.8
CDF Champ du Feu 19.86 318 eP Pn 02 23 27.9 -0.8
CDF Champ du Feu 19.86 318 eP Pn 02 23 27.9 -0.8
CDF Champ du Feu 19.86 318 eP Pn 02 23 27.9 -0.8
IKLH Kolahrood 20.29 88 eP P 02 23 32.0 0.0
IKLH Kolahrood 20.29 88 eP P 02 23 32.0 0.0
PAGF Fort de Pagny 20.80 317 eP P 02 23 37.8 +0.5
comp=Z,1.8nm,0.7s
PAGF Fort de Pagny 20.80 317 eP P 02 23 37.8 +0.5
comp=Z,0.9nm,0.7s
SMF Signal de Mont 21.00 311 eP P 02 23 38.1 -1.4
comp=Z,8.1nm,0.7s
SMF Signal de Mont 21.00 311 eP P 02 23 38.1 -1.4
comp=Z,4.1nm,0.6s
SMF Signal de Mont 21.00 311 eP P 02 23 38.1 -1.4
SMF pmax pmax
comp=Z,4.0nm,0.6s
SMF Signal de Mont 21.00 311 eP P 02 23 38.1 -1.4
comp=Z,4.1nm,0.7s
SFTF Sexfontaines 21.01 315 eP P 02 23 40.1 +0.5
SFTF Sexfontaines 21.01 315 eP P 02 23 40.1 +0.5
SFTF Sexfontaines 21.01 315 eP P 02 23 40.1 +0.5
MEZF Maizieres J'vi 21.15 316 eP P 02 23 42.3 +1.2
comp=Z,8.3nm,0.5s,mb4.0
MEZF Maizieres J'vi 21.15 316 eP P 02 23 42.3 +1.2
comp=Z,8.3nm,0.5s,mb4.3
MEZF Maizieres J'vi 21.15 316 eP P 02 23 42.3 +1.2
comp=Z,4.2nm,0.5s,mb4.0
LOR Lormes 21.26 312 eP P 02 23 39.5 -2.8
comp=Z,6.5nm,0.7s,mb3.8
LOR Lormes 21.26 312 eP P 02 23 39.5 -2.8
comp=Z,3.3nm,0.7s,mb3.8
LOR Lormes 21.26 312 eP P 02 23 39.5 -2.8
LOR pmax pmax
comp=Z,3.0nm,0.7s,mb3.7
AVF Avril sur Loir 21.36 310 eP P 02 23 42.2 -1.2
comp=Z,6.9nm,0.8s,mb3.8
AVF Avril sur Loir 21.36 310 eP P 02 23 42.2 -1.2
comp=Z,3.5nm,0.8s,mb3.7
AVF Avril sur Loir 21.36 310 eP P 02 23 42.2 -1.2
AVF pmax pmax
comp=Z,3.0nm,0.8s,mb3.7
AVF Avril sur Loir 21.36 310 eP P 02 23 42.2 -1.2
comp=Z,3.5nm,0.8s,mb3.8
SSF Saint Saulge 21.38 311 eP P 02 23 41.6 -2.0
comp=Z,14nm,0.8s,mb4.1
SSF Saint Saulge 21.38 311 eP P 02 23 41.6 -2.0
comp=Z,7.1nm,0.8s,mb4.0
SSF Saint Saulge 21.38 311 eP P 02 23 41.6 -2.0
SSF pmax pmax
comp=Z,7.0nm,0.8s,mb4.0
BGF Bois d'Agland 21.58 310 eP P 02 23 45.5 -0.3
comp=Z,9.4nm,0.7s,mb4.0
BGF Bois d'Agland 21.58 310 eP P 02 23 45.5 -0.3
comp=Z,4.7nm,0.7s,mb4.0
BGF Bois d'Agland 21.58 310 eP P 02 23 45.5 -0.3
BGF pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
BGF Bois d'Agland 21.58 310 eP P 02 23 45.5 -0.3
comp=Z,4.7nm,0.7s,mb4.0
TCF Toulx Ste Croi 21.89 308 eP P 02 23 50.6 +1.6
TCF Toulx Ste Croi 21.89 308 eP P 02 23 50.6 +1.6
TCF Toulx Ste Croi 21.89 308 eP P 02 23 50.6 +1.6
TCF Toulx Ste Croi 21.89 308 eP P 02 23 50.6 +1.6
RJF Les Rejaudoux 22.00 305 eP P 02 23 50.1 -0.2
comp=Z,16nm,1.0s,mb4.1
RJF Les Rejaudoux 22.00 305 eP P 02 23 50.1 -0.2
comp=Z,7.9nm,1.0s,mb4.1
RJF Les Rejaudoux 22.00 305 eP P 02 23 50.1 -0.2
RJF pmax pmax
comp=Z,8.0nm,1.0s,mb4.1
RJF Les Rejaudoux 22.00 305 eP P 02 23 50.1 -0.2
comp=Z,7.9nm,1.0s,mb4.1
BAIF Baives 22.45 319 eP P 02 23 55.1 +0.1
comp=Z,25nm,1.1s,mb4.2
BAIF Baives 22.45 319 eP P 02 23 55.1 +0.1
comp=Z,12nm,1.1s,mb4.2
BAIF Baives 22.45 319 eP P 02 23 55.1 +0.1
BAIF pmax pmax
comp=Z,12nm,1.1s,mb4.2
BAIF Baives 22.45 319 eP P 02 23 55.1 +0.1
comp=Z,12nm,1.1s,mb4.2
TAM Tamanrasset 22.46 243 eP P 02 23 56.2 +0.9
comp=Z,3.3nm,0.9s,mb3.8
TAM Tamanrasset 22.46 243 eP P 02 23 56.2 +0.8
TAM pmax pmax
comp=Z,3.0nm,0.9s,mb3.7
TAM Tamanrasset 22.46 243 eP P 02 23 56.2 +0.8
comp=Z,3.3nm,0.9s,mb3.8
IMEH Mehriz 23.25 91 eP P 02 24 04.7 +1.0
IMEH Mehriz 23.25 91 eP P 02 24 04.7 +1.0
MFF Saint Martin d 23.52 308 eP P 02 24 05.0 -1.4
MFF Saint Martin d 23.52 308 eP P 02 24 05.0 -1.4
MFF Saint Martin d 23.52 308 eP P 02 24 05.0 -1.4
MFF Saint Martin d 23.52 308 eP P 02 24 05.0 -1.4
LDF La Druitiere 24.24 312 eP P 02 24 11.1 -1.9
comp=Z,3.8nm,0.5s,mb3.8
LDF La Druitiere 24.24 312 eP P 02 24 11.1 -1.9
comp=Z,1.9nm,0.5s,mb3.8
LDF La Druitiere 24.24 312 eP P 02 24 11.1 -1.9
LDF pmax pmax
comp=Z,2.0nm,0.5s,mb3.8
LDF La Druitiere 24.24 312 eP P 02 24 11.1 -1.9
comp=Z,1.9nm,0.5s,mb3.8
FLN La Foliniere 24.53 312 eP P 02 24 15.5 -0.1
FLN La Foliniere 24.53 312 eP P 02 24 15.5 -0.1
FLN La Foliniere 24.53 312 eP P 02 24 15.5 -0.1
FLN La Foliniere 24.53 312 eP P 02 24 15.5 -0.1
GRR Gorron 24.61 311 eP P 02 24 14.2 -2.1
comp=Z,12nm,0.8s,mb4.2
GRR Gorron 24.61 311 eP P 02 24 14.2 -2.1
comp=Z,6.2nm,0.8s,mb4.2
GRR Gorron 24.61 311 eP P 02 24 14.2 -2.1
GRR pmax pmax
comp=Z,6.0nm,0.8s,mb4.2
ESDC Sonseca Array 25.07 290 P P 02 24 19.3 -1.3
comp=Z,1.3nm,0.6s,mb3.7,baz=80,slow=10.0,SNR=11
ESDC Sonseca Array 25.07 290 P P 02 24 19.3 -1.3
ESDC Sonseca Array 25.07 290 P P 02 24 19.3 -1.3
IPAY Payeh 25.84 78 eP P 02 24 28.2 +0.6
IPAY Payeh 25.84 78 eP P 02 24 28.2 +0.6
MDT Midelt 26.38 274 P P 02 24 31.5 -1.0
comp=Z,2.2nm,0.9s,mb3.7,baz=59,slow=13,SNR=3.4
MDT Midelt 26.38 274 P P 02 24 31.5 -1.0
MDT Midelt 26.38 274 P P 02 24 31.5 -1.0
FINES FINESS Array B 26.41 359 P P 02 24 30.9 -1.6
comp=Z,4.8nm,1.0s,mb4.0,baz=146,slow=12,SNR=6.2
FINES FINESS Array B 26.41 359 P P 02 24 30.9 -1.6
FINES FINESS Array B 26.41 359 P P 02 24 30.9 -1.6
FINES pmax pmax
comp=Z,5.0nm,1.0s
FINES FINESS Array B 26.41 359 P P 02 24 30.9 -1.6
comp=Z,5.0nm,1.0s,mb4.0
HFS Hagfors 26.57 345 P P 02 24 31.7 -2.2
comp=Z,1.1nm,0.6s,mb3.6,baz=116,slow=6.9,SNR=5.3
HFS Hagfors 26.57 345 P P 02 24 31.7 -2.2
HFS Hagfors 26.57 345 P P 02 24 31.7 -2.2
HFS pmax pmax
comp=Z,1.0nm,0.6s
AKTK Aktyubinsk 27.15 46 P P 02 24 38.6 -0.6
AKTK Aktyubinsk 27.15 46 P P 02 24 38.6 -0.7
comp=Z,3.0nm,0.7s,mb3.9
AKTO Aktyubinsk 27.15 46 P P 02 24 38.6 -0.6
comp=Z,2.8nm,0.7s,mb3.9,baz=250,slow=13,SNR=6.9
AKTO Aktyubinsk 27.15 46 P P 02 24 38.6 -0.7
AKTO pmax pmax
comp=Z,3.0nm,0.7s,mb3.9
ABKAR Akbulak array 27.91 49 eP P 02 24 46.0 -0.1
comp=Z,0.8nm,0.7s,mb3.5
ABKAR Akbulak array 27.91 49 eP P 02 24 46.0 -0.1
comp=Z,0.8nm,0.7s,mb3.5
NB2 NORSAR Subarra 27.93 343 P P 02 24 43.1 -3.1
comp=Z,0.5nm,0.6s,mb3.3,baz=160,slow=10
NOA NORSAR Array B 27.93 343 P P 02 24 45.3 -0.9
comp=Z,1.0nm,0.9s,mb3.4,baz=164,slow=8.9,SNR=3.1
NOA NORSAR Array B 27.93 343 P P 02 24 45.2 -0.9
NOA NORSAR Array B 27.93 343 P P 02 24 45.3 -0.9
NOA pmax pmax
comp=Z,1.0nm,1.0s
NOA NORSAR Array B 27.93 343 P P 02 24 45.3 -0.9
comp=Z,1.0nm,1.0s,mb3.4
EKA Eskdalemuir Ar 29.07 324 P P 02 24 54.3 -2.1
comp=Z,1.6nm,0.9s,mb3.8,baz=119,slow=11,SNR=4.5
EKA Eskdalemuir Ar 29.07 324 P P 02 24 54.3 -2.1
EKA Eskdalemuir Ar 29.07 324 P P 02 24 54.3 -2.0
EKA pmax pmax
comp=Z,2.0nm,0.9s
TORD Torodi Ar. Bea 31.69 233 P P 02 25 19.8 -0.1
comp=Z,3.6nm,1.0s,mb4.2,baz=34,slow=8.9,SNR=25
TORD LR LR 02 38 06.8
comp=Z,32nm,19.6s,baz=305,slow=36
TORD Torodi Ar. Bea 31.69 233 P P 02 25 19.8 -0.1
TORD LR LR 02 38 06.8
TORD Torodi Ar. Bea 31.69 233 P P 02 25 19.8 -0.1
KKAR Karatay Array 34.31 63 eP P 02 25 43.5 +0.9
KKAR Karatay Array 34.31 63 eP P 02 25 43.5 +1.0
KKAR Karatay Array 34.31 63 eP P 02 25 43.5 +1.0
ARCES ARCESS Array B 34.54 359 P P 02 25 42.1 -2.1
comp=Z,3.2nm,1.0s,mb4.2,baz=179,slow=6.1,SNR=4.2
ARCES ARCESS Array B 34.54 359 P P 02 25 42.1 -2.1
ARCES ARCESS Array B 34.54 359 P P 02 25 42.2 -2.0
BVAR Borovoye Array 35.26 46 P P 02 25 51.5 +0.9
comp=Z,1.9nm,1.0s,mb4.1,baz=244,slow=6.4,SNR=6.2
BVAR Borovoye Array 35.26 46 P P 02 25 51.5 +0.9
BVAR Borovoye Array 35.26 46 P P 02 25 51.5 +0.9
BVAR pmax pmax
comp=Z,2.0nm,1.0s
BVAR Borovoye Array 35.26 46 P P 02 25 51.5 +0.9
comp=Z,2.0nm,1.0s,mb4.0
EKS2 Erkin-Say 36.73 64 eP P 02 26 04.7 +1.4
comp=Z,6.0nm,1.0s,mb4.4
EKS2 Erkin-Say 36.73 64 eP P 02 26 04.7 +1.4
EKS2 pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
EKS2 Erkin-Say 36.73 64 eP P 02 26 04.7 +1.4
comp=Z,6.0nm,1.0s,mb4.4
AAK Ala-Archa 37.26 64 P P 02 26 09.2 +1.4
comp=Z,1.7nm,0.5s,mb4.2,baz=232,slow=6.1,SNR=12
AAK Ala-Archa 37.26 64 eP P 02 26 08.8 +1.0
comp=Z,5.8nm,0.9s,mb4.4
AAK Ala-Archa 37.26 64 P P 02 26 09.2 +1.4
AAK pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
AAK Ala-Archa 37.26 64 eP P 02 26 08.8 +1.0
comp=Z,5.8nm,0.9s,mb4.4
TKM2 Tokmak 2 38.04 63 eP P 02 26 14.8 +0.4
comp=Z,3.4nm,0.8s,mb4.1
TKM2 Tokmak 2 38.04 63 eP P 02 26 14.9 +0.4
TKM2 pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
TKM2 Tokmak 2 38.04 63 eP P 02 26 14.9 +0.4
comp=Z,3.4nm,0.8s,mb4.1
KURK Kurchatov 39.99 51 P P 02 26 30.5 -0.2
comp=Z,7.1nm,0.8s,mb4.5,baz=276,slow=8.8,SNR=20
KURK Kurchatov 39.99 51 eP P 02 26 30.4 -0.3
comp=Z,5.5nm,0.8s,mb4.3
KURK Kurchatov 39.99 51 P P 02 26 30.5 -0.2
KURK pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
KURK Kurchatov 39.99 51 P P 02 26 30.5 -0.2
comp=Z,7.0nm,0.8s,mb4.4
MKAR Makanchi Array 42.48 57 P P 02 26 51.5 +0.2
comp=Z,6.6nm,0.6s,mb4.5,baz=279,slow=6.8,SNR=50
MKAR Makanchi Array 42.48 57 P P 02 26 51.5 +0.2
MKAR Makanchi Array 42.48 57 P P 02 26 51.5 +0.3
MKAR pmax pmax
comp=Z,7.0nm,0.6s
MKAR Makanchi Array 42.48 57 P P 02 26 51.5 +0.3
comp=Z,7.0nm,0.6s,mb4.5
NVS Novosibirsk 43.02 45 eP P 02 26 54.3 -1.2
NVS pmax pmax
comp=Z,16nm,1.5s,mb4.5
NVS pmax pmax
comp=E,8.0nm,1.1s
NVS Novosibirsk 43.02 45 eP P 02 26 54.3 -1.2
comp=E,16nm,1.5s,mb4.5
SPITS Spitsbergen Ar 43.47 357 eP P 02 26 57.0 -1.8
comp=E,21nm,1.1s,mb4.8,baz=138,slow=6.3,SNR=4.3
SPITS Spitsbergen Ar 43.47 357 P P 02 26 57.0 -1.8
SPITS Spitsbergen Ar 43.47 357 P P 02 26 57.1 -1.8
SPITS pmax pmax
comp=Z,21nm,1.1s
SPITS Spitsbergen Ar 43.47 357 P P 02 26 57.1 -1.8
comp=Z,21nm,1.1s,mb4.8
ZALV Zalesovo Beam 43.91 46 P P 02 27 02.1 -0.6
comp=Z,2.3nm,0.5s,mb4.2,baz=265,slow=9.4,SNR=18
ZALV Zalesovo Beam 43.91 46 P P 02 27 02.1 -0.6
ZALV Zalesovo Beam 43.91 46 P P 02 27 02.1 -0.6
ZALV pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
ZALV Zalesovo Beam 43.91 46 P P 02 27 02.1 -0.6
comp=Z,2.0nm,0.5s,mb4.1
ZAK Zakamensk 55.60 49 eP P 02 28 31.9 +0.2
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
ZAK Zakamensk 55.60 49 eP P 02 28 31.9 +0.2
comp=Z,3.0nm,1.0s,mb4.3
SONM Songino Array 58.30 51 P P 02 28 52.0 +1.1
comp=Z,3.0nm,0.7s,mb4.4,baz=286,slow=8.0,SNR=23
SONM Songino Array 58.30 51 P P 02 28 52.0 +1.1
SONM Songino Array 58.30 51 P P 02 28 52.0 +1.1
SONM pmax pmax
comp=Z,3.0nm,0.7s
SONM Songino Array 58.30 51 P P 02 28 52.0 +1.1
comp=Z,3.0nm,0.7s,mb4.4
BOSA Boshof 63.35 182 P P 02 29 26.8 +1.5
comp=Z,2.0nm,0.9s,mb4.2,baz=227,slow=19,SNR=3.7
BOSA Boshof 63.35 182 P P 02 29 26.8 +1.5
BOSA Boshof 63.35 182 P P 02 29 26.8 +1.5
BOSA pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
BOSA Boshof 63.35 182 P P 02 29 26.8 +1.5
comp=Z,2.0nm,0.9s,mb4.2
SCHQ Schefferville 64.31 320 P P 02 29 29.1 -2.3
comp=Z,2.7nm,0.5s,mb4.5,baz=222,slow=17,SNR=2.7
SCHQ Schefferville 64.31 320 P P 02 29 29.1 -2.3
CMAR Chiang Mai Arr 64.98 84 P P 02 29 35.4 -0.9
comp=Z,0.8nm,0.4s,mb4.1,baz=305,slow=9.4,SNR=5.9
CMAR Chiang Mai Arr 64.98 84 P P 02 29 35.4 -0.9
CMAR Chiang Mai Arr 64.98 84 P P 02 29 35.4 -1.0
CMAR pmax pmax
comp=Z,1.0nm,0.4s
CMAR Chiang Mai Arr 64.98 84 P P 02 29 35.4 -1.0
comp=Z,1.0nm,0.4s,mb4.2
KSRS Korea Array 77.06 53 P P 02 30 49.5 0.0
comp=Z,2.7nm,0.8s,mb4.2,baz=300,slow=4.6,SNR=6.9
KSRS Korea Array 77.06 53 P P 02 30 49.5 +0.1
KSRS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
KSRS Korea Array 77.06 53 P P 02 30 49.5 +0.1
comp=Z,3.0nm,0.8s,mb4.3
ILAR Eielson Array 80.39 357 P P 02 31 05.6 -1.6
comp=Z,0.4nm,0.8s,mb3.4,baz=344,slow=4.0,SNR=6.1
ILAR Eielson Array 80.39 357 P P 02 31 05.6 -1.6
ILAR Eielson Array 80.39 357 P P 02 31 05.6 -1.6
ILAR Eielson Array 80.39 357 P P 02 31 05.6 -1.6

PPLA	**Purkeypile**	**82.38**	**360**	*e*P		**P**		**02 31 17.4**	**-0.4**
PPLA	**Purkeypile**	**82.38**	**360**	*e*P		**P**		**02 31 17.5**	**-0.3**
WRA	**Warramunga Arr**	**114.97**	**98**	PKP	PKiKP			02 37 36.4	-1.1
	comp=Z,0.2nm,0.7s,baz=278,slow=1.2,SNR=4.8								
WRA	**Warramunga Arr**	**114.97**	**98**	PKP	PKiKP			02 37 36.4	-1.1
WRA	**Warramunga Arr**	**114.97**	**98**	PKIKP	PKiKP			02 37 36.4	-1.2
ASAR	**Alice Springs**	**116.44**	**101**	PKP	PKPdf			02 37 39.3	-1.0
	comp=Z,0.5nm,0.8s,baz=307,slow=1.2,SNR=4.4								
ASAR	**Alice Springs**	**116.44**	**101**	PKP	PKPdf			02 37 39.3	-1.0
ASAR	**Alice Springs**	**116.44**	**101**	PKIKP	PKPdf			02 37 39.3	-1.0
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								

MOS ***06*** *02:25:48.6±1.1,36.54N×71.25E,h85km,mb4.0/5,Error ellipse: s-maj=16.8km s-min=8.2km az=89.0*
IDC ***06*** *02:25:49.8±5.5,36.57N×71.29E,h75km±47km, mb3.4/7, mb1 3.6/13,mb1mx3.4/31,mbtmp3.6/13,ML4.0/5,Error ellipse: s-maj=35.8km s-min=21.2km az=15.0*
NEIC ***06*** *02:25:50.3±1.2,36.55N×71.30E,h84km±12km, mb4.3/1, Error ellipse: s-maj=15.1km s-min=5.1km az=59.0*
ISCJB ***06*** *02:25:52.9±0.5,36.77N±0.03×71.59E±0.07,h127km±8km, mb3.6/7,Error ellipse: s-maj=9.9km s-min=4.3km az=174.3*
NNC ***06*** *02:25:56.5±7.4,37.09N×71.11E,h116km±98km, mb3.3, mpv4.2,Error ellipse: s-maj=64.6km s-min=41.9km az=172.0*

ISC 06 02:25:54.1±0.5,**36.75N**±0.03×**71.61E**±0.08,**h126**km±7km, **n80**,σ1§**13**/88,**mb3.6**/7,**2C-6D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.93**	**175**	P	**Pn**	**02 26 40.0**	**+0.3**
CEP				S	**Sn**	**02 27 16.0**	**+1.2**
CHCP	**Chirah Chowk**	**3.37**	**156**	P	**Pn**	**02 26 47.0**	**+1.6**
THW	**Thamme Wali**	**3.95**	**178**	P	**Pn**	**02 26 52.6**	**-0.5**
AML	**Almayashu**	**5.61**	**16**	P	**Pn**	**02 27 15.6**	**+0.3**
	SNR=50						
UCH	**Uchtor**	**5.92**	**21**	P	**Sn**	**02 28 25.7**	**-0.2**
	SNR=14						
KZA	**Kyzart**	**6.02**	**27**	P	**Pn**	**02 27 23.5**	**+2.7**
	SNR=7.9						
EKS2	**Erkin-Say**	**6.14**	**15**	P	**Pn**	**02 27 22.8**	**+0.4**
	SNR=14						
EKS2	**Erkin-Say**	**6.14**	**15**	*e*Pn	**Pn**	**02 27 22.7**	**+0.3**
	10nm,0.3s						
EKS2				*e*S	**Sn**	**02 28 30.0**	**-1.3**
EKS2	**Erkin-Say**	**6.14**	**15**	*e*PN	**Pn**	**02 27 22.7**	**+0.3**
EKS2				pmax	pmax		
	comp=Z,10.0nm,0.3s						
AAK	**Ala-Archa**	**6.28**	**20**	P	**Pn**	**02 27 25.2**	**+0.8**
	SNR=20						
AAK	**Ala-Archa**	**6.28**	**20**	P	**Pn**	**02 27 25.2**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=167,slow=6.8,SNR=46						
AAK				S	**Sn**	**02 28 35.2**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=302,slow=23,SNR=14						
AAK	**Ala-Archa**	**6.28**	**20**	*e*Pn	**Pn**	**02 27 25.1**	**+0.7**
AAK				S	**Sn**	**02 28 35.2**	**+0.4**
AAK	**Ala-Archa**	**6.28**	**20**	PN	**Pn**	**02 27 25.2**	**+0.8**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.3s						
KK31	**Karatay Array**	**6.40**	**353**	⇓P	**Pn**	**02 27 23.9**	**-2.0**
	comp=Z,8.1nm,0.2s,baz=180,slow=14,SNR=4.9						
KK31				⇓S	**Sn**	**02 28 32.8**	**-4.8**
	comp=Z,9.1nm,0.5s,baz=178,slow=24,SNR=6.3						
KKAR	**Karatay Array**	**6.40**	**353**	*e*Pn	**Pn**	**02 27 23.9**	**-2.1**
	comp=Z,39nm,0.4s						
KKAR				*e*S	**Sn**	**02 28 32.3**	**-5.4**
KKAR	**Karatay Array**	**6.40**	**353**	*e*PN	**Pn**	**02 27 23.9**	**-2.1**
KKAR				pmax	pmax		
	comp=Z,39nm,0.4s						
ULHL	**Ulahol**	**6.55**	**32**	P	**Pn**	**02 27 29.2**	**+1.2**
	SNR=7.4						
CHMS	**Chumysh**	**6.69**	**20**	P	**Pn**	**02 27 30.5**	**+0.6**
	SNR=9.8						
SDNR	**Sundarnagar**	**6.87**	**138**	*ex*	x	02 27 41.0	
SDNR				*ex*	x	02 28 46.0	
USP	**Ospenovka**	**6.88**	**18**	P	**Pn**	**02 27 33.5**	**+1.2**
	SNR=10						
TKM2	**Tokmak 2**	**6.88**	**25**	P	**Pn**	**02 27 33.4**	**+0.9**
	SNR=18						
TKM2	**Tokmak 2**	**6.88**	**25**	⇓P	**Pn**	**02 27 33.3**	**+0.8**
	comp=Z,6.4nm,0.5s						
TKM2				⇑S	**Sn**	**02 28 48.3**	**-1.0**
	comp=Z,4.3nm,0.6s						
TKM2	**Tokmak 2**	**6.88**	**25**	*e*Pn	**Pn**	**02 27 33.3**	**+0.8**
	comp=Z,8.9nm,0.5s						
TKM2	**Tokmak 2**	**6.88**	**25**	*e*PN	**Pn**	**02 27 33.3**	**+0.8**
TKM2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
SMLA	**Simla**	**7.26**	**139**	*i* P	**Pn**	**02 27 36.8**	**-0.8**
SMLA				*i* S	**Sn**	**02 28 54.0**	**-4.6**
SMLA				*i* S	**Sn**	**02 28 54.1**	**-4.5**
SMLA						02 28 57.8	
	comp=N,1μm,0.2s						
SMLA				⇓		02 28 58.3	
	comp=E,2μm,0.2s						
MKAR	**Makanchi Array**	**12.80**	**35**	P	**Pn**	**02 28 53.0**	**+1.5**
	baz=212,slow=11,SNR=4.7						
MKAR	**Makanchi Array**	**12.80**	**35**	P	**Pn**	**02 28 53.0**	**+1.5**
MKAR	**Makanchi Array**	**12.80**	**35**	P	**Pn**	**02 28 53.0**	**+1.6**
DANN	**Dangsing**	**13.22**	**126**	*e*P	**Pn**	**02 28 57.0**	**0.0**
	comp=E,4.8nm,0.2s						
DANN	**Dangsing**	**13.22**	**126**	*e*P	**Pn**	**02 28 57.0**	**0.0**
	comp=E,4.8nm,0.2s						
KOLN	**Koldanda**	**13.52**	**128**	*e*P	**Pn**	**02 29 00.7**	**-0.1**
	comp=E,7.1nm,0.3s						
KOLN	**Koldanda**	**13.52**	**128**	*e*P	**Pn**	**02 29 00.7**	**-0.1**
	comp=E,7.1nm,0.3s						
GKN	**Gorkha**	**14.03**	**125**	*e*P	**Pn**	**02 29 06.7**	**-0.7**
	comp=E,6.0nm,0.2s						
GKN	**Gorkha**	**14.03**	**125**	*e*P	**Pn**	**02 29 06.7**	**-0.7**
	comp=E,6.0nm,0.2s						
KKN	**Kakani**	**14.60**	**124**	*e*P	**Pn**	**02 29 13.5**	**-1.1**
	comp=E,5.5nm,0.4s						
KKN	**Kakani**	**14.60**	**124**	*e*P	**Pn**	**02 29 13.5**	**-1.1**
	comp=E,5.5nm,0.4s						
KKN	**Kakani**	**14.60**	**124**	*e*P	**Pn**	**02 29 13.5**	**-1.1**
KKN				pmax	pmax		
	comp=Z,6.0nm,0.4s						
DMN	**Daman**	**14.60**	**125**	*e*P	**Pn**	**02 29 13.5**	**-1.1**
	comp=Z,5.3nm,0.3s						
DMN	**Daman**	**14.60**	**125**	*e*P	**Pn**	**02 29 13.5**	**-1.1**
	comp=Z,5.3nm,0.3s						
PKIN	**Phulchoki**	**14.82**	**124**	*e*P	**Pn**	**02 29 16.3**	**-1.0**
	comp=Z,12nm,0.5s						
PKI	**Pulchoki**	**14.83**	**124**	*e*P	**Pn**	**02 29 16.6**	**-0.9**
PKI	**Pulchoki**	**14.83**	**124**	*e*P	**Pn**	**02 29 16.6**	**-0.9**
PKI	**Pulchoki**	**14.83**	**124**	*e*P	**Pn**	**02 29 16.6**	**-0.9**
KURK	**Kurchatov**	**14.84**	**18**	P	**Pn**	**02 29 16.4**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=206,slow=11,SNR=3.2						
KURK	**Kurchatov**	**14.84**	**18**	P	**Pn**	**02 29 16.4**	**-1.0**
KURK	**Kurchatov**	**14.84**	**18**	P	**Pn**	**02 29 16.4**	**-1.0**
GUN	**Gumba**	**14.92**	**122**	*e*P	**Pn**	**02 29 17.9**	**-0.8**
	comp=Z,8.3nm,0.5s						
GUN	**Gumba**	**14.92**	**122**	*e*P	**Pn**	**02 29 17.9**	**-0.8**
	comp=Z,8.3nm,0.5s						
AB31	**Akbulak array**	**15.11**	**329**	⇓P	**Pn**	**02 29 15.9**	**-4.9**
	comp=Z,1.3nm,0.3s,baz=170,slow=9.9,SNR=4.0						
BVAR	**Borovoye Array**	**16.30**	**357**	P	**Pn**	**02 29 36.0**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=153,slow=8.6,SNR=5.8						
BVAR	**Borovoye Array**	**16.30**	**357**	P	**Pn**	**02 29 36.0**	**+0.5**
BVAR	**Borovoye Array**	**16.30**	**357**	P	**Pn**	**02 29 36.0**	**+0.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZRNK	**Zerenda**	**16.30**	**354**	⇑P	**Pn**	**02 29 34.3**	**-1.3**
	comp=Z,0.6nm,0.4s						
AKTK	**Aktyubinsk**	**16.82**	**329**	P	**Pn**	**02 29 40.5**	**-1.3**
AKTO	**Aktyubinsk**	**16.82**	**329**	⇓P	**Pn**	**02 29 40.2**	**-1.7**
	comp=Z,0.3nm,0.5s						
AKTO	**Aktyubinsk**	**16.82**	**329**	P	**Pn**	**02 29 40.5**	**-1.3**
	comp=Z,1.1nm,0.3s,baz=139,slow=12,SNR=12						
AKTO	**Aktyubinsk**	**16.82**	**329**	P	**Pn**	**02 29 40.5**	**-1.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**19.49**	**24**	P	**P**	**02 30 12.8**	**+1.8**
	comp=Z,0.9nm,0.3s,baz=222,slow=9.9,SNR=12						
ZALV	**Zalesovo Beam**	**19.49**	**24**	P	**P**	**02 30 12.8**	**+1.8**
ZALV	**Zalesovo Beam**	**19.49**	**24**	P	**P**	**02 30 12.9**	**+1.9**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM	**Songino Array**	**27.79**	**56**	P	**P**	**02 31 35.4**	**+4.4**
	comp=Z,0.5nm,0.6s,mb3.2,baz=266,slow=9.2,SNR=4.4						
SONM	**Songino Array**	**27.79**	**56**	P	**P**	**02 31 35.4**	**+4.4**
SONM	**Songino Array**	**27.79**	**56**	P	**P**	**02 31 35.4**	**+4.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**37.55**	**326**	P	**P**	**02 32 56.8**	**+1.1**
	comp=Z,2.4nm,0.9s,mb4.0,baz=131,slow=11,SNR=5.3						
FINES	**FINESS Array B**	**37.55**	**326**	P	**P**	**02 32 56.8**	**+1.1**
FINES	**FINESS Array B**	**37.55**	**326**	P	**P**	**02 32 56.8**	**+1.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES	**ARCESS Array B**	**41.10**	**337**	P	**P**	**02 33 27.0**	**+1.9**
	comp=Z,2.5nm,0.8s,mb4.1,baz=107,slow=7.8,SNR=4.8						
ARCES	**ARCESS Array B**	**41.10**	**337**	P	**P**	**02 33 27.0**	**+1.9**
ARCES	**ARCESS Array B**	**41.10**	**337**	P	**P**	**02 33 27.0**	**+1.9**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
HFS	**Hagfors**	**43.18**	**322**	P	**P**	**02 33 42.7**	**+0.7**
	comp=Z,2.8nm,0.9s,mb4.0,baz=97,slow=11,SNR=7.9						
HFS	**Hagfors**	**43.18**	**322**	P	**P**	**02 33 42.7**	**+0.7**
HFS	**Hagfors**	**43.18**	**322**	P	**P**	**02 33 42.7**	**+0.7**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NOA	**NORSAR Array B**	**44.48**	**323**	P	**P**	**02 33 52.3**	**-0.1**
	comp=Z,0.9nm,0.8s,mb3.5,baz=85,slow=18,SNR=4.7						
NOA	**NORSAR Array B**	**44.48**	**323**	P	**P**	**02 33 52.3**	**-0.1**
NOA	**NORSAR Array B**	**44.48**	**323**	P	**P**	**02 33 52.3**	**-0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**66.21**	**269**	P	**P**	**02 36 27.9**	**-0.8**
	comp=Z,0.2nm,0.7s,mb3.1,baz=57,slow=5.2,SNR=2.9						
TORD	**Torodi Ar. Bea**	**66.21**	**269**	P	**P**	**02 36 27.9**	**-0.8**
WRA	**Warramunga Arr**	**81.71**	**122**	P	**P**	**02 38 00.3**	**+1.6**
	comp=Z,0.1nm,0.4s,mb3.0,baz=325,slow=4.9,SNR=5.0						
WRA	**Warramunga Arr**	**81.71**	**122**	P	**P**	**02 38 00.3**	**+1.6**
WRA	**Warramunga Arr**	**81.71**	**122**	P	**P**	**02 38 00.3**	**+1.6**

IDC 06 02:36:18.9±3.7,**5.97S**×**107.26E**,**h0**km,**mb3.8**/4, **mb1 4.0**/4,**mb1mx3.6**/20,**mbtmp3.8**/4,**Error ellipse: s-maj=228.7km s-min=23.9km az=52.0,Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**29.75**	**120**	P	P	02 42 27.7	+0.4
	0.2nm,0.3s,baz=311,slow=9.4,SNR=15						
ASAR	**Alice Springs**	**31.08**	**127**	P	P	02 42 39.4	+0.3
	0.3nm,0.4s,baz=301,slow=7.5,SNR=6.4						
STKA	**Stephens Creek**	**41.14**	**133**	P	P	02 44 04.4	-0.6
	1.6nm,0.5s,baz=306,slow=9.7,SNR=6.0						
MKAR	**Makanchi Array**	**57.02**	**340**	P	P	02 46 06.5	+0.1
	0.6nm,0.4s,baz=152,slow=7.6,SNR=12						

IDC ***06*** *02:36:58.3±3.3,13.26N×124.95E,h0km,mb3.6/4, mb1 3.7/4,mb1mx3.5/21,mbtmp3.6/4,Error ellipse: s-maj=329.8km s-min=21.7km az=66.0*
ISCJB ***06*** *02:36:59.9±3.6,13.1N±0.1×124.6E±0.3,h21km±25km, mb3.7/4,Error ellipse: s-maj=44.3km s-min=20.6km az=173.1*

ISC 06 02:37:00.2±3.5,**13.1N**±0.1×**124.6E**±0.3,**h9**km±22**km,n6,** σ0§**40**/6,**mb3.7**/4,**1C-1D,Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**		**0.64**	**322**	*i* P	**Pg**	**02 37 12.7**	**0.0**
RCP	**Roxas**		**2.33**	**230**	*e*P	**Pn**	**02 37 38.7**	**0.0**
WRA	**Warramunga Arr**		**34.20**	**163**	P	**P**	**02 43 46.1**	**-0.1**
	0.2nm,0.3s,mb3.5,baz=345,slow=7.8,SNR=8.5							
ASAR	**Alice Springs**		**37.65**	**166**	P	**P**	**02 44 15.8**	**+0.1**
	0.5nm,0.4s,mb3.6,baz=340,slow=6.9,SNR=17							
MKAR	**Makanchi Array**		**48.79**	**322**	P	**P**	**02 45 46.0**	**+0.4**
	0.8nm,0.8s,mb3.8,baz=123,slow=8.2,SNR=6.8							
ZALV	**Zalesovo Beam**		**51.37**	**331**	P	**P**	**02 46 04.6**	**-0.4**
	0.4nm,0.4s,mb3.7,baz=108,slow=9.3,SNR=3.9							

ISCJB ***06*** *03:33:22.8±1.9,21.6S±0.1×170.4E±0.1,h129km±14km, mb4.0/12,Error ellipse: s-maj=23.4km s-min=14.8km az=34.1*
IDC ***06*** *03:33:22.5±8.7,21.50S×170.45E,h110km±76km, mb3.9/10,mb1 4.1/11,mb1mx3.9/19,mbtmp4.0/11,ML4.1/1, Error ellipse: s-maj=36.5km s-min=28.9km az=29.0*
NEIC ***06*** *03:33:23.5±2.2,21.45S×170.44E,h122km±18km,mb4.0/5, Error ellipse: s-maj=20.1km s-min=14.4km az=218.0*

ISC 06 03:33:23.7±1.8,**21.5S**±0.1×**170.4E**±0.1,**h120**km±13km, **n80**,σ0§**98**/35,**mb4.1**/12,**13C,Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.31**	**258**	*e*P	**Pn**	**03 34 14.5**	**+0.4**
BAYA				*e*S	**Sn**	**03 34 52.9**	**-0.1**
DZM	**Mont Dzumac**	**3.70**	**261**	*e*Pn	**Pn**	**03 34 19.7**	**+0.4**
DZM				*e*S	**Sn**	**03 35 02.6**	**+0.3**
NOUC	**Port Laguerre**	**3.84**	**260**	*e*P	**Pn**	**03 34 21.2**	**+0.2**
NOUC				*e*S	**Sn**	**03 35 03.6**	**-1.8**
URZ	**Urewera**	**17.68**	**162**	P	**Pn**	**03 37 22.5**	**+0.2**
	0.6nm,0.3s,baz=174,slow=14,SNR=4.3						
URZ	**Urewera**	**17.68**	**162**	P	**Pn**	**03 37 22.5**	**+0.2**
EIDS	**Eidsvold**	**18.12**	**254**	*e*P	**P**	**03 37 28.9**	**+2.4**
	5.9nm,0.6s						
CTA	**Charters Tower**	**22.60**	**269**	P	**P**	**03 38 14.9**	**+0.3**
	2.0nm,0.3s,mb3.9,baz=104,slow=11,SNR=7.6						
CTA	**Charters Tower**	**22.60**	**269**	P	**P**	**03 38 14.9**	**+0.3**
CTAO	**Charters Tower**	**22.60**	**269**	*e*P	**P**	**03 38 15.2**	**+0.6**
	4.8nm,0.8s,mb3.9						
PMG	**Port Moresby**	**25.36**	**295**	P	**P**	**03 38 40.9**	**+1.0**
	16nm,0.6s,mb4.6,baz=105,slow=8.4,SNR=7.7						
PMG	**Port Moresby**	**25.36**	**295**	*e*P	**P**	**03 38 40.3**	**+0.5**
	16nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**27.64**	**242**	P	**P**	**03 39 01.0**	**+0.9**
	1.0nm,0.8s,mb4.6,baz=36,slow=11,SNR=4.1						
STKA	**Stephens Creek**	**27.64**	**242**	P	**P**	**03 39 01.0**	**+0.9**
ASAR	**Alice Springs**	**33.69**	**259**	P	**P**	**03 39 53.0**	**-0.5**
	2.7nm,0.7s,mb4.2,baz=86,slow=9.0,SNR=36						
ASAR	**Alice Springs**	**33.69**	**259**	P	**P**	**03 39 53.0**	**-0.5**
WRAB	**Tennant Creek**	**33.69**	**266**	*e*P	**P**	**03 39 52.4**	**-1.1**
	1.1nm,0.4s,mb4.0						
WRA	**Warramunga Arr**	**33.70**	**266**	P	**P**	**03 39 52.5**	**-1.1**
	1.7nm,0.5s,mb4.1,baz=100,slow=8.0,SNR=34						
WRA	**Warramunga Arr**	**33.70**	**266**	P	**P**	**03 39 52.5**	**-1.1**
KAKA	**Kakadu**	**37.22**	**277**	*e*P	**P**	**03 40 23.2**	**-0.6**
	24nm,0.6s						
FITZ	**Fitzroy Crossi**	**42.13**	**266**	P	**P**	**03 41 04.6**	**+0.2**
	9.6nm,0.8s,mb4.6,baz=125,slow=6.9,SNR=22						
FITZ	**Fitzroy Crossi**	**42.13**	**266**	P	**P**	**03 41 04.6**	**+0.2**
MJAR	**Matsushiro Arr**	**65.25**	**332**	P	**P**	**03 43 52.7**	**+0.3**
	4.4nm,0.9s,mb4.3,baz=168,slow=7.7,SNR=7.8						
MJAR	**Matsushiro Arr**	**65.25**	**332**	P	**P**	**03 43 52.7**	**+0.2**
QSPA	**South Pole Qui**	**68.56**	**180**	*e*P	**P**	**03 44 12.2**	**-0.7**
	3.0nm,1.0s,mb4.1						
CMAR	**Chiang Mai Arr**	**80.41**	**294**	P	**P**	**03 45 24.3**	**+1.9**
	1.0nm,0.8s,mb4.0,baz=136,slow=4.5,SNR=8.0						
CMAR	**Chiang Mai Arr**	**80.41**	**294**	P	**P**	**03 45 24.3**	**+1.9**
VNA3	**Neumayer Olymp**	**87.50**	**180**	*e*	**P**	**03 45 53.1**	**-4.4**
VNA2	**Neumayer--Watz**	**87.81**	**181**	*e*	**P**	**03 45 54.6**	**-4.3**
	baz=188,slow=3.5						
SONM	**Songino Array**	**89.66**	**323**	P	**P**	**03 46 08.0**	**+0.2**
	1.4nm,0.8s,mb4.1,baz=140,slow=5.3,SNR=9.2						
SONM	**Songino Array**	**89.66**	**323**	P	**P**	**03 46 08.1**	**+0.2**
ILAR	**Eielson Array**	**92.07**	**17**	P	**P**	**03 46 16.8**	**-1.9**
	0.3nm,0.7s,mb3.6,baz=236,slow=4.2,SNR=5.0						
ILAR	**Eielson Array**	**92.07**	**17**	P	**P**	**03 46 16.8**	**-1.9**
MKAR	**Makanchi Array**	**104.09**	**315**	Pdiff	Pdif	03 47 15.0	+1.7
	0.3nm,0.8s,baz=94,slow=4.3,SNR=3.4						
MKAR	**Makanchi Array**	**104.09**	**315**	Pdif	Pdif	03 47 15.0	+1.7
ARCES	**ARCESS Array B**	**127.52**	**345**	PKP	PKPdf	03 52 12.7	-1.1
	4.2nm,1.1s,baz=50,slow=3.8,SNR=9.5						
ARCES	**ARCESS Array B**	**127.52**	**345**	PKP	PKPdf	03 52 12.7	-1.1
FINES	**FINESS Array B**	**133.08**	**337**	PKP	PKPdf	03 52 24.4	-0.2
	2.8nm,1.0s,baz=190,slow=34,SNR=5.8						
FINES	**FINESS Array B**	**133.08**	**337**	PKP	PKPdf	03 52 24.4	-0.2
PLOR	**Plostina**	**141.76**	**318**	⇑*i*P	PKPdf	03 52 45.0	+4.0
KWP	**Kalwaria Pacla**	**142.05**	**326**	⇑*i*P	PKPdf	03 52 37.9	-3.5
ISR	**Istrita**	**142.16**	**317**	⇑*i*P	PKPdf	03 52 37.9	-3.8
DRGR		**143.65**	**322**	⇑*i*P	PKPdf	03 52 38.2	-6.1
PSZ	**Piszkesteto**	**144.57**	**325**	⇑*i*P	PKPdf	03 52 45.2	-0.7
DPC	**Dobruska-Polom**	**144.72**	**331**	*e*PKP	PKPdf	03 52 45.4	-0.7
UPC	**Upice**	**144.74**	**331**	*e*PKP	PKPdf	03 52 45.4	-0.7
VYHS	**Vyhne**	**144.76**	**327**	*e*PKP	PKPdf	03 52 45.7	-0.5
KOLL	**Kolacno**	**144.93**	**327**	*e*PKP	PKPdf	03 52 46.7	+0.2
VRAC	**Vranov**	**145.32**	**329**	⇑*i*P	PKPdf	03 52 47.5	+0.4
PVCC	**Panska Ves**	**145.36**	**333**	*e*PKP	PKPdf	03 52 47.5	+0.3
BRG	**Berggiesshubel**	**145.37**	**334**	*i* P	PKPdf	03 52 47.2	+0.1
	16nm,0.7s						
CLL	**Collm**	**145.41**	**335**	⇑*i*PKPbc	PKPbc	03 52 46.9	-0.5
	comp=Z,20nm,0.9s						
VTS	**Vitosha**	**145.45**	**315**	⇑*i*P	PKPdf	03 52 47.7	+0.1
PRU	**Pruhonice**	**145.77**	**332**	*e*PKP	PKPdf	03 52 49.0	+1.1
ZST	**Bratislava**	**145.83**	**328**	*e*PKP	PKPdf	03 52 49.4	+1.4
TREC	**Trest**	**145.85**	**330**	*e*PKP	PKPdf	03 52 48.7	+0.7
PKSM	**Moragy**	**146.29**	**324**	⇑*i*P	PKPdf	03 52 49.1	+0.2
NKC	**Novy Kostel**	**146.47**	**334**	*e*PKP	PKPdf	03 52 50.6	+1.5
CSNA	**Conrad Observa**	**146.63**	**328**	⇑*i*PKPab	PKPab	03 52 51.3	-1.2
	comp=Z,3.6nm,0.8s						
KHC	**Kasperske Hory**	**146.83**	**332**	*e*PKP	PKPdf	03 52 51.6	+1.9
GERES	**GERESS Array B**	**146.98**	**331**	PKPbc	PKPbc	03 52 52.0	-0.2
	comp=Z,5.8nm,0.7s,baz=34,slow=2.9,SNR=62						
GERES	**GERESS Array B**	**146.98**	**331**	PKPbc	PKPbc	03 52 52.0	-0.2
MOA	**Molln**	**147.45**	**330**	⇑*i*PKPbc	PKPbc	03 52 52.9	-0.5
	comp=Z,4.0nm,1.1s						
WTTA	**Wattenberg**	**149.09**	**331**	⇑*i*PKPbc	PKPbc	03 52 57.3	-0.4
	comp=Z,17nm,1.5s						
GIVF	**Givet**	**149.27**	**342**	*e*PKP1	PKPbc	03 52 57.7	-0.4
	comp=Z,13nm,0.6s						
BAIF	**Baives**	**149.48**	**342**	*e*PKP1	PKPbc	03 52 58.4	-0.2
	comp=Z,15nm,0.9s						
FETA	**Feichten**	**149.67**	**332**	⇑*i*PKPbc	PKPbc	03 52 58.8	-0.4
	comp=Z,7.1nm,0.8s						
CDF	**Champ du Feu**	**149.93**	**337**	*e*PKP1	PKPbc	03 52 59.2	-0.6
	comp=Z,7.5nm,0.6s						
PAGF	**Fort de Pagny**	**150.35**	**339**	*e*PKP1	PKPbc	03 53 00.5	-0.3
	comp=Z,2.7nm,0.6s						
HINF	**Hinteralfeld**	**150.59**	**337**	*e*PKP1	PKPbc	03 53 00.6	-0.8
	comp=Z,7.0nm,0.7s						
HAU	**Haudompre**	**150.61**	**338**	*e*PKP1	PKPbc	03 53 00.8	-0.6
	comp=Z,16nm,0.7s						
MEZF	**Maizieres J'vi**	**150.61**	**340**	*e*PKP1	PKPbc	03 53 01.3	-0.1
	comp=Z,26nm,0.8s						
SFTF	**Sexfontaines**	**150.88**	**340**	*e*PKP1	PKPbc	03 53 01.6	-0.4
	comp=Z,9.8nm,0.6s						
FLN	**La Foliniere**	**151.84**	**347**	*e*PKP1	PKPbc	03 53 03.2	-1.0
CABF	**La Chapelle**	**151.89**	**337**	*e*PKP1	PKPbc	03 53 04.2	-0.2
	comp=Z,5.1nm,0.6s						
LOR	**Lormes**	**152.08**	**340**	*e*PKP1	PKPbc	03 53 04.1	-0.7
	comp=Z,9.2nm,0.8s						
SSF	**Saint Saulge**	**152.37**	**340**	*e*PKP1	PKPbc	03 53 04.7	-0.8
	comp=Z,4.7nm,0.7s						
LPL	**La Plagne**	**152.55**	**335**	*e*PKP1	PKPbc	03 53 05.5	-0.4
	comp=Z,5.9nm,0.8s						
LPG	**La Plagne**	**152.56**	**335**	*e*PKP1	PKPbc	03 53 05.7	-0.2
	comp=Z,5.8nm,0.6s						
MBDF	**Montbardon**	**153.18**	**334**	*e*PKP1	PKPbc	03 53 06.6	-0.7
	comp=Z,4.3nm,0.7s						
ORIF	**Oris-en-Rattie**	**153.38**	**335**	*e*PKP1	PKPbc	03 53 07.2	-0.6
	comp=Z,6.7nm,0.7s						

CNRM ***06*** *03:41:10.0,36.88N×8.08W,h35km,MD3.3*
ISCJB ***06*** *03:41:15.9±0.4,36.87N±0.03×7.34W±0.02,h10km,Error ellipse: s-maj=4.1km s-min=1.8km az=26.1*
MDD ***06*** *03:41:16.7±1

PTEO A 03 42 04.9
70nm,0.8s
PBAR Barrancos 1.43 12 *e*Pn **Pn 03 41 42.8 +1.3**
PBAR Barrancos 1.43 12 *e*Pn **Pn 03 41 42.8 +1.3**
PBAR *e*Sn **Sn 03 42 03.3 +3.0**
PBAR A 03 42 18.1
55nm,0.5s
EJIF Jimena Fronter 1.59 101 P **Pn 03 41 43.9 +0.2**
EJIF S **Sn 03 42 02.8 -1.5**
EJIF Jimena Fronter 1.59 101 P **Pn 03 41 43.8 +0.1**
4.8nm,0.2s,SNR=7.9
EJIF S **Sn 03 42 02.8 -1.5**
12nm,0.2s,SNR=7.9
EJIF Jimena Fronter 1.59 101 P **Pn 03 41 43.8 +0.1**
4.8nm,0.2s,SNR=7.9
EJIF S **Sn 03 42 02.8 -1.5**
12nm,0.2s,SNR=7.9
PNCL Nicolau / Gran 1.60 327 *e*Pn **Pn 03 41 43.8 -0.1**
PNCL *e*Sn **Sn 03 42 03.1 -1.6**
74nm,0.2s
PNCL Nicolau / Gran 1.60 327 *e*Pn **Pn 03 41 43.8 -0.1**
PNCL *e*Sn **Sn 03 42 03.1 -1.6**
PNCL A 03 42 18.0
74nm,0.2s
LIJA Lijar 1.61 85 P **Pn 03 41 49.0 +5.0**
LIJA S **Sn 03 42 04.0 -0.8**
LIJA Lijar 1.61 85 *e*P **Pn 03 41 49.0 +5.0**
LIJA *e*S **Sn 03 42 04.0 -0.8**
EVO Evora 1.82 345 *e*Pn **Pn 03 41 47.5 +0.7**
EVO *e*Sn **Sn 03 42 06.7 -3.2**
55nm,0.2s
EVO Evora 1.82 345 *e*Pn **Pn 03 41 47.6 +0.8**
EVO *e*Sn **Sn 03 42 09.9 0.0**
44nm,0.2s
EVO Evora 1.82 345 *e*Pn **Pn 03 41 47.6 +0.8**
EVO *e*Sn **Sn 03 42 09.9 0.0**
EVO A 03 42 21.6
44nm,0.2s
EVOP Sao Brissos 1.84 342 *e*Pn **Pn 03 41 47.5 +0.4**
EVOP *e*Sn **Sn 03 42 06.7 -3.8**
EVOP Sao Brissos 1.84 342 *e*Pn **Pn 03 41 47.5 +0.4**
EVOP *e*Sn **Sn 03 42 06.7 -3.8**
28nm,0.2s
MOE Montemor 1.90 337 *e*Sn **Sn 03 42 12.2 +0.3**
MOE Montemor 1.90 337 *e*Sn **Sn 03 42 12.2 +0.3**
EBAD Badajoz 2.00 9 ⇓P **Pn 03 41 50.5 +1.1**
EBAD S **Sn 03 42 16.1 +1.7**
EBAD Badajoz 2.00 9 ⇓P **Pn 03 41 50.5 +1.1**
0.7nm,0.1s,SNR=18
EBAD S **Sn 03 42 16.1 +1.7**
21nm,0.1s,SNR=5.7
EBAD Badajoz 2.00 9 P **Pn 03 41 50.5 +1.1**
0.7nm,0.1s,SNR=18
EBAD S **Sn 03 42 16.1 +1.7**
21nm,0.1s,SNR=5.7
PESTR Estremoz 2.09 356 *e*Pn **Pn 03 41 51.5 +0.9**
PESTR *e*Sn **Sn 03 42 16.6 -0.1**
21nm,0.4s
PESTR Estremoz 2.09 356 *e*Pn **Pn 03 41 51.5 +0.9**
PESTR *e*Sn **Sn 03 42 16.6 -0.1**
PESTR A 03 42 39.0
21nm,0.4s
EMIJ Mijas 2.13 95 P **Pn 03 41 50.4 -0.7**
EMIJ S **Sn 03 42 16.8 -0.8**
EMIJ Mijas 2.13 95 P **Pn 03 41 50.4 -0.7**
0.7nm,0.1s,SNR=8.6
EMIJ S **Sn 03 42 16.8 -0.8**
12nm,0.3s,SNR=7.5
EMIJ Mijas 2.13 95 P **Pn 03 41 50.4 -0.7**
0.7nm,0.1s,SNR=8.6
EMIJ S **Sn 03 42 16.8 -0.8**
12nm,0.3s,SNR=7.5
PMTG Montargil 2.38 344 *e*Pn **Pn 03 41 55.3 +0.7**
PMTG *e*Sn **Sn 03 42 22.7 -1.1**
38nm,0.3s
PMTG Montargil 2.38 344 *e*Pn **Pn 03 41 55.3 +0.7**
PMTG *e*Sn **Sn 03 42 22.7 -1.1**
PMTG A 03 42 47.6
38nm,0.3s
ALMR Almeirim 2.55 339 *e*P **Pn 03 41 57.6 +0.7**
ALMR *e*S **Sn 03 42 26.9 -1.1**
ALMR AML AML 03 42 30.2
comp=N,30nm,0.4s
ALMR Almeirim 2.55 339 P **Pn 03 41 57.4 +0.5**
SNR=7.9
ALMR S **Sn 03 42 26.3 -1.7**
SNR=7.9
ELUQ Luque 2.63 72 P **Pn 03 41 59.2 +1.3**
ELUQ S **Sn 03 42 30.0 +0.1**
ELUQ Luque 2.63 72 P **Pn 03 41 59.2 +1.3**
comp=N,2.8nm,0.2s,SNR=7.9
ELUQ S **Sn 03 42 30.0 +0.1**
comp=N,15nm,0.2s,SNR=7.9
ELUQ Luque 2.63 72 P **Pn 03 41 59.2 +1.2**
comp=N,2.8nm,0.2s,SNR=7.9
ELUQ S **Sn 03 42 30.0 +0.1**
comp=N,15nm,0.2s,SNR=7.9
ELOJ Sierra Loja 2.63 81 P **Pn 03 42 00.5 +2.4**
ELOJ S **Sn 03 42 29.0 -1.0**
ELOJ Sierra Loja 2.63 81 P **Pn 03 42 00.5 +2.4**
comp=N,0.8nm,0.2s,SNR=5.7
ELOJ S **Sn 03 42 29.0 -1.0**
comp=N,2.8nm,0.1s,SNR=5.0
ELOJ Sierra Loja 2.63 81 P **Pn 03 42 00.5 +2.5**
comp=N,0.8nm,0.2s,SNR=5.7
ELOJ S **Sn 03 42 29.0 -1.0**
comp=N,2.8nm,0.1s,SNR=5.0
PMAFR Mafra 2.63 326 P **Pn 03 41 58.3 +0.2**
comp=N,13nm,0.1s,SNR=36
PMAFR S **Sn 03 42 29.6 -0.5**
comp=N,77nm,0.3s,SNR=10
PMAFR Mafra 2.63 326 P **Pn 03 41 58.3 +0.2**
comp=N,13nm,0.1s,SNR=36
PMAFR *e*Sn **Sn 03 42 28.0 -2.1**
comp=N,70nm,0.3s
PMAFR S **Sn 03 42 29.6 -0.5**
comp=N,77nm,0.3s,SNR=10
PMAFR Mafra 2.63 326 *e*Pn **Pn 03 41 58.3 +0.2**
PMAFR *e*Sn **Sn 03 42 28.0 -2.1**
PMAFR A 03 42 30.5
comp=N,70nm,0.3s
EADA Adamuz 2.65 57 P **Pn 03 41 60.0 +1.7**
EADA S **Sn 03 42 30.2 -0.1**
EADA Adamuz 2.65 57 P **Pn 03 41 59.9 +1.7**
comp=N,0.6nm,0.1s,SNR=33
EADA S **Sn 03 42 30.2 -0.1**
comp=N,9.2nm,0.1s,SNR=9.0
EADA Adamuz 2.65 57 P **Pn 03 41 59.9 +1.7**
comp=N,0.6nm,0.1s,SNR=33
EADA S **Sn 03 42 30.2 -0.1**
comp=N,9.2nm,0.1s,SNR=9.0
PMRV Marv??o 2.65 0⇓ *e*Pn **Pn 03 41 59.4 +1.1**
PMRV *e*Sn **Sn 03 42 30.1 -0.3**
PMRV A 03 42 33.5
comp=N,24nm,0.3s
ERON Agron 2.90 84 P **Pn 03 42 03.2 +1.5**
ERON S **Sn 03 42 36.3 -0.2**
ERON Agron 2.90 84 P **Pn 03 42 03.2 +1.5**
comp=N,0.3nm,0.2s,SNR=7.9
ERON S **Sn 03 42 36.3 -0.2**
comp=N,7.3nm,0.3s,SNR=7.9
ERON Agron 2.90 84 P **Pn 03 42 03.2 +1.5**
comp=N,0.3nm,0.2s,SNR=7.9
ERON S **Sn 03 42 36.3 -0.2**
comp=N,7.3nm,0.3s,SNR=7.9
PTOM Tomar 2.95 345 *e*Pn **Pn 03 42 03.3 +1.0**
PTOM *e*Sn **Sn 03 42 37.4 -0.4**
comp=N,30nm,0.3s
PTOM Tomar 2.95 345 *e*Pn **Pn 03 42 03.3 +1.0**
PTOM *e*Sn **Sn 03 42 37.4 -0.4**
PTOM A 03 42 40.6
comp=N,30nm,0.3s
PCBR Castelo Branco 3.06 359 *e*Pn **Pn 03 42 05.0 +1.1**
PCBR *e*Sn **Sn 03 42 39.5 -1.1**
comp=N,12nm,0.2s
PCBR Castelo Branco 3.06 359 *e*Pn **Pn 03 42 05.0 +1.1**
PCBR *e*Sn **Sn 03 42 39.5 -1.1**
PCBR A 03 42 42.8
comp=N,12nm,0.2s
EGUA Guajares 3.08 88 P **Pn 03 42 04.5 +0.3**
EGUA S **Sn 03 42 40.0 -1.2**
EGUA Guajares 3.08 88 P **Pn 03 42 05.3 +1.0**
comp=N,7.4nm,0.2s,SNR=7.9
EGUA S **Sn 03 42 40.0 -1.2**
comp=N,46nm,0.6s,SNR=7.9
EGUA Guajares 3.08 88 P **Pn 03 42 04.5 +0.3**
EGUA S **Sn 03 42 40.0 -1.1**
comp=N,46nm,0.6s,SNR=7.9
ECOG Cogollos-Vega 3.11 80 P **Pn 03 42 04.3 -0.3**
ECOG S **Sn 03 42 42.2 +0.3**
ECOG Cogollos-Vega 3.11 80 P **Pn 03 42 05.1 +0.5**
comp=N,0.7nm,0.1s,SNR=7.9
ECOG S **Sn 03 42 42.2 +0.3**
comp=N,27nm,0.4s,SNR=8.5
ECOG Cogollos-Vega 3.11 80 P **Pn 03 42 05.1 +0.5**
comp=N,0.7nm,0.1s,SNR=7.9
ECOG S **Sn 03 42 42.2 +0.3**
comp=N,27nm,0.4s,SNR=8.5
EQUE Quentar 3.20 81 P **Pn 03 42 07.5 +1.6**
comp=N,0.3nm,0.2s,SNR=7.9
EQUE S **Sn 03 42 45.2 +1.1**
comp=N,2.8nm,0.1s,SNR=7.9
EQUE Quentar 3.20 81 P **Pn 03 42 07.5 +1.6**
comp=N,0.3nm,0.2s,SNR=7.9
EQUE S **Sn 03 42 45.2 +1.1**
comp=N,2.8nm,0.1s,SNR=7.9
EPLA Plasencia 3.44 17 P **Pn 03 42 09.4 +0.2**
EPLA S **Sn 03 42 50.2 +0.1**
EPLA Plasencia 3.44 17 P **Pn 03 42 09.4 +0.2**
comp=N,0.4nm,0.1s,SNR=43
EPLA S **Sn 03 42 50.2 +0.1**
comp=N,2.2nm,0.0s,SNR=7.3
EPLA Plasencia 3.44 17 P **Pn 03 42 09.4 +0.2**
comp=N,0.4nm,0.1s,SNR=43
EPLA S **Sn 03 42 50.2 +0.1**
comp=N,2.2nm,0.0s,SNR=7.3
EQES Quesada 3.61 72 P **Pn 03 42 12.3 +0.9**
EQES S **Sn 03 42 54.4 +0.4**
EQES Quesada 3.61 72 P **Pn 03 42 12.4 +0.9**
comp=N,0.2nm,0.1s,SNR=19
EQES S **Sn 03 42 54.4 +0.4**
comp=N,2.1nm,0.3s,SNR=8.7
EQES Quesada 3.61 72 P **Pn 03 42 12.4 +1.0**
comp=N,0.2nm,0.1s,SNR=19
EQES S **Sn 03 42 54.4 +0.4**
comp=N,2.1nm,0.3s,SNR=8.7
MTE Manteigas 3.62 358 *e*Pn **Pn 03 42 11.4 -0.2**
MTE *e*S **Sn 03 42 53.9 -0.5**
MTE Manteigas 3.62 358 *e*Pn **Pn 03 42 11.4 -0.2**
MTE *e*Sn **Sn 03 42 53.6 -0.8**
comp=N,17nm,0.3s
MTE *e*S **Sn 03 42 53.9 -0.5**
MTE Manteigas 3.62 358⇓ *e*Pn **Pn 03 42 12.6 +1.0**
MTE *e*Sn **Sn 03 42 53.6 -0.8**
MTE A 03 42 56.4
comp=N,17nm,0.3s
PAB San Pablo 3.67 40 *e*Pn **Pn 03 42 14.3 +2.0**
PAB *e*S **Sn 03 42 54.9 -0.7**
PAB San Pablo 3.67 40 *e*Pn **Pn 03 42 14.3 +2.0**
PAB *e*S **Sn 03 42 54.8 -0.8**
PVIS Viseu 3.95 355 *e*Pn **Pn 03 42 16.9 +0.7**
PVIS *e*Sn **Sn 03 43 01.1 -1.5**
comp=N,6.1nm,0.1s
PVIS Viseu 3.95 355 *e*Pn **Pn 03 42 16.9 +0.7**
PVIS *e*Sn **Sn 03 43 01.1 -1.5**
PVIS A 03 43 04.3
comp=N,6.1nm,0.1s
ESDC Sonseca Array 3.96 42 P **Pn 03 42 17.7 +1.3**
ESDC S **Sn 03 43 01.1 -1.8**
ESDC Sonseca Array 3.96 42 P **Pn 03 42 17.7 +1.3**
comp=N,0.3nm,0.1s,baz=226,slow=13,SNR=26
ESDC S **Sn 03 43 01.1 -1.8**
comp=N,7.0nm,0.2s,baz=224,slow=23,SNR=46
ESDC Sonseca Array 3.96 42 P **Pn 03 42 17.7 +1.3**
comp=N,0.3nm,0.1s,slow=13,SNR=26
ESDC S **Sn 03 43 01.1 -1.8**
comp=N,7.0nm,0.2s,baz=224,slow=23,SNR=46
ESLA Sonseca Array 3.96 42 *e*Pn **Pn 03 42 18.2 +1.8**
ESLA *e*S **Sn 03 43 01.2 -1.7**
ESLA Sonseca Array 3.96 42 *e*Pn **Pn 03 42 18.2 +1.8**
ESLA *e*S **Sn 03 43 01.2 -1.7**
EHUE Huescar 3.98 73 P **Pn 03 42 16.8 +0.3**
EHUE S **Sn 03 43 02.6 -0.6**
EHUE Huescar 3.98 73 P **Pn 03 42 16.8 +0.3**
comp=N,0.7nm,0.2s,SNR=7.9
EHUE S **Sn 03 43 02.6 -0.6**
comp=N,3.3nm,0.2s,SNR=7.9
EHUE Huescar 3.98 73 P **Pn 03 42 16.8 +0.3**
comp=N,0.7nm,0.2s,SNR=7.9
EHUE S **Sn 03 43 02.6 -0.6**
comp=N,3.3nm,0.2s,SNR=7.9
ENIJ Nijar 4.17 86 P **Pn 03 42 20.5 +1.3**
ENIJ S **Sn 03 43 06.6 -1.4**
ENIJ Nijar 4.17 86 P **Pn 03 42 20.5 +1.3**
comp=N,0.9nm,0.2s,SNR=7.9
ENIJ S **Sn 03 43 06.6 -1.4**
comp=N,3.7nm,0.4s,SNR=7.9
ENIJ Nijar 4.17 86 P **Pn 03 42 20.5 +1.3**
comp=N,0.9nm,0.2s,SNR=7.9
ENIJ S **Sn 03 43 06.6 -1.4**
comp=N,3.7nm,0.4s,SNR=7.9
CZD Col de Zad 4.21 152 P **Pn 03 42 17.0 -2.7**
CZD S **Sn 03 43 07.0 -1.9**
CZD Col de Zad 4.21 152 *i* P **Pn 03 42 17.0 -2.7**
CZD *i* S **Sn 03 43 07.0 -1.9**
EVIA Vianos 4.31 63 P **Pn 03 42 21.7 +0.6**
EVIA S **Sn 03 43 10.3 -1.1**
EVIA Vianos 4.31 63 P **Pn 03 42 21.7 +0.6**
comp=N,3.1nm,0.1s,SNR=8.1
EVIA S **Sn 03 43 10.3 -1.1**
comp=N,8.0nm,0.2s,SNR=7.5
EVIA Vianos 4.31 63 P **Pn 03 42 21.7 +0.6**
comp=N,3.1nm,0.1s,SNR=8.1
EVIA S **Sn 03 43 10.3 -1.1**
comp=N,8.0nm,0.2s,SNR=7.5
KIB El Ksiba 4.34 165 P **Pn 03 42 16.0 -5.5**
KIB S **Sn 03 43 06.0 -6.1**
KIB El Ksiba 4.34 165 *i* P **Pn 03 42 16.0 -5.5**
KIB *i* S **Sn 03 43 06.0 -6.1**
MVO Moncorvo 4.39 4 ⇑P **Pn 03 42 23.3 +1.1**
MVO S **Sn 03 43 13.0 -0.4**
MVO Moncorvo 4.39 4 ⇑P **Pn 03 42 23.3 +1.0**
comp=N,6.1nm,0.1s,SNR=18
MVO S **Sn 03 43 12.2 -1.2**
comp=N,12nm,0.2s,SNR=7.0
MVO Moncorvo 4.39 4 *e*Pn **Pn 03 42 23.2 +1.0**
MVO *e*Sn **Sn 03 43 12.1 -1.3**
comp=N,12nm,0.7s
MVO S **Sn 03 43 13.0 -0.4**
MVO Moncorvo 4.39 4 *e*Pn **Pn 03 42 23.2 +1.0**
MVO *e*Sn **Sn 03 43 12.1 -1.3**
MVO A 03 43 14.2
comp=N,12nm,0.7s
PTO Porto 4.46 348 *e*Pn **Pn 03 42 24.0 +0.9**
PTO *e*Sn **Sn 03 43 12.4 -2.6**
comp=N,37nm,0.1s
PTO Porto 4.46 348 *e*Pn **Pn 03 42 24.0 +0.9**
PTO *e*Sn **Sn 03 43 12.4 -2.6**
PTO A 03 43 16.7
comp=N,37nm,0.1s
PVRL Vila Real 4.50 357 *e*Pn **Pn 03 42 24.6 +0.9**
PVRL *e*Sn **Sn 03 43 14.4 -1.7**
comp=N,11nm,0.2s
PVRL Vila Real 4.50 357 *e*Pn **Pn 03 42 24.6 +0.9**
PVRL *e*Sn **Sn 03 43 14.4 -1.7**
PVRL A 03 43 17.3
comp=N,11nm,0.2s
GUD Guadarrama 4.62 32 P **Pn 03 42 27.6 +2.2**
GUD S **Sn 03 43 19.6 +0.4**
GUD Guadarrama 4.62 32 P **Pn 03 42 27.6 +2.2**
comp=N,0.5nm,0.0s,SNR=7.9
GUD S **Sn 03 43 19.6 +0.4**
comp=N,1.0nm,0.1s,SNR=7.9
GUD Guadarrama 4.62 32 P **Pn 03 42 27.6 +2.2**
comp=N,0.5nm,0.0s,SNR=7.9
GUD S **Sn 03 43 19.5 +0.4**
TZC Tazercounte 4.68 170 P **Pn 03 42 21.0 -5.2**
TZC S **Sn 03 43 13.0 -7.5**
TZC Tazercounte 4.68 170 *i* P **Pn 03 42 21.0 -5.2**
PCAB Cabril 4.95 355 *e*Pn **Pn 03 42 30.7 +0.8**
PCAB Cabril 4.95 355 *e*Pn **Pn 03 42 30.7 +0.8**
PCAB *e*Sn **Sn 03 43 24.5 -2.7**
PCAB A 03 43 28.7
comp=N,6.9nm,0.1s
ETOB Tobarra 5.01 66 P **Pn 03 42 31.0 +0.3**
ETOB S **Sn 03 43 27.1 -1.5**
ETOB Tobarra 5.01 66 P **Pn 03 42 31.0 +0.3**
comp=N,1.1nm,0.1s,SNR=17
ETOB S **Sn 03 43 27.1 -1.5**
comp=N,9.4nm,0.2s,SNR=9.6
EMUR La Murta 5.03 76 P **Pn 03 42 31.6 +0.7**
EMUR S **Sn 03 43 27.6 -1.6**
EMUR La Murta 5.03 76 P **Pn 03 42 31.6 +0.6**
comp=N,0.5nm,0.2s,SNR=7.9
EMUR S **Sn 03 43 27.6 -1.6**
comp=N,9.2nm,0.4s,SNR=9.8
EMUR La Murta 5.03 76 P **Pn 03 42 31.6 +0.6**
comp=N,0.5nm,0.2s,SNR=7.9
EMUR S **Sn 03 43 27.6 -1.5**
comp=N,9.2nm,0.4s,SNR=9.8
PBRG Braganca 5.05 6 *e*Pn **Pn 03 42 32.2 +1.0**
PBRG *e*Sn **Sn 03 43 27.4 -2.2**
comp=N,4.4nm,0.1s
PBRG Braganca 5.05 6 *e*Pn **Pn 03 42 32.2 +1.0**
PBRG *e*Sn **Sn 03 43 27.4 -2.2**
PBRG A 03 43 30.7
comp=N,4.4nm,0.1s
ELOB Lobios 5.11 354 P **Pn 03 42 33.0 +0.9**
ELOB S **Sn 03 43 29.3 -1.8**
ELOB Lobios 5.11 354 P **Pn 03 42 33.0 +0.9**
comp=N,1.9nm,0.2s,SNR=13
ELOB S **Sn 03 43 29.3 -1.8**
comp=N,7.6nm,0.2s,SNR=13
ELOB Lobios 5.11 354 P **Pn 03 42 33.0 +0.9**
comp=N,1.9nm,0.2s,SNR=13
ELOB S **Sn 03 43 29.3 -1.8**
comp=N,7.6nm,0.2s,SNR=13
ECAL Calabor 5.18 6 P **Pn 03 42 34.3 +1.2**
ECAL S **Sn 03 43 31.9 -1.0**
ECAL Calabor 5.18 6 P **Pn 03 42 34.3 +1.2**
comp=N,1.5nm,0.1s,SNR=17
ECAL S **Sn 03 43 31.9 -1.0**
comp=N,15nm,0.4s,SNR=5.2
ECAL Calabor 5.18 6 P **Pn 03 42 34.3 +1.2**
comp=N,1.5nm,0.1s,SNR=17
ECAL S **Sn 03 43 31.9 -1.0**
comp=N,15nm,0.4s,SNR=5.2
PGAV Gavieira, Arco 5.23 353 *e*Pn **Pn 03 42 34.6 +0.9**
PGAV Gavieira, Arco 5.23 353 *e*Pn **Pn 03 42 34.6 +0.9**
PGAV *e*Sn **Sn 03 43 31.2 -2.8**
PGAV A 03 43 35.2
comp=N,4.6nm,0.3s
CIA Chichaoua 5.32 193 P **Pn 03 42 28.0 -7.0**
CIA S **Sn 03 43 24.0 -12**
ZFT Errachidia 5.36 151 P **Pn 03 42 32.0 -3.6**
ZFT S **Sn 03 43 34.0 -3.3**
ZFT Errachidia 5.36 151 *i* P **Pn 03 42 32.0 -3.6**
ZFT *i* S **Sn 03 43 34.0 -3.3**
EZAM Zamans 5.46 350 P **Pn 03 42 37.8 +1.0**
EZAM S **Sn 03 43 36.4 -3.3**
EZAM Zamans 5.46 350 P **Pn 03 42 37.8 +1.0**
comp=N,2.6nm,0.2s,SNR=7.9
EZAM S **Sn 03 43 36.4 -3.3**
comp=N,7.7nm,0.3s,SNR=7.9
EZAM Zamans 5.46 350 P **Pn 03 42 37.8 +0.9**
comp=N,2.6nm,0.2s,SNR=7.9
ETOR Torete 5.81 44 P **Pn 03 42 42.1 +0.4**
ETOR S **Sn 03 43 45.9 -2.5**
ETOR Torete 5.81 44 P **Pn 03 42 42.1 +0.4**
comp=N,7.6nm,0.3s,SNR=9.2
ETOR S **Sn 03 43 45.8 -2.5**
comp=N,2.4nm,0.4s,SNR=42
ETOR Torete 5.81 44 P **Pn 03 42 42.1 +0.4**
comp=N,7.6nm,0.3s,SNR=9.2
ETOR S **Sn 03 43 45.8 -2.6**
comp=N,2.4nm,0.4s,SNR=42
EBEN Beniarda 6.01 69 S **Sn 03 43 50.8 -2.4**
comp=N,1.4nm,0.2s,SNR=7.9
EBEN Beniarda 6.01 69 S **Sn 03 43 50.8 -2.4**
comp=N,1.4nm,0.2s,SNR=7.9
STS Santiago 6.17 352 P **Pn 03 42 48.0 +1.4**
STS S **Sn 03 43 54.0 -3.1**
STS Santiago 6.17 352 P **Pn 03 42 48.0 +1.4**
comp=N,0.7nm,0.3s,SNR=7.9
STS S **Sn 03 43 54.0 -3.1**
comp=N,0.9nm,0.2s,SNR=7.9
STS Santiago 6.17 352 P **Pn 03 42 48.0 +1.4**
comp=N,0.7nm,0.3s,SNR=7.9
EMAZ Mazaricos 6.28 349 P **Pn 03 42 48.9 +0.7**
EMAZ S **Sn 03 43 57.6 -2.4**
EMAZ Mazaricos 6.28 349 P **Pn 03 42 48.9 +0.7**
comp=N,1.8nm,0.3s,SNR=7.9
EMAZ S **Sn 03 43 57.6 -2.4**
comp=N,1.5nm,0.1s,SNR=7.9
EMAZ Mazaricos 6.28 349 P **Pn 03 42 48.9 +0.7**
comp=N,1.8nm,0.3s,SNR=7.9
EMAZ S **Sn 03 43 57.6 -2.4**
comp=N,1.5nm,0.1s,SNR=7.9
EMOS Mosqueruela 6.51 54 P **Pn 03 42 52.1 +0.8**
EMOS S **Sn 03 44 04.1 -1.5**
EMOS Mosqueruela 6.51 54 P **Pn 03 42 52.1 +0.8**
comp=N,1.1nm,0.3s,SNR=7.9
EMOS S **Sn 03 44 04.1 -1.5**
comp=N,2.5nm,0.3s,SNR=7.9
EMOS Mosqueruela 6.51 54 P **Pn 03 42 52.1 +0.8**
comp=N,1.1nm,0.3s,SNR=7.9
EMOS S **Sn 03 44 04.1 -1.4**
comp=N,2.5nm,0.3s,SNR=7.9
EARI Arriondas 6.73 14 P **Pn 03 42 55.8 +1.4**
EARI S **Sn 03 44 09.9 -1.1**
EARI Arriondas 6.73 14 P **Pn 03 42 55.8 +1.4**
comp=N,0.2nm,0.2s,SNR=7.9
EARI S **Sn 03 44 09.9 -1.1**
comp=N,0.3nm,0.2s,SNR=7.9
EARI Arriondas 6.73 14 P **Pn 03 42 55.8 +1.5**
comp=N,0.2nm,0.2s,SNR=7.9
EARI S **Sn 03 44 09.9 -1.1**
comp=N,0.3nm,0.2s,SNR=7.9
ELAN Lanestosa 7.13 24 P **Pn 03 43 01.1 +1.3**
ELAN S **Sn 03 44 16.7 -4.2**
ELAN Lanestosa 7.13 24 P **Pn 03 43 01.1 +1.3**
comp=N,0.1nm,0.1s,SNR=7.9
ELAN S **Sn 03 44 16.7 -4.2**
comp=N,0.4nm,0.2s,SNR=7.9
ELAN Lanestosa 7.13 24 P **Pn 03 43 01.1 +1.3**
comp=N,0.1nm,0.1s,SNR=7.9
EIBI Ibiza 7.27 69 S **Sn 03 44 21.1 -3.3**
comp=N,1.2nm,0.2s,SNR=7.9
IEPA Eparoz 7.63 36 P **Pn 03 43 09.7 +2.9**
comp=N,0.2nm,0.1s,SNR=7.9
IEPA S **Sn 03 44 31.9 -1.3**
comp=N,3.9nm,0.4s,SNR=7.9
IEPA Eparoz 7.63 36 P **Pn 03 43 09.7 +3.0**
comp=N,0.2nm,0.1s,SNR=7.9
IEPA S **Sn 03 44 31.9 -1.3**
comp=N,3.9nm,0.4s,SNR=7.9
IELO Elcoad 7.70 36 P **Pn 03 43 10.2 +2.6**
comp=N,0.3nm,0.1s,SNR=7.9
IELO S **Sn 03 44 32.9 -1.9**
comp=N,2.3nm,0.3s,SNR=7.9
IELO Elcoad 7.70 36 P **Pn 03 43 10.2 +2.6**
comp=N,0.3nm,0.1s,SNR=7.9
IELO S **Sn 03 44 32.9 -1.9**
comp=N,2.3nm,0.3s,SNR=7.9
ELIZ Elizondo 7.81 33 P **Pn 03 43 11.0 +1.9**
ELIZ Elizondo 7.81 33 P **Pn 03 43 11.0 +1.9**
comp=N,1.5nm,0.3s,SNR=7.9
ELIZ Elizondo 7.81 33 P **Pn 03 43 11.0 +1.8**
comp=N,1.5nm,0.3s,SNR=7.9
EALK Alkurruntz 7.87 33 P **Pn 03 43 12.7 +2.7**
EALK S **Sn 03 44 36.8 -2.1**
EALK Alkurruntz 7.87 33 P **Pn 03 43 12.7 +2.7**
comp=N,0.5nm,0.2s,SNR=7.9
EALK S **Sn 03 44 36.8 -2.1**
comp=N,47nm,1.2s,SNR=7.9
EALK Alkurruntz 7.87 33 P **Pn 03 43 12.7 +2.8**
comp=N,0.5nm,0.2s,SNR=7.9
EALK S **Sn 03 44 36.8 -2.2**
comp=N,47nm,1.2s,SNR=7.9
SJPF Ste Jean 7.91 35 *e*P **Pn 03 43 12.6 +2.1**
SJPF *e*Sn **Sn 03 44 28.7 -11**
comp=N,2.2nm,0.3s
SJPF Ste Jean 7.91 35 *e*P **Pn 03 43 12.6 +2.1**
SJPF *e*Sn **Sn 03 44 28.7 -11**
SJPF Ste Jean 7.91 35 P **Pn 03 43 12.6 +2.1**
SJPF S **Sn 03 44 28.7 -11**
comp=N,1.1nm,0.3s
SJPF Ste Jean 7.91 35 *e*P **Pn 03 43 12.6 +2.1**
ETSF Etsaut 8.07 39 *e*P **Pn 03 43 14.9 +2.2**
ETSF *e*Sn **Sn 03 44 33.5 -10**
comp=N,1.6nm,0.3s
ETSF Etsaut 8.07 39 *e*P **Pn 03 43 14.9 +2.2**

ETSF				*e*Sn	**Sn**	03 44 33.5	**-10**	
ETSF	**Etsaut**	**8.07**	**39**	P	**Pn**	03 43 14.9	**+2.2**	
ETSF				S	**Sn**	03 44 33.5	**-10**	
	comp=N,0.8nm,0.3s							
ETSF	**Etsaut**	**8.07**	**39**	*e*P	**Pn**	03 43 14.9	**+2.2**	
EPF	**Esparros**	**8.63**	**41**	*e*Pn	**Pn**	03 43 17.3	**-3.0**	
EPF				*e*Sn	**Sn**	03 44 46.8	**-11**	
	comp=N,1.9nm,0.3s							
EPF	**Esparros**	**8.63**	**41**	*e*Pn	**Pn**	03 43 17.3	**-3.0**	
EPF				*e*Sn	**Sn**	03 44 46.8	**-11**	
EPF	**Esparros**	**8.63**	**41**	P	**Pn**	03 43 17.3	**-3.0**	
EPF				S	**Sn**	03 44 46.8	**-11**	
	comp=N,0.9nm,0.3s							
CSOR	**Sort**	**8.64**	**47**	P	**Pn**	03 43 22.7	**+2.1**	
CSOR	**Sort**	**8.64**	**47**	P	**Pn**	03 43 22.7	**+2.1**	
	comp=N,0.0nm,0.1s,SNR=7.9							
CSOR	**Sort**	**8.64**	**47**	P	**Pn**	03 43 22.7	**+2.1**	
	SNR=7.9							
MFF	**Saint Martin d**	**11.21**	**27**	*e*Pn	**Pn**	03 43 52.2	**-3.5**	
MFF	**Saint Martin d**	**11.21**	**27**	*e*Pn	**Pn**	03 43 52.2	**-3.5**	
MFF	**Saint Martin d**	**11.21**	**27**	P	**Pn**	03 43 52.2	**-3.5**	
QUIF	**Quistinic**	**11.56**	**14**	*e*Pn	**Pn**	03 43 57.8	**-2.7**	
QUIF	**Quistinic**	**11.56**	**14**	*e*Pn	**Pn**	03 43 57.8	**-2.7**	
QUIF	**Quistinic**	**11.56**	**14**	P	**Pn**	03 43 57.8	**-2.7**	

IDC 06 03:48:20.9±0.9, 29°15'N×139°72'E, h424km±15km, mb2.9/7, mb1 3.0/8, mb1mx2.8/25, mbtmp2.9/8, Error ellipse: s-maj=34.8km s-min=17.5km az=77.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.98**	**133**	P	P	03 49 26.4	+0.6
	15nm,0.3s,baz=56,slow=23,SNR=18						
CBIJ				S	S	03 50 18.6	+0.1
	25nm,0.3s,baz=264,slow=22,SNR=13						
SONM	**Songino Array**	**31.73**	**315**	P	P	03 54 08.1	+0.4
	0.4nm,0.9s,baz=344,slow=20,SNR=3.2						
MKAR	**Makanchi Array**	**47.50**	**308**	P	P	03 56 15.1	-0.5
	0.3nm,0.7s,baz=72,slow=11,SNR=2.6						
WRA	**Warramunga Arr**	**49.08**	**187**	P	P	03 56 27.7	-0.1
	0.2nm,0.4s,baz=2.2,slow=7.8,SNR=11						
KURK	**Kurchatov**	**50.00**	**313**	P	P	03 56 34.0	-0.3
	0.7nm,0.6s,baz=91,slow=8.4,SNR=7.0						
INK	**Inuvik**	**62.08**	**25**	P	P	03 57 57.0	-1.2
	0.6nm,0.7s,baz=225,slow=11,SNR=3.2						
ARCES	**ARCESS Array B**	**70.89**	**340**	P	P	03 58 54.4	+1.3
	1.9nm,0.8s,baz=74,slow=8.9,SNR=6.7						
FINES	**FINESS Array B**	**75.14**	**333**	P	P	03 59 18.2	+0.3
	2.3nm,1.0s,baz=74,slow=4.9,SNR=6.0						

IDC 06 03:51:05.9±1.4, 5°08'N×81°88'W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/21, mbtmp3.7/5, MS3.4/3, Ms1 3.4/3, ms1mx3.0/27, Error ellipse: s-maj=46.5km s-min=29.0km az=69.0, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**20.10**	**49**	P	P	03 55 41.7	+0.3
	12nm,1.0s,baz=232,slow=6.0,SNR=4.7						
SJG				LR	LR	04 02 35.3	
	comp=Z,77nm,19.3s,baz=107,slow=34						
TXAR	**Lajitas Array**	**31.73**	**322**	P	P	03 57 32.8	+1.1
	0.4nm,0.9s,baz=137,slow=11,SNR=3.5						
TXAR				LR	LR	04 13 21.7	
	comp=Z,60nm,19.6s,baz=185,slow=42						
CPUP	**Villa Florida**	**39.26**	**144**	LR	LR	04 16 08.2	
	comp=Z,64nm,19.6s,baz=194,slow=38						
PDAR	**Pinedale Array**	**44.84**	**331**	P	P	03 59 21.8	0.0
	1.6nm,1.2s,baz=156,slow=6.9,SNR=3.9						
PLCA	**Paso Flores**	**46.76**	**168**	P	P	03 59 37.1	+0.1
	0.8nm,0.5s,baz=92,slow=12,SNR=3.7						
ILAR	**Eielson Array**	**74.94**	**336**	P	P	04 02 48.0	-0.5
	0.8nm,1.1s,baz=119,slow=4.5,SNR=4.6						
WRA	**Warramunga Arr**	**141.80**	**244**	PKP	PKPdf	04 10 40.3	-0.3
	0.2nm,0.7s,baz=102,slow=2.6,SNR=3.2						

DJA 06 04:11:18, 2°25S×118°13E, h30km, MLv4.0/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**1.86**	**115**	P	Pn	04 11 48.9	+1.0
MSSI	**Masamba**	**2.21**	**98**	P	Pn	04 11 53.8	+1.1
SPSI	**Sidrap Palu**	**2.36**	**136**	P	Pn	04 11 59.3	+4.5
BNSI	**Bone**	**2.91**	**137**	P	Pn	04 12 03.5	+1.2
PLKI	**Palangkaraya**	**4.18**	**270**	P	Pn	04 12 20.8	+1.0
LUWI	**Luwuk**	**4.79**	**76**	P	Pn	04 12 29.3	+1.1

WEL 06 04:25:25.8±0.1, 37°82S×176°76E, h5km, ML3.5/11, 5C, Error ellipse: s-maj=0.7km s-min=0.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.17**	**261**	↑PG	Pg	04 25 29.3	+0.3
OPRZ				SG	Sg	04 25 32.0	+0.7
MARZ	**Manawahe**	**0.18**	**203**	↑PG	Pg	04 25 29.8	+0.4
MARZ				SG	Sg	04 25 32.9	+1.1
EDRZ	**Edgecumbe**	**0.29**	**184**	PG	Pg	04 25 31.8	+0.4
EDRZ				SG	Sg	04 25 37.0	+1.8
LIRZ	**Lichensteins R**	**0.35**	**238**	PG	Pg	04 25 33.3	+0.7
MKRZ	**Makatiti**	**0.40**	**216**	PG	Pg	04 25 34.4	+1.0
TGRZ	**Tauranga**	**0.41**	**282**	↑PG	Pg	04 25 34.1	+0.5
OMRZ	**Omania**	**0.42**	**227**	PG	Pg	04 25 34.4	+0.5
OMRZ				SG	Sg	04 25 39.9	+0.5
WIZ	**White Island**	**0.45**	**50**	PG	Pg	04 25 34.6	+0.3
KARZ	**Kaharoa**	**0.46**	**244**	PG	Pg	04 25 35.1	+0.6
TARZ	**Mount Tarawera**	**0.46**	**206**	PG	Pg	04 25 35.6	+0.9
URZ	**Urewera**	**0.52**	**148**	↑PG	Pg	04 25 35.7	0.0
MYRZ	**Mayor Island**	**0.68**	**322**	↑P*	Pb	04 25 39.2	-0.9
PRRZ	**Plateau Road**	**0.74**	**203**	P*	Pb	04 25 40.1	-1.0
TOZ	**Tahuroa Road**	**1.00**	**275**	P*	Pb	04 25 43.7	-1.9
RAHZ	**Arahi**	**1.13**	**167**	P*	Pb	04 25 46.8	-0.9
PUZ	**Puketiti**	**1.21**	**103**	P*	Pb	04 25 48.5	-0.6
KUZ	**Kuaotunu**	**1.35**	**322**	PN	Pn	04 25 49.7	-1.6
KNZ	**Kokohu**	**1.40**	**149**	PN	Pn	04 25 51.7	-0.2
MKAZ	**Moumakai**	**1.45**	**299**	PN	Pn	04 25 50.1	-2.5

GUC 06 04:50:49.0±0.7, 31°51S×71°76W, h24km±5km, MD3.8, ML3.6, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.43**	**150**	↓*i*P	Pb	04 50 57.9	-0.1
CHNG				*i* S	Sb	04 51 04.4	+0.2
CHNG				AML	AML	04 51 05.1	
	comp=N,8μm,0.2s						
CMCH	**Combarbala**	**0.73**	**63**	↑*i*P	Pb	04 51 02.3	-0.7
CMCH				*i* S	Sb	04 51 12.7	+0.1
CMCH				AML	AML	04 51 13.2	
	comp=E,8μm,0.4s						
OVCH	**Ovalle**	**1.02**	**28**	↑*i*P	Pn	04 51 07.2	-0.5
OVCH				*i* S	Sb	04 51 21.0	+0.1
OVCH				AML	AML	04 51 26.1	
	comp=N,2μm,0.6s						
JACH	**Jahuel**	**1.53**	**140**	*i* P	Pn	04 51 15.2	+0.4
JACH				*i* S	Sn	04 51 35.6	+1.8
TLL	**Tololo Astrono**	**1.57**	**32**	↓*i*P	Pn	04 51 16.1	+0.8
TLL				*i* S	Sn	04 51 37.4	+2.5
TLL				AML	AML	04 51 45.1	
	comp=N,1μm,0.5s						
ROCH	**El Roble**	**1.59**	**157**	↑*i*P	Pn	04 51 16.3	+0.7
ROCH				*i* S	Sn	04 51 37.8	+2.4
RCDM	**Rinconada Maip**	**2.13**	**158**	AML	AML	04 52 00.1	
	comp=N,348nm,0.4s						
CHCH	**Chadas Angostu**	**2.59**	**159**	*i* P	Pn	04 51 30.5	+1.2
LMEL	**Las Melosas**	**2.67**	**151**	↑*i*P	Pn	04 51 32.3	+1.8
LMEL				AML	AML	04 52 15.6	
	comp=N,343nm,0.4s						

MAN 06 05:09:50, 6°53N×125°75E, h3km, mb4.5, ML3.4, MS3.3, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DMPH	**Davao City--Mi**	**0.60**	**337**	↑*i*P	Pg	05 10 01.9	+0.3
DMPH				*i* S	Sg	05 10 17.2	+7.8
MATI	**Mati**	**0.66**	**50**	*e*P	Pg	05 10 03.0	+0.3
MATI				*e*S	Sg	05 10 11.6	+0.4
KCP	**Kidapawan**	**0.81**	**306**	↓*i*P	Pg	05 10 12.0	+6.4
KCP				*e*S	Sg	05 10 22.9	+6.8
BUKP	**Musuan**	**1.51**	**333**	*e*P	Pn	05 10 17.5	-0.5
BUKP				*e*S	Sn	05 10 35.7	-2.4
CTBH	**Cotabato--PC H**	**1.64**	**295**	↓*i*P	Pn	05 10 19.6	-0.2
CGP	**Cagayan de Oro**	**2.18**	**331**	↑*i*P	Pn	05 10 27.3	+0.1
CGP				*i* S	Sn	05 10 55.7	+0.9
PAGZ	**Pagadian**	**2.69**	**299**	*e*P	Pn	05 10 34.7	+0.5
TBP	**Tagbilaran**	**3.66**	**329**	*e*P	Pn	05 10 49.3	+1.8

*IDC **06** 05:10:22.2±0.7, 5°03S×151°77E, h118km±5km, mb4.1/16, mb1 4.3/18, mb1mx4.2/21, mbtmp4.1/18, MS3.2/1, Ms1 3.2/1, ms1mx2.7/26, Error ellipse: s-maj=19.4km s-min=10.8km az=117.0*

*NEIC **06** 05:10:22.7±0.3, 4°94S×151°65E, mb4.6/13, Error ellipse: s-maj=10.9km s-min=6.5km az=112.0*

*ISCJB **06** 05:10:24.8±1.5, 5°03S±0°07×151°56E±0°08, h147km±14km, mb4.6/47, Error ellipse: s-maj=13.1km s-min=11.6km az=20.1*

*BJI **06** 05:10:26.0, 5°35S×151°67E, h176km, mB4.7/12, mb4.7/25*

*DJA **06** 05:10:30, 4°99S×151°10E, h151km, mb4.7/10*

ISC 06 05:10:28.0±1.5, 5°14S±0°08×151°53E±0°08, h162km±14km, h168km±2.3km; pP-P, n133, σ1s 07/93, mb4.6/46, 4C, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.06**	**225**	P	**Pn**	**05 11 53.1**	**-2.5**
	3.7nm,0.3s,baz=39,slow=8.5,SNR=15						
PMG				S	**Sn**	**05 13 04.8**	**+0.4**
	48nm,0.3s,baz=31,slow=24,SNR=22						
PMG	**Port Moresby**	**6.06**	**225**	*e*Pn	**Pn**	**05 11 54.4**	**-1.3**
PMG	**Port Moresby**	**6.06**	**225**	P	**Pn**	**05 11 53.2**	**-2.5**
HNR	**Honiara**	**9.38**	**118**	*e*Pn	**Pn**	**05 12 29.1**	**-11**
JAY	**Jayapura**	**11.11**	**283**	P	**Pn**	**05 12 57.2**	**-5.3**
	110nm,0.5s						
COEN	**Coen**	**12.02**	**223**	*e*Pn	**Pn**	**05 13 15.0**	**+0.7**
COEN	**Coen**	**12.02**	**223**	P	**Pn**	**05 13 13.5**	**-0.8**
	22nm,1.1s						
CTA	**Charters Tower**	**15.72**	**199**	P	**Pn**	**05 14 00.8**	**0.0**
	0.3nm,0.3s,baz=18,slow=10,SNR=4.8						
CTA	**Charters Tower**	**15.72**	**199**	P	**Pn**	**05 14 00.8**	**0.0**
CTAO	**Charters Tower**	**15.72**	**199**	*e*P	**Pn**	**05 14 01.8**	**+1.0**
	17nm,1.3s						
EIDS	**Eidsvold**	**20.11**	**181**	*e*P	**P**	**05 14 50.1**	**+0.7**
	7.1nm,0.8s						
KAKA	**Kakadu**	**20.29**	**247**	*e*P	**P**	**05 14 51.0**	**-0.3**
WRAB	**Tennant Creek**	**22.26**	**227**	*e*P	**P**	**05 15 11.9**	**-0.2**
	22nm,1.0s,mb4.5						
WRAB	**Tennant Creek**	**22.26**	**227**	P	**P**	**05 15 11.6**	**-0.5**
	38nm,1.3s,mb4.7						
WRA	**Warramunga Arr**	**22.27**	**227**	P	**P**	**05 15 11.8**	**-0.4**
	14nm,0.8s,mb4.4,baz=54,slow=8.3,SNR=57						
WRA				pP		05 15 33.9	
	6.8nm,0.8s,baz=51,slow=11,SNR=4.1						
WRA				PcP	PcP	05 19 02.9	+0.8
	5.0nm,0.6s,baz=47,slow=2.2,SNR=18						
WRA				ScP	ScP	05 22 28.9	+4.4
	1.3nm,1.0s,baz=44,slow=2.3,SNR=4.5						
WRA	**Warramunga Arr**	**22.27**	**227**	P	**P**	**05 15 11.8**	**-0.4**
WRA				pP		05 15 33.9	
WRA				PcP	PcP	05 19 02.9	+0.8
WRA				ScP	ScP	05 22 28.9	+4.4
TARA	**Tarawa**	**22.33**	**74**	*e*P	**P**	**05 15 15.1**	**+2.4**
	224nm,0.6s,mb5.8						
ASAR	**Alice Springs**	**25.05**	**221**	P	**P**	**05 15 38.5**	**+1.0**
	3.2nm,0.6s,mb4.0,baz=54,slow=9.0,SNR=38						
ASAR				PcP	PcP	05 19 09.1	+1.2
	3.8nm,0.9s,baz=43,slow=3.1,SNR=12						
ASAR	**Alice Springs**	**25.05**	**221**	P	**P**	**05 15 38.5**	**+1.0**
ASAR				PcP	PcP	05 19 09.1	+1.2
FITZ	**Fitzroy Crossi**	**28.38**	**241**	P	**P**	**05 16 07.6**	**+0.2**
	2.9nm,0.4s,mb4.4,baz=54,slow=8.3,SNR=13						
FITZ				LR	LR	05 28 11.3	
	comp=Z,51nm,20.2s,baz=261,slow=37						
FITZ	**Fitzroy Crossi**	**28.38**	**241**	*e*P	**P**	**05 16 06.9**	**-0.5**
	19nm,1.4s,mb4.6						
FITZ				*e*PcP	PcP	05 19 16.9	+0.9
MBWA	**Marble Bar**	**34.70**	**240**	*e*P	**P**	**05 17 03.1**	**+0.5**
	5.1nm,0.6s,mb4.3						
YULB	**Yu-li**	**40.93**	**315**	*e*P	**P**	**05 17 54.4**	**-0.4**
	8.9nm,0.8s,mb4.5						
MJAR	**Matsushiro Arr**	**43.30**	**344**	P	**P**	**05 18 10.7**	**-3.0**
	1.1nm,0.4s,mb3.9,baz=39,slow=12,SNR=3.4						
MJAR	**Matsushiro Arr**	**43.30**	**344**	P	**P**	**05 18 10.8**	**-3.0**
KSRS	**Korea Array**	**47.75**	**335**	P	**P**	**05 18 47.8**	**-0.9**
	1.0nm,0.5s,mb3.7,baz=155,slow=8.9,SNR=4.5						
NJ2	**Nanjing**	**48.32**	**322**	*e*P	**P**	**05 18 55.1**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.6						
IPM	**Ipoh**	**51.34**	**280**	*e*P	**P**	**05 19 14.8**	**-1.6**
	comp=Z,18nm,0.7s,mb4.8						
IPM	**Ipoh**	**51.34**	**280**	P	**P**	**05 19 16.2**	**-0.1**
	comp=Z,29nm,0.9s,mb4.9						
KULM	**Kulim**	**51.85**	**281**	*e*P	**P**	**05 19 19.8**	**-0.3**
	comp=Z,19nm,0.8s,mb4.8						
KULM	**Kulim**	**51.85**	**281**	P	**P**	**05 19 19.8**	**-0.3**
	comp=Z,28nm,0.9s,mb4.9						
MNSI	**Mandailing Nat**	**52.22**	**275**	P	**P**	**05 19 21.8**	**-1.1**
	comp=Z,54nm,0.7s,mb5.3						
GYA	**Guiyang**	**53.60**	**308**	*e*P	**P**	**05 19 34.0**	**+1.3**
GYA				pP	pP	05 20 13.6	+3.7
GYA				sP	sP	05 20 32.5	+4.7
GYA				PP	PP	05 21 38.9	+3.6
GYA				ScP	ScP	05 24 19.5	-0.4
GYA				PcS	PcS	05 24 36.0	-0.7
GYA				S	**S**	**05 26 52.1**	**-1.7**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.5						
CN2	**Changchun**	**54.10**	**337**	*e*P	**P**	**05 19 40.0**	**+4.0**
CN2				*e*pP	pP	05 20 16.9	+3.6
CN2				*e*S	**S**	**05 27 02.7**	**+2.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.7						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
KMI	**Kunming**	**56.13**	**305**	P	**P**	**05 19 52.6**	**+1.6**
KMI				pP	pP	05 20 31.4	+3.0
KMI				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.8						
CMAR	**Chiang Mai Arr**	**56.88**	**296**	P	**P**	**05 19 57.4**	**+1.0**
	comp=Z,3.6nm,0.7s,mb4.3,baz=112,slow=5.1,SNR=22						
CMAR	**Chiang Mai Arr**	**56.88**	**296**	P	**P**	**05 19 57.4**	**+1.0**
CHTO	**Chiang Mai**	**56.99**	**296**	P	**P**	**05 19 58.0**	**+0.8**
	comp=Z,8.0nm,1.1s,mb4.5						
CD2	**Chengdu**	**58.00**	**311**	P	**P**	**05 20 04.5**	**+0.5**
CD2				pP	pP	05 20 45.0	+3.3
CD2				PcP	PcP	05 20 54.6	+0.4
CD2				sP	sP	05 21 04.3	+4.8
CD2				PP	PP	05 22 16.8	+2.3
CD2				S	**S**	**05 27 49.2**	**-2.8**
CD2				sS	sS	05 28 59.8	+2.5
CD2				SS	SS	05 31 44.6	-1.4
CD2				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.1						
CD2				pmax	pmax		
	comp=Z,90nm,6.4s						
PETK	**Petropavlovsk-**	**58.27**	**4**	P	**P**	**05 20 03.4**	**-1.9**
	comp=Z,1.4nm,0.5s,mb4.0,baz=153,slow=5.9,SNR=4.2						
PETK	**Petropavlovsk-**	**58.27**	**4**	P	**P**	**05 20 03.4**	**-1.9**
HHC	**Hu-ho-hao-te**	**58.59**	**325**	*e*P	**P**	**05 20 08.9**	**+1.0**
HHC				pP	pP	05 20 47.5	+1.8
HHC				sP	sP	05 21 06.1	+2.7
HHC				PP	PP	05 22 22.2	+2.7
HHC				PcS	PcS	05 24 57.0	-1.1
HHC				S	**S**	**05 27 58.0**	**-1.2**
HHC				ScS	ScS	05 29 38.0	-3.7
HHC				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.0						
HHC				pmax	pmax		
	comp=Z,73nm,5.8s						
HHC				LR	LR		
	comp=N,150nm,14.9s						
HHC				LR	LR		
	comp=E,160nm,15.2s						
HHC				LR	LR		
	comp=Z,80nm,15.2s						
LZH	**Lanzhou**	**60.60**	**317**	*e*P	**P**	**05 20 23.5**	**+1.8**
LZH				pP	pP	05 21 01.5	+1.8
LZH				sP	sP	05 21 18.3	+0.9
LZH				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.7						
GTA	**Gaotai**	**65.05**	**318**	*e*P	**P**	**05 20 51.3**	**+0.2**
GTA				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
ULN	**Ulaanbaatar**	**65.62**	**329**	*e*P	**P**	**05 20 54.9**	**+0.3**
	comp=Z,9.2nm,1.0s,mb4.6						
ULN	**Ulaanbaatar**	**65.62**	**329**	P	**P**	**05 20 54.9**	**+0.3**
	comp=Z,9.5nm,0.9s,mb4.6						
SONM	**Songino Array**	**65.94**	**328**	P	**P**	**05 20 56.6**	**0.0**
	comp=Z,7.8nm,0.6s,mb4.7,baz=147,slow=4.8,SNR=46						
SONM	**Songino Array**	**65.94**	**328**	P	**P**	**05 20 56.6**	**0.0**
LSA	**Lhasa**	**67.39**	**305**	P	**P**	**05 21 07.0**	**+0.8**
LSA	**Lhasa**	**67.39**	**305**	*e*P	**P**	**05 21 07.4**	**+1.2**
	comp=Z,12nm,0.7s,mb4.8						
GUN	**Gumba**	**71.22**	**302**	*e*P	**P**	**05 21 29.9**	**+0.1**
	comp=Z,43nm,0.7s,mb5.3						
GUN	**Gumba**	**71.22**	**302**	*e*P	**P**	**05 21 29.9**	**+0.1**
	comp=Z,43nm,0.7s,mb5.3						
PKI	**Pulchoki**	**71.52**	**301**	*e*P	**P**	**05 21 31.3**	**-0.3**
PKI	**Pulchoki**	**71.52**	**301**	*e*P	**P**	**05 21 32.3**	**+0.7**
	comp=Z,9.4nm,0.5s,mb4.8						
PKIN	**Phulchoki**	**71.53**	**301**	*e*P	**P**	**05 21 32.3**	**+0.6**
	comp=Z,9.4nm,0.5s,mb4.8						
KKN	**Kakani**	**71.69**	**301**	*e*P	**P**	**05 21 32.3**	**-0.3**
	comp=Z,25nm,0.7s,mb5.0						
KKN	**Kakani**	**71.69**	**301**	*e*P	**P**	**05 21 32.3**	**-0.3**
	comp=Z,25nm,0.7s,mb5.0						
DMN	**Daman**	**71.79**	**301**	*e*P	**P**	**05 21 33.3**	**+0.1**
	comp=Z,40nm,0.8s,mb5.2						
DMN	**Daman**	**71.79**	**301**	*e*P	**P**	**05 21 33.3**	**+0.1**
	comp=Z,40nm,0.8s,mb5.2						
GKN	**Gorkha**	**72.30**	**301**	*e*P	**P**	**05 21 36.0**	**-0.2**
	comp=Z,37nm,0.7s,mb5.2						
GKN	**Gorkha**	**72.30**	**301**	*e*P	**P**	**05 21 36.0**	**-0.2**
	comp=Z,37nm,0.7s,mb5.2						
KOLN	**Koldanda**	**73.12**	**301**	*e*P	**P**	**05 21 40.8**	**-0.3**
	comp=Z,28nm,0.7s,mb5.1						
KOLN	**Koldanda**	**73.12**	**301**	*e*P	**P**	**05 21 40.8**	**-0.3**
	comp=Z,28nm,0.7s,mb5.1						
DANN	**Dangsing**	**73.14**	**302**	*e*P	**P**	**05 21 40.6**	**-0.6**
	comp=Z,35nm,0.8s,mb5.2						
DANN	**Dangsing**	**73.14**	**302**	*e*P	**P**	**05 21 40.6**	**-0.6**
	comp=Z,35nm,0.8s,mb5.1						
WMQ	**Urumqi**	**75.14**	**318**	P	**P**	**05 21 53.4**	**+1.0**
MKAR	**Makanchi Array**	**79.75**	**319**	P	**P**	**05 22 17.4**	**-0.6**
	comp=Z,4.5nm,0.8s,mb4.2,baz=105,slow=6.2,SNR=29						
MKAR	**Makanchi Array**	**79.75**	**319**	P	**P**	**05 22 17.4**	**-0.6**
ZALV	**Zalesovo Beam**	**80.74**	**327**	P	**P**	**05 22 21.3**	**-1.8**
	comp=Z,3.9nm,0.4s,mb4.4,baz=110,slow=6.1,SNR=20						
ZALV	**Zalesovo Beam**	**80.74**	**327**	P	**P**	**05 22 21.3**	**-1.8**
KSH	**Kashi**	**82.20**	**311**	*e*P	**P**	**05 22 32.9**	**+1.8**
KSH				pP	pP	05 23 12.8	+1.5
KSH				sP	sP	05 23 30.0	+1.5
KSH				PP	PP	05 25 45.2	+3.3
KSH				S	S	05 32 29.2	-3.7
KSH				SKS		05 32 33.9	
KSH				SS	SS	05 37 59.5	+2.8
KSH				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.3						
KSH				pmax	pmax		
	comp=Z,140nm,4.7s						
KSH				LR	LR		
	comp=N,36nm,5.0s						
KSH				LR	LR		
	comp=E,46nm,3.4s						
KSH				LR	LR		
	comp=Z,90nm,4.1s						
ILAR	**Eielson Array**	**82.95**	**22**	P	**P**	**05 22 31.4**	**-3.1**
	comp=Z,1.7nm,0.7s,mb3.9,baz=249,slow=5.1,SNR=24						
ILAR	**Eielson Array**	**82.95**	**22**	P	**P**	**05 22 31.4**	**-3.1**
TKM2	**Tokmak 2**	**83.25**	**314**	*e*P	**P**	**05 22 35.1**	**-1.4**
	comp=Z,6.1nm,0.6s,mb4.5						
AAK	**Ala-Archa**	**83.98**	**314**	*e*P	**P**	**05 22 40.2**	**0.0**
	comp=Z,7.7nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**83.98**	**314**	P	**P**	**05 22 40.3**	**+0.1**
EKS2	**Erkin-Say**	**84.50**	**314**	*e*P	**P**	**05 22 42.8**	**-0.1**
	comp=Z,12nm,0.8s,mb4.7						
MAW	**Mawson**	**84.77**	**203**	P	**P**	**05 22 42.9**	**-0.8**
	comp=Z,3.0nm,0.8s,mb4.1,baz=79,slow=6.7,SNR=8.1						
MAW				pP	pP	05 23 14.2	-10
	comp=Z,0.9nm,0.4s,baz=53,slow=2.5,SNR=2.7						
MAW	**Mawson**	**84.77**	**203**	P	**P**	**05 22 42.9**	**-0.8**
MAW				pP	pP	05 23 14.2	-10
QSPA	**South Pole Qui**	**84.82**	**180**	P	**P**	**05 22 43.3**	**-0.4**
	comp=Z,3.8nm,0.8s,mb4.2,baz=11,slow=1.4,SNR=19						
QSPA				pP	pP	05 23 14.0	-10
	comp=Z,2.6nm,0.7s,baz=318,slow=2.0,SNR=5.0						
QSPA	**South Pole Qui**	**84.82**	**180**	P	**P**	**05 22 43.3**	**-0.4**
QSPA				pP	pP	05 23 14.0	-10
DAWY	**Dawson**	**85.62**	**24**	*e*P	**P**	**05 22 49.2**	**+1.3**
KKAR	**Karatay Array**	**86.94**	**314**	*e*P	**P**	**05 22 54.5**	**-0.4**
INK	**Inuvik**	**89.23**	**21**	P	**P**	**05 23 03.6**	**-1.5**
	comp=Z,0.9nm,0.7s,mb3.8,baz=255,slow=5.9,SNR=4.8						
INK	**Inuvik**	**89.23**	**21**	P	**P**	**05 23 03.6**	**-1.5**
WCN	**Washoe City**	**92.23**	**51**

TORD pPKPbc pPKPbc 05 30 29.7 -11
comp=Z,1.2nm,0.7s,baz=90,slow=2.3,SNR=1.5

IDC 06 05:24:10.0±3.8, 4.73S×151.52E, h0km, mb3.3/2, mb1 3.7/2, mb1mx3.3/16, mbtmp3.4/2, Error ellipse: s-maj=160.3km s-min=47.9km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.55**	**226**	P	P	05 29 11.5	-0.3
	0.7nm,0.7s,baz=51,slow=9.9,SNR=6.8						
ASAR	**Alice Springs**	**25.36**	**220**	P	P	05 29 39.4	+0.4
	0.5nm,0.4s,baz=57,slow=8.8,SNR=7.3						
TORD	**Torodi Ar. Bea**	**149.07**	**288**	PKPbc	PKPbc	05 44 00.7	-0.6
	0.2nm,0.6s,baz=105,slow=4.4,SNR=2.2						

*ISCJB **06** 05:24:49.9±0.6, 26.27S±0.04×69.50W±0.09, h95km±7km, mb3.9/9, Error ellipse: s-maj=13.1km s-min=6.9km az=1.3*
*NEIC **06** 05:24:51.2±0.8, 26.21S×69.56W, h86km±8km, Error ellipse: s-maj=13.2km s-min=8.0km az=97.0*
*IDC **06** 05:24:52.6±0.5, 26.28S×69.60W, h99km±4km, mb3.8/9, mb1 3.9/12, mb1mx3.8/20, mbtmp3.7/12, Error ellipse: s-maj=19.9km s-min=11.2km az=79.0*
ISC 06 05:24:51.2±0.6, 26.27S±0.04×69.52W±0.08, h90km±6km, h100km±2.3km: pP-P, n41, σ1§02/42, mb3.9/9, 7C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.32**	**214**	⇑*i*P	**Pn**	**05 25 14.9**	**+0.3**
CPCH				*i*S	**Sn**	**05 25 32.7**	**+0.5**
CDCH	**Caldera**	**1.41**	**235**	⇑*i*P	**Pn**	**05 25 16.3**	**+0.6**
CDCH				*i*S	**Sn**	**05 25 34.4**	**+0.1**
VACH	**Vallenar**	**2.55**	**205**	⇑*i*P	**Pn**	**05 25 30.8**	**+0.1**
VACH				*i*S	**Sn**	**05 25 58.8**	**-2.1**
ANCH	**Antofagasta**	**2.70**	**342**	⇑*i*P	**Pn**	**05 25 32.0**	**-0.7**
LCO	**Las Campanas**	**2.93**	**201**	*e*Pn	**Pn**	**05 25 36.2**	**+0.5**
LCO				*e*Sn	**Sn**	**05 26 02.8**	**-7.2**
TLL	**Tololo Astrono**	**4.05**	**196**	⇑*i*P	**Pn**	**05 25 51.3**	**+0.5**
PB01	**Plate Boundary**	**5.20**	**0**	⇑*i*P	**Pn**	**05 26 05.2**	**-1.4**
CFAA	**Coronel Fontan**	**5.44**	**168**	P	**Pn**	**05 26 11.8**	**+2.1**
	1.8nm,0.3s,baz=339,slow=11,SNR=431						
CFAA				S	**Sn**	**05 27 10.2**	**-0.7**
	5.2nm,0.3s,baz=320,slow=12,SNR=4.1						
CFAA	**Coronel Fontan**	**5.44**	**168**	P	**Pn**	**05 26 11.8**	**+2.1**
CFAA				S	**Sn**	**05 27 10.2**	**-0.7**
LPAZ	**La Paz**	**10.01**	**8**	P	**Pn**	**05 27 11.9**	**-0.2**
	5.2nm,0.3s,baz=183,slow=7.0,SNR=112						
LPAZ	**La Paz**	**10.01**	**8**	P	**Pn**	**05 27 11.9**	**-0.2**
CPUP	**Villa Florida**	**10.94**	**93**	P	**Pn**	**05 27 25.1**	**+0.4**
	0.2nm,0.3s,baz=257,slow=10,SNR=3.9						
CPUP	**Villa Florida**	**10.94**	**93**	P	**Pn**	**05 27 25.1**	**+0.4**
PLCA	**Paso Flores**	**14.45**	**183**	P	**Pn**	**05 28 11.1**	**-0.1**
	0.1nm,0.3s,baz=341,slow=12,SNR=3.6						
PLCA	**Paso Flores**	**14.45**	**183**	P	**Pn**	**05 28 11.1**	**-0.1**
VNA3	**Neumayer Olymp**	**55.78**	**160**	*e*	**P**	**05 34 16.5**	**-1.9**
VNA1	**Neumayer--Stat**	**56.02**	**159**	*e*	**P**	**05 34 18.4**	**-1.7**
VNA2	**Neumayer--Watz**	**56.38**	**160**	*e*	**P**	**05 34 20.9**	**-1.7**
	baz=290,slow=8.1						
SNAA	**Sanae**	**58.00**	**160**	P	**P**	**05 34 34.6**	**+0.6**
	0.9nm,0.5s,mb4.1,baz=280,slow=8.3,SNR=51						
SNAA				pP	pP	05 34 59.6	+3.3
	0.5nm,0.6s,baz=271,slow=11,SNR=3.4						
SNAA	**Sanae**	**58.00**	**160**	P	**P**	**05 34 34.6**	**+0.6**
SNAA				pP	pP	05 34 59.6	+3.3
QSPA	**South Pole Qui**	**63.95**	**180**	P	**P**	**05 35 15.5**	**+1.4**
	2.1nm,0.5s,mb4.2,baz=280,slow=0.1,SNR=28						
QSPA				pP	pP	05 35 40.1	+3.3
	1.2nm,0.5s,baz=241,slow=1.4,SNR=3.5						
QSPA	**South Pole Qui**	**63.95**	**180**	P	**P**	**05 35 15.5**	**+1.4**
QSPA				pP	pP	05 35 40.1	+3.3
TXAR	**Lajitas Array**	**64.25**	**327**	P	**P**	**05 35 16.4**	**-0.4**
	0.2nm,0.9s,mb3.0,baz=151,slow=8.0,SNR=3.8						
TXAR				pP	pP	05 35 40.8	+1.3
	0.3nm,0.7s,baz=158,slow=7.9,SNR=3.3						
TXAR	**Lajitas Array**	**64.25**	**327**	P	**P**	**05 35 16.4**	**-0.4**
TXAR				pP	pP	05 35 40.8	+1.3
DBIC	**Dimbokro**	**70.68**	**72**	P	**P**	**05 35 58.5**	**+0.7**
	3.6nm,0.6s,mb4.4,baz=212,slow=8.4,SNR=9.4						
DBIC				pP	pP	05 36 23.9	+3.1
	4.5nm,0.7s,baz=210,slow=7.3,SNR=3.4						
DBIC	**Dimbokro**	**70.68**	**72**	P	**P**	**05 35 58.5**	**+0.7**
DBIC				pP	pP	05 36 23.9	+3.1
SYO	**Syowa Base**	**72.27**	**159**	⇑*e*P	**P**	**05 36 05.0**	**-1.3**
PDAR	**Pinedale Array**	**77.97**	**331**	P	**P**	**05 36 39.8**	**+0.5**
	0.3nm,0.5s,mb3.3,baz=118,slow=8.7,SNR=3.5						
PDAR	**Pinedale Array**	**77.97**	**331**	P	**P**	**05 36 39.8**	**+0.5**
NVAR	**Mina Array Bea**	**78.91**	**323**	P	**P**	**05 36 46.0**	**+1.3**
	0.4nm,0.7s,mb3.4,baz=137,slow=7.1,SNR=3.9						
NVAR				pP	pP	05 37 10.2	+2.1
	0.3nm,0.7s,baz=141,slow=7.3,SNR=3.1						
NVAR	**Mina Array Bea**	**78.91**	**323**	P	**P**	**05 36 46.0**	**+1.3**
NVAR				pP	pP	05 37 10.2	+2.1
TORD	**Torodi Ar. Bea**	**79.50**	**70**	P	**P**	**05 36 48.9**	**+0.5**
	3.9nm,0.5s,mb4.5,baz=265,slow=5.7,SNR=49						
TORD				pP	pP	05 37 15.8	+3.9
	3.2nm,0.5s,baz=264,slow=5.4,SNR=9.1						
TORD	**Torodi Ar. Bea**	**79.50**	**70**	P	**P**	**05 36 48.9**	**+0.5**
TORD				pP	pP	05 37 15.8	+3.9
MAW	**Mawson**	**79.95**	**163**	P	**P**	**05 36 51.0**	**+1.1**
	2.2nm,0.5s,mb4.2,baz=219,slow=6.1,SNR=12						
MAW	**Mawson**	**79.95**	**163**	P	**P**	**05 36 51.0**	**+1.1**
LBTB	**Lobatse**	**83.55**	**115**	P	**P**	**05 37 10.2**	**+0.5**
	1.8nm,0.5s,mb4.1,baz=272,slow=5.7,SNR=4.9						
ASAR	**Alice Springs**	**125.43**	**207**	PKP	PKPdf	05 43 42.0	-0.4
	0.3nm,0.4s,baz=120,slow=1.6,SNR=6.1						
ASAR				pPKP	pPKPdf	05 44 07.9	+0.6
	0.3nm,0.4s,baz=133,slow=1.5,SNR=3.7						
WRA	**Warramunga Arr**	**128.56**	**209**	PKP	PKPdf	05 43 48.5	+0.1
	0.4nm,0.2s,baz=153,slow=2.0,SNR=8.5						
WRA				pPKP	pPKPdf	05 44 14.9	+1.6
	0.4nm,0.6s,baz=161,slow=1.6,SNR=2.4						
ZALV	**Zalesovo Beam**	**146.46**	**28**	PKPbc	PKPbc	05 44 20.6	-0.8
	4.3nm,0.5s,baz=306,slow=3.4,SNR=21						
ZALV				pPKPbc	pPKPbc	05 44 48.2	+2.0
	3.8nm,0.8s,baz=306,slow=3.6,SNR=4.5						
MKAR	**Makanchi Array**	**149.72**	**40**	PKPbc	PKPbc	05 44 30.8	+0.4
	3.7nm,0.8s,baz=320,slow=2.2,SNR=23						
MKAR				pPKPbc	pPKPbc	05 44 58.2	+3.0
	3.4nm,0.7s,baz=324,slow=2.3,SNR=15						
SONM	**Songino Array**	**158.23**	**7**	PKP	PKPdf	05 44 37.4	-0.1
	0.4nm,0.7s,baz=284,slow=0.6,SNR=3.3						
SONM				PKPab	PKPab	05 45 11.4	-0.5
	0.5nm,0.6s,baz=261,slow=3.9,SNR=5.0						

*NEIC **06** 05:54:04.6, 36.54N×9.70W, h22km, MG3.5(MDD), After MDD.*
*MDD **06** 05:54:05.4±1.5, 36.55N×9.72W, h30km, mbLg2.9/16, Error ellipse: s-maj=13.8km s-min=9.1km az=46.0, PRIMO*
*CSEM **06** 05:54:06.3±0.4, 36.72N×9.51W, h20km, ML3.5/17, Error ellipse: s-maj=7.0km s-min=4.9km az=45.0*
*IGIL **06** 05:54:06.3, 36.58N×9.62W, h20km, ML2.7*
*INMG **06** 05:54:06.4±1.0, 36.60N×9.62W, h20km±3km, ML2.4, Error ellipse: s-maj=4.2km s-min=2.6km az=54.0*
ISC 06 05:54:06.1±0.8, 36.77N±0.03×9.45W±0.05, h10km, n98, σ1§10/180, 8C-2D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.61**	**54**	Pg	**Pg**	**05 54 21.6**	**+3.6**
PFVI				Lg		05 54 32.9	
PFVI	**Vila Bisbo**	**0.61**	**54**	⇑P	**Pg**	**05 54 21.6**	**+3.5**
	48nm,0.1s,SNR=18						
PFVI				S	**Sg**	**05 54 32.9**	**+6.8**
	41nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**0.61**	**54**	P	**Pg**	**05 54 21.6**	**+3.6**
	48nm,0.1s,SNR=18						
PFVI				Lg		05 54 32.9	
PFVI				S	**Sg**	**05 54 32.9**	**+6.8**
	41nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**0.61**	**54**	⇑*i*P	**Pg**	**05 54 21.6**	**+3.6**
PFVI				*e*S	**Sg**	**05 54 32.9**	**+6.8**
PFVI				A		05 54 33.8	
	56nm,0.1s						
MORF	**Marmelete**	**0.83**	**50**	P	**Pg**	**05 54 24.7**	**+2.6**
	SNR=7.9						
MORF				S	**Sg**	**05 54 37.7**	**+4.7**
	SNR=7.9						
MORF	**Marmelete**	**0.83**	**50**	⇑*i*P	**Pg**	**05 54 24.6**	**+2.5**
MORF				*e*S	**Sg**	**05 54 38.1**	**+5.1**
MORF				A		05 54 40.0	
	61nm,0.2s						
PTEO	**Sao Teotonio**	**0.96**	**36**	⇑*e*P	**Pg**	**05 54 26.4**	**+1.7**
PTEO				*e*S	**Sg**	**05 54 41.7**	**+4.4**
PTEO				A		05 54 42.5	
	25nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.30**	**68**	⇑*i*P	**Pn**	**05 54 30.9**	**+0.6**
PBDV				*e*S	**Sb**	**05 54 48.7**	**+1.3**
PBDV				A		05 54 49.5	
	17nm,0.2s						
PCVE	**Castro Verde**	**1.42**	**52**	*e*P	**Pn**	**05 54 32.9**	**+1.0**
PCVE				*e*S	**Sn**	**05 54 52.6**	**+2.0**
	8.6nm,0.1s						
PCVE	**Castro Verde**	**1.42**	**52**	*e*P	**Pn**	**05 54 32.9**	**+1.0**
PCVE				*e*S	**Sn**	**05 54 52.6**	**+2.0**
PCVE				A		05 54 54.7	
	8.6nm,0.1s						
MESJ	**Messejana**	**1.45**	**42**	*e*P	**Pn**	**05 54 33.1**	**+0.7**
MESJ				*e*		05 54 33.4	
	baz=243,slow=11						
MESJ				*e*S	**Sn**	**05 54 52.7**	**+1.3**
MESJ	**Messejana**	**1.45**	**42**	P	**Pn**	**05 54 33.8**	**+1.5**
	SNR=7.9						
MESJ				S	**Sn**	**05 54 52.4**	**+1.1**
	SNR=7.9						
PVAQ	**Vaqueiros**	**1.52**	**65**	⇑*i*Pn	**Pn**	**05 54 33.8**	**+0.5**
PVAQ				*e*Sn	**Sn**	**05 54 54.2**	**+1.0**
PVAQ				A		05 54 54.7	
	24nm,0.1s						
PNCL	**Nicolau / Gran**	**1.52**	**28**	⇑*e*Pn	**Pn**	**05 54 33.8**	**+0.4**
PNCL				*e*Sn	**Sn**	**05 54 54.9**	**+1.6**
PNCL				A		05 54 56.3	
	22nm,0.1s						
EGRO	**El Granado**	**1.74**	**63**	Pn	**Pn**	**05 54 36.8**	**+0.4**
EGRO				Sn	**Sn**	**05 54 59.8**	**+1.2**
EGRO	**El Granado**	**1.74**	**63**	P	**Pn**	**05 54 36.8**	**+0.4**
	1.2nm,0.0s,SNR=7.9						
EGRO				S	**Sn**	**05 54 59.8**	**+1.2**
	14nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**1.74**	**63**	P	**Pn**	**05 54 36.8**	**+0.4**
	1.2nm,0.0s,SNR=7.9						
EGRO				S	**Sn**	**05 54 59.8**	**+1.1**
	14nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**1.78**	**45**	*e*Pn	**Pn**	**05 54 37.5**	**+0.6**
PBEJ				*e*Sn	**Sn**	**05 55 01.0**	**+1.5**
	8.3nm,0.1s						
PBEJ	**Beja**	**1.78**	**45**	*e*Pn	**Pn**	**05 54 37.5**	**+0.6**
PBEJ				*e*Sn	**Sn**	**05 55 01.0**	**+1.5**
PBEJ				A		05 55 02.9	
	8.3nm,0.1s						
MOE	**Montemor**	**1.95**	**26**	*e*Sn	**Sn**	**05 55 04.5**	**+0.6**
MOE	**Montemor**	**1.95**	**26**	*e*Sn	**Sn**	**05 55 04.5**	**+0.6**
EVO	**Evora**	**2.09**	**32**	⇓*e*Pn	**Pn**	**05 54 41.6**	**+0.4**
EVO				*e*Sn	**Sn**	**05 55 08.4**	**+1.1**
EVO				A		05 55 09.3	
	37nm,0.1s						
PMAFR	**Mafra**	**2.19**	**3**	P	**Pn**	**05 54 42.0**	**-0.5**
	5.5nm,0.1s,SNR=8.2						
PMAFR				S	**Sn**	**05 55 09.3**	**-0.3**
	60nm,0.2s,SNR=18						
PMAFR	**Mafra**	**2.19**	**3**	P	**Pn**	**05 54 42.0**	**-0.5**
	5.5nm,0.1s,SNR=8.2						
PMAFR				*e*Sn	**Sn**	**05 55 10.0**	**+0.4**
	42nm,0.2s						
PMAFR				S	**Sn**	**05 55 10.9**	**+1.3**
	60nm,0.2s,SNR=18						
PMAFR	**Mafra**	**2.19**	**3**	*e*Pn	**Pn**	**05 54 42.0**	**-0.5**
PMAFR				*e*Sn	**Sn**	**05 55 10.0**	**+0.4**
PMAFR				A		05 55 12.0	
	42nm,0.2s						
PBAR	**Barrancos**	**2.37**	**53**	*e*Pn	**Pn**	**05 54 45.5**	**+0.4**
PBAR				*e*Sn	**Sn**	**05 55 15.0**	**+0.8**
	7.0nm,0.2s						
PBAR	**Barrancos**	**2.37**	**53**	*e*Pn	**Pn**	**05 54 45.5**	**+0.4**
PBAR				*e*Sn	**Sn**	**05 55 15.0**	**+0.8**
PBAR				A		05 55 19.0	
	7.0nm,0.2s						
EMIN	**Mina Concepcio**	**2.43**	**65**	Pn	**Pn**	**05 54 45.8**	**0.0**
EMIN				Sn	**Sn**	**05 55 15.0**	**-0.5**
EMIN	**Mina Concepcio**	**2.43**	**65**	P	**Pn**	**05 54 45.7**	**0.0**
	0.4nm,0.1s,SNR=8.1						
EMIN				S	**Sn**	**05 55 16.2**	**+0.6**
	4.0nm,0.1s,SNR=10						
EMIN	**Mina Concepcio**	**2.43**	**65**	Pn	**Pn**	**05 54 45.8**	**0.0**
EMIN				S	**Sn**	**05 55 15.0**	**-0.5**
	4.0nm,0.1s,SNR=10						
PMTG	**Montargil**	**2.49**	**22**	*e*Pn	**Pn**	**05 54 47.4**	**+0.7**
PMTG				*e*Sn	**Sn**	**05 55 17.5**	**+0.4**
	9.9nm,0.1s						
PMTG	**Montargil**	**2.49**	**22**	*e*Pn	**Pn**	**05 54 47.4**	**+0.7**
PMTG				*e*Sn	**Sn**	**05 55 17.5**	**+0.4**
PMTG				A		05 55 18.9	
	9.9nm,0.1s						
PESTR	**Estremoz**	**2.56**	**35**	⇓*e*Pn	**Pn**	**05 54 47.7**	**+0.1**
PESTR				*e*Sn	**Sn**	**05 55 19.6**	**+0.8**
PESTR				A		05 55 21.4	
	4.1nm,0.2s						
EBAD	**Badajoz**	**2.77**	**43**	Pn	**Pn**	**05 54 50.5**	**+0.1**
EBAD				Sn	**Sn**	**05 55 25.2**	**+1.3**
EBAD	**Badajoz**	**2.77**	**43**	P	**Pn**	**05 54 50.5**	**+0.1**
	1.1nm,0.1s,SNR=10						
EBAD				S	**Sn**	**05 55 25.2**	**+1.3**
	5.5nm,0.1s,SNR=7.3						
EBAD	**Badajoz**	**2.77**	**43**	P	**Pn**	**05 54 50.5**	**+0.1**
	1.1nm,0.1s,SNR=10						
EBAD				S	**Sn**	**05 55 25.2**	**+1.3**
	5.5nm,0.1s,SNR=7.3						
ESPR	**Espera**	**2.88**	**87**	Pn	**Pn**	**05 54 51.6**	**-0.4**
ESPR				Sn	**Sn**	**05 55 25.7**	**-1.1**
ESPR	**Espera**	**2.88**	**87**	P	**Pn**	**05 54 51.6**	**-0.4**
	3.7nm,0.1s,SNR=5.2						
ESPR				S	**Sn**	**05 55 25.7**	**-1.0**
	51nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.88**	**87**	P	**Pn**	**05 54 51.6**	**-0.5**
	3.7nm,0.1s,SNR=5.2						
ESPR				S	**Sn**	**05 55 25.7**	**-1.1**
	51nm,0.2s,SNR=7.9						
PTOM	**Tomar**	**2.96**	**16**	*e*Pn	**Pn**	**05 54 53.7**	**+0.6**
PTOM				*e*Sn	**Sn**	**05 55 28.6**	**0.0**
	12nm,0.3s						
PTOM	**Tomar**	**2.96**	**16**	*e*Pn	**Pn**	**05 54 53.7**	**+0.6**
PTOM				*e*Sn	**Sn**	**05 55 28.6**	**0.0**
PTOM				A		05 55 30.3	
	12nm,0.3s						
PMRV	**Marv??o**	**3.11**	**31**	*e*Pn	**Pn**	**05 54 55.5**	**+0.3**
PMRV				*e*Sn	**Sn**	**05 55 32.1**	**-0.3**
	8.4nm,0.3s						
PMRV	**Marv??o**	**3.11**	**31**	*e*Pn	**Pn**	**05 54 55.5**	**+0.3**
PMRV				*e*Sn	**Sn**	**05 55 32.1**	**-0.3**
PMRV				A		05 55 34.3	
	8.4nm,0.3s						
EJIF	**Jimena Fronter**	**3.22**	**94**	P	**Pn**	**05 54 56.5**	**-0.2**
	0.7nm,0.1s,SNR=7.9						
EJIF				S	**Sn**	**05 55 32.2**	**-2.8**
	3.0nm,0.3s,SNR=7.9						
EJIF	**Jimena Fronter**	**3.22**	**94**	P	**Pn**	**05 54 56.5**	**-0.1**
	0.7nm,0.1s,SNR=7.9						
EJIF				S	**Sn**	**05 55 31.3**	**-3.7**
	3.0nm,0.3s,SNR=7.9						
PCBR	**Castelo Branco**	**3.43**	**26**	*e*Pn	**Pn**	**05 55 00.6**	**+1.0**
PCBR				*e*Sn	**Sn**	**05 55 40.1**	**-0.3**
	4.2nm,0.2s						
PCBR	**Castelo Branco**	**3.43**	**26**	*e*Pn	**Pn**	**05 55 00.6**	**+1.0**
PCBR				*e*Sn	**Sn**	**05 55 40.1**	**-0.3**
PCBR				A		05 55 44.2	
	4.2nm,0.2s						
EMIJ	**Mijas**	**3.76**	**92**	Sn	**Sn**	**05 55 46.3**	**-2.2**
EMIJ	**Mijas**	**3.76**	**92**	P	**Pn**	**05 55 03.4**	**-0.7**
	0.3nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**05 55 46.3**	**-2.2**
	2.2nm,0.2s,SNR=7.9						
MTE	**Manteigas**	**3.92**	**22**	*e*Pn	**Pn**	**05 55 06.7**	**+0.4**
MTE				*e*Sn	**Sn**	**05 55 52.5**	**+0.2**
	3.1nm,0.2s						
MTE	**Manteigas**	**3.92**	**22**	*e*Pn	**Pn**	**05 55 06.7**	**+0.4**
MTE				*e*Sn	**Sn**	**05 55 52.5**	**+0.2**
MTE				A		05 55 54.3	
	3.1nm,0.2s						
EADA	**Adamuz**	**4.12**	**69**	Pn	**Pn**	**05 55 09.3**	**+0.3**
EADA				Sn	**Sn**	**05 55 55.8**	**-1.5**
EADA	**Adamuz**	**4.12**	**69**	P	**Pn**	**05 55 09.3**	**+0.3**
	0.5nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**05 55 55.8**	**-1.5**
	5.0nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**4.12**	**69**	P	**Pn**	**05 55 09.3**	**+0.3**
	0.5nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**05 55 55.8**	**-1.4**
	5.0nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**4.12**	**17**	*e*Sn	**Sn**	**05 55 56.4**	**-0.9**
	6.9nm,0.1s						
PVIS	**Viseu**	**4.12**	**17**	*e*Sn	**Sn**	**05 55 56.4**	**-0.9**
PVIS				A		05 56 00.1	
	6.9nm,0.1s						
EPLA	**Plasencia**	**4.22**	**38**	Pn	**Pn**	**05 55 09.8**	**-0.7**
EPLA				Sn	**Sn**	**05 55 59.5**	**-0.2**
EPLA	**Plasencia**	**4.22**	**38**	P	**Pn**	**05 55 09.6**	**-0.8**
	0.4nm,0.0s,SNR=7.9						
EPLA				S	**Sn**	**05 55 59.5**	**-0.2**
	6.7nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**4.22**	**38**	P	**Pn**	**05 55 09.8**	**-0.6**
	0.4nm,0.0s,SNR=7.9						
EPLA				S	**Sn**	**05 55 59.5**	**-0.2**
	6.7nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**4.70**	**16**	*e*Sn	**Sn**	**05 56 09.7**	**-1.8**
	7.3nm,0.1s						
PVRL	**Vila Real**	**4.70**	**16**	*e*Sn	**Sn**	**05 56 09.7**	**-1.8**
PVRL				A		05 56 13.4	
	7.3nm,0.1s						
MVO	**Moncorvo**	**4.78**	**22**	Pn	**Pn**	**05 55 18.7**	**+0.6**
MVO				Sn	**Sn**	**05 56 13.4**	**-0.1**
MVO	**Moncorvo**	**4.78**	**22**	P	**Pn**	**05 55 18.7**	**+0.6**
	0.6nm,0.1s,SNR=6.4						
MVO				S	**Sn**	**05 56 12.9**	**-0.5**
	2.5nm,0.1s,SNR=7.3						
MVO	**Moncorvo**	**4.78**	**22**	*e*Pn	**Pn**	**05 55 18.6**	**+0.5**
MVO				S	**Sn**	**05 56 12.9**	**-0.5**
	2.5nm,0.1s,SNR=7.3						
MVO				Sn	**Sn**	**05 56 13.4**	**0.0**
MVO	**Moncorvo**	**4.78**	**22**	*e*Pn	**Pn**	**05 55 18.6**	**+0.5**
MVO				*e*Sn	**Sn**	**05 56 12.6**	**-0.8**
MVO				A		05 56 15.0	
	3.4nm,0.2s						
PCAB	**Cabril**	**5.05**	**12**	⇑*e*Pn	**Pn**	**05 55 21.8**	**-0.1**
PCAB				*e*Sn	**Sn**	**05 56 18.4**	**-1.9**
PCAB				A		05 56 21.6	
	3.2nm,0.1s						
EQES	**Quesada**	**5.19**	**77**	Pn	**Pn**	**05 55 23.5**	**-0.3**
EQES				Sn	**Sn**	**05 56 22.1**	**-1.5**
EQES	**Quesada**	**5.19**	**77**	P	**Pn**	**05 55 23.5**	**-0.3**
	0.1nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**05 56 22.1**	**-1.5**
	3.1nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.19**	**77**	P	**Pn**	**05 55 23.5**	**-0.2**
	0.1nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**05 56 22.1**	**-1.5**
	3.1nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**5.20**	**54**	Pn	**Pn**	**05 55 24.4**	**+0.4**
ESDC				Sn	**Sn**	**05 56 23.5**	**-0.4**
ESDC	**Sonseca Array**	**5.20**	**54**	P	**Pn**	**05 55 24.4**	**+0.4**
	1.9nm,0.1s,baz=237,slow=13,SNR=6.9						
ESDC				S	**Sn**	**05 56 23.5**	**-0.4**
	3.2nm,0.2s,baz=240,slow=24,SNR=7.9						
ESDC	**Sonseca Array**	**5.20**	**54**	P	**Pn**	**05 55 24.4**	**+0.5**
	1.9nm,0.1s,baz=237,slow=13,SNR=6.9						
ESDC				S	**Sn**	**05 56 23.5**	**-0.4**
	3.2nm,0.2s,slow=24,SNR=7.9						
ELOB	**Lobios**	**5.20**	**11**	Pn	**Pn**	**05 55 23.0**	**-1.0**
ELOB				Sn	**Sn**	**05 56 21.8**	**-2.1**
ELOB	**Lobios**	**5.20**	**11**	P	**Pn**	**05 55 23.7**	**-0.3**
	0.3nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**05 56 20.9**	**-3.1**
	1.5nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.20**	**11**	Pn	**Pn**	**05 55 23.0**	**-0.9**
ELOB	**Lobios**	**5.20**	**11**	P	**Pn**	**05 55 23.7**	**-0.2**
	0.3nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**05 56 20.9**	**-3.1**
	1.5nm,0.1s,SNR=7.9						
ELOB				Sn	**Sn**	**05 56 21.8**	**-2.2**
PGAV	**Gavieira, Arco**	**5.27**	**10**	*e*Pn	**Pn**	**05 55 24.8**	**0.0**
PGAV				*e*Sn	**Sn**	**05 56 23.2**	**-2.4**
	3.3nm,0.1s						
PGAV	**Gavieira, Arco**	**5.27**	**10**	*e*Pn	**Pn**	**05 55 24.8**	**0.0**
PGAV				*e*Sn	**Sn**	**05 56 23.2**	**-2.4**
PGAV				A		05 56 26.8	
	3.3nm,0.1s						
PBRG	**Braganca**	**5.45**	**22**	*e*Pn	**Pn**	**05 55 27.1**	**-0.2**
PBRG				*e*Sn	**Sn**	**05 56 28.1**	**-1.9**
	1.5nm,0.1s						
PBRG	**Braganca**	**5.45**	**22**	*e*Pn	**Pn**	**05 55 27.1**	**-0.2**
PBRG				*e*Sn	**Sn**	**05 56 28.1**	**-1.9**
PBRG				A		05 56 31.7	
	1.5nm,0.1s						
EHUE	**Huescar**	**5.56**	**77**	Sn	**Sn**	**05 56 30.8**	**-2.0**
**

KK31			Pg		Pg	05 56 09.6	-5.0
	9.5nm,0.6s,baz=141,slow=15,SNR=29						
KK31			⇑Lg			05 57 06.5	
	17nm,0.6s,baz=139,slow=27,SNR=5.4						
AB31	**Akbulak array**	**13.29 318**	⇓P		**Pn**	**05 58 06.7**	**-4.7**
	2.3nm,0.8s,baz=123,slow=13,SNR=12						
AKTO	**Aktyubinsk**	**15.00 318**	⇓P		**Pn**	**05 58 35.6**	**+0.9**
	0.4nm,0.8s						

RSPR ***06*** *05:59:14.8, 18°.11N×70°.94W, h80km±8km, MD4.2/13*
NEIC ***06*** *05:59:14.8, 18°.11N×70°.94W, h80km, MD4.2(RSPR), After RSPR.*

ISC 06 05:59:14.4±1.4, 18°.2N±0°.4×70°.97W±0°.09, h87km±58km, n28, σ0°68/38, 23C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SDDR	**Presa de Saban**	**0.88**	**340**	⇑*eP*		**Pn**	**05 59 32.4**	**-0.2**
SDDR	**Presa de Saban**	**0.88**	**340**	⇑*eP*		**Pn**	**05 59 32.4**	**-0.2**
SDDR				*eS*		**Sn**	**05 59 46.3**	**+0.1**
IMO	**Isla Mona**	**2.91**	**90**	⇓*eP*		**Pn**	**05 59 58.8**	**+0.1**
IMO				*eS*		**Sn**	**06 00 32.2**	**-0.6**
IMO	**Isla Mona**	**2.91**	**90**	⇓*eP*		**Pn**	**05 59 58.8**	**+0.1**
IMO				*eS*		**Sn**	**06 00 32.2**	**-0.6**
CRPR	**Cabo Rojo, PR**	**3.68**	**92**	⇑*eP*		**Pn**	**06 00 08.6**	**-0.4**
CRPR	**Cabo Rojo, PR**	**3.68**	**92**	⇑*eP*		**Pn**	**06 00 08.6**	**-0.4**
AGPR	**Aguadilla, PR**	**3.68**	**84**	⇑*eP*		**Pn**	**06 00 09.1**	**0.0**
AGPR	**Aguadilla, PR**	**3.68**	**84**	⇑*eP*		**Pn**	**06 00 09.1**	**0.0**
AGPR				*eS*		**Sn**	**06 00 51.1**	**-0.3**
LSP	**Las Mesas**	**3.69**	**89**	⇑*eP*		**Pn**	**06 00 10.6**	**+1.3**
LSP	**Las Mesas**	**3.69**	**89**	⇑*eP*		**Pn**	**06 00 10.6**	**+1.3**
LRS	**Lares**	**3.93**	**87**	⇑*eP*		**Pn**	**06 00 12.9**	**+0.5**
LRS				*eS*		**Sn**	**06 00 57.2**	**-0.1**
LRS	**Lares**	**3.93**	**87**	⇑*eP*		**Pn**	**06 00 12.9**	**+0.5**
LRS				*eS*		**Sn**	**06 00 57.2**	**-0.1**
AOPR	**Arecibo Observ**	**4.01**	**87**	⇑*eP*		**Pn**	**06 00 13.7**	**+0.1**
AOPR	**Arecibo Observ**	**4.01**	**87**	⇑*eP*		**Pn**	**06 00 13.7**	**+0.1**
AOPR				*eS*		**Sn**	**06 01 00.0**	**+0.5**
OBIP	**Obispado Ponce**	**4.15**	**91**	*e*Pn		**Pn**	**06 00 14.9**	**-0.6**
OBIP				*eS*		**Sn**	**06 01 02.5**	**-0.4**
CELP	**Cerrillos**	**4.18**	**90**	⇑*eP*		**Pn**	**06 00 15.8**	**0.0**
CELP	**Cerrillos**	**4.18**	**90**	⇑*eP*		**Pn**	**06 00 15.8**	**0.0**
ICM	**Isla Caja Muer**	**4.24**	**93**	*e*Pn		**Pn**	**06 00 15.4**	**-1.3**
ICM				*eS*		**Sn**	**06 01 07.8**	**+2.8**
SJG	**San Juan**	**4.59**	**90**	⇑*eP*		**Pn**	**06 00 21.6**	**+0.2**
SJG	**San Juan**	**4.59**	**90**	⇑*eP*		**Pn**	**06 00 21.5**	**+0.1**
SJG	**San Juan**	**4.59**	**90**	⇑*eP*		**Pn**	**06 00 21.5**	**+0.1**
CBYP	**Canovanas**	**4.86**	**88**	⇑*eP*		**Pn**	**06 00 25.2**	**+0.1**
CBYP	**Canovanas**	**4.86**	**88**	⇑*eP*		**Pn**	**06 00 25.2**	**+0.1**
HUMP	**Col San Antoni**	**4.87**	**89**	⇑*eP*		**Pn**	**06 00 25.6**	**+0.4**
HUMP	**Col San Antoni**	**4.87**	**89**	⇑*eP*		**Pn**	**06 00 25.6**	**+0.4**
MTP	**Monte Pirata**	**5.15**	**90**	*e*Pn		**Pn**	**06 00 29.5**	**+0.4**
	62nm,0.8s							
MTP				*eS*		**Sn**	**06 01 26.6**	**-0.7**
STVI	**Saint Thomas**	**5.72**	**87**	⇑*eP*		**Pn**	**06 00 36.2**	**-0.6**
STVI	**Saint Thomas**	**5.72**	**87**	⇑*eP*		**Pn**	**06 00 36.2**	**-0.6**

IDC 06 06:15:22.2±2.0, 0°.58N×125°.39E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/19, mbtmp3.7/3, MS4.0/1, Ms1 4.0/1, ms1mx2.8/25, Error ellipse: s-maj=182.6km s-min=26.2km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.20**	**157**	P		P	06 20 19.8	-0.5
	4.5nm,0.7s,baz=336,slow=11,SNR=20							
ASAR	**Alice Springs**	**25.48**	**162**	P		P	06 20 52.7	+0.5
	0.9nm,0.3s,baz=340,slow=8.8,SNR=22							
CBIJ	**Chichi jima**	**30.91**	**30**	LR		LR	06 32 05.2	
	comp=Z,305nm,22.0s,baz=155,slow=32							
MKAR	**Makanchi Array**	**59.41**	**327**	P		P	06 25 26.6	0.0
	0.3nm,0.6s,baz=129,slow=6.9,SNR=4.3							

ISCJB ***06*** *06:15:50.0±6.1, 5°.2S±0°.1×153°.7E±0°.1, h20km±42km, mb4.1/16, MS3.4/2, Error ellipse: s-maj=25.1km s-min=14.7km az=37.3*
IDC ***06*** *06:15:56.3±1.3, 5°.21S×153°.69E, h58km±7km, mb3.8/13, mb1 3.9/14, mb1mx3.8/21, mbtmp3.8/14, MS3.2/4, Ms1 3.2/4, ms1mx2.9/25, Error ellipse: s-maj=30.9km s-min=14.6km az=113.0*
NEIC ***06*** *06:15:56.3±0.6, 5°.24S×153°.65E, mb4.7/3, Error ellipse: s-maj=19.3km s-min=9.9km az=114.0*

ISC 06 06:15:54.6±3.9, 5°.2S±0°.1×153°.8E±0°.2, h44km±30km, h55km±3.3km; pP-P, n36, σ0°.75/33, mb4.1/16, MS3.4/2, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**7.40**	**125**	LR		LR	06 20 07.0	
	comp=Z,62nm,19.8s,baz=295,slow=34							
PMG	**Port Moresby**	**7.79**	**237**	P		**Pn**	**06 17 44.7**	**-0.7**
	2.8nm,0.3s,baz=62,slow=2.4,SNR=4.4							
PMG				S		**Sn**	**06 19 13.3**	**+1.0**
	2.1nm,0.3s,baz=84,slow=18,SNR=5.4							
PMG	**Port Moresby**	**7.79**	**237**	P		**Pn**	**06 17 44.7**	**-0.7**
PMG				S		**Sn**	**06 19 13.3**	**+1.0**
CTA	**Charters Tower**	**16.50**	**206**	LR		LR	06 24 29.1	
	comp=Z,84nm,21.0s,baz=49,slow=31							
KAKA	**Kakadu**	**22.36**	**249**	*e*P		**P**	**06 20 48.7**	**-0.3**
	27nm,0.5s,mb4.9							
WRA	**Warramunga Arr**	**23.93**	**231**	P		**P**	**06 21 04.8**	**0.0**
	1.2nm,0.6s,mb3.5,baz=53,slow=9.7,SNR=15							
WRA				PcP		PcP	06 24 46.1	-0.5
	0.3nm,0.4s,baz=59,slow=2.3,SNR=7.2							
WRA				pPcP			06 25 02.5	
	0.3nm,0.5s,baz=57,slow=2.5,SNR=5.2							
WRA	**Warramunga Arr**	**23.93**	**231**	P		**P**	**06 21 04.8**	**0.0**
WRA				PcP		PcP	06 24 46.1	-0.5
WRA				pPcP			06 25 02.5	
ASAR	**Alice Springs**	**26.53**	**224**	P		**P**	**06 21 28.2**	**-0.1**
	0.4nm,0.4s,mb3.3,baz=54,slow=8.3,SNR=7.1							
ASAR				pP		pP	06 21 42.6	+2.7
	2.0nm,0.8s,baz=51,slow=9.3,SNR=8.2							
ASAR				PcP		PcP	06 24 52.3	-0.1
	0.8nm,0.6s,baz=66,slow=2.5,SNR=9.2							
ASAR				pPcP			06 25 08.4	
	0.5nm,0.5s,baz=68,slow=2.3,SNR=6.4							
ASAR	**Alice Springs**	**26.53**	**224**	P		**P**	**06 21 28.2**	**-0.1**
ASAR				pP		pP	06 21 42.6	+2.7
ASAR				PcP		PcP	06 24 52.3	-0.1
ASAR				pPcP			06 25 08.4	
STKA	**Stephens Creek**	**28.88**	**202**	P		**P**	**06 21 49.4**	**+0.1**
	0.6nm,0.5s,mb3.6,baz=327,slow=18,SNR=2.0							
STKA				LR		LR	06 33 59.7	
	comp=Z,60nm,19.1s,MS3.2,baz=25,slow=38							
STKA	**Stephens Creek**	**28.88**	**202**	P		**P**	**06 21 49.4**	**+0.1**
STKA				LR		LR	06 33 59.7	
FITZ	**Fitzroy Crossi**	**30.34**	**243**	P		**P**	**06 22 01.4**	**-0.9**
	1.3nm,0.6s,mb3.8,baz=44,slow=7.9,SNR=6.1							
FITZ	**Fitzroy Crossi**	**30.34**	**243**	P		**P**	**06 22 01.4**	**-0.9**
PETK	**Petropavlovsk-**	**58.20**	**3**	LR		LR	06 49 17.2	
	comp=Z,39nm,19.4s,MS3.5,baz=133,slow=34							
CMAR	**Chiang Mai Arr**	**58.95**	**295**	P		**P**	**06 25 50.9**	**+0.9**
	2.4nm,0.7s,mb4.3,baz=137,slow=5.1,SNR=5.7							
CMAR				pP		pP	06 26 05.8	+3.4
	2.7nm,0.6s,baz=109,slow=5.5,SNR=2.9							
CMAR	**Chiang Mai Arr**	**58.95**	**295**	P		**P**	**06 25 50.9**	**+0.9**
CMAR				pP		pP	06 26 05.8	+3.4
SONM	**Songino Array**	**67.20**	**327**	P		**P**	**06 26 44.3**	**+0.1**
	0.5nm,0.5s,mb3.8,baz=140,slow=5.6,SNR=4.7							
SONM	**Songino Array**	**67.20**	**327**	P		**P**	**06 26 44.3**	**+0.1**
MKAR	**Makanchi Array**	**81.28**	**319**	P		**P**	**06 28 06.0**	**-0.3**
	1.1nm,0.5s,mb4.0,baz=97,slow=7.8,SNR=11							
MKAR	**Makanchi Array**	**81.28**	**319**	P		**P**	**06 28 06.0**	**-0.3**
ZALV	**Zalesovo Beam**	**82.04**	**326**	P		**P**	**06 28 09.8**	**-0.3**
	1.2nm,0.4s,mb4.1,baz=106,slow=6.3,SNR=7.3							
ZALV				pP		pP	06 28 25.4	+2.2
	0.7nm,0.4s,baz=122,slow=4.7,SNR=2.7							
ZALV	**Zalesovo Beam**	**82.04**	**326**	P		**P**	**06 28 09.8**	**-0.3**
ZALV				pP		pP	06 28 25.4	+2.2
ILAR	**Eielson Array**	**82.17**	**22**	P		**P**	**06 28 12.2**	**+1.7**
	0.2nm,0.5s,mb3.3,baz=249,slow=4.6,SNR=7.5							
ILAR	**Eielson Array**	**82.17**	**22**	P		**P**	**06 28 12.2**	**+1.7**
KURK	**Kurchatov**	**84.70**	**322**	P		**P**	**06 28 23.5**	**-0.3**
	1.0nm,0.6s,mb4.2,baz=111,slow=3.8,SNR=7.9							
KURK	**Kurchatov**	**84.70**	**322**	P		**P**	**06 28 23.5**	**-0.3**
QSPA	**South Pole Qui**	**84.75**	**180**	*e*P		**P**	**06 28 23.8**	**+0.2**
	6.6nm,0.8s,mb4.8							
QSPA				*e*pP		pP	06 28 36.1	-0.6
TKM2	**Tokmak 2**	**84.93**	**314**	*e*P		**P**	**06 28 25.5**	**+0.3**
	1.2nm,0.6s,mb4.2							
TKM2				*e*pP		pP	06 28 42.0	+3.7
MAW	**Mawson**	**85.57**	**203**	P		**P**	**06 28 27.8**	**-0.1**
	1.5nm,0.7s,mb4.3,baz=68,slow=7.7,SNR=16							
MAW	**Mawson**	**85.57**	**203**	P		**P**	**06 28 27.8**	**-0.1**
AAK	**Ala-Archa**	**85.67**	**313**	P		**P**	**06 28 29.4**	**+0.5**
	0.6nm,0.3s,mb4.3,baz=153,slow=16,SNR=3.8							
AAK	**Ala-Archa**	**85.67**	**313**	P		**P**	**06 28 29.4**	**+0.5**
BVAR	**Borovoye Array**	**90.16**	**323**	P		**P**	**06 28 48.2**	**-1.9**
	2.4nm,0.8s,mb4.6,baz=130,slow=4.6,SNR=6.7							
BVAR	**Borovoye Array**	**90.16**	**323**	P		**P**	**06 28 48.2**	**-1.9**
TORD	**Torodi Ar. Bea**	**151.37**	**288**	PKPbc		PKPbc	06 35 43.6	-1.0
	1.6nm,0.4s,baz=52,slow=2.0,SNR=27							
TORD	**Torodi Ar. Bea**	**151.37**	**288**	PKPbc		PKPbc	06 35 43.6	-1.0

ISCJB ***06*** *06:23:02.8±1.1, 30°.33N±0°.09×67°.8E±0°.1, h10km, mb3.6/6, Error ellipse: s-maj=18.6km s-min=11.4km az=152.0*
IDC ***06*** *06:23:02.6±1.2, 30°.30N×67°.49E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.6/29, mbtmp3.7/7, ML3.1/1, Error ellipse: s-maj=34.8km s-min=25.2km az=113.0*
NEIC ***06*** *06:23:04.1±0.9, 30°.28N×67°.72E, h10km, mb3.4/2, Error ellipse: s-maj=15.5km s-min=10.9km az=65.0*

ISC 06 06:23:04.1±1.0, 30°.30N±0°.09×67°.7E±0°.1, h10km, n27, σ1°04/27, mb3.6/6, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBL	**Kabul**	**4.38**	**15**	Pn		**Pn**	**06 24 10.7**	**0.0**
KKAR	**Karatay Array**	**12.98**	**9**	*e*Pn		**Pn**	**06 26 08.7**	**+0.1**
AAK	**Ala-Archa**	**13.46**	**22**	Pn		**Pn**	**06 26 15.7**	**+0.5**
	0.0nm,0.3s,baz=191,slow=9.8,SNR=6.0							
AAK	**Ala-Archa**	**13.46**	**22**	Pn		**Pn**	**06 26 15.7**	**+0.5**
TKM2	**Tokmak 2**	**14.09**	**24**	*e*Pn		**Pn**	**06 26 23.2**	**-0.5**
	1.7nm,0.6s							
KOLN	**Koldanda**	**14.14**	**96**	*e*P		**Pn**	**06 26 19.5**	**-5.0**
	8.4nm,0.4s							
KOLN	**Koldanda**	**14.14**	**96**	*e*P		**Pn**	**06 26 19.5**	**-5.0**
	8.4nm,0.4s							
DANN	**Dangsing**	**14.14**	**94**	*e*P		**Pn**	**06 26 24.9**	**+0.3**
	8.4nm,0.3s							
DANN	**Dangsing**	**14.14**	**94**	*e*P		**Pn**	**06 26 24.9**	**+0.3**
	8.4nm,0.3s							
DMN	**Daman**	**15.47**	**96**	*e*P		**Pn**	**06 26 38.2**	**-4.2**
DMN	**Daman**	**15.47**	**96**	*e*P		**Pn**	**06 26 38.2**	**-4.2**
GUN	**Gumba**	**16.07**	**94**	*e*P		**Pn**	**06 26 48.7**	**-1.5**
	35nm,0.7s							
GUN	**Gumba**	**16.07**	**94**	*e*P		**Pn**	**06 26 48.7**	**-1.5**
	35nm,0.7s							
ABKAR	**Akbulak array**	**19.83**	**345**	*e*P		**Pn**	**06 27 35.9**	**-0.5**
	0.3nm,0.3s							
MKAR	**Makanchi Array**	**19.98**	**30**	P		**Pn**	**06 27 36.0**	**-2.3**
	0.6nm,0.5s,baz=210,slow=11,SNR=8.5							
MKAR	**Makanchi Array**	**19.98**	**30**	P		**Pn**	**06 27 36.0**	**-2.3**
KURK	**Kurchatov**	**21.97**	**19**	P		**P**	**06 27 59.2**	**+1.2**
	1.2nm,0.8s,mb3.4,baz=209,slow=11,SNR=4.5							
KURK	**Kurchatov**	**21.97**	**19**	P		**P**	**06 27 59.2**	**+1.2**
BRVK	**Borovoye**	**22.82**	**4**	*e*P		**P**	**06 28 07.6**	**+0.6**
	1.6nm,0.6s,mb3.6							
ZALV	**Zalesovo Beam**	**26.69**	**23**	P		**P**	**06 28 44.2**	**+1.1**
	1.0nm,0.4s,mb3.7,baz=225,slow=9.5,SNR=6.2							
ZALV	**Zalesovo Beam**	**26.69**	**23**	P		**P**	**06 28 44.2**	**+1.1**
TORD	**Torodi Ar. Bea**	**62.87**	**270**	P		**P**	**06 33 29.3**	**-1.4**
	0.6nm,0.7s,mb3.8,baz=60,slow=6.4,SNR=5.4							
TORD	**Torodi Ar. Bea**	**62.87**	**270**	P		**P**	**06 33 29.3**	**-1.4**
WRA	**Warramunga Arr**	**81.23**	**119**	P		**P**	**06 35 21.4**	**+0.8**
	0.8nm,1.1s,mb3.6,baz=321,slow=5.1,SNR=5.0							
WRA	**Warramunga Arr**	**81.23**	**119**	P		**P**	**06 35 21.4**	**+0.8**
ASAR	**Alice Springs**	**83.13**	**122**	P		**P**	**06 35 31.8**	**+1.3**
	0.4nm,0.8s,mb3.6,baz=312,slow=4.8,SNR=5.9							
ASAR	**Alice Springs**	**83.13**	**122**	P		**P**	**06 35 31.8**	**+1.3**

NIED ***06*** *06:30:00, 27°.00N×143°.20E, h8km, Mw4.3 Best double couple: M0 3.30000×10^15 NP1: φ 76.00000°, δ 63.00000°, λ 119.00000°. NP2: φ 205.00000°, δ 38.00000°, λ 46.00000°.*
JMA ***06*** *06:30:57.8±0.4, 26°.98N×143°.22E, h56km, M4.3*
IDC ***06*** *06:30:57.9±0.7, 26°.80N×142°.87E, h0km, mb3.8/11, mb1 4.0/12, mb1mx3.9/26, mbtmp3.8/12, ML3.8/1, MS3.6/9, Ms1 3.6/9, ms1mx3.2/37, Error ellipse: s-maj=19.4km s-min=13.8km az=46.0*
NEIC ***06*** *06:31:03.2±0.5, 26°.81N×142°.77E, h35km, MG4.3(JMA), Error ellipse: s-maj=17.3km s-min=8.6km az=79.0*

ISC 06 06:31:01.2±1.6, 26°.87N±0°.06×142°.94E±0°.09, h23km±11km, n40, σ0°99/37, mb4.0/13, MS3.7/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**0.71**	**288**	Pn		**Pn**	**06 31 15.4**	**-0.4**
	893nm,0.3s,baz=96,slow=9.1,SNR=272							
CBIJ				Sn		**Sn**	**06 31 26.4**	**+0.3**
	2μm,0.3s,baz=294,slow=20,SNR=33							
CBIJ	**Chichi jima**	**0.71**	**288**	P		**Pb**	**06 31 15.2**	**+0.3**
CBIJ				S		**Sn**	**06 31 26.4**	**+0.3**
JHHJ	**Haha-jima-NKT**	**0.72**	**251**	P		**Pb**	**06 31 15.7**	**+0.6**
JHHJ				S		**Sb**	**06 31 29.5**	**+4.9**
JHJ	**Hachijo jima 2**	**6.80**	**337**	LR		LR	06 35 19.8	
	comp=Z,669nm,18.0s,baz=238,slow=38							
JRY	**Ryogami san**	**9.75**	**340**	P		**Pn**	**06 33 18.2**	**-1.7**
JAG	**Ashikaga**	**9.98**	**344**	P		**Pn**	**06 33 21.0**	**-2.1**
JAG				*eS*		**Sn**	**06 35 09.3**	**-5.0**
MJAR	**Matsushiro Arr**	**10.45**	**338**	Pn		**Pn**	**06 33 31.2**	**+1.7**
	0.7nm,0.3s,baz=159,slow=12,SNR=4.9							
MJAR				LR		LR	06 37 10.3	
	comp=Z,318nm,20.2s,baz=160,slow=36							
MJAR	**Matsushiro Arr**	**10.45**	**338**	Pn		**Pn**	**06 33 31.2**	**+1.7**
MJAR				LR		LR	06 37 10.3	
MAJO	**Matsushiro**	**10.45**	**338**	*e*Pn		**Pn**	**06 33 29.2**	**-0.3**
GUMO	**Guam**	**13.34**	**172**	LR		LR	06 38 16.9	
	comp=Z,145nm,19.5s,baz=131,slow=33							
KSRS	**Korea Array**	**16.50**	**313**	LR		LR	06 40 53.9	
	comp=Z,144nm,18.5s,baz=170,slow=36							
ASAJ	**Asahikawa**	**17.21**	**359**	LR		LR	06 41 56.5	
	comp=Z,121nm,19.2s,baz=359,slow=38							
SONM	**Songino Array**	**35.34**	**316**	P		**P**	**06 37 54.6**	**-0.1**
	0.3nm,0.4s,mb3.5,baz=124,slow=7.5,SNR=2.9							
SONM				LR		LR	06 53 16.4	
	comp=Z,87nm,18.3s,MS3.5,baz=125,slow=38							
SONM	**Songino Array**	**35.34**	**316**	P		**P**	**06 37 54.6**	**-0.1**
SONM				LR		LR	06 53 16.4	
WRAB	**Tennant Creek**	**47.27**	**191**	*e*P		**P**	**06 39 32.2**	**-0.6**
	10nm,0.5s,mb5.0							
WRA	**Warramunga Arr**	**47.28**	**191**	P		**P**	**06 39 32.1**	**-0.8**
	7.6nm,0.4s,mb4.9,baz=12,slow=8.7,SNR=53							
WRA	**Warramunga Arr**	**47.28**	**191**	P		**P**	**06 39 32.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**47.76**	**202**	P		**P**	**06 39 36.4**	**-0.2**
	3.7nm,0.8s,mb4.4,baz=16,slow=11,SNR=6.5							
FITZ	**Fitzroy Crossi**	**47.76**	**202**	P		**P**	**06 39 36.4**	**-0.2**
ZALV	**Zalesovo Beam**	**50.10**	**319**	P		**P**	**06 39 55.2**	**+0.9**
	0.3nm,0.3s,mb3.8,baz=106,slow=9.1,SNR=2.7							
ZALV				LR		LR	07 03 05.7	
	comp=Z,46nm,18.7s,MS3.5,baz=18,slow=38							
ZALV	**Zalesovo Beam**	**50.10**	**319**	P		**P**	**06 39 55.1**	**+0.9**
ZALV				LR		LR	07 03 05.7	
ASAR	**Alice Springs**	**50.99**	**191**	P		**P**	**06 40 00.3**	**-0.9**
	0.6nm,0.6s,mb3.7,baz=6.9,slow=5.7,SNR=12							
ASAR	**Alice Springs**	**50.99**	**191**	P		**P**	**06 40 00.3**	**-0.9**
MKAR	**Makanchi Array**	**51.14**	**310**	P		**P**	**06 40 01.6**	**-0.6**
	0.2nm,0.5s,mb3.3,baz=90,slow=9.2,SNR=4.9							
MKAR				LR		LR	07 00 43.9	
	comp=Z,58nm,19.0s,MS3.6,baz=244,slow=35							
MKAR	**Makanchi Array**	**51.14**	**310**	P		**P**	**06 40 01.6**	**-0.6**
MKAR				LR		LR	07 00 43.9	
KURK	**Kurchatov**	**53.62**	**315**	P		**P**	**06 40 20.9**	**+0.3**
	1.1nm,0.4s,mb4.1,baz=92,slow=7.6,SNR=4.1							
KURK	**Kurchatov**	**53.62**	**315**	P		**P**	**06 40 20.9**	**+0.3**
ILAR	**Eielson Array**	**57.58**	**29**	P		**P**	**06 40 48.4**	**-0.4**
	0.8nm,0.8s,mb3.8,baz=252,slow=5.7,SNR=14							
ILAR	**Eielson Array**	**57.58**	**29**	P		**P**	**06 40 48.4**	**-0.4**
BVAR	**Borovoye Array**	**58.66**	**318**	P		**P**	**06 40 57.0**	**+0.5**
	1.4nm,0.5s,mb4.3,baz=88,slow=10,SNR=6.5							
BVAR	**Borovoye Array**	**58.66**	**318**	P		**P**	**06 40 57.0**	**+0.5**
NVAR	**Mina Array Bea**	**80.12**	**52**	P		**P**	**06 43 11.8**	**+2.3**
	0.2nm,0.7s,mb3.2,baz=262,slow=4.5,SNR=3.5							
NVAR	**Mina Array Bea**	**80.12**	**52**	P		**P**	**06 43 11.8**	**+2.3**
HFS	**Hagfors**	**83.89**	**337**	P		**P**	**06 43 29.0**	**+0.1**
	0.9nm,0.6s,mb4.1,baz=299,slow=5.9,SNR=1.5							
HFS	**Hagfors**	**83.89**	**337**	P		**P**	**06 43 29.0**	**+0.1**
ANMO	**Albuquerque**	**90.10**	**50**	LR		LR	07 22 53.8	
	comp=Z,55nm,19.1s,MS4.0,baz=277,slow=34							
TXAR	**Lajitas Array**	**95.19**	**54**	P		**P**	**06 44 24.8**	**+1.6**
	0.3nm,0.9s,mb3.7,baz=352,slow=5.6,SNR=2.9							
TXAR	**Lajitas Array**	**95.19**	**54**	P		**P**	**06 44 24.8**	**+1.6**

LPAZ	**La Paz**	**149.32**	**76**	PKPbc		PKPbc	06 50 51.1	+2.3
	1.2nm,0.9s,baz=322,slow=4.7,SNR=4.5							
LPAZ	**La Paz**	**149.32**	**76**	PKPbc		PKPbc	06 50 51.1	+2.3

NEIC ***06*** *07:20:47.2±1.6, 23°.91N×120°.71E, h18km±14km, ML4.2(TAP), Error ellipse: s-maj=21.9km s-min=7.9km az=112.0*
NEIC Recorded [3 TAP] in Nan-t'ou and Yun-lin, [2 TAP] in Chang-hua and T'ai-chung.
ISCJB ***06*** *07:20:48.8±0.2, 23°.89N±0°.01×120°.74E±0°.02, h28km±1km, Error ellipse: s-maj=3.2km s-min=1.7km az=32.7*
TAP ***06*** *07:20:48.1, 23°.88N×120°.75E, h29km, ML3.9,B*

ISC 06 07:20:48.9±0.2, 23°.89N±0°.01×120°.74E±0°.02, h27km±1km, n66, σ0°82/117, 9C-11D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WNT	**Mingjian**	**0.06**	**254**	⇑*iP*		**Pb**	**07 20 53.4**	**-0.1**
	baz=268							
WNT				*i*S		**Sb**	**07 20 57.4**	**+0.8**
	baz=268							
TYC	**Yuchr**	**0.11**	**84**	⇑*iP*		**Pb**	**07 20 53.7**	**-0.1**
	baz=77							
TYC				S		**Sb**	**07 20 57.8**	**+0.7**
	baz=77							
SMLT	**Sun Moon Lake**	**0.14**	**94**	⇑*iP*		**Pb**	**07 20 54.1**	**-0.1**
	baz=89							
SMLT				*eS*		**Sb**	**07 20 58.4**	**+0.8**
	baz=89							
SSLB	**Suanglung**	**0.22**	**118**	*e*Pg		**Pb**	**07 20 53.9**	**-1.1**
SSLB				*e*Sg		**Sb**	**07 20 58.6**	**-0.5**
TCU	**Taichung**	**0.26**	**347**	⇓P		**Pb**	**07 20 55.5**	**0.0**
	baz=338							
TCU				*eS*		**Sb**	**07 21 00.2**	**+0.2**
	baz=338							
WGK	**Gukeng**	**0.26**	**219**	⇓*iP*		**Pb**	**07 20 55.4**	**-0.2**
	baz=221							
WGK				*eS*		**Sb**	**07 21 01.0**	**+0.9**
	baz=221							
CHN5	**Tsauling**	**0.30**	**191**	⇓*iP*		**Pb**	**07 20 55.7**	**-0.4**
	baz=202							
CHN5				S		**Sb**	**07 21 01.1**	**+0.2**
	baz=202							
ALS	**Alishan**	**0.39**	**171**	⇓P		**Pb**	**07 20 57.2**	**-0.1**
	baz=171							
ALS				*eS*		**Sb**	**07 21 03.5**	**+0.5**
	baz=171							
WTCT	**Ta-ch'eng**	**0.42**	**266**	⇑*iP*		**Pb**	**07 20 57.3**	**-0.6**
	baz=268							
TWQ1	**Liyutan**	**0.45**	**4**	⇓*iP*		**Pb**	**07 20 58.4**	**0.0**
	baz=3.0							
TWQ1				S		**Sb**	**07 21 06.0**	**+1.1**
	baz=3.0							
CHY	**Chiayi**	**0.49**	**217**	⇓*iP*		**Pb**	**07 20 58.5**	**-0.5**
	baz=218

TWG	**Pinlang**	**1.11**	**164**	⇓*i*P		**Pn**	**07 21 08.6**	**-0.1**
	baz=165								
TWG				*e*S		**Sn**	**07 21 24.2**	**+1.1**
	baz=165								
PNG	**Penghu**	**1.14**	**254**	P		**Pn**	**07 21 07.3**	**-1.7**
	baz=255								
PNG				*e*S		**Sn**	**07 21 23.3**	**-0.4**
	baz=255								
SSD	**Sandimen**	**1.15**	**185**	*e*P		**Pn**	**07 21 08.7**	**-0.5**
	baz=186								
SSD				*e*S		**Sn**	**07 21 25.0**	**+1.0**
	baz=186								
WDGT	**Dungji**	**1.18**	**238**	⇑P		**Pn**	**07 21 08.7**	**-0.9**
	baz=248								
WDGT				*e*S		**Sn**	**07 21 24.5**	**-0.2**
	baz=248								
TWE	**Neicheng**	**1.18**	**46**	*e*P		**Pn**	**07 21 09.9**	**+0.3**
	baz=34								
TWE				*e*S		**Sn**	**07 21 25.6**	**+0.8**
	baz=34								
SGLT	**Jiouru**	**1.19**	**191**	*e*P		**Pn**	**07 21 08.5**	**-1.2**
	baz=192								
TTN	**Taitung**	**1.19**	**162**	*e*P		**Pn**	**07 21 11.5**	**+1.6**
	baz=177								
TWC	**Suao**	**1.24**	**55**	*e*P		**Pn**	**07 21 10.7**	**+0.3**
	baz=53								
TWC				*e*S		**Sn**	**07 21 26.5**	**+0.3**
	baz=53								
TATO	**Taipei**	**1.27**	**32**	*e*Pn		**Pn**	**07 21 10.7**	**-0.3**
TATO				*e*Sn		**Sn**	**07 21 29.2**	**+2.0**
ECL	**Taimali**	**1.30**	**171**	*e*P		**Pn**	**07 21 11.3**	**0.0**
	baz=172								
ECL				*e*S		**Sn**	**07 21 29.1**	**+1.1**
	baz=172								
TWA	**Mucha**	**1.33**	**35**	*e*P		**Pn**	**07 21 12.2**	**+0.6**
	baz=18								
TAP1	**Taipei**	**1.34**	**32**	*e*P		**Pn**	**07 21 11.2**	**-0.7**
	baz=29								
TWS1	**Kuangyinshan**	**1.35**	**27**	*e*P		**Pn**	**07 21 14.1**	**+2.1**
	baz=9.0								
EGS		**1.44**	**49**	*e*P		**Pn**	**07 21 14.2**	**+0.9**
	baz=35								
EGS				*e*S		**Sn**	**07 21 34.5**	**+3.3**
	baz=35								
EAST	**Anshuo**	**1.51**	**176**	*e*P		**Pn**	**07 21 14.0**	**-0.2**
	baz=191								
EAST				*e*S		**Sn**	**07 21 35.4**	**+2.5**
	baz=191								
NWF	**Wu-fen Shan**	**1.51**	**39**	*e*P		**Pn**	**07 21 15.2**	**+1.0**
	baz=36								
NWF				*e*S		**Sn**	**07 21 34.3**	**+1.4**
	baz=36								
SCZT	**Fangliau**	**1.52**	**184**	*e*P		**Pn**	**07 21 13.8**	**-0.5**
	baz=184								
TWY	**Chenhua**	**1.58**	**29**	*e*P		**Pn**	**07 21 14.3**	**-0.9**
	baz=14								
TWB1	**Santiao Chiao**	**1.59**	**45**	*e*P		**Pn**	**07 21 15.5**	**+0.3**
	baz=26								
TWB1				*e*S		**Sn**	**07 21 35.7**	**+0.8**
	baz=26								
HEN	**Hengchun**	**1.88**	**180**	*e*P		**Pn**	**07 21 19.1**	**-0.2**
	baz=180								
TWK1	**Hengchun**	**1.94**	**178**	*e*P		**Pn**	**07 21 19.8**	**-0.3**
	baz=178								
TSEB	**Hengchuen, Pin**	**1.99**	**176**	*e*P		**Pn**	**07 21 20.6**	**-0.1**
	baz=188								
LAY	**Lan-yu**	**1.99**	**158**	*e*P		**Pn**	**07 21 20.1**	**-0.7**
	baz=159								
QZH	**Quanzhou**	**2.22**	**299**	Pn		**Pn**	**07 21 20.8**	**-3.1**
QZH				Sn		**Sn**	**07 21 45.6**	**-4.9**
QZH				smax					
	comp=N,240nm,0.5s								
QZH				smax					
	comp=E,160nm,0.6s								

IDC ***06*** *07:35:29.1±1.1,33˚.08S×179˚.08W,h0km,mb4.2/5, mb1 4.3/6,mb1mx4.1/18,mbtmp4.3/6,ML4.9/1, Error ellipse: s-maj=33.4km s-min=25.2km az=62.0*

ISC 06 07:35:36.3±0.9,33˚.32S±0˚.06×179˚.6W±0˚.2,h35km,n56, σ1§67/62,mb4.1/5,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.57**	**202**	PN		**Pn**	**07 36 45.2**	**+2.3**
MXZ				SN		**Sn**	**07 37 38.4**	**+3.6**
PUZ	**Puketiti**	**5.06**	**200**	PN		**Pn**	**07 36 51.2**	**+1.6**
PUZ				SN		**Sn**	**07 37 48.5**	**+1.7**
CNGZ	**Carnagh Statio**	**5.46**	**199**	PN		**Pn**	**07 36 56.7**	**+1.6**
OPRZ	**Ohinepanea**	**5.51**	**214**	PN		**Pn**	**07 37 00.2**	**+4.4**
MWZ	**Matawai**	**5.53**	**204**	PN		**Pn**	**07 36 57.5**	**+1.5**
MWZ				SN		**Sn**	**07 37 59.2**	**+0.9**
URZ	**Urewera**	**5.62**	**208**	Pn		**Pn**	**07 36 59.3**	**+2.0**
	29nm,0.3s,baz=307,slow=1.8,SNR=64							
URZ				Sn		**Sn**	**07 38 04.2**	**+3.6**
	23nm,0.3s,baz=42,slow=21,SNR=8.5							
URZ	**Urewera**	**5.62**	**208**	PN		**Pn**	**07 36 59.1**	**+1.8**
URZ				SN		**Sn**	**07 38 02.1**	**+1.5**
WCZ	**Waipu Caves**	**5.66**	**241**	PN		**Pn**	**07 37 05.6**	**+7.8**
PRGZ	**Paritu Road**	**5.96**	**200**	PN		**Pn**	**07 37 02.5**	**+0.6**
KNZ	**Kokohu**	**6.11**	**201**	PN		**Pn**	**07 37 04.4**	**+0.3**
PRRZ	**Plateau Road**	**6.12**	**211**	PN		**Pn**	**07 37 07.1**	**+3.0**
MHGZ	**Mahia Peninsul**	**6.17**	**199**	PN		**Pn**	**07 37 05.0**	**+0.2**
RAHZ	**Arahi**	**6.20**	**205**	PN		**Pn**	**07 37 06.6**	**+1.3**
RAHZ				SN		**Sn**	**07 38 17.1**	**+2.1**
NMHZ	**Naumai**	**6.46**	**206**	PN		**Pn**	**07 37 10.0**	**+1.1**
BKZ	**Black Stump Fm**	**6.64**	**207**	PN		**Pn**	**07 37 12.1**	**+0.7**
BKZ				SN		**Sn**	**07 38 26.8**	**+1.0**
MCHZ	**McNeill Hill**	**6.81**	**205**	PN		**Pn**	**07 37 14.9**	**+1.2**
CKHZ	**Cape Kidnapper**	**6.88**	**202**	PN		**Pn**	**07 37 17.5**	**+2.9**
KAHZ	**Kahuranaki**	**7.06**	**203**	PN		**Pn**	**07 37 20.2**	**+3.0**
BHHZ	**Black Hill Sta**	**7.09**	**209**	PN		**Pn**	**07 37 18.2**	**+0.7**
BHHZ				SN		**Sn**	**07 38 37.4**	**+0.7**
WNVZ	**Wahianoa**	**7.15**	**212**	PN		**Pn**	**07 37 20.8**	**+2.4**
PXZ	**Pawanui**	**7.28**	**202**	PN		**Pn**	**07 37 18.6**	**-1.5**
PXZ				SN		**Sn**	**07 38 38.4**	**-3.1**
PNHZ	**Pukenui**	**7.41**	**206**	PN		**Pn**	**07 37 21.2**	**-0.7**
PNHZ				SN		**Sn**	**07 38 42.9**	**-1.7**
WPHZ	**Waipukurau**	**7.45**	**204**	PN		**Pn**	**07 37 22.4**	**-0.1**
PRHZ	**Porangahau**	**7.57**	**203**	PN		**Pn**	**07 37 22.3**	**-1.8**
BFZ	**Birch Farm**	**8.07**	**203**	PN		**Pn**	**07 37 30.7**	**-0.3**
MRZ	**Mangatainoka R**	**8.29**	**206**	PN		**Pn**	**07 37 32.5**	**-1.4**
MRZ				SN		**Sn**	**07 39 01.5**	**-4.8**
HOWZ	**Holdsworth Sta**	**8.52**	**206**	PN		**Pn**	**07 37 35.2**	**-1.9**
KIW	**Kapiti Island**	**8.72**	**209**	PN		**Pn**	**07 37 37.1**	**-2.7**
MTW	**Mount Morrison**	**8.75**	**205**	PN		**Pn**	**07 37 37.3**	**-3.0**
CAW	**Cannon Point**	**8.87**	**207**	PN		**Pn**	**07 37 39.0**	**-2.9**
TRWZ	**Traveller**	**8.90**	**204**	PN		**Pn**	**07 37 41.4**	**-0.9**
TRWZ				SN		**Sn**	**07 39 15.7**	**-5.6**
MSWZ	**Moikau Station**	**9.07**	**206**	PN		**Pn**	**07 37 43.5**	**-1.1**
DUWZ	**D'Urville Isla**	**9.10**	**213**	PN		**Pn**	**07 37 44.6**	**-0.4**
SNZO	**South Karori**	**9.18**	**208**	PN		**Pn**	**07 37 43.1**	**-3.1**
PLWZ	**Palliser**	**9.20**	**205**	PN		**Pn**	**07 37 43.2**	**-3.2**
TCW	**Tory Channel**	**9.28**	**210**	PN		**Pn**	**07 37 44.7**	**-2.8**
TUWZ	**Tuamarina**	**9.60**	**211**	PN		**Pn**	**07 37 49.5**	**-2.4**
NNZ	**Nelson**	**9.68**	**213**	PN		**Pn**	**07 37 50.7**	**-2.2**
QRZ	**Quartz Range**	**9.79**	**218**	PN		**Pn**	**07 37 53.4**	**-1.1**
BSWZ	**Blackbirch Sta**	**9.86**	**210**	PN		**Pn**	**07 37 52.9**	**-2.5**
THZ	**Tophouse**	**10.32**	**213**	PN		**Pn**	**07 37 59.3**	**-2.5**
KHZ	**Kahutara**	**10.58**	**209**	PN		**Pn**	**07 38 02.1**	**-3.3**
LTZ	**Lake Taylor**	**11.42**	**212**	PN		**Pn**	**07 38 13.0**	**-3.8**
MQZ	**McQueen's Vall**	**12.02**	**208**	PN		**Pn**	**07 38 19.8**	**-5.2**
RPZ	**Rata Peaks**	**12.70**	**212**	PN		**Pn**	**07 38 30.6**	**-3.7**
CTA	**Charters Tower**	**33.09**	**285**	P		**P**	**07 42 11.4**	**+2.4**
	2.0nm,0.5s,mb4.3,baz=90,slow=10,SNR=4.0							
ASAR	**Alice Springs**	**41.72**	**271**	P		**P**	**07 43 22.9**	**+0.9**
	1.5nm,0.4s,mb4.0,baz=110,slow=7.4,SNR=36							
WRA	**Warramunga Arr**	**42.97**	**276**	P		**P**	**07 43 32.7**	**+0.5**
	1.0nm,0.4s,mb3.9,baz=116,slow=8.0,SNR=47							
QSPA	**South Pole Qui**	**56.80**	**180**	P		**P**	**07 45 17.4**	**+1.0**
	1.6nm,0.7s,mb4.2,baz=354,slow=4.5,SNR=8.6							
MAW	**Mawson**	**69.11**	**201**	P		**P**	**07 46 38.4**	**+0.1**
	1.5nm,0.6s,mb4.1,baz=116,slow=1.0,SNR=9.1							
KURK	**Kurchatov**	**122.07**	**313**	PKP		PKPdf	07 54 24.0	-2.6
	0.3nm,0.5s,baz=105,slow=1.6,SNR=4.3							
AAK	**Ala-Archa**	**122.59**	**303**	PKP		PKPdf	07 54 28.5	+0.7
	3.4nm,0.3s,baz=167,slow=3.9,SNR=13							
FINES	**FINESS Array B**	**147.37**	**337**	PKPbc		PKPbc	07 55 12.8	-2.7
	1.2nm,0.4s,baz=31,slow=4.4,SNR=6.7							
NB2	**NORSAR Subarra**	**151.40**	**349**	PKP		PKPdf	07 55 23.7	+4.3
	comp=Z,0.5nm,0.5s,baz=17,slow=2.6							
NOA	**NORSAR Array B**	**151.40**	**349**	PKPbc		PKPbc	07 55 23.0	-2.5
	comp=Z,1.1nm,0.6s,baz=14,slow=4.1,SNR=5.7							
TORD	**Torodi Ar. Bea**	**159.88**	**184**	PKPab		PKPab	07 56 09.9	-1.3
	comp=Z,1.3nm,0.7s,baz=168,slow=3.7,SNR=7.6							

BYKL ***06*** *07:40:36.1±0.3,56˚.14N×113˚.73E,h7km±4km*

MOS 06 07:40:36.4±1.8,56˚.15N×113˚.76E,h10km,mb4.2/1,3C-3D, Error ellipse: s-maj=23.9km s-min=15.6km az=139.5, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SVKR	**Severomuysk**	**0.12**	**254**	*e*PG		Pg	07 40 37.8	-1.4
SVKR				pmax		pmax		
	comp=Z,6μm,0.3s							
SVKR	**Severomuysk**	**0.12**	**254**	⇑*i*Pg		Pg	07 40 37.9	-1.3
SVKR				*i* Sg		Sg	07 40 40.1	-1.1
SVKR				Pmax				
	comp=Z,6μm,0.2s							
SVKR				Smax				
	comp=Z,23μm,1.2s							
UKT	**Uakit**	**0.67**	**187**	⇑*i*Pg		Pg	07 40 46.8	-2.5
UKT				*e*Sg		Sg	07 40 55.6	-2.4
UKT				Pmax				
	comp=Z,27nm,0.2s							
UKT				Smax				
	comp=Z,496nm,1.3s							
NLYR	**Nelyaty**	**1.14**	**72**	*e*PG		Pg	07 40 56.3	-1.9
NLYR	**Nelyaty**	**1.14**	**72**	⇓*i*Pg		Pg	07 40 56.5	-1.7
NLYR				⇓*i*Pb		Pb	07 40 58.9	+0.8
NLYR				*e*Sg		Sg	07 41 12.7	-0.2
NLYR				max				
	comp=Z,572nm,0.3s							
NLYR				Smax				
	comp=Z,735nm,0.7s							
YOA	**Uoyan**	**1.14**	**270**	⇑*i*PG		Pg	07 40 57.0	-1.3
YOA				*i*			07 41 13.5	
YOA				pmax		pmax		
	comp=Z,196nm,0.2s							
YOA				smax				
	comp=N,545nm,0.5s							
KMO	**Kumora**	**1.46**	**261**	*e*PG		Pg	07 41 02.1	-2.3
KMO	**Kumora**	**1.46**	**261**	*e*Pg		Pg	07 41 02.3	-2.1
KMO				*e*Pb		Pb	07 41 03.7	+0.1
KMO				*e*Sg		Sg	07 41 22.4	-0.9
KMO				max				
	comp=N,168nm,0.4s							
KMO				Smax				
	comp=N,787nm,1.2s							
BOD	**Bodaibo**	**1.68**	**4**	*e*PN		Pn	07 41 06.4	+0.6
BOD				*e*			07 41 28.8	
BOD				pmax		pmax		
	comp=Z,82nm,0.3s							
BOD				smax				
	comp=E,417nm,0.5s							
BOD	**Bodaibo**	**1.68**	**4**	*e*Sg		Sg	07 41 28.8	-1.5
BOD				Smax				
	comp=E,418nm,0.8s							
YLYR	**Ulyunkhan**	**1.95**	**230**	*e*PN		Pn	07 41 10.5	+1.0
YLYR				*e*			07 41 11.7	
YLYR				*e*			07 41 36.5	
YLYR				pmax		pmax		
	comp=Z,79nm,0.2s							
YLYR				smax				
	comp=E,277nm,0.2s							
YLYR	**Ulyunkhan**	**1.95**	**230**	*e*Pg		Pg	07 41 10.5	-3.3
YLYR				*e*Sg		Sg	07 41 36.3	-2.8
YLYR				Pmax				
	comp=E,60nm,0.3s							
YLYR				Smax				
	comp=E,337nm,0.5s							
NIZ	**Nizh Angarsk**	**2.40**	**263**	*e*PN		Pn	07 41 17.2	+1.5
NIZ				*e*			07 41 19.9	
NIZ				*e*			07 41 49.3	
NIZ				pmax		pmax		
	comp=Z,30nm,1.1s							
NIZ				smax				
	comp=N,216nm,0.9s							
NIZ	**Nizh Angarsk**	**2.40**	**263**	*e*		Pn	07 41 10.9	-4.8
NIZ				*e*Pg		Pg	07 41 17.2	-5.2
NIZ				*e*Sg		Sg	07 41 49.2	-4.3
NIZ				Pmax				
	comp=N,27nm,0.6s							
NIZ				Smax				
	comp=N,216nm,0.6s							
CRS	**Chara**	**2.61**	**71**	*e*PN		Pn	07 41 23.5	+5.0
CRS				*e*			07 41 58.3	
CRS				pmax		pmax		
	comp=Z,108nm,0.6s							
CRS				smax				
	comp=E,150nm,0.9s							
CRS	**Chara**	**2.61**	**71**	⇓*i*Pn		Pn	07 41 19.6	+1.1
CRS				*e*Pg		Pg	07 41 23.2	-3.1
CRS				*e*Sg		Sg	07 41 58.0	-2.1
CRS				Pmax				
	comp=E,160nm,0.9s							
CRS				Smax				
	comp=E,152nm,0.6s							
SYVR	**Suvo**	**3.31**	**223**	*e*Pn		Pn	07 41 28.5	+0.3
SYVR				*e*Pg		Pg	07 41 35.0	-4.7
SYVR				*e*Sg		Sg	07 42 18.1	-4.5
SYVR				Pmax				
	comp=E,33nm,0.9s							
SYVR				Smax				
	comp=E,100nm,1.4s							
KHNR	**Khani**	**3.53**	**75**	*e*		Pn	07 41 32.5	+1.3
KHNR				*e*Pg		Pg	07 41 39.9	-4.1
KHNR				*e*Sg		Sg	07 42 26.1	-3.5
TUP	**Tupik**	**3.94**	**113**	*e*PN		Pg	07 41 46.6	-5.2
TUP				*e*S		Sn	07 42 22.3	-0.8
TUP	**Tupik**	**3.94**	**113**	*e*Pn		Pn	07 41 37.1	+0.3
TUP				*e*Pg		Pg	07 41 47.1	-4.7
TUP				*e*Sn		Sn	07 42 22.9	-0.2
TUP				*e*Sg		Sg	07 42 38.2	-4.6
TUP				Pmax				
	comp=E,11nm,0.4s							
TUP				Smax				
	comp=E,161nm,0.7s							
MXMB	**Maximikha**	**4.10**	**227**	*e*Pg		Pg	07 41 50.6	-4.3
MXMB				*e*Sg		Sg	07 42 44.3	-3.7
MXMB				Pmax				
	comp=E,21nm,0.3s							
MXMB				Smax				
	comp=E,162nm,0.8s							
CIT	**Chita**	**4.14**	**182**	*e*Sg		Sg	07 42 44.1	-5.1
CIT				Smax				
	comp=E,117nm,0.4s							
OGRR	**Ongureny**	**4.36**	**237**	*e*Pn		Pn	07 41 43.1	+0.6
OGRR				*e*Pg		Pg	07 41 52.8	-7.0
OGRR				*e*Sg		Sg	07 42 50.2	-5.9
OGRR				Pmax				
	comp=E,10.0nm,0.4s							
OGRR				Smax				
	comp=E,57nm,1.7s							
TRG	**Tyrgan**	**5.50**	**235**	*e*Sg		Sg	07 43 24.3	-8.4
TRG				Smax				
	comp=E,46nm,1.7s							
UUDB	**Ulan-Yde**	**5.60**	**222**	*e*Sg		Sg	07 43 30.0	-5.9
UUDB				Smax				
	comp=E,56nm,1.3s							
HRMR	**Khuramsha**	**6.06**	**224**	*e*		Pg	07 42 24.4	-7.9
HRMR				*e*Sg		Sg	07 43 43.4	-7.3
HRMR				Smax				
	comp=E,103nm,1.0s							
KPC	**Khapcheranga**	**6.51**	**188**	*e*Pn		Pn	07 42 12.0	-0.1
KPC				*e*Pg		Pg	07 42 32.8	-8.2
KPC				*e*Sg		Sg	07 43 56.7	-8.5
KPC				Pmax				
	comp=E,2.0nm,0.5s							
KPC				Smax				
	comp=E,52nm,1.6s							
ARS	**Arshan**	**7.90**	**242**	*e*Sg		Sn	07 44 41.2	+41
ARS				Smax				
	comp=E,36nm,0.2s							
ZAK	**Zakamensk**	**8.53**	**232**	*e*		Sn	07 44 00.0	-16
ZAK				*e*Sg		Sn	07 45 00.9	+45
ZAK				Smax				
	comp=E,6.0nm,1.0s							
ORL	**Orlik**	**8.91**	**252**	*e*		Sn	07 44 26.0	+0.6
ORL				*e*Sg		Sn	07 45 09.7	+44
ORL				Smax				
	comp=E,24nm,2.4s							

BJI ***06*** *07:45:54.0,12˚.50N×124˚.73E,h40km,mB5.1/45,mb4.9/61, Ms4.8/61,Ms7 4.6/59*

ISCJB ***06*** *07:45:55.4±0.1,13˚.08N±0˚.02×124˚.51E±0˚.03,h10km, mb5.0/136,MS4.5/49, Error ellipse: s-maj=3.5km s-min=2.2km az=174.6*

MAN ***06*** *07:45:57,13˚.02N×124˚.32E,h9km,mb5.7,ML4.7,MS5.1*

MAN INTENSITY IV - SORSOGON CITY; INTENSITY III - CATARMAN N. SAMAR; LEGASPI CITY; VIRAC CATANDUANES.

MOS ***06*** *07:45:58.0±1.1,12˚.97N×124˚.41E,h33km,mb5.3/45, MS4.6/14,Error ellipse: s-maj=9.8km s-min=5.3km az=115.4*

GCMT ***06*** *07:45:59.3±0.2,13˚.03N×124˚.52E,h26km,MW5.2, Moment Tensor Solution. s57,c90; s81,c147; Moment tensor: Scale 10¹⁶Nm; Mrr=3.92±.23; Mθθ 7.73±.16; Mϕϕ -3.81±.22; Mrθ -3.52±.29; Mθϕ 1.26±.13; Mϕr 3.01±.43; Best double couple: Mo8.20000×10¹⁶ NP1:ϕs228.00000°, δ46.00000°,λ-152.00000°. NP2:ϕs117.00000°, δ71.00000°,λ-48.00000°. Principal axes: T 8.7200, Plg15.0000°, Azm178.0000°; N -1.0800, Plg39.0000°, Azm281.0000°; P -7.6400, Plg47.0000°, Azm71.0000°; Data Used: II IC G IU CN.*

IDC ***06*** *07:45:59.7±2.6,12˚.94N×124˚.44E,h33km±19km,mb4.5/31, mb1 4.5/33,mb1mx4.5/36,mbtmp4.5/33,ML4.3/2,MS4.5/21, Ms1 4.5/21,ms1mx4.4/29 Error ellipse: s-maj=14.2km s-min=8.5km az=72.0*

NEIC ***06*** *07:46:01.2±0.6,12˚.98N×124˚.48E,h45km±5km,mb5.2/58, Error ellipse: s-maj=5.4km s-min=3.8km az=80.0*

NEIC Felt [IV PIVS] at Sorsogon and [III PIVS] at Legaspi, Luzon. Felt [III PIVS] at Catarman and [II PIVS] at Can-Avid, Samar. Felt at Calbayog. Also felt [III PIVS] at Virac, Catanduanes.

DJA ***06*** *07:46:07,13˚.19N×124˚.66E,h108km,Mw5.4/30*

ISC 06 07:45:57.2±0.1,13˚.08N±0˚.02×124˚.50E±0˚.03,h10km, (h4§1km±1.6km:pP-P),n396,σ1§34/396,mb5.0/136, MS4.5/49,16C-18D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PVCP	**Virac**	**0.61**	**327**	*e*P		**Pg**	**07 46 09.3**	**+0.2**
PVCP				*e*S		**Sg**	**07 46 17.2**	**+0.1**
MMPH	**Masbate**	**1.12**	**230**	⇑*i*P		**Pb**	**07 46 16.8**	**-1.9**
MMPH				*i* S		**Sb**	**07 46 30.5**	**-2.7**
GQP	**Guinayangan**	**2.16**	**292**	⇓*e*P		**Pn**	**07 46 34.3**	**+1.1**
GQP				*e*S		**Sn**	**07 47 03.9**	**+3.8**
RCP	**Roxas**	**2.29**	**229**	⇓*e*P		**Pn**	**07 46 35.0**	**0.0**
BOAC	**Boac**	**2.62**	**279**	*e*P		**Pn**	**07 46 39.9**	**+0.4**
BOAC				*e*S		**Sn**	**07 47 03.8**	**-7.5**
LLP	**Lapu-Lapu**	**2.80**	**191**	⇑*e*P		**Pn**	**07 46 41.0**	**-1.0**
LLP				*e*S		**Sn**	**07 47 12.6**	**-3.2**
SCPH	**Surigao**	**3.42**	**163**	*e*P		**Pn**	**07 46 52.4**	**+1.8**
SCPH				*e*S		**Sn**	**07 47 37.0**	**+5.8**
TBP	**Tagbilaran**	**3.43**	**191**	*e*P		**Pn**	**07 46 51.9**	**+1.2**
TGY	**Tagaytay City**	**3.61**	**287**	Pn		**Pb**	**07 46 57.6**	**-3.5**
	84nm,0.3s,baz=87,slow=5.8,SNR=16							
TGY	**Tagaytay City**	**3.61**	**287**	Pn		**Pb**	**07 46 57.6**	**-3.5**
TGY	**Tagaytay City**	**3.61**	**287**	P		**Pb**	**07 46 57.6**	**-3.6**
SNPH	**Sibulan**	**3.92**	**199**	⇓*i*P		**Pn**	**07 46 58.2**	**+0.7**
SNPH				*i* S		**Sg**	**07 48 04.2**	**+1.1**
CGP	**Cagayan de Oro**	**4.60**	**178**	⇑*e*P		**Pn**	**07 47 07.6**	**+0.8**
CGP				*i* S		**Sb**	**07 48 14.4**	**+0.8**
DCPH	**Dipolog City**	**4.61**	**194**	⇑*e*P		**Pn**	**07 47 05.7**	**-1.3**
BCPH	**Baguio City Da**	**5.01**	**311**	⇓*e*P		**Pn**	**07 47 13.6**	**+1.1**
BCPH	**Baguio City Da**	**5.01**	**311**	*i* S		**Sb**	**07 48 26.5**	**+1.1**
DMPH	**Davao City--Mi**	**6.04**	**170**	*e*P		**Pn**	**07 47 31.8**	**+5.1**
DAV	**Davao City (W)**	**6.07**	**170**	Pn		**Pn**	**07 47 32.2**	**+5.2**
	81nm,0.3s,baz=313,slow=2.2,SNR=11							
DAV				LR		LR	07 50 17.8	
	comp=Z,15μm,18.7s,baz=1.0,slow=44							
DAV	**Davao City (W)**	**6.07**	**170**	*e*Pn		**Pn**	**07 47 28.2**	**+1.2**
	768nm,0.8s							
DAV				LR		LR	07 50 17.8	
PIP	**Pasuquin**	**6.42**	**325**	⇓*e*P		**Sn**	**07 48 46.8**	**+1.7**
SGSI	**Sangihe**	**9.39**	**174**	P		**Pn**	**07 48 18.5**	**+5.9**
	5μm423nm,1.2s							
MYLDM	**Lahad Datu**	**9.83**	**218**	P		**Pn**	**07 48 22.1**	**+3.4**
MYLDM	**Lahad Datu**	**9.83**	**218**	P		**Pn**	**07 48 21.6**	**+2.9**
TWG	**Pinlang**	**10.22**	**342**	*e*Pn		**Pn**	**07 48 26.7**	**+2.7**
YULB	**Yu-li**	**10.70**	**344**	*e*Pn		**Pn**	**07 48 32.9**	**+2.3**
KKM	**Kota Kinabalu**	**10.75**	**230**	*e*Pn		**Pn**	**07 48 33.4**	**+2.1**
KKM	**Kota Kinabalu**	**10.75**	**230**	P		Px	07 48 46.6	
SSLB	**Suanglung**	**11.17**	**343**	*e*Pn		**Pn**	**07 48 39.4**	**+2.5**
NACB	**Ninganchiao**	**11.37**	**346**	*e*Pn		**Pn**	**07 48 42.0**	**+2.3**
NACB				*e*Sn		**Sn**	**07 50 44.8**	**-2.1**
YHNB	**Yeheng**	**11.90**	**346**	*e*Pn		**Pn**	**07 48 49.8**	**+2.8**
KMSI	**Cibinong**	**12.44**	**182**	P		**Pn**	**07 49 00.1**	**+5.7**
	7μm507nm,1.4s							
TNTI	**Ternate**	**12.55**	**167**	P		**Pn**	**07 48 57.2**	**+1.2**
	5μm340nm,1.6s							
MRSI	**Marisa**	**12.78**	**192**	P		**Pn**	**07 49 04.9**	**+5.9**
	1μm103nm,1.4s							
JOW	**Kunigami**	**14.13**	**14**	Pn		**Pn**	**07 49 20.1**	**+2.6**
	2.7nm,0.3s,baz=180,slow=16,SNR=8.4							
JOW	**Kunigami**	**14.13**	**14**	*e*Pn		**Pn**	**07 49 18.4**	**+0.9**
LUWI	**Luwuk**	**14.14**	**187**	P		**Pn**	**07 49 23.2**	**+5.6**
	6μm340nm,1.0s							
GZH	**Guangzhou**	**14.54**	**315**	P		**Pn**	**07 49 27.5**	**+4.5**
GZH				S		**Sn**	**07 52 12.0**	**+7.7**
GZH				LR		LR		
	com

BKSI Bulukumba 18.79 194 P **Pn** **07 50 17.1 -0.3**
comp=Z,1μmcomp=Z,112nm,1.1s
BBKI Banjar Baru 19.03 211 P **Pn** **07 50 22.3 +2.1**
comp=Z,3μmcomp=Z,142nm,0.9s
NJ2 Nanjing 19.58 346 *e*P **Pn** **07 50 30.2 +3.5**
NJ2 pP pP 07 50 40.6 +12
NJ2 sP sP 07 50 46.6 +17
NJ2 PP 07 50 50.0
NJ2 S **Sn** **07 54 10.0 +3.4**
NJ2 sS sS 07 54 26.0 +15
NJ2 pmax pmax
comp=Z,40nm,1.0s
NJ2 pmax pmax
comp=Z,600nm,10.8s
NJ2 LR LR
comp=N,600nm,27.6s
NJ2 LR LR
comp=E,860nm,27.4s
NJ2 LR LR
comp=Z,830nm,26.7s
WHN Wuhan 19.75 333 P **Pn** **07 50 30.0 +1.3**
WHN sP sP 07 50 47.3 +16
WHN S **Sn** **07 54 11.4 +0.8**
WHN pmax pmax
comp=Z,150nm,1.4s
WHN pmax pmax
comp=Z,2μm,8.0s
WHN LR LR
comp=N,5μm,16.8s
WHN LR LR
comp=E,2μm,13.6s
WHN LR LR
comp=Z,6μm,16.0s
GUMO Guam 19.82 86 Pn **Pn** **07 50 29.4 -0.4**
comp=Z,1.2nm,0.3s,baz=300,slow=4.6,SNR=4.1
GUMO LR LR 07 56 36.7
comp=Z,897nm,19.2s,baz=158,slow=32
GUMO Guam 19.82 86 Pn **Pn** **07 50 29.4 -0.4**
GUMO LR LR 07 56 36.7
GUMO Guam 19.82 86 P **Pn** **07 50 29.4 -0.4**
SMPI Sarmi 20.57 136 P **P** **07 50 37.7 +1.4**
comp=Z,6μmcomp=Z,554nm,1.3s
JNU Nakatsue 20.78 15 *e*Pn **P** **07 50 40.8 +2.4**
comp=Z,78nm,1.5s
GYA Guiyang 21.38 311 P **P** **07 50 47.0 +2.0**
GYA pP 07 50 59.3
GYA sP sP 07 51 04.2 +15
GYA PP 07 51 13.0
GYA S **S** **07 54 37.4 -5.1**
GYA PcP PcP 07 54 49.0 +0.1
GYA SS 07 55 15.2
GYA pmax pmax
comp=Z,30nm,1.0s,mb4.6
GYA pmax pmax
comp=Z,130nm,5.7s
GYA LR LR
comp=N,580nm,16.8s,MS4.2
GYA LR LR
comp=E,490nm,17.4s,MS4.2
GYA LR LR
comp=Z,650nm,18.2s,MS4.1
CBIJ Chichi jima 21.64 47 P **P** **07 50 47.8 -0.1**
comp=Z,69nm,0.7s,mb5.2,baz=196,slow=14,SNR=4.5
CBIJ LR LR 07 57 17.6
comp=Z,1μm,20.6s,MS4.4,baz=248,slow=31
MMRI Maumere 21.69 186 P **P** **07 50 50.2 +1.8**
comp=Z,2μmcomp=Z,145nm,1.3s,mb5.2
ENH Enshi 22.03 323 *e*P **P** **07 50 52.0 +0.1**
comp=Z,39nm,0.9s,mb4.8
ENH *e* 07 54 53.2
BMNI Bima 22.24 195 P **P** **07 50 55.6 +1.3**
comp=Z,1μmcomp=Z,102nm,1.3s,mb5.1
KMMI Kalianget 22.57 208 P **P** **07 50 59.5 +1.7**
comp=Z,4μmcomp=Z,273nm,0.8s,mb5.7
SRBI Singaraja 22.96 204 P **P** **07 51 01.9 -0.1**
comp=Z,2μmcomp=Z,200nm,1.0s,mb5.5
MTNI Mataram 23.11 201 P **P** **07 51 03.2 -0.3**
comp=Z,123nm,0.9s,mb5.3
MYKOM Kota Tinggi 23.32 243 P **P** **07 51 01.8 -4.0**
comp=Z,849nmcomp=Z,61nm,0.8s,mb5.1
BLJI Banyuglugur 23.36 208 P **P** **07 51 06.4 +0.3**
comp=Z,3μmcomp=Z,134nm,0.8s,mb5.4
PPBI Pangkal Pinang 23.70 232 P Px 07 51 22.6
JAGI Jajag, Banyuwa 23.75 206 P **P** **07 51 06.0 -4.0**
comp=Z,93nm,1.4s,mb5.0
KMI Kunming 23.75 303 P **P** **07 51 10.3 +0.3**
KMI pP 07 51 16.1
KMI PP 07 51 42.0
KMI S **S** **07 55 21.0 -4.3**
KMI SS 07 56 10.2
KMI pmax pmax
comp=Z,16nm,0.9s,mb4.5
KMI pmax pmax
comp=Z,250nm,4.4s
KMI LR LR
comp=N,880nm,21.4s,MS4.3
KMI LR LR
comp=E,630nm,22.5s,MS4.3
KMI LR LR
comp=Z,850nm,16.0s
SJI Sawahan 24.24 212 P **P** **07 51 14.9 +0.4**
comp=Z,251nm,1.0s,mb5.6
KRKI Karangkates 24.26 210 P **P** **07 51 16.9 +2.3**
comp=Z,353nm,1.6s,mb5.5
JHJ Hachijo jima 2 24.34 32 LR LR 07 59 40.5
comp=Z,2μm,18.4s,MS4.6,baz=203,slow=34
SMRI Semarang 24.39 216 P **P** **07 51 19.0 +3.1**
comp=Z,124nm,2.1s,mb5.0
KSRS Korea Array 24.46 7 P **P** **07 51 16.9 +0.7**
comp=Z,14nm,0.8s,mb4.4,baz=183,slow=9.7,SNR=42
KSRS LR LR 07 59 55.1
comp=Z,1μm,21.9s,MS4.4,baz=197,slow=34
PWJI Pagerwojo 24.47 212 P **P** **07 51 16.7 +0.2**
comp=Z,191nm,1.3s,mb5.4
IPM Ipoh 24.70 252 *e*P **P** **07 51 17.9 -0.9**
comp=Z,262nm,2.0s,mb5.4
IPM Ipoh 24.70 252 P **P** **07 51 17.4 -1.3**
comp=Z,790nmcomp=Z,53nm,1.5s,mb4.8
KULM Kulim 24.77 254 *e*P **P** **07 51 21.1 +1.8**
comp=Z,248nm,2.1s,mb5.4
KULM Kulim 24.77 254 P **P** **07 51 21.0 +1.7**
comp=Z,675nmcomp=Z,43nm,1.6s,mb4.7
PCJI Pacitan 24.94 213 P **P** **07 51 21.9 +1.1**
comp=Z,245nm,1.5s,mb5.5
UGM Wanagama 25.06 214 P **P** **07 51 27.5 +5.6**
comp=Z,274nm,1.7s,mb5.5
CMAR Chiang Mai Arr 25.16 286 P **P** **07 51 21.0 -1.8**
comp=Z,5.0nm,0.7s,mb4.1,baz=95,slow=7.7,SNR=24
CMAR Chiang Mai Arr 25.16 286 P **P** **07 51 21.0 -1.8**
CMAR Chiang Mai Arr 25.16 286 P **P** **07 51 21.0 -1.8**
CHTO Chiang Mai 25.21 286 *e*P **P** **07 51 21.8 -1.5**
comp=Z,5.8nm,0.6s,mb4.3
CHTO *e*PcP PcP 07 54 57.2 +0.1
CHTO Chiang Mai 25.21 286 *e*P **P** **07 51 21.8 -1.5**
CHTO *e* 07 54 57.2
CHTO pmax pmax
comp=Z,6.0nm,0.6s,mb4.3
CHTO Chiang Mai 25.21 286 P **P** **07 51 23.7 +0.4**
comp=Z,10nm,0.7s,mb4.5
XAN Xi'an 25.22 328 P **P** **07 51 22.5 -0.7**
XAN pP pP 07 51 34.1 +7.8
XAN sP sP 07 51 39.7 +12
XAN PP 07 52 08.7
XAN S **S** **07 55 55.2 +6.5**
XAN pmax pmax
comp=Z,11nm,1.5s,mb4.2
XAN pmax pmax
comp=Z,84nm,13.5s
XAN LR LR
comp=N,610nm,15.5s,MS4.2
XAN LR LR
comp=E,200nm,15.5s,MS4.2
XAN LR LR
comp=Z,300nm,14.4s,MS4.0
DL2 Dalian 25.85 355 ||P **P** **07 51 30.0 +1.2**
DL2 pP pP 07 51 40.6 +8.7
DL2 PP 07 52 12.0
DL2 S **S** **07 56 00.7 +2.2**
DL2 pmax pmax
comp=Z,50nm,1.2s,mb4.9
DL2 pmax pmax
comp=Z,190nm,7.0s
DL2 LR LR
comp=N,600nm,18.7s,MS4.2
DL2 LR LR
comp=E,270nm,13.9s,MS4.2
DL2 LR LR
comp=Z,750nm,20.0s
CD2 Chengdu 26.09 316 P **P** **07 51 31.0 -0.1**
CD2 pP pP 07 51 42.6 +8.4
CD2 sP sP 07 51 48.2 +13
CD2 PP 07 52 14.1
CD2 S **S** **07 55 57.7 -4.8**
CD2 sS sS 07 56 17.5 +10
CD2 pmax pmax
comp=Z,60nm,0.8s,mb5.2
CD2 pmax pmax
comp=Z,400nm,11.6s
CD2 LR LR
comp=N,2μm,19.6s
CD2 LR LR
comp=Z,2μm,19.0s,MS4.6
MAJO Matsushiro 26.40 25 *e*P **P** **07 51 32.8 -1.1**
comp=Z,19nm,1.0s,mb4.6
MAJO *e*PcP PcP 07 55 01.1 +1.6
MAJO Matsushiro 26.40 25 *e*P **P** **07 51 32.8 -1.1**
MAJO *e* 07 55 01.1
MAJO pmax pmax
comp=Z,19nm,1.0s,mb4.6
MAT Matsushiro 26.40 25 P **P** **07 51 33.1 -0.8**
MAT S **S** **07 56 07.0 -0.4**
MJAR Matsushiro Arr 26.40 25 P **P** **07 51 33.2 -0.7**
comp=Z,4.4nm,0.7s,mb4.1,baz=201,slow=9.6,SNR=8.8
MJAR LR LR 08 01 08.1
comp=Z,2μm,19.2s,MS4.6,baz=205,slow=34
MJAR Matsushiro Arr 26.40 25 P **P** **07 51 33.2 -0.7**
MJAR LR LR 08 01 08.1
MJAR Matsushiro Arr 26.40 25 P **P** **07 51 33.2 -0.7**
MDSI Maura Dua 26.68 230 P **P** **07 51 35.1 -1.6**
comp=Z,22nm,1.3s,mb4.5
TIY Taiyuan 26.79 338 *e*P **P** **07 51 37.5 +0.1**
TIY S **S** **07 56 08.8 -4.6**
TIY sS sS 07 56 29.5 +11
TIY pmax pmax
comp=Z,240nm,8.1s
TIY LR LR
comp=N,950nm,15.2s,MS4.5
TIY LR LR
comp=E,250nm,11.7s,MS4.5
TIY LR LR
comp=Z,940nm,16.2s,MS4.4
KAKA Kakadu 26.81 163 *e*P **P** **07 51 35.5 -2.2**
comp=Z,32nm,0.6s,mb5.0
KAKA Kakadu 26.81 163 *e*P **P** **07 51 35.9 -1.8**
comp=Z,127nm,0.7s,mb5.6
PSI Prapat 27.28 250 P **P** **07 51 40.9 -1.2**
comp=Z,5.6nm,0.7s,mb4.2,baz=114,slow=7.7,SNR=4.0
PSI LR LR 08 03 34.3
comp=Z,825nm,18.3s,MS4.3,baz=73,slow=39
PSI Prapat 27.28 250 P **P** **07 51 40.9 -1.2**
PSI LR LR 08 03 34.2
PSI Prapat 27.28 250 P **P** **07 51 40.9 -1.2**
BJT Baijiatuau 27.82 346 *e*P **P** **07 51 47.1 +0.5**
comp=Z,31nm,0.6s,mb5.1
BJT Baijiatuau 27.82 346 *e*P **P** **07 51 47.1 +0.5**
BJT pmax pmax
comp=Z,31nm,0.6s
BJI Beijing 27.84 346 P **P** **07 51 47.0 +0.2**
BJI S **S** **07 56 32.8 +2.9**
BJI pmax pmax
comp=Z,30nm,1.4s,mb4.7
BJI pmax pmax
comp=Z,330nm,3.6s
BJI LR LR
comp=N,1μm,17.4s,MS4.5
BJI LR LR
comp=E,420nm,18.5s,MS4.5
BJI LR LR
comp=Z,320nm,19.4s,MS3.9
LZH Lanzhou 29.50 325 *e*P **P** **07 52 02.5 +0.9**
LZH pP pP 07 52 12.5 +7.9
LZH sP sP 07 52 16.5 +11
LZH S **S** **07 56 56.0 -0.1**
LZH sS sS 07 57 14.3 +13
LZH pmax pmax
comp=Z,27nm,1.6s,mb4.7
LZH pmax pmax
comp=Z,160nm,6.2s
LZH LR LR
comp=N,2μm,14.4s,MS4.9
LZH LR LR
comp=E,2μm,16.8s,MS4.9
LZH LR LR
comp=Z,3μm,18.1s,MS4.9
HHC Hu-ho-hao-te 29.89 340 *e*P **P** **07 52 06.3 +1.2**
HHC pP pP 07 52 18.2 +10
HHC sP sP 07 52 23.7 +14
HHC PP PP 07 53 05.5 -7.1
HHC PcP PcP 07 55 07.7 -0.2
HHC S **S** **07 57 00.5 -1.8**
HHC sS sS 07 57 20.5 +13
HHC pmax pmax
comp=Z,23nm,0.7s,mb5.0
HHC pmax pmax
comp=Z,170nm,6.8s
HHC LR LR
comp=N,770nm,15.7s,MS4.5
HHC LR LR
comp=E,410nm,16.7s,MS4.5
HHC LR LR
comp=Z,780nm,15.9s,MS4.4
VLA Vladivostok 30.60 11 *e*P **P** **07 52 13.2 +1.9**
VLA pmax pmax
comp=Z,62nm,1.2s,mb5.3
CN2 Changchun 30.62 1 *e*P **P** **07 52 11.2 -0.2**
CN2 *e*pP pP 07 52 23.1 +8.6
CN2 *e*S **S** **07 57 10.2 -3.4**
CN2 pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,1μm,23.0s,MS4.5
CN2 LR LR
comp=E,900nm,23.0s,MS4.5
CN2 LR LR
comp=Z,500nm,21.0s,MS4.1
FITZ Fitzroy Crossi 31.00 178 P **P** **07 52 12.5 -2.5**
comp=Z,2.0nm,0.4s,mb4.3,baz=355,slow=9.3,SNR=16
FITZ Fitzroy Crossi 31.00 178 *e*P **P** **07 52 11.8 -3.2**
comp=Z,11nm,0.6s,mb4.9
FITZ Fitzroy Crossi 31.00 178 *e*P **P** **07 52 11.8 -3.2**
comp=Z,22nm,1.3s,mb4.8
FITZ Fitzroy Crossi 31.00 178 P **P** **07 52 11.8 -3.2**
comp=Z,12nm,1.4s,mb4.6
PMG Port Moresby 31.71 134 P **P** **07 52 19.9 -1.4**
comp=Z,5.2nm,0.4s,mb4.7,baz=319,slow=6.8,SNR=5.7
PMG Port Moresby 31.71 134 *e*P **P** **07 52 19.4 -2.0**
comp=Z,23nm,1.1s,mb4.9
PMG Port Moresby 31.71 134 *e*P **P** **07 52 19.4 -1.9**
PMG pmax pmax
comp=Z,23nm,1.1s
PMG Port Moresby 31.71 134 P **P** **07 52 20.2 -1.1**
comp=Z,22nm,1.1s,mb4.9
MDJ Mudanjiang 31.73 7 P **P** **07 52 22.3 +1.1**
MDJ pP pP 07 52 33.7 +9.5
MDJ sP sP 07 52 38.6 +13
MDJ PP PP 07 53 34.3 +1.4
MDJ S **S** **07 57 32.6 +1.7**
MDJ sS sS 07 57 46.2 +10
MDJ pmax pmax
comp=Z,30nm,1.3s,mb5.0
MDJ pmax pmax
comp=Z,160nm,5.4s
MDJ LR LR
comp=N,890nm,22.0s
MDJ LR LR
comp=E,230nm,15.8s
MDJ LR LR
comp=Z,1μm,22.0s,MS4.5
MDJ Mudanjiang 31.73 7 *e*P **P** **07 52 22.1 +0.9**
comp=Z,62nm,1.3s,mb5.3
COEN Coen 32.62 145 *e*P **P** **07 52 27.5 -1.8**
comp=Z,293nm,1.1s,mb6.1
COEN Coen 32.62 145 P **P** **07 52 26.7 -2.6**
comp=Z,39nm,1.1s,mb5.2
GTA Gaotai 34.10 325 *e*P **P** **07 52 42.9 +0.9**
GTA pP pP 07 52 54.9 +10
GTA sP sP 07 53 00.4 +14
GTA S **S** **07 58 05.7 -2.2**
GTA sS sS 07 58 25.2 +12
GTA LR LR
GTA SS SS 08 00 17.8 -18
GTA pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
GTA pmax pmax
comp=Z,150nm,5.9s
GTA LR LR
comp=N,540nm,16.4s,MS4.6
GTA LR LR
comp=E,810nm,17.1s,MS4.6
GTA LR LR
comp=Z,1μm,16.4s,MS4.7
WRAB Tennant Creek 34.21 163 *e*P **P** **07 52 41.1 -2.0**
comp=Z,16nm,0.9s,mb4.9
WRAB Tennant Creek 34.21 163 *e*P **P** **07 52 41.1 -2.0**
WRAB pmax pmax
comp=Z,16nm,0.9s,mb5.0
WRAB Tennant Creek 34.21 163 P **P** **07 52 41.4 -1.7**
comp=Z,36nm,0.9s,mb5.3
WRA Warramunga Arr 34.21 163 P **P** **07 52 40.6 -2.6**
comp=Z,4.8nm,0.5s,mb4.7,baz=345,slow=8.9,SNR=68
WRA ScP ScP 07 59 01.6 -3.7
comp=Z,3.4nm,1.3s,baz=339,slow=3.7,SNR=6.0
WRA Warramunga Arr 34.21 163 P **P** **07 52 40.6 -2.6**
WRA ScP ScP 07 59 01.6 -3.7
WRA Warramunga Arr 34.21 163 P **P** **07 52 40.6 -2.5**
MBWA Marble Bar 34.35 188 *e*P **P** **07 52 41.1 -3.2**
comp=Z,4.9nm,0.6s,mb4.6
MBWA Marble Bar 34.35 188 P **P** **07 52 43.2 -1.1**
comp=Z,20nm,3.1s
ASAJ Asahikawa 34.60 23 P **P** **07 52 46.8 +0.5**
comp=Z,11nm,0.7s,mb4.9,baz=207,slow=11,SNR=14
ASAJ LR LR 08 06 17.3
comp=Z,1μm,19.9s,MS4.6,baz=207,slow=35
ASAJ Asahikawa 34.60 23 *e*P **P** **07 52 47.1 +0.8**
comp=Z,47nm,1.9s,mb5.1
LSA Lhasa 35.01 304 P **P** **07 52 50.0 -0.1**
KLR Kul'dur 36.54 8 *e*P **P** **07 53 00.0 -2.8**
KLR *e* 07 54 34.0
KLR *e*S **S** **07 58 50.5 +5.4**
KLR MLR MLR
comp=N,700nm,16.0s,MS4.6
KLR MLR MLR
comp=E,500nm,16.0s,MS4.6
KLR MLR MLR
comp=Z,1μm,16.0s,MS4.7
YSS Yuzh-Sakhalins 37.09 21 *e*P **P** **07 53 06.3 -1.2**
YSS *e* 07 53 16.0
YSS *e* 07 59 02.0
YSS MLR MLR
comp=N,1μm,20.0s,MS4.8
YSS MLR MLR
comp=Z,800nm,20.0s,MS4.5
YSS MLR MLR
comp=E,1μm,18.0s,MS4.8
ULN Ulaanbaatar 37.61 341 *e*P **P** **07 53 12.8 +0.8**
comp=E,48nm,1.1s,mb5.1
ULN Ulaanbaatar 37.61 341 *e*P **P** **07 53 12.8 +0.8**
ULN pmax pmax
comp=Z,48nm,1.1s,mb5.1
ULN Ulaanbaatar 37.61 341 P **P** **07 53 12.6 +0.6**
comp=Z,594nmcomp=Z,42nm,1.0s,mb5.2
ASAR Alice Springs 37.66 166 P **P** **07 53 11.0 -1.7**
comp=Z,10nm,0.4s,mb5.0,baz=339,slow=7.1,SNR=246
ASAR S **S** **07 58 57.4 -5.3**
comp=Z,2.1nm,0.6s,baz=343,slow=14,SNR=12
ASAR Alice Springs 37.66 166 P **P** **07 53 11.0 -1.7**
ASAR S **S** **07 58 57.4 -5.3**
ASAR Alice Springs 37.66 166 P **P** **07 53 11.0 -1.7**
ASAR S **S** **07 58 57.4 -5.3**
SONM Songino Array 37.80 340 P **P** **07 53 14.2 +0.6**
comp=Z,7.9nm,0.8s,mb4.5,baz=160,slow=8.5,SNR=35
SONM LR LR 08 11 29.0
comp=Z,553nm,18.6s,MS4.4,baz=154,slow=40
SONM Songino Array 37.80 340 P **P** **07 53 14.2 +0.6**
SONM LR LR 08 11 29.0
SONM Songino Array 37.80 340 P **P** **07 53 14.2 +0.6**
GUN Gumba 38.88 298 *e*P **P** **07 53 21.9 -1.1**
comp=Z,49nm,0.7s,mb5.3
GUN Gumba 38.88 298 *e*P **P** **07 53 21.9 -1.1**
comp=Z,49nm,0.7s,mb5.3
PKI Pulchoki 39.21 298 *e*P **P** **07 53 24.6 -1.2**
comp=Z,29nm,0.7s,mb5.1
PKI Pulchoki 39.21 298 *e*P **P** **07 53 25.0 -0.8**
comp=Z,36nm,0.7s,mb5.2
PKI Pulchoki 39.21 298 *e*P **P** **07 53 25.0 -0.8**
PKI pmax pmax
comp=Z,36nm,0.7s,mb5.2
PKIN Phulchoki 39.22 298 *e*P **P** **07 53 25.0 -0.9**
comp=Z,36nm,0.7s,mb5.2
CTA Charters Tower 39.30 147 P **P** **07 53 25.2 -1.3**
comp=Z,16nm,0.9s,mb4.8,baz=331,slow=10,SNR=15
CTA Charters Tower 39.30 147 *e*P **P** **07 53 25.6 -0.9**
comp=Z,12nm,0.8s,mb4.7
CTA Charters Tower 39.30 147 P **P** **07 53 25.2 -1.3**
CTA Charters Tower 39.30 147 P **P** **07 53 25.3 -1.2**
CTAO Charters Tower 39.30 147 *e*P **P** **07 53 25.9 -0.6**
comp=Z,23nm,0.9s,mb4.9
CTAO Charters Tower 39.30 147 *e*P **P** **07 53 25.9 -0.6**
CTAO pmax pmax
comp=Z,23nm,0.9s,mb4.9
CTAO Charters Tower 39.30 147 P **P** **07 53 25.4 -1.1**
KKN Kakani 39.37 298 *e*P **P** **07 53 26.0 -1.1**
KKN Kakani 39.37 298 *e*P **P** **07 53 26.0 -1.1**
KKN Kakani 39.37 298 *e*P **P** **07 53 26.0 -1.1**
DMN Daman 39.48 298 *e*P **P** **07 53 26.5 -1.5**
DMN Daman 39.48 298 *e*P **P** **07 53 26.5 -1.5**
GKN Gorkha 39.97 298 *e*P **P** **07 53 30.1 -2.0**
comp=Z,57nm,1.1s,mb5.2
GKN Gorkha 39.97 298 *e*P **P** **07 53 30.1 -2.0**
comp=Z,57nm,1.1s,mb5.2
DANN Dangsing 40.81 298 *e*P **P** **07 53 37.5 -1.5**
comp=Z,85nm,1.1s,mb5.3
DANN Dangsing 40.81 298 *e*P **P** **07 53 37.5 -1.5**
comp=Z,85nm,1.1s,mb5.3
KOLN Koldanda 40.81 297 *e*P **P** **07 53 37.5 -1.6**
comp=Z,23nm,0.7s,mb4.9
KOLN Koldanda 40.81 297 *e*P **P** **07 53 37.5 -1.6**
comp=Z,23nm,0.7s,mb4.9
ZAK Zakamensk 41.04 339 *e*P **P** **07 53 40.3 -0.3**
ZAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.0
TLY Talaya 42.02 341 *e*P **P** **07 53 49.3 +0.7**
comp=Z,16nm,0.8s,mb4.7
TLY Talaya 42.02 341 *e*P **P** **07 53 50.1 +1.5**
TLY *e* 07 55 28.9
TLY *e*S **S** **08 00 07.9 +0.4**
TLY *e*SSS 08 03 55.5
TLY pmax pmax
comp=Z,17nm,0.8s,mb4.7
TLY MLR MLR
comp=Z,349nm,19.0s,MS4.3
MOY Mondy 42.91 339 *e*P **P** **07 53 56.7 +0.8**
MOY pmax pmax
comp=Z,51nm,2.0s,mb4.9
CLNS Chul'man 43.66 0 *e*P **P** **07 54 02.4 +0.5**
CLNS *e**PP pP 07 54 11.9 +6.9
CLNS *e* 07 55 43.6
CLNS *e* 07 55 50.8
CLNS *e*PPP 07 56 17.1
CLNS *e*S **S** **08 00 29.5 -2.0**
CLNS *e*SSS 08 04 25.8
CLNS pmax pmax
comp=Z,25nm,1.1s,mb4.9
CLNS pmax pmax
comp=N,23nm,1.3s
CLNS pmax pmax
comp=E,5.0nm,1.2s
CLNS pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
CLNS pmax pmax
comp=N,5.0nm,0.8s
CLNS pmax pmax
comp=E,6.0nm,1.0s
CLNS smax
comp=N,199nm,13.2s
CLNS smax
comp=E,263nm,13.0s
CLNS MLR MLR
comp=Z,377nm,17.0s,MS4.4
CLNS MLR MLR
comp=N,606nm,17.0s,MS4.7
CLNS MLR MLR
comp=E,239nm,14.0s,MS4.7
FORT Forrest 43.74 176 *e*P **P** **07 53 59.9 -2.8**
WMQ Urumqi 43.96 321 P **P** **07 54 05.5 +1.0**
WMQ pP pP 07 54 17.8 +10

WMQ sP sP 07 54 23.2 +14
WMQ PP PP 07 55 50.0 +3.2
WMQ S **S** **08 00 33.8 -2.4**
WMQ sS sS 08 00 54.6 +13
WMQ pmax pmax
comp=Z,71nm,0.8s,mb5.5
WMQ pmax pmax
comp=Z,190nm,4.1s
WMQ LR LR
comp=N,940nm,16.5s,MS4.9
WMQ LR LR
comp=E,950nm,18.0s,MS4.9
WMQ LR LR
comp=Z,610nm,21.2s,MS4.5
HYB Hyderabad 44.46 282 *i* P **P** **07 54 08.0 -0.9**
BOD Bodaibo 45.35 352 *e*P **P** **07 54 15.0 -0.4**
BOD pmax pmax
comp=Z,14nm,1.4s,mb4.6
EIDS Eidsvold 46.17 146 *e*P **P** **07 54 20.9 -1.4**
comp=Z,35nm,1.0s,mb5.2
NWAO Narrogin (SRO) 46.27 188 P **P** **07 54 20.3 -2.6**
comp=Z,12nm,0.6s,mb5.0,baz=6.0,slow=11,SNR=10
NWAO Narrogin (SRO) 46.27 188 P **P** **07 54 20.3 -2.6**
NWAO Narrogin (SRO) 46.27 188 P **P** **07 54 20.3 -2.6**
STKA Stephens Creek 47.61 160 P **P** **07 54 33.1 -0.2**
comp=Z,25nm,0.7s,mb5.3,baz=333,slow=7.8,SNR=59
STKA Stephens Creek 47.61 160 P **P** **07 54 33.1 -0.2**
STKA Stephens Creek 47.61 160 P **P** **07 54 33.2 -0.2**
PETK Petropavlovsk- 47.86 26 P **P** **07 54 36.3 +1.2**
comp=Z,15nm,0.6s,mb5.2,baz=205,slow=6.4,SNR=11
PETK LR LR 08 14 06.6
comp=Z,411nm,19.3s,MS4.4,baz=222,slow=35
PETK Petropavlovsk- 47.86 26 P **P** **07 54 36.3 +1.2**
PETK LR LR 08 14 06.6
PETK Petropavlovsk- 47.86 26 P **P** **07 54 36.3 +1.2**
PET Petropavlovsk 48.22 27 *e*S **S** **08 01 49.7 +13**
comp=Z,62nm,1.2s,mb5.5
PET Petropavlovsk 48.22 27⇓ *i*P **P** **07 54 39.6 +1.7**
PET *e*S **S** **08 01 49.7 +13**
PET pmax pmax
comp=Z,28nm,0.5s,mb5.5
PET pmax pmax
comp=Z,100nm,10.1s
PET MLR MLR
comp=Z,400nm,21.0s,MS4.4
MK31 Makanchi Array 48.76 322 *e*P **P** **07 54 42.4 +0.3**
MK31 pmax pmax
comp=Z,45nm,1.0s,mb5.5
MKAR Makanchi Array 48.76 322 P **P** **07 54 42.4 +0.2**
comp=Z,15nm,0.7s,mb5.1,baz=120,slow=8.8,SNR=68
MKAR LR LR 08 14 17.5
comp=Z,430nm,21.1s,MS4.4,baz=134,slow=35
MKAR Makanchi Array 48.76 322 P **P** **07 54 42.4 +0.2**
MKAR LR LR 08 14 17.5
MKAR Makanchi Array 48.76 322 P **P** **07 54 42.4 +0.3**
YAK Yakutsk 49.02 3 *e*P **P** **07 54 44.9 +1.0**
comp=Z,44nm,0.8s,mb5.5
YAK Yakutsk 49.02 3 *e*P **P** **07 54 43.1 -0.8**
YAK *e**PP pP 07 54 49.3 +2.3
YAK *e* 07 56 08.0
YAK *e* 07 56 36.6
YAK *e*S **S** **08 01 45.1 -3.1**
YAK pmax pmax
comp=Z,26nm,1.2s,mb5.1
YAK pmax pmax
comp=N,15nm,1.2s
YAK pmax pmax
comp=E,10.0nm,1.4s
YAK pmax pmax
comp=Z,132nm,2.5s,mb5.5
YAK smax
comp=N,336nm,17.5s
YAK MLR MLR
comp=Z,688nm,19.0s,MS4.7
YAK MLR MLR
comp=N,606nm,20.0s
KSH Kashi 50.08 311 P **P** **07 54 54.2 +1.8**
KSH pP pP 07 55 07.0 +11
KSH sP sP 07 55 12.0 +15
KSH PcP PcP 07 56 13.1 +1.0
KSH PP PP 07 56 50.7 +3.2
KSH ScP ScP 08 00 03.7 -4.4
KSH PcS PcS 08 00 08.8 -0.2
KSH S **S** **08 02 00.8 -3.0**
KSH sS sS 08 02 22.8 +14
KSH ScS ScS 08 04 38.4 -5.8
KSH SS SS 08 05 32.2 -4.8
KSH pmax pmax
comp=Z,29nm,1.4s,mb5.1
KSH pmax pmax
comp=Z,100nm,6.4s
KSH LR LR
comp=N,130nm,8.7s
KSH LR LR
comp=E,820nm,15.7s
KSH LR LR
comp=Z,510nm,13.8s,MS4.7
ARMA Armidale 50.52 149 *e*P **P** **07 54 55.3 -0.5**
ZALV Zalesovo Beam 51.34 331 P **P** **07 55 01.2 -0.4**
comp=Z,16nm,0.7s,mb5.1,baz=118,slow=7.8,SNR=65
ZALV LR LR 08 18 02.6
comp=Z,438nm,19.5s,MS4.5,baz=101,slow=37
ZALV Zalesovo Beam 51.34 331 P **P** **07 55 01.2 -0.4**
ZALV LR LR 08 18 02.6
ZALV Zalesovo Beam 51.34 331 P **P** **07 55 01.3 -0.4**
TKM2 Tokmak 2 51.46 315 *e*P **P** **07 55 03.4 +0.7**
comp=Z,41nm,1.6s,mb5.1
TKM2 Tokmak 2 51.46 315 *e*P **P** **07 55 03.4 +0.7**
TKM2 pmax pmax
comp=Z,41nm,1.6s,mb5.1
FRU Bishkek 52.11 315 *e*P **P** **07 55 14.0 +6.4**
FRU pmax pmax
comp=Z,28nm,1.6s,mb4.9
AAK Ala-Archa 52.13 314 P **P** **07 55 08.4 +0.7**
comp=Z,0.9nm,0.5s,mb4.0,baz=144,slow=9.8,SNR=7.1
AAK Ala-Archa 52.13 314 *e*P **P** **07 55 08.5 +0.7**
comp=Z,36nm,1.6s,mb5.0
AAK Ala-Archa 52.13 314 *d i*P **P** **07 55 08.1 +0.4**
AAK pmax pmax
comp=Z,3.0nm,1.7s,mb4.0
NVS Novosibirsk 52.62 331 *e*P **P** **07 55 09.4 -1.8**
NVS pmax pmax
comp=N,61nm,1.6s
NVS pmax pmax
comp=Z,117nm,1.6s,mb5.6
NVS pmax pmax
comp=E,50nm,1.7s
EKS2 Erkin-Say 52.64 314 *e*P **P** **07 55 12.3 +0.8**
comp=E,27nm,1.3s,mb5.0
EKS2 Erkin-Say 52.64 314 *e*P **P** **07 55 12.3 +0.8**
EKS2 pmax pmax
comp=Z,27nm,1.3s,mb5.0
KURK Kurchatov 52.78 325 P **P** **07 55 12.5 0.0**
comp=Z,8.3nm,0.5s,mb4.9,baz=121,slow=7.7,SNR=71
KURK Kurchatov 52.78 325 *e*P **P** **07 55 12.5 0.0**
comp=Z,259nm,1.6s,mb5.9
KURK Kurchatov 52.78 325 P **P** **07 55 12.5 +0.1**
KURK pmax pmax
comp=Z,70nm,1.2s,mb5.5
CAN Canberra 53.44 155 *e*P **P** **07 55 17.2 -0.2**
comp=Z,50nm,1.3s,mb5.3
CAN Canberra 53.44 155 *e*P **P** **07 55 17.2 -0.2**
CAN pmax pmax
comp=Z,50nm,1.3s,mb5.3
CNB Canberra Magne 53.59 155 *e*P **P** **07 55 18.2 -0.3**
DZM Mont Dzumac 53.97 130 *e*P **P** **07 55 24.6 +3.1**
comp=Z,63nm,1.1s,mb5.4
DZM *e*S **S** **08 02 59.0 +1.5**
comp=Z,314nm,26.3s
DZM *e*LR LR 08 11 10.8
comp=Z,280nm,26.2s
TOO Toolangi 54.10 159 *e*P **P** **07 55 21.1 -1.2**
KK31 Karatay Array 55.06 314 *i* P **P** **07 55 32.5 +3.2**
KK31 pmax pmax
comp=Z,1.0nm,0.2s,mb4.5
KKAR Karatay Array 55.06 314 *e*P **P** **07 55 29.1 -0.1**
KKAR Karatay Array 55.06 314 *e*P **P** **07 55 29.1 -0.2**
VOSK Vostochnaya 57.94 325 P **P** **07 55 48.9 -0.7**
VOSK pmax pmax
comp=Z,26nm,1.1s,mb5.2
BVA0 Borovoye Array 58.38 325 P **P** **07 55 52.4 -0.3**
BVA0 pmax pmax
comp=Z,11nm,1.4s,mb4.7
BVAR Borovoye Array 58.38 325 P **P** **07 55 52.4 -0.2**
comp=Z,7.7nm,0.6s,mb4.9,baz=134,slow=8.5,SNR=31

BVAR Borovoye Array 58.38 325 P **P** **07 55 52.4 -0.2**
BVAR Borovoye Array 58.38 325 P **P** **07 55 52.4 -0.3**
BRVK Borovoye 58.45 325 *e*P **P** **07 55 53.0 -0.1**
BRVK Borovoye 58.45 325 *d i*P **P** **07 55 53.0 -0.2**
BRVK pmax pmax
comp=Z,21nm,0.6s,mb5.3
MSVF Nonsavu 61.07 119 *e*P **P** **07 56 13.9 +2.2**
comp=Z,38nm,0.9s,mb5.5
MSVF Nonsavu 61.07 119 *e*P **P** **07 56 13.9 +2.1**
MSVF pmax pmax
comp=Z,38nm,0.9s,mb5.5
BILL Bilibino 61.20 17 *e*P **P** **07 56 12.3 +0.5**
comp=Z,19nm,0.8s,mb5.3
BILL Bilibino 61.20 17⇓ *i*P **P** **07 56 12.2 +0.4**
BILL *i* 07 56 19.2
BILL *e* 07 56 27.3
BILL 07 56 55.0
BILL pmax pmax
comp=Z,59nm,1.7s,mb5.4
BILL MLR MLR
comp=Z,300nm,21.0s,MS4.4
ABKT Ailbek 63.49 306 P **P** **07 56 27.4 -0.3**
comp=Z,154nm,1.1s,mb6.0,SNR=5.7
AB31 Akbulak array 63.63 319 P **P** **07 56 27.4 -1.0**
AB31 pmax pmax
comp=Z,18nm,0.7s,mb5.2
ABKAR Akbulak array 63.63 319 *e*P **P** **07 56 27.7 -0.7**
comp=Z,14nm,0.7s,mb5.1
SVE Sverdlovsk 64.92 327⇑ *e*P **P** **07 56 36.2 -0.5**
SVE *e*S **S** **08 05 22.6 +4.4**
SVE pmax pmax
comp=Z,56nm,0.8s,mb5.7
SVE MLR MLR
comp=Z,485nm,19.0s,MS4.7
AKTK Aktyubinsk 65.07 320 P **P** **07 56 37.0 -0.8**
AKTO Aktyubinsk 65.07 320 P **P** **07 56 37.0 -0.8**
comp=Z,4.5nm,0.6s,mb4.7,baz=96,slow=10,SNR=20
AKTO Aktyubinsk 65.07 320 P **P** **07 56 37.1 -0.7**
ARU Arti 65.94 326 *e*P **P** **07 56 42.4 -1.0**
ARU Arti 65.94 326 *d i*P **P** **07 56 42.2 -1.1**
ARU *e* 07 59 07.6
ARU S S 08 05 29.9 -0.8
ARU SS SS 08 09 49.1 +3.6
ARU pmax pmax
comp=Z,32nm,0.6s,mb5.5
ARU MLR MLR
comp=Z,432nm,17.0s,MS4.7
ARU Arti 65.94 326 P **P** **07 56 42.3 -1.0**
comp=Z,385nm,0.6s,SNR=14
SOKR Solikamsk 67.56 329 *e*P **P** **07 56 51.4 -2.2**
SOKR pmax pmax
comp=Z,20nm,1.9s,mb4.8
SOKR MLR MLR
comp=Z,620nm,18.0s,MS4.9
RPZ Rata Peaks 70.67 146 P **P** **07 57 12.3 -0.8**
comp=Z,13nm,0.6s,mb5.1,baz=323,slow=13,SNR=8.2
RPZ Rata Peaks 70.67 146 P **P** **07 57 12.3 -0.8**
MAK Makhachkala 71.72 311 *e*P **P** **07 57 17.3 -2.3**
MAK *e*S S 08 06 44.4 +4.6
MAK pmax pmax
comp=Z,18nm,0.3s,mb5.5
MAK MLR MLR
comp=Z,349nm,21.0s,MS4.6
RDF Al-Radifah 72.48 296 *e*P **P** **07 57 23.1 -1.3**
MIB Mutribah 72.58 297 *e*P **P** **07 57 23.2 -1.8**
MIB AMb AMB 07 57 31.4
comp=Z,63nm,0.7s,mb5.6
NAY Al-Naaiem 72.72 297 *e*P **P** **07 57 24.0 -1.8**
NAY AMb AMB 07 57 31.6
comp=Z,52nm,1.2s,mb5.3
RST Umm Al-Ruwaisa 72.91 297 *e*P **P** **07 57 25.2 -1.8**
DGRG David-gareji 73.35 310 P **P** **07 57 35.4 +6.0**
GNI Garni 73.91 308 *e*P **P** **07 57 34.1 +1.5**
comp=Z,15nm,0.9s,mb4.9
GNI Garni 73.91 308 *e*P **P** **07 57 32.1 -0.6**
GNI pmax pmax
comp=Z,31nm,1.6s
ZEI Tsey 74.38 311 *e*P **P** **07 57 33.4 -2.0**
ZEI pmax pmax
comp=Z,33nm,1.4s,mb5.1
ONI Oni 74.72 311 P **P** **07 57 44.0 +6.6**
KIV Kislovodsk 75.18 312 *e*P **P** **07 57 40.1 +0.1**
comp=Z,12nm,0.4s,mb5.2
KIV Kislovodsk 75.18 312 *e*P **P** **07 57 39.6 -0.4**
KIV *e*S S 08 07 17.3 -1.6
KIV pmax pmax
comp=Z,22nm,1.1s,mb5.0
KIV MLR MLR
comp=Z,339nm,19.0s,MS4.7
KDAK Kodiak Island 75.27 33 P **P** **07 57 40.2 0.0**
comp=Z,8.0nm,0.6s,mb4.8,baz=258,slow=4.8,SNR=10.0
KDAK Kodiak Island 75.27 33 P **P** **07 57 40.2 0.0**
KDAK Kodiak Island 75.27 33 *i* P **P** **07 57 40.7 +0.5**
PPLA Purkeypile 75.41 28 *e*P **P** **07 57 41.6 +0.7**
comp=Z,50nm,1.4s,mb5.3
BPAW Bear Paw Mtn. 75.94 27 *e*P **P** **07 57 44.8 +0.9**
comp=Z,53nm,0.9s,mb5.5
COLD Coldfoot 76.22 24 *e*P **P** **07 57 46.6 +1.2**
comp=Z,19nm,1.0s,mb5.0
TRF Thorofare Moun 76.26 27 *e*P **P** **07 57 46.3 +0.5**
comp=Z,50nm,1.4s,mb5.3
MCK McKinley 76.86 27 *e*P **P** **07 57 49.0 -0.1**
comp=Z,33nm,0.6s,mb5.4
MCK McKinley 76.86 27 *e*P **P** **07 57 49.0 -0.1**
MCK pmax pmax
comp=Z,33nm,0.6s,mb5.4
PMR Palmer 76.88 29 *e*P **P** **07 57 50.1 +0.8**
comp=Z,27nm,1.4s,mb5.0
PMR Palmer 76.88 29 *e*P **P** **07 57 50.1 +0.8**
PMR pmax pmax
comp=Z,27nm,1.4s,mb5.0
VSR Storozhevoye 77.02 320 *e*P **P** **07 57 48.1 -2.2**
VSR pmax pmax
comp=N,3.0nm,0.5s
VSR pmax pmax
comp=E,6.0nm,0.5s
VSR pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
COLA College 77.27 26 *e*P **P** **07 57 49.5 -1.9**
comp=Z,11nm,1.0s,mb4.8
COLA College 77.27 26 *e*P **P** **07 57 49.5 -1.9**
COLA pmax pmax
comp=Z,11nm,1.0s,mb4.7
MOS Moscow 77.56 325 *e*P **P** **07 57 55.8 +2.6**
ILAR Eielson Array 77.68 26 P **P** **07 57 52.4 -1.4**
comp=Z,2.1nm,0.6s,mb4.2,baz=263,slow=3.6,SNR=31
ILAR LR LR 08 31 09.0
comp=Z,206nm,21.4s,MS4.4,baz=122,slow=35
ILAR Eielson Array 77.68 26 P **P** **07 57 52.4 -1.4**
ILAR LR LR 08 31 09.0
ILAR Eielson Array 77.68 26 P **P** **07 57 52.4 -1.4**
OBN Obninsk 78.21 324 P **P** **07 57 56.0 -0.9**
OBN *i* 07 58 02.3
OBN 07 58 06.0
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.5
APA Apatity 78.43 337⇑ *e*P **P** **07 57 57.8 -0.1**
APA MLR MLR
comp=Z,700nm,18.0s,MS5.0
PAX Paxson 78.47 28 *e*P **P** **07 57 58.8 +0.6**
comp=Z,16nm,1.1s,mb4.9
PAX Paxson 78.47 28 *e*P **P** **07 57 58.8 +0.6**
PAX pmax pmax
comp=Z,16nm,1.1s,mb4.9
DIV Divide 78.53 30 *e*P **P** **07 57 58.9 +0.4**
comp=Z,20nm,0.8s,mb5.1
ANN Anapa 78.85 314 *e*P **P** **07 57 58.5 -2.1**
ANN pmax pmax
comp=Z,22nm,1.3s,mb4.9
DOT Dot Lake 79.03 27 *e*P **P** **07 58 01.4 +0.2**
comp=Z,48nm,1.0s,mb5.4
MENT Mentasta 79.27 28 *e*P **P** **07 58 03.0 +0.4**
CASY Casey 79.81 186 *e*P **P** **07 58 01.6 -3.7**
CASY Casey 79.81 186 *e*P **P** **07 58 02.3 -3.0**
comp=Z,4.1nm,0.8s,mb4.4
JOF Joensuu 79.91 332 *e*P **P** **07 58 04.2 -1.9**
JOF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
JOF Joensuu 79.91 332 *e*p **P** **07 58 04.2 -1.9**
comp=Z,8.9nm,0.7s,mb4.8
EGAK Eagle 80.12 26 *e*P **P** **07 58 07.3 +0.2**
comp=Z,5.9nm,0.6s,mb4.7
KEV Kevo 80.41 340 *e*P **P** **07 58 05.8 -2.8**
KEV pmax pmax
comp=Z,4.0nm,0.6s,mb4.5

KEV Kevo 80.41 340 *e*p **P** **07 58 05.8 -2.8**
comp=Z,3.6nm,0.6s,mb4.5
ARCES ARCESS Array B 80.97 339 P **P** **07 58 11.3 -0.3**
comp=Z,2.0nm,0.6s,mb4.2,baz=90,slow=7.3,SNR=10
ARCES LR LR 08 38 54.1
comp=Z,230nm,18.0s,MS4.6,baz=284,slow=39
ARCES ARCESS Array B 80.97 339 P **P** **07 58 11.3 -0.3**
ARCES LR LR 08 38 54.1
ARCES ARCESS Array B 80.97 339 P **P** **07 58 11.4 -0.2**
DAWY Dawson 81.00 26 *e*P **P** **07 58 12.6 +0.7**
INK Inuvik 82.32 22 *e*P **P** **07 58 18.7 -0.1**
comp=Z,12nm,0.8s,mb4.9
INK Inuvik 82.32 22 *e*P **P** **07 58 18.7 -0.1**
INK pmax pmax
comp=Z,12nm,0.8s
KAF Kangasniemi 82.35 332 *e*P **P** **07 58 17.6 -1.4**
KAF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
KAF Kangasniemi 82.35 332 *e*p **P** **07 58 17.6 -1.4**
comp=Z,7.1nm,0.8s,mb4.7
BRTR Keskin Array B 82.42 309 P **P** **07 58 19.2 -0.7**
comp=Z,1.0nm,0.7s,baz=119,slow=5.1,SNR=2.3
BRTR LR LR 08 40 06.7
comp=Z,97nm,20.2s,MS4.2,baz=232,slow=39
BRTR Keskin Array B 82.42 309 P **P** **07 58 19.2 -0.7**
BRTR LR LR 08 40 06.7
BRTR Keskin Array B 82.42 309 P **P** **07 58 19.2 -0.7**
FINES FINESS Array B 82.61 331 P **P** **07 58 19.5 -0.9**
comp=Z,5.9nm,0.8s,mb4.7,baz=60,slow=4.6,SNR=4.3
FINES LR LR 08 35 40.8
comp=Z,294nm,19.8s,MS4.7,baz=142,slow=36
FINES FINESS Array B 82.61 331 P **P** **07 58 19.5 -0.9**
FINES LR LR 08 35 40.8
FINES FINESS Array B 82.61 331 P **P** **07 58 19.5 -0.9**
VSU Vasula 82.99 328 *e*P **P** **07 58 23.3 +0.9**
VSU pmax pmax
comp=Z,37nm,0.9s,mb5.4
AKASG Malin Array Be 83.31 320 P **P** **07 58 22.4 -1.8**
comp=Z,1.2nm,0.5s,mb4.2,baz=62,slow=4.5,SNR=4.5
AKASG LR LR 08 36 21.5
comp=Z,195nm,19.5s,MS4.5,baz=0.0,slow=36
AKASG Malin Array Be 83.31 320 P **P** **07 58 22.4 -1.8**
AKASG LR LR 08 36 21.5
AKASG Malin Array Be 83.31 320 P **P** **07 58 22.4 -1.8**
KIEV Kiev 83.32 320 P **P** **07 58 27.3 +3.0**
comp=Z,9.7nm,1.0s,mb4.8
KIEV Kiev 83.32 320 P **P** **07 58 27.3 +3.0**
KIEV pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
CSS Prodhromos 83.57 304 *e*P **P** **07 58 25.1 -0.9**
comp=Z,40nm,1.1s,mb5.5
SKAG Skagway 83.94 30 *e*P **P** **07 58 28.9 +1.6**
comp=Z,13nm,0.9s,mb5.1
TIRR Tirgusor 85.24 314⇓ *i*P **P** **07 58 36.8 +2.6**
TIRR Tirgusor 85.24 314⇓ *i*P **P** **07 58 36.8 +2.6**
TESR 85.95 317⇓ *i*P **P** **07 58 36.8 -0.9**
VRI Vrincioaia 86.06 316⇑ P **P** **07 58 37.2 -1.0**
VRI Vrincioaia 86.06 316⇑ *i*P **P** **07 58 37.2 -1.0**
BURAR Bucovina Array 86.60 318⇓ P **P** **07 58 40.4 -0.5**
BURAR Bucovina Array 86.60 318⇓ *i*P **P** **07 58 40.4 -0.5**
MLR Muntele Rosu 86.68 316⇑ P **P** **07 58 46.9 +5.6**
MLR Muntele Rosu 86.68 316⇑ *i*P **P** **07 58 46.9 +5.6**
DLBC Dease Lake 86.87 31 *e*P **P** **07 58 41.6 -0.3**
VOIR 87.30 316⇑ P **P** **07 58 43.7 -0.7**
VOIR 87.30 316⇑ *i*P **P** **07 58 43.7 -0.7**
KMBO Kilima Mbogo 87.57 268 P **P** **07 58 45.4 -0.9**
comp=Z,0.6nm,0.4s,mb4.2,baz=0.0,slow=20,SNR=2.9
KMBO Kilima Mbogo 87.57 268 *e*P **P** **07 58 46.1 -0.2**
comp=Z,16nm,1.4s,mb5.0
KMBO Kilima Mbogo 87.57 268 *e*P **P** **07 58 46.1 -0.2**
KMBO pmax pmax
comp=Z,16nm,1.4s
KWP Kalwaria Pacla 87.63 320 *e*P **P** **07 58 45.3 -0.6**
comp=Z,62nm,1.4s,mb5.7
KWP Kalwaria Pacla 87.63 320⇑ P **P** **07 58 45.4 -0.4**
KWP Kalwaria Pacla 87.63 320⇑ *i*P **P** **07 58 45.4 -0.4**
KOLS Kolonicke sedl 88.11 320 *e*P **P** **07 58 48.2 0.0**
KOLS *e* 07 58 54.7
KOLS Kolonicke sedl 88.11 320 *e*P **P** **07 58 48.2 0.0**
KOLS *e*PCP PcP 07 58 54.7 +4.8
UZH Uzhgorod 88.19 320 *c i*P **P** **07 58 47.3 -1.2**
UZH *i* 07 58 54.3
UZH *e* 07 59 00.9
DRGR 88.48 318⇓ P **P** **07 58 55.9 +6.0**
DRGR 88.48 318⇓ *i*P **P** **07 58 55.9 +6.0**
CRVS Cervenica-Dubn 88.63 320 *e*P **P** **07 58 50.5 -0.1**
CRVS *e* 07 58 57.1
CRVS Cervenica-Dubn 88.63 320 *e*P **P** **07 58 50.5 -0.1**
CRVS *e*PCP PcP 07 58 57.0 +4.8
RES Resolute Bay 89.04 10 *e*P **P** **07 58 51.6 -0.5**
comp=Z,12nm,0.6s,mb5.4
RES Resolute Bay 89.04 10 *e*P **P** **07 58 51.6 -0.5**
RES pmax pmax
comp=Z,12nm,0.6s,mb5.4
NB2 NORSAR Subarra 89.49 333 P **P** **07 58 52.9 -1.5**
comp=Z,4.2nm,0.9s,mb4.8,baz=70,slow=4.8
NOA NORSAR Array B 89.49 333 P **P** **07 58 52.5 -1.9**
comp=Z,1.4nm,0.7s,mb4.4,baz=67,slow=4.8,SNR=7.1
NOA LR LR 08 41 40.9
comp=Z,542nm,20.9s,MS5.0,baz=65,slow=37
NOA NORSAR Array B 89.49 333 P **P** **07 58 52.5 -1.9**
NOA LR LR 08 41 40.9
NOA NORSAR Array B 89.49 333 P **P** **07 58 52.5 -1.9**
PPT Papeete 90.08 108 *e*LR LR 08 27 43.3
comp=Z,270nm,24.8s
PPT Papeete 90.08 108 LR LR 08 33 20.5
comp=Z,200nm,18.6s,MS4.6,baz=310,slow=32
VYHS Vyhne 90.41 320 *e*P **P** **07 59 04.1 +5.2**
VYHS Vyhne 90.41 320 *e*PCP PcP 07 59 04.1 +4.0
TBI Tubuai 91.53 113 *e*LR LR 08 28 26.9
comp=Z,194nm,25.2s
MAW Mawson 91.74 200 LR LR 08 34 32.0
comp=Z,119nm,20.3s,MS4.3,baz=224,slow=32
YKA Yellowknife Ar 91.90 23 P **P** **07 59 05.5 0.0**
comp=Z,2.2nm,0.6s,mb4.7,baz=300,slow=4.4,SNR=8.0
YKA LR LR 08 38 57.6
comp=Z,18nm,21.7s,MS3.5,baz=0.0,slow=34
YKA Yellowknife Ar 91.90 23 P **P** **07 59 05.5 0.0**
YKA LR LR 08 38 57.6
YKA Yellowknife Ar 91.90 23 P **P** **07 59 05.6 0.0**
BRG Berggiesshubel 92.45 324 *e*(P) **P** **07 59 14.2 +5.8**
comp=Z,2.7nm,1.3s,mb4.4
BRG *e* 07 59 19.7
BRG comp=Z,4.5nm,1.1s
BRG comp=N,189nm,19.7s
BRG comp=E,293nm,17.8s
BRG comp=Z,514nm,15.4s
BRG Berggiesshubel 92.45 324 *e*P **P** **07 59 14.2 +5.8**
BRG *e* 07 59 19.7
BRG pmax pmax
comp=Z,3.0nm,1.3s,mb4.5
BRG pmax pmax
comp=Z,5.0nm,1.2s,mb4.7
BRG MLR MLR
comp=N,189nm,19.7s,MS4.8
BRG MLR MLR
comp=E,293nm,17.8s,MS4.8
BRG MLR MLR
comp=Z,514nm,15.4s,MS5.1
CONA Conrad Observa 92.47 320 P **P** **07 59 15.3 +6.8**
comp=Z,7.8nm,1.7s,mb4.8
GERES GERESS Array B 93.42 322 LR LR 08 44 30.1
comp=Z,263nm,18.1s,MS4.7,baz=249,slow=38
MOA Molln 93.48 321⇑ *i*PcP PcP 07 59 13.0 -0.8
comp=Z,19nm,1.6s
KBA Koelnbreinsper 94.37 320 P **P** **07 59 23.1 +5.8**
comp=Z,10nm,1.1s,mb5.2
TAOE Nuku Hiva Isla 97.13 97 *e*LR LR 08 31 00.6
comp=Z,205nm,26.2s
NVAR Mina Array Bea 102.15 46 P Pdif 07 59 53.4 +1.3
comp=Z,0.6nm,0.9s,baz=270,slow=5.0,SNR=4.7
NVAR Mina Array Bea 102.15 46 P Pdif 07 59 53.4 +1.3
RKT Rikitea 104.58 111 *e*LR LR 08 34 28.4
comp=Z,878nm,37.5s
TXAR Lajitas Array 117.25 47 PKP PKPdf 08 04 43.6 +0.2
comp=Z,1.6nm,0.9s,baz=225,slow=1.6,SNR=4.2
TXAR Lajitas Array 117.25 47 PKP PKPdf 08 04 43.6 +0.2
TXAR Lajitas Array 117.25 47 PKIKP PKPdf 08 04 43.6 +0.1
TORD Torodi Ar. Bea 117.61 292 PKP PKPdf 08 04 44.2 -0.3
comp=Z,0.7nm,0.6s,baz=84,slow=0.6,SNR=3.1
TORD PKKPbc PKKPbc 08 15 10.0 +3.9
comp=Z,1.0nm,0.8s,baz=288,slow=3.7,SNR=4.7

TORD	**Torodi Ar. Bea**	**117.61**	**292**	PKP	PKPdf	08 04 44.2	-0.3
TORD				PKKPbc	PKKPbc	08 15 10.0	+3.9
JCT	**Junction City**	**119.24**	**44**	*e*PKPdf	PKPdf	08 04 46.1	-1.1
JCT	**Junction City**	**119.24**	**44**	*e*PKIKP	PKPdf	08 04 46.1	-1.2
ACSO	**Alum Creek Sta**	**121.14**	**24**	*e*PKPdf	PKPdf	08 04 49.8	-0.9
SDDR	**Presa de Saban**	**144.54**	**26**	*e*PKPdf	PKPdf	08 05 33.6	-1.3
AGPR	**Aguadilla, PR**	**146.62**	**20**	*e*PKPbc	PKPbc	08 05 39.2	-0.7
LRS	**Lares**	**146.88**	**20**	*e*PKPbc	PKPbc	08 05 40.4	-0.3
LSP	**Las Mesas**	**146.91**	**20**	*e*PKPbc	PKPbc	08 05 40.2	-0.6
CRPR	**Cabo Rojo, PR**	**147.05**	**21**	*e*PKPbc	PKPbc	08 05 41.4	+0.2
CELP	**Cerrillos**	**147.17**	**20**	*e*PKPbc	PKPbc	08 05 41.0	-0.5
OBIP	**Obispado Ponce**	**147.19**	**20**	*e*PKPbc	PKPbc	08 05 41.8	+0.2
CBYP	**Canovanas**	**147.21**	**18**	*e*PKPbc	PKPbc	08 05 40.5	-1.1
SJG	**San Juan**	**147.27**	**19**	*e*PKPbc	PKPbc	08 05 41.5	-0.3
SJG	**San Juan**	**147.27**	**19**	*e*PKP2	PKPab	08 05 41.5	-2.0
ICM	**Isla Caja Muer**	**147.36**	**20**	*e*PKPbc	PKPbc	08 05 41.4	-0.6
STVI	**Saint Thomas**	**147.40**	**17**	*e*PKPbc	PKPbc	08 05 42.0	-0.1
MTP	**Monte Pirata**	**147.47**	**18**	*e*PKPbc	PKPbc	08 05 42.2	-0.2
PLCA	**Paso Flores**	**149.46**	**157**	PKPbc	PKPbc	08 05 45.9	-1.0
	comp=Z,8.1nm,0.7s,baz=248,slow=4.0,SNR=8.6						
SDV	**Santo Domingo**	**153.50**	**35**	*e*PKPbc	PKPbc	08 05 56.5	-0.6

*IDC **06** 07:52:47.3±0.8, 12.˚73N×123.˚79E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.8/22, mbtmp3.9/9, Error ellipse: s-maj=37.7km s-min=16.2km az=67.0*

*ISCJB **06** 07:52:50.1±0.7, 12.˚9N±0.˚1×124.˚2E±0.˚3, h33km, mb3.8/9, Error ellipse: s-maj=43.9km s-min=11.8km az=162.3*

ISC 06 07:52:52.7±0.7, 12.˚9N±0.˚1×124.˚3E±0.˚2, h35km, n11, σ1s09/11, mb3.8/9, 2D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**0.70**	**348**	*i*P	**Pn**	**07 53 01.3**	**-4.9**
RCP	**Roxas**	**2.03**	**229**	*e*P	**Pn**	**07 53 27.0**	**+2.6**
CMAR	**Chiang Mai Arr**	**25.02**	**286**	P	**P**	**07 58 07.8**	**-5.8**
	0.7nm,0.3s,mb3.6,baz=116,slow=4.2,SNR=3.1						
WRA	**Warramunga Arr**	**34.10**	**163**	P	**P**	**07 59 33.0**	**-1.2**
	0.2nm,0.5s,mb3.4,baz=342,slow=8.7,SNR=6.7						
ASAR	**Alice Springs**	**37.54**	**165**	P	**P**	**08 00 03.9**	**+0.3**
	0.7nm,0.4s,mb3.7,baz=341,slow=7.2,SNR=9.4						
SONM	**Songino Array**	**37.90**	**340**	P	**P**	**08 00 06.4**	**0.0**
	0.3nm,0.6s,mb3.2,baz=155,slow=14,SNR=2.2						
STKA	**Stephens Creek**	**47.51**	**160**	P	**P**	**08 01 24.3**	**-0.1**
	0.9nm,0.5s,mb4.0,baz=311,slow=9.3,SNR=2.9						
PETK	**Petropavlovsk-**	**48.10**	**26**	P	**P**	**08 01 30.7**	**+1.9**
	4.9nm,0.9s,mb4.5,baz=228,slow=19,SNR=3.1						
MKAR	**Makanchi Array**	**48.78**	**322**	P	**P**	**08 01 33.9**	**-0.3**
	0.4nm,0.7s,mb3.6,baz=115,slow=6.8,SNR=3.2						
ZALV	**Zalesovo Beam**	**51.41**	**331**	P	**P**	**08 01 53.2**	**-0.7**
	0.4nm,0.4s,mb3.7,baz=138,slow=6.3,SNR=2.4						
KURK	**Kurchatov**	**52.82**	**325**	P	**P**	**08 02 03.9**	**-0.7**
	3.8nm,0.4s,mb4.7,baz=122,slow=10,SNR=17						

IDC 06 08:09:12.6±29.0, 14.˚44N×120.˚78E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/22, mbtmp3.6/3, Error ellipse: s-maj=527.9km s-min=348.4km az=145.0, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**36.68**	**158**	P	P	08 16 20.6	-0.7
	0.3nm,0.5s,baz=335,slow=9.8,SNR=6.7						
ASAR	**Alice Springs**	**39.99**	**161**	P	P	08 16 50.6	+1.5
	0.5nm,0.5s,baz=341,slow=7.3,SNR=12						
STKA	**Stephens Creek**	**50.19**	**157**	P	P	08 18 08.7	-1.5
	0.6nm,0.4s,baz=304,slow=22,SNR=2.1						

IDC 06 08:14:36.6±3.6, 4.˚67S×101.˚00E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/20, mbtmp3.8/6, MS3.0/1, Ms1 3.0/1, ms1mx2.7/28, Error ellipse: s-maj=141.0km s-min=21.6km az=56.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**7.71**	**344**	LR	LR	08 20 06.7	
	comp=Z,107nm,18.6s,baz=101,slow=43						
CMAR	**Chiang Mai Arr**	**23.07**	**355**	P	P	08 19 44.1	+0.2
	0.8nm,0.3s,baz=184,slow=8.3,SNR=8.1						
WRA	**Warramunga Arr**	**35.82**	**118**	P	P	08 21 37.8	-0.5
	0.2nm,0.5s,baz=304,slow=9.2,SNR=6.2						
ASAR	**Alice Springs**	**36.91**	**124**	P	P	08 21 47.5	+0.1
	0.1nm,0.5s,baz=46,slow=48,SNR=1.9						
SONM	**Songino Array**	**52.50**	**5**	P	P	08 23 51.5	+0.1
	1.6nm,0.7s,baz=186,slow=9.2,SNR=13						
MKAR	**Makanchi Array**	**53.85**	**344**	P	P	08 24 01.2	-0.2
	1.1nm,0.8s,baz=152,slow=8.0,SNR=6.1						
ZALV	**Zalesovo Beam**	**59.96**	**349**	P	P	08 24 44.2	-0.4
	1.8nm,0.3s,baz=142,slow=40,SNR=4.0						
TXAR	**Lajitas Array**	**146.13**	**41**	PKPbc	PKPbc	08 34 19.8	+0.3
	0.3nm,0.5s,baz=214,slow=1.8,SNR=6.0						

*ISCJB **06** 08:33:04.9±1.1, 13.˚0N±0.˚1×124.˚6E±0.˚2, h33km, mb3.5/5, Error ellipse: s-maj=26.8km s-min=14.2km az=162.3*

*IDC **06** 08:33:04.8±1.0, 12.˚17N×122.˚91E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/21, mbtmp3.6/6, Error ellipse: s-maj=53.6km s-min=18.9km az=74.0*

ISC 06 08:33:07.5±1.2, 12.˚9N±0.˚1×124.˚5E±0.˚2, h35km, n8, σ0s45/7, mb3.5/5, 1C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**0.75**	**330**	*i*P	**Pn**	**08 33 17.5**	**-4.0**
RCP	**Roxas**	**2.23**	**232**	*e*P	**Pn**	**08 33 41.9**	**0.0**
MJAR	**Matsushiro Arr**	**26.51**	**25**	P	pP	08 38 56.6	+4.8
	0.7nm,0.4s,baz=217,slow=8.8,SNR=3.6						
WRA	**Warramunga Arr**	**34.07**	**163**	P	**P**	**08 39 48.3**	**-0.4**
	0.2nm,0.5s,mb3.3,baz=341,slow=8.8,SNR=8.8						
ASAR	**Alice Springs**	**37.52**	**166**	P	**P**	**08 40 18.6**	**+0.4**
	0.5nm,0.3s,mb3.7,baz=338,slow=7.2,SNR=16						
SONM	**Songino Array**	**37.94**	**340**	P	**P**	**08 40 27.4**	**+5.8**
	0.1nm,0.3s,mb3.0,baz=219,slow=11,SNR=2.2						
MKAR	**Makanchi Array**	**48.89**	**322**	P	**P**	**08 41 50.1**	**+0.3**
	1.0nm,0.8s,mb3.9,baz=106,slow=8.9,SNR=4.1						
ZALV	**Zalesovo Beam**	**51.48**	**331**	P	**P**	**08 42 09.3**	**0.0**
	0.5nm,0.3s,mb3.9,baz=301,slow=21,SNR=1.5						

*ISCJB **06** 08:44:14.6±0.9, 12.˚8S±0.˚1×99.˚7W±0.˚1, h10km, mb4.4/15, MS3.7/3, Error ellipse: s-maj=23.4km s-min=12.1km az=44.6*

*IDC **06** 08:44:14.2±1.7, 12.˚95S×99.˚68W, h0km, mb4.1/7, mb1 4.5/7, mb1mx4.2/15, mbtmp4.2/7, MS3.5/4, Ms1 3.6/4, ms1mx3.3/26, Error ellipse: s-maj=57.4km s-min=20.8km az=45.0*

*NEIC **06** 08:44:16.1±0.6, 12.˚84S×99.˚62W, h10km, mb4.6/7, Error ellipse: s-maj=18.0km s-min=9.6km az=50.0*

ISC 06 08:44:16.6±0.9, 12.˚8S±0.˚1×99.˚6W±0.˚1, h10km, n31, σ0s75/24, mb4.4/15, MS3.7/3, Southwest of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**21.64**	**77**	P	**P**	**08 49 08.1**	**+0.7**
	7.9nm,1.0s,mb4.1,baz=280,slow=8.5,SNR=4.6						
ATAH				LR	LR	08 55 10.8	
	comp=Z,253nm,21.9s,MS3.6,baz=265,slow=30						
NNA	**Nana**	**22.26**	**90**	P	**P**	**08 49 14.1**	**+0.1**
	66nm,1.6s,mb4.8						
OTAV	**Otavalo**	**24.68**	**60**	*e*P	**P**	**08 49 38.6**	**+0.7**
	9.6nm,1.2s,mb4.2						
LPAZ	**La Paz**	**30.66**	**100**	P	**P**	**08 50 31.7**	**+0.1**
	0.6nm,0.5s,mb3.6,baz=296,slow=10.0,SNR=4.9						
LPAZ				LR	LR	08 59 58.9	
	comp=Z,157nm,21.6s,MS3.6,baz=28,slow=31						
LPAZ	**La Paz**	**30.66**	**100**	P	**P**	**08 50 31.7**	**+0.1**
LPAZ				LR	LR	08 59 58.9	
CFAA	**Coronel Fontan**	**34.37**	**128**	P	**P**	**08 51 02.9**	**-1.0**
	0.1nm,0.7s,baz=303,slow=6.1,SNR=4.5						
CFAA				LR	LR	09 01 14.8	
	comp=Z,16nm,20.1s,baz=214,slow=30						
CFAA	**Coronel Fontan**	**34.37**	**128**	P	**P**	**08 51 02.9**	**-1.0**
CFAA				LR	LR	09 01 14.8	
PLCA	**Paso Flores**	**37.71**	**143**	LR	LR	09 03 02.6	
	comp=Z,158nm,18.1s,MS3.9,baz=119,slow=30						
TXAR	**Lajitas Array**	**42.08**	**355**	P	**P**	**08 52 09.8**	**+1.0**
	3.1nm,0.9s,mb3.9,baz=171,slow=10,SNR=27						
TXAR	**Lajitas Array**	**42.08**	**355**	P	**P**	**08 52 09.8**	**+1.0**
JCT	**Junction City**	**43.04**	**360**	*e*P	**P**	**08 52 16.0**	**-0.6**
	4.5nm,0.7s,mb4.3						
CPRX	**Cap Rock**	**45.77**	**355**	*e*P	**P**	**08 52 38.5**	**+0.1**
SRU	**San Rafael**	**52.65**	**349**	*e*P	**P**	**08 53 31.2**	**+0.2**
	2.5nm,0.5s,mb4.4						
NVAR	**Mina Array Bea**	**53.89**	**342**	P	**P**	**08 53 41.4**	**+1.3**
	2.6nm,0.9s,mb4.2,baz=176,slow=9.9,SNR=17						
NVAR	**Mina Array Bea**	**53.89**	**342**	P	**P**	**08 53 41.4**	**+1.3**
PDAR	**Pinedale Array**	**56.05**	**351**	P	**P**	**08 53 55.3**	**-0.4**
	1.5nm,0.9s,mb4.0,baz=151,slow=6.8,SNR=9.8						
PDAR	**Pinedale Array**	**56.05**	**351**	P	**P**	**08 53 55.3**	**-0.4**
MFID	**Camas Ranch**	**57.88**	**346**	*e*P	**P**	**08 54 08.7**	**0.0**
	11nm,1.3s,mb4.7						
SLMT	**Seeley Lake**	**61.06**	**349**	*e*P	**P**	**08 54 30.4**	**-0.1**
	7.5nm,1.6s,mb4.6						
ULM	**Lac du Bonnet**	**62.88**	**3**	P	**P**	**08 54 41.6**	**-1.1**
	6.8nm,1.2s,mb4.7,baz=235,slow=3.7,SNR=4.6						
ULM	**Lac du Bonnet**	**62.88**	**3**	P	**P**	**08 54 41.6**	**-1.0**
EMMW	**East Machias**	**64.26**	**25**	P	**P**	**08 54 50.2**	**-1.8**
	41nm,0.8s,mb5.5						
QSPA	**South Pole Qui**	**77.30**	**180**	*e*P	**P**	**08 56 11.5**	**+0.7**
	11nm,1.0s,mb4.8						
ILAR	**Eielson Array**	**85.15**	**342**	P	**P**	**08 56 52.6**	**0.0**
	3.5nm,1.0s,mb4.4,baz=147,slow=4.0,SNR=22						
ILAR	**Eielson Array**	**85.15**	**342**	P	**P**	**08 56 52.6**	**0.0**
BRTR	**Keskin Array B**	**130.98**	**48**	PKP	PKPdf	09 03 28.5	-0.3
	0.3nm,0.4s,baz=186,slow=4.8,SNR=4.5						
BRTR	**Keskin Array B**	**130.98**	**48**	PKP	PKPdf	09 03 28.5	-0.3
MK31	**Makanchi Array**	**146.09**	**358**	*e*PKPdf	PKPdf	09 03 55.1	-1.0
MKAR	**Makanchi Array**	**146.09**	**358**	PKPbc	PKPbc	09 03 55.3	-1.7
	2.1nm,0.7s,baz=6.1,slow=2.8,SNR=17						
MKAR	**Makanchi Array**	**146.09**	**358**	PKPbc	PKPbc	09 03 55.3	-1.7
TKM2	**Tokmak 2**	**149.72**	**7**	*e*PKPbc	PKPbc	09 04 06.5	-0.4
TKM2				*e*PKPab	PKPab	09 04 11.9	-0.2

MEX 06 08:54:20.6±0.7, 16.˚03N×97.˚57W, h21km±39km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.65**	**304**	*e*P	Pb	08 54 31.1	-2.1
PNIG				*i* S	Sb	08 54 39.7	-2.1
VHO	**Vista Hermosa**	**1.31**	**38**	*e*P	Pn	08 54 40.4	-3.3
VHO				*i* S	Sn	08 54 56.4	-4.1
OXX	**Oaxaca**	**1.32**	**38**	*i* P	Pn	08 54 41.1	-2.7
OXX				*i* S	Sn	08 54 57.2	-3.7
HUIG	**Huatulco**	**1.43**	**100**	*e*P	Pn	08 54 42.8	-2.6
HUIG				*i* S	Sn	08 54 59.2	-4.3
UTMO	**Huajuapan**	**1.80**	**353**	*e*P	Pn	08 54 48.7	-1.8
UTMO				*i* S	Sn	08 55 08.2	-4.5
TPIG	**Tehuac#an**	**2.38**	**5**	*i* P	Pn	08 54 56.3	-2.2
TPIG				*i* S	Sn	08 55 24.1	-3.0
CMIG	**Matias Romero**	**2.78**	**67**	*i* P	Pn	08 55 01.1	-2.8
CMIG				*i* S	Sn	08 55 34.1	-2.9
TGIG		**4.33**	**80**	*i* P	Pn	08 55 22.1	-3.2
TGIG				*i* S	Sn	08 56 12.4	-2.8

IDC 06 09:00:55.9±3.6, 13.˚01S×99.˚30W, h0km, mb3.6/4, mb1 4.1/4, mb1mx3.8/14, mbtmp3.6/4, MS3.4/1, Ms1 3.4/1, ms1mx2.8/25, Error ellipse: s-maj=226.1km s-min=82.1km az=80.0, Southwest of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**21.38**	**76**	LR	LR	09 11 05.9	
	comp=Z,93nm,20.1s,baz=106,slow=28						
TXAR	**Lajitas Array**	**42.31**	**354**	P	P	09 08 52.2	+0.7
	0.8nm,0.8s,baz=170,slow=6.8,SNR=9.1						
NVAR	**Mina Array Bea**	**54.18**	**342**	P	P	09 10 23.4	+0.3
	0.8nm,0.8s,baz=184,slow=8.8,SNR=6.0						
PDAR	**Pinedale Array**	**56.30**	**351**	P	P	09 10 37.8	-0.6
	0.5nm,0.8s,baz=176,slow=4.2,SNR=4.5						
ILAR	**Eielson Array**	**85.44**	**341**	P	P	09 13 34.9	-0.1
	0.8nm,0.9s,baz=139,slow=4.1,SNR=7.2						
MKAR	**Makanchi Array**	**146.30**	**358**	PKPbc	PKPbc	09 20 38.1	-0.5
	0.7nm,0.7s,baz=15,slow=2.5,SNR=7.7						

*BJI **06** 09:11:01.5, 29.˚28S×176.˚73W, h5km, mB6.1/45, mb5.7/51, Ms5.8/56, Ms7 5.6/55*

*ISCJB **06** 09:11:02.9±0.9, 30.˚02S±0.˚02×177.˚35W±0.˚03, h13km±5km, mb5.6/212, MS5.7/229, Error ellipse: s-maj=4.6km s-min=2.4km az=41.6*

*IDC **06** 09:11:02.7±0.4, 29.˚78S×177.˚18W, h0km, mb5.5/20, mb1 5.5/21, mb1mx5.5/22, mbtmp5.5/21, ML5.2/1, MS5.6/32, Ms1 5.6/32, ms1mx5.5/37, Error ellipse: s-maj=15.5km s-min=13.4km az=25.0*

*NEIC **06** 09:11:06.0±2.0, 29.˚86S×177.˚44W, h19km±12km, mb5.6/144, MS5.7/169, MW5.9, Error ellipse: s-maj=6.2km s-min=4.4km az=144.0*

*MOS **06** 09:11:07.9±1.2, 29.˚59S×177.˚42W, h33km, mb5.7/73, MS5.7/65, Error ellipse: s-maj=8.8km s-min=7.9km az=79.5*

*GCMT **06** 09:11:09.7±0.1, 29.˚66S×176.˚95W, h22km, MW5.9, Moment Tensor Solution. s108,c235; s71,c88; Moment tensor: Scale 10^17^Nm; Mrr6.23±.06; Mθθ-0.11±.05; Mφφ-6.12±.05; Mre 1.01±.10; Mrθ-1.93±.04; Mrφ5.42±.11; Best double couple: M0 8.50000×10^17^ NP1:φs201.00000°, δ25.00000°, λ92.00000°. NP2:φs12.00000°, δ65.00000°, λ87.00000°. Principal axes: T 8.2800, Plg70.0000°, Azm275.0000°; N 0.4300, Plg3.0000°, Azm14.0000°; P -8.7100, Plg20.0000°, Azm105.0000°; Data Used: II IU IC G CN. Surface waves: sta=109, comp=240, per= 50.*

*DJA **06** 09:11:12, 29.˚83S×177.˚32W, h64km, Mw6.1/35*

ISC 06 09:11:03.1±1.0, 29.˚97S±0.˚02×177.˚30W±0.˚03, h4km±6km, h14km±1.5km: pP-P, n1530, σ0s87/795, mb5.6/212, MS5.7/229, 204C-197D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.90**	**323**	*e*Pg	**Pg**	**09 11 21.8**	**+1.6**
RAO				*e*Sg	**Sg**	**09 11 27.6**	**-4.3**
RAO	**Raoul Island**	**0.90**	**323**	*e*P	**Pg**	**09 11 21.8**	**+1.6**
RAO				*e*		09 11 27.6	
MXZ	**Matakaoa Point**	**8.41**	**205**	PN	**Pn**	**09 13 06.4**	**+0.7**
MXZ				SN	**Sn**	**09 13 44.0**	**+2.8**
PUZ	**Puketiti**	**8.89**	**203**	PN	**Pn**	**09 13 09.2**	**-3.0**
PUZ				SN	**Sn**	**09 14 53.9**	**+1.0**
KUZ	**Kuaotunu**	**8.93**	**219**	*e*PN	**Pn**	**09 13 17.7**	**+4.8**
WCZ	**Waipu Caves**	**9.21**	**228**	PN	**Pn**	**09 13 23.1**	**+6.4**
CNGZ	**Carnagh Statio**	**9.28**	**202**	SN	**Sn**	**09 15 02.8**	**+0.4**
OUZ	**Omahuta**	**9.30**	**233**	Pn	**Pn**	**09 13 22.9**	**+5.0**
OUZ				*e*Sn	**Sn**	**09 15 22.5**	**+19**
OUZ	**Omahuta**	**9.30**	**233**	PN	**Pn**	**09 13 28.0**	**+10**
MWZ	**Matawai**	**9.38**	**206**	PN	**Pn**	**09 13 17.1**	**-2.0**
MWZ				SN	**Sn**	**09 15 06.9**	**+1.8**
URZ	**Urewera**	**9.48**	**208**	Pn	**Pn**	**09 13 20.9**	**+0.5**
	3.0nm,0.3s,baz=325,slow=7.1,SNR=20						
URZ				Sn	**Sn**	**09 15 05.8**	**-1.6**
	23nm,0.3s,baz=166,slow=10,SNR=2.9						
URZ	**Urewera**	**9.48**	**208**	*e*Pn	**Pn**	**09 13 19.1**	**-1.3**
URZ				*e*Sn	**Sn**	**09 15 05.4**	**-2.1**
URZ	**Urewera**	**9.48**	**208**	PN	**Pn**	**09 13 19.1**	**-1.3**
URZ				SN	**Sn**	**09 15 07.5**	**+0.1**
PRGZ	**Paritu Road**	**9.78**	**203**	SN	**Sn**	**09 15 13.4**	**-1.4**
MHGZ	**Mahia Peninsul**	**9.98**	**202**	PN	**Pn**	**09 13 24.5**	**-2.8**
MHGZ				SN	**Sn**	**09 15 21.7**	**+2.0**
RAHZ	**Arahi**	**10.06**	**206**	PN	**Pn**	**09 13 28.3**	**-0.1**
RAHZ				SN	**Sn**	**09 15 22.1**	**+0.4**
NMHZ	**Naumai**	**10.32**	**207**	PN	**Pn**	**09 13 31.5**	**-0.5**
BKZ	**Black Stump Fm**	**10.51**	**207**	PN	**Pn**	**09 13 32.0**	**-2.4**
MCHZ	**McNeill Hill**	**10.67**	**206**	PN	**Pn**	**09 13 39.6**	**+3.0**
MCHZ				SN	**Sn**	**09 15 36.0**	**-0.5**
KAHZ	**Kahuranaki**	**10.91**	**204**	PN	**Pn**	**09 13 37.0**	**-2.9**
KAHZ				SN	**Sn**	**09 15 41.9**	**-0.5**
PXZ	**Pawanui**	**11.12**	**204**	PN	**Pn**	**09 13 39.2**	**-3.7**
PNHZ	**Pukenui**	**11.27**	**206**	SN	**Sn**	**09 15 48.3**	**-2.9**
PRHZ	**Porangahau**	**11.41**	**204**	PN	**Pn**	**09 13 43.5**	**-3.3**
PRHZ				SN	**Sn**	**09 15 53.2**	**-1.6**
BFZ	**Birch Farm**	**11.92**	**204**	PN	**Pn**	**09 13 48.8**	**-5.0**
MRZ	**Mangatainoka R**	**12.15**	**207**	SN	**Sn**	**09 16 05.9**	**-6.9**
HOWZ	**Holdsworth Sta**	**12.38**	**206**	PN	**Pn**	**09 13 59.2**	**-0.9**
HOWZ				SN	**Sn**	**09 16 11.9**	**-6.5**
TMWZ	**Te Maipa**	**12.42**	**205**	SN	**Sn**	**09 16 14.4**	**-5.0**
MTW	**Mount Morrison**	**12.61**	**206**	PN	**Pn**	**09 14 04.4**	**+1.2**
MSVF	**Nonsavu**	**12.90**	**340**	*e*Pn	**Pn**	**09 14 06.6**	**-0.7**
MSVF				*e*Sn	**Sn**	**09 16 29.7**	**-1.7**
MSVF	**Nonsavu**	**12.90**	**340**	*e*P	**Pn**	**09 14 06.6**	**-0.7**
MSVF				*e*		09 16 29.7	
SNZO	**South Karori**	**13.05**	**208**	*e*Pn	**Pn**	**09 14 10.8**	**+1.6**
SNZO	**South Karori**	**13.05**	**208**	SN	**Sn**	**09 16 27.3**	**-7.5**
TUWZ	**Tuamarina**	**13.46**	**209**	PN	**Pn**	**09 14 10.5**	**-4.4**
TUWZ				SN	**Sn**	**09 16 38.6**	**-6.4**
NNZ	**Nelson**	**13.54**	**211**	PN	**Pn**	**09 14 12.0**	**-4.0**
NNZ				SN	**Sn**	**09 16 39.2**	**-7.6**
QRZ	**Quartz Range**	**13.64**	**215**	PN	**Pn**	**09 14 19.3**	**+2.0**
THZ	**Tophouse**	**14.19**	**211**	PN	**Pn**	**09 14 20.8**	**-4.0**
KHZ	**Kahutara**	**14.45**	**208**	*e*Pn	**Pn**	**09 14 23.4**	**-4.9**
KHZ				*e*Sn	**Sn**	**09 17 03.9**	**-5.1**
KHZ	**Kahutara**	**14.45**	**208**	PN	**Pn**	**09 14 22.6**	**-5.7**
WVZ	**Waitaha Valley**	**16.22**	**213**	PN	**Pn**	**09 14 50.7**	**-1.0**
PLUM	**Mont Dore**	**16.32**	**294**	*e*P	**Pn**	**09 14 60.0**	**+6.7**
NORM	**Noumea**	**16.47**	**294**	*e*P	**Pn**	**09 15 01.3**	**+6.1**
RPZ	**Rata Peaks**	**16.57**	**211**	Pn	**Pn**	**09 14 56.5**	**+0.3**
	4.8nm,0.3s,baz=324,slow=4.7,SNR=22						
RPZ				Sn	**Sn**	**09 17 54.2**	**-6.3**
	5.8nm,0.3s,baz=120,slow=22,SNR=8.2						
RPZ	**Rata Peaks**	**16.57**	**211**	*e*Pn	**Pn**	**09 14 53.9**	**-2.4**
	243nm,0.6s						
RPZ				*e*Sn	**Sn**	**09 17 54.1**	**-6.4**
DZM	**Mont Dzumac**	**16.59**	**294**	*e*P	**Pn**	**09 15 04.2**	**+7.6**
	1μm,1.2s						
DZM				*e*LR	LR	09 18 48.8	
	79μm,23.5s						
DZM	**Mont Dzumac**	**16.59**	**294**	*e*P	**Pn**	**09 15 01.5**	**+4.9**
DZM	**Mont Dzumac**	**16.59**	**294**	*e*P	**Pn**	**09 15 02.4**	**+5.9**
	551nm,1.1s						
NOUC	**Port Laguerre**	**16.68**	**294**	*e*P	**Pn**	**09 15 03.5**	**+5.7**
ODZ	**Otahua Downs**	**17.80**	**209**	*e*P	**Pn**	**09 15 10.1**	**-1.6**
	1μm,0.8s						
ODZ				*e*S	**Sn**	**09 18 19.7**	**-11**
ODZ	**Otahua Downs**	**17.80**	**209**	PN	**Pn**	**09 15 10.9**	**-0.8**
RAR	**Rarotonga**	**18.03**	**65**	P	**Pn**	**09 15 12.4**	**-2.3**
	8.7nm,0.3s,baz=216,slow=4.5,SNR=11						
RAR				LR	LR	09 20 30.5	
	comp=Z,13μm,19.1s,baz=242,slow=32						
RAR	**Rarotonga**	**18.03**	**65**	*e*P	**Pn**	**09 15 09.3**	**-5.4**
	196nm,1.0s						
RAR	**Rarotonga**	**18.03**	**65**	P	**Pn**	**09 15 12.4**	**-2.3**
RAR				pmax	pmax		
	comp=Z,9.0nm,0.3s						
RAR				MLR	MLR		
	comp=Z,13μm,19.1s						
TUZ	**Tuapeka**	**18.96**	**209**	PN	**Pn**	**09 15 26.1**	**+0.2**
WHZ	**Wether Hill Ro**	**19.66**	**212**	*e*P	**Pn**	**09 15 33.6**	**-0.6**
FUNA	**Funafuti**	**21.58**	**351**	*e*P	**P**	**09 15 50.9**	**-3.0**
	comp=Z,302nm,1.3s,mb5.6						
FUNA				LR	LR		
	comp=Z,24μm,19.0s,MS5.6						
TBI	**Tubuai**	**25.69**	**82**	*e*LQ		09 21 30.6	
	comp=Z,19μm,26.8s						
TBI				*e*LR	LR	09 22 53.8	
	comp=Z,33μm,27.8s,baz=246						
ARMA	**Armidale**	**26.82**	**261**	*e*P	**P**	**09 16 48.4**	**+3.8**
ARMA	**Armidale**	**26.82**	**261**	*e*P	**P**	**09 16 43.0**	**-1.6**
	comp=Z,193nm,1.0s,mb5.6						
RIV	**Riverview**	**27.00**	**254**	*e*P	**P**	**09 16 50.7**	**+4.5**
PAE	**Paea**	**28.08**	**70**	*e*P	**P**	**09 16 57.9**	**+2.0**
	comp=Z,34nm,1.5s,mb4.8						
PAE	**Paea**	**28.08**	**70**	*e*P	**P**	**09 16 57.9**	**+2.0**
	comp=Z,34nm,1.5s,mb4.8						
PAE	**Paea**	**28.08**	**70**	*e*P	**P**	**09 16 57.9**	**+2.0**
PAE				pmax	pmax		
	comp=Z,34nm,1.5s,mb4.8						
PPT	**Papeete**	**28.13**	**70**	*e*P	**P**	**09 16 59.6**	**+3.2**
	comp=Z,94nm,1.4s,mb5.2						
PPT				*e*LQ		09 22 22.9	
	comp=Z,23μm,25.2s						
PPT

RKT Rikitea 38.31 90 *e*S **S** **09 24 21.3 +1.3**
comp=Z,2µm,29.2s
RKT *e*LR LR 09 28 45.7
comp=Z,19µm,28.0s,baz=259
PMG Port Moresby 38.98 294 P **P** **09 18 31.5 +0.8**
comp=Z,26nm,1.0s,mb4.9,baz=123,slow=5.3,SNR=14
PMG PcP PcP 09 20 42.1 +0.8
comp=Z,73nm,1.0s,baz=191,slow=3.8,SNR=5.7
PMG ScP ScP 09 24 32.3 +1.9
comp=Z,14nm,0.9s,baz=86,slow=3.3,SNR=3.8
PMG LR LR 09 31 43.2
comp=Z,15µm,21.4s,MS5.8,baz=130,slow=32
PMG PKP2ab 09 52 25.8
comp=Z,12nm,0.5s,baz=301,slow=9.1,SNR=11
PMG Port Moresby 38.98 294 *e*P **P** **09 18 31.0 +0.3**
comp=Z,24nm,0.8s,mb5.0
PMG *e*PcP PcP 09 20 42.5 +1.2
PMG LR LR
comp=Z,14µm,20.0s,MS5.8
PMG Port Moresby 38.98 294 P **P** **09 18 31.5 +0.8**
PMG 09 20 42.1
PMG 09 24 32.3
PMG pmax pmax
comp=Z,26nm,1.0s
PMG pmax pmax
comp=Z,73nm,1.0s
PMG pmax pmax
comp=N,14nm,0.9s
PMG pmax pmax
comp=Z,12nm,0.5s
PMG Port Moresby 38.98 294 P **P** **09 18 31.4 +0.7**
comp=Z,1µmcomp=Z,44nm,1.2s,mb5.1
COEN Coen 39.74 285 *e*P **P** **09 18 37.8 +0.7**
comp=Z,857nm,1.0s,mb6.4
COEN *e*PcP PcP 09 20 45.9 +2.3
COEN *e*S **S** **09 24 39.1 -2.7**
COEN Coen 39.74 285 P **P** **09 18 38.1 +1.0**
comp=Z,2µmcomp=Z,142nm,1.0s,mb5.6
TAOE Nuku Hiva Isla 40.58 67 *e*S **S** **09 24 54.0 -0.2**
comp=Z,3µm,24.8s
TAOE *e*LQ 09 27 46.7
comp=Z,6µm,24.3s
TAOE *e*LR LR 09 29 40.2
comp=Z,18µm,26.3s,baz=243
ASAR Alice Springs 43.74 266 P **P** **09 19 09.3 -0.5**
comp=Z,26nm,0.5s,mb5.2,baz=106,slow=7.5,SNR=103
ASAR PcP PcP 09 20 57.5 +0.8
comp=Z,22nm,0.9s,baz=108,slow=4.8,SNR=5.0
ASAR ScP ScP 09 24 49.5 +0.3
comp=Z,8.5nm,0.9s,baz=122,slow=3.9,SNR=6.1
ASAR Alice Springs 43.74 266 P **P** **09 19 09.3 -0.5**
ASAR PcP PcP 09 20 57.5 +0.8
ASAR ScP ScP 09 24 49.5 +0.3
ASAR Alice Springs 43.74 266 P **P** **09 19 09.4 -0.4**
ASAR 09 20 57.5
ASAR pmax pmax
comp=Z,26nm,0.5s
ASAR pmax pmax
comp=Z,22nm,1.0s
ASAR pmax pmax
comp=N,9.0nm,1.0s
WRAB Tennant Creek 44.69 271 *e*P **P** **09 19 16.3 -1.1**
comp=N,355nm,0.9s,mb6.2
WRAB *e*S **S** **09 25 52.8 -1.9**
WRAB LR LR
comp=Z,12µm,20.0s,MS5.8
WRAB Tennant Creek 44.69 271 *e*P **P** **09 19 16.3 -1.1**
WRAB *e*S **S** **09 25 52.8 -1.9**
WRAB pmax pmax
comp=Z,355nm,0.9s,mb6.2
WRAB MLR MLR
comp=Z,12µm,20.0s,MS5.8
WRAB Tennant Creek 44.69 271 P **P** **09 19 17.8 +0.4**
comp=Z,7µmcomp=Z,603nm,0.9s,mb6.4
WRA Warramunga Arr 44.70 271 P **P** **09 19 17.9 +0.4**
comp=Z,367nm,1.0s,mb6.2,baz=110,slow=7.8,SNR=406
WRA PcP PcP 09 21 00.1 +0.1
comp=Z,22nm,1.0s,baz=89,slow=6.8,SNR=0.3
WRA ScP ScP 09 24 53.2 +0.1
comp=Z,6.2nm,0.6s,baz=110,slow=7.6,SNR=7.0
WRA S **S** **09 25 50.6 -4.2**
comp=Z,9.5nm,0.8s,baz=108,slow=14,SNR=5.4
WRA LR LR 09 36 52.9
comp=Z,11µm,18.8s,MS5.8,baz=110,slow=35
WRA Warramunga Arr 44.70 271 P **P** **09 19 17.9 +0.4**
WRA PcP PcP 09 21 00.1 +0.1
WRA ScP ScP 09 24 53.2 +0.1
WRA S **S** **09 25 50.6 -4.2**
WRA LR LR 09 36 52.9
WRA Warramunga Arr 44.70 271 P **P** **09 19 17.9 +0.4**
WRA 09 21 00.2
WRA S **S** **09 25 50.6 -4.2**
WRA pmax pmax
comp=Z,367nm,1.0s
WRA pmax pmax
comp=Z,22nm,1.0s
WRA pmax pmax
comp=N,6.0nm,0.6s
WRA smax
comp=N,10.0nm,0.9s
WRA MLR MLR
comp=Z,11µm,18.8s
DRV Dumont d'Urvil 44.77 203 P **P** **09 19 22.0 +4.6**
DRV Dumont d'Urvil 44.77 203 PP PP 09 21 02.0 +0.3
DRV S **S** **09 25 54.0 -0.8**
DRV SP 09 26 01.0
DRV L 09 29 00.0
DRV R 09 32 00.0
FORT Forrest 46.75 255 *e*P **P** **09 19 32.9 -0.7**
comp=Z,179nm,0.7s,mb6.1
FORT Forrest 46.75 255 *e*P **P** **09 19 33.2 -0.4**
comp=Z,223nm,0.8s,mb6.2
FORT *e*PcP PcP 09 21 12.0 +4.9
JOHN Johnston Islan 47.03 10 PFAKE 09 19 50.0 +14
JOHN LR LR
comp=Z,4µm,22.0s,MS5.4
SBA Scott Base 48.52 184 *e*P **P** **09 19 50.8 +4.1**
comp=Z,151nm,1.0s,mb6.0
SBA LR LR
comp=Z,3µm,19.0s,MS5.3
SBA Scott Base 48.52 184 *e*P **P** **09 19 50.8 +4.1**
SBA pmax pmax
comp=Z,151nm,1.0s,mb6.0
SBA MLR MLR
comp=Z,3µm,19.0s,MS5.3
KAKA Kakadu 49.46 279 *e*P **P** **09 19 53.2 -1.6**
comp=Z,116nm,1.1s,mb5.8
KAKA Kakadu 49.46 279 *e*P **P** **09 19 53.2 -1.5**
comp=Z,384nm,1.1s,mb6.3
SMPI Sarmi 50.13 295 P **P** **09 20 00.8 +1.0**
comp=Z,2µmcomp=Z,77nm,1.6s,mb5.5
FITZ Fitzroy Crossi 52.97 269 P **P** **09 20 21.8 +0.7**
comp=Z,161nm,1.0s,mb5.9
FITZ LR LR 09 41 32.9
comp=Z,6µm,19.2s,MS5.7,baz=124,slow=34
FITZ Fitzroy Crossi 52.97 269 *e*P **P** **09 20 20.6 -0.5**
comp=Z,232nm,1.0s,mb6.1
FITZ *e*S **S** **09 28 01.8 +10**
FITZ Fitzroy Crossi 52.97 269 P **P** **09 20 21.8 +0.7**
FITZ LR LR 09 41 32.9
FITZ Fitzroy Crossi 52.97 269 P **P** **09 20 20.9 -0.2**
comp=Z,2µmcomp=Z,190nm,1.1s,mb5.9
KIP Kipapa 54.36 22 *e*P **P** **09 20 29.8 -1.2**
comp=Z,178nm,1.1s,mb5.9
KIP LR LR
comp=Z,3µm,19.0s,MS5.3
KIP Kipapa 54.36 22 *e*P **P** **09 20 30.0 -1.0**
KIP pmax pmax
comp=Z,202nm,1.2s,mb5.9
KLBR Kellerberrin 55.07 251 *e*P **P** **09 20 35.2 -1.1**
comp=Z,195nm,1.1s,mb6.0
NWAO Narrogin (SRO) 55.12 249 LR LR 09 44 00.6
comp=Z,7µm,18.8s,MS5.8,baz=105,slow=36
NWAO Narrogin (SRO) 55.12 249 PFAKE 09 20 50.0 +13
NWAO LR LR
comp=Z,6µm,19.0s,MS5.7
CASY Casey 55.81 208 *e*P **P** **09 20 41.6 +0.6**
CASY *e* 09 22 43.4
CASY Casey 55.81 208 *e*P **P** **09 20 41.8 +0.8**
comp=Z,253nm,0.8s,mb6.3
CASY *e*PP PP 09 22 44.4 -0.8
CASY LR LR
comp=Z,4µm,20.0s,MS5.5
BNDI Bandanaira 55.81 286 P **P** **09 20 40.9 -0.9**
comp=Z,4µmcomp=Z,429nm,1.0s,mb6.4
GUMO Guam 56.61 314 LR LR 09 41 57.8
comp=Z,4µm,21.0s,MS5.5,baz=138,slow=33
GUMO Guam 56.61 314 PFAKE 09 21 00.0 +13
GUMO LR LR
comp=Z,4µm,20.0s,MS5.5
SWI Sorong 56.76 291 P **P** **09 20 47.5 -1.1**
comp=Z,3µmcomp=Z,257nm,1.0s,mb6.2
MBWA Marble Bar 56.88 263 *e*P **P** **09 20 48.5 -0.9**
comp=Z,60nm,0.9s,mb5.6
MBWA *e*PcP PcP 09 21 40.9 -4.1
MBWA LR LR
comp=Z,16µm,19.0s,MS6.1
MBWA Marble Bar 56.88 263 P **P** **09 20 49.6 +0.2**
comp=Z,80nm,1.3s,mb5.6
AAI Ambon 57.69 286 P **P** **09 20 55.7 +0.5**
comp=Z,3µmcomp=Z,127nm,1.2s,mb5.8
MIDW Midway 57.85 360 PFAKE 09 21 10.0 +14
MIDW LR LR
comp=Z,5µm,19.0s,MS5.6
NLAI Namlea 58.85 286 P **P** **09 21 02.6 -0.7**
comp=Z,2µmcomp=Z,152nm,1.1s,mb6.0
RPN Rapa Nui 58.96 105 PFAKE 09 21 20.0 +16
RPN LR LR
comp=Z,4µm,19.0s,MS5.6
LBMI Labuha 59.96 288 P **P** **09 21 11.1 +0.2**
comp=Z,2µmcomp=Z,217nm,1.1s,mb6.1
QSPA South Pole Qui 60.14 180 P **P** **09 21 13.6 +2.4**
comp=Z,63nm,0.8s,mb5.7,baz=30,slow=2.3,SNR=57
QSPA South Pole Qui 60.14 180 P **P** **09 21 13.6 +2.4**
QSPA LR LR
comp=Z,8µm,20.0s,MS5.9
MMRI Maumere 60.19 277 P **P** **09 21 12.5 -0.1**
comp=Z,3µmcomp=Z,312nm,1.2s,mb6.2
TNTI Ternate 60.87 290 P **P** **09 21 16.2 -1.0**
comp=Z,3µmcomp=Z,194nm,1.2s,mb6.1
MIR Mirnyy 62.79 207 *e*P **P** **09 21 30.0 +0.7**
MIR *i* 09 21 48.0
MIR *e*PPP 09 25 30.0
MIR *e*S **S** **09 29 58.0 -0.7**
MIR *e* 09 31 22.0
MIR pmax pmax
comp=Z,3.0nm,1.0s,mb4.4
MIR pmax pmax
comp=Z,1µm,10.0s
MIR pmax pmax
comp=E,490nm,10.0s
MIR smax
comp=N,2µm,20.0s
MIR smax
comp=E,970nm,12.0s
MIR MLR MLR
comp=N,2µm,18.0s,MS5.5
MIR MLR MLR
comp=E,2µm,18.0s,MS5.5
MIR MLR MLR
comp=Z,3µm,18.0s,MS5.6
BMNI Bima 63.30 276 P **P** **09 21 33.1 -0.4**
comp=Z,2µmcomp=Z,177nm,1.1s,mb6.1
BKSI Bukukumba 63.66 280 P **P** **09 21 35.4 -0.5**
comp=Z,1µmcomp=Z,84nm,1.0s,mb5.7
LUWI Luwuk 63.66 285 P **P** **09 21 35.5 -0.4**
comp=Z,2µmcomp=Z,230nm,1.1s,mb6.1
KAPI Kappang 64.14 280 *e*P **P** **09 21 38.6 -0.5**
comp=Z,165nm,1.4s,mb5.9
KAPI LR LR
comp=Z,5µm,19.0s,MS5.7
KAPI Kappang 64.14 280 P **P** **09 21 38.5 -0.6**
comp=Z,1µmcomp=Z,61nm,1.6s,mb5.4
BNSI Bone 64.15 280 P **P** **09 21 39.2 +0.1**
comp=Z,2µmcomp=Z,126nm,1.2s,mb5.8
SPSI Sidrap Palu 64.66 281 P **P** **09 21 41.8 -0.7**
TTSI Tana Toraja 65.09 281 P **P** **09 21 45.6 +0.3**
MTNI Mataram 65.43 274 P **P** **09 21 46.7 -0.8**
comp=Z,348nm,1.0s,mb6.3
MJSI Majene 65.55 281 P **P** **09 21 49.4 +1.2**
DAV Davao City (W) 66.00 294 LR LR 09 48 11.2
comp=Z,1µm,20.2s,MS5.1,baz=119,slow=34
DAV Davao City (W) 66.00 294 PFAKE 09 22 00.0 +8.9
DAV LR LR
comp=Z,2µm,21.0s,MS5.4
DAV Davao City (W) 66.00 294⇑ *e*P **P** **09 21 50.0 -1.1**
IGBI Denpasar 66.23 273 P **P** **09 21 51.4 -1.3**
DNP Denpasar 66.24 274 P **P** **09 21 55.5 +2.8**
SRBI Singaraja 66.52 274 P **P** **09 21 54.5 -0.1**
comp=Z,2µmcomp=Z,236nm,1.0s,mb6.2
NBBI Negara 66.90 274 P **P** **09 21 56.5 -0.5**
comp=Z,4µmcomp=Z,269nm,0.8s,mb6.3
GMJI Gumukmas 67.97 273 P **P** **09 22 03.9 +0.2**
comp=Z,4µmcomp=Z,196nm,1.0s,mb6.1
BLJI Banyuglugur 68.09 274 P **P** **09 22 04.6 +0.1**
comp=Z,182nm,0.8s,mb6.2
KMMI Kalianget 68.10 275 P **P** **09 22 05.0 +0.4**
comp=Z,6µmcomp=Z,258nm,1.0s,mb6.2
CBIJ Chichi jima 68.72 322 P **P** **09 22 08.0 -0.1**
comp=Z,62nm,0.5s,mb5.8,baz=235,slow=12,SNR=10
CBIJ LR LR 09 47 55.3
comp=Z,2µm,21.5s,MS5.4,baz=337,slow=32
KRKI Karangkates 68.88 273 P **P** **09 22 11.9 +2.5**
TBP Tagbilaran 68.93 295 *e*P **P** **09 22 12.2 +2.6**
BBKI Banjar Baru 69.13 278 P **P** **09 22 11.8 +0.8**
comp=Z,3µmcomp=Z,258nm,1.0s,mb6.1
PWJI Pagerwojo 69.51 272 P **P** **09 22 13.9 +0.6**
comp=Z,121nm,1.1s,mb5.8
SJI Sawahan 69.68 273 P **P** **09 22 14.9 +0.5**
comp=Z,5µmcomp=Z,148nm,0.9s,mb5.9
PCJI Pacitan 69.97 272 P **P** **09 22 17.2 +1.0**
comp=Z,6µmcomp=Z,479nm,1.1s,mb6.3
PLKI Palangkaraya 70.53 279 P **P** **09 22 20.4 +0.8**
comp=Z,361nm,1.1s,mb6.2
MYLDM Lahad Datu 70.64 288 P **P** **09 22 22.4 +2.2**
TSM Tawau 70.67 287 P **P** **09 22 20.7 +0.2**
SDKM Sandakan 71.97 288 P **P** **09 22 29.2 +0.9**
PBKI Pangkalan Bun 72.24 277 P **P** **09 22 31.2 +1.2**
PMSA Palmer Station 72.41 156 PFAKE 09 22 40.0 +10
PMSA LR LR
comp=Z,4µm,19.0s,MS5.7
MAW Mawson 72.93 200 P **P** **09 22 34.8 +1.7**
comp=Z,38nm,0.9s,mb5.3,baz=114,slow=6.8,SNR=53
MAW LR LR 09 54 27.2
comp=Z,5µm,19.1s,MS5.8,baz=118,slow=36
MAW Mawson 72.93 200 *e*P **P** **09 22 34.8 +1.7**
comp=Z,56nm,0.9s,mb5.5
MAW *e*S S 09 31 59.9 -0.1
MAW Mawson 72.93 200 P **P** **09 22 34.8 +1.7**
MAW LR LR 09 54 27.2
MAW Mawson 72.93 200 P **P** **09 22 34.8 +1.7**
MAW pmax pmax
comp=Z,38nm,1.0s
MAW MLR MLR
comp=Z,5µm,19.1s
KDM Kudat 72.98 289 P **P** **09 22 35.2 +0.9**
KKM Kota Kinabalu 73.01 288 P **P** **09 22 35.3 +0.9**
KKM Kota Kinabalu 73.01 288 *e*P **P** **09 22 34.5 0.0**
comp=Z,36nm,0.8s,mb5.3
KKM LR LR
comp=Z,2µm,19.0s,MS5.5
KKM Kota Kinabalu 73.01 288 P **P** **09 22 34.5 0.0**
comp=Z,1µmcomp=Z,66nm,1.3s,mb5.4
CISI Cisompet, Garu 73.19 271 P **P** **09 22 35.9 +0.3**
comp=Z,2µmcomp=Z,194nm,1.1s,mb5.9
STKI Sintang 73.82 280 P **P** **09 22 40.8 +1.5**
SBUM Sibu 74.42 282 P **P** **09 22 44.7 +1.8**
SBUM Sibu 74.42 282 P **P** **09 22 43.3 +0.5**
comp=Z,1µmcomp=Z,68nm,1.2s,mb5.5
DBJI Dramaga 74.60 271 P **P** **09 22 44.5 +0.6**
comp=Z,4µmcomp=Z,296nm,1.0s,mb6.2
JHJ Hachijo jima 2 74.75 324 LR LR 09 50 37.9
comp=Z,2µm,21.9s,MS5.4,baz=154,slow=32
KSM Kuching 75.54 280 P **P** **09 22 50.7 +1.4**
KSM Kuching 75.54 280 *e*P **P** **09 22 49.9 +0.6**
comp=Z,124nm,1.3s,mb5.7
KSM *e*PP PP 09 25 44.2 +5.5
KSM LR LR
comp=Z,3µm,20.0s,MS5.6
KSM Kuching 75.54 280 P **P** **09 22 50.2 +0.9**
comp=Z,1µmcomp=Z,72nm,1.3s,mb5.5
JOW Kunigami 76.83 312 P **P** **09 22 55.9 -0.4**
comp=Z,40nm,0.8s,mb5.4,baz=163,slow=9.2,SNR=8.1
JOW LR LR 09 51 22.9
comp=Z,5µm,21.8s,MS5.8,baz=110,slow=32
JOW Kunigami 76.83 312 P **P** **09 22 55.9 -0.4**
JOW LR LR 09 51 22.9
PPBI Pangkal Pinang 77.29 275 P **P** **09 23 00.4 +1.2**
comp=Z,63nm,1.0s,mb5.5
SYO Syowa Base 77.67 193⇑ *i*P **P** **09 23 00.0 -0.4**
LWLI Liwa 77.68 271 P **P** **09 23 02.6 +1.2**
comp=Z,239nm,1.4s,mb6.0
MDSI Maura Dua 77.84 272 P **P** **09 23 00.7 -1.6**
MJAR Matsushiro Arr 78.24 325 P **P** **09 23 03.1 -0.8**
comp=Z,29nm,1.0s,mb5.2,baz=169,slow=5.9,SNR=27
MJAR LR LR 09 54 59.5
comp=Z,2µm,20.1s,MS5.4,baz=170,slow=34
MJAR Matsushiro Arr 78.24 325 P **P** **09 23 03.1 -0.8**
MJAR LR LR 09 54 59.5
MJAR Matsushiro Arr 78.24 325 P **P** **09 23 03.1 -0.8**
MJAR pmax pmax
comp=Z,29nm,1.0s
MAJO Matsushiro 78.24 325 *e*P **P** **09 23 02.9 -1.0**
comp=Z,58nm,0.8s,mb5.6
MAJO LR LR
comp=Z,2µm,19.0s,MS5.5
MAJO Matsushiro 78.24 325 *e*P **P** **09 23 02.9 -1.0**
MAJO pmax pmax
comp=Z,58nm,0.8s,mb5.6
MAJO MLR MLR
comp=Z,2µm,19.0s,MS5.5
MAT Matsushiro 78.24 325 P **P** **09 23 02.3 -1.6**
MAT S S 09 32 55.0 -4.5
SNAA Sanae 78.57 178 P **P** **09 23 05.9 +0.5**
comp=Z,21nm,1.0s,mb5.0,baz=192,slow=4.7,SNR=50
SNAA Sanae 78.57 178 P **P** **09 23 05.9 +0.5**
SNAA Sanae 78.57 178 P **P** **09 23 05.9 +0.5**
SNAA pmax pmax
comp=Z,21nm,1.0s
VNA3 Neumayer Olymp 78.69 176 *e* **P** **09 23 03.6 -2.5**
VNA3 *e* 09 23 16.2
TWG Pinlang 79.12 304 *e*P **P** **09 23 06.2 -2.9**
comp=Z,38nm,0.7s,mb5.4
VNA2 Neumayer--Watz 79.14 177 *e* **P** **09 23 06.6 -1.9**
baz=180,slow=4.4
VNA2 *e* 09 23 19.7
YULB Yu-li 79.32 305 *e*P **P** **09 23 08.3 -1.8**
comp=Z,18nm,0.8s,mb5.0
MAIT Maitri 79.34 183 *e*P **P** **09 23 10.7 +1.1**
NVL N'lazarevskaya 79.34 183*c i*P **P** **09 23 11.4 +1.8**
NVL *e* 09 23 17.4
NVL *e**PP pP 09 23 21.5 +11
NVL *e**SP sP 09 23 28.2 +17
NVL *e*PPP 09 28 01.0
NVL *i* S S 09 33 05.4 -5.1
NVL *e*SS SS 09 38 19.3 +3.2
NVL pmax pmax
comp=Z,47nm,1.1s,mb5.3
NVL MLR MLR
comp=Z,2µm,17.0s,MS5.5
VNA1 Neumayer--Stat 79.36 176 *e* **P** **09 23 08.7 -1.0**
VNA1 *e* 09 23 21.2
NACB Ninganchiao 79.60 306 *e*P **P** **09 23 11.3 -0.3**
comp=Z,57nm,0.9s,mb5.5
JNU Nakatsue 79.64 318 *e*P **P** **09 23 11.1 -0.6**
comp=Z,22nm,0.8s,mb5.1
TPUB Ta-pu 79.74 304 *e*P **P** **09 23 10.4 -2.1**
comp=Z,89nm,0.8s,mb5.8
SSLB Suanglung 79.81 305 *e*P **P** **09 23 10.7 -2.1**
comp=Z,72nm,0.8s,mb5.7
YHNB Yeheng 80.07 306 *e*P **P** **09 23 14.9 +0.7**
comp=Z,35nm,0.8s,mb5.3
YHNB LR LR
comp=Z,2µm,20.0s,MS5.5
TATO Taipei 80.18 306 *e*P **P** **09 23 13.7 -1.1**
comp=Z,54nm,0.8s,mb5.5
TATO LR LR
comp=Z,2µm,21.0s,MS5.5
ERM Erimo 80.37 331 PFAKE 09 23 30.0 +15
ERM LR LR
comp=Z,6µm,20.0s,MS5.9
ERM Erimo 80.37 331 *e*P **P** **09 23 14.4 -1.0**
ERM pmax pmax
comp=Z,46nm,1.2s,mb5.3
COCO West Island 80.48 261 PFAKE 09 23 30.0 +13
COCO LR LR
comp=Z,5µm,19.0s,MS5.8
PAF Port-aux-Franc 80.86 218 PFAKE 09 23 30.0 +12
PAF LR LR
comp=Z,6µm,19.0s,MS6.0
YUK Yuzh-Kuril'sk 80.99 334*c i*P **P** **09 23 11.8 -6.9**
YUK *e*S S 09 33 19.6 -8.6
YUK pmax pmax
comp=Z,430nm,1.8s,mb6.1
YUK pmax pmax
comp=N,115nm,1.4s
YUK pmax pmax
comp=E,137nm,1.4s
YUK pmax pmax
comp=Z,257nm,1.4s,mb6.0
YUK smax
comp=N,790nm,3.1s
YUK smax
comp=E,100nm,3.1s
YUK MLR MLR
comp=N,1µm,21.0s,MS5.3
YUK MLR MLR
comp=E,1µm,21.0s,MS5.3
YUK MLR MLR
comp=Z,2µm,21.0s,MS5.5
MYKOM Kota Tinggi 81.24 277 P **P** **09 23 21.8 +1.0**
MYKOM Kota Tinggi 81.24 277 P **P** **09 23 20.6 -0.3**
ADK Adak 81.50 0 *e*P **P** **09 23 20.9 -0.3**
comp=Z,100nm,1.0s,mb5.7
ADK LR LR
comp=Z,3µm,20.0s,MS5.6
ADK Adak 81.50 0 *e*P **P** **09 23 20.9 -0.3**
ADK pmax pmax
comp=Z,100nm,1.0s,mb5.7
ADK MLR MLR
comp=Z,3µm,20.0s,MS5.6
QZH Quanzhou 82.21 304⇑ *i*P **P** **09 23 22.8 -2.8**
QZH S S 09 33 47.4 +5.6
QZH pmax pmax
comp=Z,120nm,1.0s,mb5.8
QZH pmax pmax
comp=Z,2µm,9.0s
QZH LR LR
comp=N,3µm,19.1s,MS5.8
QZH LR LR
comp=E,3µm,22.0s,MS5.8
QZH LR LR
comp=Z,4µm,25.2s,MS5.7
ASAJ Asahikawa 82.34 332 LR LR 09 57 36.8
comp=Z,5µm,19.9s,MS5.8,baz=173,slow=34
ASAJ Asahikawa 82.34 332 *e*P **P** **09 23 26.4 +0.6**
comp=Z,61nm,1.2s,mb5.4
PLCA Paso Flores 82.35 133 P **P** **09 23 27.4 +1.1**
comp=Z,13nm,0.9s,mb4.9,baz=217,slow=5.3,SNR=19
PLCA LR LR 09 51 21.7
comp=Z,3µm,21.1s,MS5.6,baz=250,slow=29
PLCA Paso Flores 82.35 133 P **P** **09 23 27.4 +1.1**
PLCA LR LR 09 51 21.7
PLCA Paso Flores 82.35 133 P **P** **09 23 27.4 +1.1**
PLCA pmax pmax
comp=Z,13nm,0.9s
EFI East Falkland 82.82 147 PFAKE 09 23 40.0 +12
EFI LR LR
comp=Z,3µm,22.0s,MS5.6
EFI East Falkland 82.82 147 *e*P **P** **09 23 29.4 +0.9**
FX1 Attu Island--F 82.92 354 LR LR 09 55 08.2
comp=Z,4µm,20.8s,MS5.8,baz=184,slow=32
KTGM Kuala Trenggan 83.65 280 P **P** **09 23 34.1 +0.7**
SKR Severo-Kuril's 83.67 343 *e*P **P** **09 23 28.5 -4.1**
SKR *e*PPP 09 28 40.0
SKR *e*S S 09 33 51.0 -4.5
SKR pmax pmax
comp=Z,3µm,10.0s
SKR pmax pmax
comp=Z,580nm,1.4s,mb6.5
SKR pmax pmax
comp=E,180nm,1.0s
SKR smax
comp=N,3µm,12.0s
SKR smax
comp=E,3µm,12.0s
SKR MLR MLR
comp=N,6µm,20.0s,MS6.1
SKR MLR MLR
comp=E,6µm,20.0s,MS6.1
SKR MLR MLR
comp=Z,6µm,20.0s,MS6.0
BSC Santa Cruz Isl 83.74 45⇑ P **P** **09 23 34.0 +0.6**
baz=84
UNV Unalaska Valle 83.99 6 *e*P **P** **09 23 34.9 +0.8**
comp=Z,78nm,1.1s,mb5.8
CIS Catalina Islan 84.11 46⇓ P **P** **09 23 36.0 +0.8**
baz=84

PKM **Peak Mountain** 84.23 44 ⇑P P 09 23 36.6 +0.8
baz=84
SSE **Sheshan** 84.28 311 P P 09 23 36.5 +0.3
SSE PP PP 09 26 46.9 -4.3
SSE S S 09 34 01.8 -0.7
SSE sS sS 09 34 06.5 +1.9
SSE ScS ScS 09 34 12.6 -1.9
SSE SS SS 09 39 33.7 +0.9
SSE pmax pmax
comp=Z,29nm,0.8s,mb5.5
SSE pmax pmax
comp=Z,860nm,11.5s
SSE LR LR
comp=N,1μm,37.0s,MS5.0
SSE LR LR
comp=E,820nm,36.8s,MS5.0
SSE LR LR
comp=Z,2μm,19.9s
SMMC **Simmler** 84.40 44 ⇑P P 09 23 37.6 +0.9
baz=84
KSRS **Korea Array** 84.42 319 P P 09 23 37.6 +0.9
comp=Z,27nm,0.9s,mb5.4,baz=134,slow=4.1,SNR=20
KSRS LR LR 09 58 38.0
comp=Z,2μm,19.8s,MS5.6,baz=138,slow=34
KSRS **Korea Array** 84.42 319 P P 09 23 37.6 +0.9
KSRS pmax pmax
comp=Z,27nm,0.9s,mb5.4
MNSI **Mandailing Nat** 84.43 274 P P 09 23 35.5 -1.9
SAO **San Andreas Ge** 84.55 42 eP P 09 23 37.4 0.0
comp=Z,19nm,0.9s,mb5.2
SAO LR LR
comp=Z,5μm,19.0s,MS5.9
SAO **San Andreas Ge** 84.55 42 eP P 09 23 37.4 0.0
SAO pmax pmax
comp=Z,19nm,0.9s,mb5.2
SAO MLR MLR
comp=Z,5μm,19.0s,MS5.9
YSS **Yuzh-Sakhalins** 84.62 334 eP P 09 23 37.7 +0.1
comp=Z,235nm,1.0s,mb6.3
YSS LR LR
comp=Z,1μm,21.0s,MS5.3
YSS **Yuzh-Sakhalins** 84.62 334⇑iP P 09 23 36.7 -0.8
YSS e 09 23 43.5
YSS eS S 09 34 04.0 -1.2
YSS pmax pmax
comp=E,140nm,1.0s
YSS pmax pmax
comp=Z,190nm,1.0s,mb6.2
YSS pmax pmax
comp=Z,1μm,4.0s
YSS smax
comp=N,2μm,12.0s
YSS MLR MLR
comp=N,2μm,18.0s
YSS MLR MLR
comp=Z,3μm,18.0s,MS5.7
MCCM **Marconi Confer** 84.69 40 PFAKE 09 23 50.0 +12
MCCM LR LR
comp=Z,4μm,19.0s,MS5.8
DECC **Green Verdugo** 84.71 45 ⇑P P 09 23 38.7 +0.5
baz=85
OSI **Osito Adit** 84.71 45 ⇑P P 09 23 39.1 +0.9
baz=85
OSI **Osito Adit** 84.71 45 eP P 09 23 40.4 +2.1
comp=Z,33nm,0.9s,mb5.5
BAR **Barrett** 84.72 48 eP P 09 23 38.2 -0.2
comp=Z,50nm,1.5s,mb5.4
PASC **Pasadena Art C** 84.75 46 eP P 09 23 40.2 +1.7
comp=Z,47nm,1.4s,mb5.4
MWC **Mount Wilson** 84.86 46 eP P 09 23 39.0 0.0
comp=Z,21nm,1.0s,mb5.2
MWC **Mount Wilson** 84.86 46 eP P 09 23 39.0 0.0
MWC pmax pmax
comp=Z,21nm,1.0s,mb5.2
GZH **Guangzhou** 84.96 300 P P 09 23 40.1 +0.3
GZH S S 09 34 10.5 +0.9
GZH pmax pmax
comp=Z,1μm,11.6s
GZH LR LR
comp=Z,2μm,22.8s,MS5.5
ARVC **Arvin** 84.99 45 ⇓P P 09 23 40.0 +0.4
baz=85
MURC **Murrieta** 84.99 47 ⇓P P 09 23 39.9 +0.2
baz=85,SNR=10.0
MONP **Monument Peak** 85.02 48 ⇓P P 09 23 39.9 0.0
baz=85
IPM **Ipoh** 85.03 278 P P 09 23 40.7 +0.2
IPM **Ipoh** 85.03 278 eP P 09 23 38.9 -1.6
comp=Z,50nm,0.8s,mb5.7
DVTC **Desert V Tower** 85.08 48 ⇓P P 09 23 40.4 +0.3
baz=85
BFSC **Mount Baldy Ra** 85.12 46 ⇓P P 09 23 40.2 -0.2
baz=85,SNR=6.3
INCN **Inchon** 85.17 319 PFAKE 09 23 50.0 +9.5
INCN LR LR
comp=Z,2μm,19.0s,MS5.6
HOPS **Hopland** 85.19 39 eP P 09 23 41.3 +0.7
comp=Z,82nm,1.1s,mb5.8
HOPS LR LR
comp=Z,5μm,19.0s,MS5.9
PET **Petropavlovsk** 85.26 346 eP P 09 23 40.1 -0.5
comp=Z,57nm,0.9s,mb5.7
PET LR LR
comp=Z,4μm,20.0s,MS5.8
PET **Petropavlovsk** 85.26 346c iP P 09 23 39.8 -0.7
PET eS S 09 34 01.0 -10
PET ePS 09 35 07.3
PET eSS SS 09 39 47.1 +0.8
PET pmax pmax
comp=Z,75nm,1.1s,mb5.7
PET pmax pmax
comp=Z,1μm,12.9s
VES **Vestal, Richgr** 85.31 44 ⇓P P 09 23 41.1 -0.1
baz=85,SNR=12
EDW2 **Edwards Air Fo** 85.34 45 ⇓P P 09 23 41.2 -0.2
baz=85,SNR=10
QIZ **Qiongzhong** 85.36 295 P P 09 23 41.2 -0.7
QIZ pP pP 09 23 44.1 +1.0
QIZ sP sP 09 23 46.7 +3.1
QIZ S S 09 34 09.3 -4.4
QIZ SS SS 09 39 47.4 -1.6
QIZ pmax pmax
comp=Z,25nm,1.1s,mb5.3
QIZ pmax pmax
comp=Z,930nm,12.0s
QIZ LR LR
comp=N,670nm,22.9s,MS5.0
QIZ LR LR
comp=E,350nm,21.8s,MS5.0
QIZ LR LR
comp=Z,2μm,40.6s
QIZ **Qiongzhong** 85.36 295 eP P 09 23 42.9 +1.0
comp=Z,24nm,1.0s,mb5.3
QIZ LR LR
comp=Z,1μm,19.0s,MS5.4
SWSC **Sam W. Stewart** 85.45 48 ⇓P P 09 23 42.2 +0.1
baz=85,SNR=7.2
PFO **Pinyon Flat Ob** 85.47 47 ⇓P P 09 23 41.9 -0.2
baz=85,SNR=9.0
PFO **Pinyon Flat Ob** 85.47 47 eP P 09 23 42.2 +0.1
comp=Z,51nm,1.5s,mb5.4
PFO LR LR
comp=Z,3μm,19.0s,MS5.7
PFO **Pinyon Flat Ob** 85.47 47 eP P 09 23 42.2 +0.1
PFO pmax pmax
comp=Z,51nm,1.5s,mb5.4
PFO MLR MLR
comp=Z,3μm,19.0s,MS5.7
RCTC **Rector, Farmer** 85.53 43 ⇑P P 09 23 42.1 -0.3
baz=86
PETK **Petropavlovsk-** 85.55 345 P P 09 23 41.0 -0.9
comp=Z,134nm,0.9s,mb6.2,baz=124,slow=7.4,SNR=53
PETK LR LR 10 01 28.2
comp=Z,2μm,19.0s,MS5.5,baz=167,slow=35
PETK **Petropavlovsk-** 85.55 345 P P 09 23 41.0 -0.9
PETK LR LR 10 01 28.2
PETK **Petropavlovsk-** 85.55 345 P P 09 23 41.0 -1.0
PETK pmax pmax
comp=Z,134nm,0.9s,mb6.2
PETK MLR MLR
comp=Z,2μm,19.0s,MS5.5
ISA **Isabella** 85.56 44 ⇓P P 09 23 42.6 +0.1
baz=86,SNR=28
ISA **Isabella** 85.56 44 eP P 09 23 42.8 +0.3
comp=Z,38nm,1.0s,mb5.6
ISA **Isabella** 85.56 44 eP P 09 23 42.8 +0.3
ISA pmax pmax
comp=Z,38nm,1.0s,mb5.6
BBRC **Big Bear Solar** 85.60 46 ⇓P P 09 23 43.0 +0.3
baz=86
KULM **Kulim** 85.76 279 P P 09 23 44.6 +0.5
KULM **Kulim** 85.76 279 eP P 09 23 43.3 -0.8
comp=Z,46nm,1.0s,mb5.7
KULM LR LR
comp=Z,3μm,20.0s,MS5.7
LRMC **Laurel Mountai** 85.92 45 ⇓P P 09 23 44.6 +0.4
baz=86,SNR=26
RRX **Edison Barstow** 85.95 46 ⇑P P 09 23 45.0 +0.6
baz=86
PSI **Prapat** 86.00 276 P P 09 23 43.5 -1.8
comp=Z,20nm,0.8s,mb5.4,baz=188,slow=6.3,SNR=16
PSI LR LR 10 04 59.5
comp=Z,7μm,18.5s,MS6.1,baz=132,slow=38
PSI **Prapat** 86.00 276 P P 09 23 43.5 -1.8
PSI LR LR 10 04 59.5
PSI **Prapat** 86.00 276 P P 09 23 43.5 -1.8
PSI pmax pmax
comp=Z,20nm,0.8s,mb5.4
PSI MLR MLR
comp=Z,7μm,18.5s,MS6.1
BELC **Belle Mtn. Jos** 86.01 47 ⇓P P 09 23 45.3 +0.5
baz=86,SNR=21
CMB **Columbia Colle** 86.03 42 eP P 09 23 44.2 -0.6
comp=Z,42nm,0.9s,mb5.7
CMB LR LR
comp=Z,4μm,19.0s,MS5.9
CMB **Columbia Colle** 86.03 42 eP P 09 23 44.2 -0.6
CMB pmax pmax
comp=Z,42nm,0.9s,mb5.7
CMB MLR MLR
comp=Z,4μm,19.0s,MS5.9
BC3 **Big Chuckawall** 86.13 47 ⇓P P 09 23 46.1 +0.7
baz=86,SNR=16
GLA **Glamis** 86.15 48 ⇓P P 09 23 45.7 +0.2
baz=86
GLA **Glamis** 86.15 48 eP P 09 23 46.0 +0.5
comp=Z,33nm,1.0s,mb5.5
GLA **Glamis** 86.15 48 eP P 09 23 46.0 +0.5
GLA pmax pmax
comp=Z,33nm,1.0s,mb5.5
KHMM **Horse Mountain** 86.17 38 eP P 09 23 46.7 +1.4
comp=Z,86nm,1.1s,mb5.9
SDPT **Sand Point** 86.19 10 eP P 09 23 45.3 +0.2
comp=Z,75nm,1.0s,mb5.9
CWC **Cottonwood Cre** 86.32 44 ⇓P P 09 23 46.6 +0.4
baz=86,SNR=8.8
HEC **Hector,Ludlow** 86.33 46 ⇓P P 09 23 46.8 +0.4
baz=86,SNR=8.4
GSC **Goldstone** 86.34 46 ⇓P P 09 23 46.7 +0.3
baz=86,SNR=23
GSC **Goldstone** 86.34 46 eP P 09 23 46.6 +0.2
comp=Z,56nm,1.2s,mb5.7
GSC **Goldstone** 86.34 46 eP P 09 23 46.6 +0.2
GSC pmax pmax
comp=Z,56nm,1.2s,mb5.7
VLA **Vladivostok** 86.39 325 eP P 09 23 46.8 +0.4
VLA pmax pmax
comp=Z,40nm,1.1s,mb5.6
VLA MLR MLR
comp=Z,1μm,18.0s,MS5.3
MPMC **Manual Prospec** 86.42 45 ⇑P P 09 23 47.0 +0.2
baz=86,SNR=28
NJ2 **Nanjing** 86.43 310 eP P 09 23 47.8 +0.9
NJ2 pP pP 09 23 52.7 +4.6
NJ2 sP sP 09 23 54.8 +6.2
NJ2 SKS 09 34 10.0
NJ2 S S 09 34 17.5 -6.2
NJ2 SS SS 09 40 02.0 -2.3
NJ2 pmax pmax
comp=Z,50nm,0.8s,mb5.8
NJ2 pmax pmax
comp=Z,1μm,4.0s
NJ2 LR LR
comp=N,2μm,22.5s,MS5.4
NJ2 LR LR
comp=E,990nm,21.7s,MS5.4
NJ2 LR LR
comp=Z,1μm,19.2s,MS5.3
DAC **Darwin (Calif)** 86.50 44 PFAKE 09 24 00.0 +13
DAC LR LR
comp=Z,3μm,20.0s,MS5.7
KRMB **Red Mountain** 86.54 37 eP P 09 23 49.7 +2.5
comp=Z,33nm,1.2s,mb5.4
WDC **Whiskeytown Da** 86.59 39 eP P 09 23 47.6 +0.1
comp=Z,76nm,1.1s,mb5.8
WDC LR LR
comp=Z,4μm,19.0s,MS5.8
WDC **Whiskeytown Da** 86.59 39 eP P 09 23 47.6 +0.1
WDC pmax pmax
comp=Z,75nm,1.1s,mb5.8
WDC MLR MLR
comp=Z,4μm,19.0s,MS5.8
FCH **Farellones** 86.60 127⇑iP P 09 23 51.9 +3.9
TIN **Tinemaha** 86.64 43 ⇓P P 09 23 48.0 +0.2
baz=87,SNR=7.6
IRM **Iron Mountain** 86.65 47 ⇑P P 09 23 47.8 -0.1
baz=87,SNR=27
MLAC **Mammoth Lakes** 86.66 43 ⇑P P 09 23 48.4 +0.5
baz=87,SNR=12
113A **Mohawk Valley,** 86.66 49 ⇓P P 09 23 48.2 +0.2
baz=87,SNR=9.7
GMRC **Granite Mounta** 86.72 47 ⇑P P 09 23 48.6 +0.3
baz=87,SNR=12
SNG **Songkhla** 86.74 280 P P 09 23 49.0 +0.1
Y12C **Blythe** 86.79 48 ⇓P P 09 23 48.9 +0.2
baz=87,SNR=12
WAKR **Walker** 86.90 42 eP P 09 23 48.5 -0.5
comp=Z,60nm,1.2s,mb5.7
TUQ **Turquoise Moun** 86.98 46 ⇓P P 09 23 49.8 +0.3
baz=87,SNR=16
Z13A **Yuma Proving G** 87.00 49 ⇑P P 09 23 49.4 -0.3
baz=87,SNR=26
SHOC **Shoshone** 87.06 45 ⇓P P 09 23 49.7 -0.2
baz=87,SNR=16
PAYG **Puerto Ayora** 87.07 89 PFAKE 09 24 00.0 +9.4
PAYG LR LR
comp=Z,3μm,21.0s,MS5.7
FURC **Furnace Creek,** 87.08 45 ⇓P P 09 23 49.9 -0.1
baz=87,SNR=17
GRAC **Grapevine Rang** 87.11 44 ⇑P P 09 23 50.3 +0.2
baz=87,SNR=22
UBT **Ubonrachathani** 87.20 289 P P 09 23 52.2 +1.2
114A **Black Gap (USA** 87.23 50 ⇑P P 09 23 50.6 -0.2
baz=87,SNR=7.8
WCN **Washoe City** 87.25 41 ⇑P P 09 23 50.7 -0.1
baz=87
WCN **Washoe City** 87.25 41 eP P 09 23 50.3 -0.5
comp=Z,34nm,1.1s,mb5.5
WCN **Washoe City** 87.25 41 eP P 09 23 50.3 -0.5
WCN pmax pmax
comp=Z,34nm,1.1s,mb5.5
LDFC **Landfair** 87.26 47 eP P 09 23 52.1 +1.3
comp=Z,110nm,1.1s,mb6.0
YBH **Yreka Blue Hor** 87.31 38 LR LR 09 55 29.2
comp=Z,2μm,20.7s,MS5.5,baz=234,slow=31
YBH **Yreka Blue Hor** 87.31 38 eP P 09 23 49.9 -1.1
comp=Z,27nm,1.0s,mb5.4
YBH LR LR
comp=Z,2μm,20.0s,MS5.5
YBH **Yreka Blue Hor** 87.31 38 eP P 09 23 49.9 -1.1
YBH pmax pmax
comp=Z,27nm,1.0s
YBH MLR MLR
comp=Z,2μm,20.0s
NEE2 **Needles Airpor** 87.37 47 ⇑P P 09 23 51.3 -0.1
baz=87,SNR=6.2
PDMCI **Parker Dam,Lak** 87.38 48 ⇑P P 09 23 51.3 -0.2
baz=87,SNR=5.9
CHGN **Chignik** 87.42 10 eP P 09 23 51.6 +0.5
NVAR **Mina Array Bea** 87.51 42 P P 09 23 51.5 -0.5
comp=Z,24nm,0.8s,mb5.5,baz=222,slow=6.2,SNR=65
NVAR PKKP PKKPbc 09 41 38.3 -3.8
comp=Z,1.7nm,0.8s,baz=73,slow=2.2,SNR=4.5
NVAR SKKP 09 45 08.8
comp=Z,0.3nm,0.6s,baz=170,slow=8.5,SNR=3.6
NVAR PKPPKP 09 49 50.2
comp=Z,1.2nm,0.9s,baz=229,slow=1.4,SNR=6.6
NVAR LR LR 09 57 26.1
comp=Z,4μm,18.9s,MS5.9,baz=126,slow=32
NVAR **Mina Array Bea** 87.51 42 P P 09 23 51.5 -0.5
NVAR PKKP PKKPbc 09 41 38.3 -3.8
NVAR SKKP 09 45 08.8
NVAR P'P' 09 49 50.2
NVAR LR LR 09 57 26.1
Z14A **Wintersburg** 87.57 49 ⇑P P 09 23 52.6 +0.2
baz=88,SNR=16
216A **Three Points,** 87.72 51 ⇑P P 09 23 53.0 -0.2
baz=88,SNR=7.8
PAHR **Pah Rah Range** 87.74 41 eP P 09 23 52.5 -0.6
comp=Z,26nm,1.0s,mb5.4
HUMO **Hull Mountain** 87.80 37 eP P 09 23 53.7 +0.4
comp=Z,61nm,1.4s,mb5.6
HUMO LR LR
comp=Z,2μm,21.0s,MS5.5
Y14A **Wickenburg** 87.89 49 ⇑P P 09 23 54.1 +0.2
baz=88,SNR=35
116A **Eloy** 87.90 50 ⇑P P 09 23 54.4 +0.4
baz=88,SNR=17
TPH **Tonopah** 87.91 43 PFAKE 09 24 10.0 +16
TPH LR LR
comp=Z,2μm,20.0s,MS5.6
217A **Green Valley** 88.02 51 ⇑P P 09 23 54.8 +0.2
baz=88,SNR=19
Z15A **Gila River Ind** 88.04 50 ⇓P P 09 23 54.8 +0.1
baz=88,SNR=9.7
SHPR **Sheep Range** 88.14 45 eP P 09 23 56.0 +1.0
comp=Z,54nm,1.5s,mb5.5
X14A **Yava** 88.29 48 ⇑P P 09 23 56.5 +0.7
baz=88,SNR=36
Y15A **Casa Rosa Ranc** 88.34 49 ⇑P P 09 23 56.7 +0.6
baz=88,SNR=18
TUC **Tucson** 88.36 51 eP P 09 23 56.9 +0.7
comp=Z,24nm,0.9s,mb5.4
TUC LR LR
comp=Z,2μm,20.0s,MS5.5
TUC **Tucson** 88.36 51 eP P 09 23 56.9 +0.7
TUC pmax pmax
comp=Z,23nm,0.9s,mb5.4
TUC MLR MLR
comp=Z,2μm,20.0s,MS5.5
318A **Bisbee** 88.38 52 ⇓P P 09 23 56.8 +0.4
baz=88,SNR=20
117A **Oracle** 88.55 51 ⇑P P 09 23 57.2 +0.1
baz=88,SNR=18
Z16A **Peralta Trail,** 88.56 50 ⇓P P 09 23 57.0 -0.1
baz=88,SNR=14
WHN **Wuhan** 88.58 307 P P 09 23 57.7 +0.4
WHN pmax pmax
comp=Z,52nm,0.9s,mb5.9
WHN pmax pmax
comp=Z,2μm,12.4s
WHN LR LR
comp=N,3μm,17.9s,MS6.0
WHN LR LR
comp=E,5μm,22.0s,MS6.0
WHN LR LR
comp=Z,5μm,19.4s,MS5.9
MDJ **Mudanjiang** 88.62 325 P P 09 23 56.9 -0.2
MDJ pP pP 09 24 00.5 +2.1
MDJ sP sP 09 24 01.5 +2.7
MDJ PP PP 09 27 24.9 -1.1
MDJ S S 09 34 45.5 +1.4
MDJ sS sS 09 34 49.1 +2.9
MDJ SS SS 09 40 34.4 -1.4
MDJ pmax pmax
comp=Z,81nm,1.1s,mb6.0
MDJ pmax pmax
comp=Z,810nm,11.8s
MDJ LR LR
comp=N,1μm,22.1s,MS5.4
MDJ LR LR
comp=E,920nm,23.6s,MS5.4
MDJ LR LR
comp=Z,2μm,22.1s,MS5.5
MDJ **Mudanjiang** 88.62 325 eP P 09 23 57.0 -0.1
comp=Z,112nm,1.1s,mb6.1
MDJ LR LR
comp=Z,2μm,20.0s,MS5.5
218A **Dragoon** 88.66 52 ⇓P P 09 23 58.0 +0.3
baz=89,SNR=18
LCO **Las Campanas** 88.70 123 eP P 09 24 00.9 +2.8
comp=Z,75nm,1.5s,mb5.8
LCO LR LR
comp=Z,3μm,21.0s,MS5.7
MOD **Modoc** 88.73 39 eP P 09 23 57.0 -0.7
comp=Z,32nm,1.1s,mb5.6
MOD LR LR
comp=Z,3μm,19.0s,MS5.7
X15A **Humboldt** 88.73 49 ⇓P P 09 23 58.4 +0.5
baz=89,SNR=45
U13A **Pakoon Wash** 88.83 46 ⇑P P 09 23 59.0 +0.7
baz=89,SNR=28
319A **Douglas** 88.83 52 ⇓P P 09 23 59.2 +0.8
baz=89,SNR=11
Y16A **Circle Bar Ran** 88.85 49 ⇓P P 09 23 59.0 +0.5
baz=89,SNR=60
V14A **Boquillas Ranc** 88.88 47 ⇑P P 09 23 59.4 +0.8
baz=89,SNR=40
CFAA **Coronel Fontan** 89.00 126 P P 09 23 59.4 -0.1
comp=Z,1.9nm,0.9s,mb4.4,baz=235,slow=4.0,SNR=18
CFAA **Coronel Fontan** 89.00 126 P P 09 23 59.4 -0.1
DL2 **Dalian** 89.05 317⇑iP P 09 23 59.2 -0.1
DL2 SKS 09 34 26.9
DL2 S S 09 34 49.2 +0.8
DL2 pmax pmax
comp=Z,40nm,1.1s,mb5.7
DL2 pmax pmax
comp=Z,400nm,7.8s
DL2 LR LR
comp=N,760nm,17.4s,MS5.2
DL2 LR LR
comp=E,510nm,18.6s,MS5.2
DL2 LR LR
comp=Z,1μm,19.2s,MS5.3
R11A **Troy Canyon, C** 89.06 44 ⇓P P 09 23 59.7 +0.3
baz=89
118A **Homack Ranch,** 89.11 51 ⇑P P 09 24 00.3 +0.6
baz=89,SNR=23
W15A **Williams** 89.14 48 ⇑P P 09 24 00.5 +0.7
baz=89,SNR=7.8
Y17A **Roosevelt** 89.16 50 ⇑P P 09 24 00.2 +0.2
baz=89,SNR=27
Z17A **San Carlos Hig** 89.17 50 ⇓P P 09 24 00.8 +0.8
baz=89,SNR=8.8
OHAK **Old Harbor** 89.19 13 eP P 09 23 55.0 -4.5
comp=Z,61nm,1.1s,mb5.8
X16A **Lo Mia Camp, P** 89.21 49 ⇓P P 09 24 00.9 +0.8
baz=89,SNR=48
219A **White Tail Can** 89.21 52 ⇑P P 09 24 00.8 +0.5
baz=89,SNR=6.7
TRQA **Tornquist** 89.30 134 eP P 09 24 02.0 +1.3
comp=Z,23nm,1.1s,mb5.4
TRQA LR LR
comp=Z,3μm,22.0s,MS5.7
U14A **Mt Trumbull** 89.32 47 ⇑P P 09 24 01.6 +1.0
baz=89
320A **Kipp Ranch, An** 89.33 53 ⇑P P 09 24 01.2 +0.4
baz=89,SNR=17
Z18A **Geronimo** 89.33 51 ⇑P P 09 24 01.0 +0.2
baz=89
BMN **Battle Mountai** 89.46 41 eP P 09 24 01.2 0.0
comp=Z,79nm,1.6s,mb5.8
BMN LR LR
comp=Z,4μm,19.0s,MS5.9
BMN **Battle Mountai** 89.46 41 eP P 09 24 01.2 0.0
BMN pmax pmax
comp=Z,79nm,1.6s,mb5.8
BMN MLR MLR
comp=Z,4μm,19.0s,MS5.9
W16A **Flagstaff** 89.56 48 ⇓P P 09 24 02.4 +0.7
baz=90,SNR=22
X17A **Forest Lakes** 89.57 49 ⇓P P 09 24 02.7 +0.9
baz=90,SNR=16
V15A **Kaibab Nationa** 89.59 48 ⇓P P 09 24 02.5 +0.6
baz=90,SNR=43
119A **Ashpeak Ranch,** 89.64 51 ⇑P P 09 24 02.4 +0.2
baz=90,SNR=16
220A **Playas Peak, P** 89.66 52 ⇓P P 09 24 02.7 +0.4
baz=90,SNR=16
Y18A **Canyon Day Jun** 89.75 50 ⇓P P 09 24 03.2 +0.5
baz=90,SNR=65
KDAK **Kodiak Island** 89.85 13 LR LR 10 04 21.0
comp=Z,3μm,18.2s,MS5.7,baz=218,slow=36
KDAK **Kodiak Island** 89.85 13 PFAKE 09 24 10.0 +7.5
KDAK LR LR
comp=Z,3μm,20.0s,MS5.7
CCUT **Cedar City** 89.92 46 eP P 09 24 03.8 +0.4
comp=Z,24nm,1.2s,mb5.4
WUAZ **Wupatki** 89.92 48 ⇓P P 09 24 03.9 +0.4
baz=90,SNR=42
WUAZ **Wupatki** 89.92 48 eP P 09 24 03.6 +0.1
comp=Z,66nm,1.1s,mb5.9

WUAZ LR LR
comp=Z,2µm,22.0s,MS5.6
R13A O'Grain Ranch, 89.94 45 ⇑P P 09 24 04.2 +0.8
baz=90
120A U Bar Ranch, L 89.97 52 ⇑P P 09 24 04.2 +0.4
baz=90,SNR=26
Z19A T-Link Ranch, 89.97 51 ⇓P P 09 24 04.3 +0.6
baz=90,SNR=8.6
WVOR Wild Horse Val 90.00 39 eP P 09 24 03.6 0.0
comp=Z,37nm,1.2s,mb5.6
WVOR LR LR
comp=Z,4µm,19.0s,MS5.9
WVOR Wild Horse Val 90.00 39 eP P 09 24 03.6 0.0
WVOR pmax pmax
comp=Z,37nm,1.2s,mb5.6
WVOR MLR MLR
comp=Z,4µm,19.0s,MS5.9
ARUT Antelope Range 90.02 45 eP P 09 24 04.6 +0.8
comp=Z,41nm,1.4s,mb5.6
ARUT Antelope Range 90.02 45 eP P 09 24 04.6 +0.7
ARUT pmax pmax
comp=Z,41nm,1.4s,mb5.6
W17A Winslow 90.08 49 ⇓P P 09 24 04.5 +0.3
baz=90
CN2 Changchun 90.17 322 ⇓P P 09 24 04.0 -0.4
CN2 epP pP 09 24 08.8 +3.1
CN2 esP sP 09 24 11.0 +4.9
CN2 eS S 09 34 56.8 -1.8
CN2 pmax pmax
comp=Z,30nm,1.1s,mb5.5
CN2 pmax pmax
comp=Z,500nm,10.0s
CN2 LR LR
comp=N,1µm,24.0s,MS5.3
CN2 LR LR
comp=E,800nm,24.0s,MS5.3
CN2 LR LR
comp=Z,800nm,25.0s,MS5.0
T15A Red Dirt Ranch 90.20 46 ⇓P P 09 24 05.0 +0.3
baz=90
X18A Snowflake 90.25 50 ⇑P P 09 24 05.4 +0.4
baz=90,SNR=34
E03A Lebam 90.30 34 ⇑P P 09 24 05.6 +0.7
baz=90,SNR=7.5
Z20A Nine Sixteen R 90.33 51 ⇓P P 09 24 05.6 +0.2
baz=90,SNR=24
VIPM Ingram Point 90.35 37 P P 09 24 05.2 0.0
VIPM Ingram Point 90.35 37 P P 09 24 05.2 0.0
V17A Tonalea, Kykot 90.36 48 ⇓P P 09 24 06.0 +0.5
baz=90,SNR=50
HOOD Mount Hood Mea 90.38 36 eP P 09 24 05.8 +0.4
comp=Z,43nm,1.0s,mb5.7
U16A Tuba City 90.46 48 ⇓P P 09 24 06.5 +0.5
baz=90,SNR=30
121A Cookes Peak, D 90.54 52 ⇓P P 09 24 06.3 -0.1
baz=90,SNR=5.9
S15A Panguitch 90.61 46 ⇑P P 09 24 07.0 +0.3
baz=91
X19A St. Johns 90.63 50 ⇓P P 09 24 07.0 +0.2
baz=91
I07A Izee 90.64 38 ⇑P P 09 24 06.8 +0.2
baz=91
J08A Circle Bar Ran 90.70 39 ⇑P P 09 24 07.0 +0.1
baz=91
T16A Glen Canyon Da 90.73 47 ⇓P P 09 24 07.5 +0.3
baz=91
W18A Petrified Fore 90.75 49 ⇑P P 09 24 07.5 +0.1
baz=91,SNR=8.6
222A Williams Famil 90.76 53 ⇑P P 09 24 07.5 0.0
baz=91
NLWA Neilton Lookou 90.76 33 eP P 09 24 08.0 +0.9
comp=Z,58nm,1.1s,mb5.8
NLWA LR LR
comp=Z,3µm,19.0s,MS5.8
TDL Tradedollar La 90.82 35 P P 09 24 08.2 +0.8
G06A Carlson Farm, 90.84 36 ⇑P P 09 24 07.2 -0.3
baz=91,SNR=26
Q14A Sevier Lake (B 90.87 44 ⇓P P 09 24 07.7 -0.1
baz=91
Y20A Horse Springs, 90.94 51 ⇓P P 09 24 08.7 +0.4
baz=91,SNR=64
KLR Kul'dur 90.97 329 eP P 09 24 03.6 -4.4
KLR eS SKSac 09 34 37.0 -3.4
KLR e 09 36 37.5
KLR e 09 41 07.0
KLR pmax pmax
comp=E,62nm,1.6s
KLR pmax pmax
comp=Z,200nm,1.6s,mb6.2
KLR pmax pmax
comp=Z,2µm,11.0s
V18A Ganado 90.97 49 ⇓P P 09 24 08.9 +0.5
baz=91,SNR=31
W19A Sanders 90.97 49 ⇓P P 09 24 08.7 +0.4
baz=91,SNR=21
R15A Junction 91.00 46 ⇓P P 09 24 08.8 +0.4
baz=91
Z21A St. Cloud Mine 91.07 52 ⇑P P 09 24 09.2 +0.3
baz=91,SNR=26
S16A Weppner Ranch, 91.12 46 ⇑P P 09 24 09.3 +0.3
baz=91
122A Conniff Cattle 91.17 53 ⇓P P 09 24 09.9 +0.5
baz=91,SNR=8.8
223A Chaparral, Ant 91.17 53 ⇑P P 09 24 09.9 +0.5
baz=91
T17A Navajo Res., N 91.18 47 ⇓P P 09 24 09.7 +0.4
baz=91,SNR=25
MVU Marysvale 91.22 45 PFAKE 09 24 20.0 +11
MVU LR LR
comp=Z,2µm,19.0s,MS5.6
X20A Quemado 91.23 50 ⇓P P 09 24 09.7 +0.1
baz=91,SNR=75
MSU Marysvale 91.25 45 eP P 09 24 10.5 +1.0
comp=Z,15nm,1.0s,mb5.3
MSU Marysvale 91.25 45 eP P 09 24 10.5 +0.9
MSU pmax pmax
comp=Z,15nm,1.0s,mb5.3
LON Longmire 91.30 35 eP P 09 24 10.6 +1.0
comp=Z,29nm,1.2s,mb5.5
LON Longmire 91.30 35 eP P 09 24 10.6 +1.0
LON pmax pmax
comp=Z,29nm,1.2s,mb5.5
P14A Drum Mountains 91.37 44 ⇑P P 09 24 10.2 +0.1
baz=91,SNR=8.9
GNW Green Mountain 91.38 33 eP P 09 24 09.5 -0.4
comp=Z,27nm,1.0s,mb5.5
Q15A Fillmore 91.42 45 ⇑P P 09 24 10.1 -0.2
baz=91
626A Big Bend Ranch 91.42 57 ⇓P P 09 24 10.1 -0.5
baz=91,SNR=14
U18A Rough Rock, Ch 91.44 48 ⇑P P 09 24 10.9 +0.4
baz=91,SNR=12
NST Nakhon Sawan 91.45 287 P P 09 24 12.0 +1.0
comp=Z,58nm,0.6s,mb6.1
Y21A Point of Rocks 91.47 51 ⇑P P 09 24 11.3 +0.6
baz=91,SNR=58
425A Indio Mountain 91.50 55 ⇓P P 09 24 11.0 +0.1
baz=91
324A Moseley Ranch, 91.52 54 ⇓P P 09 24 10.8 -0.2
baz=91,SNR=7.7
D05A Enumclaw 91.52 34 ⇑P P 09 24 11.0 +0.4
baz=92,SNR=23
R16A Teasdale 91.54 46 ⇓P P 09 24 11.4 +0.5
baz=92,SNR=10.0
W20A Ramah 91.57 50 ⇓P P 09 24 11.0 -0.2
baz=92,SNR=68
S17A Black Ridge (B 91.57 47 ⇑P P 09 24 10.9 -0.2
baz=92,SNR=11
TXAR Lajitas Array 91.64 57 P P 09 24 11.6 -0.1
comp=Z,7.8nm,0.9s,mb5.0,baz=207,slow=8.6,SNR=34
TXAR PKKP PKKPbc 09 41 34.0 +2.8
comp=Z,2.4nm,1.0s,baz=97,slow=2.9,SNR=10
TXAR LR LR 09 59 17.9
comp=Z,1µm,18.4s,MS5.5,baz=75,slow=32
TXAR Lajitas Array 91.64 57 P P 09 24 11.6 -0.1
TXAR PKKP PKKPbc 09 41 34.0 +2.8
TXAR LR LR 09 59 17.9
TXAR Lajitas Array 91.64 57 P P 09 24 11.6 0.0
TXAR pmax pmax
comp=Z,8.0nm,0.9s
TXAR pmax pmax
comp=Z,2.0nm,1.0s
123A Bell Site, Whi 91.65 53 ⇑P P 09 24 11.7 +0.1
baz=92
X21A Alamocita Cree 91.65 51 ⇑P P 09 24 12.0 +0.4
baz=92,SNR=46
F07A Phinny Hill Vi 91.65 36 ⇓P P 09 24 11.1 -0.1
baz=92,SNR=8.4
526A Mary Lane Ranc 91.74 56 ⇑P P 09 24 11.9 -0.1
baz=92
G08A Pilot Rock 91.74 37 ⇓P P 09 24 11.5 -0.2
baz=92,SNR=71
U19A Dine' College, 91.79 49 ⇑P P 09 24 12.4 +0.3
baz=92,SNR=23
P15A Leamington 91.83 45 ⇓P P 09 24 12.3 0.0
baz=92,SNR=9.3
325A Bean Ranch, Si 91.84 55 ⇑P P 09 24 12.2 -0.3
baz=92,SNR=10
224A Cornudas Mount 91.84 54 ⇑P P 09 24 12.4 -0.2
baz=92,SNR=7.5
ENH Enshi 91.86 304 eP P 09 24 13.8 +1.2
comp=Z,173nm,1.3s,mb6.2
ENH LR LR
comp=Z,1µm,22.0s,MS5.4
GYA Guiyang 91.87 299 ⇑P P 09 24 13.0 +0.3
GYA PP PP 09 27 54.3 +2.1
GYA SKS 09 34 44.9
GYA S S 09 35 17.0 +2.0
GYA SS SS 09 41 23.2 -0.4
GYA pmax pmax
comp=Z,60nm,1.0s,mb5.9
GYA pmax pmax
comp=Z,2µm,5.3s
GYA LR LR
comp=N,5µm,20.8s,MS6.0
GYA LR LR
comp=E,3µm,21.4s,MS6.0
GYA LR LR
comp=Z,7µm,23.2s,MS6.0
DUG Dugway 91.90 44 ⇓P P 09 24 12.6 0.0
baz=92,SNR=5.8
DUG Dugway 91.90 44 eP P 09 24 13.8 +1.3
comp=Z,14nm,1.2s,mb5.2
DUG LR LR
comp=Z,3µm,20.0s,MS5.8
DUG Dugway 91.90 44 eP P 09 24 13.8 +1.3
DUG pmax pmax
comp=Z,14nm,1.2s,mb5.2
DUG MLR MLR
comp=Z,3µm,20.0s,MS5.8
627A Terlingua Ranc 91.91 57 ⇑P P 09 24 12.2 -0.6
baz=92,SNR=18
Y22A Socorro 91.91 52 ⇓P P 09 24 12.7 -0.1
baz=92,SNR=33
V20A Brimhall 91.98 49 ⇑P P 09 24 12.9 -0.1
baz=92,SNR=10
Z23A Rita Site, Whi 92.02 52 ⇓P P 09 24 13.1 -0.2
baz=92,SNR=6.9
LENM Lemitar 92.03 51 eP P 09 24 13.2 -0.1
comp=Z,16nm,1.0s,mb5.3
LAZ Ladron 92.06 51 eP P 09 24 14.6 +1.2
comp=Z,7.4nm,0.9s,mb5.0
R17A Hanksville Air 92.10 46 ⇓P P 09 24 13.6 +0.1
baz=92,SNR=11
S18A Hurst Farm, Bl 92.11 47 ⇓P P 09 24 13.9 +0.3
baz=92
Q16A Castle Valley 92.11 46 ⇓P P 09 24 13.7 +0.1
baz=92
426A McDonald Obser 92.12 56 ⇓P P 09 24 13.7 -0.1
baz=92,SNR=11
527A Woodward Ranch 92.13 56 ⇓P P 09 24 13.4 -0.5
baz=92,SNR=9.6
W21A San Fidel 92.13 50 ⇓P P 09 24 13.6 -0.2
baz=92
E07A Sunnyside 92.14 36 ⇓P P 09 24 13.5 0.0
baz=92,SNR=27
O15A The Old Anders 92.16 44 ⇓P P 09 24 13.8 0.0
baz=92
RSW Rattlesnake Hi 92.17 36 eP P 09 24 13.4 -0.2
comp=Z,78nm,1.1s,mb6.0
REDWA Red Mountain 92.18 36 P P 09 24 13.5 -0.1
HAWA Hanford 92.19 36 eP P 09 24 13.5 -0.3
comp=Z,57nm,1.0s,mb5.9
HAWA LR LR
comp=Z,3µm,19.0s,MS5.8
MFID Camas Ranch 92.19 40 ⇓P P 09 24 13.8 0.0
baz=92,SNR=32
MFID Camas Ranch 92.19 40 eP P 09 24 13.0 -0.8
comp=Z,30nm,1.0s,mb5.6
X22A Bernardo 92.20 51 ⇓P P 09 24 13.9 -0.2
baz=92,SNR=5.6
BGU Big Grassy Mou 92.22 43 eP P 09 24 15.1 +1.1
comp=Z,12nm,1.1s,mb5.1
T19A Beclabito 92.22 48 ⇓P P 09 24 14.2 0.0
baz=92
P16A Fountain Green 92.24 45 ⇓P P 09 24 14.4 +0.2
baz=92
124A Stringfield Ra 92.24 53 ⇑P P 09 24 14.2 -0.1
baz=92,SNR=7.6
BNM Barren Site 92.26 52 eP P 09 24 15.4 +1.1
comp=Z,45nm,1.6s,mb5.5
U20A Newcomb 92.29 49 ⇓P P 09 24 14.3 -0.1
baz=92
RSO Redoubt South 92.32 12 eP P 09 24 14.4 +0.4
comp=Z,44nm,1.0s,mb5.8
TMUT Trail Mountain 92.32 45 eP P 09 24 15.1 +0.6
comp=Z,39nm,1.1s,mb5.7
BMO Blue Mountains 92.33 38 eP P 09 24 13.4 -0.9
comp=Z,17nm,1.1s,mb5.3
BMO LR LR
comp=Z,2µm,20.0s,MS5.5
BMO Blue Mountains 92.33 38 eP P 09 24 13.5 -0.9
BMO pmax pmax
comp=Z,17nm,1.1s,mb5.3
BMO MLR MLR
comp=Z,2µm,20.0s,MS5.5
LPM Los Pinos Moun 92.35 51 eP P 09 24 15.6 +0.8
comp=Z,12nm,1.0s,mb5.2
225A Deer Hill, Car 92.36 54 ⇑P P 09 24 14.6 -0.3
baz=92,SNR=7.4
LNOR Lincton Mounta 92.48 37 eP P 09 24 15.0 -0.1
comp=Z,15nm,1.1s,mb5.2
LNOR Lincton Mounta 92.48 37 eP P 09 24 15.0 -0.1
LNOR pmax pmax
comp=Z,15nm,1.1s,mb5.2
MPU Maple Canyon 92.50 44 eP P 09 24 17.5 +2.2
comp=Z,12nm,1.0s,mb5.2
E08A Dider Farm, El 92.50 36 ⇓P P 09 24 14.9 -0.3
baz=92,SNR=11
N15A Stansbury Isla 92.50 43 ⇑P P 09 24 15.9 +0.5
baz=92
326A Caldwell Ranch 92.51 55 ⇓P P 09 24 15.5 -0.1
baz=92
Y23A Lovelace Mesa, 92.53 52 ⇓P P 09 24 15.9 +0.3
baz=92,SNR=9.5
V21A Milan 92.53 50 ⇑P P 09 24 15.9 +0.3
baz=92
R18A Canyonlands Na 92.59 47 ⇓P P 09 24 15.6 -0.2
baz=92,SNR=17
NOQ North Oquirrh 92.60 44 P P 09 24 16.0 +0.2
comp=Z,26nm,1.1s,mb5.6
ETW Entiat 92.62 35 eP P 09 24 15.6 -0.1
comp=Z,47nm,1.3s,mb5.8
SEW Seward 92.62 14 eP P 09 24 14.9 -0.5
comp=Z,43nm,1.1s,mb5.8
W22A Albuquerque 92.63 51 ⇓P P 09 24 16.4 +0.3
baz=93
SRU San Rafael 92.63 46 ⇓P P 09 24 15.8 -0.2
baz=93,SNR=16
SRU San Rafael 92.63 46 eP P 09 24 16.1 +0.1
comp=Z,26nm,1.1s,mb5.6
SRU San Rafael 92.63 46 eP P 09 24 16.1 +0.1
SRU pmax pmax
comp=Z,26nm,1.1s,mb5.6
Z24A Sheeppen Canyo 92.66 53 ⇑P P 09 24 16.0 -0.3
baz=93,SNR=10
427A Hayter Ranch, 92.67 56 ⇑P P 09 24 15.9 -0.5
baz=93,SNR=33
WRD Warden 92.67 36 P P 09 24 16.3 +0.4
S19A Harvey Farm, M 92.69 47 ⇓P P 09 24 16.1 -0.2
baz=93,SNR=9.3
Springville 92.70 44 ⇓P P 09 24 16.1 -0.1
baz=93
O16A Butcher Ranch, 92.72 45 ⇓P P 09 24 16.2 -0.1
baz=93,SNR=7.9
P17A Cox Ranch, San 92.73 57 ⇓P P 09 24 16.0 -0.6
baz=93
528A Gardner Draw, 92.78 54 ⇑P P 09 24 16.6 -0.2
baz=93,SNR=6.7
125A Malta 92.79 42 ⇓P P 09 24 16.2 -0.4
baz=93,SNR=20
L14A Mesa Verde 92.79 48 ⇑P P 09 24 16.5 -0.2
baz=93
MVCO Mesa Verde 92.79 48 eP P 09 24 18.9 +2.1
comp=Z,11nm,0.9s,mb5.3
MVCO LR LR
comp=Z,3µm,22.0s,MS5.6
SPUT South Promonto 92.80 43 eP P 09 24 18.0 +1.3
comp=Z,44nm,1.2s,mb5.8
X23A Hourglass Bar 92.80 51 ⇓P P 09 24 16.8 -0.1
baz=93
I12A Atlanta 92.82 40 ⇑P P 09 24 16.2 -0.5
baz=93,SNR=34
ANMO Albuquerque 92.83 51 LR LR 10 01 51.0
comp=Z,2µm,18.0s,MS5.6,baz=231,slow=33
ANMO Albuquerque 92.83 51 eP P 09 24 16.3 -0.7
comp=Z,18nm,1.0s,mb5.5
ANMO LR LR
comp=Z,2µm,20.0s,MS5.6
ANMO Albuquerque 92.83 51 eP P 09 24 16.3 -0.7
ANMO pmax pmax
comp=Z,18nm,1.0s
ANMO MLR MLR
comp=Z,2µm,20.0s
226A Malaga, Loving 92.84 54 ⇓P P 09 24 16.7 -0.4
baz=93
SLKM Skilak Lake 92.84 13 eP P 09 24 16.3 -0.1
SLKM Skilak Lake 92.84 13 eP P 09 24 16.3 -0.1
Q18A Rafter H Ranch 92.87 46 ⇓P P 09 24 16.4 -0.7
baz=93,SNR=13
U21A Nageezi 92.88 49 ⇑P P 09 24 17.2 0.0
baz=93,SNR=21
M15A Larsen Ranch, 92.90 43 ⇓P P 09 24 16.8 -0.3
baz=93,SNR=27
HVU Hansel Valley 92.90 43 eP P 09 24 17.8 +0.6
comp=Z,44nm,1.1s,mb5.8
HVU Hansel Valley 92.90 43 eP P 09 24 17.8 +0.7
HVU pmax pmax
comp=Z,45nm,1.1s,mb5.8
R19A Curley Farm, L 92.94 47 ⇑P P 09 24 16.6 -0.8
baz=93,SNR=11
Y24A Capitan 92.95 52 ⇑P P 09 24 17.3 -0.2
baz=93,SNR=32
NNA Nana 92.95 106 PFAKE 09 24 30.0 +12
NNA LR LR
comp=Z,2µm,20.0s,MS5.5
D08A Wollman Farm, 92.95 36 ⇓P P 09 24 16.8 -0.4
baz=93,SNR=24
DAU Daniels Canyon 92.97 44 eP P 09 24 20.4 +2.9
comp=Z,21nm,1.2s,mb5.5
DAU Daniels Canyon 92.97 44 eP P 09 24 20.4 +2.9
DAU pmax pmax
comp=Z,21nm,1.2s,mb5.4
E09A Wood Farm, Sta 92.99 36 ⇓P P 09 24 16.6 -0.8
baz=93,SNR=27
BJT Baijiatuau 93.04 315 eP P 09 24 19.7 +1.9
comp=Z,106nm,1.1s,mb6.2
BJT LR LR
comp=Z,3µm,22.0s,MS5.7
BJT Baijiatuau 93.04 315 eP P 09 24 19.7 +1.9
BJT pmax pmax
comp=Z,106nm,1.1s
BJT MLR MLR
comp=Z,3µm,22.0s
BJI Beijing 93.05 315 P P 09 24 19.7 +1.9
BJI SKS 09 34 50.3
BJI pmax pmax
comp=Z,40nm,1.1s,mb5.8
BJI pmax pmax
comp=Z,620nm,10.5s
BJI LR LR
comp=N,2µm,22.0s,MS5.6
BJI LR LR
comp=E,2µm,24.5s,MS5.6
BJI LR LR
comp=Z,2µm,24.5s,MS5.5
HLID Hailey 93.08 40 ⇓P P 09 24 17.6 -0.3
baz=93,SNR=35
HLID Hailey 93.08 40 eP P 09 24 18.0 +0.1
comp=Z,22nm,0.9s,mb5.6
HLID LR LR
comp=Z,2µm,20.0s,MS5.6
Z25A Roswell 93.08 53 ⇑P P 09 24 17.6 -0.6
baz=93,SNR=15
CLNB Carlsbad 93.11 54 eP P 09 24 17.8 -0.6
comp=Z,1.5nm,0.3s,mb4.9
F10A Beach Ranch, E 93.11 37 ⇓P P 09 24 16.7 -1.3
baz=93,SNR=38
J13A Cove Ranch, Pi 93.11 41 ⇓P P 09 24 17.3 -0.8
baz=93,SNR=48
428A Kincaid Ranch, 93.11 56 ⇓P P 09 24 17.3 -1.1
baz=93
P18A Preston Nutter 93.12 45 ⇑P P 09 24 17.7 -0.5
baz=93
K14A Jones Ranch, D 93.14 42 ⇓P P 09 24 17.3 -0.9
baz=93,SNR=22
N16A Rees Ranch, Co 93.15 44 ⇑P P 09 24 17.9 -0.4
baz=93,SNR=6.6
O17A Robinson Place 93.15 45 ⇑P P 09 24 18.0 -0.4
baz=93,SNR=19
BDT Bhumibol Dam 93.18 288 P P 09 24 21.0 +2.0
126A Clayton Basin, 93.22 54 ⇑P P 09 24 18.4 -0.4
baz=93
PV04 Paradox Valley 93.22 47 eP P 09 24 20.7 +2.0
S20A Disappointment 93.24 48 ⇓P P 09 24 18.2 -0.6
baz=93,SNR=8.6
L15A Malad City 93.27 43 ⇓P P 09 24 18.6 -0.2
baz=93,SNR=34
OD2 Odessa Site #2 93.28 36 eP P 09 24 17.8 -1.0
comp=Z,55nm,1.2s,mb5.9
PV01 Paradox Valley 93.28 47 eP P 09 24 19.3 +0.3
comp=Z,732nm,0.8s
T21A Navajo Lake 93.29 49 ⇓P P 09 24 18.5 -0.5
baz=93
Q19A Hogan Spring (93.33 46 ⇑P P 09 24 18.5 -0.7
baz=93,SNR=8.1
328A Wristen Ranch, 93.38 56 ⇑P P 09 24 18.9 -0.7
baz=93
U22A Llaves 93.38 50 ⇑P P 09 24 19.1 -0.4
baz=93,SNR=8.5
J14A Carey 93.44 41 ⇓P P 09 24 19.3 -0.3
baz=93,SNR=54
R20A Redvale 93.44 47 ⇑P P 09 24 19.5 -0.2
baz=93
Y25A Mesa, Roswell 93.46 53 ⇓P P 09 24 19.0 -0.9
baz=93,SNR=28
H12A Diamond D Ranc 93.46 39 ⇓P P 09 24 19.4 -0.2
baz=93,SNR=42
I13A Wildhorse Cree 93.47 40 ⇑P P 09 24 19.7 0.0
baz=93,SNR=18
RC01 Rabbit Creek A 93.47 13 eP P 09 24 19.0 -0.3
comp=Z,40nm,1.2s,mb5.7
V23A Ortiz Mt. (NFS 93.47 50 ⇑P P 09 24 19.4 -0.6
baz=93,SNR=8.7
S21A Coal Bank Pass 93.51 48 ⇑P P 09 24 19.7 -0.4
baz=93,SNR=9.3
HWUT Hardware Ranch 93.51 43 eP P 09 24 21.1 +1.1
comp=Z,9.7nm,0.9s,mb5.2
HWUT LR LR
comp=Z,4µm,20.0s,MS5.9
CPRX Cap Rock 93.54 54 eP P 09 24 22.0 +1.7
comp=Z,26nm,1.0s,mb5.6
N17A Moffit Pass 93.55 44 ⇑P P 09 24 19.9 -0.3
baz=94,SNR=7.6
Z26A Caprock 93.59 54 ⇑P P 09 24 19.8 -0.8
baz=94,SNR=19
K15A Arbon 93.61 42 ⇓P P 09 24 19.9 -0.4
baz=94,SNR=22
B08A Colville Reser 93.63 35 ⇑P P 09 24 19.6 -0.8
baz=94,SNR=10
O18A Roosevelt 93.64 45 ⇑P P 09 24 19.8 -0.8
baz=94
W24A Lazy 6 Ranch, 93.69 51 ⇓P P 09 24 20.2 -0.7
baz=94,SNR=12
127A Arkansas Junct 93.70 54 ⇑P P 09 24 20.1 -0.9
baz=94,SNR=6.4
T22A Edith 93.72 49 ⇑P P 09 24 20.7 -0.3
baz=94
C09A Chrisman Ranch 93.78 35 ⇓P P 09 24 20.6 -0.4
baz=94
U23A El Rito 93.79 50 ⇓P P 09 24 21.2 -0.2
baz=94,SNR=7.2
H13A Challis 93.80 40 ⇓P P 09 24 20.7 -0.5
baz=94,SNR=19
X25A Clemmons Ranch 93.81 52 ⇑P P 09 24 20.0 -1.5
baz=94
CMAR Chiang Mai Arr 93.84 289 P P 09 24 23.1 +1.1
comp=Z,7.6nm,0.9s,mb5.1,baz=140,slow=3.6,SNR=27
CMAR PP PP 09 28 09.2 +1.5
comp=Z,1.6nm,0.4s,baz=121,slow=5.9,SNR=4.9
CMAR Chiang Mai Arr 93.84 289 P P 09 24 23.1 +1.1
CMAR PP PP 09 28 09.2 +1.5
CMAR Chiang Mai Arr 93.84 289 P P 09 24 23.2 +1.2

CMAR 09 28 09.3
CMAR pmax pmax
comp=Z,8.0nm,0.9s
CMAR pmax pmax
comp=Z,2.0nm,0.4s
L16A Fish Haven 93.84 43 ⇑P P 09 24 21.0 -0.5
baz=94,SNR=16
I14A Mackay 93.85 41 ⇓P P 09 24 21.4 0.0
baz=94,SNR=24
CHRT Chiangrai 93.86 291 P P 09 24 23.9 +1.8
P19A Cripple Cowboy 93.91 46 ⇓P P 09 24 21.3 -0.6
baz=94,SNR=6.5
Q20A Ridgley Place, 93.94 47 ⇑P P 09 24 21.0 -1.0
baz=94,SNR=5.7
M17A Scullys Gap (B 93.97 44 ⇓P P 09 24 21.4 -0.6
baz=94
CHTO Chiang Mai 94.01 289 eP P 09 24 24.0 +1.2
comp=Z,20nm,1.2s,mb5.4
CHTO LR LR
comp=Z,1μm,20.0s,MS5.4
CHTO Chiang Mai 94.01 289 eP P 09 24 24.0 +1.2
CHTO pmax pmax
comp=Z,20nm,1.2s,mb5.4
CHTO MLR MLR
comp=Z,1μm,20.0s,MS5.4
F12A Elk City 94.01 38 ⇑P P 09 24 21.3 -0.9
baz=94,SNR=39
TIY Taiyuan 94.04 312 eP P 09 24 22.1 -0.4
TIY SKS 09 34 53.7
TIY S S 09 35 30.3 -3.4
TIY pmax pmax
comp=Z,670nm,12.5s
TIY LR LR
comp=N,830nm,15.9s,MS5.6
TIY LR LR
comp=E,2μm,19.6s,MS5.6
TIY LR LR
comp=Z,2μm,19.3s,MS5.6
PMR Palmer 94.05 13 eP P 09 24 22.5 +0.6
comp=Z,26nm,1.1s,mb5.6
PMR Palmer 94.05 13 eP P 09 24 22.5 +0.6
PMR pmax pmax
comp=Z,27nm,1.1s,mb5.6
Y26A Elida 94.06 53 ⇑P P 09 24 22.0 -0.7
baz=94,SNR=5.2
V24A Rampart Ranch, 94.07 51 ⇑P P 09 24 22.1 -0.6
baz=94,SNR=5.4
R21A Cimarron 94.07 48 ⇑P P 09 24 22.5 -0.1
baz=94,SNR=11
J15A Blackfoot 94.10 41 ⇓P P 09 24 22.4 -0.2
baz=94,SNR=53
WRAK Wrangell Islan 94.12 23 PFAKE 09 24 30.0 +7.6
WRAK LR LR
comp=Z,2μm,20.0s,MS5.6
G13A Cobalt 94.15 39 ⇓P P 09 24 22.3 -0.5
baz=94,SNR=23
Z27A Tatum 94.15 54 ⇑P P 09 24 22.1 -1.1
baz=94
KMI Kunming 94.17 296 P P 09 24 24.3 +0.9
KMI pP pP 09 24 27.3 +2.6
KMI sP sP 09 24 28.4 +3.3
KMI PP PP 09 28 12.9 +2.6
KMI SKS 09 34 57.5
KMI S S 09 35 30.6 -4.9
KMI SS SS 09 41 54.7 -2.0
KMI pmax pmax
comp=Z,15nm,1.0s,mb5.4
KMI LR LR
comp=N,1μm,19.3s,MS5.6
KMI LR LR
comp=E,2μm,19.3s,MS5.6
KMI LR LR
comp=Z,2μm,19.3s,MS5.6
S22A 4UR Ranch, Cre 94.18 49 ⇑P P 09 24 22.6 -0.5
baz=94,SNR=8.9
P20A De Beque 94.20 46 ⇑P P 09 24 22.7 -0.5
baz=94,SNR=9.1
O19A Miners Draw (B 94.21 45 ⇑P P 09 24 23.0 -0.2
baz=94,SNR=6.8
K16A Soda Springs 94.24 42 ⇓P P 09 24 23.0 -0.3
baz=94,SNR=17
N18A Larsen Ranch, 94.27 45 ⇓P P 09 24 23.2 -0.3
baz=94,SNR=6.6
T23A Casias Ranch, 94.30 49 ⇑P P 09 24 22.8 -0.9
baz=94
M18A Lyman 94.30 44 ⇓P P 09 24 23.1 -0.5
baz=94,SNR=6.9
Q21A Lamborn Mesa, 94.33 47 ⇓P P 09 24 23.2 -0.6
baz=94
H14A Leadore 94.33 40 ⇑P P 09 24 23.4 -0.3
baz=94,SNR=34
W25A X Bar L Ranch, 94.33 52 ⇓P P 09 24 23.2 -0.7
baz=94,SNR=9.4
XAN Xi'an 94.34 307 P P 09 24 23.7 -0.3
XAN sP sP 09 24 30.4 +4.7
XAN SKS 09 34 59.3
XAN pmax pmax
comp=Z,170nm,11.7s
XAN LR LR
comp=N,930nm,25.1s,MS5.2
XAN LR LR
comp=E,290nm,24.7s,MS5.2
XAN LR LR
comp=Z,650nm,24.0s,MS5.0
X26A CR and CF Fran 94.41 53 ⇑P P 09 24 23.5 -0.8
baz=94
I15A Monteview 94.44 41 ⇓P P 09 24 24.1 -0.1
baz=94,SNR=20
AHID Auburn Hatcher 94.49 43 eP P 09 24 24.8 +0.3
comp=Z,22nm,0.9s,mb5.6
AHID LR LR
comp=Z,3μm,19.0s,MS5.8
Y27A Causey 94.50 53 ⇑P P 09 24 23.8 -0.9
baz=94,SNR=20
J16A Bone 94.50 42 ⇑P P 09 24 24.1 -0.3
baz=94
N19A John Jarvie Ra 94.53 45 ⇓P P 09 24 24.2 -0.4
baz=94
F13A Darby 94.53 39 ⇑P P 09 24 23.9 -0.6
baz=94,SNR=28
V25A Rancho No Teng 94.57 51 ⇑P P 09 24 24.5 -0.5
baz=94,SNR=9.9
K17A Gardner Place, 94.59 43 ⇓P P 09 24 24.9 0.0
baz=94,SNR=23
L18A Fontenelle, Gr 94.61 44 ⇑P P 09 24 24.5 -0.5
baz=95
O20A White River Ci 94.66 46 ⇑P P 09 24 25.1 -0.2
baz=95
NEW Newport 94.67 36 ⇑P P 09 24 24.7 -0.4
baz=95
NEW Newport 94.67 36 eP P 09 24 25.0 -0.1
comp=Z,5.3nm,1.1s,mb4.9
NEW LR LR
comp=Z,3μm,19.0s,MS5.8
NEW Newport 94.67 36 eP P 09 24 25.0 -0.1
NEW pmax pmax
comp=Z,5.0nm,1.1s
NEW MLR MLR
comp=Z,3μm,19.0s
RRI2 Red Ridge 94.71 42 eP P 09 24 24.5 -0.9
comp=Z,27nm,1.1s,mb5.6
H15A Lima 94.73 40 ⇑P P 09 24 25.7 +0.2
baz=95,SNR=18
W26A Owens Ranch, T 94.74 52 ⇑P P 09 24 24.5 -1.3
baz=95
MCMT McKenzie Canyo 94.75 40 eP P 09 24 25.5 0.0
comp=Z,11nm,1.1s,mb5.2
Q22A Crested Butte, 94.77 48 ⇑P P 09 24 25.4 -0.4
baz=95,SNR=6.5
D12A Red Ives Fores 94.79 37 ⇑P P 09 24 25.1 -0.6
baz=95
P21A Newcastle 94.80 47 ⇑P P 09 24 25.0 -1.0
baz=95
MSTX Muleshoe 94.81 53 ⇓P P 09 24 25.2 -0.9
baz=95,SNR=13
C11A Tepee Creek (N 94.83 36 ⇑P P 09 24 24.9 -0.9
baz=95
SMCO Snowmass 94.91 47 eP P 09 24 27.5 +1.1
comp=Z,12nm,1.0s,mb5.3
I16A Newdale 94.94 41 ⇑P P 09 24 26.6 +0.2
baz=95,SNR=25
DCID1 Drake Creek 94.94 42 eP P 09 24 27.6 +1.1
comp=Z,30nm,1.1s,mb5.6
X27A F and S Farms, 94.96 53 ⇓P P 09 24 26.7 -0.1
baz=95,SNR=9.3
KVTX Kingsville 94.98 61 PFAKE 09 24 40.0 +13
KVTX LR LR
comp=Z,2μm,19.0s,MS5.6
REDW Red Top Meadow 94.99 42 eP P 09 24 26.4 -0.4
comp=Z,32nm,1.1s,mb5.7
TPAW Teton Pass 95.01 42 eP P 09 24 26.6 -0.2
comp=Z,22nm,1.1s,mb5.5
E13A Victor 95.02 38 ⇓P P 09 24 26.8 0.0
baz=95
U25A Circle Dot Ran 95.03 51 ⇓P P 09 24 26.6 -0.5
baz=95,SNR=8.3
K18A Toltan Ranch, 95.04 43 ⇑P P 09 24 26.7 -0.3
baz=95,SNR=21
SDCO Great Sand Dun 95.05 49 ⇑P P 09 24 27.2 +0.1
baz=95
SDCO Great Sand Dun 95.05 49 eP P 09 24 26.9 -0.2
comp=Z,11nm,1.4s,mb5.1
SDCO LR LR
comp=Z,2μm,22.0s,MS5.4
N20A Spence Gulch, 95.05 45 ⇓P P 09 24 26.9 -0.2
baz=95,SNR=10
F14A Wisdom 95.07 39 ⇑P P 09 24 26.7 -0.3
baz=95
J17A Brown Place, J 95.08 42 ⇓P P 09 24 26.5 -0.6
baz=95,SNR=28
JCT Junction City 95.08 58 ⇓P P 09 24 26.6 -0.8
baz=95
JCT Junction City 95.08 58 eP P 09 24 28.7 +1.2
comp=Z,17nm,1.2s,mb5.3
JCT LR LR
comp=Z,3μm,19.0s,MS5.8
JCT Junction City 95.08 58 eP P 09 24 28.7 +1.2
JCT pmax pmax
comp=Z,17nm,1.2s,mb5.3
JCT MLR MLR
comp=Z,3μm,19.0s,MS5.8
SNOW Snow King Moun 95.11 42 eP P 09 24 27.3 0.0
comp=Z,33nm,1.0s,mb5.7
V26A Tetuesquite Ra 95.11 52 ⇑P P 09 24 26.8 -0.6
baz=95
L19A Farson 95.13 44 ⇓P P 09 24 26.5 -0.9
baz=95,SNR=7.5
C12B Naegeli Ranch, 95.15 37 ⇑P P 09 24 26.3 -1.0
baz=95,SNR=5.6
G15A Dillon 95.16 40 ⇑P P 09 24 26.7 -0.7
baz=95,SNR=41
S24A Houchin Ranch, 95.18 49 ⇓P P 09 24 27.0 -0.7
baz=95
W27A Bowe Ranch, En 95.21 52 ⇓P P 09 24 27.3 -0.7
baz=95,SNR=6.0
DLMT Dillon 95.22 40 eP P 09 24 27.5 -0.2
comp=Z,24nm,1.2s,mb5.5
IMW Indian Meadow 95.27 42 eP P 09 24 27.4 -0.6
comp=Z,22nm,1.1s,mb5.5
P22A Eagle 95.28 47 ⇓P P 09 24 27.1 -1.0
baz=95
D13A Huson 95.29 38 ⇑P P 09 24 27.5 -0.5
baz=95
LOHW Long Hollow 95.29 42 eP P 09 24 27.4 -0.7
comp=Z,18nm,1.2s,mb5.4
MOOW Moose Ponds 95.29 42 eP P 09 24 28.4 +0.4
comp=Z,14nm,1.3s,mb5.2
E14A Clinton 95.38 39 ⇑P P 09 24 27.5 -0.9
baz=95
J18A Kendall Valley 95.39 43 ⇑P P 09 24 27.9 -0.6
baz=95,SNR=35
MSO Missoula 95.40 38 ⇑P P 09 24 27.5 -1.0
baz=95
MSO Missoula 95.40 38 PFAKE 09 24 40.0 +12
MSO LR LR
comp=Z,2μm,21.0s,MS5.6
BW06 Boulder Array 95.40 43 ⇓P P 09 24 27.8 -0.8
baz=95,SNR=11
BW06 Boulder Array 95.40 43 PFAKE 09 24 40.0 +11
BW06 LR LR
comp=Z,3μm,20.0s,MS5.8
PDAR Pinedale Array 95.40 43 P P 09 24 27.7 -0.9
comp=Z,5.9nm,1.0s,mb5.0,baz=204,slow=3.3,SNR=23
PDAR PP PP 09 28 23.2 +3.6
comp=Z,1.5nm,1.0s,baz=243,slow=6.5,SNR=4.0
PDAR PKKP PKKPbc 09 41 23.6 +1.8
comp=Z,3.1nm,1.0s,baz=90,slow=4.4,SNR=11
PDAR LR LR 10 02 20.9
comp=Z,3μm,19.0s,MS5.7,baz=238,slow=32
PDAR Pinedale Array 95.40 43 P P 09 24 27.7 -0.9
PDAR PP PP 09 28 23.2 +3.6
PDAR PKKP PKKPbc 09 41 23.6 +1.8
PDAR LR LR 10 02 20.9
T25A Trinidad 95.43 50 ⇑P P 09 24 28.0 -0.9
baz=95,SNR=5.3
N21A Black Mountain 95.47 46 ⇑P P 09 24 27.9 -1.1
baz=95,SNR=6.1
U26A Atchley Ranch, 95.47 51 ⇓P P 09 24 28.2 -0.9
baz=95,SNR=9.7
M20A Sweetwater, Wa 95.48 45 ⇓P P 09 24 28.7 -0.3
baz=95
I17A Pilgrim Ck. 95.49 42 ⇑P P 09 24 28.5 -0.5
baz=95
FLWY Flagg Ranch 95.52 42 eP P 09 24 29.9 +0.8
comp=Z,26nm,1.0s,mb5.6
TRF Thorofare Moun 95.54 12 eP P 09 24 27.7 -1.0
comp=Z,29nm,0.9s,mb5.7
QLMT Earthquake Lak 95.55 41 eP P 09 24 29.1 -0.2
comp=Z,5.0nm,1.1s,mb4.9
F15A Butte 95.57 39 ⇑P P 09 24 28.7 -0.6
baz=96
H16A Russell Place, 95.58 41 ⇓P P 09 24 28.9 -0.5
baz=96,SNR=22
G16A Moss Hill, Enn 95.58 40 ⇑P P 09 24 28.6 -0.7
baz=96,SNR=20
LRM Limekiln Ridge 95.58 39 eP P 09 24 29.7 +0.3
comp=Z,56nm,1.0s,mb6.0
BSMT Bassoo Peak 95.60 37 eP P 09 24 30.2 +0.9
comp=Z,4.2nm,0.9s,mb4.9
YFT Old Faithful 95.66 41 eP P 09 24 33.1 +3.4
comp=Z,15nm,0.9s,mb5.4
L20A Wamsutter 95.69 44 ⇓P P 09 24 29.2 -0.7
baz=96,SNR=10
SEY Seymchan 95.69 347 eP P 09 24 27.9 -1.5
YMR Madison River 95.72 41 eP P 09 24 30.6 +0.6
comp=Z,42nm,1.2s,mb5.7
O22A Kremmling 95.74 47 ⇑P P 09 24 29.7 -0.5
baz=96
H17A Grant Village 95.77 41 ⇓P P 09 24 30.0 -0.2
baz=96,SNR=6.8
D14A Greenough 95.79 38 ⇓P P 09 24 29.5 -0.8
baz=96
I18A Diamond G Ranc 95.80 42 ⇑P P 09 24 29.6 -0.8
baz=96,SNR=8.1
CHMT Chamberlain Mo 95.82 38 eP P 09 24 30.6 +0.2
comp=Z,11nm,1.6s,mb5.0
A12A Yaak River Ran 95.84 36 ⇓P P 09 24 30.0 -0.5
baz=96,SNR=5.5
E15A Deer Lodge 95.85 39 ⇑P P 09 24 29.6 -0.9
baz=96
BOZ Bozeman (W) 95.93 40 ⇓P P 09 24 30.5 -0.5
baz=96,SNR=21
BOZ Bozeman (W) 95.93 40 eP P 09 24 30.5 -0.5
comp=Z,22nm,1.3s,mb5.4
BOZ LR LR
comp=Z,2μm,19.0s,MS5.6
BOZ Bozeman (W) 95.93 40 eP P 09 24 30.5 -0.4
BOZ pmax pmax
comp=Z,22nm,1.3s,mb5.4
BOZ MLR MLR
comp=Z,2μm,19.0s,MS5.6
LKWY Lake 95.98 41 PFAKE 09 24 40.0 +8.8
LKWY LR LR
comp=Z,6μm,19.0s,MS6.1
F16A Kennard Place, 96.02 40 ⇓P P 09 24 31.4 0.0
baz=96
MCK McKinley 96.04 12 eP P 09 24 30.7 -0.3
comp=Z,20nm,1.0s,mb5.5
MCK McKinley 96.04 12 eP P 09 24 30.7 -0.3
MCK pmax pmax
comp=Z,20nm,1.0s,mb5.5
M21A Separation Pea 96.05 45 ⇑P P 09 24 31.6 0.0
baz=96
K20A Yellowstone Ra 96.06 44 ⇓P P 09 24 30.3 -1.3
baz=96,SNR=6.3
AMTX Amarillo 96.07 53 PFAKE 09 24 40.0 +8.2
AMTX LR LR
comp=Z,2μm,19.0s,MS5.6
C14A Swan Lake 96.09 37 ⇓P P 09 24 31.0 -0.6
baz=96
B13A Whitefish 96.09 37 ⇓P P 09 24 31.6 0.0
baz=96
G17A Pierce Place, 96.23 41 ⇑P P 09 24 32.1 -0.2
baz=96
L21A Rawlins 96.25 45 ⇓P P 09 24 32.0 -0.5
baz=96
HHC Hu-ho-hao-te 96.37 314 eP P 09 24 34.3 +1.2
HHC sP sP 09 24 41.2 +6.4
HHC PP PP 09 28 31.4 +4.2
HHC SKS 09 35 09.3
HHC S S 09 35 52.4 -1.5
HHC sS sS 09 36 00.0 +4.0
HHC pmax pmax
comp=Z,13nm,0.7s,mb5.5
HHC pmax pmax
comp=Z,400nm,8.8s
HHC LR LR
comp=N,1μm,19.4s,MS5.7
HHC LR LR
comp=E,2μm,20.6s,MS5.7
HHC LR LR
comp=Z,3μm,20.0s,MS5.8
CD2 Chengdu 96.38 302 P P 09 24 34.3 +0.9
CD2 pP pP 09 24 39.0 +4.4
CD2 sP sP 09 24 41.1 +6.0
CD2 PP PP 09 28 31.9 +4.5
CD2 SKS 09 35 09.4
CD2 S S 09 35 52.8 -1.6
CD2 sS sS 09 36 00.4 +3.9
CD2 SS SS 09 42 31.4 +3.6
CD2 pmax pmax
comp=Z,30nm,0.5s,mb6.0
CD2 pmax pmax
comp=Z,600nm,11.6s
CD2 LR LR
comp=N,1μm,17.8s
CD2 LR LR
comp=Z,2μm,21.4s,MS5.5
MENT Mentasta 96.39 15 eP P 09 24 34.0 +1.4
H18A Shoshone NF, C 96.47 42 ⇑P P 09 24 32.5 -0.9
baz=96,SNR=5.5
I19A Meeteetse 96.48 42 ⇓P P 09 24 32.9 -0.5
baz=96,SNR=9.3
DLBC Dease Lake 96.48 23 LR LR 09 57 40.0
comp=Z,767nm,21.8s,MS5.1,baz=94,slow=29
J20A Shoshoni 96.62 43 ⇓P P 09 24 33.8 -0.3
baz=97
F17A Fitzpatrick Pl 96.63 40 ⇑P P 09 24 33.6 -0.5
baz=97
C15A Salmond Ranch, 96.70 38 ⇓P P 09 24 34.1 -0.3
baz=97
B14A Marquette Ranc 96.71 37 ⇑P P 09 24 34.3 0.0
baz=97
K21A Alcova 96.71 44 ⇑P P 09 24 33.9 -0.6
baz=97,SNR=11
HIA Hailar 96.72 324 PFAKE 09 24 50.0 +16
HIA LR LR
comp=Z,3μm,20.0s,MS5.7
D16A Dana Ranch, Ca 96.81 39 ⇑P P 09 24 34.6 -0.3
baz=97
H19A Powell 96.85 42 ⇓P P 09 24 34.5 -0.7
baz=97,SNR=5.6
L22A Ellis Ranch, M 96.86 45 ⇑P P 09 24 35.0 -0.3
baz=97
G18A Lazy EL Ranch, 96.90 41 ⇓P P 09 24 34.7 -0.7
baz=97,SNR=6.4
TGUH Tegucigalpa,Un 96.91 78 PFAKE 09 24 50.0 +14
TGUH LR LR
comp=Z,3μm,21.0s,MS5.7
I20A Worland 96.94 43 ⇓P P 09 24 35.0 -0.6
baz=97,SNR=8.2
DOT Dot Lake 96.94 14 eP P 09 24 34.1 -1.0
comp=Z,46nm,0.5s,mb6.2
RLMT Red Lodge 96.95 41 ⇑P P 09 24 34.5 -1.2
baz=97,SNR=7.7
RLMT Red Lodge 96.95 41 eP P 09 24 36.6 +1.0
comp=Z,12nm,1.3s,mb5.2
RLMT LR LR
comp=Z,3μm,19.0s,MS5.8
A14A Double T Ranch 97.01 37 ⇓P P 09 24 35.1 -0.7
baz=97,SNR=6.9
B15A Bradely Ranch, 97.05 37 ⇑P P 09 24 36.0 +0.1
baz=97
JTS JuntasAbangare 97.07 82 PFAKE 09 24 50.0 +13
JTS LR LR
comp=Z,2μm,20.0s,MS5.7
F18A Big Timber 97.16 41 ⇓P P 09 24 36.6 +0.1
baz=97
K22A Casper 97.16 45 ⇓P P 09 24 36.0 -0.6
baz=97,SNR=5.8
COLA College 97.28 12 eP P 09 24 34.7 -1.9
comp=Z,16nm,1.0s,mb5.4
COLA LR LR
comp=Z,2μm,20.0s,MS5.7
COLA College 97.28 12 eP P 09 24 34.7 -1.9
COLA pmax pmax
comp=Z,16nm,1.0s,mb5.4
COLA MLR MLR
comp=Z,2μm,20.0s,MS5.7
H20A Greybull 97.32 42 ⇑P P 09 24 37.3 0.0
baz=97
I21A Big Trails, Te 97.35 43 ⇑P P 09 24 36.7 -0.7
baz=97,SNR=6.8
D17A Six Diamond Ra 97.36 39 ⇓P P 09 24 37.6 +0.2
baz=97
L23A Garrett 97.36 45 ⇓P P 09 24 37.1 -0.4
baz=97
ILAR Eielson Array 97.37 13 P P 09 24 35.5 -1.5
comp=Z,6.4nm,0.9s,mb5.0,baz=221,slow=4.7,SNR=33
ILAR PP PP 09 28 34.8 +0.5
comp=Z,3.0nm,1.0s,baz=214,slow=6.8,SNR=5.0
ILAR PKKPbc PKKPbc 09 41 16.8 -0.5
comp=Z,0.8nm,0.8s,baz=332,slow=4.7,SNR=4.5
ILAR PKPPKP 09 49 32.8
comp=Z,0.4nm,1.0s,baz=333,slow=2.8,SNR=4.0
ILAR LR LR 10 08 42.5
comp=Z,1μm,18.1s,MS5.4,baz=7.6,slow=36
ILAR Eielson Array 97.37 13 P P 09 24 35.5 -1.5
ILAR PP PP 09 28 34.8 +0.5
ILAR PKKPbc PKKPbc 09 41 16.8 -0.5
ILAR P'P' 09 49 32.8
ILAR LR LR 10 08 42.5
ILAR Eielson Array 97.37 13 P P 09 24 35.5 -1.5
ILAR 09 28 34.8
ILAR pmax pmax
comp=Z,6.0nm,1.0s
ILAR pmax pmax
comp=Z,3.0nm,1.0s
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR MLR MLR
comp=Z,1μm,18.1s
A15A Johnson Ranch, 97.37 37 ⇑P P 09 24 36.9 -0.4
baz=97
E18A Harlowton 97.44 40 ⇑P P 09 24 37.7 0.0
baz=97
F19A Roth Farm, Mol 97.57 41 ⇑P P 09 24 37.8 -0.6
baz=98
C17A Wharram Farm, 97.60 39 ⇓P P 09 24 38.5 0.0
baz=98,SNR=7.5
J22A Midwest 97.61 44 ⇑P P 09 24 38.0 -0.6
baz=98,SNR=7.0
LPAZ La Paz 97.76 114 P P 09 24 43.3 +3.3
comp=Z,1.6nm,0.8s,mb4.6,baz=250,slow=4.7,SNR=8.4
LPAZ LR LR 10 01 07.6
comp=Z,1μm,20.3s,MS5.3,baz=324,slow=31
LPAZ La Paz 97.76 114 P P 09 24 43.3 +3.3
LPAZ LR LR 10 01 07.6
LPAZ La Paz 97.76 114 P P 09 24 43.3 +3.3
LPAZ pmax pmax
comp=Z,2.0nm,0.8s
OTAV Otavalo 97.78 94 PFAKE 09 24 50.0 +10
OTAV LR LR
comp=Z,2μm,22.0s,MS5.5
B17A L&G Farms, Che 97.98 38 ⇑P P 09 24 40.6 +0.5
baz=98
E19A Rath Farm, Rou 98.01 41 ⇓P P 09 24 40.6 +0.3
baz=98
WMOK Wichita Mounta 98.02 55 PFAKE 09 24 50.0 +9.3
WMOK LR LR
comp=Z,2μm,19.0s,MS5.5
DAWY Dawson 98.35 16 eP P 09 24 42.3 +0.9
EGMT Eagleton 98.38 39 ⇑Pdiff P 09 24 43.3 +1.3
baz=98
EGMT Eagleton 98.38 39 PFAKE 09 24 50.0 +8.0
EGMT LR LR
comp=Z,4μm,19.0s,MS5.9
A17A Triple J Farms 98.42 38 ⇑Pdiff P 09 24 43.6 +1.5
baz=98
BILL Bilibino 98.48 354 PFAKE 09 24 50.0 +8.1
BILL LR LR
comp=Z,3μm,20.0s,MS5.7

BILL Bilibino 98.48 354 ⇑*e*P P 09 24 48.2 +6.3
BILL *e* 09 24 58.1
BILL *e* 09 28 50.1
BILL *e* 09 35 21.4
BILL *i* 09 36 11.2
BILL PS PS 09 37 34.0 -2.2
BILL *e*SS SS 09 42 46.1 -10
BILL pmax pmax
comp=Z,13nm,1.3s,mb5.3
BILL MLR MLR
comp=Z,2μm,19.0s,MS5.7
EGAK Eagle 98.55 15 *e*P P **09 24 42.7 +0.4**
comp=Z,9.0nm,1.1s,mb5.2
EGAK LR LR
comp=Z,3μm,19.0s,MS5.8
B18A Beardsley Farm 98.59 39 ⇑Pdiff P **09 24 44.6 +1.7**
baz=98
C19A Slack Wire Ran 98.60 39 ⇓Pdiff P **09 24 44.4 +1.4**
baz=98
D20A Manuel Ranch, 98.74 40 ⇑Pdiff P **09 24 45.0 +1.4**
baz=99
A18A Metzger Ranch, 98.86 38 ⇑Pdiff P **09 24 45.6 +1.6**
baz=99
LZH Lanzhou 98.95 306 *e*P P **09 24 49.0 +4.2**
LZH pP pP 09 24 53.2 +7.1
LZH sP sP 09 24 55.1 +8.6
LZH SKS 09 35 25.1
LZH S S 09 36 16.5 +0.4
LZH sS sS 09 36 24.5 +6.3
LZH pmax pmax
comp=Z,30nm,1.0s,mb5.8
LZH pmax pmax
comp=Z,230nm,6.2s
LZH LR LR
comp=N,1μm,17.4s,MS5.7
LZH LR LR
comp=E,2μm,18.5s,MS5.7
LZH LR LR
comp=Z,2μm,19.2s,MS5.7
TEIG Tepich 99.02 72 PFAKE 09 25 00.0 +14
TEIG LR LR
comp=Z,721nm,19.0s,MS5.2
OGNE Ogallala 99.04 48 PFAKE 09 25 00.0 +15
OGNE LR LR
comp=Z,3μm,20.0s,MS5.7
C20A Veseth Ranch, 99.17 40 ⇓Pdiff P **09 24 47.4 +1.9**
baz=99
CLNS Chul'man 99.27 332 *e*P P **09 24 43.9 -1.8**
CLNS pmax pmax
comp=Z,16nm,1.3s,mb5.4
CLNS pmax pmax
comp=N,11nm,1.3s
CLNS pmax pmax
comp=E,2.0nm,0.9s
CLNS MLR MLR
comp=Z,3μm,24.0s,MS5.7
CLNS MLR MLR
comp=N,1μm,19.0s,MS5.6
CLNS MLR MLR
comp=E,1μm,17.0s,MS5.6
D21A La Casta Ranch 99.37 41 ⇑Pdiff P **09 24 48.0 +1.6**
baz=99
CBKS Cedar Bluff 99.45 51 PFAKE 09 25 00.0 +13
CBKS LR LR
comp=Z,2μm,19.0s,MS5.7
H24A Dirks Ranch, A 99.51 44 ⇑Pdiff P **09 24 48.4 +1.3**
baz=99
NATX Nacogdoches 99.53 59 PFAKE 09 25 00.0 +12
NATX LR LR
comp=Z,2μm,20.0s,MS5.7
B20A Solberg Farm, 99.57 39 ⇑Pdiff P **09 24 48.5 +1.3**
baz=100
LAO LASA Array 99.59 41 PFAKE 09 25 00.0 +13
LAO LR LR
comp=Z,3μm,20.0s,MS5.8
CPUP Villa Florida 99.77 128 LR LR 10 01 30.4
comp=Z,2μm,21.9s,MS5.5,baz=223,slow=30
A20A Cobblestone Ra 99.87 39 ⇑Pdiff Pdif 09 24 50.6 +1.7
baz=100
B21A Ellsworth Farm 100.12 40 ⇑Pdiff Pdif 09 24 51.4 +1.4
baz=100
A21A Bergtoll Ranch 100.48 39 ⇓Pdiff Pdif 09 24 53.1 +1.4
baz=100
BCIP Isla Barro Col 100.94 86 PFAKE 09 25 10.0 +16
BCIP LR LR
comp=Z,1μm,20.0s,MS5.4
YAK Yakutsk 101.08 337 PFAKE 09 25 00.0 +5.7
YAK LR LR
comp=Z,2μm,22.0s,MS5.7
YAK Yakutsk 101.08 337 *e*P Pdif 09 24 51.7 -2.6
YAK *e* 09 29 01.4
YAK *e*S SKSac 09 35 27.6 -5.5
YAK pmax pmax
comp=Z,16nm,1.0s
YAK pmax pmax
comp=Z,218nm,3.2s
YAK smax
comp=N,329nm,11.4s
YAK smax
comp=E,281nm,15.5s
MIAR Mount Ida 101.67 57 PFAKE 09 25 10.0 +13
MIAR LR LR
comp=Z,2μm,19.0s,MS5.5
KSU1 Kansas State U 101.70 52 PFAKE 09 25 10.0 +13
KSU1 LR LR
comp=Z,2μm,21.0s,MS5.5
DGMT Dagmar 101.71 41 PFAKE 09 25 10.0 +13
DGMT LR LR
comp=Z,2μm,19.0s,MS5.8
VBMS Vicksburg 102.84 60 PFAKE 09 25 10.0 +7.9
VBMS LR LR
comp=Z,2μm,21.0s,MS5.6
ULN Ulaanbaatar 102.86 318 PFAKE 09 25 10.0 +7.8
ULN LR LR
comp=Z,2μm,21.0s,MS5.5
ULN Ulaanbaatar 102.86 318 P Pdif 09 25 05.0 +2.8
SHL Shillong 102.98 292 *ex* x 09 28 20.0
SONM Songino Array 103.23 318 PKKPbc PKKPbc 09 40 59.4 -0.3
comp=Z,1.3nm,0.8s,baz=304,slow=2.9,SNR=6.4
DGAR Diego Garcia 103.55 253 PFAKE 09 25 20.0 +15
DGAR LR LR
comp=Z,4μm,19.0s,MS6.0
ECSD EROS Data Cent 103.92 47 PFAKE 09 25 20.0 +13
ECSD LR LR
comp=Z,2μm,20.0s,MS5.7
CAL Calcutta 104.51 288 *e*PKP Pdif 09 25 10.8 +1.3
CAL ⇑*i*x x 09 29 31.8
CAL *ex* x 09 38 45.4
OXF Oxford 104.70 59 PFAKE 09 25 20.0 +10
OXF LR LR
comp=Z,2μm,20.0s,MS5.7
BRAL Brewton 104.94 63 PFAKE 09 29 40.0 +13
BRAL LR LR
comp=Z,1μm,22.0s,MS5.4
SCIA State Center 105.30 50 PFAKE 09 29 40.0 +13
SCIA LR LR
comp=Z,2μm,19.0s,MS5.7
LSA Lhasa 105.39 296 PFAKE 09 29 40.0 +12
LSA LR LR
comp=Z,2μm,22.0s,MS5.6
PLAL Pickwick Lake 105.90 59 PFAKE 09 29 40.0 +12
PLAL LR LR
comp=Z,2μm,20.0s,MS5.8
FFC Flin Flon 106.09 36 PFAKE 09 29 40.0 +12
FFC LR LR
comp=Z,2μm,19.0s,MS5.7
ZAK Zakamensk 106.25 319 *e*P Pdif 09 25 17.3 0.0
ZAK pmax pmax
comp=Z,2.0nm,1.3s
AGMN Agassiz Nation 106.48 44 PFAKE 09 29 40.0 +11
AGMN LR LR
comp=Z,3μm,19.0s,MS5.8
TLY Talaya 106.64 320 PFAKE 09 29 40.0 +11
TLY LR LR
comp=Z,1μm,20.0s,MS5.4
TLY Talaya 106.64 320 *e*P Pdif 09 25 30.3 +11
TLY *e* 09 35 54.1
TLY *e* 09 48 49.3
TLY pmax pmax
comp=Z,8.0nm,1.1s
TLY MLR MLR
comp=Z,994nm,20.0s,MS5.4
MTDJ Mount Denham 107.12 79 PFAKE 09 29 40.0 +9.0
MTDJ LR LR
comp=Z,3μm,22.0s,MS5.8
ULM Lac du Bonnet 107.33 42 PKKPbc PKKPbc 09 40 46.9 -0.3
comp=Z,8.0nm,1.1s,baz=19,slow=2.6,SNR=3.4
HDIL Hopedale 107.39 53 PFAKE 09 29 40.0 +9.1
HDIL LR LR
comp=Z,1μm,20.0s,MS5.5
JFWS Jewell Farm 107.72 50 PFAKE 09 29 40.0 +8.6
JFWS LR LR
comp=Z,1μm,19.0s,MS5.6
RER Riviere de l'E 107.98 232 PFAKE 09 29 40.0 +7.3
RER LR LR
comp=Z,3μm,19.0s,MS5.8
GOGA Godfrey 108.71 62 PFAKE 09 29 50.0 +16
GOGA LR LR
comp=Z,1μm,20.0s,MS5.5
SDV Santo Domingo 108.79 90 PFAKE 09 29 50.0 +16
SDV LR LR
comp=Z,565nm,21.0s,MS5.1
EYMN Ely 108.97 45 PFAKE 09 29 50.0 +16
EYMN LR LR
comp=Z,2μm,19.0s,MS5.7
GTBY Guantanamo Bay 109.92 78 PFAKE 09 29 50.0 +14
GTBY LR LR
comp=Z,1μm,22.0s,MS5.4
NHSC New Hope 111.12 63 PFAKE 09 29 50.0 +12
NHSC LR LR
comp=Z,1μm,19.0s,MS5.6
ACSO Alum Creek Sta 111.70 55 PFAKE 09 29 50.0 +11
ACSO LR LR
comp=Z,3μm,19.0s,MS5.9
TRIS Tristan da Cun 111.85 167 PFAKE 09 29 50.0 +10
TRIS LR LR
comp=Z,1μm,20.0s,MS5.5
AAM Ann Arbor 111.97 53 PFAKE 09 29 50.0 +11
AAM LR LR
comp=Z,2μm,20.0s,MS5.6
GLMI Grayling 112.21 50 PFAKE 09 29 50.0 +10
GLMI LR LR
comp=Z,2μm,20.0s,MS5.6
BLA Blacksburg 112.47 59 PFAKE 09 29 50.0 +9.5
BLA LR LR
comp=Z,2μm,19.0s,MS5.8
SDDR Presa de Saban 112.78 81 PFAKE 09 29 50.0 +8.3
SDDR LR LR
comp=Z,1μm,21.0s,MS5.5
WMQ Urumqi 113.44 308 PKP PKiKP 09 29 40.7 -1.5
WMQ PP PP 09 30 37.7 +3.9
WMQ PKS 09 33 16.1
WMQ AMB AMB
comp=Z,120nm,10.8s
WMQ LR LR
comp=N,920nm,19.4s,MS5.6
WMQ LR LR
comp=E,1μm,20.8s,MS5.6
WMQ LR LR
comp=Z,2μm,26.3s
CNNC Cliffs of the 113.67 62 PFAKE 09 30 00.0 +17
CNNC LR LR
comp=Z,1μm,19.0s,MS5.5
MCWV Mont Chateau 113.75 57 PFAKE 09 30 00.0 +17
MCWV LR LR
comp=Z,4μm,19.0s,MS6.0
ERPA Erie 114.47 54 PFAKE 09 30 00.0 +16
ERPA LR LR
comp=Z,2μm,19.0s,MS5.7
CBN Corbin 115.08 59 PFAKE 09 30 00.0 +14
CBN LR LR
comp=Z,2μm,19.0s,MS5.8
ABPO Ambohimpanom 115.11 227 PFAKE 09 30 00.0 +14
ABPO LR LR
comp=Z,2μm,19.0s,MS5.8
SUR Sutherland 115.66 197 PFAKE 09 30 00.0 +13
SUR LR LR
comp=Z,3μm,19.0s,MS5.9
NDI New Delhi 116.16 289 *e*PKP PKPdf 09 29 42.0 -5.9
RES Resolute Bay 116.65 17 *e*PKPdf PKPdf 09 29 47.0 -0.5
RES Resolute Bay 116.65 17 *e*PKIKP PKPdf 09 29 47.0 -0.5
SJG San Juan 116.83 84 PFAKE 09 30 00.0 +11
SJG LR LR
comp=Z,776nm,20.0s,MS5.3
BINY Binghamton 117.32 55 PFAKE 09 30 00.0 +10
BINY LR LR
comp=Z,2μm,22.0s,MS5.7
BOSA Boshof 117.90 202 PKP PKPdf 09 29 52.6 +1.2
comp=Z,8.2nm,0.9s,baz=140,slow=3.2,SNR=7.1
BOSA Boshof 117.90 202 PKP PKPdf 09 29 52.6 +1.2
BOSA Boshof 117.90 202 PKIKP PKPdf 09 29 52.6 +1.2
BOSA pmax pmax
comp=Z,8.0nm,0.9s
MK31 Makanchi Array 117.96 310 *i* PKIKP PKPdf 09 29 50.0 -0.8
MK31 pmax pmax
comp=Z,12nm,1.0s
MKAR Makanchi Array 117.96 310 PKP PKPdf 09 29 49.0 -1.7
comp=Z,8.1nm,0.9s,baz=107,slow=1.3,SNR=27
MKAR PKKPbc PKKPbc 09 40 11.1 -0.2
comp=Z,1.0nm,0.8s,baz=283,slow=2.9,SNR=4.8
MKAR Makanchi Array 117.96 310 PKP PKPdf 09 29 49.0 -1.7
MKAR PKKPbc PKKPbc 09 40 11.1 -0.2
MKAR Makanchi Array 117.96 310 PKIKP PKPdf 09 29 49.0 -1.8
MKAR pmax pmax
comp=Z,8.0nm,0.9s
MKAR pmax pmax
comp=Z,1.0nm,0.8s
GRGR Grenville 118.10 92 PFAKE 09 30 00.0 +8.0
GRGR LR LR
comp=Z,1μm,22.0s,MS5.6
ZALV Zalesovo Beam 118.11 318 PKP PKPdf 09 29 50.0 -0.9
comp=Z,4.3nm,0.7s,baz=170,slow=0.9,SNR=7.9
ZALV Zalesovo Beam 118.11 318 PKP PKPdf 09 29 50.0 -0.9
ZALV Zalesovo Beam 118.11 318 PKIKP PKPdf 09 29 50.0 -0.8
ZALV pmax pmax
comp=Z,4.0nm,0.7s
MSEY Mahe Island 118.88 245 PFAKE 09 30 10.0 +16
MSEY LR LR
comp=Z,3μm,19.0s,MS5.9
LONY Lake Ozonia 118.96 53 PFAKE 09 30 00.0 +7.2
LONY LR LR
comp=Z,2μm,20.0s,MS5.6
NCB Newcomb 119.05 54 PFAKE 09 30 00.0 +7.0
NCB LR LR
comp=Z,2μm,20.0s,MS5.7
FDF Fort de France 119.71 90 PFAKE 09 30 10.0 +15
FDF LR LR
comp=Z,1μm,22.0s,MS5.5
BBGH Gun Hill 120.38 92 PFAKE 09 30 10.0 +14
BBGH LR LR
comp=Z,3μm,22.0s,MS5.9
ANWB Willy Bob 120.41 86 PFAKE 09 30 10.0 +14
ANWB LR LR
comp=Z,1μm,20.0s,MS5.5
KSH Kashi 120.54 301 PKP PKPdf 09 29 55.9 -0.1
KSH PKS 09 33 31.2
KSH SKS SKSdf 09 37 03.3 -5.5
KSH AMB AMB
comp=Z,200nm,8.5s
KSH LR LR
comp=N,900nm,18.6s,MS5.7
KSH LR LR
comp=E,1μm,17.6s,MS5.7
KSH LR LR
comp=Z,730nm,15.8s,MS5.4
LBNH Lisbon 120.72 54 PFAKE 09 30 10.0 +14
LBNH LR LR
comp=Z,2μm,19.0s,MS5.7
ULHL Ulahol 121.03 304 P PKPdf 09 29 56.6 -0.2
SNR=23
KURK Kurchatov 121.19 314 PKP PKPdf 09 29 55.1 -1.7
comp=Z,15nm,0.8s,baz=105,slow=2.0,SNR=30
KURK Kurchatov 121.19 314 PKP PKPdf 09 29 55.1 -1.7
KURK LR LR
comp=Z,1μm,22.0s,MS5.5
KURK Kurchatov 121.19 314 PKIKP PKPdf 09 29 55.9 -1.0
KURK pmax pmax
comp=Z,35nm,0.9s
TKM2 Tokmak 2 121.65 304 P PKPdf 09 29 57.1 -0.8
SNR=22
TKM2 Tokmak 2 121.65 304 *e*PKPdf PKPdf 09 29 57.4 -0.6
TKM2 LR LR
comp=Z,1μm,22.0s,MS5.5
TKM2 Tokmak 2 121.65 304 *e*PKIKP PKPdf 09 29 57.4 -0.6
TKM2 MLR MLR
comp=Z,1μm,22.0s,MS5.5
KZA Kyzart 121.71 303 P PKPdf 09 29 57.4 -0.7
SNR=12
KBK Karagaybulak 122.06 304 P PKPdf 09 29 58.0 -0.8
SNR=6.5
CHMS Chumysh 122.27 304 P PKPdf 09 29 59.3 +0.1
SNR=6.6
AAK Ala-Archa 122.38 304 P PKPdf 09 29 58.9 -0.6
SNR=8.2
AAK Ala-Archa 122.38 304 PKP PKPdf 09 29 59.8 +0.4
comp=Z,4.6nm,0.7s,baz=116,slow=3.4,SNR=11
AAK Ala-Archa 122.38 304 PKP PKPdf 09 29 59.8 +0.4
AAK LR LR
comp=Z,1μm,22.0s,MS5.6
AAK Ala-Archa 122.38 304 ⇑*i* PKIKP PKPdf 09 29 58.1 -1.3
USP Ospenovka 122.51 305 P PKPdf 09 29 58.6 -1.1
SNR=14
AML Almayashu 122.85 303 P PKPdf 09 30 00.5 +0.1
SNR=28
EKS2 Erkin-Say 122.90 304 P PKPdf 09 29 59.8 -0.6
SNR=5.8
EKS2 Erkin-Say 122.90 304 *e*PKPdf PKPdf 09 29 59.9 -0.5
EKS2 LR LR
comp=Z,1μm,20.0s,MS5.5
EKS2 Erkin-Say 122.90 304 *e*PKIKP PKPdf 09 29 59.9 -0.5
EKS2 MLR MLR
comp=Z,1μm,20.0s,MS5.5
BBSR BB Station 123.16 69 PFAKE 09 30 10.0 +8.8
BBSR LR LR
comp=Z,2μm,22.0s,MS5.7
KK31 Karatay Array 125.34 304 *i* PKIKP PKPdf 09 30 12.4 +7.3
KK31 pmax pmax
comp=Z,24nm,0.7s
KKAR Karatay Array 125.34 304 *e*PKPdf PKPdf 09 30 04.2 -0.9
KKAR Karatay Array 125.34 304 *e*PKIKP PKPdf 09 30 04.2 -0.9
SCHQ Schefferville 125.51 42 PKP PKPdf 09 30 06.3 +1.3
comp=Z,14nm,0.9s,baz=17,slow=2.4,SNR=6.6
SCHQ Schefferville 125.51 42 PKP PKPdf 09 30 06.3 +1.3
BVA0 Borovoye Array 126.52 316 *i* PKIKP PKPdf 09 30 06.6 -0.4
BVA0 pmax pmax
comp=Z,11nm,1.2s
BVAR Borovoye Array 126.52 316 PKP PKPdf 09 30 06.1 -0.9
comp=Z,16nm,0.9s,baz=159,slow=1.3,SNR=3.8
BVAR Borovoye Array 126.52 316 PKP PKPdf 09 30 06.1 -0.9
BVAR Borovoye Array 126.52 316 PKIKP PKPdf 09 30 06.1 -0.9
BVAR pmax pmax
comp=Z,16nm,0.9s
BRVK Borovoye 126.58 316 *e*PKPdf PKPdf 09 30 06.2 -0.9
BRVK LR LR
comp=Z,3μm,22.0s,MS5.9
BRVK Borovoye 126.58 316 ⇓*i* PKIKP PKPdf 09 30 06.1 -1.0
ZRNK Zerenda 127.35 316 PKIKP PKPdf 09 30 07.7 -0.9
ZRNK pmax pmax
comp=Z,41nm,1.2s
RCBR Riachuelo 128.65 127 PFAKE 09 30 20.0 +7.6
RCBR LR LR
comp=Z,3μm,21.0s,MS5.9
LSZ Lusaka 128.75 212 *e*PKPdf PKPdf 09 30 14.7 +2.2
LSZ LR LR
comp=Z,2μm,20.0s,MS5.8
LSZ Lusaka 128.75 212 *e*PKIKP PKPdf 09 30 14.7 +2.2
LSZ MLR MLR
comp=Z,2μm,20.0s,MS5.8
TSUM Tsumeb 129.06 198 *e*PKPdf PKPdf 09 30 14.0 +1.0
TSUM LR LR
comp=Z,3μm,19.0s,MS6.0
KBS Kingsbay 130.78 358 PFAKE 09 30 30.0 +16
KBS LR LR
comp=Z,1μm,21.0s,MS5.6
SFJD Kangerlussuaq 131.35 25 PFAKE 09 30 30.0 +14
SFJD LR LR
comp=Z,3μm,19.0s,MS6.0
SVE Sverdlovsk 131.94 321 *i* PKIKP PKPdf 09 30 19.4 +2.2
SVE *e*SP SP 09 42 40.2 -12
SVE *e*PS PS 09 42 53.8 +0.1
SVE pmax pmax
comp=Z,33nm,0.9s
SVE MLR MLR
comp=Z,3μm,20.0s,MS6.0
DAG Danmarks Havn 132.05 6 *i* PKIKP PKPdf 09 30 12.5 -4.4
DAG MLR MLR
comp=Z,1μm,20.0s,MS5.7
DAG Danmarks Havn 132.05 6 *i* P PKPdf 09 30 12.5 -4.4
comp=Z,7.9nm,0.9s
DAG
comp=Z,1μm,20.0s
SUMG Summit 132.12 16 *e*PKPdf PKPdf 09 30 18.3 +1.2
SUMG Summit 132.12 16 *e*PKIKP PKPdf 09 30 18.3 +1.2
SUMG Summit 132.12 16 *i* P PKPdf 09 30 18.1 +1.0
comp=Z,18nm,1.0s
AB31 Akbulak array 133.09 311 PKIKP PKPdf 09 30 19.2 -0.4
AB31 pmax pmax
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 133.09 311 PKPdf PKPdf 09 30 19.5 -0.1
ARU Arti 133.14 321 PKPdf PKPdf 09 30 20.4 +0.9
ARU LR LR
comp=Z,2μm,21.0s,MS5.8
ARU Arti 133.14 321 *i* PKIKP PKPdf 09 30 18.5 -1.0
ARU 09 32 44.3
SOKR Solikamsk 133.38 325 *d i* PKIKP PKPdf 09 30 21.7 +1.9
SOKR pmax pmax
comp=Z,40nm,0.9s
SOKR MLR MLR
comp=Z,2μm,21.0s,MS5.9
AKTK Aktyubinsk 134.26 313 PKP PKPpre 09 30 15.4
AKTK PKP PKPdf 09 30 21.9 +0.2
AKTK SKP 09 33 53.7
AKTO Aktyubinsk 134.26 313 PKhKP PKPpre 09 30 15.4
comp=Z,3.4nm,0.8s,baz=27,slow=5.8,SNR=5.8
AKTO PKP PKPdf 09 30 21.9 +0.2
comp=Z,10nm,0.8s,baz=154,slow=2.5,SNR=9.7
AKTO SKP 09 33 53.7
comp=Z,9.1nm,0.9s,baz=218,slow=24,SNR=18
KMBO Kilima Mbogo 134.82 233 PKP PKPdf 09 30 24.0 -0.1
comp=Z,7.3nm,0.9s,baz=359,slow=24,SNR=11
KMBO SKP 09 33 56.8
comp=Z,9.4nm,0.9s,baz=0.2,slow=24,SNR=11
KMBO Kilima Mbogo 134.82 233 PKP PKPdf 09 30 24.0 -0.1
KMBO *e*PKPdf PKPdf 09 30 25.4 +1.3
KMBO SKP 09 33 56.8
KMBO LR LR
comp=Z,2μm,22.0s,MS5.7
KMBO Kilima Mbogo 134.82 233 PKIKP PKPdf 09 30 24.0 0.0
KMBO pmax pmax
comp=Z,7.0nm,0.9s
KMBO pmax pmax
comp=N,9.0nm,0.9s
NRS Narsarsuaq 135.68 31 *i* P PKPdf 09 30 28.3 +4.2
comp=N,15nm,1.0s
SCO Scoresbysund 137.15 12 *i* PKIKP PKPdf 09 30 28.3 +1.7
SCO pmax pmax
comp=Z,15nm,1.0s
LVZ Lovozero 137.62 343 PFAKE 09 30 40.0 +12
LVZ LR LR
comp=Z,2μm,22.0s,MS5.8
KEV Kevo 137.83 348 PFAKE 09 30 40.0 +12
KEV LR LR
comp=Z,2μm,22.0s,MS5.7
KEV Kevo 137.83 348 *e*PKIKP PKPdf 09 30 27.1 -0.8
KEV Kevo 137.83 348 *e*pkp PKPdf 09 30 27.1 -0.8
APA Apatity 138.18 343 ⇑*i* PKIKP PKPdf 09 30 29.0 +0.4
APA pmax pmax
comp=Z,120nm,1.6s
APA MLR MLR
comp=Z,3μm,18.0s,MS6.1
ARCES ARCESS Array B 138.29 348 PKhKP PKPpre 09 30 22.3
comp=Z,16nm,1.0s,baz=18,slow=3.2,SNR=14
ARCES PKP PKPdf 09 30 28.6 -0.2
comp=Z,24nm,0.8s,baz=48,slow=1.8,SNR=13
ARCES ARCESS Array B 138.29 348 PKP PKPpre 09 30 22.3
ARCES PKP PKPdf 09 30 28.6 -0.2
ARCES ARCESS Array B 138.29 348 PKHKP PKPpre 09 30 22.3
ARCES 09 30 28.6
ARCES pmax pmax
comp=Z,16nm,1.0s
ARCES pmax pmax
comp=Z,24nm,0.8s
MBAR Mbarara 139.53 226 PFAKE 09 30 40.0 +7.3
MBAR LR LR
comp=Z,417nm,21.0s,MS5.2
RDF Al-Radifah 141.12 280 *e*P PKPdf 09 30 30.6 -4.5
RDF AMb AMB 09 30 41.1
comp=Z,144nm,1.2s
MIB Mutribah 141.49 281 *e*P PKPdf 09 30 30.9 -4.9
MIB AMb AMB 09 30 47.5
comp=Z,76nm,1.1s
RST Umm Al-Ruwaisa 141.72 281 *e*P PKPdf 09 30 31.4 -4.7
RST AMb AMB 09 30 41.0
comp=Z,18nm,1.0s
MAK Makhachkala 142.14 303 *e*PKIKP PKPdf 09 30 33.3 -3.2
MAK *e* 09 33 39.0
MAK *e*PPP 09 36 48.1

MAK				*e*			09 37 42.2	
MAK				*e*SS	SS		09 52 05.6	-12
MAK				pmax	pmax			
	comp=Z,42nm,0.3s							
JOF	**Joensuu**	**142.24 339**		*e*PKHKP	PKPdf		09 30 30.7	-5.3
JOF	**Joensuu**	**142.24 339**		*e*pkp	PKPdf		09 30 30.7	-5.3
DGRG	**David-gareji**	**143.84 300**		P	PKPdf		09 30 36.7	-2.8
VRHR	**Novokhopersk**	**144.24 317**		*e*PKIKP	PKPdf		09 30 36.7	-3.2
VRHR				pmax	pmax			
	comp=N,20nm,1.0s							
VRHR				pmax	pmax			
	comp=Z,90nm,1.0s							
VRHR				pmax	pmax			
	comp=E,20nm,0.5s							
MTA	**Mtatsminda**	**144.25 301**		P	PKPdf		09 30 38.8	-1.5
TBLG	**Delisi**	**144.29 301**		*e*PKIKP	PKPdf		09 30 38.9	-1.4
TBLG	**Delisi**	**144.29 301**		P	PKPdf		09 30 39.0	-1.3
MOS	**Moscow**	**144.32 326**		*e*PKIKP	PKPdf		09 30 37.5	-2.4
MOS				pmax	pmax			
	comp=Z,250nm,1.1s							
KAF	**Kangasniemi**	**144.34 341**		*e*PKHKP	PKPdf		09 30 35.2	-4.6
KAF	**Kangasniemi**	**144.34 341**		*e*pkp	PKPdf		09 30 35.2	-4.6
GNI	**Garni**	**144.41 298**		*e*PKPdf	PKPdf		09 30 39.3	-1.3
GNI				LR	LR			
	comp=Z,1μm,20.0s,MS5.6							
GNI	**Garni**	**144.41 298**	*c*	*i*PKIKP	PKPdf		09 30 38.5	-2.1
BHD	**Baghdad**	**144.53 286**		*ex*	x		09 30 37.0	
BHD				*ex*	x		09 34 10.0	
GOR	**Gori**	**144.73 301**		P	PKPdf		09 30 40.5	-0.6
ZEI	**Tsey**	**144.79 303**		*i* PKIKP	PKPdf		09 30 39.6	-1.6
ZEI				pmax	pmax			
	comp=Z,121nm,0.9s							
NSS	**Namsos**	**144.93 353**		*e*P	PKPdf		09 30 37.1	-3.6
NSS				AMB	AMB		09 30 40.1	
	comp=Z,206nm,1.2s							
FINES	**FINESS Array B**	**144.94 341**		PKP	PKPdf		09 30 38.6	-2.2
	comp=Z,116nm,0.7s,baz=50,slow=2.9,SNR=91							
FINES	**FINESS Array B**	**144.94 341**		PKP	PKPdf		09 30 38.6	-2.2
FINES	**FINESS Array B**	**144.94 341**		PKIKP	PKPdf		09 30 38.7	-2.1
FINES				pmax	pmax			
	comp=Z,116nm,0.7s							
ONI	**Oni**	**145.14 302**		P	PKPbc		09 30 40.8	-0.5
OBN	**Obninsk**	**145.16 326**		*e*PKPbc	PKPbc		09 30 39.9	-1.1
OBN				LR	LR			
	comp=Z,2μm,20.0s,MS5.9							
OBN	**Obninsk**	**145.16 326**	*c*	*i*PKIKP	PKPdf		09 30 39.5	-1.9
OBN				*i*			09 30 48.8	
OBN				*i*			09 30 54.0	
OBN				*e*SS	SS		09 53 35.1	+44
OBN				pmax	pmax			
	comp=Z,838nm,1.1s							
DYDN	**Diyadin**	**145.25 297**		*i* P	PKPbc		09 30 41.4	-0.3
AKH	**Akhalkalaki**	**145.25 300**		P	PKPbc		09 30 41.5	-0.2
HAKT	**HAKKARI**	**145.30 294**		*i* P	PKPbc		09 30 40.0	-2.0
VOR	**Voronezh**	**145.39 319**		*e*PKP2	PKPab		09 30 39.0	-3.0
VOR				pmax	pmax			
	comp=Z,750nm,1.3s							
DIGO	**Kars**	**145.43 299**		*i* P	PKPdf		09 30 40.5	-1.9
KIV	**Kislovodsk**	**145.48 305**		*e*PKPbc	PKPbc		09 30 42.4	0.0
KIV				LR	LR			
	comp=Z,2μm,20.0s,MS5.8							
KIV	**Kislovodsk**	**145.48 305**		*e*PKP2	PKPab		09 30 41.3	-1.3
KIV				*i*			09 30 42.7	
KIV				*e*			09 33 58.7	
KIV				*e*SS	SS		09 52 48.9	-7.2
KIV				*e*SSS			09 58 15.7	
KIV				pmax	pmax			
	comp=Z,171nm,1.1s							
KIV				MLR	MLR			
	comp=Z,1μm,20.0s,MS5.8							
TVAN	**Van**	**145.52 295**		*i* P	PKPdf		09 30 41.4	-1.2
VSR	**Storozhevoye**	**145.62 319**		*e*PKP2	PKPab		09 30 40.9	-1.9
VSR				pmax	pmax			
	comp=N,210nm,0.9s							
VSR				pmax	pmax			
	comp=E,370nm,0.9s							
VSR				pmax	pmax			
	comp=Z,630nm,0.9s							
TUTA	**Tutak**	**145.94 297**		*i* P	PKPdf		09 30 42.9	-0.3
TATV	**Tatvan**	**146.41 295**		*i* P	PKPdf		09 30 42.9	-1.2
ARTV	**Artvin**	**146.45 300**		*i* P	PKPdf		09 30 40.5	-3.6
DAGI	**Agillar**	**146.47 300**		*i* P	PKPdf		09 30 42.4	-1.7
HOMI	**Horasan**	**146.59 298**		*i* P	PKPdf		09 30 40.0	-4.3
DDEM	**Demirkent**	**146.62 300**		*i* P	PKPdf		09 30 44.4	0.0
DBOC	**Borcka**	**146.63 301**		*i* P	PKPdf		09 30 41.9	-2.4
ERZM	**Erzurum**	**147.01 298**		*i* P	PKPdf		09 30 46.3	+1.3
BEST	**Besiri**	**147.22 294**		*i* P	PKPdf		09 30 47.3	+1.8
MOL	**Molde**	**147.24 356**		*e*P	PKPdf		09 30 44.9	+0.2
BNGL	**BINGOL**	**147.26 296**		*i* P	PKPdf		09 30 45.3	-0.1
KOPT	**Kop Dagi**	**147.66 298**		*i* P	PKPdf		09 30 44.4	-1.8
SOC	**Sochi**	**147.67 305**	*ce*	PKHKP	PKPpre		09 30 40.8	
SOC				*i*			09 30 48.7	
SOC				pmax	pmax			
	comp=Z,197nm,1.0s							
SOC				MLR	MLR			
	comp=Z,1μm,18.0s,MS5.7							
MACK	**Trabzon**	**148.10 300**		*i* P	PKPdf		09 30 48.8	+1.9
DIYA	**Diyarbakir**	**148.13 294**		*i* P	PKPdf		09 30 48.3	+1.3
FOO	**Floro**	**148.33 358**		*e*P	PKPdf		09 30 47.9	+1.4
FOO				AMB	AMB		09 30 50.6	
	comp=Z,139nm,1.1s							
NB2	**NORSAR Subarra1**	**148.41 352**		PKP	PKPdf		09 30 48.2	+1.5
	comp=Z,151nm,1.2s,baz=17,slow=2.6							
NB2	**NORSAR Subarra1**	**148.41 352**		PKP	PKPdf		09 30 48.2	+1.5
	baz=17,slow=2.6							
NOA	**NORSAR Array B**	**148.41 352**		PKP	PKPdf		09 30 46.0	-0.7
	comp=Z,108nm,1.1s,baz=16,slow=4.4,SNR=28							
NOA				PKPbc	PKPbc		09 30 49.2	-0.9
	comp=Z,90nm,1.0s,baz=13,slow=4.5,SNR=51							
NOA	**NORSAR Array B**	**148.41 352**		PKP	PKPdf		09 30 46.0	-0.7
NOA				PKPbc	PKPbc		09 30 49.2	-0.9
NC602	**NORSAR Array S**	**148.67 352**		*e*P	PKPdf		09 30 48.4	+1.3
SUE	**Sulen**	**148.88 358**		*e*P	PKPdf		09 30 49.5	+2.1
SUE				AMB	AMB		09 30 53.2	
	comp=Z,159nm,1.2s							
ANN	**Anapa**	**148.95 308**		*i* PKIKP	PKPdf		09 30 50.9	+2.8
ANN				pmax	pmax			
	comp=Z,302nm,1.1s							
ANN				MLR	MLR			
	comp=N,827nm,22.0s,MS5.8							
ANN				MLR	MLR			
	comp=E,2μm,22.0s,MS5.8							
ANN				MLR	MLR			
	comp=Z,2μm,22.0s,MS5.8							
ELZG	**Elazig**	**148.98 296**		*i* P	PKPdf		09 30 46.3	-2.0
GRSN	**GIRESUNGRSN**	**149.23 301**		*i* P	PKPdf		09 30 48.0	-0.7
IZAR	**Zarasai**	**149.28 334**		*e*P	PKPdf		09 30 52.4	+4.1
IZAR				AMB	AMB		09 30 59.1	
	comp=Z,138nm,1.2s							
KEMA	**Kemaliye**	**149.28 297**		*i* P	PKPdf		09 30 47.3	-1.5
ASK	**Askoy**	**149.44 358**		*e*P	PKPbc		09 30 51.5	-1.2
ISAL	**Salakas**	**149.46 334**		*e*P	PKPbc		09 30 52.8	-0.2
ISAL				AMB	AMB		09 30 59.9	
	comp=Z,100nm,1.1s							
RUND	**Rundenannen**	**149.50 357**		*e*P	PKPbc		09 30 52.1	-0.8
MICGM	**Minsk**	**149.51 331**		*e*P	PKPbc		09 30 52.0	-1.2
BER	**Bergen**	**149.53 357**		*e*P	PKPbc		09 30 52.2	-0.8
MNK	**Minsk**	**149.53 331**		*e*PKIKP	PKPbc		09 30 52.0	-1.2
MNK				pmax	pmax			
	comp=Z,540nm,1.2s							
OSL	**Oslo**	**149.54 352**		*e*P	PKPbc		09 30 52.8	-0.2
IIGN	**Ignalina**	**149.59 333**		*e*P	PKPbc		09 30 53.1	-0.2
IIGN				AMB	AMB		09 31 02.9	
	comp=Z,101nm,1.0s							
NACGM	**Naroch**	**149.69 332**		*e*PKP	PKPdf		09 30 44.0	-4.9
AKCD	**Akcadag**	**149.83 295**		*i* P	PKPdf		09 30 44.9	-4.8
ODD1	**Odda**	**149.94 356**		*e*P	PKPbc		09 30 53.2	-0.8
ODD1				AMB	AMB		09 30 56.2	
	comp=Z,125nm,1.0s							
KONO	**Kongsberg**	**149.95 353**		*e*P	PKPbc		09 30 53.2	-0.9
KONO				AMB	AMB		09 30 55.9	
	comp=Z,130nm,1.2s							
KONO	**Kongsberg**	**149.95 353**		*e*PKPdf	PKPdf		09 30 49.3	+0.1
KONO				*e*PKPbc	PKPbc		09 30 52.9	-1.2
KONO				LR	LR			
	comp=Z,1μm,20.0s,MS5.8							
KONO	**Kongsberg**	**149.95 353**		*e*PKHKP	PKPdf		09 30 49.3	+0.1
KONO				MLR	MLR			
	comp=Z,1μm,20.0s,MS5.8							
GZT	**Gaziantep**	**150.19 294**		*i* P	PKPbc		09 30 54.1	-1.3
SCER	**sogukcermik**	**150.25 299**		*i* P	PKPdf		09 30 52.1	+1.8
ERBA	**Erbaa**	**150.40 300**		*i* P	PKPdf		09 30 46.8	-3.7
KUZU	**Kuzuini**	**150.62 293**		*i* P	PKPdf		09 30 50.2	-0.8
ASF	**Jabal al Asfar**	**150.70 283**		PKPbc	PKPbc		09 30 57.6	+0.8
	comp=Z,97nm,1.0s,baz=340,slow=2.6,SNR=4.6							
ASF	**Jabal al Asfar**	**150.70 283**		PKPbc	PKPbc		09 30 57.6	+0.8
ASF	**Jabal al Asfar**	**150.70 283**		PKIKP	PKPbc		09 30 57.6	+0.8
ASF				pmax	pmax			
	comp=Z,97nm,1.0s							
PINB	**Pinarbasi**	**150.97 296**		*i* P	PKPdf		09 30 52.2	+0.7
RSC	**Scourie**	**151.11 9**		*e*P	PKPbc		09 30 55.7	-1.2
ANDN	**Andirin**	**151.14 294**		*i* P	PKPdf		09 30 50.7	-1.1
SIM	**Simferopol'**	**151.14 310**		*e*PKIKP	PKPbc		09 30 57.8	+0.4
SIM				*e*			09 34 38.0	
SIM				pmax	pmax			
	comp=Z,143nm,0.9s							
COBT	**Iskenderun**	**151.29 292**		*i* P	PKPbc		09 30 56.1	-1.9
RRH	**Rhenigidale**	**151.30 10**		*e*P	PKPbc		09 30 56.2	-1.1
AKASG	**Malin Array Be**	**151.32 324**		PKP	PKPdf		09 30 50.9	-0.7
	comp=Z,15nm,1.1s,baz=60,slow=1.1,SNR=16							
AKASG				PKPbc	PKPbc		09 30 57.4	-0.2
	comp=Z,37nm,0.6s,baz=46,slow=3.0,SNR=34							
AKASG	**Malin Array Be**	**151.32 324**		PKP	PKPdf		09 30 50.9	-0.7
AKASG				PKPbc	PKPbc		09 30 57.4	-0.2
AKASG	**Malin Array Be**	**151.32 324**		PKIKP	PKPdf		09 30 50.9	-0.7
AKASG							09 30 57.4	
AKASG				pmax	pmax			
	comp=Z,15nm,1.1s							
AKASG				pmax	pmax			
	comp=Z,37nm,0.6s							
KIEV	**Kiev**	**151.33 324**		*e*PKPdf	PKPdf		09 30 51.0	-0.7
KIEV				*e*PKPbc	PKPbc		09 30 56.3	-1.3
KIEV				*e*PKPab	PKPab		09 31 05.9	+0.1
KIEV				LR	LR			
	comp=Z,2μm,19.0s,MS5.9							
KIEV	**Kiev**	**151.33 324**		*e*PKIKP	PKPdf		09 30 51.0	-0.6
KIEV				*e*			09 30 56.3	
KIEV				*e*			09 31 05.9	
KIEV				MLR	MLR			
	comp=Z,2μm,19.0s,MS5.9							
YAYL	**Yayladag**	**151.43 291**		*i* P	PKPbc		09 30 57.0	-1.3
SNART	**Snartemo**	**151.46 355**		*e*P	PKPbc		09 30 57.5	-0.2
SNART				AMB	AMB		09 30 59.8	
	comp=Z,122nm,1.2s							
RRR	**Rubha Reidh**	**151.50 10**		*e*P	PKPbc		09 30 56.0	-1.8
HWQ	**Hawqa**	**151.59 287**		*e*P	PKPdf		09 30 48.4	-4.2
BOYT	**Boyabat**	**151.62 303**		*i* P	PKPbc		09 30 55.6	-3.0
MVH1	**Achvaich**	**151.64 8**		*e*P	PKPbc		09 30 56.2	-1.9
SUW	**Suwalki**	**151.76 334**		*e*PKPdf	PKPdf		09 30 46.7	-5.5
SUW				*e*PKPab	PKPab		09 31 07.7	+0.3
SUW	**Suwalki**	**151.76 334**		*e*PKPbc	PKPbc		09 30 58.5	0.0
SUW				*e*PKPab	PKPab		09 31 07.7	+0.3
SUW	**Suwalki**	**151.76 334**		*e*PKIKP	PKPdf		09 30 46.7	-5.5
SUW				*e*			09 31 07.7	
BHL	**Bhannes**	**151.83 287**		*e*P	PKPdf		09 30 49.8	-3.1
CTKT	**Corum**	**151.88 301**		*i* P	PKPbc		09 30 56.6	-2.7
KAC	**Achnashellach**	**151.91 9**		*e*P	PKPbc		09 30 57.1	-1.6
MMAI	**Mount Meron Ar**	**152.01 285**		PKPbc	PKPbc		09 31 00.3	+0.5
	comp=Z,139nm,1.0s,baz=348,slow=7.7,SNR=4.2							
KPL	**Plockton**	**152.02 10**		*e*P	PKPbc		09 30 58.0	-1.0
EIL	**Elat**	**152.07 278**		PKP	PKPdf		09 30 53.8	+0.3
	comp=Z,3.5nm,0.5s,baz=44,slow=14,SNR=5.5							
EIL				PKPbc	PKPbc		09 31 00.3	+0.3
	comp=Z,152nm,1.1s,baz=23,slow=1.9,SNR=40							
EIL	**Elat**	**152.07 278**		PKP	PKPdf		09 30 53.8	+0.3
EIL				PKPbc	PKPbc		09 31 00.3	+0.3
MCD	**Coleburn Disti**	**152.08 7**		*e*P	PKPbc		09 30 57.0	-2.1
MDO	**Dochfour**	**152.09 8**		*e*P	PKPbc		09 30 57.2	-2.0
KSB	**Sheil Bridge**	**152.18 9**		*e*P	PKPbc		09 30 56.6	-2.8
MME1	**Meikle Cairn**	**152.37 7**		*e*P	PKPbc		09 30 57.7	-2.1
CDAG	**Cicekdag**	**152.39 299**		*i* P	PKPdf		09 30 51.7	-1.9
GULE	**Gulek**	**152.41 294**		*i* P	PKPbc		09 31 00.9	+0.4
ELDT	**Eldivan**	**152.92 301**		*i* P	PKPdf		09 30 51.7	-2.7
BRTR	**Keskin Array B**	**152.92 299**		PKP	PKPdf		09 30 54.4	0.0
	comp=Z,3.7nm,0.9s,baz=127,slow=3.3,SNR=9.6							
BRTR				PKPbc	PKPbc		09 31 01.2	-0.4
	comp=Z,44nm,1.1s,baz=124,slow=2.2,SNR=49							
BRTR	**Keskin Array B**	**152.92 299**		PKP	PKPdf		09 30 54.4	0.0
BRTR				PKPbc	PKPbc		09 31 01.2	-0.4
BRTR	**Keskin Array B**	**152.92 299**		PKIKP	PKPdf		09 30 54.4	0.0
BRTR							09 31 01.3	
BRTR				pmax	pmax			
	comp=Z,4.0nm,1.0s							
BRTR				pmax	pmax			
	comp=Z,44nm,1.1s							
MUD	**Monsted U'grnd**	**153.13 352**		*i* PKIKP	PKPbc		09 31 02.3	+0.8
MUD				pmax	pmax			
	comp=Z,36nm,0.9s							
MUD	**Monsted U'grnd**	**153.13 352**		*i* P	PKPbc		09 31 02.3	+0.8
	comp=Z,36nm,0.9s							
PHNC	**Paralimni**	**153.16 289**		P	PKPbc		09 31 03.4	+1.1
	comp=Z,3.7nm,1.0s							
EAB	**Aberfoyle**	**153.32 9**		*e*P	PKPbc		09 30 59.8	-2.1
BBAL	**Bala**	**153.35 299**		*i* P	PKPdf		09 30 49.7	-5.3
EBH	**Black Hill**	**153.36 8**		*e*P	PKPbc		09 31 01.2	-0.8
BSD	**Bornholm Skovb**	**153.39 344**		*i* PKIKP	PKPbc		09 31 02.8	+0.7
BSD				pmax	pmax			
	comp=Z,72nm,1.0s							
KIS	**Kishinev**	**153.59 317**		*e*PKiKP	PKiKP		09 31 03.0	+0.1
KIS				*e*SKP			09 34 20.0	
KIS	**Kishinev**	**153.59 317**		*e*PP	PP		09 34 42.0	-7.4
KIS	**Kishinev**	**153.59 317**		*i* PKIKP	PKPbc		09 31 03.0	+0.2
KIS				*e*			09 31 18.0	
CSS	**Prodhromos**	**153.74 289**		P	PKPbc		09 31 03.7	+0.1
	comp=Z,2.6nm,0.9s							
CSS	**Prodhromos**	**153.74 289**		*e*PKPdf	PKPdf		09 30 56.7	+1.0
CSS				*e*PKPbc	PKPbc		09 31 04.1	+0.5
CSS				*e*PKPab	PKPab		09 31 16.9	+0.5
CSS				LR	LR			
	comp=Z,4μm,21.0s,MS6.2							
LLD	**Lille Linde**	**153.75 348**		*i* P	PKPbc		09 31 02.8	-0.1
	comp=Z,72nm,1.0s							
LLD								
	comp=Z,1μm,24.0s							
EAU	**Auchinoon**	**153.77 8**		*e*P	PKPbc		09 31 02.2	-0.7
MAMC	**Mammari**	**153.82 289**		P	PKPbc		09 31 04.1	+0.4
EBL	**Broad Law**	**153.88 7**		*e*P	PKPbc		09 31 03.5	+0.4
IAS	**Iasi**	**154.22 319**		PKP2	PKPab		09 31 18.6	+0.6
ESK	**Eskdalemuir**	**154.31 8**		PFAKE			09 31 10.0	+14
ESK				LR	LR			
	comp=Z,2μm,20.0s,MS6.0							
KDHN	**Kadinhani**	**154.32 297**		*i* P	PKPdf		09 30 52.2	-4.2
ALFC	**Alevga**	**154.33 289**		P	PKPbc		09 31 04.7	-0.1
	comp=Z,1.7nm,0.9s							
BEL	**Belsk**	**154.36 334**		*e*PKPdf	PKPdf		09 30 53.5	-2.5
BEL				*e*PKPbc	PKPbc		09 31 05.5	+1.2
BEL	**Belsk**	**154.36 334**		*e*PKIKP	PKPdf		09 30 53.5	-2.5
BEL				*e*			09 31 05.5	
GKP	**Gorka Klasztor**	**154.41 340**		*e*PKPdf	PKPdf		09 30 57.8	+1.7
GKP	**Gorka Klasztor**	**154.41 340**		*e*PKIKP	PKPdf		09 30 57.8	+1.8
LVV	**L'vov**	**154.45 327**		*e*PKIKP	PKPbc		09 31 04.2	-0.4
LVV				*e*			09 31 18.7	
ECK	**Cauldkaine Hil**	**154.46 8**		*e*P	PKPbc		09 31 04.7	+0.4
GAL1	**Galloway**	**154.55 10**		*e*P	PKPdf		09 30 56.8	+0.7
PPCY	**Paphos**	**154.55 289**		P	PKPbc		09 31 05.2	-0.1
HENT	**Hendek**	**154.69 303**		*i* P	PKPdf		09 30 53.6	-3.2
CFR	**Carcaliu**	**154.91 314**	⇑	*i*P	PKPab		09 31 14.0	-7.0
TIRR	**Tirgusor**	**155.06 313**		PKP2	PKPab		09 31 23.5	+1.8
TIRR	**Tirgusor**	**155.06 313**	⇓	*i*P	PKPdf		09 30 59.3	+2.1
ESKT	**Eskisehir**	**155.07 300**		*i* P	PKPdf		09 30 54.1	-3.3
XDE	**Dent Fell**	**155.07 9**		*e*P	PKPdf		09 30 58.5	+1.6
TESR		**155.11 318**	⇓	*i*P	PKPdf		09 30 58.7	+1.5
BOLV	**Bolvadin**	**155.17 298**		*i* P	PKPdf		09 30 52.2	-5.4
KWP	**Kalwaria Pacla**	**155.20 328**		*e*PKPdf	PKPdf		09 30 57.5	+0.2
KWP				*e*PKPab	PKPab		09 31 22.1	+0.1
KWP	**Kalwaria Pacla**	**155.20 328**		*e*PKPbc	PKPdf		09 31 06.9	+10
KWP				*e*PKPab	PKPab		09 31 22.1	0.0
KWP				LR	LR			
	comp=Z,2μm,20.0s,MS5.9							
KWP	**Kalwaria Pacla**	**155.20 328**		*e*PKIKP	PKPdf		09 30 57.4	+0.2
KWP				*e*			09 31 22.1	
BURAR	**Bucovina Array**	**155.28 322**	⇓	PKIKP	PKPdf		09 31 07.1	+10
BURAR	**Bucovina Array**	**155.28 322**	⇓	*i*P	PKPdf		09 31 07.1	+10
LIC	**Lamto**	**155.29 161**		*e*PKIKP	PKPdf		09 31 00.4	+1.9
	comp=Z,28nm,1.1s							
LIC				*e*R				
	comp=Z,2μm,20.8s							
LIC	**Lamto**	**155.29 161**		*e*PKPdf	PKPdf		09 31 00.4	+1.9
LIC				LR	LR			
	comp=Z,1μm,20.8s,MS5.7							
VRI	**Vrincioaia**	**155.41 317**		PKP2	PKPab		09 31 23.8	+0.7
VRI	**Vrincioaia**	**155.41 317**	⇓	*i*P	PKPdf		09 31 06.0	+8.3
PLOR	**Plostina**	**155.47 317**	⇓	PKIKP	PKPdf		09 31 03.1	+5.4
PLOR	**Plostina**	**155.47 317**	⇓	*i*P	PKPdf		09 31 03.1	+5.4
PSN	**Preselentsi**	**155.56 311**		*i* P	PKPab		09 31 25.5	+1.7
PSN	**Preselentsi**	**155.56 311**		*i* P	PKPab		09 31 25.5	+1.7
AMRR	**Amara**	**155.68 314**	⇑	*i*P	PKPab		09 31 25.8	+1.5
DBIC	**Dimbokro**	**155.76 161**		PKP	PKPdf		09 31 00.1	+1.0
	comp=Z,15nm,1.1s,baz=96,slow=3.1,SNR=5.2							
DBIC				PKPab	PKPab		09 31 28.3	+2.9
	comp=Z,9.8nm,0.8s,baz=144,slow=3.2,SNR=4.2							
DBIC	**Dimbokro**	**155.76 161**		PKP	PKPdf		09 31 00.1	+1.0
DBIC				PKPab	PKPab		09 31 28.3	+2.9
DBIC	**Dimbokro**	**155.76 161**		PKIKP	PKPdf		09 31 00.1	+1.0
DBIC							09 31 28.3	
DBIC				pmax	pmax			
	comp=Z,15nm,1.1s							
DBIC				pmax	pmax			
	comp=Z,10.0nm,0.9s							
KOLS	**Kolonicke sedl**	**155.90 327**		*e*PKIKP	PKPdf		09 30 59.3	+1.1
KOLS				*e*			09 31 06.8	
KOLS				*e*			09 31 25.5	
KOLS	**Kolonicke sedl**	**155.90 327**		*e*PKP	PKPdf		09 30 59.2	+1.0
KOLS				*e*			09 31 06.8	
KOLS				*e*			09 31 16.4	
KOLS				*e*			09 31 25.5	
KORT	**Korkueli**	**155.95 294**		*i* P	PKPdf		09 30 53.3	-5.4
BUY	**Buyukada**	**155.97 304**		*i* P	PKPdf		09 30 55.1	-3.5
STHS	**Stebnicka Huta**	**156.02 329**		*e*	PKPab		09 31 26.5	+0.9
STHS	**Stebnicka Huta**	**156.02 329**		*e*PKP	PKPab		09 31 26.5	+0.9
OJC	**Ojcow**	**156.02 332**		*e*PKPdf	PKPdf		09 30 59.3	+1.0
OJC				*e*pPKPdf	pPKPdf		09 31 03.2	+3.6
OJC				*e*PP	PP		09 35 03.8	+1.2
OJC	**Ojcow**	**156.02 332**		*e*PKIKP	PKPdf		09 30 59.3	+1.0
OJC				*e*			09 31 03.2	
OJC				*e*			09 35 03.8	
MLR	**Muntele Rosu**	**156.08 317**	⇑	*i*P	PKPdf		09 30 58.8	+0.2
UZH	**Uzhgorod**	**156.10 327**		*i* PKIKP	PKPdf		09 31 04.3	+5.8
UZH				*e*			09 31 20.3	
UZH				*e*			09 35 11.3	
UZH				*e*			09 38 04.3	
UZH				*e*SSS			10 00 42.7	
GDZ	**Gediz**	**156.21 300**		*i* P	PKPdf		09 30 56.6	-2.4
WPM1	**Penmaenmawr**	**156.23 10**		*e*P	PKPdf		09 31 01.2	+2.7
PRD	**Provadia**	**156.28 311**		*e*P	PKPdf		09 30 58.2	-0.7
PRD	**Provadia**	**156.28 311**		*e*P	PKPdf		09 30 58.2	-0.7
CRVS	**Cervenica-Dubn**	**156.29 328**		*e*PKIKP	PKPdf		09 30 59.1	+0.4
CRVS				*e*			09 31 08.8	
CRVS	**Cervenica-Dubn**	**156.29 328**		*e*PKP	PKPdf		09 30 59.1	+0.4
CRVS				*e*			09 31 08.8	
CRVS				*e*			09 31 17.6	
CRVS				*e*			09 31 27.3	
YLL	**Llanberis**	**156.30 10**		*e*P	PKPdf		09 31 03.1	+4.5
TRPA	**Tarpa**	**156.32 326**	⇓	*i*P	PKPdf		09 31 04.1	+5.3
KHAL	**Karahalli**	**156.37 298**		*i* P	PKPdf		09 30 55.1	-4.1
ELBA	**Catalca**	**156.37 305**		*i* P	PKPdf		09 30 55.1	-4.0
NIE	**Niedzica**	**156.42 330**		*e*PKPdf	PKPdf		09 31 01.3	+2.4
NIE				*i*			09 31 23.8	
NIE	**Niedzica**	**156.42 330**		*e*PKIKP	PKPdf		09 31 01.3	+2.4
NIE				*i*			09 31 23.8	
MDB	**Medias**	**156.62 320**		PKP2	PKPab		09 31 30.1	+1.8
VOIR		**156.64 318**	⇑	PKIKP	PKPdf		09 31 00

PSZ MLR MLR
comp=Z,2µm,20.0s,MS6.0
PSZ Piszkesteto 157.72 328 ⇓ *e*PKP PKPab 09 31 33.4 +0.4
PSZ Piszkesteto 157.72 328 ⇓ *i*P PKPdf 09 31 01.8 +1.2
VYHS Vyhne 157.76 331 *e*PKIKP PKPdf 09 31 02.5 +1.9
VYHS *e* 09 31 08.8
VYHS *e* 09 31 19.3
VYHS Vyhne 157.76 331 *e*PKP PKPdf 09 31 02.5 +1.9
VYHS *e* 09 31 08.8
VYHS *e* 09 31 19.3
VYHS *e* 09 31 33.7
VYHS *e* 09 41 09.0
WTSB Winterswijk 157.81 353 *e*PKP PKPab 09 31 34.1 +0.9
comp=Z,6ßnm,1.1s
KOLL Kolacno 157.87 332 *e*PKP2 PKPab 09 31 20.3 -13
KOLL Kolacno 157.87 332 *e* PKPab 09 31 20.3 -13
KOLL Kolacno 157.87 332 *e*PKP PKPab 09 31 34.0 +0.4
HGH Gray Hill 157.96 9 *e*P PKPdf 09 31 07.7 +6.9
VRAC Vranov 157.99 335 PKP2 PKPab 09 31 34.2 +0.2
PRA Prague 158.05 339 PKPAB PKPab 09 31 35.0 +0.7
PRU Pruhonice 158.09 339 *e*PKP2 PKPab 09 31 35.2 +0.7
PRU *e* 09 55 07.6
PRU MLR MLR
comp=Z,2µm,21.2s,MS5.9
PRU Pruhonice 158.09 339 *e*PKPAB PKPab 09 31 35.2 +0.7
PRU *ex* x 09 45 39.7
PRU *es*SS SS 09 55 07.6 -5.7
PRU AMS AMS 10 49 40.0
comp=Z,2µm,21.2s
GCAM G?zelcaml? 158.25 297 *i* P PKPdf 09 30 55.1 -6.5
SMOL Smolenice 158.32 333 *e*PKP2 PKPab 09 31 36.5 +1.0
SMOL Smolenice 158.32 333 *e*PKP PKPab 09 31 36.5 +1.0
TREC Trest 158.39 337 *e*PKP2 PKPab 09 31 35.9 +0.1
TREC MLR MLR
comp=Z,2µm,22.5s,MS6.0
TREC Trest 158.39 337 *e*PKPAB PKPab 09 31 35.9 +0.1
TREC AMS AMS 10 42 40.0
comp=Z,2µm,22.5s
BUD Budapest 158.44 329 ⇓ *e*PKP PKPab 09 31 36.1 0.0
NKC Novy Kostel 158.47 343 *e*PKP2 PKPab 09 31 35.8 -0.3
NKC MLR MLR
comp=Z,2µm,18.8s,MS5.9
NKC Novy Kostel 158.47 343 *e*PKPAB PKPab 09 31 35.8 -0.3
NKC *ex* x 09 45 43.8
NKC AMS AMS 10 41 50.0
comp=Z,2µm,18.8s
BOZC Bozcaada 158.52 304 *i* P PKPdf 09 30 51.3 -11
PLD Plovdiv 158.55 310 *i* P PKPab 09 31 35.3 -1.5
PLD Plovdiv 158.55 310 *i* P PKPab 09 31 35.3 -1.5
MPEP Malo Peshtene 158.55 314 *e*P PKPdf 09 31 00.0 -1.7
MPEP Malo Peshtene 158.55 314 *e*P PKPdf 09 31 00.0 -1.7
URLA Izmir 158.57 299 *i* P PKPdf 09 30 53.3 -8.6
PGB Panagyurishte 158.69 312 *i* P PKPab 09 31 38.5 +1.1
PGB Panagyurishte 158.69 312 *i* P PKPab 09 31 38.5 +1.1
ZST Bratislava 158.70 333 *e*PKIKP PKPdf 09 31 02.1 +0.3
ZST *e* 09 31 37.9
ZST Bratislava 158.70 333 *e*PKP PKPdf 09 31 02.1 +0.3
ZST *e* 09 31 37.9
RZN Rozhen 158.73 309 *i* P PKPab 09 31 37.5 -0.1
RZN Rozhen 158.73 309 *i* P PKPab 09 31 37.5 -0.1
BEBN Eben Emael 159.07 355 PKPab PKPab 09 31 39.3 +0.7
HGN Heimansgroeve 159.08 354 *e*PKP PKPab 09 31 38.5 -0.2
comp=Z,5ßnm,1.8s
KHC Kasperske Hory 159.15 340 *e*PKPdf PKPdf 09 31 01.5 -0.8
KHC *e*PKPab PKPab 09 31 38.4 -0.7
KHC Kasperske Hory 159.15 340 *e*PKIKP PKPdf 09 31 01.5 -0.8
KHC *e* 09 31 38.4
KHC Kasperske Hory 159.15 340 *e*PKPDF PKPdf 09 31 01.5 -0.8
KHC *e*PKPAB PKPab 09 31 38.7 -0.3
KHC *es*PKP 09 31 50.0
KHC *ex* x 09 45 41.4
KHC AMS AMS 09 47 30.0
comp=Z,3µm,20.8s
KHC *ex* x 09 55 13.3
MEM Membach 159.23 354 PKPab PKPab 09 31 40.3 +1.0
GRFO Grafenberg 159.27 344 *e*PKPab PKPab 09 31 40.1 +0.5
GRFO Grafenberg 159.27 344 *e*PKP2 PKPab 09 31 40.1 +0.6
VTS Vitosha 159.28 313 ⇓ PKP2 PKPab 09 31 24.6 -15
VTS Vitosha 159.28 313 ⇓ *i*P PKPab 09 31 24.5 -15
VTS Vitosha 159.28 313 *i* P PKPab 09 31 41.2 +1.3
VTS Vitosha 159.28 313 *i* P PKPab 09 31 41.2 +1.3
SOP Sopron 159.33 333 ⇓ *e*PKP PKPab 09 31 40.4 +0.5
GERES GERESS Array B 159.36 339 PKP PKPdf 09 31 02.1 -0.4
comp=Z,5.0nm,1.0s,baz=90,slow=1.3,SNR=20
GERES PKPab PKPab 09 31 40.3 +0.3
comp=Z,30nm,1.0s,baz=46,slow=3.9,SNR=28
GERES GERESS Array B 159.36 339 PKP PKPdf 09 31 02.1 -0.4
GERES PKPab PKPab 09 31 40.3 +0.3
GERES GERESS Array B 159.36 339 PKIKP PKPdf 09 31 02.1 -0.4
GERES 09 31 40.3
GERES pmax pmax
comp=Z,5.0nm,1.0s
GERES pmax pmax
comp=Z,31nm,1.0s
CONA Conrad Observa 159.40 334 ⇑ *i*PKPdf PKPdf 09 31 02.8 +0.2
comp=Z,16nm,1.3s
CONA ⇓ *i*PKPab PKPab 09 31 40.3 +0.1
comp=Z,86nm,1.1s,SNR=12
MMB Musomiste 159.43 310 *i* P PKPab 09 31 40.8 +0.2
MMB Musomiste 159.43 310 *i* P PKPab 09 31 40.8 +0.2
SNF Seneffe 159.45 357 PKPab PKPab 09 31 40.1 -0.2
BCLA Clavier 159.48 355 PKPab PKPab 09 31 39.3 -1.1
KKB Krupnik 159.72 311 *i* P PKPab 09 31 40.8 -1.1
KKB Krupnik 159.72 311 *i* P PKPab 09 31 40.8 -1.1
ABH Alteburg 159.77 351 PKP PKPdf 09 31 03.5 +0.6
GIVF Givet 159.82 356 *e*PKIKP PKPdf 09 31 02.6 -0.4
comp=Z,52nm,1.2s
GIVF Givet 159.82 356 *e*PKPdf PKPdf 09 31 02.6 -0.4
GIVF Givet 159.82 356 *e*PKIKP PKPdf 09 31 02.6 -0.4
DOU Dourbes 159.84 356 E PKPab 09 31 40.3 -1.7
TOD Tromm 159.85 348 PKP PKPdf 09 31 03.1 +0.1
TOD Tromm 159.85 348 PKIKP PKPdf 09 31 03.1 +0.1
BAIF Baives 159.90 357 *e*PKIKP PKPdf 09 31 02.8 -0.3
comp=Z,22nm,0.9s
BAIF Baives 159.90 357 *e*PKPdf PKPdf 09 31 02.8 -0.3
BAIF Baives 159.90 357 *e*PKIKP PKPdf 09 31 02.8 -0.3
RUP Ruppelstein 160.01 352 PKP PKPdf 09 31 03.3 +0.1
RUP Ruppelstein 160.01 352 PKIKP PKPdf 09 31 03.3 +0.1
MOA Molln 160.04 337 ⇑ *i*PKPdf PKPdf 09 31 03.0 -0.3
comp=Z,8.3nm,1.3s
MOA ⇓ *i*PKPab PKPab 09 31 42.7 -0.3
comp=Z,65nm,1.2s
ARSA Arzberg 160.09 334 ⇓ *i*PKPdf PKPdf 09 31 02.0 -1.4
comp=Z,13nm,0.9s
ARSA ⇓ *i*PKPab PKPab 09 31 43.3 +0.1
comp=Z,25nm,1.1s
WLF Walferdange 160.15 353 PKPab PKPab 09 31 44.2 +0.8
WLF Walferdange 160.15 353 PFAKE 09 31 10.0 +6.6
WLF LR LR
comp=Z,2µm,19.0s
VAY Valandovo 160.32 311 *e*PKP PKPab 09 31 42.6 -2.0
LANF Langenberg 160.62 350 PKP PKPdf 09 31 05.5 +1.6
LANF Langenberg 160.62 350 PKIKP PKPdf 09 31 05.5 +1.6
LANF Langenberg 160.62 350 PKP PKPdf 09 31 05.5 +1.6
SKO Skopje 160.72 313 *e*PKP PKPab 09 31 47.2 +1.0
SOKA Soboth 160.75 334 ⇑ *i*PKPdf PKPdf 09 31 04.0 -0.2
comp=Z,17nm,1.3s
SOKA ⇑ *i*PKPab PKPab 09 31 45.0 -1.1
comp=Z,88nm,1.5s
PERS Pernice 160.76 333 *i* PKPab PKPab 09 31 45.8 -0.4
KBA Koelnbreinsper 161.03 337 ⇓ *i*PKPdf PKPdf 09 31 04.0 -0.4
comp=Z,8.7nm,1.1s
KBA ⇓ *i*PKPab PKPab 09 31 48.1 +0.8
comp=Z,74nm,1.4s
FLN La Foliniere 161.07 7 *e*PKIKP PKPab 09 31 04.0 -0.4
comp=Z,75nm,1.2s
FLN *e*R
comp=Z,3µm,22.5s
FLN La Foliniere 161.07 7 *e*PKPdf PKPdf 09 31 04.0 -0.4
FLN LR LR
comp=Z,3µm,22.5s
FLN La Foliniere 161.07 7 *e*PKIKP PKPdf 09 31 04.0 -0.4
FLN MLR MLR
comp=Z,3µm,22.5s
ROSF Rostrenen 161.09 12 *e*PKIKP PKPdf 09 31 03.9 -0.6
comp=Z,48nm,1.2s
ROSF Rostrenen 161.09 12 *e*PKPdf PKPdf 09 31 03.9 -0.6
ROSF Rostrenen 161.09 12 *e*PKIKP PKPdf 09 31 03.9 -0.6
BFO Black Forest 161.16 348 PFAKE 09 31 20.0 +15
BFO LR LR
comp=Z,2µm,19.0s
KRUS Krusevo 161.16 312 *e*PKP PKPab 09 31 51.1 +2.9
CDF Champ du Feu 161.25 350 *e*PKIKP PKPdf 09 31 03.9 -0.7
CDF Champ du Feu 161.25 350 *e*PKIKP PKPdf 09 31 03.9 -0.7
LDF La Druitiere 161.27 6 *e*PKIKP PKPdf 09 31 04.0 -0.6
LDF La Druitiere 161.27 6 *e*PKPdf PKPdf 09 31 04.0 -0.6
LDF La Druitiere 161.27 6 *e*PKIKP PKPdf 09 31 04.0 -0.6
PAGF Fort de Pagny 161.29 354 *e*PKIKP PKPdf 09 31 04.5 -0.2
SGMF Saint Gilles 161.29 11 *e*PKIKP PKPdf 09 31 04.1 -0.6
comp=Z,68nm,1.2s
SGMF Saint Gilles 161.29 11 *e*PKPdf PKPdf 09 31 04.1 -0.6
SGMF Saint Gilles 161.29 11 *e*PKIKP PKPdf 09 31 04.1 -0.6
SPAK Spaichingen-Ko 161.29 347 PKP PKPdf 09 31 05.5 +0.8
MYKA Terra Mystica 161.31 336 ⇑ *i*PKPdf PKPdf 09 31 05.6 +0.8
comp=Z,8.7nm,0.9s
MYKA ⇑ *i*PKPab PKPab 09 31 47.3 -1.2
comp=Z,51nm,1.0s
WATA Walderalm 161.35 341 ⇓ *i*PKPab PKPab 09 31 48.9 +0.2
comp=Z,84nm,1.1s
WTTA Wattenberg 161.40 341 ⇑ *i*PKPdf PKPdf 09 31 05.0 +0.2
comp=Z,25nm,1.8s
WTTA ⇑ *i*PKPab PKPab 09 31 48.9 0.0
comp=Z,114nm,1.0s
GRR Gorron 161.40 7 *e*PKIKP PKPdf 09 31 05.5 +0.7
comp=Z,58nm,1.1s
GRR Gorron 161.40 7 *e*PKPdf PKPdf 09 31 05.5 +0.7
GRR Gorron 161.40 7 *e*PKIKP PKPdf 09 31 05.5 +0.7
MEZF Maizieres J'vi 161.40 355 *e*PKIKP PKPdf 09 31 04.8 0.0
comp=Z,74nm,1.1s
MEZF Maizieres J'vi 161.40 355 *e*PKPdf PKPdf 09 31 04.8 0.0
RETA Reutte 161.43 343 ⇓ *i*PKPab PKPab 09 31 49.0 0.0
comp=Z,104nm,1.3s,SNR=15
ECH Echery 161.46 351 PKP PKPdf 09 31 04.6 -0.2
ECH LR LR
comp=Z,2µm,19.0s
ECH Echery 161.46 351 PKIKP PKPdf 09 31 04.6 -0.2
ECH MLR MLR
comp=Z,2µm,19.0s
ECH Echery 161.46 351 PKP PKPdf 09 31 04.6 -0.2
MOTA Moosalm 161.47 342 ⇓ *i*PKPdf PKPdf 09 31 05.0 +0.1
comp=Z,21nm,1.0s
MOTA ⇑ *i*PKPab PKPab 09 31 49.7 +0.4
comp=Z,92nm,1.1s,SNR=11
LJU Ljubljana 161.48 333 *i* PKPab PKPab 09 31 49.4 +0.1
QUIF Quistinic 161.51 13 *e*PKIKP PKPdf 09 31 04.5 -0.4
comp=Z,34nm,1.1s
QUIF Quistinic 161.51 13 *e*PKPdf PKPdf 09 31 04.5 -0.4
QUIF Quistinic 161.51 13 *e*PKIKP PKPdf 09 31 04.5 -0.4
ABTA Abfaltersbach 161.59 338 ⇑ *i*PKPdf PKPdf 09 31 06.2 +1.2
comp=Z,15nm,1.0s
ABTA ⇑ *i*PKPab PKPab 09 31 48.6 -1.2
comp=Z,100nm,1.1s,SNR=13
THEF They Montfort 161.59 353 PKP PKPdf 09 31 04.2 -0.8
THEF They Montfort 161.59 353 PKIKP PKPdf 09 31 04.2 -0.8
THEF They Montfort 161.59 353 PKP PKPdf 09 31 04.2 -0.8
BOJS Bojanci 161.62 331 *i* PKPab PKPab 09 31 50.1 +0.1
FELD Feldberg im Sc 161.66 349 PKP PKPdf 09 31 04.8 -0.3
SFTF Sexfontaines 161.70 355 *e*PKIKP PKPdf 09 31 04.9 -0.2
comp=Z,118nm,1.2s
SFTF Sexfontaines 161.70 355 *e*PKPdf PKPdf 09 31 04.9 -0.2
VOY Vojsko 161.73 334 *e*PKPdf PKPdf 09 31 04.2 -1.0
VOY *e*PKPab PKPab 09 31 49.2 -1.2
VOY *e* 09 32 00.3
HAU Haudompre 161.77 352 *e*PKIKP PKPdf 09 31 04.7 -0.5
HAU *e*R
comp=Z,2µm,20.5s
HAU Haudompre 161.77 352 *e*PKPdf PKPdf 09 31 04.7 -0.5
HAU LR LR
comp=Z,2µm,20.5s
HAU Haudompre 161.77 352 *e*PKIKP PKPdf 09 31 04.7 -0.5
HAU MLR MLR
comp=Z,2µm,20.5s
JAVS Javornik 161.78 334 *i* PKPab PKPab 09 31 49.9 -0.7
MOF Molkenrain 161.82 350 PKP PKPdf 09 31 04.2 -1.0
MOF Molkenrain 161.82 350 PKIKP PKPdf 09 31 04.2 -1.0
MOF Molkenrain 161.82 350 PKP PKPdf 09 31 04.2 -1.0
DAVA Damuels 161.84 344 ⇑ *i*PKPdf PKPdf 09 31 03.7 -1.5
comp=Z,18nm,1.3s
DAVA ⇓ *i*PKPab PKPab 09 31 50.6 -0.2
comp=Z,45nm,1.0s
FETA Feichten 161.87 342 ⇑ *i*PKPdf PKPdf 09 31 04.6 -0.7
comp=Z,21nm,1.1s
FETA ⇓ *i*PKPab PKPab 09 31 51.7 +0.7
comp=Z,48nm,1.1s,SNR=5.5
HINF Hinteralfeld 161.89 351 *e*PKIKP PKPdf 09 31 04.7 -0.6
comp=Z,32nm,1.1s
HINF Hinteralfeld 161.89 351 *e*PKPdf PKPdf 09 31 04.7 -0.6
HINF Hinteralfeld 161.89 351 *e*PKIKP PKPdf 09 31 04.7 -0.6
TIR Tirane 162.05 314 PFAKE 09 31 20.0 +14
TIR LR LR
comp=Z,3µm,21.0s
BBS Basel-Blauen 162.14 349 PKP PKPdf 09 31 04.2 -1.4
BBS Basel-Blauen 162.14 349 PKIKP PKPdf 09 31 04.2 -1.4
LOMF Lomont 162.35 351 PKP PKPdf 09 31 06.8 +1.0
LOMF Lomont 162.35 351 PKIKP PKPdf 09 31 06.8 +1.0
LOMF Lomont 162.35 351 PKP PKPdf 09 31 06.8 +1.0
LOR Lormes 162.70 357 *e*PKIKP PKPdf 09 31 06.0 -0.1
comp=Z,59nm,1.3s
LOR *e*R
comp=Z,4µm,21.0s
LOR Lormes 162.70 357 *e*PKPdf PKPdf 09 31 06.0 -0.1
LOR LR LR
comp=Z,4µm,21.0s
LOR Lormes 162.70 357 *e*PKIKP PKPdf 09 31 06.0 -0.1
LOR MLR MLR
comp=Z,4µm,21.0s
TUE Stuetta 162.73 344 *e*PKPdf PKPdf 09 31 06.2 0.0
TUE *e*PKPab PKPab 09 31 55.1 +0.4
TUE LR LR
comp=Z,3µm,20.0s
SSF Saint Saulge 162.92 358 *e*PKIKP PKPdf 09 31 06.2 -0.2
comp=Z,50nh,1.2s
SSF Saint Saulge 162.92 358 *e*PKPdf PKPdf 09 31 06.2 -0.2
SSF Saint Saulge 162.92 358 *e*PKIKP PKPdf 09 31 06.2 -0.2
CABF La Chapelle 163.17 352 ⇑ *i*PKIKP PKPdf 09 31 06.9 +0.3
comp=Z,88nm,1.2s
CABF La Chapelle 163.17 352 ⇑ *i*PKPdf PKPdf 09 31 06.9 +0.3
CABF La Chapelle 163.17 352 ⇑ *i*PKPdf PKPdf 09 31 06.9 +0.3
AVF Avril sur Loir 163.19 358 *e*PKIKP PKPdf 09 31 06.1 -0.5
comp=Z,42nm,1.4s
AVF Avril sur Loir 163.19 358 *e*PKPdf PKPdf 09 31 06.1 -0.5
AVF Avril sur Loir 163.19 358 *e*PKIKP PKPdf 09 31 06.1 -0.5
TORD Torodi Ar. Bea 163.24 177 PKP PKPdf 09 31 07.0 -0.6
comp=Z,16nm,1.1s,baz=318,slow=0.4,SNR=40
TORD PKPab PKPab 09 31 59.3 +1.6
comp=Z,10nm,0.8s,baz=180,slow=3.8,SNR=7.6
TORD Torodi Ar. Bea 163.24 177 PKP PKPdf 09 31 07.0 -0.6
TORD PKPab PKPab 09 31 59.3 +1.6
MFF Saint Martin d 163.24 7 *e*PKIKP PKPdf 09 31 06.5 -0.2
comp=Z,58nm,1.3s
MFF Saint Martin d 163.24 7 *e*PKPdf PKPdf 09 31 06.5 -0.2
MFF Saint Martin d 163.24 7 *e*PKIKP PKPdf 09 31 06.5 -0.2
SMF Signal de Mont 163.32 357 *e*PKIKP PKPdf 09 31 06.4 -0.4
comp=Z,80nh,1.5s
SMF Signal de Mont 163.32 357 *e*PKPdf PKPdf 09 31 06.4 -0.4
SMF Signal de Mont 163.32 357 *e*PKIKP PKPdf 09 31 06.4 -0.4
BGF Bois d'Agland 163.43 360 *e*PKIKP PKPdf 09 31 07.0 +0.1
BGF Bois d'Agland 163.43 360 *e*PKPdf PKPdf 09 31 07.0 +0.1
BGF Bois d'Agland 163.43 360 *e*PKIKP PKPdf 09 31 07.0 +0.1
TCF Toulx Ste Croi 163.70 1 *e*PKIKP PKPdf 09 31 07.0 -0.1
comp=Z,47nm,1.3s
TCF Toulx Ste Croi 163.70 1 *e*PKPdf PKPdf 09 31 07.0 -0.1
TCF Toulx Ste Croi 163.70 1 *e*PKIKP PKPdf 09 31 07.0 -0.1
PLDF La Plantade 164.01 358 PKP PKPdf 09 31 07.4 0.0
PLDF La Plantade 164.01 358 PKIKP PKPdf 09 31 07.4 0.0
PLDF La Plantade 164.01 358 PKP PKPdf 09 31 07.4 0.0
LPL La Plagne 164.16 350 *e*PKIKP PKPdf 09 31 07.8 +0.2
LPL La Plagne 164.16 350 *e*PKPdf PKPdf 09 31 07.8 +0.2
LPL La Plagne 164.16 350 *e*PKIKP PKPdf 09 31 07.8 +0.2
LPG La Plagne 164.17 350 *e*PKIKP PKPdf 09 31 08.0 +0.4
LPG La Plagne 164.17 350 *e*PKPdf PKPdf 09 31 08.0 +0.4
LPG La Plagne 164.17 350 *e*PKIKP PKPdf 09 31 08.0 +0.4
PYM Petit Puy Mans 164.24 359 PKP PKPdf 09 31 07.8 +0.2
PYM Petit Puy Mans 164.24 359 PKIKP PKPdf 09 31 07.8 +0.2
PYM Petit Puy Mans 164.24 359 PKP PKPdf 09 31 07.8 +0.2
EPON Pontenova 164.51 28 PKP PKPdf 09 31 10.3 +2.4
VLC Villacollemand 164.58 339 PFAKE 09 31 20.0 +12
VLC LR LR
comp=Z,3µm,22.0s
SSB Saint Sauveur 164.65 355 PFAKE 09 31 20.0 +12
SSB LR LR
comp=Z,2µm,21.0s
RJF Les Rejaudoux 164.66 3 *e*PKIKP PKPdf 09 31 08.1 +0.1
comp=Z,74nm,1.3s
RJF *e*R
comp=Z,3µm,21.0s
RJF Les Rejaudoux 164.66 3 *e*PKPdf PKPdf 09 31 08.1 +0.1
RJF LR LR
comp=Z,3µm,21.0s
RJF Les Rejaudoux 164.66 3 *e*PKIKP PKPdf 09 31 08.1 +0.1
RJF MLR MLR
comp=Z,3µm,21.0s
LBL Lubilhac 164.75 359 PKP PKPdf 09 31 08.5 +0.4
LBL Lubilhac 164.75 359 PKIKP PKPdf 09 31 08.5 +0.4
LBL Lubilhac 164.75 359 PKP PKPdf 09 31 08.5 +0.4
ORIF Oris-en-Rattie 164.87 351 *e*PKIKP PKPdf 09 31 08.2 0.0
comp=Z,35nm,1.2s
ORIF *e*R
comp=Z,3µm,19.8s
ORIF Oris-en-Rattie 164.87 351 *e*PKPdf PKPdf 09 31 08.2 0.0
ORIF Oris-en-Rattie 164.87 351 *e*PKIKP PKPdf 09 31 08.2 0.0
MBDF Montbardon 164.92 349 *e*PKIKP PKPdf 09 31 08.3 0.0
comp=Z,20nm,1.0s
MBDF Montbardon 164.92 349 *e*PKPdf PKPdf 09 31 08.3 0.0
MBDF Montbardon 164.92 349 *e*PKIKP PKPdf 09 31 08.3 0.0
AQU L'Aquila 164.94 328 PFAKE 09 31 20.0 +12
AQU LR LR
comp=Z,3µm,20.0s
VIVF Saint-Julien-l 165.06 355 *e*PKIKP PKPdf 09 31 08.5 +0.1
comp=Z,42nm,1.3s
VIVF Saint-Julien-l 165.06 355 *e*PKPdf PKPdf 09 31 08.5 +0.1
VIVF Saint-Julien-l 165.06 355 *e*PKIKP PKPdf 09 31 08.5 +0.1
CAF Calviac 165.06 2 *e*PKIKP PKPdf 09 31 08.6 +0.2
comp=Z,26nm,1.1s
CAF Calviac 165.06 2 *e*PKPdf PKPdf 09 31 08.6 +0.2
CAF Calviac 165.06 2 *e*PKIKP PKPdf 09 31 08.6 +0.2
PGAV Gavieira, Arco 165.11 34 *e*PKPdf PKPdf 09 31 09.8 +1.3
PGAV Gavieira, Arco 165.11 34 *e*PKPab PKPab 09 32 05.8 +0.4
PGAV Gavieira, Arco 165.11 34 *e*LR LR 10 33 02.8
comp=Z,2µm,20.0s
ELOB Lobios 165.28 33 PKP PKPdf 09 31 10.8 +2.1
CUC Castrocucco 165.34 317 PFAKE 09 31 20.0 +11
CUC LR LR
comp=Z,2µm,20.0s
PCAB Cabril 165.42 34 *e*PKPab PKPab 09 32 07.6 +0.8
SAOF Saorge 165.48 346 PKP PKPdf 09 31 12.5 +3.7
AUTN L'Aution 165.50 346 PKP PKPdf 09 31 15.9 +7.1
AUTN L'Aution 165.50 346 PKIKP PKPdf 09 31 15.9 +7.1
AUTN L'Aution 165.50 346 PKP PKPdf 09 31 15.9 +7.1
TOUF Mont Tournerai 165.52 347 PKP PKPdf 09 31 13.8 +5.0
MVIF Mont Vial 165.65 347 PKP PKPdf 09 31 15.0 +6.1
MVIF Mont Vial 165.65 347 PKIKP PKPdf 09 31 15.0 +6.1
MVIF Mont Vial 165.65 347 PKP PKPdf 09 31 15.0 +6.1
SMRF Simiane la Rot 165.83 352 *e*PKIKP PKPdf 09 31 09.4 +0.3
comp=Z,34nm,1.3s
SMRF Simiane la Rot 165.83 352 *e*PKPdf PKPdf 09 31 09.4 +0.3
LASF Ste Croix 165.89 357 *e*PKIKP PKPdf 09 31 09.5 +0.4
comp=Z,25nm,1.0s
LASF Ste Croix 165.89 357 *e*PKPdf PKPdf 09 31 09.5 +0.4
PBRG Braganca 165.94 30 *e*PKPdf PKPdf 09 31 09.1 -0.1
PBRG Braganca 165.94 30 *e*PKPab PKPab 09 32 09.3 +0.3
PBRG Braganca 165.94 30 *e*LR LR 10 31 48.4
comp=Z,2µm,18.0s
FRF La Foret Royal 166.07 348 *e*PKIKP PKPdf 09 31 08.7 -0.6
FRF La Foret Royal 166.07 348 *e*PKPdf PKPdf 09 31 08.7 -0.6
FRF La Foret Royal 166.07 348 *e*PKIKP PKPdf 09 31 08.7 -0.6
PVIS Viseu 166.23 36 *e*PKPdf PKPdf 09 31 10.0 +0.5
PVIS Viseu 166.23 36 *e*PKPab PKPab 09 32 11.0 +0.6
CEL Celeste 166.31 311 PFAKE 09 31 20.0 +10
CEL LR LR
comp=Z,2µm,21.0s
MVO Moncorvo 166.31 33 PKP PKPdf 09 31 11.5 +2.0
MVO Moncorvo 166.31 33 *e*PKPdf PKPdf 09 31 10.7 +1.2
MVO Moncorvo 166.31 33 *e*PKPab PKPab 09 32 11.2 +0.5
MVO Moncorvo 166.31 33 *e*LR LR 10 35 01.1
comp=Z,2µm,20.0s
LMR La Mourre 166.32 348 *e*PKIKP PKPdf 09 31 08.8 -0.7
comp=Z,38nm,1.2s
LMR La Mourre 166.32 348 *e*PKPdf PKPdf 09 31 08.8 -0.7
LMR La Mourre 166.32 348 *e*PKIKP PKPdf 09 31 08.8 -0.7
PGF Pioggiola 166.46 340 *e*PKIKP PKPdf 09 31 07.8 -1.8
comp=Z,92nm,1.4s
PGF Pioggiola 166.46 340 *e*PKPdf PKPdf 09 31 07.8 -1.8
PGF Pioggiola 166.46 340 *e*PKIKP PKPdf 09 31 07.8 -1.8
SJPF Ste Jean 166.51 12 *e*PKIKP PKPdf 09 31 10.6 +1.0
comp=Z,69nm,1.2s
SJPF Ste Jean 166.51 12 *e*PKPdf PKPdf 09 31 10.6 +1.0
SJPF Ste Jean 166.51 12 *e*PKIKP PKPdf 09 31 10.6 +1.0
MTLF Montolieu 166.65 2 *e*PKIKP PKPdf 09 31 09.8 +0.1
comp=Z,36nm,1.3s
MTLF Montolieu 166.65 2 *e*PKPdf PKPdf 09 31 09.8 +0.1
MTLF Montolieu 166.65 2 *e*PKIKP PKPdf 09 31 09.8 +0.1
MTE Manteigas 166.65 36 *e*PKPdf PKPdf 09 31 10.9 +1.1
MTE *e*PKPab PKPab 09 32 12.6 +0.4
MTE LR LR
comp=Z,2µm,20.0s
MTE Manteigas 166.65 36 *e*PKPdf PKPdf 09 31 11.9 +2.1
MTE Manteigas 166.65 36 *e*PKPab PKPab 09 32 13.0 +0.8
MTE Manteigas 166.65 36 *e*SS SS 09 56 45.5 +2.5
MTE Manteigas 166.65 36 *e*LR LR 10 34 35.6
comp=Z,2µm,20.0s
PMAFR Mafra 166.66 45 *e*pPKPdf pPKPdf 09 31 10.1 -1.1
PMAFR Mafra 166.66 45 *e*PKPab PKPab 09 32 12.5 +0.1
PMAFR Mafra 166.66 45 *e*SS SS 09 56 50.5 +6.8
PMAFR Mafra 166.66 45 *e*LR LR 10 31 13.5
comp=Z,2µm,18.0s
EPF Esparros 166.82 8 *e*PKIKP PKPdf 09 31 10.3 +0.4
comp=Z,13nm,0.9s
EPF Esparros 166.82 8 *e*PKPdf PKPdf 09 31 10.3 +0.4
EPF Esparros 166.82 8 *e*PKIKP PKPdf 09 31 10.3 +0.4
ETSF Etsaut 166.83 11 *e*PKIKP PKPdf 09 31 11.1 +1.2
ETSF Etsaut 166.83 11 *e*PKPdf PKPdf 09 31 11.1 +1.2
ETSF Etsaut 166.83 11 *e*PKIKP PKPdf 09 31 11.1 +1.2
LIS Lisbon 166.89 45 *e*P PKPdf 09 31 05.7 -4.4
LIS *e*PP PP 09 35 57.6 -3.7
LIS AMS AMS 10 44 50.0
comp=E,2µm,18.5s
LIS Lisbon 166.89 45 *e*PKIKP PKPdf 09 31 05.6 -4.5
LIS *e* 09 35 57.6
PCBR Castelo Branco 167.09 38 *e*PKPdf PKPdf 09 31 11.6 +1.4
PMTG Montargil 167.22 42 *e*PKPdf PKPdf 09 31 11.5 +1.2
PMTG Montargil 167.22 42 *e*PKPab PKPab 09 32 15.0 +0.2
PMTG Montargil 167.22 42 *e*LR LR 10 32 54.6
comp=E,2µm,20.0s
PMRV Marv??o 167.44 39 *e*PKPdf PKPdf 09 31 11.1 +0.7
PMRV Marv??o 167.44 39 *e*PKPab PKPab 09 32 14.7 -1.1
PMRV Marv??o 167.44 39 *e*LR LR 10 30 36.0
comp=E,1µm,18.0s
EPLA Plasencia 167.62 33 PKP PKPdf 09 31 11.9 +1.3
EPLA Plasencia 167.62 33 PKIKP PKPdf 09 31 11.9 +1.3
EVOP Sao Brissos 167.63 43 PKPdf PKPdf 09 31 11.5 +0.9
EVOP Sao Brissos 167.63 43 *e*PKIKP PKPdf 09 31 11.5 +0.9
PNCL Nicolau / Gran 167.65 46 *e*PKPdf PKPdf 09 31 12.1 +1.5
PNCL Nicolau / Gran 167.65 46 *e*PKPab PKPab 09 32 17.2 +0.4
PNCL Nicolau / Gran 167.65 46 *e*LR LR 10 30 50.9
comp=E,2µm,18.0s
EVO Evora 167.69 43 *e*PKIKP PKPdf 09 31 11.5 +0.8
comp=E,67nm,1.3s
EVO *e*R
comp=E,3µm,22.0s
EVO Evora 167.69 43 *e*PKPdf PKPdf 09 31 12.2 +1.5
PESTR Estremoz 167.72 41 *e*P PKPdf 09 31 12.7 +2.0
PESTR Estremoz 167.72 41 *e*SS SS 09 56 58.9 +4.8
PESTR Estremoz 167.72 41 *e*LR LR 10 30 33.9
comp=E,2µm,20.0s
GUD Guadarrama 167.97 26 PKP PKPdf 09 31 12.2 +1.5
GUD Guadarrama 167.97 26 PKIKP PKPdf 09 31 12.2 +1.4
ESAC San Caprasio 167.99 11 PKP PKPdf 09 31 13.3 +2.6
MESJ Messejana 168.01 46 *e*P PKPdf 09 31 05.5 -5.4
MESJ *e* 09 31 21.2
baz=210,slow=6.2
MESJ *e*PP PP 09 36 03.8 -3.3
MESJ *e*SS SS 09 56 53.5 -3.8
MESJ AMS AMS 10 52 06.2
comp=Z,2µm,16.2s
MESJ Messejana 168.01 46 *e*PKIKP PKPdf 09 31 05.5 -5.4
MESJ *e* 09 36 03.8
MESJ *e*SS SS 09 56 53.5 -3.8
PFVI Vila Bisbo 168.02 50 PKP PKPdf 09 31 13.3 +2.4
PFVI Vila Bisbo 168.02 50 *e*PKPdf PKPdf 09 31 13.4 +2.5
PFVI Vila Bisbo 168.02 50 *e*PKPab PKPab 09 32 16.4 -2.1
PFVI Vila Bisbo 168.02 50 *e*SS SS 09 56 52.8 -5.0
PFVI Vila Bisbo 168.02 50 *e*LR LR 10 31 04.8
comp=Z,2µm,18.0s
MORF Marmelete 168.04 49 *e*PKIKP PKPdf 09 31 06.3 -4.6
MORF *e*SS SS 09 56 52.5 -5.4
MORF Marmelete 168.04 49 *e*PKPdf PKPdf 09 31 12.1 +1.2
MORF Marmelete 168.04 49 *e*PKPab PKPab 09 32 19.2 +0.6
MORF Marmelete 168.04 49 *e*SS SS 09 56 56.6 -1.3

MORF	**Marmelete**	**168.04**	**49**	*e*LR	LR	10 31 22.5	
	comp=Z,2µm,20.0s						
PBEJ	**Beja**	**168.11**	**45**	*e*PKPdf	PKPdf	09 31 11.7	+0.7
PBEJ	**Beja**	**168.11**	**45**	*e*PKPab	PKPab	09 32 19.5	+0.7
EBAD	**Badajoz**	**168.12**	**40**	PKP	PKPdf	09 31 13.8	+2.8
PCVE	**Castro Verde**	**168.25**	**47**	*e*PKPdf	PKPdf	09 31 10.8	-0.3
PCVE	**Castro Verde**	**168.25**	**47**	*e*PKPab	PKPab	09 32 17.5	-2.0
PCVE	**Castro Verde**	**168.25**	**47**	*e*LR	LR	10 31 51.4	
	comp=Z,2µm,20.0s						
WDD	**Wield Dalam**	**168.46**	**304**	PFAKE		09 31 20.0	+8.7
WDD				LR	LR		
	comp=Z,2µm,20.0s						
ETOR	**Torete**	**168.50**	**18**	PKP	PKPdf	09 31 12.4	+1.3
ETOR	**Torete**	**168.50**	**18**	PKIKP	PKPdf	09 31 12.5	+1.4
PBAR	**Barrancos**	**168.50**	**42**	PKPdf	PKPdf	09 31 13.2	+2.0
PBAR	**Barrancos**	**168.50**	**42**	*e*PKPab	PKPab	09 32 21.2	+0.7
PBAR	**Barrancos**	**168.50**	**42**	*e*SS	SS	09 57 05.1	+3.0
PBAR	**Barrancos**	**168.50**	**42**	*e*LR	LR	10 31 12.4	
	comp=Z,2µm,20.0s						
PBDV	**Barranco-do-Ve**	**168.55**	**48**	*e*PKPdf	PKPdf	09 31 12.3	+1.0
PBDV	**Barranco-do-Ve**	**168.55**	**48**	*e*PKPab	PKPab	09 32 21.5	+0.7
PBDV	**Barranco-do-Ve**	**168.55**	**48**	*e*SS	SS	09 57 04.1	+1.2
PBDV	**Barranco-do-Ve**	**168.55**	**48**	*e*LR	LR	10 31 19.4	
	comp=Z,2µm,20.0s						
PVAQ	**Vaqueiros**	**168.59**	**47**	*e*PKPdf	PKPdf	09 31 11.8	+0.5
PVAQ	**Vaqueiros**	**168.59**	**47**	*e*PKPab	PKPab	09 32 21.1	+0.1
PVAQ	**Vaqueiros**	**168.59**	**47**	*e*SS	SS	09 57 06.4	+3.2
PVAQ	**Vaqueiros**	**168.59**	**47**	*e*LR	LR	10 30 38.9	
	comp=Z,2µm,20.0s						
EGRO	**El Granado**	**168.65**	**46**	PKP	PKPdf	09 31 13.7	+2.4
PAB	**San Pablo**	**168.83**	**29**	*e*PKPdf	PKPdf	09 31 12.5	+1.1
PAB				*e*PKPab	PKPab	09 32 22.2	+0.4
PAB				LR	LR		
	comp=Z,3µm,20.0s						
PAB	**San Pablo**	**168.83**	**29**	*e*PKIKP	PKPdf	09 31 12.5	+1.1
PAB				*e*		09 32 22.2	
PAB				MLR	MLR		
	comp=Z,3µm,20.0s						
ESDC	**Sonseca Array**	**168.88**	**28**	PKP	PKPdf	09 31 13.4	+2.0
	comp=Z,5.0nm,0.8s,baz=352,slow=2.6,SNR=73						
ESDC				PKPab	PKPab	09 32 22.8	+0.7
	comp=Z,2.1nm,0.6s,baz=318,slow=3.9,SNR=5.9						
ESDC	**Sonseca Array**	**168.88**	**28**	PKP	PKPdf	09 31 13.5	+2.1
EMIN	**Mina Concepcio**	**168.99**	**43**	PKP	PKPdf	09 31 14.3	+2.8
VSL	**Villasalto**	**169.03**	**332**	PFAKE		09 31 20.0	+8.5
VSL				LR	LR		
	comp=Z,1µm,19.0s						
EADA	**Adamuz**	**169.84**	**34**	PKP	PKPdf	09 31 14.0	+2.0
ECHE	**Chera**	**169.94**	**16**	PKP	PKPdf	09 31 12.8	+0.8
ECHE	**Chera**	**169.94**	**16**	PKIKP	PKPdf	09 31 12.8	+0.7
ESPR	**Espera**	**170.08**	**44**	PKP	PKPdf	09 31 15.0	+2.8
SFS	**San Fernando**	**170.12**	**47**	PFAKE		09 31 20.0	+7.7
SFS				LR	LR		
	comp=Z,5µm,20.0s						
EVIA	**Vianos**	**170.34**	**25**	PKP	PKPdf	09 31 14.3	+2.0
EVIA	**Vianos**	**170.34**	**25**	PKIKP	PKPdf	09 31 14.3	+2.0
EJIF	**Jimena Fronter**	**170.58**	**44**	PKP	PKPdf	09 31 16.6	+4.1
EJIF	**Jimena Fronter**	**170.58**	**44**	PKIKP	PKPdf	09 31 16.6	+4.1
ETOB	**Tobarra**	**170.66**	**21**	PKP	PKPdf	09 31 13.7	+1.2
EQES	**Quesada**	**170.83**	**30**	PKP	PKPdf	09 31 14.4	+1.8
RTC	**Rabat Centre**	**170.94**	**61**	PFAKE		09 31 20.0	+7.2
RTC				LR	LR		
	comp=Z,2µm,19.0s						
EBEN	**Beniarda**	**170.95**	**15**	PKP	PKPdf	09 31 13.9	+1.3
EHUE	**Huescar**	**171.02**	**28**	PKP	PKPdf	09 31 14.9	+2.2
EHUE	**Huescar**	**171.02**	**28**	PKIKP	PKPdf	09 31 14.9	+2.2
EGUA	**Guajares**	**171.38**	**36**	PKP	PKPdf	09 31 15.6	+2.6
EGUA	**Guajares**	**171.38**	**36**	PKIKP	PKPdf	09 31 15.6	+2.7
KEST	**Kesra**	**171.99**	**318**	PKP	PKPdf	09 31 14.3	+1.1
	comp=Z,3.8nm,1.0s,baz=264,slow=4.7,SNR=6.7						
KEST				PKPab	PKPab	09 32 36.8	+0.8
	comp=Z,21nm,1.1s,baz=317,slow=2.3,SNR=11						
KEST	**Kesra**	**171.99**	**318**	PKP	PKPdf	09 31 14.3	+1.1
KEST				*e*PKPdf	PKPdf	09 31 15.2	+1.9
KEST				PKPab	PKPab	09 32 36.8	+0.8
TAM	**Tamanrasset**	**172.42**	**200**	*e*PKPdf	PKPdf	09 31 15.0	+1.2
TAM				LR	LR		
	comp=Z,3µm,19.0s						
TAM	**Tamanrasset**	**172.42**	**200**	*e*PKIKP	PKPdf	09 31 15.0	+1.2
TAM				MLR	MLR		
	comp=Z,3µm,19.0s						

IDC 06 09:31:05.2±2.4, 6°.52S×129°.93E, h0km, mb4.1/1, mb1 3.9/4, mb1mx3.6/17, mbtmp3.6/4, ML3.6/3, MS5.1/1, Ms1 5.1/1, ms1mx3.8/25, Error ellipse: s-maj=106.1km s-min=32.9km az=96.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.25**	**200**	Pn	Pn	09 34 02.1	+1.1
	0.3nm,0.3s,baz=38,slow=13,SNR=13						
WRA	**Warramunga Arr**	**14.02**	**163**	Pn	Pn	09 34 24.8	-0.4
	0.3nm,0.3s,baz=335,slow=14,SNR=28						
WRA				Sn	Sn	09 36 50.5	-11
	0.4nm,0.3s,baz=334,slow=22,SNR=6.8						
ASAR	**Alice Springs**	**17.47**	**168**	P	Pn	09 35 09.9	-0.5
	0.2nm,0.3s,baz=338,slow=9.0,SNR=11						
SONM	**Songino Array**	**57.96**	**341**	LR	LR	10 09 21.5	
	comp=Z,1µm,20.3s,baz=132,slow=40						

*MOS **06** 09:36:23.4±1.6, 42°.81N×145°.69E, h33km, mb4.6/16, Error ellipse: s-maj=12.5km s-min=8.2km az=91.5*
*JMA **06** 09:36:25.0±0.1, 42°.88N×145°.66E, h41km±1km, M4.1*
JMA Felt I J1.
*SKHL **06** 09:36:25.1±0.1, 42°.77N×145°.59E, h40km±5km, mb5.0/2*
*ISCJB **06** 09:36:25.4±0.7, 42°.91N±0°.05×145°.59E±0°.06, h49km±4km, mb4.1/25, Error ellipse: s-maj=10.2km s-min=5.3km az=137.8*
*NEIC **06** 09:36:25.1, 42°.88N×145°.66E, h41km, MG4.1(JMA), After JMA.*
NEIC Recorded [1 JMA] in eastern Hokkaido.
*IDC **06** 09:36:27.3±2.7, 42°.91N×145°.59E, h48km±26km, mb3.8/18, mb1 3.9/20, mb1mx3.8/31, mbtmp3.8/20, ML4.1/2, Error ellipse: s-maj=18.1km s-min=17.3km az=14.0*

ISC 06 09:36:26.7±0.7, 42°.94N±0°.05×145°.56E±0°.06, h41km±5km, n89, σ0°.81/99, mb4.1/25, 9D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.45**	**17**	⇓P	Pn	09 36 35.6	-1.1
NEM2				*e*S	Sn	09 36 42.8	-1.0
JAK	**Akkeshi**	**0.64**	**275**	⇓P	Pn	09 36 38.7	-0.6
JAK				*e*S	Sn	09 36 48.1	-0.2
JNK	**Nakash**	**0.89**	**317**	⇓P	Pn	09 36 42.5	-0.2
JNK				*e*S	Sn	09 36 54.1	-0.4
JRA	**Rausu**	**1.05**	**342**	⇓P	Pn	09 36 44.8	-0.1
JRA				*e*S	Sn	09 36 58.8	+0.5
YUK	**Yuzh-Kuril'sk**	**1.12**	**11**	*e*PN	Pn	09 36 44.8	-1.0
YUK				*i* S	Sn	09 36 59.5	-0.5
YUK				pmax	pmax		
	comp=Z,570nm,0.3s						
YUK				pmax	pmax		
	comp=N,306nm,0.3s						
YUK				pmax	pmax		
	comp=E,171nm,0.3s						
YUK				pmax	pmax		
	comp=Z,2µm,0.3s						
YUK				smax			
	comp=E,3µm,0.2s						
YUK				smax			
	comp=N,5µm,0.4s						
YUK				smax			
	comp=E,4µm,0.8s						
YUK				smax			
	comp=N,3µm,0.6s						
YUK	**Yuzh-Kuril'sk**	**1.12**	**11**	⇓*i*P	Pn	09 36 44.8	-1.0
YUK				AMB	AMB	09 36 47.0	
	comp=N,2µm,0.3s						
YUK				AMB	AMB	09 36 47.0	
	comp=N,470nm,0.2s						
YUK				AMB	AMB	09 36 47.2	
	comp=N,3µm,0.2s						
YUK				*i* S	Sn	09 36 59.5	-0.5
YUK				A		09 37 04.3	
	comp=N,6µm,0.3s						
YUK				A		09 37 04.3	
	comp=N,3µm,0.3s						
YUK				A		09 37 04.7	
	comp=N,6µm,0.8s						
YUK				A		09 37 04.7	
	comp=N,4µm,0.9s						
JOB	**Onbets**	**1.27**	**269**	⇓P	Pn	09 36 47.2	-0.7
JAR	**Ashorobuto**	**1.36**	**286**	⇓P	Pn	09 36 49.0	-0.1
JTKR	**Abashiri--Toko**	**1.59**	**311**	⇓P	Pn	09 36 53.0	+0.8
ERM	**Erimo**	**2.00**	**243**	*e*Pn	Pn	09 36 59.2	+1.2
ERM				*e*Sn	Sn	09 37 22.5	+0.7
ERM	**Erimo**	**2.00**	**243**	*e*PN	Pn	09 36 59.2	+1.2
ERM				*e*		09 37 22.5	
ASAJ	**Asahikawa**	**2.46**	**300**	P	Pn	09 37 06.1	+1.9
	comp=N,40nm,0.3s,baz=131,slow=11,SNR=156						
ASAJ	**Asahikawa**	**2.46**	**300**	*e*Pn	Pn	09 37 05.9	+1.7
ASAJ				*e*Sn	Sn	09 37 40.3	+7.4
ASAJ	**Asahikawa**	**2.46**	**300**	PN	Pn	09 37 06.1	+1.9
ASAJ				pmax	pmax		
	comp=Z,40nm,0.3s						
KUR	**Kuril'sk**	**2.83**	**35**	PN	Pn	09 37 11.0	+1.7
KUR				*e*S	Sn	09 37 44.5	+2.3
KUR				pmax	pmax		
	comp=Z,90nm,0.5s						
KUR				smax			
	comp=N,340nm,0.5s						
KUR				smax			
	comp=E,190nm,1.0s						
KUR	**Kuril'sk**	**2.83**	**35**	*e*P	Pn	09 37 11.0	+1.7
KUR				AMB	AMB	09 37 26.9	
	comp=E,90nm,0.5s						
KUR				*e*S	Sn	09 37 44.5	+2.3
KUR				A		09 37 45.6	
	comp=E,340nm,0.8s						
KUR				A		09 37 45.6	
	comp=E,190nm,0.8s						
YSS	**Yuzh-Sakhalins**	**4.48**	**335**	*e*PN	Pn	09 37 36.0	+4.0
YSS	**Yuzh-Sakhalins**	**4.48**	**335**	*e*P	Pn	09 37 36.0	+4.0
YSS				*e*rx	rx	09 38 08.0	
MAJO	**Matsushiro**	**8.54**	**224**	*e*Pn	Pn	09 38 27.9	+0.3
MAJO	**Matsushiro**	**8.54**	**224**	*e*PN	Pn	09 38 27.9	+0.2
MJAR	**Matsushiro Arr**	**8.54**	**224**	P	Pn	09 38 26.2	-1.5
	comp=E,0.8nm,0.3s,baz=27,slow=14,SNR=6.9						
MJAR	**Matsushiro Arr**	**8.54**	**224**	P	Pn	09 38 26.2	-1.5
MJAR	**Matsushiro Arr**	**8.54**	**224**	PN	Pn	09 38 26.2	-1.5
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM	**Songino Array**	**27.73**	**294**	P	P	09 42 11.9	+0.9
	comp=Z,3.5nm,0.5s,mb4.2,baz=88,slow=8.3,SNR=19						
SONM	**Songino Array**	**27.73**	**294**	P	P	09 42 11.9	+0.9
SONM	**Songino Array**	**27.73**	**294**	P	P	09 42 11.9	+0.9
SONM				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ZALV	**Zalesovo Beam**	**40.57**	**308**	P	P	09 44 02.4	+0.6
	comp=Z,0.5nm,0.3s,mb3.7,baz=90,slow=8.9,SNR=2.1						
ZALV				PcP	PcP	09 46 03.5	+0.1
	comp=Z,1.1nm,0.4s,baz=89,slow=4.0,SNR=4.5						
ZALV	**Zalesovo Beam**	**40.57**	**308**	P	P	09 44 02.4	+0.6
ZALV				PcP	PcP	09 46 03.5	+0.1
ZALV	**Zalesovo Beam**	**40.57**	**308**	P	P	09 44 02.4	+0.6
ZALV						09 46 03.5	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.9						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
ILAR	**Eielson Array**	**42.82**	**36**	P	P	09 44 19.9	-0.2
	comp=Z,0.4nm,0.6s,mb3.3,baz=264,slow=5.6,SNR=6.4						
ILAR	**Eielson Array**	**42.82**	**36**	P	P	09 44 19.9	-0.2
ILAR	**Eielson Array**	**42.82**	**36**	P	P	09 44 19.9	-0.2
MK31	**Makanchi Array**	**43.94**	**298**	*e*P	P	09 44 29.6	+0.2
MK31				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.4						
MKAR	**Makanchi Array**	**43.94**	**298**	P	P	09 44 29.7	+0.3
	comp=Z,2.9nm,0.4s,mb4.3,baz=84,slow=9.8,SNR=18						
MKAR	**Makanchi Array**	**43.94**	**298**	P	P	09 44 29.7	+0.3
MKAR	**Makanchi Array**	**43.94**	**298**	P	P	09 44 29.7	+0.3
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KURK	**Kurchatov**	**45.03**	**304**	P	P	09 44 38.9	+0.9
	comp=Z,3.8nm,0.5s,mb4.5,baz=68,slow=8.6,SNR=12						
KURK	**Kurchatov**	**45.03**	**304**	P	P	09 44 38.9	+0.9
KURK	**Kurchatov**	**45.03**	**304**	P	P	09 44 38.9	+0.9
KURK				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.5						
INK	**Inuvik**	**47.69**	**30**	P	P	09 44 58.2	-0.4
	comp=Z,0.8nm,0.4s,mb4.1,baz=74,slow=26,SNR=10						
INK	**Inuvik**	**47.69**	**30**	P	P	09 44 58.3	-0.3
INK	**Inuvik**	**47.69**	**30**	P	P	09 44 58.2	-0.4
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**49.12**	**309**	P	P	09 45 10.5	+0.6
	comp=Z,1.5nm,0.3s,mb4.4,baz=81,slow=8.8,SNR=6.3						
BVAR	**Borovoye Array**	**49.12**	**309**	P	P	09 45 10.5	+0.6
BVAR	**Borovoye Array**	**49.12**	**309**	P	P	09 45 10.5	+0.6
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
RES	**Resolute Bay**	**56.07**	**16**	P	P	09 46 00.4	-0.6
	comp=Z,2.7nm,0.5s,mb4.5,baz=347,slow=5.5,SNR=12						
RES	**Resolute Bay**	**56.07**	**16**	P	P	09 46 00.4	-0.6
RES	**Resolute Bay**	**56.07**	**16**	P	P	09 46 00.4	-0.6
RES				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
AB31	**Akbulak array**	**56.67**	**309**	*i* P	P	09 46 05.8	+0.2
AB31				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
ABKAR	**Akbulak array**	**56.67**	**309**	*e*P	P	09 46 05.8	+0.2
	comp=Z,1.6nm,0.3s,mb4.5						
AKTK	**Aktyubinsk**	**57.19**	**311**	P	P	09 46 09.1	-0.1
AKTO	**Aktyubinsk**	**57.19**	**311**	P	P	09 46 09.1	-0.1
	comp=Z,1.1nm,0.3s,mb4.3,baz=77,slow=15,SNR=4.1						
AKTO	**Aktyubinsk**	**57.19**	**311**	P	P	09 46 09.1	-0.1
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
KEV	**Kevo**	**59.06**	**339**	*e*P	P	09 46 20.9	-1.1
KEV	**Kevo**	**59.06**	**339**	*e*p	P	09 46 20.9	-1.1
ARCES	**ARCESS Array B**	**59.60**	**339**	P	P	09 46 25.9	+0.1
	comp=Z,4.3nm,0.9s,mb4.5,baz=39,slow=7.8,SNR=3.9						
ARCES	**ARCESS Array B**	**59.60**	**339**	P	P	09 46 25.9	+0.1
ARCES	**ARCESS Array B**	**59.60**	**339**	P	P	09 46 25.9	+0.1
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
JOF	**Joensuu**	**62.26**	**332**	*e*P	P	09 46 43.1	-0.8
JOF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.5						
JOF	**Joensuu**	**62.26**	**332**	*e*p	P	09 46 43.1	-0.8
	comp=Z,1.9nm,0.5s,mb4.5						
WRA	**Warramunga Arr**	**63.41**	**192**	P	P	09 46 51.1	-0.9
	comp=Z,0.5nm,1.0s,mb3.6,baz=8.5,slow=7.0,SNR=2.4						
WRA	**Warramunga Arr**	**63.41**	**192**	P	P	09 46 51.1	-0.9
WRA	**Warramunga Arr**	**63.41**	**192**	P	P	09 46 51.1	-0.9
WRA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
YBH	**Yreka Blue Hor**	**64.31**	**56**	P	P	09 46 58.9	+1.1
	comp=Z,1.0nm,0.9s,mb3.9,baz=50,slow=11,SNR=1.4						
YBH	**Yreka Blue Hor**	**64.31**	**56**	P	P	09 46 58.9	+1.1
YBH	**Yreka Blue Hor**	**64.31**	**56**	P	P	09 46 58.9	+1.1
YBH				pmax	pmax		
	comp=Z,1.0nm,0.9s						
KAF	**Kangasniemi**	**64.51**	**333**	*e*P	P	09 46 57.5	-1.3
KAF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
KAF	**Kangasniemi**	**64.51**	**333**	*e*p	P	09 46 57.5	-1.3
	comp=Z,3.1nm,0.7s,mb4.5						
FINES	**FINESS Array B**	**65.07**	**333**	P	P	09 47 01.9	-0.5
	comp=Z,5.3nm,0.5s,mb4.8,baz=45,slow=7.8,SNR=26						
FINES	**FINESS Array B**	**65.07**	**333**	P	P	09 47 01.9	-0.5
FINES	**FINESS Array B**	**65.07**	**333**	P	P	09 47 02.0	-0.4
FINES				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ASAR	**Alice Springs**	**67.14**	**192**	P	P	09 47 16.2	+0.2
	comp=Z,2.0nm,0.6s,mb3.5,baz=10,slow=6.6,SNR=7.4						
ASAR	**Alice Springs**	**67.14**	**192**	P	P	09 47 16.2	+0.2
ASAR	**Alice Springs**	**67.14**	**192**	P	P	09 47 16.3	+0.2
NVAR	**Mina Array Bea**	**68.99**	**57**	P	P	09 47 28.1	+0.4
	comp=Z,0.7nm,0.5s,mb3.8,baz=288,slow=7.8,SNR=7.6						
NVAR	**Mina Array Bea**	**68.99**	**57**	P	P	09 47 28.1	+0.4
ZEI	**Tsey**	**69.52**	**310**	*e*P	P	09 47 29.9	-1.0
ZEI				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
NB2	**NORSAR Subarra**	**69.93**	**338**	P	P	09 47 32.7	-0.5
	comp=Z,1.3nm,0.4s,mb4.2,baz=33,slow=6.5						
NOA	**NORSAR Array B**	**69.93**	**338**	P	P	09 47 33.0	-0.2
	comp=Z,1.9nm,0.5s,mb4.2,baz=34,slow=6.3,SNR=8.7						
NOA	**NORSAR Array B**	**69.93**	**338**	P	P	09 47 33.0	-0.2
NOA	**NORSAR Array B**	**69.93**	**338**	P	P	09 47 33.0	-0.2
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
PDAR	**Pinedale Array**	**71.32**	**49**	P	P	09 47 41.8	-0.1
	comp=Z,0.3nm,0.5s,mb3.5,baz=222,slow=2.0,SNR=4.0						
PDAR	**Pinedale Array**	**71.32**	**49**	P	P	09 47 41.8	-0.1
AKASG	**Malin Array Be**	**71.54**	**323**	P	P	09 47 42.6	-0.5
	comp=Z,2.0nm,0.5s,mb4.3,baz=42,slow=6.1,SNR=8.2						
AKASG	**Malin Array Be**	**71.54**	**323**	P	P	09 47 42.6	-0.5
AKASG	**Malin Array Be**	**71.54**	**323**	P	P	09 47 42.6	-0.5
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
TXAR	**Lajitas Array**	**84.06**	**55**	P	P	09 48 53.9	+0.8
	comp=Z,0.1nm,0.4s,mb3.3,baz=270,slow=2.5,SNR=3.7						
TXAR	**Lajitas Array**	**84.06**	**55**	P	P	09 48 53.9	+0.8
TXAR	**Lajitas Array**	**84.06**	**55**	P	P	09 48 53.9	+0.8

*ISCJB **06** 09:43:02.9±3.0, 5°.4S±0°.2×147°.3E±0°.2, h183km±29km, mb3.7/3, Error ellipse: s-maj=41.8km s-min=26.1km az=140.2*
*NEIC **06** 09:43:03.2±2.6, 5°.26S×147°.25E, h175km±26km, mb4.0/1, Error ellipse: s-maj=42.0km s-min=15.8km az=141.0*
*IDC **06** 09:43:04.5±5.2, 5°.55S×147°.51E, h190km±57km, mb3.5/3, mb1 3.7/5, mb1mx3.3/17, mbtmp3.5/5, Error ellipse: s-maj=87.2km s-min=25.8km az=137.0*

ISC 06 09:43:03.4±3.2, 5°.4S±0°.2×147°.4E±0°.2, h175km±31km, n15, σ0°.80/15, mb3.7/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.98**	**183**	P	Pn	09 44 05.8	+1.7
	3.3nm,0.3s,baz=326,slow=5.9,SNR=10						
PMG				S	Sn	09 44 50.3	-1.2
	6.1nm,0.3s,baz=199,slow=21,SNR=10						
PMG	**Port Moresby**	**3.98**	**183**	*e*Pn	Pn	09 44 05.8	+1.7
PMG				*e*Sn	Sn	09 44 50.3	-1.3
KAKA	**Kakadu**	**16.41**	**243**	*e*P	Pn	09 46 43.4	-0.7
WRAB	**Tennant Creek**	**19.20**	**220**	*e*P	P	09 47 14.4	+0.4
	2.7nm,0.5s						
WB2	**Warramunga Arr**	**19.20**	**220**	*e*P	P	09 47 14.3	+0.2
WRA	**Warramunga Arr**	**19.21**	**220**	P	P	09 47 14.4	+0.3
	1.4nm,0.3s,baz=49,slow=12,SNR=64						
WRA	**Warramunga Arr**	**19.21**	**220**	P	P	09 47 14.4	+0.3
ASAR	**Alice Springs**	**22.30**	**214**	P	P	09 47 47.0	+0.4
	1.9nm,0.7s,mb3.6,baz=49,slow=8.1,SNR=29						
ASAR	**Alice Springs**	**22.30**	**214**	P	P	09 47 47.0	+0.4
FITZ	**Fitzroy Crossi**	**24.68**	**237**	P	P	09 48 07.8	-0.5
	8.0nm,0.4s,mb4.6,baz=54,slow=9.4,SNR=50						
FITZ	**Fitzroy Crossi**	**24.68**	**237**	*e*P	P	09 48 08.5	+0.1
	6.1nm,0.5s,mb4.4						
ILAR	**Eielson Array**	**84.80**	**23**	P	P	09 55 17.1	-0.7
	0.2nm,0.5s,mb3.1,baz=254,slow=6.0,SNR=5.3						
ILAR	**Eielson Array**	**84.80**	**23**	P	P	09 55 17.1	-0.7
TORD	**Torodi Ar. Bea**	**145.29**	**285**	PKPbc	PKPbc	10 02 21.2	-0.2
	0.2nm,0.6s,baz=1.5,slow=2.9,SNR=2.9						
TORD	**Torodi Ar. Bea**	**145.29**	**285**	PKPbc	PKPbc	10 02 21.2	-0.2

SKHL 06 09:53:01.5±0.6, 55°.54N×128°.82E, h10km±3km, mb4.6/5, Ms3.5/1, 1C-2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BMKR	**Bomnak**	**0.83**	**179**	⇑*i*Pg	Pg	09 53 16.8	-0.7
BMKR				AMB	AMB	09 53 17.6	
	540nm,0.4s						
BMKR				pPg		09 53 20.3	
KROS	**Kirovskiy**	**1.54**	**225**	⇓*i*Pg	Pg	09 53 28.9	-2.1
KROS				AMB	AMB	09 53 30.5	
	53nm,0.5s						
KROS				AMB	AMB	09 53 30.5	
	150nm,0.5s						
KROS				AMB	AMB	09 53 30.5	
	230nm,0.5s						
KROS				*i* Sg	Sg	09 53 49.4	-1.5
KROS				A		09 53 50.6	
	360nm,0.4s						
KROS				A		09 53 50.6	
	570nm,0.4s						
ZEA	**Zeya**	**2.02**	**207**	*e*Pn	Pn	09 53 35.9	+0.3
ZEA				⇓*i*Pg	Pg	09 53 37.5	-2.7
ZEA				AMB	AMB	09 53 38.0	
	270nm,0.3s						
ZEA				AMB	AMB	09 53 38.5	
	300nm,0.5s						
ZEA				pPg		09 53 39.7	
ZEA				*e*Sn	Sn	09 54 02.0	+1.1
ZEA				*i* Sg	Sg	09 54 03.6	-2.8
ZEA				A		09 54 05.2	
	2µm,0.4s						
ZEA				A		09 54 05.5	
	2µm,0.5s						
ZEA				A		09 54 05.5	
	2µm,0.5s						
ZEA				A		09 54 05.5	
	700nm,0.5s						
ZEA				AMS	AMS	09 54 23.0	
	500nm,4.0s						
EKMR	**Ekimchan**	**3.46**	**134**	*e*Pn	Pn	09 53 56.0	+0.7
EKMR				*e*Pg	Pg	09 54 04.0	-3.7
EKMR				AMB	AMB	09 54 05.9	
	38nm,0.3s						
EKMR				AMB	A

*BJI **06** 10:24:17.1,56˚.63N×35˚.09W,h5km,mB5.3/10,mb4.8/18, Ms5.1/11,Ms7.4,6/12*
*MOS **06** 10:24:20.7±0.8,56˚.76N×34˚.17W,h10km,mb4.9/54,Error ellipse: s-maj=7.8km s-min=6.8km az=18.5*
*IDC **06** 10:24:20.6±0.6,56˚.74N×34˚.22W,h0km,mb4.3/24, mb1 4.5/27,mb1mx4.4/36,mbtmp4.3/27,ML3.6/3,MS4.3/11, Ms1 4.3/11,ms1mx4.1/38,Error ellipse: s-maj=18.5km s-min=10.8km az=4.0*
*ISCJB **06** 10:24:21.0±0.1,56˚.80N±0˚.04×34˚.17W±0˚.03,h10km, mb4.7/161,MS4.4/13,Error ellipse: s-maj=5.2km s-min=1.9km az=8.9*
*NEIC **06** 10:24:22.6±0.1,56˚.81N×34˚.14W,h10km,mb4.9/117, Error ellipse: s-maj=5.0km s-min=1.9km az=189.0*
*CSEM **06** 10:24:24.6±0.1,56˚.83N×34˚.13W,h26km,mb4.8/99, Mw5.1,Error ellipse: s-maj=5.5km s-min=2.2km az=12.0*
*GCMT **06** 10:24:24.5±0.4,56˚.76N×34˚.11W,h13km±1km,MW5.1, Moment Tensor Solution. s12,c14; s71,c90; Moment tensor: Scale 10^{16}Nm; M_{rr}-2.85±.33; $M_{\theta\theta}$1.43±.26; $M_{\phi\phi}$ 1.42±.25; $M_{r\theta}$-0.43±.53; $M_{\theta\phi}$4.55±.18; $M_{\phi r}$-1.07±.58; Best double couple: $M_0$4.80000×10^{16} NP1:$\phi_0$264.00000°, δ57.00000°,λ-26.00000°. NP2:$\phi_0$9.00000°,δ68.00000°, λ-145.00000°. Principal axes: T 6.1000, Plg7.0000°, Azm135.0000°; N -2.6000, Plg49.0000°, Azm37.0000°; P -3.5100, Plg40.0000°, Azm230.0000°; Data Used: ll IU CN G IC.*

ISC 06 10:24:22.8±0.1,**56˚.80N**±0˚.04×**34˚.13W**±0˚.03,**h10**km, **(h20**km±3.4km**:pP-P),n914,**c_0**68/908,mb4.7**/161, **MS4.4**/13,**169C-154D,Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**10.12**	**33**	Pn		**Pn**	**10 26 50.9**	**+3.0**
	3.3nm,0.3s,baz=204,slow=6.3,SNR=8.3							
BORG				LR		LR	10 29 53.1	
	comp=Z,4μm,18.0s,baz=299,slow=33							
BORG	**Borgarnes**	**10.12**	**33**	Pn		**Pn**	**10 26 50.9**	**+3.0**
BORG				LR		LR	10 29 53.1	
BORG	**Borgarnes**	**10.12**	**33**	P		**Pn**	**10 26 50.9**	**+3.0**
SFJD	**Kangerlussuaq**	**12.79**	**330**	*e*Pn		**Pn**	**10 27 21.8**	**-2.6**
SFJD	**Kangerlussuaq**	**12.79**	**330**	*e*P		**Pn**	**10 27 21.8**	**-2.6**
SFJD	**Kangerlussuaq**	**12.79**	**330**	*i* P		**Pn**	**10 27 21.8**	**-2.6**
	17nm,0.9s							
SFJD	**Kangerlussuaq**	**12.79**	**330**	*e*P		**Pn**	**10 27 21.8**	**-2.6**
SUMG	**Summit**	**15.94**	**355**	*e*Pn		**Pn**	**10 28 05.3**	**-1.5**
	484nm,2.4s							
SUMG	**Summit**	**15.94**	**355**	*e*P		**Pn**	**10 28 05.3**	**-1.5**
SUMG					pmax	pmax		
	comp=Z,484nm,2.4s							
SUMG	**Summit**	**15.94**	**355**	*i* P		**Pn**	**10 28 05.3**	**-1.5**
	comp=Z,21nm,0.9s							
SUMG	**Summit**	**15.94**	**355**	*e*Pn		**Pn**	**10 28 05.3**	**-1.5**
	comp=Z,484nm,2.4s							
DSB	**Dublin**	**16.25**	**91**	*e*Pn		**Pn**	**10 28 11.6**	**+0.6**
	comp=Z,190nm,2.3s							
DSB	**Dublin**	**16.25**	**91**	*e*Pn		**Pn**	**10 28 11.6**	**+0.7**
	comp=Z,190nm,2.3s							
ESK	**Eskdalemuir**	**17.26**	**82**	*e*Pn		**Pn**	**10 28 24.1**	**+0.4**
	comp=Z,20nm,1.0s							
ESK	**Eskdalemuir**	**17.26**	**82**	*e*P		**Pn**	**10 28 24.1**	**+0.4**
ESK					pmax	pmax		
	comp=Z,20nm,1.0s							
ESK	**Eskdalemuir**	**17.26**	**82**	*e*P		**Pn**	**10 28 24.1**	**+0.4**
	comp=Z,20nm,1.0s							
EKA	**Eskdalemuir Ar**	**17.28**	**82**	P		**Pn**	**10 28 25.1**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=295,slow=10.0,SNR=11							
EKA	**Eskdalemuir Ar**	**17.28**	**82**	P		**Pn**	**10 28 25.1**	**+1.1**
EKA	**Eskdalemuir Ar**	**17.28**	**82**	P		**Pn**	**10 28 25.1**	**+1.2**
EKA	**Eskdalemuir Ar**	**17.28**	**82**	P		**Pn**	**10 28 25.1**	**+1.2**
FRB	**Frobisher Bay**	**18.24**	**307**	P		**Pn**	**10 28 34.9**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=104,slow=11,SNR=8.4							
FRB				LR		LR	10 33 50.8	
	comp=Z,2μm,20.8s,baz=45,slow=31							
FRB	**Frobisher Bay**	**18.24**	**307**	P		**Pn**	**10 28 34.9**	**-0.7**
FRB				LR		LR	10 33 50.8	
FRB	**Frobisher Bay**	**18.24**	**307**	P		**Pn**	**10 28 34.9**	**-0.8**
FRB	**Frobisher Bay**	**18.24**	**307**	P		**Pn**	**10 28 34.9**	**-0.8**
SCHQ	**Schefferville**	**18.39**	**278**	P		**Pn**	**10 28 35.8**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=67,slow=8.5,SNR=11							
SCHQ				LR		LR	10 34 04.9	
	comp=Z,1μm,18.8s,baz=317,slow=32							
SCHQ	**Schefferville**	**18.39**	**278**	P		**Pn**	**10 28 35.8**	**-1.8**
SCHQ				LR		LR	10 34 04.9	
SCHQ	**Schefferville**	**18.39**	**278**	P		**Pn**	**10 28 35.8**	**-1.8**
ROSF	**Rostrenen**	**20.43**	**101**	*e*P		**P**	**10 28 59.9**	**0.0**
	comp=Z,71nm,1.2s							
ROSF	**Rostrenen**	**20.43**	**101**	*e*P		**P**	**10 28 59.9**	**0.0**
	comp=Z,36nm,1.2s							
ROSF	**Rostrenen**	**20.43**	**101**	*e*P		**P**	**10 28 59.9**	**0.0**
ROSF					pmax	pmax		
	comp=Z,36nm,1.2s							
ROSF	**Rostrenen**	**20.43**	**101**	*e*P		**P**	**10 28 59.9**	**0.0**
	comp=Z,36nm,1.2s							
QUIF	**Quistinic**	**20.73**	**102**	*e*P		**P**	**10 29 02.2**	**-1.0**
	comp=Z,222nm,1.6s							
QUIF	**Quistinic**	**20.73**	**102**	*e*P		**P**	**10 29 02.2**	**-1.0**
	comp=Z,111nm,1.6s							
QUIF	**Quistinic**	**20.73**	**102**	*e*P		**P**	**10 29 02.2**	**-1.0**
QUIF					pmax	pmax		
	comp=Z,111nm,1.6s							
QUIF	**Quistinic**	**20.73**	**102**	*e*P		**P**	**10 29 02.2**	**-1.0**
	comp=Z,111nm,1.6s							
DAG	**Danmarks Havn**	**20.82**	**10**	*i* P		**P**	**10 29 06.9**	**+3.0**
DAG	**Danmarks Havn**	**20.82**	**10**	*i* P		**P**	**10 29 06.9**	**+3.0**
	comp=Z,4.4nm,0.9s							
SGMF	**Saint Gilles**	**20.86**	**101**	*e*P		**P**	**10 29 04.4**	**-0.2**
	comp=Z,187nm,1.7s							
SGMF	**Saint Gilles**	**20.86**	**101**	*e*P		**P**	**10 29 04.4**	**-0.2**
	comp=Z,93nm,1.7s							
SGMF	**Saint Gilles**	**20.86**	**101**	*e*P		**P**	**10 29 04.4**	**-0.2**
SGMF					pmax	pmax		
	comp=Z,93nm,1.7s							
SGMF	**Saint Gilles**	**20.86**	**101**	*e*P		**P**	**10 29 04.4**	**-0.2**
	comp=Z,93nm,1.7s							
FLN	**La Foliniere**	**21.70**	**97**	*e*P		**P**	**10 29 13.5**	**-0.1**
	comp=Z,87nm,1.2s,mb4.8,baz=309							
FLN	**La Foliniere**	**21.70**	**97**	*e*P		**P**	**10 29 13.5**	**-0.1**
	comp=Z,44nm,1.2s,mb4.8							
FLN	**La Foliniere**	**21.70**	**97**	*e*P		**P**	**10 29 13.5**	**-0.1**
FLN					pmax	pmax		
	comp=Z,44nm,1.2s,mb4.8							
FLN	**La Foliniere**	**21.70**	**97**	*e*P		**P**	**10 29 13.5**	**-0.1**
	comp=Z,44nm,1.2s,mb4.8,baz=309							
GRR	**Gorron**	**21.70**	**99**	*e*P		**P**	**10 29 14.5**	**+0.8**
	comp=Z,101nm,1.3s,mb4.8							
GRR	**Gorron**	**21.70**	**99**	*e*P		**P**	**10 29 14.5**	**+0.8**
	comp=Z,50nm,1.3s,mb4.8							
GRR	**Gorron**	**21.70**	**99**	*e*P		**P**	**10 29 14.5**	**+0.8**
GRR					pmax	pmax		
	comp=Z,51nm,1.3s,mb4.8							
GRR	**Gorron**	**21.70**	**99**	*e*P		**P**	**10 29 14.5**	**+0.8**
	comp=Z,50nm,1.3s,mb4.8							
LDF	**La Druitiere**	**21.99**	**97**	*e*P		**P**	**10 29 15.2**	**-1.5**
LDF	**La Druitiere**	**21.99**	**97**	*e*P		**P**	**10 29 15.2**	**-1.5**
LDF	**La Druitiere**	**21.99**	**97**	*e*P		**P**	**10 29 15.2**	**-1.5**
LDF	**La Druitiere**	**21.99**	**97**	*e*P		**P**	**10 29 15.2**	**-1.5**
PGAV	**Gavieira, Arco**	**22.25**	**121**	*e*P		**P**	**10 29 21.4**	**+1.8**
	comp=Z,57nm,1.2s,mb4.9							
PGAV	**Gavieira, Arco**	**22.25**	**121**	*e*P		**P**	**10 29 21.4**	**+1.8**
	comp=Z,57nm,1.2s,mb4.9							
PGAV				*e*pP			10 29 25.0	
PCAB	**Cabril**	**22.56**	**121**	*e*P		**P**	**10 29 21.7**	**-1.2**
	comp=Z,47nm,1.9s,mb4.6							
PCAB	**Cabril**	**22.56**	**121**	*e*P		**P**	**10 29 21.7**	**-1.2**
	comp=Z,47nm,1.9s,mb4.6							
PCAB				*e*pP			10 29 28.5	
PVRL	**Vila Real**	**23.05**	**121**	*e*P		**P**	**10 29 29.1**	**+1.1**
	comp=Z,31nm,1.5s,mb4.5							
PVRL	**Vila Real**	**23.05**	**121**	*e*P		**P**	**10 29 29.1**	**+1.1**
	comp=Z,31nm,1.5s,mb4.5							
PQI	**Presque Isle**	**23.07**	**258**	*e*P		**P**	**10 29 27.1**	**-1.1**
	comp=Z,149nm,1.4s,mb5.2							
PQI	**Presque Isle**	**23.07**	**258**	*e*P		**P**	**10 29 27.1**	**-1.1**
	comp=Z,149nm,1.4s,mb5.2							
PBRG	**Braganca**	**23.11**	**119**	*e*P		**P**	**10 29 27.5**	**-1.1**
	comp=Z,24nm,1.9s,mb4.3							
PBRG	**Braganca**	**23.11**	**119**	*e*P		**P**	**10 29 27.5**	**-1.1**
	comp=Z,24nm,1.9s,mb4.3							
MFF	**Saint Martin d**	**23.17**	**102**	*e*P		**P**	**10 29 28.9**	**-0.3**
	comp=Z,40nm,1.2s,mb4.4							
MFF	**Saint Martin d**	**23.17**	**102**	*e*P		**P**	**10 29 28.9**	**-0.3**
	comp=Z,20nm,1.2s,mb4.4							
MFF	**Saint Martin d**	**23.17**	**102**	*e*P		**P**	**10 29 28.9**	**-0.3**
MFF					pmax	pmax		
	comp=Z,20nm,1.2s,mb4.4							
MFF	**Saint Martin d**	**23.17**	**102**	*e*P		**P**	**10 29 28.9**	**-0.3**
	comp=Z,20nm,1.2s,mb4.4							
PVIS	**Viseu**	**23.41**	**122**	*e*P		**P**	**10 29 31.5**	**-0.3**
	comp=Z,30nm,1.2s,mb4.6							
PVIS	**Viseu**	**23.41**	**122**	*e*P		**P**	**10 29 31.5**	**-0.3**
	comp=Z,30nm,1.2s,mb4.6							
NB2	**NORSAR Subarra**	**23.41**	**61**	P		**P**	**10 29 30.4**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=280,slow=10							
NB2	**NORSAR Subarra**	**23.41**	**61**	P		**P**	**10 29 30.4**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=280,slow=9.3,SNR=0.3							
NOA	**NORSAR Array B**	**23.41**	**61**	P		**P**	**10 29 30.8**	**-0.9**
	comp=Z,3.3nm,0.7s,mb3.9,baz=280,slow=9.8,SNR=9.6							
NOA					LR	LR	10 36 48.0	
	comp=Z,486nm,20.1s,MS4.0,baz=10.0,slow=32							
NOA	**NORSAR Array B**	**23.41**	**61**	P		**P**	**10 29 30.8**	**-0.9**
NOA					LR	LR	10 36 48.0	
NOA	**NORSAR Array B**	**23.41**	**61**	P		**P**	**10 29 30.8**	**-0.9**
NOA	**NORSAR Array B**	**23.41**	**61**	P		**P**	**10 29 30.8**	**-0.9**
MVO	**Moncorvo**	**23.46**	**120**	*e*P		**P**	**10 29 32.3**	**-0.1**
	comp=Z,31nm,1.5s,mb4.5							
MVO	**Moncorvo**	**23.46**	**120**	*e*P		**P**	**10 29 32.3**	**-0.1**
	comp=Z,31nm,1.5s,mb4.5							
BAIF	**Baives**	**23.57**	**90**	*e*P		**P**	**10 29 31.4**	**-1.9**
	comp=Z,14nm,0.9s,mb4.1							
BAIF	**Baives**	**23.57**	**90**	*e*P		**P**	**10 29 31.4**	**-1.9**
	comp=Z,6.9nm,0.9s,mb4.1							
BAIF	**Baives**	**23.57**	**90**	*e*P		**P**	**10 29 31.4**	**-1.9**
BAIF					pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.1							
BAIF	**Baives**	**23.57**	**90**	*e*P		**P**	**10 29 31.4**	**-1.9**
	comp=Z,6.9nm,0.9s,mb4.1							
MTE	**Manteigas**	**23.82**	**122**	*e*P		**P**	**10 29 34.7**	**-1.1**
	comp=Z,43nm,1.3s,mb4.7							
MTE	**Manteigas**	**23.82**	**122**	*e*P		**P**	**10 29 34.7**	**-1.0**
	comp=Z,43nm,1.3s,mb4.7							
PTOM	**Tomar**	**24.05**	**125**	*e*P		**P**	**10 29 37.5**	**-0.3**
PTOM	**Tomar**	**24.05**	**125**	*e*P		**P**	**10 29 37.5**	**-0.3**
PTOM					*e*pP		10 29 45.0	
HYF	**Humbligny**	**24.27**	**97**	*e*P		**P**	**10 29 39.0**	**-0.8**
HYF	**Humbligny**	**24.27**	**97**	*e*P		**P**	**10 29 39.0**	**-0.8**
HYF	**Humbligny**	**24.27**	**97**	*e*P		**P**	**10 29 39.0**	**-0.8**
PMTG	**Montargil**	**24.57**	**125**	*e*P		**P**	**10 29 42.0**	**-0.7**
	comp=Z,28nm,2.3s,mb4.4							
PMTG	**Montargil**	**24.57**	**125**	*e*P		**P**	**10 29 42.0**	**-0.7**
	comp=Z,28nm,2.3s,mb4.4							
TCF	**Toulx Ste Croi**	**24.64**	**100**	*e*P		**P**	**10 29 42.6**	**-0.5**
	comp=Z,119nm,1.1s,mb5.0							
TCF	**Toulx Ste Croi**	**24.64**	**100**	*e*P		**P**	**10 29 42.6**	**-0.5**
	comp=Z,60nm,1.1s,mb5.0							
TCF	**Toulx Ste Croi**	**24.64**	**100**	*e*P		**P**	**10 29 42.6**	**-0.5**
TCF					pmax	pmax		
	comp=Z,60nm,1.1s,mb5.0							
TCF	**Toulx Ste Croi**	**24.64**	**100**	*e*P		**P**	**10 29 42.6**	**-0.5**
	comp=Z,60nm,1.1s,mb5.0							
PMRV	**Marv??o**	**24.66**	**123**	*e*P		**P**	**10 29 44.5**	**+1.0**
	comp=Z,20nm,1.0s,mb4.6							
PMRV	**Marv??o**	**24.66**	**123**	*e*P		**P**	**10 29 44.5**	**+1.0**
	comp=Z,20nm,1.0s,mb4.6							
LFF	**La Frestale**	**24.71**	**104**	*e*P		**P**	**10 29 43.5**	**-0.3**
	comp=Z,42nm,1.1s,mb4.6							
LFF	**La Frestale**	**24.71**	**104**	*e*P		**P**	**10 29 43.5**	**-0.3**
	comp=Z,21nm,1.1s,mb4.6							
LFF	**La Frestale**	**24.71**	**104**	*e*P		**P**	**10 29 43.5**	**-0.3**
LFF					pmax	pmax		
	comp=Z,21nm,1.1s,mb4.6							
LFF	**La Frestale**	**24.71**	**104**	*e*P		**P**	**10 29 43.5**	**-0.3**
	comp=Z,21nm,1.1s,mb4.6							
HFS	**Hagfors**	**24.79**	**62**	P		**P**	**10 29 44.8**	**+0.3**
	comp=Z,8.6nm,0.8s,mb4.3,baz=278,slow=10,SNR=13							
HFS	**Hagfors**	**24.79**	**62**	P		**P**	**10 29 44.8**	**+0.3**
HFS	**Hagfors**	**24.79**	**62**	P		**P**	**10 29 44.8**	**+0.3**
HFS	**Hagfors**	**24.79**	**62**	P		**P**	**10 29 44.8**	**+0.3**
BGF	**Bois d'Agland**	**24.81**	**99**	*e*P		**P**	**10 29 43.9**	**-0.9**
	comp=Z,69nm,1.1s,mb4.8							
BGF	**Bois d'Agland**	**24.81**	**99**	*e*P		**P**	**10 29 43.9**	**-0.9**
	comp=Z,35nm,1.1s,mb4.8							
BGF	**Bois d'Agland**	**24.81**	**99**	*e*P		**P**	**10 29 43.9**	**-0.9**
BGF					pmax	pmax		
	comp=Z,35nm,1.1s,mb4.8							
BGF	**Bois d'Agland**	**24.81**	**99**	*e*P		**P**	**10 29 43.9**	**-0.9**
	comp=Z,35nm,1.1s,mb4.8							
SSF	**Saint Saulge**	**24.87**	**97**	*e*P		**P**	**10 29 44.4**	**-0.8**
	comp=Z,58nm,1.1s,mb4.7							
SSF	**Saint Saulge**	**24.87**	**97**	*e*P		**P**	**10 29 44.4**	**-0.8**
	comp=Z,29nm,1.1s,mb4.7							
SSF	**Saint Saulge**	**24.87**	**97**	*e*P		**P**	**10 29 44.4**	**-0.8**
SSF					pmax	pmax		
	comp=Z,29nm,1.1s,mb4.7							
SSF	**Saint Saulge**	**24.87**	**97**	*e*P		**P**	**10 29 44.4**	**-0.8**
	comp=Z,29nm,1.1s,mb4.7							
RJF	**Les Rejaudoux**	**24.89**	**102**	*e*P		**P**	**10 29 44.9**	**-0.5**
	comp=Z,110nm,1.6s,mb4.8							
RJF	**Les Rejaudoux**	**24.89**	**102**	*e*P		**P**	**10 29 44.9**	**-0.5**
	comp=Z,55nm,1.6s,mb4.8							
RJF	**Les Rejaudoux**	**24.89**	**102**	*e*P		**P**	**10 29 44.9**	**-0.5**
RJF					pmax	pmax		
	comp=Z,55nm,1.6s,mb4.8							
RJF	**Les Rejaudoux**	**24.89**	**102**	*e*P		**P**	**10 29 44.9**	**-0.5**
	comp=Z,55nm,1.6s,mb4.8							
LOR	**Lormes**	**24.94**	**96**	*e*P		**P**	**10 29 45.0**	**-0.9**
	comp=Z,69nm,1.2s,mb4.8,baz=316							
LOR	**Lormes**	**24.94**	**96**	*e*P		**P**	**10 29 45.0**	**-0.9**
	comp=Z,34nm,1.2s,mb4.8							
LOR	**Lormes**	**24.94**	**96**	*e*P		**P**	**10 29 45.0**	**-0.9**
LOR					pmax	pmax		
	comp=Z,35nm,1.2s,mb4.8							
LOR	**Lormes**	**24.94**	**96**	*e*P		**P**	**10 29 45.0**	**-0.9**
	comp=Z,34nm,1.2s,mb4.8,baz=316							
AVF	**Avril sur Loir**	**24.95**	**98**	*e*P		**P**	**10 29 45.1**	**-0.9**
	comp=Z,43nm,1.1s,mb4.6							
AVF	**Avril sur Loir**	**24.95**	**98**	*e*P		**P**	**10 29 45.1**	**-0.9**
	comp=Z,21nm,1.1s,mb4.6							
AVF	**Avril sur Loir**	**24.95**	**98**	*e*P		**P**	**10 29 45.1**	**-0.9**
AVF					pmax	pmax		
	comp=Z,21nm,1.1s,mb4.6							
AVF	**Avril sur Loir**	**24.95**	**98**	*e*P		**P**	**10 29 45.1**	**-0.9**
	comp=Z,21nm,1.1s,mb4.6							
PESTR	**Estremoz**	**25.03**	**124**	*e*P		**P**	**10 29 44.6**	**-2.2**
	comp=Z,28nm,1.1s,mb4.7							
PESTR	**Estremoz**	**25.03**	**124**	*e*P		**P**	**10 29 44.6**	**-2.2**
	comp=Z,28nm,1.1s,mb4.7							
SFTF	**Sexfontaines**	**25.04**	**93**	*e*P		**P**	**10 29 47.3**	**+0.5**
	comp=Z,48nm,0.9s,mb4.7,baz=309							
SFTF	**Sexfontaines**	**25.04**	**93**	*e*P		**P**	**10 29 47.3**	**+0.5**
	comp=Z,48nm,0.9s,mb5.0							
SFTF	**Sexfontaines**	**25.04**	**93**	*e*P		**P**	**10 29 47.3**	**+0.5**
	comp=Z,24nm,0.9s,mb4.7,baz=309							
EVOP	**Sao Brissos**	**25.06**	**126**	*e*P		**P**	**10 29 46.4**	**-0.7**
	comp=Z,22nm,1.0s,mb4.6							
EVOP	**Sao Brissos**	**25.06**	**126**	*e*P		**P**	**10 29 46.4**	**-0.7**
EVOP					pmax	pmax		
	comp=Z,22nm,1.0s,mb4.6							
EVOP	**Sao Brissos**	**25.06**	**126**	*e*P		**P**	**10 29 46.4**	**-0.7**
	comp=Z,11nm,1.0s,mb4.3							
EVO	**Evora**	**25.11**	**126**	*e*P		**P**	**10 29 46.4**	**-1.1**
	comp=Z,22nm,1.0s,mb4.3							
PNCL	**Nicolau / Gran**	**25.23**	**127**	*e*P		**P**	**10 29 47.9**	**-0.7**
	comp=Z,17nm,1.1s,mb4.5							
PNCL	**Nicolau / Gran**	**25.23**	**127**	*e*P		**P**	**10 29 47.9**	**-0.7**
	comp=Z,17nm,1.1s,mb4.5							
AGO	**Saint Agoulin**	**25.28**	**99**	*e*P		**P**	**10 29 50.3**	**+1.3**
AGO	**Saint Agoulin**	**25.28**	**99**	*e*P		**P**	**10 29 50.3**	**+1.3**
AGO	**Saint Agoulin**	**25.28**	**99**	*e*P		**P**	**10 29 50.3**	**+1.3**
SMF	**Signal de Mont**	**25.30**	**97**	*e*P		**P**	**10 29 48.8**	**-0.4**
	comp=Z,53nm,1.2s,mb4.7							
SMF	**Signal de Mont**	**25.30**	**97**	*e*P		**P**	**10 29 48.8**	**-0.4**
	comp=Z,27nm,1.2s,mb4.7							
SMF	**Signal de Mont**	**25.30**	**97**	*e*P		**P**	**10 29 48.8**	**-0.4**
SMF					pmax	pmax		
	comp=Z,27nm,1.2s,mb4.7							
SMF	**Signal de Mont**	**25.30**	**97**	*e*P		**P**	**10 29 48.8**	**-0.4**
	comp=Z,27nm,1.2s,mb4.7							
WVL	**Waterville**	**25.31**	**256**	*e*P		**P**	**10 29 47.5**	**-1.8**
	comp=Z,39nm,1.0s,mb4.9							
WVL	**Waterville**	**25.31**	**256**	*e*P		**P**	**10 29 47.5**	**-1.8**
	comp=Z,39nm,1.0s,mb4.9							
RUP	**Ruppelstein**	**25.32**	**89**	*e*P		**P**	**10 29 50.6**	**+1.2**
RUP	**Ruppelstein**	**25.32**	**89**	*e*P		**P**	**10 29 50.6**	**+1.2**
RUP	**Ruppelstein**	**25.32**	**89**	*e*P		**P**	**10 29 50.6**	**+1.2**
PYM	**Petit Puy Mans**	**25.41**	**100**	*e*P		**P**	**10 29 50.3**	**+0.2**
PYM	**Petit Puy Mans**	**25.41**	**100**	*e*P		**P**	**10 29 50.3**	**+0.2**
PYM	**Petit Puy Mans**	**25.41**	**100**	*e*P		**P**	**10 29 50.3**	**+0.2**
PYM	**Petit Puy Mans**	**25.41**	**100**	*e*P		**P**	**10 29 50.3**	**+0.2**
CAF	**Calviac**	**25.43**	**102**	*e*P		**P**	**10 29 50.1**	**-0.2**
	comp=Z,26nm,1.2s,mb4.3							
CAF	**Calviac**	**25.43**	**102**	*e*P		**P**	**10 29 50.1**	**-0.2**
	comp=Z,13nm,1.2s,mb4.3							
CAF	**Calviac**	**25.43**	**102**	*e*P		**P**	**10 29 50.1**	**-0.2**
CAF					pmax	pmax		
	comp=Z,13nm,1.2s,mb4.3							
CAF	**Calviac**	**25.43**	**102**	*e*P		**P**	**10 29 50.1**	**-0.2**
	comp=Z,13nm,1.2s,mb4.3							
THEF	**They Montfort**	**25.55**	**92**	*e*P		**P**	**10 29 53.5**	**+2.1**
THEF	**They Montfort**	**25.55**	**92**	*e*P		**P**	**10 29 53.5**	**+2.1**
PBEJ	**Beja**	**25.59**	**126**	*e*P		**P**	**10 29 51.9**	**0.0**
	comp=Z,25nm,1.2s,mb4.6							
PBEJ	**Beja**	**25.59**	**126**	*e*P		**P**	**10 29 51.9**	**0.0**
	comp=Z,25nm,1.2s,mb4.6							
PLDF	**La Plantade**	**25.60**	**99**	*e*P		**P**	**10 29 51.0**	**-0.9**
PLDF	**La Plantade**	**25.60**	**99**	*e*P		**P**	**10 29 51.0**	**-0.9**
PLDF	**La Plantade**	**25.60**	**99**	*e*P		**P**	**10 29 51.0**	**-0.9**
PLDF	**La Plantade**	**25.60**	**99**	*e*P		**P**	**10 29 51.0**	**-0.9**
PBAR	**Barrancos**	**25.84**	**125**	*e*P		**P**	**10 29 54.6**	**+0.5**
	comp=Z,24nm,1.2s,mb4.6							
PBAR					*e*pP	pP	10 30 01.7	+4.5
PBAR	**Barrancos**	**25.84**	**125**	*e*P		**P**	**10 29 54.6**	**+0.5**
	comp=Z,24nm,1.2s,mb4.6							
PBAR					*e*pP	pP	10 30 01.7	+4.5
PCVE	**Castro Verde**	**25.84**	**127**	*e*P		**P**	**10 29 54.4**	**+0.2**
	comp=Z,30nm,1.3s,mb4.7							
PCVE	**Castro Verde**	**25.84**	**127**	*e*P		**P**	**10 29 54.4**	**+0.2**
	comp=Z,30nm,1.3s,mb4.7							
MORF	**Marmelete**	**25.84**	**128**	*e*P		**P**	**10 29 54.2**	**0.0**
	comp=Z,27nm,1.2s,mb4.7							
MORF	**Marmelete**	**25.84**	**128**	*e*P		**P**	**10 29 54.2**	**0.0**
	comp=Z,27nm,1.2s,mb4.7							
HAU	**Haudompre**	**25.87**	**92**	*e*P		**P**	**10 29 54.0**	**-0.3**
	comp=Z,41nm,1.1s,mb4.6							
HAU	**Haudompre**	**25.87**	**92**	*e*P		**P**	**10 29 54.0**	**-0.3**
	comp=Z,20nm,1.1s,mb4.6							
HAU	**Haudompre**	**25.87**	**92**	*e*P		**P**	**10 29 54.0**	**-0.3**
HAU					pmax	pmax		
	comp=Z,21nm,1.1s,mb4.6							
HAU	**Haudompre**	**25.87**	**92**	*e*P		**P**	**10 29 54.0**	**-0.3**
	comp=Z,20nm,1.1s,mb4.6							
PFVI	**Vila Bisbo**	**25.91**	**129**	*e*P		**P**	**10 29 53.3**	**-1.5**
	comp=Z,47nm,1.2s,mb4.9							
PFVI	**Vila Bisbo**	**25.91**	**129**	*e*P		**P**	**10 29 53.3**	**-1.5**
	comp=Z,47nm,1.2s,mb4.9							
ESDC	**Sonseca Array**	**26.09**	**118**	P		**P**	**10 29 56.2**	**-0.2**
	comp=Z,0.5nm,0.3s,mb3.5,baz=320,slow=8.4,SNR=11							
ESDC	**Sonseca Array**	**26.09**	**118**	P		**P**	**10 29 56.2**	**-0.2**
ESDC	**Sonseca Array**	**26.09

comp=Z,1µm,13.0s
VYHS Vyhne 32.44 82 *e*P **P 10 30 53.5 +0.8**
VYHS Vyhne 32.44 82 *e*P **P 10 30 53.5 +0.8**
VYHS Vyhne 32.44 82 *e*P **P 10 30 53.5 +0.8**
PSZ Piszkesteto 33.35 82 *e*P **P 10 31 01.7 +1.0**
comp=Z,7.5nm,1.0s,mb4.6
PSZ Piszkesteto 33.35 82 *e*P **P 10 31 01.7 +1.0**
PSZ pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
PSZ Piszkesteto 33.35 82 *e*P **P 10 31 01.7 +1.0**
comp=Z,8.0nm,1.0s,mb4.6
CRVS Cervenica-Dubn 33.63 79 *e*P **P 10 31 05.2 +2.1**
CRVS Cervenica-Dubn 33.63 79 *e*P **P 10 31 05.2 +2.1**
CRVS Cervenica-Dubn 33.63 79 *e*P **P 10 31 05.2 +2.1**
EYMN Ely 35.15 280 *e*P **P 10 31 16.2 -0.1**
comp=Z,36nm,1.0s,mb5.3
EYMN Ely 35.15 280 *e*P **P 10 31 16.2 -0.1**
comp=Z,36nm,1.0s,mb5.3
ACSO Alum Creek Sta 35.48 263 *e*P **P 10 31 19.2 +0.1**
comp=Z,26nm,1.1s,mb5.1
ACSO Alum Creek Sta 35.48 263 *e*P **P 10 31 19.2 0.0**
comp=Z,26nm,1.1s,mb5.1
ULM Lac du Bonnet 36.15 287 P **P 10 31 23.6 -1.3**
comp=Z,11nm,1.0s,mb4.7,baz=59,slow=8.7,SNR=4.9
ULM LR LR 10 44 36.0
comp=Z,748nm,18.1s,MS4.5,baz=57,slow=34
ULM Lac du Bonnet 36.15 287 P **P 10 31 23.6 -1.3**
ULM LR LR 10 44 36.0
ULM Lac du Bonnet 36.15 287 P **P 10 31 23.6 -1.3**
ULM Lac du Bonnet 36.15 287 P **P 10 31 23.6 -1.3**
KIEV Kiev 36.73 72 *e*P **P 10 31 30.3 +0.5**
comp=Z,6.6nm,0.7s,mb4.6
KIEV Kiev 36.73 72 *e*P **P 10 31 30.3 +0.5**
KIEV pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
KIEV Kiev 36.73 72 *e*P **P 10 31 30.3 +0.5**
comp=Z,7.0nm,0.7s,mb4.6
AKASG Malin Array Be 36.74 72 P **P 10 31 28.9 -1.0**
comp=Z,3.9nm,0.8s,mb4.3,baz=303,slow=8.8,SNR=8.3
AKASG Malin Array Be 36.74 72 P **P 10 31 28.9 -1.0**
AKASG Malin Array Be 36.74 72 P **P 10 31 28.9 -1.0**
AKBB Malin Array Si 36.74 72 *e*P **P 10 31 30.3 +0.5**
AKBB Malin Array Si 36.74 72 *e*P **P 10 31 30.3 +0.4**
AKBB Malin Array Si 36.74 72 *e*P **P 10 31 30.3 +0.4**
FFC Flin Flon 36.82 296 *e*P **P 10 31 29.9 -0.6**
comp=Z,15nm,1.0s,mb4.8
FFC Flin Flon 36.82 296 *i*P **P 10 31 30.3 -0.2**
FFC Flin Flon 36.82 296 *i*P **P 10 31 30.3 -0.2**
AGMN Agassiz Nation 37.29 284 *e*P **P 10 31 34.4 -0.2**
comp=Z,13nm,0.9s,mb4.8
AGMN Agassiz Nation 37.29 284 *e*P **P 10 31 34.4 -0.2**
comp=Z,13nm,0.9s,mb4.8
SPMN St. Paul 37.54 278 ⇓P **P 10 31 36.5 -0.2**
baz=37,SNR=8.3
SFIN Scholer Farm 37.63 267 ⇑P **P 10 31 37.5 0.0**
baz=38
JFWS Jewell Farm 37.64 273 *e*P **P 10 31 37.5 -0.1**
comp=Z,19nm,0.8s,mb4.9
JFWS Jewell Farm 37.64 273 *e*P **P 10 31 37.5 -0.1**
JFWS pmax pmax
comp=Z,19nm,0.8s,mb4.9
JFWS Jewell Farm 37.64 273 *e*P **P 10 31 37.5 -0.1**
comp=Z,19nm,0.8s,mb4.9
OBN Obninsk 38.01 62 P **P 10 31 42.0 +1.5**
OBN *e* pP 10 31 45.5 +1.9
OBN *e* 10 31 50.3
OBN 10 33 07.0
OBN Obninsk 38.01 62 P **P 10 31 42.0 +1.5**
YKA Yellowknife Ar 38.57 313 P **P 10 31 43.7 -1.5**
comp=Z,2.1nm,0.7s,mb4.0,baz=59,slow=9.1,SNR=5.5
YKA LR LR 10 46 28.5
comp=Z,61nm,20.1s,MS3.4,baz=45,slow=34
YKA Yellowknife Ar 38.57 313 P **P 10 31 43.7 -1.5**
YKA LR LR 10 46 28.5
YKA Yellowknife Ar 38.57 313 P **P 10 31 43.7 -1.5**
YKA Yellowknife Ar 38.57 313 P **P 10 31 43.7 -1.5**
HDIL Hopedale 38.72 269 *e*P **P 10 31 47.5 +0.8**
HDIL Hopedale 38.72 269 *e*P **P 10 31 47.5 +0.8**
NHSC New Hope 39.25 253 *e*P **P 10 31 51.9 +0.7**
comp=Z,87nm,1.1s,mb5.4
NHSC New Hope 39.25 253 *e*P **P 10 31 51.9 +0.7**
comp=Z,87nm,1.1s,mb5.4
USIN University of 39.65 265 *e*P **P 10 31 54.4 -0.1**
comp=Z,35nm,1.0s,mb5.0
USIN University of 39.65 265 *e*P **P 10 31 54.4 -0.1**
comp=Z,35nm,1.0s,mb5.0
CPCT Cooper Cave 39.78 259 *e*P **P 10 31 55.7 +0.1**
CPCT Cooper Cave 39.78 259 *e*P **P 10 31 55.7 +0.1**
SCIA State Center 39.95 274 *e*P **P 10 31 57.3 +0.3**
comp=Z,21nm,0.8s,mb4.9
SCIA State Center 39.95 274 *e*P **P 10 31 57.3 +0.4**
comp=Z,21nm,0.8s,mb4.9
ECSD EROS Data Cent 40.58 279 *e*P **P 10 32 02.4 +0.2**
comp=Z,19nm,0.8s,mb4.8
ECSD EROS Data Cent 40.58 279 *e*P **P 10 32 02.4 +0.2**
comp=Z,19nm,0.8s,mb4.8
SIUC Southern Illin 40.68 266 *e*P **P 10 32 02.8 -0.2**
comp=Z,22nm,0.8s,mb4.8
SIUC Southern Illin 40.68 266 *e*P **P 10 32 02.8 -0.3**
comp=Z,22nm,0.8s,mb4.8
GOGA Godfrey 40.76 256 *e*P **P 10 32 04.5 +0.8**
comp=Z,16nm,0.8s,mb4.7
GOGA Godfrey 40.76 256 *e*P **P 10 32 04.5 +0.8**
GOGA pmax pmax
comp=Z,16nm,0.8s,mb4.7
GOGA Godfrey 40.76 256 *e*P **P 10 32 04.5 +0.8**
comp=Z,16nm,0.8s,mb4.7
FVM French Village 41.15 267 *e*P **P 10 32 07.0 +0.1**
comp=Z,24nm,1.1s,mb4.7
FVM French Village 41.15 267 *e*P **P 10 32 07.0 +0.1**
FVM pmax pmax
comp=Z,24nm,1.1s,mb4.7
FVM French Village 41.15 267 *e*P **P 10 32 07.0 +0.1**
comp=Z,24nm,1.1s,mb4.7
A24A Westby 41.19 290 ⇑P **P 10 32 07.4 +0.2**
baz=41
BRSD Miller 41.38 281 ⇑P **P 10 32 09.1 +0.3**
baz=41
CCM Cathedral Cave 41.55 268 *e*P **P 10 32 09.9 -0.3**
comp=Z,17nm,1.0s,mb4.6
CCM Cathedral Cave 41.55 268 *e*P **P 10 32 09.9 -0.3**
CCM pmax pmax
comp=Z,17nm,1.0s,mb4.6
CCM Cathedral Cave 41.55 268 *e*P **P 10 32 09.9 -0.3**
comp=Z,17nm,1.0s,mb4.6
DGMT Dagmar 41.58 289 ⇓P **P 10 32 10.9 +0.6**
baz=41
DGMT Dagmar 41.58 289 *e*P **P 10 32 11.1 +0.8**
comp=Z,46nm,1.3s,mb5.0
DGMT Dagmar 41.58 289 *e*P **P 10 32 11.1 +0.8**
comp=Z,46nm,1.3s,mb5.0
B23A Brockton 41.99 290 ⇓P **P 10 32 14.4 +0.7**
baz=42,SNR=11
PLAL Pickwick Lake 42.06 262 *e*P **P 10 32 16.9 +2.5**
comp=Z,76nm,2.1s,mb5.0
INK Inuvik 42.11 327 *e*P **P 10 32 13.3 -1.1**
comp=Z,20nm,1.4s,mb4.5
INK Inuvik 42.11 327 *e*P **P 10 32 13.3 -1.2**
INK pmax pmax
comp=Z,20nm,1.4s
INK Inuvik 42.11 327 *e*P **P 10 32 13.3 -1.2**
comp=Z,20nm,1.4s,mb4.5
A22A Carney Farms, 42.13 291 ⇓P **P 10 32 15.2 +0.3**
baz=42
C24A Savage 42.29 289 ⇓P **P 10 32 16.8 +0.6**
baz=42
C23A Lambert 42.51 289 ⇓P **P 10 32 18.7 +0.7**
baz=42,SNR=9.2
B22A Reddig Ranch S 42.61 290 ⇑P **P 10 32 19.1 +0.3**
baz=42
A21A Bergtoll Ranch 42.65 292 ⇑P **P 10 32 19.4 +0.3**
baz=42,SNR=7.1
D23A Lindsay 42.93 289 ⇓P **P 10 32 22.0 +0.7**
baz=43
BGNE Belgrade 42.99 277 ⇓P **P 10 32 22.2 +0.3**
baz=43
B21A Ellsworth Farm 43.06 291 ⇓P **P 10 32 22.7 +0.3**
baz=43
OXF Oxford 43.14 263 *e*P **P 10 32 21.8 -1.4**
comp=Z,40nm,1.0s,mb5.1
OXF Oxford 43.14 263 *e*P **P 10 32 21.8 -1.4**
OXF pmax pmax
comp=Z,39nm,1.0s,mb5.1
OXF Oxford 43.14 263 *e*P **P 10 32 21.8 -1.4**
comp=Z,40nm,1.0s,mb5.1
A20A Cobblestone Ra 43.23 292 ⇓P **P 10 32 23.9 +0.2**
baz=43,SNR=5.7
E23A Ismay 43.42 288 ⇑P **P 10 32 25.9 +0.6**
baz=43
D22A Cohagen 43.45 289 ⇑P **P 10 32 26.1 +0.6**
baz=43,SNR=5.7
C21A Desert Coulee 43.48 291 ⇑P **P 10 32 26.0 +0.2**
baz=43
A19A Klindworth Far 43.62 293 ⇓P **P 10 32 27.0 +0.1**
baz=43
KSU1 Kansas State U 43.75 274 *e*P **P 10 32 27.4 -0.7**
comp=Z,30nm,0.9s,mb5.0
KSU1 Kansas State U 43.75 274 *e*P **P 10 32 27.4 -0.7**
comp=Z,30nm,0.9s,mb5.0
LAO LASA Array 43.77 289 ⇑P **P 10 32 28.9 +0.7**
baz=44
LAO LASA Array 43.77 289 *e*P **P 10 32 29.0 +0.9**
comp=Z,36nm,0.9s,mb5.1
LAO LASA Array 43.77 289 *e*P **P 10 32 29.0 +0.9**
comp=Z,36nm,0.9s,mb5.1
E22A Miles City 43.79 288 ⇑P **P 10 32 28.7 +0.4**
baz=44,SNR=9.4
D21A La Casta Ranch 43.92 290 ⇑P **P 10 32 29.4 +0.1**
baz=44,SNR=5.9
B19A Brinkman Farms 44.02 292 ⇓P **P 10 32 30.2 0.0**
baz=44
C20A Veseth Ranch, 44.02 291 ⇑P **P 10 32 29.7 -0.4**
baz=44,SNR=5.1
H24A Dirks Ranch, A 44.17 286 ⇑P **P 10 32 31.1 -0.3**
baz=44,SNR=6.5
A18A Metzger Ranch, 44.18 293 ⇑P **P 10 32 31.3 -0.1**
baz=44
B18A Beardsley Farm 44.49 293 ⇓P **P 10 32 32.9 -1.0**
baz=44
D20A Manuel Ranch, 44.50 290 ⇓P **P 10 32 34.1 +0.2**
baz=44,SNR=10
C19A Slack Wire Ran 44.55 292 ⇓P **P 10 32 34.5 +0.2**
baz=44
TAM Tamanrasset 44.56 123 *e*P **P 10 32 34.6 0.0**
comp=Z,1.3nm,0.3s,mb4.2
TAM Tamanrasset 44.56 123 *e*P **P 10 32 34.7 0.0**
TAM pmax pmax
comp=Z,1.0nm,0.3s,mb4.1
TAM Tamanrasset 44.56 123 *e*P **P 10 32 34.7 0.0**
comp=Z,1.3nm,0.3s,mb4.2
A17A Triple J Farms 44.59 294 ⇓P **P 10 32 34.9 +0.2**
baz=44
EGMT Eagleton 44.72 292 ⇑P **P 10 32 35.8 +0.1**
baz=44
EGMT Eagleton 44.72 292 *e*P **P 10 32 35.3 -0.4**
comp=Z,30nm,1.2s,mb5.0
EGMT Eagleton 44.72 292 *e*P **P 10 32 35.3 -0.4**
comp=Z,30nm,1.2s,mb5.0
D19A Cripps Ranch, 44.83 291 ⇓P **P 10 32 36.7 0.0**
baz=45,SNR=10
E20A Meyer Farm, Mu 44.88 290 ⇑P **P 10 32 37.0 -0.1**
baz=45,SNR=6.0
B17A L&G Farms, Che 45.07 293 ⇑P **P 10 32 38.6 +0.1**
baz=45
CBYP Canovanas 45.18 225 P **P 10 32 38.9 -0.7**
comp=Z,562nm,0.1s
CBYP Canovanas 45.18 225 P **P 10 32 38.9 -0.8**
comp=Z,562nm,0.1s
E19A Rath Farm, Rou 45.25 290 ⇓P **P 10 32 39.3 -0.7**
baz=45,SNR=6.9
D18A Linhart Farms, 45.28 292 ⇓P **P 10 32 40.0 -0.2**
baz=45,SNR=8.5
F20A Billings 45.36 289 ⇑P **P 10 32 40.9 +0.1**
baz=45
MIAR Mount Ida 45.39 267 *e*P **P 10 32 41.4 +0.2**
comp=Z,20nm,1.1s,mb4.9
MIAR Mount Ida 45.39 267 *e*P **P 10 32 41.4 +0.1**
MIAR pmax pmax
comp=Z,20nm,1.1s,mb4.9
MIAR Mount Ida 45.39 267 *e*P **P 10 32 41.4 +0.1**
comp=Z,20nm,1.1s,mb4.9
B16A M & M Farms, S 45.45 294 ⇑P **P 10 32 41.5 0.0**
baz=45
VBMS Vicksburg 45.48 262 *e*P **P 10 32 40.1 -1.8**
comp=Z,47nm,1.0s,mb5.3
VBMS Vicksburg 45.48 262 *e*P **P 10 32 40.1 -1.8**
comp=Z,47nm,1.0s,mb5.3
C17A Wharam Farm, 45.48 293 ⇑P **P 10 32 41.6 -0.2**
baz=45,SNR=13
A15A Johnson Ranch, 45.59 295 ⇑P **P 10 32 42.1 -0.5**
baz=45,SNR=15
TUL1 Tulsa 45.60 270 ⇑P **P 10 32 42.4 -0.5**
baz=45,SNR=7.8
CBKS Cedar Bluff 45.67 276 ⇓P **P 10 32 42.9 -0.5**
baz=46
F19A Roth Farm, Mol 45.74 290 ⇓P **P 10 32 43.2 -0.7**
baz=46
E18A Harlowton 45.76 291 ⇓P **P 10 32 43.8 -0.2**
baz=46
D17A Six Diamond Ra 45.77 292 ⇑P **P 10 32 43.9 -0.1**
baz=46,SNR=9.7
I22A 9 Mile Ranch, 45.77 286 ⇑P **P 10 32 43.8 -0.3**
baz=46,SNR=6.8
G20A Bridger 45.78 288 ⇑P **P 10 32 43.7 -0.5**
baz=46,SNR=5.4
A14A Double T Ranch 45.94 296 ⇑P **P 10 32 44.9 -0.4**
baz=46,SNR=20
B15A Bradely Ranch, 45.94 294 ⇓P **P 10 32 44.6 -0.8**
baz=46
J22A Midwest 46.10 285 ⇑P **P 10 32 45.9 -0.8**
baz=46,SNR=6.8
F18A Big Timber 46.10 290 ⇑P **P 10 32 46.4 -0.3**
baz=46
WALA Waterton Lakes 46.12 296 *e*P **P 10 32 45.7 -1.1**
comp=Z,0.8nm,1.0s,mb3.6
WALA Waterton Lakes 46.12 296 *e*P **P 10 32 45.7 -1.1**
comp=Z,0.8nm,1.0s,mb3.6
H20A Greybull 46.17 288 ⇓P **P 10 32 47.0 -0.2**
baz=46,SNR=11
BRTR Keskin Array B 46.20 82 P **P 10 32 49.2 +1.7**
comp=Z,2.4nm,0.9s,mb4.2,baz=317,slow=5.2,SNR=10
BRTR Keskin Array B 46.20 82 P **P 10 32 49.2 +1.7**
BRTR Keskin Array B 46.20 82 P **P 10 32 49.3 +1.7**
BRTR Keskin Array B 46.20 82 P **P 10 32 49.2 +1.6**
L24A Wheatland 46.22 283 ⇑P **P 10 32 47.6 -0.1**
baz=46
I21A Big Trails, Te 46.26 286 ⇑P **P 10 32 47.4 -0.6**
baz=46,SNR=10
B14A Marquette Ranc 46.27 295 ⇓P **P 10 32 47.2 -0.8**
baz=46
D16A Dana Ranch, Ca 46.28 293 ⇓P **P 10 32 47.9 -0.2**
baz=46,SNR=12
E17A Martinsdale 46.31 292 ⇓P **P 10 32 48.4 0.0**
baz=46,SNR=8.7
C15A Sanond Ranch, 46.32 294 ⇑P **P 10 32 48.1 -0.3**
baz=46,SNR=8.2
RLMT Red Lodge 46.40 289 ⇑P **P 10 32 49.4 +0.3**
baz=46,SNR=12
RLMT Red Lodge 46.40 289 *e*P **P 10 32 49.2 +0.2**
comp=Z,31nm,1.5s,mb5.0
RLMT Red Lodge 46.40 289 *e*P **P 10 32 49.2 +0.2**
comp=Z,31nm,1.5s,mb5.0
G18A Lazy EL Ranch, 46.42 289 ⇑P **P 10 32 49.2 0.0**
baz=46
A13A Flathead Natio 46.45 296 ⇑P **P 10 32 49.2 -0.2**
baz=46
H19A Powell 46.56 288 ⇓P **P 10 32 50.3 0.0**
baz=46,SNR=11
L23A Garrett 46.58 284 ⇓P **P 10 32 49.9 -0.6**
baz=46
F17A Fitzpatrick Pl 46.59 291 ⇑P **P 10 32 50.7 +0.2**
baz=46,SNR=7.1
I20A Worland 46.60 287 ⇓P **P 10 32 50.4 -0.2**
baz=46,SNR=5.4
K22A Casper 46.65 285 ⇑P **P 10 32 50.5 -0.5**
baz=46
DAWY Dawson 46.66 324 *e*P **P 10 32 51.0 +0.1**
DAWY Dawson 46.66 324 *e*P **P 10 32 51.0 +0.1**
E16A East Helena 46.68 292 ⇑P **P 10 32 51.2 -0.1**
baz=46
EGAK Eagle 46.73 326 *e*P **P 10 32 50.6 -0.7**
comp=Z,19nm,1.1s,mb4.9
EGAK Eagle 46.73 326 *e*P **P 10 32 50.6 -0.8**
comp=Z,19nm,1.1s,mb4.9
D15A Lincoln 46.77 293 ⇑P **P 10 32 51.7 -0.3**
baz=46,SNR=9.8
B13A Whitefish 46.85 296 ⇑P **P 10 32 52.0 -0.6**
baz=47,SNR=9.2
C14A Swan Lake 46.90 295 ⇓P **P 10 32 52.1 -0.8**
baz=47
H18A Shoshone NF, C 46.91 289 ⇑P **P 10 32 52.8 -0.3**
baz=47,SNR=7.1
YBMT Yellow Bay 46.97 295 *e*P **P 10 32 52.9 -0.5**
YBMT Yellow Bay 46.97 295 *e*P **P 10 32 52.9 -0.6**
J20A Shoshoni 46.99 287 ⇓P **P 10 32 53.6 -0.1**
baz=47,SNR=9.9
I19A Meeteetse 47.00 288 ⇑P **P 10 32 53.7 0.0**
baz=47,SNR=5.4
G17A Pierce Place, 47.03 290 ⇓P **P 10 32 54.3 +0.3**
baz=47,SNR=6.7
L22A Ellis Ranch, M 47.03 284 ⇓P **P 10 32 53.4 -0.7**
baz=47
K21A Alcova 47.05 285 ⇓P **P 10 32 53.4 -0.8**
baz=47
A12A Yaak River Ran 47.06 297 ⇑P **P 10 32 53.1 -1.1**
baz=47,SNR=5.7
SLMT Seeley Lake 47.13 294 *e*P **P 10 32 54.1 -0.7**
SLMT Seeley Lake 47.13 294 *e*P **P 10 32 54.1 -0.6**
O25A Wiggins 47.14 281 ⇓P **P 10 32 55.2 +0.3**
baz=47
ARU Arti 47.16 49 *d i*P **P 10 32 54.4 -0.4**
ARU *e* 10 34 39.7
ARU S S 10 39 45.4 -1.5
ARU SS SS 10 43 07.9 -5.5
ARU pmax pmax
comp=Z,14nm,1.7s,mb4.6
F16A Kennard Place, 47.17 291 ⇓P **P 10 32 54.6 -0.5**
baz=47
JTMT Jette 47.18 295 *e*P **P 10 32 54.2 -0.9**
JTMT Jette 47.18 295 *e*P **P 10 32 54.2 -0.9**
SWMT Swartz Lake 47.20 295 *e*P **P 10 32 54.4 -0.9**
SWMT Swartz Lake 47.20 295 *e*P **P 10 32 54.3 -1.0**
CHMT Chamberlain Mo 47.23 293 *e*P **P 10 32 54.0 -1.5**
comp=Z,2.2nm,1.2s,mb4.0
CHMT Chamberlain Mo 47.23 293 *e*P **P 10 32 54.0 -1.5**
comp=Z,2.2nm,1.2s,mb4.0
D14A Greenough 47.24 294 ⇓P **P 10 32 54.8 -0.8**
baz=47
E15A Deer Lodge 47.25 293 ⇓P **P 10 32 55.4 -0.2**
baz=47,SNR=7.1
BOZ Bozeman (W) 47.26 291 ⇑P **P 10 32 56.0 +0.2**
baz=47,SNR=17
BOZ Bozeman (W) 47.26 291 *e*P **P 10 32 56.0 +0.2**
comp=Z,15nm,1.1s,mb4.8
BOZ Bozeman (W) 47.26 291 *e*P **P 10 32 56.0 +0.2**
BOZ pmax pmax
comp=Z,15nm,1.1s,mb4.8
BOZ Bozeman (W) 47.26 291 *e*P **P 10 32 56.0 +0.2**
comp=Z,15nm,1.1s,mb4.8
B12A Libby 47.34 296 ⇑P **P 10 32 55.9 -0.5**
baz=47,SNR=5.7
BSMT Bassoo Peak 47.36 295 *e*P **P 10 32 55.9 -0.6**
BSMT Bassoo Peak 47.36 295 *e*P **P 10 32 55.9 -0.6**
C13A Hot Springs 47.37 295 ⇑P **P 10 32 56.1 -0.5**
baz=47,SNR=7.3
M22A Cedar Creek Ra 47.56 284 ⇓P **P 10 32 58.4 +0.2**
baz=47
LRM Limekiln Ridge 47.56 292 *e*P **P 10 32 58.2 +0.1**
LRM Limekiln Ridge 47.56 292 *e*P **P 10 32 58.2 +0.1**
N23A Red Feather La 47.57 283 ⇑P **P 10 32 58.6 +0.4**
baz=47
F15A Butte 47.57 292 ⇑P **P 10 32 57.8 -0.4**
baz=47,SNR=6.2
L21A Rawlins 47.58 285 ⇓P **P 10 32 57.9 -0.4**
baz=47
P25A Willow Gulch B 47.59 280 ⇑P **P 10 32 58.7 +0.3**
baz=47
K20A Yellowstone Ra 47.61 286 ⇓P **P 10 32 58.1 -0.5**
baz=47,SNR=11
MSO Missoula 47.63 294 ⇑P **P 10 32 57.8 -0.9**
baz=47
MSO Missoula 47.63 294 *e*P **P 10 32 57.4 -1.3**
comp=Z,25nm,2.0s,mb4.9
MSO Missoula 47.63 294 *e*P **P 10 32 57.4 -1.2**
comp=Z,25nm,2.0s,mb4.9
G16A Moss Hill, Enn 47.64 291 ⇑P **P 10 32 58.4 -0.3**
baz=47,SNR=5.7
O24A Longmont 47.64 281 ⇓P **P 10 32 58.9 +0.1**
baz=47
I18A Diamond G Ranc 47.66 288 ⇑P **P 10 32 58.8 -0.1**
baz=47
YFT Old Faithful 47.67 289 *e*P **P 10 33 00.3 +1.3**
comp=Z,17nm,1.0s,mb5.0
YFT Old Faithful 47.67 289 *e*P **P 10 33 00.3 +1.3**
comp=Z,17nm,1.0s,mb5.0
E14A Clinton 47.69 293 ⇑P **P 10 32 58.6 -0.5**
baz=47,SNR=7.3
D13A Huson 47.71 294 ⇑P **P 10 32 58.6 -0.7**
baz=47,SNR=6.3
H16A Russell Place, 47.71 290 ⇓P **P 10 32 59.0 -0.3**
baz=48
QLMT Earthquake Lak 47.72 290 *e*P **P 10 32 59.4 0.0**
QLMT Earthquake Lak 47.72 290 *e*P **P 10 32 59.4 0.0**
K19A Absolon Red Bu 47.76 287 ⇑P **P 10 32 58.6 -1.1**
baz=48,SNR=9.0
C12B Naegeli Ranch, 47.80 296 ⇑P **P 10 32 59.3 -0.7**
baz=48,SNR=10.0
M21A Separation Pea 47.83 284 ⇓P **P 10 33 00.6 +0.3**
baz=48
N22A Wattenberg Ran 47.91 283 ⇑P **P 10 33 01.4 +0.5**
baz=48
DLMT Dillon 47.95 292 *e*P **P 10 33 01.0 -0.2**
comp=Z,11nm,1.1s,mb4.8
DLMT Dillon 47.95 292 *e*P **P 10 33 01.0 -0.2**
comp=Z,11nm,1.1s,mb4.8
P24A Kohler Place, 47.99 281 ⇑P **P 10 33 02.2 +0.7**
baz=48
E13A Victor 48.02 294 ⇑P **P 10 33 01.0 -0.6**
baz=48,SNR=11
G15A Dillon 48.03 291 ⇓P **P 10 33 01.7 -0.1**
baz=48,SNR=12
O23A Lake Granby, G 48.04 282 ⇓P **P 10 33 02.5 +0.7**
baz=48
F14A Wisdom 48.04 292 ⇑P **P 10 33 02.1 +0.3**
baz=48
Q25A Bedland, Calha 48.06 279 ⇓P **P 10 33 01.9 -0.1**
baz=48,SNR=6.9
L20A Wamsutter 48.06 285 ⇑P **P 10 33 01.9 -0.2**
baz=48,SNR=10
J18A Kendall Valley 48.11 288 ⇓P **P 10 33 02.3 -0.1**
baz=48,SNR=14
MOOW Moose Ponds 48.11 289 *e*P **P 10 33 01.7 -0.7**
comp=Z,63nm,2.9s,mb5.1
MOOW Moose Ponds 48.11 289 *e*P **P 10 33 01.7 -0.7**
comp=Z,63nm,2.9s,mb5.1
WMOK Wichita Mounta 48.12 271 *e*P **P 10 33 02.2 -0.4**
comp=Z,29nm,1.2s,mb5.2
WMOK Wichita Mounta 48.12 271 *e*P **P 10 33 02.2 -0.4**
WMOK pmax pmax
comp=Z,29nm,1.2s,mb5.2
WMOK Wichita Mounta 48.12 271 *e*P **P 10 33 02.2 -0.4**
comp=Z,29nm,1.2s,mb5.2
LOHW Long Hollow 48.13 289 *e*P **P 10 33 02.1 -0.4**
comp=Z,7.1nm,1.3s,mb4.5
LOHW Long Hollow 48.13 289 *e*P **P 10 33 02.2 -0.4**
comp=Z,7.1nm,1.3s,mb4.5
BW06 Boulder Array 48.17 287 ⇓P **P 10 33 01.9 -1.0**
baz=48,SNR=7.0
BW06 Boulder Array 48.17 287 *e*P **P 10 33 01.4 -1.5**
comp=Z,6.0nm,1.0s,mb4.6
BW06 Boulder Array 48.17 287 *e*P **P 10 33 01.5 -1.4**
comp=Z,6.0nm,1.0s,mb4.6
PDAR Pinedale Array 48.17 287 P **P 10 33 01.8 -1.1**
comp=Z,3.0nm,0.8s,mb4.4,baz=62,slow=6.9,SNR=24
PDAR LR LR 10 52 00.2
comp=Z,498nm,20.2s,MS4.5,baz=40,slow=34
PDAR Pinedale Array 48.17 287 P **P 10 33 01.8 -1.1**
PDAR LR LR 10 52 00.2
PDAR Pinedale Array 48.17 287 P **P 10 33 01.8 -1.1**
D12A Red Ives Fores 48.19 295 ⇓P **P 10 33 02.0 -0.9**
baz=48
NEW Newport 48.23 297 ⇓P **P 10 33 02.7 -0.6**
baz=48,SNR=7.4
NEW Newport 48.23 297 *e*P **P 10 33 02.4 -0.9**
comp=Z,8.4nm,0.9s,mb4.8
NEW Newport 48.23 297 *e*P **P 10 33 02.4 -0.9**
NEW pmax pmax
comp=Z,8.0nm,0.9s
NEW Newport 48.23 297 *e*P **P 10 33 02.4 -0.9**
comp=Z,8.4nm,0.9s,mb4.8
SNOW Snow King Moun 48.32 288 *e*P **P 10 33 03.8 -0.2**
comp=Z,9.2nm,1.1s,mb4.7
SNOW Snow King Moun 48.32 288 *e*P **P 10 33 03.8 -0.2**
comp=Z,9.2nm,1.1s,mb4.7
M20A Sweetwater, Wa 48.34 285 ⇓P **P 10 33 03.8 -0.4**
baz=48
J17A Brown Place, J 48.36 288 ⇓P **P 10 33 04.2 -0.1**
baz=48,SNR=5.5
TPAW Teton Pass 48.40 289 *e*P **P 10 33 04.6 0.0**
comp=Z,8.9nm,1.0s,mb4.8

TPAW **Teton Pass** 48.40 289 *eP* P 10 33 04.6 0.0
comp=Z,8.9nm,1.0s,mb4.8
I16A **Newdale** 48.41 289 ⇑P P 10 33 04.8 +0.1
baz=48,SNR=7.4
O22A **Kremmling** 48.41 282 ⇓P P 10 33 05.4 +0.6
baz=48,SNR=15
DOT **Dot Lake** 48.43 326 *eP* P 10 33 05.2 +0.7
comp=Z,4.9nm,1.0s,mb5.4
DOT **Dot Lake** 48.43 326 *eP* P 10 33 05.2 +0.6
comp=Z,43nm,1.0s,mb5.4
REDW **Red Top Meadow** 48.44 288 *eP* P 10 33 05.0 +0.1
comp=Z,80nm,2.6s,mb5.3
REDW **Red Top Meadow** 48.44 288 *eP* P 10 33 05.0 +0.1
comp=Z,80nm,2.6s,mb5.3
DCID1 **Drake Creek** 48.45 289 *eP* P 10 33 04.9 -0.1
comp=Z,6.9nm,0.9s,mb4.7
DCID1 **Drake Creek** 48.45 289 *eP* P 10 33 04.9 -0.1
comp=Z,6.9nm,0.9s,mb4.7
MCMT **McKenzie Canyo** 48.45 291 *eP* P 10 33 05.8 +0.8
comp=Z,5.5nm,1.1s,mb4.5
MCMT **McKenzie Canyo** 48.45 291 *eP* P 10 33 05.8 +0.8
comp=Z,5.4nm,1.1s,mb4.5
ILAR **Eielson Array** 48.45 328 P P 10 33 04.5 -0.3
comp=Z,9.1nm,0.9s,mb4.8,baz=38,slow=6.1,SNR=94
ILAR LR LR 10 53 27.2
comp=Z,383nm,19.5s,MS4.4,baz=231,slow=36
ILAR **Eielson Array** 48.45 328 P P 10 33 04.5 -0.3
ILAR LR LR 10 53 27.2
ILAR **Eielson Array** 48.45 328 P P 10 33 04.5 -0.3
ILAR **Eielson Array** 48.45 328 P P 10 33 04.5 -0.3
G14A **Jackson** 48.48 292 ⇑P P 10 33 05.2 0.0
baz=48,SNR=5.8
H15A **Lima** 48.49 291 ⇑P P 10 33 05.4 0.0
baz=48
N21A **Black Mountain** 48.51 284 ⇑P P 10 33 05.5 0.0
baz=48
Q24A **Divide** 48.51 280 ⇑P P 10 33 05.3 -0.3
baz=48
K18A **Toltan Ranch,** 48.52 287 ⇓P P 10 33 05.0 -0.6
baz=48
L19A **Farson** 48.53 286 ⇑P P 10 33 05.1 -0.6
baz=48
F13A **Darby** 48.54 293 ⇑P P 10 33 04.8 -0.9
baz=48,SNR=5.8
R25A **Fountain Ranch** 48.63 279 ⇑P P 10 33 06.4 -0.1
baz=48
COLA **College** 48.65 329 *eP* P 10 33 06.6 +0.3
comp=Z,27nm,1.4s,mb5.1
COLA **College** 48.65 329 *eP* P 10 33 06.6 +0.3
COLA pmax pmax
comp=Z,27nm,1.4s,mb5.1
COLA **College** 48.65 329 *eP* P 10 33 06.6 +0.3
comp=Z,27nm,1.4s,mb5.1
RRI2 **Red Ridge** 48.69 289 *eP* P 10 33 06.6 -0.3
comp=Z,39nm,2.0s,mb5.1
RRI2 **Red Ridge** 48.69 289 *eP* P 10 33 06.6 -0.3
comp=Z,39nm,2.0s,mb5.1
MENT **Mentasta** 48.84 325 *eP* P 10 33 08.5 +0.8
MENT **Mentasta** 48.84 325 *eP* P 10 33 08.5 +0.8
I15A **Monteview** 48.84 290 ⇓P P 10 33 08.5 +0.4
baz=49,SNR=6.3
N20A **Spence Gulch,** 48.85 284 ⇑P P 10 33 08.0 -0.2
baz=49,SNR=6.0
H14A **Leadore** 48.86 291 ⇓P P 10 33 08.0 -0.2
baz=49,SNR=7.8
O21A **Pagoda** 48.87 283 ⇓P P 10 33 08.8 +0.5
baz=49
Q23A **Hartsel** 48.93 281 ⇑P P 10 33 09.2 +0.4
baz=49
P22A **Eagle** 48.93 282 ⇑P P 10 33 09.4 +0.7
baz=49,SNR=18
G13A **Cobalt** 48.97 292 ⇓P P 10 33 08.8 -0.2
baz=49,SNR=13
L18A **Fontenelle, Gr** 49.02 287 ⇓P P 10 33 09.1 -0.3
baz=49
F12A **Elk City** 49.03 294 ⇓P P 10 33 08.8 -0.6
baz=49,SNR=6.5
S25A **Robets Cordova** 49.07 278 ⇓P P 10 33 10.0 +0.1
baz=49,SNR=5.4
C09A **Chrisman Ranch** 49.11 297 ⇓P P 10 33 09.2 -0.8
baz=49,SNR=6.8
K16A **Soda Springs** 49.19 288 ⇑P P 10 33 10.6 -0.1
baz=49
J15A **Blackfoot** 49.23 290 ⇓P P 10 33 11.6 +0.6
baz=49,SNR=13
B08A **Colville Reser** 49.24 299 ⇑P P 10 33 10.9 -0.1
baz=49,SNR=12
N19A **John Jarvie Ra** 49.30 285 ⇑P P 10 33 10.9 -0.7
baz=49,SNR=6.3
O20A **White River Ci** 49.34 284 ⇓P P 10 33 11.9 0.0
baz=49
SMCO **Snowmass** 49.34 282 *eP* P 10 33 12.8 +0.8
comp=Z,58nm,2.3s,mb5.2
SMCO **Snowmass** 49.34 282 *eP* P 10 33 12.8 +0.9
comp=Z,58nm,2.3s,mb5.2
P21A **Newcastle** 49.35 282 ⇓P P 10 33 12.9 +0.9
baz=49,SNR=13
H13A **Challis** 49.35 292 ⇓P P 10 33 12.1 +0.2
baz=49,SNR=19
PAX **Paxson** 49.36 326 *eP* P 10 33 12.1 +0.3
comp=Z,16nm,1.2s,mb4.9
PAX **Paxson** 49.36 326 *eP* P 10 33 12.1 +0.4
PAX pmax pmax
comp=Z,16nm,1.2s,mb4.9
PAX **Paxson** 49.36 326 *eP* P 10 33 12.1 +0.4
comp=Z,16nm,1.2s,mb4.9
I14A **Mackay** 49.39 291 ⇑P P 10 33 12.4 +0.2
baz=49,SNR=13
T25A **Trinidad** 49.43 278 ⇑P P 10 33 12.9 +0.3
baz=49,SNR=7.9
N18A **Larsen Ranch,** 49.50 285 ⇑P P 10 33 13.1 -0.1
baz=49,SNR=8.9
S24A **Houchin Ranch,** 49.50 279 ⇑P P 10 33 13.6 +0.4
baz=49
Q22A **Crested Butte,** 49.54 281 ⇑P P 10 33 13.6 +0.2
baz=49
SDCO **Great Sand Dun** 49.58 279 ⇓P P 10 33 13.9 +0.1
baz=49,SNR=5.7
SDCO **Great Sand Dun** 49.58 279 *eP* P 10 33 14.1 +0.3
comp=Z,5.2nm,1.0s,mb4.5
SDCO **Great Sand Dun** 49.58 279 *eP* P 10 33 14.1 +0.3
comp=Z,5.2nm,1.0s,mb4.5
AMTX **Amarillo** 49.60 274 ⇑P P 10 33 14.3 +0.3
baz=49,SNR=14
AMTX **Amarillo** 49.60 274 *eP* P 10 33 14.8 +0.8
comp=Z,34nm,0.8s,mb5.4
AMTX **Amarillo** 49.60 274 *eP* P 10 33 14.8 +0.8
comp=Z,34nm,0.8s,mb5.4
U26A **Atchley Ranch,** 49.62 277 ⇑P P 10 33 14.2 +0.2
baz=49,SNR=10.0
H12A **Diamond D Ranc** 49.67 292 ⇓P P 10 33 14.0 -0.4
baz=49
M17A **Scullys Gap (B** 49.67 287 ⇓P P 10 33 13.6 -0.8
baz=49
O19A **Miners Draw (B** 49.69 284 ⇑P P 10 33 14.7 +0.1
baz=50,SNR=8.2
I13A **Wildhorse Cree** 49.74 291 ⇑P P 10 33 14.7 -0.2
baz=50,SNR=14
K15A **Arbon** 49.79 289 ⇑P P 10 33 14.9 -0.4
baz=50
MCK **McKinley** 49.83 328 *eP* P 10 33 15.2 -0.1
comp=Z,38nm,1.2s,mb5.3
MCK **McKinley** 49.83 328 *eP* P 10 33 15.2 -0.1
MCK pmax pmax
comp=Z,38nm,1.2s,mb5.3
MCK **McKinley** 49.83 328 *eP* P 10 33 15.1 -0.2
comp=Z,38nm,1.2s,mb5.3
T24A **Torres, Weston** 49.83 278 ⇑P P 10 33 16.1 +0.4
baz=50
J14A **Carey** 49.85 290 ⇓P P 10 33 15.8 +0.1
baz=50,SNR=7.0
F10A **Beach Ranch, E** 49.87 295 ⇑P P 10 33 14.9 -0.9
baz=50,SNR=7.8
P20A **De Beque** 49.87 283 ⇑P P 10 33 15.7 -0.2
baz=50
S23A **Nye Farm, Mont** 49.88 280 ⇓P P 10 33 17.1 +1.0
baz=50
Q21A **Lamborn Mesa,** 49.91 282 ⇑P P 10 33 17.0 +0.7
baz=50,SNR=9.6
U25A **Circle Dot Ran** 49.97 277 ⇓P P 10 33 17.5 +0.7
baz=50,SNR=15
HWUT **Hardware Ranch** 50.05 287 *eP* P 10 33 16.8 -0.5
comp=Z,13nm,1.0s,mb4.9
HWUT **Hardware Ranch** 50.05 287 *eP* P 10 33 16.8 -0.5
comp=Z,13nm,1.0s,mb4.9
V26A **Tequesquite Ra** 50.08 276 ⇑P P 10 33 17.6 0.0
baz=50
J13A **Cove Ranch, Pi** 50.13 291 ⇓P P 10 33 18.0 +0.1
baz=50,SNR=12
N17A **Moffit Pass** 50.14 286 ⇓P P 10 33 17.6 -0.3
baz=50,SNR=11
HLID **Hailey** 50.14 291 ⇑P P 10 33 18.0 +0.1
baz=50,SNR=12
HLID **Hailey** 50.14 291 *eP* P 10 33 18.3 +0.3
comp=Z,9.0nm,1.0s,mb4.8
HLID **Hailey** 50.14 291 *eP* P 10 33 18.3 +0.4
comp=Z,9.0nm,1.0s,mb4.8
O18A **Roosevelt** 50.19 285 ⇓P P 10 33 17.9 -0.4
baz=50,SNR=6.0
L15A **Malad City** 50.20 288 ⇑P P 10 33 18.0 -0.4
baz=50
Q20A **Ridgley Place,** 50.22 283 ⇓P P 10 33 18.7 +0.2
baz=50,SNR=8.6
K14A **Jones Ranch, D** 50.22 289 ⇓P P 10 33 18.6 0.0
baz=50,SNR=11
W27A **Bowe Ranch, En** 50.23 275 ⇑P P 10 33 19.6 +0.9
baz=50
R21A **Cimarron** 50.24 281 ⇑P P 10 33 19.5 +0.7
baz=50,SNR=10
ETW **Entiat** 50.25 299 *eP* P 10 33 17.7 -1.0
ETW **Entiat** 50.25 299 *eP* P 10 33 17.7 -1.0
S22A **4UR Ranch, Cre** 50.30 280 ⇑P P 10 33 19.9 +0.6
baz=50,SNR=6.3
I12A **Atlanta** 50.34 292 ⇓P P 10 33 19.8 +0.3
baz=50,SNR=7.4
TRF **Thorofare Moun** 50.43 328 *eP* P 10 33 19.7 -0.2
comp=Z,48nm,1.6s,mb5.3
TRF **Thorofare Moun** 50.43 328 *eP* P 10 33 19.7 -0.2
comp=Z,48nm,1.6s,mb5.3
U24A **Moreno Valley** 50.44 278 ⇓P P 10 33 21.1 +0.8
baz=50,SNR=8.9
N16A **Rees Ranch, Co** 50.50 287 ⇓P P 10 33 20.3 -0.3
baz=50,SNR=8.4
V25A **Rancho No Teng** 50.50 277 ⇑P P 10 33 21.1 +0.3
baz=50,SNR=14
X27A **F and S Farms,** 50.55 275 ⇓P P 10 33 21.3 +0.2
baz=50,SNR=5.8
W26A **Owens Ranch, T** 50.59 276 ⇓P P 10 33 22.0 +0.5
baz=50
M15A **Larsen Ranch,** 50.61 288 ⇑P P 10 33 21.0 -0.6
baz=50,SNR=12
L14A **Malta** 50.62 289 ⇑P P 10 33 21.2 -0.4
baz=50
O17A **Robinson Place** 50.62 285 ⇑P P 10 33 21.5 -0.2
baz=50,SNR=6.1
BMO **Blue Mountains** 50.70 294 *eP* P 10 33 20.9 -1.2
comp=Z,6.2nm,1.0s,mb4.5
BMO **Blue Mountains** 50.70 294 *eP* P 10 33 20.9 -1.2
comp=Z,6.2nm,1.0s,mb4.5
JLU **Jordanelle** 50.71 286 *eP* P 10 33 21.0 -1.2
comp=Z,20nm,1.6s,mb4.8
JLU **Jordanelle** 50.71 286 *eP* P 10 33 21.0 -1.3
comp=Z,20nm,1.6s,mb4.8
HAWA **Hanford** 50.71 297 *eP* P 10 33 22.5 +0.3
comp=Z,14nm,1.4s,mb4.7
HAWA **Hanford** 50.71 297 *eP* P 10 33 22.5 +0.3
comp=Z,14nm,1.4s,mb4.7
Q19A **Hogan Spring (** 50.73 283 ⇑P P 10 33 21.9 -0.6
baz=50
R20A **Redvale** 50.82 282 ⇑P P 10 33 23.6 +0.4
baz=51,SNR=6.3
W25A **X Bar L Ranch,** 50.88 276 ⇓P P 10 33 23.6 0.0
baz=51,SNR=7.8
T22A **Edith** 50.88 280 ⇓P P 10 33 24.2 +0.6
baz=51,SNR=7.2
MSTX **Muleshoe** 50.88 274 ⇑P P 10 33 23.9 +0.2
baz=51,SNR=8.4
S21A **Coal Bank Pass** 50.88 281 ⇑P P 10 33 24.5 +0.8
baz=51,SNR=24
V24A **Rampart Ranch,** 50.94 277 ⇓P P 10 33 24.6 +0.5
baz=51,SNR=8.2
PV04 **Paradox Valley** 50.95 282 *eP* P 10 33 24.7 +0.6
PV04 **Paradox Valley** 50.95 282 *eP* P 10 33 24.7 +0.6
PV01 **Paradox Valley** 50.96 282 *eP* P 10 33 24.9 +0.7
comp=Z,1µm,1.6s
PV01 **Paradox Valley** 50.96 282 *eP* P 10 33 24.9 +0.7
comp=Z,1µm,1.6s
MFID **Camas Ranch** 50.97 292 ⇓P P 10 33 23.9 -0.3
baz=51
MFID **Camas Ranch** 50.97 292 *eP* P 10 33 23.9 -0.3
comp=Z,68nm,2.6s,mb5.1
MFID **Camas Ranch** 50.97 292 *eP* P 10 33 23.9 -0.3
comp=Z,68nm,2.6s,mb5.1
U23A **El Rito** 51.00 279 ⇑P P 10 33 25.2 +0.7
baz=51,SNR=6.1
X26A **CR and CF Fran** 51.02 275 ⇓P P 10 33 25.1 +0.4
baz=51
AKTK **Aktyubinsk** 51.04 55 P P 10 33 24.8 +0.2
AKTK **Aktyubinsk** 51.04 55 P P 10 33 24.8 +0.2
AKTO **Aktyubinsk** 51.04 55 P P 10 33 24.8 +0.2
comp=Z,3.5nm,0.7s,mb4.4,baz=313,slow=7.5,SNR=11
Q18A **Rafter H Ranch** 51.09 284 ⇑P P 10 33 24.6 -0.6
baz=51,SNR=10.0
SML **Sawmill** 51.12 326 *eP* P 10 33 25.3 +0.3
comp=Z,7.5nm,1.0s,mb4.6
SML **Sawmill** 51.12 326 *eP* P 10 33 25.3 +0.3
SML pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
SML **Sawmill** 51.12 326 *eP* P 10 33 25.3 +0.3
comp=Z,7.5nm,1.0s,mb4.6
Y27A **Causey** 51.16 274 ⇓P P 10 33 25.3 -0.4
baz=51,SNR=5.2
G08A **Pilot Rock** 51.21 296 ⇑P P 10 33 24.7 -1.3
baz=51
R19A **Curley Farm, L** 51.22 283 ⇓P P 10 33 26.0 -0.1
baz=51,SNR=5.2
MPU **Maple Canyon** 51.23 286 *eP* P 10 33 26.3 +0.1
comp=Z,14nm,1.1s,mb4.8
MPU **Maple Canyon** 51.23 286 *eP* P 10 33 26.3 +0.1
comp=Z,14nm,1.1s,mb4.8
T21A **Navajo Lake** 51.24 280 ⇓P P 10 33 27.0 +0.7
baz=51
SRU **San Rafael** 51.30 284 *eP* P 10 33 27.6 +0.8
comp=Z,45nm,2.3s,mb5.0
SRU **San Rafael** 51.30 284 *eP* P 10 33 27.6 +0.9
SRU pmax pmax
comp=Z,45nm,2.3s,mb5.0
SRU **San Rafael** 51.30 284 *eP* P 10 33 27.5 +0.8
comp=Z,45nm,2.3s,mb5.0
U22A **Lisa** 51.32 279 ⇑P P 10 33 27.5 +0.5
baz=51,SNR=7.3
W24A **Lazy 6 Ranch,** 51.40 277 ⇓P P 10 33 28.4 +0.8
baz=51,SNR=16
PPLA **Purkeypile** 51.41 329 *eP* P 10 33 26.8 -0.4
comp=Z,57nm,1.5s,mb5.3
PPLA **Purkeypile** 51.41 329 *eP* P 10 33 26.8 -0.4
comp=Z,57nm,1.5s,mb5.3
V23A **Ortiz Mt. (NFS** 51.42 278 ⇓P P 10 33 28.5 +0.8
baz=51,SNR=8.1
TORD **Torodi Ar. Bea** 51.44 133 P P 10 33 26.6 -1.5
comp=Z,11nm,0.9s,mb4.8,baz=339,slow=7.2,SNR=60
TORD **Torodi Ar. Bea** 51.44 133 P P 10 33 26.6 -1.5
TORD **Torodi Ar. Bea** 51.44 133 P P 10 33 26.5 -1.5
R18A **Canyonlands Na** 51.49 283 ⇓P P 10 33 27.9 -0.2
baz=51,SNR=9.9
Y26A **Elida** 51.49 275 ⇑P P 10 33 28.8 +0.5
baz=51,SNR=5.8
X25A **Clemmons Ranch** 51.50 276 ⇓P P 10 33 28.8 +0.5
baz=51,SNR=6.1
NLU **North Lily Min** 51.51 286 *eP* P 10 33 28.7 +0.4
comp=Z,17nm,1.1s,mb4.9
NLU **North Lily Min** 51.51 286 *eP* P 10 33 28.7 +0.4
comp=Z,17nm,1.1s,mb4.9
PMR **Palmer** 51.53 326 *eP* P 10 33 28.6 +0.5
comp=Z,33nm,1.3s,mb5.1
PMR **Palmer** 51.53 326 *eP* P 10 33 28.6 +0.5
PMR pmax pmax
comp=Z,33nm,1.3s,mb5.1
PMR **Palmer** 51.53 326 *eP* P 10 33 28.5 +0.4
comp=Z,33nm,1.3s,mb5.1
P16A **Fountain Green** 51.54 286 ⇑P P 10 33 28.6 +0.1
baz=51
S19A **Harvey Farm, M** 51.55 282 ⇑P P 10 33 28.4 -0.2
baz=51,SNR=8.1
MVCO **Mesa Verde** 51.60 281 ⇑P P 10 33 29.5 +0.5
baz=51,SNR=8.3
MVCO **Mesa Verde** 51.60 281 *eP* P 10 33 30.2 +1.2
comp=Z,21nm,1.3s,mb4.9
MVCO **Mesa Verde** 51.60 281 *eP* P 10 33 30.2 +1.2
comp=Z,21nm,1.3s,mb4.9
Z27A **Tatum** 51.62 274 ⇓P P 10 33 28.9 -0.3
baz=51,SNR=7.3
DUG **Dugway** 51.72 287 ⇑P P 10 33 29.6 -0.3
baz=52
DUG **Dugway** 51.72 287 *eP* P 10 33 29.9 +0.1
comp=Z,44nm,2.3s,mb5.0
DUG **Dugway** 51.72 287 *eP* P 10 33 30.0 +0.1
DUG pmax pmax
comp=Z,44nm,2.3s,mb5.0
DUG **Dugway** 51.72 287 *eP* P 10 33 30.0 +0.1
comp=Z,44nm,2.3s,mb5.0
U21A **Nageezi** 51.72 280 ⇓P P 10 33 30.2 +0.3
baz=52,SNR=6.6
W23A **Werner Place,** 51.84 278 ⇑P P 10 33 31.1 +0.2
baz=52
GNI **Garni** 51.85 73 *eP* P 10 33 34.5 +3.6
GNI pmax pmax
comp=Z,13nm,1.3s
JCT **Junction City** 51.90 269 ⇑P P 10 33 31.0 -0.3
baz=52,SNR=7.7
JCT **Junction City** 51.90 269 *eP* P 10 33 30.6 -0.7
comp=Z,27nm,1.1s,mb5.1
JCT **Junction City** 51.90 269 *eP* P 10 33 30.6 -0.7
JCT pmax pmax
comp=Z,27nm,1.1s,mb5.1
JCT **Junction City** 51.90 269 *eP* P 10 33 30.6 -0.7
comp=Z,27nm,1.1s,mb5.1
R17A **Hanksville Air** 51.90 284 ⇑P P 10 33 31.0 -0.2
baz=52,SNR=5.7
Y25A **Mesa, Roswell** 51.97 275 ⇑P P 10 33 32.1 +0.3
baz=52,SNR=13
S18A **Hurst Farm, Bl** 52.05 283 ⇓P P 10 33 32.6 +0.2
baz=52,SNR=15
Z26A **Caprock** 52.07 274 ⇓P P 10 33 33.0 +0.4
baz=52,SNR=17
G06A **Carlson Farm,** 52.08 297 ⇓P P 10 33 31.8 -0.7
baz=52
RC01 **Rabbit Creek A** 52.10 326 *eP* P 10 33 32.9 +0.5
comp=Z,53nm,1.4s,mb5.3
RC01 **Rabbit Creek A** 52.10 326 *eP* P 10 33 32.9 +0.5
comp=Z,53nm,1.4s,mb5.3
T19A **Beclabito** 52.16 281 ⇓P P 10 33 33.1 -0.2
baz=52,SNR=5.2
ANMO **Albuquerque** 52.17 278 *eP* P 10 33 33.7 +0.4
comp=Z,6.1nm,1.1s,mb4.4
ANMO **Albuquerque** 52.17 278 *eP* P 10 33 33.7 +0.4
ANMO pmax pmax
comp=Z,6.0nm,1.1s
ANMO **Albuquerque** 52.17 278 *eP* P 10 33 33.7 +0.4
comp=Z,6.1nm,1.1s,mb4.4
V21A **Milan** 52.17 279 ⇑P P 10 33 33.8 +0.5
baz=52
127A **Arkansas Junct** 52.18 273 ⇓P P 10 33 33.4 0.0
baz=52
CPRX **Cap Rock** 52.19 274 *eP* P 10 33 34.0 +0.5
comp=Z,11nm,0.9s,mb4.8
CPRX **Cap Rock** 52.19 274 *eP* P 10 33 34.0 +0.5
comp=Z,11nm,0.9s,mb4.8
U20A **Newcomb** 52.23 280 ⇓P P 10 33 33.9 +0.2
baz=52
P14A **Drum Mountains** 52.30 287 ⇓P P 10 33 34.1 -0.1
baz=52,SNR=6.5
J08A **Circle Bar Ran** 52.35 294 ⇑P P 10 33 33.8 -0.7
baz=52,SNR=11
Q15A **Fillmore** 52.36 286 ⇑P P 10 33 34.5 -0.2
baz=52,SNR=5.1
Y24A **Capitan** 52.37 276 ⇓P P 10 33 35.3 +0.5
baz=52,SNR=9.5
BMW **Boistfort Moun** 52.45 299 *eP* P 10 33 35.1 -0.1
BMW **Boistfort Moun** 52.45 299 *eP* P 10 33 35.1 -0.1
BMW **Boistfort Moun** 52.45 299 *eP* P 10 33 35.1 -0.1
Z25A **Roswell** 52.47 275 ⇓P P 10 33 35.8 +0.3
baz=52,SNR=8.1
S17A **Black Ridge (B** 52.52 283 ⇑P P 10 33 36.1 +0.2
baz=52,SNR=9.9
E03A **Lebam** 52.56 300 ⇑P P 10 33 35.7 -0.3
baz=52
126A **Clayton Basin,** 52.56 274 ⇓P P 10 33 36.3 +0.1
baz=52,SNR=11
MSU **Marysvale** 52.61 285 *eP* P 10 33 37.0 +0.5
MSU **Marysvale** 52.61 285 *eP* P 10 33 37.0 +0.5
MSU **Marysvale** 52.61 285 *eP* P 10 33 37.0 +0.5
V20A **Brimhall** 52.62 280 ⇑P P 10 33 37.4 +0.8
baz=52
U19A **Dine' College,** 52.66 281 ⇓P P 10 33 37.4 +0.5
baz=52,SNR=19
W21A **San Fidel** 52.69 279 ⇓P P 10 33 38.3 +1.2
baz=52
Y23A **Lovelace Mesa,** 52.71 277 ⇓P P 10 33 37.7 +0.4
baz=52,SNR=5.1
SPU **Mount Spurr** 52.73 327 *eP* P 10 33 36.5 -0.5
SPU **Mount Spurr** 52.73 327 *eP* P 10 33 36.5 -0.5
ABKAR **Akbulak array** 52.75 55 *eP* P 10 33 37.7 +0.3
ABKAR **Akbulak array** 52.75 55 *eP* P 10 33 37.7 +0.3
Z24A **Sheeppen Canyo** 52.78 275 ⇑P P 10 33 38.2 +0.3
baz=53,SNR=6.6
Q14A **Sevier Lake (B** 52.85 286 ⇓P P 10 33 38.1 -0.2
baz=53,SNR=6.1
BNM **Barren Site** 52.86 277 *eP* P 10 33 39.7 +1.3
comp=Z,5.4nm,0.8s,mb4.5
BNM **Barren Site** 52.86 277 *eP* P 10 33 39.7 +1.3
comp=Z,5.4nm,0.8s,mb4.5
328A **Wristen Ranch,** 52.86 272 ⇑P P 10 33 38.0 -0.4
baz=53
S16A **Weppner Ranch,** 52.88 284 ⇑P P 10 33 38.6 0.0
baz=53,SNR=9.0
R15A **Junction** 52.89 285 ⇓P P 10 33 38.9 +0.4
baz=53
125A **Gardner Draw,** 52.90 274 ⇑P P 10 33 38.5 -0.3
baz=53
U18A **Rough Rock, Ch** 52.92 282 ⇓P P 10 33 39.3 +0.5
baz=53
LAZ **Ladron** 52.95 278 *eP* P 10 33 40.2 +1.1
comp=Z,4.9nm,1.2s,mb4.3
LAZ **Ladron** 52.95 278 *eP* P 10 33 40.2 +1.1
comp=Z,4.9nm,1.2s,mb4.3
T17A **Navajo Res., N** 53.00 283 ⇓P P 10 33 39.0 -0.4
baz=53,SNR=5.9
LENM **Lemitar** 53.03 277 *eP* P 10 33 41.1 +1.4
LENM **Lemitar** 53.03 277 *eP* P 10 33 41.1 +1.4
226A **Malaga, Loving** 53.05 273 ⇓P P 10 33 40.0 +0.1
baz=53,SNR=5.5
WVOR **Wild Horse Val** 53.10 293 *eP* P 10 33 40.0 -0.1
comp=Z,14nm,1.2s,mb4.8
WVOR **Wild Horse Val** 53.10 293 *eP* P 10 33 40.0 -0.1
WVOR pmax pmax
comp=Z,14nm,1.2s,mb4.8
WVOR **Wild Horse Val** 53.10 293 *eP* P 10 33 40.0 -0.1
comp=Z,14nm,1.2s,mb4.8
W20A **Ramah** 53.15 279 ⇑P P 10 33 40.9 +0.4
baz=53
Y22A **Socorro** 53.20 277 ⇑P P 10 33 41.7 +0.7
baz=53,SNR=5.1
X21A **Alamocita Cree** 53.27 278 ⇑P P 10 33 42.1 +0.7
baz=53,SNR=16
428A **Kincaid Ranch,** 53.29 271 ⇑P P 10 33 41.5 -0.2
baz=53
124A **Stringfield Ra** 53.31 275 ⇓P P 10 33 41.9 +0.2
baz=53,SNR=16
Z23A **Rita Site, Whi** 53.31 276 ⇑P P 10 33 42.3 +0.5
baz=53,SNR=8.2
S15A **Panguitch** 53.33 284 ⇑P P 10 33 42.2 +0.4
baz=53
225A **Deer Hill, Car** 53.41 274 ⇑P P 10 33 42.5 0.0
baz=53,SNR=18
V18A **Ganado** 53.48 281 ⇑P P 10 33 42.5 -0.5
baz=53
Y21A **Point of Rocks** 53.53 278 ⇑P P 10 33 44.1 +0.7
baz=53,SNR=9.6
326A **Caldwell Ranch** 53.55 273 ⇓P P 10 33 43.6 0.0
baz=53
X20A **Quemado** 53.58 279 ⇑P P 10 33 44.3 +0.6
baz=53,SNR=6.9
427A **Hayter Ranch,** 53.59 272 ⇓P P 10 33 43.8 -0.1
baz=53,SNR=15
W19A **Sanders** 53.64 280 ⇑P P 10 33 44.0 -0.1
baz=53
123A **Bell Site, Whi** 53.80 276 ⇓P P 10 33 45.9 +0.6
baz=54
U16A **Tuba City** 53.81 282 ⇓P P 10 33 45.2 -0.2
baz=54,SNR=11
R13A **O'Grain Ranch,** 53.81 286 ⇓P P 10 33 45.1 -0.3
baz=54
ARUT **Antelope Range** 53.82 285 *eP* P 10 33 45.8 +0.4
comp=Z,8.9nm,1.3s,mb4.5
ARUT **Antelope Range** 53.82 285 *eP* P 10 33 45.8 +0.4
ARUT pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
ARUT **Antelope Range** 53.82 285 *eP* P 10 33 45.8 +0.4
comp=Z,8.9nm,1.3s,mb4.5
224A **Cornudas Mount** 53.82 275 ⇑P P 10 33 45.4 -0.2
baz=54,SNR=12
T15A **Red Dirt Ranch** 53.83 284 ⇑P P 10 33 44.7 -0.8

baz=54,SNR=5.3
CCUT **Cedar City** 53.95 285 *e*P P 10 33 46.7 +0.3
comp=Z,70nm,2.9s,mb5.1
CCUT **Cedar City** 53.95 285 *e*P P 10 33 46.7 +0.3
comp=Z,70nm,2.9s,mb5.1
Y20A **Horse Springs,** 53.99 278 ⇑P P 10 33 47.5 +0.7
baz=54,SNR=7.8
V17A **Tonalea, Kykot** 54.02 282 ⇓P P 10 33 46.6 -0.3
baz=54
325A **Bean Ranch, Si** 54.05 274 ⇓P P 10 33 46.9 -0.4
baz=54
Z21A **St. Cloud Mine** 54.06 277 ⇑P P 10 33 47.9 +0.6
baz=54
426A **McDonald Obser** 54.08 272 ⇑P P 10 33 47.8 +0.4
baz=54,SNR=30
X19A **St. Johns** 54.10 279 ⇓P P 10 33 48.2 +0.7
baz=54
U15A **North Rim** 54.22 283 ⇓P P 10 33 47.7 -0.7
baz=54
527A **Woodward Ranch** 54.25 272 ⇑P P 10 33 48.5 -0.2
baz=54,SNR=5.6
324A **Moseley Ranch,** 54.28 274 ⇑P P 10 33 48.1 -0.8
baz=54,SNR=6.8
BRVK **Borovoye** 54.33 46 *i* P P 10 33 48.8 -0.1
BRVK pmax pmax
comp=Z,7.0nm,1.7s,mb4.3
MOD **Modoc** 54.34 294 *e*P P 10 33 48.9 -0.3
comp=Z,13nm,1.3s,mb4.7
MOD **Modoc** 54.34 294 *e*P P 10 33 48.9 -0.2
comp=Z,13nm,1.3s,mb4.7
BVAR **Borovoye Array** 54.40 46 P P 10 33 49.5 +0.1
comp=Z,4.5nm,0.7s,mb4.5,baz=316,slow=6.2,SNR=16
BVAR **Borovoye Array** 54.40 46 P P 10 33 49.5 +0.1
BVAR **Borovoye Array** 54.40 46 P P 10 33 49.5 +0.1
BVAR **Borovoye Array** 54.40 46 P P 10 33 49.5 +0.1
WUAZ **Wupatki** 54.41 282 ⇓P P 10 33 50.1 +0.4
baz=54,SNR=6.1
WUAZ **Wupatki** 54.41 282 *e*P P 10 33 49.9 +0.1
comp=Z,14nm,1.3s,mb4.7
WUAZ **Wupatki** 54.41 282 *e*P P 10 33 49.8 +0.1
comp=Z,14nm,1.3s,mb4.7
425A **Indio Mountain** 54.51 273 ⇑P P 10 33 50.3 -0.2
baz=54
R11A **Troy Canyon, C** 54.53 287 ⇑P P 10 33 50.5 -0.2
baz=54,SNR=6.7
526A **Mary Lane Ranc** 54.58 272 ⇓P P 10 33 51.4 +0.3
baz=54,SNR=22
V15A **Kaibab Nationa** 54.61 283 ⇓P P 10 33 51.3 +0.1
baz=54,SNR=6.2
627A **Terlingua Ranc** 54.66 271 ⇑P P 10 33 51.5 -0.1
baz=54,SNR=16
U14A **Mt Trumbull** 54.70 284 ⇓P P 10 33 51.5 -0.3
baz=54,SNR=5.6
Z20A **Nine Sixteen R** 54.71 278 ⇓P P 10 33 52.4 +0.4
baz=54,SNR=5.3
121A **Cookes Peak, D** 54.71 277 ⇓P P 10 33 52.3 +0.3
baz=54
TXAR **Lajitas Array** 54.91 271 P P 10 33 53.3 -0.1
comp=Z,3.8nm,0.9s,mb4.4,baz=40,slow=9.9,SNR=16
TXAR **Lajitas Array** 54.91 271 P P 10 33 53.3 -0.1
TXAR **Lajitas Array** 54.91 271 P P 10 33 53.3 -0.1
TXAR **Lajitas Array** 54.91 271 P P 10 33 53.3 -0.1
X17A **Forest Lakes** 54.99 281 ⇑P P 10 33 54.1 +0.2
baz=55
626A **Big Bend Ranch** 54.99 271 ⇑P P 10 33 54.7 +0.6
baz=55,SNR=13
Y18A **Canyon Day Jun** 54.99 279 ⇓P P 10 33 54.8 +0.8
baz=55,SNR=9.2
DBIC **Dimbokro** 55.04 144 P P 10 33 53.1 -1.4
comp=Z,12nm,0.8s,mb4.9,baz=319,slow=8.0,SNR=15
DBIC **Dimbokro** 55.04 144 P P 10 33 53.1 -1.4
DBIC **Dimbokro** 55.04 144 P P 10 33 53.1 -1.4
DBIC **Dimbokro** 55.04 144 P P 10 33 53.1 -1.4
U13A **Pakoon Wash** 55.12 285 ⇑P P 10 33 54.7 -0.2
baz=55,SNR=7.0
120A **U Bar Ranch, L** 55.16 277 ⇓P P 10 33 55.8 +0.5
baz=55,SNR=6.0
V14A **Boquillas Ranc** 55.25 283 ⇑P P 10 33 55.9 +0.1
baz=55
X16A **Lo Mia Camp, P** 55.27 281 ⇓P P 10 33 56.8 +0.8
baz=55
119A **Ashpeak Ranch,** 55.36 278 ⇑P P 10 33 57.3 +0.6
baz=55
LIC **Lamto** 55.40 144 *e*P P 10 33 55.6 -1.5
comp=Z,20nm,0.7s,mb4.9
LIC **Lamto** 55.40 144 *e*P P 10 33 55.6 -1.5
comp=Z,9.9nm,0.7s,mb5.0
Y17A **Roosevelt** 55.49 280 ⇓P P 10 33 58.4 +0.8
baz=55
PAHR **Pah Rah Range** 55.50 291 *e*P P 10 33 58.4 +0.8
comp=Z,28nm,1.3s,mb5.1
PAHR **Pah Rah Range** 55.50 291 *e*P P 10 33 58.3 +0.7
comp=Z,28nm,1.3s,mb5.1
220A **Playas Peak, P** 55.60 277 ⇓P P 10 33 58.8 +0.4
baz=55,SNR=8.9
X15A **Humboldt** 55.65 282 ⇓P P 10 33 59.5 +0.8
baz=55
SHPR **Sheep Range** 55.69 286 *e*P P 10 33 59.1 +0.1
SHPR **Sheep Range** 55.69 286 *e*P P 10 33 59.1 +0.1
Y16A **Circle Bar Ran** 55.70 281 ⇓P P 10 34 00.1 +1.0
baz=56
118A **Homack Ranch,** 55.82 279 ⇓P P 10 34 00.9 +0.9
baz=56
NVAR **Mina Array Bea** 55.89 289 P P 10 34 00.1 -0.3
comp=Z,1.1nm,0.7s,mb4.0,baz=52,slow=6.1,SNR=14
NVAR PP PP 10 36 06.9 +2.2
comp=Z,0.5nm,0.8s,baz=32,slow=5.9,SNR=3.6
NVAR LR LR 10 56 46.5
comp=Z,392nm,20.3s,MS4.5,baz=82,slow=35
NVAR **Mina Array Bea** 55.89 289 P P 10 34 00.1 -0.3
NVAR PP PP 10 36 06.9 +2.2
NVAR LR LR 10 56 46.5
NVAR **Mina Array Bea** 55.89 289 P P 10 34 00.1 -0.3
NVAR **Mina Array Bea** 55.89 289 PP PP 10 36 06.9 +2.1
219A **White Tail Can** 55.92 277 ⇑P P 10 34 00.9 +0.2
baz=56
WCN **Washoe City** 55.99 291 ⇓P P 10 34 00.9 -0.3
baz=56
320A **Kipp Ranch, An** 56.03 276 ⇑P P 10 34 02.1 +0.6
baz=56,SNR=8.8
Z16A **Peralta Trail,** 56.08 280 ⇑P P 10 34 02.5 +0.7
baz=56
117A **Oracle** 56.29 279 ⇑P P 10 34 04.0 +0.6
baz=56
218A **Dragoon** 56.37 278 ⇓P P 10 34 04.6 +0.6
baz=56
319A **Douglas** 56.41 277 ⇑P P 10 34 04.5 +0.3
baz=56
GRAC **Grapevine Rang** 56.48 288 ⇑P P 10 34 04.5 -0.1
baz=56,SNR=6.8
FURC **Furnace Creek,** 56.61 287 ⇓P P 10 34 05.2 -0.3
baz=56
318A **Bisbee** 56.75 278 ⇑P P 10 34 06.9 +0.3
baz=57
PDMCI **Parker Dam,Lak** 56.81 283 ⇑P P 10 34 07.1 +0.1
baz=57
116A **Eloy** 56.82 280 ⇑P P 10 34 07.6 +0.5
baz=57
OHCM **Honcut** 56.85 292 *e*P P 10 34 06.7 -0.5
OHCM **Honcut** 56.85 292 *e*P P 10 34 06.7 -0.5
Z14A **Wintersburg** 56.88 281 ⇓P P 10 34 08.0 +0.4
baz=57
217A **Green Valley** 56.94 279 ⇑P P 10 34 08.6 +0.6
baz=57
216A **Three Points,** 57.12 279 ⇓P P 10 34 09.5 +0.2
baz=57
MPMC **Manual Prospec** 57.26 287 ⇓P P 10 34 10.0 -0.1
baz=57,SNR=5.2
GMRC **Granite Mounta** 57.26 285 ⇑P P 10 34 10.0 -0.2
baz=57
114A **Black Gap (USA** 57.32 281 ⇓P P 10 34 11.4 +0.8
baz=57
Z13A **Yuma Proving G** 57.39 282 ⇓P P 10 34 11.4 +0.3
baz=57
GSC **Goldstone** 57.47 286 ⇑P P 10 34 12.2 +0.5
baz=57
GSC **Goldstone** 57.47 286 *e*P P 10 34 12.2 +0.5
comp=Z,6.9nm,1.0s,mb4.6
GSC **Goldstone** 57.47 286 *e*P P 10 34 12.2 +0.5
GSC pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
GSC **Goldstone** 57.47 286 *e*P P 10 34 12.2 +0.5
comp=Z,6.9nm,1.0s,mb4.6
NVS **Novosibirsk** 57.66 37 *e*P P 10 34 08.6 -4.1
113A **Mohawk Valley,** 57.78 282 ⇓P P 10 34 13.6 -0.3
baz=58
LRMC **Laurel Mountai** 57.80 287 ⇑P P 10 34 13.9 -0.1
baz=58
RCTC **Rector, Farmer** 57.98 288 ⇑P P 10 34 15.2 -0.1
baz=58
BC3 **Big Chuckawall** 58.01 284 ⇓P P 10 34 16.0 +0.5
baz=58
BELC **Belle Mtn. Jos** 58.03 284 ⇑P P 10 34 16.1 +0.5
baz=58
ISA **Isabella** 58.07 287 ⇓P P 10 34 16.6 +0.6
baz=58
ISA **Isabella** 58.07 287 *e*P P 10 34 16.6 +0.6
comp=Z,22nm,1.8s,mb4.9
ISA **Isabella** 58.07 287 *e*P P 10 34 16.6 +0.7
ISA pmax pmax
comp=Z,22nm,1.8s,mb4.9
ISA **Isabella** 58.07 287 *e*P P 10 34 16.5 +0.6
comp=Z,22nm,1.8s,mb4.9
GLA **Glamis** 58.13 283 ⇑P P 10 34 16.8 +0.4
baz=58
VES **Vestal, Richgr** 58.26 288 ⇑P P 10 34 17.3 +0.1
baz=58
EDW2 **Edwards Air Fo** 58.42 286 ⇓P P 10 34 18.4 +0.1
baz=58
PFO **Pinyon Flat Ob** 58.58 284 ⇑P P 10 34 19.7 +0.2
baz=58
PFO **Pinyon Flat Ob** 58.58 284 *e*P P 10 34 19.8 +0.3
comp=Z,7.5nm,0.9s,mb4.7
PFO **Pinyon Flat Ob** 58.58 284 *e*P P 10 34 19.8 +0.3
PFO pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
PFO **Pinyon Flat Ob** 58.58 284 *e*P P 10 34 19.8 +0.3
comp=Z,7.5nm,0.9s,mb4.7
ZALV **Zalesovo Beam** 58.93 37 P P 10 34 21.2 -0.4
comp=Z,0.4nm,0.3s,mb3.9,baz=350,slow=7.9,SNR=3.1
ZALV **Zalesovo Beam** 58.93 37 P P 10 34 21.2 -0.4
ZALV **Zalesovo Beam** 58.93 37 P P 10 34 21.2 -0.4
ZALV **Zalesovo Beam** 58.93 37 P P 10 34 21.2 -0.4
KURK **Kurchatov** 59.38 43 P P 10 34 24.4 -0.4
comp=Z,4.2nm,0.6s,mb4.7,baz=324,slow=7.2,SNR=20
KURK **Kurchatov** 59.38 43 P P 10 34 24.4 -0.4
KURK **Kurchatov** 59.38 43 P P 10 34 24.4 -0.4
KURK **Kurchatov** 59.38 43 P P 10 34 24.4 -0.4
EKS2 **Erkin-Say** 63.96 51 *e*P P 10 34 57.3 +1.5
comp=Z,6.0nm,0.8s,mb4.7
EKS2 **Erkin-Say** 63.96 51 *e*P P 10 34 57.3 +1.5
EKS2 pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
EKS2 **Erkin-Say** 63.96 51 *e*P P 10 34 57.3 +1.5
comp=Z,6.0nm,0.8s,mb4.7
MKAR **Makanchi Array** 63.99 43 P P 10 34 55.4 -0.5
comp=Z,2.0nm,0.6s,mb4.3,baz=328,slow=6.3,SNR=14
MKAR **Makanchi Array** 63.99 43 P P 10 34 55.4 -0.5
MKAR **Makanchi Array** 63.99 43 P P 10 34 55.4 -0.5
MKAR **Makanchi Array** 63.99 43 P P 10 34 55.4 -0.5
AAK **Ala-Archa** 64.29 51 *e*P P 10 34 59.1 +1.2
comp=Z,1.2nm,0.7s,mb4.0,baz=198,slow=10,SNR=5.1
AAK **Ala-Archa** 64.29 51 *e*P P 10 34 59.2 +1.3
comp=Z,5.5nm,1.2s,mb4.5
AAK **Ala-Archa** 64.29 51 *e*P P 10 34 59.2 +1.3
AAK pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
AAK **Ala-Archa** 64.29 51 *e*P P 10 34 59.2 +1.3
comp=Z,5.5nm,1.2s,mb4.5
TKM2 **Tokmak 2** 64.52 50 *e*P P 10 35 00.8 +1.3
comp=Z,5.4nm,1.2s,mb4.5
TKM2 **Tokmak 2** 64.52 50 *e*P P 10 35 00.8 +1.3
TKM2 pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
TKM2 **Tokmak 2** 64.52 50 *e*P P 10 35 00.8 +1.3
comp=Z,5.4nm,1.2s,mb4.5
OTAV **Otavalo** 66.61 230 *e*P P 10 35 15.1 +1.9
comp=Z,9.4nm,1.2s,mb4.7
OTAV **Otavalo** 66.61 230 *e*P P 10 35 15.1 +1.9
comp=Z,9.4nm,1.2s,mb4.7
KSH **Kashi** 67.48 52 *e*P P 10 35 20.8 +2.2
KSH pP pP 10 35 25.5 +3.7
KSH sP sP 10 35 27.8 +4.8
KSH PcP PcP 10 35 47.9 +2.0
KSH PP PP 10 37 51.7 +4.9
KSH ScP 10 39 49.6
KSH PcS 10 39 51.3
KSH S S 10 44 14.8 +0.3
KSH ScS ScS 10 45 15.0 -1.6
KSH SS SS 10 48 37.9 +4.0
KSH pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
KSH pmax pmax
comp=Z,130nm,4.8s
KSH LR LR
comp=N,230nm,9.8s
KSH LR LR
comp=E,180nm,10.9s
KSH LR LR
comp=Z,120nm,7.8s
WMQ **Urumqi** 68.52 41 P P 10 35 27.6 +2.6
SONM **Songino Array** 70.67 27 P P 10 35 37.9 -0.4
comp=Z,1.7nm,1.1s,mb3.9,baz=336,slow=10,SNR=5.3
SONM **Songino Array** 70.67 27 P P 10 35 37.9 -0.4
SONM **Songino Array** 70.67 27 P P 10 35 37.9 -0.3
SONM **Songino Array** 70.67 27 P P 10 35 37.9 -0.3
CN2 **Changchun** 78.31 15 *e*P P 10 36 21.4 -1.3
CN2 *es*P sP 10 36 28.4 +1.2
CN2 *e*S S 10 46 12.2 -5.3
CN2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,400nm,17.0s,MS4.9
CN2 LR LR
comp=E,300nm,17.0s,MS4.9
CN2 LR LR
comp=Z,300nm,19.0s,MS4.6
HHC **Hu-ho-hao-te** 78.50 26 *e*P P 10 36 23.0 -0.8
HHC sP sP 10 36 30.9 +2.6
HHC PP PP 10 39 20.9 +0.4
HHC S S 10 46 15.2 -4.5
HHC SKS 10 46 31.4
HHC ScS ScS 10 46 39.0 -5.4
HHC pmax pmax
comp=Z,12nm,0.7s,mb4.9
HHC pmax pmax
comp=Z,730nm,8.8s
HHC LR LR
comp=N,280nm,18.1s,MS4.8
HHC LR LR
comp=E,250nm,17.6s,MS4.8
HHC LR LR
comp=Z,160nm,18.6s,MS4.4
ASAJ **Asahikawa** 79.42 2 LR LR 11 14 13.3
comp=Z,223nm,18.1s,MS4.5,baz=37,slow=38
KSRS **Korea Array** 84.89 14 P P 10 36 58.6 +1.0
comp=Z,0.4nm,0.3s,mb4.0,baz=270,slow=26,SNR=2.8
NJ2 **Nanjing** 88.58 23 *e*P P 10 37 16.7 +1.0
NJ2 pmax pmax
comp=Z,10.0nm,0.6s,mb5.3
KMI **Kunming** 90.65 38 P P 10 37 27.2 +1.7
KMI pP pP 10 37 34.9 +6.1
KMI sP sP 10 37 37.9 +7.9
KMI pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
KMI LR LR
comp=Z,120nm,56.8s,MS3.9
GYA **Guiyang** 90.69 35 P P 10 37 25.0 -0.6
GYA PP PP 10 41 01.3 +1.3
GYA SKS 10 47 53.2
GYA S S 10 48 17.0 -4.6
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
GYA pmax pmax
comp=Z,90nm,5.0s
GYA LR LR
comp=N,440nm,20.5s,MS5.0
GYA LR LR
comp=E,390nm,21.0s,MS5.0
GYA LR LR
comp=Z,450nm,23.0s,MS4.8
ASAR **Alice Springs** 145.77 20 PKPbc PKPbc 10 44 00.7 -1.0
comp=Z,2.7nm,0.9s,baz=346,slow=2.6,SNR=15
ASAR **Alice Springs** 145.77 20 PKPbc PKPbc 10 44 00.7 -1.0
QSPA **South Pole Qui** 146.69 180 *e*PKPbc PKPbc 10 44 03.3 +0.4
QSPA **South Pole Qui** 146.69 180 *e*PKPbc PKPbc 10 44 03.3 +0.5

IDC 06 10:30:35.0±36.0, 29°38S×179°32W, h519km±356km, mb3.0/4, mb1 3.2/4, mb1mx3.0/16, mbtmp3.0/4, Error ellipse: s-maj=218.9km s-min=103.7km az=89.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	32.51	279	P	P	10 36 23.1	+0.4
	1.9nm,0.5s,baz=22,slow=4.8,SNR=3.0						
STKA	**Stephens Creek**	33.60	256	P	P	10 36 31.4	-0.5
	2.5nm,0.7s,baz=78,slow=11,SNR=4.8						
ASAR	**Alice Springs**	42.02	266	P	P	10 37 40.3	-0.5
	0.5nm,0.4s,baz=103,slow=7.3,SNR=8.0						
WRA	**Warramunga Arr**	42.91	272	P	P	10 37 48.1	+0.3
	1.4nm,0.5s,baz=110,slow=7.7,SNR=12						
FINES	**FINESS Array B**	143.80	340	PKP	PKPdf	10 49 08.9	-1.1
	2.2nm,0.7s,baz=64,slow=4.4,SNR=5.0						
HFS	**Hagfors**	148.01	348	PKPbc	PKPbc	10 49 21.0	-0.2
	4.5nm,1.0s,baz=186,slow=6.0,SNR=3.6						

*ISK **06** 10:46:22.9, 39°47N×28°16E, h8km, MD2.9*
*ISCJB **06** 10:46:23.3±0.4, 39°46N±0°03×28°14E±0°03, h8km±5km, Error ellipse: s-maj=5.1km s-min=4.1km az=27.9*
*CSEM **06** 10:46:23.5±0.1, 39°47N×28°16E, h10km, MD2.9, Error ellipse: s-maj=2.6km s-min=2.1km az=34.0*
*DDA **06** 10:46:23.3, 39°47N×28°13E, h12km±3km, Md2.9*
ISC 06 10:46:23.8±0.4, 39°47N±0°03×28°15E±0°03, h11km±4km, n42, σ0°61/54, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BALB	**Balikesir**	0.27	310	PG	Pg	10 46 29.2	-0.1
BALB				*e*SG	Sg	10 46 33.5	+0.4
BALB	**Balikesir**	0.27	310	*i* Pg	Pg	10 46 29.2	-0.1
BALB				*e*Sg	Sg	10 46 33.5	+0.5
DURS	**Dursunbey**	0.29	62	*e*P	Pg	10 46 29.2	-0.4
DURS				*e*S	Sg	10 46 34.6	+1.0
DURS	**Dursunbey**	0.29	62	*e*P	Pg	10 46 29.2	-0.4
DURS				*e*S	Sg	10 46 34.6	+1.1
DST	**Dursunbey**	0.39	69	*e*PG	Pg	10 46 30.9	-0.6
DST	**Dursunbey**	0.39	69	*e*Pg	Pg	10 46 30.9	-0.6
BALY	**Balya**	0.49	304	*e*P	Pg	10 46 32.7	-0.7
BALY				*e*S	Sg	10 46 40.8	+0.8
BALY	**Balya**	0.49	304	*e*P	Pg	10 46 32.7	-0.7
BALY				*e*S	Sg	10 46 40.8	+0.9
DEMI	**Demirci**	0.61	134	*e*P	Pg	10 46 35.5	-0.1
DEMI				*e*S	Sg	10 46 44.2	+0.6
DEMI	**Demirci**	0.61	134	*e*P	Pg	10 46 35.5	-0.1
DEMI				*e*S	Sg	10 46 44.2	+0.5
AKHS	**Akhisar**	0.64	204	*e*P	Pg	10 46 35.5	-0.7
AKHS				*e*S	Sg	10 46 45.5	+0.9
AKHS	**Akhisar**	0.64	204	*e*P	Pg	10 46 35.5	-0.7
AKHS				*e*S	Sg	10 46 45.5	+0.9
GONE	**Gonen-Balikesi**	0.68	329	*e*PG	Pg	10 46 36.4	-0.6
GONE	**Gonen-Balikesi**	0.68	329	*e*Pg	Pg	10 46 36.4	-0.6
BNT	**Bandirma**	0.91	349	*e*PG	Pg	10 46 40.5	-0.8
BNT	**Bandirma**	0.91	349	*e*Pg	Pg	10 46 40.5	-0.8
ULDT	**Uludag**	1.02	48	*e*P	Pg	10 46 42.4	-1.0
ULDT				*e*S	Sg	10 46 58.1	+1.4
ULDT	**Uludag**	1.02	48	*e*P	Pg	10 46 42.4	-1.0
ULDT				*e*S	Sg	10 46 58.1	+1.4
KULA	**Kula-Manisa**	1.03	157	*e*PG	Pg	10 46 43.0	-0.6
KULA	**Kula-Manisa**	1.03	157	*e*Pg	Pg	10 46 43.0	-0.6
MDNY	**Mudanya-Bursa**	1.07	32	*e*PG	Pg	10 46 43.7	-0.6
MDNY	**Mudanya-Bursa**	1.07	32	*e*Pg	Pg	10 46 43.7	-0.6
KRBG	**Karabiga-Canak**	1.13	325	*e*PN	Pn	10 46 45.1	-0.4
KRBG	**Karabiga-Canak**	1.13	325	*e*Pn	Pn	10 46 45.2	-0.4
ARMT	**Armutlu**	1.23	26	*e*PN	Pn	10 46 46.8	-0.1
ARMT	**Armutlu**	1.23	26	*e*Pn	Pn	10 46 46.8	-0.1
GEMT	**Gemlik**	1.26	39	*e*PN	Pn	10 46 47.1	-0.1
GEMT	**Gemlik**	1.26	39	*e*Pn	Pn	10 46 47.1	-0.2
LPK	**Lapseki**	1.40	311	*e*PN	Pn	10 46 49.4	+0.2
LPK	**Lapseki**	1.40	311	*e*Pn	Pn	10 46 49.4	+0.2
RKY	**Sarkoy-Tekirda**	1.43	329	*e*PN	Pn	10 46 49.8	+0.2
RKY	**Sarkoy-Tekirda**	1.43	329	*e*Pn	Pn	10 46 49.8	+0.2
YLV	**Yalova**	1.45	40	*e*PN	Pn	10 46 50.2	+0.3
YLV	**Yalova**	1.45	40	*e*Pn	Pn	10 46 50.2	+0.3
EZN	**Ezine**	1.45	285	*e*PN	Pn	10 46 50.3	+0.3
EZN	**Ezine**	1.45	285	*e*Pn	Pn	10 46 50.3	+0.4
ALT	**Altintas**	1.58	104	*e*PN	Pn	10 46 51.5	-0.1
ALT	**Altintas**	1.58	104	*e*Pn	Pn	10 46 51.6	-0.1
GELI	**Tayfur-Gelibol**	1.59	306	*e*PN	Pn	10 46 52.1	+0.3
GELI	**Tayfur-Gelibol**	1.59	306	*e*Pn	Pn	10 46 52.2	+0.4
ERIK	**Erikli-Kesan**	1.74	314	*e*PN	Pn	10 46 54.2	+0.4
ERIK	**Erikli-Kesan**	1.74	314	*e*Pn	Pn	10 46 54.3	+0.4

*ISK **06** 10:51:46.1, 40°28N×25°15E, h21km, MD2.9*
*ISCJB **06** 10:51:47.6±0.7, 40°24N±0°03×25°27E±0°04, h8km±6km, Error ellipse: s-maj=5.8km s-min=5.5km az=143.4*
*CSEM **06** 10:51:47.9±0.3, 40°23N×25°27E, h15km, ML1.8/2, Error ellipse: s-maj=5.5km s-min=4.9km az=33.0*
*THE **06** 10:51:48.3, 40°24N×25°24E, h3km±18km, ML1.8/2, Error ellipse: s-maj=18.6km s-min=0.5km az=181.0*
*DDA **06** 10:51:49.5, 40°35N×25°47E, h7km±3km, Md3.1*
ISC 06 10:51:48.1±0.6, 40°23N±0°04×25°26E±0°05, h16km±5km, n33, σ0°78/46, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	0.33	190	P	Pg	10 51 55.0	0.0
LIA				S	Sg	10 51 59.8	+0.1
LIA	**Limnos Island**	0.33	190	P	Pg	10 51 55.0	0.0
LIA				S	Sg	10 51 59.8	+0.1
GADA	**Gvkgeada**	0.49	94	*e*PG	Pg	10 51 58.1	+0.2
GADA	**Gvkgeada**	0.49	94	*e*Pg	Pg	10 51 58.1	+0.2
BOZC	**Bozcaada**	0.72	122	*e*P	Pb	10 52 02.3	+0.1
BOZC				*e*S	Sb	10 52 12.8	+1.0
ENEZ	**Enez**	0.85	53	*e*PG	Pg	10 52 03.9	-0.7
ENEZ				*e*SG	Sg	10 52 16.9	+1.1
ENEZ	**Enez**	0.85	53	*e*Pg	Pg	10 52 03.9	-0.7
ENEZ				*e*Sg	Sg	10 52 16.9	+1.1
ALN	**Alexandroupoli**	0.90	42	P	Pb	10 52 05.0	-0.3
ALN				S	Sb	10 52 18.2	+1.2
ALN	**Alexandroupoli**	0.90	42	P	Pb	10 52 05.0	-0.3
ALN				S	Sb	10 52 18.2	+1.2
EZN	**Ezine**	0.91	116	*e*PG	Pg	10 52 05.6	-0.2
EZN	**Ezine**	0.91	116	*e*Pg	Pg	10 52 05.6	-0.2
RDO	**Rodhopi**	0.94	13	P	Pb	10 52 05.7	-0.3
RDO	**Rodhopi**	0.94	13	P	Pb	10 52 05.7	-0.3
GELI	**Tayfur-Gelibol**	0.95	79	*e*PG	Pg	10 52 05.7	-0.6
GELI	**Tayfur-Gelibol**	0.95	79	*e*Pg	Pg	10 52 05.7	-0.7
KAVA	**Kavala**	0.95	324	P	Pb	10 52 06.3	+0.1
KAVA				S	Sb	10 52 19.5	+0.9
KAVA	**Kavala**	0.95	324	P	Pb	10 52 06.3	+0.1
KAVA				S	Sb	10 52 19.5	+0.9
ERIK	**Erikli-Kesan**	1.06	65	*e*PN	Pn	10 52 07.0	-1.1
ERIK	**Erikli-Kesan**	1.06	65	*e*Pn	Pn	10 52 07.0	-1.2
LPK	**Lapseki**	1.16	82	*e*PN	Pn	10 52 08.8	-0.8
LPK	**Lapseki**	1.16	82	*e*Pn	Pn	10 52 08.8	-0.8
SART	**Tekirdag**	1.54	72	*e*P	Pn	10 52 14.8	0.0
SART				*e*S	Sn	10 52 34.1	-0.3
SART	**Tekirdag**	1.54	72	*e*P	Pn	10 52 14.8	0.0
SART				*e*S	Sn	10 52 34.1	-0.3
SRS	**Serrai**	1.55	306	P	Pn	10 52 15.1	+0.2
SRS	**Serrai**	1.55	306	P	Pn	10 52 15.1	+0.2
KRBG	**Karabiga-Canak**	1.57	83	*e*PN	Pn	10 52 14.6	-0.6
KRBG	**Karabiga-Canak**	1.57	83	*e*Pn	Pn	10 52 14.6	-0.6
GONE	**Gonen-Balikesi**	1.87	95	*e*PN	Pn	10 52 19.1	-0.3
GONE	**Gonen-Balikesi**	1.87	95	*e*Pn	Pn	10 52 19.1	-0.3
BALY	**Balya**	1.88	104	*e*P	Pn	10 52 21.5	+2.0
BALY				*e*S	Sn	10 52 46.9	+4.0
BALY	**Balya**	1.88	104	*e*P	Pn	10 52 21.5	+2.0
BALY				*e*S	Sn	10 52 46.9	+4.1
EDRB	**Edirne**	1.97	34	*e*PN	Pn	10 52 19.4	-1.3
EDRB	**Edirne**	1.97	34	*e*Pn	Pn	10 52 19.4	-1.3

*ISCJB **06** 10:56:36.6±0.8, 25°67N±0°06×141°0E±0°2, h229km±8km, mb3.6/8, Error ellipse: s-maj=23.9km s-min=8.6km az=167.9*
*IDC **06** 10:56:37.3±1.1, 25°60N×140°89E, h219km±9km, mb3.4/7, mb1 3.5/11, mb1mx3.3/28, mbtmp3.5/11, Error ellipse: s-maj=20.8km s-min=15.4km az=87.0*
*NEIC **06** 10:56:39.0±2.3, 25°63N×140°87E, h236km±22km, MG4.6(JMA), Error ellipse: s-maj=25.6km s-min=13.3km az=88.0*
*JMA **06** 10:56:39.1±0.2, 25°75N×140°10E, h116km, M4.6*
ISC 06 10:56:38.4±0.8, 25°77N±0°06×141°0E±0°2, h225km±9km, n31, σ1°08/39, mb3.6/8, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**1.34**	**50**	P	**Pn**	**10 57 13.3**	**+0.2**
JHHJ				S	**S**	**10 57 39.4**	**-0.9**
CBIJ	**Chichi jima**	**1.68**	**38**	P	**Pn**	**10 57 16.8**	**+0.9**
	147nm,0.3s,baz=109,slow=4.9,SNR=252						
CBIJ				S	**S**	**10 57 46.7**	**+1.4**
	195nm,0.3s,baz=112,slow=23,SNR=31						
CBIJ	**Chichi jima**	**1.68**	**38**	P	**Pn**	**10 57 16.6**	**+0.7**
CBIJ				S	**S**	**10 57 45.0**	**-0.3**
JHJ2	**Mitsune**	**7.39**	**352**	P	**Pn**	**10 58 24.6**	**+0.8**
JHJ	**Hachijo jima 2**	**7.41**	**352**	P	**Pn**	**10 58 24.6**	**+0.7**
	7.9nm,0.3s,baz=261,slow=20,SNR=6.9						
BSO1	**Boso 1**	**8.86**	**360**	P	**Pn**	**10 58 42.3**	**-0.2**
BSO1				*e*S	**S**	**11 00 21.3**	**-1.1**
BSO3	**Boso 3**	**9.02**	**357**	P	**Pn**	**10 58 43.9**	**-0.7**
BSO3				*e*S	**S**	**11 00 24.5**	**-1.7**
BSO4	**Boso 4**	**9.21**	**356**	P	**Pn**	**10 58 47.9**	**+0.8**
BSO4				*e*S	**S**	**11 00 29.9**	**-0.9**
JOD2	**Odawara 2**	**9.61**	**350**	P	**Pn**	**10 58 53.4**	**+1.2**
JOD2				S	**S**	**11 00 39.4**	**-0.8**
JNY	**Yasuok**	**9.94**	**345**	P	**Pn**	**10 58 57.1**	**+0.7**
JRY	**Ryogami san**	**10.38**	**350**	P	**Pn**	**10 59 02.1**	**+0.1**
JHO	**Hitachi**	**10.82**	**358**	P	**Pn**	**10 59 05.9**	**-1.6**
JHO				*e*S	**S**	**11 01 00.7**	**-7.9**
MJAR	**Matsushiro Arr**	**11.01**	**348**	P	**Pn**	**10 59 11.5**	**+1.6**
	0.5nm,0.3s,baz=248,slow=25,SNR=5.2						
MJAR	**Matsushiro Arr**	**11.01**	**348**	P	**Pn**	**10 59 11.5**	**+1.6**
KSRS	**Korea Array**	**16.11**	**319**	P	**P**	**11 00 13.1**	**+1.2**
	1.8nm,0.3s,baz=136,slow=12,SNR=47						
ASAJ	**Asahikawa**	**18.35**	**4**	P	**P**	**11 00 39.0**	**+2.8**
	0.5nm,0.3s,baz=306,slow=19,SNR=6.8						
SONM	**Songino Array**	**34.98**	**318**	P	**P**	**11 03 09.9**	**+0.8**
	0.2nm,0.3s,mb3.1,baz=133,slow=9.3,SNR=2.1						
SONM	**Songino Array**	**34.98**	**318**	P	**P**	**11 03 09.9**	**+0.8**
WRAB	**Tennant Creek**	**45.89**	**189**	*e*P	**P**	**11 04 37.2**	**-1.4**
	9.2nm,1.4s,mb3.9						
WRA	**Warramunga Arr**	**45.90**	**189**	P	**P**	**11 04 36.9**	**-1.8**
	1.2nm,0.6s,mb3.4,baz=12,slow=8.4,SNR=20						
WRA	**Warramunga Arr**	**45.90**	**189**	P	**P**	**11 04 36.9**	**-1.8**
ZALV	**Zalesovo Beam**	**49.82**	**320**	P	**P**	**11 05 07.8**	**-0.5**
	0.5nm,0.3s,mb3.3,baz=101,slow=7.5,SNR=1.8						
ZALV	**Zalesovo Beam**	**49.82**	**320**	P	**P**	**11 05 07.8**	**-0.5**
KURK	**Kurchatov**	**53.18**	**315**	P	**P**	**11 05 32.9**	**-0.4**
	0.9nm,0.5s,mb3.4,baz=94,slow=7.7,SNR=12						
KURK	**Kurchatov**	**53.18**	**315**	P	**P**	**11 05 32.9**	**-0.4**
ILAR	**Eielson Array**	**59.37**	**28**	P	**P**	**11 06 17.7**	**+1.1**
	2.4nm,0.8s,mb3.9,baz=249,slow=5.1,SNR=26						
ILAR	**Eielson Array**	**59.37**	**28**	P	**P**	**11 06 17.7**	**+1.1**
INK	**Inuvik**	**64.66**	**24**	P	**P**	**11 06 52.6**	**+0.9**
	1.2nm,0.5s,mb3.8,baz=298,slow=5.1,SNR=9.5						
INK	**Inuvik**	**64.66**	**24**	P	**P**	**11 06 52.6**	**+0.9**
FINES	**FINESS Array B**	**78.67**	**334**	P	**P**	**11 08 14.1**	**-1.1**
	1.1nm,0.4s,mb3.8,baz=72,slow=6.8,SNR=6.9						
FINES	**FINESS Array B**	**78.67**	**334**	P	**P**	**11 08 14.1**	**-1.1**

*ISK **06** 11:01:38.7,39.°69N×27.°71E,h6km,MD1.8*
*ISCJB **06** 11:01:39.6±0.6,39.°73N±0.°04×27.°82E±0.°04,h10km±7km, Error ellipse: s-maj=7.5km s-min=5.2km az=24.8*
*CSEM **06** 11:01:39.6±0.2,39.°72N×27.°80E,h10km,MD1.8, Error ellipse: s-maj=4.4km s-min=3.5km az=62.0*
*DDA **06** 11:01:39.4,39.°72N×27.°81E,h7km±3km,Md2.7*
ISC 06 11:01:39.8±0.8,39.72N±0.°03×27.81E±0.°04,h12km±11km, n17,σ0s52/26,1C,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.10**	**144**	PG	**Pg**	**11 01 42.1**	**-0.4**
BALB	**Balikesir**	**0.10**	**144**	*i* Pg	**Pg**	**11 01 42.1**	**-0.4**
BALY	**Balya**	**0.14**	**279**	*i* Pg	**Pg**	**11 01 43.2**	**0.0**
BALY				*i* Sg	**Sg**	**11 01 45.6**	**0.0**
GONE	**Gonen-Balikesi**	**0.34**	**344**	*e*PG	**Pg**	**11 01 46.2**	**-0.4**
GONE				*e*SG	**Sg**	**11 01 51.7**	**+0.5**
GONE	**Gonen-Balikesi**	**0.34**	**344**	*e*Pg	**Pg**	**11 01 46.2**	**-0.4**
GONE				*e*Sg	**Sg**	**11 01 51.7**	**+0.5**
DURS	**Dursunbey**	**0.53**	**103**	*e*P	**Pg**	**11 01 50.1**	**+0.1**
DURS				*e*S	**Sg**	**11 01 57.5**	**+0.4**
DURS	**Dursunbey**	**0.53**	**103**	*e*P	**Pg**	**11 01 50.1**	**0.0**
DURS				*e*S	**Sg**	**11 01 57.5**	**+0.4**
DST	**Dursunbey**	**0.64**	**100**	*e*PG	**Pg**	**11 01 52.9**	**+0.7**
DST	**Dursunbey**	**0.64**	**100**	*e*Pg	**Pg**	**11 01 52.9**	**+0.8**
BNT	**Bandirma**	**0.64**	**8**	*e*PG	**Pg**	**11 01 52.2**	**-0.1**
BNT	**Bandirma**	**0.64**	**8**	*e*Pg	**Pg**	**11 01 52.2**	**-0.1**
KRBG	**Karabiga-Canak**	**0.78**	**330**	*e*PG	**Pg**	**11 01 54.0**	**-0.8**
KRBG	**Karabiga-Canak**	**0.78**	**330**	*e*Pg	**Pg**	**11 01 54.0**	**-0.8**
AKHS	**Akhisar**	**0.84**	**180**	*e*P	**Pg**	**11 01 54.9**	**-1.1**
AKHS				*e*S	**Sg**	**11 02 06.8**	**0.0**
AKHS	**Akhisar**	**0.84**	**180**	*e*P	**Pg**	**11 01 54.9**	**-1.0**
AKHS				*e*S	**Sg**	**11 02 06.8**	**-0.1**
AYVA	**Ayvalik**	**0.95**	**245**	*e*P	**Pg**	**11 01 58.3**	**+0.1**
AYVA				*e*S	**Sg**	**11 02 11.5**	**+0.9**
AYVA	**Ayvalik**	**0.95**	**245**	*e*P	**Pg**	**11 01 58.3**	**+0.1**
AYVA				*e*S	**Sg**	**11 02 11.5**	**+0.9**

*CSEM **06** 11:08:14.5±0.2,50.°14N×18.°40E,h2km, ML2.5/6*
*PRU **06** 11:08:15.8,50.°11N×18.°36E,h0km*
*IPEC **06** 11:08:15.2±0.1,50.°10N×18.°42E,h4km±1km,ML1.7/3, Error ellipse: s-maj=1.8km s-min=0.7km az=162.0*
WAR 06 11:08:14.8,50.09N×18.44E,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.32**	**217**	*e*PG	Pg	11 08 21.3	+0.4
OKC				*e*SG	Sg	11 08 25.8	+0.8
	comp=Z,24nm,0.4s						
OKC	**Ostrava-Krasne**	**0.32**	**217**	*e*Pg	Pg	11 08 21.2	+0.3
	baz=34						
OKC				Sg	Sg	11 08 25.8	+0.8
	comp=Z,24nm,0.4s						
MORC	**Moravsky Berou**	**0.66**	**242**	*e*Pg	Pg	11 08 27.4	-0.1
	baz=60						
MORC				*e*Sg	Sg	11 08 36.5	+0.5
	comp=Z,12nm,0.2s,baz=60						
OJC	**Ojcow**	**0.88**	**81**	*e*Pg	Pg	11 08 31.8	+0.1
OJC				*e*Sg	Sg	11 08 44.5	+1.4
OJC	**Ojcow**	**0.88**	**81**	*e*Pg	Pg	11 08 31.8	+0.1
OJC				*e*Sg	Sg	11 08 43.7	+0.6
	baz=263						
JAVC	**Velka Javorina**	**1.33**	**203**	*e*Pn	Pn	11 08 40.5	-0.1
	baz=21						
DPC	**Dobruska-Polom**	**1.39**	**282**	*e*PG	Pg	11 08 40.5	-0.9
DPC				*e*SG	Sg	11 08 58.6	-0.7
	comp=Z,20nm,0.6s						
DPC	**Dobruska-Polom**	**1.39**	**282**	*e*Pn	Pn	11 08 40.2	-1.2
	baz=100						
DPC	**Dobruska-Polom**	**1.39**	**282**	Pg	Pg	11 08 40.5	-0.9
DPC				*e*Sg	Sg	11 08 58.4	-0.9
	baz=100						
NIE	**Niedzica**	**1.39**	**118**	*e*Pg	Pg	11 08 40.7	-0.7
NIE				*e*Sg	Sg	11 09 00.1	+0.8
NIE	**Niedzica**	**1.39**	**118**	*e*Pg	Pg	11 08 40.7	-0.7
NIE				*e*Sg	Sg	11 08 57.7	-1.6
VRAC	**Vranov**	**1.43**	**238**	*e*Pn	Pn	11 08 41.7	-0.3
	baz=56						
VRAC				*e*Sg	Sg	11 08 59.8	-1.0
	comp=Z,15nm,0.3s,baz=56						
UPC	**Upice**	**1.61**	**286**	*e*SG	Sg	11 09 06.0	-0.6
UPC	**Upice**	**1.61**	**286**	Sg	Sg	11 09 06.0	-0.6
VYHS	**Vyhne**	**1.62**	**171**	*e*PN	Pn	11 08 44.8	+0.2
VYHS				*e*SN	Sn	11 09 15.5	+1.6
VYHS	**Vyhne**	**1.62**	**171**	*e*Pn	Pn	11 08 44.8	+0.2
VYHS				*e*Sn	Sn	11 09 07.6	+1.5
KRUC	**Moravsky**	**1.69**	**233**	*e*Pn	Pn	11 08 46.7	+1.2
	baz=51						
KRUC				*e*Sg	Sg	11 09 07.0	-1.9
	comp=Z,5.3nm,0.2s,baz=51						
STHS	**Stebnicka Huta**	**1.94**	**109**	*e*PN	Pn	11 08 52.1	+3.2
STHS				*e*SN	Sn	11 09 15.5	+1.6
STHS	**Stebnicka Huta**	**1.94**	**109**	*e*Pn	Pn	11 08 52.1	+3.2
STHS				*e*Sn	Sn	11 09 15.5	+1.6
CRVS	**Cervenica-Dubn**	**2.30**	**120**	*e*PN	Pn	11 08 59.3	+5.4
CRVS				*e*SN	Sn	11 09 25.6	+2.7
PRU	**Pruhonice**	**2.52**	**269**	*e*SG	Sg	11 09 32.9	-2.7
	comp=Z,3.1nm,0.4s						
PRU	**Pruhonice**	**2.52**	**269**	Sg	Sg	11 09 32.9	-2.7
	comp=Z,3.1nm,0.4s						
KHC	**Kasperske Hory**	**3.31**	**255**	*e*SG	Sg	11 09 58.3	-2.7
	comp=Z,4.6nm,0.5s						
KHC	**Kasperske Hory**	**3.31**	**255**	Sg	Sg	11 09 58.3	-2.7
	comp=Z,4.6nm,0.5s						

DJA 06 11:16:57,0.°81N×98.°82E,h10km,MLv4.1/3,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBSI	**Sibolga**	**0.74**	**5**	P	Pg	11 17 11.7	+0.4
MNSI	**Mandailing Nat**	**0.76**	**91**	P	Pg	11 17 10.2	-1.5
MNSI				S	Sg	11 17 23.6	+2.0
SISI	**Saibi**	**2.14**	**173**	P	Pn	11 17 25.3	-7.5
BKNI	**Bangkinang**	**2.27**	**102**	P	Pn	11 17 38.3	+3.7
BKNI				S	Sn	11 18 09.5	+6.8
PDSI	**Padang**	**2.37**	**136**	P	Pn	11 17 36.2	+0.2
PDSI				S	Sn	11 18 06.1	+1.0
TPTI		**2.93**	**326**	P	Pn	11 17 44.8	+1.1

*ISK **06** 11:18:43.4,39.°51N×28.°23E,h5km,MD2.7*
*ISCJB **06** 11:18:44.9±0.6,39.°53N±0.°04×28.°23E±0.°05,h6km±6km, Error ellipse: s-maj=7.7km s-min=5.0km az=44.6*
*CSEM **06** 11:18:44.9±0.2,39.°51N×28.°21E,h10km,MD2.7, Error ellipse: s-maj=5.9km s-min=3.6km az=47.0*
*DDA **06** 11:18:44.6,39.°48N×28.°10E,h7km±4km,Md2.9*
ISC 06 11:18:45.2±0.5,39.52N±0.°04×28.22E±0.°05,h9km±5km, n30,σ0s74/40,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DURS	**Dursunbey**	**0.21**	**68**	*i* P	**Pg**	**11 18 50.6**	**+1.1**
DURS				*i* S	**Sg**	**11 18 56.6**	**+4.3**
DURS	**Dursunbey**	**0.21**	**68**	*i* P	**Pg**	**11 18 50.6**	**+1.1**
DURS				*i* S	**Sg**	**11 18 56.7**	**+4.3**
BALB	**Balikesir**	**0.29**	**294**	*e*PG	**Pg**	**11 18 50.6**	**-0.4**
BALB				*e*SG	**Sg**	**11 18 55.8**	**+0.9**
BALB	**Balikesir**	**0.29**	**294**	*e*Pg	**Pg**	**11 18 50.6**	**-0.4**
BALB				*e*Sg	**Sg**	**11 18 55.8**	**+0.9**
DST	**Dursunbey**	**0.32**	**75**	*e*PG	**Pg**	**11 18 50.9**	**-0.6**
DST	**Dursunbey**	**0.32**	**75**	*e*Pg	**Pg**	**11 18 50.9**	**-0.6**
BALY	**Balya**	**0.51**	**295**	*e*P	**Pg**	**11 18 54.1**	**-1.1**
BALY				*e*S	**Sg**	**11 19 03.0**	**+1.1**
BALY	**Balya**	**0.51**	**295**	*e*P	**Pg**	**11 18 54.1**	**-1.1**
BALY				*e*S	**Sg**	**11 19 03.0**	**+1.1**
GONE	**Gonen-Balikesi**	**0.67**	**322**	*e*PG	**Pg**	**11 18 57.7**	**-0.4**
GONE	**Gonen-Balikesi**	**0.67**	**322**	*e*Pg	**Pg**	**11 18 57.7**	**-0.4**
BNT	**Bandirma**	**0.86**	**344**	*e*PG	**Pg**	**11 19 01.5**	**-0.3**
BNT	**Bandirma**	**0.86**	**344**	*e*Pg	**Pg**	**11 19 01.5**	**-0.3**
KULA	**Kula-Manisa**	**1.06**	**161**	*e*PG	**Pg**	**11 19 04.6**	**-1.1**
KULA	**Kula-Manisa**	**1.06**	**161**	*e*Pg	**Pg**	**11 19 04.6**	**-1.0**
MANT	**Manisa**	**1.06**	**166**	*e*P	**Pg**	**11 19 04.9**	**-0.7**
MANT				*e*S	**Sg**	**11 19 19.9**	**+0.5**
MANT	**Manisa**	**1.06**	**166**	*e*P	**Pg**	**11 19 04.9**	**-0.7**
MANT				*e*S	**Sg**	**11 19 19.9**	**+0.4**
KRBG	**Karabiga-Canak**	**1.12**	**321**	*e*PN	**Pn**	**11 19 06.2**	**-0.8**
KRBG	**Karabiga-Canak**	**1.12**	**321**	*e*Pn	**Pn**	**11 19 06.2**	**-0.8**
ARMT	**Armutlu**	**1.15**	**25**	*e*PN	**Pn**	**11 19 06.8**	**-0.6**
ARMT	**Armutlu**	**1.15**	**25**	*e*Pn	**Pn**	**11 19 06.8**	**-0.6**
GEMT	**Gemlik**	**1.17**	**39**	*e*PN	**Pn**	**11 19 07.1**	**-0.6**
GEMT	**Gemlik**	**1.17**	**39**	*e*Pn	**Pn**	**11 19 07.1**	**-0.7**
YLV	**Yalova**	**1.36**	**40**	*e*PN	**Pn**	**11 19 10.8**	**+0.5**
YLV	**Yalova**	**1.36**	**40**	*e*Pn	**Pn**	**11 19 10.9**	**+0.5**
RKY	**Sarkoy-Tekirda**	**1.41**	**326**	*e*PN	**Pn**	**11 19 11.3**	**+0.3**
RKY	**Sarkoy-Tekirda**	**1.41**	**326**	*e*Pn	**Pn**	**11 19 11.4**	**+0.4**
MFT	**Murefte**	**1.45**	**330**	*e*PN	**Pn**	**11 19 12.1**	**+0.5**
MFT	**Murefte**	**1.45**	**330**	*e*Pn	**Pn**	**11 19 12.1**	**+0.5**
KHAL	**Karahalli**	**1.52**	**139**	*e*P	**Pn**	**11 19 13.2**	**+0.7**
KHAL				*e*S	**Sn**	**11 19 33.1**	**+0.8**
KHAL	**Karahalli**	**1.52**	**139**	*e*P	**Pn**	**11 19 13.1**	**+0.6**
KHAL				*e*S	**Sn**	**11 19 33.1**	**+0.8**

*ISCJB **06** 11:20:05.7±0.7,60.°61S±0.°09×45.°9W±0.°2,h10km,mb3.9/7, Error ellipse: s-maj=18.8km s-min=11.2km az=149.4*
*IDC **06** 11:20:05.5±0.9,60.°55S×45.°61W,h0km,mb3.9/7, mb1 4.0/7,mb1mx4.0/15,mbtmp4.0/7,Error ellipse: s-maj=45.7km s-min=20.0km az=61.0*
*NEIC **06** 11:20:07.3±0.6,60.°55S×45.°72W,h10km,Error ellipse: s-maj=15.8km s-min=9.2km az=59.0*
ISC 06 11:20:07.5±0.7,60.56S±0.°09×45.7W±0.°2,h10km,n21, σ0s73/17,mb3.9/7,Scotia Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**9.41**	**235**	*e*Pn	**Pn**	**11 22 23.0**	**+0.1**
EFI	**East Falkland**	**11.23**	**317**	*e*Pn	**Pn**	**11 22 47.0**	**-0.8**
SNAA	**Sanae**	**20.07**	**141**	P	**P**	**11 24 40.8**	**+0.3**
	4.2nm,0.8s,baz=290,slow=10,SNR=42						
SNAA	**Sanae**	**20.07**	**141**	P	**P**	**11 24 40.8**	**+0.3**
TRQA	**Tornquist**	**24.75**	**328**	*e*P	**P**	**11 25 28.2**	**-0.6**
	14nm,0.9s,mb4.5						
PLCA	**Paso Flores**	**25.05**	**311**	P	**P**	**11 25 31.9**	**+0.3**
	1.5nm,0.5s,mb3.8,baz=153,slow=17,SNR=3.1						
PLCA	**Paso Flores**	**25.05**	**311**	P	**P**	**11 25 31.9**	**+0.3**
QSPA	**South Pole Qui**	**29.68**	**180**	P	**P**	**11 26 11.9**	**-0.8**
	2.1nm,1.0s,mb3.8,baz=174,slow=5.5,SNR=4.9						
QSPA	**South Pole Qui**	**29.68**	**180**	P	**P**	**11 26 11.9**	**-0.8**
MAW	**Mawson**	**42.05**	**147**	P	**P**	**11 27 58.3**	**-0.3**
	1.2nm,0.6s,mb3.7,baz=241,slow=8.1,SNR=6.1						
MAW	**Mawson**	**42.05**	**147**	P	**P**	**11 27 58.3**	**-0.3**
LPAZ	**La Paz**	**47.07**	**330**	P	**P**	**11 28 40.8**	**+1.6**
	1.3nm,0.6s,mb4.0,baz=215,slow=6.4,SNR=5.7						
LPAZ	**La Paz**	**47.07**	**330**	P	**P**	**11 28 40.8**	**+1.6**
TORD	**Torodi Ar. Bea**	**82.58**	**46**	P	**P**	**11 32 30.0**	**-0.5**
	0.5nm,0.8s,mb3.6,baz=188,slow=9.7,SNR=3.5						
TORD	**Torodi Ar. Bea**	**82.58**	**46**	P	**P**	**11 32 30.0**	**-0.5**
ASAR	**Alice Springs**	**96.08**	**180**	P	**P**	**11 33 36.0**	**+0.9**
	0.3nm,0.8s,mb3.8,baz=177,slow=5.7,SNR=4.1						
ASAR	**Alice Springs**	**96.08**	**180**	P	**P**	**11 33 36.0**	**+0.9**
ILAR	**Eielson Array**	**145.74**	**312**	PKPbc	PKPbc	11 39 42.9	-2.0
	2.6nm,0.8s,baz=152,slow=3.6,SNR=20						
ILAR	**Eielson Array**	**145.74**	**312**	PKPbc	PKPbc	11 39 42.9	-2.0
MKAR	**Makanchi Array**	**147.23**	**91**	PKPbc	PKPbc	11 39 47.4	-2.4
	1.0nm,0.7s,baz=239,slow=4.6,SNR=8.6						
MKAR	**Makanchi Array**	**147.23**	**91**	PKPbc	PKPbc	11 39 47.4	-2.4

*ISK **06** 11:41:07.1,38.°48N×37.°01E,h5km,MD2.8*
*CSEM **06** 11:41:08.9±0.4,38.°44N×37.°12E,h5km,MD2.8, Error ellipse: s-maj=10.9km s-min=8.6km az=16.0*
*ISCJB **06** 11:41:09.1±0.6,38.°42N±0.°05×37.°06E±0.°06,h10km, Error ellipse: s-maj=7.9km s-min=6.2km az=174.7*
*DDA **06** 11:41:10.2,38.°38N×37.°10E,h14km±1km,Md3.2*
ISC 06 11:41:09.0±0.7,38.41N±0.°06×37.06E±0.°06,h3km±10km, n23,σ0s85/35,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARI	**SarD1z-Kayseri**	**0.39**	**313**	*e*PG	**Pg**	**11 41 17.4**	**+0.9**
SARI	**SarD1z-Kayseri**	**0.39**	**313**	*e*Pg	**Pg**	**11 41 17.4**	**+0.8**
PINB	**Pinarbasi**	**0.58**	**298**	*e*P	**Pg**	**11 41 20.7**	**+0.5**
PINB				*e*S	**Sg**	**11 41 32.9**	**+5.2**
PINB	**Pinarbasi**	**0.58**	**298**	*e*P	**Pg**	**11 41 20.7**	**+0.5**
PINB				*e*S	**Sg**	**11 41 32.9**	**+5.2**
AKCD	**Akcadag**	**0.69**	**99**	*e*P	**Pg**	**11 41 20.8**	**-1.4**
AKCD				*e*S	**Sg**	**11 41 34.6**	**+3.5**
AKCD	**Akcadag**	**0.69**	**99**	*e*P	**Pg**	**11 41 20.8**	**-1.4**
AKCD				*e*S	**Sg**	**11 41 34.6**	**+3.5**
DARE	**Darende-Malaty**	**0.80**	**47**	*e*PG	**Pg**	**11 41 15.4**	**-8.9**
DARE				*e*SG	**Sg**	**11 41 22.2**	**-12**
DARE	**Darende-Malaty**	**0.80**	**47**	*e*Pg	**Pg**	**11 41 15.4**	**-8.9**
DARE				*e*Sg	**Sg**	**11 41 22.2**	**-12**
KMRS	**Kahramanmaras**	**0.91**	**188**	*e*PG	**Pg**	**11 41 27.0**	**+0.5**
KMRS	**Kahramanmaras**	**0.91**	**188**	*e*Pg	**Pg**	**11 41 27.0**	**+0.5**
ANDN	**Andirin**	**1.00**	**215**	*e*P	**Pg**	**11 41 28.5**	**+0.3**
ANDN				*e*S	**Sg**	**11 41 47.5**	**+6.3**
ANDN	**Andirin**	**1.00**	**215**	*e*P	**Pg**	**11 41 28.5**	**+0.3**
ANDN				*e*S	**Sg**	**11 41 47.5**	**+6.3**
GAZ	**Gaziantep**	**1.24**	**174**	*e*PN	**Pn**	**11 41 33.1**	**-0.2**
GAZ	**Gaziantep**	**1.24**	**174**	*e*Pn	**Pn**	**11 41 33.1**	**-0.1**
KOZT	**Kozan**	**1.35**	**227**	*e*PN	**Pn**	**11 41 34.4**	**-0.3**
KEMA	**Kemaliye**	**1.41**	**52**	*e*P	**Pg**	**11 41 36.2**	**+0.1**
KEMA				*e*S	**Sg**	**11 41 58.7**	**+4.4**
KEMA	**Kemaliye**	**1.41**	**52**	*e*P	**Pg**	**11 41 36.2**	**+0.2**
KEMA				*e*S	**Sg**	**11 41 58.7**	**+4.4**
URFA	**Urfa**	**1.69**	**124**	*e*PN	**Pn**	**11 41 40.1**	**+0.6**
URFA	**Urfa**	**1.69**	**124**	*e*Pn	**Pn**	**11 41 40.1**	**+0.6**
AVNT	**Avonos**	**1.77**	**283**	*e*P	**Pg**	**11 41 41.4**	**-1.5**
AVNT				*e*S	**Sg**	**11 42 12.5**	**+6.7**
AVNT	**Avonos**	**1.77**	**283**	*e*P	**Pg**	**11 41 41.4**	**-1.5**
AVNT				*e*S	**Sg**	**11 42 12.5**	**+6.7**
PTK	**Pertek**	**1.89**	**74**	*e*PN	**Pn**	**11 41 42.0**	**-0.1**
PTK	**Pertek**	**1.89**	**74**	*e*Pn	**Pn**	**11 41 42.0**	**-0.1**

*TIR **06** 11:43:53.5±3.1,41.°28N×20.°45E,h0km±999km,ML3.0*
*ISCJB **06** 11:43:59.1±0.7,41.°21N±0.°04×20.°32E±0.°05,h10km,Error ellipse: s-maj=7.0km s-min=4.1km az=29.1*
*CSEM **06** 11:43:59.6±0.4,41.°25N×20.°34E,h10km,ML3.0,Error ellipse: s-maj=9.8km s-min=6.6km az=29.0*
*SKO **06** 11:43:59.4,41.°30N×20.°42E,h38km*
ISC 06 11:43:59.9±0.7,41.20N±0.°05×20.32E±0.°05,h10km,n12, σ1s14/22,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.37**	**293**	*e*PG	**Pg**	**11 44 05.4**	**-1.8**
TIR				*e*SG	**Sg**	**11 44 12.2**	**+0.1**
TIR	**Tirane**	**0.37**	**293**	*e*Pg	**Pg**	**11 44 05.4**	**-1.8**
TIR				*e*Sg	**Sg**	**11 44 12.2**	**+0.1**
KRUS	**Krusevo**	**0.72**	**76**	*e*Pg	**Pg**	**11 44 12.5**	**-1.3**
KRUS				*e*Sg	**Sg**	**11 44 23.3**	**+0.1**
KRUS	**Krusevo**	**0.72**	**76**	*e*Pg	**Pg**	**11 44 12.5**	**-1.3**
KRUS				*e*Sg	**Sg**	**11 44 23.3**	**+0.1**
BIA	**Bitola**	**0.78**	**103**	*e*Pg	**Pg**	**11 44 13.8**	**-1.1**
BIA				*e*Sg	**Sg**	**11 44 26.2**	**+1.0**
	comp=N,21nm,0.4s						
BIA				*e*Lg		11 44 26.7	
	comp=E,34nm,0.4s						
BIA				*e*Lg		11 44 26.8	
	comp=N,21nm,0.4s						
BIA	**Bitola**	**0.78**	**103**	*e*Pg	**Pg**	**11 44 13.8**	**-1.2**
BIA				*e*Sg	**Sg**	**11 44 26.1**	**+0.9**
	comp=N,21nm,0.4s						
BIA				*e*Lg		11 44 26.7	
	comp=N,34nm,0.4s						
PUK	**Puka**	**0.90**	**339**	*e*PG	**Pg**	**11 44 16.2**	**-0.9**
PUK				*e*SG	**Sg**	**11 44 29.5**	**+0.7**
PUK	**Puka**	**0.90**	**339**	*e*Pg	**Pg**	**11 44 16.2**	**-0.9**
PUK				*e*Sg	**Sg**	**11 44 29.5**	**+0.7**
BCI	**Bajram Curri**	**1.18**	**351**	*e*PG	**Pg**	**11 44 22.3**	**-0.2**
BCI				*e*SG	**Sg**	**11 44 39.5**	**+1.7**
BCI	**Bajram Curri**	**1.18**	**351**	*e*Pg	**Pg**	**11 44 22.3**	**-0.2**
BCI				*e*Sg	**Sg**	**11 44 39.5**	**+1.7**
SRN	**Sarande**	**1.34**	**190**	*e*PG	**Pg**	**11 44 27.5**	**+1.8**
SRN	**Sarande**	**1.34**	**190**	*e*Pg	**Pg**	**11 44 27.5**	**+1.8**

*ISCJB **06** 11:44:57.4±0.4,33.°67N±0.°04×28.°53E±0.°05,h33km, Error ellipse: s-maj=7.6km s-min=3.4km az=135.9*
*CSEM **06** 11:44:57.4±0.2,33.°83N×28.°62E,h20km,ML2.9, Error ellipse: s-maj=8.6km s-min=3.1km az=45.0*
*HLW **06** 11:44:58.9,33.°69N×28.°54E,h32km±34km,Md3.4,Ml3.5*
*THE **06** 11:45:00.0,33.°78N×28.°42E,h9km±14km,Error ellipse: s-maj=19.5km s-min=1.4km az=136.0*
ISC 06 11:44:59.1±0.4,33.70N±0.°04×28.51E±0.°05,h35km,n52, σ0s97/63,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**2.15**	**329**	P	**Pn**	**11 45 32.6**	**+0.1**
KARP				S	**Sn**	**11 45 58.4**	**+0.4**
KARP	**Karpathos**	**2.15**	**329**	P	**Pn**	**11 45 32.6**	**+0.1**
KARP				S	**Sn**	**11 45 58.4**	**+0.4**
ZKR	**Zakros**	**2.37**	**307**	P	**Pn**	**11 45 35.4**	**0.0**
ZKR				S	**Sn**	**11 46 03.5**	**+0.3**
ZKR

JIE	**Ise**	**0.30**	**85**	P		**Pn**	**11 58 03.3**	**+0.5**
JIE				S		**S**	**11 58 39.4**	**-0.3**
TSUJ	**Tsu 2**	**0.35**	**11**	P		**Pn**	**11 58 03.2**	**+0.4**
TSUJ				S		**S**	**11 58 39.5**	**-0.3**
JWZ	**Kozaga**	**0.98**	**212**	P		**Pn**	**11 58 04.6**	**+0.1**
JWZ				S		**S**	**11 58 42.7**	**-0.1**
JWT	**Wachi**	**1.20**	**320**	P		**Pn**	**11 58 05.1**	**-0.1**
JWT				S		**S**	**11 58 42.7**	**-1.5**
TK02	**Tokai 2**	**1.25**	**109**	P		**Pn**	**11 58 06.3**	**+0.7**
JGM	**Miyama**	**1.36**	**13**	P		**Pn**	**11 58 06.2**	**+0.2**
JGM				S		**S**	**11 58 45.4**	**-0.2**
JAI	**Aioi**	**1.67**	**250**	P		**Pn**	**11 58 08.0**	**+0.2**
JMN	**Monobe**	**2.14**	**253**	P		**Pn**	**11 58 11.2**	**+0.4**
JMN				S		**S**	**11 58 54.6**	**+0.4**
JOD2	**Odawara 2**	**2.43**	**68**	P		**Pn**	**11 58 13.2**	**+0.4**
MAT	**Matsushiro**	**2.65**	**35**	P		**Pn**	**11 58 14.0**	**-0.5**
MAT				S		**S**	**11 59 01.1**	**0.0**
MAT	**Matsushiro**	**2.65**	**35**	P		**Pn**	**11 58 14.1**	**-0.4**
MAT				S		**S**	**11 59 01.1**	**0.0**
MJAR	**Matsushiro Arr**	**2.65**	**35**	P		**Pn**	**11 58 13.9**	**-0.6**
	4.0nm,0.3s,baz=261,slow=5.9,SNR=40							
JRY	**Ryogami san**	**2.67**	**51**	P		**Pn**	**11 58 14.6**	**-0.1**
JRY				*e*S		**S**	**11 59 02.1**	**+0.8**
JHS	**Saijyo**	**2.73**	**284**	P		**Pn**	**11 58 15.5**	**+0.3**
KSRS	**Korea Array**	**7.49**	**297**	P		**Pn**	**11 59 05.8**	**+0.6**
	1.0nm,0.3s,baz=110,slow=12,SNR=40							
MKAR	**Makanchi Array**	**42.10**	**304**	P		**P**	**12 04 34.2**	**+0.1**
	0.5nm,0.2s,mb3.2,baz=82,slow=10,SNR=1.1							
WRA	**Warramunga Arr**	**54.04**	**182**	P		**P**	**12 06 03.3**	**-1.3**
	0.2nm,0.3s,mb2.9,baz=0.1,slow=7.6,SNR=7.8							

IDC ***06*** *12:07:05.6±1.3,4.38N×126.96E,h0km,mb3.8/7, mb1 4.0/7,mb1mx3.8/21,mbtmp3.9/7,Error ellipse: s-maj=75.4km s-min=16.6km az=66.0*
ISCJB ***06*** *12:07:08.4±0.7,4.29N±0.08×126.8E±0.1,h33km,mb3.8/8, Error ellipse: s-maj=17.3km s-min=11.7km az=167.4*
NEIC ***06*** *12:07:10.8±0.6,4.25N×126.84E,h35km,mb4.2/2,Error ellipse: s-maj=16.4km s-min=11.1km az=79.0*

ISC 06 12:07:08.8±8.3,4.26N±0.10×126.9E±0.1,h20km±54km, n19,σ0°99/19,mb3.8/8,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**11.63**	**218**	*e*Pn	**Pn**	**12 09 54.0**	**+0.2**
KAKA	**Kakadu**	**17.76**	**162**	*e*Pn	**Pn**	**12 11 13.1**	**-1.9**
	13nm,0.5s						
GUMO	**Guam**	**20.05**	**61**	*e*P	**P**	**12 11 41.4**	**+0.4**
FITZ	**Fitzroy Crossi**	**22.25**	**183**	P	**P**	**12 12 04.5**	**-0.2**
	3.4nm,0.6s,mb4.0,baz=12,slow=4.7,SNR=10						
FITZ	**Fitzroy Crossi**	**22.25**	**183**	P	**P**	**12 12 04.5**	**-0.2**
WRAB	**Tennant Creek**	**25.15**	**163**	*e*P	**P**	**12 12 33.8**	**+0.9**
	3.2nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**25.16**	**163**	P	**P**	**12 12 33.3**	**+0.4**
	2.5nm,0.6s,mb4.0,baz=344,slow=10,SNR=31						
WRA	**Warramunga Arr**	**25.16**	**163**	P	**P**	**12 12 33.3**	**+0.4**
ASAR	**Alice Springs**	**28.60**	**166**	P	**P**	**12 13 05.7**	**+1.8**
	0.4nm,0.6s,mb3.4,baz=353,slow=8.1,SNR=8.0						
ASAR	**Alice Springs**	**28.60**	**166**	P	**P**	**12 13 05.7**	**+1.8**
CMAR	**Chiang Mai Arr**	**30.71**	**300**	P	**P**	**12 13 23.2**	**+0.5**
	0.4nm,0.3s,mb3.7,baz=119,slow=6.7,SNR=4.9						
CMAR	**Chiang Mai Arr**	**30.71**	**300**	P	**P**	**12 13 23.2**	**+0.5**
STKA	**Stephens Creek**	**38.58**	**160**	P	**P**	**12 14 30.7**	**+0.1**
	2.7nm,0.9s,mb4.0,baz=338,slow=12,SNR=8.0						
STKA	**Stephens Creek**	**38.58**	**160**	P	**P**	**12 14 30.7**	**+0.1**
MKAR	**Makanchi Array**	**57.19**	**325**	P	**P**	**12 16 55.0**	**+0.5**
	0.3nm,0.3s,mb3.8,baz=136,slow=8.4,SNR=7.6						
MKAR	**Makanchi Array**	**57.19**	**325**	P	**P**	**12 16 55.0**	**+0.5**
ZALV	**Zalesovo Beam**	**60.17**	**333**	P	**P**	**12 17 13.8**	**-1.3**
	0.3nm,0.3s,mb3.8,baz=116,slow=6.6,SNR=2.8						
ZALV	**Zalesovo Beam**	**60.17**	**333**	P	**P**	**12 17 13.8**	**-1.3**
SBA	**Scott Base**	**84.84**	**172**	*e*P	**P**	**12 19 40.1**	**-1.5**

IDC 06 12:13:18.4±5.1,12.42S×167.48E,h0km,mb3.5/4, mb1 3.8/4,mb1mx3.6/18,mbtmp3.5/4,Error ellipse: s-maj=244.9km s-min=30.2km az=142.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.65**	**252**	P	P	12 19 52.1	-0.3
	0.2nm,0.7s,baz=83,slow=9.0,SNR=3.1						
ASAR	**Alice Springs**	**33.74**	**246**	P	P	12 20 01.6	-0.2
	0.2nm,0.4s,baz=74,slow=9.6,SNR=4.4						
FITZ	**Fitzroy Crossi**	**40.70**	**257**	P	P	12 21 01.3	+0.3
	0.5nm,0.4s,baz=63,slow=16,SNR=3.1						
ILAR	**Eielson Array**	**84.28**	**18**	P	P	12 25 51.6	0.0
	0.4nm,0.6s,baz=239,slow=6.1,SNR=10						

IDC 06 12:20:46.2±2.6,16.19S×173.38W,h0km,mb3.9/5, mb1 4.2/5,mb1mx3.9/18,mbtmp3.9/5,MS3.5/1,Ms1 3.5/1, ms1mx3.0/26,Error ellipse: s-maj=143.9km s-min=25.3km az=142.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.82**	**113**	LR	LR	12 28 20.4	
	comp=Z,190nm,19.9s,baz=239,slow=33						
STKA	**Stephens Creek**	**43.67**	**241**	P	P	12 28 53.5	+0.5
	3.7nm,1.0s,baz=80,slow=12,SNR=3.0						
WRA	**Warramunga Arr**	**49.69**	**257**	P	P	12 29 39.8	-0.6
	0.2nm,0.3s,baz=83,slow=6.0,SNR=15						
ASAR	**Alice Springs**	**49.89**	**253**	P	P	12 29 41.5	-0.4
	2.6nm,0.5s,baz=89,slow=8.4,SNR=56						
PDAR	**Pinedale Array**	**82.83**	**42**	P	P	12 33 12.2	-0.2
	0.4nm,0.7s,baz=224,slow=4.1,SNR=3.6						
ILAR	**Eielson Array**	**83.21**	**11**	P	P	12 33 14.1	+0.2
	0.4nm,0.8s,baz=240,slow=6.0,SNR=7.9						
BRTR	**Keskin Array B**	**146.78**	**320**	PKPbc	PKPbc	12 40 31.1	+0.6
	0.4nm,0.3s,baz=72,slow=5.7,SNR=3.7						

MOS 06 12:48:40.8±2.0,52.29N×98.56E,h10km,mb4.2/1,1D, Error ellipse: s-maj=34.0km s-min=23.3km az=14.6, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**0.81**	**71**	*e*PG	Pg	12 48 56.7	+0.3
ORL				*e*		12 49 10.1	
ORL				pmax	pmax		
	comp=Z,134nm,0.2s						
ORL				smax			
	comp=N,253nm,0.3s						
MOY	**Mondy**	**1.63**	**111**	*e*PN	Pn	12 49 09.6	+0.1
MOY				*e*		12 49 32.3	
MOY				pmax	pmax		
	comp=Z,49nm,0.2s						
MOY				smax			
	comp=N,558nm,1.2s						
ARS	**Arshan**	**2.41**	**97**	*e*PN	Pn	12 49 24.4	+4.1
TLY	**Talaya**	**3.20**	**99**	*e*PN	Pn	12 49 30.7	-0.4
TLY				*e*		12 49 38.1	
TLY				*e*		12 50 21.6	
TLY				pmax	pmax		
	comp=Z,18nm,0.5s						
TLY				smax			
	comp=N,140nm,1.4s						
ORY	**Orie**	**3.41**	**324**	*i*PN	Pn	12 49 35.6	+1.7
ORY				*e*		12 49 44.6	
ORY				*e*		12 50 15.0	
ORY						12 50 28.3	
OGRR	**Ongureny**	**5.63**	**72**	*e*PN	Pn	12 50 06.4	+2.0
OGRR				*e*		12 50 23.7	
OGRR				pmax	pmax		
	comp=Z,19nm,0.9s						

ISCJB ***06*** *12:50:42.4±0.3,37.19N±0.02×5.42W±0.01,h6km±2km, Error ellipse: s-maj=3.0km s-min=1.9km az=15.1*
CSEM ***06*** *12:50:43.4±0.1,37.12N×5.39W,h10km,ML3.8/33,Error ellipse: s-maj=2.4km s-min=1.5km az=9.0*
NEIC ***06*** *12:50:44.8,37.07N×5.41W,h11km,MN3.1(MDD),After MDD.*
SFS ***06*** *12:50:44.0,37.00N×5.40W,h0km,ML3.1*
LDG ***06*** *12:50:44.2±0.1,37.05N×5.40W,h2km,Ml3.4/4,Error ellipse: s-maj=2.4km s-min=1.5km az=1.0*
MDD ***06*** *12:50:45.0±0.2,37.01N×5.39W,h14km±2km,mbLg3.2/26, Error ellipse: s-maj=2.8km s-min=2.1km az=166.0,PRIMO*
IGIL ***06*** *12:50:45.1,37.07N×5.41W,h11km,ML3.2*

INMG ***06*** *12:50:45.5±1.4,37.04N×5.37W,h22km±2km,ML3.1, Error ellipse: s-maj=2.1km s-min=1.4km az=12.0*

ISC 06 12:50:43.5±0.3,37.14N±0.02×5.39W±0.01,h10km±2km, n164,σ1°01/290,5C-6D,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.23**	**184**	⇓Pg	**Pg**	**12 50 46.9**	**-1.4**
LIJA				Lg		12 50 49.0	
LIJA	**Lijar**	**0.23**	**184**	*i* P	**Pg**	**12 50 46.9**	**-1.4**
ESPR	**Espera**	**0.47**	**234**	Pg	**Pg**	**12 50 53.0**	**+0.4**
ESPR				Lg		12 50 59.1	
ESPR	**Espera**	**0.47**	**234**	⇓Pg	**Pg**	**12 50 53.0**	**+0.4**
	27nm,0.1s,SNR=18						
ESPR				Lg		12 50 58.6	
	688nm,0.3s,SNR=5.0						
ESPR	**Espera**	**0.47**	**234**	Pg	**Pg**	**12 50 53.0**	**+0.4**
	27nm,0.1s,SNR=18						
ESPR				Lg		12 50 59.1	
	688nm,0.3s,SNR=5.0						
GIBL	**Gibalbin**	**0.56**	**237**	⇓Pg	**Pg**	**12 50 55.5**	**+1.1**
GIBL				Lg		12 51 04.3	
GIBL	**Gibalbin**	**0.56**	**237**	*i* P	**Pg**	**12 50 55.5**	**+1.1**
EJIF	**Jimena Fronter**	**0.69**	**186**	Pg	**Pg**	**12 50 55.5**	**-1.3**
EJIF				Lg		12 51 05.0	
EJIF	**Jimena Fronter**	**0.69**	**186**	Pg	**Pg**	**12 50 55.3**	**-1.6**
	53nm,0.2s,SNR=7.9						
EJIF				Lg		12 51 03.5	
	395nm,0.4s,SNR=7.9						
EJIF	**Jimena Fronter**	**0.69**	**186**	Pg	**Pg**	**12 50 55.5**	**-1.4**
EJIF				Lg		12 51 05.0	
	395nm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**0.76**	**139**	Pg	**Pg**	**12 50 57.0**	**-1.1**
EMIJ				Lg		12 51 08.7	
EMIJ	**Mijas**	**0.76**	**139**	⇑Pg	**Pg**	**12 50 57.0**	**-1.1**
	16nm,0.2s,SNR=18						
EMIJ				Lg		12 51 06.7	
	597nm,0.4s,SNR=16						
EMIJ	**Mijas**	**0.76**	**139**	Pg	**Pg**	**12 50 57.0**	**-1.1**
	16nm,0.2s,SNR=18						
EMIJ				Lg		12 51 08.7	
	597nm,0.4s,SNR=16						
MOMI	**Momias**	**0.85**	**198**	Pg	**Pg**	**12 50 50.9**	**-9.0**
MOMI				Lg		12 51 10.2	
MOMI	**Momias**	**0.85**	**198**	*e*S	**Sg**	**12 51 10.2**	**-0.8**
EMAL	**Malaga-Limoner**	**0.85**	**116**	Pg	**Pg**	**12 51 00.2**	**+0.3**
EMAL				Lg		12 51 10.7	
EMAL	**Malaga-Limoner**	**0.85**	**116**	*e*P	**Pg**	**12 51 00.2**	**+0.2**
EMAL				*e*S	**Sg**	**12 51 10.7**	**-0.4**
CNIL	**Conil**	**0.94**	**215**	⇑Pg	**Pg**	**12 51 02.9**	**+1.4**
CNIL				Lg		12 51 20.7	
CNIL	**Conil**	**0.94**	**215**	*i* P	**Pg**	**12 51 02.9**	**+1.3**
ELOJ	**Sierra Loja**	**0.98**	**89**	Pg	**Pg**	**12 51 03.6**	**+1.2**
ELOJ				Lg		12 51 17.8	
ELOJ	**Sierra Loja**	**0.98**	**89**	Pg	**Pg**	**12 51 03.6**	**+1.2**
	64nm,0.3s,SNR=39						
ELOJ				Lg		12 51 16.5	
	105nm,0.4s,SNR=4.5						
ELOJ	**Sierra Loja**	**0.98**	**89**	Pg	**Pg**	**12 51 03.6**	**+1.1**
	64nm,0.3s,SNR=39						
ELOJ				Lg		12 51 17.8	
	105nm,0.4s,SNR=4.5						
ELUQ	**Luque**	**0.98**	**64**	Pg	**Pg**	**12 51 04.3**	**+1.8**
ELUQ				Lg		12 51 18.2	
ELUQ	**Luque**	**0.98**	**64**	Pg	**Pg**	**12 51 04.2**	**+1.7**
	120nm,0.2s,SNR=7.9						
ELUQ				Lg		12 51 18.3	
	100nm,0.1s,SNR=7.9						
ELUQ	**Luque**	**0.98**	**64**	Pg	**Pg**	**12 51 04.2**	**+1.7**
	120nm,0.2s,SNR=7.9						
ELUQ				Lg		12 51 18.2	
EMIN	**Mina Concepcio**	**1.20**	**302**	Pg	**Pg**	**12 51 06.5**	**-0.1**
EMIN				Lg		12 51 24.0	
EMIN	**Mina Concepcio**	**1.20**	**302**	⇓Pn	**Pn**	**12 51 06.5**	**+0.2**
	10nm,0.1s,SNR=18						
EMIN				Pg	**Pg**	**12 51 07.4**	**+0.8**
	43nm,0.1s,SNR=7.9						
EMIN				Lg		12 51 24.0	
	295nm,0.4s,SNR=56						
EMIN	**Mina Concepcio**	**1.20**	**302**	Pn	**Pn**	**12 51 06.5**	**+0.2**
	10nm,0.1s,SNR=18						
EMIN	**Mina Concepcio**	**1.20**	**302**	Pg	**Pg**	**12 51 07.4**	**+0.8**
	43nm,0.1s,SNR=7.9						
EMIN				Lg		12 51 24.0	
	295nm,0.4s,SNR=56						
EADA	**Adamuz**	**1.21**	**32**	Pg	**Pg**	**12 51 07.2**	**+0.5**
EADA				Lg		12 51 24.9	
EADA	**Adamuz**	**1.21**	**32**	⇑Pn	**Pn**	**12 51 07.2**	**+0.8**
	23nm,0.1s,SNR=18						
EADA				Pg	**Pg**	**12 51 09.0**	**+2.2**
	32nm,0.1s,SNR=7.9						
EADA				Sn	**Sn**	**12 51 24.0**	**+1.2**
	50nm,0.2s,SNR=7.9						
EADA				Lg		12 51 26.1	
	403nm,0.2s,SNR=37						
EADA	**Adamuz**	**1.21**	**32**	Pn	**Pn**	**12 51 07.2**	**+0.8**
	23nm,0.1s,SNR=18						
EADA	**Adamuz**	**1.21**	**32**	Pg	**Pg**	**12 51 09.0**	**+2.3**
	32nm,0.1s,SNR=7.9						
EADA				Sn	**Sn**	**12 51 24.0**	**+1.2**
	50nm,0.2s,SNR=7.9						
EADA				Lg		12 51 24.9	
ERON	**Agron**	**1.27**	**95**	Pg	**Pg**	**12 51 08.2**	**+0.4**
ERON				Lg		12 51 25.6	
ERON	**Agron**	**1.27**	**95**	⇑Pg	**Pg**	**12 51 08.0**	**+0.1**
	35nm,0.3s,SNR=18						
ERON				Lg		12 51 26.0	
	92nm,0.4s,SNR=7.9						
ERON	**Agron**	**1.27**	**95**	Pg	**Pg**	**12 51 08.2**	**+0.3**
ERON				Lg		12 51 25.6	
ECOG	**Cogollos-Vega**	**1.46**	**84**	Pn	**Pn**	**12 51 09.1**	**-0.7**
	4.4nm,0.1s,SNR=7.9						
ECOG				Pg	**Pg**	**12 51 12.0**	**+0.5**
	62nm,0.3s,SNR=34						
ECOG				Lg		12 51 31.5	
	76nm,0.3s,SNR=5.0						
ECOG	**Cogollos-Vega**	**1.46**	**84**	Pn	**Pn**	**12 51 09.1**	**-0.7**
	4.4nm,0.1s,SNR=7.9						
ECOG	**Cogollos-Vega**	**1.46**	**84**	Pg	**Pg**	**12 51 12.0**	**+0.5**
	62nm,0.3s,SNR=34						
ECOG				Lg		12 51 31.5	
	76nm,0.3s,SNR=5.0						
EGUA	**Guajares**	**1.49**	**101**	Pg	**Pg**	**12 51 11.7**	**-0.4**
EGUA				Lg		12 51 31.7	
EGUA	**Guajares**	**1.49**	**101**	Pn	**Pn**	**12 51 09.2**	**-1.1**
	1.5nm,0.1s,SNR=4.0						
EGUA				Pg	**Pg**	**12 51 12.1**	**0.0**
	32nm,0.2s,SNR=7.9						
EGUA				Lg		12 51 31.7	
	399nm,0.5s,SNR=7.9						
EGUA	**Guajares**	**1.49**	**101**	Pn	**Pn**	**12 51 09.2**	**-1.0**
	1.5nm,0.1s,SNR=4.0						
EQUE	**Quentar**	**1.56**	**87**	Pg	**Pg**	**12 51 12.0**	**-1.3**
	36nm,0.3s,SNR=5.0						
EQUE				Lg		12 51 34.1	
	107nm,0.4s,SNR=7.9						
EQUE	**Quentar**	**1.56**	**87**	Pg	**Pg**	**12 51 12.0**	**-1.3**
	36nm,0.3s,SNR=5.0						
EQUE				Lg		12 51 35.5	
	107nm,0.4s,SNR=7.9						
PBAR	**Barrancos**	**1.67**	**309**	*e*Pn	**Pn**	**12 51 13.2**	**+0.5**
PBAR				*e*Sn	**Sn**	**12 51 34.4**	**+0.2**
PBAR				*e*Sg	**Sg**	**12 51 39.0**	**+1.8**
	97nm,0.2s						
PBAR	**Barrancos**	**1.67**	**309**	*e*Pn	**Pn**	**12 51 13.2**	**+0.5**
PBAR				*e*Sn	**Sn**	**12 51 34.4**	**+0.2**
PBAR				*e*Sg	**Sg**	**12 51 39.0**	**+1.8**
PBAR				A		12 51 40.0	
	97nm,0.2s						
EGRO	**El Granado**	**1.72**	**284**	Pn	**Pn**	**12 51 13.5**	**+0.1**
EGRO				Lg		12 51 39.2	
EGRO	**El Granado**	**1.72**	**284**	Pn	**Pn**	**12 51 13.5**	**+0.1**
	2.5nm,0.2s,SNR=24						
EGRO				Pg	**Pg**	**12 51 15.9**	**-0.5**
	13nm,0.1s,SNR=7.9						
EGRO				Lg		12 51 39.4	
	103nm,0.2s,SNR=8.8						
EGRO	**El Granado**	**1.72**	**284**	Pn	**Pn**	**12 51 13.5**	**+0.1**
	2.5nm,0.2s,SNR=24						
EGRO	**El Granado**	**1.72**	**284**	Pg	**Pg**	**12 51 15.9**	**-0.5**
	13nm,0.1s,SNR=7.9						
EGRO				Lg		12 51 38.3	
	103nm,0.2s,SNR=8.8						
PVAQ	**Vaqueiros**	**1.88**	**279**	*e*Pn	**Pn**	**12 51 15.4**	**-0.2**
PVAQ				*e*Sn	**Sn**	**12 51 38.0**	**-1.3**
PVAQ				*e*Sg	**Sg**	**12 51 43.7**	**-0.2**
	104nm,0.2s						
PVAQ	**Vaqueiros**	**1.88**	**279**	*e*Pn	**Pn**	**12 51 15.4**	**-0.2**
PVAQ				*e*Sn	**Sn**	**12 51 38.0**	**-1.3**
PVAQ				*e*Sg	**Sg**	**12 51 43.7**	**-0.2**
PVAQ				A		12 51 47.9	
	104nm,0.2s						
EQES	**Quesada**	**1.96**	**70**	Pn	**Pn**	**12 51 17.3**	**+0.7**
EQES				Pg	**Pg**	**12 51 21.1**	**+0.1**
EQES				Sn	**Sn**	**12 51 43.5**	**+2.3**
EQES				Lg		12 51 49.6	
EQES	**Quesada**	**1.96**	**70**	Pn	**Pn**	**12 51 17.3**	**+0.7**
	2.1nm,0.2s,SNR=7.9						
EQES				Pg	**Pg**	**12 51 21.1**	**+0.1**
	8.9nm,0.1s,SNR=7.9						
EQES				Sn	**Sn**	**12 51 42.6**	**+1.4**
	10.0nm,0.1s,SNR=7.9						
EQES				Lg		12 51 48.1	
	47nm,0.2s,SNR=7.9						
EQES	**Quesada**	**1.96**	**70**	Pn	**Pn**	**12 51 17.3**	**+0.6**
	2.1nm,0.2s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**2.04**	**274**	*e*Pn	**Pn**	**12 51 17.6**	**-0.2**
PBDV				*e*Sn	**Sn**	**12 51 41.8**	**-1.4**
PBDV				*e*Sg	**Sg**	**12 51 49.0**	**+0.1**
	98nm,0.4s						
PBDV	**Barranco-do-Ve**	**2.04**	**274**	*e*Pn	**Pn**	**12 51 17.6**	**-0.2**
PBDV				*e*Sn	**Sn**	**12 51 41.8**	**-1.4**
PBDV				*e*Sg	**Sg**	**12 51 49.0**	**+0.1**
PBDV				A		12 51 51.6	
	98nm,0.4s						
EBAD	**Badajoz**	**2.06**	**322**	Pn	**Pn**	**12 51 18.7**	**+0.6**
EBAD				Pg	**Pg**	**12 51 22.9**	**-0.1**
EBAD				Sn	**Sn**	**12 51 43.2**	**-0.7**
EBAD				Lg		12 51 50.3	
EBAD	**Badajoz**	**2.06**	**322**	⇓Pn	**Pn**	**12 51 18.7**	**+0.6**
	8.7nm,0.1s,SNR=18						
EBAD				Pg	**Pg**	**12 51 22.8**	**-0.3**
	9.5nm,0.1s,SNR=7.9						
EBAD				Sn	**Sn**	**12 51 45.1**	**+1.2**
	105nm,0.2s,SNR=7.9						
EBAD				Lg		12 51 50.5	
	172nm,0.2s,SNR=11						
EBAD	**Badajoz**	**2.06**	**322**	Pn	**Pn**	**12 51 18.7**	**+0.6**
	8.7nm,0.1s,SNR=18						
EBAD	**Badajoz**	**2.06**	**322**	Pg	**Pg**	**12 51 22.9**	**-0.2**
EBAD				Sn	**Sn**	**12 51 43.2**	**-0.7**
	105nm,0.2s,SNR=7.9						
EBAD				Lg		12 51 50.3	
	172nm,0.2s,SNR=11						
PBEJ	**Beja**	**2.16**	**295**	*e*Pn	**Pn**	**12 51 19.9**	**+0.4**
PBEJ				*e*Sg	**Sg**	**12 51 53.2**	**+0.3**
	55nm,0.4s						
PBEJ	**Beja**	**2.16**	**295**	*e*Pn	**Pn**	**12 51 19.9**	**+0.4**
PBEJ				*e*Sg	**Sg**	**12 51 53.2**	**+0.3**
PBEJ				A		12 51 58.1	
	55nm,0.4s						
PCVE	**Castro Verde**	**2.17**	**284**	*e*Pn	**Pn**	**12 51 19.5**	**-0.1**
PCVE				*e*Sg	**Sg**	**12 51 53.8**	**+0.6**
	61nm,0.6s						
PCVE	**Castro Verde**	**2.17**	**284**	*e*Pn	**Pn**	**12 51 19.5**	**-0.1**
PCVE				*e*Sg	**Sg**	**12 51 53.8**	**+0.6**
PCVE				A		12 52 02.2	
	61nm,0.6s						
EHUE	**Huescar**	**2.32**	**72**	Pn	**Pn**	**12 51 22.2**	**+0.5**
EHUE				Pg	**Pg**	**12 51 27.2**	**-0.8**
EHUE				Lg		12 51 59.6	
EHUE	**Huescar**	**2.32**	**72**	⇑Pn	**Pn**	**12 51 22.2**	**+0.5**
	7.2nm,0.1s,SNR=18						
EHUE				Pg	**Pg**	**12 51 27.2**	**-0.8**
	5.7nm,0.2s,SNR=7.9						
EHUE				Lg		12 51 59.3	
	11nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**2.32**	**72**	Pn	**Pn**	**12 51 22.2**	**+0.5**
	7.2nm,0.1s,SNR=18						
EHUE	**Huescar**	**2.32**	**72**	Pg	**Pg**	**12 51 27.2**	**-0.8**
	5.7nm,0.2s,SNR=7.9						
EHUE				Sn	**Sn**	**12 51 53.2**	**+3.0**
	6.2nm,0.2s,SNR=7.9						
EHUE				Lg		12 51 59.3	
	11nm,0.2s,SNR=7.9						
MESJ	**Messejana**	**2.36**	**288**	*e*P	**Pn**	**12 51 22.4**	**+0.1**
MESJ				*e*		12 51 22.9	
	baz=98,slow=16						
MESJ				*e*S	**Sn**	**12 51 49.2**	**-2.0**
MESJ	**Messejana**	**2.36**	**288**	Pn	**Pn**	**12 51 22.8**	**+0.6**
	SNR=7.9						
MESJ				Sn	**Sn**	**12 51 49.1**	**-2.1**
	SNR=7.9						
PESTR	**Estremoz**	**2.45**	**315**	*e*Pn	**Pn**	**12 51 24.3**	**+0.8**
PESTR				*e*Sn	**Sn**	**12 51 53.5**	**+0.1**
PESTR				*e*Sg	**Sg**	**12 52 02.5**	**+0.3**
	86nm,0.4s						
PESTR	**Estremoz**	**2.45**	**315**	*e*Pn	**Pn**	**12 51 24.3**	**+0.8**
PESTR				*e*Sn	**Sn**	**12 51 53.5**	**+0.1**
PESTR				*e*Sg	**Sg**	**12 52 02.5**	**+0.3**
PESTR				A		12 52 08.3	
	86nm,0.4s						
EVO	**Evora**	**2.50**	**305**	*e*Pn	**Pn**	**12 51 25.6**	**+1.4**
EVO	**Evora**	**2.50**	**305**	*e*Pg	**Pg**	**12 51 32.3**	**+0.9**
EVO				*e*Sg	**Sg**	**12 52 08.4**	**+4.5**
	114nm,0.3s						
EVO	**Evora**	**2.50**	**305**	*e*Pn	**Pn**	**12 51 24.8**	**+0.6**
EVO	**Evora**	**2.50**	**305**	*e*Pg	**Pg**	**12 51 30.8**	**-0.6**
EVO				*e*Sn	**Sn**	**12 51 55.5**	**+0.8**
EVO				*e*Sg	**Sg**	**12 52 04.6**	**+0.7**
	71nm,0.3s						
EVO	**Evora**	**2.50**	**305**	*e*Pn	**Pn**	**12 51 24.8**	**+0.6**
EVO	**Evora**	**2.50**	**305**	*e*Pg	**Pg**	**12 51 30.8**	**

	23nm,0.3s,SNR=7.9							
EVIA					Sn		Sn	12 52 01.4 +1.1
	16nm,0.4s,SNR=7.9							
EVIA					Lg			12 52 12.7
	72nm,0.6s,SNR=7.9							
EVIA	**Vianos**	**2.73**	**56**		Pn		**Pn**	**12 51 27.8 +0.5**
PFVI	**Vila Bisbo**	**2.75**	**271**		Pn		**Pn**	**12 51 27.0 -0.5**
PFVI					Sn		**Sn**	**12 51 59.0 -1.8**
PFVI					Lg			12 52 11.0
PFVI	**Vila Bisbo**	**2.75**	**271**	⇓	Pn		**Pn**	**12 51 27.0 -0.5**
	7.4nm,0.1s,SNR=18							
PFVI					Sn		**Sn**	**12 51 59.5 -1.3**
	67nm,0.2s,SNR=11							
PFVI					Lg			12 52 12.3
	53nm,0.3s,SNR=7.9							
PFVI	**Vila Bisbo**	**2.75**	**271**		Pn		**Pn**	**12 51 27.0 -0.6**
	7.4nm,0.1s,SNR=18							
PFVI					Sn		**Sn**	**12 51 59.5 -1.3**
	67nm,0.2s,SNR=11							
PFVI					Lg			12 52 12.3
	53nm,0.3s,SNR=7.9							
PFVI	**Vila Bisbo**	**2.75**	**271**	*e*	Pn		**Pn**	**12 51 27.0 -0.6**
PFVI				*e*	Sn		**Sn**	**12 51 59.5 -1.3**
PFVI					A			12 52 00.0
	30nm,0.2s							
ESDC	**Sonseca Array**	**2.77**	**23**		Pn		**Pn**	**12 51 29.6 +1.8**
ESDC					Sn		**Sn**	**12 52 01.4 +0.2**
ESDC					Lg			12 52 13.1
ESDC	**Sonseca Array**	**2.77**	**23**		Pn		**Pn**	**12 51 29.6 +1.8**
	0.0nm,0.1s,baz=203,slow=12,SNR=6.1							
ESDC					Lg			12 52 12.5
	20nm,0.1s,baz=206,slow=28,SNR=20							
ESDC	**Sonseca Array**	**2.77**	**23**		Pn		**Pn**	**12 51 29.6 +1.8**
	baz=203,slow=12,SNR=6.1							
ESDC					Sn		**Sn**	**12 52 01.4 +0.2**
ESDC					Lg			12 52 12.4
	20nm,0.1s,baz=206,slow=28,SNR=20							
PMRV	**Marv??o**	**2.78**	**326**	*e*	Pn		**Pn**	**12 51 28.6 +0.7**
PMRV					Sn		**Sn**	**12 52 02.3 +0.8**
PMRV					Sg		**Sg**	**12 52 14.2 +1.5**
	87nm,0.7s							
PMRV	**Marv??o**	**2.78**	**326**	*e*	Pn		**Pn**	**12 51 28.6 +0.7**
PMRV					Sn		**Sn**	**12 52 02.3 +0.8**
PMRV					Sg		**Sg**	**12 52 14.2 +1.5**
PMRV					A			12 52 16.8
	87nm,0.7s							
PMTG	**Montargil**	**2.95**	**312**	*e*	Pn		**Pn**	**12 51 31.2 +0.8**
PMTG					Sn		**Sn**	**12 52 05.9 +0.1**
	59nm,0.4s							
PMTG	**Montargil**	**2.95**	**312**	*e*	Pn		**Pn**	**12 51 31.2 +0.8**
PMTG					Sn		**Sn**	**12 52 05.9 +0.1**
PMTG					A			12 52 24.3
	59nm,0.4s							
EPLA	**Plasencia**	**2.97**	**350**		Pn		**Pn**	**12 51 32.1 +1.5**
EPLA					Sn		**Sn**	**12 52 06.0 -0.2**
EPLA					Lg			12 52 19.4
EPLA	**Plasencia**	**2.97**	**350**		Pn		**Pn**	**12 51 32.1 +1.5**
	1.4nm,0.2s,SNR=9.0							
EPLA					Sn		**Sn**	**12 52 06.4 +0.2**
	27nm,0.2s,SNR=7.2							
EPLA					Lg			12 52 17.8
	171nm,0.6s,SNR=14							
EPLA	**Plasencia**	**2.97**	**350**		Pn		**Pn**	**12 51 32.1 +1.5**
	1.4nm,0.2s,SNR=9.0							
EPLA					Sn		**Sn**	**12 52 06.4 +0.2**
	27nm,0.2s,SNR=7.2							
EPLA					Lg			12 52 17.8
	171nm,0.6s,SNR=14							
PCBR	**Castelo Branco**	**3.16**	**329**	*e*	Pn		**Pn**	**12 51 34.4 +1.2**
PCBR				*e*	Sn		**Sn**	**12 52 10.5 -0.3**
PCBR				*e*	Sg		**Sg**	**12 52 25.6 +0.7**
	36nm,0.4s							
PCBR	**Castelo Branco**	**3.16**	**329**	*e*	Pn		**Pn**	**12 51 34.4 +1.2**
PCBR				*e*	Sn		**Sn**	**12 52 10.5 -0.3**
PCBR				*e*	Sg		**Sg**	**12 52 25.6 +0.7**
PCBR					A			12 52 36.4
	36nm,0.4s							
ETOB	**Tobarra**	**3.39**	**63**		Pn		**Pn**	**12 51 36.8 +0.5**
ETOB					Sn		**Sn**	**12 52 16.6 0.0**
ETOB					Lg			12 52 34.2
ETOB	**Tobarra**	**3.39**	**63**		Pn		**Pn**	**12 51 36.8 +0.5**
	0.9nm,0.1s,SNR=8.2							
ETOB					Pg		**Pg**	**12 51 46.5 -1.9**
	4.2nm,0.3s,SNR=7.9							
ETOB					Sn		**Sn**	**12 52 16.6 0.0**
	0.6nm,0.2s,SNR=7.9							
ETOB					Lg			12 52 33.2
	18nm,0.3s,SNR=7.9							
ETOB	**Tobarra**	**3.39**	**63**		Pn		**Pn**	**12 51 36.8 +0.5**
	0.9nm,0.1s,SNR=8.2							
ETOB	**Tobarra**	**3.39**	**63**		Pg		**Pg**	**12 51 46.5 -1.9**
	4.2nm,0.3s,SNR=7.9							
ETOB					Sn		**Sn**	**12 52 16.6 +0.1**
	0.6nm,0.2s,SNR=7.9							
ETOB					Lg			12 52 34.2
	18nm,0.3s,SNR=7.9							
PTOM	**Tomar**	**3.43**	**317**	*e*	Pn		**Pn**	**12 51 37.8 +0.9**
PTOM				*e*	Sn		**Sn**	**12 52 17.6 0.0**
PTOM				*e*	Sg		**Sg**	**12 52 33.1 -0.6**
	58nm,0.3s							
PTOM	**Tomar**	**3.43**	**317**	*e*	Pn		**Pn**	**12 51 37.8 +0.9**
PTOM				*e*	Sn		**Sn**	**12 52 17.6 0.0**
PTOM				*e*	Sg		**Sg**	**12 52 33.1 -0.6**
PTOM					A			12 52 42.0
	58nm,0.3s							
PMAFR	**Mafra**	**3.57**	**302**		Pn		**Pn**	**12 51 38.7 -0.1**
	12nm,0.2s,SNR=7.9							
PMAFR					Sn		**Sn**	**12 52 21.1 +0.1**
	19nm,0.1s,SNR=7.9							
PMAFR					Lg			12 52 38.0
	112nm,0.5s,SNR=7.9							
PMAFR	**Mafra**	**3.57**	**302**		Pn		**Pn**	**12 51 38.7 -0.2**
	12nm,0.2s,SNR=7.9							
PMAFR					Sn		**Sn**	**12 52 21.1 0.0**
	19nm,0.1s,SNR=7.9							
PMAFR					Lg			12 52 38.0
	112nm,0.5s,SNR=7.9							
PMAFR					Sg		**Sg**	**12 52 38.5 +0.4**
	47nm,0.6s							
PMAFR	**Mafra**	**3.57**	**302**	*e*	Pn		**Pn**	**12 51 39.6 +0.7**
PMAFR				*e*	Sn		**Sn**	**12 52 21.1 0.0**
PMAFR				*e*	Sg		**Sg**	**12 52 38.5 +0.4**
PMAFR					A			12 52 49.9
	47nm,0.6s							
GUD	**Guadarrama**	**3.63**	**15**		Pn		**Pn**	**12 51 41.8 +2.2**
GUD					Sn		**Sn**	**12 52 21.6 -0.8**
GUD					Lg			12 52 42.4
GUD	**Guadarrama**	**3.63**	**15**		Pn		**Pn**	**12 51 41.8 +2.2**
	1.7nm,0.2s,SNR=7.9							
GUD					Sn		**Sn**	**12 52 21.6 -0.9**
	0.8nm,0.3s,SNR=7.9							
GUD					Lg			12 52 40.9
	52nm,0.4s,SNR=7.9							
GUD	**Guadarrama**	**3.63**	**15**		Pn		**Pn**	**12 51 41.8 +2.2**
GUD					Sn		**Sn**	**12 52 21.6 -0.8**
GUD					Lg			12 52 40.9
	52nm,0.4s,SNR=7.9							
MTE	**Manteigas**	**3.67**	**333**	*e*	Sn		**Sn**	**12 52 23.4 0.0**
MTE				*e*	Sg		**Sg**	**12 52 40.6 -0.6**
	82nm,0.4s							
MTE	**Manteigas**	**3.67**	**333**	*e*	Sn		**Sn**	**12 52 23.4 0.0**
MTE				*e*	Sg		**Sg**	**12 52 40.6 -0.6**
MTE					A			12 52 45.7
	82nm,0.4s							
PVIS	**Viseu**	**4.07**	**332**	*e*	Pn		**Pn**	**12 51 46.9 +1.2**
PVIS				*e*	Sn		**Sn**	**12 52 33.4 0.0**
	23nm,0.6s							
PVIS	**Viseu**	**4.07**	**332**	*e*	Pn		**Pn**	**12 51 46.9 +1.2**
PVIS				*e*	Sn		**Sn**	**12 52 33.4 0.0**
PVIS					A			12 53 08.2
	23nm,0.6s							
MVO	**Moncorvo**	**4.22**	**343**		Pn		**Pn**	**12 51 49.8 +2.0**
MVO					Sn		**Sn**	**12 52 36.6 -0.3**
MVO					Lg			12 53 00.6
MVO	**Moncorvo**	**4.22**	**343**		Pn		**Pn**	**12 51 49.1 +1.4**
	1.0nm,0.2s,SNR=7.9							
MVO					Sn		**Sn**	**12 52 36.6 -0.3**
	4.6nm,0.1s,SNR=7.9							
MVO					Lg			12 52 58.9
	104nm,0.7s,SNR=7.9							
MVO	**Moncorvo**	**4.22**	**343**		Pn		**Pn**	**12 51 49.1 +1.4**
	1.0nm,0.2s,SNR=7.9							
MVO				*e*	Sn		**Sn**	**12 52 36.9 -0.1**
MVO				*e*	Sg		**Sg**	**12 52 58.4 -0.5**
	34nm,0.4s							
MVO					Lg			12 52 58.9
	104nm,0.7s,SNR=7.9							
MVO	**Moncorvo**	**4.22**	**343**	*e*	Sn		**Sn**	**12 52 36.9 -0.1**
MVO				*e*	Sg		**Sg**	**12 52 58.4 -0.5**
MVO					A			12 53 03.8
	34nm,0.4s							
ECHE	**Chera**	**4.25**	**53**		Pn		**Pn**	**12 51 49.2 +1.0**
ECHE	**Chera**	**4.25**	**53**		Pn		**Pn**	**12 51 48.8 +0.7**
	1.3nm,0.1s,SNR=4.0							
ECHE	**Chera**	**4.25**	**53**		Pn		**Pn**	**12 51 49.2 +1.0**
EBEN	**Beniarda**	**4.37**	**68**		Pn		**Pn**	**12 51 49.2 -0.6**
EBEN	**Beniarda**	**4.37**	**68**		Pn		**Pn**	**12 51 49.2 -0.6**
	0.2nm,0.1s,SNR=7.9							
EBEN	**Beniarda**	**4.37**	**68**		Pn		**Pn**	**12 51 49.2 -0.6**
	0.2nm,0.1s,SNR=7.9							
ETOR	**Torete**	**4.50**	**34**		Pn		**Pn**	**12 51 52.2 +0.6**
ETOR					Sn		**Sn**	**12 52 42.8 -1.1**
ETOR					Lg			12 53 10.2
ETOR	**Torete**	**4.50**	**34**		Pn		**Pn**	**12 51 52.2 +0.6**
	12nm,0.2s,SNR=7.9							
ETOR					Sn		**Sn**	**12 52 41.6 -2.3**
	13nm,0.2s,SNR=7.9							
ETOR					Lg			12 53 08.5
	50nm,0.4s,SNR=7.9							
ETOR	**Torete**	**4.50**	**34**		Pn		**Pn**	**12 51 52.2 +0.6**
	12nm,0.2s,SNR=7.9							
ETOR					Sn		**Sn**	**12 52 41.6 -2.3**
	13nm,0.2s,SNR=7.9							
ETOR					Sn		**Sn**	**12 52 42.8 -1.1**
ETOR					Lg			12 53 08.5
	50nm,0.4s,SNR=7.9							
PVRL	**Vila Real**	**4.51**	**337**	*e*	Sn		**Sn**	**12 52 43.5 -0.7**
PVRL				*e*	Sg		**Sg**	**12 53 07.0 -1.2**
	23nm,0.2s							
PVRL	**Vila Real**	**4.51**	**337**	*e*	Sn		**Sn**	**12 52 43.5 -0.7**
PVRL				*e*	Sg		**Sg**	**12 53 07.0 -1.2**
PVRL					A			12 53 09.4
	23nm,0.2s							
PBRG	**Braganca**	**4.77**	**348**	*e*	Sn		**Sn**	**12 52 50.3 -0.4**
	22nm,0.5s							
PBRG	**Braganca**	**4.77**	**348**	*e*	Sn		**Sn**	**12 52 50.3 -0.4**
PBRG					A			12 53 26.7
	22nm,0.5s							
ECAL	**Calabor**	**4.91**	**348**		Sn		**Sn**	**12 52 54.4 +0.4**
ECAL					Lg			12 53 23.1
ECAL	**Calabor**	**4.91**	**348**		Sn		**Sn**	**12 52 53.2 -0.8**
	6.1nm,0.2s,SNR=7.9							
ECAL					Lg			12 53 23.1
	60nm,0.5s,SNR=7.9							
ECAL	**Calabor**	**4.91**	**348**		Sn		**Sn**	**12 52 54.3 +0.3**
ECAL					Lg			12 53 23.1
	60nm,0.5s,SNR=7.9							
PCAB	**Cabril**	**5.00**	**337**	*e*	Sn		**Sn**	**12 52 56.0 -0.3**
PCAB				*e*	Sg		**Sg**	**12 53 22.0 -2.0**
	22nm,0.6s							
PCAB	**Cabril**	**5.00**	**337**	*e*	Sn		**Sn**	**12 52 56.0 -0.3**
PCAB				*e*	Sg		**Sg**	**12 53 22.0 -2.0**
PCAB					A			12 53 29.7
	22nm,0.6s							
EMOS	**Mosqueruela**	**5.01**	**49**		Lg			12 53 23.5
	13nm,0.8s,SNR=7.9							
EMOS	**Mosqueruela**	**5.01**	**49**		Lg			12 53 23.5
	13nm,0.8s,SNR=7.9							
ELOB	**Lobios**	**5.15**	**337**		Pn		**Pn**	**12 52 01.9 +1.2**
ELOB					Sn		**Sn**	**12 52 58.2 -1.9**
ELOB					Lg			12 53 29.8
ELOB	**Lobios**	**5.15**	**337**		Pn		**Pn**	**12 52 01.8 +1.2**
	0.4nm,0.1s,SNR=7.9							
ELOB					Sn		**Sn**	**12 52 58.2 -1.9**
	4.3nm,0.3s,SNR=7.9							
ELOB					Lg			12 53 29.8
	28nm,0.5s,SNR=7.9							
ELOB	**Lobios**	**5.15**	**337**		Pn		**Pn**	**12 52 01.8 +1.2**
	0.4nm,0.1s,SNR=7.9							
ELOB					Sn		**Sn**	**12 52 58.2 -1.9**
	4.3nm,0.3s,SNR=7.9							
ELOB					Lg			12 53 29.8
	28nm,0.5s,SNR=7.9							
PGAV	**Gavieira, Arco**	**5.31**	**336**	*e*	Sn		**Sn**	**12 53 02.6 -1.3**
	19nm,0.6s							
PGAV	**Gavieira, Arco**	**5.31**	**336**	*e*	Sn		**Sn**	**12 53 02.6 -1.3**
PGAV					A			12 53 41.1
	19nm,0.6s							
EARI	**Arriondas**	**6.16**	**1**		Sn		**Sn**	**12 53 22.6 -2.2**
EARI					Lg			12 54 01.0
EARI	**Arriondas**	**6.16**	**1**		Sn		**Sn**	**12 53 22.5 -2.2**
	0.4nm,0.2s,SNR=7.9							
EARI					Lg			12 54 01.0
	43nm,1.0s,SNR=7.9							
SJPF	**Ste Jean**	**6.76**	**27**	*e*	Sn		**Sn**	**12 53 37.1 -2.6**
SJPF				*e*	Sg		**Sg**	**12 54 19.1 -1.4**
	5.2nm,0.4s							
SJPF	**Ste Jean**	**6.76**	**27**		Sn		**Sn**	**12 53 37.1 -2.6**
SJPF					Lg			12 54 19.1
	2.6nm,0.4s							
ETSF	**Etsaut**	**6.84**	**31**	*e*	Sg		**Sg**	**12 54 21.3 -1.6**
	2.2nm,0.4s							
ETSF	**Etsaut**	**6.84**	**31**	*e*	Sg		**Sg**	**12 54 21.3 -1.6**
	1.1nm,0.4s							
EPF	**Esparros**	**7.34**	**35**	*e*	Sn		**Sn**	**12 53 50.3 -3.6**
EPF				*e*	Sg		**Sg**	**12 54 36.2 -2.7**
	4.2nm,0.5s							

*ISCJB **06** 12:54:59.1±0.3,37˚18N±0˚02×5˚41W±0˚01,h6km±2km, Error ellipse: s-maj=2.9km s-min=1.9km az=9.5*
*CSEM **06** 12:55:00.3±0.1,37˚11N×5˚40W,h10km,ML3.7/27, Error ellipse: s-maj=2.4km s-min=1.6km az=4.0*
*LDG **06** 12:55:00.5±0.1,37˚03N×5˚44W,h2km, Ml3.4/4, Error ellipse: s-maj=2.9km s-min=1.9km az=4.0*
*NEIC **06** 12:55:01.8,37˚07N×5˚42W,h11km,MN2.9(MDD), After MDD.*
*SFS **06** 12:55:01.0,37˚00N×5˚40W,h0km,ML2.9*
*INMG **06** 12:55:01.7±1.3,37˚00N×5˚35W,h21km±2km,ML3.2, Error ellipse: s-maj=1.8km s-min=1.7km az=151.0*
*MDD **06** 12:55:01.4±0.2,37˚04N×5˚40W,h11km,mbLg3.2/24, Error ellipse: s-maj=2.8km s-min=2.2km az=175.0,PRIMO*
*IGIL **06** 12:55:02.1,37˚07N×5˚42W,h11km,ML3.4*
ISC 06 12:55:00.4±0.3,37˚13N±0˚02×5˚39W±0˚01,h11km±2km, n188,σ1=09/326,3C-6D,Spain

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.22**	**183**		⇓Pg		**Pg**	**12 55 03.7**	**-1.3**
LIJA					Lg			12 55 06.5	
LIJA	**Lijar**	**0.22**	**183**		*i* P		**Pg**	**12 55 03.7**	**-1.3**
LIJA					*i* S		**Sg**	**12 55 06.5**	**-1.6**
ESPR	**Espera**	**0.45**	**236**		Pg		**Pg**	**12 55 10.3**	**+1.0**
ESPR					Lg			12 55 15.1	
ESPR	**Espera**	**0.45**	**236**		⇓Pg		**Pg**	**12 55 09.7**	**+0.4**
	21nm,0.1s,SNR=18								
ESPR					Lg			12 55 15.8	
	178nm,0.2s,SNR=5.0								
ESPR	**Espera**	**0.45**	**236**		Pg		**Pg**	**12 55 09.7**	**+0.4**
	21nm,0.1s,SNR=18								
ESPR					Lg			12 55 15.1	
GIBL	**Gibalbin**	**0.55**	**238**		⇑Pg		**Pg**	**12 55 11.5**	**+0.5**
GIBL					Lg			12 55 21.9	
GIBL	**Gibalbin**	**0.55**	**238**		*i* P		**Pg**	**12 55 11.5**	**+0.4**
EJIF	**Jimena Fronter**	**0.68**	**185**		Pg		**Pg**	**12 55 12.5**	**-0.9**
EJIF					Lg			12 55 20.9	
EJIF	**Jimena Fronter**	**0.68**	**185**		Pg		**Pg**	**12 55 12.5**	**-0.9**
	47nm,0.2s,SNR=7.9								
EJIF					Lg			12 55 20.8	
	662nm,0.6s,SNR=7.9								
EJIF	**Jimena Fronter**	**0.68**	**185**		Pg		**Pg**	**12 55 12.5**	**-1.0**
	47nm,0.2s,SNR=7.9								
EJIF					Lg			12 55 20.8	
	662nm,0.6s,SNR=7.9								
EMIJ	**Mijas**	**0.75**	**138**		Pg		**Pg**	**12 55 13.8**	**-1.0**
EMIJ					Lg			12 55 25.1	
EMIJ	**Mijas**	**0.75**	**138**		Pg		**Pg**	**12 55 13.7**	**-1.1**
	39nm,0.4s,SNR=7.9								
EMIJ					Lg			12 55 23.5	
	440nm,0.4s,SNR=7.9								
EMIJ	**Mijas**	**0.75**	**138**		Pg		**Pg**	**12 55 13.8**	**-1.0**
EMIJ					Lg			12 55 25.1	
	440nm,0.4s,SNR=7.9								
MOMI	**Momias**	**0.84**	**199**		Pg		**Pg**	**12 55 18.5**	**+2.0**
MOMI					Lg			12 55 37.4	
MOMI	**Momias**	**0.84**	**199**		*e*P		**Pg**	**12 55 18.5**	**+2.0**
EMAL	**Malaga-Limoner**	**0.85**	**115**		*e*P		**Pg**	**12 55 16.9**	**+0.1**
EMAL					*e*S		**Sg**	**12 55 27.9**	**0.0**

CNIL	**Conil**	**0.93**	**216**	⇓	Pg		**Pg**	**12 55 19.5 +1.4**
CNIL					Lg			12 55 37.4
CNIL	**Conil**	**0.93**	**216**	*i*	P		**Pg**	**12 55 19.5 +1.3**
ELOJ	**Sierra Loja**	**0.99**	**88**		Pg		**Pg**	**12 55 20.4 +1.1**
ELOJ					Lg			12 55 35.6
ELOJ	**Sierra Loja**	**0.99**	**88**	⇑	Pg		**Pg**	**12 55 20.4 +1.1**
	33nm,0.2s,SNR=18							
ELOJ					Lg			12 55 33.4
	110nm,0.3s,SNR=5.0							
ELOJ	**Sierra Loja**	**0.99**	**88**		Pg		**Pg**	**12 55 20.4 +1.0**
	33nm,0.2s,SNR=18							
ELOJ					Lg			12 55 35.6
	110nm,0.3s,SNR=5.0							
ELUQ	**Luque**	**0.99**	**64**		Pg		**Pg**	**12 55 21.0 +1.5**
ELUQ					Lg			12 55 36.2
ELUQ	**Luque**	**0.99**	**64**		Pg		**Pg**	**12 55 20.4 +0.9**
	125nm,0.3s,SNR=7.9							
ELUQ					Lg			12 55 35.5
	122nm,0.2s,SNR=7.9							
ELUQ	**Luque**	**0.99**	**64**		Pg		**Pg**	**12 55 20.4 +0.9**
	125nm,0.3s,SNR=7.9							
ELUQ					Lg			12 55 36.2
	122nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**1.21**	**302**		Pg		**Pn**	**12 55 23.2 +0.1**
EMIN					Lg			12 55 39.6
EMIN	**Mina Concepcio**	**1.21**	**302**	⇓	Pn		**Pn**	**12 55 23.2 +0.1**
	11nm,0.1s,SNR=18							
EMIN					Pg		**Pg**	**12 55 24.0 +0.5**
	40nm,0.1s,SNR=7.9							
EMIN					Lg			12 55 40.2
	223nm,0.3s,SNR=40							
EMIN	**Mina Concepcio**	**1.21**	**302**		Pn		**Pn**	**12 55 23.2 +0.1**
	11nm,0.1s,SNR=18							
EMIN	**Mina Concepcio**	**1.21**	**302**		Pg		**Pg**	**12 55 24.0 +0.5**
	40nm,0.1s,SNR=7.9							
EMIN					Lg			12 55 39.6
EADA	**Adamuz**	**1.22**	**32**		Pg		**Pg**	**12 55 24.9 +1.0**
EADA					Lg			12 55 42.4
EADA	**Adamuz**	**1.22**	**32**		Pn		**Pn**	**12 55 24.0 +0.7**
	0.7nm,0.1s,SNR=7.9							
EADA					Pg		**Pg**	**12 55 25.8 +1.9**
	17nm,0.1s,SNR=26							
EADA					Lg			12 55 41.9
	190nm,0.1s,SNR=33							
EADA	**Adamuz**	**1.22**	**32**		Pn		**Pn**	**12 55 24.0 +0.7**
	0.7nm,0.1s,SNR=7.9							
EADA	**Adamuz**	**1.22**	**32**		Pg		**Pg**	**12 55 24.9 +1.0**
EADA					Lg			12 55 42.4
ERON	**Agron**	**1.27**	**94**		Pg		**Pg**	**12 55 25.0 +0.2**
ERON					Lg			12 55 44.0
ERON	**Agron**	**1.27**	**94**		Pg		**Pg**	**12 55 25.0 +0.2**
	23nm,0.3s,SNR=7.9							
ERON					Lg			12 55 43.0
	110nm,0.5s,SNR=7.9							
ERON	**Agron**	**1.27**	**94**		Pg		**Pg**	**12 55 25.0 +0.2**
	23nm,0.3s,SNR=7.9							
ERON					Lg			12 55 44.0
	110nm,0.5s,SNR=7.9							
ECOG	**Cogollos-Vega**	**1.46**	**84**		Pg		**Pg**	**12 55 27.8 -0.7**
ECOG					Lg			12 55 49.6
ECOG	**Cogollos-Vega**	**1.46**	**84**		Pg		**Pg**	**12 55 27.8 -0.7**
	39nm,0.2s,SNR=22							
ECOG					Lg			12 55 49.1
	138nm,0.4s,SNR=5.3							
ECOG	**Cogollos-Vega**	**1.46**	**84**		Pg		**Pg**	**12 55 27.8 -0.6**
	39nm,0.2s,SNR=22							
ECOG					Lg			12 55 49.6
	138nm,0.4s,SNR=5.3							
EGUA	**Guajares**	**1.49**	**101**		Pg		**Pg**	**12 55 28.9 0.0**
EGUA					Lg			12 55 50.0
EGUA	**Guajares**	**1.49**	**101**		Pg		**Pg**	**12 55 28.9 0.0**
	67nm,0.2s,SNR=7.9							
EGUA					Lg			12 55 48.5
	395nm,0.4s,SNR=7.9							
EGUA	**Guajares**	**1.49**	**101**		Pg		**Pg**	**12 55 28.9 0.0**
	67nm,0.2s,SNR=7.9							
EGUA					Lg			12 55 50.0
	395nm,0.4s,SNR=7.9							
EQUE	**Quentar**	**1.56**	**87**		Pg		**Pg**	**12 55 29.1 -1.2**
	33nm,0.3s,SNR=54							
EQUE					Lg			12 55 51.5
	163nm,0.6s,SNR=7.9							
EQUE	**Quentar**	**1.56**	**87**		Pg		**Pg**	**12 55 29.1 -1.2**
	33nm,0.3s,SNR=54							
EQUE					Lg			12 55 52.8
	163nm,0.6s,SNR=7.9							
PBAR	**Barrancos**	**1.68**	**309**	*e*	Pn		**Pn**	**12 55 29.9 +0.3**
PBAR	**Barrancos**	**1.68**	**309**	*e*	Pg		**Pg**	**12 55 33.0 +0.5**
PBAR				*e*	Sn		**Sn**	**12 55 51.9 +0.9**
PBAR				*e*	Sg		**Sg**	**12 55 56.0 +1.7**
	119nm,0.4s							
PBAR	**Barrancos**	**1.68**	**309**	*e*	Pn		**Pn**	**12 55 29.9 +0.3**
PBAR	**Barrancos**	**1.68**	**309**	*e*	Pg		**Pg**	**12 55 33.0 +0.5**
PBAR				*e*	Sn		**Sn**	**12 55 51.9 +0.9**
PBAR				*e*	Sg		**Sg**	**12 55 56.0 +1.7**
PBAR					A			12 55 59.9
	119nm,0.4s							
EGRO	**El Granado**	**1.72**	**284**		Pn		**Pn**	**12 55 30.2 +0.1**
EGRO					Pg		**Pg**	**12 55 32.3 -1.0**
EGRO					Sn		**Sn**	**12 55 50.7 -1.3**
EGRO					Lg			12 55 56.0
EGRO	**El Granado**	**1.72**	**284**		Pn		**Pn**	**12 55 30.2 0.0**
	5.0nm,0.2s,SNR=27							
EGRO					Pg		**Pg**	**12 55 32.6 -0.7**

	58nm,0.5s							
PCVE	**Castro Verde**	**2.17**	**284**	*e*Pn	**Pn**	**12 55 36.2**	**-0.1**
PCVE	**Castro Verde**	**2.17**	**284**	*e*Pn	**Pn**	**12 55 36.2**	**-0.1**
PCVE				*e*Sg	**Sg**	**12 56 09.2**	**-0.9**
PCVE				A		12 56 18.2	
	81nm,0.4s						
EALB	**Alboran**	**2.23**	**121**	Sn	**Sn**	**12 56 03.2**	**-1.6**
	14nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**2.33**	**72**	Pn	**Pn**	**12 55 39.2**	**+0.7**
EHUE				Pg	**Pg**	**12 55 43.6**	**-1.3**
EHUE				Lg		12 56 17.1	
EHUE	**Huescar**	**2.33**	**72**	⇑Pn	**Pn**	**12 55 39.1**	**+0.5**
	10nm,0.2s,SNR=18						
EHUE				Pg	**Pg**	**12 55 43.6**	**-1.3**
	5.9nm,0.2s,SNR=7.9						
EHUE				Lg		12 56 16.2	
	16nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**2.33**	**72**	Pn	**Pn**	**12 55 39.1**	**+0.6**
	10nm,0.2s,SNR=18						
MESJ	**Messejana**	**2.36**	**288**	*e*P	**Pn**	**12 55 39.1**	**+0.1**
MESJ				*e*		12 55 39.6	
	baz=98,slow=14						
MESJ				*e*S	**Sn**	**12 56 05.7**	**-2.2**
MESJ				*e*S	**Sn**	**12 56 05.7**	**-2.2**
MESJ	**Messejana**	**2.36**	**288**	Pn	**Pn**	**12 55 39.1**	**+0.1**
	SNR=7.9						
MESJ				Sn	**Sn**	**12 56 05.7**	**-2.2**
	SNR=7.9						
PESTR	**Estremoz**	**2.46**	**316**	*e*Pn	**Pn**	**12 55 40.9**	**+0.6**
PESTR				*e*Sn	**Sn**	**12 56 11.0**	**+0.7**
	133nm,0.6s						
PESTR	**Estremoz**	**2.46**	**316**	*e*Pn	**Pn**	**12 55 40.9**	**+0.6**
PESTR				*e*Sn	**Sn**	**12 56 11.0**	**+0.7**
PESTR				A		12 56 25.4	
	133nm,0.6s						
EVO	**Evora**	**2.51**	**305**	*e*Pn	**Pn**	**12 55 42.4**	**+1.4**
EVO	**Evora**	**2.51**	**305**	*e*Pg	**Pg**	**12 55 48.8**	**+0.4**
EVO				*e*Sg	**Sg**	**12 56 24.9**	**+4.0**
	136nm,0.3s						
EVO	**Evora**	**2.51**	**305**	*e*Pn	**Pn**	**12 55 41.7**	**+0.7**
EVO				*e*Sn	**Sn**	**12 56 11.9**	**+0.4**
EVO				*e*Sg	**Sg**	**12 56 22.1**	**+1.2**
	82nm,0.4s						
EVO	**Evora**	**2.51**	**305**	*e*Pn	**Pn**	**12 55 41.7**	**+0.7**
EVO				*e*Sn	**Sn**	**12 56 11.9**	**+0.4**
EVO				*e*Sg	**Sg**	**12 56 22.1**	**+1.2**
EVO				A		12 56 26.2	
	82nm,0.4s						
EVOP	**Sao Brissos**	**2.58**	**304**	*e*Pn	**Pn**	**12 55 42.4**	**+0.4**
EVOP				*e*Pg	**Pg**	**12 55 48.8**	**-1.0**
EVOP				*e*Sg	**Sg**	**12 56 24.9**	**+1.7**
EVOP	**Sao Brissos**	**2.58**	**304**	*e*Pn	**Pn**	**12 55 42.4**	**+0.4**
EVOP	**Sao Brissos**	**2.58**	**304**	*e*Pg	**Pg**	**12 55 48.8**	**-1.0**
EVOP				*e*Sg	**Sg**	**12 56 24.9**	**+1.7**
	68nm,0.3s						
MORF	**Marmelete**	**2.61**	**275**	Pn	**Pn**	**12 55 42.4**	**0.0**
	SNR=7.9						
MORF				Sn	**Sn**	**12 56 11.1**	**-3.0**
	SNR=7.9						
MORF	**Marmelete**	**2.61**	**275**	*e*Pn	**Pn**	**12 55 42.6**	**+0.2**
MORF	**Marmelete**	**2.61**	**275**	*e*Pg	**Pg**	**12 55 48.8**	**-1.6**
MORF				*e*Sg	**Sg**	**12 56 23.4**	**-0.8**
	56nm,0.2s						
MORF	**Marmelete**	**2.61**	**275**	*e*Pn	**Pn**	**12 55 42.6**	**+0.2**
MORF	**Marmelete**	**2.61**	**275**	*e*Pg	**Pg**	**12 55 48.8**	**-1.6**
MORF				*e*Sn	**Sn**	**12 56 13.7**	**-0.3**
MORF				*e*Sg	**Sg**	**12 56 23.4**	**-0.8**
MORF				A		12 56 30.8	
	56nm,0.2s						
PNCL	**Nicolau / Gran**	**2.68**	**292**	*e*Pn	**Pn**	**12 55 43.6**	**+0.2**
PNCL	**Nicolau / Gran**	**2.68**	**292**	*e*Pg	**Pg**	**12 55 50.9**	**-0.8**
PNCL				*e*Sn	**Sn**	**12 56 16.3**	**+0.5**
PNCL				*e*Sg	**Sg**	**12 56 26.4**	**-0.1**
	66nm,0.4s						
PNCL	**Nicolau / Gran**	**2.68**	**292**	*e*Pn	**Pn**	**12 55 43.6**	**+0.2**
PNCL	**Nicolau / Gran**	**2.68**	**292**	*e*Pg	**Pg**	**12 55 50.9**	**-0.8**
PNCL				*e*Sn	**Sn**	**12 56 16.3**	**+0.5**
PNCL				*e*Sg	**Sg**	**12 56 26.4**	**-0.1**
PNCL				A		12 56 33.5	
	66nm,0.4s						
PTEO	**Sao Teotonio**	**2.69**	**280**	*e*Pn	**Pn**	**12 55 43.6**	**+0.1**
PTEO	**Sao Teotonio**	**2.69**	**280**	*e*Pg	**Pg**	**12 55 50.2**	**-1.7**
PTEO				*e*Sg	**Sg**	**12 56 26.2**	**-0.6**
	66nm,0.8s						
PTEO	**Sao Teotonio**	**2.69**	**280**	*e*Pn	**Pn**	**12 55 43.6**	**+0.1**
PTEO	**Sao Teotonio**	**2.69**	**280**	*e*Pg	**Pg**	**12 55 50.2**	**-1.7**
PTEO				*e*Sn	**Sn**	**12 56 14.7**	**-1.3**
PTEO				*e*Sg	**Sg**	**12 56 26.2**	**-0.6**
PTEO				A		12 56 34.9	
	66nm,0.8s						
MOE	**Montemor**	**2.73**	**302**	*e*Sn	**Sn**	**12 56 17.4**	**+0.4**
MOE	**Montemor**	**2.73**	**302**	*e*Sn	**Sn**	**12 56 17.4**	**+0.4**
EVIA	**Vianos**	**2.74**	**56**	Pn	**Pn**	**12 55 44.7**	**+0.6**
EVIA				Pg	**Pg**	**12 55 52.6**	**-0.2**
EVIA				Sn	**Sn**	**12 56 17.4**	**+0.2**
EVIA				Lg		12 56 29.8	
EVIA	**Vianos**	**2.74**	**56**	Pn	**Pn**	**12 55 44.7**	**+0.6**
	4.1nm,0.1s,SNR=7.2						
EVIA				Pg	**Pg**	**12 55 51.4**	**-1.4**
	SNR=7.9						
EVIA				Sn	**Sn**	**12 56 17.4**	**+0.2**
	8.0nm,0.2s,SNR=7.9						
EVIA				Lg		12 56 29.8	
	51nm,0.5s,SNR=5.2						
EVIA	**Vianos**	**2.74**	**56**	Pn	**Pn**	**12 55 44.7**	**+0.6**
	4.1nm,0.1s,SNR=7.2						
EVIA	**Vianos**	**2.74**	**56**	Pg	**Pg**	**12 55 52.6**	**-0.2**
EVIA				Sn	**Sn**	**12 56 17.4**	**+0.2**
	8.0nm,0.2s,SNR=7.9						
EVIA				Lg		12 56 29.8	
	51nm,0.5s,SNR=5.2						
PFVI	**Vila Bisbo**	**2.75**	**271**	Pn	**Pn**	**12 55 43.8**	**-0.5**
PFVI				Sn	**Sn**	**12 56 16.3**	**-1.1**
PFVI				Lg		12 56 28.8	
PFVI	**Vila Bisbo**	**2.75**	**271**	⇓Pn	**Pn**	**12 55 43.8**	**-0.5**
	7.5nm,0.1s,SNR=18						
PFVI				Pg	**Pg**	**12 55 51.5**	**-1.5**
	22nm,0.3s,SNR=7.9						
PFVI				Sn	**Sn**	**12 56 16.3**	**-1.1**
	79nm,0.1s,SNR=15						
PFVI				Lg		12 56 28.2	
	94nm,0.3s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.75**	**271**	Pn	**Pn**	**12 55 43.8**	**-0.5**
	7.5nm,0.1s,SNR=18						
PFVI	**Vila Bisbo**	**2.75**	**271**	*e*Pn	**Pn**	**12 55 43.7**	**-0.6**
PFVI				*e*Sn	**Sn**	**12 56 16.2**	**-1.2**
PFVI				A		12 56 37.5	
	39nm,0.5s						
ESDC	**Sonseca Array**	**2.78**	**23**	Pn	**Pn**	**12 55 46.5**	**+1.8**
ESDC				Pg	**Pg**	**12 55 52.8**	**-0.8**
ESDC				Sn	**Sn**	**12 56 18.9**	**+0.6**
ESDC				Lg		12 56 29.8	
ESDC	**Sonseca Array**	**2.78**	**23**	Pn	**Pn**	**12 55 46.5**	**+1.8**
	2.0nm,0.1s,baz=204,slow=12,SNR=4.3						
ESDC				Pg	**Pg**	**12 55 53.9**	**+0.3**
	2.4nm,0.3s,baz=203,slow=17,SNR=6.8						
ESDC				Sn	**Sn**	**12 56 18.4**	**+0.2**
	3.1nm,0.1s,baz=205,slow=17,SNR=7.9						
ESDC				Lg		12 56 30.0	
	20nm,0.5s,baz=208,slow=28,SNR=20						
ESDC	**Sonseca Array**	**2.78**	**23**	Pn	**Pn**	**12 55 46.5**	**+1.8**
	2.0nm,0.1s,baz=204,slow=12,SNR=4.3						
ESDC	**Sonseca Array**	**2.78**	**23**	Pg	**Pg**	**12 55 55.4**	**+1.8**
	2.4nm,0.3s,baz=203,slow=17,SNR=6.8						
ESDC				Sn	**Sn**	**12 56 18.4**	**+0.2**
	3.1nm,0.1s,baz=205,SNR=7.9						
ESDC				Lg		12 56 28.8	
	20nm,0.5s,SNR=20						
PMRV	**Marv??o**	**2.79**	**326**	*e*Pn	**Pn**	**12 55 45.5**	**+0.7**
PMRV	**Marv??o**	**2.79**	**326**	*e*Pg	**Pg**	**12 55 52.6**	**-1.2**
PMRV				*e*Sn	**Sn**	**12 56 19.1**	**+0.7**
PMRV				*e*Sg	**Sg**	**12 56 31.4**	**+1.5**
	91nm,0.4s						
PMRV	**Marv??o**	**2.79**	**326**	*e*Pn	**Pn**	**12 55 45.5**	**+0.7**
PMRV	**Marv??o**	**2.79**	**326**	*e*Pg	**Pg**	**12 55 52.6**	**-1.2**
PMRV				*e*Sn	**Sn**	**12 56 19.1**	**+0.7**
PMRV				*e*Sg	**Sg**	**12 56 31.4**	**+1.5**
PMRV				A		12 56 35.0	
	91nm,0.4s						
PMTG	**Montargil**	**2.96**	**312**	*e*Pn	**Pn**	**12 55 48.4**	**+1.2**
PMTG				*e*Sn	**Sn**	**12 56 23.1**	**+0.4**
	47nm,0.7s						
PMTG	**Montargil**	**2.96**	**312**	*e*Pn	**Pn**	**12 55 48.4**	**+1.2**
PMTG				*e*Sn	**Sn**	**12 56 23.1**	**+0.4**
PMTG				A		12 56 51.4	
	47nm,0.7s						
EPLA	**Plasencia**	**2.98**	**350**	Pn	**Pn**	**12 55 48.9**	**+1.3**
EPLA				Pg	**Pg**	**12 55 57.0**	**-0.5**
EPLA				Sn	**Sn**	**12 56 22.6**	**-0.6**
EPLA				Lg		12 56 36.8	
EPLA	**Plasencia**	**2.98**	**350**	Pn	**Pn**	**12 55 48.9**	**+1.3**
	2.2nm,0.0s,SNR=5.7						
EPLA				Pg	**Pg**	**12 55 57.1**	**-0.5**
	5.1nm,0.2s,SNR=7.9						
EPLA				Sn	**Sn**	**12 56 22.6**	**-0.6**
	11nm,0.1s,SNR=6.4						
EPLA				Lg		12 56 34.4	
	145nm,0.5s,SNR=14						
EPLA	**Plasencia**	**2.98**	**350**	Pn	**Pn**	**12 55 48.9**	**+1.4**
	2.2nm,0.0s,SNR=5.7						
PCBR	**Castelo Branco**	**3.17**	**329**	*e*Pn	**Pn**	**12 55 51.3**	**+1.3**
PCBR				*e*Sn	**Sn**	**12 56 27.3**	**-0.5**
PCBR				*e*Sg	**Sg**	**12 56 42.9**	**+0.8**
	34nm,0.5s						
PCBR	**Castelo Branco**	**3.17**	**329**	*e*Pn	**Pn**	**12 55 51.3**	**+1.3**
PCBR				*e*Sn	**Sn**	**12 56 27.3**	**-0.5**
PCBR				*e*Sg	**Sg**	**12 56 42.9**	**+0.8**
PCBR				A		12 56 54.9	
	34nm,0.5s						
ALMR	**Almeirim**	**3.23**	**310**	*e*P	**Pn**	**12 55 51.4**	**+0.5**
ALMR				*e*S	**Sn**	**12 56 26.4**	**-2.9**
ALMR				AML	AML	12 56 32.4	
	comp=E,130nm,0.8s						
ALMR	**Almeirim**	**3.23**	**310**	Pn	**Pn**	**12 55 51.2**	**+0.3**
	SNR=7.9						
ALMR				Sn	**Sn**	**12 56 26.7**	**-2.6**
	SNR=7.9						
ETOB	**Tobarra**	**3.40**	**62**	Pn	**Pn**	**12 55 53.6**	**+0.5**
ETOB				Sn	**Sn**	**12 56 33.7**	**+0.3**
ETOB				Lg		12 56 50.8	
ETOB	**Tobarra**	**3.40**	**62**	Pn	**Pn**	**12 55 53.6**	**+0.5**
	comp=E,0.6nm,0.1s,SNR=7.9						
ETOB				Pg	**Pg**	**12 56 03.5**	**-1.9**
	comp=E,5.3nm,0.4s,SNR=7.9						
ETOB				Sn	**Sn**	**12 56 33.7**	**+0.3**
	comp=E,3.1nm,0.1s,SNR=7.9						
ETOB				Lg		12 56 50.8	
	comp=E,44nm,0.5s,SNR=7.9						
ETOB	**Tobarra**	**3.40**	**62**	Pn	**Pn**	**12 55 53.6**	**+0.4**
	comp=E,0.6nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**3.40**	**62**	Pg	**Pg**	**12 56 05.2**	**-0.2**
	comp=E,5.3nm,0.4s,SNR=7.9						
ETOB				Sn	**Sn**	**12 56 33.7**	**+0.3**
	comp=E,3.1nm,0.1s,SNR=7.9						
ETOB				Lg		12 56 50.8	
	comp=E,44nm,0.5s,SNR=7.9						
PTOM	**Tomar**	**3.44**	**317**	*e*Pn	**Pn**	**12 55 55.1**	**+1.3**
PTOM				*e*Sn	**Sn**	**12 56 34.2**	**-0.3**
PTOM				*e*Sg	**Sg**	**12 56 49.6**	**-1.2**
	comp=E,49nm,0.3s						
PTOM	**Tomar**	**3.44**	**317**	*e*Pn	**Pn**	**12 55 55.1**	**+1.3**
PTOM				*e*Sn	**Sn**	**12 56 34.2**	**-0.3**
PTOM				*e*Sg	**Sg**	**12 56 49.6**	**-1.2**
PTOM				A		12 57 05.4	
	comp=E,49nm,0.3s						
PMAFR	**Mafra**	**3.58**	**302**	Pn	**Pn**	**12 55 55.8**	**+0.1**
	comp=E,20nm,0.6s,SNR=7.9						
PMAFR				Sn	**Sn**	**12 56 36.8**	**-1.0**
	comp=E,17nm,0.2s,SNR=7.9						
PMAFR				Lg		12 56 55.8	
	comp=E,76nm,0.3s,SNR=7.9						
PMAFR	**Mafra**	**3.58**	**302**	*e*Pn	**Pn**	**12 55 56.6**	**+0.9**
PMAFR				*e*Sn	**Sn**	**12 56 38.2**	**+0.3**
	comp=E,54nm,0.7s						
PMAFR				Lg		12 56 55.8	
	comp=E,76nm,0.3s,SNR=7.9						
PMAFR	**Mafra**	**3.58**	**302**	*e*Pn	**Pn**	**12 55 56.6**	**+0.9**
PMAFR				*e*Sn	**Sn**	**12 56 38.2**	**+0.3**
PMAFR				A		12 57 02.5	
	comp=E,54nm,0.7s						
GUD	**Guadarrama**	**3.64**	**15**	Pn	**Pn**	**12 55 58.4**	**+1.8**
GUD				Sn	**Sn**	**12 56 40.3**	**+0.8**
GUD				Lg		12 56 57.4	
GUD	**Guadarrama**	**3.64**	**15**	Pn	**Pn**	**12 55 58.4**	**+1.8**
	comp=E,1.1nm,0.2s,SNR=7.9						
GUD				Sn	**Sn**	**12 56 39.4**	**0.0**
	comp=E,1.2nm,0.1s,SNR=7.9						
GUD				Lg		12 56 57.4	
	comp=E,66nm,0.4s,SNR=7.9						
GUD	**Guadarrama**	**3.64**	**15**	Pn	**Pn**	**12 55 58.4**	**+1.8**
	comp=E,1.1nm,0.2s,SNR=7.9						
GUD				Sn	**Sn**	**12 56 40.3**	**+0.8**
GUD				Lg		12 56 57.4	
	comp=E,66nm,0.4s,SNR=7.9						
MTE	**Manteigas**	**3.68**	**333**	*e*Sn	**Sn**	**12 56 40.7**	**+0.3**
MTE				*e*Sg	**Sg**	**12 56 57.8**	**-0.6**
	comp=E,86nm,0.8s						
MTE	**Manteigas**	**3.68**	**333**	*e*Sn	**Sn**	**12 56 40.7**	**+0.3**
MTE				*e*Sg	**Sg**	**12 56 57.8**	**-0.6**
MTE				A		12 57 06.6	
	comp=E,86nm,0.8s						
PVIS	**Viseu**	**4.08**	**332**	*e*Pn	**Pn**	**12 56 04.2**	**+1.6**
PVIS				*e*Sn	**Sn**	**12 56 50.5**	**+0.2**
	comp=E,25nm,0.5s						
PVIS	**Viseu**	**4.08**	**332**	*e*Pn	**Pn**	**12 56 04.2**	**+1.6**
PVIS				*e*Sn	**Sn**	**12 56 50.5**	**+0.2**
PVIS				A		12 57 17.5	
	comp=E,25nm,0.5s						
MVO	**Moncorvo**	**4.23**	**343**	Pn	**Pn**	**12 56 05.4**	**+0.8**
MVO				Sn	**Sn**	**12 56 54.5**	**+0.5**
MVO				Lg		12 57 17.7	
MVO	**Moncorvo**	**4.23**	**343**	Pn	**Pn**	**12 56 05.4**	**+0.8**
	comp=E,1.3nm,0.1s,SNR=7.7						
MVO				Sn	**Sn**	**12 56 53.1**	**-0.9**
	comp=E,7.0nm,0.2s,SNR=6.0						
MVO				Lg		12 57 17.7	
	comp=E,59nm,0.3s,SNR=9.4						
MVO	**Moncorvo**	**4.23**	**343**	Pn	**Pn**	**12 56 05.4**	**+0.8**
	comp=E,1.3nm,0.1s,SNR=7.7						
MVO				Sn	**Sn**	**12 56 54.5**	**+0.5**
MVO				*e*Sg	**Sg**	**12 57 15.7**	**-0.4**
	comp=E,37nm,0.4s						
MVO				Lg		12 57 17.7	
	comp=E,59nm,0.3s,SNR=9.4						
MVO	**Moncorvo**	**4.23**	**343**	*e*Pn	**Pn**	**12 56 05.4**	**+0.8**
MVO				*e*Sn	**Sn**	**12 56 54.7**	**+0.7**
MVO				*e*Sg	**Sg**	**12 57 15.7**	**-0.4**
MVO				A		12 57 26.8	
	comp=E,37nm,0.4s						
ECHE	**Chera**	**4.26**	**53**	Pn	**Pn**	**12 56 06.0**	**+1.0**
	comp=E,1.0nm,0.2s,SNR=7.9						
ECHE				Lg		12 57 21.4	
	comp=E,9.4nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**4.38**	**67**	Pn	**Pn**	**12 56 07.4**	**+0.8**
EBEN	**Beniarda**	**4.38**	**67**	Pn	**Pn**	**12 56 07.4**	**+0.7**
ETOR	**Torete**	**4.51**	**34**	Pn	**Pn**	**12 56 08.7**	**+0.2**
ETOR				Sn	**Sn**	**12 56 59.3**	**-1.6**
ETOR				Lg		12 57 26.1	
ETOR	**Torete**	**4.51**	**34**	Pn	**Pn**	**12 56 08.7**	**+0.2**
	comp=E,7.3nm,0.3s,SNR=7.4						
ETOR				Sn	**Sn**	**12 56 59.3**	**-1.6**
	comp=E,8.0nm,0.1s,SNR=7.9						
ETOR				Lg		12 57 25.5	
	comp=E,3.8nm,0.1s,SNR=6.6						
ETOR	**Torete**	**4.51**	**34**	Pn	**Pn**	**12 56 08.7**	**+0.2**
	comp=E,7.3nm,0.3s,SNR=7.4						
ETOR				Sn	**Sn**	**12 56 59.3**	**-1.6**
	comp=E,8.0nm,0.1s,SNR=7.9						
ETOR				Lg		12 57 25.5	
	comp=E,3.8nm,0.1s,SNR=6.6						
PBRG	**Braganca**	**4.79**	**348**	*e*Sn	**Sn**	**12 57 07.0**	**-0.7**
	comp=E,6.5nm,0.2s						
PBRG	**Braganca**	**4.79**	**348**	*e*Sn	**Sn**	**12 57 07.0**	**-0.7**
PBRG				A		12 57 09.0	
	comp=E,6.5nm,0.2s						
ECAL	**Calabor**	**4.92**	**348**	Pn	**Pn**	**12 56 16.1**	**+2.0**
ECAL				Sn	**Sn**	**12 57 09.9**	**-1.1**
ECAL				Lg		12 57 38.6	
ECAL	**Calabor**	**4.92**	**348**	Pn	**Pn**	**12 56 16.8**	**+2.6**
	comp=E,0.3nm,0.1s,SNR=7.9						
ECAL				Sn	**Sn**	**12 57 09.9**	**-1.1**
	comp=E,1.3nm,0.2s,SNR=7.9						
ECAL				Lg		12 57 38.6	
	comp=E,64nm,0.6s,SNR=7.9						
ECAL	**Calabor**	**4.92**	**348**	Pn	**Pn**	**12 56 16.1**	**+2.0**
ECAL				Sn	**Sn**	**12 57 09.9**	**-1.1**
	comp=E,1.3nm,0.2s,SNR=7.9						
ECAL				Lg		12 57 38.6	
	comp=E,64nm,0.6s,SNR=7.9						
PCAB	**Cabril**	**5.01**	**337**	*e*Pn	**Pn**	**12 56 17.0**	**+1.6**
PCAB				*e*Sn	**Sn**	**12 57 12.4**	**-0.9**
PCAB				A		12 57 46.4	
	comp=E,23nm,0.9s						
EMOS	**Mosqueruela**	**5.02**	**48**	Sn	**Sn**	**12 57 12.6**	**-0.9**
EMOS				Lg		12 57 42.9	
EMOS	**Mosqueruela**	**5.02**	**48**	Sn	**Sn**	**12 57 12.6**	**-0.9**
EMOS				Lg		12 57 40.9	
	comp=E,0.8nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**5.17**	**337**	Pn	**Pn**	**12 56 18.1**	**+0.6**
ELOB				Sn	**Sn**	**12 57 13.9**	**-3.1**
ELOB				Lg		12 57 46.3	
ELOB	**Lobios**	**5.17**	**337**	Pn	**Pn**	**12 56 18.1**	**+0.6**
	comp=E,0.1nm,0.0s,SNR=7.9						
ELOB				Sn	**Sn**	**12 57 14.8**	**-2.2**
	comp=E,0.6nm,0.1s,SNR=7.9						
ELOB				Lg		12 57 46.3	
	comp=E,30nm,0.4s,SNR=7.9						
ELOB	**Lobios**	**5.17**	**337**	Pn	**Pn**	**12 56 18.1**	**+0.6**
	comp=E,0.1nm,0.0s,SNR=7.9						
ELOB				Lg		12 57 46.3	
	comp=E,30nm,0.4s,SNR=7.9						
PGAV	**Gavieira, Arco**	**5.32**	**336**	*e*Pn	**Pn**	**12 56 20.8**	**+1.2**
PGAV	**Gavieira, Arco**	**5.32**	**336**	*e*Pn	**Pn**	**12 56 20.8**	**+1.2**
PGAV				*e*Sn	**Sn**	**12 57 20.9**	**0.0**
PGAV				A		12 57 58.8	
	comp=E,18nm,0.6s						
ERUA	**La Rua**	**5.43**	**346**	Sn	**Sn**	**12 57 20.7**	**-2.8**
ERUA	**La Rua**	**5.43**	**346**	Sn	**Sn**	**12 57 20.7**	**-2.8**
	comp=E,0.7nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**5.96**	**38**	Pn	**Pn**	**12 56 22.1**	**-6.4**
ESAC	**San Caprasio**	**5.96**	**38**	Pn	**Pn**	**12 56 22.1**	**-6.4**
	comp=E,26nm,0.3s,SNR=7.9						
ESAC				Lg		12 58 10.9	
	comp=E,26nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**6.17**	**1**	Pn	**Pn**	**12 56 33.1**	**+1.8**
EARI				Sn	**Sn**	**12 57 39.5**	**-2.3**
EARI				Lg		12 58 17.4	
EARI	**Arriondas**	**6.17**	**1**	Pn	**Pn**	**12 56 33.1**	**+1.8**
	comp=E,0.1nm,0.1s,SNR=7.9						
EARI				Sn	**Sn**	**12 57 39.5**	**-2.3**
	comp=E,0.4nm,0.2s,SNR=7.9						
EARI				Lg		12 58 17.4	
	comp=E,6.4nm,0.5s,SNR=7.9						
EARI	**Arriondas**	**6.17**	**1**	Pn	**Pn**	**12 56 33.1**	**+1.8**
	comp=E,0.1nm,0.1s,SNR=7.9						
ELAN	**Lanestosa**	**6.28**	**13**	Pn	**Pn**	**12 56 34.2**	**+1.4**
ELAN				Sn	**Sn**	**12 57 40.9**	**-3.6**
ELAN	**Lanestosa**	**6.28**	**13**	Pn	**Pn**	**12 56 34.2**	**+1.4**
	comp=E,0.1nm,0.1s,SNR=7.9						
ELAN				Sn	**Sn**	**12 57 40.9**	**-3.6**
	comp=E,0.4nm,0.1s,SNR=7.9						
ELAN				Lg		12 58 22.6	
	comp=E,6.2nm,0.4s,SNR=7.9						
ELAN	**Lanestosa**	**6.28**	**13**	Pn	**Pn**	**12 56 34.2**	**+1.4**
	comp=E,0.1nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**6.34**	**348**	Sn	**Sn**	**12 57 43.0**	**-3.0**
EPON				Lg		12 58 21.7	
EPON	**Pontenova**	**6.34**	**348**	Sn	**Sn**	**12 57 43.0**	**-3.0**
	comp=E,0.4nm,0.0s,SNR=7.9						
EPON				Lg		12 58 21.7	
	comp=E,7.4nm,0.4s,SNR=7.9						
SJPF	**Ste Jean**	**6.78**	**27**	*e*Pn	**Pn**	**12 56 39.8**	**+0.2**
SJPF				*e*Sn	**Sn**	**12 57 54.6**	**-2.1**
SJPF				*e*Sg	**Sg**	**12 58 35.5**	**-2.3**
	comp=E,4.5nm,0.4s						
SJPF	**Ste Jean**	**6.78**	**27**	*e*Pn	**Pn**	**12 56 39.8**	**+0.2**
SJPF				*e*Sn	**Sn**	**12 57 54.6**	**-2.1**
SJPF				*e*Sg	**Sg**	**12 58 35.5**	**-2.3**
SJPF	**Ste Jean**	**6.78**	**27**	Pn	**Pn**	**12 56 39.8**	**+0.2**
SJPF				Sn	**Sn**	**12 57 54.6**	**-2.1**
SJPF				Lg		12 58 35.5	
	comp=E,2.2nm,0.4s						
SJPF	**Ste Jean**	**6.78**	**27**	*e*Pn	**Pn**	**12 56 39.8**	**+0.2**
SJPF				*e*Sg	**Sg**	**12 58 35.5**	**-2.3**
	comp=E,2.2nm,0.4s						
ETSF	**Etsaut**	**6.85**	**31**	*e*Pn	**Pn**	**12 56 41.3**	**+0.6**
ETSF				*e*Sg	**Sg**	**12 58 38.0**	**-2.2**
	comp=E,2.5nm,0.4s						
ETSF	**Etsaut**	**6.85**	**31**	*e*Pn	**Pn**	**12 56 41.3**	**+0.6**
ETSF				*e*Sg	**Sg**	**12 58 38.0**	**-2.2**
ETSF	**Etsaut**	**6.85**	**31**	Pn	**Pn**	**12 56 41.3**	**+0.6**
ETSF				Lg		12 58 38.0	
	comp=E,1.2nm,0.4s						
ETSF	**Etsaut**	**6.85**	**31**	*e*Pn	**Pn**	**12 56 41.3**	**+0.6**
ETSF				*e*Sg	**Sg**	**12 58 38.0**	**-2.2**
	comp=E,1.2nm,0.4s						
EPF	**Esparros**	**7.35**	**35**	*e*Pn	**Pn**	**12 56 48.6**	**+1.1**
EPF				*e*Sn	**Sn**	**12 58 08.2**	**-2.7**
EPF				*e*Sg	**Sg**	**12 58 53.7**	**-2.5**
	comp=

*ATH **06** 13:06:14.0, 40°.32N×21°.00E, h17km±2km, MD3.3/10*
*TIR **06** 13:06:15.9±1.0, 40°.28N×20°.87E, h0km±6km, ML3.0*
*CSEM **06** 13:06:15.3±0.2, 40°.24N×21°.06E, h2km, ML3.1/5, Error ellipse: s-maj=4.4km s-min=3.4km az=99.0*
*ISCJB **06** 13:06:15.6±0.3, 40°.26N±0°.02×21°.03E±0°.03, h12km±3km, Error ellipse: s-maj=3.4km s-min=3.1km az=31.4*
*SKO **06** 13:06:16.5, 40°.27N×21°.14E, h26km*
*THE **06** 13:06:16.2, 40°.23N×21°.07E, h3km±2km, ML3.1/5, Error ellipse: s-maj=2.1km s-min=0.8km az=330.0*

ISC 06 13:06:16.0±0.3, 40°.25N±0°.02×21°.04E±0°.03, h9km±3km, n82, σ1§20/109, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEST	**Nestorio**	**0.16**	**3**	P	**Pg**	**13 06 19.9**	**+0.4**
NEST				S	**Sg**	**13 06 23.5**	**+1.6**
NEST	**Nestorio**	**0.16**	**3**	P	**Pg**	**13 06 19.9**	**+0.4**
NEST				S	**Sg**	**13 06 23.5**	**+1.6**
LSK	**Leskovik**	**0.35**	**253**	*e*PG	**Pg**	**13 06 21.4**	**-1.5**
LSK				*e*SG	**Sg**	**13 06 26.4**	**-1.2**
LSK	**Leskovik**	**0.35**	**253**	*e*Pg	**Pg**	**13 06 21.4**	**-1.5**
LSK				*e*Sg	**Sg**	**13 06 26.4**	**-1.2**
KBN	**Korca**	**0.42**	**333**	*e*PG	**Pg**	**13 06 23.8**	**-0.4**
KBN				*e*SG	**Sg**	**13 06 30.5**	**+0.8**
KBN	**Korca**	**0.42**	**333**	*e*Pg	**Pg**	**13 06 23.8**	**-0.4**
KBN				*e*Sg	**Sg**	**13 06 30.5**	**+0.8**
MEV	**Metsovon**	**0.49**	**162**	P	**Pg**	**13 06 24.8**	**-0.7**
MEV	**Metsovon**	**0.49**	**162**	P	**Pg**	**13 06 24.8**	**-0.7**
KZN	**Kozani**	**0.56**	**84**	*e*PN	**Pg**	**13 06 26.0**	**-0.9**
KZN	**Kozani**	**0.56**	**84**	P	**Pg**	**13 06 26.1**	**-0.8**
KZN				S	**Sg**	**13 06 35.5**	**+1.2**
KZN	**Kozani**	**0.56**	**84**	*e*Pn	**Pg**	**13 06 26.0**	**-0.9**
FNA	**Florina**	**0.59**	**26**	P	**Pg**	**13 06 27.0**	**-0.4**
FNA				S	**Sg**	**13 06 37.0**	**+1.8**
FNA	**Florina**	**0.59**	**26**	P	**Pg**	**13 06 27.0**	**-0.4**
FNA				S	**Sg**	**13 06 37.0**	**+1.8**
JAN	**Janina**	**0.61**	**194**	*e*PB	**Pg**	**13 06 26.5**	**-1.4**
JAN				*e*SN	**Sg**	**13 06 36.3**	**+0.4**
JAN	**Janina**	**0.61**	**194**	P	**Pg**	**13 06 26.9**	**-1.0**
JAN				S	**Sg**	**13 06 36.2**	**+0.3**
JAN	**Janina**	**0.61**	**194**	*e*Pb	**Pg**	**13 06 26.5**	**-1.4**
JAN	**Janina**	**0.61**	**194**	P	**Pg**	**13 06 26.9**	**-1.0**
JAN				S	**Sg**	**13 06 36.2**	**+0.3**
BIA	**Bitola**	**0.80**	**16**	P	**Pg**	**13 06 30.7**	**-0.7**
BIA				S	**Sg**	**13 06 43.1**	**+1.4**
BIA	**Bitola**	**0.80**	**16**	*e*Pg	**Pg**	**13 06 30.5**	**-0.8**
BIA				*e*Sg	**Sg**	**13 06 42.9**	**+1.1**
BIA	**Bitola**	**0.80**	**16**	P	**Pg**	**13 06 30.7**	**-0.7**
BIA				S	**Sg**	**13 06 43.1**	**+1.4**
SRN	**Sarande**	**0.88**	**245**	*e*PN	**Sg**	**13 06 45.9**	**+1.5**
THL	**Klokotos Trika**	**1.02**	**132**	*e*PB	**Pg**	**13 06 33.8**	**-1.8**
THL				*e*SN	**Sg**	**13 06 50.5**	**+1.7**
THL	**Klokotos Trika**	**1.02**	**132**	P	**Pg**	**13 06 33.7**	**-1.9**
THL				S	**Sg**	**13 06 50.2**	**+1.4**
THL	**Klokotos Trika**	**1.02**	**132**	*e*Pb	**Pg**	**13 06 33.8**	**-1.8**
THL				*e*Sn	**Sg**	**13 06 50.5**	**+1.7**
KEK	**Kerkira**	**1.09**	**241**	*e*PN	**Pn**	**13 06 35.4**	**-2.1**
KEK	**Kerkira**	**1.09**	**241**	P	**Pg**	**13 06 36.1**	**-0.9**
KEK				S	**Sg**	**13 06 54.3**	**+3.1**
KEK	**Kerkira**	**1.09**	**241**	*e*Pn	**Pn**	**13 06 35.4**	**-2.1**
KEK	**Kerkira**	**1.09**	**241**	P	**Pg**	**13 06 36.1**	**-0.9**
LIT	**Litokhoron**	**1.12**	**97**	*e*PN	**Pn**	**13 06 35.8**	**-2.1**
LIT	**Litokhoron**	**1.12**	**97**	P	**Pg**	**13 06 35.9**	**-1.7**
LIT				S	**Sg**	**13 06 53.0**	**+0.8**
LIT	**Litokhoron**	**1.12**	**97**	P	**Pg**	**13 06 35.9**	**-1.7**
KRUS	**Krusevo**	**1.13**	**8**	*e*Pg	**Pg**	**13 06 36.7**	**-0.9**
KRUS	**Krusevo**	**1.13**	**8**	*e*Pg	**Pg**	**13 06 36.7**	**-1.0**
TIR	**Tirane**	**1.41**	**321**	*e*PN	**Pn**	**13 06 44.2**	**+2.4**
TIR	**Tirane**	**1.41**	**321**	*e*Pn	**Pn**	**13 06 44.2**	**+2.4**
EVR	**Evrytania**	**1.46**	**156**	*e*PN	**Pn**	**13 06 41.8**	**-0.7**
EVR	**Evrytania**	**1.46**	**156**	P	**Pn**	**13 06 41.5**	**-1.0**
EVR				S	**Sn**	**13 07 02.4**	**+0.6**
EVR	**Evrytania**	**1.46**	**156**	P	**Pn**	**13 06 41.5**	**-1.0**
EVR	**Evrytania**	**1.46**	**156**	*e*Pn	**Pn**	**13 06 41.8**	**-0.7**
EVR				S	**Sn**	**13 07 02.4**	**+0.6**
LKD2	**Lefkada island**	**1.49**	**191**	P	**Pn**	**13 06 43.5**	**+0.5**
LKD2	**Lefkada island**	**1.49**	**191**	P	**Pn**	**13 06 43.5**	**+0.5**
VAY	**Valandovo**	**1.58**	**47**	*e*Pn	**Pn**	**13 06 44.0**	**-0.1**
VAY				*e*Sg	**Sg**	**13 07 04.6**	**-2.2**
VAY	**Valandovo**	**1.58**	**47**	*e*Pn	**Pn**	**13 06 44.0**	**-0.2**
VAY				*e*Sg	**Sg**	**13 07 04.6**	**-2.2**
AGG	**Agios Georgios**	**1.58**	**141**	*e*PN	**Pn**	**13 06 43.7**	**-0.5**
AGG	**Agios Georgios**	**1.58**	**141**	P	**Pn**	**13 06 43.8**	**-0.4**
AGG				S	**Sn**	**13 07 05.9**	**+1.1**
AGG	**Agios Georgios**	**1.58**	**141**	*e*Pn	**Pn**	**13 06 43.7**	**-0.5**
AGG				S	**Sn**	**13 07 05.9**	**+1.1**
KNT	**Kendrikon**	**1.68**	**57**	P	**Pn**	**13 06 45.1**	**-0.5**
KNT	**Kendrikon**	**1.68**	**57**	P	**Pn**	**13 06 45.1**	**-0.5**
PLG	**Polygyros**	**1.84**	**85**	*e*PN	**Pn**	**13 06 46.9**	**-0.9**
PLG	**Polygyros**	**1.84**	**85**	*e*Pn	**Pn**	**13 06 46.9**	**-0.9**
SOH	**Sokhos**	**1.85**	**71**	*e*PN	**Pn**	**13 06 47.9**	**0.0**
SOH	**Sokhos**	**1.85**	**71**	P	**Pn**	**13 06 48.2**	**+0.3**
SOH	**Sokhos**	**1.85**	**71**	*e*Pn	**Pn**	**13 06 47.9**	**0.0**
SOH	**Sokhos**	**1.85**	**71**	P	**Pn**	**13 06 48.2**	**+0.3**
NEO	**Neokhori**	**1.93**	**119**	*e*PB	**Pn**	**13 06 48.4**	**-0.6**
NEO	**Neokhori**	**1.93**	**119**	*e*Pb	**Pn**	**13 06 48.4**	**-0.6**
EFP	**Efpalio**	**1.94**	**159**	*e*PN	**Pn**	**13 06 50.8**	**+1.6**
EFP	**Efpalio**	**1.94**	**159**	*e*Pn	**Pn**	**13 06 50.8**	**+1.6**
PUK	**Puka**	**1.99**	**335**	*e*PN	**Pn**	**13 06 53.1**	**+3.3**
PUK	**Puka**	**1.99**	**335**	*e*Pn	**Pn**	**13 06 53.1**	**+3.3**
PAIG	**Paliouri**	**2.05**	**98**	P	**Pn**	**13 06 49.7**	**-1.0**
PAIG	**Paliouri**	**2.05**	**98**	P	**Pn**	**13 06 49.7**	**-1.0**
VLS	**Valsamata**	**2.10**	**190**	*e*PN	**Pn**	**13 06 51.6**	**+0.2**
VLS	**Valsamata**	**2.10**	**190**	P	**Pn**	**13 06 51.9**	**+0.5**
VLS	**Valsamata**	**2.10**	**190**	*e*Pn	**Pn**	**13 06 51.6**	**+0.2**
VLS	**Valsamata**	**2.10**	**190**	P	**Pn**	**13 06 51.9**	**+0.5**
LKR	**Lokris**	**2.21**	**136**	*e*PB	**Pn**	**13 06 52.1**	**-0.7**
LKR	**Lokris**	**2.21**	**136**	*e*Pb	**Pn**	**13 06 52.1**	**-0.7**
RLS	**Riolos of Patr**	**2.22**	**171**	*e*PN	**Pn**	**13 06 54.7**	**+1.8**
RLS	**Riolos of Patr**	**2.22**	**171**	*e*Pn	**Pn**	**13 06 54.7**	**+1.8**
BCI	**Bajram Curri**	**2.23**	**341**	*e*PN	**Pn**	**13 06 57.5**	**+4.3**
BCI	**Bajram Curri**	**2.23**	**341**	*e*Pn	**Pn**	**13 06 57.5**	**+4.3**
GUR	**Goura**	**2.53**	**156**	*e*PB	**Pn**	**13 06 58.3**	**+1.1**
GUR	**Goura**	**2.53**	**156**	*e*Pb	**Pn**	**13 06 58.3**	**+1.1**
LTK	**Loutraki**	**2.69**	**145**	*e*PN	**Pn**	**13 06 59.6**	**+0.2**
LTK	**Loutraki**	**2.69**	**145**	*e*Pn	**Pn**	**13 06 59.6**	**+0.2**
DID	**Didima**	**3.24**	**147**	*e*PN	**Pn**	**13 07 08.1**	**+1.2**
DID	**Didima**	**3.24**	**147**	*e*Pn	**Pn**	**13 07 08.1**	**+1.2**
PYL	**PYLOS**	**3.40**	**170**	*e*PN	**Pn**	**13 07 10.0**	**+0.8**
PYL	**PYLOS**	**3.40**	**170**	*e*Pn	**Pn**	**13 07 10.0**	**+0.8**
STON	**Ston**	**3.62**	**317**	*e*Pn	**Pn**	**13 07 11.7**	**-0.6**
STON				S	**Sn**	**13 07 54.3**	**-0.8**
STON	**Ston**	**3.62**	**317**	*e*Pn	**Pn**	**13 07 11.6**	**-0.6**

*ISCJB **06** 13:09:28.6±0.5, 55°.3S±0°.1×128°.7W±0°.2, h10km, mb4.2/13, MS4.5/12, Error ellipse: s-maj=16.9km s-min=14.0km az=0.0*
*IDC **06** 13:09:29.0±0.5, 55°.23S×128°.79W, h0km, mb4.2/12, mb1 4.4/12, mb1mx4.4/18, mbtmp4.2/12, MS4.4/12, Ms1 4.4/12, ms1mx4.3/16, Error ellipse: s-maj=24.0km s-min=15.9km az=169.0*
*NEIC **06** 13:09:30.4±0.4, 55°.23S×128°.76W, h10km, mb4.9/1, Error ellipse: s-maj=18.2km s-min=12.3km az=165.0*
*GCMT **06** 13:09:35.8±0.2, 55°.33S×129°.07W, h20km±1km, MW5.2, Moment Tensor Solution. s65,c99; s89,c149; Moment tensor: Scale 10^{16}Nm; M_{rr}-0.62±.19; $M_{\theta\theta}$4.94±.20; $M_{\phi\phi}$-4.33±.16; $M_{r\theta}$-0.43±.33; $M_{\theta\phi}$5.96±.15; $M_{r\phi}$1.24±.33; Best double couple: $M_0$7.70000×10^{16} NP1:ψ_θ108.00000°, δ82.00000°, λ-7.00000°. NP2:ψ_θ199.00000°, δ83.00000°, λ-172.00000°. Principal axes: T 7.8600, Plg1.0000°, Azm334.0000°; N -0.3700, Plg79.0000°, Azm238.0000°; P -7.4900, Plg11.0000°, Azm64.0000°; Data Used: IU IU IC G CN.*

ISC 06 13:09:30.4±0.5, 55°.3S±0°.1×128°.8W±0°.2, h10km, n76, σ0§90/30, mb4.2/13, MS4.5/12, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**32.22**	**133**	LR	LR	13 25 19.4	
	comp=Z,1μm,21.1s,MS4.5,baz=327,slow=29						
RKT	**Rikitea**	**32.49**	**349**	*e*LR	LR	13 24 25.3	
	2μm,29.5s,baz=174						
QSPA	**South Pole Qui**	**34.85**	**180**	P	**P**	**13 16 23.5**	**+2.6**
	19nm,1.0s,mb5.0,baz=94,slow=4.5,SNR=27						
QSPA	**South Pole Qui**	**34.85**	**180**	P	**P**	**13 16 23.5**	**+2.6**
TBI	**Tubuai**	**35.44**	**326**	*e*LR	LR	13 25 35.0	
	2μm,29.8s,baz=163						
PLCA	**Paso Flores**	**40.34**	**94**	LR	LR	13 30 03.9	
	comp=Z,449nm,18.8s,MS4.3,baz=218,slow=31						
PPT	**Papeete**	**40.91**	**329**	*e*S	**S**	**13 23 29.4**	**+5.3**
	264nm,25.2s						
PPT				*e*LR	LR	13 28 21.6	
	2μm,26.8s						
PPT	**Papeete**	**40.91**	**329**	LR	LR	13 29 03.1	
	comp=Z,939nm,20.8s,MS4.6,baz=122,slow=29						
VNA3	**Neumayer Olymp**	**46.64**	**157**	*e*	**P**	**13 17 56.9**	**-1.3**
VNA3				*e*		13 18 06.8	
VNA3				*e*		13 18 20.9	
TAOE	**Nuku Hiva Isla**	**47.22**	**345**	*e*S	**S**	**13 25 01.6**	**+5.5**
	263nm,25.4s						
TAOE				*e*LQ		13 28 50.2	
	529nm,28.6s						
TAOE				*e*LR	LR	13 31 28.3	
	1μm,26.0s,baz=186						
VNA2	**Neumayer--Watz**	**47.38**	**158**	*e*	**P**	**13 18 03.0**	**-0.9**
VNA2				*e*		13 18 12.8	
VNA1	**Neumayer--Stat**	**47.39**	**157**	*e*	**P**	**13 18 04.3**	**+0.3**
VNA1				*e*		13 18 13.3	
SNAA	**Sanae**	**47.75**	**160**	P	**P**	**13 18 07.7**	**+0.9**
	2.1nm,0.8s,mb4.2,baz=229,slow=5.9,SNR=20						
SNAA	**Sanae**	**47.75**	**160**	P	**P**	**13 18 07.7**	**+0.9**
CFAA	**Coronel Fontan**	**48.09**	**86**	P	**P**	**13 18 09.5**	**-0.4**
	0.2nm,0.4s,mb3.5,baz=214,slow=4.8,SNR=6.0						
CFAA	**Coronel Fontan**	**48.09**	**86**	P	**P**	**13 18 09.5**	**-0.4**
MAW	**Mawson**	**57.09**	**185**	LR	LR	13 41 18.6	
	comp=Z,223nm,19.8s,MS4.3,baz=166,slow=33						
DZM	**Mont Dzumac**	**57.84**	**278**	*e*LQ		13 34 15.4	
	509nm,24.9s						
DZM				*e*LR	LR	13 36 37.4	
	507nm,28.6s						
CPUP	**Villa Florida**	**58.31**	**91**	P	**P**	**13 19 24.6**	**-0.6**
	1.1nm,0.5s,mb4.1,baz=211,slow=8.0,SNR=4.7						
CPUP				LR	LR	13 41 11.4	
	comp=Z,429nm,19.4s,MS4.6,baz=208,slow=33						
CPUP	**Villa Florida**	**58.31**	**91**	P	**P**	**13 19 24.6**	**-0.6**
CPUP				LR	LR	13 41 11.4	
LPAZ	**La Paz**	**60.13**	**75**	P	**P**	**13 19 39.0**	**+1.1**
	9.1nm,0.9s,mb4.8,baz=192,slow=4.2,SNR=14						
LPAZ				LR	LR	13 40 16.0	
	comp=Z,59nm,19.2s,MS3.7,baz=222,slow=31						
LPAZ	**La Paz**	**60.13**	**75**	P	**P**	**13 19 39.0**	**+1.1**
LPAZ				LR	LR	13 40 16.0	
STKA	**Stephens Creek**	**64.27**	**251**	P	**P**	**13 20 06.1**	**+0.6**
	2.8nm,1.1s,mb4.2,baz=102,slow=17,SNR=2.4						
STKA				LR	LR	13 42 13.0	
	comp=Z,395nm,19.3s,MS4.6,baz=304,slow=31						
STKA	**Stephens Creek**	**64.27**	**251**	P	**P**	**13 20 06.1**	**+0.6**
STKA				LR	LR	13 42 13.0	
CTA	**Charters Tower**	**70.91**	**262**	P	**P**	**13 20 47.7**	**+0.1**
	7.4nm,1.1s,mb4.5,baz=173,slow=8.1,SNR=2.9						
CTA	**Charters Tower**	**70.91**	**262**	P	**P**	**13 20 47.7**	**+0.1**
ROSC	**El Rosal**	**74.79**	**57**	LR	LR	13 48 27.1	
	comp=Z,158nm,18.3s,MS4.3,baz=202,slow=31						
ASAR	**Alice Springs**	**74.90**	**250**	P	**P**	**13 21 11.1**	**-0.1**
	2.6nm,0.8s,mb4.2,baz=143,slow=5.7,SNR=23						
ASAR	**Alice Springs**	**74.90**	**250**	P	**P**	**13 21 11.1**	**-0.1**
WRA	**Warramunga Arr**	**77.67**	**253**	P	**P**	**13 21 25.9**	**-1.1**
	2.4nm,0.8s,mb4.2,baz=142,slow=5.0,SNR=20						
WRA				LR	LR	13 51 58.7	
	comp=Z,275nm,21.8s,MS4.5,baz=140,slow=33						
WRA	**Warramunga Arr**	**77.67**	**253**	P	**P**	**13 21 25.9**	**-1.1**
WRA				LR	LR	13 51 58.7	
WRAB	**Tennant Creek**	**77.67**	**253**	*e*P	**P**	**13 21 26.8**	**-0.2**
	5.4nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**83.85**	**247**	P	**P**	**13 21 59.9**	**-0.2**
	3.8nm,0.9s,mb4.5,baz=149,slow=7.7						
FITZ	**Fitzroy Crossi**	**83.85**	**247**	P	**P**	**13 21 59.9**	**-0.2**
TXAR	**Lajitas Array**	**87.02**	**22**	P	**P**	**13 22 14.8**	**-0.7**
	0.7nm,0.9s,mb3.9,baz=205,slow=5.5,SNR=4.7						
TXAR	**Lajitas Array**	**87.02**	**22**	P	**P**	**13 22 14.8**	**-0.7**
BOSA	**Boshof**	**93.48**	**157**	LR	LR	14 02 47.1	
	comp=Z,260nm,18.1s,MS4.7,baz=186,slow=34						
NVAR	**Mina Array Bea**	**93.81**	**8**	P	**P**	**13 22 48.1**	**+1.1**
	0.1nm,0.5s,mb3.5,baz=189,slow=11,SNR=1.9						
NVAR				LR	LR	13 57 25.9	
	comp=Z,172nm,18.1s,MS4.5,baz=159,slow=31						
NVAR	**Mina Array Bea**	**93.81**	**8**	P	**P**	**13 22 48.1**	**+1.1**
NVAR				LR	LR	13 57 25.9	
PDAR	**Pinedale Array**	**99.07**	**14**	LR	LR	13 59 36.3	
	comp=Z,191nm,18.4s,MS4.6,baz=210,slow=30						
ILAR	**Eielson Array**	**120.57**	**351**	PKP	PKPdf	13 28 21.7	+1.1
	0.8nm,0.7s,baz=199,slow=2.0,SNR=6.9						
ILAR	**Eielson Array**	**120.57**	**351**	PKP	PKPdf	13 28 21.7	+1.1
TORD	**Torodi Ar. Bea**	**123.14**	**118**	PKP	PKPdf	13 28 26.2	-0.8
	0.5nm,0.7s,baz=232,slow=2.4,SNR=2.7						
TORD	**Torodi Ar. Bea**	**123.14**	**118**	PKP	PKPdf	13 28 26.2	-0.8
INK	**Inuvik**	**123.37**	**358**	PKP	PKPdf	13 28 26.2	+0.4
	0.5nm,0.7s,baz=270,slow=3.0,SNR=2.8						
INK	**Inuvik**	**123.37**	**358**	PKP	PKPdf	13 28 26.2	+0.4
CMAR	**Chiang Mai Arr**	**128.56**	**244**	PKP	PKPdf	13 28 39.8	+2.4
	0.5nm,0.7s,baz=175,slow=1.5,SNR=4.6						
CMAR	**Chiang Mai Arr**	**128.56**	**244**	PKP	PKPdf	13 28 39.8	+2.4
SJPF	**Ste Jean**	**144.47**	**88**	*e*PKIKP	PKPdf	13 29 09.5	+3.6
	11nm,0.9s						
SJPF	**Ste Jean**	**144.47**	**88**	*e*PKPdf	PKPdf	13 29 09.5	+3.6
ETSF	**Etsaut**	**144.71**	**89**	*e*PKIKP	PKPdf	13 29 08.9	+2.5
	9.2nm,0.9s						
ETSF	**Etsaut**	**144.71**	**89**	*e*PKPdf	PKPdf	13 29 08.9	+2.5
EPF	**Esparros**	**145.31**	**89**	*e*PKIKP	PKPdf	13 29 09.2	+1.8
	5.0nm,0.7s						
EPF	**Esparros**	**145.31**	**89**	*e*PKPdf	PKPdf	13 29 09.2	+1.8
KEST	**Kesra**	**145.41**	**107**	PKPbc	PKPbc	13 29 07.4	-0.4
	2.0nm,1.0s,baz=38,slow=4.3,SNR=3.8						
KEST	**Kesra**	**145.41**	**107**	PKPbc	PKPbc	13 29 07.4	-0.4
SONM	**Songino Array**	**145.73**	**281**	PKPbc	PKPbc	13 29 08.1	-0.3
	2.0nm,0.6s,baz=139,slow=4.3,SNR=13						
SONM	**Songino Array**	**145.73**	**281**	PKPbc	PKPbc	13 29 08.1	-0.3
ROSF	**Rostrenen**	**146.36**	**79**	*e*PKIKP	PKPdf	13 29 09.5	+0.5
ROSF	**Rostrenen**	**146.36**	**79**	*e*PKPdf	PKPdf	13 29 09.5	+0.5
MTLF	**Montolieu**	**146.57**	**90**	*e*PKIKP	PKPdf	13 29 12.2	+2.7
	14nm,1.0s						
MTLF	**Montolieu**	**146.57**	**90**	*e*PKPdf	PKPdf	13 29 12.2	+2.7
LFF	**La Frestale**	**146.70**	**87**	*e*PKIKP	PKPdf	13 29 12.2	+2.5
LFF	**La Frestale**	**146.70**	**87**	*e*PKPdf	PKPdf	13 29 12.2	+2.5
SGMF	**Saint Gilles**	**146.72**	**79**	*e*PKIKP	PKPdf	13 29 11.2	+1.6
	26nm,1.0s						
SGMF	**Saint Gilles**	**146.72**	**79**	*e*PKPdf	PKPdf	13 29 11.2	+1.6
RJF	**Les Rejaudoux**	**147.36**	**87**	*e*PKIKP	PKPdf	13 29 13.9	+3.1
RJF	**Les Rejaudoux**	**147.36**	**87**	*e*PKPdf	PKPdf	13 29 13.9	+3.1
LPG	**La Plagne**	**150.47**	**91**	*e*PKIKP	PKPdf	13 29 19.5	+3.7
	9.5nm,0.8s						
LPL	**La Plagne**	**150.47**	**91**	*e*PKIKP	PKPdf	13 29 19.6	+3.8
GERES	**GERESS Array B**	**156.26**	**90**	PKP	PKPdf	13 29 24.1	+0.1
	0.4nm,0.6s,baz=298,slow=2.1,SNR=3.2						
GERES				PKPbc	PKPdf	13 29 33.9	+10
	1.8nm,0.8s,baz=90,slow=0.1,SNR=5.7						
GERES	**GERESS Array B**	**156.26**	**90**	PKP	PKPdf	13 29 24.1	+0.1
GERES				PKPbc	PKPdf	13 29 33.9	+10
MKAR	**Makanchi Array**	**158.85**	**259**	PKPab	PKPab	13 30 03.4	-0.1
	0.5nm,0.6s,baz=142,slow=6.1,SNR=4.6						
BRTR	**Keskin Array B**	**160.47**	**136**	PKP	PKPdf	13 29 30.5	+1.1
	0.4nm,0.5s,baz=336,slow=3.2,SNR=2.3						
BRTR				PKPab	PKPab	13 30 11.4	+0.8
	0.8nm,0.7s,baz=167,slow=6.1,SNR=4.4						
BRTR	**Keskin Array B**	**160.47**	**136**	PKP	PKPdf	13 29 30.5	+1.1
BRTR				PKPab	PKPab	13 30 11.4	+0.8
ZALV	**Zalesovo Beam**	**160.62**	**280**	PKPab	PKPab	13 30 12.9	+2.0
	1.4nm,0.7s,baz=104,slow=4.7,SNR=6.7						

IDC 06 13:51:19.9±5.5, 29°.57S×177°.47W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/15, mbtmp3.6/2, Error ellipse: s-maj=315.5km s-min=78.3km az=165.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.62**	**266**	P	P	13 59 25.9	-0.3
	0.2nm,0.4s,baz=106,slow=7.3,SNR=6.7						
WRA	**Warramunga Arr**	**44.53**	**271**	P	P	13 59 33.7	+0.2
	0.5nm,0.4s,baz=109,slow=8.1,SNR=7.7						
FINES	**FINESS Array B**	**144.52**	**341**	PKP	PKPdf	14 10 57.0	-0.5
	0.9nm,0.5s,baz=45,slow=3.0,SNR=3.6						

*IDC **06** 14:08:19.9±0.8, 55°.32N×166°.40E, h0km, mb3.6/6, mb1 3.9/8, mb1mx3.6/28, mbtmp3.6/8, ML3.5/2, Error ellipse: s-maj=28.2km s-min=11.3km az=21.0*
*MOS **06** 14:08:21.4±1.3, 55°.38N×166°.49E, h23km, mb4.1/4, Error ellipse: s-maj=18.8km s-min=13.2km az=149.0*
*KRSC **06** 14:08:22.3±0.7, 55°.40N×166°.24E, h22km±21km, ML4.1*
*ISCJB **06** 14:08:23.0±0.8, 55°.33N±0°.07×166°.39E±0°.08, h32km±5km, mb3.7/7, Error ellipse: s-maj=12.5km s-min=5.7km az=156.6*
*NEIC **06** 14:08:24.7±0.7, 55°.19N×166°.44E, h35km, mb3.8/1, Error ellipse: s-maj=23.4km s-min=11.5km az=179.0*

ISC 06 14:08:23.8±0.9, 55°.36N±0°.07×166°.41E±0°.08, h22km±6km, n46, σ1§19/61, mb3.7/7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.30**	**238**	*i* P	**Pb**	**14 08 29.8**	**-0.7**
BKI				*i* S	**Sb**	**14 08 35.1**	**0.0**
BKI	**Bering**	**0.30**	**238**	PN	**Pb**	**14 08 29.8**	**-0.7**
BKI				S	**Sb**	**14 08 35.1**	**0.0**
KBTR	**Krutoberegovo**	**2.20**	**294**	*e*P	**Pn**	**14 08 56.4**	**-2.5**
KBTR				*e*S	**Sn**	**14 09 21.7**	**-3.7**
KBTR	**Krutoberegovo**	**2.20**	**294**	PN	**Pn**	**14 08 56.4**	**-2.5**
KBTR				S	**Sn**	**14 09 21.7**	**-3.7**
MKZ	**Mys Kozlova**	**2.82**	**255**	*i* P	**Pn**	**14 09 07.0**	**-0.4**
MKZ				*e*S	**Sn**	**14 09 39.2**	**-1.5**
MKZ	**Mys Kozlova**	**2.82**	**255**	PN	**Pn**	**14 09 07.0**	**-0.4**
MKZ				S	**Sn**	**14 09 39.2**	**-1.5**
SRKR	**Sorokina**	**3.22**	**296**	P	**Pn**	**14 09 12.4**	**-0.5**
KMNR	**Kamenistaya**	**3.53**	**279**	P	**Pn**	**14 09 16.9**	**-0.3**
TUMR	**Tumrok**	**3.58**	**271**	P	**Pn**	**14 09 18.9**	**+1.0**
TUMR				S	**Sn**	**14 10 00.3**	**+0.8**
KOZR	**Kozyr**	**3.75**	**283**	PN	**Pn**	**14 09 20.4**	**+0.1**
KOZ	**Kozyrevsk**	**3.76**	**283**	P	**Pn**	**14 09 20.4**	**0.0**
SRDR	**Sredinnyy**	**3.89**	**287**	P	**Pn**	**14 09 22.9**	**+0.7**
SPN	**Mys Shipunski**	**4.38**	**241**	P	**Pn**	**14 09 29.4**	**+0.5**
SPN				*e*S	**Sn**	**14 10 17.1**	**-2.1**
SPN	**Mys Shipunski**	**4.38**	**241**	PN	**Pn**	**14 09 29.4**	**+0.5**
FX1	**Attu Island--F**	**4.69**	**119**	Pn	**Pn**	**14 09 30.2**	**-2.9**
	4.6nm,0.3s,baz=270,slow=22,SNR=12						
FX1				Sn	**Sn**	**14 10 20.0**	**-6.7**
	7.3nm,0.3s,baz=72,slow=21,SNR=5.6						
FX1	**Attu Island--F**	**4.69**	**119**	Pn	**Pn**	**14 09 30.2**	**-2.9**
FX1				Sn	**Sn**	**14 10 20.0**	**-6.7**
FX1	**Attu Island--F**	**4.69**	**119**	PN	**Pn**	**14 09 30.2**	**-2.9**
FX1				pmax	pmax		
	comp=Z,5.0nm,0.3s						
NLC	**Nalytchevo**	**4.69**	**245**	P	**Pn**	**14 09 34.0**	**+0.9**
NLC				S	**Sn**	**14 10 26.4**	**-0.4**
NLC	**Nalytchevo**	**4.69**	**245**	PN	**Pn**	**14 09 34.0**	**+0.9**
AVH	**Avacha**	**4.96**	**248**	*i* P	**Pn**	**14 09 38.2**	**+1.4**
AVH				*e*S	**Sn**	**14 10 31.8**	**-1.7**
PET	**Petropavlovsk**	**5.12**

AAK Ala-Archa 3.19 7 P **Pn 14 24 41.0 +1.1**
SNR=106
AAK Ala-Archa 3.19 7 Pn **Pn 14 24 41.0 +1.2**
comp=E,1.3nm,0.3s,baz=163,slow=6.7,SNR=410
AAK Sn **Sn 14 25 22.6 +6.0**
comp=E,5.7nm,0.3s,baz=312,slow=17,SNR=16
AAK Lg 14 25 26.1
comp=E,5.6nm,0.3s,baz=328,slow=16,SNR=11
AAK LR LR 14 25 28.2
comp=E,614nm,18.4s,baz=186,slow=32
AAK Ala-Archa 3.19 7 *e*P **Pn 14 24 40.9 +1.0**
AAK Ala-Archa 3.19 7 *e*PN **Pn 14 24 40.9 +1.1**
AAK Ala-Archa 3.19 7 P **Pn 14 24 40.5 +0.7**
EKS2 Erkin-Say 3.20 357 P **Pn 14 24 40.8 +0.8**
SNR=195
EKS2 Erkin-Say 3.20 357 *e*P **Pn 14 24 40.3 +0.3**
EKS2 *e*S **Sn 14 25 21.2 +4.3**
EKS2 Erkin-Say 3.20 357 *e*PN **Pn 14 24 40.3 +0.3**
EKS2 *e*S **Sn 14 25 21.2 +4.3**
ULHL Ulahol 3.26 31 P **Pn 14 24 42.0 +1.2**
SNR=134
KBK Karagaybulak 3.27 12 P **Pn 14 24 42.3 +1.4**
SNR=430
FRU Bishkek 3.40 8⇓ *i* PN **Pn 14 24 43.8 +1.1**
FRU *i* S **Sn 14 25 26.0 +4.2**
FRU *i* 14 25 31.0
FRU pmax pmax
comp=Z,1μm,1.6s
FRU pmax pmax
comp=E,33μm,1.8s
CHMS Chumysh 3.58 9 P **Pn 14 24 46.1 +0.9**
SNR=113
TKM2 Tokmak 2 3.66 19 P **Pn 14 24 47.5 +1.2**
SNR=222
TKM2 Tokmak 2 3.66 19⇓ Pn **Pn 14 24 47.2 +0.9**
comp=E,460nm,0.8s
TKM2 ⇓Lg 14 25 42.7
comp=E,2μm,0.8s
TKM2 Tokmak 2 3.66 19 *e*P **Pn 14 24 47.1 +0.8**
TKM2 Tokmak 2 3.66 19 *e*PN **Pn 14 24 47.1 +0.8**
USP Ospenovka 3.82 6 P **Pn 14 24 48.8 +0.3**
SNR=109
KNDC Almaty 4.37 30⇓ Pn **Pn 14 24 59.2 +3.2**
KNDC ⇑Pg **Pn 14 25 09.7 +14**
KNDC ⇑Lg 14 26 06.0
AAA Alma-Ata 4.41 29 *e*PN **Pn 14 25 11.2 +15**
AAA *e*S **Sn 14 26 03.9 +17**
AAA pmax pmax
comp=Z,1μm,0.8s
AAA smax
comp=E,7μm,1.3s
KK31 Karatay Array 4.49 325 Pn **Pn 14 24 57.4 -0.3**
comp=E,18nm,0.3s,baz=135,slow=13,SNR=2209
KK31 ⇓Pg **Pn 14 25 08.0 +10**
comp=E,276nm,0.7s,baz=144,slow=16,SNR=31
KK31 ⇑Sn **Sn 14 25 52.2 +3.6**
comp=E,270nm,0.6s,baz=141,slow=27
KK31 ⇑Lg 14 26 08.0
comp=E,327nm,0.5s,baz=143,slow=32
KK31 Karatay Array 4.49 325 PN **Pn 14 24 57.3 -0.3**
KK31 14 25 52.1
KK31 14 26 07.9
KK31 pmax pmax
comp=Z,49nm,0.3s
KK31 pmax pmax
comp=Z,229nm,0.5s
KK31 smax
comp=Z,150nm,0.3s
KK31 pmax pmax
comp=Z,420nm,0.5s
KKAR Karatay Array 4.49 325 *e*P **Pn 14 24 57.1 -0.6**
KKAR Karatay Array 4.49 325 *e*PN **Pn 14 24 57.1 -0.6**
CHCP Chirah Chowk 5.82 186 P **Pn 14 25 22.1 +6.1**
CEP Cherat 5.87 197⇓ P **Pn 14 25 21.8 +5.1**
THW Thamme Wali 6.90 196⇓ P **Pn 14 25 35.0 +4.2**
SARP Sargodha 7.60 189 P **Pn 14 25 44.1 +3.6**
BHK Bhakra 8.27 165 *e*PKP **Pn 14 25 59.8 +10**
BHK *e*S **Sn 14 27 29.0 +7.3**
SDNR Sundarnagar 8.30 162 *ex* x 14 25 46.0
SDNR *e*S **Sn 14 27 20.4 -2.3**
KLP Kalpa 8.64 155 *e*PKP **Pn 14 25 56.8 +2.2**
SMLA Simla 8.71 162 *i* P **Pn 14 25 57.3 +1.6**
SMLA *i* x x 14 27 28.2
SMLA 14 27 43.3
comp=N,2μm,0.6s
SMLA 14 27 43.3
comp=E,2μm,0.7s
MK31 Makanchi Array 9.51 37⇓ Pn **Pn 14 26 07.6 +1.1**
comp=E,37nm,0.8s
MK31 ⇓Lg 14 28 48.4
comp=E,173nm,1.1s,baz=219,slow=28,SNR=5.0
MK31 Makanchi Array 9.51 37 P **Pn 14 26 07.5 +1.0**
MK31 pmax pmax
comp=Z,11nm,0.5s
MKAR Makanchi Array 9.51 37 Pn **Pn 14 26 07.6 +1.1**
comp=Z,0.5nm,0.3s,baz=203,slow=13,SNR=32
MKAR Lg 14 28 47.3
comp=Z,2.1nm,0.3s,baz=216,slow=29,SNR=5.6
MKAR LR LR 14 30 01.7
comp=E,898nm,21.5s,baz=225,slow=40
MKAR Makanchi Array 9.51 37 Pn **Pn 14 26 07.6 +1.1**
MKAR Lg 14 28 47.3
MKAR LR LR 14 30 01.7
MKAR Makanchi Array 9.51 37 P **Pn 14 26 07.6 +1.1**
MKAR pmax pmax
comp=Z,1.0nm,0.3s
MKAR MLR MLR
comp=Z,898nm,21.5s
DDI Dehra Dun 9.71 159 *e*PKP **Pn 14 26 10.0 +0.7**
DDI *ex* x 14 28 03.0
RTK Rohtak 10.59 168 *e*PKP **Pn 14 26 22.0 +0.5**
NDI New Delhi 11.08 165 *e*PKP **Pn 14 26 28.0 -0.1**
NDI *e*S **Sn 14 28 27.0 -3.7**
PTH Pithoragarh 11.13 151 *e*PKP **Pn 14 26 31.8 +2.9**
PTH *e*S **Sn 14 28 29.2 -2.9**
WMQ Urumqi 11.13 63 P **Pn 14 26 28.7 -0.1**
WMQ pP 14 26 35.8
WMQ sP 14 26 40.6
WMQ S **Sn 14 28 32.7 +0.7**
WMQ pmax pmax
comp=Z,17nm,1.3s
WMQ pmax pmax
comp=Z,110nm,3.8s
WMQ LR LR
comp=N,3μm,7.2s
WMQ LR LR
comp=E,2μm,6.7s
WMQ LR LR
comp=Z,750nm,14.2s
AYAN Aya Nagar 11.25 166 *e*PKP **Pn 14 26 32.2 +1.7**
KHET Khetri 11.46 172 *e*PKP **Pn 14 26 33.3 0.0**
KHET AMb AMB 14 26 40.8
comp=Z,57nm,1.1s
SONA Sohna 11.47 166 *e*PKP **Pn 14 26 34.2 +0.7**
KUDL Kundal 11.48 169 *e*PKP **Pn 14 26 34.7 +1.1**
KURK Kurchatov 11.71 15⇓ Pn **Pn 14 26 35.5 -1.2**
comp=Z,23nm,1.1s
KURK ⇑Lg 14 29 59.9
comp=Z,605nm,1.1s
KURK Kurchatov 11.71 15 Pn **Pn 14 26 32.5 -4.2**
comp=Z,0.2nm,0.3s,baz=204,slow=14,SNR=9.0
KURK Lg 14 29 53.9
comp=Z,0.9nm,0.3s,baz=203,slow=29,SNR=14
KURK LR LR 14 31 30.1
comp=Z,391nm,19.1s,baz=200,slow=40
KURK Kurchatov 11.71 15 *e*P **Pn 14 26 33.5 -3.2**
comp=Z,18nm,1.0s
KURK Kurchatov 11.71 15 *e*P **Pn 14 26 40.4 +3.7**
AGRA Agra 12.63 164 *e*PKP **Pn 14 26 49.0 -0.4**
AJM Ajmer 12.96 177 *e*PKP **Pn 14 26 53.0 -0.8**
AJM *e*S **Sn 14 29 13.0 -3.7**
DANN Dangsing 13.72 141 *e*P **Pn 14 27 02.7 -1.5**
comp=Z,119nm,0.9s
DANN Dangsing 13.72 141 *e*P **Pn 14 27 02.7 -1.5**
comp=Z,119nm,0.9s
BVA0 Borovoye Array 13.79 351⇑ Pn **Pn 14 27 01.2 -3.8**
comp=Z,7.4nm,1.0s
BVA0 ⇑Lg 14 31 07.3
comp=Z,19nm,1.0s,baz=159,slow=29,SNR=4.6
BVA0 Borovoye Array 13.79 351 P **Pn 14 27 01.1 -3.9**
BVA0 pmax pmax
comp=Z,13nm,1.2s
BVAR Borovoye Array 13.79 351 Pn **Pn 14 27 01.5 -3.6**
comp=E,1.8nm,0.3s,baz=163,slow=13,SNR=27
BVAR Lg 14 31 08.6
comp=Z,2.4nm,0.3s,baz=163,slow=16,SNR=5.3
BVAR LR LR 14 32 44.2
comp=Z,445nm,19.3s,baz=167,slow=39
BVAR Borovoye Array 13.79 351 Pn **Pn 14 27 01.5 -3.6**
BVAR Lg 14 31 08.6
BVAR LR LR 14 32 44.2
BVAR Borovoye Array 13.79 351 P **Pn 14 27 01.5 -3.5**
BVAR pmax pmax
comp=Z,2.0nm,0.3s
BVAR MLR MLR
comp=Z,445nm,19.3s
BRVK Borovoye 13.84 351 *e*P **Pn 14 27 01.3 -4.3**
comp=Z,52nm,0.7s
BRVK Borovoye 13.84 351⇓ *e*P **Pn 14 27 06.1 +0.4**
BRVK pmax pmax
comp=Z,26nm,1.1s
AB31 Akbulak array 14.01 319⇑ Pn **Pn 14 27 04.4 -3.7**
comp=Z,25nm,0.6s
AB31 Akbulak array 14.01 319 P **Pn 14 27 04.3 -3.8**
AB31 pmax pmax
comp=Z,23nm,0.5s
ABKAR Akbulak array 14.01 319 *e*P **Pn 14 27 04.0 -4.1**
comp=Z,1.0nm,0.7s
KOLN Koldanda 14.13 143 *e*P **Pn 14 27 08.6 -1.2**
comp=Z,80nm,0.7s
KOLN Koldanda 14.13 143 *e*P **Pn 14 27 08.6 -1.2**
comp=Z,80nm,0.7s
GKN Gorkha 14.44 139 *e*P **Pn 14 27 12.5 -1.6**
comp=Z,119nm,0.7s
GKN Gorkha 14.44 139 *e*P **Pn 14 27 12.5 -1.6**
comp=Z,119nm,0.7s
KKN Kakani 14.95 138 *e*P **Pn 14 27 19.3 -1.5**
comp=Z,42nm,0.5s
KKN Kakani 14.95 138 *e*P **Pn 14 27 19.3 -1.5**
comp=Z,42nm,0.5s
KKN Kakani 14.95 138 *e*P **Pn 14 27 19.3 -1.5**
KKN pmax pmax
comp=Z,42nm,0.5s
DMN Daman 15.00 139 *e*P **Pn 14 27 20.3 -1.3**
comp=Z,76nm,0.9s
DMN Daman 15.00 139 *e*P **Pn 14 27 20.3 -1.3**
comp=Z,76nm,0.9s
GUN Gumba 15.17 136 *e*P **Pn 14 27 23.2 -0.5**
comp=Z,46nm,0.5s
GUN Gumba 15.17 136 *e*P **Pn 14 27 23.2 -0.5**
comp=Z,46nm,0.5s
PKIN Phulchoki 15.18 138 *e*P **Pn 14 27 22.1 -1.8**
comp=Z,69nm,0.7s
PKI Pulchoki 15.19 138 *e*P **Pn 14 27 22.6 -1.4**
comp=Z,69nm,0.7s
PKI Pulchoki 15.19 138 *e*P **Pn 14 27 22.6 -1.4**
comp=Z,69nm,0.7s
PKI Pulchoki 15.19 138 *e*P **Pn 14 27 22.6 -1.4**
PKI pmax pmax
comp=Z,69nm,0.7s
AKTK Aktyubinsk 15.72 319 Pn **Pn 14 27 27.8 -3.0**
AKTK Sn **Sn 14 30 18.8 -5.0**
AKTK LR LR 14 33 46.6
AKTO Aktyubinsk 15.72 319⇑ Pn **Pn 14 27 27.5 -3.3**
comp=Z,10nm,1.1s
AKTO Aktyubinsk 15.72 319 Pn **Pn 14 27 27.8 -3.0**
comp=Z,1.0nm,0.3s,baz=132,slow=13,SNR=27
AKTO Sn **Sn 14 30 18.8 -5.0**
comp=Z,0.6nm,0.3s,baz=342,slow=19,SNR=4.3
AKTO LR LR 14 33 46.6
comp=Z,996nm,19.5s,baz=134,slow=38
AKTO Aktyubinsk 15.72 319 P **Pn 14 27 27.8 -3.0**
AKTO 14 30 18.8
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO smax
comp=N,1.0nm,0.3s
AKTO MLR MLR
comp=Z,997nm,19.5s
ZAA0 Zalesovo Array 16.25 23 *e*P **Pn 14 27 35.8 -1.7**
ZALV Zalesovo Beam 16.25 23 Pn **Pn 14 27 35.6 -1.9**
comp=Z,1.3nm,0.3s,baz=211,slow=12,SNR=29
ZALV Lg 14 32 26.8
comp=Z,0.3nm,0.3s,baz=218,slow=27,SNR=4.4
ZALV LR LR 14 34 09.5
comp=Z,318nm,18.2s,baz=214,slow=38
ZALV Zalesovo Beam 16.25 23 Pn **Pn 14 27 35.6 -1.9**
ZALV Lg 14 32 26.8
ZALV LR LR 14 34 09.5
ZALV Zalesovo Beam 16.25 23 P **Pn 14 27 35.7 -1.9**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV MLR MLR
comp=Z,318nm,18.2s
BHPL Bhopal 16.43 169 *e*PKP **Pn 14 27 39.3 -0.8**
BHPL AMb AMB 14 27 47.8
comp=Z,27nm,1.4s
BHPL *ex* x 14 30 36.4
BHJ Bhuj 16.57 194 *e*PKP **Pn 14 27 40.5 -1.4**
BHJ AMb AMB 14 27 49.7
comp=Z,176nm,1.0s
BHJ *ex* x 14 30 29.3
NVS Novosibirsk 16.59 19⇑ *e*P **Pn 14 27 41.1 -0.8**
TAPN Taplejung 16.62 133 *e*P **Pn 14 27 42.1 -0.3**
comp=Z,76nm,0.9s
TAPN Taplejung 16.62 133 *e*P **Pn 14 27 42.1 -0.3**
comp=Z,76nm,0.9s
ODAN Odare 16.82 134 *e*P **Pn 14 27 44.8 -0.1**
comp=Z,104nm,0.7s
ODAN Odare 16.82 134 *e*P **Pn 14 27 44.8 -0.1**
comp=Z,104nm,0.7s
LSA Lhasa 17.13 119 P **Pn 14 27 49.0 +0.2**
LSA S **S 14 31 03.6 -3.2**
LSA LR LR
comp=N,510nm,10.9s
LSA LR LR
comp=E,640nm,18.1s
LSA LR LR
comp=Z,1μm,12.5s
LSA Lhasa 17.13 119 *e*P **Pn 14 27 51.6 +2.8**
comp=Z,21nm,0.9s
LSA Lhasa 17.13 119 *e*P **Pn 14 27 51.7 +2.9**
LSA pmax pmax
comp=Z,21nm,0.9s
SVE Sverdlovsk 19.47 338⇓ *e*P **Pn 14 28 17.6 +0.5**
SVE pmax pmax
comp=Z,37nm,1.2s
SVE MLR MLR
comp=Z,631nm,9.0s
ARU Arti 19.80 334 *e*P **Pn 14 28 18.1 -2.9**
comp=Z,32nm,0.8s
ARU Arti 19.80 334 *c i*P **Pn 14 28 18.1 -2.9**
ARU S **S 14 32 00.6 +0.4**
ARU pmax pmax
comp=Z,51nm,1.7s
ARU MLR MLR
comp=Z,387nm,10.0s
GTA Gaotai 19.93 82 P **Pn 14 28 22.5 -0.2**
GTA pP pP 14 28 30.7 +0.6
GTA sP sP 14 28 35.9 +1.4
GTA pmax pmax
comp=Z,25nm,1.1s
GTA pmax pmax
comp=Z,170nm,4.0s
GTA LR LR
comp=N,560nm,12.6s
GTA LR LR
comp=E,750nm,15.9s
GTA LR LR
comp=Z,870nm,15.2s
MAK Makhachkala 20.20 289 *e*P **P 14 28 20.3 -3.6**
MAK *e* 14 28 38.9
MAK *e*S **S 14 32 08.4 -0.2**
MAK *e*SSS 14 32 44.6
MAK pmax pmax
comp=Z,261nm,1.2s
MAK MLR MLR
comp=Z,506nm,11.0s,MS4.1
SHL Shillong 20.43 127 *e*PKP **P 14 28 28.2 +1.8**
SHL *ex* x 14 32 13.2
POO Poona 20.86 180 *e*PKP **P 14 28 30.2 -0.8**
POO AMb AMB 14 28 35.7
comp=Z,62nm,1.3s
DGRG David-gareji 21.83 284 P **P 14 28 41.8 +0.4**
KAD Karad 22.07 180 *e*PKP **P 14 28 44.5 +0.4**
KAD AMb AMB 14 28 48.1
comp=Z,47nm,1.3s,mb4.8
MTA Mtatsminda 22.25 285 P **P 14 28 45.4 -0.5**
TBLG Delisi 22.29 285 *e*P **P 14 28 44.9 -1.4**
TBLG Delisi 22.29 285 P **P 14 28 44.9 -1.3**
HYB Hyderabad 22.32 168 *i* P **P 14 28 47.0 +0.2**
HYB *e*S **S 14 32 46.5 -3.9**
MOY Mondy 22.35 48 *e*P **P 14 28 47.6 +0.7**
MOY pmax pmax
comp=Z,150nm,1.7s,mb5.2
GNI Garni 22.45 281 *e*P **P 14 28 48.6 +0.6**
comp=Z,127nm,1.4s,mb5.2
GNI Garni 22.45 281 *c i*P **P 14 28 49.2 +1.2**
GNI pmax pmax
comp=Z,61nm,2.0s
GOR Gori 22.74 286 P **P 14 28 50.0 -1.0**
ZEI Tsey 22.86 288 *e*P **P 14 28 52.3 0.0**
ZEI *e* 14 29 18.4
ZEI pmax pmax
comp=Z,11nm,0.6s,mb4.5
SOKR Solikamsk 22.88 337 *d i*P **P 14 28 53.6 +1.2**
SOKR pmax pmax
comp=Z,40nm,1.2s,mb4.7
SOKR MLR MLR
comp=Z,390nm,21.0s,MS3.8
VIS Vishakhapatnam 23.13 157 *ex* AMb **P** AMB **14 28 53.9 -1.4** 14 29 13.3
VIS *i* S **S 14 33 09.5 +5.3**
ONI Oni 23.19 288 P **P 14 28 56.5 +0.7**
AKH Akhalkalaki 23.25 285 P **P 14 28 57.6 +1.2**
ZAK Zakamensk 23.28 52 *e*P **P 14 28 55.5 -1.2**
ZAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.2
KIV Kislovodsk 23.72 291 *e*P **P 14 28 59.9 -1.1**
comp=Z,19nm,1.0s,mb4.5
KIV Kislovodsk 23.72 291 *e*P **P 14 29 01.0 +0.1**
KIV *e*S **S 14 33 15.0 +1.5**
KIV pmax pmax
comp=Z,16nm,1.1s,mb4.4
KIV MLR MLR
comp=Z,172nm,13.0s,MS3.7
LZH Lanzhou 23.78 89 *e*P **P 14 29 03.6 +2.1**
LZH pP 14 29 12.0
LZH sP sP 14 29 19.0 +3.3
LZH S **S 14 33 15.0 +0.4**
LZH sS sS 14 33 29.0 -2.0
LZH SS 14 33 58.0
LZH pmax pmax
comp=Z,130nm,1.0s,mb5.3
LZH pmax pmax
comp=Z,460nm,4.6s
LZH LR LR
comp=N,1μm,10.1s,MS4.7
LZH LR LR
comp=E,520nm,12.5s,MS4.7
LZH LR LR
comp=Z,2μm,13.7s,MS4.7
MIB Mutribah 23.89 254 *e*P **P 14 29 04.0 +1.5**
MIB AMb AMB 14 29 12.2
comp=Z,57nm,0.7s,mb5.1
TLY Talaya 23.90 49 *e*P **P 14 29 02.1 -0.4**
TLY *e*S **S 14 33 13.5 -2.7**
TLY *e*SSS 14 34 22.2
TLY pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
TLY MLR MLR
comp=Z,108nm,11.0s,MS3.6
NAY Al-Naaiem 24.25 253 *e*P **P 14 29 06.8 +1.0**
NAY AMb AMB 14 29 16.2
comp=Z,24nm,1.1s,mb4.5
RST Umm Al-Ruwaisa 24.30 254 *e*P **P 14 29 05.9 -0.4**
RST AMb AMB 14 29 07.0
comp=Z,8.0nm,0.9s,mb4.2
IRK Irkutsk 24.45 48 *e*P **P 14 29 07.0 -0.5**
IRK pmax pmax
comp=Z,60nm,1.9s,mb4.7
SONM Songino Array 24.75 60 P **P 14 29 10.6 +0.3**
comp=Z,14nm,0.9s,mb4.5,baz=266,slow=8.8,SNR=66
SONM LR LR 14 39 41.2
comp=Z,633nm,18.2s,MS4.2,baz=139,slow=39
SONM Songino Array 24.75 60 P **P 14 29 10.6 +0.3**
SONM Lg LR 14 39 41.2
SONM Songino Array 24.75 60 P **P 14 29 10.6 +0.4**
SONM pmax pmax
comp=Z,14nm,0.9s
SONM MLR MLR
comp=Z,633nm,18.2s
ULN Ulaanbaatar 25.19 60 *e*P **P 14 29 14.4 +0.1**
comp=Z,19nm,1.0s,mb4.6
ULN Ulaanbaatar 25.19 60 *e*P **P 14 29 14.4 +0.1**
ULN pmax pmax
comp=Z,19nm,1.0s,mb4.6
ULN Ulaanbaatar 25.19 60 P **P 14 29 14.4 +0.1**
comp=Z,18nm,1.1s,mb4.5
VRHR Novokhopersk 25.37 308 *e*P **P 14 29 16.1 +0.3**
VRHR *e* 14 29 51.1
VRHR pmax pmax
comp=Z,20nm,1.3s,mb4.5
VRHR pmax pmax
comp=N,30nm,0.7s
VRHR pmax pmax
comp=E,60nm,1.8s
VRHR pmax pmax
comp=Z,30nm,0.8s,mb4.9
VRHR pmax pmax
comp=N,20nm,0.5s
VRHR pmax pmax
comp=E,40nm,0.5s
CD2 Chengdu 25.69 100 P **P 14 29 21.3 +2.4**
CD2 pP pP 14 29 30.6 +1.7
CD2 sP sP 14 29 34.7 +1.5
CD2 PP 14 30 01.8
CD2 S **S 14 33 45.4 +0.2**
CD2 sS sS 14 34 00.8 -0.9
CD2 SS 14 34 50.3
CD2 pmax pmax
comp=Z,20nm,0.5s,mb4.9
CD2 pmax pmax
comp=Z,110nm,5.9s
CD2 LR LR
comp=N,930nm,17.8s
CD2 LR LR
comp=Z,730nm,11.3s
VSR Storozhevoye 26.90 307 *e*P **P 14 29 28.4 -1.3**
VSR pmax pmax
comp=Z,8.0nm,0.5s,mb4.5
VSR pmax pmax
comp=N,10.0nm,1.2s
VSR pmax pmax
comp=E,20nm,1.4s
ANN Anapa 27.48 293 *e*P **P 14 29 35.3 +0.4**
ANN pmax pmax
comp=Z,28nm,1.2s,mb4.7
KMI Kunming 28.05 112 P **P 14 29 41.1 +0.9**
KMI pP pP 14 29 47.6 -2.6
KMI sP sP 14 29 51.4 -3.1
KMI PP PP 14 30 37.3 -6.5
KMI S **S 14 34 27.2 +4.7**
KMI sS sS 14 34 40.4 +1.3
KMI pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
KMI pmax pmax
comp=Z,100nm,5.4s
KMI LR LR
comp=N,590nm,16.0s,MS4.4
KMI LR LR
comp=E,510nm,16.7s,MS4.4
KMI LR LR
comp=Z,480nm,13.0s,MS4.3
XAN Xi'an 28.39 90 P **P 14 29 43.9 +0.8**
XAN pP pP 14 29 52.7 -0.5
XAN pmax pmax
comp=Z,2.0nm,1.3s,mb3.6
XAN pmax pmax
comp=Z,16nm,4.9s
HHC Hu-ho-hao-te 28.61 75 *e*P **P 14 29 46.2 +1.2**
HHC pP pP 14 29 55.6 +0.5
HHC sP sP 14 29 59.7 +0.4
HHC PP PP 14 30 38.2 -12
HHC PcP PcP 14 32 57.8 +2.4
HHC S **S 14 34 30.3 -0.7**
HHC sS sS 14 34 46.6 -1.0
HHC pmax pmax
comp=Z,33nm,0.6s,mb5.2
HHC pmax pmax
comp=Z,120nm,5.0s
HHC LR LR
comp=N,470nm,14.2s,MS4.5
HHC LR LR
comp=E,780nm,14.7s,MS4.5

HHC LR LR
comp=Z,680nm,15.5s,MS4.4
OBN Obninsk 29.39 315 P **P** **14 29 52.0 +0.2**
OBN *PP pP 14 30 02.0 +0.1
OBN *SP sP 14 30 06.0 -0.1
OBN pmax pmax
comp=Z,32nm,2.4s,mb4.6
OBN MLR MLR
comp=Z,400nm,21.0s,MS4.0
CMAR Chiang Mai Arr 30.06 127 P **P** **14 29 59.5 +1.4**
comp=Z,2.4nm,0.9s,mb3.9,baz=313,slow=8.5,SNR=12
CMAR PcP PcP 14 33 00.4 +0.9
comp=Z,1.5nm,1.0s,baz=295,slow=3.2,SNR=4.8
CMAR ScP ScP 14 36 44.0 +5.1
comp=Z,0.8nm,0.8s,baz=296,slow=3.5,SNR=6.1
CMAR LR LR 14 44 10.6
comp=Z,135nm,21.1s,MS3.6,baz=311,slow=41
CMAR Chiang Mai Arr 30.06 127 P **P** **14 29 59.5 +1.4**
CMAR PcP PcP 14 33 00.4 +0.9
CMAR ScP ScP 14 36 44.0 +5.1
CMAR LR LR 14 44 10.6
CMAR Chiang Mai Arr 30.06 127 P **P** **14 29 59.5 +1.4**
CMAR 14 33 00.4
CMAR pmax pmax
comp=Z,2.0nm,0.9s
CMAR pmax pmax
comp=Z,2.0nm,1.0s
CMAR pmax pmax
comp=N,1.0nm,0.9s
CMAR MLR MLR
comp=Z,135nm,21.1s
GYA Guiyang 30.15 106 P **P** **14 30 00.8 +2.0**
GYA pP pP 14 30 10.3 +1.4
GYA sP sP 14 30 15.4 +2.3
GYA PP PP 14 31 01.2 -6.0
GYA PcP PcP 14 33 01.0 +1.4
GYA S **S** **14 34 55.9 +0.4**
GYA sS sS 14 35 13.9 +1.8
GYA ScP ScP 14 36 38.9 -0.2
GYA ScS ScS 14 40 33.6 -1.2
GYA pmax pmax
comp=Z,20nm,0.8s,mb4.9
GYA pmax pmax
comp=Z,110nm,4.8s
GYA LR LR
comp=N,540nm,16.5s,MS4.4
GYA LR LR
comp=E,490nm,17.0s,MS4.4
GYA LR LR
comp=Z,550nm,15.0s,MS4.3
ASF Jabal al Asfar 30.79 268 P **P** **14 30 05.8 +1.3**
comp=Z,1.6nm,0.7s,mb4.0,baz=66,slow=5.6,SNR=4.6
ASF Jabal al Asfar 30.79 268 P **P** **14 30 05.8 +1.3**
ASF Jabal al Asfar 30.79 268 P **P** **14 30 05.8 +1.3**
ASF pmax pmax
comp=Z,2.0nm,0.7s
BRTR Keskin Array B 30.92 284 P **P** **14 30 05.5 0.0**
comp=Z,2.2nm,0.6s,mb4.2,baz=93,slow=7.7,SNR=12
BRTR Keskin Array B 30.92 284 P **P** **14 30 05.5 0.0**
BRTR Keskin Array B 30.92 284 P **P** **14 30 05.6 +0.1**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
BOD Bodaibo 31.56 41 *eP* **P** **14 30 09.6 -1.4**
BOD pmax pmax
comp=Z,23nm,1.2s,mb4.9
BJI Beijing 32.21 75 P **P** **14 30 17.8 +0.9**
BJI S **S** **14 35 17.8 -10**
BJI pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
BJI LR LR
comp=N,340nm,10.6s,MS4.6
BJI LR LR
comp=E,540nm,11.3s,MS4.6
BJI LR LR
comp=Z,240nm,15.4s,MS4.0
PALK Pallekele 32.61 168 *i* P **P** **14 30 29.4 +8.8**
AKASG Malin Array Be 33.07 305 P **P** **14 30 23.5 -0.8**
comp=Z,4.0nm,0.5s,mb4.6,baz=81,slow=7.2,SNR=19
AKASG LR LR 14 45 45.3
comp=Z,348nm,18.8s,MS4.1,baz=115,slow=40
AKASG Malin Array Be 33.07 305 P **P** **14 30 23.5 -0.8**
AKASG LR LR 14 45 45.3
AKASG Malin Array Be 33.07 305 P **P** **14 30 23.5 -0.8**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG MLR MLR
comp=Z,348nm,18.8s
KIEV Kiev 33.08 305 *eP* **P** **14 30 22.8 -1.6**
comp=Z,6.1nm,0.6s,mb4.7
KIEV Kiev 33.08 305 *eP* **P** **14 30 22.8 -1.6**
KIEV pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
EIL Elat 33.38 265 P **P** **14 30 28.9 +1.7**
comp=Z,4.8nm,1.0s,mb4.4,baz=46,slow=2.0,SNR=5.4
EIL LR LR 14 46 49.4
comp=Z,367nm,18.6s,MS4.1,baz=264,slow=41
EIL Elat 33.38 265 P **P** **14 30 28.9 +1.7**
EIL LR LR 14 46 49.4
TIRR Tirgusor 33.92 294 ⇑P **P** **14 30 32.9 +1.1**
TIRR Tirgusor 33.92 294 ⇑*i*P **P** **14 30 32.9 +1.1**
CFR Carcaliu 34.02 295 ⇑P **P** **14 30 33.5 +0.8**
CFR Carcaliu 34.02 295 ⇑*i*P **P** **14 30 33.5 +0.8**
JOF Joensuu 34.59 327 *eP* **P** **14 30 36.5 -0.8**
JOF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
JOF Joensuu 34.59 327 *ep* **P** **14 30 36.5 -0.8**
comp=Z,8.0nm,0.7s,mb4.8
TESR 34.91 297 ⇑*i*P **P** **14 30 40.0 -0.3**
VRI Vrincioaia 34.93 296 ⇓P **P** **14 30 40.7 +0.2**
VRI Vrincioaia 34.93 296 ⇓*i*P **P** **14 30 40.7 +0.2**
PLOR Plostina 34.98 296 ⇓P **P** **14 30 42.5 +1.6**
PLOR Plostina 34.98 296 ⇓*i*P **P** **14 30 42.5 +1.6**
MLR Muntele Rosu 35.52 296 P **P** **14 30 46.6 +1.1**
comp=Z,1.6nm,0.5s,mb4.2,baz=0.1,slow=15,SNR=12
MLR Muntele Rosu 35.52 296 P **P** **14 30 46.6 +1.1**
MLR Muntele Rosu 35.52 296 ⇓P **P** **14 30 47.5 +2.0**
MLR Muntele Rosu 35.52 296 ⇓*i*P **P** **14 30 47.5 +2.0**
BURAR Bucovina Array 35.78 299 ⇓P **P** **14 30 48.3 +0.5**
BURAR Bucovina Array 35.78 299 ⇓*i*P **P** **14 30 48.3 +0.5**
APA Apatity 35.89 335 ⇓*eP* **P** **14 30 56.4 +7.9**
APA *i* 14 32 10.0
APA *i* 14 33 12.0
APA *i* SS SS 14 39 20.0 +19
VOIR 36.15 296 ⇓P **P** **14 30 51.7 +0.7**
VOIR 36.15 296 ⇓*i*P **P** **14 30 51.7 +0.7**
FINES FINESS Array B 36.45 323 P **P** **14 30 52.9 -0.3**
comp=Z,11nm,0.4s,mb5.1,baz=113,slow=9.4,SNR=85
FINES LR LR 14 46 13.5
comp=Z,655nm,18.5s,MS4.4,baz=130,slow=37
FINES FINESS Array B 36.45 323 P **P** **14 30 52.9 -0.3**
FINES LR LR 14 46 13.5
FINES FINESS Array B 36.45 323 P **P** **14 30 52.9 -0.4**
FINES pmax pmax
comp=Z,11nm,0.4s
FINES MLR MLR
comp=Z,655nm,18.5s
KAF Kangasniemi 36.52 324 *eP* **P** **14 30 52.7 -1.2**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
KAF Kangasniemi 36.52 324 *ep* **P** **14 30 52.7 -1.2**
comp=Z,2.4nm,0.5s,mb4.3
NJ2 Nanjing 36.84 87 *eP* **P** **14 30 57.8 +0.8**
NJ2 pP pP 14 31 06.1 -1.1
NJ2 sP sP 14 31 10.4 -1.0
NJ2 PP PP 14 32 23.8 +2.6
NJ2 S **S** **14 36 38.0 -1.1**
NJ2 sS sS 14 36 55.0 -0.8
NJ2 pmax pmax
comp=Z,20nm,0.6s,mb5.1
NJ2 pmax pmax
comp=Z,80nm,5.1s
NJ2 LR LR
comp=N,420nm,27.9s
NJ2 LR LR
comp=E,470nm,20.7s
NJ2 LR LR
comp=Z,650nm,22.5s
QIZ Qiongzhong 36.98 113 P **P** **14 31 00.7 +2.4**
QIZ S **S** **14 36 46.3 +4.9**
QIZ LR LR
comp=N,400nm,14.9s
QIZ LR LR
comp=Z,620nm,14.7s,MS4.5
KWP Kalwaria Pacla 37.28 303 ⇓P **P** **14 31 01.3 +0.8**
KWP Kalwaria Pacla 37.28 303 ⇓*i*P **P** **14 31 01.3 +0.8**
DRGR 37.57 298 ⇓P **P** **14 31 04.2 +1.2**
DRGR 37.57 298 ⇓*i*P **P** **14 31 04.2 +1.2**
KOLS Kolonicke sedl 37.62 302 *eP* **P** **14 31 04.4 +1.0**
KOLS *e* 14 32 29.3
KOLS Kolonicke sedl 37.62 302 *eP* **P** **14 31 04.4 +1.0**
KOLS *e*PP PP 14 32 29.3 -0.2
APE Apeiranthos 37.77 282 ⇓P **P** **14 31 05.0 +0.2**
APE Apeiranthos 37.77 282 ⇓*i*P **P** **14 31 05.0 +0.2**
VTS Vitosha 37.98 292 ⇓P **P** **14 31 07.9 +1.4**
VTS Vitosha 37.98 292 ⇓*i*P **P** **14 31 07.9 +1.4**
CRVS Cervenica-Dubn 38.15 302 *eP* **P** **14 31 10.1 +2.2**
CRVS Cervenica-Dubn 38.15 302 *eP* **P** **14 31 10.1 +2.2**
CN2 Changchun 38.19 66 *eP* **P** **14 31 08.6 +0.3**
CN2 *e*pP pP 14 31 18.4 -0.1
CN2 *e*S **S** **14 36 58.2 -1.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1μm,20.0s,MS4.7
CN2 LR LR
comp=E,600nm,20.0s,MS4.7
CN2 LR LR
comp=Z,600nm,14.0s
STHS Stebnicka Huta 38.25 303 *eP* **P** **14 31 08.8 +0.1**
STHS Stebnicka Huta 38.25 303 *eP* **P** **14 31 08.8 +0.1**
NIE Niedzica 38.85 303 *eP* **P** **14 31 14.6 +0.9**
NIE Niedzica 38.85 303 *eP* **P** **14 31 14.6 +0.9**
KEV Kevo 38.99 336 *eP* **P** **14 31 13.8 -0.9**
KEV pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
KEV Kevo 38.99 336 *ep* **P** **14 31 13.8 -0.9**
comp=Z,3.8nm,0.6s,mb4.3
OJC Ojcow 39.10 304 *eP* **P** **14 31 15.7 -0.1**
OJC Ojcow 39.10 304 *eP* **P** **14 31 15.6 -0.2**
ARCES ARCESS Array B 39.38 335 P **P** **14 31 17.6 -0.3**
comp=Z,8.0nm,0.7s,mb4.6,baz=112,slow=9.4,SNR=64
ARCES LR LR 14 48 10.1
comp=Z,238nm,18.7s,MS4.0,baz=16,slow=37
ARCES ARCESS Array B 39.38 335 P **P** **14 31 17.6 -0.3**
ARCES LR LR 14 48 10.1
ARCES ARCESS Array B 39.38 335 P **P** **14 31 17.6 -0.3**
ARCES pmax pmax
comp=Z,8.0nm,0.7s
ARCES MLR MLR
comp=Z,238nm,18.7s
VYHS Vyhne 39.93 302 *eP* **P** **14 31 23.2 +0.4**
VYHS pmax pmax
comp=Z,25nm,2.6s,mb4.5
VYHS Vyhne 39.93 302 *eP* **P** **14 31 23.2 +0.4**
VYHS *e*PP PP 14 32 57.7 +3.0
YAK Yakutsk 40.18 37 *eP* **P** **14 31 22.7 -2.0**
YAK pmax pmax
comp=Z,25nm,1.0s,mb4.9
YAK pmax pmax
comp=N,10.0nm,1.2s
YAK pmax pmax
comp=E,17nm,1.4s
YAK MLR MLR
comp=Z,510nm,11.0s,MS4.6
YAK MLR MLR
comp=N,153nm,10.0s,MS4.6
YAK MLR MLR
comp=E,367nm,10.0s,MS4.6
MORC Moravsky Berou 40.60 304 *eP* **P** **14 31 28.2 0.0**
comp=E,4.7nm,0.8s,mb4.2
MORC Moravsky Berou 40.60 304 ⇓P **P** **14 31 28.4 +0.1**
MORC Moravsky Berou 40.60 304 ⇓*i*P **P** **14 31 28.4 +0.1**
MDJ Mudanjiang 40.93 64 P **P** **14 31 30.4 -0.7**
MDJ pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
MDJ pmax pmax
comp=Z,78nm,4.4s
VRAC Vranov 41.28 303 P **P** **14 31 33.9 +0.1**
comp=Z,3.8nm,0.6s,mb4.2,baz=111,slow=8.4,SNR=3.4
VRAC Vranov 41.28 303 P **P** **14 31 33.9 +0.1**
VRAC Vranov 41.28 303 P **P** **14 31 33.9 0.0**
VRAC pmax pmax
comp=Z,4.0nm,0.6s
DPC Dobruska-Polom 41.30 305 *eP* **P** **14 31 34.4 +0.3**
DPC MLR MLR
comp=Z,600nm,8.0s
DPC Dobruska-Polom 41.30 305 *eP* **P** **14 31 34.4 +0.3**
DPC *ex* x 14 31 39.1
DPC AMS AMS 14 51 50.0
comp=Z,600nm,8.0s
UPC Upice 41.48 305 *eP* **P** **14 31 33.5 -2.0**
UPC Upice 41.48 305 *eP* **P** **14 31 33.5 -2.0**
UPC *ex* x 14 31 36.0
KLR Kul'dur 41.51 57 *eP* **P** **14 31 31.8 -4.0**
KLR MLR MLR
comp=E,500nm,12.5s
KLR MLR MLR
comp=Z,2μm,12.5s,MS5.1
KSRS Korea Array 41.75 75 P **P** **14 31 37.8 -0.1**
comp=Z,6.5nm,1.1s,mb4.2,baz=276,slow=7.1,SNR=17
KSRS LR LR 14 51 36.9
comp=Z,185nm,18.1s,MS4.0,baz=112,slow=40
KSRS Korea Array 41.75 75 P **P** **14 31 37.8 -0.1**
KSRS pmax pmax
comp=Z,7.0nm,1.1s,mb4.2
KSRS MLR MLR
comp=Z,185nm,18.1s,MS4.0
CONA Conrad Observa 41.99 301 ⇑*i*P **P** **14 31 40.2 +0.5**
comp=Z,9.3nm,1.2s,mb4.3
HFS Hagfors 42.27 320 P **P** **14 31 40.8 -1.1**
comp=Z,16nm,0.6s,mb4.8,baz=98,slow=11,SNR=81
HFS Hagfors 42.27 320 P **P** **14 31 40.8 -1.1**
HFS Hagfors 42.27 320 P **P** **14 31 40.8 -1.0**
HFS pmax pmax
comp=Z,16nm,0.6s
PRU Pruhonice 42.49 305 *eP* **P** **14 31 44.9 +1.1**
PRU MLR MLR
comp=Z,400nm,10.9s,MS4.6
PRU Pruhonice 42.49 305 *eP* **P** **14 31 44.9 +1.1**
PRU AMS AMS 14 52 20.0
comp=Z,400nm,10.9s
BRG Berggiesshubel 42.73 306 *eP* **P** **14 31 45.9 +0.2**
comp=Z,8.2nm,0.5s,mb4.7
BRG
comp=N,470nm,12.4s
BRG
comp=E,340nm,13.1s
BRG
comp=Z,778nm,27.9s
BRG Berggiesshubel 42.73 306 *eP* **P** **14 31 45.8 +0.1**
BRG pmax pmax
comp=Z,8.0nm,0.5s,mb4.7
BRG MLR MLR
comp=N,470nm,12.4s,MS4.7
BRG MLR MLR
comp=E,340nm,13.1s,MS4.7
BRG MLR MLR
comp=Z,778nm,27.9s
GERES GERESS Array B 43.23 303 P **P** **14 31 50.0 +0.3**
comp=Z,3.2nm,0.5s,mb4.3,baz=62,slow=8.3,SNR=24
GERES LR LR 14 51 09.2
comp=Z,289nm,21.1s,MS4.2,baz=74,slow=38
GERES GERESS Array B 43.23 303 P **P** **14 31 50.0 +0.3**
GERES LR LR 14 51 09.2
GERES GERESS Array B 43.23 303 P **P** **14 31 50.1 +0.3**
GERES pmax pmax
comp=Z,3.0nm,0.5s
GERES MLR MLR
comp=Z,289nm,21.1s
CLL Collm 43.25 307 *i* P **P** **14 31 49.5 -0.4**
comp=Z,7.0nm,0.7s,mb4.5
CLL *i* pP pP 14 31 57.2 -3.0
CLL *e*PP PP 14 33 27.0 -3.5
CLL *e*SS SS 14 41 24.0 -4.0
CLL Lm 14 51 00.0
comp=Z,500nm,21.1s
KHC Kasperske Hory 43.25 304 *eP* **P** **14 31 49.4 -0.6**
comp=Z,4.7nm,0.7s,mb4.3
KHC Kasperske Hory 43.25 304 *eP* **P** **14 31 50.2 +0.2**
KHC MLR MLR
comp=Z,500nm,9.9s
KHC Kasperske Hory 43.25 304 *eP* **P** **14 31 50.2 +0.2**
KHC *ex* x 14 31 55.1
KHC AMS AMS 14 53 30.0
comp=Z,500nm,9.9s
NB2 NORSAR Subarra 43.51 321 P **P** **14 31 51.0 -0.8**
comp=Z,10nm,0.6s,mb4.7,baz=90,slow=8.6
NOA NORSAR Array B 43.51 321 P **P** **14 31 51.1 -0.8**
comp=Z,14nm,0.7s,mb4.8,baz=91,slow=8.0,SNR=42
NOA LR LR 14 50 09.8
comp=Z,308nm,21.3s,MS4.2,baz=90,slow=36
NOA NORSAR Array B 43.51 321 P **P** **14 31 51.1 -0.8**
NOA LR LR 14 50 09.8
NOA NORSAR Array B 43.51 321 P **P** **14 31 51.1 -0.7**
NOA pmax pmax
comp=Z,14nm,0.7s
NOA MLR MLR
comp=Z,308nm,21.3s
NAO01 NORSAR Array S 43.67 321 *eP* **P** **14 31 52.4 -0.7**
comp=Z,8.3nm,0.6s,mb4.6
KBA Koelnbreinsper 43.83 301 ⇑*i*P **P** **14 31 54.5 -0.1**
comp=Z,5.9nm,1.1s,mb4.2
SPITS Spitsbergen Ar 45.18 346 P **P** **14 32 04.7 -0.4**
comp=Z,4.1nm,0.6s,mb4.5,baz=108,slow=6.3,SNR=4.2
SPITS LR LR 14 52 37.9
comp=Z,196nm,18.9s,MS4.1,baz=90,slow=38
SPITS Spitsbergen Ar 45.18 346 P **P** **14 32 04.7 -0.4**
SPITS LR LR 14 52 37.9
SPITS Spitsbergen Ar 45.18 346 P **P** **14 32 04.7 -0.3**
SPITS pmax pmax
comp=Z,4.0nm,0.6s
SPITS MLR MLR
comp=Z,196nm,18.9s
JNU Nakatsue 45.64 79 *eP* **P** **14 32 09.3 0.0**
comp=Z,22nm,1.4s,mb4.9
DAVOX Davos/Dischmat 46.21 301 P **P** **14 32 13.1 -0.5**
comp=Z,5.3nm,0.5s,mb4.8,baz=100,slow=3.7,SNR=9.0
DAVOX Davos/Dischmat 46.21 301 P **P** **14 32 13.1 -0.5**
DAVOX Davos/Dischmat 46.21 301 P **P** **14 32 13.1 -0.4**
CDF Champ du Feu 47.48 304 *eP* **P** **14 32 23.3 -0.1**
comp=Z,7.2nm,0.6s,mb4.5
CDF Champ du Feu 47.48 304 *eP* **P** **14 32 23.3 -0.1**
comp=Z,3.6nm,0.6s,mb4.5
CDF Champ du Feu 47.48 304 *eP* **P** **14 32 23.3 -0.1**
CDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
HAU Haudompre 48.19 304 *eP* **P** **14 32 28.6 -0.3**
comp=Z,9.3nm,0.6s,mb4.7
HAU *eR*
comp=Z,279nm,17.2s
HAU Haudompre 48.19 304 *eP* **P** **14 32 28.6 -0.3**
comp=Z,4.7nm,0.6s,mb4.7
HAU LR LR
comp=Z,280nm,17.3s,MS4.3
HAU Haudompre 48.19 304 *eP* **P** **14 32 28.6 -0.3**
HAU pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
HAU MLR MLR
comp=Z,280nm,17.3s,MS4.3
LPG La Plagne 48.66 300 *eP* **P** **14 32 32.9 +0.3**
comp=Z,17nm,0.7s,mb4.9
LPG La Plagne 48.66 300 *eP* **P** **14 32 32.9 +0.3**
comp=Z,8.6nm,0.7s,mb4.9
LPG La Plagne 48.66 300 *eP* **P** **14 32 32.9 +0.3**
LPG pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
LPL La Plagne 48.66 300 *eP* **P** **14 32 32.9 +0.3**
comp=Z,13nm,0.6s,mb4.8
LPL La Plagne 48.66 300 *eP* **P** **14 32 32.9 +0.3**
comp=Z,6.3nm,0.6s,mb4.8
LPL La Plagne 48.66 300 *eP* **P** **14 32 32.9 +0.3**
LPL pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
SBF Sospel 48.71 298 *eP* **P** **14 32 32.7 -0.4**
comp=Z,97nm,1.2s,mb5.4
SBF Sospel 48.71 298 *eP* **P** **14 32 32.7 -0.4**
comp=Z,49nm,1.2s,mb5.4
SBF Sospel 48.71 298 *eP* **P** **14 32 32.7 -0.4**
SBF pmax pmax
comp=Z,49nm,1.2s,mb5.4
CABF La Chapelle 48.76 302 *eP* **P** **14 32 33.5 +0.1**
comp=Z,4.1nm,0.4s,mb4.5
MBDF Montbardon 48.89 299 *eP* **P** **14 32 34.0 -0.4**
comp=Z,13nm,0.8s,mb4.7
MBDF Montbardon 48.89 299 *eP* **P** **14 32 34.0 -0.4**
comp=Z,6.6nm,0.8s,mb4.7
MBDF Montbardon 48.89 299 *eP* **P** **14 32 34.0 -0.4**
MBDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
BAIF Baives 48.98 307 *eP* **P** **14 32 35.1 +0.1**
comp=Z,11nm,0.6s,mb4.7
BAIF Baives 48.98 307 *eP* **P** **14 32 35.1 +0.1**
comp=Z,5.5nm,0.6s,mb4.8
BAIF Baives 48.98 307 *eP* **P** **14 32 35.1 +0.1**
BAIF pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
YSS Yuzh-Sakhalins 49.21 57 *eP* **P** **14 32 36.5 -0.3**
YSS MLR MLR
comp=E,500nm,14.0s
YSS MLR MLR
comp=Z,500nm,14.0s,MS4.7
ORIF Oris-en-Rattie 49.42 300 *eP* **P** **14 32 38.4 -0.1**
ORIF *eR*
comp=Z,230nm,22.8s
ORIF Oris-en-Rattie 49.42 300 *eP* **P** **14 32 38.4 -0.1**
ORIF Oris-en-Rattie 49.42 300 *eP* **P** **14 32 38.4 -0.1**
MAT Matsushiro 49.72 72 P **P** **14 32 40.0 -0.9**
MJAR Matsushiro Arr 49.72 72 P **P** **14 32 40.5 -0.4**
comp=Z,6.3nm,0.9s,mb4.7,baz=285,slow=9.6,SNR=13
MJAR LR LR 14 55 07.0
comp=Z,96nm,19.4s,MS3.8,baz=195,slow=38
MJAR Matsushiro Arr 49.72 72 P **P** **14 32 40.5 -0.4**
MJAR LR LR 14 55 07.0
MJAR Matsushiro Arr 49.72 72 P **P** **14 32 40.5 -0.4**
MJAR pmax pmax
comp=Z,6.0nm,0.9s
MJAR MLR MLR
comp=Z,96nm,19.4s
SMF Signal de Mont 50.22 303 *eP* **P** **14 32 44.3 -0.2**
comp=Z,8.3nm,0.6s,mb4.7
SMF Signal de Mont 50.22 303 *eP* **P** **14 32 44.3 -0.2**
comp=Z,4.2nm,0.6s,mb4.7
SMF Signal de Mont 50.22 303 *eP* **P** **14 32 44.3 -0.2**
SMF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
KSM Kuching 50.22 130 P pP 14 32 57.8 +2.4
comp=Z,12nm,1.2s
KEST Kesra 50.38 287 P **P** **14 32 46.6 +0.7**
comp=Z,1.2nm,0.8s,mb4.0,baz=251,slow=5.1,SNR=13
KEST Kesra 50.38 287 P **P** **14 32 46.6 +0.8**
KKM Kota Kinabalu 50.48 120 *eP* **P** **14 32 48.6 +1.8**
comp=Z,15nm,0.8s,mb5.1
KKM Kota Kinabalu 50.48 120 P **P** **14 32 55.8 +9.0**
comp=Z,22nm,1.0s,mb5.2
AVF Avril sur Loir 50.49 303 *eP* **P** **14 32 46.0 -0.5**
comp=Z,18nm,0.8s,mb4.8
AVF Avril sur Loir 50.49 303 *eP* **P** **14 32 46.0 -0.5**
comp=Z,8.9nm,0.8s,mb4.8
AVF Avril sur Loir 50.49 303 *eP* **P** **14 32 46.0 -0.5**
AVF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SBUM Sibu 50.62 127 P **P** **14 32 55.3 +7.4**
comp=Z,276nmcomp=Z,10nm,1.2s,mb4.6
LASF Ste Croix 51.07 299 *eP* **P** **14 32 50.3 -0.7**
LASF Ste Croix 51.07 299 *eP* **P** **14 32 50.3 -0.7**
EKA Eskdalemuir Ar 51.84 315 P **P** **14 32 55.8 -0.8**
comp=Z,3.9nm,0.8s,mb4.4,baz=82,slow=7.4,SNR=9.2
EKA Eskdalemuir Ar 51.84 315 P **P** **14 32 55.8 -0.8**
EKA Eskdalemuir Ar 51.84 315 P **P** **14 32 55.8 -0.8**
EKA pmax pmax
comp=Z,4.0nm,0.8s
LDF La Druitiere 52.12 306 *eP* **P** **14 32 58.0 -0.7**
comp=Z,16nm,0.4s,mb5.0
RJF Les Rejaudoux 52.20 302 *eP* **P** **14 32 59.0 -0.4**
comp=Z,4.8nm,0.5s,mb4.4
RJF *eR*
comp=Z,233nm,17.0s
RJF Les Rejaudoux 52.20 302 *eP* **P** **14 32 59.0 -0.4**
comp=Z,2.4nm,0.5s,mb4.4
RJF LR LR
comp=Z,230nm,17.0s,MS4.3
RJF Les Rejaudoux 52.20 302 *eP* **P** **14 32 59.0 -0.4**
RJF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
RJF MLR MLR
comp=Z,230nm,17.0s,MS4.3
KMBO Kilima Mbogo 52.57 229 P **P** **14 33 03.4 +1.0**
comp=Z,3.3nm,1.0s,mb4.2,baz=360,slow=24,SNR=11
KMBO LR LR 14 56 34.8

comp=Z,119nm,19.9s,MS3.9,baz=90,slow=37
KMBO Kilima Mbogo 52.57 229 *e*P **P 14 33 03.7 +1.3**
comp=Z,32nm,1.7s,mb5.0
KMBO Kilima Mbogo 52.57 229 *e*P **P 14 33 03.7 +1.3**
KMBO pmax pmax
comp=Z,32nm,1.7s
DAG Danmarks Havn 52.57 343 *e*P **P 14 33 01.0 -0.7**
DAG Danmarks Havn 52.57 343 *i* P **P 14 33 01.0 -0.7**
comp=Z,8.8nm,0.9s,mb4.7
GRR Gorron 52.65 306 *e*P **P 14 33 01.9 -0.8**
comp=Z,8.4nm,0.5s,mb4.6
GRR Gorron 52.65 306 *e*P **P 14 33 01.9 -0.8**
comp=Z,4.2nm,0.5s,mb4.6
GRR Gorron 52.65 306 *e*P **P 14 33 01.9 -0.8**
GRR pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
SGMF Saint Gilles 53.76 306 *e*P **P 14 33 10.3 -0.5**
comp=Z,13nm,0.6s,mb4.7
SGMF Saint Gilles 53.76 306 *e*P **P 14 33 10.3 -0.5**
comp=Z,6.3nm,0.6s,mb4.7
SGMF Saint Gilles 53.76 306 *e*P **P 14 33 10.3 -0.5**
SGMF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
ROSF Rostrenen 54.18 307 *e*P **P 14 33 13.0 -0.9**
ROSF Rostrenen 54.18 307 *e*P **P 14 33 13.0 -0.9**
ROSF Rostrenen 54.18 307 *e*P **P 14 33 13.0 -0.9**
QUIF Quistinic 54.26 306 *e*P **P 14 33 13.3 -1.2**
comp=Z,11nm,0.6s,mb4.7
QUIF Quistinic 54.26 306 *e*P **P 14 33 13.3 -1.2**
comp=Z,6.6nm,0.6s,mb4.7
QUIF Quistinic 54.26 306 *e*P **P 14 33 13.3 -1.2**
QUIF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
BILL Bilibino 54.90 27 *e*P **P 14 33 18.2 -0.7**
comp=Z,36nm,1.7s,mb5.1
BILL Bilibino 54.90 27⍰ *e*P **P 14 33 18.7 -0.1**
BILL pmax pmax
comp=Z,21nm,1.7s,mb4.9
BILL MLR MLR
comp=Z,200nm,15.0s,MS4.3
PETK Petropavlovsk- 56.20 46 LR LR 14 58 31.4
comp=Z,139nm,18.0s,MS4.1,baz=289,slow=37
KBKI Kotabaru 57.55 127 P pP 14 33 51.1 +2.1
comp=Z,16nm,0.9s
ESDC Sonseca Array 58.19 297 P **P 14 33 42.0 -0.6**
comp=Z,2.4nm,0.6s,mb4.4,baz=55,slow=6.9,SNR=7.1
ESDC Sonseca Array 58.19 297 P **P 14 33 42.0 -0.6**
MRSI Marisa 58.41 119 P **P 14 33 46.7 +2.2**
comp=Z,351nmcomp=Z,26nm,0.9s,mb5.3
SUMG Summit 59.03 341 *i* P **P 14 33 48.8 +0.8**
comp=Z,6.5nm,0.9s,mb4.7
TNTI Ternate 61.94 115 P **P 14 34 11.1 +2.4**
comp=Z,80nm,1.4s,mb5.6
MDT Midelt 61.96 291 P **P 14 34 08.1 -0.4**
comp=Z,0.6nm,0.7s,mb3.8,baz=28,slow=14,SNR=2.2
MDT Midelt 61.96 291 P **P 14 34 08.1 -0.4**
RES Resolute Bay 65.90 357 P **P 14 34 33.6 -0.3**
RES Resolute Bay 65.90 357 P **P 14 34 33.6 -0.2**
TORD Torodi Ar. Bea 68.14 269 P **P 14 34 48.2 -0.7**
comp=Z,4.4nm,0.5s,mb4.7,baz=48,slow=5.4,SNR=51
TORD Torodi Ar. Bea 68.14 269 P **P 14 34 48.2 -0.7**
COLD Coldfoot 68.47 17 *e*P **P 14 34 49.6 -0.6**
comp=Z,14nm,0.8s,mb5.0
LSZ Lusaka 69.20 228 *e*P **P 14 34 56.1 +0.7**
comp=Z,26nm,1.5s,mb4.9
LSZ Lusaka 69.20 228 *e*P **P 14 34 56.2 +0.8**
LSZ pmax pmax
comp=Z,26nm,1.5s,mb4.9
INK Inuvik 70.59 10 P **P 14 35 02.1 -1.2**
comp=Z,5.9nm,0.6s,mb4.7,baz=13,slow=8.4,SNR=21
INK Inuvik 70.59 10 *e*P **P 14 35 02.3 -0.9**
comp=Z,6.8nm,0.7s,mb4.7
INK Inuvik 70.59 10 *e*P **P 14 35 02.3 -1.0**
INK pmax pmax
comp=Z,7.0nm,0.7s
COLA College 70.96 18 *e*P **P 14 35 03.3 -2.3**
comp=Z,10nm,0.8s,mb4.8
COLA College 70.96 18 *e*P **P 14 35 03.3 -2.3**
COLA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ILAR Eielson Array 71.27 17 P **P 14 35 06.0 -1.5**
comp=Z,5.3nm,0.8s,mb4.5,baz=316,slow=4.6,SNR=55
ILAR LR LR 15 10 54.7
comp=Z,94nm,18.8s,MS4.1,baz=327,slow=40
ILAR Eielson Array 71.27 17 P **P 14 35 06.0 -1.5**
ILAR LR LR 15 10 54.7
ILAR Eielson Array 71.27 17 P **P 14 35 06.0 -1.5**
ILAR pmax pmax
comp=Z,5.0nm,0.8s
ILAR MLR MLR
comp=Z,94nm,18.8s
TRF Thorofare Moun 71.55 19 *e*P **P 14 35 08.4 -0.8**
comp=Z,14nm,1.2s,mb4.8
PAX Paxson 73.14 18 *e*P **P 14 35 17.3 -1.3**
comp=Z,18nm,1.2s,mb4.9
PAX Paxson 73.14 18 *e*P **P 14 35 17.3 -1.4**
PAX pmax pmax
comp=Z,18nm,1.2s,mb4.9
SML Sawmill 73.42 19 *e*P **P 14 35 18.2 -2.2**
comp=Z,7.5nm,0.9s,mb4.6
SML Sawmill 73.42 19 *e*P **P 14 35 18.2 -2.1**
SML pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
DAWY Dawson 73.48 15 *e*P **P 14 35 19.1 -1.5**
FITZ Fitzroy Crossi 74.84 129 P **P 14 35 30.3 +1.1**
comp=Z,6.4nm,1.0s,mb4.5,baz=332,slow=5.4,SNR=6.5
FITZ Fitzroy Crossi 74.84 129 *e*P **P 14 35 30.1 +0.9**
comp=Z,12nm,1.1s,mb4.7
FITZ Fitzroy Crossi 74.84 129 P **P 14 35 30.3 +1.1**
KAKA Kakadu 75.11 121 *e*P **P 14 35 31.0 +0.2**
comp=Z,4.9nm,0.5s,mb4.7
KAKA Kakadu 75.11 121 *e*P **P 14 35 30.9 +0.1**
comp=Z,40nm,1.1s,mb5.3
KDAK Kodiak Island 75.55 24 *i* P **P 14 35 34.9 +2.1**
DBIC Dimbokro 77.19 268 P **P 14 35 42.5 -0.3**
comp=Z,6.6nm,0.8s,mb4.6,baz=21,slow=6.5,SNR=18
DBIC LR LR 15 14 24.1
comp=Z,150nm,18.1s,MS4.3,baz=232,slow=39
DBIC Dimbokro 77.19 268 P **P 14 35 42.5 -0.3**
DBIC LR LR 15 14 24.1
DBIC Dimbokro 77.19 268 P **P 14 35 42.5 -0.3**
DBIC pmax pmax
comp=Z,7.0nm,0.8s
DBIC MLR MLR
comp=Z,150nm,18.1s
LIC Lamto 77.60 268 *e*P **P 14 35 44.1 -1.0**
comp=Z,16nm,0.7s,mb4.8
LIC *e*R
comp=Z,200nm,18.5s
LIC Lamto 77.60 268 *e*P **P 14 35 44.1 -1.0**
comp=Z,8.1nm,0.6s,mb4.8
LIC LR LR
comp=Z,100nm,18.5s,MS4.2
YKA Yellowknife Ar 78.16 4 P **P 14 35 46.7 -0.6**
comp=Z,4.4nm,0.8s,mb4.5,baz=349,slow=5.5,SNR=7.3
YKA LR LR 15 10 00.8
comp=Z,9.9nm,20.2s,MS3.1,baz=290,slow=36
YKA Yellowknife Ar 78.16 4 P **P 14 35 46.7 -0.6**
YKA LR LR 15 10 00.8
YKA Yellowknife Ar 78.16 4 P **P 14 35 46.7 -0.7**
YKA pmax pmax
comp=Z,4.0nm,0.8s
YKA MLR MLR
comp=Z,10.0nm,20.2s
SCHQ Schefferville 80.27 338 LR LR 15 12 01.9
comp=Z,125nm,18.2s,MS4.3,baz=83,slow=36
BOSA Boshof 81.53 222 LR LR 15 11 33.4
comp=Z,64nm,19.6s,MS4.0,baz=181,slow=35
WRA Warramunga Arr 81.62 124 P **P 14 36 06.8 +0.2**
comp=Z,4.8nm,0.4s,mb4.7,baz=328,slow=5.2,SNR=180
WRA Warramunga Arr 81.62 124 P **P 14 36 06.8 +0.2**
WRA Warramunga Arr 81.62 124 P **P 14 36 06.9 +0.3**
WRA pmax pmax
comp=Z,5.0nm,0.4s
WRAB Tennant Creek 81.62 124 *e*P **P 14 36 06.7 0.0**
comp=Z,8.4nm,0.6s,mb4.8
WRAB Tennant Creek 81.62 124 *e*P **P 14 36 06.7 +0.1**
WRAB pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
COEN Coen 83.37 114 *e*P **P 14 36 16.1 +0.2**
ASAR Alice Springs 84.07 127 P **P 14 36 19.4 0.0**
comp=Z,3.0nm,0.6s,mb4.6,baz=317,slow=4.9,SNR=70
ASAR Alice Springs 84.07 127 P **P 14 36 19.4 0.0**
ASAR Alice Springs 84.07 127 P **P 14 36 19.4 +0.1**
ASAR pmax pmax
comp=Z,3.0nm,0.6s

FFC Flin Flon 86.12 358 *i* P **P 14 36 37.3 +8.1**
CTA Charters Tower 89.68 116 P **P 14 36 47.0 +0.4**
comp=Z,3.7nm,1.0s,mb4.7,baz=163,slow=13,SNR=5.3
CTA Charters Tower 89.68 116 *e*P **P 14 36 48.6 +1.9**
comp=Z,4.3nm,1.2s,mb4.7
CTA Charters Tower 89.68 116 P **P 14 36 47.0 +0.4**
CTA Charters Tower 89.68 116 P **P 14 36 47.0 +0.3**
CTA pmax pmax
comp=Z,4.0nm,1.0s
ULM Lac du Bonnet 90.22 354 LR LR 15 18 27.5
comp=Z,126nm,18.4s,MS4.4,baz=33,slow=36
JCW Jim Creek 91.59 11 *e*P **P 14 36 54.6 -0.6**
comp=Z,18nm,0.9s,mb5.4
BSMT Bassoo Peak 92.72 6 *e*P **P 14 37 00.7 +0.3**
comp=Z,5.4nm,1.0s,mb4.9
CHMT Chamberlain Mo 93.76 5 *e*P **P 14 37 04.5 -0.8**
comp=Z,1.8nm,0.7s,mb4.6
STKA Stephens Creek 94.68 128 P **P 14 37 09.2 -0.4**
comp=Z,1.7nm,0.6s,mb4.7,baz=300,slow=9.2,SNR=5.7
STKA Stephens Creek 94.68 128 P **P 14 37 09.2 -0.4**
STKA Stephens Creek 94.68 128 P **P 14 37 09.2 -0.4**
CPUP Villa Florida 137.56 273 PKP PKPdf 14 43 10.8 -1.6
comp=Z,1.0nm,0.5s,baz=331,slow=2.4,SNR=4.7
CPUP Villa Florida 137.56 273 PKP PKPdf 14 43 10.8 -1.6
CPUP Villa Florida 137.56 273 PKIKP PKPdf 14 43 10.8 -1.7
CPUP pmax pmax
comp=Z,1.0nm,0.5s
LPAZ La Paz 139.76 294 PKP PKPdf 14 43 16.8 +0.1
comp=Z,1.3nm,1.0s,baz=344,slow=7.4,SNR=3.4
LPAZ La Paz 139.76 294 PKP PKPdf 14 43 16.8 +0.1
LPAZ La Paz 139.76 294 PKIKP PKPdf 14 43 16.8 +0.1
LPAZ pmax pmax
comp=Z,1.0nm,1.0s
TRQA Tornquist 145.90 258 *e*PKPdf PKPdf 14 43 27.5 +0.6
PLCA Paso Flores 152.96 256 PKPbc PKPbc 14 43 46.4 +0.9
comp=Z,2.8nm,0.7s,baz=72,slow=4.5,SNR=7.8

IDC ***06*** *14:34:15.4±1.1, 30°.29N×84°.18E, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.6/28, mbtmp3.6/8, ML3.5/2, MS3.6/1, Ms1 3.6/1, ms1mx2.8/35, Error ellipse: s-maj=33.5km s-min=22.1km az=62.0*
ISCJB ***06*** *14:34:20.0±0.8, 30°.49N±0°.09×84°.63E±0°.08, h33km, mb3.6/5, Error ellipse: s-maj=13.3km s-min=9.3km az=163.0*
NEIC ***06*** *14:34:19.9±1.4, 30°.73N×85°.17E, h10km, mb3.7/1, Error ellipse: s-maj=37.8km s-min=10.9km az=54.0*
ISC 06 14:34:22.0±0.7, 30°.51N±0°.09×84°.64E±0°.08, h35km, n18, σ0s97/19, mb3.6/5, Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**3.96**	**257**	*e*PKP	**Pn**		**Pn**	**14 35 19.5**	**-0.6**
PTH				*e*S	**Sn**		**Sn**	**14 36 06.0**	**+0.7**
LSA	**Lhasa**	**5.70**	**96**	P	**Pn**		**Pn**	**14 35 38.4**	**-5.6**
	4.8nm,0.4s								
MKAR	**Makanchi Array**	**16.36**	**354**	Pn	**Pn**		**Pn**	**14 38 08.5**	**-0.3**
	0.1nm,0.3s,baz=173,slow=13,SNR=3.8								
MKAR	**Makanchi Array**	**16.36**	**354**	Pn	**Pn**		**Pn**	**14 38 08.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**17.68**	**129**	P	**Pn**		**Pn**	**14 38 24.7**	**-0.8**
	0.1nm,0.3s,baz=305,slow=11,SNR=7.0								
CMAR	**Chiang Mai Arr**	**17.68**	**129**	P	**Pn**		**Pn**	**14 38 24.7**	**-0.8**
KURK	**Kurchatov**	**20.68**	**349**	P	**P**		**P**	**14 38 57.2**	**-1.6**
	1.2nm,0.7s,baz=169,slow=10,SNR=4.1								
KURK	**Kurchatov**	**20.68**	**349**	*e*P	**P**		**P**	**14 38 57.8**	**-1.0**
	3.8nm,1.1s								
ZALV	**Zalesovo Beam**	**23.43**	**0**	P	**P**		**P**	**14 39 27.8**	**0.0**
	1.6nm,0.8s,mb3.5,baz=197,slow=9.6,SNR=4.3								
ZALV	**Zalesovo Beam**	**23.43**	**0**	P	**P**		**P**	**14 39 27.8**	**0.0**
SONM	**Songino Array**	**24.03**	**38**	P	**P**		**P**	**14 39 35.3**	**+1.9**
	0.5nm,0.6s,mb3.1,baz=222,slow=9.6,SNR=2.0								
SONM	**Songino Array**	**24.03**	**38**	P	**P**		**P**	**14 39 35.3**	**+1.8**
ARCES	**ARCESS Array B**	**51.06**	**337**	P	**P**		**P**	**14 43 20.9**	**+0.6**
	2.3nm,0.8s,mb4.2,baz=53,slow=6.2,SNR=3.5								
ARCES	**ARCESS Array B**	**51.06**	**337**	P	**P**		**P**	**14 43 20.9**	**+0.6**
WRA	**Warramunga Arr**	**69.27**	**130**	P	**P**		**P**	**14 45 26.2**	**+0.5**
	0.3nm,0.5s,mb3.5,baz=325,slow=6.6,SNR=7.9								
WRA	**Warramunga Arr**	**69.27**	**130**	P	**P**		**P**	**14 45 26.2**	**+0.5**
TORD	**Torodi Ar. Bea**	**77.45**	**278**	P	**P**		**P**	**14 46 10.4**	**-3.7**
	0.9nm,0.7s,mb3.8,baz=43,slow=4.4,SNR=8.1								
TORD	**Torodi Ar. Bea**	**77.45**	**278**	P	**P**		**P**	**14 46 10.4**	**-3.7**

IDC 06 14:54:35.0±3.3, 19°.19S×179°.94W, h0km, mb4.2/4, mb1 4.7/4, mb1mx3.9/16, mbtmp4.2/4, Error ellipse: s-maj=144.0km s-min=68.2km az=172.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NVAR	**Mina Array Bea**	**81.35**	**44**	P	P			15 06 53.9	+0.4
	1.4nm,0.6s,baz=225,slow=9.1,SNR=9.4								
ILAR	**Eielson Array**	**87.46**	**14**	P	P			15 07 24.7	+0.8
	0.5nm,0.4s,baz=222,slow=5.1,SNR=16								
TXAR	**Lajitas Array**	**87.90**	**58**	P	P			15 07 27.5	+0.6
	2.2nm,0.8s,baz=221,slow=6.1,SNR=16								
PDAR	**Pinedale Array**	**89.28**	**44**	P	P			15 07 32.3	-0.7
	1.4nm,0.9s,baz=236,slow=2.7,SNR=8.6								
BRTR	**Keskin Array B**	**144.61**	**313**	PKP	PKPdf			15 14 15.1	+1.4
	0.5nm,0.8s,baz=116,slow=3.4,SNR=2.4								
GERES	**GERESS Array B**	**148.43**	**343**	PKPbc	PKPbc			15 14 21.7	-1.7
	0.5nm,0.6s,baz=27,slow=3.3,SNR=5.0								

MAN 06 14:56:07, 7°.27N×124°.23E, h32km, mb4.2, ML3.0, MS2.8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.05**	**167**⍰	*i*P	Pb			14 56 13.8	+1.3
CTBH				*i* S	Sb			14 56 30.2	+14
BUKP	**Musuan**	**1.02**	**54**	*e*P	Pn			14 56 25.8	+0.7
BUKP				*e*S	Sn			14 56 39.1	+0.8
PAGZ	**Pagadian**	**1.02**	**304**	*e*P	Pn			14 56 26.4	+1.4
PAGZ				*e*S	Sn			14 56 38.5	+0.2

MOS ***06*** *14:57:31.7±0.9, 6°.18S×154°.84E, h33km, mb5.3/21, Error ellipse: s-maj=10.4km s-min=8.3km az=81.5*
ISCJB ***06*** *14:57:35.6±1.0, 6°.37S±0°.04×154°.96E±0°.03, h71km±9km, mb4.9/99, Error ellipse: s-maj=7.5km s-min=5.4km az=175.6*
IDC ***06*** *14:57:35.4±0.6, 6°.34S×154°.90E, h58km±5km, mb4.6/22, mb1 4.7/25, mb1mx4.7/26, mbtmp4.6/25, MS3.9/16, Ms1 4.0/16, ms1mx3.8/24, Error ellipse: s-maj=11.7km s-min=10.1km az=72.0*
NEIC ***06*** *14:57:35.2±0.2, 6°.32S×154°.93E, mb5.1/47, Error ellipse: s-maj=5.9km s-min=5.0km az=118.0*
BJI ***06*** *14:57:37.0, 6°.08S×155°.21E, h85km, mB5.1/21, mb4.9/31, Ms4.8/12, Ms7 4.5/14*
GCMT ***06*** *14:57:37.4±0.3, 6°.49S×154°.94E, h54km±1km, MW4.9, Moment Tensor Solution. s33,c38; s42,c56; Moment tensor: Scale 10^16Nm; Mrr3.28±.17; Mθθ-1.67±.12; Mφφ-1.61±.12; Mrθ-0.39±.08; Mθφ1.61±.08; Mφr0.07±.09; Best double couple: M0 3.30000×10^16 NP1:φs138.00000°, δ42.00000°, λ96.00000°. NP2:φs311.00000°, δ48.00000°, λ85.00000°. Principal axes: T 3.3100, Plg85.0000°, Azm172.0000°; N -0.0500, Plg4.0000°, Azm314.0000°; P -3.2700, Plg3.0000°, Azm44.0000°; Data Used: II IU IC G CN.*
ISC 06 14:57:38.8±0.8, 6°.43S±0°.04×154°.98E±0°.03, h88km±8km, h95km±2.8km; pP-P, n268, σ1s02/227, mb4.9/99, 4C-3D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.75**	**122**	P	**Pn**		**Pn**	**14 59 00.3**	**-1.5**
	36nm,0.3s,baz=216,slow=1.4,SNR=12								
HNR				S	**Sn**		**Sn**	**15 00 07.5**	**+1.0**
	52nm,0.3s,baz=324,slow=19,SNR=3.9								
HNR				LR	LR			15 00 52.5	
	comp=Z,594nm,21.8s,baz=323,slow=34								
HNR	**Honiara**	**5.75**	**122**	*e*P	**Pn**		**Pn**	**14 59 01.4**	**-0.3**
	426nm,0.8s								
HNR	**Honiara**	**5.75**	**122**	*e*P	**Pn**		**Pn**	**14 59 01.4**	**-0.4**
HNR				pmax	pmax				
	comp=Z,426nm,0.8s								
PMG	**Port Moresby**	**8.29**	**249**	P	**Pn**		**Pn**	**14 59 34.2**	**-2.2**
	comp=Z,2.6nm,0.3s,baz=36,slow=8.7,SNR=5.8								
PMG				S	**Sn**		**Sn**	**15 01 08.3**	**-0.1**
	comp=Z,2.3nm,0.3s,baz=44,slow=18,SNR=2.2								

PMG Port Moresby 8.29 249 *e*P **Pn 14 59 36.8 +0.4**
comp=Z,88nm,0.6s
PMG Port Moresby 8.29 249*c i*P **Pn 14 59 38.4 +2.1**
PMG Port Moresby 8.29 249 P **Pn 14 59 38.8 +2.5**
COEN Coen 13.81 236 *e*P **Pn 15 00 50.4 -0.4**
comp=Z,342nm,1.8s
COEN Coen 13.81 236 P **Pn 15 00 53.0 +2.2**
comp=Z,19nm,1.0s
CTA Charters Tower 16.00 211 P **Pn 15 01 19.2 +0.4**
comp=Z,0.5nm,0.3s,baz=45,slow=14,SNR=4.6
CTA LR LR 15 06 23.7
comp=Z,550nm,21.7s,baz=16,slow=33
CTA Charters Tower 16.00 211 *e*P **Pn 15 01 17.5 -1.3**
comp=Z,3.9nm,0.7s
CTA Charters Tower 16.00 211 P **Pn 15 01 19.2 +0.4**
CTA LR LR 15 06 23.8
CTA Charters Tower 16.00 211 P **Pn 15 01 19.2 +0.4**
CTAO Charters Tower 16.00 211 *e*P **Pn 15 01 17.7 -1.1**
comp=Z,6.5nm,0.6s
CTAO Charters Tower 16.00 211 *e*P **Pn 15 01 17.7 -1.1**
CTAO pmax pmax
comp=Z,6.0nm,0.6s
NOUC Port Laguerre 19.04 146 *e*P **Pn 15 01 54.6 -1.1**
EIDS Eidsvold 19.20 191 *e*P **Pn 15 01 56.7 -0.9**
comp=Z,15nm,0.8s
NORM Noumea 19.24 146 *e*P **Pn 15 01 57.0 -1.2**
GUMO Guam 22.28 333 LR LR 15 09 27.8
comp=Z,221nm,20.9s,baz=266,slow=32
KAKA Kakadu 23.07 253 *e*P **P 15 02 36.3 -0.8**
comp=Z,16nm,0.6s,mb4.5
KAKA Kakadu 23.07 253 *e*P **P 15 02 35.7 -1.4**
comp=Z,54nm,0.7s,mb5.0
ARMA Armidale 24.07 187 *e*P **P 15 02 47.3 +1.3**
ARMA Armidale 24.07 187 *e*P **P 15 02 46.7 +0.6**
comp=Z,36nm,1.1s,mb4.6
WRAB Tennant Creek 24.11 234 *e*P **P 15 02 46.8 +0.2**
comp=Z,38nm,0.8s,mb4.8
WRAB Tennant Creek 24.11 234 *e*P **P 15 02 46.8 +0.2**
WRAB pmax pmax
comp=Z,38nm,0.8s,mb4.8
WRA Warramunga Arr 24.13 234 P **P 15 02 47.1 +0.5**
comp=Z,22nm,0.6s,mb4.7,baz=57,slow=9.7,SNR=105
WRA PcP PcP 15 06 26.3 +0.5
comp=Z,5.6nm,0.5s,baz=57,slow=2.4,SNR=16
WRA S **S** **15 06 59.0 +0.6**
comp=Z,3.4nm,1.0s,baz=52,slow=17,SNR=3.9
WRA Warramunga Arr 24.13 234 P **P 15 02 47.1 +0.5**
WRA PcP PcP 15 06 26.3 +0.5
WRA S **S** **15 06 59.0 +0.6**
WRA Warramunga Arr 24.13 234 P **P 15 02 47.2 +0.5**
WRA 15 06 26.3
WRA S **S** **15 06 59.0 +0.6**
SWI Sorong 24.30 282 P **P 15 02 48.1 -0.3**
comp=Z,760nmcomp=Z,83nm,1.0s,mb5.0
BNDI Bandanaira 25.03 273 P **P 15 02 55.3 +0.3**
comp=Z,53nm,1.3s,mb4.8
MSAI Masohi 26.13 275 P **P 15 03 09.0 +4.0**
comp=Z,289nmcomp=Z,6.4nm,0.5s,mb4.3
ASAR Alice Springs 26.54 228 P **P 15 03 08.1 -0.4**
comp=Z,5.5nm,0.8s,mb4.1,baz=57,slow=9.0,SNR=54
ASAR PcP PcP 15 06 31.9 +0.7
comp=Z,5.1nm,0.6s,baz=65,slow=2.2,SNR=15
ASAR Alice Springs 26.54 228 P **P 15 03 08.1 -0.4**
ASAR PcP PcP 15 06 31.9 +0.7
ASAR Alice Springs 26.54 228 P **P 15 03 08.1 -0.4**
ASAR 15 06 32.0
AAI Ambon 26.81 275 P **P 15 03 13.8 +2.7**
comp=Z,33nm,0.7s,mb5.0
STKA Stephens Creek 28.24 205 P **P 15 03 23.5 -0.1**
comp=Z,3.9nm,0.8s,mb4.0,baz=24,slow=7.9,SNR=9.5
STKA LR LR 15 14 21.6
comp=Z,494nm,20.1s,baz=13,slow=36
STKA Stephens Creek 28.24 205 *e*P **P 15 03 23.4 -0.2**
comp=Z,2.5nm,0.5s,mb4.0
STKA Stephens Creek 28.24 205 *e*P **P 15 03 23.2 -0.4**
comp=Z,0.7nm,0.6s
STKA Stephens Creek 28.24 205 *e*P **P 15 03 23.2 -0.4**
STKA pmax pmax
comp=Z,1.0nm,0.6s
TNTI Ternate 28.47 284 P **P 15 03 33.3 +7.4**
comp=Z,33nm,1.5s,mb4.6
FITZ Fitzroy Crossi 30.87 245 LR LR 15 16 56.1
comp=Z,344nm,18.2s,baz=83,slow=38
FITZ Fitzroy Crossi 30.87 245 *e*P **P 15 03 46.4 -0.7**
comp=Z,20nm,0.6s,mb5.0
FITZ *e* 15 06 43.0
FITZ Fitzroy Crossi 30.87 245 P **P 15 03 46.5 -0.6**
KMSI Cibinong 31.71 282 P **P 15 03 54.6 0.0**
DAV Davao City (W) 32.25 294 LR LR 15 15 56.2
comp=Z,96nm,20.2s,baz=99,slow=34
ARPS Mount Arapiles 32.50 200 *e*P **P 15 04 01.6 +0.5**
comp=Z,46nm,1.0s,mb5.2
MMRI Maumere 32.52 264 P **P 15 04 01.3 -0.4**
comp=Z,2µmcomp=Z,124nm,0.7s,mb5.9
LUWI Luwuk 32.57 278 P **P 15 04 03.2 +1.1**
comp=Z,1µmcomp=Z,102nm,1.1s,mb5.5
MRSI Marisa 33.68 281 P **P 15 04 12.3 +0.5**
comp=Z,671nmcomp=Z,18nm,0.5s,mb5.1
BKSI Bulukumba 34.69 270 P **P 15 04 23.0 +2.5**
comp=Z,6.8nm,0.6s,mb4.7
MSSI Masamba 34.75 275 P sP 15 04 47.2 -4.4
BNSI Bone 34.77 272 P **P 15 04 20.7 -0.5**
comp=Z,14nm,0.8s,mb4.9
FORT Forrest 34.99 223 *e*P **P 15 04 22.5 -0.3**
comp=Z,26nm,0.5s,mb5.3
KAPI Kappang 35.07 270 *e*P **P 15 04 22.6 -1.3**
comp=Z,6.2nm,0.6s,mb4.6
KAPI Kappang 35.07 270 P **P 15 04 25.0 +1.2**
comp=Z,16nm,1.1s,mb4.8
TTSI Tana Toraja 35.19 274 P **P 15 04 28.0 +3.2**
comp=Z,16nm,0.9s,mb4.8
CBIJ Chichi jima 35.55 340 LR LR 15 16 16.9
comp=Z,150nm,18.6s,baz=80,slow=32
MBWA Marble Bar 37.11 243 *e*P **P 15 04 40.5 -0.6**
URZ Urewera 37.51 151 P **P 15 04 44.6 +0.4**
comp=Z,12nm,0.4s,mb5.1,baz=333,slow=6.8,SNR=11
URZ Urewera 37.51 151 *e*P **P 15 04 44.1 -0.1**
comp=Z,28nm,0.8s,mb5.2
MYLDM Lahad Datu 38.20 287 P **P 15 04 51.3 +1.0**
MYLDM Lahad Datu 38.20 287 P **P 15 04 52.3 +1.9**
TSM Tawau 38.55 285 P **P 15 04 53.4 +0.1**
SDKM Sandakan 39.57 287 P **P 15 05 01.7 -0.2**
RPZ Rata Peaks 39.73 162 P **P 15 05 02.6 -0.2**
comp=Z,33nm,0.6s,mb5.3,baz=14,slow=4.4,SNR=15
RPZ Rata Peaks 39.73 162 *e*P **P 15 05 03.0 +0.3**
comp=Z,40nm,0.8s,mb5.3
MEEK Meekatharra 40.01 236 *e*P **P 15 05 05.1 -0.2**
MEEK *e* 15 07 08.7
KKM Kota Kinabalu 40.62 287 P **P 15 05 11.0 +0.4**
KKM Kota Kinabalu 40.62 287 *e*P **P 15 05 10.2 -0.4**
comp=Z,50nm,0.9s,mb5.3
JOW Kunigami 41.98 323 P **P 15 05 20.9 -0.6**
comp=Z,12nm,0.6s,mb4.8,baz=167,slow=9.7,SNR=4.0
JOW Kunigami 41.98 323 P **P 15 05 20.9 -0.6**
KLBR Kellerberrin 42.84 229 *e*P **P 15 05 27.7 -0.7**
comp=Z,34nm,0.8s,mb5.1
BTM Bintulu 42.91 282 P **P 15 05 30.9 +1.7**
SBUM Sibu 43.59 280 P **P 15 05 36.4 +1.7**
NWAO Narrogin (SRO) 43.85 228 *e*P **P 15 05 36.6 0.0**
NWAO Narrogin (SRO) 43.85 228 *e*P **P 15 05 36.6 +0.1**
YULB Yu-li 44.28 313 *e*P **P 15 05 39.1 -1.0**
comp=Z,13nm,0.6s,mb4.8
NACB Ninganchiao 44.55 314 *e*P **P 15 05 41.6 -0.6**
comp=Z,24nm,0.6s,mb5.1
TPUB Ta-pu 44.71 312 *e*P **P 15 05 42.5 -1.1**
comp=Z,22nm,0.5s,mb5.1
SSLB Suanglung 44.77 313 *e*P **P 15 05 43.1 -0.9**
comp=Z,28nm,0.6s,mb5.2
YHNB Yeheng 45.02 315 *e*P **P 15 05 45.7 -0.2**
comp=Z,25nm,0.7s,mb5.0
KSM Kuching 45.27 278 P **P 15 05 48.9 +0.8**
KSM Kuching 45.27 278 *e*P **P 15 05 48.0 -0.1**
comp=Z,28nm,0.8s,mb5.0
JNU Nakatsue 45.51 331 *e*P **P 15 05 48.1 -1.6**
comp=Z,5.5nm,0.8s,mb4.3
MJAR Matsushiro Arr 45.54 341 P **P 15 05 48.5 -1.4**
comp=Z,1.8nm,0.5s,mb4.0,baz=150,slow=1.5,SNR=7.1
MJAR Matsushiro Arr 45.54 341 P **P 15 05 48.5 -1.4**
MJAR Matsushiro Arr 45.54 341 P **P 15 05 48.5 -1.3**
RAR Rarotonga 46.15 113 LR LR 15 21 16.4
comp=Z,339nm,19.5s,baz=285,slow=31
KSRS Korea Array 50.43 332 P **P 15 06 26.0 -1.6**
comp=Z,6.2nm,0.7s,mb4.6,baz=146,slow=7.9,SNR=27
KSRS LR LR 15 24 30.5
comp=Z,89nm,21.3s,baz=323,slow=32
INCN Inchon 51.07 331 *e*P **P 15 06 31.6 -0.7**

comp=Z,18nm,0.4s,mb5.4
QIZ Qiongzhong 51.16 301 P **P** **15 06 34.4 +1.1**
QIZ S **S** **15 13 46.2 +1.0**
QIZ pmax pmax
comp=Z,28nm,0.9s,mb5.3
ASAJ Asahikawa 51.54 349 *e*P **P** **15 06 36.4 +0.7**
comp=Z,7.3nm,0.6s,mb4.9
MYKOM **Kota Tinggi 51.69 277** P **P** **15 06 37.5 +0.1**
KGM Kluang 52.25 278 P **P** **15 06 41.8 +0.2**
FRIM Kepong 54.12 279 P **P** **15 06 55.0 -0.3**
FRIM Kepong 54.12 279 P **P** **15 06 55.5 +0.1**
YSS Yuzh-Sakhalins 54.24 350 *e*P **P** **15 06 55.4 -0.2**
comp=Z,16nm,0.6s,mb5.2
YSS Yuzh-Sakhalins 54.24 350 *e*P **P** **15 06 54.0 -1.6**
IPM Ipoh 54.94 280 P **P** **15 07 01.1 -0.1**
IPM Ipoh 54.94 280 *e*P **P** **15 07 00.3 -0.9**
comp=Z,25nm,0.8s,mb5.3
KULM Kulim 55.46 281 *e*P **P** **15 07 03.9 -1.2**
CN2 Changchun 56.68 335 *e*P **P** **15 07 15.5 +2.4**
PSI Prapat 56.71 278 P **P** **15 07 12.2 -1.7**
comp=Z,6.7nm,0.6s,mb4.9,baz=143,slow=7.3,SNR=4.9
PSI Prapat 56.71 278 P **P** **15 07 12.2 -1.7**
PSI Prapat 56.71 278 P **P** **15 07 12.2 -1.7**
GYA Guiyang 57.10 307 P **P** **15 07 18.0 +1.6**
GYA pP pP 15 07 40.6 +2.3
GYA sP sP 15 07 52.1 +4.0
GYA PcP PcP 15 08 12.0 +1.6
GYA PP PP 15 09 28.4 +4.1
GYA ScP ScP 15 12 01.6 -0.7
GYA S **S** **15 15 05.3 +0.3**
GYA sS sS 15 15 43.7 +1.3
GYA SS SS 15 18 56.0 +0.7
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
GYA pmax pmax
comp=Z,110nm,5.3s
GYA LR LR
comp=N,510nm,17.5s
GYA LR LR
comp=E,470nm,18.0s
GYA LR LR
comp=Z,530nm,17.3s
BJI Beijing 58.45 326 P pP 15 07 42.6 -5.0
BJI pmax pmax
comp=Z,17nm,0.6s,mb5.2
BJI LR LR
comp=N,490nm,12.8s
BJI LR LR
comp=E,320nm,12.3s
BJI LR LR
comp=Z,40nm,16.7s
KLR Kul'dur 59.02 342 *e*P **P** **15 07 25.7 -3.7**
KLR pmax pmax
comp=Z,40nm,1.8s,mb5.2
KLR Kul'dur 59.02 342 *e*P **P** **15 07 25.7 -3.7**
KLR pmax pmax
comp=Z,40nm,1.8s,mb5.2
PET Petropavlovsk 59.31 3 *e*P **P** **15 07 31.8 +0.5**
PET pmax pmax
comp=Z,32nm,0.6s,mb5.5
PET MLR MLR
comp=Z,100nm,17.0s
PETK Petropavlovsk- 59.35 2 P **P** **15 07 32.2 +0.6**
comp=Z,20nm,0.6s,mb5.3,baz=149,slow=6.7,SNR=22
PETK Petropavlovsk- 59.35 2 P **P** **15 07 32.2 +0.6**
PETK Petropavlovsk- 59.35 2 P **P** **15 07 32.2 +0.6**
KMI Kunming 59.69 304 P **P** **15 07 36.1 +1.6**
KMI pP pP 15 07 58.6 +2.1
KMI sP sP 15 08 07.8 +1.5
KMI PP PP 15 09 51.3 +4.0
KMI S **S** **15 15 39.0 +0.3**
KMI SS SS 15 19 37.2 +1.1
KMI pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KMI pmax pmax
comp=Z,88nm,3.4s
KMI LR LR
comp=N,65nm,21.8s
KMI LR LR
comp=E,87nm,22.8s
KMI LR LR
comp=Z,130nm,23.9s
CHRT Chiangrai 60.24 297 ⇑P **P** **15 07 37.0 -1.4**
comp=Z,197nm,0.9s,mb6.1
CMAR Chiang Mai Arr 60.53 295 P **P** **15 07 41.2 +0.9**
comp=Z,33nm,0.8s,mb5.4,baz=119,slow=5.2,SNR=169
CMAR pP pP 15 07 56.6 -5.8
comp=Z,13nm,0.8s,baz=120,slow=4.2,SNR=7.6
CMAR LR LR 15 30 35.3
comp=Z,50nm,19.4s,baz=255,slow=33
CMAR Chiang Mai Arr 60.53 295 P **P** **15 07 41.2 +0.9**
CMAR pP pP 15 07 56.6 -5.8
CMAR LR LR 15 30 35.2
CMAR Chiang Mai Arr 60.53 295 P **P** **15 07 41.3 +1.0**
CMAR *PP pP 15 07 56.7 -5.7
CHG Chiang Mai 60.64 296 P **P** **15 07 41.5 +0.4**
CHTO Chiang Mai 60.64 296 *e*P **P** **15 07 41.3 +0.2**
comp=Z,34nm,1.1s,mb5.3
CHTO Chiang Mai 60.64 296 *e*P **P** **15 07 41.3 +0.2**
CHTO pmax pmax
comp=Z,34nm,1.1s,mb5.3
CD2 Chengdu 61.44 310 P **P** **15 07 46.8 +0.5**
CD2 pP pP 15 08 11.0 +2.6
CD2 sP sP 15 08 22.1 +4.0
CD2 PcP PcP 15 08 27.3 -0.3
CD2 PP PP 15 10 05.5 +2.9
CD2 S **S** **15 15 58.9 -1.9**
CD2 sS sS 15 16 41.4 +2.7
CD2 SS SS 15 20 02.8 -0.5
CD2 pmax pmax
comp=Z,50nm,0.6s,mb5.7
CD2 pmax pmax
comp=Z,120nm,5.9s
CD2 LR LR
comp=N,130nm,8.3s
CD2 LR LR
comp=Z,130nm,8.3s
HHC Hu-ho-hao-te 61.63 324 *e*P **P** **15 07 49.0 +1.6**
HHC pP pP 15 08 10.3 +0.8
HHC sP sP 15 08 20.5 +1.3
HHC PP PP 15 10 08.0 +3.9
HHC S **S** **15 16 03.1 +0.2**
HHC sS sS 15 16 40.0 -0.8
HHC ScS ScS 15 17 28.1 -2.8
HHC pmax pmax
comp=Z,20nm,0.6s,mb5.3
HHC pmax pmax
comp=Z,130nm,5.0s
HHC LR LR
comp=N,190nm,17.5s
HHC LR LR
comp=E,180nm,17.0s
HHC LR LR
comp=Z,120nm,17.8s
LZH Lanzhou 63.90 315 *e*P **P** **15 08 03.0 +0.4**
LZH pP pP 15 08 29.2 +4.3
LZH pmax pmax
comp=Z,20nm,1.5s,mb4.7
ULN Ulaanbaatar 68.52 328 *e*P **P** **15 08 31.8 0.0**
comp=Z,11nm,0.8s,mb4.7
ULN Ulaanbaatar 68.52 328 *e*P **P** **15 08 31.8 0.0**
ULN pmax pmax
comp=Z,11nm,0.8s,mb4.7
SONM Songino Array 68.85 327 P **P** **15 08 33.7 -0.2**
comp=Z,9.9nm,0.5s,mb4.9,baz=144,slow=5.2,SNR=61
SONM LR LR 15 39 49.8
comp=Z,73nm,18.9s,baz=122,slow=37
SONM Songino Array 68.85 327 P **P** **15 08 33.7 -0.2**
SONM LR LR 15 39 49.8
SONM Songino Array 68.85 327 P **P** **15 08 33.7 -0.2**
LSA Lhasa 70.94 304 P **P** **15 08 48.0 +0.9**
YAK Yakutsk 71.00 348 *e*P **P** **15 08 47.2 +0.4**
YAK pmax pmax
comp=Z,11nm,0.8s,mb4.7
YAK Yakutsk 71.00 348 *e*P **P** **15 08 47.2 +0.4**
YAK pmax pmax
comp=Z,11nm,0.8s,mb4.7
ZAK Zakamensk 72.01 328 ⇑*i*P **P** **15 08 52.7 -0.4**
ZAK pmax pmax
comp=Z,11nm,0.8s,mb4.7
BOD Bodaibo 72.09 338 *e*P **P** **15 08 51.4 -2.0**
TAPN Taplejung 73.10 301 *e*P **P** **15 09 00.6 +0.5**
comp=Z,37nm,0.7s,mb5.3
TAPN Taplejung 73.10 301 *e*P **P** **15 09 00.6 +0.5**
comp=Z,37nm,0.7s,mb5.3
ODAN Odare 73.23 300 *e*P **P** **15 09 00.9 0.0**
comp=Z,100nm,0.6s,mb5.8
ODAN Odare 73.23 300 *e*P **P** **15 09 00.9 0.0**
comp=Z,100nm,0.6s,mb5.8
BILL Bilibino 74.72 4 *e*P **P** **15 09 09.0 +0.3**
comp=Z,26nm,0.8s,mb5.0
BILL Bilibino 74.72 4 *c i*P **P** **15 09 09.1 +0.4**
BILL 15 09 23.0
BILL pmax pmax
comp=Z,31nm,0.8s,mb5.1
GUN Gumba 74.81 301 *e*P **P** **15 09 10.3 +0.2**
comp=Z,49nm,0.7s,mb5.4
GUN Gumba 74.81 301 *e*P **P** **15 09 10.3 +0.2**
comp=Z,49nm,0.7s,mb5.3
PKI Pulchoki 75.12 301 *e*P **P** **15 09 12.2 +0.4**
comp=Z,22nm,0.5s,mb5.1
PKI Pulchoki 75.12 301 *e*P **P** **15 09 12.3 +0.5**
comp=Z,19nm,0.5s,mb5.1
PKI Pulchoki 75.12 301 *e*P **P** **15 09 12.3 +0.5**
PKI pmax pmax
comp=Z,19nm,0.5s,mb5.1
PKIN Phulchoki 75.14 301 *e*P **P** **15 09 12.3 +0.4**
comp=Z,19nm,0.5s,mb5.0
KKN Kakani 75.29 301 *e*P **P** **15 09 12.4 -0.4**
comp=Z,27nm,0.5s,mb5.2
KKN Kakani 75.29 301 *e*P **P** **15 09 12.4 -0.4**
comp=Z,27nm,0.5s,mb5.2
KKN Kakani 75.29 301 *e*P **P** **15 09 12.4 -0.4**
KKN pmax pmax
comp=Z,27nm,0.5s,mb5.2
PALK Pallekele 75.33 279 *i*P **P** **15 09 14.1 +0.8**
DMN Daman 75.39 301 *e*P **P** **15 09 13.3 -0.1**
comp=Z,38nm,0.5s,mb5.4
DMN Daman 75.39 301 *e*P **P** **15 09 13.3 -0.1**
comp=Z,38nm,0.5s,mb5.4
GKN Gorkha 75.90 301 *e*P **P** **15 09 15.7 -0.6**
comp=Z,31nm,0.8s,mb5.1
GKN Gorkha 75.90 301 *e*P **P** **15 09 15.7 -0.6**
comp=Z,31nm,0.8s,mb5.1
KDAK Kodiak Island 76.67 26 *i*P **P** **15 09 22.8 +2.9**
KOLN Koldanda 76.72 300 *e*P **P** **15 09 20.7 -0.3**
comp=Z,14nm,0.6s,mb4.9
KOLN Koldanda 76.72 300 *e*P **P** **15 09 20.7 -0.3**
comp=Z,14nm,0.6s,mb4.9
DANN Dangsing 76.73 301 *e*P **P** **15 09 20.7 -0.3**
comp=Z,23nm,0.7s,mb5.0
DANN Dangsing 76.73 301 *e*P **P** **15 09 20.7 -0.3**
comp=Z,23nm,0.7s,mb5.0
WMQ Urumqi 78.40 317 P **P** **15 09 29.9 0.0**
WMQ pP pP 15 09 55.1 +2.1
WMQ PP PP 15 12 30.4 +2.0
WMQ pmax pmax
comp=Z,11nm,0.5s,mb4.8
WMQ LR LR
comp=Z,76nm,20.5s
HYB Hyderabad 79.07 289 *i*P **P** **15 09 33.0 -1.1**
SLKM Sklak Lake 79.23 24 *e*P **P** **15 09 33.9 -0.2**
SLKM Sklak Lake 79.23 24 *e*P **P** **15 09 33.9 -0.2**
PPLA Purkeypile 79.86 22 *e*P **P** **15 09 37.2 -0.2**
PMR Palmer 80.28 24 *e*P **P** **15 09 39.8 0.0**
comp=Z,16nm,0.8s,mb4.9
PMR Palmer 80.28 24 *e*P **P** **15 09 39.8 0.0**
PMR pmax pmax
comp=Z,16nm,0.8s,mb4.9
SML Sawmill 80.72 24 *e*P **P** **15 09 42.5 +0.4**
comp=Z,7.2nm,0.9s,mb4.5
SML Sawmill 80.72 24 *e*P **P** **15 09 42.5 +0.4**
SML pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
TRF Thorofare Moun 80.88 22 *e*P **P** **15 09 42.2 -0.7**
comp=Z,12nm,0.8s,mb4.8
DIV Divide 81.41 25 *e*P **P** **15 09 46.0 +0.2**
comp=Z,11nm,0.6s,mb4.9
MCK McKinley 81.54 22 *e*P **P** **15 09 45.5 -0.9**
comp=Z,21nm,0.9s,mb5.0
MCK *e* 15 10 02.7
MCK McKinley 81.54 22 *e*P **P** **15 09 45.5 -0.9**
MCK *e* 15 10 02.7
MCK pmax pmax
comp=Z,21nm,0.9s,mb5.0
PAX Paxson 82.47 23 *e*P **P** **15 09 51.9 +0.6**
comp=Z,2.5nm,0.6s,mb4.2
PAX Paxson 82.47 23 *e*P **P** **15 09 51.9 +0.6**
PAX pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
COLA College 82.56 21 *e*P **P** **15 09 50.2 -1.5**
comp=Z,9.2nm,0.7s,mb4.7
COLA College 82.56 21 *e*P **P** **15 09 50.2 -1.5**
COLA pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
ILAR Eielson Array 82.86 22 P **P** **15 09 52.1 -1.2**
comp=Z,3.4nm,0.6s,mb4.4,baz=240,slow=5.2,SNR=54
ILAR pP pP 15 10 08.0 -8.6
comp=Z,1.7nm,0.7s,baz=262,slow=3.8,SNR=3.8
ILAR PKKPbc PKKPbc 15 28 16.4 -3.1
comp=Z,0.2nm,0.6s,baz=352,slow=1.6,SNR=4.8
ILAR LR LR 15 42 52.2
comp=Z,145nm,18.3s,baz=123,slow=33
ILAR Eielson Array 82.86 22 P **P** **15 09 52.1 -1.2**
ILAR pP pP 15 10 08.0 -8.6
ILAR PKKPbc PKKPbc 15 28 16.4 -3.1
ILAR LR LR 15 42 52.2
ILAR Eielson Array 82.86 22 P **P** **15 09 52.1 -1.2**
ILAR *PP pP 15 10 08.0 -8.5
MK31 Makanchi Array 82.97 319 *i*P **P** **15 09 53.9 -0.4**
MK31 pmax pmax
comp=Z,18nm,0.7s,mb5.0
MKAR Makanchi Array 82.97 319 P **P** **15 09 54.0 -0.3**
comp=Z,19nm,0.7s,mb5.0,baz=101,slow=5.6,SNR=80
MKAR pP pP 15 10 09.3 -8.1
comp=Z,5.7nm,0.8s,baz=95,slow=7.7,SNR=4.2
MKAR LR LR 15 46 01.6
comp=Z,72nm,18.2s,baz=1.8,slow=35
MKAR Makanchi Array 82.97 319 P **P** **15 09 54.0 -0.3**
MKAR pP pP 15 10 09.3 -8.1
MKAR LR LR 15 46 01.6
MKAR Makanchi Array 82.97 319 P **P** **15 09 54.0 -0.3**
MKAR *PP pP 15 10 09.4 -8.1
COLD Coldfoot 83.08 19 *e*P **P** **15 09 54.9 +0.5**
comp=Z,6.0nm,1.1s,mb4.3
ZALV Zalesovo Beam 83.70 326 P **P** **15 09 56.0 -1.8**
comp=Z,12nm,0.7s,mb4.8,baz=110,slow=5.4,SNR=34
ZALV pP pP 15 10 11.8 -9.4
comp=Z,5.4nm,0.9s,baz=76,slow=6.3,SNR=3.4
ZALV Zalesovo Beam 83.70 326 P **P** **15 09 56.0 -1.8**
ZALV pP pP 15 10 11.8 -9.4
ZALV Zalesovo Beam 83.70 326 P **P** **15 09 56.1 -1.8**
ZALV *PP pP 15 10 11.8 -9.3
NVS Novosibirsk 84.87 327 *e*P **P** **15 09 59.7 -4.0**
NVS pmax pmax
comp=Z,15nm,1.4s,mb4.7
NVS pmax pmax
comp=N,12nm,2.0s
NVS pmax pmax
comp=E,13nm,2.0s
MAW Mawson 84.91 203 P **P** **15 10 04.4 +0.6**
comp=E,15nm,0.6s,mb5.1,baz=98,slow=6.5,SNR=118
MAW LR LR 15 43 20.1
comp=E,73nm,18.4s,baz=271,slow=32
MAW Mawson 84.91 203 P **P** **15 10 04.4 +0.6**
MAW LR LR 15 43 20.1
MAW Mawson 84.91 203 P **P** **15 10 04.4 +0.7**
EGAK Eagle 85.01 23 *e*P **P** **15 10 04.5 +0.3**
comp=E,9.5nm,0.8s,mb4.8
DAWY Dawson 85.39 24 *e*P **P** **15 10 06.4 +0.3**
KSH Kashi 85.63 310 *e*P **P** **15 10 09.9 +2.0**
KSH pP pP 15 10 35.5 +4.2
KSH sP sP 15 10 46.1 +5.4
KSH PP PP 15 13 33.3 +5.3
KSH SKS 15 20 24.1
KSH S S 15 20 34.9 +1.8
KSH sS sS 15 21 19.5 +6.4
KSH SS SS 15 26 19.0 +7.7
KSH pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
KSH pmax pmax
comp=Z,110nm,5.1s
KSH LR LR
comp=N,53nm,4.3s
KSH LR LR
comp=E,54nm,5.5s
KSH LR LR
comp=Z,100nm,4.3s
KURK Kurchatov 86.38 322 P **P** **15 10 09.8 -1.6**
comp=Z,3.5nm,0.5s,mb4.5,baz=98,slow=4.9,SNR=24
KURK Kurchatov 86.38 322 *e*P **P** **15 10 09.6 -1.7**
comp=Z,3.8nm,0.4s,mb4.7
KURK Kurchatov 86.38 322 *e*P **P** **15 10 09.6 -1.7**
KURK pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
TKM2 Tokmak 2 86.61 314 *e*P **P** **15 10 12.1 -0.6**
comp=Z,3.3nm,0.6s,mb4.4
TKM2 Tokmak 2 86.61 314 P **P** **15 10 12.1 -0.6**
TKM2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
AAK Ala-Archa 87.35 313 P **P** **15 10 15.7 -0.6**
comp=Z,2.1nm,0.6s,mb4.2,baz=142,slow=9.8,SNR=5.2
AAK Ala-Archa 87.35 313 P **P** **15 10 15.7 -0.6**
AAK Ala-Archa 87.35 313‖ *e*P **P** **15 10 16.3 +0.1**
AAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
DLBC Dease Lake 87.67 31 *e*P **P** **15 10 18.6 +1.3**
INK Inuvik 89.20 21 *e*P **P** **15 10 23.7 -0.7**
comp=Z,2.6nm,0.5s,mb4.5
INK Inuvik 89.20 21 *e*P **P** **15 10 23.7 -0.7**
INK pmax pmax
comp=Z,3.0nm,0.5s
WAKR Walker 90.51 51 *e*P **P** **15 10 32.5 +1.3**
comp=Z,2.2nm,0.6s,mb4.5
MWC Mount Wilson 91.07 56 *e*P **P** **15 10 35.2 +1.3**
comp=Z,8.8nm,0.8s,mb4.9
MWC Mount Wilson 91.07 56 *e*P **P** **15 10 35.2 +1.3**
MWC pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
NVAR Mina Array Bea 91.39 52 P **P** **15 10 36.9 +1.6**
comp=Z,4.3nm,0.7s,mb4.7,baz=253,slow=6.6,SNR=32
NVAR PKKPbc PKKPbc 15 27 58.1 +0.6
comp=Z,0.4nm,0.7s,baz=118,slow=2.5,SNR=3.7
NVAR LR LR 15 43 32.2
comp=Z,82nm,19.9s,baz=118,slow=30
NVAR Mina Array Bea 91.39 52 P **P** **15 10 36.9 +1.6**
NVAR PKKPbc PKKPbc 15 27 58.1 +0.6
NVAR LR LR 15 43 32.2
BVA0 Borovoye Array 91.84 323 *i*P **P** **15 10 33.6 -3.4**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s,mb4.2
BVAR Borovoye Array 91.84 323 P **P** **15 10 35.1 -1.9**
comp=Z,2.7nm,0.5s,mb4.7,baz=100,slow=6.2,SNR=15
BVAR Borovoye Array 91.84 323 P **P** **15 10 35.1 -1.9**
BVAR Borovoye Array 91.84 323 P **P** **15 10 35.1 -1.9**
BRVK Borovoye 91.90 323 *e*P **P** **15 10 35.4 -1.9**
BRVK Borovoye 91.90 323‖ *i*P **P** **15 10 35.5 -1.8**
BRVK pmax pmax
comp=Z,7.0nm,1.2s,mb4.8
SYO Syowa Base 92.85 199‖ *e*P **P** **15 10 39.8 -1.6**
LDFC Landfair 93.58 55 *e*P **P** **15 10 47.1 +1.6**
comp=Z,6.9nm,0.6s,mb5.2
SHPR Sheep Range 93.67 54 *e*P **P** **15 10 47.3 +1.4**
comp=Z,6.3nm,1.1s,mb4.9
YKA Yellowknife Ar 95.85 28 P **P** **15 10 55.5 +0.3**
comp=Z,4.4nm,0.5s,mb5.1,baz=266,slow=4.6,SNR=18
YKA Yellowknife Ar 95.85 28 P **P** **15 10 55.5 +0.3**
YKA Yellowknife Ar 95.85 28 P **P** **15 10 55.5 +0.3**
PDAR Pinedale Array 98.33 48 P **P** **15 11 06.4 -0.5**
comp=Z,1.2nm,0.6s,mb4.6,baz=241,slow=2.7,SNR=9.7
PDAR LR LR 15 52 04.6
comp=Z,80nm,18.7s,baz=279,slow=33
PDAR Pinedale Array 98.33 48 P **P** **15 11 06.4 -0.5**
PDAR LR LR 15 52 04.6
VNA3 Neumayer Olymp 101.81 185 *e* Pdif 15 11 19.0 -3.2
VNA2 Neumayer--Watz 101.91 186 *e* Pdif 15 11 20.4 -2.2
baz=181,slow=4.4
TXAR Lajitas Array 103.01 61 PKKPbc PKKPbc 15 27 25.2 -0.1
comp=Z,0.6nm,0.6s,baz=116,slow=4.1,SNR=5.7
AKASG **Malin Array Be 117.07 325** PKP PKPdf 15 16 12.7 -0.9
comp=Z,1.4nm,0.5s,baz=58,slow=2.1,SNR=5.8
AKASG **Malin Array Be 117.07 325** PKP PKPdf 15 16 12.7 -0.9
AKASG **Malin Array Be 117.07 325** PKIKP PKPdf 15 16 12.7 -0.9
PLCA Paso Flores 117.18 142 PKP PKPdf 15 16 13.3 -0.9
comp=Z,1.2nm,0.6s,baz=306,slow=6.7,SNR=3.0
PLCA Paso Flores 117.18 142 PKP PKPdf 15 16 13.3 -0.9
PLCA Paso Flores 117.18 142 PKIKP PKPdf 15 16 13.3 -0.9
BRTR Keskin Array B 118.00 312 PKP PKPdf 15 16 14.2 -1.6
comp=Z,0.9nm,0.7s,baz=108,slow=4.0,SNR=3.9
BRTR Keskin Array B 118.00 312 PKP PKPdf 15 16 14.2 -1.6
BRTR Keskin Array B 118.00 312 PKIKP PKPdf 15 16 14.2 -1.6
NOA NORSAR Array B 119.16 341 PKP PKPdf 15 16 16.8 -0.5
comp=Z,0.7nm,0.5s,baz=45,slow=1.8,SNR=3.9
NOA NORSAR Array B 119.16 341 PKP PKPdf 15 16 16.8 -0.5
NOA NORSAR Array B 119.16 341 PKIKP PKPdf 15 16 16.8 -0.5
BOSA Boshof 120.36 232 PKP PKPdf 15 16 20.9 +0.3
comp=Z,3.7nm,0.6s,baz=93,slow=8.2,SNR=3.2
BOSA Boshof 120.36 232 PKP PKPdf 15 16 20.9 +0.3
BOSA Boshof 120.36 232 PKIKP PKPdf 15 16 21.0 +0.3
DPC Dobruska-Polom 124.29 329 *e*PKIKP PKPdf 15 16 26.9 -0.6
DPC Dobruska-Polom 124.29 329 *e*PKPdf PKPdf 15 16 26.9 -0.6
CLL Collm 125.31 332 *e*PKIKP PKPdf 15 16 29.0 -0.4
CLL pmax pmax
comp=Z,4.0nm,0.9s
CLL Collm 125.31 332 *e*PKPdf PKPdf 15 16 29.0 -0.4
comp=Z,4.0nm,0.9s
KHC Kasperske Hory 126.44 329 *e*PKIKP PKPdf 15 16 32.0 +0.3
KHC Kasperske Hory 126.44 329 *e*PKPdf PKPdf 15 16 32.0 +0.3
GERES **GERESS Array B 126.56 329** PKP PKPdf 15 16 31.9 0.0
comp=Z,1.9nm,0.6s,baz=90,slow=1.3,SNR=14
GERES **GERESS Array B 126.56 329** PKP PKPdf 15 16 31.9 0.0
GERES **GERESS Array B 126.56 329** PKIKP PKPdf 15 16 31.9 0.0
SNF Seneffe 129.71 336 PKP PKPdf 15 16 35.9 -2.0
LPAZ La Paz 131.74 118 PKP PKPdf 15 16 44.1 +1.5
comp=Z,1.9nm,0.6s,baz=259,slow=1.0,SNR=8.7
LPAZ La Paz 131.74 118 PKP PKPdf 15 16 44.1 +1.5
LPAZ La Paz 131.74 118 PKIKP PKPdf 15 16 44.2 +1.5
SDDR Presa de Saban 133.32 70 *e*PKPdf PKPdf 15 16 45.6 0.0
SDV Santo Domingo 134.75 84 *e*PKPdf PKPdf 15 16 48.3 -0.1
CPUP Villa Florida 134.81 137 PKP PKPdf 15 16 48.6 +0.3
comp=Z,0.8nm,0.5s,baz=136,slow=2.6,SNR=4.5
CPUP Villa Florida 134.81 137 PKP PKPdf 15 16 48.6 +0.3
CPUP Villa Florida 134.81 137 PKIKP PKPdf 15 16 48.6 +0.3
CRPR Cabo Rojo, PR 137.40 70 *e*PKPdf PKPdf 15 16 53.3 +0.1
CELP Cerrillos 137.88 70 *e*PKPdf PKPdf 15 16 53.0 -1.1
ICM Isla Caja Muer 137.97 70 *e*PKPdf PKPdf 15 16 53.9 -0.3
MTP Monte Pirata 138.83 70 *e*PKPdf PKPdf 15 16 55.9 0.0
STVI Saint Thomas 139.34 69 *e*PKPdf PKPdf 15 16 56.2 -0.6
TORD Torodi Ar. Bea 152.86 286 PKP PKPdf 15 17 17.3 -2.2
comp=Z,1.7nm,1.0s,baz=181,slow=0.9,SNR=8.2
TORD PKPbc PKPbc 15 17 25.9 -1.0
comp=Z,9.1nm,0.7s,baz=61,slow=2.2,SNR=41
TORD Torodi Ar. Bea 152.86 286 PKP PKPdf 15 17 17.3 -2.2
TORD PKPbc PKPbc 15 17 25.9 -0.9
DBIC Dimbokro 159.96 272 PKPab PKPab 15 18 08.4 -0.4
comp=Z,11nm,0.8s,baz=74,slow=3.9,SNR=11

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*IDC **06** 15:01:41.6±0.8,30.°84N×103.°70E,h0km,mb3.7/8, mb1 3.9/10,mb1mx3.7/27,mbtmpb3.7/10,ML3.9/1,MS3.5/5, Ms1 3.5/5,ms1mx3.2/33,Error ellipse: s-maj=36.6km s-min=15.6km az=59.0*

*ISCJB **06** 15:01:42.7±0.6,30.°92N±0.°04×103.°56E±0.°04,h24km±5km, mb3.9/12,MS3.4/4,Error ellipse: s-maj=6.6km s-min=5.3km az=149.2*

*NEIC **06** 15:01:42.9±4.9,30.°91N×103.°53E,h10km±34km,mb4.3/10, Error ellipse: s-maj=10.4km s-min=9.6km az=162.0*

*MOS **06** 15:01:43.9±1.3,30.°86N×103.°55E,h33km,mb4.1/9,Error ellipse: s-maj=13.0km s-min=9.3km az=92.3*

*BJI **06** 15:01:43.7,30.°84N×103.°77E,h16km,mB4.8/7,mb4.3/13, ML4.3/22,Ms4.1/15,Ms7 3.9/7*

ISC 06 15:01:43.3±0.7,30.°94N±0.°03×103.°53E±0.°04,h11km±5km, n75,σ1s29/80,mb3.9/12,MS3.4/4,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.20**	**100**	Pg	**Pg**	**15 01 47.7**	**+0.1**
CD2				Sg	**Sg**	**15 01 51.9**	**+1.4**
CD2				smax			
	comp=N,76μm,0.5s						
CD2				smax			
	comp=E,66μm,0.4s						
LZH	**Lanzhou**	**5.14**	**3**	Pg	**Pg**	**15 03 20.7**	**-1.0**
LZH				Sn	**Sn**	**15 04 08.5**	**+9.1**
LZH				smax			
	comp=N,150nm,1.1s						
LZH				smax			
	comp=E,170nm,1.0s						
LZH				LR	LR		
	comp=N,900nm,5.4s						
LZH				LR	LR		
	comp=E,1μm,7.2s						
LZH				LR	LR		
	comp=Z,820nm,6.6s						

ENH	**Enshi**	**5.18**	**96**	*e*Pn		**Pn**	**15 03 00.8**	**+0.1**
	comp=Z,258nm,0.8s							
GYA	**Guiyang**	**5.25**	**148**	Pn		**Pn**	**15 03 01.3**	**-0.4**
GYA				Sn		**Sn**	**15 04 02.6**	**+0.4**
GYA				smax				
	comp=N,810nm,0.8s							
GYA				smax				
	comp=E,570nm,0.8s							
GYA				LR	LR			
	comp=N,890nm,10.8s							
GYA				LR	LR			
	comp=E,1μm,10.5s							
XAN	**Xi'an**	**5.50**	**54**	Pn		**Pn**	**15 03 03.4**	**-1.8**
XAN				Pg		**Pg**	**15 03 21.7**	**-7.0**
XAN				Sn		**Sn**	**15 04 07.9**	**-0.5**
XAN				Sg		**Sg**	**15 04 36.5**	**-3.5**
XAN				smax				
	comp=N,540nm,1.3s							
XAN				smax				
	comp=E,200nm,0.9s							
XAN				LR	LR			
	comp=N,1μm,12.6s							
XAN				LR	LR			
	comp=E,300nm,9.8s							
KMI	**Kunming**	**5.84**	**187**	Pn		**Pn**	**15 03 10.7**	**+0.9**
KMI				smax				
	comp=N,59nm,1.1s							
KMI				smax				
	comp=E,69nm,0.9s							
KMI				LR	LR			
	comp=N,830nm,7.9s							
KMI				LR	LR			
	comp=E,830nm,7.4s							
KMI				LR	LR			
	comp=Z,520nm,10.1s							
WHN	**Wuhan**	**9.32**	**90**	P		**Pn**	**15 03 58.6**	**+1.0**
WHN				S		**Sn**	**15 05 32.9**	**-10**
WHN				LR	LR			
	comp=N,2μm,8.1s							
WHN				LR	LR			
	comp=E,2μm,11.5s							
WHN				LR	LR			
	comp=Z,1μm,6.5s							
LSA	**Lhasa**	**10.77**	**267**	P		**Pn**	**15 04 18.1**	**+0.7**
LSA	**Lhasa**	**10.77**	**267**	*e*Pn		**Pn**	**15 04 17.9**	**+0.4**
	comp=Z,2.4nm,0.4s							
LSA	**Lhasa**	**10.77**	**267**	*e*P		**Pn**	**15 04 17.9**	**+0.5**
LSA				pmax	pmax			
	comp=Z,2.0nm,0.4s							
HHC	**Hu-ho-hao-te**	**11.83**	**31**	*e*P		**Pn**	**15 04 32.0**	**+0.1**
HHC				sP			15 04 38.5	
HHC				PP			15 04 41.6	
HHC				S		**Sn**	**15 06 44.7**	**+0.8**
HHC				SS			15 06 58.7	
HHC				pmax	pmax			
	comp=Z,18nm,0.6s							
HHC				pmax	pmax			
	comp=Z,100nm,4.6s							
HHC				LR	LR			
	comp=N,140nm,5.3s							
HHC				LR	LR			
	comp=E,160nm,5.7s							
CHTO	**Chiang Mai**	**12.77**	**200**	*e*Pn		**Pn**	**15 04 45.7**	**+0.9**
	comp=E,3.8nm,0.6s							
CHTO	**Chiang Mai**	**12.77**	**200**	*e*P		**Pn**	**15 04 45.7**	**+0.9**
CHTO				pmax	pmax			
	comp=Z,4.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**13.11**	**200**	Pn		**Pn**	**15 04 50.6**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=13,slow=11,SNR=14							
CMAR	**Chiang Mai Arr**	**13.11**	**200**	Pn		**Pn**	**15 04 50.6**	**+1.2**
CMAR	**Chiang Mai Arr**	**13.11**	**200**	P		**Pn**	**15 04 50.6**	**+1.1**
NJ2	**Nanjing**	**13.13**	**81**	*e*P		**Pn**	**15 04 47.4**	**-2.3**
NJ2				pP			15 04 52.0	
NJ2				sP			15 04 55.2	
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.7s							
NJ2				LR	LR			
	comp=N,930nm,11.6s							
NJ2				LR	LR			
	comp=E,260nm,14.8s							
NJ2				LR	LR			
	comp=Z,250nm,11.6s							
TAPN	**Taplejung**	**14.28**	**259**	*e*P		**Pn**	**15 05 03.4**	**-2.0**
	comp=Z,17nm,0.9s							
TAPN	**Taplejung**	**14.28**	**259**	*e*P		**Pn**	**15 05 03.4**	**-2.0**
	comp=Z,17nm,0.9s							
ODAN	**Odare**	**14.71**	**258**	*e*P		**Pn**	**15 05 10.4**	**-0.9**
	comp=Z,9.5nm,0.6s							
ODAN	**Odare**	**14.71**	**258**	*e*P		**Pn**	**15 05 10.4**	**-0.9**
	comp=Z,9.5nm,0.6s							
PKI	**Pulchoki**	**16.17**	**263**	*e*P		**Pn**	**15 05 29.2**	**-1.3**
	comp=Z,22nm,0.6s							
PKI	**Pulchoki**	**16.17**	**263**	*e*P		**Pn**	**15 05 29.3**	**-1.2**
	comp=Z,20nm,0.5s							
PKI	**Pulchoki**	**16.17**	**263**	*e*P		**Pn**	**15 05 29.3**	**-1.2**
PKI				pmax	pmax			
	comp=Z,20nm,0.5s							
PKIN	**Phulchoki**	**16.18**	**263**	*e*P		**Pn**	**15 05 29.3**	**-1.3**
	comp=Z,20nm,0.5s							
KKN	**Kakani**	**16.22**	**263**	*e*P		**Pn**	**15 05 29.2**	**-1.9**
	comp=Z,25nm,0.7s							
KKN	**Kakani**	**16.22**	**263**	*e*P		**Pn**	**15 05 29.2**	**-1.9**
	comp=Z,25nm,0.7s							
KKN	**Kakani**	**16.22**	**263**	*e*P		**Pn**	**15 05 29.2**	**-1.9**
KKN				pmax	pmax			
	comp=Z,25nm,0.7s							
DMN	**Daman**	**16.41**	**263**	*e*P		**Pn**	**15 05 32.3**	**-1.3**
	comp=Z,22nm,1.0s							
DMN	**Daman**	**16.41**	**263**	*e*P		**Pn**	**15 05 32.3**	**-1.3**
	comp=Z,22nm,1.0s							
GKN	**Gorkha**	**16.71**	**265**	*e*P		**Pn**	**15 05 36.9**	**-0.5**
	comp=Z,18nm,0.5s							
GKN	**Gorkha**	**16.71**	**265**	*e*P		**Pn**	**15 05 36.9**	**-0.5**
	comp=Z,18nm,0.5s							
SONM	**Songino Array**	**17.01**	**7**	Pn		**Pn**	**15 05 41.0**	**-0.1**
	baz=193,slow=12,SNR=11							
SONM				LR	LR		15 11 49.8	
	comp=Z,106nm,18.1s,baz=211,slow=36							
SONM	**Songino Array**	**17.01**	**7**	Pn		**Pn**	**15 05 41.0**	**-0.1**
SONM				LR		LR	15 11 49.8	
SONM	**Songino Array**	**17.01**	**7**	P		**Pn**	**15 05 41.0**	**0.0**
SONM				MLR	MLR			
	comp=Z,106nm,18.1s							
ULN	**Ulaanbaatar**	**17.11**	**8**	*e*Pn		**Pn**	**15 05 43.7**	**+1.3**
	comp=Z,6.1nm,1.0s							
ULN	**Ulaanbaatar**	**17.11**	**8**	*e*P		**Pn**	**15 05 43.7**	**+1.4**
ULN				pmax	pmax			
	comp=Z,6.0nm,1.0s							
DANN	**Dangsing**	**17.38**	**266**	*e*P		**Pn**	**15 05 47.1**	**+1.3**
	comp=Z,19nm,0.5s							
DANN	**Dangsing**	**17.38**	**266**	*e*P		**Pn**	**15 05 47.1**	**+1.3**
	comp=Z,19nm,0.5s							
KOLN	**Koldanda**	**17.66**	**265**	*e*P		**Pn**	**15 05 50.8**	**+1.5**
	comp=Z,9.9nm,0.7s							
KOLN	**Koldanda**	**17.66**	**265**	*e*P		**Pn**	**15 05 50.8**	**+1.5**
	comp=Z,9.9nm,0.7s							
ZAK	**Zakamensk**	**19.42**	**360**	*e*P		**Pn**	**15 06 10.8**	**+0.3**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.0s							
KSRS	**Korea Array**	**21.17**	**66**	LR		LR	15 14 39.7	
	comp=Z,93nm,19.2s,MS3.2,baz=295,slow=37							
CN2	**Changchun**	**21.56**	**47**	*e*P		**P**	**15 06 35.5**	**+2.9**
CN2				pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.3							
HIA	**Hailar**	**22.02**	**29**	*e*P		**P**	**15 06 35.1**	**-2.4**
	comp=Z,12nm,1.2s,mb4.2							
HIA	**Hailar**	**22.02**	**29**	*e*P		**P**	**15 06 35.1**	**-2.5**
HIA				pmax	pmax			
	comp=Z,12nm,1.2s							
MKAR	**Makanchi Array**	**22.78**	**320**	P		**P**	**15 06 46.9**	**+1.2**
	comp=Z,1.9nm,0.8s,mb3.6,baz=126,slow=12,SNR=7.1							
MKAR	**Makanchi Array**	**22.78**	**320**	P		**P**	**15 06 46.9**	**+1.2**
MKAR	**Makanchi Array**	**22.78**	**320**	P		**P**	**15 06 46.9**	**+1.3**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
AAK	**Ala-Archa**	**25.89**	**305**	P		**P**	**15 07 16.5**	**+1.4**
	comp=Z,0.5nm,0.5s,mb3.3,baz=112,slow=7.7,SNR=2.2							
AAK				LR		LR	15 18 26.6	
	comp=Z,181nm,18.9s,MS3.6,baz=252,slow=38							
AAK	**Ala-Archa**	**25.89**	**305**	P		**P**	**15 07 16.5**	**+1.4**
AAK				LR		LR	15 18 26.6	
AAK	**Ala-Archa**	**25.89**	**305**	P		**P**	**15 07 16.5**	**+1.4**
AAK				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb3.6							
AAK				MLR	MLR			
	comp=Z,181nm,18.9s,MS3.6							
EKS2	**Erkin-Say**	**26.40**	**305**	P		**P**	**15 07 20.6**	**+0.9**
	comp=Z,3.0nm,0.9s,mb3.8							
EKS2	**Erkin-Say**	**26.40**	**305**	P		**P**	**15 07 20.6**	**+0.9**
EKS2				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb3.8							
ZALV	**Zalesovo Beam**	**26.65**	**335**	P		**P**	**15 07 21.4**	**-0.5**
	comp=Z,0.7nm,0.5s,mb3.5,baz=132,slow=11,SNR=3.7							
ZALV	**Zalesovo Beam**	**26.65**	**335**	P		**P**	**15 07 21.4**	**-0.5**
ZALV	**Zalesovo Beam**	**26.65**	**335**	P		**P**	**15 07 21.4**	**-0.5**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb3.6							
KURK	**Kurchatov**	**27.08**	**324**	LR		LR	15 19 20.6	
	comp=Z,81nm,20.3s,MS3.3,baz=315,slow=39							
KURK	**Kurchatov**	**27.08**	**324**	*e*P		**P**	**15 07 27.7**	**+1.9**
	comp=Z,3.4nm,0.5s,mb4.1							
KURK	**Kurchatov**	**27.08**	**324**	*e*P		**P**	**15 07 27.7**	**+1.9**
KURK				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.1							
BVAR	**Borovoye Array**	**32.61**	**322**	LR		LR	15 21 17.1	
	comp=Z,90nm,20.8s,MS3.5,baz=303,slow=36							
WRA	**Warramunga Arr**	**58.62**	**146**	P		**P**	**15 11 39.4**	**-1.1**
	comp=Z,1.0nm,0.5s,mb4.1,baz=337,slow=7.6,SNR=18							
WRA	**Warramunga Arr**	**58.62**	**146**	P		**P**	**15 11 39.4**	**-1.1**
WRA	**Warramunga Arr**	**58.62**	**146**	P		**P**	**15 11 39.4**	**-1.0**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ASAR	**Alice Springs**	**61.61**	**148**	P		**P**	**15 11 59.2**	**-1.7**
	comp=Z,0.3nm,0.4s,mb3.8,baz=335,slow=6.8,SNR=7.9							
ASAR	**Alice Springs**	**61.61**	**148**	P		**P**	**15 11 59.2**	**-1.7**
ASAR	**Alice Springs**	**61.61**	**148**	P		**P**	**15 11 59.2**	**-1.7**
NOA	**NORSAR Array B**	**64.53**	**327**	P		**P**	**15 12 22.7**	**+2.8**
	comp=Z,0.8nm,0.9s,mb3.8,baz=72,slow=6.8,SNR=3.2							
NOA	**NORSAR Array B**	**64.53**	**327**	P		**P**	**15 12 22.7**	**+2.8**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
CTA	**Charters Tower**	**65.26**	**135**	P		**P**	**15 12 23.8**	**-1.3**
	comp=Z,1.8nm,0.8s,mb4.2,baz=324,slow=8.7,SNR=2.5							
CTA	**Charters Tower**	**65.26**	**135**	P		**P**	**15 12 23.8**	**-1.3**
CTA	**Charters Tower**	**65.26**	**135**	P		**P**	**15 12 23.8**	**-1.3**
CTA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ILAR	**Eielson Array**	**70.19**	**25**	P		**P**	**15 12 57.0**	**+1.4**
	comp=Z,0.6nm,0.9s,mb3.5,baz=299,slow=4.1,SNR=4.9							
ILAR	**Eielson Array**	**70.19**	**25**	P		**P**	**15 12 57.0**	**+1.4**
ILAR	**Eielson Array**	**70.19**	**25**	P		**P**	**15 12 57.1**	**+1.4**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							

*ISCJB **06** 15:08:15.9±0.3, 39.40N±0.03°×33.18E±0.03, h10km, Error ellipse: s-maj=3.9km s-min=3.2km az=139.6*
*CSEM **06** 15:08:15.5±0.1, 39.39N×33.17E, h2km, MD3.2, Error ellipse: s-maj=3.4km s-min=3.0km az=138.0*
*DDA **06** 15:08:15.0, 39.35N×33.22E, h8km±3km, Md3.2*
*ISK **06** 15:08:15.2, 39.41N×33.15E, h4km, MD3.2*

ISC 06 15:08:15.6±0.6, 39.39N±0.02°×33.20E±0.03, h0km±5km, n47, σ0°80/62, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BBAL	**Bala**	**0.17**	**340**	*i* P		**Pg**	**15 08 19.7**	**+0.9**
BBAL				*i* S		**Sg**	**15 08 23.0**	**+2.0**
BBAL	**Bala**	**0.17**	**340**	*i* P		**Pg**	**15 08 19.7**	**+0.9**
BBAL				*i* S		**Sg**	**15 08 23.0**	**+2.0**
LOD	**Lodumlu**	**0.60**	**326**	*e*PG		**Pg**	**15 08 26.7**	**-0.5**
LOD	**Lodumlu**	**0.60**	**326**	*e*Pg		**Pg**	**15 08 26.7**	**-0.5**
CDAG	**Cicekdag**	**0.94**	**75**	*i* P		**Pg**	**15 08 33.0**	**-0.5**
CDAG				*i* S		**Sg**	**15 08 46.0**	**+0.3**
CDAG	**Cicekdag**	**0.94**	**75**	*i* P		**Pg**	**15 08 33.0**	**-0.5**
CDAG				*i* S		**Sg**	**15 08 46.0**	**+0.3**
ELDT	**Eldivan**	**1.12**	**9**	*i* P		**Pg**	**15 08 37.5**	**+0.5**
ELDT				*i* S		**Sg**	**15 08 52.7**	**+1.2**
ELDT	**Eldivan**	**1.12**	**9**	*i* P		**Pg**	**15 08 37.5**	**+0.5**
ELDT				*i* S		**Sg**	**15 08 52.7**	**+1.2**
KIZT	**Kizilcal**	**1.14**	**244**	*e*PN		**Pg**	**15 08 37.3**	**-0.2**
KIZT				*e*SN		**Sg**	**15 08 53.2**	**+1.0**
KIZT	**Kizilcal**	**1.14**	**244**	*e*Pn		**Pg**	**15 08 37.3**	**-0.1**
KIZT				*e*Sn		**Sg**	**15 08 53.3**	**+1.0**
KDHN	**Kadinhani**	**1.21**	**225**	*i* P		**Pg**	**15 08 37.8**	**-0.8**
KDHN				*i* S		**Sg**	**15 08 54.2**	**-0.1**
KDHN	**Kadinhani**	**1.21**	**225**	*i* P		**Pg**	**15 08 37.8**	**-0.9**
KDHN				*i* S		**Sg**	**15 08 54.2**	**-0.1**
SULT	**Sultanhani-AKS**	**1.21**	**168**	*e*PN		**Pn**	**15 08 39.6**	**-0.1**
SULT	**Sultanhani-AKS**	**1.21**	**168**	*e*Pn		**Pn**	**15 08 39.6**	**-0.1**
CANT	**Cankiri**	**1.26**	**15**	*e*PN		**Pn**	**15 08 39.6**	**-0.8**
SVRH	**Sivrihisar-ESK**	**1.30**	**273**	*e*PN		**Pn**	**15 08 39.9**	**-1.1**
SVRH	**Sivrihisar-ESK**	**1.30**	**273**	*e*Pn		**Pn**	**15 08 39.9**	**-1.0**
AVNT	**Avonos**	**1.42**	**115**	*i* P		**Pn**	**15 08 42.1**	**-0.5**
AVNT				*i* S		**Sg**	**15 09 00.7**	**-0.6**
AVNT	**Avonos**	**1.42**	**115**	*i* P		**Pn**	**15 08 42.1**	**-0.5**
AVNT				*i* S		**Sg**	**15 09 00.7**	**-0.6**
KONT	**Konya--Tatoy**	**1.58**	**205**	*e*PN		**Pn**	**15 08 44.8**	**0.0**
KONT	**Konya--Tatoy**	**1.58**	**205**	*e*Pn		**Pn**	**15 08 44.8**	**0.0**
YOZ	**Yozgat**	**1.66**	**81**	*e*PN		**Pn**	**15 08 46.1**	**+0.2**
YOZ	**Yozgat**	**1.66**	**81**	*e*Pn		**Pn**	**15 08 46.1**	**+0.2**
CTKT	**Corum**	**1.74**	**44**	*i* P		**Pn**	**15 08 47.2**	**+0.2**
CTKT				*i* S		**Sn**	**15 09 10.4**	**+0.6**
CTKT	**Corum**	**1.74**	**44**	*i* P		**Pn**	**15 08 47.2**	**+0.2**
CTKT				*i* S		**Sn**	**15 09 10.4**	**+0.5**
TOS	**Tosya**	**1.77**	**21**	*e*PN		**Pn**	**15 08 47.3**	**-0.1**
TOS	**Tosya**	**1.77**	**21**	*e*Pn		**Pn**	**15 08 47.3**	**-0.1**
ESKT	**Eskisehir**	**1.82**	**275**	*e*PN		**Pn**	**15 08 47.7**	**-0.4**
ESKT	**Eskisehir**	**1.82**	**275**	*e*Pn		**Pn**	**15 08 47.7**	**-0.4**
MDU	**Mudurnu**	**1.87**	**306**	*e*PN		**Pn**	**15 08 48.3**	**-0.5**
MDU	**Mudurnu**	**1.87**	**306**	*e*Pn		**Pn**	**15 08 48.3**	**-0.5**
SAFT	**Safranbolu**	**1.89**	**348**	*e*PN		**Pn**	**15 08 48.9**	**-0.3**
SAFT	**Safranbolu**	**1.89**	**348**	*e*Pn		**Pn**	**15 08 48.9**	**-0.2**
BALT	**Daday**	**2.15**	**4**	*i* P		**Pg**	**15 08 55.6**	**-1.2**
BALT				*i* S		**Sg**	**15 09 22.3**	**-2.4**
GULT	**Gulveren**	**2.31**	**298**	*e*PN		**Pn**	**15 08 54.7**	**-0.2**
GULT	**Gulveren**	**2.31**	**298**	*e*Pn		**Pn**	**15 08 54.7**	**-0.2**
ALT	**Altintas**	**2.42**	**263**	*e*PN		**Pn**	**15 08 56.1**	**-0.3**
ALT	**Altintas**	**2.42**	**263**	*e*Pn		**Pn**	**15 08 56.1**	**-0.3**
HDMB	**Hadim**	**2.48**	**193**	*e*PN		**Pn**	**15 08 57.9**	**+0.7**
HDMB	**Hadim**	**2.48**	**193**	*e*Pn		**Pn**	**15 08 57.9**	**+0.7**
SUTC	**Sutluce-Ispart**	**2.57**	**223**	*e*PN		**Pn**	**15 08 58.8**	**+0.3**
SUTC	**Sutluce-Ispart**	**2.57**	**223**	*e*Pn		**Pn**	**15 08 58.8**	**+0.4**
KARA	**Karaisali**	**2.58**	**145**	*e*PN		**Pn**	**15 08 59.6**	**+1.1**
KARA	**Karaisali**	**2.58**	**145**	*e*Pn		**Pn**	**15 08 59.6**	**+1.1**
KOZT	**Kozan**	**2.81**	**132**	*e*PN		**Pn**	**15 09 03.0**	**+1.3**
SARI	**SarD1z-Kayseri**	**2.81**	**103**	*e*PN		**Pn**	**15 09 01.4**	**-0.4**
SARI	**SarD1z-Kayseri**	**2.81**	**103**	*e*Pn		**Pn**	**15 09 01.4**	**-0.4**

*ISCJB **06** 15:08:20.3±4.1, 3.9S±0.2×151.6E±0.2, h89km±37km, mb3.7/10, Error ellipse: s-maj=29.3km s-min=27.0km az=22.5*
*IDC **06** 15:08:22.1±5.3, 3.88S×151.59E, h90km±50km, mb3.4/8, mb1 3.6/9, mb1mx3.4/18, mbtmp3.4/9, ML2.4/1, Error ellipse: s-maj=29.0km s-min=26.6km az=16.0*
*NEIC **06** 15:08:23.1±0.6, 3.92S×151.57E, h100km, mb3.8/1, Error ellipse: s-maj=17.7km s-min=11.3km az=114.0*

ISC 06 15:08:22.1±3.4, 3.9S±0.2×151.6E±0.2, h89km±31km, n21, σ0°50/21, mb3.7/10, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.03**	**219**	P		**Pn**	**15 10 02.4**	**-0.1**
	0.4nm,0.3s,baz=33,slow=9.0,SNR=2.8							
PMG	**Port Moresby**	**7.03**	**219**	P		**Pn**	**15 10 02.4**	**-0.1**
WRAB	**Tennant Creek**	**23.18**	**225**	*e*P		**P**	**15 13 16.9**	**-4.2**
	4.9nm,0.9s,mb3.8							
WRA	**Warramunga Arr**	**23.19**	**225**	P		**P**	**15 13 21.4**	**+0.1**
	2.8nm,0.9s,mb3.6,baz=49,slow=9.7,SNR=9.0							
WRA	**Warramunga Arr**	**23.19**	**225**	P		**P**	**15 13 21.4**	**+0.1**
ASAR	**Alice Springs**	**26.05**	**219**	P		**P**	**15 13 47.3**	**+0.1**
	0.3nm,0.4s,mb3.1,baz=54,slow=8.8,SNR=6.4							
ASAR	**Alice Springs**	**26.05**	**219**	P		**P**	**15 13 47.3**	**+0.1**
RAR	**Rarotonga**	**50.25**	**114**	P		**P**	**15 17 09.7**	**+0.1**
	22nm,0.8s,mb5.1,baz=280,slow=8.6,SNR=3.6							
RAR	**Rarotonga**	**50.25**	**114**	P		**P**	**15 17 09.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**56.41**	**295**	P		**P**	**15 17 55.4**	**+0.6**
	0.6nm,0.7s,mb3.8,baz=112,slow=6.2,SNR=5.9							
CMAR	**Chiang Mai Arr**	**56.41**	**295**	P		**P**	**15 17 55.4**	**+0.6**
SONM	**Songino Array**	**64.92**	**328**	P		**P**	**15 18 52.5**	**+0.4**
	0.3nm,0.6s,mb3.3,baz=134,slow=6.4,SNR=4.0							
SONM	**Songino Array**	**64.92**	**328**	P		**P**	**15 18 52.5**	**+0.4**
MKAR	**Makanchi Array**	**78.85**	**319**	P		**P**	**15 20 15.8**	**+0.3**
	0.1nm,0.4s,mb3.0,baz=92,slow=4.3,SNR=2.7							
MKAR	**Makanchi Array**	**78.85**	**319**	P		**P**	**15 20 15.8**	**+0.3**
ZALV	**Zalesovo Beam**	**79.73**	**326**	P		**P**	**15 20 19.2**	**-0.9**
	0.3nm,0.3s,mb3.6,baz=122,slow=5.4,SNR=2.8							
ZALV	**Zalesovo Beam**	**79.73**	**326**	P		**P**	**15 20 19.2**	**-0.9**
ILAR	**Eielson Array**	**81.77**	**22**	P		**P**	**15 20 31.0**	**+0.2**
	1.0nm,0.7s,mb3.7,baz=246,slow=5.8,SNR=12							
ILAR	**Eielson Array**	**81.77**	**22**	P		**P**	**15 20 31.0**	**+0.3**
BVAR	**Borovoye Array**	**87.80**	**323**	P		**P**	**15 21 00.5**	**-0.7**
	1.3nm,0.6s,mb4.1,baz=106,slow=5.2,SNR=7.3							
BVAR	**Borovoye Array**	**87.80**	**323**	P		**P**	**15 21 00.5**	**-0.7**

MEX 06 15:17:54.4±0.3, 15.76N×96.75W, h9km±5km, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.62**	**89**	*e*P		Pg	15 18 05.3	-1.0
HUIG				*i* S		Sg	15 18 13.8	-0.6
VHO	**Vista Hermosa**	**1.31**	**1**	*i* P		Pn	15 18 15.2	-3.7
VHO				*i* S		Sb	15 18 31.8	-4.3
PNIG	**Pinotepa**	**1.47**	**296**	*e*P		Pn	15 18 17.9	-3.2
PNIG				*i* S		Sn	15 18 35.6	-4.9
UTMO	**Huajuapan**	**2.30**	**334**	*i* S		Sn	15 18 56.9	-4.0

IDC 06 15:34:10.4±19.0, 12.15S×167.08E, h147km±173km, mb3.2/4, mb1 3.4/4, mb1mx3.2/17, mbtmp3.2/4, Error ellipse: s-maj=140.9km s-min=52.4km az=138.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.35**	**252**	P		P	15 40 26.0	-0.1
	0.2nm,0.4s,baz=83,slow=8.9,SNR=6.6							
ASAR	**Alice Springs**	**33.49**	**245**	P		P	15 40 36.0	+0.1
	0.2nm,0.6s,baz=68,slow=10,SNR=6.4							
ILAR	**Eielson Array**	**84.15**	**18**	P		P	15 46 24.6	+0.1
	0.7nm,0.6s,baz=233,slow=5.3,SNR=22							
MKAR	**Makanchi Array**	**95.21**	**317**	P		P	15 47 17.5	+0.2
	0.2nm,0.5s,baz=113,slow=3.5,SNR=3.6							
ARCES	**ARCESS Array B**	**117.72**	**346**	PKP		PKPdf	15 52 38.2	-0.4
	0.7nm,0.4s,baz=48,slow=1.3,SNR=11							

JMA 06 15:43:17.7±0.2, 43.66N×147.61E, h58km, M3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.39**	**258**	P		Pn	15 43 41.3	+0.5
NEM2				*e*S		Sn	15 43 58.8	+0.6
JRA	**Rausu**	**1.82**	**280**	P		Pn	15 43 47.3	+0.6
JRA				*e*S		Sn	15 44 09.5	+0.8
JNK	**Nakash**	**2.10**	**269**	P		Pn	15 43 50.9	+0.5
JNK				*e*S		Sn	15 44 15.5	+0.1
JAK	**Akkeshi**	**2.23**	**254**	P		Pn	15 43 52.8	+0.6
JAK				*e*S		Sn	15 44 18.9	+0.4
JTKR	**Abashiri--Toko**	**2.70**	**278**	P		Pn	15 43 59.5	+0.9
JAR	**Ashorobuto**	**2.82**	**264**	P		Pn	15 44 01.4	+1.1
JAR				*e*S		Sn	15 44 34.4	+1.4
JOB	**Onbets**	**2.86**	**256**	P		Pn	15 44 01.9	+1.1
JOB				*e*S		Sn	15 44 34.7	+0.7
JMP	**Maruseppu**	**3.10**	**278**	P		Pn	15 44 05.2	+1.2
JFR	**Furan**	**3.69**	**264**	P		Pn	15 44 14.4	+2.2
JNBK	**Urakawa-nobuka**	**3.82**	**251**	P		Pn	15 44 14.7	+0.7
JSE	**Soyaes**	**3.83**	**292**	P		Pn	15 44 14.8	+0.7

*NEIC **06** 15:53:00.2, 19.12N×65.14W, h139km, MD3.4(RSPR), After RSPR.*

RSPR 06 15:53:00.2, 19.12N×65.14W, h139km±5km, MD3.4/6, 15C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**0.78**	**167**	*e*P		Pn	15 53 21.6	-0.5
STVI	**Saint Thomas**	**0.78**	**167**	*e*P		Pn	15 53 21.6	-0.5
STVI				*e*S		Sn	15 53 38.3	-0.6
STVI	**Saint Thomas**	**0.78**	**167**	*e*P		Pn	15 53 21.6	-0.5
STVI				*e*S		Sn	15 53 38.3	-0.6
ABV	**Anegada**	**0.85**	**117**	*e*S		Sn	15 53 39.7	0.0
ABV	**Anegada**	**0.85**	**117**	*e*S		Sn	15 53 39.7	0.0

LKR	**Lokris**	**1.12**	**109**	P	**Pb**	**15 57 25.9**	**-0.3**
VLS	**Valsamata**	**1.19**	**225**	*e*PN	**Pn**	**15 57 26.3**	**-1.0**
VLS	**Valsamata**	**1.19**	**225**	*e*Pn	**Pn**	**15 57 26.3**	**-1.0**
GUR	**Goura**	**1.21**	**153**	*e*PN	**Pn**	**15 57 28.7**	**+1.0**
GUR	**Goura**	**1.21**	**153**	P	**Pn**	**15 57 28.8**	**+1.1**
GUR	**Goura**	**1.21**	**153**	*e*Pn	**Pn**	**15 57 28.7**	**+1.0**
NEO	**Neokhori**	**1.25**	**76**	*e*PN	**Pn**	**15 57 28.5**	**+0.3**
NEO	**Neokhori**	**1.25**	**76**	*e*Pn	**Pn**	**15 57 28.5**	**+0.3**
LIT	**Litokhoron**	**1.26**	**31**	*e*PN	**Pn**	**15 57 29.0**	**+0.7**
LIT				*e*SN	**Sn**	**15 57 46.4**	**+1.5**
LIT	**Litokhoron**	**1.26**	**31**	P	**Pn**	**15 57 28.5**	**+0.2**
LIT				S	**Sn**	**15 57 46.4**	**+1.5**
LIT	**Litokhoron**	**1.26**	**31**	P	**Pn**	**15 57 28.5**	**+0.2**
LIT	**Litokhoron**	**1.26**	**31**	*e*Pn	**Pn**	**15 57 29.0**	**+0.7**
LIT				S	**Sn**	**15 57 46.4**	**+1.5**
LTK	**Loutraki**	**1.44**	**134**	*e*PN	**Pn**	**15 57 32.7**	**+2.0**
LTK	**Loutraki**	**1.44**	**134**	*e*Pn	**Pn**	**15 57 32.7**	**+2.0**
AOS	**Alonnisos**	**1.74**	**84**	P	**Pn**	**15 57 34.7**	**-0.2**
AOS				S	**Sn**	**15 57 56.2**	**-0.6**
AOS	**Alonnisos**	**1.74**	**84**	P	**Pn**	**15 57 34.7**	**-0.2**
AOS				S	**Sn**	**15 57 56.2**	**-0.6**
DID	**Didima**	**1.96**	**140**	*e*PN	**Pn**	**15 57 38.9**	**+0.9**
DID	**Didima**	**1.96**	**140**	*e*Pn	**Pn**	**15 57 38.9**	**+0.9**
VLI	**Veliai**	**2.52**	**156**	*e*PN	**Pn**	**15 57 46.7**	**+1.1**
VLI	**Veliai**	**2.52**	**156**	*e*Pn	**Pn**	**15 57 46.7**	**+1.1**

DJA 06 16:14:34,1˚.11N×121˚.11E,h20km,MLv3.9/7,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.04**	**127**	P	Pb	16 14 50.0	-3.4
MRSI				S	Sb	16 15 04.7	-1.9
APSI	**Ampana**	**2.08**	**165**	P	Pn	16 15 08.9	+1.1
APSI				S	Sn	16 15 34.7	+1.6
LUWI	**Luwuk**	**2.71**	**142**	P	Pn	16 15 15.5	-0.9
LUWI				S	Sn	16 15 51.0	+2.4
KMSI	**Cibinong**	**2.92**	**100**	P	Pn	16 15 23.1	+3.8
KMSI				S	Sn	16 15 56.9	+3.1
MSSI	**Masamba**	**3.72**	**192**	P	Pn	16 15 31.3	+0.9
TTSI	**Tana Toraja**	**4.32**	**197**	P	Pn	16 15 39.2	+0.5
MYLDM	**Lahad Datu**	**4.81**	**327**	P	Pn	16 15 44.6	-0.7
KAPI	**Kappang**	**6.23**	**193**	P	Pn	16 16 06.1	+1.2

*IDC **06** 16:17:45.6±1.4,51˚.30N×178˚.04W,h0km,mb3.4/6, mb1 3.7/7,mb1mx3.5/27,mbtmp3.5/7,ML4.5/1,Error ellipse: s-maj=44.6km s-min=22.5km az=167.0*

*ISCJB **06** 16:17:52.1±1.7,51˚.5N±0˚.2×178˚.1W±0˚.2,h59km±13km, mb3.6/6,Error ellipse: s-maj=34.5km s-min=16.5km az=160.3*

*NEIC **06** 16:17:53.3±1.7,51˚.42N×177˚.93W,h56km±15km,mb3.7/3, ML3.3(AEIC),Error ellipse: s-maj=30.5km s-min=16.3km az=154.0*

ISC 06 16:17:52.3±2.0,51˚.4N±0˚.2×178˚.2W±0˚.2,h47km±18km,n26, σ0.95/29,mb3.6/6,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**1.05**	**61**	P	**Pn**	**16 18 09.4**	**-1.2**
ADK				S	**Sn**	**16 18 23.6**	**-0.6**
GSTR	**Great Sitkin T**	**1.49**	**61**	*e*Pn	**Pn**	**16 18 16.3**	**-0.4**
GSTR				*e*Sn	**Sn**	**16 18 36.8**	**+2.0**
ATKA	**Atka Island**	**2.60**	**70**	P	**Pn**	**16 19 31.8**	**0.0**
ATKA				S	**Sn**	**16 19 03.2**	**+1.2**
NIKO	**Nikolski**	**5.95**	**71**	*e*Pn	**Pn**	**16 19 06.4**	**-11**
UNV	**Unalaska Valle**	**7.52**	**66**	*e*Pn	**Pn**	**16 19 32.5**	**-6.7**
KDAK	**Kodiak Island** 1.7nm,0.3s,baz=260,slow=10,SNR=16	**16.09**	**57**	Pn	**Pn**	**16 21 31.2**	**-3.7**
KDAK	**Kodiak Island**	**16.09**	**57**	Pn	**Pn**	**16 21 31.2**	**-3.7**
SLKM	**Skilak Lake**	**17.99**	**49**	*e*Pn	**Pn**	**16 21 58.5**	**0.0**
PPLA	**Purkeypile**	**18.05**	**40**	*e*Pn	**Pn**	**16 22 05.7**	**+6.3**
SEW	**Seward**	**18.24**	**50**	Pn	**Pn**	**16 21 56.5**	**-5.1**
MCK	**McKinley** 2.9nm,0.6s	**19.74**	**40**	P	**Pn**	**16 22 15.5**	**-4.1**
PAX	**Paxson** 2.9nm,0.8s	**20.91**	**44**	*e*P	**P**	**16 22 30.3**	**-0.1**
ILAR	**Eielson Array** 0.2nm,0.5s,baz=231,slow=9.2,SNR=6.2	**20.99**	**38**	P	**P**	**16 22 31.1**	**-0.2**
ILAR	**Eielson Array**	**20.99**	**38**	P	**P**	**16 22 31.1**	**-0.2**
EGAK	**Eagle** 7.5nm,1.3s,mb4.0	**23.29**	**41**	*e*P	**P**	**16 22 54.4**	**-1.3**
INK	**Inuvik**	**27.23**	**35**	P	**P**	**16 23 31.1**	**-0.3**
PDAR	**Pinedale Array** 0.3nm,0.3s,mb3.7,baz=313,slow=4.5,SNR=6.1	**45.93**	**73**	P	**P**	**16 26 10.1**	**-0.1**
PDAR	**Pinedale Array**	**45.93**	**73**	P	**P**	**16 26 10.1**	**-0.1**
SONM	**Songino Array** 0.3nm,0.5s,mb3.4,baz=71,slow=9.3,SNR=2.1	**47.00**	**297**	P	**P**	**16 26 20.8**	**+2.3**
SONM	**Songino Array**	**47.00**	**297**	P	**P**	**16 26 20.8**	**+2.3**
MKAR	**Makanchi Array** 0.1nm,0.3s,mb3.3,baz=30,slow=5.2,SNR=3.4	**60.34**	**309**	P	**P**	**16 27 55.9**	**-0.1**
MKAR	**Makanchi Array**	**60.34**	**309**	P	**P**	**16 27 55.9**	**-0.1**
BRTR	**Keskin Array B** 0.4nm,0.7s,mb3.6,baz=27,slow=6.8,SNR=2.7	**85.11**	**336**	P	**P**	**16 30 23.1**	**+0.1**
BRTR	**Keskin Array B**	**85.11**	**336**	P	**P**	**16 30 23.1**	**+0.1**
ASAR	**Alice Springs** 0.2nm,0.6s,mb3.5,baz=24,slow=5.5,SNR=4.5	**85.76**	**223**	P	**P**	**16 30 26.3**	**+0.1**
ASAR	**Alice Springs**	**85.76**	**223**	P	**P**	**16 30 26.3**	**+0.1**

*MOS **06** 16:35:23.1±1.0,6˚.06S×148˚.01E,h33km,mb5.0/19,Error ellipse: s-maj=10.7km s-min=7.1km az=95.4*

*BJI **06** 16:35:27.8,6˚.26S×148˚.51E,h96km,mB5.0/24,mb5.0/36*

*ISCJB **06** 16:35:28.1±0.2,6˚.29S±0˚.03×148˚.19E±0˚.04,h85km, mb4.8/78,Error ellipse: s-maj=5.7km s-min=4.3km az=3.0*

*IDC **06** 16:35:28.2±1.1,6˚.27S×148˚.04E,h64km±9km,mb4.5/16, mb1 4.6/21,mb1mx4.6/23,mbtmp4.6/21,MS3.9/16, Ms1 3.9/16,ms1mx3.8/21,Error ellipse: s-maj=13.8km s-min=7.9km az=100.0*

*NEIC **06** 16:35:28.6±1.0,6˚.23S×148˚.18E,h78km±9km,mb4.9/36, Error ellipse: s-maj=7.7km s-min=6.6km az=67.0*

*GCMT **06** 16:35:30.4±0.3,6˚.32S×148˚.16E,h58km±2km,MW4.9, Moment Tensor Solution. s33,c41; s67,c102; Moment tensor: Scale 10^16^Nm; Mrr2.01±.14; Mθθ0.72±.11; Mφφ-2.74±.10; Mrθ1.40±.07; Mrφ0.10±.10; Mθφ-1.16±.09; Best double couple: Mw3.1 0000×10^16^ NP1:φ226.00000°, δ39.00000°,λ138.00000°. NP2:φ151.00000°,δ65.00000°, λ59.00000°. Principal axes: T 3.0600, Plg58.0000°, Azm18.0000°; N -0.0100, Plg28.0000°, Azm165.0000°; P -3.0600, Plg15.0000°, Azm263.0000°; Data Used: ll IU IC G.*

*DJA **06** 16:35:35,6˚.66S×147˚.73E,h75km,mb5.3/24*

ISC 06 16:35:29.9±0.3,6˚.32S±0˚.03×148˚.20E±0˚.04,h87km, h87km±3.1km:pP-P,n323,σ1.14/202,mb4.8/77,8C-5D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 38nm,0.3s,baz=17,slow=6.7,SNR=160	**3.24**	**198**	P	**Pn**	**16 36 17.6**	**-1.1**
PMG				S	**Sn**	**16 36 54.5**	**-1.8**
PMG	**Port Moresby** 127nm,0.3s,baz=34,slow=15,SNR=7.9	**3.24**	**198**	*e*Pn	**Pn**	**16 36 17.2**	**-1.5**
PMG				*e*Sn	**Sn**	**16 36 50.9**	**-5.4**
PMG	**Port Moresby**	**3.24**	**198**	*e*P	**Pn**	**16 36 17.2**	**-1.5**
PMG				*e*		16 36 50.9	
PMG	**Port Moresby**	**3.24**	**198**	P	**Pn**	**16 36 18.0**	**-0.7**
MMPI	**Merauke** 1.7nm5μm500nm,0.8s	**8.04**	**254**	P	**Pn**	**16 37 23.9**	**-0.1**
JAY	**Jayapura** 4μm103nm,0.7s	**8.37**	**296**	P	**Pn**	**16 37 28.9**	**+0.4**
COEN	**Coen** 240nm,0.6s	**9.06**	**213**	*e*Pn	**Pn**	**16 37 35.9**	**-2.0**
COEN				*e*Sn	**Sn**	**16 38 59.5**	**-19**
COEN	**Coen** 953nm52nm,0.7s	**9.06**	**213**	P	**Pn**	**16 37 36.3**	**-1.6**
SMPI	**Sarmi** 1μm138nm,1.2s	**10.39**	**294**	P	**Pn**	**16 37 55.9**	**-0.2**
HNR	**Honiara** 5.9nm,0.3s,baz=171,slow=1.7,SNR=11	**12.04**	**106**	P	**Pn**	**16 38 18.8**	**+0.3**
HNR				S	**Sn**	**16 40 37.0**	**+6.0**
HNR	11nm,0.3s,baz=218,slow=19,SNR=3.0			LR	LR	16 42 20.0	
HNR	comp=Z,362nm,21.2s,baz=246,slow=34 **Honiara** 1μm,1.6s	**12.04**	**106**	*e*Pn	**Pn**	**16 38 18.8**	**+0.2**
HNR	**Honiara**	**12.04**	**106**	*e*P	**Pn**	**16 38 18.8**	**+0.2**
HNR	comp=Z,1μm,1.6s			pmax	pmax		
CTA	**Charters Tower** comp=Z,0.4nm,0.3s,baz=18,slow=13,SNR=5.3	**13.82**	**188**	P	**Pn**	**16 38 42.1**	**+0.1**
CTA	**Charters Tower** comp=Z,7.3nm,1.0s	**13.82**	**188**	*e*P	**Pn**	**16 38 38.2**	**-3.8**
CTA	**Charters Tower**	**13.82**	**188**	P	**Pn**	**16 38 42.1**	**+0.1**
CTA	**Charters Tower**	**13.82**	**188**	P	**Pn**	**16 38 42.1**	**+0.1**
CTAO	**Charters Tower** comp=Z,19nm,1.0s	**13.82**	**188**	*e*Pn	**Pn**	**16 38 42.7**	**+0.7**
CTAO	**Charters Tower** comp=Z,19nm,1.0s	**13.82**	**188**	*e*P	**Pn**	**16 38 42.7**	**+0.7**
CTAO				pmax	pmax		
KAKA	**Kakadu** comp=Z,53nm,0.5s	**16.78**	**247**	*e*P	**Pn**	**16 39 17.1**	**-2.6**
KAKA				*e*S	**S**	**16 42 16.8**	**-14**
KAKA	**Kakadu** comp=Z,144nm,0.5s	**16.78**	**247**	*e*Pn	**Pn**	**16 39 17.3**	**-2.4**
KAKA				*e*Sn	**Sn**	**16 42 15.8**	**-10**
SWI	**Sorong** comp=Z,699nmcomp=Z,78nm,0.7s	**17.75**	**287**	P	**Pn**	**16 39 32.0**	**+0.5**
BNDI	**Bandanaira** comp=Z,7μmcomp=Z,512nm,1.0s	**18.30**	**275**	P	**Pn**	**16 39 38.2**	**+0.1**
WRAB	**Tennant Creek** comp=Z,65nm,0.7s	**19.08**	**224**	*e*P	**Pn**	**16 39 45.3**	**-2.1**
WRAB				*e*Sn	**Sn**	**16 43 06.0**	**-15**
WRAB				*e*ScP	ScP	16 47 40.1	+4.9
WRAB	**Tennant Creek**	**19.08**	**224**	*e*P	**Pn**	**16 39 45.3**	**-2.1**
WRAB				*e*		16 43 06.0	
WRAB	comp=Z,65nm,0.7s			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,μmcomp=Z,167nm,0.8s	**19.08**	**224**	P	**Pn**	**16 39 45.3**	**-2.1**
WRA	**Warramunga Arr** comp=Z,6.7nm,0.3s,baz=50,slow=11,SNR=306	**19.10**	**224**	P	**Pn**	**16 39 45.4**	**-2.2**
WRA				S	**S**	**16 43 12.0**	**-6.0**
WRA	comp=Z,0.3nm,0.3s,baz=46,slow=22,SNR=8.5			PcP	PcP	16 44 09.2	+2.1
WRA	baz=37,slow=2.2,SNR=5.6			ScP	ScP	16 47 40.4	+5.1
WRA	comp=Z,0.5nm,0.3s,baz=44,slow=2.6,SNR=18			PKiKP	PKiKP	16 51 56.5	-1.0
WRA	comp=Z,0.0nm,0.3s,baz=36,slow=1.0,SNR=4.5			PKiKP	PKiKP	16 51 58.1	-0.6
WRA	**Warramunga Arr**	**19.10**	**224**	P	**Pn**	**16 39 45.4**	**-2.2**
WRA				S	**S**	**16 43 12.0**	**-6.0**
WRA				PcP	PcP	16 44 09.2	+2.1
WRA				ScP	ScP	16 47 40.4	+5.1
WRA	**Warramunga Arr**	**19.10**	**224**	P	**Pn**	**16 39 45.4**	**-2.2**
WRA				S	**S**	**16 43 12.0**	**-6.0**
EIDS	**Eidsvold** comp=Z,17nm,0.8s	**19.15**	**172**	*e*P	**Pn**	**16 39 47.4**	**-0.7**
MSAI	**Masohi** comp=Z,374nmcomp=Z,41nm,0.8s	**19.42**	**278**	P	**Pn**	**16 39 50.2**	**-1.3**
GUMO	**Guam** comp=Z,7.7nm,0.3s,baz=187,slow=14,SNR=6.2	**20.05**	**351**	P	**P**	**16 39 56.4**	**+0.2**
GUMO	**Guam** comp=Z,85nm,0.7s	**20.05**	**351**	*e*P	**P**	**16 39 57.0**	**+0.8**
GUMO	**Guam**	**20.05**	**351**	*e*P	**P**	**16 39 57.1**	**+0.9**
GUMO	comp=Z,85nm,0.7s			pmax	pmax		
AAI	**Ambon** comp=Z,2μmcomp=Z,295nm,0.8s	**20.09**	**277**	P	**P**	**16 39 56.3**	**-0.5**
NLAI	**Namlea** comp=Z,μmcomp=Z,156nm,0.8s,mb5.4	**21.24**	**277**	P	**P**	**16 40 10.6**	**+1.5**
TNTI	**Ternate** comp=Z,888nmcomp=Z,57nm,1.3s,mb4.7	**21.95**	**288**	P	**P**	**16 40 25.8**	**+9.1**
ASAR	**Alice Springs** comp=Z,89nm,0.7s,mb5.2,baz=52,slow=9.1,SNR=1650	**22.06**	**217**	P	**P**	**16 40 18.2**	**+0.5**
ASAR	comp=Z,12nm,0.9s,baz=33,slow=20,SNR=8.2			S	**S**	**16 44 15.6**	**-0.3**
ASAR	comp=Z,5.2nm,0.8s,baz=41,slow=3.4,SNR=11			ScP	ScP	16 47 47.4	+5.1
ASAR	comp=Z,0.6nm,0.8s,baz=1.9,slow=1.5,SNR=4.5			PKiKP	PKiKP	16 51 58.1	-0.6
ASAR	**Alice Springs**	**22.06**	**217**	P	**P**	**16 40 18.2**	**+0.5**
ASAR				S	**S**	**16 44 15.6**	**-0.3**
ASAR				ScP	ScP	16 47 47.4	+5.1
ASAR	**Alice Springs**	**22.06**	**217**	P	**P**	**16 40 18.3**	**+0.6**
ASAR				S	**S**	**16 44 15.6**	**-0.3**
DZM	**Mont Dzumac** comp=Z,101nm,1.2s,mb5.0	**23.58**	**133**	*e*P	**P**	**16 40 33.3**	**+0.5**
DZM	comp=Z,246nm,29.8s			*e*S	**S**	**16 44 46.8**	**+6.1**
DZM	comp=Z,953nm,25.9s			*e*LR	LR	16 46 27.7	
ARMA	**Armidale**	**24.19**	**173**	*e*P	**P**	**16 40 39.4**	**+1.1**
ARMA	**Armidale** comp=Z,32nm,1.0s,mb4.6	**24.19**	**173**	*e*P	**P**	**16 40 39.0**	**+0.7**
FITZ	**Fitzroy Crossi** comp=Z,210nm,0.6s,mb5.7,baz=67,slow=7.7,SNR=749	**24.93**	**240**	P	**P**	**16 40 46.2**	**+1.0**
FITZ	comp=Z,363nm,20.2s,baz=70,slow=39			LR	LR	16 51 44.1	
FITZ	**Fitzroy Crossi** comp=Z,416nm,0.6s,mb6.0	**24.93**	**240**	*e*P	**P**	**16 40 45.8**	**+0.6**
FITZ				*e*S	**S**	**16 45 06.0**	**+3.5**
FITZ	**Fitzroy Crossi** comp=Z,256nm,0.8s,mb5.7	**24.93**	**240**	*e*P	**P**	**16 40 45.7**	**+0.5**
FITZ	**Fitzroy Crossi** comp=Z,3μmcomp=Z,380nm,1.0s,mb5.8	**24.93**	**240**	P	**P**	**16 40 45.8**	**+0.6**
BBSI	**Bau Bau** comp=Z,858nmcomp=Z,88nm,0.9s,mb5.2	**25.50**	**270**	P	**P**	**16 40 55.0**	**+4.5**
MMRI	**Maumere** comp=Z,4μmcomp=Z,409nm,0.8s,mb5.9	**25.84**	**263**	P	**P**	**16 40 54.8**	**+1.3**
LUWI	**Luwuk** comp=Z,2μmcomp=Z,265nm,1.0s,mb5.6	**25.90**	**281**	P	**P**	**16 40 56.0**	**+2.0**
STKA	**Stephens Creek** comp=Z,24nm,0.9s,mb4.6,baz=4.3,slow=9.6,SNR=25	**26.17**	**193**	P	**P**	**16 40 57.2**	**+1.0**
STKA	comp=Z,344nm,19.1s,baz=19,slow=36			LR	LR	16 51 23.6	
STKA	**Stephens Creek** comp=Z,18nm,0.6s,mb4.7	**26.17**	**193**	*e*P	**P**	**16 40 58.0**	**+1.8**
STKA	**Stephens Creek** comp=Z,6.0nm,0.8s,mb4.1	**26.17**	**193**	*e*P	**P**	**16 40 57.9**	**+1.6**
STKA	**Stephens Creek**	**26.17**	**193**	*e*P	**P**	**16 40 57.9**	**+1.7**
STKA	comp=Z,6.0nm,0.8s			pmax	pmax		
DAV	**Davao City (W)** comp=Z,118nm,20.9s,baz=206,slow=37	**26.19**	**300**	LR	LR	16 51 26.3	
MRSI	**Marisa** comp=Z,379nmcomp=Z,33nm,0.6s,mb5.0	**27.06**	**284**	P	**P**	**16 41 13.6**	**+9.1**
BKSI	**Bulukumba** comp=Z,22nm,0.8s,mb4.7	**27.95**	**271**	P	**P**	**16 41 13.1**	**+0.7**
BNSI	**Bone** comp=Z,40nm,0.7s,mb5.1	**28.03**	**272**	P	**P**	**16 41 14.5**	**+1.3**
KAPI	**Kappang** comp=Z,18nm,0.6s,mb4.8	**28.33**	**271**	*e*P	**P**	**16 41 15.0**	**-0.8**
KAPI	**Kappang** comp=Z,36nm,1.1s,mb4.8	**28.33**	**271**	P	**P**	**16 41 15.9**	**0.0**
SPSI	**Sidrap Palu** comp=Z,361nmcomp=Z,30nm,0.9s,mb4.8	**28.41**	**273**	P	**P**	**16 41 17.2**	**+0.7**
TTSI	**Tana Toraja** comp=Z,431nmcomp=Z,45nm,1.1s,mb4.9	**28.46**	**275**	P	**P**	**16 41 22.6**	**+5.6**
FORT	**Forrest** comp=Z,24nm,0.6s,mb5.1	**30.81**	**215**	*e*P	**P**	**16 41 38.2**	**+0.6**
TOO	**Toolangi**	**31.21**	**184**	*e*P	**P**	**16 41 42.2**	**+1.2**
MBWA	**Marble Bar** comp=Z,24nm,0.6s,mb5.1	**31.26**	**239**	*e*P	**P**	**16 41 42.0**	**+0.4**
MBWA				*e*	pP	16 42 00.8	-0.9
KBKI	**Kotabaru** comp=Z,24nm,0.8s,mb5.0	**32.05**	**274**	P	**P**	**16 41 49.1**	**+0.4**
BBKI	**Banjar Baru** comp=Z,63nm,0.9s,mb5.4	**33.35**	**273**	P	**P**	**16 42 01.4**	**+1.3**
CBIJ	**Chichi jima** comp=Z,29nm,0.5s,mb5.3,baz=107,slow=19,SNR=5.0	**33.72**	**350**	P	**P**	**16 42 04.3**	**+1.3**
JAGI	**Jajag, Banyuwa**	**33.82**	**264**	P	**P**	**16 42 03.3**	**-0.9**
KKM	**Kota Kinabalu** comp=Z,34nm,1.2s,mb5.0	**34.20**	**290**	*e*P	**P**	**16 42 07.0**	**-0.4**
KKM				*e*	pP	16 42 25.1	-2.5
KLBR	**Kellerberrin** comp=Z,24nm,0.5s,mb5.3	**37.97**	**225**	*e*P	**P**	**16 42 39.7**	**+0.3**
KSM	**Kuching**	**38.61**	**280**	*e*P	**P**	**16 42 46.2**	**+1.3**
NWAO	**Narrogin (SRO)** comp=Z,9.7nm,0.6s,mb4.8,baz=47,slow=8.9,SNR=3.4	**39.11**	**223**	P	**P**	**16 42 49.7**	**+0.8**
NWAO	comp=Z,201nm,21.9s,baz=289,slow=35			LR	LR	16 58 17.4	
NWAO	**Narrogin (SRO)** comp=Z,26nm,1.1s,mb5.0	**39.11**	**223**	*e*P	**P**	**16 42 50.1**	**+1.3**
NWAO	**Narrogin (SRO)** comp=Z,26nm,1.1s	**39.11**	**223**	*e*P	**P**	**16 42 50.1**	**+1.2**
NWAO				pmax	pmax		
YHNB	**Yeheng** comp=Z,20nm,0.9s,mb5.0	**40.39**	**321**	*e*P	**P**	**16 42 58.2**	**-1.3**
URZ	**Urewera** comp=Z,8.7nm,0.8s,mb4.6,baz=330,slow=8.1,SNR=4.0	**41.20**	**145**	P	**P**	**16 43 06.8**	**+0.7**
URZ	comp=Z,224nm,21.8s,baz=314,slow=31			LR	LR	16 56 39.7	
URZ	**Urewera**	**41.20**	**145**	P	**P**	**16 43 06.8**	**+0.7**
URZ				LR	LR	16 56 39.7	
RPZ	**Rata Peaks**	**42.32**	**155**	P	**P**	**16 43 16.3**	**+1.2**
RPZ	**Rata Peaks** comp=Z,7.4nm,0.8s,mb4.5,baz=72,slow=16,SNR=5.3	**42.32**	**155**	P	**P**	**16 43 16.4**	**+1.2**
JNU	**Nakatsue** comp=Z,2.7nm,0.8s,mb4.0	**42.53**	**338**	*e*P	**P**	**16 43 16.7**	**-0.3**
MJAR	**Matsushiro Arr** comp=Z,28nm,0.8s,mb5.0,baz=175,slow=8.7,SNR=72	**43.65**	**348**	P	**P**	**16 43 25.8**	**-0.1**
MJAR	comp=Z,48nm,19.3s,baz=170,slow=35			LR	LR	17 00 51.1	
MJAR	**Matsushiro Arr**	**43.65**	**348**	P	**P**	**16 43 25.8**	**-0.1**
MJAR				LR	LR	17 00 51.1	
MJAR	**Matsushiro Arr**	**43.65**	**348**	P	**P**	**16 43 25.8**	**-0.1**
MAJO	**Matsushiro** comp=Z,46nm,0.9s,mb5.2	**43.65**	**348**	*e*P	**P**	**16 43 25.7**	**-0.2**
MAJO	**Matsushiro** comp=Z,46nm,0.9s,mb5.2	**43.65**	**348**	*e*P	**P**	**16 43 25.7**	**-0.2**
MAJO				pmax	pmax		
MAT	**Matsushiro** comp=Z,190nm,33.8s	**43.65**	**348**	P	**P**	**16 43 26.0**	**+0.1**
MAT				S	**S**	**16 49 44.0**	**-5.2**
QIZ	**Qiongzhong**	**45.41**	**304**	P	**P**	**16 43 40.1**	**-0.1**
QIZ				S	**S**	**16 50 15.9**	**+0.6**
QIZ	comp=Z,7.0nm,1.4s,mb4.2			pmax	pmax		
QIZ	comp=Z,190nm,33.8s			LR	LR		
NJ2	**Nanjing**	**47.31**	**326**	*e*P	**P**	**16 43 55.7**	**+0.8**
NJ2				pP	pP	16 44 18.9	+2.9
NJ2	comp=Z,20nm,0.8s,mb4.9			pmax	pmax		
KSRS	**Korea Array** comp=Z,7.6nm,0.9s,mb4.4,baz=156,slow=9.5,SNR=23	**47.48**	**338**	P	**P**	**16 43 56.4**	**+0.3**
KSRS	comp=Z,112nm,21.8s,baz=145,slow=34			LR	LR	17 01 57.2	
KULM	**Kulim** comp=Z,12nm,0.6s,mb5.0	**48.84**	**283**	*e*P	**P**	**16 44 07.7**	**+0.6**
KULM				*e*		16 44 14.3	
WHN	**Wuhan**	**48.93**	**320**	P	**P**	**16 44 08.0**	**+0.6**
PSI	**Prapat** comp=Z,3.4nm,0.4s,mb4.7,baz=127,slow=9.9,SNR=4.1	**50.02**	**279**	P	**P**	**16 44 15.9**	**-0.1**
PSI	**Prapat**	**50.02**	**279**	P	**P**	**16 44 15.9**	**-0.1**
PSI	**Prapat**	**50.02**	**279**	P	**P**	**16 44 15.9**	**-0.2**
ASAJ	**Asahikawa** comp=Z,19nm,1.1s,mb4.9,baz=201,slow=9.3,SNR=7.2	**50.45**	**355**	P	**P**	**16 44 19.5**	**+0.8**
GYA	**Guiyang**	**51.78**	**311**	P	**P**	**16 44 30.2**	**+1.2**
GYA				pP	pP	16 44 52.0	+1.5
GYA				sP	sP	16 45 02.8	+2.5
GYA				PcP	PcP	16 45 41.3	+0.2
GYA				PP	PP	16 46 30.0	+2.3
GYA				ScP	ScP	16 49 30.3	0.0
GYA				S	**S**	**16 51 44.2**	**-0.6**
GYA				sS	sS	16 52 23.8	+2.3
GYA				SS	SS	16 55 20.8	-1.9
GYA	comp=Z,10.0nm,1.0s,mb4.8			pmax	pmax		
GYA	comp=Z,110nm,5.6s			pmax	pmax		
GYA	comp=N,570nm,17.7s			LR	LR		
GYA	comp=E,490nm,18.3s			LR	LR		
GYA	comp=Z,550nm,17.8s			LR	LR		
ENH	**Enshi** comp=Z,27nm,1.3s,mb5.1	**51.96**	**317**	P	**P**	**16 44 30.2**	**0.0**
YSS	**Yuzh-Sakhalins** comp=Z,19nm,0.8s,mb5.2	**53.26**	**355**	*e*P	**P**	**16 44 39.4**	**-0.1**
YSS	**Yuzh-Sakhalins** comp=Z,30nm,0.9s,mb5.3	**53.26**	**355**	*e*P	**P**	**16 44 39.0**	**-0.5**
YSS				pmax	pmax		
MDJ	**Mudanjiang** comp=Z,27nm,0.9s,mb5.3	**53.39**	**344**	P	**P**	**16 44 41.2**	**+0.7**
MDJ				pmax	pmax		
MDJ	comp=Z,100nm,3.3s			pmax	pmax		
MDJ	**Mudanjiang** comp=Z,20nm,0.9s,mb5.2	**53.39**	**344**	*e*P	**P**	**16 44 40.9**	**+0.4**
CN2	**Changchun**	**53.96**	**340**	*e*P	**P**	**16 44 46.8**	**+2.1**
KMI	**Kunming**	**54.13**	**307**	P	**P**	**16 44 49.4**	**+3.1**
KMI				pP	pP	16 45 10.1	+2.1
KMI				sP	sP	16 45 19.9	+2.2
KMI				PP	PP	16 46 51.9	+3.0
KMI				S	**S**	**16 52 16.6**	**-0.1**
KMI				sS	sS	16 52 55.0	+1.3
KMI				SS	SS	16 55 56.0	-3.8
KMI	comp=Z,5.0nm,0.6s,mb4.7			pmax	pmax		
KMI	comp=Z,110nm,6.1s			pmax	pmax		
KMI	comp=N,75nm,19.1s			LR	LR		
KMI	comp=E,110nm,22.3s			LR	LR		
KMI	comp=Z,120nm,25.8s			LR	LR		
CMAR	**Chiang Mai Arr** comp=Z,1.3nm,0.7s,mb4.1,baz=127,slow=5.6,SNR=6.6	**54.45**	**298**	P	**P**	**16 44 47.8**	**-0.9**
CMAR				ScP	ScP	16 49 45.1	+3.1
CMAR	comp=Z,1.1nm,0.9s,baz=144,slow=3.6,SNR=5.0			LR	LR	17 08 43.9	
CMAR	comp=Z,43nm,19.7s,baz=134,slow=37			PKP2bc		17 15 16.4	
CMAR	**Chiang Mai Arr** comp=Z,1.6nm,0.9s,baz=289,slow=4.3,SNR=8.2	**54.45**	**298**	P	**P**	**16 44 47.8**	**-0.9**
CMAR				ScP	ScP	16 49 45.1	+3.1
CMAR				LR	LR	17 08 43.9	
CMAR				⇑*e*		17 15 16.4	
CMAR	**Chiang Mai Arr**	**54.45**	**298**	P	**P**	**16 44 47.8**	**-0.9**
CHTO	**Chiang Mai** comp=Z,1.1nm,0.8s,mb3.9	**54.58**	**298**	*e*P	**P**	**16 44 46.8**	**-2.9**
CHTO	**Chiang Mai** comp=Z,1.0nm,0.

HIA	**Hailar**	**60.67**	**339**	*e*P		**P**	**16 45 32.0**	**+0.2**
HIA				pmax		pmax			
	comp=Z,15nm,0.6s								
PPT	**Papeete**	**61.66**	**106**	*e*LR		LR	17 03 56.7		
	comp=Z,208nm,21.8s								
FX1	**Attu Island--F**	**62.66**	**17**	LR		LR	17 13 54.7		
	comp=Z,81nm,18.4s,baz=67,slow=37								
GTA	**Gaotai**	**63.75**	**320**	*e*P		**P**	**16 45 53.0**	**+0.4**
GTA				pmax		pmax			
	comp=Z,5.0nm,0.9s,mb4.3								
ULN	**Ulaanbaatar**	**64.96**	**331**	*e*P		**P**	**16 46 01.0**	**+0.7**
	comp=Z,4.4nm,0.6s,mb4.5								
ULN				*e*PP		PP	16 48 24.4	+0.1	
ULN	**Ulaanbaatar**	**64.96**	**331**	*e*P		**P**	**16 46 01.0**	**+0.7**
ULN				*e*			16 48 24.5		
ULN				pmax		pmax			
	comp=Z,4.0nm,0.6s,mb4.4								
SONM	**Songino Array**	**65.26**	**330**	P		**P**	**16 46 02.3**	**0.0**	
	comp=Z,4.3nm,0.7s,mb4.4,baz=145,slow=5.8,SNR=39								
SONM				PP		PP	16 48 26.8	-0.2	
	comp=Z,1.9nm,0.9s,baz=142,slow=7.2,SNR=3.9								
SONM				LR		LR	17 14 20.2		
	comp=Z,138nm,18.9s,baz=5.6,slow=36								
SONM				PKP2bc			17 14 47.9		
	comp=Z,1.2nm,1.2s,baz=264,slow=1.4,SNR=3.9								
SONM	**Songino Array**	**65.26**	**330**	P		**P**	**16 46 02.3**	**0.0**	
SONM				PP		PP	16 48 26.8	-0.2	
SONM				LR		LR	17 14 20.2		
SONM			⇑*e*				17 14 47.9		
SONM	**Songino Array**	**65.26**	**330**	P		**P**	**16 46 02.3**	**0.0**	
SONM							16 48 26.8		
LSA	**Lhasa**	**65.38**	**307**	P		**P**	**16 46 03.6**	**+0.1**	
LSA	**Lhasa**	**65.38**	**307**	*e*P		**P**	**16 46 04.5**	**+1.0**	
	comp=Z,6.8nm,0.6s,mb4.7								
LSA	**Lhasa**	**65.38**	**307**	*e*P		**P**	**16 46 04.5**	**+1.0**	
LSA				pmax		pmax			
	comp=Z,7.0nm,0.6s,mb4.7								
ZAK	**Zakamensk**	**68.49**	**331**	⇑*i*P		**P**	**16 46 22.8**	**+0.1**	
ZAK				*e*		pP	16 46 42.5	-2.7	
ZAK				pmax		pmax			
	comp=Z,5.0nm,1.0s,mb4.3								
YAK	**Yakutsk**	**69.64**	**351**	*e*P		**P**	**16 46 29.9**	**+0.3**	
	comp=Z,13nm,0.8s,mb4.8								
YAK	**Yakutsk**	**69.64**	**351**	*e*P		**P**	**16 46 29.9**	**+0.3**	
YAK				pmax		pmax			
	comp=Z,13nm,0.8s,mb4.8								
SBA	**Scott Base**	**72.16**	**176**	*e*P		**P**	**16 46 46.1**	**+1.4**	
	comp=Z,3.5nm,1.0s,mb4.1								
SBA	**Scott Base**	**72.16**	**176**	*e*P		**P**	**16 46 46.1**	**+1.4**	
SBA				pmax		pmax			
	comp=Z,4.0nm,1.0s,mb4.2								
WMQ	**Urumqi**	**73.81**	**319**	P		**P**	**16 46 54.7**	**-0.3**	
BILL	**Bilibino**	**75.27**	**7**	*e*P		**P**	**16 47 02.3**	**-0.7**	
	comp=Z,13nm,1.2s,mb4.5								
BILL	**Bilibino**	**75.27**	**7**	⇓*e*P		**P**	**16 47 09.3**	**+6.3**	
BILL				*e*			16 47 13.4		
BILL							16 47 22.0		
BILL				pmax		pmax			
	comp=Z,5.0nm,1.0s,mb4.2								
MK31	**Makanchi Array**	**78.50**	**320**	*e*P		**P**	**16 47 21.2**	**-0.3**	
MK31				pmax		pmax			
	comp=Z,2.0nm,0.4s,mb4.2								
MKAR	**Makanchi Array**	**78.50**	**320**	P		**P**	**16 47 21.2**	**-0.4**	
	comp=Z,3.4nm,0.5s,mb4.3,baz=98,slow=8.2,SNR=65								
MKAR				LR		LR	17 21 39.2		
	comp=Z,56nm,20.9s,baz=163,slow=35								
MKAR	**Makanchi Array**	**78.50**	**320**	P		**P**	**16 47 21.2**	**-0.4**	
MKAR				LR		LR	17 21 39.2		
MKAR	**Makanchi Array**	**78.50**	**320**	P		**P**	**16 47 21.2**	**-0.3**	
ZAA0	**Zalesovo Array**	**79.91**	**328**	*e*P		**P**	**16 47 27.4**	**-1.7**	
ZALV	**Zalesovo Beam**	**79.91**	**328**	P		**P**	**16 47 27.5**	**-1.6**	
	comp=Z,5.4nm,0.6s,mb4.5,baz=109,slow=5.7,SNR=27								
ZALV				PKKPbc		PKKPbc	17 06 15.6	-1.4	
	comp=Z,0.7nm,0.5s,baz=309,slow=4.6,SNR=4.1								
ZALV				LR		LR	17 20 06.6		
	comp=Z,131nm,20.1s,baz=90,slow=34								
ZALV	**Zalesovo Beam**	**79.91**	**328**	P		**P**	**16 47 27.5**	**-1.6**	
ZALV				PKKPbc		PKKPbc	17 06 15.6	-1.4	
ZALV				LR		LR	17 20 06.6		
ZALV	**Zalesovo Beam**	**79.91**	**328**	P		**P**	**16 47 27.5**	**-1.6**	
KSH	**Kashi**	**80.47**	**312**	*e*P		**P**	**16 47 34.6**	**+2.1**	
KSH				pP		pP	16 47 59.8	+4.3	
KSH				sP		sP	16 48 10.5	+5.6	
KSH				PP		PP	16 50 42.9	+6.0	
KSH				S		S	16 57 31.4	-0.6	
KSH				SKS			16 57 39.6		
KSH				sS		sS	16 58 18.1	+6.7	
KSH				SS		SS	17 02 53.0	+6.9	
KSH				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.4								
KSH				pmax		pmax			
	comp=Z,86nm,5.2s								
KSH				LR		LR			
	comp=N,97nm,4.5s								
KSH				LR		LR			
	comp=E,58nm,4.9s								
KSH				LR		LR			
	comp=Z,150nm,4.6s								
NVS	**Novosibirsk**	**81.13**	**328**	*e*P		**P**	**16 47 32.8**	**-2.8**	
NVS				pmax		pmax			
	comp=Z,10.0nm,1.3s,mb4.5								
NVS				pmax		pmax			
	comp=N,10.0nm,1.9s								
NVS				pmax		pmax			
	comp=E,6.0nm,1.5s								
TKM2	**Tokmak 2**	**81.71**	**315**	*e*P		**P**	**16 47 38.6**	**-0.3**	
	comp=E,3.9nm,0.4s,mb4.6								
TKM2	**Tokmak 2**	**81.71**	**315**	*e*P		**P**	**16 47 38.7**	**-0.2**	
TKM2				pmax		pmax			
	comp=Z,4.0nm,0.4s,mb4.6								
KURK	**Kurchatov**	**82.17**	**323**	*e*P		**P**	**16 47 39.9**	**-1.3**	
	comp=Z,7.4nm,1.1s,mb4.4								
KURK	**Kurchatov**	**82.17**	**323**	*e*P		**P**	**16 47 39.9**	**-1.3**	
KURK				pmax		pmax			
	comp=Z,7.0nm,1.1s,mb4.4								
AAK	**Ala-Archa**	**82.41**	**314**	*e*P		**P**	**16 47 42.2**	**-0.4**	
	comp=Z,4.5nm,0.8s,mb4.3								
AAK				*e*			16 47 57.5		
AAK	**Ala-Archa**	**82.41**	**314**	*e*P		**P**	**16 47 42.2**	**-0.4**	
AAK				*e*			16 47 57.5		
AAK				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.4								
MAW	**Mawson**	**82.42**	**203**	P		**P**	**16 47 42.9**	**+0.7**	
	comp=Z,1.6nm,0.6s,mb4.0,baz=108,slow=7.1,SNR=12								
MAW				LR		LR	17 19 32.3		
	comp=Z,50nm,18.1s,baz=322,slow=32								
MAW	**Mawson**	**82.42**	**203**	P		**P**	**16 47 42.9**	**+0.7**	
MAW				LR		LR	17 19 32.3		
MAW	**Mawson**	**82.42**	**203**	P		**P**	**16 47 42.9**	**+0.7**	
EKS2	**Erkin-Say**	**82.93**	**314**	*e*P		**P**	**16 47 44.6**	**-0.7**	
	comp=Z,4.2nm,0.8s,mb4.3								
EKS2	**Erkin-Say**	**82.93**	**314**	*e*P		**P**	**16 47 44.6**	**-0.7**	
EKS2				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.3								
PMR	**Palmer**	**82.98**	**25**	*e*P		**P**	**16 47 42.4**	**-2.7**	
PMR	**Palmer**	**82.98**	**25**	*e*P		**P**	**16 47 42.4**	**-2.7**	
QSPA	**South Pole Qui**	**83.65**	**180**	*e*P		**P**	**16 47 49.7**	**+1.3**	
	comp=Z,36nm,1.1s,mb5.1								
MCK	**McKinley**	**84.04**	**23**	*e*P		**P**	**16 47 49.2**	**-1.3**	
	comp=Z,22nm,1.1s,mb4.9								
MCK	**McKinley**	**84.04**	**23**	*e*P		**P**	**16 47 49.2**	**-1.3**	
MCK				pmax		pmax			
	comp=Z,22nm,1.1s,mb4.9								
KBL	**Kabul**	**84.68**	**305**	*e*P		**P**	**16 47 53.0**	**-1.4**	
KBL	**Kabul**	**84.68**	**305**	*e*P		**P**	**16 47 53.0**	**-1.4**	
COLA	**College**	**84.98**	**23**	*e*P		**P**	**16 47 53.4**	**-1.8**	
COLA	**College**	**84.98**	**23**	*e*P		**P**	**16 47 53.4**	**-1.8**	
ILAR	**Eielson Array**	**85.30**	**23**	P		**P**	**16 47 54.9**	**-1.9**	
	comp=Z,3.2nm,0.8s,mb4.3,baz=253,slow=4.9,SNR=42								
ILAR	**Eielson Array**	**85.30**	**23**	P		**P**	**16 47 54.9**	**-1.9**	
ILAR	**Eielson Array**	**85.30**	**23**	P		**P**	**16 47 54.9**	**-1.9**	
KKAR	**Karatay Array**	**85.36**	**314**	*e*P		**P**	**16 47 57.0**	**-0.6**	
	comp=Z,12nm,1.1s,mb4.7								
KKAR	**Karatay Array**	**85.36**	**314**	*e*P		**P**	**16 47 57.0**	**-0.6**	
KKAR				pmax		pmax			
	comp=Z,12nm,1.1s,mb4.7								
EGAK	**Eagle**	**87.57**	**24**	*e*P		**P**	**16 48 07.1**	**-0.8**	
	comp=Z,6.5nm,0.8s,mb4.7								
BVA0	**Borovoye Array**	**87.72**	**324**	P		**P**	**16 48 07.4**	**-1.5**	
BVA0				pmax		pmax			
	comp=Z,1.0nm,0.8s,mb3.9								
BRVK	**Borovoye**	**87.79**	**324**	*e*P		**P**	**16 48 07.5**	**-1.7**	
	comp=Z,2.7nm,0.8s,mb4.3								
BRVK	**Borovoye**	**87.79**	**324**	*e*P		**P**	**16 48 07.5**	**-1.7**	
BRVK				pmax		pmax			
	comp=Z,3.0nm,0.8s,mb4.4								
DAWY	**Dawson**	**88.06**	**25**	*e*P		**P**	**16 48 10.1**	**-0.1**	
DAWY				*e*		pP	16 48 29.2	-4.4	
AB31	**Akbulak array**	**93.60**	**319**	*i*P		**P**	**16 48 34.6**	**-1.8**	
ABKAR	**Akbulak array**	**93.60**	**319**	*e*P		**P**	**16 48 34.2**	**-2.1**	
	comp=Z,9.9nm,1.1s,mb5.0								
ARU	**Arti**	**95.01**	**326**	P		**P**	**16 48 41.0**	**-1.7**	
ARU	**Arti**	**95.01**	**326**	P		**P**	**16 48 41.0**	**-1.7**	
NVAR	**Mina Array Bea**	**96.62**	**52**	P		**P**	**16 48 52.2**	**+1.7**	
	comp=Z,1.6nm,0.8s,mb4.5,baz=248,slow=6.4,SNR=11								
NVAR				LR		LR	17 32 16.4		
	comp=Z,73nm,18.2s,baz=22,slow=35								
NVAR	**Mina Array Bea**	**96.62**	**52**	P		**P**	**16 48 52.2**	**+1.7**	
NVAR				LR		LR	17 32 16.4		
SNAA	**Sanae**	**99.88**	**189**	*e*		Pdif	16 49 04.9	+0.2	
SNAA	**Sanae**	**99.88**	**189**	*e*Pdif		Pdif	16 49 04.0	-0.7	
	comp=Z,4.3nm,1.1s								
SNAA	**Sanae**	**99.88**	**189**	*e*P		Pdif	16 49 04.0	-0.7	
SNAA				pmax		pmax			
	comp=Z,4.0nm,1.1s								
VNA3	**Neumayer Olymp**	**101.21**	**187**	*e*		Pdif	16 49 07.6	-3.0	
PDAR	**Pinedale Array**	**103.25**	**48**	Pdiff		Pdif	16 49 20.8	+1.1	
	comp=Z,0.4nm,0.7s,baz=284,slow=3.6,SNR=4.6								
PDAR	**Pinedale Array**	**103.25**	**48**	Pdif		Pdif	16 49 20.8	+1.1	
TXAR	**Lajitas Array**	**108.87**	**61**	PKiKP		PKiKP	16 53 50.2	+0.4	
	comp=Z,0.9nm,0.9s,baz=318,slow=3.6,SNR=6.7								
TXAR	**Lajitas Array**	**108.87**	**61**	PKPdf		PKiKP	16 53 50.2	+0.4	
FINES	**FINESS Array B**	**110.47**	**334**	PKiKP		PKiKP	16 53 52.0	+0.1	
	comp=Z,1.1nm,0.5s,baz=56,slow=2.5,SNR=5.4								
FINES	**FINESS Array B**	**110.47**	**334**	PKPdf		PKiKP	16 53 52.0	+0.1	
FINES	**FINESS Array B**	**110.47**	**334**	PKiKP		PKiKP	16 53 52.0	+0.2	
ULM	**Lac du Bonnet**	**111.27**	**38**	PKiKP		PKiKP	16 53 53.7	0.0	
	comp=Z,4.5nm,0.5s,baz=244,slow=2.4,SNR=5.3								
ULM	**Lac du Bonnet**	**111.27**	**38**	PKPdf		PKiKP	16 53 53.7	0.0	
ULM	**Lac du Bonnet**	**111.27**	**38**	PKiKP		PKiKP	16 53 53.7	0.0	
BOSA	**Boshof**	**115.03**	**235**	PKP		PKiKP	16 54 02.6	+1.0	
	comp=Z,1.6nm,0.6s,baz=227,slow=2.0,SNR=4.6								
BOSA	**Boshof**	**115.03**	**235**	PKP		PKiKP	16 54 02.6	+1.0	
BOSA	**Boshof**	**115.03**	**235**	PKiKP		PKiKP	16 54 02.6	+1.0	
NOA	**NORSAR Array B**	**116.69**	**338**	PKP		PKPdf	16 54 04.6	+0.9	
	comp=Z,0.7nm,0.7s,baz=54,slow=2.0,SNR=3.1								
NOA	**NORSAR Array B**	**116.69**	**338**	PKP		PKPdf	16 54 04.6	+0.9	
NOA	**NORSAR Array B**	**116.69**	**338**	PKiKP		PKPdf	16 54 04.6	+0.9	
MLR	**Muntele Rosu**	**116.80**	**318**	⇑*i*P		PKPdf	16 54 04.6	+0.2	
VOIR		**117.41**	**318**	⇓*i*P		PKPdf	16 54 07.9	+2.3	
KOLS	**Kolonicke sedl**	**117.82**	**323**	*e*PKiKP		PKPdf	16 54 07.4	+1.1	
KOLS	**Kolonicke sedl**	**117.82**	**323**	*e*PKP		PKPdf	16 54 07.4	+1.1	
STHS	**Stebnicka Huta**	**118.23**	**324**	*e*PKiKP		PKPdf	16 54 08.5	+1.5	
STHS	**Stebnicka Huta**	**118.23**	**324**	*e*PKP		PKPdf	16 54 08.5	+1.5	
CRVS	**Cervenica-Dubn**	**118.32**	**323**	*e*PKiKP		PKPdf	16 54 07.0	-0.2	
CRVS	**Cervenica-Dubn**	**118.32**	**323**	*e*PKP		PKPdf	16 54 07.0	-0.2	
DRGR		**118.42**	**320**	⇓*i*P		PKPdf	16 54 07.7	+0.2	
VYHS	**Vyhne**	**120.06**	**324**	*e*PKiKP		PKPdf	16 54 11.0	+0.4	
VYHS	**Vyhne**	**120.06**	**324**	*e*PKP		PKPdf	16 54 11.0	+0.4	
MORC	**Moravsky Berou**	**120.20**	**325**	⇓*i*P		PKPdf	16 54 10.7	-0.1	
DPC	**Dobruska-Polom**	**120.60**	**326**	*e*PKiKP		PKPdf	16 54 11.7	+0.1	
DPC	**Dobruska-Polom**	**120.60**	**326**	*e*PKPdf		PKPdf	16 54 11.7	+0.1	
UPC	**Upice**	**120.69**	**327**	*e*PKiKP		PKPdf	16 54 11.8	+0.1	
UPC	**Upice**	**120.69**	**327**	*e*PKPdf		PKPdf	16 54 11.8	+0.1	
PLCA	**Paso Flores**	**121.20**	**146**	PKP		PKPdf	16 54 14.6	+1.5	
	comp=Z,4.2nm,0.7s,baz=227,slow=2.3,SNR=10								
PLCA	**Paso Flores**	**121.20**	**146**	PKP		PKPdf	16 54 14.6	+1.5	
PLCA	**Paso Flores**	**121.20**	**146**	PKiKP		PKPdf	16 54 14.6	+1.5	
PKSM	**Moragy**	**121.21**	**321**	⇑*i*P		PKPdf	16 54 12.8	-0.1	
BRG	**Berggiesshubel**	**121.60**	**328**	*e*P		PKPdf	16 54 14.1	+0.6	
	comp=Z,3.7nm,0.8s								
BRG	**Berggiesshubel**	**121.60**	**328**	*e*PKiKP		PKPdf	16 54 14.1	+0.6	
BRG				pmax		pmax			
	comp=Z,4.0nm,0.8s								
PRU	**Pruhonice**	**121.76**	**327**	*e*PKiKP		PKPdf	16 54 14.7	+0.9	
PRU	**Pruhonice**	**121.76**	**327**	*e*PKPdf		PKPdf	16 54 14.7	+0.9	
CLL	**Collm**	**121.85**	**329**	*e*PKiKP		PKPdf	16 54 14.0	0.0	
CLL				pmax		pmax			
	comp=Z,5.0nm,0.7s								
CLL	**Collm**	**121.85**	**329**	*e*PKPdf		PKPdf	16 54 14.0	0.0	
	comp=Z,5.0nm,0.7s								
KHC	**Kasperske Hory**	**122.75**	**326**	*e*PKiKP		PKPdf	16 54 15.9	+0.1	
KHC	**Kasperske Hory**	**122.75**	**326**	*e*PKPdf		PKPdf	16 54 15.9	+0.1	
GERES	**GERESS Array B**	**122.84**	**326**	PKP		PKPdf	16 54 16.2	+0.3	
	comp=Z,2.0nm,0.5s,baz=74,slow=1.4,SNR=22								
GERES	**GERESS Array B**	**122.84**	**326**	PKP		PKPdf	16 54 16.2	+0.3	
GERES	**GERESS Array B**	**122.84**	**326**	PKiKP		PKPdf	16 54 16.2	+0.3	
WTTA	**Wattenberg**	**124.86**	**325**	⇑*i*PKiKP		PKiKP	16 54 19.9	-0.3	
	comp=Z,6.6nm,0.8s								
MOTA	**Moosalm**	**125.12**	**326**	⇓*i*PKiKP		PKiKP	16 54 20.6	-0.1	
	comp=Z,7.3nm,0.7s								
FETA	**Feichten**	**125.51**	**325**	⇑*i*PKiKP		PKiKP	16 54 20.6	-0.9	
	comp=Z,6.2nm,0.9s								
DAVA	**Damuels**	**125.83**	**326**	⇑*i*PKiKP		PKiKP	16 54 22.4	+0.3	
	comp=Z,8.7nm,0.9s								
EKA	**Eskdalemuir Ar**	**126.03**	**340**	PKP		PKPdf	16 54 22.0	+0.2	
	comp=Z,1.5nm,0.5s,baz=20,slow=2.6,SNR=8.7								
EKA	**Eskdalemuir Ar**	**126.03**	**340**	PKP		PKPdf	16 54 22.0	+0.2	
EKA	**Eskdalemuir Ar**	**126.03**	**340**	PKiKP		PKPdf	16 54 22.0	+0.2	
DAVOX	**Davos/Dischmat**	**126.13**	**326**	PKP		PKPdf	16 54 23.0	+0.7	
	comp=Z,4.8nm,0.6s,baz=135,slow=1.4,SNR=5.9								
DAVOX	**Davos/Dischmat**	**126.13**	**326**	PKP		PKPdf	16 54 23.0	+0.7	
DAVOX	**Davos/Dischmat**	**126.13**	**326**	PKiKP		PKPdf	16 54 23.0	+0.7	
TUE	**Stuetta**	**126.60**	**325**	*e*PKPdf		PKPdf	16 54 22.3	-0.9	
HINF	**Hinteralfeld**	**127.15**	**328**	*e*PKiKP		PKPdf	16 54 24.6	+0.4	
	comp=Z,17nm,1.1s								
HINF	**Hinteralfeld**	**127.15**	**328**	*e*PKPdf		PKPdf	16 54 24.6	+0.4	
HINF	**Hinteralfeld**	**127.15**	**328**	*e*PKiKP		PKPdf	16 54 24.6	+0.4	
HAU	**Haudompre**	**127.29**	**329**	*e*PKiKP		PKPdf	16 54 24.2	-0.3	
	comp=Z,12nm,0.7s								
HAU	**Haudompre**	**127.29**	**329**	*e*PKPdf		PKPdf	16 54 24.2	-0.3	
HAU	**Haudompre**	**127.29**	**329**	*e*PKiKP		PKPdf	16 54 24.2	-0.3	
JTS	**JuntasAbngare**	**127.31**	**82**	*i*PKiKP		PKPdf	16 54 25.3	-0.2	
CABF	**La Chapelle**	**128.31**	**327**	*e*PKiKP		PKPdf	16 54 26.3	-0.2	
CABF	**La Chapelle**	**128.31**	**327**	*e*PKPdf		PKPdf	16 54 26.3	-0.2	
CABF	**La Chapelle**	**128.31**	**327**	*e*PKiKP		PKPdf	16 54 26.3	-0.2	
LPL	**La Plagne**	**128.64**	**326**	*e*PKiKP		PKPdf	16 54 27.6	+0.5	
LPL	**La Plagne**	**128.64**	**326**	*e*PKPdf		PKPdf	16 54 27.6	+0.5	
LPL	**La Plagne**	**128.64**	**326**	*e*PKiKP		PKPdf	16 54 27.6	+0.5	
LPG	**La Plagne**	**128.64**	**326**	*e*PKiKP		PKPdf	16 54 27.6	+0.5	
LPG	**La Plagne**	**128.64**	**326**	*e*PKPdf		PKPdf	16 54 27.6	+0.5	
LPG	**La Plagne**	**128.64**	**326**	*e*PKiKP		PKPdf	16 54 27.6	+0.5	
CFAA	**Coronel Fontan**	**128.71**	**140**	PKP		PKPdf	16 54 28.7	+1.0	
	comp=Z,1.0nm,0.7s,baz=230,slow=2.8,SNR=24								
CFAA	**Coronel Fontan**	**128.71**	**140**	PKP		PKPdf	16 54 28.7	+1.0	
PGF	**Pioggiola**	**129.03**	**322**	*e*PKiKP		PKPdf	16 54 27.8	-0.2	
	comp=Z,14nm,0.9s								
PGF	**Pioggiola**	**129.03**	**322**	*e*PKPdf		PKPdf	16 54 27.8	-0.2	
PGF	**Pioggiola**	**129.03**	**322**	*e*PKiKP		PKPdf	16 54 27.8	-0.2	
LOR	**Lormes**	**129.05**	**329**	*e*PKiKP		PKPdf	16 54 27.3	-0.6	
LOR	**Lormes**	**129.05**	**329**	*e*PKPdf		PKPdf	16 54 27.3	-0.6	
LOR	**Lormes**	**129.05**	**329**	*e*PKiKP		PKPdf	16 54 27.3	-0.6	
SSF	**Saint Saulge**	**129.37**	**329**	*e*PKiKP		PKPdf	16 54 28.0	-0.5	
SSF	**Saint Saulge**	**129.37**	**329**	*e*PKPdf		PKPdf	16 54 28.0	-0.5	
SSF	**Saint Saulge**	**129.37**	**329**	*e*PKiKP		PKPdf	16 54 28.0	-0.5	
SMF	**Signal de Mont**	**129.47**	**329**	*e*PKiKP		PKPdf	16 54 28.4	-0.3	
	comp=Z,7.3nm,0.8s								
SMF	**Signal de Mont**	**129.47**	**329**	*e*PKPdf		PKPdf	16 54 28.4	-0.3	
SMF	**Signal de Mont**	**129.47**	**329**	*e*PKiKP		PKPdf	16 54 28.4	-0.3	
ORIF	**Oris-en-Rattie**	**129.48**	**326**	*e*PKiKP		PKPdf	16 54 27.4	-1.4	
ORIF	**Oris-en-Rattie**	**129.48**	**326**	*e*PKPdf		PKPdf	16 54 27.4	-1.4	
ORIF	**Oris-en-Rattie**	**129.48**	**326**	*e*PKiKP		PKPdf	16 54 27.4	-1.4	
SMRF	**Simiane la Rot**	**130.23**	**325**	*e*PKiKP		PKPdf	16 54 29.6	-0.6	
	comp=Z,8.3nm,0.9s								
SMRF	**Simiane la Rot**	**130.23**	**325**	*e*PKPdf		PKPdf	16 54 29.6	-0.6	
TCF	**Toulx Ste Croi**	**130.55**	**329**	*e*PKiKP		PKPdf	16 54 30.4	-0.3	
	comp=Z,9.5nm,0.8s								
TCF	**Toulx Ste Croi**	**130.55**	**329**	*e*PKPdf		PKPdf	16 54 30.4	-0.3	
TCF	**Toulx Ste Croi**	**130.55**	**329**	*e*PKiKP		PKPdf	16 54 30.4	-0.3	
ATAH	**Atahualpa**	**131.63**	**105**	PKP		PKPdf	16 54 36.7	+3.0	
	comp=Z,10nm,0.7s,baz=278,slow=3.5,SNR=6.4								
NNA	**Nana**	**131.66**	**112**	PKP		PKPdf	16 54 36.0	+2.3	
	comp=Z,6.2nm,0.5s,baz=224,slow=6.5,SNR=3.8								
NNA	**Nana**	**131.66**	**112**	PKP		PKPdf	16 54 36.0	+2.3	
NNA	**Nana**	**131.66**	**112**	PKiKP		PKPdf	16 54 36.0	+2.2	
ETSF	**Etsaut**	**134.32**	**328**	*e*PKiKP		PKPdf	16 54 37.6	-0.4	
	comp=Z,14nm,0.9s								
ETSF	**Etsaut**	**134.32**	**328**	*e*PKPdf		PKPdf	16 54 37.6	-0.4	
ETSF	**Etsaut**	**134.32**	**328**	*e*PKiKP		PKPdf	16 54 37.6	-0.4	
LPAZ	**La Paz**	**137.61**	**122**	PKP		PKPdf	16 54 47.5	+2.7	
	comp=Z,8.8nm,0.7s,baz=301,slow=1.6,SNR=16								
LPAZ				SKPbc		SKPbc	16 58 16.2	+5.3	
	comp=Z,3.3nm,1.1s,baz=261,slow=2.9,SNR=4.9								
LPAZ	**La Paz**	**137.61**	**122**	*e*PKPpre		PKPpre	16 54 35.9		
LPAZ				*e*PKPdf		PKPdf	16 54 46.8	+1.9	
LPAZ				PKP		PKPdf	16 54 47.5	+2.7	
LPAZ				SKPbc		SKPbc	16 58 16.2	+5.3	
LPAZ	**La Paz**	**137.61**	**122**	*e*PKHKP		PKPpre	16 54 35.9		
LPAZ				*e*			16 54 46.8		
ROSC	**El Rosal**	**137.66**	**90**	PKP		PKPdf	16 54 46.8	+1.8	
	comp=Z,22nm,0.5s,baz=82,slow=7.1,SNR=10								
ROSC	**El Rosal**	**137.66**	**90**	*e*PKPdf		PKPdf	16 54 46.9	+1.9	
CPUP	**Villa Florida**	**139.18**	**144**	PKP		PKPdf	16 54 48.0	+0.5	
	comp=Z,2.8nm,0.7s,baz=342,slow=1.9,SNR=7.9								
CPUP	**Villa Florida**	**139.18**	**144**	PKP		PKPdf	16 54 48.0	+0.5	
CPUP	**Villa Florida**	**139.18**	**144**	PKiKP		PKPdf	16 54 48.0	+0.5	
SDDR	**Presa de Saban**	**139.58**	**68**	*e*PKPdf		PKPdf	16 54 49.6	+1.3	
SDV	**Santo Domingo**	**141.44**	**84**	*e*PKPpre		PKPpre	16 54 47.9		
SDV				*e*PKPdf		PKPdf	16 54 53.3	+1.5	
MDT	**Midelt**	**143.46**	**320**	PKP		PKPdf	16 54 54.1	-0.9	
	comp=Z,2.4nm,0.8s,baz=97,slow=0.8,SNR=5.8								
MDT	**Midelt**	**143.46**	**320**	PKP		PKPdf	16 54 54.1	-0.9	
CRPR	**Cabo Rojo, PR**	**143.66**	**68**	*e*PKPdf		PKPdf	16 54 52.5	-3.2	
LRS	**Lares**	**143.83**	**68**	*e*PKPdf		PKPdf	16 54 52.8	-3.2	
OBIP	**Obispado

*NEIC **06** 17:33:17.3±0.8, 39.51N×73.92E, h35km, Error ellipse: s-maj=11.8km s-min=10.6km az=152.0*

ISC 06 17:33:13.4±0.7, 39.30N±0.07×73.86E±0.08, h10km, n60, σ1.23/60, mb3.8/13, 5C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**2.83**	**358**	P	**Pn**	**17 33 59.9**	**+1.3**
	SNR=35						
UCH	**Uchtor**	**2.97**	**9**	P	**Pn**	**17 34 01.4**	**+0.9**
	SNR=14						
KZA	**Kyzart**	**2.97**	**20**	P	**Pn**	**17 34 01.3**	**+0.8**
	SNR=54						
EKS2	**Erkin-Say**	**3.36**	**359**	P	**Pn**	**17 34 08.5**	**+2.6**
	SNR=23						
EKS2	**Erkin-Say**	**3.36**	**359**	*eP*	**Pn**	**17 34 06.6**	**+0.7**
AAK	**Ala-Archa**	**3.37**	**8**	P	**Pn**	**17 34 08.2**	**+2.2**
	SNR=14						
AAK	**Ala-Archa**	**3.37**	**8**	Pn	**Pn**	**17 34 06.8**	**+0.8**
	0.2nm,0.3s,baz=162,slow=6.1,SNR=61						
AAK	**Ala-Archa**	**3.37**	**8**	Pn	**Pn**	**17 34 06.8**	**+0.8**
KBK	**Karagaybulak**	**3.45**	**13**	P	**Pn**	**17 34 09.1**	**+1.9**
	SNR=25						
ULHL	**Ulahol**	**3.46**	**31**	P	**Pn**	**17 34 11.7**	**+4.5**
	SNR=8.4						
CHMS	**Chumysh**	**3.76**	**10**	P	**Pn**	**17 34 12.7**	**+1.4**
	SNR=9.4						
TKM2	**Tokmak 2**	**3.85**	**19**	P	**Pn**	**17 34 13.6**	**+1.0**
	SNR=6.6						
TKM2	**Tokmak 2**	**3.85**	**19**	⇑Pn	**Pn**	**17 34 13.5**	**+0.9**
	15nm,0.5s						
TKM2				⇑Lg		17 35 09.4	
	57nm,0.7s						
TKM2	**Tokmak 2**	**3.85**	**19**	*eP*	**Pn**	**17 34 12.3**	**-0.3**
USP	**Ospenovka**	**3.99**	**7**	P	**Pn**	**17 34 15.9**	**+1.3**
	SNR=7.4						
KNDC	**Almaty**	**4.56**	**30**	⇑Pg	**Pg**	**17 34 34.4**	**-6.4**
	40nm,0.6s						
KNDC				⇓Lg		17 35 31.5	
	275nm,1.2s						
KK31	**Karatay Array**	**4.56**	**327**	⇓Pn	**Pn**	**17 34 23.0**	**+0.5**
	5.5nm,0.4s,baz=141,slow=15,SNR=12						
KK31				⇑Lg		17 35 30.6	
	33nm,0.5s,baz=136,slow=29,SNR=2.7						
KKAR	**Karatay Array**	**4.56**	**327**	*eP*	**Pn**	**17 34 22.9**	**+0.5**
MK31	**Makanchi Array**	**9.70**	**37**	⇑Pn	**Pn**	**17 35 32.0**	**-0.9**
	0.9nm,0.6s,baz=191,slow=28,SNR=6.9						
MKAR	**Makanchi Array**	**9.70**	**37**	Pn	**Pn**	**17 35 32.5**	**-0.4**
	0.1nm,0.3s,baz=213,slow=13,SNR=7.0						
MKAR				Lg		17 38 16.1	
	0.1nm,0.3s,baz=217,slow=31,SNR=4.2						
MKAR	**Makanchi Array**	**9.70**	**37**	Pn	**Pn**	**17 35 32.5**	**-0.4**
MKAR				Lg		17 38 16.1	
KURK	**Kurchatov**	**11.90**	**15**	Pn	**Pn**	**17 35 59.4**	**-3.5**
	0.0nm,0.3s,baz=205,slow=12,SNR=2.9						
KURK				Lg		17 39 19.1	
	0.1nm,0.3s,baz=203,slow=28,SNR=9.0						
KURK	**Kurchatov**	**11.90**	**15**	Pn	**Pn**	**17 35 59.4**	**-3.5**
KURK				Lg		17 39 19.1	
BVAR	**Borovoye Array**	**13.93**	**351**	Pn	**Pn**	**17 36 27.9**	**-2.8**
	0.2nm,0.3s,baz=165,slow=12,SNR=5.7						
BVAR				Lg		17 40 26.1	
	0.2nm,0.3s,baz=154,slow=30,SNR=5.9						
BVAR	**Borovoye Array**	**13.93**	**351**	Pn	**Pn**	**17 36 27.9**	**-2.8**
BVAR				Lg		17 40 26.1	
BRVK	**Borovoye**	**13.98**	**351**	*eP*	**Pn**	**17 36 29.0**	**-2.4**
	4.8nm,0.6s						
AB31	**Akbulak array**	**14.06**	**320**	⇓P	**Pn**	**17 36 31.8**	**-0.7**
	1.4nm,0.6s						
ABKAR	**Akbulak array**	**14.06**	**320**	*eP*	**Pn**	**17 36 31.4**	**-1.1**
	3.3nm,0.7s						
AKTK	**Aktyubinsk**	**15.78**	**320**	Pn	**Pn**	**17 36 52.5**	**-2.9**
AKTO	**Aktyubinsk**	**15.78**	**320**	⇓P	**Pn**	**17 36 56.0**	**+0.5**
	0.4nm,0.7s						
AKTO	**Aktyubinsk**	**15.78**	**320**	Pn	**Pn**	**17 36 52.5**	**-2.9**
	0.1nm,0.3s,baz=129,slow=15,SNR=4.5						
ZALV	**Zalesovo Beam**	**16.44**	**23**	Pn	**Pn**	**17 37 01.4**	**-2.6**
	0.2nm,0.3s,baz=204,slow=11,SNR=3.7						
ZALV	**Zalesovo Beam**	**16.44**	**23**	Pn	**Pn**	**17 37 01.4**	**-2.6**
SONM	**Songino Array**	**24.92**	**59**	P	**P**	**17 38 35.5**	**-1.0**
	0.5nm,0.9s,mb3.1,baz=268,slow=10,SNR=4.2						
SONM	**Songino Array**	**24.92**	**59**	P	**P**	**17 38 35.5**	**-1.0**
BRTR	**Keskin Array B**	**30.85**	**284**	P	**P**	**17 39 31.2**	**+1.6**
	0.7nm,0.7s,mb3.6,baz=94,slow=9.9,SNR=4.5						
BRTR	**Keskin Array B**	**30.85**	**284**	P	**P**	**17 39 31.2**	**+1.6**
AKASG	**Malin Array Be**	**33.07**	**305**	P	**P**	**17 39 49.0**	**0.0**
	0.9nm,0.4s,mb4.0,baz=84,slow=7.4,SNR=8.6						
AKASG	**Malin Array Be**	**33.07**	**305**	P	**P**	**17 39 49.0**	**0.0**
JOF	**Joensuu**	**34.66**	**327**	*ep*	**P**	**17 40 02.7**	**0.0**
	2.2nm,0.7s,mb4.2						
FINES	**FINESS Array B**	**36.51**	**323**	P	**P**	**17 40 18.0**	**-0.5**
	2.5nm,0.4s,mb4.4,baz=115,slow=9.7,SNR=33						
FINES	**FINESS Array B**	**36.51**	**323**	P	**P**	**17 40 18.0**	**-0.5**
ARCES	**ARCESS Array B**	**39.48**	**336**	P	**P**	**17 40 43.0**	**-0.5**
	6.1nm,1.1s,mb4.3,baz=98,slow=8.7,SNR=10						
ARCES	**ARCESS Array B**	**39.48**	**336**	P	**P**	**17 40 43.0**	**-0.5**
GERES	**GERESS Array B**	**43.23**	**303**	P	**P**	**17 41 15.2**	**+0.7**
	1.0nm,0.5s,mb3.8,baz=63,slow=8.3,SNR=12						
GERES	**GERESS Array B**	**43.23**	**303**	P	**P**	**17 41 15.2**	**+0.7**
KHC	**Kasperske Hory**	**43.25**	**304**	*eP*	**P**	**17 41 15.5**	**+0.8**
NB2	**NORSAR Subarra**	**43.56**	**321**	P	**P**	**17 41 16.4**	**-0.7**
	comp=Z,1.6nm,0.5s,mb4.0,baz=91,slow=7.9						
NOA	**NORSAR Array B**	**43.56**	**321**	P	**P**	**17 41 16.4**	**-0.6**
	comp=Z,2.0nm,0.6s,mb4.0,baz=91,slow=8.0,SNR=7.4						
NOA	**NORSAR Array B**	**43.56**	**321**	P	**P**	**17 41 16.4**	**-0.6**
ESDC	**Sonseca Array**	**58.17**	**297**	P	**P**	**17 43 07.5**	**+0.1**
	comp=Z,0.2nm,0.3s,mb3.6,baz=66,slow=7.2,SNR=2.8						
ESDC	**Sonseca Array**	**58.17**	**297**	P	**P**	**17 43 07.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**68.03**	**269**	P	**P**	**17 44 13.9**	**+0.7**
	comp=Z,1.5nm,0.6s,mb4.2,baz=49,slow=5.5,SNR=15						
TORD	**Torodi Ar. Bea**	**68.03**	**269**	P	**P**	**17 44 13.9**	**+0.7**
ILAR	**Eielson Array**	**71.46**	**17**	P	**P**	**17 44 31.6**	**-1.9**
	comp=Z,0.6nm,0.8s,mb3.6,baz=322,slow=5.9,SNR=8.5						
ILAR	**Eielson Array**	**71.46**	**17**	P	**P**	**17 44 31.6**	**-1.9**
WRA	**Warramunga Arr**	**81.62**	**124**	P	**P**	**17 45 32.0**	**+0.3**
	comp=Z,0.4nm,0.5s,mb3.6,baz=323,slow=4.8,SNR=13						
WRA	**Warramunga Arr**	**81.62**	**124**	P	**P**	**17 45 32.0**	**+0.3**
ASAR	**Alice Springs**	**84.06**	**127**	P	**P**	**17 45 44.5**	**+0.2**
	comp=Z,0.3nm,0.6s,mb3.6,baz=313,slow=4.7,SNR=8.1						
ASAR	**Alice Springs**	**84.06**	**127**	P	**P**	**17 45 44.5**	**+0.2**

*ISCJB **06** 17:49:38.5±1.8, 15.0S±0.2×178.0W±0.2, h407km±17km, mb3.7/8, Error ellipse: s-maj=41.3km s-min=23.2km az=43.3*

*NEIC **06** 17:49:39.0±1.4, 15.03S×177.94W, h403km±13km, mb4.4/1, Error ellipse: s-maj=30.5km s-min=17.2km az=133.0*

*IDC **06** 17:49:46.0±10.0, 14.93S×178.15W, h474km±120km, mb3.3/7, mb1 3.5/7, mb1mx3.2/18, mbtmp3.3/7, Error ellipse: s-maj=57.9km s-min=24.3km az=120.0*

ISC 06 17:49:39.2±1.8, 15.0S±0.2×178.0W±0.2, h401km±17km, n18, σ0.35/16, mb3.7/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.69**	**234**	*eP*	**Pn**	**17 50 58.0**	**0.0**
STKA	**Stephens Creek**	**40.46**	**238**	P	**P**	**17 56 41.2**	**+0.3**
	1.3nm,0.8s,mb3.3,baz=84,slow=10,SNR=2.3						
STKA	**Stephens Creek**	**40.46**	**238**	P	**P**	**17 56 41.2**	**+0.3**
WRA	**Warramunga Arr**	**45.66**	**257**	P	**P**	**17 57 21.8**	**-0.3**
	0.3nm,0.5s,mb2.9,baz=94,slow=8.6,SNR=16						
WRA	**Warramunga Arr**	**45.66**	**257**	P	**P**	**17 57 21.8**	**-0.3**
ASAR	**Alice Springs**	**46.06**	**252**	P	**P**	**17 57 25.5**	**+0.3**
	3.4nm,0.3s,mb4.2,baz=86,slow=8.2,SNR=146						
ASAR	**Alice Springs**	**46.06**	**252**	P	**P**	**17 57 25.5**	**+0.3**
QSPA	**South Pole Qui**	**75.01**	**180**	*eP*	**P**	**18 00 37.0**	**-0.3**
	9.5nm,1.1s,mb4.3						
KDAK	**Kodiak Island**	**75.52**	**14**	P	**P**	**18 00 40.3**	**-0.1**
	7.9nm,1.0s,mb4.3,baz=210,slow=8.1,SNR=3.6						
KDAK	**Kodiak Island**	**75.52**	**14**	P	**P**	**18 00 40.3**	**-0.1**
ILAR	**Eielson Array**	**83.00**	**13**	P	**P**	**18 01 19.8**	**-0.4**
	1.9nm,0.9s,mb3.8,baz=229,slow=6.3,SNR=12						
ILAR	**Eielson Array**	**83.00**	**13**	P	**P**	**18 01 19.8**	**-0.4**
TXAR	**Lajitas Array**	**84.09**	**58**	P	**P**	**18 01 27.2**	**+0.7**
	0.1nm,0.5s,mb2.8,baz=244,slow=5.9,SNR=2.9						
TXAR	**Lajitas Array**	**84.09**	**58**	P	**P**	**18 01 27.2**	**+0.7**
MAW	**Mawson**	**86.70**	**200**	P	**P**	**18 01 38.3**	**-0.2**
	3.6nm,0.8s,mb4.2,baz=131,slow=6.9,SNR=10						
MAW	**Mawson**	**86.70**	**200**	P	**P**	**18 01 38.3**	**-0.2**
BRTR	**Keskin Array B**	**143.02**	**318**	PKP	PKPdf	18 08 24.7	-1.5
	1.0nm,0.8s,baz=93,slow=3.0,SNR=5.8						
BRTR	**Keskin Array B**	**143.02**	**318**	PKP	PKPdf	18 08 24.7	-1.5

GUC 06 18:14:09.6±0.8, 31.57S×70.00W, h153km±8km, MD3.7, ML3.7, 2C-5D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	**Combarbala**	**0.95**	**294**	⇓*eP*	Pn	18 14 35.0	+0.8
CMCH				*eS*	Sn	18 14 54.2	+1.2
CMCH				AML	AML	18 14 55.2	
	comp=E,3μm,0.4s						
JACH	**Jahuel**	**1.22**	**204**	*eP*	Pn	18 14 37.2	+0.6
JACH				*i* S	Sn	18 14 58.0	+0.7
CHNG	**Los Chungos**	**1.32**	**256**	*eP*	Pn	18 14 39.3	+1.8
CHNG				*eS*	Sn	18 15 00.8	+1.9
TLL	**Tololo Astrono**	**1.56**	**333**	⇑*eP*	Pn	18 14 41.0	+1.0
TLL				*eS*	Sn	18 15 04.2	+0.8
TLL				AML	AML	18 15 06.6	
	comp=E,601nm,0.4s						
ROCH	**El Roble**	**1.64**	**211**	⇓*eP*	Pn	18 14 41.9	+1.1
ROCH				*eS*	Sn	18 15 06.2	+1.3
ROCH				AML	AML	18 15 12.4	
	comp=N,285nm,0.3s						
PEL	**Peldehue**	**1.68**	**200**	⇑*eP*	Pn	18 14 41.9	+0.6
PEL				*eS*	Sn	18 15 06.1	+0.5
PEL				AML	AML	18 15 07.5	
	comp=E,572nm,0.3s						
FCH	**Farellones**	**1.77**	**188**	⇓*iP*	Pn	18 14 42.7	+0.4
FCH				*eS*	Sn	18 15 08.1	+0.7
CLCH	**Cerro Calan**	**1.88**	**194**	*eP*	Pn	18 14 44.1	+0.6
RCDM	**Rinconada Maip**	**2.03**	**199**	⇓*eP*	Pn	18 14 45.9	+0.6
RCDM				*eS*	Sn	18 15 13.0	+0.2
RCDM				AML	AML	18 15 17.9	
	comp=E,562nm,0.2s						
PCH	**Pirque**	**2.09**	**192**	*eP*	Pn	18 14 46.9	+0.9
PCH				*i* S	Sn	18 15 15.1	+1.1
LMEL	**Las Melosas**	**2.28**	**184**	*eP*	Pn	18 14 48.9	+0.7
LMEL				*eS*	Sn	18 15 19.1	+1.1
LMEL				AML	AML	18 15 25.5	
	comp=N,264nm,0.2s						
CHCH	**Chadas Angostu**	**2.42**	**193**	*eP*	Pn	18 14 50.6	+0.7
CACH	**El Canelo**	**2.59**	**191**	⇓*eP*	Pn	18 14 53.2	+1.3
CACH				*i* S	Sn	18 15 26.4	+1.7
LCO	**Las Campanas**	**2.62**	**346**	*eP*	Pn	18 14 53.0	+0.6
LCO				AML	AML	18 15 26.9	
	comp=N,350nm,0.3s						
LNV	**Longovilo**	**2.66**	**206**	*eP*	Pn	18 14 53.2	+0.4

JMA 06 18:16:09.7±0.3, 43.97N×147.94E, h0km, M4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.71**	**250**	P	Pn	18 16 40.9	+0.3
NEM2				*eS*	Sn	18 17 03.9	+0.8
JRA	**Rausu**	**2.04**	**270**	P	Pn	18 16 45.8	+0.6
JRA				*eS*	Sn	18 17 12.3	+1.0
JNK	**Nakash**	**2.36**	**262**	P	Pn	18 16 50.6	+0.9
JNK				*eS*	Sn	18 17 20.2	+0.8
JAK	**Akkeshi**	**2.55**	**249**	P	Pn	18 16 53.1	+0.8
JTKR	**Abashiri--Toko**	**2.91**	**271**	P	Pn	18 16 59.6	+2.4
JAR	**Ashorobuto**	**3.10**	**259**	P	Pn	18 17 01.4	+1.6
JAR				*eS*	Sn	18 17 39.8	+2.2
JOB	**Onbets**	**3.17**	**252**	P	Pn	18 17 02.3	+1.4
JMP	**Maruseppu**	**3.31**	**272**	P	Pn	18 17 03.8	+1.1
JNBK	**Urakawa-nobuka**	**4.16**	**248**	P	Pn	18 17 16.3	+2.0
JKB	**Kayabe**	**5.48**	**250**	P	Pn	18 17 34.2	+1.6
JKB				*eS*	Sn	18 18 37.2	+0.9

*CSEM **06** 18:23:19.1±1.3, 37.97N×35.41E, h2km, MD2.3, Error ellipse: s-maj=32.7km s-min=16.4km az=145.0*

*DDA **06** 18:23:24.3, 37.53N×35.53E, h5km±2km, Md2.7*

ISK 06 18:23:22.1, 37.65N×35.53E, h16km, MD2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.29**	**125**	*ePG*	Pg	18 23 28.6	+0.3
KOZT				*eSG*	Sg	18 23 33.4	+1.0
KARA	**Karaisali**	**0.54**	**225**	*ePG*	Pg	18 23 33.1	+0.3
KARA				*eSG*	Sg	18 23 41.3	+1.3
KARA	**Karaisali**	**0.54**	**225**	*ePg*	Pg	18 23 33.1	+0.3
ANDN	**Andirin**	**0.65**	**95**	*i* P	Pg	18 23 37.1	+2.3
ANDN				*i* S	Sg	18 23 47.8	+4.3
ANDN	**Andirin**	**0.65**	**95**	*i* P	Pg	18 23 37.1	+2.3
ANDN				*i* S	Sg	18 23 47.8	+4.3
GULE	**Gulek**	**0.70**	**239**	*i* P	Pg	18 23 36.7	+0.9
GULE				*i* S	Sg	18 23 47.7	+2.6
GULE	**Gulek**	**0.70**	**239**	*i* P	Pg	18 23 36.7	+0.9
GULE				*i* S	Sg	18 23 47.7	+2.6
SARI	**SarD1z-Kayseri**	**1.38**	**41**	*e*PG	Pn	18 23 42.5	-4.2
SARI	**SarD1z-Kayseri**	**1.38**	**41**	*e*Pg	Pn	18 23 42.5	-4.2

*PGC **06** 18:27:29.5±47.0, 61.72N×142.28W, h20km, ML3.4/3, 226km east of Valdez, Ak Southern Alaska*

NEIC 06 18:27:24.3, 61.59N×142.61W, h5km, ML3.8(PMR), ML3.4(AEIC), ML3.4(PGC), MW3.7(SLM), 1C-3D, After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BMRM	**Bremner River**	**1.15**	**238**	*eP*	Pg	18 27 44.5	-1.7
MENT	**Mentasta**	**1.45**	**340**	*eP*	Pn	18 27 50.3	-0.8
BCA3	**Beaver Creek A**	**1.53**	**14**	P	Pn	18 27 52.2	+0.1
DIV	**Divide**	**1.59**	**255**	P	Pn	18 27 52.1	-0.9
EYAK	**Cordova Ski Ar**	**1.85**	**237**	P	Pn	18 27 56.6	0.0
PAX	**Paxson**	**1.93**	**317**	P	Pn	18 27 58.1	+0.5
DOT	**Dot Lake**	**2.17**	**343**	*eP*	Pn	18 28 01.4	+0.4
PNL	**Peninsula**	**2.50**	**139**	*eP*	Pn	18 28 06.9	+1.5
PNL				*eS*	Sn	18 28 41.4	+5.2
SML	**Sawmill**	**2.73**	**277**	*eP*	Pn	18 28 10.9	+2.1
DAWY	**Dawson**	**2.89**	**29**	*eP*	Pn	18 28 11.4	+0.5
DAWY	**Dawson**	**2.89**	**29**	⇑Pn	Pn	18 28 11.6	+0.7
DAWY				⇓Sg	Sg	18 28 53.2	-3.8
PMR	**Palmer**	**3.12**	**273**	*eP*	Pn	18 28 16.4	+2.4
EGAK	**Eagle**	**3.27**	**11**	*eP*	Pn	18 28 16.8	+0.8
MCK	**McKinley**	**3.62**	**309**	*eP*	Pn	18 28 23.9	+2.9
SEW	**Seward**	**3.66**	**249**	*eP*	Pn	18 28 22.7	+1.2
PLBC	**Pleasant Camp**	**3.76**	**122**	⇓Sg	Sg	18 29 22.1	-2.6
SLKM	**Skilak Lake**	**3.86**	**257**	*e*Pn	Pn	18 28 25.5	+1.4
WHY	**Whitehorse**	**3.86**	**101**	⇑Pn	Pn	18 28 27.0	+2.8
WHY	**Whitehorse**	**3.86**	**101**	⇑Pn	Pn	18 28 27.0	+2.8
WHY				⇓Sg	Sg	18 29 26.2	-2.0
TRF	**Thorofare Moun**	**4.02**	**301**	*e*Pn	Pn	18 28 29.5	+3.2
COLA	**College**	**4.06**	**327**	*e*Pn	Pn	18 28 27.2	+0.3
SKAG	**Skagway**	**4.18**	**117**	*e*Pn	Pn	18 28 28.0	-0.6
BPAW	**Bear Paw Mtn.**	**4.59**	**307**	*e*Pn	Pn	18 28 36.1	+1.9
PPLA	**Purkeypile**	**4.67**	**291**	*e*Pn	Pn	18 28 38.1	+2.9
RSO	**Redoubt South**	**5.06**	**262**	*e*Pn	Pn	18 28 42.3	+1.7
	44nm,0.6s						
SVW2	**Sparrevohn**	**6.26**	**271**	*e*P	Pn	18 28 58.5	+1.4
COLD	**Coldfoot**	**6.54**	**333**	*e*Pn	Pn	18 29 02.2	+1.3
	3.9nm,0.6s						
OHAK	**Old Harbor**	**6.99**	**236**	*e*P	Pn	18 29 08.1	+1.0
INK	**Inuvik**	**7.76**	**26**	⇑Pn	Pn	18 29 17.1	-0.6

*BJI **06** 18:37:05.9, 2.38S×100.26E, h10km, mB4.9/11, mb4.7/26, Ms4.4/7, Ms7 4.1/8*

*IDC **06** 18:37:06.8±0.7, 2.31S×99.98E, h0km, mb4.6/16, mb1 4.7/16, mb1mx4.5/22, mbtmp4.6/16, ML3.3/1, MS3.8/9, Ms1 3.8/9, ms1mx3.6/26, Error ellipse: s-maj=29.7km s-min=12.5km az=53.0*

*MOS **06** 18:37:10.3±1.0, 2.20S×100.11E, h33km, mb4.9/22, Error ellipse: s-maj=16.1km s-min=6.5km az=110.4*

*NEIC **06** 18:37:12.1±0.4, 2.30S×100.05E, h35km, mb4.9/22, Error ellipse: s-maj=13.1km s-min=6.0km az=53.0*

*ISCJB **06** 18:37:12.7±0.8, 2.33S±0.05×100.01E±0.05, h58km±6km, mb4.7/62, MS3.8/14, Error ellipse: s-maj=10.2km s-min=5.7km az=138.0*

*DJA **06** 18:37:12.2±0.6, 2°S±5'×10'0E±', h58km±18km, mb4.9/1, MLv5.0/12*

ISC 06 18:37:14.6±0.8, 2.33S±0.05×100.05E±0.06, h57km±6km, h13km±7.5km: pP-P, n189, σ0.98/175, mb4.7/62, MS3.8/14, 5C-5D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SISI	**Saibi**	**1.38**	**316**	P	**Pn**	**18 37 33.9**	**-3.8**
KRJI	**Kerinci**	**1.43**	**81**	P	**Pn**	**18 37 39.7**	**+1.4**
PDSI	**Padang**	**1.46**	**16**	P	**Pn**	**18 37 37.0**	**-1.8**
PDSI				S	**Sn**	**18 37 58.2**	**+1.3**
SDSI	**Sungai Dareh**	**1.95**	**45**	P	**Pn**	**18 37 46.0**	**+0.6**
BKNI	**Bangkinang**	**2.81**	**21**	P	**Pn**	**18 37 56.6**	**-0.6**
RGRI	**Rengat**	**3.01**	**49**	P	**Pn**	**18 38 00.1**	**+0.2**
MNSI	**Mandailing Nat**	**3.14**	**351**	P	**Pn**	**18 37 59.8**	**-1.8**
MNAI	**Manna**	**3.53**	**125**	P	**Pn**	**18 38 07.0**	**0.0**
MDSI	**Maura Dua**	**4.64**	**118**	P	**Pn**	**18 38 22.6**	**+0.4**
LWLI	**Liwa**	**4.81**	**124**	P	**Pn**	**18 38 25.2**	**+0.7**
PSI	**Prapat**	**5.22**	**348**	Pn	**Pn**	**18 38 24.3**	**-5.8**
	1.1nm,0.3s,baz=156,slow=13,SNR=3.7						
PSI	**Prapat**	**5.22**	**348**	Pn	**Pn**	**18 38 24.3**	**-5.9**
PSI	**Prapat**	**5.22**	**348**	P	**Pn**	**18 38 24.3**	**-5.8**
KGM	**Kluang**	**5.41**	**37**	P	**Pn**	**18 38 33.5**	**+0.7**
MYKOM	**Kota Tinggi**	**5.58**	**43**	P	**Pn**	**18 38 35.9**	**+0.8**
FRIM	**Kepong**	**5.75**	**16**	P	**Pn**	**18 38 37.0**	**-0.4**
IPM	**Ipoh**	**6.83**	**8**	P	**Pn**	**18 38 52.5**	**+0.3**
IPM	**Ipoh**	**6.83**	**8**	*eP*	**Pn**	**18 38 51.7**	**-0.6**
	23nm,0.6s						
CGJI	**Cibinong**	**7.05**	**127**	P	**Pn**	**18 38 52.7**	**-2.6**
KULM	**Kulim**	**7.59**	**5**	P	**Pn**	**18 39 01.2**	**-1.4**
KULM	**Kulim**	**7.59**	**5**	*eP*	**Pn**	**18 39 00.9**	**-1.8**
	38nm,0.9s						
SBUM	**Sibu**	**13.06**	**69**	P	**Pn**	**18 40 20.5**	**+3.0**
SDKM	**Sandakan**	**18.86**	**65**	P	**Pn**	**18 41 31.8**	**+0.5**
TSM	**Tawau**	**18.98**	**70**	P	**Pn**	**18 41 32.7**	**-0.1**
KDM	**Kudat**	**19.10**	**61**	P	**Pn**	**18 41 34.4**	**+0.2**
KAPI	**Kappang**	**19.84**	**98**	*eP*	**Pn**	**18 41 39.7**	**-3.3**
	38nm,1.0s						
MYLDM	**Lahad Datu**	**19.88**	**68**	P	**Pn**	**18 41 43.9**	**+0.5**
CMAR	**Chiang Mai Arr**	**20.68**	**357**	P	**P**	**18 41 46.7**	**-3.3**
	5.2nm,0.5s,baz=186,slow=9.9,SNR=52						
CMAR				PcP	PcP	18 45 59.8	+1.4
	0.7nm,0.7s,baz=240,slow=2.1,SNR=5.0						
CMAR				LR	LR	18 50 11.7	
	comp=Z,246nm,19.3s,MS3.6,baz=309,slow=38						
CMAR	**Chiang Mai Arr**	**20.68**	**357**	P	**P**	**18 41 46.7**	**-3.3**
CMAR				PcP	PcP	18 45 59.8	+1.4
CMAR				LR	LR	18 50 11.7	
CMAR	**Chiang Mai Arr**	**20.68**	**357**	P	**P**	**18 41 46.7**	**-3.3**
CMAR						18 45 59.8	
CHTO	**Chiang Mai**	**21.04**	**357**	*eP*	**P**	**18 41 51.5**	**-2.3**
	7.5nm,0.9s,mb4.0						
CHTO	**Chiang Mai**	**21.04**	**357**	*eP*	**P**	**18 41 51.5**	**-2.3**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.0						
DAV	**Davao City (W)**	**27.13**	**70**	LR	LR	18 55 17.6	
	comp=Z,164nm,19.2s,MS3.6,baz=190,slow=40						
SHL	**Shillong**	**28.84**	**345**	*e*PKP	**P**	**18 43 10.0**	**+2.4**
FITZ	**Fitzroy Crossi**	**29.59**	**124**	P	**P**	**18 43 14.0**	**-0.4**
	comp=Z,3.3nm,0.8s,mb4.1,baz=166,slow=10,SNR=8.9						
FITZ	**Fitzroy Crossi**	**29.59**	**124**	*eP*	**P**	**18 43 13.8**	**-0.6**
	comp=Z,5.4nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**29.59**	**124**	P	**P**	**18 43 14.0**	**-0.4**
PKI	**Pulchoki**	**32.90**	**336**	*eP*	**P**	**18 43 44.8**	**+1.4**
PKI	**Pulchoki**	**32.90**	**336**	*eP*	**P**	**18 43 44.8**	**+1.4**
PKIN	**Phulchoki**	**32.91**	**336**	*eP*	**P**	**18 43 44.8**	**+1.3**
LSA	**Lhasa**	**32.97**	**346**	P	**P**	**18 43 44.8**	**+0.8**
LSA	**Lhasa**	**32.97**	**346**	*eP*	**P**	**18 43 45.1**	**+1.2**
	comp=Z,6.9nm,0.6s,mb4.8						
LSA	**Lhasa**	**32.97**	**346**	*eP*	**P**	**18 43 45.1**	**+1.1**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
GUN	**Gumba**	**33.01**	**337**	*eP*	**P**	**18 43 45.3**	**+0.9**
	comp=Z,40nm,0.6s,mb5.5						
GUN	**Gumba**	**33.01**	**337**	*eP*	**P**	**18 43 45.3

		comp=Z,64nm,19.2s,MS3.9,baz=180,slow=33							
OBN	**Obninsk**		**77.10**	**328**	P	**P**	**18 49 02.0**	**+0.3**	
OBN					*e*	pP	18 49 17.6	-0.1	
OBN					pmax	pmax			
		comp=Z,12nm,1.0s,mb4.8							
OBN					MLR	MLR			
		comp=Z,100nm,18.0s,MS4.2							
TIRR	**Tirgusor**		**78.62**	**316**	*e*P	**P**	**18 49 09.6**	**-0.8**	
		comp=Z,5.1nm,0.9s,mb4.5							
TIRR	**Tirgusor**		**78.62**	**316**	*e*P	**P**	**18 49 09.6**	**-0.8**	
TIRR					pmax	pmax			
		comp=Z,5.0nm,0.9s,mb4.4							
TIRR	**Tirgusor**		**78.62**	**316**	*i*P	**P**	**18 49 10.2**	**-0.2**	
AKASG	**Malin Array Be**		**79.77**	**322**	P	**P**	**18 49 15.6**	**-1.0**	
		comp=Z,0.6nm,0.5s,mb3.8,baz=75,slow=6.6,SNR=4.5							
AKASG	**Malin Array Be**		**79.77**	**322**	P	**P**	**18 49 15.6**	**-1.0**	
AKASG	**Malin Array Be**		**79.77**	**322**	P	**P**	**18 49 15.6**	**-0.9**	
VRI	**Vrincioaia**		**80.13**	**317**	*i*P	**P**	**18 49 19.5**	**+0.9**	
TESR			**80.33**	**318**	*i*P	**P**	**18 49 20.0**	**+0.3**	
MLR	**Muntele Rosu**		**80.57**	**317**	*i*P	**P**	**18 49 21.8**	**+0.8**	
BURAR	**Bucovina Array**		**81.54**	**319**	*i*P	**P**	**18 49 27.1**	**+1.0**	
JOF	**Joensuu**		**82.53**	**335**	*e*P	**P**	**18 49 29.8**	**-1.1**	
JOF					pmax	pmax			
		comp=Z,3.0nm,0.7s,mb4.4							
JOF	**Joensuu**		**82.53**	**335**	*ep*	**P**	**18 49 29.8**	**-1.1**	
		comp=Z,2.9nm,0.7s,mb4.4							
BZS	**Buzias**		**83.58**	**316**	*i*P	**P**	**18 49 37.2**	**+0.5**	
KOLS	**Kolonicke sedl**		**83.73**	**320**	*e*P	**P**	**18 49 38.6**	**+1.2**	
KOLS					pmax	pmax			
		comp=Z,6.0nm,0.9s,mb4.7							
KOLS	**Kolonicke sedl**		**83.73**	**320**	*e*P	**P**	**18 49 38.6**	**+1.2**	
CRVS	**Cervenica-Dubn**		**84.25**	**319**	*e*P	**P**	**18 49 43.4**	**+3.3**	
CRVS					pmax	pmax			
		comp=Z,8.0nm,1.5s,mb4.6							
CRVS	**Cervenica-Dubn**		**84.25**	**319**	*e*PCP	PcP	18 49 43.4	-0.4	
FINES	**FINESS Array B**		**84.42**	**332**	P	**P**	**18 49 40.2**	**-0.5**	
		comp=Z,3.9nm,0.9s,mb4.6,baz=104,slow=8.0,SNR=7.8							
FINES	**FINESS Array B**		**84.42**	**332**	P	**P**	**18 49 40.2**	**-0.5**	
FINES	**FINESS Array B**		**84.42**	**332**	P	**P**	**18 49 40.2**	**-0.5**	
KAF	**Kangasniemi**		**84.50**	**333**	*e*P	**P**	**18 49 40.6**	**-0.4**	
KAF					pmax	pmax			
		comp=Z,4.0nm,0.7s,mb4.7							
KAF	**Kangasniemi**		**84.50**	**333**	*ep*	**P**	**18 49 40.6**	**-0.4**	
		comp=Z,4.0nm,0.7s,mb4.7							
VYHS	**Vyhne**		**85.91**	**319**	*e*P	**P**	**18 49 48.7**	**+0.3**	
VYHS	**Vyhne**		**85.91**	**319**	*e*P	**P**	**18 49 48.7**	**+0.3**	
ARCES	**ARCESS Array B**		**86.80**	**340**	P	**P**	**18 49 52.6**	**+0.3**	
		comp=Z,3.6nm,0.8s,mb4.7,baz=90,slow=5.0,SNR=5.9							
ARCES	**ARCESS Array B**		**86.80**	**340**	P	**P**	**18 49 52.6**	**+0.3**	
ARCES	**ARCESS Array B**		**86.80**	**340**	P	**P**	**18 49 52.7**	**+0.4**	
GERES	**GERESS Array B**		**89.33**	**319**	P	**P**	**18 50 05.0**	**+0.3**	
		comp=Z,1.4nm,0.8s,mb4.3,baz=116,slow=3.1,SNR=9.4							
GERES	**GERESS Array B**		**89.33**	**319**	P	**P**	**18 50 05.0**	**+0.3**	
GERES	**GERESS Array B**		**89.33**	**319**	P	**P**	**18 50 05.1**	**+0.3**	
NOA	**NORSAR Array B**		**91.45**	**331**	LR	LR	19 36 02.5		
		comp=Z,71nm,18.7s,MS4.1,baz=0.0,slow=39							
NVAR	**Mina Array Bea**		**129.82**	**39**	PKP	PKPdf	18 56 20.4	+2.4	
		comp=Z,1.2nm,1.0s,baz=268,slow=1.9,SNR=4.0							
NVAR	**Mina Array Bea**		**129.82**	**39**	PKP	PKPdf	18 56 20.4	+2.4	
PDAR	**Pinedale Array**		**131.84**	**29**	PKP	PKPdf	18 56 22.8	+1.1	
		comp=Z,0.5nm,0.9s,baz=339,slow=4.3,SNR=2.7							
PDAR	**Pinedale Array**		**131.84**	**29**	PKP	PKPdf	18 56 22.8	+1.1	
TXAR	**Lajitas Array**		**144.93**	**38**	PKP	PKPdf	18 56 46.6	+0.6	
		comp=Z,13nm,0.7s,baz=293,slow=1.1,SNR=167							
TXAR	**Lajitas Array**		**144.93**	**38**	PKP	PKPdf	18 56 46.6	+0.6	
TXAR	**Lajitas Array**		**144.93**	**38**	PKIKP	PKPdf	18 56 46.6	+0.6	
MIAR	**Mount Ida**		**145.52**	**20**	*e*P	PKPdf	18 56 47.1	+0.3	
MIAR	**Mount Ida**		**145.52**	**20**	*e*PKIKP	PKPdf	18 56 47.2	+0.3	
JCT	**Junction City**		**146.27**	**32**	*e*P	PKPdf	18 56 49.7	+1.4	
JCT	**Junction City**		**146.27**	**32**	*e*PKP2	PKPab	18 56 49.7	-0.5	

*ISK **06** 19:01:58.7,39°.85N×26°.56E,h3km,MD3.2*
*CSEM **06** 19:01:58.8±0.1,39°.81N×26°.49E,h2km,MD3.2,Error ellipse: s-maj=2.8km s-min=2.3km az=102.0*
*DDA **06** 19:01:58.4,39°.79N×26°.60E,h6km±6km,Md3.2*
*ISCJB **06** 19:01:58.4±0.4,39°.81N±0°.02×26°.52E±0°.02,h2km±3km, Error ellipse: s-maj=3.0km s-min=2.8km az=18.8*
*ATH **06** 19:01:58.8,39°.77N×26°.51E,h27km±2km,MD3.3/5*
*THE **06** 19:01:59.2,39°.80N×26°.44E,h0km±2km,ML2.6/5,Error ellipse: s-maj=2.6km s-min=0.9km az=80.0*

ISC 06 19:01:59.0±0.3,39°.81N±0°.02×26°.52E±0°.02,h3km±3km, n97,σ0s92/130,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EZN	**Ezine**	**0.15**	**275**	*e*PG	**Pg**	**19 02 03.2**	**+1.4**
EZN	**Ezine**	**0.15**	**275**	*e*Pg	**Pg**	**19 02 03.2**	**+1.4**
BOZC	**Bozcaada**	**0.36**	**275**	*i* P	**Pg**	**19 02 06.9**	**+1.0**
BOZC				*i* S	**Sg**	**19 02 11.8**	**+1.3**
AYVA	**Ayvalik**	**0.52**	**165**	*i* P	**Pg**	**19 02 08.8**	**-0.1**
AYVA				*i* S	**Sg**	**19 02 14.8**	**-0.8**
AYVA	**Ayvalik**	**0.52**	**165**	*i* P	**Pg**	**19 02 08.9**	**0.0**
AYVA				*i* S	**Sg**	**19 02 14.8**	**-0.9**
GELI	**Tayfur-Gelibol**	**0.59**	**357**	*e*PG	**Pg**	**19 02 10.3**	**0.0**
GELI	**Tayfur-Gelibol**	**0.59**	**357**	*e*Pg	**Pg**	**19 02 10.3**	**+0.1**
LPK	**Lapseki**	**0.59**	**18**	*e*PG	**Pg**	**19 02 10.0**	**-0.3**
LPK				*e*SG	**Sg**	**19 02 18.3**	**+0.4**
LPK	**Lapseki**	**0.59**	**18**	*e*Pg	**Pg**	**19 02 10.0**	**-0.3**
LPK				*e*Sg	**Sg**	**19 02 18.3**	**+0.3**
PRK	**Paraskevi**	**0.60**	**199**	*e*PN	**Pg**	**19 02 09.8**	**-0.6**
PRK				*e*SN	**Sg**	**19 02 18.7**	**+0.6**
PRK	**Paraskevi**	**0.60**	**199**	P	**Pg**	**19 02 10.1**	**-0.3**
PRK				S	**Sg**	**19 02 18.9**	**+0.8**
PRK	**Paraskevi**	**0.60**	**199**	*e*Pn	**Pg**	**19 02 09.8**	**-0.6**
PRK	**Paraskevi**	**0.60**	**199**	P	**Pg**	**19 02 10.1**	**-0.3**
PRK				S	**Sg**	**19 02 18.9**	**+0.8**
GADA	**Gvkgeada**	**0.61**	**309**	*e*PG	**Pg**	**19 02 11.3**	**+0.7**
GADA	**Gvkgeada**	**0.61**	**309**	*e*Pg	**Pg**	**19 02 11.3**	**+0.7**
SIGR	**SIGRI**	**0.79**	**221**	P	**Pg**	**19 02 13.5**	**-0.6**
SIGR				S	**Sg**	**19 02 24.3**	**0.0**
SIGR	**SIGRI**	**0.79**	**221**	P	**Pg**	**19 02 13.5**	**-0.6**
SIGR				S	**Sg**	**19 02 24.3**	**0.0**
KRBG	**Karabiga-Canak**	**0.83**	**46**	*e*PG	**Pg**	**19 02 14.7**	**-0.3**
KRBG	**Karabiga-Canak**	**0.83**	**46**	*e*Pg	**Pg**	**19 02 14.7**	**-0.3**
BALY	**Balya**	**0.85**	**94**	*i* P	**Pg**	**19 02 15.2**	**-0.1**
BALY				*i* S	**Sg**	**19 02 24.7**	**-1.6**
BALY	**Balya**	**0.85**	**94**	*i* P	**Pg**	**19 02 15.2**	**-0.1**
BALY				*i* S	**Sg**	**19 02 24.7**	**-1.7**
ERIK	**Erikli-Kesan**	**0.86**	**360**	*e*PG	**Pg**	**19 02 15.3**	**-0.2**
ERIK	**Erikli-Kesan**	**0.86**	**360**	*e*Pg	**Pg**	**19 02 15.3**	**-0.1**
GONE	**Gonen-Balikesi**	**0.93**	**75**	*e*PG	**Pg**	**19 02 16.6**	**-0.2**
GONE	**Gonen-Balikesi**	**0.93**	**75**	*e*Pg	**Pg**	**19 02 16.6**	**-0.2**
ENEZ	**Enez**	**0.96**	**343**	*e*PG	**Pg**	**19 02 17.6**	**+0.1**
ENEZ	**Enez**	**0.96**	**343**	*e*Pg	**Pg**	**19 02 17.6**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.01**	**30**	*e*PG	**Pg**	**19 02 17.9**	**-0.5**
RKY	**Sarkoy-Tekirda**	**1.01**	**30**	*e*Pg	**Pg**	**19 02 17.9**	**-0.4**
SART	**Tekirdag**	**1.01**	**30**	*i* P	**Pg**	**19 02 17.1**	**-1.3**
SART				*i* S	**Sg**	**19 02 31.0**	**-0.6**
SART	**Tekirdag**	**1.01**	**30**	*i* P	**Pg**	**19 02 17.0**	**-1.4**
SART				*i* S	**Sg**	**19 02 31.0**	**-0.5**
LIA	**Limnos Island**	**1.03**	**275**	*e*PN	**Pn**	**19 02 18.8**	**-1.5**
LIA				*e*SN	**Sn**	**19 02 33.0**	**-2.2**
LIA	**Limnos Island**	**1.03**	**275**	P	**Pg**	**19 02 18.7**	**0.0**
LIA				S	**Sg**	**19 02 32.1**	**0.0**
LIA	**Limnos Island**	**1.03**	**275**	*e*Pn	**Pn**	**19 02 18.8**	**-1.5**
LIA				S	**Sg**	**19 02 32.1**	**0.0**
LIA				*e*Sn	**Sn**	**19 02 33.0**	**-2.2**
ALN	**Alexandroupoli**	**1.14**	**342**	*e*PN	**Pn**	**19 02 21.2**	**-0.7**
ALN				*e*SN	**Sn**	**19 02 37.5**	**-0.5**
ALN	**Alexandroupoli**	**1.14**	**342**	P	**Pg**	**19 02 20.7**	**-0.2**
ALN				S	**Sg**	**19 02 36.6**	**+0.9**
ALN	**Alexandroupoli**	**1.14**	**342**	P	**Pg**	**19 02 20.7**	**-0.2**
ALN	**Alexandroupoli**	**1.14**	**342**	*e*Pn	**Pn**	**19 02 21.2**	**-0.7**
ALN				S	**Sg**	**19 02 36.6**	**+0.9**
ALN				*e*Sn	**Sn**	**19 02 37.5**	**-0.5**
BNT	**Bandirma**	**1.21**	**63**	*e*PN	**Pn**	**19 02 21.2**	**-1.5**
BNT	**Bandirma**	**1.21**	**63**	*e*Pn	**Pn**	**19 02 21.2**	**-1.5**
AKS	**Akhisar**	**1.37**	**132**	*e*PN	**Pn**	**19 02 25.5**	**+0.5**
AKS	**Akhisar**	**1.37**	**132**	*e*Pn	**Pn**	**19 02 25.5**	**+0.5**
AKHS	**Akhisar**	**1.37**	**132**	*i* P	**Pn**	**19 02 25.2**	**+0.3**
AKHS				*i* S	**Sg**	**19 02 42.1**	**-0.8**
AKHS	**Akhisar**	**1.37**	**132**	*i* P	**Pn**	**19 02 25.2**	**+0.2**
AKHS				*i* S	**Sg**	**19 02 42.1**	**-0.9**
TKR	**Tekirdag**	**1.41**	**33**	*e*PN	**Pn**	**19 02 25.4**	**-0.1**
TKR	**Tekirdag**	**1.41**	**33**	*e*Pn	**Pn**	**19 02 25.4**	**-0.1**
URLA	**Izmir**	**1.45**	**178**	*i* P	**Pn**	**19 02 24.4**	**-1.7**
URLA				*i* S	**Sb**	**19 02 42.3**	**-3.2**
URLA	**Izmir**	**1.45**	**178**	*i* P	**Pn**	**19 02 24.4**	**-1.7**
URLA				*i* S	**Sb**	**19 02 42.3**	**-3.1**
CHOS	**Chios island**	**1.47**	**194**	*e*PN	**Pn**	**19 02 24.9**	**-1.4**
CHOS	**Chios island**	**1.47**	**194**	P	**Pn**	**19 02 25.0**	**-1.3**
CHOS				S	**Sb**	**19 02 46.9**	**+1.0**
CHOS	**Chios island**	**1.47**	**194**	P	**Pn**	**19 02 25.0**	**-1.3**
CHOS				S	**Sb**	**19 02 46.9**	**+1.0**
BLCB	**Balcova**	**1.48**	**164**	*e*PN	**Pn**	**19 02 27.4**	**+0.9**
BLCB	**Balcova**	**1.48**	**164**	*e*Pn	**Pn**	**19 02 27.4**	**+0.9**
DURS	**Dursunbey**	**1.52**	**97**	*i* P	**Pn**	**19 02 27.9**	**+0.8**
DURS				*i* S	**Sn**	**19 02 44.8**	**-2.6**
DURS	**Dursunbey**	**1.52**	**97**	*i* P	**Pn**	**19 02 27.9**	**+0.8**
DURS				*i* S	**Sn**	**19 02 44.8**	**-2.6**
IZM	**Izmir**	**1.53**	**157**	*e*PN	**Pn**	**19 02 27.8**	**+0.7**
IZM	**Izmir**	**1.53**	**157**	*e*Pn	**Pn**	**19 02 27.8**	**+0.7**
DST	**Dursunbey**	**1.64**	**97**	*e*PN	**Pn**	**19 02 29.0**	**+0.4**
DST	**Dursunbey**	**1.64**	**97**	*e*Pn	**Pn**	**19 02 29.0**	**+0.4**
MDNY	**Mudanya-Bursa**	**1.90**	**72**	*e*PN	**Pn**	**19 02 32.5**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.90**	**72**	*e*Pn	**Pn**	**19 02 32.6**	**+0.4**
SLVT	**Silivri**	**1.92**	**42**	*e*PN	**Pn**	**19 02 32.6**	**+0.1**
SLVT	**Silivri**	**1.92**	**42**	*e*Pn	**Pn**	**19 02 32.6**	**+0.1**
ARMT	**Armutlu**	**1.95**	**67**	*e*PN	**Pn**	**19 02 33.2**	**+0.3**
ARMT	**Armutlu**	**1.95**	**67**	*e*Pn	**Pn**	**19 02 33.3**	**+0.4**
EDRB	**Edirne**	**2.04**	**5**	*e*PN	**Pn**	**19 02 34.2**	**0.0**
EDRB	**Edirne**	**2.04**	**5**	*e*Pn	**Pn**	**19 02 34.2**	**0.0**
MANT	**Manisa**	**2.06**	**129**	*i* P	**Pn**	**19 02 36.4**	**+1.9**
MANT				*i* S	**Sn**	**19 03 03.4**	**+2.7**
MANT	**Manisa**	**2.06**	**129**	*i* P	**Pn**	**19 02 36.4**	**+1.9**
MANT				*i* S	**Sn**	**19 03 03.4**	**+2.7**
CTKS	**Kestanelik-??a**	**2.08**	**46**	*e*PN	**Pn**	**19 02 35.0**	**+0.3**
CTKS	**Kestanelik-??a**	**2.08**	**46**	*e*Pn	**Pn**	**19 02 35.0**	**+0.3**
KULA	**Kula-Manisa**	**2.11**	**127**	*e*PN	**Pn**	**19 02 36.1**	**+0.9**
KULA	**Kula-Manisa**	**2.11**	**127**	*e*Pn	**Pn**	**19 02 36.1**	**+0.9**
CTYL	**Yal??k??y-??at**	**2.14**	**38**	*e*PN	**Pn**	**19 02 35.8**	**+0.2**
CTYL	**Yal??k??y-??at**	**2.14**	**38**	*e*Pn	**Pn**	**19 02 35.8**	**+0.2**
PAIG	**Paliouri**	**2.19**	**274**	P	**Pn**	**19 02 34.8**	**-1.4**
PAIG				S	**Pg**	**19 02 40.6**	**-0.3**
PAIG	**Paliouri**	**2.19**	**274**	P	**Pn**	**19 02 34.8**	**-1.4**
BGKT	**Bogazkoy**	**2.20**	**51**	*e*PN	**Pn**	**19 02 36.6**	**+0.3**
BGKT	**Bogazkoy**	**2.20**	**51**	*e*Pn	**Pn**	**19 02 36.6**	**+0.2**
ISK	**Istanbul-Kandi**	**2.31**	**56**	*e*PN	**Pn**	**19 02 38.1**	**+0.3**
ISK	**Istanbul-Kandi**	**2.31**	**56**	*e*Pn	**Pn**	**19 02 38.1**	**+0.2**
YLV	**Yalova**	**2.31**	**70**	*e*PN	**Pn**	**19 02 38.7**	**+0.7**
YLV	**Yalova**	**2.31**	**70**	*e*Pn	**Pn**	**19 02 38.7**	**+0.8**
KLYT	**Kilyos**	**2.40**	**52**	*e*PN	**Pn**	**19 02 39.6**	**+0.4**
KLYT	**Kilyos**	**2.40**	**52**	*e*Pn	**Pn**	**19 02 39.6**	**+0.4**
PLG	**Polygyros**	**2.42**	**284**	*e*PN	**Pn**	**19 02 38.3**	**-1.1**
PLG	**Polygyros**	**2.42**	**284**	*e*Pn	**Pn**	**19 02 38.3**	**-1.1**
ADVT	**Abdulvahap**	**2.55**	**75**	*e*PN	**Pn**	**19 02 41.8**	**+0.6**
ADVT	**Abdulvahap**	**2.55**	**75**	*e*Pn	**Pn**	**19 02 41.8**	**+0.6**
CAVI	**Cavuskoy**	**2.58**	**80**	*e*PN	**Pn**	**19 02 42.3**	**+0.6**
CAVI	**Cavuskoy**	**2.58**	**80**	*e*Pn	**Pn**	**19 02 42.3**	**+0.6**
HRT	**Hereke**	**2.61**	**66**	*e*PN	**Pn**	**19 02 42.6**	**+0.6**
HRT	**Hereke**	**2.61**	**66**	*e*Pn	**Pn**	**19 02 42.7**	**+0.7**
SILT	**Sile**	**2.73**	**60**	*e*PN	**Pn**	**19 02 44.4**	**+0.6**
SILT	**Sile**	**2.73**	**60**	*e*Pn	**Pn**	**19 02 44.4**	**+0.7**
GULT	**Gulveren**	**3.13**	**77**	*e*PN	**Pn**	**19 02 50.0**	**+0.9**
GULT	**Gulveren**	**3.13**	**77**	*e*Pn	**Pn**	**19 02 50.0**	**+0.9**

IDC 06 19:07:16.7±2.3,17°.28S×179°.85W,h0km,mb3.8/4, mb1 4.1/4,mb1mx3.8/17,mbtmp3.8/4,Error ellipse: s-maj=153.7km s-min=29.6km az=150.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.74**	**240**	P	P	19 14 35.3	+0.9
	3.0nm,1.1s,baz=85,slow=11,SNR=5.9						
WRA	**Warramunga Arr**	**43.40**	**259**	P	P	19 15 20.7	-0.7
	0.3nm,0.4s,baz=97,slow=6.9,SNR=18						
ASAR	**Alice Springs**	**43.65**	**254**	P	P	19 15 23.1	-0.2
	2.6nm,0.5s,baz=90,slow=7.7,SNR=111						
NVAR	**Mina Array Bea**	**79.93**	**45**	P	P	19 19 28.1	+0.5
	0.6nm,0.7s,baz=244,slow=9.6,SNR=4.2						

*ISCJB **06** 19:24:26.7±1.3,36°.10N±0°.04×27°.25E±0°.06,h0km±10km, Error ellipse: s-maj=9.8km s-min=5.1km az=41.5*
*ISK **06** 19:24:27.2,36°.20N×27°.14E,h8km,MD2.9*
*CSEM **06** 19:24:28.0±0.3,36°.17N×27°.17E,h10km,MD3.0,Error ellipse: s-maj=9.3km s-min=5.7km az=129.0*
*ATH **06** 19:24:29.0,36°.17N×27°.19E,h26km±6km,MD3.0/6*
*DDA **06** 19:24:35.7,36°.28N×27°.75E,h9km±1km,Md3.1*

ISC 06 19:24:28.5±0.8,36°.18N±0°.04×27°.20E±0°.05,h14km±6km, n32,σ1s09/41,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.63**	**183**	*e*PN	**Pn**	**19 24 41.6**	**-1.3**
KARP				*e*SN	**Sg**	**19 24 50.8**	**+1.8**
KARP	**Karpathos**	**0.63**	**183**	*e*Pn	**Pn**	**19 24 41.6**	**-1.3**
DAT	**Datca**	**0.63**	**29**	*e*PG	**Pg**	**19 24 40.3**	**-0.5**
DAT				*e*SG	**Sg**	**19 24 49.4**	**+0.2**
DAT	**Datca**	**0.63**	**29**	*e*Pg	**Pg**	**19 24 40.3**	**-0.5**
DAT				*e*Sg	**Sg**	**19 24 49.4**	**+0.2**
ARG	**Arkhangelos**	**0.75**	**87**	*e*PN	**Pn**	**19 24 43.5**	**-1.1**
ARG				*e*SN	**Sn**	**19 24 55.1**	**-0.7**
ARG	**Arkhangelos**	**0.75**	**87**	*e*Pn	**Pn**	**19 24 43.5**	**-1.1**
ARG				*e*Sn	**Sn**	**19 24 55.1**	**-0.7**
BODT	**Bodrum**	**0.89**	**6**	*e*PG	**Pg**	**19 24 44.3**	**-1.4**
BODT	**Bodrum**	**0.89**	**6**	*e*Pg	**Pg**	**19 24 44.3**	**-1.4**
MLSB	**Milas**	**1.21**	**22**	*e*PN	**Pn**	**19 24 50.7**	**-0.2**
MLSB	**Milas**	**1.21**	**22**	*e*Pn	**Pn**	**19 24 50.7**	**-0.3**
YER	**Yerkesik**	**1.29**	**42**	*e*PN	**Pn**	**19 24 52.5**	**+0.4**
YER	**Yerkesik**	**1.29**	**42**	*e*Pn	**Pn**	**19 24 52.5**	**+0.4**
ZKR	**Zakros**	**1.33**	**217**	*e*PN	**Pn**	**19 24 54.0**	**+1.5**
ZKR	**Zakros**	**1.33**	**217**	*e*Pn	**Pn**	**19 24 54.0**	**+1.5**
TURN	**Turunc**	**1.33**	**58**	*i* P	**Pn**	**19 24 47.9**	**-4.7**
TURN				*i* S	**Sb**	**19 25 02.3**	**-7.8**
TURN	**Turunc**	**1.33**	**58**	*i* P	**Pn**	**19 24 47.8**	**-4.8**
SMG	**Samos**	**1.56**	**349**	*e*PN	**Pn**	**19 24 57.4**	**+1.7**
SMG	**Samos**	**1.56**	**349**	*e*Pn	**Pn**	**19 24 57.4**	**+1.7**
AYDN	**Tasoluk**	**1.58**	**20**	*i* P	**Pn**	**19 24 57.3**	**+1.3**
AYDN				*i* S	**Sn**	**19 25 19.6**	**+3.4**
AYDN	**Tasoluk**	**1.58**	**20**	*i* P	**Pn**	**19 24 57.3**	**+1.3**
AYDN				*i* S	**Sn**	**19 25 19.6**	**+3.3**
NPS	**Neapolis**	**1.58**	**235**	*e*PB	**Pb**	**19 24 56.4**	**-1.0**
NPS	**Neapolis**	**1.58**	**235**	*e*Pb	**Pb**	**19 24 56.4**	**-1.0**
FETY	**Fethiye**	**1.59**	**73**	*e*PN	**Pn**	**19 24 56.8**	**+0.6**
FETY	**Fethiye**	**1.59**	**73**	*e*Pn	**Pn**	**19 24 56.8**	**+0.7**
APE	**Apeiranthos**	**1.61**	**304**	*e*PN	**Pn**	**19 24 55.9**	**-0.5**
APE	**Apeiranthos**	**1.61**	**304**	*e*Pn	**Pn**	**19 24 55.9**	**-0.6**
LAST	**Lasithi**	**1.73**	**235**	*e*PB	**Pb**	**19 24 58.7**	**-1.3**
LAST	**Lasithi**	**1.73**	**235**	*e*Pb	**Pb**	**19 24 58.7**	**-1.3**
AKAS	**Kas**	**1.95**	**88**	*i* P	**Pn**	**19 25 01.4**	**+0.3**
AKAS				*i* S	**Sn**	**19 25 24.5**	**-0.8**
AKAS	**Kas**	**1.95**	**88**	*i* P	**Pn**	**19 25 01.4**	**+0.3**
GLHS	**Glhisar (BURDU**	**2.09**	**61**	*e*PN	**Pn**	**19 25 03.9**	**+0.9**
GLHS	**Glhisar (BURDU**	**2.09**	**61**	*e*Pn	**Pn**	**19 25 03.9**	**+0.8**

*IDC **06** 19:37:18.3±1.1,29°.47S×177°.09W,h0km,mb4.0/4, mb1 4.1/4,mb1mx3.9/16,mbtmp4.0/4,Error ellipse: s-maj=33.3km s-min=30.8km az=32.0*
*NEIC **06** 19:37:23.6±1.0,29°.66S×177°.16W,h35km,mb4.3/1,Error ellipse: s-maj=23.2km s-min=18.6km az=83.0*
*ISCJB **06** 19:37:24.5±2.3,30°.01S±0°.09×177°.9W±0°.4,h16km±20km, mb4.2/6,Error ellipse: s-maj=51.8km s-min=13.9km az=5.9*

ISC 06 19:37:26.2±2.5,29°.89S±0°.09×177°.8W±0°.4,h20km±18km, n27,σ0s88/16,mb4.2/6,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.65**	**349**	*e*P	**Pb**	**19 37 38.8**	**-0.1**
URZ	**Urewera**	**9.36**	**206**	Pn	**Pn**	**19 39 40.1**	**+0.1**
	0.5nm,0.3s,baz=315,slow=13,SNR=3.0						
URZ				Sn	**Sn**	**19 41 24.3**	**-0.4**
	1.6nm,0.3s,baz=305,slow=22,SNR=6.1						
URZ	**Urewera**	**9.36**	**206**	Pn	**Pn**	**19 39 40.1**	**+0.1**
URZ				Sn	**Sn**	**19 41 24.3**	**-0.4**
HNR	**Honiara**	**29.12**	**310**	P	**P**	**19 43 21.8**	**-4.0**
	38nm,0.4s,mb5.5,baz=218,slow=12,SNR=4.4						
HNR	**Honiara**	**29.12**	**310**	P	**P**	**19 43 21.8**	**-4.0**
STKA	**Stephens Creek**	**34.79**	**256**	P	**P**	**19 44 17.8**	**+2.3**
	2.2nm,0.7s,mb4.2,baz=134,slow=3.7,SNR=6.6						
STKA	**Stephens Creek**	**34.79**	**256**	P	**P**	**19 44 17.8**	**+2.3**
ASAR	**Alice Springs**	**43.33**	**266**	P	**P**	**19 45 27.2**	**+0.1**
	0.5nm,0.5s,mb3.5,baz=105,slow=7.3,SNR=15						
ASAR	**Alice Springs**	**43.33**	**266**	P	P	**19 45 27.2**	**+0.1**
WRAB	**Tennant Creek**	**44.27**	**272**	*e*P	**P**	**19 45 34.5**	**-0.2**
	4.5nm,0.9s,mb4.2						

WRA	**Warramunga Arr**	**44.28**	**272**	P		**P**		**19 45 33.6**	**-1.1**
	1.6nm,0.4s,mb4.1,baz=110,slow=7.9,SNR=33								
WRA	**Warramunga Arr**	**44.28**	**272**	P		**P**		**19 45 33.6**	**-1.1**
MAW	**Mawson**	**72.85**	**200**	P		**P**		**19 48 53.2**	**0.0**
	0.9nm,0.9s,mb3.7,baz=122,slow=19,SNR=2.3								
MAW	**Mawson**	**72.85**	**200**	P		**P**		**19 48 53.2**	**0.0**
MKAR	**Makanchi Array**	**117.59**	**310**	PKP	PKPdf			19 56 06.2	-4.2
	0.1nm,0.5s,baz=184,slow=0.6,SNR=2.7								
MKAR	**Makanchi Array**	**117.59**	**310**	PKP	PKPdf			19 56 06.2	-4.2
ARCES	**ARCESS Array B**	**138.13**	**348**	PKP	PKPdf			19 56 43.3	-5.5
	6.5nm,1.1s,baz=122,slow=3.3,SNR=3.1								
ARCES	**ARCESS Array B**	**138.13**	**348**	PKP	PKPdf			19 56 43.3	-5.5
FINES	**FINESS Array B**	**144.73**	**340**	PKP	PKPdf			19 56 54.9	-5.9
	3.6nm,0.8s,baz=63,slow=3.3,SNR=11								
FINES	**FINESS Array B**	**144.73**	**340**	PKP	PKPdf			19 56 54.9	-5.9
NOA	**NORSAR Array B**	**148.28**	**352**	PKPbc	PKPbc			19 57 05.4	-4.8
	1.2nm,0.8s,baz=14,slow=4.4,SNR=3.5								
NOA	**NORSAR Array B**	**148.28**	**352**	PKPbc	PKPbc			19 57 05.4	-4.8
AKASG	**Malin Array Be**	**151.01**	**323**	PKPbc	PKPbc			19 57 13.2	-4.0
	0.9nm,0.4s,baz=44,slow=2.9,SNR=7.4								
AKASG				PKPab	PKPab			19 57 20.4	-4.4
	0.4nm,0.3s,baz=47,slow=3.8,SNR=6.7								
AKASG	**Malin Array Be**	**151.01**	**323**	PKPbc	PKPbc			19 57 13.2	-4.0
AKASG				PKPab	PKPab			19 57 20.4	-4.4
BRTR	**Keskin Array B**	**152.52**	**299**	PKPab	PKPab			19 57 24.1	-7.4
	0.2nm,0.4s,baz=72,slow=4.7,SNR=2.9								
TORD	**Torodi Ar. Bea**	**163.33**	**178**	PKP	PKPdf			19 57 27.4	-0.6
	0.4nm,0.9s,baz=120,slow=1.4,SNR=2.5								
TORD				PKPab	PKPab			19 58 13.1	-5.4
	0.2nm,0.5s,baz=190,slow=3.5,SNR=2.6								
TORD	**Torodi Ar. Bea**	**163.33**	**178**	PKP	PKPdf			19 57 27.4	-0.6
TORD				PKPab	PKPab			19 58 13.1	-5.4

WEL 06 19:37:55.1±0.9, 46.08S×165.93E, h12km, ML4.1/10, 3D, Error ellipse: s-maj=8.2km s-min=5.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.53**	**99**	⇓P*	Pb	19 38 05.5	-0.8
PYZ				S*	Sb	19 38 13.2	-0.7
DCZ	**Deep Cove**	**1.05**	**55**	P*	Pb	19 38 14.1	-1.0
DCZ				S*	Sb	19 38 29.3	+0.5
WHZ	**Wether Hill Ro**	**1.42**	**83**	⇓PN	Pn	19 38 19.7	-1.0
WHZ				SN	Sn	19 38 37.5	-1.7
APZ	**The Paps**	**1.61**	**119**	⇓PN	Pn	19 38 20.5	-2.8
MLZ	**Mavora Lakes**	**1.73**	**66**	PN	Pn	19 38 25.2	+0.2
MSZ	**Milford Sound**	**1.99**	**46**	PN	Pn	19 38 27.4	-1.1
SYZ	**Scrubby Hill**	**2.27**	**103**	PN	Pn	19 38 31.0	-1.3
EAZ	**Earnscleugh**	**2.52**	**71**	PN	Pn	19 38 36.5	+0.7
TUZ	**Tuapeka**	**2.58**	**89**	PN	Pn	19 38 35.5	-1.1
ODZ	**Otahua Downs**	**3.47**	**74**	PN	Pn	19 38 47.2	-1.7

*IDC **06** 19:41:03.7±1.2, 29.58S×177.07W, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.9/17, mbtmp4.2/4, ML4.1/1, MS3.7/2, Ms1 3.6/2, ms1mx3.1/28, Error ellipse: s-maj=43.6km s-min=31.3km az=151.0*

*NEIC **06** 19:41:08.2±1.1, 29.89S×177.03W, h35km, mb4.0/2, Error ellipse: s-maj=25.0km s-min=15.2km az=97.0*

ISC 06 19:41:06.1±4.8, 29.96S±0.10×177.2W±0.4, h6km±18km, n24, σ1§12/14, mb4.1/4, MS3.7/2, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.95**	**318**	*e*P	**Pg**	**19 41 24.4**	**0.0**
URZ	**Urewera**	**9.53**	**208**	Pn	**Pn**	**19 43 22.4**	**-1.4**
	0.4nm,0.3s,baz=108,slow=16,SNR=3.0						
URZ				Sn	**Sn**	**19 45 11.1**	**-0.1**
	1.6nm,0.3s,baz=146,slow=17,SNR=6.7						
URZ	**Urewera**	**9.53**	**208**	Pn	**Pn**	**19 43 22.4**	**-1.4**
URZ				Sn	**Sn**	**19 45 11.1**	**-0.1**
RPZ	**Rata Peaks**	**16.62**	**211**	Pn	**Pn**	**19 45 01.4**	**+1.8**
	0.7nm,0.3s,baz=14,slow=4.2,SNR=2.8						
RPZ	**Rata Peaks**	**16.62**	**211**	Pn	**Pn**	**19 45 01.4**	**+1.8**
CTAO	**Charters Tower**	**34.43**	**278**	*e*P	**P**	**19 47 55.5**	**+1.0**
	2.4nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**35.27**	**256**	P	**P**	**19 48 03.4**	**+1.7**
	4.7nm,0.9s,mb4.4,baz=44,slow=6.1,SNR=5.2						
STKA				LR	LR	19 59 56.5	
	comp=Z,72nm,20.6s,MS3.4,baz=57,slow=32						
STKA	**Stephens Creek**	**35.27**	**256**	*e*P	**P**	**19 48 02.1**	**+0.5**
	1.3nm,1.0s,mb3.8						
STKA				LR	LR	19 59 56.5	
ASAR	**Alice Springs**	**43.84**	**266**	P	**P**	**19 49 12.4**	**-0.7**
	0.5nm,0.4s,mb3.6,baz=104,slow=6.5,SNR=14						
ASAR	**Alice Springs**	**43.84**	**266**	P	**P**	**19 49 12.4**	**-0.7**
WRA	**Warramunga Arr**	**44.79**	**271**	P	**P**	**19 49 19.4**	**-1.5**
	2.2nm,0.4s,mb4.4,baz=110,slow=8.1,SNR=24						
WRA	**Warramunga Arr**	**44.79**	**271**	P	**P**	**19 49 19.4**	**-1.5**
PMSA	**Palmer Station**	**72.37**	**156**	LR	LR	20 19 42.8	
	comp=Z,80nm,20.7s,MS4.0,baz=298,slow=32						
MKAR	**Makanchi Array**	**118.03**	**310**	PKP	PKPdf		19 59 50.9 -2.5
	0.1nm,0.6s,baz=276,slow=1.3,SNR=2.2						
MKAR	**Makanchi Array**	**118.03**	**310**	PKP	PKPdf		19 59 50.9 -2.5
FINES	**FINESS Array B**	**144.97**	**341**	PKP	PKPdf		20 00 40.6 -2.8
	2.0nm,0.6s,baz=68,slow=3.6,SNR=8.2						
FINES	**FINESS Array B**	**144.97**	**341**	PKP	PKPdf		20 00 40.6 -2.8
NOA	**NORSAR Array B**	**148.42**	**352**	PKPbc	PKPbc		20 00 49.7 -3.0
	1.1nm,0.8s,baz=13,slow=4.4,SNR=2.6						
NOA	**NORSAR Array B**	**148.42**	**352**	PKPbc	PKPbc		20 00 49.7 -3.0
AKASG	**Malin Array Be**	**151.37**	**324**	PKPbc	PKPbc		20 00 58.4 -1.9
	1.1nm,0.5s,baz=46,slow=2.0,SNR=6.0						
AKASG				PKPab	PKPab		20 01 06.6 -1.9
	1.8nm,0.6s,baz=48,slow=3.4,SNR=7.9						
AKASG	**Malin Array Be**	**151.37**	**324**	PKPbc	PKPbc		20 00 58.4 -1.9
AKASG				PKPab	PKPab		20 01 06.6 -1.9
BRTR	**Keskin Array B**	**153.01**	**299**	PKPab	PKPab		20 01 13.7 -2.0
	0.7nm,0.7s,baz=149,slow=6.8,SNR=4.5						
BRTR	**Keskin Array B**	**153.01**	**299**	PKPab	PKPab		20 01 13.7 -2.0
TORD	**Torodi Ar. Bea**	**163.24**	**176**	PKPab	PKPab		20 02 00.6 +0.4
	0.3nm,0.8s,baz=209,slow=2.0,SNR=2.9						

IDC 06 19:56:23.8±5.3, 28.92S×177.14W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.5/15, mbtmp3.5/2, Error ellipse: s-maj=248.6km s-min=84.1km az=164.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**10.47**	**206**	Sn	Sn	20 00 30.1	-23
	0.3nm,0.3s,baz=108,slow=20,SNR=2.4						
ASAR	**Alice Springs**	**43.96**	**265**	P	P	20 04 32.6	-0.2
	0.2nm,0.6s,baz=103,slow=7.0,SNR=4.7						
WRA	**Warramunga Arr**	**44.82**	**270**	P	P	20 04 39.8	0.0
	1.0nm,0.7s,baz=111,slow=7.4,SNR=20						
FINES	**FINESS Array B**	**144.00**	**341**	PKP	PKPdf	20 16 00.2	-0.3
	0.8nm,0.6s,baz=48,slow=2.1,SNR=5.6						

*IDC **06** 20:18:36.2±0.9, 53.94N×164.90W, h0km, mb3.7/11, mb1 4.0/14, mb1mx3.8/30, mbtmp3.8/14, ML3.8/3, MS3.3/3, Ms1 3.3/3, ms1mx2.8/50, Error ellipse: s-maj=25.6km s-min=13.3km az=167.0*

*ISCJB **06** 20:18:41.3±0.7, 54.05N±0.10×164.77W±0.09, h52km±6km, mb3.8/12, MS3.3/2, Error ellipse: s-maj=17.9km s-min=5.0km az=156.9*

*NEIC **06** 20:18:42.0, 53.86N×164.65W, h23km, ML4.3(PMR), ML4.0(AEIC), After AEIC.*

ISC 06 20:18:42.5±0.7, 54.03N±0.10×164.79W±0.08, h43km±6km, n48, σ1§07/52, mb3.8/12, MS3.3/2, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKUT	**Akutan**	**0.59**	**281**	*e*P	**Pn**	**20 18 54.7**	**+0.2**
AKLV	**Akutan Long Va**	**0.70**	**282**	P	**Pn**	**20 18 55.0**	**-0.9**
AKLV				S	**Sn**	**20 19 05.8**	**+0.2**
UNV	**Unalaska Valle**	**1.03**	**261**	P	**Pn**	**20 18 59.3**	**-1.1**
UNV				S	**Sn**	**20 19 13.8**	**+0.2**
FALS	**False Pass**	**1.16**	**43**	P	**Pn**	**20 19 01.8**	**-0.3**
FALS				S	**Sn**	**20 19 17.4**	**+0.6**
NIKO	**Nikolski**	**2.65**	**248**	*e*P	**Pn**	**20 19 22.1**	**-0.5**
SDPT	**Sand Point**	**2.83**	**60**	*e*P	**Pn**	**20 19 24.8**	**-0.3**
CHGN	**Chignik**	**4.31**	**55**	*e*P	**Pn**	**20 19 46.1**	**+0.7**
OHAK	**Old Harbor**	**7.26**	**59**	*e*P	**Pn**	**20 20 25.0**	**-0.8**
ADK	**Adak**	**7.50**	**258**	*e*P	**Pn**	**20 20 31.9**	**+2.8**
	28nm,0.4s						
KDAK	**Kodiak Island**	**7.82**	**56**	Pn	**Pn**	**20 20 32.7**	**-0.8**
	1.5nm,0.3s,baz=156,slow=24,SNR=8.6						
KDAK				Sn	**Sn**	**20 21 57.4**	**-3.2**
	0.4nm,0.3s,baz=342,slow=20,SNR=3.9						
KDAK	**Kodiak Island**	**7.82**	**56**	Pn	**Pn**	**20 20 32.7**	**-0.8**
KDAK				Sn	**Sn**	**20 21 57.4**	**-3.2**
SVW2	**Sparrevohn**	**8.64**	**31**	*e*P	**Pn**	**20 20 45.3**	**+0.6**
RSO	**Redoubt South**	**9.16**	**40**	*e*P	**Pn**	**20 20 54.7**	**+2.9**
	34nm,0.7s						
PPLA	**Purkeypile**	**11.05**	**31**	*e*P	**Pn**	**20 21 22.8**	**+5.2**
	8.6nm,0.6s						
TRF	**Thorofare Moun**	**12.05**	**33**	*e*P	**Pn**	**20 21 32.9**	**+1.6**
	23nm,1.3s						
BMRM	**Bremner River**	**12.85**	**49**	*e*P	**Pn**	**20 21 42.1**	**-0.1**
FX1	**Attu Island--F**	**13.18**	**274**	Pn	**Pn**	**20 21 47.4**	**+0.6**
	1.4nm,0.3s,baz=90,slow=19,SNR=3.0						
FX1	**Attu Island--F**	**13.18**	**274**	Pn	**Pn**	**20 21 47.4**	**+0.6**
PAX	**Paxson**	**13.45**	**41**	*e*P	**Pn**	**20 21 49.0**	**-1.4**
	6.7nm,0.9s						
ILAR	**Eielson Array**	**14.04**	**33**	Pn	**Pn**	**20 21 55.7**	**-2.8**
	0.2nm,0.3s,baz=225,slow=13,SNR=13						
ILAR				LR	LR	20 27 58.3	
	comp=Z,65nm,19.6s,baz=226,slow=40						
ILAR	**Eielson Array**	**14.04**	**33**	Pn	**Pn**	**20 21 55.7**	**-2.8**
ILAR				LR	LR	20 27 58.3	
MENT	**Mentasta**	**14.12**	**42**	P	**Pn**	**20 22 01.3**	**+1.9**
DAWY	**Dawson**	**16.36**	**42**	*e*P	**Pn**	**20 22 28.1**	**-0.6**
INK	**Inuvik**	**20.45**	**34**	P	**P**	**20 23 16.1**	**+0.4**
	1.6nm,0.5s,baz=255,slow=11,SNR=9.6						
INK				LR	LR	20 31 07.3	
	comp=Z,39nm,18.6s,MS2.8,baz=323,slow=37						
INK	**Inuvik**	**20.45**	**34**	P	**P**	**20 23 16.1**	**+0.4**
INK				LR	LR	20 31 07.3	
PETK	**Petropavlovsk-**	**22.13**	**283**	P	**P**	**20 23 32.2**	**-1.8**
	1.5nm,0.5s,mb3.7,baz=84,slow=15,SNR=2.4						
PETK	**Petropavlovsk-**	**22.13**	**283**	P	**P**	**20 23 32.2**	**-1.8**
YKA	**Yellowknife Ar**	**27.06**	**52**	P	**P**	**20 24 20.1**	**-0.3**
	0.8nm,0.5s,mb3.5,baz=273,slow=9.5,SNR=4.4						
YKA	**Yellowknife Ar**	**27.06**	**52**	P	**P**	**20 24 20.1**	**-0.3**
NVAR	**Mina Array Bea**	**35.03**	**97**	P	**P**	**20 25 31.8**	**+1.1**
	0.9nm,0.7s,mb3.8,baz=317,slow=6.1,SNR=4.8						
NVAR	**Mina Array Bea**	**35.03**	**97**	P	**P**	**20 25 31.8**	**+1.1**
TXAR	**Lajitas Array**	**50.03**	**94**	P	**P**	**20 27 32.6**	**+0.1**
	0.8nm,0.5s,mb4.0,baz=309,slow=5.6,SNR=12						
TXAR	**Lajitas Array**	**50.03**	**94**	P	**P**	**20 27 32.6**	**+0.1**
SONM	**Songino Array**	**52.78**	**302**	P	**P**	**20 27 54.0**	**+1.2**
	0.2nm,0.5s,mb3.4,baz=50,slow=4.7,SNR=2.7						
SONM	**Songino Array**	**52.78**	**302**	P	**P**	**20 27 54.0**	**+1.2**
ARCES	**ARCESS Array B**	**56.52**	**356**	P	**P**	**20 28 19.0**	**-0.5**
	5.8nm,1.0s,mb4.6,baz=12,slow=7.0,SNR=7.3						
ARCES	**ARCESS Array B**	**56.52**	**356**	P	**P**	**20 28 19.0**	**-0.5**
TKL	**Tuckaleechee C**	**57.07**	**73**	LR	LR	20 52 21.6	
	comp=Z,69nm,18.0s,MS3.8,baz=35,slow=35						
JOF	**Joensuu**	**62.72**	**352**	*e*p	**P**	**20 29 01.8**	**-0.4**
	1.1nm,0.5s,mb4.2						
KAF	**Kangasniemi**	**63.88**	**354**	*e*p	**P**	**20 29 09.2**	**-0.7**
	1.0nm,0.5s,mb4.1						
FINES	**FINESS Array B**	**64.56**	**354**	P	**P**	**20 29 13.9**	**-0.4**
	1.1nm,0.7s,mb4.0,baz=21,slow=8.0,SNR=8.4						
FINES	**FINESS Array B**	**64.56**	**354**	P	**P**	**20 29 13.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**78.88**	**286**	P	**P**	**20 30 42.5**	**+1.5**
	0.4nm,0.9s,mb3.3,baz=353,slow=3.5,SNR=4.1						
CMAR	**Chiang Mai Arr**	**78.88**	**286**	P	**P**	**20 30 42.5**	**+1.5**
BRTR	**Keskin Array B**	**85.28**	**346**	P	**P**	**20 31 14.8**	**+0.4**
	0.3nm,0.4s,mb3.7,baz=315,slow=2.2,SNR=2.8						
BRTR	**Keskin Array B**	**85.28**	**346**	P	**P**	**20 31 14.8**	**+0.4**
WRA	**Warramunga Arr**	**90.20**	**235**	P	**P**	**20 31 37.2**	**-0.8**
	0.2nm,0.8s,mb3.5,baz=41,slow=5.7,SNR=3.2						
WRA	**Warramunga Arr**	**90.20**	**235**	P	**P**	**20 31 37.2**	**-0.8**

*ISK **06** 20:28:30.6, 39.06N×32.10E, h14km, MD2.4*

*ISCJB **06** 20:28:31.9±0.6, 38.84N±0.04×31.59E±0.04, h5km±9km, Error ellipse: s-maj=7.1km s-min=5.2km az=29.9*

*CSEM **06** 20:28:31.9±0.3, 38.84N×31.62E, h10km, MD2.4, Error ellipse: s-maj=7.6km s-min=5.0km az=34.0*

*DDA **06** 20:28:31.6, 38.83N×31.58E, h7km±1km, Md2.9*

ISC 06 20:28:32.2±0.6, 38.84N±0.04×31.60E±0.05, h10km±8km, n14, σ0§75/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIZT	**Kizilcal**	**0.22**	**80**	*e*PG	**Pg**	**20 28 36.1**	**-0.6**
KIZT				*e*SG	**Sg**	**20 28 40.4**	**+0.6**
KIZT	**Kizilcal**	**0.22**	**80**	*e*Pg	**Pg**	**20 28 36.1**	**-0.6**
KIZT				*e*Sg	**Sg**	**20 28 40.4**	**+0.6**
KDHN	**Kadinhani**	**0.52**	**129**	*i* P	**Pg**	**20 28 41.9**	**-0.4**
KDHN				*i* S	**Sg**	**20 28 49.8**	**+0.8**
KDHN	**Kadinhani**	**0.52**	**129**	*i* P	**Pg**	**20 28 41.9**	**-0.3**
KDHN				*i* S	**Sg**	**20 28 49.8**	**+0.8**
BOLV	**Bolvadin**	**0.53**	**256**	*i* P	**Pg**	**20 28 42.0**	**-0.4**
BOLV				*i* S	**Sg**	**20 28 49.2**	**-0.2**
BOLV	**Bolvadin**	**0.53**	**256**	*i* P	**Pg**	**20 28 42.0**	**-0.4**
BOLV				*i* S	**Sg**	**20 28 49.2**	**-0.1**
SVRH	**Sivrihisar-ESK**	**0.60**	**354**	*e*PG	**Pg**	**20 28 42.9**	**-1.0**
SVRH				*e*SG	**Sg**	**20 28 51.3**	**-0.6**
SVRH	**Sivrihisar-ESK**	**0.60**	**354**	*e*Pg	**Pg**	**20 28 42.9**	**-1.0**
SVRH				*e*Sg	**Sg**	**20 28 51.3**	**-0.6**
ESKT	**Eskisehir**	**0.89**	**319**	*e*PG	**Pg**	**20 28 51.2**	**+1.8**
ESKT	**Eskisehir**	**0.89**	**319**	*e*Pg	**Pg**	**20 28 51.2**	**+1.8**
KONT	**Konya--Tatoy**	**1.08**	**146**	*e*PN	**Pn**	**20 28 52.7**	**-0.6**
KONT	**Konya--Tatoy**	**1.08**	**146**	*e*Pn	**Pn**	**20 28 52.7**	**-0.6**
BORA	**Eskisehir**	**1.36**	**320**	*i* P	**Pn**	**20 28 57.4**	**+0.1**
BORA				*i* S	**Sb**	**20 29 15.9**	**+0.6**
BORA	**Eskisehir**	**1.36**	**320**	*i* P	**Pn**	**20 28 57.4**	**+0.1**
BORA				*i* S	**Sb**	**20 29 15.9**	**+0.6**

*NEIC **06** 20:32:46.2, 19.58N×66.22W, h51km, MD3.6(RSPR), After RSPR.*

RSPR 06 20:32:46.2, 19.58N×66.22W, h51km±23km, 6C-10D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AOPR	**Arecibo Observ**	**1.33**	**203**	⇓*e*P	Pn	20 33 07.0	-1.4
AOPR	**Arecibo Observ**	**1.33**	**203**	⇓*e*P	Pn	20 33 07.0	-1.4
AOPR				*e*S	Sn	20 33 24.5	-0.5
CBYP	**Canovanas**	**1.34**	**165**	⇓*e*P	Pn	20 33 08.0	-0.6
CBYP	**Canovanas**	**1.34**	**165**	⇓*e*P	Pn	20 33 08.0	-0.6
AGPR	**Aguadilla, PR**	**1.39**	**218**	*e*P	Pn	20 33 05.8	-3.5
LRS	**Lares**	**1.41**	**205**	*e*P	Pn	20 33 06.1	-3.5
SJG	**San Juan**	**1.46**	**178**	*e*Pn	Pn	20 33 09.1	-1.1
HUMP	**Col San Antoni**	**1.47**	**166**	⇓*e*P	Pn	20 33 09.8	-0.6
HUMP	**Col San Antoni**	**1.47**	**166**	⇓*e*P	Pn	20 33 09.8	-0.6
HUMP				*e*S	Sn	20 33 26.9	-1.6
CELP	**Cerrillos**	**1.54**	**193**	⇑*e*P	Pn	20 33 10.1	-1.1
CELP	**Cerrillos**	**1.54**	**193**	⇑*e*P	Pn	20 33 10.1	-1.1
MTP	**Monte Pirata**	**1.60**	**157**	⇓*e*P	Pn	20 33 11.5	-0.7
MTP	**Monte Pirata**	**1.60**	**157**	⇓*e*P	Pn	20 33 11.5	-0.7
MTP				*e*S	Sn	20 33 31.2	-0.5
LSP	**Las Mesas**	**1.62**	**211**	⇑*e*P	Pn	20 33 10.9	-1.6
LSP				*e*S	Sn	20 33 31.2	-1.0
LSP	**Las Mesas**	**1.62**	**211**	⇑*e*P	Pn	20 33 10.9	-1.6
LSP				*e*S	Sn	20 33 31.2	-1.0
ICM	**Isla Caja Muer**	**1.70**	**190**	⇑*e*P	Pn	20 33 12.9	-0.6
ICM	**Isla Caja Muer**	**1.70**	**190**	⇑*e*P	Pn	20 33 12.9	-0.6
ICM				*e*S	Sn	20 33 32.7	-1.4
STVI	**Saint Thomas**	**1.71**	**135**	*e*Pn	Pn	20 33 13.0	-0.6
CRPR	**Cabo Rojo, PR**	**1.78**	**209**	⇓*e*P	Pn	20 33 14.0	-0.6
CRPR	**Cabo Rojo, PR**	**1.78**	**209**	⇓*e*P	Pn	20 33 14.0	-0.6
CRPR				*e*S	Sn	20 33 36.0	-0.1

*IDC **06** 20:33:58.1±3.5, 29.91S×177.00W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/17, mbtmp4.0/4, ML3.4/1, Error ellipse: s-maj=72.5km s-min=53.9km az=117.0*

*NEIC **06** 20:34:03.9±2.2, 29.98S×177.27W, h35km, mb4.0/2, Error ellipse: s-maj=45.0km s-min=17.4km az=90.0*

ISC 06 20:33:60.0±5.8, 30.1S±0.1×177.3W±0.6, h1km±21km, n13, σ0§53/12, mb3.9/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.98**	**325**	*e*P	**Pg**	**20 34 18.9**	**0.0**
URZ	**Urewera**	**9.41**	**208**	Pn	**Pn**	**20 36 16.6**	**0.0**
	0.3nm,0.3s,baz=9.3,slow=20,SNR=3.3						
URZ				Sn	**Sn**	**20 38 03.0**	**-0.1**
	0.6nm,0.3s,baz=292,slow=19,SNR=2.3						
URZ	**Urewera**	**9.41**	**208**	Pn	**Pn**	**20 36 16.6**	**0.0**
URZ				Sn	**Sn**	**20 38 03.0**	**-0.1**
STKA	**Stephens Creek**	**35.17**	**256**	P	**P**	**20 40 57.1**	**+1.7**
	0.9nm,0.5s,mb4.0,baz=108,slow=6.4,SNR=3.8						
STKA	**Stephens Creek**	**35.17**	**256**	P	**P**	**20 40 54.9**	**-0.6**
	2.8nm,1.6s,mb3.9						
ASAR	**Alice Springs**	**43.76**	**266**	P	**P**	**20 42 07.7**	**+0.4**
	0.5nm,0.5s,mb3.5,baz=102,slow=7.5,SNR=9.3						
ASAR	**Alice Springs**	**43.76**	**266**	P	**P**	**20 42 07.7**	**+0.4**
WRAB	**Tennant Creek**	**44.71**	**271**	*e*P	**P**	**20 42 14.7**	**-0.2**
	1.0nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**44.72**	**271**	P	**P**	**20 42 14.4**	**-0.5**
	1.2nm,0.4s,mb4.2,baz=110,slow=7.6,SNR=36						
WRA	**Warramunga Arr**	**44.72**	**271**	P	**P**	**20 42 14.4**	**-0.5**
FINES	**FINESS Array B**	**145.04**	**341**	PKP	PKPdf	20 53 36.2	-2.2
	2.8nm,0.9s,baz=29,slow=3.5,SNR=5.5						
FINES	**FINESS Array B**	**145.04**	**341**	PKP	PKPdf	20 53 36.2	-2.2
TORD	**Torodi Ar. Bea**	**163.14**	**177**	PKPab	PKPab	20 55 01.6	+6.9
	0.1nm,0.4s,baz=158,slow=4.1,SNR=2.7						

*IPEC **06** 20:42:00.6±0.1, 50.07N×19.08E, h4km±1km, ML2.0/3, Error ellipse: s-maj=1.4km s-min=0.7km az=166.0*

*CSEM **06** 20:42:00.0±0.3, 50.11N×19.01E, h1km, ML2.8/9, Error ellipse: s-maj=8.6km s-min=4.8km az=171.0*

*PRU **06** 20:42:01.3, 50.14N×18.97E, h0km*

*VIE **06** 20:42:04.7±0.8, 49.87N×18.82E, h0km, mb1.7/2, ML2.3/4, Error ellipse: s-maj=4.8km s-min=4.4km az=48.0 41 km E of Ostrava Suspected Mining induced.*

WAR 06 20:42:00.5, 50.07N×19.10E, 1C-2D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.47**	**72**	*e*Pg	Pg	20 42 09.9	+0.4
OJC				*e*Sg	Sg	20 42 16.9	+1.3
OJC	**Ojcow**	**0.47**	**72**	*e*Pg	Pg	20 42 09.9	+0.4
OJC				*e*Sg	Sg	20 42 16.4	+0.8
OKC	**Ostrava-Krasne**	**0.66**	**249**	*e*PG	Pg	20 42 13.6	+0.4
OKC				*e*SG	Sg	20 42 22.2	+0.5
	comp=Z,25nm,0.4s						
OKC	**Ostrava-Krasne**	**0.66**	**249**	*e*Pg	Pg	20 42 13.3	+0.1
OKC				*e*Sg	Sg	20 42 22.1	+0.4
NIE	**Niedzica**	**1.02**	**129**	*e*Pg	Pg	20 42 20.5	+0.4
NIE				*e*Sg	Sg	20 42 37.0	+3.7
MORC	**Moravsky Berou**	**1.05**	**254**	*e*Pg	Pg	20 42 19.8	-0.8
MORC				*e*Sg	Sg	20 42 33.2	-1.1
	comp=Z,31nm,0.4s						
STHS	**Stebnicka Huta**	**1.54**	**115**	*e*PN	Pn	20 42 30.7	+1.6
STHS				*e*SN	Sn	20 42 52.6	+2.9
KOLL	**Kolacno**	**1.56**	**197**	*e*SN	Sn	20 42 51.1	+0.7
VYHS	**Vyhne**	**1.59**	**186**	*e*PN	Pn	20 42 29.6	-0.3
VYHS				*e*SN	Sn	20 42 50.8	-0.3
VYHS	**Vyhne**	**1.59**	**186**	*e*Pn	Pn	20 42 29.3	-0.6
VYHS				*e*Sg	Sg	20 42 50.1	-1.4
VRAC	**Vranov**	**1.80**	**246**	*e*Pn	Pn	20 42 32.6	-0.2
VRAC				*e*Sg	Sg	20 42 56.6	-1.7
	comp=Z,11nm,0.4s						
DPC	**Dobruska-Polom**	**1.81**	**280**	*e*PG	Pg	20 42 32.4	-2.7
DPC				*e*SG	Sg	20 42 56.4	-2.2
	comp=Z,14nm,0.3s						
DPC	**Dobruska-Polom**	**1.81**	**280**	*e*Pn	Pn	20 42 31.9	-1.0
DPC	**Dobruska-Polom**	**1.81**

KRBG	Karabiga-Canak	1.45	48	ePN	Pn	20 43 52.9	-1.0
KRBG	Karabiga-Canak	1.45	48	ePn	Pn	20 43 52.9	-1.0
ALN	Alexandroupoli	1.48	5	ePN	Pn	20 43 53.4	-0.8
ALN				eSN	Sn	20 44 12.5	-1.1
ALN	Alexandroupoli	1.48	5	P	Pn	20 43 53.3	-0.9
ALN				S	Sn	20 44 13.6	0.0
ALN	Alexandroupoli	1.48	5	ePn	Pn	20 43 53.4	-0.8
ALN				eSn	Sn	20 44 12.5	-1.1
ALN				S	Sn	20 44 13.6	0.0
IZM	Izmir	1.48	133	ePN	Pn	20 43 53.8	-0.5
IZM	Izmir	1.48	133	ePn	Pn	20 43 53.8	-0.5
GONE	Gonen-Balikesi	1.52	65	ePN	Pn	20 43 54.4	-0.4
GONE	Gonen-Balikesi	1.52	65	ePn	Pn	20 43 54.4	-0.4
BALB	Balikesir	1.56	81	ePN	Pn	20 43 55.5	+0.2
BALB	Balikesir	1.56	81	ePn	Pn	20 43 55.5	+0.2
AOS	Alonnisos	1.58	261	P	Pn	20 43 54.9	-0.6
AOS	Alonnisos	1.58	261	P	Pn	20 43 54.9	-0.6
AKHS	Akhisar	1.59	109	*i* P	Pn	20 43 55.2	-0.6
AKHS				*i* S	Sn	20 44 18.2	+1.7
AKHS	Akhisar	1.59	109	*i* P	Pn	20 43 55.2	-0.6
AKHS				*i* S	Sn	20 44 18.2	+1.7
AKS	Akhisar	1.59	109	ePN	Pn	20 43 55.2	-0.6
AKS	Akhisar	1.59	109	ePn	Pn	20 43 55.2	-0.6
RKY	Sarkoy-Tekirda	1.60	38	ePN	Pn	20 43 55.5	-0.4
RKY	Sarkoy-Tekirda	1.60	38	ePn	Pn	20 43 55.5	-0.4
SART	Tekirdag	1.61	38	*i* P	Pn	20 43 54.9	-1.0
SART				*i* S	Sn	20 44 16.0	-0.8
SART	Tekirdag	1.61	38	*i* P	Pn	20 43 54.9	-1.1
SART				*i* S	Sn	20 44 16.0	-0.8
OUR	Ouranopolis	1.73	302	P	Pn	20 43 57.0	-0.6
OUR				S	Sn	20 44 21.9	+2.2
OUR	Ouranopolis	1.73	302	P	Pn	20 43 57.0	-0.6
MFT	Murefte	1.73	38	ePN	Pn	20 43 57.6	0.0
MFT	Murefte	1.73	38	ePn	Pn	20 43 57.6	-0.1
RDO	Rodhopi	1.74	351	ePN	Pn	20 43 57.5	-0.3
RDO	Rodhopi	1.74	351	P	Pn	20 43 57.3	-0.5
RDO	Rodhopi	1.74	351	ePn	Pn	20 43 57.5	-0.3
PAIG	Paliouri	1.78	287	P	Pn	20 43 57.4	-0.9
PAIG	Paliouri	1.78	287	P	Pn	20 43 57.4	-0.9
BNT	Bandirma	1.82	59	ePN	Pn	20 43 58.4	-0.4
BNT	Bandirma	1.82	59	ePn	Pn	20 43 58.4	-0.5
SMG	Samos	1.87	156	ePB	Pb	20 43 58.5	-3.2
SMG	Samos	1.87	156	ePb	Pb	20 43 58.5	-3.2
KAVA	Kavala	1.89	327	P	Pn	20 43 59.3	-0.5
KAVA	Kavala	1.89	327	P	Pn	20 43 59.3	-0.5
DURS	Dursunbey	2.01	84	*i* P	Pn	20 44 00.8	-0.7
DURS				*i* S	Sn	20 44 24.9	-1.9
DURS	Dursunbey	2.01	84	*i* P	Pn	20 44 00.8	-0.7
DURS				*i* S	Sn	20 44 24.9	-1.8
TKR	Tekirdag	2.01	38	ePN	Pn	20 44 01.2	-0.3
TKR	Tekirdag	2.01	38	ePn	Pn	20 44 01.2	-0.3
PTL	Penteli	2.09	230	ePN	Pn	20 44 01.4	-1.2
PTL	Penteli	2.09	230	ePn	Pn	20 44 01.4	-1.2
DST	Dursunbey	2.12	84	ePN	Pn	20 44 03.3	+0.3
DST	Dursunbey	2.12	84	ePn	Pn	20 44 03.3	+0.3
DEMI	Demirci	2.23	99	*i* P	Pn	20 44 04.6	+0.1
DEMI				*i* S	Sn	20 44 36.8	+4.6
DEMI	Demirci	2.23	99	*i* P	Pn	20 44 04.6	+0.1
DEMI				*i* S	Sn	20 44 36.8	+4.6
KDZ	Kurdzhali	2.25	351	*i* P	Pn	20 44 04.0	-0.8
KDZ	Kurdzhali	2.25	351	*i* P	Pn	20 44 04.0	-0.8
KDZ	Kurdzhali	2.25	351	*i* P	Pn	20 44 04.0	-0.8
VLY	Voula,Athens	2.27	227	ePN	Pn	20 44 04.4	-0.6
VLY	Voula,Athens	2.27	227	ePn	Pn	20 44 04.4	-0.6
KULA	Kula-Manisa	2.35	112	ePN	Pn	20 44 06.2	0.0
KULA	Kula-Manisa	2.35	112	ePn	Pn	20 44 06.2	+0.1
APE	Apeiranthos	2.37	187	ePN	Pn	20 44 05.3	-1.4
APE	Apeiranthos	2.37	187	ePn	Pn	20 44 05.3	-1.1
APE	Apeiranthos	2.37	187	⇑*i*P	Pn	20 44 05.0	-1.4
APE	Apeiranthos	2.37	187	⇑*i*P	Pn	20 44 05.0	-1.4
APE	Apeiranthos	2.37	187	ePn	Pn	20 44 05.3	-1.1
APE				S	Sn	20 44 35.2	-0.4
SOH	Sokhos	2.39	307	ePN	Pn	20 44 06.8	+0.1
SOH	Sokhos	2.39	307	ePn	Pn	20 44 06.8	+0.1
RZN	Rozhen	2.43	339	*i* P	Pn	20 44 08.0	+0.7
RZN	Rozhen	2.43	339	*i* P	Pn	20 44 08.0	+0.7
RZN	Rozhen	2.43	339	*i* P	Pn	20 44 08.0	+0.7
SRS	Serrai	2.44	315	P	Pn	20 44 06.6	-0.8
SRS	Serrai	2.44	315	P	Pn	20 44 06.6	-0.8
NVR	Nevrokopi	2.47	322	ePN	Pn	20 44 07.5	-0.3
NVR	Nevrokopi	2.47	322	P	Pn	20 44 07.5	-0.3
NVR	Nevrokopi	2.47	322	P	Pn	20 44 07.5	-0.3
MDNY	Mudanya-Bursa	2.49	67	ePN	Pn	20 44 08.8	+0.7
MDNY	Mudanya-Bursa	2.49	67	ePn	Pn	20 44 08.8	+0.7
EDRB	Edirne	2.51	15	ePN	Pn	20 44 07.0	-0.5
EDRB	Edirne	2.51	15	ePn	Pn	20 44 07.8	-0.5
SLVT	Silivri	2.53	44	ePN	Pn	20 44 09.0	+0.4
SLVT	Silivri	2.53	44	ePn	Pn	20 44 09.0	+0.3
ARMT	Armutlu	2.55	63	ePN	Pn	20 44 09.6	+0.6
ARMT	Armutlu	2.55	63	ePn	Pn	20 44 09.6	+0.6
MLSB	Milas	2.59	144	ePN	Pn	20 44 09.1	-0.5
MLSB	Milas	2.59	144	ePn	Pn	20 44 09.1	-0.4
BODT	Bodrum	2.61	154	ePN	Pn	20 44 08.5	-1.3
BODT	Bodrum	2.61	154	ePn	Pn	20 44 08.5	-1.3
DIM	Dimitrovgrad	2.64	354	*i* P	Pn	20 44 09.5	-0.6
DIM	Dimitrovgrad	2.64	354	*i* P	Pn	20 44 09.5	-0.6
DIM	Dimitrovgrad	2.64	354	*i* P	Pn	20 44 09.5	-0.6
CTKS	Kestanelik-??a	2.70	47	ePN	Pn	20 44 11.3	+0.3
CTKS	Kestanelik-??a	2.70	47	ePn	Pn	20 44 11.3	+0.3
GEMT	Gemlik	2.73	67	ePN	Pn	20 44 12.0	+0.6
GEMT	Gemlik	2.73	67	ePn	Pn	20 44 12.0	+0.6
CTYL	Yal??k??y-??at	2.75	41	ePN	Pn	20 44 12.1	+0.4
CTYL	Yal??k??y-??at	2.75	41	ePn	Pn	20 44 12.1	+0.4
AGG	Agios Georgios	2.79	263	ePN	Pn	20 44 11.9	-0.3
AGG	Agios Georgios	2.79	263	ePn	Pn	20 44 11.9	-0.3
BGKT	Bogazkoy	2.82	51	ePN	Pn	20 44 13.2	+0.6
BGKT	Bogazkoy	2.82	51	ePn	Pn	20 44 13.2	+0.6
DID	Didima	2.83	228	ePN	Pn	20 44 12.6	-0.1
DID	Didima	2.83	228	ePn	Pn	20 44 12.6	-0.1
YLV	Yalova	2.91	66	ePN	Pn	20 44 15.1	+1.2
YLV	Yalova	2.91	66	ePn	Pn	20 44 15.1	+1.2
ISK	Istanbul-Kandi	2.93	55	ePN	Pn	20 44 14.7	+0.6
ISK	Istanbul-Kandi	2.93	55	ePn	Pn	20 44 14.7	+0.6
YER	Yerkesik	2.96	140	ePN	Pn	20 44 14.5	-0.1
YER	Yerkesik	2.96	140	ePn	Pn	20 44 14.5	-0.1
THL	Klokotos Trika	3.00	274	ePN	Pn	20 44 15.3	+0.2
THL	Klokotos Trika	3.00	274	ePn	Pn	20 44 15.3	+0.2
DAT	Datca	3.00	153	ePN	Pn	20 44 14.6	-0.6
DAT	Datca	3.00	153	ePn	Pn	20 44 14.6	-0.6
KLYT	Kilyos	3.02	52	ePN	Pn	20 44 16.2	+0.7
KLYT	Kilyos	3.02	52	ePn	Pn	20 44 16.2	+0.7
ADVT	Abdulvahap	3.13	70	ePN	Pn	20 44 17.6	+0.8
ADVT	Abdulvahap	3.13	70	ePn	Pn	20 44 17.6	+0.7
CAVI	Cavuskoy	3.14	74	ePN	Pn	20 44 17.9	+0.8
CAVI	Cavuskoy	3.14	74	ePn	Pn	20 44 17.9	+0.8
GUR	Goura	3.15	243	ePN	Pn	20 44 17.3	+0.2
GUR	Goura	3.15	243	ePn	Pn	20 44 17.3	+0.2
HRT	Hereke	3.22	63	ePN	Pn	20 44 18.9	+0.8
HRT	Hereke	3.22	63	ePn	Pn	20 44 18.9	+0.8
EFP	Efpalio	3.26	253	ePN	Pn	20 44 19.4	+0.7
EFP	Efpalio	3.26	253	ePn	Pn	20 44 19.4	+0.7
ALT	Altintas	3.30	95	ePN	Pn	20 44 19.9	+0.7
ALT	Altintas	3.30	95	ePn	Pn	20 44 20.0	+0.8
SILT	Sile	3.35	58	ePN	Pn	20 44 20.5	+0.6
SILT	Sile	3.35	58	ePn	Pn	20 44 20.5	+0.6
PGB	Panagyurishte	3.38	338	eP	Pn	20 44 20.0	-0.4
PGB	Panagyurishte	3.38	338	eP	Pn	20 44 20.0	-0.4
PGB	Panagyurishte	3.38	338	eP	Pn	20 44 20.0	-0.4
VLX	Vlachokerasia	3.43	234	ePN	Pn	20 44 21.6	+0.5
VLX	Vlachokerasia	3.43	234	ePn	Pn	20 44 21.6	+0.5
VLI	Veliai	3.57	222	ePN	Pn	20 44 22.0	-0.9
VLI	Veliai	3.57	222	ePn	Pn	20 44 22.0	-0.9
GULT	Gulveren	3.70	73	ePN	Pn	20 44 25.9	+1.2
GULT	Gulveren	3.70	73	ePn	Pn	20 44 25.9	+1.2
VTS	Vitosha	3.76	328	⇓*i*P	Pn	20 44 27.5	+2.0
VTS	Vitosha	3.76	328	P	Pn	20 44 26.6	+1.1
VTS	Vitosha	3.76	328	P	Pn	20 44 26.6	+1.1
VTS	Vitosha	3.76	328	P	Pn	20 44 26.6	+1.1
FETY	Fethiye	3.76	137	ePN	Pn	20 44 25.6	+0.1
FETY	Fethiye	3.76	137	ePn	Pn	20 44 25.6	+0.1
ITM	Ithomi	3.84	236	ePN	Pn	20 44 27.3	+0.7
ITM	Ithomi	3.84	236	ePn	Pn	20 44 27.3	+0.7
SZH	Strazhica	3.84	1	*i* P	Pn	20 44 28.0	+1.4
SZH	Strazhica	3.84	1	*i* P	Pn	20 44 28.0	+1.4
SZH	Strazhica	3.84	1	*i* P	Pn	20 44 28.0	+1.4
ESKT	Eskisehir	3.84	87	ePN	Pn	20 44 27.2	+0.6
ESKT	Eskisehir	3.84	87	ePn	Pn	20 44 27.3	+0.6
KARP	Karpathos	4.00	165	ePN	Pn	20 44 28.2	-0.7
KARP	Karpathos	4.00	165	ePn	Pn	20 44 28.2	-0.7
ELL	Elmali	4.15	129	ePN	Pn	20 44 31.5	+0.6
ELL	Elmali	4.15	129	ePn	Pn	20 44 31.5	+0.6
MDU	Mudurnu	4.22	74	ePN	Pn	20 44 33.3	+1.4
MDU	Mudurnu	4.22	74	ePn	Pn	20 44 33.3	+1.4
MPEP	Malo Peshtene	4.25	338	*i* P	Pn	20 44 34.8	+2.6
MPEP	Malo Peshtene	4.25	338	*i* P	Pn	20 44 34.8	+2.6
LAST	Lasithi	4.27	184	ePN	Pn	20 44 33.1	+0.6
LAST	Lasithi	4.27	184	ePn	Pn	20 44 33.1	+0.6
ZKR	Zakros	4.31	176	ePN	Pn	20 44 32.8	-0.3
ZKR	Zakros	4.31	176	ePn	Pn	20 44 32.8	-0.3
SUTC	Sutluce-Ispart	4.46	114	ePN	Pn	20 44 36.4	+1.2
SUTC	Sutluce-Ispart	4.46	114	ePn	Pn	20 44 36.4	+1.2
BARS	Barje	4.58	319	ePn	Pn	20 44 37.2	+0.4
KIZT	Kizilcal	4.69	95	ePN	Pn	20 44 39.4	+1.0
KIZT	Kizilcal	4.69	95	ePn	Pn	20 44 39.4	+1.1
TIRR	Tirgusor	5.37	20	⇓*i*P	Pn	20 44 47.4	-0.3
TIRR	Tirgusor	5.37	20	⇓*i*P	Pn	20 44 47.4	-0.3
VOIR		6.04	354	⇑*i*P	Pn	20 44 57.3	+0.4
VOIR		6.04	354	⇑*i*P	Pn	20 44 57.3	+0.4
MLR	Muntele Rosu	6.06	0	⇑*i*P	Pn	20 44 58.5	+1.3
MLR	Muntele Rosu	6.06	0	⇑*i*P	Pn	20 44 58.5	+1.3
LOT	Lotru	6.22	346	⇑*i*P	Pn	20 44 59.1	-0.2
LOT	Lotru	6.22	346	⇑*i*P	Pn	20 44 59.1	-0.2
PLOR	Plostina	6.45	5	⇑*i*P	Pn	20 45 04.2	+1.7
PLOR	Plostina	6.45	5	⇑*i*P	Pn	20 45 04.2	+1.7
VRI	Vrincioaia	6.47	5	⇑*i*P	Pn	20 45 04.3	+1.6
VRI	Vrincioaia	6.47	5	⇑*i*P	Pn	20 45 04.3	+1.6
DOPR	Dopca	6.55	357	⇓*i*P	Pn	20 45 05.2	+1.3
DOPR	Dopca	6.55	357	⇓*i*P	Pn	20 45 05.2	+1.3
BZS	Buzias	6.95	334	⇑*i*P	Pn	20 45 09.6	+0.3
BZS	Buzias	6.95	334	⇑*i*P	Pn	20 45 09.6	+0.3
TESR		7.11	4	⇓*i*P	Pn	20 45 12.2	+0.7
TESR		7.11	4	⇓*i*P	Pn	20 45 12.2	+0.7
DRGR		7.72	344	⇓*i*P	Pn	20 45 21.0	+1.1
DRGR		7.72	344	⇓*i*P	Pn	20 45 21.0	+1.1
BURAR	Bucovina Array	8.20	357	⇓*i*P	Pn	20 45 28.7	+2.2
BURAR	Bucovina Array	8.20	357	⇓*i*P	Pn	20 45 28.7	+2.2

CSEM **06** *20:50:30.0±0.6, 37°.25N×36°.84E, h10km, MD2.3, Error ellipse: s-maj=14.8km s-min=9.0km az=57.0*
DDA **06** *20:50:30.3, 37°.23N×36°.85E, h7km±7km, Md3.1*

ISK 06 20:50:30.5, 37°.42N×37°.17E, h5km, MD2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMRS	Kahramanmaras	0.23	291	ePG	Pg	20 50 35.6	+0.6
KMRS				eSG	Sg	20 50 39.3	+1.2
KMRS	Kahramanmaras	0.23	291	ePg	Pg	20 50 35.6	+0.6
KMRS				eSg	Sg	20 50 39.3	+1.2
GAZ	Gaziantep	0.25	172	ePG	Pg	20 50 35.5	+0.1
GAZ				eSG	Sg	20 50 40.3	+1.6
GAZ	Gaziantep	0.25	172	ePg	Pg	20 50 35.5	+0.1
GAZ				eSg	Sg	20 50 40.3	+1.6
KUZU	Kuzuini	0.65	187	*i* P	Pg	20 50 40.4	-2.6
KUZU				*i* S	Sg	20 50 47.1	-4.3
KUZU	Kuzuini	0.65	187	*i* P	Pg	20 50 40.4	-2.6
KUZU				*i* S	Sg	20 50 47.1	-4.3
ANDN	Andirin	0.68	284	*i* P	Pg	20 50 41.4	-2.1
ANDN				*i* S	Sg	20 50 47.2	-5.0
ANDN	Andirin	0.68	284	*i* P	Pg	20 50 41.4	-2.1
ANDN				*i* S	Sg	20 50 47.2	-5.0
AKCD	Akcadag	1.06	34	*i* P	Pg	20 50 56.4	+5.6
AKCD				*i* S	Sg	20 51 14.9	+10
AKCD	Akcadag	1.06	34	*i* P	Pg	20 50 56.4	+5.6
AKCD				*i* S	Sg	20 51 14.9	+10
SARI	SarD1z-Kayseri	1.31	344	ePN	Pn	20 50 53.6	-1.8
SARI	SarD1z-Kayseri	1.31	344	ePn	Pn	20 50 53.6	-1.8

NEIC **06** *20:52:22.0, 39°.37N×25°.80E, h5km, ML3.7(ISK), After ISK,*
ISK **06** *20:52:23.4, 39°.39N×25°.81E, h4km, ML3.7*
IDC **06** *20:52:24.7±1.3, 39°.37N×25°.80E, h0km, mb3.5/3, mb1 3.7/6, mb1mx3.4/27, mbtmp3.5/6, ML3.6/3, Error ellipse: s-maj=20.0km s-min=15.2km az=80.0*
ISCJB **06** *20:52:25.4±0.4, 39°.42N±0°.01×25°.87E±0°.02, h12km±3km, mb3.4/3, Error ellipse: s-maj=2.4km s-min=2.1km az=144.6*
ATH **06** *20:52:25.6, 39°.42N×25°.93E, h26km±1km, ML3.3*
CSEM **06** *20:52:26.0±0.1, 39°.40N×25°.87E, h10km, ML3.6/5, Error ellipse: s-maj=2.0km s-min=1.9km az=42.0*
THE **06** *20:52:26.3, 39°.42N×25°.88E, h10km±1km, ML3.6/5, Error ellipse: s-maj=1.4km s-min=0.6km az=112.0*
DDA **06** *20:52:28.6, 39°.42N×26°.02E, h20km±2km, Md3.6*
SOF **06** *20:52:33.8, 40°.20N×26°.00E, h2km, MD3.5*

ISC 06 20:52:26.2±0.3, 39°.41N±0°.01×25°.87E±0°.02, h11km±2km, n285, σ0s96/337, mb3.4/3, 7C-17D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIGR	SIGRI	0.20	184	P	Pg	20 52 30.6	+0.1
SIGR				S	Sg	20 52 34.6	+1.2
SIGR	SIGRI	0.20	184	P	Pg	20 52 30.6	+0.1
SIGR				S	Sg	20 52 34.6	+1.2
PRK	Paraskevi	0.35	118	ePB	Pg	20 52 33.1	-0.1
PRK				eSB	Sg	20 52 38.5	+0.6
PRK	Paraskevi	0.35	118	P	Pg	20 52 33.1	-0.1
PRK				S	Sg	20 52 37.9	0.0
PRK	Paraskevi	0.35	118	P	Pg	20 52 33.1	-0.1
PRK				S	Sg	20 52 37.9	0.0
PRK				eSb	Sg	20 52 38.5	+0.6
BOZC	Bozcaada	0.45	18	*i* P	Pg	20 52 34.1	-1.0
BOZC				*i* S	Sg	20 52 40.2	-0.8
EZN	Ezine	0.54	40	PG	Pg	20 52 35.6	-1.2
EZN	Ezine	0.54	40	*i* Pg	Pg	20 52 35.6	-1.1
AYVA	Ayvalik	0.64	99	*i* P	Pg	20 52 38.0	-0.6
AYVA				*i* S	Sg	20 52 47.1	+0.1
AYVA	Ayvalik	0.64	99	*i* P	Pg	20 52 38.0	-0.6
AYVA				*i* S	Sg	20 52 47.1	+0.1
LIA	Limnos Island	0.72	312	ePN	Pg	20 52 39.8	-0.3
LIA	Limnos Island	0.72	312	P	Pg	20 52 39.8	-0.3
LIA				S	Sg	20 52 50.2	+0.6
LIA	Limnos Island	0.72	312	P	Pg	20 52 39.8	-0.3
LIA				S	Sg	20 52 50.2	+0.6
GADA	Gvkgeada	0.78	1	PG	Pg	20 52 39.6	-1.6
GADA	Gvkgeada	0.78	1	Pg	Pg	20 52 39.6	-1.6
CHOS	Chios island	1.03	172	ePN	Pb	20 52 46.0	-0.1
CHOS				eSN	Sn	20 53 00.8	-0.3
CHOS	Chios island	1.03	172	P	Pb	20 52 46.0	-0.1
CHOS				S	Sg	20 53 01.1	+1.5
CHOS	Chios island	1.03	172	P	Pb	20 52 46.0	-0.1
CHOS				eSn	Sn	20 53 00.8	-0.3
CHOS				S	Sg	20 53 01.1	+1.5
GELI	Tayfur-Gelibol	1.09	25	PN	Pn	20 52 45.5	-1.8
GELI				eSN	Sn	20 53 01.7	-0.6
GELI	Tayfur-Gelibol	1.09	25	*i* Pn	Pn	20 52 45.5	-1.8
GELI				eSn	Sn	20 53 01.7	-0.6
LPK	Lapseki	1.18	35	ePN	Pn	20 52 46.6	-1.9
LPK	Lapseki	1.18	35	ePn	Pn	20 52 46.7	-1.9
URLA	Izmir	1.19	152	*i* P	Pn	20 52 47.0	-1.8
URLA				*i* S	Sb	20 53 03.3	-0.9
URLA	Izmir	1.19	152	*i* P	Pn	20 52 47.0	-1.8
URLA				*i* S	Sb	20 53 03.3	-0.9
ENEZ	Enez	1.34	9	ePN	Pn	20 52 50.1	-0.7
ENEZ	Enez	1.34	9	ePn	Pn	20 52 50.1	-0.7
ERIK	Erikli-Kesan	1.35	21	ePN	Pn	20 52 49.6	-1.3
ERIK	Erikli-Kesan	1.35	21	ePn	Pn	20 52 49.6	-1.3
BLCB	Balcova	1.37	138	ePN	Pn	20 52 50.3	-1.0
BLCB	Balcova	1.37	138	ePn	Pn	20 52 50.3	-1.0
BALY	Balya	1.39	76	*i* P	Pn	20 52 51.2	-0.2
BALY				*i* S	Sn	20 53 09.4	-0.3
BALY	Balya	1.39	76	*i* P	Pn	20 52 51.2	-0.3
BALY				*i* S	Sn	20 53 09.4	-0.4
KRBG	Karabiga-Canak	1.47	48	ePN	Pn	20 52 51.9	-0.7
KRBG	Karabiga-Canak	1.47	48	ePn	Pn	20 52 51.9	-0.7
IZM	Izmir	1.48	133	ePN	Pn	20 52 52.1	-0.7
IZM	Izmir	1.48	133	ePn	Pn	20 52 52.1	-0.7
ALN	Alexandroupoli	1.49	5	ePN	Pn	20 52 51.9	-1.0
ALN				eSN	Sn	20 53 12.0	-0.3
ALN	Alexandroupoli	1.49	5	P	Pn	20 52 52.0	-0.9
ALN				S	Sn	20 53 11.7	-0.6
ALN	Alexandroupoli	1.49	5	P	Pn	20 52 52.0	-0.9
ALN				S	Sn	20 53 11.7	-0.6
ALN				eSn	Sn	20 53 12.0	-0.3
GONE	Gonen-Balikesi	1.53	65	ePN	Pn	20 52 52.5	-0.9
GONE	Gonen-Balikesi	1.53	65	ePn	Pn	20 52 52.6	-0.9
AOS	Alonnisos	1.57	262	P	Pn	20 52 53.4	-0.5
AOS	Alonnisos	1.57	262	P	Pn	20 52 53.4	-0.5
BALB	Balikesir	1.57	81	ePN	Pn	20 52 53.5	-0.4
BALB	Balikesir	1.57	81	ePn	Pn	20 52 53.5	-0.4
AKS	Akhisar	1.60	109	ePN	Pn	20 52 54.0	-0.3
AKS	Akhisar	1.60	109	ePn	Pn	20 52 54.0	-0.4
AKHS	Akhisar	1.60	109	*i* P	Pn	20 52 54.0	-0.4
AKHS				*i* S	Sn	20 53 15.6	+0.6
AKHS	Akhisar	1.60	109	*i* P	Pn	20 52 54.0	-0.4
AKHS				*i* S	Sn	20 53 15.6	+0.6
RKY	Sarkoy-Tekirda	1.62	38	ePN	Pn	20 52 54.5	-0.1
RKY	Sarkoy-Tekirda	1.62	38	ePn	Pn	20 52 54.5	-0.1
SART	Tekirdag	1.62	38	*i* P	Pn	20 52 53.4	-1.3
SART				*i* S	Sn	20 53 15.2	-0.3
SART	Tekirdag	1.62	38	*i* P	Pn	20 52 53.4	-1.3
SART				*i* S	Sn	20 53 15.2	-0.3
OUR	Ouranopolis	1.72	303	P	Pn	20 52 55.9	-0.2
OUR				S	Sn	20 53 18.6	+0.6
OUR	Ouranopolis	1.72	303	P	Pn	20 52 55.9	-0.2
OUR				S	Sn	20 53 18.6	+0.6
MFT	Murefte	1.75	38	ePN	Pn	20 52 56.7	+0.3
MFT	Murefte	1.75	38	ePn	Pn	20 52 56.7	+0.3
RDO	Rodhopi	1.75	352	ePN	Pn	20 52 56.3	-0.2
RDO	Rodhopi	1.75	352	ePn	Pn	20 52 56.3	-0.2
PAIG	Paliouri	1.77	288	P	Pn	20 52 55.9	-0.8
PAIG				S	Sn	20 53 18.8	-0.4
PAIG	Paliouri	1.77	288	P	Pn	20 52 55.9	-0.8
PAIG				S	Sn	20 53 18.8	-0.4
BNT	Bandirma	1.83	58	ePN	Pn	20 52 56.8	-0.8
BNT	Bandirma	1.83	58	ePn	Pn	20 52 56.8	-0.8
SMG	Samos	1.86	156	ePB	Pb	20 52 57.5	-2.7
SMG	Samos	1.86	156	ePb	Pb	20 52 57.5	-2.7
KAVA	Kavala	1.89	327	P	Pn	20 52 57.6	-0.8
KAVA	Kavala	1.89	327	P	Pn	20 52 57.6	-0.8
GCAM	G?zelcaml?	2.02	148	*i* P	Pn	20 53 01.9	+1.7
GCAM				*i* S	Sn	20 53 30.9	+5.6
GCAM	G?zelcaml?	2.02	148	*i* P	Pn	20 53 01.9	+1.8
DURS	Dursunbey	2.02	84	*i* P	Pn	20 52 59.3	-0.9
DURS				*i* S	Sn	20 53 24.1	-1.3
DURS	Dursunbey	2.02	84	*i* P	Pn	20 52 59.3	-0.9
DURS				*i* S	Sn	20 53 24.1	-1.3
TKR	Tekirdag	2.02	38	ePN	Pn	20 53 00.3	+0.1
TKR	Tekirdag	2.02	38	ePn	Pn	20 53 00.3	+0.1
PTL	Penteli	2.08	230	ePN	Pn	20 53 00.3	-0.7
PTL	Penteli	2.08	230	ePn	Pn	20 53 00.3	-0.7
PLG	Polygyros	2.10	298	P	Pn	20 53 01.5	+0.2
PLG	Polygyros	2.10	298	P	Pn	20 53 01.5	+0.2
DST	Dursunbey	2.13	84	ePN	Pn	20 53 01.7	0.0
DST	Dursunbey	2.13	84	ePn	Pn	20 53 01.7	0.0
ATH	Athens Observa

PGB	Panagyurishte	3.39	338	P		Pn	20 53 21.0	+2.0
VLX	Vlachokerasia	3.42	234	P		Pn	20 53 19.3	-0.1
VLX	Vlachokerasia	3.42	234	P		Pn	20 53 19.3	-0.1
GPA	Golpazari	3.52	74	*e*PN		Pn	20 53 21.9	+1.0
VLI	Veliai	3.55	222	*e*PN		Pn	20 53 20.9	-0.3
VLI	Veliai	3.55	222	*e*Pn		Pn	20 53 20.9	-0.3
SPNC	Sapanca-Adapaz	3.63	68	*e*PN		Pn	20 53 23.1	+0.7
SPNC	Sapanca-Adapaz	3.63	68	*e*Pn		Pn	20 53 23.1	+0.8
GLHS	Gihisar (BURDU	3.63	127	*e*PN		Pn	20 53 22.5	+0.1
GLHS	Gihisar (BURDU	3.63	127	*e*Pn		Pn	20 53 22.5	+0.1
ARG	Arkhangelos	3.66	150	*e*PN		Pn	20 53 22.9	+0.2
ARG	Arkhangelos	3.66	150	*e*Pn		Pn	20 53 22.9	+0.2
RLS	Riolos of Patr	3.70	250	*e*PN		Pn	20 53 25.5	+2.2
RLS	Riolos of Patr	3.70	250	*e*Pn		Pn	20 53 25.5	+2.2
GULT	Gulveren	3.71	73	*e*PN		Pn	20 53 24.3	+0.9
GULT	Gulveren	3.71	73	*e*Pn		Pn	20 53 24.3	+0.9
SHUT	Suhut-Afyon	3.75	102	*e*PN		Pn	20 53 24.4	+0.5
SHUT	Suhut-Afyon	3.75	102	*e*Pn		Pn	20 53 24.4	+0.5
FETY	Fethiye	3.76	137	*e*PN		Pn	20 53 24.2	+0.1
FETY	Fethiye	3.76	137	*e*Pn		Pn	20 53 24.2	+0.1
VTS	Vitosha	3.76	328	⇑*i*P		Pn	20 53 22.3	-1.8
VTS	Vitosha	3.76	328	P		Pn	20 53 24.0	-0.1
VTS	Vitosha	3.76	328	P		Pn	20 53 24.0	-0.1
VTS	Vitosha	3.76	328	P		Pn	20 53 24.0	-0.1
VTS				S		Sn	20 54 06.9	-1.4
PVL	Pavlikeni	3.82	354	P		Pn	20 53 25.0	+0.1
PVL	Pavlikeni	3.82	354	P		Pn	20 53 25.0	+0.1
PVL	Pavlikeni	3.82	354	P		Pn	20 53 25.0	+0.1
ITM	Ithomi	3.82	236	*e*PN		Pn	20 53 25.8	+0.8
ITM	Ithomi	3.82	236	*e*Pn		Pn	20 53 25.8	+0.8
ESKT	Eskisehir	3.85	87	*e*PN		Pn	20 53 25.9	+0.6
ESKT	Eskisehir	3.85	87	*e*Pn		Pn	20 53 25.9	+0.5
PRD	Provadia	3.95	16	P		Pn	20 53 25.7	-1.0
PRD	Provadia	3.95	16	P		Pn	20 53 25.7	-1.0
PRD	Provadia	3.95	16	P		Pn	20 53 25.7	-1.0
KARP	Karpathos	3.99	165	*e*PN		Pn	20 53 27.0	-0.3
KARP	Karpathos	3.99	165	P		Pn	20 53 26.8	-0.5
KARP	Karpathos	3.99	165	*e*Pn		Pn	20 53 27.0	-0.3
KRUS	Krusevo	4.04	300	*e*PN		Pn	20 53 28.3	+0.4
KRUS	Krusevo	4.04	300	*e*Pn		Pn	20 53 28.2	+0.3
ELL	Elmali	4.15	129	*e*PN		Pn	20 53 29.9	+0.4
ELL	Elmali	4.15	129	*e*Pn		Pn	20 53 29.9	+0.5
NPS	Neapolis	4.15	183	*e*PN		Pn	20 53 29.3	-0.1
NPS	Neapolis	4.15	183	*e*Pn		Pn	20 53 29.3	-0.1
VAM	Vamos	4.22	199	*e*PN		Pn	20 53 32.6	+2.2
VAM	Vamos	4.22	199	*e*Pn		Pn	20 53 32.6	+2.2
MDU	Mudurnu	4.24	74	*e*PN		Pn	20 53 31.7	+1.1
MDU	Mudurnu	4.24	74	*e*Pn		Pn	20 53 31.7	+1.1
MPEP	Malo Peshtene	4.25	339	P		Pn	20 53 31.8	+0.9
MPEP	Malo Peshtene	4.25	339	P		Pn	20 53 31.8	+0.9
SVRH	Sivrihisar-ESK	4.37	88	*e*PN		Pn	20 53 33.4	+0.9
SVRH	Sivrihisar-ESK	4.37	88	*e*Pn		Pn	20 53 33.4	+0.9
SUTC	Sutluce-Ispart	4.46	114	*e*PN		Pn	20 53 34.0	+0.2
SUTC	Sutluce-Ispart	4.46	114	*e*Pn		Pn	20 53 34.0	+0.2
KIZT	Kizilcal	4.70	95	*e*PN		Pn	20 53 38.0	+1.0
KIZT	Kizilcal	4.70	95	*e*Pn		Pn	20 53 38.0	+1.0
KONT	Konya--Tatoy	5.28	104	*e*PN		Pn	20 53 46.4	+1.4
KONT	Konya--Tatoy	5.28	104	*e*Pn		Pn	20 53 46.4	+1.4
TIRR	Tirgusor	5.38	20	*e*P		Pn	20 53 45.5	-0.8
	9.0nm,0.8s							
TIRR	Tirgusor	5.38	20	⇓*i*P		Pn	20 53 46.0	-0.4
TIRR	Tirgusor	5.38	20	*e*P		Pn	20 53 45.5	-0.9
	9.0nm,0.8s							
SAFT	Safranbolu	5.52	69	*e*PN		Pn	20 53 50.0	+1.7
SAFT	Safranbolu	5.52	69	*e*Pn		Pn	20 53 50.0	+1.8
HDMB	Hadim	5.75	113	*e*PN		Pn	20 53 52.8	+1.3
HDMB	Hadim	5.75	113	*e*Pn		Pn	20 53 52.8	+1.3
GRUS	Gruza	5.91	321	*e*Pn		Pn	20 53 53.7	+0.1
BRTR	Keskin Array B	6.01	85	Pn		Pn	20 53 55.9	+0.9
	0.9nm,0.3s,baz=262,slow=14,SNR=42							
BRTR				Pg		Pg	20 54 20.8	-0.5
	0.3nm,0.3s,baz=267,slow=14,SNR=6.6							
BRTR				Sn		Sn	20 55 00.3	-3.4
	0.2nm,0.3s,baz=266,slow=23,SNR=2.6							
BRTR				Lg			20 55 38.7	
	baz=269,slow=25,SNR=2.7							
BRTR	Keskin Array B	6.01	85	Pn		Pn	20 53 55.9	+0.9
BRTR				Pg		Pg	20 54 20.8	-0.5
BRTR				Sn		Sn	20 55 00.3	-3.4
BRTR				Lg			20 55 38.7	
BRTR	Keskin Array B	6.01	85	Pn		Pn	20 53 55.8	+0.8
BRTR	Keskin Array B	6.01	85	Pg		Pg	20 54 20.8	-0.4
VOIR		6.05	354	⇑*i*P		Pn	20 53 55.6	+0.1
VOIR		6.05	354	⇑*i*P		Pn	20 53 55.6	+0.1
MLR	Muntele Rosu	6.07	0	Pn		Pn	20 53 57.7	+1.9
	0.4nm,0.3s,baz=181,slow=7.8,SNR=29							
MLR				Sn		Sn	20 55 05.2	-0.1
	baz=181,slow=15							
MLR				Lg			20 55 40.0	
	0.0nm,0.3s,baz=283,slow=17,SNR=3.1							
MLR	Muntele Rosu	6.07	0	Pn		Pn	20 53 57.7	+1.9
MLR				Sn		Sn	20 55 05.2	-0.1
MLR				Lg			20 55 40.0	
MLR	Muntele Rosu	6.07	0	⇓*i*P		Pn	20 53 57.1	+1.2
MLR	Muntele Rosu	6.07	0	⇓*i*P		Pn	20 53 57.1	+1.2
MLR	Muntele Rosu	6.07	0	Pn		Pn	20 53 57.7	+1.9
MLR				Sn		Sn	20 55 05.2	-0.1
LOT	Lotru	6.23	346	⇓*i*P		Pn	20 53 58.1	+0.1
LOT	Lotru	6.23	346	⇓*i*P		Pn	20 53 58.1	+0.1
PLOR	Plostina	6.46	5	⇓*i*P		Pn	20 54 02.7	+1.6
PLOR	Plostina	6.46	5	⇓*i*P		Pn	20 54 02.7	+1.6
VRI	Vrincioaia	6.48	5	⇓*i*P		Pn	20 54 02.7	+1.3
VRI	Vrincioaia	6.48	5	⇓*i*P		Pn	20 54 02.7	+1.3
DOPR	Dopca	6.56	357	⇓*i*P		Pn	20 54 04.0	+1.5
DOPR	Dopca	6.56	357	⇓*i*P		Pn	20 54 04.0	+1.5
BZS	Buzias	6.95	334	⇓*i*P		Pn	20 54 07.6	-0.3
BZS	Buzias	6.95	334	⇓*i*P		Pn	20 54 07.6	-0.3
TESR		7.12	4	⇓*i*P		Pn	20 54 10.9	+0.7
TESR		7.12	4	⇓*i*P		Pn	20 54 10.9	+0.7
DRGR		7.73	344	⇑*i*P		Pn	20 54 18.4	-0.2
DRGR		7.73	344	⇑*i*P		Pn	20 54 18.4	-0.2
BURAR	Bucovina Array	8.21	357	⇓*i*P		Pn	20 54 27.0	+1.8
BURAR	Bucovina Array	8.21	357	⇓*i*P		Pn	20 54 27.0	+1.8
MMAI	Mount Meron Ar	10.00	127	Pn		Pn	20 54 48.5	-1.2
	1.9nm,0.3s,baz=309,slow=12,SNR=19							
MMAI				Sn		Sn	20 56 39.0	-2.8
	0.9nm,0.3s,baz=308,slow=31,SNR=5.6							
EKA	Eskdalemuir Ar	25.04	319	P		P	20 57 50.5	+0.4
	1.6nm,0.7s,mb3.7,baz=108,slow=9.0,SNR=6.0							
EKA	Eskdalemuir Ar	25.04	319	P		P	20 57 50.5	+0.4
EKA	Eskdalemuir Ar	25.04	319	P		P	20 57 50.5	+0.4
TORD	Torodi Ar. Bea	33.76	226	P		P	20 59 07.8	-0.1
	0.4nm,0.7s,mb3.4,baz=33,slow=8.4,SNR=4.3							
TORD	Torodi Ar. Bea	33.76	226	P		P	20 59 07.8	-0.1
TORD	Torodi Ar. Bea	33.76	226	P		P	20 59 07.8	-0.2
MKAR	Makanchi Array	41.07	61	P		P	21 00 10.1	+0.5
	0.6nm,1.0s,mb3.2,baz=284,slow=9.2,SNR=2.7							
MKAR	Makanchi Array	41.07	61	P		P	21 00 10.1	+0.5
MKAR	Makanchi Array	41.07	61	P		P	21 00 10.1	+0.5

*IDC **06** 20:59:44.3±0.9, 39°.43N×74°.04E, h0km, mb3.7/10, mb1 3.8/14, mb1mx3.7/30, mbtmp3.7/14, ML3.0/5, Error ellipse: s-maj=16.5km s-min=14.0km az=96.0*
*NNC **06** 20:59:45.0±4.8, 39°.53N×74°.13E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=37.7km s-min=20.1km az=169.0*
*NEIC **06** 20:59:49.0±0.6, 39°.36N×73°.91E, h35km, Error ellipse: s-maj=10.9km s-min=8.6km az=119.0*
ISC 06 20:59:45.3±2.4, 39°.26N±0°.05×73°.86E±0°.08, h7km±16km, n52, σ0s98/55, mb3.6/10, 8C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu	2.87	358	P	Pn	21 00 32.5	+1.1
	SNR=15						
UCH	Uchtor	3.01	9	P	Pn	21 00 33.9	+0.6
	SNR=19						
KZA	Kyzart	3.01	20	P	Pn	21 00 33.9	+0.6
	SNR=24						
EKS2	Erkin-Say	3.40	359	P	Pn	21 00 39.1	+0.5
	SNR=9.0						
EKS2	Erkin-Say	3.40	359	*e*P	Pn	21 00 38.8	+0.2
AAK	Ala-Archa	3.40	8	P	Pn	21 00 39.4	+0.7
	SNR=10.0						
AAK	Ala-Archa	3.40	8	Pn	Pn	21 00 39.4	+0.7
	0.1nm,0.3s,baz=161,slow=7.1,SNR=30						
AAK				Sn	Sn	21 01 20.2	+0.9
	0.0nm,0.3s,baz=322,slow=19,SNR=5.2						
AAK				Lg		21 01 24.5	
	0.2nm,0.3s,baz=184,slow=23,SNR=12						
AAK	Ala-Archa	3.40	8	*e*P	Pn	21 00 39.0	+0.2
AAK				Sn	Sn	21 01 20.2	+0.9
AAK				Lg		21 01 24.5	
ULHL	Ulahol	3.49	30	P	Pn	21 00 41.1	+1.2
	SNR=17						
KBK	Karagaybulak	3.49	13	P	Pn	21 00 40.8	+0.9
	SNR=21						
CHMS	Chumysh	3.79	10	P	Pn	21 00 44.3	+0.2
	SNR=11						
TKM2	Tokmak 2	3.89	19	P	Pn	21 00 45.4	+0.1
	SNR=13						
TKM2	Tokmak 2	3.89	19	⇑Pg	Pn	21 00 45.5	+0.1
	13nm,0.7s						
TKM2				⇑Lg		21 01 39.2	
	50nm,0.9s						
TKM2	Tokmak 2	3.89	19	*e*P	Pn	21 00 45.2	-0.1
USP	Ospenovka	4.03	7	P	Pn	21 00 53.9	+6.5
	SNR=13						
KK31	Karatay Array	4.59	328	⇑Pn	Pn	21 00 55.4	+0.3
	1.0nm,0.3s,baz=133,slow=13,SNR=19						
KK31				⇓Pg	Pg	21 01 05.4	-7.9
	5.7nm,0.5s,baz=144,slow=15,SNR=18						
KK31				⇑Sn	Sn	21 01 49.0	+0.3
	15nm,0.5s,baz=42,slow=79,SNR=6.4						
KK31				⇑Lg		21 02 05.8	
	18nm,0.6s						
KKAR	Karatay Array	4.59	328	*e*P	Pn	21 00 55.2	+0.1
KNDC	Almaty	4.59	30	⇓Pg	Pg	21 01 04.9	-8.4
KNDC				⇓Lg		21 02 02.3	
KBL	Kabul	6.09	221	*e*P	Pn	21 01 16.5	+0.9
	3.3nm,0.6s						
MKAR	Makanchi Array	9.73	37	Pn	Pn	21 02 03.5	-2.1
	0.0nm,0.3s,baz=228,slow=16,SNR=2.7						
MKAR				Lg		21 04 42.8	
	0.1nm,0.3s,baz=221,slow=28,SNR=2.4						
MKAR	Makanchi Array	9.73	37	Pn	Pn	21 02 03.5	-2.1
MKAR				Lg		21 04 42.8	
KURK	Kurchatov	11.94	15	Lg		21 05 48.5	
	0.0nm,0.3s,baz=214,slow=28,SNR=6.6						
BVA0	Borovoye Array	13.97	351	⇑Pn	Pn	21 02 60.0	-3.5
	0.4nm,0.7s,baz=256,slow=33,SNR=4.2						
BVAR	Borovoye Array	13.97	351	Pn	Pn	21 02 59.6	-3.9
	0.1nm,0.3s,baz=154,slow=11,SNR=3.2						
BVAR				Lg		21 06 59.0	
	0.2nm,0.3s,baz=150,slow=26,SNR=2.6						
BVAR	Borovoye Array	13.97	351	Pn	Pn	21 02 59.6	-3.9
BVAR				Lg		21 06 59.0	
AB31	Akbulak array	14.09	320	⇑Pn	Pn	21 03 04.3	-0.9
	0.7nm,0.6s,baz=124,slow=14,SNR=16						
ABKAR	Akbulak array	14.09	320	*e*P	Pn	21 03 01.2	-3.9
	1.7nm,0.7s						
AKTK	Aktyubinsk	15.81	320	Pn	Pn	21 03 26.9	-1.2
AKTO	Aktyubinsk	15.81	320	⇑Pn	Pn	21 03 29.1	+1.0
	1.0nm,1.1s						
AKTO	Aktyubinsk	15.81	320	Pn	Pn	21 03 26.9	-1.2
	0.1nm,0.3s,baz=123,slow=14,SNR=3.2						
ZALV	Zalesovo Beam	16.48	23	Pn	Pn	21 03 35.2	-1.5
	0.1nm,0.3s,baz=218,slow=8.4,SNR=3.2						
ZALV	Zalesovo Beam	16.48	23	Pn	Pn	21 03 35.1	-1.6
SONM	Songino Array	24.94	59	P	P	21 05 08.2	-0.8
	0.3nm,0.3s,mb2.9,baz=277,slow=12,SNR=3.5						
SONM	Songino Array	24.94	59	P	P	21 05 08.2	-0.8
FINES	FINESS Array B	36.54	323	P	P	21 06 50.5	-0.6
	1.6nm,0.7s,mb4.0,baz=114,slow=9.2,SNR=7.0						
FINES	FINESS Array B	36.54	323	P	P	21 06 50.5	-0.6
ARCES	ARCESS Array B	39.51	336	P	P	21 07 15.6	-0.5
	3.9nm,1.1s,mb4.1,baz=96,slow=8.6,SNR=2.7						
ARCES	ARCESS Array B	39.51	336	P	P	21 07 15.6	-0.5
HFS	Hagfors	42.35	320	P	P	21 07 39.1	-0.5
	4.7nm,1.1s,mb4.0,baz=105,slow=9.3,SNR=4.0						
HFS	Hagfors	42.35	320	P	P	21 07 39.1	-0.5
GERES	GERESS Array B	43.25	303	P	P	21 07 48.5	+1.5
	0.2nm,0.4s,mb3.2,baz=45,slow=7.2,SNR=3.5						
GERES	GERESS Array B	43.25	303	P	P	21 07 48.5	+1.5
NOA	NORSAR Array B	43.59	321	P	P	21 07 49.0	-0.6
	0.5nm,0.6s,mb3.4,baz=80,slow=7.9,SNR=3.0						
NOA	NORSAR Array B	43.59	321	P	P	21 07 49.0	-0.6
TORD	Torodi Ar. Bea	68.03	269	P	P	21 10 45.8	+0.3
	0.5nm,0.6s,mb3.7,baz=49,slow=5.4,SNR=9.6						
TORD	Torodi Ar. Bea	68.03	269	P	P	21 10 45.8	+0.3
ILAR	Eielson Array	71.50	17	P	P	21 11 04.2	-2.0
	0.5nm,0.9s,mb3.5,baz=318,slow=3.7,SNR=5.2						
ILAR	Eielson Array	71.50	17	P	P	21 11 04.2	-2.0
WRA	Warramunga Arr	81.59	124	P	P	21 12 04.5	+0.6
	0.7nm,0.8s,mb3.6,baz=324,slow=4.9,SNR=9.8						
WRA	Warramunga Arr	81.59	124	P	P	21 12 04.5	+0.6
ASAR	Alice Springs	84.04	127	P	P	21 12 17.2	+0.7
	0.3nm,0.6s,mb3.6,baz=300,slow=4.9,SNR=5.6						
ASAR	Alice Springs	84.04	127	P	P	21 12 17.2	+0.7

*IDC **06** 21:18:42.8±0.9, 39°.41N×73°.95E, h0km, mb3.7/8, mb1 3.8/12, mb1mx3.7/28, mbtmp3.7/12, ML3.0/5, Error ellipse: s-maj=16.4km s-min=13.3km az=108.0*
*NNC **06** 21:18:44.0±10.0, 39°.12N×73°.36E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=93.3km s-min=44.1km az=162.0*
*NEIC **06** 21:18:48.5±0.8, 39°.49N×73°.79E, h35km, Error ellipse: s-maj=13.3km s-min=12.2km az=173.0*
ISC 06 21:18:43.6±1.7, 39°.36N±0°.06×73°.62E±0°.07, h0km±10km, n48, σ1s33/59, mb3.7/7, 5C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu	2.77	1	P	Pn	21 19 30.4	+1.3
	SNR=14						
UCH	Uchtor	2.94	13	P	Pn	21 19 32.2	+0.7
	SNR=16						
KZA	Kyzart	2.98	24	P	Pn	21 19 31.9	-0.1
	SNR=16						
EKS2	Erkin-Say	3.30	2	P	Pn	21 19 37.2	+0.8
	SNR=23						
EKS2	Erkin-Say	3.30	2	*e*P	Pn	21 19 36.8	+0.4
EKS2				*e*S	Sn	21 20 16.9	+0.6
AAK	Ala-Archa	3.33	11	P	Pn	21 19 37.4	+0.5
	SNR=32						
AAK	Ala-Archa	3.33	11	Pn	Pn	21 19 37.5	+0.6
	0.1nm,0.3s,baz=162,slow=7.6,SNR=22						
AAK				Sn	Sn	21 20 19.2	+2.0
	0.2nm,0.3s,baz=118,slow=22,SNR=13						
AAK	Ala-Archa	3.33	11	*e*P	Pn	21 19 37.1	+0.2
AAK				*e*S	Sn	21 20 14.4	-2.7
KBK	Karagaybulak	3.44	17	P	Pn	21 19 39.0	+0.7
	SNR=29						
ULHL	Ulahol	3.50	34	P	Pn	21 19 38.3	-0.9
	SNR=15						
TKM2	Tokmak 2	3.86	22	P	Pn	21 19 43.5	-0.6
	SNR=14						
TKM2	Tokmak 2	3.86	22	⇓Pn	Pn	21 19 43.8	-0.3
	5.9nm,0.5s						
TKM2				⇓Sn	Sn	21 20 39.6	+10
	45nm,0.8s						
TKM2	Tokmak 2	3.86	22	*e*P	Pn	21 19 43.4	-0.7
TKM2				*e*S	Sn	21 20 25.0	-5.1
USP	Ospenovka	3.96	9	P	Pn	21 19 46.6	+1.1
	SNR=7.2						
KK31	Karatay Array	4.41	329	⇑Pn	Pn	21 19 54.4	+2.7
	1.2nm,0.3s,baz=146,slow=15,SNR=11						
KK31				⇑Pg	Pg	21 20 06.4	-1.7
	10nm,0.6s,baz=143,slow=17,SNR=3.5						
KK31				⇑Sn	Sn	21 20 47.7	+4.0
	24nm,0.5s,baz=138,slow=26,SNR=7.4						
KKAR	Karatay Array	4.41	329	*e*P	Pn	21 19 53.4	+1.7
KKAR				*e*S	Sn	21 20 42.5	-1.2
KNDC	Almaty	4.60	32	⇑Pn	Pn	21 20 03.5	+9.1
	26nm,0.7s						
KNDC				⇓Sn	Sn	21 20 59.7	+11
	93nm,0.8s						
MKAR	Makanchi Array	9.76	38	Pn	Pn	21 21 04.4	-0.7
	0.1nm,0.3s,baz=225,slow=14,SNR=3.2						
MKAR				Lg		21 23 47.1	
	0.1nm,0.3s,baz=201,slow=27,SNR=5.6						
MKAR	Makanchi Array	9.76	38	Pn	Pn	21 21 04.4	-0.7
MKAR				Lg		21 23 47.1	
KURK	Kurchatov	11.89	16	Lg		21 24 48.4	
	0.2nm,0.3s,baz=191,slow=29,SNR=6.6						
BVAR	Borovoye Array	13.84	352	Pn	Pn	21 21 58.3	-2.6
	0.0nm,0.3s,baz=156,slow=12,SNR=2.7						
BVAR				Lg		21 25 53.6	
	0.1nm,0.3s,baz=176,slow=20,SNR=3.0						
BVAR	Borovoye Array	13.84	352	Pn	Pn	21 21 58.3	-2.6
BVAR				Lg		21 25 53.6	
AB31	Akbulak array	13.89	320	⇑P	Pn	21 22 00.8	-0.7
	1.0nm,0.7s,baz=120,slow=12,SNR=5.7						
ABKAR	Akbulak array	13.89	320	*e*P	Pn	21 22 02.4	+0.8
	0.6nm,0.4s						
ABKAR				*e*S	Sn	21 24 33.5	-3.0
AKTK	Aktyubinsk	15.61	320	Pn	Pn	21 22 25.0	+0.3
AKTK				Sn	Sn	21 25 12.1	-6.1
AKTO	Aktyubinsk	15.61	320	⇑P	Pn	21 22 28.5	+3.8
	0.4nm,0.8s						
AKTO	Aktyubinsk	15.61	320	Pn	Pn	21 22 25.0	+0.3
	0.2nm,0.3s,baz=124,slow=12,SNR=3.1						
AKTO				Sn	Sn	21 25 12.1	-6.1
	0.0nm,0.3s,baz=18,slow=20,SNR=2.3						
ZALV	Zalesovo Beam	16.46	24	Pn	Pn	21 22 32.7	-3.0
	0.1nm,0.3s,baz=198,slow=9.1,SNR=3.4						
ZALV	Zalesovo Beam	16.46	24	Pn	Pn	21 22 32.7	-3.0
SONM	Songino Array	25.05	59	P	P	21 24 10.7	+1.4
	0.1nm,0.5s,baz=250,slow=7.5,SNR=2.7						
SONM	Songino Array	25.05	59	P	P	21 24 10.7	+1.4
BRTR	Keskin Array B	30.66	284	P	P	21 25 02.1	+2.5
	0.3nm,0.5s,mb3.5,baz=68,slow=7.9,SNR=2.8						
BRTR	Keskin Array B	30.66	284	P	P	21 25 02.1	+2.5
FINES	FINESS Array B	36.35	323	P	P	21 25 49.0	+0.2
	0.8nm,0.3s,mb4.0,baz=119,slow=9.7,SNR=13						
FINES	FINESS Array B	36.35	323	P	P	21 25 49.0	+0.1
ARCES	ARCESS Array B	39.34	336	P	P	21 26 13.3	-0.7
	2.9nm,0.9s,mb3.9,baz=112,slow=12,SNR=3.5						
ARCES	ARCESS Array B	39.34	336	P	P	21 26 13.3	-0.7
GERES	GERESS Array B	43.03	303	P	P	21 26 46.0	+1.3
	0.1nm,0.4s,baz=41,slow=9.1,SNR=4.0						
GERES	GERESS Array B	43.03	303	P	P	21 26 46.0	+1.3
NB2	NORSAR Subarra	43.40	321	P	P	21 26 46.9	-0.5
	comp=Z,0.7nm,0.6s,mb3.6,baz=91,slow=7.9						
NOA	NORSAR Array B	43.40	321	P	P	21 26 46.8	-0.6
	comp=Z,0.9nm,0.6s,mb3.7,baz=92,slow=7.8,SNR=3.4						
NOA	NORSAR Array B	43.40	321	P	P	21 26 46.8	-0.6
TORD	Torodi Ar. Bea	67.84	269	P	P	21 29 44.1	+0.3
	comp=Z,0.6nm,0.5s,mb4.0,baz=46,slow=5.6,SNR=9.0						
TORD	Torodi Ar. Bea	67.84	269	P	P	21 29 44.1	+0.3
WRA	Warramunga Arr	81.81	124	P	P	21 31 02.6	-1.8
	comp=Z,0.7nm,1.0s,mb3.8,baz=324,slow=4.8,SNR=6.6						
WRA	Warramunga Arr	81.81	124	P	P	21 31 02.6	-1.8
ASAR	Alice Springs	84.25	127	P	P	21 31 15.3	-1.7
	comp=Z,0.1nm,0.6s,mb3.2,baz=314,slow=4.2,SNR=5.5						
ASAR	Alice Springs	84.25	127	P	P	21 31 15.3	-1.7

*ISCJB **06** 21:36:18.2±0.7, 40°.06N±0°.02×24°.14E±0°.04, h12km±5km, Error ellipse: s-maj=5.8km s-min=4.2km az=2.2*
*CSEM **06** 21:36:18.2±0.1, 40°.06N×24°.13E, h10km, ML2.1/6, Error ellipse: s-maj=2.9km s-min=2.1km az=89.0*
*THE **06** 21:36:18.7, 40°.08N×24°.12E, h2km±4km, ML2.1/6, Error ellipse: s-maj=4.7km s-min=0.7km az=198.0*
*ATH **06** 21:36:18.0, 40°.09N×24°.15E, h32km±7km, MD3.3/8*
ISC 06 21:36:18.2±0.6, 40°.07N±0°.02×24°.15E±0°.04, h13km±4km, n34, σ0s68/54, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OUR	Ouranopolis	0.30	334	P	Pg	21 36 24.3	0.0
OUR				S	Sg	21 36 28.5	0.0
OUR	Ouranopolis	0.30	334	P	Pg	21 36 24.3	0.0
OUR				S	Sg	21 36 28.5	0.0
PAIG	Paliouri	0.39	249	P	Pg	21 36 26.0	+0.1
PAIG				S	Sg	21 36 31.4	+0.2
PAIG	Paliouri	0.39	249	P	Pg	21 36 26.0	+0.1
PAIG				S	Sg	21 36 31.4	+

PKI	**Pulchoki**	**6.74**	**181**	*e*P		**Pn**	**21 46 04.0**	**+0.2**
PKI				pmax	pmax				
	comp=Z,69nm,0.5s								
KOLN	**Koldanda**	**6.76**	**195**	*e*P		**Pn**	**21 46 03.8**	**-0.3**
	comp=Z,76nm,0.6s								
KOLN	**Koldanda**	**6.76**	**195**	*e*P		**Pn**	**21 46 03.8**	**-0.3**
	comp=Z,76nm,0.6s								
TAPN	**Taplejung**	**7.19**	**165**	*e*P		**Pn**	**21 46 09.5**	**-0.5**
	comp=Z,30nm,0.6s								
TAPN	**Taplejung**	**7.19**	**165**	*e*P		**Pn**	**21 46 09.5**	**-0.5**
	comp=Z,30nm,0.6s								
DDI	**Dehra Dun**	**7.53**	**240**	*ex*		x	21 46 47.5		
ODAN	**Odare**	**7.61**	**168**	*e*P		**Pn**	**21 46 14.6**	**-1.1**
	comp=Z,40nm,0.5s								
ODAN	**Odare**	**7.61**	**168**	*e*P		**Pn**	**21 46 14.6**	**-1.1**
	comp=Z,40nm,0.5s								
TKM2	**Tokmak 2**	**11.60**	**321**	*e*P		**Pn**	**21 47 10.2**	**0.0**
	comp=Z,3.0nm,0.6s								
TKM2	**Tokmak 2**	**11.60**	**321**	*e*P		**Pn**	**21 47 10.2**	**0.0**
TKM2				pmax	pmax				
	comp=Z,3.0nm,0.6s								
AAK	**Ala-Archa**	**12.01**	**317**	Pn		**Pn**	**21 47 16.3**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=92,slow=11,SNR=7.3								
AAK				LR	LR		21 52 29.5		
	comp=Z,102nm,20.1s,baz=148,slow=40								
AAK	**Ala-Archa**	**12.01**	**317**	*e*P		**Pn**	**21 47 16.1**	**+0.3**
AAK				LR	LR		21 52 29.5		
AAK	**Ala-Archa**	**12.01**	**317**	P		**Pn**	**21 47 16.3**	**+0.5**
AAK				MLR	MLR				
	comp=Z,102nm,20.1s								
EKS2	**Erkin-Say**	**12.44**	**315**	*e*P		**Pn**	**21 47 22.3**	**+0.7**
	comp=Z,4.7nm,0.9s								
EKS2	**Erkin-Say**	**12.44**	**315**	*e*P		**Pn**	**21 47 22.3**	**+0.6**
EKS2				pmax	pmax				
	comp=Z,5.0nm,0.9s								
MKAR	**Makanchi Array**	**12.70**	**350**	Pn		**Pn**	**21 47 23.8**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=164,slow=14,SNR=18								
MKAR	**Makanchi Array**	**12.70**	**350**	Pn		**Pn**	**21 47 23.8**	**-1.4**
MKAR	**Makanchi Array**	**12.70**	**350**	P		**Pn**	**21 47 23.8**	**-1.4**
KBL	**Kabul**	**13.67**	**276**	*e*P		**Pn**	**21 47 37.9**	**-0.7**
	comp=Z,5.5nm,0.7s								
KBL	**Kabul**	**13.67**	**276**	*e*P		**Pn**	**21 47 37.9**	**-0.6**
KBL				pmax	pmax				
	comp=Z,6.0nm,0.7s								
KKAR	**Karatay Array**	**14.66**	**311**	*e*P		**Pn**	**21 47 57.6**	**+5.9**
KKAR	**Karatay Array**	**14.66**	**311**	*e*P		**Pn**	**21 47 57.6**	**+5.8**
KURK	**Kurchatov**	**17.15**	**345**	P		**Pn**	**21 48 22.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=158,slow=11,SNR=19								
KURK				LR	LR		21 55 53.6		
	comp=Z,67nm,18.8s,baz=290,slow=40								
KURK	**Kurchatov**	**17.15**	**345**	*e*P		**Pn**	**21 48 23.1**	**-0.3**
	comp=Z,15nm,1.1s								
KURK				LR	LR		21 55 53.6		
KURK	**Kurchatov**	**17.15**	**345**	P		**Pn**	**21 48 22.8**	**-0.6**
KURK				MLR	MLR				
	comp=Z,67nm,18.8s								
HYB	**Hyderabad**	**17.99**	**202**	*i* P		**Pn**	**21 48 29.0**	**-5.0**
ZALV	**Zalesovo Beam**	**19.62**	**359**	P		**Pn**	**21 48 51.2**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=181,slow=11,SNR=15								
ZALV	**Zalesovo Beam**	**19.62**	**359**	P		**Pn**	**21 48 51.2**	**-2.1**
ZALV	**Zalesovo Beam**	**19.62**	**359**	P		**Pn**	**21 48 51.3**	**-2.1**
CMAR	**Chiang Mai Arr**	**19.79**	**140**	P		**Pn**	**21 48 53.0**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=331,slow=12,SNR=13								
CMAR	**Chiang Mai Arr**	**19.79**	**140**	P		**Pn**	**21 48 53.0**	**-2.6**
CMAR	**Chiang Mai Arr**	**19.79**	**140**	P		**Pn**	**21 48 53.0**	**-2.6**
NVS	**Novosibirsk**	**20.57**	**356**	*e*P		**P**	**21 49 00.6**	**-1.4**
SONM	**Songino Array**	**20.60**	**43**	P		**P**	**21 49 03.2**	**+0.9**
	comp=Z,4.6nm,1.1s,baz=238,slow=11,SNR=20								
SONM	**Songino Array**	**20.60**	**43**	P		**P**	**21 49 03.2**	**+0.9**
SONM	**Songino Array**	**20.60**	**43**	P		**P**	**21 49 03.2**	**+0.9**
SONM				pmax	pmax				
	comp=Z,5.0nm,1.1s								
ZAK	**Zakamensk**	**20.60**	**34**	*e*P		**P**	**21 49 02.9**	**+0.5**
ZAK				pmax	pmax				
	comp=Z,1.0nm,1.0s								
ULN	**Ulaanbaatar**	**20.98**	**43**	*e*Pn		**P**	**21 49 09.3**	**+2.8**
	comp=Z,13nm,1.2s								
ULN	**Ulaanbaatar**	**20.98**	**43**	*e*P		**P**	**21 49 09.3**	**+2.8**
ULN				pmax	pmax				
	comp=Z,13nm,1.2s								
BVAR	**Borovoye Array**	**21.60**	**335**	P		**P**	**21 49 13.2**	**+0.1**
	comp=Z,3.4nm,0.9s,mb3.8,baz=139,slow=12,SNR=15								
BVAR	**Borovoye Array**	**21.60**	**335**	P		**P**	**21 49 13.2**	**+0.1**
BVAR	**Borovoye Array**	**21.60**	**335**	P		**P**	**21 49 13.2**	**+0.2**
BVAR				pmax	pmax				
	comp=Z,3.0nm,0.9s								
BRVK	**Borovoye**	**21.66**	**334**	*e*P		**P**	**21 49 14.4**	**+0.6**
	comp=Z,6.9nm,0.9s,mb4.1								
BRVK	**Borovoye**	**21.66**	**334**	*e*P		**P**	**21 49 14.4**	**+0.7**
BRVK				pmax	pmax				
	comp=Z,7.0nm,0.9s,mb4.1								
ABKAR	**Akbulak array**	**24.09**	**316**	*e*P		**P**	**21 49 39.3**	**+1.0**
	comp=Z,0.6nm,0.4s,mb3.4								
AKTK	**Aktyubinsk**	**25.75**	**317**	P		**P**	**21 49 53.8**	**+0.4**
AKTO	**Aktyubinsk**	**25.75**	**317**	P		**P**	**21 49 53.8**	**+0.4**
	comp=Z,1.4nm,0.6s,mb3.6,baz=118,slow=9.8,SNR=7.3								
AKTO	**Aktyubinsk**	**25.75**	**317**	P		**P**	**21 49 53.8**	**+0.4**
AKTO				pmax	pmax				
	comp=Z,1.0nm,0.6s,mb3.5								
BRTR	**Keskin Array B**	**41.35**	**293**	P		**P**	**21 52 10.1**	**+1.4**
	comp=Z,0.6nm,0.6s,mb3.4,baz=116,slow=11,SNR=4.9								
BRTR	**Keskin Array B**	**41.35**	**293**	P		**P**	**21 52 10.1**	**+1.4**
BRTR	**Keskin Array B**	**41.35**	**293**	P		**P**	**21 52 10.1**	**+1.5**
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
AKASG	**Malin Array Be**	**43.56**	**310**	P		**P**	**21 52 25.9**	**-0.4**
	comp=Z,0.3nm,0.4s,mb3.4,baz=70,slow=7.5,SNR=4.2								
AKASG	**Malin Array Be**	**43.56**	**310**	P		**P**	**21 52 25.9**	**-0.4**
AKASG	**Malin Array Be**	**43.56**	**310**	P		**P**	**21 52 25.9**	**-0.5**
VRI	**Vrincioaia**	**45.53**	**303**	||*i*P		**P**	**21 52 40.9**	**-1.3**
PLOR	**Plostina**	**45.59**	**303**	||||P		**P**	**21 52 41.1**	**-1.5**
FINES	**FINESS Array B**	**46.05**	**325**	P		**P**	**21 52 46.4**	**+0.4**
	comp=Z,1.9nm,0.7s,mb4.1,baz=83,slow=11,SNR=9.3								
FINES	**FINESS Array B**	**46.05**	**325**	P		**P**	**21 52 46.4**	**+0.4**
FINES	**FINESS Array B**	**46.05**	**325**	P		**P**	**21 52 46.4**	**+0.4**
FINES				pmax	pmax				
	comp=Z,2.0nm,0.7s								
MLR	**Muntele Rosu**	**46.12**	**303**	||*i*P		**P**	**21 52 48.4**	**+1.6**
VOIR		**46.75**	**303**	||*i*P		**P**	**21 52 50.6**	**-1.2**
ARCES	**ARCESS Array B**	**47.88**	**336**	P		**P**	**21 53 00.8**	**+0.6**
	comp=Z,2.8nm,0.8s,mb4.4,baz=27,slow=11,SNR=3.6								
ARCES	**ARCESS Array B**	**47.88**	**336**	P		**P**	**21 53 00.8**	**+0.6**
ARCES	**ARCESS Array B**	**47.88**	**336**	P		**P**	**21 53 00.9**	**+0.7**
ARCES				pmax	pmax				
	comp=Z,3.0nm,0.8s								
NB2	**NORSAR Subarra**	**53.21**	**324**	P		**P**	**21 53 40.6**	**+0.1**
	comp=Z,1.3nm,0.7s,mb4.0,baz=84,slow=7.4								
NOA	**NORSAR Array B**	**53.21**	**324**	P		**P**	**21 53 40.8**	**+0.3**
	comp=Z,1.9nm,0.7s,mb4.1,baz=86,slow=7.3,SNR=6.6								
NOA				LR	LR		22 19 14.9		
	comp=Z,34nm,20.4s,MS3.4,baz=315,slow=39								
NOA	**NORSAR Array B**	**53.21**	**324**	P		**P**	**21 53 40.8**	**+0.3**
NOA				LR	LR		22 19 14.9		
NOA	**NORSAR Array B**	**53.21**	**324**	P		**P**	**21 53 40.8**	**+0.3**
NOA				pmax	pmax				
	comp=Z,2.0nm,0.7s								
NOA				MLR	MLR				
	comp=Z,34nm,20.4s								
GERES	**GERESS Array B**	**53.75**	**309**	P		**P**	**21 53 45.8**	**+1.2**
	comp=Z,1.2nm,0.7s,mb4.0,baz=79,slow=6.9,SNR=11								
GERES				LR	LR		22 17 47.7		
	comp=Z,78nm,20.0s,MS3.8,baz=286,slow=37								
GERES	**GERESS Array B**	**53.75**	**309**	P		**P**	**21 53 45.8**	**+1.2**
GERES				LR	LR		22 17 47.7		
GERES	**GERESS Array B**	**53.75**	**309**	P		**P**	**21 53 45.8**	**+1.2**
GERES				pmax	pmax				
	comp=Z,1.0nm,0.7s								
GERES				MLR	MLR				
	comp=Z,78nm,20.0s								
KMBO	**Kilima Mbogo**	**57.39**	**242**	P		**P**	**21 54 11.5**	**+0.3**
	comp=Z,0.9nm,0.6s,mb4.0,baz=0.0,slow=20,SNR=3.6								
KMBO				LR	LR		22 17 57.3		
	comp=Z,70nm,19.3s,MS3.8,baz=270,slow=35								
KMBO	**Kilima Mbogo**	**57.39**	**242**	P		**P**	**21 54 11.5**	**+0.3**
KMBO				LR	LR		22 17 57.3		
KMBO	**Kilima Mbogo**	**57.39**	**242**	P		**P**	**21 54 11.5**	**+0.3**
KMBO				pmax	pmax				
	comp=Z,1.0nm,0.6s								
KMBO				MLR	MLR				
	comp=Z,70nm,19.3s								
WRA	**Warramunga Arr**	**71.15**	**132**	P		**P**	**21 55 40.6**	**-0.5**
	comp=Z,2.6nm,0.6s,mb4.4,baz=326,slow=6.6,SNR=60								
WRA	**Warramunga Arr**	**71.15**	**132**	P		**P**	**21 55 40.6**	**-0.5**
WRA	**Warramunga Arr**	**71.15**	**132**	P		**P**	**21 55 40.6**	**-0.6**
WRA				pmax	pmax				
	comp=Z,3.0nm,0.6s								
WRAB	**Tennant Creek**	**71.15**	**132**	*e*P		**P**	**21 55 40.9**	**-0.3**
	comp=Z,3.0nm,0.6s,mb4.4								
WRAB	**Tennant Creek**	**71.15**	**132**	*e*P		**P**	**21 55 40.9**	**-0.3**
WRAB				pmax	pmax				
	comp=Z,3.0nm,0.6s,mb4.4								
WB2	**Warramunga Arr**	**71.16**	**132**	*e*P		**P**	**21 55 40.9**	**-0.4**
ILAR	**Eielson Array**	**73.07**	**21**	P		**P**	**21 55 51.6**	**-0.4**
	comp=Z,0.9nm,0.8s,mb3.8,baz=310,slow=4.6,SNR=12								
ILAR	**Eielson Array**	**73.07**	**21**	P		**P**	**21 55 51.6**	**-0.4**
ILAR	**Eielson Array**	**73.07**	**21**	P		**P**	**21 55 51.6**	**-0.4**
ILAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
ASAR	**Alice Springs**	**73.70**	**134**	P		**P**	**21 55 56.3**	**0.0**
	comp=Z,2.3nm,0.7s,mb4.2,baz=319,slow=6.2,SNR=27								
ASAR	**Alice Springs**	**73.70**	**134**	P		**P**	**21 55 56.3**	**0.0**
ASAR	**Alice Springs**	**73.70**	**134**	P		**P**	**21 55 56.3**	**0.0**
ASAR				pmax	pmax				
	comp=Z,2.0nm,0.7s								
TORD	**Torodi Ar. Bea**	**77.73**	**278**	P		**P**	**21 56 19.1**	**-0.5**
	comp=Z,0.9nm,0.8s,mb3.8,baz=49,slow=5.0,SNR=8.2								
TORD	**Torodi Ar. Bea**	**77.73**	**278**	P		**P**	**21 56 19.1**	**-0.5**

*IDC **06** 22:15:40.2±1.9, 6.°23S×129.°92E, h0km, mb3.8/2, mb1 3.8/5, mb1mx3.6/17, mbtmp3.7/5, ML3.8/3, MS2.4/1, Ms1 2.4/1, ms1mx2.3/31, Error ellipse: s-maj=98.8km s-min=25.1km az=78.0*

*NEIC **06** 22:15:42.9±1.0, 6.°67S×128.°81E, h10km, Error ellipse: s-maj=35.7km s-min=12.7km az=64.0*

ISC 06 22:15:48.1±1.3, 6.°85S±0.°08×129.°0E±0.°1, h35km, n15, σ1s16/23, mb3.7/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.75**	**150**	*e*P		**Pn**		**22 17 30.1**	**+5.4**
KAKA				*e*S		**Sn**		**22 18 37.9**	**-2.4**
FITZ	**Fitzroy Crossi**	**11.65**	**196**	Pn		**Pn**		**22 18 39.8**	**+7.8**
	0.4nm,0.3s,baz=29,slow=14,SNR=15								
FITZ				Sn		**Sn**		**22 20 41.9**	**+1.0**
	0.5nm,0.3s,baz=309,slow=19,SNR=8.2								
FITZ	**Fitzroy Crossi**	**11.65**	**196**	*e*P		**Pn**		**22 18 37.5**	**+5.5**
FITZ				*e*S		**Sn**		**22 20 40.0**	**-0.9**
WRAB	**Tennant Creek**	**14.01**	**159**	*e*P		**Pn**		**22 19 05.1**	**+0.9**
WRAB				*e*S		**Sn**		**22 21 29.3**	**-9.2**
WRA	**Warramunga Arr**	**14.01**	**159**	Pn		**Pn**		**22 19 04.2**	**-0.1**
	0.6nm,0.3s,baz=335,slow=14,SNR=40								
WRA				Sn		**Sn**		**22 21 28.5**	**-10**
	0.6nm,0.3s,baz=332,slow=23,SNR=6.4								
WRA	**Warramunga Arr**	**14.01**	**159**	Pn		**Pn**		**22 19 04.2**	**-0.1**
WRA				Sn		**Sn**		**22 21 28.4**	**-10**
WB2	**Warramunga Arr**	**14.02**	**159**	*e*P		**Pn**		**22 19 04.5**	**+0.2**
WB2				*e*S		**Sn**		**22 21 26.2**	**-13**
COEN	**Coen**	**15.63**	**118**	*e*P		**Pn**		**22 19 26.8**	**+1.0**
ASAR	**Alice Springs**	**17.38**	**165**	P		**Pn**		**22 19 49.1**	**+1.2**
	0.1nm,0.3s,baz=343,slow=9.8,SNR=12								
ASAR				S		**Sn**		**22 22 53.5**	**-6.8**
	0.1nm,0.3s,baz=321,slow=16,SNR=4.4								
ASAR	**Alice Springs**	**17.38**	**165**	P		**Pn**		**22 19 49.1**	**+1.2**
ASAR				S		**Sn**		**22 22 53.5**	**-6.8**
KSRS	**Korea Array**	**44.08**	**359**	LR		LR		22 41 56.4	
	comp=Z,5.6nm,21.6s,baz=335,slow=36								
MKAR	**Makanchi Array**	**67.55**	**327**	P		**P**		**22 26 39.6**	**-1.3**
	0.4nm,0.4s,mb3.8,baz=118,slow=8.1,SNR=9.3								
MKAR	**Makanchi Array**	**67.55**	**327**	P		**P**		**22 26 39.6**	**-1.3**
ZALV	**Zalesovo Beam**	**71.01**	**334**	P		**P**		**22 26 57.7**	**-4.4**
	0.3nm,0.3s,mb3.6,baz=132,slow=8.0,SNR=2.8								
ZALV	**Zalesovo Beam**	**71.01**	**334**	P		**P**		**22 26 57.7**	**-4.4**

*ISCJB **06** 22:40:10.1±1.1, 39.°34N±0.°03×33.°19E±0.°04, h1km±8km, Error ellipse: s-maj=6.6km s-min=4.7km az=136.6*

*CSEM **06** 22:40:10.3±0.2, 39.°37N×33.°16E, h5km, MD3.1, Error ellipse: s-maj=4.3km s-min=3.3km az=136.0*

*DDA **06** 22:40:10.0, 39.°35N×33.°22E, h8km±2km, Md3.1*

*ISK **06** 22:40:10.4, 39.°40N×33.°14E, h8km, MD2.9*

ISC 06 22:40:10.6±0.7, 39.°34N±0.°03×33.°18E±0.°04, h4km±6km, n25, σ0s77/39, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BBAL	**Bala**	**0.21**	**347**	*i* P		**Pg**		**22 40 14.7**	**+0.1**
BBAL				*i* S		**Sg**		**22 40 17.9**	**+0.6**
BBAL	**Bala**	**0.21**	**347**	*i* P		**Pg**		**22 40 14.7**	**+0.1**
BBAL				*i* S		**Sg**		**22 40 17.9**	**+0.6**
LOD	**Lodumlu**	**0.64**	**330**	*e*PG		**Pg**		**22 40 21.7**	**-1.0**
LOD	**Lodumlu**	**0.64**	**330**	*e*Pg		**Pg**		**22 40 21.7**	**-1.1**
CDAG	**Cicekdag**	**0.96**	**73**	*i* P		**Pg**		**22 40 27.9**	**-1.1**
CDAG				*i* S		**Sg**		**22 40 41.2**	**-0.3**
CDAG	**Cicekdag**	**0.96**	**73**	*i* P		**Pg**		**22 40 27.9**	**-1.1**
CDAG				*i* S		**Sg**		**22 40 41.2**	**-0.3**
KIZT	**Kizilcal**	**1.11**	**246**	*e*PN		**Pn**		**22 40 32.3**	**-0.6**
KIZT				*e*SN		**Sn**		**22 40 47.6**	**-1.0**
KIZT	**Kizilcal**	**1.11**	**246**	*e*Pn		**Pn**		**22 40 32.3**	**-0.6**
KIZT				*e*Sn		**Sn**		**22 40 47.7**	**-1.0**
ELDT	**Eldivan**	**1.16**	**9**	*i* P		**Pg**		**22 40 32.5**	**-0.3**
ELDT				*i* S		**Sg**		**22 40 49.0**	**+1.1**
ELDT	**Eldivan**	**1.16**	**9**	*i* P		**Pg**		**22 40 32.5**	**-0.4**
ELDT				*i* S		**Sg**		**22 40 49.0**	**+1.1**
KDHN	**Kadinhani**	**1.17**	**226**	*i* P		**Pg**		**22 40 32.7**	**-0.2**
KDHN				*i* S		**Sg**		**22 40 49.5**	**+1.4**
KDHN	**Kadinhani**	**1.17**	**226**	*i* P		**Pg**		**22 40 32.7**	**-0.2**
KDHN				*i* S		**Sg**		**22 40 49.5**	**+1.4**
SULT	**Sultanhani-AKS**	**1.17**	**167**	*e*PN		**Pn**		**22 40 34.3**	**+0.6**
SULT	**Sultanhani-AKS**	**1.17**	**167**	*e*Pn		**Pn**		**22 40 34.3**	**+0.6**
CANT	**Cankiri**	**1.31**	**15**	*e*PN		**Pn**		**22 40 34.8**	**-0.8**
AVNT	**Avonos**	**1.42**	**113**	*i* P		**Pn**		**22 40 36.9**	**-0.2**
AVNT				*i* S		**Sb**		**22 40 56.0**	**0.0**
AVNT	**Avonos**	**1.42**	**113**	*i* P		**Pn**		**22 40 36.9**	**-0.2**
AVNT				*i* S		**Sb**		**22 40 56.0**	**0.0**
KONT	**Konya--Tatoy**	**1.54**	**205**	*e*PN		**Pn**		**22 40 39.5**	**+0.8**
KONT	**Konya--Tatoy**	**1.54**	**205**	*e*Pn		**Pn**		**22 40 39.5**	**+0.8**
YOZ	**Yozgat**	**1.68**	**79**	*e*PN		**Pn**		**22 40 41.0**	**+0.3**
YOZ	**Yozgat**	**1.68**	**79**	*e*Pn		**Pn**		**22 40 41.0**	**+0.3**
CTKT	**Corum**	**1.78**	**43**	*i* P		**Pn**		**22 40 42.1**	**0.0**
CTKT				*i* S		**Sn**		**22 41 06.7**	**+1.5**
CTKT	**Corum**	**1.78**	**43**	*i* P		**Pn**		**22 40 42.1**	**0.0**
CTKT				*i* S		**Sn**		**22 41 06.7**	**+1.6**
TOS	**Tosya**	**1.81**	**21**	*e*PN		**Pn**		**22 40 42.0**	**-0.5**
TOS	**Tosya**	**1.81**	**21**	*e*Pn		**Pn**		**22 40 42.0**	**-0.5**

*ISK **06** 22:41:54.4, 39.°41N×25.°90E, h5km, MD3.3*

*DDA **06** 22:41:55.5, 39.°44N×25.°89E, h27km±1km, Md3.1*

*ATH **06** 22:41:55.9, 39.°44N×25.°92E, h25km, MD3.5/11*

*ISCJB **06** 22:41:56.1±0.4, 39.°44N±0.°02×25.°86E±0.°02, h11km±3km, Error ellipse: s-maj=3.3km s-min=2.4km az=158.0*

*CSEM **06** 22:41:56.7±0.1, 39.°42N×25.°89E, h10km, ML3.2/6, Error ellipse: s-maj=2.7km s-min=2.2km az=67.0*

*THE **06** 22:41:56.8, 39.°42N×25.°86E, h13km±1km, ML3.2/6, Error ellipse: s-maj=2.4km s-min=1.0km az=210.0*

*SOF **06** 22:41:58.5, 39.°72N×25.°93E, h10km, MD2.7*

ISC 06 22:41:56.8±0.4, 39.°43N±0.°02×25.°88E±0.°03, h11km±3km, n131, σ0s88/170, 12C-6D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.22**	**185**	P		**Pg**		**22 42 01.2**	**-0.2**
SIGR				S		**Sg**		**22 42 04.9**	**+0.4**
SIGR	**SIGRI**	**0.22**	**185**	P		**Pg**		**22 42 01.2**	**-0.2**
SIGR				S		**Sg**		**22 42 04.9**	**+0.4**
PRK	**Paraskevi**	**0.35**	**121**	*e*PB		**Pg**		**22 42 03.7**	**-0.1**
PRK				*e*SB		**Sg**		**22 42 09.4**	**+0.8**
PRK	**Paraskevi**	**0.35**	**121**	P		**Pg**		**22 42 03.6**	**-0.2**
PRK				S		**Sg**		**22 42 08.9**	**+0.3**
PRK	**Paraskevi**	**0.35**	**121**	P		**Pg**		**22 42 03.6**	**-0.2**
PRK				S		**Sg**		**22 42 08.9**	**+0.3**
PRK				*e*Sb		**Sg**		**22 42 09.4**	**+0.8**
BOZC	**Bozcaada**	**0.43**	**18**	*i* P		**Pg**		**22 42 04.5**	**-0.9**
BOZC				*i* S		**Sg**		**22 42 11.1**	**-0.1**
AYVA	**Ayvalik**	**0.64**	**101**	*i* P		**Pg**		**22 42 08.6**	**-0.6**
AYVA				*i* S		**Sg**		**22 42 17.5**	**0.0**
AYVA	**Ayvalik**	**0.64**	**101**	*i* P		**Pg**		**22 42 08.6**	**-0.6**
AYVA				*i* S		**Sg**		**22 42 17.5**	**-0.1**
LIA	**Limnos Island**	**0.71**	**311**	*e*PN		**Pn**		**22 42 10.0**	**-2.8**
LIA				*e*SN		**Sg**		**22 42 20.8**	**+0.8**
LIA	**Limnos Island**	**0.71**	**311**	P		**Pg**		**22 42 10.2**	**-0.5**
LIA				S		**Sg**		**22 42 21.1**	**+1.1**
LIA	**Limnos Island**	**0.71**	**311**	P		**Pg**		**22 42 10.2**	**-0.5**
LIA				S		**Sg**		**22 42 21.1**	**+1.1**
GADA	**Gvkgeada**	**0.76**	**1**	*e*PG		**Pg**		**22 42 10.4**	**-1.2**
GADA	**Gvkgeada**	**0.76**	**1**	*e*Pg		**Pg**		**22 42 10.4**	**-1.2**
CHOS	**Chios island**	**1.05**	**173**	*e*PN		**Pn**		**22 42 16.6**	**-0.8**
CHOS				*e*SN		**Sn**		**22 42 31.2**	**-0.8**
CHOS	**Chios island**	**1.05**	**173**	P		**Pb**		**22 42 16.7**	**-0.2**
CHOS				S		**Sg**		**22 42 30.8**	**+0.2**
CHOS	**Chios island**	**1.05**	**173**	P		**Pb**		**22 42 16.7**	**-0.2**
CHOS				S		**Sg**		**22 42 30.8**	**+0.2**
CHOS				*e*Sn		**Sn**		**22 42 31.2**	**-0.8**
URLA	**Izmir**	**1.20**	**152**	*i* P		**Pn**		**22 42 17.8**	**-1.7**
URLA				*i* S		**Sb**		**22 42 34.4**	**-0.7**
URLA	**Izmir**	**1.20**	**152**	*i* P		**Pn**		**22 42 17.8**	**-1.7**
URLA				*i* S		**Sb**		**22 42 34.4**	**-0.7**
BALY	**Balya**	**1.38**	**76**	*i* P		**Pn**		**22 42 22.3**	**+0.3**
BALY				*i* S		**Sn**		**22 42 39.5**	**-0.6**
BALY	**Balya**	**1.38**	**76**	*i* P		**Pn**		**22 42 22.3**	**+0.3**
BALY				*i* S		**Sn**		**22 42 39.5**	**-0.7**
BLCB	**Balcova**	**1.38**	**139**	*e*PN		**Pn**		**22 42 21.4**	**-0.6**
BLCB				*e*SN		**Sn**		**22 42 41.3**	**+1.1**
BLCB	**Balcova**	**1.38**	**139**	*e*Pn		**Pn**		**22 42 21.4**	**-0.6**
BLCB				*e*Sn		**Sn**		**22 42 41.3**	**+1.1**
ALN	**Alexandroupoli**	**1.47**	**5**	*e*PN		**Pn**		**22 42 22.4**	**-0.9**
ALN				*e*SN		**Sn**		**22 42 41.6**	**-0.9**
ALN	**Alexandroupoli**	**1.47**	**5**	P		**Pn**		**22 42 22.3**	**-1.0**
ALN				S		**Sn**		**22 42 42.6**	**+0.1**
ALN	**Alexandroupoli**	**1.47**	**5**	*e*Sn		**Sn**		**22 42 41.6**	**-0.9**
ALN	**Alexandroupoli**	**1.47**	**5**	*e*Pn		**Pn**		**22 42 22.4**	**-0.9**
ALN				S		**Sn**		**22 42 42.6**	**+0.1**
AOS	**Alonnisos**	**1.57**	**261**	P		**Pn**		**22 42 23.6**	**-1.0**
AOS	**Alonnisos**	**1.57**	**261**	P		**Pn**		**22 42 23.6**	**-1.0**
AKHS	**Akhisar**	**1.60**	**109**	*i* P		**Pn**		**22 42 24.3**	**-0.7**
AKHS				*i* S		**Sn**		**22 42 48.3**	**+2.7**
AKHS	**Akhisar**	**1.60**	**109**	*i* P		**Pn**		**22 42 24.3**	**-0.7**
AKHS				*i* S		**Sn**		**22 42 48.3**	**+2.7**
AKS	**Akhisar**	**1.60**	**109**	*e*PN		**Pn**		**22 42 24.6**	**-0.3**
AKS	**Akhisar**	**1.60**	**109**	*e*Pn		**Pn**		**22 42 24.7**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.60**	**38**	*e*PN		**Pn**		**22 42 24.9**	**-0.1**
RKY	**Sarkoy-Tekirda**	**1.60**	**38**	*e*Pn		**Pn**		**22 42 24.9**	**-0.1**
SART	**Tekirdag**	**1.61**	**38**	*i* P		**Pn**		**22 42 24.2**	**-0.9**
SART				*i* S		**Sn**		**22 42 45.9**	**+0.1**
SART	**Tekirdag**	**1.61**	**38**	*i* P		**Pn**		**22 42 24.2**	**-0.9**
SART

IDC ***06*** *22:44:43.1±0.7,18˚.60S×169˚.02E,h224km±6km,mb4.7/22, mb1 4.8/22,mb1mx4.8/24,mbtmp4.7/22,Error ellipse: s-maj=9.8km s-min=8.2km az=136.0*

GCMT ***06*** *22:44:45.2±0.3,18˚.64S×168˚.90E,h216km±2km,MW5.1, Moment Tensor Solution. s36,c41; s69,c98; Moment tensor: Scale 10¹⁶Nm; Mrr0.22±.19; Mθθ-1.26±.21; Mφφ1.04±.20; Mrθ3.93±.17; Mrφ-1.77±.16; Mθφ-2.97±.16; Best double couple: Mo5.20000×10¹⁶ NP1:φs207.00000°, δ21.00000°,λ-3.00000°. NP2:φs300.00000°,δ89.00000°, λ-111.00000°. Principal axes: T 5.9000, Plg40.0000°, Azm49.0000°; N -1.3100, Plg21.0000°, Azm300.0000°; P -4.5900, Plg42.0000°, Azm190.0000°; Data Used: II IU IC G CN.*

LDG ***06*** *22:44:45.8±0.4, 18˚.56S×168˚.47E,h240km,Mb4.6/3 Error ellipse: s-maj=44.1km s-min=17.7km az=10.0*

DJA ***06*** *22:44:52, 18˚.83S×168˚.77E,h307km,mb4.9/18*

ISC 06 22:44:43.0±0.1,18˚.63S±0˚.04×169˚.01E±0˚.03,h221km, h221km±2.5km:pP-P,n521,σ0s69/358,mb4.9/66,81C-105D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**4.04**	**209**	*eP*	**Pn**	**22 45 44.3**	**-1.6**
DZM	**Mont Dzumac**	**4.19**	**215**	↑*iP*	**Pn**	**22 45 47.1**	**-0.7**
DZM				*eS*	**S**	**22 46 39.0**	**-0.1**
NOUC	**Port Laguerre**	**4.29**	**216**	*eP*	**Pn**	**22 45 47.6**	**-1.5**
MSVF	**Nonsavu**	**8.64**	**86**	*e*Pn	**Pn**	**22 46 44.4**	**-0.2**
MSVF	**Nonsavu**	**8.64**	**86**	*eP*	**Pn**	**22 46 44.4**	**-0.1**
MSVF	**Nonsavu**	**8.64**	**86**	Pn	**Pn**	**22 46 45.0**	**+0.5**
	1µm,1.1s,SNR=26						
FUNA	**Funafuti**	**14.09**	**46**	P	**Pn**	**22 47 51.7**	**-1.7**
OUZ	**Omahuta**	**17.02**	**167**	*eP*	**P**	**22 48 27.2**	**+0.5**
	226nm,1.1s						
EIDS	**Eidsvold**	**17.92**	**245**	↓*iP*	**P**	**22 48 38.7**	**+2.1**
	55nm,0.5s						
ARMA	**Armidale**	**19.66**	**230**	*eP*	**P**	**22 48 57.1**	**+1.7**
ARMA	**Armidale**	**19.66**	**230**	*eP*	**P**	**22 48 57.3**	**+1.9**
	179nm,1.4s						
URZ	**Urewera**	**20.80**	**162**	P	**P**	**22 49 07.8**	**+0.4**
	58nm,0.6s,baz=315,slow=3.3,SNR=16						
URZ				S	**S**	**22 52 55.7**	**+9.4**
	17nm,0.7s,baz=162,slow=19,SNR=3.7						
URZ	**Urewera**	**20.80**	**162**	*eP*	**P**	**22 49 07.6**	**+0.2**
	54nm,0.6s						
CTA	**Charters Tower**	**21.52**	**262**	P	**P**	**22 49 16.0**	**+0.9**
	48nm,0.6s,mb5.2,baz=89,slow=12,SNR=54						
CTA				pP		22 49 52.9	
	36nm,0.9s,baz=98,slow=11,SNR=4.0						
CTA	**Charters Tower**	**21.52**	**262**	*eP*	**P**	**22 49 14.8**	**-0.3**
	43nm,0.9s,mb5.0						
CTA	**Charters Tower**	**21.52**	**262**	P	**P**	**22 49 16.0**	**+0.9**
CTA				pP		22 49 52.9	
CTA	**Charters Tower**	**21.52**	**262**	P	**P**	**22 49 16.0**	**+0.9**
CTAO	**Charters Tower**	**21.52**	**262**	*eP*	**P**	**22 49 15.8**	**+0.7**
	61nm,0.8s,mb5.2						
CTAO	**Charters Tower**	**21.52**	**262**	*eP*	**P**	**22 49 15.8**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,61nm,0.8s,mb5.2						
CTAO	**Charters Tower**	**21.52**	**262**	P	**P**	**22 49 16.3**	**+1.2**
	comp=Z,88nm,0.9s,mb5.3						
RIV	**Riverview**	**21.99**	**223**	*eP*	**P**	**22 49 20.8**	**+1.5**
PMG	**Port Moresby**	**23.07**	**290**	P	**P**	**22 49 30.3**	**+0.9**
	comp=Z,34nm,0.7s,mb5.0,baz=132,slow=9.0,SNR=17						
PMG	**Port Moresby**	**23.07**	**290**	*eP*	**P**	**22 49 30.1**	**+0.7**
	comp=Z,31nm,0.7s,mb4.9						
PMG	**Port Moresby**	**23.07**	**290**	*d iP*	**P**	**22 49 30.0**	**+0.6**
PMG	**Port Moresby**	**23.07**	**290**	P	**P**	**22 49 30.4**	**+1.0**
	comp=Z,46nm,0.9s,mb5.0						
SNZO	**South Karori**	**23.13**	**169**	*eP*	**P**	**22 49 29.3**	**-0.3**
	comp=Z,66nm,0.6s,mb5.3						
KHZ	**Kahutara**	**24.03**	**172**	*eP*	**P**	**22 49 35.5**	**-2.2**
	comp=Z,323nm,1.8s,mb5.7						
CNB	**Canberra Magne**	**24.07**	**222**	*eP*	**P**	**22 49 39.3**	**+1.1**
CAN	**Canberra**	**24.31**	**223**	*eP*	**P**	**22 49 41.5**	**+1.1**
	comp=Z,32nm,0.5s,mb5.2						
CAN	**Canberra**	**24.31**	**223**	*eP*	**P**	**22 49 41.5**	**+1.1**
CAN				pmax	pmax		
	comp=Z,32nm,0.5s,mb5.2						
RPZ	**Rata Peaks**	**25.07**	**176**	P	**P**	**22 49 47.3**	**+0.1**
	comp=Z,39nm,0.9s,mb5.0,baz=350,slow=6.1,SNR=16						
RPZ	**Rata Peaks**	**25.07**	**176**	*eP*	**P**	**22 49 46.8**	**-0.5**
	comp=Z,47nm,0.9s,mb5.1						
COEN	**Coen**	**25.21**	**277**	*eP*	**P**	**22 49 49.2**	**+0.4**
	comp=Z,171nm,1.0s,mb5.6						
COEN	**Coen**	**25.21**	**277**	P	**P**	**22 49 49.2**	**+0.4**
	comp=Z,19nm,1.0s,mb4.7						
TOO	**Toolangi**	**27.92**	**223**	*eP*	**P**	**22 50 13.2**	**+0.5**
STKA	**Stephens Creek**	**27.99**	**237**	P	**P**	**22 50 14.2**	**+0.7**
	comp=Z,51nm,0.6s,mb5.3,baz=62,slow=10,SNR=126						
STKA	**Stephens Creek**	**27.99**	**237**	↓*iP*	**P**	**22 50 14.2**	**+0.7**
	comp=Z,41nm,0.6s,mb5.2						
STKA	**Stephens Creek**	**27.99**	**237**	P	**P**	**22 50 14.2**	**+0.7**
STKA	**Stephens Creek**	**27.99**	**237**	P	**P**	**22 50 14.2**	**+0.7**
MOO	**Moorlands**	**30.11**	**213**	↓*iP*	**P**	**22 50 32.9**	**+0.9**
TAU	**Tasmania Unive**	**30.38**	**212**	*eP*	**P**	**22 50 33.9**	**-0.4**
	comp=Z,16nm,0.5s,mb4.9						
TAU	**Tasmania Unive**	**30.38**	**212**	*eP*	**P**	**22 50 33.9**	**-0.4**
TAU				pmax	pmax		
	comp=Z,16nm,0.5s,mb4.9						
WB2	**Warramunga Arr**	**32.71**	**262**	↓*iP*	**P**	**22 50 54.2**	**-0.8**
WRAB	**Tennant Creek**	**32.71**	**262**	↓*iP*	**P**	**22 50 54.2**	**-0.9**
	comp=Z,47nm,0.7s,mb5.1						
WRAB	**Tennant Creek**	**32.71**	**262**	↓*iP*	**P**	**22 50 54.2**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,47nm,0.7s,mb5.1						
WRAB	**Tennant Creek**	**32.71**	**262**	P	**P**	**22 50 54.0**	**-1.0**
	comp=Z,296nm,0.5s,SNR=84						
WRAB	**Tennant Creek**	**32.71**	**262**	P	**P**	**22 50 54.1**	**-0.9**
	comp=Z,82nm,1.5s,mb5.0						
WRA	**Warramunga Arr**	**32.72**	**262**	P	**P**	**22 50 54.3**	**-0.8**
	comp=Z,26nm,0.4s,mb5.1,baz=95,slow=8.3,SNR=240						
WRA				S	**S**	**22 55 52.3**	**-2.9**
	comp=Z,8.2nm,0.9s,baz=90,slow=15,SNR=16						
WRA				ScP	ScP	22 56 59.7	+1.4
	comp=Z,3.9nm,0.8s,baz=88,slow=3.6,SNR=11						
WRA				P3KPbc		23 22 12.2	
	comp=Z,0.9nm,0.9s,baz=284,slow=3.1,SNR=7.2						
WRA	**Warramunga Arr**	**32.72**	**262**	P	**P**	**22 50 54.3**	**-0.8**
WRA				S	**S**	**22 55 52.3**	**-2.9**
WRA				ScP	ScP	22 56 59.7	+1.4
WRA				*e*		23 22 12.2	
WRA	**Warramunga Arr**	**32.72**	**262**	P	**P**	**22 50 54.3**	**-0.8**
WRA				S	**S**	**22 55 52.3**	**-2.9**
ASAR	**Alice Springs**	**33.07**	**255**	P	**P**	**22 50 58.0**	**-0.1**
	comp=Z,213nm,0.5s,mb6.0,baz=82,slow=8.7,SNR=3218						
ASAR				pP	pP	22 51 44.2	+1.3
	comp=Z,20nm,0.9s,baz=82,slow=8.9,SNR=2.1						
ASAR				S	**S**	**22 55 59.8**	**-0.8**
	comp=Z,7.5nm,0.9s,baz=86,slow=17,SNR=17						
ASAR				ScP	ScP	22 57 01.3	+1.8
	comp=Z,0.5nm,0.6s,baz=99,slow=2.9,SNR=4.6						
ASAR				P3KPbc		23 22 10.8	
	comp=Z,0.5nm,0.9s,baz=258,slow=4.5,SNR=4.1						
ASAR	**Alice Springs**	**33.07**	**255**	P	**P**	**22 50 58.0**	**-0.1**
ASAR				pP	pP	22 51 44.2	+1.3
ASAR				S	**S**	**22 55 59.8**	**-0.8**
ASAR				ScP	ScP	22 57 01.3	+1.8
ASAR				*e*		23 22 10.8	
ASAR	**Alice Springs**	**33.07**	**255**	P	**P**	**22 50 58.1**	**0.0**
ASAR				*PP	pP	22 51 44.2	+1.3
ASAR				S	**S**	**22 55 59.8**	**-0.8**
KAKA	**Kakadu**	**35.65**	**274**	↓*iP*	**P**	**22 51 19.8**	**-0.6**
	comp=Z,14nm,0.5s,mb4.8						
KAKA	**Kakadu**	**35.65**	**274**	*eP*	**P**	**22 51 19.6**	**-0.8**
	comp=Z,53nm,0.8s,mb5.1						
FORT	**Forrest**	**38.92**	**244**	↓*iP*	**P**	**22 51 47.4**	**-0.2**
	comp=Z,61nm,0.7s,mb5.2						
FORT	**Forrest**	**38.92**	**244**	*eP*	**P**	**22 51 47.5**	**0.0**
	comp=Z,86nm,0.8s,mb5.3						
SWI	**Sorong**	**41.02**	**291**	P	**P**	**22 52 05.2**	**+0.1**
	comp=Z,52nm,0.7s,mb5.1						
FITZ	**Fitzroy Crossi**	**41.09**	**264**	P	**P**	**22 52 06.2**	**+0.6**
	comp=Z,88nm,0.6s,mb5.3,baz=94,slow=7.2						
FITZ	**Fitzroy Crossi**	**41.09**	**264**	↓*iP*	**P**	**22 52 05.7**	**+0.1**
	comp=Z,122nm,0.5s,mb5.6						
FITZ	**Fitzroy Crossi**	**41.09**	**264**	↓*iP*	**P**	**22 52 05.9**	**+0.3**
	comp=Z,89nm,0.7s,mb5.3						
FITZ	**Fitzroy Crossi**	**41.09**	**264**	P	**P**	**22 52 05.9**	**+0.3**
	comp=Z,1µmcomp=Z,137nm,0.9s,mb5.4						
MBWA	**Marble Bar**	**46.26**	**258**	↓*iP*	**P**	**22 52 46.9**	**+0.2**
	comp=Z,52nm,0.4s,mb5.2						
MBWA	**Marble Bar**	**46.26**	**258**	P	**P**	**22 52 46.8**	**+0.1**
	comp=Z,124nm,0.8s,mb5.3						
MMRI	**Maumere**	**46.40**	**276**	P	**P**	**22 52 47.0**	**-0.9**
	comp=Z,44nm,1.0s,mb4.7						
KLBR	**Kellerberrin**	**47.78**	**244**	↓*iP*	**P**	**22 52 57.5**	**-0.8**
	comp=Z,38nm,0.4s,mb5.1						
NWAO	**Narrogin (SRO)**	**48.30**	**242**	*eP*	**P**	**22 53 01.4**	**-0.9**
	comp=Z,46nm,0.9s,mb4.8						
NWAO				*e*pP	pP	22 53 51.0	+0.9
NWAO	**Narrogin (SRO)**	**48.30**	**242**	*eP*	**P**	**22 53 01.4**	**-0.9**
NWAO				*e*PP	pP	22 53 51.0	+0.9
NWAO				pmax	pmax		
	comp=Z,46nm,0.9s						
LUWI	**Luwuk**	**48.58**	**286**	P	**P**	**22 53 04.6**	**-0.1**
	comp=Z,31nm,0.9s,mb4.7						
BKSI	**Bulukumba**	**49.45**	**279**	P	**P**	**22 53 10.7**	**-0.5**
	comp=Z,16nm,0.8s,mb4.4						
BNSI	**Bone**	**49.78**	**280**	P	**P**	**22 53 12.4**	**-1.3**
	comp=Z,531nmcomp=Z,21nm,1.4s,mb4.3						
KAPI	**Kappang**	**49.90**	**279**	*eP*	**P**	**22 53 13.9**	**-0.7**
	comp=Z,25nm,0.8s,mb4.6						
KAPI	**Kappang**	**49.90**	**279**	P	**P**	**22 53 14.1**	**-0.5**
	comp=Z,37nm,0.9s,mb4.7						
KIP	**Kipapa**	**51.25**	**41**	*eP*	**P**	**22 53 23.2**	**-1.3**
	comp=Z,101nm,1.1s,mb5.2						
KIP	**Kipapa**	**51.25**	**41**	*eP*	**P**	**22 53 23.2**	**-1.3**
KIP				pmax	pmax		
	comp=Z,101nm,1.1s,mb5.2						
OPA	**Opana**	**51.45**	**40**	*eP*	**P**	**22 53 25.3**	**-0.7**
OPA	**Opana**	**51.45**	**40**	*eP*	**P**	**22 53 25.3**	**-0.7**
POHA	**Pohakuloa**	**51.62**	**44**	*eP*	**P**	**22 53 26.8**	**-0.5**
	comp=Z,55nm,0.7s,mb5.1						
MTNI	**Mataram**	**52.14**	**273**	P	**P**	**22 53 31.1**	**-0.2**
	comp=Z,31nm,0.8s,mb4.8						
IGBI	**Denpasar**	**53.06**	**273**	P	**P**	**22 53 37.9**	**-0.1**
	comp=Z,61nm,1.1s,mb4.9						
KKM	**Kota Kinabalu**	**57.52**	**290**	*eP*	**P**	**22 54 10.7**	**+0.9**
	comp=Z,14nm,0.6s,mb4.8						
SBA	**Scott Base**	**59.27**	**181**	*eP*	**P**	**22 54 21.0**	**+0.1**
	comp=Z,54nm,1.2s,mb5.0						
SBA				*e*PcP	PcP	22 55 06.5	-0.1
SBA	**Scott Base**	**59.27**	**181**	*eP*	**P**	**22 54 21.0**	**+0.1**
SBA				*e*	pP	22 55 06.6	-4.1
SBA				pmax	pmax		
	comp=Z,53nm,1.2s,mb5.0						
CASY	**Casey**	**60.60**	**203**	*eP*	**P**	**22 54 29.8**	**-0.3**
MJAR	**Matsushiro Arr**	**62.11**	**332**	P	**P**	**22 54 39.6**	**-0.9**
	comp=Z,3.8nm,0.5s,mb4.3,baz=168,slow=6.9,SNR=12						
MJAR	**Matsushiro Arr**	**62.11**	**332**	P	**P**	**22 54 39.6**	**-0.9**
MJAR	**Matsushiro Arr**	**62.11**	**332**	P	**P**	**22 54 39.7**	**-0.9**
MAT	**Matsushiro**	**62.11**	**332**	P	**P**	**22 54 40.1**	**-0.5**
MAT				S	**S**	**23 02 48.0**	**+0.1**
ASAJ	**Asahikawa**	**66.95**	**340**	P	**P**	**22 55 11.8**	**+0.1**
	comp=Z,23nm,0.8s,mb4.9,baz=216,slow=12,SNR=7.0						
MIR	**Mirnyy**	**67.50**	**205**	↓*iP*	**P**	**22 55 15.6**	**+0.7**
MIR				pmax	pmax		
	comp=Z,103nm,1.2s,mb5.3						
KSRS	**Korea Array**	**67.88**	**326**	P	**P**	**22 55 18.3**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=162,slow=8.5,SNR=4.3						
KSRS	**Korea Array**	**67.88**	**326**	*eP*	**P**	**22 55 18.3**	**+0.6**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NJ2	**Nanjing**	**69.62**	**316**	*eP*	**P**	**22 55 29.5**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.7						
FX1	**Attu Island--F**	**71.30**	**3**	P	**P**	**22 55 37.8**	**-0.4**
	comp=Z,24nm,0.4s,mb5.1,baz=242,slow=3.6,SNR=26						
FX1	**Attu Island--F**	**71.30**	**3**	P	**P**	**22 55 37.8**	**-0.4**
FX1	**Attu Island--F**	**71.30**	**3**	P	**P**	**22 55 37.8**	**-0.4**
QSPA	**South Pole Qui**	**71.42**	**180**	P	**P**	**22 55 38.6**	**-0.1**
	comp=Z,33nm,0.8s,mb5.0,baz=20,slow=6.4,SNR=63						
QSPA	**South Pole Qui**	**71.42**	**180**	*eP*	**P**	**22 55 38.2**	**-0.5**
	comp=Z,36nm,0.9s,mb5.0						
QSPA				*e*pP	pP	22 56 30.3	-0.1
QSPA				*e*sP	sP	22 56 53.9	-0.2
PET	**Petropavlovsk**	**71.91**	**353**	*eP*	**P**	**22 55 41.6**	**-0.2**
PET				pmax	pmax		
	comp=Z,52nm,0.6s,mb5.3						
PEA0B	**Petropavlovsk-**	**72.10**	**353**	*eP*	**P**	**22 55 43.3**	**+0.3**
PETK	**Petropavlovsk-**	**72.10**	**353**	P	**P**	**22 55 43.2**	**+0.3**
	comp=Z,31nm,0.8s,mb5.0,baz=150,slow=7.7,SNR=19						
PETK	**Petropavlovsk-**	**72.10**	**353**	P	**P**	**22 55 43.2**	**+0.3**
PETK	**Petropavlovsk-**	**72.10**	**353**	P	**P**	**22 55 43.3**	**+0.3**
PSI	**Prapat**	**72.11**	**279**	P	**P**	**22 55 42.9**	**-1.1**
	comp=Z,12nm,0.8s,mb4.6,baz=305,slow=1.0,SNR=11						
PSI	**Prapat**	**72.11**	**279**	P	**P**	**22 55 42.9**	**-1.1**
PSI	**Prapat**	**72.11**	**279**	P	**P**	**22 55 42.9**	**-1.0**
MDJ	**Mudanjiang**	**72.48**	**332**	P	**P**	**22 55 45.6**	**+0.2**
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.4						
MDJ				pmax	pmax		
	comp=Z,44nm,3.6s						
NIKO	**Nikolski**	**73.83**	**14**	*eP*	**P**	**22 55 51.9**	**-1.2**
KLR	**Kul'dur**	**75.22**	**336**	*eP*	**P**	**22 55 58.0**	**-3.2**
GYA	**Guiyang**	**75.29**	**305**	P	**P**	**22 56 03.8**	**+1.7**
GYA				PcP	PcP	22 56 16.0	+1.6
GYA				pP	pP	22 56 56.9	+2.5
GYA				sP	sP	22 57 21.8	+3.9
GYA				PP	PP	22 58 57.6	+3.4
GYA				S	S	23 05 24.4	+1.1
GYA				SKS		23 05 47.0	
GYA				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.7						
GYA				pmax	pmax		
	comp=Z,120nm,5.3s						
BJI	**Beijing**	**76.33**	**321**	P	**P**	**22 56 08.1**	**+0.4**
BJI				S	S	23 05 35.2	+1.2
BJI				sS	sS	23 07 08.0	+2.3
BJI				SS	SS	23 10 37.8	+4.0
BJI				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.7						
KMI	**Kunming**	**77.77**	**302**	P	**P**	**22 56 17.7**	**+1.7**
KMI				pP	pP	22 57 11.1	+2.5
KMI				sP	sP	22 57 35.0	+3.0
KMI				S	S	23 05 51.9	+1.7
KMI				sS	sS	23 07 24.6	+2.4
KMI				SS	SS	23 10 59.5	+3.6
KMI				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
KMI				pmax	pmax		
	comp=Z,68nm,5.1s						
KMI				LR	LR		
	comp=N,80nm,19.0s						
KMI				LR	LR		
	comp=E,71nm,16.1s						
KMI				LR	LR		
	comp=Z,57nm,17.3s						
CMAR	**Chiang Mai Arr**	**78.05**	**294**	P	**P**	**22 56 18.9**	**+1.2**
	comp=Z,3.3nm,0.7s,mb4.1,baz=126,slow=4.7,SNR=24						
CMAR				pP	pP	22 57 08.2	-2.2
	comp=Z,1.4nm,0.7s,baz=138,slow=4.3,SNR=2.2						
CMAR	**Chiang Mai Arr**	**78.05**	**294**	P	**P**	**22 56 18.9**	**+1.2**
CMAR				pP	pP	22 57 08.2	-2.2
CMAR	**Chiang Mai Arr**	**78.05**	**294**	P	**P**	**22 56 19.0**	**+1.3**
CHTO	**Chiang Mai**	**78.20**	**295**	*eP*	**P**	**22 56 19.1**	**+0.6**
	comp=Z,5.1nm,0.7s,mb4.3						
CHTO	**Chiang Mai**	**78.20**	**295**	*eP*	**P**	**22 56 19.1**	**+0.6**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
CHTO	**Chiang Mai**	**78.20**	**295**	P	**P**	**22 56 19.7**	**+1.2**
	comp=Z,9.0nm,0.8s,mb4.5						
MAW	**Mawson**	**78.92**	**202**	P	**P**	**22 56 22.5**	**+0.9**
	comp=Z,35nm,0.8s,mb5.0,baz=124,slow=8.1,SNR=23						
MAW	**Mawson**	**78.92**	**202**	↓*iP*	**P**	**22 56 22.3**	**+0.7**
	comp=Z,27nm,0.9s,mb4.9						
MAW	**Mawson**	**78.92**	**202**	*eP*	**P**	**22 56 22.2**	**+0.6**
	comp=Z,8.6nm,0.9s,mb4.4						
MAW	**Mawson**	**78.92**	**202**	*eP*	**P**	**22 56 22.2**	**+0.6**
MAW				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CHGN	**Chignik**	**79.52**	**18**	*eP*	**P**	**22 56 23.4**	**-1.4**
HHC	**Hu-ho-hao-te**	**79.61**	**319**	*eP*	**P**	**22 56 26.9**	**+1.2**
HHC				pP	pP	22 57 20.7	+2.1
HHC				sP	sP	22 57 44.1	+2.2
HHC				PP	PP	22 59 32.7	+2.7
HHC				S	S	23 06 09.6	+0.5
HHC				SKS		23 06 17.4	
HHC				sS	sS	23 07 43.6	+2.1
HHC				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.6						
HHC				pmax	pmax		
	comp=Z,100nm,6.4s						
HHC				LR	LR		
	comp=N,110nm,15.3s						
HHC				LR	LR		
	comp=E,130nm,16.3s						
HHC				LR	LR		
	comp=Z,80nm,15.3s						
CD2	**Chengdu**	**79.69**	**308**	P	**P**	**22 56 28.2**	**+1.8**
CD2				pP	pP	22 57 22.0	+2.8
CD2				sP	sP	22 57 45.4	+2.9
CD2				PP	PP	22 59 34.2	+3.3
CD2				S	S	23 06 11.4	+1.1
CD2				SKS		23 06 19.0	
CD2				sS	sS	23 07 45.2	+2.4
CD2				SS	SS	23 11 29.8	+5.2
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.7						
CD2				pmax	pmax		
	comp=Z,110nm,5.1s						
OHAK	**Old Harbor**	**81.85**	**20**	*eP*	**P**	**22 56 37.1**	**-0.1**
	comp=Z,81nm,1.4s,mb5.2						
LZH	**Lanzhou**	**82.16**	**312**	*eP*	**P**	**22 56 40.0**	**+0.7**
LZH				pP	pP	22 57 35.5	+3.1
LZH				sP	sP	22 57 55.0	-0.7
LZH				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.5						
SEY	**Seymchan**	**82.33**	**352**	*eP*	**P**	**22 56 38.9**	**-0.6**
KDAK	**Kodiak Island**	**82.53**	**20**	P	**P**	**22 56 40.9**	**+0.2**
	comp=Z,15nm,0.9s,mb4.7,baz=46,slow=2.8,SNR=11						
KDAK	**Kodiak Island**	**82.53**	**20**	*eP*	**P**	**22 56 40.7**	**0.0**
	comp=Z,35nm,1.0s,mb5.0						
KDAK	**Kodiak Island**	**82.53**	**20**	*eP*	**P**	**22 56 40.7**	**0.0**
KDAK				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.0						
KDAK	**Kodiak Island**	**82.53**	**20**	P	**P**	**22 56 40.9**	**+0.2**
	comp=Z,254nm,1.4s,mb5.8,SNR=5.3						
SLKM	**Skilak Lake**	**85.44**	**19**	*eP*	**P**	**22 56 54.1**	**-1.2**
SLKM	**Skilak Lake**	**85.44**	**19**	*eP*	**P**	**22 56 54.1**	**-1.2**
SYO	**Syowa Base**	**85.46**	**196**	↓*eP*	**P**	**22 56 55.2**	**-0.3**
PKM	**Peak Mountain**	**85.94**	**51**	↓P	**P**	**22 56 58.7**	**+0.3**
	baz=86						
YAK	**Yakutsk**	**86.22**	**343**	*eP*	**P**	**22 56 59.0**	**-0.1**
YAK	**Yakutsk**	**86.22**	**343**	*eP*	**P**	**22 56 57.1**	**-2.0**
YAK				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.0						
ULN	**Ulaanbaatar**	**86.24**	**323**	*eP*	**P**	**22 56 59.7**	**+0.1**
	comp=Z,9.4nm,0.9s,mb4.5						
ULN				*e*pP	pP	22 57 54.9	+1.7
ULN	**Ulaanbaatar**	**86.24**	**323**	*eP*	**P**	**22 56 59.7**	**+0.2**
ULN				*e*PP	pP	22 57 54.9	+1.7
ULN				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.5						
ULN	**Ulaanbaatar**	**86.24**	**323**	P	**P**	**22 56 59.8**	**+0.3**
	comp=Z,11nm,1.0s,mb4.5						
BILL	**Bilibino**	**86.44**	**359**	*eP*	**P**	**22 56 58.8**	**-1.2**
	comp=Z,42nm,1.1s,mb5.1						
BILL	**Bilibino**	**86.44**	**359**	*c iP*	**P**	**22 56 59.5**	**-0.5**
BILL				pmax	pmax		
	comp=Z,37nm,1.2s,mb5.0						
GTA	**Gaotai**	**86.55**	**313**	*eP*	**P**	**22 57 02.4**	**+1.2**
GTA				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
SONM	**Songino Array**	**86.60**	**323**	P	**P**	**22 57 01.6**	**+0.3**
	comp=Z,5.6nm,0.8s,mb4.3,baz=137,slow=5.4,SNR=40						
SONM				pP	pP	22 57 53.8	-1.2
	comp=Z,1.6nm,1.0s,baz=113,slow=3.7,SNR=2.5						
SONM	**Songino Array**	**86.60**	**323**	P	**P**	**22 57 01.6**	**+0.3**
SONM				pP	pP	22 57 53.8	-1.2
SONM	**Songino Array**	**86.60**	**323**	P	**P**	**22 57 01.6**	**+0.3**
SONM				*PP	pP	22 57 53.8	-1.2
ISA	**Isabella**	**87.26**	**51**	↓P	**P**	**22 57 04.5**	**-0.2**
	baz=87,SNR=14						
ISA	**Isabella**	**87.26**	**51**	*eP*	**P**	**22 57 04.6**	**-0.2**
	comp=Z,16nm,0.9s,mb4.8						
ISA				*e*pP	pP	22 57 57.8	-0.8
ISA	**Isabella**	**87.26**	**51**	*eP*	**P**	**22 57 04.6**	**-0.2**
ISA				*e*PP	pP	22 57 57.8	-0.8
ISA				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
BFSC	**Mount Baldy Ra**	**87.28**	**53**	↑P	**P**	**22 57 04.9**	**+0.1**
	baz=87						
EDW2	**Edwards Air Fo**	**87.29**	**52**	↑P	**P**	**22 57 04.6**	**-0.3**
	baz=87,SNR=6.7						
MURC	**Murrieta**	**87.36**	**53**	↓P	**P**	**22 57 05.4**	**+0.2**
	baz=87						
LBCM	**Butte Creek Ri**	**87.50**	**45**	P	**P**	**22 57 05.9**	**+0.1**
MONP	**

I07A	Izee	90.18	43	⇓P		P	22 57 18.6	+0.4		
	baz=90									
114A	Black Gap (USA	90.36	56	⇑P		P	22 57 19.8	+0.4		
	baz=90									
VNA3	Neumayer Olymp	90.36	180	*e*		P	22 57 14.8	-3.9		
VNA3				*e*		pP	22 58 07.2	-5.5		
VNA3				*e*			22 58 16.4			
R11A	Troy Canyon, C	90.47	50	⇑P		P	22 57 19.8	+0.1		
	baz=91									
J08A	Circle Bar Ran	90.54	44	⇓P		P	22 57 20.1	+0.2		
	baz=91									
Z14A	Wintersburg	90.54	55	⇑P		P	22 57 20.2	0.0		
	baz=91,SNR=6.4									
VNA2	Neumayer--Watz	90.65	181	*e*		P	22 57 16.5	-3.6		
	baz=194,slow=3.5									
VNA2				*e*		pP	22 58 08.3	-5.8		
VNA2				*e*			22 58 17.9			
F07A	Phinny Hill Vi	90.70	41	⇓P		P	22 57 21.1	+0.5		
	baz=91									
Y14A	Wickenburg	90.70	54	⇑P		P	22 57 20.8	-0.2		
	baz=91									
EBG	Ellensburg	90.76	40	P		P	22 57 21.1	+0.2		
A05A	Maple Falls	90.81	38	⇓P		P	22 57 21.2	+0.2		
	baz=91									
115A	Sonoran Desert	90.85	56	⇓P		P	22 57 22.0	+0.4		
	baz=91									
U13A	Pakoon Wash	90.91	52	⇑P		P	22 57 22.1	+0.3		
	baz=91,SNR=12									
VNA1	Neumayer--Stat	90.94	181	*e*		P	22 57 17.9	-3.5		
E07A	Sunnyside	91.04	41	⇑P		P	22 57 22.5	+0.3		
	baz=91,SNR=9.3									
G08A	Pilot Rock	91.05	42	⇓P		P	22 57 22.2	0.0		
	baz=91,SNR=35									
116A	Eloy	91.21	56	⇓P		P	22 57 23.7	+0.4		
	baz=91									
Y15A	Casa Rosa Ranc	91.23	55	⇓P		P	22 57 23.5	+0.1		
	baz=91,SNR=26									
V14A	Boquillas Ranc	91.26	53	⇑P		P	22 57 24.1	+0.6		
	baz=91,SNR=14									
U14A	Mt Trumbull	91.50	52	⇑P		P	22 57 25.1	+0.5		
	baz=92,SNR=15									
E08A	Dider Farm, El	91.51	41	⇓P		P	22 57 24.5	+0.1		
	baz=92,SNR=6.6									
R13A	O'Grain Ranch,	91.58	50	⇑P		P	22 57 25.4	+0.5		
	baz=92,SNR=5.6									
217A	Green Valley	91.64	57	⇓P		P	22 57 25.8	+0.5		
	baz=92,SNR=8.5									
Z16A	Peralta Trail,	91.71	55	⇑P		P	22 57 26.0	+0.4		
	baz=92									
W15A	Williams	91.73	53	⇑P		P	22 57 26.3	+0.7		
	baz=92,SNR=6.5									
D08A	Wollman Farm,	91.84	41	⇓P		P	22 57 26.1	+0.2		
	baz=92									
TUC	Tucson	91.85	57	*e*P		P	22 57 26.6	+0.4		
	comp=Z,16nm,1.2s,mb4.8									
TUC	Tucson	91.85	57	*e*P		P	22 57 26.7	+0.4		
TUC					pmax	pmax				
	comp=Z,16nm,1.2s,mb4.8									
Y16A	Circle Bar Ran	91.86	55	⇓P		P	22 57 26.9	+0.6		
	baz=92,SNR=13									
V15A	Kaibab Nationa	92.03	53	⇓P		P	22 57 27.6	+0.5		
	baz=92,SNR=8.1									
E09A	Wood Farm, Sta	92.09	41	⇓P		P	22 57 27.6	+0.6		
	baz=92									
X16A	Lo Mia Camp, P	92.09	54	⇓P		P	22 57 27.9	+0.6		
	baz=92,SNR=14									
B08A	Colville Reser	92.15	39	⇑P		P	22 57 26.9	-0.4		
	baz=92									
U15A	North Rim	92.17	52	⇑P		P	22 57 28.4	+0.7		
	baz=92,SNR=21									
318A	Bisbee	92.18	58	⇓P		P	22 57 27.8	0.0		
	baz=92,SNR=7.2									
W16A	Flagstaff	92.26	54	⇓P		P	22 57 28.8	+0.7		
	baz=92,SNR=7.3									
Y17A	Roosevelt	92.29	55	⇑P		P	22 57 28.3	0.0		
	baz=92,SNR=6.6									
T15A	Red Dirt Ranch	92.31	52	⇓P		P	22 57 28.6	+0.3		
	baz=92,SNR=6.7									
218A	Dragoon	92.32	57	⇑P		P	22 57 28.8	+0.4		
	baz=92,SNR=6.3									
MFID	Camas Ranch	92.32	45	⇓P		P	22 57 28.2	0.0		
	baz=92,SNR=6.4									
Q14A	Sevier Lake (B	92.39	50	⇑P		P	22 57 28.8	+0.2		
	baz=92,SNR=12									
F10A	Beach Ranch, E	92.44	42	⇓P		P	22 57 28.0	-0.6		
	baz=92,SNR=6.6									
WUAZ	Wupatki	92.53	53	⇓P		P	22 57 29.7	+0.4		
	baz=93,SNR=8.6									
X17A	Forest Lakes	92.55	55	⇑P		P	22 57 30.0	+0.6		
	baz=93,SNR=9.9									
118A	Homack Ranch,	92.61	57	⇓P		P	22 57 30.4	+0.6		
	baz=93,SNR=9.2									
319A	Douglas	92.72	58	⇓P		P	22 57 31.1	+0.7		
	baz=93,SNR=9.1									
P14A	Drum Mountains	92.76	49	⇑P		P	22 57 30.2	-0.1		
	baz=93									
I12A	Atlanta	92.93	45	⇑P		P	22 57 30.9	-0.1		
	baz=93,SNR=5.0									
U16A	Tuba City	92.94	53	⇓P		P	22 57 31.6	+0.3		
	baz=93,SNR=5.8									
Y18A	Canyon Day Jun	92.95	55	⇑P		P	22 57 31.2	-0.1		
	baz=93									
219A	White Tail Can	92.95	57	⇑P		P	22 57 31.7	+0.3		
	baz=93,SNR=14									
T16A	Glen Canyon Da	92.96	52	⇑P		P	22 57 32.0	+0.7		
	baz=93									
V17A	Tonalea, Kykot	93.01	54	⇓P		P	22 57 32.4	+0.9		
	baz=93									
Q15A	Fillmore	93.04	50	⇓P		P	22 57 31.7	+0.1		
	baz=93									
S16A	Weppner Ranch,	93.15	51	⇓P		P	22 57 32.2	0.0		
	baz=93									
DUG	Dugway	93.17	49	⇓P		P	22 57 32.8	+0.6		
	baz=93									
119A	Ashpeak Ranch,	93.18	57	⇑P		P	22 57 32.9	+0.4		
	baz=93,SNR=5.3									
X18A	Snowflake	93.28	55	⇓P		P	22 57 33.2	+0.4		
	baz=93									
HLID	Hailey	93.32	45	⇑P		P	22 57 32.6	-0.1		
	baz=93,SNR=8.3									
H12A	Diamond D Ranc	93.41	44	⇑P		P	22 57 32.9	-0.3		
	baz=94,SNR=13									
J13A	Cove Ranch, Pi	93.42	45	⇑P		P	22 57 33.6	+0.4		
	baz=94,SNR=5.4									
R16A	Teasdale	93.44	51	⇓P		P	22 57 34.4	+0.9		
	baz=94,SNR=6.6									
NEW	Newport	93.45	40	⇓P		P	22 57 33.4	+0.2		
	baz=94									
T17A	Navajo Res., N	93.49	52	⇑P		P	22 57 34.1	+0.4		
	baz=94,SNR=14									
220A	Playas Peak, P	93.51	58	⇑P		P	22 57 33.8	-0.2		
	baz=94,SNR=5.5									
L14A	Malta	93.55	47	⇑P		P	22 57 33.7	-0.2		
	baz=94									
F12A	Elk City	93.62	43	⇓P		P	22 57 33.5	-0.6		
	baz=94,SNR=5.8									
N15A	Stansbury Isla	93.63	48	⇑P		P	22 57 34.3	0.0		
	baz=94									
120A	U Bar Ranch, L	93.64	57	⇑P		P	22 57 34.9	+0.4		
	baz=94,SNR=5.3									
I13A	Wildhorse Cree	93.66	45	⇓P		P	22 57 34.4	+0.1		
	baz=94,SNR=11									
S17A	Black Ridge (B	93.71	52	⇑P		P	22 57 34.5	-0.3		
	baz=94									
K14A	Jones Ranch, D	93.78	46	⇓P		P	22 57 35.0	+0.1		
	baz=94									
H13A	Challis	93.81	44	⇓P		P	22 57 34.9	-0.1		
	baz=94,SNR=5.9									
Z20A	Nine Sixteen R	93.86	56	⇑P		P	22 57 35.7	+0.2		
	baz=94									
M15A	Larsen Ranch,	93.89	48	⇓P		P	22 57 35.0	-0.5		
	baz=94									
G13A	Cobalt	94.03	44	⇑P		P	22 57 35.8	-0.2		
	baz=94									
I14A	Mackay	94.11	45	⇑P		P	22 57 36.5	+0.1		
	baz=94									
O16A	Springville	94.11	49	⇓P		P	22 57 36.4	0.0		
	baz=94									
F13A	Darby	94.23	43	⇓P		P	22 57 35.7	-1.2		
	baz=94,SNR=5.4									
Y20A	Horse Springs,	94.30	56	⇑P		P	22 57 37.6	+0.1		
	baz=94									
121A	Cookes Peak, D	94.31	57	⇑P		P	22 57 37.7	+0.1		
	baz=94									
S18A	Hurst Farm, Bl	94.33	52	⇓P		P	22 57 37.7	+0.1		
	baz=94									
X20A	Quemado	94.41	55	⇓P		P	22 57 38.0	0.0		
	baz=94									
SRU	San Rafael	94.43	50	⇓P		P	22 57 38.0	0.0		
	baz=94									
J15A	Blackfoot	94.60	46	⇑P		P	22 57 38.9	+0.3		
	baz=95,SNR=5.1									
R18A	Canyonlands Na	94.64	51	⇓P		P	22 57 38.8	-0.1		
	baz=95									
O17A	Robinson Place	94.65	49	⇓P		P	22 57 39.0	+0.1		
	baz=95									
Q18A	Rafter H Ranch	94.71	50	⇓P		P	22 57 39.2	-0.1		
	baz=95									
Y21A	Point of Rocks	94.88	56	⇑P		P	22 57 40.0	-0.2		
	baz=95									
H15A	Lima	94.90	45	⇑P		P	22 57 39.7	-0.2		
	baz=95,SNR=6.1									
PV10	Paradox Valley	95.27	51	*e*P		P	22 57 42.1	+0.2		
MVCO	Mesa Verde	95.29	53	⇓P		P	22 57 41.9	-0.1		
	baz=95									
M18A	Lyman	95.55	48	⇓P		P	22 57 43.1	+0.1		
	baz=96									
S20A	Disappointment	95.60	52	⇑P		P	22 57 43.6	+0.3		
	baz=96									
U21A	Nageezi	95.67	54	⇓P		P	22 57 44.0	+0.2		
	baz=96									
324A	Moseley Ranch,	95.81	59	⇓P		P	22 57 44.0	-0.5		
	baz=96									
H16A	Russell Place,	95.86	45	⇓P		P	22 57 44.8	+0.4		
	baz=96									
425A	Indio Mountain	96.02	60	⇓P		P	22 57 45.5	+0.1		
	baz=96,SNR=6.9									
INK	Inuvik	96.03	18	P		P	22 57 42.7	-1.9		
	comp=Z,6.2nm,0.9s,mb4.8,baz=229,slow=5.3,SNR=11									
INK	Inuvik	96.03	18	*e*P		P	22 57 42.8	-1.8		
INK	Inuvik	96.03	18	*e*P		P	22 57 42.8	-1.8		
C15A	Salmond Ranch,	96.06	42	⇑P		P	22 57 45.2	0.0		
	baz=96									
Y23A	Lovelace Mesa,	96.13	56	⇓P		P	22 57 45.2	-0.6		
	baz=96									
J18A	Kendall Valley	96.19	47	⇓P		P	22 57 45.7	-0.2		
	baz=96									
325A	Bean Ranch, Si	96.21	59	⇓P		P	22 57 45.9	-0.3		
	baz=96,SNR=5.5									
124A	Stringfield Ra	96.23	58	⇑P		P	22 57 45.9	-0.5		
	baz=96									
L19A	Farson	96.28	48	⇓P		P	22 57 46.4	0.0		
	baz=96									
B15A	Bradely Ranch,	96.28	41	⇑P		P	22 57 45.7	-0.5		
	baz=96									
626A	Big Bend Ranch	96.34	61	⇑P		P	22 57 46.8	-0.1		
	baz=96,SNR=5.6									
PDAR	Pinedale Array	96.36	47	P		P	22 57 45.7	-1.0		
	comp=Z,1.1nm,0.7s,mb4.2,baz=238,slow=5.2,SNR=7.1									
PDAR	Pinedale Array	96.36	47	P		P	22 57 45.7	-1.0		
R21A	Cimarron	96.38	52	⇓P		P	22 57 47.1	+0.3		
	baz=96									
D16A	Dana Ranch, Ca	96.47	43	⇑P		P	22 57 47.5	+0.5		
	baz=97									
C16A	Fuhringer Ranc	96.61	42	⇑P		P	22 57 47.8	+0.1		
	baz=97									
Y24A	Capitan	96.62	57	⇓P		P	22 57 47.8	-0.3		
	baz=97									
WMQ	Urumqi	96.62	314	P		P	22 57 48.5	+0.7		
N20A	Spence Gulch,	96.64	49	⇑P		P	22 57 48.5	+0.5		
	baz=97									
F17A	Fitzpatrick Pl	96.66	44	⇑P		P	22 57 48.2	+0.3		
	baz=97									
TXAR	Lajitas Array	96.67	61	P		P	22 57 48.2	-0.1		
	comp=Z,3.9nm,0.9s,mb4.7,baz=234,slow=5.4,SNR=31									
TXAR	Lajitas Array	96.67	61	P		P	22 57 48.2	-0.1		
TXAR	Lajitas Array	96.67	61	P		P	22 57 48.3	-0.1		
S22A	4UR Ranch, Cre	96.72	53	⇑P		P	22 57 48.9	+0.5		
	baz=97									
426A	McDonald Obser	96.77	60	⇑P		P	22 57 48.6	-0.2		
	baz=97,SNR=6.1									
B16A	M & M Farms, S	96.85	41	⇓P		P	22 57 48.5	-0.3		
	baz=97									
K19A	Abolon Red Bu	96.87	47	⇓P		P	22 57 48.3	-0.7		
	baz=97									
627A	Terlingua Ranc	96.93	61	⇑P		P	22 57 49.8	+0.2		
	baz=97,SNR=7.1									
527A	Woodward Ranch	96.95	61	⇓P		P	22 57 49.3	-0.3		
	baz=97									
Z25A	Roswell	96.99	57	⇓P		P	22 57 49.8	0.0		
	baz=97									
D17A	Six Diamond Ra	97.07	43	⇓P		P	22 57 49.4	-0.3		
	baz=97									
I19A	Meteetse	97.16	46	⇓P		P	22 57 50.6	+0.3		
	baz=97									
C17A	Wharram Farm,	97.18	42	⇓P		P	22 57 50.3	+0.1		
	baz=97									
Y25A	Mesa, Roswell	97.20	57	⇓P		P	22 57 50.1	-0.6		
	baz=97									
F18A	Big Timber	97.28	44	⇑P		P	22 57 51.0	+0.2		
	baz=97									
427A	Hayter Ranch,	97.33	60	⇓P		P	22 57 51.0	-0.3		
	baz=97									
628A	Black Gap, Mar	97.36	61	⇓P		P	22 57 51.0	-0.5		
	baz=97									
B17A	L&G Farms, Che	97.38	42	⇓P		P	22 57 50.9	-0.2		
	baz=98									
Z26A	Caprock	97.58	58	⇓P		P	22 57 52.2	-0.3		
	baz=98									
528A	Cox Ranch, San	97.64	61	⇑Pdiff		P	22 57 52.1	-0.6		
	baz=98									
D18A	Linhart Farms,	97.65	43	⇑Pdiff		P	22 57 52.4	0.0		
	baz=98									
A17A	Triple J Farms	97.66	41	⇓Pdiff		P	22 57 52.9	+0.6		
	baz=98									
O22A	Kremmling	97.68	50	⇑Pdiff		P	22 57 52.7	0.0		
	baz=98									
SDCO	Great Sand Dun	97.72	53	⇑Pdiff		P	22 57 53.6	+0.6		
	baz=98									
F19A	Roth Farm, Mol	97.78	44	⇓Pdiff		P	22 57 53.2	+0.2		
	baz=98									
EGMT	Eagleton	97.95	42	⇑Pdiff		P	22 57 53.3	-0.3		
	baz=98									
B18A	Beardsley Farm	98.05	42	⇓Pdiff		P	22 57 53.6	-0.6		
	baz=98									
D19A	Cripps Ranch,	98.24	43	⇑Pdiff		P	22 57 55.1	+0.1		
	baz=98									
C19A	Slack Wire Ran	98.31	42	⇓Pdiff		P	22 57 55.8	+0.5		
	baz=98									
L22A	Ranch, M	98.32	49	⇓Pdiff		P	22 57 55.6	0.0		
	baz=98									
S25A	Robets Cordova	98.51	53	⇑Pdiff		P	22 57 55.9	-0.5		
	baz=99									
YKA	Yellowknife Ar	100.22	27	P		Pdif	22 58 03.6	-0.3		
	comp=Z,3.6nm,0.6s,baz=256,slow=4.7,SNR=14									
YKA	Yellowknife Ar	100.22	27	P		Pdif	22 58 03.6	-0.3		
YKA	Yellowknife Ar	100.22	27	P		Pdif	22 58 03.6	-0.3		
MKAR	Makanchi Array	101.15	316	P		Pdif	22 58 08.3	+0.3		
	comp=Z,0.8nm,0.8s,baz=93,slow=7.1,SNR=11									
MKAR	Makanchi Array	101.15	316	P		Pdif	22 58 08.3	+0.3		
MKAR	Makanchi Array	101.15	316	P		Pdif	22 58 08.3	+0.3		
BVAR	Borovoye Array	109.81	321	PKiKP		PKiKP	23 02 45.5	-2.0		
	comp=Z,0.4nm,0.4s,baz=141,slow=1.8,SNR=6.7									
BVAR	Borovoye Array	109.81	321	PKPdf		PKiKP	23 02 45.5	-2.0		
SPITS	Spitsbergen Ar	118.97	354	PKP		PKPdf	23 03 02.5	-1.9		
	comp=Z,15nm,1.0s,baz=90,slow=2.5,SNR=7.6									
SPITS	Spitsbergen Ar	118.97	354	PKP		PKPdf	23 03 02.5	-1.9		
SPITS	Spitsbergen Ar	118.97	354	PKIKP		PKPdf	23 03 02.5	-1.9		
ARCES	ARCESS Array B	124.42	345	PKP		PKPdf	23 03 13.7	-1.3		
	comp=Z,2.3nm,0.3s,baz=74,slow=2.2,SNR=69									
ARCES	ARCESS Array B	124.42	345	PKP		PKPdf	23 03 13.7	-1.3		
ARCES	ARCESS Array B	124.42	345	PKIKP		PKPdf	23 03 13.7	-1.3		
FINES	FINESS Array B	129.94	338	PKP		PKPdf	23 03 25.1	-0.7		
	comp=Z,1.4nm,0.7s,baz=29,slow=3.2,SNR=4.8									
FINES					SKPbc	SKPbc	23 06 27.3	-0.1		
	comp=Z,7.2nm,0.7s,baz=62,slow=3.9,SNR=24									
FINES	FINESS Array B	129.94	338	PKP		PKPdf	23 03 25.1	-0.7		
FINES					SKPbc	SKPbc	23 06 27.3	-0.1		
FINES	FINESS Array B	129.94	338	PKIKP		PKPdf	23 03 25.1	-0.7		
NOA	NORSAR Array B	134.80	345	PKP		PKPdf	23 03 34.9	0.0		
	comp=Z,0.9nm,0.8s,baz=30,slow=2.1,SNR=3.6									
NOA	NORSAR Array B	134.80	345	PKP		PKPdf	23 03 34.9	0.0		
NOA	NORSAR Array B	134.80	345	PKIKP		PKPdf	23 03 34.9	0.0		
AKASG	Malin Array Be	134.87	325	SKPbc		SKPbc	23 06 45.3	+0.4		
	comp=Z,4.5nm,0.8s,baz=48,slow=3.9,SNR=14									
BRTR	Keskin Array B	136.26	308	SKPbc		SKPbc	23 06 47.0	-2.7		
	comp=Z,0.6nm,0.7s,baz=107,slow=1.5,SNR=4.3									
MLR	Muntele Rosu	139.36	320	PKP		PKPdf	23 03 43.8	-0.1		
	comp=Z,0.2nm,0.5s,baz=180,slow=1.0,SNR=3.1									
MLR	Muntele Rosu	139.36	320	PKP		PKPdf	23 03 43.8	-0.1		
MLR	Muntele Rosu	139.36	320	PKIKP		PKPdf	23 03 43.8	-0.1		
CRVS	Cervenica-Dubn	140.04	327	*e*PKIKP		PKPdf	23 03 49.7	+4.7		
CRVS	Cervenica-Dubn	140.04	327	*e*PKP		PKPdf	23 03 49.7	+4.7		
DPC	Dobruska-Polom	141.58	332	*e*PKIKP		PKPdf	23 03 43.0	-4.7		
DPC	Dobruska-Polom	141.58	332	*e*PKP		PKPdf	23 03 43.0	-4.7		
VYHS	Vyhne	141.65	328	*e*PKIKP		PKPdf	23 03 53.7	+5.8		
VYHS	Vyhne	141.65	328	*e*PKP		PKPdf	23 03 53.7	+5.8		
VYHS				*e*SKP			23 07 09.0			
EKA	Eskdalemuir Ar	142.87	353	PKhKP		PKPpre	23 03 45.8			
	comp=Z,0.8nm,0.4s,baz=358,slow=3.0,SNR=7.9									
EKA				PKP		PKPdf	23 03 48.7	-1.1		
	comp=Z,0.5nm,0.3s,baz=347,slow=2.3,SNR=5.1									
EKA	Eskdalemuir Ar	142.87	353	PKP		PKPdf	23 03 45.8	-4.0		
EKA				PKP		PKPdf	23 03 48.7	-1.1		
EKA	Eskdalemuir Ar	142.87	353	PKIKP		PKPdf	23 03 45.8	-4.1		
NKC	Novy Kostel	143.33	335	*e*PKIKP		PKPdf	23 03 48.1	-2.7		
NKC	Novy Kostel	143.33	335	*e*PKP		PKPdf	23 03 48.1	-2.7		
CONA	Conrad Observa	143.51	329	⇑*i*PKPdf		PKPdf	23 03 49.6	-1.6		
	comp=Z,15nm,1.2s									
KHC	Kasperske Hory	143.69	333	*e*PKIKP		PKPdf	23 03 49.3	-2.2		
KHC				*e*			23 07 10.0			
KHC	Kasperske Hory	143.69	333	*e*PKP		PKPdf	23 03 49.3	-2.2		
KHC				*ex*		x	23 03 59.4			
KHC				*e*PP		PP	23 07 10.0	+4.0		
GERES	GERESS Array B	143.85	332	PKP		PKPdf	23 03 49.6	-2.2		
	comp=Z,1.8nm,0.5s,baz=57,slow=3.6,SNR=25									
GERES					SKPbc	SKPbc	23 07 08.6	-1.0		
	comp=Z,2.4nm,0.8s,baz=64,slow=2.3,SNR=9.4									
GERES	GERESS Array B	143.85	332	PKP		PKPdf	23 03 49.6	-2.2		
GERES					SKPbc	SKPbc	23 07 08.6	-1.0		
GERES	GERESS Array B	143.85	332	PKIKP		PKPdf	23 03 49.6	-2.2		
GERES							23 07 08.6			
GRFO	Grafenberg	144.25	335	*e*PKPdf		PKPdf	23 03 51.3	-1.1		
GRFO	Grafenberg	144.25	335	*e*PKIKP		PKPdf	23 03 51.3	-1.1		
MOA	Molln	144.32	330	⇑*i*PKPdf		PKPdf	23 03 51.3	-1.3		
	comp=Z,16nm,0.7s,SNR=7.5									
PERS	Pernice	144.77	328	*i* PKPbc		PKPdf	23 03 52.8	-0.7		
PERS				*i*			23 04 50.0			
SOKA	Soboth	144.78	328	⇓*i*PKPdf		PKPdf	23 03 52.5	-1.0		
	comp=Z,13nm,0.5s									
HGN	Heimansgroeve	145.22	341	*e*PKP		PKPdf	23 03 53.6	-0.5		
	comp=Z,25nm,1.7s									
TOD	Tromm	145.24	337	PKP		PKPdf	23 03 54.0	-0.2		
TOD	Tromm	145.24	337	PKP2		PKPab	23 03 54.0	-0.7		
KBA	Koelnbreinsper	145.31	330	⇑*i*PKPab		PKPab	23 03 53.9	-1.1		
	comp=Z,13nm,0.8s									
ABH	Alteburg	145.46	339	PKP		PKPdf	23 03 54.7	+0.2		
BOJS	Bojanci	145.47	327	*i* PKPdf		PKPdf	23 03 48.0	-6.6		
BOJS				*i* PKPab		PKPab	23 04 03.8	+8.2		
BOJS				*i*			23 04 52.0			
BOJS				*i*			23 07 13.5			
LJU	Ljubljana	145.47	328	*i* PKPbc		PKPbc	23 03 55.5	+0.3		
LJU				*i*			23 04 49.1			
LJU				*i*			23 07 13.5			
MYKA	Terra Mystica	145.49	330	⇑*i*PKPbc		PKPbc	23 03 54.3	-1.0		
	comp=Z,6.6nm,0.5s									
STON	Ston	145.76	321	P		PKPdf	23 03 54.4	-0.9		
RUP	Ruppelstein	145.78	339	PKP		PKPdf	23 03 55.7	+0.6		
RUP	Ruppelstein	145.78	339	PKP2		PKPab	23 03 55.7	-1.0		
VOY	Vojsko	145.80	329	*e*PKPbc		PKPbc	23 03 55.2	-1.0		
JAVS	Javornik	145.81	328	*i* PKPbc		PKPbc	23 03 55.5	-0.7		
JAVS				*i*			23 04 49.9			
ABTA	Abfaltersbach	145.94	331	⇑*i*PKPbc		PKPbc	23 03 55.5	-1.1		
	comp=Z,7.9nm,0.7s									
WLF	Walferdange	146.11	340	*e*PKPab		PKPab	23 03 58.2	+0.3		
WLF	Walferdange	146.11	340	*e*PKP2		PKPab	23 03 58.2	+0.2		
LANF	Langenberg	146.12	338	PKP		PKPdf	23

QUIF	Quistinic	150.09	349	*e*PKP	PKPbc	23 04 06.3	-1.1
QUIF	Quistinic	150.09	349	*e*PKIKP	PKPbc	23 04 06.3	-1.1
ORIF	Oris-en-Rattie	150.24	335	*e*PKP1	PKPbc	23 04 07.6	-0.3
	comp=Z,6.2nm,0.4s						
TCF	Toulx Ste Croi	150.34	341	*e*PKP1	PKPbc	23 04 07.5	-0.6
	comp=Z,9.5nm,0.7s						
TCF	Toulx Ste Croi	150.34	341	*e*PKP	PKPbc	23 04 07.5	-0.6
TCF	Toulx Ste Croi	150.34	341	*e*PKIKP	PKPbc	23 04 07.5	-0.6
SBF	Sospel	150.45	332	*e*PKP1	PKPbc	23 04 07.5	-0.9
SBF	Sospel	150.45	332	*e*PKP	PKPbc	23 04 07.5	-0.9
SBF	Sospel	150.45	332	*e*PKIKP	PKPbc	23 04 07.5	-0.9
MFF	Saint Martin d	150.70	345	*e*PKP1	PKPbc	23 04 08.2	-0.7
	comp=Z,6.9nm,0.5s						
PGF	Pioggiola	150.74	329	*e*PKP1	PKPbc	23 04 08.6	-0.5
	comp=Z,22nm,0.6s						
VIVF	Saint-Julien-l	150.76	337	*e*PKP1	PKPbc	23 04 08.6	-0.5
	comp=Z,6.4nm,0.6s						
FRF	La Foret Royal	151.04	333	*e*PKP1	PKPbc	23 04 08.9	-0.9
	comp=Z,6.2nm,0.4s						
SMRF	Simiane la Rot	151.15	335	*e*PKP1	PKPbc	23 04 09.8	-0.2
	comp=Z,12nm,0.8s						
LMR	La Mourre	151.28	333	*e*PKP1	PKPbc	23 04 09.6	-0.8
RJF	Les Rejaudoux	151.43	341	*e*PKP1	PKPbc	23 04 10.0	-0.7
	comp=Z,3.6nm,0.5s						
CAF	Calviac	151.60	340	*e*PKP1	PKPbc	23 04 10.5	-0.6
	comp=Z,2.1nm,0.4s						
LASF	Ste Croix	151.73	337	*e*PKP1	PKPbc	23 04 11.0	-0.4
	comp=Z,1.8nm,0.4s						
LFF	La Frestale	151.99	342	*e*PKP1	PKPbc	23 04 11.3	-0.6
MTLF	Montolieu	152.95	338	*e*PKP1	PKPbc	23 04 12.9	-1.2
	comp=Z,1.4nm,0.5s						
ESDC	Sonseca Array	158.16	345	PKPab	PKPab	23 04 48.1	-0.5
	comp=Z,0.3nm,0.3s,baz=10,slow=4.4,SNR=6.3						
EVO	Evora	160.00	353	*e*PKIKP	PKPdf	23 04 16.9	+1.0
	comp=Z,34nm,1.5s						
EVOP	Sao Brissos	160.01	353	*e*PKPdf	PKPdf	23 04 16.9	+1.0
EVOP	Sao Brissos	160.01	353	*e*PKIKP	PKPdf	23 04 16.9	+1.0
TORD	Torodi Ar. Bea	166.64	248	PKP	PKPdf	23 04 21.9	-1.0
	comp=Z,1.4nm,0.9s,baz=47,slow=1.6,SNR=7.3						
TORD				PKPab	PKPab	23 05 25.7	-0.9
	comp=Z,2.6nm,1.0s,baz=104,slow=4.7,SNR=9.9						
TORD				pPKPab	pPKPab	23 06 23.6	+2.6
	comp=Z,2.3nm,1.0s,baz=104,slow=4.3,SNR=4.5						
TORD	Torodi Ar. Bea	166.64	248	PKP	PKPdf	23 04 21.9	-1.0
TORD				PKPab	PKPab	23 05 25.7	-0.9
TORD				pPKPab	pPKPab	23 06 23.6	+2.6
DBIC	Dimbokro	166.70	207	PKPab	PKPab	23 05 25.6	-1.1
	comp=Z,6.4nm,0.8s,baz=138,slow=5.8,SNR=9.1						
DBIC				pPKPab	pPKPab	23 06 25.0	+4.0
	comp=Z,3.2nm,0.9s,baz=146,slow=3.6,SNR=2.7						
DBIC	Dimbokro	166.70	207	*e*PKPab	PKPab	23 05 26.5	-0.1
DBIC	Dimbokro	166.70	207	*e*PKP2	PKPab	23 05 26.5	-0.1

DDA **06** *22:47:50.5, 34.˚50N×27.˚30E, h11km, Md3.8*
ISCJB **06** *22:47:56.1±0.3, 35.˚02N±0.˚03×27.˚46E±0.˚02, h10km, mb3.9/17, Error ellipse: s-maj=4.3km s-min=2.4km az=4.1*
ISK **06** *22:47:57.6, 35.˚23N×27.˚52E, h5km, MD4.1*
IDC **06** *22:47:57.5±1.3, 35.˚39N×27.˚03E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.8/25, mbtmp3.8/9, ML3.6/1, Error ellipse: s-maj=29.8km s-min=19.8km az=152.0*
NEIC **06** *22:47:58.8, 35.˚14N×27.˚35E, h22km, mb4.0/15, ML3.5(ATH), After ATH.*
CSEM **06** *22:47:58.1±0.3, 35.˚11N×27.˚45E, h10km, mb4.2/5, Error ellipse: s-maj=4.6km s-min=4.6km az=173.0*
ATH **06** *22:47:58.8, 35.˚14N×27.˚35E, h22km±1km, ML3.5*
THE **06** *22:48:00.5, 35.˚25N×27.˚43E, h2km±2km, ML3.4/2, Error ellipse: s-maj=2.7km s-min=1.3km az=128.0*

ISC 06 22:47:58.2±0.3, 35.˚11N±0.˚03×27.˚45E±0.˚02, h10km, n208, σ1.9 37/248, mb3.9/17, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	Karpathos	0.50	332	*e*PB	Pg	22 48 07.2	-0.7
KARP				*e*SB	Sg	22 48 14.8	+0.3
KARP	Karpathos	0.50	332	P	Pg	22 48 07.1	-0.8
KARP				S	Sg	22 48 14.7	+0.2
KARP	Karpathos	0.50	332	P	Pg	22 48 07.1	-0.8
KARP				S	Sg	22 48 14.7	+0.2
ZKR	Zakros	1.01	271	*e*PN	Pg	22 48 16.6	-1.1
ZKR	Zakros	1.01	271	P	Pg	22 48 16.0	-1.7
ZKR				S	Sg	22 48 32.2	+1.4
ZKR	Zakros	1.01	271	P	Pg	22 48 16.0	-1.7
ZKR	Zakros	1.01	271	*e*Pn	Pg	22 48 16.6	-1.1
ZKR				S	Sg	22 48 32.2	+1.4
ARG	Arkhangelos	1.23	26	*e*PN	Pn	22 48 20.9	+0.7
ARG				*e*SN	Sn	22 48 40.1	+1.8
ARG	Arkhangelos	1.23	26	P	Pn	22 48 21.9	+0.3
ARG				S	Sb	22 48 36.7	-0.9
ARG	Arkhangelos	1.23	26	P	Pn	22 48 21.9	+0.3
ARG	Arkhangelos	1.23	26	*e*Pn	Pn	22 48 22.3	+0.7
ARG				S	Sb	22 48 36.7	-0.9
ARG				*e*Sn	Sn	22 48 40.1	+1.8
NIS1	Nisyros Isl.	1.51	352	P	Pn	22 48 25.6	+0.3
NIS1	Nisyros Isl.	1.51	352	P	Pn	22 48 25.6	+0.3
NPS	Neapolis	1.51	276	*e*PN	Pn	22 48 26.1	+0.7
NPS				*e*SB	Sn	22 48 43.7	-1.4
NPS	Neapolis	1.51	276	P	Pn	22 48 26.1	+0.7
NPS				S	Sn	22 48 47.5	+2.4
NPS	Neapolis	1.51	276	P	Pn	22 48 26.1	+0.7
NPS				*e*Sb	Sn	22 48 43.7	-1.4
NPS				S	Sn	22 48 47.5	+2.4
LAST	Lasithi	1.62	272	*e*PN	Pn	22 48 27.8	+1.0
LAST				*e*SN	Sn	22 48 47.4	-0.3
LAST	Lasithi	1.62	272	P	Pn	22 48 27.9	+1.1
LAST				S	Sn	22 48 49.7	+2.0
LAST	Lasithi	1.62	272	*e*Pn	Pn	22 48 27.8	+1.0
LAST				*e*Sn	Sn	22 48 47.4	-0.3
LAST				S	Sn	22 48 49.7	+2.0
BODT	Bodrum	1.95	357	*e*PN	Pn	22 48 30.6	-0.8
BODT				*e*SN	Sn	22 48 54.8	-1.2
BODT	Bodrum	1.95	357	*e*Pn	Pn	22 48 30.6	-0.8
BODT				*e*Sn	Sn	22 48 54.8	-1.2
THR1	Thera Island	2.05	308	P	Pn	22 48 33.5	+0.7
THR1	Thera Island	2.05	308	P	Pn	22 48 33.5	+0.7
AKAS	Kas	2.08	57	*i* P	Pn	22 48 33.7	+0.5
AKAS				*i* S	Sn	22 49 00.3	+1.1
AKAS	Kas	2.08	57	*i* P	Pn	22 48 33.7	+0.5
AKAS				*i* S	Sn	22 49 00.3	+1.1
THR3	Thira Island,	2.11	309	P	Pn	22 48 34.1	+0.5
THR3	Thira Island,	2.11	309	P	Pn	22 48 34.1	+0.5
THR2	Thira island,	2.11	310	P	Pn	22 48 34.1	+0.5
THR2	Thira island,	2.11	310	P	Pn	22 48 34.1	+0.5
SIVA	Sivas	2.17	268	*e*PN	Pn	22 48 36.2	+1.8
SIVA	Sivas	2.17	268	P	Pn	22 48 36.5	+2.1
SIVA	Sivas	2.17	268	*e*Pn	Pn	22 48 36.2	+1.8
SIVA	Sivas	2.17	268	P	Pn	22 48 36.5	+2.1
APE	Apeiranthos	2.50	322	*e*PN	Pn	22 48 39.3	+0.3
APE	Apeiranthos	2.50	322	*e*PN	Pn	22 48 39.4	+0.5
APE				*e*SN	Sn	22 49 09.4	0.0
APE	Apeiranthos	2.50	322	*e*PN	Pn	22 48 39.4	+0.5
APE				*e*Sn	Sn	22 49 09.4	0.0
AYDN	Tasoluk	2.57	8	*i* P	Pn	22 48 41.5	+1.6
AYDN	Tasoluk	2.57	8	*i* P	Pn	22 48 41.5	+1.6
GLHS	Glhisar (BURDU	2.63	38	*e*PN	Pn	22 48 39.9	-0.9
GLHS	Glhisar (BURDU	2.63	38	*e*Pn	Pn	22 48 39.9	-0.9
SMG	Samos	2.64	349	*e*PN	Pn	22 48 41.7	+0.8
SMG	Samos	2.64	349	*e*Pn	Pn	22 48 41.7	+0.8
VAM	Vamos	2.68	277	P	Pn	22 48 42.7	+1.3
VAM	Vamos	2.68	277	P	Pn	22 48 42.7	+1.3
GOLH	Golhisar	2.73	38	*i* P	Pn	22 48 43.3	+1.3
GOLH	Golhisar	2.73	38	*i* P	Pn	22 48 43.3	+1.2
KARN	Karanos	2.91	277	*e*PB	Pn	22 48 46.3	+1.8
KARN	Karanos	2.91	277	P	Pn	22 48 46.3	+1.8
KARN	Karanos	2.91	277	P	Pn	22 48 46.3	+1.8
DENT	Denizli	2.93	25	*e*PN	Pn	22 48 44.6	-0.3
DENT	Denizli	2.93	25	*e*Pn	Pn	22 48 44.6	-0.3
ANTB	Antalya	3.15	55	*e*PN	Pn	22 48 47.6	-0.3
ANTB	Antalya	3.15	55	*e*Pn	Pn	22 48 47.6	-0.3
IZM	Izmir	3.29	357	*e*PN	Pn	22 48 49.7	0.0
IZM	Izmir	3.29	357	*e*Pn	Pn	22 48 49.7	-0.1
BLCB	Balcova	3.29	354	*e*PN	Pn	22 48 49.9	+0.1
BLCB	Balcova	3.29	354	*e*Pn	Pn	22 48 49.9	+0.1
BCK	Bucak	3.46	46	*e*PN	Pn	22 48 51.9	-0.2
BCK	Bucak	3.46	46	*e*Pn	Pn	22 48 51.9	-0.2
CHOS	Chios island	3.46	342	*e*PN	Pn	22 48 52.6	+0.5
CHOS	Chios island	3.46	342	*e*Pn	Pn	22 48 52.6	+0.5
SUTC	Sutluce-Ispart	3.72	49	*e*PN	Pn	22 48 55.9	+0.2
SUTC	Sutluce-Ispart	3.72	49	*e*Pn	Pn	22 48 55.9	+0.2
AKS	Akhisar	3.77	4	*e*PN	Pn	22 48 56.5	0.0
AKS	Akhisar	3.77	4	*e*Pn	Pn	22 48 56.5	0.0
KYTH	Kithira	3.78	289	*e*PN	Pn	22 48 57.1	+0.6
KYTH	Kithira	3.78	289	P	Pn	22 48 57.0	+0.5
KYTH	Kithira	3.78	289	*e*Pn	Pn	22 48 57.1	+0.6
VLI	Veliai	4.00	295	*e*PN	Pn	22 49 00.4	+0.8
VLI				*e*SN	Sn	22 49 45.1	-1.4
VLI	Veliai	4.00	295	P	Pn	22 48 59.8	+0.2
VLI				S	Sn	22 49 46.8	+0.3
VLI	Veliai	4.00	295	P	Pn	22 48 59.8	+0.2
VLI	Veliai	4.00	295	*e*Pn	Pn	22 49 00.4	+0.8
VLI				*e*Sn	Sn	22 49 45.1	-1.4
VLI				S	Sn	22 49 46.8	+0.3
GAZI	Gazipasa	4.12	73	*i* P	Pn	22 49 03.0	+1.9
GAZI				*i* S	Sn	22 49 48.9	-0.5
GAZI	Gazipasa	4.12	73	*i* P	Pn	22 49 03.0	+1.8
GAZI				*i* S	Sn	22 49 48.9	-0.5
ATH	Athens Observa	4.15	315	*e*PN	Pn	22 49 03.3	+1.7
DID	Didima	4.16	306	*e*PN	Pn	22 49 03.4	+1.7
DID	Didima	4.16	306	P	Pn	22 49 02.9	+1.2
DID	Didima	4.16	306	P	Pn	22 49 02.9	+1.2
PRK	Paraskevi	4.24	348	*e*PN	Pn	22 49 04.2	+1.4
PRK	Paraskevi	4.24	348	*e*Pn	Pn	22 49 04.2	+1.4
ERMK	Ermenek	4.69	69	*i* P	Pn	22 48 58.2	-11
ERMK				*i* S	Sn	22 49 54.0	-10
CSS	Prodhromos	4.83	90	*e*P	Pn	22 49 10.9	-0.1
CSS				*e*S	Sn	22 50 07.7	+0.8
CSS	Prodhromos	4.83	90	*e*P	Pn	22 49 10.9	-0.1
CSS				*e*S	Sn	22 50 07.7	+0.8
KONT	Konya--Tatoy	4.86	53	*e*PN	Pn	22 49 12.2	+0.7
KONT	Konya--Tatoy	4.86	53	*e*Pn	Pn	22 49 12.2	+0.8
ITM	Ithomi	4.92	296	*e*PN	Pn	22 49 14.0	+1.7
ITM	Ithomi	4.92	296	*e*Pn	Pn	22 49 14.0	+1.7
PYL	PYLOS	4.96	293	*e*PN	Pn	22 49 12.8	+0.1
PYL	PYLOS	4.96	293	*e*Pn	Pn	22 49 12.8	+0.1
GUR	Goura	4.99	306	*e*PN	Pn	22 49 15.3	+2.2
GUR	Goura	4.99	306	*e*Pn	Pn	22 49 15.3	+2.2
LKR	Lokris	5.02	316	*e*PN	Pn	22 49 15.4	+1.8
LKR	Lokris	5.02	316	*e*Pn	Pn	22 49 15.4	+1.8
KIZT	Kizilcal	5.17	42	*e*PN	Pn	22 49 16.4	+0.7
KIZT	Kizilcal	5.17	42	*e*Pn	Pn	22 49 16.4	+0.7
NEO	Neokhori	5.38	322	*e*PN	Pn	22 49 20.1	+1.6
NEO	Neokhori	5.38	322	*e*Pn	Pn	22 49 20.1	+1.6
EFP	Efpalio	5.55	308	*e*PN	Pn	22 49 21.5	+0.7
EFP	Efpalio	5.55	308	*e*Pn	Pn	22 49 21.5	+0.7
RLS	Riolos of Patr	5.64	303	*e*PN	Pn	22 49 23.4	+1.3
RLS	Riolos of Patr	5.64	303	*e*Pn	Pn	22 49 23.4	+1.3
AGG	Agios Georgios	5.66	315	*e*PN	Pn	22 49 24.4	+2.1
AGG	Agios Georgios	5.66	315	*e*Pn	Pn	22 49 24.4	+2.1
THL	Klokotos Trika	6.21	317	*e*PN	Pn	22 49 31.6	+1.7
THL	Klokotos Trika	6.21	317	*e*Pn	Pn	22 49 31.6	+1.7
VLS	Valsamata	6.31	301	*e*PN	Pn	22 49 32.3	+1.0
VLS	Valsamata	6.31	301	*e*Pn	Pn	22 49 32.3	+1.0
BRTR	Keskin Array B	6.74	45	Pn	Pn	22 49 34.0	-3.2
	0.3nm,0.3s,baz=228,slow=12,SNR=7.6						
BRTR				Sn	Sn	22 50 54.6	+0.5
	0.2nm,0.3s,baz=212,slow=24,SNR=4.2						
BRTR	Keskin Array B	6.74	45	Pn	Pn	22 49 34.0	-3.2
BRTR				Sn	Sn	22 50 54.6	+0.5
MMAI	Mount Meron Ar	6.92	105	Pn	Pn	22 49 39.1	-0.6
	1.9nm,0.3s,baz=298,slow=12,SNR=20						
MMAI				Sn	Sn	22 50 58.4	-0.1
	2.0nm,0.3s,baz=290,slow=17,SNR=5.3						
EIL	Elat	8.34	128	Pn	Pn	22 49 59.7	+0.5
	0.4nm,0.3s,baz=336,slow=14,SNR=9.8						
EIL				Sn	Sn	22 51 30.0	-3.5
	0.6nm,0.3s,baz=18,slow=19,SNR=3.8						
EIL	Elat	8.34	128	Pn	Pn	22 49 59.7	+0.5
EIL				Sn	Sn	22 51 30.0	-3.5
EIL	Elat	8.34	128	Pn	Pn	22 49 59.7	+0.5
EIL				Sn	Sn	22 51 30.0	-3.5
ASF	Jabal al Asfar	8.40	108	Pn	Pn	22 50 00.6	+0.5
	0.1nm,0.3s,baz=159,slow=8.6,SNR=3.2						
ASF				Sn	Sn	22 51 35.0	0.0
	0.2nm,0.3s,baz=66,slow=20,SNR=2.4						
ASF	Jabal al Asfar	8.40	108	Pn	Pn	22 50 00.6	+0.5
ASF				Sn	Sn	22 51 35.0	0.0
AKASG	Malin Array Be	15.64	4	Pn	Pn	22 51 37.9	-0.6
	0.9nm,0.3s,baz=194,slow=12,SNR=4.3						
AKASG	Malin Array Be	15.64	4	Pn	Pn	22 51 37.9	-0.6
AKASG	Malin Array Be	15.64	4	Pn	Pn	22 51 37.9	-0.6
PGF	Pioggiola	16.16	303	*e*P	Pn	22 51 45.1	-0.3
PGF	Pioggiola	16.16	303	*e*P	Pn	22 51 45.1	-0.3
PGF	Pioggiola	16.16	303	*e*P	Pn	22 51 45.1	-0.3
GERES	GERESS Array B	17.07	328	Pn	Pn	22 51 55.1	-1.8
	0.1nm,0.3s,baz=147,slow=13,SNR=14						
GERES	GERESS Array B	17.07	328	Pn	Pn	22 51 55.1	-1.8
GERES	GERESS Array B	17.07	328	Pn	Pn	22 51 55.1	-1.8
KHC	Kasperske Hory	17.34	328	*e*P	Pn	22 51 58.8	-1.5
	3.7nm,0.7s						
KHC	Kasperske Hory	17.34	328	*e*P	Pn	22 51 58.7	-1.6
KHC	Kasperske Hory	17.34	328	*e*P	Pn	22 51 58.8	-1.5
	3.7nm,0.7s						
SBF	Sospel	17.72	306	*e*P	Pn	22 52 04.4	-0.6
	26nm,0.8s						
SBF	Sospel	17.72	306	*e*P	Pn	22 52 04.4	-0.6
	13nm,0.8s						
SBF	Sospel	17.72	306	*e*P	Pn	22 52 04.4	-0.6
	13nm,0.8s						
FRF	La Foret Royal	18.14	304	*e*P	Pn	22 52 09.1	-1.0
FRF	La Foret Royal	18.14	304	*e*P	Pn	22 52 09.1	-1.0
FRF	La Foret Royal	18.14	304	*e*P	Pn	22 52 09.1	-1.0
MBDF	Montbardon	18.50	308	*e*P	Pn	22 52 09.7	-4.8
	11nm,0.9s						
MBDF	Montbardon	18.50	308	*e*P	Pn	22 52 09.7	-4.8
	5.6nm,0.9s						
LPG	La Plagne	18.84	310	*e*P	Pn	22 52 17.2	-1.5
	7.1nm,0.7s						
LPG	La Plagne	18.84	310	*e*P	Pn	22 52 17.2	-1.5
	3.5nm,0.7s						
LPG	La Plagne	18.84	310	*e*P	Pn	22 52 17.2	-1.5
	3.5nm,0.7s						
LPL	La Plagne	18.86	310	*e*P	Pn	22 52 16.7	-2.2
	4.7nm,0.7s						
LPL	La Plagne	18.86	310	*e*P	Pn	22 52 16.7	-2.2
	2.3nm,0.7s						
LPL	La Plagne	18.86	310	*e*P	Pn	22 52 16.7	-2.2
	2.3nm,0.7s						
CABF	La Chapelle	19.76	312	*e*P	Pn	22 52 26.4	-3.3
	9.0nm,0.6s						
CABF	La Chapelle	19.76	312	*e*P	Pn	22 52 26.4	-3.3
	4.5nm,0.6s						
CABF	La Chapelle	19.76	312	*e*P	Pn	22 52 26.4	-3.3
	4.5nm,0.6s						
HINF	Hinteralfeld	19.91	316	*e*P	Pn	22 52 28.3	-3.2
HINF	Hinteralfeld	19.91	316	*e*P	Pn	22 52 28.3	-3.2
HINF	Hinteralfeld	19.91	316	*e*P	Pn	22 52 28.3	-3.2
CDF	Champ du Feu	20.00	318	*e*P	P	22 52 29.6	-1.2
	14nm,1.1s						
CDF	Champ du Feu	20.00	318	*e*P	P	22 52 29.6	-1.2
	7.1nm,1.1s						
CDF	Champ du Feu	20.00	318	*e*P	P	22 52 29.6	-1.2
	7.1nm,1.1s						
HAU	Haudompre	20.30	316	*e*P	P	22 52 31.4	-2.7
HAU	Haudompre	20.30	316	*e*P	P	22 52 31.4	-2.7
HAU	Haudompre	20.30	316	*e*P	P	22 52 31.4	-2.7
SFTF	Sexfontaines	21.16	315	*e*P	P	22 52 41.4	-1.9
SFTF	Sexfontaines	21.16	315	*e*P	P	22 52 41.4	-1.9
SFTF	Sexfontaines	21.16	315	*e*P	P	22 52 41.4	-1.9
SMF	Signal de Mont	21.16	310	*e*P	P	22 52 40.7	-2.7
	12nm,1.0s,mb3.9						
SMF	Signal de Mont	21.16	310	*e*P	P	22 52 40.7	-2.7
	5.9nm,1.0s,mb3.9						
SMF	Signal de Mont	21.16	310	*e*P	P	22 52 40.7	-2.7
	5.9nm,1.0s,mb3.9						
LOR	Lormes	21.42	312	*e*P	P	22 52 42.5	-3.7
LOR	Lormes	21.42	312	*e*P	P	22 52 42.5	-3.7
LOR	Lormes	21.42	312	*e*P	P	22 52 42.5	-3.7
AVF	Avril sur Loir	21.53	310	*e*P	P	22 52 45.2	-2.2
	15nm,1.0s,mb4.1						
AVF	Avril sur Loir	21.53	310	*e*P	P	22 52 45.2	-2.2
	7.7nm,1.0s,mb4.1						
AVF	Avril sur Loir	21.53	310	*e*P	P	22 52 45.2	-2.2
	7.7nm,1.0s,mb4.1						
SSF	Saint Saulge	21.55	311	*e*P	P	22 52 44.9	-2.7
	6.1nm,0.5s,mb4.0						
SSF	Saint Saulge	21.55	311	*e*P	P	22 52 44.9	-2.7
	3.0nm,0.5s,mb4.0						
SSF	Saint Saulge	21.55	311	*e*P	P	22 52 44.9	-2.7
	3.0nm,0.5s,mb4.0						
BGF	Bois d'Agland	21.75	309	*e*P	P	22 52 47.3	-2.5
BGF	Bois d'Agland	21.75	309	*e*P	P	22 52 47.3	-2.5
BGF	Bois d'Agland	21.75	309	*e*P	P	22 52 47.3	-2.5
BAIF	Baives	22.59	319	*e*P	P	22 52 53.8	-4.8
BAIF	Baives	22.59	319	*e*P	P	22 52 53.8	-4.8
ETSF	Etsaut	23.04	298	*e*P	P	22 52 53.0	-2.8
	13nm,1.1s,mb4.0						
ETSF	Etsaut	23.04	298	*e*P	P	22 53 00.7	-2.8
	6.5nm,1.1s,mb4.0						
ETSF	Etsaut	23.04	298	*e*P	P	22 53 00.7	-2.8
	6.5nm,1.1s,mb4.0						
SJPF	Ste Jean	23.56	298	*e*P	P	22 53 07.7	-1.2
	81nm,1.6s,mb4.6						
SJPF	Ste Jean	23.56	298	*e*P	P	22 53 07.7	-1.2
	40nm,1.6s,mb4.6						
SJPF	Ste Jean	23.56	298	*e*P	P	22 53 07.7	-1.2
	40nm,1.6s,mb4.6						
LDF	La Druitiere	24.40	312	*e*P	P	22 53 13.1	-3.5
	2.1nm,0.4s,mb3.6						
LDF	La Druitiere	24.40	312	*e*P	P	22 53 13.1	-3.5
	2.0nm,0.4s,mb3.9						
GRR	Gorron	24.78	311	*e*P	P	22 53 15.5	-4.5
	25nm,0.9s,mb4.4						
GRR	Gorron	24.78	311	*e*P	P	22 53 15.5	-4.5
	13nm,0.9s,mb4.5						
GRR	Gorron	24.78	311	*e*P	P	22 53 15.5	-4.5
	13nm,0.9s,mb4.5						
ESDC	Sonseca Array	25.30	290	P	P	22 53 22.7	-2.1
	0.3nm,0.4s,mb3.2,baz=85,slow=9.7,SNR=7.5						
ESDC	Sonseca Array	25.30	290	P	P	22 53 22.7	-2.1
ESDC	Sonseca Array	25.30	290	P	P	22 53 22.7	-2.1
ROSF	Rostrenen	26.27	310	*e*P	P	22 53 29.4	-4.1
	69nm,1.2s,mb4.7						
ROSF	Rostrenen	26.27	310	*e*P	P	22 53 29.4	-4.1
	34nm,1.3s,mb4.7						
ROSF	Rostrenen	26.27	310	*e*P	P	22 53 29.4	-4.1
	34nm,1.3s,mb4.7						
FINES	FINESS Array B	26.37	359	P	P	22 53 31.8	-2.5
	1.9nm,0.8s,mb3.7,baz=163,slow=10,SNR=8.1						
FINES	FINESS Array B	26.37	359	P	P	22 53 31.8	-2.5
FINES	FINESS Array B	26.37	359	P	P	22 53 31.8	-2.5
HFS	Hagfors	26.59	345	P	P	22 53 33.5	-2.8
	5.0nm,1.1s,mb4.0,baz=134,slow=8.3,SNR=5.8						
HFS	Hagfors	26.59	345	P	P	22 53 33.5	-2.8
TORD	Torodi Ar. Bea	31.93	233	P	P	22 54 23.6	-0.5
	1.6nm,0.7s,mb4.0,baz=35,slow=8.9,SNR=16						
TORD	Torodi Ar. Bea	31.93	233	P	P	22 54 23.6	-0.5
TORD	Torodi Ar. Bea	31.93	233	P	P	22 54 23.6	-0.6
ARCES	ARCESS Array B	34.50	359	P	P	22 54 43.4	-2.6
	4.1nm,1.0s,mb4.3,baz=165,slow=8.1,SNR=8.6						
ARCES	ARCESS Array B	34.50	359	P	P	22 54 43.4	-2.6
KURK	Kurchatov	39.76	51	P	P	22 55 31.4	+0.5
	0.2nm,0.4s,mb3.2,baz=274,slow=8.2,SNR=3.0						
KURK	Kurchatov	39.76	51	P	P	22 55 31.4	+0.5
MKAR	Makanchi Array	42.24	57	P	P	22 55 53.8	+2.3
	0.5nm,0.6s,mb3.4,baz=270,slow=8.5,SNR=8.2						
MKAR	Makanchi Array	42.24	57	P	P	22 55 53.8	+2.3
ZALV	Zalesovo Beam	43.69	46	P	P	22 56 05.4	+2.3
	0.4nm,0.5s,mb3.4,baz=282,slow=7.2,SNR=2.7						
ZALV	Zalesovo Beam	43.69	46	P	P	22 56 05.4	+2.3

1.4nm,0.7s,mb3.8,baz=102,slow=8.1,SNR=18
WRA Warramunga Arr 46.81 263 P **P** **23 11 37.1 -0.4**
KAKA Kakadu 50.49 272 *e*P **P** **23 12 05.4 -0.3**
FITZ Fitzroy Crossi 55.24 263 P **P** **23 12 41.3 +0.7**
1.4nm,0.8s,mb4.0,baz=97,slow=8.1,SNR=4.0
FITZ Fitzroy Crossi 55.24 263 *e*P **P** **23 12 40.4 -0.2**
1.4nm,0.8s,mb4.0
MBWA Marble Bar 59.86 258 *e*P **P** **23 13 13.7 +0.7**
QSPA South Pole Qui 67.67 180 *e*P **P** **23 14 03.9 +0.5**
4.2nm,1.1s,mb4.2
MJAR Matsushiro Arr 73.21 322 P **P** **23 14 36.8 -0.9**
1.1nm,0.5s,mb3.9,baz=163,slow=5.8,SNR=3.3
MJAR Matsushiro Arr 73.21 322 P **P** **23 14 36.8 -0.9**
MAJO Matsushiro 73.21 322 *e*P **P** **23 14 36.9 -0.8**
PETK Petropavlovsk- 78.76 344 P **P** **23 15 09.1 +0.4**
3.4nm,1.0s,mb4.2,baz=189,slow=8.5,SNR=3.2
PETK Petropavlovsk- 78.76 344 P **P** **23 15 09.1 +0.4**
KSRS Korea Array 79.95 317 LR LR 23 43 24.4
comp=Z,20nm,20.8s,baz=135,slow=30
MAW Mawson 80.60 199 P **P** **23 15 20.2 +1.4**
1.5nm,0.8s,mb3.9,baz=273,slow=10,SNR=3.9
MAW Mawson 80.60 199 P **P** **23 15 20.2 +1.4**
NVAR Mina Array Bea 80.75 42 P **P** **23 15 19.9 +0.1**
0.7nm,0.8s,mb3.6,baz=214,slow=7.7,SNR=2.9
NVAR Mina Array Bea 80.75 42 P **P** **23 15 19.9 +0.1**
TXAR Lajitas Array 86.03 56 P **P** **23 15 47.9 +0.7**
0.5nm,0.9s,mb3.4,baz=238,slow=5.2,SNR=4.5
TXAR Lajitas Array 86.03 56 P **P** **23 15 47.9 +0.7**
SNAA Sanae 86.03 178 *e*P **P** **23 15 46.8 +0.3**
2.6nm,1.2s,mb4.0
ILAR Eielson Array 89.64 12 P **P** **23 16 02.1 -1.5**
0.3nm,0.8s,mb3.5,baz=215,slow=5.5,SNR=4.1
ILAR Eielson Array 89.64 12 P **P** **23 16 02.1 -1.5**
CFAA Coronel Fontan 91.99 125 LR LR 23 48 43.3
comp=Z,5.8nm,19.5s,baz=71,slow=30
AKASG Malin Array Be 145.86 332 PKPbc PKPbc 23 22 45.6 +0.5
2.0nm,0.6s,baz=39,slow=4.3,SNR=9.1
AKASG Malin Array Be 145.86 332 PKPbc PKPbc 23 22 45.6 +0.5
BURAR Bucovina Array 149.91 332↑ *i*P PKPbc PKPbc 23 22 57.7 +1.6
BRTR Keskin Array B 149.94 312 PKPbc PKPbc 23 22 56.8 +0.4
1.0nm,0.7s,baz=138,slow=3.6,SNR=7.4
BRTR Keskin Array B 149.94 312 PKPbc PKPbc 23 22 56.8 +0.4
CLL Collm 150.43 349 *e*PKPbc PKPbc 23 22 58.0 +0.8
DRGR 151.63 333↓ *i*P PKPbc PKPbc 23 23 01.9 +1.8
BZS Buzias 153.02 333↑ *i*P PKPbc PKPbc 23 23 04.3 +1.0

IDC 06 23:28:58.3±3.7, 30.59N×143.47E, h0km, mb4.1/4, mb1 4.0/6, mb1mx3.7/25, mbtmp4.0/6, ML3.2/2, Error ellipse: s-maj=129.3km s-min=21.1km az=73.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.66**	**198**	Pn	Pn	23 29 55.6	-0.5
	2.4nm,0.3s,baz=274,slow=21,SNR=7.3						
CBIJ				Sn	Sn	23 30 33.3	-6.6
	9.6nm,0.3s,baz=229,slow=22,SNR=5.0						
MJAR	**Matsushiro Arr**	**7.38**	**325**	Pn	Pn	23 30 45.8	-1.4
	0.8nm,0.3s,baz=157,slow=11,SNR=5.1						
SONM	**Songino Array**	**33.10**	**312**	P	P	23 35 36.1	+0.4
	0.7nm,0.9s,baz=93,slow=8.0,SNR=3.9						
WRA	**Warramunga Arr**	**51.00**	**191**	P	P	23 38 02.0	+0.1
	2.5nm,0.6s,baz=10.0,slow=7.9,SNR=36						
KURK	**Kurchatov**	**51.40**	**313**	P	P	23 38 05.3	+0.6
	0.2nm,0.2s,baz=87,slow=7.7,SNR=4.2						
ASAR	**Alice Springs**	**54.72**	**191**	P	P	23 38 29.4	0.0
	0.7nm,0.5s,baz=6.6,slow=6.8,SNR=14						

*ISCJB **06** 23:37:41.7±0.7, 9.29S±0.09×71.6W±0.1, h533km±15km, mb3.4/5, Error ellipse: s-maj=20.2km s-min=9.1km az=140.6*
*NEIC **06** 23:37:41.9±0.7, 9.31S×71.57W, h519km±9km, mb4.0/1, Error ellipse: s-maj=16.0km s-min=9.1km az=72.0*
*IDC **06** 23:37:42.2±1.8, 9.38S×71.61W, h522km±29km, mb2.9/5, mb1 3.2/7, mb1mx3.0/21, mbtmp3.0/7, Error ellipse: s-maj=48.6km s-min=13.4km az=41.0*

ISC 06 23:37:42.4±0.6, 9.32S±0.09×71.6W±0.1, h525km±13km, n27, σ0°69/25, mb3.4/5, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**5.80**	**242**	S	**S**	**23 40 34.6**	**-1.5**
	0.8nm,0.3s,baz=210,slow=20,SNR=3.1						
NNA	**Nana**	**5.80**	**242**	*e*P	**P**	**23 39 17.3**	**-0.7**
NNA				*e*S	**S**	**23 40 35.1**	**-0.9**
ATAH	**Atahualpa**	**7.07**	**287**	P	**P**	**23 39 31.2**	**+1.0**
	2.8nm,0.3s,baz=112,slow=12,SNR=18						
ATAH				S	**S**	**23 40 59.0**	**+0.5**
	1.1nm,0.3s,baz=130,slow=16,SNR=4.4						
LPAZ	**La Paz**	**7.70**	**154**	P	**P**	**23 39 36.9**	**+0.5**
	0.8nm,0.3s,baz=333,slow=12,SNR=26						
LPAZ				S	**S**	**23 41 10.3**	**+0.5**
	0.2nm,0.3s,baz=30,slow=20,SNR=14						
LPAZ	**La Paz**	**7.70**	**154**	P	**P**	**23 39 36.9**	**+0.5**
LPAZ				S	**S**	**23 41 10.3**	**+0.5**
OTAV	**Otavalo**	**11.70**	**324**	*e*P	**P**	**23 40 18.0**	**+0.2**
	5.7nm,0.8s						
LCO	**Las Campanas**	**19.60**	**178**	P	**P**	**23 41 35.9**	**-0.1**
BCIP	**Isla Barro Col**	**20.12**	**336**	*e*P	**P**	**23 41 41.0**	**+0.1**
CPUP	**Villa Florida**	**21.65**	**143**	P	**P**	**23 41 54.4**	**-0.3**
	0.7nm,0.4s,mb3.6,baz=322,slow=12,SNR=6.3						
CPUP	**Villa Florida**	**21.65**	**143**	P	**P**	**23 41 54.4**	**-0.3**
BBGH	**Gun Hill**	**25.32**	**28**	P	**P**	**23 42 27.9**	**+0.5**
MTP	**Monte Pirata**	**27.89**	**12**	*e*P	**P**	**23 42 48.8**	**-1.2**
CBYP	**Canovanas**	**28.00**	**12**	*e*P	**P**	**23 42 49.7**	**-1.3**
TXAR	**Lajitas Array**	**49.32**	**322**	P	**P**	**23 45 43.7**	**+0.2**
	0.3nm,0.7s,mb2.9,baz=126,slow=9.1,SNR=5.0						
TXAR	**Lajitas Array**	**49.32**	**322**	P	**P**	**23 45 43.7**	**+0.2**
PDAR	**Pinedale Array**	**62.35**	**329**	P	**P**	**23 47 14.2**	**+0.6**
	0.4nm,0.4s,mb3.2,baz=116,slow=8.2,SNR=4.4						
PDAR	**Pinedale Array**	**62.35**	**329**	P	**P**	**23 47 14.2**	**+0.6**
TORD	**Torodi Ar. Bea**	**76.11**	**74**	P	**P**	**23 48 36.6**	**-0.2**
	0.9nm,0.8s,mb3.2,baz=259,slow=5.8,SNR=5.8						
TORD	**Torodi Ar. Bea**	**76.11**	**74**	P	**P**	**23 48 36.6**	**-0.2**
INK	**Inuvik**	**88.67**	**341**	P	**P**	**23 49 39.7**	**+0.6**
	1.4nm,0.7s,mb3.9,baz=75,slow=2.3,SNR=4.6						
INK	**Inuvik**	**88.67**	**341**	P	**P**	**23 49 39.7**	**+0.6**
ZALV	**Zalesovo Beam**	**131.64**	**18**	PKP	PKPdf	23 55 56.1	+0.8
	1.5nm,1.0s,baz=321,slow=1.8,SNR=5.1						
ZALV	**Zalesovo Beam**	**131.64**	**18**	PKP	PKPdf	23 55 56.1	+0.8
ASAR	**Alice Springs**	**138.81**	**217**	PKP	PKPdf	23 56 10.9	+1.2
	0.3nm,0.8s,baz=126,slow=1.3,SNR=3.3						
ASAR	**Alice Springs**	**138.81**	**217**	PKP	PKPdf	23 56 10.9	+1.2
WRA	**Warramunga Arr**	**141.30**	**221**	PKP	PKPdf	23 56 12.8	-1.5
	0.2nm,0.6s,baz=142,slow=3.0,SNR=6.0						
WRA	**Warramunga Arr**	**141.30**	**221**	PKP	PKPdf	23 56 12.8	-1.5

IDC 06 23:39:25.1±3.6, 55.93S×26.18W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/15, mbtmp3.7/3, MS3.5/1, Ms1 3.4/1, ms1mx2.8/17, 1C, Error ellipse: s-maj=124.7km s-min=37.9km az=171.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SYO	**Syowa Base**	**31.32**	**141**↑	*e*P	P	23 45 54.0	+7.4
CFAA	**Coronel Fontan**	**38.03**	**292**	P	P	23 46 43.7	-1.2
	0.2nm,0.6s,baz=162,slow=6.7,SNR=4.9						
BOSA	**Boshof**	**45.39**	**75**	LR	LR	00 02 32.9	
	comp=Z,55nm,19.0s,baz=177,slow=31						
LPAZ	**La Paz**	**50.77**	**304**	P	P	23 48 28.6	+1.8
	0.7nm,0.3s,baz=126,slow=5.1,SNR=5.7						
TORD	**Torodi Ar. Bea**	**72.67**	**28**	P	P	23 50 54.3	-0.2
	0.9nm,0.7s,baz=198,slow=6.1,SNR=9.1						
ILAR	**Eielson Array**	**150.46**	**312**	PKPbc	PKPbc	23 59 16.9	0.0
	1.8nm,0.9s,baz=109,slow=1.4,SNR=15						

*LDG **06** 23:57:06.0±0.3, 19.59S×169.74E, h33km, Mb4.7/2, Error ellipse: s-maj=48.0km s-min=26.6km az=35.0*
*ISCJB **06** 23:57:15.7±1.5, 20.14S±0.10×169.60E±0.08, h126km±11km, mb4.4/19, Error ellipse: s-maj=16.5km s-min=12.1km az=18.6*
*NOU **06** 23:57:16.6±0.5, 19.66S×169.37E, h10km, MD2.8, ML3.7*
*IDC **06** 23:57:17.1±0.7, 20.12S×169.56E, h126km±5km, mb4.1/10, mb1 4.2/11, mb1mx4.1/18, mbtmp4.1/11, MS3.6/2, Ms1 3.5/2, ms1mx3.1/23, Error ellipse: s-maj=22.5km s-min=16.3km az=155.0*
*NEIC **06** 23:57:20.5±2.7, 20.12S×169.55E, h158km±24km, mb4.6/12, Error ellipse: s-maj=15.0km s-min=8.8km az=206.0*

ISC 06 23:57:16.8±1.4, 20.09S±0.10×169.57E±0.08, h121km±11km, h126km±4.1km; pP-P, n120, σ0.96/52, mb4.4/19, 4C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.24**	**230**	*e*P	**Pn**	**23 58 06.2**	**-0.1**
BAYA				*e*S	**Sn**	**23 58 43.3**	**-1.2**
BAYA				AMP		23 58 47.3	
	comp=Z,180nm,4.3s						
PLUM	**Mont Dore**	**3.49**	**231**	*e*P	**Pn**	**23 58 09.6**	**0.0**
NORM	**Noumea**	**3.58**	**233**	*e*P	**Pn**	**23 58 11.2**	**+0.4**
NOUC	**Port Laguerre**	**3.65**	**236**	*e*P	**Pn**	**23 58 12.1**	**+0.4**
NOUC				*e*S	**Sn**	**23 58 53.3**	**-0.9**
NOUC				AMP		23 58 56.4	
	comp=Z,1μm,0.8s						
EIDS	**Eidsvold**	**17.84**	**249**	*e*P	**Pn**	**00 01 18.8**	**+1.3**
EIDS	**Eidsvold**	**17.84**	**249**	*e*Pn	**Pn**	**00 01 18.9**	**+1.4**
	comp=Z,45nm,1.3s						
ARMA	**Armidale**	**19.19**	**234**	*e*P	**P**	**00 01 33.5**	**+2.3**
ARMA	**Armidale**	**19.19**	**234**	*e*Pn	**Pn**	**00 01 33.6**	**+0.3**
	comp=Z,38nm,1.0s						
URZ	**Urewera**	**19.25**	**162**	P	**P**	**00 01 32.1**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=353,slow=6.2,SNR=8.0						
URZ	**Urewera**	**19.25**	**162**	*e*P	**P**	**00 01 32.6**	**+0.8**
	comp=Z,13nm,0.6s						
SNZO	**South Karori**	**21.60**	**169**	*e*P	**P**	**00 01 57.8**	**+0.9**
	comp=Z,6.8nm,0.4s,mb4.3						
CTA	**Charters Tower**	**21.90**	**266**	P	**P**	**00 02 01.0**	**+0.7**
	comp=Z,21nm,1.0s,mb4.4,baz=99,slow=13,SNR=18						
CTA	**Charters Tower**	**21.90**	**266**	*e*P	**P**	**00 02 01.2**	**+0.9**
	comp=Z,9.7nm,0.6s,mb4.3						
CTA	**Charters Tower**	**21.90**	**266**	P	**P**	**00 02 01.0**	**+0.7**
CTAO	**Charters Tower**	**21.90**	**266**	*e*P	**P**	**00 02 01.4**	**+1.0**
	comp=Z,15nm,0.7s,mb4.4						
CNB	**Canberra Magne**	**23.39**	**225**	*e*P	**P**	**00 02 15.3**	**+0.6**
YNG	**Young**	**23.49**	**229**	*e*P	**P**	**00 02 16.0**	**+0.3**
	comp=Z,18nm,0.7s,mb4.5						
CAN	**Canberra**	**23.64**	**226**	*e*P	**P**	**00 02 17.1**	**+0.2**
	comp=Z,20nm,0.8s,mb4.5						
MTSU	**Mount Surprise**	**23.94**	**270**	*e*P	**P**	**00 02 20.9**	**+1.0**
	comp=Z,27nm,0.9s,mb4.6						
MTSU				*e*pP		00 02 50.9	
COEN	**Coen**	**25.95**	**279**	*e*P	**P**	**00 02 39.5**	**+1.3**
STKA	**Stephens Creek**	**27.67**	**239**	P	**P**	**00 02 53.1**	**-0.3**
	comp=Z,8.9nm,0.7s,mb4.4,baz=76,slow=8.9,SNR=11						
STKA				LR	LR	00 14 16.3	
	comp=Z,103nm,18.5s,baz=28,slow=37						
STKA	**Stephens Creek**	**27.67**	**239**	*e*P	**P**	**00 02 51.9**	**-1.6**
	comp=Z,7.1nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**27.67**	**239**	*e*P	**P**	**00 02 53.7**	**+0.2**
	comp=Z,1.3nm,0.6s,mb3.6						
STKA				LR	LR	00 14 16.3	
RAR	**Rarotonga**	**28.69**	**98**	P	**P**	**00 03 02.7**	**+0.1**
WRAB	**Tennant Creek**	**33.06**	**264**	*e*P	**P**	**00 03 40.0**	**-1.1**
	comp=Z,14nm,1.4s,mb4.6						
WRA	**Warramunga Arr**	**33.07**	**264**	P	**P**	**00 03 39.9**	**-1.3**
	comp=Z,1.9nm,0.5s,mb4.2,baz=96,slow=8.2,SNR=31						
WRA				pP	pP	00 04 05.7	-2.0
	comp=Z,1.9nm,0.9s,baz=96,slow=8.5,SNR=3.9						
WRA				PcP	PcP	00 06 21.0	-1.1
	comp=Z,1.1nm,0.9s,baz=98,slow=3.3,SNR=4.7						
WRA	**Warramunga Arr**	**33.07**	**264**	P	**P**	**00 03 39.9**	**-1.3**
WRA				pP	pP	00 04 05.7	-2.0
WRA				PcP	PcP	00 06 21.0	-1.1
ASAR	**Alice Springs**	**33.24**	**257**	P	**P**	**00 03 42.0**	**-0.7**
	comp=Z,15nm,0.7s,mb5.0,baz=85,slow=9.3,SNR=168						
ASAR				pP	pP	00 04 07.8	-1.3
	comp=Z,2.5nm,0.7s,baz=86,slow=8.6,SNR=2.5						
ASAR				PcP	PcP	00 06 21.9	-0.6
	comp=Z,1.1nm,0.8s,baz=106,slow=3.0,SNR=4.6						
ASAR	**Alice Springs**	**33.24**	**257**	P	**P**	**00 03 42.0**	**-0.7**
ASAR				pP	pP	00 04 07.8	-1.3
ASAR				PcP	PcP	00 06 21.9	-0.6
FITZ	**Fitzroy Crossi**	**41.48**	**265**	P	**P**	**00 04 52.2**	**+0.1**
	comp=Z,9.0nm,0.7s,mb4.7,baz=86,slow=10						
FITZ				LR	LR	00 20 39.7	
	comp=Z,75nm,20.9s,baz=98,slow=34						
FITZ	**Fitzroy Crossi**	**41.48**	**265**	*e*P	**P**	**00 04 52.1**	**-0.1**
	comp=Z,15nm,0.6s,mb5.0						
FITZ				*e*pP	pP	00 05 25.2	+5.7
FITZ	**Fitzroy Crossi**	**41.48**	**265**	P	**P**	**00 04 52.2**	**+0.1**
FITZ				LR	LR	00 20 39.7	
MBWA	**Marble Bar**	**46.51**	**260**	*e*P	**P**	**00 05 31.8**	**-0.5**
SBA	**Scott Base**	**57.82**	**181**	*e*P	**P**	**00 06 55.9**	**+0.8**
	comp=Z,11nm,0.9s,mb4.9						
QSPA	**South Pole Qui**	**69.97**	**180**	*e*P	**P**	**00 08 14.0**	**-0.6**
	comp=Z,11nm,0.8s,mb4.7						
MAW	**Mawson**	**77.77**	**202**	P	**P**	**00 08 59.7**	**-0.5**
	comp=Z,1.7nm,0.7s,mb3.9,baz=113,slow=7.7,SNR=5.8						
MAW	**Mawson**	**77.77**	**202**	P	**P**	**00 08 59.7**	**-0.5**
CMAR	**Chiang Mai Arr**	**79.14**	**294**	P	**P**	**00 09 10.1**	**+1.5**
	comp=Z,3.5nm,1.0s,mb4.2,baz=139,slow=4.3,SNR=13						
CMAR				pP	pP	00 09 40.5	+1.4
	comp=Z,0.5nm,0.3s,baz=126,slow=4.6,SNR=1.7						
CMAR	**Chiang Mai Arr**	**79.14**	**294**	P	**P**	**00 09 10.1**	**+1.5**
CMAR				pP	pP	00 09 40.5	+1.4
ULN	**Ulaanbaatar**	**87.73**	**323**	*e*P	**P**	**00 09 51.9**	**0.0**
	comp=Z,3.4nm,1.0s,mb4.3						
SONM	**Songino Array**	**88.09**	**323**	P	**P**	**00 09 52.5**	**-1.1**
	comp=Z,2.0nm,1.0s,mb4.1,baz=123,slow=5.1,SNR=12						
SONM				pP	pP	00 10 24.8	+0.1
	comp=Z,1.0nm,0.9s,baz=133,slow=6.1,SNR=3.7						
SONM	**Songino Array**	**88.09**	**323**	P	**P**	**00 09 52.5**	**-1.1**
SONM				pP	pP	00 10 24.8	+0.1
SNAA	**Sanae**	**88.33**	**182**	*e*P	**P**	**00 09 52.6**	**-1.9**
	comp=Z,24nm,1.6s,mb5.0						
VNA3	**Neumayer Olymp**	**88.91**	**180**	*e*	**P**	**00 09 52.3**	**-4.9**
NVAR	**Mina Array Bea**	**89.13**	**48**	P	**P**	**00 09 59.1**	**+0.4**
	comp=Z,1.5nm,0.8s,mb4.0,baz=232,slow=6.7,SNR=4.7						
NVAR				pP	pP	00 10 32.2	+2.4
	comp=Z,1.0nm,0.7s,baz=224,slow=6.2,SNR=2.9						
NVAR	**Mina Array Bea**	**89.13**	**48**	P	**P**	**00 09 59.1**	**+0.4**
NVAR				pP	pP	00 10 32.2	+2.4
VNA2	**Neumayer--Watz**	**89.20**	**181**	*e*	**P**	**00 09 54.4**	**-4.2**
	baz=184,slow=4.2						
VNA1	**Neumayer--Stat**	**89.49**	**181**	*e*	**P**	**00 09 56.5**	**-3.4**
ILAR	**Eielson Array**	**90.95**	**17**	P	**P**	**00 10 05.2**	**-1.3**
	comp=Z,0.5nm,0.7s,mb3.8,baz=232,slow=5.1,SNR=7.7						
ILAR				pP	pP	00 10 39.0	+1.3
	comp=Z,0.7nm,0.8s,baz=234,slow=6.1,SNR=3.9						
ILAR	**Eielson Array**	**90.95**	**17**	P	**P**	**00 10 05.2**	**-1.3**
ILAR				pP	pP	00 10 39.0	+1.3
BOSA	**Boshof**	**120.57**	**217**	PKP	PKPdf	00 15 53.9	-1.0
	comp=Z,5.3nm,1.1s,baz=146,slow=3.6,SNR=6.9						
BOSA	**Boshof**	**120.57**	**217**	PKP	PKPdf	00 15 53.9	-1.0
DPC	**Dobruska-Polom**	**143.12**	**331**	*e*PKP	PKPdf	00 16 33.0	-3.4
UPC	**Upice**	**143.15**	**332**	*e*PKP	PKPdf	00 16 33.4	-3.0
PVCC	**Panska Ves**	**143.76**	**333**	*e*PKP	PKPdf	00 16 33.2	-4.3
BRG	**Berggiesshubel**	**143.77**	**334**	*i* P	PKPdf	00 16 35.0	-2.5
	comp=Z,9.2nm,1.0s						
PRU	**Pruhonice**	**144.17**	**332**	*e*PKP	PKPdf	00 16 37.0	-1.2
NKC	**Novy Kostel**	**144.87**	**334**	*e*PKP	PKPdf	00 16 38.4	-1.0
NKC				*ex*	x	00 17 10.1	
CSNA	**Conrad Observa**	**145.03**	**329**↑	*i*PKPdf	PKPdf	00 16 40.0	+0.2
	comp=Z,28nm,1.3s						
KHC	**Kasperske Hory**	**145.23**	**332**	*e*PKPdf	PKPdf	00 16 39.2	-0.9
KHC	**Kasperske Hory**	**145.23**	**332**	*e*PKP	PKPdf	00 16 39.1	-1.0
KHC				*ep*PKP	pPKPdf	00 17 14.9	+2.2
GERES	**GERESS Array B**	**145.39**	**332**	PKPbc	PKPbc	00 16 39.9	-0.6
	comp=Z,7.0nm,0.9s,baz=56,slow=3.7,SNR=42						
GERES				pPKPbc	pPKPbc	00 17 12.9	+0.4
	comp=Z,3.1nm,0.8s,baz=35,slow=3.6,SNR=6.7						
GERES	**GERESS Array B**	**145.39**	**332**	PKPbc	PKPbc	00 16 39.9	-0.6
GERES				pPKPbc	pPKPbc	00 17 12.9	+0.4
MOA	**Molln**	**145.85**	**330**↑	*i*PKPab	PKPab	00 16 42.1	-0.5
	comp=Z,10nm,1.3s						
SOKA	**Soboth**	**146.30**	**328**↓	*i*PKPbc	PKPbc	00 16 41.9	-1.4
	comp=Z,10nm,1.4s						
WLF	**Walferdange**	**147.66**	**340**	*e*PKPdf	PKPbc	00 16 47.1	+0.1
MOTA	**Moosalm**	**147.66**	**332**↑	*i*PKPbc	PKPbc	00 16 46.4	-0.7
	comp=Z,10.0nm,1.1s						
GIVF	**Givet**	**147.69**	**342**	*e*PKP1	PKPbc	00 16 46.0	-1.1
	comp=Z,23nm,0.9s						
GIVF	**Givet**	**147.69**	**342**	*e*PKP	PKPdf	00 16 46.0	+1.8
BAIF	**Baives**	**147.91**	**342**	*e*PKP1	PKPbc	00 16 46.7	-1.0
	comp=Z,36nm,1.2s						
BAIF	**Baives**	**147.91**	**342**	*e*PKP	PKPbc	00 16 46.7	-1.0
FETA	**Feichten**	**148.08**	**332**↑	*i*PKiKP	PKPbc	00 16 48.0	-0.3
	comp=Z,10nm,1.1s						
CDF	**Champ du Feu**	**148.34**	**337**	*e*PKP1	PKPbc	00 16 47.7	-1.2
	comp=Z,16nm,1.1s						
CDF	**Champ du Feu**	**148.34**	**337**	*e*PKP	PKPbc	00 16 47.7	-1.2
PAGF	**Fort de Pagny**	**148.76**	**339**	*e*PKP1	PKPbc	00 16 49.2	-0.7
HAU	**Haudompre**	**149.02**	**338**	*e*PKP1	PKPbc	00 16 49.3	-1.3
	comp=Z,14nm,1.1s						
HAU	**Haudompre**	**149.02**	**338**	*e*PKP	PKPbc	00 16 49.3	-1.3
MEZF	**Maizieres J'vi**	**149.03**	**340**	*e*PKP1	PKPbc	00 16 49.9	-0.7
	comp=Z,24nm,0.9s						
MEZF	**Maizieres J'vi**	**149.03**	**340**	*e*PKP	PKPbc	00 16 49.9	-0.7
TUE	**Stuetta**	**149.10**	**333**	*e*PKPdf	PKPbc	00 16 50.0	-0.9
SFTF	**Sexfontaines**	**149.29**	**340**	*e*PKP1	PKPbc	00 16 50.2	-1.1
	comp=Z,8.2nm,0.6s						
SFTF	**Sexfontaines**	**149.29**	**340**	*e*PKP	PKPbc	00 16 50.2	-1.1
CABF	**La Chapelle**	**150.29**	**337**	*e*PKP1	PKPbc	00 16 52.3	-1.5
	comp=Z,7.5nm,0.7s						
CABF	**La Chapelle**	**150.29**	**337**	*e*PKP	PKPbc	00 16 52.3	-1.5
FLN	**La Foliniere**	**150.30**	**347**	*e*PKP1	PKPbc	00 16 52.1	-1.6
FLN	**La Foliniere**	**150.30**	**347**	*e*PKP	PKPbc	00 16 52.1	-1.6
LDF	**La Druitiere**	**150.38**	**346**	*e*PKP1	PKPbc	00 16 52.1	-1.8
	comp=Z,6.6nm,0.8s						
LDF	**La Druitiere**	**150.38**	**346**	*e*PKP	PKPbc	00 16 52.1	-1.8
LOR	**Lormes**	**150.50**	**340**	*e*PKP1	PKPbc	00 16 52.9	-1.3
	comp=Z,8.5nm,0.9s						
LOR	**Lormes**	**150.50**	**340**	*e*PKP	PKPbc	00 16 52.9	-1.3
GRR	**Gorron**	**150.73**	**347**	*e*PKP1	PKPbc	00 16 53.3	-1.4
GRR	**Gorron**	**150.73**	**347**	*e*PKP	PKPbc	00 16 53.3	-1.4
SSF	**Saint Saulge**	**150.79**	**340**	*e*PKP1	PKPbc	00 16 53.7	-1.2
	comp=Z,18nm,1.1s						
SSF	**Saint Saulge**	**150.79**	**340**	*e*PKP	PKPbc	00 16 53.7	-1.2
LPL	**La Plagne**	**150.96**	**335**	*e*PKP1	PKPbc	00 16 54.4	-1.0
LPL	**La Plagne**	**150.96**	**335**	*e*PKP	PKPbc	00 16 54.4	-1.0
LPG	**La Plagne**	**150.96**	**335**	*e*PKP1	PKPbc	00 16 54.7	-0.7
LPG	**La Plagne**	**150.96**	**335**	*e*PKP	PKPbc	00 16 54.7	-0.7
SMF	**Signal de Mont**	**151.05**	**339**	*e*PKP1	PKPbc	00 16 53.9	-1.7
SMF	**Signal de Mont**	**151.05**	**339**	*e*PKP	PKPbc	00 16 53.9	-1.7
AVF	**Avril sur Loir**	**151.08**	**340**	*e*PKP1	PKPbc	00 16 53.7	-1.9
AVF	**Avril sur Loir**	**151.08**	**340**	*e*PKP	PKPbc	00 16 53.7	-1.9
MBDF	**Montbardon**	**151.58**	**334**	*e*PKP1	PKPbc	00 16 55.3	-1.6
MBDF	**Montbardon**	**151.58**	**334**	*e*PKP	PKPbc	00 16 55.3	-1.6
ORIF	**Oris-en-Rattie**	**151.79**	**335**	*e*PKP1	PKPbc	00 16 56.0	-1.3
ORIF	**Oris-en-Rattie**	**151.79**	**335**	*e*PKP	PKPbc	00 16 56.0	-1.3
TCF	**Toulx Ste Croi**	**151.89**	**341**	*e*PKP1	PKPbc	00 16 56.3	-1.2
TCF	**Toulx Ste Croi**	**151.89**	**341**	*e*PKP	PKPbc	00 16 56.3	-1.2
PGF	**Pioggiola**	**152.26**	**328**	*e*PKP1	PKPbc	00 16 56.8	-1.7
PGF	**Pioggiola**	**152.26**	**328**	*e*PKP	PKPbc	00 16 56.8	-1.7
VIVF	**Saint-Julien-l**	**152.31**	**337**	*e*PKP1	PKPbc	00 16 57.0	-1.5
VIVF	**Saint-Julien-l**	**152.31**	**337**	*e*PKP	PKPbc	00 16 57.0	-1.5
FRF	**La Foret Royal**	**152.58**	**332**	*e*PKP1	PKPbc	00 16 57.2	-1.9
FRF	**La Foret Royal**	**152.58**	**332**	*e*PKP	PKPbc	00 16 57.2	-1.9
SMRF	**Simiane la Rot**	**152.69**	**334**	*e*PKP1	PKPbc	00 16 58.1	-1.3
	comp=Z,23nm,1.1s						
SMRF	**Simiane la Rot**	**152.69**	**334**	*e*PKP	PKPbc	00 16 58.1	-1.3
LMR	**La Mourre**	**152.82**	**332**	*e*PKP1	PKPbc	00 16 58.5	-1.2
LMR	**La Mourre**	**152

BRTR Keskin Array B 83.70 313 P **P** **00 27 18.7 +1.8**

*ISCJB **07** 00:26:38.1±1.6, 36°.20N±0°.07×21°.38E±0°.08, h26km±10km, Error ellipse: s-maj=13.1km s-min=9.4km az=43.9*
*CSEM **07** 00:26:38.4±0.6, 36°.28N×21°.51E, h10km, ML2.4/2, Error ellipse: s-maj=13.5km s-min=7.4km az=49.0*
*ATH **07** 00:26:39.1, 36°.28N×21°.48E, h34km±3km, MD3.3/12*
*THE **07** 00:26:40.1, 36°.30N×21°.57E, h12km±4km, ML2.4/2, Error ellipse: s-maj=8.1km s-min=3.1km az=247.0*

ISC 07 00:26:38.6±1.5, 36°.23N±0°.06×21°.47E±0°.08, h16km±7km, n47, σ0°.74/59, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.70**	**18**	*e*PN	**Pg**	**00 26 52.2**	**-0.1**
PYL				*e*SN	**Sg**	**00 27 02.7**	**+1.1**
PYL	**PYLOS**	**0.70**	**18**	P	**Pg**	**00 26 52.0**	**-0.3**
PYL	**PYLOS**	**0.70**	**18**	*e*Pn	**Pg**	**00 26 52.2**	**-0.1**
ITM	**Ithomi**	**1.02**	**21**	*e*PN	**Pg**	**00 26 57.2**	**-1.1**
ITM	**Ithomi**	**1.02**	**21**	P	**Pg**	**00 26 57.2**	**-1.1**
ITM	**Ithomi**	**1.02**	**21**	*e*Pn	**Pg**	**00 26 57.2**	**-1.1**
KYTH	**Kithira**	**1.27**	**87**	*e*PN	**Pn**	**00 27 02.5**	**+0.8**
KYTH	**Kithira**	**1.27**	**87**	P	**Pn**	**00 27 02.5**	**+0.8**
KYTH	**Kithira**	**1.27**	**87**	*e*Pn	**Pn**	**00 27 02.5**	**+0.8**
VLI	**Veliai**	**1.28**	**67**	*e*PN	**Pn**	**00 27 02.3**	**+0.4**
VLI				*e*SN	**Sn**	**00 27 19.0**	**+0.2**
VLI	**Veliai**	**1.28**	**67**	P	**Pn**	**00 27 02.2**	**+0.3**
VLI	**Veliai**	**1.28**	**67**	P	**Pn**	**00 27 02.2**	**+0.3**
VLI				*e*Sn	**Sn**	**00 27 19.0**	**+0.2**
VLX	**Vlachokerasia**	**1.35**	**32**	*e*PN	**Pn**	**00 27 03.1**	**+0.2**
VLX				*e*SN	**Sn**	**00 27 19.7**	**-0.9**
VLX	**Vlachokerasia**	**1.35**	**32**	P	**Pn**	**00 27 03.0**	**+0.1**
VLX				S	**Sn**	**00 27 20.3**	**-0.3**
VLX	**Vlachokerasia**	**1.35**	**32**	P	**Pn**	**00 27 03.0**	**+0.1**
VLX				*e*Sn	**Sn**	**00 27 19.7**	**-0.9**
VLX				S	**Sn**	**00 27 20.3**	**-0.3**
RLS	**Riolos of Patr**	**1.83**	**0**	*e*PB	**Pn**	**00 27 09.7**	**+0.3**
RLS				*e*SN	**Sn**	**00 27 32.4**	**+0.2**
RLS	**Riolos of Patr**	**1.83**	**0**	*e*Pb	**Pn**	**00 27 09.7**	**+0.3**
RLS				*e*Sn	**Sn**	**00 27 32.4**	**+0.2**
GUR	**Goura**	**1.84**	**22**	*e*PN	**Pn**	**00 27 09.7**	**+0.1**
GUR	**Goura**	**1.84**	**22**	P	**Pn**	**00 27 09.9**	**+0.3**
GUR	**Goura**	**1.84**	**22**	*e*Pn	**Pn**	**00 27 09.7**	**+0.1**
DID	**Didima**	**1.91**	**48**	*e*PN	**Pn**	**00 27 09.9**	**-0.6**
DID	**Didima**	**1.91**	**48**	P	**Pn**	**00 27 09.5**	**-1.0**
DID	**Didima**	**1.91**	**48**	P	**Pn**	**00 27 09.5**	**-1.0**
DID	**Didima**	**1.91**	**48**	*e*Pn	**Pn**	**00 27 09.9**	**-0.6**
LAKA	**Lakka**	**2.05**	**11**	P	**Pn**	**00 27 13.2**	**+0.8**
LAKA	**Lakka**	**2.05**	**11**	P	**Pn**	**00 27 13.2**	**+0.8**
VLS	**Valsamata**	**2.07**	**340**	*e*PN	**Pn**	**00 27 12.6**	**-0.1**
VLS	**Valsamata**	**2.07**	**340**	*e*Pn	**Pn**	**00 27 12.6**	**-0.1**
LTK	**Loutraki**	**2.15**	**33**	*e*PN	**Pn**	**00 27 13.3**	**-0.6**
LTK	**Loutraki**	**2.15**	**33**	P	**Pn**	**00 27 12.2**	**-1.7**
LTK	**Loutraki**	**2.15**	**33**	P	**Pn**	**00 27 12.2**	**-1.7**
LTK	**Loutraki**	**2.15**	**33**	*e*Pn	**Pn**	**00 27 13.3**	**-0.6**
KARN	**Karanos**	**2.16**	**112**	P	**Pn**	**00 27 14.1**	**+0.2**
KARN	**Karanos**	**2.16**	**112**	P	**Pn**	**00 27 14.1**	**+0.2**
EFP	**Efpalio**	**2.22**	**9**	*e*PB	**Pn**	**00 27 15.8**	**+1.0**
EFP	**Efpalio**	**2.22**	**9**	P	**Pn**	**00 27 15.7**	**+0.9**
EFP				S	**Pg**	**00 27 25.9**	**+4.7**
EFP	**Efpalio**	**2.22**	**9**	P	**Pn**	**00 27 15.7**	**+0.9**
KALE	**Kalithea**	**2.22**	**14**	P	**Pn**	**00 27 15.8**	**+1.0**
KALE	**Kalithea**	**2.22**	**14**	P	**Pn**	**00 27 15.8**	**+1.0**
DSF	**Desfina**	**2.34**	**21**	P	**Pn**	**00 27 14.8**	**-1.6**
DSF	**Desfina**	**2.34**	**21**	P	**Pn**	**00 27 14.8**	**-1.6**
LKR	**Lokris**	**2.71**	**26**	*e*PN	**Pn**	**00 27 20.7**	**-0.8**
LKR	**Lokris**	**2.71**	**26**	*e*Pn	**Pn**	**00 27 20.7**	**-0.8**
AGG	**Agios Georgios**	**2.87**	**14**	P	**Pn**	**00 27 23.9**	**+0.2**
AGG	**Agios Georgios**	**2.87**	**14**	P	**Pn**	**00 27 23.9**	**+0.2**
STN	**Ston**	**7.24**	**337**	*e*Pn	**Pn**	**00 29 19.0**	**-4.3**
STON				Sn	**Sn**	**00 29 33.4**	**-12**
NVLJ	**Novalja**	**9.72**	**331**	*e*Pn	**Pn**	**00 28 57.7**	**-0.1**
NVLJ				Sn	**Sn**	**00 30 35.8**	**-11**

*ISCJB **07** 00:29:05.7±0.8, 25°.81N±0°.06×92°.87E±0°.07, h52km±9km, mb3.8/16, Error ellipse: s-maj=11.7km s-min=8.4km az=139.7*
*IDC **07** 00:29:05.9±0.8, 25°.85N×92°.78E, h32km±4km, mb3.6/13, mb1 3.7/14, mb1mx3.6/26, mbtmp3.6/14, ML4.1/1, Error ellipse: s-maj=32.4km s-min=14.2km az=57.0*
*NEIC **07** 00:29:07.4±0.8, 25°.82N×92°.85E, h51km±9km, mb3.9/5, Error ellipse: s-maj=12.0km s-min=6.4km az=53.0*

ISC 07 00:29:07.3±0.8, 25°.81N±0°.06×92°.82E±0°.06, h49km±8km, h33km±.5km: pP-P, n38, σ0°.68/40, mb3.8/16, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**0.88**	**255**	*e*PKP	**Pn**	**00 29 23.4**	**0.0**
SHL				*e*S	**Sn**	**00 29 35.0**	**-0.1**
LSA	**Lhasa**	**4.15**	**339**	*e*Pn	**Pn**	**00 30 09.4**	**+1.3**
LSA				*e*Sn	**Sn**	**00 30 55.2**	**-0.2**
BOK	**Bokaro**	**6.61**	**254**	*e*PKP	**Pn**	**00 30 52.3**	**+10**
BOK				*e*S	**Sn**	**00 31 52.2**	**-3.8**
BOK				AML	AML	00 31 55.5	
	comp=E,19nm,0.6s						
BOK				AML	AML	00 31 55.5	
	comp=N,30nm,0.4s						
CHTO	**Chiang Mai**	**8.97**	**140**	*e*Pn	**Pn**	**00 31 14.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**9.25**	**141**	Pn	**Pn**	**00 31 17.9**	**-0.2**
	comp=N,0.5nm,0.3s,baz=311,slow=15,SNR=3.2						
CMAR	**Chiang Mai Arr**	**9.25**	**141**	Pn	**Pn**	**00 31 17.9**	**-0.2**
ENH	**Enshi**	**15.37**	**69**	*e*Pn	**Pn**	**00 32 40.3**	**-0.6**
	comp=N,15nm,0.6s						
TKM2	**Tokmak 2**	**22.15**	**325**	*e*P	**P**	**00 33 58.7**	**-0.1**
	comp=N,4.6nm,0.9s,mb3.9						
AAK	**Ala-Archa**	**22.54**	**323**	P	**P**	**00 34 03.6**	**+0.6**
	comp=N,0.5nm,0.3s,mb3.4,baz=137,slow=5.6,SNR=6.0						
AAK	**Ala-Archa**	**22.54**	**323**	*e*Pn	**P**	**00 34 02.7**	**-0.2**
	comp=N,5.3nm,1.3s,mb3.8						
MKAR	**Makanchi Array**	**22.56**	**341**	P	**P**	**00 34 03.1**	**-0.1**
	comp=N,1.0nm,0.4s,mb3.6,baz=146,slow=13,SNR=27						
MKAR				pP		00 34 11.8	
	comp=N,4.4nm,0.7s,baz=147,slow=12,SNR=12						
MKAR				sP	sP	00 34 15.0	-5.8
	comp=N,3.2nm,0.5s,baz=145,slow=13,SNR=13						
MKAR	**Makanchi Array**	**22.56**	**341**	P	**P**	**00 34 03.1**	**-0.1**
MKAR				pP		00 34 11.8	
MKAR				sP	sP	00 34 15.0	-5.8
EKS2	**Erkin-Say**	**22.95**	**322**	*e*P	**P**	**00 34 07.9**	**+0.6**
	comp=N,2.9nm,0.6s,mb3.9						
SONM	**Songino Array**	**24.45**	**22**	P	**P**	**00 34 21.8**	**+0.4**
	comp=N,0.4nm,0.5s,mb3.1,baz=208,slow=9.1,SNR=4.5						
SONM	**Songino Array**	**24.45**	**22**	P	**P**	**00 34 21.8**	**+0.4**
ULN	**Ulaanbaatar**	**24.71**	**23**	*e*P	**P**	**00 34 23.1**	**-0.7**
KURK	**Kurchatov**	**27.16**	**340**	P	**P**	**00 34 43.7**	**-2.1**
	comp=N,0.3nm,0.3s,mb3.3,baz=171,slow=6.4,SNR=6.3						
KURK				sP	sP	00 34 58.9	-5.4
	comp=N,1.2nm,0.8s,baz=152,slow=10,SNR=6.4						
KURK	**Kurchatov**	**27.16**	**340**	*e*P	**P**	**00 34 46.3**	**+0.4**
KURK				sP	sP	00 34 58.9	-5.4
ZALV	**Zalesovo Beam**	**28.73**	**350**	P	**P**	**00 35 00.6**	**+0.7**
	comp=N,0.5nm,0.5s,mb3.5,baz=178,slow=9.4,SNR=3.5						
ZALV				pP	pP	00 35 09.8	-2.7
	comp=N,1.6nm,0.7s,baz=182,slow=8.5,SNR=4.1						
ZALV	**Zalesovo Beam**	**28.73**	**350**	P	**P**	**00 35 00.6**	**+0.7**
ZALV				pP	pP	00 35 09.8	-2.7
ABKAR	**Akbulak array**	**34.61**	**321**	*e*P	**P**	**00 35 50.9**	**-0.6**
	comp=N,1.3nm,0.8s,mb3.9						
BRTR	**Keskin Array B**	**50.82**	**301**	P	**P**	**00 38 02.9**	**-0.1**
	comp=N,0.6nm,0.5s,mb3.8,baz=123,slow=8.5,SNR=4.8						
BRTR	**Keskin Array B**	**50.82**	**301**	P	**P**	**00 38 02.9**	**-0.1**
AKASG	**Malin Array Be**	**53.91**	**315**	P	**P**	**00 38 24.9**	**-0.7**
	comp=N,1.2nm,0.5s,mb4.1,baz=81,slow=6.7,SNR=4.9						
AKASG	**Malin Array Be**	**53.91**	**315**	P	**P**	**00 38 24.9**	**-0.8**
FINES	**FINESS Array B**	**56.59**	**328**	P	**P**	**00 38 44.3**	**-0.5**
	comp=N,2.7nm,0.9s,mb4.3,baz=91,slow=9.5,SNR=5.0						
FINES	**FINESS Array B**	**56.59**	**328**	P	**P**	**00 38 44.3**	**-0.5**
ARCES	**ARCESS Array B**	**58.16**	**338**	P	**P**	**00 38 55.8**	**0.0**
	comp=N,2.2nm,0.8s,mb4.2,baz=102,slow=7.7,SNR=6.9						
ARCES	**ARCESS Array B**	**58.16**	**338**	P	**P**	**00 38 55.8**	**0.0**
WRA	**Warramunga Arr**	**60.78**	**134**	P	**P**	**00 39 15.4**	**+1.0**
	comp=N,0.4nm,0.6s,mb3.8,baz=326,slow=7.2,SNR=8.1						
WRA				pP	pP	00 39 25.0	-3.0
	comp=N,1.0nm,0.7s,baz=323,slow=7.4,SNR=7.0						
WRA	**Warramunga Arr**	**60.78**	**134**	P	**P**	**00 39 15.4**	**+1.0**
WRA				pP	pP	00 39 25.0	-3.0
ASAR	**Alice Springs**	**63.24**	**138**	pP	pP	00 39 41.9	-2.7
	comp=N,0.3nm,0.3s,baz=321,slow=6.4,SNR=2.9						

NOA NORSAR Array B 63.75 328 P **P** **00 39 32.9 -0.9**
comp=N,0.8nm,0.7s,mb3.9,baz=106,slow=3.9,SNR=3.7
NOA NORSAR Array B 63.75 328 P **P** **00 39 32.9 -0.9**
GERES GERESS Array B 64.06 314 P **P** **00 39 36.5 +0.5**
comp=N,0.5nm,0.4s,mb3.9,baz=68,slow=6.4,SNR=10
GERES pP pP 00 39 46.2 -3.5
comp=N,0.4nm,0.5s,baz=65,slow=6.3,SNR=3.0
GERES GERESS Array B 64.06 314 P **P** **00 39 36.5 +0.5**
GERES pP pP 00 39 46.2 -3.5
TORD Torodi Ar. Bea 85.38 282 P **P** **00 41 41.0 +1.0**
comp=N,0.5nm,0.5s,mb3.9,baz=65,slow=4.2,SNR=18
TORD Torodi Ar. Bea 85.38 282 P **P** **00 41 41.0 +1.0**

*CSEM **07** 00:29:12.9±0.3, 37°.91N×28°.90E, h20km, MD2.8, Error ellipse: s-maj=10.1km s-min=6.0km az=84.0*
*ISCJB **07** 00:29:13.9±0.7, 37°.92N±0°.03×28°.79E±0°.06, h7km±10km, Error ellipse: s-maj=8.0km s-min=5.3km az=162.5*
*DDA **07** 00:29:13.6, 37°.93N×28°.83E, h7km±2km, Md2.8*

ISC 07 00:29:13.9±0.7, 37°.92N±0°.03×28°.81E±0°.09, h17km±9km, n12, σ0°.98/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DENT	**Denizli**	**0.24**	**133**	*e*PG	**Pg**	**00 29 21.1**	**+1.9**
DENT	**Denizli**	**0.24**	**133**	*e*Pg	**Pg**	**00 29 21.1**	**+1.8**
DNZL	**Cakiroluk**	**0.29**	**140**	*i* P	**Pg**	**00 29 20.0**	**-0.1**
DNZL				*i* S	**Sg**	**00 29 23.6**	**-0.8**
DNZL	**Cakiroluk**	**0.29**	**140**	*i* P	**Pg**	**00 29 20.0**	**-0.2**
DNZL				*i* S	**Sg**	**00 29 23.6**	**-0.8**
MANT	**Manisa**	**0.61**	**341**	*i* P	**Pg**	**00 29 25.5**	**-0.4**
MANT				*i* S	**Sg**	**00 29 33.7**	**-0.3**
MANT	**Manisa**	**0.61**	**341**	*i* P	**Pg**	**00 29 25.5**	**-0.4**
MANT				*i* S	**Sg**	**00 29 33.7**	**-0.3**
KULA	**Kula-Manisa**	**0.61**	**349**	*e*PG	**Pg**	**00 29 25.8**	**-0.1**
KULA				*e*SG	**Sg**	**00 29 34.3**	**+0.2**
KULA	**Kula-Manisa**	**0.61**	**349**	*e*Pg	**Pg**	**00 29 25.8**	**-0.1**
KULA				*e*Sg	**Sg**	**00 29 34.3**	**+0.2**
AYDN	**Tasoluk**	**0.78**	**251**	*i* P	**Pb**	**00 29 29.2**	**+0.2**
AYDN				*i* S	**Sb**	**00 29 39.6**	**+0.2**
AYDN	**Tasoluk**	**0.78**	**251**	*i* P	**Pb**	**00 29 29.2**	**+0.1**
AYDN				*i* S	**Sb**	**00 29 39.6**	**+0.2**
DEMI	**Demirci**	**1.13**	**356**	*i* P	**Pn**	**00 29 32.7**	**-2.3**
DEMI				*i* S	**Sb**	**00 29 50.9**	**+1.5**
DEMI	**Demirci**	**1.13**	**356**	*i* P	**Pn**	**00 29 32.7**	**-2.3**
DEMI				*i* S	**Sb**	**00 29 50.9**	**+1.5**

*DDA **07** 00:34:17.4, 35°.93N×28°.03E, h16km±2km, Md3.2*
*ISK **07** 00:34:20.4, 36°.25N×28°.36E, h22km, MD2.9*
*CSEM **07** 00:34:22.8±0.2, 36°.37N×28°.40E, h30km, MD3.4, Error ellipse: s-maj=5.2km s-min=3.7km az=159.0*
*ISCJB **07** 00:34:22.8±0.6, 36°.37N±0°.04×28°.39E±0°.04, h44km±10km, Error ellipse: s-maj=6.8km s-min=4.8km az=158.6*
*ATH **07** 00:34:22.8, 36°.40N×28°.28E, h42km±1km, MD3.4/6*
*THE **07** 00:34:23.7, 36°.36N×28°.45E, h34km±2km, Error ellipse: s-maj=3.8km s-min=2.2km az=243.0*

ISC 07 00:34:23.4±0.6, 36°.38N±0°.04×28°.40E±0°.04, h35km±4km, n39, σ0°.72/57, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.28**	**234**	*e*P	**Pb**	**00 34 31.0**	**0.0**
ARG				*e*S	**Sb**	**00 34 37.0**	**+0.9**
ARG	**Arkhangelos**	**0.28**	**234**	P	**Pb**	**00 34 31.0**	**0.0**
ARG				S	**Sb**	**00 34 37.0**	**+0.9**
ARG	**Arkhangelos**	**0.28**	**234**	*e*Pb	**Pb**	**00 34 31.0**	**0.0**
ARG				*e*S	**Sb**	**00 34 37.0**	**+0.9**
TURN	**Turunc**	**0.52**	**18**	*i* P	**Pn**	**00 34 33.5**	**-0.9**
TURN				*i* S	**Sb**	**00 34 41.4**	**-0.6**
TURN	**Turunc**	**0.52**	**18**	*i* P	**Pn**	**00 34 33.5**	**-0.9**
TURN				*i* S	**Sb**	**00 34 41.4**	**-0.6**
FETY	**Fethiye**	**0.61**	**65**	*e*PG	**Pn**	**00 34 34.7**	**-0.9**
FETY				*e*SG	**Sn**	**00 34 44.9**	**+0.8**
FETY	**Fethiye**	**0.61**	**65**	*e*Pg	**Pn**	**00 34 34.7**	**-0.8**
FETY				*e*Sg	**Sn**	**00 34 44.9**	**+0.8**
DAT	**Datca**	**0.75**	**298**	*e*PG	**Pn**	**00 34 36.4**	**-1.2**
DAT	**Datca**	**0.75**	**298**	*e*Pg	**Pn**	**00 34 36.4**	**-1.1**
YER	**Yerkesik**	**0.76**	**353**	*e*PG	**Pn**	**00 34 38.0**	**+0.3**
YER	**Yerkesik**	**0.76**	**353**	*e*Pg	**Pn**	**00 34 38.0**	**+0.3**
AKAS	**Kas**	**0.98**	**98**	*i* P	**Pn**	**00 34 39.8**	**-0.9**
AKAS				*i* S	**Sn**	**00 34 54.0**	**+0.6**
AKAS	**Kas**	**0.98**	**98**	*i* P	**Pn**	**00 34 39.8**	**-0.9**
AKAS				*i* S	**Sn**	**00 34 54.0**	**+0.6**
NIS1	**Nisyros Isl.**	**1.01**	**283**	P	**Pn**	**00 34 40.9**	**-0.2**
NIS1				S	**Sn**	**00 34 55.1**	**+1.0**
NIS1	**Nisyros Isl.**	**1.01**	**283**	P	**Pn**	**00 34 40.9**	**-0.2**
NIS1				S	**Sn**	**00 34 55.1**	**+1.0**
MLSB	**Milas**	**1.04**	**331**	*e*PN	**Pn**	**00 34 41.6**	**0.0**
MLSB	**Milas**	**1.04**	**331**	*e*Pn	**Pn**	**00 34 41.6**	**0.0**
BODT	**Bodrum**	**1.11**	**308**	*e*PN	**Pn**	**00 34 41.5**	**-1.0**
BODT	**Bodrum**	**1.11**	**308**	*e*Pn	**Pn**	**00 34 41.5**	**-1.0**
GLHS	**Glhisar (BURDU**	**1.17**	**48**	*e*PN	**Pn**	**00 34 43.6**	**+0.3**
GLHS	**Glhisar (BURDU**	**1.17**	**48**	*e*Pn	**Pn**	**00 34 43.7**	**+0.3**
ELL	**Elmali**	**1.27**	**73**	*e*PN	**Pn**	**00 34 44.4**	**-0.3**
ELL	**Elmali**	**1.27**	**73**	*e*Pn	**Pn**	**00 34 44.4**	**-0.2**
KARP	**Karpathos**	**1.30**	**231**	*e*P	**Pn**	**00 34 44.8**	**-0.3**
KARP				*e*S	**Sn**	**00 35 01.5**	**+0.2**
KARP	**Karpathos**	**1.30**	**231**	P	**Pn**	**00 34 44.8**	**-0.3**
KARP				S	**Sn**	**00 35 01.2**	**-0.1**
KARP	**Karpathos**	**1.30**	**231**	*e*P	**Pn**	**00 34 44.8**	**-0.3**
KARP				*e*S	**Sn**	**00 35 01.5**	**+0.2**
AYDN	**Tasoluk**	**1.35**	**342**	*i* P	**Pn**	**00 34 47.0**	**+1.3**
AYDN				*i* S	**Sn**	**00 35 03.7**	**+1.2**
AYDN	**Tasoluk**	**1.35**	**342**	*i* P	**Pn**	**00 34 47.0**	**+1.2**
AYDN				*i* S	**Sn**	**00 35 03.7**	**+1.3**
SMG	**Samos**	**1.83**	**317**	*e*P	**Pn**	**00 34 52.1**	**-0.2**
SMG				*e*S	**Sn**	**00 35 13.3**	**-0.9**
SMG	**Samos**	**1.83**	**317**	*e*P	**Pn**	**00 34 52.1**	**-0.2**
SMG				*e*S	**Sn**	**00 35 13.3**	**-0.9**
KULA	**Kula-Manisa**	**2.14**	**5**	*e*PN	**Pn**	**00 34 57.8**	**+1.1**
KULA	**Kula-Manisa**	**2.14**	**5**	*e*Pn	**Pn**	**00 34 57.8**	**+1.1**
ZKR	**Zakros**	**2.18**	**235**	*e*P	**Pn**	**00 34 57.5**	**+0.3**
ZKR	**Zakros**	**2.18**	**235**	P	**Pn**	**00 34 57.8**	**+0.6**
ZKR	**Zakros**	**2.18**	**235**	*e*P	**Pn**	**00 34 57.5**	**+0.3**
APE	**Apeiranthos**	**2.41**	**288**	*e*P	**Pn**	**00 35 00.0**	**-0.3**
APE	**Apeiranthos**	**2.41**	**288**	*e*P	**Pn**	**00 35 00.0**	**-0.3**
LAST	**Lasithi**	**2.67**	**244**	*e*P	**Pn**	**00 35 03.7**	**-0.2**
LAST	**Lasithi**	**2.67**	**244**	*e*P	**Pn**	**00 35 03.7**	**-0.2**

*ISCJB **07** 00:52:16.0±1.7, 18°.64N±0°.04×146°.7E±0°.1, h57km±14km, mb4.6/25, MS3.4/10, Error ellipse: s-maj=16.8km s-min=6.8km az=177.2*
*NEIC **07** 00:52:17.1±1.5, 18°.59N×146°.58E, h50km±14km, mb4.9/8, Error ellipse: s-maj=12.0km s-min=5.9km az=80.0*
*IDC **07** 00:52:20.0±2.4, 18°.61N×146°.49E, h74km±21km, mb4.0/15, mb1 4.1/18, mb1mx4.0/26, mbtmp4.0/18, MS3.4/11, Ms1 3.4/11, ms1mx3.2/37, Error ellipse: s-maj=22.5km s-min=10.0km az=85.0*

ISC 07 00:52:18.7±1.3, 18°.66N±0°.04×146°.6E±0°.1, h64km±11km, n65, σ1°.01/61, mb4.6/25, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.31**	**198**	P	**Pn**	**00 53 36.6**	**+1.2**
	18nm,0.3s,baz=170,slow=2.6,SNR=7.7						
GUMO				S	**Sn**	**00 54 35.8**	**+0.5**
	13nm,0.3s,baz=0.0,slow=20,SNR=2.5						
GUMO				LR	LR	00 55 33.3	
	comp=Z,218nm,20.4s,baz=101,slow=37						
GUMO	**Guam**	**5.31**	**198**	*e*Pn	**Pn**	**00 53 32.4**	**-3.1**
GUMO				S	**Sn**	**00 54 35.8**	**+0.5**
GUMO				LR	LR	00 55 33.3	
CBIJ	**Chichi jima**	**9.33**	**335**	P	**Pn**	**00 54 31.2**	**+0.9**
	3.2nm,0.3s,baz=108,slow=3.2,SNR=4.1						
CBIJ				S	**Sn**	**00 56 12.4**	**-1.3**
	3.0nm,0.3s,baz=288,slow=19,SNR=4.5						
JOW	**Kunigami**	**18.74**	**299**	*e*Pn	**Pn**	**00 56 32.8**	**-0.6**
	35nm,1.9s						
MJAR	**Matsushiro Arr**	**19.28**	**339**	P	**Pn**	**00 56 40.5**	**+0.7**
	1.2nm,0.3s,baz=179,slow=7.4,SNR=4.8						
MJAR	**Matsushiro Arr**	**19.28**	**339**	P	**Pn**	**00 56 40.5**	**+0.7**
MAJO	**Matsushiro**	**19.28**	**339**	*e*P	**Pn**	**00 56 36.8**	**-3.1**
YULB	**Yu-li**	**24.06**	**286**	*e*P	**P**	**00 57 28.7**	**+0.6**
YHNB	**Yeheng**	**24.17**	**289**	*e*P	**P**	**00 57 29.6**	**+0.6**
SSLB	**Suanglung**	**24.42**	**287**	*e*P	**P**	**00 57 31.1**	**-0.3**
KSRS	**Korea Array**	**24.86**	**323**	P	**P**	**00 57 36.2**	**+1.0**
	3.6nm,0.9s,mb3.9,baz=148,slow=10.0,SNR=7.4						
ASAJ	**Asahikawa**	**25.60**	**353**	LR	LR	01 07 30.6	

	comp=Z,82nm,21.2s,baz=157,slow=36						
INCN	**Inchon**	**25.63**	**321**	*e*P	**P**	**00 57 41.7**	**-0.5**
PMG	**Port Moresby**	**27.89**	**179**	P	**P**	**00 58 01.9**	**-0.8**
	22nm,0.8s,mb4.9,baz=355,slow=9.8,SNR=8.2						
PMG	**Port Moresby**	**27.89**	**179**	*e*P	**P**	**00 58 02.0**	**-0.7**
	26nm,0.9s,mb4.8						
COEN	**Coen**	**32.59**	**186**	*e*P	**P**	**00 58 42.6**	**-1.6**
	89nm,0.8s,mb5.8						
BJT	**Baijiatuan**	**33.74**	**316**	*e*P	**P**	**00 58 53.7**	**-0.4**
TTSI	**Tana Toraja**	**34.06**	**233**	P	**P**	**00 58 59.0**	**+1.9**
	560nm37nm,0.8s,mb5.4						
KAKA	**Kakadu**	**34.16**	**205**	*e*P	**P**	**00 58 57.0**	**-0.9**
SPSI	**Sidrap Palu**	**34.69**	**232**	P	**P**	**00 59 03.2**	**+0.6**
	21nm,0.9s,mb5.1						
BNSI	**Bone**	**34.73**	**231**	P	**P**	**00 59 05.0**	**+2.1**
	36nm,0.9s,mb5.3						
BKSI	**Bulukumba**	**35.34**	**230**	P	**P**	**00 59 09.3**	**+1.2**
	392nm23nm,0.7s,mb5.2						
KAPI	**Kappang**	**35.40**	**231**	*e*P	**P**	**00 59 08.7**	**0.0**
	14nm,0.7s,mb5.0						
PETK	**Petropavlovsk-**	**35.45**	**12**	LR	LR	01 15 22.8	
	comp=Z,46nm,18.0s,baz=274,slow=39						
CTA	**Charters Tower**	**38.51**	**181**	LR	LR	01 12 23.6	
	comp=Z,98nm,19.8s,baz=229,slow=31						
WRAB	**Tennant Creek**	**40.19**	**198**	*e*P	**P**	**00 59 48.5**	**-0.4**
	123nm,2.8s,mb5.1						
WRA	**Warramunga Arr**	**40.20**	**198**	P	**P**	**00 59 48.2**	**-0.9**
	5.6nm,0.9s,mb4.3,baz=22,slow=8.0,SNR=33						
WRA				PcP	PcP	01 01 51.6	-0.5
	1.2nm,0.6s,baz=14,slow=3.4,SNR=7.5						
WRA				LR	LR	01 15 32.5	
	comp=Z,70nm,21.8s,baz=80,slow=35						
WRA	**Warramunga Arr**	**40.20**	**198**	P	**P**	**00 59 48.2**	**-0.9**
WRA				PcP	PcP	01 01 51.6	-0.5
WRA				LR	LR	01 15 32.5	
FITZ	**Fitzroy Crossi**	**41.94**	**211**	*e*P	**P**	**01 00 03.0**	**-0.3**
ULN	**Ulaanbaatar**	**43.33**	**321**	*e*P	**P**	**01 00 14.4**	**+0.1**
	2.3nm,0.6s,mb4.1						
SONM	**Songino Array**	**43.70**	**321**	P	**P**	**01 00 18.9**	**+1.5**
	1.5nm,0.5s,mb4.0,baz=138,slow=9.0,SNR=14						
SONM				PcP	PcP	01 02 04.3	+0.9
	0.4nm,0.6s,baz=115,slow=3.4,SNR=2.4						
SONM				LR	LR	01 17 07.9	
	comp=Z,66nm,20.5s,baz=137,slow=34						
SONM	**Songino Array**	**43.70**	**321**	P	**P**	**01 00 18.9**	**+1.5**
SONM				PcP	PcP	01 02 04.2	+0.9
SONM				LR	LR	01 17 07.9	
ASAR	**Alice Springs**	**43.85**	**197**	P	**P**	**01 00 17.8**	**-1.0**
	1.2nm,0.5s,mb3.9,baz=19,slow=7.9,SNR=16						
ASAR				PcP	PcP	01 02 04.8	+0.6
	1.1nm,0.6s,baz=25,slow=3.3,SNR=5.7						
ASAR	**Alice Springs**	**43.85**	**197**	P	**P**	**01 00 17.8**	**-1.0**
ASAR				PcP	PcP	01 02 04.8	+0.6
CMAR	**Chiang Mai Arr**	**45.07**	**278**	P	**P

AOPR	**Arecibo Observ**	**0.90 202**	*e*P	Pn	01 14 01.8	-0.5
AOPR	**Arecibo Observ**	**0.90 202**	*e*P	Pn	01 14 02.0	-0.4
AOPR	**Arecibo Observ**	**0.90 202**	*e*S	Sn	01 14 17.7	0.0
AOPR	**Arecibo Observ**	**0.90 202**	*e*P	Pn	01 14 01.8	-0.5
AOPR			*e*S	Sn	01 14 17.6	-0.1
CBYP	**Canovanas**	**1.05 150**	*e*P	Pn	01 14 03.1	-0.8
CBYP	**Canovanas**	**1.05 150**	*e*S	Sn	01 14 21.2	+0.9
CBYP	**Canovanas**	**1.05 150**	*e*P	Pn	01 14 03.3	-0.6
CBYP	**Canovanas**	**1.05 150**	*e*P	Pn	01 14 03.1	-0.8
CBYP			*e*S	Sn	01 14 20.2	-0.2
SJG	**San Juan**	**1.10 167**	*e*P	Pn	01 14 04.1	-0.3
SJG	**San Juan**	**1.10 167**	*e*P	Pn	01 14 04.7	+0.3
SJG			*e*S	Sn	01 14 21.3	0.0
SJG	**San Juan**	**1.10 167**	*e*S	Sn	01 14 23.3	+2.0
SJG	**San Juan**	**1.10 167**	*e*P	Pn	01 14 04.6	+0.2
SJG	**San Juan**	**1.10 167**	*e*P	Pn	01 14 05.0	+0.6
SJG	**San Juan**	**1.10 167**	*e*P	Pn	01 14 04.1	-0.3
SJG			*e*S	Sn	01 14 21.2	-0.1
HUMP	**Col San Antoni**	**1.17 153**	*e*P	Pn	01 14 04.7	-0.4
HUMP	**Col San Antoni**	**1.17 153**	*e*P	Pn	01 14 04.7	-0.4
HUMP			*e*S	Sn	01 14 22.6	0.0
CRPR	**Cabo Rojo, PR**	**1.35 210**	*e*S	Sn	01 14 29.1	+2.8
CRPR	**Cabo Rojo, PR**	**1.35 210**	*e*P	Pn	01 14 09.2	+2.0
CRPR	**Cabo Rojo, PR**	**1.35 210**	*e*P	Pn	01 14 09.2	+2.0
CRPR			*e*S	Sn	01 14 29.1	+2.8
MTP	**Monte Pirata**	**1.35 143**	*e*P	Pn	01 14 06.8	-0.4
MTP	**Monte Pirata**	**1.35 143**	*e*S	Sn	01 14 27.9	+1.5
MTP	**Monte Pirata**	**1.35 143**	*e*P	Pn	01 14 07.2	0.0
MTP	**Monte Pirata**	**1.35 143**	*e*P	Pn	01 14 06.8	-0.4
MTP			*e*S	Sn	01 14 25.9	-0.4
STVI	**Saint Thomas**	**1.61 121**	*e*P	Pn	01 14 10.2	0.0
STVI	**Saint Thomas**	**1.61 121**	*e*P	Pn	01 14 10.2	0.0
STVI			*e*S	Sn	01 14 31.8	+0.1
STVI	**Saint Thomas**	**1.61 121**	*e*P	Pn	01 14 10.2	0.0
STVI			*e*S	Sn	01 14 31.7	0.0

IDC 07 01:18:09.2±5.3, 29.86S×177.16W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.8/16, mbtmp3.9/2, Error ellipse: s-maj=309.7km s-min=42.1km az=161.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**9.63**	**208**	Sn	Sn	01 22 15.1	-2.8
	0.4nm,0.3s,baz=146,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**43.87**	**266**	P	P	01 26 17.9	+0.3
	0.4nm,0.4s,baz=101,slow=6.7,SNR=6.4						
WRA	**Warramunga Arr**	**44.81**	**271**	P	P	01 26 24.7	-0.4
	1.7nm,0.5s,baz=112,slow=7.2,SNR=11						
FINES	**FINESS Array B**	**144.89**	**341**	PKP	PKPdf	01 37 46.3	-1.2
	0.8nm,0.5s,baz=66,slow=3.4,SNR=7.6						
NOA	**NORSAR Array B**	**148.33**	**352**	PKPbc	PKPbc	01 37 56.5	-0.3
	0.3nm,0.5s,baz=15,slow=4.2,SNR=2.4						
AKASG	**Malin Array Be**	**151.31**	**324**	PKPbc	PKPbc	01 38 04.3	-0.1
	1.0nm,0.6s,baz=54,slow=3.6,SNR=4.2						

KISR ***07*** *01:32:39.8±0.8, 30.93N×49.60E, h34km±265km, ML2.6*
ISCJB ***07*** *01:32:41.6±0.5, 30.93N±0.07×49.90E±0.06, h10km, Error ellipse: s-maj=11.9km s-min=4.2km az=145.5*
TEH ***07*** *01:32:43.3, 30.92N×49.92E, h10km*
ISC 07 01:32:42.7±0.5, 30.94N±0.07×49.88E±0.06, h10km, n12, σ0s62/16, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGAR	**Gharneh**	**2.35**	**51**	*e*Pn	**Pn**	**01 33 22.0**	**+0.6**
IGAR				*e*		01 33 26.8	
	comp=Z,511nm,0.1s						
MIB	**Mutribah**	**2.47**	**243**	*e*P	**Pn**	**01 33 22.0**	**-1.0**
MIB				*e*S	**Sn**	**01 33 53.4**	**+0.1**
MIB				AML	AML	01 34 02.3	
	comp=Z,44nm,0.6s						
KBD	**Kabd**	**2.59**	**228**	*e*P	**Pn**	**01 33 24.1**	**-0.6**
KBD				*e*S	**Sn**	**01 33 56.8**	**+0.7**
KBD				AML	AML	01 34 05.0	
	comp=Z,28nm,0.3s						
IKLH	**Kolahrood**	**2.77**	**31**	*e*Pn	**Pn**	**01 33 27.8**	**+0.6**
IKLH				*e*Sn	**Sn**	**01 34 00.8**	**0.0**
IKLH				*e*		01 34 14.5	
	comp=Z,326nm,0.3s						
NAY	**Al-Naaiem**	**2.84**	**234**	*e*P	**Pn**	**01 33 27.1**	**-1.1**
RDF	**Al-Radifah**	**2.85**	**226**	*e*P	**Pn**	**01 33 27.9**	**-0.4**
RDF				*e*S	**Sn**	**01 34 04.2**	**+1.5**
RDF				AML	AML	01 34 07.0	
	comp=Z,31nm,0.4s						
IPAR	**Pars**	**2.95**	**111**	*e*Pn	**Pn**	**01 33 29.6**	**0.0**
IPAR				*e*		01 34 34.5	
	comp=Z,619nm,0.5s						
ISRV	**Sarvestan**	**3.20**	**118**	*e*Pn	**Pn**	**01 33 33.1**	**0.0**
ISRV				*e*		01 34 48.5	
	comp=Z,406nm,0.4s						
ISAD	**Sadrabad**	**3.39**	**72**	*e*Pn	**Pn**	**01 33 35.9**	**+0.2**
ISAD				*e*		01 34 22.4	
	comp=Z,474nm,0.3s						
ICHK	**Chekchek**	**4.08**	**70**	*e*Pn	**Pn**	**01 33 45.0**	**-0.1**
ICHK				*e*		01 33 48.7	
	comp=Z,261nm,0.3s						
IMEH	**Mehriz**	**4.08**	**83**	*e*Pn	**Pn**	**01 33 45.1**	**-0.1**
IMEH				*e*		01 33 48.7	
	comp=Z,72nm,0.1s						
IBAF	**Bafgh**	**4.91**	**81**	*e*Pn	**Pn**	**01 33 56.2**	**-0.4**
IBAF				*e*		01 35 00.3	
	comp=Z,81nm,0.0s						

ISCJB ***07*** *02:00:03.4±0.8, 55.25S±0.1×28.15W±0.4, h10km, mb4.1/5, MS3.6/3, Error ellipse: s-maj=36.2km s-min=13.1km az=152.2*
IDC ***07*** *02:00:03.8±0.8, 55.18S×28.51W, h0km, mb4.0/5, mb1 4.0/6, mb1mx3.9/15, mbtmp4.0/6, ML4.0/1, MS3.6/3, Ms1 3.6/3, ms1mx3.2/18, Error ellipse: s-maj=37.3km s-min=19.5km az=61.0*
NEIC ***07*** *02:00:08.8±0.5, 55.22S×28.54W, h35km, mb4.1/2, Error ellipse: s-maj=26.6km s-min=11.6km az=61.0*
ISC 07 02:00:05.3±0.8, 55.25S±0.1×28.47W±0.4, h10km, n22, σ0s94/13, mb4.1/5, MS3.6/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**18.00**	**160**	*e*P	**Pn**	**02 04 14.9**	**-0.2**
SNAA	**Sanae**	**19.77**	**156**	P	**Pn**	**02 04 35.5**	**-1.1**
	0.4nm,0.3s,baz=307,slow=11,SNR=73						
SNAA	**Sanae**	**19.77**	**156**	*e*P	**Pn**	**02 04 35.1**	**-1.5**
	11nm,1.2s						
USHA	**Ushuaia**	**22.71**	**254**	LR	LR	02 11 34.9	
	comp=Z,94nm,21.9s,MS3.2,baz=314,slow=30						
QSPA	**South Pole Qui**	**35.02**	**180**	P	**P**	**02 06 58.9**	**+1.6**
	1.5nm,0.4s,mb4.3,baz=191,slow=0.9,SNR=5.7						
QSPA	**South Pole Qui**	**35.02**	**180**	P	**P**	**02 06 58.9**	**+1.6**
CPUP	**Villa Florida**	**35.74**	**312**	P	**P**	**02 07 02.9**	**-1.1**
	1.6nm,0.5s,mb4.2,baz=130,slow=7.6,SNR=11						
CPUP	**Villa Florida**	**35.74**	**312**	*e*P	**P**	**02 07 02.7**	**-1.3**
	12nm,0.6s,mb5.0						
MAW	**Mawson**	**41.23**	**144**	P	**P**	**02 07 49.8**	**+0.1**
	0.7nm,0.5s,mb3.5,baz=247,slow=11,SNR=4.8						
MAW	**Mawson**	**41.23**	**144**	P	**P**	**02 07 49.8**	**+0.1**
LPAZ	**La Paz**	**49.33**	**306**	P	**P**	**02 08 55.1**	**+0.6**
	1.2nm,0.7s,mb4.0,baz=180,slow=5.1,SNR=6.2						
LPAZ	**La Paz**	**49.33**	**306**	*e*P	**P**	**02 08 54.7**	**+0.3**
	1.4nm,0.7s,mb4.1						
ROSC	**El Rosal**	**70.83**	**311**	LR	LR	02 44 08.3	
	comp=Z,50nm,18.6s,MS3.8,baz=337,slow=37						
TORD	**Torodi Ar. Bea**	**72.71**	**31**	P	**P**	**02 11 33.7**	**+0.5**
	1.0nm,0.6s,mb3.9,baz=202,slow=6.7,SNR=12						
TORD				LR	LR	02 38 51.2	
	comp=Z,64nm,18.8s,MS3.9,baz=220,slow=32						
TORD	**Torodi Ar. Bea**	**72.71**	**31**	P	**P**	**02 11 33.7**	**+0.5**
TORD				LR	LR	02 38 51.2	
FINES	**FINESS Array B**	**124.00**	**28**	PKP	PKPdf	02 19 01.6	-0.6
	2.3nm,0.9s,baz=204,slow=3.0,SNR=3.2						
FINES	**FINESS Array B**	**124.00**	**28**	PKP	PKPdf	02 19 01.6	-0.6
ILAR	**Eielson Array**	**149.04**	**313**	PKPbc	PKPbc	02 19 51.6	-0.4
	2.0nm,0.7s,baz=120,slow=1.6,SNR=35						
ILAR	**Eielson Array**	**149.04**	**313**	PKPbc	PKPbc	02 19 51.6	-0.4
MCK	**McKinley**	**149.70**	**311**	*e*PKPbc	PKPbc	02 19 53.7	+0.1
MCK				*e*PKPab	PKPab	02 19 58.5	-0.6
SONM	**Songino Array**	**151.38**	**86**	PKPbc	PKPbc	02 19 58.2	+0.1
	0.6nm,0.6s,baz=220,slow=3.8,SNR=6.4						
SONM	**Songino Array**	**151.38**	**86**	PKPbc	PKPbc	02 19 58.2	+0.1

IDC ***07*** *02:04:35.9±1.2, 4.07S×152.91E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/18, mbtmp3.9/5, Error ellipse: s-maj=66.8km s-min=25.6km az=128.0*
ISCJB ***07*** *02:04:39.7±1.2, 4.05S±0.3×152.85E±0.3, h33km, mb3.8/6, Error ellipse: s-maj=51.3km s-min=21.4km az=136.3*
NEIC ***07*** *02:04:41.2±0.8, 4.04S×152.83E, h35km, mb4.3/1, Error ellipse: s-maj=34.9km s-min=14.7km az=135.0*
ISC 07 02:04:41.4±1.2, 4.0S±0.3×152.8E±0.3, h35km, n14, σ0s19/12, mb3.8/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**21.91**	**246**	*e*P	**P**	**02 09 32.0**	**+0.2**
	5.0nm,0.4s,mb4.3						
WB2	**Warramunga Arr**	**23.96**	**227**	*e*P	**P**	**02 09 52.5**	**-0.2**
WRA	**Warramunga Arr**	**23.97**	**227**	P	**P**	**02 09 53.0**	**+0.3**
	1.9nm,0.4s,mb3.9,baz=52,slow=10.0,SNR=21						
WRA	**Warramunga Arr**	**23.97**	**227**	P	**P**	**02 09 53.0**	**+0.3**
ASAR	**Alice Springs**	**26.73**	**221**	P	**P**	**02 10 17.5**	**-0.3**
	0.5nm,0.6s,mb3.2,baz=54,slow=8.9,SNR=4.1						
ASAR	**Alice Springs**	**26.73**	**221**	P	**P**	**02 10 17.5**	**-0.3**
FITZ	**Fitzroy Crossi**	**30.05**	**240**	P	**P**	**02 10 47.3**	**-0.1**
	1.1nm,0.5s,mb3.9,baz=60,slow=6.2,SNR=6.5						
FITZ	**Fitzroy Crossi**	**30.05**	**240**	P	**P**	**02 10 47.3**	**-0.1**
ILAR	**Eielson Array**	**81.44**	**22**	P	**P**	**02 16 54.5**	**0.0**
	0.2nm,0.7s,mb3.2,baz=260,slow=5.1,SNR=3.4						
ILAR	**Eielson Array**	**81.44**	**22**	P	**P**	**02 16 54.5**	**0.0**
QSPA	**South Pole Qui**	**85.93**	**180**	P	**P**	**02 17 17.5**	**+0.2**
	1.1nm,0.4s,mb4.5,baz=11,slow=5.2,SNR=5.0						
QSPA	**South Pole Qui**	**85.93**	**180**	P	**P**	**02 17 17.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**150.07**	**289**	PKPbc	PKPbc	02 24 29.6	+0.1
	1.4nm,0.6s,baz=66,slow=2.1,SNR=19						
TORD	**Torodi Ar. Bea**	**150.07**	**289**	PKPbc	PKPbc	02 24 29.6	+0.1

IDC ***07*** *02:12:14.1±1.9, 6.59S×129.88E, h0km, mb4.0/2, mb1 3.8/5, mb1mx3.6/18, mbtmp3.7/5, ML3.6/3, Error ellipse: s-maj=88.4km s-min=25.4km az=77.0*
ISCJB ***07*** *02:12:15.3±1.0, 6.75S±0.1×130.71E±0.3, h33km, mb4.0/3, Error ellipse: s-maj=38.1km s-min=9.2km az=160.4*
NEIC ***07*** *02:12:16.3±0.9, 6.56S×129.47E, h10km, mb4.1/2, Error ellipse: s-maj=41.2km s-min=12.3km az=73.0*
ISC 07 02:12:17.8±0.9, 6.6S±0.1×130.1E±0.3, h35km, n13, σ1s01/18, mb4.0/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.45**	**159**	*e*Pn	**Pn**	**02 13 56.8**	**+6.5**
	64nm,0.6s						
KAKA				*e*Sn	**Sn**	**02 15 01.7**	**-0.9**
FITZ	**Fitzroy Crossi**	**12.20**	**201**	Pn	**Pn**	**02 15 09.0**	**-0.2**
	0.2nm,0.3s,baz=36,slow=9.3,SNR=8.4						
FITZ				Sn	**Sn**	**02 17 08.8**	**-15**
	0.6nm,0.3s,baz=188,slow=20,SNR=8.8						
FITZ	**Fitzroy Crossi**	**12.20**	**201**	Pn	**Pn**	**02 15 09.0**	**-0.2**
FITZ				Sn	**Sn**	**02 17 08.8**	**-15**
WRA	**Warramunga Arr**	**13.84**	**163**	Pn	**Pn**	**02 15 31.8**	**+0.2**
	0.6nm,0.3s,baz=344,slow=13,SNR=12						
WRA				Sn	**Sn**	**02 17 54.3**	**-10**
	0.6nm,0.3s,baz=330,slow=23,SNR=5.1						
WRA	**Warramunga Arr**	**13.84**	**163**	Pn	**Pn**	**02 15 31.8**	**+0.2**
WRA				Sn	**Sn**	**02 17 54.3**	**-10**
ASAR	**Alice Springs**	**17.31**	**168**	P	**Pn**	**02 16 19.6**	**+2.8**
	0.2nm,0.3s,baz=350,slow=12,SNR=6.7						
ASAR	**Alice Springs**	**17.31**	**168**	P	**Pn**	**02 16 19.6**	**+2.8**
MK31	**Makanchi Array**	**68.00**	**327**	*e*P	**P**	**02 23 12.9**	**-0.6**
MKAR	**Makanchi Array**	**68.00**	**327**	P	**P**	**02 23 14.5**	**+1.1**
	1.0nm,0.4s,mb4.2,baz=117,slow=8.2,SNR=17						
MKAR	**Makanchi Array**	**68.00**	**327**	P	**P**	**02 23 14.5**	**+1.1**
KURK	**Kurchatov**	**72.28**	**329**	P	**P**	**02 23 39.6**	**+0.1**
	0.5nm,0.4s,mb3.8,baz=127,slow=5.4,SNR=6.8						
KURK	**Kurchatov**	**72.28**	**329**	*e*P	**P**	**02 23 39.0**	**-0.6**
	1.2nm,0.7s,mb3.9						
ABKAR	**Akbulak array**	**82.31**	**322**	*e*P	**P**	**02 24 34.9**	**-0.9**
	1.6nm,0.9s,mb4.0						

ISCJB ***07*** *02:22:01.5±0.3, 45.68N±0.06×142.16E±0.09, h317km±4km, mb3.4/16, Error ellipse: s-maj=10.3km s-min=9.9km az=17.3*
MOS ***07*** *02:22:01.8±0.9, 45.82N×142.01E, h316km, mb3.5/8, Error ellipse: s-maj=18.4km s-min=14.1km az=74.1*
IDC ***07*** *02:22:02.3±0.6, 45.80N×142.07E, h306km±8km, mb3.2/14, mb1 3.4/16, mb1mx3.2/28, mbtmp3.2/16, Error ellipse: s-maj=15.6km s-min=12.5km az=149.0*
JMA ***07*** *02:22:02.5±0.2, 45.68N×142.26E, h313km±2km, M3.4*
NEIC ***07*** *02:22:02.7±0.5, 45.78N×142.04E, h311km±5km, mb3.7/4, Error ellipse: s-maj=11.6km s-min=8.0km az=163.0*
ISC 07 02:22:02.5±0.3, 45.67N±0.06×142.16E±0.09, h311km±4km, n70, σ0s96/76, mb3.4/16, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JWK2	**Keihoku**	**0.40**	**208**	P	**Pn**	**02 22 42.6**	**+0.4**
JWK2				*e*S	**S**	**02 23 13.6**	**-0.2**
JSE	**Soyaes**	**0.77**	**157**	P	**Pn**	**02 22 43.3**	**+0.1**
JSE				*e*S	**S**	**02 23 15.0**	**-0.6**
JRR	**Rishiri**	**0.80**	**229**	P	**Pn**	**02 22 43.9**	**+0.7**
JSS	**Shosan**	**1.29**	**190**	P	**Pn**	**02 22 46.2**	**+0.7**
YSS	**Yuzh-Sakhalins**	**1.35**	**18**	*e*Pn	**Pn**	**02 22 45.7**	**0.0**
YSS	**Yuzh-Sakhalins**	**1.35**	**18**	*e*PN	**Pn**	**02 22 45.7**	**0.0**
ASAJ	**Asahikawa**	**1.58**	**169**	P	**Pn**	**02 22 48.0**	**+0.7**
	13nm,0.3s,baz=348,slow=5.2,SNR=16						
ASAJ				S	**S**	**02 23 24.0**	**+1.0**
	baz=120,slow=20,SNR=5.9						
ASAJ	**Asahikawa**	**1.58**	**169**	*e*Pn	**Pn**	**02 22 47.8**	**+0.5**
ASAJ	**Asahikawa**	**1.58**	**169**	PN	**Pn**	**02 22 48.0**	**+0.7**
ASAJ				S	**S**	**02 23 24.0**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,13nm,0.3s						
ASAJ	**Asahikawa**	**1.58**	**169**	P	**Pn**	**02 22 47.9**	**+0.6**
JKK2	**Kamakawa 2**	**1.84**	**167**	P	**Pn**	**02 22 49.9**	**+0.8**
JTKR	**Abashiri--Toko**	**2.10**	**143**	P	**Pn**	**02 22 51.5**	**+0.4**
JAB	**Ashibetsu**	**2.17**	**179**	P	**Pn**	**02 22 51.6**	**0.0**
JFR	**Furan**	**2.52**	**173**	P	**Pn**	**02 22 55.0**	**+0.4**
JEW	**Eniwo**	**2.88**	**191**	P	**Pn**	**02 22 58.9**	**+1.1**
JCH	**Churui**	**3.17**	**164**	P	**Pn**	**02 22 59.3**	**-1.4**
JCH				*e*S	**S**	**02 23 43.2**	**-4.2**
JAK	**Akkeshi**	**3.23**	**145**	*e*S	**S**	**02 23 45.6**	**-2.8**
JNBK	**Urakawa-nobuka**	**3.42**	**173**	P	**Pn**	**02 23 03.0**	**-0.1**
JNBK				*e*S	**S**	**02 23 50.1**	**-1.7**
NEM2	**Nemuro 2**	**3.44**	**131**	*e*S	**S**	**02 23 48.8**	**-3.4**
JKB	**Kayabe**	**3.87**	**193**	P	**Pn**	**02 23 07.3**	**-0.6**
PETK	**Petropavlovsk-**	**12.55**	**48**	P	**Pn**	**02 24 52.7**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=201,slow=6.2,SNR=3.3						
PETK	**Petropavlovsk-**	**12.55**	**48**	P	**Pn**	**02 24 52.6**	**+1.6**
PETK	**Petropavlovsk-**	**12.55**	**48**	PN	**Pn**	**02 24 52.7**	**+1.6**
KSRS	**Korea Array**	**13.44**	**237**	P	**Pn**	**02 25 03.6**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=47,slow=12,SNR=4.8						
KSRS	**Korea Array**	**13.44**	**237**	PN	**Pn**	**02 25 03.6**	**+1.6**
HIA	**Hailar**	**15.57**	**291**	*e*P	**P**	**02 25 24.1**	**-0.8**
	comp=Z,5.7nm,0.4s						
HIA	**Hailar**	**15.57**	**291**	*e*P	**P**	**02 25 24.1**	**-0.8**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.4s						
ULN	**Ulaanbaatar**	**24.03**	**288**	*e*P	**P**	**02 26 48.8**	**-0.9**
	comp=Z,2.0nm,0.5s,mb3.7						
ULN	**Ulaanbaatar**	**24.03**	**288**	*e*P	**P**	**02 26 48.8**	**-0.9**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.7						
SONM	**Songino Array**	**24.47**	**288**	P	**P**	**02 26 53.4**	**-0.3**
	comp=Z,1.2nm,0.3s,mb3.7,baz=82,slow=8.6,SNR=16						
SONM	**Songino Array**	**24.47**	**288**	P	**P**	**02 26 53.4**	**-0.3**
SONM	**Songino Array**	**24.47**	**288**	P	**P**	**02 26 53.4**	**-0.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**40.55**	**294**	P	**P**	**02 29 11.0**	**-0.9**
	comp=Z,0.2nm,0.5s,mb2.6,baz=70,slow=9.2,SNR=3.2						
MKAR	**Makanchi Array**	**40.55**	**294**	P	**P**	**02 29 11.0**	**-0.9**
MKAR	**Makanchi Array**	**40.55**	**294**	P	**P**	**02 29 11.0**	**-0.9**
KURK	**Kurchatov**	**41.50**	**301**	P	**P**	**02 29 19.0**	**-0.5**
	comp=Z,0.7nm,0.2s,mb3.5,baz=94,slow=26,SNR=3.9						
KURK	**Kurchatov**	**41.50**	**301**	P	**P**	**02 29 19.0**	**-0.5**
KURK	**Kurchatov**	**41.50**	**301**	P	**P**	**02 29 19.0**	**-0.5**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.2s,mb3.7						
COLA	**College**	**41.65**	**37**	*e*P	**P**	**02 29 19.4**	**-1.2**
	comp=Z,2.4nm,0.6s,mb3.6						
COLA	**College**	**41.65**	**37**	*e*P	**P**	**02 29 19.4**	**-1.2**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.5						

ILAR	**Eielson Array**	**42.08**	**37**	P	**P**	**02 29 23.1**	**-0.9**
	comp=Z,1.0nm,0.6s,mb3.2,baz=275,slow=8.5,SNR=25						
ILAR	**Eielson Array**	**42.08**	**37**	P	**P**	**02 29 23.1**	**-0.9**
ILAR	**Eielson Array**	**42.08**	**37**	P	**P**	**02 29 23.1**	**-0.9**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**45.52**	**306**	P	**P**	**02 29 50.5**	**-0.8**
	comp=Z,0.3nm,0.3s,mb3.1,baz=75,slow=10,SNR=2.9						
BVAR	**Borovoye Array**	**45.52**	**306**	P	**P**	**02 29 50.5**	**-0.8**
BVAR	**Borovoye Array**	**45.52**	**306**	P	**P**	**02 29 50.5**	**-0.8**
INK	**Inuvik**	**46.55**	**31**	P	**P**	**02 29 58.1**	**-1.0**
	comp=Z,1.0nm,0.3s,mb3.6,baz=290,slow=6.1,SNR=12						
INK	**Inuvik**	**46.55**	**31**	*e*P	**P**	**02 29 58.1**	**-1.0**
	comp=Z,1.1nm,0.4s,mb3.5						
INK	**Inuvik**	**46.55**	**31**	*e*P	**P**	**02 29 58.1**	**-1.0**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	**Yellowknife Ar**	**56.16**	**33**	P	**P**	**02 31 09.4**	**-0.4**
	comp=Z,0.5nm,0.5s,mb3.2,baz=300,slow=6.6,SNR=4.2						
YKA	**Yellowknife Ar**	**56.16**	**33**	P	**P**	**02 31 09.4**	**-0.4**
YKA	**Yellowknife Ar**	**56.16**	**33**	P	**P**	**02 31 09.4**	**-0.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**61.50**	**331**	P	**P**	**02 31 46.2**	**-0.1**
	comp=Z,1.9nm,0.9s,mb3.7,baz=83,slow=11,SNR=2.7						
FINES	**FINESS Array B**	**61.50**	**331**	P	**P**	**02 31 46.2**	**-0.1**
FINES	**FINESS Array B**	**61.50**	**331**	P	**P**	**02 31 46.2**	**-0.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**65.68**	**188**	P	**P**	**02 32 14.5**	**+0.5**
	comp=Z,0.4nm,0.7s,mb3.3,baz=6.7,slow=6.8,SNR=2.7						
WRA	**Warramunga Arr**	**65.68**	**188**	P	**P**	**02 32 14.5**	**+0.5**
WRA	**Warramunga Arr**	**65.68**	**188**	P	**P**	**02 32 14.5**	**+0.5**
ASAR	**Alice Springs**	**69.41**	**188**	P	**P**	**02 32 38.8**	**+1.7**
	comp=Z,0.3nm,0.3s,mb3.5,baz=1.1,slow=4.6,SNR=5.7						
ASAR	**Alice Springs**	**69.41**	**188**	P	**P**	**02 32 38.8**	**+1.7**
ASAR	**Alice Springs**	**69.41**	**188**	P	**P**	**02 32 38.8**	**+1.7**
NVAR	**Mina Array Bea**	**69.51**	**56**	P	**P**	**02 32 39.0**	**+1.3**
	comp=Z,0.7nm,0.7s,mb3.5,baz=304,slow=5.4,SNR=7.7						
NVAR	**Mina Array Bea**	**69.51**	**56**	P	**P**	**02 32 39.0**	**+1.3**
PDAR	**Pinedale Array**	**71.31**	**48**	P	**P**	**02 32 49.1**	**+0.7**
	comp=Z,0.7nm,0.8s,mb3.3,baz=346,slow=1.6,SNR=4.1						
PDAR	**Pinedale Array**	**71.31**	**48**	P	**P**	**02 32 49.1**	**+0.7**
SCHQ	**Schefferville**	**76.90**	**17**	P	**P**	**02 33 20.1**	**-0.1**
	comp=Z,4.2nm,0.7s,mb4.3,baz=270,slow=7.1,SNR=4.1						
SCHQ	**Schefferville**	**76.90**	**17**	P	**P**	**02 33 20.1**	**-0.1**
TXAR	**Lajitas Array**	**84.45**	**53**	P	**P**	**02 34 01.8**	**+1.2**
	comp=Z,0.2nm,0.4s,mb3.3,baz=302,slow=4.6,SNR=10						
TXAR	**Lajitas Array**	**84.45**	**53**	P	**P**	**02 34 01.8**	**+1.2**
TXAR	**Lajitas Array**	**84.45**	**53**	P	**P**	**02 34 01.8**	**+1.3**

NNC 07 02:53:59.6±9.1, 37.03N×70.78E, h0km, mb3.9, mpv3.7, 1C-3D, Error ellipse: s-maj=109.0km s-min=70.8km az=67.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.07**	**358**	P	Pn	02 55 32.4	+1.8
	4.0nm,0.3s,baz=182,slow=13,SNR=121						
KK31				S	Sn	02 56 41.7	+1.1
	1.9nm,0.3s,baz=196,slow=25,SNR=8.1						
TKM2	**Tokmak 2**	**6.95**	**31**	P	Pn	02 55 42.0	-0.7
	4.3nm,1.0s						
AB31	**Akbulak array**	**14.53**	**331**	P	Pn	02 57 24.6	-1.8
	0.3nm,0.4s,baz=196,slow=80,SNR=12

PDAR	**Pinedale Array**	**34.10**	**332**	P		**P**	**03 21 16.5**	**+3.4**
	comp=Z,0.2nm,0.6s,mb3.2,baz=153,slow=14,SNR=3.0							
PDAR	**Pinedale Array**	**34.10**	**332**	P		**P**	**03 21 16.5**	**+3.4**
HWUT	**Hardware Ranch**	**34.17**	**329**	*e*P		**P**	**03 21 14.7**	**+1.0**
	comp=Z,1.0nm,0.5s,mb4.0							
TPAW	**Teton Pass**	**35.30**	**332**	*e*P		**P**	**03 21 22.7**	**-0.8**
	comp=Z,2.8nm,1.2s,mb4.1							
BOZ	**Bozeman (W)**	**37.28**	**333**	*e*P		**P**	**03 21 41.7**	**+1.3**
	comp=Z,1.0nm,0.7s,mb3.8							
CPUP	**Villa Florida**	**50.16**	**142**	*e*P		**P**	**03 23 25.9**	**+1.6**
	comp=Z,4.5nm,0.8s,mb4.5							
ILAR	**Eielson Array**	**64.39**	**336**	P		**P**	**03 25 06.2**	**+1.9**
	comp=Z,0.3nm,0.6s,mb3.5,baz=161,slow=4.6,SNR=6.5							
ILAR	**Eielson Array**	**64.39**	**336**	P		**P**	**03 25 06.2**	**+1.9**

*IDC **07** 03:40:56.9±0.9, 13°.25N×120°.29E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/23, mbtmp3.9/7, Error ellipse: s-maj=18.7km s-min=11.7km az=119.0*
*MAN **07** 03:40:57, 13°.60N×120°.10E, h32km, mb4.1, ML2.9, MS2.6*
*ISCJB **07** 03:40:58.1±0.9, 13°.38N±0°.04×120°.25E±0°.08, h17km±8km, mb4.0/8, Error ellipse: s-maj=12.8km s-min=6.2km az=174.4*
*NEIC **07** 03:41:01.0±6.1, 13°.36N×120°.49E, h30km±46km, mb4.3/1, Error ellipse: s-maj=21.2km s-min=11.8km az=64.0*

ISC 07 03:40:57.5±0.8, 13°.33N±0°.03×120°.29E±0°.07, h2km±6km, n24, σ0s83/27, mb4.0/8, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LUBP	**Lubang**	**0.40**	**354**	*e*P		**Pg**	**03 41 05.1**	**-0.2**
LUBP				*e*S		**Sg**	**03 41 10.3**	**-0.3**
TGY	**Tagaytay City**	**0.99**	**39**	Pg		**Pg**	**03 41 17.1**	**+0.5**
	144nm,0.3s,baz=219,slow=5.9,SNR=13							
TGY				Lg			03 41 32.7	
	346nm,0.3s,baz=18,slow=19,SNR=16							
TGY	**Tagaytay City**	**0.99**	**39**	Pg		**Pg**	**03 41 17.1**	**+0.5**
TGY				Lg			03 41 32.7	
TGY	**Tagaytay City**	**0.99**	**39**	*i*P		**Pg**	**03 41 16.9**	**+0.3**
BUSP	**Coron**	**1.32**	**184**	*e*P		**Pg**	**03 41 22.9**	**+0.1**
BUSP				*e*S		**Sg**	**03 41 39.7**	**-0.4**
BOAC	**Boac**	**1.52**	**85**	*e*P		**Pn**	**03 41 24.8**	**-1.0**
BOAC				*e*S		**Sn**	**03 41 38.0**	**-8.2**
OTRP	**Odiongan**	**1.95**	**119**	*e*P		**Pn**	**03 41 33.2**	**+1.6**
ENPP	**El Nido**	**2.27**	**202**	*e*P		**Pn**	**03 41 36.0**	**-0.1**
GUIM	**Jordan**	**3.51**	**140**	*e*P		**Pn**	**03 41 54.1**	**+1.0**
CMAR	**Chiang Mai Arr**	**21.14**	**287**	P		**P**	**03 45 45.8**	**+1.7**
	1.1nm,0.4s,mb3.6,baz=96,slow=9.0,SNR=12							
CMAR	**Chiang Mai Arr**	**21.14**	**287**	P		**P**	**03 45 45.8**	**+1.7**
WRA	**Warramunga Arr**	**35.84**	**157**	P		**P**	**03 47 57.4**	**-1.4**
	2.9nm,0.6s,mb4.4,baz=334,slow=9.8,SNR=19							
WRA	**Warramunga Arr**	**35.84**	**157**	P		**P**	**03 47 57.4**	**-1.4**
SONM	**Songino Array**	**36.30**	**344**	P		**P**	**03 48 01.8**	**-0.6**
	0.8nm,0.7s,mb3.7,baz=170,slow=8.5,SNR=8.7							
SONM	**Songino Array**	**36.30**	**344**	P		**P**	**03 48 01.8**	**-0.6**
ASAR	**Alice Springs**	**39.11**	**160**	P		**P**	**03 48 25.9**	**-0.5**
	3.4nm,0.5s,mb4.3,baz=338,slow=6.8,SNR=51							
ASAR	**Alice Springs**	**39.11**	**160**	P		**P**	**03 48 25.9**	**-0.5**
MKAR	**Makanchi Array**	**46.09**	**324**	P		**P**	**03 49 22.9**	**-0.1**
	0.8nm,0.8s,mb3.7,baz=122,slow=8.7,SNR=5.5							
MKAR	**Makanchi Array**	**46.09**	**324**	P		**P**	**03 49 22.9**	**-0.1**
ZALV	**Zalesovo Beam**	**49.20**	**333**	P		**P**	**03 49 48.1**	**+1.0**
	0.4nm,0.3s,mb3.9,baz=160,slow=6.0,SNR=3.0							
ZALV	**Zalesovo Beam**	**49.20**	**333**	P		**P**	**03 49 48.1**	**+1.0**
KURK	**Kurchatov**	**50.27**	**327**	*e*P		**P**	**03 49 55.2**	**-0.1**
	3.5nm,0.9s,mb4.4							
BVAR	**Borovoye Array**	**55.85**	**326**	P		**P**	**03 50 35.8**	**-0.7**
	0.5nm,0.6s,mb3.8,baz=88,slow=12,SNR=2.4							
BVAR	**Borovoye Array**	**55.85**	**326**	P		**P**	**03 50 35.8**	**-0.7**

*CSEM **07** 03:49:47.9±0.5, 37°.79N×35°.82E, h2km, MD2.4, Error ellipse: s-maj=11.3km s-min=6.9km az=155.0*
*ISK **07** 03:49:49.1, 37°.41N×35°.93E, h23km, MD2.4*

DDA 07 03:49:49.0, 37°.50N×35°.92E, h7km±6km, Md2.9, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KOZT	**Kozan**	**0.07**	**257**	*e*PG		Pg	03 49 53.8	+3.0
KOZT				*e*SG		Sg	03 49 57.4	+5.2
ANDN	**Andirin**	**0.35**	**76**	*i*P		Pg	03 49 58.2	+2.3
ANDN				*i*S		Sg	03 50 05.0	+4.5
ANDN	**Andirin**	**0.35**	**76**	*i*P		Pg	03 49 58.2	+2.3
ANDN				*i*S		Sg	03 50 05.0	+4.5
KARA	**Karaisali**	**0.73**	**251**	*e*PG		Pg	03 50 03.6	+0.7
KARA	**Karaisali**	**0.73**	**251**	*e*Pg		Pg	03 50 03.6	+0.6
KMRS	**Kahramanmaras**	**0.78**	**89**	*e*PG		Pg	03 50 05.0	+0.9
KMRS	**Kahramanmaras**	**0.78**	**89**	*e*Pg		Pg	03 50 05.0	+0.9
GULE	**Gulek**	**0.93**	**257**	*i*P		Pg	03 50 07.5	+0.5
GULE				*i*S		Sg	03 50 19.2	+0.2
GULE	**Gulek**	**0.93**	**257**	*i*P		Pg	03 50 07.5	+0.6
GULE				*i*S		Sg	03 50 19.2	+0.2
SARI	**SarD1z-Kayseri**	**1.33**	**27**	*e*PG		Pg	03 50 09.2	-5.4
SARI	**SarD1z-Kayseri**	**1.33**	**27**	*e*Pg		Pg	03 50 09.2	-5.4

IDC 07 03:53:31.3±1.2, 13°.25N×120°.26E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/22, mbtmp3.6/4, Error ellipse: s-maj=25.8km s-min=12.2km az=119.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TGY	**Tagaytay City**	**1.07**	**38**	Pg		Pg	03 53 53.2	+1.3
	123nm,0.3s,baz=133,slow=8.4,SNR=7.8							
TGY				Lg			03 54 06.3	
	101nm,0.3s,baz=17,slow=19,SNR=8.2							
CMAR	**Chiang Mai Arr**	**21.14**	**287**	P		P	03 58 19.5	+1.5
	0.7nm,0.3s,baz=93,slow=8.1,SNR=4.1							
WRA	**Warramunga Arr**	**35.78**	**157**	P		P	04 00 31.8	-0.5
	0.5nm,0.4s,baz=343,slow=9.1,SNR=5.3							
SONM	**Songino Array**	**36.37**	**344**	P		P	04 00 35.7	-1.4
	0.4nm,0.6s,baz=161,slow=9.4,SNR=4.3							
ASAR	**Alice Springs**	**39.04**	**160**	P		P	04 01 00.2	+0.3
	1.0nm,0.6s,baz=337,slow=6.9,SNR=14							

MEX 07 04:05:03.7±0.9, 16°.11N×98°.77W, h15km±21km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PNIG	**Pinotepa**	**0.68**	**66**	*e*P		Pg	04 05 14.3	-2.6
PNIG				*i*S		Sg	04 05 23.3	-2.6
ACX	**Acapulco**	**1.29**	**306**	*i*P		Pn	04 05 23.9	-3.3
ACX				*i*S		Sb	04 05 39.7	-4.3
CAIG	**El Cayaco**	**1.71**	**303**	*i*P		Pn	04 05 30.8	-2.2
CAIG				*i*S		Sn	04 05 49.9	-4.7
UTMO	**Huajuapan**	**1.94**	**28**	*i*P		Pn	04 05 32.9	-3.2
UTMO				*i*S		Sn	04 05 56.6	-3.7
MEIG	**Mezcala**	**1.98**	**336**	*i*P		Pn	04 05 34.0	-2.7
MEIG				*i*S		Sn	04 05 56.6	-4.6
VHO	**Vista Hermosa**	**2.17**	**64**	*i*P		Pn	04 05 36.7	-2.7
VHO				*i*S		Sn	04 06 03.0	-3.0
PLIG	**Platanillo**	**2.37**	**343**	*i*P		Pn	04 05 39.4	-2.7
PLIG				*i*S		Sn	04 06 06.3	-4.6

*ISK **07** 04:08:41.7, 38°.65N×39°.64E, h5km, MD3.4, ML3.2*
*ISCJB **07** 04:08:42.6±0.6, 38°.64N±0°.03×39°.67E±0°.03, h2km±5km, Error ellipse: s-maj=4.5km s-min=3.6km az=28.3*
*DDA **07** 04:08:42.5, 38°.64N×39°.65E, h21km±2km, Md3.5*
*CSEM **07** 04:08:43.0±0.2, 38°.65N×39°.62E, h2km, MD3.4, Error ellipse: s-maj=3.8km s-min=3.7km az=128.0*

ISC 07 04:08:43.2±0.5, 38°.64N±0°.03×39°.66E±0°.03, h4km±4km, n49, σ1s10/64, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PTK	**Pertek**	**0.33**	**319**	PG		**Pg**	**04 08 48.8**	**-0.7**
PTK				*e*SG		**Sg**	**04 08 54.3**	**+0.5**
PTK	**Pertek**	**0.33**	**319**	*i*Pg		**Pg**	**04 08 48.8**	**-0.7**
PTK				*e*Sg		**Sg**	**04 08 54.3**	**+0.5**
SVRC	**Sivrice-ELAZID**	**0.39**	**227**	*e*PG		**Pg**	**04 08 50.3**	**-0.3**
SVRC	**Sivrice-ELAZID**	**0.39**	**227**	*e*Pg		**Pg**	**04 08 50.3**	**-0.3**
ELZG	**Elazig**	**0.55**	**255**	*i*P		**Pg**	**04 08 53.2**	**-0.6**
ELZG				*i*S		**Sg**	**04 09 02.3**	**+1.4**
ELZG	**Elazig**	**0.55**	**255**	*i*P		**Pg**	**04 08 53.2**	**-0.6**
ELZG				*i*S		**Sg**	**04 09 02.3**	**+1.3**
BINT	**Bingol**	**0.69**	**70**	*e*PG		**Pg**	**04 08 56.0**	**-0.3**
BINT	**Bingol**	**0.69**	**70**	*e*Pg		**Pg**	**04 08 56.0**	**-0.4**
DIYA	**Diyarbakir**	**0.80**	**153**	*i*P		**Pg**	**04 08 59.5**	**+0.9**
DIYA				*i*S		**Sg**	**04 09 09.8**	**+0.8**
DIY	**Diyarbakir**	**0.87**	**149**	*e*PG		**Pg**	**04 08 59.9**	**+0.1**
DIY	**Diyarbakir**	**0.87**	**149**	*e*Pg		**Pg**	**04 08 59.9**	**+0.1**
MYA	**Malataya**	**1.02**	**252**	*e*PG		**Pg**	**04 09 02.1**	**-0.7**
MYA	**Malataya**	**1.02**	**252**	*e*Pg		**Pg**	**04 09 02.1**	**-0.7**
KEMA	**Kemaliye**	**1.11**	**305**	*i*P		**Pg**	**04 09 02.7**	**-1.7**
KEMA				*i*S		**Sg**	**04 09 18.1**	**-0.7**
KEMA	**Kemaliye**	**1.11**	**305**	*i*P		**Pg**	**04 09 02.7**	**-1.7**
KEMA				*i*S		**Sg**	**04 09 18.1**	**-0.7**
EZC	**Erzincan**	**1.13**	**348**	*e*PN		**Pn**	**04 09 04.5**	**-1.4**
EZC	**Erzincan**	**1.13**	**348**	*e*Pn		**Pn**	**04 09 04.5**	**-1.4**
BNGL	**BINGOL**	**1.20**	**75**	*i*P		**Pg**	**04 09 05.4**	**-0.9**
BNGL				*i*S		**Sg**	**04 09 24.5**	**+2.7**
URFA	**Urfa**	**1.37**	**209**	*e*PN		**Pn**	**04 09 08.7**	**-0.5**
URFA	**Urfa**	**1.37**	**209**	*e*Pn		**Pn**	**04 09 08.7**	**-0.5**
AKCD	**Akcadag**	**1.41**	**256**	*i*P		**Pn**	**04 09 08.3**	**-1.4**
AKCD				*i*S		**Sb**	**04 09 30.4**	**+2.0**
AKCD	**Akcadag**	**1.41**	**256**	*i*P		**Pn**	**04 09 08.3**	**-1.4**
AKCD				*i*S		**Sb**	**04 09 30.4**	**+1.9**
BEST	**Besiri**	**1.47**	**120**	*i*P		**Pn**	**04 09 09.7**	**-0.8**
BEST				*i*S		**Sn**	**04 09 30.3**	**+0.1**
DARE	**Darende-Malaty**	**1.48**	**283**	*e*PN		**Pn**	**04 09 13.6**	**+2.9**
MARD	**Mardin**	**1.59**	**146**	*i*P		**Pn**	**04 09 10.3**	**-1.9**
MARD				*i*S		**Sn**	**04 09 31.1**	**-2.1**
ATAB	**Bozova**	**1.59**	**223**	*i*P		**Pn**	**04 09 10.2**	**-2.0**
ATAB				*i*S		**Sn**	**04 09 34.2**	**+0.9**
ATAB	**Bozova**	**1.59**	**223**	*i*P		**Pn**	**04 09 10.2**	**-2.0**
ATAB				*i*S		**Sn**	**04 09 34.2**	**+0.9**
BAYT	**Ayd¨–ntepe-Bay**	**1.79**	**12**	*e*PN		**Pn**	**04 09 15.0**	**+0.2**
BAYT	**Ayd¨–ntepe-Bay**	**1.79**	**12**	*e*Pn		**Pn**	**04 09 15.0**	**+0.1**
GUMT	**Gumushane**	**1.82**	**356**	*e*PN		**Pn**	**04 09 15.6**	**+0.3**
GUMT	**Gumushane**	**1.82**	**356**	*e*Pn		**Pn**	**04 09 15.6**	**+0.3**
EZM	**Erzurum**	**1.82**	**46**	*e*PN		**Pn**	**04 09 15.9**	**+0.5**
SARI	**SarD1z-Kayseri**	**2.32**	**272**	*e*PN		**Pn**	**04 09 25.7**	**+3.5**
KTUT	**Trabzon**	**2.34**	**2**	*e*PN		**Pn**	**04 09 22.8**	**+0.3**
KTUT	**Trabzon**	**2.34**	**2**	*e*Pn		**Pn**	**04 09 22.8**	**+0.3**
ESPY	**Espiye-Giresun**	**2.38**	**343**	*e*PN		**Pn**	**04 09 23.4**	**+0.3**
ESPY	**Espiye-Giresun**	**2.38**	**343**	*e*Pn		**Pn**	**04 09 23.4**	**+0.3**
GAZ	**Gaziantep**	**2.43**	**234**	*e*PN		**Pn**	**04 09 24.1**	**+0.3**
GAZ	**Gaziantep**	**2.43**	**234**	*e*Pn		**Pn**	**04 09 24.1**	**+0.3**
KMRS	**Kahramanmaras**	**2.46**	**243**	*e*PN		**Pn**	**04 09 24.3**	**+0.2**
KMRS	**Kahramanmaras**	**2.46**	**243**	*e*Pn		**Pn**	**04 09 24.3**	**+0.2**
RSDY	**Resadiye-TOKAT**	**2.52**	**315**	*e*PN		**Pn**	**04 09 25.2**	**+0.3**
RSDY	**Resadiye-TOKAT**	**2.52**	**315**	*e*Pn		**Pn**	**04 09 25.2**	**+0.3**
AGRB	**Hanur-Agry**	**2.75**	**69**	*e*PN		**Pn**	**04 09 29.0**	**+0.9**
AGRB	**Hanur-Agry**	**2.75**	**69**	*e*Pn		**Pn**	**04 09 29.0**	**+0.9**
KOZT	**Kozan**	**3.24**	**250**	*e*PN		**Pn**	**04 09 35.5**	**+0.6**
CUKT	**Cukurca**	**3.42**	**113**	*e*PN		**Pn**	**04 09 38.5**	**+1.3**
CUKT	**Cukurca**	**3.42**	**113**	*e*Pn		**Pn**	**04 09 38.5**	**+1.2**

IDC 07 04:15:02.2±2.4, 22°.18S×147°.96E, h0km, mb3.1/1, mb1 3.5/5, mb1mx3.4/15, mbtmp3.4/5, ML3.4/4, Error ellipse: s-maj=34.8km s-min=19.4km az=67.0, Queensland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**2.62**	**322**	Pn		Pn	04 15 46.3	+0.5
	6.5nm,0.3s,baz=132,slow=17,SNR=37							
CTA				Pg		Pg	04 15 51.1	-1.4
	13nm,0.3s,baz=131,slow=18,SNR=33							
CTA				Lg			04 16 24.8	
	18nm,0.3s,baz=231,slow=21,SNR=15							
STKA	**Stephens Creek**	**11.19**	**209**	Pn		Pn	04 17 42.6	-1.0
	0.2nm,0.3s,baz=37,slow=15,SNR=2.9							
WRA	**Warramunga Arr**	**12.91**	**277**	Pn		Pn	04 18 05.3	-1.8
	0.2nm,0.3s,baz=96,slow=13,SNR=6.5							
WRA				Lg			04 21 51.3	
	0.1nm,0.3s,baz=104,slow=26,SNR=3.6							
ASAR	**Alice Springs**	**13.04**	**261**	Pn		Pn	04 18 08.4	-0.3
	0.1nm,0.3s,baz=90,slow=14,SNR=4.7							
ASAR				Sn		Sn	04 20 27.4	-7.2
	0.1nm,0.3s,baz=87,slow=20,SNR=3.3							
ASAR				Lg			04 21 59.4	
	0.0nm,0.3s,baz=76,slow=32,SNR=3.3							
FITZ	**Fitzroy Crossi**	**21.34**	**277**	P		P	04 19 51.4	+0.3
	0.4nm,0.5s,baz=90,slow=6.1,SNR=2.6							
TORD	**Torodi Ar. Bea**	**146.69**	**260**	PKPbc		PKPbc	04 34 46.2	-0.7
	0.2nm,0.4s,baz=105,slow=2.6,SNR=6.6							

*ISCJB **07** 04:26:10.0±1.3, 19°.4S±0°.2×177°.5W±0°.1, h591km±14km, mb3.8/10, Error ellipse: s-maj=28.8km s-min=16.7km az=151.0*
*NEIC **07** 04:26:10.6±1.2, 19°.34S×177°.50W, h586km±12km, mb3.9/2, Error ellipse: s-maj=24.3km s-min=14.7km az=147.0*
*IDC **07** 04:26:11.3±3.3, 19°.39S×177°.47W, h592km±43km, mb3.2/7, mb1 3.5/8, mb1mx3.3/19, mbtmp3.3/8, Error ellipse: s-maj=36.1km s-min=14.5km az=159.0*

ISC 07 04:26:10.7±1.3, 19°.4S±0°.2×177°.5W±0°.1, h585km±14km, n27, σ0s75/27, mb3.8/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**4.51**	**290**	*e*P		**P**	**04 27 39.0**	**+0.1**
URZ	**Urewera**	**19.42**	**193**	P		**P**	**04 29 58.7**	**-1.0**
	1.6nm,0.3s,baz=127,slow=4.1,SNR=8.2							
URZ	**Urewera**	**19.42**	**193**	P		**P**	**04 29 58.7**	**-1.0**
CTAO	**Charters Tower**	**34.08**	**263**	*e*P		**P**	**04 32 08.0**	**0.0**
	1.0nm,0.3s,mb3.9							
CMSA	**Cobar Meteorol**	**35.22**	**242**	*e*P		**P**	**04 32 18.0**	**+0.7**
COEN	**Coen**	**37.99**	**272**	*e*P		**P**	**04 32 40.3**	**+0.1**
STKA	**Stephens Creek**	**38.72**	**243**	P		**P**	**04 32 47.2**	**+1.4**
	5.5nm,0.5s,mb4.3,baz=102,slow=10,SNR=13							
STKA	**Stephens Creek**	**38.72**	**243**	*e*P		**P**	**04 32 46.6**	**+0.8**
	5.4nm,0.6s,mb4.2							
STKA	**Stephens Creek**	**38.72**	**243**	P		**P**	**04 32 47.2**	**+1.4**
WRA	**Warramunga Arr**	**45.23**	**261**	P		**P**	**04 33 36.7**	**-0.4**
	3.2nm,0.6s,mb4.1,baz=97,slow=8.2,SNR=50							
WRA	**Warramunga Arr**	**45.23**	**261**	P		**P**	**04 33 36.7**	**-0.4**
ASAR	**Alice Springs**	**45.25**	**256**	P		**P**	**04 33 37.2**	**0.0**
	6.9nm,0.7s,mb4.3,baz=89,slow=7.8,SNR=84							
ASAR				S		**S**	**04 39 35.8**	**+0.1**
	0.6nm,0.6s,baz=93,slow=15,SNR=5.7							
ASAR	**Alice Springs**	**45.25**	**256**	P		**P**	**04 33 37.2**	**0.0**
ASAR				S		**S**	**04 39 35.8**	**+0.1**
KAKA	**Kakadu**	**48.43**	**270**	*e*P		**P**	**04 34 00.5**	**-0.7**
	7.1nm,0.6s,mb4.4							
KAKA	**Kakadu**	**48.43**	**270**	*e*P		**P**	**04 34 00.3**	**-0.9**
	18nm,0.6s,mb4.8							
FITZ	**Fitzroy Crossi**	**53.65**	**261**	P		**P**	**04 34 39.3**	**+0.4**
	2.4nm,0.5s,mb3.8,baz=150,slow=4.9,SNR=22							
FITZ	**Fitzroy Crossi**	**53.65**	**261**	*e*P		**P**	**04 34 38.9**	**0.0**
	4.2nm,0.4s,mb4.1							
FITZ	**Fitzroy Crossi**	**53.65**	**261**	P		**P**	**04 34 39.3**	**+0.4**
MBWA	**Marble Bar**	**58.57**	**257**	*e*P		**P**	**04 35 12.3**	**-0.3**
	4.1nm,0.6s,mb3.7							
NVAR	**Mina Array Bea**	**79.87**	**43**	P		**P**	**04 37 19.9**	**+0.5**
	0.5nm,0.6s,mb3.0,baz=227,slow=8.8,SNR=5.9							
NVAR	**Mina Array Bea**	**79.87**	**43**	P		**P**	**04 37 19.9**	**+0.5**
TXAR	**Lajitas Array**	**86.04**	**57**	P		**P**	**04 37 51.7**	**+1.2**
	0.5nm,0.6s,mb3.3,baz=224,slow=7.0,SNR=8.6							
TXAR	**Lajitas Array**	**86.04**	**57**	P		**P**	**04 37 51.7**	**+1.2**
ILAR	**Eielson Array**	**87.09**	**13**	P		**P**	**04 37 52.9**	**-1.7**
	0.3nm,0.9s,mb3.0,baz=236,slow=5.3,SNR=5.9							
ILAR	**Eielson Array**	**87.09**	**13**	P		**P**	**04 37 52.9**	**-1.7**
ARCES	**ARCESS Array B**	**127.87**	**350**	PKP		PKPdf	04 44 09.8	-0.2
	3.3nm,0.9s,baz=341,slow=1.9,SNR=4.2							
ARCES	**ARCESS Array B**	**127.87**	**350**	PKP		PKPdf	04 44 09.8	-0.2

*NIED **07** 04:28:00, 37°.30N×142°.20E, h32km, Mw3.7 Best double couple: M0 3.63000×10^14 NP1:φs158.00000°, δ80.00000°, λ-47.00000°. NP2:φs259.00000°, δ44.00000°, λ-165.00000°.*
*IDC **07** 04:28:19.1±1.1, 37°.18N×142°.50E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.6/26, mbtmp3.6/9, ML3.6/2, MS3.0/2, Ms1 3.0/2, ms1mx2.6/26, Error ellipse: s-maj=26.7km s-min=19.9km az=78.0*
*ISCJB **07** 04:28:22.0±1.6, 37°.27N±0°.04×142°.26E±0°.06, h24km±11km, mb3.6/7, Error ellipse: s-maj=8.2km s-min=7.2km az=177.0*
*JMA **07** 04:28:23.0±0.2, 37°.27N×142°.16E, h30km±4km, M3.8*
*NEIC **07** 04:28:24.6±2.7, 37°.17N×142°.42E, h38km±22km, MG3.8(JMA), Error ellipse: s-maj=25.5km s-min=15.8km az=76.0*

ISC 07 04:28:23.2±1.7, 37°.26N±0°.04×142°.18E±0°.06, h21km±12km, n31, σ1s17/42, mb3.6/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	**Kawauchi**	**1.05**	**276**	P		**Pn**	**04 28 41.6**	**-1.1**
JFK				*e*S		**Sb**	**04 28 54.5**	**-1.4**
ONAJ	**Iwakimizuishiy**	**1.12**	**262**	P		**Pn**	**04 28 42.6**	**-1.0**
JMM	**Marumori**	**1.26**	**299**	P		**Pn**	**04 28 44.7**	**-0.8**
JMM				*e*S		**Sn**	**04 29 00.0**	**-1.8**
JIO	**Ouri**	**1.36**	**331**	P		**Pn**	**04 28 46.1**	**-0.9**
JIO				*e*S		**Sn**	**04 29 02.9**	**-1.5**
JFT	**Otama**	**1.49**	**280**	P		**Pn**	**04 28 49.1**	**+0.3**
JFT				*e*S		**Sn**	**04 29 07.4**	**-0.2**
JOU	**Okura**	**1.63**	**313**	P		**Pn**	**04 28 50.8**	**+0.1**
JOU				*e*S		**Sn**	**04 29 11.1**	**+0.1**
JMK	**Ichinoseki**	**1.85**	**336**	P		**Pn**	**04 28 53.8**	**+0.1**
JYS	**Shirataka**	**1.93**	**300**	P		**Pn**	**04 28 55.6**	**+0.8**
JYS				*e*S		**Sn**	**04 29 19.0**	**+0.5**
JFY	**Yanaizu**	**1.98**	**275**	P		**Pn**	**04 28 56.2**	**+0.7**
JFY				*e*S		**Sn**	**04 29 20.8**	**+1.2**
JOM	**Ohasama**	**2.32**	**343**	*e*S		**Sn**	**04 29 27.7**	**-0.2**
JAG	**Ashikaga**	**2.34**	**250**	P		**Pn**	**04 29 00.7**	**+0.2**
JAG				*e*S		**Sn**	**04 29 28.0**	**-0.6**
MJAR	**Matsushiro Arr**	**3.27**	**258**	Pn		**Pn**	**04 29 15.3**	**+2.2**
	5.6nm,0.3s,baz=90,slow=15,SNR=24							
MJAR				Sn		**Sn**	**04 29 56.6**	**+5.3**
	2.6nm,0.3s,baz=249,slow=43,SNR=2.2							
MJAR				LR		LR	04 30 46.3	
	comp=Z,329nm,18.0s,baz=70,slow=42							
MJAR	**Matsushiro Arr**	**3.27**	**258**	Pn		**Pn**	**04 29 15.3**	**+2.2**
MJAR				Sn		**Sn**	**04 29 56.6**	**+5.3**
MJAR				LR		LR	04 30 46.3	
MAJO	**Matsushiro**	**3.27**	**259**	*e*Pn		**Pn**	**04 29 15.9**	**+2.7**
MAT	**Matsushiro**	**3.27**	**259**	P		**Pn**	**04 29 15.5**	**+2.3**
MAT				S		**Sn**	**04 29 55.9**	**+4.5**
JHJ	**Hachijo jima 2**	**4.58**	**206**	Pn		**Pn**	**04 29 31.4**	**+0.2**
	9.2nm,0.3s,baz=73,slow=23,SNR=10							
JHJ				Sn		**Sn**	**04 30 21.6**	**-2.1**
	23nm,0.3s,baz=95,slow=23,SNR=5.8							
KSRS	**Korea Array**	**11.35**	**275**	LR		LR	04 35 26.3	
	comp=Z,45nm,18.1s,baz=80,slow=37							
SONM	**Songino Array**	**28.17**	**303**	P		**P**	**04 34 15.2**	**+1.3**
	0.9nm,0.7s,mb3.5,baz=99,slow=8.7,SNR=6.4							
SONM	**Songino Array**	**28.17**	**303**	P		**P**	**04 34 15.2**	**+1.3**
ZALV	**Zalesovo Beam**	**42.22**	**312**	P		**P**	**04 36 15.8**	**+1.4**
	0.3nm,0.3s,mb3.4,baz=148,slow=6.5,SNR=2.7							
ZALV	**Zalesovo Beam**	**42.22**	**312**	P		**P**	**04 36 15.8**	**+1.4**
MKAR	**Makanchi Array**	**44.52**	**302**	P		**P**	**04 36 34.4**	**+1.3**
	0.5nm,0.7s,mb3.4,baz=91,slow=7.3,SNR=2.8							
MKAR	**Makanchi Array**	**44.52**	**302**	P		**P**	**04 36 34.4**	**+1.4**
KURK	**Kurchatov**	**46.28**	**308**	P		**P**	**04 36 47.9**	**+1.0**
	1.5nm,0.6s,mb4.1,baz=81,slow=8.1,SNR=9.0							
KURK	**Kurchatov**	**46.28**	**308**	*e*P		**P**	**04 36 47.0**	**+0.1**
	2.6nm,0.6s,mb4.3							
K

FUNV 07 05:25:47.2, 6°.10N × 72°.33W, h17km, MW3.6, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.76**	**0**	*eP*	Pn	05 26 16.6	-0.3
CAPV				*eS*	Sn	05 26 39.0	+0.1
SOCV	**Socops**	**2.62**	**34**	*eP*	Pn	05 26 27.8	-0.9
SOCV				*eS*	Sn	05 26 58.3	-1.9
VIGV	**El Vigia**	**2.89**	**19**	*eP*	Pn	05 26 31.5	-1.0
VIGV				*eS*	Sn	05 27 05.1	-1.8
ELOV	**Elorza**	**2.97**	**72**	*eP*	Pn	05 26 33.2	-0.3
ELOV				*eS*	Sn	05 27 05.8	-2.9
SANV	**Sanarito**	**4.37**	**39**	*eP*	Pn	05 26 51.8	-1.1
VIRV	**Villa del Rosa**	**4.38**	**359**	*eP*	Pn	05 26 50.9	-2.1
QARV	**Quebrada Arrib**	**4.46**	**23**	*eP*	Pn	05 26 53.0	-1.0
QARV				*eS*	Sn	05 27 40.6	-5.0
CURV	**Curarigua**	**4.54**	**31**	*eP*	Pn	05 26 53.4	-1.8
TEPV	**Terepaima**	**4.94**	**39**	*eP*	Pn	05 26 59.4	-1.3
BAUV	**El Baul**	**5.11**	**56**	*eP*	Pn	05 27 01.8	-1.1
SIQV	**Siquisique**	**5.17**	**29**	*eP*	Pn	05 27 02.3	-1.5
MONV	**Montecano**	**6.27**	**22**	*eP*	Pn	05 27 16.7	-2.2

WEL 07 05:38:57.2±0.7, 46°.13S × 165°.83E, h12km, ML3.5/7, 1D, Error ellipse: s-maj=5.6km s-min=4.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.59**	**94**	↓*P*	Pb	05 39 08.8	-0.6
PYZ				*S*	Sb	05 39 16.1	-1.6
PYZ				*S*	Sb	05 39 16.5	-1.3
DCZ	**Deep Cove**	**1.13**	**55**	*P*	Pb	05 39 17.4	-1.2
DCZ				*S*	Sb	05 39 33.3	0.0
WHZ	**Wether Hill Ro**	**1.49**	**82**	PN	Pn	05 39 23.1	-0.7
WHZ				SN	Sn	05 39 41.7	-1.5
APZ	**The Paps**	**1.65**	**116**	PN	Pn	05 39 23.9	-2.0
MLZ	**Mavora Lakes**	**1.81**	**65**	PN	Pn	05 39 28.9	+0.7
MLZ				SN	Sn	05 39 53.3	+2.2
EAZ	**Earnscleugh**	**2.59**	**71**	PN	Pn	05 39 39.9	+1.0
TUZ	**Tuapeka**	**2.65**	**88**	PN	Pn	05 39 39.5	-0.2
JCZ	**Jackson Bay**	**2.92**	**46**	PN	Pn	05 39 45.4	+2.1
ODZ	**Otahua Downs**	**3.55**	**74**	PN	Pn	05 39 51.1	-0.9

*IDC **07** 05:48:13.8±0.7, 55°.65N × 165°.79E, h0km, mb3.7/12, mb1 3.9/14, mb1mx3.8/30, mbtmp3.7/14, ML3.3/2, MS3.5/4, Ms1 3.5/4, ms1mx3.0/39, Error ellipse: s-maj=20.6km s-min=10.9km az=16.0*

*KRSC **07** 05:48:14.3±1.0, 55°.62N × 165°.94E, h39km±40km, ML4.5*

*ISCJB **07** 05:48:15.7±0.8, 55°.61N±0°.05 × 165°.78E±0°.05, h27km±7km, mb3.8/13, MS3.5/4, Error ellipse: s-maj=7.6km s-min=4.7km az=172.1*

*MOS **07** 05:48:16.6±1.3, 55°.47N × 165°.85E, h44km, mb4.0/8, Error ellipse: s-maj=13.7km s-min=13.6km az=61.3*

*NEIC **07** 05:48:18.5±0.5, 55°.54N × 165°.88E, h35km, mb4.5/2, Error ellipse: s-maj=15.5km s-min=8.6km az=169.0*

ISC 07 05:48:16.3±0.9, 55°.61N±0°.04 × 165°.82E±0°.05, h18km±6km, n67, σ1s03/87, mb3.8/13, MS3.5/4, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.42**	**168**	*i P*	**Pg**	**05 48 23.8**	**-1.1**
BKI				*i S*	**Sg**	**05 48 30.9**	**+0.3**
BKI	**Bering**	**0.42**	**168**	PN	**Pg**	**05 48 23.8**	**-1.1**
BKI				S	**Sg**	**05 48 30.9**	**+0.3**
KBTR	**Krutoberegovo**	**1.79**	**291**	*i P*	**Pn**	**05 48 43.3**	**-2.9**
KBTR				*eS*	**Sn**	**05 49 04.4**	**-4.0**
KBTR	**Krutoberegovo**	**1.79**	**291**	PN	**Pn**	**05 48 43.3**	**-2.9**
KBTR				S	**Sn**	**05 49 04.4**	**-4.0**
MKZ	**Mys Kozlova**	**2.58**	**247**	*i P*	**Pn**	**05 48 56.6**	**-0.4**
MKZ				*eS*	**Sn**	**05 49 27.0**	**-0.8**
MKZ	**Mys Kozlova**	**2.58**	**247**	PN	**Pn**	**05 48 56.6**	**-0.4**
MKZ				S	**Sn**	**05 49 27.0**	**-0.8**
BDR	**Baidarnaya**	**2.76**	**292**	*i P*	**Pn**	**05 48 58.9**	**-0.6**
BDR				*eS*	**Sn**	**05 49 31.3**	**-0.9**
KLY	**Klyuchi**	**2.99**	**286**	P	**Pn**	**05 49 01.3**	**-1.4**
KLY				S	**Sn**	**05 49 35.6**	**-2.3**
KLY	**Klyuchi**	**2.99**	**286**	PN	**Pn**	**05 49 01.3**	**-1.4**
KLY				S	**Sn**	**05 49 35.6**	**-2.3**
KMNR	**Kamenistaya**	**3.17**	**275**	P	**Pn**	**05 49 05.4**	**+0.3**
KPT	**Kopyto**	**3.18**	**279**	P	**Pn**	**05 49 06.0**	**+0.7**
TUMR	**Tumrok**	**3.25**	**267**	P	**Pn**	**05 49 06.5**	**+0.3**
TUMR				*eS*	**Sn**	**05 49 45.1**	**+0.8**
KOZR	**Kozyr**	**3.37**	**280**	PN	**Pn**	**05 49 08.3**	**+0.4**
KOZR				S	**Sn**	**05 49 47.4**	**0.0**
KOZ	**Kozyrevsk**	**3.38**	**280**	P	**Pn**	**05 49 08.3**	**+0.2**
KOZ				S	**Sn**	**05 49 47.4**	**-0.3**
SRDR	**Sredinnyy**	**3.50**	**284**	*eP*	**Pn**	**05 49 09.4**	**-0.3**
SRDR				*eS*	**Sn**	**05 49 50.6**	**0.0**
KII	**Karymskiy**	**4.01**	**249**	P	**Pn**	**05 49 16.6**	**-0.1**
KII				*eS*	**Sn**	**05 50 01.8**	**-1.3**
NLC	**Nalytchevo**	**4.51**	**240**	P	**Pn**	**05 49 23.4**	**-0.1**
NLC				*eS*	**Sn**	**05 50 14.4**	**-0.9**
NLC	**Nalytchevo**	**4.51**	**240**	PN	**Pn**	**05 49 23.4**	**-0.1**
NLC				S	**Sn**	**05 50 14.4**	**-0.9**
AVH	**Avacha**	**4.76**	**243**	*i P*	**Pn**	**05 49 28.3**	**+1.4**
AVH				*eS*	**Sn**	**05 50 22.8**	**+1.3**
PET	**Petropavlovsk**	**4.93**	**241**	*ePn*	**Pn**	**05 49 30.0**	**+0.6**
PET				*eSn*	**Sn**	**05 50 27.2**	**+1.4**
PET	**Petropavlovsk**	**4.93**	**241**	*ePN*	**Pn**	**05 49 30.8**	**+1.5**
PET				*eS*	**Sn**	**05 50 26.4**	**+0.6**
PET	comp=Z,26nm,0.5s			pmax	pmax		
PET	comp=N,252nm,0.8s			smax			
PET	comp=Z,300nm,17.0s			MLR	MLR		
GNL	**Ganaly**	**4.96**	**250**	*eP*	**Pn**	**05 49 30.9**	**+1.2**
FX1	**Attu Island--F**	**5.10**	**119**	Pn	**Pn**	**05 49 29.6**	**-2.0**
FX1	comp=Z,2.2nm,0.3s,baz=240,slow=22,SNR=5.8			Sn	**Sn**	**05 50 27.8**	**-2.1**
FX1	comp=Z,1.4nm,0.3s,baz=298,slow=19,SNR=1.7 **Attu Island--F**	**5.10**	**119**	Pn	**Pn**	**05 49 29.6**	**-2.0**
FX1				Sn	**Sn**	**05 50 27.8**	**-2.1**
FX1	**Attu Island--F**	**5.10**	**119**	PN	**Pn**	**05 49 29.7**	**-1.9**
FX1						05 50 27.8	
FX1	comp=Z,2.0nm,0.3s			pmax	pmax		
FX1	comp=N,1.0nm,0.3s			smax			
RUS	**Russkaya**	**5.36**	**237**	*eS*	**Sn**	**05 50 34.8**	**-1.5**
PETK	**Petropavlovsk-**	**5.37**	**246**	Pn	**Pn**	**05 49 36.6**	**+1.2**
PETK	comp=N,2.6nm,0.3s,baz=72,slow=16,SNR=36			Sn	**Sn**	**05 50 37.9**	**+1.2**
PETK	comp=N,0.9nm,0.3s,baz=55,slow=13,SNR=3.6 **Petropavlovsk-**	**5.37**	**246**	Pn	**Pn**	**05 49 36.6**	**+1.2**
PETK				Sn	**Sn**	**05 50 37.9**	**+1.2**
PETK	**Petropavlovsk-**	**5.37**	**246**	PN	**Pn**	**05 49 36.6**	**+1.3**
PETK						05 50 37.9	
PETK	comp=Z,3.0nm,0.3s			pmax	pmax		
PETK	comp=N,1.0nm,0.3s			smax			
ILAR	**Eielson Array**	**24.64**	**49**	P	**P**	**05 53 35.0**	**-0.3**
ILAR	comp=N,0.8nm,0.9s,mb3.2,baz=256,slow=8.9,SNR=6.9 **Eielson Array**	**24.64**	**49**	P	**P**	**05 53 35.0**	**-0.3**
ILAR	**Eielson Array**	**24.64**	**49**	P	**P**	**05 53 35.0**	**-0.2**
ILAR	comp=Z,1.0nm,0.9s			pmax	pmax		
INK	**Inuvik**	**29.80**	**41**	P	**P**	**05 54 22.0**	**+0.6**
INK	comp=Z,2.1nm,1.2s,mb3.8,baz=236,slow=4.7,SNR=3.5 **Inuvik**	**29.80**	**41**	*eP*	**P**	**05 54 22.4**	**+1.0**
INK	comp=Z,18nm,1.9s,mb4.5 **Inuvik**	**29.80**	**41**	*eP*	**P**	**05 54 22.4**	**+1.0**
INK	comp=Z,18nm,1.9s			pmax	pmax		
KSRS	**Korea Array**	**31.25**	**250**	LR	LR	06 06 39.5	
SONM	comp=Z,26nm,18.5s,MS2.9,baz=105,slow=35 **Songino Array**	**36.59**	**283**	P	**P**	**05 55 22.0**	**+1.2**
SONM	comp=Z,0.5nm,0.7s,mb3.5,baz=50,slow=8.4,SNR=3.5 **Songino Array**	**36.59**	**283**	P	**P**	**05 55 22.0**	**+1.2**
SONM	**Songino Array**	**36.59**	**283**	P	**P**	**05 55 22.0**	**+1.2**
SONM	comp=Z,1.0nm,0.7s			pmax	pmax		
ZAK	**Zakamensk**	**36.86**	**289**	*eP*	**P**	**05 55 19.1**	**-4.0**
ZAK	comp=Z,1.0nm,1.0s,mb3.6			pmax	pmax		
ZALV	**Zalesovo Beam**	**44.22**	**303**	LR	LR	06 16 23.2	
	comp=Z,37nm,20.8s,MS3.3,baz=41,slow=38						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**49.21**	**303**	P	**P**	**05 57 02.5**	**-0.4**
KURK	comp=Z,1.7nm,0.7s,mb4.2,baz=52,slow=7.7,SNR=13 **Kurchatov**	**49.21**	**303**	*eP*	**P**	**05 57 01.8**	**-1.1**
KURK	comp=Z,5.8nm,1.0s,mb4.6 **Kurchatov**	**49.21**	**303**	P	**P**	**05 57 02.5**	**-0.4**
KURK	comp=Z,2.0nm,0.7s,mb4.3			pmax	pmax		
MKAR	**Makanchi Array**	**50.04**	**297**	P	**P**	**05 57 08.6**	**-0.7**
MKAR	comp=Z,0.5nm,0.2s,mb4.1,baz=50,slow=9.6,SNR=3.8			LR	LR	06 18 34.9	
MKAR	comp=Z,86nm,18.3s,MS3.8,baz=4.5,slow=36 **Makanchi Array**	**50.04**	**297**	P	**P**	**05 57 08.6**	**-0.7**
MKAR				LR	LR	06 18 34.9	
MKAR	**Makanchi Array**	**50.04**	**297**	P	**P**	**05 57 08.6**	**-0.7**
MKAR	comp=Z,1.0nm,0.2s			pmax	pmax		
MKAR	comp=Z,86nm,18.3s			MLR	MLR		
BVAR	**Borovoye Array**	**51.41**	**310**	P	**P**	**05 57 19.2**	**-0.3**
BVAR	comp=Z,0.9nm,0.6s,mb3.9,baz=71,slow=9.7,SNR=5.1 **Borovoye Array**	**51.41**	**310**	P	**P**	**05 57 19.2**	**-0.3**
BVAR	**Borovoye Array**	**51.41**	**310**	P	**P**	**05 57 19.2**	**-0.3**
BVAR	comp=Z,1.0nm,0.6s			pmax	pmax		
NVAR	**Mina Array Bea**	**51.80**	**76**	P	**P**	**05 57 23.9**	**+1.3**
NVAR	comp=Z,0.3nm,0.6s,mb3.4,baz=300,slow=7.2,SNR=3.2 **Mina Array Bea**	**51.80**	**76**	P	**P**	**05 57 23.9**	**+1.3**
PDAR	**Pinedale Array**	**53.40**	**66**	P	**P**	**05 57 35.6**	**+1.3**
PDAR	comp=Z,0.4nm,0.7s,mb3.5,baz=297,slow=2.9,SNR=3.2 **Pinedale Array**	**53.40**	**66**	P	**P**	**05 57 35.6**	**+1.3**
CMAR	**Chiang Mai Arr**	**61.93**	**262**	P	**P**	**05 58 35.5**	**+0.9**
CMAR	comp=Z,0.7nm,0.3s,mb4.3,baz=19,slow=8.6,SNR=2.6 **Chiang Mai Arr**	**61.93**	**262**	P	**P**	**05 58 35.5**	**+0.9**
CMAR	**Chiang Mai Arr**	**61.93**	**262**	P	**P**	**05 58 35.5**	**+0.8**
CMAR	comp=Z,1.0nm,0.3s			pmax	pmax		
TXAR	**Lajitas Array**	**66.61**	**72**	P	**P**	**05 59 05.7**	**+0.4**
TXAR	comp=Z,0.6nm,0.9s,mb3.6,baz=296,slow=3.8,SNR=5.0 **Lajitas Array**	**66.61**	**72**	P	**P**	**05 59 05.7**	**+0.4**
TXAR	**Lajitas Array**	**66.61**	**72**	P	**P**	**05 59 05.7**	**+0.4**
TXAR	comp=Z,1.0nm,0.9s			pmax	pmax		
AKASG	**Malin Array Be**	**68.08**	**332**	P	**P**	**05 59 15.0**	**+0.7**
AKASG	comp=Z,0.4nm,0.4s,mb3.8,baz=28,slow=8.7,SNR=2.9 **Malin Array Be**	**68.08**	**332**	P	**P**	**05 59 15.0**	**+0.7**
AKASG	**Malin Array Be**	**68.08**	**332**	P	**P**	**05 59 15.0**	**+0.8**
GERES	**GERESS Array B**	**73.33**	**341**	LR	LR	06 35 28.9	
ASAR	comp=Z,50nm,18.3s,MS3.8,baz=94,slow=39 **Alice Springs**	**83.52**	**209**	P	**P**	**06 00 43.0**	**+0.4**
ASAR	comp=Z,0.8nm,0.8s,mb3.9,baz=18,slow=4.4,SNR=4.5 **Alice Springs**	**83.52**	**209**	P	**P**	**06 00 43.0**	**+0.4**
ASAR	**Alice Springs**	**83.52**	**209**	P	**P**	**06 00 43.0**	**+0.4**
ASAR	comp=Z,1.0nm,0.8s			pmax	pmax		

KRSC 07 05:52:27.1±0.8, 55°.64N × 165°.87E, h32km±32km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.44**	**172**	*i P*	Pb	05 52 37.4	+0.7
BKI				*i S*	Sb	05 52 44.4	+1.2
KBTR	**Krutoberegovo**	**1.81**	**290**	P	Pn	05 52 56.5	+0.5
KBTR				*eS*	Sn	05 53 18.3	+0.5
MKZ	**Mys Kozlova**	**2.62**	**247**	P	Pn	05 53 09.0	+2.0
MKZ				*eS*	Sn	05 53 40.0	+2.4
TUMR	**Tumrok**	**3.28**	**266**	P	Pn	05 53 18.4	+2.2
SPN	**Mys Shipunski**	**4.26**	**236**	S	Sn	05 54 19.8	+1.5
NLC	**Nalytchevo**	**4.54**	**240**	S	Sn	05 54 28.4	+3.2
AVH	**Avacha**	**4.79**	**243**	P	Pn	05 53 40.8	+3.8
AVH				S	Sn	05 54 33.0	+1.7
PET	**Petropavlovsk**	**4.97**	**241**	S	Sn	05 54 38.2	+2.5
GNL	**Ganaly**	**5.00**	**250**	P	Pn	05 53 43.6	+3.8

*ISCJB **07** 05:53:42.2±0.7, 48°.57N±0°.02 × 142°.48E±0°.06, h3km±4km, mb4.0/21, Error ellipse: s-maj=6.7km s-min=3.7km az=164.5*

*MOS **07** 05:53:42.9±1.1, 48°.63N × 142°.55E, h10km, mb4.2/11, Error ellipse: s-maj=16.0km s-min=8.2km az=97.7*

MOS Felt (III) at Makarov.

*SKHL **07** 05:53:42.5±1.1, 48°.53N × 142°.55E, h10km, mb4.4/7, Ms4.0/1*

SKHL Felt (III) at Makarov.

*IDC **07** 05:53:43.5±0.7, 48°.67N × 142°.39E, h0km, mb4.0/15, mb1 4.2/17, mb1mx4.2/26, mbtmp4.0/17, ML4.0/2, MS3.0/2, Ms1 3.0/2, ms1mx2.5/38, Error ellipse: s-maj=20.7km s-min=15.2km az=149.0*

*NEIC **07** 05:53:44.9±0.4, 48°.61N × 142°.44E, h10km, mb4.4/5, Error ellipse: s-maj=9.8km s-min=8.6km az=107.0*

ISC 07 05:53:44.3±0.8, 48°.58N±0°.02 × 142°.52E±0°.06, h5km±5km, n80, σ1s12/91, mb4.0/21, 2C-2D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGL	**Uglegorsk**	**0.58**	**329**	↓*iPN*	**Pg**	**05 53 56.0**	**+0.6**
UGL				*eS*	**Sg**	**05 54 03.5**	**+0.5**
UGL	comp=Z,371nm,0.6s			pmax	pmax		
UGL	comp=N,5μm,0.5s			smax			
UGL	comp=Z,3μm,0.4s			smax			
UGL	**Uglegorsk**	**0.58**	**329**	↓*iPg*	**Pg**	**05 53 55.8**	**+0.4**
UGL				AMB	AMB	05 53 56.7	
UGL	comp=Z,371nm,0.6s			*eSg*	**Sg**	**05 54 04.0**	**+1.0**
UGL				A		05 54 07.0	
UGL	comp=Z,5μm,0.5s			A		05 54 07.0	
UGL	comp=Z,7μm,0.5s			A		05 54 07.0	
UGL	comp=Z,3μm,0.5s						
YSS	**Yuzh-Sakhalins**	**1.63**	**174**	*ePn*	**Pn**	**05 54 13.0**	**-0.6**
YSS				*eSn*	**Sn**	**05 54 36.0**	**+1.1**
YSS	**Yuzh-Sakhalins**	**1.63**	**174**	*ePN*	**Pn**	**05 54 13.0**	**-0.6**
YSS				*e*		05 54 36.1	
YSS	**Yuzh-Sakhalins**	**1.63**	**174**	↑*iPg*	**Pg**	**05 54 13.2**	**-2.3**
YSS				AMB	AMB	05 54 14.2	
YSS	comp=Z,50nm,0.4s			AMB	AMB	05 54 14.2	
YSS	comp=Z,810nm,0.4s			*eSg*	**Sg**	**05 54 35.0**	**-1.7**
YSS				A		05 54 36.9	
YSS	comp=Z,2μm,0.4s			A		05 54 36.9	
YSS	comp=Z,2μm,0.4s			AMS	AMS	05 54 59.0	
TYV	comp=Z,2μm,5.0s **Tymovskoe**	**2.29**	**2**	*i P*	**Pn**	**05 54 21.5**	**-1.1**
TYV				AMB	AMB	05 54 25.0	
TYV	comp=Z,26nm,0.5s			*i Pg*	**Pg**	**05 54 29.0**	**+0.9**
TYV				AMB	AMB	05 54 30.0	
TYV	comp=Z,146nm,0.5s			*eSg*	**Sg**	**05 55 03.0**	**+5.2**
TYV				A		05 55 06.0	
TYV	comp=Z,270nm,0.8s			A		05 55 06.0	
ASAJ	comp=Z,350nm,0.8s **Asahikawa**	**4.46**	**179**	Pn	**Pn**	**05 54 53.6**	**+1.1**
ASAJ	comp=Z,9.0nm,0.3s,baz=36,slow=8.0,SNR=14			Sn	**Sn**	**05 55 44.8**	**0.0**
ASAJ	comp=Z,5.9nm,0.3s,baz=272,slow=32,SNR=1.7 **Asahikawa**	**4.46**	**179**	*ePn*	**Pn**	**05 54 53.4**	**+0.9**
ASAJ	**Asahikawa**	**4.46**	**179**	PN	**Pn**	**05 54 53.6**	**+1.1**
ASAJ	comp=Z,9.0nm,0.3s			pmax	pmax		
NKL	**Nikolayevsk**	**4.72**	**346**	*ePg*	**Pg**	**05 55 16.0**	**+1.3**
NKL				AMB	AMB	05 55 17.0	
NKL	comp=Z,66nm,0.8s			*eSg*	**Sg**	**05 56 23.0**	**+7.2**
NKL				A		05 56 24.0	
NKL	comp=Z,108nm,0.9s			A		05 56 24.0	
KUR	comp=Z,130nm,0.9s **Kuril'sk**	**4.96**	**130**	*eS*	**Sn**	**05 55 55.0**	**-2.1**
KUR				A		05 55 58.0	
KUR	comp=Z,150nm,0.4s			*eS*	**Sn**	**05 55 59.0**	**+1.9**
KUR				A		05 56 13.0	
	comp=Z,160nm,0.6s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**5.10**	**152**	*e*PN	**Pn**	**05 55 00.8**	**-0.5**
YUK				S	**Sn**	**05 56 03.0**	**+2.5**
YUK				pmax	pmax		
YUK	comp=N,120nm,1.2s			pmax	pmax		
YUK	comp=E,189nm,1.2s			pmax	pmax		
YUK	comp=Z,223nm,1.2s			pmax	pmax		
YUK	comp=Z,2μm,1.6s			smax			
YUK	comp=N,296nm,1.3s			smax			
YUK	comp=E,169nm,1.3s			smax			
YUK	comp=N,3μm,2.1s			smax			
YUK	comp=E,4μm,2.1s			MLR	MLR		
YUK	comp=N,60nm,14.0s			MLR	MLR		
YUK	comp=Z,90nm,14.0s						
TEY	**Ternei**	**5.39**	**231**	*i* P	**Pn**	**05 55 05.8**	**+0.6**
TEY				AMB	AMB	05 55 06.5	
TEY	comp=Z,27nm,0.9s			*i* S	**Sn**	**05 56 07.7**	**+0.1**
TEY				A		05 56 10.5	
ERM	comp=Z,88nm,0.5s **Erimo**	**6.58**	**176**	*i* PN	**Pn**	**05 55 23.2**	**+1.6**
KLR	**Kul'dur**	**7.13**	**279**	*e*PN	**Pn**	**05 55 29.6**	**+0.5**
KLR				*e*		05 57 03.0	
KLR				MLR	MLR		
KLR	comp=E,500nm,11.0s			MLR	MLR		
KLR	comp=Z,1μm,11.0s **Kul'dur**	**7.13**	**279**	*eP*	**Pn**	**05 55 29.6**	**+0.5**
KLR				AMS	AMS	05 58 31.5	
KLR	comp=Z,500nm,11.0s			AMS	AMS	05 58 31.5	
EKMR	comp=Z,1μm,11.0s **Ekimchan**	**7.54**	**310**	*eP*	**Pn**	**05 55 32.0**	**-2.8**
EKMR				AMB	AMB	05 55 40.3	
EKMR	comp=Z,4.0nm,0.5s			*ePg*	**Pg**	**05 56 09.0**	**+0.4**
EKMR				AMB	AMB	05 56 10.5	
EKMR	comp=Z,8.0nm,0.7s			*eS*	**Sn**	**05 57 05.0**	**+4.4**
EKMR				*eSg*	**Sg**	**05 57 50.5**	**+4.3**
EKMR				A		05 57 59.0	
EKMR	comp=Z,99nm,1.0s			A		05 57 59.0	
EKMR	comp=Z,15nm,1.0s			A		05 57 59.0	
EKMR	comp=Z,50nm,1.0s						
BMKR	**Bomnak**	**10.47**	**311**	*eP*	**Pn**	**05 56 13.4**	**-1.5**
BMKR				AMB	AMB	05 56 20.9	
BMKR	comp=Z,9.0nm,0.6s			*eSg*	Sn	05 59 15.0	+62
BMKR				A		05 59 24.0	
PETK	comp=Z,8.0nm,0.8s **Petropavlovsk-**	**10.61**	**59**	LR	LR	06 00 17.5	
MJAR	comp=Z,70nm,18.1s,baz=352,slow=37 **Matsushiro Arr**	**12.44**	**196**	Pn	**Pn**	**05 56 47.6**	**+5.8**
MJAR	comp=Z,0.4nm,0.3s,baz=4.3,slow=13,SNR=4.0 **Matsushiro Arr**	**12.44**	**196**	Pn	**Pn**	**05 56 47.6**	**+5.8**
MJAR	**Matsushiro Arr**	**12.44**	**196**	PN	**Pn**	**05 56 47.6**	**+5.7**
KSRS	**Korea Array**	**15.38**	**229**	Pn	**Pn**	**05 57 23.2**	**+1.3**
KSRS	comp=Z,0.3nm,0.3s,baz=42,slow=13,SNR=3.6 **Korea Array**	**15.38**	**229**	P	**Pn**	**05 57 23.2**	**+1.3**
FX1	**Attu Island--F**	**19.79**	**66**	LR	LR	06 06 15.1	
BILL	comp=Z,39nm,19.2s,baz=251,slow=38 **Bilibino**	**22.87**	**23**	*eP*	**P**	**05 58 47.0**	**-1.2**
BILL				*eS*	**S**	**06 02 49.4**	**-8.7**
BILL	comp=Z,9.0nm,1.3s,mb4.0			pmax	pmax		
SONM	**Songino Array**	**23.95**	**282**	P	**P**	**05 58 59.0**	**-0.2**
SONM	comp=Z,0.4nm,0.4s,mb3.2,baz=86,slow=8.8,SNR=3.8 **Songino Array**	**23.95**	**282**	P	**P**	**05 58 59.0**	**-0.2**
SONM	**Songino Array**	**23.95**	**282**	P	**P**	**05 58 59.0**	**-0.2**
ZAK	**Zakamensk**	**25.36**	**289**	*eP*	**P**	**05 59 12.2**	**+0.2**
ZAK	comp=Z,2.0nm,1.0s,mb3.6			pmax	pmax		
ZALV	**Zalesovo Beam**	**35.63**	**301**	PcP	PcP	06 03 11.1	+0.1
ILAR	comp=Z,1.0nm,0.4s,baz=94,slow=1.9,SNR=6.9 **Eielson Array**	**39.64**	**39**	P	**P**	**06 01 16.7**	**+0.2**
ILAR	comp=Z,1.7nm,0.7s,mb3.9,baz=281,slow=9.7,SNR=19 **Eielson Array**	**39.64**	**39**	P	**P**	**06 01 16.7**	**+0.2**
ILAR	comp=Z,2.0nm,0.7s			pmax	pmax		
MK31	**Makanchi Array**	**39.66**	**291**	*eP*	**P**	**06 01 16.4**	**-0.5**
MK31	**Makanchi Array**	**39.66**	**291**	*eP*	**P**	**06 01 16.4**	**-0.5**
MKAR	**Makanchi Array**	**39.66**	**291**	P	**P**	**06 01 16.4**	**-0.4**
MKAR	comp=Z,1.0nm,0.8s,mb3.6,baz=69,slow=7.9,SNR=7.0			PcP	PcP	06 03 23.4	-0.1
MKAR	comp=Z,1.1nm,0.8s,baz=49,slow=3.7,SNR=6.2			PcP	PcP	06 03 23.4	-0.1
MKAR	**Makanchi Array**	**39.66**	**291**	P	**P**	**06 01 16.4**	**-0.5**
MKAR						06 03 23.4	
MKAR	comp=Z,1.0nm,0.8s			pmax	pmax		
MKAR	comp=Z,1.0nm,0.8s			pmax	pmax		
KURK	**Kurchatov**	**40.28**	**298**	P	**P**	**06 01 22.0**	**+0.1**
KURK	comp=Z,1.1nm,0.6s,mb3.8,baz=58,slow=7.6,SNR=4.0			PcP	PcP	06 03 25.9	+0.5
KURK	comp=Z,1.4nm,0.6s,baz=68,slow=3.4,SNR=8.3 **Kurchatov**	**40.28**	**298**	P	**P**	**06 01 22.0**	**+0.1**
KURK				PcP	PcP	06 03 25.9	+0.5
KURK	**Kurchatov**	**40.28**	**298**	P	**P**	**06 01 22.0**	**+0.1**
KURK						06 03 26.0	
KURK	comp=Z,1.0nm,0.6s,mb3.7			pmax	pmax		
KURK	comp=Z,1.0nm,0.6s,mb3.7			pmax	pmax		
EGAK	**Eagle**	**42.03**	**38**	*eP*	**P**	**06 01 35.4**	**-0.7**
INK	comp=Z,9.7nm,0.8s,mb4.5 **Inuvik**	**43.95**	**32**	P	**P**	**06 01 51.8**	**+0.2**
INK	comp=Z,1.9nm,0.7s,mb4.0,baz=284,slow=11,SNR=8.8 **Inuvik**	**43.95**	**32**	*eP*	**P**	**06 01 51.6**	**0.0**
INK	comp=Z,1.9nm,0.7s,mb3.9 **Inuvik**	**43.95**	**32**	*eP*	**P**	**06 01 51.6**	**0.0**
INK	comp=Z,2.0nm,0.7s			pmax	pmax		
BVAR	**Borovoye Array**	**44.03**	**304**	PcP	PcP	06 03 37.7	-0.1
CMAR	comp=Z,2.1nm,0.8s,baz=66,slow=3.6,SNR=6.6 **Chiang Mai Arr**	**46.21**	**245**	P	**P**	**06 02 10.7**	**+0.5**
CMAR	comp=Z,0.7nm,0.3s,mb4.1,baz=27,slow=7.1,SNR=6.9 **Chiang Mai Arr**	**46.21**	**245**	P	**P**	**06 02 10.7**	**+0.5**
CMAR	**Chiang Mai Arr**	**46.21**	**245**	P	**P**	**06 02 10.7**	**+0.5**
CMAR	comp=Z,1.0nm,0.3s			pmax	pmax		
ABKAR	**Akbulak array**	**51.61**	**304**	*eP*	**P**	**06 02 51.3**	**0.0**
YKA	comp=Z,0.5nm

	comp=Z,4.2nm,0.8s,mb4.5							
PDAR	**Pinedale Array**	**69.19**	**49**	P		**P**	**06 04 52.0**	**+0.4**
	comp=Z,3.1nm,0.9s,mb4.2,baz=335,slow=1.5,SNR=14							
PDAR	**Pinedale Array**	**69.19**	**49**	P		**P**	**06 04 52.0**	**+0.4**
ASAR	**Alice Springs**	**72.32**	**188**	P		**P**	**06 05 10.3**	**-0.4**
	comp=Z,1.1nm,0.7s,mb3.9,baz=1.7,slow=5.3,SNR=9.0							
ASAR	**Alice Springs**	**72.32**	**188**	P		**P**	**06 05 10.3**	**-0.4**
ASAR	**Alice Springs**	**72.32**	**188**	P		**P**	**06 05 10.3**	**-0.4**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
GERES	**GERESS Array B**	**73.36**	**328**	P		**P**	**06 05 15.2**	**-1.5**
	comp=Z,0.3nm,0.6s,mb3.4,baz=35,slow=4.9,SNR=4.2							
GERES	**GERESS Array B**	**73.36**	**328**	P		**P**	**06 05 15.2**	**-1.5**
GERES	**GERESS Array B**	**73.36**	**328**	P		**P**	**06 05 15.2**	**-1.5**
TXAR	**Lajitas Array**	**82.52**	**54**	P		**P**	**06 06 08.8**	**+0.9**
	comp=Z,1.5nm,0.9s,mb4.0,baz=278,slow=4.0,SNR=12							
TXAR	**Lajitas Array**	**82.52**	**54**	P		**P**	**06 06 08.8**	**+0.9**
TXAR	**Lajitas Array**	**82.52**	**54**	P		**P**	**06 06 08.8**	**+0.8**
TXAR				pmax	pmax			
	comp=Z,2.0nm,0.9s							

ISCJB ***07*** *06:04:45.8±0.7, 13°.78N±0°.07×91°.20W±0°.04, h71km±9km, Error ellipse: s-maj=12.7km s-min=4.0km az=26.0*
CASC ***07*** *06:04:47.9±2.8, 13°.87N×91°.08W, h61km±15km, MD3.5, ML3.5*
MEX ***07*** *06:04:48.3±0.8, 13°.72N×91°.40W, h90km±19km, MD4.0*

ISC 07 06:04:46.7±0.7**, 13°.77N**±0°.07×**91°.20W**±0°.04**, h62**km±11km**, n21,** σ0°.98**/38, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSG	**Pto de San Jos**	**0.43**	**66**	*e*P	**Pn**	**06 05 00.2**	**+2.0**
PSG				*e*S	**Sn**	**06 05 06.0**	**-0.6**
JAT	**Jato**	**0.69**	**322**	*e*P	**Pn**	**06 05 03.0**	**+2.0**
JAT				*e*S	**Sn**	**06 05 11.4**	**0.0**
FUG	**Fuego 3**	**0.76**	**27**	*e*P	**Pn**	**06 05 02.2**	**+0.4**
FUG				*e*S	**Sn**	**06 05 10.2**	**-2.7**
FG6		**0.84**	**21**	*e*P	**Pn**	**06 05 03.4**	**+0.5**
FG6				*e*S	**Sn**	**06 05 14.8**	**+0.1**
PCG	**Pacaya**	**0.84**	**43**	*e*P	**Pn**	**06 05 03.6**	**+0.7**
PCG				*e*S	**Sn**	**06 05 14.2**	**-0.5**
NBG	**Las Nubes**	**1.16**	**45**	*e*P	**Pn**	**06 05 07.9**	**+0.9**
NBG				*e*S	**Sn**	**06 05 22.8**	**+0.8**
RBDL	**Robledal**	**1.51**	**77**	*e*P	**Pn**	**06 05 11.3**	**-0.2**
RBDL				*e*S	**Sn**	**06 05 29.1**	**-1.2**
THIG		**1.53**	**318**	*e*P	**Pn**	**06 05 12.0**	**+0.1**
THIG				*i* S	**Sn**	**06 05 30.6**	**-0.3**
SBLS	**San Blas**	**1.53**	**87**	*e*P	**Pn**	**06 05 12.4**	**+0.5**
SBLS				*e*S	**Sn**	**06 05 30.1**	**-0.8**
SNJE	**San Jose**	**1.55**	**86**	*e*P	**Pn**	**06 05 12.4**	**+0.2**
SNJE				*e*S	**Sn**	**06 05 30.5**	**-0.8**
BOQS	**Boqueron**	**1.87**	**91**	*e*P	**Pn**	**06 05 16.9**	**+0.5**
BOQS				*e*S	**Sn**	**06 05 39.2**	**+0.2**
SNET	**Serv Nac Est T**	**1.91**	**92**	*e*P	**Pn**	**06 05 17.3**	**+0.3**
SNET				*e*S	**Sn**	**06 05 41.0**	**+0.9**
SNET				AML	AML	06 05 43.3	
	comp=Z,568nm,0.2s						
LFRS	**El Faro**	**2.08**	**94**	*e*P	**Pn**	**06 05 20.0**	**+0.7**
LFRS				*e*S	**Sn**	**06 05 42.1**	**-2.1**
SNVI	**San Vicente**	**2.30**	**94**	*e*P	**Pn**	**06 05 22.2**	**-0.1**
CCIG	**Comitan**	**2.66**	**340**	*e*P	**Pn**	**06 05 27.9**	**+0.7**
CCIG				*i* S	**Sn**	**06 06 00.1**	**+1.8**
PCIG		**2.74**	**315**	*e*P	**Pn**	**06 05 28.5**	**+0.2**
PCIG				*i* S	**Sn**	**06 05 58.5**	**-1.8**
CAHU	**Cacacuatique**	**2.90**	**90**	*e*P	**Pn**	**06 05 30.1**	**-0.4**
CNCH	**Conchagua**	**3.31**	**98**	*e*P	**Pn**	**06 05 36.4**	**+0.3**
TGIG		**3.52**	**328**	*e*P	**Pn**	**06 05 38.4**	**-0.5**
TGIG				*i* S	**Sn**	**06 06 19.0**	**-0.3**
CRIN	**San Cristobal**	**4.18**	**104**	*e*P	**Pn**	**06 05 47.8**	**-0.2**
CRIN				AML	AML	06 06 30.6	
	comp=E,126nm,0.1s						
HUIG	**Huatulco**	**5.15**	**293**	*i* P	**Pn**	**06 06 00.2**	**-1.0**
HUIG				*i* S	**Sn**	**06 06 56.2**	**-3.1**

ISCJB ***07*** *06:16:59.6±0.5, 4°.68S±0°.05×128°.74E±0°.08, h33km, mb4.0/7, Error ellipse: s-maj=11.8km s-min=6.6km az=160.6*
NEIC ***07*** *06:17:03.2±0.6, 4°.81S×128°.69E, h35km, mb4.4/2, Error ellipse: s-maj=16.9km s-min=9.2km az=65.0*
IDC ***07*** *06:17:04.6±4.8, 4°.77S×128°.52E, h44km±49km, mb3.8/6, mb1 3.9/8, mb1mx3.8/17, mbtmp3.8/8, ML3.4/2, MS3.0/1, Ms1 3.0/1, ms1mx2.6/25, Error ellipse: s-maj=42.7km s-min=23.9km az=75.0*
DJA ***07*** *06:17:05, 4°.04S×128°.64E, h14km, MLv3.8/5*

ISC 07 06:17:01.7±0.5**, 4°.66S**±0°.05×**128°.78E**±0°.08**, h35**km**, n33,** σ1°.**38/30, mb4.0/7, 1C, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**1.13**	**329**	P	**Pn**	**06 17 16.7**	**-4.4**
AAI				S	**Sn**	**06 17 25.7**	**-10**
MSAI	**Masohi**	**1.31**	**6**	P	**Pn**	**06 17 21.4**	**-2.2**
MSAI				S	**Sn**	**06 17 29.3**	**-11**
NLAI	**Namlea**	**2.19**	**310**	P	**Pn**	**06 17 33.2**	**-2.5**
LBMI	**Labuha**	**4.19**	**342**	P	**Pn**	**06 18 03.1**	**-0.1**
SWI	**Sorong**	**4.51**	**33**	P	**Pn**	**06 18 06.7**	**-0.9**
KAKA	**Kakadu**	**8.78**	**156**	*e*Pn	**Pn**	**06 19 06.5**	**+0.2**
	14nm,0.5s						
KAPI	**Kappang**	**9.01**	**267**	*e*Pn	**Pn**	**06 19 09.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**13.71**	**193**	P	**Pn**	**06 20 12.6**	**-1.1**
	0.1nm,0.3s,baz=28,slow=15,SNR=3.9						
FITZ				LR	LR	06 25 21.5	
	comp=Z,60nm,20.4s,baz=230,slow=37						
FITZ	**Fitzroy Crossi**	**13.71**	**193**	*e*Pn	**Pn**	**06 20 12.7**	**-1.1**
FITZ				LR	LR	06 25 21.5	
WRAB	**Tennant Creek**	**16.12**	**161**	*e*P	**Pn**	**06 20 46.1**	**+0.3**
	12nm,1.2s						
WRA	**Warramunga Arr**	**16.13**	**161**	P	**Pn**	**06 20 43.7**	**-2.2**
	0.3nm,0.3s,baz=342,slow=11,SNR=6.9						
WRA	**Warramunga Arr**	**16.13**	**161**	P	**Pn**	**06 20 43.7**	**-2.2**
COEN	**Coen**	**16.93**	**124**	*e*P	**Pn**	**06 20 56.0**	**-0.1**
	109nm,1.1s						
PVCP	**Virac**	**18.71**	**346**	⇑*i*P	PKiKP	06 33 58.6	+23
ASAR	**Alice Springs**	**19.53**	**166**	P	**Pn**	**06 21 28.9**	**+1.1**
	0.2nm,0.3s,baz=348,slow=11,SNR=29						
ASAR	**Alice Springs**	**19.53**	**166**	P	**Pn**	**06 21 28.9**	**+1.1**
CMAR	**Chiang Mai Arr**	**37.32**	**309**	P	**P**	**06 24 12.3**	**+1.4**
	1.0nm,0.5s,mb3.9,baz=144,slow=6.3,SNR=5.7						
CMAR	**Chiang Mai Arr**	**37.32**	**309**	P	**P**	**06 24 12.3**	**+1.4**
KSRS	**Korea Array**	**41.90**	**359**	P	**P**	**06 24 53.7**	**+4.9**
	3.2nm,0.8s,mb4.0,baz=173,slow=9.3,SNR=6.9						
MJAR	**Matsushiro Arr**	**41.92**	**11**	P	**P**	**06 24 53.7**	**+4.7**
	1.4nm,0.5s,mb3.8,baz=192,slow=12,SNR=4.3						
MJAR	**Matsushiro Arr**	**41.92**	**11**	P	**P**	**06 24 53.7**	**+4.7**
SONM	**Songino Array**	**55.85**	**342**	P	**P**	**06 26 38.3**	**+2.7**
	0.3nm,0.6s,mb3.5,baz=123,slow=5.3,SNR=2.5						
SONM	**Songino Array**	**55.85**	**342**	P	**P**	**06 26 38.3**	**+2.7**
PETK	**Petropavlovsk-**	**62.50**	**19**	P	**P**	**06 27 23.5**	**+1.9**
	2.3nm,0.6s,mb4.5,baz=119,slow=5.6,SNR=3.6						
PETK	**Petropavlovsk-**	**62.50**	**19**	P	**P**	**06 27 23.5**	**+1.9**
MKAR	**Makanchi Array**	**65.61**	**327**	P	**P**	**06 27 43.9**	**+1.7**
	1.6nm,0.4s,mb4.4,baz=116,slow=8.6,SNR=23						
MKAR	**Makanchi Array**	**65.61**	**327**	P	**P**	**06 27 43.9**	**+1.7**
ZALV	**Zalesovo Beam**	**68.96**	**334**	P	**P**	**06 28 03.5**	**+0.3**
	1.2nm,0.6s,mb4.0,baz=112,slow=2.3,SNR=2.7						
ZALV	**Zalesovo Beam**	**68.96**	**334**	P	**P**	**06 28 03.5**	**+0.3**
TORD	**Torodi Ar. Bea**	**127.14**	**283**	PKP	PKPdf	06 36 04.5	+1.1
	0.3nm,0.9s,baz=48,slow=2.1,SNR=2.3						
TORD	**Torodi Ar. Bea**	**127.14**	**283**	PKP	PKPdf	06 36 04.5	+1.1
CPUP	**Villa Florida**	**148.63**	**169**	PKPbc	PKPbc	06 36 47.0	+1.0
	0.5nm,0.5s,baz=180,slow=9.1,SNR=2.6						
CPUP	**Villa Florida**	**148.63**	**169**	PKPbc	PKPbc	06 36 47.0	+1.0

ATH ***07*** *06:19:45.7, 39°.47N×23°.87E, h27km±2km, MD2.9/7*
ISCJB ***07*** *06:19:47.5±0.6, 39°.46N±0°.03×23°.79E±0°.07, h27km±5km, Error ellipse: s-maj=8.9km s-min=4.8km az=17.0*
CSEM ***07*** *06:19:47.2±0.3, 39°.46N×23°.82E, h24km±3km, ML2.1/3, Error ellipse: s-maj=7.7km s-min=4.7km az=113.0*
THE ***07*** *06:19:48.0, 39°.47N×23°.72E, h17km, ML2.1/3, Error ellipse: s-maj=1.2km s-min=0.6km az=117.0*

ISC 07 06:19:47.7±0.6**, 39°.46N**±0°.03×**23°.79E**±0°.07**, h26**km±5km**, n25,** σ0°.**81/39, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AOS	**Alonnisos**	**0.30**	**167**	P	**Pb**	**06 19 54.8**	**+0.1**
AOS				S	**Sb**	**06 19 59.8**	**+0.3**
AOS	**Alonnisos**	**0.30**	**167**	P	**Pb**	**06 19 54.8**	**+0.1**
AOS				S	**Sb**	**06 19 59.8**	**+0.3**
NEO	**Neokhori**	**0.47**	**251**	*e*PN	**Pb**	**06 19 56.2**	**-1.2**
NEO	**Neokhori**	**0.47**	**251**	P	**Pb**	**06 19 56.2**	**-1.2**
NEO				S	**Sb**	**06 20 02.8**	**-1.1**
NEO	**Neokhori**	**0.47**	**251**	P	**Pb**	**06 19 56.2**	**-1.2**
NEO				S	**Sb**	**06 20 02.8**	**-1.1**
PAIG	**Paliouri**	**0.47**	**349**	P	**Pb**	**06 19 57.1**	**-0.4**
PAIG				S	**Sb**	**06 20 05.0**	**+0.8**
PAIG	**Paliouri**	**0.47**	**349**	P	**Pb**	**06 19 57.1**	**-0.4**
PAIG				S	**Sb**	**06 20 05.0**	**+0.8**
OUR	**Ouranopolis**	**0.89**	**9**	P	**Pb**	**06 20 04.8**	**+0.4**
OUR				S	**Sb**	**06 20 17.1**	**+1.3**
OUR	**Ouranopolis**	**0.89**	**9**	P	**Pb**	**06 20 04.8**	**+0.4**
OUR				S	**Sb**	**06 20 17.1**	**+1.3**
PLG	**Polygyros**	**0.95**	**344**	*e*PN	**Pn**	**06 20 04.1**	**-1.2**
PLG				*e*SN	**Sn**	**06 20 17.5**	**-0.6**
PLG	**Polygyros**	**0.95**	**344**	P	**Pn**	**06 20 04.5**	**-0.8**
PLG	**Polygyros**	**0.95**	**344**	*e*Pn	**Pn**	**06 20 04.1**	**-1.2**
PLG	**Polygyros**	**0.95**	**344**	P	**Pn**	**06 20 04.5**	**-0.8**
PLG				*e*Sn	**Sn**	**06 20 17.5**	**-0.6**
LKR	**Lokris**	**1.02**	**218**	*e*PN	**Pn**	**06 20 06.5**	**+0.3**
LKR				*e*SN	**Sn**	**06 20 20.9**	**+1.2**
LKR	**Lokris**	**1.02**	**218**	*e*Pn	**Pn**	**06 20 06.5**	**+0.3**
LKR				*e*Sn	**Sn**	**06 20 20.9**	**+1.2**
LIA	**Limnos Island**	**1.16**	**67**	*e*PN	**Pn**	**06 20 06.7**	**-1.5**
LIA	**Limnos Island**	**1.16**	**67**	*e*Pn	**Pn**	**06 20 06.7**	**-1.5**
LIT	**Litokhoron**	**1.19**	**303**	*e*PN	**Pn**	**06 20 08.6**	**0.0**
LIT	**Litokhoron**	**1.19**	**303**	*e*Pn	**Pn**	**06 20 08.6**	**0.0**
AGG	**Agios Georgios**	**1.22**	**249**	P	**Pn**	**06 20 08.8**	**-0.2**
AGG				S	**Sn**	**06 20 25.1**	**+0.5**
AGG	**Agios Georgios**	**1.22**	**249**	P	**Pn**	**06 20 08.8**	**-0.2**
AGG				S	**Sn**	**06 20 25.1**	**+0.5**
THL	**Klokotos Trika**	**1.38**	**275**	*e*PN	**Pn**	**06 20 12.2**	**+1.0**
THL	**Klokotos Trika**	**1.38**	**275**	*e*Pn	**Pn**	**06 20 12.2**	**+1.0**
SOH	**Sokhos**	**1.40**	**346**	*e*PN	**Pn**	**06 20 11.4**	**-0.1**
SOH	**Sokhos**	**1.40**	**346**	*e*Pn	**Pn**	**06 20 11.4**	**-0.1**

IDC 07 06:19:49.6±4.9**, 22°.01S**×**68°.62W**, h0km**, mb3.5/1, mb1 3.8/2, mb1mx3.5/15, mbtmp3.7/2, ML4.0/1, Error ellipse: s-maj=148.7km s-min=55.7km az=72.0, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**5.71**	**5**	Pn	Pn	06 21 16.3	+0.6
	2.4nm,0.3s,baz=195,slow=5.7,SNR=53						
TORD	**Torodi Ar. Bea**	**77.28**	**70**	P	P	06 31 46.5	+0.1
	0.3nm,0.4s,baz=260,slow=5.3,SNR=7.6						
MKAR	**Makanchi Array**	**145.88**	**37**	PKPbc	PKPbc	06 39 30.1	-0.8
	1.0nm,0.7s,baz=315,slow=4.5,SNR=6.7						

IDC ***07*** *06:21:17.2±1.3, 29°.72S×176°.94W, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.0/18, mbtmp4.1/5, Error ellipse: s-maj=44.9km s-min=29.8km az=21.0*
NEIC ***07*** *06:21:24.0±2.7, 29°.73S×177°.06W, h46km±19km, mb4.3/1, Error ellipse: s-maj=30.0km s-min=25.8km az=186.0*
ISCJB ***07*** *06:21:25.6±2.9, 30°.20S±0°.07×177°.5W±0°.3, h51km±17km, mb4.2/6, Error ellipse: s-maj=41.8km s-min=12.1km az=3.6*

ISC 07 06:21:28.4±2.6**, 30°.12S**±0°.07×**177°.5W**±0°.3**, h57**km±13km**, n21,** σ0°.**74/15, mb4.2/6, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.93**	**338**	*e*Pn	**Pn**	**06 21 40.1**	**-5.4**
RAO				*e*S	**Sn**	**06 21 58.0**	**0.0**
URZ	**Urewera**	**9.26**	**207**	Sn	**Sn**	**06 25 21.7**	**0.0**
	0.7nm,0.3s,baz=338,slow=23,SNR=2.0						
CTA	**Charters Tower**	**34.17**	**278**	P	**P**	**06 28 10.1**	**+1.8**
	2.1nm,0.4s,mb4.4,baz=97,slow=11,SNR=4.5						
CTA	**Charters Tower**	**34.17**	**278**	P	**P**	**06 28 10.1**	**+1.8**
STKA	**Stephens Creek**	**34.95**	**256**	P	**P**	**06 28 15.5**	**+0.6**
	3.2nm,0.7s,mb4.3,baz=103,slow=12,SNR=3.5						
STKA	**Stephens Creek**	**34.95**	**256**	P	**P**	**06 28 15.5**	**+0.6**
ASAR	**Alice Springs**	**43.54**	**266**	P	**P**	**06 29 26.5**	**-0.2**
	1.1nm,0.6s,mb3.8,baz=103,slow=8.1,SNR=19						
ASAR	**Alice Springs**	**43.54**	**266**	P	**P**	**06 29 26.5**	**-0.2**
WB2	**Warramunga Arr**	**44.49**	**272**	*e*P	**P**	**06 29 33.4**	**-0.9**
WRAB	**Tennant Creek**	**44.50**	**272**	*e*P	**P**	**06 29 33.7**	**-0.7**
	3.7nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**44.51**	**272**	P	**P**	**06 29 34.0**	**-0.4**
	3.6nm,0.7s,mb4.3,baz=109,slow=7.7,SNR=16						
WRA	**Warramunga Arr**	**44.51**	**272**	P	**P**	**06 29 34.0**	**-0.4**
QSPA	**South Pole Qui**	**59.99**	**180**	P	**P**	**06 31 28.5**	**+0.1**
	1.0nm,0.9s,mb3.9,baz=106,slow=5.7,SNR=3.6						
QSPA	**South Pole Qui**	**59.99**	**180**	P	**P**	**06 31 28.5**	**+0.1**
KURK	**Kurchatov**	**121.16**	**314**	PKP	PKPdf	06 40 11.3	-3.0
	0.4nm,0.5s,baz=111,slow=2.6,SNR=4.8						
KURK	**Kurchatov**	**121.16**	**314**	PKP	PKPdf	06 40 11.3	-3.0
FINES	**FINESS Array B**	**145.02**	**340**	PKP	PKPdf	06 40 54.4	-4.0
	6.3nm,0.4s,baz=56,slow=3.1,SNR=23						
FINES	**FINESS Array B**	**145.02**	**340**	PKP	PKPdf	06 40 54.4	-4.0
AKASG	**Malin Array Be**	**151.33**	**323**	PKPbc	PKPbc	06 41 12.3	-2.8
	3.5nm,0.7s,baz=50,slow=2.4,SNR=30						
AKASG	**Malin Array Be**	**151.33**	**323**	PKPbc	PKPbc	06 41 12.3	-2.8
TORD	**Torodi Ar. Bea**	**163.09**	**177**	PKPab	PKPab	06 42 13.0	-1.8
	0.3nm,0.6s,baz=191,slow=4.5,SNR=2.6						

WEL 07 06:21:29.6±0.5**, 38°.03S**×**176°.20E, h160**km±4km**, ML3.7/8, 1C, Error ellipse: s-maj=5.0km s-min=4.5km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TARZ	**Mount Tarawera**	**0.32**	**131**	PN	Pn	06 21 52.3	+1.0
URZ	**Urewera**	**0.75**	**108**	PN	Pn	06 21 53.3	-0.2
URZ				SN	Sn	06 22 11.1	-0.7
MWZ	**Matawai**	**1.09**	**107**	PN	Pn	06 21 55.9	-0.1
MWZ				SN	Sn	06 22 15.8	-0.5
RAHZ	**Arahi**	**1.13**	**142**	PN	Pn	06 21 56.9	+0.5
RAHZ				SN	Sn	06 22 17.6	+0.7
BKZ	**Black Stump Fm**	**1.16**	**169**	⇑PN	Pn	06 21 56.6	0.0
BKZ				SN	Sn	06 22 16.7	-0.8
NMHZ	**Naumai**	**1.17**	**156**	PN	Pn	06 21 57.6	+0.8
WNVZ	**Wahianoa**	**1.38**	**200**	PN	Pn	06 21 58.9	+0.2
MOVZ	**Moawhango**	**1.42**	**194**	PN	Pn	06 21 58.8	-0.3
MOVZ				SN	Sn	06 22 21.9	0.0
BHHZ	**Black Hill Sta**	**1.46**	**184**	PN	Pn	06 21 59.3	-0.3
MCNZ	**McNeill Hill**	**1.47**	**165**	PN	Pn	06 22 00.4	+0.5
KNZ	**Kokohu**	**1.52**	**131**	PN	Pn	06 21 59.9	-0.2
PRGZ	**Paritu Road**	**1.59**	**125**	PN	Pn	06 22 00.8	-0.1
PUZ	**Puketiti**	**1.62**	**92**	PN	Pn	06 22 00.7	-0.4
MXZ	**Matakaoa Point**	**1.73**	**75**	PN	Pn	06 22 02.3	0.0
MHGZ	**Mahia Peninsul**	**1.75**	**131**	PN	Pn	06 22 02.6	+0.1
CKHZ	**Cape Kidnapper**	**1.77**	**158**	PN	Pn	06 22 02.8	+0.1
KAHZ	**Kahuranaki**	**1.84**	**164**	PN	Pn	06 22 03.5	0.0
PNHZ	**Pukenui**	**1.88**	**180**	PN	Pn	06 22 03.2	-0.8
WAZ	**Wanganui**	**1.97**	**208**	PN	Pn	06 22 04.6	-0.4
TSZ	**Takapari Road**	**2.04**	**185**	PN	Pn	06 22 04.8	-0.9
PXZ	**Pawanui**	**2.07**	**166**	PN	Pn	06 22 05.4	-0.6
DVHZ	**Dannevirke**	**2.27**	**181**	PN	Pn	06 22 07.1	-1.3
POWZ	**Post Office Ro**	**2.39**	**188**	PN	Pn	06 22 08.4	-1.4
BFZ	**Birch Farm**	**2.65**	**179**	PN	Pn	06 22 11.3	-1.7
MRZ	**Mangatainoka R**	**2.67**	**190**	PN	Pn	06 22 11.3	-1.9
TIWZ	**Tintock**	**2.76**	**185**	PN	Pn	06 22 12.3	-2.0
OGWZ	**Otaki Gorge**	**2.90**	**196**	PN	Pn	06 22 14.0	-2.1
HOWZ	**Holdsworth Sta**	**2.92**	**190**	PN	Pn	06 22 13.5	-2.7
KIW	**Kapiti Island**	**3.00**	**199**	PN	Pn	06 22 15.0	-2.3
MTW	**Mount Morrison**	**3.17**	**190**	PN	Pn	06 22 16.6	-2.8
CAW	**Cannon Point**	**3.20**	**196**	PN	Pn	06 22 17.2	-2.6
TRWZ	**Traveller**	**3.39**	**187**	PN	Pn	06 22 19.5	-2.7
TCW	**Tory Channel**	**3.51**	**204**	PN	Pn	06 22 20.9	-2.9
PLWZ	**Palliser**	**3.61**	**191**	PN	Pn	06 22 21.8	-3.3
TUWZ	**Tuamarina**	**3.82**	**206**	PN	Pn	06 22 24.5	-3.2

ISCJB ***07*** *06:22:13.4±0.6, 39°.45N±0°.02×26°.19E±0°.04, h3km±4km, Error ellipse: s-maj=5.5km s-min=3.0km az=161.1*
CSEM ***07*** *06:22:13.3±0.2, 39°.45N×26°.16E, h2km, MD3.1, Error ellipse: s-maj=4.2km s-min=2.4km az=75.0*
DDA ***07*** *06:22:13.3, 39°.44N×26°.18E, h7km±5km, Md3.3*
ATH ***07*** *06:22:13.5, 39°.45N×26°.23E, h14km, MD3.1/6*
ISK ***07*** *06:22:14.0, 39°.50N×26°.23E, h8km, MD3.0*

ISC 07 06:22:13.7±0.5**, 39°.44N**±0°.02×**26°.18E**±0°.04**, h5**km±4km**, n47,** σ0°.**79/70, 1C-1D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRK	**Paraskevi**	**0.21**	**160**	*e*PG	**Pg**	**06 22 18.3**	**+0.5**
PRK				*e*SG	**Sg**	**06 22 21.4**	**+0.8**
PRK	**Paraskevi**	**0.21**	**160**	*e*Pg	**Pg**	**06 22 18.3**	**+0.5**
PRK				*e*Sg	**Sg**	**06 22 21.4**	**+0.8**
EZN	**Ezine**	**0.40**	**16**	*e*PG	**Pg**	**06 22 21.1**	**-0.3**
EZN				*e*SG	**Sg**	**06 22 26.4**	**-0.2**
EZN	**Ezine**	**0.40**	**16**	*e*Pg	**Pg**	**06 22 21.1**	**-0.3**
EZN				*e*Sg	**Sg**	**06 22 26.4**	**-0.2**
BOZC	**Bozcaada**	**0.41**	**346**	⇑*i*P	**Pg**	**06 22 22.2**	**+0.5**
BOZC				*i* S	**Sg**	**06 22 28.1**	**+1.2**
AYVA	**Ayvalik**	**0.42**	**109**	⇓*i*P	**Pg**	**06 22 20.2**	**+0.2**
AYVA				*i* S	**Sg**	**06 22 27.8**	**+0.6**
AYVA	**Ayvalik**	**0.42**	**109**	*i* P	**Pg**	**06 22 20.2**	**+0.2**
AYVA				*i* S	**Sg**	**06 22 27.8**	**+0.6**
GADA	**Gvkgeada**	**0.78**	**344**	*e*PG	**Pg**	**06 22 28.6**	**-0.1**
GADA	**Gvkgeada**	**0.78**	**344**	*e*Pg	**Pg**	**06 22 28.6**	**0.0**
LIA	**Limnos Island**	**0.89**	**301**	*e*PB	**Pb**	**06 22 31.2**	**-0.5**
LIA				*e*SB	**Sb**	**06 22 43.7**	**-0.2**
LIA	**Limnos Island**	**0.89**	**301**	*e*Pb	**Pb**	**06 22 31.2**	**-0.5**
LIA				*e*Sb	**Sb**	**06 22 43.7**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.98**	**13**	*e*PG	**Pg**	**06 22 32.0**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.98**	**13**	*e*Pg	**Pg**	**06 22 32.0**	**-0.5**
LPK	**Lapseki**	**1.03**	**26**	*e*PG	**Pg**	**06 22 32.5**	**-1.0**
LPK	**Lapseki**	**1.03**	**26**	*e*Pg	**Pg**	**06 22 32.5**	**-1.0**
CHOS	**Chios island**	**1.06**	**185**	*e*PN	**Pn**	**06 22 34.0**	**-1.2**
CHOS				*e*SB	**Sb**	**06 22 48.4**	**-0.3**
CHOS	**Chios island**	**1.06**	**185**	*e*Pn	**Pn**	**06 22 34.0**	**-1.2**
CHOS				*e*Sb	**Sb**	**06 22 48.4**	**-0.3**
URLA	**Izmir**	**1.13**	**163**	*e*P	**Pg**	**06 22 34.0**	**-1.3**
URLA				*e*S	**Sg**	**06 22 49.7**	**-0.3**
URLA	**Izmir**	**1.13**	**163**	*e*P	**Pg**	**06 22 34.0**	**-1.4**
URLA				*e*S	**Sg**	**06 22 49.7**	**-0.3**
BALY	**Balya**	**1.15**	**75**	*e*P	**Pg**	**06 22 35.8**	**-0.1**
BALY				*e*S	**Sg**	**06 22 51.8**	**+1.0**
BALY	**Balya**	**1.15**	**75**	*e*P	**Pg**	**06 22 35.8**	**0.0**
BALY				*e*S	**Sg**	**06 22 51.8**	**+1.1**
BLCB	**Balcova**	**1.25**	**147**	*e*PN	**Pn**	**06 22 39.2**	**+1.4**
BLCB	**Balcova**	**1.25**	**147**	*e*Pn	**Pn**	**06 22 39.2**	**+1.3**
ERIK	**Erikli-Kesan**	**1.25**	**12**	*e*PN	**Pn**	**06 22 37.3**	**-0.6**
ERIK	**Erikli-Kesan**	**1.25**	**12**	*e*Pn	**Pn**	**06 22 37.3**	**-0.6**
KRBG	**Karabiga-Canak**	**1.28**	**42**	*e*PN	**Pn**	**06 22 37.4**	**-0.9**
KRBG	**Karabiga-Canak**	**1.28**	**42**	*e*Pn	**Pn**	**06 22 37.4**	**-0.9**
ENEZ	**Enez**	**1.29**	**359**	*e*PN	**Pn**	**06 22 37.7**	**-0.7**
ENEZ	**Enez**	**1.29**	**359**	*e*Pn	**Pn**	**06 22 37.7**	**-0.7**
GONE	**Gonen-Balikesi**	**1.31**	**62**	*e*PN	**Pn**	**06 22 38.3**	**-0.4**
GONE	**Gonen-Balikesi**	**1.31**	**62**	*e*Pn	**

ILAR pmax pmax
comp=Z,1.0nm,0.7s
MJAR Matsushiro Arr 26.73 236 P **P 06 39 26.8 +3.0**
comp=Z,4.5nm,0.7s,mb4.1,baz=26,slow=8.2,SNR=7.9
MJAR Matsushiro Arr 26.73 236 P **P 06 39 26.8 +3.0**
MJAR Matsushiro Arr 26.73 236 P **P 06 39 26.8 +3.0**
MJAR pmax pmax
comp=Z,5.0nm,0.7s
KSRS Korea Array 31.21 250 LR LR 06 52 40.5
comp=Z,22nm,21.0s,MS2.8,baz=50,slow=36
SONM Songino Array 36.52 283 P **P 06 40 51.0 +1.4**
comp=Z,1.1nm,0.6s,mb3.9,baz=64,slow=9.7,SNR=8.3
SONM Songino Array 36.52 283 P **P 06 40 51.0 +1.4**
SONM Songino Array 36.52 283 P **P 06 40 51.0 +1.4**
SONM pmax pmax
comp=Z,1.0nm,0.6s
ZAK Zakamensk 36.78 289 *eP* **P 06 40 52.3 +0.4**
ZAK pmax pmax
comp=Z,1.0nm,0.9s,mb3.6
KURK Kurchatov 49.13 303 P **P 06 42 32.4 +0.7**
comp=Z,3.1nm,0.9s,mb4.3,baz=53,slow=7.6,SNR=15
KURK Kurchatov 49.13 303 *eP* **P 06 42 31.4 -0.3**
comp=Z,4.0nm,0.6s,mb4.6
KURK Kurchatov 49.13 303 P **P 06 42 32.4 +0.7**
KURK pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
MK31 Makanchi Array 49.96 297 *eP* **P 06 42 37.4 -0.7**
MK31 Makanchi Array 49.96 297 *eP* **P 06 42 37.4 -0.7**
MKAR Makanchi Array 49.96 297 P **P 06 42 37.3 -0.8**
comp=Z,0.9nm,0.7s,mb3.9,baz=46,slow=7.0,SNR=7.3
MKAR Makanchi Array 49.96 297 P **P 06 42 37.3 -0.8**
MKAR Makanchi Array 49.96 297 P **P 06 42 37.3 -0.8**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 51.32 310 P **P 06 42 48.0 -0.3**
comp=Z,1.6nm,0.7s,mb4.0,baz=40,slow=5.8,SNR=6.5
BVAR Borovoye Array 51.32 310 P **P 06 42 48.0 -0.3**
BVAR Borovoye Array 51.32 310 P **P 06 42 48.0 -0.3**
BVAR pmax pmax
comp=Z,2.0nm,0.7s
NVAR Mina Array Bea 51.84 76 P **P 06 42 53.5 +1.1**
comp=Z,0.8nm,0.7s,mb3.8,baz=319,slow=6.3,SNR=4.1
NVAR Mina Array Bea 51.84 76 P **P 06 42 53.5 +1.1**
PDAR Pinedale Array 53.42 66 P **P 06 43 05.9 +1.8**
comp=Z,0.9nm,0.7s,mb3.8,baz=331,slow=2.2,SNR=7.4
PDAR Pinedale Array 53.42 66 P **P 06 43 05.9 +1.8**
CMAR Chiang Mai Arr 61.88 262 LR LR 07 14 03.4
comp=Z,19nm,18.4s,MS3.3,baz=280,slow=39
TXAR Lajitas Array 66.65 72 P **P 06 44 34.9 -0.2**
comp=Z,0.7nm,0.5s,mb3.9,baz=304,slow=4.6,SNR=13
TXAR Lajitas Array 66.65 72 P **P 06 44 34.9 -0.2**
TXAR Lajitas Array 66.65 72 P **P 06 44 34.9 -0.1**
TXAR pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 67.99 332 P **P 06 44 42.7 -0.5**
comp=Z,0.4nm,0.4s,mb3.8,baz=25,slow=6.1,SNR=2.5
AKASG Malin Array Be 67.99 332 P **P 06 44 42.6 -0.5**
AKASG Malin Array Be 67.99 332 P **P 06 44 42.7 -0.5**
WRA Warramunga Arr 79.89 210 P **P 06 45 57.0 +3.9**
comp=Z,0.7nm,0.7s,mb3.7,baz=25,slow=5.5,SNR=4.5
WRA Warramunga Arr 79.89 210 P **P 06 45 57.0 +3.9**
WRA Warramunga Arr 79.89 210 P **P 06 45 57.0 +4.0**
WRA pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 83.55 209 P **P 06 46 13.4 +1.1**
comp=Z,1.1nm,0.8s,mb4.0,baz=17,slow=5.2,SNR=9.9
ASAR Alice Springs 83.55 209 P **P 06 46 13.4 +1.1**
ASAR Alice Springs 83.55 209 P **P 06 46 13.4 +1.1**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
QSPA South Pole Qui 145.43 180 PKPbc PKPbc 06 53 23.6 +2.9
comp=Z,2.6nm,1.0s,baz=31,slow=1.2,SNR=6.7
QSPA South Pole Qui 145.43 180 *e*PKPdf PKPdf 06 53 23.4 +2.8

WEL 07 06:44:40.5±0.3, 38°09S×175°96E, h191km±2km, ML4.6/24, 6C-3D, Error ellipse: s-maj=1.9km s-min=1.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRRZ	**Handcock Road**	**0.40**	**140**	⇓PN	Pn	06 45 06.5	+0.3
TARZ	**Mount Tarawera**	**0.45**	**109**	PN	Pn	06 45 06.7	+0.4
RRRZ	**Republican Roa**	**0.50**	**120**	PN	Pn	06 45 06.9	0.0
RRRZ				SN	Sn	06 45 26.8	+0.2
OPRZ	**Ohinepanea**	**0.53**	**63**	PN	Pn	06 45 06.2	-0.4
OPRZ				SN	Sn	06 45 26.7	0.0
PRRZ	**Plateau Road**	**0.53**	**141**	PN	Pn	06 45 06.7	+0.1
PRRZ				SN	Sn	06 45 25.9	-1.0
ALRZ	**Allen Road**	**0.56**	**148**	PN	Pn	06 45 06.9	+0.2
WATZ	**Wairara**	**0.65**	**196**	PN	Pn	06 45 07.1	0.0
WATZ				SN	Sn	06 45 28.3	+0.4
RATZ	**Rangitukua**	**0.79**	**191**	PN	Pn	06 45 07.7	-0.2
HATZ	**Hinemaiaia**	**0.81**	**173**	PN	Pn	06 45 07.8	-0.2
KATZ	**Kakaramea**	**0.91**	**193**	PN	Pn	06 45 08.9	+0.2
URZ	**Urewera**	**0.92**	**101**	PN	Pn	06 45 08.1	-0.6
URZ				SN	Sn	06 45 28.4	-2.1
HIZ	**Hauiti**	**0.97**	**244**	PN	Pn	06 45 09.1	0.0
HIZ				SN	Sn	06 45 31.2	0.0
KRVZ	**Karewarewa**	**1.04**	**194**	PN	Pn	06 45 09.5	0.0
TWVZ	**Taurewa**	**1.07**	**203**	PN	Pn	06 45 09.8	+0.1
WTVZ	**West Tongariro**	**1.07**	**196**	PN	Pn	06 45 09.5	-0.3
NGZ	**Ngauruhoe**	**1.12**	**195**	PN	Pn	06 45 10.2	0.0
BKZ	**Black Stump Fm**	**1.16**	**159**	⇑PN	Pn	06 45 10.2	-0.2
MKAZ	**Moumakai**	**1.16**	**327**	⇓PN	Pn	06 45 10.5	0.0
WPVZ	**Whakapapa**	**1.16**	**196**	PN	Pn	06 45 10.6	+0.2
TUVZ	**Tukino**	**1.20**	**192**	⇑PN	Pn	06 45 10.9	+0.1
NMHZ	**Naumai**	**1.21**	**147**	⇑PN	Pn	06 45 11.6	+0.8
RAHZ	**Arahi**	**1.21**	**134**	⇑PN	Pn	06 45 11.2	+0.4
FWVZ	**Far West T-bar**	**1.21**	**195**	PN	Pn	06 45 10.9	+0.1
DRZ	**Dome Shelter**	**1.23**	**195**	PN	Pn	06 45 11.3	+0.3
TRVZ	**Turoa**	**1.25**	**195**	PN	Pn	06 45 11.4	+0.2
MWZ	**Matawai**	**1.26**	**102**	PN	Pn	06 45 11.0	-0.2
WNVZ	**Wahianoa**	**1.27**	**193**	PN	Pn	06 45 11.4	+0.1
PKVZ	**Pokaka**	**1.29**	**202**	PN	Pn	06 45 11.5	0.0
MOVZ	**Moawhango**	**1.33**	**187**	⇑PN	Pn	06 45 11.4	-0.4
KUZ	**Kuaotunu**	**1.35**	**352**	⇓PN	Pn	06 45 11.8	-0.3
MTVZ	**Mangateitei**	**1.35**	**196**	PN	Pn	06 45 12.0	0.0
BHHZ	**Black Hill Sta**	**1.48**	**177**	PN	Pn	06 45 12.1	-0.3
VRZ	**Vera Road**	**1.40**	**222**	PN	Pn	06 45 12.6	+0.2
OTAZ	**Otara**	**1.40**	**324**	PN	Pn	06 45 12.3	-0.2
MCHZ	**McNeill Hill**	**1.47**	**157**	PN	Pn	06 45 13.7	+0.6
KNZ	**Kokohu**	**1.63**	**125**	PN	Pn	06 45 14.5	0.0
RAEZ	**Rainy Point**	**1.72**	**225**	PN	Pn	06 45 16.0	+0.6
PRGZ	**Paritu Road**	**1.72**	**120**	PN	Pn	06 45 15.5	0.0
CKHZ	**Cape Kidnapper**	**1.79**	**151**	⇑PN	Pn	06 45 16.4	+0.3
CNGZ	**Carnagh Statio**	**1.81**	**103**	PN	Pn	06 45 16.8	+0.5
PUZ	**Puketiti**	**1.81**	**90**	PN	Pn	06 45 15.8	-0.5
WAZ	**Wanganui**	**1.83**	**204**	PN	Pn	06 45 16.2	-0.4
PNHZ	**Pukenui**	**1.83**	**174**	PN	Pn	06 45 16.0	-0.5
KAHZ	**Kahuranaki**	**1.85**	**158**	PN	Pn	06 45 16.9	+0.2
MHGZ	**Mahia Peninsul**	**1.86**	**126**	PN	Pn	06 45 17.1	+0.4
NEZ	**North Egmont**	**1.88**	**230**	PN	Pn	06 45 17.9	+0.9
PKE	**Pukeiti**	**1.90**	**234**	PN	Pn	06 45 17.8	+0.6
DFE	**Dawson Falls**	**1.91**	**229**	PN	Pn	06 45 18.2	+0.8
MXZ	**Matakaoa Point**	**1.93**	**75**	PN	Pn	06 45 17.7	+0.2
TSZ	**Takapari Road**	**1.97**	**180**	PN	Pn	06 45 17.3	-0.6
WPHZ	**Waipukurau**	**2.01**	**170**	PN	Pn	06 45 17.9	+0.5
PXZ	**Pawanui**	**2.06**	**160**	PN	Pn	06 45 18.6	-0.3
DVHZ	**Dannevirke**	**2.21**	**176**	PN	Pn	06 45 19.6	-1.0
PRHZ	**Porangahau**	**2.24**	**167**	PN	Pn	06 45 20.2	-0.6
POWZ	**Post Office Ro**	**2.31**	**184**	PN	Pn	06 45 20.4	-1.1
WCZ	**Waipu Caves**	**2.50**	**328**	PN	Pn	06 45 23.5	-0.4
MRZ	**Mangatainoka R**	**2.59**	**186**	PN	Pn	06 45 23.1	-1.6
BFZ	**Birch Farm**	**2.60**	**175**	PN	Pn	06 45 23.5	-1.3
TIWZ	**Tintock**	**2.69**	**181**	PN	Pn	06 45 24.3	-1.5
OGWZ	**Otaki Gorge**	**2.79**	**192**	PN	Pn	06 45 25.5	-1.6
HOWZ	**Holdsworth Sta**	**2.83**	**187**	PN	Pn	06 45 25.6	-1.9
KIW	**Kapiti Island**	**2.89**	**196**	PN	Pn	06 45 26.2	-2.0
TMWZ	**Te Maipa**	**3.02**	**181**	PN	Pn	06 45 27.8	-2.0
MTW	**Mount Morrison**	**3.09**	**186**	PN	Pn	06 45 28.3	-2.3
CAW	**Cannon Point**	**3.10**	**193**	PN	Pn	06 45 28.5	-2.2
DUWZ	**D'Urville Isla**	**3.14**	**210**	PN	Pn	06 45 29.2	-2.0
TRWZ	**Traveller**	**3.31**	**184**	PN	Pn	06 45 31.1	-2.3
WEL	**Wellington**	**3.33**	**196**	PN	Pn	06 45 31.3	-2.2
SNZO	**South Karori**	**3.36**	**196**	PN	Pn	06 45 31.3	-2.6
MSWZ	**Moikau Station**	**3.37**	**189**	PN	Pn	06 45 31.5	-2.5
TCW	**Tory Channel**	**3.38**	**202**	PN	Pn	06 45 31.8	-2.3
BHW	**Baring Head**	**3.42**	**194**	PN	Pn	06 45 32.0	-2.6
PLWZ	**Palliser**	**3.52**	**189**	PN	Pn	06 45 33.0	-2.8
TUWZ	**Tuamarina**	**3.68**	**204**	PN	Pn	06 45 35.2	-2.7
NNZ	**Nelson**	**3.71**	**212**	PN	Pn	06 45 35.7	-2.4
QRZ	**Quartz Range**	**3.81**	**223**	PN	Pn	06 45 36.9	-2.6
BSWZ	**Blackbirch Sta**	**3.96**	**203**	PN	Pn	06 45 38.7	-2.6
THZ	**Tophouse**	**4.36**	**212**	PN	Pn	06 45 43.8	-2.6
KHZ	**Kahutara**	**4.71**	**202**	PN	Pn	06 45 47.8	-2.9
DSZ	**Denniston Nort**	**4.86**	**220**	PN	Pn	06 45 49.7	-3.0
LTZ	**Lake Taylor**	**5.47**	**210**	PN	Pn	06 45 57.6	-3.0
MQZ	**McQueen's Vall**	**6.15**	**203**	PN	Pn	06 46 04.8	-4.6
WVZ	**Waitaha Valley**	**6.38**	**217**	PN	Pn	06 46 09.6	-2.7
RPZ	**Rata Peaks**	**6.74**	**212**	PN	Pn	06 46 13.7	-3.4
CTZ	**Chatham Island**	**7.96**	**137**	PN	Pn	06 46 39.9	+6.9
ODZ	**Otahua Downs**	**8.01**	**208**	PN	Pn	06 46 29.7	-4.0
JCZ	**Jackson Bay**	**8.08**	**220**	PN	Pn	06 46 31.8	-2.9
MSZ	**Milford Sound**	**8.93**	**220**	PN	Pn	06 46 47.1	+1.5
WHZ	**Wether Hill Ro**	**9.82**	**215**	PN	Pn	06 46 52.6	-4.6

KRSC 07 06:53:10.2±1.2, 53°22N×163°09E, h41km±40km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.56**	**330**	*e*P	Pn	06 53 36.6	+1.2
MKZ				*e*S	Sn	06 53 56.0	+1.6
SPN	**Mys Shipunski**	**1.85**	**267**	S	Sn	06 54 02.9	+1.4
AVH	**Avacha**	**2.62**	**273**	P	Pn	06 53 52.5	+2.6
AVH				S	Sn	06 54 23.0	+2.7
TUMR	**Tumrok**	**2.69**	**321**	P	Pn	06 53 54.5	+3.6
GNL	**Ganaly**	**3.11**	**281**	P	Pn	06 54 00.2	+3.5
GNL				S	Sn	06 54 36.6	+4.0

ISK 07 07:09:20.2, 37°.40N×28°.28E, h5km, MD2.3
ISCJB 07 07:09:23.2±0.6, 37°.19N±0°.04×28°.19E±0°.04, h10km, Error ellipse: s-maj=6.1km s-min=3.9km az=27.6
CSEM 07 07:09:23.6±0.3, 37°.19N×28°.19E, h5km, MD2.8, Error ellipse: s-maj=6.5km s-min=4.7km az=26.0
DDA 07 07:09:23.5, 37°.22N×28°.20E, h7km±5km, Md2.8
ISC 07 07:09:23.7±0.6, 37°.18N±0°.04×28°.18E±0°.04, h10km, n16, σ0°95/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.09**	**121**	*e*PG	**Pg**	**07 09 25.9**	**-0.3**
YER	**Yerkesik**	**0.09**	**121**	*e*Pg	**Pg**	07 09 25.9	-0.3
MLSB	**Milas**	**0.34**	**289**	*e*PG	**Pg**	**07 09 28.9**	**-1.7**
MLSB				*e*SG	**Sg**	**07 09 35.1**	**0.0**
MLSB	**Milas**	**0.34**	**289**	*e*Pg	**Pg**	**07 09 28.9**	**-1.6**
MLSB				*e*Sg	**Sg**	**07 09 35.1**	**0.0**
TURN	**Turunc**	**0.46**	**133**	*e*P	**Pg**	**07 09 31.8**	**-0.8**
TURN				*e*S	**Sg**	**07 09 39.0**	**+0.4**
TURN	**Turunc**	**0.46**	**133**	*e*P	**Pg**	07 09 31.8	-0.8
TURN				*e*S	**Sg**	07 09 39.0	+0.4
AYDN	**Tasoluk**	**0.54**	**333**	*e*P	**Pg**	**07 09 33.4**	**-0.7**
AYDN				*e*S	**Sg**	**07 09 40.3**	**-0.8**
AYDN	**Tasoluk**	**0.54**	**333**	*e*P	**Pg**	07 09 33.4	-0.7
AYDN				*e*S	**Sg**	07 09 40.3	-0.9
DAT	**Datca**	**0.66**	**227**	*e*PG	**Pg**	**07 09 37.7**	**+1.2**
DAT	**Datca**	**0.66**	**227**	*e*Pg	**Pg**	07 09 37.7	+1.2
BODT	**Bodrum**	**0.71**	**260**	*e*PG	**Pg**	**07 09 36.9**	**-0.5**
BODT	**Bodrum**	**0.71**	**260**	*e*Pg	**Pg**	**07 09 36.9**	**-0.5**
DNZL	**Cakiroluk**	**0.85**	**53**	*e*P	**Pg**	**07 09 39.6**	**-0.5**
DNZL				*e*S	**Sg**	**07 09 52.5**	**+1.2**
DNZL	**Cakiroluk**	**0.85**	**53**	*e*P	**Pg**	07 09 39.6	-0.5
DNZL				*e*S	**Sg**	07 09 52.5	+1.2
GCAM	**G?zelcaml?**	**0.92**	**305**	*e*P	**Pg**	**07 09 42.1**	**+0.8**
GCAM				*e*S	**Sg**	**07 09 55.1**	**+1.8**
GCAM	**G?zelcaml?**	**0.92**	**305**	*e*P	**Pg**	07 09 42.1	+0.8
GCAM				*e*S	**Sg**	07 09 55.1	+1.8

ISCJB 07 07:09:50.0±0.5, 39°.86N±0°.03×25°.64E±0°.04, h5km±5km, Error ellipse: s-maj=5.4km s-min=4.2km az=157.2
ISK 07 07:09:50.1, 39°.83N×25°.72E, h7km, MD2.8
THE 07 07:09:50.3, 39°.85N×25°.64E, h7km±3km, ML2.2/2, Error ellipse: s-maj=3.8km s-min=0.6km az=228.0
CSEM 07 07:09:50.3±0.2, 39°.86N×25°.64E, h8km, ML2.2/2, Error ellipse: s-maj=3.8km s-min=2.6km az=80.0
DDA 07 07:09:52.1, 39°.87N×25°.79E, h8km±3km, Md3.1
ISC 07 07:09:50.4±0.5, 39.86N±0°.03×25.63E±0°.04, h9km±4km, n39, σ0°53/54, 1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.32**	**93**	⇓*i*P	**Pg**	**07 09 57.1**	**+0.3**
BOZC				*i* S	**Pg**	**07 10 01.6**	**+0.4**
LIA	**Limnos Island**	**0.35**	**276**	P	**Pg**	**07 09 57.7**	**+0.4**
LIA				S	**Sg**	**07 10 02.3**	**+0.4**
LIA	**Limnos Island**	**0.35**	**276**	P	**Pg**	07 09 57.7	+0.4
LIA				S	**Sg**	07 10 02.3	+0.4
GADA	**Gvkgeada**	**0.39**	**32**	*e*PG	**Pg**	**07 09 58.1**	**+0.1**
GADA				*e*SG	**Sg**	**07 10 04.0**	**+0.8**
GADA	**Gvkgeada**	**0.39**	**32**	*e*Pg	**Pg**	07 09 58.1	+0.1
GADA				*e*Sg	**Sg**	07 10 04.0	+0.8
EZN	**Ezine**	**0.53**	**93**	*e*PG	**Pg**	**07 09 59.7**	**-1.1**
EZN	**Ezine**	**0.53**	**93**	*e*Pg	**Pg**	07 09 59.7	-1.1
SIGR	**SIGRI**	**0.67**	**165**	P	**Pg**	**07 10 02.6**	**-0.8**
SIGR				S	**Sg**	**07 10 12.1**	**0.0**
SIGR	**SIGRI**	**0.67**	**165**	P	**Pg**	07 10 02.6	-0.8
SIGR				S	**Sg**	07 10 12.1	0.0
PRK	**Paraskevi**	**0.79**	**141**	P	**Pg**	**07 10 05.5**	**-0.1**
PRK				S	**Sg**	**07 10 16.4**	**+0.5**
PRK	**Paraskevi**	**0.79**	**141**	P	**Pg**	07 10 05.5	-0.1
PRK				S	**Sg**	07 10 16.4	+0.5
GELI	**Tayfur-Gelibol**	**0.84**	**50**	*e*PG	**Pg**	**07 10 06.1**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.84**	**50**	*e*Pg	**Pg**	07 10 06.1	-0.5
ENEZ	**Enez**	**0.96**	**24**	*e*PG	**Pg**	**07 10 08.9**	**0.0**
ENEZ	**Enez**	**0.96**	**24**	*e*Pg	**Pg**	07 10 08.9	0.0
AYVA	**Ayvalik**	**0.99**	**124**	*e*P	**Pg**	**07 10 09.2**	**-0.2**
AYVA				*e*S	**Sg**	**07 10 22.4**	**+0.2**
AYVA	**Ayvalik**	**0.99**	**124**	*e*P	**Pg**	07 10 09.2	-0.2
AYVA				*e*S	**Sg**	07 10 22.4	+0.2
LPK	**Lapseki**	**1.00**	**59**	*e*PG	**Pg**	**07 10 08.9**	**-0.8**
LPK	**Lapseki**	**1.00**	**59**	*e*Pg	**Pg**	07 10 09.0	-0.7
ERIK	**Erikli-Kesan**	**1.05**	**39**	*e*PG	**Pg**	**07 10 10.4**	**-0.3**
ERIK	**Erikli-Kesan**	**1.05**	**39**	*e*Pg	**Pg**	07 10 10.4	-0.3
ALN	**Alexandroupoli**	**1.08**	**17**	P	**Pg**	**07 10 10.7**	**-0.5**
ALN				S	**Sg**	**07 10 25.8**	**+0.5**
ALN	**Alexandroupoli**	**1.08**	**17**	P	**Pg**	07 10 10.7	-0.5
ALN				S	**Sg**	07 10 25.8	+0.5
RDO	**Rodhopi**	**1.29**	**357**	P	**Pn**	**07 10 13.8**	**-0.8**
RDO	**Rodhopi**	**1.29**	**357**	P	**Pn**	07 10 13.8	-0.8
KRBG	**Karabiga-Canak**	**1.38**	**67**	*e*PN	**Pn**	**07 10 15.7**	**-0.2**
KRBG	**Karabiga-Canak**	**1.38**	**67**	*e*Pn	**Pn**	07 10 15.7	-0.2
RKY	**Sarkoy-Tekirda**	**1.44**	**55**	*e*PN	**Pn**	**07 10 16.7**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.44**	**55**	*e*Pn	**Pn**	07 10 16.7	0.0
BALY	**Balya**	**1.54**	**94**	*e*P	**Pn**	**07 10 19.5**	**+1.5**
BALY				*e*S	**Sn**	**07 10 38.2**	**+0.2**
BALY	**Balya**	**1.54**	**94**	*e*P	**Pn**	07 10 19.5	+1.5
BALY				*e*S	**Sn**	07 10 38.2	+0.2
MFT	**Murefte**	**1.56**	**53**	*e*PN	**Pn**	**07 10 18.5**	**+0.2**
MFT	**Murefte**	**1.56**	**53**	*e*Pn	**Pn**	07 10 18.5	+0.1
GONE	**Gonen-Balikesi**	**1.59**	**83**	*e*PN	**Pn**	**07 10 18.5**	**-0.2**
GONE	**Gonen-Balikesi**	**1.59**	**83**	*e*Pn	**Pn**	07 10 18.5	-0.2
BALB	**Balikesir**	**1.75**	**97**	*e*PN	**Pn**	**07 10 20.7**	**-0.1**
BALB	**Balikesir**	**1.75**	**97**	*e*Pn	**Pn**	07 10 20.7	-0.2
BLCB	**Balcova**	**1.84**	**143**	*e*PN	**Pn**	**07 10 22.2**	**+0.1**
BLCB	**Balcova**	**1.84**	**143**	*e*Pn	**Pn**	07 10 22.2	+0.1

IDC 07 07:16:08.4±46.0, 16°07S×173°16W, h0km, mb4.2/3, mb1 4.3/3, mb1mx3.8/19, mbtmp4.2/3, Error ellipse: s-maj=882.3km s-min=185.6km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.91**	**241**	P	P	07 24 18.1	+1.0
	1.4nm,0.5s,baz=100,slow=12,SNR=3.7						
WRA	**Warramunga Arr**	**49.92**	**257**	P	P	07 25 03.6	-0.6
	0.8nm,0.5s,baz=96,slow=8.0,SNR=8.1						
ASAR	**Alice Springs**	**50.13**	**252**	P	P	07 25 05.5	-0.3
	6.0nm,0.6s,baz=88,slow=8.2,SNR=75						

NOU 07 07:19:29.8±0.3, 14°.36S×168°.38E, h30km, MD4.5, ML3.9
ISCJB 07 07:19:33.6±0.1, 14°.89S±0°.02×168°.00E±0°.02, h10km, mb5.9/297, MS6.2/260, Error ellipse: s-maj=3.3km s-min=2.3km az=168.2
IDC 07 07:19:33.1±0.3, 14°.88S×168°.15E, h0km, mb5.6/29, mb1 5.7/29, mb1mx5.7/29, mbtmp5.6/29, MS6.2/30, Ms1 6.2/30, ms1mx6.1/34, Error ellipse: s-maj=12.8km s-min=12.4km az=93.0
LDG 07 07:19:34.7±0.3, 14°.68S×168°.04E, h10km, Mb6.2/4, Ms6.1/9, Error ellipse: s-maj=37.3km s-min=12.2km az=95.0
NEIC 07 07:19:35.7±0.1, 14°.83S×168°.03E, h13km, mb6.0/192, ME6.3, MS6.3/184, MW6.4, MW6.2, Error ellipse: s-maj=5.5km s-min=4.2km az=160.0, Moment Tensor Solution. s75 Moment tensor: Scale 10¹⁸Nm; Mrr=2.53; Mθθ=0.42; Mφφ=-2.11; Mrθ=0.41; Mrφ=-0.06; Mθφ=1.41; Best double couple: M₀=2.80000×10¹⁸ NP1:φs=9.00000°, δ61.00000°, λ96.00000°. NP2:φs=177.00000°, δ29.00000°, λ80.00000°. Principal axes: T 2.9700, Plg73.0000°, Azm292.0000°; N -0.4500, Plg4.0000°, Azm186.0000°; P -2.5200, Plg15.0000°, Azm94.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.
MOS 07 07:19:37.6±1.3, 14°.82S×168°.01E, h33km, mb6.1/86, MS6.1/70 Error ellipse: s-maj=6.4km s-min=6.2km az=113.7
BJI 07 07:19:37.6, 14°.31S×168°.02E, h24km, mB6.5/55, mb5.7/61, Ms6.3/77, Ms7 6.1/71
GCMT 07 07:19:41.0±0.0, 14°.92S×168°.15E, h12km, MW6.4, Moment Tensor Solution. s116,c284; s99,c197; Moment tensor: Scale 10¹⁸Nm; Mrr=3.98±.02; Mθθ=0.06±.02; Mφφ=-4.04±.02; Mrθ=0.09±.05; Mrφ=1.09±.02; Mθφ=1.80±.05; Best double couple: M₀=4.50000×10¹⁸ NP1:φs=158.00000°, δ34.00000°, λ78.00000°. NP2:φs=353.00000°, δ57.00000°, λ98.00000°. Principal axes: T 4.3900, Plg77.0000°, Azm289.0000°; N 0.2600, Plg7.0000°, Azm169.0000°; P -4.6600, Plg11.0000°, Azm77.0000°; Data Used: II IU CN IC G. Mantle waves from 105 sta. Surface waves: sta=119, comp=297, per= 50.
DJA 07 07:19:44, 14°.98S×168°.11E, h82km, Mw6.9/71
ISC 07 07:19:35.2±0.1, 14°.88S±0°.02×168°.06E±0°.02, h10km, (h30km±2.6km: pP-P), n1879, σ0°81/1012, mb5.9/297, MS6.2/260, 304C-238D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.31**	**192**	*e*Pn	**Pn**	**07 21 21.0**	**-1.1**
	313nm,0.2s						
DZM				*e*Sn	**Sn**	**07 22 42.5**	**-2.7**
	360nm,0.3s						
DZM				*e*LR	LR	07 23 09.1	
	226µm,26.8s						
DZM	**Mont Dzumac**	**7.31**	**192**	*e*P	**Pn**	**07 21 21.4**	**-0.6**
DZM	**Mont Dzumac**	**7.31**	**192**	*e*Pn	**Pn**	**07 21 21.4**	**-0.7**
	712nm,0.5s						
DZM				*e*Sn	**Sn**	**07 22 52.4**	**+7.2**
BAYA	**Yate Dam**	**7.32**	**189**	AMP		07 21 45.9	
	comp=Z,87nm,3.5s						
BAYA				*e*S	**Sn**	**07 22 43.7**	**-1.7**
NOUC	**Port Laguerre**	**7.37**	**193**	*e*P	**Pn**	**07 21 22.0**	**-0.9**
NOUC				AMP		07 22 56.5	
	comp=Z,253nm,0.8s						
HNR	**Honiara**	**9.60**	**303**	*e*Pn	**Pn**	**07 21 57.2**	**+3.7**
HNR				*e*Sn	**Sn**	**07 23 44.0**	**+2.4**
HNR	**Honiara**	**9.60**	**303**	*e*P	**Pn**	**07 21 57.2**	**+3.7**
HNR				*e*		07 23 44.0	
MSVF	**Nonsavu**	**10.01**	**108**	*e*Pn	**Pn**	**07 22 02.1**	**+3.0**
MSVF	**Nonsavu**	**10.01**	**108**	*e*P	**Pn**	**07 22 02.1**	**+3.0**
MSVF	**Nonsavu**	**10.01**	**108**	Pn	**Pn**	**07 22 02.6**	**+3.5**
	comp=Z,3µm,1.6s,SNR=35						
FUNA	**Funafuti**	**12.60**	**61**	*e*Pn	**Pn**	**07 22 33.0**	**-1.6**
EIDS	**Eidsvold**	**19.03**	**234**	*e*P	**Pn**	**07 23 59.7**	**+1.6**
	comp=Z,588nm,0.8s						
RAO	**Raoul Island**	**19.30**	**140**	*e*P	**Pn**	**07 24 03.5**	**+2.1**
	comp=Z,6µm,1.7s						
RAO	**Raoul Island**	**19.30**	**140**	*e*P	**Pn**	**07 24 03.5**	**+2.2**
RAO				pmax	pmax		
	comp=Z,6µm,1.7s						
OUZ	**Omahuta**	**20.86**	**167**	*e*P	**P**	**07 24 18.0**	**+0.8**
	comp=Z,850nm,1.1s						
OUZ	**Omahuta**	**20.86**	**167**	*e*PN	**P**	**07 24 17.8**	**+0.5**
PMG	**Port Moresby**	**21.13**	**283**	P	**P**	**07 24 22.4**	**+1.9**
	comp=Z,347nm,1.0s,mb5.6,baz=89,slow=5.7,SNR=29						
PMG				LR	LR	07 31 53.2	
	comp=Z,143µ

RPZ LR LR 07 35 56.7
comp=Z,45µm,19.1s,MS6.1,baz=345,slow=34
RPZ Rata Peaks 28.85 175 *e*P **P 07 25 32.8 -0.9**
comp=Z,953nm,2.0s,mb6.2
STKA Stephens Creek 29.48 230 P **P 07 25 40.0 +0.6**
comp=Z,237nm,1.2s,mb5.8,baz=49,slow=7.8,SNR=26
STKA PcP PcP 07 28 44.2 -0.9
comp=Z,46nm,0.9s,baz=61,slow=3.3,SNR=3.0
STKA LR LR 07 37 46.1
comp=Z,34µm,18.4s,MS6.0,baz=160,slow=37
STKA Stephens Creek 29.48 230 *e*P **P 07 25 39.8 +0.3**
comp=Z,454nm,1.6s,mb6.0
STKA *e*S **S 07 30 37.0 +3.0**
STKA Stephens Creek 29.48 230 *e*P **P 07 25 40.0 +0.5**
comp=Z,507nm,1.8s,mb6.0
STKA Stephens Creek 29.48 230 *e*P **P 07 25 40.0 +0.5**
STKA pmax pmax
comp=Z,507nm,1.8s
JAY Jayapura 29.65 292 P **P 07 25 42.2 +1.0**
comp=Z,112nm,1.7s,mb5.3
ODZ Otahua Downs 30.15 176 *e*P **P 07 25 44.5 -0.7**
comp=Z,2µm,2.1s,mb6.5
TOO Toolangi 30.18 217 *e*P **P 07 25 45.1 -0.6**
TOO *e*S **S 07 30 45.8 +0.9**
WHZ Wether Hill Ro 30.91 180 *e*P **P 07 25 52.4 +0.4**
TUZ Tuapeka 31.00 178 *e*PN **P 07 25 52.6 -0.2**
RAR Rarotonga 31.19 106 P **P 07 25 54.8 0.0**
comp=Z,123nm,1.1s,mb5.6,baz=287,slow=5.7,SNR=12
RAR LR LR 07 35 49.3
comp=Z,44µm,20.8s,MS6.1,baz=284,slow=31
RAR Rarotonga 31.19 106 *e*P **P 07 25 57.1 +2.3**
comp=Z,932nm,1.7s,mb6.3
RAR LR LR
comp=Z,43µm,21.0s,MS6.1
RAR Rarotonga 31.19 106 P **P 07 25 54.8 0.0**
RAR pmax pmax
comp=Z,123nm,1.1s
SMPI Sarmi 31.67 291 P **P 07 25 59.1 +0.1**
comp=Z,1µm,1.4s,mb6.6
WRAB Tennant Creek 32.52 256 *e*P **P 07 26 05.2 -1.3**
comp=Z,188nm,0.9s,mb6.0
WRAB LR LR
comp=Z,164µm,19.0s,MS6.8
WRAB Tennant Creek 32.52 256 *e*P **P 07 26 05.2 -1.2**
WRAB pmax pmax
comp=Z,187nm,0.9s,mb6.0
WRAB MLR MLR
comp=Z,164µm,19.0s,MS6.8
WRAB Tennant Creek 32.52 256 P **P 07 26 05.0 -1.4**
comp=Z,1µm,2.0s,mb6.5,SNR=61
WRAB Tennant Creek 32.52 256 P **P 07 26 05.4 -1.0**
comp=Z,525nm,2.0s,mb6.1
WRA Warramunga Arr 32.53 256 P **P 07 26 05.2 -1.4**
comp=Z,169nm,0.9s,mb6.0,baz=86,slow=8.4,SNR=114
WRA ScP ScP 07 32 40.2 +2.7
comp=Z,46nm,1.4s,baz=79,slow=3.7,SNR=7.2
WRA PKiKP PKiKP 07 36 21.6 +0.7
comp=Z,4.0nm,0.9s,baz=8.8,slow=0.4,SNR=7.2
WRA LR LR 07 38 52.7
comp=Z,168µm,18.3s,MS6.8,baz=85,slow=36
WRA P3KPbc 07 57 32.4
comp=Z,8.7nm,1.1s,baz=279,slow=2.9,SNR=9.1
WRA Warramunga Arr 32.53 256 P **P 07 26 05.2 -1.4**
WRA ScP ScP 07 32 40.2 +2.7
WRA Warramunga Arr 32.53 256 P **P 07 26 05.2 -1.3**
WRA pmax pmax
comp=Z,169nm,0.9s
WRA pmax pmax
comp=N,46nm,1.4s
WRA pmax pmax
comp=Z,4.0nm,1.0s
WRA MLR MLR
comp=Z,168µm,18.3s
MOO Moorlands 32.82 209 *e*P **P 07 26 09.1 +0.3**
TAU Tasmania Unive 33.12 208 *e*P **P 07 26 11.9 +0.5**
comp=Z,928nm,1.6s,mb6.5
TAU LR LR
comp=Z,38µm,20.0s,MS6.1
TAU Tasmania Unive 33.12 208 *e*P **P 07 26 11.9 +0.4**
TAU pmax pmax
comp=Z,928nm,1.6s,mb6.5
TAU MLR MLR
comp=Z,38µm,20.0s,MS6.1
TAU Tasmania Unive 33.12 208 P **P 07 26 12.5 +1.0**
comp=Z,1µm,1.8s,mb6.6,SNR=5.7
ASAR Alice Springs 33.33 250 P **P 07 26 13.2 -0.4**
comp=Z,403nm,0.8s,mb6.4,baz=77,slow=9.2,SNR=354
ASAR Alice Springs 33.33 250 P **P 07 26 13.2 -0.4**
ASAR Alice Springs 33.33 250 P **P 07 26 13.2 -0.3**
ASAR pmax pmax
comp=Z,403nm,0.8s
KAKA Kakadu 34.63 269 *e*P **P 07 26 24.2 -0.8**
comp=Z,57nm,0.6s,mb5.7
KAKA Kakadu 34.63 269 *e*P **P 07 26 24.2 -0.8**
comp=Z,193nm,1.3s,mb5.9
GUMO Guam 36.42 320 P **P 07 26 39.9 -0.3**
comp=Z,154nm,1.2s,mb5.8,baz=180,slow=4.0,SNR=2.8
GUMO LR LR 07 38 57.6
comp=Z,36µm,21.8s,MS6.1,baz=144,slow=32
GUMO Guam 36.42 320 P **P 07 26 39.9 -0.3**
GUMO LR LR 07 38 57.6
GUMO Guam 36.42 320 P **P 07 26 39.9 -0.4**
GUMO pmax pmax
comp=Z,154nm,1.2s,mb5.8
XMAS Kiritimati 38.07 67 *e*P **P 07 26 55.0 +0.7**
comp=Z,334nm,1.3s,mb5.9
XMAS LR LR
comp=Z,31µm,20.0s,MS6.1
JOHN Johnston Islan 38.42 36 *e*P **P 07 26 57.1 -0.1**
comp=Z,497nm,1.1s,mb6.2
JOHN LR LR
comp=Z,26µm,20.0s,MS6.0
BNDI Bandanaira 38.92 281 P **P 07 27 01.8 +0.3**
comp=Z,2µm,1.8s,mb6.5
SWI Sorong 38.92 288 P **P 07 27 01.6 +0.1**
comp=Z,624nm,1.4s,mb6.1
FORT Forrest 39.87 240 *e*P **P 07 27 09.3 0.0**
comp=Z,610nm,0.7s,mb6.4
FORT *e*S **S 07 33 09.9 -4.3**
FORT Forrest 39.87 240 *e*P **P 07 27 09.7 +0.4**
comp=Z,644nm,0.7s,mb6.5
MSAI Masohi 40.22 283 P **P 07 27 14.3 +2.0**
comp=Z,3µmcomp=Z,70nm,1.1s,mb5.3
PAE Paea 40.70 100 *e*P **P 07 27 17.4 +1.1**
comp=Z,59nm,1.1s,mb5.1
PAE Paea 40.70 100 *e*P **P 07 27 17.4 +1.1**
comp=Z,59nm,1.1s,mb5.1
PAE Paea 40.70 100 *e*P **P 07 27 17.4 +1.1**
PAE pmax pmax
comp=Z,59nm,1.1s,mb5.1
PPT Papeete 40.71 100 *e*P **P 07 27 17.3 +0.9**
comp=Z,247nm,1.4s,mb5.6
PPT *e*S **S 07 33 32.7 +5.8**
comp=Z,28µm,24.0s
PPT *e*LQ 07 36 48.8
comp=Z,52µm,29.0s
PPT *e*LR LR 07 38 36.8
comp=Z,134µm,28.5s,baz=259
PPT Papeete 40.71 100 P **P 07 27 16.9 +0.5**
comp=Z,44nm,0.8s,mb5.1,baz=311,slow=11,SNR=3.0
PPT LR LR 07 40 00.8
comp=Z,23µm,21.4s,MS6.0,baz=268,slow=30
PPT Papeete 40.71 100 *e*P **P 07 27 17.3 +0.9**
comp=Z,247nm,1.4s,mb5.7
PPT *e*S **S 07 33 32.7 +5.8**
PPT *e*LQ 07 36 48.8
PPT Papeete 40.71 100 *e*P **P 07 27 17.3 +0.9**
PPT *e*S **S 07 33 32.7 +5.8**
PPT pmax pmax
comp=Z,247nm,1.4s
FITZ Fitzroy Crossi 40.73 259 LR LR 07 44 04.9
comp=Z,120µm,18.3s,MS6.8,baz=172,slow=36
FITZ Fitzroy Crossi 40.73 259 *e*P **P 07 27 16.0 -0.6**
comp=Z,472nm,0.9s,mb6.1
FITZ *e*PP PP 07 28 58.8 +8.3
FITZ *e*S **S 07 33 26.1 -1.2**
FITZ Fitzroy Crossi 40.73 259 *e*P **P 07 27 16.0 -0.5**
comp=Z,6.4nm,0.4s,mb4.6
FITZ Fitzroy Crossi 40.73 259 P **P 07 27 15.5 -1.1**
comp=Z,351nm,2.1s,mb5.6
AAI Ambon 40.80 282 P **P 07 27 17.7 +0.5**
comp=Z,323nm,1.4s,mb5.8
TBI Tubuai 40.89 109 *e*P **P 07 27 19.3 +1.5**
comp=Z,426nm,1.0s,mb6.0
TBI *e*S **S 07 33 29.7 +0.1**
comp=Z,30µm,24.3s
TBI *e*LQ 07 36 54.7
comp=Z,62µm,29.5s
TBI *e*LR LR 07 38 42.7
comp=Z,107µm,28.2s,baz=275
TBI Tubuai 40.89 109 *e*P **P 07 27 19.3 +1.5**
comp=Z,426nm,1.0s,mb6.0
TBI *e*S **S 07 33 29.7 +0.1**
TBI *e*LQ 07 36 54.7
TIAR Tiarei 40.93 100 *e*P **P 07 27 19.7 +1.5**
comp=Z,331nm,1.3s,mb5.8
TIAR Tiarei 40.93 100 *e*P **P 07 27 19.7 +1.5**
comp=Z,331nm,1.3s,mb5.8
NLAI Namlea 41.98 282 P **P 07 27 27.8 +0.9**
comp=Z,855nm,1.8s,mb6.1
MEH Mehetia 42.13 100 *e*P **P 07 27 28.7 +0.6**
comp=Z,716nm,1.3s,mb6.1
MEH Mehetia 42.13 100 *e*P **P 07 27 28.7 +0.6**
comp=Z,716nm,1.3s,mb6.1
LBMI Labuha 42.49 286 P **P 07 27 32.7 +1.7**
comp=Z,744nm,2.0s,mb6.0
PMOR Pomariorio Ree 42.51 96 *e*P **P 07 27 31.8 +0.7**
comp=Z,978nm,1.3s,mb6.4
PMOR Pomariorio Ree 42.51 96 *e*P **P 07 27 31.8 +0.7**
comp=Z,978nm,1.3s,mb6.4
TNTI Ternate 43.14 288 P **P 07 27 36.4 +0.1**
comp=Z,368nm,2.4s,mb5.7
MIDW Midway 45.11 18 *e*P **P 07 27 52.6 +0.8**
comp=Z,410nm,1.4s,mb6.1
MIDW LR LR
comp=Z,14µm,19.0s,MS5.9
MMRI Maumere 45.22 273 P **P 07 27 52.9 -0.1**
comp=Z,563nm,1.6s,mb6.1
BBSI Bau Bau 45.65 277 P **P 07 27 58.3 +1.9**
comp=Z,650nm,2.2s,mb6.2
SGSI Sangihe 45.99 290 P **P 07 27 59.2 +0.1**
comp=Z,826nm,0.9s,mb6.7
KMSI Cibinong 46.21 286 P **P 07 28 01.2 +0.4**
comp=Z,1µm,1.0s,mb6.7
MBWA Marble Bar 46.24 255 *e*P **P 07 28 01.0 +0.1**
comp=Z,284nm,0.9s,mb6.2
MBWA LR LR
comp=Z,86µm,19.0s,MS6.7
MBWA Marble Bar 46.24 255 P **P 07 28 01.3 +0.3**
comp=Z,635nm,1.9s,mb6.2
LUWI Luwuk 46.78 283 P **P 07 28 05.1 -0.2**
comp=Z,601nm,2.4s,mb6.1
DAV Davao City (W) 47.42 294 PFAKE 07 28 20.0 +10
DAV LR LR
comp=Z,1µm,21.0s,MS5.9
DAV Davao City (W) 47.42 294⇑ *e*P **P 07 28 09.8 -0.5**
BKSI Bulukumba 48.04 276 P **P 07 28 14.7 -0.5**
comp=Z,9µmcomp=Z,229nm,1.7s,mb5.9
MRSI Marisa 48.08 284 P **P 07 28 14.8 -0.6**
comp=Z,6µmcomp=Z,158nm,1.0s,mb6.0
BNSI Bone 48.30 277 P **P 07 28 17.1 -0.1**
comp=Z,425nm,2.0s,mb6.1
KAPI Kappang 48.48 277 *e*P **P 07 28 18.1 -0.5**
KAPI LR LR
comp=Z,16µm,20.0s,MS6.0
KAPI Kappang 48.48 277 P **P 07 28 17.4 -1.1**
comp=Z,509nm,2.0s,mb6.2
MSSI Masamba 48.62 280 P **P 07 28 22.3 +2.7**
comp=Z,330nm,1.2s,mb6.2
BMNI Bima 48.66 272 P **P 07 28 19.5 -0.4**
comp=Z,574nm,1.8s,mb6.3
KLBR Kellerberrin 48.69 241 *e*P **P 07 28 18.7 -1.2**
comp=Z,200nm,0.6s,mb6.3
KLBR *e*PP PP 07 30 16.2 +3.2
SPSI Sidrap Palu 48.75 278 P **P 07 28 19.7 -0.9**
comp=Z,8µmcomp=Z,181nm,1.4s,mb5.9
TTSI Tana Toraja 48.96 279 P **P 07 28 23.1 +0.9**
comp=Z,8µmcomp=Z,169nm,1.3s,mb5.9
KIP Kipapa 49.09 43 *e*P **P 07 28 22.3 -0.7**
comp=Z,257nm,1.2s,mb6.1
KIP LR LR
comp=Z,21µm,20.0s,MS6.1
KIP Kipapa 49.09 43⇑ *e*P **P 07 28 24.1 +1.1**
KIP pmax pmax
comp=Z,218nm,1.1s,mb6.1
KHU Kahuku 49.28 48 *e*P **P 07 28 27.2 +2.7**
KHU Kahuku 49.28 48 *e*P **P 07 28 27.2 +2.7**
OPA Opana 49.28 43 *e*P **P 07 28 25.3 +0.8**
OPA Opana 49.28 43 *e*P **P 07 28 25.3 +0.8**
NWAO Narrogin (SRO) 49.32 239 LR LR 07 49 30.8
comp=Z,86µm,18.2s,MS6.8,baz=244,slow=36
NWAO Narrogin (SRO) 49.32 239 *e*P **P 07 28 24.2 -0.5**
comp=Z,334nm,1.1s,mb6.3
NWAO LR LR
comp=Z,67µm,19.0s,MS6.7
NWAO Narrogin (SRO) 49.32 239 *e*P **P 07 28 24.2 -0.5**
NWAO pmax pmax
comp=Z,334nm,1.1s
NWAO MLR MLR
comp=Z,67µm,19.0s
MJSI Majene 49.62 278 P **P 07 28 30.5 +3.2**
comp=Z,389nm,2.2s,mb6.0
STCH Steam Cracks 49.72 48 *e*P **P 07 28 28.2 +0.3**
TBP Tagbilaran 50.15 296 *e*P **P 07 28 33.3 +2.0**
TAOE Nuku Hiva Isla 50.95 89 *e*P **P 07 28 38.2 +0.8**
comp=Z,487nm,1.0s,mb6.4
TAOE *e*S **S 07 35 56.8 +2.2**
comp=Z,11µm,26.1s
TAOE *e*SS SS 07 39 31.6 +2.0
comp=Z,12µm,25.3s
TAOE *e*LQ 07 41 08.7
comp=Z,11µm,33.7s
TAOE *e*LR LR 07 43 24.3
comp=Z,73µm,30.5s,baz=266
TAOE Nuku Hiva Isla 50.95 89 *e*P **P 07 28 38.2 +0.8**
comp=Z,487nm,1.0s,mb6.4
TAOE *e*S **S 07 35 56.8 +2.2**
TAOE *e*SS SS 07 39 31.6 +2.0
TAOE *e*LQ 07 41 08.7
MTNI Mataram 51.08 271 P **P 07 28 37.0 -1.4**
comp=Z,345nm,2.4s,mb5.9
PVCP Virac 51.85 301⇓ *i*P **P 07 28 45.7 +1.7**
DNP Denpasar 52.00 271 P **P 07 28 48.6 +3.4**
comp=Z,826nm,1.6s,mb6.4
RCP Roxas 52.01 298‖ *e*P **P 07 28 46.4 +1.2**
SRBI Singaraja 52.13 271 P **P 07 28 46.0 -0.2**
comp=Z,356nm,2.4s,mb5.9
SMKI Samarinda 52.23 281 P **P 07 28 41.9 -5.1**
comp=Z,401nm,1.4s,mb6.2
KBKI Kotabaru 52.38 277 P **P 07 28 48.0 -0.1**
comp=Z,9µmcomp=Z,193nm,1.9s,mb5.7
MYLDM Lahad Datu 53.00 288 P **P 07 28 55.4 +2.8**
MYLDM Lahad Datu 53.00 288 P **P 07 28 54.7 +2.1**
comp=Z,308nm,1.7s,mb6.0
JAGI Jajag, Banyuwa 53.07 271 P **P 07 28 52.2 -1.0**
comp=Z,10µmcomp=Z,225nm,2.2s,mb5.7
TSM Tawau 53.24 287 P **P 07 28 55.7 +1.3**
KMMI Kalianget 53.56 272 P **P 07 28 59.4 +2.6**
comp=Z,199nm,2.2s,mb5.7
BBKI Banjar Baru 53.61 277 P **P 07 28 58.6 +1.4**
comp=Z,476nm,2.0s,mb6.1
BLJI Banyuglugur 53.76 271 P **P 07 28 59.4 +1.1**
comp=Z,303nm,2.1s,mb5.8
GMJI Gumukmas 53.80 271 P **P 07 29 00.3 +1.8**
comp=Z,8µmcomp=Z,150nm,2.5s,mb5.5
RKT Rikitea 54.21 108 *e*P **P 07 29 03.7 +2.3**
comp=Z,222nm,1.3s,mb5.9
RKT *e*S **S 07 36 40.8 +1.9**
comp=Z,38µm,27.2s
RKT *e*SS SS 07 40 31.3 +10
comp=Z,14µm,26.5s
RKT *e*LQ 07 42 33.5
comp=Z,21µm,31.0s
RKT *e*LR LR 07 44 51.8
comp=Z,75nm,30.0s,baz=270
RKT Rikitea 54.21 108 *e*P **P 07 29 03.7 +2.3**
comp=Z,222nm,1.3s,mb5.9
RKT *e*S **S 07 36 40.8 +1.9**
RKT *e*SS SS 07 40 31.3 +10
RKT *e*LQ 07 42 33.5
RKT Rikitea 54.21 108 *e*P **P 07 29 03.7 +2.3**
RKT *e*S **S 07 36 40.8 +1.9**
RKT pmax pmax
comp=Z,222nm,1.3s,mb5.9
SDKM Sandakan 54.38 288 P **P 07 29 04.3 +1.6**
KRKI Karangkates 54.78 270 P **P 07 29 07.9 +2.2**
comp=Z,442nm,1.5s,mb6.3
JHJ Hachijo jima 2 54.84 331 P **P 07 29 06.3 +0.6**
comp=Z,150nm,0.8s,mb6.0,baz=184,slow=13,SNR=3.3
JHJ LR LR 07 52 10.5
comp=Z,9µm,18.4s,MS5.9,baz=164,slow=36
DRV Dumont d'Urvil 54.97 193 P **P 07 29 04.0 -2.2**
DRV S **S 07 36 47.0 -0.8**
DRV SP 07 36 54.0
DRV SS SS 07 40 32.0 +0.8
DRV L 07 42 00.0
DRV R 07 46 00.0
KKM Kota Kinabalu 55.43 288 P **P 07 29 11.8 +1.5**
KKM Kota Kinabalu 55.43 288 *e*P **P 07 29 10.7 +0.3**
comp=Z,1µm,1.7s,mb6.7
KKM LR LR
comp=Z,14µm,22.0s,MS6.0
KKM Kota Kinabalu 55.43 288 P **P 07 29 10.5 +0.1**
comp=Z,426nm,1.9s,mb6.1
PWJI Pagerwojo 55.44 270 P **P 07 29 10.9 +0.5**
comp=Z,8µmcomp=Z,175nm,1.4s,mb5.9
SJI Sawahan 55.53 271 P **P 07 29 10.0 -1.1**
comp=Z,448nm,2.2s,mb6.1
NGJI Ngawi 55.91 271 P **P 07 29 15.5 +1.7**
comp=Z,323nm,1.8s,mb6.0
PCJI Pacitan 56.00 270 P **P 07 29 13.9 -0.6**
comp=Z,485nm,1.6s,mb6.3
JOW Kunigami 56.68 317 LR LR 07 53 24.8
comp=Z,11µm,18.2s,MS6.0,baz=138,slow=36
JOW Kunigami 56.68 317 *e*P **P 07 29 19.5 +0.5**
comp=Z,141nm,1.2s,mb5.9
UGM Wanagama 56.70 270 *e*P **P 07 29 22.1 +2.6**
comp=Z,851nm,1.4s,mb6.6
UGM Wanagama 56.70 270 P **P 07 29 19.1 -0.4**
comp=Z,510nm,2.2s,mb6.2
PBKI Pangkalan Bun 56.86 277 P **P 07 29 21.7 +1.1**
SMRI Semarang 56.97 271 P **P 07 29 26.3 +4.9**
comp=Z,428nm,2.0s,mb6.1
BTM Bintulu 57.32 284 P **P 07 29 25.3 +1.4**
STKI Sintang 57.84 280 P **P 07 29 28.7 +1.1**
comp=Z,247nm,2.2s,mb5.8
SBUM Sibu 57.88 283 P **P 07 29 29.4 +1.6**
SBUM Sibu 57.88 283 P **P 07 29 28.4 +0.6**
comp=Z,8µmcomp=Z,177nm,2.3s,mb5.7
MJAR Matsushiro Arr 58.39 332 P **P 07 29 30.3 -0.6**
comp=Z,121nm,1.1s,mb5.9,baz=170,slow=7.6,SNR=51
MJAR PKP2bc 07 59 22.1
comp=Z,4.0nm,1.0s,baz=285,slow=2.9,SNR=4.1
MJAR Matsushiro Arr 58.39 332 P **P 07 29 30.3 -0.6**
MJAR ⇑ *e* 07 59 22.1
MJAR Matsushiro Arr 58.39 332 P **P 07 29 30.3 -0.6**
MJAR pmax pmax
comp=Z,121nm,1.1s
MJAR pmax pmax
comp=Z,4.0nm,1.0s
MAJO Matsushiro 58.40 332 *e*P **P 07 29 30.6 -0.4**
comp=Z,162nm,1.0s,mb6.0
MAJO LR LR
comp=Z,7µm,20.0s,MS5.8
MAJO Matsushiro 58.40 332 *e*P **P 07 29 30.6 -0.3**
MAJO pmax pmax
comp=Z,162nm,1.0s,mb6.0
MAJO MLR MLR
comp=Z,7µm,20.0s,MS5.8
MAT Matsushiro 58.40 332 P **P 07 29 30.4 -0.5**
MAT S **S 07 37 34.0 +0.1**
JCJI Jatiwangi 59.19 271 P **P 07 29 37.3 +0.3**
comp=Z,632nm,2.0s,mb6.3
TWG Pinlang 59.32 308 *e*P **P 07 29 38.4 +0.8**
comp=Z,43nm,0.9s,mb5.5
KSM Kuching 59.38 281 P **P 07 29 39.0 +0.7**
KSM Kuching 59.38 281 *e*P **P 07 29 38.8 +0.5**
comp=Z,189nm,1.1s,mb6.0
KSM LR LR
comp=Z,10µm,21.0s,MS5.9
KSM Kuching 59.38 281 P **P 07 29 37.8 -0.5**
comp=Z,7µmcomp=Z,199nm,1.7s,mb5.9
CISI Lisompet, Garu 59.39 270 P **P 07 29 37.3 -1.1**
comp=Z,367nm,2.0s,mb6.1
YULB Yu-li 59.48 309 *e*P **P 07 29 38.1 -0.6**
comp=Z,87nm,1.0s,mb5.7
JNU Nakatsue 59.49 324 *e*P **P 07 29 38.7 +0.1**
comp=Z,117nm,1.2s,mb5.8
NACB Ninganchiao 59.71 310 *e*P **P 07 29 39.6 -0.7**
comp=Z,379nm,1.4s,mb6.2
TPUB Ta-pu 59.93 309 *e*P **P 07 29 41.0 -0.8**
comp=Z,357nm,1.3s,mb6.2
SSLB Suanglung 59.96 309 *e*P **P 07 29 41.4 -0.7**
comp=Z,181nm,1.3s,mb5.9
YHNB Yeheng 60.16 310 *e*P **P 07 29 42.9 -0.5**
comp=Z,396nm,1.1s,mb6.4
YHNB LR LR
comp=Z,12µm,20.0s,MS6.0
TATO Taipei 60.26 311 *e*P **P 07 29 44.4 +0.4**
comp=Z,305nm,1.2s,mb6.2
TATO LR LR
comp=Z,13µm,19.0s,MS6.1
CBJI Citeko 60.58 271 P **P 07 29 45.7 -0.8**
comp=Z,986nm,1.1s,mb6.8
DBJI Dramaga 60.65 271 P **P 07 29 47.4 +0.4**
comp=Z,528nm,1.9s,mb6.3
XMIS Christmas Isla 60.88 266 *e*P **P 07 29 49.5 +1.0**
comp=Z,859nm,1.0s,mb6.8
ERM Erimo 61.09 339 *e*P **P 07 29 50.5 +1.1**
comp=Z,449nm,1.8s,mb6.3
ERM LR LR
comp=Z,9µm,20.0s,MS5.9
ERM Erimo 61.09 339 *i* P **P 07 29 49.5 +0.1**
ERM pmax pmax
comp=Z,185nm,1.6s,mb6.0
SBJI Serang 61.35 271 P **P 07 29 51.0 -0.8**
comp=Z,8µmcomp=Z,488nm,2.0s,mb6.3
CGJI Cibinong 61.66 270 P **P 07 29 53.7 -0.1**
comp=Z,559nm,1.7s,mb6.4
YUK Yuzh-Kuril'sk 62.04 342⇑ *i*P **P 07 29 50.3 -5.4**
YUK *i* 07 30 42.1
YUK *i* 07 32 17.9
YUK *i* PPP 07 33 38.4
YUK *i* S **S 07 38 11.8 -8.5**
YUK pmax pmax
comp=Z,4µm,1.8s,mb7.2
YUK pmax pmax
comp=N,426nm,1.5s
YUK pmax pmax
comp=E,543nm,1.5s
YUK pmax pmax
comp=Z,1µm,1.5s,mb6.8
YUK smax
comp=N,2µm,2.7s
YUK smax
comp=E,6µm,2.4s
PPBI Pangkal Pinang 62.33 275 P **P 07 29 58.0 -0.4**
comp=E,7µmcomp=E,154nm,2.1s,mb5.8
QZH Quanzhou 62.39 309⇑ *i*P **P 07 29 57.0 -1.5**
QZH pmax pmax
comp=Z,860nm,1.8s,mb6.6
QZH pmax pmax
comp=Z,8µm,5.5s
QZH LR LR
comp=N,5µm,11.7s,MS6.2
QZH LR LR
comp=E,7µm,10.7s,MS6.2
QZH LR LR
comp=Z,25µm,34.8s
SBA Scott Base 62.99 180 *e*P **P 07 30 01.4 -0.3**
comp=Z,1µm,1.5s,mb6.8
SBA LR LR
comp=Z,6µm,21.0s,MS5.8
SBA Scott Base 62.99 180 *e*P **P 07 30 01.4 -0.3**
SBA pmax pmax
comp=Z,1µm,1.5s,mb6.8
SBA MLR MLR
comp=Z,6µm,21.0s,MS5.8
KLSI 63.04 272 P **P 07 30 00.3 -2.8**
comp=Z,9µmcomp=Z,199nm,2.3s,mb5.8
ASAJ Asahikawa 63.14 340 P **P 07 30 04.3 +1.2**
comp=Z,205nm,1.0s,mb6.2,baz=223,slow=11,SNR=19
ASAJ LR LR 07 58 56.0
comp=Z,8µm,18.6s,MS6.0,baz=285,slow=37
ASAJ Asahikawa 63.14 340 *e*P **P 07 30 04.5 +1.3**
comp=Z,153nm,1.2s,mb6.0
ASAJ Asahikawa 63.14 340 P **P 07 30 04.3 +1.2**
ASAJ pmax pmax
comp=Z,205nm,1.0s
ASAJ MLR MLR
comp=Z,8µm,18.6s
LWLI Liwa 63.61 272 P **P 07 30 05.6 -1.3**
comp=Z,7µmcomp=Z,402nm,1.2s,mb6.3
MDSI Maura Dua 63.62 272 P **P 07 30 05.0 -2.0**
comp=Z,7µmcomp=Z,185nm,2.2s,mb5.7
CASY Casey 63.67 202 *e*P **P 07 30 01.5 -4.9**
CASY *e*S **S 07 38 43.1 +2.6**
CASY Casey 63.67 202 *e*P **P 07 30 04.0 -2.4**
comp=Z,370nm,1.6s,mb6.2
CASY LR LR

comp=Z,8μm,19.0s,MS5.9
SSE Sheshan 64.16 316 ⇑P P **07 30 09.8 -0.3**
SSE pP pP 07 30 20.2 +6.8
SSE sP sP 07 30 27.4 +13
SSE PcP PcP 07 30 48.7 +3.6
SSE S **S 07 38 35.0 -12**
SSE sS sS 07 38 54.7 +1.9
SSE ScS ScS 07 39 59.6 -4.9
SSE pmax pmax
comp=Z,33nm,1.4s,mb5.2
SSE pmax pmax
comp=Z,3μm,7.8s
SSE LR LR
comp=N,9μm,21.3s,MS6.0
SSE LR LR
comp=E,5μm,21.3s,MS6.0
SSE LR LR
comp=E,8μm,21.5s,MS5.9
KSRS Korea Array 64.29 325 P **P 07 30 10.9 0.0**
comp=Z,41nm,1.1s,mb5.4,baz=143,slow=6.7,SNR=22
KSRS LR LR 07 57 27.3
comp=E,6μm,18.0s,MS5.8,baz=36,slow=35
KSRS PKP2bc 07 59 02.9
comp=Z,3.1nm,1.1s,baz=329,slow=4.4,SNR=7.3
KSRS Korea Array 64.29 325 P **P 07 30 10.9 0.0**
KSRS pmax pmax
comp=Z,41nm,1.1s,mb5.4
KSRS pmax pmax
comp=Z,3.0nm,1.1s
HKC Hong Kong Obse 64.44 304⇑*i*P **P 07 30 10.0 -2.1**
INCN Inchon 65.03 325 *e*P **P 07 30 15.6 -0.1**
comp=Z,438nm,1.5s,mb6.3
INCN LR LR
comp=Z,5μm,20.0s,MS5.7
GZH Guangzhou 65.49 304 P **P 07 30 20.1 +1.1**
GZH S S 07 38 58.2 -5.9
GZH LR LR
comp=N,6μm,28.5s
GZH LR LR
comp=E,6μm,22.6s
GZH LR LR
comp=Z,16μm,25.1s,MS6.1
YSS Yuzh-Sakhalins 65.61 341 *e*P **P 07 30 20.4 +1.2**
comp=Z,365nm,1.1s,mb6.3
YSS LR LR
comp=Z,3μm,21.0s,MS5.4
YSS Yuzh-Sakhalins 65.61 341⇑*e*P **P 07 30 20.0 +0.8**
YSS *e**PP pP 07 30 36.0 +14
YSS *e* 07 30 46.0
YSS *e*PPP 07 34 16.0
YSS *e*S S 07 39 02.0 -2.7
YSS pmax pmax
comp=N,60nm,1.0s
YSS pmax pmax
comp=E,60nm,1.0s
YSS pmax pmax
comp=Z,270nm,1.0s,mb6.2
YSS pmax pmax
comp=N,3μm,10.0s
YSS pmax pmax
comp=E,6μm,10.0s
MYKOM Kota Tinggi 65.63 279 P **P 07 30 20.9 +0.8**
MYKOM Kota Tinggi 65.63 279 P **P 07 30 18.9 -1.2**
comp=Z,7μmcomp=Z,141nm,2.2s,mb5.6
SKR Severo-Kuril's 66.12 352 *e*P **P 07 30 24.0 +1.6**
SKR *e* 07 30 41.0
SKR *e* 07 30 46.0
SKR *e* 07 32 54.0
SKR *e*PPP 07 34 32.0
SKR *e*S S 07 39 16.0 +5.3
SKR *e*PS 07 39 50.0
SKR pmax pmax
comp=N,4μm,10.0s
SKR pmax pmax
comp=Z,5μm,10.0s
SKR pmax pmax
comp=E,2μm,4.0s
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.1
SKR smax
comp=N,5μm,14.0s
SKR smax
comp=E,12μm,14.0s
SKR MLR MLR
comp=Z,5μm,18.0s,MS5.8
SKR MLR MLR
comp=N,5μm,16.0s,MS6.0
SKR MLR MLR
comp=E,5μm,16.0s,MS6.0
KGM Kluang 66.20 279 P **P 07 30 24.5 +0.7**
NJ2 Nanjing 66.32 315 *e*P **P 07 30 24.2 +0.1**
NJ2 PP PP 07 32 51.8 +1.4
NJ2 pmax pmax
comp=Z,80nm,1.0s,mb5.7
NJ2 pmax pmax
comp=Z,5μm,4.7s
NJ2 LR LR
comp=N,8μm,17.9s
NJ2 LR LR
comp=E,8μm,24.8s
NJ2 LR LR
comp=Z,10μm,21.3s,MS6.0
QIZ Qiongzhong 66.48 299 P **P 07 30 25.8 +0.4**
QIZ pP pP 07 30 30.2 +1.6
QIZ sP sP 07 30 34.6 +4.8
QIZ S S 07 39 16.4 +0.1
QIZ pmax pmax
comp=Z,4μm,11.4s
QIZ LR LR
comp=Z,18μm,28.3s,MS6.1
QIZ Qiongzhong 66.48 299 *e*P **P 07 30 26.2 +0.9**
comp=Z,97nm,1.4s,mb5.6
QIZ LR LR
comp=Z,8μm,22.0s,MS5.9
VLA Vladivostok 66.56 332⇓*i*P **P 07 30 26.4 +1.0**
VLA S S 07 39 12.4 -4.0
VLA pmax pmax
comp=Z,168nm,1.2s,mb6.0
FX1 Attu Island--F 67.63 3 P **P 07 30 31.9 0.0**
comp=Z,35nm,0.7s,mb5.5,baz=359,slow=3.0,SNR=7.5
FX1 LR LR 07 53 35.4
comp=Z,13μm,21.5s,MS6.1,baz=197,slow=30
FX1 Attu Island--F 67.63 3 P **P 07 30 31.9 0.0**
FX1 LR LR 07 53 35.4
FX1 Attu Island--F 67.63 3 P **P 07 30 31.9 -0.1**
FX1 pmax pmax
comp=Z,35nm,0.7s
BKNI Bangkinang 67.91 277 P **P 07 30 34.3 -0.4**
comp=Z,437nm,1.7s,mb6.2
PET Petropavlovsk 68.11 354 *e*P **P 07 30 35.5 +0.5**
comp=Z,255nm,1.8s,mb6.0
PET LR LR
comp=Z,7μm,20.0s,MS5.9
PET Petropavlovsk 68.11 354*c i*P **P 07 30 35.1 +0.1**
PET *e*S S 07 39 31.8 -2.8
PET *e*SS SS 07 44 00.5 +2.8
PET pmax pmax
comp=Z,4μm,8.5s
PET pmax pmax
comp=Z,43nm,2.0s,mb5.1
PET pmax pmax
comp=Z,5μm,11.5s
PEA0B Petropavlovsk- 68.30 353 *e*P **P 07 30 34.8 -1.4**
PETK Petropavlovsk- 68.30 353 P **P 07 30 35.9 -0.3**
comp=Z,35nm,1.1s,mb5.3,baz=150,slow=6.2,SNR=18
PETK LR LR 07 54 04.3
comp=Z,5μm,20.5s,MS5.7,baz=270,slow=30
PETK Petropavlovsk- 68.30 353 P **P 07 30 35.9 -0.3**
PETK LR LR 07 54 04.2
PETK Petropavlovsk- 68.30 353 P **P 07 30 35.9 -0.3**
PETK pmax pmax
comp=Z,35nm,1.1s,mb5.3
WHN Wuhan 68.61 312 ⇑P **P 07 30 38.2 -0.5**
WHN pmax pmax
comp=Z,230nm,1.2s,mb6.0
WHN pmax pmax
comp=Z,5μm,8.8s
WHN LR LR
comp=N,10μm,13.2s,MS6.2
WHN LR LR
comp=E,4μm,15.5s,MS6.2
WHN LR LR
comp=Z,17μm,19.7s,MS6.3
MDJ Mudanjiang 68.77 332 P **P 07 30 39.8 +0.4**
MDJ PcP PcP 07 31 05.2 +1.2
MDJ PP PP 07 33 12.7 +1.2
MDJ S S 07 39 45.3 +2.4
MDJ sS sS 07 39 49.5 +1.2
MDJ pmax pmax
comp=Z,150nm,1.5s,mb5.7
MDJ pmax pmax
comp=Z,6μm,11.2s
MDJ LR LR
comp=N,7μm,19.1s,MS6.0
MDJ LR LR
comp=E,6μm,19.1s,MS6.0
MDJ LR LR
comp=Z,8μm,21.4s,MS5.9
MDJ Mudanjiang 68.77 332 *e*P **P 07 30 39.6 +0.2**
comp=Z,268nm,1.4s,mb6.0
MDJ LR LR
comp=Z,8μm,21.0s,MS6.0
DL2 Dalian 68.88 323 P **P 07 30 40.9 +0.8**
DL2 S S 07 39 44.9 +0.5
DL2 pmax pmax
comp=Z,110nm,1.2s,mb5.7
DL2 pmax pmax
comp=Z,3μm,11.8s
DL2 LR LR
comp=N,3μm,18.0s,MS5.7
DL2 LR LR
comp=E,3μm,19.8s,MS5.7
DL2 LR LR
comp=Z,4μm,19.8s,MS5.6
COCO West Island 69.03 262 PFAKE 07 30 50.0 +8.4
COCO LR LR
comp=Z,20μm,21.0s,MS6.3
UBT Ubonrachathani 69.12 293 P **P 07 30 45.0 +2.9**
IPM Ipoh 69.12 281 P **P 07 30 42.9 +0.7**
IPM Ipoh 69.12 281 *e*P **P 07 30 41.9 -0.3**
comp=Z,134nm,1.0s,mb5.8
IPM Ipoh 69.12 281 P **P 07 30 42.3 +0.1**
comp=Z,6μmcomp=Z,142nm,1.8s,mb5.6
SISI Saibi 69.34 274 P **P 07 30 43.8 +0.2**
comp=Z,208nm,1.6s,mb5.8
MNSI Mandailing Nat 69.44 277 P **P 07 30 43.2 -1.0**
comp=Z,6μmcomp=Z,210nm,1.2s,mb6.0
KULM Kulim 69.72 281 P **P 07 30 46.8 +0.8**
KULM Kulim 69.72 281 *e*P **P 07 30 45.4 -0.6**
comp=Z,336nm,1.6s,mb6.0
KULM LR LR
comp=Z,12μm,20.0s,MS6.1
KULM Kulim 69.72 281 P **P 07 30 45.7 -0.3**
comp=Z,6μmcomp=Z,116nm,1.8s,mb5.5
SNY Shenyang 69.75 326 ⇑P **P 07 30 45.6 +0.1**
SNY pmax pmax
comp=Z,97nm,2.5s,mb5.3
SNY LR LR
comp=N,6μm,15.3s,MS6.0
SNY LR LR
comp=E,5μm,20.1s,MS6.0
SNY LR LR
comp=Z,6μm,18.4s,MS5.9
TIA Tai'an 69.96 318 ⇑P **P 07 30 46.4 -0.5**
TIA pP pP 07 30 55.0 +4.8
TIA SS SS 07 44 22.9 -4.0
TIA pmax pmax
comp=Z,90nm,1.4s,mb5.5
TIA LR LR
comp=N,7μm,28.5s,MS6.0
TIA LR LR
comp=E,8μm,26.1s,MS6.0
TIA LR LR
comp=Z,14μm,23.1s,MS6.2
CN2 Changchun 70.17 329 *e*P **P 07 30 47.8 -0.2**
CN2 *e*S S 07 40 00.4 +1.0
CN2 LR LR
comp=N,10μm,20.0s,MS6.1
CN2 LR LR
comp=E,4μm,20.0s,MS6.1
CN2 LR LR
comp=Z,7μm,19.0s,MS5.9
SNG Songkhla 70.34 283 P **P 07 30 49.0 -0.7**
comp=Z,120nm,0.6s,mb6.0
NIKO Nikolski 70.45 15 *e*P **P 07 30 48.5 -1.0**
comp=Z,566nm,1.3s,mb6.3
PSI Prapat 70.63 278 LR LR 08 06 10.6
comp=Z,12μm,18.0s,MS6.2,baz=130,slow=40
KLR Kul'dur 71.45 336⇓*i*P **P 07 30 52.6 -3.1**
KLR *e*S S 07 40 10.0 -4.1
KLR pmax pmax
comp=E,140nm,1.8s
KLR pmax pmax
comp=Z,500nm,1.8s,mb6.1
KLR pmax pmax
comp=N,3μm,12.0s
KLR pmax pmax
comp=E,2μm,12.0s
KLR pmax pmax
comp=Z,16μm,12.0s
KLR smax
comp=N,5μm,13.5s
KLR smax
comp=E,5μm,13.5s
UNV Unalaska Valle 71.83 16 *e*P **P 07 30 56.7 -1.2**
comp=E,172nm,1.2s,mb5.9
ENH Enshi 72.05 309 *e*P **P 07 30 59.7 0.0**
comp=E,186nm,1.1s,mb5.9
ENH LR LR
comp=Z,11μm,21.0s,MS6.1
AKUT Akutan 72.28 16 *e*P **P 07 30 59.0 -1.5**
comp=Z,79nm,1.2s,mb5.5
GYA Guiyang 72.43 304⇑*i*P **P 07 31 02.2 +0.1**
GYA PP PP 07 33 46.0 +2.7
GYA S S 07 40 26.5 +0.2
GYA SKS 07 41 04.7
GYA pmax pmax
comp=Z,60nm,1.1s,mb5.4
GYA pmax pmax
comp=Z,5μm,13.7s
GYA LR LR
comp=N,7μm,23.6s,MS6.0
GYA LR LR
comp=E,6μm,24.6s,MS6.0
GYA LR LR
comp=Z,8μm,26.4s,MS5.8
TPTI 72.43 278 P **P 07 31 01.0 -1.4**
comp=Z,92nm,2.2s,mb5.3
BJT Baijiatuau 72.85 321 *e*P **P 07 31 04.5 +0.2**
comp=Z,188nm,1.3s,mb5.9
BJT LR LR
comp=Z,7μm,20.0s,MS6.0
BJT Baijiatuau 72.85 321 *e*P **P 07 31 04.5 +0.2**
BJT pmax pmax
comp=Z,188nm,1.3s
BJT MLR MLR
comp=Z,7μm,20.0s
BJI Beijing 72.86 321 P **P 07 31 04.6 +0.2**
BJI PP PP 07 33 49.1 +2.3
BJI S S 07 40 32.0 +1.3
BJI pmax pmax
comp=Z,120nm,1.4s,mb5.6
BJI pmax pmax
comp=Z,7μm,13.0s
BJI LR LR
comp=N,10μm,23.8s,MS6.0
BJI LR LR
comp=E,5μm,26.8s,MS6.0
BJI LR LR
comp=Z,13μm,31.2s,MS6.0
NST Nakhon Sawan 73.65 292 P **P 07 31 10.0 +0.5**
TIY Taiyuan 73.89 317 *e*P **P 07 31 10.0 -0.5**
TIY PP PP 07 33 57.0 +1.4
TIY S S 07 40 39.3 -3.1
TIY sS sS 07 40 47.1 -0.7
TIY SKS 07 41 11.7
TIY pmax pmax
comp=Z,4μm,5.9s
TIY LR LR
comp=N,6μm,15.2s,MS6.0
TIY LR LR
comp=E,3μm,15.7s,MS6.0
TIY LR LR
comp=Z,12μm,22.0s
XAN Xi'an 74.35 312 P **P 07 31 13.4 +0.1**
XAN pP pP 07 31 23.6 +7.0
XAN sP sP 07 31 27.8 +10
XAN pmax pmax
comp=Z,2μm,13.5s
XAN LR LR
comp=N,2μm,24.5s
XAN LR LR
comp=E,1μm,19.2s
XAN LR LR
comp=Z,2μm,19.5s,MS5.5
SDPT Sand Point 74.84 18 *e*P **P 07 31 14.8 -0.8**
comp=Z,289nm,2.0s,mb5.9
KMI Kunming 75.03 302 P **P 07 31 18.7 +1.3**
KMI pP pP 07 31 29.5 +8.8
KMI PP PP 07 34 08.9 +3.3
KMI S S 07 40 50.0 -5.8
KMI sS sS 07 41 07.3 +6.1
KMI SKS 07 41 20.4
KMI SS SS 07 45 36.7 -8.3
KMI pmax pmax
comp=Z,110nm,1.3s,mb5.6
KMI pmax pmax
comp=Z,6μm,11.9s
KMI LR LR
comp=N,3μm,14.9s
KMI LR LR
comp=E,6μm,27.0s
KMI LR LR
comp=Z,14μm,28.6s
QSPA South Pole Qui 75.15 180 LR LR 08 01 36.4
comp=Z,11μm,19.7s,MS6.2,baz=210,slow=34
QSPA South Pole Qui 75.15 180 PFAKE 07 31 30.0 +13
QSPA LR LR
comp=Z,11μm,20.0s,MS6.1
BDT Bhumibol Dam 75.22 293 P **P 07 31 20.0 +1.4**
comp=Z,20nm,0.9s,mb5.0
CM31 Chiang Mai Arr 75.71 294 *e*P **P 07 31 23.1 +1.7**
comp=Z,12nm,0.5s,mb5.1
CM31 LR LR
comp=Z,5μm,20.0s,MS5.8
CMAR Chiang Mai Arr 75.71 294 P **P 07 31 22.3 +0.9**
comp=Z,29nm,0.9s,mb5.2,baz=120,slow=4.2,SNR=82
CMAR PKPPKP 07 58 51.0
comp=Z,2.6nm,0.6s,baz=270,slow=0.8,SNR=5.6
CMAR LR LR 08 04 00.5
comp=Z,6μm,21.6s,MS5.8,baz=132,slow=35
CMAR Chiang Mai Arr 75.71 294 P **P 07 31 22.3 +0.9**
CMAR P'P' 07 58 51.0
CMAR LR LR 08 04 00.5
CMAR Chiang Mai Arr 75.71 294 P **P 07 31 22.3 +0.9**
CMAR pmax pmax
comp=Z,29nm,0.9s
CMAR pmax pmax
comp=Z,3.0nm,0.6s
CMAR MLR MLR
comp=Z,6μm,21.6s
CHG Chiang Mai 75.83 294 ⇑P **P 07 31 22.9 +0.8**
comp=Z,81nm,1.2s,mb5.5
CHTO Chiang Mai 75.83 294 *e*P **P 07 31 22.7 +0.6**
comp=Z,93nm,1.1s,mb5.6
CHTO LR LR
comp=Z,5μm,21.0s,MS5.8
CHTO Chiang Mai 75.83 294 *e*P **P 07 31 22.7 +0.6**
CHTO pmax pmax
comp=Z,93nm,1.1s,mb5.6
CHTO MLR MLR
comp=Z,5μm,21.0s,MS5.8
CHTO Chiang Mai 75.83 294 P **P 07 31 22.5 +0.4**
comp=Z,6μmcomp=Z,94nm,1.6s,mb5.5
HHC Hu-ho-hao-te 76.19 319 ⇑P **P 07 31 24.3 +0.6**
HHC PcP PcP 07 31 35.4 -0.3
HHC PP PP 07 34 18.4 +3.3
HHC S S 07 41 04.0 -4.0
HHC SKS 07 41 25.8
HHC ScS ScS 07 41 30.5 -8.4
HHC SS SS 07 46 01.4 -0.6
HHC pmax pmax
comp=Z,63nm,1.1s,mb5.5
HHC pmax pmax
comp=Z,6μm,9.2s
HHC LR LR
comp=N,7μm,17.6s,MS6.2
HHC LR LR
comp=E,10μm,18.9s,MS6.2
HHC LR LR
comp=Z,14μm,19.1s,MS6.3
CHGN Chignik 76.27 18 *e*P **P 07 31 22.1 -1.7**
CD2 Chengdu 76.70 307 P **P 07 31 27.4 +0.6**
CD2 pP pP 07 31 38.0 +7.9
CD2 sP sP 07 31 41.7 +10
CD2 PP PP 07 34 21.6 +2.0
CD2 S S 07 41 16.1 +2.1
CD2 sS sS 07 41 28.3 +8.8
CD2 SS SS 07 46 10.6 +0.4
CD2 pmax pmax
comp=Z,120nm,1.6s,mb5.6
CD2 pmax pmax
comp=Z,8μm,11.6s
CD2 LR LR
comp=N,8μm,17.8s
CD2 LR LR
comp=Z,9μm,20.2s,MS6.1
HIA Hailar 76.80 330 *e*P **P 07 31 27.2 +0.3**
comp=Z,157nm,1.3s,mb5.8
HIA LR LR
comp=Z,12μm,21.0s,MS6.2
HIA Hailar 76.80 330 *e*P **P 07 31 27.2 +0.3**
HIA pmax pmax
comp=Z,157nm,1.3s
HIA MLR MLR
comp=Z,12μm,21.0s
RPN Rapa Nui 76.90 115 PFAKE 07 31 40.0 +12
RPN LR LR
comp=Z,8μm,21.0s,MS6.0
BTO Baotou 77.04 318 *e*P **P 07 31 29.0 +0.5**
SEY Seymchan 78.53 353⇑*e*P **P 07 31 35.7 -0.6**
OHAK Old Harbor 78.66 20 *e*P **P 07 31 37.2 +0.1**
comp=Z,245nm,1.2s,mb6.0
LZH Lanzhou 78.98 312 ⇑P **P 07 31 40.9 +1.5**
LZH pP pP 07 31 46.2 +3.5
LZH sP sP 07 31 49.0 +5.1
LZH *e*S S 07 41 35.0 -3.4
LZH sS sS 07 41 45.2 +1.3
LZH pmax pmax
comp=Z,530nm,1.2s,mb6.3
LZH pmax pmax
comp=Z,2μm,5.6s
LZH LR LR
comp=N,7μm,17.6s,MS6.2
LZH LR LR
comp=E,8μm,18.6s,MS6.2
LZH LR LR
comp=Z,8μm,16.8s,MS6.1
KDAK Kodiak Island 79.34 20 P **P 07 31 40.5 -0.3**
comp=Z,66nm,1.0s,mb5.5,baz=147,slow=4.6,SNR=16
KDAK LR LR 07 59 28.8
comp=Z,13μm,21.0s,MS6.3,baz=125,slow=30
KDAK Kodiak Island 79.34 20 *e*P **P 07 31 40.6 -0.3**
comp=Z,82nm,1.0s,mb5.6
KDAK LR LR
comp=Z,14μm,21.0s,MS6.3
KDAK Kodiak Island 79.34 20 *i* P **P 07 31 42.2 +1.4**
CLNS Chul'man 79.96 338 *e*P **P 07 31 45.0 +0.8**
CLNS *e* 07 31 51.6
CLNS *e**PP pP 07 31 55.0 +7.5
CLNS *e* 07 34 46.7
CLNS *e*PPP 07 36 36.7
CLNS *e*S S 07 41 49.6 +1.8
CLNS *e* 07 42 26.5
CLNS *e*SS SS 07 46 50.9 -7.1
CLNS pmax pmax
comp=Z,88nm,1.0s,mb5.6
CLNS pmax pmax
comp=N,71nm,1.2s
CLNS pmax pmax
comp=E,26nm,1.1s
CLNS pmax pmax
comp=Z,20nm,1.2s,mb4.9
CLNS pmax pmax
comp=N,27nm,1.1s
CLNS pmax pmax
comp=E,13nm,1.0s
CLNS smax
comp=N,2μm,12.2s
CLNS smax
comp=E,6μm,12.2s
CLNS MLR MLR
comp=Z,2μm,12.0s,MS5.8
CLNS MLR MLR
comp=N,2μm,14.0s,MS5.9
CLNS MLR MLR
comp=E,3μm,14.0s,MS5.9
SVW2 Sparrevohn 81.07 17 *e*P **P 07 31 50.3 +0.2**
comp=E,138nm,1.8s,mb5.6

RSO Redoubt South 81.39 18 *e*P P 07 31 51.3 -0.5
comp=E,103nm,0.9s,mb5.8
CIT Chita 81.59 329 *e*P P 07 31 53.6 +0.5
CIT *e* 07 32 04.4
CIT *e* 07 32 07.4
CIT pmax pmax
comp=Z,602nm,2.8s,mb6.0
MAW Mawson 82.03 202 P P 07 31 53.9 -1.4
comp=Z,20nm,0.8s,mb5.1,baz=100,slow=7.1,SNR=23
MAW LR LR 08 05 07.1
comp=Z,7µm,18.2s,MS6.1,baz=96,slow=33
MAW Mawson 82.03 202 *e*P P 07 31 53.9 -1.4
comp=Z,22nm,1.0s,mb5.0
MAW *e*S S 07 42 09.5 +0.1
MAW Mawson 82.03 202 *e*P P 07 31 54.2 -1.0
comp=Z,8.0nm,1.0s,mb4.6
MAW LR LR
comp=Z,4µm,19.0s,MS5.8
MAW Mawson 82.03 202 *e*P P 07 31 54.2 -1.1
MAW pmax pmax
comp=Z,8.0nm,1.0s
MAW MLR MLR
comp=Z,4µm,19.0s
SEW Seward 82.17 20 *e*P P 07 31 55.3 -0.6
comp=Z,158nm,1.2s,mb5.8
SLKM Skilak Lake 82.22 19 *e*P P 07 31 55.8 -0.4
SLKM Skilak Lake 82.22 19 *e*P P 07 31 55.8 -0.4
YAK Yakutsk 82.40 343 *e*P P 07 31 56.5 -0.6
comp=Z,419nm,1.3s,mb6.2
YAK LR LR
comp=Z,4µm,20.0s,MS5.8
YAK Yakutsk 82.40 343*c i*P P 07 31 56.6 -0.5
YAK *e**PP pP 07 32 06.8 +6.4
YAK *e* 07 35 03.4
YAK *e*PPP 07 37 04.0
YAK *e*S S 07 42 12.0 -1.0
YAK *e*SS SS 07 47 39.9 +5.7
YAK *e*SSS 07 50 52.9
YAK pmax pmax
comp=Z,241nm,1.2s,mb6.0
YAK pmax pmax
comp=N,86nm,1.1s
YAK pmax pmax
comp=E,78nm,1.4s
YAK pmax pmax
comp=Z,2µm,7.2s
YAK smax
comp=N,1µm,5.5s
YAK smax
comp=E,3µm,9.9s
YAK MLR MLR
comp=Z,4µm,17.0s,MS5.9
YAK MLR MLR
comp=N,3µm,20.0s,MS5.8
YAK MLR MLR
comp=E,3µm,19.0s,MS5.8
BILL Bilibino 82.70 359 *e*P P 07 31 57.7 -0.8
comp=E,192nm,1.3s,mb6.0
BILL LR LR
comp=Z,4µm,19.0s,MS5.8
BILL Bilibino 82.70 359⇑*i*P P 07 31 57.8 -0.8
BILL *e* 07 35 12.6
BILL *i* S S 07 42 12.0 -3.9
BILL *i* SS SS 07 47 45.2 +6.7
BILL pmax pmax
comp=Z,188nm,1.2s,mb6.0
ULN Ulaanbaatar 82.71 324 *e*P P 07 31 59.4 +0.3
comp=Z,370nm,1.2s,mb6.3
ULN LR LR
comp=Z,6µm,19.0s,MS6.0
ULN Ulaanbaatar 82.71 324 *e*P P 07 31 59.4 +0.4
ULN pmax pmax
comp=Z,370nm,1.2s,mb6.3
ULN MLR MLR
comp=Z,6µm,19.0s,MS6.0
ULN Ulaanbaatar 82.71 324 P P 07 31 59.4 +0.4
comp=Z,6µmcomp=Z,251nm,1.2s,mb6.1
MID Middleton Isla 82.74 22 *e*P P 07 31 58.8 -0.1
comp=Z,3µm,2.3s,mb6.8
MID Middleton Isla 82.74 22 *e*P P 07 31 58.8 -0.1
MID pmax pmax
comp=Z,3µm,2.3s,mb6.8
SONM Songino Array 83.07 323 P P 07 32 01.2 +0.2
comp=Z,143nm,1.1s,mb5.9,baz=134,slow=4.8,SNR=156
SONM PKKPbc PKKPbc 07 50 23.3 -1.5
comp=Z,3.3nm,1.0s,baz=309,slow=1.0,SNR=4.2
SONM LR LR 08 08 29.6
comp=Z,8µm,19.9s,MS6.1,baz=24,slow=35
SONM Songino Array 83.07 323 P P 07 32 01.2 +0.2
SONM PKKPbc PKKPbc 07 50 23.3 -1.5
SONM LR LR 08 08 29.6
SONM Songino Array 83.07 323 P P 07 32 01.2 +0.3
SONM pmax pmax
comp=Z,143nm,1.1s
SONM pmax pmax
comp=Z,3.0nm,1.0s
SONM MLR MLR
comp=Z,8µm,19.9s
GTA Gaotai 83.32 314 P P 07 32 03.3 +0.9
GTA pP pP 07 32 13.5 +7.7
GTA sP sP 07 32 17.5 +11
GTA S S 07 42 22.6 -0.8
GTA pmax pmax
comp=Z,96nm,1.1s,mb5.7
GTA pmax pmax
comp=Z,6µm,7.4s
GTA LR LR
comp=N,4µm,17.6s,MS6.0
GTA LR LR
comp=E,5µm,19.2s,MS6.0
GTA LR LR
comp=Z,6µm,22.8s,MS5.9
PMR Palmer 83.39 19 *e*P P 07 32 00.7 -1.6
comp=Z,317nm,1.6s,mb6.1
PMR Palmer 83.39 19 *e*P P 07 32 00.7 -1.6
PMR pmax pmax
comp=Z,317nm,1.6s,mb6.1
SAC San Andreas 83.47 49 *e*P P 07 32 01.9 -1.4
comp=Z,118nm,1.1s,mb5.8
SAC San Andreas 83.47 49 *e*P P 07 32 01.9 -1.4
SAC pmax pmax
comp=Z,118nm,1.1s,mb5.8
PPLA Purkeypile 83.48 17 *e*P P 07 32 01.3 -1.3
comp=Z,149nm,1.5s,mb5.8
KCPM Cahto Peak 83.52 46 *e*P P 07 32 04.4 +0.9
comp=Z,90nm,1.2s,mb5.8
KIPM Iron Peak 83.65 46 *e*P P 07 32 03.7 -0.4
comp=Z,179nm,1.2s,mb6.1
SML Sawmill 83.81 19 *e*P P 07 32 03.9 -0.5
comp=Z,83nm,1.6s,mb5.6
SML Sawmill 83.81 19 *e*P P 07 32 03.9 -0.5
SML pmax pmax
comp=Z,83nm,1.6s,mb5.6
PAF Port-aux-Franc 83.87 221 *e*P P 07 32 07.3 +2.1
comp=Z,272nm,1.0s,mb6.3
PAF LR LR
comp=Z,10µm,19.0s,MS6.2
PAF Port-aux-Franc 83.87 221 *e*P P 07 32 07.3 +2.1
PAF pmax pmax
comp=Z,272nm,1.0s,mb6.3
PAF MLR MLR
comp=Z,10µm,19.0s,MS6.2
KHMM Horse Mountain 83.93 45 *e*P P 07 32 06.1 +0.5
comp=Z,416nm,2.0s,mb6.2
KRMB Red Mountain 84.09 44 *e*P P 07 32 07.5 +1.2
comp=Z,48nm,1.4s,mb5.4
BSC Santa Cruz Isl 84.14 53 ⇓P P 07 32 06.3 -0.5
baz=84
DIV Divide 84.16 21 *e*P P 07 32 05.4 -0.8
comp=Z,82nm,1.0s,mb5.8
KBO Bosley Butte 84.17 44 *e*P P 07 32 08.2 +1.5
comp=Z,153nm,1.5s,mb5.9
SBC Santa Barbara 84.25 52 ⇑P P 07 32 07.5 +0.2
baz=84
AGT Agartala 84.30 296 *e*PKP P 07 32 07.0 -0.8
AGT *ex* x 07 32 33.0
SHL Shillong 84.31 298⇑*i*P P 07 32 07.0 -0.8
SHL *i* x x 07 42 34.0
SMMC Simmler 84.36 51 ⇓P P 07 32 08.1 +0.2
baz=84,SNR=11
BMRM Bremner River 84.44 21 *e*P P 07 32 05.9 -1.7
comp=Z,128nm,1.2s,mb5.9
TRF Thorofare Moun 84.45 17 *e*P P 07 32 05.9 -1.7
comp=Z,89nm,1.0s,mb5.8
SCI San Clemente I 84.61 54 ⇑P P 07 32 09.0 -0.1
baz=85
KTRM Thompson Ridge 84.61 44 P P 07 32 09.4 +0.5
BLG Laguna Peak 84.62 53 ⇑P P 07 32 08.9 -0.4
baz=85
DIB Dawson Inlet, 84.74 31 T 09 05 49.1
SNR=16
BPAW Bear Paw Mtn. 84.76 17 *e*P P 07 32 07.7 -1.5
comp=Z,51nm,1.1s,mb5.6
CIS Catalina Islan 84.88 54 ⇓P P 07 32 09.9 -0.6
baz=85,SNR=12
BOD Bodaibo 84.94 334⇓*i*P P 07 32 09.1 -1.1
BOD pmax pmax
comp=Z,110nm,1.4s,mb5.8
MCK McKinley 85.06 18 *e*P P 07 32 09.7 -1.0
comp=Z,148nm,1.1s,mb6.0
MCK McKinley 85.06 18 *e*P P 07 32 09.7 -1.0
MCK pmax pmax
comp=Z,148nm,1.1s,mb6.0
OSI Osito Adit 85.07 52 ⇑P P 07 32 11.4 -0.1
baz=85
OSI Osito Adit 85.07 52 *e*P P 07 32 12.4 +1.0
comp=Z,549nm,1.9s,mb6.4
FMP Fort Macarthur 85.07 53 ⇑P P 07 32 11.1 -0.4
baz=85,SNR=9.1
ARVC Arvin 85.18 52 ⇓P P 07 32 11.8 -0.2
baz=85,SNR=24
DECC Green Verdugo 85.24 53 ⇑P P 07 32 11.9 -0.4
baz=85,SNR=5.5
VES Vestal, Richgr 85.25 51 ⇑P P 07 32 11.9 -0.4
baz=85,SNR=16
RCTC Rector, Farmer 85.31 51 ⇑P P 07 32 12.1 -0.6
baz=85
PASC Pasadena Art C 85.32 53 *e*P P 07 32 12.4 -0.4
comp=Z,69nm,1.0s,mb5.7
MWC Mount Wilson 85.44 53 *e*P P 07 32 12.8 -0.5
comp=Z,117nm,1.0s,mb6.0
MWC Mount Wilson 85.44 53 *e*P P 07 32 12.8 -0.5
MWC pmax pmax
comp=Z,117nm,1.0s,mb6.0
PAX Paxson 85.57 19 *e*P P 07 32 12.2 -1.1
comp=Z,61nm,1.5s,mb5.6
PAX Paxson 85.57 19 *e*P P 07 32 12.2 -1.1
PAX pmax pmax
comp=Z,61nm,1.5s,mb5.6
LTIM Timbered Crate 85.60 46 P P 07 32 13.9 0.0
ISA Isabella 85.65 52 ⇑P P 07 32 14.2 -0.1
baz=86,SNR=59
ISA Isabella 85.65 52 *e*P P 07 32 14.1 -0.2
comp=Z,174nm,1.4s,mb6.1
ISA Isabella 85.65 52 *e*P P 07 32 14.1 -0.2
ISA pmax pmax
comp=Z,174nm,1.4s,mb6.1
109C Camp Elliot, M 85.71 55 ⇓P P 07 32 14.5 -0.2
baz=86,SNR=9.2
BFSC Mount Baldy Ra 85.75 53 ⇓P P 07 32 15.0 +0.1
baz=86,SNR=28
HEBO Mount Hebo 85.79 41 *e*P P 07 32 18.7 +3.9
comp=Z,161nm,1.0s,mb6.2
MURC Murrieta 85.88 54 ⇑P P 07 32 15.2 -0.3
baz=86,SNR=18
MURC ⇓S S 07 42 47.2 -2.0
baz=86
BAR Barrett 85.98 55 *e*P P 07 32 15.7 -0.4
comp=Z,58nm,1.0s,mb5.8
BAR *e*PP PP 07 35 39.9 +3.7
WAKR Walker 86.00 49 *e*P P 07 32 16.0 0.0
comp=Z,101nm,1.0s,mb6.0
WCN Washoe City 86.07 48 ⇓P P 07 32 16.7 +0.4
baz=86,SNR=50
WCN ⇓S S 07 42 48.2 -2.6
baz=86
WCN Washoe City 86.07 48 *e*P P 07 32 16.3 0.0
comp=Z,58nm,1.1s,mb5.7
WCN Washoe City 86.07 48 *e*P P 07 32 16.3 0.0
WCN pmax pmax
comp=Z,58nm,1.1s,mb5.7
MLAC Mammoth Lakes 86.11 50 ⇓P P 07 32 16.8 +0.2
baz=86
ZAK Zakamensk 86.11 325 *i* P 07 32 16.0 -0.3
ZAK pmax pmax
comp=Z,69nm,1.2s,mb5.8
MENT Mentasta 86.12 20 *e*P P 07 32 15.7 -0.3
LRMC Laurel Mountai 86.18 52 ⇓P P 07 32 17.1 +0.2
baz=86,SNR=46
F03A Seaside 86.23 41 ⇓P P 07 32 17.7 +0.8
baz=86
CWC Cottonwood Cre 86.23 51 ⇓P P 07 32 17.3 +0.2
baz=86,SNR=13
COLA College 86.23 17 *e*P P 07 32 14.0 -2.5
comp=Z,55nm,1.0s,mb5.7
COLA LR LR
comp=Z,10µm,20.0s,MS6.2
COLA College 86.23 17 *e*P P 07 32 14.0 -2.5
COLA pmax pmax
comp=Z,55nm,1.0s,mb5.7
COLA MLR MLR
comp=Z,10µm,20.0s,MS6.2
MONP Monument Peak 86.25 55 ⇓P P 07 32 17.7 +0.4
baz=86,SNR=76
LSA Lhasa 86.29 302 P P 07 32 18.4 +0.8
LSA PP PP 07 35 38.0 -0.8
LSA S S 07 42 43.4 -10
LSA pmax pmax
comp=Z,4µm,13.6s
LSA LR LR
comp=E,6µm,26.8s
LSA LR LR
comp=Z,8µm,28.2s,MS6.0
LSA Lhasa 86.29 302 *e*P P 07 32 18.6 +1.0
comp=Z,764nm,2.1s,mb6.6
LSA LR LR
comp=Z,5µm,21.0s,MS5.9
LSA Lhasa 86.29 302 *e*P P 07 32 18.6 +1.0
LSA pmax pmax
comp=Z,764nm,2.1s,mb6.6
LSA MLR MLR
comp=Z,5µm,21.0s,MS5.9
BBRC Big Bear Solar 86.33 53 ⇑P P 07 32 17.7 -0.1
baz=86
TIN Tinemaha 86.34 50 ⇓P P 07 32 18.0 +0.3
baz=86,SNR=16
DVTC Desert V Tower 86.42 55 ⇓P P 07 32 18.6 +0.4
baz=86,SNR=18
CAL Calcutta 86.44 294⇑*i*P P 07 32 17.5 -1.0
ILAR Eielson Array 86.44 18 P P 07 32 15.3 -2.2
comp=Z,30nm,0.8s,mb5.6,baz=235,slow=5.1,SNR=216
ILAR PKiKP PKiKP 07 37 23.6 -1.2
comp=Z,0.7nm,0.7s,baz=274,slow=3.4,SNR=5.9
ILAR LR LR 08 07 00.1
comp=Z,13µm,18.9s,MS6.4,baz=236,slow=33
ILAR Eielson Array 86.44 18 P P 07 32 15.3 -2.2
ILAR Eielson Array 86.44 18 P P 07 32 15.3 -2.2
ILAR pmax pmax
comp=Z,30nm,0.8s
ILAR pmax pmax
comp=Z,1.0nm,0.7s
PFO Pinyon Flat Ob 86.47 54 ⇑P P 07 32 18.3 -0.1
baz=87,SNR=36
PFO Pinyon Flat Ob 86.47 54 *e*P P 07 32 18.4 -0.1
comp=Z,116nm,1.3s,mb6.0
PFO LR LR
comp=Z,32µm,20.0s,MS6.7
PFO Pinyon Flat Ob 86.47 54 *e*P P 07 32 18.4 0.0
PFO pmax pmax
comp=Z,116nm,1.3s,mb6.0
PFO MLR MLR
comp=Z,32µm,20.0s,MS6.7
PFO Pinyon Flat Ob 86.47 54 P P 07 32 18.0 -0.4
comp=Z,260nm,1.0s,mb6.4,SNR=25
BBB Bella Bella 86.48 34 LR LR 08 05 37.4
comp=Z,12µm,18.6s,MS6.3,baz=247,slow=32
IRK Irkutsk 86.48 326 *e*P P 07 32 16.4 -1.6
IRK *e* 07 35 39.0
IRK *e*S S 07 42 47.4 -6.8
IRK *e* 07 48 40.2
IRK pmax pmax
comp=Z,200nm,2.7s,mb5.9
E03A Lebam 86.49 40 ⇑P P 07 32 18.1 -0.1
baz=87
RRX Edison Barstow 86.49 53 ⇓P P 07 32 18.2 -0.3
baz=87
PAHR Pah Rah Range 86.49 48 *e*P P 07 32 18.8 +0.4
comp=Z,113nm,1.1s,mb6.0
DOT Dot Lake 86.50 19 *e*P P 07 32 16.9 -1.0
comp=Z,250nm,1.2s,mb6.3
DAC Darwin (Calif) 86.54 51 PFAKE 07 32 30.0 +11
DAC LR LR
comp=Z,8µm,20.0s,MS6.1
MPMC Manual Prospec 86.54 51 ⇑P P 07 32 18.8 +0.1
baz=87,SNR=58
TLY Talaya 86.54 326 *e*P P 07 32 17.0 -1.3
TLY *e* 07 35 45.7
TLY *e*S S 07 42 53.4 -1.4
TLY *e*PS 07 44 02.0
TLY *e*SS SS 07 48 39.6 +3.7
TLY pmax pmax
comp=Z,76nm,1.1s,mb5.8
TLY MLR MLR
comp=Z,4µm,18.0s,MS5.9
TLY Talaya 86.54 326 P P 07 32 18.5 +0.2
comp=Z,360nm,1.1s,mb6.5,SNR=16
H04A Detroit Lake 86.57 42 ⇑P P 07 32 18.1 -0.5
baz=87
WRAK Wrangell Islan 86.58 29 PFAKE 07 32 30.0 +12
WRAK LR LR
comp=Z,14µm,19.0s,MS6.4
G04A Mulino 86.60 42 ⇑P P 07 32 18.4 -0.4
baz=87
K05A Summer Lake 86.63 44 ⇑P P 07 32 19.1 +0.1
baz=87
NLWA Neilton Lookou 86.67 39 *e*P P 07 32 19.8 +0.8
comp=Z,44nm,1.1s,mb5.6
NLWA LR LR
comp=Z,12µm,19.0s,MS6.3
SWSC Sam W. Stewart 86.76 55 ⇓P P 07 32 19.7 -0.1
baz=87,SNR=57
GSC Goldstone 86.79 52 ⇑P P 07 32 20.0 +0.1
baz=87,SNR=23
GSC Goldstone 86.79 52 *e*P P 07 32 19.8 -0.2
comp=Z,194nm,1.6s,mb6.1
GSC Goldstone 86.79 52 *e*P P 07 32 19.8 -0.2
GSC pmax pmax
comp=Z,194nm,1.6s,mb6.1
NVAR Mina Array Bea 86.79 49 P P 07 32 20.0 +0.1
comp=Z,53nm,1.0s,mb5.7,baz=231,slow=7.6,SNR=90
NVAR PKKPbc PKKPbc 07 50 18.1 +2.5
comp=Z,1.5nm,0.7s,baz=85,slow=3.0,SNR=4.8
NVAR PKPPKP 07 58 21.4
comp=Z,0.9nm,1.0s,baz=128,slow=2.6,SNR=6.7
NVAR LR LR 08 02 25.7
comp=Z,20µm,21.9s,MS6.5,baz=101,slow=30
NVAR Mina Array Bea 86.79 49 P P 07 32 20.0 +0.1
NVAR PKKPbc PKKPbc 07 50 18.1 +2.5
NVAR P'P' 07 58 21.4
NVAR LR LR 08 02 25.7
BELC Belle Mtn. Jos 86.96 54 ⇑P P 07 32 21.1 +0.3
baz=87,SNR=103
GRAC Grapevine Rang 86.96 51 ⇓P P 07 32 21.0 +0.3
baz=87,SNR=85
HEC Hector,Ludlow 86.99 53 ⇓P P 07 32 20.9 -0.1
baz=87,SNR=31
SKAG Skagway 87.00 25 *e*P P 07 32 20.7 +0.3
comp=Z,168nm,2.2s,mb5.9
FURC Furnace Creek, 87.16 51 ⇓P P 07 32 21.8 +0.1
baz=87,SNR=75
BC3 Big Chuckawall 87.27 54 ⇑P P 07 32 22.6 +0.2
baz=87,SNR=16
COLD Coldfoot 87.38 15 *e*P P 07 32 22.4 +0.4
comp=Z,41nm,1.1s,mb5.6
GNW Green Mountain 87.39 39 *e*P P 07 32 21.6 -0.9
comp=Z,13nm,0.8s,mb5.2
SHOC Shoshone 87.40 52 ⇑P P 07 32 22.6 -0.3
baz=88,SNR=39
TPH Tonopah 87.46 50 PFAKE 07 32 30.0 +6.9
TPH LR LR
comp=Z,11µm,21.0s,MS6.2
PGC Sidney 87.47 38 *e*P P 07 32 23.6 +0.7
comp=Z,4.0nm,1.2s,mb4.5
GMRC Granite Mounta 87.49 53 ⇓P P 07 32 23.5 +0.1
baz=88,SNR=78
TUQ Turquoise Moun 87.51 52 ⇓P P 07 32 23.6 +0.2
baz=88,SNR=15
VIPM Ingram Point 87.52 43 P P 07 32 23.8 +0.6
VIPM Ingram Point 87.52 43 P P 07 32 23.8 +0.5
GLA Glamis 87.56 55 ⇓P P 07 32 24.5 +0.7
baz=88,SNR=17
GLA Glamis 87.56 55 *e*P P 07 32 24.0 +0.3
comp=Z,150nm,1.1s,mb6.1
GLA Glamis 87.56 55 *e*P P 07 32 24.0 +0.2
GLA pmax pmax
comp=Z,150nm,1.1s,mb6.1
LON Longmire 87.67 40 *e*P P 07 32 25.1 +1.1
comp=Z,36nm,1.3s,mb5.4
LON Longmire 87.67 40 *e*P P 07 32 25.1 +1.2
LON pmax pmax
comp=Z,36nm,1.3s,mb5.4
IRM Iron Mountain 87.68 54 ⇑P P 07 32 24.7 +0.4
baz=88,SNR=63
D05A Enumclaw 87.74 40 ⇑P P 07 32 24.6 +0.3
baz=88
G06A Carlson Farm, 87.80 42 ⇓P P 07 32 24.4 -0.2
baz=88
MCW Mount Constitu 87.86 38 P P 07 32 25.6 +0.8
MCW Mount Constitu 87.86 38 P P 07 32 25.6 +0.8
MOY Mondy 87.99 325 *e*P P 07 32 24.8 -0.6
MOY pmax pmax
comp=Z,319nm,3.9s
LDFC Landfair 88.02 53 *e*P P 07 32 27.1 +1.2
comp=Z,372nm,1.2s,mb6.5
Y12C Blythe 88.03 54 ⇑P P 07 32 26.2 +0.2
baz=88,SNR=51
WVOR Wild Horse Val 88.05 45 *e*P P 07 32 25.5 -0.3
comp=Z,521nm,2.3s,mb6.3
WVOR LR LR
comp=Z,11µm,19.0s,MS6.3
WVOR Wild Horse Val 88.05 45 *e*P P 07 32 25.5 -0.4
WVOR pmax pmax
comp=Z,521nm,2.3s,mb6.4
WVOR MLR MLR
comp=Z,11µm,19.0s,MS6.3
I07A Izee 88.09 43 ⇑P P 07 32 26.1 +0.1
baz=88
JCW Jim Creek 88.20 39 *e*P P 07 32 26.9 +0.5
comp=Z,87nm,1.2s,mb5.9
EGAK Eagle 88.20 19 *e*P P 07 32 23.9 -2.1
comp=Z,58nm,1.1s,mb5.7
EGAK LR LR
comp=Z,9µm,21.0s,MS6.2
NEE2 Needles Airpor 88.29 53 ⇓P P 07 32 27.6 +0.3
baz=88,SNR=18
BMN Battle Mountai 88.30 47 *e*P P 07 32 27.2 +0.1
comp=Z,134nm,1.4s,mb6.0
BMN LR LR
comp=Z,16µm,22.0s,MS6.4
BMN Battle Mountai 88.30 47 *e*P P 07 32 27.2 +0.1
BMN pmax pmax
comp=Z,134nm,1.4s,mb6.0
BMN MLR MLR
comp=Z,16µm,22.0s,MS6.4
113A Mohawk Valley, 88.31 56 ⇑P P 07 32 27.6 +0.3
baz=88,SNR=26
DAWY Dawson 88.32 20 *e*P P 07 32 24.6 -2.0
TAPN Taplejung 88.42 299 *e*P P 07 32 27.9 -0.1
comp=Z,396nm,1.4s,mb6.5
TAPN Taplejung 88.42 299 *e*P P 07 32 27.9 -0.1
comp=Z,396nm,1.4s,mb6.5
A05A Maple Falls 88.44 38 ⇑P P 07 32 27.4 -0.1
baz=89
SHPR Sheep Range 88.46 52 *e*P P 07 32 28.1 +0.2
comp=Z,274nm,1.6s,mb6.2
J08A Circle Bar Ran 88.51 44 ⇑P P 07 32 28.0 0.0
baz=89
PDMCI Parker Dam,Lak 88.51 54 ⇑P P 07 32 28.5 +0.2
baz=89,SNR=48
F07A Phinny Hill Vi 88.52 42 ⇑P P 07 32 28.4 +0.4
baz=89
Z13A Yuma Proving G 88.54 55 ⇓P P 07 32 28.7 +0.3
baz=89,SNR=43
ODAN Odare 88.54 298 *e*P P 07 32 28.3 -0.3
comp=Z,220nm,1.0s,mb6.4
ODAN Odare 88.54 298 *e*P P 07 32 28.3 -0.3
comp=Z,220nm,1.0s,mb6.4
B06A Marblemount 88.60 39 ⇑P P 07 32 28.4 +0.1
baz=89
DLBC Dease Lake 88.72 28 P P 07 32 28.4 -0.2
comp=Z,37nm,1.2s,mb5.6,baz=248,slow=4.5,SNR=7.1
DLBC PP PP 07 36 09.9 +12
comp=Z,17nm,1.2s,baz=230,slow=9.3,SNR=4.2
DLBC LR LR 08 03 59.7
comp=Z,9µm,20.2s,MS6.2,baz=235,slow=30
DLBC Dease Lake 88.72 28 *e*P P 07 32 27.6 -1.0
R11A Troy Canyon, C 88.76 50 ⇓P P 07 32 29.4 +0.1
baz=89
SYO Syowa Base 88.78 196⇑*i*P P 07 32 26.2 -2.7
SYO Syowa Base 88.78 196⇓*i*P P 07 32 29.8 +0.9

214A **Organ Pipe Nat** 88.82 57 ⇓P P 07 32 30.2 +0.5
baz=89
E07A **Sunnyside** 88.83 41 ⇑P P 07 32 29.6 +0.1
baz=89,SNR=9.1
G08A **Pilot Rock** 88.91 42 ⇑P P 07 32 30.1 +0.2
baz=89,SNR=27
RSW **Rattlesnake Hi** 88.93 41 *e*P P 07 32 30.6 +0.7
comp=Z,194nm,1.6s,mb6.2
ETW **Entiat** 88.94 40 P P 07 32 30.2 +0.2
HAWA **Hanford** 88.97 41 *e*P P 07 32 29.6 -0.5
comp=Z,173nm,1.6s,mb6.1
HAWA LR LR
comp=Z,5μm,20.0s,MS6.0
REDWA **Red Mountain** 88.99 41 P P 07 32 30.9 +0.7
114A **Black Gap (USA** 89.01 56 ⇑P P 07 32 31.0 +0.4
baz=89,SNR=18
H2OWA **Water** 89.04 41 P P 07 32 31.1 +0.6
Z14A **Wintersburg** 89.16 55 ⇓P P 07 32 31.8 +0.5
baz=89,SNR=39
WTV **Waterville** 89.21 40 P P 07 32 31.3 +0.1
Y14A **Wickenburg** 89.29 55 ⇑P P 07 32 32.1 +0.2
baz=89,SNR=28
PALK **Pallekele** 89.30 278 *i* P P 07 32 33.2 +0.8
PALK **Pallekele** 89.30 278 P P 07 32 32.7 +0.3
comp=Z,182nm,1.1s,mb6.3,SNR=7.0
PALK **Pallekele** 89.30 278 P P 07 32 32.3 -0.1
comp=Z,59nm,1.5s,mb5.7
E08A **Dider Farm, El** 89.31 41 ⇑P P 07 32 31.7 0.0
baz=89,SNR=28
U13A **Pakoon Wash** 89.34 52 ⇑P P 07 32 32.8 +0.7
baz=89
LNOR **Lincton Mounta** 89.57 42 *e*P P 07 32 32.8 -0.2
comp=Z,34nm,1.4s,mb5.5
LNOR **Lincton Mounta** 89.57 42 *e*P P 07 32 32.8 -0.1
LNOR pmax pmax
comp=Z,34nm,1.4s,mb5.5
VIS **Vishakhapatnam** 89.57 288 *e*PKP P 07 32 30.4 -3.2
VIS AMb AMB 07 33 23.9
comp=Z,745nm,3.9s
D08A **Wollman Farm,** 89.61 41 ⇓P P 07 32 33.6 +0.5
baz=90,SNR=16
V14A **Boquillas Ranc** 89.75 53 ⇑P P 07 32 34.6 +0.6
baz=90,SNR=87
Z15A **Gila River Ind** 89.76 56 ⇓P P 07 32 34.0 -0.1
baz=90,SNR=23
Y15A **Casa Rosa Ranc** 89.83 55 ⇓P P 07 32 34.9 +0.5
baz=90,SNR=113
BMO **Blue Mountains** 89.84 43 *e*P P 07 32 33.6 -0.7
comp=Z,113nm,1.6s,mb6.0
BMO LR LR
comp=Z,9μm,20.0s,MS6.2
BMO **Blue Mountains** 89.84 43 *e*P P 07 32 33.6 -0.6
BMO pmax pmax
comp=Z,113nm,1.6s,mb6.0
BMO MLR MLR
comp=Z,9μm,20.0s,MS6.2
B08A **Colville Reser** 89.85 40 ⇓P P 07 32 33.9 -0.3
baz=90,SNR=17
OD2 **Odessa Site #2** 89.87 41 P P 07 32 34.7 +0.4
E09A **Wood Farm, Sta** 89.90 42 ⇑P P 07 32 34.1 -0.4
baz=90,SNR=25
116A **Eloy** 89.90 56 ⇑P P 07 32 35.4 +0.6
baz=90,SNR=43
R13A **O'Grain Ranch,** 89.91 50 ⇓P P 07 32 35.6 +0.9
baz=90
216A **Three Points,** 89.93 57 ⇑P P 07 32 35.7 +0.7
baz=90,SNR=34
U14A **Mt Trumbull** 89.94 52 ⇓P P 07 32 35.7 +0.8
baz=90
GUN **Gumba** 90.14 299 *e*P P 07 32 35.8 -0.2
comp=Z,169nm,1.1s,mb6.3
GUN **Gumba** 90.14 299 *e*P P 07 32 35.8 -0.2
comp=Z,169nm,1.1s,mb6.3
CCUT **Cedar City** 90.16 51 *e*P P 07 32 36.7 +0.8
comp=Z,177nm,1.4s,mb6.2
ARUT **Antelope Range** 90.17 51 *e*P P 07 32 36.9 +1.0
comp=Z,98nm,1.1s,mb6.0
ARUT **Antelope Range** 90.17 51 *e*P P 07 32 36.9 +0.9
ARUT pmax pmax
comp=Z,98nm,1.1s,mb6.0
W15A **Williams** 90.25 54 ⇑P P 07 32 37.3 +0.9
baz=90,SNR=36
F10A **Beach Ranch, E** 90.30 42 ⇓P P 07 32 36.1 -0.2
baz=90,SNR=44
C09A **Chrisman Ranch** 90.30 40 ⇓P P 07 32 36.3 0.0
baz=90
MFID **Camas Ranch** 90.33 45 ⇑P P 07 32 36.5 0.0
baz=90,SNR=17
MFID **Camas Ranch** 90.33 45 *e*P P 07 32 35.0 -1.5
comp=Z,77nm,1.4s,mb5.8
Z16A **Peralta Trail,** 90.36 56 ⇑P P 07 32 37.3 +0.3
baz=90,SNR=34
217A **Green Valley** 90.39 57 ⇓P P 07 32 37.9 +0.8
baz=90,SNR=32
PKI **Pulchoki** 90.44 298 *e*P P 07 32 37.0 -0.4
comp=Z,172nm,1.1s,mb6.3
PKI **Pulchoki** 90.44 298 *e*P P 07 32 37.0 -0.4
comp=Z,172nm,1.1s,mb6.3
PKI **Pulchoki** 90.44 298 *e*P P 07 32 37.0 -0.4
PKI pmax pmax
comp=Z,172nm,1.1s,mb6.3
PKIN **Phulchoki** 90.45 298 *e*P P 07 32 37.0 -0.5
Y16A **Circle Bar Ran** 90.48 55 ⇑P P 07 32 38.1 +0.6
baz=91,SNR=102
V15A **Kaibab Nationa** 90.52 53 ⇓P P 07 32 38.6 +0.9
baz=91,SNR=79
TUC **Tucson** 90.57 57 *e*P P 07 32 38.1 +0.2
comp=Z,73nm,1.1s,mb5.9
TUC LR LR
comp=Z,15μm,20.0s,MS6.4
TUC **Tucson** 90.57 57 *e*P P 07 32 38.1 +0.2
TUC pmax pmax
comp=Z,73nm,1.1s,mb5.9
TUC MLR MLR
comp=Z,15μm,20.0s,MS6.4
KKN **Kakani** 90.61 298 *e*P P 07 32 37.8 -0.4
KKN **Kakani** 90.61 298 *e*P P 07 32 37.8 -0.4
KKN **Kakani** 90.61 298 *e*P P 07 32 37.8 -0.4
U15A **North Rim** 90.62 53 ⇓P P 07 32 38.9 +0.8
baz=91,SNR=168
X16A **Lo Mia Camp, P** 90.67 55 ⇑P P 07 32 39.4 +1.0
baz=91,SNR=42
Q14A **Sevier Lake (B** 90.68 50 ⇑P P 07 32 38.8 +0.5
baz=91,SNR=139
117A **Oracle** 90.68 57 ⇓P P 07 32 39.1 +0.7
baz=91
DMN **Daman** 90.71 298 *e*P P 07 32 38.4 -0.3
comp=Z,296nm,1.2s,mb6.5
DMN **Daman** 90.71 298 *e*P P 07 32 38.4 -0.3
comp=Z,296nm,1.2s,mb6.5
T15A **Red Dirt Ranch** 90.73 52 ⇑P P 07 32 39.1 +0.5
baz=91,SNR=54
W16A **Flagstaff** 90.80 54 ⇑P P 07 32 39.9 +0.9
baz=91,SNR=61
Y17A **Roosevelt** 90.93 55 ⇑P P 07 32 40.3 +0.7
baz=91,SNR=42
I12A **Atlanta** 90.93 45 ⇓P P 07 32 39.8 +0.5
baz=91,SNR=39
S15A **Panguitch** 90.95 51 ⇑P P 07 32 40.8 +1.2
baz=91,SNR=21
318A **Bisbee** 90.96 58 ⇓P P 07 32 40.4 +0.6
baz=91,SNR=33
P14A **Drum Mountains** 91.02 49 ⇓P P 07 32 39.9 +0.1
baz=91,SNR=26
WUAZ **Wupatki** 91.05 54 ⇓P P 07 32 40.5 +0.4
baz=91,SNR=107
WUAZ **Wupatki** 91.05 54 *e*P P 07 32 40.5 +0.3
comp=Z,157nm,1.2s,mb6.2
WUAZ LR LR
comp=Z,24μm,22.0s,MS6.6
218A **Dragoon** 91.07 57 ⇑P P 07 32 40.9 +0.7
baz=91,SNR=59
Z17A **San Carlos Hig** 91.11 56 ⇓P P 07 32 41.3 +0.8
baz=91,SNR=22
X17A **Forest Lakes** 91.15 55 ⇓P P 07 32 41.6 +1.0
baz=91,SNR=30
R15A **Junction** 91.18 51 ⇓P P 07 32 41.4 +0.7
baz=91,SNR=14
NEW **Newport** 91.19 40 ⇑P P 07 32 40.2 -0.3
baz=91,SNR=18
NEW **Newport** 91.19 40 *e*P P 07 32 39.6 -0.8
comp=Z,30nm,1.0s,mb5.6
NEW LR LR
comp=Z,7μm,19.0s,MS6.1
NEW **Newport** 91.19 40 *e*P P 07 32 39.6 -0.8
NEW pmax pmax
comp=Z,29nm,1.0s
NEW MLR MLR
comp=Z,7μm,19.0s
GKN **Gorkha** 91.22 299 *e*P P 07 32 40.0 -1.0
GKN **Gorkha** 91.22 299 *e*P P 07 32 40.0 -1.0
MDRS **Chennai** 91.22 283 *ex* x 07 32 54.2
MDRS *ex* x 07 36 42.2
MDRS *ex* x 07 41 14.2
MDRS *ex* x 07 50 25.2
MDRS *ex* x 07 58 34.2
G12A **Big Creek, Yel** 91.25 44 ⇓P P 07 32 40.8 0.0
baz=91,SNR=105
MVU **Marysvale** 91.32 51 PFAKE 07 32 50.0 +8.7
MVU LR LR
comp=Z,13μm,20.0s,MS6.4
118A **Homack Ranch,** 91.32 57 ⇑P P 07 32 42.0 +0.5
baz=91,SNR=89
HLID **Hailey** 91.35 45 ⇓P P 07 32 41.6 +0.3
baz=92,SNR=44
HLID **Hailey** 91.35 45 *e*P P 07 32 41.2 -0.1
comp=Z,48nm,1.3s,mb5.7
HLID LR LR
comp=Z,14μm,19.0s,MS6.4
Q15A **Fillmore** 91.35 50 ⇑P P 07 32 41.9 +0.5
baz=92,SNR=7.7
MSU **Marysvale** 91.35 51 *e*P P 07 32 42.0 +0.6
comp=Z,460nm,2.0s,mb6.5
MSU **Marysvale** 91.35 51 *e*P P 07 32 42.0 +0.6
MSU pmax pmax
comp=Z,460nm,2.0s,mb6.5
PMSA **Palmer Station** 91.37 160 *e*P P 07 32 39.5 -1.6
comp=Z,233nm,1.6s,mb6.3
PMSA LR LR
comp=Z,6μm,20.0s,MS6.0
H12A **Diamond D Ranc** 91.37 44 ⇑P P 07 32 41.3 0.0
baz=92,SNR=48
T16A **Glen Canyon Da** 91.39 52 ⇑P P 07 32 41.8 +0.2
baz=92,SNR=27
Z18A **Geronimo** 91.40 56 ⇓P P 07 32 42.2 +0.4
baz=92,SNR=12
DUG **Dugway** 91.40 49 ⇑P P 07 32 42.0 +0.4
baz=92,SNR=50
DUG **Dugway** 91.40 49 *e*P P 07 32 41.3 -0.3
comp=Z,94nm,1.3s,mb6.0
DUG LR LR
comp=Z,20μm,22.0s,MS6.5
DUG **Dugway** 91.40 49 *e*P P 07 32 41.3 -0.3
DUG pmax pmax
comp=Z,95nm,1.3s,mb6.0
DUG MLR MLR
comp=Z,20μm,22.0s,MS6.5
U16A **Tuba City** 91.43 53 ⇓P P 07 32 42.5 +0.7
baz=92,SNR=65
W17A **Winslow** 91.44 54 ⇑P P 07 32 42.3 +0.4
baz=92
J13A **Cove Ranch, Pi** 91.46 45 ⇑P P 07 32 42.3 +0.6
baz=92,SNR=48
BGU **Big Grassy Mou** 91.47 48 *e*P P 07 32 41.6 -0.3
comp=Z,153nm,1.8s,mb6.0
F12A **Elk City** 91.51 43 ⇓P P 07 32 41.5 -0.5
baz=92,SNR=72
319A **Douglas** 91.53 58 ⇓P P 07 32 42.9 +0.5
baz=92,SNR=44
V17A **Tonalea, Kykot** 91.53 54 ⇑P P 07 32 42.9 +0.5
baz=92,SNR=99
S16A **Weppner Ranch,** 91.54 51 ⇓P P 07 32 42.6 +0.2
baz=92,SNR=42
P15A **Leamington** 91.60 50 ⇑P P 07 32 42.7 +0.2
baz=92,SNR=6.7
Y18A **Canyon Day Jun** 91.60 56 ⇓P P 07 32 43.6 +0.9
baz=92,SNR=72
I13A **Wildhorse Cree** 91.67 45 ⇑P P 07 32 42.9 +0.2
baz=92,SNR=63
L14A **Malta** 91.67 47 ⇓P P 07 32 43.2 +0.4
baz=92,SNR=72
O15A **The Old Anders** 91.67 49 ⇑P P 07 32 43.3 +0.4
baz=92,SNR=26
219A **White Tail Can** 91.72 57 ⇑P P 07 32 43.7 +0.4
baz=92,SNR=115
H13A **Challis** 91.78 44 ⇓P P 07 32 43.4 +0.1
baz=92,SNR=39
R16A **Teasdale** 91.80 51 ⇑P P 07 32 44.2 +0.7
baz=92,SNR=46
N15A **Stansbury Isla** 91.83 48 ⇓P P 07 32 43.4 -0.2
baz=92,SNR=36
NLU **North Lily Min** 91.86 49 *e*P P 07 32 44.2 +0.4
comp=Z,547nm,2.4s,mb6.5
K14A **Jones Ranch, D** 91.88 46 ⇓P P 07 32 44.3 +0.5
baz=92,SNR=47
X18A **Snowflake** 91.88 55 ⇓P P 07 32 44.5 +0.5
baz=92,SNR=49
D12A **Red Ives Fores** 91.89 42 ⇑P P 07 32 43.2 -0.5
baz=92
J14A **Carey** 91.89 46 ⇓P P 07 32 43.9 +0.2
baz=92,SNR=30
119A **Ashpeak Ranch,** 91.90 57 ⇑P P 07 32 44.6 +0.5
baz=92,SNR=73
HVU **Hansel Valley** 91.92 47 *e*P P 07 32 44.3 +0.3
comp=Z,81nm,1.3s,mb5.9
HVU **Hansel Valley** 91.92 47 *e*P P 07 32 44.3 +0.3
HVU pmax pmax
comp=Z,81nm,1.3s,mb5.9
T17A **Navajo Res., N** 91.93 52 ⇑P P 07 32 44.7 +0.6
baz=92,SNR=65
G13A **Cobalt** 91.97 44 ⇓P P 07 32 43.7 -0.4
baz=92,SNR=27
SPUT **South Promonto** 92.01 48 *e*P P 07 32 44.9 +0.5
comp=Z,122nm,1.6s,mb6.0
C12B **Naegeli Ranch,** 92.03 41 ⇑P P 07 32 44.0 -0.3
baz=92
KOLN **Koldanda** 92.03 298 *e*P P 07 32 43.9 -1.0
KOLN **Koldanda** 92.03 298 *e*P P 07 32 43.9 -1.0
NOQ **North Oquirrh** 92.04 49 *e*P P 07 32 44.6 0.0
comp=Z,89nm,1.3s,mb5.9
DANN **Dangsing** 92.06 299 *e*P P 07 32 43.8 -1.1
DANN **Dangsing** 92.06 299 *e*P P 07 32 43.8 -1.1
M15A **Larsen Ranch,** 92.06 48 ⇓P P 07 32 44.3 -0.3
baz=92,SNR=31
P16A **Fountain Green** 92.06 50 ⇑P P 07 32 45.5 +0.8
baz=92,SNR=6.8
Z19A **T-Link Ranch,** 92.08 56 ⇑P P 07 32 45.5 +0.5
baz=92,SNR=10
S17A **Black Ridge (B** 92.12 52 ⇓P P 07 32 44.8 -0.2
baz=92,SNR=30
I14A **Mackay** 92.12 45 ⇑P P 07 32 45.4 +0.5
baz=92,SNR=46
F13A **Darby** 92.13 43 ⇓P P 07 32 44.3 -0.5
baz=92,SNR=41
320A **Kipp Ranch, An** 92.13 58 ⇓P P 07 32 46.1 +0.8
baz=92,SNR=59
MPU **Maple Canyon** 92.20 49 *e*P P 07 32 45.9 +0.6
comp=Z,83nm,1.4s,mb5.9
B12A **Libby** 92.22 40 ⇑P P 07 32 45.3 +0.1
baz=92,SNR=5.8
W18A **Petrified Fore** 92.22 54 ⇓P P 07 32 45.6 +0.1
baz=92
Q16A **Castle Valley** 92.22 50 ⇓P P 07 32 45.8 +0.4
baz=92,SNR=34
V18A **Ganado** 92.23 54 ⇓P P 07 32 46.0 +0.4
baz=92,SNR=38
L15A **Malad City** 92.27 47 ⇑P P 07 32 45.3 -0.3
baz=92,SNR=19
Y19A **Nutrioso** 92.27 56 ⇑P P 07 32 46.5 +0.7
baz=92,SNR=43
220A **Playas Peak, P** 92.29 58 ⇓P P 07 32 46.4 +0.5
baz=92,SNR=22
TMUT **Trail Mountain** 92.30 50 *e*P P 07 32 47.1 +1.3
comp=Z,619nm,2.4s,mb6.5
A12A **Yaak River Ran** 92.34 40 ⇑P P 07 32 45.9 +0.2
baz=92,SNR=5.9
O16A **Springville** 92.36 49 ⇓P P 07 32 46.3 +0.3
baz=92
K15A **Arbon** 92.37 47 ⇓P P 07 32 46.4 +0.4
baz=92,SNR=8.0
X19A **St. Johns** 92.38 55 ⇑P P 07 32 46.8 +0.6
baz=92,SNR=24
120A **U Bar Ranch, L** 92.38 57 ⇓P P 07 32 46.8 +0.5
baz=92,SNR=40
H14A **Leadore** 92.40 44 ⇑P P 07 32 46.3 +0.2
baz=92,SNR=23
R17A **Hanksville Air** 92.42 51 ⇓P P 07 32 46.5 +0.1
baz=92,SNR=55
E13A **Victor** 92.44 43 ⇑P P 07 32 45.5 -0.7
baz=93,SNR=10
D13A **Huson** 92.48 42 ⇑P P 07 32 44.9 -1.5
baz=93
U18A **Rough Rock, Ch** 92.48 53 ⇑P P 07 32 46.6 -0.1
baz=93,SNR=45
W19A **Sanders** 92.49 54 ⇓P P 07 32 46.9 +0.1
baz=93
JLU **Jordanelle** 92.51 49 *e*P P 07 32 46.9 +0.2
comp=Z,118nm,1.5s,mb6.1
BSMT **Bassoo Peak** 92.52 41 *e*P P 07 32 46.4 -0.2
comp=Z,16nm,1.0s,mb5.4
G14A **Jackson** 92.54 44 ⇑P P 07 32 46.8 +0.1
baz=93,SNR=7.8
Z20A **Nine Sixteen R** 92.57 57 ⇑P P 07 32 47.3 +0.1
baz=93,SNR=27
C13A **Hot Springs** 92.59 41 ⇓P P 07 32 46.1 -0.8
baz=93
DAU **Daniels Canyon** 92.60 49 *e*P P 07 32 48.7 +1.5
comp=Z,191nm,1.8s,mb6.2
DAU **Daniels Canyon** 92.60 49 *e*P P 07 32 48.7 +1.5
DAU pmax pmax
comp=Z,191nm,1.8s,mb6.2
N16A **Rees Ranch, Co** 92.61 48 ⇑P P 07 32 47.0 -0.2
baz=93,SNR=14
J15A **Blackfoot** 92.66 46 ⇑P P 07 32 47.9 +0.5
baz=93,SNR=27
T18A **Mexican Hat** 92.68 52 ⇑P P 07 32 47.8 +0.2
baz=93,SNR=80
P17A **Butcher Ranch,** 92.70 50 ⇓P P 07 32 47.9 +0.2
baz=93,SNR=8.3
MSO **Missoula** 92.73 42 ⇑P P 07 32 47.2 -0.4
baz=93
MSO **Missoula** 92.73 42 *e*P P 07 32 49.7 +2.2
comp=Z,7.9nm,1.1s,mb5.1
MSO LR LR
comp=Z,3μm,19.0s,MS5.8
HWUT **Hardware Ranch** 92.73 48 *e*P P 07 32 47.8 0.0
comp=Z,18nm,1.0s,mb5.5
HWUT LR LR
comp=Z,10μm,20.0s,MS6.3
S18A **Hurst Farm, Bl** 92.75 52 ⇑P P 07 32 47.8 -0.1
baz=93,SNR=47
SRU **San Rafael** 92.76 50 ⇑P P 07 32 47.9 0.0
baz=93,SNR=16
SRU **San Rafael** 92.76 50 *e*P P 07 32 48.1 +0.2
comp=Z,11nm,0.6s,mb5.5
SRU **San Rafael** 92.76 50 *e*P P 07 32 48.2 +0.3
SRU pmax pmax
comp=Z,11nm,0.6s,mb5.5
F14A **Wisdom** 92.78 43 ⇑P P 07 32 47.6 -0.3
baz=93
INK **Inuvik** 92.79 18 P P 07 32 45.3 -2.1
comp=Z,4.5nm,1.1s,mb4.8,baz=274,slow=2.5,SNR=8.6
INK PP PP 07 36 15.2 -15
comp=Z,7.8nm,1.1s,baz=228,slow=14,SNR=5.1
INK PKiKP PKiKP 07 37 34.5 -0.8
comp=Z,5.0nm,1.1s,baz=310,slow=2.5,SNR=3.1
INK LR LR 08 10 43.2
comp=Z,10μm,19.2s,MS6.3,baz=234,slow=33
INK **Inuvik** 92.79 18 *e*P P 07 32 45.2 -2.1
comp=Z,10.0nm,1.1s,mb5.2
INK **Inuvik** 92.79 18 P P 07 32 45.3 -2.1
INK pmax pmax
comp=Z,5.0nm,1.1s
INK pmax pmax
comp=Z,8.0nm,1.1s
INK pmax pmax
comp=Z,5.0nm,1.1s
JTMT **Jette** 92.80 41 *e*P P 07 32 48.3 +0.4
comp=Z,21nm,1.4s,mb5.4
I15A **Monteview** 92.81 45 ⇑P P 07 32 48.4 +0.4
baz=93,SNR=6.7
MCMT **McKenzie Canyo** 92.82 44 *e*P P 07 32 48.5 +0.5
comp=Z,12nm,1.4s,mb5.1
E14A **Clinton** 92.89 43 ⇑P P 07 32 47.9 -0.4
baz=93,SNR=7.6
B13A **Whitefish** 92.89 41 ⇑P P 07 32 48.0 -0.3
baz=93,SNR=9.1
H15A **Lima** 92.89 45 ⇓P P 07 32 48.7 +0.3
baz=93,SNR=24
SWMT **Swartz Lake** 92.91 42 *e*P P 07 32 49.0 +0.6
comp=Z,10.0nm,1.2s,mb5.1
O17A **Robinson Place** 92.91 49 ⇑P P 07 32 49.1 +0.5
baz=93,SNR=47
L16A **Fish Haven** 92.95 47 ⇑P P 07 32 48.4 -0.3
baz=93,SNR=13
Y20A **Horse Springs,** 92.96 56 ⇓P P 07 32 49.6 +0.7
baz=93,SNR=31
U19A **Dine' College,** 92.96 53 ⇓P P 07 32 49.3 +0.4
baz=93,SNR=99
NVL **N'lazarevskaya** 93.01 188 ⇑*i*P P 07 32 51.0 +2.5
NVL *e**SP sP 07 32 58.4 +5.3
NVL *e* 07 36 33.3
NVL *eS* S 07 43 21.8 -33
NVL *e**SS sS 07 43 43.5 -17
NVL *eSS* SS 07 50 08.6 +1.2
NVL pmax pmax
comp=Z,98nm,1.5s,mb6.0
NVL MLR MLR
comp=Z,10μm,17.0s,MS6.3
MAIT **Maitri** 93.01 188 *e*P P 07 32 47.2 -1.4
MAIT *eS* S 07 43 43.0 -12
YBMT **Yellow Bay** 93.01 41 *e*P P 07 32 48.9 0.0
comp=Z,16nm,1.4s,mb5.3
R18A **Canyonlands Na** 93.02 51 ⇑P P 07 32 49.0 -0.2
baz=93,SNR=48
X20A **Quemado** 93.03 55 ⇑P P 07 32 49.9 +0.6
baz=93
Q18A **Rafter H Ranch** 93.05 50 ⇑P P 07 32 49.2 0.0
baz=93,SNR=18
N17A **Moffit Pass** 93.06 49 ⇑P P 07 32 49.3 0.0
baz=93
121A **Cookes Peak, D** 93.06 57 ⇓P P 07 32 49.9 +0.4
baz=93,SNR=31
K16A **Soda Springs** 93.08 47 ⇑P P 07 32 49.7 +0.3
baz=93
D14A **Greenough** 93.09 42 ⇓P P 07 32 48.4 -0.9
baz=93,SNR=6.8
A13A **Flathead Natio** 93.11 40 ⇓P P 07 32 49.1 -0.2
baz=93,SNR=5.0
P18A **Preston Nutter** 93.11 50 ⇑P P 07 32 50.0 +0.5
baz=93
SLMT **Seeley Lake** 93.15 42 *e*P P 07 32 50.3 +0.8
comp=Z,35nm,1.6s,mb5.5
C14A **Swan Lake** 93.15 41 ⇓P P 07 32 49.3 -0.2
baz=93
DLMT **Dillon** 93.15 44 *e*P P 07 32 49.6 0.0
comp=Z,43nm,1.2s,mb5.8
G15A **Dillon** 93.17 44 ⇑P P 07 32 50.1 +0.4
baz=93,SNR=7.4
W20A **Ramah** 93.19 55 ⇓P P 07 32 50.4 +0.3
baz=93,SNR=39
TRD **Trivandrum** 93.20 278 ⇑*i*x x 07 32 57.0
TRD *ex* x 07 36 23.0
CHMT **Chamberlain Mo** 93.20 42 *e*P P 07 32 49.5 -0.2
comp=Z,14nm,1.2s,mb5.2
T19A **Beclabito** 93.25 53 ⇑P P 07 32 50.5 +0.3
baz=93
M17A **Scullys Gap (B** 93.34 48 ⇑P P 07 32 50.2 -0.3
baz=93,SNR=11
Z21A **St. Cloud Mine** 93.36 57 ⇑P P 07 32 51.4 +0.5
baz=94,SNR=23
F15A **Butte** 93.37 44 ⇓P P 07 32 50.8 +0.2
baz=94,SNR=7.3
WMQ **Urumqi** 93.38 314 P P 07 32 50.6 -0.1
WMQ pP pP 07 33 01.2 +7.2
WMQ sP sP 07 33 05.1 +10
WMQ PP PP 07 36 37.7 +2.7
WMQ SKS 07 43 20.7
WMQ S S 07 43 53.1 -5.5
WMQ sS sS 07 44 10.9 +6.8
WMQ SS SS 07 50 14.1 -1.2
WMQ pmax pmax
comp=Z,180nm,1.4s,mb6.3
WMQ pmax pmax
comp=Z,320nm,4.4s
WMQ LR LR
comp=N,6μm,16.8s,MS6.2
WMQ LR LR
comp=E,3μm,20.0s,MS6.2
WMQ LR LR
comp=Z,5μm,26.1s
LRM **Limekiln Ridge** 93.39 44 *e*P P 07 32 51.5 +0.8
comp=Z,183nm,1.3s,mb6.3
V20A **Brimhall** 93.40 54 ⇑P P 07 32 50.7 -0.3
baz=94
AHID **Auburn Hatcher** 93.40 47 PFAKE 07 33 00.0 +9.2
AHID LR LR
comp=Z,14μm,22.0s,MS6.4
S19A **Harvey Farm, M** 93.42 52 ⇑P P 07 32 51.2 +0.2
baz=94,SNR=16
RRI2 **Red Ridge** 93.42 46 *e*P P 07 32 50.7 -0.2
comp=Z,91nm,1.8s,mb5.9

SNAA **Sanae** 93.44 183 *e*P P 07 32 48.4 -2.1
comp=Z,218nm,1.7s,mb6.3
SNAA **Sanae** 93.44 183 *e*P P 07 32 48.4 -2.1
SNAA pmax pmax
comp=Z,219nm,1.7s
E15A **Deer Lodge** 93.45 43 ⇓P P 07 32 50.0 -0.9
baz=94
WALA **Waterton Lakes** 93.46 40 *e*P P 07 32 51.4 +0.4
comp=Z,1.3nm,1.5s
I16A **Newdale** 93.46 46 ⇑P P 07 32 51.8 +0.7
baz=94,SNR=6.7
O18A **Roosevelt** 93.47 49 ⇑P P 07 32 51.5 +0.4
baz=94,SNR=18
R19A **Curley Farm, L** 93.47 51 ⇑P P 07 32 51.3 0.0
baz=94,SNR=41
DGAR **Diego Garcia** 93.49 261 PFAKE 07 33 00.0 +8.1
DGAR LR LR
comp=Z,14µm,22.0s,MS6.4
222A **Williams Famil** 93.51 58 ⇑P P 07 32 51.6 +0.1
baz=94
U20A **Newcomb** 93.52 53 ⇑P P 07 32 51.1 -0.4
baz=94
K17A **Gardner Place,** 93.53 47 ⇓P P 07 32 51.3 0.0
baz=94
Y21A **Point of Rocks** 93.55 56 ⇑P P 07 32 52.0 +0.3
baz=94,SNR=29
X21A **Alamocita Cree** 93.58 55 ⇓P P 07 32 52.0 +0.2
baz=94,SNR=15
DCID1 **Drake Creek** 93.59 46 *e*P P 07 32 53.3 +1.7
comp=Z,23nm,1.0s,mb5.6
B14A **Marquette Ranc** 93.64 41 ⇑P P 07 32 51.6 -0.1
baz=94,SNR=7.7
G16A **Moss Hill, Enn** 93.64 44 ⇓P P 07 32 51.5 -0.3
baz=94
Q19A **Hogan Spring (** 93.66 51 ⇓P P 07 32 51.8 -0.3
baz=94
PV10 **Paradox Valley** 93.67 51 *e*P P 07 32 52.2 +0.1
comp=Z,650nm,1.0s,mb7.0
D15A **Lincoln** 93.72 42 ⇑P P 07 32 51.7 -0.4
baz=94,SNR=7.3
TPAW **Teton Pass** 93.72 46 *e*P P 07 32 54.1 +1.8
comp=Z,266nm,2.5s,mb6.2
A14A **Double T Ranch** 93.74 40 ⇓P P 07 32 52.5 +0.3
baz=94
122A **Conniff Cattle** 93.75 57 ⇓P P 07 32 52.7 +0.1
baz=94
REDW **Red Top Meadow** 93.75 46 *e*P P 07 32 52.3 -0.1
comp=Z,39nm,1.4s,mb5.6
M18A **Lyman** 93.75 48 ⇓P P 07 32 51.9 -0.6
baz=94,SNR=12
MVCO **Mesa Verde** 93.76 53 ⇑P P 07 32 52.7 +0.1
baz=94
MVCO **Mesa Verde** 93.76 53 *e*P P 07 32 53.0 +0.4
comp=Z,36nm,1.3s,mb5.7
MVCO *e*PP PP 07 36 37.2 -0.9
MVCO LR LR
comp=Z,30µm,20.0s,MS6.8
PV04 **Paradox Valley** 93.77 51 *e*P P 07 32 53.2 +0.6
QLMT **Earthquake Lak** 93.78 45 *e*P P 07 32 53.6 +1.1
comp=Z,2.9nm,1.3s,mb4.5
IMW **Indian Meadow** 93.84 46 *e*P P 07 32 53.3 +0.4
comp=Z,32nm,1.4s,mb5.6
SNOW **Snow King Moun** 93.85 46 *e*P P 07 32 53.5 +0.7
comp=Z,13nm,0.9s,mb5.4
J17A **Brown Place, J** 93.85 46 ⇓P P 07 32 53.0 +0.2
baz=94,SNR=6.1
W21A **San Fidel** 93.86 55 ⇓P P 07 32 53.2 0.0
baz=94
H16A **Russell Place,** 93.87 45 ⇓P P 07 32 53.5 +0.6
baz=94
C15A **Salmond Ranch,** 93.88 42 ⇓P P 07 32 52.6 -0.3
baz=94,SNR=11
BOZ **Bozeman (W)** 93.89 44 ⇑P P 07 32 52.9 -0.1
baz=94
BOZ **Bozeman (W)** 93.89 44 *e*P P 07 32 53.0 0.0
comp=Z,20nm,1.3s,mb5.4
BOZ LR LR
comp=Z,10µm,20.0s,MS6.2
BOZ **Bozeman (W)** 93.89 44 *e*P P 07 32 53.0 0.0
BOZ pmax pmax
comp=Z,20nm,1.3s,mb5.4
BOZ MLR MLR
comp=Z,10µm,20.0s,MS6.2
HYB **Hyderabad** 93.89 287 *i*P P 07 32 52.0 -1.6
HYB *e*PP PP 07 36 40.0 +0.4
HYB *e*SKS 07 43 34.0
N18A **Larsen Ranch,** 93.91 49 ⇓P P 07 32 53.1 -0.1
baz=94
L18A **Fontenelle, Gr** 93.92 48 ⇓P P 07 32 53.5 +0.3
baz=94
F16A **Kennard Place,** 93.93 44 ⇓P P 07 32 53.8 +0.7
baz=94
MOOW **Moose Ponds** 93.94 46 *e*P P 07 32 53.1 -0.2
comp=Z,20nm,1.4s,mb5.4
PV01 **Paradox Valley** 93.95 52 *e*P P 07 32 53.6 +0.2
comp=Z,3µm,1.2s
LOHW **Long Hollow** 94.00 46 *e*P P 07 32 53.7 +0.1
comp=Z,49nm,1.8s,mb5.6
S20A **Disappointment** 94.03 52 ⇓P P 07 32 54.3 +0.5
baz=94,SNR=21
223A **Chaparral, Ant** 94.04 58 ⇓P P 07 32 54.2 +0.2
baz=94
YMR **Madison River** 94.05 45 *e*P P 07 32 55.0 +1.3
comp=Z,30nm,1.2s,mb5.6
V21A **Milan** 94.05 54 ⇑P P 07 32 54.2 +0.2
baz=94
FLWY **Flagg Ranch** 94.06 46 *e*P P 07 32 55.8 +2.0
comp=Z,62nm,1.7s,mb5.8
VNA3 **Neumayer Olymp** 94.08 181 *e* P 07 32 48.5 -4.9
VNA3 *e* pP 07 32 53.3 -3.5
YFT **Old Faithful** 94.08 45 *e*P P 07 32 56.3 +2.4
comp=Z,25nm,1.3s,mb5.5
YFT *e*PP PP 07 36 49.4 +9.0
B15A **Bradely Ranch,** 94.08 41 ⇓P P 07 32 53.0 -0.8
baz=94
LAZ **Ladron** 94.08 56 *e*P P 07 32 54.5 +0.4
comp=Z,47nm,1.9s,mb5.6
Y22A **Socorro** 94.10 56 ⇑P P 07 32 54.2 0.0
baz=94,SNR=21
I17A **Pilgrim Ck.** 94.10 46 ⇓P P 07 32 53.5 -0.5
baz=94
K18A **Toltan Ranch,** 94.11 47 ⇓P P 07 32 54.3 +0.2
baz=94
R20A **Redvale** 94.11 52 ⇑P P 07 32 54.3 +0.1
baz=94,SNR=20
E16A **East Helena** 94.12 43 ⇑P P 07 32 53.9 -0.1
baz=94
O19A **Miners Draw (B** 94.13 50 ⇑P P 07 32 54.1 -0.2
baz=94,SNR=23
LENM **Lemitar** 94.15 56 *e*P P 07 32 55.0 +0.6
comp=Z,21nm,1.1s,mb5.5
A15A **Johnson Ranch,** 94.17 40 ⇓P P 07 32 53.3 -0.9
baz=94,SNR=7.1
U21A **Nageezi** 94.20 54 ⇓P P 07 32 54.7 +0.1
baz=94,SNR=72
X22A **Bernardo** 94.21 56 ⇑P P 07 32 54.6 -0.1
baz=94
H17A **Grant Village** 94.24 45 ⇑P P 07 32 54.5 -0.1
baz=94
N19A **John Jarvie Ra** 94.25 49 ⇓P P 07 32 54.1 -0.6
baz=94
J18A **Kendall Valley** 94.29 47 ⇑P P 07 32 54.6 -0.3
baz=94,SNR=12
123A **Bell Site, Whi** 94.33 58 ⇑P P 07 32 55.0 -0.3
baz=94
D16A **Dana Ranch, Ca** 94.35 43 ⇑P P 07 32 55.0 -0.1
baz=94
VNA2 **Neumayer--Watz** 94.35 181 *e* P 07 32 50.4 -4.3
baz=184,slow=3.4
VNA2 *e* pP 07 32 51.8 -6.3
VNA2 *e* pP 07 32 54.9 -3.2
Q20A **Ridgley Place,** 94.38 51 ⇑P P 07 32 55.2 -0.2
baz=94,SNR=36
G17A **Pierce Place,** 94.39 44 ⇑P P 07 32 55.5 +0.2
baz=94
LKWY **Lake** 94.41 45 PFAKE 07 33 10.0 +15
LKWY LR LR
comp=Z,26µm,19.0s,MS6.7
S21A **Coal Bank Pass** 94.42 52 ⇓P P 07 32 56.0 +0.4
baz=94,SNR=21
BNM **Barren Site** 94.42 56 *e*P P 07 32 55.5 -0.3
comp=Z,24nm,1.1s,mb5.5
M19A **Rock Springs** 94.43 48 ⇓P P 07 32 55.3 -0.3
baz=94
T21A **Navajo Lake** 94.44 53 ⇓P P 07 32 55.8 +0.1
baz=94,SNR=6.7
C16A **Fuhringer Ranc** 94.45 42 ⇓P P 07 32 54.9 -0.5
baz=95,SNR=8.3

L19A **Farson** 94.45 48 ⇑P P 07 32 55.7 0.0
baz=95,SNR=9.0
P20A **De Beque** 94.45 50 ⇓P P 07 32 55.7 -0.1
baz=95
LPM **Los Pinos Moun** 94.46 56 *e*P P 07 32 56.2 +0.3
comp=Z,14nm,1.1s,mb5.3
W22A **Albuquerque** 94.47 55 ⇑P P 07 32 55.7 -0.2
baz=95
PD01 **Pinedale Array** 94.48 47 *e*P P 07 32 54.5 -1.2
PD02 **Pinedale Array** 94.49 47 *e*P P 07 32 55.7 -0.1
PD02 *e*PP PP 07 36 45.5 +1.8
BW06 **Boulder Array** 94.49 47 ⇑P P 07 32 55.5 -0.3
baz=95,SNR=7.5
BW06 **Boulder Array** 94.49 47 PFAKE 07 33 10.0 +14
BW06 LR LR
comp=Z,10µm,20.0s,MS6.3
PDAR **Pinedale Array** 94.49 47 P P 07 32 54.9 -1.0
comp=Z,5.1nm,1.0s,mb4.9,baz=225,slow=1.9,SNR=13
PDAR PP PP 07 36 46.3 +2.6
comp=Z,7.2nm,1.1s,baz=258,slow=5.9,SNR=7.1
PDAR PKKP PKKPbc 07 49 54.5 -1.7
comp=Z,2.1nm,0.9s,baz=98,slow=5.6,SNR=6.6
PDAR LR LR 08 10 45.8
comp=Z,8µm,19.4s,MS6.2,baz=259,slow=32
PDAR **Pinedale Array** 94.49 47 P P 07 32 54.9 -1.0
PDAR PP PP 07 36 46.3 +2.6
PDAR PKKP PKKPbc 07 49 54.5 -1.7
PDAR LR LR 08 10 45.8
Z23A **Rita Site, Whi** 94.52 57 ⇓P P 07 32 56.1 0.0
baz=95
I18A **Diamond G Ranc** 94.57 46 ⇓P P 07 32 56.1 -0.1
baz=95
F17A **Fitzpatrick Pl** 94.61 44 ⇓P P 07 32 56.7 +0.4
baz=95,SNR=11
E17A **Martinsdale** 94.64 43 ⇓P P 07 32 56.2 -0.2
baz=95
VNA1 **Neumayer--Stat** 94.65 181 *e* P 07 32 52.3 -3.8
VNA1 *e* pP 07 32 56.4 -3.0
B16A **M & M Farms, S** 94.65 41 ⇓P P 07 32 55.5 -0.9
baz=95
324A **Moseley Ranch,** 94.67 59 ⇑P P 07 32 56.6 -0.4
baz=95,SNR=17
O20A **White River Ci** 94.73 50 ⇓P P 07 32 56.4 -0.6
baz=95,SNR=18
ANMO **Albuquerque** 94.76 55 PP PP 07 36 53.4 +7.4
comp=Z,3.1nm,1.0s,baz=263,slow=6.7,SNR=6.1
ANMO PKKP PKKPbc 07 49 57.1 +1.9
comp=Z,0.6nm,0.4s,baz=202,slow=1.0,SNR=4.0
ANMO **Albuquerque** 94.76 55 *e*P P 07 32 57.1 -0.1
comp=Z,27nm,1.1s,mb5.6
ANMO *e*PP PP 07 36 53.2 +7.2
ANMO LR LR
comp=Z,16µm,20.0s,MS6.5
ANMO **Albuquerque** 94.76 55 *e*P P 07 32 57.2 -0.1
ANMO *e* 07 36 53.2
ANMO pmax pmax
comp=Z,27nm,1.1s
ANMO MLR MLR
comp=Z,16µm,20.0s
R21A **Cimarron** 94.79 52 ⇑P P 07 32 57.3 0.0
baz=95,SNR=30
224A **Cornudas Mount** 94.80 58 ⇓P P 07 32 55.4 -2.1
baz=95,SNR=19
U22A **Llaves** 94.81 54 ⇓P P 07 32 57.7 +0.3
baz=95
Y23A **Lovelace Mesa,** 94.83 56 ⇑P P 07 32 57.3 -0.3
baz=95
A16A **West Butte Ran** 94.88 41 ⇓P P 07 32 57.1 -0.3
baz=95
X23A **Hourglass Bar** 94.89 56 ⇓P P 07 32 58.1 +0.2
baz=95
Q21A **Lamborn Mesa,** 94.89 51 ⇓P P 07 32 58.1 +0.4
baz=95,SNR=17
N20A **Spence Gulch,** 94.90 49 ⇓P P 07 32 57.7 -0.1
baz=95,SNR=8.1
425A **Indio Mountain** 94.92 60 ⇑P P 07 32 57.9 -0.1
baz=95,SNR=22
T22A **Edith** 94.94 53 ⇓P P 07 32 58.2 +0.2
baz=95,SNR=8.3
H18A **Shoshone NF, C** 94.94 45 ⇓P P 07 32 57.3 -0.5
baz=95
D17A **Six Diamond Ra** 94.95 43 ⇓P P 07 32 58.2 +0.4
baz=95
J19A **Crowheart** 94.98 47 ⇑P P 07 32 58.2 +0.1
baz=95
124A **Stringfield Ra** 95.01 58 ⇓P P 07 32 58.5 0.0
baz=95,SNR=8.6
K19A **Ablon Red Bu** 95.01 47 ⇓P P 07 32 57.8 -0.4
baz=95
C17A **Wharram Farm,** 95.03 42 ⇓P P 07 32 58.1 -0.1
baz=95
W23A **Werner Place,** 95.06 55 ⇓P P 07 32 58.5 -0.1
baz=95
325A **Bean Ranch, Si** 95.08 59 ⇑P P 07 32 58.5 -0.3
baz=95,SNR=26
M20A **Sweetwater, Wa** 95.13 49 ⇑P P 07 32 58.6 -0.2
baz=95
L20A **Wamsutter** 95.16 48 ⇓P P 07 32 59.8 +1.0
baz=95
P21A **Newcastle** 95.17 51 ⇓P P 07 32 59.5 +0.5
baz=95,SNR=16
V23A **Ortiz Mt. (NFS** 95.18 55 ⇓P P 07 32 59.8 +0.6
baz=95
S22A **4UR Ranch, Cre** 95.18 52 ⇑P P 07 32 59.5 +0.4
baz=95,SNR=19
G18A **Lazy EL Ranch,** 95.19 45 ⇓P P 07 32 59.0 +0.1
baz=95
B17A **L&G Farms, Che** 95.20 41 ⇑P P 07 32 58.5 -0.4
baz=95
I19A **Meeteetse** 95.23 46 ⇓P P 07 32 59.1 -0.1
baz=95
Z24A **Sheeppen Canyo** 95.24 57 ⇓P P 07 32 59.3 -0.2
baz=95
F18A **Big Timber** 95.24 44 ⇑P P 07 32 59.5 +0.3
baz=95
E18A **Harlowton** 95.29 43 ⇓P P 07 32 59.9 +0.5
baz=95
U23A **El Rito** 95.32 54 ⇓P P 07 33 00.3 +0.5
baz=95,SNR=21
Y24A **Capitan** 95.33 56 ⇑P P 07 32 59.2 -0.7
baz=95,SNR=14
O21A **Pagoda** 95.33 50 ⇓P P 07 32 59.6 -0.1
baz=95
K20A **Yellowstone Ra** 95.33 47 ⇑P P 07 32 59.0 -0.6
baz=95
RLMT **Red Lodge** 95.33 45 ⇓P P 07 33 00.7 +1.1
baz=95
RLMT **Red Lodge** 95.33 45 *e*P P 07 33 01.4 +1.7
comp=Z,28nm,1.5s,mb5.5
RLMT *e*PP PP 07 36 54.8 +4.6
RLMT LR LR
comp=Z,18µm,20.0s,MS6.5
626A **Big Bend Ranch** 95.34 61 ⇑P P 07 32 59.7 -0.3
baz=95,SNR=24
225A **Deer Hill, Car** 95.38 58 ⇓P P 07 32 59.9 -0.3
baz=96
Q22A **Crested Butte,** 95.40 51 ⇑P P 07 32 59.9 -0.1
baz=96,SNR=28
H19A **Powell** 95.41 45 ⇑P P 07 33 00.0 0.0
baz=96
N21A **Black Mountain** 95.43 49 ⇓P P 07 32 60.0 -0.2
baz=96,SNR=19
SMCO **Snowmass** 95.43 51 *e*P P 07 32 59.6 -0.6
comp=Z,23nm,1.0s,mb5.6
A17A **Triple J Farms** 95.44 41 ⇓P P 07 32 59.8 -0.2
baz=96
X24A **Lazy VL Ranch,** 95.48 56 ⇓P P 07 33 00.3 -0.3
baz=96
526A **Mary Lane Ranc** 95.50 60 ⇑P P 07 33 00.7 -0.1
baz=96
D18A **Linhart Farms,** 95.54 43 ⇓P P 07 33 00.7 +0.2
baz=96
T23A **Casias Ranch,** 95.61 53 ⇓P P 07 33 01.1 0.0
baz=96
125A **Gardner Draw,** 95.65 58 ⇑P P 07 33 01.7 +0.4
baz=96
W24A **Lazy 6 Ranch,** 95.66 55 ⇓P P 07 33 00.8 -0.5
baz=96,SNR=24
TXAR **Lajitas Array** 95.68 61 P P 07 33 01.2 -0.4
comp=Z,16nm,1.1s,mb5.4,baz=224,slow=5.0,SNR=27
TXAR PP PP 07 36 57.4 +4.1
comp=Z,11nm,1.3s,baz=232,slow=6.2,SNR=4.9
TXAR PKKP PKKPbc 07 49 53.3 +0.8
comp=Z,0.4nm,0.5s,baz=88,slow=5.1,SNR=7.7
TXAR PKPPKP 07 58 11.3
comp=Z,0.6nm,1.0s,baz=104,slow=2.9,SNR=3.7
TXAR LR LR 08 08 12.9
comp=Z,12µm,20.5s,MS6.4,baz=270,slow=30

TXAR **Lajitas Array** 95.68 61 P P 07 33 01.2 -0.4
TXAR PP PP 07 36 57.4 +4.1
TXAR PKKP PKKPbc 07 49 53.3 +0.8
TXAR P'P' 07 58 11.3
TXAR LR LR 08 08 12.9
TXAR **Lajitas Array** 95.68 61 P P 07 33 01.2 -0.4
TXAR 07 36 57.4
TXAR pmax pmax
comp=Z,16nm,1.1s
TXAR pmax pmax
comp=Z,11nm,1.3s
TXAR pmax pmax
comp=Z,1.0nm,1.0s
J20A **Shoshoni** 95.69 47 ⇓P P 07 33 01.1 -0.1
baz=96
426A **McDonald Obser** 95.69 60 ⇓P P 07 33 01.3 -0.3
baz=96,SNR=26
P22A **Eagle** 95.70 51 ⇓P P 07 33 01.7 +0.2
baz=96,SNR=19
F19A **Roth Farm, Mol** 95.75 44 ⇓P P 07 33 01.2 -0.3
baz=96,SNR=6.3
Z25A **Roswell** 95.75 57 ⇓P P 07 33 01.6 -0.2
baz=96,SNR=9.1
M21A **Separation Pea** 95.76 49 ⇓P P 07 33 01.2 -0.4
baz=96
EGMT **Eagleton** 95.79 42 ⇑P P 07 33 01.5 -0.1
baz=96
EGMT **Eagleton** 95.79 42 PFAKE 07 33 10.0 +8.4
EGMT LR LR
comp=Z,5µm,20.0s,MS6.0
S23A **Nye Farm, Mont** 95.81 53 ⇑P P 07 33 01.9 -0.1
baz=96
I20A **Worland** 95.81 46 ⇓P P 07 33 02.1 +0.2
baz=96
L21A **Rawlins** 95.84 48 ⇑P P 07 33 01.2 -0.8
baz=96
B18A **Beardsley Farm** 95.88 42 ⇓P P 07 33 01.3 -0.7
baz=96
326A **Caldwell Ranch** 95.89 59 ⇑P P 07 33 01.3 -1.2
baz=96
V24A **Rampart Ranch,** 95.89 55 ⇑P P 07 33 00.9 -1.5
baz=96
527A **Woodward Ranch** 95.92 61 ⇓P P 07 33 02.2 -0.5
baz=96,SNR=13
Y25A **Mesa, Roswell** 95.92 57 ⇑P P 07 33 02.1 -0.5
baz=96
627A **Terlingua Ranc** 95.95 61 ⇑P P 07 33 02.2 -0.6
baz=96,SNR=23
226A **Malaga, Loving** 95.97 59 ⇓P P 07 33 03.2 +0.3
baz=96
A18A **Metzger Ranch,** 95.98 41 ⇓P P 07 33 01.9 -0.6
baz=96
O22A **Kremmling** 96.00 50 ⇑P P 07 33 03.0 +0.2
baz=96,SNR=44
E19A **Rath Farm, Rou** 96.02 44 ⇓P P 07 33 02.8 +0.1
baz=96
H20A **Greybull** 96.04 46 ⇑P P 07 33 02.1 -0.7
baz=96
U24A **Moreno Valley** 96.05 54 ⇓P P 07 33 03.1 0.0
baz=96
G20A **Bridger** 96.08 45 ⇑P P 07 33 02.7 -0.3
baz=96
AKL **Akola** 96.09 290 ⇓*i*P P 07 33 01.1 -2.5
AKL AMP 07 33 11.3
comp=Z,77nm,1.9s
AKL *i* x x 07 43 46.0
X25A **Clemmons Ranch** 96.09 56 ⇓P P 07 33 02.4 -1.0
baz=96
D19A **Cripps Ranch,** 96.14 43 ⇓P P 07 33 03.3 +0.1
baz=96,SNR=9.1
J21A **Lysite** 96.14 47 ⇑P P 07 33 03.4 +0.1
baz=96
126A **Clayton Basin,** 96.17 58 ⇓P P 07 33 03.0 -0.8
baz=96
C19A **Slack Wire Ran** 96.17 42 ⇓P P 07 33 03.1 -0.3
baz=96
SDCO **Great Sand Dun** 96.20 53 ⇑P P 07 33 03.4 -0.4
baz=96
SDCO **Great Sand Dun** 96.20 53 *e*P P 07 33 04.0 +0.2
comp=Z,9.2nm,1.1s,mb5.1
SDCO *e*PP PP 07 37 00.9 +3.7
SDCO LR LR
comp=Z,25µm,20.0s,MS6.7
N22A **Wattenberg Ran** 96.22 50 ⇓P P 07 33 04.1 +0.4
baz=96,SNR=19
Q23A **Hartsel** 96.23 52 ⇑P P 07 33 04.3 +0.4
baz=96
427A **Hayter Ranch,** 96.26 60 ⇑P P 07 33 03.7 -0.5
baz=96,SNR=15
F20A **Billings** 96.27 44 ⇑P P 07 33 03.7 -0.2
baz=96
327A **Balmorhea Ranc** 96.31 59 ⇓P P 07 33 04.1 -0.3
baz=96
BHPL **Bhopal** 96.31 292 *e*PKP P 07 33 00.1 -4.5
MNGI **Mangalore** 96.31 282 *ex* x 07 33 31.1
MNGI *ex* x 07 42 13.3
P23A **Jefferson** 96.33 51 ⇑P P 07 33 04.9 +0.6
baz=96
Z26A **Caprock** 96.35 57 ⇓P P 07 33 04.0 -0.5
baz=96,SNR=18
I21A **Big Trails, Te** 96.36 46 ⇑P P 07 33 04.2 -0.2
baz=96
628A **Black Gap, Mar** 96.38 61 ⇓P P 07 33 04.1 -0.6
baz=96
CPRX **Cap Rock** 96.39 58 *e*P P 07 33 04.0 -0.7
T24A **Torres, Weston** 96.39 53 ⇓P P 07 33 04.9 +0.2
baz=96,SNR=9.2
S24A **Houchin Ranch,** 96.40 53 ⇓P P 07 33 05.0 +0.4
baz=96,SNR=5.7
W25A **X Bar L Ranch,** 96.42 55 ⇓P P 07 33 04.2 -0.6
baz=96,SNR=15
B19A **Brinkman Farms** 96.43 42 ⇑P P 07 33 04.8 +0.2
baz=96
V25A **Rancho No Teng** 96.44 55 ⇓P P 07 33 04.6 -0.3
baz=96,SNR=15
E20A **Meyer Farm, Mu** 96.46 44 ⇑P P 07 33 05.0 +0.3
baz=97
O23A **Lake Granby, G** 96.48 50 ⇑P P 07 33 05.0 +0.1
baz=97
L22A **Ellis Ranch, M** 96.54 48 ⇑P P 07 33 05.3 +0.1
baz=97
ISCO **Idaho Springs** 96.61 51 ⇑P P 07 33 06.0 +0.4
baz=97,SNR=5.8
ISCO **Idaho Springs** 96.61 51 *e*P P 07 33 06.1 +0.5
comp=Z,20nm,1.3s,mb5.4
ISCO LR LR
comp=Z,17µm,20.0s,MS6.5
ISCO **Idaho Springs** 96.61 51 *e*P P 07 33 06.1 +0.6
ISCO pmax pmax
comp=Z,20nm,1.3s,mb5.4
ISCO MLR MLR
comp=Z,17µm,20.0s,MS6.5
D20A **Manuel Ranch,** 96.61 43 ⇑P P 07 33 05.2 -0.2
baz=97
528A **Cox Ranch, San** 96.62 61 ⇑P P 07 33 05.6 -0.3
baz=97,SNR=14
R24A **Sanders Place,** 96.62 52 ⇓P P 07 33 05.3 -0.4
baz=97
227A **Bennet, Jal** 96.62 59 ⇑P P 07 33 05.2 -0.6
baz=97
K22A **Casper** 96.62 48 ⇓P P 07 33 04.5 -1.1
baz=97
N23A **Red Feather La** 96.62 50 ⇓P P 07 33 05.7 +0.1
baz=97,SNR=8.0
Y26A **Elida** 96.63 57 ⇑P P 07 33 05.3 -0.5
baz=97
A19A **Klindworth Far** 96.68 41 ⇑P P 07 33 04.8 -0.9
baz=97
127A **Arkansas Junct** 96.72 58 ⇑P P 07 33 05.4 -0.8
baz=97
U25A **Circle Dot Ran** 96.73 54 ⇓P P 07 33 05.5 -0.7
baz=97,SNR=5.4
H21A **Big Horn, Sher** 96.74 46 ⇑P P 07 33 06.0 0.0
baz=97
Q24A **Divide** 96.76 52 ⇓P P 07 33 06.2 -0.1
baz=97,SNR=7.1
G21A **Lodge Grass** 96.77 45 ⇑P P 07 33 06.1 0.0
baz=97
X26A **CR and CF Fran** 96.78 56 ⇑P P 07 33 05.5 -1.0
baz=97
428A **Kincaid Ranch,** 96.83 60 ⇑P P 07 33 06.9 +0.1
baz=97
J22A **Midwest** 96.84 47 ⇑P P 07 33 05.1 -1.4
baz=97,SNR=5.3
C20A **Veseth Ranch,** 96.85 43 ⇑P P 07 33 06.4 -0.1
baz=97
328A **Wristen Ranch,** 96.88 59 ⇓P P 07 33 06.4 -0.6
baz=97

T25A Trinidad 96.90 54 ⇑P P 07 33 06.9 0.0
baz=97,SNR=6.1
M23A Laramie 96.92 49 ⇓P P 07 33 06.5 -0.4
baz=97
W26A Owens Ranch, T 96.94 56 ⇑P P 07 33 06.6 -0.6
baz=97
I22A 9 Mile Ranch, 96.95 47 ⇑P P 07 33 06.8 -0.2
baz=97
F21A Absaloka Mine, 96.97 45 ⇓P P 07 33 07.2 +0.1
baz=97
Z27A Tatum 96.98 58 ⇑P P 07 33 07.1 -0.3
baz=97
B20A Solberg Farm, 97.02 42 ⇓P P 07 33 07.5 +0.3
baz=97
P24A Kohler Place, 97.07 51 ⇓P P 07 33 07.5 -0.1
baz=97
O24A Longmont 97.09 50 ⇑P P 07 33 07.9 +0.2
baz=97
V26A Tequesquite Ra 97.09 55 ⇓P P 07 33 06.8 -1.0
baz=97,SNR=8.3
L23A Garrett 97.09 48 ⇑P P 07 33 07.3 -0.4
baz=97
Y27A Causey 97.15 57 ⇓P P 07 33 07.0 -1.2
baz=97,SNR=17
E21A Keefer Ranch, 97.18 44 ⇓P P 07 33 08.1 +0.1
baz=97
A20A Cobblestone Ra 97.19 41 ⇑P P 07 33 07.8 -0.2
baz=97
H22A Clearmont 97.21 46 ⇓P P 07 33 08.5 +0.3
baz=97
R25A Fountain Ranch 97.23 53 ⇓P P 07 33 07.9 -0.5
baz=97
U26A Atchley Ranch, 97.25 54 ⇓P P 07 33 07.6 -1.0
baz=97,SNR=6.9
ASOR Ausora 97.26 298 *e*PKP P 07 33 07.3 -1.5
YKA Yellowknife Ar 97.33 27 P P 07 33 06.2 -2.1
comp=Z,31nm,0.9s,mb5.7,baz=254,slow=4.5,SNR=27
YKA PP PP 07 36 57.6 -7.6
comp=Z,5.0nm,1.0s,baz=257,slow=7.5,SNR=4.4
YKA PKKPbc PKKPbc 07 49 49.0 -0.2
comp=Z,1.6nm,0.9s,baz=94,slow=2.0,SNR=3.0
YKA LR LR 08 16 59.1
comp=Z,557nm,19.0s,MS5.1,baz=0.0,slow=35
YKA Yellowknife Ar 97.33 27 P P 07 33 06.2 -2.1
YKA PP PP 07 36 57.6 -7.6
YKA PKKPbc PKKPbc 07 49 49.0 -0.2
YKA LR LR 08 16 59.1
YKA Yellowknife Ar 97.33 27 P P 07 33 06.2 -2.1
YKA pmax pmax
comp=Z,31nm,1.0s
YKA pmax pmax
comp=Z,5.0nm,1.0s
YKA pmax pmax
comp=Z,2.0nm,0.9s
YKA MLR MLR
comp=Z,557nm,19.0s
D21A La Casta Ranch 97.36 43 ⇑P P 07 33 09.0 +0.3
baz=98
X27A F and S Farms, 97.38 56 ⇑P P 07 33 08.8 -0.4
baz=98
N24A Carr 97.39 50 ⇑P P 07 33 09.1 +0.1
baz=98
Q25A Bedland, Calha 97.43 52 ⇑P P 07 33 09.5 +0.2
baz=98
C21A Desert Coulee 97.47 43 ⇑P P 07 33 09.0 -0.2
baz=98
MSTX Muleshoe 97.49 57 ⇑P P 07 33 08.4 -1.3
baz=98,SNR=16
J23A Dilts Ranch, B 97.49 47 ⇑P P 07 33 08.3 -1.1
baz=98
W27A Bowe Ranch, En 97.50 56 ⇑P P 07 33 08.7 -1.0
baz=98
M24A Cheyenne 97.58 49 ⇑P P 07 33 09.2 -0.7
baz=98
P25A Willow Gulch B 97.63 51 ⇓P P 07 33 10.4 +0.2
baz=98
L24A Wheatland 97.63 49 ⇑P P 07 33 09.6 -0.5
baz=98
B21A Ellsworth Farm 97.67 42 ⇑P P 07 33 10.6 +0.5
baz=98
I23A Meade Ranch, G 97.68 47 ⇑P P 07 33 09.3 -1.0
baz=98
AYAN Aya Nagar 97.75 297 *e*PKP P 07 33 08.9 -2.1
AYAN AMb AMB 07 33 14.9
comp=Z,22nm,1.1s,mb5.6
LAO LASA Array 97.78 44 ⇑P P 07 33 11.0 +0.3
baz=98
LAO LASA Array 97.78 44 PFAKE 07 33 20.0 +9.3
LAO LR LR
comp=Z,8μm,22.0s,MS6.2
O25A Wiggins 97.80 51 ⇑P P 07 33 10.5 -0.4
baz=98
MK31 Makanchi Array 97.84 316 *e*P P 07 33 10.9 0.0
MK31 *e*PP PP 07 37 08.5 -1.0
MK31 Makanchi Array 97.84 316 *e*P P 07 33 10.9 0.0
MK31 *e* 07 37 08.5
MKAR Makanchi Array 97.84 316 P P 07 33 10.6 -0.4
comp=Z,30nm,0.7s,mb5.9,baz=96,slow=6.2,SNR=125
MKAR PP PP 07 37 09.9 +0.4
comp=Z,12nm,1.1s,baz=97,slow=9.9,SNR=5.4
MKAR PKKP PKKPbc 07 49 45.3 -1.9
comp=Z,1.9nm,0.8s,baz=260,slow=4.4,SNR=5.9
MKAR PKPPKP 07 58 00.2
comp=Z,1.1nm,1.0s,baz=299,slow=5.0,SNR=4.6
MKAR Makanchi Array 97.84 316 P P 07 33 10.6 -0.4
MKAR PP PP 07 37 09.9 +0.4
MKAR PKKP PKKPbc 07 49 45.3 -1.9
MKAR P'P' 07 58 00.2
MKAR Makanchi Array 97.84 316 P P 07 33 10.6 -0.3
MKAR 07 37 09.9
MKAR pmax pmax
comp=Z,30nm,0.7s
MKAR pmax pmax
comp=Z,12nm,1.1s
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR pmax pmax
comp=Z,1.0nm,1.0s
GOA Goa 97.85 284 ⇑*i*P P 07 33 10.1 -1.6
A21A Bergtoll Ranch 97.86 41 ⇓P P 07 33 10.7 -0.2
baz=98
H23A Clabaugh Cattl 97.86 46 ⇑P P 07 33 10.4 -0.7
baz=98
K24A Anderson Ranch 97.86 48 ⇑P P 07 33 10.1 -1.0
baz=98
E22A Miles City 97.91 44 ⇑P P 07 33 10.7 -0.6
baz=98
D22A Cohagen 97.92 43 ⇑P P 07 33 10.9 -0.4
baz=98
KAD Karad 97.92 286 *e*PKP P 07 33 11.2 -0.8
ZAA0 Zalesovo Array 97.96 324 *e*P P 07 33 10.1 -1.3
ZALV Zalesovo Beam 97.96 324 P P 07 33 09.8 -1.6
comp=Z,49nm,1.0s,mb6.0,baz=108,slow=4.8,SNR=46
ZALV ScS ScS 07 44 40.2 +2.3
comp=Z,3.6nm,0.5s,baz=108,slow=15,SNR=4.5
ZALV PKKP PKKPbc 07 49 46.9 -0.2
comp=Z,1.4nm,0.5s,baz=283,slow=3.1,SNR=3.1
ZALV Zalesovo Beam 97.96 324 P P 07 33 09.8 -1.6
ZALV ScS ScS 07 44 40.2 +2.3
ZALV PKKP PKKPbc 07 49 46.9 -0.2
ZALV Zalesovo Beam 97.96 324 P P 07 33 09.8 -1.5
ZALV 07 44 40.3
ZALV pmax pmax
comp=Z,49nm,1.0s,mb6.0
ZALV pmax pmax
comp=N,4.0nm,0.5s
ZALV pmax pmax
comp=Z,1.0nm,0.5s,mb4.6
N25A Grover 97.97 50 ⇓P P 07 33 10.7 -1.0
baz=98
J24A Dixon Ranch, L 98.11 47 ⇓Pdiff P 07 33 10.5 -1.8
baz=98
C22A Vida 98.25 43 ⇓Pdiff P 07 33 11.8 -0.9
baz=98
I24A Kuemmerle Ranc 98.25 47 ⇑Pdiff P 07 33 11.5 -1.4
baz=98
B22A Reddig Ranch S 98.30 42 ⇑Pdiff P 07 33 12.8 -0.1
baz=98
KKR Kurukshetra 98.33 299 *e*PKP P 07 33 11.5 -2.1
RTK Rohtak 98.48 298 *e*PKP P 07 33 12.9 -1.4
RTK AMb AMB 07 33 16.7
comp=Z,67nm,0.1s,mb7.0
H24A Dirks Ranch, A 98.49 46 ⇑Pdiff P 07 33 13.3 -0.6
baz=99
POO Poona 98.51 287 *e*PKP P 07 33 13.4 -1.2
POO AMb AMB 07 33 21.8
comp=Z,33nm,1.5s,mb5.6
A22A Carney Farms, 98.51 42 ⇓Pdiff P 07 33 13.9 0.0
baz=99
AMTX Amarillo 98.57 56 ⇓Pdiff P 07 33 13.5 -1.0
baz=99
AMTX Amarillo 98.57 56 *e*P P 07 33 13.8 -0.7
AMTX LR LR
comp=Z,17nm,0.9s,mb5.6
comp=Z,12μm,20.0s,MS6.4
D23A Lindsay 98.57 44 ⇓Pdiff P 07 33 13.6 -0.6
baz=99
RSSD Black Hills 98.72 47 *e*P P 07 33 16.0 +1.1
comp=Z,8.2nm,1.1s,mb5.2
RSSD *e*PP PP 07 37 13.5 -2.8
RSSD Black Hills 98.72 47 *e*P P 07 33 16.0 +1.0
RSSD *e* 07 37 13.5
RSSD pmax pmax
comp=Z,8.0nm,1.1s,mb5.2
C23A Lambert 98.72 43 ⇓Pdiff P 07 33 14.7 -0.2
baz=99
KHET Khetri 98.80 297 *e*PKP P 07 33 14.2 -1.5
KHET AMb AMB 07 33 20.8
comp=Z,45nm,1.3s,mb5.8
B23A Brockton 98.99 42 ⇓Pdiff P 07 33 16.4 +0.3
baz=99
NVS Novosibirsk 99.07 324 ⇑*i*P P 07 33 13.5 -2.8
NVS *i* 07 43 53.5
NVS pmax pmax
comp=Z,36nm,2.0s,mb5.6
NVS pmax pmax
comp=N,27nm,1.8s
NVS pmax pmax
comp=E,35nm,1.8s
NVS pmax pmax
comp=Z,174nm,2.4s,mb6.2
NVS pmax pmax
comp=N,46nm,2.5s
NVS pmax pmax
comp=E,70nm,2.5s
A23A Redstone 99.17 42 ⇑Pdiff P 07 33 16.4 -0.4
baz=99
C24A Savage 99.17 43 ⇑Pdiff P 07 33 16.8 -0.1
baz=99
JCT Junction City 99.21 61 ⇓Pdiff P 07 33 16.3 -1.1
baz=99
JCT Junction City 99.21 61 *e*P P 07 33 16.8 -0.7
comp=E,29nm,0.9s,mb5.8
JCT LR LR
comp=Z,13μm,21.0s,MS6.4
JCT Junction City 99.21 61 *e*P P 07 33 16.8 -0.7
JCT pmax pmax
comp=Z,29nm,0.9s,mb5.8
JCT MLR MLR
comp=Z,13μm,21.0s,MS6.4
DGMT Dagmar 99.51 42 ⇑Pdiff P 07 33 18.3 -0.1
baz=100
DGMT Dagmar 99.51 42 PFAKE 07 33 30.0 +12
DGMT LR LR
comp=Z,7μm,20.0s,MS6.1
OGNE Ogallala 99.53 50 ⇑Pdiff P 07 33 18.1 -0.6
baz=100
OGNE Ogallala 99.53 50 PFAKE 07 33 30.0 +11
OGNE LR LR
comp=Z,13μm,19.0s,MS6.5
A24A Westby 99.73 42 ⇑Pdiff Pdif 07 33 19.1 -0.2
baz=100
KVTX Kingsville 100.26 64 PFAKE 07 33 30.0 +8.3
KVTX LR LR
comp=Z,7μm,19.0s,MS6.2
CBKS Cedar Bluff 100.86 53 ⇑Pdiff Pdif 07 33 24.3 0.0
baz=101
CBKS Cedar Bluff 100.86 53 PFAKE 07 33 40.0 +16
CBKS LR LR
comp=Z,18μm,20.0s,MS6.6
WMOK Wichita Mounta 100.88 57 PFAKE 07 33 40.0 +16
WMOK LR LR
comp=Z,8μm,21.0s,MS6.2
KSH Kashi 100.89 308 P Pdif 07 33 29.1 +4.6
KSH pP 07 33 33.8
KSH SKS 07 44 06.5
KSH S Sdif 07 45 06.0 +3.3
KSH sS 07 45 14.4
KSH pmax pmax
comp=Z,17nm,1.5s
KSH pmax pmax
comp=Z,530nm,5.5s
KSH LR LR
comp=N,860nm,9.1s
KSH LR LR
comp=E,4μm,12.4s
KSH LR LR
comp=Z,2μm,9.5s
KURK Kurchatov 101.01 320 P Pdif 07 33 23.3 -1.7
comp=Z,14nm,1.1s,baz=114,slow=3.1,SNR=26
KURK PP PP 07 37 26.4 -7.1
comp=Z,8.1nm,1.1s,baz=99,slow=7.1,SNR=5.6
KURK PKKPbc PKKPbc 07 49 35.5 -2.8
comp=Z,3.2nm,0.7s,baz=277,slow=3.6,SNR=12
KURK PKPPKP 07 57 51.8
comp=Z,1.0nm,0.3s,baz=325,slow=1.2,SNR=7.8
KURK Kurchatov 101.01 320 *e*Pdif Pdif 07 33 24.0 -1.0
comp=Z,45nm,1.4s
KURK LR LR
comp=Z,10μm,22.0s,MS6.3
KURK Kurchatov 101.01 320 P Pdif 07 33 23.3 -1.7
KURK pmax pmax
comp=Z,14nm,1.1s
KURK pmax pmax
comp=Z,8.0nm,1.1s
KURK pmax pmax
comp=Z,3.0nm,0.7s
KURK pmax pmax
comp=Z,1.0nm,0.3s
PAYG Puerto Ayora 101.09 94 PFAKE 07 33 40.0 +15
PAYG LR LR
comp=Z,15μm,20.0s,MS6.5
TKM2 Tokmak 2 101.75 311 *e*Pdif Pdif 07 33 28.3 -0.1
comp=Z,8.9nm,1.1s
TKM2 LR LR
comp=Z,4μm,21.0s,MS5.9
TKM2 Tokmak 2 101.75 311 *e*P Pdif 07 33 28.3 0.0
TKM2 pmax pmax
comp=Z,9.0nm,1.1s
TKM2 MLR MLR
comp=Z,4μm,21.0s,MS5.9
FFC Flin Flon 101.98 36 PFAKE 07 33 40.0 +11
FFC LR LR
comp=Z,13μm,20.0s,MS6.4
BRSD Miller 102.37 47 ⇓Pdiff Pdif 07 33 30.4 -0.6
baz=102
MDND Maddock 102.43 44 ⇑Pdiff Pdif 07 33 30.8 -0.5
baz=102
FRU Bishkek 102.45 311 *e*P Pdif 07 33 32.0 +0.6
FRU *e* 07 44 12.0
FRU pmax pmax
comp=Z,40nm,1.6s
BGNE Belgrade 102.49 50 ⇓Pdiff Pdif 07 33 31.3 -0.3
baz=103
AAK Ala-Archa 102.51 311 PKKPbc PKKPbc 07 49 32.1 -1.5
comp=Z,3.6nm,0.8s,baz=198,slow=6.3,SNR=6.8
AAK Ala-Archa 102.51 311 *e*Pdif Pdif 07 33 35.2 +3.5
comp=Z,11nm,1.1s
AAK *e*PKKPbc PKKPbc 07 49 32.0 -1.6
AAK LR LR
comp=Z,4μm,21.0s,MS5.9
AAK Ala-Archa 102.51 311 *e*P Pdif 07 33 35.2 +3.5
AAK pmax pmax
comp=Z,11nm,1.1s
AAK MLR MLR
comp=Z,4μm,21.0s,MS5.9
PLCA Paso Flores 102.53 138 P Pdif 07 33 32.2 +0.5
comp=Z,9.2nm,1.3s,baz=229,slow=6.6,SNR=2.9
PLCA PP PP 07 37 41.2 -3.3
comp=Z,5.1nm,1.1s,baz=328,slow=5.4,SNR=3.0
PLCA PKKP PKKPbc 07 49 34.8 +1.5
comp=Z,2.6nm,0.9s,baz=35,slow=7.1,SNR=3.0
PLCA Paso Flores 102.53 138 *e*Pdif Pdif 07 33 34.2 +2.4
comp=Z,149nm,2.4s
PLCA LR LR
comp=Z,4μm,19.0s,MS6.0
PLCA Paso Flores 102.53 138 P Pdif 07 33 32.3 +0.5
PLCA 07 37 41.2
PLCA pmax pmax
comp=Z,9.0nm,1.3s
PLCA pmax pmax
comp=Z,5.0nm,1.1s
PLCA pmax pmax
comp=Z,3.0nm,0.9s
EFI East Falkland 102.57 153 PFAKE 07 33 40.0 +8.0
EFI LR LR
comp=Z,4μm,22.0s,MS5.9
EKS2 Erkin-Say 103.03 311 *e*Pdif Pdif 07 33 37.7 +3.7
comp=Z,12nm,1.1s
EKS2 LR LR
comp=Z,4μm,22.0s,MS5.8
EKS2 Erkin-Say 103.03 311 *e*P Pdif 07 33 37.7 +3.7
EKS2 pmax pmax
comp=Z,12nm,1.1s
EKS2 MLR MLR
comp=Z,4μm,22.0s,MS5.8
BHJ Bhuj 103.30 291 *e*PKP Pdif 07 33 33.7 -1.5
BHJ AMb AMB 07 33 45.3
comp=Z,252nm,14.1s
KSU1 Kansas State U 103.31 53 PFAKE 07 33 50.0 +15
KSU1 LR LR
comp=Z,17μm,22.0s,MS6.5
TUL1 Tulsa 103.48 56 ⇑Pdiff Pdif 07 33 34.9 -1.1
baz=104
NATX Nacogdoches 103.77 60 PFAKE 07 33 50.0 +13
NATX LR LR
comp=Z,10μm,20.0s,MS6.4
ECSD EROS Data Cent 103.94 48 *e*Pdif Pdif 07 33 39.7 +1.6
ECSD LR LR
comp=Z,12μm,19.0s,MS6.4
RER Riviere de l'E 104.54 243 PFAKE 07 33 50.0 +9.3
RER LR LR
comp=Z,13μm,20.0s,MS6.5
AGMN Agassiz Nation 104.97 43 PFAKE 07 33 50.0 +7.3
AGMN LR LR
comp=Z,7μm,20.0s,MS6.2
MIAR Mount Ida 105.08 58 PFAKE 07 38 10.0 +12
MIAR LR LR
comp=Z,8μm,19.0s,MS6.3
ULM Lac du Bonnet 105.15 41 PKiKP PKiKP 07 37 57.3 -0.5
comp=Z,7.2nm,0.9s,baz=208,slow=2.2,SNR=3.6
ULM Lac du Bonnet 105.15 41 PKPdf PKiKP 07 37 57.3 -0.5
ULM LR LR
comp=Z,7μm,19.0s,MS6.2
KKAR Karatay Array 105.47 311 *e*Pdif Pdif 07 33 44.4 -0.4
comp=Z,11nm,1.1s
KKAR *e*PP PP 07 38 06.4 -0.7
KKAR Karatay Array 105.47 311 *e*P Pdif 07 33 44.4 -0.5
KKAR *e* 07 38 06.4
KKAR pmax pmax
comp=Z,11nm,1.1s
RES Resolute Bay 106.11 16 PKiKP PKiKP 07 37 57.4 -1.5
comp=Z,4.2nm,0.8s,baz=284,slow=4.2,SNR=8.4
RES Resolute Bay 106.11 16 PKPdf PKiKP 07 37 57.4 -1.5
SCIA State Center 106.22 50 PFAKE 07 38 10.0 +10
SCIA LR LR
comp=Z,29μm,20.0s,MS6.8
BVAR Borovoye Array 106.34 321 PKKPbc PKKPbc 07 49 20.4 -2.0
comp=Z,1.5nm,0.6s,baz=279,slow=2.9,SNR=6.3
BRVK Borovoye 106.40 321 *e*Pdif Pdif 07 33 48.4 -0.6
comp=Z,112nm,2.1s
BRVK LR LR
comp=Z,10μm,22.0s,MS6.3
BRVK Borovoye 106.40 321 *e*P Pdif 07 33 48.4 -0.6
BRVK pmax pmax
comp=Z,112nm,2.1s
BRVK MLR MLR
comp=Z,10μm,22.0s,MS6.3
SPMN St. Paul 106.81 47 ⇑Pdiff Pdif 07 33 52.6 +1.8
baz=107
VBMS Vicksburg 107.32 60 PFAKE 07 38 10.0 +7.6
VBMS LR LR
comp=Z,9μm,21.0s,MS6.3
TGUH Tegucigalpa,Un 107.41 80 PFAKE 07 38 10.0 +7.0
TGUH LR LR
comp=Z,9μm,20.0s,MS6.3
TEIG Tepich 107.59 73 PFAKE 07 38 10.0 +6.8
TEIG LR LR
comp=Z,15μm,20.0s,MS6.5
EYMN Ely 107.87 44 PFAKE 07 38 10.0 +7.1
EYMN LR LR
comp=Z,6μm,20.0s,MS6.2
LCO Las Campanas 108.43 128 PFAKE 07 38 20.0 +15
LCO LR LR
comp=Z,6μm,21.0s,MS6.2
JFWS Jewell Farm 108.49 49 PFAKE 07 38 20.0 +16
JFWS LR LR
comp=Z,32μm,20.0s,MS6.9
OXF Oxford 108.50 58 PFAKE 07 38 20.0 +15
OXF LR LR
comp=Z,7μm,22.0s,MS6.2
JTS JuntasAbangare 108.87 84 PFAKE 07 38 20.0 +14
JTS LR LR
comp=Z,20μm,20.0s,MS6.7
HDIL Hopedale 109.06 52 PFAKE 07 38 20.0 +15
HDIL LR LR
comp=Z,20μm,20.0s,MS6.7
TRQA Tornquist 109.49 140 PFAKE 07 38 20.0 +14
TRQA LR LR
comp=Z,4μm,19.0s,MS6.0
PLAL Pickwick Lake 109.63 58 PFAKE 07 38 20.0 +13
PLAL LR LR
comp=Z,10μm,21.0s,MS6.4
BRAL Brewton 110.13 62 PFAKE 07 38 20.0 +12
BRAL LR LR
comp=Z,6μm,20.0s,MS6.2
NNA Nana 110.41 109 PFAKE 07 38 20.0 +11
NNA LR LR
comp=Z,6μm,20.0s,MS6.2
MSEY Mahe Island 110.45 259 PFAKE 07 38 20.0 +11
MSEY LR LR
comp=Z,13μm,20.0s,MS6.5
ATAH Atahualpa 110.60 104 PP PP 07 38 49.7 +4.5
comp=Z,3.1nm,0.8s,baz=105,slow=20,SNR=4.2
SVE Sverdlovsk 111.86 326 *e*P Pdif 07 34 13.2 -0.1
SVE *e* 07 38 49.4
SVE *e* 07 48 24.8
SVE pmax pmax
comp=Z,26nm,1.5s
GLMI Grayling 112.60 47 PFAKE 07 38 20.0 +8.0
GLMI LR LR
comp=Z,15μm,19.0s,MS6.6
ABPO Ambohimpanom 112.71 242 PFAKE 07 38 20.0 +7.0
ABPO LR LR
comp=Z,15μm,20.0s,MS6.6
OTAV Otavalo 112.74 96 PFAKE 07 38 30.0 +17
OTAV LR LR
comp=Z,6μm,20.0s,MS6.2
ABKAR Akbulak array 112.94 317 *e*PKPdf PKiKP 07 38 09.6 -2.8
ABKAR *e*PP PP 07 39 01.8 +0.7
ARU Arti 113.05 325 *e*PKPdf PKiKP 07 38 11.7 -0.8
ARU LR LR
comp=Z,6μm,19.0s,MS6.2
ARU Arti 113.05 325 *i*PKiKP PKiKP 07 38 12.1 -0.3
ARU 07 39 01.1
ARU PPP 07 41 23.6
ARU 07 44 53.2
ARU SP SP 07 48 28.2 -6.7
ARU PS PS 07 48 35.8 -1.2
ARU SS SS 07 54 36.9 -8.6
TKL Tuckaleechee C 113.18 57 PKiKP PKiKP 07 38 12.5 -0.9
comp=Z,7.8nm,1.0s,baz=204,slow=3.4,SNR=3.1
TKL Tuckaleechee C 113.18 57 PKPdf PKiKP 07 38 12.5 -0.9
TKL Tuckaleechee C 113.18 57 *i*PKiKP PKiKP 07 38 12.5 -0.9
TKL pmax pmax
comp=Z,8.0nm,1.0s
GOGA Godfrey 113.34 60 PFAKE 07 38 30.0 +16
GOGA LR LR
comp=Z,10μm,21.0s,MS6.4
AAM Ann Arbor 113.34 50 PFAKE 07 38 30.0 +17
AAM LR LR
comp=Z,20μm,20.0s,MS6.7
SOKR Solikamsk 113.46 329 *i*PKiKP PKiKP 07 38 11.1 -2.0
SOKR SP SP 07 48 38.5 -0.1
SOKR pmax pmax
comp=Z,10.0nm,1.1s
BCIP Isla Barro Col 113.56 86 PFAKE 07 38 30.0 +15
BCIP LR LR
comp=Z,10μm,20.0s,MS6.4
ACSO Alum Creek Sta 113.87 52 PFAKE 07 38 30.0 +15
ACSO LR LR
comp=Z,20μm,22.0s,MS6.7
KBS Kingsbay 114.92 355 *e*PP PP 07 39 13.8 -0.4
KBS *e*SS SS 07 55 12.9 +3.9
KBS AMS AMS 08 21 33.5
comp=Z,5μm,16.9s,MS6.2
KBS Kingsbay 114.92 355 PFAKE 07 38 30.0 +14
KBS LR LR
comp=Z,3μm,22.0s,MS5.9

SPA0 Spitsbergen Ar 115.17 354 *e*PP PP 07 39 12.8 -3.2
SPA0 *e*PP PP 07 39 14.6 -1.3
SPITS Spitsbergen Ar 115.17 354 PKP PKiKP 07 38 14.6 -1.4
comp=Z,20nm,1.1s,baz=57,slow=9.2,SNR=8.0
SPITS PP PP 07 39 16.0 0.0
comp=Z,8.9nm,1.0s,baz=336,slow=12,SNR=5.3
SPITS Spitsbergen Ar 115.17 354 PKP PKiKP 07 38 14.6 -1.4
SPITS PP PP 07 39 16.0 0.0
SPITS Spitsbergen Ar 115.17 354 PKIKP PKiKP 07 38 14.6 -1.4
SPITS 07 39 16.0
SPITS pmax pmax
comp=Z,20nm,1.1s
SPITS pmax pmax
comp=Z,9.0nm,1.0s
SPB4 Spitsbergen Ar 115.17 354 *e*PKPdf PKiKP 07 38 14.9 -1.1
BLA Blacksburg 115.91 56 *e*PKPdf PKPdf 07 38 20.4 +1.9
BLA LR LR
comp=Z,12μm,21.0s,MS6.5
BLA Blacksburg 115.91 56 *e*PKIKP PKPdf 07 38 20.4 +1.9
BLA MLR MLR
comp=Z,12μm,21.0s,MS6.5
ERPA Erie 116.07 50 PFAKE 07 38 30.0 +11
ERPA LR LR
comp=Z,15μm,20.0s,MS6.6
NHSC New Hope 116.08 60 PFAKE 07 38 30.0 +11
NHSC LR LR
comp=Z,7μm,20.0s,MS6.3
MCWV Mont Chateau 116.30 53 PFAKE 07 38 30.0 +11
MCWV LR LR
comp=Z,20μm,22.0s,MS6.7
LPAZ La Paz 116.46 117 PKP PKPdf 07 38 19.1 -1.1
comp=Z,6.7nm,1.1s,baz=355,slow=1.9,SNR=8.9
LPAZ PP PP 07 39 26.6 +0.1
comp=Z,9.4nm,1.2s,baz=234,slow=7.1,SNR=6.5
LPAZ PKKPbc PKKPbc 07 48 48.0 -0.1
comp=Z,2.4nm,1.0s,baz=17,slow=8.9,SNR=4.8
LPAZ La Paz 116.46 117 *e*PKPdf PKPdf 07 38 19.2 -1.0
LPAZ *e*PP PP 07 39 26.9 +0.4
LPAZ LR LR
comp=Z,4μm,21.0s,MS6.0
LPAZ La Paz 116.46 117 PKIKP PKPdf 07 38 19.2 -1.0
LPAZ 07 39 26.6
LPAZ pmax pmax
comp=Z,7.0nm,1.1s
LPAZ pmax pmax
comp=Z,9.0nm,1.2s
LPAZ pmax pmax
comp=Z,2.0nm,1.0s
SADO Sadowa 116.49 47 PKP PKPdf 07 38 17.9 -1.5
comp=Z,4.9nm,0.6s,baz=292,slow=6.6,SNR=6.4
SADO PKKPab PKKPab 07 48 50.5 -0.6
comp=Z,2.1nm,0.5s,baz=75,slow=8.6,SNR=3.1
SADO Sadowa 116.49 47 PKP PKPdf 07 38 17.9 -1.5
SADO PKKPab PKKPab 07 48 50.5 -0.6
MTDJ Mount Denham 117.33 77 PFAKE 07 38 30.0 +8.2
MTDJ LR LR
comp=Z,7μm,19.0s,MS6.3
FRB Frobisher Bay 117.73 25 PKP PKPdf 07 38 20.0 -1.3
comp=Z,26nm,1.0s,baz=312,slow=4.1,SNR=3.0
FRB Frobisher Bay 117.73 25 PKP PKPdf 07 38 20.0 -1.2
FRB Frobisher Bay 117.73 25 PKIKP PKPdf 07 38 20.0 -1.2
FRB pmax pmax
comp=Z,26nm,1.0s
ROSC El Rosal 117.91 92 PP PP 07 39 42.1 +5.0
comp=Z,2.7nm,0.5s,baz=66,slow=22,SNR=7.2
BJO Bjornoya 117.92 351 *e*PP PP 07 39 34.5 -0.7
CNNC Cliffs of the 117.98 58 PFAKE 07 38 30.0 +7.4
CNNC LR LR
comp=Z,16μm,22.0s,MS6.6
DAG Danmarks Havn 118.00 2 *i* PKIKP PKPdf 07 38 19.0 -2.5
DAG MLR MLR
comp=Z,4μm,25.0s,MS6.0
DAG Danmarks Havn 118.00 2 *i* P PKPdf 07 38 19.0 -2.5
DAG
comp=Z,4μm,25.0s
CBN Corbin 118.29 54 PFAKE 07 38 30.0 +6.9
CBN LR LR
comp=Z,16μm,20.0s,MS6.6
BINY Binghamton 119.03 50 PFAKE 07 38 40.0 +16
BINY LR LR
comp=Z,12μm,20.0s,MS6.5
LVZ Lovozero 119.19 342 PFAKE 07 38 40.0 +16
LVZ LR LR
comp=Z,6μm,22.0s,MS6.2
LVZ Lovozero 119.19 342 *i* PKIKP PKPdf 07 38 24.6 +0.7
LONY Lake Ozonia 119.74 47 PFAKE 07 38 40.0 +14
LONY LR LR
comp=Z,13μm,19.0s,MS6.6
APA Apatity 119.77 342 ||*i* PKIKP PKPdf 07 38 24.6 -0.5
APA *i* 07 39 46.0
APA *i* 07 45 24.0
APA *i* PS PS 07 49 33.0 -4.6
APA *i* PPS 07 50 50.0
APA *i* SS SS 07 56 09.0 -3.3
APA pmax pmax
comp=Z,50nm,1.2s
APA MLR MLR
comp=Z,7μm,23.0s,MS6.2
CPUP Villa Florida 119.79 133 PKP PKPdf 07 38 24.8 -1.6
comp=Z,8.6nm,0.8s,baz=246,slow=2.5,SNR=9.0
CPUP PKKPbc PKKPbc 07 48 35.8 -0.6
comp=Z,4.7nm,1.0s,baz=65,slow=3.4,SNR=5.2
CPUP Villa Florida 119.79 133 *e*PKPdf PKPdf 07 38 25.2 -1.2
CPUP LR LR
comp=Z,610nm,22.0s,MS5.2
CPUP Villa Florida 119.79 133 PKIKP PKPdf 07 38 24.8 -1.6
CPUP pmax pmax
comp=Z,9.0nm,0.9s
CPUP pmax pmax
comp=Z,5.0nm,1.0s
GTBY Guantanamo Bay 119.81 75 PFAKE 07 38 40.0 +13
GTBY LR LR
comp=Z,7μm,20.0s,MS6.3
KEV Kevo 120.07 345 PFAKE 07 38 40.0 +14
KEV LR LR
comp=Z,4μm,21.0s,MS6.0
KEV Kevo 120.07 345 *e*PKIKP PKPdf 07 38 23.4 -2.2
KEV Kevo 120.07 345 *e*p PKPdf 07 38 23.4 -2.2
NCB Newcomb 120.09 48 *e*PKPdf PKPdf 07 38 26.4 +0.1
NCB LR LR
comp=Z,13μm,19.0s,MS6.6
SUMG Summit 120.27 9 *e*PKPdf PKPdf 07 38 26.1 +0.2
SUMG Summit 120.27 9 *e*PKIKP PKPdf 07 38 26.1 +0.2
SUMG Summit 120.27 9 *i* P PKPdf 07 38 26.0 +0.1
SUMG
comp=Z,4μm,21.0s
ARCES ARCESS Array B 120.59 346 PKP PKPdf 07 38 25.8 -0.8
comp=Z,19nm,0.5s,baz=99,slow=1.4,SNR=53
ARCES ARCESS Array B 120.59 346 PKP PKPdf 07 38 25.8 -0.8
ARCES ARCESS Array B 120.59 346 PKIKP PKPdf 07 38 25.8 -0.8
ARCES pmax pmax
comp=Z,19nm,0.5s
ARE0 ARCESS Array S 120.59 346 *e*P PKPdf 07 38 26.0 -0.6
ARE0 *e*PP PP 07 39 52.8 -0.9
ARE0 ARCESS Array S 120.59 346 *e*PKPdf PKPdf 07 38 25.4 -1.2
TRY Troy 120.67 49 *e*PKPdf PKPdf 07 38 25.0 -2.5
KTK1 Kautokeino 121.52 346 *e*P PKPdf 07 38 27.8 -0.6
KTK1 *e*PP PP 07 40 01.9 +1.8
KTK1 AMS AMS 08 36 43.1
comp=Z,7μm,19.7s,MS6.3
LBNH Lisbon 121.68 47 PFAKE 07 38 40.0 +11
LBNH LR LR
comp=Z,15μm,20.0s,MS6.6
TRO Tromso 121.98 348 *e*P PKPdf 07 38 28.9 -0.4
TRO *e*PP PP 07 40 01.8 -1.3
TRO *e*SS SS 07 56 42.1 +1.6
TRO AMS AMS 08 32 23.4
comp=Z,4μm,20.0s,MS6.0
SCHQ Schefferville 122.00 34 PKP PKPdf 07 38 29.0 -0.7
comp=Z,16nm,1.0s,baz=312,slow=3.3,SNR=3.6
SCHQ PKKPbc PKKPbc 07 48 28.8 +0.2
comp=Z,4.5nm,0.6s,baz=214,slow=5.3,SNR=8.8
SCHQ Schefferville 122.00 34 PKP PKPdf 07 38 29.0 -0.7
SCHQ PKKPbc PKKPbc 07 48 28.8 +0.2
SFJD Kangerlussuaq 122.10 17 PFAKE 07 38 40.0 +10
SFJD LR LR
comp=Z,7μm,20.0s,MS6.3
SFJD Kangerlussuaq 122.10 17 *i* PKIKP PKPdf 07 38 26.5 -3.0
SFJD *i* 07 40 00.9
SFJD MLR MLR
comp=Z,5μm,21.0s,MS6.2
SFJD Kangerlussuaq 122.10 17 *i* P PKPdf 07 38 26.5 -3.0
SFJD *i* 07 40 00.9
SFJD
comp=Z,5μm,21.0s

MAK Makhachkala 122.28 312 *e*P Pdif 07 35 00.8 +1.2
MAK *e* 07 38 29.4
MAK *i* 07 40 07.7
MAK *e*PPP 07 42 46.6
MAK *e* 07 45 31.0
MAK *e*PS PS 07 50 02.9 +1.8
MAK *e*SS SS 07 56 45.7 -0.6
MAK *e*SSS 08 01 14.8
MAK pmax pmax
comp=Z,441nm,1.8s
SDV Santo Domingo 122.39 89 *e*PKPdf PKPdf 07 38 31.0 -0.7
SDV LR LR
comp=Z,4μm,22.0s,MS6.0
SDDR Presa de Saban 123.30 77 PFAKE 07 38 40.0 +6.7
SDDR LR LR
comp=Z,10μm,19.0s,MS6.5
JOF Joensuu 123.31 338 *e*PKIKP PKPdf 07 38 30.5 -1.5
JOF Joensuu 123.31 338 *e*p PKPdf 07 38 30.5 -1.5
SUR Sutherland 123.50 213 PFAKE 07 38 50.0 +17
SUR LR LR
comp=Z,8μm,20.0s,MS6.4
MIB Mutribah 123.74 296 *e*P PKPdf 07 38 32.2 -1.6
MIB AMb AMB 07 38 38.8
comp=Z,62nm,1.4s
BOSA Boshof 123.75 220 PKP PKPdf 07 38 34.0 0.0
comp=Z,19nm,0.9s,baz=124,slow=1.2,SNR=11
BOSA Boshof 123.75 220 *e*PKPdf PKPdf 07 38 33.6 -0.4
BOSA LR LR
comp=Z,9μm,20.0s,MS6.4
BOSA Boshof 123.75 220 PKIKP PKPdf 07 38 34.0 0.0
BOSA pmax pmax
comp=Z,19nm,0.9s
PQI Presque Isle 123.83 43 *e*PKPdf PKPdf 07 38 34.6 +1.1
NAY Al-Naaiem 123.84 295 *e*P PKPdf 07 38 32.2 -1.8
NAY AMb AMB 07 38 38.9
comp=Z,43nm,1.4s
JMIC Jan Mayen 123.88 359 *e*PP PP 07 40 16.1 +0.3
JMIC *e*SS SS 07 57 04.8 +0.4
JMIC AMS AMS 08 31 00.9
comp=Z,2μm,16.3s,MS5.9
RST Umm Al-Ruwaisa 124.05 296 *e*P PKPdf 07 38 32.0 -2.4
RST AMb AMB 07 38 41.6
comp=Z,13nm,1.2s
VRHR Novokhopersk 124.07 322 *i* PKIKP PKPdf 07 38 32.0 -1.8
VRHR pmax pmax
comp=Z,30nm,1.0s
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,20nm,1.2s
SCO Scoresbysund 124.08 4 *i* PKIKP PKPdf 07 38 33.9 +0.6
SCO MLR MLR
comp=Z,3μm,22.0s,MS6.0
DGRG David-gareji 124.11 310 P PKPdf 07 38 34.8 +0.6
STEI Steigen 124.15 348 *e*P PKPdf 07 38 32.8 -0.7
STEI AMB AMB 07 38 36.5
comp=Z,71nm,1.4s
MOS Moscow 124.41 329 *e*PKIKP PKPdf 07 38 31.7 -2.6
MOS *e*SS SS 07 57 03.0 -9.2
MOS pmax pmax
comp=Z,78nm,1.2s
MTA Mtatsminda 124.49 311 P PKPdf 07 38 34.8 -0.1
GNI Garni 124.82 309 *e*PKPdf PKPdf 07 38 38.7 +3.1
GNI LR LR
comp=Z,2μm,20.0s,MS5.8
GNI Garni 124.82 309 *i* PKIKP PKPdf 07 38 35.1 -0.5
GNI Garni 124.82 309 *e*P PKPdf 07 38 38.7 +3.1
GNI MLR MLR
comp=Z,2μm,20.0s
ZEI Tsey 124.92 312 *i* PKIKP PKPdf 07 38 35.1 -0.6
ZEI pmax pmax
comp=Z,46nm,1.4s
OBN Obninsk 125.23 328 PFAKE 07 38 50.0 +14
OBN LR LR
comp=Z,5μm,22.0s,MS6.1
OBN Obninsk 125.23 328 ||*i* PKIKP PKPdf 07 38 35.3 -0.6
OBN *i* 07 40 23.5
OBN *e* 07 45 43.3
OBN *i* PS PS 07 50 17.5 -9.1
OBN *i* SS SS 07 57 21.4 -1.1
OBN pmax pmax
comp=Z,78nm,1.3s
ONI Oni 125.28 312 P PKPdf 07 38 36.1 -0.3
VSR Storozhevoye 125.47 323 *i* PKIKP PKPdf 07 38 35.3 -1.2
VSR pmax pmax
comp=Z,40nm,1.2s
VSR pmax pmax
comp=N,6.0nm,0.6s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,780nm,3.8s
VSR pmax pmax
comp=N,320nm,4.5s
VSR pmax pmax
comp=E,320nm,3.5s
KIV Kislovodsk 125.50 314 *e*PKPdf PKPdf 07 38 36.8 0.0
KIV LR LR
comp=Z,3μm,21.0s,MS5.9
KIV Kislovodsk 125.50 314 *c i* PKIKP PKPdf 07 38 36.1 -0.7
KIV *i* 07 40 26.7
KIV *i* PS PS 07 50 24.5 -5.0
KIV *i* SS SS 07 57 24.4 -2.5
KIV pmax pmax
comp=Z,49nm,1.2s
AKH Akhalkalaki 125.50 310 P PKPdf 07 38 36.1 -0.7
KAF Kangasniemi 125.61 339 *e*PKIKP PKPdf 07 38 35.0 -1.4
KAF Kangasniemi 125.61 339 *e*p PKPdf 07 38 35.0 -1.4
CLDR Caldiran 125.62 308 *e*P PKPdf 07 38 35.6 -1.6
STOK Stokkvaagen 125.97 348 *e*P PKPdf 07 38 36.6 -0.4
LBTB Lobatse 126.03 223 PFAKE 07 38 50.0 +12
LBTB LR LR
comp=Z,11μm,20.0s,MS6.5
HAKT HAKKARI 126.05 306 ⇑*i* PKPdf 07 38 37.0 -1.1
BHD Baghdad 126.05 300 *i* x x 07 38 39.0
BHD *i* x x 07 40 31.0
BHD *e* x 07 45 40.0
VANB Van 126.12 307 *e*P PKPdf 07 38 35.7 -2.4
FINES FINESS Array B 126.14 338 PKP PKPdf 07 38 35.9 -1.6
comp=Z,24nm,0.9s,baz=46,slow=5.5,SNR=15
FINES FINESS Array B 126.14 338 PKP PKPdf 07 38 35.9 -1.6
FINES FINESS Array B 126.14 338 PKIKP PKPdf 07 38 35.9 -1.6
FINES pmax pmax
comp=Z,24nm,0.9s
AGRB Hanur-Agry 126.25 308 *e*P PKPdf 07 38 35.8 -2.5
ARTV Artvin 126.70 310 ⇑*i*P PKPdf 07 38 38.3 -0.8
DAGI Agillar 126.74 310 *e*P PKPdf 07 38 38.7 -0.5
DDEM Demirkent 126.90 310 ⇑*i*P PKPdf 07 38 39.8 +0.2
CRDR Cabo Rojo, PR 127.16 79 *e*PKPdf PKPdf 07 38 40.0 -0.7
LRS Lares 127.43 78 *e*PKPdf PKPdf 07 38 40.0 -1.2
OBIP Obispado Ponce 127.64 79 *e*PKPdf PKPdf 07 38 42.0 +0.5
CELP Cerrillos 127.67 79 *e*PKPdf PKPdf 07 38 42.9 +1.2
SOC Sochi 127.67 314 *i* PKIKP PKPdf 07 38 42.3 +1.4
SOC *i* 07 40 41.7
SOC *e* 07 45 44.4
SOC pmax pmax
comp=Z,43nm,0.9s
SOC MLR MLR
comp=Z,4μm,21.0s,MS6.1
ICM Isla Caja Muer 127.70 79 *e*PKPdf PKPdf 07 38 42.9 +1.2
BNGL BINGOL 127.77 308 ⇑*i*P PKPdf 07 38 41.2 -0.1
VSU Vasula 127.87 335 *i* PKIKP PKPdf 07 38 40.1 -0.7
NRS Narsarsuaq 127.90 20 *i* P PKPdf 07 38 33.9 -6.9
NRS
comp=Z,3μm,22.0s
KOPT Kop Dagi 128.03 309 *e*P PKPdf 07 38 42.2 +0.4
SJG San Juan 128.07 79 PKP PKPdf 07 38 40.9 -1.5
comp=Z,53nm,0.9s,baz=310,slow=23,SNR=17
SJG San Juan 128.07 79 *e*PKPdf PKPdf 07 38 41.7 -0.7
SJG LR LR
comp=Z,10μm,21.0s,MS6.5
SJG San Juan 128.07 79 PKIKP PKPdf 07 38 40.9 -1.5
SJG pmax pmax
comp=Z,53nm,0.9s
SJG San Juan 128.07 79 *e*P PKPdf 07 38 41.7 -0.7
SJG MLR MLR
comp=Z,10μm,21.0s
BAYT Ayd¨–ntepe-Bay 128.21 310 *e*P PKPdf 07 38 40.0 -2.0
TRIS Tristan da Cun 128.33 180 PFAKE 07 38 50.0 +7.5
TRIS LR LR
comp=Z,5μm,22.0s,MS6.1
KTUT Trabzon 128.34 311 *e*P PKPdf 07 38 40.6 -1.7
CBYP Canovanas 128.37 78 *e*PKPdf PKPdf 07 38 45.6 +2.6
MTP Monte Pirata 128.64 79 *e*PKPdf PKPdf 07 38 41.4 -2.1

KMBO Kilima Mbogo 128.81 256 PKP PKPdf 07 38 43.7 -0.3
comp=Z,11nm,1.0s,baz=0.4,slow=24,SNR=9.2
KMBO PP PP 07 40 52.5 +1.9
comp=Z,1.3nm,0.7s,baz=180,slow=24,SNR=3.2
KMBO Kilima Mbogo 128.81 256 *e*PKPdf PKPdf 07 38 44.5 +0.4
KMBO Kilima Mbogo 128.81 256 PKIKP PKPdf 07 38 43.7 -0.3
KMBO 07 40 52.5
KMBO pmax pmax
comp=Z,11nm,1.0s
KMBO pmax pmax
comp=Z,1.0nm,0.7s
ANN Anapa 128.86 316 *e*P Pdif 07 35 30.9 +2.1
ANN *i* 07 38 43.1
ANN *e* 07 40 47.5
ANN *e* 07 45 49.0
ANN *e*SS SS 07 58 06.2 -2.3
ANN pmax pmax
comp=Z,56nm,1.0s
ANN pmax pmax
comp=Z,645nm,9.4s
ANN MLR MLR
comp=N,3μm,24.0s,MS6.0
ANN MLR MLR
comp=E,3μm,24.0s,MS6.0
ANN MLR MLR
comp=Z,5μm,24.0s,MS6.1
PTK Pertek 129.12 308 *e*P PKPdf 07 38 42.1 -1.8
BBSR BB Station 129.14 60 PFAKE 07 39 00.0 +16
BBSR LR LR
comp=Z,6μm,19.0s,MS6.3
STVI Saint Thomas 129.23 78 *e*PKPdf PKPdf 07 38 44.8 +0.2
SVRC Svrice-ELAZID 129.31 308 *e*P PKPdf 07 38 43.8 -0.4
KEMA Kemaliye 129.71 309 *e*P PKPdf 07 38 43.6 -1.3
BORG Borgarnes 129.77 5 PFAKE 07 39 00.0 +16
BORG LR LR
comp=Z,4μm,19.0s,MS6.2
MICGM Minsk 129.82 331 *e*PKP PKPdf 07 38 43.0 -1.7
MNK Minsk 129.85 331 *e*PKIKP PKPdf 07 38 43.0 -1.7
MNK MLR MLR
comp=Z,9μm,20.0s,MS6.5
URFA Urfa 129.89 307 *e*P PKPdf 07 38 43.6 -1.8
NACGM Naroch 130.09 332 *e*PKP PKPdf 07 38 42.0 -3.2
RSDY Resadiye-TOKAT 130.28 311 *e*P PKPdf 07 38 45.3 -0.8
ATAB Bozova 130.29 307 ⇑*i*P PKPdf 07 38 45.0 -1.1
LSZ Lusaka 130.29 235 *e*PKPdf PKPdf 07 38 46.8 0.0
LSZ LR LR
comp=Z,10μm,21.0s,MS6.5
LSZ Lusaka 130.29 235 *e*PKIKP PKPdf 07 38 46.8 +0.1
LSZ MLR MLR
comp=Z,10μm,21.0s,MS6.5
DARE Darende-Malaty 130.31 309 *e*P PKPdf 07 38 46.8 +0.7
AKCD Akcadag 130.38 308 ⇑*i*P PKPdf 07 38 46.4 +0.1
SCER sogukcermik 130.58 310 ⇑*i*P PKPdf 07 38 46.4 -0.2
NB2 NORSAR Subarra 130.97 345 PKPdf PKPdf 07 38 46.9 +0.2
comp=Z,25nm,1.2s,baz=31,slow=1.9
NB2 NORSAR Subarra 130.97 345 PKPdf PKPdf 07 38 46.9 +0.2
baz=31,slow=1.9
NOA NORSAR Array B 130.97 345 PKP PKPdf 07 38 46.1 -0.6
comp=Z,8.0nm,0.8s,baz=34,slow=2.0,SNR=12
NOA SKPbc SKPbc 07 42 14.0 +2.8
comp=Z,12nm,1.1s,baz=32,slow=2.7,SNR=5.7
NOA NORSAR Array B 130.97 345 PKP PKPdf 07 38 46.1 -0.6
NOA SKPbc SKPbc 07 42 14.0 +2.8
NOA NORSAR Array B 130.97 345 PKIKP PKPdf 07 38 46.1 -0.6
NOA pmax pmax
comp=Z,8.0nm,0.9s
NOA pmax pmax
comp=N,13nm,1.1s
SIM Simferopol' 131.00 317 *e*PKIKP PKPdf 07 38 44.6 -2.6
SIM *e*PPS 07 52 50.0
SIM pmax pmax
comp=Z,600nm,12.9s
SIM pmax pmax
comp=Z,2μm,11.7s
SIM MLR MLR
comp=Z,5μm,23.0s,MS6.2
KVT Kavak 131.01 312 *e*P PKPdf 07 38 45.8 -1.5
NC602 NORSAR Array S 131.15 345 *e*PP PP 07 41 09.6 +5.7
GAZ Gaziantep 131.20 307 *e*P PKPdf 07 38 44.8 -3.1
NAO01 NORSAR Array S 131.22 345 PFAKE 07 39 00.0 +13
NAO01 LR LR
comp=Z,5μm,19.0s,MS6.2
SARI SarD1z-Kayseri 131.22 309 *e*P PKPdf 07 38 44.3 -3.6
AKASG Malin Array Be 131.29 326 PKhKP PKPpre 07 38 35.2
comp=Z,0.8nm,0.4s,baz=57,slow=3.5,SNR=5.4
AKASG PKP PKPdf 07 38 46.5 -1.0
comp=Z,13nm,1.0s,baz=50,slow=1.6,SNR=19
AKASG PP PP 07 41 03.8 -1.5
comp=Z,1.7nm,0.7s,baz=45,slow=5.5,SNR=4.5
AKASG SKPbc SKPbc 07 42 15.6 +2.9
comp=Z,4.7nm,1.0s,baz=45,slow=5.2,SNR=3.7
AKASG Malin Array Be 131.29 326 PKP PKPdf 07 38 46.5 -1.0
AKASG PP PP 07 41 03.8 -1.5
AKASG SKPbc SKPbc 07 42 15.6 +2.9
AKASG Malin Array Be 131.29 326 PKIKP PKPdf 07 38 46.6 -1.0
AKASG 07 41 03.8
KIEV Kiev 131.30 326 *e*PKPdf PKPdf 07 38 46.9 -0.7
KIEV LR LR
comp=Z,5μm,19.0s,MS6.2
KIEV Kiev 131.30 326 *e*PKIKP PKPdf 07 38 46.9 -0.7
KIEV MLR MLR
comp=Z,5μm,19.0s,MS6.2
KMRS Kahramanmaras 131.36 307 *e*P PKPdf 07 38 45.7 -2.4
KUZU Kuzuini 131.40 306 ⇑*i*P PKPdf 07 38 47.8 -0.5
PINB Pinarbasi 131.44 309 ⇑*i*P PKPdf 07 38 48.1 -0.1
GRGR Grenville 131.66 87 PFAKE 07 39 00.0 +11
GRGR LR LR
comp=Z,6μm,21.0s,MS6.3
ANDN Andirin 131.77 307 ⇑*i*P PKPdf 07 38 49.5 +0.6
FOO Floro 131.78 349 *e*P PP 07 41 06.6 -1.3
BZK Bozkurt 132.18 314 *e*P PKPdf 07 38 49.9 +0.4
ANWB Willy Bob 132.18 80 PFAKE 07 39 00.0 +10
ANWB LR LR
comp=Z,5μm,22.0s,MS6.2
KOZT Kozan 132.19 307 *e*P PKPdf 07 38 46.1 -3.6
YAYL Yayladag 132.33 305 ⇑*i*P PKPdf 07 38 49.9 -0.1
FDF Fort de France 132.51 84 *e*PKPdf PKPdf 07 38 51.8 +0.9
FDF LR LR
comp=Z,9μm,22.0s,MS6.5
FDF Fort de France 132.51 84 *e*PKIKP PKPdf 07 38 51.8 +0.9
FDF MLR MLR
comp=Z,9μm,22.0s,MS6.5
KONO Kongsberg 132.58 345 *e*PP PP 07 41 12.8 -0.3
KONO AMS AMS 08 31 31.8
comp=Z,3μm,23.7s,MS6.0
KONO Kongsberg 132.58 345 PFAKE 07 39 00.0 +10
KONO LR LR
comp=Z,4μm,21.0s,MS6.1
CDAG Cicekdag 132.68 311 ⇑*i*P PKPdf 07 38 49.5 -1.1
KRTS Karatas 132.77 306 *e*P PKPdf 07 38 49.2 -1.7
KARA Karaisali 132.84 307 *e*P PKPdf 07 38 46.9 -4.0
BER Bergen 132.85 348 *e*PP PP 07 41 14.8 +0.1
CANT Cankiri 132.91 312 *e*P PKPdf 07 38 50.5 -0.4
GULE Gulek 133.05 307 ⇑*i*P PKPdf 07 38 50.2 -1.1
BHL Bhannes 133.15 303 *e*P PKPdf 07 38 50.1 -1.6
BR131 Keskin Array S 133.18 311 *e*PKPdf PKPdf 07 38 49.5 -2.0
BR131 LR LR
comp=Z,2μm,20.0s,MS5.9
BRTR Keskin Array B 133.18 311 PKhKP PKPpre 07 38 40.6
comp=Z,0.5nm,0.4s,baz=16,slow=6.3,SNR=2.7
BRTR PKP PKPdf 07 38 51.3 -0.2
comp=Z,5.1nm,0.8s,baz=147,slow=2.9,SNR=9.3
BRTR PP PP 07 41 18.6 +0.5
comp=Z,5.8nm,1.0s,baz=100,slow=5.1,SNR=5.7
BRTR Keskin Array B 133.18 311 PKP PKPdf 07 38 51.3 -0.2
BRTR PP PP 07 41 18.6 +0.5
BRTR Keskin Array B 133.18 311 PKHKP PKPpre 07 38 40.6
BRTR 07 38 51.3
BRTR 07 41 18.7
BRTR pmax pmax
comp=Z,1.0nm,0.4s
BRTR pmax pmax
comp=Z,5.0nm,0.8s
BRTR pmax pmax
comp=Z,6.0nm,1.0s
SAFT Safranbolu 133.35 313 *e*P PKPdf 07 38 47.6 -4.2
KIS Kishinev 133.42 322 *e*PKP PKPdf 07 38 50.0 -1.7
KIS Kishinev 133.42 322 *e*PP PP 07 41 16.0 -3.2
comp=Z,3μm,12.0s
KIS Kishinev 133.42 322 *i* PKS 07 42 22.0
KIS Kishinev 133.42 322 *e*PKIKP PKPdf 07 38 50.0 -1.7
KIS *e* 07 38 56.0
KIS *e* 07 41 16.0
KIS MLR MLR

comp=Z,4µm,20.0s,MS6.1
KIS MLR MLR
comp=N,2µm,18.0s,MS6.1
KIS MLR MLR
comp=E,3µm,18.0s,MS6.1
KIS MLR MLR
comp=Z,4µm,20.0s
BBAL Bala 133.62 311 *e*P PKPdf 07 38 51.7 -0.7
AFSR Af˘ar-Bala (A 133.69 311 *e*P PKPdf 07 38 50.5 -1.9
SULT Sultanhani-AKS 133.75 309 *e*P PKPdf 07 38 53.0 +0.4
LOD Lodumlu 133.77 311 *e*P PKPdf 07 38 48.2 -4.4
BBGH Gun Hill 133.84 86 PFAKE 07 39 10.0 +17
BBGH LR LR
comp=Z,18µm,22.0s,MS6.7
LVV L'vov 134.53 328 *e*PKIKP PKPdf 07 38 53.6 -0.1
LVV *e* 07 39 08.2
LVV *i* 07 41 36.0
LFK Lefkose 134.54 305 *e*P PKPdf 07 38 53.3 -0.9
ERMK Ermenek 134.66 307⇑*i*P PKPpre 07 38 41.4
KDHN Kadinhani 134.69 310 *e*P PKPdf 07 38 47.9 -6.5
KONT Konya--Tatoy 134.69 309 *e*P PKPdf 07 38 53.3 -1.1
CSS Prodhromos 134.78 305 *e*P PKPdf 07 38 51.4 -3.3
CSS Prodhromos 134.78 305 *e*PKPdf PKPdf 07 38 55.4 +0.8
CSS LR LR
comp=Z,6µm,20.0s,MS6.3
CSS Prodhromos 134.78 305 P PKPdf 07 38 58.5 +3.8
BSD Bornholm Skovb 134.79 339 *e*PKIKP PKPdf 07 38 58.1 +4.1
BSD MLR MLR
comp=Z,4µm,20.0s,MS6.1
SVRH Sivrihisar-ESK 134.82 311 *e*P PKPdf 07 38 53.5 -1.1
TIRR Tirgusor 134.89 319⇓PKIKP PKPdf 07 38 57.1 +2.5
TIRR Tirgusor 134.89 319⇓*i*P PKPdf 07 38 57.1 +2.5
HDMB Hadim 134.90 308 *e*P PKPdf 07 38 50.9 -4.0
LEF Lefka 135.09 305 *e*P PKPdf 07 38 48.3 -7.0
COP Copenhagen 135.16 341 *e*PKIKP PKPdf 07 38 59.0 +4.3
COP MLR MLR
comp=Z,2µm,27.0s,MS5.8
COP Copenhagen 135.16 341 *i* P PKPdf 07 38 59.0 +4.3
COP
comp=Z,2µm,27.0s
BUR08 Bucovina Ar. S 135.17 325 *e*PKPdf PKPdf 07 38 55.6 +0.6
BURAR Bucovina Array 135.18 325⇑PKIKP PKPdf 07 38 54.2 -0.8
BURAR Bucovina Array 135.18 325⇑*i*P PKPdf 07 38 54.2 -0.8
GULT Gulveren 135.18 313 *e*P PKPdf 07 38 53.2 -2.0
VRI Vrincioaia 135.24 322⇓PKIKP PKPdf 07 38 56.8 +1.6
VRI Vrincioaia 135.24 322⇓*i*P PKPdf 07 38 56.8 +1.6
PLOR Plostina 135.29 322⇑PKIKP PKPdf 07 38 58.1 +2.8
PLOR Plostina 135.29 322⇑*i*P PKPdf 07 38 58.1 +2.8
KWP Kalwaria Pacla 135.32 328 *e*PKPdf PKPdf 07 38 54.5 -0.7
KWP LR LR
comp=Z,6µm,19.0s,MS6.3
KWP Kalwaria Pacla 135.32 328⇓PKIKP PKPdf 07 38 56.4 +1.2
KWP Kalwaria Pacla 135.32 328⇓*i*P PKPdf 07 38 56.4 +1.2
TSUM Tsumeb 135.37 222 *e*PKPdf PKPdf 07 38 54.2 -2.0
TSUM LR LR
comp=Z,16µm,22.0s,MS6.7
PSN Preselentsi 135.40 318 *i* P PKPdf 07 38 55.7 +0.2
BORA Eskisehir 135.43 312 *e*P PKPdf 07 38 54.6 -1.1
MUD Monsted U'grnd 135.48 343 *e*PKIKP PKPdf 07 38 59.5 +4.2
MUD MLR MLR
comp=Z,5µm,20.0s,MS6.2
MUD Monsted U'grnd 135.48 343 *i* P PKPdf 07 38 59.5 +4.2
MUD
comp=Z,5µm,20.0s
BOLV Bolvadin 135.49 311 *e*P PKPdf 07 38 53.1 -2.8
LLD Lille Linde 135.52 341 *i* P PKPdf 07 38 58.1 +2.7
LLD
comp=Z,4µm,20.0s
HRT Hereke 135.63 314 *e*P PKPdf 07 38 54.6 -1.4
ADVT Abdulvahap 135.73 313 *e*P PKPdf 07 38 54.6 -1.7
CAVI Cavuskoy 135.75 313 *e*P PKPdf 07 38 54.1 -2.2
SHUT Suhut-Afyon 135.84 311 *e*P PKPdf 07 38 53.7 -2.9
SUTC Sutluce-Ispart 135.87 309 *e*P PKPdf 07 38 55.7 -0.9
KLYT Kilyos 135.89 315 *e*P PKPdf 07 38 55.7 -0.9
MLR Muntele Rosu 135.90 322⇑PKIKP PKPdf 07 38 55.7 -0.7
MLR Muntele Rosu 135.90 322⇑*i*P PKPdf 07 38 55.7 -0.7
YLV Yalova 135.94 314 *e*P PKPdf 07 38 55.0 -1.7
ISK Istanbul-Kandi 135.95 314 *e*P PKPdf 07 38 54.0 -2.7
KOLS Kolonicke sedl 135.98 328 *e*PKIKP PKPdf 07 38 56.7 +0.2
KOLS Kolonicke sedl 135.98 328 *e*PKP PKPdf 07 38 56.6 +0.1
BGKT Bogazkoy 136.10 315 *e*P PKPdf 07 38 52.3 -4.7
GEMT Gemlik 136.12 314 *e*P PKPdf 07 38 57.2 +0.2
PRD Provadia 136.13 318 *i* P PKPdf 07 39 01.6 +4.7
UZH Uzhgorod 136.16 327 *i* PKIKP PKPdf 07 38 56.6 -0.2
UZH *e* 07 39 09.6
UZH *e* 07 41 37.0
UZH *e* 07 45 58.0
BCK Bucak 136.18 309 *e*P PKPdf 07 38 50.9 -6.3
STHS Stebnicka Huta 136.20 329 *e*PKIKP PKPdf 07 39 00.0 +3.2
STHS Stebnicka Huta 136.20 329 *e*PKP PKPdf 07 39 00.0 +3.2
CTKS Kestanelik-??a 136.26 315 *e*P PKPdf 07 38 55.7 -1.6
ARMT Armutlu 136.29 314 *e*P PKPdf 07 38 52.9 -4.4
CTYL Yal??k??y-??at 136.31 315 *e*P PKPdf 07 38 54.5 -2.8
TRPA Tarpa 136.34 327⇑P PKPdf 07 38 55.5 -1.6
OJC Ojcow 136.37 331 *e*PKPdf PKPdf 07 38 58.2 +1.1
OJC *e*PP PP 07 41 36.7 -0.8
OJC *e*SS SS 07 59 45.6 +6.8
OJC L 08 39 05.5
comp=Z,3.2nm,22.4s
OJC Ojcow 136.37 331 *e*PKIKP PKPdf 07 38 58.2 +1.1
OJC *e* 07 41 36.7
OJC MLR MLR
comp=Z,3µm,22.4s,MS6.0
CRVS Cervenica-Dubn 136.42 328 *e*PKIKP PKPdf 07 38 56.6 -0.7
CRVS *e* 07 41 41.8
CRVS Cervenica-Dubn 136.42 328 *e*PKP PKPdf 07 38 56.6 -0.7
CRVS *e*PP PP 07 41 41.8 +3.9
SLVT Silivri 136.47 315 *e*P PKPdf 07 38 57.3 -0.3
VOIR 136.47 322⇑PKIKP PKPdf 07 38 57.9 +0.4
VOIR 136.47 322⇑*i*P PKPdf 07 38 57.9 +0.4
KORT Korkueli 136.51 308 *e*P PKPpre 07 38 49.8
KHAL Karahalli 136.68 311⇓*i*P PKPpre 07 38 43.8
KCTX Karacabey (Bur 136.77 314 *e*P PKPdf 07 38 54.4 -3.8
ELL Elmali 136.93 308 *e*P PKPdf 07 38 57.4 -1.3
DURS Dursunbey 136.95 313⇓*i*P PKPpre 07 38 46.6
JMB Yambol 137.00 317 *i* P PKPdf 07 38 58.2 -0.4
SZH Strazhica 137.04 319 P PKPdf 07 38 57.7 -0.9
DRGR 137.05 325⇓PKIKP PKPdf 07 38 55.0 -3.5
DRGR 137.05 325⇓*i*P PKPdf 07 38 55.0 -3.5
GLHS Glhisar (BURDU 137.10 309 *e*P PKPdf 07 38 58.0 -1.0
EDRB Edirne 137.18 317 *e*P PKPdf 07 38 51.4 -7.5
KULA Kula-Manisa 137.24 311 *e*P PKPpre 07 38 48.5
DNZL Cakiroluk 137.25 310⇓*i*P PKPpre 07 38 47.9
AKAS Kas 137.33 308⇑*i*P PKPdf 07 38 53.3 -6.0
BALB Balikesir 137.35 313 *e*P PKPdf 07 38 50.2 -9.1
OKC Ostrava-Krasne 137.41 331 *e*PKIKP PKPdf 07 38 58.8 -0.3
OKC *e* 07 41 46.1
OKC MLR MLR
comp=Z,3µm,17.0s,MS6.1
OKC Ostrava-Krasne 137.41 331 *e*PKPdf PKPdf 07 38 58.8 -0.3
OKC *e*PP PP 07 41 46.1 +2.1
OKC AMS AMS 08 44 40.0
comp=Z,3µm,17.0s
PVL Pavlikeni 137.44 319 *e*P PKPdf 07 39 00.7 +1.3
KRBG Karabiga-Canak 137.45 314 *e*P PKPdf 07 38 53.6 -5.8
BALY Balya 137.50 313 *e*P PKPdf 07 38 53.8 -5.8
AKHS Akhisar 137.71 312 *e*P PKPdf 07 38 57.2 -2.8
MORC Moravsky Berou 137.73 332 *e*PKP PKPdf 07 38 55.2 -4.4
MORC Moravsky Berou 137.73 332⇑PKIKP PKPdf 07 38 58.5 -1.2
MORC Moravsky Berou 137.73 332⇑*i*P PKPdf 07 38 58.5 -1.2
PSZ Piszkesteto 137.85 328 *e*PKPdf PKPdf 07 38 59.2 -0.7
PSZ LR LR
comp=Z,5µm,19.0s,MS6.3
PSZ Piszkesteto 137.85 328 *e*PKIKP PKPdf 07 38 59.2 -0.8
PSZ MLR MLR
comp=Z,5µm,19.0s,MS6.3
PSZ Piszkesteto 137.85 328⇓*e*pPKP pPKPdf 07 39 02.5 -0.9
PSZ Piszkesteto 137.85 328⇑*i*P PKPdf 07 38 58.9 -1.1
DPC Dobruska-Polom 137.86 333 *e*PKIKP PKPdf 07 38 53.5 -6.4
DPC *e* 07 41 48.5
DPC MLR MLR
comp=Z,4µm,22.8s,MS6.1
DPC Dobruska-Polom 137.86 333 *e*PKPpre PKPpre 07 38 53.5
DPC *e*PP PP 07 41 48.5 +1.7
DPC *e*SKP 07 42 39.0
DPC AMS AMS 08 37 00.0
comp=Z,4µm,22.8s
ERIK Erikli-Kesan 137.87 315 *e*P PKPdf 07 38 56.5 -3.8
TURN Turunc 137.87 309⇓*i*P PKPpre 07 38 50.0
UPC Upice 137.88 333 *e*PKIKP PKPdf 07 38 58.0 -1.9
UPC Upice 137.88 333 *e*PKPdf PKPdf 07 38 58.0 -1.9
UPC *ex* x 07 41 34.2

VYHS Vyhne 138.00 329 *e*PKIKP PKPdf 07 39 01.4 +1.2
VYHS *e* 07 41 48.9
VYHS MLR MLR
comp=Z,3µm,26.0s,MS6.0
VYHS Vyhne 138.00 329 *e*PKP PKPdf 07 39 01.4 +1.2
VYHS *e*PP PP 07 41 48.9 +1.2
YER Yerkesik 138.02 310 *e*P PKPpre 07 38 46.4
ALN Alexandroupoli 138.08 316 P PKPdf 07 38 55.1 -5.5
ENEZ Enez 138.08 315 *e*P PKPdf 07 38 57.1 -3.5
AYDN Tasoluk 138.13 310⇓*i*P PKPpre 07 38 49.5
KDZ Kurdzhali 138.15 317 P PKPdf 07 39 01.6 +0.9
KOLL Kolacno 138.15 330 *e*PKIKP PKPdf 07 39 01.8 +1.3
KOLL Kolacno 138.15 330 *e*PKP PKPdf 07 39 01.8 +1.3
IZM Izmir 138.29 312 *e*P PKPdf 07 38 51.3 -10
RDO Rodhopi 138.31 316 P PKPdf 07 38 51.9 -9.1
MLSB Milas 138.34 310 *e*P PKPdf 07 38 51.3 -10
BZS Buzias 138.36 324⇓PKIKP PKPdf 07 38 59.3 -1.7
BZS Buzias 138.36 324⇓*i*P PKPdf 07 38 59.3 -1.7
EZN Ezine 138.37 314 *e*P PKPdf 07 38 58.0 -3.2
MPEP Malo Peshtene 138.37 320 *i* P PKPpre 07 38 49.8
PLD Plovdiv 138.40 318 *i* P PKPdf 07 39 01.1 -0.1
BLCB Balcova 138.46 312 *e*P PKPpre 07 38 49.9
BRG Berggiesshubel 138.47 335 *i* PKP PKPdf 07 38 52.3 -8.7
comp=Z,3.6nm,0.8s
BRG *e* 07 39 04.3
comp=Z,36nm,1.2s
BRG *e* 07 40 00.9
comp=Z,21nm,1.3s
BRG PP PP 07 42 01.0 +11
BRG *e* 07 54 05.0
BRG SS SS 08 00 19.0 +16
BRG
comp=N,8µm,26.0s
BRG
comp=E,4µm,23.5s
BRG
comp=Z,4µm,32.8s
BRG Berggiesshubel 138.47 335 *i* PKHKP PKPpre 07 38 52.3
BRG 07 42 01.0
BRG *e* 07 54 05.0
BRG pmax pmax
comp=Z,4.0nm,0.8s
BRG pmax pmax
comp=Z,36nm,1.2s
BRG pmax pmax
comp=Z,21nm,1.3s
BRG MLR MLR
comp=N,8µm,26.0s,MS6.4
BRG MLR MLR
comp=E,4µm,23.5s,MS6.4
PVCC Panska Ves 138.48 335 *e*PKIKP PKPdf 07 38 58.0 -3.0
PVCC *e* 07 41 54.7
PVCC MLR MLR
comp=Z,4µm,19.0s,MS6.2
PVCC Panska Ves 138.48 335 *e*PKPdf PKPdf 07 38 58.0 -3.0
PVCC *e*PP PP 07 41 54.7 +4.2
PVCC AMS AMS 08 45 20.0
comp=Z,4µm,19.0s
VRAC Vranov 138.50 332⇑PKIKP PKPdf 07 38 54.8 -6.3
VRAC Vranov 138.50 332⇑*i*P PKPdf 07 38 54.8 -6.3
CLL Collm 138.50 336 *e*PKIKP PKPdf 07 39 01.0 0.0
CLL MLR MLR
comp=Z,6µm,19.9s,MS6.3
CLL Collm 138.50 336 *e*PKPdf PKPdf 07 39 01.0 0.0
CLL *i* PKiKP PKiKP 07 39 04.1 +0.9
comp=Z,41nm,1.3s
CLL *es*PKiKP 07 39 10.0
CLL *e*PP PP 07 41 50.0 -0.6
CLL *e*(PKSdf) 07 42 43.0
CLL *e* 07 49 09.0
CLL *e*PPS 07 54 04.0
CLL *e* 07 55 30.0
CLL *e*SS SS 08 00 12.0 +8.3
CLL *e*SKSSKSac 08 01 59.0
CLL *e*(SSS) 08 04 42.0
CLL Lm 08 45 00.0
comp=Z,6µm,19.9s
PGB Panagyurishte 138.52 319 *i* P PKPdf 07 39 01.1 -0.3
BOZC Bozcaada 138.55 314 *e*P PKPdf 07 38 58.0 -3.5
BUD Budapest 138.58 328⇓*e*pPKP pPKPdf 07 39 04.8 +0.1
GCAM G?zelcaml? 138.59 311⇓*i*P PKPpre 07 38 51.3
RZN Rozhen 138.59 317 *i* P PKPpre 07 38 50.8
DAT Datca 138.69 309 *e*P PKPpre 07 38 49.9
BODT Bodrum 138.77 310 *e*P PKPpre 07 38 47.1
URLA Izmir 138.79 312 *e*P PKPpre 07 38 51.6
PRA Prague 138.88 334 PKP PKPdf 07 39 04.0 +2.2
PRU Pruhonice 138.90 334 *e*PKIKP PKPdf 07 39 03.9 +2.1
PRU *e* 07 41 53.7
PRU MLR MLR
comp=Z,5µm,20.0s,MS6.3
PRU Pruhonice 138.90 334 *e*PKPdf PKPdf 07 39 03.9 +2.1
PRU *e*PP PP 07 41 53.7 +0.6
PRU AMS AMS 08 43 30.0
comp=Z,5µm,20.0s
TREC Trest 139.00 333 *e*PKIKP PKPdf 07 39 01.6 -0.4
TREC *e* 07 41 56.7
TREC MLR MLR
comp=Z,5µm,20.0s,MS6.2
TREC Trest 139.00 333 *e*PKPdf PKPdf 07 39 01.6 -0.4
TREC *e*PP PP 07 41 56.7 +2.8
TREC AMS AMS 08 57 50.0
comp=Z,5µm,20.0s
ZST Bratislava 139.04 330 *e*PKIKP PKPdf 07 39 02.7 +0.6
ZST MLR MLR
comp=Z,3µm,21.4s,MS6.1
ZST Bratislava 139.04 330 *e*PKP PKPdf 07 39 02.7 +0.6
KAVA Kavala 139.06 317 P PKPdf 07 39 03.5 +1.1
ESK Eskdalemuir 139.09 352 PFAKE 07 39 10.0 +8.0
ESK LR LR
comp=Z,5µm,21.0s,MS6.2
ESK Eskdalemuir 139.09 352 *i* PKIKP PKPdf 07 39 05.9 +3.9
VTS Vitosha 139.10 320 P PKPpre 07 38 51.6
VTS Vitosha 139.10 320⇑PKHKP PKPpre 07 38 51.7
VTS Vitosha 139.10 320⇑*i*P PKPpre 07 38 51.7
VTS Vitosha 139.10 320 *i* P PKPpre 07 38 51.8
LIA Limnos Island 139.12 315 P PKPdf 07 39 03.2 +0.6
CHOS Chios island 139.16 312 P PKPdf 07 38 58.8 -3.9
MMB Musomiste 139.29 318 *i* P PKPpre 07 38 52.3
KARP Karpathos 139.43 308 P PKPdf 07 39 04.4 +1.2
KKB Krupnik 139.56 319 P PKPdf 07 38 57.7 -5.6
NKC Novy Kostel 139.57 336 *e*PKIKP PKPdf 07 38 59.9 -3.1
NKC MLR MLR
comp=Z,4µm,20.4s,MS6.2
NKC Novy Kostel 139.57 336 *e*PKPdf PKPdf 07 38 59.9 -3.1
NKC AMS AMS 08 42 30.0
comp=Z,4µm,20.4s
PKSM Moragy 139.61 327⇑PKIKP PKPdf 07 39 00.0 -3.2
PKSM Moragy 139.61 327⇑*i*P PKPdf 07 39 00.0 -3.2
SOP Sopron 139.67 330⇓*e*pPKP pPKPdf 07 39 05.3 -1.4
CONA Conrad Observa 139.82 331⇑*i*PKiKP PKiKP 07 39 06.0 +0.1
CONA ⇑*is*PKiKP 07 39 15.0
CONA Conrad Observa 139.82 331 P PKPdf 07 38 56.8 -6.8
comp=Z,12nm,1.1s,SNR=6.1
CSNA Conrad Observa 139.82 331⇑*i*PKiKP PKiKP 07 39 06.1 +0.1
CSNA ⇑*is*PKiKP 07 39 15.1
CSNA Conrad Observa 139.82 331 P PKPdf 07 38 57.0 -6.6
comp=Z,11nm,1.0s
KHC Kasperske Hory 139.96 334 *e*PKP PKPdf 07 38 59.5 -4.3
KHC Kasperske Hory 139.96 334 *e*PKIKP PKPdf 07 38 58.4 -5.4
KHC *e* 07 39 07.5
KHC *e* 07 42 01.0
KHC MLR MLR
comp=Z,7µm,27.1s,MS6.3
KHC Kasperske Hory 139.96 334 *e*PKPpre PKPpre 07 38 58.4
KHC *e*pPKP pPKPdf 07 39 07.5 +0.3
KHC *e*PP PP 07 42 01.0 +1.3
KHC AMS AMS 08 35 50.0
comp=Z,7µm,27.1s
APE Apeiranthos 140.08 311 *e*P PKPpre 07 38 54.3
APE Apeiranthos 140.08 311⇑PKHKP PKPpre 07 38 55.8
APE Apeiranthos 140.08 311⇑*i*P PKPpre 07 38 55.8
GERES GERESS Array B 140.12 334 PKhKP PKPpre 07 38 58.8
comp=Z,2.9nm,0.6s,baz=48,slow=2.4,SNR=14
GERES GERESS Array B 140.12 334 PKIKP PKPdf 07 38 58.8 -5.3
GERES pmax pmax
comp=Z,3.0nm,0.6s
VAY Valandovo 140.17 318 P PKPdf 07 38 58.1 -6.3
VAY Valandovo 140.17 318 *e*PKP PKPpre 07 38 50.5
DIVS Divibare 140.19 323 P PKPdf 07 38 58.1 -6.3
ZKR Zakros 140.30 308 P PKPdf 07 38 57.0 -7.9
GRF Grafenberg Arr 140.48 336 *e*PKP PKPdf 07 38 58.5 -6.2
GRF *e*L 08 45 26.9
comp=Z,6µm,20.3s

GRF Grafenberg Arr 140.48 336 *e*PKHKP PKPpre 07 38 58.5
SKO Skopje 140.54 320 *e*PKP PKPdf 07 38 57.1 -8.0
LIT Litokhoron 140.84 317 P PKPdf 07 39 01.0 -4.7
LAST Lasithi 140.85 308 P PKPdf 07 38 58.4 -7.4
KRUS Krusevo 140.99 319 *e*PKP PKPpre 07 38 55.9
VLY Voula,Athens 141.00 313 P PKPdf 07 39 00.9 -5.1
PERS Pernice 141.10 330 *e*PKPdf PKPdf 07 38 56.9 -9.0
PERS *e*PP PP 07 42 08.5 +1.6
PERS *e* 07 54 33.0
SOKA Soboth 141.11 330⇑*i*PKPdf PKPdf 07 39 06.0 0.0
FNA Florina 141.22 318 P PKPdf 07 39 00.8 -5.5
SIVA Sivas 141.41 308 P PKPdf 07 38 58.0 -8.9
THL Klokotos Trika 141.43 316 P PKPdf 07 38 59.5 -7.2
TOD Tromm 141.45 338 PKP PKPdf 07 39 04.6 -1.9
TOD Tromm 141.45 338 PKIKP PKPdf 07 39 04.6 -1.9
OBKA Obir 141.47 330⇑*i*PKiKP PKiKP 07 39 08.7 -0.7
AGG Agios Georgios 141.48 315 P PKPpre 07 38 55.4
MEM Membach 141.51 342 E 07 39 08.8
DID Didima 141.56 313 P PKPdf 07 39 02.4 -4.6
KBA Koelnbreinsper 141.61 332⇑*i*PKPdf PKPdf 07 39 03.7 -3.1
KBA ⇑*i*pPKPdf pPKPdf 07 39 10.1 -0.2
NEST Nestorio 141.63 318 P PKPdf 07 39 04.2 -2.9
MYKA Terra Mystica 141.81 331⇑*i*PKPdf PKPdf 07 39 05.4 -1.8
LJU Ljubljana 141.81 330 *e*PKPdf PKPdf 07 38 58.2 -9.0
LJU *e*PP PP 07 42 12.3 +1.2
BOJS Bojanci 141.84 329 *e*PKPdf PKPdf 07 39 00.9 -6.3
TIR Tirane 141.87 320 PFAKE 07 39 20.0 +13
TIR LR LR
comp=Z,5µm,21.0s,MS6.3
BCLA Clavier 141.90 342 PKPdf PKPdf 07 39 06.8 -0.5
KALÉ Kalithea 141.92 314 P PKPdf 07 39 03.6 -4.1
RUP Ruppelstein 141.97 340 PKP PKPdf 07 39 05.3 -2.1
RUP Ruppelstein 141.97 340 PKIKP PKPdf 07 39 05.3 -2.1
GUR Goura 141.99 314 P PKPdf 07 39 05.3 -2.5
STU Stuttgart 142.00 337 *e*PKPdf PKPdf 07 39 06.1 -1.3
STU Stuttgart 142.00 337 *e*PKIKP PKPdf 07 39 06.1 -1.4
CADS Cadrg 142.06 331 *e*PKPdf PKPdf 07 39 00.9 -6.8
LAKA Lakka 142.10 314 P PKPdf 07 39 03.7 -4.3
SNF Seneffe 142.11 343 E 07 39 10.3
VOY Vojsko 142.13 330 *e* PKPdf 07 39 03.1 -4.7
VOY *e* 07 39 05.2
VOY *e* 07 39 08.3
VOY *e* 07 39 43.8
WATA Walderalm 142.19 334⇑*i*pPKPdf pPKPdf 07 39 11.2 -0.1
WTTA Wattenberg 142.22 334 *i* PKPdf PKPdf 07 39 03.9 -4.0
comp=Z,62nm,1.4s,SNR=11
WTTA ⇑*i*PKiKP PKiKP 07 39 10.8 -0.1
VLX Vlachokerasia 142.22 313 P PKPdf 07 39 02.7 -5.5
ABTA Abfaltersbach 142.24 332⇓*i*PKPdf PKPdf 07 39 02.8 -5.2
comp=Z,30nm,1.4s,SNR=14
WLF Walferdange 142.30 341 PKPdf PKPdf 07 39 07.9 -0.1
WLF Walferdange 142.30 341 *e*PKPdf PKPdf 07 39 07.2 -0.8
WLF LR LR
comp=Z,6µm,21.0s,MS6.3
WLF Walferdange 142.30 341 *e*PKIKP PKPdf 07 39 07.2 -0.8
WLF MLR MLR
comp=Z,6µm,21.0s,MS6.3
LANF Langenberg 142.33 339 PKP PKPdf 07 39 04.4 -3.6
LANF Langenberg 142.33 339 PKIKP PKPdf 07 39 04.4 -3.6
LANF Langenberg 142.33 339 PKP PKPdf 07 39 04.4 -3.6
MOTA Moosalm 142.39 334⇑*e*PKPdf PKPdf 07 39 04.1 -4.1
comp=Z,38nm,1.3s,SNR=13
MOTA ⇑*i*PKPdf PKPdf 07 39 08.0 -0.2
DOU Dourbes 142.39 343 PKPdf PKPdf 07 39 07.0 -1.1
RETA Reutte 142.42 335⇓*i*PKPdf PKPdf 07 39 04.5 -3.7
comp=Z,13nm,0.9s,SNR=14
RETA ⇑*i*PKPdf PKPdf 07 39 08.4 +0.1
SQTA Sankt Quirin 142.44 334⇑*i*PKPdf PKPdf 07 39 08.2 -0.1
BAIF Baives 142.53 343 *e*PKP1 PKPdf 07 39 06.7 -1.7
BAIF Baives 142.53 343 *e*PKP PKPdf 07 39 06.7 -1.7
BAIF Baives 142.53 343 *e*PKIKP PKPdf 07 39 06.7 -1.7
RLS Rhodos of Patr 142.54 314 P PKPdf 07 39 03.6 -5.2
ITM Ithomi 142.63 313 P PKPdf 07 39 03.0 -6.0
BFO Black Forest 142.69 338 *e*PKPdf PKPdf 07 39 06.0 -2.7
BFO LR LR
comp=Z,4µm,20.0s,MS6.2
BFO Black Forest 142.69 338 *e*PKIKP PKPdf 07 39 06.0 -2.7
BFO MLR MLR
comp=Z,4µm,20.0s,MS6.2
SPAK Spaichingen-Ko 142.71 337 PKP PKPdf 07 39 06.4 -2.3
LKD2 Lefkada island 142.73 316 P PKPdf 07 39 04.6 -4.5
FETA Feichten 142.80 334⇓*i*PKPdf PKPdf 07 39 05.6 -3.3
comp=Z,36nm,1.3s,SNR=30
FETA ⇑*i*PKPdf PKPdf 07 39 09.8 +0.8
PYL PYLOS 142.90 313 P PKPdf 07 39 02.5 -6.9
DAVA Damuels 142.94 335⇓*i*PKPdf PKPdf 07 39 06.2 -3.0
comp=Z,18nm,0.9s,SNR=13
DAVA ⇑*i*PKiKP PKiKP 07 39 10.2 -2.2
CDF Champ du Feu 143.00 339 *e*PKP1 PKPdf 07 39 04.8 -4.5
comp=Z,75nm,1.1s
CDF Champ du Feu 143.00 339 *e*PKP PKPdf 07 39 04.8 -4.5
CDF Champ du Feu 143.00 339 *e*PKIKP PKPdf 07 39 04.8 -4.5
VLS Valsamata 143.09 315 P PKPdf 07 39 05.7 -4.0
FELD Feldberg im Sc 143.19 337 PKP PKPdf 07 39 07.4 -2.2
ECH Echery 143.21 339 *e*PKP PKPdf 07 39 04.9 -4.7
ECH LR LR
comp=Z,4µm,19.0s,MS6.2
ECH Echery 143.21 339 *e*PKHKP PKPpre 07 39 04.9
ECH MLR MLR
comp=Z,4µm,19.0s,MS6.2
PAGF Fort de Pagny 143.40 340 *e*PKP1 PKPdf 07 39 06.6 -3.4
comp=Z,51nm,1.2s
MOF Molkenrain 143.52 338 PKP PKPdf 07 39 06.6 -3.6
MOF Molkenrain 143.52 338 PKIKP PKPdf 07 39 06.6 -3.6
MOF Molkenrain 143.52 338 PKP PKPdf 07 39 06.6 -3.6
THEF They Montfort 143.60 340 PKP PKPdf 07 39 06.6 -3.7
THEF They Montfort 143.60 340 PKIKP PKPdf 07 39 06.6 -3.7
THEF They Montfort 143.60 340 PKP PKPdf 07 39 06.6 -3.7
HINF Hinteralfeld 143.65 339 *e*PKP1 PKPdf 07 39 06.6 -3.8
HINF Hinteralfeld 143.65 339 *e*PKP PKPdf 07 39 06.6 -3.8
HINF Hinteralfeld 143.65 339 *e*PKIKP PKPdf 07 39 06.6 -3.8
MEZF Maizieres J'vi 143.66 341 *e*PKP1 PKPdf 07 39 07.4 -3.0
MEZF Maizieres J'vi 143.66 341 *e*PKP PKPdf 07 39 07.4 -3.0
HAU Haudompre 143.67 339 *e*PKP1 PKPdf 07 39 07.1 -3.3
comp=Z,343nm,1.6s
HAU *e*R
comp=Z,5µm,21.5s
HAU Haudompre 143.67 339 *e*PKP PKPdf 07 39 07.1 -3.3
HAU LR LR
comp=Z,5µm,21.5s,MS6.3
HAU Haudompre 143.67 339 *e*PKIKP PKPdf 07 39 07.1 -3.3
HAU MLR MLR
comp=Z,5µm,21.5s,MS6.3
TUE Stuetta 143.81 335 *e*PKPdf PKPdf 07 39 08.6 -2.1
TUE LR LR
comp=Z,5µm,19.0s,MS6.3
SFTF Sexfontaines 143.93 341 *e*PKP1 PKPdf 07 39 08.1 -2.8
comp=Z,91nm,0.8s
SFTF Sexfontaines 143.93 341 *e*PKP PKPdf 07 39 08.1 -2.8
LOMF Lomont 144.06 338 PKP PKPdf 07 39 08.1 -3.0
LOMF Lomont 144.06 338 PKIKP PKPdf 07 39 08.1 -3.0
LOMF Lomont 144.06 338 PKP PKPdf 07 39 08.1 -3.0
FLN La Foliniere 144.92 347 *e*PKP1 PKPdf 07 39 10.9 -1.7
comp=Z,85nm,0.6s
FLN *e*R
comp=Z,7µm,22.2s
FLN La Foliniere 144.92 347 *e*PKP PKPdf 07 39 10.9 -1.7
FLN LR LR
comp=Z,7µm,22.3s,MS6.4
FLN La Foliniere 144.92 347 *e*PKIKP PKPdf 07 39 10.9 -1.7
FLN MLR MLR
comp=Z,7µm,22.3s,MS6.4
CABF La Chapelle 144.96 338 *e*PKP1 PKPdf 07 39 12.3 -0.4
comp=Z,1µm,1.6s
CABF La Chapelle 144.96 338 *e*PKP PKPdf 07 39 12.3 -0.4
CABF La Chapelle 144.96 338 *e*PKIKP PKPdf 07 39 12.3 -0.4
AQU L'Aquila 144.99 326 *e*PKPdf PKPdf 07 39 12.6 -0.3
AQU LR LR
comp=Z,5µm,20.0s,MS6.2
AQU L'Aquila 144.99 326 *e*PKIKP PKPdf 07 39 12.6 -0.3
AQU MLR MLR
comp=Z,5µm,20.0s,MS6.2
LDF La Druitiere 145.00 346 *e*PKP1 PKPdf 07 39 11.1 -1.6
comp=Z,58nm,0.8s
LDF La Druitiere 145.00 346 *e*PKP PKPdf 07 39 11.1 -1.6
LDF La Druitiere 145.00 346 *e*PKIKP PKPdf 07 39 11.1 -1.6
LOR Lormes 145.13 341 *e*PKP1 PKPbc 07 39 12.3 -0.2
comp=Z,698nm,1.4s
LOR *e*R
comp=Z,5µm,20.0s
LOR Lormes 145.13 341 *e*PKP PKPbc 07 39 12.3 -0.2
LOR LR LR
comp=Z,5µm,20.0s,MS6.3

LOR	**Lormes**	**145.13 341**	*e*PKIKP	PKPbc	07 39 12.3	-0.2	
LOR			MLR	MLR			
	comp=Z,5µm,20.0s,MS6.3						
CUC	**Castrocucco**	**145.15 321**	*e*PKPdf	PKPbc	07 39 11.4	-1.4	
CUC			LR	LR			
	comp=Z,3µm,20.0s,MS6.0						
VLC	**Villacollemand**	**145.18 331**	*e*PKPdf	PKPdf	07 39 13.0	-0.2	
VLC			LR	LR			
	comp=Z,4µm,21.0s,MS6.2						
GRR	**Gorron**	**145.36 347**	*e*PKP1	PKPbc	07 39 12.7	-0.5	
	comp=Z,704nm,1.1s						
GRR	**Gorron**	**145.36 347**	*e*PKP	PKPdf	07 39 12.7	-0.7	
GRR	**Gorron**	**145.36 347**	*e*PKIKP	PKPdf	07 39 12.7	-0.7	
SSF	**Saint Saulge**	**145.43 341**	*e*PKP1	PKPbc	07 39 13.4	-0.1	
	comp=Z,279nm,0.7s						
SSF	**Saint Saulge**	**145.43 341**	*e*PKP	PKPdf	07 39 13.4	-0.1	
SSF	**Saint Saulge**	**145.43 341**	*e*PKIKP	PKPdf	07 39 13.4	-0.1	
HYF	**Humbligny**	**145.50 342**	*e*PKP1	PKPbc	07 39 13.9	+0.2	
HYF	**Humbligny**	**145.50 342**	*e*PKP	PKPdf	07 39 13.9	+0.2	
RSL	**Roselend**	**145.54 337**	PKP	PKPdf	07 39 13.0	-0.8	
RSL	**Roselend**	**145.54 337**	PKIKP	PKPdf	07 39 13.0	-0.8	
RSL	**Roselend**	**145.54 337**	PKP	PKPdf	07 39 13.0	-0.8	
LPL	**La Plagne**	**145.64 336**	*e*PKP1	PKPbc	07 39 14.6	+0.4	
	comp=Z,742nm,1.2s						
LPL	**La Plagne**	**145.64 336**	*e*PKP	PKPdf	07 39 14.6	+0.7	
LPL	**La Plagne**	**145.64 336**	*e*PKP2	PKPdf	07 39 14.6	+0.7	
LPG	**La Plagne**	**145.65 336**	*e*PKP1	PKPbc	07 39 14.8	+0.6	
	comp=Z,717nm,1.2s						
LPG	**La Plagne**	**145.65 336**	*e*PKP	PKPdf	07 39 14.8	+0.8	
LPG	**La Plagne**	**145.65 336**	*e*PKP2	PKPdf	07 39 14.8	+0.8	
SMF	**Signal de Mont**	**145.69 341**	*e*PKP1	PKPdf	07 39 14.1	+0.1	
	comp=Z,1µm,1.4s						
SMF	**Signal de Mont**	**145.69 341**	*e*PKP	PKPdf	07 39 14.1	+0.1	
SMF	**Signal de Mont**	**145.69 341**	*e*PKP2	PKPdf	07 39 14.1	+0.1	
AVF	**Avril sur Loir**	**145.72 341**	*e*PKP1	PKPdf	07 39 14.1	+0.1	
	comp=Z,711nm,1.4s						
AVF	**Avril sur Loir**	**145.72 341**	*e*PKP	PKPdf	07 39 14.1	+0.1	
AVF	**Avril sur Loir**	**145.72 341**	*e*PKP2	PKPdf	07 39 14.1	+0.1	
SGMF	**Saint Gilles**	**145.83 349**	*e*PKP1	PKPdf	07 39 14.2	0.0	
	comp=Z,2µm,1.3s						
SGMF	**Saint Gilles**	**145.83 349**	*e*PKP	PKPdf	07 39 14.2	0.0	
SGMF	**Saint Gilles**	**145.83 349**	*e*PKP2	PKPdf	07 39 14.2	0.0	
ROSF	**Rostrenen**	**145.88 350**	*e*PKP1	PKPdf	07 39 14.4	+0.1	
	comp=Z,1µm,1.3s						
ROSF	**Rostrenen**	**145.88 350**	*e*PKP	PKPdf	07 39 14.4	+0.1	
ROSF	**Rostrenen**	**145.88 350**	*e*PKP2	PKPdf	07 39 14.4	+0.1	
BST	**Brest**	**146.05 351**	PKP	PKPdf	07 39 14.1	-0.4	
BST	**Brest**	**146.05 351**	PKP	PKPdf	07 39 14.1	-0.4	
BGF	**Bois d'Agland**	**146.08 342**	*e*PKP1	PKPdf	07 39 15.2	+0.5	
	comp=Z,229nm,0.9s						
BGF	**Bois d'Agland**	**146.08 342**	*e*PKP	PKPdf	07 39 15.2	+0.5	
BGF	**Bois d'Agland**	**146.08 342**	*e*PKP2	PKPdf	07 39 15.2	+0.5	
GDM	**Grand'Maison**	**146.14 337**	PKP	PKPbc	07 39 15.9	+0.2	
GDM	**Grand'Maison**	**146.14 337**	PKP	PKPbc	07 39 15.9	+0.2	
CEL	**Celeste**	**146.15 319**	*e*PKPdf	PKPdf	07 39 14.8	-0.2	
CEL			LR	LR			
	comp=Z,3µm,20.0s,MS6.1						
GRN	**Grenoble**	**146.25 337**	PKP	PKPbc	07 39 16.4	+0.4	
GRN	**Grenoble**	**146.25 337**	PKP2	PKPbc	07 39 16.4	+0.4	
GRN	**Grenoble**	**146.25 337**	PKP	PKPbc	07 39 16.4	+0.4	
QUIF	**Quistinic**	**146.27 349**	*e*PKP1	PKPbc	07 39 15.4	-0.6	
	comp=Z,278nm,1.2s						
QUIF	**Quistinic**	**146.27 349**	*e*PKP	PKPdf	07 39 15.4	+0.5	
QUIF	**Quistinic**	**146.27 349**	*e*PKP2	PKPdf	07 39 15.4	+0.5	
MBDF	**Montbardon**	**146.28 336**	*e*PKP1	PKPbc	07 39 16.1	-0.1	
	comp=Z,1µm,1.7s						
MBDF	**Montbardon**	**146.28 336**	*e*PKP	PKPbc	07 39 16.1	-0.1	
MBDF	**Montbardon**	**146.28 336**	*e*PKP2	PKPbc	07 39 16.1	-0.1	
PLDF	**La Plantade**	**146.36 340**	PKP	PKPbc	07 39 16.6	+0.2	
PLDF	**La Plantade**	**146.36 340**	PKP2	PKPbc	07 39 16.6	+0.2	
PLDF	**La Plantade**	**146.36 340**	PKP	PKPbc	07 39 16.6	+0.2	
AGO	**Saint Agoulin**	**146.44 341**	PKP	PKPbc	07 39 16.4	-0.2	
AGO	**Saint Agoulin**	**146.44 341**	PKP	PKPbc	07 39 16.4	-0.2	
ORIF	**Oris-en-Rattie**	**146.47 337**	*e*PKP1	PKPbc	07 39 16.9	+0.2	
	comp=Z,424nm,1.0s						
ORIF			*e*R				
	comp=Z,7µm,21.2s						
ORIF	**Oris-en-Rattie**	**146.47 337**	*e*PKP	PKPbc	07 39 16.9	+0.2	
ORIF	**Oris-en-Rattie**	**146.47 337**	*e*PKP2	PKPbc	07 39 16.9	+0.2	
SURF	**Saint Ours**	**146.47 335**	PKP	PKPbc	07 39 17.0	+0.3	
SURF	**Saint Ours**	**146.47 335**	PKP	PKPbc	07 39 17.0	+0.3	
TCF	**Toulx Ste Croi**	**146.51 342**	*e*PKP1	PKPbc	07 39 16.7	-0.1	
	comp=Z,114nm,0.8s						
TCF	**Toulx Ste Croi**	**146.51 342**	*e*PKP	PKPbc	07 39 16.7	-0.1	
TCF	**Toulx Ste Croi**	**146.51 342**	*e*PKP2	PKPbc	07 39 16.7	-0.1	
SAOF	**Saorge**	**146.57 334**	PKP	PKPdf	07 39 16.4	+0.8	
SAOF	**Saorge**	**146.57 334**	PKP2	PKPdf	07 39 16.4	+0.8	
SAOF	**Saorge**	**146.57 334**	PKP	PKPdf	07 39 16.4	+0.8	
AUTN	**L'Aution**	**146.61 334**	PKP	PKPbc	07 39 17.2	0.0	
AUTN	**L'Aution**	**146.61 334**	PKP2	PKPbc	07 39 17.2	0.0	
AUTN	**L'Aution**	**146.61 334**	PKP	PKPbc	07 39 17.2	0.0	
SSB	**Saint Sauveur**	**146.65 339**	*e*PKPbc	PKPbc	07 39 17.0	-0.2	
SSB			LR	LR			
	comp=Z,4µm,21.0s,MS6.2						
SSB	**Saint Sauveur**	**146.65 339**	*e*PKP2	PKPbc	07 39 17.0	-0.2	
SSB			MLR	MLR			
	comp=Z,4µm,21.0s,MS6.2						
SSB	**Saint Sauveur**	**146.65 339**	PKP	PKPbc	07 39 17.0	-0.2	
TOUF	**Mont Tournerai**	**146.67 334**	PKP	PKPbc	07 39 17.0	-0.3	
TOUF	**Mont Tournerai**	**146.67 334**	PKP2	PKPbc	07 39 17.0	-0.3	
TOUF	**Mont Tournerai**	**146.67 334**	PKP	PKPbc	07 39 17.0	-0.3	
SBF	**Sospel**	**146.72 334**	*e*PKP1	PKPbc	07 39 16.9	-0.6	
	comp=Z,1µm,1.2s						
SBF	**Sospel**	**146.72 334**	*e*PKP	PKPbc	07 39 16.9	-0.6	
SBF	**Sospel**	**146.72 334**	*e*PKP2	PKPbc	07 39 16.9	-0.6	
LUCF	**Luceram**	**146.73 334**	PKP	PKPbc	07 39 16.9	-0.6	
LUCF	**Luceram**	**146.73 334**	PKP	PKPbc	07 39 16.9	-0.6	
PYM	**Petit Puy Mans**	**146.75 341**	PKP	PKPbc	07 39 17.4	-0.1	
PYM	**Petit Puy Mans**	**146.75 341**	PKP2	PKPbc	07 39 17.4	-0.1	
PYM	**Petit Puy Mans**	**146.75 341**	PKP	PKPbc	07 39 17.4	-0.1	
MVIF	**Mont Vial**	**146.81 334**	PKP	PKPdf	07 39 16.9	+0.9	
MVIF	**Mont Vial**	**146.81 334**	PKP2	PKPbc	07 39 16.9	-0.8	
MVIF	**Mont Vial**	**146.81 334**	PKP	PKPdf	07 39 16.9	+0.9	
REVF	**Revere**	**146.85 334**	PKP	PKPbc	07 39 17.3	-0.6	
REVF	**Revere**	**146.85 334**	PKP2	PKPbc	07 39 17.3	-0.6	
REVF	**Revere**	**146.85 334**	PKP	PKPbc	07 39 17.3	-0.6	
MFF	**Saint Martin d**	**146.87 345**	*e*PKP1	PKPbc	07 39 17.5	-0.3	
	comp=Z,368nm,1.1s						
MFF	**Saint Martin d**	**146.87 345**	*e*PKP	PKPbc	07 39 17.5	-0.3	
MFF	**Saint Martin d**	**146.87 345**	*e*PKP2	PKPbc	07 39 17.5	-0.3	
VIVF	**Saint-Julien-l**	**146.97 338**	*e*PKP1	PKPbc	07 39 18.2	0.0	
	comp=Z,544nm,1.4s						
VIVF	**Saint-Julien-l**	**146.97 338**	*e*PKP	PKPbc	07 39 18.2	0.0	
VIVF	**Saint-Julien-l**	**146.97 338**	*e*PKP2	PKPbc	07 39 18.2	0.0	
OCF	**Saint Nazaire**	**146.98 337**	PKP	PKPbc	07 39 18.0	-0.2	
OG26	**St.-Nazaire-De**	**146.98 337**	PKP	PKPbc	07 39 18.0	-0.2	
CALN	**Calern**	**147.04 335**	PKP	PKPbc	07 39 18.0	-0.4	
CALN	**Calern**	**147.04 335**	PKP2	PKPbc	07 39 18.0	-0.4	
CALN	**Calern**	**147.04 335**	PKP	PKPbc	07 39 18.0	-0.4	
PGF	**Pioggiola**	**147.06 331**	*e*PKP1	PKPbc	07 39 18.2	-0.3	
	comp=Z,2µm,1.4s						
PGF	**Pioggiola**	**147.06 331**	*e*PKP	PKPbc	07 39 18.2	-0.3	
PGF	**Pioggiola**	**147.06 331**	*e*PKP2	PKPbc	07 39 18.2	-0.3	
LBL	**Lubilhac**	**147.13 340**	PKP	PKPbc	07 39 18.3	-0.3	
LBL	**Lubilhac**	**147.13 340**	PKP2	PKPbc	07 39 18.3	-0.3	
LBL	**Lubilhac**	**147.13 340**	PKP	PKPbc	07 39 18.3	-0.3	
FRNF	**Fournols**	**147.22 341**	PKP	PKPbc	07 39 19.0	+0.2	
FRNF	**Fournols**	**147.22 341**	PKP	PKPbc	07 39 19.0	+0.2	
STOF	**St-Etienne Org**	**147.23 336**	PKP	PKPbc	07 39 18.9	0.0	
STOF	**St-Etienne Org**	**147.23 336**	PKP	PKPbc	07 39 18.9	0.0	
FRF	**La Foret Royal**	**147.29 335**	*e*PKP1	PKPbc	07 39 18.5	-0.6	
	comp=Z,1µm,1.4s						
FRF	**La Foret Royal**	**147.29 335**	*e*PKP	PKPbc	07 39 18.5	-0.6	
FRF	**La Foret Royal**	**147.29 335**	*e*PKP2	PKPbc	07 39 18.5	-0.6	
SMRF	**Simiane la Rot**	**147.38 336**	*e*PKP1	PKPbc	07 39 19.5	+0.2	
	comp=Z,1µm,1.5s						
SMRF	**Simiane la Rot**	**147.38 336**	*e*PKP	PKPbc	07 39 19.5	+0.2	
VILF	**Villemus**	**147.43 336**	PKP	PKPbc	07 39 19.5	0.0	
VILF	**Villemus**	**147.43 336**	PKP	PKPbc	07 39 19.5	0.0	
TAVF	**Tavernes**	**147.49 335**	PKP	PKPbc	07 39 19.3	-0.4	
TAVF	**Tavernes**	**147.49 335**	PKP	PKPbc	07 39 19.3	-0.4	
LMR	**La Mourre**	**147.54 335**	*e*PKP1	PKPbc	07 39 19.4	-0.4	
	comp=Z,1µm,1.4s						
LMR	**La Mourre**	**147.54 335**	*e*PKP	PKPbc	07 39 19.4	-0.4	
LMR	**La Mourre**	**147.54 335**	*e*PKP2	PKPbc	07 39 19.4	-0.4	
RJF	**Les Rejaudoux**	**147.61 342**	*e*PKP1	PKPbc	07 39 19.9	0.0	
RJF			*e*R				
	comp=Z,6µm,21.8s						
RJF	**Les Rejaudoux**	**147.61 342**	*e*PKP	PKPbc	07 39 19.9	0.0	
RJF			LR	LR			
	comp=Z,6µm,21.8s,MS6.4						
RJF	**Les Rejaudoux**	**147.61 342**	*e*PKP2	PKPbc	07 39 19.9	0.0	
RJF			MLR	MLR			
	comp=Z,6µm,21.8s,MS6.4						
PRAF	**Pradon**	**147.68 337**	PKP	PKPbc	07 39 20.2	0.0	
PRAF	**Pradon**	**147.68 337**	PKP	PKPbc	07 39 20.2	0.0	
TREF	**Trevaresse**	**147.75 336**	PKP	PKPbc	07 39 20.4	0.0	
TREF	**Trevaresse**	**147.75 336**	PKP	PKPbc	07 39 20.4	0.0	
CAF	**Calviac**	**147.79 341**	*e*PKP1	PKPbc	07 39 20.5	+0.1	
	comp=Z,295nm,1.2s						
CAF	**Calviac**	**147.79 341**	*e*PKP	PKPbc	07 39 20.5	+0.1	
CAF	**Calviac**	**147.79 341**	*e*PKP2	PKPbc	07 39 20.5	+0.1	
BERF	**Bertagne**	**147.89 335**	PKP	PKPbc	07 39 20.5	-0.3	
BERF	**Bertagne**	**147.89 335**	PKP	PKPbc	07 39 20.5	-0.3	
LASF	**Ste Croix**	**147.94 338**	*e*PKP1	PKPbc	07 39 20.9	0.0	
	comp=Z,859nm,1.5s						
LASF	**Ste Croix**	**147.94 338**	*e*PKP	PKPbc	07 39 20.9	0.0	
LFF	**La Frestale**	**148.17 343**	*e*PKP1	PKPbc	07 39 21.2	-0.2	
	comp=Z,221nm,0.7s						
LFF	**La Frestale**	**148.17 343**	*e*PKP	PKPbc	07 39 21.2	-0.2	
LFF	**La Frestale**	**148.17 343**	*e*PKP2	PKPbc	07 39 21.2	-0.2	
WDD	**Wield Dalam**	**148.42 316**	*e*PKPdf	PKPdf	07 39 19.9	+1.0	
WDD			LR	LR			
	comp=Z,5µm,20.0s,MS6.3						
RCBR	**Riachuelo**	**148.58 129**	PKP	PKPdf	07 39 18.8	-1.1	
	comp=Z,70nm,1.0s,baz=347,slow=2.1						
RCBR			PKPbc	PKPbc	07 39 22.0	-1.5	
	baz=267,slow=2.1						
RCBR	**Riachuelo**	**148.58 129**	PKP	PKPdf	07 39 18.8	-1.1	
RCBR			PKPbc	PKPbc	07 39 22.0	-1.5	
RCBR			*e*PKPbc	PKPbc	07 39 22.1	-1.3	
RCBR			LR	LR			
	comp=Z,6µm,19.0s,MS6.4						
MTLF	**Montolieu**	**149.15 340**	*e*PKP1	PKPbc	07 39 23.9	-0.1	
	comp=Z,612nm,1.4s						
MTLF	**Montolieu**	**149.15 340**	*e*PKP	PKPbc	07 39 23.9	-0.1	
MTLF	**Montolieu**	**149.15 340**	*e*PKP2	PKPbc	07 39 23.9	-0.1	
VSL	**Villasalto**	**149.16 327**	*e*PKPdf	PKPdf	07 39 20.3	+0.3	
VSL			*e*PKPbc	PKPbc	07 39 24.4	+0.3	
VSL			LR	LR			
	comp=Z,3µm,19.0s,MS6.1						
LRDF	**Laroque-de-Fa**	**149.40 339**	PKP	PKPbc	07 39 24.3	-0.4	
LRDF	**Laroque-de-Fa**	**149.40 339**	PKP	PKPbc	07 39 24.3	-0.4	
SJAF	**Saint Jean de**	**149.67 338**	PKP	PKPbc	07 39 24.3	-1.1	
SJAF	**Saint Jean de**	**149.67 338**	PKP	PKPbc	07 39 24.3	-1.1	
EJON	**La Jonquera**	**149.70 338**	PKP	PKPbc	07 39 24.4	-1.0	
FILF	**Fillols**	**149.72 338**	PKP	PKPbc	07 39 25.3	-0.2	
FILF	**Fillols**	**149.72 338**	PKP	PKPbc	07 39 25.3	-0.2	
CARF	**Carcanieres**	**149.74 339**	PKP	PKPbc	07 39 24.8	-0.7	
CARF	**Carcanieres**	**149.74 339**	PKP	PKPbc	07 39 24.8	-0.7	
CLLI	**Llivia**	**150.00 339**	PKP	PKPbc	07 39 26.3	+0.1	
SALF	**Salau**	**150.01 340**	PKP	PKPbc	07 39 26.5	+0.3	
EPF	**Esparros**	**150.03 342**	*e*PKP1	PKPbc	07 39 24.6	-1.6	
	comp=Z,427nm,1.5s						
EPF	**Esparros**	**150.03 342**	*e*PKP	PKPbc	07 39 24.6	-1.6	
EPF	**Esparros**	**150.03 342**	*e*PKHKP	PKPbc	07 39 24.6	-1.6	
VALF	**Valcebollere**	**150.05 339**	PKP	PKPbc	07 39 26.1	-0.2	
VALF	**Valcebollere**	**150.05 339**	PKP	PKPbc	07 39 26.1	-0.2	
LABF	**Labassere**	**150.09 342**	PKP	PKPbc	07 39 27.1	+0.7	
ORDF	**Ordiarp**	**150.23 344**	PKP	PKPbc	07 39 26.1	-0.6	
ORDF	**Ordiarp**	**150.23 344**	PKP	PKPbc	07 39 26.1	-0.6	
RESF	**Ens**	**150.23 342**	PKP	PKPbc	07 39 27.1	+0.4	
VIEF	**Viey**	**150.26 342**	PKP	PKPbc	07 39 27.7	+0.9	
OSSF	**Osses**	**150.28 344**	PKP	PKPbc	07 39 26.1	-0.7	
OSSF	**Osses**	**150.28 344**	PKP	PKPbc	07 39 26.1	-0.7	
ATE	**Arette**	**150.28 343**	PKP	PKPbc	07 39 26.5	-0.3	
ATE	**Arette**	**150.28 343**	PKP	PKPbc	07 39 26.5	-0.3	
CSOR	**Sort**	**150.37 340**	PKP	PKPbc	07 39 27.1	+0.1	
EALK	**Alkurruntz**	**150.37 344**	PKP	PKPbc	07 39 27.0	0.0	
SJPF	**Ste Jean**	**150.40 344**	*e*PKP1	PKPbc	07 39 27.1	0.0	
	comp=Z,379nm,1.5s						
EBIE	**Bielsa**	**150.40 342**	PKP	PKPbc	07 39 27.9	+0.8	
ETSF	**Etsaut**	**150.41 343**	*e*PKP1	PKPbc	07 39 27.5	+0.4	
	comp=Z,278nm,1.0s						
ELIZ	**Elizondo**	**150.43 344**	PKP	PKPbc	07 39 28.0	+0.8	
ELIZ	**Elizondo**	**150.43 344**	PKIKP	PKPbc	07 39 28.0	+0.8	
CFON	**Fontmartina**	**150.46 338**	PKP	PKPbc	07 39 27.7	+0.4	
EMIR	**Miracle**	**150.65 339**	PKP	PKPbc	07 39 25.2	-2.6	
ELAN	**Lanestosa**	**150.82 347**	PKP	PKPbc	07 39 28.0	-0.1	
EARI	**Arriondas**	**151.09 350**	PKP	PKPbc	07 39 26.8	-2.0	
EPON	**Pontenova**	**151.36 353**	PKP	PKPbc	07 39 29.6	+0.3	
ESAC	**San Caprasio**	**151.47 342**	PKP	PKPbc	07 39 28.4	-1.2	
KEST	**Kesra**	**151.81 321**	PKP	PKPdf	07 39 23.7	-0.5	
	comp=Z,4.3nm,1.1s,baz=7.1,slow=8.1,SNR=2.1						
KEST			PKPbc	PKPbc	07 39 30.5	-0.2	
	comp=Z,26nm,0.9s,baz=282,slow=1.9,SNR=16						
KEST	**Kesra**	**151.81 321**	PKP	PKPdf	07 39 23.7	-0.5	
KEST			PKPbc	PKPbc	07 39 30.5	-0.2	
KEST			*e*PKPbc	PKPbc	07 39 30.9	+0.2	
ERTA	**Horta de San J**	**151.91 340**	PKP	PKPbc	07 39 28.4	-2.3	
EMAZ	**Mazaricos**	**151.91 355**	PKP	PKPbc	07 39 26.5	-4.1	
STS	**Santiago**	**151.94 355**	PKP	PKPbc	07 39 26.5	-4.2	
STS	**Santiago**	**151.94 355**	PKIKP	PKPbc	07 39 26.5	-4.2	
ETS	**Mallorca**	**152.04 335**	PKP	PKPbc	07 39 28.3	-3.0	
CALA	**Caldeira**	**152.15 29**	*e*PKP	PKPbc	07 39 31.9	+0.6	
ROSA	**Rosais**	**152.25 28**	*e*PKP	PKPbc	07 39 31.2	-0.3	
ERUA	**La Rua**	**152.28 352**	PKP	PKPbc	07 39 27.6	-3.9	
ERUA	**La Rua**	**152.28 352**	PKIKP	PKPbc	07 39 27.6	-3.9	
CMAH	**Djebel Manchou**	**152.30 325**	P	PKPbc	07 39 27.6	-4.1	
PCAN	**Candelaria**	**152.34 29**	*e*PKP	PKPbc	07 39 31.0	-0.7	
PMAN	**Manadas**	**152.39 28**	*e*PKP	PKPbc	07 39 31.3	-0.5	
CAEH	**'Ain El Ouahch**	**152.50 326**	P	PKPbc	07 39 35.2	+3.0	
ABSA	**Djebel Ababsia**	**152.53 324**	P	PKPbc	07 39 32.6	+0.4	
ECAL	**Calabor**	**152.66 352**	PKP	PKPbc	07 39 30.3	-2.1	
EZAM	**Zamans**	**152.69 355**	PKP	PKPbc	07 39 28.8	-3.6	
EZAM	**Zamans**	**152.69 355**	PKIKP	PKPbc	07 39 28.8	-3.6	
EMOS	**Mosqueruela**	**152.71 341**	PKP	PKPbc	07 39 31.8	-0.7	
ADH	**Angra Heroismo**	**152.75 27**	*e*PKP	PKPbc	07 39 33.1	+0.5	
ETOR	**Torete**	**152.76 343**	PKP	PKPbc	07 39 28.2	-4.4	
ETOR	**Torete**	**152.76 343**	PKIKP	PKPbc	07 39 28.3	-4.3	
PBRG	**Braganca**	**152.80 351**	*e*PKPdf	PKPdf	07 39 23.1	-2.4	
PBRG	**Braganca**	**152.80 351**	*e*LR	LR	08 44 58.4		
	comp=Z,7µm,18.0s						
PGAV	**Gavieira, Arco**	**152.83 354**	*e*PKPdf	PKPdf	07 39 24.6	-1.0	
PGAV	**Gavieira, Arco**	**152.83 354**	*e*PP	PP	07 43 16.8	+1.5	
PGAV	**Gavieira, Arco**	**152.83 354**	*e*LQ		08 23 43.0		
PGAV			*e*LR	LR	08 32 30.4		
	comp=Z,7µm,18.0s						
CKFL	**Kef-Lekhel**	**152.85 326**	P	PKPbc	07 39 33.0	0.0	
ELOB	**Lobios**	**152.90 354**	PKP	PKPbc	07 39 29.1	-3.7	
PCAB	**Cabril**	**153.05 354**	*e*PKPdf	PKPdf	07 39 25.7	-0.2	
CASM	**Ain Smara**	**153.08 326**	P	PKPbc	07 39 29.0	-4.5	
DFRA	**Djebel Bou Aff**	**153.20 327**	P	PKPbc	07 39 35.4	+1.7	
CTEI	**Djebel Teioual**	**153.27 325**	P	PKPbc	07 39 34.0	+0.1	
POLO	**Lamas de Olo**	**153.36 353**	*e*PKPdf	PKPdf	07 39 26.9	+0.5	
POLO	**Lamas de Olo**	**153.36 353**	*e*LQ		08 23 57.0		
POLO			*e*LR	LR	08 32 51.2		
	comp=Z,3µm,20.0s						
PVRL	**Vila Real**	**153.45 353**	*e*PKPdf	PKPdf	07 39 26.4	-0.1	
GUD	**Guadarrama**	**153.45 347**	PKP	PKPbc	07 39 29.3	-4.8	
GUD	**Guadarrama**	**153.45 347**	PKIKP	PKPbc	07 39 29.3	-4.8	
MVO	**Moncorvo**	**153.47 352**	PKP	PKPdf	07 39 27.7	+1.2	
MVO	**Moncorvo**	**153.47 352**	*e*PKPdf	PKPdf	07 39 26.8	+0.3	
MVO	**Moncorvo**	**153.47 352**	*e*LQ		08 24 40.5		
MVO	**Moncorvo**	**153.47 352**	*e*LR	LR	08 36 04.7		
	comp=Z,5µm,20.0s						
ECHE	**Chera**	**153.57 341**	PKP	PKPbc	07 39 31.7	-2.7	
ECHE	**Chera**	**153.57 341**	PKIKP	PKPbc	07 39 31.7	-2.7	
SET	**Setif**	**153.71 327**	P	PKPbc	07 39 27.0	0.0	
PVIS	**Viseu**	**154.02 353**	*e*PKPdf	PKPdf	07 39 26.4	-0.9	
PDA	**Ponta Delgada**	**154.18 26**	*e*PKP	PKPbc	07 39 35.4	-4.4	
MTE	**Manteigas**	**154.29 352**	*e*PKPdf	PKPdf	07 39 27.0	-0.7	
MTE			LR	LR			
	comp=Z,6µm,21.0s,MS6.4						
MTE	**Manteigas**	**154.29 352**	*e*PKPdf	PKPdf	07 39 27.2	-0.5	
MTE	**Manteigas**	**154.29 352**	*e*PP	PP	07 43 23.8	+0.2	
MTE	**Manteigas**	**154.29 352**	*e*LQ		08 24 42.7		
MTE			*e*LR	LR	08 34 38.5		
	comp=Z,6µm,18.0s						
ESDC	**Sonseca Array**	**154.33 346**	PKP	PKPdf	07 39 27.2	-0.6	
	comp=Z,5.8nm,1.1s,baz=347,slow=4.0,SNR=10.0						
ESDC			PKPbc	PKPbc	07 39 35.6	-0.5	
	comp=Z,3.3nm,0.6s,baz=354,slow=2.9,SNR=10						
ESDC			PKPab	PKPab	07 39 49.9	-0.1	
	comp=Z,9.6nm,0.8s,baz=10.0,slow=3.5,SNR=6.4						
ESDC	**Sonseca Array**	**154.33 346**	PKP	PKPdf	07 39 27.2	-0.6	
ESDC			PKP	PKPdf	07 39 31.0	+3.2	
ESDC			PKPbc	PKPbc	07 39 35.6	-0.5	
ESDC			PKPab	PKPab	07 39 49.9	-0.1	
ESLA	**Sonseca Array**	**154.33 346**	*e*PKPdf	PKPdf	07 39 27.3	-0.5	
PAB	**San Pablo**	**154.54 346**	*e*PKPdf	PKPdf	07 39 27.9	-0.2	
PAB			LR	LR			
	comp=Z,6µm,20.0s,MS6.4						
PAB	**San Pablo**	**154.54 346**	*e*PKIKP	PKPdf	07 39 27.9	-0.2	
PAB			MLR	MLR			
	comp=Z,6µm,20.0s,MS6.4						
PCBR	**Castelo Branco**	**154.83 352**	*e*PKPdf	PKPdf	07 39 28.6	+0.1	
EVIA	**Vianos**	**154.91 342**	PKP	PKPdf	07 39 30.4	+1.8	
EVIA	**Vianos**	**154.91 342**	PKIKP	PKPdf	07 39 30.4	+1.8	
EMHD	**Djebel Mahouad**	**154.94 331**	P	PKPbc	07 39 31.9	-5.6	
PSMA	**Santa Maria**	**155.04 26**	*e*PKP	PKPdf	07 39 32.1	+3.2	
PMRV	**Marv??o**	**155.22 352**	*e*PKPdf	PKPdf	07 39 28.4	-0.6	
PMRV	**Marv??o**	**155.22 352**	*e*PKPab	PKPab	07 39 53.4	-0.3	
PMRV	**Marv??o**	**155.22 352**	*e*LQ		08 24 59.5		
PMRV	**Marv??o**	**155.22 352**	*e*LR	LR	08 35 00.3		
	comp=Z,7µm,20.0s						
EMUR	**La Murta**	**155.24 339**	PKP	PKPdf	07 39 31.9	+2.8	
EBNR	**Beni Rached**	**155.51 333**	P	PKPdf	07 39 29.0	-0.5	
PMTG	**Montargil**	**155.69 353**	*e*PKPdf	PKPdf	07 39 28.9	-0.8	
PMTG	**Montargil**	**155.69 353**	*e*LQ		08 25 33.0		
PMTG			*e*LR	LR	08 33 44.0		
	comp=Z,5µm,18.0s						
EHUE	**Huescar**	**155.70 342**	PKP	PKPdf	07 39 28.6	-1.2	
EHUE	**Huescar**	**155.70 342**	PKIKP	PKPdf	07 39 28.6	-1.1	
ECHA	**Ech Chlef**	**155.70 333**	P	PKPdf	07 39 23.0	-6.8	
PESTR	**Estremoz**	**155.80 352**	*e*PKPdf	PKPdf	07 39 29.1	-0.7	
PESTR	**Estremoz**	**155.80 352**	*e*PKPab	PKPab	07 39 57.1	+0.9	
PESTR	**Estremoz**	**155.80 352**	*e*LQ		08 25 31.1		
PESTR			*e*LR	LR	08 33 22.3		
	comp=

DJA ***07*** *07:22:19.6˝17.N×126˚35E.2, h103km, mb4.8/6*
ISCJB ***07*** *07:22:20.0±0.6, 5˚99.N±0˚.04×126˚1E±0˚.1, h168km±6km, mb3.9/4, Error ellipse: s-maj=17.8km s-min=6.5km az=168.3*

ISC 07 07:22:21.1±0.6, 5˚99N±0˚.04×126˚1E±0˚.1, h160km±6km, n20, σ1§10/25, mb3.9/4, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.97**	**10**	*eP*	**Pn**	**07 22 46.0**	**-0.5**
MATI				*eS*	**Sn**	**07 23 00.8**	**-5.3**
DMPH	**Davao City--Mi**	**1.23**	**332**	*eP*	**Pn**	**07 22 47.8**	**-0.9**
DMPH				*i* S	**Sn**	**07 23 09.0**	**-1.1**
KCP	**Kidapawan**	**1.42**	**316**	*iP*	**Pn**	**07 22 51.8**	**+1.2**
KCP				*i* S	**Sn**	**07 23 14.4**	**+1.2**
BUKP	**Musuan**	**2.13**	**332**	*eP*	**Pn**	**07 22 58.2**	**-0.2**
CTBH	**Cotabato--PC H**	**2.20**	**304**	*iP*	**Pn**	**07 22 57.4**	**-1.8**
SGSI	**Sangihe**	**2.35**	**194**	P	**Pn**	**07 23 00.7**	**-0.3**
SGSI				S	**Sn**	**07 23 31.8**	**0.0**
CGP	**Cagayan de Oro**	**2.81**	**331**	*eP*	**Pn**	**07 23 07.3**	**+0.8**
CGP				*i* S	**Sn**	**07 23 44.1**	**+2.4**
BUTP	**Butuan**	**3.00**	**351**	*eP*	**Pn**	**07 23 09.1**	**+0.2**
PAGZ	**Pagadian**	**3.26**	**305**	*eP*	**Pn**	**07 23 10.8**	**-1.3**
SCPH	**Surigao**	**3.81**	**351**	*eP*	**Pn**	**07 23 19.7**	**+0.5**
TNTI	**Ternate**	**5.34**	**166**	P	**Pn**	**07 23 39.1**	**0.0**
	1.3nm4µm165nm,1.0s						
KMSI	**Cibinong**	**5.77**	**201**	P	**Pn**	**07 23 45.6**	**+0.7**
	425nm,1.2s						
LBMI	**Labuha**	**6.73**	**168**	P	**Pn**	**07 23 57.4**	**-0.2**
	3.2nm3µm63nm,0.7s						
MRSI	**Marisa**	**6.86**	**217**	P	**Pn**	**07 24 04.3**	**+5.0**
	0.7nm41nm,0.6s						
MYLDM	**Lahad Datu**	**7.59**	**264**	P	**Pn**	**07 24 09.4**	**+0.4**
	1.7nm22nm,0.9s						
NLAI	**Namlea**	**9.22**	**174**	P	**Pn**	**07 24 29.2**	**-1.5**
WRA	**Warramunga Arr**	**27.02**	**163**	P	**P**	**07 27 50.1**	**+1.8**
	2.7nm,0.4s,mb4.2,baz=334,slow=12,SNR=2.4						
ASAR	**Alice Springs**	**30.45**	**166**	P	**P**	**07 28 20.4**	**+1.8**
	3.0nm,0.4s,mb4.4,baz=338,slow=7.5,SNR=5.1						
MKAR	**Makanchi Array**	**55.35**	**325**	P	**P**	**07 31 37.0**	**-1.2**
	0.3nm,0.4s,mb3.4,baz=121,slow=7.6,SNR=8.3						
KURK	**Kurchatov**	**59.51**	**327**	P	**P**	**07 32 05.8**	**-1.4**
	0.6nm,0.6s,mb3.6,baz=122,slow=7.1,SNR=5.1						

IDC ***07*** *07:22:57.8±0.8, 14˚.85S×167˚.98E, h0km, mb4.8/10, mb1 5.1/10, mb1mx4.8/19, mbtmp4.8/10, Error ellipse: s-maj=26.2km s-min=22.7km az=157.0*
ISCJB ***07*** *07:22:58.1±0.5, 14˚.81S±0˚.09×168˚.03E±0˚.09, h10km, mb4.9/16, Error ellipse: s-maj=14.4km s-min=10.5km az=139.5*
NEIC ***07*** *07:23:00.2±0.4, 14˚.79S×168˚.09E, h10km, mb5.0/8, Error ellipse: s-maj=17.1km s-min=11.0km az=140.0*
MOS ***07*** *07:23:01.7±1.5, 14˚.76S×168˚.00E, h33km, mb5.1/3, Error ellipse: s-maj=27.2km s-min=14.7km az=161.3*

ISC 07 07:22:59.7±0.5, 14˚79S±0˚.09×168˚07E±0˚.09, h10km, n144, σ1§01/46, mb4.9/16, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EIDS	**Eidsvold**	**19.09**	**234**	*eP*	**Pn**	**07 27 24.3**	**+0.9**
	94nm,0.7s						
OUZ	**Omahuta**	**20.94**	**167**	*eP*	**P**	**07 27 41.8**	**-0.9**
	36nm,0.9s						
PMG	**Port Moresby**	**21.13**	**282**	P	**P**	**07 27 44.6**	**-0.3**
	23nm,0.9s,mb4.5,baz=95,slow=12,SNR=1.9						
PMG	**Port Moresby**	**21.13**	**282**	P	**P**	**07 27 44.6**	**-0.3**
PMG	**Port Moresby**	**21.13**	**282**	P	**P**	**07 27 44.6**	**-0.3**
CTA	**Charters Tower**	**21.46**	**253**	P	**P**	**07 27 50.1**	**+1.6**
	37nm,0.7s,mb4.8,baz=55,slow=13,SNR=6.5						
CTA	**Charters Tower**	**21.46**	**253**	P	**P**	**07 27 50.1**	**+1.6**
CTA	**Charters Tower**	**21.46**	**253**	P	**P**	**07 27 50.1**	**+1.7**
CTAO	**Charters Tower**	**21.46**	**253**	*eP*	**P**	**07 27 51.9**	**+3.5**
	44nm,0.7s,mb4.9						
CTAO	**Charters Tower**	**21.46**	**253**	*eP*	**P**	**07 27 51.9**	**+3.5**
CTAO				pmax	pmax		
	comp=Z,43nm,0.7s,mb4.9						
ARMA	**Armidale**	**21.68**	**221**	*eP*	**P**	**07 27 53.0**	**+2.3**
	comp=Z,91nm,1.1s,mb5.1						
URZ	**Urewera**	**24.71**	**163**	P	**P**	**07 28 21.1**	**+0.1**
	comp=Z,13nm,0.7s,mb4.6,baz=356,slow=12,SNR=2.8						
URZ	**Urewera**	**24.71**	**163**	P	**P**	**07 28 21.1**	**+0.1**
STKA	**Stephens Creek**	**29.54**	**230**	*eP*	**P**	**07 29 04.2**	**-0.4**
	comp=Z,11nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**29.54**	**230**	*eP*	**P**	**07 29 04.2**	**-0.4**
STKA				pmax	pmax		
	comp=Z,11nm,0.9s						
WRA	**Warramunga Arr**	**32.56**	**256**	P	**P**	**07 29 29.7**	**-1.7**
	comp=Z,33nm,0.9s,mb5.2,baz=88,slow=8.1,SNR=4.9						
WRA	**Warramunga Arr**	**32.56**	**256**	P	**P**	**07 29 29.7**	**-1.7**
WRA	**Warramunga Arr**	**32.56**	**256**	P	**P**	**07 29 29.7**	**-1.7**
ASAR	**Alice Springs**	**33.37**	**249**	P	**P**	**07 29 37.6**	**-0.8**
	comp=Z,78nm,0.8s,mb5.7,baz=78,slow=9.3,SNR=24						
ASAR	**Alice Springs**	**33.37**	**249**	P	**P**	**07 29 37.6**	**-0.8**
ASAR	**Alice Springs**	**33.37**	**249**	P	**P**	**07 29 37.6**	**-0.8**
FORT	**Forrest**	**39.93**	**240**	*eP*	**P**	**07 30 33.6**	**-0.7**
	comp=Z,76nm,0.7s,mb5.5						
FITZ	**Fitzroy Crossi**	**40.76**	**259**	*eP*	**P**	**07 30 40.7**	**-0.6**
	comp=Z,55nm,1.0s,mb5.1						
MJAR	**Matsushiro Arr**	**58.32**	**332**	P	**P**	**07 32 54.4**	**-0.5**
	comp=Z,4.3nm,0.8s,mb4.5,baz=167,slow=9.0,SNR=3.3						
MJAR	**Matsushiro Arr**	**58.32**	**332**	P	**P**	**07 32 54.4**	**-0.5**
MJAR	**Matsushiro Arr**	**58.32**	**332**	P	**P**	**07 32 54.4**	**-0.5**
SONM	**Songino Array**	**83.01**	**323**	P	**P**	**07 35 26.0**	**+0.9**
	comp=Z,4.2nm,1.0s,mb4.4,baz=129,slow=3.9,SNR=3.0						
SONM	**Songino Array**	**83.01**	**323**	P	**P**	**07 35 26.0**	**+0.9**
SONM	**Songino Array**	**83.01**	**323**	P	**P**	**07 35 26.0**	**+0.9**
ISA	**Isabella**	**85.58**	**52**	*eP*	**P**	**07 35 37.2**	**-1.4**
	comp=Z,9.0nm,1.1s,mb4.9						
ISA	**Isabella**	**85.58**	**52**	*eP*	**P**	**07 35 37.2**	**-1.3**
ISA				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.9						
WCN	**Washoe City**	**86.00**	**48**	*eP*	**P**	**07 35 40.9**	**+0.4**
WCN	**Washoe City**	**86.00**	**48**	*eP*	**P**	**07 35 40.9**	**+0.4**
ILAR	**Eielson Array**	**86.35**	**18**	P	**P**	**07 35 40.5**	**-1.1**
	comp=Z,6.3nm,0.9s,mb4.9,baz=241,slow=5.2,SNR=9.4						
ILAR	**Eielson Array**	**86.35**	**18**	P	**P**	**07 35 40.5**	**-1.1**
ILAR	**Eielson Array**	**86.35**	**18**	P	**P**	**07 35 40.5**	**-1.1**
NVAR	**Mina Array Bea**	**86.73**	**49**	P	**P**	**07 35 45.1**	**+1.0**
	comp=Z,6.8nm,1.1s,mb4.8,baz=228,slow=8.0,SNR=5.9						
NVAR	**Mina Array Bea**	**86.73**	**49**	P	**P**	**07 35 45.1**	**+1.1**
INK	**Inuvik**	**92.70**	**18**	*eP*	**P**	**07 36 12.6**	**+1.1**
INK	**Inuvik**	**92.70**	**18**	*eP*	**P**	**07 36 12.6**	**+1.1**
TXAR	**Lajitas Array**	**95.63**	**61**	P	**P**	**07 36 26.2**	**+0.3**
	comp=Z,1.9nm,1.1s,mb4.4,baz=240,slow=5.1,SNR=3.0						
TXAR	**Lajitas Array**	**95.63**	**61**	P	**P**	**07 36 26.2**	**+0.3**
TXAR	**Lajitas Array**	**95.63**	**61**	P	**P**	**07 36 26.2**	**+0.3**
MKAR	**Makanchi Array**	**97.78**	**316**	P	**P**	**07 36 35.9**	**+0.7**
	comp=Z,4.7nm,0.9s,mb5.0,baz=92,slow=4.0,SNR=6.5						
MKAR	**Makanchi Array**	**97.78**	**316**	P	**P**	**07 36 35.9**	**+0.7**
MKAR	**Makanchi Array**	**97.78**	**316**	P	**P**	**07 36 35.9**	**+0.7**
BAIF	**Baives**	**142.45**	**343**	*e*PKP1	PKPdf	07 42 31.6	-1.2
BAIF	**Baives**	**142.45**	**343**	*e*PKP	PKPdf	07 42 31.6	-1.2
BAIF	**Baives**	**142.45**	**343**	*e*PKIKP	PKPdf	07 42 31.6	-1.2
HAU	**Haudompre**	**143.59**	**339**	*e*PKP1	PKPdf	07 42 31.9	-2.9
HAU	**Haudompre**	**143.59**	**339**	*e*PKP	PKPdf	07 42 31.9	-2.9
HAU	**Haudompre**	**143.59**	**339**	*e*PKIKP	PKPdf	07 42 31.9	-2.9
SFTF	**Sexfontaines**	**143.85**	**341**	*e*PKP1	PKPdf	07 42 32.9	-2.4
SFTF	**Sexfontaines**	**143.85**	**341**	*e*PKP	PKPdf	07 42 32.9	-2.4
FLN	**La Foliniere**	**144.84**	**347**	*e*PKP1	PKPdf	07 42 35.6	-1.4
FLN	**La Foliniere**	**144.84**	**347**	*e*PKP	PKPdf	07 42 35.6	-1.4
FLN	**La Foliniere**	**144.84**	**347**	*e*PKIKP	PKPdf	07 42 35.6	-1.4
CABF	**La Chapelle**	**144.88**	**338**	*e*PKP1	PKPdf	07 42 36.8	-0.3
CABF	**La Chapelle**	**144.88**	**338**	*e*PKP	PKPdf	07 42 36.8	-0.3
CABF	**La Chapelle**	**144.88**	**338**	*e*PKIKP	PKPdf	07 42 36.8	-0.3
LDF	**La Druitiere**	**144.92**	**346**	*e*PKP1	PKPdf	07 42 35.7	-1.4
LDF	**La Druitiere**	**144.92**	**346**	*e*PKP	PKPdf	07 42 35.7	-1.4
LDF	**La Druitiere**	**144.92**	**346**	*e*PKIKP	PKPdf	07 42 35.7	-1.4
AQU	**L'Aquila**	**144.92**	**327**	*e*PKPdf	PKPdf	07 42 37.0	-0.3
AQU	**L'Aquila**	**144.92**	**327**	*e*PKIKP	PKPdf	07 42 37.0	-0.3
LOR	**Lormes**	**145.05**	**341**	*e*PKP1	PKPbc	07 42 36.8	0.0
LOR	**Lormes**	**145.05**	**341**	*e*PKP	PKPdf	07 42 36.8	-0.6
LOR	**Lormes**	**145.05**	**341**	*e*PKIKP	PKPdf	07 42 36.8	-0.6
GRR	**Gorron**	**145.28**	**347**	*e*PKP1	PKPbc	07 42 37.4	0.0
	comp=Z,23nm,0.6s						
GRR	**Gorron**	**145.28**	**347**	*e*PKP	PKPdf	07 42 37.4	-0.4
GRR	**Gorron**	**145.28**	**347**	*e*PKIKP	PKPdf	07 42 37.4	-0.4
SSF	**Saint Saulge**	**145.35**	**341**	*e*PKP1	PKPbc	07 42 38.1	+0.4
	comp=Z,23nm,0.7s						
SSF	**Saint Saulge**	**145.35**	**341**	*e*PKP	PKPdf	07 42 38.1	+0.2
SSF	**Saint Saulge**	**145.35**	**341**	*e*PKIKP	PKPdf	07 42 38.1	+0.2
LPL	**La Plagne**	**145.56**	**337**	*e*PKP1	PKPbc	07 42 39.4	+0.9
LPL	**La Plagne**	**145.56**	**337**	*e*PKP	PKPdf	07 42 39.4	+1.1
LPL	**La Plagne**	**145.56**	**337**	*e*PKP2	PKPab	07 42 39.4	+0.7
LPG	**La Plagne**	**145.57**	**337**	*e*PKP1	PKPbc	07 42 39.5	+1.0
LPG	**La Plagne**	**145.57**	**337**	*e*PKP	PKPdf	07 42 39.5	+1.1
LPG	**La Plagne**	**145.57**	**337**	*e*PKP2	PKPab	07 42 39.5	+0.8
SMF	**Signal de Mont**	**145.61**	**341**	*e*PKP1	PKPbc	07 42 38.8	+0.2
SMF	**Signal de Mont**	**145.61**	**341**	*e*PKP	PKPdf	07 42 38.8	+0.4
SMF	**Signal de Mont**	**145.61**	**341**	*e*PKP2	PKPab	07 42 38.8	0.0
AVF	**Avril sur Loir**	**145.63**	**341**	*e*PKP1	PKPbc	07 42 38.6	-0.1
	comp=Z,96nm,1.4s						
AVF	**Avril sur Loir**	**145.63**	**341**	*e*PKP	PKPdf	07 42 38.6	+0.2
AVF	**Avril sur Loir**	**145.63**	**341**	*e*PKP2	PKPab	07 42 38.6	-0.3
SGMF	**Saint Gilles**	**145.75**	**349**	*e*PKP1	PKPbc	07 42 39.0	+0.1
SGMF	**Saint Gilles**	**145.75**	**349**	*e*PKP	PKPdf	07 42 39.0	+0.4
SGMF	**Saint Gilles**	**145.75**	**349**	*e*PKP2	PKPab	07 42 39.0	-0.3
ROSF	**Rostrenen**	**145.80**	**350**	*e*PKP1	PKPbc	07 42 39.1	0.0
	comp=Z,40nm,0.9s						
ROSF	**Rostrenen**	**145.80**	**350**	*e*PKP	PKPdf	07 42 39.1	+0.5
ROSF	**Rostrenen**	**145.80**	**350**	*e*PKP2	PKPab	07 42 39.1	-0.4
BGF	**Bois d'Agland**	**146.00**	**342**	*e*PKP1	PKPbc	07 42 40.0	+0.2
BGF	**Bois d'Agland**	**146.00**	**342**	*e*PKP	PKPdf	07 42 40.0	+0.9
BGF	**Bois d'Agland**	**146.00**	**342**	*e*PKP2	PKPab	07 42 40.0	-0.3
MBDF	**Montbardon**	**146.21**	**336**	*e*PKP1	PKPbc	07 42 40.6	+0.1
	comp=Z,80nm,1.3s						
MBDF	**Montbardon**	**146.21**	**336**	*e*PKP	PKPdf	07 42 40.6	+1.1
MBDF	**Montbardon**	**146.21**	**336**	*e*PKP2	PKPab	07 42 40.6	-0.5
ORIF	**Oris-en-Rattie**	**146.39**	**337**	*e*PKP1	PKPbc	07 42 41.5	+0.5
	comp=Z,27nm,0.8s						
ORIF	**Oris-en-Rattie**	**146.39**	**337**	*e*PKP	PKPdf	07 42 41.5	+1.7
ORIF	**Oris-en-Rattie**	**146.39**	**337**	*e*PKP2	PKPab	07 42 41.5	-0.3
TCF	**Toulx Ste Croi**	**146.43**	**342**	*e*PKP1	PKPbc	07 42 41.3	+0.2
TCF	**Toulx Ste Croi**	**146.43**	**342**	*e*PKP	PKPdf	07 42 41.3	+1.5
TCF	**Toulx Ste Croi**	**146.43**	**342**	*e*PKP2	PKPab	07 42 41.3	-0.7
SSB	**Saint Sauveur**	**146.57**	**339**	*e*PKPbc	PKPbc	07 42 42.0	+0.4
SSB	**Saint Sauveur**	**146.57**	**339**	*e*PKP2	PKPab	07 42 42.0	-0.5
SBF	**Sospel**	**146.64**	**334**	*e*PKP1	PKPbc	07 42 41.6	-0.2
	comp=Z,119nm,1.0s						
SBF	**Sospel**	**146.64**	**334**	*e*PKP	PKPdf	07 42 41.6	+1.4
SBF	**Sospel**	**146.64**	**334**	*e*PKP2	PKPab	07 42 41.6	-1.3
MFF	**Saint Martin d**	**146.79**	**345**	*e*PKP1	PKPbc	07 42 42.1	0.0
	comp=Z,88nm,1.2s						
MFF	**Saint Martin d**	**146.79**	**345**	*e*PKP	PKPdf	07 42 42.1	+1.7
MFF	**Saint Martin d**	**146.79**	**345**	*e*PKP2	PKPab	07 42 42.1	-1.2
PGF	**Pioggiola**	**146.99**	**331**	*e*PKP1	PKPbc	07 42 42.9	+0.1
	comp=Z,158nm,1.5s						
PGF	**Pioggiola**	**146.99**	**331**	*e*PKP	PKPdf	07 42 42.9	+2.0
PGF	**Pioggiola**	**146.99**	**331**	*e*PKP2	PKPab	07 42 42.9	-1.3
FRF	**La Foret Royal**	**147.22**	**335**	*e*PKP1	PKPbc	07 42 43.2	-0.2
	comp=Z,33nm,0.8s						
FRF	**La Foret Royal**	**147.22**	**335**	*e*PKP	PKPdf	07 42 43.2	+2.0
FRF	**La Foret Royal**	**147.22**	**335**	*e*PKP2	PKPab	07 42 43.2	-1.9
SMRF	**Simiane la Rot**	**147.30**	**336**	*e*PKP1	PKPbc	07 42 44.2	+0.5
SMRF	**Simiane la Rot**	**147.30**	**336**	*e*PKP	PKPdf	07 42 44.2	+2.9
LMR	**La Mourre**	**147.46**	**335**	*e*PKP1	PKPbc	07 42 44.0	-0.1
	comp=Z,50nm,1.1s						
LMR	**La Mourre**	**147.46**	**335**	*e*PKP	PKPdf	07 42 44.0	+2.4
LMR	**La Mourre**	**147.46**	**335**	*e*PKP2	PKPab	07 42 44.0	-2.1
RJF	**Les Rejaudoux**	**147.53**	**342**	*e*PKP1	PKPbc	07 42 44.5	+0.3
	comp=Z,31nm,1.2s						
RJF	**Les Rejaudoux**	**147.53**	**342**	*e*PKP	PKPdf	07 42 44.5	+2.8
RJF	**Les Rejaudoux**	**147.53**	**342**	*e*PKP2	PKPab	07 42 44.5	-1.8
CAF	**Calviac**	**147.71**	**341**	*e*PKP1	PKPbc	07 42 45.1	+0.4
CAF	**Calviac**	**147.71**	**341**	*e*PKP	PKPdf	07 42 45.1	+3.1
CAF	**Calviac**	**147.71**	**341**	*e*PKP2	PKPab	07 42 45.1	-1.9
LASF	**Ste Croix**	**147.86**	**338**	*e*PKP1	PKPbc	07 42 45.5	+0.3
	comp=Z,34nm,1.0s						
LASF	**Ste Croix**	**147.86**	**338**	*e*PKP	PKPdf	07 42 45.5	+3.2
LFF	**La Frestale**	**148.09**	**343**	*e*PKP1	PKPbc	07 42 45.9	+0.1
	comp=Z,128nm,1.3s						
LFF	**La Frestale**	**148.09**	**343**	*e*PKP	PKPdf	07 42 45.9	+3.3
LFF	**La Frestale**	**148.09**	**343**	*e*PKP2	PKPab	07 42 45.9	-2.6
MTLF	**Montolieu**	**149.07**	**340**	*e*PKP1	PKPbc	07 42 48.7	+0.3
	comp=Z,71nm,1.3s						
MTLF	**Montolieu**	**149.07**	**340**	*e*PKP	PKPdf	07 42 48.7	+4.4
MTLF	**Montolieu**	**149.07**	**340**	*e*PKP2	PKPab	07 42 48.7	-3.8
SJPF	**Ste Jean**	**150.32**	**344**	*e*PKP1	PKPbc	07 42 51.7	+0.3
	comp=Z,74nm,1.3s						
SJPF	**Ste Jean**	**150.32**	**344**	*e*PKP	PKPdf	07 42 51.7	+5.5
SJPF	**Ste Jean**	**150.32**	**344**	*e*PKIKP	PKPdf	07 42 51.7	+5.5
ETSF	**Etsaut**	**150.33**	**343**	*e*PKP1	PKPbc	07 42 52.0	+0.5
ESDC	**Sonseca Array**	**154.25**	**346**	PKPab	PKPab	07 43 14.2	+0.1
	comp=Z,1.1nm,0.6s,baz=355,slow=4.9,SNR=4.7						
ESDC	**Sonseca Array**	**154.25**	**346**	PKPab	PKPab	07 43 14.2	+0.1
TORD	**Torodi Ar. Bea**	**166.67**	**265**	PKPab	PKPab	07 44 05.9	-3.2
	comp=Z,3.1nm,0.9s,baz=104,slow=3.8,SNR=3.8						

IDC 07 07:30:10.8±4.4, 15˚71S×168˚87E, h0km, mb4.2/6, mb1 4.4/6, mb1mx4.1/18, mbtmp4.2/6, Error ellipse: s-maj=165.3km s-min=33.4km az=143.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**33.11**	**258**	P	P	07 36 47.8	-1.0
	1.9nm,0.9s,baz=91,slow=7.8,SNR=4.1						
ASAR	**Alice Springs**	**33.79**	**251**	P	P	07 36 56.0	+1.3
	5.0nm,0.8s,baz=79,slow=9.9,SNR=7.6						
FITZ	**Fitzroy Crossi**	**41.37**	**260**	P	P	07 37 58.1	-0.8
	1.6nm,0.8s,baz=80,slow=6.1,SNR=4.2						
CMAR	**Chiang Mai Arr**	**76.76**	**294**	P	P	07 42 05.0	+0.4
	0.7nm,0.3s,baz=133,slow=5.3,SNR=4.1						
ILAR	**Eielson Array**	**86.99**	**17**	P	P	07 42 57.5	0.0
	0.4nm,0.7s,baz=238,slow=5.2,SNR=5.0						
MKAR	**Makanchi Array**	**98.98**	**316**	P	P	07 43 53.0	-0.3
	0.7nm,0.7s,baz=98,slow=4.4,SNR=4.7						

IDC ***07*** *07:34:18.3±1.2, 12˚.16N×87˚.28W, h0km, mb4.0/11, mb1 4.2/12, mb1mx4.1/26, mbtmp4.1/12, ML3.7/1, Error ellipse: s-maj=37.0km s-min=24.5km az=60.0*
ISCJB ***07*** *07:34:21.5±0.5, 11˚.73N±0˚.04×87˚.75W±0˚.04, h51km±5km, mb4.1/15, Error ellipse: s-maj=8.6km s-min=3.2km az=41.9*
CASC ***07*** *07:34:22.1±2.0, 11˚.75N×87˚.75W, h35km±999km, MD4.1, ML3.5, mb4.5(NEIC)*
NEIC ***07*** *07:34:23.6±1.4, 11˚.82N×87˚.58W, h51km±11km, mb4.5/3, Error ellipse: s-maj=22.1km s-min=13.2km az=221.0*

ISC 07 07:34:22.8±0.5, 11˚76N±0˚.04×87˚71W±0˚.04, h45km±5km, n75, σ1§02/84, mb4.1/15, 4C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**1.14**	**35**	*eP*	**Pn**	**07 34 42.4**	**+0.1**
CRIN				AML	AML	07 34 59.3	
	comp=Z,1µm,0.3s						
TEL3	**Telica 3**	**1.17**	**46**	*eP*	**Pn**	**07 34 42.4**	**-0.3**
COPN	**Copaltepe**	**1.17**	**69**	*eP*	**Pn**	**07 34 42.4**	**-0.4**
COPN				*eS*	**Sn**	**07 34 59.6**	**+2.0**
COPN				AML	AML	07 35 07.8	
	comp=Z,2µm,0.6s						
MIRN	**Miramar**	**1.19**	**55**	*eP*	**Pn**	**07 34 42.7**	**-0.3**
CNGN	**Cerro Negro**	**1.23**	**53**	*eP*	**Pn**	**07 34 43.1**	**-0.5**
CRUN	**El Crucero**	**1.40**	**81**	*eP*	**Pn**	**07 34 45.9**	**0.0**
XAVN	**Gruta Xavier**	**1.41**	**74**	*eP*	**Pn**	**07 34 45.5**	**-0.5**
APYN	**Apoyeque**	**1.41**	**70**	*eP*	**Pn**	**07 34 45.7**	**-0.4**
TISN	**Laguna Tiscapa**	**1.46**	**75**	*eP*	**Pn**	**07 34 46.2**	**-0.5**
TICN	**Ticuantepe**	**1.47**	**79**	*eP*	**Pn**	**07 34 46.0**	**-0.8**
MGAN	**Managua**	**1.48**	**75**	*eP*	**Pn**	**07 34 46.5**	**-0.5**
CNCH	**Conchagua**	**1.51**	**355**	*eP*	**Pn**	**07 34 47.1**	**-0.4**
CNCH				*eP*		07 34 47.1	
HUEN		**1.61**	**69**	*eP*	**Pn**	**07 34 48.5**	**-0.3**
VSM	**San Miguel**	**1.75**	**342**	*eP*	**Pn**	**07 34 50.5**	**-0.2**
VSM				*eS*	**Sn**	**07 35 12.6**	**+0.8**
BLLM	**Bellamira**	**1.75**	**343**	*eP*	**Pn**	**07 34 50.0**	**-0.7**
CONN	**Concepcion**	**2.05**	**95**	*eP*	**Pn**	**07 34 54.1**	**-0.7**
CAHU	**Cacacuatique**	**2.06**	**346**	*eP*	**Pn**	**07 34 55.2**	**+0.3**
CAHU				*eS*	**Sn**	**07 35 20.2**	**+0.8**
SNVI	**San Vicente**	**2.15**	**329**	*eP*	**Pn**	**07 34 56.8**	**+0.7**
LFRS	**El Faro**	**2.27**	**325**	*eP*	**Pn**	**07 34 57.1**	**-0.8**
LFRS				*eS*	**Sn**	**07 35 24.5**	**-0.2**
TGUH	**Tegucigalpa,Un**	**2.33**	**11**	*e*Pn	**Pn**	**07 34 58.6**	**0.0**
TGUH	**Tegucigalpa,Un**	**2.33**	**11**	*e*P	**Pn**	**07 34 59.0**	**+0.4**
TGUH				*eS*	**Sn**	**07 35 26.9**	**+1.0**
LBRS	**Las Brisas**	**2.36**	**327**	*eP*	**Pn**	**07 34 58.8**	**-0.2**
GBS2	**Las Lilas**	**2.40**	**112**	*i* P	**Pn**	**07 34 59.2**	**-0.4**
SNET	**Serv Nac Est T**	**2.42**	**322**	AML	AML	07 35 32.0	
	comp=Z,438nm,0.3s						
LAPC	**Finca la Perla**	**2.44**	**114**	*i* P	**Pn**	**07 34 58.8**	**-1.4**
BOQS	**Boqueron**	**2.49**	**322**	*eP*	**Pn**	**07 35 00.8**	**0.0**
BOQS				*eS*	**Sn**	**07 35 29.7**	**-0.3**
VCR	**Vista de Mar**	**2.61**	**128**	*eP*	**Pn**	**07 35 01.7**	**-0.8**
LIM1	**Limonal**	**2.63**	**113**	*i* P	**Pn**	**07 35 01.4**	**-1.4**
MESS	**Mesas**	**2.67**	**112**	*i* P	**Pn**	**07 35 02.5**	**-0.7**
MESS				*i* S	**Sn**	**07 35 34.9**	**+0.5**
CUI	**Cuipilapa**	**2.73**	**113**	*i* P	**Pn**	**07 35 03.2**	**-0.9**
SBLS	**San Blas**	**2.79**	**318**	*eP*	**Pn**	**07 35 04.5**	**-0.4**
SBLS				*eS*	**Sn**	**07 35 38.1**	**+0.8**
SNJE	**San Jose**	**2.79**	**319**	*eP*	**Pn**	**07 35 04.3**	**-0.8**
SNJE				*eS*	**Sn**	**07 35 37.4**	**-0.2**
AMAS	**Alto Masis**	**2.90**	**113**	*i* P	**Pn**	**07 35 06.2**	**-0.3**
RBDL	**Robledal**	**3.03**	**321**	*eP*	**Pn**	**07 35 08.0**	**-0.3**
RBDL				*eS*	**Sn**	**07 35 43.0**	**-0.3**
JTS	**JuntasAbangare**	**3.08**	**118**	*e*Pn	**Pn**	**07 35 08.8**	**-0.1**
JCR	**Jicaral**	**3.18**	**126**	*eP*	**Pn**	**07 35 10.1**	**-0.3**
CGA2	**Cerro Gallo 2**	**3.63**	**118**	*eP*	**Pn**	**07 35 18.6**	**+2.1**
PRS1	**Purisical**	**3.78**	**118**	*eP*	**Pn**	**07 35 20.4**	**+1.8**
SJS	**Escuela Geolog**	**4.02**	**116**	*eP*	**Pn**	**07 35 24.9**	**+3.0**
QCR	**Quepos**	**4.19**	**123**	*eP*	**Pn**	**07 35 24.7**	**+0.5**
URSC	**Urasca**	**4.31**	**116**	*e*P	**Pn**	**07 35 28.7**	**+2.8**
BUS	**Buena Vista**	**4.46**	**119**	*e*P	**Pn**	**07 35 29.5**	**+1.6**
TEIG	**Tepich**	**8.44**	**356**	Pn	**

comp=Z,233nm,1.4s
PMG **Port Moresby** 21.14 283 P P 07 40 33.1 +1.7
comp=Z,135nm,2.0s,mb4.9
CTA **Charters Tower** 21.36 253 P P 07 40 35.3 +1.5
comp=Z,30nm,0.7s,mb4.7,baz=79,slow=12,SNR=28
CTA **Charters Tower** 21.36 253 eP P 07 40 36.1 +2.3
comp=Z,26nm,0.7s,mb4.7
CTA **Charters Tower** 21.36 253 P P 07 40 35.3 +1.6
CTA **Charters Tower** 21.36 253 P P 07 40 35.3 +1.5
CTAO **Charters Tower** 21.36 253 eP P 07 40 36.3 +2.5
comp=Z,879nm,2.5s,mb5.7
CTAO **Charters Tower** 21.36 253 eP P 07 40 36.3 +2.5
CTAO pmax pmax
comp=Z,879nm,2.5s,mb5.7
CTAO **Charters Tower** 21.36 253 P P 07 40 37.1 +3.3
comp=Z,92nm,1.7s,mb4.8
ARMA **Armidale** 21.50 222 eP P 07 40 38.3 +3.1
ARMA **Armidale** 21.50 222 eP P 07 40 38.2 +3.0
comp=Z,248nm,1.6s,mb5.3
COEN **Coen** 24.08 269 eP P 07 41 02.9 +0.9
comp=Z,651nm,1.3s,mb5.9
COEN **Coen** 24.08 269 P P 07 41 03.8 +1.8
comp=Z,67nm,4.5s
URZ **Urewera** 24.51 163 P P 07 41 03.8 -1.9
comp=Z,9.9nm,0.4s,mb4.7,baz=8.8,slow=6.3,SNR=4.6
URZ LR LR 07 48 53.3
comp=Z,6µm,18.6s,MS5.1,baz=156,slow=32
URZ **Urewera** 24.51 163 eP P 07 41 05.7 0.0
comp=Z,32nm,0.8s,mb4.9
YNG **Young** 26.12 219 eP P 07 41 21.0 +0.6
comp=Z,21nm,1.2s,mb4.5
CNB **Canberra Magne** 26.26 216 eP P 07 41 21.5 -0.1
CAN **Canberra** 26.47 217 eP P 07 41 23.7 +0.2
CAN **Canberra** 26.47 217 eP P 07 41 23.7 +0.2
STKA **Stephens Creek** 29.38 231 P P 07 41 49.1 -0.4
comp=Z,22nm,0.9s,mb4.9,baz=46,slow=6.0,SNR=12
STKA **Stephens Creek** 29.38 231 eP P 07 41 49.3 -0.2
comp=Z,27nm,1.1s,mb4.9
STKA **Stephens Creek** 29.38 231 eP P 07 41 49.7 +0.2
comp=Z,28nm,1.4s,mb4.8
STKA **Stephens Creek** 29.38 231 eP P 07 41 49.7 +0.2
STKA pmax pmax
comp=Z,28nm,1.4s
TOO **Toolangi** 30.07 217 eP P 07 41 56.3 +0.7
RAR **Rarotonga** 31.18 106 LR LR 07 51 55.1
comp=Z,6µm,20.2s,MS5.2,baz=287,slow=31
SMPI **Sarmi** 31.69 291 P P 07 42 10.7 +0.5
SMPI **Sarmi** 31.69 291 P P 07 42 11.1 +0.9
comp=Z,215nm,1.6s,mb5.7
WB2 **Warramunga Arr** 32.46 256 eP P 07 42 15.6 -1.3
WRAB **Tennant Creek** 32.46 256 eP P 07 42 15.9 -1.0
comp=Z,96nm,1.6s,mb5.4
WRAB **Tennant Creek** 32.46 256 eP P 07 42 15.9 -1.0
WRAB pmax pmax
comp=Z,97nm,1.6s,mb5.4
WRAB **Tennant Creek** 32.46 256 P P 07 42 16.0 -0.9
comp=Z,151nm,0.8s,mb5.9,SNR=8.5
WRAB **Tennant Creek** 32.46 256 P P 07 42 16.4 -0.5
WRA **Warramunga Arr** 32.47 256 P P 07 42 14.9 -2.1
comp=Z,15nm,0.9s,mb4.8,baz=86,slow=8.7,SNR=33
WRA ScP ScP 07 48 49.3 +1.1
comp=Z,2.3nm,1.0s,baz=83,slow=4.1,SNR=5.1
WRA **Warramunga Arr** 32.47 256 P P 07 42 14.9 -2.1
WRA ScP ScP 07 48 49.3 +1.1
WRA **Warramunga Arr** 32.47 256 P P 07 42 14.9 -2.1
ASAR **Alice Springs** 33.26 250 P P 07 42 22.6 -1.2
comp=Z,59nm,0.9s,mb5.5,baz=84,slow=8.5,SNR=40
ASAR **Alice Springs** 33.26 250 P P 07 42 22.6 -1.2
ASAR **Alice Springs** 33.26 250 P P 07 42 22.6 -1.3
KAKA **Kakadu** 34.61 269 eP P 07 42 34.7 -1.0
comp=Z,7.9nm,0.6s,mb4.8
KAKA **Kakadu** 34.61 269 eP P 07 42 34.7 -1.0
comp=Z,26nm,0.6s,mb5.3
BNDI **Bandanaira** 38.92 282 P P 07 43 17.1 +4.6
comp=Z,258nm,1.5s,mb5.7
SWI **Sorong** 38.94 288 P P 07 43 14.0 +1.4
comp=Z,82nm,1.3s,mb5.3
FORT **Forrest** 39.79 240 eP P 07 43 16.8 -2.7
comp=Z,72nm,0.8s,mb5.5
FORT **Forrest** 39.79 240 eP P 07 43 19.9 +0.4
comp=Z,313nm,1.5s,mb5.8
FITZ **Fitzroy Crossi** 40.69 260 P P 07 43 25.8 -1.3
comp=Z,20nm,0.9s,mb4.8,baz=95,slow=7.5,SNR=19
FITZ LR LR 07 59 42.6
comp=Z,19µm,18.1s,MS6.0,baz=83,slow=35
FITZ **Fitzroy Crossi** 40.69 260 eP P 07 43 25.4 -1.7
comp=Z,64nm,1.8s,mb5.0
FITZ **Fitzroy Crossi** 40.69 260 eP P 07 43 26.4 -0.7
comp=Z,19nm,0.5s,mb5.0
FITZ **Fitzroy Crossi** 40.69 260 P P 07 43 27.1 0.0
PPT **Papeete** 40.72 100 eLR LR 07 55 00.5
comp=Z,11µm,26.8s,baz=262
TBI **Tubuai** 40.88 108 eLQ 07 53 11.7
comp=Z,3µm,28.8s
TBI eLR LR 07 55 06.0
comp=Z,10µm,27.2s,baz=271
MBWA **Marble Bar** 46.18 255 eP P 07 44 10.6 -0.9
comp=Z,217nm,1.6s,mb5.8
MBWA **Marble Bar** 46.18 255 P P 07 44 13.3 +1.9
comp=Z,86nm,1.7s,mb5.4
BKSI **Bulukumba** 48.03 276 P P 07 44 27.6 +1.6
comp=Z,33nm,1.7s,mb5.1
BNSI **Bone** 48.30 278 P P 07 44 29.2 +1.2
comp=Z,71nm,1.6s,mb5.4
KAPI **Kappang** 48.47 277 eP P 07 44 29.0 -0.4
comp=Z,96nm,1.2s,mb5.7
KAPI **Kappang** 48.47 277 P P 07 44 29.6 +0.2
comp=Z,81nm,1.6s,mb5.5
KLBR **Kellerberrin** 48.61 241 eP P 07 44 28.3 -1.9
comp=Z,105nm,1.6s,mb5.6
BMNI **Bima** 48.64 272 P P 07 44 31.0 +0.3
comp=Z,100nm,1.6s,mb5.6
SPSI **Sidrap Palu** 48.74 278 P P 07 44 32.4 +0.9
comp=Z,27nm,1.9s,mb4.9
NWAO **Narrogin (SRO)** 49.24 239 P P 07 44 32.5 -2.6
comp=Z,26nm,0.8s,mb5.3,baz=83,slow=6.9,SNR=9.1
NWAO **Narrogin (SRO)** 49.24 239 eP P 07 44 33.2 -1.8
comp=Z,61nm,1.3s,mb5.5
NWAO **Narrogin (SRO)** 49.24 239 eP P 07 44 33.2 -1.8
NWAO pmax pmax
comp=Z,61nm,1.3s
TAOE **Nuku Hiva Isla** 50.98 89 eLR LR 07 59 32.9
comp=Z,6µm,27.9s
KBKI **Kotabaru** 52.37 278 P P 07 45 00.7 +1.7
comp=Z,39nm,1.4s,mb5.1
MYLDM **Lahad Datu** 53.02 288 P P 07 45 07.6 +3.9
comp=Z,59nm,1.6s,mb5.3
BBKI **Banjar Baru** 53.60 277 P P 07 45 11.1 +3.1
comp=Z,98nm,1.6s,mb5.5
RKT **Rikitea** 54.20 108 eLR LR 08 01 15.4
comp=Z,7µm,28.5s,baz=268
KKM **Kota Kinabalu** 55.44 288 P P 07 45 22.0 +0.6
KKM **Kota Kinabalu** 55.44 288 eP P 07 45 21.4 0.0
comp=Z,121nm,1.3s,mb5.8
KKM **Kota Kinabalu** 55.44 288 P P 07 45 22.5 +1.1
comp=Z,78nm,1.7s,mb5.5
JOW **Kunigami** 56.75 317 P P 07 45 29.8 -0.7
comp=Z,9.5nm,0.8s,mb4.9,baz=153,slow=7.1,SNR=3.4
JOW **Kunigami** 56.75 317 eP P 07 45 29.9 -0.5
comp=Z,15nm,1.0s,mb5.0
STKI **Sintang** 57.84 280 P P 07 45 40.8 +2.3
comp=Z,45nm,1.2s,mb5.4
SBUM **Sibu** 57.88 283 P P 07 45 40.8 +2.0
comp=Z,24nm,2.2s,mb4.8
MJAR **Matsushiro Arr** 58.49 332 P P 07 45 39.7 -2.8
comp=Z,4.5nm,0.8s,mb4.6,baz=168,slow=6.4,SNR=4.6
MJAR **Matsushiro Arr** 58.49 332 P P 07 45 39.7 -2.8
MJAR **Matsushiro Arr** 58.49 332 P P 07 45 39.7 -2.8
MAJO **Matsushiro** 58.49 332 eP P 07 45 40.5 -2.1
comp=Z,7.1nm,0.4s,mb5.0
MAJO **Matsushiro** 58.49 332 eP P 07 45 40.5 -2.0
MAJO pmax pmax
comp=Z,7.0nm,0.4s,mb5.0
KSM **Kuching** 59.38 281 P P 07 45 48.9 -0.3
KSM **Kuching** 59.38 281 eP P 07 45 48.5 -0.8
comp=Z,41nm,1.1s,mb5.4
KSM **Kuching** 59.38 281 P P 07 45 49.4 +0.2
comp=Z,35nm,1.5s,mb5.2
JNU **Nakatsue** 59.58 324 eP P 07 45 48.3 -1.9
comp=Z,10.0nm,1.0s,mb4.8
NACB **Ninganchiao** 59.77 310 eP P 07 45 51.1 -0.5
YHNB **Yeheng** 60.22 310 eP P 07 45 51.8 -3.0
comp=Z,49nm,1.0s,mb5.5
DBJI **Dramaga** 60.62 271 P P 07 45 59.7 +1.9
comp=Z,7µmcomp=Z,114nm,1.6s,mb5.7
CGJI **Cibinong** 61.63 271 P P 07 46 05.7 +1.1
comp=Z,106nm,1.5s,mb5.8

PPBI **Pangkal Pinang** 62.32 276 P P 07 46 11.6 +2.4
comp=Z,26nm,1.7s,mb5.1
SBA **Scott Base** 62.86 180 eP P 07 46 11.5 -0.3
comp=Z,179nm,2.0s,mb5.8
SBA **Scott Base** 62.86 180 eP P 07 46 11.5 -0.3
SBA pmax pmax
comp=Z,179nm,2.0s,mb5.8
MDSI **Maura Dua** 63.60 272 P P 07 46 18.8 +1.0
comp=Z,23nm,1.7s,mb4.9
KSRS **Korea Array** 64.38 325 P P 07 46 21.1 -1.3
comp=Z,0.6nm,0.4s,mb4.0,baz=120,slow=7.1,SNR=5.4
KGM **Kluang** 66.20 279 P P 07 46 35.6 +0.9
NJ2 **Nanjing** 66.39 315 eP P 07 46 32.6 -2.9
NJ2 pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
QIZ **Qiongzhong** 66.51 299 P P 07 46 36.1 -0.5
WHN **Wuhan** 68.67 312 ⇑P P 07 46 50.6 +0.6
MDJ **Mudanjiang** 68.87 332 P P 07 46 49.7 -1.2
MDJ pmax pmax
comp=Z,33nm,2.0s,mb4.9
MDJ pmax pmax
comp=Z,3µm,13.7s
MDJ **Mudanjiang** 68.87 332 eP P 07 46 49.7 -1.2
comp=Z,93nm,1.6s,mb5.5
IPM **Ipoh** 69.12 281 eP P 07 46 51.7 -1.5
comp=Z,41nm,1.2s,mb5.2
IPM **Ipoh** 69.12 281 P P 07 46 54.6 +1.4
comp=Z,30nm,1.6s,mb5.0
MNSI **Mandailing Nat** 69.43 277 P P 07 46 54.5 -0.6
comp=Z,43nm,1.2s,mb5.2
KULM **Kulim** 69.72 282 P P 07 46 58.9 +2.0
comp=Z,27nm,1.7s,mb4.9
CN2 **Changchun** 70.26 329 eP P 07 46 57.6 -1.9
CN2 eS S 07 56 08.9 -2.5
CN2 pmax pmax
comp=Z,20nm,1.0s,mb5.0
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,2µm,20.0s,MS5.4
CN2 LR LR
comp=E,1µm,20.0s,MS5.4
CN2 LR LR
comp=Z,2µm,18.0s,MS5.4
PSI **Prapat** 70.62 278 P P 07 46 60.0 -2.5
comp=Z,11nm,0.9s,mb4.8,baz=170,slow=2.7,SNR=7.1
PSI **Prapat** 70.62 278 P P 07 46 60.0 -2.5
PSI **Prapat** 70.62 278 P P 07 47 00.0 -2.4
GYA **Guiyang** 72.48 304 ⇓/P P 07 47 14.0 +0.7
GYA PP PP 07 49 59.2 +4.5
GYA S S 07 56 37.5 -0.3
GYA SKS 07 57 16.2
GYA SS SS 08 01 18.0 +1.1
GYA pmax pmax
comp=Z,30nm,1.1s,mb5.1
GYA pmax pmax
comp=Z,140nm,6.7s
GYA LR LR
comp=N,610nm,21.6s,MS5.0
GYA LR LR
comp=E,530nm,22.6s,MS5.0
GYA LR LR
comp=Z,570nm,22.4s,MS4.8
QSPA **South Pole Qui** 75.02 180 P P 07 47 25.9 -1.5
comp=Z,13nm,1.0s,mb4.8,baz=4.5,slow=4.2,SNR=12
QSPA **South Pole Qui** 75.02 180 P P 07 47 25.9 -1.5
KMI **Kunming** 75.08 302 P P 07 47 29.2 +0.6
KMI pmax pmax
comp=Z,21nm,1.7s,mb4.8
CHRT **Chiangrai** 75.51 295 ⇓P P 07 47 30.0 -1.2
comp=Z,124nm,1.0s,mb5.8
CM31 **Chiang Mai Arr** 75.73 294 eP P 07 47 32.5 0.0
CMAR **Chiang Mai Arr** 75.73 294 P P 07 47 31.9 -0.6
comp=Z,3.4nm,0.6s,mb4.5,baz=115,slow=3.8,SNR=15
CMAR **Chiang Mai Arr** 75.73 294 P P 07 47 31.9 -0.6
CMAR **Chiang Mai Arr** 75.73 294 P P 07 47 31.9 -0.6
CHG **Chiang Mai** 75.86 294 ⇓P P 07 47 32.9 -0.3
comp=Z,18nm,1.2s,mb4.9
CHTO **Chiang Mai** 75.86 294 eP P 07 47 33.4 +0.2
comp=Z,13nm,1.0s,mb4.8
CHTO **Chiang Mai** 75.86 294 eP P 07 47 33.4 +0.2
CHTO pmax pmax
comp=Z,13nm,1.0s,mb4.8
CHTO **Chiang Mai** 75.86 294 P P 07 47 33.6 +0.4
comp=Z,22nm,1.6s,mb4.8
HHC **Hu-ho-hao-te** 76.27 319 eP P 07 47 35.8 +0.7
HHC pP pP 07 47 46.1 +7.7
HHC PP PP 07 50 28.7 +2.0
HHC S S 07 57 16.8 -3.0
HHC SKS 07 57 39.0
HHC ScS ScS 07 57 44.9 -5.6
HHC pmax pmax
comp=Z,26nm,0.5s,mb5.4
HHC LR LR
comp=N,2µm,15.7s,MS5.8
HHC LR LR
comp=E,3µm,15.9s,MS5.8
HHC LR LR
comp=Z,3µm,16.5s,MS5.8
CD2 **Chengdu** 76.76 307 P P 07 47 39.3 +1.2
CD2 pP pP 07 47 49.6 +8.2
CD2 PP PP 07 50 33.9 +2.9
CD2 S S 07 57 23.0 -2.5
CD2 sS sS 07 57 40.2 +9.2
CD2 SS SS 08 02 22.2 +0.3
CD2 pmax pmax
comp=Z,30nm,1.0s,mb5.2
CD2 pmax pmax
comp=Z,490nm,8.2s
CD2 LR LR
comp=N,2µm,18.4s
CD2 LR LR
comp=Z,2µm,16.6s,MS5.5
SEY **Seymchan** 78.65 353 *i* P P 07 47 45.9 -2.0
LZH **Lanzhou** 79.05 312 eP P 07 47 52.6 +1.9
LZH pP pP 07 47 56.0 +2.0
LZH sP sP 07 47 59.2 +4.0
LZH pmax pmax
comp=Z,96nm,1.6s,mb5.5
LZH LR LR
comp=N,2µm,14.1s,MS5.7
LZH LR LR
comp=E,1µm,12.4s,MS5.7
LZH LR LR
comp=Z,4µm,17.6s
MAW **Mawson** 81.90 202 P P 07 48 03.4 -2.1
comp=Z,19nm,0.9s,mb4.0,baz=104,slow=9.2,SNR=4.0
MAW **Mawson** 81.90 202 eP P 07 48 04.1 -1.4
comp=Z,1.1nm,1.0s
MAW **Mawson** 81.90 202 eP P 07 48 04.1 -1.4
MAW pmax pmax
comp=Z,1.0nm,1.0s
YAK **Yakutsk** 82.51 343 eP P 07 48 07.1 -1.5
YAK pmax pmax
comp=Z,27nm,1.1s,mb5.2
YAK pmax pmax
comp=N,12nm,1.4s
YAK pmax pmax
comp=E,7.0nm,1.1s
ULN **Ulaanbaatar** 82.79 324 eP P 07 48 10.2 -0.2
comp=E,51nm,1.3s,mb5.4
ULN **Ulaanbaatar** 82.79 324 eP P 07 48 10.2 -0.2
ULN pmax pmax
comp=Z,51nm,1.3s,mb5.4
ULN **Ulaanbaatar** 82.79 324 P P 07 48 10.4 0.0
comp=Z,31nm,1.4s,mb5.2
BILL **Bilibino** 82.83 359 eP P 07 48 12.7 +2.6
comp=Z,3.9nm,0.8s,mb4.5
BILL **Bilibino** 82.83 359 ⇓/P P 07 48 08.9 -1.2
BILL eS S 07 58 20.8 -7.3
BILL pmax pmax
comp=Z,11nm,1.2s,mb4.8
SONM **Songino Array** 83.16 323 P P 07 48 10.6 -1.7
comp=Z,20nm,1.3s,mb5.0,baz=122,slow=3.2,SNR=27
SONM **Songino Array** 83.16 323 P P 07 48 10.6 -1.7
SONM **Songino Array** 83.16 323 P P 07 48 10.6 -1.7
GTA **Gaotai** 83.39 314 eP P 07 48 14.1 +0.4
GTA pP pP 07 48 24.4 +7.4
GTA SKS 07 58 30.9
GTA S S 07 58 33.7 -1.3
GTA pmax pmax
comp=Z,30nm,1.5s,mb5.1
KCPM **Cahto Peak** 83.63 46 eP P 07 48 15.4 +0.4
comp=Z,16nm,1.2s,mb5.0
OHCM **Honcut** 84.96 47 eP P 07 48 22.9 +1.2
BOD **Bodaibo** 85.04 334 eP P 07 48 19.6 -2.1

BOD pmax pmax
comp=Z,15nm,1.6s,mb4.9
MWC **Mount Wilson** 85.54 53 eP P 07 48 24.1 -0.7
comp=Z,84nm,1.9s,mb5.6
MWC **Mount Wilson** 85.54 53 eP P 07 48 24.1 -0.6
MWC pmax pmax
comp=Z,84nm,1.9s,mb5.7
ISA **Isabella** 85.75 52 eP P 07 48 24.9 -0.8
comp=Z,66nm,2.0s,mb5.5
ISA **Isabella** 85.75 52 eP P 07 48 24.9 -0.8
ISA pmax pmax
comp=Z,66nm,2.0s,mb5.5
BAR **Barrett** 86.07 55 eP P 07 48 28.4 +0.9
comp=Z,8.9nm,1.1s,mb4.9
WAKR **Walker** 86.10 49 eP P 07 48 27.5 +0.1
WCN **Washoe City** 86.18 48 eP P 07 48 29.5 +1.7
comp=Z,145nm,2.9s,mb5.7
WCN **Washoe City** 86.18 48 eP P 07 48 29.5 +1.7
WCN pmax pmax
comp=Z,145nm,2.9s,mb5.7
ZAK **Zakamensk** 86.20 325 eP P 07 48 24.2 -3.4
ZAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
MTUM **Tungsten Hills** 86.31 50 eP P 07 48 29.2 +0.8
LSA **Lhasa** 86.33 302 P P 07 48 28.5 -0.3
ILAR **Eielson Array** 86.56 18 P P 07 48 28.0 -1.1
comp=Z,3.9nm,0.7s,mb4.8,baz=248,slow=4.8,SNR=1.9
ILAR LR LR 08 20 26.0
comp=Z,6µm,19.7s,MS6.0,baz=277,slow=31
ILAR **Eielson Array** 86.56 18 P P 07 48 28.0 -1.1
ILAR LR LR 08 20 26.0
ILAR **Eielson Array** 86.56 18 P P 07 48 28.0 -1.1
PFO **Pinyon Flat Ob** 86.56 54 eP P 07 48 30.9 +1.1
comp=Z,54nm,2.2s,mb5.4
PFO **Pinyon Flat Ob** 86.56 54 eP P 07 48 31.0 +1.2
PFO pmax pmax
comp=Z,54nm,2.2s,mb5.4
PAHR **Pah Rah Range** 86.60 48 eP P 07 48 30.5 +0.6
comp=Z,83nm,2.1s,mb5.6
TLY **Talaya** 86.63 326 eP P 07 48 27.3 -2.4
TLY pmax pmax
comp=Z,13nm,1.6s,mb4.9
GSC **Goldstone** 86.89 52 eP P 07 48 32.5 +1.1
comp=Z,33nm,1.6s,mb5.3
GSC **Goldstone** 86.89 52 eP P 07 48 32.5 +1.1
GSC pmax pmax
comp=Z,33nm,1.6s,mb5.3
NVAR **Mina Array Bea** 86.90 49 P P 07 48 30.4 -0.9
comp=Z,4.1nm,0.8s,mb4.7,baz=232,slow=9.1,SNR=8.2
NVAR **Mina Array Bea** 86.90 49 P P 07 48 30.4 -0.9
LDFC **Landfair** 88.11 53 eP P 07 48 39.3 +2.0
WVOR **Wild Horse Val** 88.16 45 eP P 07 48 38.4 +1.1
comp=Z,18nm,1.8s,mb5.0
WVOR **Wild Horse Val** 88.16 45 eP P 07 48 38.4 +1.1
WVOR pmax pmax
comp=Z,18nm,1.8s,mb5.0
SHPR **Sheep Range** 88.56 52 eP P 07 48 39.2 -0.1
CCUT **Cedar City** 90.26 51 eP P 07 48 47.5 +0.3
comp=Z,22nm,1.5s,mb5.3
ARUT **Antelope Range** 90.27 51 eP P 07 48 49.9 +2.5
comp=Z,11nm,1.1s,mb5.1
ARUT **Antelope Range** 90.27 51 eP P 07 48 49.9 +2.5
ARUT pmax pmax
comp=Z,11nm,1.1s,mb5.1
TUC **Tucson** 90.66 57 eP P 07 48 51.4 +2.1
comp=Z,59nm,2.1s,mb5.5
TUC **Tucson** 90.66 57 eP P 07 48 51.4 +2.1
TUC pmax pmax
comp=Z,59nm,2.1s,mb5.5
WUAZ **Wupatki** 91.15 54 eP P 07 48 52.4 +0.9
comp=Z,14nm,1.1s,mb5.2
MSU **Marysvale** 91.45 51 eP P 07 48 54.0 +1.2
comp=Z,14nm,1.4s,mb5.1
MSU **Marysvale** 91.45 51 eP P 07 48 54.0 +1.2
MSU pmax pmax
comp=Z,14nm,1.4s,mb5.1
HLID **Hailey** 91.45 45 eP P 07 48 54.6 +1.9
comp=Z,82nm,3.0s
HWUT **Hardware Ranch** 92.83 48 eP P 07 49 01.1 +1.9
comp=Z,2.1nm,0.4s,mb4.9
SNAA **Sanae** 93.31 183 eP P 07 48 59.9 -1.0
comp=Z,5.5nm,1.1s,mb4.9
SNAA **Sanae** 93.31 183 eP P 07 48 59.9 -1.0
SNAA pmax pmax
comp=Z,6.0nm,1.1s
WMQ **Urumqi** 93.45 314 P P 07 49 01.4 -0.5
WMQ pP pP 07 49 12.0 +6.7
WMQ sP sP 07 49 15.9 +9.4
WMQ PP PP 07 52 47.8 +1.4
WMQ S S 08 00 03.5 -6.6
WMQ pmax pmax
comp=Z,26nm,1.6s,mb5.4
WMQ pmax pmax
comp=Z,310nm,5.4s
WMQ LR LR
comp=N,2µm,16.7s,MS5.7
WMQ LR LR
comp=E,2µm,21.2s,MS5.7
WMQ LR LR
comp=Z,1µm,20.0s,MS5.4
PDAR **Pinedale Array** 94.60 47 P P 07 49 05.3 -2.0
comp=Z,0.4nm,0.8s,mb3.9,baz=240,slow=1.8,SNR=2.3
PDAR **Pinedale Array** 94.60 47 P P 07 49 05.3 -2.0
ANMO **Albuquerque** 94.85 55 P P 07 49 08.8 +0.1
comp=Z,1.3nm,0.8s,mb4.4,baz=280,slow=6.0,SNR=5.4
ANMO **Albuquerque** 94.85 55 eP P 07 49 09.9 +1.3
comp=Z,24nm,2.3s,mb5.2
ANMO **Albuquerque** 94.85 55 eP P 07 49 09.9 +1.3
ANMO pmax pmax
comp=Z,24nm,2.3s
TXAR **Lajitas Array** 95.77 61 P P 07 49 11.6 -1.4
comp=Z,0.2nm,0.6s,baz=218,slow=5.7,SNR=3.0
TXAR **Lajitas Array** 95.77 61 P P 07 49 11.6 -1.4
TXAR **Lajitas Array** 95.77 61 P P 07 49 11.6 -1.3
YKA **Yellowknife Ar** 97.46 27 P P 07 49 18.3 -1.5
comp=Z,2.5nm,0.8s,mb4.7,baz=266,slow=4.5,SNR=4.7
YKA **Yellowknife Ar** 97.46 27 P P 07 49 18.3 -1.5
YKA **Yellowknife Ar** 97.46 27 P P 07 49 18.3 -1.5
MK31 **Makanchi Array** 97.91 316 eP P 07 49 20.5 -1.7
MK31 **Makanchi Array** 97.91 316 eP P 07 49 20.5 -1.7
MKAR **Makanchi Array** 97.91 316 P P 07 49 20.4 -1.8
comp=Z,4.3nm,0.9s,mb5.0,baz=99,slow=6.3,SNR=13
MKAR **Makanchi Array** 97.91 316 P P 07 49 20.4 -1.8
MKAR **Makanchi Array** 97.91 316 P P 07 49 20.4 -1.8
ZALV **Zalesovo Beam** 98.05 324 P P 07 49 20.6 -2.1
comp=Z,1.2nm,0.3s,mb4.8,baz=116,slow=3.4,SNR=5.7
ZALV **Zalesovo Beam** 98.05 324 P P 07 49 20.6 -2.1
KSH **Kashi** 100.95 308 eP Pdif 07 49 36.0 +0.3
KSH pP 07 49 40.8
KSH PP PP 07 53 46.5 +2.2
KSH SKS 08 00 13.2
KSH S Sdif 08 01 09.5 -4.6
KSH SS SS 08 08 11.1 -2.2
KSH pmax pmax
comp=Z,3.0nm,0.4s
KSH LR LR
comp=N,710nm,15.2s
KSH LR LR
comp=E,360nm,8.4s
KSH LR LR
comp=Z,1µm,16.7s,MS5.5
KURK **Kurchatov** 101.09 320 PP PP 07 53 53.0 +8.0
comp=Z,2.1nm,1.1s,baz=102,slow=7.9,SNR=4.7
KURK **Kurchatov** 101.09 320 ePdif Pdif 07 49 37.4 +1.1
comp=Z,13nm,1.2s
KURK **Kurchatov** 101.09 320 eP Pdif 07 49 37.4 +1.1
KURK pmax pmax
comp=Z,13nm,1.2s
APA **Apatity** 119.88 342 ⇓/PKIKP PKPdf 07 54 30.0 -6.2
APA pmax pmax
comp=Z,36nm,1.2s
APA MLR MLR
comp=Z,3µm,21.0s,MS5.9
ARCES **ARCESS Array B** 120.70 346 PKP PKPdf 07 54 37.0 -0.7
comp=Z,3.1nm,0.8s,baz=323,slow=0.6,SNR=4.6
ARCES **ARCESS Array B** 120.70 346 PKP PKPdf 07 54 37.0 -0.7
ARCES **ARCESS Array B** 120.70 346 PKIKP PKPdf 07 54 37.0 -0.7
OBN **Obninsk** 125.33 328 ⇓/PKIKP PKPdf 07 54 46.5 -0.5
OBN *e* 07 56 33.3
OBN ePS PS 08 06 29.1 -9.2
OBN pmax pmax
comp=Z,6.0nm,0.4s
KIV **Kislovodsk** 125.57 314 ePKIKP PKPdf 07 54 44.9 -2.9
KIV *i* 07 56 37.9
KIV pmax pmax

	comp=Z,6.0nm,1.1s							
AKASG	**Malin Array Be**	**131.38**	**326**	PKP	PKPdf	07 54 57.7	-1.0	
	comp=Z,0.5nm,0.4s,baz=261,slow=0.1,SNR=8.5							
AKASG	**Malin Array Be**	**131.38**	**326**	PKP	PKPdf	07 54 57.7	-1.0	
AKASG	**Malin Array Be**	**131.38**	**326**	PKIKP	PKPdf	07 54 57.7	-1.0	
BRG	**Berggiesshubel**	**138.57**	**335**	*e*PKP	PKPdf	07 55 13.6	+1.5	
	comp=Z,6.0nm,0.9s							
BRG	**Berggiesshubel**	**138.57**	**335**	*e*PKIKP	PKPdf	07 55 13.6	+1.5	
BRG				pmax	pmax			
	comp=Z,6.0nm,0.9s							
GERES	**GERESS Array B**	**140.22**	**333**	PKP	PKPdf	07 55 13.7	-1.5	
	comp=Z,0.4nm,0.2s,baz=26,slow=4.7,SNR=4.2							
GERES	**GERESS Array B**	**140.22**	**333**	PKP	PKPdf	07 55 13.7	-1.5	
GERES	**GERESS Array B**	**140.22**	**333**	PKIKP	PKPdf	07 55 13.7	-1.5	
BAIF	**Baives**	**142.65**	**343**	*e*PKP1	PKPdf	07 55 15.8	-3.7	
BAIF	**Baives**	**142.65**	**343**	*e*PKP	PKPdf	07 55 15.8	-3.7	
BAIF	**Baives**	**142.65**	**343**	*e*PKIKP	PKPdf	07 55 15.8	-3.7	
FETA	**Feichten**	**142.90**	**334**	⇑*i*PKPdf	PKPdf	07 55 16.0	-4.1	
	comp=Z,13nm,1.2s							
CDF	**Champ du Feu**	**143.10**	**339**	*e*PKP1	PKPdf	07 55 13.7	-6.7	
PAGF	**Fort de Pagny**	**143.51**	**340**	*e*PKP1	PKPdf	07 55 15.5	-5.6	
HINF	**Hinteralfeld**	**143.76**	**338**	*e*PKP1	PKPdf	07 55 15.7	-5.8	
MEZF	**Maizieres J'vi**	**143.78**	**341**	*e*PKP1	PKPdf	07 55 16.5	-5.1	
MEZF	**Maizieres J'vi**	**143.78**	**341**	*e*PKP	PKPdf	07 55 16.5	-5.1	
HAU	**Haudompre**	**143.78**	**339**	*e*PKP1	PKPdf	07 55 16.2	-5.4	
HAU	**Haudompre**	**143.78**	**339**	*e*PKP	PKPdf	07 55 16.2	-5.4	
HAU	**Haudompre**	**143.78**	**339**	*e*PKHKP	PKPdf	07 55 16.2	-5.4	
SFTF	**Sexfontaines**	**144.04**	**341**	*e*PKP1	PKPdf	07 55 17.1	-4.9	
	comp=Z,78nm,1.3s							
SFTF	**Sexfontaines**	**144.04**	**341**	*e*PKP	PKPdf	07 55 17.1	-4.9	
FLN	**La Foliniere**	**145.04**	**347**	*e*PKP1	PKPdf	07 55 20.0	-3.7	
FLN	**La Foliniere**	**145.04**	**347**	*e*PKP	PKPdf	07 55 20.0	-3.7	
FLN	**La Foliniere**	**145.04**	**347**	*e*PKIKP	PKPdf	07 55 20.0	-3.7	
CABF	**La Chapelle**	**145.06**	**338**	*e*PKP1	PKPdf	07 55 21.3	-2.6	
	comp=Z,142nm,1.5s							
CABF	**La Chapelle**	**145.06**	**338**	*e*PKP	PKPdf	07 55 21.3	-2.6	
CABF	**La Chapelle**	**145.06**	**338**	*e*PKP2	PKPdf	07 55 21.3	-2.6	
AQU	**L'Aquila**	**145.08**	**326**	*e*PKPdf	PKPdf	07 55 22.1	-1.9	
AQU	**L'Aquila**	**145.08**	**326**	*e*PKP2	PKPdf	07 55 22.1	-1.9	
LDF	**La Druitiere**	**145.12**	**346**	*e*PKP1	PKPdf	07 55 20.2	-3.7	
LDF	**La Druitiere**	**145.12**	**346**	*e*PKP	PKPdf	07 55 20.2	-3.7	
LDF	**La Druitiere**	**145.12**	**346**	*e*PKP2	PKPdf	07 55 20.2	-3.7	
CUC	**Castrocucco**	**145.24**	**321**	*e*PKPdf	PKPdf	07 55 21.9	-2.5	
LOR	**Lormes**	**145.24**	**341**	*e*PKP1	PKPdf	07 55 21.4	-2.7	
	comp=Z,146nm,1.7s							
LOR	**Lormes**	**145.24**	**341**	*e*PKP	PKPdf	07 55 21.4	-2.7	
LOR	**Lormes**	**145.24**	**341**	*e*PKP2	PKPdf	07 55 21.4	-2.7	
GRR	**Gorron**	**145.47**	**347**	*e*PKP1	PKPdf	07 55 21.7	-2.8	
	comp=Z,113nm,1.2s							
GRR	**Gorron**	**145.47**	**347**	*e*PKP	PKPdf	07 55 21.7	-2.8	
GRR	**Gorron**	**145.47**	**347**	*e*PKIKP	PKPdf	07 55 21.7	-2.8	
SSF	**Saint Saulge**	**145.54**	**341**	*e*PKP1	PKPdf	07 55 22.6	-2.1	
	comp=Z,113nm,1.3s							
SSF	**Saint Saulge**	**145.54**	**341**	*e*PKP	PKPdf	07 55 22.6	-2.1	
SSF	**Saint Saulge**	**145.54**	**341**	*e*PKIKP	PKPdf	07 55 22.6	-2.1	
HYF	**Humbligny**	**145.61**	**342**	*e*PKP1	PKPdf	07 55 23.0	-1.8	
HYF	**Humbligny**	**145.61**	**342**	*e*PKP	PKPdf	07 55 23.0	-1.8	
LPL	**La Plagne**	**145.74**	**336**	*e*PKP1	PKPdf	07 55 23.7	-1.4	
	comp=Z,121nm,1.4s							
LPL	**La Plagne**	**145.74**	**336**	*e*PKP	PKPdf	07 55 23.7	-1.4	
LPL	**La Plagne**	**145.74**	**336**	*e*PKIKP	PKPdf	07 55 23.7	-1.4	
LPG	**La Plagne**	**145.75**	**336**	*e*PKP1	PKPdf	07 55 23.9	-1.2	
	comp=Z,159nm,1.5s							
LPG	**La Plagne**	**145.75**	**336**	*e*PKP	PKPdf	07 55 23.9	-1.2	
LPG	**La Plagne**	**145.75**	**336**	*e*PKIKP	PKPdf	07 55 23.9	-1.2	
SMF	**Signal de Mont**	**145.80**	**340**	*e*PKP1	PKPdf	07 55 23.1	-2.1	
	comp=Z,227nm,1.6s							
SMF	**Signal de Mont**	**145.80**	**340**	*e*PKP	PKPdf	07 55 23.1	-2.0	
SMF	**Signal de Mont**	**145.80**	**340**	*e*PKIKP	PKPdf	07 55 23.1	-2.0	
AVF	**Avril sur Loir**	**145.83**	**341**	*e*PKP1	PKPdf	07 55 23.1	-2.1	
	comp=Z,90nm,1.5s							
AVF	**Avril sur Loir**	**145.83**	**341**	*e*PKP	PKPdf	07 55 23.1	-2.1	
AVF	**Avril sur Loir**	**145.83**	**341**	*e*PKIKP	PKPdf	07 55 23.1	-2.1	
SGMF	**Saint Gilles**	**145.95**	**349**	*e*PKP1	PKPdf	07 55 23.3	-2.0	
	comp=Z,102nm,1.1s							
SGMF	**Saint Gilles**	**145.95**	**349**	*e*PKP	PKPdf	07 55 23.3	-2.0	
SGMF	**Saint Gilles**	**145.95**	**349**	*e*PKIKP	PKPdf	07 55 23.3	-2.0	
ROSF	**Rostrenen**	**146.00**	**350**	*e*PKP1	PKPdf	07 55 23.4	-2.0	
	comp=Z,256nm,1.7s							
ROSF	**Rostrenen**	**146.00**	**350**	*e*PKP	PKPdf	07 55 23.4	-2.0	
ROSF	**Rostrenen**	**146.00**	**350**	*e*PKIKP	PKPdf	07 55 23.4	-2.0	
BGF	**Bois d'Agland**	**146.19**	**342**	*e*PKP1	PKPdf	07 55 24.4	-1.4	
	comp=Z,156nm,1.5s							
BGF	**Bois d'Agland**	**146.19**	**342**	*e*PKP	PKPdf	07 55 24.4	-1.4	
BGF	**Bois d'Agland**	**146.19**	**342**	*e*PKIKP	PKPdf	07 55 24.4	-1.4	
MBDF	**Montbardon**	**146.38**	**336**	*e*PKP1	PKPdf	07 55 25.0	-1.2	
	comp=Z,140nm,1.5s							
MBDF	**Montbardon**	**146.38**	**336**	*e*PKP	PKPdf	07 55 25.0	-1.2	
MBDF	**Montbardon**	**146.38**	**336**	*e*PKIKP	PKPdf	07 55 25.0	-1.2	
QUIF	**Quistinic**	**146.39**	**349**	*e*PKP1	PKPdf	07 55 24.5	-1.6	
	comp=Z,127nm,1.3s							
QUIF	**Quistinic**	**146.39**	**349**	*e*PKP	PKPdf	07 55 24.5	-1.6	
QUIF	**Quistinic**	**146.39**	**349**	*e*PKIKP	PKPdf	07 55 24.5	-1.6	
ORIF	**Oris-en-Rattie**	**146.57**	**337**	*e*PKP1	PKPdf	07 55 25.9	-0.6	
	comp=Z,51nm,1.1s							
ORIF	**Oris-en-Rattie**	**146.57**	**337**	*e*PKP	PKPdf	07 55 25.9	-0.6	
ORIF	**Oris-en-Rattie**	**146.57**	**337**	*e*PKIKP	PKPdf	07 55 25.9	-0.6	
TCF	**Toulx Ste Croi**	**146.63**	**342**	*e*PKP1	PKPdf	07 55 25.7	-0.8	
TCF	**Toulx Ste Croi**	**146.63**	**342**	*e*PKP	PKPdf	07 55 25.7	-0.8	
TCF	**Toulx Ste Croi**	**146.63**	**342**	*e*PKIKP	PKPdf	07 55 25.7	-0.8	
SSB	**Saint Sauveur**	**146.76**	**339**	*e*PKPbc	PKPbc	07 55 28.6	+0.1	
SSB	**Saint Sauveur**	**146.76**	**339**	*e*PKP2	PKPdf	07 55 28.6	+1.8	
SBF	**Sospel**	**146.82**	**334**	*e*PKP1	PKPdf	07 55 25.9	-1.0	
SBF	**Sospel**	**146.82**	**334**	*e*PKP	PKPdf	07 55 25.9	-1.0	
SBF	**Sospel**	**146.82**	**334**	*e*PKIKP	PKPdf	07 55 25.9	-1.0	
MFF	**Saint Martin d**	**146.98**	**345**	*e*PKP1	PKPdf	07 55 26.6	-0.5	
	comp=Z,44nm,1.1s							
MFF	**Saint Martin d**	**146.98**	**345**	*e*PKP	PKPdf	07 55 26.6	-0.5	
MFF	**Saint Martin d**	**146.98**	**345**	*e*PKIKP	PKPdf	07 55 26.6	-0.5	
VIVF	**Saint-Julien-l**	**147.08**	**338**	*e*PKP1	PKPdf	07 55 27.4	+0.1	
	comp=Z,80nm,1.5s							
VIVF	**Saint-Julien-l**	**147.08**	**338**	*e*PKP	PKPdf	07 55 27.4	+0.1	
VIVF	**Saint-Julien-l**	**147.08**	**338**	*e*PKIKP	PKPdf	07 55 27.4	+0.1	
PGF	**Pioggiola**	**147.16**	**331**	*e*PKP1	PKPdf	07 55 27.4	-0.1	
	comp=Z,209nm,1.4s							
PGF	**Pioggiola**	**147.16**	**331**	*e*PKP	PKPdf	07 55 27.4	-0.1	
PGF	**Pioggiola**	**147.16**	**331**	*e*PKIKP	PKPdf	07 55 27.4	-0.1	
FRF	**La Foret Royal**	**147.40**	**334**	*e*PKP1	PKPdf	07 55 27.6	-0.3	
	comp=Z,150nm,1.3s							
FRF	**La Foret Royal**	**147.40**	**334**	*e*PKP	PKPdf	07 55 27.6	-0.3	
FRF	**La Foret Royal**	**147.40**	**334**	*e*PKIKP	PKPdf	07 55 27.6	-0.3	
SMRF	**Simiane la Rot**	**147.49**	**336**	*e*PKP1	PKPdf	07 55 28.6	+0.6	
	comp=Z,88nm,1.3s							
SMRF	**Simiane la Rot**	**147.49**	**336**	*e*PKP	PKPdf	07 55 28.6	+0.6	
LMR	**La Mourre**	**147.64**	**334**	*e*PKP1	PKPdf	07 55 28.3	0.0	
	comp=Z,164nm,1.5s							
LMR	**La Mourre**	**147.64**	**334**	*e*PKP	PKPdf	07 55 28.3	0.0	
LMR	**La Mourre**	**147.64**	**334**	*e*PKIKP	PKPdf	07 55 28.3	0.0	
RJF	**Les Rejaudoux**	**147.72**	**342**	*e*PKP1	PKPdf	07 55 29.1	+0.7	
	comp=Z,206nm,1.6s							
RJF	**Les Rejaudoux**	**147.72**	**342**	*e*PKP	PKPdf	07 55 29.1	+0.7	
RJF	**Les Rejaudoux**	**147.72**	**342**	*e*PKIKP	PKPdf	07 55 29.1	+0.7	
CAF	**Calviac**	**147.90**	**341**	*e*PKP1	PKPdf	07 55 29.6	+0.9	
	comp=Z,75nm,1.6s							
CAF	**Calviac**	**147.90**	**341**	*e*PKP	PKPdf	07 55 29.6	+0.9	
CAF	**Calviac**	**147.90**	**341**	*e*PKIKP	PKPdf	07 55 29.6	+0.9	
LASF	**Ste Croix**	**148.04**	**338**	*e*PKP1	PKPdf	07 55 30.0	+1.0	
	comp=Z,34nm,1.0s							
LASF	**Ste Croix**	**148.04**	**338**	*e*PKP	PKPdf	07 55 30.0	+1.0	
LFF	**La Frestale**	**148.28**	**343**	*e*PKP1	PKPdf	07 55 30.3	+1.0	
LFF	**La Frestale**	**148.28**	**343**	*e*PKP	PKPdf	07 55 30.3	+1.0	
LFF	**La Frestale**	**148.28**	**343**	*e*PKIKP	PKPdf	07 55 30.3	+1.0	
RCBR	**Riachuelo**	**148.52**	**129**	PKPbc	PKPbc	07 55 34.7	+0.4	
	comp=Z,20nm,1.1s,baz=33,slow=2.1,SNR=4.2							
VSL	**Villasalto**	**149.25**	**327**	*e*PKPbc	PKPbc	07 55 34.2	-1.1	
MTLF	**Montolieu**	**149.26**	**340**	*e*PKP1	PKPdf	07 55 33.1	+2.1	
	comp=Z,181nm,1.7s							
MTLF	**Montolieu**	**149.26**	**340**	*e*PKP	PKPdf	07 55 33.1	+2.1	
MTLF	**Montolieu**	**149.26**	**340**	*e*PKHKP	PKPdf	07 55 33.1	+2.1	
EPF	**Esparros**	**150.14**	**342**	*e*PKP1	PKPbc	07 55 33.7	-3.7	
	comp=Z,78nm,1.5s							
EPF	**Esparros**	**150.14**	**342**	*e*PKP	PKPdf	07 55 33.7	+1.3	
EPF	**Esparros**	**150.14**	**342**	*e*PKIKP	PKPdf	07 55 33.7	+1.3	
SJPF	**Ste Jean**	**150.51**	**344**	*e*PKP1	PKPbc	07 55 36.2	-2.1	
	comp=Z,114nm,1.7s							
SJPF	**Ste Jean**	**150.51**	**344**	*e*PKP	PKPbc	07 55 36.2	-2.1	
SJPF	**Ste Jean**	**150.51**	**344**	*e*PKIKP	PKPbc	07 55 36.2	-2.1	
ETSF	**Etsaut**	**150.53**	**343**	*e*PKP1	PKPbc	07 55 36.5	-1.8	
	comp=Z,47nm,1.2s							
ETSF	**Etsaut**	**150.53**	**343**	*e*PKP	PKPbc	07 55 36.5	-1.8	
ETSF	**Etsaut**	**150.53**	**343**	*e*PKIKP	PKPbc	07 55 36.5	-1.8	
KEST	**Kesra**	**151.89**	**321**	PKPbc	PKPbc	07 55 40.4	-1.4	
	comp=Z,2.1nm,0.8s,baz=104,slow=4.2,SNR=3.6							
TORD	**Torodi Ar. Bea**	**166.61**	**264**	PKP	PKPdf	07 55 50.8	-2.1	
	comp=Z,2.2nm,1.0s,baz=49,slow=1.1,SNR=7.6							
TORD				PKPab	PKPab	07 56 53.0	-2.2	
	comp=Z,2.7nm,1.0s,baz=88,slow=3.5,SNR=4.9							
TORD	**Torodi Ar. Bea**	**166.61**	**264**	PKP	PKPdf	07 55 50.8	-2.1	
TORD				PKPab	PKPab	07 56 53.0	-2.2	

*ISCJB **07** 07:39:36.6±0.4, 4.66N±0.03×126.01E±0.06, h173km±4km, mb4.4/12, Error ellipse: s-maj=10.4km s-min=4.7km az=175.0*

*MAN **07** 07:39:37, 4.79N×125.76E, h191km, mb4.8, ML3.8, MS3.8*

*NEIC **07** 07:39:38.0±1.0, 4.71N×125.95E, h178km±10km, mb4.9/5, Error ellipse: s-maj=16.3km s-min=8.6km az=77.0*

*IDC **07** 07:39:38.0±0.9, 4.71N×125.96E, h177km±10km, mb4.2/9, mb1 4.2/10, mb1mx3.8/24, mbtmp4.2/10, MS5.5/1, Ms1 5.5/1, ms1mx4.3/34, Error ellipse: s-maj=25.1km s-min=10.8km az=79.0*

*DJA **07** 07:39:38, 4.61N×126.08E, h146km, mb4.9/13*

ISC 07 07:39:37.6±0.4, **4.66N**±0.03×**125.99E**±0.06, **h167**km±4km, **n52**, σ0.99/61, **mb4.4**/12, **2C-2D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.07**	**205**	P		P	**Pn**	**07 40 04.6**	**0.0**
SGSI				S		S	**Sn**	**07 40 24.3**	**-1.0**
DAV	**Davao City (W)**	**2.43**	**350**	P		P	**Pn**	**07 40 19.3**	**+0.5**
	164nm,0.3s,baz=132,slow=2.2,SNR=13								
DAV				S		S	**Sn**	**07 40 51.2**	**+0.5**
	300nm,0.3s,baz=55,slow=18,SNR=8.1								
DAV	**Davao City (W)**	**2.43**	**350**	P		P	**Pn**	**07 40 19.3**	**+0.5**
DAV				S		P	**Sn**	**07 40 51.2**	**+0.5**
DAV	**Davao City--Mi**	**2.46**	**349**	⇑*i*P		P	**Pn**	**07 40 19.2**	**+0.4**
DMPH				*i*	S	P	**Sn**	**07 40 53.4**	**+2.2**
KCP	**Kidapawan**	**2.50**	**339**	⇓*i*P		P	**Pn**	**07 40 21.4**	**+1.8**
KCP				*i*	S	P	**Sn**	**07 40 52.3**	**+0.1**
CTBH	**Cotabato--PC H**	**3.08**	**326**	⇓*e*P		P	**Pn**	**07 40 25.8**	**-0.9**
CTBH				*i*	S	P	**Sn**	**07 41 02.3**	**-2.5**
CGP	**Cagayan de Oro**	**3.99**	**341**	⇑*e*P		P	**Pn**	**07 40 37.9**	**-0.2**
CGP				*e*	S	P	**Sn**	**07 41 23.0**	**-2.4**
TNTI	**Ternate**	**4.10**	**160**	P		P	**Pn**	**07 40 40.1**	**+0.5**
TNTI				S		P	**Sn**	**07 41 27.7**	**-0.3**
KMSI	**Cibinong**	**4.52**	**206**	P		P	**Pn**	**07 40 45.7**	**+0.6**
LBMI	**Labuha**	**5.47**	**164**	P		P	**Pn**	**07 40 57.7**	**+0.2**
	2.4nm104nm,0.5s								
MRSI	**Marisa**	**5.80**	**224**	P		P	**Pn**	**07 41 02.3**	**+0.5**
LUWI	**Luwuk**	**6.51**	**210**	P		P	**Pn**	**07 41 12.2**	**+1.0**
	0.8nm210nm,0.8s								
MYLDM	**Lahad Datu**	**7.48**	**274**	P		P	**Pn**	**07 41 24.8**	**+0.7**
	73nm,1.2s								
NLAI	**Namlea**	**7.92**	**172**	P		P	**Pn**	**07 41 28.3**	**-1.6**
	3.1nm174nm,0.8s								
TTSI	**Tana Toraja**	**9.82**	**219**	P		P	**Pn**	**07 41 55.9**	**+0.8**
	409nm,0.9s								
SPSI	**Sidrap Palu**	**10.58**	**216**	P		P	**Pn**	**07 42 04.9**	**-0.1**
	43nm,0.7s								
BNSI	**Bone**	**10.75**	**213**	P		P	**Pn**	**07 42 07.5**	**+0.3**
	103nm,0.8s								
KAPI	**Kappang**	**11.45**	**213**	*e*Pn		P	**Pn**	**07 42 15.0**	**-1.3**
KAPI	**Kappang**	**11.45**	**213**	P		P	**Pn**	**07 42 14.7**	**-1.6**
	127nm,0.9s								
BKSI	**Bulukumba**	**11.52**	**211**	P		P	**Pn**	**07 42 16.1**	**-1.1**
	28nm,0.9s								
KBKI	**Kotabaru**	**12.60**	**231**	P		P	**Pn**	**07 42 32.3**	**+1.1**
	26nm,0.9s								
SBUM	**Sibu**	**13.92**	**261**	P		P	**Pn**	**07 42 51.8**	**+3.9**
BMNI	**Bima**	**14.99**	**209**	P		P	**Pn**	**07 42 59.8**	**-1.5**
	7µm43nm,0.7s								
KSM	**Kuching**	**15.97**	**259**	*e*P		P	**Pn**	**07 43 14.1**	**+0.8**
KSM	**Kuching**	**15.97**	**259**	P		P	**Pn**	**07 43 14.4**	**+1.1**
	26nm,0.8s								
MTNI	**Mataram**	**16.44**	**217**	P		P	**Pn**	**07 43 23.0**	**+4.1**
KAKA	**Kakadu**	**18.41**	**160**	*e*P		P		**07 43 41.1**	**+0.9**
	117nm,0.6s								
JOW	**Kunigami**	**22.16**	**5**	P		P		**07 44 19.7**	**-0.4**
	4.7nm,0.6s,mb4.1,baz=166,slow=12,SNR=4.7								
JOW	**Kunigami**	**22.16**	**5**	P		P		**07 44 19.7**	**-0.4**
FITZ	**Fitzroy Crossi**	**22.62**	**181**	P		P		**07 44 24.3**	**-0.1**
	18nm,0.4s,mb4.8,baz=6.9,slow=6.7,SNR=33								
FITZ				S		S		**07 48 04.5**	**-15**
	2.7nm,0.7s,baz=98,slow=19,SNR=3.0								
FITZ	**Fitzroy Crossi**	**22.62**	**181**	*e*P		P		**07 44 24.4**	**0.0**
	19nm,0.5s,mb4.8								
FITZ				S		S		**07 48 04.5**	**-15**
WRAB	**Tennant Creek**	**25.78**	**162**	*e*P		P		**07 44 53.3**	**+0.2**
	7.0nm,0.4s,mb4.6								
WRA	**Warramunga Arr**	**25.79**	**162**	P		P		**07 44 52.7**	**-0.4**
	5.5nm,0.4s,mb4.6,baz=340,slow=10.0,SNR=41								
WRA				S		S		**07 48 57.2**	**-13**
	1.4nm,0.5s,baz=329,slow=22,SNR=4.4								
WRA	**Warramunga Arr**	**25.79**	**162**	P		P		**07 44 52.7**	**-0.4**
WRA				S		S		**07 48 57.2**	**-13**
CBIJ	**Chichi jima**	**27.14**	**33**	P		P		**07 45 05.2**	**-0.1**
	46nm,0.8s,mb5.2,baz=287,slow=18,SNR=3.2								
ASAR	**Alice Springs**	**29.19**	**165**	P		P		**07 45 23.8**	**+0.3**
	4.6nm,0.5s,mb4.4,baz=351,slow=8.7,SNR=11								
ASAR	**Alice Springs**	**29.19**	**165**	P		P		**07 45 23.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**29.77**	**300**	P		P		**07 45 29.4**	**+0.7**
	0.8nm,0.3s,mb3.9,baz=130,slow=8.4,SNR=3.0								
CMAR				ScP		ScP		07 51 55.0	+0.1
	0.5nm,0.4s,baz=131,slow=3.8,SNR=4.6								
CMAR	**Chiang Mai Arr**	**29.77**	**300**	P		P		**07 45 29.4**	**+0.7**
CMAR				ScP		ScP		07 51 55.0	+0.1
FORT	**Forrest**	**35.29**	**177**	*e*P		P		**07 46 16.5**	**-0.1**
	29nm,0.7s,mb5.0								
NWAO	**Narrogin (SRO)**	**38.29**	**192**	P		P		**07 46 41.6**	**-0.2**
	13nm,0.4s,mb4.9,baz=23,slow=9.3,SNR=20								
NWAO	**Narrogin (SRO)**	**38.29**	**192**	P		P		**07 46 41.6**	**-0.2**
STKA	**Stephens Creek**	**39.25**	**159**	P		P		**07 46 50.8**	**+0.9**
	6.1nm,0.6s,mb4.4,baz=358,slow=11,SNR=5.0								
STKA	**Stephens Creek**	**39.25**	**159**	*e*P		P		**07 46 50.5**	**+0.6**
	0.9nm,0.5s,mb3.7								
MKAR	**Makanchi Array**	**56.38**	**325**	P		P		**07 48 58.5**	**-2.8**
	0.2nm,0.4s,mb3.3,baz=115,slow=7.8,SNR=4.8								
MKAR				ScP		ScP		07 53 37.5	-2.7
	1.1nm,0.7s,baz=123,slow=5.6,SNR=5.2								
MKAR	**Makanchi Array**	**56.38**	**325**	P		P		**07 48 58.5**	**-2.8**
MKAR				ScP		ScP		07 53 37.5	-2.7
AAK	**Ala-Archa**	**59.18**	**318**	LR		LR		08 18 45.2	
	comp=Z,4µm,21.5s,baz=86,slow=40								
MAW	**Mawson**	**84.36**	**200**	P		P		**07 51 50.2**	**-0.3**
	2.0nm,0.8s,mb3.9,baz=75,slow=8.2,SNR=8.0								
MAW	**Mawson**	**84.36**	**200**	*e*P		P		**07 51 50.4**	**-0.2**
	0.5nm,0.8s,mb3.3								
TORD	**Torodi Ar. Bea**	**121.93**	**289**	PKP		PKPdf		07 58 11.7	-1.3
	0.8nm,0.7s,baz=86,slow=2.2,SNR=3.1								
TORD	**Torodi Ar. Bea**	**121.93**	**289**	PKP		PKPdf		07 58 11.7	-1.3

NEIC 07 07:45:18.8, 61.62N×149.92W, h46km, ML3.7(PMR), **ML3.3**(AEIC), **After AEIC., Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMR	**Palmer**	**0.38**	**93**	P		P	Pn	07 45 27.3	-1.0
PMR				S		S	Sn	07 45 35.1	+0.1
SUA	**Susitna One**	**0.42**	**249**	P		P	Pn	07 45 28.2	-0.6
SUA				S		S	Sn	07 45 36.3	+0.3
FIB	**Fire Island**	**0.47**	**195**	P		P	Pn	07 45 29.2	-0.2
FIB				S		S	Sn	07 45 39.0	+2.1
GHO	**Glory Hole Cre**	**0.50**	**71**	P		P	Pn	07 45 29.2	-0.6
GHO				S		S	Sn	07 45 38.4	+0.8
RC01	**Rabbit Creek A**	**0.54**	**170**	P		P	Pn	07 45 29.2	-1.0
RC01				S		S	Sn	07 45 38.4	0.0
SML	**Sawmill**	**0.78**	**75**	P		P	Pn	07 45 32.6	-0.8
SML				S		S	Sn	07 45 44.2	+0.2
SKT	**Skwentna**	**0.85**	**296**	P		P	Pn	07 45 33.1	-1.2
SKT				S		S	Sn	07 45 45.2	-0.4
SLKM	**Skilak Lake**	**1.12**	**188**	P		P	Pn	07 45 37.0	-1.0
SCM	**Sheep Creek Mo**	**1.25**	**79**	P		P	Pn	07 45 39.6	-0.2
SEW	**Seward**	**1.54**	**171**	P		P	Pn	07 45 44.0	+0.3
PPLA	**Purkeypile**	**1.67**	**321**	P		P	Pn	07 45 44.7	-0.7
RSO	**Redoubt South**	**1.80**	**231**	*e*Pn		P	Pn	07 45 47.1	-0.2
TRF	**Thorofare Moun**	**1.85**	**355**	P		P	Pn	07 45 47.9	-0.1
RND	**Reindeer**	**1.86**	**15**	P		P	Pn	07 45 48.0	-0.1
DHY	**Denali Highway**	**1.89**	**38**	P		P	Pn	07 45 48.4	0.0
BRLK	**Bradley Lake**	**1.92**	**195**	P		P	Pn	07 45 48.0	-1.0
DIV	**Divide**	**2.06**	**102**	P		P	Pn	07 45 50.0	-0.8
MCK	**McKinley**	**2.17**	**12**	P		P	Pn	07 45 52.2	-0.2
CNPM	**China Poot**	**2.20**	**198**	P		P	Pn	07 45 52.2	-0.6
EYAK	**Cordova Ski Ar**	**2.29**	**116**	P		P	Pn	07 45 52.9	-1.2
PAX	**Paxson**	**2.48**	**55**	P		P	Pn	07 45 57.8	+1.2
BPAW	**Bear Paw Mtn.**	**2.54**	**349**	P		P	Pn	07 45 56.7	-0.7
BMRM	**Bremner River**	**2.65**	**102**	P		P	Pn	07 45 57.6	-1.3
SVW2	**Sparrevohn**	**2.78**	**262**	*e*P		P	Pn	07 45 59.6	-1.1
DDM	**Donnelly Dome**	**2.87**	**39**	P		P	Pn	07 46 04.1	+2.1
HDA	**Harding Lake**	**3.11**	**24**	P		P	Pn	07 46 05.0	-0.2
TT01	**Tatalina**	**3.13**	**297**	P		P	Pn	07 46 04.5	-1.1
MENT	**Mentasta**	**3.19**	**63**	*e*P		P	Pn	07 46 08.2	+1.9
DOT	**Dot Lake**	**3.39**	**50**	*e*Pn		P	Pn	07 46 09.7	+0.7
DOT				*e*Sn		S	Sn	07 46 54.0	+6.1
COLA	**College**	**3.40**	**15**	*e*Pn		P	Pn	07 46 08.6	-0.6
COLA				*e*Sn		S	Sn	07 46 46.2	-2.0
EGAK	**Eagle**	**5.08**	**48**	*e*Pn		P	Pn	07 46 31.9	-0.3
	15nm,0.5s								
EGAK				*e*S		S	Sn	07 47 52.7	+23
DAWY	**Dawson**	**5.41**	**58**	*e*Pn		P	Pn	07 46 37.0	+0.2
COLD	**Coldfoot**	**5.63**	**359**	*e*Pn		P	Pn	07 46 40.0	+0.1
	5.8nm,0.5s								

*IDC **07** 07:45:49.9±0

comp=Z,53nm,0.8s,mb5.2
FITZ Fitzroy Crossi 40.69 260 P **P** 07 53 33.3 -0.5
comp=Z,123nm,1.0s,mb5.5
NLAI Namlea 41.98 282 P **P** 07 53 45.2 +0.7
comp=Z,217nm,1.2s,mb5.7
LBMI Labuha 42.50 286 P **P** 07 53 50.3 +1.6
comp=Z,104nm,1.4s,mb5.3
MMRI Maumere 45.20 273 P **P** 07 54 10.7 +0.3
comp=Z,121nm,1.1s,mb5.7
MBWA Marble Bar 46.19 255 *e*P **P** 07 54 18.3 +0.2
MBWA Marble Bar 46.19 255 *e*P **P** 07 54 17.6 -0.6
comp=Z,63nm,0.8s,mb5.6
MBWA Marble Bar 46.19 255 P **P** 07 54 18.0 -0.1
comp=Z,111nm,1.0s,mb5.7
BKSI Bulukumba 48.03 276 P **P** 07 54 32.7 0.0
comp=Z,42nm,0.9s,mb5.5
MRSI Marisa 48.09 285 P pP 07 54 44.3 +8.1
BNSI Bone 48.30 278 P **P** 07 54 35.4 +0.7
comp=Z,111nm,1.1s,mb5.8
KAPI Kappang 48.47 277 *e*P **P** 07 54 35.0 -1.0
comp=Z,112nm,1.0s,mb5.8
KAPI Kappang 48.47 277 P **P** 07 54 35.4 -0.6
comp=Z,111nm,1.1s,mb5.8
KLBR Kellerberrin 48.62 241 *e*P **P** 07 54 35.7 -1.2
comp=Z,24nm,0.7s,mb5.3
BMNI Bima 48.65 272 P **P** 07 54 36.8 -0.6
comp=Z,4µmcomp=Z,125nm,1.3s,mb5.8
SPSI Sidrap Palu 48.74 278 P **P** 07 54 37.3 -0.8
comp=Z,39nm,1.1s,mb5.4
TTSI Tana Toraja 48.96 279 P **P** 07 54 40.4 +0.6
comp=Z,3µmcomp=Z,28nm,1.1s,mb5.2
NWAO Narrogin (SRO) 49.24 239 P **P** 07 54 41.0 -0.8
comp=Z,70nm,0.9s,mb5.7,baz=78,slow=7.6,SNR=18
NWAO PP PP 07 56 35.2 -0.4
comp=Z,23nm,0.9s,baz=67,slow=8.4,SNR=5.4
NWAO Narrogin (SRO) 49.24 239 *e*P **P** 07 54 40.8 -0.9
comp=Z,84nm,1.0s,mb5.7
NWAO Narrogin (SRO) 49.24 239 P **P** 07 54 41.0 -0.7
NWAO 07 56 35.2
NWAO pmax pmax
comp=Z,70nm,0.9s
NWAO pmax pmax
comp=Z,23nm,0.9s
KBKI Kotabaru 52.38 277 P **P** 07 55 06.1 +0.5
comp=Z,63nm,1.0s,mb5.5
MYLDM Lahad Datu 53.02 288 P **P** 07 55 12.6 +2.3
comp=Z,53nm,1.6s,mb5.2
BBKI Banjar Baru 53.60 277 P **P** 07 55 16.3 +1.6
comp=Z,96nm,1.3s,mb5.6
KKM Kota Kinabalu 55.45 288 *e*P **P** 07 55 28.4 +0.3
comp=Z,110nm,1.4s,mb5.7
KKM Kota Kinabalu 55.45 288 P **P** 07 55 28.6 +0.5
comp=Z,67nm,1.5s,mb5.5
JOW Kunigami 56.75 317 P **P** 07 55 36.8 -0.3
comp=Z,24nm,0.9s,mb5.2,baz=130,slow=9.2,SNR=9.9
JOW Kunigami 56.75 317 *e*P **P** 07 55 37.0 -0.1
comp=Z,111nm,1.0s,mb4.8
BTM Bintulu 57.33 284 P **P** 07 55 41.8 +0.4
STKI Sintang 57.84 280 P **P** 07 55 46.3 +1.2
comp=Z,64nm,1.1s,mb5.6
SBUM Sibu 57.89 283 P **P** 07 55 46.1 +0.6
SBUM Sibu 57.89 283 P **P** 07 55 45.8 +0.3
comp=Z,28nm,1.1s,mb5.2
MJAR Matsushiro Arr 58.49 332 P **P** 07 55 47.2 -2.0
comp=Z,10nm,0.9s,mb4.8,baz=167,slow=8.0,SNR=13
MJAR Matsushiro Arr 58.49 332 P **P** 07 55 47.2 -2.0
MJAR Matsushiro Arr 58.49 332 P **P** 07 55 47.2 -2.0
MJAR pmax pmax
comp=Z,11nm,0.9s
MAJO Matsushiro 58.49 332 *e*P **P** 07 55 47.7 -1.4
comp=Z,6.7nm,0.8s,mb4.7
MAJO Matsushiro 58.49 332 *e*P **P** 07 55 47.7 -1.5
MAJO pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
MAT Matsushiro 58.49 332 P **P** 07 55 47.2 -2.0
KSM Kuching 59.38 281 P **P** 07 55 56.0 +0.1
KSM Kuching 59.38 281 *e*P **P** 07 55 55.8 -0.1
comp=Z,80nm,1.3s,mb5.6
KSM Kuching 59.38 281 P **P** 07 55 55.7 -0.2
comp=Z,48nm,1.1s,mb5.4
JNU Nakatsue 59.57 324 *e*P **P** 07 55 56.0 -0.7
comp=Z,6.9nm,0.9s,mb4.7
YHNB Yeheng 60.22 310 *e*P **P** 07 56 00.6 -0.8
comp=Z,40nm,1.0s,mb5.4
DBJI Dramaga 60.63 271 P **P** 07 56 05.8 +1.4
comp=Z,77nm,1.5s,mb5.6
CGJI Cibinong 61.63 271 P **P** 07 56 11.7 +0.4
comp=Z,94nm,1.1s,mb5.8
PPBI Pangkal Pinang 62.32 276 P **P** 07 56 16.3 +0.4
SBA Scott Base 62.87 180 *e*P **P** 07 56 18.8 +0.3
comp=Z,90nm,1.5s,mb5.7
SBA Scott Base 62.87 180 *e*P **P** 07 56 18.8 +0.3
SBA pmax pmax
comp=Z,90nm,1.5s,mb5.7
ASAJ Asahikawa 63.25 340 P **P** 07 56 21.2 -0.1
comp=Z,17nm,0.9s,mb5.2,baz=168,slow=8.9,SNR=4.8
ASAJ Asahikawa 63.25 340 P **P** 07 56 21.3 -0.1
ASAJ pmax pmax
comp=Z,17nm,0.9s
KSRS Korea Array 64.38 325 P **P** 07 56 28.1 -0.9
comp=Z,3.4nm,0.9s,mb4.4,baz=140,slow=7.2,SNR=7.6
KSRS Korea Array 64.38 325 P **P** 07 56 28.1 -0.9
KSRS pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
MYKOM Kota Tinggi 65.63 279 P **P** 07 56 37.9 +0.3
KGM Kluang 66.20 279 P **P** 07 56 42.0 +0.7
NJ2 Nanjing 66.39 315 *e*P **P** 07 56 41.4 -0.7
NJ2 pmax pmax
comp=Z,20nm,1.0s,mb5.1
PETK Petropavlovsk- 68.41 353 P **P** 07 56 55.9 +1.4
comp=Z,3.4nm,1.0s,mb4.3,baz=170,slow=9.6,SNR=3.7
PETK Petropavlovsk- 68.41 353 P **P** 07 56 55.9 +1.4
PETK Petropavlovsk- 68.41 353 P **P** 07 56 55.9 +1.4
PETK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
WHN Wuhan 68.67 312 P **P** 07 56 56.4 -0.2
MDJ Mudanjiang 68.87 332 P **P** 07 56 57.2 -0.3
MDJ pmax pmax
comp=Z,23nm,1.2s,mb5.0
MDJ pmax pmax
comp=Z,5µm,14.4s
MDJ Mudanjiang 68.87 332 *e*P **P** 07 56 57.5 -0.1
comp=Z,14nm,0.8s,mb4.9
IPM Ipoh 69.12 281 P **P** 07 56 59.8 0.0
IPM Ipoh 69.12 281 *e*P **P** 07 56 59.5 -0.3
comp=Z,28nm,1.2s,mb5.1
MNSI Mandailing Nat 69.43 277 P **P** 07 56 57.6 -4.2
comp=Z,70nm,0.9s,mb5.6
KULM Kulim 69.72 282 *e*P **P** 07 57 03.0 -0.6
comp=Z,36nm,1.4s,mb5.1
CN2 Changchun 70.26 329 *e*P **P** 07 57 09.5 +3.4
CN2 *e*S S 08 06 17.1 -0.9
CN2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,1µm,15.0s,MS5.5
CN2 LR LR
comp=E,2µm,15.0s,MS5.5
CN2 LR LR
comp=Z,500nm,15.0s,MS4.9
PSI Prapat 70.63 278 P **P** 07 57 07.6 -1.5
comp=Z,24nm,0.9s,mb5.1,baz=156,slow=3.5,SNR=13
PSI Prapat 70.63 278 P **P** 07 57 07.6 -1.5
PSI Prapat 70.63 278 P **P** 07 57 07.6 -1.5
PSI pmax pmax
comp=Z,24nm,0.9s,mb5.1
ENH Enshi 72.11 309 *e*P **P** 07 57 16.5 -1.2
comp=Z,10nm,0.7s,mb4.9
GYA Guiyang 72.47 304⇑ *i*P **P** 07 57 20.6 +0.6
GYA PP PP 08 00 03.5 +2.2
GYA S S 08 06 44.3 -0.1
GYA SKS 08 07 22.4
GYA pmax pmax
comp=Z,30nm,1.1s,mb5.1
GYA pmax pmax
comp=Z,120nm,6.3s
GYA LR LR
comp=N,590nm,21.5s,MS4.9
GYA LR LR
comp=E,500nm,22.0s,MS4.9
GYA LR LR
comp=Z,550nm,22.6s,MS4.8
XAN Xi'an 74.42 312 P **P** 07 57 30.3 -0.9
XAN sP sP 07 57 42.0 +6.3
XAN pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
XAN pmax pmax
comp=Z,240nm,10.3s
QSPA South Pole Qui 75.03 180 P **P** 07 57 33.1 -1.0
comp=Z,19nm,1.0s,mb5.0,baz=9.1,slow=2.3,SNR=33
QSPA South Pole Qui 75.03 180 P **P** 07 57 33.1 -1.0
KMI Kunming 75.08 302 P **P** 07 57 36.1 +0.9
KMI pmax pmax
comp=Z,25nm,1.1s,mb5.1
CHRT Chiangrai 75.52 295⇑ P **P** 07 57 36.0 -1.9
comp=Z,155nm,1.0s,mb5.9
CMAR Chiang Mai Arr 75.73 294 P **P** 07 57 38.5 -0.6
comp=Z,6.4nm,0.6s,mb4.7,baz=117,slow=4.2,SNR=29
CMAR Chiang Mai Arr 75.73 294 P **P** 07 57 38.5 -0.6
CMAR Chiang Mai Arr 75.73 294 P **P** 07 57 38.6 -0.5
CHG Chiang Mai 75.86 294⇑ P **P** 07 57 39.9 0.0
comp=Z,18nm,1.0s,mb5.0
CHTO Chiang Mai 75.86 294 *e*P **P** 07 57 40.3 +0.4
comp=Z,38nm,1.5s,mb5.1
CHTO pmax pmax
comp=Z,38nm,1.5s,mb5.1
CHTO Chiang Mai 75.86 294 P **P** 07 57 40.1 +0.2
comp=Z,22nm,1.2s,mb5.0
HHC Hu-ho-hao-te 76.27 319 *e*P **P** 07 57 42.3 +0.6
HHC sP sP 07 57 56.8 +11
HHC PP PP 08 00 35.8 +2.5
HHC S S 08 07 24.1 -2.3
HHC sS sS 08 07 41.0 +9.2
HHC SKS 08 07 46.0
HHC ScS ScS 08 07 51.9 -5.2
HHC pmax pmax
comp=Z,39nm,0.6s,mb5.5
HHC pmax pmax
comp=Z,4µm,8.9s
HHC LR LR
comp=N,730nm,15.5s,MS5.4
HHC LR LR
comp=E,1µm,15.3s,MS5.4
HHC LR LR
comp=Z,2µm,15.8s,MS5.5
CD2 Chengdu 76.76 307 P **P** 07 57 44.8 +0.1
CD2 pP pP 07 57 55.1 +7.1
CD2 sP sP 07 57 59.0 +10
CD2 PP PP 08 00 38.7 +1.0
CD2 S S 08 07 28.5 -3.7
CD2 sS sS 08 07 45.4 +7.8
CD2 SS SS 08 12 26.5 -2.1
CD2 pmax pmax
comp=Z,30nm,0.7s,mb5.3
CD2 pmax pmax
comp=Z,750nm,9.5s
CD2 LR LR
comp=N,2µm,16.7s
CD2 LR LR
comp=Z,2µm,14.9s,MS5.5
SEY Seymchan 78.64 353 *i*P **P** 07 57 53.8 -0.7
LZH Lanzhou 79.05 312 *e*P **P** 07 57 58.8 +1.4
LZH pP pP 07 58 02.1 +1.4
LZH pmax pmax
comp=Z,120nm,1.6s,mb5.6
LZH pmax pmax
comp=Z,640nm,5.9s
LZH LR LR
comp=N,2µm,15.6s,MS5.8
LZH LR LR
comp=E,3µm,13.7s,MS5.8
LZH LR LR
comp=Z,4µm,19.6s
MAW Mawson 81.91 202 P **P** 07 58 11.1 -1.1
comp=Z,4.3nm,0.9s,mb4.4,baz=113,slow=4.6,SNR=11
MAW Mawson 81.91 202 *e*P **P** 07 58 10.8 -1.4
comp=Z,2.7nm,1.4s,mb4.0
MAW Mawson 81.91 202 P **P** 07 58 11.1 -1.1
MAW pmax pmax
comp=Z,4.0nm,0.9s
YAK Yakutsk 82.50 343 *e*P **P** 07 58 13.2 -2.0
YAK pmax pmax
comp=Z,27nm,1.0s,mb5.2
YAK pmax pmax
comp=N,11nm,1.5s
YAK pmax pmax
comp=E,7.0nm,1.3s
ULN Ulaanbaatar 82.79 324 *e*P **P** 07 58 16.9 -0.2
comp=E,46nm,1.1s,mb5.4
ULN Ulaanbaatar 82.79 324 *e*P **P** 07 58 16.9 -0.2
ULN pmax pmax
comp=Z,46nm,1.1s,mb5.4
ULN Ulaanbaatar 82.79 324 P **P** 07 58 16.9 -0.2
BILL Bilibino 82.82 359 *e*P **P** 07 58 15.3 -1.5
comp=Z,15nm,1.2s,mb4.9
BILL Bilibino 82.82 359⇓ *i*P **P** 07 58 15.6 -1.2
BILL *e* 08 01 23.2
BILL *e*S S 08 08 37.7 +3.0
BILL pmax pmax
comp=Z,17nm,1.1s,mb5.0
BILL MLR MLR
comp=Z,1µm,15.0s,MS5.4
SONM Songino Array 83.15 323 P **P** 07 58 18.6 -0.4
comp=Z,20nm,1.1s,mb5.1,baz=130,slow=5.1,SNR=56
SONM Songino Array 83.15 323 P **P** 07 58 18.6 -0.4
SONM Songino Array 83.15 323 P **P** 07 58 18.6 -0.3
SONM pmax pmax
comp=Z,20nm,1.1s
GTA Gaotai 83.39 314 *e*P **P** 07 58 20.6 +0.2
GTA pP pP 07 58 30.8 +7.1
GTA sP sP 07 58 35.2 +10
GTA S S 08 08 38.5 -3.2
GTA sS sS 08 08 53.2 +6.0
GTA pmax pmax
comp=Z,28nm,1.5s,mb5.1
GTA pmax pmax
comp=Z,1µm,6.9s
GTA LR LR
comp=N,3µm,17.1s,MS5.7
GTA LR LR
comp=E,2µm,18.7s,MS5.7
GTA LR LR
comp=Z,2µm,17.3s,MS5.5
PMR Palmer 83.51 19 *e*P **P** 07 58 19.0 -1.4
comp=Z,5.6nm,0.8s,mb4.8
PMR Palmer 83.51 19 *e*P **P** 07 58 19.0 -1.5
PMR pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
KIPM Iron Peak 83.75 46 *e*P **P** 07 58 22.0 -0.2
comp=Z,31nm,1.3s,mb5.3
BOD Bodaibo 85.04 334 *e*P **P** 07 58 24.7 -3.6
BOD pmax pmax
comp=Z,15nm,1.3s,mb5.0
MCK McKinley 85.19 18 *e*P **P** 07 58 27.4 -1.5
comp=Z,11nm,1.0s,mb5.0
MCK McKinley 85.19 18 *e*P **P** 07 58 27.4 -1.5
MCK pmax pmax
comp=Z,11nm,1.0s,mb4.9
ARVC Arvin 85.27 52⇑ P **P** 07 58 29.9 -0.1
baz=85
VES Vestal, Richgr 85.35 51⇑ P **P** 07 58 29.8 -0.6
baz=85
MWC Mount Wilson 85.53 53 *e*P **P** 07 58 31.0 -0.4
comp=Z,15nm,1.0s,mb5.2
MWC Mount Wilson 85.53 53 *e*P **P** 07 58 31.0 -0.4
MWC pmax pmax
comp=Z,15nm,1.0s,mb5.2
ISA Isabella 85.74 52⇑ P **P** 07 58 31.5 -0.9
baz=86
BFSC Mount Baldy Ra 85.85 53⇑ P **P** 07 58 32.5 -0.4
baz=86
BAR Barrett 86.06 55 *e*P **P** 07 58 33.3 -0.7
comp=Z,4.5nm,1.1s,mb4.6
WCN Washoe City 86.17 48⇑ P **P** 07 58 34.7 +0.3
baz=86
ZAK Zakamensk 86.20 325 *e*P **P** 07 58 33.1 -1.2
ZAK pmax pmax
comp=Z,8.0nm,1.2s,mb4.8
LRMC Laurel Mountai 86.27 52⇑ P **P** 07 58 34.9 -0.1
baz=86
CWC Cottonwood Cre 86.32 51⇓ P **P** 07 58 35.0 -0.2
baz=86
LSA Lhasa 86.33 302 *e*P **P** 07 58 35.3 -0.1
comp=Z,7.5nm,0.7s,mb5.0
LSA Lhasa 86.33 302 *e*P **P** 07 58 35.3 -0.1
LSA pmax pmax
comp=Z,7.0nm,0.7s,mb5.0
MONP Monument Peak 86.34 55⇑ P **P** 07 58 35.1 -0.3
baz=86
ILAR Eielson Array 86.56 18 P **P** 07 58 33.1 -2.6
comp=Z,5.1nm,0.7s,mb4.8,baz=238,slow=5.2,SNR=52
ILAR Eielson Array 86.56 18 P **P** 07 58 33.1 -2.6
ILAR pmax pmax
comp=Z,5.0nm,0.7s
PFO Pinyon Flat Ob 86.56 54⇓ P **P** 07 58 36.1 -0.4
baz=87
PAHR Pah Rah Range 86.59 48 *e*P **P** 07 58 35.8 -0.7
comp=Z,14nm,1.3s,mb5.0
TLY Talaya 86.63 326 *e*P **P** 07 58 35.1 -1.2
TLY pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
G04A Mulino 86.71 42⇑ P **P** 07 58 37.5 +0.6
baz=87
SWSC Sam W. Stewart 86.85 55⇓ P **P** 07 58 37.9 0.0
baz=87
GSC Goldstone 86.88 52⇑ P **P** 07 58 38.1 +0.1
baz=87
GSC Goldstone 86.88 52 *e*P **P** 07 58 35.6 -2.4
comp=Z,9.5nm,1.2s,mb4.9
GSC Goldstone 86.88 52 *e*P **P** 07 58 35.6 -2.4
GSC pmax pmax
comp=Z,10.0nm,1.2s,mb4.9
NVAR Mina Array Bea 86.89 49 P **P** 07 58 35.8 -2.1
comp=Z,3.3nm,0.8s,mb4.6,baz=231,slow=8.1,SNR=11
NVAR Mina Array Bea 86.89 49 P **P** 07 58 35.8 -2.1
BELC Belle Mtn. Jos 87.05 54⇓ P **P** 07 58 38.9 +0.1
baz=87
GRAC Grapevine Rang 87.06 51⇑ P **P** 07 58 39.2 +0.4
baz=87
HEC Hector,Ludlow 87.08 53⇑ P **P** 07 58 38.6 -0.4
baz=87
FURC Furnace Creek, 87.25 51⇑ P **P** 07 58 39.9 +0.1
baz=87
BC3 Big Chuckawall 87.36 54⇓ P **P** 07 58 40.5 +0.1
baz=87
SHOC Shoshone 87.49 52⇑ P **P** 07 58 40.7 -0.2
baz=88
GMRC Granite Mounta 87.58 53⇑ P **P** 07 58 41.2 -0.2
baz=88
GLA Glamis 87.65 55⇑ P **P** 07 58 42.6 +0.8
baz=88
IRM Iron Mountain 87.77 54⇓ P **P** 07 58 42.3 0.0
baz=88
Y12C Blythe 88.12 54⇑ P **P** 07 58 44.2 +0.2
baz=88
113A Mohawk Valley, 88.40 56⇓ P **P** 07 58 45.0 -0.3
baz=88
SHPR Sheep Range 88.55 52 *e*P **P** 07 58 46.0 +0.1
comp=Z,17nm,1.4s,mb5.2
PDMCI Parker Dam,Lak 88.60 54⇑ P **P** 07 58 46.2 0.0
baz=89
J08A Circle Bar Ran 88.61 44⇑ P **P** 07 58 46.5 +0.4
baz=89
Z13A Yuma Proving G 88.63 55⇑ P **P** 07 58 46.3 -0.1
baz=88
R11A Troy Canyon, C 88.86 50⇓ P **P** 07 58 47.2 -0.2
baz=89
214A Organ Pipe Nat 88.91 57⇑ P **P** 07 58 48.0 +0.2
baz=89
G08A Pilot Rock 89.02 42⇓ P **P** 07 58 47.7 -0.3
baz=89
114A Black Gap (USA 89.10 56⇓ P **P** 07 58 49.0 +0.4
baz=89
Z14A Wintersburg 89.24 55⇓ P **P** 07 58 49.6 +0.3
baz=89
Y14A Wickenburg 89.38 55⇓ P **P** 07 58 49.7 -0.2
baz=89
U13A Pakoon Wash 89.43 52⇓ P **P** 07 58 50.4 +0.3
baz=90
V14A Boquillas Ranc 89.84 53⇓ P **P** 07 58 52.3 +0.3
baz=90,SNR=5.8
Z15A Gila River Ind 89.85 56⇑ P **P** 07 58 52.1 0.0
baz=90
Y15A Casa Rosa Ranc 89.91 55⇓ P **P** 07 58 52.9 +0.4
baz=90,SNR=8.0
B08A Colville Reser 89.96 40⇓ P **P** 07 58 53.7 +1.4
baz=90
116A Eloy 89.99 56⇑ P **P** 07 58 53.2 +0.3
baz=90
R13A O'Grain Ranch, 90.00 50⇓ P **P** 07 58 53.5 +0.8
baz=90
U14A Mt Trumbull 90.03 52⇑ P **P** 07 58 53.6 +0.7
baz=90,SNR=13
F10A Beach Ranch, E 90.40 42⇑ P **P** 07 58 54.2 -0.2
baz=90
Z16A Peralta Trail, 90.44 56⇓ P **P** 07 58 55.0 +0.1
baz=90
217A Green Valley 90.47 57⇑ P **P** 07 58 55.8 +0.7
baz=90
Y16A Circle Bar Ran 90.57 55⇑ P **P** 07 58 55.7 +0.2
baz=91,SNR=7.8
V15A Kaibab Nationa 90.61 53⇑ P **P** 07 58 56.0 +0.3
baz=91,SNR=6.2
U15A North Rim 90.71 53⇑ P **P** 07 58 56.8 +0.7
baz=91,SNR=10
117A Oracle 90.77 57⇑ P **P** 07 58 56.7 +0.2
baz=91
Q14A Sevier Lake (B 90.77 50⇓ P **P** 07 58 56.5 +0.2
baz=91,SNR=5.7
T15A Red Dirt Ranch 90.83 52⇑ P **P** 07 58 57.0 +0.4
baz=91
W16A Flagstaff 90.89 54⇓ P **P** 07 58 58.0 +1.1
baz=91,SNR=5.2
Y17A Roosevelt 91.02 55⇑ P **P** 07 58 57.9 +0.4
baz=91
318A Bisbee 91.05 58⇓ P **P** 07 58 57.9 +0.2
baz=91
P14A Drum Mountains 91.12 49⇑ P **P** 07 58 58.1 +0.2
baz=91
WUAZ Wupatki 91.14 54⇑ P **P** 07 58 58.5 +0.4
baz=91,SNR=5.6
WUAZ Wupatki 91.14 54 *e*P **P** 07 58 58.5 +0.4
comp=Z,6.2nm,0.9s,mb4.9
218A Dragoon 91.15 57⇑ P **P** 07 58 58.4 +0.2
baz=91
X17A Forest Lakes 91.24 55⇑ P **P** 07 58 59.1 +0.5
baz=91
G12A Big Creek, Yel 91.36 44⇑ P **P** 07 58 58.9 0.0
baz=91
118A Homack Ranch, 91.41 57⇓ P **P** 07 58 59.7 +0.3
baz=91,SNR=6.7
HLID Hailey 91.45 45⇓ P **P** 07 58 59.9 +0.6
baz=92
H12A Diamond D Ranc 91.47 44⇑ P **P** 07 58 59.4 0.0
baz=92
T16A Glen Canyon Da 91.48 52⇑ P **P** 07 58 59.6 0.0
baz=92
DUG Dugway 91.50 49⇓ P **P** 07 59 00.1 +0.5
baz=92
U16A Tuba City 91.52 53⇑ P **P** 07 59 00.1 +0.2
baz=92,SNR=5.9
J13A Cove Ranch, Pi 91.56 45⇑ P **P** 07 59 00.0 +0.2
baz=92
319A Douglas 91.61 58⇑ P **P** 07 59 00.6 +0.3
baz=92
F12A Elk City 91.61 43⇑ P **P** 07 59 00.3 +0.3
baz=92
V17A Tonalea, Kykot 91.62 54⇓ P **P** 07 59 00.5 +0.2
baz=92
S16A Weppner Ranch, 91.64 51⇓ P **P** 07 59 00.5 +0.1
baz=92
Y18A Canyon Day Jun 91.69 56⇑ P **P** 07 59 01.1 +0.4
baz=92,SNR=5.3
I13A Wildhorse Cree 91.77 45⇑ P **P** 07 59 01.4 +0.6
baz=92
L14A Malta 91.77 47⇓ P **P** 07 59 00.9 0.0
baz=92
219A White Tail Can 91.80 57⇑ P **P** 07 59 01.6 +0.3
baz=92,SNR=6.2
H13A Challis 91.89 44⇑ P **P** 07 59 02.2 +0.8
baz=92
R16A Teasdale 91.89 51⇓ P **P** 07 59 01.9 +0.4
baz=92
N15A Stansbury Isla 91.92 48⇓ P **P** 07 59 01.7 +0.1
baz=92
X18A Snowflake 91.97 55⇑ P **P** 07 59 02.0 0.0
baz=92
K14A Jones Ranch, D 91.98 46⇑ P **P** 07 59 02.3 +0.5
baz=92
119A Ashpeak Ranch, 91.98 57⇑ P **P** 07 59 01.9 -0.2
baz=92
J14A Carey 91.99 46⇑ P **P** 07 59 02.1 +0.3
baz=92
D12A Red Ives Fores 91.99 42⇑ P **P** 07 59 02.2 +0.4
baz=92
T17A Navajo Res., N 92.02 52⇓ P **P** 07 59 02.5 +0.3
baz=92

G13A	Cobalt	92.07	44	⇓P		P	07 59 02.5	+0.4	
	baz=92								
320A	Kipp Ranch, An	92.22	58	⇑P		P	07 59 04.0	+0.8	
	baz=92,SNR=6.0								
I14A	Mackay	92.22	45	⇑P		P	07 59 03.4	+0.4	
	baz=92								
F13A	Darby	92.23	43	⇑P		P	07 59 03.4	+0.5	
	baz=92								
Q16A	Castle Valley	92.31	50	⇑P		P	07 59 03.7	+0.3	
	baz=92								
V18A	Ganado	92.32	54	⇓P		P	07 59 03.6	0.0	
	baz=92								
Y19A	Nutrioso	92.36	56	⇓P		P	07 59 04.1	+0.3	
	baz=92								
L15A	Malad City	92.36	47	⇓P		P	07 59 03.4	-0.3	
	baz=92								
220A	Playas Peak, P	92.37	58	⇓P		P	07 59 03.8	-0.1	
	baz=92								
O16A	Springville	92.45	49	⇓P		P	07 59 04.3	+0.2	
	baz=92								
120A	U Bar Ranch, L	92.46	57	⇑P		P	07 59 04.1	-0.2	
	baz=92								
H14A	Leadore	92.50	44	⇓P		P	07 59 04.4	+0.2	
	baz=93								
R17A	Hanksville Air	92.51	51	⇓P		P	07 59 04.6	+0.2	
	baz=93								
U18A	Rough Rock, Ch	92.57	53	⇑P		P	07 59 04.9	+0.2	
	baz=93								
T18A	Mexican Hat	92.78	52	⇓P		P	07 59 05.7	+0.1	
	baz=93								
O17A	Robinson Place	93.01	49	⇑P		P	07 59 06.8	+0.1	
	baz=93								
U19A	Dine' College,	93.05	53	⇓P		P	07 59 07.2	+0.3	
	baz=93								
R18A	Canyonlands Na	93.11	51	⇑P		P	07 59 07.5	+0.3	
	baz=93								
X20A	Quemado	93.12	55	⇓P		P	07 59 07.5	+0.2	
	baz=93								
P18A	Preston Nutter	93.21	50	⇑P		P	07 59 08.0	+0.4	
	baz=93								
W20A	Ramah	93.28	55	⇓P		P	07 59 08.2	+0.2	
	baz=93								
WMQ	Urumqi	93.44	314	P		P	07 59 08.3	-0.3	
WMQ				pP		pP	07 59 18.9	+7.0	
WMQ				sP		sP	07 59 22.8	+10	
WMQ				PP		PP	08 02 55.4	+2.3	
WMQ				S		S	08 10 10.8	-6.0	
WMQ				pmax		pmax			
	comp=Z,25nm,1.7s,mb5.4								
WMQ				pmax		pmax			
	comp=Z,1μm,11.2s								
WMQ				LR		LR			
	comp=N,2μm,16.0s,MS5.8								
WMQ				LR		LR			
	comp=E,2μm,14.1s,MS5.8								
WMQ				LR		LR			
	comp=Z,1μm,20.4s								
Z21A	St. Cloud Mine	93.45	57	⇑P		P	07 59 09.7	+0.9	
	baz=94								
S19A	Harvey Farm, M	93.51	52	⇓P		P	07 59 09.2	+0.2	
	baz=94								
P20A	De Beque	94.55	50	⇓P		P	07 59 13.2	-0.6	
	baz=95								
PDAR	Pinedale Array	94.59	47	P		P	07 59 12.8	-1.1	
	comp=Z,0.5nm,0.9s,mb3.9,baz=227,slow=6.1,SNR=2.7								
PDAR	Pinedale Array	94.59	47	P		P	07 59 12.8	-1.1	
ANMO	Albuquerque	94.85	55	P		P	07 59 14.3	-0.9	
	comp=Z,1.5nm,0.8s,mb4.5,baz=250,slow=6.8,SNR=7.0								
ANMO	Albuquerque	94.85	55	*e*P		P	07 59 14.1	-1.2	
	comp=Z,2.3nm,1.0s,mb4.6								
ANMO	Albuquerque	94.85	55	P		P	07 59 14.4	-0.8	
ANMO				pmax		pmax			
	comp=Z,2.0nm,0.8s								
R21A	Cimarron	94.88	52	⇑P		P	07 59 15.2	-0.1	
	baz=95								
626A	Big Bend Ranch	95.42	61	⇓P		P	07 59 18.5	+0.6	
	baz=95								
W24A	Lazy 6 Ranch,	95.75	55	⇑P		P	07 59 18.6	-0.8	
	baz=96								
TXAR	Lajitas Array	95.76	61	P		P	07 59 18.6	-0.9	
	comp=Z,0.5nm,0.8s,mb4.0,baz=213,slow=8.2,SNR=3.9								
TXAR	Lajitas Array	95.76	61	P		P	07 59 18.6	-0.9	
TXAR	Lajitas Array	95.76	61	P		P	07 59 18.6	-0.9	
TXAR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
Z25A	Roswell	95.83	57	⇓P		P	07 59 19.5	-0.3	
	baz=96								
O22A	Kremmling	96.09	50	⇓P		P	07 59 21.2	+0.4	
	baz=96								
628A	Black Gap, Mar	96.46	61	⇓P		P	07 59 22.8	+0.1	
	baz=96								
W25A	X Bar L Ranch,	96.50	55	⇑P		P	07 59 22.7	-0.1	
	baz=96								
528A	Cox Ranch, San	96.70	61	⇓P		P	07 59 23.8	0.0	
	baz=97								
J22A	Midwest	96.94	47	⇑P		P	07 59 25.2	+0.7	
	baz=97								
Z27A	Tatum	97.07	58	⇑P		P	07 59 25.2	-0.1	
	baz=97								
V26A	Tequesquite Ra	97.17	55	⇑P		P	07 59 26.2	+0.4	
	baz=97								
Y27A	Causey	97.24	57	⇑P		P	07 59 26.0	-0.1	
	baz=97								
YKA	Yellowknife Ar	97.45	27	P		P	07 59 24.8	-1.6	
	comp=Z,2.4nm,0.8s,mb4.7,baz=249,slow=5.1,SNR=4.5								
YKA	Yellowknife Ar	97.45	27	P		P	07 59 24.8	-1.6	
YKA	Yellowknife Ar	97.45	27	P		P	07 59 24.8	-1.6	
YKA				pmax		pmax			
	comp=Z,2.0nm,0.8s								
MK31	Makanchi Array	97.91	316	*e*P		P	07 59 28.3	-0.5	
MK31	Makanchi Array	97.91	316	*e*P		P	07 59 28.3	-0.5	
MKAR	Makanchi Array	97.91	316	P		P	07 59 28.0	-0.9	
	comp=Z,11nm,0.9s,mb5.4,baz=100,slow=6.7,SNR=50								
MKAR				PP		PP	08 03 23.8	-3.8	
	comp=Z,1.6nm,1.0s,baz=78,slow=7.5,SNR=4.0								
MKAR				PKKP		PKKPbc	08 16 01.0	-3.6	
	comp=Z,0.3nm,0.8s,baz=270,slow=2.9,SNR=3.7								
MKAR	Makanchi Array	97.91	316	P		P	07 59 28.0	-0.9	
MKAR				PP		PP	08 03 23.8	-3.8	
MKAR				PKKP		PKKPbc	08 16 01.0	-3.6	
MKAR	Makanchi Array	97.91	316	P		P	07 59 28.0	-0.8	
MKAR							08 03 23.8		
MKAR				pmax		pmax			
	comp=Z,11nm,0.9s								
MKAR				pmax		pmax			
	comp=Z,2.0nm,1.0s								
ZALV	Zalesovo Beam	98.05	324	P		P	07 59 27.1	-2.2	
	comp=Z,3.0nm,0.7s,mb4.9,baz=108,slow=4.8,SNR=8.8								
ZALV	Zalesovo Beam	98.05	324	P		P	07 59 27.1	-2.2	
ZALV	Zalesovo Beam	98.05	324	P		P	07 59 27.1	-2.2	
ZALV				pmax		pmax			
	comp=Z,3.0nm,0.7s,mb4.9								
KURK	Kurchatov	101.08	320	P		Pdif	07 59 40.6	-2.3	
	comp=Z,0.5nm,0.6s,baz=100,slow=2.3,SNR=4.2								
KURK				PP		PP	08 03 49.5	-2.2	
	comp=Z,0.3nm,0.3s,baz=106,slow=6.0,SNR=4.2								
KURK	Kurchatov	101.08	320	P		Pdif	07 59 40.6	-2.3	
KURK				PP		PP	08 03 49.5	-2.2	
KURK	Kurchatov	101.08	320	P		Pdif	07 59 40.6	-2.4	
KURK							08 03 49.5		
KURK				pmax		pmax			
	comp=Z,1.0nm,0.6s								
AAK	Ala-Archa	102.57	311	*i* P		Pdif	07 59 50.8	+1.3	
AAK				pmax		pmax			
	comp=Z,2.0nm,1.8s								
BVAR	Borovoye Array	106.42	321	Pdiff		Pdif	08 00 04.0	-2.6	
	comp=Z,0.7nm,0.5s,baz=132,slow=2.1,SNR=3.4								
BVAR	Borovoye Array	106.42	321	Pdif		Pdif	08 00 04.0	-2.6	
BVAR	Borovoye Array	106.42	321	P		Pdif	08 00 04.0	-2.7	
BVAR				pmax		pmax			
	comp=Z,1.0nm,0.5s								
AKTO	Aktyubinsk	114.16	319	PKKPab		PKKPab	08 15 18.6	-0.1	
	comp=Z,1.1nm,0.7s,baz=309,slow=8.3,SNR=4.5								
LPAZ	La Paz	116.43	117	PKP		PKPdf	08 04 36.9	-0.9	
	comp=Z,0.5nm,0.6s,baz=264,slow=2.5,SNR=3.7								
LPAZ	La Paz	116.43	117	PKP		PKPdf	08 04 36.9	-0.9	
LPAZ	La Paz	116.43	117	PKIKP		PKPdf	08 04 36.9	-0.8	
LPAZ				pmax		pmax			
	comp=Z,1.0nm,0.6s								
APA	Apatity	119.87	342	⇓*i*PKIKP		PKPdf	08 04 41.9	-0.9	
ARCES	ARCESS Array B	120.70	346	PKP		PKPdf	08 04 43.0	-1.4	
	comp=Z,2.5nm,0.6s,baz=54,slow=2.1,SNR=9.1								
ARCES	ARCESS Array B	120.70	346	PKP		PKPdf	08 04 43.0	-1.4	
ARCES	ARCESS Array B	120.70	346	PKIKP		PKPdf	08 04 43.0	-1.4	
ARCES				pmax		pmax			
	comp=Z,3.0nm,0.6s								
OBN	Obninsk	125.32	328	⇑*i*PKIKP		PKPdf	08 04 51.6	-2.1	
OBN				*e*			08 06 42.4		
OBN				*e*			08 11 58.5		
OBN				pmax		pmax			
	comp=Z,11nm,0.6s								
FINES	FINESS Array B	126.25	338	PKP		PKPdf	08 04 54.4	-0.9	
	comp=Z,5.9nm,0.9s,baz=108,slow=4.5,SNR=6.2								
FINES	FINESS Array B	126.25	338	PKP		PKPdf	08 04 54.4	-0.9	
FINES	FINESS Array B	126.25	338	PKIKP		PKPdf	08 04 54.4	-0.8	
FINES				pmax		pmax			
	comp=Z,6.0nm,0.9s								
KMBO	Kilima Mbogo	128.76	256	PKP		PKPdf	08 05 00.8	-0.7	
	comp=Z,1.4nm,0.8s,baz=180,slow=24,SNR=3.9								
KMBO	Kilima Mbogo	128.76	256	PKP		PKPdf	08 05 00.8	-0.7	
KMBO	Kilima Mbogo	128.76	256	PKIKP		PKPdf	08 05 00.9	-0.6	
KMBO				pmax		pmax			
	comp=Z,1.0nm,0.8s								
NOA	NORSAR Array B	131.08	345	PKP		PKPdf	08 05 04.3	-0.2	
	comp=Z,0.5nm,0.6s,baz=77,slow=2.1,SNR=2.7								
NOA	NORSAR Array B	131.08	345	PKP		PKPdf	08 05 04.3	-0.2	
NOA	NORSAR Array B	131.08	345	PKIKP		PKPdf	08 05 04.3	-0.2	
NOA				pmax		pmax			
	comp=Z,1.0nm,0.6s								
AKASG	Malin Array Be	131.37	326	PKP		PKPdf	08 05 04.0	-1.3	
	comp=Z,0.2nm,0.3s,baz=49,slow=1.5,SNR=8.8								
AKASG	Malin Array Be	131.37	326	PKP		PKPdf	08 05 04.0	-1.3	
AKASG	Malin Array Be	131.37	326	PKIKP		PKPdf	08 05 04.1	-1.2	
BRTR	Keskin Array B	133.25	311	PKP		PKPdf	08 05 07.5	-1.7	
	comp=Z,1.6nm,1.0s,baz=126,slow=2.1,SNR=3.8								
BRTR	Keskin Array B	133.25	311	PKP		PKPdf	08 05 07.5	-1.7	
BRTR	Keskin Array B	133.25	311	PKIKP		PKPdf	08 05 07.6	-1.6	
BRTR				pmax		pmax			
	comp=Z,2.0nm,1.0s								
BRG	Berggiesshubel	138.57	335	*e*PKP		PKPdf	08 05 16.5	-2.2	
	comp=Z,7.4nm,1.3s								
BRG	Berggiesshubel	138.57	335	*e*PKIKP		PKPdf	08 05 16.5	-2.3	
BRG				pmax		pmax			
	comp=Z,7.0nm,1.3s								
CLL	Collm	138.60	336	*e*PKIKP		PKPdf	08 05 18.0	-0.8	
CLL				*e*			08 05 25.0		
CLL				pmax		pmax			
	comp=Z,7.0nm,1.3s								
CLL	Collm	138.60	336	*e*PKPdf		PKPdf	08 05 18.0	-0.8	
	comp=Z,7.0nm,1.3s								
CLL				*e*(sPKiKP)			08 05 25.0		
GERES	GERESS Array B	140.22	333	PKhKP		PKPpre	08 05 15.5		
	comp=Z,1.5nm,0.8s,baz=90,slow=1.3,SNR=4.9								
GERES	GERESS Array B	140.22	333	PKHKP		PKPpre	08 05 15.5		
GERES				pmax		pmax			
	comp=Z,2.0nm,0.9s								
DOU	Dourbes	142.50	342	aPKPdf		PKiKP	08 05 27.9	-1.0	
FETA	Feichten	142.90	334	⇑*i*PKPdf		PKPdf	08 05 22.6	-4.1	
	comp=Z,12nm,0.9s								
DAVOX	Davos/Dischmat	143.44	335	PKP		PKPdf	08 05 25.0	-2.7	
	comp=Z,29nm,1.3s,baz=272,slow=3.0,SNR=6.4								
DAVOX	Davos/Dischmat	143.44	335	PKP		PKPdf	08 05 25.0	-2.7	
DAVOX	Davos/Dischmat	143.44	335	PKIKP		PKPdf	08 05 25.0	-2.7	
PAGF	Fort de Pagny	143.51	340	*e*PKP1		PKPdf	08 05 24.0	-3.7	
	comp=Z,6.5nm,0.7s								
SFTF	Sexfontaines	144.04	341	*e*PKP1		PKPdf	08 05 25.6	-3.1	
SFTF	Sexfontaines	144.04	341	*e*PKP		PKPdf	08 05 25.6	-3.1	
FLN	La Foliniere	145.03	347	*e*PKP1		PKPbc	08 05 28.4	-1.3	
	comp=Z,33nm,0.9s								
FLN	La Foliniere	145.03	347	*e*PKP		PKPdf	08 05 28.4	-2.0	
FLN	La Foliniere	145.03	347	*e*PKIKP		PKPdf	08 05 28.4	-2.0	
CABF	La Chapelle	145.06	338	*e*PKP1		PKPbc	08 05 29.7	-0.2	
CABF	La Chapelle	145.06	338	*e*PKP		PKPdf	08 05 29.7	-0.8	
CABF	La Chapelle	145.06	338	*e*PKIKP		PKPdf	08 05 29.7	-0.8	
AQU	L'Aquila	145.07	326	*e*PKPdf		PKPdf	08 05 30.1	-0.5	
AQU	L'Aquila	145.07	326	*e*PKIKP		PKPdf	08 05 30.1	-0.6	
OG01	Vacheresse	145.08	337	PKP		PKPdf	08 05 29.2	-1.3	
OG01	Vacheresse	145.08	337	PKP		PKPdf	08 05 29.2	-1.3	
LDF	La Druitiere	145.11	346	*e*PKP1		PKPbc	08 05 28.5	-1.5	
	comp=Z,9.9nm,0.7s								
LDF	La Druitiere	145.11	346	*e*PKP		PKPdf	08 05 28.5	-2.0	
LDF	La Druitiere	145.11	346	*e*PKIKP		PKPdf	08 05 28.5	-2.0	
LOR	Lormes	145.24	341	*e*PKP1		PKPbc	08 05 29.7	-0.7	
	comp=Z,91nm,1.3s								
LOR	Lormes	145.24	341	*e*PKP		PKPdf	08 05 29.7	-1.1	
LOR	Lormes	145.24	341	*e*PKIKP		PKPdf	08 05 29.7	-1.1	
GRR	Gorron	145.47	347	*e*PKP1		PKPbc	08 05 30.2	-0.9	
	comp=Z,45nm,0.7s								
GRR	Gorron	145.47	347	*e*PKP		PKPdf	08 05 30.2	-0.9	
GRR	Gorron	145.47	347	*e*PKIKP		PKPdf	08 05 30.2	-0.9	
SSF	Saint Saulge	145.53	341	*e*PKP1		PKPbc	08 05 30.9	-0.5	
	comp=Z,47nm,0.8s								
SSF	Saint Saulge	145.53	341	*e*PKP		PKPdf	08 05 30.9	-0.4	
SSF	Saint Saulge	145.53	341	*e*PKIKP		PKPdf	08 05 30.9	-0.4	
RSL	Roselend	145.64	337	PKP		PKPdf	08 05 30.3	-1.2	
RSL	Roselend	145.64	337	PKP2		PKPab	08 05 30.3	-1.7	
RSL	Roselend	145.64	337	PKP		PKPdf	08 05 30.3	-1.2	
LPL	La Plagne	145.74	336	*e*PKP1		PKPbc	08 05 32.1	0.0	
	comp=Z,117nm,1.3s								
LPL	La Plagne	145.74	336	*e*PKP		PKPdf	08 05 32.1	+0.4	
LPL	La Plagne	145.74	336	*e*PKP2		PKPab	08 05 32.1	-0.3	
LPG	La Plagne	145.75	336	*e*PKP1		PKPbc	08 05 32.3	+0.2	
	comp=Z,142nm,1.3s								
LPG	La Plagne	145.75	336	*e*PKP		PKPdf	08 05 32.3	+0.6	
LPG	La Plagne	145.75	336	*e*PKP2		PKPab	08 05 32.3	-0.1	
SMF	Signal de Mont	145.79	340	*e*PKP1		PKPbc	08 05 31.5	-0.7	
	comp=Z,94nm,1.1s								
SMF	Signal de Mont	145.79	340	*e*PKP		PKPdf	08 05 31.5	-0.3	
SMF	Signal de Mont	145.79	340	*e*PKP2		PKPab	08 05 31.5	-1.1	
AVF	Avril sur Loir	145.82	341	*e*PKP1		PKPbc	08 05 31.5	-0.8	
	comp=Z,110nm,1.4s								
AVF	Avril sur Loir	145.82	341	*e*PKP		PKPdf	08 05 31.5	-0.3	
AVF	Avril sur Loir	145.82	341	*e*PKP2		PKPab	08 05 31.5	-1.2	
SGMF	Saint Gilles	145.94	349	*e*PKP1		PKPbc	08 05 31.7	-0.9	
	comp=Z,186nm,1.3s								
SGMF	Saint Gilles	145.94	349	*e*PKP		PKPdf	08 05 31.7	-0.3	
SGMF	Saint Gilles	145.94	349	*e*PKP2		PKPab	08 05 31.7	-1.4	
ROSF	Rostrenen	146.00	350	*e*PKP1		PKPbc	08 05 31.9	-0.9	
	comp=Z,144nm,1.2s								
ROSF	Rostrenen	146.00	350	*e*PKP		PKPdf	08 05 31.9	-0.1	
ROSF	Rostrenen	146.00	350	*e*PKP2		PKPbc	08 05 31.9	-0.9	
BGF	Bois d'Agland	146.19	342	*e*PKP1		PKPbc	08 05 32.8	-0.6	
	comp=Z,36nm,0.9s								
BGF	Bois d'Agland	146.19	342	*e*PKP		PKPbc	08 05 32.8	-0.6	
BGF	Bois d'Agland	146.19	342	*e*PKP2		PKPbc	08 05 32.8	-0.6	
MBDF	Montbardon	146.38	336	*e*PKP1		PKPbc	08 05 33.4	-0.7	
	comp=Z,100nm,1.3s								
MBDF	Montbardon	146.38	336	*e*PKP		PKPdf	08 05 33.4	+0.6	
MBDF	Montbardon	146.38	336	*e*PKP2		PKPbc	08 05 33.4	-0.7	
QUIF	Quistinic	146.38	349	*e*PKP1		PKPbc	08 05 32.9	-1.0	
QUIF	Quistinic	146.38	349	*e*PKP		PKPdf	08 05 32.9	+0.2	
QUIF	Quistinic	146.38	349	*e*PKP2		PKPbc	08 05 32.9	-1.0	
PLDF	La Plantade	146.46	340	PKP		PKPdf	08 05 33.8	+0.9	
PLDF	La Plantade	146.46	340	PKP2		PKPbc	08 05 33.8	-0.5	
PLDF	La Plantade	146.46	340	PKP		PKPbc	08 05 33.8	-0.5	
AGO	Saint Agoulin	146.55	341	PKP		PKPdf	08 05 33.6	+0.5	
AGO	Saint Agoulin	146.55	341	PKP		PKPdf	08 05 33.6	+0.5	
ORIF	Oris-en-Rattie	146.57	337	*e*PKP1		PKPbc	08 05 34.3	-0.3	
	comp=Z,60nm,0.9s								
ORIF	Oris-en-Rattie	146.57	337	*e*PKP		PKPbc	08 05 34.3	-0.3	
ORIF	Oris-en-Rattie	146.57	337	*e*PKP2		PKPbc	08 05 34.3	-0.3	
TCF	Toulx Ste Croi	146.62	342	*e*PKP1		PKPbc	08 05 34.0	-0.7	
	comp=Z,87nm,1.5s								
TCF	Toulx Ste Croi	146.62	342	*e*PKP		PKPbc	08 05 34.0	-0.7	
TCF	Toulx Ste Croi	146.62	342	*e*PKP2		PKPbc	08 05 34.0	-0.7	
SAOF	Saorge	146.66	334	PKP		PKPdf	08 05 33.7	+0.4	
SAOF	Saorge	146.66	334	PKP2		PKPbc	08 05 33.7	-1.2	
SAOF	Saorge	146.66	334	PKP		PKPdf	08 05 33.7	+0.4	
AUTN	L'Aution	146.71	334	PKP		PKPbc	08 05 34.4	-0.6	
AUTN	L'Aution	146.71	334	PKP2		PKPbc	08 05 34.4	-0.6	
AUTN	L'Aution	146.71	334	PKP		PKPbc	08 05 34.4	-0.6	
SSB	Saint Sauveur	146.75	339	PKP		PKPbc	08 05 34.3	-0.8	
SSB	Saint Sauveur	146.75	339	PKP2		PKPbc	08 05 34.3	-0.8	
SSB	Saint Sauveur	146.75	339	PKP		PKPbc	08 05 34.3	-0.8	
TOUF	Mont Tournerai	146.77	334	PKP		PKPbc	08 05 34.4	-0.8	
TOUF	Mont Tournerai	146.77	334	PKP2		PKPbc	08 05 34.4	-0.8	
TOUF	Mont Tournerai	146.77	334	PKP		PKPbc	08 05 34.4	-0.8	
SBF	Sospel	146.81	334	*e*PKP1		PKPbc	08 05 34.4	-0.9	
	comp=Z,151nm,1.0s								
SBF	Sospel	146.81	334	*e*PKP		PKPbc	08 05 34.4	-0.9	
SBF	Sospel	146.81	334	*e*PKP2		PKPbc	08 05 34.4	-0.9	
LUCF	Luceram	146.83	334	PKP		PKPdf	08 05 34.0	+0.4	
LUCF	Luceram	146.83	334	PKP		PKPdf	08 05 34.0	+0.4	
PYM	Petit Puy Mans	146.86	341	PKP		PKPbc	08 05 34.7	-0.7	
PYM	Petit Puy Mans	146.86	341	PKP2		PKPbc	08 05 34.7	-0.7	
PYM	Petit Puy Mans	146.86	341	PKP		PKPbc	08 05 34.7	-0.7	
MFF	Saint Martin d	146.98	345	*e*PKP1		PKPbc	08 05 35.0	-0.7	
	comp=Z,88nm,1.2s								
MFF	Saint Martin d	146.98	345	*e*PKP		PKPbc	08 05 35.0	-0.7	
MFF	Saint Martin d	146.98	345	*e*PKP2		PKPbc	08 05 35.0	-0.7	
VIVF	Saint-Julien-l	147.07	338	*e*PKP1		PKPbc	08 05 35.6	-0.4	
	comp=Z,98nm,1.4s								
VIVF	Saint-Julien-l	147.07	338	*e*PKP		PKPbc	08 05 35.6	-0.4	
VIVF	Saint-Julien-l	147.07	338	*e*PKP2		PKPbc	08 05 35.6	-0.4	
CALN	Calern	147.13	334	PKP		PKPbc	08 05 35.3	-1.0	
CALN	Calern	147.13	334	PKP2		PKPbc	08 05 35.3	-1.0	
CALN	Calern	147.13	334	PKP		PKPbc	08 05 35.3	-1.0	
PGF	Pioggiola	147.15	331	*e*PKP1		PKPbc	08 05 35.7	-0.7	
	comp=Z,169nm,1.1s								
PGF	Pioggiola	147.15	331	*e*PKP		PKPbc	08 05 35.7	-0.7	
PGF	Pioggiola	147.15	331	*e*PKP2		PKPbc	08 05 35.7	-0.7	
LBL	Lubilhac	147.24	340	PKP		PKPbc	08 05 35.7	-0.8	
LBL	Lubilhac	147.24	340	PKP2		PKPbc	08 05 35.7	-0.8	
LBL	Lubilhac	147.24	340	PKP		PKPbc	08 05 35.7	-0.8	
FRF	La Foret Royal	147.39	334	*e*PKP1		PKPbc	08 05 36.1	-0.9	
	comp=Z,111nm,1.2s								
FRF	La Foret Royal	147.39	334	*e*PKP		PKPbc	08 05 36.1	-0.9	
FRF	La Foret Royal	147.39	334	*e*PKP2		PKPbc	08 05 36.1	-0.9	
SMRF	Simiane la Rot	147.48	336	*e*PKP1		PKPbc	08 05 37.0	-0.2	
	comp=Z,103nm,1.3s								
SMRF	Simiane la Rot	147.48	336	*e*PKP		PKPbc	08 05 37.0	-0.2	
LMR	La Mourre	147.64	334	*e*PKP1		PKPbc	08 05 36.9	-0.8	
	comp=Z,120nm,1.2s								
LMR	La Mourre	147.64	334	*e*PKP		PKPbc	08 05 36.9	-0.8	
LMR	La Mourre	147.64	334	*e*PKP2		PKPbc	08 05 36.9	-0.8	
RJF	Les Rejaudoux	147.72	342	*e*PKP1		PKPbc	08 05 37.2	-0.6	
	comp=Z,110nm,1.4s								
RJF	Les Rejaudoux	147.72	342	*e*PKP		PKPbc	08 05 37.2	-0.6	
RJF	Les Rejaudoux	147.72	342	*e*PKP2		PKPbc	08 05 37.2	-0.6	
CAF	Calviac	147.89	341	*e*PKP1		PKPbc	08 05 37.9	-0.4	
	comp=Z,62nm,1.3s								
CAF	Calviac	147.89	341	*e*PKP		PKPbc	08 05 37.9	-0.4	
CAF	Calviac	147.89	341	*e*PKP2		PKPbc	08 05 37.9	-0.4	
LASF	Ste Croix	148.04	338	*e*PKP1		PKPbc	08 05 38.4	-0.3	
	comp=Z,98nm,1.2s								
LASF	Ste Croix	148.04	338	*e*PKP		PKPbc	08 05 38.4	-0.3	
LFF	La Frestale	148.28	343	*e*PKP1		PKPbc	08 05 38.7	-0.6	
LFF	La Frestale	148.28	343	*e*PKP		PKPbc	08 05 38.7	-0.6	
LFF	La Frestale	148.28	343	*e*PKP2		PKPbc	08 05 38.7	-0.6	
MTLF	Montolieu	149.25	340	*e*PKP1		PKPbc	08 05 41.5	-0.4	
	comp=Z,87nm,1.2s								
MTLF	Montolieu	149.25	340	*e*PKP		PKPbc	08 05 41.5	-0.4	
MTLF	Montolieu	149.25	340	*e*PKP2

comp=Z,18nm,0.6s
DANN Dangsing 14.17 94 *e*P P **08 02 51.8 +1.1**
comp=Z,19nm,0.5s
DANN Dangsing 14.17 94 *e*P P **08 02 51.8 +1.1**
comp=Z,19nm,0.5s
GKN Gorkha 15.00 94 *e*P P **08 03 02.9 +0.9**
comp=Z,11nm,0.3s
DMN Daman 15.49 95 *e*P P **08 03 08.9 +0.4**
DMN Daman 15.49 95 *e*P P **08 03 08.9 +0.4**
KKN Kakani 15.60 95 *e*P P **08 03 10.7 +0.8**
KKN Kakani 15.60 95 *e*P P **08 03 10.7 +0.8**
KKN Kakani 15.60 95 *e*P P **08 03 10.7 +0.8**
PKIN Phulchoki 15.75 95 *e*P P **08 03 12.1 +0.3**
PKI Pulchoki 15.76 95 *e*P P **08 03 12.1 +0.1**
PKI Pulchoki 15.76 95 *e*P P **08 03 12.1 +0.1**
GUN Gumba 16.09 94 *e*P P **08 03 15.8 -0.4**
comp=Z,62nm,0.7s
GUN Gumba 16.09 94 *e*P P **08 03 15.8 -0.4**
comp=Z,62nm,0.7s
VIS Vishakhapatnam 18.95 128 *e*x x 08 03 27.1
ABKAR Akbulak array 19.86 345 *e*P P **08 04 01.0 -1.4**
comp=Z,1.7nm,0.5s
MK31 Makanchi Array 20.03 30 *e*P P **08 04 01.5 -1.1**
MK31 Makanchi Array 20.03 30 *e*P P **08 04 01.5 -1.1**
MKAR Makanchi Array 20.03 30 P P **08 04 01.5 -1.2**
comp=Z,0.7nm,0.4s,baz=205,slow=9.5,SNR=9.1
MKAR Makanchi Array 20.03 30 P P **08 04 01.5 -1.1**
MKAR Makanchi Array 20.03 30 P P **08 04 01.5 -1.1**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
AKTK Aktyubinsk 21.42 343 P P **08 04 17.1 -0.5**
AKTO Aktyubinsk 21.42 343 P P **08 04 17.1 -0.5**
comp=Z,2.2nm,0.8s,mb3.5,baz=143,slow=14,SNR=7.7
AKTO Aktyubinsk 21.42 343 P P **08 04 17.2 -0.4**
AKTO pmax pmax
comp=Z,2.0nm,0.8s,mb3.5
KURK Kurchatov 22.02 19 P P **08 04 23.1 -1.0**
comp=Z,1.7nm,0.5s,mb3.7,baz=212,slow=8.6,SNR=4.0
KURK Kurchatov 22.02 19 P P **08 04 23.1 -1.0**
KURK Kurchatov 22.02 19 P P **08 04 23.1 -1.0**
KURK pmax pmax
comp=Z,2.0nm,0.5s,mb3.8
BVAR Borovoye Array 22.84 4 P P **08 04 32.3 -0.4**
comp=Z,1.3nm,0.5s,mb3.6,baz=168,slow=9.1,SNR=6.3
BVAR Borovoye Array 22.84 4 P P **08 04 32.3 -0.4**
BVAR Borovoye Array 22.84 4 P P **08 04 32.3 -0.4**
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BRVK Borovoye 22.86 4 *e*P P **08 04 33.6 +0.7**
comp=Z,2.2nm,0.6s,mb3.8
BRVK Borovoye 22.86 4 *e*P P **08 04 33.6 +0.6**
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb3.7
ZALV Zalesovo Beam 26.73 23 P P **08 05 10.8 +1.7**
comp=Z,3.2nm,0.5s,mb4.1,baz=224,slow=11,SNR=7.8
ZALV Zalesovo Beam 26.73 23 P P **08 05 10.8 +1.7**
ZALV Zalesovo Beam 26.73 23 P P **08 05 10.8 +1.8**
ZALV pmax pmax
comp=Z,3.0nm,0.5s,mb4.1
CMAR Chiang Mai Arr 30.71 105 P P **08 05 46.4 +1.5**
comp=Z,0.5nm,0.3s,mb3.8,baz=299,slow=4.0,SNR=4.3
CMAR Chiang Mai Arr 30.71 105 P P **08 05 46.4 +1.5**
CMAR Chiang Mai Arr 30.71 105 P P **08 05 46.4 +1.6**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
ARCES ARCESS Array B 45.98 341 P P **08 07 52.2 -0.3**
comp=Z,3.0nm,0.9s,mb4.2,baz=134,slow=6.5,SNR=4.2
ARCES ARCESS Array B 45.98 341 P P **08 07 52.2 -0.3**
ARCES ARCESS Array B 45.98 341 P P **08 07 52.2 -0.2**
ARCES pmax pmax
comp=Z,3.0nm,1.0s
TORD Torodi Ar. Bea 62.84 270 P P **08 09 55.3 -0.5**
comp=Z,1.1nm,0.7s,mb4.1,baz=59,slow=6.1,SNR=7.3
TORD Torodi Ar. Bea 62.84 270 P P **08 09 55.3 -0.5**
INK Inuvik 80.48 8 P P **08 11 42.2 +1.1**
comp=Z,0.9nm,0.8s,mb3.8,baz=18,slow=7.6,SNR=4.4
INK Inuvik 80.48 8 P P **08 11 42.2 +1.1**
INK Inuvik 80.48 8 P P **08 11 42.2 +1.1**
INK pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 81.23 119 P P **08 11 47.5 +1.6**
comp=Z,0.5nm,0.6s,mb3.6,baz=320,slow=5.0,SNR=6.5
WRA Warramunga Arr 81.23 119 P P **08 11 47.5 +1.6**
WRA Warramunga Arr 81.23 119 P P **08 11 47.5 +1.7**
WRA pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 83.13 122 P P **08 11 55.8 0.0**
comp=Z,0.7nm,0.6s,mb3.9,baz=315,slow=6.0,SNR=6.6
ASAR Alice Springs 83.13 122 P P **08 11 55.8 0.0**
ASAR Alice Springs 83.13 122 P P **08 11 55.8 +0.1**
ASAR pmax pmax
comp=Z,1.0nm,0.6s

IDC 07 07:59:53.0±5.2, 14°50S×167°63E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/17, mbtmp3.7/3, Error ellipse: s-maj=250.4km s-min=33.5km az=143.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.22**	**256**	P	P	08 06 23.2	0.0
	0.3nm,0.6s,baz=87,slow=9.3,SNR=6.5						
ASAR	**Alice Springs**	**33.08**	**249**	P	P	08 06 30.9	+0.1
	1.4nm,0.7s,baz=78,slow=9.3,SNR=9.4						
ILAR	**Eielson Array**	**86.20**	**18**	P	P	08 12 35.9	0.0
	0.3nm,0.9s,baz=232,slow=6.1,SNR=2.6						

IDC 07 08:09:27.6±4.7, 14°73S×168°07E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/17, mbtmp3.8/4, Error ellipse: s-maj=200.3km s-min=32.6km az=141.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.58**	**256**	P	P	08 16 00.7	-0.3
	0.3nm,0.5s,baz=85,slow=8.8,SNR=5.6						
ASAR	**Alice Springs**	**33.40**	**249**	P	P	08 16 08.1	0.0
	1.1nm,0.5s,baz=79,slow=9.0,SNR=12						
ILAR	**Eielson Array**	**86.28**	**18**	P	P	08 22 10.6	-0.3
	0.4nm,0.7s,baz=232,slow=6.5,SNR=8.4						
MKAR	**Makanchi Array**	**97.74**	**316**	P	P	08 23 05.5	+0.9
	0.1nm,0.4s,baz=95,slow=4.4,SNR=3.9						

IDC 07 08:11:59.4±1.7, 22°39N×99°18E, h0km, mb3.5/2, mb1 3.4/3, mb1mx3.2/24, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=39.2km s-min=17.3km az=90.0, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHG	**Chiang Mai**	**3.57**	**184**	PG	Pg	08 13 07.2	-0.6
CHG				SG	Sg	08 13 54.4	+0.3
CHG	**Chiang Mai**	**3.57**	**184**	PG	Pg	08 13 07.2	-0.6
CHG				SG	Sg	08 13 54.4	+0.3
CMAR	**Chiang Mai Arr**	**3.92**	**183**	Pn	Pn	08 13 00.0	-0.9
	0.7nm,0.3s,baz=359,slow=14,SNR=4.6						
CMAR				Pg	Pg	08 13 12.8	-1.9
	2.1nm,0.3s,baz=359,slow=18,SNR=6.8						
CMAR				Lg		08 14 03.2	
	12nm,0.3s,baz=359,slow=32,SNR=14						
SONM	**Songino Array**	**26.04**	**11**	P	P	08 17 34.7	+0.5
	0.3nm,0.5s,baz=182,slow=12,SNR=2.3						
MKAR	**Makanchi Array**	**27.91**	**335**	P	P	08 17 50.9	-0.2
	0.3nm,0.6s,baz=148,slow=8.5,SNR=3.9						

*NEIC **07** 08:13:28.8±2.3, 7°05S×129°44E, h145km±23km, mb4.8/2, Error ellipse: s-maj=20.2km s-min=15.8km az=46.0*
*IDC **07** 08:13:30.3±2.5, 7°01S×129°42E, h159km±23km, mb3.6/9, mb1 3.7/12, mb1mx3.6/20, mbtmp3.6/12, MS4.3/2, Ms1 4.3/2, ms1mx3.8/33, Error ellipse: s-maj=28.4km s-min=12.9km az=62.0*
*ISCJB **07** 08:13:31.9±1.7, 7°34S±0°07×129°44E±0°09, h204km±19km, mb3.8/8, Error ellipse: s-maj=14.7km s-min=11.1km az=161.7*
ISC 07 08:13:29.9±1.5, 7°24S±0°07×129°33E±0°09, h161km±15km, n35, σ1°916/40, mb3.9/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.24**	**151**	*e*Pn	Pn	**08 15 01.4**	**+1.5**
	12μm,1.7s						
FITZ	**Fitzroy Crossi**	**11.38**	**198**	P	Pn	**08 16 09.8**	**+2.0**
	0.5nm,0.3s,baz=54,slow=11,SNR=18						
FITZ				S	Sn	**08 18 12.2**	**-1.6**
	1.7nm,0.3s,baz=102,slow=19,SNR=3.9						
FITZ	**Fitzroy Crossi**	**11.38**	**198**	*e*Pn	Pn	**08 16 11.7**	**+3.9**
FITZ				S	Sn	**08 18 12.2**	**-1.6**
FITZ				*e*Sn	Sn	**08 18 13.7**	**-0.2**
WRAB	**Tennant Creek**	**13.52**	**159**	*e*Pn	Pn	**08 16 34.6**	**-0.8**
	7.8nm,0.4s						
WRAB				*e*Sn	Sn	**08 18 59.6**	**-5.8**
WRA	**Warramunga Arr**	**13.53**	**159**	P	Pn	**08 16 34.6**	**-0.8**
	0.6nm,0.3s,baz=338,slow=13,SNR=40						
WRA				S	Sn	**08 18 58.2**	**-7.3**
	2.6nm,0.3s,baz=348,slow=18,SNR=8.9						
WRA	**Warramunga Arr**	**13.53**	**159**	P	Pn	**08 16 34.6**	**-0.8**
WRA				S	Sn	**08 18 58.2**	**-7.3**
WB2	**Warramunga Arr**	**13.53**	**159**	*e*Pn	Pn	**08 16 34.6**	**-0.9**
WB2				*e*Sn	Sn	**08 18 59.0**	**-6.7**
DAV	**Davao City (W)**	**14.70**	**345**	LR	LR	08 22 35.3	
	comp=Z,821nm,19.3s,baz=278,slow=38						
COEN	**Coen**	**15.15**	**117**	*e*P	Pn	**08 16 55.0**	**-0.8**
	63nm,0.6s						
COEN				*e*S	S	**08 19 30.7**	**-14**
ASAR	**Alice Springs**	**16.91**	**165**	P	Pn	**08 17 20.1**	**+2.9**
	1.2nm,0.3s,baz=348,slow=11,SNR=46						
ASAR				S	S	**08 20 24.1**	**-0.6**
	0.6nm,0.3s,baz=342,slow=22,SNR=5.4						
ASAR				ScP	ScP	08 25 13.7	-0.6
	0.2nm,0.3s,baz=355,slow=1.8,SNR=6.7						
ASAR	**Alice Springs**	**16.91**	**165**	P	Pn	**08 17 20.1**	**+2.9**
ASAR				S	S	**08 20 24.1**	**-0.6**
ASAR				ScP	ScP	08 25 13.7	-0.6
PMG	**Port Moresby**	**17.77**	**98**	P	Pn	**08 17 27.1**	**-0.5**
	0.4nm,0.3s,baz=261,slow=13,SNR=2.9						
PMG	**Port Moresby**	**17.77**	**98**	P	Pn	**08 17 27.1**	**-0.5**
CTA	**Charters Tower**	**20.79**	**130**	P	P	**08 17 59.4**	**+0.8**
	2.4nm,0.7s,baz=323,slow=10,SNR=3.4						
CTA				LR	LR	08 27 07.4	
	comp=Z,928nm,19.3s,baz=80,slow=39						
CTA	**Charters Tower**	**20.79**	**130**	P	P	**08 17 59.4**	**+0.8**
STKA	**Stephens Creek**	**27.05**	**157**	P	P	**08 18 59.1**	**+1.9**
	2.0nm,0.4s,mb4.1,baz=20,slow=2.7,SNR=11						
STKA	**Stephens Creek**	**27.05**	**157**	P	P	**08 18 59.1**	**+1.9**
CMAR	**Chiang Mai Arr**	**39.38**	**311**	P	P	**08 20 44.4**	**+0.4**
	1.3nm,0.6s,mb3.8,baz=132,slow=7.1,SNR=5.9						
CMAR	**Chiang Mai Arr**	**39.38**	**311**	P	P	**08 20 44.4**	**+0.4**
SONM	**Songino Array**	**58.46**	**342**	P	P	**08 23 08.9**	**+0.1**
	0.5nm,0.5s,mb3.6,baz=165,slow=6.2,SNR=3.6						
SONM	**Songino Array**	**58.46**	**342**	P	P	**08 23 08.9**	**+0.1**
MKAR	**Makanchi Array**	**68.06**	**327**	P	P	**08 24 12.3**	**+0.3**
	2.7nm,0.4s,mb4.3,baz=117,slow=8.5,SNR=45						
MKAR	**Makanchi Array**	**68.06**	**327**	P	P	**08 24 12.3**	**+0.3**
ZALV	**Zalesovo Beam**	**71.50**	**334**	P	P	**08 24 31.7**	**-1.2**
	1.1nm,0.4s,mb4.0,baz=144,slow=8.3,SNR=2.4						
ZALV	**Zalesovo Beam**	**71.50**	**334**	P	P	**08 24 31.7**	**-1.2**
KURK	**Kurchatov**	**72.38**	**329**	P	P	**08 24 37.8**	**-0.4**
	1.2nm,0.3s,mb4.1,baz=127,slow=4.8,SNR=9.1						
KURK	**Kurchatov**	**72.38**	**329**	P	P	**08 24 37.8**	**-0.4**
MAW	**Mawson**	**74.48**	**201**	P	P	**08 24 53.3**	**+3.0**
	0.7nm,0.7s,mb3.5,baz=39,slow=6.5,SNR=4.7						
MAW	**Mawson**	**74.48**	**201**	P	P	**08 24 53.3**	**+3.0**
BVAR	**Borovoye Array**	**77.91**	**328**	P	P	**08 25 09.1**	**-0.7**
	1.1nm,0.8s,mb3.5,baz=125,slow=3.7,SNR=3.7						
BVAR	**Borovoye Array**	**77.91**	**328**	P	P	**08 25 09.1**	**-0.7**
TORD	**Torodi Ar. Bea**	**128.20**	**281**	PKP	PKPdf	08 32 18.7	+0.6
	0.2nm,0.5s,baz=139,slow=0.9,SNR=2.8						
TORD	**Torodi Ar. Bea**	**128.20**	**281**	PKP	PKPdf	08 32 18.7	+0.6
LPAZ	**La Paz**	**150.93**	**144**	PKPbc	PKPbc	08 33 06.8	+2.2
	0.7nm,0.6s,baz=260,slow=6.1,SNR=5.4						
LPAZ	**La Paz**	**150.93**	**144**	PKPbc	PKPbc	08 33 06.8	+2.2

*ISCJB **07** 08:18:39.4±1.0, 10°24N±0°05×60°51W±0°07, d88km±10km, Error ellipse: s-maj=10.9km s-min=8.5km az=14.9*
*FUNV **07** 08:18:39.6, 10°27N×60°28W, h52km, MW3.4*
*TRN **07** 08:18:44.8, 10°47N×60°67W, h66km, MD3.2*
ISC 07 08:18:40.7±1.0, 10°22N±0°05×60°50W±0°06, h74km±12km, n19, σ0°96/27, 4C, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TBH	**Brigand Hill**	**0.62**	**295**	↑*e*P	Pn	**08 18 55.5**	**+0.5**
TBH				*e*S	Sn	**08 19 05.3**	**-0.4**
TOSP	**Speyside**	**1.07**	**358**	*e*P	Pn	**08 19 00.9**	**+0.7**
TOSP				*e*S	Sn	**08 19 13.2**	**-1.7**
GUIV	**Guiria**	**1.75**	**284**	↑*e*P	Pn	**08 19 09.7**	**+0.6**
GUIV				*e*S	Sn	**08 19 32.0**	**+1.3**
GRW	**Mount Saint Ca**	**2.24**	**329**	*e*P	Pn	**08 19 16.8**	**+1.1**
GRW				*e*S	Sn	**08 19 38.0**	**-4.4**
GUNV	**Guanoco**	**2.41**	**269**	↑*i*P	Pn	**08 19 19.6**	**+1.7**
GUNV				*e*S	Sn	**08 19 47.6**	**+1.0**
RIOV	**Rio Grande**	**2.50**	**211**	*e*P	Pn	**08 19 19.7**	**+0.4**
RIOV				*e*S	Sn	**08 19 48.5**	**-0.3**
CRUV	**Carupano**	**2.73**	**280**	↑*e*P	Pn	**08 19 22.0**	**-0.4**
CRUV				*e*S	Sn	**08 19 53.0**	**-1.4**
ORIV	**Oritupano**	**3.09**	**249**	*e*P	Pn	**08 19 28.2**	**+1.0**
GURV	**El Guri**	**3.54**	**227**	*e*P	Pn	**08 19 34.2**	**+0.9**
PCRV	**Puerto La Cruz**	**4.08**	**270**	*e*P	Pn	**08 19 41.1**	**+0.5**
IBAV	**Isla La Blanqu**	**4.31**	**292**	*e*P	Pn	**08 19 43.2**	**-0.6**
PRGV	**PARIAGUAN**	**4.34**	**251**	*e*S	Sn	**08 20 33.5**	**-0.2**
LUEV	**Luepa**	**4.45**	**192**	*e*P	Pn	**08 19 43.9**	**-1.9**
CUPV	**Cœpira**	**5.21**	**269**	*e*P	Pn	**08 19 56.6**	**+0.5**
CUPV				*e*S	Sn	**08 20 53.1**	**-1.9**
BIRV	**Birongo**	**5.69**	**273**	*e*P	Pn	**08 20 03.1**	**+0.5**
MERV	**Las Mercedes**	**5.80**	**261**	*e*P	Pn	**08 20 04.1**	**-0.1**
TURV	**Turiamo**	**7.23**	**272**	*e*P	Pn	**08 20 23.1**	**-0.7**
BAUV	**El Baul**	**7.55**	**261**	*e*P	Pn	**08 20 27.1**	**-1.0**
MAPV	**Macapo**	**7.85**	**268**	*e*P	Pn	**08 20 31.9**	**-0.4**

NNC 07 08:22:22.3±1.3, 38°09N×70°20E, h5km±4km, mb3.7, mpv3.4, 2C-4D, Error ellipse: s-maj=10.8km s-min=5.2km az=34.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.01**	**3**	Pn	Pn	08 23 38.2	+0.1
	0.7nm,0.3s,baz=194,slow=14,SNR=19						
KK31				↓Pg	Pg	08 23 53.7	-4.6
	3.3nm,0.4s,baz=182,slow=19,SNR=17						
KK31				↑Lg		08 25 01.7	
	7.0nm,0.5s,baz=185,slow=28,SNR=4.9						
TKM2	**Tokmak 2**	**6.34**	**39**	↑Pn	Pn	08 23 56.6	+0.2
	1.6nm,0.3s						
TKM2				↓Pg	Pg	08 24 18.1	-5.7
	3.8nm,0.6s						
AB31	**Akbulak array**	**13.39**	**330**	↓P	Pn	08 25 32.6	-0.3
	0.8nm,0.5s,baz=121,slow=5.7,SNR=12						
AKTO	**Aktyubinsk**	**15.09**	**329**	↓P	Pn	08 25 58.8	+2.7
	0.3nm,0.6s						

*ISCJB **07** 08:33:16.7±1.3, 19°27N±0°05×145°6E±0°2, h171km±12km, mb3.6/9, Error ellipse: s-maj=33.1km s-min=7.5km az=173.8*
*IDC **07** 08:33:17.7±2.0, 19°21N×145°72E, h168km±21km, mb3.2/7, mb1 3.5/10, mb1mx3.4/25, mbtmp3.4/10, Error ellipse: s-maj=29.2km s-min=12.3km az=86.0*
*NEIC **07** 08:33:18.7±1.4, 19°20N×145°68E, h178km±14km, mb4.1/3, Error ellipse: s-maj=24.2km s-min=8.9km az=89.0*
ISC 07 08:33:18.1±1.3, 19°22N±0°06×145°7E±0°2, h168km±12km, n22, σ0°69/25, mb3.6/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.65**	**188**	P	Pn	**08 34 41.2**	**+0.8**
	19nm,0.3s,baz=290,slow=22,SNR=11						
GUMO				S	Sn	**08 35 45.1**	**+0.1**
	10nm,0.3s,baz=338,slow=19,SNR=3.1						
GUMO	**Guam**	**5.65**	**188**	P	Pn	**08 34 41.2**	**+0.8**
GUMO				S	Sn	**08 35 45.1**	**+0.1**
CBIJ	**Chichi jima**	**8.46**	**338**	P	Pn	**08 35 16.4**	**-1.0**
	5.1nm,0.3s,baz=137,slow=24,SNR=14						
CBIJ				S	Sn	**08 36 47.8**	**-4.1**
	4.8nm,0.3s,baz=287,slow=19,SNR=4.0						
MJAR	**Matsushiro Arr**	**18.45**	**341**	P	P	**08 37 20.7**	**-0.2**
	1.2nm,0.3s,baz=159,slow=9.5,SNR=9.9						
MJAR	**Matsushiro Arr**	**18.45**	**341**	P	P	**08 37 20.7**	**-0.2**
MAJO	**Matsushiro**	**18.46**	**341**	*e*P	P	**08 37 21.2**	**+0.3**
	7.2nm,0.5s						
MAT	**Matsushiro**	**18.46**	**341**	P	P	**08 37 21.8**	**+0.9**
KSRS	**Korea Array**	**23.88**	**323**	P	P	**08 38 16.4**	**+0.4**
	2.7nm,0.6s,mb4.0,baz=147,slow=8.3,SNR=9.6						
WRAB	**Tennant Creek**	**40.46**	**197**	*e*P	P	**08 40 39.7**	**-0.6**
	2.1nm,0.7s,mb3.9						
WRA	**Warramunga Arr**	**40.47**	**197**	P	P	**08 40 39.7**	**-0.7**
	1.3nm,0.6s,mb3.7,baz=19,slow=9.1,SNR=25						
WRA	**Warramunga Arr**	**40.47**	**197**	P	P	**08 40 39.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**41.98**	**209**	*e*P	P	**08 40 52.9**	**+0.1**
	6.8nm,1.4s,mb4.1						
SONM	**Songino Array**	**42.71**	**321**	P	P	**08 40 58.6**	**+0.2**
	0.6nm,0.6s,mb3.4,baz=133,slow=8.2,SNR=3.8						
SONM	**Songino Array**	**42.71**	**321**	P	P	**08 40 58.6**	**+0.2**
ASAR	**Alice Springs**	**44.14**	**196**	P	P	**08 41 09.1**	**-0.9**
	0.2nm,0.4s,mb3.1,baz=9.7,slow=6.6,SNR=3.0						
ASAR	**Alice Springs**	**44.14**	**196**	P	P	**08 41 09.1**	**-0.9**
MKAR	**Makanchi Array**	**58.08**	**314**	P	P	**08 42 54.5**	**+0.9**
	0.2nm,0.5s,mb3.2,baz=96,slow=10.0,SNR=3.6						
MKAR	**Makanchi Array**	**58.08**	**314**	P	P	**08 42 54.5**	**+0.9**
ILAR	**Eielson Array**	**63.20**	**26**	P	P	**08 43 27.1**	**-0.8**
	0.4nm,0.4s,mb3.6,baz=261,slow=5.5,SNR=12						
ILAR	**Eielson Array**	**63.20**	**26**	P	P	**08 43 27.1**	**-0.8**
NVAR	**Mina Array Bea**	**82.85**	**52**	P	P	**08 45 24.7**	**+0.8**
	0.4nm,0.6s,mb3.3,baz=265,slow=6.2,SNR=4.0						
NVAR	**Mina Array Bea**	**82.85**	**52**	P	P	**08 45 24.7**	**+0.8**

*IDC **07** 08:37:45.7±0.4, 12°40N×144°08E, h0km, mb5.2/34, mb1 5.2/34, mb1mx5.2/35, mbtmp5.1/34, MS4.5/6, Ms1 4.5/6, ms1mx4.1/44, Error ellipse: s-maj=14.6km s-min=9.6km az=100.0*
*MOS **07** 08:37:48.8±1.1, 12°38N×144°02E, h32km, mb5.5/75, Error ellipse: s-maj=8.3km s-min=5.1km az=104.1*
*ISCJB **07** 08:37:48.6±1.5, 12°47N±0°03×143°98E±0°02, h23km±10km, mb5.3/212, MS4.7/14, Error ellipse: s-maj=5.2km s-min=3.6km az=169.6*
*BJI **07** 08:37:49.2, 12°55N×144°23E, h32km, mB5.4/23, mb5.3/48, Ms5.0/29, Ms7 4.9/28*
*NEIC **07** 08:37:51.1±0.1, 12°37N×144°05E, h35km, mb5.3/130, Error ellipse: s-maj=4.8km s-min=4.1km az=149.0*
NEIC Felt at Hagatna and Santa Rita.
*DJA **07** 08:37:53, 12°47N×144°42E, h69km, mb5.1/30*
ISC 07 08:37:51.2±1.6, 12°44N±0°03×144°04E±0°02, h31km±11km, h35km±9km; pP-P, n839, σ0°79/761, mb5.3/211, MS4.7/14, 183C-165D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.40**	**35**	Pn	Pn	**08 38 14.3**	**-0.4**
	1μm,0.3s,baz=181,slow=6.8,SNR=34						
GUMO				Sn	Sn	**08 38 31.8**	**-0.3**
	6μm,0.3s,baz=16,slow=20,SNR=56						
GUMO	**Guam**	**1.40**	**35**	*e*Pn	Pn	**08 38 14.2**	**-0.5**
GUMO				*e*Sn	Sn	**08 38 33.8**	**+1.8**
GUMO	**Guam**	**1.40**	**35**	P	Pn	**08 38 14.3**	**-0.3**
GUMO						08 38 31.8	
GUMO	**Guam**	**1.40**	**35**	P	Pn	**08 38 14.0**	**-0.6**
CBIJ	**Chichi jima**	**14.68**	**353**	Pn	Pn	**08 41 20.8**	**+4.0**
	9.4nm,0.3s,baz=123,slow=15,SNR=7.3						
CBIJ				LR	LR	08 46 27.7	
	comp=Z,2μm,18.4s,baz=266,slow=35						
JAY	**Jayapura**	**15.22**	**193**	P	Pn	**08 41 25.1**	**+1.0**
	53nm,0.8s						
SMPI	**Sarmi**	**15.28**	**201**	P	Pn	**08 41 26.1**	**+1.2**
	121nm,2.2s						
SWI	**Sorong**	**18.32**	**225**	P	Pn	**08 42 03.9**	**+0.8**
	77nm,1.4s						
TNTI	**Ternate**	**20.19**	**236**	P	P	**08 42 27.6**	**+4.1**
	3μm146nm,1.7s						
JOW	**Kunigami**	**20.59**	**316**	P	P	**08 42 30.3**	**+2.5**
	42nm,0.4s,baz=142,slow=12,SNR=35						
JOW				T		09 03 49.3	
	5.7nm,0.3s,baz=152,slow=23,SNR=5.7						
JOW	**Kunigami**	**20.59**	**316**	*e*Pn	P	**08 42 29.8**	**+2.1**
	35nm,0.8s						
LBMI	**Labuha**	**20.93**	**233**	P	P	**08 42 32.8**	**+1.2**
	2μm137nm,1.6s						
JHJ	**Hachijo jima 2**	**20.95**	**350**	P	P	**08 42 34.5**	**+3.0**
	118nm,0.8s,baz=234,slow=9.6,SNR=5.9						
JHJ				LR	LR	08 49 56.8	
	comp=Z,2μm,18.7s,MS4.5,baz=87,slow=35						
MSAI	**Masohi**	**21.71**	**225**	P	P	**08 42 41.9**	**+1.9**
	2μm57nm,1.2s,mb4.9						
PMG	**Port Moresby**	**21.93**	**172**	P	P	**08 42 39.7**	**-2.5**
	25nm,1.0s,mb4.6,baz=90,slow=3.2,SNR=9.9						
PMG	**Port Moresby**	**21.93**	**172**	*e*P	P	**08 42 39.3**	**-2.9**
	57nm,1.1s,mb4.9						
PMG	**Port Moresby**	**21.93**	**172**	P	P	**08 42 39.7**	**-2.5**
PMG				pmax	pmax		
	comp=Z,25nm,1.0s						
PMG	**Port Moresby**	**21.93**	**172**	P	P	**08 42 40.0**	**-2.2**
	comp=Z,55nm,1.1s,mb4.9						
BNDI	**Bandanaira**	**21.94**	**221**	P	P	**08 42 42.3**	**-0.1**
	comp=Z,4μmcomp=Z,228nm,1.7s,mb5.3						
AAI	**Ambon**	**22.46**	**225**	P	P	**08 42 47.1**	**-0.9**
	comp=Z,206nm,0.9s,mb5.6						
NLAI	**Namlea**	**22.93**	**228**	P	P	**08 42 55.1**	**+2.1**
	comp=Z,36nm,1.1s,mb4.7						
JNU	**Nakatsue**	**23.85**	**332**	*e*P	P	**08 43 01.8**	**0.0**
	comp=Z,18nm,0.7s,mb4.6						
TWG	**Pinlang**	**24.16**	**298**	*e*P	P	**08 43 05.0**	**+0.2**
	comp=Z,16nm,0.5s,mb4.7						
YULB	**Yu-li**	**24.18**	**300**	*e*P	P	**08 43 04.9**	**-0.1**
	comp=Z,31nm,0.8s,mb4.8						
NACB	**Ninganchiao**	**24.25**	**302**	*e*P	P	**08 43 05.0**	**-0.6**
	comp=Z,40nm,1.0s,mb4.8						
MJAR	**Matsushiro Arr**	**24.56**	**349**	P	P	**08 43 06.1**	**-2.2**
	comp=Z,11nm,0.5s,mb4.6,baz=168,slow=10,SNR=27						
MJAR				PcP	PcP	08 46 46.3	+0.3
	comp=Z,7.1nm,0.7s,baz=171,slow=3.4,SNR=8.3						
MJAR				ScP	ScP	08 50 23.4	+0.7
	comp=Z,1.9nm,0.6s,baz=177,slow=4.0,SNR=4.8						
MJAR				LR	LR	08 51 13.8	
	comp=Z,950nm,21.0s,MS4.3,baz=170,slow=33	

KSRS 08 46 56.8
KSRS pmax pmax
comp=Z,20nm,0.8s,mb4.9
KSRS pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
KSRS pmax pmax
comp=N,2.0nm,0.9s
KSRS MLR MLR
comp=Z,385nm,18.2s,MS4.0
BNSI Bone 29.08 236 P P 08 43 50.5 +1.3
BNSI Bone 29.08 236 P P 08 43 49.6 +0.4
comp=Z,28nm,1.2s,mb4.8
SPSI Sidrap Palu 29.11 237 P P 08 43 48.9 -0.6
SPSI Sidrap Palu 29.11 237 P P 08 43 49.1 -0.4
comp=Z,14nm,0.9s,mb4.7
ASAJ Asahikawa 31.59 358 P P 08 44 10.6 -0.5
comp=Z,23nm,0.7s,mb5.1,baz=238,slow=20,SNR=15
ASAJ Asahikawa 31.59 358 P P 08 44 10.6 -0.4
ASAJ pmax pmax
comp=Z,23nm,0.7s
CTA Charters Tower 32.40 176 P P 08 44 16.6 -1.8
comp=Z,18nm,0.8s,mb4.9,baz=355,slow=9.2,SNR=15
CTA Charters Tower 32.40 176 *e*P **P 08 44 16.6 -1.8**
comp=Z,14nm,0.9s,mb4.8
CTA Charters Tower 32.40 176 P P 08 44 16.6 -1.8
CTA Charters Tower 32.40 176 P P 08 44 16.6 -1.8
CTA pmax pmax
comp=Z,18nm,0.8s
CTAO Charters Tower 32.40 176 *e*P **P 08 44 16.0 -2.4**
comp=Z,19nm,0.8s,mb5.0
CTAO Charters Tower 32.40 176 *e*P **P 08 44 16.0 -2.4**
CTAO pmax pmax
comp=Z,19nm,0.8s,mb5.0
CTAO Charters Tower 32.40 176 P P 08 44 16.8 -1.6
comp=Z,26nm,0.9s,mb5.1
WHN Wuhan 32.82 308 ⇑P **P 08 44 22.8 +0.7**
SBUM Sibu 33.03 255 P P 08 44 24.5 +0.4
comp=Z,24nm,1.0s,mb5.1
QIZ Qiongzhong 33.52 286 *e*P **P 08 44 28.9 +0.7**
comp=Z,18nm,1.0s,mb5.0
WRAB Tennant Creek 33.55 197 *e*P **P 08 44 26.6 -1.9**
comp=Z,26nm,0.9s,mb5.2
WRAB Tennant Creek 33.55 197 *e*P **P 08 44 26.6 -1.9**
WRAB pmax pmax
comp=Z,26nm,0.9s,mb5.2
WRAB Tennant Creek 33.55 197 P P 08 44 26.9 -1.6
comp=Z,160nm,0.9s,mb6.0,SNR=9.5
WRAB Tennant Creek 33.55 197 P P 08 44 26.6 -1.9
comp=Z,53nm,0.9s,mb5.5
WB2 Warramunga Arr 33.56 197 *e*P **P 08 44 26.6 -1.9**
WRA Warramunga Arr 33.57 197 P P 08 44 26.9 -1.7
comp=Z,18nm,0.9s,mb5.0,baz=18,slow=9.3,SNR=72
WRA LR LR 08 58 52.9
comp=Z,1μm,18.1s,MS4.7,baz=0.0,slow=38
WRA P3KPbc 09 15 38.4
comp=Z,1.2nm,0.7s,baz=204,slow=4.0,SNR=9.7
WRA Warramunga Arr 33.57 197 P P 08 44 26.9 -1.7
WRA LR LR 08 58 52.9
WRA *e* 09 15 38.4
WRA Warramunga Arr 33.57 197 P P 08 44 26.9 -1.7
WRA pmax pmax
comp=Z,18nm,0.9s
WRA MLR MLR
comp=Z,1μm,18.1s
MDJ Mudanjiang 34.37 342 P P 08 44 35.5 +0.2
MDJ pP pP 08 44 44.6 +0.2
MDJ sP sP 08 44 48.6 +0.4
MDJ PcP PcP 08 47 10.5 -0.2
MDJ S **S** **08 50 04.5 +3.5**
MDJ pmax pmax
comp=Z,19nm,0.9s,mb5.0
MDJ pmax pmax
comp=Z,830nm,14.2s
MDJ LR LR
comp=N,470nm,20.6s,MS4.3
MDJ LR LR
comp=E,480nm,23.0s,MS4.3
MDJ LR LR
comp=Z,420nm,23.0s,MS4.1
MDJ Mudanjiang 34.37 342 *e*P **P 08 44 36.1 +0.8**
comp=Z,33nm,1.3s,mb5.1
CN2 Changchun 35.11 336 *e*P **P 08 44 40.5 -1.2**
CN2 *e*S **S** **08 50 17.4 +4.9**
CN2 pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
CN2 pmax pmax
comp=Z,200nm,5.0s
KSM Kuching 35.15 255 *e*P **P 08 44 42.4 -0.1**
comp=Z,29nm,0.9s,mb5.2
KSM Kuching 35.15 255 P P 08 44 42.6 +0.1
comp=Z,31nm,1.1s,mb5.1
FITZ Fitzroy Crossi 35.37 211 P P 08 44 42.8 -1.4
comp=Z,9.3nm,0.9s,mb4.7,baz=34,slow=9.5,SNR=14
FITZ Fitzroy Crossi 35.37 211 *e*P **P 08 44 42.7 -1.5**
comp=Z,15nm,0.9s,mb4.9
FITZ Fitzroy Crossi 35.37 211 *e*P **P 08 44 42.6 -1.6**
comp=Z,15nm,1.1s,mb4.8
FITZ Fitzroy Crossi 35.37 211 P P 08 44 41.9 -2.3
comp=Z,13nm,1.0s,mb4.8
ENH Enshi 36.54 305 *e*P **P 08 44 54.6 +0.4**
comp=Z,74nm,1.0s,mb5.5
BJT Baijiatuau 36.84 323 *e*P **P 08 44 57.8 +1.2**
comp=Z,52nm,0.7s,mb5.5
BJT Baijiatuau 36.84 323 *e*P **P 08 44 57.8 +1.1**
BJT pmax pmax
comp=Z,52nm,0.7s
BJI Beijing 36.85 323 P P 08 44 57.0 +0.3
BJI pmax pmax
comp=Z,62nm,0.6s,mb5.6
ASAR Alice Springs 37.23 195 P P 08 44 58.8 -1.3
comp=Z,9.9nm,0.9s,mb4.7,baz=16,slow=7.5,SNR=51
ASAR PcP PcP 08 47 19.8 +0.2
comp=Z,4.9nm,0.9s,baz=12,slow=3.4,SNR=6.6
ASAR P3KPbc 09 15 22.1
comp=Z,0.7nm,0.6s,baz=189,slow=3.6,SNR=5.8
ASAR Alice Springs 37.23 195 P P 08 44 58.8 -1.3
ASAR PcP PcP 08 47 19.8 +0.2
ASAR *e* 09 15 22.1
ASAR Alice Springs 37.23 195 P P 08 44 58.8 -1.2
ASAR 08 47 19.8
ASAR pmax pmax
comp=Z,10.0nm,0.9s
ASAR pmax pmax
comp=Z,5.0nm,0.9s
GYA Guiyang 37.74 297 P P 08 45 04.8 +0.3
GYA pP pP 08 45 16.0 +2.4
GYA sP sP 08 45 20.2 +2.8
GYA PP PP 08 46 34.5 +3.5
GYA S **S** **08 50 53.4 +0.2**
GYA ScP ScP 08 51 05.6 -1.0
GYA SS SS 08 53 30.0 -10
GYA pmax pmax
comp=Z,20nm,0.8s,mb4.9
GYA pmax pmax
comp=Z,140nm,5.0s
GYA LR LR
comp=N,690nm,17.5s,MS4.6
GYA LR LR
comp=E,540nm,18.0s,MS4.6
GYA LR LR
comp=Z,590nm,17.6s,MS4.4
KLR Kul'dur 38.06 347 *e*P **P 08 45 02.7 -4.1**
KLR pmax pmax
comp=E,28nm,0.9s
KLR pmax pmax
comp=Z,36nm,0.9s,mb5.1
EIDS Eidsvold 38.20 170 *e*P **P 08 45 06.2 -2.1**
EIDS Eidsvold 38.20 170 *e*P **P 08 45 06.3 -2.0**
comp=Z,19nm,1.0s,mb4.8
XAN Xi'an 38.48 310 P P 08 45 10.4 -0.2
XAN pmax pmax
comp=Z,6.0nm,0.9s
XAN pmax pmax
comp=Z,300nm,15.0s
HHC Hu-ho-hao-te 40.12 321 *e*P **P 08 45 24.3 +0.1**
HHC pP pP 08 45 34.1 +0.7
HHC sP sP 08 45 38.3 +1.2
HHC PP PP 08 47 01.6 +4.8
HHC PcP PcP 08 47 28.7 +0.3
HHC ScP ScP 08 51 13.5 -1.9
HHC PcS PcS 08 51 17.8 -0.8
HHC S **S** **08 51 28.9 +0.2**
HHC sS sS 08 51 44.8 +1.0
HHC SS SS 08 54 21.6 -5.4
HHC ScS ScS 08 55 26.2 -2.6
HHC pmax pmax
comp=Z,20nm,0.7s,mb5.0
HHC pmax pmax
comp=Z,250nm,6.6s
HHC LR LR
comp=N,590nm,14.5s,MS4.7
HHC LR LR
comp=E,550nm,13.3s,MS4.7
HHC LR LR
comp=Z,830nm,13.6s,MS4.8
KMI Kunming 40.92 294 P P 08 45 32.2 +1.2
KMI pmax pmax
comp=Z,35nm,1.0s,mb4.9
PLUM Mont Dore 41.01 147 *e*P **P 08 45 49.9 +18**
BAYA Yate Dam 41.04 147 *e*P **P 08 45 48.7 +17**
MBWA Marble Bar 41.05 216 *e*P **P 08 45 31.1 -0.9**
comp=Z,9.2nm,0.8s,mb4.5
MYKOM Kota Tinggi 41.19 258 P P 08 45 35.3 +1.9
comp=Z,36nm,0.9s,mb5.0
CD2 Chengdu 41.41 303 ⇑*i*P **P 08 45 35.8 +0.8**
CD2 pP pP 08 45 45.6 +1.4
CD2 sP sP 08 45 49.5 +1.5
CD2 pmax pmax
comp=Z,160nm,0.9s,mb5.7
CD2 pmax pmax
comp=Z,940nm,11.6s
CD2 LR LR
comp=N,1μm,15.6s
CD2 LR LR
comp=Z,1μm,15.5s,MS4.8
HIA Hailar 41.84 336 *e*P **P 08 45 39.0 +0.8**
comp=Z,33nm,0.9s,mb5.0
HIA Hailar 41.84 336 *e*P **P 08 45 39.0 +0.8**
HIA pmax pmax
comp=Z,33nm,0.9s
PETK Petropavlovsk- 42.01 12 P P 08 45 39.5 0.0
comp=Z,4.8nm,0.6s,baz=158,slow=6.0,SNR=12
PETK PcP PcP 08 47 34.1 -0.1
comp=Z,20nm,0.9s,baz=170,slow=4.2,SNR=12
PETK LR LR 09 01 40.8
comp=Z,612nm,18.5s,MS4.5,baz=325,slow=34
PETK Petropavlovsk- 42.01 12 P P 08 45 39.5 0.0
PETK PcP PcP 08 47 34.1 -0.1
PETK LR LR 09 01 40.8
PETK Petropavlovsk- 42.01 12 P P 08 45 39.5 0.0
PETK 08 47 34.1
PETK pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
PETK pmax pmax
comp=Z,20nm,0.9s,mb4.8
SNG Songkhla 43.06 267 P P 08 45 51.0 +2.3
comp=Z,140nm,0.6s,mb5.9
SNG Songkhla 43.06 267 P P 08 45 51.0 +2.3
comp=Z,140nm,0.6s,mb5.9
LZH Lanzhou 43.12 310 ⇑P **P 08 45 50.3 +1.5**
LZH pP pP 08 46 01.3 +3.2
LZH sP sP 08 46 05.5 +3.7
LZH S **S** **08 52 16.0 +2.8**
LZH sS sS 08 52 31.0 +2.6
LZH *e*SS SS 08 55 22.0 -4.4
LZH pmax pmax
comp=Z,46nm,1.0s,mb5.2
LZH pmax pmax
comp=Z,330nm,7.4s
LZH LR LR
comp=N,670nm,13.8s,MS4.9
LZH LR LR
comp=E,740nm,12.8s,MS4.9
LZH LR LR
comp=Z,730nm,15.6s,MS4.7
IPM Ipoh 43.22 263 *e*P **P 08 45 50.8 +0.8**
comp=Z,30nm,1.0s,mb5.0
ARMA Armidale 43.23 170 *e*P **P 08 45 48.0 -1.7**
ARMA Armidale 43.23 170 *e*P **P 08 45 47.6 -2.1**
comp=Z,19nm,0.9s,mb4.8
KULM Kulim 43.40 265 *e*P **P 08 45 52.7 +1.2**
comp=Z,48nm,1.0s,mb5.2
KULM Kulim 43.40 265 P P 08 45 52.9 +1.4
comp=Z,48nm,1.1s,mb5.1
CM31 Chiang Mai Arr 43.79 284 *e*P **P 08 45 56.1 +1.7**
comp=Z,13nm,0.5s,mb4.9
CMAR Chiang Mai Arr 43.79 284 P P 08 45 55.2 +0.7
comp=Z,14nm,0.6s,mb4.9,baz=84,slow=6.1,SNR=83
CMAR PcP PcP 08 47 42.0 +1.1
comp=Z,12nm,0.8s,baz=83,slow=1.8,SNR=14
CMAR Chiang Mai Arr 43.79 284 P P 08 45 55.2 +0.7
CMAR PcP PcP 08 47 42.0 +1.1
CMAR Chiang Mai Arr 43.79 284 P P 08 45 55.2 +0.7
CMAR 08 47 42.0
CMAR pmax pmax
comp=Z,14nm,0.6s
CMAR pmax pmax
comp=Z,12nm,0.8s
CHTO Chiang Mai 43.79 284 *e*P **P 08 45 54.9 +0.4**
comp=Z,8.9nm,1.0s,mb4.5
CHTO Chiang Mai 43.79 284 *e*P **P 08 45 54.9 +0.4**
CHTO pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
CHTO Chiang Mai 43.79 284 P P 08 45 54.7 +0.2
comp=Z,9.6nm,1.4s
STKA Stephens Creek 44.13 183 P P 08 45 55.1 -1.8
comp=Z,13nm,0.9s,mb4.7,baz=355,slow=7.5,SNR=8.4
STKA Stephens Creek 44.13 183 *e*P **P 08 45 54.8 -2.1**
comp=Z,9.2nm,0.8s,mb4.6
STKA Stephens Creek 44.13 183 *e*P **P 08 45 54.0 -2.9**
comp=Z,3.4nm,1.0s,mb4.0
STKA Stephens Creek 44.13 183 *e*P **P 08 45 54.0 -2.9**
STKA pmax pmax
comp=Z,3.0nm,1.0s
PDSI Padang 45.23 256 P P 08 46 05.7 -0.4
comp=Z,46nm,0.7s,mb5.4
MNSI Mandailing Nat 45.56 259 P P 08 46 08.9 +0.2
comp=Z,31nm,1.2s,mb5.1
PSI Prapat 45.66 262 P P 08 46 10.1 +0.7
comp=Z,37nm,0.9s,mb5.3,baz=79,slow=3.8,SNR=21
PSI Prapat 45.66 262 P P 08 46 10.1 +0.7
PSI Prapat 45.66 262 P P 08 46 10.1 +0.6
PSI pmax pmax
comp=Z,37nm,0.9s,mb5.3
FX1 Attu Island--F 46.58 24 P P 08 46 15.6 -0.5
comp=Z,32nm,0.6s,mb5.5,baz=312,slow=4.4,SNR=18
FX1 PcP PcP 08 47 49.9 0.0
comp=Z,12nm,0.6s,baz=307,slow=5.1,SNR=3.5
FX1 Attu Island--F 46.58 24 P P 08 46 15.6 -0.5
FX1 PcP PcP 08 47 49.9 0.0
FX1 Attu Island--F 46.58 24 P P 08 46 15.6 -0.5
FX1 08 47 49.9
FX1 pmax pmax
comp=Z,32nm,0.6s
FX1 pmax pmax
comp=Z,12nm,0.6s
SISI Saibi 46.66 256 P P 08 46 17.0 -0.4
comp=Z,110nm,1.0s,mb5.7
CLNS Chul'man 46.68 346 *e*P **P 08 46 16.3 -0.6**
CLNS pmax pmax
comp=Z,21nm,0.9s,mb5.1
CLNS pmax pmax
comp=N,14nm,0.8s
CLNS pmax pmax
comp=E,3.0nm,0.7s
ULN Ulaanbaatar 46.87 326 *e*P **P 08 46 19.4 +0.9**
comp=E,23nm,1.0s,mb5.1
ULN Ulaanbaatar 46.87 326 *e*P **P 08 46 19.4 +1.0**
ULN pmax pmax
comp=Z,23nm,1.0s,mb5.1
ULN Ulaanbaatar 46.87 326 P P 08 46 19.1 +0.7
comp=Z,25nm,1.1s,mb5.1
SONM Songino Array 47.21 326 P P 08 46 21.8 +0.7
comp=Z,12nm,0.7s,mb4.9,baz=143,slow=6.5,SNR=34
SONM PcP PcP 08 47 52.2 0.0
comp=Z,9.7nm,0.9s,baz=139,slow=3.7,SNR=10
SONM ScP ScP 08 51 44.5 +0.4
comp=Z,0.9nm,0.6s,baz=135,slow=4.3,SNR=3.8
SONM Songino Array 47.21 326 P P 08 46 21.8 +0.7
SONM PcP PcP 08 47 52.2 0.0
SONM ScP ScP 08 51 44.5 +0.4
SONM Songino Array 47.21 326 P P 08 46 21.8 +0.7
SONM 08 47 52.2
SONM pmax pmax
comp=Z,12nm,0.7s
SONM pmax pmax
comp=Z,10.0nm,1.0s
SONM pmax pmax
comp=N,1.0nm,0.6s
TPTI 47.23 263 P P 08 46 21.8 0.0
GTA Gaotai 47.34 313 *e*P **P 08 46 23.0 +0.7**
GTA pP pP 08 46 32.5 +0.9
GTA sP sP 08 46 36.5 +1.2
GTA PcP PcP 08 47 53.7 +0.8
GTA S **S** **08 53 13.2 -0.9**
GTA sS sS 08 53 30.5 +1.1
GTA SS SS 08 56 35.1 -6.8
GTA pmax pmax
comp=Z,50nm,1.1s,mb5.4
GTA pmax pmax
comp=Z,810nm,6.9s
GTA LR LR
comp=N,620nm,17.6s,MS4.8
GTA LR LR
comp=E,800nm,17.1s,MS4.8
GTA LR LR
comp=Z,1μm,16.4s,MS5.0
MORW Morawa 49.34 213 *e*P **P 08 46 36.8 -0.9**
ZAK Zakamensk 50.34 327 ⇓*i*P **P 08 46 45.1 0.0**
ZAK *e* 08 48 03.1
ZAK pmax pmax
comp=Z,14nm,0.9s,mb5.0
YAK Yakutsk 50.59 351 *e*P **P 08 46 47.9 +1.1**
comp=Z,133nm,0.6s,mb6.0
YAK Yakutsk 50.59 351 *e*P **P 08 46 44.9 -1.9**
YAK *e* 08 48 02.8
YAK pmax pmax
comp=Z,87nm,0.8s,mb5.7
YAK pmax pmax
comp=N,15nm,0.9s
YAK pmax pmax
comp=E,8.0nm,0.8s
BOD Bodaibo 50.70 340 *e*P **P 08 46 46.9 -0.8**
BOD pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
SHL Shillong 50.71 293 *e*PKP **P 08 46 49.0 +0.6**
SEY Seymchan 50.77 5⇑*e*P **P 08 46 48.3 +0.2**
TLY Talaya 50.90 329 *e*P **P 08 46 48.7 -0.6**
TLY *e* 08 48 04.8
TLY pmax pmax
comp=Z,22nm,0.9s,mb5.1
TLY Talaya 50.90 329 P P 08 46 50.2 +0.9
comp=Z,155nm,0.9s,mb5.9,SNR=8.4
LSA Lhasa 51.80 298 P P 08 46 57.9 +1.4
LSA Lhasa 51.80 298 *e*P **P 08 46 58.1 +1.7**
comp=Z,47nm,0.8s,mb5.5
LSA Lhasa 51.80 298 *e*P **P 08 46 58.2 +1.7**
LSA pmax pmax
comp=Z,47nm,0.8s,mb5.5
TAPN Taplejung 54.58 295 *e*P **P 08 47 17.3 +0.3**
TAPN Taplejung 54.58 295 *e*P **P 08 47 17.3 +0.3**
ODAN Odare 54.83 294 *e*P **P 08 47 18.8 0.0**
ODAN Odare 54.83 294 *e*P **P 08 47 18.8 0.0**
NIKO Nikolski 55.07 33 *e*P **P 08 47 18.2 -1.9**
comp=Z,70nm,0.6s,mb5.9
GUN Gumba 56.24 295 *e*P **P 08 47 29.6 +0.7**
comp=Z,169nm,0.5s,mb6.3
GUN Gumba 56.24 295 *e*P **P 08 47 29.6 +0.7**
comp=Z,169nm,0.5s,mb6.3
PKI Pulchoki 56.63 295 *e*P **P 08 47 31.7 0.0**
comp=Z,30nm,0.5s,mb5.6
PKIN Phulchoki 56.65 295 *e*P **P 08 47 31.9 +0.1**
comp=Z,22nm,0.4s,mb5.6
UNV Unalaska Valle 56.73 33 *e*P **P 08 47 29.8 -2.1**
comp=Z,33nm,0.6s,mb5.5
KKN Kakani 56.76 295 *e*P **P 08 47 32.8 +0.2**
KKN Kakani 56.76 295 *e*P **P 08 47 32.8 +0.2**
KKN Kakani 56.76 295 *e*P **P 08 47 32.8 +0.2**
DMN Daman 56.90 295 *e*P **P 08 47 34.1 +0.5**
comp=Z,97nm,0.8s,mb5.9
DMN Daman 56.90 295 *e*P **P 08 47 34.1 +0.5**
comp=Z,97nm,0.8s,mb5.9
AKUT Akutan 57.24 33 *e*P **P 08 47 33.9 -1.6**
comp=Z,84nm,1.0s,mb5.7
GKN Gorkha 57.34 295 *e*P **P 08 47 36.7 0.0**
comp=Z,48nm,0.4s,mb5.9
WMQ Urumqi 57.34 314 P P 08 47 37.7 +1.2
WMQ pP pP 08 47 47.8 +1.8
WMQ sP sP 08 47 51.7 +2.1
WMQ PP PP 08 49 46.7 +2.8
WMQ pmax pmax
comp=Z,81nm,0.7s,mb5.9
BILL Bilibino 57.42 10 *e*P **P 08 47 35.6 -1.0**
comp=Z,36nm,1.0s,mb5.4
BILL Bilibino 57.42 10⇑*i*P **P 08 47 35.9 -0.7**
BILL *e*S **S** **08 55 20.4 -11**
BILL pmax pmax
comp=Z,30nm,1.0s,mb5.3
BILL MLR MLR
comp=Z,800nm,21.0s,MS4.8
DANN Dangsing 58.13 296 *e*P **P 08 47 42.7 +0.4**
comp=Z,161nm,0.7s,mb6.2
DANN Dangsing 58.13 296 *e*P **P 08 47 42.7 +0.4**
comp=Z,161nm,0.7s,mb6.2
KOLN Koldanda 58.24 295 *e*P **P 08 47 43.4 +0.3**
comp=Z,75nm,0.8s,mb5.8
KOLN Koldanda 58.24 295 *e*P **P 08 47 43.4 +0.3**
comp=Z,75nm,0.8s,mb5.8
FALS False Pass 58.80 32 *e*P **P 08 47 44.8 -1.6**
comp=Z,65nm,0.6s,mb5.8
SDPT Sand Point 60.54 33 *e*P **P 08 47 57.1 -1.3**
comp=Z,116nm,0.6s,mb6.2
MK31 Makanchi Array 61.75 317 *e*P **P 08 48 07.5 +0.7**
MK31 Makanchi Array 61.75 317 *e*P **P 08 48 07.5 +0.7**
MKAR Makanchi Array 61.75 317 P P 08 48 07.7 +0.9
comp=Z,29nm,0.6s,mb5.6,baz=92,slow=8.6,SNR=262
MKAR PKP2bc 09 17 26.9
comp=Z,1.6nm,0.9s,baz=289,slow=3.7,SNR=7.9
MKAR Makanchi Array 61.75 317 P P 08 48 07.7 +0.9
MKAR ⇑*e* 09 17 26.9
MKAR Makanchi Array 61.75 317 P P 08 48 07.7 +0.9
MKAR pmax pmax
comp=Z,29nm,0.6s
CHGN Chignik 61.97 32 *e*P **P 08 48 07.6 -0.5**
ZAA0 Zalesovo Array 62.08 325 *e*P **P 08 48 08.4 -0.5**
ZALV Zalesovo Beam 62.08 325 P P 08 48 08.5 -0.4
comp=Z,6.5nm,0.5s,mb5.0,baz=107,slow=6.4,SNR=36
ZALV PcP PcP 08 48 47.8 -1.3
comp=Z,20nm,0.7s,baz=117,slow=3.5,SNR=18
ZALV PKP2bc 09 17 23.7
comp=Z,0.7nm,0.3s,baz=336,slow=3.3,SNR=3.8
ZALV Zalesovo Beam 62.08 325 P P 08 48 08.5 -0.4
ZALV PcP PcP 08 48 47.8 -1.2
ZALV ⇑*e* 09 17 23.7
ZALV Zalesovo Beam 62.08 325 P P 08 48 08.5 -0.4
ZALV 08 48 47.8
ZALV pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
ZALV pmax pmax
comp=Z,20nm,0.7s,mb5.4
PALK Pallekele 62.49 272 *i* P **P 08 48 13.8 +1.4**
HYB Hyderabad 63.21 283 *i* P **P 08 48 17.0 -0.1**
HYB *e*PcP PcP 08 48 54.0 -0.4
NVS Novosibirsk 63.24 326 *i* P **P 08 48 15.2 -1.4**
NVS *i* 08 48 52.7
NVS pmax pmax
comp=Z,51nm,1.2s,mb5.5
NVS pmax pmax
comp=N,15nm,1.3s
NVS pmax pmax
comp=E,32nm,1.3s
KURK Kurchatov 64.94 320 P P 08 48 27.7 -0.1
comp=E,42nm,0.7s,mb5.6,baz=104,slow=6.5,SNR=167
KURK PKP2bc 09 17 15.7
comp=E,1.3nm,0.7s,baz=272,slow=3.4,SNR=7.6
KURK Kurchatov 64.94 320 *e*P **P 08 48 27.3 -0.5**
comp=E,112nm,1.0s,mb5.8
KURK Kurchatov 64.94 320 P P 08 48 27.7 -0.1
KURK pmax pmax
comp=Z,42nm,0.7s,mb5.6
KURK Kurchatov 64.94 320 P P 08 48 28.6 +0.8
comp=Z,535nm,1.0s,mb6.5,SNR=54
OHAK Old Harbor 64.94 32 *e*P **P 08 48 26.7 -1.0**
comp=Z,59nm,1.2s,mb5.5
SVW2 Sparrevohn 65.06 28 *e*P **P 08 48 27.4 -1.0**
comp=Z,6.9nm,0.5s,mb4.9
KSH Kashi 65.29 308 P P 08 48 33.2 +2.8
KSH pP pP 08 48 43.4 +3.4
KSH sP sP 08 48 47.4 +3.8
KSH PcP PcP 08 49 04.7 +2.2
KSH PP PP 08 50 59.2 +5.0
KSH ScP 08 53 03.9
KSH PcS 08 53 07.7
KSH S S 08 57 13.0 +0.8
KSH sS sS 08 57 30.5 +2.4
KSH ScS ScS 08 58 22.2 -1.5
KSH SS SS 09 01 28.6 +3.2

KSH pmax pmax
comp=Z,20nm,0.8s,mb5.2
KSH pmax pmax
comp=Z,86nm,7.0s
KSH LR LR
comp=N,650nm,17.5s,MS5.1
KSH LR LR
comp=E,760nm,18.2s,MS5.1
KSH LR LR
comp=Z,990nm,14.9s,MS5.1
ULHL Ulahol 65.32 311 P **P** 08 48 31.6 +1.1
SNR=21
KDAK Kodiak Island 65.47 32 P **P** 08 48 29.9 -1.2
comp=Z,13nm,0.5s,mb5.2,baz=294,slow=3.1,SNR=24
KDAK Kodiak Island 65.47 32 *e*P **P** 08 48 30.2 -0.9
comp=Z,13nm,0.6s,mb5.2
KDAK Kodiak Island 65.47 32 *e*P **P** 08 48 30.3 -0.8
KDAK pmax pmax
comp=Z,13nm,0.6s,mb5.1
KDAK Kodiak Island 65.47 32 P **P** 08 48 30.0 -1.1
comp=Z,172nm,0.5s,mb6.3,SNR=12
TKM2 Tokmak 2 65.86 312 P **P** 08 48 34.6 +0.7
SNR=31
TKM2 Tokmak 2 65.86 312 *e*P **P** 08 48 34.3 +0.4
comp=Z,23nm,0.9s,mb5.2
TKM2 Tokmak 2 65.86 312 *i* P **P** 08 48 34.6 +0.6
KZA Kyzart 66.04 311 P **P** 08 48 36.9 +1.7
SNR=30
KBK Karagaybulak 66.31 311 P **P** 08 48 37.9 +1.0
SNR=19
CHMS Chumysh 66.49 312 P **P** 08 48 38.5 +0.6
SNR=11
UCH Uchtor 66.60 311 P **P** 08 48 40.6 +1.9
SNR=8.4
AAK Ala-Archa 66.64 311 P **P** 08 48 39.8 +0.8
SNR=16
AAK Ala-Archa 66.64 311 P **P** 08 48 39.6 +0.6
comp=Z,6.6nm,0.4s,mb5.0,baz=102,slow=6.0,SNR=9.2
AAK Ala-Archa 66.64 311 *e*P **P** 08 48 39.3 +0.3
comp=Z,19nm,0.8s,mb5.2
AAK Ala-Archa 66.64 311 P **P** 08 48 39.6 +0.6
AAK pmax pmax
comp=Z,7.0nm,0.4s,mb5.0
AAK Ala-Archa 66.64 311 P **P** 08 48 39.7 +0.7
comp=Z,125nm,0.5s,mb6.2,SNR=11
USP Ospenovka 66.69 312 P **P** 08 48 39.7 +0.4
SNR=15
PPLA Purkeypile 67.17 26 *e*P **P** 08 48 41.2 -0.7
comp=Z,16nm,0.7s,mb5.2
EKS2 Erkin-Say 67.17 311 P **P** 08 48 42.9 +0.6
SNR=14
EKS2 Erkin-Say 67.17 311 *e*P **P** 08 48 42.9 +0.6
comp=Z,29nm,1.2s,mb5.2
EKS2 Erkin-Say 67.17 311 *e*P **P** 08 48 42.9 +0.5
EKS2 pmax pmax
comp=Z,29nm,1.2s,mb5.2
AML Almayashu 67.20 311 P **P** 08 48 43.6 +1.1
SNR=41
SLKM Skilak Lake 67.38 29 *e*P **P** 08 48 42.1 -1.3
SLKM Skilak Lake 67.38 29 *e*P **P** 08 48 42.1 -1.2
POO Poona 67.56 285 ⇓*i*P **P** 08 48 42.0 -3.2
comp=Z,120nm,1.0s,mb5.9
SEW Seward 67.65 30 *e*P **P** 08 48 43.5 -1.5
comp=Z,29nm,0.8s,mb5.3
BPAW Bear Paw Mtn. 68.05 25 *e*P **P** 08 48 46.5 -1.0
comp=Z,26nm,0.9s,mb5.2
TRF Thorofare Moun 68.16 26 *e*P **P** 08 48 46.7 -1.5
comp=Z,22nm,0.8s,mb5.2
PMR Palmer 68.17 28 *e*P **P** 08 48 45.6 -2.7
comp=Z,32nm,0.8s,mb5.4
PMR Palmer 68.17 28 *e*P **P** 08 48 45.6 -2.7
PMR pmax pmax
comp=Z,32nm,0.8s,mb5.4
SML Sawmill 68.60 28 *e*P **P** 08 48 49.9 -1.1
comp=Z,19nm,0.9s,mb5.0
SML Sawmill 68.60 28 *e*P **P** 08 48 49.9 -1.0
SML pmax pmax
comp=Z,19nm,0.9s,mb5.0
MCK McKinley 68.82 26 *e*P **P** 08 48 50.5 -1.7
comp=Z,15nm,0.8s,mb5.0
MCK McKinley 68.82 26 *e*P **P** 08 48 50.5 -1.8
MCK pmax pmax
comp=Z,15nm,0.8s,mb5.0
COLD Coldfoot 69.31 22 *e*P **P** 08 48 54.9 -0.4
comp=Z,33nm,0.8s,mb5.3
COLA College 69.57 25 *e*P **P** 08 48 55.0 -1.9
comp=Z,14nm,0.8s,mb4.9
COLA College 69.57 25 *e*P **P** 08 48 55.0 -1.9
COLA pmax pmax
comp=Z,14nm,0.8s,mb4.9
KK31 Karatay Array 69.59 311 P **P** 08 48 57.0 -0.5
KK31 pmax pmax
comp=Z,25nm,0.6s,mb5.3
KKAR Karatay Array 69.59 311 *e*P **P** 08 48 57.5 0.0
comp=Z,56nm,0.8s,mb5.5
KKAR Karatay Array 69.59 311 *e*P **P** 08 48 57.5 0.0
KKAR pmax pmax
comp=Z,56nm,0.8s,mb5.5
DIV Divide 69.65 29 *e*P **P** 08 48 56.8 -0.6
comp=Z,26nm,0.7s,mb5.3
ILAR Eielson Array 69.95 25 P **P** 08 48 56.5 -2.7
comp=Z,24nm,0.9s,mb5.2,baz=252,slow=5.3,SNR=200
ILAR Eielson Array 69.95 25 P **P** 08 48 56.5 -2.7
ILAR Eielson Array 69.95 25 P **P** 08 48 56.5 -2.7
ILAR pmax pmax
comp=Z,25nm,0.9s
PAX Paxson 70.16 27 *e*P **P** 08 48 59.4 -1.2
comp=Z,31nm,0.9s,mb5.2
PAX Paxson 70.16 27 *e*P **P** 08 48 59.4 -1.2
PAX pmax pmax
comp=Z,31nm,0.9s,mb5.2
BMRM Bremner River 70.17 29 *e*P **P** 08 49 00.8 +0.1
comp=Z,56nm,1.1s,mb5.4
BVA0 Borovoye Array 70.32 322 *i* P **P** 08 49 01.5 -0.3
BVA0 pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
BVAR Borovoye Array 70.32 322 P **P** 08 49 01.8 +0.1
comp=Z,30nm,0.4s,mb5.6,baz=101,slow=7.7,SNR=110
BVAR Borovoye Array 70.32 322 P **P** 08 49 01.8 +0.1
BVAR Borovoye Array 70.32 322 P **P** 08 49 01.8 0.0
BVAR pmax pmax
comp=Z,30nm,0.4s
BRVK Borovoye 70.39 322 *e*P **P** 08 49 02.1 -0.1
comp=Z,85nm,1.0s,mb5.6
BRVK Borovoye 70.39 322*d i*P **P** 08 49 01.8 -0.4
BRVK pmax pmax
comp=Z,71nm,1.0s,mb5.5
BRVK Borovoye 70.39 322 P **P** 08 49 02.5 +0.3
comp=Z,356nm,0.6s,mb6.5,SNR=21
KBL Kabul 70.75 302 *e*P **P** 08 49 04.7 -0.1
comp=Z,56nm,1.0s,mb5.5
KBL Kabul 70.75 302 *e*P **P** 08 49 04.7 -0.1
KBL pmax pmax
comp=Z,56nm,1.0s,mb5.5
DOT Dot Lake 70.91 27 *e*P **P** 08 49 03.9 -1.3
comp=Z,163nm,0.8s,mb6.0
MENT Mentasta 70.94 27 *e*P **P** 08 49 05.0 -0.4
EGAK Eagle 72.36 26 *e*P **P** 08 49 12.9 -0.9
comp=Z,25nm,0.8s,mb5.2
DAWY Dawson 73.02 27 *e*P **P** 08 49 17.3 -0.5
SKAG Skagway 74.62 32 *e*P **P** 08 49 27.5 +0.3
comp=Z,48nm,0.8s,mb5.5
INK Inuvik 75.73 22 P **P** 08 49 32.4 -1.1
comp=Z,30nm,0.8s,mb5.3,baz=250,slow=4.2,SNR=9.9
INK Inuvik 75.73 22 *e*P **P** 08 49 32.3 -1.2
comp=Z,58nm,1.1s,mb5.4
INK Inuvik 75.73 22 P **P** 08 49 32.4 -1.1
INK pmax pmax
comp=Z,30nm,0.8s
SVE Sverdlovsk 76.08 326 ⇓*i*P **P** 08 49 35.8 +0.1
SVE pmax pmax
comp=Z,83nm,1.1s,mb5.6
WRAK Wrangell Islan 76.21 35 *e*P **P** 08 49 36.6 +0.2
comp=Z,54nm,0.7s,mb5.6
AB31 Akbulak array 76.84 318 *i* P **P** 08 49 39.3 -0.9
AB31 pmax pmax
comp=Z,45nm,0.6s,mb5.6
ABKAR Akbulak array 76.84 318 *e*P **P** 08 49 39.8 -0.4
comp=Z,73nm,0.8s,mb5.7
ARU Arti 77.24 325 *e*P **P** 08 49 42.0 -0.3
comp=Z,77nm,0.9s,mb5.6
ARU Arti 77.24 325*d i*P **P** 08 49 41.6 -0.7
ARU 08 52 33.7
ARU PPP 08 54 25.3
ARU S S 08 59 30.7 +0.9
ARU SS SS 09 04 24.9 -2.8
ARU pmax pmax
comp=Z,78nm,1.0s,mb5.6
ARU Arti 77.24 325 P **P** 08 49 42.5 +0.2
comp=Z,483nm,0.6s,mb6.6,SNR=12
DLBC Dease Lake 77.38 33 *e*P **P** 08 49 43.3 +0.3
SOKR Solikamsk 77.98 329*d i*P **P** 08 49 45.9 -0.4
SOKR pmax pmax
comp=Z,30nm,1.0s,mb5.2
AKTK Aktyubinsk 78.00 319 P **P** 08 49 45.9 -0.7
AKTO Aktyubinsk 78.00 319 P **P** 08 49 45.9 -0.7
comp=Z,29nm,0.8s,mb5.3,baz=92,slow=7.1,SNR=56
AKTO Aktyubinsk 78.00 319 P **P** 08 49 45.9 -0.7
AKTO pmax pmax
comp=Z,29nm,0.8s,mb5.3
ABKT Ailbek 79.28 307 P **P** 08 49 54.2 +0.3
comp=Z,438nm,0.7s,mb6.5,SNR=20
WBK Wadi Bani Khal 80.82 291 P **P** 08 50 02.8 +0.3
SNR=20
WBK P 08 50 02.9
SNR=11
SMDO Samad 81.58 292 P **P** 08 50 06.6 0.0
SNR=22
SMDO P 08 50 06.8
SNR=9.4
JMDO Jabal Madar 81.65 291 P **P** 08 50 07.0 0.0
SNR=7.8
HOQ Hoqain 82.16 292 P **P** 08 50 09.6 -0.1
SNR=28
HOQ P 08 50 09.7
SNR=44
OSR Olympics--Salm 82.29 43 P **P** 08 50 11.0 +1.2
BSY Bisya 82.41 292 P **P** 08 50 11.2 +0.2
SNR=8.5
PGC Sidney 82.42 42 *e*P **P** 08 50 10.8 +0.3
comp=Z,1.6nm,1.0s
BANOM Banah 82.66 295 P **P** 08 50 12.9 +0.7
SNR=11
E03A Lebam 82.72 44 ⇑P **P** 08 50 12.7 +0.6
baz=83
F03A Seaside 82.84 45 ⇑P **P** 08 50 13.4 +0.7
baz=83
ARQ Araqi 82.92 292 P **P** 08 50 13.7 +0.1
SNR=22
GNW Green Mountain 83.03 43 *e*P **P** 08 50 14.3 +0.6
comp=Z,31nm,1.2s,mb5.2
ASHO Ashiyiah 83.09 294 P **P** 08 50 14.8 +0.4
SNR=8.0
VDB Vedder Mountai 83.23 41 P **P** 08 50 14.8 +0.1
A05A Maple Falls 83.25 41 ⇓P **P** 08 50 14.5 -0.3
baz=83,SNR=14
JCW Jim Creek 83.51 42 *e*P **P** 08 50 16.7 +0.5
comp=Z,146nm,1.2s,mb6.0
KHMM Horse Mountain 83.64 50 *e*P **P** 08 50 18.1 +1.1
comp=Z,39nm,1.0s,mb5.5
D05A Enumclaw 83.66 43 ⇑P **P** 08 50 17.8 +0.8
baz=84
G04A Mulino 83.72 45 ⇑P **P** 08 50 17.3 0.0
baz=84
RPW Rockport 83.73 42 *e*P **P** 08 50 17.5 +0.2
comp=Z,19nm,0.7s,mb5.3
B06A Marblemount 83.73 42 ⇑P **P** 08 50 16.9 -0.4
baz=84,SNR=5.3
LON Longmire 83.87 44 *e*P **P** 08 50 18.2 +0.2
comp=Z,8.6nm,0.9s,mb4.9
LON Longmire 83.87 44 *e*P **P** 08 50 18.2 +0.2
LON pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
KCPM Cahto Peak 83.98 51 *e*P **P** 08 50 19.6 +0.9
comp=Z,54nm,1.4s,mb5.5
H04A Detroit Lake 84.03 46 ⇓P **P** 08 50 18.9 0.0
baz=84
KIPM Iron Peak 84.04 51 *e*P **P** 08 50 19.1 0.0
comp=Z,73nm,1.6s,mb5.6
YKA Yellowknife Ar 84.25 27 P **P** 08 50 19.0 -0.6
comp=Z,31nm,0.8s,mb5.5,baz=288,slow=5.5,SNR=39
YKA Yellowknife Ar 84.25 27 P **P** 08 50 19.0 -0.6
YKA Yellowknife Ar 84.25 27 P **P** 08 50 19.0 -0.6
YKA pmax pmax
comp=Z,31nm,0.9s
WRW Wenatchee Ridg 84.26 42 P **P** 08 50 20.2 +0.2
ALE Alert 84.42 3 P **P** 08 50 20.0 -0.2
comp=Z,330nm,0.8s,mb6.5,SNR=21
TBM Table Mountain 84.60 43 P **P** 08 50 22.1 +0.5
EBG Ellensburg 84.67 43 P **P** 08 50 22.7 +0.6
ETW Entiat 84.68 43 *e*P **P** 08 50 22.1 0.0
comp=Z,62nm,1.0s,mb5.7
G06A Carlson Farm, 84.99 45 ⇓P **P** 08 50 23.8 +0.1
baz=85
SPA0 Spitsbergen Ar 85.04 351 *e*P **P** 08 50 23.6 +0.2
B08A Colville Reser 85.17 42 ⇑P **P** 08 50 24.0 -0.6
baz=85,SNR=42
E07A Sunnyside 85.23 44 ⇓P **P** 08 50 25.0 +0.1
baz=85,SNR=9.0
F07A Phinny Hill Vi 85.33 44 ⇑P **P** 08 50 25.5 +0.1
baz=85
RSW Rattlesnake Hi 85.44 44 *e*P **P** 08 50 26.6 +0.6
comp=Z,14nm,0.6s,mb5.3
HAWA Hazard 85.48 44 *e*P **P** 08 50 26.1 0.0
comp=Z,53nm,1.4s,mb5.5
WRD Warden 85.65 43 P **P** 08 50 27.1 +0.1
LVZ Lovozero 85.67 339 *i* P **P** 08 50 26.0 -0.7
LVZ pmax pmax
comp=Z,174nm,2.6s,mb5.8
D08A Wollman Farm, 85.74 43 ⇓P **P** 08 50 27.4 0.0
baz=86,SNR=21
E08A Dider Farm, El 85.78 43 ⇓P **P** 08 50 27.5 -0.1
baz=86,SNR=5.4
OD2 Odessa Site #2 85.80 43 P **P** 08 50 27.8 +0.1
RES Resolute Bay 85.85 13 P **P** 08 50 27.1 -0.3
comp=Z,88nm,0.7s,mb6.1,baz=319,slow=4.7
RES Resolute Bay 85.85 13 *e*P **P** 08 50 27.1 -0.3
comp=Z,100nm,0.8s,mb6.1
RES Resolute Bay 85.85 13 P **P** 08 50 27.1 -0.3
RES pmax pmax
comp=Z,88nm,0.7s,mb6.1
C09A Chrisman Ranch 85.99 42 ⇑P **P** 08 50 28.8 +0.1
baz=86,SNR=19
I07A Izee 86.03 46 ⇑P **P** 08 50 29.0 +0.1
baz=86,SNR=7.5
G08A Pilot Rock 86.13 45 ⇓P **P** 08 50 29.3 0.0
baz=86,SNR=13
RBK Rabkut 86.17 287 P **P** 08 50 29.3 -0.8
SNR=27
APA Apatity 86.24 339 ⇓*i*P **P** 08 50 28.2 -1.3
APA pmax pmax
comp=Z,54nm,1.4s,mb5.6
APA MLR MLR
comp=Z,2µm,19.0s,MS5.5
E09A Wood Farm, Sta 86.39 43 ⇑P **P** 08 50 30.9 +0.2
baz=86,SNR=27
LNOR Lincton Mounta 86.45 44 *e*P **P** 08 50 31.2 +0.2
comp=Z,13nm,1.0s,mb5.1
LNOR Lincton Mounta 86.45 44 *e*P **P** 08 50 31.2 +0.2
LNOR pmax pmax
comp=Z,13nm,1.0s,mb5.1
NEW Newport 86.62 41 ⇑P **P** 08 50 31.6 -0.1
baz=87,SNR=68
NEW Newport 86.62 41 *e*P **P** 08 50 31.6 -0.2
comp=Z,93nm,0.9s,mb6.0
NEW Newport 86.62 41 *e*P **P** 08 50 31.6 -0.1
NEW pmax pmax
comp=Z,93nm,0.9s
J08A Circle Bar Ran 86.93 46 ⇓P **P** 08 50 33.4 0.0
baz=87,SNR=29
WCN Washoe City 86.96 51 ⇓P **P** 08 50 34.1 +0.5
baz=87,SNR=8.4
ABTO Aybut 87.05 287 P **P** 08 50 34.3 -0.2
SNR=41
F10A Beach Ranch, E 87.14 44 ⇑P **P** 08 50 34.1 -0.2
baz=87,SNR=20
KEV Kevo 87.35 342 *e*P **P** 08 50 33.9 -1.0
KEV Kevo 87.35 342 *e*p **P** 08 50 33.9 -1.0
BMO Blue Mountains 87.37 45 *e*P **P** 08 50 35.4 -0.1
comp=Z,38nm,1.1s,mb5.5
BMO Blue Mountains 87.37 45 *e*P **P** 08 50 35.4 -0.1
BMO pmax pmax
comp=Z,38nm,1.1s,mb5.5
A12A Yaak River Ran 87.39 41 ⇓P **P** 08 50 35.7 +0.2
baz=87,SNR=32
WAKR Walker 87.39 51 *e*P **P** 08 50 36.2 +0.5
comp=Z,36nm,1.5s,mb5.4
B12A Libby 87.55 41 ⇑P **P** 08 50 36.5 +0.2
baz=88,SNR=20
SMMC Simmler 87.70 54 ⇑P **P** 08 50 37.6 +0.4
baz=88,SNR=6.7
C12B Naegeli Ranch, 87.84 42 ⇓P **P** 08 50 37.5 -0.2
baz=88,SNR=23
ARCES ARCESS Array B 87.92 342 P **P** 08 50 36.9 -0.7
comp=Z,6.8nm,0.7s,mb5.0,baz=77,slow=6.1,SNR=22
ARCES ARCESS Array B 87.92 342 P **P** 08 50 36.9 -0.7
ARCES ARCESS Array B 87.92 342 P **P** 08 50 36.9 -0.7
ARCES pmax pmax
comp=Z,7.0nm,0.7s
ARE0 ARCESS Array S 87.92 342 *e*P **P** 08 50 37.6 0.0
MLAC Mammoth Lakes 88.06 52 ⇑P **P** 08 50 38.8 -0.1
baz=88,SNR=6.6
RCTC Rector, Farmer 88.06 53 ⇑P **P** 08 50 39.1 +0.1
baz=88
VRHR Novokhopersk 88.07 322 *e*P **P** 08 50 35.5 -3.1
VRHR pmax pmax
comp=Z,90nm,0.7s,mb6.1
VRHR pmax pmax
comp=N,10.0nm,0.4s
VRHR pmax pmax
comp=E,30nm,0.9s
D12A Red Ives Fores 88.10 42 ⇑P **P** 08 50 38.8 -0.1
baz=88,SNR=60
SBC Santa Barbara 88.13 55 ⇑P **P** 08 50 39.6 +0.2
baz=88
A13A Flathead Natio 88.17 40 ⇓P **P** 08 50 39.8 +0.6
baz=88
BSMT Bassoo Peak 88.24 41 *e*P **P** 08 50 40.2 +0.6
comp=E,79nm,1.1s,mb5.9
NVAR Mina Array Bea 88.27 51 P **P** 08 50 40.6 +0.7
comp=E,16nm,0.6s,mb5.4,baz=265,slow=5.8,SNR=157
NVAR Mina Array Bea 88.27 51 P **P** 08 50 40.6 +0.7
B13A Whitefish 88.30 41 ⇓P **P** 08 50 40.1 +0.3
baz=88,SNR=32
VES Vestal, Richgr 88.30 54 ⇓P **P** 08 50 39.8 -0.3
baz=88,SNR=7.6
BSC Santa Cruz Isl 88.30 56 ⇓P **P** 08 50 40.2 +0.1
baz=88
C13A Hot Springs 88.43 42 ⇑P **P** 08 50 40.3 -0.2
baz=88,SNR=13
WALA Waterton Lakes 88.45 40 *e*P **P** 08 50 41.2 +0.7
comp=E,1.6nm,1.3s
F12A Elk City 88.52 43 ⇑P **P** 08 50 40.6 -0.3
baz=88,SNR=11
BMN Battle Mountai 88.57 49 *e*P **P** 08 50 42.1 +0.8
comp=E,17nm,1.0s,mb5.3
BMN Battle Mountai 88.57 49 *e*P **P** 08 50 42.1 +0.8
BMN pmax pmax
comp=Z,17nm,1.0s,mb5.3
JTMT Jette 88.60 41 *e*P **P** 08 50 41.3 +0.1
comp=Z,9.1nm,0.9s,mb5.1
G12A Big Creek, Yel 88.65 44 ⇓P **P** 08 50 41.2 -0.4
baz=89,SNR=54
TIN Tinemaha 88.67 52 ⇓P **P** 08 50 42.3 +0.5
baz=89
D13A Huson 88.67 42 ⇑P **P** 08 50 41.2 -0.5
baz=89,SNR=9.9
ARVC Arvin 88.67 54 ⇑P **P** 08 50 42.1 +0.2
baz=89,SNR=5.9
YBMT Yellow Bay 88.74 41 *e*P **P** 08 50 41.8 -0.1
comp=Z,8.7nm,0.7s,mb5.2
MFID Camas Ranch 88.78 46 ⇓P **P** 08 50 42.3 +0.1
baz=89,SNR=32
MFID Camas Ranch 88.78 46 *e*P **P** 08 50 42.4 +0.2
comp=Z,53nm,1.1s,mb5.8
A14A Double T Ranch 88.78 40 ⇑P **P** 08 50 42.8 +0.7
baz=89,SNR=13
ISA Isabella 88.82 54 ⇑P **P** 08 50 42.6 0.0
baz=89,SNR=9.5
ISA Isabella 88.82 54 *e*P **P** 08 50 42.3 -0.3
comp=Z,7.7nm,1.0s,mb5.0
ISA Isabella 88.82 54 *e*P **P** 08 50 42.3 -0.3
ISA pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
MOS Moscow 88.83 327 *e*P **P** 08 50 39.5 -2.6
MOS pmax pmax
comp=Z,137nm,0.9s,mb6.3
MOS pmax pmax
comp=Z,100nm,1.1s,mb6.1
OSI Osito Adit 88.88 55 ⇓P **P** 08 50 43.2 +0.3
baz=89
C14A Swan Lake 88.94 41 ⇑P **P** 08 50 42.1 -0.7
baz=89
CWC Cottonwood Cre 88.94 53 ⇑P **P** 08 50 43.1 0.0
baz=89,SNR=7.5
ZEI Tsey 88.95 314 *e*P **P** 08 50 41.0 -2.0
ZEI pmax pmax
comp=Z,24nm,0.9s,mb5.5
JOF Joensuu 88.99 335 *e*P **P** 08 50 40.5 -2.3
JOF Joensuu 88.99 335 *e*p **P** 08 50 40.5 -2.3
E13A Victor 89.04 43 ⇓P **P** 08 50 42.6 -0.7
baz=89,SNR=9.4
GNI Garni 89.05 311 *i* P **P** 08 50 43.3 -0.3
GNI pmax pmax
comp=Z,22nm,1.4s
B14A Marquette Ranc 89.06 41 ⇓P **P** 08 50 43.5 +0.1
baz=89,SNR=13
MSO Missoula 89.09 42 ⇓P **P** 08 50 43.5 -0.1
baz=89
F13A Darby 89.13 43 ⇑P **P** 08 50 43.2 -0.6
baz=89,SNR=20
H12A Diamond D Ranc 89.14 45 ⇑P **P** 08 50 43.8 0.0
baz=89,SNR=25
I12A Atlanta 89.16 45 ⇑P **P** 08 50 43.8 -0.1
baz=89,SNR=14
A15A Johnson Ranch, 89.21 40 ⇑P **P** 08 50 44.0 -0.1
baz=89,SNR=19
SLMT Seeley Lake 89.26 42 *e*P **P** 08 50 43.9 -0.4
comp=Z,31nm,1.3s,mb5.5
D14A Greenough 89.30 42 ⇑P **P** 08 50 44.0 -0.6
baz=89,SNR=5.9
G13A Cobalt 89.40 44 ⇑P **P** 08 50 44.7 -0.4
baz=89,SNR=64
SCI San Clemente I 89.43 56 ⇑P **P** 08 50 44.8 -0.7
baz=89
CIS Catalina Islan 89.44 56 ⇓P **P** 08 50 45.2 -0.3
baz=89,SNR=5.4
FMP Fort Macarthur 89.45 56 ⇑P **P** 08 50 45.3 -0.3
baz=89
KIV Kislovodsk 89.47 315 *e*P **P** 08 50 44.0 -1.4
comp=Z,18nm,0.8s,mb5.5
KIV Kislovodsk 89.47 315 *e*P **P** 08 50 44.3 -1.1
KIV *i* 08 50 51.0
KIV *i* 08 54 19.8
KIV *e*S S 09 01 10.2 -24
KIV pmax pmax
comp=Z,18nm,0.8s,mb5.5
LRMC Laurel Mountai 89.49 54 ⇑P **P** 08 50 46.1 +0.4
baz=89,SNR=20
MPMC Manuel Prospec 89.50 53 ⇓P **P** 08 50 46.3 +0.6
baz=89,SNR=31
VSR Storozhevoye 89.50 323 *e*P **P** 08 50 43.5 -1.9
VSR pmax pmax
comp=Z,70nm,0.8s,mb6.0
VSR pmax pmax
comp=N,30nm,1.1s
VSR pmax pmax
comp=E,30nm,0.7s
E14A Clinton 89.51 42 ⇑P **P** 08 50 45.6 0.0
baz=89
MWC Mount Wilson 89.51 55 *e*P **P** 08 50 46.2 +0.4
comp=E,19nm,0.9s,mb5.4
MWC Mount Wilson 89.51 55 *e*P **P** 08 50 46.2 +0.4
MWC pmax pmax
comp=Z,19nm,0.9s,mb5.4
CHMT Chamberlain Mo 89.51 42 *e*P **P** 08 50 45.0 -0.6
comp=Z,14nm,1.5s,mb5.1
B15A Bradely Ranch, 89.53 40 ⇑P **P** 08 50 45.5 -0.1
baz=90,SNR=16
H13A Challis 89.54 44 ⇑P **P** 08 50 46.2 +0.5
baz=90,SNR=26
MIB Mutribah 89.61 300 *e*P **P** 08 50 44.5 -1.9
OBN Obninsk 89.61 327 *e*P **P** 08 50 44.2 -1.6
comp=Z,102nm,1.0s,mb6.1
OBN Obninsk 89.61 327 ⇑*i*P **P** 08 50 44.4 -1.4
OBN *e*S S 09 01 10.8 -24
OBN pmax pmax
comp=Z,134nm,1.2s,mb6.2
C15A Salmond Ranch, 89.67 41 ⇓P **P** 08 50 46.2 -0.1
baz=90,SNR=10
HLID Hailey 89.72 45 ⇓P **P** 08 50 47.0 +0.3
baz=90,SNR=26
HLID Hailey 89.72 45 *e*P **P** 08 50 47.1 +0.5
comp=Z,21nm,1.1s,mb5.4
F14A Wisdom 89.77 43 ⇑P **P** 08 50 46.2 -0.6
baz=90
TRO Tromso 89.78 343 *e*P **P** 08 50 45.2 -1.1
TRO AMB AMB 08 50 49.2
comp=Z,68nm,2.3s,mb5.6
NAY Al-Naaiem 89.82 300 *e*P **P** 08 50 45.2 -2.2
I13A Wildhorse Cree 89.83 45 ⇓P **P** 08 50 47.6 +0.5

baz=90,SNR=23
BFSC Mount Baldy Ra 89.83 55 ⇓P P 08 50 47.3 -0.1
baz=90
FURC Furnace Creek, 89.88 53 ⇑P P 08 50 48.0 +0.5
baz=90,SNR=26
G14A Jackson 89.88 44 ⇓P P 08 50 47.1 -0.3
baz=90
A16A West Butte Ran 89.93 40 ⇑P P 08 50 47.2 -0.3
baz=90
J13A Cove Ranch, Pi 89.94 46 ⇑P P 08 50 47.8 +0.2
baz=90,SNR=25
D15A Lincoln 89.95 42 ⇑P P 08 50 47.2 -0.4
baz=90
RST Umm Al-Ruwaisa 89.97 300 *eP* P 08 50 45.9 -2.2
B16A M & M Farms, S 90.04 40 ⇓P P 08 50 47.6 -0.3
baz=90,SNR=13
H14A Leadore 90.13 44 ⇓P P 08 50 48.6 +0.1
baz=90,SNR=29
C16A Fuhringer Ranc 90.21 41 ⇑P P 08 50 48.6 -0.2
baz=90,SNR=11
GSC Goldstone 90.23 54 ⇓P P 08 50 49.5 +0.3
baz=90,SNR=22
GSC Goldstone 90.23 54 *eP* P 08 50 49.7 +0.5
comp=Z,7.2nm,0.6s,mb5.2
GSC Goldstone 90.23 54 *eP* P 08 50 49.7 +0.5
GSC pmax pmax
comp=Z,7.0nm,0.6s,mb5.2
I14A Mackay 90.28 45 ⇓P P 08 50 49.9 +0.7
baz=90,SNR=15
F15A Butte 90.34 43 ⇓P P 08 50 49.3 -0.1
baz=90,SNR=24
R11A Troy Canyon, C 90.35 51 ⇓P P 08 50 50.2 +0.5
baz=90,SNR=17
MURC Murrieta 90.36 56 ⇓P P 08 50 49.6 -0.2
baz=90,SNR=5.1
DAG Danmarks Havn 90.37 356 *i* P P 08 50 47.2 -1.8
DAG Danmarks Havn 90.37 356 *i* P P 08 50 47.2 -1.8
comp=Z,12nm,0.9s,mb5.2
LRM Limekiln Ridge 90.38 43 *eP* P 08 50 49.8 +0.2
comp=Z,160nm,0.9s,mb6.3
J14A Carey 90.42 45 ⇓P P 08 50 50.6 +0.7
baz=90,SNR=16
MCMT McKenzie Canyo 90.42 44 *eP* P 08 50 50.1 +0.2
comp=Z,11nm,1.2s,mb5.0
DLMT Dillon 90.42 43 *eP* P 08 50 50.0 +0.2
comp=Z,23nm,1.3s,mb5.3
SHOC Shoshone 90.48 53 ⇑P P 08 50 50.3 0.0
baz=90,SNR=11
A17A Triple J Farms 90.49 39 ⇑P P 08 50 49.9 -0.2
baz=90,SNR=6.6
G15A Dillon 90.56 43 ⇑P P 08 50 50.7 +0.2
baz=90,SNR=13
D16A Dana Ranch, Ca 90.58 41 ⇑P P 08 50 50.8 +0.2
baz=90,SNR=12
109C Camp Elliot, M 90.62 56 ⇓P P 08 50 51.1 0.0
baz=91,SNR=8.0
H15A Lima 90.62 44 ⇓P P 08 50 51.1 +0.3
baz=91,SNR=23
B17A L&G Farms, Che 90.65 40 ⇑P P 08 50 50.6 -0.2
baz=91,SNR=8.6
E16A East Helena 90.66 42 ⇓P P 08 50 51.2 +0.2
baz=91,SNR=8.3
HEC Hector,Ludlow 90.73 54 ⇑P P 08 50 51.7 +0.2
baz=91,SNR=14
TUQ Turquoise Moun 90.89 54 ⇓P P 08 50 52.9 +0.7
baz=91,SNR=8.1
C17A Wharram Farm, 90.89 41 ⇑P P 08 50 51.6 -0.4
baz=91,SNR=10
K14A Jones Ranch, D 90.89 46 ⇑P P 08 50 52.5 +0.4
baz=91,SNR=17
I15A Monteview 90.92 45 ⇑P P 08 50 52.5 +0.3
baz=91,SNR=6.5
F16A Kennard Place, 90.94 43 ⇑P P 08 50 52.2 0.0
baz=91,SNR=16
PFO Pinyon Flat Ob 90.96 55 ⇓P P 08 50 52.9 +0.3
baz=91,SNR=6.9
PFO Pinyon Flat Ob 90.96 55 *eP* P 08 50 52.9 +0.2
comp=Z,13nm,1.1s,mb5.2
PFO Pinyon Flat Ob 90.96 55 *eP* P 08 50 52.9 +0.3
PFO pmax pmax
comp=Z,13nm,1.1s,mb5.2
PFO Pinyon Flat Ob 90.96 55 P P 08 50 52.9 +0.3
comp=Z,57nm,0.8s,mb6.0,SNR=5.2
BOZ Bozeman (W) 90.98 43 ⇑P P 08 50 52.3 -0.2
baz=91,SNR=7.9
G16A Moss Hill, Enn 91.00 43 ⇑P P 08 50 52.5 0.0
baz=91,SNR=27
L14A Malta 91.00 47 ⇓P P 08 50 53.3 +0.7
baz=91,SNR=22
A18A Metzger Ranch, 91.03 39 ⇓P P 08 50 52.2 -0.4
baz=91,SNR=15
D17A Six Diamond Ra 91.10 41 ⇑P P 08 50 53.1 +0.1
baz=91,SNR=15
J15A Blackfoot 91.15 45 ⇓P P 08 50 54.2 +0.9
baz=91,SNR=25
MONP Monument Peak 91.18 56 ⇓P P 08 50 53.8 +0.1
baz=91,SNR=19
SHPR Sheep Range 91.19 52 *eP* P 08 50 54.4 +0.8
comp=Z,6.9nm,0.7s,mb5.1
BELC Belle Mtn. Jos 91.22 55 ⇑P P 08 50 54.1 +0.3
baz=91,SNR=6.6
E17A Martinsdale 91.22 42 ⇑P P 08 50 53.6 +0.1
baz=91,SNR=13
B18A Beardsley Farm 91.25 40 ⇓P P 08 50 53.4 -0.2
baz=91,SNR=6.0
GMRC Granite Mounta 91.28 54 ⇓P P 08 50 54.3 +0.3
baz=91,SNR=24
K15A Arbon 91.30 46 ⇑P P 08 50 53.9 -0.1
baz=91,SNR=9.9
QLMT Earthquake Lak 91.38 44 *eP* P 08 50 55.1 +0.8
comp=Z,8.9nm,1.3s,mb4.9
EGMT Eagleton 91.40 40 ⇓P P 08 50 54.3 0.0
baz=91,SNR=6.7
EGMT Eagleton 91.40 40 *eP* P 08 50 54.3 0.0
comp=Z,12nm,0.9s,mb5.2
KAF Kangasniemi 91.42 335 *eP* P 08 50 51.4 -2.7
KAF Kangasniemi 91.42 335 *eP* P 08 50 51.4 -2.7
DVTC Desert V Tower 91.50 56 ⇑P P 08 50 55.2 0.0
baz=91,SNR=5.3
F17A Fitzpatrick Pl 91.54 42 ⇓P P 08 50 55.2 +0.2
baz=92,SNR=12
H16A Russell Place, 91.54 44 ⇑P P 08 50 55.9 +0.8
baz=92,SNR=16
L15A Malad City 91.62 46 ⇑P P 08 50 55.5 0.0
baz=92,SNR=12
R13A O'Grain Ranch, 91.62 50 ⇑P P 08 50 56.1 +0.6
baz=92,SNR=11
I16A Newdale 91.65 44 ⇓P P 08 50 56.4 +0.8
baz=92,SNR=14
D18A Linhart Farms, 91.65 41 ⇓P P 08 50 55.6 +0.1
baz=92,SNR=9.3
SWSC Sam W. Stewart 91.67 56 ⇓P P 08 50 55.8 -0.1
baz=92
G17A Pierce Place, 91.68 43 ⇑P P 08 50 56.1 +0.4
baz=92,SNR=8.3
A19A Klindworth Far 91.71 39 ⇑P P 08 50 55.6 -0.1
baz=92,SNR=12
M15A Larsen Ranch, 91.74 47 ⇓P P 08 50 56.4 +0.4
baz=92,SNR=13
YMR Madison River 91.74 44 *eP* P 08 50 57.4 +1.4
comp=Z,36nm,0.9s,mb5.7
BC3 Big Chuckawall 91.75 55 ⇓P P 08 50 56.2 -0.1
baz=92
B19A Brinkman Farms 91.75 40 ⇓P P 08 50 55.8 -0.1
baz=92,SNR=13
E18A Harlowton 91.80 42 ⇑P P 08 50 56.5 +0.3
baz=92,SNR=17
FINES FINESS Array B 91.85 335 P P 08 50 53.9 -2.2
comp=Z,17nm,0.6s,mb5.5,baz=68,slow=4.7,SNR=31
FINES FINESS Array B 91.85 335 P P 08 50 53.9 -2.2
FINES FINESS Array B 91.85 335 P P 08 50 53.9 -2.2
FINES pmax pmax
comp=Z,17nm,0.6s
IRM Iron Mountain 91.85 55 ⇑P P 08 50 57.0 +0.3
baz=92,SNR=9.7
P14A Drum Mountains 91.87 49 ⇓P P 08 50 56.7 0.0
baz=92,SNR=8.9
N15A Stansbury Isla 91.87 48 ⇓P P 08 50 56.8 +0.1
baz=92,SNR=8.6
DUG Dugway 91.87 48 ⇑P P 08 50 56.7 0.0
baz=92,SNR=13
DUG Dugway 91.87 48 *eP* P 08 50 57.0 +0.3
comp=Z,13nm,1.0s,mb5.2
DUG Dugway 91.87 48 *eP* P 08 50 57.0 +0.3
DUG pmax pmax
comp=Z,13nm,1.0s,mb5.2
Q14A Sevier Lake (B 91.89 50 ⇑P P 08 50 57.2 +0.3
baz=92,SNR=10
STEI Steigen 91.90 343 *eP* P 08 50 55.6 -0.6
STEI AMB AMB 08 50 57.2
comp=Z,49nm,1.5s,mb5.6
K16A Soda Springs 91.91 45 ⇑P P 08 50 57.8 +1.0
baz=92,SNR=10.0
YNR Norris Junctio 91.92 43 *eP* P 08 50 59.0 +2.1
comp=Z,60nm,1.1s,mb5.8
RRI2 Red Ridge 91.93 45 *eP* P 08 50 57.7 +0.8
comp=Z,14nm,0.8s,mb5.3
C19A Slack Wire Ran 91.94 40 ⇓P P 08 50 56.8 0.0
baz=92
DCID1 Drake Creek 91.95 45 *eP* P 08 50 58.9 +1.9
comp=Z,22nm,1.3s,mb5.3
IMW Indian Meadow 92.02 44 *eP* P 08 50 58.0 +0.8
comp=Z,12nm,0.8s,mb5.3
O15A The Old Anders 92.09 48 ⇑P P 08 50 58.3 +0.6
baz=92
H17A Grant Village 92.10 44 ⇓P P 08 50 59.4 +1.8
baz=92,SNR=21
FLWY Flagg Ranch 92.12 44 *eP* P 08 50 58.9 +1.2
comp=Z,31nm,0.9s,mb5.6
ARUT Antelope Range 92.13 51 *eP* P 08 50 58.6 +0.7
comp=Z,13nm,1.0s,mb5.2
ARUT Antelope Range 92.13 51 *eP* P 08 50 58.6 +0.6
ARUT pmax pmax
comp=Z,13nm,1.0s,mb5.2
U13A Pakoon Wash 92.14 52 ⇓P P 08 50 58.9 +0.9
baz=92,SNR=21
TPAW Teton Pass 92.14 45 *eP* P 08 50 58.9 +1.0
comp=Z,5.7nm,0.6s,mb5.1
F18A Big Timber 92.16 42 ⇓P P 08 50 58.2 +0.3
baz=92,SNR=14
MOOW Moose Ponds 92.20 44 *eP* P 08 50 58.4 +0.2
comp=Z,11nm,1.0s,mb5.2
A20A Cobblestone Ra 92.23 39 ⇑P P 08 50 58.0 -0.1
baz=92,SNR=11
D19A Cripps Ranch, 92.25 41 ⇓P P 08 50 58.1 -0.2
baz=92,SNR=32
I17A Pilgrim Ck. 92.25 44 ⇑P P 08 50 59.2 +0.8
baz=92,SNR=9.4
SNOW Snow King Moun 92.28 45 *eP* P 08 50 59.2 +0.7
comp=Z,5.8nm,0.6s,mb5.1
L16A Fish Haven 92.29 46 ⇓P P 08 50 58.7 +0.1
baz=92,SNR=20
HWUT Hardware Ranch 92.33 47 *eP* P 08 50 58.8 0.0
comp=Z,14nm,1.0s,mb5.2
LOHW Long Hollow 92.34 45 *eP* P 08 50 59.1 +0.3
comp=Z,5.1nm,0.8s,mb4.9
J17A Brown Place, J 92.35 45 ⇑P P 08 50 59.0 +0.1
baz=92,SNR=8.3
K17A Gardner Place, 92.41 45 ⇑P P 08 50 59.4 +0.3
baz=92
GLA Glamis 92.42 56 ⇓P P 08 51 00.3 +0.9
baz=92
P15A Leamington 92.45 49 ⇓P P 08 50 59.6 +0.2
baz=92
G18A Lazy EL Ranch, 92.46 43 ⇑P P 08 51 00.1 +0.8
baz=92
Y12C Blythe 92.47 55 ⇓P P 08 50 59.7 +0.1
baz=92,SNR=15
Q15A Fillmore 92.56 49 ⇓P P 08 50 59.8 -0.1
baz=92
E19A Rath Farm, Rou 92.56 41 ⇓P P 08 50 59.7 -0.1
baz=92,SNR=13
C20A Veseth Ranch, 92.61 40 ⇓P P 08 51 00.0 +0.1
baz=92,SNR=40
H18A Shoshone NF, C 92.61 43 ⇓P P 08 51 00.8 +0.8
baz=92
PDMCI Parker Dam,Lak 92.61 54 ⇓P P 08 51 00.3 0.0
baz=92,SNR=6.2
N16A Rees Ranch, Co 92.65 47 ⇓P P 08 51 00.4 +0.1
baz=93
F19A Roth Farm, Mol 92.68 42 ⇓P P 08 51 00.2 -0.1
baz=93,SNR=15
RLMT Red Lodge 92.72 43 ⇓P P 08 51 01.0 +0.5
baz=93,SNR=34
RLMT Red Lodge 92.72 43 *eP* P 08 51 01.5 +1.0
comp=Z,24nm,0.8s,mb5.7
U14A Mt Trumbull 92.74 52 ⇓P P 08 51 01.1 +0.3
baz=93,SNR=13
D20A Manuel Ranch, 92.75 41 ⇑P P 08 51 00.4 -0.2
baz=93,SNR=28
ANN Anapa 92.77 317 *eP* P 08 50 57.9 -2.9
ANN pmax pmax
comp=Z,103nm,1.1s,mb6.2
A21A Bergtoll Ranch 92.80 39 ⇓P P 08 51 00.5 -0.3
baz=93,SNR=14
I18A Diamond G Ranc 92.85 44 ⇓P P 08 51 01.2 +0.1
baz=93,SNR=6.1
MSU Marysvale 92.86 50 *eP* P 08 51 01.9 +0.6
comp=Z,12nm,1.3s,mb5.2
MSU Marysvale 92.86 50 *eP* P 08 51 01.9 +0.6
MSU pmax pmax
comp=Z,11nm,1.3s,mb5.1
J18A Kendall Valley 92.87 45 ⇑P P 08 51 01.4 +0.1
baz=93,SNR=28
R15A Junction 92.88 50 ⇓P P 08 51 01.6 +0.2
baz=93
DAU Daniels Canyon 92.93 48 *eP* P 08 51 02.0 +0.4
comp=Z,8.6nm,0.9s,mb5.2
DAU Daniels Canyon 92.93 48 *eP* P 08 51 02.0 +0.4
DAU pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
B21A Ellsworth Farm 92.96 39 ⇑P P 08 51 01.4 -0.2
baz=93,SNR=18
E20A Meyer Farm, Mu 92.97 41 ⇓P P 08 51 01.4 -0.2
baz=93,SNR=11
S15A Panguitch 92.98 51 ⇑P P 08 51 02.8 +0.9
baz=93
M17A Scullys Gap (B 93.01 47 ⇓P P 08 51 01.6 -0.3
baz=93
V14A Boquillas Ranc 93.03 53 ⇑P P 08 51 02.9 +0.8
baz=93,SNR=10
K18A Toltan Ranch, 93.05 45 ⇓P P 08 51 02.5 +0.4
baz=93,SNR=11
VSU Vasula 93.06 332 *i* P P 08 51 00.2 -1.6
N17A Moffit Pass 93.06 47 ⇓P P 08 51 01.9 -0.3
baz=93
H19A Powell 93.07 43 ⇓P P 08 51 02.6 +0.5
baz=93,SNR=22
C21A Desert Coulee 93.14 40 ⇓P P 08 51 02.5 +0.2
baz=93,SNR=18
T15A Red Dirt Ranch 93.17 51 ⇑P P 08 51 02.5 -0.2
baz=93
FFC Flin Flon 93.21 32 *eP* P 08 51 01.9 -0.6
comp=Z,25nm,0.8s,mb5.7
FFC Flin Flon 93.21 32 *i* P P 08 51 02.5 0.0
FFC Flin Flon 93.21 32 P P 08 51 02.2 -0.3
comp=Z,172nm,0.8s,mb6.5,SNR=7.3
F20A Billings 93.22 42 ⇓P P 08 51 02.4 -0.3
baz=93,SNR=5.0
I19A Meeteetse 93.29 44 ⇓P P 08 51 03.6 +0.5
baz=93,SNR=14
L18A Fontenelle, Gr 93.30 46 ⇑P P 08 51 03.3 +0.1
baz=93,SNR=7.5
Z13A Yuma Proving G 93.32 55 ⇑P P 08 51 04.1 +0.6
baz=93,SNR=21
PD01 Pinedale Array 93.32 45 *eP* P 08 51 03.0 -0.3
PD02 Pinedale Array 93.33 45 *eP* P 08 51 02.8 -0.6
BW06 Boulder Array 93.34 45 ⇑P P 08 51 03.0 -0.4
baz=93
BW06 Boulder Array 93.34 45 *eP* P 08 51 02.9 -0.5
comp=Z,4.9nm,1.1s,mb4.8
PDAR Pinedale Array 93.34 45 P P 08 51 03.0 -0.5
comp=Z,1.5nm,0.6s,mb4.6,baz=131,slow=0.6,SNR=22
PDAR PP PP 08 54 42.9 -4.4
comp=Z,0.8nm,0.8s,baz=269,slow=7.4,SNR=5.4
PDAR Pinedale Array 93.34 45 P P 08 51 03.0 -0.5
PDAR PP PP 08 54 42.9 -4.4
113A Mohawk Valley, 93.36 56 ⇑P P 08 51 03.7 0.0
baz=93,SNR=6.2
O17A Robinson Place 93.38 48 ⇓P P 08 51 03.7 +0.1
baz=93,SNR=7.3
G20A Bridger 93.39 42 ⇓P P 08 51 03.4 -0.1
baz=93,SNR=15
A22A Carney Farms, 93.41 38 ⇓P P 08 51 03.5 -0.1
baz=93,SNR=10.0
U15A North Rim 93.42 52 ⇑P P 08 51 04.7 +0.8
baz=93,SNR=20
M18A Lyman 93.45 46 ⇑P P 08 51 03.9 0.0
baz=93
R16A Teasdale 93.45 50 ⇑P P 08 51 04.4 +0.4
baz=93,SNR=6.1
Q16A Castle Valley 93.48 49 ⇑P P 08 51 04.0 -0.1
baz=93
D21A La Casta Ranch 93.49 40 ⇓P P 08 51 03.5 -0.5
baz=93,SNR=21
J19A Crowheart 93.52 44 ⇑P P 08 51 04.3 +0.1
baz=93,SNR=28
S16A Weppner Ranch, 93.54 50 ⇑P P 08 51 04.7 +0.3
baz=94,SNR=10
Y14A Wickenburg 93.62 54 ⇑P P 08 51 05.1 +0.2
baz=94,SNR=15
B22A Reddig Ranch S 93.63 39 ⇓P P 08 51 03.9 -0.7
baz=94,SNR=9.1
E21A Keefer Ranch, 93.64 41 ⇑P P 08 51 04.3 -0.4
baz=94,SNR=7.0
V15A Kaibab Nationa 93.70 52 ⇑P P 08 51 06.0 +0.7
baz=94,SNR=11
L19A Farson 93.71 46 ⇑P P 08 51 04.9 -0.3
baz=94,SNR=7.1
K19A Absolon Red Bu 93.81 45 ⇑P P 08 51 04.8 -0.8
baz=94,SNR=15
W15A Williams 93.83 53 ⇑P P 08 51 06.9 +1.1
baz=94
Z14A Wintersburg 93.84 55 ⇑P P 08 51 06.1 +0.2
baz=94,SNR=5.4
T16A Glen Canyon Da 93.85 51 ⇓P P 08 51 05.9 0.0
baz=94
F21A Absaloka Mine, 93.88 42 ⇓P P 08 51 06.1 +0.3
baz=94
N18A Larsen Ranch, 93.88 47 ⇓P P 08 51 06.4 +0.4
baz=94
O18A Roosevelt 93.88 48 ⇓P P 08 51 05.9 -0.1
baz=94
SRU San Rafael 93.89 49 ⇑P P 08 51 05.6 -0.5
baz=94,SNR=8.0
I20A Worland 93.90 44 ⇑P P 08 51 06.1 +0.1
baz=94,SNR=12
C22A Vida 93.92 39 ⇓P P 08 51 05.8 -0.2
baz=94,SNR=10.0
P18A Preston Nutter 93.92 48 ⇓P P 08 51 06.1 -0.1
baz=94
D22A Cohagen 93.97 40 ⇓P P 08 51 06.4 +0.1
baz=94,SNR=9.6
R17A Hanksville Air 93.98 49 ⇓P P 08 51 06.4 -0.1
baz=94,SNR=13
G21A Lodge Grass 94.05 42 ⇑P P 08 51 07.2 +0.6
baz=94,SNR=8.7
A23A Redstone 94.05 38 ⇑P P 08 51 06.3 -0.2
baz=94
114A Black Gap (USA 94.07 55 ⇑P P 08 51 07.2 +0.2
baz=94
LAO LASA Array 94.12 41 ⇓P P 08 51 07.4 +0.5
baz=94,SNR=38
LAO LASA Array 94.12 41 *eP* P 08 51 07.1 +0.2
comp=Z,76nm,0.9s,mb6.1
J20A Shoshoni 94.15 44 ⇓P P 08 51 07.0 -0.2
baz=94
Y15A Casa Rosa Ranc 94.15 54 ⇓P P 08 51 07.9 +0.6
baz=94,SNR=6.6
S17A Black Ridge (B 94.17 50 ⇓P P 08 51 07.1 -0.2
baz=94
Q18A Rafter H Ranch 94.18 49 ⇓P P 08 51 06.9 -0.5
baz=94
B23A Brockton 94.18 39 ⇓P P 08 51 07.1 -0.1
baz=94,SNR=9.9
K20A Yellowstone Ra 94.22 45 ⇑P P 08 51 07.5 +0.1
baz=94,SNR=16
C23A Lambert 94.33 39 ⇑P P 08 51 07.7 -0.1
baz=94,SNR=22
214A Organ Pipe Nat 94.37 56 ⇑P P 08 51 08.3 -0.1
baz=94
T17A Navajo Res., N 94.37 51 ⇑P P 08 51 08.3 0.0
baz=94,SNR=6.0
H21A Big Horn, Sher 94.38 43 ⇓P P 08 51 09.1 +1.0
baz=94,SNR=33
E22A Miles City 94.39 41 ⇑P P 08 51 08.0 -0.1
baz=94,SNR=24
U16A Tuba City 94.40 52 ⇑P P 08 51 08.8 +0.3
baz=94,SNR=7.7
WUAZ Wupatki 94.41 52 ⇑P P 08 51 09.0 +0.5
baz=94,SNR=9.4
WUAZ Wupatki 94.41 52 *eP* P 08 51 09.3 +0.8
comp=Z,8.8nm,0.8s,mb5.2
W16A Flagstaff 94.42 53 ⇓P P 08 51 09.4 +0.8
baz=94
L20A Wamsutter 94.46 45 ⇓P P 08 51 08.4 -0.2
baz=94
Z15A Gila River Ind 94.49 55 ⇑P P 08 51 09.2 +0.3
baz=94
O19A Miners Draw (B 94.50 47 ⇓P P 08 51 08.9 0.0
baz=94
I21A Big Trails, Te 94.52 43 ⇑P P 08 51 09.2 +0.4
baz=94,SNR=11
D23A Lindsay 94.57 40 ⇑P P 08 51 09.6 +0.6
baz=94,SNR=32
J21A Lysite 94.58 44 ⇓P P 08 51 09.2 +0.1
baz=94,SNR=14
R18A Canyonlands Na 94.60 49 ⇑P P 08 51 08.9 -0.4
baz=94,SNR=9.0
M20A Sweetwater, Wa 94.75 46 ⇓P P 08 51 10.2 +0.3
baz=95,SNR=5.8
S18A Hurst Farm, Bl 94.75 50 ⇑P P 08 51 09.4 -0.6
baz=95
V17A Tonalea, Kykot 94.83 52 ⇑P P 08 51 10.2 -0.2
baz=95
H22A Clearmont 94.85 42 ⇓P P 08 51 10.9 +0.6
baz=95,SNR=5.7
Y16A Circle Bar Ran 94.85 54 ⇓P P 08 51 11.1 +0.6
baz=95,SNR=8.8
Q19A Hogan Spring (94.87 49 ⇑P P 08 51 10.1 -0.4
baz=95
C24A Savage 94.91 39 ⇑P P 08 51 10.5 0.0
baz=95
N20A Spence Gulch, 94.93 47 ⇑P P 08 51 10.9 +0.1
baz=95
FCC Fort Churchill 94.94 26 *eP* P 08 51 09.6 -0.8
comp=Z,1.0nm,0.8s
FCC Fort Churchill 94.94 26 *eP* P 08 51 09.6 -0.8
FCC pmax pmax
comp=Z,1.0nm,0.8s,mb4.3
I22A 9 Mile Ranch, 95.03 43 ⇑P P 08 51 11.4 +0.3
baz=95
T18A Mexican Hat 95.03 50 ⇑P P 08 51 10.9 -0.4
baz=95,SNR=5.2
Z16A Peralta Trail, 95.06 54 ⇓P P 08 51 11.8 +0.3
baz=95
116A Eloy 95.08 55 ⇓P P 08 51 12.0 +0.4
baz=95
R19A Curley Farm, L 95.10 49 ⇑P P 08 51 11.3 -0.3
baz=95
L21A Rawlins 95.15 45 ⇓P P 08 51 12.1 +0.4
baz=95
SUMG Summit 95.16 1 *eP* P 08 51 10.2 -0.9
comp=Z,16nm,1.1s,mb5.3
SUMG Summit 95.16 1 *eP* P 08 51 10.2 -0.9
SUMG pmax pmax
comp=Z,16nm,1.1s
SUMG Summit 95.16 1 *i* P P 08 51 10.9 -0.2
comp=Z,10nm,1.0s,mb5.2
O20A White River Ci 95.19 47 ⇓P P 08 51 11.9 -0.1
baz=95
J22A Midwest 95.21 44 ⇓P P 08 51 13.0 +1.0
baz=95,SNR=8.3
PV10 Paradox Valley 95.23 49 *eP* P 08 51 12.3 +0.1
comp=Z,80nm,0.6s,mb6.3
U18A Rough Rock, Ch 95.27 51 ⇓P P 08 51 12.6 +0.2
baz=95
P20A De Beque 95.31 48 ⇓P P 08 51 12.3 -0.3
baz=95
PV04 Paradox Valley 95.32 49 *eP* P 08 51 12.6 -0.1
S19A Harvey Farm, M 95.38 50 ⇑P P 08 51 13.0 +0.1
baz=95
Y17A Roosevelt 95.41 54 ⇓P P 08 51 13.1 0.0
baz=95
V18A Ganado 95.46 52 ⇑P P 08 51 13.4 +0.1
baz=95,SNR=6.9
K22A Casper 95.47 44 ⇑P P 08 51 13.3 +0.1
baz=95
AKASG Malin Array Be 95.48 325 P P 08 51 10.8 -2.2
comp=Z,6.1nm,0.7s,mb5.1,baz=57,slow=4.2,SNR=24
AKASG Malin Array Be 95.48 325 P P 08 51 10.8 -2.2
AKASG Malin Array Be 95.48 325 P P 08 51 10.8 -2.2
AKASG pmax pmax
comp=Z,6.0nm,0.7s
N21A Black Mountain 95.48 46 ⇓P P 08 51 13.2 -0.1
baz=95,SNR=7.3
H23A Clabaugh Cattl 95.48 42 ⇓P P 08 51 13.5 +0.3
baz=95
KIEV Kiev 95.49 325 *eP* P 08 51 10.7 -2.4
comp=Z,6.3nm,0.8s,mb5.1
KIEV Kiev 95.49 325 *eP* P 08 51 10.7 -2.4
KIEV pmax pmax
comp=Z,6.0nm,0.8s,mb5.1
Q20A Ridgley Place, 95.57 48 ⇑P P 08 51 13.8 +0.1

baz=96,SNR=12
PV01 **Paradox Valley** 95.66 49 *e*P P 08 51 14.1 -0.1
comp=Z,651nm,1.0s
T19A **Beclabito** 95.77 50 ⇓P P 08 51 14.6 -0.1
baz=96
R20A **Redvale** 95.78 49 ⇑P P 08 51 14.4 -0.3
baz=96,SNR=5.2
U19A **Dine' College,** 95.82 51 ⇑P P 08 51 15.2 +0.3
baz=96
X18A **Snowflake** 95.84 53 ⇑P P 08 51 15.3 +0.3
baz=96
117A **Oracle** 95.85 55 ⇑P P 08 51 15.5 +0.4
baz=96
S20A **Disappointment** 95.92 49 ⇑P P 08 51 14.8 -0.6
baz=96
H24A **Dirks Ranch, A** 95.97 42 ⇓P P 08 51 15.3 -0.1
baz=96,SNR=8.0
Y18A **Canyon Day Jun** 96.02 54 ⇑P P 08 51 16.8 +0.9
baz=96,SNR=5.8
MVCO **Mesa Verde** 96.04 50 ⇑P P 08 51 16.2 +0.3
baz=96
217A **Green Valley** 96.04 56 ⇓P P 08 51 16.5 +0.5
baz=96
W19A **Sanders** 96.08 52 ⇓P P 08 51 16.3 +0.1
baz=96
Q21A **Lamborn Mesa,** 96.14 48 ⇑P P 08 51 16.4 +0.1
baz=96
R21A **Cimarron** 96.33 49 ⇑P P 08 51 17.4 +0.2
baz=96,SNR=16
X19A **St. Johns** 96.39 53 ⇓P P 08 51 17.9 +0.4
baz=96
O22A **Kremmling** 96.39 47 ⇓P P 08 51 17.8 +0.3
baz=96
S21A **Coal Bank Pass** 96.40 49 ⇑P P 08 51 17.6 0.0
baz=96
118A **Homack Ranch,** 96.44 55 ⇑P P 08 51 18.6 +0.7
baz=96,SNR=9.2
P22A **Eagle** 96.45 47 ⇑P P 08 51 17.9 +0.2
baz=96
M23A **Laramie** 96.47 45 ⇑P P 08 51 17.7 0.0
baz=96
N23A **Red Feather La** 96.54 46 ⇓P P 08 51 18.4 +0.3
baz=96
V20A **Brimhall** 96.55 51 ⇑P P 08 51 18.2 -0.1
baz=96
RSSD **Black Hills** 96.56 42 *e*P P 08 51 17.5 -0.6
comp=Z,14nm,1.1s,mb5.3
RSSD **Black Hills** 96.56 42 *e*P P 08 51 17.5 -0.6
RSSD pmax pmax
comp=Z,14nm,1.1s,mb5.3
Y19A **Nutrioso** 96.57 53 ⇓P P 08 51 18.6 +0.2
baz=96,SNR=6.5
218A **Dragoon** 96.60 55 ⇓P P 08 51 19.6 +1.1
baz=96
Q22A **Crested Butte,** 96.61 48 ⇓P P 08 51 18.7 +0.2
baz=96
318A **Bisbee** 96.81 56 ⇓P P 08 51 20.2 +0.7
baz=97
O23A **Lake Granby, G** 96.82 46 ⇑P P 08 51 19.3 -0.1
baz=97
119A **Ashpeak Ranch,** 96.93 54 ⇓P P 08 51 20.8 +0.7
baz=97
U21A **Nageezi** 96.94 50 ⇑P P 08 51 20.1 +0.1
baz=97
X20A **Quemado** 96.96 52 ⇑P P 08 51 20.6 +0.5
baz=97
S22A **4UR Ranch, Cre** 97.08 49 ⇑P P 08 51 21.1 +0.5
baz=97
219A **White Tail Can** 97.22 55 ⇓P P 08 51 21.9 +0.6
baz=97
BR131 **Keskin Array S** 97.25 313 *e*P P 08 51 20.2 -1.2
comp=Z,8.8nm,0.9s,mb5.2
BRTR **Keskin Array B** 97.25 313 P P 08 51 19.9 -1.5
comp=Z,6.3nm,0.8s,mb5.1,baz=70,slow=4.1,SNR=20
BRTR **Keskin Array B** 97.25 313 P P 08 51 19.9 -1.5
BRTR **Keskin Array B** 97.25 313 P P 08 51 19.9 -1.5
BRTR pmax pmax
comp=Z,6.0nm,0.8s
Y20A **Horse Springs,** 97.27 53 ⇓P P 08 51 22.0 +0.4
baz=97
T22A **Edith** 97.30 50 ⇑P P 08 51 21.7 +0.1
baz=97
Z20A **Nine Sixteen R** 97.38 54 ⇑P P 08 51 22.9 +0.8
baz=97
ASF **Jabal al Asfar** 97.51 305 P P 08 51 21.6 -1.1
comp=Z,7.0nm,0.9s,mb5.2,baz=342,slow=1.0,SNR=13
ASF **Jabal al Asfar** 97.51 305 P P 08 51 21.6 -1.1
ASF **Jabal al Asfar** 97.51 305 P P 08 51 21.6 -1.1
ASF pmax pmax
comp=Z,7.0nm,0.9s
120A **U Bar Ranch, L** 97.54 54 ⇓P P 08 51 23.6 +0.8
baz=98
X21A **Alamocita Cree** 97.55 52 ⇑P P 08 51 23.1 +0.3
baz=98
NB2 **NORSAR Subarra** 97.83 339 P P 08 51 21.3 -2.1
comp=Z,1.3nm,0.7s,mb4.6,baz=56,slow=5.1
NOA **NORSAR Array B** 97.83 339 P P 08 51 21.2 -2.2
comp=Z,2.7nm,0.9s,mb4.8,baz=58,slow=4.3,SNR=4.3
NOA **NORSAR Array B** 97.83 339 P P 08 51 21.2 -2.2
NOA **NORSAR Array B** 97.83 339 P P 08 51 21.2 -2.2
NOA pmax pmax
comp=Z,3.0nm,0.9s
220A **Playas Peak, P** 97.84 55 ⇑P P 08 51 24.9 +0.8
baz=98
320A **Kipp Ranch, An** 98.03 56 ⇑P P 08 51 26.0 +1.0
baz=98
Z21A **St. Cloud Mine** 98.03 53 ⇑P P 08 51 26.0 +1.0
baz=98
MAW **Mawson** 98.06 202 P P 08 51 23.1 -1.2
comp=Z,2.6nm,0.9s,mb4.8,baz=59,slow=4.2,SNR=5.5
MAW **Mawson** 98.06 202 *e*P P 08 51 24.0 -0.2
comp=Z,0.5nm,0.9s,mb4.6
MAW **Mawson** 98.06 202 *e*P P 08 51 24.0 -0.2
SDCO **Great Sand Dun** 98.06 49 ⇓P P 08 51 24.9 -0.2
baz=98
SDCO **Great Sand Dun** 98.06 49 *e*P P 08 51 25.2 +0.2
comp=Z,1.5nm,0.8s,mb4.6
U23A **El Rito** 98.08 50 ⇓P P 08 51 25.0 -0.2
baz=98
121A **Cookes Peak, D** 98.21 54 ⇓P P 08 51 26.6 +0.8
baz=98
ANMO **Albuquerque** 98.39 52 *e*P P 08 51 27.1 +0.6
comp=Z,2.5nm,0.8s,mb4.8
ANMO **Albuquerque** 98.39 52 *e*P P 08 51 27.1 +0.5
ANMO pmax pmax
comp=Z,2.0nm,0.8s
W23A **Werner Place,** 98.55 51 ⇓Pdiff P 08 51 26.8 -0.5
baz=98
ULM **Lac du Bonnet** 98.64 34 P P 08 51 26.5 -0.9
comp=Z,12nm,0.8s,mb5.5,baz=321,slow=6.2,SNR=11
ULM **Lac du Bonnet** 98.64 34 P P 08 51 26.5 -0.9
ULM **Lac du Bonnet** 98.64 34 P P 08 51 26.5 -0.8
T24A **Torres, Weston** 98.65 49 ⇑Pdiff P 08 51 27.4 -0.3
baz=99
U24A **Moreno Valley** 98.73 50 ⇑Pdiff P 08 51 28.2 +0.2
baz=99
TESR 98.95 322 ⇓*i*P P 08 51 27.5 -1.3
Y23A **Lovelace Mesa,** 99.07 52 ⇓Pdiff P 08 51 29.9 +0.2
baz=99
W24A **Lazy 6 Ranch,** 99.09 51 ⇑Pdiff P 08 51 29.7 0.0
baz=99
VRI **Vrincioaia** 99.21 321 ⇑P P 08 51 29.7 -0.3
VRI **Vrincioaia** 99.21 321 ⇑*i*P P 08 51 29.7 -0.3
BUR08 **Bucovina Ar. S** 99.26 323 *e*P P 08 51 29.2 -1.0
BURAR **Bucovina Array** 99.26 323 ⇑P P 08 51 28.9 -1.3
BURAR **Bucovina Array** 99.26 323 ⇑*i*P P 08 51 28.9 -1.3
PLOR **Plostina** 99.26 321 ⇑P P 08 51 29.9 -0.3
PLOR **Plostina** 99.26 321 ⇑*i*P P 08 51 29.9 -0.3
U25A **Circle Dot Ran** 99.39 50 ⇑Pdiff P 08 51 30.1 -0.9
baz=99
KWP **Kalwaria Pacla** 99.65 326 *e*P Pdif 08 51 30.6 -1.1
comp=Z,38nm,0.9s
KWP **Kalwaria Pacla** 99.65 326 ⇑P Pdif 08 51 31.2 -0.5
KWP **Kalwaria Pacla** 99.65 326 ⇑*i*P Pdif 08 51 31.2 -0.5
MLR **Muntele Rosu** 99.87 321 ⇓P Pdif 08 51 31.9 -0.8
MLR **Muntele Rosu** 99.87 321 ⇓*i*P Pdif 08 51 31.9 -0.8
U26A **Atchley Ranch,** 99.88 49 ⇓Pdiff Pdif 08 51 32.8 +0.1
baz=100
124A **Stringfield Ra** 99.99 53 ⇑Pdiff Pdif 08 51 34.0 +0.7
baz=100
V26A **Tequesquite Ra** 100.09 50 ⇑Pdiff Pdif 08 51 33.9 +0.2
baz=100
Y25A **Mesa, Roswell** 100.12 52 ⇓Pdiff Pdif 08 51 33.8 0.0
baz=100
224A **Cornudas Mount** 100.17 54 ⇑Pdiff Pdif 08 51 34.3 +0.2
baz=100
KOLS **Kolonicke sedl** 100.26 325 *e*P Pdif 08 51 33.9 -0.5
KOLS **Kolonicke sedl** 100.26 325 PDIF Pdif 08 51 33.9 -0.5
Z25A **Roswell** 100.35 53 ⇓Pdiff Pdif 08 51 35.4 +0.6
baz=100
324A **Moseley Ranch,** 100.43 55 ⇓Pdiff Pdif 08 51 35.6 +0.4
baz=100
TRPA **Tarpa** 100.54 324 ⇑*i*P Pdif 08 51 35.0 -0.7
STHS **Stebnicka Huta** 100.57 326 *e*P Pdif 08 51 33.9 -1.9
STHS **Stebnicka Huta** 100.57 326 PDIF Pdif 08 51 33.9 -1.9
CRVS **Cervenica-Dubn** 100.73 326 *e*P Pdif 08 51 36.0 -0.5
CRVS **Cervenica-Dubn** 100.73 326 PDIF Pdif 08 51 36.0 -0.5
325A **Bean Ranch, Si** 100.86 54 ⇓Pdiff Pdif 08 51 37.8 +0.7
baz=101
Z26A **Caprock** 100.92 52 ⇑Pdiff Pdif 08 51 37.8 +0.5
baz=101
425A **Indio Mountain** 101.07 55 ⇓Pdiff Pdif 08 51 39.0 +1.0
baz=101
DRGR 101.15 323 ⇑P Pdif 08 51 37.7 -0.7
DRGR 101.15 323 ⇑*i*P Pdif 08 51 37.7 -0.7
Z27A **Tatum** 101.50 52 ⇑Pdiff Pdif 08 51 40.4 +0.5
baz=101
426A **McDonald Obser** 101.87 55 ⇑Pdiff Pdif 08 51 42.3 +0.7
baz=102
526A **Mary Lane Ranc** 102.05 55 ⇑Pdiff Pdif 08 51 43.1 +0.7
baz=102
626A **Big Bend Ranch** 102.21 56 ⇑Pdiff Pdif 08 51 44.1 +1.0
baz=102
427A **Hayter Ranch,** 102.31 54 ⇓Pdiff Pdif 08 51 44.5 +1.0
baz=102
VYHS **Vyhne** 102.40 326 *e*P Pdif 08 51 43.7 -0.2
VYHS **Vyhne** 102.40 326 PDIF Pdif 08 51 43.6 -0.3
527A **Woodward Ranch** 102.41 55 ⇓Pdiff Pdif 08 51 45.2 +1.2
baz=102
KOLL **Kolacno** 102.58 326 *e*P Pdif 08 51 43.2 -1.6
KOLL **Kolacno** 102.58 326 PDIF Pdif 08 51 43.2 -1.6
TXAR **Lajitas Array** 102.67 56 P Pdif 08 51 45.9 +0.8
comp=Z,0.5nm,0.6s,baz=274,slow=4.2,SNR=7.3
TXAR **Lajitas Array** 102.67 56 P Pdif 08 51 45.9 +0.8
TXAR **Lajitas Array** 102.67 56 P Pdif 08 51 45.9 +0.8
TXAR pmax pmax
comp=Z,1.0nm,0.6s
428A **Kincaid Ranch,** 102.92 54 ⇓Pdiff Pdif 08 51 47.3 +1.1
baz=103
528A **Cox Ranch, San** 103.06 55 ⇓Pdiff Pdif 08 51 47.7 +0.8
baz=103
628A **Black Gap, Mar** 103.24 55 ⇓Pdiff Pdif 08 51 48.4 +0.7
baz=103
CLL **Collm** 103.64 331 *e*P Pdif 08 51 48.0 -1.5
CLL pmax pmax
comp=Z,14nm,1.6s
CLL **Collm** 103.64 331 *e*Pdif Pdif 08 51 48.0 -1.5
comp=Z,14nm,1.6s
KHC **Kasperske Hory** 104.77 329 *e*P Pdif 08 52 00.0 +5.5
KHC **Kasperske Hory** 104.77 329 *e*PDIFF Pdif 08 52 00.0 +5.5
GERES **GERESS Array B** 104.89 329 Pdiff Pdif 08 51 54.1 -0.9
comp=Z,0.3nm,0.3s,baz=15,slow=5.5,SNR=5.2
GERES PKiKP PKiKP 08 56 10.3 +0.2
comp=Z,0.3nm,0.3s,baz=29,slow=3.0,SNR=4.1
GERES **GERESS Array B** 104.89 329 Pdif Pdif 08 51 54.1 -0.9
GERES **GERESS Array B** 104.89 329 P Pdif 08 51 54.1 -0.9
GERES *i* 08 56 10.4
LPG **La Plagne** 110.65 329 *e*PKiKP PKiKP 08 56 21.8 +0.8
LPG **La Plagne** 110.65 329 *e*PKPdf PKiKP 08 56 21.8 +0.8
LPG **La Plagne** 110.65 329 *e*PKiKP PKiKP 08 56 21.8 +0.8
ORIF **Oris-en-Rattie** 111.49 329 *e*PKiKP PKiKP 08 56 22.7 +0.1
comp=Z,6.7nm,0.7s
ORIF **Oris-en-Rattie** 111.49 329 *e*PKPdf PKiKP 08 56 22.7 +0.1
ORIF **Oris-en-Rattie** 111.49 329 *e*PKiKP PKiKP 08 56 22.7 +0.1
FRF **La Foret Royal** 112.06 328 *e*PKiKP PKiKP 08 56 22.9 -0.9
FRF **La Foret Royal** 112.06 328 *e*PKPdf PKiKP 08 56 22.9 -0.9
FRF **La Foret Royal** 112.06 328 *e*PKiKP PKiKP 08 56 22.9 -0.9
LASF **Ste Croix** 113.10 330 *e*PKiKP PKiKP 08 56 25.3 -0.4
LASF **Ste Croix** 113.10 330 *e*PKPdf PKiKP 08 56 25.3 -0.4
KEST **Kesra** 115.75 320 PKP PKPdf 08 56 31.2 +0.1
comp=Z,1.6nm,0.9s,baz=297,slow=4.5,SNR=3.6
KEST **Kesra** 115.75 320 PKP PKPdf 08 56 31.2 +0.2
ETSF **Etsaut** 116.10 332 *e*PKiKP PKPdf 08 56 32.4 +0.9
comp=Z,16nm,0.8s
ETSF **Etsaut** 116.10 332 *e*PKPdf PKPdf 08 56 32.4 +0.9
ETSF **Etsaut** 116.10 332 *e*PKiKP PKPdf 08 56 32.4 +0.9
ESDC **Sonseca Array** 120.21 332 PKP PKPdf 08 56 39.8 +0.2
comp=Z,0.9nm,0.6s,baz=25,slow=2.6,SNR=4.9
ESDC **Sonseca Array** 120.21 332 PKP PKPdf 08 56 39.8 +0.2
EVO **Evora** 122.95 334 *e*PKiKP PKPdf 08 56 45.5 +0.7
comp=Z,12nm,0.8s
EVOP **Sao Brissos** 123.00 334 *e*PKPdf PKPdf 08 56 45.5 +0.6
EVOP **Sao Brissos** 123.00 334 *e*PKiKP PKPdf 08 56 45.5 +0.6
TAM **Tamanrasset** 126.36 311 *e*PKPdf PKPdf 08 56 53.2 +1.4
TAM **Tamanrasset** 126.36 311 *e*PKiKP PKPdf 08 56 53.2 +1.4
TORD **Torodi Ar. Bea** 134.82 303 PKhKP PKPpre 08 56 52.0
comp=Z,0.5nm,0.5s,baz=62,slow=1.8,SNR=7.8
TORD PKP PKPdf 08 57 06.0 -2.0
comp=Z,10nm,0.8s,baz=50,slow=1.9,SNR=15
TORD PP PP 08 59 40.5 -1.1
comp=Z,2.3nm,0.9s,baz=51,slow=4.9,SNR=5.3
TORD **Torodi Ar. Bea** 134.82 303 PKP PKPdf 08 57 06.0 -2.0
TORD PP PP 08 59 40.5 -1.1
LRS **Lares** 136.86 45 *e*PKPdf PKPdf 08 57 13.2 +1.5
PLCA **Paso Flores** 138.61 139 PKP PKPdf 08 57 14.8 +0.6
comp=Z,7.6nm,0.9s,baz=221,slow=4.2,SNR=6.9
PLCA **Paso Flores** 138.61 139 *e*PKPdf PKPdf 08 57 15.1 +0.8
PLCA **Paso Flores** 138.61 139 *e*PKiKP PKPdf 08 57 15.1 +0.8
SDV **Santo Domingo** 139.55 60 *e*PKPpre PKPpre 08 57 09.8
DBIC **Dimbokro** 143.71 300 PKP PKPdf 08 57 21.4 -2.8
comp=Z,38nm,0.7s,baz=40,slow=3.5,SNR=78
DBIC **Dimbokro** 143.71 300 *e*PKPdf PKPdf 08 57 21.3 -3.0
DBIC **Dimbokro** 143.71 300 PKiKP PKPdf 08 57 21.4 -2.9
DBIC pmax pmax
comp=Z,38nm,0.7s
LIC **Lamto** 144.09 299 *e*PKiKP PKPdf 08 57 22.2 -2.7
comp=Z,148nm,0.7s
LIC **Lamto** 144.09 299 *e*PKPdf PKPdf 08 57 22.2 -2.7
TRQA **Tornquist** 145.53 142 *e*PKPdf PKPdf 08 57 25.9 -0.8
LPAZ **La Paz** 148.62 101 PKPbc PKPbc 08 57 37.2 +1.1
comp=Z,20nm,0.9s,baz=308,slow=1.7,SNR=52
LPAZ **La Paz** 148.62 101 *e*PKPdf PKPdf 08 57 33.5 +1.1
LPAZ *e*PKPbc PKPbc 08 57 37.2 +1.1
LPAZ **La Paz** 148.62 101 *e*PKiKP PKPdf 08 57 33.6 +1.2
LPAZ *e* 08 57 37.2
CPUP **Villa Florida** 155.62 128 PKPbc PKPdf 08 57 52.0 +9.3
comp=Z,0.5nm,0.3s,baz=320,slow=2.0,SNR=4.1
CPUP PKPab PKPab 08 58 08.2 -0.5
comp=Z,5.8nm,0.9s,baz=230,slow=4.6,SNR=7.1

*KISR **07** 08:39:23.2±0.3, 29°.57N×50°.62E, h34km, ML2.4*
*ISCJB **07** 08:39:25.2±0.9, 32°.76N±0°.03×47°.95E±0°.05, h6km±7km, Error ellipse: s-maj=6.9km s-min=4.0km az=154.1*
*CSEM **07** 08:39:25.5±0.2, 32°.76N×47°.95E, h2km, ML3.1, Error ellipse: s-maj=7.4km s-min=4.3km az=98.0*
*TEH **07** 08:39:27.3, 32°.68N×47°.88E, h23km*
ISC 07 08:39:26.9±0.9, 32°.76N±0°.03×47°.95E±0°.05, h12km±7km, n19, σ0s96/30, Iran-Iraq border region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SHGR **Shooshtar-Gavs** 0.97 132 *e*Pg **Pg** 08 39 44.0 **-1.6**
SHGR *e*Sg **Sg** 08 39 57.9 **-0.3**
IKOM **Komasi** 1.46 346 *e*Pn **Pn** 08 39 50.9 **-2.2**
IKOM *e*Sg **Sg** 08 40 15.5 **+1.6**
IKOM *e* 08 40 18.6
comp=Z,11μm,0.3s
IGHG **Ghaleghazi** 1.94 324 *e*Pn **Pn** 08 39 59.7 **-0.1**
IGHG *e* 08 40 35.1
comp=N,3μm,0.2s
IVIS **Veis** 1.99 333 *e*Pn **Pn** 08 40 00.1 **-0.3**
IVIS *e*Sn **Sn** 08 40 24.8 **-0.4**
IVIS *e* 08 40 37.3
comp=Z,1μm,0.4s
ILIN **Lien** 2.31 339 *e*Pn **Pn** 08 40 03.8 **-0.9**
ILIN *e* 08 40 45.9
comp=Z,1μm,0.2s
IDHR **Dehrash** 2.33 327 *e* **Sg** 08 40 42.5 **+0.6**
comp=Z,2μm,0.3s
IDHR *e*Pn **Pn** 08 40 05.0 **-0.1**
SNGE **Sanandaj** 2.38 348 *e*Pn **Pn** 08 40 05.9 **+0.1**
IPIR **Pirpir** 2.48 91 *e* **Sg** 08 40 48.5 **+1.8**
comp=Z,673nm,0.3s
IPIR *e*Pn **Pn** 08 40 07.3 **+0.1**
ASAO **Ashtian** 2.49 44 *e*Pn **Pn** 08 40 07.8 **+0.6**
ASAO *e*Sg **Sg** 08 40 44.3 **-2.5**
MIB **Mutribah** 2.99 190 *e*P **Pn** 08 40 13.8 **-0.3**
MIB *e*S **Sn** 08 40 52.0 **+2.0**
MIB AML AML 08 40 59.3
comp=Z,22nm,0.6s
MIB **Mutribah** 2.99 190 *e*P **Pn** 08 40 13.9 **-0.3**
MIB *e*S **Sn** 08 40 52.0 **+2.0**
comp=Z,22nm,0.6s
IKLH **Kolahrood** 3.10 79 *e*Pn **Pn** 08 40 16.0 **+0.3**
IKLH *e* 08 41 22.4
comp=Z,492nm,0.3s
IRAZ **Razeghan** 3.11 31 *e*Pn **Pn** 08 40 15.8 **0.0**
IRAZ *e*Sg **Sg** 08 41 07.5 **+0.7**
IRAZ *e* 08 41 17.5
comp=Z,848nm,0.3s
GHVR **GHOM** 3.28 58 *e*Pn **Pn** 08 40 18.2 **+0.1**
RST **Umm Al-Ruwaisa** 3.35 194 *e*P **Pn** 08 40 18.2 **-0.9**
RST *e*S **Sn** 08 40 59.2 **+0.4**
RST AML AML 08 41 02.3
comp=Z,5.0nm,0.7s
RST **Umm Al-Ruwaisa** 3.35 194 *e*P **Pn** 08 40 18.2 **-0.9**
RST *e*S **Sn** 08 40 59.2 **+0.4**
comp=Z,5.0nm,0.7s
IZEF **Zefreh** 3.69 87 *e*Pn **Pn** 08 40 23.7 **-0.1**
IR3 **Iran Long-Peri** 3.72 42 *e*Pn **Pn** 08 40 24.2 **0.0**
ZNJK **Zanjan** 3.95 9 *e*Pn **Pn** 08 40 27.8 **+0.5**

*NEIC **07** 08:43:15.8±0.1, 24°.09S×178°.72E, mb4.9/99, Error ellipse: s-maj=6.2km s-min=3.7km az=144.0*
*IDC **07** 08:43:15.7±0.7, 24°.11S×178°.84E, h527km±6km, mb4.3/27, mb1 4.4/28, mb1mx4.4/30, mbtmp4.3/28, Error ellipse: s-maj=10.1km s-min=8.9km az=105.0*
*MOS **07** 08:43:16.5±0.9, 24°.03S×178°.68E, h539km, mb5.1/3, Error ellipse: s-maj=12.2km s-min=9.4km az=49.8*
*BJI **07** 08:43:17.7, 24°.10S×178°.70E, h547km, mB4.9/11, mb4.6/21*
*ISCJB **07** 08:43:17.7±0.7, 24°.18S±0°.04×178°.59E±0°.03, h557km±9km, mb4.9/159, Error ellipse: s-maj=6.5km s-min=4.1km az=168.4*
*DJA **07** 08:43:17, 24°.17S×178°.73E, h557km, mb5.2/43*
*BGS **07** 08:43:18.8±3.5, 24°.09S×178°.72E, h527km, mb4.9(NEIC)*
*SZGRF **07** 08:43:19.4, 24°.11S×179°.59E, h571km, South of Fiji Islands*
ISC 07 08:43:18.0±0.7, 24°.15S±0°.04×178°.65E±0°.03, h548km±8km, h542km±6.1km; pP-P, n921, σ0s64/644, mb4.9/158, 206C-183D, South of Fiji Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MSVF **Nonsavu** 6.41 355 *e*Pn **P** 08 44 59.0 **-1.5**
41nm,0.7s
DZM **Mont Dzumac** 11.42 278 *e*Pn **P** 08 45 52.8 **+2.2**
285nm,0.8s
OUZ **Omahuta** 11.87 201 *e*Pn **P** 08 45 57.1 **+2.0**
75nm,0.7s
OUZ **Omahuta** 11.87 201 PN **P** 08 45 57.0 **+2.0**
KUZ **Kuaotunu** 12.80 191 PN **P** 08 46 05.5 **+0.8**
MKAZ **Moumakai** 13.26 192 PN **P** 08 46 10.4 **+1.0**
PUZ **Puketiti** 13.88 181 PN **P** 08 46 12.0 **-3.8**
PUZ SN **S** 08 48 33.9 **-8.2**
URZ **Urewera** 14.12 185 P **P** 08 46 15.5 **-2.8**
10nm,0.3s,baz=6.6,slow=4.1,SNR=56
URZ S **S** 08 48 38.9 **-7.8**
2.8nm,0.3s,baz=197,slow=21,SNR=8.3
URZ **Urewera** 14.12 185 *e*Pn **P** 08 46 15.5 **-2.8**
109nm,0.8s
URZ **Urewera** 14.12 185 PN **P** 08 46 15.1 **-3.2**
MWZ **Matawai** 14.17 184 PN **P** 08 46 15.8 **-3.0**
QRZ **Quartz Range** 17.40 196 PN **P** 08 46 50.8 **+0.5**
SNZO **South Karori** 17.42 190 *e*P **P** 08 46 49.2 **-1.3**
46nm,0.6s
SNZO **South Karori** 17.42 190 PN **P** 08 46 49.3 **-1.2**
NNZ **Nelson** 17.58 193 PN **P** 08 46 51.0 **-0.9**
TUWZ **Tuamarina** 17.67 192 PN **P** 08 46 51.3 **-1.5**
THZ **Tophouse** 18.20 194 PN **P** 08 46 56.8 **-0.9**
THZ SN **S** 08 49 51.4 **-4.9**
DSZ **Denniston Nort** 18.45 196 PN **P** 08 46 59.9 **0.0**
KHZ **Kahutara** 18.70 192 *e*P **P** 08 47 01.4 **-0.8**
142nm,0.9s
KHZ **Kahutara** 18.70 192 PN **P** 08 47 00.5 **-1.6**
LTZ **Lake Taylor** 19.32 194 PN **P** 08 47 06.2 **-1.5**
CRLZ **Canterbury Las** 20.00 193 PN **P** 08 47 12.2 **-1.7**
RAR **Rarotonga** 20.12 86 P **P** 08 47 08.1 **-7.2**
0.8nm,0.3s,baz=199,slow=6.3,SNR=3.6
RAR **Rarotonga** 20.12 86 P **P** 08 47 08.2 **-7.2**
RAR **Rarotonga** 20.12 86 P **P** 08 47 08.2 **-7.2**
RPZ **Rata Peaks** 20.49 196 P **P** 08 47 17.7 **-0.6**
26nm,0.7s,baz=53,slow=5.7,SNR=12
RPZ **Rata Peaks** 20.49 196 *e*P **P** 08 47 17.7 **-0.6**
24nm,0.7s
JCZ **Jackson Bay** 21.46 200 PN **P** 08 47 26.8 **-0.3**
ODZ **Otahua Downs** 21.84 195 *e*P **P** 08 47 31.0 **+0.5**
62nm,0.9s,mb5.2
WHZ **Wether Hill Ro** 23.35 199 *e*P **P** 08 47 44.4 **+0.4**
ARMA **Armidale** 24.78 249 *e*P **P** 08 47 58.9 **+2.0**
ARMA *e*SCP ScP 08 54 05.1 +3.3
ARMA **Armidale** 24.78 249 *e*P **P** 08 47 59.0 **+2.1**
111nm,1.0s,mb5.4
EIDS **Eidsvold** 25.05 261 *e*P **P** 08 48 00.5 **+1.2**
128nm,1.2s,mb5.4
CNB **Canberra Magne** 27.66 240 *e*P **P** 08 48 24.0 **+1.8**
CNB *e*SCP ScP 08 54 13.1 +2.8
CAN **Canberra** 27.95 240 *e*P **P** 08 48 26.4 **+1.7**
124nm,0.9s,mb5.5
YNG **Young** 28.18 242 *e*P **P** 08 48 28.4 **+1.7**
46nm,0.8s,mb5.2
CTA **Charters Tower** 30.24 271 P **P** 08 48 46.0 **+1.2**
146nm,0.4s,mb5.8,baz=95,slow=10,SNR=372
CTA ScP ScP 08 54 22.1 +3.2
25nm,0.9s,baz=85,slow=2.4,SNR=13
CTA **Charters Tower** 30.24 271 ⇑*i*P **P** 08 48 46.0 **+1.2**
120nm,0.4s,mb5.8
CTA *e*SCP ScP 08 54 22.2 +3.3
CTA **Charters Tower** 30.24 271 P **P** 08 48 46.0 **+1.2**
CTA ScP ScP 08 54 22.1 +3.2
CTA **Charters Tower** 30.24 271 P **P** 08 48 46.1 **+1.3**
CTAO **Charters Tower** 30.24 271 *e*P **P** 08 48 46.0 **+1.2**
122nm,0.4s,mb5.8
CTAO **Charters Tower** 30.24 271 *e*P **P** 08 48 46.0 **+1.2**
CTAO **Charters Tower** 30.24 271 P **P** 08 48 46.1 **+1.3**
3μm215nm,0.5s,mb5.9
CTAO **Charters Tower** 30.24 271 P **P** 08 48 45.6 **+0.8**
3μm215nm,0.5s,mb5.9
TOO **Toolangi** 31.27 237 *e*P **P** 08 48 53.9 **+0.5**
TAU **Tasmania Unive** 31.86 226 *e*P **P** 08 48 59.6 **+1.2**
70nm,0.7s,mb5.3
TAU **Tasmania Unive** 31.86 226 *e*P **P** 08 48 59.6 **+1.2**
PMG **Port Moresby** 33.42 291 P **P** 08 49 12.3 **+0.3**
74nm,0.7s,mb5.3,baz=98,slow=4.1,SNR=25
PMG ScP ScP 08 54 32.9 +3.0
30nm,0.9s,baz=9.2,slow=8.4,SNR=7.2
PMG **Port Moresby** 33.42 291 *e*P **P** 08 49 12.0 **+0.1**
94nm,0.8s,mb5.4
PMG **Port Moresby** 33.42 291 *c* *i*P **P** 08 49 11.9 **0.0**
PMG **Port Moresby** 33.42 291 P **P** 08 49 12.2 **+0.3**
138nm,1.0s,mb5.5
STKA **Stephens Creek** 33.48 248 P **P** 08 49 13.4 **+1.2**
83nm,0.5s,mb5.5,baz=91,slow=9.6,SNR=215
STKA ScP ScP 08 54 32.2 +2.3
13nm,0.8s,baz=31,slow=4.3,SNR=6.3
STKA **Stephens Creek** 33.48 248 ⇑*i*P **P** 08 49 13.4 **+1.2**
65nm,0.4s,mb5.5
STKA *e*SCP ScP 08 54 32.5 +2.6
STKA **Stephens Creek** 33.48 248 *e*P **P** 08 49 13.4 **+1.2**
20nm,0.6s,mb4.8
STKA **Stephens Creek** 33.48 248 *e*P **P** 08 49 13.4 **+1.2**
COEN **Coen** 34.94 280 *e*P **P** 08 49 25.6 **+1.0**
241nm,0.6s,mb5.9
COEN **Coen** 34.94 280 P **P** 08 49 25.9 **+1.2**
87nm,1.1s,mb5.2
ASAR **Alice Springs** 40.78 261 P **P** 08 50 12.7 **+0.6**
154nm,0.8s,mb5.6,baz=93,slow=8.2,SNR=455
ASAR ScP ScP 08 55 00.1 +2.5
18nm,0.7s,baz=106,slow=4.1,SNR=21
ASAR S **S** 08 55 44.1 **+0.4**
4.0nm,0.8s,baz=100,slow=14,SNR=4.6
ASAR **Alice Springs** 40.78 261 P **P** 08 50 12.7 **+0.6**
ASAR ScP ScP 08 55 00.1 +2.5
ASAR S **S** 08 55 44.1 **+0.4**
ASAR **Alice Springs** 40.78 261 P **P** 08 50 12.7 **+0.6**
WB2 **Warramunga Arr** 41.15 267 *e*P **P** 08 50 15.0 **0.0**
WRAB **Tennant Creek** 41.15 267 *e*P **P** 08 50 15.0 **-0.1**
177nm,0.6s,mb5.8
WRAB **Tennant Creek** 41.15 267 *e*P **P** 08 50 14.9 **-0.2**
WRAB **Tennant Creek** 41.15 267 P **P** 08 50 15.0 **-0.1**
4μm557nm,1.0s,mb6.0
WRA **Warramunga Arr** 41.16 267 P **P** 08 50 14.8 **-0.3**

214nm,0.6s,mb5.8,baz=103,slow=8.3,SNR=556
WRA ScP ScP 08 55 02.2 +3.0
15nm,0.9s,baz=103,slow=4.2,SNR=23
WRA S S 08 55 47.3 -2.0
11nm,1.1s,baz=104,slow=15,SNR=12
WRA Warramunga Arr 41.16 267 P P 08 50 14.8 -0.3
WRA ScP ScP 08 55 02.2 +3.0
WRA S S 08 55 47.3 -2.0
WRA Warramunga Arr 41.16 267 P P 08 50 14.9 -0.3
JAY Jayapura 42.49 295 P P 08 50 26.3 +0.6
8µm108nm,0.8s,mb5.4
FORT Forrest 45.06 250 *eP* P 08 50 45.0 -0.5
312nm,0.6s,mb6.0
FORT Forrest 45.06 250 *eP* P 08 50 45.1 -0.3
357nm,0.7s,mb6.0
KAKA Kakadu 45.10 276⇑ *iP* P 08 50 45.3 -0.7
94nm,0.8s,mb5.4
KAKA Kakadu 45.10 276 *eP* P 08 50 45.2 -0.8
242nm,0.8s,mb5.8
FITZ Fitzroy Crossi 49.58 266 P P 08 51 19.9 +0.4
52nm,0.8s,mb5.0,baz=108,slow=7.4,SNR=98
FITZ Fitzroy Crossi 49.58 266 *eP* P 08 51 19.8 +0.3
91nm,0.8s,mb5.3
FITZ Fitzroy Crossi 49.58 266 *eP* P 08 51 19.7 +0.2
153nm,1.3s,mb5.3
FITZ Fitzroy Crossi 49.58 266 P P 08 51 19.9 +0.4
81nm,1.2s,mb5.0
MSAI Masohi 52.18 285 P P 08 51 38.4 -0.1
27nm,0.7s,mb4.7
AAI Ambon 52.67 285 P P 08 51 41.5 -0.5
126nm,1.1s,mb5.2
NLAI Namlea 53.84 284 P P 08 51 50.3 0.0
4µm116nm,1.1s,mb5.1
MEEK Meekatharra 53.86 254 *eP* P 08 51 49.3 -0.9
NWAO Narrogin (SRO) 54.01 246 P P 08 51 50.5 -0.7
19nm,0.5s,mb4.7,baz=117,slow=6.2,SNR=25
NWAO Narrogin (SRO) 54.01 246 *eP* P 08 51 50.9 -0.3
24nm,0.8s,mb4.6
NWAO Narrogin (SRO) 54.01 246 *eP* P 08 51 50.9 -0.3
SBA Scott Base 54.06 183 *eP* P 08 51 52.9 +2.2
9.5nm,0.8s,mb4.2
SBA Scott Base 54.06 183 *eP* P 08 51 52.9 +2.1
MBWA Marble Bar 54.11 261 *eP* P 08 51 51.8 -0.3
32nm,0.5s,mb4.9
MBWA Marble Bar 54.11 261 P P 08 51 51.8 -0.3
79nm,1.1s,mb5.0
LBMI Labuha 54.73 287 P P 08 51 56.8 +0.3
94nm,1.0s,mb5.0
TNTI Ternate 55.54 289 P P 08 52 01.8 -0.3
151nm,0.9s,mb5.2
LUWI Luwuk 58.69 284 P P 08 52 23.9 +0.2
995nm118nm,1.1s,mb5.0
BKSI Bulukumba 59.18 279 P P 08 52 26.3 -0.7
951nm126nm,0.7s,mb5.3
BMNI Bima 59.18 274 P P 08 52 26.6 -0.4
2µm135nm,0.7s,mb5.3
BNSI Bone 59.58 279 P P 08 52 29.6 -0.1
81nm,0.8s,mb5.1
KAPI Kappang 59.64 279 *eP* P 08 52 29.0 -1.1
21nm,0.7s,mb4.6
KAPI Kappang 59.64 279 P P 08 52 29.0 -1.1
40nm,1.5s,mb4.5
SPSI Sidrap Palu 60.07 280 P P 08 52 31.6 -1.3
51nm,0.7s,mb4.9
MSSI Masamba 60.19 282 P P 08 52 31.1 -2.6
130nm,0.4s,mb5.6
TTSI Tana Toraja 60.42 281 P P 08 52 34.5 -0.7
30nm,0.9s,mb4.6
MTNI Mataram 61.44 273 P P 08 52 41.6 -0.3
195nm,0.7s,mb5.5
IGBI Denpasar 62.31 273 P P 08 52 47.9 +0.4
5µm192nm,0.7s,mb5.7
SRBI Singaraja 62.53 273 P P 08 52 48.7 -0.3
101nm,0.8s,mb5.3
JAGI Jajag, Banyuwa 63.35 273 P P 08 52 53.1 -1.1
112nm,0.9s,mb5.3
KBKI Kotabaru 63.60 279 P P 08 52 55.9 0.0
2µm33nm,0.9s,mb4.7
KMMI Kalianget 64.07 274 P P 08 52 59.5 +0.7
127nm,0.9s,mb5.4
GMJI Gumukmas 64.07 272 P P 08 52 57.7 -1.1
102nm,0.9s,mb5.2
BBKI Banjar Baru 64.73 278 P P 08 53 03.6 +0.5
97nm,1.0s,mb5.2
KRKI Karangkates 65.02 272 P P 08 53 05.6 +0.7
186nm,0.8s,mb5.6
PWJI Pagerwojo 65.66 272 P P 08 53 08.8 -0.1
113nm,0.7s,mb5.5
SJI Sawahan 65.81 272 P P 08 53 09.9 +0.1
118nm,0.9s,mb5.4
QSPA South Pole Qui 65.93 180 P P 08 53 10.3 +0.9
14nm,0.8s,mb4.5,baz=20,slow=1.5,SNR=32
QSPA S S 09 01 16.1 +2.6
1.3nm,0.2s,baz=163,slow=21,SNR=18
QSPA South Pole Qui 65.93 180 P P 08 53 10.3 +0.9
QSPA S S 09 01 16.1 +2.6
PCJI Pacitan 66.17 272 P P 08 53 12.4 +0.4
394nm,0.6s,mb6.1
KKM Kota Kinabalu 67.80 288 *eP* P 08 53 22.1 +0.1
22nm,0.6s,mb4.9
STKI Sintang 69.27 280 P P 08 53 31.8 +0.8
50nm,1.1s,mb5.0
SBUM Sibu 69.66 282 P P 08 53 33.6 +0.3
15nm,1.1s,mb4.4
JOW Kunigami 70.25 313 P P 08 53 36.5 0.0
10nm,0.5s,mb4.6,baz=124,slow=10.0,SNR=13
JOW Kunigami 70.25 313 *eP* P 08 53 36.3 -0.2
3.8nm,0.6s,mb4.1
DBJI Dramaga 70.85 271 P P 08 53 40.1 -0.2
133nm,1.0s,mb5.4
KSM Kuching 70.94 281 *eP* P 08 53 41.0 +0.2
40nm,0.7s,mb5.0
KSM Kuching 70.94 281 P P 08 53 40.8 -0.1
62nm,0.9s,mb5.1
MJAR Matsushiro Arr 71.42 327 P P 08 53 42.8 -0.3
11nm,0.9s,mb4.4,baz=167,slow=6.3,SNR=22
MJAR Matsushiro Arr 71.42 327 P P 08 53 42.8 -0.3
MJAR Matsushiro Arr 71.42 327 P P 08 53 42.8 -0.3
MAJO Matsushiro 71.42 327 *eP* P 08 53 43.0 -0.1
7.5nm,0.8s,mb4.3
MAJO Matsushiro 71.42 327 *eP* P 08 53 43.0 -0.1
JNU Nakatsue 72.91 319 *eP* P 08 53 51.2 -0.7
4.9nm,1.0s,mb3.9
PPBI Pangkal Pinang 73.17 275 P P 08 53 53.6 -0.2
8µm30nm,1.1s,mb4.6
SSLB Suanglung 73.50 306 *eP* P 08 53 53.8 -1.6
10nm,0.7s,mb4.4
MDSI Maura Dua 74.01 272 P P 08 53 57.0 -1.6
51nm,0.9s,mb5.0
ASAJ Asahikawa 75.54 334 P P 08 54 07.7 +1.3
12nm,0.9s,mb4.3,baz=254,slow=33,SNR=7.9
FX1 Attu Island--F 76.86 357 P P 08 54 12.1 -1.3
33nm,0.7s,mb4.9,baz=119,slow=4.6,SNR=9.2
FX1 Attu Island--F 76.86 357 P P 08 54 12.1 -1.3
FX1 Attu Island--F 76.86 357 P P 08 54 12.1 -1.3
MAW Mawson 77.08 201 *eP* P 08 54 14.6 0.0
6.3nm,1.0s,mb4.0
MAW Mawson 77.08 201 *eP* P 08 54 14.5 -0.1
4.2nm,1.2s,mb3.7
MAW Mawson 77.08 201 *eP* P 08 54 14.5 -0.1
KSRS Korea Array 77.66 321 P P 08 54 18.9 +0.7
3.4nm,0.8s,mb3.8,baz=138,slow=5.9,SNR=10
YSS Yuzh-Sakhalins 77.85 336 *eP* P 08 54 19.7 +0.7
44nm,0.6s,mb5.0
YSS Yuzh-Sakhalins 77.85 336 *eP* P 08 54 19.7 +0.8
UNV Unalaska Valle 78.73 9 *eP* P 08 54 22.0 -1.5
39nm,0.7s,mb4.8
PET Petropavlovsk 78.80 348 *eP* P 08 54 23.1 -0.8
20nm,0.5s,mb4.7
PET Petropavlovsk 78.80 348⇑ *iP* P 08 54 23.3 -0.6
PET pmax pmax
comp=Z,38nm,0.6s,mb4.9
PETK Petropavlovsk- 79.06 347 P P 08 54 25.1 -0.2
comp=Z,18nm,0.6s,mb4.6,baz=139,slow=7.2,SNR=24
PETK Petropavlovsk- 79.06 347 P P 08 54 25.1 -0.2
PETK Petropavlovsk- 79.06 347 P P 08 54 25.1 -0.2
AKUT Akutan 79.11 9 *eP* P 08 54 23.8 -1.7
comp=Z,75nm,1.3s,mb4.9
PMSA Palmer Station 79.16 157 P P 08 54 25.0 -0.8
comp=Z,15nm,0.5s,mb4.6,baz=14,slow=11,SNR=6.2
PMSA Palmer Station 79.16 157 P P 08 54 25.0 -0.8
NJ2 Nanjing 79.90 312 *eP* P 08 54 27.5 -2.7
NJ2 pmax pmax
comp=Z,20nm,0.8s,mb4.5
MNSI Mandailing Nat 80.35 275 P P 08 54 32.3 -0.8
comp=Z,3µmcomp=Z,25nm,0.9s,mb4.6
IPM Ipoh 80.58 279 *eP* P 08 54 33.6 -0.7
comp=Z,25nm,0.6s,mb4.8
PSI Prapat 81.78 277 P P 08 54 39.0 -1.3
comp=Z,18nm,0.7s,mb4.6,baz=175,slow=3.4,SNR=17
PSI Prapat 81.78 277 P P 08 54 39.0 -1.3
PSI Prapat 81.78 277 P P 08 54 39.1 -1.3
MDJ Mudanjiang 81.80 327 P P 08 54 41.6 +1.9
MDJ pmax pmax
comp=Z,11nm,2.1s,mb3.9
MDJ pmax pmax
comp=Z,340nm,11.6s
WHN Wuhan 82.18 308 P P 08 54 42.4 +0.4
BSC Santa Cruz Isl 82.35 48⇑P P 08 54 42.8 0.0
baz=82
CHGN Chignik 82.47 13 *eP* P 08 54 41.6 -1.2
SYO Syowa Base 82.48 194⇓ *eP* P 08 54 41.8 -1.1
SCI San Clemente I 82.50 49⇑P P 08 54 43.8 +0.2
baz=83
USHA Ushuaia 82.76 148 P P 08 54 44.4 -0.1
comp=Z,9.3nm,1.0s,mb4.3,baz=197,slow=4.3,SNR=4.0
USHA Ushuaia 82.76 148 P P 08 54 44.4 -0.1
SMMC Simmler 82.87 46⇑P P 08 54 45.7 +0.4
baz=83,SNR=6.8
FMP Fort Macarthur 83.09 48⇑P P 08 54 46.8 +0.2
baz=83
KCPM Cahto Peak 83.27 41 *eP* P 08 54 48.2 +0.9
comp=Z,14nm,0.7s,mb4.6
CN2 Changchun 83.36 324 *eP* P 08 54 48.1 +0.5
CN2 *eS* S 09 04 28.3 +5.0
CN2 pmax pmax
comp=Z,20nm,1.0s,mb4.6
CN2 pmax pmax
comp=Z,200nm,4.0s
KIPM Iron Peak 83.41 41 *eP* P 08 54 48.4 +0.4
comp=Z,40nm,1.0s,mb4.9
PASC Pasadena Art C 83.43 48 *eP* P 08 54 47.6 -0.6
comp=Z,12nm,0.8s,mb4.5
109C Camp Elliot, M 83.45 50⇓P P 08 54 48.1 -0.2
baz=84,SNR=7.1
ARVC Arvin 83.54 47⇑P P 08 54 48.4 -0.3
baz=84,SNR=9.7
MWC Mount Wilson 83.55 48 *eP* P 08 54 48.5 -0.3
comp=Z,12nm,1.0s,mb4.4
MWC Mount Wilson 83.55 48 *eP* P 08 54 48.5 -0.3
BAR Barrett 83.64 50 *eP* P 08 54 48.6 -0.6
comp=Z,41nm,1.5s,mb4.7
MURC Murrieta 83.78 49⇓P P 08 54 49.7 -0.3
baz=84,SNR=8.0
VES Vestal, Richgr 83.79 46⇑P P 08 54 49.4 -0.5
baz=84,SNR=10
BFSC Mount Baldy Ra 83.83 48⇑P P 08 54 49.8 -0.4
baz=84,SNR=8.2
MONP Monument Peak 83.93 50⇓P P 08 54 51.0 +0.3
baz=84,SNR=24
KHMM Horse Mountain 83.93 40 *eP* P 08 54 51.3 +0.8
comp=Z,29nm,0.6s,mb5.0
RCTC Rector, Farmer 83.96 46⇑P P 08 54 50.3 -0.4
baz=84
DVTC Desert V Tower 84.03 50⇑P P 08 54 51.2 0.0
baz=84,SNR=11
ISA Isabella 84.09 47⇑P P 08 54 51.2 -0.2
baz=84,SNR=47
ISA Isabella 84.09 47 *eP* P 08 54 51.3 -0.2
comp=Z,130nm,1.3s,mb5.3
ISA Isabella 84.09 47 *eP* P 08 54 51.3 -0.1
PFO Pinyon Flat Ob 84.30 49⇓P P 08 54 52.5 -0.1
baz=84,SNR=7.5
PFO Pinyon Flat Ob 84.30 49 *eP* P 08 54 52.5 0.0
comp=Z,12nm,0.9s,mb4.4
PFO Pinyon Flat Ob 84.30 49 *eP* P 08 54 52.5 0.0
OHCM Honcut 84.33 42 *eP* P 08 54 52.1 -0.4
SWSC Sam W. Stewart 84.39 50⇓P P 08 54 53.0 0.0
baz=84,SNR=9.7
OHAK Old Harbor 84.43 15 *eP* P 08 54 51.8 -0.7
comp=Z,54nm,1.0s,mb5.0
SNAA Sanae 84.43 180 *eP* P 08 54 51.7 -0.9
comp=Z,6.7nm,0.9s,mb4.2
SNAA Sanae 84.43 180 *eP* P 08 54 51.7 -0.8
LRMC Laurel Mountai 84.51 47⇑P P 08 54 53.4 -0.1
baz=85,SNR=18
RRX Edison Barstow 84.64 48⇓P P 08 54 54.1 0.0
baz=85
CWC Cottonwood Cre 84.80 46⇓P P 08 54 54.8 -0.1
baz=85,SNR=8.7
BELC Belle Mtn. Jos 84.84 49⇓P P 08 54 55.2 +0.1
baz=85,SNR=20
KEBM Edson Butte 84.85 38 *eP* P 08 54 55.2 +0.2
comp=Z,59nm,1.0s,mb5.1
NVL N'lazarevskaya 84.89 184 *eP* P 08 54 54.6 -0.2
NVL pmax pmax
comp=Z,17nm,1.0s,mb4.5
MPMC Manual Prospec 84.97 47⇑P P 08 54 55.4 -0.3
baz=85,SNR=14
MLAC Mammoth Lakes 84.99 45⇓P P 08 54 55.6 -0.1
baz=85,SNR=6.5
GSC Goldstone 85.00 48⇑P P 08 54 55.5 -0.4
baz=85,SNR=14
GSC Goldstone 85.00 48 *eP* P 08 54 55.6 -0.3
comp=Z,24nm,1.0s,mb4.7
MTUM Tungsten Hills 85.00 45 *eP* P 08 54 55.8 0.0
BC3 Big Chuckawall 85.03 50⇑P P 08 54 56.4 +0.3
baz=85,SNR=5.6
TIN Tinemaha 85.05 46⇓P P 08 54 56.0 -0.1
baz=85
HEC Hector,Ludlow 85.07 48⇑P P 08 54 55.9 -0.3
baz=85,SNR=19
KDAK Kodiak Island 85.10 15 P P 08 54 55.1 -0.7
comp=Z,8.6nm,0.6s,mb4.5,baz=109,slow=5.3,SNR=6.8
KDAK Kodiak Island 85.10 15 P P 08 54 55.1 -0.7
KDAK Kodiak Island 85.10 15 P P 08 54 55.1 -0.7
WAKR Walker 85.11 44 *eP* P 08 54 55.5 -0.9
GLA Glamis 85.14 51⇓P P 08 54 57.0 +0.4
baz=85,SNR=7.2
GLA Glamis 85.14 51 *eP* P 08 54 57.4 +0.8
comp=Z,43nm,0.8s,mb5.0
GLA Glamis 85.14 51 *eP* P 08 54 57.4 +0.8
LBCM Butte Creek Ri 85.33 41 P P 08 54 57.2 -0.1
WCN Washoe City 85.38 43⇓P P 08 54 57.8 +0.2
baz=86,SNR=14
WCN Washoe City 85.38 43 *eP* P 08 54 57.5 -0.1
comp=Z,11nm,0.8s,mb4.5
WCN Washoe City 85.38 43 *eP* P 08 54 57.5 -0.1
LTIM Timbered Crate 85.45 41 P P 08 54 58.0 +0.1
GMRC Granite Mounta 85.50 49⇑P P 08 54 58.1 -0.2
baz=86,SNR=13
IRM Iron Mountain 85.51 50⇓P P 08 54 58.6 +0.2
baz=86,SNR=20
GRAC Grapevine Rang 85.58 46⇑P P 08 54 58.7 0.0
baz=86,SNR=5.9
FURC Furnace Creek, 85.62 47⇓P P 08 54 58.5 -0.4
baz=86
BUOR Burton Butte 85.68 40 P P 08 54 59.5 +0.6
TUQ Turquoise Moun 85.68 48⇓P P 08 54 58.9 -0.3
baz=86,SNR=5.6
SHOC Shoshone 85.69 48⇓P P 08 54 59.3 +0.1
baz=86
Y12C Blythe 85.73 50⇑P P 08 54 59.4 0.0
baz=86,SNR=9.6
113A Mohawk Valley, 85.74 51⇓P P 08 54 59.9 +0.3
baz=86,SNR=11
NVAR Mina Array Bea 85.79 45 P P 08 54 59.5 -0.2
comp=Z,19nm,0.8s,mb4.8,baz=223,slow=8.7,SNR=74
NVAR Mina Array Bea 85.79 45 P P 08 54 59.5 -0.2
GYA Guiyang 85.82 301 P P 08 55 01.0 +1.0
GYA pP pP 08 57 02.3 +3.2
GYA sP sP 08 57 55.0 +0.5
GYA PP PP 08 58 32.8 +2.8
GYA SKS 09 04 32.7
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.4
GYA pmax pmax
comp=Z,90nm,5.2s
PAHR Pah Rah Range 85.85 43 *eP* P 08 54 59.7 -0.1
comp=Z,20nm,1.0s,mb4.7
214A Organ Pipe Nat 86.00 52⇓P P 08 55 00.9 +0.2
baz=86
LDFC Landfair 86.04 49 *eP* P 08 55 01.3 +0.4
Z13A Yuma Proving G 86.05 51⇑P P 08 55 01.3 +0.4
baz=86,SNR=16
NEE2 Needles Airpor 86.21 49⇓P P 08 55 02.0 +0.3
baz=86,SNR=5.6
PDMCI Parker Dam,Lak 86.29 50⇓P P 08 55 02.1 0.0
baz=86,SNR=7.1
114A Black Gap (USA 86.36 52⇓P P 08 55 02.7 +0.2
baz=86,SNR=5.7
Z14A Wintersburg 86.64 51⇑P P 08 55 04.0 +0.2
baz=87,SNR=10
SHPR Sheep Range 86.78 48 *eP* P 08 55 04.5 +0.2
comp=Z,12nm,0.8s,mb4.6
Y14A Wickenburg 86.90 51⇓P P 08 55 05.1 +0.1
baz=87,SNR=7.9
216A Three Points, 87.01 53⇑P P 08 55 06.4 +0.9
baz=87,SNR=16
116A Eloy 87.11 52⇓P P 08 55 06.7 +0.7
baz=87,SNR=18
Z15A Gila River Ind 87.16 52⇑P P 08 55 06.2 0.0
baz=87
H04A Detroit Lake 87.20 38⇑P P 08 55 06.1 0.0
baz=87,SNR=6.7
217A Green Valley 87.36 54⇓P P 08 55 08.2 +1.0
baz=87,SNR=33
G04A Mulino 87.36 37⇑P P 08 55 06.8 0.0
baz=88,SNR=5.7
Y15A Casa Rosa Ranc 87.38 51⇓P P 08 55 07.2 0.0
baz=88,SNR=8.2
SVW2 Sparrevohn 87.48 12 *eP* P 08 55 05.9 -1.1
comp=Z,58nm,2.3s,mb4.8
RSO Redoubt South 87.48 14 *eP* P 08 55 06.6 -0.4
R11A Troy Canyon, C 87.51 46⇑P P 08 55 07.5 -0.2
baz=88
U13A Pakoon Wash 87.54 48⇓P P 08 55 08.4 +0.5
baz=88
BMN Battle Mountai 87.63 43 *eP* P 08 55 08.3 +0.1
comp=Z,60nm,1.3s,mb5.2
BMN Battle Mountai 87.63 43 *eP* P 08 55 08.3 +0.1
TUC Tucson 87.65 53 *eP* P 08 55 08.4 -0.2
comp=Z,44nm,1.2s,mb5.1
TUC Tucson 87.65 53 *eP* P 08 55 08.4 -0.1
Z16A Peralta Trail, 87.71 52⇓P P 08 55 09.1 +0.3
baz=88,SNR=9.5
V14A Boquillas Ranc 87.72 49⇑P P 08 55 09.3 +0.5
baz=88
318A Bisbee 87.80 54⇓P P 08 55 09.7 +0.5
baz=88,SNR=28
117A Oracle 87.82 53⇑P P 08 55 10.2 +0.9
baz=88
WVOR Wild Horse Val 87.82 41 *eP* P 08 55 09.5 0.0
comp=Z,40nm,0.9s,mb5.2
WVOR Wild Horse Val 87.91 41 *eP* P 08 55 09.5 0.0
XAN Xi'an 87.93 309 P P 08 55 11.2 +1.4
XAN pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
XAN pmax pmax
comp=Z,280nm,14.4s
Y16A Circle Bar Ran 87.95 51⇓P P 08 55 10.2 +0.3
baz=88,SNR=16
VIPM Ingram Point 87.98 39 P P 08 55 09.9 +0.1
218A Dragoon 88.03 54⇓P P 08 55 10.9 +0.6
baz=88,SNR=17
W15A Williams 88.06 50⇑P P 08 55 11.3 +0.9
baz=88
U14A Mt Trumbull 88.08 49⇑P P 08 55 11.1 +0.7
baz=88
SLKM Skilak Lake 88.09 15 *eP* P 08 55 09.1 -0.8
SLKM Skilak Lake 88.09 15 *eP* P 08 55 09.1 -0.8
X16A Lo Mia Camp, P 88.25 51⇑P P 08 55 11.9 +0.6
baz=88,SNR=7.3
SPU Mount Spurr 88.28 14 *eP* P 08 55 09.2 -1.5
KMI Kunming 88.29 298 P P 08 55 11.4 -0.3
KMI pmax pmax
comp=Z,8.0nm,0.5s,mb4.7
319A Douglas 88.30 55⇑P P 08 55 12.4 +0.8
baz=88,SNR=26
Y17A Roosevelt 88.31 52⇑P P 08 55 12.0 +0.4
baz=88,SNR=10.0
I07A Izee 88.36 39⇓P P 08 55 11.8 +0.3
baz=88,SNR=37
Z17A San Carlos Hig 88.38 52⇑P P 08 55 12.4 +0.5
baz=88,SNR=7.6
G06A Carlson Farm, 88.41 38⇑P P 08 55 11.8 +0.1
baz=88,SNR=12
118A Homack Ranch, 88.42 53⇑P P 08 55 13.0 +0.9
baz=88,SNR=25
CMAR Chiang Mai Arr 88.46 291 P P 08 55 13.8 +1.3
comp=Z,5.6nm,0.9s,mb4.3,baz=135,slow=3.5,SNR=20
CMAR pP pP 08 57 10.0 -2.6
comp=Z,1.3nm,0.3s,baz=131,slow=4.3,SNR=1.8
CMAR PP PP 08 58 50.6 -0.4
comp=Z,1.8nm,0.4s,baz=128,slow=6.4,SNR=8.6
CMAR PKKPbc PKKPbc 09 12 50.8 -0.3
comp=Z,0.6nm,0.4s,baz=290,slow=5.4,SNR=5.1
CMAR Chiang Mai Arr 88.46 291 P P 08 55 13.8 +1.3
CMAR pP pP 08 57 10.0 -2.6
CMAR PP PP 08 58 50.6 -0.4
CMAR PKKPbc PKKPbc 09 12 50.8 -0.3
CMAR Chiang Mai Arr 88.46 291 P P 08 55 13.9 +1.3
V15A Kaibab Nationa 88.46 49⇑P P 08 55 12.6 +0.4
baz=89,SNR=16
R13A O'Grain Ranch, 88.49 47⇓P P 08 55 13.0 +0.8
baz=89
W16A Flagstaff 88.54 50⇓P P 08 55 12.8 +0.2
baz=89,SNR=14
J08A Circle Bar Ran 88.54 40⇓P P 08 55 12.6 +0.2
baz=89,SNR=37
CCUT Cedar City 88.56 47 *eP* P 08 55 12.9 +0.3
comp=Z,24nm,1.2s,mb4.9
Z18A Geronimo 88.59 53⇑P P 08 55 13.3 +0.4
baz=89
CHTO Chiang Mai 88.61 291 P P 08 55 15.2 +1.9
219A White Tail Can 88.62 54⇓P P 08 55 13.8 +0.7
baz=89,SNR=18
ARUT Antelope Range 88.63 47 *eP* P 08 55 13.2 +0.3
comp=Z,26nm,1.3s,mb4.9
ARUT Antelope Range 88.63 47 *eP* P 08 55 13.2 +0.2
GNW Green Mountain 88.65 35 *eP* P 08 55 13.2 +0.4
comp=Z,25nm,0.9s,mb5.0
X17A Forest Lakes 88.66 51⇓P P 08 55 13.8 +0.6
baz=89,SNR=5.5
LON Longmire 88.68 36 *eP* P 08 55 12.6 -0.4
comp=Z,14nm,0.6s,mb5.0
LON Longmire 88.68 36 *eP* P 08 55 12.6 -0.4
U15A North Rim 88.70 49⇓P P 08 55 14.1 +0.8
baz=89,SNR=32
RCS Mount Rainier- 88.80 36 P P 08 55 14.2 +0.7
320A Kipp Ranch, An 88.84 55⇓P P 08 55 15.0 +0.9
baz=89,SNR=31
D05A Enumclaw 88.86 36⇑P P 08 55 14.8 +1.0
baz=89,SNR=16
WUAZ Wupatki 88.86 50⇓P P 08 55 14.2 +0.1
baz=89,SNR=12
WUAZ Wupatki 88.86 50 *eP* P 08 55 14.2 +0.1
comp=Z,22nm,1.1s,mb4.9
Y18A Canyon Day Jun 88.94 52⇓P P 08 55 15.2 +0.7
baz=89,SNR=29
T15A Red Dirt Ranch 88.94 48⇓P P 08 55 15.0 +0.6
baz=89,SNR=5.9
119A Ashpeak Ranch, 88.97 53⇓P P 08 55 15.3 +0.6
baz=89,SNR=8.6
PLCA Paso Flores 88.97 135 P P 08 55 14.7 +0.1
comp=Z,8.4nm,0.9s,mb4.6,baz=220,slow=2.9,SNR=5.2
PLCA Paso Flores 88.97 135 *eP* P 08 55 15.0 +0.4
comp=Z,7.4nm,0.8s,mb4.6
PLCA Paso Flores 88.97 135 *eP* P 08 55 15.0 +0.3
PGC Sidney 89.00 34 *eP* P 08 55 14.7 +0.2
comp=Z,2.4nm,0.7s,mb4.1
220A Playas Peak, P 89.11 54⇓P P 08 55 16.0 +0.6
baz=89,SNR=13
RMW Rattlesnake Mo 89.12 36 P P 08 55 15.3 +0.3
F07A Phinny Hill Vi 89.20 38⇑P P 08 55 15.7 +0.3
baz=89
Z19A T-Link Ranch, 89.25 53⇑P P 08 55 16.5 +0.5
baz=89
SEY Seymchan 89.26 348⇑ *eP* P 08 55 15.4 +0.1
S15A Panguitch 89.30 48⇓P P 08 55 17.4 +1.3
baz=89,SNR=17
PMR Palmer 89.30 15 *eP* P 08 55 14.6 -0.9
comp=Z,30nm,1.0s,mb5.1
PMR Palmer 89.30 15 *eP* P 08 55 14.6 -0.9
V17A Tonalea, Kykot 89.32 50⇓P P 08 55 16.4 +0.1
baz=89,SNR=12
120A U Bar Ranch, L 89.35 54⇑P P 08 55 17.2 +0.7
baz=89,SNR=16
U16A Tuba City 89.35 50⇓P P 08 55 16.9 +0.5
baz=90,SNR=14
X18A Snowflake 89.37 51⇓P P 08 55 16.9 +0.4
baz=90,SNR=11
Q14A Sevier Lake (B 89.38 46⇑P P 08 55 16.7 +0.3
baz=90,SNR=44
G08A Pilot Rock 89.39 39⇓P P 08 55 16.3 0.0
baz=90,SNR=22
MXC Moxie City 89.41 37 P P 08 55 16.5 +0.2
JCW Jim Creek 89.51 35 *eP* P 08 55 16.7 -0.1
comp=Z,18nm,1.0s,mb4.8
T16A Glen Canyon Da 89.52 49⇑P P 08 55 17.7 +0.5
baz=90,SNR=14

Y19A	Nutrioso	89.59	52	⇑P		P	08 55 18.3	+0.8	
	baz=90,SNR=21								
R15A	Junction	89.63	47	⇓P		P	08 55 18.6	+1.0	
	baz=90,SNR=15								
E07A	Sunnyside	89.64	37	⇓P		P	08 55 18.1	+0.7	
	baz=90,SNR=13								
Z20A	Nine Sixteen R	89.66	53	⇑P		P	08 55 18.6	+0.8	
	baz=90,SNR=15								
RSW	Rattlesnake Hi	89.69	38	eP		P	08 55 17.8	+0.2	
HAWA	Hanford	89.72	38	eP		P	08 55 17.7	-0.1	
	comp=Z,23nm,0.8s,mb5.1								
HHC	Hu-ho-hao-te	89.73	316	eP		P	08 55 18.4	+0.4	
HHC				pP		pP	08 57 17.7	-0.6	
HHC				sP		sP	08 58 11.1	-2.2	
HHC				PP		PP	08 59 03.4	+2.8	
HHC				SKS			09 04 57.0		
HHC				S		S	09 05 24.2	+0.9	
HHC				sS		sS	09 08 55.8	-2.3	
HHC				pmax		pmax			
	comp=Z,12nm,0.8s,mb4.8								
HHC				pmax		pmax			
	comp=Z,380nm,7.5s								
X19A	St. Johns	89.79	52	⇑P		P	08 55 18.8	+0.3	
	baz=90,SNR=8.4								
W18A	Petrified Fore	89.82	51	⇓P		P	08 55 18.8	+0.2	
	baz=90,SNR=5.5								
P14A	Drum Mountains	89.83	46	⇓P		P	08 55 18.6	+0.2	
	baz=90,SNR=7.8								
S16A	Weppner Ranch,	89.84	48	⇑P		P	08 55 18.7	+0.1	
	baz=90,SNR=8.8								
MSU	Marysvale	89.86	47	eP		P	08 55 19.4	+0.7	
MSU	Marysvale	89.86	47	eP		P	08 55 19.4	+0.8	
WRW	Wenatchee Ridg	89.86	36	P		P	08 55 18.2	-0.2	
A05A	Maple Falls	89.93	34	⇑P		P	08 55 18.4	-0.3	
	baz=90								
B06A	Marblemount	89.94	35	⇑P		P	08 55 18.3	-0.5	
	baz=90								
121A	Cookes Peak, D	89.97	54	⇓P		P	08 55 19.9	+0.6	
	baz=90,SNR=8.9								
V18A	Ganado	89.97	50	⇑P		P	08 55 19.9	+0.6	
	baz=90,SNR=13								
Q15A	Fillmore	89.98	47	⇓P		P	08 55 19.9	+0.7	
	baz=90,SNR=17								
ETW	Entiat	90.00	36	P		P	08 55 18.9	-0.2	
T17A	Navajo Res., N	90.01	49	⇑P		P	08 55 20.1	+0.7	
	baz=90,SNR=10								
E08A	Dider Farm, El	90.04	38	⇑P		P	08 55 19.2	-0.1	
	baz=90,SNR=6.3								
W19A	Sanders	90.06	51	⇓P		P	08 55 20.0	+0.3	
	baz=90,SNR=12								
BMO	Blue Mountains	90.09	40	eP		P	08 55 18.9	-0.7	
	comp=Z,4.9nm,0.7s,mb4.5								
MFID	Camas Ranch	90.16	42	⇓P		P	08 55 20.1	+0.2	
	baz=90,SNR=11								
MFID	Camas Ranch	90.16	42	eP		P	08 55 19.3	-0.7	
	comp=Z,17nm,0.9s,mb4.9								
CD2	Chengdu	90.19	304	P		P	08 55 21.5	+1.1	
CD2				pP		pP	08 57 21.3	+0.6	
CD2				sP		sP	08 58 14.5	-1.3	
CD2				PP		PP	08 59 08.2	+3.8	
CD2				SKS			09 05 00.8		
CD2				S		S	09 05 28.6	+0.7	
CD2				sS		sS	09 09 00.6	-2.3	
CD2				SS		SS	09 11 49.5	+4.9	
CD2				pmax		pmax			
	comp=Z,20nm,0.5s,mb5.2								
CD2				pmax		pmax			
	comp=Z,750nm,14.3s								
Y20A	Horse Springs,	90.20	53	⇓P		P	08 55 21.1	+0.8	
	baz=90,SNR=21								
R16A	Teasdale	90.21	48	⇑P		P	08 55 21.0	+0.7	
	baz=90,SNR=15								
222A	Williams Famil	90.27	55	⇑P		P	08 55 21.3	+0.6	
	baz=90								
NLW	Nelson Butte	90.28	36	P		P	08 55 20.2	-0.2	
DUG	Dugway	90.32	45	⇓P		P	08 55 20.4	-0.3	
	baz=90,SNR=10.0								
DUG	Dugway	90.32	45	eP		P	08 55 20.3	-0.4	
	comp=Z,12nm,0.9s,mb4.7								
DUG	Dugway	90.32	45	eP		P	08 55 20.3	-0.4	
S17A	Black Ridge (B	90.34	48	⇓P		P	08 55 20.4	-0.4	
	baz=90,SNR=13								
P15A	Leamington	90.34	46	⇓P		P	08 55 21.0	+0.1	
	baz=90,SNR=15								
U18A	Rough Rock, Ch	90.37	50	⇓P		P	08 55 21.2	+0.1	
	baz=90,SNR=6.4								
X20A	Quemado	90.42	52	⇓P		P	08 55 21.9	+0.5	
	baz=90,SNR=12								
Z21A	St. Cloud Mine	90.42	53	⇓P		P	08 55 22.3	+0.9	
	baz=90,SNR=12								
D08A	Wollman Farm,	90.45	37	⇑P		P	08 55 20.9	-0.3	
	baz=91,SNR=10								
E09A	Wood Farm, Sta	90.57	38	⇑P		P	08 55 21.4	-0.3	
	baz=91,SNR=5.6								
O15A	The Old Anders	90.59	46	⇑P		P	08 55 22.2	+0.3	
	baz=91,SNR=12								
NLU	North Lily Min	90.67	46	eP		P	08 55 22.6	+0.2	
	comp=Z,13nm,0.8s,mb4.9								
TRF	Thorofare Moun	90.68	13	eP		P	08 55 20.2	-1.6	
	comp=Z,14nm,0.8s,mb5.0								
W20A	Ramah	90.70	52	⇓P		P	08 55 23.2	+0.6	
	baz=91,SNR=25								
T18A	Mexican Hat	90.73	49	⇑P		P	08 55 22.6	-0.1	
	baz=91,SNR=25								
Q16A	Castle Valley	90.74	47	⇓P		P	08 55 23.8	+1.1	
	baz=91,SNR=22								
Y21A	Point of Rocks	90.76	53	⇓P		P	08 55 23.7	+0.8	
	baz=91,SNR=29								
OD2	Odessa Site #2	90.76	37	eP		P	08 55 22.5	0.0	
P16A	Fountain Green	90.77	46	⇑P		P	08 55 23.4	+0.6	
	baz=91								
U19A	Dine' College,	90.77	50	⇑P		P	08 55 23.0	+0.1	
	baz=91,SNR=10								
F10A	Beach Ranch, E	90.78	39	⇓P		P	08 55 22.1	-0.6	
	baz=91,SNR=12								
I12A	Atlanta	90.79	42	⇑P		P	08 55 23.0	+0.2	
	baz=91,SNR=14								
R17A	Hanksville Air	90.80	48	⇓P		P	08 55 22.7	-0.3	
	baz=91,SNR=11								
N15A	Stansbury Isla	90.87	45	⇑P		P	08 55 23.2	-0.1	
	baz=91,SNR=28								
X21A	Alamocita Cree	90.89	52	⇓P		P	08 55 23.9	+0.4	
	baz=91,SNR=12								
TMUT	Trail Mountain	90.91	47	eP		P	08 55 24.3	+0.8	
	comp=Z,48nm,0.6s,mb5.6								
B08A	Colville Reser	90.99	36	⇓P		P	08 55 22.6	-1.0	
	baz=91,SNR=8.4								
MPU	Maple Canyon	91.00	46	eP		P	08 55 24.1	+0.3	
	comp=Z,25nm,0.8s,mb5.2								
NOQ	North Oquirrh	91.01	45	eP		P	08 55 24.2	+0.3	
	comp=Z,16nm,0.5s,mb5.2								
L14A	Malta	91.02	44	⇑P		P	08 55 24.0	+0.1	
	baz=91,SNR=13								
V20A	Brimhall	91.05	51	⇓P		P	08 55 24.2	-0.1	
	baz=91								
HLID	Hailey	91.10	42	⇓P		P	08 55 24.4	+0.1	
	baz=91,SNR=12								
HLID	Hailey	91.10	42	eP		P	08 55 24.4	+0.2	
	comp=Z,5.9nm,0.7s,mb4.6								
SPUT	South Promonto	91.14	45	eP		P	08 55 24.4	-0.1	
	comp=Z,33nm,1.1s,mb5.2								
123A	Bell Site, Whi	91.15	55	⇓P		P	08 55 25.4	+0.7	
	baz=91								
J13A	Cove Ranch, Pi	91.16	42	⇑P		P	08 55 24.7	+0.1	
	baz=91,SNR=19								
T19A	Beclabito	91.17	50	⇑P		P	08 55 25.5	+0.7	
	baz=91								
HVU	Hansel Valley	91.17	44	eP		P	08 55 24.8	+0.1	
	comp=Z,22nm,0.6s,mb5.3								
HVU	Hansel Valley	91.17	44	eP		P	08 55 24.8	+0.2	
324A	Moseley Ranch,	91.18	56	⇑P		P	08 55 24.7	-0.2	
	baz=91,SNR=16								
O16A	Springville	91.18	46	⇑P		P	08 55 25.2	+0.5	
	baz=91								
M15A	Larsen Ranch,	91.22	45	⇑P		P	08 55 24.7	-0.2	
	baz=91,SNR=33								
MCK	McKinley	91.22	14	eP		P	08 55 22.4	-1.9	
	comp=Z,9.2nm,0.8s,mb4.8								
MCK	McKinley	91.22	14	eP		P	08 55 22.4	-1.9	
C09A	Chrisman Ranch	91.24	37	⇑P		P	08 55 24.2	-0.5	
	baz=91								
Y22A	Socorro	91.24	53	⇑P		P	08 55 25.3	+0.1	
	baz=91,SNR=14								
425A	Indio Mountain	91.25	57	⇑P		P	08 55 25.5	+0.2	
	baz=91,SNR=14								
SRU	San Rafael	91.27	47	⇓P		P	08 55 25.4	+0.2	
	baz=91,SNR=39								
SRU	San Rafael	91.27	47	eP		P	08 55 25.2	0.0	
	comp=Z,39nm,0.8s,mb5.4								
SRU	San Rafael	91.27	47	eP		P	08 55 25.2	0.0	
P17A	Butcher Ranch,	91.31	47	⇓P		P	08 55 25.8	+0.5	
	baz=91,SNR=8.9								
K14A	Jones Ranch, D	91.33	43	⇑P		P	08 55 25.7	+0.3	
	baz=91,SNR=12								
R18A	Canyonlands Na	91.33	48	⇓P		P	08 55 25.9	+0.4	
	baz=91,SNR=22								
LAZ	Ladron	91.34	53	eP		P	08 55 26.0	+0.4	
	comp=Z,8.7nm,1.2s,mb4.6								
LENM	Lemitar	91.34	53	eP		P	08 55 25.7	+0.1	
	comp=Z,2.7nm,0.7s,mb4.3								
626A	Big Bend Ranch	91.35	58	⇓P		P	08 55 26.1	+0.3	
	baz=91,SNR=15								
H12A	Diamond D Ranc	91.37	41	⇑P		P	08 55 25.4	-0.1	
	baz=92,SNR=18								
G12A	Big Creek, Yel	91.41	40	⇑P		P	08 55 25.7	+0.1	
	baz=92,SNR=7.5								
JLU	Jordanelle	91.42	46	eP		P	08 55 25.7	-0.1	
	comp=Z,10.0nm,0.8s,mb4.8								
224A	Cornudas Mount	91.44	55	⇑P		P	08 55 26.5	+0.4	
	baz=92,SNR=20								
DAU	Daniels Canyon	91.45	46	eP		P	08 55 26.7	+0.8	
DAU	Daniels Canyon	91.45	46	eP		P	08 55 26.7	+0.8	
Z23A	Rita Site, Whi	91.46	54	⇑P		P	08 55 26.4	+0.2	
	baz=92,SNR=8.1								
I13A	Wildhorse Cree	91.47	42	⇓P		P	08 55 26.2	+0.3	
	baz=92								
X22A	Bernardo	91.48	53	⇑P		P	08 55 26.7	+0.5	
	baz=92								
J14A	Carey	91.53	43	⇑P		P	08 55 26.7	+0.5	
	baz=92,SNR=15								
Q18A	Rafter H Ranch	91.53	47	⇓P		P	08 55 26.3	-0.1	
	baz=92,SNR=14								
325A	Bean Ranch, Si	91.53	56	⇑P		P	08 55 26.7	+0.1	
	baz=92,SNR=12								
S19A	Harvey Farm, M	91.54	49	⇓P		P	08 55 26.1	-0.4	
	baz=92,SNR=7.8								
L15A	Malad City	91.54	44	⇑P		P	08 55 26.1	-0.2	
	baz=92,SNR=18								
N16A	Rees Ranch, Co	91.57	45	⇓P		P	08 55 26.8	+0.3	
	baz=92,SNR=16								
BNM	Barren Site	91.59	53	eP		P	08 55 26.8	+0.1	
	comp=Z,23nm,1.5s,mb5.0								
526A	Mary Lane Ranc	91.61	58	⇑P		P	08 55 26.8	-0.2	
	baz=92								
TXAR	Lajitas Array	91.61	59	P		P	08 55 27.1	+0.1	
	comp=Z,11nm,0.8s,mb5.0,baz=214,slow=6.4,SNR=107								
TXAR	Lajitas Array	91.61	59	P		P	08 55 27.1	+0.1	
TXAR	Lajitas Array	91.61	59	P		P	08 55 27.1	+0.1	
LPM	Los Pinos Moun	91.66	53	eP		P	08 55 26.5	-0.6	
	comp=Z,11nm,1.3s,mb4.7								
O17A	Robinson Place	91.68	46	⇑P		P	08 55 27.7	+0.7	
	baz=92,SNR=68								
MVCO	Mesa Verde	91.72	50	⇑P		P	08 55 27.1	-0.1	
	baz=92								
P18A	Preston Nutter	91.72	47	⇑P		P	08 55 27.3	+0.1	
	baz=92								
R19A	Curley Farm, L	91.72	49	⇑P		P	08 55 27.2	-0.1	
	baz=92,SNR=15								
H13A	Challis	91.74	41	⇑P		P	08 55 27.2	0.0	
	baz=92,SNR=10								
MENT	Mentasta	91.77	16	eP		P	08 55 26.0	-0.9	
124A	Stringfield Ra	91.78	55	⇑P		P	08 55 27.8	+0.2	
	baz=92,SNR=9.5								
F12A	Elk City	91.80	40	⇓P		P	08 55 26.9	-0.5	
	baz=92,SNR=13								
K15A	Arbon	91.81	43	⇓P		P	08 55 27.5	0.0	
	baz=92,SNR=9.0								
W22A	Albuquerque	91.85	52	⇓P		P	08 55 28.1	+0.1	
	baz=92								
HWUT	Hardware Ranch	91.86	45	eP		P	08 55 26.9	-0.9	
	comp=Z,8.4nm,0.8s,mb4.8								
627A	Terlingua Ranc	91.88	59	⇓P		P	08 55 28.4	+0.2	
	baz=92,SNR=16								
I14A	Mackay	91.89	42	⇑P		P	08 55 28.4	+0.5	
	baz=92,SNR=11								
Y23A	Lovelace Mesa,	91.91	54	⇓P		P	08 55 27.9	-0.3	
	baz=92,SNR=8.5								
PV10	Paradox Valley	91.91	49	eP		P	08 55 27.6	-0.5	
	comp=Z,150nm,0.7s,mb6.1								
U21A	Nageezi	91.93	51	⇑P		P	08 55 28.3	+0.1	
	baz=92,SNR=30								
426A	McDonald Obser	91.93	57	⇑P		P	08 55 28.5	+0.1	
	baz=92,SNR=15								
225A	Deer Hill, Car	91.98	56	⇓P		P	08 55 28.9	+0.3	
	baz=92,SNR=12								
N17A	Moffit Pass	91.99	46	⇑P		P	08 55 28.7	+0.3	
	baz=92,SNR=8.3								
PV04	Paradox Valley	92.01	49	eP		P	08 55 28.3	-0.3	
527A	Woodward Ranch	92.02	58	⇓P		P	08 55 28.6	-0.2	
	baz=92,SNR=11								
G13A	Galt	92.04	41	⇑P		P	08 55 28.1	-0.4	
	baz=92,SNR=8.9								
Q19A	Hogan Spring (	92.05	48	⇑P		P	08 55 28.5	-0.2	
	baz=92,SNR=11								
ANMO	Albuquerque	92.09	53	eP		P	08 55 28.1	-1.0	
	comp=Z,10nm,0.9s,mb4.9								
ANMO	Albuquerque	92.09	53	eP		P	08 55 28.1	-0.9	
X23A	Hourglass Bar	92.11	53	⇑P		P	08 55 29.1	0.0	
	baz=92								
S20A	Disappointment	92.11	49	⇓P		P	08 55 28.8	-0.3	
	baz=92,SNR=7.0								
PV01	Paradox Valley	92.12	49	eP		P	08 55 28.5	-0.6	
	comp=Z,962nm,0.9s								
Z24A	Sheeppen Canyo	92.14	54	⇑P		P	08 55 29.5	+0.2	
	baz=92,SNR=8.1								
NEW	Newport	92.14	37	eP		P	08 55 27.9	-1.1	
	comp=Z,2.1nm,0.7s,mb4.3								
NEW	Newport	92.14	37	eP		P	08 55 27.8	-1.1	
L16A	Fish Haven	92.15	44	⇓P		P	08 55 29.2	0.0	
	baz=92,SNR=11								
O18A	Roosevelt	92.20	47	⇓P		P	08 55 29.7	+0.3	
	baz=92,SNR=14								
J15A	Blackfoot	92.24	43	⇓P		P	08 55 30.0	+0.5	
	baz=92,SNR=8.6								
R20A	Redvale	92.28	49	⇓P		P	08 55 29.4	-0.4	
	baz=92								
DOT	Dot Lake	92.28	16	eP		P	08 55 28.0	-1.2	
	comp=Z,18nm,0.8s,mb5.2								
T21A	Navajo Lake	92.29	50	⇑P		P	08 55 30.0	+0.1	
	baz=92,SNR=6.3								
628A	Black Gap, Mar	92.29	59	⇑P		P	08 55 30.0	-0.1	
	baz=92								
H14A	Leadore	92.31	42	⇑P		P	08 55 30.2	+0.4	
	baz=92,SNR=6.1								
F13A	Darby	92.36	40	⇓P		P	08 55 29.5	-0.4	
	baz=92,SNR=9.0								
125A	Gardner Draw,	92.36	55	⇓P		P	08 55 30.7	+0.4	
	baz=92,SNR=8.8								
Y24A	Capitan	92.36	54	⇑P		P	08 55 30.5	+0.2	
	baz=92,SNR=30								
BILL	Bilibino	92.37	355	eP		P	08 55 29.3	-0.2	
	comp=Z,13nm,0.9s,mb5.0								
BILL	Bilibino	92.37	355	⇑iP		P	08 55 29.4	-0.1	
BILL				e			08 59 19.3		
BILL				eS		SKSac	09 05 08.0	-1.7	
BILL				pmax		pmax			
	comp=Z,14nm,0.9s,mb5.0								
M17A	Scullys Gap (B	92.37	45	⇑P		P	08 55 29.9	-0.2	
	baz=92,SNR=8.2								
W23A	Werner Place,	92.41	52	⇓P		P	08 55 30.3	-0.3	
	baz=92,SNR=6.2								
S21A	Coal Bank Pass	92.43	50	⇑P		P	08 55 30.6	+0.1	
	baz=92,SNR=10								
COLA	College	92.45	14	eP		P	08 55 28.2	-1.7	
	comp=Z,3.1nm,0.6s,mb4.5								
COLA	College	92.45	14	eP		P	08 55 28.2	-1.7	
K16A	Soda Springs	92.47	44	⇓P		P	08 55 31.1	+0.6	
	baz=93								
U22A	Llaves	92.48	51	⇑P		P	08 55 30.8	0.0	
	baz=93								
427A	Hayter Ranch,	92.50	57	⇓P		P	08 55 31.3	+0.3	
	baz=93,SNR=23								
226A	Malaga, Loving	92.51	56	⇑P		P	08 55 31.1	+0.1	
	baz=93								
I15A	Monteview	92.52	42	⇑P		P	08 55 31.4	+0.6	
	baz=93								
LZH	Lanzhou	92.56	309	eP		P	08 55 33.5	+2.3	
LZH				pP		pP	08 57 35.5	+3.8	
LZH				sP		sP	08 58 24.0	-2.7	
LZH				pmax		pmax			
	comp=Z,15nm,1.0s,mb5.0								
ILAR	Eielson Array	92.57	14	P		P	08 55 28.6	-1.9	
	comp=Z,3.6nm,0.6s,mb4.5,baz=228,slow=5.5,SNR=41								
ILAR				pP		pP	08 57 26.9	-4.3	
	comp=Z,0.6nm,0.8s,baz=234,slow=3.6,SNR=3.4								
ILAR	Eielson Array	92.57	14	P		P	08 55 28.6	-1.9	
ILAR				pP		pP	08 57 26.9	-4.3	
ILAR	Eielson Array	92.57	14	eP		P	08 55 28.6	-1.9	
G14A	Jackson	92.58	41	⇓P		P	08 55 31.6	+0.5	
	baz=93								
Z25A	Roswell	92.60	55	⇓P		P	08 55 31.4	0.0	
	baz=93,SNR=10								
V23A	Ortiz Mt. (NFS	92.66	52	⇓P		P	08 55 32.3	+0.6	
	baz=93,SNR=8.4								
528A	Cox Ranch, San	92.67	58	⇓P		P	08 55 31.6	-0.2	
	baz=93,SNR=11								
Q20A	Ridgley Place,	92.70	48	⇑P		P	08 55 31.6	-0.1	
	baz=93,SNR=6.4								
MCMT	McKenzie Canyo	92.73	42	eP		P	08 55 31.6	-0.1	
	comp=Z,2.3nm,0.7s,mb4.3								
M18A	Lyman	92.74	45	⇑P		P	08 55 31.8	0.0	
	baz=93,SNR=9.7								
T22A	Edith	92.74	51	⇑P		P	08 55 32.0	+0.1	
	baz=93								
H15A	Lima	92.75	42	⇓P		P	08 55 32.2	+0.4	
	baz=93,SNR=7.4								
C12B	Naegeli Ranch,	92.75	38	⇓P		P	08 55 31.1	-0.6	
	baz=93								
N18A	Larsen Ranch,	92.77	46	⇓P		P	08 55 31.7	-0.3	
	baz=93								
E13A	Victor	92.79	40	⇑P		P	08 55 30.8	-1.2	
	baz=93								
O19A	Miners Draw (B	92.80	47	⇑P		P	08 55 31.7	-0.4	
	baz=93,SNR=7.6								
126A	Clayton Basin,	92.83	56	⇑P		P	08 55 32.1	-0.4	
	baz=93								
K17A	Gardner Place,	92.86	44	⇑P		P	08 55 32.4	0.0	
	baz=93,SNR=7.7								
P20A	De Beque	92.90	48	⇓P		P	08 55 32.3	-0.3	
	baz=93								
RRI2	Red Ridge	92.91	43	eP		P	08 55 32.6	0.0	
	comp=Z,6.7nm,0.8s,mb4.7								
Y25A	Mesa, Roswell	92.91	54	⇓P		P	08 55 32.2	-0.6	
	baz=93,SNR=7.4								
U23A	El Rito	92.93	51	⇓P		P	08 55 33.0	+0.1	
	baz=93,SNR=5.6								
R21A	Cimarron	92.93	49	⇓P		P	08 55 32.8	0.0	
	baz=93,SNR=16								
F14A	Wisdom	92.94	40	⇓P		P	08 55 33.4	+0.8	
	baz=93								
W24A	Lazy 6 Ranch,	92.97	53	⇓P		P	08 55 32.8	-0.3	
	baz=93,SNR=9.8								
428A	Kincaid Ranch,	93.00	58	⇑P		P	08 55 33.1	-0.2	
	baz=93,SNR=5.2								
L18A	Fontenelle, Gr	93.01	45	⇓P		P	08 55 33.4	+0.4	
	baz=93								
N19A	John Jarvie Ra	93.06	46	⇑P		P	08 55 32.8	-0.5	
	baz=93,SNR=6.1								
I16A	Newdale	93.07	43	⇑P		P	08 55 33.4	+0.1	
	baz=93								
B12A	Libby	93.10	37	⇓P		P	08 55 33.2	-0.1	
	baz=93								
G15A	Dillon	93.13	41	⇓P		P	08 55 33.8	+0.2	
	baz=93,SNR=5.5								
S22A	4UR Ranch, Cre	93.14	50	⇑P		P	08 55 33.8	+0.1	
	baz=93,SNR=10								
Z26A	Caprock	93.14	55	⇑P		P	08 55 33.4	-0.5	
	baz=93,SNR=8.5								
DLMT	Dillon	93.16	41	eP		P	08 55 33.2	-0.4	
	comp=Z,4.2nm,0.9s,mb4.5								
E14A	Clinton	93.19	40	⇓P		P	08 55 33.3	-0.5	
	baz=93								
328A	Wristen Ranch,	93.19	57	⇑P		P	08 55 34.0	-0.2	
	baz=93								
BSMT	Bassoo Peak	93.21	38	eP		P	08 55 32.3	-1.6	
J17A	Brown Place, J	93.30	44	⇑P		P	08 55 34.0	-0.3	
	baz=93,SNR=6.5								
V24A	Rampart Ranch,	93.31	52	⇓P		P	08 55 34.6	0.0	
	baz=93,SNR=7.2								
O20A	White River Ci	93.31	47	⇑P		P	08 55 33.9	-0.6	
	baz=93,SNR=6.4								
SNOW	Snow King Moun	93.32	43	eP		P	08 55 34.4	-0.1	
	comp=Z,12nm,1.0s,mb4.9								
A12A	Yaak River Ran	93.32	37	⇓P		P	08 55 34.2	-0.1	
	baz=94								
127A	Arkansas Junct	93.34	56	⇑P		P	08 55 34.2	-0.6	
	baz=93								
K18A	Toltan Ranch,	93.36	44	⇓P		P	08 55 34.7	0.0	
	baz=94,SNR=9.0								
T23A	Casias Ranch,	93.36	51	⇓P		P	08 55 34.7	-0.1	
	baz=94								
M19A	Rock Springs	93.37	46	⇑P		P	08 55 34.8	+0.1	
	baz=94								
IMW	Indian Meadow	93.42	43	eP		P	08 55 35.1	+0.2	
	comp=Z,5.4nm,0.9s,mb4.6								
F15A	Butte	93.47	41	⇓P		P	08 55 35.7	+0.6	
	baz=94								
LOHW	Long Hollow	93.49	43	eP		P	08 55 34.9	-0.4	
	comp=Z,2.9nm,0.6s,mb4.5								
D14A	Greenough	93.53	39	⇑P		P	08 55 34.3	-1.1	
	baz=94								
L19A

W26A **Owens Ranch, T** 94.12 53 ⇑P P 08 55 38.0 -0.3
baz=94
L20A **Wamsutter** 94.15 46 ⇑P P 08 55 38.1 -0.2
baz=94
K19A **Absolon Red Bu** 94.22 45 ⇑P P 08 55 37.8 -0.8
baz=94
S24A **Houchin Ranch,** 94.23 51 ⇑P P 08 55 38.7 0.0
baz=94,SNR=7.0
U25A **Circle Dot Ran** 94.24 52 ⇑P P 08 55 38.4 -0.4
baz=94,SNR=6.4
J19A **Crowheart** 94.30 44 ⇓P P 08 55 38.7 -0.3
baz=94,SNR=5.2
E16A **East Helena** 94.32 40 ⇓P P 08 55 38.9 0.0
baz=94
B14A **Marquette Ranc** 94.34 38 ⇑P P 08 55 38.4 -0.6
baz=94
MSTX **Muleshoe** 94.36 55 ⇓P P 08 55 38.9 -0.5
baz=94
Q23A **Hartsel** 94.37 49 ⇓P P 08 55 39.3 -0.1
baz=94
X27A **F and S Farms,** 94.41 54 ⇑P P 08 55 39.7 0.0
baz=94
C15A **Salmond Ranch,** 94.42 39 ⇑P P 08 55 39.2 -0.1
baz=94
V26A **Tequesquite Ra** 94.42 53 ⇓P P 08 55 39.1 -0.6
baz=94
K20A **Yellowstone Ra** 94.46 45 ⇓P P 08 55 38.9 -0.8
baz=95
O22A **Kremmling** 94.47 48 ⇑P P 08 55 39.4 -0.4
baz=95,SNR=6.0
T25A **Trinidad** 94.57 51 ⇓P P 08 55 39.7 -0.7
baz=95
R24A **Sanders Place,** 94.57 50 ⇓P P 08 55 40.0 -0.2
baz=95,SNR=8.7
A14A **Double T Ranch** 94.58 38 ⇓P P 08 55 39.9 -0.2
baz=95
F17A **Fitzpatrick Pl** 94.61 41 ⇓P P 08 55 40.2 -0.1
baz=95
D16A **Dana Ranch, Ca** 94.65 40 ⇓P P 08 55 40.1 -0.3
baz=95
I19A **Meeteetse** 94.71 44 ⇑P P 08 55 40.8 0.0
baz=95
U26A **Atchley Ranch,** 94.71 52 ⇑P P 08 55 40.7 -0.3
baz=95,SNR=5.6
N22A **Wattenberg Ran** 94.83 47 ⇑P P 08 55 41.6 +0.2
baz=95
Q24A **Divide** 94.87 49 ⇓P P 08 55 41.7 0.0
baz=95
O23A **Lake Granby, G** 94.92 48 ⇑P P 08 55 41.8 -0.1
baz=95
C16A **Fuhringer Ranc** 94.93 39 ⇑P P 08 55 41.4 -0.2
baz=95
ISCO **Idaho Springs** 94.94 49 ⇑P P 08 55 42.1 +0.2
baz=95
ISCO **Idaho Springs** 94.94 49 *e*P P 08 55 41.6 -0.2
comp=Z,1.9nm,0.5s,mb4.5
ISCO **Idaho Springs** 94.94 49 *e*P P 08 55 41.7 -0.2
J20A **Shoshoni** 94.96 45 ⇑P P 08 55 41.7 -0.2
baz=95
A15A **Johnson Ranch,** 94.97 38 ⇑P P 08 55 41.7 -0.1
baz=95
G18A **Lazy EL Ranch,** 94.98 42 ⇑P P 08 55 42.0 0.0
baz=95
H19A **Powell** 95.03 43 ⇓P P 08 55 42.2 0.0
baz=95
RLMT **Red Lodge** 95.07 43 ⇑P P 08 55 42.4 0.0
baz=95
R25A **Fountain Ranch** 95.11 50 ⇑P P 08 55 42.2 -0.5
baz=95,SNR=6.2
JCT **Junction City** 95.13 59 ⇑P P 08 55 42.5 -0.6
baz=95
F18A **Big Timber** 95.18 42 ⇓P P 08 55 43.1 +0.3
baz=95
N23A **Red Feather La** 95.21 47 ⇑P P 08 55 43.0 -0.2
baz=95
D17A **Six Diamond Ra** 95.22 40 ⇓P P 08 55 42.8 -0.2
baz=95
I20A **Worland** 95.22 44 ⇑P P 08 55 43.0 0.0
baz=95
B16A **M & M Farms, S** 95.26 39 ⇓P P 08 55 42.7 -0.5
baz=95
J21A **Lysite** 95.37 45 ⇓P P 08 55 43.9 +0.2
baz=96
L22A **Ellis Ranch, M** 95.41 46 ⇓P P 08 55 44.4 +0.4
baz=96
C17A **Wharram Farm,** 95.41 40 ⇓P P 08 55 43.3 -0.5
baz=96
O24A **Longmont** 95.45 48 ⇓P P 08 55 44.3 0.0
baz=96
Q25A **Bedland, Calha** 95.48 50 ⇓P P 08 55 44.1 -0.3
baz=96
A16A **West Butte Ran** 95.60 38 ⇓P P 08 55 44.5 -0.1
baz=96
M23A **Laramie** 95.62 47 ⇓P P 08 55 44.7 -0.3
baz=96
F19A **Roth Farm, Mol** 95.63 42 ⇑P P 08 55 45.0 +0.1
baz=96
I21A **Big Trails, Te** 95.69 44 ⇑P P 08 55 45.0 -0.2
baz=96
P25A **Willow Gulch B** 95.80 49 ⇑P P 08 55 45.8 0.0
baz=96
L23A **Garrett** 95.93 46 ⇑P P 08 55 46.2 -0.2
baz=96
A17A **Triple J Farms** 96.11 39 ⇑P P 08 55 46.7 -0.3
baz=96
I22A **9 Mile Ranch,** 96.24 45 ⇓P P 08 55 47.6 -0.1
baz=96
E20A **Meyer Farm, Mu** 96.43 42 ⇑Pdiff P 08 55 48.5 0.0
baz=96
C19A **Slack Wire Ran** 96.47 40 ⇑Pdiff P 08 55 48.6 0.0
baz=97
SONM **Songino Array** 96.49 320 P P 08 55 48.8 +0.1
comp=Z,0.3nm,0.3s,mb4.0,baz=114,slow=5.7,SNR=3.0
SONM **Songino Array** 96.49 320 P P 08 55 48.9 +0.1
SONM **Songino Array** 96.49 320 *e*P P 08 55 48.8 +0.1
D20A **Manuel Ranch,** 96.71 41 ⇑Pdiff P 08 55 49.8 +0.1
baz=97
B19A **Brinkman Farms** 96.88 40 ⇓Pdiff P 08 55 50.8 +0.4
baz=97
C20A **Veseth Ranch,** 97.08 41 ⇑Pdiff P 08 55 52.0 +0.6
baz=97
D21A **La Casta Ranch** 97.39 42 ⇓Pdiff P 08 55 53.2 +0.4
baz=98
A20A **Cobblestone Ra** 97.68 40 ⇓Pdiff Pdif 08 55 54.3 +0.1
baz=98
LAO **LASA Array** 97.68 42 ⇓Pdiff Pdif 08 55 54.4 +0.1
baz=98
H24A **Dirks Ranch, A** 97.86 44 ⇓Pdiff Pdif 08 55 54.7 -0.3
baz=98
RSSD **Black Hills** 97.92 45 *e*Pdif Pdif 08 55 54.2 -1.0
RSSD **Black Hills** 97.92 45 *e*P Pdif 08 55 54.2 -1.1
A21A **Bergtoll Ranch** 98.31 40 ⇑Pdiff Pdif 08 55 56.8 -0.2
baz=98
D23A **Lindsay** 98.52 42 ⇑Pdiff Pdif 08 55 58.2 +0.2
baz=99
INK **Inuvik** 98.61 16 P Pdif 08 55 55.8 -2.5
comp=Z,3.8nm,0.8s,baz=234,slow=3.9,SNR=8.3
INK **Inuvik** 98.61 16 *e*Pdif Pdif 08 55 56.2 -2.1
INK **Inuvik** 98.61 16 *e*P Pdif 08 55 56.2 -2.1
C23A **Lambert** 98.82 41 ⇓Pdiff Pdif 08 55 59.6 +0.4
baz=99
B23A **Brockton** 99.22 41 ⇓Pdiff Pdif 08 56 01.2 +0.1
baz=99
ZALV **Zalesovo Beam** 111.36 321 PKiKP PKiKP 09 00 47.7 -1.8
comp=Z,1.2nm,0.6s,baz=90,slow=1.5,SNR=4.6
ZALV **Zalesovo Beam** 111.36 321 PKPdf PKiKP 09 00 47.7 -1.8
ZALV **Zalesovo Beam** 111.36 321 *e*PKIKP PKiKP 09 00 47.7 -1.8
MK31 **Makanchi Array** 111.42 313 *e*PKPdf PKiKP 09 00 48.6 -1.3
MK31 **Makanchi Array** 111.42 313 *e*PKIKP PKiKP 09 00 48.6 -1.3
MKAR **Makanchi Array** 111.42 313 PKIKP PKiKP 09 00 48.3 -1.6
comp=Z,1.3nm,0.6s,baz=208,slow=0.9,SNR=8.2
MKAR PKKPbc PKKPbc 09 11 45.7 -1.5
comp=Z,0.2nm,0.2s,baz=298,slow=3.6,SNR=5.2
MKAR **Makanchi Array** 111.42 313 PKPdf PKiKP 09 00 48.3 -1.5
MKAR PKKPbc PKKPbc 09 11 45.7 -1.5
MKAR **Makanchi Array** 111.42 313 *e*PKIKP PKiKP 09 00 48.3 -1.6
RES **Resolute Bay** 112.16 17 PKiKP PKiKP 09 00 48.8 -1.8
comp=Z,1.2nm,0.5s,baz=112,slow=18,SNR=5.3
RES **Resolute Bay** 112.16 17 PKPdf PKiKP 09 00 48.8 -1.7
RES **Resolute Bay** 112.16 17 *e*PKIKP PKiKP 09 00 48.8 -1.7
KURK **Kurchatov** 114.53 317 PKP PKPdf 09 00 54.4 -1.3
comp=Z,5.8nm,0.8s,baz=96,slow=2.0,SNR=18
KURK PKKPbc PKKPbc 09 11 35.8 -1.2
comp=Z,1.4nm,0.7s,baz=280,slow=4.4,SNR=8.4
KURK **Kurchatov** 114.53 317 PKP PKPdf 09 00 54.4 -1.3
KURK PKKPbc PKKPbc 09 11 35.8 -1.2
KURK **Kurchatov** 114.53 317 *e*PKIKP PKPdf 09 00 54.4 -1.3

AAK **Ala-Archa** 116.07 307 PKKPbc PKKPbc 09 11 30.7 -0.9
comp=Z,1.5nm,0.7s,baz=219,slow=6.5,SNR=7.0
AAK **Ala-Archa** 116.07 307 *e*PKKPbc PKKPbc 09 11 31.2 -0.3
KBL **Kabul** 118.86 297 *e*PKPdf PKPdf 09 01 04.8 +0.2
KBL **Kabul** 118.86 297 *e*PKIKP PKPdf 09 01 04.8 +0.2
KKAR **Karatay Array** 119.03 307 *e*PKPdf PKPdf 09 01 03.9 -0.7
KKAR **Karatay Array** 119.03 307 *e*PKIKP PKPdf 09 01 03.9 -0.7
BVAR **Borovoye Array** 119.81 319 PKP PKPdf 09 01 04.8 -1.0
comp=Z,6.6nm,0.5s,baz=100,slow=1.8,SNR=22
BVAR **Borovoye Array** 119.81 319 PKP PKPdf 09 01 04.8 -1.0
BVAR **Borovoye Array** 119.81 319 *e*PKIKP PKPdf 09 01 04.8 -1.0
BRVK **Borovoye** 119.88 319 *e*PKIKP PKPdf 09 01 04.9 -1.1
BRVK **Borovoye** 119.88 319 *d i*PKIKP PKPdf 09 01 04.7 -1.2
BRVK pmax pmax
comp=Z,8.0nm,1.7s
HUMP **Col San Antoni** 119.99 82 *e*PKPdf PKPdf 09 01 05.5 -1.7
BOSA **Boshof** 121.62 208 PKP PKPdf 09 01 09.9 -0.2
comp=Z,5.3nm,0.8s,baz=227,slow=2.2,SNR=5.3
BOSA PKKPbc PKKPbc 09 11 10.2 -2.2
comp=Z,3.3nm,0.7s,baz=329,slow=5.9,SNR=5.3
BOSA **Boshof** 121.62 208 PKP PKPdf 09 01 09.9 -0.2
BOSA PKKPbc PKKPbc 09 11 10.2 -2.2
BOSA **Boshof** 121.62 208 PKIKP PKPdf 09 01 09.9 -0.3
SCHQ **Schefferville** 123.45 39 PKP PKPdf 09 01 10.9 -1.8
comp=Z,3.1nm,0.6s,baz=310,slow=5.8,SNR=3.6
SCHQ **Schefferville** 123.45 39 PKP PKPdf 09 01 10.9 -1.8
KBS **Kingsbay** 124.83 357 *e*P PKPdf 09 01 14.5 -0.3
KBS **Kingsbay** 124.83 357 *c i*PKIKP PKPdf 09 01 17.9 +3.1
KBS pmax pmax
comp=Z,38nm,2.5s
SPA0 **Spitsbergen Ar** 125.28 356 *e*P PKPdf 09 01 15.1 -0.5
SPB4 **Spitsbergen Ar** 125.28 356 *e*PKPdf PKPdf 09 01 15.3 -0.3
SPITS **Spitsbergen Ar** 125.28 356 PKP PKPdf 09 01 14.6 -1.0
comp=Z,13nm,0.6s,baz=8.7,slow=6.1,SNR=15
SPITS **Spitsbergen Ar** 125.28 356 PKP PKPdf 09 01 14.6 -1.0
SPITS **Spitsbergen Ar** 125.28 356 PKIKP PKPdf 09 01 14.6 -1.1
ARU **Arti** 126.35 323 *e*PKPdf PKPdf 09 01 18.0 -0.3
ARU **Arti** 126.35 323 *i* PKIKP PKPdf 09 01 17.0 -1.2
ARU 09 03 16.6
ARU 09 07 29.5
ABKAR **Akbulak array** 126.50 314 *e*PKPdf PKPdf 09 01 18.1 -0.7
DAG **Danmarks Havn** 126.64 5 *i* PKIKP PKPdf 09 01 13.5 -4.8
DAG **Danmarks Havn** 126.64 5 *i* P PKPdf 09 01 13.5 -4.8
comp=Z,6.2nm,1.0s
SUMG **Summit** 127.41 13 *e*PKPdf PKPdf 09 01 19.5 -0.4
SUMG **Summit** 127.41 13 *i* P PKPdf 09 01 19.3 -0.5
comp=Z,13nm,1.0s
SFJD **Kangerlussuaq** 127.47 22 *e*PKIKP PKPdf 09 01 18.8 -1.3
SFJD pmax pmax
comp=Z,8.0nm,0.7s
SFJD **Kangerlussuaq** 127.47 22 *i* P PKPdf 09 01 18.8 -1.3
comp=Z,8.4nm,0.7s
AKTK **Aktyubinsk** 127.62 316 PKP PKPdf 09 01 20.2 -0.7
AKTK SKPbc 09 03 48.0
AKTO **Aktyubinsk** 127.62 316 PKP PKPdf 09 01 20.2 -0.7
comp=Z,5.7nm,0.7s,baz=99,slow=2.8,SNR=22
AKTO SKPbc 09 03 48.0
comp=Z,1.0nm,0.7s,baz=62,slow=0.9,SNR=5.4
AKTO **Aktyubinsk** 127.62 316 PKIKP PKPdf 09 01 20.2 -0.7
LSZ **Lusaka** 131.34 219 *e*SKPbc SKPbc 09 04 04.8 +1.6
KEV **Kevo** 131.40 347 *e*PKIKP PKPdf 09 01 26.5 -1.0
ARCES **ARCESS Array B** 131.88 348 PKhKP PKPpre 09 01 18.4
comp=Z,3.2nm,0.8s,baz=0.0,slow=2.4,SNR=6.6
ARCES PKP PKPdf 09 01 27.4 -1.0
comp=Z,5.5nm,0.6s,baz=79,slow=1.9,SNR=23
ARCES SKPbc SKPbc 09 04 03.9 +0.5
comp=Z,15nm,0.9s,baz=14,slow=5.4,SNR=8.9
ARCES **ARCESS Array B** 131.88 348 PKP PKPdf 09 01 27.4 -1.0
ARCES SKPbc SKPbc 09 04 03.9 +0.5
ARCES **ARCESS Array B** 131.88 348 PKIKP PKPdf 09 01 27.4 -1.0
ARCES **ARCESS Array S** 131.88 348 *e*P 09 01 27.4 -0.9
TSUM **Tsumeb** 133.12 205 *e*SKPbc SKPbc 09 04 10.7 +1.4
KMBO **Kilima Mbogo** 134.89 242 SKPbc SKPbc 09 04 17.1 +1.9
comp=Z,10nm,0.9s,baz=360,slow=24,SNR=16
KMBO **Kilima Mbogo** 134.89 242 *e*SKPbc SKPbc 09 04 16.9 +1.8
JOF **Joensuu** 135.54 339 *e*PKIKP PKPdf 09 01 35.5 +0.1
RDF **Al-Radifah** 136.24 287 *e*P SKPbc 09 04 20.5 +1.8
RDF AMb AMB 09 04 22.2
comp=Z,102nm,0.9s
MIB **Mutribah** 136.50 288 *e*P SKPbc 09 04 20.8 +1.4
MIB AMb AMB 09 04 22.3
comp=Z,39nm,0.9s
NAY **Al-Naaiem** 136.53 288 *e*P SKPbc 09 04 20.8 +1.3
RST **Umm Al-Ruwaisa** 136.77 288 *e*P SKPbc 09 04 20.7 +0.4
RST AMb AMB 09 04 22.3
comp=Z,13nm,1.0s
KAF **Kangasniemi** 137.69 341 *e*PKIKP PKPdf 09 01 33.9 -5.5
FINES **FINESS Array B** 138.28 341 PKhKP PKPpre 09 01 29.8
comp=Z,2.2nm,0.4s,baz=101,slow=4.2,SNR=10.0
FINES PKP PKPdf 09 01 38.8 -1.7
comp=Z,3.9nm,0.6s,baz=36,slow=3.5,SNR=7.2
FINES SKPbc SKPbc 09 04 23.7 +0.3
comp=Z,7.8nm,0.8s,baz=62,slow=4.5,SNR=9.0
FINES SKPab 09 04 32.8
comp=Z,8.7nm,0.8s,baz=40,slow=7.4,SNR=6.4
FINES **FINESS Array B** 138.28 341 PKP PKPdf 09 01 38.8 -1.7
FINES SKPbc SKPbc 09 04 23.7 +0.3
FINES SKPab 09 04 32.8
FINES **FINESS Array B** 138.28 341 PKIKP PKPdf 09 01 38.8 -1.7
OBN **Obninsk** 138.34 328 ⇑*i*PKIKP PKPdf 09 01 39.7 -1.1
OBN *e* 09 04 33.2
OBN *e* 09 07 53.7
OBN pmax pmax
comp=Z,10.0nm,0.6s
ZEI **Tsey** 138.49 308 *e*PKIKP PKPdf 09 01 42.0 +0.5
ZEI pmax pmax
comp=Z,8.0nm,1.0s
NB2 **NORSAR Subarra** 142.13 350 PKP PKPpre 09 01 42.8
comp=Z,26nm,0.7s,baz=16,slow=3.0
NB2 **NORSAR Subarra** 142.13 350 PKP PKPpre 09 01 42.8
baz=16,slow=3.0
NOA **NORSAR Array B** 142.13 350 PKhKP PKPpre 09 01 42.6
comp=Z,22nm,0.7s,baz=16,slow=4.9,SNR=77
NOA **NORSAR Array B** 142.13 350 PKP PKPpre 09 01 42.6
NOA **NORSAR Array B** 142.13 350 PKHKP PKPpre 09 01 42.6
FOO **Floro** 142.32 355 *e*P PKPdf 09 01 42.8 -5.0
NC602 **NORSAR Array S** 142.36 350 *e*P PKPdf 09 01 43.6 -4.3
NA001 **NORSAR Array S** 142.37 350 *e*PKPdf PKPdf 09 01 43.8 -4.0
ANN **Anapa** 142.44 313 *i* PKIKP PKPdf 09 01 51.0 +2.5
ANN *e* 09 03 57.3
ANN pmax pmax
comp=Z,69nm,1.4s
OSL **Oslo** 143.25 350 *e*P PKPdf 09 01 46.8 -2.7
ASK **Askoy** 143.41 355 *e*P PKPdf 09 01 46.5 -3.3
RUND **Rundenannen** 143.46 354 ⇑*i*P PKPdf 09 01 46.8 -3.0
EGD **Espegrend** 143.62 354 *e*P PKPdf 09 01 47.5 -2.6
KONO **Kongsberg** 143.70 351 *e*P PKPdf 09 01 48.4 -1.8
KONO **Kongsberg** 143.70 351 *e*PKPdf PKPdf 09 01 48.2 -2.0
KONO **Kongsberg** 143.70 351 PKIKP PKPdf 09 01 48.2 -2.0
ODD1 **Odda** 143.83 353 *e*P PKPdf 09 01 48.8 -1.7
ODD1 AMB AMB 09 01 50.2
comp=Z,59nm,1.1s
AKASG **Malin Array Be** 144.50 326 PKP PKPdf 09 01 50.9 -1.1
comp=Z,33nm,0.7s,baz=46,slow=4.0,SNR=115
AKASG SKPbc SKPbc 09 04 40.2 +0.7
comp=Z,1.4nm,0.6s,baz=47,slow=3.4,SNR=4.4
AKASG **Malin Array Be** 144.50 326 PKP PKPdf 09 01 50.9 -1.1
AKASG SKPbc SKPbc 09 04 40.2 +0.7
AKASG **Malin Array Be** 144.50 326 PKIKP PKPdf 09 01 50.9 -1.0
KIEV **Kiev** 144.52 326 *e*PKPdf PKPdf 09 01 50.7 -1.3
KIEV **Kiev** 144.52 326 PKIKP PKPdf 09 01 50.7 -1.2
SUW **Suwalki** 144.98 335 *e*PKP PKPdf 09 01 52.7 +0.1
SUW **Suwalki** 144.98 335 *e*PKIKP PKPdf 09 01 52.7 +0.1
SNART **Snartemo** 145.30 352 ⇑*i*P PKPdf 09 01 53.6 +0.6
RRH **Rhenigidale** 146.05 5 *e*P PKPdf 09 01 54.7 +0.4
RRR **Ruhha Reidh** 146.17 4 *e*P PKPdf 09 01 54.9 +0.4
MVH1 **Achvaich** 146.20 3 *e*P PKPdf 09 01 55.0 +0.4
KAC **Achnashellach** 146.56 4 *e*P PKPdf 09 01 56.4 +1.2
MCD **Coleburn Disti** 146.57 2 *e*P PKPdf 09 01 55.7 +0.5
KPL **Plockton** 146.70 4 *e*P PKPdf 09 01 57.0 +1.5
BR131 **Keskin Array S** 146.74 306 *e*PKPbc PKPbc 09 01 58.3 -0.5
BRTR **Keskin Array B** 146.74 306 PKP PKPdf 09 01 55.2 -0.8
comp=Z,7.8nm,0.9s,baz=64,slow=3.4,SNR=20
BRTR PKPbc PKPbc 09 01 58.4 -0.4
comp=Z,8.4nm,0.9s,baz=131,slow=3.5,SNR=21
BRTR **Keskin Array B** 146.74 306 PKP PKPdf 09 01 55.2 -0.8
BRTR PKPbc PKPbc 09 01 58.4 -0.4
BRTR **Keskin Array B** 146.74 306 PKIKP PKPdf 09 01 55.3 -0.8
BSD **Bornholm Skovb** 146.81 343 *i* PKIKP PKPbc 09 01 57.5 -1.0
BSD pmax pmax
comp=Z,44nm,0.8s
MUD **Monsted U'grnd** 146.83 349 *e*PKIKP PKPbc 09 01 56.8 -1.7
MUD pmax pmax
comp=Z,22nm,1.3s
MME1 **Meikle Cairn** 146.85 2 *e*P PKPbc 09 01 56.9 -1.7
LLD **Lille Linde** 147.28 346 *i* P PKPdf 09 01 57.5 +1.1
comp=Z,44nm,0.8s
BEL **Belsk** 147.57 334 *e*PKP PKPbc 09 02 00.8 +0.2
BEL **Belsk** 147.57 334 *e*PKP2 PKPbc 09 02 00.8 +0.2
LVV **L'vov** 147.63 329 ⇑*i*PKP2 PKPbc 09 02 00.3 -0.5
RGN **Rugen** 147.73 344 *e*PKPbc PKPbc 09 02 00.2 -0.7
TLCR 147.80 318 ⇑PKP2 PKPbc 09 02 00.6 -0.8
TLCR 147.80 318 ⇑*i*P PKPbc 09 02 00.6 -0.8
EBH **Black Hill** 147.90 2 *e*P PKPbc 09 02 00.5 -0.8
EAB **Aberfoyle** 147.93 3 *e*P PKPbc 09 02 00.3 -1.0
CSS **Prodhromos** 148.11 298 *e*PKPdf PKPdf 09 01 58.8 +0.3
CFR **Carcaliu** 148.22 319 ⇑PKP2 PKPbc 09 02 02.4 0.0
CFR **Carcaliu** 148.22 319 ⇑*i*P PKPbc 09 02 02.4 0.0
ESY **Stoneypath** 148.26 1 *e*P PKPbc 09 02 01.2 -1.0
PGBU **Glenifferbraes** 148.29 3 *e*P PKPbc 09 02 00.9 -1.4
EAU **Auchinoon** 148.31 2 *e*P PKPbc 09 02 01.4 -0.9
TESR 148.35 322 ⇓*i*P PKPbc 09 02 02.2 -0.5
KWP **Kalwaria Pacla** 148.38 330 *e*PKP PKPbc 09 02 02.4 -0.3
KWP **Kalwaria Pacla** 148.38 330 *e*PKPbc PKPbc 09 02 02.4 -0.2
KWP **Kalwaria Pacla** 148.38 330 ⇑PKP2 PKPbc 09 02 02.4 -0.3
KWP **Kalwaria Pacla** 148.38 330 ⇑*i*P PKPbc 09 02 02.4 -0.3
EBL **Broad Law** 148.39 2 *e*P PKPbc 09 02 01.2 -1.3
BUR08 **Bucovina Ar. S** 148.47 325 *e*PKPbc PKPbc 09 02 03.2 +0.3
BURAR **Bucovina Array** 148.47 325 ⇓PKP2 PKPbc 09 02 03.1 +0.1
BURAR **Bucovina Array** 148.47 325 ⇓*i*P PKPbc 09 02 03.1 +0.1
VRI **Vrincioaia** 148.68 321 ⇑PKHKP PKPbc 09 02 03.4 -0.2
VRI **Vrincioaia** 148.68 321 ⇑*i*P PKPbc 09 02 03.4 -0.2
ESK **Eskdalemuir** 148.84 2 *e*P PKPbc 09 02 01.2 -2.5
ECK **Cauldkaine Hil** 148.98 2 *e*P PKPbc 09 02 02.8 -1.2
KOLS **Kolonicke sedl** 149.07 329 *e*PKHKP PKPdf 09 01 59.6 0.0
KOLS **Kolonicke sedl** 149.07 329 *e*PKP PKPdf 09 01 59.6 0.0
KOLS *e* 09 02 05.0
STHS **Stebnicka Huta** 149.19 331 *e*PKP2 PKPbc 09 02 05.4 +0.7
STHS **Stebnicka Huta** 149.19 331 *e*PKP PKPbc 09 02 05.4 +0.7
ISR **Istrita** 149.20 320 ⇓PKP2 PKPbc 09 02 05.7 +0.9
ISR **Istrita** 149.20 320 ⇓*i*P PKPbc 09 02 05.7 +0.9
OJC **Ojcow** 149.22 333 *e*PKP PKPbc 09 02 04.4 -0.3
OJC **Ojcow** 149.22 333 *e*PKHKP PKPbc 09 02 04.4 -0.3
GAL1 **Galloway** 149.22 4 *e*P PKPbc 09 02 03.4 -1.2
UZH **Uzhgorod** 149.27 329 *d i*PKHKP PKPbc 09 02 04.8 -0.1
UZH *i* 09 02 09.4
XAL **Allendale** 149.32 1 *e*P PKPbc 09 02 03.3 -1.5
MLR **Muntele Rosu** 149.34 321 ⇑PKHKP PKPbc 09 02 05.2 0.0
DOPR **Dopca** 149.38 322 ⇑*i*P PKPbc 09 02 05.6 +0.3
RUE **Ruedersdorf** 149.46 342 *e*PKPbc PKPbc 09 02 04.8 -0.4
CRVS **Cervenica-Dubn** 149.47 330 *e*PKHKP PKPbc 09 02 05.7 +0.3
CRVS **Cervenica-Dubn** 149.47 330 *e*PKP PKPbc 09 02 05.7 +0.3
TRPA **Tarpa** 149.50 328 ⇓*i*P PKPbc 09 02 04.2 -1.3
KESW **Keswick, Cumbr** 149.57 2 *e*P PKPbc 09 02 03.2 -2.2
NIE **Niedzica** 149.60 332 *e*PKP PKPbc 09 02 06.0 +0.3
NIE **Niedzica** 149.60 332 *e*PKHKP PKPbc 09 02 06.0 +0.3
XDE **Dent Fell** 149.64 2 *e*P PKPdf 09 02 02.2 +1.9
VOIR 149.89 321 ⇑PKHKP PKPbc 09 02 06.3 -0.2
VOIR 149.89 321 ⇑*i*P PKPbc 09 02 06.3 -0.2
KSP **Ksiaz** 150.06 337 *i* PKPdf PKPbc 09 02 06.7 0.0
OKC **Ostrava-Krasne** 150.19 334 *e*PKIKP PKPbc 09 02 06.9 -0.1
OKC **Ostrava-Krasne** 150.19 334 ⇑*e*PKP PKPbc 09 02 06.9 -0.1
DRGR 150.31 326 ⇓PKIKP PKPbc 09 02 07.0 -0.4
DRGR 150.31 326 ⇓*i*P PKPbc 09 02 07.0 -0.4
NRDL **Niedersach Rie** 150.38 346 *e*PKPbc PKPbc 09 02 07.1 -0.3
UPC **Upice** 150.44 337 *e*PKIKP PKPbc 09 02 07.6 -0.1
UPC **Upice** 150.44 337 ⇑*e*PKP PKPbc 09 02 07.5 -0.1
HUMR **Humele** 150.45 320 ⇑*i*P PKPbc 09 02 06.9 -0.9
DPC **Dobruska-Polom** 150.46 337 *e*PKIKP PKPbc 09 02 07.7 +0.1
DPC **Dobruska-Polom** 150.46 337 ⇑*e*PKP PKPbc 09 02 07.7 +0.1
DPC *e*pPKP pPKPdf 09 04 17.2 +6.7
MORC **Moravsky Berou** 150.47 335 *e*PKPdf PKPdf 09 02 01.2 -0.5
MORC *e*PKPbc PKPbc 09 02 07.6 -0.1
MORC **Moravsky Berou** 150.47 335 ⇑PKIKP PKPbc 09 02 07.7 0.0
MORC **Moravsky Berou** 150.47 335 ⇑*i*P PKPbc 09 02 07.7 0.0
WME **Myndd Eilian** 150.71 4 *e*P PKPbc 09 02 06.7 -1.4
CLL **Collm** 150.72 341 *e*PKPbc PKPbc 09 02 07.9 -0.3
CLL **Collm** 150.72 341 ⇓*i*PKIKP PKPbc 09 02 07.7 -0.5
CLL *i* 09 02 17.5
CLL pmax pmax
comp=Z,88nm,0.7s
CLL pmax pmax
comp=Z,32nm,0.7s
BRG **Berggiesshubel** 150.82 340 *i* PKP PKPdf 09 02 01.9 -0.3
comp=Z,7.9nm,1.2s
BRG *i* 09 02 08.3
comp=Z,49nm,0.6s
BRG *i* 09 02 18.2
comp=Z,24nm,0.9s
BRG pPKP pPKPdf 09 04 20.0 +9.0
comp=Z,27nm,1.6s
BRG **Berggiesshubel** 150.82 340 *e*PKPbc PKPbc 09 02 08.1 -0.3
BRG *e*PKPab PKPab 09 02 18.0 -0.1
BRG **Berggiesshubel** 150.82 340 *i* PKIKP PKPdf 09 02 01.9 -0.3
BRG *i* 09 02 18.2
BRG pmax pmax
comp=Z,8.0nm,1.2s
BRG pmax pmax
comp=Z,49nm,0.6s
BRG pmax pmax
comp=Z,24nm,0.9s
BRG pmax pmax
comp=Z,27nm,1.7s
WPM1 **Penmaenmawr** 150.87 3 *e*P PKPbc 09 02 07.3 -1.2
PSZ **Piszkesteto** 150.90 330 *e*PKPbc PKPbc 09 02 08.2 -0.5
PSZ **Piszkesteto** 150.90 330 ⇑PKIKP PKPbc 09 02 07.9 -0.8
PVCC **Panska Ves** 150.91 339 *e*PKIKP PKPbc 09 02 08.7 0.0
PVCC **Panska Ves** 150.91 339 ⇑*e*PKP PKPbc 09 02 08.7 0.0
CLZ **Clausthal** 150.93 345 *e*PKPbc PKPbc 09 02 08.5 -0.2
CLZ *e*pPKPbc pPKPbc 09 04 20.1 +3.9
CLZ **Clausthal** 150.93 345 *e*PKIKP PKPbc 09 02 08.5 -0.2
VYHS **Vyhne** 150.94 332 *e*PKIKP PKPbc 09 02 08.3 -0.5
VYHS **Vyhne** 150.94 332 *e*PKP PKPbc 09 02 08.3 -0.5
FBE **Freiberg** 150.96 341 *e*PKPbc PKPbc 09 02 09.0 +0.2
FBE *e*PKPab PKPab 09 02 19.1 +0.4
KOLL **Kolacno** 151.06 332 *e*PKIKP PKPbc 09 02 09.3 +0.2
KOLL **Kolacno** 151.06 332 *e*PKP PKPbc 09 02 09.3 +0.2
VRAC **Vranov** 151.22 335 ⇓PKIKP PKPbc 09 02 09.1 -0.3
FOEL **Foel Wylfa** 151.27 2 *e*P PKPbc 09 02 07.5 -1.9
PRU **Pruhonice** 151.39 338 *e*PKIKP PKPbc 09 02 10.0 +0.2
PRU **Pruhonice** 151.39 338 ⇑*e*PKP PKPbc 09 02 10.0 +0.2
PRU *e*PKPAB PKPab 09 02 21.4 +0.8
PRU *e*pPKP pPKPdf 09 04 22.1 +10
BUD **Budapest** 151.62 330 *e*PKP PKPdf 09 02 04.6 +1.1
TREC **Trest** 151.64 336 *e*PKIKP PKPbc 09 02 09.9 -0.4
TREC **Trest** 151.64 336 ⇑*e*PKP PKPbc 09 02 09.9 -0.4
BZS **Buzias** 151.66 325 ⇓PKIKP PKPbc 09 02 09.9 -0.6
BZS **Buzias** 151.66 325 ⇓*i*P PKPbc 09 02 09.9 -0.6
TANN **Tannenbergstha** 151.67 341 *e*PKPbc PKPbc 09 02 09.9 -0.5
TANN *e*PKPab PKPab 09 02 21.7 -0.1
TANN *e*pPKPbc pPKPbc 09 04 21.9 +3.9
WERD **Werda** 151.69 341 *e*PKPab PKPab 09 02 22.0 +0.2
MOX **Moxa** 151.71 342 *e*PKPbc PKPbc 09 02 09.9 -0.5
MOX **Moxa** 151.71 342 *e*PKIKP PKPbc 09 02 09.9 -0.5
GUNZ **Gunzen** 151.75 341 *e*PKPbc PKPbc 09 02 10.1 -0.5
GUNZ *e*PKPab PKPab 09 02 22.3 +0.2
GUNZ *e*pPKPbc pPKPbc 09 04 22.1 +3.9
WERN **Wernitzgruen** 151.81 341 *e*PKPbc PKPbc 09 02 10.8 +0.1
WERN *e*PKPab PKPab 09 02 22.7 +0.4
NKC **Novy Kostel** 151.84 341 *e*PKIKP PKPbc 09 02 10.2 -0.6
NKC *e* 09 02 22.8
NKC **Novy Kostel** 151.84 341 ⇑*e*PKP PKPbc 09 02 10.2 -0.6
NKC *e*PKPAB PKPab 09 02 22.8 +0.3
NKC *e*pPKP pPKPdf 09 04 22.6 +10
ZST **Bratislava** 151.90 333 *e*PKIKP PKPbc 09 02 11.4 +0.4
ZST **Bratislava** 151.90 333 *e*PKP PKPbc 09 02 11.4 +0.4
BUG **Bochum--Univer** 151.96 348 *e*PKPbc PKPbc 09 02 10.3 -0.7
ROTZ **Rotzenmuhle** 152.32 341 *e*PKPab PKPab 09 02 24.9 +0.4
KHC **Kasperske Hory** 152.44 339 *e*PKPbc PKPbc 09 02 11.7 -0.4
KHC *e*PKPab PKPab 09 02 25.1 0.0
KHC **Kasperske Hory** 152.44 339 *e*PKIKP PKPdf 09 02 04.1 -0.6
KHC *e* 09 02 25.1
KHC **Kasperske Hory** 152.44 339 *e*PKPDF PKPdf 09 02 04.1 -0.6
KHC ⇑*e*PKP PKPdf 09 02 12.0 +7.3
KHC *e*PKPAB PKPab 09 02 25.1 0.0
KHC *e*pPKP pPKPdf 09 04 23.5 +10
SOP **Sopron** 152.53 333 *e*PKP PKPdf 09 02 04.1 -0.8
VTS **Vitosha** 152.61 318 ⇓PKIKP PKPbc 09 02 12.2 -0.5
VTS **Vitosha** 152.61 318

GERES	GERESS Array B	152.65	338	PKP	PKPdf	09 02 04.0	-1.0
	comp=Z,1.2nm,0.8s,baz=121,slow=0.8,SNR=9.2						
GERES				PKPbc	PKPbc	09 02 11.8	-0.8
	comp=Z,7.0nm,0.8s,baz=48,slow=2.0,SNR=27						
GERES				PKPab	PKPab	09 02 25.9	0.0
	comp=Z,2.1nm,0.7s,baz=29,slow=3.0,SNR=3.4						
GERES				pPKPbc	pPKPbc	09 04 15.4	-4.9
	comp=Z,0.4nm,0.3s,baz=34,slow=7.3,SNR=2.3						
GERES	GERESS Array B	152.65	338	PKP	PKPdf	09 02 04.0	-1.0
GERES				PKPbc	PKPbc	09 02 11.8	-0.8
GERES				PKPab	PKPab	09 02 25.9	0.0
GERES				pPKPbc	pPKPbc	09 04 15.4	-4.9
GERES	GERESS Array B	152.65	338	PKIKP	PKPdf	09 02 03.9	-1.1
WET	Wettzell	152.66	339	*e*PKPab	PKPab	09 02 26.1	+0.1
WET	Wettzell	152.66	339	*e*PKP2	PKPab	09 02 26.1	+0.1
GRF	Grafenberg Arr	152.68	342	*e*PKPab	PKPab	09 02 26.6	+0.6
GRF	Grafenberg Arr	152.68	342	*e*PKP2	PKPab	09 02 26.6	+0.6
PKSM	Moragy	152.74	329	⇓PKIKP	PKPbc	09 02 10.0	-2.9
PKSM	Moragy	152.74	329	⇓*i*P	PKPbc	09 02 10.0	-2.9
TNS	Taunus Mts	152.88	346	*e*PKPbc	PKPbc	09 02 12.6	-0.4
TNS	Taunus Mts	152.88	346	*e*PKIKP	PKPbc	09 02 12.6	-0.4
MEM	Membach	152.98	350	PKPbc	PKPbc	09 02 12.7	-0.5
BCLA	Clavier	153.27	351	PKPab	PKPab	09 02 27.9	-0.6
SNF	Seneffe	153.33	352	PKPab	PKPab	09 02 28.5	-0.3
KOGS	Kog	153.64	332	*e*PKPdf	PKPdf	09 02 05.6	-0.9
DOU	Dourbes	153.69	351	PKPbc	PKPbc	09 02 14.5	-0.3
WLF	Walferdange	153.87	349	PKPab	PKPab	09 02 30.6	-0.5
LJU	Ljubljana	154.68	334	*e*PKPdf	PKPdf	09 02 07.4	-0.5
WTTA	Wattenberg	154.71	339	⇑*i*PKPdf	PKPdf	09 02 07.3	-0.6
	comp=Z,7.7nm,1.0s						
CRNS	Crni Vrh	154.76	334	*e*PKPdf	PKPdf	09 02 07.0	-1.1
CRNS				*e*		09 02 16.5	
BOJS	Bojanci	154.81	332	*e*PKPdf	PKPdf	09 02 07.6	-0.5
BOJS				*e*		09 02 17.2	
FETA	Feichten	155.22	340	⇑*i*PKPdf	PKPdf	09 02 03.4	-5.3
	comp=Z,11nm,1.1s						
PGAV	Gavieira, Arco	161.33	16	*e*PKPab	PKPab	09 03 03.1	-0.6
PBRG	Braganca	161.83	13	*e*PKPdf	PKPdf	09 02 16.9	+0.3
PBRG	Braganca	161.83	13	*e*PKPab	PKPab	09 03 05.0	-0.9
PVRL	Vila Real	162.12	16	*e*PKPab	PKPab	09 03 03.1	-0.1
DBIC	Dimbokro	162.29	168	PKP	PKPdf	09 02 16.7	-1.2
	comp=Z,5.5nm,0.8s,baz=122,slow=4.0,SNR=4.3						
DBIC				PKPab	PKPab	09 03 08.3	-0.3
	comp=Z,7.1nm,1.0s,baz=86,slow=6.1,SNR=3.3						
DBIC	Dimbokro	162.29	168	PKP	PKPdf	09 02 16.7	-1.2
DBIC				PKPab	PKPab	09 03 08.3	-0.3
DBIC	Dimbokro	162.29	168	PKIKP	PKPdf	09 02 16.7	-1.2
MVO	Moncorvo	162.38	14	*e*PKPdf	PKPdf	09 02 17.6	+0.5
MVO	Moncorvo	162.38	14	*e*PKPab	PKPab	09 03 07.0	-1.4
PVIS	Viseu	162.60	17	*e*PKPab	PKPab	09 03 08.9	-0.4
MTE	Manteigas	162.98	16	*e*PKPdf	PKPdf	09 02 16.9	-0.8
MTE	Manteigas	162.98	16	*e*PKPab	PKPab	09 03 10.7	-0.3
PCBR	Castelo Branco	163.53	17	*e*PKPdf	PKPdf	09 02 17.4	-0.9
PCBR	Castelo Branco	163.53	17	*e*PKPab	PKPab	09 03 12.8	-0.7
PMRV	Marv??o	163.94	17	*e*PKPab	PKPab	09 03 14.3	-1.0
PMTG	Montargil	164.03	20	*e*PKPab	PKPab	09 03 16.3	+0.6
ESDC	Sonseca Array	164.37	8	PKPab	PKPab	09 03 16.2	-0.9
	comp=Z,3.2nm,0.6s,baz=346,slow=4.7,SNR=14						
PNCL	Nicolau / Gran	164.80	22	*e*PKPdf	PKPdf	09 02 18.3	-1.1
PNCL	Nicolau / Gran	164.80	22	*e*PKPab	PKPab	09 03 18.3	-0.8
PBAR	Barrancos	165.20	18	*e*PKPdf	PKPdf	09 02 19.6	-0.2
PBAR	Barrancos	165.20	18	*e*PKPab	PKPab	09 03 20.3	-0.6
PCVE	Castro Verde	165.40	22	*e*PKPdf	PKPdf	09 02 20.4	+0.4
PCVE	Castro Verde	165.40	22	*e*PKPab	PKPab	09 03 20.8	-1.0
MORF	Marmelete	165.47	24	*e*PKPdf	PKPdf	09 02 20.5	+0.5
PVAQ	Vaqueiros	165.71	21	*e*PKPab	PKPab	09 03 22.6	-0.6
PBDV	Barranco-do-Ve	165.78	22	*e*PKPdf	PKPdf	09 02 21.0	+0.7
PBDV	Barranco-do-Ve	165.78	22	*e*PKPab	PKPab	09 03 22.7	-0.8
TORD	Torodi Ar. Bea	168.68	195	PKP	PKPdf	09 02 21.5	-1.5
	comp=Z,6.9nm,1.1s,baz=294,slow=0.2,SNR=12						
TORD				PKPab	PKPab	09 03 36.4	-0.4
	comp=Z,2.4nm,0.7s,baz=172,slow=4.6,SNR=8.2						
TORD				pPKPab	pPKPab	09 05 35.0	-3.0
	comp=Z,1.4nm,0.8s,baz=170,slow=5.0,SNR=5.1						
TORD				PP	PP	09 07 29.3	+3.5
	comp=Z,1.3nm,1.0s,baz=184,slow=4.1,SNR=4.3						
TORD	Torodi Ar. Bea	168.68	195	PKP	PKPdf	09 02 21.5	-1.5
TORD				PKPab	PKPab	09 03 36.4	-0.3
TORD				pPKPab	pPKPab	09 05 35.0	-3.0
TORD				PP	PP	09 07 29.3	+3.5

MAN 07 08:45:04, 13°30N×120°22E, *h*2km, mb4.0, ML2.8, MS2.5, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	Lubang	0.43	4	*e*P	Pg	08 45 13.1	+0.8
LUBP				*e*S	Sg	08 45 17.3	-0.6
TGY	Tagaytay City	1.06	41	⇑*i*P	Pg	08 45 26.4	+2.1
BUSP	Coron	1.29	181	*e*P	Pg	08 45 28.4	-0.3
BOAC	Boac	1.59	84	*e*P	Pn	08 45 32.7	-0.5
BALP	Baler	2.76	28	*e*P	Pn	08 45 53.3	+4.0

*ISCJB **07** 08:51:48.9±1.3, 53°.82N±0°.08×90°.7E±0°.1, h10km, Error ellipse: s-maj=12.8km s-min=10.2km az=44.3*
*IDC **07** 08:51:49.5±1.6, 53°.80N×91°.02E, h0km, mb3.3/1, mb1 3.5/4, mb1mx3.4/29, mbtmp3.4/4, ML3.3/3, MS3.2/1, Ms1 3.2/1, ms1mx3.0/39, Error ellipse: s-maj=23.3km s-min=13.9km az=145.0*
*NNC **07** 08:51:56.0±2.6, 53°.62N×90°.24E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=21.9km s-min=19.9km az=165.0*

ISC 07 08:51:51.6±1.3, 53°.80N±0°.08×90.9E±0°.1, h10km, n9, σ1§34/14, 5C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZALV	Zalesovo Beam	3.58	275	Pn	Pn	08 52 49.4	+2.4
	0.9nm,0.3s,baz=97,slow=12,SNR=7.9						
ZALV				Pg	Pg	08 52 56.5	-3.5
	1.9nm,0.3s,baz=95,slow=14,SNR=11						
ZALV				Lg		08 53 46.4	
	5.4nm,0.3s,baz=92,slow=29,SNR=9.6						
ZALV				LR	LR	08 53 50.4	
	comp=Z,303nm,20.4s,baz=226,slow=33						
KURK	Kurchatov	8.12	253	⇓Pn	Pn	08 53 49.7	+0.3
	7.4nm,1.2s						
KURK				⇑Sn	Sn	08 55 17.5	-3.6
	15nm,0.9s						
KURK				⇓Lg		08 56 05.4	
	40nm,1.1s						
KURK	Kurchatov	8.12	253	Pn	Pn	08 53 51.4	+2.0
	0.2nm,0.3s,baz=63,slow=15,SNR=7.1						
KURK				Sn	Sn	08 55 22.8	+1.7
	0.1nm,0.3s,baz=67,slow=26,SNR=18						
KURK				Lg		08 56 09.2	
	0.1nm,0.3s,baz=69,slow=29,SNR=5.9						
KURBB	Kurchatov Arra	8.21	252	⇑Pn	Pn	08 53 51.0	+0.3
	1.4nm,1.2s						
KURBB				⇑Sn	Sn	08 55 21.4	-2.0
	5.1nm,0.9s						
MK31	Makanchi Array	8.90	221	⇓Pn	Pn	08 54 00.4	+0.4
	2.3nm,0.9s,baz=34,slow=12,SNR=20						
MK31				⇑Sn	Sn	08 55 38.9	-1.4
	9.1nm,1.1s,baz=41,slow=26,SNR=4.3						
MK31				⇑Lg		08 56 26.2	
	18nm,1.1s,baz=58,slow=32,SNR=4.9						
MKAR	Makanchi Array	8.90	221	Pn	Pn	08 54 00.8	+0.8
	0.6nm,0.3s,baz=29,slow=12,SNR=13						
MKAR				Sn	Sn	08 55 40.8	+0.5
	0.2nm,0.3s,baz=36,slow=25,SNR=6.5						
MKAR				Lg		08 56 27.7	
	0.0nm,0.3s,baz=31,slow=29,SNR=3.0						
SONM	Songino Array	11.49	115	Lg		08 57 41.9	
	0.1nm,0.3s,baz=301,slow=25,SNR=4.0						
BVAR	Borovoye Array	12.23	275	Sn	Sn	08 57 02.1	+0.2
	baz=84,slow=27,SNR=2.1						
BVAR				Lg		08 58 20.8	
	0.2nm,0.3s,baz=69,slow=30,SNR=2.6						
ILAR	Eielson Array	53.72	27	P	P	09 01 11.7	-1.4
	0.3nm,0.8s,baz=316,slow=6.2,SNR=3.7						

IDC 07 09:01:56.3±42.0, 20°.33S×169°.08E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/16, mbtmp3.9/4, Error ellipse: s-maj=719.8km s-min=111.2km az=80.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	27.15	239	P	P	09 07 41.2	-0.2
	0.9nm,0.5s,baz=88,slow=13,SNR=5.0						
WRA	Warramunga Arr	32.59	265	P	P	09 08 29.4	-0.2
	0.5nm,0.8s,baz=96,slow=8.5,SNR=8.1						
ASAR	Alice Springs	32.73	258	P	P	09 08 31.3	+0.3
	2.0nm,0.9s,baz=81,slow=9.5,SNR=8.7						
FITZ	Fitzroy Crossi	41.00	266	P	P	09 09 41.4	0.0
	2.9nm,0.6s,baz=112,slow=8.6,SNR=12						

*CSEM **07** 09:17:46.4±0.5, 50°.25N×18°.90E, h2km, ML2.7/4, Error ellipse: s-maj=11.4km s-min=4.5km az=1.0*
*PRU **07** 09:17:47.3, 50°.25N×18°.88E, h0km*

WAR 07 09:17:46.9, 50°.22N×19°.03E, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	Ojcow	0.49	90	*e*Pg	Pg	09 17 56.8	+0.4
OJC				*e*Sg	Sg	09 18 03.9	+1.2
OJC	Ojcow	0.49	90	*e*Pg	Pg	09 17 56.8	+0.4
OJC				*e*Sg	Sg	09 18 03.9	+1.2
OKC	Ostrava-Krasne	0.69	236	*e*SG	Sg	09 18 06.4	-2.6
	comp=Z,16nm,0.3s						
OKC	Ostrava-Krasne	0.69	236	Sg	Sg	09 18 06.4	-2.6
	comp=Z,16nm,0.3s						
MORC	Moravsky Berou	1.06	246	*e*Pg	Pg	09 18 06.7	-0.5
MORC				*e*Sg	Sg	09 18 20.5	-0.4
NIE	Niedzica	1.16	134	*e*Pg	Pg	09 18 09.5	+0.4
NIE				*e*Sg	Sg	09 18 25.9	+1.9
NIE	Niedzica	1.16	134	*e*Pg	Pg	09 18 09.5	+0.4
NIE				*e*Sg	Sg	09 18 25.9	+1.9
STHS	Stebnicka Huta	1.65	119	*e*PN	Pn	09 18 19.0	+2.0
STHS				*e*SN	Sn	09 18 42.9	+4.1
STHS	Stebnicka Huta	1.65	119	*e*Pn	Pn	09 18 19.0	+2.0
STHS				*e*Sn	Sn	09 18 42.9	+4.1
KOLL	Kolacno	1.70	194	*e*SN	Sn	09 18 37.9	-2.2
KOLL	Kolacno	1.70	194	*e*Sn	Sn	09 18 37.9	-2.2
VYHS	Vyhne	1.74	184	*e*PN	Pn	09 18 17.6	-0.7
VYHS				*e*SN	Sn	09 18 40.3	-0.8
VYHS	Vyhne	1.74	184	*e*Pn	Pn	09 18 17.6	-0.7
VYHS				*e*Sn	Sn	09 18 40.3	-0.8
DPC	Dobruska-Polom	1.74	275	*e*PG	Pg	09 18 17.7	-2.5
DPC				*e*SG	Sg	09 18 40.3	-2.5
	comp=Z,15nm,0.4s						
DPC	Dobruska-Polom	1.74	275	Pg	Pg	09 18 17.7	-2.5
DPC				Sg	Sg	09 18 40.3	-2.5
	comp=Z,15nm,0.4s						
VRAC	Vranov	1.83	241	*e*Sg	Sg	09 18 42.9	-2.6
KSP	Ksiaz	1.85	291	*e*Pg	Pg	09 18 21.6	-0.8
KSP				*e*Sg	Sg	09 18 45.4	-1.0
CRVS	Cervenica-Dubn	2.06	129	*e*SN	Sn	09 18 53.1	+4.0
CRVS	Cervenica-Dubn	2.06	129	*e*Sn	Sn	09 18 53.1	+4.0
PRU	Pruhonice	2.90	267	*e*SG	Sg	09 19 16.5	-3.5
	comp=Z,5.4nm,0.6s						
PRU	Pruhonice	2.90	267	Sg	Sg	09 19 16.5	-3.5
	comp=Z,5.4nm,0.6s						
KHC	Kasperske Hory	3.71	255	*e*SG	Sg	09 19 41.6	-4.3
	comp=Z,4.7nm,0.4s						
KHC	Kasperske Hory	3.71	255	Sg	Sg	09 19 41.6	-4.3
	comp=Z,4.7nm,0.4s						

*ISCJB **07** 09:18:06.0±2.0, 7°.31S±0°.04×127°.89E±0°.04, h7km±14km, mb4.2/10, Error ellipse: s-maj=7.2km s-min=5.4km az=145.0*
*IDC **07** 09:18:07.0±0.8, 7°.29S×127°.69E, h0km, mb4.2/9, mb1 4.3/12, mb1mx4.2/20, mbtmp4.3/12, ML4.3/3, Error ellipse: s-maj=25.0km s-min=15.5km az=65.0*
*NEIC **07** 09:18:09.1±0.5, 7°.33S×127°.73E, h15km, mb4.5/3, Error ellipse: s-maj=15.0km s-min=8.1km az=224.0*
*DJA **07** 09:18:10.7±0.3, 7°.S±2°×12°.8E±°, h30km, mb5.0/17, mB5.5/9, MLv4.6/9, Mw(mB)5.3/9*

ISC 07 09:18:08.5±2.5, 7°.36S±0°.04×127°.91E±0°.04, h10km±18km, n64, σ1§53/74, mb4.2/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	Bandanaira	3.45	35	P	Pn	09 18 57.4	-4.9
AAI	Ambon	3.66	4	P	Pn	09 19 03.1	-2.2
AAI				S	Sn	09 19 44.4	-4.2
MSAI	Masohi	4.12	14	P	Pn	09 19 11.2	-0.3
NLAI	Namlea	4.18	349	P	Pn	09 19 11.7	-0.7
MMRI	Maumere	5.76	257	P	Pn	09 19 35.9	+1.8
	1.7nm5μm451nm,1.1s						
MMRI				S	Sn	09 20 43.0	+2.7
	1.7nm5μm451nm,1.1s						
LBMI	Labuha	6.69	356	P	Pn	09 19 49.1	+2.1
	0.4nm1μm107nm,1.0s						
KAKA	Kakadu	6.94	140	*e*P	Pn	09 19 53.3	+3.0
	60nm,0.4s						
KAKA				*e*S	Sn	09 21 11.2	+1.9
KAKA	Kakadu	6.94	140	*e*Pn	Pn	09 19 53.2	+2.9
	13nm,0.4s						
KAKA				*e*Sn	Sn	09 21 11.7	+2.4
BKSI	Bulukumba	8.00	284	P	Pn	09 20 03.0	-2.0
	842nm120nm,0.8s						
TNTI	Ternate	8.10	356	P	Pn	09 20 07.4	+1.1
	0.3nm99nm,1.2s						
BNSI	Bone	8.30	290	P	Pn	09 20 08.1	-1.0
	2μm159nm,0.9s						
KAPI	Kappang	8.44	286	*e*Pn	Pn	09 20 08.8	-2.2
	24nm,0.6s						
KAPI	Kappang	8.44	286	P	Pn	09 20 09.9	-1.1
	0.2nm39nm,0.9s						
SPSI	Sidrap Palu	8.78	292	P	Pn	09 20 14.8	-0.8
	1μm154nm,1.3s						
TTSI	Tana Toraja	9.13	298	P	Pn	09 20 21.0	+0.6
	910nm96nm,0.8s						
BMNI	Bima	9.21	262	P	Pn	09 20 27.1	+5.6
MJSI	Majene	9.66	293	P	Pn	09 20 28.8	+1.1
	2μm273nm,0.9s						
FITZ	Fitzroy Crossi	10.90	192	Pn	Pn	09 20 44.1	-0.5
	2.9nm,0.3s,baz=29,slow=11,SNR=73						
FITZ				Sn	Sn	09 22 43.3	-3.5
	7.9nm,0.3s,baz=291,slow=21,SNR=6.8						
FITZ	Fitzroy Crossi	10.90	192	*e*P	Pn	09 20 43.7	-1.0
	27nm,0.6s						
FITZ				*e*S	Sn	09 22 37.7	-9.1
FITZ	Fitzroy Crossi	10.90	192	Pn	Pn	09 20 44.1	-0.5
FITZ				Sn	Sn	09 22 43.3	-3.5
FITZ	Fitzroy Crossi	10.90	192	P	Pn	09 20 44.3	-0.4
	21nm,0.7s						
SGSI	Sangihe	11.23	348	P	Pn	09 20 49.5	+0.3
	305nm,1.1s						
MTNI	Mataram	11.70	263	P	Pn	09 20 55.8	+0.2
	6μm37nm,1.0s						
BBKI	Canjar Baru	13.57	286	P	Pn	09 21 26.2	+4.9
WRAB	Tennant Creek	13.97	154	*e*Pn	Pn	09 21 26.1	-0.5
	22nm,0.6s						
WRAB				*e*Sn	Sn	09 23 58.7	-3.1
WRAB	Tennant Creek	13.97	154	P	Pn	09 21 26.0	-0.6
	53nm,0.7s						
WRA	Warramunga Arr	13.97	154	Pn	Pn	09 21 24.6	-2.1
	1.8nm,0.3s,baz=323,slow=14,SNR=46						
WRA				Sn	Sn	09 23 54.7	-7.3
	4.1nm,0.3s,baz=332,slow=23,SNR=10						
WRA	Warramunga Arr	13.97	154	Pn	Pn	09 21 24.6	-2.1
WRA				Sn	Sn	09 23 54.7	-7.3
WB2	Warramunga Arr	13.98	154	*e*Pn	Pn	09 21 24.8	-2.0
MYLDM	Lahad Datu	15.60	323	P	Pn	09 21 51.5	+2.8
COEN	Coen	16.36	115	*e*Pn	Pn	09 21 58.8	+0.3
	189nm,0.6s						
COEN	Coen	16.36	115	P	Pn	09 21 58.6	+0.1
	47nm,0.6s						
ASAR	Alice Springs	17.20	161	P	Pn	09 22 09.4	+0.4
	0.9nm,0.3s,baz=329,slow=9.4,SNR=25						
ASAR				S	Sn	09 25 11.1	-9.4
	1.2nm,0.3s,baz=326,slow=22,SNR=6.0						
ASAR	Alice Springs	17.20	161	P	Pn	09 22 09.4	+0.4
ASAR				S	Sn	09 25 11.1	-9.4
SBUM	Sibu	18.44	301	P	Pn	09 22 26.1	+1.6
	24nm,0.8s						
PMG	Port Moresby	19.15	97	P	Pn	09 22 35.2	+2.2
	1.4nm,0.3s,baz=249,slow=16,SNR=8.2						
PMG	Port Moresby	19.15	97	P	Pn	09 22 35.2	+2.2
PMG	Port Moresby	19.15	97	P	Pn	09 22 36.8	+3.7
KSM	Kuching	19.63	296	P	Pn	09 22 35.7	-3.1
	21nm,1.1s						
KSM	Kuching	19.63	296	P	Pn	09 22 37.9	-1.0
	19nm,1.0s						
CTA	Charters Tower	21.82	127	P	P	09 23 03.0	+1.9
	3.3nm,0.5s,mb4.0,baz=292,slow=13,SNR=7.6						
CTA	Charters Tower	21.82	127	*e*P	P	09 23 03.6	+2.5
	7.1nm,0.6s,mb4.3						
CTA	Charters Tower	21.82	127	P	P	09 23 03.0	+1.9
CTAO	Charters Tower	21.82	127	*e*P	P	09 23 04.2	+3.0
	13nm,0.9s,mb4.4						
PPBI	Pangkal Pinang	22.30	282	P	P	09 23 07.4	+1.1
FORT	Forrest	23.30	180	*e*P	P	09 23 18.2	+1.5
	20nm,0.6s,mb4.7						
NWAO	Narrogin (SRO)	27.30	200	P	P	09 23 54.0	+0.6
	6.5nm,0.8s,mb4.2,baz=98,slow=3.5,SNR=5.9						
NWAO	Narrogin (SRO)	27.30	200	P	P	09 23 54.0	+0.6
STKA	Stephens Creek	27.52	154	P	P	09 23 56.7	+1.2
	3.6nm,0.8s,mb4.0,baz=286,slow=12,SNR=8.1						
STKA	Stephens Creek	27.52	154	*e*P	P	09 23 57.4	+2.0
	6.0nm,0.8s,mb4.3						
STKA	Stephens Creek	27.52	154	P	P	09 23 56.7	+1.2
PSI	Prapat	30.64	288	P	P	09 24 20.5	-2.8
	12nm,0.8s,mb4.8,baz=63,slow=2.1,SNR=9.5						
PSI	Prapat	30.64	288	P	P	09 24 20.5	-2.8
CMAR	Chiang Mai Arr	38.41	312	P	P	09 25 27.2	-3.3
	1.1nm,0.3s,mb4.0,baz=150,slow=5.8,SNR=4.5						
CMAR	Chiang Mai Arr	38.41	312	P	P	09 25 27.2	-3.3
KSRS	Korea Array	44.58	0	P	P	09 26 20.8	0.0
	1.3nm,0.6s,mb3.9,baz=180,slow=9.2,SNR=4.3						
MJAR	Matsushiro Arr	44.73	12	P	P	09 26 20.1	-1.9
	6.5nm,1.0s,mb4.4,baz=195,slow=11,SNR=7.0						
MJAR	Matsushiro Arr	44.73	12	P	P	09 26 20.1	-1.9
SONM	Songino Array	58.16	343	P	P	09 28 02.6	+0.2
	0.6nm,0.8s,mb3.7,baz=156,slow=7.4,SNR=3.1						
SONM	Songino Array	58.16	343	P	P	09 28 02.6	+0.2
MKAR	Makanchi Array	67.41	328	P	P	09 29 04.3	+0.1
	1.0nm,0.7s,mb4.0,baz=130,slow=7.4,SNR=1.9						
MKAR	Makanchi Array	67.41	328	P	P	09 29 04.3	+0.1
TORD	Torodi Ar. Bea	126.84	281	PKP	PKPdf	09 37 14.8	+1.2
	0.7nm,0.9s,baz=67,slow=2.4,SNR=2.6						
TORD	Torodi Ar. Bea	126.84	281	PKP	PKPdf	09 37 14.8	+1.2

*IDC **07** 09:21:12.8±0.6, 39°.45N×74°.05E, h0km, mb4.3/18, mb1 4.4/24, mb1mx4.4/32, mbtmp4.3/24, ML3.9/6, Error ellipse: s-maj=11.7km s-min=11.0km az=120.0*
*ISCJB **07** 09:21:12.6±0.2, 39°.49N±0°.03×74°.08E±0°.05, h10km, mb4.4/37, MS4.3/2, Error ellipse: s-maj=5.6km s-min=3.3km az=150.4*
*BJI **07** 09:21:16.8, 39°.59N×74°.05E, h20km, mB4.6/2, mb4.3/10, ML4.1/5, Ms4.0/2*
*MOS **07** 09:21:16.0±1.0, 39°.38N×73°.96E, h37km, mb4.6/30, Error ellipse: s-maj=8.9km s-min=5.2km az=102.5*
*NEIC **07** 09:21:17.3±0.3, 39°.37N×74°.01E, h35km, mb4.6/11, Error ellipse: s-maj=7.2km s-min=4.8km az=52.0*
*NNC **07** 09:21:22.8±2.5, 40°.02N×73°.72E, h20km±10km, mb4.6, mpv4.3, Error ellipse: s-maj=19.2km s-min=9.7km az=11.0*

ISC 07 09:21:14.7±0.2, 39°.49N±0°.02×74°.04E±0°.04, h10km, n193, σ1§39/208, mb4.4/37, MS4.3/2, 13C-12D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	Kashi	1.50	88	⇓*i*Pg	Pn	09 21 37.5	-4.1
KSH				Sg	Sn	09 21 54.7	-6.4
KSH				smax			
	comp=N,3μm,0.8s						
KSH				smax			
	comp=E,3μm,0.8s						
AML	Almayashu	2.65	354	P	Pn	09 21 59.3	+1.8
	SNR=747						
KZA	Kyzart	2.74	19	P	Pn	09 22 01.4	+2.7
	SNR=73						
UCH	Uchtor	2.76	7	P	Pn	09 22 01.7	+2.8
	SNR=146						
AAK	Ala-Archa	3.16	6	P	Pn	09 22 07.4	+3.0
	SNR=233						
AAK	Ala-Archa	3.16	6	Pn	Pn	09 22 07.3	+2.9
	comp=E,0.6nm,0.3s,baz=158,slow=6.6,SNR=276						
AAK				Lg		09 22 50.2	
	comp=E,1.2nm,0.3s,baz=270,slow=20,SNR=8.5						
AAK	Ala-Archa	3.16	6	Pn	Pn	09 22 07.3	+2.9
AAK				Lg		09 22 50.2	
AAK	Ala-Archa	3.16	6	*i*PN	Pn	09 22 07.1	+2.7
EKS2	Erkin-Say	3.18	357	P	Pn	09 22 07.0	+2.3
	SNR=131						
EKS2	Erkin-Say	3.18	357	*e*Pn	Pn	09 22 06.9	+2.3
EKS2				*e*Sg	Sg	09 22 55.4	-1.3
EKS2	Erkin-Say	3.18	357	*e*PN	Pn	09 22 06.9	+2.2
EKS2				*e*		09 22 55.4	
ULHL	Ulahol	3.22	31	P	Pn	09 22 08.2	+2.9
	SNR=105						
KBK	Karagaybulak	3.24	12	P	Pn	09 22 08.6	+3.1
	SNR=207						
FRU	Bishkek	3.37	7	*e*PN	Pn	09 22 09.0	+1.7
FRU				*i* S	Sg	09 22 58.0	-4.9
FRU				pmax	pmax		
	comp=Z,480nm,1.4s						
FRU				smax			
	comp=E,2μm,1.6s			

NDI	**New Delhi**	**11.09**	**165**	*e*PKP		**Pn**	**09 23 54.0**	**+0.6**
NDI				*ex*		x	09 25 51.0	
KHET	**Khetri**	**11.48**	**172**	*e*PKP		**Pn**	**09 23 59.7**	**+1.1**
KHET				*ex*		x	09 26 03.6	
KUDL	**Kundal**	**11.50**	**169**	*e*PKP		**Pn**	**09 24 00.7**	**+1.8**
KUDL				*e*S		**Sn**	**09 25 57.8**	**-10**
KURK	**Kurchatov**	**11.68**	**15**	⇑Pn		**Pn**	**09 23 59.7**	**-1.6**
	comp=Z,5.5nm,1.0s							
KURK				⇑Lg			09 27 21.2	
	comp=Z,63nm,1.0s							
KURK	**Kurchatov**	**11.68**	**15**	Pn		**Pn**	**09 23 59.5**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=205,slow=12,SNR=10.0							
KURK				Lg			09 27 18.5	
	comp=Z,0.2nm,0.3s,baz=202,slow=28,SNR=16							
KURK	**Kurchatov**	**11.68**	**15**	*e*Pn		**Pn**	**09 24 00.5**	**-0.8**
	comp=Z,3.7nm,0.8s							
KURK				Lg			09 27 18.5	
KURK	**Kurchatov**	**11.68**	**15**	*e*P		**Pn**	**09 24 00.5**	**-0.8**
KURK				pmax		pmax		
	comp=Z,4.0nm,0.8s							
VOSK	**Vostochnaya**	**13.40**	**352**	⇑Pn		**Pn**	**09 24 22.4**	**-2.4**
	comp=Z,12nm,1.0s							
VOSK				⇓Lg			09 28 10.5	
	comp=Z,56nm,1.6s							
DANN	**Dangsing**	**13.72**	**141**	*e*P		**Pn**	**09 24 27.8**	**-1.5**
	comp=Z,26nm,0.5s							
DANN	**Dangsing**	**13.72**	**141**	*e*P		**Pn**	**09 24 27.8**	**-1.5**
	comp=Z,26nm,0.5s							
BVA0	**Borovoye Array**	**13.77**	**351**	Pn		**Pn**	**09 24 27.4**	**-2.4**
	comp=Z,2.9nm,0.6s,baz=162,slow=14,SNR=32							
BVA0				⇓Lg			09 28 23.1	
	comp=Z,7.4nm,1.1s,baz=166,slow=23,SNR=4.5							
BVA0	**Borovoye Array**	**13.77**	**351**	*i* P		**Pn**	**09 24 27.3**	**-2.5**
BVA0				pmax		pmax		
	comp=Z,3.0nm,0.5s							
BVAR	**Borovoye Array**	**13.77**	**351**	Pn		**Pn**	**09 24 27.3**	**-2.5**
	comp=Z,1.5nm,0.3s,baz=158,slow=14,SNR=24							
BVAR				Lg			09 28 27.2	
	comp=Z,0.5nm,0.3s,baz=170,slow=27,SNR=3.7							
BVAR	**Borovoye Array**	**13.77**	**351**	Pn		**Pn**	**09 24 27.3**	**-2.5**
BVAR				Lg			09 28 27.2	
BVAR	**Borovoye Array**	**13.77**	**351**	P		**Pn**	**09 24 27.3**	**-2.5**
BVAR				pmax		pmax		
	comp=Z,2.0nm,0.3s							
BRVK	**Borovoye**	**13.82**	**350**	⇓Pn		**Pn**	**09 24 28.2**	**-2.2**
	comp=Z,48nm,0.8s							
BRVK				⇑Lg			09 28 25.3	
	comp=Z,71nm,1.0s							
BRVK	**Borovoye**	**13.82**	**350**	*e*Pn		**Pn**	**09 24 28.6**	**-1.9**
	comp=Z,26nm,0.7s							
BRVK	**Borovoye**	**13.82**	**350**	⇑*e*P		**Pn**	**09 24 28.4**	**-2.0**
BRVK				pmax		pmax		
	comp=Z,16nm,1.5s							
AB31	**Akbulak array**	**14.01**	**319**	P		**Pn**	**09 24 31.1**	**-2.0**
	comp=Z,19nm,0.8s,baz=123,slow=14,SNR=13							
AB31				⇑S		**Sn**	**09 27 01.0**	**-7.6**
	comp=Z,3.7nm,0.6s,baz=168,slow=21,SNR=3.1							
AB31	**Akbulak array**	**14.01**	**319**	*e*P		**Pn**	**09 24 31.1**	**-2.0**
AB31				pmax		pmax		
	comp=Z,3.0nm,0.3s							
ABKAR	**Akbulak array**	**14.01**	**319**	*e*Pn		**Pn**	**09 24 31.3**	**-1.9**
KOLN	**Koldanda**	**14.13**	**143**	*e*P		**Pn**	**09 24 33.5**	**-1.4**
	comp=Z,20nm,0.5s							
KOLN	**Koldanda**	**14.13**	**143**	*e*P		**Pn**	**09 24 33.5**	**-1.4**
	comp=Z,20nm,0.5s							
GKN	**Gorkha**	**14.44**	**139**	*e*P		**Pn**	**09 24 36.6**	**-2.5**
	comp=Z,34nm,0.6s							
GKN	**Gorkha**	**14.44**	**139**	*e*P		**Pn**	**09 24 36.6**	**-2.5**
	comp=Z,34nm,0.6s							
KKN	**Kakani**	**14.94**	**138**	*e*P		**Pn**	**09 24 44.5**	**-1.4**
	comp=Z,22nm,0.5s							
KKN	**Kakani**	**14.94**	**138**	*e*P		**Pn**	**09 24 44.5**	**-1.4**
	comp=Z,22nm,0.5s							
KKN	**Kakani**	**14.94**	**138**	*e*P		**Pn**	**09 24 44.5**	**-1.4**
KKN				pmax		pmax		
	comp=Z,22nm,0.5s							
DMN	**Daman**	**15.00**	**139**	*e*P		**Pn**	**09 24 44.5**	**-2.2**
	comp=Z,27nm,0.8s							
DMN	**Daman**	**15.00**	**139**	*e*P		**Pn**	**09 24 44.5**	**-2.2**
	comp=Z,27nm,0.8s							
GUN	**Gumba**	**15.16**	**136**	*e*P		**Pn**	**09 24 48.3**	**-0.6**
	comp=Z,28nm,0.4s							
GUN	**Gumba**	**15.16**	**136**	*e*P		**Pn**	**09 24 48.3**	**-0.6**
	comp=Z,28nm,0.4s							
PKIN	**Phulchoki**	**15.18**	**138**	*e*P		**Pn**	**09 24 47.7**	**-1.4**
	comp=Z,20nm,0.6s							
PKI	**Pulchoki**	**15.19**	**138**	*e*P		**Pn**	**09 24 48.2**	**-1.0**
	comp=Z,22nm,0.6s							
PKI	**Pulchoki**	**15.19**	**138**	*e*P		**Pn**	**09 24 48.2**	**-1.0**
	comp=Z,22nm,0.6s							
PKI	**Pulchoki**	**15.19**	**138**	*e*P		**Pn**	**09 24 48.2**	**-1.0**
PKI				pmax		pmax		
	comp=Z,22nm,0.6s							
AKTK	**Aktyubinsk**	**15.72**	**319**	Pn		**Pn**	**09 24 54.3**	**-1.7**
AKTK				Sn		**Sn**	**09 27 42.4**	**-7.9**
AKTO	**Aktyubinsk**	**15.72**	**319**	⇑P		**Pn**	**09 24 53.9**	**-2.2**
	comp=Z,3.4nm,1.0s							
AKTO				⇓S		**Sn**	**09 27 43.3**	**-7.0**
	comp=Z,0.9nm,0.6s							
AKTO	**Aktyubinsk**	**15.72**	**319**	Pn		**Pn**	**09 24 54.3**	**-1.7**
	comp=Z,1.5nm,0.3s,baz=124,slow=13,SNR=8.1							
AKTO				Sn		**Sn**	**09 27 42.4**	**-7.9**
	comp=Z,0.2nm,0.3s,baz=87,slow=9.0,SNR=3.6							
AKTO	**Aktyubinsk**	**15.72**	**319**	P		**Pn**	**09 24 54.3**	**-1.8**
AKTO							09 27 42.4	
AKTO				pmax		pmax		
	comp=Z,2.0nm,0.3s							
ZAA0	**Zalesovo Array**	**16.21**	**23**	*e*Pn		**Pn**	**09 25 03.5**	**+1.2**
ZALV	**Zalesovo Beam**	**16.21**	**23**	Pn		**Pn**	**09 25 01.6**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=202,slow=12,SNR=10							
ZALV	**Zalesovo Beam**	**16.21**	**23**	Pn		**Pn**	**09 25 01.6**	**-0.8**
ZALV	**Zalesovo Beam**	**16.21**	**23**	P		**Pn**	**09 25 01.6**	**-0.8**
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.3s							
NVS	**Novosibirsk**	**16.56**	**19**	*e*P		**Pn**	**09 25 09.9**	**+3.1**
LSA	**Lhasa**	**17.12**	**120**	P		**Pn**	**09 25 19.7**	**+5.7**
SVE	**Sverdlovsk**	**19.45**	**338**	*e*P		**Pn**	**09 25 42.2**	**-0.2**
SVE				pmax		pmax		
	comp=Z,12nm,0.9s							
ARU	**Arti**	**19.79**	**334**	*d i*P		**Pn**	**09 25 45.7**	**-0.7**
ARU				S		**Sn**	**09 29 29.0**	**+0.5**
ARU				pmax		pmax		
	comp=Z,24nm,1.7s							
HYB	**Hyderabad**	**22.34**	**169**	*i* P		**P**	**09 26 13.0**	**+0.3**
GNI	**Garni**	**22.47**	**281**	*i* P		**P**	**09 26 15.0**	**+1.1**
GNI				pmax		pmax		
	comp=Z,30nm,1.3s							
SOKR	**Solikamsk**	**22.87**	**337**	*e*P		**P**	**09 26 18.6**	**+0.6**
SOKR				pmax		pmax		
	comp=Z,20nm,1.5s,mb4.3							
ZEI	**Tsey**	**22.88**	**288**	*e*P		**P**	**09 26 21.3**	**+3.1**
ZEI				pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.2							
ZAK	**Zakamensk**	**23.24**	**52**	*e*P		**P**	**09 26 22.5**	**+0.5**
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.1s,mb3.6							
KIV	**Kislovodsk**	**23.74**	**291**	*e*P		**P**	**09 26 28.6**	**+1.6**
KIV				*i*			09 26 44.1	
KIV				*i*			09 26 54.5	
KIV				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.2							
SONM	**Songino Array**	**24.70**	**60**	P		**P**	**09 26 36.3**	**+0.5**
	comp=Z,1.8nm,0.6s,mb3.8,baz=272,slow=9.2,SNR=12							
SONM	**Songino Array**	**24.70**	**60**	P		**P**	**09 26 36.3**	**+0.5**
SONM	**Songino Array**	**24.70**	**60**	P		**P**	**09 26 36.3**	**+0.5**
SONM				pmax		pmax		
	comp=Z,2.0nm,0.6s							
ULN	**Ulaanbaatar**	**25.15**	**60**	*e*P		**P**	**09 26 40.9**	**+1.1**
	comp=Z,7.2nm,0.9s,mb4.2							
ULN	**Ulaanbaatar**	**25.15**	**60**	*e*P		**P**	**09 26 40.9**	**+1.1**
ULN				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.2							
ANN	**Anapa**	**27.50**	**293**	*e*P		**P**	**09 27 02.0**	**+0.9**
ANN				*e*S		**S**	**09 31 41.4**	**-0.3**
ANN				pmax		pmax		
	comp=Z,74nm,1.3s,mb5.1							
ANN				MLR		MLR		
	comp=Z,823nm,21.0s,MS4.3							
OBN	**Obninsk**	**29.39**	**315**	⇑*e*P		**P**	**09 27 17.7**	**-0.1**
OBN				*e*			09 28 11.0	
OBN				*e*S		**S**	**09 32 12.2**	**+0.8**
OBN				pmax		pmax		
	comp=Z,8.0nm,0.5s,mb4.7							
OBN				MLR		MLR		
	comp=Z,800nm,17.0s,MS4.4							
CMAR	**Chiang Mai Arr**	**30.05**	**127**	P		**P**	**09 27 23.4**	**-0.6**
	comp=Z,0.6nm,0.3s,mb3.8,baz=327,slow=10.0,SNR=4.6							
CMAR	**Chiang Mai Arr**	**30.05**	**127**	P		**P**	**09 27 23.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**30.05**	**127**	P		**P**	**09 27 23.4**	**-0.6**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
BRTR	**Keskin Array B**	**30.94**	**284**	P		**P**	**09 27 31.9**	**+0.2**
	comp=Z,1.4nm,0.5s,mb4.0,baz=78,slow=7.5,SNR=5.1							
BRTR	**Keskin Array B**	**30.94**	**284**	P		**P**	**09 27 31.9**	**+0.2**
BRTR	**Keskin Array B**	**30.94**	**284**	P		**P**	**09 27 32.0**	**+0.3**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
BOD	**Bodaibo**	**31.52**	**41**	*e*P		**P**	**09 27 35.8**	**-0.8**
BOD				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.4							
AKASG	**Malin Array Be**	**33.08**	**305**	P		**P**	**09 27 49.1**	**-1.2**
	comp=Z,3.3nm,0.5s,mb4.5,baz=82,slow=7.1,SNR=9.5							
AKASG	**Malin Array Be**	**33.08**	**305**	P		**P**	**09 27 49.1**	**-1.2**
AKASG	**Malin Array Be**	**33.08**	**305**	P		**P**	**09 27 49.2**	**-1.2**
AKASG				pmax		pmax		
	comp=Z,3.0nm,0.5s							
AKBB	**Malin Array Si**	**33.08**	**305**	*e*P		**P**	**09 27 50.3**	**-0.1**
AKBB	**Malin Array Si**	**33.08**	**305**	*e*P		**P**	**09 27 50.3**	**-0.1**
KIEV	**Kiev**	**33.09**	**305**	*e*P		**P**	**09 27 50.0**	**-0.4**
	comp=Z,5.5nm,0.6s,mb4.7							
KIEV	**Kiev**	**33.09**	**305**	*e*P		**P**	**09 27 50.0**	**-0.4**
KIEV				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.7							
JOF	**Joensuu**	**34.58**	**327**	*e*P		**P**	**09 28 02.8**	**-0.4**
JOF	**Joensuu**	**34.58**	**327**	*e*p		**P**	**09 28 02.8**	**-0.4**
MLR	**Muntele Rosu**	**35.54**	**296**	P		**P**	**09 28 11.6**	**-0.1**
	comp=Z,1.0nm,0.5s,mb4.0,baz=74,slow=18,SNR=3.8							
MLR	**Muntele Rosu**	**35.54**	**296**	P		**P**	**09 28 11.6**	**-0.1**
MLR	**Muntele Rosu**	**35.54**	**296**	P		**P**	**09 28 11.6**	**-0.1**
MLR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**	**36.44**	**323**	P		**P**	**09 28 19.2**	**0.0**
	comp=Z,5.3nm,0.3s,mb4.9,baz=113,slow=9.7,SNR=34							
FINES	**FINESS Array B**	**36.44**	**323**	P		**P**	**09 28 19.2**	**0.0**
FINES	**FINESS Array B**	**36.44**	**323**	P		**P**	**09 28 19.2**	**0.0**
FINES				pmax		pmax		
	comp=Z,5.0nm,0.4s							
KAF	**Kangasniemi**	**36.51**	**324**	*e*P		**P**	**09 28 21.2**	**+1.4**
KAF	**Kangasniemi**	**36.51**	**324**	ep		**P**	**09 28 21.2**	**+1.4**
ARCES	**ARCESS Array B**	**39.36**	**335**	P		**P**	**09 28 44.0**	**+0.1**
	comp=Z,5.4nm,0.7s,mb4.4,baz=111,slow=9.4,SNR=20							
ARCES	**ARCESS Array B**	**39.36**	**335**	P		**P**	**09 28 44.0**	**+0.1**
ARCES	**ARCESS Array B**	**39.36**	**335**	P		**P**	**09 28 44.0**	**+0.2**
ARCES				pmax		pmax		
	comp=Z,5.0nm,0.7s							
YAK	**Yakutsk**	**40.14**	**37**	*e*P		**P**	**09 28 51.6**	**+1.2**
YAK				pmax		pmax		
	comp=Z,12nm,0.8s,mb4.7							
GERES	**GERESS Array B**	**43.24**	**303**	P		**P**	**09 29 16.5**	**+0.6**
	comp=Z,2.5nm,0.6s,mb4.1,baz=61,slow=7.3,SNR=15							
GERES	**GERESS Array B**	**43.24**	**303**	P		**P**	**09 29 16.5**	**+0.6**
GERES	**GERESS Array B**	**43.24**	**303**	P		**P**	**09 29 16.5**	**+0.6**
GERES				pmax		pmax		
	comp=Z,3.0nm,0.6s							
CLL	**Collm**	**43.26**	**307**	*e*P		**P**	**09 29 16.0**	**0.0**
CLL	**Collm**	**43.26**	**307**	*e*P		**P**	**09 29 16.0**	**0.0**
KHC	**Kasperske Hory**	**43.27**	**304**	*e*P		**P**	**09 29 16.5**	**+0.4**
KHC	**Kasperske Hory**	**43.27**	**304**	*e*P		**P**	**09 29 16.5**	**+0.4**
NB2	**NORSAR Subarra**	**43.51**	**321**	P		**P**	**09 29 17.1**	**-0.8**
	comp=Z,3.9nm,0.5s,mb4.4,baz=91,slow=8.6							
NOA	**NORSAR Array B**	**43.51**	**321**	P		**P**	**09 29 17.4**	**-0.5**
	comp=Z,3.3nm,0.5s,mb4.3,baz=91,slow=8.0,SNR=17							
NOA	**NORSAR Array B**	**43.51**	**321**	P		**P**	**09 29 17.4**	**-0.5**
NOA	**NORSAR Array B**	**43.51**	**321**	P		**P**	**09 29 17.4**	**-0.5**
NOA				pmax		pmax		
	comp=Z,3.0nm,0.5s							
DAVOX	**Davos/Dischmat**	**46.22**	**301**	P		**P**	**09 29 39.5**	**-0.2**
	comp=Z,4.7nm,0.6s,mb4.6,baz=99,slow=6.3,SNR=7.1							
DAVOX	**Davos/Dischmat**	**46.22**	**301**	P		**P**	**09 29 39.5**	**-0.2**
DAVOX	**Davos/Dischmat**	**46.22**	**301**	P		**P**	**09 29 39.6**	**-0.1**
LPG	**La Plagne**	**48.67**	**300**	*e*P		**P**	**09 29 58.0**	**-0.8**
	comp=Z,15nm,0.8s,mb4.8							
LPG	**La Plagne**	**48.67**	**300**	*e*P		**P**	**09 29 58.0**	**-0.8**
	comp=Z,3.0nm,0.8s,mb4.8							
LPG	**La Plagne**	**48.67**	**300**	*e*P		**P**	**09 29 58.0**	**-0.8**
LPG				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.7							
MBDF	**Montbardon**	**48.90**	**299**	*e*P		**P**	**09 29 59.5**	**-1.1**
	comp=Z,8.6nm,0.8s,mb4.5							
MBDF	**Montbardon**	**48.90**	**299**	*e*P		**P**	**09 29 59.5**	**-1.1**
	comp=Z,4.3nm,0.8s,mb4.5							
MBDF	**Montbardon**	**48.90**	**299**	*e*P		**P**	**09 29 59.5**	**-1.1**
MBDF				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.5							
MJAR	**Matsushiro Arr**	**49.68**	**72**	P		**P**	**09 30 05.7**	**-1.0**
	comp=Z,1.9nm,0.8s,mb4.2,baz=285,slow=10,SNR=4.0							
MJAR	**Matsushiro Arr**	**49.68**	**72**	P		**P**	**09 30 05.7**	**-1.0**
MJAR	**Matsushiro Arr**	**49.68**	**72**	P		**P**	**09 30 05.7**	**-1.0**
MJAR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
AVF	**Avril sur Loir**	**50.50**	**303**	*e*P		**P**	**09 30 12.0**	**-0.8**
AVF	**Avril sur Loir**	**50.50**	**303**	*e*P		**P**	**09 30 12.0**	**-0.8**
AVF	**Avril sur Loir**	**50.50**	**303**	*e*P		**P**	**09 30 12.0**	**-0.8**
LDF	**La Druitiere**	**52.13**	**306**	*e*P		**P**	**09 30 24.1**	**-0.8**
	comp=Z,7.6nm,0.4s,mb4.7							
LDF	**La Druitiere**	**52.13**	**306**	*e*P		**P**	**09 30 24.1**	**-0.8**
	comp=Z,3.8nm,0.4s,mb4.7							
LDF	**La Druitiere**	**52.13**	**306**	*e*P		**P**	**09 30 24.1**	**-0.8**
LDF				pmax		pmax		
	comp=Z,4.0nm,0.4s,mb4.7							
KMBO	**Kilima Mbogo**	**52.61**	**229**	P		**P**	**09 30 30.0**	**+1.1**
	comp=Z,0.6nm,0.4s,mb3.9,baz=89,slow=11,SNR=3.7							
KMBO	**Kilima Mbogo**	**52.61**	**229**	P		**P**	**09 30 30.0**	**+1.1**
KMBO	**Kilima Mbogo**	**52.61**	**229**	P		**P**	**09 30 30.0**	**+1.1**
KMBO				pmax		pmax		
	comp=Z,1.0nm,0.4s							
SGMF	**Saint Gilles**	**53.77**	**306**	*e*P		**P**	**09 30 36.4**	**-0.6**
SGMF	**Saint Gilles**	**53.77**	**306**	*e*P		**P**	**09 30 36.4**	**-0.6**
SGMF	**Saint Gilles**	**53.77**	**306**	*e*P		**P**	**09 30 36.4**	**-0.6**
BILL	**Bilibino**	**54.86**	**27**	⇑*e*P		**P**	**09 30 45.4**	**+0.7**
BILL				*e*			09 32 44.9	
BILL				*e*S		**S**	**09 38 28.7**	**+3.2**
BILL				*e*SS		SS	09 42 13.5	+5.4
BILL				pmax		pmax		
	comp=Z,11nm,1.5s,mb4.7							
ESDC	**Sonseca Array**	**58.20**	**297**	P		**P**	**09 31 10.1**	**+1.2**
	comp=Z,0.5nm,0.4s,mb3.9,baz=54,slow=7.2,SNR=3.5							
ESDC	**Sonseca Array**	**58.20**	**297**	P		**P**	**09 31 10.1**	**+1.2**
TORD	**Torodi Ar. Bea**	**68.17**	**269**	P		**P**	**09 32 14.6**	**-0.8**
	comp=Z,2.1nm,0.4s,mb4.5,baz=49,slow=5.3,SNR=28							
TORD	**Torodi Ar. Bea**	**68.17**	**269**	P		**P**	**09 32 14.6**	**-0.8**
COLD	**Coldfoot**	**68.43**	**17**	*e*P		**P**	**09 32 16.4**	**+0.1**
	comp=Z,4.5nm,0.7s,mb4.6							
INK	**Inuvik**	**70.56**	**11**	*e*P		**P**	**09 32 29.1**	**-0.2**
	comp=Z,5.6nm,0.9s,mb4.5							
INK	**Inuvik**	**70.56**	**11**	*e*P		**P**	**09 32 29.1**	**-0.2**
INK				pmax		pmax		
	comp=Z,6.0nm,0.9s							
COLA	**College**	**70.93**	**18**	*e*P		**P**	**09 32 31.5**	**-0.1**
	comp=Z,6.5nm,0.8s,mb4.6							
COLA	**College**	**70.93**	**18**	*e*P		**P**	**09 32 31.5**	**-0.1**
COLA				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.6							
ILAR	**Eielson Array**	**71.24**	**17**	P		**P**	**09 32 32.4**	**-1.1**
	comp=Z,3.3nm,0.9s,mb4.3,baz=321,slow=4.7,SNR=21							
ILAR	**Eielson Array**	**71.24**	**17**	P		**P**	**09 32 32.4**	**-1.1**
ILAR	**Eielson Array**	**71.24**	**17**	P		**P**	**09 32 32.4**	**-1.1**
ILAR				pmax		pmax		
	comp=Z,3.0nm,0.9s							
SML	**Sawmill**	**73.39**	**20**	*e*P		**P**	**09 32 46.3**	**-0.1**
	comp=Z,2.0nm,0.7s,mb4.2							
SML	**Sawmill**	**73.39**	**20**	*e*P		**P**	**09 32 46.3**	**-0.1**
SML				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.2							
DBIC	**Dimbokro**	**77.22**	**268**	P		**P**	**09 33 06.9**	**-2.4**
	comp=Z,1.7nm,0.5s,mb4.3,baz=56,slow=7.8,SNR=5.2							
DBIC	**Dimbokro**	**77.22**	**268**	P		**P**	**09 33 06.9**	**-2.4**
DBIC	**Dimbokro**	**77.22**	**268**	P		**P**	**09 33 06.9**	**-2.4**
DBIC				pmax		pmax		
	comp=Z,2.0nm,0.5s							
YKA	**Yellowknife Ar**	**78.13**	**4**	P		**P**	**09 33 12.6**	**-0.9**
	comp=Z,2.0nm,0.6s,mb4.2,baz=347,slow=5.6,SNR=7.0							
YKA	**Yellowknife Ar**	**78.13**	**4**	P		**P**	**09 33 12.6**	**-0.9**
YKA	**Yellowknife Ar**	**78.13**	**4**	P		**P**	**09 33 12.6**	**-0.9**
YKA				pmax		pmax		
	comp=Z,2.0nm,0.6s							
WRA	**Warramunga Arr**	**81.61**	**124**	P		**P**	**09 33 32.5**	**-0.3**
	comp=Z,4.7nm,0.6s,mb4.6,baz=324,slow=4.9,SNR=16							
WRA	**Warramunga Arr**	**81.61**	**124**	P		**P**	**09 33 32.5**	**-0.3**
WRA	**Warramunga Arr**	**81.61**	**124**	P		**P**	**09 33 32.6**	**-0.3**
WRA				pmax		pmax		
	comp=Z,5.0nm,0.6s							
ASAR	**Alice Springs**	**84.06**	**127**	P		**P**	**09 33 45.0**	**-0.6**
	comp=Z,2.7nm,0.6s,mb4.5,baz=310,slow=5.1,SNR=10							
ASAR	**Alice Springs**	**84.06**	**127**	P		**P**	**09 33 45.0**	**-0.6**
ASAR	**Alice Springs**	**84.06**	**127**	P		**P**	**09 33 45.0**	**-0.6**
ASAR				pmax		pmax		
	comp=Z,3.0nm,0.6s							
PLCA	**Paso Flores**	**153.00**	**256**	PKPbc		PKPbc	09 41 11.5	-0.5
	comp=Z,1.5nm,0.6s,baz=82,slow=2.7,SNR=3.7							
PLCA	**Paso Flores**	**153.00**	**256**	PKPbc		PKPbc	09 41 11.5	-0.5

NOU ***07*** *09:26:33.9±1.0, 14.08S×168.19E, h30km, MD3.8*
BJI ***07*** *09:26:40.6, 15.45S×168.92E, h35km, mB5.3/10, mb4.9/21, Ms5.1/12, Ms7 4.8/12*
ISCJB ***07*** *09:26:41.9±0.3, 14.95S±0.03×167.99E±0.06, h10km, mb4.8/35, MS4.8/8, Error ellipse: s-maj=8.0km s-min=4.6km az=5.6*
IDC ***07*** *09:26:41.1±1.1, 14.79S×167.99E, h0km, mb4.5/14, mb1 4.6/14, mb1mx4.4/21, mbtmp4.5/14, MS4.4/1, Ms1 4.4/1, ms1mx3.6/30, Error ellipse: s-maj=38.6km s-min=18.0km az=143.0*
NEIC ***07*** *09:26:43.5±0.3, 14.79S×167.95E, h10km, mb5.0/13, Error ellipse: s-maj=11.7km s-min=8.8km az=148.0*
LDG ***07*** *09:26:43.9±0.4, 14.68S×167.40E, h10km, Mb4.9/4, Error ellipse: s-maj=41.9km s-min=9.0km az=89.0*
MOS ***07*** *09:26:45.5±1.3, 15.05S×167.93E, h33km, mb5.1/6, Error ellipse: s-maj=16.7km s-min=10.6km az=7.3*

ISC 07 09:26:43.9±0.3, 14.88S±0.03×167.96E±0.06, h10km, (h32km±1.8km pP-P),n154,σ1s34/90, mb4.8/35, MS4.8/8, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.30**	**191**	*e*P	**Pn**	**09 28 28.7**	**-1.8**
DZM				*e*S	**Sn**	**09 29 53.4**	**0.0**
DZM				AMP		09 30 00.9	
	comp=Z,167nm,6.0s						
DZM	**Mont Dzumac**	**7.30**	**191**	*e*Pn	**Pn**	**09 28 29.9**	**-0.6**
	comp=Z,13nm,0.4s						
BAYA	**Yate Dam**	**7.31**	**188**	*e*S	**Sn**	**09 29 54.3**	**+0.5**
NOUC	**Port Laguerre**	**7.35**	**192**	*e*S	**Sn**	**09 29 54.9**	**+0.1**
PLUM	**Mont Dore**	**7.46**	**189**	*e*S	**Sn**	**09 29 56.5**	**-1.0**
HNR	**Honiara**	**9.52**	**304**	*e*Pn	**Pn**	**09 29 05.9**	**+4.8**
HNR	**Honiara**	**9.52**	**304**	*e*P	**Pn**	**09 29 05.9**	**+4.8**
MSVF	**Nonsavu**	**10.10**	**108**	*e*Pn	**Pn**	**09 29 10.7**	**+1.7**
MSVF	**Nonsavu**	**10.10**	**108**	*e*P	**Pn**	**09 29 10.7**	**+1.7**
FUNA	**Funafuti**	**12.68**	**61**	*e*Pn	**Pn**	**09 29 43.5**	**-0.9**
TARA	**Tarawa**	**16.86**	**17**	*e*P	**Pn**	**09 30 41.5**	**+1.3**
	comp=Z,122nm,0.6s						
EIDS	**Eidsvold**	**18.95**	**234**	*e*P	**Pn**	**09 31 08.3**	**+2.4**
	comp=Z,49nm,1.0s						
OUZ	**Omahuta**	**20.88**	**167**	*e*P	**P**	**09 31 28.5**	**+2.3**
	comp=Z,117nm,1.8s						
PMG	**Port Moresby**	**21.04**	**283**	P	**P**	**09 31 28.0**	**-0.1**
	comp=Z,18nm,0.9s,mb4.4,baz=175,slow=6.7,SNR=6.7						
PMG	**Port Moresby**	**21.04**	**283**	*e*P	**P**	**09 31 30.2**	**+2.1**
	comp=Z,50nm,1.1s,mb4.

KMI	**Kunming**	**74.95**	**302**	P	**P**	**09 38 26.8**	**+1.2**
KMI				pmax	pmax			
	comp=Z,9.0nm,0.6s,mb4.9							
CMAR	**Chiang Mai Arr**	**75.62**	**294**	P	**P**	**09 38 29.6**	**+0.1**
	comp=Z,3.2nm,1.0s,mb4.2,baz=122,slow=4.2,SNR=13							
CMAR	**Chiang Mai Arr**	**75.62**	**294**	P	**P**	**09 38 29.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**75.62**	**294**	P	**P**	**09 38 29.7**	**+0.1**
HHC	**Hu-ho-hao-te**	**76.13**	**319**	*e*P	**P**	**09 38 34.1**	**+2.1**
HHC				pP	pP	09 38 44.8	+9.5
HHC				PcP	PcP	09 38 46.6	+2.5
HHC				sP	sP	09 38 48.1	+12
HHC				PP	PP	09 41 27.2	+4.0
HHC				S	S	09 48 15.0	-0.9
HHC				sS	sS	09 48 32.5	+11
HHC				SKS		09 48 37.6	
HHC				ScS	ScS	09 48 43.3	-3.8
HHC				pmax	pmax			
	comp=Z,17nm,0.7s,mb5.1							
HHC				pmax	pmax			
	comp=Z,180nm,7.7s							
HHC				LR	LR			
	comp=N,360nm,17.5s,MS4.9							
HHC				LR	LR			
	comp=E,440nm,17.1s,MS4.9							
HHC				LR	LR			
	comp=Z,420nm,17.6s,MS4.8							
CD2	**Chengdu**	**76.63**	**307**	P	**P**	**09 38 38.2**	**+3.1**
CD2				pP	pP	09 38 48.5	+10
CD2				sP	sP	09 38 52.5	+13
CD2				PP	PP	09 41 31.6	+4.0
CD2				S	S	09 48 21.9	+0.1
CD2				sS	sS	09 48 39.1	+12
CD2				SS	SS	09 53 21.3	+3.6
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s,mb5.0							
CD2				pmax	pmax			
	comp=Z,550nm,10.9s							
CD2				LR	LR			
	comp=N,560nm,17.8s							
CD2				LR	LR			
	comp=Z,470nm,19.0s,MS4.8							
LZH	**Lanzhou**	**78.91**	**312**	*e*P	**P**	**09 38 49.0**	**+1.3**
LZH				pP	pP	09 38 56.5	+5.5
LZH				sP	sP	09 39 03.5	+11
LZH				pmax	pmax			
	comp=Z,16nm,1.1s,mb4.9							
LZH				LR	LR			
	comp=N,220nm,11.4s,MS4.9							
LZH				LR	LR			
	comp=E,350nm,15.6s,MS4.9							
LZH				LR	LR			
	comp=Z,530nm,17.8s,MS4.9							
ULN	**Ulaanbaatar**	**82.65**	**324**	*e*P	**P**	**09 39 07.5**	**+0.1**
	comp=Z,5.8nm,0.8s,mb4.7							
ULN	**Ulaanbaatar**	**82.65**	**324**	*e*P	**P**	**09 39 07.6**	**+0.2**
ULN				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.7							
SONM	**Songino Array**	**83.01**	**323**	P	**P**	**09 39 08.1**	**-1.2**
	comp=Z,3.5nm,1.0s,mb4.3,baz=136,slow=5.8,SNR=17							
SONM	**Songino Array**	**83.01**	**323**	P	**P**	**09 39 08.1**	**-1.2**
SONM	**Songino Array**	**83.01**	**323**	P	**P**	**09 39 08.1**	**-1.2**
GTA	**Gaotai**	**83.25**	**314**	*e*P	**P**	**09 39 11.3**	**+0.5**
GTA				pP	pP	09 39 21.6	+7.5
GTA				sP	sP	09 39 25.8	+11
GTA				S	S	09 49 31.8	+0.4
GTA				sS	sS	09 49 46.8	+10
GTA				SS	SS	09 55 01.0	+4.4
GTA				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.8							
GTA				pmax	pmax			
	comp=Z,110nm,5.0s							
GTA				LR	LR			
	comp=N,280nm,17.8s,MS4.8							
GTA				LR	LR			
	comp=E,200nm,14.9s,MS4.8							
GTA				LR	LR			
	comp=Z,490nm,17.3s,MS4.9							
ISA	**Isabella**	**85.72**	**52**	*e*P	**P**	**09 39 21.5**	**-1.8**
	comp=Z,42nm,2.3s,mb5.3							
ISA	**Isabella**	**85.72**	**52**	*e*P	**P**	**09 39 21.5**	**-1.9**
ISA				pmax	pmax			
	comp=Z,42nm,2.3s,mb5.3							
ZAK	**Zakamensk**	**86.06**	**325**	*e*P	**P**	**09 39 23.4**	**-1.3**
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.1s,mb4.3							
ILAR	**Eielson Array**	**86.46**	**18**	P	**P**	**09 39 23.6**	**-2.7**
	comp=Z,1.4nm,0.8s,mb4.3,baz=234,slow=6.0,SNR=17							
ILAR	**Eielson Array**	**86.46**	**18**	P	**P**	**09 39 23.6**	**-2.7**
ILAR	**Eielson Array**	**86.46**	**18**	P	**P**	**09 39 23.7**	**-2.6**
NVAR	**Mina Array Bea**	**86.86**	**49**	P	**P**	**09 39 28.5**	**-0.5**
	comp=Z,0.4nm,0.8s,mb3.7,baz=234,slow=7.7,SNR=3.6							
NVAR	**Mina Array Bea**	**86.86**	**49**	P	**P**	**09 39 28.5**	**-0.5**
WMQ	**Urumqi**	**93.31**	**314**	P	**P**	**09 40 00.6**	**+1.6**
TXAR	**Lajitas Array**	**95.76**	**61**	P	**P**	**09 40 10.7**	**0.0**
	comp=Z,0.1nm,0.5s,baz=224,slow=6.3,SNR=2.6							
TXAR	**Lajitas Array**	**95.76**	**61**	P	**P**	**09 40 10.7**	**0.0**
TXAR	**Lajitas Array**	**95.76**	**61**	P	**P**	**09 40 10.7**	**+0.1**
MK31	**Makanchi Array**	**97.77**	**316**	*e*P	**P**	**09 40 18.9**	**-0.4**
MK31	**Makanchi Array**	**97.77**	**316**	*e*P	**P**	**09 40 19.0**	**-0.3**
MKAR	**Makanchi Array**	**97.77**	**316**	P	**P**	**09 40 18.2**	**-1.1**
	comp=Z,0.7nm,0.3s,mb4.6,baz=101,slow=6.3,SNR=12							
MKAR	**Makanchi Array**	**97.77**	**316**	P	**P**	**09 40 18.2**	**-1.1**
MKAR	**Makanchi Array**	**97.77**	**316**	P	**P**	**09 40 18.2**	**-1.1**
APA	**Apatity**	**119.73**	**342**	⇑*i* PKIKP	PKPdf	09 45 26.6	-7.1
APA				MLR	MLR			
	comp=Z,700nm,17.0s,MS5.4							
KIV	**Kislovodsk**	**125.43**	**314**	*i* PKIKP	PKPdf	09 45 50.0	+4.7
KIV				pmax	pmax			
	comp=Z,9.0nm,1.1s							
FLN	**La Foliniere**	**144.90**	**347**	*e*PKP1	PKPdf	09 46 18.4	-2.8
FLN	**La Foliniere**	**144.90**	**347**	*e*PKP	PKPdf	09 46 18.4	-2.8
FLN	**La Foliniere**	**144.90**	**347**	*e*PKP2	PKPdf	09 46 18.4	-2.8
CABF	**La Chapelle**	**144.92**	**338**	*e*PKP1	PKPdf	09 46 19.7	-1.6
CABF	**La Chapelle**	**144.92**	**338**	*e*PKP	PKPdf	09 46 19.7	-1.6
CABF	**La Chapelle**	**144.92**	**338**	*e*PKIKP	PKPdf	09 46 19.7	-1.6
LDF	**La Druitiere**	**144.97**	**346**	*e*PKP1	PKPdf	09 46 18.6	-2.8
LDF	**La Druitiere**	**144.97**	**346**	*e*PKP	PKPdf	09 46 18.6	-2.8
LDF	**La Druitiere**	**144.97**	**346**	*e*PKP2	PKPdf	09 46 18.6	-2.8
LOR	**Lormes**	**145.10**	**341**	*e*PKP1	PKPbc	09 46 19.8	-1.3
LOR	**Lormes**	**145.10**	**341**	*e*PKP	PKPbc	09 46 19.8	-1.3
LOR	**Lormes**	**145.10**	**341**	*e*PKIKP	PKPbc	09 46 19.8	-1.3
GRR	**Gorron**	**145.33**	**347**	*e*PKP1	PKPbc	09 46 20.3	-1.5
GRR	**Gorron**	**145.33**	**347**	*e*PKP	PKPbc	09 46 20.3	-1.5
GRR	**Gorron**	**145.33**	**347**	*e*PKP2	PKPbc	09 46 20.3	-1.5
SSF	**Saint Saulge**	**145.39**	**341**	*e*PKP1	PKPbc	09 46 20.9	-1.1
	comp=Z,15nm,0.8s							
SSF	**Saint Saulge**	**145.39**	**341**	*e*PKP	PKPbc	09 46 20.9	-1.1
SSF	**Saint Saulge**	**145.39**	**341**	*e*PKP2	PKPbc	09 46 20.9	-1.1
LPG	**La Plagne**	**145.61**	**336**	*e*PKP1	PKPbc	09 46 22.3	-0.5
	comp=Z,17nm,0.9s							
LPG	**La Plagne**	**145.61**	**336**	*e*PKP	PKPbc	09 46 22.3	-0.5
LPG	**La Plagne**	**145.61**	**336**	*e*PKP2	PKPbc	09 46 22.3	-0.5
SMF	**Signal de Mont**	**145.66**	**340**	*e*PKP1	PKPdf	09 46 21.7	-0.9
SMF	**Signal de Mont**	**145.66**	**340**	*e*PKP	PKPdf	09 46 21.7	-0.9
SMF	**Signal de Mont**	**145.66**	**340**	*e*PKP2	PKPdf	09 46 21.7	-0.9
AVF	**Avril sur Loir**	**145.68**	**341**	*e*PKP1	PKPdf	09 46 21.4	-1.3
	comp=Z,25nm,1.3s							
AVF	**Avril sur Loir**	**145.68**	**341**	*e*PKP	PKPdf	09 46 21.4	-1.3
AVF	**Avril sur Loir**	**145.68**	**341**	*e*PKP2	PKPdf	09 46 21.4	-1.3
SGMF	**Saint Gilles**	**145.81**	**349**	*e*PKP1	PKPdf	09 46 21.9	-0.9
	comp=Z,79nm,1.3s							
SGMF	**Saint Gilles**	**145.81**	**349**	*e*PKP	PKPdf	09 46 21.9	-0.9
SGMF	**Saint Gilles**	**145.81**	**349**	*e*PKP2	PKPdf	09 46 21.9	-0.9
ROSF	**Rostrenen**	**145.86**	**350**	*e*PKP1	PKPdf	09 46 22.1	-0.8
ROSF	**Rostrenen**	**145.86**	**350**	*e*PKP	PKPdf	09 46 22.1	-0.8
ROSF	**Rostrenen**	**145.86**	**350**	*e*PKP2	PKPdf	09 46 22.1	-0.8
MBDF	**Montbardon**	**146.24**	**336**	*e*PKP1	PKPdf	09 46 23.5	-0.2
MBDF	**Montbardon**	**146.24**	**336**	*e*PKP	PKPdf	09 46 23.5	-0.2
MBDF	**Montbardon**	**146.24**	**336**	*e*PKP2	PKPdf	09 46 23.5	-0.2
QUIF	**Quistinic**	**146.25**	**349**	*e*PKP1	PKPdf	09 46 22.8	-0.8
QUIF	**Quistinic**	**146.25**	**349**	*e*PKP	PKPdf	09 46 22.8	-0.8
QUIF	**Quistinic**	**146.25**	**349**	*e*PKP2	PKPdf	09 46 22.8	-0.8
ORIF	**Oris-en-Rattie**	**146.43**	**337**	*e*PKP1	PKPbc	09 46 24.4	-0.9
	comp=Z,17nm,0.9s							
ORIF	**Oris-en-Rattie**	**146.43**	**337**	*e*PKP	PKPbc	09 46 24.4	-0.9
ORIF	**Oris-en-Rattie**	**146.43**	**337**	*e*PKP2	PKPbc	09 46 24.4	-0.9
MFF	**Saint Martin d**	**146.84**	**345**	*e*PKP1	PKPdf	09 46 24.9	+0.3
	comp=Z,28nm,1.0s							
MFF	**Saint Martin d**	**146.84**	**345**	*e*PKP	PKPdf	09 46 24.9	+0.3
MFF	**Saint Martin d**	**146.84**	**345**	*e*PKP2	PKPdf	09 46 24.9	+0.3
VIVF	**Saint-Julien-l**	**146.93**	**338**	*e*PKP1	PKPbc	09 46 25.8	-0.9
VIVF	**Saint-Julien-l**	**146.93**	**338**	*e*PKP	PKPbc	09 46 25.8	-0.9
VIVF	**Saint-Julien-l**	**146.93**	**338**	*e*PKP2	PKPbc	09 46 25.8	-0.9
SMRF	**Simiane la Rot**	**147.34**	**336**	*e*PKP1	PKPbc	09 46 27.1	-0.8
SMRF	**Simiane la Rot**	**147.34**	**336**	*e*PKP	PKPbc	09 46 27.1	-0.8
LASF	**Ste Croix**	**147.90**	**338**	*e*PKP1	PKPbc	09 46 28.5	-0.9
LASF	**Ste Croix**	**147.90**	**338**	*e*PKP	PKPbc	09 46 28.5	-0.9
MTLF	**Montolieu**	**149.12**	**340**	*e*PKP1	PKPbc	09 46 31.7	-0.9
	comp=Z,9.5nm,0.8s							
MTLF	**Montolieu**	**149.12**	**340**	*e*PKP	PKPbc	09 46 31.7	-0.9
MTLF	**Montolieu**	**149.12**	**340**	*e*PKP2	PKPbc	09 46 31.7	-0.9
SJPF	**Ste Jean**	**150.37**	**344**	*e*PKP1	PKPbc	09 46 34.3	-1.4
SJPF	**Ste Jean**	**150.37**	**344**	*e*PKP	PKPbc	09 46 34.3	-1.4
SJPF	**Ste Jean**	**150.37**	**344**	*e*PKIKP	PKPbc	09 46 34.3	-1.4
KEST	**Kesra**	**151.75**	**321**	PKPbc	PKPbc	09 46 38.3	-0.9
	comp=Z,1.1nm,0.7s,baz=78,slow=17,SNR=3.7							
KEST	**Kesra**	**151.75**	**321**	PKPbc	PKPbc	09 46 38.3	-0.9
TORD	**Torodi Ar. Bea**	**166.56**	**264**	PKP	PKPdf	09 46 48.0	-2.6
	comp=Z,0.7nm,0.9s,baz=13,slow=0.8,SNR=3.7							
TORD				PKPab	PKPab	09 47 51.3	-1.4
	comp=Z,1.2nm,1.0s,baz=115,slow=4.1,SNR=4.6							
TORD	**Torodi Ar. Bea**	**166.56**	**264**	PKP	PKPdf	09 46 48.0	-2.6
TORD				PKPab	PKPab	09 47 51.3	-1.4

MEX 07 09:36:21.5±1.1, 16°27N×94°15W, h85km±20km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.06**	**122**	*e*P	Pn	09 36 40.2	-1.4
PCIG				*i* S	Sn	09 36 55.3	-1.3
TGIG		**1.11**	**63**	*e*P	Pn	09 36 41.4	-0.8
TGIG				*i* S	Sn	09 36 55.9	-1.8
SCX	**San Cristobal**	**1.53**	**72**	*i* P	Pn	09 36 46.5	-0.8
SCX				*i* S	Sn	09 37 05.4	-1.5
CCIG	**Comitan**	**1.94**	**89**	*e*P	Pn	09 36 51.5	-1.2
CCIG				*i* S	Sn	09 37 13.8	-2.6
HUIG	**Huatulco**	**1.94**	**255**	*e*P	Pn	09 36 50.9	-1.9
HUIG				*i* S	Sn	09 37 14.7	-2.0
THIG		**2.27**	**126**	*i* P	Pn	09 36 57.2	+0.1
THIG				*i* S	Sn	09 37 23.7	-0.7
VHO	**Vista Hermosa**	**2.60**	**288**	*i* P	Pn	09 37 02.2	+0.8
VHO				*i* S	Sn	09 37 32.3	+0.1
PNIG	**Pinotepa**	**3.82**	**272**	*i* P	Pn	09 37 17.7	-0.3
PNIG				*i* S	Sn	09 37 59.6	-2.1
UTMO	**Huajuapan**	**3.82**	**294**	*i* P	Pn	09 37 18.3	+0.3
UTMO				*i* S	Sn	09 38 00.9	-0.9

*IDC **07** 09:39:58.3±0.4, 14°.95S×168°.19E, h0km, mb5.2/22, mb1 5.3/22, mb1mx5.3/23, mbtmp5.2/22, MS4.7/19, Ms1 4.7/19, ms1mx4.6/31, Error ellipse: s-maj=16.3km s-min=14.4km az=138.0*

*NOU **07** 09:39:58.2±0.8, 14°.51S×167°.98E, h30km, MD3.8, ML3.9*

*ISCJB **07** 09:39:59.0±0.1, 15°.01S±0°.03×168°.01E±0°.02, h10km, mb5.5/143, MS4.9/32, Error ellipse: s-maj=4.0km s-min=2.7km az=157.2*

*NEIC **07** 09:40:00.5±0.1, 14°.92S×168°.12E, h10km, mb5.5/60, MS4.9/3, Error ellipse: s-maj=6.3km s-min=4.4km az=155.0*

*LDG **07** 09:40:00.2±0.3, 14°.73S×168°.02E, h10km, Mb5.8/4, Error ellipse: s-maj=38.0km s-min=12.4km az=95.0*

*GCMT **07** 09:40:03.2±0.2, 15°.02S×168°.20E, h18km, MW5.5, Moment Tensor Solution. s65,c100; s11,c11; Moment tensor: Scale 10^17^Nm; Mrr1.98±.07; Mθθ-0.68±.05; Mφφ-1.30±.05; Mrθ0.06±.11; Mrφ0.89±.03; Mθφ0.52±.10; Best double couple: M0 2.00000×10^17^ NP1:φs 135.00000°, δ40.00000°, λ76.00000°. NP2:φs 334.00000°, δ51.00000°, λ102.00000°. Principal axes: T 2.0800, Plg79.0000°, Azm294.0000°; N -0.1000, Plg9.0000°, Azm147.0000°; P -1.9700, Plg6.0000°, Azm56.0000°; Data Used: ll IU G IC CN. Surface waves: sta= 98, comp=161, per= 50.*

*MOS **07** 09:40:03.5±1.4, 14°.86S×168°.02E, h34km, mb5.5/57, MS4.8/8 Error ellipse: s-maj=8.1km s-min=7.9km az=100.1*

*BJI **07** 09:40:04.2, 14°.25S×168°.11E, h29km, mB5.7/23, mb5.4/50, Ms5.2/26, Ms7 4.9/27*

*DJA **07** 09:40:13, 15°.21S×168°.03E, h115km, Mw5.7/38*

ISC 07 09:40:00.7±0.1, 14°.97S±0°.02×168°.06E±0°.02, h10km, (h35km±1.0km: pP-P), n962, σ0 9.71/592, mb5.5/143, MS4.9/32, 245C-137D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.23**	**192**	*e*Pn	**Pn**	**09 41 46.5**	**0.0**
DZM	92nm,0.3s			*e*Sn	**Sn**	**09 43 03.8**	**-4.9**
DZM	52nm,0.3s			*e*LR	LR	09 43 27.5	
DZM	15µm,26.1s						
DZM	**Mont Dzumac**	**7.23**	**192**	*e*P	**Pn**	**09 41 46.0**	**-0.5**
DZM				*e*S	**Sn**	**09 43 07.2**	**-1.4**
DZM				AMP		09 43 16.6	
	comp=Z,2µm,0.0s						
DZM	**Mont Dzumac**	**7.23**	**192**	*e*Pn	**Pn**	**09 41 46.3**	**-0.1**
	comp=Z,191nm,0.6s						
DZM				*e*Sn	**Sn**	**09 43 06.2**	**-2.5**
BAYA	**Yate Dam**	**7.23**	**189**	*e*P	**Pn**	**09 41 47.2**	**+0.7**
BAYA				*e*S	**Sn**	**09 43 07.1**	**-1.6**
BAYA				AMP		09 43 10.6	
	comp=Z,13nm,0.0s						
NOUC	**Port Laguerre**	**7.29**	**193**	*e*P	**Pn**	**09 41 47.4**	**+0.2**
NOUC				*e*S	**Sn**	**09 43 08.0**	**-2.1**
NOUC				AMP		09 43 14.7	
	comp=Z,102nm,2.1s						
LASL	**Noumea**	**7.37**	**191**	*e*S	**Sn**	**09 43 10.3**	**-1.7**
NORM	**Noumea**	**7.37**	**191**	*e*P	**Pn**	**09 41 49.0**	**+0.6**
HNR	**Honiara**	**9.65**	**304**	*e*Pn	**Pn**	**09 42 21.9**	**+2.2**
HNR				*e*Sn	**Sn**	**09 44 05.8**	**-2.4**
HNR	**Honiara**	**9.65**	**304**	*e*P	**Pn**	**09 42 21.9**	**+2.2**
HNR				*e*		09 44 05.8	
MSVF	**Nonsavu**	**9.98**	**107**	*e*Pn	**Pn**	**09 42 22.2**	**-2.0**
MSVF				*e*Sn	**Sn**	**09 44 18.3**	**+2.0**
MSVF	**Nonsavu**	**9.98**	**107**	*e*P	**Pn**	**09 42 22.2**	**-2.0**
MSVF				*e*		09 44 18.3	
FUNA	**Funafuti**	**12.64**	**61**	*e*Pn	**Pn**	**09 42 58.0**	**-2.7**
EIDS	**Eidsvold**	**18.98**	**234**	*e*Pn	**Pn**	**09 44 25.2**	**+2.1**
	comp=Z,189nm,0.8s						
OUZ	**Omahuta**	**20.77**	**167**	*e*P	**P**	**09 44 43.3**	**+1.4**
	comp=Z,119nm,0.9s						
PMG	**Port Moresby**	**21.15**	**283**	P	**P**	**09 44 48.5**	**+2.3**
	comp=Z,129nm,0.9s,mb5.2,baz=102,slow=6.3,SNR=32						
PMG	**Port Moresby**	**21.15**	**283**	*e*P	**P**	**09 44 48.0**	**+1.8**
	comp=Z,124nm,0.9s,mb5.2						
PMG				*e*Sn	**S**	**09 48 46.4**	**+4.7**
PMG	**Port Moresby**	**21.15**	**283**	*e*P	**P**	**09 44 48.0**	**+1.8**
PMG				*e*		09 48 46.4	
PMG				pmax	pmax		
	comp=Z,124nm,0.9s						
PMG	**Port Moresby**	**21.15**	**283**	P	**P**	**09 44 48.4**	**+2.2**
	comp=Z,2µmcomp=Z,155nm,1.4s,mb5.1						
CTA	**Charters Tower**	**21.40**	**253**	P	**P**	**09 44 51.1**	**+2.3**
	comp=Z,78nm,0.8s,mb5.1,baz=78,slow=11,SNR=4.4						
CTA				LR	LR	09 51 38.8	
	comp=Z,3µm,21.9s,MS4.6,baz=76,slow=32						
CTA	**Charters Tower**	**21.40**	**253**	*e*P	**P**	**09 44 51.2**	**+2.4**
	comp=Z,66nm,0.8s,mb5.0						
CTA				*e*S	**S**	**09 48 48.3**	**+1.9**
CTA	**Charters Tower**	**21.40**	**253**	P	**P**	**09 44 51.1**	**+2.3**
CTA				LR	LR	09 51 38.8	
CTA	**Charters Tower**	**21.40**	**253**	P	**P**	**09 44 51.1**	**+2.3**
CTA				pmax	pmax		
	comp=Z,78nm,0.8s						
CTA				MLR	MLR		
	comp=Z,3µm,22.0s						
CTAO	**Charters Tower**	**21.40**	**253**	*e*P	**P**	**09 44 50.7**	**+2.0**
	comp=Z,104nm,0.8s,mb5.2						
CTAO	**Charters Tower**	**21.40**	**253**	*e*P	**P**	**09 44 50.7**	**+1.9**
CTAO				pmax	pmax		
	comp=Z,104nm,0.8s,mb5.2						
CTAO	**Charters Tower**	**21.40**	**253**	P	**P**	**09 44 50.9**	**+2.1**
	comp=Z,155nm,1.5s,mb5.1						
ARMA	**Armidale**	**21.55**	**222**	*e*P	**P**	**09 44 51.9**	**+1.6**
ARMA				*e*S	**S**	**09 48 53.6**	**+4.5**
ARMA	**Armidale**	**21.55**	**222**	*e*P	**P**	**09 44 51.7**	**+1.4**
	comp=Z,174nm,1.1s,mb5.4						
COEN	**Coen**	**24.11**	**269**	*e*P	**P**	**09 45 18.1**	**+1.3**
	comp=Z,824nm,1.3s,mb6.0						
COEN				*e*PcP	PcP	09 48 58.7	+0.5
COEN	**Coen**	**24.11**	**269**	P	**P**	**09 45 17.8**	**+1.0**
	comp=Z,2µmcomp=Z,104nm,2.1s,mb4.9						
RIV	**Riverview**	**24.21**	**216**	*e*P	**P**	**09 45 18.9**	**+1.3**
URZ	**Urewera**	**24.54**	**163**	P	**P**	**09 45 20.4**	**-0.1**
	comp=Z,52nm,0.7s,mb5.2,baz=29,slow=4.3,SNR=17						
URZ	**Urewera**	**24.54**	**163**	*e*P	**P**	**09 45 20.6**	**+0.1**
	comp=Z,93nm,1.0s,mb5.3						
CNB	**Canberra Magne**	**26.31**	**216**	⇑*i* P	**P**	**09 45 37.2**	**+0.6**
CAN	**Canberra**	**26.52**	**217**	*e*P	**P**	**09 45 39.2**	**+0.7**
	comp=Z,184nm,1.8s,mb5.3						
CAN	**Canberra**	**26.52**	**217**	*e*P	**P**	**09 45 39.2**	**+0.7**
CAN				pmax	pmax		
	comp=Z,184nm,1.8s,mb5.3						
RPZ	**Rata Peaks**	**28.77**	**175**	LR	LR	09 55 31.5	
	comp=Z,1µm,20.4s,MS4.5,baz=244,slow=32						
STKA	**Stephens Creek**	**29.43**	**231**	P	**P**	**09 46 05.7**	**+1.1**
	comp=Z,47nm,0.9s,mb5.2,baz=54,slow=8.5,SNR=38						
STKA				PcP	PcP	09 49 09.8	-0.6
	comp=Z,14nm,1.0s,baz=105,slow=3.6,SNR=3.7						
STKA				LR	LR	09 56 06.3	
	comp=Z,2µm,21.6s,MS4.7,baz=73,slow=33						
STKA	**Stephens Creek**	**29.43**	**231**	⇑*i* P	**P**	**09 46 05.6**	**+1.1**
	comp=Z,48nm,1.2s,mb5.1						
STKA				*e*S	**S**	**09 51 02.8**	**+4.2**
STKA	**Stephens Creek**	**29.43**	**231**	*e*P	**P**	**09 46 05.5**	**+0.9**
	comp=Z,34nm,1.4s,mb4.9						
STKA				*e*PcP	PcP	09 49 09.5	-1.0
STKA	**Stephens Creek**	**29.43**	**231**	*e*P	**P**	**09 46 05.5**	**+1.0**
STKA				*e*		09 49 09.5	
STKA				pmax	pmax		
	comp=Z,34nm,1.4s						
TOO	**Toolangi**	**30.12**	**217**	⇑*i* P	**P**	**09 46 11.1**	**+0.5**
RAR	**Rarotonga**	**31.16**	**106**	P	**P**	**09 46 19.7**	**-0.3**
	comp=Z,31nm,1.0s,mb5.1,baz=259,slow=8.0,SNR=3.0						
RAR				LR	LR	09 56 03.2	
	comp=Z,702nm,19.5s,MS4.3,baz=95,slow=31						
RAR	**Rarotonga**	**31.16**	**106**	P	**P**	**09 46 19.7**	**-0.3**
RAR				LR	LR	09 56 03.2	
RAR	**Rarotonga**	**31.16**	**106**	P	**P**	**09 46 19.7**	**-0.3**
RAR				pmax	pmax		
	comp=Z,31nm,1.0s						
SMPI	**Sarmi**	**31.70**	**291**	P	**P**	**09 46 25.7**	**+0.9**
	comp=Z,4µmcomp=Z,351nm,1.3s,mb6.0						
WB2	**Warramunga Arr**	**32.50**	**256**	*e*P	**P**	**09 46 31.0**	**-0.8**
WB2				*e*PcP	PcP	09 49 18.3	-0.5
WRAB	**Tennant Creek**	**32.50**	**256**	*e*P	**P**	**09 46 30.8**	**-1.0**
	comp=Z,98nm,1.0s,mb5.6						
WRAB				*e*PcP	PcP	09 49 18.4	-0.4
WRAB				LR	LR		
	comp=Z,3µm,21.0s,MS4.9						
WRAB	**Tennant Creek**	**32.50**	**256**	*e*P	**P**	**09 46 30.8**	**-1.0**
WRAB				*e*		09 49 18.4	
WRAB				pmax	pmax		
	comp=Z,98nm,1.0s,mb5.6						
WRAB				MLR	MLR		
	comp=Z,3µm,21.0s,MS4.9						
WRAB	**Tennant Creek**	**32.50**	**256**	P	**P**	**09 46 31.2**	**-0.6**
	comp=Z,165nm,1.3s,mb5.7						
WRA	**Warramunga Arr**	**32.51**	**256**	P	**P**	**09 46 31.0**	**-0.9**
	comp=Z,63nm,0.9s,mb5.5,baz=86,slow=8.6,SNR=190						
WRA				PcP	PcP	09 49 18.3	-0.5
	comp=Z,16nm,1.0s,baz=80,slow=2.3,SNR=10						
WRA				S	**S**	**09 51 44.4**	**-2.8**
	comp=Z,2.6nm,1.0s,baz=82,slow=14,SNR=5.2						
WRA				LR	LR	09 58 56.5	
	comp=Z,3µm,18.1s,MS5.0,baz=85,slow=35						
WRA				P3KPbc		10 17 58.6	
	comp=Z,2.9nm,1.1s,baz=270,slow=3.1,SNR=7.6						
WRA	**Warramunga Arr**	**32.51**	**256**	P	**P**	**09 46 31.0**	**-0.9**
WRA				PcP	PcP	09 49 18.3	-0.6
WRA				S	**S**	**09 51 44.4**	**-2.8**
WRA				LR	LR	09 58 56.5	
WRA				*e*		10 17 58.6	
WRA	**Warramunga Arr**	**32.51**	**256**	P	**P**	**09 46 31.0**	**-0.9**
WRA						09 49 18.3	
WRA				S	**S**	**09 51 44.4**	**-2.8**
WRA				pmax	pmax		
	comp=Z,63nm,0.9s						
WRA				pmax	pmax		
	comp=Z,16nm,1.0s						
WRA				smax			
	comp=N,3.0nm,1.0s						
WRA				MLR	MLR		
	comp=Z,3µm,18.1s						
MOO	**Mo

BMNI Bima 48.67 272 P **P** **09 48 44.9 -0.6**
comp=N,3µmcomp=N,188nm,1.5s,mb5.9
SPSI Sidrap Palu 48.76 278 P **P** **09 48 45.8 -0.4**
comp=N,1µmcomp=N,60nm,1.2s,mb5.5
TTSI Tana Toraja 48.98 279 P **P** **09 48 48.4 +0.5**
comp=N,1µmcomp=N,46nm,1.4s,mb5.3
KIP Kipapa 49.16 43⇓ *e*P **P** **09 48 47.8 -1.2**
KIP pmax pmax
comp=Z,64nm,1.2s,mb5.5
NWAO Narrogin (SRO) 49.28 239 *e*P **P** **09 48 49.6 -0.4**
comp=Z,124nm,1.0s,mb5.9
NWAO *e*PP PP 09 50 44.4 +0.6
NWAO Narrogin (SRO) 49.28 239 *e*P **P** **09 48 49.6 -0.3**
NWAO *e* 09 50 44.4
NWAO pmax pmax
comp=Z,124nm,1.0s
OPA Opana 49.34 43 *e*P **P** **09 48 50.1 -0.3**
OPA Opana 49.34 43 *e*P **P** **09 48 50.1 -0.3**
MTNI Mataram 51.09 271 P **P** **09 49 02.8 -1.1**
comp=Z,93nm,1.4s,mb5.5
IGBI Denpasar 52.04 270 P **P** **09 49 11.2 +0.2**
comp=Z,169nm,1.2s,mb5.8
SRBI Singaraja 52.13 271 P **P** **09 49 10.5 -1.2**
comp=Z,2µmcomp=Z,77nm,2.0s,mb5.3
KBKI Kotabaru 52.40 277 P **P** **09 49 13.5 -0.2**
comp=Z,2µmcomp=Z,98nm,1.1s,mb5.6
MYLDM Lahad Datu 53.03 288 P **P** **09 49 20.2 +1.9**
MYLDM Lahad Datu 53.03 288 P **P** **09 49 19.8 +1.5**
comp=Z,1µmcomp=Z,80nm,1.5s,mb5.4
TSM Tawau 53.27 287 P **P** **09 49 21.7 +1.6**
BBKI Banjar Baru 53.62 277 P **P** **09 49 23.7 +1.0**
comp=Z,177nm,1.4s,mb5.8
RKT Rikitea 54.18 108 *e*LQ 10 02 52.0
RKT *e*LR LR 10 05 15.8
comp=Z,732nm,35.2s
SDKM Sandakan 54.40 288 P **P** **09 49 30.1 +1.7**
JHJ Hachijo jima 2 54.92 331 LR LR 10 11 04.6
comp=Z,488nm,20.1s,MS4.6,baz=19,slow=34
KKM Kota Kinabalu 55.46 288 P **P** **09 49 37.1 +1.1**
KKM Kota Kinabalu 55.46 288 *e*P **P** **09 49 36.1 0.0**
comp=Z,240nm,1.4s,mb6.0
KKM Kota Kinabalu 55.46 288 P **P** **09 49 36.6 +0.5**
comp=Z,2µmcomp=Z,121nm,1.6s,mb5.7
PCJI Pacitan 56.01 270 P **P** **09 49 39.4 -0.6**
comp=Z,210nm,1.4s,mb6.0
JOW Kunigami 56.74 317 *e*P **P** **09 49 44.9 -0.1**
BTM Bintulu 57.34 284 P **P** **09 49 50.9 +1.3**
STKI Sintang 57.86 280 P **P** **09 49 54.6 +1.4**
comp=Z,105nm,1.2s,mb5.7
SBUM Sibu 57.90 283 P **P** **09 49 54.6 +1.1**
SBUM Sibu 57.90 283 P **P** **09 49 54.5 +1.0**
comp=Z,866nmcomp=Z,52nm,1.2s,mb5.4
MJAR Matsushiro Arr 58.47 332 P **P** **09 49 55.8 -1.1**
comp=Z,29nm,1.0s,mb5.3,baz=171,slow=8.1,SNR=36
MJAR Matsushiro Arr 58.47 332 P **P** **09 49 55.9 -1.1**
MJAR Matsushiro Arr 58.47 332 P **P** **09 49 55.8 -1.1**
MJAR pmax pmax
comp=Z,29nm,1.0s
MAJO Matsushiro 58.47 332 *e*P **P** **09 49 56.4 -0.6**
comp=Z,47nm,1.0s,mb5.5
MAJO Matsushiro 58.47 332 *e*P **P** **09 49 56.4 -0.5**
MAJO pmax pmax
comp=Z,47nm,1.0s,mb5.5
MAT Matsushiro 58.47 332 P **P** **09 49 56.1 -0.8**
MAT *e*S **S** **09 57 54.8 -5.6**
CISI Cisompet, Garu 59.40 270 P **P** **09 50 04.5 +0.6**
comp=Z,147nm,1.8s,mb5.7
KSM Kuching 59.40 281 P **P** **09 50 04.8 +0.8**
KSM Kuching 59.40 281 *e*P **P** **09 50 04.2 +0.3**
KSM Kuching 59.40 281 P **P** **09 50 04.4 +0.5**
comp=Z,1µmcomp=Z,92nm,1.4s,mb5.6
YULB Yu-li 59.53 309 *e*P **P** **09 50 04.0 -0.7**
comp=Z,30nm,1.2s,mb5.2
JNU Nakatsue 59.56 324 *e*P **P** **09 50 04.4 -0.2**
NACB Ninganchiao 59.77 310 *e*P **P** **09 50 05.6 -0.6**
comp=Z,96nm,1.3s,mb5.7
TPUB Ta-pu 59.98 309 *e*P **P** **09 50 06.0 -1.8**
comp=Z,50nm,1.0s,mb5.5
SSLB Suanglung 60.02 309 *e*P **P** **09 50 07.3 -0.6**
comp=Z,39nm,1.1s,mb5.3
YHNB Yeheng 60.22 310 *e*P **P** **09 50 08.8 -0.4**
comp=Z,75nm,1.0s,mb5.7
CBJI Citeko 60.59 271 P **P** **09 50 10.7 -1.4**
comp=Z,208nm,1.1s,mb6.2
DBJI Dramaga 60.65 271 P **P** **09 50 11.7 -0.8**
comp=Z,152nm,1.6s,mb5.9
SBJI Serang 61.35 271 P **P** **09 50 17.0 -0.3**
comp=Z,129nm,1.4s,mb5.9
CGJI Cibinong 61.66 270 P **P** **09 50 18.2 -1.2**
comp=Z,2µmcomp=Z,153nm,1.4s,mb6.0
RBSI Rajabasa 61.79 271 P **P** **09 50 19.8 -0.5**
comp=Z,33nm,0.9s,mb5.5
PPBI Pangkal Pinang 62.34 275 P **P** **09 50 25.0 +1.0**
comp=Z,54nm,1.2s,mb5.6
QZH Quanzhou 62.45 309 P **P** **09 50 21.8 -2.6**
QZH pmax pmax
comp=Z,980nm,6.6s
SBA Scott Base 62.90 180 *e*P **P** **09 50 27.1 +0.5**
comp=Z,126nm,1.1s,mb6.0
SBA Scott Base 62.90 180 *e*P **P** **09 50 27.1 +0.5**
SBA pmax pmax
comp=Z,126nm,1.1s,mb6.0
ASAJ Asahikawa 63.22 340 P **P** **09 50 29.1 0.0**
comp=Z,41nm,0.9s,mb5.6,baz=224,slow=15,SNR=8.9
ASAJ LR LR 10 13 18.9
comp=Z,1µm,20.2s,MS5.0,baz=89,slow=32
ASAJ Asahikawa 63.22 340 *e*P **P** **09 50 30.2 +1.0**
comp=Z,38nm,1.1s,mb5.4
ASAJ Asahikawa 63.22 340 P **P** **09 50 29.1 0.0**
ASAJ pmax pmax
comp=Z,41nm,0.9s
LWLI Liwa 63.62 272 P **P** **09 50 30.8 -1.6**
comp=Z,6µmcomp=Z,111nm,1.1s,mb5.8
MDSI Maura Dua 63.63 272 P **P** **09 50 29.6 -2.9**
comp=Z,40nm,1.8s,mb5.1
KSRS Korea Array 64.36 325 P **P** **09 50 36.8 0.0**
comp=Z,8.0nm,1.0s,mb4.7,baz=143,slow=6.9,SNR=16
KSRS PKPPKP 10 19 30.6
comp=Z,1.6nm,0.9s,baz=328,slow=4.5,SNR=4.4
KSRS Korea Array 64.36 325 P **P** **09 50 36.8 0.0**
KSRS pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
MYKOM Kota Tinggi 65.65 279 P **P** **09 50 46.6 +0.9**
MYKOM Kota Tinggi 65.65 279 P **P** **09 50 45.7 0.0**
comp=Z,38nm,1.4s,mb5.2
KGM Kluang 66.22 279 P **P** **09 50 50.4 +1.0**
NJ2 Nanjing 66.38 315 *e*P **P** **09 50 50.2 +0.2**
NJ2 pP pP 09 51 00.5 +7.2
NJ2 sP sP 09 51 04.4 +10
NJ2 PP PP 09 53 17.4 +1.0
NJ2 pmax pmax
comp=Z,60nm,1.1s,mb5.5
NJ2 pmax pmax
comp=Z,600nm,5.9s
NJ2 LR LR
comp=N,970nm,29.1s
NJ2 LR LR
comp=E,950nm,21.4s
NJ2 LR LR
comp=Z,740nm,18.7s
VLA Vladivostok 66.64 332 *i*P **P** **09 50 51.7 +0.3**
FX1 Attu Island--F 67.71 3 LR LR 10 15 35.1
comp=Z,645nm,18.9s,MS4.9,baz=188,slow=32
BKNI Bangkinang 67.92 277 P **P** **09 51 00.2 0.0**
comp=Z,2µmcomp=Z,190nm,1.2s,mb6.0
PDSI Padang 68.14 275 P **P** **09 51 00.0 -1.6**
comp=Z,53nm,0.9s,mb5.6
FRIM Kepong 68.20 280 P **P** **09 51 02.4 +0.5**
PETK Petropavlovsk- 68.38 353 P **P** **09 51 01.8 -0.4**
comp=Z,5.8nm,0.9s,mb4.6,baz=146,slow=11,SNR=4.8
PETK Petropavlovsk- 68.38 353 P **P** **09 51 01.8 -0.4**
PETK Petropavlovsk- 68.38 353 P **P** **09 51 01.8 -0.4**
PETK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
WHN Wuhan 68.67 312 ⇑P **P** **09 51 04.2 -0.3**
WHN pmax pmax
comp=Z,59nm,0.8s,mb5.6
MDJ Mudanjiang 68.85 332 P **P** **09 51 05.7 +0.4**
MDJ pmax pmax
comp=Z,57nm,1.1s,mb5.4
MDJ Mudanjiang 68.85 332 *e*P **P** **09 51 05.3 0.0**
comp=Z,51nm,1.0s,mb5.4
MDJ *e*PcP PcP 09 51 28.4 -1.3
IPM Ipoh 69.14 281 P **P** **09 51 08.4 +0.6**
IPM Ipoh 69.14 281 *e*P **P** **09 51 07.6 -0.2**
comp=Z,65nm,1.0s,mb5.5
IPM Ipoh 69.14 281 P **P** **09 51 07.3 -0.5**
comp=Z,71nm,1.2s,mb5.5
MNSI Mandailing Nat 69.45 277 P **P** **09 51 08.2 -1.6**
comp=Z,3µmcomp=Z,93nm,1.0s,mb5.7
KULM Kulim 69.74 281 P **P** **09 51 11.5 -0.1**
KULM Kulim 69.74 281 *e*P **P** **09 51 11.0 -0.5**
KULM Kulim 69.74 281 P **P** **09 51 11.6 0.0**
comp=Z,1µmcomp=Z,55nm,1.2s,mb5.4
CN2 Changchun 70.24 329 *e*P **P** **09 51 13.7 -0.3**
CN2 *e*S S 10 00 26.5 +0.7
CN2 pmax pmax
comp=Z,70nm,1.2s,mb5.5
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,500nm,16.0s,MS4.9
CN2 LR LR
comp=E,300nm,16.0s,MS4.9
CN2 LR LR
comp=Z,300nm,25.0s
KLR Kul'dur 71.53 336 *e*P **P** **09 51 18.7 -3.0**
KLR pmax pmax
comp=E,35nm,1.8s
KLR pmax pmax
comp=Z,180nm,1.8s,mb5.7
UNV Unalaska Valle 71.92 16 *e*P **P** **09 51 22.7 -1.2**
comp=Z,54nm,1.3s,mb5.3
ENH Enshi 72.11 309 *e*P **P** **09 51 25.0 -0.5**
comp=Z,162nm,1.6s,mb5.7
GYA Guiyang 72.48 304⇑ *i*P **P** **09 51 30.0 +2.1**
GYA pP pP 09 51 41.8 +11
GYA sP sP 09 51 46.4 +14
GYA PP PP 09 54 13.2 +3.9
GYA S S 10 00 51.7 -0.6
GYA SKS 10 01 27.3
GYA pmax pmax
comp=Z,50nm,1.1s,mb5.4
GYA pmax pmax
comp=Z,2µm,10.7s
GYA LR LR
comp=N,4µm,20.6s,MS5.7
GYA LR LR
comp=E,2µm,22.6s,MS5.7
GYA LR LR
comp=Z,4µm,20.4s,MS5.6
BJI Beijing 72.93 321 P **P** **09 51 30.3 +0.1**
BJI pmax pmax
comp=Z,46nm,1.2s,mb5.3
NST Nakhon Sawan 73.68 292 P **P** **09 51 35.0 -0.2**
XAN Xi'an 74.41 312 P **P** **09 51 39.2 +0.1**
XAN pP pP 09 51 48.1 +5.7
XAN pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
XAN pmax pmax
comp=Z,97nm,7.3s
QSPA South Pole Qui 75.06 180 LR LR 10 19 23.4
comp=Z,512nm,19.5s,MS4.8,baz=271,slow=32
QSPA South Pole Qui 75.06 180 *e*P **P** **09 51 41.6 -0.5**
comp=Z,90nm,1.0s,mb5.7
KMI Kunming 75.08 302 P **P** **09 51 44.3 +1.1**
KMI PcP PcP 09 52 01.2 +4.4
KMI pmax pmax
comp=Z,49nm,1.0s,mb5.4
CHRT Chiangrai 75.52 295 ⇑P **P** **09 51 46.0 +0.2**
comp=Z,390nm,1.3s,mb6.2
CM31 Chiang Mai Arr 75.74 294 *e*P **P** **09 51 47.3 +0.2**
comp=Z,10.0nm,0.8s,mb4.8
CMAR Chiang Mai Arr 75.74 294 P **P** **09 51 48.1 +1.0**
comp=Z,19nm,1.0s,mb5.0,baz=116,slow=4.1,SNR=80
CMAR PKPPKP 10 19 13.5
comp=Z,1.4nm,1.1s,baz=280,slow=2.9,SNR=6.9
CMAR Chiang Mai Arr 75.74 294 P **P** **09 51 48.1 +1.0**
CMAR P'P' 10 19 13.5
CMAR Chiang Mai Arr 75.74 294 P **P** **09 51 48.1 +1.0**
CMAR pmax pmax
comp=Z,19nm,1.0s
CHG Chiang Mai 75.87 294 ⇑P **P** **09 51 48.5 +0.7**
comp=Z,33nm,1.1s,mb5.2
CHTO Chiang Mai 75.87 294 *e*P **P** **09 51 48.0 +0.1**
CHTO Chiang Mai 75.87 294 *e*P **P** **09 51 48.0 +0.2**
CHTO Chiang Mai 75.87 294 P **P** **09 51 48.4 +0.6**
comp=Z,879nmcomp=Z,49nm,1.3s,mb5.3
HHC Hu-ho-hao-te 76.26 319 ⇑P **P** **09 51 49.9 +0.3**
HHC pP pP 09 52 00.5 +7.6
HHC PcP PcP 09 52 01.9 +0.4
HHC sP sP 09 52 04.6 +11
HHC PP PP 09 54 43.2 +2.1
HHC S S 10 01 31.7 -2.5
HHC sS sS 10 01 48.8 +9.2
HHC SKS 10 01 53.4
HHC ScS ScS 10 01 59.3 -5.7
HHC pmax pmax
comp=Z,57nm,1.2s,mb5.4
HHC pmax pmax
comp=Z,740nm,7.7s
HHC LR LR
comp=N,270nm,17.1s,MS4.9
HHC LR LR
comp=E,380nm,17.5s,MS4.9
HHC LR LR
comp=Z,450nm,17.6s,MS4.8
CD2 Chengdu 76.76 307 P **P** **09 51 53.0 +0.4**
CD2 pP pP 09 52 03.3 +7.4
CD2 sP sP 09 52 07.1 +10
CD2 PP PP 09 54 47.5 +1.9
CD2 S S 10 01 36.7 -3.4
CD2 sS sS 10 01 54.0 +8.5
CD2 SS SS 10 06 36.6 +0.1
CD2 pmax pmax
comp=Z,50nm,1.1s,mb5.4
CD2 pmax pmax
comp=Z,400nm,6.3s
CD2 LR LR
comp=N,470nm,15.6s
CD2 LR LR
comp=Z,450nm,17.8s,MS4.8
HIA Hailar 76.87 330 *e*P **P** **09 51 52.6 -0.2**
comp=Z,20nm,0.9s,mb5.0
HIA Hailar 76.87 330 *e*P **P** **09 51 52.6 -0.2**
HIA pmax pmax
comp=Z,20nm,0.9s
BTO Baotou 77.11 318 *e*P **P** **09 51 53.9 -0.5**
SEY Seymchan 78.61 353 *i*P **P** **09 52 01.8 -0.4**
OHAK Old Harbor 78.74 20 *e*P **P** **09 52 02.2 -0.9**
comp=Z,61nm,1.4s,mb5.3
LZH Lanzhou 79.04 312 *e*P **P** **09 52 06.1 +0.9**
LZH pP pP 09 52 17.5 +8.9
LZH sP sP 09 52 20.0 +10
LZH S S 10 02 02.2 -2.4
LZH sS sS 10 02 14.1 +4.1
LZH *e*SS SS 10 07 08.2 -2.5
LZH pmax pmax
comp=Z,94nm,1.1s,mb5.6
LZH pmax pmax
comp=Z,460nm,5.0s
LZH LR LR
comp=N,750nm,13.4s,MS5.2
LZH LR LR
comp=E,290nm,14.2s,MS5.2
LZH LR LR
comp=Z,810nm,13.9s,MS5.2
KDAK Kodiak Island 79.42 20 P **P** **09 52 06.1 -0.7**
comp=Z,13nm,0.9s,mb4.9,baz=141,slow=8.1,SNR=4.2
KDAK LR LR 10 19 05.7
comp=Z,647nm,20.8s,MS5.0,baz=188,slow=30
KDAK Kodiak Island 79.42 20 P **P** **09 52 06.1 -0.7**
KDAK LR LR 10 19 05.7
KDAK Kodiak Island 79.42 20 P **P** **09 52 06.1 -0.7**
KDAK pmax pmax
comp=Z,13nm,0.9s,mb4.9
CLNS Chul'man 80.03 338 *e*P **P** **09 52 09.4 -0.7**
CLNS pmax pmax
comp=Z,37nm,1.0s,mb5.3
CLNS pmax pmax
comp=N,17nm,1.3s
CLNS pmax pmax
comp=E,6.0nm,0.9s
SVW2 Sparrevohn 81.15 17 *e*P **P** **09 52 16.7 +0.7**
comp=E,46nm,1.9s,mb5.1
CIT Chita 81.66 329 *e*P **P** **09 52 19.2 +0.2**
CIT *e* 09 52 27.1
CIT *e* 09 52 34.1
CIT pmax pmax
comp=Z,216nm,1.7s,mb5.8
MAW Mawson 81.95 202 P **P** **09 52 19.4 -1.0**
comp=Z,9.0nm,0.9s,mb4.7,baz=37,slow=5.1,SNR=19
MAW LR LR 10 23 39.7
comp=Z,526nm,18.6s,MS4.9,baz=108,slow=32
MAW Mawson 81.95 202 ⇑*i*P **P** **09 52 19.5 -0.9**
comp=Z,7.5nm,0.9s,mb4.6
MAW Mawson 81.95 202 *e*P **P** **09 52 19.9 -0.4**
comp=Z,1.4nm,0.8s
MAW Mawson 81.95 202 P **P** **09 52 19.4 -1.0**
MAW pmax pmax
comp=Z,9.0nm,0.9s
SEW Seward 82.25 20 *e*P **P** **09 52 20.5 -1.3**
comp=Z,26nm,1.0s,mb5.1
SEW *e*P pP 09 52 21.5 -3.6
SLKM Skilak Lake 82.30 19 *e*P **P** **09 52 21.5 -0.7**
SLKM Skilak Lake 82.30 19 *e*P **P** **09 52 21.5 -0.6**
YAK Yakutsk 82.48 343 *e*P **P** **09 52 22.4 -0.6**
comp=Z,98nm,1.1s,mb5.7
YAK Yakutsk 82.48 343 *e*P **P** **09 52 21.7 -1.3**
YAK pmax pmax
comp=Z,69nm,1.1s,mb5.5
YAK pmax pmax
comp=N,24nm,1.2s
YAK pmax pmax
comp=E,16nm,1.4s
ULN Ulaanbaatar 82.78 324 *e*P **P** **09 52 25.4 +0.5**
comp=E,117nm,1.1s,mb5.8
ULN Ulaanbaatar 82.78 324 *e*P **P** **09 52 25.4 +0.5**
ULN pmax pmax
comp=Z,117nm,1.1s,mb5.8
ULN Ulaanbaatar 82.78 324 P **P** **09 52 25.0 +0.1**
comp=Z,1µmcomp=Z,104nm,1.2s,mb5.7
BILL Bilibino 82.79 359 *e*P **P** **09 52 23.3 -1.2**
comp=Z,71nm,1.3s,mb5.5
BILL Bilibino 82.79 359⇑ *i*P **P** **09 52 23.5 -1.0**
BILL *e* 09 55 37.5
BILL *e*S S 10 02 29.6 -13
BILL pmax pmax
comp=Z,62nm,1.2s,mb5.5
BILL MLR MLR
comp=Z,300nm,19.0s,MS4.7
RC01 Rabbit Creek A 82.90 19 *e*P **P** **09 52 24.4 -0.9**
comp=Z,47nm,1.1s,mb5.4
SONM Songino Array 83.14 323 P **P** **09 52 26.9 +0.1**
comp=Z,42nm,1.1s,mb5.4,baz=136,slow=4.2,SNR=150
SONM PKKPbc PKKPbc 10 10 47.3 -2.9
comp=Z,1.5nm,1.1s,baz=248,slow=1.6,SNR=5.6
SONM PKPPKP 10 19 00.1
comp=Z,0.9nm,0.9s,baz=330,slow=3.2,SNR=4.4
SONM Songino Array 83.14 323 P **P** **09 52 26.9 +0.1**
SONM PKKPbc PKKPbc 10 10 47.3 -2.9
SONM P'P' 10 19 00.1
SONM Songino Array 83.14 323 P **P** **09 52 26.9 +0.1**
SONM pmax pmax
comp=Z,42nm,1.1s
SONM pmax pmax
comp=Z,2.0nm,1.1s
SONM pmax pmax
comp=Z,1.0nm,1.0s
GTA Gaotai 83.38 314 P **P** **09 52 28.8 +0.6**
GTA pP pP 09 52 38.9 +7.3
GTA sP sP 09 52 43.4 +11
GTA S S 10 02 51.0 +1.5
GTA pmax pmax
comp=Z,79nm,1.2s,mb5.6
GTA pmax pmax
comp=Z,550nm,6.6s
GTA LR LR
comp=N,230nm,18.0s,MS4.7
GTA LR LR
comp=E,220nm,18.7s,MS4.7
GTA LR LR
comp=Z,320nm,18.0s,MS4.7
PMR Palmer 83.47 19 *e*P **P** **09 52 27.1 -1.1**
comp=Z,79nm,1.6s,mb5.5
PMR Palmer 83.47 19 *e*P **P** **09 52 27.1 -1.1**
PMR pmax pmax
comp=Z,79nm,1.6s,mb5.5
KCPM Cahto Peak 83.58 46 *e*P **P** **09 52 29.5 +0.2**
comp=Z,31nm,1.1s,mb5.3
KIPM Iron Peak 83.70 46 *e*P **P** **09 52 29.9 0.0**
comp=Z,65nm,1.2s,mb5.6
KHMM Horse Mountain 83.99 45 *e*P **P** **09 52 31.6 +0.2**
comp=Z,34nm,1.3s,mb5.3
DIV Divide 84.23 21 *e*P **P** **09 52 32.1 0.0**
comp=Z,359nm,2.8s,mb6.0
SHL Shillong 84.35 298 ⇑*i*P **P** **09 52 34.0 +0.5**
SMMC Simmler 84.41 51 ⇑P **P** **09 52 33.9 +0.3**
baz=84
TRF Thorofare Moun 84.53 17 *e*P **P** **09 52 32.2 -1.4**
SCI San Clemente I 84.66 54 ⇓P **P** **09 52 35.0 0.0**
baz=85
DIB Dawson Inlet, 84.81 31 T 11 26 15.7
OHCM Honcut 84.91 47 *e*P **P** **09 52 36.0 0.0**
CIS Catalina Islan 84.93 54 ⇑P **P** **09 52 36.0 -0.2**
baz=85
BOD Bodaibo 85.02 334 *e*P **P** **09 52 34.8 -1.3**
BOD pmax pmax
comp=Z,38nm,1.4s,mb5.3
OSI Osito Adit 85.12 52 ⇓P **P** **09 52 37.3 +0.1**
baz=85
FMP Fort Macarthur 85.12 53 ⇑P **P** **09 52 37.2 -0.1**
baz=85
MCK McKinley 85.14 18 *e*P **P** **09 52 35.2 -1.4**
comp=Z,46nm,1.2s,mb5.5
MCK McKinley 85.14 18 *e*P **P** **09 52 35.2 -1.4**
MCK pmax pmax
comp=Z,46nm,1.2s,mb5.5
ARVC Arvin 85.23 52 ⇑P **P** **09 52 37.6 -0.2**
baz=85,SNR=7.3
DECC Green Verdugo 85.29 53 ⇑P **P** **09 52 37.4 -0.7**
baz=85
VES Vestal, Richgr 85.31 51 ⇑P **P** **09 52 37.6 -0.5**
baz=85,SNR=8.1
RCTC Rector, Farmer 85.36 51 ⇑P **P** **09 52 38.3 -0.1**
baz=85
PASC Pasadena Art C 85.37 53 *e*P **P** **09 52 37.9 -0.6**
comp=Z,148nm,1.1s,mb6.0
MWC Mount Wilson 85.49 53 *e*P **P** **09 52 38.6 -0.5**
comp=Z,45nm,1.0s,mb5.5
MWC Mount Wilson 85.49 53 *e*P **P** **09 52 38.6 -0.5**
MWC pmax pmax
comp=Z,45nm,1.0s,mb5.5
ISA Isabella 85.70 52 ⇓P **P** **09 52 40.2 +0.1**
baz=86,SNR=28
ISA Isabella 85.70 52 *e*P **P** **09 52 40.1 0.0**
ISA *e*PP PP 09 56 01.8 +2.4
ISA Isabella 85.70 52 *e*P **P** **09 52 40.1 0.0**
ISA *e* 09 56 01.8
109C Camp Elliot, M 85.76 55 ⇑P **P** **09 52 40.2 -0.2**
baz=86
BFSC Mount Baldy Ra 85.81 53 ⇓P **P** **09 52 40.7 0.0**
baz=86,SNR=11
MURC Murrieta 85.93 54 ⇓P **P** **09 52 41.1 -0.2**
baz=86,SNR=9.7
BAR Barrett 86.02 55 *e*P **P** **09 52 41.1 -0.7**
WAKR Walker 86.05 49 *e*P **P** **09 52 42.0 +0.3**
WCN Washoe City 86.13 48 ⇓P **P** **09 52 42.3 +0.2**
baz=86,SNR=15
WCN Washoe City 86.13 48 *e*P **P** **09 52 42.3 +0.2**
WCN Washoe City 86.13 48 *e*P **P** **09 52 42.3 +0.2**
MLAC Mammoth Lakes 86.16 50 ⇑P **P** **09 52 42.5 +0.2**
baz=86,SNR=10
ZAK Zakamensk 86.19 325 ⇑*i*P **P** **09 52 41.7 -0.4**
ZAK pmax pmax
comp=Z,21nm,1.2s,mb5.2
MENT Mentasta 86.20 20 *e*P **P** **09 52 41.5 -0.4**
LRMC Laurel Mountai 86.23 52 ⇓P **P** **09 52 42.6 -0.1**
baz=86,SNR=17
MTUM Tungsten Hills 86.26 50 *e*P **P** **09 52 43.1 +0.3**
CWC Cottonwood Cre 86.28 51 ⇑P **P** **09 52 43.0 +0.1**
baz=86
MONP Monument Peak 86.30 55 ⇑P **P** **09 52 43.1 0.0**
baz=86,SNR=23
COLA College 86.31 17 *e*P **P** **09 52 40.6 -1.8**
comp=Z,14nm,0.9s,mb5.2
COLA LR LR
comp=Z,471nm,19.0s,MS4.9
COLA College 86.31 17 *e*P **P** **09 52 40.6 -1.8**
COLA pmax pmax
comp=Z,14nm,0.9s,mb5.2
COLA MLR MLR
comp=Z,471nm,19.0s,MS4.9
LSA Lhasa 86.33 302 P **P** **09 52 44.2 +0.9**
LSA Lhasa 86.33 302 *e*P **P** **09 52 44.2 +0.9**
comp=Z,12nm,0.8s,mb5.2

LSA	Lhasa	86.33	302	eP	P	09 52 44.2	+0.9	
LSA				pmax	pmax			
	comp=Z,12nm,0.8s,mb5.2							
DVTC	Desert V Tower	86.47	55	⇓P	P	09 52 44.0	+0.1	
	baz=86,SNR=12							
ILAR	Eielson Array	86.52	18	P	P	09 52 41.4	-2.1	
	comp=Z,17nm,0.8s,mb5.3,baz=234,slow=5.4,SNR=122							
ILAR				LR	LR	10 24 43.7		
	comp=Z,607nm,20.2s,MS5.0,baz=47,slow=31							
ILAR	Eielson Array	86.52	18	P	P	09 52 41.4	-2.1	
ILAR				LR	LR	10 24 43.7		
ILAR	Eielson Array	86.52	18	P	P	09 52 41.4	-2.0	
ILAR				pmax	pmax			
	comp=Z,17nm,0.8s							
PFO	Pinyon Flat Ob	86.52	54	⇑P	P	09 52 44.0	-0.1	
	baz=87,SNR=17							
PFO	Pinyon Flat Ob	86.52	54	eP	P	09 52 44.1	-0.1	
	comp=Z,20nm,1.1s,mb5.3							
PFO	Pinyon Flat Ob	86.52	54	eP	P	09 52 44.1	-0.1	
PFO				pmax	pmax			
	comp=Z,20nm,1.1s,mb5.3							
RRX	Edison Barstow	86.54	53	⇓P	P	09 52 44.3	+0.1	
	baz=87							
PAHR	Pah Rah Range	86.55	48	eP	P	09 52 43.8	-0.4	
	comp=Z,39nm,1.2s,mb5.5							
DOT	Dot Lake	86.58	19	eP	P	09 52 42.1	-1.6	
	comp=Z,44nm,0.9s,mb5.7							
MPMC	Manual Prospec	86.59	51	⇑P	P	09 52 44.7	+0.2	
	baz=87,SNR=17							
TLY	Talaya	86.61	326	eP	P	09 52 42.5	-1.7	
TLY				pmax	pmax			
	comp=Z,25nm,1.4s,mb5.2							
H04A	Detroit Lake	86.63	42	⇓P	P	09 52 45.0	+0.5	
	baz=87							
SWSC	Sam W. Stewart	86.81	55	⇓P	P	09 52 45.8	+0.2	
	baz=87,SNR=7.6							
GSC	Goldstone	86.84	52	⇑P	P	09 52 45.5	-0.2	
	baz=87,SNR=18							
GSC	Goldstone	86.84	52	eP	P	09 52 45.7	0.0	
GSC	Goldstone	86.84	52	eP	P	09 52 45.7	0.0	
NVAR	Mina Array Bea	86.85	49	P	P	09 52 45.7	+0.1	
	comp=Z,13nm,0.9s,mb5.1,baz=229,slow=8.0,SNR=66							
NVAR				PKKPbc	PKKPbc	10 10 40.0	-0.9	
	comp=Z,0.2nm,0.6s,baz=117,slow=1.4,SNR=4.3							
NVAR				LR	LR	10 21 00.8		
	comp=Z,838nm,21.9s,MS5.1,baz=273,slow=28							
NVAR	Mina Array Bea	86.85	49	P	P	09 52 45.7	0.0	
NVAR				PKKPbc	PKKPbc	10 10 40.0	-0.9	
NVAR				LR	LR	10 21 00.8		
BELC	Belle Mtn. Jos	87.01	54	⇑P	P	09 52 46.7	+0.1	
	baz=87,SNR=24							
GRAC	Grapevine Rang	87.02	51	⇓P	P	09 52 46.9	+0.4	
	baz=87,SNR=6.0							
HEC	Hector,Ludlow	87.04	53	⇓P	P	09 52 46.4	-0.2	
	baz=87,SNR=23							
FURC	Furnace Creek,	87.21	51	⇑P	P	09 52 47.5	+0.1	
	baz=87,SNR=26							
BC3	Big Chuckawall	87.32	54	⇓P	P	09 52 47.8	-0.3	
	baz=87							
SHOC	Shoshone	87.45	52	⇓P	P	09 52 48.1	-0.6	
	baz=88,SNR=23							
COLD	Coldfoot	87.46	15	eP	P	09 52 47.2	-0.7	
	comp=Z,10nm,0.9s,mb5.1							
GMRC	Granite Mounta	87.54	53	⇓P	P	09 52 49.0	-0.1	
	baz=88,SNR=17							
TUQ	Turquoise Moun	87.56	52	⇑P	P	09 52 49.0	-0.2	
	baz=88,SNR=15							
GLA	Glamis	87.61	55	⇓P	P	09 52 50.1	+0.6	
	baz=88,SNR=5.6							
GLA	Glamis	87.61	55	eP	P	09 52 49.7	+0.2	
	comp=Z,24nm,0.8s,mb5.5							
GLA	Glamis	87.61	55	eP	P	09 52 49.7	+0.2	
GLA				pmax	pmax			
	comp=Z,24nm,0.8s,mb5.5							
IRM	Iron Mountain	87.73	54	⇑P	P	09 52 50.0	0.0	
	baz=88,SNR=26							
D05A	Enumclaw	87.81	40	⇑P	P	09 52 50.5	+0.4	
	baz=88							
Y12C	Blythe	88.08	54	⇓P	P	09 52 51.7	-0.1	
	baz=88,SNR=15							
I07A	Izee	88.15	43	⇓P	P	09 52 52.0	+0.2	
	baz=88							
EGAK	Eagle	88.28	19	eP	P	09 52 51.0	-0.9	
	comp=Z,13nm,1.1s,mb5.1							
NEE2	Needles Airpor	88.34	53	⇑P	P	09 52 53.2	+0.2	
	baz=88,SNR=8.1							
113A	Mohawk Valley,	88.36	56	⇑P	P	09 52 53.2	+0.1	
	baz=88							
DAWY	Dawson	88.40	20	eP	P	09 52 51.0	-1.5	
SHPR	Sheep Range	88.51	52	eP	P	09 52 54.0	+0.3	
PDMCI	Parker Dam,Lak	88.56	54	⇑P	P	09 52 54.4	+0.4	
	baz=89,SNR=12							
J08A	Circle Bar Ran	88.57	44	⇓P	P	09 52 53.9	+0.1	
	baz=89							
F07A	Phinny Hill Vi	88.58	42	⇓P	P	09 52 53.8	0.0	
	baz=89							
Z13A	Yuma Proving G	88.59	55	⇑P	P	09 52 54.3	+0.2	
	baz=89,SNR=18							
SYO	Syowa Base	88.69	196	⇑/P	P	09 52 51.6	-2.4	
R11A	Troy Canyon, C	88.81	50	⇑P	P	09 52 54.9	-0.2	
	baz=89							
214A	Organ Pipe Nat	88.87	57	⇓P	P	09 52 55.7	+0.2	
	baz=89,SNR=6.7							
E07A	Sunnyside	88.89	41	⇓P	P	09 52 55.6	+0.3	
	baz=89							
G08A	Pilot Rock	88.97	42	⇓P	P	09 52 56.0	+0.3	
	baz=89,SNR=10							
RSW	Rattlesnake Hi	88.99	41	eP	P	09 52 55.9	+0.2	
ETW	Entiat	89.00	40	eP	P	09 52 55.8	+0.1	
HAWA	Hanford	89.03	41	eP	P	09 52 55.8	-0.1	
114A	Black Gap (USA	89.06	56	⇓P	P	09 52 56.4	0.0	
	baz=89,SNR=5.1							
Z14A	Wintersburg	89.20	55	⇑P	P	09 52 57.5	+0.5	
	baz=89,SNR=9.2							
PALK	Pallekele	89.31	278	i P	P	09 52 59.4	+1.4	
Y14A	Wickenburg	89.34	55	⇑P	P	09 52 57.4	-0.2	
	baz=89,SNR=6.9							
E08A	Dider Farm, El	89.37	41	⇑P	P	09 52 57.1	-0.4	
	baz=90,SNR=5.3							
U13A	Pakoon Wash	89.39	52	⇑P	P	09 52 58.1	+0.2	
	baz=90							
D08A	Wollman Farm,	89.67	41	⇑P	P	09 52 59.2	+0.3	
	baz=90							
V14A	Boquillas Ranc	89.80	53	⇓P	P	09 53 00.2	+0.5	
	baz=90,SNR=20							
Z15A	Gila River Ind	89.81	56	⇑P	P	09 52 59.7	-0.1	
	baz=90,SNR=5.1							
Y15A	Casa Rosa Ranc	89.87	55	⇓P	P	09 53 00.7	+0.5	
	baz=90,SNR=29							
BMO	Blue Mountains	89.90	43	eP	P	09 52 58.8	-1.2	
	comp=Z,21nm,1.4s,mb5.3							
BMO	Blue Mountains	89.90	43	eP	P	09 52 58.8	-1.2	
BMO				pmax	pmax			
	comp=Z,21nm,1.4s,mb5.3							
B08A	Colville Reser	89.92	40	⇓P	P	09 52 59.6	-0.4	
	baz=90,SNR=6.9							
OD2	Odessa Site #2	89.93	41	eP	P	09 52 59.6	-0.5	
116A	Eloy	89.95	56	⇑P	P	09 53 01.0	+0.5	
	baz=90,SNR=11							
R13A	O'Grain Ranch,	89.96	50	⇓P	P	09 53 01.1	+0.7	
	baz=90							
E09A	Wood Farm, Sta	89.96	42	⇓P	P	09 52 59.9	-0.3	
	baz=90,SNR=8.0							
216A	Three Points,	89.98	57	⇑P	P	09 53 01.4	+0.7	
	baz=90							
U14A	Mt Trumbull	89.99	52	⇓P	P	09 53 01.0	+0.3	
	baz=90,SNR=60							
CCUT	Cedar City	90.21	51	eP	P	09 53 01.9	+0.2	
ARUT	Antelope Range	90.23	51	eP	P	09 53 02.4	+0.6	
	comp=Z,38nm,1.3s,mb5.6							
ARUT	Antelope Range	90.23	51	eP	P	09 53 02.4	+0.7	
ARUT				pmax	pmax			
	comp=Z,38nm,1.3s,mb5.6							
W15A	Williams	90.30	54	⇓P	P	09 53 03.1	+0.9	
	baz=90,SNR=13							
F10A	Beach Ranch, E	90.36	42	⇑P	P	09 53 01.9	-0.2	
	baz=90,SNR=14							
C09A	Chrisman Ranch	90.36	40	⇑P	P	09 53 02.0	0.0	
	baz=90							
MFID	Camas Ranch	90.39	45	⇓P	P	09 53 02.0	-0.3	
	baz=90,SNR=8.3							
Z16A	Peralta Trail,	90.41	56	⇑P	P	09 53 03.3	+0.6	
	baz=90,SNR=12							
217A	Green Valley	90.43	57	⇑P	P	09 53 03.1	+0.3	
	baz=90,SNR=11							
Y16A	Circle Bar Ran	90.53	55	⇑P	P	09 53 04.0	+0.7	
	baz=91,SNR=25							
V15A	Kaibab Nationa	90.57	53	⇑P	P	09 53 04.3	+0.9	
	baz=91,SNR=23							
TUC	Tucson	90.61	57	eP	P	09 53 04.0	+0.4	
	comp=Z,66nm,1.6s,mb5.7							
TUC	Tucson	90.61	57	eP	P	09 53 04.0	+0.3	
TUC				pmax	pmax			
	comp=Z,66nm,1.6s,mb5.7							
U15A	North Rim	90.67	53	⇓P	P	09 53 04.6	+0.8	
	baz=91,SNR=49							
X16A	Lo Mia Camp, P	90.72	55	⇑P	P	09 53 04.8	+0.8	
	baz=91,SNR=18							
117A	Oracle	90.73	57	⇓P	P	09 53 04.9	+0.7	
	baz=91							
Q14A	Sevier Lake (B	90.73	50	⇓P	P	09 53 04.7	+0.7	
	baz=91,SNR=34							
T15A	Red Dirt Ranch	90.78	52	⇑P	P	09 53 04.9	+0.6	
	baz=91,SNR=17							
W16A	Flagstaff	90.85	54	⇑P	P	09 53 05.3	+0.7	
	baz=91,SNR=13							
Y17A	Roosevelt	90.98	55	⇑P	P	09 53 05.7	+0.4	
	baz=91,SNR=14							
I12A	Atlanta	90.99	45	⇑P	P	09 53 05.1	-0.1	
	baz=91,SNR=10							
S15A	Panguitch	91.00	51	⇑P	P	09 53 06.3	+1.0	
	baz=91,SNR=5.3							
318A	Bisbee	91.00	58	⇑P	P	09 53 05.9	+0.4	
	baz=91,SNR=7.9							
P14A	Drum Mountains	91.08	49	⇓P	P	09 53 05.8	+0.2	
	baz=91,SNR=12							
WUAZ	Wupatki	91.10	54	⇑P	P	09 53 06.3	+0.4	
	baz=91,SNR=18							
WUAZ	Wupatki	91.10	54	eP	P	09 53 06.2	+0.4	
218A	Dragoon	91.11	57	⇓P	P	09 53 06.2	+0.2	
	baz=91,SNR=5.5							
Z17A	San Carlos Hig	91.16	56	⇓P	P	09 53 06.5	+0.3	
	baz=91							
X17A	Foot Lakes	91.20	55	⇑P	P	09 53 07.1	+0.7	
	baz=91,SNR=12							
R15A	Junction	91.23	51	⇑P	P	09 53 07.3	+0.9	
	baz=91							
NEW	Newport	91.25	40	⇑P	P	09 53 05.9	-0.3	
	baz=91							
NEW	Newport	91.25	40	eP	P	09 53 06.0	-0.3	
NEW	Newport	91.25	40	eP	P	09 53 06.0	-0.2	
118A	Homack Ranch,	91.37	57	⇓P	P	09 53 07.7	+0.6	
	baz=91,SNR=22							
MSU	Marysvale	91.40	51	eP	P	09 53 07.6	+0.5	
MSU	Marysvale	91.40	51	eP	P	09 53 07.6	+0.4	
Q15A	Fillmore	91.40	50	⇑P	P	09 53 07.4	+0.3	
	baz=92,SNR=7.2							
HLID	Hailey	91.41	45	⇓P	P	09 53 07.5	+0.4	
	baz=92,SNR=10.0							
HLID	Hailey	91.41	45	eP	P	09 53 07.7	+0.6	
H12A	Diamond D Ranc	91.43	44	⇑P	P	09 53 06.8	-0.3	
	baz=92,SNR=15							
T16A	Glen Canyon Da	91.44	52	⇑P	P	09 53 07.7	+0.3	
	baz=92,SNR=7.2							
Z18A	Geronimo	91.44	56	⇓P	P	09 53 07.8	+0.3	
	baz=92,SNR=7.8							
DUG	Dugway	91.45	49	⇓P	P	09 53 07.4	+0.1	
	baz=92,SNR=12							
DUG	Dugway	91.45	49	eP	P	09 53 07.2	-0.1	
DUG	Dugway	91.45	49	eP	P	09 53 07.2	-0.2	
U16A	Tuba City	91.48	53	⇓P	P	09 53 08.0	+0.4	
	baz=92,SNR=22							
W17A	Winslow	91.49	54	⇑P	P	09 53 08.2	+0.5	
	baz=92,SNR=8.2							
J13A	Cove Ranch, Pi	91.52	45	⇓P	P	09 53 08.1	+0.5	
	baz=92,SNR=14							
319A	Douglas	91.57	58	⇑P	P	09 53 08.4	+0.3	
	baz=92,SNR=15							
F12A	Elk City	91.57	43	⇑P	P	09 53 07.5	-0.3	
	baz=92,SNR=19							
V17A	Tonalea, Kykot	91.58	54	⇓P	P	09 53 08.7	+0.7	
	baz=92							
S16A	Weppner Ranch,	91.59	51	⇓P	P	09 53 08.6	+0.5	
	baz=92,SNR=10.0							
Y18A	Canyon Day Jun	91.64	56	⇑P	P	09 53 09.2	+0.8	
	baz=92,SNR=21							
I13A	Wildhorse Cree	91.72	45	⇓P	P	09 53 08.6	0.0	
	baz=92,SNR=14							
L14A	Malta	91.73	47	⇑P	P	09 53 08.8	+0.2	
	baz=92,SNR=15							
O15A	The Old Anders	91.73	49	⇓P	P	09 53 08.9	+0.3	
	baz=92,SNR=10							
219A	Wte Tail Can	91.76	57	⇓P	P	09 53 09.3	+0.3	
	baz=92,SNR=28							
H13A	Challis	91.84	44	⇑P	P	09 53 09.4	+0.3	
	baz=92,SNR=9.5							
R16A	Teasdale	91.85	51	⇑P	P	09 53 09.9	+0.6	
	baz=92,SNR=9.7							
N15A	Stansbury Isla	91.88	48	⇑P	P	09 53 09.6	+0.3	
	baz=92,SNR=16							
NLU	North Lily Min	91.92	49	eP	P	09 53 10.2	+0.7	
X18A	Snowflake	91.93	55	⇑P	P	09 53 09.9	+0.2	
	baz=92,SNR=11							
K14A	Jones Ranch, D	91.94	46	⇓P	P	09 53 10.0	+0.5	
	baz=92,SNR=16							
119A	Ashpeak Ranch,	91.94	57	⇓P	P	09 53 10.2	+0.4	
	baz=92,SNR=16							
J14A	Carey	91.94	46	⇑P	P	09 53 10.1	+0.5	
	baz=92,SNR=6.7							
D12A	Red Ives Fores	91.95	42	⇓P	P	09 53 09.4	-0.1	
	baz=92							
HVU	Hansel Valley	91.98	47	eP	P	09 53 10.4	+0.6	
HVU	Hansel Valley	91.98	47	eP	P	09 53 10.4	+0.7	
T17A	Navajo Res., N	91.98	52	⇑P	P	09 53 10.3	+0.4	
	baz=92,SNR=17							
G13A	Cobalt	92.03	44	⇑P	P	09 53 09.7	-0.2	
	baz=92,SNR=6.6							
C12B	Naegeli Ranch,	92.09	41	⇑P	P	09 53 10.5	+0.4	
	baz=92							
NOQ	North Oquirrh	92.10	49	eP	P	09 53 12.1	+1.7	
P16A	Fountain Green	92.12	50	⇓P	P	09 53 10.8	+0.4	
	baz=92							
Z19A	T-Link Ranch,	92.12	56	⇑P	P	09 53 10.8	+0.2	
	baz=92							
S17A	Black Ridge (B	92.17	52	⇑P	P	09 53 10.6	-0.2	
	baz=92,SNR=8.0							
320A	Kipp Ranch, An	92.18	58	⇓P	P	09 53 11.6	+0.6	
	baz=92							
I14A	Mackay	92.18	45	⇓P	P	09 53 10.7	0.0	
	baz=92,SNR=9.5							
F13A	Darby	92.19	43	⇑P	P	09 53 10.4	-0.3	
	baz=92,SNR=11							
MPU	Maple Canyon	92.26	49	eP	P	09 53 11.9	+0.8	
W18A	Petrified Fore	92.27	54	⇓P	P	09 53 11.2	0.0	
	baz=92							
Q16A	Castle Valley	92.27	50	⇑P	P	09 53 11.7	+0.5	
	baz=92,SNR=8.2							
B12A	Libby	92.28	40	⇓P	P	09 53 11.3	+0.3	
	baz=92							
V18A	Ganado	92.28	54	⇓P	P	09 53 11.4	+0.1	
	baz=92,SNR=12							
Y19A	Nutrioso	92.32	56	⇓P	P	09 53 12.0	+0.5	
	baz=92,SNR=13							
L15A	Malad City	92.32	47	⇑P	P	09 53 11.4	+0.1	
	baz=92							
220A	Playas Peak, P	92.33	58	⇓P	P	09 53 11.5	-0.1	
	baz=92,SNR=8.8							
A12A	Yaak River Ran	92.40	40	⇓P	P	09 53 11.6	+0.1	
	baz=92							
O16A	Springville	92.41	49	⇑P	P	09 53 11.8	0.0	
	baz=92,SNR=14							
X19A	St. Johns	92.42	55	⇓P	P	09 53 12.5	+0.5	
	baz=92,SNR=7.3							
K15A	Arbon	92.43	47	⇓P	P	09 53 11.9	+0.1	
	baz=92							
H14A	Leadore	92.46	44	⇓P	P	09 53 12.2	+0.3	
	baz=92,SNR=5.8							
R17A	Hanksville Air	92.47	51	⇓P	P	09 53 12.3	+0.2	
	baz=92,SNR=15							
E13A	Victor	92.50	43	⇓P	P	09 53 12.0	0.0	
	baz=93							
U18A	Rough Rock, Ch	92.53	53	⇓P	P	09 53 12.7	+0.3	
	baz=93,SNR=10							
W19A	Sanders	92.54	54	⇑P	P	09 53 13.0	+0.5	
	baz=93,SNR=7.8							
JLU	Jordanelle	92.57	49	eP	P	09 53 12.4	-0.1	
	comp=Z,2.8nm,0.4s,mb5.0							
BSMT	Bassoo Peak	92.58	41	eP	P	09 53 12.1	-0.3	
G14A	Jackson	92.60	44	⇓P	P	09 53 12.7	+0.2	
	baz=93							
Z20A	Nine Sixteen R	92.61	57	⇑P	P	09 53 13.6	+0.7	
	baz=93,SNR=6.8							
C13A	Hot Springs	92.66	41	⇑P	P	09 53 12.9	+0.1	
	baz=93							
J15A	Blackfoot	92.72	46	⇑P	P	09 53 13.5	+0.4	
	baz=93							
T18A	Mexican Hat	92.73	52	⇓P	P	09 53 13.5	+0.2	
	baz=93,SNR=20							
S18A	Hurst Farm, Bl	92.80	52	⇑P	P	09 53 13.6	-0.1	
	baz=93,SNR=8.9							
SRU	San Rafael	92.81	50	⇓P	P	09 53 13.4	-0.3	
	baz=93							
I15A	Monteview	92.87	45	⇓P	P	09 53 14.2	+0.4	
	baz=93							
INK	Inuvik	92.87	18	LR	LR	10 31 08.8		
	comp=Z,351nm,18.4s,MS4.8,baz=42,slow=33							
MCMT	McKenzie Canyo	92.88	44	eP	P	09 53 14.0	+0.2	
	comp=Z,2.5nm,1.3s,mb4.5							
MCMT				ePP	PP	09 56 55.4	-1.2	
NVL	N'lazarevskaya	92.92	188	eP	P	09 53 12.6	-1.0	
NVL				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb5.1							
E14A	Clinton	92.95	43	⇑P	P	09 53 14.2	+0.1	
	baz=93							
H15A	Lima	92.95	45	⇓P	P	09 53 14.6	+0.4	
	baz=93,SNR=6.9							
B13A	Whitefish	92.95	41	⇑P	P	09 53 14.0	-0.1	
	baz=93							
O17A	Robinson Place	92.97	49	⇑P	P	09 53 14.6	+0.3	
	baz=93,SNR=16							
Y20A	Horse Springs,	93.00	56	⇓P	P	09 53 15.1	+0.4	
	baz=93,SNR=6.1							
U19A	Dine' College,	93.01	53	⇓P	P	09 53 14.8	+0.1	
	baz=93,SNR=23							
R18A	Canyonlands Na	93.07	51	⇓P	P	09 53 15.0	+0.1	
	baz=93,SNR=16							
X20A	Quemado	93.08	55	⇓P	P	09 53 15.5	+0.4	
	baz=93,SNR=5.8							
Q18A	Rafter H Ranch	93.10	50	⇓P	P	09 53 15.1	+0.1	
	baz=93,SNR=6.8							
121A	Cookes Peak, D	93.11	57	⇑P	P	09 53 15.2	0.0	
	baz=93							
N17A	Moffit Pass	93.12	49	⇑P	P	09 53 14.9	-0.1	
	baz=93							
K16A	Soda Springs	93.14	47	⇓P	P	09 53 15.4	+0.3	
	baz=93							
C14A	Swan Lake	93.21	41	⇑P	P	09 53 14.9	-0.4	
	baz=93							
G15A	Dillon	93.22	44	⇑P	P	09 53 15.1	-0.3	
	baz=93							
W20A	Ramah	93.24	55	⇑P	P	09 53 16.0	+0.2	
	baz=93,SNR=7.5							
T19A	Beclabito	93.30	53	⇑P	P	09 53 16.0	0.0	
	baz=93							
SNAA	Sanae	93.35	183	eP	P	09 53 13.4	-2.2	
	comp=Z,23nm,1.4s,mb5.4							
SNAA	Sanae	93.35	183	eP	P	09 53 13.4	-2.2	
SNAA				pmax	pmax			
	comp=Z,23nm,1.4s							
M17A	Scullys Gap (B	93.39	48	⇓P	P	09 53 16.3	0.0	
	baz=94							
Z21A	St. Cloud Mine	93.41	57	⇓P	P	09 53 16.6	0.0	
	baz=94							
F15A	Butte	93.43	44	⇑P	P	09 53 16.5	+0.2	
	baz=94							
WMQ	Urumqi	93.44	314	P	P	09 53 16.5	+0.1	
WMQ				pP	pP	09 53 27.1	+7.3	
WMQ				sP	sP	09 53 31.0	+10	
WMQ				PP	PP	09 57 03.6	+2.7	
WMQ				S	S	10 04 19.0	-5.6	
WMQ				pmax	pmax			
	comp=Z,31nm,2.4s,mb5.3							
WMQ				LR	LR			
	comp=N,330nm,22.3s							
WMQ				LR	LR			
	comp=E,310nm,16.7s							
WMQ				LR	LR			
	comp=Z,390nm,21.6s,MS4.8							
S19A	Harvey Farm, M	93.47	52	⇑P	P	09 53 16.9	+0.2	
	baz=94,SNR=6.2							
I16A	Newdale	93.52	46	⇓P	P	09 53 17.3	+0.5	
	baz=94,SNR=5.3							
O18A	Roosevelt	93.52	49	⇑P	P	09 53 17.4	+0.5	
	baz=94							
R19A	Curley Farm, L	93.53	51	⇓P	P	09 53 16.7	-0.3	
	baz=94,SNR=9.5							
Y21A	Point of Rocks	93.59	56	⇑P	P	09 53 17.2	-0.2	
	baz=94							
X21A	Alamocita Cree	93.62	55	⇓P	P	09 53 17.7	+0.2	
	baz=94							
Q19A	Hogan Spring (	93.71	51	⇑P	P	09 53 17.9	+0.1	
	baz=94							
M18A	Lyman	93.81	48	⇑P	P	09 53 18.5	+0.3	
	baz=94							
J17A	Brown Place, J	93.91	46	⇓P	P	09 53 18.7	+0.1	
	baz=94							
W21A	San Fidel	93.91	55	⇑P	P	09 53 18.9	+0.1	
	baz=94							
H16A	Russell Place,	93.93	45	⇑P	P	09 53 18.7	0.0	
	baz=94							
C15A	Salmond Ranch,	93.95	42	⇓P	P	09 53 18.8	+0.1	
	baz=94							
N18A	Larsen Ranch,	93.97	49	⇑P	P	09 53 18.8	-0.1	
	baz=94							
F16A	Kennard Place,	93.99	44	⇑P	P	09 53 19.3	+0.4	
	baz=94							
VNA3	Neumayer Olymp	93.99	181	e	P	09 53 13.8	-4.8	
PV01	Paradox Valley	94.01	52	eP	P	09 53 19.1	-0.1	
S20A	Disappointment	94.08	52	⇓P	P	09 53 19.6	0.0	
	baz=94,SNR=6.1							
LAZ	Ladron	94.13	56	eP	P	09 53 19.7	-0.1	
	comp=Z,2.3nm,1.1s,mb4.5							
LAZ				ePP	PP	09 57 05.5	-1.1	
B15A	Bradely Ranch,	94.14	41	⇓P	P	09 53 19.6	+0.1	
	baz=94							
Y22A	Socorro	94.14	56	⇓P	P	09 53 20.0	0.0	
	baz=94							
R20A	Redvale	94.17	52	⇓P	P	09 53 19.7	-0.2	
	baz=94							
K18A	Toltan Ranch,	94.17	47	⇑P	P	09

N20A	**Spence Gulch,**	**94.96**	**49**	⇓P		**P**		**09 53 23.5**	**-0.1**	
	baz=95									
425A	**Indio Mountain**	**94.97**	**60**	⇑P		**P**		**09 53 23.2**	**-0.6**	
	baz=95									
T22A	**Edith**	**94.99**	**53**	⇑P		**P**		**09 53 24.1**	**+0.3**	
	baz=95									
J19A	**Crowheart**	**95.04**	**47**	⇑P		**P**		**09 53 23.6**	**-0.2**	
	baz=95									
124A	**Stringfield Ra**	**95.05**	**58**	⇑P		**P**		**09 53 23.8**	**-0.3**	
	baz=95									
C17A	**Wharram Farm,**	**95.09**	**42**	⇑P		**P**		**09 53 24.0**	**0.0**	
	baz=95									
325A	**Bean Ranch, Si**	**95.12**	**59**	⇓P		**P**		**09 53 24.0**	**-0.5**	
	baz=95									
M20A	**Sweetwater, Wa**	**95.19**	**49**	⇓P		**P**		**09 53 24.7**	**+0.2**	
	baz=95									
L20A	**Wamsutter**	**95.21**	**48**	⇓P		**P**		**09 53 25.0**	**+0.3**	
	baz=95									
P21A	**Newcastle**	**95.22**	**51**	⇑P		**P**		**09 53 24.9**	**+0.1**	
	baz=95									
V23A	**Ortiz Mt. (NFS**	**95.23**	**55**	⇓P		**P**		**09 53 25.1**	**+0.3**	
	baz=95									
S22A	**4UR Ranch, Cre**	**95.23**	**52**	⇑P		**P**		**09 53 24.9**	**+0.1**	
	baz=95									
G18A	**Lazy EL Ranch,**	**95.25**	**45**	⇓P		**P**		**09 53 25.4**	**+0.7**	
	baz=95									
B17A	**L&G Farms, Che**	**95.26**	**42**	⇑P		**P**		**09 53 25.1**	**+0.4**	
	baz=95									
U23A	**El Rito**	**95.37**	**54**	⇑P		**P**		**09 53 25.4**	**-0.1**	
	baz=95									
Y24A	**Capitan**	**95.37**	**56**	⇓P		**P**		**09 53 25.5**	**0.0**	
	baz=95									
626A	**Big Bend Ranch**	**95.38**	**61**	⇓P		**P**		**09 53 25.5**	**-0.2**	
	baz=95									
O21A	**Pagoda**	**95.38**	**50**	⇑P		**P**		**09 53 25.5**	**0.0**	
	baz=95									
K20A	**Yellowstone Ra**	**95.38**	**47**	⇑P		**P**		**09 53 25.5**	**+0.1**	
	baz=96									
RLMT	**Red Lodge**	**95.39**	**45**	⇓P		**P**		**09 53 25.7**	**+0.3**	
	baz=96									
Q22A	**Crested Butte,**	**95.45**	**51**	⇓P		**P**		**09 53 25.7**	**-0.1**	
	baz=96									
N21A	**Black Mountain**	**95.48**	**49**	⇓P		**P**		**09 53 26.0**	**0.0**	
	baz=96									
526A	**Mary Lane Ranc**	**95.54**	**61**	⇑P		**P**		**09 53 26.3**	**-0.2**	
	baz=96									
W24A	**Lazy 6 Ranch,**	**95.71**	**55**	⇑P		**P**		**09 53 26.9**	**-0.1**	
	baz=96									
TXAR	**Lajitas Array**	**95.72**	**61**	P		**P**		**09 53 26.2**	**-1.1**	
	comp=Z,4.2nm,1.1s,mb4.8,baz=248,slow=3.4,SNR=17									
TXAR				PKKPbc	PKKPbc		10 10 14.6		-3.3	
	comp=Z,0.3nm,0.9s,baz=116,slow=2.9,SNR=3.4									
TXAR				LR	LR		10 28 14.8			
	comp=Z,273nm,18.6s,MS4.8,baz=240,slow=30									
TXAR	**Lajitas Array**	**95.72**	**61**	P		**P**		**09 53 26.2**	**-1.1**	
TXAR				PKKPbc	PKKPbc		10 10 14.6		-3.3	
TXAR				LR	LR		10 28 14.8			
TXAR	**Lajitas Array**	**95.72**	**61**	P		**P**		**09 53 26.2**	**-1.1**	
TXAR				pmax	pmax					
	comp=Z,4.0nm,1.2s									
426A	**McDonald Obser**	**95.73**	**60**	⇑P		**P**		**09 53 27.2**	**-0.1**	
	baz=96									
P22A	**Eagle**	**95.75**	**51**	⇓P		**P**		**09 53 26.9**	**-0.3**	
	baz=96									
Z25A	**Roswell**	**95.80**	**57**	⇑P		**P**		**09 53 27.3**	**-0.2**	
	baz=96									
B18A	**Beardsley Farm**	**95.94**	**42**	⇓P		**P**		**09 53 28.0**	**+0.3**	
	baz=96									
V24A	**Rampart Ranch,**	**95.94**	**55**	⇑P		**P**		**09 53 27.8**	**-0.4**	
	baz=96									
527A	**Woodward Ranch**	**95.96**	**61**	⇓P		**P**		**09 53 27.6**	**-0.8**	
	baz=96									
Y25A	**Mesa, Roswell**	**95.97**	**57**	⇓P		**P**		**09 53 28.0**	**-0.3**	
	baz=96									
627A	**Terlingua Ranc**	**95.98**	**61**	⇑P		**P**		**09 53 28.2**	**-0.3**	
	baz=96									
226A	**Malaga, Loving**	**96.01**	**59**	⇓P		**P**		**09 53 28.3**	**-0.2**	
	baz=96									
O22A	**Kremmling**	**96.05**	**50**	⇓P		**P**		**09 53 28.4**	**-0.1**	
	baz=96									
N22A	**Wattenberg Ran**	**96.28**	**50**	⇓P		**P**		**09 53 29.7**	**+0.1**	
	baz=96									
427A	**Hayter Ranch,**	**96.30**	**60**	⇓P		**P**		**09 53 29.5**	**-0.4**	
	baz=96									
Z26A	**Caprock**	**96.39**	**57**	⇑P		**P**		**09 53 29.9**	**-0.3**	
	baz=96									
628A	**Black Gap, Mar**	**96.42**	**61**	⇓P		**P**		**09 53 30.1**	**-0.3**	
	baz=96									
W25A	**X Bar L Ranch,**	**96.46**	**55**	⇓P		**P**		**09 53 30.0**	**-0.5**	
	baz=96									
V25A	**Rancho No Teng**	**96.49**	**55**	⇑P		**P**		**09 53 29.9**	**-0.6**	
	baz=96									
E20A	**Meyer Farm, Mu**	**96.52**	**44**	⇑P		**P**		**09 53 30.3**	**-0.2**	
	baz=97									
O23A	**Lake Granby, G**	**96.53**	**50**	⇓P		**P**		**09 53 30.8**	**+0.1**	
	baz=97									
528A	**Cox Ranch, San**	**96.66**	**61**	⇑P		**P**		**09 53 31.4**	**-0.1**	
	baz=97									
ISCO	**Idaho Springs**	**96.66**	**51**	⇑P		**P**		**09 53 31.5**	**+0.2**	
	baz=97									
D20A	**Manuel Ranch,**	**96.67**	**43**	⇑P		**P**		**09 53 31.4**	**+0.3**	
	baz=97									
Y26A	**Elida**	**96.67**	**57**	⇓P		**P**		**09 53 30.9**	**-0.6**	
	baz=97									
N23A	**Red Feather La**	**96.67**	**50**	⇑P		**P**		**09 53 31.3**	**0.0**	
	baz=97									
O24A	**Longmont**	**97.14**	**51**	⇑P		**P**		**09 53 33.5**	**+0.1**	
	baz=97									
L23A	**Garrett**	**97.14**	**48**	⇓P		**P**		**09 53 33.3**	**-0.1**	
	baz=97									
Y27A	**Causey**	**97.20**	**57**	⇓P		**P**		**09 53 33.4**	**-0.5**	
	baz=97									
YKA	**Yellowknife Ar**	**97.41**	**27**	P		**P**		**09 53 32.3**	**-1.8**	
	comp=Z,7.4nm,0.9s,mb5.1,baz=255,slow=4.4,SNR=12									
YKA				LR	LR		10 36 41.1			
	comp=Z,35nm,18.5s,MS3.9,baz=75,slow=35									
YKA	**Yellowknife Ar**	**97.41**	**27**	P		**P**		**09 53 32.3**	**-1.8**	
YKA				LR	LR		10 36 41.1			
YKA	**Yellowknife Ar**	**97.41**	**27**	P		**P**		**09 53 32.3**	**-1.8**	
YKA				pmax	pmax					
	comp=Z,7.0nm,0.9s									
YKA				MLR	MLR					
	comp=Z,35nm,18.5s									
X27A	**F and S Farms,**	**97.42**	**56**	⇓P		**P**		**09 53 34.8**	**-0.1**	
	baz=98									
MSTX	**Muleshoe**	**97.53**	**57**	⇑P		**P**		**09 53 34.9**	**-0.5**	
	baz=98									
MK31	**Makanchi Array**	**97.90**	**316**	*e*P		**P**		**09 53 36.3**	**-0.4**	
MK31	**Makanchi Array**	**97.90**	**316**	*e*P		**P**		**09 53 36.3**	**-0.4**	
MKAR	**Makanchi Array**	**97.90**	**316**	P		**P**		**09 53 36.1**	**-0.6**	
	comp=Z,25nm,0.9s,mb5.7,baz=100,slow=6.4,SNR=82									
MKAR				PP	PP		09 57 31.4		-4.1	
	comp=Z,1.5nm,0.9s,baz=88,slow=7.4,SNR=4.0									
MKAR				PKKPbc	PKKPbc		10 10 08.7		-3.8	
	comp=Z,1.1nm,0.6s,baz=263,slow=4.8,SNR=9.7									
MKAR	**Makanchi Array**	**97.90**	**316**	P		**P**		**09 53 36.1**	**-0.6**	
MKAR				PP	PP		09 57 31.4		-4.1	
MKAR				PKKPbc	PKKPbc		10 10 08.7		-3.8	
MKAR	**Makanchi Array**	**97.90**	**316**	P		**P**		**09 53 36.1**	**-0.6**	
MKAR				pmax	pmax					
	comp=Z,25nm,0.9s									
MKAR				pmax	pmax					
	comp=Z,2.0nm,0.9s									
MKAR				pmax	pmax					
	comp=Z,1.0nm,0.6s									
ZAA0	**Zalesovo Array**	**98.03**	**324**	*e*P		**P**		**09 53 35.6**	**-1.5**	
ZAA0				*e*PP	PP		09 57 29.6		-6.6	
ZALV	**Zalesovo Beam**	**98.03**	**324**	P		**P**		**09 53 35.6**	**-1.5**	
	comp=Z,8.7nm,0.8s,mb5.3,baz=106,slow=4.8,SNR=30									
ZALV				PP	PP		09 57 29.5		-6.8	
	comp=Z,0.5nm,0.3s,baz=123,slow=7.1,SNR=2.3									
ZALV				PKKPbc	PKKPbc		10 10 10.2		-2.2	
	comp=Z,2.6nm,0.5s,baz=261,slow=3.8,SNR=15									
ZALV				LR	LR		10 37 19.2			
	comp=Z,186nm,19.7s,MS4.6,baz=88,slow=35									
ZALV	**Zalesovo Beam**	**98.03**	**324**	P		**P**		**09 53 35.6**	**-1.5**	
ZALV				PP	PP		09 57 29.5		-6.8	
ZALV				PKKPbc	PKKPbc		10 10 10.2		-2.2	
ZALV				LR	LR		10 37 19.2			
ZALV	**Zalesovo Beam**	**98.03**	**324**	P		**P**		**09 53 35.7**	**-1.4**	
ZALV				pmax	pmax					
	comp=Z,9.0nm,0.9s,mb5.3									
ZALV				pmax	pmax					
	comp=Z,1.0nm,0.3s,mb4.8									
ZALV				pmax	pmax					
	comp=Z,3.0nm,0.5s,mb5.1									
ZALV				MLR	MLR					

	comp=Z,187nm,19.7s,MS4.6									
AMTX	**Amarillo**	**98.61**	**56**	⇑Pdiff		**P**		**09 53 39.7**	**-0.5**	
	baz=99									
NVS	**Novosibirsk**	**99.14**	**324**	*e*P		**P**		**09 53 41.2**	**-0.9**	
JCT	**Junction City**	**99.25**	**61**	⇑Pdiff		**P**		**09 53 42.3**	**-0.8**	
	baz=99									
KURK	**Kurchatov**	**101.07**	**320**	P		Pdif		09 53 49.6	-1.2	
	comp=Z,0.7nm,0.2s,baz=115,slow=3.2,SNR=8.5									
KURK				PKKPbc	PKKPbc		10 10 00.3		-3.4	
	comp=Z,1.6nm,0.7s,baz=277,slow=3.3,SNR=12									
KURK	**Kurchatov**	**101.07**	**320**	P		Pdif		09 53 49.6	-1.2	
KURK				PKKPbc	PKKPbc		10 10 00.3		-3.4	
KURK	**Kurchatov**	**101.07**	**320**	P		Pdif		09 53 49.6	-1.2	
KURK				pmax	pmax					
	comp=Z,1.0nm,0.3s									
KURK				pmax	pmax					
	comp=Z,2.0nm,0.7s									
BVAR	**Borovoye Array**	**106.41**	**321**	PKKPbc	PKKPbc		10 09 43.7		-4.0	
	comp=Z,1.3nm,0.8s,baz=300,slow=6.5,SNR=4.9									
ARU	**Arti**	**113.12**	**325**	*i* PKIKP	PKiKP		09 58 37.4		-0.7	
ARU							09 59 27.1			
ARU							10 05 16.0			
AKTK	**Aktyubinsk**	**114.15**	**319**	PKP	PKiKP		09 58 39.3		-0.9	
AKTK				PKKPbc	PKKPbc		10 09 18.6		-3.7	
AKTK				PKKPab	PKKPab		10 09 26.2		-0.6	
AKTO	**Aktyubinsk**	**114.15**	**319**	PKP	PKiKP		09 58 39.3		-0.9	
	comp=Z,2.3nm,0.9s,baz=107,slow=3.1,SNR=4.5									
AKTO				PKKPbc	PKKPbc		10 09 18.6		-3.7	
	comp=Z,0.7nm,0.3s,baz=260,slow=5.1,SNR=5.5									
AKTO				PKKPab	PKKPab		10 09 26.2		-0.6	
	comp=Z,6.2nm,0.9s,baz=275,slow=4.3,SNR=13									
AKTO	**Aktyubinsk**	**114.15**	**319**	PKIKP	PKiKP		09 58 39.3		-0.9	
AKTO				pmax	pmax					
	comp=Z,2.0nm,0.9s									
AKTO				pmax	pmax					
	comp=Z,1.0nm,0.3s									
AKTO				pmax	pmax					
	comp=Z,6.0nm,0.9s									
LPAZ	**La Paz**	**116.42**	**117**	PKP	PKPdf		09 58 45.4		-0.3	
	comp=Z,2.8nm,0.9s,baz=301,slow=2.1,SNR=8.1									
LPAZ	**La Paz**	**116.42**	**117**	PKP	PKPdf		09 58 45.4		-0.3	
LPAZ	**La Paz**	**116.42**	**117**	PKIKP	PKPdf		09 58 45.4		-0.2	
LPAZ				pmax	pmax					
	comp=Z,3.0nm,0.9s									
DAG	**Danmarks Havn**	**118.09**	**2**	*i* PKIKP	PKPdf		09 58 45.7		-1.4	
CPUP	**Villa Florida**	**119.73**	**133**	PKP	PKPdf		09 58 49.9		-1.9	
	comp=Z,7.7nm,1.0s,baz=274,slow=2.0,SNR=9.2									
CPUP	**Villa Florida**	**119.73**	**133**	PKP	PKPdf		09 58 49.9		-1.9	
CPUP	**Villa Florida**	**119.73**	**133**	PKIKP	PKPdf		09 58 49.9		-1.9	
CPUP				pmax	pmax					
	comp=Z,8.0nm,1.0s									
APA	**Apatity**	**119.85**	**342**	⇑*i* PKIKP	PKPdf		09 58 42.8		-7.9	
APA				pmax	pmax					
	comp=Z,77nm,1.6s									
SUMG	**Summit**	**120.35**	**9**	*e*PKPdf	PKPdf		09 58 51.7		+0.1	
SUMG	**Summit**	**120.35**	**9**	*i* P	PKPdf		09 58 51.7		+0.1	
	comp=Z,8.5nm,1.0s									
ARCES	**ARCESS Array B**	**120.67**	**346**	PKP	PKPdf		09 58 51.0		-1.3	
	comp=Z,5.7nm,0.7s,baz=87,slow=2.5,SNR=10									
ARCES	**ARCESS Array B**	**120.67**	**346**	PKP	PKPdf		09 58 51.0		-1.3	
SCHQ	**Schefferville**	**122.07**	**34**	PKP	PKPdf		09 58 54.2		-1.2	
	comp=Z,4.2nm,0.8s,baz=0.0,slow=20,SNR=3.5									
SCHQ	**Schefferville**	**122.07**	**34**	PKP	PKPdf		09 58 54.2		-1.2	
SDV	**Santo Domingo**	**122.39**	**89**	*e*PKPdf	PKPdf		09 58 56.8		-0.3	
BOSA	**Boshof**	**123.68**	**220**	PKP	PKPdf		09 58 58.3		-1.0	
	comp=Z,9.9nm,0.8s,baz=94,slow=4.3,SNR=8.2									
BOSA	**Boshof**	**123.68**	**220**	PKP	PKPdf		09 58 58.3		-1.0	
BOSA	**Boshof**	**123.68**	**220**	PKIKP	PKPdf		09 58 58.3		-1.1	
BOSA				pmax	pmax					
	comp=Z,10.0nm,0.9s									
VRHR	**Novokhopersk**	**124.14**	**322**	*e*PKIKP	PKPdf		09 58 57.8		-1.6	
VRHR				pmax	pmax					
	comp=Z,20nm,0.9s									
VRHR				pmax	pmax					
	comp=N,20nm,0.6s									
VRHR				pmax	pmax					
	comp=E,10.0nm,0.6s									
MOS	**Moscow**	**124.48**	**329**	*e*PKIKP	PKPdf		09 58 57.7		-2.2	
MOS				*e*			10 00 44.6			
GNI	**Garni**	**124.87**	**309**	*i* PKIKP	PKPdf		09 59 00.3		-0.9	
ZEI	**Tsey**	**124.98**	**312**	*i* PKIKP	PKPdf		09 59 00.8		-0.5	
ZEI				pmax	pmax					
	comp=Z,10.0nm,1.0s									
OBN	**Obninsk**	**125.31**	**328**	⇓*i* PKIKP	PKPdf		09 59 00.8		-0.7	
OBN				*e*			10 05 59.0			
OBN				pmax	pmax					
	comp=Z,45nm,1.4s									
VSR	**Storozhevoye**	**125.53**	**323**	*e*PKIKP	PKPdf		09 59 00.1		-2.0	
VSR				pmax	pmax					
	comp=Z,10.0nm,0.7s									
VSR				pmax	pmax					
	comp=N,70nm,2.2s									
VSR				pmax	pmax					
	comp=E,30nm,1.6s									
KIV	**Kislovodsk**	**125.56**	**314**	⇓*i* PKIKP	PKPdf		09 58 59.7		-2.7	
KIV				pmax	pmax					
	comp=Z,9.0nm,1.0s									
FINES	**FINESS Array B**	**126.22**	**338**	PKP	PKPdf		09 59 02.3		-0.8	
	comp=Z,14nm,1.0s,baz=64,slow=3.2,SNR=12									
FINES	**FINESS Array B**	**126.22**	**338**	PKP	PKPdf		09 59 02.3		-0.8	
FINES	**FINESS Array B**	**126.22**	**338**	PKIKP	PKPdf		09 59 02.3		-0.8	
FINES				pmax	pmax					
	comp=Z,14nm,1.0s									
VSU	**Vasula**	**127.95**	**335**	*i* PKIKP	PKPdf		09 59 06.5		0.0	
KMBO	**Kilima Mbogo**	**128.79**	**256**	PKP	PKPdf		09 59 08.8		-0.7	
	comp=Z,5.6nm,0.9s,baz=180,slow=20,SNR=12									
KMBO	**Kilima Mbogo**	**128.79**	**256**	*e*PKPdf	PKPdf		09 59 09.7		+0.2	
KMBO	**Kilima Mbogo**	**128.79**	**256**	PKIKP	PKPdf		09 59 08.8		-0.7	
KMBO				pmax	pmax					
	comp=Z,6.0nm,0.9s									
NB2	**NORSAR Subarra**	**131.05**	**345**	PKPdf	PKPdf		09 59 11.5		-0.8	
	comp=Z,16nm,1.4s,baz=31,slow=1.9									
NB2	**NORSAR Subarra**	**131.05**	**345**	PKPdf	PKPdf		09 59 11.5		-0.8	
	baz=31,slow=1.9									
NOA	**NORSAR Array B**	**131.05**	**345**	PKP	PKPdf		09 59 11.7		-0.6	
	comp=Z,3.2nm,0.9s,baz=31,slow=2.0,SNR=6.1									
NOA	**NORSAR Array B**	**131.05**	**345**	PKP	PKPdf		09 59 11.7		-0.6	
NOA	**NORSAR Array B**	**131.05**	**345**	PKIKP	PKPdf		09 59 11.7		-0.6	
NOA				pmax	pmax					
	comp=Z,3.0nm,0.9s									
AKASG	**Malin Array Be**	**131.36**	**326**	PKP	PKPdf		09 59 11.8		-1.4	
	comp=Z,0.6nm,0.3s,baz=51,slow=1.8,SNR=19									
AKASG	**Malin Array Be**	**131.36**	**326**	PKP	PKPdf		09 59 11.8		-1.4	
AKASG	**Malin Array Be**	**131.36**	**326**	PKIKP	PKPdf		09 59 11.8		-1.4	
AKASG				pmax	pmax					
	comp=Z,1.0nm,0.3s									
AKBB	**Malin Array Si**	**131.36**	**326**	*e*PKPdf	PKPdf		09 59 12.4		-0.8	
AKBB	**Malin Array Si**	**131.36**	**326**	*e*PKIKP	PKPdf		09 59 12.4		-0.8	
KIEV	**Kiev**	**131.37**	**326**	*e*PKPdf	PKPdf		09 59 12.4		-0.8	
KIEV	**Kiev**	**131.37**	**326**	*e*PKIKP	PKPdf		09 59 12.4		-0.8	
ASF	**Jabal al Asfar**	**132.49**	**300**	PKP	PKPdf		09 59 15.7		-0.2	
	comp=Z,1.1nm,0.6s,baz=334,slow=2.2,SNR=5.1									
ASF	**Jabal al Asfar**	**132.49**	**300**	PKP	PKPdf		09 59 15.7		-0.2	
ASF	**Jabal al Asfar**	**132.49**	**300**	PKIKP	PKPdf		09 59 15.7		-0.3	
ASF				pmax	pmax					
	comp=Z,1.0nm,0.6s									
BRTR	**Keskin Array B**	**133.24**	**311**	PKP	PKPdf		09 59 16.4		-0.7	
	comp=Z,2.6nm,0.9s,baz=114,slow=3.5,SNR=6.2									
BRTR	**Keskin Array B**	**133.24**	**311**	PKP	PKPdf		09 59 16.4		-0.7	
BRTR	**Keskin Array B**	**133.24**	**311**	PKIKP	PKPdf		09 59 16.5		-0.6	
BRTR				pmax	pmax					
	comp=Z,3.0nm,1.0s									
MMAI	**Mount Meron Ar**	**133.58**	**301**	PKP	PKPdf		09 59 18.1		+0.1	
	comp=Z,0.7nm,0.4s,baz=69,slow=7.9,SNR=4.3									
EIL	**Elat**	**134.52**	**297**	PKP	PKPdf		09 59 17.6		-2.2	
	comp=Z,3.6nm,0.8s,baz=86,slow=5.2,SNR=4.1									
EIL	**Elat**	**134.52**	**297**	PKP	PKPdf		09 59 17.6		-2.2	
BUR08	**Bucovina Ar. S**	**135.24**	**325**	*e*PKPdf	PKPdf		09 59 21.7		+1.1	
VRI	**Vrincioaia**	**135.31**	**322**	⇓PKIKP	PKPdf		09 59 19.5		-1.3	
VRI	**Vrincioaia**	**135.31**	**322**	⇓*i*P	PKPdf		09 59 19.5		-1.3	
MLR	**Muntele Rosu**	**135.97**	**322**	⇑PKHKP	PKPpre		09 59 13.7			
MLR	**Muntele Rosu**	**135.97**	**322**	⇑*i*P	PKPpre		09 59 13.7			
KOLS	**Kolonicke sedl**	**136.05**	**328**	*e*PKIKP	PKPdf		09 59 23.1		+1.0	
KOLS	**Kolonicke sedl**	**136.05**	**328**	*e*PKP	PKPdf		09 59 23.0		+0.9	
UZH	**Uzhgorod**	**136.23**	**327**	*e*PKIKP	PKPdf		09 59 16.6		-5.8	
UZH				*e*			09 59 29.8			
UZH				*i*			10 02 10.8			
STHS	**Stebnicka Huta**	**136.27**	**329**	*e*PKIKP	PKPdf		09 59 22.5		0.0	
STHS	**Stebnicka Huta**	**136.27**	**329**	*e*PKP	PKPdf		09 59 22.5		0.0	
CRVS	**Cervenica-Dubn**	**136.49**	**328**	*e*PKIKP	PKPdf		09 59 22.5		-0.4	
CRVS	**Cervenica-Dubn**	**136.49**	**328**	*e*PKP	PKPdf		09 59 22.5		-0.4	
DRGR		**137.12**	**325**	⇓PKIKP	PKPdf		09 59 24.1		0.0	
DRGR		**137.12**	**325**	⇓*i*P	PKPdf		09 59 24.1		0.0	
PSZ	**Piszkesteto**	**137.92**	**328**	⇓PKIKP	PKPdf		09 59 20.7		-4.9	
PSZ	**Piszkesteto**	**137.92**	**328**	*e*PKP	PKPdf		09 59 20.4		-5.2	

PSZ	**Piszkesteto**	**137.92**	**328**	⇓*i*P	PKPdf		09 59 20.6		-5.0	
DPC	**Dobruska-Polom**	**137.94**	**333**	*e*PKHKP	PKPpre		09 59 15.5			
DPC				*e*			09 59 25.3			
DPC	**Dobruska-Polom**	**137.94**	**333**	*e*PKPpre	PKPpre		09 59 15.5			
DPC				*e*PKPdf	PKPdf		09 59 25.3		-0.2	
UPC	**Upice**	**137.96**	**333**	*e*PKIKP	PKPdf		09 59 24.2		-1.4	
UPC	**Upice**	**137.96**	**333**	*e*PKPdf	PKPdf		09 59 24.2		-1.4	
VYHS	**Vyhne**	**138.07**	**329**	*e*PKIKP	PKPdf		09 59 26.2		+0.4	
VYHS	**Vyhne**	**138.07**	**329**	*e*PKP	PKPdf		09 59 26.2		+0.4	
BZS	**Buzias**	**138.43**	**324**	⇑PKIKP	PKPdf		09 59 25.6		-1.0	
BZS	**Buzias**	**138.43**	**324**	⇑*i*P	PKPdf		09 59 25.6		-1.0	
BRG	**Berggiesshubel**	**138.55**	**335**	*e*PKP	PKPdf		09 59 25.7		-1.0	
	comp=Z,19nm,1.3s									
BRG				*e*			09 59 35.4			
	comp=Z,18nm,1.5s									
BRG	**Berggiesshubel**	**138.55**	**335**	*e*PKIKP	PKPdf		09 59 25.7		-0.9	
BRG				*e*			09 59 35.4			
BRG				pmax	pmax					
	comp=Z,19nm,1.3s									
BRG				pmax	pmax					
	comp=Z,18nm,1.5s									
PVCC	**Panska Ves**	**138.55**	**335**	*e*PKIKP	PKPdf		09 59 26.7		0.0	
PVCC	**Panska Ves**	**138.55**	**335**	*e*PKPdf	PKPdf		09 59 26.7		0.0	
CLL	**Collm**	**138.58**	**336**	*e*PKIKP	PKPdf		09 59 26.0		-0.7	
CLL				pmax	pmax					
	comp=Z,29nm,1.4s									
CLL				MLR	MLR					
	comp=Z,300nm,18.1s,MS5.1									
CLL	**Collm**	**138.58**	**336**	*e*PKPdf	PKPdf		09 59 26.0		-0.7	
	comp=Z,29nm,1.4s									
CLL				*e*SKPbc	SKPbc		10 03 01.0		-0.5	
CLL				Lm			11 05 00.0			
	comp=N,200nm,18.6s									
CLL				Lm			11 05 00.0			
	comp=E,100nm,20.1s									
CLL				Lm			11 05 00.0			
	comp=Z,300nm,18.1s									
BUD	**Budapest**	**138.65**	**328**	*e*PKP	PKPdf		09 59 26.0		-0.9	
PRU	**Pruhonice**	**138.97**	**334**	*e*PKIKP	PKPdf		09 59 27.6		+0.1	
PRU	**Pruhonice**	**138.97**	**334**	*e*PKPdf	PKPdf		09 59 27.6		+0.1	
ZST	**Bratislava**	**139.12**	**330**	*e*PKIKP	PKPdf		09 59 27.9		+0.1	
ZST	**Bratislava**	**139.12**	**330**	*e*PKP	PKPdf		09 59 27.9		+0.1	
VTS	**Vitosha

CEL				*e*PKPab	PKPab	09 59 41.8	-0.5
GDM	**Grand'Maison**	**146.22 337**		PKP	PKPbc	09 59 41.7	+0.2
GDM	**Grand'Maison**	**146.22 337**		PKP	PKPbc	09 59 41.7	+0.2
GRN	**Grenoble**	**146.32 337**		PKP	PKPbc	09 59 42.1	+0.3
GRN	**Grenoble**	**146.32 337**		PKP2	PKPbc	09 59 42.1	+0.3
GRN	**Grenoble**	**146.32 337**		PKP	PKPbc	09 59 42.1	+0.3
QUIF	**Quistinic**	**146.35 349**	⇑*i*PKP1		PKPbc	09 59 41.1	-0.7
	comp=Z,303nm,1.5s						
QUIF	**Quistinic**	**146.35 349**	⇑*i*PKP		PKPbc	09 59 41.1	-0.7
QUIF	**Quistinic**	**146.35 349**	⇑*i*PKP2		PKPbc	09 59 41.1	-0.7
MBDF	**Montbardon**	**146.36 336**	⇑*i*PKP1		PKPbc	09 59 41.6	-0.3
	comp=Z,191nm,1.3s						
MBDF	**Montbardon**	**146.36 336**	⇑*i*PKP		PKPbc	09 59 41.6	-0.3
MBDF	**Montbardon**	**146.36 336**	⇑*i*PKP2		PKPbc	09 59 41.6	-0.3
AGO	**Saint Agoulin**	**146.52 341**		PKP	PKPbc	09 59 42.2	-0.1
AGO	**Saint Agoulin**	**146.52 341**		PKP	PKPbc	09 59 42.2	-0.1
ORIF	**Oris-en-Rattie**	**146.55 337**	⇑*i*PKP1		PKPbc	09 59 42.4	0.0
	comp=Z,127nm,0.9s						
ORIF	**Oris-en-Rattie**	**146.55 337**	⇑*i*PKP		PKPbc	09 59 42.4	0.0
ORIF	**Oris-en-Rattie**	**146.55 337**	⇑*i*PKP2		PKPbc	09 59 42.4	0.0
SURF	**Saint Ours**	**146.55 335**		PKP	PKPbc	09 59 42.8	+0.3
SURF	**Saint Ours**	**146.55 335**		PKP	PKPbc	09 59 42.8	+0.3
TCF	**Toulx Ste Croi**	**146.60 342**	⇑*i*PKP1		PKPbc	09 59 42.2	-0.3
	comp=Z,127nm,1.3s						
TCF	**Toulx Ste Croi**	**146.60 342**	⇑*i*PKP		PKPbc	09 59 42.2	-0.3
TCF	**Toulx Ste Croi**	**146.60 342**	⇑*i*PKP2		PKPbc	09 59 42.2	-0.3
SAOF	**Saorge**	**146.64 334**		PKP	PKPbc	09 59 41.7	-1.1
SAOF	**Saorge**	**146.64 334**		PKP2	PKPbc	09 59 41.7	-1.1
SAOF	**Saorge**	**146.64 334**		PKP	PKPbc	09 59 41.7	-1.1
AUTN	**L'Aution**	**146.69 334**		PKP	PKPbc	09 59 42.2	-0.7
AUTN	**L'Aution**	**146.69 334**		PKP2	PKPbc	09 59 42.2	-0.7
AUTN	**L'Aution**	**146.69 334**		PKP	PKPbc	09 59 42.2	-0.7
SSB	**Saint Sauveur**	**146.73 339**	*e*PKPdf		PKPdf	09 59 41.1	-0.2
SSB			*e*PKPab		PKPab	09 59 43.3	-0.9
SSB	**Saint Sauveur**	**146.73 339**	*e*PKIKP		PKPdf	09 59 41.2	-0.1
SSB			*e*			09 59 43.3	
SSB	**Saint Sauveur**	**146.73 339**		PKP	PKPbc	09 59 42.8	-0.2
TOUF	**Mont Tournerai**	**146.75 334**		PKP	PKPbc	09 59 42.8	-0.3
TOUF	**Mont Tournerai**	**146.75 334**		PKP2	PKPbc	09 59 42.8	-0.3
TOUF	**Mont Tournerai**	**146.75 334**		PKP	PKPbc	09 59 42.8	-0.3
SBF	**Sospel**	**146.79 334**	⇑*i*PKP1		PKPbc	09 59 42.5	-0.7
	comp=Z,412nm,1.1s						
SBF	**Sospel**	**146.79 334**	⇑*i*PKP		PKPbc	09 59 42.5	-0.7
SBF	**Sospel**	**146.79 334**	⇑*i*PKP2		PKPbc	09 59 42.5	-0.7
LUCF	**Luceram**	**146.81 334**		PKP	PKPbc	09 59 42.8	-0.4
LUCF	**Luceram**	**146.81 334**		PKP	PKPbc	09 59 42.8	-0.4
PYM	**Petit Puy Mans**	**146.83 341**		PKP	PKPbc	09 59 43.2	0.0
PYM	**Petit Puy Mans**	**146.83 341**		PKP2	PKPbc	09 59 43.2	0.0
PYM	**Petit Puy Mans**	**146.83 341**		PKP	PKPbc	09 59 43.2	0.0
MVIF	**Mont Vial**	**146.89 334**		PKP	PKPbc	09 59 42.2	-1.3
MVIF	**Mont Vial**	**146.89 334**		PKP2	PKPbc	09 59 42.2	-1.3
MVIF	**Mont Vial**	**146.89 334**		PKP	PKPbc	09 59 42.2	-1.3
REVF	**Revere**	**146.92 334**		PKP	PKPbc	09 59 42.8	-0.8
REVF	**Revere**	**146.92 334**		PKP2	PKPbc	09 59 42.8	-0.8
REVF	**Revere**	**146.92 334**		PKP	PKPbc	09 59 42.8	-0.8
MFF	**Saint Martin d**	**146.95 345**	⇑*i*PKP1		PKPbc	09 59 43.1	-0.5
	comp=Z,156nm,1.1s						
MFF	**Saint Martin d**	**146.95 345**	⇑*i*PKP		PKPbc	09 59 43.1	-0.5
MFF	**Saint Martin d**	**146.95 345**	⇑*i*PKP2		PKPbc	09 59 43.1	-0.5
VIVF	**Saint-Julien-l**	**147.05 338**	⇑*i*PKP1		PKPbc	09 59 43.8	-0.1
	comp=Z,74nm,1.0s						
VIVF	**Saint-Julien-l**	**147.05 338**	⇑*i*PKP		PKPbc	09 59 43.8	-0.1
VIVF	**Saint-Julien-l**	**147.05 338**	⇑*i*PKP2		PKPbc	09 59 43.8	-0.1
OCF	**Saint Nazaire**	**147.05 337**		PKP	PKPbc	09 59 44.1	+0.2
OG26	**St.-Nazaire-De**	**147.05 337**		PKP	PKPbc	09 59 44.1	+0.2
CALN	**Calern**	**147.11 334**		PKP	PKPbc	09 59 43.8	-0.3
CALN	**Calern**	**147.11 334**		PKP2	PKPbc	09 59 43.8	-0.3
CALN	**Calern**	**147.11 334**		PKP	PKPbc	09 59 43.8	-0.3
PGF	**Pioggiola**	**147.13 331**	⇑*i*PKP1		PKPbc	09 59 43.8	-0.4
	comp=Z,454nm,1.2s						
PGF	**Pioggiola**	**147.13 331**	⇑*i*PKP		PKPbc	09 59 43.8	-0.4
PGF	**Pioggiola**	**147.13 331**	⇑*i*PKP2		PKPbc	09 59 43.8	-0.4
LBL	**Lubilhac**	**147.21 340**		PKP	PKPbc	09 59 44.3	0.0
LBL	**Lubilhac**	**147.21 340**		PKP2	PKPbc	09 59 44.3	0.0
LBL	**Lubilhac**	**147.21 340**		PKP	PKPbc	09 59 44.3	0.0
FRNF	**Fournols**	**147.30 341**		PKP	PKPbc	09 59 44.9	+0.3
FRNF	**Fournols**	**147.30 341**		PKP	PKPbc	09 59 44.9	+0.3
FRF	**La Foret Royal**	**147.37 335**	⇑*i*PKP1		PKPbc	09 59 44.2	-0.6
	comp=Z,330nm,1.2s						
FRF	**La Foret Royal**	**147.37 335**	⇑*i*PKP		PKPbc	09 59 44.2	-0.6
FRF	**La Foret Royal**	**147.37 335**	⇑*i*PKP2		PKPbc	09 59 44.2	-0.6
SMRF	**Simiane la Rot**	**147.46 336**	⇑*i*PKP1		PKPbc	09 59 45.1	0.0
	comp=Z,148nm,1.1s						
SMRF	**Simiane la Rot**	**147.46 336**	⇑*i*PKP		PKPbc	09 59 45.1	0.0
LMR	**La Mourre**	**147.62 334**	⇑*i*PKP1		PKPbc	09 59 45.0	-0.5
	comp=Z,294nm,1.2s						
LMR	**La Mourre**	**147.62 334**	⇑*i*PKP		PKPbc	09 59 45.0	-0.5
LMR	**La Mourre**	**147.62 334**	⇑*i*PKP2		PKPbc	09 59 45.0	-0.5
RJF	**Les Rejaudoux**	**147.69 342**	⇑*i*PKP1		PKPbc	09 59 45.5	-0.2
	comp=Z,288nm,1.4s						
RJF	**Les Rejaudoux**	**147.69 342**	⇑*i*PKP		PKPbc	09 59 45.5	-0.2
RJF	**Les Rejaudoux**	**147.69 342**	⇑*i*PKP2		PKPbc	09 59 45.5	-0.2
CAF	**Calviac**	**147.87 341**	⇑*i*PKP1		PKPbc	09 59 46.0	-0.1
	comp=Z,105nm,1.1s						
CAF	**Calviac**	**147.87 341**	⇑*i*PKP		PKPbc	09 59 46.0	-0.1
CAF	**Calviac**	**147.87 341**	⇑*i*PKP2		PKPbc	09 59 46.0	-0.1
LASF	**Ste Croix**	**148.02 338**	⇑*i*PKP1		PKPbc	09 59 46.5	-0.1
	comp=Z,189nm,1.1s						
LASF	**Ste Croix**	**148.02 338**	⇑*i*PKP		PKPbc	09 59 46.5	-0.1
LFF	**La Frestale**	**148.25 343**	⇑*i*PKP1		PKPbc	09 59 46.8	-0.4
	comp=Z,117nm,0.9s						
LFF	**La Frestale**	**148.25 343**	⇑*i*PKP		PKPbc	09 59 46.8	-0.4
LFF	**La Frestale**	**148.25 343**	⇑*i*PKP2		PKPbc	09 59 46.8	-0.4
RCBR	**Riachuelo**	**148.52 129**	*e*PKPdf		PKPdf	09 59 44.6	-0.7
MTLF	**Montolieu**	**149.23 340**	⇑*i*PKP1		PKPbc	09 59 49.5	-0.2
	comp=Z,196nm,1.1s						
MTLF	**Montolieu**	**149.23 340**	⇑*i*PKP		PKPbc	09 59 49.5	-0.2
MTLF	**Montolieu**	**149.23 340**	⇑*i*PKP2		PKPbc	09 59 49.5	-0.2
VSL	**Villasalto**	**149.23 327**	*e*PKPbc		PKPbc	09 59 49.2	-0.7
VSL			*e*PKPab		PKPab	09 59 53.7	-0.5
LRDF	**Laroque-de-Fa**	**149.48 339**		PKP	PKPbc	09 59 50.1	-0.3
LRDF	**Laroque-de-Fa**	**149.48 339**		PKP	PKPbc	09 59 50.1	-0.3
SJAF	**Saint Jean de**	**149.75 338**		PKP	PKPbc	09 59 50.5	-0.6
SJAF	**Saint Jean de**	**149.75 338**		PKP	PKPbc	09 59 50.5	-0.6
EJON	**La Jonquera**	**149.78 338**		PKP	PKPbc	09 59 50.2	-1.0
FILF	**Fillols**	**149.80 338**		PKP	PKPbc	09 59 51.0	-0.2
FILF	**Fillols**	**149.80 338**		PKP	PKPbc	09 59 51.0	-0.2
MLS	**Moulis**	**149.94 341**		PKP	PKPbc	09 59 51.0	-0.5
MLS	**Moulis**	**149.94 341**		PKP	PKPbc	09 59 51.0	-0.5
CLLI	**Llivia**	**150.08 339**		PKP	PKPbc	09 59 52.4	+0.5
EPF	**Esparros**	**150.11 342**	*e*PKP1		PKPbc	09 59 50.2	-1.7
	comp=Z,68nm,1.1s						
EPF	**Esparros**	**150.11 342**	*e*PKP		PKPbc	09 59 50.2	-1.7
EPF	**Esparros**	**150.11 342**	*e*PKHKP		PKPbc	09 59 50.2	-1.7
VALF	**Valcebollere**	**150.13 339**		PKP	PKPbc	09 59 52.0	0.0
VALF	**Valcebollere**	**150.13 339**		PKP	PKPbc	09 59 52.0	0.0
RESF	**Ens**	**150.31 342**		PKP	PKPbc	09 59 53.3	+0.9
RESF	**Ens**	**150.31 342**		PKP	PKPdf	09 59 53.3	+6.1
VIEF	**Viey**	**150.34 342**		PKP	PKPbc	09 59 53.0	+0.5
VIEF	**Viey**	**150.34 342**		PKP	PKPdf	09 59 53.0	+5.7
CSOR	**Sort**	**150.45 340**		PKP	PKPbc	09 59 52.9	+0.2
EALK	**Alkurruntz**	**150.46 344**		PKP	PKPbc	09 59 53.1	+0.4
SJPF	**Ste Jean**	**150.48 344**	⇑*i*PKP1		PKPbc	09 59 52.6	-0.2
	comp=Z,119nm,1.2s						
SJPF	**Ste Jean**	**150.48 344**	⇑*i*PKP		PKPbc	09 59 52.6	-0.2
SJPF	**Ste Jean**	**150.48 344**	⇑*i*PKIKP		PKPbc	09 59 52.6	-0.2
EBIE	**Bielsa**	**150.49 342**		PKP	PKPbc	09 59 53.5	+0.7
ETSF	**Etsaut**	**150.50 343**	⇑*i*PKP1		PKPbc	09 59 53.0	+0.2
	comp=Z,124nm,1.1s						
ETSF	**Etsaut**	**150.50 343**	⇑*i*PKP		PKPbc	09 59 53.0	+0.2
ETSF	**Etsaut**	**150.50 343**	⇑*i*PKIKP		PKPbc	09 59 53.0	+0.2
ELIZ	**Elizondo**	**150.51 344**		PKP	PKPbc	09 59 53.1	+0.2
ELIZ	**Elizondo**	**150.51 344**		PKIKP	PKPbc	09 59 53.1	+0.2
CFON	**Fontmartina**	**150.54 338**		PKP	PKPbc	09 59 52.7	-0.3
EMIR	**Miracle**	**150.73 339**		PKP	PKPbc	09 59 52.9	-0.5
ELAN	**Lanestosa**	**150.90 347**		PKP	PKPbc	09 59 52.9	-0.9
EPOB	**Poblet**	**151.38 339**		PKP	PKPbc	09 59 54.8	-0.2
EPON	**Pontenova**	**151.44 353**		PKP	PKPbc	09 59 54.7	-0.3
ESAC	**San Caprasio**	**151.55 342**		PKP	PKPbc	09 59 55.2	-0.1
KEST	**Kesra**	**151.88 321**	PKPbc		PKPbc	09 59 56.1	-0.2
	comp=Z,20nm,1.1s,baz=107,slow=12,SNR=18						
KEST	**Kesra**	**151.88 321**	*e*PKPbc		PKPbc	09 59 56.5	+0.2
EMAZ	**Mazaricos**	**152.00 355**		PKP	PKPbc	09 59 56.2	-0.1
STS	**Santiago**	**152.03 355**		PKP	PKPbc	09 59 55.8	-0.6
STS	**Santiago**	**152.03 355**		PKIKP	PKPbc	09 59 55.8	-0.6
ETOS	**Mallorca**	**152.12 335**		PKP	PKPbc	09 59 56.8	+0.1
ERUA	**La Rua**	**152.36 352**		PKP	PKPbc	09 59 56.7	-0.4
ERUA	**La Rua**	**152.36 352**		PKIKP	PKPbc	09 59 56.7	-0.5
CMAH	**Djebel Manchou**	**152.38 325**		P	PKPbc	09 59 53.4	-4.0
ABSA	**Djebel Ababsia**	**152.59 324**		P	PKPbc	09 59 58.3	+0.4
ECAL	**Calabor**	**152.75 352**		PKP	PKPbc	09 59 58.0	0.0
ETOR	**Torete**	**152.84 343**		PKP	PKPbc	09 59 57.0	-1.3
ETOR	**Torete**	**152.84 343**		PKIKP	PKPbc	09 59 57.0	-1.3
PBRG	**Braganca**	**152.88 351**		*e*PKPbc	PKPbc	09 59 57.8	-0.5
PGAV	**Gavieira, Arco**	**152.91 354**		*e*PKPdf	PKPdf	09 59 49.7	-1.5
ELOB	**Lobios**	**152.99 354**		PKP	PKPbc	10 00 00.5	+1.9
PCAB	**Cabril**	**153.14 354**		*e*PKPbc	PKPbc	09 59 58.3	-0.6
DFRA	**Djebel Bou Aff**	**153.27 327**		P	PKPdf	09 59 52.6	+0.7
POLO	**Lamas de Olo**	**153.44 353**		*e*PKPdf	PKPdf	09 59 52.0	0.0
POLO	**Lamas de Olo**	**153.44 353**		*e*PKPbc	PKPbc	09 59 59.7	+0.1
PVRL	**Vila Real**	**153.53 353**		*e*PKPbc	PKPbc	09 59 59.3	-0.5
GUD	**Guadarrama**	**153.53 347**		PKP	PKPdf	09 59 52.0	-0.2
GUD	**Guadarrama**	**153.53 347**		PKIKP	PKPdf	09 59 52.0	-0.1
MVO	**Moncorvo**	**153.55 352**		*e*PKPdf	PKPdf	09 59 52.2	+0.1
SET	**Setif**	**153.78 327**		P	PKPdf	09 59 53.0	+0.4
PVIS	**Viseu**	**154.10 353**		*e*PKPbc	PKPbc	10 00 00.7	-0.3
MTE	**Manteigas**	**154.37 352**		*e*PKPdf	PKPdf	09 59 53.2	-0.1
ESDC	**Sonseca Array**	**154.41 346**		PKP	PKPdf	09 59 52.5	-0.9
	comp=Z,0.3nm,0.3s,baz=353,slow=2.2,SNR=11						
ESDC				PKPbc	PKPbc	10 00 01.8	0.0
	comp=Z,1.4nm,0.7s,baz=22,slow=3.1,SNR=6.0						
ESDC				PKPab	PKPab	10 00 15.4	-0.4
	comp=Z,1.0nm,0.3s,baz=20,slow=1.5,SNR=9.2						
ESDC	**Sonseca Array**	**154.41 346**		PKP	PKPdf	09 59 52.5	-0.9
ESDC				PKP	PKPdf	10 00 00.9	+7.5
ESDC				PKPbc	PKPbc	10 00 01.8	0.0
ESDC				PKPab	PKPab	10 00 15.4	-0.4
PAB	**San Pablo**	**154.62 346**		*e*PKPdf	PKPdf	09 59 53.2	-0.5
PAB	**San Pablo**	**154.62 346**		*e*PKIKP	PKPdf	09 59 53.2	-0.5
PCBR	**Castelo Branco**	**154.91 352**		*e*PKPdf	PKPdf	09 59 53.7	-0.4
PCBR	**Castelo Branco**	**154.91 352**		*e*PKPbc	PKPbc	10 00 02.6	-0.2
PMRV	**Marv??o**	**155.31 352**		*e*PKPdf	PKPdf	09 59 54.3	-0.3
PMTG	**Montargil**	**155.77 353**		*e*PKPdf	PKPdf	09 59 53.8	-1.5
PMTG	**Montargil**	**155.77 353**		*e*PKPab	PKPab	10 00 20.8	-0.8
EHUE	**Huescar**	**155.78 342**		PKP	PKPdf	09 59 55.0	-0.3
EHUE	**Huescar**	**155.78 342**		PKIKP	PKPdf	09 59 55.0	-0.3
EVO	**Evora**	**156.27 352**		*e*PKIKP	PKPdf	09 59 54.6	-1.4
	comp=Z,101nm,1.5s						
EVOP	**Sao Brissos**	**156.29 353**		*e*PKPdf	PKPdf	09 59 54.6	-1.4
EVOP	**Sao Brissos**	**156.29 353**		*e*PKIKP	PKPdf	09 59 54.6	-1.4
PBAR	**Barrancos**	**156.48 350**		*e*PKPdf	PKPdf	09 59 55.7	-0.5
PBAR	**Barrancos**	**156.48 350**		*e*PKPab	PKPab	10 00 24.5	-0.2
PBEJ	**Beja**	**156.75 352**		*e*PKPdf	PKPdf	09 59 56.3	-0.3
PBEJ	**Beja**	**156.75 352**		*e*PKPab	PKPab	10 00 25.0	-0.8
PNCL	**Nicolau / Gran**	**156.75 353**		*e*PKPdf	PKPdf	09 59 56.4	-0.2
EMIN	**Mina Concepcio**	**156.81 349**		PKP	PKPdf	09 59 56.7	0.0
PCVE	**Castro Verde**	**157.16 352**		*e*PKPdf	PKPdf	09 59 57.3	+0.2
PCVE	**Castro Verde**	**157.16 352**		*e*PKPab	PKPab	10 00 27.8	+0.2
EGRO	**El Granado**	**157.18 351**		PKP	PKPdf	09 59 56.7	-0.5
PTEO	**Sao Teotonio**	**157.33 353**		*e*PKPdf	PKPdf	09 59 50.6	-6.8
PVAQ	**Vaqueiros**	**157.34 351**		*e*PKPdf	PKPdf	09 59 55.9	-1.5
PVAQ	**Vaqueiros**	**157.34 351**		*e*PKPab	PKPab	10 00 28.3	-0.1
ESPR	**Espera**	**157.52 347**		PKP	PKPdf	09 59 57.0	-0.7
PBDV	**Barranco-do-Ve**	**157.53 352**		*e*PKPdf	PKPdf	09 59 56.6	-1.0
PBDV	**Barranco-do-Ve**	**157.53 352**		*e*PKPab	PKPab	10 00 30.4	+1.2
MORF	**Marmelete**	**157.56 353**		*e*PKPdf	PKPdf	09 59 56.7	-0.9
MORF	**Marmelete**	**157.56 353**		*e*PKPab	PKPab	10 00 29.9	+0.6
PFVI	**Vila Bisbo**	**157.75 353**		*e*PKPdf	PKPdf	09 59 56.7	-1.2
TAM	**Tamanrasset**	**161.74 298**		*e*PKPdf	PKPdf	10 00 03.0	+0.2
TAM				*e*PKPab	PKPab	10 00 48.5	+0.3
TAM	**Tamanrasset**	**161.74 298**		*e*PKIKP	PKPdf	10 00 03.1	+0.2
TAM				*e*		10 00 48.5	
TORD	**Torodi Ar. Bea**	**166.65 264**		PKP	PKPdf	10 00 05.9	-1.5
	comp=Z,8.4nm,1.0s,baz=16,slow=0.7,SNR=36						
TORD				PKPab	PKPab	10 01 08.4	-1.5
	comp=Z,7.2nm,1.0s,baz=98,slow=4.0,SNR=10						
TORD	**Torodi Ar. Bea**	**166.65 264**		PKP	PKPdf	10 00 05.9	-1.5
TORD				PKPab	PKPab	10 01 08.4	-1.5
DBIC	**Dimbokro**	**169.21 221**		PKP	PKPdf	10 00 07.6	-1.7
	comp=Z,14nm,1.1s,baz=69,slow=0.7,SNR=6.1						
DBIC	**Dimbokro**	**169.21 221**		PKP	PKPdf	10 00 07.6	-1.7
DBIC	**Dimbokro**	**169.21 221**		PKIKP	PKPdf	10 00 07.6	-1.7
DBIC				pmax	pmax		
	comp=Z,14nm,1.1s						

*ISCJB **07** 09:49:47.7±0.5, 55.°60N±0.°04×165.°58E±0.°05, h10km, mb3.8/9, Error ellipse: s-maj=6.0km s-min=4.5km az=5.6*
*KRSC **07** 09:49:47.1±0.8, 55.°65N×165.°66E, h10km±10km, ML4.2*
*MOS **07** 09:49:47.9±2.0, 55.°41N×165.°62E, h10km, mb4.1/5, Error ellipse: s-maj=15.1km s-min=14.2km az=107.6*
*IDC **07** 09:49:50.2±1.0, 55.°28N×165.°79E, h10km±4km, mb3.8/7, mb1 4.0/9, mb1mx3.8/27, mbtmp3.8/9, ML3.3/2, Error ellipse: s-maj=24.6km s-min=13.1km az=17.0*
*NEIC **07** 09:49:53.2±0.6, 54.°98N×165.°97E, h35km, mb3.7/1, Error ellipse: s-maj=19.4km s-min=9.2km az=179.0*
ISC 07 09:49:49.2±0.6, 55.°60N±0.°04×165.°62E±0.°06, h10km, (h15km±9km:pP-P), n51, σ1§10/64, mb3.8/9, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.45**	**153**	*i* P	**Pg**	**09 49 56.5**	**-1.4**
BKI				*e*S	**Sg**	**09 50 03.4**	**-0.4**
BKI	**Bering**	**0.45**	**153**	PN	**Pg**	**09 49 56.5**	**-1.4**
BKI				S	**Sg**	**09 50 03.4**	**-0.4**
KBTR	**Krutoberegovo**	**1.69**	**292**	*e*P	**Pn**	**09 50 15.3**	**-3.4**
KBTR				*e*S	**Sn**	**09 50 35.6**	**-4.7**
KBTR	**Krutoberegovo**	**1.69**	**292**	PN	**Pn**	**09 50 15.3**	**-3.4**
MKZ	**Mys Kozlova**	**2.47**	**246**	*e*P	**Pn**	**09 50 28.8**	**-0.6**
MKZ				*e*S	**Sn**	**09 50 59.8**	**+0.3**
MKZ	**Mys Kozlova**	**2.47**	**246**	PN	**Pn**	**09 50 28.8**	**-0.6**
MKZ				S	**Sn**	**09 50 59.8**	**+0.3**
BDR	**Baidarnaya**	**2.65**	**293**	*e*P	**Pn**	**09 50 30.6**	**-1.3**
BDR				*e*S	**Sn**	**09 51 03.0**	**-1.1**
KMNR	**Kamenistaya**	**3.05**	**275**	P	**Pn**	**09 50 36.5**	**-0.9**
TUMR	**Tumrok**	**3.13**	**266**	P	**Pn**	**09 50 38.7**	**+0.2**
TUMR				S	**Sn**	**09 51 16.8**	**+0.9**
KOZR	**Kozyr**	**3.26**	**281**	PN	**Pn**	**09 50 39.0**	**-1.3**
KOZ	**Kozyrevsk**	**3.27**	**280**	P	**Pn**	**09 50 39.0**	**-1.4**
SRDR	**Sredinnyy**	**3.39**	**285**	P	**Pn**	**09 50 41.0**	**-1.1**
KII	**Karymskiy**	**3.90**	**249**	S	**Sn**	**09 51 36.2**	**+1.5**
NLC	**Nalytchevo**	**4.40**	**239**	P	**Pn**	**09 50 55.5**	**-0.4**
NLC				S	**Sn**	**09 51 46.6**	**-0.5**
NLC	**Nalytchevo**	**4.40**	**239**	PN	**Pn**	**09 50 55.5**	**-0.4**
NLC				S	**Sn**	**09 51 46.6**	**-0.5**
AVH	**Avacha**	**4.65**	**243**	*e*P	**Pn**	**09 51 00.1**	**+0.8**
AVH				*e*S	**Sn**	**09 51 53.5**	**+0.3**
PET	**Petropavlovsk**	**4.83**	**241**	P	**Pn**	**09 51 02.7**	**+0.9**
PET				*e*S	**Sn**	**09 51 57.5**	**-0.1**
PET	**Petropavlovsk**	**4.83**	**241**	*e*PN	**Pn**	**09 51 01.2**	**-0.6**
PET				*e*S	**Sn**	**09 51 58.2**	**+0.6**
	comp=Z,14nm,0.4s			pmax	pmax		
PET				smax			
	comp=N,142nm,0.6s						
GNL	**Ganaly**	**4.85**	**250**	*e*P	**Pn**	**09 51 03.0**	**+0.9**
FX1	**Attu Island--F**	**5.20**	**118**	Pn	**Pn**	**09 51 02.6**	**-4.3**
	comp=N,3.3nm,0.3s,baz=331,slow=19,SNR=8.5						
FX1				Sn	**Sn**	**09 51 59.5**	**-7.3**
	comp=N,1.9nm,0.3s,baz=246,slow=20,SNR=2.0						
FX1	**Attu Island--F**	**5.20**	**118**	Pn	**Pn**	**09 51 02.6**	**-4.3**
FX1				Sn	**Sn**	**09 51 59.5**	**-7.3**
RUS	**Russkaya**	**5.25**	**236**	S	**Sn**	**09 52 07.0**	**-1.2**
PETK	**Petropavlovsk-**	**5.26**	**245**	Pn	**Pn**	**09 51 08.6**	**+0.8**
	comp=N,1.6nm,0.3s,baz=75,slow=18,SNR=16						
PETK				Sn	**Sn**	**09 52 09.8**	**+1.5**
	comp=N,0.5nm,0.3s,baz=65,slow=12,SNR=2.8						
PETK	**Petropavlovsk-**	**5.26**	**245**	Pn	**Pn**	**09 51 08.6**	**+0.8**
PETK				Sn	**Sn**	**09 52 09.8**	**+1.5**
PETK	**Petropavlovsk-**	**5.26**	**245**	PN	**Pn**	**09 51 08.6**	**+0.9**
PETK						09 52 09.8	
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK				smax			
	comp=N,1.0nm,0.3s						
ILAR	**Eielson Array**	**24.74**	**49**	P	**P**	**09 55 14.2**	**+3.9**
	comp=N,2.3nm,0.8s,mb3.8,baz=260,slow=8.6,SNR=7.3						
ILAR	**Eielson Array**	**24.74**	**49**	P	**P**	**09 55 14.2**	**+3.9**
ILAR	**Eielson Array**	**24.74**	**49**	P	**P**	**09 55 14.2**	**+3.9**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
INK	**Inuvik**	**29.88**	**41**	P	**P**	**09 55 59.2**	**+2.8**
	comp=Z,0.4nm,0.6s,mb3.4,baz=231,slow=4.1,SNR=4.3						
INK	**Inuvik**	**29.88**	**41**	P	**P**	**09 55 59.2**	**+2.8**
INK	**Inuvik**	**29.88**	**41**	P	**P**	**09 55 59.2**	**+2.8**
SONM	**Songino Array**	**36.48**	**283**	P	**P**	**09 56 56.1**	**+2.1**
	comp=Z,0.7nm,0.8s,mb3.6,baz=66,slow=7.9,SNR=3.5						
SONM	**Songino Array**	**36.48**	**283**	P	**P**	**09 56 56.1**	**+2.1**
SONM	**Songino Array**	**36.48**	**283**	P	**P**	**09 56 56.1**	**+2.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURK	**Kurchatov**	**49.12**	**303**	P	**P**	**09 58 41.6**	**+5.1**
	comp=Z,0.8nm,0.2s,mb4.3,baz=55,slow=7.7,SNR=3.0						
KURK	**Kurchatov**	**49.12**	**303**	P	**P**	**09 58 41.6**	**+5.1**
KURK	**Kurchatov**	**49.12**	**303**	P	**P**	**09 58 41.6**	**+5.2**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
MKAR	**Makanchi Array**	**49.94**	**297**	P	**P**	**09 58 48.1**	**+5.3**
	comp=Z,0.8nm,0.8s,mb3.8,baz=56,slow=7.7,SNR

h23$^{km}_{\pm}$1.6:**pP-P,n48,**σ1^{s}12/61,**mb3.5/8,Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.38**	**169**	*i* P	**Pb**	**09 52 53.9**	**-0.7**
BKI				*e*S	**Sb**	**09 53 00.9**	**+0.6**
BKI	**Bering**	**0.38**	**169**	PN	**Pb**	**09 52 53.9**	**-0.7**
BKI				S	**Sb**	**09 53 00.9**	**+0.6**
KBTR	**Krutoberegovo**	**1.82**	**292**	*e*P	**Pn**	**09 53 12.5**	**-3.3**
KBTR				*e*S	**Sn**	**09 53 33.7**	**-4.3**
KBTR	**Krutoberegovo**	**1.82**	**292**	PN	**Pn**	**09 53 12.5**	**-3.3**
KBTR				S	**Sn**	**09 53 33.7**	**-4.3**
MKZ	**Mys Kozlova**	**2.58**	**248**	*e*P	**Pn**	**09 53 25.4**	**-0.8**
MKZ				*e*S	**Sn**	**09 53 54.4**	**-2.2**
MKZ	**Mys Kozlova**	**2.58**	**248**	PN	**Pn**	**09 53 25.4**	**-0.8**
MKZ				S	**Sn**	**09 53 54.4**	**-2.2**
BDR	**Baidarnaya**	**2.79**	**293**	*e*P	**Pn**	**09 53 28.7**	**-0.4**
BDR				*e*S	**Sn**	**09 54 00.9**	**-0.9**
KLY	**Klyuchi**	**3.02**	**286**	P	**Pn**	**09 53 31.1**	**-1.1**
KLY	**Klyuchi**	**3.02**	**286**	PN	**Pn**	**09 53 31.1**	**-1.1**
KMNR	**Kamenistaya**	**3.18**	**276**	P	**Pn**	**09 53 33.7**	**-0.9**
TUMR	**Tumrok**	**3.26**	**267**	P	**Pn**	**09 53 36.9**	**+1.3**
TUMR				S	**Sn**	**09 54 15.0**	**+1.5**
SRDR	**Sredinnyy**	**3.53**	**285**	P	**Pn**	**09 53 39.4**	**+0.1**
AVH	**Avacha**	**4.75**	**244**	*e*P	**Pn**	**09 53 57.2**	**+1.1**
AVH				*e*S	**Sn**	**09 54 50.3**	**+0.1**
PET	**Petropavlovsk**	**4.93**	**242**	*e*P	**Pn**	**09 53 59.6**	**+1.1**
PET				*e*S	**Sn**	**09 54 54.4**	**-0.1**
PET	**Petropavlovsk**	**4.93**	**242**	*e*Pn	**Pn**	**09 53 59.5**	**+1.0**
PET	**Petropavlovsk**	**4.93**	**242**	*e*PN	**Pn**	**09 53 59.8**	**+1.3**
PET				*e*S	**Sn**	**09 54 54.8**	**+0.3**
PET				pmax	pmax		
	comp=Z,17nm,0.6s						
PET				smax			
	comp=N,184nm,0.7s						
GNL	**Ganaly**	**4.96**	**251**	*e*P	**Pn**	**09 54 00.3**	**+1.3**
FX1	**Attu Island--F**	**5.07**	**119**	Pn	**Pn**	**09 53 58.9**	**-1.5**
	comp=N,2.0nm,0.3s,baz=30,slow=15,SNR=7.0						
FX1				Sn	**Sn**	**09 54 55.7**	**-2.3**
	comp=N,2.1nm,0.3s,baz=356,slow=14,SNR=2.1						
FX1	**Attu Island--F**	**5.07**	**119**	Pn	**Pn**	**09 53 58.9**	**-1.5**
FX1				Sn	**Sn**	**09 54 55.7**	**-2.3**
FX1	**Attu Island--F**	**5.07**	**119**	PN	**Pn**	**09 53 58.9**	**-1.5**
FX1				pmax	pmax		
	comp=Z,2.0nm,0.3s						
RUS	**Russkaya**	**5.35**	**237**	S	**Sn**	**09 55 03.6**	**-1.3**
PETK	**Petropavlovsk-**	**5.37**	**246**	Pn	**Pn**	**09 54 05.6**	**+1.0**
	comp=Z,3.1nm,0.3s,baz=74,slow=18,SNR=18						
PETK				Sn	**Sn**	**09 55 06.5**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=54,slow=21,SNR=3.5						
PETK	**Petropavlovsk-**	**5.37**	**246**	Pn	**Pn**	**09 54 05.6**	**+1.0**
PETK				Sn	**Sn**	**09 55 06.5**	**+1.1**
PETK	**Petropavlovsk-**	**5.37**	**246**	PN	**Pn**	**09 54 05.6**	**+1.0**
PETK						09 55 06.5	
PETK				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PETK				smax			
	comp=N,1.0nm,0.3s						
ILAR	**Eielson Array**	**24.66**	**49**	P	**P**	**09 58 04.9**	**+0.6**
	comp=N,1.2nm,1.1s,mb3.3,baz=256,slow=8.7,SNR=4.1						
ILAR				pP		09 58 11.4	
	comp=N,1.7nm,0.9s,baz=253,slow=7.4,SNR=7.8						
ILAR	**Eielson Array**	**24.66**	**49**	P	**P**	**09 58 04.9**	**+0.6**
ILAR				pP		09 58 11.4	
ILAR	**Eielson Array**	**24.66**	**49**	P	**P**	**09 58 04.9**	**+0.6**
ILAR				*PP		09 58 11.4	
SONM	**Songino Array**	**36.61**	**283**	P	**P**	**09 59 48.6**	**-1.2**
	comp=N,0.2nm,0.4s,mb3.3,baz=60,slow=8.5,SNR=2.7						
SONM	**Songino Array**	**36.61**	**283**	P	**P**	**09 59 48.6**	**-1.2**
SONM	**Songino Array**	**36.61**	**283**	P	**P**	**09 59 48.6**	**-1.3**
KURK	**Kurchatov**	**49.25**	**303**	P	**P**	**10 01 32.6**	**+0.5**
	comp=N,0.8nm,0.2s,mb4.3,baz=52,slow=7.6,SNR=2.8						
KURK	**Kurchatov**	**49.25**	**303**	P	**P**	**10 01 32.5**	**+0.5**
KURK	**Kurchatov**	**49.25**	**303**	P	**P**	**10 01 32.6**	**+0.6**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.2s,mb4.5						
MKAR	**Makanchi Array**	**50.07**	**297**	P	**P**	**10 01 37.5**	**-0.8**
	comp=Z,0.4nm,0.7s,mb3.5,baz=52,slow=9.3,SNR=2.7						
MKAR	**Makanchi Array**	**50.07**	**297**	P	**P**	**10 01 37.5**	**-0.8**
MKAR	**Makanchi Array**	**50.07**	**297**	P	**P**	**10 01 37.6**	**-0.8**
NVAR	**Mina Array Bea**	**51.79**	**76**	P	**P**	**10 01 52.2**	**+0.8**
	comp=Z,0.3nm,0.6s,mb3.4,baz=298,slow=7.8,SNR=2.7						
NVAR				pP	pP	10 01 59.8	0.0
	comp=Z,1.1nm,0.9s,baz=298,slow=6.5,SNR=6.5						
NVAR	**Mina Array Bea**	**51.79**	**76**	P	**P**	**10 01 52.2**	**+0.8**
NVAR				pP	pP	10 01 59.8	0.0
PDAR	**Pinedale Array**	**53.40**	**66**	P	**P**	**10 02 04.1**	**+0.8**
	comp=Z,0.2nm,0.6s,mb3.2,baz=330,slow=8.3,SNR=2.0						
PDAR				pP	pP	10 02 11.2	-0.4
	comp=Z,0.5nm,0.6s,baz=343,slow=4.6,SNR=4.7						
PDAR	**Pinedale Array**	**53.40**	**66**	P	**P**	**10 02 04.1**	**+0.9**
PDAR				pP	pP	10 02 11.2	-0.4
TXAR	**Lajitas Array**	**66.61**	**72**	P	**P**	**10 03 35.5**	**+1.4**
	comp=Z,0.4nm,0.7s,mb3.6,baz=298,slow=4.8,SNR=5.5						
TXAR				pP	pP	10 03 41.8	-0.9
	comp=Z,1.4nm,0.7s,baz=301,slow=5.2,SNR=15						
TXAR	**Lajitas Array**	**66.61**	**72**	P	**P**	**10 03 35.5**	**+1.4**
TXAR				pP	pP	10 03 41.8	-0.9
TXAR	**Lajitas Array**	**66.61**	**72**	P	**P**	**10 03 35.5**	**+1.4**
TXAR				*PP	pP	10 03 41.8	-0.8
ASAR	**Alice Springs**	**83.49**	**209**	P	**P**	**10 05 11.7**	**+0.5**
	comp=Z,0.1nm,0.4s,mb3.2,baz=22,slow=5.2,SNR=2.8						
ASAR				pP	pP	10 05 18.2	-1.7
	comp=Z,0.5nm,0.6s,baz=22,slow=4.3,SNR=4.0						
ASAR	**Alice Springs**	**83.49**	**209**	P	**P**	**10 05 11.7**	**+0.5**
ASAR				pP	pP	10 05 18.2	-1.7
ASAR	**Alice Springs**	**83.49**	**209**	P	**P**	**10 05 11.7**	**+0.5**
ASAR				*PP	pP	10 05 18.3	-1.6
QSPA	**South Pole Qui**	**145.32**	**180**	PKPbc	PKPbc	10 12 20.7	+1.2
	comp=Z,2.1nm,1.0s,baz=308,slow=2.9,SNR=2.4						
QSPA	**South Pole Qui**	**145.32**	**180**	PKPbc	PKPbc	10 12 20.7	+1.2

*KRSC **07** 10:08:37.9±0.2,55.62N×165.77E,h28km±27km,ML4.1*
*ISCJB **07** 10:08:38.4±0.5,55.62N±0.04×165.72E±0.05,h22km, mb3.5/7,Error ellipse: s-maj=6.1km s-min=4.0km az=5.8*
*MOS **07** 10:08:38.6±1.6,55.61N×165.79E,h24km,mb4.3/1, Error ellipse: s-maj=20.0km s-min=16.9km az=77.2*
*IDC **07** 10:08:40.2±1.0,55.70N×165.69E,h20km±5km,mb3.3/7, mb1 3.6/9,mb1mx3.4/28,mbtmp3.3/9,ML3.2/2,Error ellipse: s-maj=24.8km s-min=13.1km az=17.0*
*NEIC **07** 10:08:42.0±0.5,55.55N×165.82E,h35km,Error ellipse: s-maj=15.8km s-min=7.1km az=166.0*

ISC 07 10:08:40.4±1.1,**55.58N**±0.05×**165.75E**±0.05,**h24**$^{km}_{\pm}$8km, **h24**$^{km}_{\pm}$1.2km:**pP-P,n44,**σ1^{s}00/60,**mb3.5/7,Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.40**	**162**	*i* P	**Pb**	**10 08 47.7**	**-1.2**
BKI				*i* S	**Sb**	**10 08 55.0**	**+0.4**
BKI	**Bering**	**0.40**	**162**	PN	**Pb**	**10 08 47.7**	**-1.2**
BKI				S	**Sb**	**10 08 55.0**	**+0.4**
KBTR	**Krutoberegovo**	**1.77**	**292**	*e*P	**Pn**	**10 09 06.3**	**-3.1**
KBTR				*e*S	**Sn**	**10 09 27.1**	**-4.0**
KBTR	**Krutoberegovo**	**1.77**	**292**	PN	**Pn**	**10 09 06.3**	**-3.1**
KBTR				S	**Sn**	**10 09 27.1**	**-4.0**
MKZ	**Mys Kozlova**	**2.53**	**248**	*e*P	**Pn**	**10 09 19.3**	**-0.6**
MKZ				*e*S	**Sn**	**10 09 49.2**	**-0.7**
MKZ	**Mys Kozlova**	**2.53**	**248**	PN	**Pn**	**10 09 19.3**	**-0.6**
MKZ				S	**Sn**	**10 09 49.2**	**-0.7**
BDR	**Baidarnaya**	**2.73**	**293**	*e*P	**Pn**	**10 09 21.5**	**-1.2**
BDR				*e*S	**Sn**	**10 09 52.4**	**-2.5**
KMNR	**Kamenistaya**	**3.13**	**275**	*e*P	**Pn**	**10 09 28.1**	**0.0**
TUMR	**Tumrok**	**3.21**	**267**	P	**Pn**	**10 09 29.5**	**+0.3**
TUMR				S	**Sn**	**10 10 08.6**	**+2.0**
SRDR	**Sredinnyy**	**3.47**	**285**	P	**Pn**	**10 09 32.8**	**-0.1**
SRDR				S	**Sn**	**10 10 12.9**	**-0.2**
KII	**Karymskiy**	**3.96**	**250**	P	**Pn**	**10 09 40.9**	**+1.3**
KII				*e*S	**Sn**	**10 10 25.7**	**+0.5**
SPN	**Mys Shipunski**	**4.17**	**236**	*e*S	**Sn**	**10 10 29.4**	**-1.1**
AVH	**Avacha**	**4.71**	**243**	*e*P	**Pn**	**10 09 50.9**	**+1.1**
AVH				*e*S	**Sn**	**10 10 43.5**	**-0.1**
PET	**Petropavlovsk**	**4.88**	**241**	P	**Pn**	**10 09 53.8**	**+1.6**
PET				*e*S	**Sn**	**10 10 47.0**	**-0.9**
PET	**Petropavlovsk**	**4.88**	**241**	*e*Pn	**Pn**	**10 09 53.2**	**+0.9**
PET	**Petropavlovsk**	**4.88**	**241**	*e*PN	**Pn**	**10 09 56.1**	**+3.9**
PET				pmax	pmax		
	comp=Z,6.0nm,0.4s						
GNL	**Ganaly**	**4.91**	**251**	*e*P	**Pn**	**10 09 53.4**	**+0.7**
FX1	**Attu Island--F**	**5.12**	**119**	Pn	**Pn**	**10 09 54.9**	**-0.6**
	comp=Z,2.2nm,0.3s,baz=343,slow=22,SNR=8.4						
FX1				Sn	**Sn**	**10 10 52.7**	**-1.0**
	comp=Z,2.7nm,0.3s,baz=241,slow=19,SNR=2.8						
FX1	**Attu Island--F**	**5.12**	**119**	Pn	**Pn**	**10 09 54.9**	**-0.6**
FX1				Sn	**Sn**	**10 10 52.7**	**-1.0**
FX1	**Attu Island--F**	**5.12**	**119**	PN	**Pn**	**10 09 54.9**	**-0.6**
FX1				pmax	pmax		
	comp=Z,2.0nm,0.3s						
RUS	**Russkaya**	**5.31**	**237**	S	**Sn**	**10 10 57.7**	**-0.7**
PEA0B	**Petropavlovsk-**	**5.32**	**246**	*e*Pn	**Pn**	**10 10 00.1**	**+1.8**
PETK	**Petropavlovsk-**	**5.32**	**246**	Pn	**Pn**	**10 09 59.2**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=75,slow=18,SNR=9.0						
PETK				Sn	**Sn**	**10 11 03.0**	**+4.3**
	comp=Z,1.2nm,0.3s,baz=77,slow=39,SNR=5.7						
PETK	**Petropavlovsk-**	**5.32**	**246**	Pn	**Pn**	**10 09 59.2**	**+0.9**
PETK				Sn	**Sn**	**10 11 03.0**	**+4.3**
PETK	**Petropavlovsk-**	**5.32**	**246**	PN	**Pn**	**10 09 59.2**	**+0.9**
PETK						10 11 03.1	
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK				smax			
	comp=N,1.0nm,0.3s						
ILAR	**Eielson Array**	**24.69**	**49**	P	**P**	**10 14 00.2**	**+1.2**
	comp=N,1.3nm,0.9s,mb3.5,baz=257,slow=8.7,SNR=4.2						
ILAR	**Eielson Array**	**24.69**	**49**	P	**P**	**10 14 00.2**	**+1.2**
ILAR	**Eielson Array**	**24.69**	**49**	P	**P**	**10 14 00.3**	**+1.2**
SONM	**Songino Array**	**36.56**	**283**	P	**P**	**10 15 43.7**	**-0.1**
	comp=N,0.4nm,0.8s,mb3.3,baz=56,slow=8.9,SNR=2.9						
SONM	**Songino Array**	**36.56**	**283**	P	**P**	**10 15 43.7**	**-0.1**
SONM	**Songino Array**	**36.56**	**283**	P	**P**	**10 15 43.7**	**-0.2**
KURK	**Kurchatov**	**49.20**	**303**	P	**P**	**10 17 26.2**	**+0.1**
	comp=N,0.4nm,0.3s,mb3.9,baz=51,slow=7.8,SNR=3.6						
KURK	**Kurchatov**	**49.20**	**303**	P	**P**	**10 17 26.2**	**+0.1**
KURK	**Kurchatov**	**49.20**	**303**	P	**P**	**10 17 26.2**	**+0.1**
NVAR	**Mina Array Bea**	**51.84**	**76**	P	**P**	**10 17 46.4**	**+0.1**
	comp=N,0.5nm,1.0s,mb3.4,baz=302,slow=8.4,SNR=2.3						
NVAR				pP	pP	10 17 53.7	-0.1
	comp=N,0.7nm,0.8s,baz=301,slow=8.7,SNR=5.2						
NVAR	**Mina Array Bea**	**51.84**	**76**	P	**P**	**10 17 46.4**	**+0.1**
NVAR				pP		10 17 53.7	-0.1
PDAR	**Pinedale Array**	**53.45**	**66**	P	**P**	**10 17 58.3**	**+0.3**
	comp=N,0.2nm,0.7s,mb3.1,baz=327,slow=4.8,SNR=2.6						
PDAR				pP	pP	10 18 04.8	-0.8
	comp=N,0.5nm,0.7s,baz=343,slow=4.6,SNR=3.6						
PDAR	**Pinedale Array**	**53.45**	**66**	P	**P**	**10 17 58.3**	**+0.3**
PDAR				pP	pP	10 18 04.8	-0.8
TXAR	**Lajitas Array**	**66.66**	**72**	P	**P**	**10 19 29.0**	**+0.1**
	comp=N,1.1nm,0.7s,mb4.0,baz=296,slow=4.8,SNR=4.3						
TXAR				pP	pP	10 19 35.7	-0.9
	comp=N,1.1nm,0.7s,baz=306,slow=4.9,SNR=12						
TXAR	**Lajitas Array**	**66.66**	**72**	P	**P**	**10 19 29.0**	**+0.1**
TXAR				pP	pP	10 19 35.7	-0.9
TXAR	**Lajitas Array**	**66.66**	**72**	P	**P**	**10 19 29.0**	**+0.1**
TXAR				*PP	pP	10 19 35.7	-0.9
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**83.47**	**209**	P	**P**	**10 21 06.1**	**+0.5**
	comp=Z,0.4nm,0.8s,mb3.5,baz=27,slow=6.3,SNR=2.5						
ASAR	**Alice Springs**	**83.47**	**209**	P	**P**	**10 21 06.1**	**+0.5**
ASAR	**Alice Springs**	**83.47**	**209**	P	**P**	**10 21 06.1**	**+0.5**

*ISCJB **07** 10:17:32.5±0.2,43.70N±0.01×19.80E±0.02,h10km, Error ellipse: s-maj=2.3km s-min=1.7km az=26.7*
*CSEM **07** 10:17:32.7±0.1,43.70N×19.78E,h2km,ML2.9,Error ellipse: s-maj=2.5km s-min=1.9km az=115.0*
*BEO **07** 10:17:33.0±0.2,43.69N×19.77E,h3km±1km,ML2.9/1*
*PDG **07** 10:17:34.7±0.1,43.60N×19.72E,h11km,MD2.7/2, ML2.6/10,Error ellipse: s-maj=0.6km s-min=0.6km az=90.0*

ISC 07 10:17:33.1±0.3,**43.70N**±0.01×**19.78E**±0.02,**h1**$^{km}_{\pm}$3km, **n65,**σ0^{s}**83**/113,**21C-18D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVAS	**Ivanjica**	**0.30**	**115**	*i*Pg	**Pg**	**10 17 38.8**	**0.0**
IVAS				*e*Sg	**Sg**	**10 17 42.6**	**0.0**
IVAS	**Ivanjica**	**0.30**	**115**	*i*Pg	**Pg**	**10 17 38.8**	**0.0**
IVAS				*e*Sg	**Sg**	**10 17 42.6**	**0.0**
BBLS	**Lazić**	**0.32**	**301**	*i*Pg	**Pg**	**10 17 39.3**	**+0.1**
BBLS				*e*Sg	**Sg**	**10 17 44.0**	**+0.6**
BBLS	**Lazić**	**0.32**	**301**	*i*Pg	**Pg**	**10 17 39.3**	**+0.1**
BBLS				*e*Sg	**Sg**	**10 17 44.0**	**+0.6**
DIVS	**Divibare**	**0.42**	**21**	*i*Pg	**Pg**	**10 17 41.7**	**+0.5**
DIVS	**Divibare**	**0.42**	**21**	*i*Pg	**Pg**	**10 17 41.7**	**+0.5**
DIVS				*e*Sg	**Sg**	**10 17 47.7**	**+1.0**
SJES	**Sjenica**	**0.46**	**163**	*i*Pg	**Pg**	**10 17 41.6**	**-0.4**
SJES				*e*Sg	**Sg**	**10 17 48.6**	**+0.7**
PLE	**Pljevlja**	**0.47**	**218**	*i*Pg	**Pg**	**10 17 41.7**	**-0.4**
PLE				*e*Sg	**Sg**	**10 17 47.8**	**-0.4**
PLE	**Pljevlja**	**0.47**	**218**	*i*Pg	**Pg**	**10 17 41.7**	**-0.4**
PLE				*e*Sg	**Sg**	**10 17 47.8**	**-0.4**
TRUS	**Trudelj**	**0.69**	**41**	*i*Pg	**Pg**	**10 17 45.7**	**-0.6**
TRUS				*e*Sg	**Sg**	**10 17 55.2**	**0.0**
TRUS	**Trudelj**	**0.69**	**41**	*i*Pg	**Pg**	**10 17 45.7**	**-0.6**
TRUS				*e*Sg	**Sg**	**10 17 55.2**	**0.0**
GRUS	**Gruza**	**0.70**	**74**	*e*Pg	**Pg**	**10 17 46.6**	**+0.1**
GRUS				*e*Sg	**Sg**	**10 17 56.2**	**+0.6**
UPM	**Unac-Piva**	**0.81**	**232**	*i*Pg	**Pg**	**10 17 48.2**	**-0.5**
UPM				*e*Sg	**Sg**	**10 17 59.6**	**+0.4**
UPM	**Unac-Piva**	**0.81**	**232**	*i*Pg	**Pg**	**10 17 48.2**	**-0.5**
UPM				*e*Sg	**Sg**	**10 17 59.6**	**+0.4**
BEY	**Berane**	**0.83**	**174**	*i*Pg	**Pg**	**10 17 48.5**	**-0.6**
BEY				*e*Sg	**Sg**	**10 18 00.3**	**+0.4**
IVA	**Berane**	**0.83**	**174**	*i*Pg	**Pg**	**10 17 48.5**	**-0.6**
IVA				*e*Sg	**Sg**	**10 18 00.3**	**+0.4**
NKY	**Niksic**	**1.06**	**213**	*i*Pg	**Pg**	**10 17 52.2**	**-1.2**
NKY				*e*Sg	**Sg**	**10 18 07.6**	**+0.4**
NKY	**Niksic**	**1.06**	**213**	*i*Pg	**Pg**	**10 17 52.2**	**-1.2**
NKY				*e*Sg	**Sg**	**10 18 07.6**	**+0.4**
SELS	**Selova**	**1.09**	**116**	*e*Pg	**Pg**	**10 17 52.9**	**-1.0**
SELS				*e*Sg	**Sg**	**10 18 07.5**	**-0.5**
PVY	**Plav**	**1.11**	**173**	*i*Pg	**Pg**	**10 17 53.8**	**-0.7**
PVY				*e*Sg	**Sg**	**10 18 09.6**	**+0.7**
PVY	**Plav**	**1.11**	**173**	*i*Pg	**Pg**	**10 17 53.8**	**-0.7**
PVY				*e*Sg	**Sg**	**10 18 09.6**	**+0.7**
SVIS	**Svilajnac**	**1.18**	**61**	*e*Pn	**Pn**	**10 17 56.5**	**-0.1**
SVIS				*e*Sg	**Sg**	**10 18 12.5**	**+1.6**
BRY	**Bratogost**	**1.21**	**229**	*i*Pg	**Pn**	**10 17 55.1**	**-2.0**
BRY				*e*Sg	**Sg**	**10 18 13.0**	**+1.0**
BRY	**Bratogost**	**1.21**	**229**	*i*Pg	**Pn**	**10 17 55.1**	**-2.0**
BRY				*e*Sg	**Sg**	**10 18 13.0**	**+1.0**
BEO	**Beograd**	**1.21**	**24**	*e*Pg	**Pg**	**10 17 56.7**	**+0.4**
BEO				*e*Sg	**Sg**	**10 18 11.8**	**-0.2**
BEO	**Beograd**	**1.21**	**24**	*e*Pg	**Pg**	**10 17 56.7**	**+0.4**
BEO				*e*Sg	**Sg**	**10 18 11.8**	**-0.2**
TTG	**Podgorica**	**1.33**	**197**	*i*Pg	**Pn**	**10 17 57.3**	**-1.4**
TTG				*e*Sg	**Sg**	**10 18 16.7**	**+0.9**
PDG	**Podgorica**	**1.33**	**197**	*i*Pg	**Pn**	**10 17 57.3**	**-1.4**
PDG				*e*Sg	**Sg**	**10 18 16.7**	**+0.9**
FGSL	**Fruska Gora**	**1.45**	**1**	*i*Pg	**Pn**	**10 17 58.3**	**-2.2**
FGSL				*e*Sg	**Sg**	**10 18 19.7**	**-0.1**
FRGS	**Fruska Gora**	**1.46**	**1**	*i*Pg	**Pn**	**10 17 58.3**	**-2.2**
FRGS				*e*Sg	**Sg**	**10 18 19.7**	**-0.2**
BUM	**Brajici-Budva**	**1.55**	**205**	*i*Pg	**Pn**	**10 18 01.5**	**-0.2**
BUM				*e*Sg	**Sg**	**10 18 23.4**	**+0.6**
BUM	**Brajici-Budva**	**1.55**	**205**	*i*Pg	**Pn**	**10 18 01.5**	**-0.2**
BUM				*e*Sg	**Sg**	**10 18 23.4**	**+0.6**
HCY	**Herceg Novi**	**1.57**	**217**	*i*Pg	**Pn**	**10 18 01.6**	**-0.4**
HCY				*e*Sg	**Sg**	**10 18 24.1**	**+0.5**
HCY	**Herceg Novi**	**1.57**	**217**	*i*Pg	**Pn**	**10 18 01.6**	**-0.4**
HCY				*e*Sg	**Sg**	**10 18 24.1**	**+0.5**
BOLS	**Boljevac**	**1.58**	**85**	*e*Pn	**Pn**	**10 18 01.5**	**-0.6**
BOLS				*e*Sg	**Sg**	**10 18 24.2**	**+0.4**
BARS	**Barje**	**1.73**	**120**	*e*Pn	**Pn**	**10 18 03.9**	**-0.3**
BARS				*e*Sg	**Sg**	**10 18 27.9**	**-0.7**
BARS	**Barje**	**1.73**	**120**	*e*Pn	**Pn**	**10 18 03.9**	**-0.3**
STON	**Ston**	**1.73**	**242**	*e*Pn	**Pn**	**10 18 04.2**	**-0.1**
STON				Sn	**Sn**	**10 18 28.7**	**+1.7**
STON	**Ston**	**1.73**	**242**	*e*Pn	**Pn**	**10 18 04.1**	**-0.2**
STON				Sn	**Sn**	**10 18 28.7**	**+1.7**
ULC	**Ulcinj**	**1.78**	**193**	*i*Pn	**Pn**	**10 18 04.8**	**-0.2**
ULC				*e*Sn	**Sn**	**10 18 29.0**	**+0.8**
ULC	**Ulcinj**	**1.78**	**193**	*i*Pn	**Pn**	**10 18 04.8**	**-0.2**
ULC				*e*Sn	**Sn**	**10 18 29.0**	**+0.8**
ZAPS	**Zavoj**	**2.12**	**101**	*e*Pn	**Pn**	**10 18 09.7**	**+0.1**
ZAPS				*e*Sg	**Sg**	**10 18 41.3**	**+0.2**
BLY	**Banja Luka**	**2.14**	**300**	*e*Pn	**Pn**	**10 18 10.6**	**+0.7**
BLY				*e*Sn	**Sn**	**10 18 38.0**	**+0.9**
BLY	**Banja Luka**	**2.14**	**300**	*e*Pn	**Pn**	**10 18 10.6**	**+0.7**
BLY				*e*Sn	**Sn**	**10 18 38.0**	**+0.9**
BZS	**Buzias**	**2.32**	**34**	*e*Pn	**Pn**	**10 18 11.5**	**-0.8**
BZS				*e*Sg	**Sg**	**10 18 47.6**	**0.0**
BZS	**Buzias**	**2.32**	**34**	*i*Pg	**Pg**	**10 18 17.2**	**-0.3**
BZS	**Buzias**	**2.32**	**34**	*e*Pn	**Pn**	**10 18 11.5**	**-0.8**
BZS				S	**Sn**	**10 18 43.6**	**+2.2**
BZS				*e*Sg	**Sg**	**10 18 47.6**	**0.0**
RHK3	**Tenkes**	**2.44**	**334**	*i*Pn	**Pn**	**10 18 13.5**	**-0.5**
PKSM	**Moragy**	**2.64**	**342**	*e*Pn	**Pn**	**10 18 15.8**	**-0.9**
PKSM				*e*Sg	**Sg**	**10 18 57.1**	**-0.7**
PKSM	**Moragy**	**2.64**	**342**	*i*P	**Pg**	**10 18 24.3**	**+0.7**
PKSM	**Moragy**	**2.64**	**342**	S	**Sg**	**10 18 57.7**	**-0.1**
PKSM	**Moragy**	**2.64**	**342**	*e*Pn	**Pn**	**10 18 15.8**	**-0.9**
PKSM				*e*Sg	**Sg**	**10 18 57.1**	**-0.7**
VTS	**Vitosha**	**2.74**	**113**	*e*Pn	**Pn**	**10 18 17.6**	**-0.5**
VTS				*e*Sn	**Sn**	**10 18 52.5**	**+0.6**
VTS	**Vitosha**	**2.74**	**113**	S	**Sn**	**10 18 57.2**	**+5.3**
PKS9	**Tamasi**	**3.07**	**340**	*i*Pn	**Pn**	**10 18 22.3**	**-0.4**
LOT	**Lotru**	**3.34**	**57**	*i*P	**Pn**	**10 18 29.2**	**+2.8**
LOT	**Lotru**	**3.34**	**57**	*i*P	**Pn**	**10 18 29.2**	**+2.8**
DRGR		**3.72**	**33**	*i*P	**Pn**	**10 18 37.1**	**+5.6**
DRGR		**3.72**	**33**	S	**Sn**	**10 19 17.3**	**+1.4**
DRGR		**3.72**	**33**	S	**Sn**	**10 19 17.3**	**+1.4**
PKSG		**3.82**	**346**	*i*Pn	**Pn**	**10 18 32.8**	**-0.1**
PSZ	**Piszkesteto**	**4.22**	**1**	*e*	**Pn**	**10 18 38.2**	**-0.2**
PSZ	**Piszkesteto**	**4.22**	**1**	*e*Pn	**Pn**	**10 18 38.2**	**-0.2**
ARSA	**Arzberg**	**4.64**	**321**	*e*Pn	**Pn**	**10 18 44.0**	**-0.3**
ARSA	**Arzberg**	**4.64**	**321**	*e*Pn	**Pn**	**10 18 44.0**	**-0.3**

*ISCJB **07** 10:23:13.3±0.4,37.97N±0.02×28.96E±0.04,h6km±7km, Error ellipse: s-maj=5.1km s-min=3.7km az=178.6*
*CSEM **07** 10:23:13.8±0.2,37.98N×28.96E,h2km,MD2.7,Error ellipse: s-maj=4.8km s-min=3.3km az=89.0*
*DDA **07** 10:23:13.3,37.96N×28.95E,h12km±2km,Md2.8*
*ISK **07** 10:23:14.8,37.89N×28.94E,h8km,MD2.7*

ISC 07 10:23:13.9±0.4,**37.97N**±0.02×**28.97E**±0.04,**h10**$^{km}_{\pm}$7km, **n28,**σ0^{s}**82**/45,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.22**	**166**	*e*PG	**Pg**	**10 23 18.5**	**+0.1**
DENT				*e*SG	**Sg**	**10 23 21.2**	**-0.2**
DENT	**Denizli**	**0.22**	**166**	*e*Pg	**Pg**	**10 23 18.5**	**+0.1**
DENT				*e*Sg	**Sg**

az=161.9
*KRSC **07** 10:39:37.3±0.3,55.58N×165.68E,h26km±16km,ML3.5*
*NEIC **07** 10:39:40.1±0.9,55.78N×165.82E,h35km,Error ellipse: s-maj=23.3km s-min=13.0km az=182.0*

ISC 07 10:39:38.5±1.4,55.58N±0.07×165.68E±0.09,h22km±12km, n25,σ0.96/32,mb3.5/4,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.41**	**156**	*i* P	**Pb**	**10 39 45.6**	**-1.4**
BKI				*e*S	**Sb**	**10 39 52.8**	**0.0**
KBTR	**Krutoberegovo**	**1.73**	**293**	*e*P	**Pn**	**10 40 03.7**	**-3.5**
KBTR				S	**Sn**	**10 40 22.2**	**-6.3**
MKZ	**Mys Kozlova**	**2.49**	**247**	P	**Pn**	**10 40 18.1**	**+0.5**
MKZ				S	**Sn**	**10 40 47.6**	**+0.4**
KMNR	**Kamenistaya**	**3.09**	**276**	P	**Pn**	**10 40 26.3**	**+0.5**
TUMR	**Tumrok**	**3.17**	**267**	P	**Pn**	**10 40 28.0**	**+1.1**
SRDR	**Sredinnyy**	**3.43**	**285**	P	**Pn**	**10 40 30.5**	**-0.1**
SRDR				S	**Sn**	**10 41 09.2**	**-1.3**
SPN	**Mys Shipunski**	**4.14**	**235**	S	**Sn**	**10 41 27.0**	**-0.8**
AVH	**Avacha**	**4.67**	**243**	P	**Pn**	**10 40 48.0**	**+0.5**
AVH				S	**Sn**	**10 41 41.1**	**+0.2**
PET	**Petropavlovsk**	**4.84**	**241**	S	**Sn**	**10 41 45.8**	**+0.5**
PET	**Petropavlovsk**	**4.84**	**241**	*e*Pn	**Pn**	**10 40 54.5**	**+4.6**
GNL	**Ganaly**	**4.87**	**250**	P	**Pn**	**10 40 52.0**	**+1.7**
FX1	**Attu Island--F**	**5.15**	**118**	Pn	**Pn**	**10 40 54.8**	**+0.6**
	0.7nm,0.3s,baz=290,slow=12,SNR=2.3						
FX1				Sn	**Sn**	**10 41 48.3**	**-4.6**
	1.0nm,0.3s,baz=279,slow=19,SNR=1.6						
FX1	**Attu Island--F**	**5.15**	**118**	Pn	**Pn**	**10 40 54.8**	**+0.6**
FX1				Sn	**Sn**	**10 41 48.3**	**-4.6**
PETK	**Petropavlovsk-**	**5.28**	**245**	Pn	**Pn**	**10 40 57.0**	**+1.1**
	baz=69,slow=17,SNR=2.1						
PETK				Sn	**Sn**	**10 41 54.0**	**-2.0**
	0.4nm,0.3s,baz=107,slow=36,SNR=2.3						
PETK	**Petropavlovsk-**	**5.28**	**245**	Pn	**Pn**	**10 40 57.0**	**+1.1**
PETK				Sn	**Sn**	**10 41 54.0**	**-2.0**
ILAR	**Eielson Array**	**24.73**	**49**	pP	pP	10 45 01.9	-2.4
	0.2nm,0.8s,baz=251,slow=8.3,SNR=2.6						
SONM	**Songino Array**	**36.52**	**283**	P	**P**	**10 46 42.4**	**+0.6**
	0.4nm,0.7s,mb3.4,baz=69,slow=7.9,SNR=1.6						
SONM	**Songino Array**	**36.52**	**283**	P	**P**	**10 46 42.4**	**+0.6**
KURK	**Kurchatov**	**49.16**	**303**	P	**P**	**10 48 24.1**	**-0.1**
	0.3nm,0.3s,mb3.8,baz=55,slow=7.5,SNR=2.5						
KURK	**Kurchatov**	**49.16**	**303**	P	**P**	**10 48 24.1**	**-0.1**
MKAR	**Makanchi Array**	**49.99**	**297**	P	**P**	**10 48 29.5**	**-1.1**
	0.2nm,0.3s,mb3.6,baz=60,slow=8.5,SNR=2.9						
MKAR	**Makanchi Array**	**49.99**	**297**	P	**P**	**10 48 29.5**	**-1.1**
NVAR	**Mina Array Bea**	**51.88**	**76**	pP	pP	10 48 51.2	-0.6
	0.6nm,0.8s,baz=308,slow=10,SNR=4.4						
TXAR	**Lajitas Array**	**66.70**	**72**	P	**P**	**10 50 27.1**	**-0.4**
	0.2nm,0.7s,mb3.3,baz=298,slow=4.0,SNR=3.1						
TXAR				pP	pP	10 50 34.2	-0.4
	0.5nm,0.7s,baz=300,slow=4.1,SNR=7.7						
TXAR	**Lajitas Array**	**66.70**	**72**	P	**P**	**10 50 27.1**	**-0.4**
TXAR				pP	pP	10 50 34.2	-0.4

*ISCJB **07** 10:41:25.5±0.6,39.93N±0.04×38.49E±0.04,h10km±8km, Error ellipse: s-maj=6.6km s-min=5.3km az=30.7*
*CSEM **07** 10:41:25.4±0.1,39.92N×38.46E,h12km,MD2.9,Error ellipse: s-maj=2.8km s-min=2.7km az=26.0*
*DDA **07** 10:41:25.9,39.91N×38.41E,h7km±1km,Md2.9*
*ISK **07** 10:41:25.7,39.93N×38.52E,h11km,MD2.6*

ISC 07 10:41:25.8±0.6,39.93N±0.04×38.47E±0.04,h14km±7km, n16,σ0.44/26,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUSE	**Susehri**	**0.35**	**324**	*i* P	**Pg**	**10 41 32.7**	**-0.3**
SUSE				*i* S	**Sg**	**10 41 38.3**	**+0.5**
SUSE	**Susehri**	**0.35**	**324**	*i* P	**Pg**	**10 41 32.7**	**-0.3**
SUSE				*i* S	**Sg**	**10 41 38.3**	**+0.5**
KEMA	**Kemaliye**	**0.66**	**178**	*i* P	**Pg**	**10 41 38.4**	**-0.3**
KEMA				*i* S	**Sg**	**10 41 47.9**	**+0.6**
KEMA	**Kemaliye**	**0.66**	**178**	*i* P	**Pg**	**10 41 38.3**	**-0.3**
KEMA				*i* S	**Sg**	**10 41 47.9**	**+0.6**
EZC	**Erzincan**	**0.70**	**104**	*e*PG	**Pg**	**10 41 39.0**	**-0.5**
EZC				*e*SG	**Sg**	**10 41 48.7**	**-0.1**
EZC	**Erzincan**	**0.70**	**104**	*e*Pg	**Pg**	**10 41 39.0**	**-0.5**
EZC				*e*Sg	**Sg**	**10 41 48.7**	**-0.1**
GUMT	**Gumushane**	**0.94**	**55**	*e*PG	**Pg**	**10 41 43.6**	**-0.4**
GUMT				*e*SG	**Sg**	**10 41 56.8**	**+0.4**
GUMT	**Gumushane**	**0.94**	**55**	*e*Pg	**Pg**	**10 41 43.6**	**-0.4**
GUMT				*e*Sg	**Sg**	**10 41 56.8**	**+0.4**
ESPY	**Espiye-Giresun**	**1.01**	**11**	*e*PG	**Pg**	**10 41 45.4**	**0.0**
ESPY	**Espiye-Giresun**	**1.01**	**11**	*e*Pg	**Pg**	**10 41 45.4**	**0.0**
SCER	**sogukcermik**	**1.03**	**267**	*i* P	**Pb**	**10 41 44.6**	**-0.8**
SCER				*i* S	**Sb**	**10 41 59.1**	**+0.2**
SCER	**sogukcermik**	**1.03**	**267**	*i* P	**Pb**	**10 41 44.6**	**-0.9**
SCER				*i* S	**Sb**	**10 41 59.1**	**+0.2**
PTK	**Pertek**	**1.26**	**145**	*e*PN	**Pn**	**10 41 49.4**	**+0.4**
PTK	**Pertek**	**1.26**	**145**	*e*Pn	**Pn**	**10 41 49.4**	**+0.5**
BAYT	**Ayd¨–ntepe-Bay**	**1.36**	**69**	*e*PN	**Pn**	**10 41 50.7**	**+0.2**
BAYT	**Ayd¨–ntepe-Bay**	**1.36**	**69**	*e*Pn	**Pn**	**10 41 50.7**	**+0.3**

IDC 07 10:41:36.9±9.2,20.99S×178.42W,h650km±128km, mb2.6/3,mb1 3.0/4,mb1mx2.8/17,mbtmp2.8/4,Error ellipse: s-maj=78.0km s-min=38.9km az=7.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**17.64**	**192**	P	P	10 45 07.3	+0.3
	1.0nm,0.3s,baz=360,slow=18,SNR=7.5						
ASAR	**Alice Springs**	**44.02**	**257**	P	P	10 48 50.2	+0.5
	1.2nm,1.0s,baz=93,slow=8.9,SNR=5.6						
WRA	**Warramunga Ar**	**44.14**	**263**	P	P	10 48 50.5	-0.2
	0.2nm,0.3s,baz=97,slow=8.3,SNR=3.1						
ILAR	**Eielson Array**	**88.87**	**13**	P	P	10 53 23.6	+0.3
	0.3nm,0.4s,baz=218,slow=5.4,SNR=8.1						
AKASG	**Malin Array Be**	**143.24**	**330**	PKP	PKPdf	10 59 57.8	-0.8
	1.7nm,0.5s,baz=42,slow=4.1,SNR=6.8						

*KRSC **07** 10:48:58.6±0.4,55.65N×165.89E,h39km±40km,ML4.3*
*ISCJB **07** 10:49:00.5±0.6,55.60N±0.05×165.81E±0.05,h33km±7km, mb3.8/14,Error ellipse: s-maj=8.3km s-min=5.0km az=2.3*
*IDC **07** 10:49:01.1±0.5,55.63N×165.70E,h21km±3km,mb3.5/11, mb1 3.8/13,mb1mx3.6/28,mbtmp3.6/13,ML3.7/2,MS2.8/1, Ms1 2.8/1,ms1mx2.6/46,Error ellipse: s-maj=16.8km s-min=9.7km az=14.0*
*MOS **07** 10:49:01.1±1.3,55.53N×165.78E,h42km,mb4.0/7,Error ellipse: s-maj=13.5km s-min=12.4km az=88.5*
*NEIC **07** 10:49:02.9±0.5,55.63N×165.84E,h35km,Error ellipse: s-maj=16.6km s-min=9.1km az=162.0*

ISC 07 10:49:01.5±1.0,55.61N±0.05×165.83E±0.05,h24km±8km, h23km±2.2km:pP-P,n71,σ1.15/82,mb3.8/14, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.42**	**169**	*i* P	**Pb**	**10 49 09.5**	**-0.8**
BKI				*e*S	**Sb**	**10 49 16.8**	**+0.6**
BKI	**Bering**	**0.42**	**169**	PN	**Pb**	**10 49 09.5**	**-0.8**
BKI				S	**Sb**	**10 49 16.8**	**+0.6**
KBTR	**Krutoberegovo**	**1.80**	**291**	*e*P	**Pn**	**10 49 27.3**	**-3.6**
KBTR				*e*S	**Sn**	**10 49 48.8**	**-4.1**
KBTR	**Krutoberegovo**	**1.80**	**291**	PN	**Pn**	**10 49 27.3**	**-3.6**
KBTR				S	**Sn**	**10 49 48.8**	**-4.1**
MKZ	**Mys Kozlova**	**2.58**	**247**	*e*P	**Pn**	**10 49 40.0**	**-1.7**
MKZ				*e*S	**Sn**	**10 50 09.5**	**-2.7**
MKZ	**Mys Kozlova**	**2.58**	**247**	PN	**Pn**	**10 49 40.0**	**-1.7**
MKZ				S	**Sn**	**10 50 09.5**	**-2.7**
SRKR	**Sorokina**	**2.81**	**294**	P	**Pn**	**10 49 42.7**	**-2.1**
KLY	**Klyuchi**	**2.99**	**286**	P	**Pn**	**10 49 45.5**	**-1.8**
KLY	**Klyuchi**	**2.99**	**286**	PN	**Pn**	**10 49 45.5**	**-1.8**
KMNR	**Kamenistaya**	**3.17**	**275**	P	**Pn**	**10 49 50.3**	**+0.6**
TUMR	**Tumrok**	**3.25**	**267**	P	**Pn**	**10 49 50.9**	**0.0**
TUMR				S	**Sn**	**10 50 28.7**	**-0.1**
KOZR	**Kozyr**	**3.38**	**280**	PN	**Pn**	**10 49 53.0**	**+0.4**
KOZ	**Kozyrevsk**	**3.39**	**280**	P	**Pn**	**10 49 53.0**	**+0.3**
SRDR	**Sredinnyy**	**3.51**	**284**	P	**Pn**	**10 49 54.9**	**+0.5**
SPN	**Mys Shipunski**	**4.23**	**236**	*e*P	**Pn**	**10 50 04.6**	**+0.3**
SPN				*e*S	**Sn**	**10 50 51.1**	**-1.7**
SPN	**Mys Shipunski**	**4.23**	**236**	PN	**Pn**	**10 50 04.6**	**+0.3**
SPN				S	**Sn**	**10 50 51.1**	**-1.7**
AVH	**Avacha**	**4.76**	**243**	*e*P	**Pn**	**10 50 12.7**	**+1.1**
AVH				*e*S	**Sn**	**10 51 07.2**	**+1.3**
PET	**Petropavlovsk**	**4.94**	**241**	*e*P	**Pn**	**10 50 15.0**	**+1.0**
PET				*e*S	**Sn**	**10 51 10.3**	**+0.1**
PET	**Petropavlovsk**	**4.94**	**241**	*e*Pn	**Pn**	**10 50 14.5**	**+0.5**
PET	**Petropavlovsk**	**4.94**	**241**	*e*PN	**Pn**	**10 50 15.2**	**+1.2**
PET				*e*S	**Sn**	**10 51 10.5**	**+0.3**
PET				pmax	pmax		
	comp=Z,40nm,0.4s						
PET				smax			
	comp=N,208nm,0.7s						
GNL	**Ganaly**	**4.96**	**250**	*e*P	**Pn**	**10 50 15.7**	**+1.3**
FX1	**Attu Island--F**	**5.10**	**119**	Pn	**Pn**	**10 50 14.9**	**-1.3**
	comp=N,12nm,0.3s,baz=334,slow=5.0,SNR=20						
FX1				Sn	**Sn**	**10 51 12.9**	**-1.3**
	comp=N,3.6nm,0.3s,baz=288,slow=20,SNR=2.8						
FX1	**Attu Island--F**	**5.10**	**119**	Pn	**Pn**	**10 50 14.9**	**-1.3**
FX1				Sn	**Sn**	**10 51 12.9**	**-1.3**
FX1	**Attu Island--F**	**5.10**	**119**	PN	**Pn**	**10 50 14.9**	**-1.3**
FX1				pmax	pmax		
	comp=Z,12nm,0.3s						
RUS	**Russkaya**	**5.36**	**237**	S	**Sn**	**10 51 20.2**	**-0.5**
PEA0B	**Petropavlovsk-**	**5.37**	**246**	*e*Pn	**Pn**	**10 50 22.2**	**+2.2**
PEA0B				*e*Sn	**Sn**	**10 51 26.5**	**+5.4**
PETK	**Petropavlovsk-**	**5.37**	**246**	Pn	**Pn**	**10 50 20.4**	**+0.4**
	comp=Z,1.6nm,0.3s,baz=73,slow=17,SNR=44						
PETK				Sn	**Sn**	**10 51 21.6**	**+0.6**
	comp=Z,1.3nm,0.3s,baz=62,slow=38,SNR=5.9						
PETK				LR	LR	10 52 38.6	
	comp=Z,93nm,19.7s,baz=79,slow=41						
PETK	**Petropavlovsk-**	**5.37**	**246**	Pn	**Pn**	**10 50 20.4**	**+0.4**
PETK				Sn	**Sn**	**10 51 21.6**	**+0.6**
PETK				LR	LR	10 52 38.6	
PETK	**Petropavlovsk-**	**5.37**	**246**	PN	**Pn**	**10 50 20.4**	**+0.4**
PETK						10 51 21.6	
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK				smax			
	comp=N,1.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,93nm,19.7s						
KDAK	**Kodiak Island**	**22.68**	**67**	*i* P	**P**	**10 54 08.4**	**+7.7**
ILAR	**Eielson Array**	**24.64**	**49**	P	**P**	**10 54 19.4**	**-0.2**
	comp=Z,0.7nm,0.8s,mb3.2,baz=261,slow=8.3,SNR=6.5						
ILAR	**Eielson Array**	**24.64**	**49**	P	**P**	**10 54 19.4**	**-0.2**
ILAR	**Eielson Array**	**24.64**	**49**	P	**P**	**10 54 19.5**	**-0.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MJAR	**Matsushiro Arr**	**26.74**	**236**	pP	pP	10 54 46.9	+0.8
	comp=Z,4.3nm,0.7s,baz=33,slow=8.3,SNR=9.7						
INK	**Inuvik**	**29.80**	**41**	P	**P**	**10 55 07.1**	**+1.3**
	comp=Z,0.9nm,0.5s,mb3.7,baz=0.0,slow=12,SNR=3.9						
INK	**Inuvik**	**29.80**	**41**	P	**P**	**10 55 07.1**	**+1.3**
INK	**Inuvik**	**29.80**	**41**	P	**P**	**10 55 07.1**	**+1.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM	**Songino Array**	**36.59**	**283**	P	**P**	**10 56 05.9**	**+0.7**
	comp=Z,0.8nm,0.9s,mb3.5,baz=64,slow=10,SNR=4.9						
SONM				pP	pP	10 56 12.9	+0.4
	comp=Z,1.7nm,0.7s,baz=57,slow=8.3,SNR=11						
SONM	**Songino Array**	**36.59**	**283**	P	**P**	**10 56 05.9**	**+0.7**
SONM				pP	pP	10 56 12.9	+0.4
SONM	**Songino Array**	**36.59**	**283**	P	**P**	**10 56 05.9**	**+0.7**
SONM				*PP	pP	10 56 12.9	+0.4
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZAK	**Zakamensk**	**36.87**	**289**	*e*P	**P**	**10 56 07.6**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.6						
RES	**Resolute Bay**	**39.69**	**24**	P	**P**	**10 56 31.7**	**+0.8**
	comp=Z,2.6nm,1.0s,mb3.9,baz=328,slow=9.5,SNR=2.1						
RES	**Resolute Bay**	**39.69**	**24**	P	**P**	**10 56 31.7**	**+0.8**
RES	**Resolute Bay**	**39.69**	**24**	P	**P**	**10 56 31.7**	**+0.7**
RES				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
WHN	**Wuhan**	**43.84**	**257**	P	**P**	**10 57 05.9**	**+0.5**
GTA	**Gaotai**	**45.62**	**278**	*e*P	**P**	**10 57 26.5**	**+7.0**
GTA				pP	pP	10 57 30.6	+3.6
GTA				sP	sP	10 57 33.8	+3.9
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
KURK	**Kurchatov**	**49.22**	**303**	P	**P**	**10 57 46.6**	**-0.7**
	comp=Z,2.5nm,1.0s,mb4.2,baz=54,slow=7.4,SNR=8.7						
KURK				pP	pP	10 57 53.9	-0.9
	comp=Z,4.1nm,0.9s,baz=52,slow=7.7,SNR=11						
KURK	**Kurchatov**	**49.22**	**303**	P	**P**	**10 57 46.6**	**-0.7**
KURK				pP	pP	10 57 53.9	-0.9
KURK	**Kurchatov**	**49.22**	**303**	P	**P**	**10 57 46.7**	**-0.6**
KURK				*PP	pP	10 57 53.9	-0.9
KURK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
MKAR	**Makanchi Array**	**50.05**	**297**	P	**P**	**10 57 51.9**	**-1.8**
	comp=Z,0.5nm,0.6s,mb3.7,baz=47,slow=5.3,SNR=3.8						
MKAR	**Makanchi Array**	**50.05**	**297**	P	**P**	**10 57 51.9**	**-1.8**
MKAR	**Makanchi Array**	**50.05**	**297**	P	**P**	**10 57 51.9**	**-1.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**51.41**	**310**	P	**P**	**10 58 01.9**	**-1.9**
	comp=Z,0.3nm,0.4s,mb3.6,baz=52,slow=8.0,SNR=3.4						
BVAR	**Borovoye Array**	**51.41**	**310**	P	**P**	**10 58 01.9**	**-1.9**
BVAR	**Borovoye Array**	**51.41**	**310**	P	**P**	**10 58 01.9**	**-2.0**
NVAR	**Mina Array Bea**	**51.79**	**76**	P	**P**	**10 58 08.1**	**+1.2**
	comp=Z,2.8nm,0.8s,mb4.2,baz=316,slow=8.3,SNR=4.8						
NVAR				pP	pP	10 58 14.7	+0.2
	comp=Z,3.0nm,0.9s,baz=304,slow=7.3,SNR=14						
NVAR	**Mina Array Bea**	**51.79**	**76**	P	**P**	**10 58 08.1**	**+1.2**
NVAR				pP	pP	10 58 14.7	+0.2
PDAR	**Pinedale Array**	**53.39**	**66**	P	**P**	**10 58 17.7**	**-1.0**
	comp=Z,0.5nm,0.9s,mb3.4,baz=310,slow=4.2,SNR=3.0						
PDAR				pP	pP	10 58 26.4	+0.1
	comp=Z,1.7nm,0.9s,baz=323,slow=2.8,SNR=9.3						
PDAR	**Pinedale Array**	**53.39**	**66**	P	**P**	**10 58 17.7**	**-1.0**
PDAR				pP	pP	10 58 26.4	+0.1
FINES	**FINESS Array B**	**59.06**	**339**	pP	pP	10 59 04.7	-1.8
	comp=Z,3.1nm,0.9s,baz=27,slow=11,SNR=1.6						
CMAR	**Chiang Mai Arr**	**61.93**	**262**	pP	pP	10 59 26.2	-0.4
	comp=Z,0.6nm,0.3s,baz=18,slow=6.8,SNR=2.1						
TXAR	**Lajitas Array**	**66.61**	**72**	P	**P**	**10 59 50.9**	**+1.3**
	comp=Z,0.6nm,0.6s,mb3.8,baz=298,slow=4.9,SNR=13						
TXAR				pP	pP	10 59 57.5	+0.1
	comp=Z,3.9nm,0.7s,baz=300,slow=4.7,SNR=35						
TXAR	**Lajitas Array**	**66.61**	**72**	P	**P**	**10 59 50.9**	**+1.3**
TXAR				pP	pP	10 59 57.5	+0.1
TXAR	**Lajitas Array**	**66.61**	**72**	P	**P**	**10 59 50.9**	**+1.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KIV	**Kislovodsk**	**69.79**	**320**	*e*P	**P**	**11 00 10.5**	**+1.2**
KIV				*i*		11 00 19.9	
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
ASAR	**Alice Springs**	**83.52**	**209**	P	**P**	**11 01 27.8**	**+0.9**
	comp=Z,0.4nm,0.7s,mb3.7,baz=15,slow=3.8,SNR=3.3						
ASAR				pP	pP	11 01 33.8	-1.0
	comp=Z,1.6nm,0.9s,baz=20,slow=3.5,SNR=6.3						
ASAR	**Alice Springs**	**83.52**	**209**	P	**P**	**11 01 27.8**	**+0.9**
ASAR				pP	pP	11 01 33.8	-1.0
ASAR	**Alice Springs**	**83.52**	**209**	P	**P**	**11 01 27.8**	**+0.9**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MAW	**Mawson**	**144.03**	**219**	pPKP	pPKPdf	11 08 37.5	-3.8
	comp=Z,1.7nm,0.9s,baz=98,slow=8.1,SNR=3.7						
QSPA	**South Pole Qui**	**145.36**	**180**	PKPbc	PKPbc	11 08 35.6	+0.4
	comp=Z,0.6nm,0.6s,baz=308,slow=18,SNR=2.1						
QSPA				pPKPbc	pPKPbc	11 08 40.8	-2.5
	comp=Z,5.9nm,1.0s,baz=32,slow=2.7,SNR=8.6						
QSPA	**South Pole Qui**	**145.36**	**180**	PKPbc	PKPbc	11 08 35.6	+0.4
QSPA				pPKPbc	pPKPbc	11 08 40.8	-2.5

*IDC **07** 10:52:26.5±1.6,7.05S×129.10E,h0km,mb3.9/2, mb1 3.9/5,mb1mx3.7/18,mbtmp3.8/5,ML3.6/3,Error ellipse: s-maj=67.5km s-min=19.1km az=76.0*
*ISCJB **07** 10:52:34.7±3.0,7.28S±0.10×129.2E±0.1,h76km±32km, mb3.7/2,Error ellipse: s-maj=23.7km s-min=15.9km az=172.8*
*NEIC **07** 10:52:42.2±3.8,7.68S×128.94E,h130km±44km,Error ellipse: s-maj=34.7km s-min=33.2km az=83.0*

ISC 07 10:52:36.5±2.0,7.28S±0.09×129.3E±0.1,h83km±19km, n13,σ1.39/20,mb3.7/2,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.23**	**150**	*e*Pn	**Pn**	**10 54 09.7**	**+3.9**
	27nm,0.6s						
FITZ	**Fitzroy Crossi**	**11.33**	**198**	Pn	**Pn**	**10 55 13.8**	**-1.6**
	0.3nm,0.3s,baz=22,slow=15,SNR=8.8						
FITZ				Sn	**Sn**	**10 57 21.0**	**+0.8**
	0.1nm,0.3s,baz=97,slow=16,SNR=5.0						
FITZ	**Fitzroy Crossi**	**11.33**	**198**	Pn	**Pn**	**10 55 13.8**	**-1.6**
FITZ				*e*Pn	**Pn**	**10 55 14.6**	**-0.9**
FITZ				Sn	**Sn**	**10 57 21.0**	**+0.8**
WRAB	**Tennant Creek**	**13.50**	**159**	*e*Pn	**Pn**	**10 55 44.5**	**-0.2**
WRA	**Warramunga Arr**	**13.51**	**159**	Pn	**Pn**	**10 55 42.4**	**-2.3**
	0.3nm,0.3s,baz=337,slow=13,SNR=7.2						
WRA				Sn	**Sn**	**10 58 14.2**	**+1.0**
	0.2nm,0.3s,baz=332,slow=23,SNR=4.6						
WRA	**Warramunga Arr**	**13.51**	**159**	Pn	**Pn**	**10 55 42.4**	**-2.3**
WRA				Sn	**Sn**	**10 58 14.2**	**+1.0**
ASAR	**Alice Springs**	**16.89**	**165**	P	**Pn**	**10 56 28.4**	**+0.7**
	0.3nm,0.3s,baz=351,slow=10,SNR=23						
ASAR				S	**S**	**10 59 39.6**	**-0.7**
	0.1nm,0.3s,baz=336,slow=14,SNR=4.1						
ASAR	**Alice Springs**	**16.89**	**165**	P	**Pn**	**10 56 28.4**	**+0.7**
ASAR				S	**S**	**10 59 39.6**	**-0.7**
MK31	**Makanchi Array**	**68.07**	**327**	*e*P	**P**	**11 03 29.4**	**+2.1**
MKAR	**Makanchi Array**	**68.07**	**327**	P	**P**	**11 03 24.8**	**-2.4**
	0.7nm,0.6s,mb3.6,baz=119,slow=5.3,SNR=5.5						
MKAR	**Makanchi Array**	**68.07**	**327**	P	**P**	**11 03 24.8**	**-2.4**
KURK	**Kurchatov**	**72.39**	**329**	P	**P**	**11 03 54.2**	**+0.7**
	0.3nm,0.2s,mb3.7,baz=136,slow=5.5,SNR=3.4						
KURK	**Kurchatov**	**72.39**	**329**	P	**P**	**11 03 54.2**	**+0.7**

FUNV 07 10:54:41.1,7.14N×73.43W,h125km,MW3.5,9C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.32**	**57**	↑*i* P	Pn	10 55 07.0	+0.1
CAPV				*e*S	Sn	10 55 25.0	-1.5
SOCV	**Socops**	**2.79**	**66**	*e*P	Pn	10 55 24.2	-0.6
SOCV				*e*S	Sn	10 55 56.0	-2.6
VIRV	**Villa del Rosa**	**3.49**	**17**	↑*i* P	Pn	10 55 32.3	-1.7
VIRV				*e*S	Sn	10 56 11.0	-3.9
ELOV	**Elorza**	**3.92**	**92**	↑*e*P	Pn	10 55 38.5	-1.2
QARV	**Quebrada Arrib**	**4.19**	**43**	↑*i* P	Pn	10 55 42.3	-1.0
CURV	**Curarigua**	**4.46**	**50**	↑*i* P	Pn	10 55 45.4	-1.6
SANV	**Sanarito**	**4.51**	**58**	↑*i* P	Pn	10 55 45.9	-1.7
SIQV	**Siquisique**	**5.00**	**46**	↑*e*P	Pn	10 55 52.3	-1.8
TEPV	**Terepaima**	**5.04**	**56**	*e*P	Pn	10 55 53.5	-1.3
MAPV	**Macapo**	**5.60**	**61**	↑*i* P	Pn	10 56 00.5	-1.8
BAUV	**El Baul**	**5.63**	**71**	↑*e*P	Pn	10 55 59.6	-3.0
IMOV	**Isla Los Monje**	**5.75**	**25**	*e*P	Pn	10 56 02.7	-1.6
MONV	**Montecano**	**5.88**	**35**	*e*P	Pn	10 56 03.8	-2.2
TURV	**Turiamo**	**6.43**	**59**	*e*P	Pn	10 56 11.5	-2.0
BIRV	**Birongo**	**7.81**	**64**	*e*P	Pn	10 56 29.2	-2.9
CUPV	**Cœpira**	**8.09**	**68**	*e*P	Pn	10 56 32.4	-3.5

*IDC **07** 11:01:04.0±1.1,10.84S×162.20E,h88km±7km,mb3.8/6, mb1 4.1/6,mb1mx3.7/18,mbtmp3.8/6,MS3.4/1,Ms1 3.4/1, ms1mx2.9/30,Error ellipse: s-maj=33.9km s-min=18.4km az=133.0*
*ISCJB **07** 11:01:08.3±2.4,10.65S±0.1×162.0E±0.2,h133km±18km, mb3.9/8,Error ellipse: s-maj=29.8km s-min=16.8km az=31.5*
*NEIC **07** 11:01:08.9±2.8,10.56S×162.11E,h128km±22km,mb4.1/6, Error ellipse: s-maj=33.2km s-min=17.4km az=126.0*

ISC 07 11:01:09.0±2.4,10.5S±0.1×162.0E±0.2,h126km±19km, n30,σ1.26/30,mb3.9/8,2C,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.33**	**297**	*e*Pn	**Pn**	**11 01 47.1**	**+0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENIJ	**Nijar**	**0.60**	**38**	⇓Pg	**Pg**	**11 03 01.7**	**-0.9**
ENIJ				Lg		11 03 12.2	
ENIJ	**Nijar**	**0.60**	**38**	⇓Pg	**Pg**	**11 03 01.8**	**-0.7**
	348nm,0.2s,SNR=18						
ENIJ				Lg		11 03 10.2	
	507nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**0.60**	**38**	Pg	**Pg**	**11 03 01.8**	**-0.8**
	348nm,0.2s,SNR=18						
ENIJ				Lg		11 03 12.2	
EALB	**Alboran**	**0.63**	**208**	Pg	**Pg**	**11 03 03.4**	**+0.4**
EALB				Lg		11 03 12.8	
EALB	**Alboran**	**0.63**	**208**	Pg	**Pg**	**11 03 03.4**	**+0.3**
	233nm,0.4s,SNR=199						
EALB				Lg		11 03 12.8	
	7μm,0.3s,SNR=30						
EALB	**Alboran**	**0.63**	**208**	Pg	**Pg**	**11 03 03.4**	**+0.4**
	233nm,0.4s,SNR=199						
EGUA	**Guajares**	**0.80**	**295**	Pg	**Pg**	**11 03 07.1**	**+0.9**
EGUA	**Guajares**	**0.80**	**295**	Pg	**Pg**	**11 03 07.1**	**+0.9**
	249nm,0.2s,SNR=7.9						
EGUA				Lg		11 03 20.3	
	227nm,0.1s,SNR=7.9						
EGUA	**Guajares**	**0.80**	**295**	Pg	**Pg**	**11 03 07.1**	**+0.9**
	249nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**0.94**	**319**	⇓Pg	**Pg**	**11 03 10.2**	**+1.2**
	163nm,0.2s,SNR=18						
EQUE				Lg		11 03 23.1	
	6μm,0.6s,SNR=7.9						
EQUE	**Quentar**	**0.94**	**319**	Pg	**Pg**	**11 03 10.2**	**+1.2**
	163nm,0.2s,SNR=18						
ERON	**Agron**	**1.05**	**300**	Pg	**Pg**	**11 03 11.7**	**+0.6**
ERON				Lg		11 03 25.5	
ERON	**Agron**	**1.05**	**300**	Pg	**Pg**	**11 03 11.7**	**+0.6**
	143nm,0.2s,SNR=7.9						
ERON				Lg		11 03 27.1	
	465nm,0.3s,SNR=7.9						
ERON	**Agron**	**1.05**	**300**	Pg	**Pg**	**11 03 11.7**	**+0.6**
	143nm,0.2s,SNR=7.9						
ERON				Lg		11 03 25.5	
ECOG	**Cogollos-Vega**	**1.06**	**318**	Pg	**Pg**	**11 03 12.6**	**+1.3**
ECOG				Lg		11 03 25.6	
ECOG	**Cogollos-Vega**	**1.06**	**318**	⇑Pg	**Pg**	**11 03 12.6**	**+1.3**
	175nm,0.2s,SNR=18						
ECOG				Lg		11 03 28.5	
	698nm,0.3s,SNR=10						
ECOG	**Cogollos-Vega**	**1.06**	**318**	Pg	**Pg**	**11 03 12.6**	**+1.3**
	175nm,0.2s,SNR=18						
ECOG				Lg		11 03 25.6	
MELI	**Melilla**	**1.22**	**190**	⇑Pg	**Pn**	**11 03 12.8**	**-1.1**
MELI				Lg		11 03 26.7	
MELI	**Melilla**	**1.22**	**190**	*i* P	**Pn**	**11 03 12.8**	**-1.1**
MELI				*e*S	**Sb**	**11 03 26.7**	**-3.1**
EHUE	**Huescar**	**1.32**	**3**	Pg	**Pg**	**11 03 15.8**	**-0.4**
EHUE				Lg		11 03 33.5	
EHUE	**Huescar**	**1.32**	**3**	Pg	**Pg**	**11 03 15.5**	**-0.7**
	62nm,0.2s,SNR=7.9						
EHUE				Lg		11 03 34.9	
	276nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**1.32**	**3**	Pg	**Pg**	**11 03 15.5**	**-0.7**
	62nm,0.2s,SNR=7.9						
EHUE				Lg		11 03 33.5	
EQES	**Quesada**	**1.34**	**346**	Pg	**Pg**	**11 03 17.4**	**+0.7**
EQES				Lg		11 03 36.5	
EQES	**Quesada**	**1.34**	**346**	Pg	**Pg**	**11 03 17.2**	**+0.5**
	191nm,0.3s,SNR=123						
EQES				Lg		11 03 36.5	
	1μm,0.5s,SNR=10						
EQES	**Quesada**	**1.34**	**346**	Pg	**Pg**	**11 03 17.2**	**+0.5**
	191nm,0.3s,SNR=123						
ELOJ	**Sierra Loja**	**1.36**	**299**	Pg	**Pg**	**11 03 18.6**	**+1.7**
ELOJ				Lg		11 03 38.3	
ELOJ	**Sierra Loja**	**1.36**	**299**	Pg	**Pg**	**11 03 18.1**	**+1.2**
	140nm,0.3s,SNR=37						
ELOJ				Lg		11 03 38.3	
	372nm,0.3s,SNR=7.9						
ELOJ	**Sierra Loja**	**1.36**	**299**	Pg	**Pg**	**11 03 18.1**	**+1.2**
	140nm,0.3s,SNR=37						
EMAL	**Malaga-Limoner**	**1.44**	**281**	⇑Pn	**Pn**	**11 03 15.8**	**-1.2**
EMAL				Sn	**Sn**	**11 03 32.9**	**-3.0**
EMAL	**Malaga-Limoner**	**1.44**	**281**	*i* P	**Pn**	**11 03 15.8**	**-1.2**
EMAL				*i* S	**Sn**	**11 03 32.9**	**-3.1**
ZAI	**Zaio**	**1.52**	**182**	Pn	**Pn**	**11 03 16.5**	**-1.6**
ZAI				Sn	**Sn**	**11 03 30.0**	**-8.0**
ZAI	**Zaio**	**1.52**	**182**	*i* P	**Pn**	**11 03 16.5**	**-1.6**
OLHC	**Oulhaca**	**1.60**	**140**	P	**Pn**	**11 03 17.0**	**-2.2**
OLHC	**Oulhaca**	**1.60**	**140**	Pn	**Pn**	**11 03 17.0**	**-2.2**
OLHC	**Oulhaca**	**1.60**	**140**	P	**Pn**	**11 03 17.0**	**-2.2**
MPAL	**Palemas**	**1.64**	**220**	Pn	**Pn**	**11 03 19.0**	**-0.7**
MPAL				Sn	**Sn**	**11 03 37.0**	**-3.8**
MPAL	**Palemas**	**1.64**	**220**	*i* P	**Pn**	**11 03 19.0**	**-0.7**
MPAL				*i* S	**Sn**	**11 03 37.0**	**-3.8**
ELUQ	**Luque**	**1.66**	**310**	Pn	**Pn**	**11 03 22.8**	**+2.8**
ELUQ				Lg		11 03 46.8	
ELUQ	**Luque**	**1.66**	**310**	Pg	**Pg**	**11 03 22.8**	**0.0**
	140nm,0.2s,SNR=7.9						
ELUQ				Lg		11 03 47.2	
	568nm,0.4s,SNR=7.9						
ELUQ	**Luque**	**1.66**	**310**	Pg	**Pg**	**11 03 22.8**	**0.0**
	140nm,0.2s,SNR=7.9						
ELUQ				Lg		11 03 46.8	
ODZI	**Dziouia**	**1.68**	**135**	P	**Pn**	**11 03 18.0**	**-2.3**
ODZI	**Dziouia**	**1.68**	**135**	Pn	**Pn**	**11 03 18.0**	**-2.3**
ODZI	**Dziouia**	**1.68**	**135**	P	**Pn**	**11 03 18.0**	**-2.3**
EMIJ	**Mijas**	**1.70**	**273**	Pn	**Pn**	**11 03 18.7**	**-1.8**
EMIJ				Sn	**Sn**	**11 03 41.7**	**-0.6**
EMIJ	**Mijas**	**1.70**	**273**	⇑Pn	**Pn**	**11 03 18.7**	**-1.8**
	87nm,0.3s,SNR=18						
EMIJ				Sn	**Sn**	**11 03 39.4**	**-2.9**
	709nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**1.70**	**273**	Pn	**Pn**	**11 03 18.7**	**-1.8**
EMIJ				Sn	**Sn**	**11 03 41.7**	**-0.6**
CART	**Cartagena**	**1.72**	**50**	*e*Pn	**Pn**	**11 03 17.4**	**-3.5**
CART				*e*Sn	**Sn**	**11 03 43.7**	**+0.8**
CART	**Cartagena**	**1.72**	**50**	Pn	**Pn**	**11 03 17.7**	**-3.2**
CART				Sn	**Sn**	**11 03 40.7**	**-2.3**
CART	**Cartagena**	**1.72**	**50**	*e*Pn	**Pn**	**11 03 17.4**	**-3.5**
CART	**Cartagena**	**1.72**	**50**	*e*P	**Pn**	**11 03 17.7**	**-3.2**
CART				*e*S	**Sn**	**11 03 40.7**	**-2.2**
CART				*e*Sn	**Sn**	**11 03 43.7**	**+0.8**
EMUR	**La Murta**	**1.76**	**40**	Pn	**Pn**	**11 03 19.5**	**-2.0**
EMUR				Sn	**Sn**	**11 03 43.6**	**-0.3**
EMUR				Lg		11 03 47.6	
EMUR	**La Murta**	**1.76**	**40**	Pn	**Pn**	**11 03 19.5**	**-2.0**
	116nm,0.2s,SNR=7.9						
EMUR				Lg		11 03 46.0	
	2μm,0.7s,SNR=7.9						
EMUR	**La Murta**	**1.76**	**40**	Pn	**Pn**	**11 03 19.5**	**-2.0**
	116nm,0.2s,SNR=7.9						
EMUR				Sn	**Sn**	**11 03 43.7**	**-0.2**
TOU	**Touzarine**	**1.77**	**210**	Pn	**Pn**	**11 03 20.0**	**-1.5**
TOU				Sn	**Sn**	**11 03 39.0**	**-5.0**
TOU	**Touzarine**	**1.77**	**210**	*i* P	**Pn**	**11 03 20.0**	**-1.5**
USTO	**Oran**	**1.88**	**113**	P	**Pn**	**11 03 20.0**	**-3.0**
USTO	**Oran**	**1.88**	**113**	Pn	**Pn**	**11 03 20.0**	**-3.0**
USTO	**Oran**	**1.88**	**113**	P	**Pn**	**11 03 20.0**	**-3.0**
EVIA	**Vianos**	**2.14**	**3**	Pn	**Pn**	**11 03 29.2**	**+2.6**
EVIA	**Vianos**	**2.14**	**3**	Pn	**Pn**	**11 03 28.9**	**+2.2**
	40nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**2.14**	**3**	Pn	**Pn**	**11 03 28.9**	**+2.2**
	40nm,0.2s,SNR=7.9						
LIJA	**Lijar**	**2.24**	**281**	Pn	**Pn**	**11 03 30.9**	**+2.9**
LIJA				Sn	**Sn**	**11 04 02.4**	**+6.8**
EJIF	**Jimena Fronter**	**2.26**	**270**	Pn	**Pn**	**11 03 28.4**	**+0.1**
EJIF				Sn	**Sn**	**11 03 58.0**	**+1.9**
EJIF	**Jimena Fronter**	**2.26**	**270**	Pn	**Pn**	**11 03 28.4**	**+0.1**
	5.0nm,0.4s,SNR=7.9						
EJIF				Sn	**Sn**	**11 03 57.2**	**+1.1**
	98nm,0.7s,SNR=7.9						
EJIF	**Jimena Fronter**	**2.26**	**270**	Pn	**Pn**	**11 03 28.4**	**+0.2**
	5.0nm,0.4s,SNR=7.9						
EJIF				Sn	**Sn**	**11 03 58.0**	**+1.9**
	98nm,0.7s,SNR=7.9						
EADA	**Adamuz**	**2.26**	**318**	Pn	**Pn**	**11 03 29.4**	**+1.2**
EADA				Sn	**Sn**	**11 03 57.0**	**+0.8**
EADA				Lg		11 04 04.6	
EADA	**Adamuz**	**2.26**	**318**	Pn	**Pn**	**11 03 29.3**	**+1.1**
	6.5nm,0.2s,SNR=35						
EADA				Pg	**Pg**	**11 03 33.9**	**-0.3**
	13nm,0.2s,SNR=7.9						
EADA				Sn	**Sn**	**11 03 56.9**	**+0.8**
	50nm,0.1s,SNR=7.9						
EADA				Lg		11 04 04.6	
	468nm,0.3s,SNR=7.3						
EADA	**Adamuz**	**2.26**	**318**	Pn	**Pn**	**11 03 29.3**	**+1.0**
	6.5nm,0.2s,SNR=35						
EADA	**Adamuz**	**2.26**	**318**	Pg	**Pg**	**11 03 33.9**	**-0.3**
	13nm,0.2s,SNR=7.9						
EADA				Sn	**Sn**	**11 03 57.0**	**+0.9**
ETOB	**Tobarra**	**2.32**	**22**	Pn	**Pn**	**11 03 28.8**	**-0.4**
ETOB				Sn	**Sn**	**11 03 57.8**	**+0.1**
ETOB	**Tobarra**	**2.32**	**22**	Pn	**Pn**	**11 03 28.8**	**-0.4**
	126nm,0.3s,SNR=7.9						
ETOB				Sn	**Sn**	**11 03 56.1**	**-1.6**
	959nm,0.6s,SNR=7.9						
ETOB	**Tobarra**	**2.32**	**22**	Pn	**Pn**	**11 03 28.8**	**-0.4**
	126nm,0.3s,SNR=7.9						
ETOB				Sn	**Sn**	**11 03 57.8**	**0.0**
ESPR	**Espera**	**2.59**	**279**	Pn	**Pn**	**11 03 33.6**	**+0.8**
ESPR				Sn	**Sn**	**11 04 05.4**	**+1.1**
ESPR				Lg		11 04 15.8	
ESPR	**Espera**	**2.59**	**279**	Pn	**Pn**	**11 03 33.6**	**+0.8**
	10nm,0.2s,SNR=13						
ESPR				Sn	**Sn**	**11 04 05.4**	**+1.1**
	121nm,0.4s,SNR=9.6						
ESPR				Lg		11 04 17.8	
	458nm,0.5s,SNR=5.8						
ESPR	**Espera**	**2.59**	**279**	Pn	**Pn**	**11 03 33.6**	**+0.8**
	10nm,0.2s,SNR=13						
ESPR				Sn	**Sn**	**11 04 05.4**	**+1.1**
	121nm,0.4s,SNR=9.6						
OJBR	**Djebel Berber**	**2.61**	**110**	P	Px	11 03 15.0	
OJBR	**Djebel Berber**	**2.61**	**110**	Pn	Px	11 03 15.0	
GIBL	**Gibalbin**	**2.67**	**278**	Pg	**Pg**	**11 03 37.5**	**-4.6**
GIBL				Lg		11 04 20.8	
GIBL	**Gibalbin**	**2.67**	**278**	*e*P	**Pn**	**11 03 37.5**	**+3.5**
TZK	**Tazeka**	**2.70**	**208**	Pn	**Pn**	**11 03 36.0**	**+1.6**
TZK				Sn	**Sn**	**11 04 03.0**	**-4.1**
TZK	**Tazeka**	**2.70**	**208**	*i* P	**Pn**	**11 03 36.0**	**+1.6**
OKGL	**Djebel Kef Gue**	**2.71**	**99**	P	Px	11 03 18.0	
OKGL	**Djebel Kef Gue**	**2.71**	**99**	Pn	Px	11 03 18.0	
CNIL	**Conil**	**2.73**	**268**	Pn	**Pn**	**11 03 38.2**	**+3.5**
CNIL				Lg		11 04 19.5	
EBEN	**Beniarda**	**2.94**	**41**	Pn	**Pn**	**11 03 38.0**	**+0.4**
EBEN				Sn	**Sn**	**11 04 11.6**	**-1.3**
EBEN				Lg		11 04 24.4	
EBEN	**Beniarda**	**2.94**	**41**	Pn	**Pn**	**11 03 37.3**	**-0.3**
	11nm,0.3s,SNR=7.6						
EBEN				Pg	**Pg**	**11 03 44.5**	**-2.7**
	16nm,0.3s,SNR=7.9						
EBEN				Sn	**Sn**	**11 04 09.0**	**-3.9**
	51nm,0.4s,SNR=5.7						
EBEN				Lg		11 04 24.4	
	840nm,1.7s,SNR=5.1						
EBEN	**Beniarda**	**2.94**	**41**	Pn	**Pn**	**11 03 38.0**	**+0.4**
EBEN	**Beniarda**	**2.94**	**41**	Pg	**Pg**	**11 03 44.5**	**-2.7**
	16nm,0.3s,SNR=7.9						
EBEN				Sn	**Sn**	**11 04 11.6**	**-1.3**
OJGS	**Djebel Guires**	**2.94**	**109**	P	Px	11 03 17.0	
OJGS	**Djebel Guires**	**2.94**	**109**	Pn	Px	11 03 17.0	
EANR	**'Ain N'Sour**	**3.10**	**99**	P	**Pn**	**11 03 36.6**	**-3.2**
EANR	**'Ain N'Sour**	**3.10**	**99**	Pn	**Pn**	**11 03 36.6**	**-3.2**
EANR	**'Ain N'Sour**	**3.10**	**99**	P	**Pn**	**11 03 36.6**	**-3.2**
TGT	**Taghat**	**3.11**	**220**	Pn	**Pn**	**11 03 41.0**	**+1.1**
TGT				Sn	**Sn**	**11 04 13.0**	**-4.1**
TGT	**Taghat**	**3.11**	**220**	*i* P	**Pn**	**11 03 41.0**	**+1.1**
ECHF	**Ech Chlef**	**3.25**	**95**	Pn	**Pn**	**11 03 46.0**	**+4.0**
ECHA	**Ech Chlef**	**3.28**	**95**	P	**Pn**	**11 03 46.0**	**+3.7**
ECHA	**Ech Chlef**	**3.28**	**95**	P	**Pn**	**11 03 46.0**	**+3.7**
PAB	**San Pablo**	**3.32**	**337**	*e*Pn	**Pn**	**11 03 44.8**	**+1.9**
PAB				*e*Sg	**Sg**	**11 04 40.5**	**+2.9**
PAB	**San Pablo**	**3.32**	**337**	*e*Pn	**Pn**	**11 03 44.8**	**+1.9**
PAB				*e*Sg	**Sg**	**11 04 40.5**	**+2.9**
ESDC	**Sonseca Array**	**3.33**	**343**	Pn	**Pn**	**11 03 46.6**	**+3.6**
	7.2nm,0.3s,baz=163,slow=12,SNR=17						
ESDC				Pg	**Pg**	**11 03 55.0**	**+0.2**
	61nm,0.3s,baz=161,slow=18,SNR=69						
ESDC				Lg		11 04 38.6	
	84nm,0.3s,baz=152,slow=30,SNR=6.1						
ESDC	**Sonseca Array**	**3.33**	**343**	Pn	**Pn**	**11 03 44.0**	**+1.0**
ESDC				Pg	**Pg**	**11 03 53.5**	**-1.3**
ESDC				Lg		11 04 39.4	
ESDC	**Sonseca Array**	**3.33**	**343**	Pg	**Pg**	**11 03 53.5**	**-1.3**
	26nm,0.2s,baz=162,slow=18,SNR=7.9						
ESDC				Lg		11 04 39.4	
	31nm,0.3s,baz=158,slow=28,SNR=7.9						
ESDC	**Sonseca Array**	**3.33**	**343**	Pn	**Pn**	**11 03 44.0**	**+1.0**
ESDC	**Sonseca Array**	**3.33**	**343**	Pg	**Pg**	**11 03 53.5**	**-1.3**
	26nm,0.2s,baz=162,slow=18,SNR=7.9						
ESLA	**Sonseca Array**	**3.33**	**343**	*e*Pn	**Pn**	**11 03 44.5**	**+1.5**
ESLA				*e*Sg	**Sg**	**11 04 39.0**	**+1.0**
ESLA	**Sonseca Array**	**3.33**	**343**	*e*Pn	**Pn**	**11 03 44.5**	**+1.5**
ESLA				*e*Sg	**Sg**	**11 04 39.0**	**+1.0**
ECHE	**Chera**	**3.37**	**23**	Pn	**Pn**	**11 03 44.2**	**+0.7**
ECHE				Pg	**Pg**	**11 03 53.4**	**-2.1**
ECHE				Lg		11 04 38.6	
ECHE	**Chera**	**3.37**	**23**	Pn	**Pn**	**11 03 43.9**	**+0.3**
	11nm,0.3s,SNR=8.9						
ECHE				Pg	**Pg**	**11 03 52.0**	**-3.4**
	SNR=7.9						
ECHE				Lg		11 04 38.6	
	163nm,0.8s,SNR=7.9						
ECHE	**Chera**	**3.37**	**23**	Pn	**Pn**	**11 03 43.9**	**+0.4**
	11nm,0.3s,SNR=8.9						
EBNR	**Beni Rached**	**3.39**	**92**	P	**Pn**	**11 03 49.2**	**+5.3**
ETRT	**Tiaret**	**3.40**	**108**	P	**Pn**	**11 03 41.4**	**-2.6**
ETRT	**Tiaret**	**3.40**	**108**	Pn	**Pn**	**11 03 41.4**	**-2.6**
ETRT	**Tiaret**	**3.40**	**108**	P	**Pn**	**11 03 41.4**	**-2.6**
EMIN	**Mina Concepcio**	**3.44**	**293**	Pn	**Pn**	**11 03 44.7**	**+0.2**
EMIN				Sn	**Sn**	**11 04 26.0**	**+0.6**
EMIN				Lg		11 04 42.5	
EMIN	**Mina Concepcio**	**3.44**	**293**	Pn	**Pn**	**11 03 44.7**	**+0.2**
	14nm,0.2s,SNR=36						
EMIN				Sn	**Sn**	**11 04 26.0**	**+0.6**
	33nm,0.3s,SNR=7.9						
EMIN				Lg		11 04 43.5	
	139nm,0.7s,SNR=5.0						
EMIN	**Mina Concepcio**	**3.44**	**293**	Pn	**Pn**	**11 03 44.7**	**+0.2**
	14nm,0.2s,SNR=36						
EMIN				Sn	**Sn**	**11 04 26.0**	**+0.6**
	33nm,0.3s,SNR=7.9						
PBAR	**Barrancos**	**3.87**	**297**	*e*Pn	**Pn**	**11 03 51.1**	**+0.8**
PBAR				*e*Sn	**Sn**	**11 04 35.3**	**-0.5**
	89nm,0.6s						
PBAR	**Barrancos**	**3.87**	**297**	*e*Pn	**Pn**	**11 03 51.1**	**+0.8**
PBAR				*e*Sn	**Sn**	**11 04 35.3**	**-0.5**
PBAR				A		11 05 14.4	
	89nm,0.6s						
CZD	**Col de Zad**	**3.97**	**210**	Pn	**Pn**	**11 03 53.0**	**+1.2**
CZD				Sn	**Sn**	**11 04 33.0**	**-5.3**
CZD	**Col de Zad**	**3.97**	**210**	*i* P	**Pn**	**11 03 53.0**	**+1.2**
EGRO	**El Granado**	**3.99**	**286**	Pn	**Pn**	**11 03 53.0**	**+0.9**
EGRO				Pg	**Pg**	**11 04 05.6**	**-1.7**
EGRO				Sn	**Sn**	**11 04 39.0**	**+0.2**
EGRO	**El Granado**	**3.99**	**286**	Pn	**Pn**	**11 03 53.0**	**+0.9**
	18nm,0.3s,SNR=38						
EGRO				Pg	**Pg**	**11 04 05.6**	**-1.7**
	19nm,0.3s,SNR=7.9						
EGRO				Sn	**Sn**	**11 04 39.0**	**+0.2**
	42nm,0.3s,SNR=4.8						
EGRO				Lg		11 05 02.6	
	63nm,0.5s,SNR=4.0						
EGRO	**El Granado**	**3.99**	**286**	Pn	**Pn**	**11 03 53.0**	**+0.9**
	18nm,0.3s,SNR=38						
EGRO	**El Granado**	**3.99**	**286**	Pg	**Pg**	**11 04 05.6**	**-1.7**
	19nm,0.3s,SNR=7.9						
EGRO				Sn	**Sn**	**11 04 39.0**	**+0.1**
	42nm,0.3s,SNR=4.8						
MDT	**Midelt**	**4.00**	**204**	Pn	**Pn**	**11 03 52.4**	**+0.1**
	2.3nm,0.3s,baz=23,slow=8.6,SNR=36						
MDT				Sn	**Sn**	**11 04 40.2**	**+0.9**
	3.7nm,0.3s,baz=54,slow=23,SNR=5.6						
MDT	**Midelt**	**4.00**	**204**	Pn	**Pn**	**11 03 52.4**	**+0.1**
MDT				Sn	**Sn**	**11 04 40.2**	**+0.9**
MDT	**Midelt**	**4.00**	**204**	Pn	**Pn**	**11 03 52.4**	**+0.1**
MDT				Sn	**Sn**	**11 04 40.2**	**+1.0**
EIBI	**Ibiza**	**4.06**	**50**	Pn	**Pn**	**11 03 51.3**	**-1.7**
EIBI				Sn	**Sn**	**11 04 38.4**	**-2.2**
EIBI	**Ibiza**	**4.06**	**50**	Pn	**Pn**	**11 03 51.3**	**-1.7**
	15nm,0.2s,SNR=7.9						
EIBI				Sn	**Sn**	**11 04 35.9**	**-4.8**
	90nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**4.06**	**50**	Pn	**Pn**	**11 03 51.3**	**-1.7**
	15nm,0.2s,SNR=7.9						
EIBI				Sn	**Sn**	**11 04 38.4**	**-2.2**
EBAD	**Badajoz**	**4.12**	**304**	Pn	**Pn**	**11 03 54.1**	**+0.2**
EBAD				Sn	**Sn**	**11 04 41.2**	**-0.9**
EBAD				Lg		11 05 05.3	
EBAD	**Badajoz**	**4.12**	**304**	Pn	**Pn**	**11 03 54.3**	**+0.4**
	31nm,0.2s,SNR=24						
EBAD				Pg	**Pg**	**11 04 07.5**	**-2.3**
	13nm,0.2s,SNR=7.9						
EBAD				Sn	**Sn**	**11 04 41.2**	**-0.9**
	95nm,0.2s,SNR=7.9						
EBAD				Lg		11 05 05.3	
	552nm,1.0s,SNR=8.9						
EBAD	**Badajoz**	**4.12**	**304**	Pn	**Pn**	**11 03 54.3**	**+0.4**
	31nm,0.2s,SNR=24						
PVAQ	**Vaqueiros**	**4.14**	**284**	*e*Pn	**Pn**	**11 03 54.2**	**0.0**
PVAQ				*e*Sn	**Sn**	**11 04 41.1**	**-1.6**
	87nm,0.4s						
PVAQ	**Vaqueiros**	**4.14**	**284**	*e*Pn	**Pn**	**11 03 54.2**	**0.0**
PVAQ				*e*Sn	**Sn**	**11 04 41.1**	**-1.6**
PVAQ				A		11 04 45.6	
	87nm,0.4s						
EMOS	**Mosqueruela**	**4.23**	**23**	Pn	**Pn**	**11 03 55.6**	**+0.2**
EMOS				Sn	**Sn**	**11 04 44.2**	**-0.6**
EMOS	**Mosqueruela**	**4.23**	**23**	Pn	**Pn**	**11 03 55.6**	**+0.2**
	2.6nm,0.2s,SNR=11						
EMOS				Sn	**Sn**	**11 04 41.2**	**-3.6**
	16nm,0.4s,SNR=7.9						
EMOS				Lg		11 05 06.6	
	2μm,2.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.23**	**23**	Pn	**Pn**	**11 03 55.6**	**+0.2**
	2.6nm,0.2s,SNR=11						
EMOS				Sn	**Sn**	**11 04 44.2**	**-0.6**
PBDV	**Barranco-do-Ve**	**4.29**	**282**	*e*Pn	**Pn**	**11 03 56.5**	**+0.4**
PBDV				*e*Sn	**Sn**	**11 04 44.7**	**-1.4**
	55nm,0.5s						
PBDV	**Barranco-do-Ve**	**4.29**	**282**	*e*Pn	**Pn**	**11 03 56.5**	**+0.4**
PBDV				*e*Sn	**Sn**	**11 04 44.7**	**-1.4**
PBDV				A		11 05 37.3	
	55nm,0.5s						
GUD	**Guadarrama**	**4.30**	**345**	Pn	**Pn**	**11 03 57.1**	**+0.8**
GUD				Pg	**Pg**	**11 04 10.9**	**-2.4**
GUD				Lg		11 05 08.4	
GUD	**Guadarrama**	**4.30**	**345**	Pn	**Pn**	**11 03 57.1**	**+0.8**
	4.8nm,0.2s,SNR=7.9						
GUD				Pg	**Pg**	**11 04 11.1**	**-2.2**
	40nm,0.3s,SNR=7.9						
GUD				Lg		11 05 09.4	
	426nm,0.7s,SNR=7.9						
GUD	**Guadarrama**	**4.30**	**345**	Pn	**Pn**	**11 03 57.1**	**+0.8**
	4.8nm,0.2s,SNR=7.9						
ETOR	**Torete**	**4.34**	**6**	Pn	**Pn**	**11 03 56.3**	**-0.6**
ETOR				Pg	**Pg**	**11 04 12.2**	**-1.8**
ETOR				Lg		11 05 11.9	
ETOR	**Torete**	**4.34**	**6**	Pn	**Pn**	**11 03 56.3**	**-0.6**
	63nm,0.3s,SNR=7.9						
ETOR				Pg	**Pg**	**11 04 10.7**	**-3.4**
	53nm,0.4s,SNR=7.9						
ETOR				Lg		11 05 08.4	
	552nm,1.4s,SNR=7.9						
ETOR	**Torete**	**4.34**	**6**	Pn	**Pn**	**11 03 56.3**	**-0.6**
	63nm,0.3s,SNR=7.9						
ETOR	**Torete**	**4.34**	**6**	Pg	**Pg**	**11 04 12.2**	**-1.9**
	53nm,0.4s,SNR=7.9						
PCVE	**Castro Verde**	**4.44**	**286**	*e*Pn	**Pn**	**11 03 58.8**	**+0.5**
PCVE				*e*Sn	**Sn**	**11 04 48.7**	**-1.3**
	45nm,0.9s						
PCVE	**Castro Verde**	**4.44**	**286**	*e*Pn	**Pn**	**11 03 58.8**	**+0.5**
PCVE				*e*Sn	**Sn**	**11 04 48.7**	**-1.3**
PCVE				A		11 05 36.9	
	45nm,0.9s						
EPLA	**Plasencia**	**4.46**	**324**	Pn	**Pn**	**11 03 58.7**	**+0.2**
EPLA				Sn	**Sn**	**11 04 49.5**	**-1.0**
EPLA				Lg		11 05 15.8	
EPLA	**Plasencia**	**4.46**	**324**	Pn	**Pn**	**11 03 58.7**	**+0.2**
	7.0nm,0.2s,SNR=7.9						
EPLA				Sn	**Sn**	**11 04 49.5**	**-1.0**
	17nm,0.2s,SNR=7.9						
EPLA				Lg		11 05 14.3	
	322nm,0.9s,SNR=7.9						
EPLA	**Plasencia**	**4.46**	**324**	Pn	**Pn**	**11 03 58.7**	**+0.2**
	7.0nm,0.2s,SNR=7.9						
EPLA				Sn	**

ERTA				Sn	**Sn**	**11 05 01.5**	**-3.1**
	4.2nm,0.2s,SNR=4.0							
ERTA				Lg		11 05 32.4		
	183nm,1.1s,SNR=7.9							
ERTA	**Horta de San J**	**5.04**	**27**	Pn	**Pn**	**11 04 04.7**	**-1.7**
	5.4nm,0.2s,SNR=4.0							
PMTG	**Montargil**	**5.10**	**302**	*e*Pn	**Pn**	**11 04 08.4**	**+1.1**
PMTG				*e*Sn	**Sn**	**11 05 04.2**	**-1.9**
	108nm,0.5s							
PMTG	**Montargil**	**5.10**	**302**	*e*Pn	**Pn**	**11 04 08.4**	**+1.1**
PMTG				*e*Sn	**Sn**	**11 05 04.2**	**-1.9**
PMTG				A		11 05 56.1		
	108nm,0.5s							
TZC	**Tazercounte**	**5.37**	**217**	Pn	**Pn**	**11 04 11.0**	**0.0**
TZC				Sn	**Sn**	**11 05 08.0**	**-4.8**
ETOS	**Mallorca**	**5.42**	**51**	Pn	**Pn**	**11 04 10.3**	**-1.4**
ETOS				Sn	**Sn**	**11 05 10.2**	**-3.8**
ETOS	**Mallorca**	**5.42**	**51**	Pn	**Pn**	**11 04 10.3**	**-1.4**
	3.7nm,0.2s,SNR=7.9							
ETOS				Sn	**Sn**	**11 05 08.9**	**-5.1**
	15nm,0.4s,SNR=7.9							
ETOS	**Mallorca**	**5.42**	**51**	Pn	**Pn**	**11 04 10.3**	**-1.4**
	3.7nm,0.2s,SNR=7.9							
MTE	**Manteigas**	**5.46**	**317**	*e*Pn	**Pn**	**11 04 13.7**	**+1.4**
	33nm,0.5s							
MTE				*e*Sn	**Sn**	**11 05 14.5**	**-0.7**
MTE	**Manteigas**	**5.46**	**317**	*e*Pn	**Pn**	**11 04 13.6**	**+1.3**
MTE				*e*Sn	**Sn**	**11 05 14.5**	**-0.6**
MTE	**Manteigas**	**5.46**	**317**	*e*Pn	**Pn**	**11 04 13.6**	**+1.3**
MTE				*e*Sg	**Sg**	**11 05 43.1**	**-3.1**
MTE				A		11 06 02.3		
	197nm,0.9s							
ESAC	**San Caprasio**	**5.49**	**17**	Pn	**Pn**	**11 04 13.1**	**+0.4**
ESAC	**San Caprasio**	**5.49**	**17**	Pn	**Pn**	**11 04 13.0**	**+0.4**
	20nm,0.3s,SNR=5.9							
ESAC				Lg		11 05 45.9		
	820nm,1.6s,SNR=7.9							
ESAC	**San Caprasio**	**5.49**	**17**	Pn	**Pn**	**11 04 13.1**	**+0.4**
EPOB	**Poblet**	**5.66**	**30**	Pn	**Pn**	**11 04 15.6**	**+0.6**
EPOB				Pg	**Pg**	**11 04 33.8**	**-5.5**
EPOB				Sn	**Sn**	**11 05 17.2**	**-2.8**
EPOB	**Poblet**	**5.66**	**30**	Pn	**Pn**	**11 04 15.6**	**+0.6**
	2.2nm,0.2s,SNR=6.9							
EPOB				Sn	**Sn**	**11 05 16.0**	**-4.1**
	2.9nm,0.2s,SNR=7.9							
EPOB				Lg		11 05 51.3		
	1µm,6.3s,SNR=7.9							
EPOB	**Poblet**	**5.66**	**30**	Pn	**Pn**	**11 04 15.6**	**+0.6**
	2.2nm,0.2s,SNR=6.9							
MVO	**Moncorvo**	**5.77**	**325**	Pn	**Pn**	**11 04 18.1**	**+1.5**
MVO				Sn	**Sn**	**11 05 21.9**	**-0.9**
MVO	**Moncorvo**	**5.77**	**325**	Pn	**Pn**	**11 04 18.1**	**+1.5**
	3.8nm,0.2s,SNR=23							
MVO				Sn	**Sn**	**11 05 20.3**	**-2.5**
	25nm,0.3s,SNR=7.9							
MVO				Lg		11 05 58.3		
	683nm,1.2s,SNR=7.9							
MVO	**Moncorvo**	**5.77**	**325**	*e*Pn	**Pn**	**11 04 18.0**	**+1.5**
MVO				*e*Sn	**Sn**	**11 05 22.2**	**-0.6**
MVO				*e*Sg	**Sg**	**11 05 55.9**	**-0.2**
	90nm,0.7s							
MVO	**Moncorvo**	**5.77**	**325**	*e*Pn	**Pn**	**11 04 18.0**	**+1.5**
MVO				*e*Sn	**Sn**	**11 05 22.2**	**-0.6**
MVO				*e*Sg	**Sg**	**11 05 55.9**	**-0.2**
MVO				A		11 06 01.6		
	90nm,0.7s							
PMAFR	**Mafra**	**5.79**	**297**	Pn	**Pn**	**11 04 16.4**	**-0.4**
	17nm,0.3s,SNR=7.9							
PMAFR				Sn	**Sn**	**11 05 21.8**	**-1.4**
	25nm,0.5s,SNR=7.9							
PMAFR				Lg		11 05 59.4		
	2µm,1.9s,SNR=7.9							
PMAFR	**Mafra**	**5.79**	**297**	*e*Pn	**Pn**	**11 04 17.9**	**+1.1**
PMAFR	**Mafra**	**5.79**	**297**	*e*Pn	**Pn**	**11 04 17.9**	**+1.1**
PMAFR				*e*Sn	**Sn**	**11 05 21.3**	**-1.9**
PMAFR				A		11 06 26.9		
	130nm,0.7s							
ECAL	**Calabor**	**6.29**	**331**	Pn	**Pn**	**11 04 25.1**	**+1.5**
ECAL				Sn	**Sn**	**11 05 34.6**	**-0.9**
ECAL	**Calabor**	**6.29**	**331**	Pn	**Pn**	**11 04 25.1**	**+1.5**
	7.9nm,0.4s,SNR=7.3							
ECAL				Sn	**Sn**	**11 05 34.6**	**-0.9**
	12nm,0.3s,SNR=7.9							
ECAL				Lg		11 06 13.5		
	1µm,1.8s,SNR=7.9							
ECAL	**Calabor**	**6.29**	**331**	Pn	**Pn**	**11 04 25.1**	**+1.5**
	7.9nm,0.4s,SNR=7.3							
ECAL				Sn	**Sn**	**11 05 34.6**	**-0.9**
	12nm,0.3s,SNR=7.9							
POLO	**Lamas de Olo**	**6.30**	**322**	*e*Pn	**Pn**	**11 04 25.3**	**+1.5**
POLO				*e*Sn	**Sn**	**11 05 35.2**	**-0.6**
	34nm,0.9s							
POLO	**Lamas de Olo**	**6.30**	**322**	*e*Pn	**Pn**	**11 04 25.3**	**+1.5**
POLO				*e*Sn	**Sn**	**11 05 35.2**	**-0.6**
POLO				A		11 06 23.8		
	34nm,0.9s							
EMIR	**Miracle**	**6.32**	**30**	Pn	**Pn**	**11 04 25.0**	**+1.0**
EMIR	**Miracle**	**6.32**	**30**	Pn	**Pn**	**11 04 25.0**	**+1.0**
	2.2nm,0.1s,SNR=7.9							
EMIR				Lg		11 06 13.5		
	170nm,2.4s,SNR=7.9							
EMIR	**Miracle**	**6.32**	**30**	Pn	**Pn**	**11 04 25.0**	**+1.0**
	2.2nm,0.1s,SNR=7.9							
IUNC	**Unciti**	**6.32**	**8**	Pn	**Pn**	**11 04 25.8**	**+1.8**
	5.8nm,0.2s,SNR=4.6							
IUNC				Lg		11 06 12.5		
	113nm,0.9s,SNR=7.9							
IUNC	**Unciti**	**6.32**	**8**	Pn	**Pn**	**11 04 25.8**	**+1.8**
	5.8nm,0.2s,SNR=4.6							
EARA	**Aranguren**	**6.33**	**7**	Lg		11 06 12.3		
	326nm,1.2s,SNR=7.9							
IEPA	**Eparoz**	**6.37**	**9**	Pn	**Pn**	**11 04 26.8**	**+2.0**
	1.2nm,0.2s,SNR=7.9							
IEPA				Pg	**Pg**	**11 04 48.6**	**-4.2**
	42nm,0.5s,SNR=7.9							
IEPA				Lg		11 06 15.3		
	402nm,1.7s,SNR=7.9							
IEPA	**Eparoz**	**6.37**	**9**	Pn	**Pn**	**11 04 27.2**	**+2.5**
	SNR=7.9							
IZUN	**Zunzarren**	**6.43**	**8**	Lg		11 06 17.4		
	96nm,1.2s,SNR=7.9							
IELO	**Elcoad**	**6.43**	**9**	Pn	**Pn**	**11 04 27.4**	**+1.8**
	2.0nm,0.2s,SNR=7.9							
IELO				Pg	**Pg**	**11 04 51.8**	**-2.3**
	38nm,0.6s,SNR=7.9							
IELO				Lg		11 06 16.2		
	2µm,3.7s,SNR=7.9							
IELO	**Elcoad**	**6.43**	**9**	Pn	**Pn**	**11 04 27.4**	**+1.8**
	2.0nm,0.2s,SNR=7.9							
EORO	**Oroz-Betelu**	**6.47**	**9**	Pn	**Pn**	**11 04 27.1**	**+0.9**
	3.7nm,0.2s,SNR=13							
EORO				Lg		11 06 18.1		
	779nm,2.4s,SNR=7.9							
EORO	**Oroz-Betelu**	**6.47**	**9**	Pn	**Pn**	**11 04 27.1**	**+0.9**
	3.7nm,0.2s,SNR=13							
IUSE	**Utxeti**	**6.50**	**7**	Lg		11 06 18.0		
	184nm,1.2s,SNR=7.9							
SET	**Setif**	**6.52**	**90**	P	**Pn**	**11 04 27.0**	**+0.2**
SET	**Setif**	**6.52**	**90**	Pn	**Pn**	**11 04 27.0**	**+0.2**
SET	**Setif**	**6.52**	**90**	P	**Pn**	**11 04 27.0**	**+0.2**
EBIE	**Bielsa**	**6.55**	**18**	Pn	**Pn**	**11 04 28.8**	**+1.5**
EBIE				Sn	**Sn**	**11 05 39.0**	**-3.0**
EBIE	**Bielsa**	**6.55**	**18**	Pn	**Pn**	**11 04 28.8**	**+1.5**
	2.9nm,0.2s,SNR=5.7							
EBIE				Sn	**Sn**	**11 05 39.0**	**-3.0**
	6.7nm,0.5s,SNR=7.9							
EBIE				Lg		11 06 20.0		
	2µm,6.1s,SNR=7.9							
EBIE	**Bielsa**	**6.55**	**18**	Pn	**Pn**	**11 04 28.8**	**+1.6**
	2.9nm,0.2s,SNR=5.7							
CSOR	**Sort**	**6.57**	**25**	Pn	**Pn**	**11 04 28.4**	**+0.9**
CSOR	**Sort**	**6.57**	**25**	Pn	**Pn**	**11 04 28.4**	**+0.9**
	9.7nm,0.3s,SNR=9.1							
CSOR	**Sort**	**6.57**	**25**	Pn	**Pn**	**11 04 28.4**	**+0.9**
	9.7nm,0.3s,SNR=9.1							
CFON	**Fontmartina**	**6.59**	**35**	Pn	**Pn**	**11 04 28.8**	**+1.1**
CFON	**Fontmartina**	**6.59**	**35**	Pn	**Pn**	**11 04 28.8**	**+1.1**
ETSF	**Etsaut**	**6.60**	**14**	*e*Pn	**Pn**	**11 04 29.0**	**+1.1**
ETSF				*e*Sn	**Sn**	**11 05 38.8**	**-4.3**
ETSF				*e*Sg	**Sg**	**11 06 18.3**	**-4.3**
	270nm,1.3s							
ETSF	**Etsaut**	**6.60**	**14**	*e*Pn	**Pn**	**11 04 29.0**	**+1.1**
ETSF				*e*Sn	**Sn**	**11 05 38.8**	**-4.3**
ETSF				*e*Sg	**Sg**	**11 06 18.3**	**-4.3**
ETSF	**Etsaut**	**6.60**	**14**	Pn	**Pn**	**11 04 29.0**	**+1.1**
ETSF				Sn	**Sn**	**11 05 38.8**	**-4.3**
ETSF				Lg		11 06 18.3		
	135nm,1.3s							
ETSF	**Etsaut**	**6.60**	**14**	*e*Pn	**Pn**	**11 04 29.0**	**+1.1**
CKHR	**Kef el Ahmar**	**6.63**	**92**	P	**Pn**	**11 04 30.2**	**+1.9**
CKHR	**Kef el Ahmar**	**6.63**	**92**	Pn	**Pn**	**11 04 30.2**	**+1.9**
CKHR	**Kef el Ahmar**	**6.63**	**92**	P	**Pn**	**11 04 30.2**	**+1.9**
SJPF	**Ste Jean**	**6.70**	**9**	*e*Pn	**Pn**	**11 04 30.2**	**+0.9**
SJPF				*e*Sg	**Sg**	**11 06 22.3**	**-3.7**
	230nm,1.2s							
SJPF	**Ste Jean**	**6.70**	**9**	*e*Pn	**Pn**	**11 04 30.2**	**+0.9**
SJPF				*e*Sg	**Sg**	**11 06 22.3**	**-3.7**
SJPF	**Ste Jean**	**6.70**	**9**	Pn	**Pn**	**11 04 30.2**	**+0.9**
SJPF				Lg		11 06 22.3		
	115nm,1.2s							
SJPF	**Ste Jean**	**6.70**	**9**	*e*Pn	**Pn**	**11 04 30.2**	**+0.9**
VIEF	**Viey**	**6.71**	**17**	P	**Pn**	**11 04 30.0**	**+0.6**
VIEF	**Viey**	**6.71**	**17**	P	**Pn**	**11 04 30.0**	**+0.6**
VIEF	**Viey**	**6.71**	**17**	P	**Pn**	**11 04 30.4**	**+1.0**
RESF	**Ens**	**6.72**	**19**	P	**Pn**	**11 04 29.7**	**+0.2**
RESF	**Ens**	**6.72**	**19**	P	**Pn**	**11 04 29.7**	**+0.2**
RESF	**Ens**	**6.72**	**19**	P	**Pn**	**11 04 29.7**	**+0.2**
ELIZ	**Elizondo**	**6.72**	**7**	Pn	**Pn**	**11 04 30.4**	**+0.9**
ELIZ	**Elizondo**	**6.72**	**7**	Pn	**Pn**	**11 04 30.4**	**+0.9**
	15nm,0.3s,SNR=13							
ELIZ				Lg		11 06 25.0		
	69nm,0.7s,SNR=7.9							
ELIZ	**Elizondo**	**6.72**	**7**	Pn	**Pn**	**11 04 30.4**	**+0.9**
	15nm,0.3s,SNR=13							
ELAN	**Lanestosa**	**6.75**	**355**	Pn	**Pn**	**11 04 30.8**	**+0.8**
ELAN	**Lanestosa**	**6.75**	**355**	Pn	**Pn**	**11 04 30.8**	**+0.8**
	2.8nm,0.3s,SNR=6.2							
ELAN				Sn	**Sn**	**11 05 44.0**	**-3.0**
	10nm,3.6s,SNR=7.9							
ELAN				Lg		11 06 28.2		
	352nm,1.3s,SNR=7.9							
ELAN	**Lanestosa**	**6.75**	**355**	Pn	**Pn**	**11 04 30.8**	**+0.8**
	2.8nm,0.3s,SNR=6.2							
EALK	**Alkurruntz**	**6.78**	**7**	Pn	**Pn**	**11 04 32.1**	**+1.8**
EALK	**Alkurruntz**	**6.78**	**7**	Pn	**Pn**	**11 04 32.1**	**+1.8**
	19nm,0.6s,SNR=11							
EALK				Sn	**Sn**	**11 05 44.1**	**-3.3**
	3.7nm,1.2s,SNR=7.9							
EALK				Lg		11 06 26.5		
	666nm,1.7s,SNR=7.9							
EALK	**Alkurruntz**	**6.78**	**7**	Pn	**Pn**	**11 04 32.1**	**+1.8**
	19nm,0.6s,SNR=11							
ELOB	**Lobios**	**6.80**	**324**	Pn	**Pn**	**11 04 32.5**	**+1.7**
ELOB				Sn	**Sn**	**11 05 45.9**	**-2.4**
ELOB	**Lobios**	**6.80**	**324**	Pn	**Pn**	**11 04 32.5**	**+1.7**
	9.4nm,0.3s,SNR=13							
ELOB				Sn	**Sn**	**11 05 45.9**	**-2.4**
	12nm,0.4s,SNR=7.9							
ELOB				Lg		11 06 29.5		
	256nm,0.9s,SNR=7.9							
ELOB	**Lobios**	**6.80**	**324**	Pn	**Pn**	**11 04 32.5**	**+1.8**
	9.4nm,0.3s,SNR=13							
LABF	**Labassere**	**6.88**	**17**	P	**Pn**	**11 04 32.0**	**+0.3**
LABF	**Labassere**	**6.88**	**17**	P	**Pn**	**11 04 32.0**	**+0.3**
LABF	**Labassere**	**6.88**	**17**	P	**Pn**	**11 04 32.4**	**+0.7**
DFRA	**Djebel Bou Aff**	**6.88**	**87**	P	**Pn**	**11 04 29.2**	**-2.6**
DFRA	**Djebel Bou Aff**	**6.88**	**87**	Pn	**Pn**	**11 04 29.2**	**-2.6**
EPF	**Esparros**	**6.93**	**19**	*e*Pn	**Pn**	**11 04 32.9**	**+0.5**
EPF				*e*Sn	**Sn**	**11 05 46.0**	**-5.2**
EPF				*e*Sg	**Sg**	**11 06 27.8**	**-5.3**
	116nm,1.2s							
EPF	**Esparros**	**6.93**	**19**	*e*Pn	**Pn**	**11 04 32.9**	**+0.5**
EPF				*e*Sn	**Sn**	**11 05 46.0**	**-5.2**
EPF				*e*Sg	**Sg**	**11 06 27.8**	**-5.3**
EPF	**Esparros**	**6.93**	**19**	Pn	**Pn**	**11 04 32.9**	**+0.5**
EPF				Sn	**Sn**	**11 05 46.0**	**-5.2**
EPF				Lg		11 06 27.8		
	58nm,1.2s							
EPF	**Esparros**	**6.93**	**19**	*e*Pn	**Pn**	**11 04 32.9**	**+0.5**
CLLI	**Llivia**	**6.97**	**30**	Pn	**Pn**	**11 04 33.2**	**+0.2**
	1.9nm,0.3s,SNR=7.9							
PGAV	**Gavieira, Arco**	**6.98**	**323**	*e*Pn	**Pn**	**11 04 34.6**	**+1.5**
PGAV	**Gavieira, Arco**	**6.98**	**323**	*e*Pn	**Pn**	**11 04 34.6**	**+1.5**
PGAV				*e*Sn	**Sn**	**11 05 50.1**	**-2.4**
PGAV				A		11 06 48.4		
	56nm,1.1s							
EARI	**Arriondas**	**7.07**	**345**	Pn	**Pn**	**11 04 36.9**	**+2.5**
EARI				Sn	**Sn**	**11 05 51.2**	**-3.6**
EARI	**Arriondas**	**7.07**	**345**	Pn	**Pn**	**11 04 36.2**	**+1.8**
	4.1nm,0.5s,SNR=7.9							
EARI				Sn	**Sn**	**11 05 51.2**	**-3.6**
	52nm,0.9s,SNR=7.9							
EARI				Lg		11 06 33.5		
	732nm,1.7s,SNR=7.9							
EARI	**Arriondas**	**7.07**	**345**	Pn	**Pn**	**11 04 36.9**	**+2.5**
	4.1nm,0.5s,SNR=7.9							
MLS	**Moulis**	**7.08**	**23**	P	**Pn**	**11 04 35.2**	**+0.8**
MLS	**Moulis**	**7.08**	**23**	P	**Pn**	**11 04 35.2**	**+0.8**
MLS	**Moulis**	**7.08**	**23**	P	**Pn**	**11 04 35.6**	**+1.2**
EPON	**Pontenova**	**7.64**	**335**	Lg		11 06 56.1		
	347nm,1.7s,SNR=7.9							
MTLF	**Montolieu**	**7.80**	**27**	*e*Pn	**Pn**	**11 04 44.9**	**+0.6**
MTLF				*e*Sg	Sn	11 06 56.5	+44	
	29nm,1.0s							
MTLF	**Montolieu**	**7.80**	**27**	*e*Pn	**Pn**	**11 04 44.9**	**+0.6**
MTLF				*e*Sg	Sn	11 06 56.5	+44	
MTLF	**Montolieu**	**7.80**	**27**	Pn	**Pn**	**11 04 44.9**	**+0.6**
MTLF				Lg		11 06 56.5		
	15nm,1.0s							
MTLF	**Montolieu**	**7.80**	**27**	*e*Pn	**Pn**	**11 04 44.9**	**+0.6**
EMAZ	**Mazaricos**	**8.07**	**325**	Pn	**Pn**	**11 04 48.8**	**+0.8**
EMAZ	**Mazaricos**	**8.07**	**325**	Pn	**Pn**	**11 04 48.8**	**+0.8**
	1.6nm,0.2s,SNR=5.6							
EMAZ				Lg		11 07 11.6		
	41nm,0.7s,SNR=7.9							
EMAZ	**Mazaricos**	**8.07**	**325**	Pn	**Pn**	**11 04 48.8**	**+0.7**
	1.6nm,0.2s,SNR=5.6							
CMAH	**Djebel Manchou**	**8.12**	**86**	P	**Pn**	**11 04 46.2**	**-2.6**
CMAH	**Djebel Manchou**	**8.12**	**86**	Pn	**Pn**	**11 04 46.2**	**-2.6**
LFF	**La Frestale**	**8.82**	**16**	*e*Sg	Sx	11 07 28.7		
	126nm,1.3s							
LFF	**La Frestale**	**8.82**	**16**	Lg		11 07 28.7		
	63nm,1.3s							
CAF	**Calviac**	**9.15**	**22**	*e*Pn	**Pn**	**11 05 02.5**	**-0.4**
CAF	**Calviac**	**9.15**	**22**	*e*Pn	**Pn**	**11 05 02.5**	**-0.4**
CAF	**Calviac**	**9.15**	**22**	Pn	**Pn**	**11 05 02.5**	**-0.4**
CAF	**Calviac**	**9.15**	**22**	*e*Pn	**Pn**	**11 05 02.5**	**-0.4**
KEST	**Kesra**	**9.75**	**91**	Pn	**Pn**	**11 05 10.5**	**-0.6**
	0.2nm,0.3s,baz=288,slow=2.4,SNR=4.4							
KEST				Sn	**Sn**	**11 06 57.0**	**-3.8**
	0.1nm,0.3s,baz=342,slow=20,SNR=2.6							
KEST				LR	LR	11 08 55.5		
	comp=Z,96nm,21.6s,baz=67,slow=37							
KEST	**Kesra**	**9.75**	**91**	Pn	**Pn**	**11 05 10.5**	**-0.7**
KEST				Sn	**Sn**	**11 06 57.0**	**-3.8**
KEST				LR	LR	11 08 55.5		
KEST	**Kesra**	**9.75**	**91**	Pn	**Pn**	**11 05 10.5**	**-0.7**
VSL	**Villasalto**	**9.97**	**69**	*e*Pn	**Pn**	**11 05 14.4**	**+0.3**
	19nm,0.6s							
VSL	**Villasalto**	**9.97**	**69**	*e*Pn	**Pn**	**11 05 14.4**	**+0.3**
	19nm,0.6s							
PGF	**Pioggiola**	**10.85**	**53**	*e*Pn	**Pn**	**11 05 27.0**	**+0.9**
PGF	**Pioggiola**	**10.85**	**53**	*e*Pn	**Pn**	**11 05 27.0**	**+0.9**
PGF	**Pioggiola**	**10.85**	**53**	Pn	**Pn**	**11 05 27.0**	**+0.9**
PGF	**Pioggiola**	**10.85**	**53**	*e*Pn	**Pn**	**11 05 27.0**	**+0.9**
QUIF	**Quistinic**	**11.42**	**358**	*e*Pn	**Pn**	**11 05 33.3**	**-0.6**
QUIF	**Quistinic**	**11.42**	**358**	*e*Pn	**Pn**	**11 05 33.3**	**-0.6**
QUIF	**Quistinic**	**11.42**	**358**	Pn	**Pn**	**11 05 33.3**	**-0.6**
QUIF	**Quistinic**	**11.42**	**358**	*e*Pn	**Pn**	**11 05 33.3**	**-0.6**
SGMF	**Saint Gilles**	**11.75**	**0**	*e*Pn	**Pn**	**11 05 37.8**	**-0.7**
SGMF	**Saint Gilles**	**11.75**	**0**	*e*Pn	**Pn**	**11 05 37.8**	**-0.7**
SGMF	**Saint Gilles**	**11.75**	**0**	Pn	**Pn**	**11 05 37.8**	**-0.7**
SGMF	**Saint Gilles**	**11.75**	**0**	*e*Pn	**Pn**	**11 05 37.8**	**-0.7**
ROSF	**Rostrenen**	**11.84**	**358**	*e*Pn	**Pn**	**11 05 39.9**	**+0.2**
ROSF	**Rostrenen**	**11.84**	**358**	*e*Pn	**Pn**	**11 05 39.9**	**+0.2**
ROSF	**Rostrenen**	**11.84**	**358**	Pn	**Pn**	**11 05 39.9**	**+0.2**
ROSF	**Rostrenen**	**11.84**	**358**	*e*Pn	**Pn**	**11 05 39.9**	**+0.2**
DAVOX	**Davos/Dischmat**	**13.90**	**38**	LR	LR	11 10 52.7		
	comp=Z,226nm,21.3s,baz=259,slow=34							
GERES	**GERESS Array B**	**17.20**	**39**	P	**Pn**	**11 06 51.7**	**+0.6**
	0.1nm,0.3s,baz=224,slow=11,SNR=2.7							
GERES				LR	LR	11 13 30.8		
	comp=Z,360nm,19.9s,baz=227,slow=37							
GERES	**GERESS Array B**	**17.20**	**39**	P	**Pn**	**11 06 51.7**	**+0.6**
GERES				LR	LR	11 13 30.8		
GERES	**GERESS Array B**	**17.20**	**39**	P	**Pn**	**11 06 51.7**	**+0.7**
VRAC	**Vranov**	**18.99**	**42**	LR	LR	11 14 52.2		
	comp=Z,236nm,19.2s,baz=266,slow=38							
MLR	**Muntele Rosu**	**23.29**	**58**	P	**P**	**11 08 02.2**	**+3.5**
	0.7nm,0.6s,mb3.2,baz=192,slow=4.3,SNR=4.7							
MLR				LR	LR	11 17 10.3		
	comp=Z,17nm,18.4s,MS2.5,baz=275,slow=37							
MLR	**Muntele Rosu**	**23.29**	**58**	P	**P**	**11 08 02.2**	**+3.5**
MLR				LR	LR	11 17 10.3		
TORD	**Torodi Ar. Bea**	**23.58**	**169**	P	**P**	**11 08 01.0**	**-0.9**
	1.4nm,0.7s,mb3.5,baz=350,slow=10,SNR=8.9							
TORD	**Torodi Ar. Bea**	**23.58**	**169**	P	**P**	**11 08 01.0**	**-0.9**
TORD	**Torodi Ar. Bea**	**23.58**	**169**	P	**P**	**11 08 01.0**	**-0.9**
AKASG	**Malin Array Be**	**26.86**	**48**	P	**P**	**11 08 33.0**	**+1.5**
	0.5nm,0.3s,mb3.5,baz=245,slow=11,SNR=5.1							
AKASG	**Malin Array Be**	**26.86**	**48**	P	**P**	**11 08 33.0**	**+1.5**
AKASG	**Malin Array Be**	**26.86**	**48**	P	**P**	**11 08 33.0**	**+1.5**
DBIC	**Dimbokro**	**29.75**	**184**	P	**P**	**11 08 55.9**	**-1.7**
	2.9nm,0.8s,mb4.1,baz=357,slow=9.8,SNR=3.6							
DBIC	**Dimbokro**	**29.75**	**184**	P	**P**	**11 08 55.9**	**-1.7**
DBIC	**Dimbokro**	**29.75**	**184**	P	**P**	**11 08 55.8**	**-1.8**
ARCES	**ARCESS Array B**	**36.47**	**16**	P	**P**	**11 09 58.5**	**+2.9**
	1.8nm,0.7s,mb4.1,baz=226,slow=7.5,SNR=5.0							
ARCES	**ARCESS Array B**	**36.47**	**16**	P	**P**	**11 09 58.5**	**+2.9**
ARCES	**ARCESS Array B**	**36.47**	**16**	P	**P**	**11 09 58.5**	**+2.9**
MKAR	**Makanchi Array**	**61.39**	**51**	P	**P**	**11 13 08.9**	**+2.0**
	0.7nm,0.7s,mb3.9,baz=287,slow=5.9,SNR=5.7							
MKAR				LR	LR	11 40 19.6		
	comp=Z,62nm,18.5s,MS3.8,baz=6.0,slow=37							
MKAR	**Makanchi Array**	**61.39**	**51**	P	**P**	**11 13 08.9**	**+2.0**
MKAR				LR	LR	11 40 19.6		
MKAR	**Makanchi Array**	**61.39**	**51**	P	**P**	**11 13 08.9**	**+2.0**
PLAL	**Pickwick Lake**	**66.99**	**297**	P	**P**	**11 13 45.8**	**+1.9**
	4.9nm,0.9s,mb4.5							
PLAL	**Pickwick Lake**	**66.99**	**297**	P	**P**	**11 13 45.8**	**+1.9**
	4.9nm,0.9s,mb4.5							
SONM	**Songino Array**	**74.92**	**41**	LR	LR	11 48 10.4		
	comp=Z,98nm,20.0s,MS4.1,baz=169,slow=36							
PDAR	**Pinedale Array**	**76.81**	**314**	P	**P**	**11 14 44.2**	**+1.4**
	0.3nm,0.7s,mb3.4,baz=60,slow=5.5,SNR=3.3							
PDAR	**Pinedale Array**	**76.81**	**314**	P	**P**	**11 14 44.2**	**+1.4**
PDAR	**Pinedale Array**	**76.81**	**314**	P	**P**	**11 14 44.2**	**+1.5**

*IDC **07** 11:26:25.3±0.7,31°.62S×69°.38W, h0km, mb4.0/9, mb1 4.2/11, mb1mx4.2/19, mbtmp4.0/11, ML4.1/2, MS3.3/1, Ms1 3.3/1, ms1mx2.8/25, Error ellipse: s-maj=19.1km s-min=10.1km az=8.0*

*NEIC **07** 11:26:26.7±0.5, 31°.65S×69°.35W, h10km, mb4.5/2, MD4.4(SJA), MD4.0(GUC), Error ellipse: s-maj=13.0km s-min=8.4km az=213.0*

NEIC Felt [III] in the Valle de Calingasta.

*GUC **07** 11:26:27.7±0.8, 31°.59S×69°.49W, h128km±17km, MD4.0, ML4.1*

ISC 07 11:26:26.3±1.6, 31°.53S±0°.04×69°.34W±0°.05, h5km±11km, n44, σ1°.04/45, mb4.0/9, 5C-1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**0.94**	**95**	Pg	**Pg**	**11 26 43.8**	**-0.6**
	1.4nm,0.3s,baz=274,slow=13,SNR=149						
CFAA				Lg		11 26 57.5	
	16nm,0.3s,baz=7.6,slow=15,SNR=50						
CFAA	**Coronel Fontan**	**0.94**	**95**	Pg	**Pg**	**11 26 43.8**	**-0.6**
CFAA				Lg		11 26 57.5	
CMCH	**Combar

3.0nm,1.0s,baz=89,slow=7.4,SNR=6.4
ILAR Eielson Array 86.25 18 P P 11 39 49.2 +0.1
0.4nm,0.7s,baz=220,slow=4.0,SNR=5.1

IDC ***07*** *11:32:24.6±1.4, 7.°01S×129.°12E, h0km, mb3.7/4, mb1 3.9/7, mb1mx3.8/18, mbtmp3.7/7, ML3.7/3, Error ellipse: s-maj=56.2km s-min=17.3km az=76.0*
ISCJB ***07*** *11:32:25.1±2.3, 6.°87S±0.°05×129.°44E±0.°08, h16km±20km, mb3.8/4, Error ellipse: s-maj=14.6km s-min=7.4km az=156.7*
NEIC ***07*** *11:32:34.5±2.4, 7.°31S×129.°00E, h88km±27km, Error ellipse: s-maj=38.2km s-min=11.3km az=45.0*
DJA ***07*** *11:32:44, 5.°15S×128.°73E, h270km, MLv3.4/5*
ISC 07 11:32:29.6±0.9, 7.°00S±0.°05×129.°38E±0.°09, h38km±12km, n28, σ1°16/33, mb3.8/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.52**	**12**	P			Px	11 33 28.4	
MSAI	**Masohi**	**3.66**	**353**	P			**Pn**	**11 33 21.6**	**-2.1**
NLAI	**Namlea**	**4.38**	**329**	P			**Pn**	**11 33 33.5**	**-0.1**
SWI	**Sorong**	**6.38**	**17**	P			**Pn**	**11 33 57.7**	**-3.4**
KAKA	**Kakadu**	**6.42**	**152**	*e*Pn			**Pn**	**11 34 06.2**	**+4.6**
	39nm,0.6s								
KAKA				*e*Sn			**Sn**	**11 35 23.1**	**+9.4**
LBMI	**Labuha**	**6.60**	**343**	P			**Pn**	**11 34 02.4**	**-1.7**
BKSI	**Bulukumba**	**9.36**	**280**	P			**Pn**	**11 34 42.5**	**+0.5**
	319nm24nm,0.9s								
BNSI	**Bone**	**9.59**	**285**	P			**Pn**	**11 34 45.9**	**+0.8**
	26nm,1.0s								
KAPI	**Kappang**	**9.78**	**281**	*e*Pn			**Pn**	**11 34 47.9**	**+0.1**
	16nm,0.6s								
KAPI	**Kappang**	**9.78**	**281**	P			**Pn**	**11 34 48.4**	**+0.6**
	26nm,0.7s								
SPSI	**Sidrap Palu**	**10.04**	**287**	P			**Pn**	**11 34 52.2**	**+0.9**
FITZ	**Fitzroy Crossi**	**11.62**	**198**	Pn			**Pn**	**11 35 11.5**	**-1.5**
	0.5nm,0.3s,baz=30,slow=8.5,SNR=15								
FITZ				Sn			**Sn**	**11 37 19.8**	**-1.6**
	0.5nm,0.3s,baz=68,slow=19,SNR=5.1								
FITZ	**Fitzroy Crossi**	**11.62**	**198**	Pn			**Pn**	**11 35 11.5**	**-1.4**
FITZ				Sn			**Sn**	**11 37 19.8**	**-1.7**
WRAB	**Tennant Creek**	**13.73**	**160**	*e*Pn			**Pn**	**11 35 42.6**	**+0.9**
	7.5nm,1.0s								
WRA	**Warramunga Arr**	**13.73**	**160**	Pn			**Pn**	**11 35 41.8**	**0.0**
	0.3nm,0.3s,baz=336,slow=13,SNR=11								
WRA				Sn			**Sn**	**11 38 12.2**	**-0.9**
	0.4nm,0.3s,baz=334,slow=22,SNR=4.7								
WRA	**Warramunga Arr**	**13.73**	**160**	Pn			**Pn**	**11 35 41.8**	**0.0**
WRA				Sn			**Sn**	**11 38 12.2**	**-0.9**
WB2	**Warramunga Arr**	**13.74**	**160**	*e*Pn			**Pn**	**11 35 43.4**	**+1.5**
ASAR	**Alice Springs**	**17.13**	**166**	P			**Pn**	**11 36 28.0**	**+1.9**
	0.5nm,0.3s,baz=345,slow=10,SNR=20								
ASAR				S			**S**	**11 39 38.5**	**-5.5**
	0.2nm,0.3s,baz=349,slow=25,SNR=4.8								
ASAR	**Alice Springs**	**17.13**	**166**	P			**Pn**	**11 36 28.0**	**+1.9**
ASAR				S			**S**	**11 39 38.5**	**-5.5**
CMAR	**Chiang Mai Arr**	**39.27**	**311**	P			**P**	**11 39 55.5**	**+0.6**
	0.2nm,0.3s,mb3.3,baz=140,slow=7.1,SNR=2.3								
CMAR	**Chiang Mai Arr**	**39.27**	**311**	P			**P**	**11 39 55.5**	**+0.6**
SONM	**Songino Array**	**58.25**	**342**	P			**P**	**11 42 20.7**	**+0.5**
	0.5nm,0.7s,mb3.6,baz=150,slow=8.0,SNR=4.1								
SONM	**Songino Array**	**58.25**	**342**	P			**P**	**11 42 20.7**	**+0.5**
POO	**Poona**	**60.35**	**296**	*ex*			x	11 43 19.0	
MKAR	**Makanchi Array**	**67.89**	**327**	P			**P**	**11 43 23.5**	**-0.8**
	0.6nm,0.5s,mb3.9,baz=122,slow=8.0,SNR=5.9								
MKAR	**Makanchi Array**	**67.89**	**327**	P			**P**	**11 43 23.5**	**-0.8**
KURK	**Kurchatov**	**72.20**	**329**	P			**P**	**11 43 49.9**	**-0.7**
	1.1nm,0.4s,mb4.1,baz=137,slow=5.8,SNR=3.2								
KURK	**Kurchatov**	**72.20**	**329**	P			**P**	**11 43 49.9**	**-0.7**

IDC ***07*** *11:38:49.0±3.1, 19.°87N×104.°54W, h0km, mb2.9/2, mb1 3.5/4, mb1mx3.4/23, mbtmp3.1/4, ML3.3/1, Error ellipse: s-maj=47.4km s-min=24.0km az=43.0*
MEX ***07*** *11:38:50.9±0.7, 20.°05N×104.°45W, h98km±12km, MD4.0*
ISCJB ***07*** *11:38:52.0±0.8, 19.°96N±0.°05×104.°36W±0.°07, h33km, mb2.9/2, Error ellipse: s-maj=10.6km s-min=5.4km az=147.9*
ISC 07 11:38:53.4±0.8, 19.°98N±0.°05×104.°36W±0.°07, h35km, n9, σ1°16/14, mb2.9/2, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ANIG	**Ahuacatlan**	**1.08**	**352**	*i* P			**Pn**	**11 39 10.2**	**-1.9**
ANIG				*i* S			**Sn**	**11 39 24.9**	**-0.9**
SFJM	**Santa Fe**	**1.34**	**68**	*i* P			**Pn**	**11 39 14.3**	**-1.3**
SFJM				*i* S			**Sn**	**11 39 32.7**	**+0.6**
MMIG	**Aquila**	**1.94**	**150**	*e*P			**Pn**	**11 39 22.4**	**-1.4**
MMIG				*i* S			**Sn**	**11 39 48.1**	**+1.2**
MOIG	**Morelia**	**3.00**	**95**	*i* P			**Pn**	**11 39 37.7**	**-0.8**
MOIG				*i* S			**Sn**	**11 40 13.5**	**+0.4**
ZIIG	**Zihuatanejo**	**3.62**	**130**	*i* P			**Pn**	**11 39 46.5**	**-0.4**
ZIIG				*i* S			**Sn**	**11 40 27.5**	**-0.9**
TXAR	**Lajitas Array**	**9.33**	**4**	P			**Pn**	**11 41 07.1**	**+1.7**
	0.1nm,0.3s,baz=182,slow=14,SNR=5.5								
TXAR				Lg				11 43 47.9	
	0.1nm,0.3s,baz=188,slow=33,SNR=6.0								
CMIG	**Matias Romero**	**9.43**	**106**	Pn			**Pn**	**11 41 08.6**	**+1.7**
	0.3nm,0.3s,baz=280,slow=12,SNR=6.8								
CMIG				Lg				11 43 51.9	
	0.1nm,0.3s,baz=184,slow=19,SNR=3.0								
NVAR	**Mina Array Bea**	**22.00**	**330**	P			**P**	**11 43 45.8**	**+1.3**
	0.3nm,0.8s,mb2.8,baz=118,slow=13,SNR=2.7								
PDAR	**Pinedale Array**	**23.14**	**350**	P			**P**	**11 43 57.2**	**+0.7**
	0.6nm,0.7s,mb3.1,baz=160,slow=9.0,SNR=5.0								

ISCJB ***07*** *11:47:46.0±0.8, 39.°37N±0.°06×28.°13E±0.°06, h4km±8km, Error ellipse: s-maj=10.3km s-min=6.2km az=27.7*
ISK ***07*** *11:47:45.4, 39.°38N×28.°15E, h9km, MD2.5*
CSEM ***07*** *11:47:46.2±0.3, 39.°40N×28.°13E, h10km, MD2.9, Error ellipse: s-maj=8.6km s-min=4.6km az=42.0*
DDA ***07*** *11:47:47.9, 39.°73N×28.°19E, h7km±7km, Md2.9*
ISC 07 11:47:46.6±0.8, 39.°41N±0.°05×28.°12E±0.°06, h13km±8km, n18, σ0°83/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.30**	**321**	*e*PG			**Pg**	**11 47 52.6**	**-0.2**
BALB				*e*SG			**Sg**	**11 47 57.7**	**+0.7**
BALB	**Balikesir**	**0.30**	**321**	*e*Pg			**Pg**	**11 47 52.6**	**-0.2**
BALB				*e*Sg			**Sg**	**11 47 57.7**	**+0.7**
DURS	**Dursunbey**	**0.33**	**54**	*i* P			**Pg**	**11 47 52.4**	**-1.0**
DURS				*i* S			**Sg**	**11 47 58.2**	**+0.3**
DURS	**Dursunbey**	**0.33**	**54**	*i* P			**Pg**	**11 47 52.4**	**-1.0**
DURS				*i* S			**Sg**	**11 47 58.2**	**+0.2**
DST	**Dursunbey**	**0.43**	**63**	*e*PG			**Pg**	**11 47 54.4**	**-0.8**
DST	**Dursunbey**	**0.43**	**63**	*e*Pg			**Pg**	**11 47 54.4**	**-0.8**
BALY	**Balya**	**0.51**	**311**	*i* P			**Pg**	**11 47 55.9**	**-0.8**
BALY				*i* S			**Sg**	**11 48 04.4**	**+0.9**
BALY	**Balya**	**0.51**	**311**	*i* P			**Pg**	**11 47 55.9**	**-0.8**
BALY				*i* S			**Sg**	**11 48 04.4**	**+0.8**
DEMI	**Demirci**	**0.59**	**128**	*i* P			**Pg**	**11 47 58.6**	**+0.5**
DEMI				*i* S			**Sg**	**11 48 07.5**	**+1.7**
DEMI	**Demirci**	**0.59**	**128**	*i* P			**Pg**	**11 47 58.6**	**+0.5**
DEMI				*i* S			**Sg**	**11 48 07.5**	**+1.7**
GONE	**Gonen-Balikesi**	**0.72**	**332**	*e*PG			**Pg**	**11 48 00.5**	**-0.2**
GONE	**Gonen-Balikesi**	**0.72**	**332**	*e*Pg			**Pg**	**11 48 00.5**	**-0.2**
KULA	**Kula-Manisa**	**0.98**	**155**	*e*PG			**Pg**	**11 48 04.1**	**-1.5**
KULA	**Kula-Manisa**	**0.98**	**155**	*e*Pg			**Pg**	**11 48 04.1**	**-1.5**
ARMT	**Armutlu**	**1.29**	**26**	*e*PN			**Pn**	**11 48 10.5**	**+0.2**
ARMT	**Armutlu**	**1.29**	**26**	*e*Pn			**Pn**	**11 48 10.5**	**+0.2**
YLV	**Yalova**	**1.50**	**39**	*e*PN			**Pn**	**11 48 13.7**	**+0.5**
YLV	**Yalova**	**1.50**	**39**	*e*Pn			**Pn**	**11 48 13.7**	**+0.4**

IDC ***07*** *12:07:21.5±0.7, 14.°98S×168.°07E, h0km, mb4.7/17, mb1 4.9/17, mb1mx4.8/21, mbtmp4.7/17, MS4.4/23, Ms1 4.4/23, ms1mx4.3/29, Error ellipse: s-maj=20.8km s-min=17.6km az=130.0*
ISCJB ***07*** *12:07:22.0±1.8, 15.°11S±0.°03×167.°83E±0.°03, h3km±11km, mb4.8/60, MS4.4/39, Error ellipse: s-maj=5.5km s-min=4.5km az=144.5*
LDG ***07*** *12:07:23.5±0.3, 14.°75S×167.°69E, h10km, Mb5.0/4, Ms4.4/9, Error ellipse: s-maj=32.0km s-min=7.4km az=91.0*
NEIC ***07*** *12:07:24.4±0.3, 15.°02S×167.°82E, h10km, mb4.9/22, Error ellipse: s-maj=10.7km s-min=7.8km az=165.0*
GCMT ***07*** *12:07:25.3±0.3, 14.°84S×168.°17E, h12km±1km, MW5.0, Moment Tensor Solution. s15,c16; s64,c90; Moment tensor: Scale 10^16Nm; Mrr3.59±.30; Mθθ-0.72±.18; Mφφ-2.88±.20; Mrθ-1.92±.72; Mrφ0.84±.11; Mθφ2.66±.60; Best double couple: Mo4.70000×10^16 NP1:ϕs169.00000°, δ24.00000°, λ107.00000°. NP2:ϕs330.00000°, δ67.00000°, λ83.00000°. Principal axes: T 4.9700, Plg67.0000°, Azm226.0000°; N -0.5400, Plg7.0000°, Azm333.0000°; P -4.4300, Plg22.0000°, Azm66.0000°; Data Used: II IC IU G CN.*
BJI ***07*** *12:07:26.7, 15.°13S×168.°03E, h39km, mB5.2/22, mb4.8/35, Ms5.0/21, Ms7 4.5/21*
MOS ***07*** *12:07:26.7±1.5, 15.°09S×167.°77E, h33km, mb5.1/12, MS4.5/5, Error ellipse: s-maj=12.5km s-min=9.2km az=7.9*
ISC 07 12:07:25.6±2.0, 15.°08S±0.°03×167.°87E±0.°03, h15km±12km, h35km±.6km:pP-P,n379,σ0s99/262, mb4.8/60, MS4.4/39, 58C-51D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.09**	**191**	*e*Pn			**Pn**	**12 09 08.4**	**-0.4**
	29nm,0.3s								
DZM				*e*Sn			**Sn**	**12 10 26.1**	**-3.1**
	5.7nm,0.3s								
DZM				*e*LR			LR	12 10 51.0	
	5μm,23.9s								
DZM	**Mont Dzumac**	**7.09**	**191**	*e*Pn			**Pn**	**12 09 08.6**	**-0.2**
	55nm,0.6s								
DZM				*e*Sn			**Sn**	**12 10 29.9**	**+0.8**
BAYA	**Yate Dam**	**7.10**	**187**	*e*P			**Pn**	**12 09 08.4**	**-0.6**
BAYA				*e*S			**Sn**	**12 10 30.9**	**+1.4**
NOUC	**Port Laguerre**	**7.14**	**192**	*e*P			**Pn**	**12 09 09.8**	**+0.2**
NOUC				*e*S			**Sn**	**12 10 31.7**	**+1.2**
HNR	**Honiara**	**9.56**	**305**	*e*Pn			**Pn**	**12 09 42.3**	**-0.5**
HNR				*e*Sn			**Sn**	**12 11 32.7**	**+2.7**
HNR	**Honiara**	**9.56**	**305**	*e*P			**Pn**	**12 09 42.3**	**-0.5**
HNR				*e*				12 11 32.7	
MSVF	**Nonsavu**	**10.12**	**107**	*e*Pn			**Pn**	**12 09 51.2**	**+0.7**
MSVF	**Nonsavu**	**10.12**	**107**	*e*P			**Pn**	**12 09 51.2**	**+0.7**
FUNA	**Funafuti**	**12.86**	**61**	*e*Pn			**Pn**	**12 10 29.6**	**+1.6**
OUZ	**Omahuta**	**20.71**	**167**	*e*P			**P**	**12 12 06.1**	**+0.7**
	65nm,1.3s								
PMG	**Port Moresby**	**21.00**	**283**	P			**P**	**12 12 09.8**	**+1.1**
	60nm,1.0s,baz=103,slow=5.0,SNR=11								
PMG	**Port Moresby**	**21.00**	**283**	*e*P			**P**	**12 12 09.9**	**+1.2**
	60nm,1.0s								
PMG	**Port Moresby**	**21.00**	**283**	*e*P			**P**	**12 12 09.9**	**+1.2**
PMG				pmax		pmax			
	comp=Z,60nm,1.0s								
PMG	**Port Moresby**	**21.00**	**283**	P			**P**	**12 12 08.9**	**+0.2**
	comp=Z,998nmcomp=Z,60nm,1.1s								
CTA	**Charters Tower**	**21.19**	**253**	P			**P**	**12 12 12.7**	**+1.9**
	comp=Z,31nm,1.0s,mb4.6,baz=74,slow=12,SNR=13								
CTA					LR		LR	12 19 32.7	
	comp=Z,2μm,19.8s,MS4.5,baz=49,slow=34								
CTA	**Charters Tower**	**21.19**	**253**	*e*P			**P**	**12 12 12.8**	**+2.1**
	comp=Z,23nm,1.1s,mb4.4								
CTA	**Charters Tower**	**21.19**	**253**	P			**P**	**12 12 12.7**	**+1.9**
CTA					LR		LR	12 19 32.7	
CTA	**Charters Tower**	**21.19**	**253**	P			**P**	**12 12 12.7**	**+2.0**
CTAO	**Charters Tower**	**21.19**	**253**	*e*P			**P**	**12 12 11.6**	**+0.9**
	comp=Z,59nm,1.2s,mb4.8								
CTAO	**Charters Tower**	**21.19**	**253**	*e*P			**P**	**12 12 11.6**	**+0.9**
CTAO				pmax		pmax			
	comp=Z,59nm,1.2s,mb4.8								
CTAO	**Charters Tower**	**21.19**	**253**	P			**P**	**12 12 14.7**	**+4.0**
	comp=Z,793nmcomp=Z,44nm,1.2s,mb4.7								
ARMA	**Armidale**	**21.34**	**222**	*e*P			**P**	**12 12 16.4**	**+4.1**
ARMA	**Armidale**	**21.34**	**222**	*e*P			**P**	**12 12 12.3**	**0.0**
	comp=Z,42nm,1.1s,mb4.7								
COEN	**Coen**	**23.93**	**270**	*e*P			**P**	**12 12 39.6**	**+0.3**
	comp=Z,3μm,3.0s								
COEN	**Coen**	**23.93**	**270**	P			**P**	**12 12 41.2**	**+1.9**
	comp=Z,1μmcomp=Z,29nm,2.5s,mb4.3								
URZ	**Urewera**	**24.50**	**162**	P			**P**	**12 12 44.2**	**-0.1**
	comp=Z,14nm,1.0s,mb4.3,baz=181,slow=20,SNR=3.8								
URZ					LR		LR	12 20 30.3	
	comp=Z,788nm,18.9s,MS4.2,baz=351,slow=32								
URZ	**Urewera**	**24.50**	**162**	P			**P**	**12 12 44.2**	**-0.1**
URZ					LR		LR	12 20 30.3	
CNB	**Canberra Magne**	**26.11**	**216**	*e*P			**P**	**12 12 59.7**	**+0.7**
RPZ	**Rata Peaks**	**28.67**	**175**	LR			LR	12 22 53.1	
	comp=Z,534nm,18.7s,MS4.2,baz=348,slow=32								
STKA	**Stephens Creek**	**29.21**	**230**	P			**P**	**12 13 26.8**	**-0.1**
	comp=Z,10nm,0.9s,mb4.6,baz=34,slow=10,SNR=6.3								
STKA					LR		LR	12 25 21.9	
	comp=Z,746nm,18.4s,MS4.3,baz=264,slow=37								
STKA	**Stephens Creek**	**29.21**	**230**	*e*P			**P**	**12 13 27.2**	**+0.4**
	comp=Z,7.2nm,0.9s,mb4.4								
STKA	**Stephens Creek**	**29.21**	**230**	*e*P			**P**	**12 13 27.7**	**+0.9**
	comp=Z,7.8nm,1.4s,mb4.2								
STKA	**Stephens Creek**	**29.21**	**230**	*e*P			**P**	**12 13 27.7**	**+0.9**
STKA				pmax		pmax			
	comp=Z,8.0nm,1.4s								
TOO	**Toolangi**	**29.92**	**217**	*e*P			**P**	**12 13 32.3**	**-0.7**
RAR	**Rarotonga**	**31.31**	**106**	LR			LR	12 23 42.5	
	comp=Z,562nm,18.2s,MS4.3,baz=269,slow=32								
WB2	**Warramunga Arr**	**32.29**	**256**	*e*P			**P**	**12 13 53.0**	**-1.1**
WRAB	**Tennant Creek**	**32.29**	**257**	*e*P			**P**	**12 13 53.2**	**-0.9**
	comp=Z,23nm,1.2s,mb4.9								
WRAB	**Tennant Creek**	**32.29**	**257**	*e*P			**P**	**12 13 53.3**	**-0.9**
WRAB				pmax		pmax			
	comp=Z,23nm,1.2s,mb4.9								
WRAB	**Tennant Creek**	**32.29**	**257**	P			**P**	**12 13 53.9**	**-0.3**
	comp=Z,90nm,1.0s,mb5.5,SNR=6.1								
WRAB	**Tennant Creek**	**32.29**	**257**	P			**P**	**12 13 53.3**	**-0.9**
	comp=Z,29nm,1.1s,mb5.0								
WRA	**Warramunga Arr**	**32.30**	**256**	P			**P**	**12 13 53.4**	**-0.9**
	comp=Z,17nm,1.0s,mb4.8,baz=86,slow=8.9,SNR=69								
WRA					LR		LR	12 26 28.5	
	comp=Z,2μm,19.6s,MS4.9,baz=85,slow=35								
WRA	**Warramunga Arr**	**32.30**	**256**	P			**P**	**12 13 53.4**	**-0.9**
WRA					LR		LR	12 26 28.5	
WRA	**Warramunga Arr**	**32.30**	**256**	P			**P**	**12 13 53.4**	**-0.9**
ASAR	**Alice Springs**	**33.09**	**250**	P			**P**	**12 14 00.8**	**-0.3**
	comp=Z,73nm,1.0s,mb5.6,baz=79,slow=9.2,SNR=194								
ASAR	**Alice Springs**	**33.09**	**250**	P			**P**	**12 14 00.8**	**-0.3**
ASAR	**Alice Springs**	**33.09**	**250**	P			**P**	**12 14 00.8**	**-0.3**
KAKA	**Kakadu**	**34.45**	**269**	*e*P			**P**	**12 14 12.3**	**-0.7**
	comp=Z,7.3nm,0.8s,mb4.7								
KAKA	**Kakadu**	**34.45**	**269**	*e*P			**P**	**12 14 12.2**	**-0.8**
	comp=Z,60nm,1.3s,mb5.4								
SWI	**Sorong**	**38.81**	**288**	P			**P**	**12 14 50.1**	**-0.1**
	comp=Z,2μmcomp=Z,47nm,1.1s,mb5.1								
FORT	**Forrest**	**39.62**	**240**	*e*P			**P**	**12 14 57.0**	**+0.2**
	comp=Z,40nm,0.7s,mb5.2								
FITZ	**Fitzroy Crossi**	**40.52**	**260**	*e*P			**P**	**12 15 03.9**	**-0.6**
	comp=Z,38nm,0.9s,mb5.0								
FITZ	**Fitzroy Crossi**	**40.52**	**260**	*e*P			**P**	**12 15 04.0**	**-0.4**
	comp=Z,22nm,0.9s,mb4.8								
FITZ	**Fitzroy Crossi**	**40.52**	**260**	P			**P**	**12 15 04.7**	**+0.2**
	comp=Z,26nm,1.0s,mb4.8								
AAI	**Ambon**	**40.66**	**282**	P			**P**	**12 15 06.3**	**+0.6**
	comp=Z,3μmcomp=Z,29nm,1.2s,mb4.8								
PPT	**Papeete**	**40.86**	**100**	*e*S			**S**	**12 21 16.8**	**-1.5**
	comp=Z,228nm,23.8s								
PPT				*e*LR			LR	12 26 24.8	
	comp=Z,1μm,27.8s,baz=256								
PPT	**Papeete**	**40.86**	**100**	LR			LR	12 27 33.9	
	comp=Z,599nm,19.5s,MS4.5,baz=292,slow=30								
TBI	**Tubuai**	**41.01**	**108**	*e*LR			LR	12 26 27.7	
	comp=Z,1μm,26.8s,baz=277								
NLAI	**Namlea**	**41.84**	**282**	P			**P**	**12 15 15.0**	**-0.4**
	comp=Z,1μmcomp=Z,61nm,1.1s,mb5.1								
LBMI	**Labuha**	**42.37**	**286**	P			**P**	**12 15 19.9**	**+0.2**
	comp=Z,990nmcomp=Z,50nm,1.9s,mb4.8								
MBWA	**Marble Bar**	**46.01**	**255**	*e*P			**P**	**12 15 48.0**	**-0.8**
DAV	**Davao City (W)**	**47.34**	**295**	LR			LR	12 33 58.0	
	comp=Z,116nm,20.5s,MS3.8,baz=150,slow=34								
BKSI	**Bulukumba**	**47.88**	**277**	P			**P**	**12 16 03.1**	**-0.5**
	comp=Z,394nmcomp=Z,24nm,1.1s,mb5.2								
BNSI	**Bone**	**48.15**	**278**	P			**P**	**12 16 06.2**	**+0.6**
	comp=Z,595nmcomp=Z,40nm,1.1s,mb5.4								
KAPI	**Kappang**	**48.32**	**277**	*e*P			**P**	**12 16 06.2**	**-0.7**
	comp=Z,29nm,1.1s,mb5.2								
KAPI	**Kappang**	**48.32**	**277**	P			**P**	**12 16 06.2**	**-0.8**
	comp=Z,548nmcomp=Z,28nm,1.6s,mb5.0								
KLBR	**Kellerberrin**	**48.44**	**241**	*e*P			**P**	**12 16 06.3**	**-1.3**
	comp=Z,8.2nm,0.6s,mb4.9								
BMNI	**Bima**	**48.49**	**272**	P			**P**	**12 16 06.1**	**-2.1**
	comp=Z,728nmcomp=Z,35nm,1.7s,mb5.1								
SPSI	**Sidrap Palu**	**48.59**	**278**	P			**P**	**12 16 07.8**	**-1.3**
	comp=Z,1μmcomp=Z,14nm,1.5s,mb4.8								
TTSI	**Tana Toraja**	**48.81**	**279**	P			**P**	**12 16 11.6**	**+0.9**
	comp=Z,13nm,1.0s,mb4.9								
NWAO	**Narrogin (SRO)**	**49.07**	**239**	P			**P**	**12 16 11.4**	**-1.1**
	comp=Z,29nm,1.1s,mb5.2,baz=84,slow=7.8,SNR=7.0								
NWAO	**Narrogin (SRO)**	**49.07**	**239**	P			**P**	**12 16 11.4**	**-1.1**
NWAO	**Narrogin (SRO)**	**49.07**	**239**	P			**P**	**12 16 11.4**	**-1.0**
TAOE	**Nuku Hiva Isla**	**51.14**	**89**	*e*S			**S**	**12 23 47.5**	**+1.2**
	comp=Z,197nm,25.9s								
TAOE				*e*LR			LR	12 31 08.1	
	comp=Z,760nm,29.1s								
KBKI	**Kotabaru**	**52.23**	**278**	P			**P**	**12 16 29.9**	**-6.7**
	comp=Z,485nmcomp=Z,25nm,1.0s,mb5.1								
MYLDM	**Lahad Datu**	**52.89**	**289**	P			**P**	**12 16 43.3**	**+1.9**
RKT	**Rikitea**	**54.32**	**108**	*e*LR			LR	12 32 38.3	
	comp=Z,771nm,28.5s,baz=264								
KKM	**Kota Kinabalu**	**55.32**	**288**	*e*P			**P**	**12 16 59.7**	**+0.5**
	comp=Z,38nm,1.3s,mb5.3								
MJAR	**Matsushiro Arr**	**58.48**	**332**	P			**P**	**12 17 19.5**	**-1.7**
	comp=Z,6.2nm,1.1s,mb4.6,baz=174,slow=8.9,SNR=6.0								
MJAR					LR		LR	12 39 59.5	
	comp=Z,84nm,18.4s,MS3.9,baz=175,slow=34								
MJAR	**Matsushiro Arr**	**58.48**	**332**	P			**P**	**12 17 19.5**	**-1.7**
MJAR					LR		LR	12 39 59.5	
MJAR	**Matsushiro Arr**	**58.48**	**332**	P			**P**	**12 17 19.5**	**-1.6**
KSM	**Kuching**	**59.24**	**281**	*e*P			**P**	**12 17 27.9**	**+1.0**
YHNB	**Yeheng**	**60.15**	**310**	*e*P			**P**	**12 17 33.0**	**+0.1**
	comp=Z,36nm,1.1s,mb5.3								
YUK	**Yuzh-Kuril'sk**	**62.16**	**342**	*e*P			**P**	**12 17 51.5**	**+5.3**
YUK				*e*				12 18 28.4	
YUK				*e*				12 20 00.4	
YUK				*e*S			S	12 26 34.4	+23
YUK				pmax		pmax			
	comp=Z,2μm,2.4s								
YUK				pmax		pmax			
	comp=N,646nm,1.4s								
YUK				pmax		pmax			
	comp=Z,549nm,1.4s								
YUK				pmax		pmax			
	comp=E,381nm,1.6s								
YUK				smax					
	comp=N,4μm,3.0s								
YUK				smax					
	comp=E,4μm,3.0s								
SBA	**Scott Base**	**62.79**	**180**	*e*P			**P**	**12 17 49.5**	**-0.5**
	comp=E,46nm,1.6s,mb5.3								
SBA	**Scott Base**	**62.79**	**180**	*e*P			**P**	**12 17 49.5**	**-0.5**
SBA				pmax		pmax			
	comp=Z,46nm,1.6s,mb5.4								
ASAJ	**Asahikawa**	**63.26**	**340**	LR			LR	12 40 23.3	
	comp=Z,342nm,19.6s,MS4.5,baz=129,slow=31								
NJ2	**Nanjing**	**66.33**	**316**	*e*P			**P**	**12 18 11.7**	**-2.1**
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.6s,mb5.0								
QIZ	**Qiongzhong**	**66.41**	**299**	P			**P**	**12 18 15.8**	**+1.2**
QIZ				S			S	12 27 03.4	-1.2
QIZ				LR			LR		
	comp=E,81nm,27.2s								
QIZ				LR			LR		
	comp=Z,190nm,26.6s,MS4.2								
PETK	**Petropavlovsk-**	**68.47**	**353**	LR			LR	12 43 34.0	
	comp=Z,120nm,19.4s,MS4.1,baz=183,slow=32								
MDJ	**Mudanjiang**	**68.86**	**332**	P			**P**	**12 18 31.3**	**+1.8**
MDJ				pP			pP	12 18 40.6	+6.3
MDJ				sP		

comp=Z,170nm,12.5s,MS4.6
LZH Lanzhou 78.98 312 *e*P P **12 19 31.2 +2.2**
LZH pP pP 12 19 42.0 +8.1
LZH sP sP 12 19 46.1 +10
LZH pmax pmax
comp=Z,13nm,1.0s,mb4.8
LZH LR LR
comp=N,300nm,16.3s,MS4.8
LZH LR LR
comp=E,110nm,11.6s,MS4.8
LZH LR LR
comp=Z,110nm,13.0s,MS4.4
KDAK Kodiak Island 79.58 20 LR LR 12 54 03.3
comp=Z,299nm,18.3s,MS4.7,baz=183,slow=35
MAW Mawson 81.78 202 P P **12 19 42.9 -0.7**
comp=Z,3.4nm,1.1s,mb4.2,baz=82,slow=5.1,SNR=5.3
MAW LR LR 12 50 53.4
comp=Z,193nm,19.0s,MS4.5,baz=113,slow=32
MAW Mawson 81.78 202 *e*P P **12 19 43.1 -0.5**
MAW Mawson 81.78 202 *e*P P **12 19 43.1 -0.5**
YAK Yakutsk 82.53 343 *e*P P **12 19 44.1 -3.3**
YAK pmax pmax
comp=Z,16nm,1.0s,mb5.0
ULN Ulaanbaatar 82.75 324 *e*P P **12 19 47.7 -1.2**
ULN Ulaanbaatar 82.75 324 *e*P P **12 19 47.7 -1.2**
BILL Bilibino 82.89 359 *e*P P **12 19 48.4 -0.8**
comp=Z,11nm,1.2s,mb4.8
BILL Bilibino 82.89 359⇑ *e*P P **12 19 50.3 +1.1**
BILL *i* S S 12 30 06.5 -0.5
BILL pmax pmax
comp=Z,11nm,1.1s,mb4.8
BILL MLR MLR
comp=Z,100nm,19.0s,MS4.2
SONM Songino Array 83.12 323 P P **12 19 49.8 -1.0**
comp=Z,5.7nm,1.0s,mb4.5,baz=130,slow=4.5,SNR=20
SONM LR LR 12 56 25.8
comp=Z,105nm,18.6s,MS4.2,baz=161,slow=35
SONM Songino Array 83.12 323 P P **12 19 49.8 -1.0**
SONM LR LR 12 56 25.9
SONM Songino Array 83.12 323 P P **12 19 49.8 -1.0**
GTA Gaotai 83.32 314 *e*P P **12 19 51.1 -1.0**
GTA pP pP 12 20 01.3 +4.4
GTA sP sP 12 20 05.3 +6.6
GTA pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
BOD Bodaibo 85.04 334 *e*P P **12 20 01.7 +1.4**
OHCM Honcut 85.12 47 *e*P P **12 20 03.4 +2.2**
VES Vestal, Richgr 85.52 51⇑P P **12 20 01.7 -1.5**
baz=86
ISA Isabella 85.91 52⇑P P **12 20 04.4 -0.8**
baz=86
ZAK Zakamensk 86.17 325 *e*P P **12 20 04.3 -1.8**
ZAK *e* 12 23 28.0
ZAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.6
LSA Lhasa 86.23 302 P P **12 20 07.4 +0.4**
BAR Barrett 86.24 55 *e*P P **12 20 08.6 +1.6**
WAKR Walker 86.26 49 *e*P P **12 20 06.7 -0.2**
WCN Washoe City 86.34 48⇑P P **12 20 06.8 -0.5**
baz=86
WCN Washoe City 86.34 48 *e*P P **12 20 10.2 +3.0**
comp=Z,7.6nm,1.2s,mb4.8
WCN Washoe City 86.34 48 *e*P P **12 20 10.2 +2.9**
WCN pmax pmax
comp=Z,8.0nm,1.2s,mb4.8
MLAC Mammoth Lakes 86.37 50⇑P P **12 20 07.4 0.0**
baz=86
LRMC Laurel Mountai 86.44 52⇓P P **12 20 07.6 -0.3**
baz=87
MTUM Tungsten Hills 86.47 50 *e*P P **12 20 09.4 +1.4**
F03A Seaside 86.49 41⇑P P **12 20 07.9 +0.1**
baz=87
CWC Cottonwood Cre 86.49 51⇑P P **12 20 08.3 +0.2**
baz=87
MONP Monument Peak 86.51 55⇓P P **12 20 07.7 -0.5**
baz=87
TLY Talaya 86.60 326 *e*P P **12 20 10.6 +2.4**
TLY pmax pmax
comp=Z,6.0nm,1.1s,mb4.7
ILAR Eielson Array 86.68 18 P P **12 20 04.2 -4.1**
comp=Z,1.3nm,0.7s,mb4.3,baz=236,slow=4.9,SNR=17
ILAR LR LR 12 56 09.0
comp=Z,302nm,18.1s,MS4.7,baz=31,slow=34
ILAR Eielson Array 86.68 18 P P **12 20 04.2 -4.1**
ILAR LR LR 12 56 09.0
ILAR Eielson Array 86.68 18 P P **12 20 04.2 -4.1**
PFO Pinyon Flat Ob 86.73 54⇓P P **12 20 08.7 -0.6**
baz=87
PAHR Pah Rah Range 86.76 48 *e*P P **12 20 11.9 +2.6**
MPMC Manual Prospec 86.80 51⇓P P **12 20 09.8 +0.2**
baz=87
G04A Mulino 86.87 42⇑P P **12 20 09.7 0.0**
baz=87
SWSC Sam W. Stewart 87.02 55⇓P P **12 20 10.3 -0.4**
baz=87
GSC Goldstone 87.05 52⇑P P **12 20 10.7 -0.1**
baz=87
GSC Goldstone 87.05 52 *e*P P **12 20 12.6 +1.8**
GSC Goldstone 87.05 52 *e*P P **12 20 12.6 +1.8**
NVAR Mina Array Bea 87.06 49 P P **12 20 09.2 -1.6**
comp=Z,5.0nm,1.0s,mb4.7,baz=230,slow=7.9,SNR=14
NVAR LR LR 12 52 12.0
comp=Z,320nm,18.6s,MS4.8,baz=106,slow=31
NVAR Mina Array Bea 87.06 49 P P **12 20 09.2 -1.6**
NVAR LR LR 12 52 12.0
BELC Belle Mtn. Jos 87.22 54⇑P P **12 20 11.2 -0.5**
baz=87
GRAC Grapevine Rang 87.23 51⇓P P **12 20 11.2 -0.4**
baz=87
HEC Hector,Ludlow 87.25 53⇓P P **12 20 11.8 0.0**
baz=87
FURC Furnace Creek, 87.42 51⇑P P **12 20 12.4 -0.2**
baz=88
BC3 Big Chuckawall 87.53 54⇑P P **12 20 13.4 +0.2**
baz=88
SHOC Shoshone 87.66 52⇓P P **12 20 13.4 -0.4**
baz=88
GMRC Granite Mounta 87.75 53⇑P P **12 20 14.1 -0.2**
baz=88
GLA Glamis 87.82 55⇓P P **12 20 14.1 -0.6**
baz=88
IRM Iron Mountain 87.94 54⇓P P **12 20 15.1 -0.1**
baz=88
Y12C Blythe 88.29 55⇑P P **12 20 16.8 -0.1**
baz=88
J08A Circle Bar Ran 88.77 44⇓P P **12 20 18.7 -0.1**
baz=89
PDMCI Parker Dam,Lak 88.78 54⇑P P **12 20 18.6 -0.6**
baz=89
Z13A Yuma Proving G 88.80 55⇑P P **12 20 19.4 +0.1**
baz=89
R11A Troy Canyon, C 89.03 50⇓P P **12 20 20.3 +0.1**
baz=89,SNR=6.4
Y14A Wickenburg 89.55 55⇓P P **12 20 22.4 -0.4**
baz=90
U13A Pakoon Wash 89.60 52⇑P P **12 20 23.1 +0.2**
baz=90
V14A Boquillas Ranc 90.01 53⇓P P **12 20 25.5 +0.7**
baz=90,SNR=6.5
Y15A Casa Rosa Ranc 90.09 55⇑P P **12 20 25.6 +0.4**
baz=90,SNR=5.5
B08A Colville Reser 90.12 40⇓P P **12 20 25.5 +0.4**
baz=90
E09A Wood Farm, Sta 90.17 42⇓P P **12 20 25.7 +0.4**
baz=90
R13A O'Grain Ranch, 90.17 50⇓P P **12 20 25.6 +0.1**
baz=90,SNR=6.0
216A Three Points, 90.19 57⇓P P **12 20 25.0 -0.8**
baz=90
U14A Mt Trumbull 90.20 52⇑P P **12 20 25.7 -0.1**
baz=90,SNR=12
ARUT Antelope Range 90.44 51 *e*P P **12 20 28.8 +2.0**
comp=Z,7.3nm,1.2s,mb4.9
ARUT Antelope Range 90.44 51 *e*P P **12 20 28.8 +2.0**
ARUT pmax pmax
comp=Z,7.0nm,1.2s,mb4.9
W15A Williams 90.52 54⇓P P **12 20 26.9 -0.4**
baz=91
F10A Beach Ranch, E 90.56 42⇑P P **12 20 27.3 +0.1**
baz=91
Z16A Peralta Trail, 90.62 56⇑P P **12 20 27.7 0.0**
baz=91
Y16A Circle Bar Ran 90.74 55⇓P P **12 20 28.5 +0.2**
baz=91,SNR=5.9
V15A Kaibab Nationa 90.79 53⇓P P **12 20 28.3 -0.2**
baz=91,SNR=6.0

U15A North Rim 90.88 53⇓P P **12 20 28.9 0.0**
baz=91,SNR=12
X16A Lo Mia Camp, P 90.93 55⇑P P **12 20 29.3 +0.1**
baz=91
117A Oracle 90.94 57⇑P P **12 20 28.7 -0.6**
baz=91,SNR=5.2
Q14A Sevier Lake (B 90.94 50⇓P P **12 20 28.8 -0.3**
baz=91,SNR=7.9
T15A Red Dirt Ranch 91.00 52⇓P P **12 20 28.5 -0.9**
baz=91,SNR=6.2
W16A Flagstaff 91.06 54⇑P P **12 20 30.3 +0.5**
baz=91
Y17A Roosevelt 91.19 56⇓P P **12 20 29.8 -0.6**
baz=91
I12A Atlanta 91.20 45⇑P P **12 20 30.1 0.0**
baz=91
S15A Panguitch 91.21 51⇑P P **12 20 31.0 +0.6**
baz=91
318A Bisbee 91.22 58⇓P P **12 20 30.6 0.0**
baz=91
P14A Drum Mountains 91.29 49⇑P P **12 20 29.9 -0.9**
baz=91
WUAZ Wupatki 91.31 54⇑P P **12 20 30.6 -0.4**
baz=92,SNR=6.7
WUAZ Wupatki 91.31 54 *e*P P **12 20 30.9 0.0**
comp=Z,13nm,1.1s,mb5.2
218A Dragoon 91.33 57⇑P P **12 20 31.1 +0.1**
baz=92
X17A Forest Lakes 91.41 55⇑P P **12 20 30.8 -0.6**
baz=92
118A Homack Ranch, 91.58 57⇑P P **12 20 31.2 -1.0**
baz=92
MSU Marysvale 91.61 51 *e*P P **12 20 33.7 +1.5**
comp=Z,7.6nm,1.2s,mb4.9
MSU Marysvale 91.61 51 *e*P P **12 20 33.7 +1.5**
MSU pmax pmax
comp=Z,8.0nm,1.2s,mb4.9
HLID Hailey 91.61 45⇓P P **12 20 30.6 -1.5**
baz=92
H12A Diamond D Ranc 91.64 44⇓P P **12 20 31.5 -0.8**
baz=92
T16A Glen Canyon Da 91.65 52⇑P P **12 20 31.6 -0.9**
baz=92
DUG Dugway 91.66 49⇑P P **12 20 32.3 -0.1**
baz=92
U16A Tuba City 91.69 53⇓P P **12 20 31.6 -1.1**
baz=92,SNR=9.1
J13A Cove Ranch, Pi 91.72 45⇑P P **12 20 31.8 -0.8**
baz=92
319A Douglas 91.78 58⇑P P **12 20 31.4 -1.8**
baz=92
V17A Tonalea, Kykot 91.80 54⇑P P **12 20 32.0 -1.1**
baz=92,SNR=9.3
S16A Weppner Ranch, 91.81 51⇓P P **12 20 32.6 -0.6**
baz=92
Y18A Canyon Day Jun 91.86 56⇑P P **12 20 32.0 -1.5**
baz=92,SNR=5.9
I13A Wildhorse Cree 91.93 45⇓P P **12 20 32.8 -0.8**
baz=92
L14A Malta 91.94 47⇓P P **12 20 34.6 +1.0**
baz=92
O15A The Old Anders 91.94 49⇑P P **12 20 33.9 +0.2**
baz=92
219A Wile Tail Can 91.98 58⇑P P **12 20 33.4 -0.7**
baz=92
H13A Challis 92.05 44⇑P P **12 20 35.9 +1.8**
baz=92
R16A Teasdale 92.06 51⇑P P **12 20 35.2 +0.9**
baz=92
N15A Stansbury Isla 92.09 48⇑P P **12 20 36.1 +1.7**
baz=92
X18A Snowflake 92.14 55⇓P P **12 20 36.0 +1.2**
baz=92
K14A Jones Ranch, D 92.14 47⇑P P **12 20 36.3 +1.7**
baz=92
D12A Red Ives Fores 92.15 42⇑P P **12 20 36.0 +1.5**
baz=92
J14A Carey 92.15 46⇓P P **12 20 35.6 +1.0**
baz=92
119A Ashpeak Ranch, 92.16 57⇑P P **12 20 34.6 -0.3**
baz=92
T17A Navajo Res., N 92.19 52⇓P P **12 20 33.7 -1.2**
baz=92,SNR=7.8
G13A Cobalt 92.24 44⇓P P **12 20 34.6 -0.4**
baz=92
S17A Black Ridge (B 92.38 52⇑P P **12 20 36.4 +0.5**
baz=92
320A Kipp Ranch, An 92.39 58⇑P P **12 20 35.7 -0.3**
baz=92
I14A Mackay 92.39 45⇓P P **12 20 36.4 +0.7**
baz=92
F13A Darby 92.40 43⇑P P **12 20 36.0 +0.3**
baz=93
MPU Maple Canyon 92.47 49 P P **12 20 37.0 +0.8**
comp=Z,7.6nm,1.2s,mb4.9
V18A Ganado 92.49 54⇓P P **12 20 35.8 -0.6**
baz=93
Y19A Nutrioso 92.53 56⇓P P **12 20 37.0 +0.4**
baz=93
220A Playas Peak, P 92.55 58⇓P P **12 20 36.8 0.0**
baz=93
X19A St. Johns 92.64 55⇑P P **12 20 37.9 +0.8**
baz=93
R17A Hanksville Air 92.68 51⇑P P **12 20 36.6 -0.6**
baz=93
U18A Rough Rock, Ch 92.75 53⇑P P **12 20 36.9 -0.6**
baz=93
J15A Blackfoot 92.93 46⇓P P **12 20 38.1 -0.1**
baz=93
T18A Mexican Hat 92.95 52⇑P P **12 20 37.9 -0.6**
baz=93
INK Inuvik 93.03 19 LR LR 12 58 07.7
comp=Z,249nm,19.0s,MS4.7,baz=152,slow=33
H15A Lima 93.16 45⇑P P **12 20 39.5 +0.3**
baz=93
O17A Robinson Place 93.18 49⇑P P **12 20 38.9 -0.5**
baz=93
Y20A Horse Springs, 93.22 56⇓P P **12 20 39.1 -0.7**
baz=93
U19A Dine' College, 93.22 53⇓P P **12 20 38.3 -1.4**
baz=93,SNR=6.9
R18A Canyonlands Na 93.29 51⇑P P **12 20 40.1 +0.1**
baz=93
Q18A Rafter H Ranch 93.31 51⇓P P **12 20 40.6 +0.5**
baz=94
WMQ Urumqi 93.38 314 P P **12 20 41.2 +0.9**
WMQ pP pP 12 20 51.8 +6.6
WMQ sP sP 12 20 55.7 +8.7
WMQ PP PP 12 24 27.6 +2.9
WMQ pmax pmax
comp=Z,8.0nm,1.2s,mb5.0
WMQ pmax pmax
comp=Z,170nm,4.5s
WMQ LR LR
comp=N,160nm,8.0s
WMQ LR LR
comp=E,200nm,7.0s
WMQ LR LR
comp=Z,69nm,23.4s,MS4.0
W20A Ramah 93.45 55⇓P P **12 20 41.6 +0.8**
baz=94
Z21A St. Cloud Mine 93.62 57⇓P P **12 20 41.3 -0.3**
baz=94
Q19A Hogan Spring (93.92 51⇑P P **12 20 41.9 -1.0**
baz=94
S20A Disappointment 94.30 52⇓P P **12 20 45.8 +1.2**
baz=94
U21A Nageezi 94.46 54⇓P P **12 20 45.5 +0.1**
baz=95
BNM Barren Site 94.68 56 *e*P P **12 20 48.5 +2.0**
comp=Z,3.9nm,1.2s,mb4.7
S21A Coal Bank Pass 94.69 52⇑P P **12 20 46.9 +0.4**
baz=95
PDAR Pinedale Array 94.76 47 P P **12 20 48.6 +1.9**
comp=Z,1.0nm,1.1s,mb4.2,baz=244,slow=5.9,SNR=3.0
PDAR LR LR 13 00 10.5
comp=Z,154nm,18.3s,MS4.5,baz=283,slow=34
PDAR Pinedale Array 94.76 47 P P **12 20 48.6 +1.9**
PDAR LR LR 13 00 10.5
ANMO Albuquerque 95.02 55 LR LR 12 56 17.4
comp=Z,340nm,19.4s,MS4.8,baz=243,slow=31
ANMO Albuquerque 95.02 55 *e*P P **12 20 48.5 +0.4**
comp=Z,4.7nm,1.3s,mb4.8
ANMO Albuquerque 95.02 55 *e*P P **12 20 48.5 +0.5**
ANMO pmax pmax
comp=Z,5.0nm,1.3s
Y23A Lovelace Mesa, 95.09 56⇓P P **12 20 49.8 +1.4**
baz=95

626A Big Bend Ranch 95.59 61⇑P P **12 20 50.3 -0.5**
baz=96
Q22A Crested Butte, 95.67 51⇓P P **12 20 50.9 +0.1**
baz=96
TXAR Lajitas Array 95.94 61 P P **12 20 50.8 -1.6**
comp=Z,0.4nm,0.8s,mb3.9,baz=135,slow=34,SNR=2.7
TXAR LR LR 13 01 37.4
comp=Z,283nm,18.0s,MS4.8,baz=105,slow=34
TXAR Lajitas Array 95.94 61 P P **12 20 50.8 -1.6**
TXAR LR LR 13 01 37.4
TXAR Lajitas Array 95.94 61 P P **12 20 50.8 -1.6**
YKA Yellowknife Ar 97.59 27 LR LR 13 04 52.9
comp=Z,14nm,18.5s,MS3.5,baz=285,slow=35
MK31 Makanchi Array 97.85 316 *e*P P **12 20 59.4 -1.2**
MK31 Makanchi Array 97.85 316 *e*P P **12 20 59.4 -1.2**
MKAR Makanchi Array 97.85 316 P P **12 20 59.2 -1.3**
comp=Z,5.4nm,1.0s,mb5.0,baz=101,slow=6.5,SNR=14
MKAR Makanchi Array 97.85 316 P P **12 20 59.2 -1.3**
MKAR Makanchi Array 97.85 316 P P **12 20 59.3 -1.3**
ZAA0 Zalesovo Array 98.01 324 *e*P P **12 20 58.9 -2.3**
ZALV Zalesovo Beam 98.01 324 P P **12 20 58.9 -2.2**
comp=Z,1.4nm,0.7s,mb4.6,baz=108,slow=4.8,SNR=7.0
ZALV LR LR 13 02 19.3
comp=Z,44nm,18.7s,MS4.0,baz=74,slow=34
ZALV Zalesovo Beam 98.01 324 P P **12 20 58.9 -2.2**
ZALV LR LR 13 02 19.3
ZALV Zalesovo Beam 98.01 324 P P **12 20 58.9 -2.2**
KSH Kashi 100.86 308 *e*P Pdif 12 21 19.1 +5.1
KSH pP 12 21 29.6
KSH sP 12 21 33.5
KSH PP PP 12 25 31.9 +9.5
KSH S Sdif 12 32 52.4 +0.9
KSH sS 12 33 11.4
KSH pmax pmax
comp=Z,2.0nm,0.4s
KSH pmax pmax
comp=Z,52nm,5.3s
KSH LR LR
comp=N,50nm,5.1s
KSH LR LR
comp=E,62nm,5.9s
KSH LR LR
comp=Z,93nm,4.8s
FFC Flin Flon 102.24 36 *i* P Pdif 12 21 20.3 +0.2
APA Apatity 119.89 342⇓ *i*/PKIKP PKPdf 12 26 17.4 +2.5
APA MLR MLR
comp=Z,600nm,21.0s,MS5.2
CDF Champ du Feu 143.11 338 *e*PKP1 PKPpre 12 26 51.9
CDF Champ du Feu 143.11 338 *e*PKP PKPpre 12 26 51.9
CDF Champ du Feu 143.11 338 *e*PKHKP PKPpre 12 26 51.9
HAU Haudompre 143.78 339 *e*PKP1 PKPpre 12 26 54.5
HAU *e*R
comp=Z,107nm,17.0s
HAU Haudompre 143.78 339 *e*PKP PKPpre 12 26 54.5
HAU LR LR
comp=Z,110nm,17.0s,MS4.7
HAU Haudompre 143.78 339 *e*PKHKP PKPpre 12 26 54.5
HAU MLR MLR
comp=Z,110nm,17.0s,MS4.7
AQU L'Aquila 145.05 326 *e*PKPdf PKPdf 12 27 01.6 -1.0
AQU L'Aquila 145.05 326 *e*PKIKP PKPdf 12 27 01.6 -1.0
CABF La Chapelle 145.06 338 *e*PKP1 PKPbc 12 26 59.7 -2.2
comp=Z,110nm,1.6s
CABF La Chapelle 145.06 338 *e*PKP PKPbc 12 26 59.7 -2.2
CABF La Chapelle 145.06 338 *e*PKP2 PKPbc 12 26 59.7 -2.2
FLN La Foliniere 145.07 347 *e*PKP1 PKPbc 12 26 58.3 -3.5
comp=Z,148nm,1.7s
FLN *e*R
comp=Z,150nm,19.0s
FLN La Foliniere 145.07 347 *e*PKP PKPbc 12 26 58.3 -3.5
FLN LR LR
comp=Z,150nm,19.0s,MS4.8
FLN La Foliniere 145.07 347 *e*PKP2 PKPbc 12 26 58.3 -3.5
FLN MLR MLR
comp=Z,150nm,19.0s,MS4.8
LDF La Druitiere 145.14 346 *e*PKP1 PKPbc 12 26 58.6 -3.5
LDF La Druitiere 145.14 346 *e*PKP PKPbc 12 26 58.6 -3.5
LDF La Druitiere 145.14 346 *e*PKP2 PKPbc 12 26 58.6 -3.5
LOR Lormes 145.25 341 *e*PKP1 PKPbc 12 26 59.9 -2.6
comp=Z,48nm,1.4s
LOR *e*R
comp=Z,112nm,17.8s
LOR Lormes 145.25 341 *e*PKP PKPbc 12 26 59.9 -2.6
LOR LR LR
comp=Z,110nm,17.8s,MS4.7
LOR Lormes 145.25 341 *e*PKP2 PKPbc 12 26 59.9 -2.6
LOR MLR MLR
comp=Z,110nm,17.8s,MS4.7
GRR Gorron 145.50 347 *e*PKP1 PKPdf 12 27 00.2 -3.0
comp=Z,52nm,1.2s
GRR Gorron 145.50 347 *e*PKP PKPdf 12 27 00.2 -3.0
GRR Gorron 145.50 347 *e*PKP2 PKPdf 12 27 00.2 -3.0
SSF Saint Saulge 145.55 341 *e*PKP1 PKPdf 12 27 00.9 -2.4
comp=Z,51nm,1.2s
SSF Saint Saulge 145.55 341 *e*PKP PKPdf 12 27 00.9 -2.4
SSF Saint Saulge 145.55 341 *e*PKIKP PKPdf 12 27 00.9 -2.4
LPL La Plagne 145.74 336 *e*PKP1 PKPdf 12 27 02.0 -1.7
comp=Z,48nm,1.2s
LPL La Plagne 145.74 336 *e*PKP PKPdf 12 27 02.0 -1.7
LPL La Plagne 145.74 336 *e*PKIKP PKPdf 12 27 02.0 -1.7
LPG La Plagne 145.75 336 *e*PKP1 PKPdf 12 27 02.3 -1.4
comp=Z,71nm,1.2s
LPG La Plagne 145.75 336 *e*PKP PKPdf 12 27 02.3 -1.4
LPG La Plagne 145.75 336 *e*PKIKP PKPdf 12 27 02.3 -1.4
SMF Signal de Mont 145.81 340 *e*PKP1 PKPdf 12 27 01.5 -2.3
comp=Z,85nm,1.5s
SMF Signal de Mont 145.81 340 *e*PKP PKPdf 12 27 01.5 -2.3
SMF Signal de Mont 145.81 340 *e*PKIKP PKPdf 12 27 01.5 -2.3
AVF Avril sur Loir 145.84 341 *e*PKP1 PKPdf 12 27 01.5 -2.3
comp=Z,34nm,1.4s
AVF Avril sur Loir 145.84 341 *e*PKP PKPdf 12 27 01.5 -2.3
AVF Avril sur Loir 145.84 341 *e*PKIKP PKPdf 12 27 01.5 -2.3
SGMF Saint Gilles 145.99 349 *e*PKP1 PKPdf 12 27 01.7 -2.3
comp=Z,53nm,1.6s
SGMF Saint Gilles 145.99 349 *e*PKP PKPdf 12 27 01.7 -2.3
SGMF Saint Gilles 145.99 349 *e*PKIKP PKPdf 12 27 01.7 -2.3
ROSF Rostrenen 146.04 349 *e*PKP1 PKPdf 12 27 01.7 -2.4
comp=Z,137nm,1.4s
ROSF Rostrenen 146.04 349 *e*PKP PKPdf 12 27 01.7 -2.4
ROSF Rostrenen 146.04 349 *e*PKIKP PKPdf 12 27 01.7 -2.4
BGF Bois d'Agland 146.21 341 *e*PKP1 PKPdf 12 27 02.7 -1.8
comp=Z,31nm,1.1s
BGF Bois d'Agland 146.21 341 *e*PKP PKPdf 12 27 02.7 -1.8
BGF Bois d'Agland 146.21 341 *e*PKIKP PKPdf 12 27 02.7 -1.8
MBDF Montbardon 146.38 335 *e*PKP1 PKPdf 12 27 03.8 -1.0
comp=Z,58nm,1.3s
MBDF Montbardon 146.38 335 *e*PKP PKPdf 12 27 03.8 -1.0
MBDF Montbardon 146.38 335 *e*PKIKP PKPdf 12 27 03.8 -1.0
QUIF Quistinic 146.42 349 *e*PKP1 PKPdf 12 27 02.7 -2.1
comp=Z,228nm,1.8s
QUIF Quistinic 146.42 349 *e*PKP PKPdf 12 27 02.7 -2.1
QUIF Quistinic 146.42 349 *e*PKIKP PKPdf 12 27 02.7 -2.1
ORIF Oris-en-Rattie 146.57 336 *e*PKP1 PKPdf 12 27 04.1 -1.0
comp=Z,38nm,1.1s
ORIF *e*R
comp=Z,126nm,17.0s
ORIF Oris-en-Rattie 146.57 336 *e*PKP PKPdf 12 27 04.1 -1.0
ORIF Oris-en-Rattie 146.57 336 *e*PKIKP PKPdf 12 27 04.1 -1.0
TCF Toulx Ste Croi 146.64 342 *e*PKP1 PKPdf 12 27 04.2 -1.0
comp=Z,22nm,1.1s
TCF Toulx Ste Croi 146.64 342 *e*PKP PKPdf 12 27 04.2 -1.0
TCF Toulx Ste Croi 146.64 342 *e*PKIKP PKPdf 12 27 04.2 -1.0
SSB Saint Sauveur 146.76 338 *e*PKPbc PKPbc 12 27 07.2 0.0
SSB Saint Sauveur 146.76 338 *e*PKP2 PKPbc 12 27 07.2 0.0
SBF Sospel 146.81 334 *e*PKP1 PKPdf 12 27 04.2 -1.4
comp=Z,69nm,1.0s
SBF Sospel 146.81 334 *e*PKP PKPdf 12 27 04.2 -1.4
SBF Sospel 146.81 334 *e*PKIKP PKPdf 12 27 04.2 -1.4
MFF Saint Martin d 147.01 345 *e*PKP1 PKPdf 12 27 04.7 -1.1
comp=Z,128nm,1.5s
MFF Saint Martin d 147.01 345 *e*PKP PKPdf 12 27 04.7 -1.1
MFF Saint Martin d 147.01 345 *e*PKIKP PKPdf 12 27 04.7 -1.1
VIVF Saint-Julien-l 147.08 338 *e*PKP1 PKPdf 12 27 05.7 -0.3
comp=Z,26nm,1.2s
VIVF Saint-Julien-l 147.08 338 *e*PKP PKPdf 12 27 05.7 -0.3
VIVF Saint-Julien-l 147.08 338 *e*PKIKP PKPdf 12 27 05.7 -0.3
PGF Pioggiola 147.14 331 *e*PKP1 PKPdf 12 27 05.6 -0.6
comp=Z,97nm,1.4s
PGF Pioggiola 147.14 331 *e*PKP PKPdf 12 27 05.6 -0.6
PGF Pioggiola 147.14 331 *e*PKIKP PKPdf 12 27 05.6 -0.6
FRF La Foret Royal 147.39 334 *e*PKP1 PKPdf 12 27 06.1 -0.5
comp=Z,81nm,1.4s
FRF La Foret Royal 147.39 334 *e*PKP PKPdf 12 27 06.1 -0.5
FRF La Foret Royal 147.39 334 *e*PKIKP PKPdf 12 27 06.1 -0.5

SMRF	**Simiane la Rot**	**147.48**	**336**	*e*PKP1	PKPdf	12 27 07.0	+0.3
	comp=Z,44nm,1.3s							
SMRF	**Simiane la Rot**	**147.48**	**336**	*e*PKP	PKPdf	12 27 07.0	+0.3
LMR	**La Mourre**	**147.63**	**334**	*e*PKP1	PKPdf	12 27 06.8	-0.2
	comp=Z,44nm,1.2s							
LMR	**La Mourre**	**147.63**	**334**	*e*PKP	PKPdf	12 27 06.8	-0.2
LMR	**La Mourre**	**147.63**	**334**	*e*PKIKP	PKPdf	12 27 06.8	-0.2
RJF	**Les Rejaudoux**	**147.74**	**342**	*e*PKP1	PKPdf	12 27 07.2	+0.1
	comp=Z,133nm,1.7s							
RJF				*e*R				
	comp=Z,187nm,22.8s							
RJF	**Les Rejaudoux**	**147.74**	**342**	*e*PKP	PKPdf	12 27 07.2	+0.1
RJF				LR	LR			
	comp=Z,190nm,22.8s,MS4.8							
RJF	**Les Rejaudoux**	**147.74**	**342**	*e*PKIKP	PKPdf	12 27 07.2	+0.1
RJF				MLR	MLR			
	comp=Z,190nm,22.8s,MS4.8							
CAF	**Calviac**	**147.91**	**341**	*e*PKP1	PKPdf	12 27 08.0	+0.6
	comp=Z,47nm,1.5s							
CAF	**Calviac**	**147.91**	**341**	*e*PKP	PKPdf	12 27 08.0	+0.6
CAF	**Calviac**	**147.91**	**341**	*e*PKIKP	PKPdf	12 27 08.0	+0.6
LASF	**Ste Croix**	**148.05**	**338**	*e*PKP1	PKPdf	12 27 08.2	+0.6
	comp=Z,34nm,1.2s							
LASF	**Ste Croix**	**148.05**	**338**	*e*PKP	PKPdf	12 27 08.2	+0.6
LFF	**La Frestale**	**148.30**	**342**	*e*PKP1	PKPdf	12 27 08.5	+0.5
	comp=Z,154nm,1.7s							
LFF	**La Frestale**	**148.30**	**342**	*e*PKP	PKPdf	12 27 08.5	+0.5
LFF	**La Frestale**	**148.30**	**342**	*e*PKIKP	PKPdf	12 27 08.5	+0.5
MTLF	**Montolieu**	**149.27**	**339**	*e*PKP1	PKPdf	12 27 11.4	+1.8
	comp=Z,50nm,1.3s							
MTLF	**Montolieu**	**149.27**	**339**	*e*PKP	PKPdf	12 27 11.4	+1.8
MTLF	**Montolieu**	**149.27**	**339**	*e*PKHKP	PKPdf	12 27 11.4	+1.8
EPF	**Esparros**	**150.16**	**341**	*e*PKP1	PKPdf	12 27 11.7	+0.6
EPF	**Esparros**	**150.16**	**341**	*e*PKP	PKPdf	12 27 11.7	+0.6
EPF	**Esparros**	**150.16**	**341**	*e*PKIKP	PKPdf	12 27 11.7	+0.6
SJPF	**Ste Jean**	**150.53**	**344**	*e*PKP1	PKPbc	12 27 14.6	-2.4
	comp=Z,110nm,1.5s							
SJPF	**Ste Jean**	**150.53**	**344**	*e*PKP	PKPbc	12 27 14.6	-2.4
SJPF	**Ste Jean**	**150.53**	**344**	*e*PKIKP	PKPbc	12 27 14.6	-2.4
ETSF	**Etsaut**	**150.54**	**343**	*e*PKP1	PKPbc	12 27 15.1	-1.9
	comp=Z,51nm,1.3s							
ETSF	**Etsaut**	**150.54**	**343**	*e*PKP	PKPbc	12 27 15.1	-1.9
ETSF	**Etsaut**	**150.54**	**343**	*e*PKIKP	PKPbc	12 27 15.1	-1.9
TORD	**Torodi Ar. Bea**	**166.45**	**264**	PKP	PKPdf	12 27 29.1	-2.3
	comp=Z,0.9nm,1.0s,baz=8.6,slow=1.6,SNR=4.8							
TORD				PKPab	PKPab	12 28 32.4	-0.8
	comp=Z,1.8nm,1.0s,baz=103,slow=3.0,SNR=4.9							
TORD	**Torodi Ar. Bea**	**166.45**	**264**	PKP	PKPdf	12 27 29.1	-2.3
TORD				PKPab	PKPab	12 28 32.4	-0.8

*ISCJB **07** 12:10:35.0±0.5,50.77N±0.04×73.71E±0.05,h10km, Error ellipse: s-maj=6.2km s-min=3.7km az=36.8*
*NNC **07** 12:10:34.7±0.7,50.67N×73.51E,h0km, mb3.5,mpv3.2, Error ellipse: s-maj=11.2km s-min=3.0km az=32.0*
*IDC **07** 12:10:36.3±0.8,50.86N×73.68E,h0km, mb3.7/1, mb1 3.5/7,mb1mx3.3/31,mbtmp3.4/7,ML3.0/6, Error ellipse: s-maj=12.7km s-min=8.9km az=26.0*
*NEIC **07** 12:10:39.7±0.5,50.80N×73.60E,h35km, Error ellipse: s-maj=10.2km s-min=6.6km az=197.0*

ISC 07 12:10:37.3±0.4,50.80N±0.04×73.62E±0.05,h10km,n25, σ1°25/37,8C-6D,Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
VOSK	**Vostochnaya**	**2.53**	**321**	⇑Pn		**Pn**	**12 11 17.6**	**-0.7**
	6.5nm,0.5s							
VOSK				⇑Sn		**Sn**	**12 11 50.6**	**+1.4**
	19nm,0.3s							
BVA0	**Borovoye Array**	**2.99**	**319**	⇑Pn		**Pn**	**12 11 25.3**	**+0.6**
	1.4nm,0.7s,baz=128,slow=16,SNR=31							
BVA0				⇓Sn		**Sn**	**12 12 03.1**	**+2.5**
	3.1nm,0.6s,baz=122,slow=27,SNR=14							
BVAR	**Borovoye Array**	**2.99**	**319**	Pn		**Pn**	**12 11 25.4**	**+0.7**
	2.7nm,0.3s,baz=130,slow=18,SNR=28							
BVAR				Lg			12 12 07.0	
	7.0nm,0.3s,baz=287,slow=28,SNR=10							
BVAR	**Borovoye Array**	**2.99**	**319**	Pn		**Pn**	**12 11 25.4**	**+0.7**
BVAR				Lg			12 12 07.0	
BRVK	**Borovoye**	**3.06**	**319**	⇓Pn		**Pn**	**12 11 24.7**	**-1.0**
	11nm,0.5s							
BRVK				⇑Sn		**Sn**	**12 12 04.4**	**+2.1**
	36nm,0.4s							
BRVK	**Borovoye**	**3.06**	**319**	*e*Pn		**Pn**	**12 11 26.5**	**+0.9**
BRVK				*e*Sn		**Sb**	**12 12 07.6**	**-1.5**
KURBB	**Kurchatov Arra**	**3.13**	**91**	⇑Pn		**Pn**	**12 11 26.1**	**-0.6**
	3.7nm,0.6s							
KURK	**Kurchatov**	**3.18**	**90**	⇓Pn		**Pn**	**12 11 26.6**	**-0.7**
	15nm,1.2s							
KURK				⇓Sn		**Sn**	**12 12 07.4**	**+2.2**
	43nm,0.6s							
KURK	**Kurchatov**	**3.18**	**90**	Pn		**Pn**	**12 11 26.3**	**-1.0**
	0.4nm,0.3s,baz=279,slow=13,SNR=62							
KURK				Lg			12 12 13.7	
	1.8nm,0.3s,baz=287,slow=29,SNR=10							
KURK	**Kurchatov**	**3.18**	**90**	Pn		**Pn**	**12 11 26.3**	**-1.0**
KURK				Lg			12 12 13.7	
MK31	**Makanchi Array**	**6.99**	**122**	⇑Pn		**Pn**	**12 12 19.6**	**-0.1**
	0.5nm,0.6s,baz=300,slow=12,SNR=5.4							
MK31				⇓Pg		**Pb**	**12 12 41.1**	**+2.4**
	1.3nm,0.5s,baz=301,slow=14,SNR=3.6							
MK31				⇓Lg			12 14 16.3	
	10nm,0.7s,baz=320,slow=24,SNR=4.0							
MK31	**Makanchi Array**	**6.99**	**122**	*e*Pn		**Pn**	**12 12 20.4**	**+0.7**
MK31				*e*Sn		**Sn**	**12 13 38.3**	**-0.9**
MKAR	**Makanchi Array**	**6.99**	**122**	Pn		**Pn**	**12 12 20.3**	**+0.6**
	0.1nm,0.3s,baz=303,slow=12,SNR=3.8							
MKAR				Lg			12 14 15.8	
	1.0nm,0.3s,baz=320,slow=26,SNR=6.0							
MKAR	**Makanchi Array**	**6.99**	**122**	Pn		**Pn**	**12 12 20.3**	**+0.6**
MKAR				Lg			12 14 15.8	
ZAA0	**Zalesovo Array**	**7.54**	**61**	*e*Pn		**Pn**	**12 12 27.1**	**-0.1**
ZAA0				*e*Sn		**Sn**	**12 13 52.2**	**-0.6**
ZALV	**Zalesovo Beam**	**7.54**	**61**	Pn		**Pn**	**12 12 26.7**	**-0.5**
	0.6nm,0.3s,baz=247,slow=14,SNR=10							
ZALV				Sn		**Sn**	**12 13 52.1**	**-0.6**
	0.3nm,0.3s,baz=257,slow=23,SNR=3.9							
ZALV				Lg			12 14 33.2	
	0.3nm,0.3s,baz=260,slow=34,SNR=3.3							
ZALV	**Zalesovo Beam**	**7.54**	**61**	Pn		**Pn**	**12 12 26.7**	**-0.5**
ZALV				Sn		**Sn**	**12 13 52.1**	**-0.7**
ZALV				Lg			12 14 33.2	
TKM2	**Tokmak 2**	**8.00**	**169**	⇑Pn		**Pn**	**12 12 30.1**	**-3.4**
	1.5nm,0.6s							
TKM2				⇑Lg			12 14 44.2	
	14nm,0.8s							
AAK	**Ala-Archa**	**8.19**	**175**	Pn		**Pn**	**12 12 36.4**	**+0.3**
	0.0nm,0.3s,baz=326,slow=3.6,SNR=3.1							
AAK				Sn		**Sn**	**12 14 10.1**	**+1.4**
	0.0nm,0.3s,baz=212,slow=23,SNR=3.5							
AAK				Lg			12 14 52.6	
	0.0nm,0.3s,baz=65,slow=18,SNR=4.0							
AAK	**Ala-Archa**	**8.19**	**175**	Pn		**Pn**	**12 12 36.4**	**+0.3**
AAK				Sn		**Sn**	**12 14 10.1**	**+1.4**
AAK				Lg			12 14 52.6	
ABKAR	**Akbulak array**	**8.94**	**265**	*e*Pn		**Pn**	**12 12 45.4**	**-1.0**
AKTK	**Aktyubinsk**	**9.93**	**274**	Pn		**Pn**	**12 12 58.4**	**-1.4**
AKTO	**Aktyubinsk**	**9.93**	**274**	Pn		**Pn**	**12 12 58.4**	**-1.4**
	0.4nm,0.3s,baz=82,slow=12,SNR=6.4							
ILAR	**Eielson Array**	**60.56**	**19**	P		**P**	**12 20 45.7**	**-1.5**
	0.8nm,0.8s,baz=323,slow=4.7,SNR=7.9							
ILAR	**Eielson Array**	**60.56**	**19**	P		**P**	**12 20 45.7**	**-1.5**

IDC 07 12:37:10.5±0.7,0.32N×123.34E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.5/20,mbtmp3.6/4,Error ellipse: s-maj=115.3km s-min=8.3km az=61.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**22.84**	**152**	P		P	12 42 15.5	+0.1
	2.4nm,0.5s,baz=336,slow=10,SNR=37							
ASAR	**Alice Springs**	**25.96**	**157**	P		P	12 42 44.1	-0.7
	0.6nm,0.6s,baz=329,slow=9.9,SNR=9.8							
MKAR	**Makanchi Array**	**58.52**	**328**	P		P	12 47 09.3	+0.6
	0.3nm,0.4s,baz=118,slow=8.8,SNR=5.0							
KURK	**Kurchatov**	**62.87**	**330**	P		P	12 47 37.8	-0.4
	0.3nm,0.5s,baz=118,slow=7.2,SNR=4.1							

*NEIC **07** 12:37:55.7±3.3,7.34S×120.21E,h96km±33km,mb4.1/2, Error ellipse: s-maj=36.4km s-min=20.7km az=54.0*

IDC 07 12:37:59.6±13.0,7.83S×119.72E,h144km±161km, mb2.6/2,mb1 2.8/4,mb1mx2.7/20,mbtmp2.6/4,ML3.2/1, Error ellipse: s-maj=230.4km s-min=45.6km az=45.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
FITZ	**Fitzroy Crossi**	**11.72**	**151**	P		Pn	12 40 42.7	+0.1
	0.1nm,0.3s,baz=339,slow=14,SNR=8.2							
FITZ				S		Sn	12 42 41.8	-10
	0.1nm,0.3s,baz=156,slow=6.2,SNR=3.7							
FITZ	**Fitzroy Crossi**	**11.72**	**151**	*e*Pn		Pn	12 40 42.6	0.0
FITZ				S		Sn	12 42 41.8	-10
KAKA	**Kakadu**	**13.42**	**112**	*e*Pn		Pn	12 40 58.6	-5.9
KAKA				Sn		Sn	12 43 22.2	-11
WRA	**Warramunga Arr**	**18.59**	**132**	P		P	12 42 04.7	-1.2
	0.1nm,0.3s,baz=303,slow=12,SNR=4.8							
WRA				S		S	12 45 21.2	-9.2
	0.0nm,0.3s,baz=301,slow=28,SNR=3.7							
WRA	**Warramunga Arr**	**18.59**	**132**	P		P	12 42 04.7	-1.2
WRA				S		S	12 45 21.2	-9.2
WRAB	**Tennant Creek**	**18.59**	**132**	*e*P		P	12 42 05.4	-0.5
	4.2nm,1.4s							
WB2	**Warramunga Arr**	**18.60**	**132**	*e*P		P	12 42 05.4	-0.6
ASAR	**Alice Springs**	**20.81**	**141**	P		P	12 42 30.8	+0.9
	0.1nm,0.3s,baz=313,slow=9.2,SNR=5.1							
ASAR				S		S	12 46 06.2	-7.8
	0.3nm,0.9s,baz=324,slow=22,SNR=2.8							
ASAR	**Alice Springs**	**20.81**	**141**	P		P	12 42 30.8	+0.9
ASAR				S		S	12 46 06.2	-7.8
COEN	**Coen**	**23.81**	**107**	*e*P		P	12 43 01.7	+2.1
	42nm,1.0s							
MKAR	**Makanchi Array**	**63.75**	**332**	P		P	12 48 16.1	+0.1
	0.2nm,0.6s,baz=148,slow=7.2,SNR=2.5							
MKAR	**Makanchi Array**	**63.75**	**332**	P		P	12 48 16.1	+0.1

*ISCJB **07** 12:45:22.5±0.5,39.23N±0.03×28.04E±0.04,h4km±7km, Error ellipse: s-maj=5.5km s-min=4.4km az=178.7*
*CSEM **07** 12:45:22.6±0.1,39.22N×28.03E,h15km, MD2.8, Error ellipse: s-maj=3.4km s-min=2.5km az=74.0*
*ISK **07** 12:45:22.0,39.21N×27.97E,h15km, MD2.7*
*DDA **07** 12:45:22.0,39.21N×28.04E,h19km±3km, Md2.8*

ISC 07 12:45:22.9±0.5,39.22N±0.03×28.04E±0.04,h8km±7km, n22,σ0°78/35,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
AKHS	**Akhisar**	**0.38**	**208**	*i* P		**Pg**	**12 45 29.9**	**-0.5**
AKHS				*i* S		**Sg**	**12 45 36.2**	**+0.7**
AKHS	**Akhisar**	**0.38**	**208**	*i* P		**Pg**	**12 45 29.9**	**-0.5**
AKHS				*i* S		**Sg**	**12 45 36.2**	**+0.7**
BALB	**Balikesir**	**0.44**	**343**	*e*PG		**Pg**	**12 45 31.4**	**-0.1**
BALB	**Balikesir**	**0.44**	**343**	*e*Pg		**Pg**	**12 45 31.4**	**0.0**
DURS	**Dursunbey**	**0.51**	**41**	*i* P		**Pg**	**12 45 33.0**	**+0.3**
DURS				*i* S		**Sg**	**12 45 39.9**	**+0.5**
DURS	**Dursunbey**	**0.51**	**41**	*i* P		**Pg**	**12 45 33.0**	**+0.3**
DURS				*i* S		**Sg**	**12 45 39.9**	**+0.5**
DEMI	**Demirci**	**0.55**	**108**	*i* P		**Pg**	**12 45 33.9**	**+0.3**
DEMI				*i* S		**Sg**	**12 45 41.2**	**+0.4**
DEMI	**Demirci**	**0.55**	**108**	*i* P		**Pg**	**12 45 33.9**	**+0.3**
DEMI				*i* S		**Sg**	**12 45 41.2**	**+0.4**
BALY	**Balya**	**0.61**	**328**	*i* P		**Pg**	**12 45 34.7**	**-0.1**
BALY				*i* S		**Sg**	**12 45 43.0**	**+0.2**
BALY	**Balya**	**0.61**	**328**	*i* P		**Pg**	**12 45 34.7**	**-0.1**
BALY				*i* S		**Sg**	**12 45 43.0**	**+0.2**
KULA	**Kula-Manisa**	**0.85**	**145**	*e*PG		**Pg**	**12 45 39.4**	**0.0**
KULA	**Kula-Manisa**	**0.85**	**145**	*e*Pg		**Pg**	**12 45 39.4**	**+0.1**
GONE	**Gonen-Balikesi**	**0.87**	**342**	*e*PG		**Pg**	**12 45 39.1**	**-0.5**
GONE				*e*SG		**Sg**	**12 45 51.8**	**+0.8**
GONE	**Gonen-Balikesi**	**0.87**	**342**	*e*Pg		**Pg**	**12 45 39.2**	**-0.5**
GONE				*e*Sg		**Sg**	**12 45 51.8**	**+0.8**
GDZ	**Gediz**	**1.13**	**96**	*i* P		**Pb**	**12 45 43.3**	**-1.4**
GDZ				*i* S		**Sg**	**12 45 59.0**	**-0.2**
GDZ	**Gediz**	**1.13**	**96**	*i* P		**Pb**	**12 45 43.3**	**-1.4**
GDZ				*i* S		**Sg**	**12 45 59.0**	**-0.2**
BLCB	**Balcova**	**1.14**	**223**	*e*PN		**Pg**	**12 45 43.3**	**-1.5**
BLCB	**Balcova**	**1.14**	**223**	*e*Pn		**Pg**	**12 45 43.3**	**-1.5**
ARMT	**Armutlu**	**1.48**	**25**	*e*PN		**Pn**	**12 45 49.4**	**-0.6**
ARMT	**Armutlu**	**1.48**	**25**	*e*Pn		**Pn**	**12 45 49.4**	**-0.6**
AYDN	**Tasoluk**	**1.56**	**185**	*i* P		**Pn**	**12 45 50.9**	**-0.1**
AYDN				*i* S		**Sn**	**12 46 13.8**	**+2.3**
AYDN	**Tasoluk**	**1.56**	**185**	*i* P		**Pn**	**12 45 50.9**	**-0.1**

*IDC **07** 12:50:22.1±0.9,29.60S×177.18W,h0km, mb4.4/8, mb1 4.5/9,mb1mx4.3/19,mbtmp4.4/9,MS3.8/3,Ms1 3.7/3, ms1mx3.1/29, Error ellipse: s-maj=25.3km s-min=23.4km az=139.0*
*ISCJB **07** 12:50:27.6±2.0,29.7S±0.1×177.4W±0.2,h45km±15km, mb4.4/10,MS3.8/2, Error ellipse: s-maj=24.2km s-min=18.1km az=175.8*
*NEIC **07** 12:50:27.7±2.4,29.66S×177.25W,h38km±18km,mb4.4/4, Error ellipse: s-maj=21.4km s-min=15.9km az=93.0*

ISC 07 12:50:27.6±2.5,29.73S±0.10×177.4W±0.2,h31km±15km, n42,σ1°02/32,mb4.4/10,MS3.8/2,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**0.69**	**314**	*e*Pg		**Pb**	**12 50 41.3**	**+0.1**
RAO				*e*Sg		**Sb**	**12 50 50.2**	**-0.2**
URZ	**Urewera**	**9.67**	**207**	Sn		**Sn**	**12 54 28.5**	**-3.6**
	2.3nm,0.3s,baz=154,slow=22,SNR=6.7							
DZM	**Mont Dzumac**	**16.45**	**294**	*e*P		**Pn**	**12 54 23.7**	**+7.5**
	49nm,1.4s							
DZM				*e*LR		LR	12 58 19.7	
	398nm,23.7s							
DZM	**Mont Dzumac**	**16.45**	**294**	*e*P		**Pn**	**12 54 21.1**	**+4.9**
	36nm,1.4s							
RPZ	**Rata Peaks**	**16.74**	**210**	Pn		**Pn**	**12 54 19.7**	**-0.1**
	1.3nm,0.3s,baz=19,slow=16,SNR=10							
RPZ	**Rata Peaks**	**16.74**	**210**	Pn		**Pn**	**12 54 19.7**	**-0.1**
RAR	**Rarotonga**	**17.98**	**66**	LR		LR	12 59 02.9	
	comp=Z,182nm,19.7s,baz=267,slow=29							
TBI	**Tubuai**	**25.71**	**82**	*e*LR		LR	13 02 09.6	
	173nm,30.0s							
ARMA	**Armidale**	**26.82**	**261**	*e*P		**P**	**12 56 06.8**	**+1.6**
PPT	**Papeete**	**28.09**	**71**	*e*LR		LR	13 03 24.6	
	134nm,27.0s							
CTA	**Charters Tower**	**34.26**	**278**	P		**P**	**12 57 12.9**	**+1.9**
	5.2nm,0.6s,mb4.7,baz=101,slow=11,SNR=8.5							
CTA				LR		LR	13 10 01.6	
	comp=Z,191nm,18.2s,MS3.9,baz=54,slow=34							
CTA	**Charters Tower**	**34.26**	**278**	*e*P		**P**	**12 57 12.3**	**+1.3**
	4.1nm,0.6s,mb4.5							
CTA	**Charters Tower**	**34.26**	**278**	P		**P**	**12 57 12.9**	**+1.9**
CTA				LR		LR	13 10 01.6	
STKA	**Stephens Creek**	**35.19**	**256**	P		**P**	**12 57 20.5**	**+1.6**
	9.1nm,0.8s,mb4.8,baz=102,slow=7.7,SNR=14							
STKA				LR		LR	13 10 34.0	
	comp=Z,154nm,19.8s,MS3.8,baz=25,slow=34							
STKA	**Stephens Creek**	**35.19**	**256**	*e*P		**P**	**12 57 20.1**	**+1.2**
	5.5nm,0.6s,mb4.7							
STKA	**Stephens Creek**	**35.19**	**256**	*e*P		**P**	**12 57 20.7**	**+1.7**
	0.8nm,0.4s,mb4.0							
STKA				LR		LR	13 10 34.0	
RKT	**Rikitea**	**38.35**	**90**	*e*LR		LR	13 07 49.8	
	199nm,33.5s							
ASAR	**Alice Springs**	**43.72**	**266**	P		**P**	**12 58 29.3**	**-0.8**
	1.4nm,0.5s,mb3.9,baz=100,slow=6.3,SNR=26							
ASAR	**Alice Springs**	**43.72**	**266**	P		**P**	**12 58 29.3**	**-0.8**
WB2	**Warramunga Arr**	**44.63**	**271**	*e*P		**P**	**12 58 37.2**	**-0.3**
WRAB	**Tennant Creek**	**44.64**	**271**	*e*P		**P**	**12 58 37.4**	**-0.2**
	7.1nm,0.8s,mb4.5							
WRA	**Warramunga Arr**	**44.65**	**271**	P		**P**	**12 58 36.4**	**-1.2**
	5.8nm,0.5s,mb4.7,baz=110,slow=7.5,SNR=59							
WRA	**Warramunga Arr**	**44.65**	**271**	P		**P**	**12 58 36.4**	**-1.2**
FITZ	**Fitzroy Crossi**	**52.93**	**269**	*e*P		**P**	**12 59 37.8**	**-3.5**
	6.2nm,0.9s,mb4.5							
FITZ	**Fitzroy Crossi**	**52.93**	**269**	*e*P		**P**	**12 59 40.2**	**-1.1**
	4.8nm,1.1s,mb4.3							
QSPA	**South Pole Qui**	**60.38**	**180**	P		**P**	**13 00 34.2**	**+0.9**
	2.3nm,0.5s,mb4.4,baz=33,slow=1.0,SNR=9.9							
QSPA	**South Pole Qui**	**60.38**	**180**	P		**P**	**13 00 34.2**	**+0.9**
MAW	**Mawson**	**73.13**	**200**	P		**P**	**13 01 55.2**	**+0.6**
	1.6nm,0.8s,mb4.0,baz=114,slow=13,SNR=7.3							
MAW	**Mawson**	**73.13**	**200**	P		**P**	**13 01 55.2**	**+0.6**
VNA3	**Neumayer Olymp**	**78.93**	**176**	*e*		**P**	**13 02 23.3**	**-4.4**
VNA3				*e*			13 02 35.1	
VNA2	**Neumayer--Watz**	**79.37**	**177**	*e*		**P**	**13 02 25.3**	**-4.8**
VNA2				*e*			13 02 37.8	
PETK	**Petropavlovsk-**	**85.31**	**345**	P		**P**	**13 03 00.2**	**-0.8**
	2.9nm,0.7s,mb4.5,baz=119,slow=7.8,SNR=9.3							
PETK	**Petropavlovsk-**	**85.31**	**345**	P		**P**	**13 03 00.2**	**-0.8**

NVAR	**Mina Array Bea**	**87.36**	**42**	P		**P**	**13 03 11.1**	**-0.5**
	0.7nm,0.7s,mb4.0,baz=232,slow=7.4,SNR=6.6							
NVAR	**Mina Array Bea**	**87.36**	**42**	P		**P**	**13 03 11.1**	**-0.5**
FINES	**FINESS Array B**	**144.71**	**341**	PKP	PKPdf		13 09 57.5	-3.0
	3.4nm,0.6s,baz=46,slow=4.0,SNR=20							
FINES	**FINESS Array B**	**144.71**	**341**	PKP	PKPdf		13 09 57.5	-3.0
NOA	**NORSAR Array B**	**148.18**	**352**	PKPbc	PKPbc		13 10 08.4	-1.3
	1.8nm,0.7s,baz=15,slow=4.4,SNR=4.9							
NOA	**NORSAR Array B**	**148.18**	**352**	PKPbc	PKPbc		13 10 08.4	-1.3
AKASG	**Malin Array Be**	**151.11**	**324**	PKPbc	PKPbc		13 10 16.1	-1.2
	0.8nm,0.3s,baz=47,slow=3.1,SNR=5.7							
AKASG	**Malin Array Be**	**151.11**	**324**	PKPbc	PKPbc		13 10 16.1	-1.2
TORD	**Torodi Ar. Bea**	**163.47**	**177**	PKPab	PKPab		13 11 17.7	-1.2
	0.3nm,0.5s,baz=162,slow=4.1,SNR=3.3							

DJA 07 12:50:51.706S×105.76E,h32km,MLv3.6/6,Jawa

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
CGJI	**Cibinong**	**0.45**	**351**	P		Pb	12 51 01.7	+0.9
CGJI				S		Sb	12 51 09.4	+2.0
SKJI	**Sukabumi**	**0.79**	**86**	P		Pn	12 51 06.8	+0.9
SKJI				S		Sn	12 51 17.4	+0.7
DBJI	**Dramaga**	**1.10**	**63**	P		Pn	12 51 10.3	+0.1
DBJI				S		Sn	12 51 25.2	+0.8
RBSI	**Rajabasa**	**1.21**	**359**	P		Pn	12 51 10.7	-1.0
CBJI	**Citeko**	**1.25**	**60**	P		Pn	12 51 12.7	+0.4
CISI	**Cisompet, Garu**	**2.10**	**104**	P		Pn	12 51 24.6	+0.7
CISI				S		Sn	12 51 49.1	+0.2
KLSI		**2.57**	**336**	P		Pn	12 51 31.0	+0.6
LWLI	**Liwa**	**2.64**	**320**	P		Pn	12 51 35.2	+3.8

IDC 07 12:56:15.4±5.2,14.59S×167.99E,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.7/17,mbtmp3.7/3,Error ellipse: s-maj=250.0km s-min=34.5km az=143.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**32.54**	**256**	P		P	13 02 48.8	+0.4
	0.3nm,0.5s,baz=86,slow=8.8,SNR=3.9							
ASAR	**Alice Springs**	**33.38**	**249**	P		P	13 02 55.5	-0.3
	2.1nm,0.8s,baz=80,slow=9.1,SNR=13							
ILAR	**Eielson Array**	**86.18**	**18**	P		P	13 08 58.3	+0.1
	0.3nm,0.7s,baz=227,slow=4.9,SNR=5.5							

*ISCJB **07** 13:01:40.0±1.1,37.45N±0.05×28.03E±0.05,h28km±12km, Error ellipse: s-maj=8.7km s-min=6.9km az=171.3*
*CSEM **07** 13:01:39.8±0.3,37.44N×28.06E,h23km±5km, MD2.7, Error ellipse: s-maj=6.7km s-min=5.7km az=4.0*
*DDA **07** 13:01:40.4,37.42N×28.09E,h7km±2km,Md2.7*
*ISK **07** 13:01:41.2,37.32N×28.05E,h21km, MD2.3*

ISC 07 13:01:39.9±0.6,37.45N±0.05×28.02E±0.07,h30km±7km, n16,σ0°73/25,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
AYDN	**Tasoluk**	**0.24**	**331**	*i* P		**Pb**	**13 01 46.8**	**+0.3**
AYDN				*i* S		**Sb**	**13 01 50.9**	**0.0**
AYDN	**Tasoluk**	**0.24**	**331**	*i* P		**Pb**	**13 01 46.8**	**+0.3**
AYDN				*i* S		**Sb**	**13 01 50.9**	**-0.1**
MLSB	**Milas**	**0.25**	**232**	*e*PG		**Pb**	**13 01 46.9**	**+0.3**
MLSB				*e*SG		**Sb**	**13 01 51.1**	**0.0**
MLSB	**Milas**	**0.25**	**232**	*e*Pg		**P

KURK **Kurchatov** 44.37 306 P P 13 39 20.5 0.0
0.4nm,0.3s,mb3.6,baz=82,slow=8.2,SNR=4.2
WRA **Warramunga Arr** 59.49 188 P P 13 41 12.4 -0.3
0.3nm,0.9s,mb3.3,baz=2.7,slow=7.3,SNR=3.4

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*IDC **07** 13:40:57.3±0.8, 6°16N×82°73W, h0km, mb4.3/15, mb1 4.5/19, mb1mx4.4/28, mbtmp4.4/19, ML3.8/4, MS3.8/14, Ms1 3.8/14, ms1mx3.6/27, Error ellipse: s-maj=28.4km s-min=15.2km az=48.0*
*NEIC **07** 13:40:58.9±0.4, 6°18N×82°62W, h10km, mb4.5/42, Error ellipse: s-maj=8.4km s-min=5.1km az=203.0*
*ISCJB **07** 13:40:59.7±2.3, 6°25N±0°05×82°51W±0°04, h23km±17km, mb4.4/49, MS3.8/9, Error ellipse: s-maj=8.9km s-min=6.8km az=6.8*
*BJI **07** 13:40:59.2, 6°10N×82°60W, h10km, mB5.6/2*
ISC 07 13:41:02.0±2.2, 6°24N±0°05×82°50W±0°04, h26km±16km, n418, σ0°59/406, mb4.4/49, MS3.8/9, 157C-161D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BCIP	**Isla Barro Col**	**3.93**	**42**	⇓*i*Pn	**Pn**	**13 42 00.1**	**-0.5**
BCIP				*e*Sn	**Sn**	**13 42 47.8**	**+1.9**
JTS	**JuntasAbangare**	**4.70**	**329**	⇑*i*Pn	**Pn**	**13 42 07.4**	**-3.9**
OTAV	**Otavalo**	**7.20**	**146**	*e*Pn	**Pn**	**13 42 42.6**	**-3.0**
ROSC	**El Rosal**	**8.24**	**99**	Pn	**Pn**	**13 43 03.7**	**+3.7**
	8.4nm,0.3s,baz=92,slow=4.7,SNR=11						
ROSC				LR	LR	13 45 59.4	
	comp=Z,424nm,20.6s,baz=224,slow=36						
ROSC	**El Rosal**	**8.24**	**99**	*e*Pn	**Pn**	**13 43 02.0**	**+2.0**
TGUH	**Tegucigalpa,Un**	**9.08**	**329**	*e*Pn	**Pn**	**13 43 10.8**	**-0.7**
	46nm,0.7s						
SDV	**Santo Domingo**	**12.05**	**77**	*e*Pn	**Pn**	**13 43 53.9**	**+1.7**
MTDJ	**Mount Denham**	**12.86**	**22**	*e*Pn	**Pn**	**13 44 01.0**	**-2.3**
ATAH	**Atahualpa**	**13.90**	**163**	Pn	**Pn**	**13 44 18.0**	**+0.6**
	0.2nm,0.3s,baz=61,slow=17,SNR=4.1						
ATAH				LR	LR	13 49 01.7	
	comp=Z,516nm,20.9s,baz=172,slow=35						
TEIG	**Tepich**	**15.00**	**339**	Pn	**Pn**	**13 44 37.8**	**+5.5**
	0.3nm,0.3s,baz=187,slow=13,SNR=4.0						
TEIG				LR	LR	13 50 06.9	
	comp=Z,409nm,19.0s,baz=50,slow=37						
TEIG	**Tepich**	**15.00**	**339**	Pn	**Pn**	**13 44 37.8**	**+5.5**
TEIG				LR	LR	13 50 06.9	
CMIG	**Matias Romero**	**16.22**	**313**	Pn	**Pn**	**13 44 47.4**	**-0.8**
	1.0nm,0.3s,baz=94,slow=9.1,SNR=26						
CMIG				LR	LR	13 50 18.7	
	comp=Z,334nm,19.2s,baz=113,slow=35						
CMIG	**Matias Romero**	**16.22**	**313**	Pn	**Pn**	**13 44 47.4**	**-0.8**
CMIG				LR	LR	13 50 18.7	
SDDR	**Presa de Saban**	**16.72**	**40**	*e*Pn	**Pn**	**13 44 54.2**	**-0.4**
	104nm,1.3s						
NNA	**Nana**	**18.96**	**163**	P	**Pn**	**13 45 21.2**	**-0.9**
	0.9nm,0.3s,baz=303,slow=9.4,SNR=3.8						
NNA	**Nana**	**18.96**	**163**	P	**Pn**	**13 45 21.2**	**-0.9**
CRPR	**Cabo Rojo, PR**	**19.04**	**51**	*e*P	**Pn**	**13 45 23.7**	**+0.6**
	22nm,1.1s						
AGPR	**Aguadilla, PR**	**19.31**	**50**	P	**Pn**	**13 45 26.4**	**0.0**
	68nm,1.1s						
OBIP	**Obispado Ponce**	**19.45**	**51**	P	**Pn**	**13 45 27.8**	**-0.2**
	44nm,1.1s						
CELP	**Cerrillos**	**19.49**	**51**	*e*P	**Pn**	**13 45 28.4**	**-0.1**
SJG	**San Juan**	**19.84**	**52**	P	**Pn**	**13 45 32.5**	**-0.2**
	45nm,0.9s,baz=299,slow=20,SNR=7.5						
SJG				LR	LR	13 52 47.2	
	comp=Z,179nm,19.6s,baz=263,slow=35						
SJG	**San Juan**	**19.84**	**52**	P	**Pn**	**13 45 32.5**	**-0.2**
SJG				LR	LR	13 52 47.2	
MTP	**Monte Pirata**	**20.31**	**53**	*e*P	**P**	**13 45 37.2**	**+1.1**
	106nm,1.2s						
STVI	**Saint Thomas**	**20.92**	**53**	*e*P	**P**	**13 45 42.9**	**+0.1**
	30nm,1.0s						
LPAZ	**La Paz**	**26.51**	**148**	P	**P**	**13 46 36.6**	**-1.0**
	3.0nm,0.9s,mb3.8,baz=330,slow=6.3,SNR=4.0						
LPAZ				LR	LR	13 57 55.9	
	comp=Z,441nm,21.2s,MS4.0,baz=172,slow=38						
LPAZ	**La Paz**	**26.51**	**148**	*e*P	**P**	**13 46 36.4**	**-1.2**
	6.0nm,1.2s,mb4.0						
628A	**Black Gap, Mar**	**30.08**	**323**	⇓P	**P**	**13 47 08.5**	**-0.8**
	baz=30						
627A	**Terlingua Ranc**	**30.36**	**322**	⇓P	**P**	**13 47 11.3**	**-0.5**
	baz=30,SNR=7.2						
TXAR	**Lajitas Array**	**30.45**	**322**	P	**P**	**13 47 09.3**	**-3.2**
	2.5nm,1.1s,mb3.9,baz=148,slow=9.9,SNR=9.0						
TXAR				LR	LR	14 00 05.4	
	comp=Z,88nm,18.6s,MS3.4,baz=0.0,slow=38						
428A	**Kincaid Ranch,**	**30.87**	**325**	⇑P	**P**	**13 47 16.2**	**-0.1**
	baz=31						
626A	**Big Bend Ranch**	**30.89**	**321**	⇑P	**P**	**13 47 16.2**	**-0.2**
	baz=31,SNR=7.4						
527A	**Woodward Ranch**	**30.99**	**323**	⇑P	**P**	**13 47 16.6**	**-0.7**
	baz=31,SNR=13						
526A	**Mary Lane Ranc**	**31.22**	**322**	⇑P	**P**	**13 47 18.7**	**-0.7**
	baz=31,SNR=9.9						
427A	**Hayter Ranch,**	**31.37**	**324**	⇑P	**P**	**13 47 20.3**	**-0.4**
	baz=32						
328A	**Wristen Ranch,**	**31.43**	**325**	⇓P	**P**	**13 47 20.4**	**-0.8**
	baz=32,SNR=5.1						
426A	**McDonald Obser**	**31.61**	**323**	⇑P	**P**	**13 47 22.4**	**-0.5**
	baz=32,SNR=6.7						
326A	**Caldwell Ranch**	**32.05**	**324**	⇓P	**P**	**13 47 26.4**	**-0.3**
	baz=32						
425A	**Indio Mountain**	**32.28**	**322**	⇑P	**P**	**13 47 28.3**	**-0.4**
	baz=32,SNR=16						
CCM	**Cathedral Cave**	**32.66**	**347**	*e*P	**P**	**13 47 28.7**	**-3.2**
	5.4nm,0.9s,mb4.5						
325A	**Bean Ranch, Si**	**32.68**	**323**	⇑P	**P**	**13 47 31.7**	**-0.5**
	baz=33						
324A	**Moseley Ranch,**	**33.04**	**322**	⇓P	**P**	**13 47 34.8**	**-0.6**
	baz=33,SNR=28						
225A	**Deer Hill, Car**	**33.12**	**324**	⇑P	**P**	**13 47 35.9**	**-0.1**
	baz=33,SNR=7.6						
MSTX	**Muleshoe**	**33.38**	**328**	⇓P	**P**	**13 47 37.6**	**-0.7**
	baz=34						
125A	**Gardner Draw,**	**33.42**	**325**	⇓P	**P**	**13 47 38.2**	**-0.5**
	baz=34,SNR=10.0						
224A	**Cornudas Mount**	**33.51**	**323**	⇓P	**P**	**13 47 39.0**	**-0.4**
	baz=34,SNR=7.1						
Y27A	**Causey**	**33.52**	**328**	⇓P	**P**	**13 47 38.6**	**-0.9**
	baz=34						
Z25A	**Roswell**	**33.91**	**325**	⇓P	**P**	**13 47 42.9**	**0.0**
	baz=34,SNR=11						
124A	**Stringfield Ra**	**33.91**	**324**	⇓P	**P**	**13 47 43.1**	**+0.2**
	baz=34,SNR=9.7						
Z24A	**Sheeppen Canyo**	**34.32**	**325**	⇑P	**P**	**13 47 46.6**	**+0.2**
	baz=34,SNR=7.9						
Y25A	**Mesa, Roswell**	**34.38**	**326**	⇓P	**P**	**13 47 46.3**	**-0.6**
	baz=34						
W26A	**Owens Ranch, T**	**34.76**	**329**	⇓P	**P**	**13 47 49.7**	**-0.6**
	baz=35						
Z23A	**Rita Site, Whi**	**34.77**	**324**	⇑P	**P**	**13 47 50.0**	**-0.4**
	baz=35						
Y24A	**Capitan**	**34.79**	**325**	⇑P	**P**	**13 47 50.7**	**+0.2**
	baz=35,SNR=7.2						
122A	**Conniff Cattle**	**34.84**	**322**	⇑P	**P**	**13 47 51.3**	**+0.4**
	baz=35						
221A	**Mesquite Ranch**	**34.85**	**321**	⇓P	**P**	**13 47 52.1**	**+1.0**
	baz=35						
Y23A	**Lovelace Mesa,**	**35.15**	**325**	⇓P	**P**	**13 47 54.1**	**+0.5**
	baz=35,SNR=13						
121A	**Cookes Peak, D**	**35.21**	**321**	⇓P	**P**	**13 47 55.2**	**+1.0**
	baz=35,SNR=16						
W25A	**X Bar L Ranch,**	**35.23**	**328**	⇑P	**P**	**13 47 54.0**	**-0.2**
	baz=35						
220A	**Playas Peak, P**	**35.26**	**320**	⇑P	**P**	**13 47 55.1**	**+0.5**
	baz=35,SNR=9.8						
V26A	**Tequesquite Ra**	**35.32**	**329**	⇑P	**P**	**13 47 54.9**	**-0.2**
	baz=36						
319A	**Douglas**	**35.41**	**318**	⇑P	**P**	**13 47 56.2**	**+0.3**
	baz=36						
BNM	**Barren Site**	**35.64**	**324**	*e*P	**P**	**13 47 58.0**	**+0.2**
	8.0nm,1.1s,mb4.6						
Z21A	**St. Cloud Mine**	**35.66**	**322**	⇑P	**P**	**13 47 59.0**	**+0.9**
	baz=36,SNR=7.8						
Y22A	**Socorro**	**35.68**	**324**	⇓P	**P**	**13 47 58.7**	**+0.5**
	baz=36,SNR=16						
120A	**U Bar Ranch, L**	**35.75**	**320**	⇓P	**P**	**13 47 58.7**	**-0.1**
	baz=36						
U26A	**Atchley Ranch,**	**35.77**	**330**	⇑P	**P**	**13 47 58.7**	**-0.2**
	baz=36,SNR=7.3						
V25A	**Rancho No Teng**	**35.78**	**328**	⇑P	**P**	**13 47 59.2**	**+0.2**
	baz=36,SNR=8.2						
219A	**White Tail Can**	**35.79**	**319**	⇑P	**P**	**13 47 59.8**	**+0.6**
	baz=36,SNR=8.1						
318A	**Bisbee**	**35.92**	**318**	⇓P	**P**	**13 48 00.9**	**+0.6**
	baz=36						
V24A	**Rampart Ranch,**	**36.04**	**328**	⇓P	**P**	**13 48 01.4**	**+0.2**
	baz=36						
W23A	**Werner Place,**	**36.10**	**326**	⇑P	**P**	**13 48 02.1**	**+0.4**
	baz=36						
Z20A	**Nine Sixteen R**	**36.10**	**321**	⇓P	**P**	**13 48 02.8**	**+1.0**
	baz=36,SNR=6.4						
U25A	**Circle Dot Ran**	**36.11**	**329**	⇑P	**P**	**13 48 01.6**	**-0.2**
	baz=36						
X22A	**Bernardo**	**36.11**	**324**	⇓P	**P**	**13 48 02.1**	**+0.2**
	baz=36						
ANMO	**Albuquerque**	**36.12**	**326**	P	**P**	**13 48 02.5**	**+0.6**
	10nm,1.1s,mb4.7,baz=143,slow=10,SNR=13						
ANMO	**Albuquerque**	**36.12**	**326**	P	**P**	**13 48 02.5**	**+0.6**
Y21A	**Point of Rocks**	**36.15**	**323**	⇓P	**P**	**13 48 03.4**	**+1.2**
	baz=36,SNR=14						
218A	**Dragoon**	**36.29**	**318**	⇑P	**P**	**13 48 03.6**	**+0.2**
	baz=36						
119A	**Ashpeak Ranch,**	**36.32**	**320**	⇑P	**P**	**13 48 04.2**	**+0.6**
	baz=36						
W22A	**Albuquerque**	**36.44**	**325**	⇑P	**P**	**13 48 05.4**	**+0.8**
	baz=37						
Y20A	**Horse Springs,**	**36.50**	**322**	⇓P	**P**	**13 48 06.2**	**+0.9**
	baz=37,SNR=12						
X21A	**Alamocita Cree**	**36.52**	**324**	⇑P	**P**	**13 48 06.3**	**+1.0**
	baz=37,SNR=11						
V23A	**Ortiz Mt. (NFS**	**36.55**	**327**	⇓P	**P**	**13 48 06.3**	**+0.7**
	baz=37						
118A	**Homack Ranch,**	**36.66**	**319**	⇑P	**P**	**13 48 07.1**	**+0.5**
	baz=37,SNR=5.5						
217A	**Green Valley**	**36.68**	**317**	⇓P	**P**	**13 48 07.0**	**+0.2**
	baz=37						
T25A	**Trinidad**	**36.69**	**330**	⇓P	**P**	**13 48 07.2**	**+0.4**
	baz=37,SNR=8.8						
W21A	**San Fidel**	**36.91**	**325**	⇑P	**P**	**13 48 09.6**	**+0.9**
	baz=37						
T24A	**Torres, Weston**	**36.96**	**329**	⇓P	**P**	**13 48 09.6**	**+0.6**
	baz=37,SNR=7.1						
U23A	**El Rito**	**36.98**	**327**	⇓P	**P**	**13 48 09.9**	**+0.6**
	baz=37,SNR=8.0						
TUC	**Tucson**	**36.99**	**318**	*e*P	**P**	**13 48 09.0**	**-0.4**
	5.3nm,1.1s,mb4.3						
X20A	**Quemado**	**37.01**	**323**	⇓P	**P**	**13 48 10.7**	**+1.1**
	baz=37						
V22A	**San Miguel Ran**	**37.07**	**326**	⇑P	**P**	**13 48 10.2**	**+0.2**
	baz=37						
Y19A	**Nutrioso**	**37.07**	**322**	⇑P	**P**	**13 48 10.7**	**+0.6**
	baz=37						
S25A	**Robets Cordova**	**37.11**	**331**	⇑P	**P**	**13 48 10.7**	**+0.4**
	baz=37						
117A	**Oracle**	**37.12**	**319**	⇑P	**P**	**13 48 10.6**	**+0.1**
	baz=37,SNR=6.7						
V21A	**Milan**	**37.40**	**325**	⇑P	**P**	**13 48 13.6**	**+0.8**
	baz=38,SNR=7.5						
Z17A	**San Carlos Hig**	**37.41**	**320**	⇑P	**P**	**13 48 13.8**	**+0.8**
	baz=38						
X19A	**St. Johns**	**37.41**	**322**	⇓P	**P**	**13 48 13.9**	**+0.9**
	baz=38,SNR=5.2						
W20A	**Ramah**	**37.42**	**324**	⇑P	**P**	**13 48 13.7**	**+0.7**
	baz=38,SNR=9.9						
R25A	**Fountain Ranch**	**37.42**	**331**	⇑P	**P**	**13 48 12.8**	**-0.1**
	baz=38						
T23A	**Casias Ranch,**	**37.43**	**328**	⇑P	**P**	**13 48 14.0**	**+0.9**
	baz=38,SNR=7.0						
Y18A	**Canyon Day Jun**	**37.44**	**321**	⇑P	**P**	**13 48 13.7**	**+0.5**
	baz=38						
S24A	**Houchin Ranch,**	**37.48**	**330**	⇑P	**P**	**13 48 13.9**	**+0.4**
	baz=38						
SDCO	**Great Sand Dun**	**37.70**	**330**	⇓P	**P**	**13 48 15.5**	**+0.1**
	baz=38,SNR=18						
SDCO	**Great Sand Dun**	**37.70**	**330**	*e*P	**P**	**13 48 15.5**	**+0.1**
	11nm,1.0s,mb4.5						
116A	**Eloy**	**37.76**	**318**	⇑P	**P**	**13 48 16.4**	**+0.4**
	baz=38						
U21A	**Nageezi**	**37.86**	**326**	⇓P	**P**	**13 48 17.3**	**+0.6**
	baz=38						
V20A	**Brimhall**	**37.87**	**325**	⇓P	**P**	**13 48 17.4**	**+0.7**
	baz=38						
R24A	**Sanders Place,**	**37.88**	**330**	⇓P	**P**	**13 48 17.4**	**+0.5**
	baz=38						
X18A	**Snowflake**	**37.88**	**322**	⇓P	**P**	**13 48 17.4**	**+0.4**
	baz=38,SNR=5.3						
Y17A	**Roosevelt**	**37.90**	**320**	⇑P	**P**	**13 48 17.0**	**-0.2**
	baz=38						
W19A	**Sanders**	**37.93**	**323**	⇑P	**P**	**13 48 17.8**	**+0.5**
	baz=38,SNR=7.5						
Q25A	**Bedland, Calha**	**38.01**	**332**	⇓P	**P**	**13 48 17.9**	**0.0**
	baz=38						
W18A	**Petrified Fore**	**38.15**	**323**	⇑P	**P**	**13 48 19.3**	**+0.1**
	baz=38						
214A	**Organ Pipe Nat**	**38.15**	**316**	⇑P	**P**	**13 48 19.8**	**+0.5**
	baz=38						
T21A	**Navajo Lake**	**38.20**	**327**	⇑P	**P**	**13 48 19.8**	**+0.2**
	baz=38						
U20A	**Newcomb**	**38.30**	**325**	⇓P	**P**	**13 48 21.0**	**+0.5**
	baz=38,SNR=5.7						
S22A	**4UR Ranch, Cre**	**38.38**	**328**	⇑P	**P**	**13 48 21.7**	**+0.6**
	baz=38,SNR=8.2						
Y16A	**Circle Bar Ran**	**38.43**	**320**	⇑P	**P**	**13 48 21.7**	**+0.2**
	baz=38						
P25A	**Willow Gulch B**	**38.45**	**333**	⇓P	**P**	**13 48 21.7**	**0.0**
	baz=39,SNR=6.3						
Q24A	**Divide**	**38.48**	**331**	⇑P	**P**	**13 48 21.7**	**-0.1**
	baz=39,SNR=6.3						
SADO	**Sadowa**	**38.49**	**4**	LR	LR	14 04 38.4	
	comp=Z,142nm,20.0s,MS3.8,baz=195,slow=37						
U19A	**Dine' College,**	**38.64**	**324**	⇓P	**P**	**13 48 23.4**	**+0.2**
	baz=39						
114A	**Black Gap (USA**	**38.67**	**317**	⇓P	**P**	**13 48 24.0**	**+0.5**
	baz=39						
V18A	**Ganado**	**38.67**	**323**	⇑P	**P**	**13 48 23.9**	**+0.3**
	baz=39						
R22A	**Saguache, Gunn**	**38.71**	**329**	⇑P	**P**	**13 48 24.6**	**+0.8**
	baz=39						
X16A	**Lo Mia Camp, P**	**38.74**	**320**	⇓P	**P**	**13 48 25.0**	**+0.8**
	baz=39						
Q23A	**Hartsel**	**38.76**	**330**	⇓P	**P**	**13 48 24.9**	**+0.6**
	baz=39						
S21A	**Coal Bank Pass**	**38.83**	**327**	⇓P	**P**	**13 48 25.1**	**+0.3**
	baz=39						
MVCO	**Mesa Verde**	**38.89**	**326**	⇑P	**P**	**13 48 25.4**	**+0.1**
	baz=39,SNR=8.9						
MVCO	**Mesa Verde**	**38.89**	**326**	*e*P	**P**	**13 48 25.3**	**0.0**
	12nm,1.0s,mb4.6						
T19A	**Beclabito**	**38.91**	**325**	⇓P	**P**	**13 48 25.7**	**+0.1**
	baz=39						
O25A	**Wiggins**	**38.92**	**333**	⇑P	**P**	**13 48 25.2**	**-0.3**
	baz=39						
Y15A	**Casa Rosa Ranc**	**39.03**	**319**	⇑P	**P**	**13 48 26.9**	**+0.3**
	baz=39						
Z14A	**Wintersburg**	**39.07**	**318**	⇑P	**P**	**13 48 27.4**	**+0.4**
	baz=39						
U18A	**Rough Rock, Ch**	**39.11**	**324**	⇑P	**P**	**13 48 27.7**	**+0.4**
	baz=39						
V17A	**Tonalea, Kykot**	**39.13**	**322**	⇓P	**P**	**13 48 27.9**	**+0.6**
	baz=39,SNR=13						
P23A	**Jerson**	**39.13**	**331**	⇓P	**P**	**13 48 28.1**	**+0.7**
	baz=39						
R21A	**Cimarron**	**39.23**	**328**	⇑P	**P**	**13 48 28.8**	**+0.6**
	baz=39						
S20A	**Disappointment**	**39.26**	**327**	⇓P	**P**	**13 48 28.6**	**+0.2**
	baz=39						
Q22A	**Crested Butte,**	**39.27**	**329**	⇑P	**P**	**13 48 28.7**	**+0.2**
	baz=39,SNR=8.9						
113A	**Mohawk Valley,**	**39.28**	**316**	⇓P	**P**	**13 48 29.3**	**+0.6**
	baz=39						
ISCO	**Idaho Springs**	**39.36**	**332**	⇑P	**P**	**13 48 29.2**	**0.0**
	baz=40						
ISCO	**Idaho Springs**	**39.36**	**332**	*e*P	**P**	**13 48 28.5**	**-0.7**
	12nm,1.3s,mb4.5						
WUAZ	**Wupatki**	**39.41**	**322**	⇑P	**P**	**13 48 30.5**	**+0.7**
	baz=40,SNR=9.9						
WUAZ	**Wupatki**	**39.41**	**322**	*e*P	**P**	**13 48 30.0**	**+0.2**
	15nm,1.0s,mb4.7						
Z13A	**Yuma Proving G**	**39.46**	**317**	⇓P	**P**	**13 48 30.4**	**+0.3**
	baz=40,SNR=6.4						
Y14A	**Wickenburg**	**39.46**	**318**	⇓P	**P**	**13 48 30.5**	**+0.4**
	baz=40						
R20A	**Redvale**	**39.53**	**327**	⇑P	**P**	**13 48 31.2**	**+0.5**
	baz=40						
SMCO	**Snowmass**	**39.54**	**330**	*e*P	**P**	**13 48 31.1**	**+0.3**
	5.3nm,0.9s,mb4.3						
Q21A	**Lamborn Mesa,**	**39.59**	**329**	⇓P	**P**	**13 48 31.4**	**+0.2**
	baz=40						
PV01	**Paradox Valley**	**39.60**	**327**	*e*P	**P**	**13 48 31.6**	**+0.3**
	426nm,1.0s						
T18A	**Mexican Hat**	**39.61**	**325**	⇓P	**P**	**13 48 31.3**	**-0.1**
	baz=40						
S19A	**Harvey Farm, M**	**39.63**	**326**	⇑P	**P**	**13 48 31.8**	**+0.3**
	baz=40						
U16A	**Tuba City**	**39.67**	**323**	⇑P	**P**	**13 48 32.2**	**+0.2**
	baz=40,SNR=5.0						
P22A	**Eagle**	**39.75**	**330**	⇓P	**P**	**13 48 32.7**	**+0.2**
	baz=40,SNR=6.6						
W15A	**Williams**	**39.75**	**321**	⇑P	**P**	**13 48 33.0**	**+0.3**
	baz=40						
O23A	**Lake Granby, G**	**39.82**	**332**	⇑P	**P**	**13 48 33.6**	**+0.5**
	baz=40						
PV04	**Paradox Valley**	**39.97**	**327**	*e*P	**P**	**13 48 34.1**	**-0.2**
P21A	**Newcastle**	**40.04**	**330**	⇑P	**P**	**13 48 35.4**	**+0.4**
	baz=40,SNR=8.9						
Q20A	**Ridgley Place,**	**40.05**	**328**	⇓P	**P**	**13 48 35.0**	**0.0**
	baz=40						
T17A	**Navajo Res., N**	**40.05**	**324**	⇓P	**P**	**13 48 35.4**	**+0.3**
	baz=40						
S18A	**Hurst Farm, Bl**	**40.07**	**325**	⇓P	**P**	**13 48 35.5**	**+0.3**
	baz=40						
R19A	**Curley Farm, L**	**40.09**	**327**	⇑P	**P**	**13 48 35.4**	**0.0**
	baz=40						
O22A	**Kremmling**	**40.09**	**331**	⇓P	**P**	**13 48 34.9**	**-0.4**
	baz=40						
V15A	**Kaibab Nationa**	**40.10**	**321**	⇓P	**P**	**13 48 36.3**	**+0.8**
	baz=40,SNR=20						
M24A	**Cheyenne**	**40.33**	**334**	⇑P	**P**	**13 48 37.3**	**0.0**
	baz=40						
Y12C	**Blythe**	**40.37**	**317**	⇑P	**P**	**13 48 38.4**	**+0.7**
	baz=40						
N23A	**Red Feather La**	**40.38**	**332**	⇓P	**P**	**13 48 38.0**	**+0.3**
	baz=40						
PDMCI	**Parker Dam,Lak**	**40.43**	**318**	⇓P	**P**	**13 48 38.8**	**+0.5**
	baz=40						
T16A	**Glen Canyon Da**	**40.46**	**323**	⇓P	**P**	**13 48 38.8**	**+0.3**
	baz=41						
S17A	**Black Ridge (B**	**40.49**	**325**	⇑P	**P**	**13 48 38.7**	**0.0**
	baz=41,SNR=8.1						
R18A	**Canyonlands Na**	**40.50**	**326**	⇓P	**P**	**13 48 38.4**	**-0.4**
	baz=41,SNR=6.8						
P20A	**De Beque**	**40.51**	**329**	⇓P	**P**	**13 48 39.0**	**+0.2**
	baz=41						
N22A	**Wattenberg Ran**	**40.54**	**332**	⇑P	**P**	**13 48 39.8**	**+0.8**
	baz=41						
CPUP	**Villa Florida**	**40.55**	**144**	LR	LR	14 06 59.6	
	comp=Z,173nm,18.9s,MS3.9,baz=166,slow=38						
Q19A	**Hogan Spring (**	**40.56**	**327**	⇑P	**P**	**13 48 39.6**	**+0.3**
	baz=41,SNR=7.1						
U15A	**North Rim**	**40.57**	**322**	⇓P	**P**	**13 48 40.0**	**+0.7**
	baz=41,SNR=13						
V14A	**Boquillas Ranc**	**40.57**	**320**	⇑P	**P**	**13 48 40.2**	**+0.9**
	baz=41,SNR=13						
M23A	**Laramie**	**40.73**	**333**	⇑P	**P**	**13 48 42.5**	**+1.9**
	baz=41						
O20A	**White River Ci**	**40.90**	**329**	⇓P	**P**	**13 48 42.5**	**+0.4**
	baz=41						
R17A	**Hanksville Air**	**40.98**	**326**	⇓P	**P**	**13 48 42.8**	**+0.1**
	baz=41,SNR=16						
T15A	**Red Dirt Ranch**	**41.01**	**323**	⇑P	**P**	**13 48 43.4**	**+0.4**
	baz=41,SNR=10.0						
S16A	**Weppner Ranch,**	**41.01**	**324**	⇓P	**P**	**13 48 43.1**	**+0.1**
	baz=41,SNR=8.5						
N21A	**Black Mountain**	**41.02**	**331**	⇑P	**P**	**13 48 43.5**	**+0.5**
	baz=41						
U14A	**Mt Trumbull**	**41.11**	**321**	⇓P	**P**	**13 48 44.6**	**+0.8**
	baz=41						
Q18A	**Rafter H Ranch**	**41.14**	**327**	⇓P	**P**	**13 48 44.3**	**+0.2**
	baz=41,SNR=7.5						
MONP	**Monument Peak**	**41.20**	**315**	⇑P	**P**	**13 48 44.8**	**+0.2**
	baz=41						
L23A	**Garrett**	**41.24**	**334**	⇑P	**P**	**13 48 44.8**	**0.0**
	baz=41						
R16A	**Teasdale**	**41.33**	**325**	⇑P	**P**	**13 48 45.9**	**+0.3**
	baz=41,SNR=8.3						
SRU	**San Rafael**	**41.36**	**326**	⇑P	**P**	**13 48 45.9**	**0.0**
	baz=42,SNR=22						
SRU	**San Rafael**	**41.36**	**326**	*e*P	**P**	**13 48 45.6**	**-0.3**
	17nm,0.6s,mb4.8						
N20A	**Spence Gulch,**	**41.44**	**330**	⇑P	**P**	**13 48 46.5**	**+0.1**
	baz=42,SNR=5.8						
L22A	**Ellis Ranch, M**	**41.50**	**333**	⇓P	**P**	**13 48 47.7**	**+0.8**
	baz=42						
BELC	**Belle Mtn. Jos**	**41.51**	**316**	⇓P	**P**	**13 48 47.8**	**+0.6**
	baz=42						
M21A	**Separation Pea**	**41.60**	**332**	⇑P	**P**	**13 48 47.4**	**-0.3**
	baz=42						
U13A	**Pakoon Wash**	**41.60**	**321**	⇓P	**P**	**13 48 48.4**	**+0.5**
	baz=42,SNR=6.1						
PFO	**Pinyon Flat Ob**	**41.61**	**315**	⇓P	**P**	**13 48 48.7**	**+0.7**
	baz=42						
GMRC	**Granite Mounta**	**41.73**	**317**	⇓P	**P**	**13 48 49.2**	**+0.3**
	baz=42						
P17A	**Butcher Ranch,**	**41.74**	**327**	⇓P	**P**	**13 48 48.7**	**-0.2**
	baz=42

baz=43,SNR=19
J20A **Shoshoni** 43.29 333 ⇓P P 13 49 01.6 +0.2
baz=43
I21A **Big Trails, Te** 43.30 334 ⇓P P 13 49 01.0 -0.5
baz=44
DUG **Dugway** 43.38 326 ⇑P P 13 49 02.6 +0.3
baz=44
AGMN **Agassiz Nation** 43.43 347 *eP* P 13 49 00.1 -2.4
4.9nm,0.8s,mb4.3
LRMC **Laurel Mountai** 43.49 317 ⇓P P 13 49 03.5 +0.2
baz=44
FURC **Furnace Creek,** 43.50 319 ⇑P P 13 49 03.7 +0.4
baz=44
M16A **Huntsville** 43.52 328 ⇓P P 13 49 03.1 -0.3
baz=44
BW06 **Boulder Array** 43.53 331 ⇑P P 13 49 03.1 -0.4
baz=44,SNR=7.1
PDAR **Pinedale Array** 43.53 331 P P 13 49 02.9 -0.6
3.2nm,1.0s,mb4.0,baz=139,slow=9.2,SNR=18
PDAR PcP PcP 13 50 50.3 -0.7
1.1nm,0.9s,baz=142,slow=4.6,SNR=3.9
PDAR LR LR 14 09 24.8
comp=Z,104nm,18.1s,MS3.8,baz=344,slow=39
PDAR **Pinedale Array** 43.53 331 P P 13 49 02.9 -0.6
PDAR PcP PcP 13 50 50.3 -0.7
PDAR LR LR 14 09 24.8
J19A **Crowheart** 43.67 332 ⇑P P 13 49 04.0 -0.6
baz=44
MPMC **Manual Prospec** 43.68 318 ⇑P P 13 49 05.2 +0.4
baz=44
HWUT **Hardware Ranch** 43.69 328 *eP* P 13 49 04.0 -0.8
12nm,0.8s,mb4.7
I20A **Worland** 43.78 333 ⇑P P 13 49 05.3 -0.1
baz=44,SNR=10
R11A **Troy Canyon, C** 43.81 322 ⇓P P 13 49 06.0 +0.2
baz=44,SNR=6.7
H21A **Big Horn, Sher** 43.84 335 ⇓P P 13 49 05.4 -0.5
baz=44
L16A **Fish Haven** 43.92 329 ⇓P P 13 49 06.3 -0.2
baz=44
BGU **Big Grassy Mou** 44.00 326 *eP* P 13 49 06.8 -0.5
18nm,1.5s,mb4.6
M15A **Larsen Ranch,** 44.06 327 ⇓P P 13 49 07.5 -0.2
baz=44
J18A **Kendall Valley** 44.09 331 ⇓P P 13 49 07.7 -0.3
baz=44,SNR=20
ISA **Isabella** 44.13 317 ⇑P P 13 49 09.0 +0.6
baz=44
H20A **Greybull** 44.14 334 ⇑P P 13 49 08.2 -0.2
baz=44
K17A **Gardner Place,** 44.19 330 ⇓P P 13 49 08.4 -0.3
baz=44
I19A **Meeteetse** 44.24 333 ⇑P P 13 49 08.7 -0.4
baz=44,SNR=5.0
CWC **Cottonwood Cre** 44.29 318 ⇑P P 13 49 09.7 +0.1
baz=44
L15A **Malad City** 44.41 328 ⇓P P 13 49 09.6 -0.9
baz=44,SNR=12
J17A **Brown Place, J** 44.54 331 ⇓P P 13 49 11.3 -0.3
baz=45,SNR=12
K16A **Soda Springs** 44.59 329 ⇑P P 13 49 11.5 -0.4
baz=45
REDW **Red Top Meadow** 44.61 330 *eP* P 13 49 11.5 -0.5
17nm,1.2s,mb4.8
SNOW **Snow King Moun** 44.64 331 *eP* P 13 49 12.2 -0.1
8.6nm,0.9s,mb4.6
VES **Vestal, Richgr** 44.64 316 ⇓P P 13 49 12.7 +0.3
baz=45
LOHW **Long Hollow** 44.67 331 *eP* P 13 49 11.8 -0.8
3.3nm,0.8s,mb4.2
H19A **Powell** 44.72 333 ⇓P P 13 49 12.7 -0.2
baz=45
G20A **Bridger** 44.81 334 ⇓P P 13 49 12.8 -0.9
baz=45,SNR=7.1
RRI2 **Red Ridge** 44.83 330 *eP* P 13 49 13.7 -0.1
4.9nm,0.8s,mb4.4
D24A **Glendive** 44.84 339 ⇓P P 13 49 13.2 -0.6
baz=45
MOOW **Moose Ponds** 44.84 331 *eP* P 13 49 13.3 -0.6
5.1nm,1.1s,mb4.3
E22A **Miles City** 44.87 337 ⇓P P 13 49 13.0 -1.1
baz=45,SNR=6.4
L14A **Malta** 44.88 327 ⇓P P 13 49 13.5 -0.8
baz=45,SNR=7.2
I17A **Pilgrim Ck.** 44.89 331 ⇓P P 13 49 14.5 +0.2
baz=45,SNR=7.3
K15A **Arbon** 44.97 329 ⇑P P 13 49 14.5 -0.5
baz=45
H18A **Shoshone NF, C** 45.04 333 ⇑P P 13 49 15.0 -0.5
baz=45
IMW **Indian Meadow** 45.05 331 *eP* P 13 49 14.8 -0.7
5.4nm,1.0s,mb4.3
FLWY **Flagg Ranch** 45.07 331 *eP* P 13 49 15.4 -0.3
12nm,1.1s,mb4.6
LAO **LASA Array** 45.19 337 ⇓P P 13 49 16.0 -0.6
baz=45
RLMT **Red Lodge** 45.20 333 ⇓P P 13 49 16.2 -0.6
baz=45,SNR=7.0
RLMT **Red Lodge** 45.20 333 *eP* P 13 49 15.8 -0.9
6.2nm,0.8s,mb4.5
D23A **Lindsay** 45.20 338 ⇑P P 13 49 16.0 -0.7
baz=45
K14A **Jones Ranch, D** 45.20 328 ⇓P P 13 49 16.3 -0.5
baz=45,SNR=11
F20A **Billings** 45.25 335 ⇓P P 13 49 16.6 -0.5
baz=45,SNR=8.6
ULM **Lac du Bonnet** 45.28 348 P P 13 49 14.8 -2.5
6.7nm,0.8s,mb4.5,baz=146,slow=14,SNR=5.4
ULM **Lac du Bonnet** 45.28 348 P P 13 49 14.8 -2.5
I16A **Newdale** 45.30 330 ⇑P P 13 49 17.0 -0.5
baz=45
J15A **Blackfoot** 45.43 329 ⇓P P 13 49 18.6 0.0
baz=46,SNR=8.7
MLAC **Mammoth Lakes** 45.46 319 ⇑P P 13 49 19.3 +0.4
baz=46
G18A **Lazy EL Ranch,** 45.48 333 ⇓P P 13 49 18.3 -0.7
baz=46
D22A **Cohagen** 45.55 337 ⇑P P 13 49 19.0 -0.5
baz=46
NVAR **Mina Array Bea** 45.57 320 P P 13 49 20.3 +0.5
4.5nm,0.8s,mb4.4,baz=138,slow=7.5,SNR=26
NVAR PcP PcP 13 50 57.8 -0.4
1.2nm,0.7s,baz=143,slow=4.4,SNR=4.5
NVAR **Mina Array Bea** 45.57 320 P P 13 49 20.3 +0.5
NVAR PcP PcP 13 50 57.8 -0.3
F19A **Roth Farm, Mol** 45.63 334 ⇓P P 13 49 19.3 -0.8
baz=46,SNR=7.0
YMR **Madison River** 45.64 332 *eP* P 13 49 20.4 +0.1
36nm,1.5s,mb5.1
C23A **Lambert** 45.73 339 ⇓P P 13 49 20.5 -0.4
baz=46
D21A **La Casta Ranch** 45.80 337 ⇑P P 13 49 21.5 0.0
baz=46
H16A **Russell Place,** 45.80 331 ⇓P P 13 49 21.8 +0.3
baz=46
E20A **Meyer Farm, Mu** 45.80 335 ⇓P P 13 49 21.2 -0.3
baz=46,SNR=9.3
I15A **Monteview** 45.88 330 ⇑P P 13 49 22.7 +0.5
baz=46
J14A **Carey** 45.93 328 ⇓P P 13 49 22.6 0.0
baz=46,SNR=9.0
C22A **Vida** 45.94 338 ⇑P P 13 49 22.4 -0.1
baz=46
DGMT **Dagmar** 45.95 340 ⇓P P 13 49 22.1 -0.5
baz=46
QLMT **Earthquake Lak** 45.98 331 *eP* P 13 49 23.3 +0.4
1.8nm,1.1s,mb3.9
F18A **Big Timber** 46.01 334 ⇑P P 13 49 22.9 -0.3
baz=46,SNR=11
G17A **Pierce Place,** 46.02 332 ⇑P P 13 49 23.3 +0.1
baz=46,SNR=7.5
E19A **Rath Farm, Rou** 46.04 335 ⇓P P 13 49 23.8 +0.4
baz=46,SNR=7.4
BMN **Battle Mountai** 46.10 323 *eP* P 13 49 23.1 -0.8
11nm,1.0s,mb4.7
B23A **Brockton** 46.22 339 ⇑P P 13 49 24.5 -0.3
baz=46
D20A **Manuel Ranch,** 46.27 336 ⇑P P 13 49 24.8 -0.4
baz=46
A24A **Westby** 46.28 340 ⇑P P 13 49 24.9 -0.3
baz=46
I14A **Mackay** 46.32 329 ⇑P P 13 49 25.9 +0.3
baz=46
J13A **Cove Ranch, Pi** 46.32 328 ⇑P P 13 49 25.5 -0.2
baz=46
WAKR **Walker** 46.34 319 *eP* P 13 49 25.3 -0.6
9.1nm,1.2s,mb4.6
H15A **Lima** 46.41 330 ⇓P P 13 49 26.9 +0.6
baz=46,SNR=17
F17A **Fitzpatrick Pl** 46.43 333 ⇓P P 13 49 26.3 -0.1
baz=47,SNR=8.2
G16A **Moss Hill, Enn** 46.45 331 ⇑P P 13 49 26.5 -0.1
baz=47,SNR=8.8
HLID **Hailey** 46.56 328 ⇓P P 13 49 27.6 0.0
baz=47,SNR=6.9
HLID **Hailey** 46.56 328 *eP* P 13 49 26.9 -0.6
2.3nm,0.7s,mb4.2
E18A **Harlowton** 46.61 334 ⇑P P 13 49 27.8 0.0
baz=47
D19A **Cripps Ranch,** 46.64 335 ⇓P P 13 49 27.6 -0.4
baz=47,SNR=9.6
I13A **Wildhorse Cree** 46.65 329 ⇑P P 13 49 28.1 -0.1
baz=47,SNR=9.3
MCMT **McKenzie Canyo** 46.66 330 *eP* P 13 49 28.7 +0.4
1.9nm,1.1s,mb3.9
BOZ **Bozeman (W)** 46.68 332 ⇑P P 13 49 28.6 +0.2
baz=47
C20A **Veseth Ranch,** 46.72 336 ⇑P P 13 49 28.5 -0.2
baz=47
G15A **Dillon** 46.73 331 ⇓P P 13 49 29.4 +0.6
baz=47
H14A **Leadore** 46.77 330 ⇑P P 13 49 29.3 +0.2
baz=47,SNR=6.5
F16A **Kennard Place,** 46.78 332 ⇓P P 13 49 29.2 0.0
baz=47,SNR=5.1
E17A **Martinsdale** 46.94 333 ⇑P P 13 49 30.3 -0.2
baz=47,SNR=6.5
A22A **Carney Farms,** 46.99 339 ⇓P P 13 49 30.5 -0.3
baz=47
WCN **Washoe City** 47.00 320 ⇓P P 13 49 31.7 +0.6
baz=47
D18A **Linhart Farms,** 47.05 335 ⇑P P 13 49 31.3 0.0
baz=47,SNR=11
I12A **Atlanta** 47.10 328 ⇑P P 13 49 32.1 +0.3
baz=47
C19A **Slack Wire Ran** 47.16 336 ⇓P P 13 49 31.8 -0.3
baz=47,SNR=9.9
H13A **Challis** 47.18 329 ⇓P P 13 49 32.5 +0.1
baz=47
MFID **Camas Ranch** 47.22 327 ⇑P P 13 49 33.0 +0.3
baz=47
MFID **Camas Ranch** 47.22 327 *eP* P 13 49 31.9 -0.7
2.9nm,0.8s,mb4.3
F15A **Butte** 47.23 332 ⇑P P 13 49 32.6 -0.1
baz=47
B20A **Solberg Farm,** 47.32 337 ⇑P P 13 49 33.7 +0.4
baz=48
A21A **Bergtoll Ranch** 47.36 338 ⇑P P 13 49 33.8 +0.1
baz=48
E16A **East Helena** 47.37 333 ⇓P P 13 49 33.3 -0.5
baz=48,SNR=8.3
D17A **Six Diamond Ra** 47.40 334 ⇓P P 13 49 33.4 -0.6
baz=48,SNR=12
H12A **Diamond D Ranc** 47.48 329 ⇓P P 13 49 34.5 -0.1
baz=48
G13A **Cobalt** 47.54 330 ⇓P P 13 49 34.9 -0.3
baz=48
A20A **Cobblestone Ra** 47.64 337 ⇓P P 13 49 35.7 -0.1
baz=48
EGMT **Eagleton** 47.68 335 ⇑P P 13 49 35.9 -0.3
baz=48
D16A **Dana Ranch, Ca** 47.68 333 ⇓P P 13 49 35.9 -0.4
baz=48,SNR=8.6
B19A **Brinkman Farms** 47.69 336 ⇑P P 13 49 36.3 0.0
baz=48
E15A **Deer Lodge** 47.73 332 ⇑P P 13 49 36.1 -0.5
baz=48
C17A **Wharram Farm,** 47.80 334 ⇑P P 13 49 36.7 -0.4
baz=48,SNR=11
B18A **Beardsley Farm** 47.98 336 ⇓P P 13 49 38.0 -0.5
baz=48,SNR=5.6
A19A **Klindworth Far** 48.00 337 ⇓P P 13 49 38.1 -0.5
baz=48
F13A **Darby** 48.08 330 ⇓P P 13 49 38.5 -0.8
baz=48,SNR=5.6
G12A **Big Creek, Yel** 48.12 329 ⇓P P 13 49 38.8 -0.8
baz=48
E14A **Clinton** 48.12 331 ⇓P P 13 49 39.2 -0.5
baz=48
D15A **Lincoln** 48.13 333 ⇓P P 13 49 39.6 -0.1
baz=48
WVOR **Wild Horse Val** 48.17 324 *eP* P 13 49 38.7 -1.4
9.7nm,1.1s,mb4.8
B17A **L&G Farms, Che** 48.33 335 ⇑P P 13 49 41.0 -0.2
baz=48
C16A **Fuhringer Ranc** 48.36 334 ⇑P P 13 49 40.9 -0.5
baz=48
A18A **Metzger Ranch,** 48.43 336 ⇓P P 13 49 41.2 -0.7
baz=48,SNR=5.9
E13A **Victor** 48.48 331 ⇓P P 13 49 42.2 -0.2
baz=49
D14A **Greenough** 48.62 332 ⇓P P 13 49 43.2 -0.2
baz=49
MSO **Missoula** 48.64 331 ⇓P P 13 49 43.4 -0.2
baz=49
J08A **Circle Bar Ran** 48.65 325 ⇓P P 13 49 43.2 -0.6
baz=49
C15A **Salmond Ranch,** 48.72 333 ⇑P P 13 49 43.8 -0.4
baz=49,SNR=6.3
A17A **Triple J Farms** 48.79 336 ⇑P P 13 49 44.3 -0.5
baz=49
D13A **Huson** 49.07 331 ⇑P P 13 49 47.0 0.0
baz=49
B15A **Bradely Ranch,** 49.10 334 ⇑P P 13 49 46.4 -0.7
baz=49,SNR=8.8
E12A **Beaver Dam Sad** 49.13 330 ⇑P P 13 49 46.2 -1.2
baz=49
A16A **West Butte Ran** 49.17 335 ⇑P P 13 49 47.5 -0.2
baz=49
B14A **Marquette Ranc** 49.45 333 ⇓P P 13 49 49.5 -0.3
baz=50,SNR=13
D12A **Red Ives Fores** 49.47 331 ⇓P P 13 49 49.5 -0.5
baz=50
C13A **Hot Springs** 49.55 332 ⇓P P 13 49 50.2 -0.3
baz=50
F10A **Beach Ranch, E** 49.67 329 ⇓P P 13 49 51.2 -0.4
baz=50
A15A **Johnson Ranch,** 49.68 334 ⇓P P 13 49 51.0 -0.5
baz=50,SNR=6.4
I07A **Izee** 49.69 325 ⇑P P 13 49 51.2 -0.5
baz=50
A14A **Double T Ranch** 49.97 334 ⇑P P 13 49 53.9 +0.1
baz=50
B13A **Whitefish** 50.00 333 ⇓P P 13 49 54.0 0.0
baz=50
SCHQ **Schefferville** 50.07 12 P P 13 49 55.2 +0.8
9.6nm,0.9s,mb4.8,baz=170,slow=8.5,SNR=5.0
SCHQ **Schefferville** 50.07 12 P P 13 49 55.2 +0.8
G08A **Pilot Rock** 50.15 327 ⇑P P 13 49 55.5 +0.3
baz=50
A13A **Flathead Natio** 50.39 333 ⇑P P 13 49 56.9 0.0
baz=50
C11A **Tepee Creek (N** 50.46 331 ⇓P P 13 49 56.9 -0.6
baz=51
E09A **Wood Farm, Sta** 50.51 329 ⇓P P 13 49 56.8 -1.1
baz=51,SNR=5.4
B12A **Libby** 50.59 332 ⇑P P 13 49 58.7 +0.3
baz=51
NEW **Newport** 51.18 331 ⇓P P 13 50 02.5 -0.3
baz=51
D08A **Wollman Farm,** 51.27 329 ⇓P P 13 50 03.4 -0.1
baz=51
E07A **Sunnyside** 51.44 328 ⇑P P 13 50 04.0 -0.9
baz=52
YKA **Yellowknife Ar** 60.88 344 P P 13 51 10.3 -1.8
3.7nm,0.9s,mb4.5,baz=142,slow=5.3,SNR=4.5
YKA **Yellowknife Ar** 60.88 344 P P 13 51 10.3 -1.8
DLBC **Dease Lake** 63.59 334 P P 13 51 30.0 -0.3
3.3nm,0.8s,mb4.4,baz=24,slow=3.4,SNR=4.9
DLBC **Dease Lake** 63.59 334 P P 13 51 30.0 -0.3
INK **Inuvik** 70.57 342 P P 13 52 14.2 -0.2
11nm,1.0s,mb4.7,baz=106,slow=5.1,SNR=22
INK **Inuvik** 70.57 342 P P 13 52 14.2 -0.2
ILAR **Eielson Array** 73.64 336 P P 13 52 32.0 -0.8
1.4nm,0.8s,mb4.0,baz=113,slow=4.3,SNR=15
ILAR **Eielson Array** 73.64 336 P P 13 52 32.0 -0.8
DBIC **Dimbokro** 77.07 85 LR LR 14 24 01.1
comp=Z,48nm,18.3s,MS3.9,baz=248,slow=33
ESDC **Sonseca Array** 77.22 51 P P 13 52 55.9 +1.9
0.2nm,0.3s,mb3.5,baz=277,slow=5.9,SNR=4.5
ESDC **Sonseca Array** 77.22 51 P P 13 52 55.9 +1.9
TORD **Torodi Ar. Bea** 82.97 78 P P 13 53 26.7 +1.2
0.4nm,0.6s,mb3.6,baz=278,slow=5.7,SNR=4.2
TORD LR LR 14 28 31.0
comp=Z,50nm,18.2s,MS3.9,baz=65,slow=34
TORD **Torodi Ar. Bea** 82.97 78 P P 13 53 26.7 +1.2
TORD LR LR 14 28 31.0
NB2 **NORSAR Subarra** 86.39 29 P P 13 53 40.5 -1.3
comp=Z,3.1nm,1.1s,mb4.5,baz=274,slow=4.6
NOA **NORSAR Array B** 86.39 29 P P 13 53 40.9 -0.9
comp=Z,0.9nm,0.8s,mb4.1,baz=276,slow=4.5,SNR=3.3
NOA LR LR 14 30 21.4
comp=Z,28nm,19.1s,MS3.7,baz=270,slow=34
NOA **NORSAR Array B** 86.39 29 P P 13 53 40.9 -0.9
NOA LR LR 14 30 21.4
GERES **GERESS Array B** 89.42 41 LR LR 14 27 34.1
comp=Z,83nm,19.0s,MS4.2,baz=298,slow=31
MDJ **Mudanjiang** 121.74 334 PKP PKPdf 13 59 53.6 -0.2
MDJ PP PP 14 01 26.4 +0.5
MDJ PKS 14 03 31.0
MDJ AMB AMB
comp=Z,160nm,5.2s
SONM **Songino Array** 125.59 353 PKP PKPdf 13 59 59.9 -1.3
comp=Z,0.4nm,0.7s,baz=282,slow=1.4,SNR=4.1
SONM **Songino Array** 125.59 353 PKP PKPdf 13 59 59.9 -1.3
WMQ **Urumqi** 129.39 9 PKP PKPdf 14 00 08.4 -0.1
HHC **Hu-ho-hao-te** 131.40 346 *e*PKP PKPdf 14 00 11.3 -1.1
HHC PP PP 14 02 33.4 +3.8
HHC PKS 14 03 46.4
HHC SKS SKSdf 14 07 19.4 -3.0
HHC SKKS SKKSac 14 09 22.8 -2.9
HHC SS SS 14 20 01.4 +1.0
HHC AMB AMB
comp=Z,96nm,5.8s
ASAR **Alice Springs** 140.96 240 PKhKP PKPpre 14 00 23.1
comp=Z,1.4nm,1.1s,baz=107,slow=3.2,SNR=2.8
ASAR PKP PKPdf 14 00 27.6 -3.0
comp=Z,0.7nm,0.7s,baz=114,slow=3.2,SNR=4.3
ASAR **Alice Springs** 140.96 240 PKP PKPpre 14 00 23.1
ASAR PKP PKPdf 14 00 27.6 -3.0
WRA **Warramunga Arr** 141.73 246 PKhKP PKPpre 14 00 25.2
comp=Z,0.5nm,0.8s,baz=103,slow=2.8,SNR=3.7
WRA PKP PKPdf 14 00 30.6 -1.5
comp=Z,0.7nm,0.8s,baz=103,slow=2.6,SNR=5.0
WRA **Warramunga Arr** 141.73 246 PKP PKPpre 14 00 25.2
WRA PKP PKPdf 14 00 30.6 -1.5

IDC 07 13:48:50.9±1.8, 25.86S×69.59E, h0km, mb3.8/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.8/4, Error ellipse: s-maj=65.0km s-min=35.5km az=29.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	57.92	103	P	P	13 58 45.2	0.0
	0.3nm,0.6s,baz=254,slow=6.7,SNR=4.1						
MKAR	**Makanchi Array**	73.22	9	P	P	14 00 23.6	+0.2
	1.0nm,0.7s,baz=202,slow=6.3,SNR=8.1						
TORD	**Torodi Ar. Bea**	76.57	292	P	P	14 00 43.6	+0.1
	0.2nm,0.7s,baz=131,slow=8.6,SNR=3.6						
ZALV	**Zalesovo Beam**	80.56	9	P	P	14 01 04.7	0.0
	1.0nm,0.6s,baz=191,slow=4.5,SNR=5.6						

*NOU **07** 13:49:33.9±1.0, 14.49S×168.55E, h30km, MD3.8, ML3.5*
*IDC **07** 13:49:35.6±0.8, 14.79S×168.07E, h0km, mb4.4/13, mb1 4.6/13, mb1mx4.4/20, mbtmp4.4/13, MS4.1/21, Ms1 4.1/21, ms1mx4.0/30, Error ellipse: s-maj=27.0km s-min=18.8km az=150.0*
*LDG **07** 13:49:38.7±0.2, 14.69S×167.28E, h10km, Mb5.0/3, Ms4.2/8, Error ellipse: s-maj=31.2km s-min=5.9km az=88.0*
*ISCJB **07** 13:49:38.1±2.1, 15.01S±0.04×168.15E±0.06, h29km±14km, mb4.5/22, MS4.1/24, Error ellipse: s-maj=10.4km s-min=7.0km az=172.7*
*NEIC **07** 13:49:40.0±3.1, 14.92S×168.12E, h27km±21km, mb4.6/10, Error ellipse: s-maj=12.4km s-min=9.8km az=190.0*
*GCMT **07** 13:49:39.2±0.3, 14.88S×168.06E, h15km±1km, MW4.9, Moment Tensor Solution. s15,c17; s59,c81; Moment tensor: Scale 10^{16}Nm; M_{rr}2.85±.22; $M_{\theta\theta}$-0.03±.14; $M_{\phi\phi}$-2.82±.15; $M_{r\theta}$0.89±.56; $M_{\theta\phi}$0.50±.08; $M_{\phi r}$0.15±.38; Best double couple: $M_0$3.00000×10^{16} NP1:ϕ_{s6}.00000°, δ47.00000°, λ113.00000°. NP2:ϕ_{s}154.00000°, δ47.00000°, λ67.00000°. Principal axes: T 3.1200, Plg74.0000°, Azm350.0000°; N -0.2100, Plg16.0000°, Azm170.0000°; P -2.9100, Plg0.0000°, Azm260.0000°; Data Used: II IU G IC CN.*

ISC 07 13:49:41.0±1.1, 14.96S±0.05×168.16E±0.06, h37km±10km, n126, σ1s09/59, mb4.5/22, MS4.1/24, 2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	7.26	189	*e*P	Pn	13 51 24.0	-0.5
BAYA				*e*S	Sn	13 52 45.4	-0.3
DZM	**Mont Dzumac**	7.26	193	*e*Pn	Pn	13 51 24.3	-0.3
	21nm,0.2s						
DZM				*e*Sn	Sn	13 52 36.1	-10
	15nm,0.3s						
DZM				*e*LR	LR	13 52 56.2	
	1μm,26.2s						
DZM	**Mont Dzumac**	7.26	193	*e*P	Pn	13 51 23.3	-1.3
DZM				*e*S	Sn	13 52 45.7	-0.1
DZM				AMP		13 52 52.7	
	comp=Z,202nm,2.6s						
DZM	**Mont Dzumac**	7.26	193	*e*Pn	Pn	13 51 24.3	-0.3
	comp=Z,66nm,0.6s						
DZM				*e*Sn	Sn	13 52 46.6	+0.9
NOUC	**Port Laguerre**	7.32	194	*e*P	Pn	13 51 25.3	-0.1
NOUC				*e*S	Sn	13 52 47.2	0.0
NOUC				AMP		13 52 52.2	
	comp=Z,13nm,0.0s						
LASL	**Noumea**	7.40	192	*e*P	Pn	13 51 26.3	-0.2
HNR	**Honiara**	9.72	303	*e*Pn	Pn	13 51 59.3	+0.9
MSVF	**Nonsavu**	9.89	108	P	Pn	13 51 59.7	-0.9
EIDS	**Eidsvold**	19.07	234	⇓*i*P	Pn	13 54 02.7	+1.4
EIDS	**Eidsvold**	19.07	234	*e*P	Pn	13 54 02.5	+1.3
	comp=Z,18nm,0.7s						
PMG	**Port Moresby**	21.25	283	P	P	13 54 23.0	-1.0
	comp=Z,14nm,1.0s,mb4.2,baz=156,slow=15,SNR=5.6						
PMG	**Port Moresby**	21.25	283	P	P	13 54 23.0	-1.0
CTA	**Charters Tower**	21.50	253	P	P	13 54 27.4	+0.7
	comp=Z,7.5nm,0.8s,mb4.1,baz=74,slow=10,SNR=5.2						
CTA				LR	LR	14 01 26.4	
	comp=Z,1μm,21.1s,MS4.2,baz=59,slow=33						
CTA	**Charters Tower**	21.50	253	P	P	13 54 27.4	+0.7
CTA				LR	LR	14 01 26.4	
CTAO	**Charters Tower**	21.50	253	*e*P	P	13 54 27.8	+1.1
	comp=Z,22nm,1.1s,mb4.4						
ARMA	**Armidale**	21.62	222	P	P	13 54 29.7	+1.8
	comp=Z,85nm,1.8s,mb4.9						
MTSU	**Mount Surprise**	23.07	259	*e*P	P	13 54 43.3	-0.1
	comp=Z,43nm,1.0s,mb4.8						
URZ	**Urewera**	24.52	163	P	P	13 54 58.5	+1.5
	comp=Z,10nm,0.7s,mb4.5,baz=318,slow=16,SNR=5.8						
URZ				LR	LR	14 02 47.5	
	comp=Z,261nm,19.3s,MS3.7,baz=105,slow=32						
URZ	**Urewera**	24.52	163	P	P	13 54 58.5	+1.5
URZ				LR	LR	14 02 47.5	
QLP	**Quilpie**	25.13	239	⇓*i*P	P	13 55 03.1	+0.5
RPZ	**Rata Peaks**	28.77	176	LR	LR	14 05 57.7	
	comp=Z,206nm,20.1s,MS3.7,baz=164,slow=34						
STKA	**Stephens Creek**	29.51	231	P	P	13 55 43.1	+1.3
	comp=Z,6.4nm,0.8s,mb4.4,baz=78,slow=7.0,SNR=7.8						
STKA				LR	LR	14 07 55.1	
	comp=Z,278nm,18.7s,MS3.9,baz=39,slow=37						
STKA	**Stephens Creek**	29.51	231	*e*P	P	13 55 42.5	+0.7
	comp=Z,8.0nm,1.6s,mb4.2						
STKA	**Stephens Creek**	29.51	231	P	P	13 55 40.4	-1.4
STKA				LR	LR	14 07 55.1	
RAR	**Rarotonga**	31.07	106	LR	LR	14 05 36.7	
	comp=Z,587nm,19.5s,MS4.3,baz=279,slow=31						
WRAB	**Tennant Creek**	32.59	256	*e*P	P	13 56 07.0	-2.2
	comp=Z,6.3nm,1.3s,mb4.4						
WRA	**Warramunga Arr**	32.61	256	P	P	13 56 07.3	-2.0
	comp=Z,2.6nm,0.9s,mb4.2,baz=86,slow=8.6,SNR=18						
WRA				LR	LR	14 08 51.5	
	comp=Z,987nm,18.4s,MS4.5,baz=85,slow=36						
WRA	**Warramunga Arr**	32.61	256	P	P	13 56 07.3	-2.0
WRA				LR	LR	14 08 51.5	
ASAR	**Alice Springs**	33.40	250	P	P	13 56 14.9	-1.2
	comp=Z,7.9nm,0.6s,mb4.8,baz=79,slow=9.1,SNR=85						
ASAR	**Alice Springs**	33.40	250	P	P	13 56 14.9	-1.2
GUMO	**Guam**	36.55	320	LR	LR	14 09 29.4	
	comp=Z,219nm,19.5s,MS3.9,baz=105,slow=33						
PPT	**Papeete**	40.60	100	*e*S	S	14 03 20.1	-4.7
	comp=Z,189nm,25.5s						
PPT				*e*LR	LR	14 08 39.6	
	comp=Z,764nm,28.5s,baz=259						

PPT	Papeete	40.60	100	LR	LR	14 09 46.1		
	comp=Z,394nm,19.2s,MS4.3,baz=302,slow=30							
TBI	Tubuai	40.77	108	eS	S	14 03 25.3	-2.0	
	comp=Z,149nm,28.2s							
TBI				eLR	LR	14 08 44.0		
	comp=Z,570nm,27.8s,baz=279							
FITZ	Fitzroy Crossi	40.82	260	LR	LR	14 14 04.1		
	comp=Z,808nm,18.5s,MS4.6,baz=96,slow=36							
FITZ	Fitzroy Crossi	40.82	260	eP	P	13 57 17.7	-1.6	
	comp=Z,6.3nm,0.8s,mb4.3							
FITZ	Fitzroy Crossi	40.82	260	eP	P	13 57 17.8	-1.5	
	comp=Z,8.2nm,1.0s,mb4.3							
NWAO	Narrogin (SRO)	49.37	239	LR	LR	14 19 10.8		
	comp=Z,552nm,18.7s,MS4.6,baz=218,slow=36							
TAOE	Nuku Hiva Isla	50.85	89	eS	S	14 05 51.2	-1.3	
	comp=Z,157nm,28.8s							
TAOE				eLR	LR	14 13 09.2		
	comp=Z,410nm,29.6s							
RKT	Rikitea	54.09	108	eLR	LR	14 14 47.6		
	comp=Z,493nm,29.5s							
SBA	Scott Base	62.91	180	eP	P	14 00 04.1	+1.1	
	comp=Z,42nm,1.7s,mb5.3							
ASAJ	Asahikawa	63.25	340	LR	LR	14 23 48.2		
	comp=Z,62nm,19.6s,MS3.8,baz=37,slow=32							
KSRS	Korea Array	64.41	325	LR	LR	14 24 04.8		
	comp=Z,45nm,20.6s,MS3.6,baz=222,slow=32							
FX1	Attu Island--F	67.70	3	LR	LR	14 22 44.7		
	comp=Z,92nm,21.7s,MS4.0,baz=137,slow=30							
PETK	Petropavlovsk-	68.38	353	LR	LR	14 30 58.1		
	comp=Z,44nm,18.0s,MS3.7,baz=307,slow=36							
QSPA	South Pole Qui	75.07	180	eP	P	14 01 18.7	+0.2	
	comp=Z,3.2nm,1.0s,mb4.2							
QSPA				e		14 01 33.3		
CMAR	Chiang Mai Arr	75.83	294	P	P	14 01 24.5	+0.7	
	comp=Z,2.0nm,0.7s,mb4.1,baz=118,slow=3.7,SNR=13							
CMAR				LR	LR	14 33 18.1		
	comp=Z,66nm,18.0s,MS4.0,baz=285,slow=35							
CMAR	Chiang Mai Arr	75.83	294	P	P	14 01 24.5	+0.7	
CMAR				LR	LR	14 33 18.1		
MAW	Mawson	82.00	202	LR	LR	14 31 54.9		
	comp=Z,73nm,20.4s,MS4.0,baz=351,slow=31							
ULN	Ulaanbaatar	82.83	324	eP	P	14 02 01.0	-0.4	
	comp=Z,18nm,1.3s,mb4.9							
SONM	Songino Array	83.19	323	P	P	14 02 03.3	+0.1	
	comp=Z,6.4nm,1.2s,mb4.5,baz=133,slow=3.9,SNR=20							
SONM	Songino Array	83.19	323	P	P	14 02 03.3	+0.1	
SHL	Shillong	84.43	298	ePKP	P	14 02 11.0	+0.9	
LSA	Lhasa	86.41	302	eP	P	14 02 19.9	0.0	
	comp=Z,2.0nm,0.5s,mb4.6							
ILAR	Eielson Array	86.48	18	P	P	14 02 17.5	-1.9	
	comp=Z,1.4nm,0.7s,mb4.3,baz=234,slow=4.5,SNR=22							
ILAR				LR	LR	14 34 37.6		
	comp=Z,115nm,19.2s,MS4.3,baz=223,slow=31							
ILAR	Eielson Array	86.48	18	P	P	14 02 17.5	-1.9	
ILAR				LR	LR	14 34 37.6		
NVAR	Mina Array Bea	86.77	49	P	P	14 02 23.2	+1.8	
	comp=Z,1.9nm,1.0s,mb4.3,baz=233,slow=7.7,SNR=11							
NVAR				LR	LR	14 32 45.2		
	comp=Z,176nm,20.8s,MS4.4,baz=105,slow=30							
NVAR	Mina Array Bea	86.77	49	P	P	14 02 23.2	+1.8	
NVAR				LR	LR	14 32 45.2		
WUAZ	Wupatki	91.02	54	eP	P	14 02 43.5	+1.9	
	comp=Z,1.9nm,0.4s,mb4.8							
PDAR	Pinedale Array	94.47	47	LR	LR	14 35 44.1		
	comp=Z,127nm,20.9s,MS4.4,baz=198,slow=29							
ANMO	Albuquerque	94.72	55	LR	LR	14 38 20.2		
	comp=Z,177nm,19.1s,MS4.5,baz=80,slow=31							
TXAR	Lajitas Array	95.63	61	P	P	14 03 04.2	+1.2	
	comp=Z,0.3nm,0.6s,mb3.9,baz=216,slow=6.2,SNR=3.8							
TXAR				LR	LR	14 42 50.9		
	comp=Z,82nm,19.2s,MS4.2,baz=175,slow=33							
TXAR	Lajitas Array	95.63	61	P	P	14 03 04.2	+1.2	
TXAR				LR	LR	14 42 50.9		
YKA	Yellowknife Ar	97.35	27	LR	LR	14 41 43.5		
	comp=Z,6.6nm,19.2s,MS3.1,baz=340,slow=32							
MK31	Makanchi Array	97.96	316	eP	P	14 03 12.8	-0.3	
MKAR	Makanchi Array	97.96	316	P	P	14 03 13.0	-0.1	
	comp=Z,3.8nm,0.9s,mb4.9,baz=99,slow=5.6,SNR=17							
MKAR	Makanchi Array	97.96	316	P	P	14 03 13.0	-0.1	
ZALV	Zalesovo Beam	98.08	324	P	P	14 03 12.8	-0.6	
	comp=Z,0.4nm,0.3s,mb4.4,baz=102,slow=6.2,SNR=6.6							
ZALV	Zalesovo Beam	98.08	324	P	P	14 03 12.8	-0.6	
ARCES	ARCESS Array B	120.69	346	PKP	PKPdf	14 08 27.2	-1.1	
	comp=Z,4.1nm,0.9s,baz=147,slow=2.5,SNR=3.6							
ARCES	ARCESS Array B	120.69	346	PKP	PKPdf	14 08 27.2	-1.1	
DURS	Dursunbey	137.07	313	*i* P	PKPdf	14 09 05.2	+4.9	
BALY	Balya	137.62	313	*i* P	PKPdf	14 09 00.6	-0.7	
URLA	Izmir	138.91	312	*i* P	PKPdf	14 09 08.6	+4.9	
SFTF	Sexfontaines	144.03	341	ePKP1	PKPdf	14 09 10.0	-2.6	
SFTF	Sexfontaines	144.03	341	ePKP	PKPdf	14 09 10.0	-2.6	
CABF	La Chapelle	145.06	338	ePKP1	PKPbc	14 09 13.8	0.0	
CABF	La Chapelle	145.06	338	ePKP	PKPbc	14 09 13.8	0.0	
LOR	Lormes	145.24	341	ePKP1	PKPbc	14 09 14.0	-0.4	
	comp=Z,33nm,1.2s							
LOR				eR		14 09 14.0		
	comp=Z,66nm,19.8s							
LOR	Lormes	145.24	341	ePKP	PKPbc	14 09 14.0	-0.4	
LOR				LR	LR			
	comp=Z,70nm,19.8s,MS4.4							
GRR	Gorron	145.45	347	ePKP1	PKPdf	14 09 14.2	-0.8	
GRR	Gorron	145.45	347	ePKP	PKPdf	14 09 14.2	-0.8	
SSF	Saint Saulge	145.53	341	ePKP1	PKPbc	14 09 15.3	0.0	
	comp=Z,58nm,1.4s							
SSF	Saint Saulge	145.53	341	ePKP	PKPbc	14 09 15.3	0.0	
LPL	La Plagne	145.75	337	ePKP1	PKPbc	14 09 16.6	+0.5	
LPL	La Plagne	145.75	337	ePKP	PKPbc	14 09 16.6	+0.5	
LPG	La Plagne	145.76	337	ePKP1	PKPbc	14 09 16.7	+0.6	
LPG	La Plagne	145.76	337	ePKP	PKPbc	14 09 16.7	+0.6	
SMF	Signal de Mont	145.79	341	ePKP1	PKPdf	14 09 15.9	+0.2	
	comp=Z,16nm,0.9s							
SMF	Signal de Mont	145.79	341	ePKP	PKPdf	14 09 15.9	+0.2	
AVF	Avril sur Loir	145.82	341	ePKP1	PKPdf	14 09 15.9	+0.2	
AVF	Avril sur Loir	145.82	341	ePKP	PKPdf	14 09 15.9	+0.2	
SGMF	Saint Gilles	145.92	349	ePKP1	PKPdf	14 09 16.1	+0.3	
	comp=Z,284nm,1.8s							
SGMF	Saint Gilles	145.92	349	ePKP	PKPdf	14 09 16.1	+0.3	
BGF	Bois d'Agland	146.18	342	ePKP1	PKPbc	14 09 17.2	-0.1	
	comp=Z,43nm,1.1s							
BGF	Bois d'Agland	146.18	342	ePKP	PKPbc	14 09 17.2	-0.1	
MBDF	Montbardon	146.39	336	ePKP1	PKPbc	14 09 17.9	-0.1	
MBDF	Montbardon	146.39	336	ePKP	PKPbc	14 09 17.9	-0.1	
ORIF	Oris-en-Rattie	146.58	337	ePKP1	PKPbc	14 09 18.8	+0.2	
	comp=Z,14nm,0.8s							
ORIF				eR		14 09 18.8		
	comp=Z,82nm,20.8s							
ORIF	Oris-en-Rattie	146.58	337	ePKP	PKPbc	14 09 18.8	+0.2	
TCF	Toulx Ste Croi	146.62	342	ePKP1	PKPbc	14 09 18.6	0.0	
TCF	Toulx Ste Croi	146.62	342	ePKP	PKPbc	14 09 18.6	0.0	
SBF	Sospel	146.83	334	ePKP1	PKPbc	14 09 18.7	-0.6	
SBF	Sospel	146.83	334	ePKP	PKPbc	14 09 18.7	-0.6	
MFF	Saint Martin d	146.97	345	ePKP1	PKPbc	14 09 19.3	-0.3	
MFF	Saint Martin d	146.97	345	ePKP	PKPbc	14 09 19.3	-0.3	
VIVF	Saint-Julien-l	147.08	338	ePKP1	PKPbc	14 09 20.2	+0.2	
VIVF	Saint-Julien-l	147.08	338	ePKP	PKPbc	14 09 20.2	+0.2	
PGF	Pioggiola	147.18	331	ePKP1	PKPbc	14 09 20.1	-0.3	
	comp=Z,105nm,1.3s							
PGF	Pioggiola	147.18	331	ePKP	PKPbc	14 09 20.1	-0.3	
FRF	La Foret Royal	147.41	335	ePKP1	PKPbc	14 09 20.5	-0.5	
FRF	La Foret Royal	147.41	335	ePKP	PKPbc	14 09 20.5	-0.5	
SMRF	Simiane la Rot	147.49	336	ePKP1	PKPbc	14 09 21.4	+0.2	
SMRF	Simiane la Rot	147.49	336	ePKP	PKPbc	14 09 21.4	+0.2	
LMR	La Mourre	147.65	335	ePKP1	PKPbc	14 09 21.2	-0.4	
	comp=Z,65nm,1.4s							
LMR	La Mourre	147.65	335	ePKP	PKPbc	14 09 21.2	-0.4	
RJF	Les Rejaudoux	147.71	342	ePKP1	PKPbc	14 09 21.7	0.0	
	comp=Z,123nm,1.7s							
RJF				eR		14 09 21.7		
	comp=Z,90nm,17.2s							
RJF	Les Rejaudoux	147.71	342	ePKP	PKPbc	14 09 21.7	0.0	
RJF				LR	LR			
	comp=Z,90nm,17.3s,MS4.6							
LASF	Ste Croix	148.04	338	ePKP1	PKPbc	14 09 22.9	+0.2	
	comp=Z,73nm,1.6s							
LASF	Ste Croix	148.04	338	ePKP	PKPbc	14 09 22.9	+0.2	
MTLF	Montolieu	149.26	340	ePKP1	PKPbc	14 09 25.8	0.0	
	comp=Z,38nm,1.5s							
MTLF	Montolieu	149.26	340	ePKP	PKPbc	14 09 25.8	0.0	
ETSF	Etsaut	150.52	343	ePKP1	PKPbc	14 09 29.3	+0.4	
	comp=Z,45nm,1.4s							
ETSF	Etsaut	150.52	343	ePKP	PKPbc	14 09 29.3	+0.4	
TORD	Torodi Ar. Bea	166.74	264	PKP	PKPdf	14 09 43.1	-0.4	
	comp=Z,0.8nm,0.9s,baz=204,slow=1.5,SNR=6.0							
TORD				PKPab	PKPab	14 10 45.4	-1.1	
	comp=Z,0.9nm,0.9s,baz=81,slow=2.1,SNR=4.7							
TORD	Torodi Ar. Bea	166.74	264	PKP	PKPdf	14 09 43.1	-0.4	
TORD				PKPab	PKPab	14 10 45.4	-1.1	

*ISK **07** 13:54:26.7,36°.50N×25°.08E,h27km,MD3.4*
*CSEM **07** 13:54:29.7±0.1,36°.47N×25°.50E,h10km,ML3.0/1, Error ellipse: s-maj=4.8km s-min=3.8km az=108.0*
*ATH **07** 13:54:29.3,36°.52N×25°.53E,h30km±1km,MD3.5/9*
*ISCJB **07** 13:54:30.0±0.4,36°.47N±0°.03×25°.51E±0°.05,h13km±3km, Error ellipse: s-maj=7.0km s-min=3.9km az=24.4*
*THE **07** 13:54:31.3,36°.47N×25°.48E,h0km±1km,ML3.0/1, Error ellipse: s-maj=2.7km s-min=1.2km az=326.0*

ISC 07 13:54:30.3±0.4,36°.46N±0°.03×25°.51E±0°.05,h12km±3km, n48,σ0.894/67,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THR1	Thera Island	0.10	205	P		Pg		13 54 33.1	0.0
THR1				S		Sg		13 54 35.5	+0.4
THR1	Thera Island	0.10	205	P		Pg		13 54 33.1	0.0
THR1				S		Sg		13 54 35.5	+0.4
THR3	Thira Island,	0.10	241	P		Pg		13 54 32.9	-0.3
THR3	Thira Island,	0.10	241	P		Pg		13 54 32.9	-0.3
THR5	Thira Island,	0.14	253	P		Pg		13 54 33.5	-0.2
THR5				S		Sg		13 54 37.0	+0.9
THR5	Thira Island,	0.14	253	P		Pg		13 54 33.5	-0.2
THR5				S		Sg		13 54 37.0	+0.9
THR6	Thira Island,	0.14	222	P		Pg		13 54 33.9	+0.2
THR6				S		Sg		13 54 36.6	+0.6
THR6	Thira Island,	0.14	222	P		Pg		13 54 33.9	+0.2
THR6				S		Sg		13 54 36.6	+0.6
APE	Apeiranthos	0.61	2	*e*PG		Pg		13 54 40.7	-1.5
APE				*e*SG		Sg		13 54 50.7	+0.4
APE	Apeiranthos	0.61	2	*e*PN		Pg		13 54 40.5	-1.8
APE				*e*SN		Sg		13 54 49.5	-0.8
APE	Apeiranthos	0.61	2	*e*Pn		Pg		13 54 40.5	-1.8
APE	Apeiranthos	0.61	2	*e*Pg		Pg		13 54 40.7	-1.6
APE				*e*Sg		Sg		13 54 50.7	+0.4
NPS	Neapolis	1.20	176	*e*PN		Pn		13 54 52.3	-0.5
NPS				*e*SN		Sn		13 55 08.3	-0.6
NPS	Neapolis	1.20	176	*e*Pn		Pn		13 54 52.3	-0.5
LAST	Lasithi	1.29	181	*e*PB		Pb		13 54 53.2	-1.4
LAST				*e*SN		Sn		13 55 11.5	+0.1
LAST	Lasithi	1.29	181	*e*Pb		Pb		13 54 53.2	-1.4
NIS1	Nisyros Isl.	1.35	83	P		Pn		13 54 56.2	+1.2
NIS1				S		Sb		13 55 16.9	+4.1
NIS1	Nisyros Isl.	1.35	83	P		Pn		13 54 56.2	+1.2
ZKR	Zakros	1.46	157	*e*PN		Pn		13 54 56.6	+0.2
ZKR				*e*SN		Sn		13 55 15.6	+0.2
ZKR	Zakros	1.46	157	*e*Pn		Pn		13 54 56.6	+0.2
ZKR				*e*Sn		Sn		13 55 15.6	+0.2
VAM	Vamos	1.49	226	*e*PN		Pn		13 54 57.1	+0.2
VAM				*e*SN		Sn		13 55 17.0	+0.7
VAM	Vamos	1.49	226	*e*Pn		Pn		13 54 57.1	+0.2
VAM				*e*Sn		Sn		13 55 17.0	+0.7
SIVA	Sivas	1.54	202	*e*PN		Pn		13 54 57.9	+0.3
SIVA	Sivas	1.54	202	*e*Pn		Pn		13 54 57.9	+0.3
BODT	Bodrum	1.57	67	*e*PN		Pn		13 54 57.5	-0.5
BODT				*e*SN		Sn		13 55 20.5	+2.3
BODT	Bodrum	1.57	67	*e*Pn		Pn		13 54 57.5	-0.5
BODT				*e*Sn		Sn		13 55 20.5	+2.3
XRY	Khrisi	1.59	174	*e*PN		Pn		13 54 58.2	0.0
XRY	Khrisi	1.59	174	*e*Pn		Pn		13 54 58.2	0.0
KARP	Karpathos	1.62	124	*e*PN		Pn		13 54 58.4	-0.2
KARP	Karpathos	1.62	124	*e*Pn		Pn		13 54 58.4	-0.2
SMG	Samos	1.64	40	*e*PN		Pn		13 54 57.2	-1.7
SMG	Samos	1.64	40	*e*Pn		Pn		13 54 57.2	-1.7
KARN	Karanos	1.67	231	*e*PN		Pn		13 54 59.7	+0.4
KARN	Karanos	1.67	231	*e*Pn		Pn		13 54 59.7	+0.4
DAT	Datca	1.69	80	*e*PN		Pn		13 55 00.1	+0.5
DAT	Datca	1.69	80	*e*Pn		Pn		13 55 00.1	+0.5
GCAM	G?zelcaml?	1.85	48	*i* P		Pn		13 55 03.2	+1.3
GCAM	G?zelcaml?	1.85	48	*i* Pn		Pn		13 55 03.2	+1.3
KYTH	Kithira	2.00	266	*e*PN		Pn		13 54 59.3	-0.2
KYTH	Kithira	2.00	266	*e*Pn		Pn		13 55 03.2	+2.2
VLI	Veliai	2.09	278	*e*PN		Pn		13 55 04.4	-0.7
VLI	Veliai	2.09	278	*e*Pn		Pn		13 55 04.4	-0.7
URLA	Izmir	2.09	24	*i* P		Pn		13 55 00.8	-4.3
URLA	Izmir	2.09	24	*i* Pn		Pn		13 55 00.8	-4.3
URLA				*i* S		Sn		13 55 33.2	+2.2
AYDN	Tasoluk	2.25	57	*i* P		Pn		13 55 05.9	-1.4
AYDN	Tasoluk	2.25	57	*i* Pn		Pn		13 55 05.9	-1.4
TURN	Turunc	2.52	80	*i* P		Pn		13 55 09.4	-1.6
TURN	Turunc	2.52	80	*i* Pn		Pn		13 55 09.4	-1.7

*IDC **07** 14:03:38.6±2.3,5°.61S×132°.11E,h0km,mb3.7/2, mb1 3.9/5,mb1mx3.7/15,mbtmp3.8/5,ML3.9/3,Error ellipse: s-maj=115.4km s-min=26.0km az=81.0*
*NEIC **07** 14:03:47.9±4.7,5°.92S×131°.94E,h79km±48km,Error ellipse: s-maj=51.8km s-min=30.3km az=58.0*
*ISCJB **07** 14:03:52.5±2.1,6°.20S±0°.08×131°.7E±0°.1,h146km±22km, mb3.3/2,Error ellipse: s-maj=23.8km s-min=12.4km az=169.9*

ISC 07 14:03:53.0±2.3,6°.28S±0°.09×131°.7E±0°.1,h128km±24km, n13,σ1.926/22,mb3.3/2,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.44	173	Pn		Pn		14 05 26.0	+0.5
KAKA				*e*Sn		Sn		14 06 43.1	+5.4
FITZ	Fitzroy Crossi	13.14	206	Pn		Pn		14 06 56.9	+2.1
	0.4nm,0.3s,baz=43,slow=11,SNR=23								
FITZ				Sn		Sn		14 09 18.9	-0.9
	1.0nm,0.3s,baz=66,slow=20,SNR=13								
FITZ	Fitzroy Crossi	13.14	206	Pn		Pn		14 06 56.9	+2.1
FITZ				Sn		Sn		14 09 18.9	-1.0
WRAB	Tennant Creek	13.83	169	*e*Pn		Pn		14 07 03.1	-0.5
WRAB				*e*Sn		Sn		14 09 34.5	-1.9
WRA	Warramunga Arr	13.83	169	Pn		Pn		14 07 03.7	0.0
	0.6nm,0.3s,baz=357,slow=13,SNR=40								
WRA				Sn		Sn		14 09 37.6	+1.1
	0.6nm,0.3s,baz=356,slow=23,SNR=7.1								
WRA	Warramunga Arr	13.83	169	Pn		Pn		14 07 03.7	0.0
WRA				Sn		Sn		14 09 37.6	+1.1
WB2	Warramunga Arr	13.84	169	*e*Pn		Pn		14 07 03.8	0.0
WB2				*e*Sn		Sn		14 09 34.0	-2.6
ASAR	Alice Springs	17.43	173	P		Pn		14 07 51.4	+3.2
	0.3nm,0.3s,baz=350,slow=8.7,SNR=28								
ASAR				S		S		14 11 03.2	+1.0
	0.1nm,0.3s,baz=358,slow=27,SNR=5.7								
ASAR	Alice Springs	17.43	173	P		Pn		14 07 51.4	+3.2
ASAR				S		S		14 11 03.2	+1.0
MKAR	Makanchi Array	68.54	326	P		P		14 14 40.8	-0.9
	0.3nm,0.5s,mb3.3,baz=114,slow=6.8,SNR=3.2								
MKAR	Makanchi Array	68.54	326	P		P		14 14 40.8	-0.9
ZALV	Zalesovo Beam	71.68	333	P		P		14 15 00.3	-0.3
	0.3nm,0.4s,mb3.4,baz=134,slow=8.3,SNR=2.8								
ZALV	Zalesovo Beam	71.68	333	P		P		14 15 00.3	-0.3

*ISCJB **07** 14:10:35.2±1.0,46°.8N±0°.2×153°.5E±0°.6,h33km,mb3.6/6, Error ellipse: s-maj=62.2km s-min=12.3km az=20.7*
*MOS **07** 14:10:36.4±1.9,46°.30N×154°.56E,h33km,mb3.9/4,Error ellipse: s-maj=99.9km s-min=18.3km az=75.1*
*NEIC **07** 14:10:37.7±0.9,46°.65N×153°.79E,h35km,mb4.2/1,Error ellipse: s-maj=52.4km s-min=11.6km az=112.0*
*IDC **07** 14:10:39.9±1.9,46°.94N×153°.15E,h63km±8km,mb3.2/5, mb1 3.6/6,mb1mx3.3/25,mbtmp3.3/6,Error ellipse: s-maj=113.1km s-min=21.0km az=121.0*

ISC 07 14:10:37.7±1.0,46°.7N±0°.2×153°.7E±0°.6,h35km, (h63km±3.7km:pP-P),n23,σ0.962/21,mb3.6/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	4.32	21	*e*PN		Pn		14 11 47.4	+6.6
SKR				*e*				14 12 37.5	
PEA0B	Petropavlovsk-	6.94	20	*e*Pn		Pn		14 12 16.9	+0.1
PETK	Petropavlovsk-	6.94	20	P		Pn		14 12 17.0	+0.3
	0.3nm,0.3s,baz=181,slow=13,SNR=5.5								
PETK	Petropavlovsk-	6.94	20	P		Pn		14 12 17.0	+0.3
PETK	Petropavlovsk-	6.94	20	PN		Pn		14 12 17.0	+0.2
COLA	College	35.94	38	*e*P		P		14 17 33.0	-1.4
	1.6nm,0.5s,mb4.2								
COLA	College	35.94	38	*e*P		P		14 17 33.0	-1.4
COLA				pmax	pmax				
	comp=Z,2.0nm,0.5s,mb4.3								
ILAR	Eielson Array	36.35	38	P		P		14 17 38.1	+0.3
	comp=Z,0.5nm,0.9s,mb3.4,baz=264,slow=9.0,SNR=5.0								
ILAR				pP		pP		14 17 52.9	+4.9
	comp=Z,0.3nm,1.1s,baz=269,slow=6.6,SNR=1.7								
ILAR	Eielson Array	36.35	38	P		P		14 17 38.1	+0.3
ILAR				pP		pP		14 17 52.9	+4.9
ILAR	Eielson Array	36.35	38	P		P		14 17 38.2	+0.3
ILAR				*PP		pP		14 17 52.9	+4.9
ILAR				pmax	pmax				
	comp=Z,1.0nm,0.9s								
ZALV	Zalesovo Beam	43.00	306	PcP		PcP		14 20 18.8	-4.3
	comp=Z,0.4nm,0.5s,baz=22,slow=4.7,SNR=4.4								
MKAR	Makanchi Array	47.35	298	PcP		PcP		14 20 33.7	-4.6
	comp=Z,0.4nm,0.5s,baz=88,slow=3.3,SNR=4.3								
PDAR	Pinedale Array	64.45	54	P		P		14 21 10.4	+0.1
	comp=Z,0.3nm,0.7s,mb3.5,baz=251,slow=4.7,SNR=2.9								
PDAR				pP		pP		14 21 28.3	+7.2
	comp=Z,0.2nm,0.5s,baz=18,slow=0.5,SNR=2.0								
PDAR	Pinedale Array	64.45	54	P		P		14 21 10.4	+0.1
PDAR				pP		pP		14 21 28.3	+7.2
WRA	Warramunga Arr	68.57	200	P		P		14 21 36.1	-0.6
	comp=Z,0.2nm,0.9s,mb3.0,baz=18,slow=6.9,SNR=4.2								
WRA	Warramunga Arr	68.57	200	P		P		14 21 36.1	-0.6
WRA	Warramunga Arr	68.57	200	P		P		14 21 36.1	-0.7
ASAR	Alice Springs	72.27	199	P		P		14 21 59.8	+0.6
	comp=Z,0.6nm,1.0s,mb3.5,baz=13,slow=6.7,SNR=4.9								
ASAR	Alice Springs	72.27	199	P		P		14 21 59.8	+0.6
ASAR	Alice Springs	72.27	199	P		P		14 21 59.8	+0.6
ASAR				pmax	pmax				
	comp=Z,1.0nm,1.0s								
TXAR	Lajitas Array	77.17	61	P		P		14 22 28.4	+0.6
	comp=Z,0.7nm,0.5s,mb3.9,baz=316,slow=5.0,SNR=10								
TXAR				pP		pP		14 22 45.1	+6.4
	comp=Z,0.2nm,0.5s,baz=307,slow=5.6,SNR=2.7								
TXAR	Lajitas Array	77.17	61	P		P		14 22 28.4	+0.6
TXAR				pP		pP		14 22 45.1	+6.4
TXAR	Lajitas Array	77.17	61	P		P		14 22 28.5	+0.7
TXAR				*PP		pP		14 22 45.1	+6.3
TXAR				pmax	pmax				
	comp=Z,1.0nm,0.5s								

*CSEM **07** 14:17:05.5±0.7,37°.50N×20°.27E,h1km,MD3.6,Error ellipse: s-maj=14.5km s-min=6.6km az=76.0*
*ATH **07** 14:17:05.9,37°.55N×20°.42E,h7km±2km,MD3.6/6*
*THE **07** 14:17:07.1,37°.53N×20°.35E,h0km±2km,ML3.0/5,Error ellipse: s-maj=4.6km s-min=0.9km az=256.0*

ISC 07 14:17:05.5±1.2,37°.48N±0°.04×20°.35E±0°.07,h10km,n26, σ1.812/43,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KFL	Anninata	0.72	29	P		Pg		14 17 19.6	+0.2
KFL				S		Sg		14 17 30.1	+1.3
KFL	Anninata	0.72	29	P		Pg		14 17 19.6	+0.2
KFL				S		Sg		14 17 30.1	+1.3
VLS	Valsamata	0.72	15	*e*PG		Pg		14 17 17.9	-1.6
VLS				*e*SB		Sg		14 17 27.5	-1.4
VLS	Valsamata	0.72	15	*e*Pg		Pg		14 17 17.9	-1.6
VLS				*e*Sb		Sg		14 17 27.5	-1.4
ITM	Ithomi	1.29	103	*e*PB		Pg		14 17 30.0	-0.3
ITM				*e*SB		Sg		14 17 46.1	-1.0
ITM	Ithomi	1.29	103	*e*Pb		Pg		14 17 30.0	-0.3
LKD2	Lefkada island

*IDC **07** 14:57:57.0±1.5,24°.34S×179°.91E,h506km±14km, mb3.8/12,mb1 4.0/13,mb1mx3.8/19,mbtmp3.8/13,Error ellipse: s-maj=16.5km s-min=14.1km az=151.0*
*ISCJB **07** 14:57:57.1±1.2,24°.42S±0°.07×179°.82E±0°.09, h518km±13km,mb4.3/21,Error ellipse: s-maj=13.1km s-min=10.0km az=15.6*
*NEIC **07** 14:57:57.9±1.0,24°.41S×179°.87E,h519km±10km, mb4.5/13,Error ellipse: s-maj=12.5km s-min=9.8km az=142.0*

ISC 07 14:57:57.2±1.1,24°.49S±0°.07×179°.89E±0°.09, h509km±12km,n67,σ1°11/54,mb4.3/21,2C,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**6.94**	**345**	*e*Pn		**P**	**14 59 42.5**	**-0.7**
	24nm,0.6s							
DZM	**Mont Dzumac**	**12.59**	**278**	*e*P		**P**	**15 00 42.4**	**+0.4**
DZM	**Mont Dzumac**	**12.59**	**278**	*e*P		**P**	**15 00 44.3**	**+2.3**
	65nm,0.9s							
NOUC	**Port Laguerre**	**12.71**	**278**	*e*P		**P**	**15 00 42.0**	**-1.2**
URZ	**Urewera**	**13.93**	**189**	P		**P**	**15 00 56.5**	**+0.7**
	5.0nm,0.3s,baz=333,slow=7.3,SNR=32							
URZ				S		**S**	**15 03 22.1**	**-1.1**
	2.1nm,0.3s,baz=86,slow=19,SNR=8.9							
URZ	**Urewera**	**13.93**	**189**	P		**P**	**15 00 56.5**	**+0.7**
URZ				S		**S**	**15 03 22.1**	**-1.1**
RPZ	**Rata Peaks**	**20.50**	**199**	P		**P**	**15 02 01.9**	**+2.3**
	12nm,0.5s,baz=27,slow=2.7,SNR=15							
RPZ	**Rata Peaks**	**20.50**	**199**	*e*P		**P**	**15 01 59.9**	**+0.2**
CNB	**Canberra Magne**	**28.47**	**241**	*e*P		**P**	**15 03 13.1**	**+2.5**
CTA	**Charters Tower**	**31.38**	**271**	P		**P**	**15 03 36.7**	**+0.7**
	21nm,0.3s,mb5.1,baz=99,slow=12,SNR=62							
CTA	**Charters Tower**	**31.38**	**271**	*e*P		**P**	**15 03 36.7**	**+0.7**
	16nm,0.3s,mb5.0							
CTA	**Charters Tower**	**31.38**	**271**	P		**P**	**15 03 36.7**	**+0.7**
CTAO	**Charters Tower**	**31.38**	**271**	*e*P		**P**	**15 03 36.8**	**+0.7**
	31nm,0.6s,mb5.0							
STKA	**Stephens Creek**	**34.41**	**249**	P		**P**	**15 04 01.5**	**-0.1**
	4.3nm,0.5s,mb4.2,baz=92,slow=11,SNR=28							
STKA	**Stephens Creek**	**34.41**	**249**	*e*P		**P**	**15 04 02.5**	**+0.9**
	5.2nm,0.7s,mb4.2							
STKA	**Stephens Creek**	**34.41**	**249**	*e*P		**P**	**15 04 02.4**	**+0.8**
PMG	**Port Moresby**	**34.59**	**290**	P		**P**	**15 04 03.3**	**0.0**
	24nm,0.8s,mb4.8,baz=103,slow=8.6,SNR=12							
PMG	**Port Moresby**	**34.59**	**290**	P		**P**	**15 04 03.3**	**0.0**
COEN	**Coen**	**36.11**	**280**	*e*P		**P**	**15 04 16.8**	**+0.8**
	108nm,1.0s,mb5.3							
ASAR	**Alice Springs**	**41.84**	**261**	P		**P**	**15 05 02.3**	**0.0**
	3.5nm,0.5s,mb4.1,baz=96,slow=7.8,SNR=118							
ASAR				ScP		ScP	15 09 49.1	+0.9
	2.5nm,1.0s,baz=116,slow=3.6,SNR=7.8							
ASAR				S		**S**	**15 10 36.7**	**-6.4**
	0.5nm,1.0s,baz=91,slow=18,SNR=3.5							
ASAR	**Alice Springs**	**41.84**	**261**	P		**P**	**15 05 02.3**	**0.0**
ASAR				ScP		ScP	15 09 49.1	+0.9
ASAR				S		**S**	**15 10 36.6**	**-6.4**
WRAB	**Tennant Creek**	**42.26**	**267**	*e*P		**P**	**15 05 04.8**	**-0.8**
	6.2nm,0.8s,mb4.2							
WRAB				*e*ScP		ScP	15 09 52.1	+2.2
WRA	**Warramunga Arr**	**42.27**	**267**	P		**P**	**15 05 05.4**	**-0.3**
	8.0nm,0.3s,mb4.7,baz=101,slow=8.3,SNR=181							
WRA				ScP		ScP	15 09 52.0	+2.0
	7.0nm,0.9s,baz=100,slow=4.1,SNR=27							
WRA				S		**S**	**15 10 44.7**	**-4.6**
	3.5nm,1.2s,baz=103,slow=14,SNR=6.9							
WRA	**Warramunga Arr**	**42.27**	**267**	P		**P**	**15 05 05.4**	**-0.3**
WRA				ScP		ScP	15 09 52.0	+2.0
WRA				S		**S**	**15 10 44.7**	**-4.6**
KAKA	**Kakadu**	**46.26**	**276**	*e*P		**P**	**15 05 35.6**	**-1.1**
	39nm,0.6s,mb5.1							
FITZ	**Fitzroy Crossi**	**50.68**	**266**	*e*P		**P**	**15 06 09.8**	**+0.2**
	17nm,0.7s,mb4.5							
MBWA	**Marble Bar**	**55.17**	**261**	*e*P		**P**	**15 06 40.5**	**-1.1**
	5.2nm,0.6s,mb3.9							
QSPA	**South Pole Qui**	**65.59**	**180**	*e*P		**P**	**15 07 51.6**	**+1.9**
	15nm,1.1s,mb4.4							
MAW	**Mawson**	**77.16**	**200**	P		**P**	**15 08 58.5**	**+0.8**
	2.2nm,0.7s,mb3.7,baz=141,slow=6.9,SNR=9.1							
MAW	**Mawson**	**77.16**	**200**	P		**P**	**15 08 58.5**	**+0.8**
SYO	**Syowa Base**	**82.42**	**193**	*e*P		**P**	**15 09 24.0**	**-1.2**
ISA	**Isabella**	**83.50**	**46**	*e*P		**P**	**15 09 31.3**	**+0.1**
	9.3nm,1.0s,mb4.3							
VNA3	**Neumayer Olymp**	**84.30**	**177**	*e*		**P**	**15 09 32.3**	**-2.3**
VNA2	**Neumayer--Watz**	**84.71**	**178**	*e*		**P**	**15 09 34.2**	**-2.4**
	baz=191,slow=3.8							
NVAR	**Mina Array Bea**	**85.25**	**44**	P		**P**	**15 09 39.6**	**-0.1**
	2.5nm,0.8s,mb3.8,baz=230,slow=7.0,SNR=17							
NVAR	**Mina Array Bea**	**85.25**	**44**	P		**P**	**15 09 39.6**	**-0.1**
TUC	**Tucson**	**86.96**	**53**	*e*P		**P**	**15 09 49.5**	**+1.4**
	13nm,1.0s,mb4.5							
WVOR	**Wild Horse Val**	**87.42**	**41**	*e*P		**P**	**15 09 50.2**	**+0.2**
	2.8nm,0.7s,mb4.0							
MSU	**Marysvale**	**89.26**	**47**	*e*P		**P**	**15 09 59.3**	**+0.6**
	6.9nm,1.4s,mb4.3							
CMAR	**Chiang Mai Arr**	**89.63**	**290**	P		**P**	**15 10 01.6**	**+0.7**
	0.1nm,0.3s,baz=115,slow=4.3,SNR=4.5							
CMAR	**Chiang Mai Arr**	**89.63**	**290**	P		**P**	**15 10 01.6**	**+0.7**
MFID	**Camas Ranch**	**89.67**	**41**	*e*P		**P**	**15 10 00.7**	**+0.3**
	6.7nm,1.1s,mb4.4							
TXAR	**Lajitas Array**	**90.83**	**58**	P		**P**	**15 10 07.1**	**+1.0**
	4.6nm,0.8s,mb4.5,baz=215,slow=7.7,SNR=47							
TXAR	**Lajitas Array**	**90.83**	**58**	P		**P**	**15 10 07.1**	**+1.0**
ILAR	**Eielson Array**	**92.63**	**14**	P		**P**	**15 10 11.9**	**-1.6**
	0.3nm,0.7s,mb3.5,baz=220,slow=5.6,SNR=7.0							
ILAR	**Eielson Array**	**92.63**	**14**	P		**P**	**15 10 11.9**	**-1.6**
PDAR	**Pinedale Array**	**93.18**	**44**	P		**P**	**15 10 15.7**	**-0.9**
	1.1nm,0.8s,mb4.0,baz=224,slow=3.8,SNR=9.1							
PDAR	**Pinedale Array**	**93.18**	**44**	P		**P**	**15 10 15.7**	**-0.9**
MKAR	**Makanchi Array**	**112.47**	**313**	PKiKP		PKiKP	15 15 33.2	-1.8
	0.6nm,0.9s,baz=108,slow=3.2,SNR=4.1							
MKAR				PKKPab		PKKPab	15 26 36.2	+1.4
	0.5nm,0.7s,baz=346,slow=3.0,SNR=4.0							
MKAR	**Makanchi Array**	**112.47**	**313**	PKPdf		PKiKP	15 15 33.2	-1.8
MKAR				PKKPab		PKKPab	15 26 36.2	+1.4
ARCES	**ARCESS Array B**	**132.44**	**348**	PKP		PKPdf	15 16 12.0	-0.5
	4.6nm,0.9s,baz=46,slow=2.6,SNR=12							
ARCES				SKPbc		SKPbc	15 18 51.1	-0.6
	2.4nm,0.8s,baz=46,slow=2.6,SNR=4.5							
ARCES	**ARCESS Array B**	**132.44**	**348**	PKP		PKPdf	15 16 12.0	-0.5
ARCES				SKPbc		SKPbc	15 18 51.1	-0.6
FINES	**FINESS Array B**	**138.97**	**341**	SKPbc		SKPbc	15 19 10.8	-1.0
	3.4nm,0.7s,baz=33,slow=3.3,SNR=6.7							
NOA	**NORSAR Array B**	**142.65**	**351**	PKhKP		PKPpre	15 16 27.7	
	2.2nm,0.9s,baz=12,slow=2.3,SNR=5.3							
NOA	**NORSAR Array B**	**142.65**	**351**	PKP		PKPpre	15 16 27.7	
NACGM	**Naroch**	**143.69**	**334**	*e*		PKPdf	15 16 30.0	-3.5
AKASG	**Malin Array Be**	**145.41**	**327**	PKPbc		PKPbc	15 16 36.4	-1.3
	3.1nm,0.7s,baz=44,slow=3.6,SNR=4.8							
AKASG				SKPbc		SKPbc	15 19 25.7	-2.4
	1.2nm,0.5s,baz=46,slow=2.3,SNR=4.7							
AKASG	**Malin Array Be**	**145.41**	**327**	PKPbc		PKPbc	15 16 36.4	-1.3
AKASG				SKPbc		SKPbc	15 19 25.7	-2.4
BRTR	**Keskin Array B**	**147.85**	**306**	PKPbc		PKPbc	15 16 44.6	-0.1
	1.6nm,0.7s,baz=129,slow=3.9,SNR=6.7							
BRTR				PKPab		PKPab	15 16 48.8	-0.3
	0.7nm,0.6s,baz=84,slow=3.6,SNR=3.6							
BRTR	**Keskin Array B**	**147.85**	**306**	PKPbc		PKPbc	15 16 44.6	-0.1
BRTR				PKPab		PKPab	15 16 48.8	-0.3
CLL	**Collm**	**151.39**	**343**	↑*i*PKPbc		PKPbc	15 16 52.3	-0.5
	comp=Z,13nm,0.8s							
BRG	**Berggiesshubel**	**151.51**	**341**	*i* P		PKPbc	15 16 52.9	-0.2
	comp=Z,6.3nm,0.6s							
GERES	**GERESS Array B**	**153.37**	**339**	PKPbc		PKPbc	15 16 56.9	-0.4
	comp=Z,0.7nm,0.7s,baz=29,slow=2.2,SNR=4.6							
GERES	**GERESS Array B**	**153.37**	**339**	PKPbc		PKPbc	15 16 56.9	-0.4
ESDC	**Sonseca Array**	**164.52**	**11**	PKPab		PKPab	15 17 59.0	-1.5
	comp=Z,0.3nm,0.3s,baz=332,slow=4.0,SNR=5.9							
TORD	**Torodi Ar. Bea**	**168.59**	**189**	PKP		PKPdf	15 17 04.5	-1.6
	comp=Z,1.5nm,1.1s,baz=167,slow=0.8,SNR=6.1							
TORD				PKPab		PKPab	15 18 19.2	+0.1
	comp=Z,1.6nm,0.9s,baz=179,slow=3.7,SNR=6.9							
TORD	**Torodi Ar. Bea**	**168.59**	**189**	PKP		PKPdf	15 17 04.5	-1.6
TORD				PKPab		PKPab	15 18 19.2	+0.1

*ISCJB **07** 15:03:11.7±0.8,36°.60N±0°.06×20°.16E±0°.06,h10km, Error ellipse: s-maj=9.0km s-min=5.9km az=38.4*
*CSEM **07** 15:03:16.3±0.2,36°.67N×20°.21E,h40km,MD3.3, Error ellipse: s-maj=7.0km s-min=3.9km az=50.0*
*ATH **07** 15:03:16.8,36°.84N×20°.31E,h43km±16km,MD3.3/9*
*HLW **07** 15:03:22.4,36°.20N×20°.55E,h33km±34km,Md3.3,Ml3.3*

ISC 07 15:03:13.9±0.7,36°.70N±0°.06×20°.24E±0°.07,h10km,n33,σ0°89/42,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ITM	**Ithomi**	**1.43**	**70**	*e*P		**Pn**	**15 03 40.0**	**+0.1**
ITM				*e*S		**Sn**	**15 03 57.7**	**-1.1**
ITM	**Ithomi**	**1.43**	**70**	*e*P		**Pn**	**15 03 40.0**	**+0.1**
ITM				*e*S		**Sn**	**15 03 57.7**	**-1.1**
VLS	**Valsamata**	**1.50**	**11**	*e*P		**Pn**	**15 03 41.0**	**+0.1**
VLS				*e*S		**Sn**	**15 03 57.5**	**-3.0**
VLS	**Valsamata**	**1.50**	**11**	*e*P		**Pn**	**15 03 41.0**	**+0.1**
VLI	**Veliai**	**2.17**	**89**	*e*P		**Pn**	**15 03 50.9**	**+0.9**
VLI				*e*S		**Sn**	**15 04 17.0**	**+0.1**
VLI	**Veliai**	**2.17**	**89**	*e*P		**Pn**	**15 03 50.9**	**+0.9**
VLI				*e*S		**Sn**	**15 04 17.0**	**+0.1**
KYTH	**Kithira**	**2.29**	**100**	*e*P		**Pn**	**15 03 53.1**	**+1.4**
KYTH	**Kithira**	**2.29**	**100**	*e*P		**Pn**	**15 03 53.1**	**+1.4**
DID	**Didima**	**2.52**	**71**	*e*P		**Pn**	**15 03 54.9**	**-0.1**
DID	**Didima**	**2.52**	**71**	*e*P		**Pn**	**15 03 54.9**	**-0.1**
LKR	**Lokris**	**2.93**	**47**	*e*P		**Pn**	**15 04 00.9**	**+0.4**
LKR	**Lokris**	**2.93**	**47**	*e*P		**Pn**	**15 04 00.9**	**+0.4**
JAN	**Janina**	**2.99**	**9**	*e*P		**Pn**	**15 04 02.0**	**+0.6**
JAN	**Janina**	**2.99**	**9**	*e*P		**Pn**	**15 04 02.0**	**+0.6**
KEK	**Kerkira**	**3.03**	**354**	*e*P		**Pn**	**15 04 01.9**	**0.0**
KEK	**Kerkira**	**3.03**	**354**	*e*P		**Pn**	**15 04 01.9**	**0.0**
VLY	**Voula,Athens**	**3.06**	**67**	*e*P		**Pn**	**15 04 01.5**	**-0.8**
VLY	**Voula,Athens**	**3.06**	**67**	*e*P		**Pn**	**15 04 01.5**	**-0.8**
THL	**Klokotos Trika**	**3.18**	**25**	*e*P		**Pn**	**15 04 04.8**	**+0.8**
THL	**Klokotos Trika**	**3.18**	**25**	*e*P		**Pn**	**15 04 05.1**	**+1.1**
THL	**Klokotos Trika**	**3.18**	**25**	*e*P		**Pn**	**15 04 04.8**	**+0.8**
KZN	**Kozani**	**3.79**	**18**	*e*P		**Pn**	**15 04 13.4**	**+1.0**
KZN	**Kozani**	**3.79**	**18**	*e*P		**Pn**	**15 04 13.4**	**+1.0**
PE1	**Pezze di Greco**	**4.65**	**333**	*e*Pn		**Pn**	**15 04 24.2**	**0.0**
SG1	**Sgolgore (BA)**	**4.98**	**327**	*e*Pn		**Pn**	**15 04 29.2**	**+0.5**
CDT	**Castel del Mon**	**5.36**	**326**	*e*Pn		**Pn**	**15 04 34.0**	**+0.1**
STON	**Ston**	**6.47**	**343**	*e*Pn		**Pn**	**15 04 46.8**	**-2.3**
STON				Sn		**Sn**	**15 05 53.4**	**-10**
SLUM		**6.63**	**140**	P		**Pn**	**15 04 51.1**	**-0.3**
	baz=139							
SLUM				S		**Sn**	**15 05 57.4**	**-10**
	baz=139							
SLUM		**6.63**	**140**	P		**Pn**	**15 04 51.4**	**0.0**
HMAT	**Matruh**	**7.98**	**132**	P		**Pn**	**15 05 09.6**	**-0.3**
	baz=131							
HMAT				AMP			15 06 00.0	
	comp=N,10μm,0.2s,logA/T=4.6,baz=131							
HMAT				S		**Sn**	**15 06 30.1**	**-10**
	baz=131							
HMAT	**Matruh**	**7.98**	**132**	P		**Pn**	**15 05 09.2**	**-0.7**
SWA2		**8.63**	**148**	P		**Pn**	**15 05 18.0**	**-0.8**
	baz=147							
SWA2				S		**Sn**	**15 06 44.8**	**-11**
	baz=147							
SWA2		**8.63**	**148**	P		**Pn**	**15 05 18.0**	**-0.8**

IDC 07 15:14:24.6±1.1,25°.11N×45°.59W,h0km,mb3.7/6, mb1 3.9/6,mb1mx3.6/26,mbtmp3.7/6,Error ellipse: s-maj=36.2km s-min=26.8km az=29.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DBIC	**Dimbokro**	**43.02**	**108**	P		P	15 22 26.9	+0.7
	2.4nm,0.9s,baz=290,slow=7.3,SNR=3.3							
TORD	**Torodi Ar. Bea**	**46.01**	**96**	P		P	15 22 50.2	+0.1
	0.6nm,0.9s,baz=298,slow=9.2,SNR=3.6							
LPAZ	**La Paz**	**46.64**	**210**	P		P	15 22 54.9	0.0
	0.5nm,0.4s,baz=24,slow=7.6,SNR=4.7							
PDAR	**Pinedale Array**	**54.66**	**306**	P		P	15 23 57.5	+2.2
	0.2nm,0.5s,baz=83,slow=7.4,SNR=2.2							
ILAR	**Eielson Array**	**72.24**	**334**	P		P	15 25 50.8	-0.5
	0.5nm,0.7s,baz=79,slow=4.9,SNR=8.8							
ZALV	**Zalesovo Beam**	**90.40**	**27**	P		P	15 27 26.6	-1.2
	0.4nm,0.3s,baz=307,slow=2.9,SNR=3.2							

*ISCJB **07** 15:27:49.0±0.6,10°.64N±0°.04×62°.41W±0°.03,h95km±7km, Error ellipse: s-maj=6.8km s-min=4.9km az=171.3*
*FUNV **07** 15:27:50.4,10°.69N×62°.32W,h86km,MW3.1*
*TRN **07** 15:27:54.2,10°.76N×62°.12W,h93km,MD2.8*

ISC 07 15:27:49.9±0.6,10°.65N±0°.04×62°.41W±0°.03,h89km±7km, n18,σ1°14/32,2C,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUIV	**Guiria**	**0.18**	**90**	↑*i*P		**Pn**	**15 28 02.8**	**+0.1**
GUIV				*e*S		**Sn**	**15 28 11.1**	**-1.0**
GUNV	**Guanoco**	**0.71**	**227**	↑*i*P		**Pn**	**15 28 07.6**	**+1.1**
GUNV				*e*S		**Sn**	**15 28 19.9**	**+1.2**
CRUV	**Carupano**	**0.81**	**272**	*e*P		**Pn**	**15 28 07.6**	**+0.1**
CRUV				*e*S		**Sn**	**15 28 20.1**	**+0.5**
TRN	**Trinidad (W)**	**0.99**	**90**	*e*P		**Pn**	**15 28 11.1**	**+1.7**
TRN				*e*S		**Sn**	**15 28 23.9**	**-0.1**
TBH	**Brigand Hill**	**1.33**	**97**	*e*P		**Pn**	**15 28 15.7**	**+2.2**
TBH				*e*S		**Sn**	**15 28 29.7**	**-1.6**
GRW	**Mount Saint Ca**	**1.67**	**26**	*e*P		**Pn**	**15 28 19.8**	**+1.9**
GRW				*e*S		**Sn**	**15 28 38.6**	**-0.4**
ORIV	**Oritupano**	**1.85**	**212**	*e*P		**Pn**	**15 28 20.9**	**+0.8**
ORIV				*e*S		**Sn**	**15 28 44.2**	**+1.1**
TOSP	**Speyside**	**1.95**	**70**	*e*P		**Pn**	**15 28 21.7**	**+0.3**
TOSP				*e*S		**Sn**	**15 28 43.0**	**-2.5**
IBAV	**Isla La Blanqu**	**2.43**	**299**	*e*P		**Pn**	**15 28 28.4**	**+0.6**
IBAV				*e*S		**Sn**	**15 28 56.3**	**-0.4**
RIOV	**Rio Grande**	**2.63**	**167**	*e*P		**Pn**	**15 28 31.4**	**+0.9**
RIOV				*e*S		**Sn**	**15 29 00.3**	**-1.3**
GURV	**El Guri**	**2.94**	**193**	*e*P		**Pn**	**15 28 35.0**	**+0.2**
CUPV	**Cœpira**	**3.38**	**260**	*e*P		**Pn**	**15 28 41.9**	**+1.3**
CUPV				*e*S		**Sn**	**15 29 19.5**	**-0.1**
BIRV	**Birongo**	**3.80**	**268**	*e*P		**Pn**	**15 28 46.1**	**-0.1**
MERV	**Las Mercedes**	**4.07**	**250**	*e*S		**Sn**	**15 29 34.7**	**-1.9**
LUEV	**Luepa**	**4.87**	**169**	*e*P		**Pn**	**15 28 59.8**	**-1.0**
LUEV				*e*S		**Sn**	**15 29 51.7**	**-4.2**
TURV	**Turiamo**	**5.34**	**268**	*e*P		**Pn**	**15 29 07.0**	**-0.3**
BAUV	**El Baul**	**5.80**	**254**	*e*P		**Pn**	**15 29 13.1**	**-0.4**
BAUV				*e*S		**Sn**	**15 30 15.2**	**-3.6**
MAPV	**Macapo**	**6.01**	**263**	*e*P		**Pn**	**15 29 16.0**	**-0.3**
MAPV				*e*S		**Sn**	**15 30 20.5**	**-3.3**

*ISCJB **07** 15:37:47.9±2.9,39°.4N±0°.2×73°.9E±0°.2,h10km,Error ellipse: s-maj=29.5km s-min=13.9km az=158.3*
*NNC **07** 15:37:50.5±2.0,39°.61N×73°.79E,h0km,mb3.9,mpv3.4, Error ellipse: s-maj=15.7km s-min=8.0km az=168.0*

ISC 07 15:37:50.7±2.4,39°.5N±0°.2×73°.8E±0°.1,h10km,n13, σ1°19/17,2C-7D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSH	**Kashi**	**1.70**	**88**	↓*i*Pg		**Pn**	**15 38 11.1**	**-9.3**
KSH				Sg		**Sn**	**15 38 28.1**	**-14**
KSH				smax				
	comp=N,150nm,0.8s							
KSH				smax				
	comp=E,170nm,0.6s							
AML	**Almayashu**	**2.66**	**359**	P		**Pn**	**15 38 34.8**	**+1.1**
	SNR=16							
UCH	**Uchtor**	**2.81**	**11**	P		**Pn**	**15 38 37.8**	**+2.1**
	SNR=5.6							
KZA	**Kyzart**	**2.83**	**23**	P		**Pn**	**15 38 34.5**	**-1.5**
	SNR=56							
EKS2	**Erkin-Say**	**3.19**	**360**	P		**Pn**	**15 38 42.5**	**+1.7**
	SNR=13							
AAK	**Ala-Archa**	**3.21**	**9**	P		**Pn**	**15 38 40.5**	**-0.6**
	SNR=14							
KBK	**Karagaybulak**	**3.30**	**15**	P		**Pn**	**15 38 42.3**	**-0.2**
	SNR=20							
ULHL	**Ulahol**	**3.34**	**33**	P		**Pn**	**15 38 46.4**	**+3.4**
	SNR=18							
TKM2	**Tokmak 2**	**3.71**	**21**	P		**Pn**	**15 38 47.0**	**-1.0**
	SNR=11							
TKM2	**Tokmak 2**	**3.71**	**21**	↓Pn		**Pn**	**15 38 47.0**	**-1.1**
	comp=E,7.1nm,0.8s							
TKM2				↑Sn		**Sn**	**15 39 32.0**	**+0.2**
	comp=E,10nm,0.7s							
TKM2				↓Lg			15 39 42.6	
	comp=E,26nm,0.7s							
USP	**Ospenovka**	**3.83**	**8**	P		**Pb**	**15 38 55.2**	**-3.1**
	SNR=9.7							
KK31	**Karatay Array**	**4.39**	**327**	↓Pn		**Pn**	**15 38 57.6**	**+0.3**
	comp=E,5.6nm,0.9s,baz=129,slow=14,SNR=16							
KK31				↓Pg		**Pb**	**15 39 07.4**	**-0.4**
	comp=E,9.0nm,0.7s,baz=146,slow=16,SNR=6.1							
KK31				↑Sn		**Sn**	**15 39 48.4**	**-0.1**
	comp=E,12nm,0.5s,baz=138,slow=24,SNR=7.8							
KK31				↓Lg			15 40 06.7	
	comp=E,11nm,0.6s,baz=138,slow=24,SNR=7.8							
AB31	**Akbulak array**	**13.89**	**319**	↓P		**Pn**	**15 41 07.1**	**-0.5**
	comp=E,3.6nm,1.2s,baz=205,slow=14,SNR=10							

IDC 07 15:40:22.0±37.0,23°.90S×179°.60W,h483km±312km, mb3.4/4,mb1 3.5/4,mb1mx3.1/16,mbtmp3.4/4,Error ellipse: s-maj=341.8km s-min=46.4km az=121.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**31.84**	**270**	P		P	15 46 07.0	+0.6
	1.4nm,0.3s,baz=99,slow=12,SNR=5.7							
ASAR	**Alice Springs**	**42.40**	**261**	P		P	15 47 33.3	-0.1
	0.8nm,0.8s,baz=91,slow=8.0,SNR=18							
WRA	**Warramunga Arr**	**42.77**	**266**	P		P	15 47 35.9	-0.5
	1.2nm,0.3s,baz=103,slow=8.3,SNR=21							
PETK	**Petropavlovsk-**	**79.18**	**346**	P		P	15 51 36.4	+0.6
	29nm,1.4s,baz=134,slow=8.3,SNR=3.7							
AKASG	**Malin Array Be**	**145.17**	**328**	PKPbc		PKPbc	15 59 02.0	-2.5
	0.5nm,0.3s,baz=40,slow=3.6,SNR=4.5							
BRTR	**Keskin Array B**	**147.87**	**307**	PKPbc		PKPbc	15 59 11.7	-0.6
	0.4nm,0.4s,baz=147,slow=6.4,SNR=2.7							
MMAI	**Mount Meron Ar**	**148.04**	**294**	PKPbc		PKPbc	15 59 13.5	+0.6
	baz=77,slow=7.6							

*DDA **07** 15:53:54.9,36°.80N×27°.50E,h6km±2km,Md3.1*
*ISCJB **07** 15:53:55.0±0.6,36°.81N±0°.03×27°.41E±0°.05,h7km±6km, Error ellipse: s-maj=7.1km s-min=4.1km az=150.0*
*CSEM **07** 15:53:55.2±0.1,36°.81N×27°.40E,h10km,MD2.8, Error ellipse: s-maj=3.9km s-min=3.0km az=76.0*
*ATH **07** 15:53:55.7,36°.82N×27°.44E,h33km±31km,MD3.2/5*
*ISK **07** 15:53:55.0,36°.84N×27°.42E,h6km,MD2.8*

ISC 07 15:53:55.5±0.6,36°.80N±0°.03×27°.40E±0°.05,h8km±6km, n36,σ0°970/51,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DAT	**Datca**	**0.16**	**118**	PG		**Pg**	**15 53 58.9**	**+0.1**
DAT	**Datca**	**0.16**	**118**	*i* Pg		**Pg**	**15 53 58.9**	**+0.1**
BODT	**Bodrum**	**0.27**	**345**	PG		**Pg**	**15 54 00.1**	**-0.6**
BODT				*e*SG		**Sg**	**15 54 04.3**	**0.0**
BODT	**Bodrum**	**0.27**	**345**	*i* Pg		**Pg**	**15 54 00.1**	**-0.7**
BODT				*e*Sg		**Sg**	**15 54 04.3**	**0.0**
MLSB	**Milas**	**0.58**	**32**	*e*PG		**Pg**	**15 54 06.0**	**-0.6**
MLSB	**Milas**	**0.58**	**32**	*e*Pg		**Pg**	**15 54 06.0**	**-0.6**
YER	**Yerkesik**	**0.78**	**65**	*e*PG		**Pg**	**15 54 09.9**	**-0.6**
YER	**Yerkesik**	**0.78**	**65**	*e*Pg		**Pg**	**15 54 09.9**	**-0.6**
ARG	**Arkhangelos**	**0.83**	**135**	*e*PB		**Pg**	**15 54 11.2**	**-0.2**
ARG				*e*SN		**Sg**	**15 54 24.0**	**+1.8**
ARG	**Arkhangelos**	**0.83**	**135**	*e*Pb		**Pg**	**15 54 11.2**	**-0.2**
ARG				*e*Sn		**Sg**	**15 54 24.0**	**+1.8**
GCAM	**G?zelcaml?**	**0.90**	**352**	*i* P		**Pg**	**15 54 12.8**	**0.0**
GCAM				*i* S		**Sg**	**15 54 26.3**	**+1.7**
GCAM	**G?zelcaml?**	**0.90**	**352**	*i* P		**Pg**	**15 54

MXZ				SN	Sn	16 02 00.3	+0.4
URZ	**Urewera**	**1.27**	**183**	PN	Pn	16 01 41.5	+0.2
URZ				SN	Sn	16 02 03.6	+0.1
PUZ	**Puketiti**	**1.37**	**143**	PN	Pn	16 01 42.3	0.0
PUZ				SN	Sn	16 02 04.2	-0.8
MWZ	**Matawai**	**1.37**	**169**	PN	Pn	16 01 42.5	+0.3
MWZ				SN	Sn	16 02 05.1	+0.1
CNGZ	**Carnagh Statio**	**1.69**	**152**	PN	Pn	16 01 45.7	+0.2
RAHZ	**Arahi**	**1.93**	**183**	PN	Pn	16 01 48.1	+0.1
KNZ	**Kokohu**	**2.07**	**170**	PN	Pn	16 01 48.9	-0.6
NMHZ	**Naumai**	**2.13**	**188**	PN	Pn	16 01 50.7	+0.4
BKZ	**Black Stump Fm**	**2.25**	**194**	PN	Pn	16 01 50.9	-0.7
BKZ				SN	Sn	16 02 20.5	-1.3
MCHZ	**McNeill Hill**	**2.49**	**189**	PN	Pn	16 01 53.9	-0.5
BHHZ	**Black Hill Sta**	**2.66**	**199**	PN	Pn	16 01 55.3	-1.2
WNVZ	**Wahianoa**	**2.66**	**208**	PN	Pn	16 01 55.9	-0.6
KAHZ	**Kahuranaki**	**2.82**	**185**	PN	Pn	16 01 57.4	-1.0
PNHZ	**Pukenui**	**3.03**	**195**	PN	Pn	16 01 59.4	-1.6
PXZ	**Pawanui**	**3.05**	**185**	PN	Pn	16 01 59.5	-1.8
WPHZ	**Waipukurau**	**3.13**	**191**	PN	Pn	16 02 00.5	-1.9
TSZ	**Takapari Road**	**3.22**	**197**	PN	Pn	16 02 01.4	-2.0
PRHZ	**Porangahau**	**3.31**	**188**	PN	Pn	16 02 02.8	-1.7
DVHZ	**Dannevirke**	**3.41**	**193**	PN	Pn	16 02 03.3	-2.5
POWZ	**Post Office Ro**	**3.58**	**198**	PN	Pn	16 02 05.4	-2.5
BFZ	**Birch Farm**	**3.77**	**191**	PN	Pn	16 02 07.7	-2.6
MRZ	**Mangatainoka R**	**3.88**	**199**	PN	Pn	16 02 08.9	-2.9
OGWZ	**Otaki Gorge**	**4.14**	**202**	PN	Pn	16 02 12.0	-3.1
KIW	**Kapiti Island**	**4.26**	**204**	PN	Pn	16 02 13.4	-3.3
MTW	**Mount Morrison**	**4.37**	**197**	PN	Pn	16 02 14.3	-3.8
CAW	**Cannon Point**	**4.44**	**201**	PN	Pn	16 02 15.3	-3.7
SNZO	**South Karori**	**4.74**	**203**	PN	Pn	16 02 18.6	-4.3
TCW	**Tory Channel**	**4.80**	**207**	PN	Pn	16 02 19.6	-4.1
PLWZ	**Palliser**	**4.82**	**198**	PN	Pn	16 02 19.5	-4.4
TUWZ	**Tuamarina**	**5.11**	**209**	PN	Pn	16 02 23.5	-4.2
NNZ	**Nelson**	**5.17**	**214**	PN	Pn	16 02 24.5	-4.0
QRZ	**Quartz Range**	**5.29**	**222**	PN	Pn	16 02 26.0	-4.2
THZ	**Tophouse**	**5.82**	**214**	PN	Pn	16 02 32.8	-4.3
KHZ	**Kahutara**	**6.12**	**206**	PN	Pn	16 02 36.3	-4.7
LTZ	**Lake Taylor**	**6.92**	**212**	PN	Pn	16 02 46.0	-5.6
MQZ	**McQueen's Vall**	**7.56**	**206**	PN	Pn	16 02 53.7	-6.3

NEIC ***07*** *16:03:20.8₀3.5,2˚.03N×96˚.92E, mb4.4/2, Error ellipse: s-maj=69.7km s-min=15.0km az=184.0*
IDC ***07*** *16:03:21.9₀17.0, 2˚.09N×96˚.94E, h24km±7km, mb3.4/3, mb1 3.3/4, mb1mx3.2/23, mbtmp3.3/4, ML2.1/1, Error ellipse: s-maj=351.4km s-min=36.9km az=13.0*
ISC 07 16:03:24.2₀2.6, 2˚4N₀0˚3×97˚0E₀0˚1, h26km, h26km±.9km:pP-P, n13, σ0§96/13, mb3.9/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.01**	**79**	Pn	**Pn**	**16 03 55.2**	**-1.3**
	0.6nm,0.3s,baz=344,slow=20,SNR=3.6						
PSI	**Prapat**	**2.01**	**79**	Pn	**Pn**	**16 03 55.2**	**-1.3**
IPM	**Ipoh**	**4.55**	**63**	*e*Pn	**Pn**	**16 04 31.2**	**-0.3**
KULM	**Kulim**	**4.66**	**52**	*e*Pn	**Pn**	**16 04 33.5**	**+0.4**
TSM	**Tawau**	**20.97**	**84**	P	**P**	**16 08 06.9**	**+1.2**
SONM	**Songino Array**	**45.96**	**9**	P	**P**	**16 11 45.8**	**+0.8**
	0.3nm,0.6s,mb3.4,baz=190,slow=7.3,SNR=3.7						
SONM				pP	pP	16 11 53.0	0.0
	0.3nm,0.6s,baz=200,slow=6.1,SNR=2.7						
SONM	**Songino Array**	**45.96**	**9**	P	**P**	**16 11 45.8**	**+0.8**
SONM				pP	pP	16 11 53.0	0.0
MKAR	**Makanchi Array**	**45.99**	**346**	P	**P**	**16 11 45.8**	**+0.4**
	0.5nm,0.7s,mb3.6,baz=160,slow=8.8,SNR=3.9						
MKAR				pP	pP	16 11 52.9	-0.3
	0.3nm,0.5s,baz=148,slow=7.1,SNR=2.8						
MKAR	**Makanchi Array**	**45.99**	**346**	P	**P**	**16 11 45.8**	**+0.4**
MKAR				pP	pP	16 11 52.9	-0.3
KURK	**Kurchatov**	**50.55**	**345**	*e*P	**P**	**16 12 18.3**	**-2.1**
	1.1nm,0.4s,mb4.1						
HIA	**Hailar**	**50.57**	**19**	*e*P	**P**	**16 12 20.7**	**+0.1**
	6.2nm,0.6s,mb4.7						
ZALV	**Zalesovo Beam**	**52.31**	**351**	P	**P**	**16 12 33.9**	**+0.3**
	0.4nm,0.3s,mb3.8,baz=179,slow=8.6,SNR=2.7						
ZALV				pP	pP	16 12 41.8	+0.2
	0.4nm,0.4s,baz=181,slow=6.7,SNR=2.4						
ZALV	**Zalesovo Beam**	**52.31**	**351**	P	**P**	**16 12 33.9**	**+0.3**
ZALV				pP	pP	16 12 41.8	+0.2

IDC ***07*** *16:04:13.9₀0.1, 6˚.86S×129˚.45E, h0km, mb4.5/11, mb1 4.6/14, mb1mx4.5/21, mbtmp4.5/14, ML4.3/3, Error ellipse: s-maj=3.2km s-min=1.1km az=79.0*
NEIC ***07*** *16:04:15.8₀0.3, 6˚.74S×129˚.21E, h10km, mb4.6/25, Error ellipse: s-maj=10.5km s-min=6.6km az=65.0*
ISCJB ***07*** *16:04:17.6₀0.2, 6˚.73S₀0˚.03×129˚.30E₀0˚.04, h33km, mb4.6/30, MS5.8/2, Error ellipse: s-maj=6.1km s-min=4.6km az=153.9*
ISC 07 16:04:20.1₀0.3, 6˚70S₀0˚.04×129˚32E₀0˚.04, h35km, n102, σ1§13/101, mb4.6/30, MS5.8/2, 2C-3D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.20**	**339**	P	**Pn**	**16 05 04.9**	**-3.0**
SWI	**Sorong**	**6.12**	**19**	P	**Pn**	**16 05 47.2**	**-0.8**
KAKA	**Kakadu**	**6.71**	**153**	*e*P	**Pn**	**16 05 55.6**	**-0.6**
	923nm,0.6s						
KAKA				*e*S	**Sn**	**16 07 16.4**	**+4.9**
KAKA	**Kakadu**	**6.71**	**153**	*e*Pn	**Pn**	**16 05 55.2**	**-1.0**
BBSI	**Bau Bau**	**6.82**	**280**	P	**Pn**	**16 05 58.7**	**+1.0**
BNSI	**Bone**	**9.45**	**284**	P	**Pn**	**16 06 34.7**	**+0.8**
KAPI	**Kappang**	**9.67**	**279**	*e*Pn	**Pn**	**16 06 36.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**11.88**	**197**	Pn	**Pn**	**16 07 03.1**	**-4.0**
	1.8nm,0.3s,baz=23,slow=10,SNR=36						
FITZ	**Fitzroy Crossi**	**11.88**	**197**	*e*P	**Pn**	**16 07 03.1**	**-4.0**
	286nm,0.4s						
FITZ				*e*S	**Sn**	**16 09 17.7**	**-0.9**
FITZ	**Fitzroy Crossi**	**11.88**	**197**	*e*Pn	**Pn**	**16 07 02.7**	**-4.4**
FITZ	**Fitzroy Crossi**	**11.88**	**197**	P	**Pn**	**16 07 03.2**	**-3.9**
WRAB	**Tennant Creek**	**14.03**	**160**	*e*Pn	**Pn**	**16 07 31.2**	**-5.2**
WRAB	**Tennant Creek**	**14.03**	**160**	P	**Pn**	**16 07 32.2**	**-4.2**
WRA	**Warramunga Arr**	**14.03**	**160**	Pn	**Pn**	**16 07 31.1**	**-5.4**
	1.6nm,0.3s,baz=335,slow=13,SNR=84						
WRA	**Warramunga Arr**	**14.03**	**160**	Pn	**Pn**	**16 07 31.1**	**-5.4**
WB2	**Warramunga Arr**	**14.04**	**160**	*e*Pn	**Pn**	**16 07 31.3**	**-5.2**
COEN	**Coen**	**15.41**	**119**	*e*P	**Pn**	**16 07 52.3**	**-2.7**
MBWA	**Marble Bar**	**17.11**	**212**	P	**Pn**	**16 08 13.1**	**-3.5**
ASAR	**Alice Springs**	**17.43**	**166**	Pn	**Pn**	**16 08 17.1**	**-3.5**
	0.5nm,0.3s,baz=342,slow=9.1,SNR=47						
ASAR	**Alice Springs**	**17.43**	**166**	Pn	**Pn**	**16 08 17.1**	**-3.5**
PMG	**Port Moresby**	**17.86**	**100**	P	**Pn**	**16 08 27.0**	**+1.0**
	0.9nm,0.3s,baz=319,slow=8.5,SNR=8.8						
PMG	**Port Moresby**	**17.86**	**100**	*e*P	**Pn**	**16 08 26.7**	**+0.7**
	28nm,0.8s						
PMG	**Port Moresby**	**17.86**	**100**	P	**Pn**	**16 08 28.0**	**+2.0**
	977nm,1.5s						
PCJI	**Pacitan**	**18.05**	**264**	P	**Pn**	**16 08 27.7**	**-0.6**
STKI	**Sintang**	**19.03**	**290**	P	**Pn**	**16 08 41.3**	**+1.1**
SBUM	**Sibu**	**19.34**	**297**	P	**Pn**	**16 08 45.5**	**+1.5**
SBUM	**Sibu**	**19.34**	**297**	P	**Pn**	**16 08 45.0**	**+1.0**
KSM	**Kuching**	**20.64**	**293**	P	**P**	**16 08 56.8**	**0.0**
	453nm,1.1s						
KSM				LR	LR		
	comp=Z,30μm,20.0s,MS5.7						
CTAO	**Charters Tower**	**21.14**	**131**	P	**P**	**16 09 02.0**	**-0.1**
	comp=Z,1.2nm,0.5s						
CGJI	**Cibinong**	**23.47**	**269**	P	**P**	**16 09 28.7**	**+1.8**
PPBI	**Pangkal Pinang**	**23.55**	**280**	P	**P**	**16 09 29.3**	**+1.7**
FORT	**Forrest**	**23.98**	**183**	*e*P	**P**	**16 09 31.5**	**+0.1**
	comp=Z,1μm,1.7s						
FORT				*e*S	**S**	**16 13 57.6**	**+12**
FORT	**Forrest**	**23.98**	**183**	P	**P**	**16 09 31.9**	**+0.5**
	comp=Z,36nm,0.8s,mb4.8						
GUMO	**Guam**	**25.39**	**37**	P	**P**	**16 09 45.0**	**+0.6**
	comp=Z,82nm,1.0s,mb5.2						
KLBR	**Kellerberrin**	**27.02**	**202**	*e*P	**P**	**16 09 59.4**	**+0.4**
	comp=Z,414nm,0.9s						
KLBR				*e*S	S	16 15 11.8	+37
STKA	**Stephens Creek**	**27.54**	**157**	P	**P**	**16 10 03.8**	**+0.1**
	comp=Z,5.2nm,0.8s,mb4.2,baz=331,slow=12,SNR=4.3						
STKA	**Stephens Creek**	**27.54**	**157**	*e*P	**P**	**16 10 04.5**	**+0.8**
	comp=Z,138nm,0.9s,mb5.6						
STKA				*e*S	S	16 15 21.7	+39
STKA	**Stephens Creek**	**27.54**	**157**	P	**P**	**16 10 04.1**	**+0.5**
	comp=Z,0.4nm,0.5s						
SDSI	**Sungai Dareh**	**28.40**	**280**	P	**P**	**16 10 11.3**	**-0.3**
NWAO	**Narrogin (SRO)**	**28.41**	**202**	P	**P**	**16 10 10.6**	**-0.8**
	comp=Z,12nm,0.7s,mb4.6,baz=32,slow=10.0,SNR=3.5						
NWAO	**Narrogin (SRO)**	**28.41**	**202**	*e*P	**P**	**16 10 10.8**	**-0.6**
	comp=Z,12nm,0.8s,mb4.6						
HNR	**Honiara**	**30.44**	**97**	P	**P**	**16 10 30.3**	**+0.7**
	comp=Z,33nm,0.6s,mb5.2						
MNSI	**Mandailing Nat**	**30.60**	**283**	P	**P**	**16 10 30.3**	**-0.8**
YULB	**Yu-li**	**30.92**	**346**	P	**P**	**16 10 31.2**	**-2.5**
	comp=Z,9.1nm,1.2s,mb4.5						
KULM	**Kulim**	**31.00**	**292**	P	**P**	**16 10 32.8**	**-1.8**
	comp=Z,5.7nm,0.7s,mb4.5						
TPUB	**Ta-pu**	**31.01**	**344**	*e*P	**P**	**16 10 33.1**	**-1.4**
	comp=Z,9.0nm,1.1s,mb4.5						
ARMA	**Armidale**	**31.55**	**141**	P	**P**	**16 10 40.6**	**+1.4**
NACB	**Ninganchiao**	**31.60**	**346**	P	**P**	**16 10 39.0**	**-0.6**
	comp=Z,7.6nm,0.7s,mb4.6						
PSI	**Prapat**	**31.78**	**286**	P	**P**	**16 10 40.7**	**-0.7**
	comp=Z,11nm,0.8s,mb4.8,baz=101,slow=5.4,SNR=3.1						
PSI	**Prapat**	**31.78**	**286**	P	**P**	**16 10 40.7**	**-0.7**
JOW	**Kunigami**	**33.35**	**358**	P	**P**	**16 10 54.9**	**-0.1**
	comp=Z,33nm,1.0s,mb5.2,baz=101,slow=6.3,SNR=4.6						
JOW	**Kunigami**	**33.35**	**358**	*e*P	**P**	**16 10 54.8**	**-0.1**
	comp=Z,4.7nm,0.8s,mb4.5						
CAN	**Canberra**	**33.74**	**150**	P	**P**	**16 11 00.2**	**+1.8**
	comp=Z,5.7nm,0.7s,mb4.6						
DZM	**Mont Dzumac**	**38.93**	**117**	P	**P**	**16 11 42.9**	**0.0**
	comp=Z,2.7nm,0.7s,mb4.1						
CMAR	**Chiang Mai Arr**	**39.03**	**310**	P	**P**	**16 11 44.4**	**+0.7**
	comp=Z,2.3nm,0.8s,mb3.9,baz=138,slow=6.9,SNR=18						
CMAR	**Chiang Mai Arr**	**39.03**	**310**	P	**P**	**16 11 44.4**	**+0.7**
CHG	**Chiang Mai**	**39.24**	**311**	⇑P	**P**	**16 11 46.9**	**+1.5**
	comp=Z,228nm,1.2s						
CHTO	**Chiang Mai**	**39.24**	**311**	P	**P**	**16 11 46.4**	**+1.0**
CHRT	**Chiangrai**	**39.27**	**313**	⇓P	**P**	**16 11 46.0**	**+0.3**
	comp=Z,655nm,1.2s						
ENH	**Enshi**	**41.40**	**334**	*e*P	**P**	**16 12 02.9**	**-0.3**
	comp=Z,4.1nm,0.5s,mb4.3						
MAJO	**Matsushiro**	**43.82**	**10**	*e*P	**P**	**16 12 20.4**	**-2.3**
	comp=Z,13nm,0.8s,mb4.7						
MAT	**Matsushiro**	**43.82**	**10**	P	**P**	**16 12 21.2**	**-1.5**
MAT				S	**S**	**16 18 59.0**	**+7.8**
MJAR	**Matsushiro Arr**	**43.82**	**10**	P	**P**	**16 12 22.4**	**-0.3**
	comp=Z,12nm,1.0s,mb4.6,baz=191,slow=11,SNR=18						
MJAR	**Matsushiro Arr**	**43.82**	**10**	P	**P**	**16 12 22.4**	**-0.3**
KSRS	**Korea Array**	**43.95**	**358**	P	**P**	**16 12 24.7**	**+1.0**
	comp=Z,1.7nm,0.6s,mb4.0,baz=173,slow=9.2,SNR=12						
MSVF	**Nonsavu**	**48.73**	**108**	P	**P**	**16 13 03.1**	**+1.4**
MDJ	**Mudanjiang**	**51.08**	**0**	*e*P	**P**	**16 13 17.9**	**-1.1**
	comp=Z,3.4nm,0.7s,mb4.4						
LSA	**Lhasa**	**51.52**	**317**	P	**P**	**16 13 23.5**	**+0.9**
	comp=Z,2.6nm,0.7s,mb4.3						
ASAJ	**Asahikawa**	**51.99**	**12**	P	**P**	**16 13 26.4**	**+0.7**
	comp=Z,7.8nm,0.8s,mb4.7,baz=289,slow=26,SNR=4.6						
TAPN	**Taplejung**	**52.59**	**312**	*e*P	**P**	**16 13 29.5**	**-1.1**
TAPN	**Taplejung**	**52.59**	**312**	*e*P	**P**	**16 13 29.5**	**-1.1**
YUK	**Yuzh-Kuril'sk**	**52.67**	**15**	⇓*i*P	**P**	**16 13 23.4**	**-7.5**
YUK				*i* S	**S**	**16 20 58.2**	**+2.1**
YUK				pmax	pmax		
	comp=N,830nm,1.7s						
YUK				pmax	pmax		
	comp=E,467nm,1.7s						
YUK				pmax	pmax		
	comp=Z,1μm,1.7s						
YUK				pmax	pmax		
	comp=Z,3μm,2.4s						
YUK				smax			
	comp=N,2μm,2.8s						
YUK				smax			
	comp=E,4μm,2.8s						
YUK				MLR	MLR		
	comp=N,770nm,20.0s						
YUK				MLR	MLR		
	comp=E,2μm,20.0s						
YUK				MLR	MLR		
	comp=Z,4μm,20.0s						
PKIN	**Phulchoki**	**54.44**	**311**	*e*P	**P**	**16 13 38.4**	**-5.8**
KLR	**Kul'dur**	**55.74**	**2**	⇓*i*P	**P**	**16 13 55.3**	**+2.2**
KLR				pmax	pmax		
	comp=Z,570nm,1.4s						
KLR				pmax	pmax		
	comp=Z,3μm,10.0s						
KLR				MLR	MLR		
	comp=N,4μm,13.5s						
KLR				MLR	MLR		
	comp=Z,8μm,13.5s,MS6.0						
LATR	**Latur**	**57.71**	**297**	*ex*	**P**	**16 14 07.5**	**-0.2**
ULN	**Ulaanbaatar**	**57.78**	**342**	P	**P**	**16 14 08.5**	**+0.9**
	comp=Z,2.1nm,0.6s,mb4.3						
ULN	**Ulaanbaatar**	**57.78**	**342**	P	**P**	**16 14 09.4**	**+1.8**
SONM	**Songino Array**	**57.95**	**342**	P	**P**	**16 14 09.8**	**+1.0**
	comp=Z,3.3nm,0.9s,mb4.3,baz=168,slow=7.4,SNR=18						
SONM	**Songino Array**	**57.95**	**342**	P	**P**	**16 14 09.8**	**+1.0**
ZAK	**Zakamensk**	**61.17**	**341**	*e*P	**P**	**16 14 31.2**	**+0.2**
ZAK				*e*	pP	16 14 38.7	-3.0
ZAK				pmax	pmax		
	comp=Z,44nm,1.7s,mb5.3						
MK31	**Makanchi Array**	**67.61**	**327**	*e*P	**P**	**16 15 12.2**	**-1.1**
MKAR	**Makanchi Array**	**67.61**	**327**	P	**P**	**16 15 13.5**	**+0.2**
	comp=Z,2.0nm,0.5s,mb4.4,baz=116,slow=8.4,SNR=30						
MKAR	**Makanchi Array**	**67.61**	**327**	P	**P**	**16 15 13.5**	**+0.2**
YAK	**Yakutsk**	**68.53**	**0**	*e*P	**P**	**16 15 18.4**	**-0.3**
	comp=Z,8.8nm,0.5s,mb5.0						
ZAA0	**Zalesovo Array**	**71.02**	**334**	*e*P	**P**	**16 15 33.9**	**-0.3**
ZALV	**Zalesovo Beam**	**71.02**	**334**	P	**P**	**16 15 33.8**	**-0.4**
	comp=Z,2.2nm,1.1s,mb4.4,baz=102,slow=6.2,SNR=7.7						
ZALV	**Zalesovo Beam**	**71.02**	**334**	P	**P**	**16 15 33.8**	**-0.4**
KURK	**Kurchatov**	**71.92**	**329**	P	**P**	**16 15 39.7**	**0.0**
	comp=Z,2.8nm,0.8s,mb4.2,baz=131,slow=5.0,SNR=15						
KURK	**Kurchatov**	**71.92**	**329**	*e*P	**P**	**16 15 38.0**	**-1.6**
	comp=Z,3.8nm,0.9s,mb4.3						
MAW	**Mawson**	**74.98**	**201**	P	**P**	**16 15 58.6**	**+1.2**
	comp=Z,0.8nm,0.9s						
ABPO	**Ambohimpanom**	**80.40**	**252**	P	**P**	**16 16 27.0**	**-1.7**
	comp=Z,0.2nm,1.6s,mb4.9						
ABKAR	**Akkulak array**	**81.86**	**322**	P	**P**	**16 16 36.9**	**+1.2**
QSPA	**South Pole Qui**	**83.27**	**180**	*e*P	**P**	**16 16 41.3**	**-1.3**
	comp=Z,2.4nm,0.8s,mb4.3						
SYO	**Syowa Base**	**83.69**	**201**	⇑*e*P	**P**	**16 16 45.2**	**+0.3**
GNI	**Garni**	**90.15**	**310**	P	**P**	**16 17 13.0**	**-3.9**
DAWY	**Dawson**	**96.54**	**26**	P	**P**	**16 17 45.9**	**+0.1**
TORD	**Torodi Ar. Bea**	**128.09**	**281**	PKP	PKPdf	16 23 24.6	+1.0
	comp=Z,2.3nm,1.0s,baz=94,slow=1.6,SNR=4.0						
TORD	**Torodi Ar. Bea**	**128.09**	**281**	PKP	PKPdf	16 23 24.6	+1.0
DBIC	**Dimbokro**	**134.50**	**273**	PKP	PKPdf	16 23 34.8	-0.9
	comp=Z,2.2nm,1.0s,baz=180,slow=1.0,SNR=3.1						
DBIC	**Dimbokro**	**134.50**	**273**	PKP	PKPdf	16 23 34.8	-0.9
CPUP	**Villa Florida**	**146.53**	**169**	PKPbc	PKPbc	16 23 59.5	+1.0
	comp=Z,6.6nm,0.5s,baz=176,slow=2.7,SNR=5.9						
CPUP	**Villa Florida**	**146.53**	**169**	PKPbc	PKPbc	16 23 59.5	+1.0

BJI ***07*** *16:04:15.2, 7˚.19S×129˚.78E, h8km, mB5.9/49, mb5.5/71, Ms5.9/75, Ms7 5.7/69*
IDC ***07*** *16:04:21.4₀0.3, 6˚.75S×128˚.98E, h0km, mb5.5/30, mb1 5.4/33, mb1mx5.4/34, mbtmp5.5/33, ML5.2/3, MS6.1/7, Ms1 6.1/7, ms1mx5.7/15, Error ellipse: s-maj=11.1km s-min=7.6km az=79.0*
TEH ***07*** *16:04:22.0, 7˚.06S×128˚.88E, h10km*
ISCJB ***07*** *16:04:23.0₀0.6, 6˚.72S₀0˚.02×129˚.31E₀0˚.02, h19km±4km, mb5.7/172, MS5.9/215, Error ellipse: s-maj=3.9km s-min=3.3km az=138.7*
NEIC ***07*** *16:04:23.4₀0.1, 6˚.71S×129˚.07E, h10km, mb5.9/93, MS5.9/179, MW6.2, Error ellipse: s-maj=5.2km s-min=3.6km az=58.0*
MOS ***07*** *16:04:27.8₀0.9, 6˚.22S×129˚.04E, h33km, mb6.0/67, MS5.8/70, Error ellipse: s-maj=10.8km s-min=6.1km az=108.4*
DJA ***07*** *16:04:27.4₀0.8, 7˚S₀3˚×12˚9E±˚, h39km±7km, mB6.5/27, mb5.8/30, Mw(mB)6.2/27*
GCMT ***07*** *16:04:28.6₀0.1, 6˚.62S×129˚.24E, h20km, MW6.2, Moment Tensor Solution. s115,c253; s97,c154; Moment tensor: Scale 10¹⁸Nm; Mrr0.19±.01; Mθθ-2.34±.02; Mϕϕ2.16±.02; Mrθ-0.17±.03; Mθϕ0.29±.01; Mϕr0.37±.03; Best double couple: Mo2.30000×10¹⁸ NP1:ϕ=49.00000°, δ80.00000°, λ4.00000°. NP2:ϕ=318.00000°, δ86.00000°, λ170.00000°. Principal axes: T 2.2400, Plg10.0000°, Azm273.0000°; N 0.1400, Plg79.0000°, Azm117.0000°; P -2.3700, Plg4.0000°, Azm4.0000°; Data Used: II IU IC G CN. Surface waves: sta=117, comp=258, per= 50.*
ISC 07 16:04:26.5₀0.6, 6.71S₀0˚.02×129˚29E₀0˚.02, h31km±4km, h17km±1.7km:pP-P, n1033, σ1§25/571, mb5.7/172, MS5.9/215, 18C-19D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.26**	**16**	P	**Pn**	**16 05 01.6**	**-0.2**
AAI	**Ambon**	**3.20**	**340**	S	**Pn**	**16 05 12.5**	**-2.2**
MSAI	**Masohi**	**3.36**	**354**	P	**Pn**	**16 05 14.6**	**-2.4**
NLAI	**Namlea**	**4.08**	**328**	P	**Pn**	**16 05 27.9**	**+1.0**
SWI	**Sorong**	**6.13**	**19**	S	**Pn**	**16 05 55.3**	**+0.2**
KAKA	**Kakadu**	**6.72**	**153**	*e*Pn	**Pn**	**16 06 01.7**	**-1.5**
KAKA				*e*Sn	**Sn**	**16 07 16.9**	**-1.7**
BBSI	**Bau Bau**	**6.80**	**280**	S	**Pn**	**16 06 07.1**	**+2.9**
MMRI	**Maumere**	**7.25**	**254**	S	**Pn**	**16 06 13.4**	**+3.0**
MMRI	**Maumere**	**7.25**	**254**	P	**Pn**	**16 06 12.3**	**+1.9**
TNTI	**Ternate**	**7.68**	**345**	S	**Pn**	**16 06 18.2**	**+1.9**
TNTI	**Ternate**	**7.68**	**345**	P	**Pn**	**16 06 16.9**	**+0.6**
LUWI	**Luwuk**	**8.61**	**311**	P	**Pn**	**16 06 30.9**	**+1.9**
BKSI	**Bulukumba**	**9.23**	**278**	P	**Pn**	**16 06 37.7**	**+0.1**
	1μm,0.7s						
BKSI				S		16 06 39.9	
	1μm,0.7s						
BNSI	**Bone**	**9.43**	**284**	S	**Pn**	**16 06 43.3**	**+3.0**
KAPI	**Kappang**	**9.64**	**280**	P	**Pn**	**16 06 44.9**	**+1.6**
	3μm,0.7s						
MSSI	**Masamba**	**9.85**	**294**	P	**Pn**	**16 06 46.4**	**+0.3**
SPSI	**Sidrap Palu**	**9.87**	**286**	P	**Pn**	**16 06 46.9**	**+0.5**
	1μm,1.3s						
SPSI				S	Px	16 06 49.5	
	1μm,1.3s						
TTSI	**Tana Toraja**	**10.12**	**291**	P	**Pn**	**16 06 46.4**	**-3.4**
TTSI				S	Px	16 06 54.6	
MRSI	**Marisa**	**10.24**	**314**	P	**Pn**	**16 06 54.0**	**+2.5**
SMPI	**Sarmi**	**10.49**	**64**	P	**Pn**	**16 06 54.4**	**-0.5**
MJSI	**Majene**	**10.74**	**286**	P	**Pn**	**16 06 54.0**	**-4.3**
SGSI	**Sangihe**	**10.99**	**340**	P	**Pn**	**16 06 58.4**	**-3.4**
MMPI	**Merauke**	**11.13**	**100**	P	**Pn**	**16 07 03.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**11.87**	**197**	Pn	**Pn**	**16 07 08.8**	**-5.0**
	12nm,0.3s,baz=25,slow=12,SNR=39						
FITZ				Sn	**Sn**	**16 09 16.2**	**-9.0**
	34nm,0.3s,baz=307,slow=19,SNR=3.2						
FITZ	**Fitzroy Crossi**	**11.87**	**197**	*e*Pn	**Pn**	**16 07 10.2**	**-3.5**
FITZ				Sn	**Sn**	**16 09 16.2**	**-9.0**
JAY	**Jayapura**	**12.11**	**70**	P	**Pn**	**16 07 16.6**	**-0.5**
MTNI	**Mataram**	**13.15**	**261**	P	**Pn**	**16 07 31.5**	**+0.2**
KBKI	**Kotabaru**	**13.51**	**284**	P	**Pn**	**16 07 35.8**	**-0.4**
	7μm268nm,1.1s						
SMKI	**Samarinda**	**13.57**	**297**	P	**Pn**	**16 07 41.1**	**+4.1**
WRAB	**Tennant Creek**	**14.03**	**160**	*e*Pn	**Pn**	**16 07 37.9**	**-5.4**
WRAB				*e*Sn	**Sn**	**16 09 57.9**	**-20**
WRAB	**Tennant Creek**	**14.03**	**160**	*e*P	**Pn**	**16 07 37.9**	**-5.4**
SRBI	**Singaraja**	**14.03**	**264**	P	**Pn**	**16 07 40.7**	**-2.6**
WRA	**Warramunga Arr**	**14.03**	**160**	Pn	**Pn**	**16 07 37.0**	**-6.3**
	12nm,0.3s,baz=337,slow=13,SNR=50						
WRA				Sn	**Sn**	**16 10 10.1**	**-8.0**
	27nm,0.3s,baz=340,slow=21,SNR=7.9						
WRA				LR	LR	16 13 34.2	
	comp=Z,113μm,20.2s,baz=340,slow=39						
WRA	**Warramunga Arr**	**14.03**	**160**	Pn	**Pn**	**16 07 37.0**	**-6.3**
WRA				Sn	**Sn**	**16 10 10.1**	**-8.0**
WRA				LR	LR	16 13 34.2	
WRA	**Warramunga Arr**	**14.03**	**160**	P	**Pn**	**16 07 37.0**	**-6.3**
WRA				pmax	pmax		
	comp=Z,12nm,0.3s					

CTAO LR LR
comp=Z,73µm,20.0s,MS6.1
CTAO Charters Tower 21.16 131 P **P** **16 09 09.6 +0.3**
CTAO pmax pmax
comp=Z,835nm,1.3s,mb5.9
CTAO MLR MLR
comp=Z,73µm,20.0s,MS6.1
CTAO Charters Tower 21.16 131 P **P** **16 09 08.7 -0.6**
comp=Z,556nm,1.2s,mb5.8
CISI Cisompet, Garu 21.33 266 P **P** **16 09 08.9 -2.3**
comp=Z,687nm,1.1s,mb5.9
TGY Tagaytay City 22.28 338 P **P** **16 09 23.2 +1.9**
comp=Z,257nm,0.5s,mb6.0,baz=162,slow=3.2,SNR=20
TGY S **S** **16 13 29.1 +4.0**
comp=Z,34nm,0.4s,baz=75,slow=20,SNR=1.2
TGY Tagaytay City 22.28 338 P **P** **16 09 23.2 +1.9**
TGY S **S** **16 13 29.1 +4.0**
TGY Tagaytay City 22.28 338 P **P** **16 09 23.2 +1.9**
TGY pmax pmax
comp=Z,257nm,0.5s
CBJI Citeko 22.30 269 P **P** **16 09 19.1 -2.5**
comp=Z,2µm,1.5s,mb6.2
DBJI Dramaga 22.39 269 P **P** **16 09 21.0 -1.6**
TNG Tangerang 22.51 270 P **P** **16 09 25.2 +1.3**
TNG P 16 09 26.2
SKJI Sukabumi 22.58 268 P **P** **16 09 22.6 -2.0**
SBJI Serang 23.03 270 P **P** **16 09 27.6 -1.7**
XMIS Christmas Isla 23.67 259 P **P** **16 09 38.0 +2.3**
FORT Forrest 23.97 183 *e*P **P** **16 09 37.9 -0.4**
comp=Z,903nm,1.1s,mb6.1
FORT *e*S **S** **16 13 48.1 -5.1**
KLJ Kotabumi 24.38 273 P **P** **16 09 44.1 +1.8**
KLSI 24.52 273 P **P** **16 09 43.0 -0.6**
PALP Palanan 24.58 344 *e*P **P** **16 09 44.2 +0.3**
PALP *e*S sP 16 10 02.7 +6.1
CAUP Cauayan 24.64 343 *e*P **P** **16 09 44.5 +0.1**
PMBI Palembang 24.72 278 P **P** **16 09 45.8 +0.5**
MDSI Maura Dua 25.09 274 P **P** **16 09 47.6 -1.1**
comp=Z,5µmcomp=Z,167nm,2.5s,mb5.1
LWLI Liwa 25.16 272 P **P** **16 09 49.9 +0.5**
GUMO Guam 25.41 37 P **P** **16 09 52.6 +1.0**
comp=Z,220nm,1.0s,mb5.6,baz=231,slow=4.0,SNR=5.0
GUMO S **S** **16 14 26.5 +10**
comp=Z,87nm,1.0s,baz=69,slow=19,SNR=1.9
GUMO Guam 25.41 37 *e*P **P** **16 09 52.9 +1.3**
comp=Z,973nm,1.4s,mb6.1
GUMO S **S** **16 14 26.5 +10**
GUMO LR LR
comp=Z,11µm,19.0s,MS5.4
GUMO Guam 25.41 37 P **P** **16 09 52.6 +1.0**
GUMO pmax pmax
comp=Z,220nm,1.0s,mb5.6
GUMO Guam 25.41 37 P **P** **16 09 51.5 -0.1**
comp=Z,509nm,1.4s,mb5.8
ABRA Dolores 25.65 341 *e*P **P** **16 09 56.2 +2.6**
APYP Conner 25.68 342 *e*P **P** **16 09 53.1 -0.8**
MYKOM Kota Tinggi 26.77 288 P **P** **16 10 04.6 +0.7**
MYKOM Kota Tinggi 26.77 288 P **P** **16 10 04.2 +0.3**
comp=Z,9µmcomp=Z,542nm,1.6s,mb5.8
KGM Kluang 27.34 288 P **P** **16 10 09.6 +0.6**
STKA Stephens Creek 27.55 157 P **P** **16 10 09.9 -0.7**
comp=Z,20nm,0.6s,mb5.0,baz=329,slow=8.8,SNR=10
STKA S **S** **16 14 53.6 +3.6**
comp=Z,20nm,0.8s,baz=67,slow=22,SNR=1.5
STKA LR LR 16 22 00.3
comp=Z,58µm,18.6s,MS6.2,baz=325,slow=38
STKA Stephens Creek 27.55 157 *e*P **P** **16 10 10.6 -0.1**
comp=Z,37nm,0.9s,mb5.0
STKA S **S** **16 14 53.6 +3.6**
STKA LR LR 16 22 00.3
STKA Stephens Creek 27.55 157 *e*P **P** **16 10 10.6 -0.1**
STKA S **S** **16 14 53.7 +3.7**
STKA pmax pmax
comp=Z,37nm,0.9s
EIDS Eidsvold 27.89 134 P **P** **16 10 12.9 -1.0**
comp=Z,399nm,1.8s,mb5.8
KRJI Kerinci 28.12 278 P **P** **16 10 19.3 +3.2**
NWAO Narrogin (SRO) 28.39 202 P **P** **16 10 17.4 -0.8**
comp=Z,12nm,0.7s,mb4.6,baz=23,slow=9.4,SNR=3.5
NWAO S **S** **16 15 02.5 -0.8**
comp=Z,20nm,0.8s,baz=300,slow=24,SNR=1.2
NWAO Narrogin (SRO) 28.39 202 *e*P **P** **16 10 17.8 -0.4**
comp=Z,154nm,0.8s,mb5.7
NWAO S **S** **16 15 02.5 -0.8**
NWAO LR LR
comp=Z,18µm,19.0s,MS5.7
NWAO Narrogin (SRO) 28.39 202 P **P** **16 10 17.5 -0.7**
NWAO S **S** **16 15 02.5 -0.8**
NWAO pmax pmax
comp=Z,12nm,0.7s
NWAO smax
comp=N,20nm,0.8s
BKNI Bangkinang 29.05 283 P **P** **16 10 23.0 -1.3**
PDSI Padang 29.33 280 P **P** **16 10 23.6 -3.2**
IPM Ipoh 30.33 291 P **P** **16 10 35.7 0.0**
IPM Ipoh 30.33 291 P **P** **16 10 33.0 -2.7**
comp=N,314nm,1.4s,mb5.8
IPM Ipoh 30.33 291 P **P** **16 10 35.4 -0.3**
comp=N,2µmcomp=N,198nm,1.4s,mb5.7
HNR Honiara 30.46 97 *e*P **P** **16 10 37.7 +0.9**
comp=N,706nm,1.0s,mb6.3
HNR LR LR
comp=Z,20µm,19.0s,MS5.8
HNR Honiara 30.46 97 *e*P **P** **16 10 37.7 +0.9**
HNR pmax pmax
comp=Z,706nm,1.0s,mb6.3
HNR MLR MLR
comp=Z,20µm,19.0s,MS5.8
SISI Saibi 30.59 279 P **P** **16 10 38.5 +0.5**
comp=Z,5µmcomp=Z,165nm,1.2s,mb5.7
YULB Yu-li 30.92 346 *e*P **P** **16 10 38.5 -2.2**
comp=Z,43nm,1.1s,mb5.2
KULM Kulim 30.98 292 P **P** **16 10 40.8 -0.5**
KULM Kulim 30.98 292 *e*P **P** **16 10 38.0 -3.4**
comp=Z,279nm,1.4s,mb5.9
KULM LR LR
comp=Z,15µm,21.0s,MS5.6
KULM Kulim 30.98 292 P **P** **16 10 38.6 -2.8**
TPUB Ta-pu 31.01 344 *e*P **P** **16 10 39.6 -1.8**
comp=Z,77nm,0.9s,mb5.5
SSLB Suanglung 31.39 345 *e*P **P** **16 10 42.1 -2.7**
comp=Z,87nm,1.0s,mb5.5
ARMA Armidale 31.56 141 *e*P **P** **16 10 46.8 +0.5**
ARMA *e*S **S** **16 16 06.0 +13**
ARMA Armidale 31.56 141 P **P** **16 10 46.8 +0.5**
comp=Z,326nm,1.5s,mb5.9
NACB Ninganchiao 31.60 346 *e*P **P** **16 10 44.9 -1.8**
comp=Z,175nm,1.6s,mb5.6
PSI Prapat 31.76 286 P **P** **16 10 46.7 -1.6**
comp=Z,16nm,0.9s,mb4.9,baz=341,slow=1.4,SNR=3.5
PSI S **S** **16 15 54.8 -1.8**
comp=Z,1.5nm,0.3s,baz=316,slow=20,SNR=1.2
PSI LR LR 16 25 25.9
comp=Z,41µm,18.7s,MS6.1,baz=256,slow=40
PSI Prapat 31.76 286 P **P** **16 10 46.7 -1.6**
PSI S **S** **16 15 54.8 -1.8**
PSI LR LR 16 25 25.9
PSI Prapat 31.76 286 P **P** **16 10 46.7 -1.6**
PSI S **S** **16 15 54.8 -1.8**
PSI pmax pmax
comp=Z,17nm,0.9s,mb4.9
PSI smax
comp=N,2.0nm,0.3s
PSI MLR MLR
comp=Z,41µm,18.7s,MS6.1
SNG Songkhla 31.76 295 P **P** **16 10 49.0 +0.7**
comp=Z,200nm,0.7s,mb6.1
QIZ Qiongzhong 31.96 323 P **P** **16 10 49.5 -0.5**
QIZ sP sP 16 10 55.4 -7.3
QIZ PP PP 16 12 01.2 -1.4
QIZ S **S** **16 15 57.3 -2.3**
QIZ pmax pmax
comp=Z,55nm,1.8s,mb5.1
QIZ pmax pmax
comp=Z,690nm,6.1s
QIZ LR LR
comp=N,18µm,19.5s,MS5.7
QIZ LR LR
comp=E,6µm,23.3s,MS5.7
QIZ LR LR
comp=Z,10µm,19.7s,MS5.5
QIZ Qiongzhong 31.96 323 *e*P **P** **16 10 49.4 -0.6**
comp=Z,375nm,1.9s,mb5.9
QIZ LR LR
comp=Z,10µm,19.0s,MS5.5
YHNB Yeheng 32.13 346 *e*P **P** **16 10 49.7 -1.6**
comp=Z,141nm,1.2s,mb5.7
YHNB LR LR
comp=Z,11µm,20.0s,MS5.5
TSI Tuntungan 32.31 287 P **P** **16 10 54.0 +0.9**
TATO Taipei 32.40 347 PFAKE 16 11 10.0 +16
TATO LR LR
comp=Z,10µm,20.0s,MS5.5
HKC Hong Kong Obse 32.42 333 *e*P **P** **16 10 58.0 +4.1**
COCO West Island 32.46 258 PFAKE 16 11 00.0 +5.6
COCO LR LR
comp=Z,8µm,20.0s,MS5.4
UBT Ubonrachathani 32.48 312 P **P** **16 10 57.0 +2.5**
QZH Quanzhou 33.14 342 ⇓*i*P **P** **16 10 58.0 -2.2**
QZH PP PP 16 12 14.1 -1.5
QZH S **S** **16 16 16.0 -1.8**
QZH pmax pmax
comp=Z,180nm,0.8s,mb6.0
QZH LR LR
comp=N,9µm,14.8s,MS5.8
QZH LR LR
comp=E,7µm,11.4s,MS5.8
QZH LR LR
comp=Z,29µm,24.7s
JOW Kunigami 33.36 358 P **P** **16 11 01.5 -0.6**
comp=Z,125nm,0.8s,mb5.9,baz=186,slow=7.4,SNR=46
JOW S **S** **16 16 22.4 +1.3**
comp=Z,5.8nm,0.7s,baz=77,slow=19,SNR=1.3
JOW Kunigami 33.36 358 *e*P **P** **16 11 01.6 -0.4**
comp=Z,60nm,0.8s,mb5.6
JOW S **S** **16 16 22.4 +1.3**
GZH Guangzhou 33.47 333 P **P** **16 11 05.1 +2.0**
GZH S **S** **16 16 24.0 +1.0**
GZH LR LR
comp=N,9µm,17.5s,MS5.9
GZH LR LR
comp=E,16µm,16.1s,MS5.9
GZH LR LR
comp=Z,21µm,24.7s
TPTI 33.55 286 P **P** **16 11 04.1 +0.1**
comp=Z,138nm,1.6s,mb5.6
RIV Riverview 33.73 146 *e*P **P** **16 11 05.3 0.0**
CAN Canberra 33.75 150 *e*P **P** **16 11 07.0 +1.6**
comp=Z,274nm,1.1s,mb6.1
CAN LR LR
comp=Z,31µm,19.0s,MS6.0
CAN Canberra 33.75 150 *e*P **P** **16 11 07.1 +1.7**
CAN pmax pmax
comp=Z,274nm,1.1s,mb6.1
CAN MLR MLR
comp=Z,31µm,19.0s,MS6.0
CNB Canberra Magne 33.92 150 *e*P **P** **16 11 09.0 +2.1**
TOO Toolangi 34.07 157 *e*P **P** **16 11 09.0 +0.8**
KKTK Khon Kaen 34.80 311 P **P** **16 11 14.2 -0.5**
NNT Nongplab 35.09 303 P **P** **16 11 16.5 -0.7**
CBIJ Chichi jima 35.85 20 P **P** **16 11 23.2 -0.4**
comp=Z,74nm,0.5s,mb5.8,baz=247,slow=7.9,SNR=14
CBIJ S **S** **16 16 52.8 -6.7**
comp=Z,63nm,1.0s,baz=285,slow=18,SNR=2.6
NST Nakhon Sawan 36.45 308 P **P** **16 11 27.0 -1.9**
SSE Sheshan 38.38 349 P **P** **16 11 44.7 -0.4**
SSE pP pP 16 11 48.1 -6.1
SSE PcP PcP 16 13 58.3 0.0
SSE S **S** **16 17 39.7 +1.7**
SSE pmax pmax
comp=Z,98nm,1.3s,mb5.4
SSE pmax pmax
comp=Z,390nm,3.5s
SSE LR LR
comp=N,3µm,20.1s,MS5.6
SSE LR LR
comp=E,8µm,20.1s,MS5.6
SSE LR LR
comp=Z,6µm,20.1s,MS5.4
NOUC Port Laguerre 38.83 117 *e*P **P** **16 11 47.6 -1.4**
DZM Mont Dzumac 38.95 117 *e*P **P** **16 11 49.5 -0.5**
comp=Z,286nm,1.4s,mb5.8
DZM *e*S **S** **16 17 41.5 -5.4**
comp=Z,12µm,25.7s
DZM *e*LR LR 16 22 29.1
comp=Z,50µm,29.2s
DZM Mont Dzumac 38.95 117 *e*P **P** **16 11 50.0 0.0**
comp=Z,178nm,1.4s,mb5.6
MOO Moorlands 38.95 159 *e*P **P** **16 11 55.8 +6.1**
CM31 Chiang Mai Arr 39.01 310 *e*P **P** **16 11 47.3 -3.3**
comp=Z,153nm,1.0s,mb5.7
CM31 LR LR
comp=Z,9µm,19.0s,MS5.6
CMAR Chiang Mai Arr 39.01 310 P **P** **16 11 48.2 -2.3**
comp=Z,100nm,1.0s,mb5.5,baz=140,slow=6.3,SNR=42
CMAR PcP PcP 16 14 02.4 +1.8
comp=Z,13nm,0.9s,baz=174,slow=2.2,SNR=4.1
CMAR S **S** **16 17 48.2 +0.3**
comp=Z,2.4nm,0.9s,baz=167,slow=2.4,SNR=4.8
CMAR PKPPKP 16 43 57.5
comp=Z,1.3nm,1.2s,baz=262,slow=5.3,SNR=4.3
CMAR Chiang Mai Arr 39.01 310 P **P** **16 11 48.2 -2.3**
CMAR PcP PcP 16 14 02.4 +1.8
CMAR S **S** **16 17 48.2 +0.3**
CMAR P'P' 16 43 57.5
CMAR Chiang Mai Arr 39.01 310 P **P** **16 11 48.3 -2.2**
CMAR 16 14 02.4
CMAR S **S** **16 17 48.2 +0.4**
CMAR pmax pmax
comp=Z,100nm,1.0s
CMAR pmax pmax
comp=Z,13nm,0.9s
CMAR smax
comp=N,2.0nm,1.0s
CHTO Chiang Mai 39.23 311 *e*P **P** **16 11 50.9 -1.5**
comp=N,252nm,1.1s,mb5.9
CHTO LR LR
comp=Z,14µm,19.0s,MS5.8
CHTO Chiang Mai 39.23 311 *e*P **P** **16 11 50.9 -1.4**
CHTO pmax pmax
comp=Z,252nm,1.1s,mb5.9
CHTO MLR MLR
comp=Z,14µm,19.0s,MS5.8
TAU Tasmania Unive 39.40 159 P **P** **16 11 54.9 +1.4**
comp=Z,408nm,1.8s,mb5.9
TAU LR LR
comp=Z,36µm,20.0s,MS6.2
TAU Tasmania Unive 39.40 159 P **P** **16 11 54.9 +1.4**
TAU pmax pmax
comp=Z,408nm,1.8s,mb5.9
TAU MLR MLR
comp=Z,36µm,20.0s,MS6.2
GYA Guiyang 39.61 327 ⇑*i*P **P** **16 11 54.8 -0.6**
GYA PP PP 16 13 27.0 +0.2
GYA PcP PcP 16 13 59.4 -2.9
GYA ScP ScP 16 17 45.6 -3.5
GYA S **S** **16 17 54.0 -2.6**
GYA pmax pmax
comp=Z,80nm,1.0s,mb5.4
GYA pmax pmax
comp=Z,620nm,6.3s
GYA LR LR
comp=N,10µm,18.6s,MS5.8
GYA LR LR
comp=E,9µm,20.2s,MS5.8
GYA LR LR
comp=Z,8µm,17.1s,MS5.6
WHN Wuhan 39.72 340 ⇓P **P** **16 11 55.7 -0.6**
WHN pP pP 16 12 02.8 -2.6
WHN PP PP 16 13 37.1 +9.2
WHN S **S** **16 17 58.0 -0.1**
WHN pmax pmax
comp=Z,620nm,1.2s,mb6.2
WHN pmax pmax
comp=Z,2µm,2.8s,mb6.3
WHN LR LR
comp=N,19µm,13.8s,MS6.3
WHN LR LR
comp=E,27µm,14.2s,MS6.3
WHN LR LR
comp=Z,16µm,20.9s
NJ2 Nanjing 39.81 346 *e*P **P** **16 11 55.7 -1.3**
NJ2 pP pP 16 12 00.2 -5.9
NJ2 sP sP 16 12 02.7 -7.1
NJ2 PP PP 16 13 29.7 +0.8
NJ2 S **S** **16 17 56.0 -3.5**
NJ2 pmax pmax
comp=Z,20nm,0.9s,mb4.8
NJ2 pmax pmax
comp=Z,2µm,5.6s
NJ2 LR LR
comp=N,11µm,28.4s,MS5.8
NJ2 LR LR
comp=E,14µm,25.7s,MS5.8
NJ2 LR LR
comp=Z,12µm,19.9s
KMI Kunming 40.85 322 P **P** **16 12 06.9 +1.1**
KMI sP sP 16 12 13.3 -5.3
KMI PcP PcP 16 14 02.8 -3.5
KMI S **S** **16 18 16.9 +1.6**
KMI pmax pmax
comp=Z,120nm,1.6s,mb5.3
KMI pmax pmax
comp=Z,1µm,4.1s
KMI LR LR
comp=N,4µm,16.5s,MS5.7
KMI LR LR
comp=E,8µm,17.2s,MS5.7
KMI LR LR
comp=Z,6µm,20.2s,MS5.4
ENH Enshi 41.39 334 *e*P **P** **16 12 09.7 -0.4**
comp=Z,406nm,1.4s,mb5.9
ENH LR LR
comp=Z,10µm,22.0s,MS5.7
MJAR Matsushiro Arr 43.83 10 P **P** **16 12 27.0 -2.8**
comp=Z,131nm,0.9s,mb5.7,baz=185,slow=9.1,SNR=99
MJAR Matsushiro Arr 43.83 10 P **P** **16 12 27.0 -2.8**
MJAR Matsushiro Arr 43.83 10 P **P** **16 12 27.0 -2.8**
MJAR pmax pmax
comp=Z,131nm,0.9s
MAJO Matsushiro 43.83 10 *e*P **P** **16 12 28.3 -1.5**
comp=Z,188nm,0.9s,mb5.8
MAJO LR LR
comp=Z,10µm,21.0s,MS5.7
MAJO Matsushiro 43.83 10 *e*P **P** **16 12 28.3 -1.5**
MAJO pmax pmax
comp=Z,188nm,0.9s,mb5.8
MAJO MLR MLR
comp=Z,10µm,21.0s,MS5.7
KSRS Korea Array 43.95 358 P **P** **16 12 31.3 +0.5**
comp=Z,42nm,0.6s,mb5.3,baz=173,slow=9.2,SNR=117
KSRS S **S** **16 19 03.0 +2.5**
comp=Z,1.0nm,0.9s,baz=149,slow=41,SNR=2.0
KSRS Korea Array 43.95 358 P **P** **16 12 31.3 +0.5**
KSRS S **S** **16 19 03.1 +2.5**
KSRS pmax pmax
comp=Z,42nm,0.6s,mb5.3
KSRS smax
comp=N,1.0nm,0.9s
INCN Inchon 44.03 357 *e*P **P** **16 12 32.0 +0.5**
comp=N,418nm,1.5s,mb6.0
INCN LR LR
comp=Z,9µm,20.0s,MS5.7
TIA Tai'an 44.20 346 ⇓P **P** **16 12 32.5 -0.3**
TIA pP pP 16 12 39.3 -2.7
TIA PP PP 16 14 15.3 -1.0
TIA pmax pmax
comp=Z,2µm,7.7s
TIA LR LR
comp=N,5µm,29.1s,MS5.7
TIA LR LR
comp=E,13µm,27.3s,MS5.7
TIA LR LR
comp=Z,4µm,22.0s
CD2 Chengdu 44.69 328 P **P** **16 12 36.5 -0.3**
CD2 pP pP 16 12 41.0 -5.0
CD2 sP sP 16 12 42.9 -6.8
CD2 PP PP 16 14 22.6 +1.0
CD2 S **S** **16 19 07.1 -4.4**
CD2 sS sS 16 19 21.6 -5.0
CD2 SS SS 16 22 35.1 +2.4
CD2 pmax pmax
comp=Z,100nm,1.4s,mb5.5
CD2 pmax pmax
comp=Z,1µm,3.8s
CD2 LR LR
comp=N,8µm,17.8s
CD2 LR LR
comp=Z,8µm,25.0s
XAN Xi'an 44.89 336 P **P** **16 12 35.5 -2.8**
XAN sP sP 16 12 42.8 -8.4
XAN PP PP 16 14 22.4 -1.2
XAN S **S** **16 19 11.8 -2.5**
XAN pmax pmax
comp=Z,39nm,1.2s,mb5.1
XAN pmax pmax
comp=Z,270nm,7.4s
XAN LR LR
comp=N,5µm,34.0s
XAN LR LR
comp=E,3µm,21.4s
XAN LR LR
comp=Z,4µm,25.2s
DL2 Dalian 45.94 352 P **P** **16 12 47.1 +0.5**
DL2 PP PP 16 14 30.9 -3.8
DL2 S **S** **16 19 28.4 -0.9**
DL2 pmax pmax
comp=Z,60nm,1.7s,mb5.2
DL2 pmax pmax
comp=Z,340nm,5.9s
DL2 LR LR
comp=N,4µm,18.0s
DL2 LR LR
comp=Z,4µm,19.4s,MS5.4
TIY Taiyuan 46.91 342 *e*P **P** **16 12 53.2 -1.0**
TIY pP pP 16 12 57.4 -6.1
TIY PP PP 16 14 42.9 -2.1
TIY S **S** **16 19 42.9 -0.4**
TIY SS SS 16 23 05.6 -4.9
TIY pmax pmax
comp=Z,1µm,4.5s
TIY LR LR
comp=N,4µm,13.1s,MS5.6
TIY LR LR
comp=E,3µm,12.6s,MS5.6
TIY LR LR
comp=Z,18µm,44.0s
AGT Agartala 47.99 311 *e*PKP **P** **16 13 01.0 -1.9**
AGT *ex* x 16 13 31.0
BJT Baijiatuao 48.05 346 *e*P **P** **16 13 02.7 -0.3**
comp=Z,217nm,1.1s,mb6.1
BJT LR LR
comp=Z,5µm,21.0s,MS5.5
BJT Baijiatuao 48.05 346 *e*P **P** **16 13 02.7 -0.3**
BJT pmax pmax
comp=Z,217nm,1.1s
BJT MLR MLR
comp=Z,5µm,21.0s
BJI Beijing 48.07 346 P **P** **16 13 02.6 -0.6**
BJI S **S** **16 19 57.0 -2.7**
BJI pmax pmax
comp=Z,150nm,1.2s,mb5.9
BJI pmax pmax
comp=Z,2µm,6.1s
BJI LR LR
comp=N,7µm,18.1s,MS5.7
BJI LR LR
comp=E,4µm,18.1s,MS5.7
BJI LR LR
comp=Z,6µm,23.9s
SHL Shillong 48.49 313 *e*PKP **P** **16 13 04.5 -2.2**
SHL *ex* x 16 15 04.5
SHL *e*S **S** **16 20 08.0 +1.9**
SNY Shenyang 48.59 354 ⇓P **P** **16 13 06.9 -0.2**
SNY PP PP 16 14 59.2 -1.1
SNY S **S** **16 20 08.5 +1.6**
SNY pmax pmax
comp=Z,77nm,1.5s,mb5.5
SNY LR LR
comp=N,4µm,18.6s,MS5.7
SNY LR LR
comp=E,6µm,20.7s,MS5.7
SNY LR LR
comp=Z,5µm,16.2s,MS5.6
MSVF Nonsavu 48.76 108 *e*P **P** **16 13 11.0 +2.1**
comp=Z,119nm,1.4s,mb5.7
MSVF LR LR
comp=Z,12µm,21.0s,MS5.8
MSVF Nonsavu 48.76 108 *e*P **P** **16 13 11.0 +2.1**
MSVF pmax pmax
comp=Z,119nm,1.4s,mb5.7
MSVF MLR MLR
comp=Z,12µm,21.0s,MS5.8
LZH Lanzhou 48.82 332 ⇓P **P** **16 13 09.8 +0.7**
LZH pP pP 16 13 11.1 -7.3
LZH sP sP 16 13 12.8 -9.2
LZH S **S** **16 20 10.0 -0.5**
LZH sS sS 16 20 20.0 -5.7

LZH SS SS 16 23 41.0 -0.5
LZH pmax pmax
comp=Z,36nm,1.0s,mb5.4
LZH pmax pmax
comp=Z,120nm,4.0s
LZH LR LR
comp=N,7μm,15.9s,MS5.8
LZH LR LR
comp=E,5μm,14.2s,MS5.8
LZH LR LR
comp=Z,7μm,16.4s,MS7.7
FUNA Funafuti 49.47 95 *e*P **P 16 13 17.5 +3.1**
comp=Z,272nm,1.1s,mb6.2
FUNA LR LR
comp=Z,12μm,22.0s,MS5.8
CAL Calcutta 49.52 307 *i* P **P 16 13 19.9 +5.3**
CAL *i* S **S 16 20 27.6 +6.9**
CAL *i* S **S 16 20 27.7 +7.0**
OUZ Omahuta 49.56 131 *e*P **P 16 13 15.7 +0.9**
comp=Z,334nm,1.6s,mb6.1
VLA Vladivostok 49.65 2⇓ *i*P **P 16 13 13.3 -2.0**
VLA *i* 16 14 32.5
VLA *e* 16 15 08.5
VLA *e*S **S 16 20 24.9 +3.1**
VLA pmax pmax
comp=Z,354nm,1.3s,mb6.2
HHC Hu-ho-hao-te 50.05 342 ⇓P **P 16 13 17.7 -0.7**
HHC sP sP 16 13 22.8 -8.5
HHC PcP PcP 16 14 36.9 -1.0
HHC PP PP 16 15 14.4 +0.6
HHC ScP ScP 16 18 30.4 -1.2
HHC PcS PcS 16 18 32.2 -2.6
HHC S **S 16 20 27.8 +0.2**
HHC ScS ScS 16 23 05.0 -2.5
HHC SS SS 16 23 59.5 -1.7
HHC pmax pmax
comp=Z,88nm,1.1s,mb5.7
HHC pmax pmax
comp=Z,700nm,3.7s
HHC LR LR
comp=N,5μm,16.6s,MS5.7
HHC LR LR
comp=E,3μm,16.1s,MS5.7
HHC LR LR
comp=Z,6μm,16.6s,MS5.7
ERM Erimo 50.12 13 PFAKE 16 13 30.0 +11
ERM LR LR
comp=Z,10μm,20.0s,MS5.8
BTO Baotou 50.31 341 *e*P **P 16 13 18.2 -2.2**
CN2 Changchun 50.40 356 *e*P **P 16 13 21.0 +0.1**
CN2 *ep*P pP 16 13 25.4 -4.8
CN2 *es*P sP 16 13 28.0 -5.9
CN2 pmax pmax
comp=Z,20nm,1.0s,mb5.1
CN2 pmax pmax
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,5μm,13.0s,MS5.8
CN2 LR LR
comp=E,2μm,13.0s,MS5.8
CN2 LR LR
comp=Z,6μm,20.0s
PALK Pallekele 50.42 285 P **P 16 13 22.1 +0.4**
comp=Z,1μmcomp=Z,70nm,1.3s,mb5.5
MDJ Mudanjiang 51.09 0 P **P 16 13 25.1 -1.0**
MDJ pP pP 16 13 27.7 -7.7
MDJ sP sP 16 13 28.9 -10
MDJ S **S 16 20 42.5 +0.7**
MDJ SS SS 16 24 16.8 -0.7
MDJ pmax pmax
comp=Z,130nm,1.6s,mb5.6
MDJ pmax pmax
comp=Z,1μm,7.5s
MDJ LR LR
comp=N,8μm,38.4s
MDJ LR LR
comp=Z,11μm,38.4s,MS5.6
MDJ Mudanjiang 51.09 0 *e*P **P 16 13 25.7 -0.4**
comp=Z,512nm,1.6s,mb6.2
MDJ LR LR
comp=Z,7μm,21.0s,MS5.7
VIS Vishakhapatnam 51.47 299 *e*PKP **P 16 13 26.8 -2.7**
VIS AMb AMB 16 13 32.0
comp=Z,508nm,1.6s,mb6.2
VIS *i* S **S 16 20 47.2 -0.8**
LSA Lhasa 51.51 317 P **P 16 13 30.5 +0.9**
LSA LR LR
comp=N,6μm,46.0s,MS5.5
LSA LR LR
comp=E,10μm,49.0s,MS5.5
LSA LR LR
comp=Z,7μm,26.0s
LSA Lhasa 51.51 317 *e*P **P 16 13 30.4 +0.8**
comp=Z,212nm,1.3s,mb5.9
LSA LR LR
comp=Z,5μm,20.0s,MS5.5
LSA Lhasa 51.51 317 *e*P **P 16 13 30.4 +0.8**
LSA pmax pmax
comp=Z,212nm,1.3s,mb5.9
LSA MLR MLR
comp=Z,5μm,20.0s,MS5.5
RPZ Rata Peaks 51.89 142 *e*P **P 16 13 32.2 0.0**
comp=Z,335nm,1.2s,mb6.2
ASAJ Asahikawa 52.00 12 P **P 16 13 33.1 +0.2**
comp=Z,73nm,0.7s,mb5.7,baz=222,slow=10,SNR=34
ASAJ Asahikawa 52.00 12 *e*P **P 16 13 32.7 -0.2**
comp=Z,95nm,1.2s,mb5.6
ASAJ Asahikawa 52.00 12 P **P 16 13 33.2 +0.3**
ASAJ pmax pmax
comp=Z,73nm,0.7s
ODZ Otahua Downs 52.38 144 P **P 16 13 36.6 +0.8**
comp=Z,364nm,1.4s,mb6.1
ODAN Odare 52.54 311 *e*P **P 16 13 35.6 -1.7**
ODAN Odare 52.54 311 *e*P **P 16 13 35.6 -1.7**
TAPN Taplejung 52.57 312 *e*P **P 16 13 36.0 -1.5**
TAPN Taplejung 52.57 312 *e*P **P 16 13 36.0 -1.5**
KHZ Kahutara 52.78 140 *e*P **P 16 13 40.7 +1.9**
comp=Z,124nm,1.1s,mb5.8
SNZO South Karori 53.01 138 PFAKE 16 13 50.0 +9.4
SNZO LR LR
comp=Z,21μm,20.0s,MS6.2
MCQ Macquarie Isla 53.29 159 *e*P **P 16 13 45.7 +3.3**
MCQ Macquarie Isla 53.29 159 *e*P **P 16 13 41.9 -0.5**
comp=Z,77μm,1.6s
MCQ Macquarie Isla 53.29 159 *e*P **P 16 13 41.9 -0.5**
MCQ pmax pmax
comp=Z,10μm,1.6s
URZ Urewera 53.37 133 *e*P **P 16 13 42.8 -0.4**
comp=Z,134nm,1.3s,mb5.7
GTA Gaotai 53.38 332 P **P 16 13 42.1 -1.2**
GTA pP pP 16 13 46.4 -6.2
GTA sP sP 16 13 49.9 -6.4
GTA S **S 16 21 16.9 +3.5**
GTA sS sS 16 21 23.8 -5.1
GTA SS SS 16 24 53.0 -1.0
GTA pmax pmax
comp=Z,130nm,1.5s,mb5.6
GTA pmax pmax
comp=Z,570nm,5.2s
GTA LR LR
comp=N,5μm,17.1s,MS5.8
GTA LR LR
comp=E,6μm,19.9s,MS5.8
GTA LR LR
comp=Z,10μm,28.9s
GUN Gumba 54.24 311 *e*P **P 16 13 46.8 -3.0**
comp=Z,474nm,0.7s,mb6.5
GUN Gumba 54.24 311 *e*P **P 16 13 46.8 -3.0**
comp=Z,474nm,0.7s,mb6.5
TRD Trivandrum 54.32 285⇑ *i*x x 16 13 58.7
TRD *i* x x 16 21 28.7
PKI Pulchoki 54.41 311 *e*P **P 16 13 47.2 -3.8**
PKI Pulchoki 54.41 311 *e*P **P 16 13 47.3 -3.7**
PKI Pulchoki 54.41 311 *e*P **P 16 13 47.3 -3.7**
PKIN Phulchoki 54.42 311 *e*P **P 16 13 47.3 -3.8**
RAO Raoul Island 54.45 121 PFAKE 16 14 00.0 +8.6
RAO LR LR
comp=Z,9μm,19.0s,MS5.9
KKN Kakani 54.62 311 *e*P **P 16 13 48.9 -3.6**
KKN Kakani 54.62 311 *e*P **P 16 13 48.9 -3.6**
comp=Z,7.9nm,0.4s,mb5.1
KKN Kakani 54.62 311 *e*P **P 16 13 48.9 -3.6**
KKN pmax pmax
comp=Z,8.0nm,0.4s,mb5.1
DMN Daman 54.66 311 *e*P **P 16 13 48.3 -4.5**
comp=Z,426nm,1.1s,mb6.4
DMN Daman 54.66 311 *e*P **P 16 13 48.3 -4.5**
comp=Z,426nm,1.1s,mb6.4
YSS Yuzh-Sakhalins 54.75 11 *e*P **P 16 13 53.5 +0.4**
comp=Z,67nm,0.6s,mb5.8
YSS LR LR
comp=Z,2μm,21.0s,MS5.2
YSS Yuzh-Sakhalins 54.75 11 *e*P **P 16 13 53.0 -0.1**
YSS *e* 16 15 00.0
YSS *e*S **S 16 21 30.0 -1.6**
YSS *e*PS 16 21 48.0
YSS *e*SSS 16 27 08.0
YSS pmax pmax
comp=Z,80nm,0.9s,mb5.8
YSS MLR MLR
comp=N,4μm,19.0s,MS5.6
YSS MLR MLR
comp=Z,4μm,19.0s,MS5.6
YSS MLR MLR
comp=E,3μm,18.0s,MS5.6
GKN Gorkha 55.22 311 *e*P **P 16 13 51.5 -5.3**
comp=E,360nm,0.9s,mb6.4
GKN Gorkha 55.22 311 *e*P **P 16 13 51.5 -5.3**
comp=E,4.5nm,0.3s,mb5.0
HYB Hyderabad 55.56 296 *i* P **P 16 13 56.0 -3.5**
comp=E,380nm,1.0s,mb6.4
HYB *e*PcP PcP 16 14 54.0 -5.2
HYB *e*S **S 16 21 38.0 -5.5**
KOLN Koldanda 55.88 310 *e*P **P 16 13 57.0 -4.6**
comp=E,210nm,0.8s,mb6.2
KOLN Koldanda 55.88 310 *e*P **P 16 13 57.0 -4.6**
comp=E,7.3nm,0.3s,mb5.2
DANN Dangsing 56.06 311 *e*P **P 16 13 58.5 -4.4**
comp=E,921nm,1.5s,mb6.6
DANN Dangsing 56.06 311 *e*P **P 16 13 58.5 -4.4**
comp=E,921nm,1.5s,mb6.6
HIA Hailar 56.37 352 *e*P **P 16 14 03.8 -0.8**
comp=E,136nm,1.4s,mb5.8
HIA LR LR
comp=Z,8μm,19.0s,MS5.8
HIA Hailar 56.37 352 *e*P **P 16 14 03.8 -0.9**
HIA pmax pmax
comp=Z,136nm,1.4s
HIA MLR MLR
comp=Z,8μm,19.0s
DGAR Diego Garcia 56.38 266 PFAKE 16 14 20.0 +14
DGAR LR LR
comp=Z,8μm,19.0s,MS5.9
HMDM Hanimaadhoo 57.56 282 P **P 16 14 18.4 +4.5**
ULN Ulaanbaatar 57.78 342 *e*P **P 16 14 14.3 -0.3**
comp=Z,460nm,1.4s,mb6.3
ULN LR LR
comp=Z,5μm,21.0s,MS5.6
ULN Ulaanbaatar 57.78 342 *e*P **P 16 14 14.4 -0.3**
ULN pmax pmax
comp=Z,460nm,1.4s,mb6.3
ULN MLR MLR
comp=Z,5μm,21.0s,MS5.6
SONM Songino Array 57.95 342 P **P 16 14 15.8 0.0**
comp=Z,156nm,1.1s,mb6.0,baz=166,slow=3.6,SNR=119
SONM S **S 16 22 15.6 +1.6**
comp=Z,0.2nm,0.4s,baz=244,slow=7.1,SNR=0.8
SONM PKPPKP 16 43 49.2
comp=Z,1.5nm,1.2s,baz=270,slow=0.3,SNR=5.1
SONM PKP2bc 16 44 08.4
comp=Z,2.5nm,1.1s,baz=303,slow=5.5,SNR=6.1
SONM PKP2ab 16 44 18.4
comp=Z,4.7nm,1.1s,baz=278,slow=1.8,SNR=8.9
SONM Songino Array 57.95 342 P **P 16 14 15.8 0.0**
SONM S **S 16 22 15.6 +1.6**
SONM P'P' 16 43 49.2
SONM ⇑*e* 16 44 08.4
SONM P'P'ab 16 44 18.4
SONM Songino Array 57.95 342 P **P 16 14 15.8 -0.1**
SONM S **S 16 22 15.6 +1.6**
SONM pmax pmax
comp=Z,157nm,1.1s
SONM pmax pmax
comp=Z,2.0nm,1.2s
SONM pmax pmax
comp=Z,3.0nm,1.1s
SONM pmax pmax
comp=Z,5.0nm,1.1s
AKL Akola 58.12 299⇑ *i*P **P 16 14 16.6 -1.0**
AKL *i* x x 16 22 12.2
BHPL Bhopal 58.77 302 *e*PKP **P 16 14 20.5 -1.6**
BHPL AMb AMB 16 14 35.9
comp=Z,372nm,1.8s,mb6.1
GOA Goa 59.20 292 *ex* **P 16 14 25.9 +0.6**
GOA *ex* **S 16 22 26.2 -5.2**
KAD Karad 59.44 295 *e*PKP **P 16 14 24.5 -2.4**
KAD AMb AMB 16 14 32.5
comp=Z,302nm,1.6s,mb6.1
CIT Chita 60.03 349 *e*P **P 16 14 31.0 +0.7**
CIT *e* 16 14 43.8
CIT *e* 16 15 23.6
CIT pmax pmax
comp=Z,515nm,1.6s,mb6.3
POO Poona 60.14 296 *e*PKP **P 16 14 29.6 -2.0**
POO AMb AMB 16 14 40.9
comp=Z,218nm,1.4s,mb6.0
DRV Dumont d'Urvil 60.31 175 P **P 16 14 33.0 +1.0**
DRV S **S 16 22 46.0 +1.8**
DRV SP 16 22 56.0
DRV SS SS 16 26 44.0 +2.1
DRV R 16 33 00.0
DRV Dumont d'Urvil 60.31 175 P **P 16 14 33.0 +1.0**
DRV S **S 16 22 46.0 +1.8**
DRV SP 16 22 56.0
DRV SS SS 16 26 44.0 +2.1
DRV R 16 33 00.0
CASY Casey 60.88 189 *e*P **P 16 14 36.7 +0.8**
CASY Casey 60.88 189 *e*P **P 16 14 34.1 -1.8**
comp=Z,278nm,1.4s,mb6.2
CASY LR LR
comp=Z,16μm,22.0s,MS6.1
NDI New Delhi 61.25 308 *ex* **P 16 14 35.0 -4.1**
NDI *ex* x 16 23 50.0
DDI Dehra Dun 61.36 310 *e*PKP **P 16 14 38.5 -1.2**
MIDW Midway 62.04 53 PFAKE 16 15 00.0 +16
MIDW LR LR
comp=Z,5μm,21.0s,MS5.7
TLY Talaya 62.19 342 *e*P **P 16 14 45.4 +0.5**
comp=Z,125nm,1.3s,mb5.9
TLY LR LR
comp=Z,4μm,19.0s,MS5.6
TLY Talaya 62.19 342 *e*P **P 16 14 44.2 -0.7**
TLY *e*S **S 16 23 12.0 +3.7**
TLY *e* 16 23 29.9
TLY pmax pmax
comp=Z,93nm,1.1s,mb5.8
TLY MLR MLR
comp=Z,3μm,19.0s,MS5.5
TLY Talaya 62.19 342 *e*P **P 16 14 45.4 +0.5**
TLY pmax pmax
comp=Z,125nm,1.3s,mb5.9
TLY MLR MLR
comp=Z,4μm,19.0s,MS5.6
AJM Ajmer 62.38 304 *e*PKP **P 16 14 46.0 -0.7**
SMLA Simla 62.41 310 *i* P **P 16 14 45.0 -1.8**
IRK Irkutsk 62.49 343⇑ *i*P **P 16 14 48.4 +1.5**
IRK *e*S **S 16 23 17.2 +5.0**
IRK pmax pmax
comp=Z,510nm,1.8s,mb6.3
WMQ Urumqi 62.77 327 P **P 16 14 49.1 +0.1**
WMQ pP pP 16 14 53.7 -4.8
WMQ sP sP 16 14 56.1 -6.0
WMQ PcP PcP 16 15 27.3 0.0
WMQ PP PP 16 17 08.9 +1.5
WMQ ScP ScP 16 19 27.5 0.0
WMQ S **S 16 23 16.1 +0.1**
WMQ ScS ScS 16 24 37.4 -2.0
WMQ SS SS 16 27 23.0 +1.5
WMQ pmax pmax
comp=Z,150nm,1.2s,mb6.0
WMQ pmax pmax
comp=Z,1μm,4.6s
WMQ LR LR
comp=N,6μm,17.5s,MS5.9
WMQ LR LR
comp=E,4μm,21.4s,MS5.9
WMQ LR LR
comp=Z,6μm,30.3s
MOY Mondy 63.01 341 *e*P **P 16 14 51.2 +0.8**
MOY pmax pmax
comp=Z,370nm,1.5s,mb6.3
BHK Bhakra 63.11 310 *ex* **P 16 14 53.0 +1.5**
CLNS Chul'man 63.43 357 *e*P **P 16 14 52.6 -0.4**
CLNS *e**PP pP 16 15 08.0 +5.4
CLNS *e* 16 15 33.4
CLNS *e* 16 17 09.0
CLNS *e*PPP 16 18 39.8
CLNS *e*S **S 16 23 17.0 -6.7**
CLNS pmax pmax
comp=Z,94nm,1.4s,mb5.7
CLNS pmax pmax
comp=N,51nm,1.2s
CLNS pmax pmax
comp=E,18nm,1.0s
CLNS pmax pmax
comp=Z,16nm,1.0s,mb5.1
CLNS pmax pmax
comp=N,33nm,1.1s
CLNS pmax pmax
comp=E,21nm,1.2s
CLNS smax
comp=N,1μm,12.3s
CLNS smax
comp=E,1μm,12.8s
CLNS MLR MLR
comp=Z,3μm,20.0s,MS5.5
CLNS MLR MLR
comp=N,3μm,18.0s,MS5.6
CLNS MLR MLR
comp=E,2μm,17.0s,MS5.6
PEA0B Petropavlovsk- 64.27 19 *e*P **P 16 14 59.7 +1.0**
PETK Petropavlovsk- 64.27 19 P **P 16 14 59.2 +0.5**
comp=E,99nm,1.2s,mb5.7,baz=199,slow=4.1,SNR=19
PETK Petropavlovsk- 64.27 19 P **P 16 14 59.2 +0.5**
PETK Petropavlovsk- 64.27 19 P **P 16 14 59.2 +0.5**
PETK pmax pmax
comp=Z,99nm,1.2s,mb5.7
PET Petropavlovsk 64.51 19 *e*P **P 16 15 01.0 +0.8**
comp=Z,219nm,1.4s,mb6.0
PET LR LR
comp=Z,5μm,22.0s,MS5.7
PET Petropavlovsk 64.51 19 *e*P **P 16 15 02.2 +2.0**
PET *e*S **S 16 23 40.0 +2.8**
PET pmax pmax
comp=Z,500nm,15.2s
PET pmax pmax
comp=Z,2μm,6.2s
PET pmax pmax
comp=Z,146nm,1.4s,mb5.8
PET MLR MLR
comp=Z,2μm,12.0s,MS5.5
PET MLR MLR
comp=Z,3μm,17.0s
MIR Mirnyy 64.73 195⇑ *i*P **P 16 15 03.4 +1.9**
MIR *i* 16 15 15.0
MIR *e*S **S 16 23 46.0 +6.3**
MIR pmax pmax
comp=Z,114nm,1.6s,mb5.7
MIR pmax pmax
comp=Z,707nm,4.0s
MIR pmax pmax
comp=N,404nm,4.0s
MIR pmax pmax
comp=E,500nm,4.0s
MIR smax
comp=N,1μm,12.0s
MIR smax
comp=E,2μm,14.0s
MIR MLR MLR
comp=N,7μm,18.0s,MS6.0
MIR MLR MLR
comp=E,7μm,18.0s,MS6.0
MIR MLR MLR
comp=Z,13μm,18.0s,MS6.2
JOHN Johnston Islan 64.81 68 PFAKE 16 15 20.0 +17
JOHN LR LR
comp=Z,57μm,22.0s,MS6.7
PAF Port-aux-Franc 65.07 218 PFAKE 16 15 20.0 +16
PAF LR LR
comp=Z,9μm,19.0s,MS6.0
BHJ Bhuj 65.41 299 *e*PKP **P 16 15 06.2 -0.5**
BHJ AMb AMB 16 15 08.5
comp=Z,54nm,1.0s,mb5.5
BOD Bodaibo 65.50 351 *e*P **P 16 15 06.9 +0.3**
BOD pmax pmax
comp=Z,149nm,1.5s,mb5.8
KSH Kashi 67.33 318⇑ *i*P **P 16 15 19.9 +1.2**
KSH pP pP 16 15 24.5 -3.8
KSH sP sP 16 15 26.8 -5.1
KSH PcP PcP 16 15 45.3 -1.0
KSH PP PP 16 17 52.9 +5.4
KSH ScP 16 19 47.1
KSH PcS 16 19 48.8
KSH S S 16 24 18.2 +6.0
KSH sS sS 16 24 27.2 -0.8
KSH ScS ScS 16 25 15.2 +0.5
KSH SS SS 16 28 44.3 +12
KSH pmax pmax
comp=Z,64nm,1.1s,mb5.6
KSH pmax pmax
comp=Z,220nm,4.5s
KSH LR LR
comp=N,2μm,13.2s
KSH LR LR
comp=E,8μm,24.0s
KSH LR LR
comp=Z,4μm,17.9s,MS5.7
MK31 Makanchi Array 67.60 327 *e*P **P 16 15 20.4 +0.2**
MK31 Makanchi Array 67.60 327 *e*P **P 16 15 19.8 -0.4**
MK31 pmax pmax
comp=Z,43nm,0.6s,mb5.7
MKAR Makanchi Array 67.60 327 P **P 16 15 19.0 -1.2**
comp=Z,44nm,0.5s,mb5.8,baz=119,slow=7.7,SNR=160
MKAR S S 16 24 13.9 -1.2
comp=Z,0.6nm,0.8s,baz=162,slow=7.0,SNR=2.4
MKAR PKPPKP 16 43 44.1
comp=Z,1.3nm,1.0s,baz=339,slow=3.1,SNR=5.0
MKAR Makanchi Array 67.60 327 P **P 16 15 19.0 -1.2**
MKAR S S 16 24 13.9 -1.2
MKAR P'P' 16 43 44.1
MKAR Makanchi Array 67.60 327 P **P 16 15 19.0 -1.2**
MKAR S S 16 24 13.9 -1.3
MKAR pmax pmax
comp=Z,44nm,0.5s
MKAR smax
comp=N,1.0nm,0.8s
MKAR pmax pmax
comp=Z,1.0nm,1.0s
YAK Yakutsk 68.54 0 *e*P **P 16 15 25.4 -0.4**
comp=Z,307nm,0.8s,mb6.3
YAK LR LR
comp=Z,5μm,19.0s,MS5.8
YAK Yakutsk 68.54 0*d i*P **P 16 15 25.9 +0.1**
YAK *e**PP pP 16 15 36.4 +1.0
YAK *e* 16 15 52.2
YAK *e* 16 17 57.2
YAK *e*PPP 16 19 35.3
YAK *e*S S 16 24 27.0 +1.3
YAK *e* 16 25 24.5
YAK *e*SS SS 16 28 41.0 -9.4
YAK pmax pmax
comp=Z,197nm,1.0s,mb6.0
YAK pmax pmax
comp=N,66nm,1.1s
YAK pmax pmax
comp=E,11nm,1.4s
YAK pmax pmax
comp=Z,603nm,6.1s
YAK pmax pmax
comp=N,249nm,4.0s
YAK pmax pmax
comp=E,511nm,5.1s
YAK smax
comp=N,1μm,5.3s
YAK smax
comp=E,1μm,6.1s
YAK MLR MLR
comp=E,2μm,20.0s
TKM2 Tokmak 2 69.32 321 *e*P **P 16 15 31.0 -0.1**
comp=E,49nm,0.6s,mb5.6
TKM2 LR LR
comp=Z,4μm,22.0s,MS5.7
TKM2 Tokmak 2 69.32 321 *e*P **P 16 15 31.0 -0.1**
TKM2 pmax pmax
comp=Z,49nm,0.6s,mb5.6
TKM2 MLR MLR

comp=Z,4μm,22.0s,MS5.7
RAR Rarotonga 69.85 110 PFAKE 16 15 50.0 +15
RAR LR LR
comp=Z,4μm,19.0s,MS5.7
AAK Ala-Archa 69.87 320 P **P** **16 15 35.3 +0.9**
comp=Z,15nm,0.8s,mb5.0,baz=125,slow=6.2,SNR=49
AAK S S 16 24 43.4 +1.2
comp=Z,0.4nm,0.4s,baz=187,slow=17,SNR=1.5
AAK Ala-Archa 69.87 320 P **P** **16 15 35.3 +0.9**
AAK S S 16 24 43.4 +1.2
AAK Ala-Archa 69.87 320*d i* P **P** **16 15 34.7 +0.2**
AAK pmax pmax
comp=Z,4.0nm,1.7s
AAK MLR MLR
comp=Z,3μm,23.0s,MS5.4
AAK Ala-Archa 69.87 320 P **P** **16 15 36.6 +2.1**
comp=Z,281nm,1.2s,mb6.1,SNR=17
AAK Ala-Archa 69.87 320 P **P** **16 15 34.1 -0.4**
comp=Z,2μmcomp=Z,107nm,1.2s,mb5.7
FRU Bishkek 69.89 320 *eP* **P** **16 15 36.0 +1.4**
FRU pmax pmax
comp=Z,200nm,1.6s,mb5.8
FX1 Attu Island--F 70.03 27 P **P** **16 15 36.6 +1.4**
comp=Z,22nm,0.6s,mb5.2,baz=244,slow=14,SNR=4.9
FX1 Attu Island--F 70.03 27 P **P** **16 15 36.6 +1.4**
FX1 Attu Island--F 70.03 27 P **P** **16 15 36.6 +1.4**
FX1 pmax pmax
comp=Z,22nm,0.6s
KBL Kabul 70.04 310 *eP* **P** **16 15 36.3 +0.6**
comp=Z,54nm,1.1s,mb5.4
KBL Kabul 70.04 310 *eP* **P** **16 15 36.3 +0.6**
KBL pmax pmax
comp=Z,54nm,1.1s,mb5.4
EKS2 Erkin-Say 70.34 320 *eP* **P** **16 15 36.2 -1.2**
comp=Z,135nm,1.2s,mb5.8
EKS2 LR LR
comp=Z,4μm,21.0s,MS5.7
EKS2 Erkin-Say 70.34 320 *eP* **P** **16 15 36.2 -1.2**
EKS2 pmax pmax
comp=Z,135nm,1.2s,mb5.8
EKS2 MLR MLR
comp=Z,4μm,21.0s,MS5.7
ZAA0 Zalesovo Array 71.02 334 *eP* **P** **16 15 40.0 -1.2**
ZALV Zalesovo Beam 71.02 334 P **P** **16 15 40.3 -1.0**
comp=Z,78nm,1.0s,mb5.6,baz=120,slow=5.2,SNR=115
ZALV S S 16 24 55.2 +0.1
comp=Z,0.4nm,0.3s,baz=268,slow=9.9,SNR=1.5
ZALV PKPPKP 16 43 39.3
comp=Z,0.4nm,0.3s,baz=129,slow=2.0,SNR=3.4
ZALV Zalesovo Beam 71.02 334 P **P** **16 15 40.3 -1.0**
ZALV S S 16 24 55.2 +0.1
ZALV P'P' 16 43 39.3
ZALV Zalesovo Beam 71.02 334 P **P** **16 15 40.3 -0.9**
ZALV S S 16 24 55.2 0.0
ZALV pmax pmax
comp=Z,78nm,1.0s,mb5.6
SEY Seymchan 71.65 11⇓ *eP* **P** **16 15 45.9 +1.0**
KURK Kurchatov 71.91 329 P **P** **16 15 46.5 -0.2**
comp=Z,96nm,1.0s,mb5.7,baz=129,slow=5.5,SNR=132
KURK PP PP 16 18 27.5 +0.8
comp=Z,13nm,1.1s,baz=129,slow=7.7,SNR=2.7
KURK S S 16 25 03.8 -1.8
comp=Z,0.2nm,0.3s,baz=122,slow=33,SNR=1.3
KURK Kurchatov 71.91 329 *eP* **P** **16 15 46.5 -0.2**
comp=Z,291nm,1.1s,mb6.1
KURK PP PP 16 18 27.5 +0.8
KURK S S 16 25 03.8 -1.8
KURK Kurchatov 71.91 329 P **P** **16 15 46.5 -0.2**
KURK 16 18 27.5
KURK S S 16 25 03.8 -1.8
KURK pmax pmax
comp=Z,96nm,1.0s,mb5.7
KURK pmax pmax
comp=Z,13nm,1.1s,mb4.8
RER Riviere de l'E 72.29 250 P **P** **16 15 49.9 +0.3**
comp=Z,74nm,0.9s,mb5.6
RER LR LR
comp=Z,4μm,19.0s,MS5.7
NVS Novosibirsk 72.30 334⇑ *i* P **P** **16 15 47.9 -1.1**
NVS *e*S S 16 25 07.0 -3.0
NVS pmax pmax
comp=Z,548nm,1.9s,mb6.2
NVS pmax pmax
comp=N,175nm,1.5s
NVS pmax pmax
comp=E,186nm,1.5s
NVS smax
comp=N,81nm,2.6s
NVS smax
comp=E,250nm,2.6s
KK31 Karatay Array 72.66 319 *i* P **P** **16 15 51.5 +0.1**
KK31 pmax pmax
comp=Z,91nm,1.3s,mb5.5
KKAR Karatay Array 72.66 319 *eP* **P** **16 15 51.1 -0.3**
comp=Z,97nm,1.3s,mb5.6
KKAR Karatay Array 72.66 319 *eP* **P** **16 15 51.1 -0.3**
KKAR pmax pmax
comp=Z,97nm,1.3s,mb5.6
MSEY Mahe Island 73.42 267 P **P** **16 15 56.5 0.0**
comp=Z,102nm,1.6s,mb5.5
MSEY LR LR
comp=Z,4μm,21.0s,MS5.7
MSEY Mahe Island 73.42 267 P **P** **16 15 56.5 0.0**
MSEY pmax pmax
comp=Z,102nm,1.6s,mb5.5
MSEY MLR MLR
comp=Z,4μm,21.0s,MS5.7
XMAS Kiritimati 73.63 86 PFAKE 16 16 10.0 +12
XMAS LR LR
comp=Z,9μm,21.0s,MS6.0
SBA Scott Base 73.71 172 *eP* **P** **16 15 58.3 +1.3**
comp=Z,163nm,1.6s,mb5.7
SBA LR LR
comp=Z,10μm,21.0s,MS6.1
SBA Scott Base 73.71 172 *eP* **P** **16 15 58.3 +1.3**
SBA pmax pmax
comp=Z,163nm,1.6s,mb5.7
SBA MLR MLR
comp=Z,10μm,21.0s,MS6.1
WBK Wadi Bani Khal 74.65 296 P **P** **16 16 03.8 +0.3**
SNR=36
MAW Mawson 74.96 201 P **P** **16 16 02.2 -2.2**
comp=Z,33nm,0.7s,mb5.4,baz=71,slow=7.5,SNR=22
MAW S S 16 25 40.4 +0.7
comp=Z,0.5nm,0.5s,baz=122,slow=18,SNR=1.1
MAW LR LR 16 48 50.0
comp=Z,7μm,18.4s,MS6.0,baz=63,slow=36
MAW Mawson 74.96 201 *eP* **P** **16 16 02.4 -2.0**
comp=Z,44nm,0.8s,mb5.4
MAW Mawson 74.96 201 *eP* **P** **16 16 05.7 +1.3**
comp=Z,37nm,1.3s,mb5.2
MAW S S 16 25 40.4 +0.7
MAW LR LR 16 48 50.0
MAW Mawson 74.96 201 P **P** **16 16 02.2 -2.2**
MAW S S 16 25 40.4 +0.7
MAW pmax pmax
comp=Z,33nm,0.7s
MAW smax
comp=N,1.0nm,0.5s
MAW MLR MLR
comp=Z,7μm,18.4s
JMDO Jabal Madar 75.38 295 P **P** **16 16 08.1 +0.4**
SNR=14
JMDO P 16 16 12.2
SNR=23
SMDO Samad 75.59 296 P **P** **16 16 09.5 +0.6**
SNR=20
SMDO P 16 16 09.6
SNR=15
BSY Bisya 76.28 295 P **P** **16 16 13.2 +0.4**
SNR=22
HOQ Hoggain 76.37 296 P **P** **16 16 14.3 +1.0**
SNR=24
KIP Kipapa 76.52 66 PFAKE 16 16 30.0 +16
KIP LR LR
comp=Z,5μm,20.0s,MS5.8
IMON Monand 76.90 306 *eP* **P** **16 16 16.4 +0.3**
ARQ Araqi 77.02 296 P **P** **16 16 18.1 +1.1**
SNR=23
IKOO Kooshah 77.21 305 *eP* **P** **16 16 18.7 +0.8**
BVA0 Borovoye Array 77.45 328 *i* P **P** **16 16 17.4 -1.3**
BVA0 pmax pmax
comp=Z,33nm,1.4s,mb5.1
BVAR Borovoye Array 77.45 328 P **P** **16 16 18.2 -0.6**
comp=Z,44nm,1.2s,mb5.3,baz=114,slow=3.7,SNR=61
BVAR S S 16 26 07.1 -0.3
comp=Z,0.4nm,0.4s,baz=260,slow=41,SNR=1.5
BVAR Borovoye Array 77.45 328 P **P** **16 16 18.2 -0.6**
BVAR S S 16 26 07.1 -0.3
BVAR Borovoye Array 77.45 328 P **P** **16 16 18.2 -0.5**
BVAR S S 16 26 07.1 -0.3
BVAR pmax pmax
comp=Z,44nm,1.2s
IMYA Miami 77.50 309 *eP* **P** **16 16 18.8 -0.7**
BRVK Borovoye 77.52 328 *eP* **P** **16 16 19.3 +0.2**
comp=Z,168nm,1.4s,mb5.8
BRVK LR LR
comp=Z,3μm,21.0s,MS5.6
BRVK Borovoye 77.52 328*d i* P **P** **16 16 18.5 -0.6**
BRVK pmax pmax
comp=Z,92nm,1.6s,mb5.5
ASHO Ashiyiah 77.74 297 P **P** **16 16 23.0 +2.0**
SNR=18
BANOM Banah 77.81 298 P **P** **16 16 23.3 +1.9**
SNR=20
BANOM P 16 16 23.5
SNR=19
RBK Rabkut 77.93 289 P **P** **16 16 22.7 +0.5**
SNR=17
RBK P 16 16 23.5
SNR=33
IBND Bandar-abas 77.97 300 *eP* **P** **16 16 23.6 +1.4**
ISRO Mashad 77.98 309 *eP* **P** **16 16 22.8 +0.7**
IPAY Payeh 78.39 309 *eP* **P** **16 16 23.6 -0.8**
IPAY *eP* 16 16 26.0
ABTO Aybut 78.75 289 P **P** **16 16 25.8 -1.0**
SNR=54
IKRD Kardeh 78.85 309 *eP* **P** **16 16 22.8 -4.1**
IEMG Emamgholi 78.94 310 *eP* **P** **16 16 28.8 +1.4**
NIKO Nikolski 78.99 33 *eP* **P** **16 16 28.0 +0.7**
comp=Z,377nm,1.5s,mb6.1
BILL Bilibino 79.00 13 *eP* **P** **16 16 26.9 -0.1**
comp=Z,75nm,1.5s,mb5.4
BILL LR LR
comp=Z,5μm,20.0s,MS5.8
BILL Bilibino 79.00 13⇓ *eP* **P** **16 16 27.5 +0.5**
BILL *e* 16 19 30.7
BILL *i* S S 16 26 21.5 -2.0
BILL pmax pmax
comp=Z,35nm,2.5s,mb4.8
BILL MLR MLR
comp=Z,5μm,20.0s,MS5.8
TBI Tubuai 79.36 112 *eS* S 16 26 20.6 -8.5
comp=Z,4μm,25.8s
TBI *e*LQ 16 37 26.7
comp=Z,8μm,30.8s
TBI *e*LR LR 16 41 08.7
comp=Z,14μm,32.2s
ABKT Ailbek 79.49 310 P **P** **16 16 31.5 +1.1**
comp=Z,238nm,1.0s,mb6.1,SNR=10
PPT Papeete 79.58 107 *eS* S 16 26 21.4 -10
comp=Z,4μm,25.2s
PPT *e*LQ 16 37 35.4
comp=Z,13μm,31.5s
PPT *e*LR LR 16 41 03.2
comp=Z,14μm,30.0s
ABPO Ambohimpanom 80.37 252 P **P** **16 16 37.8 +2.2**
ABPO LR LR
comp=Z,3μm,22.0s,MS5.7
ABPO Ambohimpanom 80.37 252 P **P** **16 16 37.8 +2.2**
ABPO MLR MLR
comp=Z,3μm,22.0s,MS5.7
IMEH Mehriz 80.55 303 *eP* **P** **16 16 36.5 +0.3**
UNV Unalaska Valle 80.64 33 *eP* **P** **16 16 36.5 +0.3**
comp=Z,324nm,1.6s,mb6.0
ICHK Chekchek 80.92 304 *eP* **P** **16 16 38.8 +0.6**
AKUT Akutan 81.16 33 *eP* **P** **16 16 39.5 +0.6**
comp=Z,476nm,1.5s,mb6.2
ISAD Sadrabad 81.44 304 *eP* **P** **16 16 39.8 -1.2**
AB31 Akbulak array 81.85 322 *i* P **P** **16 16 42.6 -0.1**
AB31 pmax pmax
comp=Z,85nm,1.4s,mb5.5
ABKAR Akbulak array 81.85 322 *eP* **P** **16 16 42.7 -0.1**
comp=Z,18nm,0.7s,mb5.1
IANJ Anjilo 82.09 307 *eP* **P** **16 16 45.4 +1.0**
IKIA Kiasar 82.45 308 *eP* **P** **16 16 47.1 +0.9**
ISHM Shahmirzad 82.67 307 *eP* **P** **16 16 49.1 +1.8**
FALS False Pass 82.70 33 *eP* **P** **16 16 47.4 +0.4**
comp=Z,180nm,1.0s,mb6.1
ILAS Lasjerd 82.83 307 *eP* **P** **16 16 48.8 +0.6**
QSPA South Pole Qui 83.26 180 *eP* **P** **16 16 50.3 +0.7**
comp=Z,189nm,1.4s,mb5.9
QSPA LR LR
comp=Z,10μm,21.0s,MS6.2
AKTK Aktyubinsk 83.42 322 P **P** **16 16 51.0 +0.2**
AKTK S S 16 27 08.6 -1.5
AKTO Aktyubinsk 83.42 322 P **P** **16 16 51.0 +0.2**
comp=Z,30nm,1.2s,mb5.2,baz=101,slow=5.8,SNR=25
AKTO S S 16 27 08.6 -1.5
comp=Z,0.4nm,0.4s,baz=202,slow=21,SNR=1.5
AKTO Aktyubinsk 83.42 322 P **P** **16 16 51.1 +0.2**
AKTO S S 16 27 08.6 -1.5
AKTO pmax pmax
comp=Z,30nm,1.2s,mb5.2
IPRN Peran 83.52 308 *eP* **P** **16 16 53.4 +1.7**
IDMV Damavand 83.61 307 *eP* **P** **16 16 52.9 +0.7**
SYO Syowa Base 83.68 201⇑ *eP* **P** **16 16 48.4 -3.5**
SYO Syowa Base 83.68 201 *e*SH S 16 27 12.0 -0.1
SVE Sverdlovsk 84.16 329*de*P **P** **16 16 55.4 +0.9**
SVE *e*S S 16 27 16.8 -0.5
SVE *e*SS SS 16 32 48.5 +1.6
SVE pmax pmax
comp=Z,259nm,1.5s,mb6.1
SVE smax
comp=E,2μm,11.4s
IR3 Iran Long-Peri 84.39 307 *eP* **P** **16 16 57.0 +0.8**
SDPT Sand Point 84.46 33 *eP* **P** **16 16 55.7 -0.3**
comp=E,656nm,1.3s,mb6.6
IMHD Mahdasht 84.72 307 *eP* **P** **16 16 59.0 +1.1**
ARU Arti 85.09 328 *eP* **P** **16 16 59.4 +0.2**
comp=E,194nm,1.4s,mb6.0
ARU LR LR
comp=Z,3μm,21.0s,MS5.7
ARU Arti 85.09 328 *eP* **P** **16 16 59.4 +0.2**
ARU pmax pmax
comp=Z,194nm,1.4s,mb6.0
ARU MLR MLR
comp=Z,3μm,21.0s,MS5.7
IRAZ Razeghan 85.25 306 *eP* **P** **16 17 02.3 +1.7**
QRN Al-Qurain 85.69 299 *eP* **P** **16 17 02.2 -0.6**
QRN AMb AMb 16 17 09.7
comp=Z,314nm,1.4s,mb6.3
CHGN Chignik 85.87 32 *eP* **P** **16 17 03.0 -0.1**
UMR Umm Al-Rimmam 86.00 300 *eP* **P** **16 17 04.3 -0.1**
UMR AMb AMb 16 17 11.2
comp=Z,270nm,1.4s,mb6.3
RDF Al-Radifah 86.03 300 *eP* **P** **16 17 04.5 -0.1**
RDF AMb AMb 16 17 11.7
comp=Z,348nm,1.4s,mb6.4
NAY Al-Naaiem 86.36 300 *eP* **P** **16 17 06.3 +0.1**
NAY AMb AMb 16 17 12.8
comp=Z,198nm,1.4s,mb6.2
MIB Mutribah 86.36 300 *eP* **P** **16 17 06.0 -0.2**
MIB AMb AMb 16 17 13.6
comp=Z,487nm,1.3s,mb6.6
RST Umm Al-Ruwaisa 86.61 300 *eP* **P** **16 17 06.7 -0.7**
RST AMb AMb 16 17 12.8
comp=Z,74nm,1.2s,mb5.8
IKOM Komasi 86.97 305 *eP* **P** **16 17 06.8 -2.3**
SOKR Solikamsk 87.01 331*c i* P **P** **16 17 09.5 +0.8**
SOKR S S 16 27 47.6 +2.4
SOKR SS SS 16 33 17.8 -11
SOKR pmax pmax
comp=Z,70nm,1.6s,mb5.6
SOKR MLR MLR
comp=Z,5μm,25.0s,MS5.8
ISRB Sarab 87.50 308 *eP* **P** **16 17 11.8 +0.3**
ILIN Lien 87.55 305 *eP* **P** **16 17 12.4 +0.5**
IVIS Veis 87.57 305 *eP* **P** **16 17 12.4 +0.4**
IGHG Ghaleghazi 87.77 305 *eP* **P** **16 17 12.2 -0.7**
ATD Arta Tunnel 87.86 282 P **P** **16 17 12.5 -1.3**
comp=Z,14nm,0.7s,mb5.3,baz=117,slow=6.8
ATD PP PP 16 20 40.6 +0.4
comp=Z,1.9nm,0.3s,baz=73,slow=19,SNR=2.0
ATD S S 16 27 49.7 -5.5
comp=Z,2.7nm,0.3s,baz=236,slow=23,SNR=1.9
ATD Arta Tunnel 87.86 282 P **P** **16 17 12.5 -1.3**
ATD PP PP 16 20 40.6 +0.4
ATD S S 16 27 49.7 -5.5
IDHR Dehrash 87.98 305 *eP* **P** **16 17 13.7 -0.2**
IHRS Heris 88.07 309 *eP* **P** **16 17 14.8 +0.5**
IBST Bostanabad 88.08 308 *eP* **P** **16 17 14.7 +0.4**
MAK Makhachkala 88.55 313 *eP* **P** **16 17 10.7 -5.7**
MAK *e*PPP 16 22 36.3
MAK *e*S SKSac 16 27 37.7 -5.8
MAK *e* 16 27 57.5
MAK *e*SP 16 28 58.9
MAK *e*SS SS 16 33 41.9 -10
MAK *e*SSS 16 37 19.4
MAK pmax pmax
comp=Z,46nm,0.3s,mb6.3
MAK MLR MLR
comp=Z,2μm,21.0s,MS5.6
IAZR Azarshahr 88.79 308 *eP* **P** **16 17 19.2 +1.5**
OHAK Old Harbor 88.84 32 *eP* **P** **16 17 18.3 +0.8**
comp=Z,60nm,0.8s,mb6.0
ISHB Shabestar 89.17 309 *eP* **P** **16 17 21.0 +1.5**
IMRD Marand 89.17 309 *eP* **P** **16 17 20.6 +1.1**
KDAK Kodiak Island 89.34 32 P **P** **16 17 20.2 +0.4**
comp=Z,32nm,1.1s,mb5.6,baz=152,slow=3.8,SNR=3.0
KDAK Kodiak Island 89.34 32 P **P** **16 17 19.3 -0.5**
comp=Z,120nm,1.3s,mb6.1
KDAK Kodiak Island 89.34 32 P **P** **16 17 19.3 -0.5**
KDAK pmax pmax
comp=Z,120nm,1.3s,mb6.1
BHD Baghdad 89.41 303 *ex* x 16 17 19.0
BHD *ex* x 16 20 52.0
BHD *ex* x 16 27 50.0
BHD *ex* x 16 28 10.0
BHD *ex* x 16 28 15.0
TAOE Nuku Hiva Isla 89.53 99 *eS* S 16 27 58.8 -12
comp=Z,2μm,25.8s
TAOE *e*SS SS 16 33 58.5 -8.8
comp=Z,3μm,28.4s
TAOE *e*LQ 16 41 42.9
comp=Z,4μm,29.2s
TAOE *e*LR LR 16 45 43.6
comp=Z,9μm,32.3s
DGRG David-gareji 89.86 312 P **P** **16 17 23.8 +1.2**
DGRG S S 16 28 15.1 +2.2
GNI Garni 90.13 310 P **P** **16 17 22.0 -1.9**
comp=Z,4.1nm,0.7s,mb4.9,baz=37,slow=18,SNR=2.3
GNI S S 16 28 08.1 -7.4
comp=Z,1.7nm,0.3s,baz=323,slow=15,SNR=1.2
GNI Garni 90.13 310 *eP* **P** **16 17 21.5 -2.4**
comp=Z,51nm,1.8s,mb5.5
GNI S S 16 28 08.2 -7.4
GNI LR LR
comp=Z,2μm,22.0s,MS5.4
GNI Garni 90.13 310 *eP* **P** **16 17 21.5 -2.4**
GNI S S 16 28 08.2 -7.4
GNI pmax pmax
comp=Z,51nm,1.8s
GNI MLR MLR
comp=Z,2μm,22.0s
MTA Mtatsminda 90.32 312 P **P** **16 17 26.0 +1.3**
MTA S S 16 28 17.3 +0.1
TBLG Delisi 90.37 312 *eP* **P** **16 17 26.2 +1.2**
TBLG Delisi 90.37 312 P **P** **16 17 26.3 +1.3**
PPLA Purkeypile 90.72 27 *eP* **P** **16 17 26.3 +0.2**
comp=Z,87nm,1.4s,mb5.9
GOR Gori 90.87 312 P **P** **16 17 26.7 -0.6**
SLKM Skilak Lake 91.12 29 *eP* **P** **16 17 29.9 +1.9**
SLKM Skilak Lake 91.12 29 *eP* **P** **16 17 29.9 +1.9**
ZEI Tsey 91.14 313 *eP* **P** **16 17 27.7 -0.8**
ZEI pmax pmax
comp=Z,30nm,1.5s,mb5.4
AKH Akhalkalaki 91.25 311 P **P** **16 17 31.2 +2.1**
AKH S S 16 28 12.4 -13
ONI Oni 91.44 313 P **P** **16 17 31.2 +1.3**
ONI S S 16 28 35.4 +8.0
BPAW Bear Paw Mtn. 91.52 26 *eP* **P** **16 17 29.6 -0.2**
comp=Z,60nm,1.5s,mb5.7
TRF Thorofare Moun 91.69 26 *eP* **P** **16 17 30.5 -0.1**
comp=Z,63nm,1.4s,mb5.8
PMR Palmer 91.86 28 *eP* **P** **16 17 31.4 0.0**
comp=Z,81nm,1.7s,mb5.8
PMR Palmer 91.86 28 *eP* **P** **16 17 31.4 0.0**
PMR pmax pmax
comp=Z,81nm,1.7s,mb5.8
KMBO Kilima Mbogo 91.90 269 P **P** **16 17 31.4 -1.4**
comp=Z,6.0nm,0.9s,mb4.9,baz=0.5,slow=24,SNR=11
KMBO Kilima Mbogo 91.90 269 P **P** **16 17 31.4 -1.3**
KMBO Kilima Mbogo 91.90 269 P **P** **16 17 31.4 -1.3**
KMBO pmax pmax
comp=Z,6.0nm,0.9s
KIV Kislovodsk 92.17 314 PFAKE 16 17 40.0 +6.7
KIV LR LR
comp=Z,2μm,21.0s,MS5.6
KIV Kislovodsk 92.17 314 *eP* sP 16 17 44.0 -2.7
KIV *i* 16 21 15.8
KIV *i* S SKSac 16 28 04.5 +0.1
KIV *i* SS SS 16 34 47.0 +2.8
KIV pmax pmax
comp=Z,12nm,1.0s,mb5.2
SML Sawmill 92.27 28 *eP* **P** **16 17 33.5 +0.2**
comp=Z,25nm,1.1s,mb5.5
SML Sawmill 92.27 28 *eP* **P** **16 17 33.5 +0.2**
SML pmax pmax
comp=Z,25nm,1.1s,mb5.5
MCK McKinley 92.33 26 *eP* **P** **16 17 33.3 -0.2**
comp=Z,151nm,1.4s,mb6.1
MCK McKinley 92.33 26 *eP* **P** **16 17 33.3 -0.3**
MCK pmax pmax
comp=Z,151nm,1.4s,mb6.1
NVL N'lazarevskaya 92.42 197 *eP* **P** **16 17 36.8 +2.9**
NVL *e**SP sP 16 17 47.1 -0.3
NVL *e* 16 21 24.6
NVL *e*S SKSac 16 28 06.6 +1.7
NVL *e**SS S 16 28 39.2 +3.9
NVL *e*PS PS 16 29 50.6 +0.8
NVL *e*SP SP 16 30 05.0 +20
NVL *e* 16 35 03.4
NVL *e*SSS 16 38 37.5
NVL pmax pmax
comp=Z,47nm,0.9s,mb5.8
NVL MLR MLR
comp=Z,7μm,14.0s,MS6.3
MAIT Maitri 92.45 197 *eP* **P** **16 17 38.7 +4.7**
COLD Coldfoot 92.47 23 *eP* **P** **16 17 34.5 +0.4**
comp=Z,67nm,1.3s,mb5.8
RKT Rikitea 92.64 114 *eS* S 16 28 33.9 -5.2
comp=Z,2μm,27.5s
RKT *e*SS SS 16 34 44.1 -7.6
comp=Z,1μm,24.2s
RKT *e*LQ 16 43 26.2
comp=Z,5μm,34.0s
RKT *e*LR LR 16 47 17.7
comp=Z,6μm,23.8s
COLA College 92.99 25 *eP* **P** **16 17 37.0 +0.4**
comp=Z,75nm,1.6s,mb5.9
COLA LR LR
comp=Z,3μm,22.0s,MS5.7
COLA College 92.99 25 *eP* **P** **16 17 37.0 +0.4**
COLA pmax pmax
comp=Z,75nm,1.6s,mb5.9
COLA MLR MLR
comp=Z,3μm,22.0s,MS5.7
ILAR Eielson Array 93.39 25 P **P** **16 17 37.0 -1.3**
comp=Z,7.0nm,1.0s,mb5.1,baz=250,slow=3.8,SNR=39
ILAR PP PP 16 21 20.0 -2.6
comp=Z,8.5nm,1.2s,baz=256,slow=6.1,SNR=4.5
ILAR PKKPbc PKKPbc 16 34 47.8 -0.3
comp=Z,2.1nm,0.9s,baz=40,slow=3.1,SNR=11
ILAR Eielson Array 93.39 25 P **P** **16 17 37.0 -1.3**
ILAR PP PP 16 21 20.0 -2.6
ILAR PKKPbc PKKPbc 16 34 47.8 -0.3
ILAR Eielson Array 93.39 25 P **P** **16 17 37.1 -1.3**
ILAR 16 21 20.0
ILAR pmax pmax
comp=Z,7.0nm,1.0s
ILAR pmax pmax
comp=Z,9.0nm,1.2s
ILAR pmax pmax
comp=Z,2.0nm,0.9s
VRHR Novokhopersk 93.71 321 *eP* **P** **16 17 37.5 -2.7**
VRHR *e**PP pP 16 17 44.8 -5.3
VRHR pmax pmax
comp=Z,6.0nm,1.0s,mb5.0
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.7s
PAX Paxson 93.76 27 *eP* **P** **16 17 40.0 -0.1**
comp=E,144nm,1.4s,mb6.2
PAX Paxson 93.76 27 *eP* **P** **16 17 40.0 -0.2**

PAX pmax pmax
comp=Z,144nm,1.4s,mb6.2
BMRM Bremner River 93.92 29 *e*P **P 16 17 41.5 +0.5**
comp=Z,52nm,1.1s,mb5.9
SOC Sochi 94.27 313 *e*P **P 16 17 41.9 -1.1**
SOC *e* 16 21 36.2
SOC *e*S SKSac 16 28 17.0 +1.0
SOC MLR MLR
comp=Z,2µm,21.0s,MS5.7
DOT Dot Lake 94.47 27 *e*P **P 16 17 43.3 -0.1**
comp=Z,207nm,1.2s,mb6.4
MENT Mentasta 94.55 27 *e*P **P 16 17 44.8 +1.0**
VSR Storozhevoye 95.26 321 *e*P **P 16 17 45.9 -1.4**
VSR *e**PP pP 16 17 52.9 -4.3
VSR *e*SS SS 16 35 26.8 -1.1
VSR pmax pmax
comp=Z,10.0nm,1.3s,mb5.1
VSR pmax pmax
comp=N,5.0nm,1.2s
VSR pmax pmax
comp=E,10.0nm,0.8s
ASF Jabal al Asfar 95.55 302 P **P 16 17 49.6 +0.5**
comp=E,12nm,1.1s,mb5.3,baz=34,slow=1.1,SNR=12
ASF PP PP 16 21 17.5 -23
comp=E,0.8nm,0.4s,baz=45,slow=5.7,SNR=2.5
ASF S SKSac 16 28 26.1 +2.7
comp=E,0.8nm,0.4s,baz=214,slow=4.5,SNR=1.5
ASF Jabal al Asfar 95.55 302 P **P 16 17 49.6 +0.5**
ASF PP PP 16 21 17.4 -23
ASF S SKSac 16 28 26.1 +2.7
ASF Jabal al Asfar 95.55 302 P **P 16 17 49.6 +0.5**
ASF S SKSac 16 28 26.1 +2.7
ASF pmax pmax
comp=Z,12nm,1.1s
ASF pmax pmax
comp=Z,1.0nm,0.4s
ASF smax
comp=N,1.0nm,0.4s
KLMR Klimovskoe 95.70 331 *e*P **P 16 17 45.7 -3.4**
KLMR *e* 16 21 36.8
KLMR pmax pmax
comp=Z,70nm,1.5s,mb5.9
SNAA Sanae 95.78 194 S SKSac 16 28 29.0 +5.9
comp=Z,0.7nm,1.1s,baz=34,slow=18,SNR=6.0
SNAA PKKPbc PKKPbc 16 34 37.5 -4.2
comp=Z,1.0nm,1.1s,baz=256,slow=4.2,SNR=3.2
SNAA PKPPKP 16 42 52.3
comp=Z,0.4nm,0.9s,baz=270,slow=11,SNR=3.5
SNAA Sanae 95.78 194 *e*P **P 16 17 46.6 -2.7**
comp=Z,71nm,1.3s,mb5.9
SNAA Sanae 95.78 194 *e*P **P 16 17 46.6 -2.7**
SNAA pmax pmax
comp=Z,71nm,1.3s
EGAK Eagle 95.83 26 *e*P **P 16 17 48.9 -0.7**
comp=Z,151nm,1.7s,mb6.2
EGAK LR LR
comp=Z,2µm,21.0s,MS5.6
ANN Anapa 96.00 314 *e*P **P 16 17 47.2 -3.6**
ANN *e* 16 28 25.0
ANN pmax pmax
comp=Z,99nm,1.6s,mb6.0
ANN MLR MLR
comp=Z,2µm,21.0s,MS5.6
ANN MLR MLR
comp=N,891nm,21.0s,MS5.7
ANN MLR MLR
comp=E,2µm,21.0s,MS5.7
MOS Moscow 96.44 325 *e*P **P 16 17 50.9 -1.7**
MOS *e* 16 21 46.6
MOS *e*PPP 16 23 59.1
MOS *e*SS SS 16 35 35.7 -8.7
DAWY Dawson 96.56 26 *e*P **P 16 17 54.1 +1.2**
MMAI Mount Meron Ar 96.87 302 P **P 16 17 54.6 -0.5**
comp=E,16nm,1.1s,mb5.4,baz=96,slow=7.6,SNR=9.5
MMAI PP PP 16 21 45.8 -4.9
comp=E,0.4nm,0.4s,baz=184,slow=12,SNR=2.8
MMAI S SKSac 16 28 35.6 +5.3
comp=E,0.6nm,0.5s,baz=291,slow=43,SNR=1.2
OBN Obninsk 97.02 325 PFAKE
OBN LR LR
comp=Z,3µm,21.0s,MS5.8
OBN Obninsk 97.02 325⇑ *e*P **P 16 17 55.2 0.0**
OBN *e* 16 21 46.5
OBN *i* SS SS 16 35 49.7 -2.9
OBN pmax pmax
comp=Z,20nm,1.3s,mb5.4
EIL Elat 97.04 299 P **P 16 17 56.3 +0.3**
comp=Z,15nm,1.2s,mb5.3,baz=53,slow=14,SNR=4.3
EIL PP PP 16 21 50.5 -1.7
comp=Z,3.1nm,0.9s,baz=72,slow=4.3,SNR=3.2
EIL S SKSac 16 28 34.8 +3.5
comp=Z,0.7nm,0.3s,baz=187,slow=10,SNR=1.8
EIL PKKP PKKPbc 16 34 35.8 -1.2
comp=Z,1.2nm,0.6s,baz=315,slow=7.1,SNR=2.2
EIL LR LR 17 04 33.4
comp=Z,6µm,19.3s,MS6.1,baz=96,slow=37
EIL Elat 97.04 299 P **P 16 17 56.3 +0.3**
EIL PP PP 16 21 50.5 -1.7
EIL S SKSac 16 28 34.8 +3.5
EIL PKKP PKKPbc 16 34 35.8 -1.2
EIL LR LR 17 04 33.4
VNA2 Neumayer--Watz 97.35 193 *e* **P 16 17 54.3 -2.2**
baz=127,slow=4.0
VNA2 *e* 16 18 01.4
VNA3 Neumayer Olymp 97.61 192 *e* **P 16 17 55.3 -2.4**
VNA3 *e* 16 18 02.6
LVZ Lovozero 97.93 338 PFAKE 16 18 10.0 +11
LVZ LR LR
comp=Z,4µm,21.0s,MS5.8
SIM Simferopol' 98.36 314 P **P 16 18 05.9 +4.4**
SIM *e* 16 28 41.0
SIM *e*S S 16 29 26.0 -1.7
SIM MLR MLR
comp=Z,2µm,21.0s,MS5.6
MBAR Mbarara 98.43 268 PFAKE 16 18 10.0 +7.4
MBAR LR LR
comp=Z,516nm,19.0s,MS5.0
BR131 Keskin Array S 98.59 309 P **P 16 18 02.6 0.0**
comp=Z,3.1nm,0.8s,mb4.9
BR131 LR LR
comp=Z,2µm,19.0s,MS5.5
BRTR Keskin Array B 98.59 309 P **P 16 18 02.4 -0.3**
comp=Z,1.6nm,0.8s,mb4.6,baz=130,slow=8.9,SNR=5.2
BRTR PP PP 16 21 24.9 -39
comp=Z,4.3nm,1.2s,baz=134,slow=10,SNR=3.6
BRTR Keskin Array B 98.59 309 P **P 16 18 02.4 -0.3**
BRTR PP PP 16 21 24.9 -39
BRTR Keskin Array B 98.59 309 P **P 16 18 02.4 -0.3**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR pmax pmax
comp=Z,4.0nm,1.2s
CSS Prodhromos 98.68 304 *e*P **P 16 18 02.5 -0.7**
comp=Z,19nm,1.0s,mb5.6
CSS LR LR
comp=Z,4µm,22.0s,MS5.9
INK Inuvik 98.86 22 P **P 16 18 03.0 -0.2**
comp=Z,10nm,1.1s,mb5.3,baz=270,slow=5.9,SNR=9.3
INK PP PP 16 21 39.8 -25
comp=Z,8.3nm,1.2s,baz=264,slow=6.5,SNR=3.7
INK S SKSac 16 28 41.4 +2.5
comp=Z,0.7nm,0.9s,baz=189,slow=27,SNR=1.5
INK PKKP PKKPbc 16 34 34.0 +0.7
baz=27,slow=4.5
INK Inuvik 98.86 22 P **P 16 18 03.0 -0.2**
INK PP PP 16 21 39.8 -25
INK S SKSac 16 28 41.4 +2.5
INK PKKP PKKPbc 16 34 34.0 +0.7
INK Inuvik 98.86 22 P **P 16 18 03.0 -0.2**
INK S SKSac 16 28 41.4 +2.6
INK pmax pmax
comp=Z,10.0nm,1.1s
INK pmax pmax
comp=Z,8.0nm,1.2s
INK smax
comp=N,1.0nm,0.9s
LSZ Lusaka 98.87 253 P **P 16 18 04.9 +0.5**
comp=N,12nm,1.1s,mb5.3
LSZ LR LR
comp=Z,4µm,20.0s,MS5.9
LSZ Lusaka 98.87 253 P **P 16 18 04.9 +0.4**
LSZ pmax pmax
comp=Z,12nm,1.1s,mb5.3
LSZ MLR MLR
comp=Z,4µm,20.0s,MS5.9
BOSA Boshof 99.00 240 P **P 16 18 06.3 +1.5**
comp=Z,7.2nm,1.0s,mb5.1,baz=130,slow=3.6,SNR=4.2
BOSA Boshof 99.00 240 P **P 16 18 06.3 +1.5**
BOSA LR LR
comp=Z,5µm,21.0s,MS6.0
BOSA Boshof 99.00 240 P **P 16 18 06.3 +1.5**
BOSA pmax pmax
comp=Z,7.0nm,1.0s,mb5.2
LBTB Lobatse 99.47 243 PKKP PKKPbc 16 34 31.8 +1.8
comp=Z,1.7nm,0.7s,baz=180,slow=3.0,SNR=3.0
LBTB LR LR 16 58 22.2
comp=Z,5µm,21.5s,MS6.0,baz=120,slow=33
LBTB Lobatse 99.47 243 P **P 16 18 05.4 -1.6**
comp=Z,27nm,1.0s,mb5.7
LBTB LR LR
comp=Z,6µm,22.0s,MS6.0
LBTB Lobatse 99.47 243 P **P 16 18 05.4 -1.6**
LBTB pmax pmax
comp=Z,27nm,1.0s,mb5.7
LBTB MLR MLR
comp=Z,6µm,22.0s,MS6.0
WRAK Wrangell Islan 100.18 34 PFAKE 16 18 20.0 +11
WRAK LR LR
comp=Z,3µm,22.0s,MS5.7
KEV Kevo 100.51 340 PFAKE 16 18 20.0 +9.1
KEV LR LR
comp=Z,3µm,20.0s,MS5.8
ARCES ARCESS Array B 101.07 340 P Pdif 16 18 12.5 -0.8
comp=Z,4.6nm,0.9s,baz=78,slow=11,SNR=5.5
ARCES PKiKP PKiKP 16 22 40.1 +2.2
comp=Z,3.2nm,0.9s,baz=59,slow=0.7,SNR=4.6
ARCES S SKSac 16 29 02.2 +13
comp=Z,5.0nm,1.0s,baz=39,slow=27,SNR=1.6
ARCES PKKP PKKPbc 16 34 29.1 +2.1
comp=Z,3.3nm,0.9s,baz=288,slow=1.2,SNR=5.8
ARCES ARCESS Array B 101.07 340 P Pdif 16 18 12.6 -0.8
ARCES ARCESS Array B 101.07 340 P Pdif 16 18 12.5 -0.9
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES pmax pmax
comp=Z,3.0nm,0.9s
ARCES pmax pmax
comp=Z,3.0nm,0.9s
SPITS Spitsbergen Ar 101.15 349 S SKSac 16 28 47.6 -2.3
comp=Z,3.2nm,0.8s,baz=115,slow=14,SNR=1.2
DLBC Dease Lake 101.28 32 PP PP 16 22 25.7 +2.2
comp=Z,3.3nm,1.0s,baz=180,slow=2.0,SNR=2.9
DLBC S SKSac 16 29 00.7 +10
comp=Z,1.5nm,0.8s,baz=333,slow=23,SNR=1.4
AKASG Malin Array Be 101.54 320 P Pdif 16 18 15.3 -0.1
comp=Z,0.2nm,0.3s,baz=86,slow=3.4,SNR=6.4
AKASG PP PP 16 22 23.4 -2.3
comp=Z,1.8nm,0.8s,baz=74,slow=7.2,SNR=2.7
AKASG S SKSac 16 29 02.4 +10
comp=Z,0.2nm,0.3s,baz=155,slow=8.7,SNR=1.9
AKASG Malin Array Be 101.54 320 P Pdif 16 18 15.3 -0.1
AKASG PP PP 16 22 23.4 -2.3
AKASG S SKSac 16 29 02.4 +10
AKASG Malin Array Be 101.54 320 P Pdif 16 18 15.3 -0.2
AKASG 16 22 23.4
AKASG pmax pmax
comp=Z,2.0nm,0.8s
KIEV Kiev 101.55 320 PFAKE 16 18 30.0 +14
KIEV LR LR
comp=Z,3µm,21.0s,MS5.8
KBS Kingsbay 101.66 350 PFAKE 16 18 30.0 +14
KBS LR LR
comp=Z,3µm,20.0s,MS5.9
SUR Sutherland 101.80 235 PFAKE 16 18 30.0 +13
SUR LR LR
comp=Z,6µm,21.0s,MS6.0
FINES FINESS Array B 102.18 331 Pdiff Pdif 16 18 27.2 +8.9
comp=Z,3.1nm,1.0s,baz=114,slow=6.8,SNR=2.8
FINES PKiKP PKiKP 16 22 40.8 +0.6
comp=Z,3.5nm,0.9s,baz=232,slow=4.6,SNR=2.9
FINES FINESS Array B 102.18 331 Pdif Pdif 16 18 27.2 +8.9
FINES FINESS Array B 102.18 331 P Pdif 16 18 27.2 +8.9
FINES pmax pmax
comp=Z,3.0nm,1.0s
FINES pmax pmax
comp=Z,4.0nm,0.9s
MLR Muntele Rosu 104.11 315 Pdiff Pdif 16 18 30.4 +3.5
comp=Z,1.2nm,1.1s,baz=102,slow=9.3,SNR=2.2
MLR PP PP 16 22 35.7 -9.4
comp=Z,2.6nm,1.1s,baz=224,slow=6.1,SNR=3.1
MLR S SKSac 16 29 22.4 +17
comp=Z,0.4nm,0.6s,baz=167,slow=9.4,SNR=2.3
MLR Muntele Rosu 104.11 315 Pdif Pdif 16 18 30.4 +3.5
MLR PP PP 16 22 35.7 -9.4
MLR S SKSac 16 29 22.4 +17
MLR Muntele Rosu 104.11 315 P Pdif 16 18 30.4 +3.5
MLR pmax pmax
comp=Z,1.0nm,1.1s
MLR pmax pmax
comp=Z,3.0nm,1.1s
BUR08 Bucovina Ar. S 104.42 317 *e*Pdif Pdif 16 18 29.2 +0.9
UZH Uzhgorod 106.23 319 *e*P Pdif 16 18 37.2 +0.9
UZH *e* 16 23 06.2
UZH *e* 16 29 19.0
UZH *e* 16 29 59.0
UZH *e*S Sdif 16 30 23.0 -10
UZH *i* SS SS 16 37 56.0 -4.6
UZH *e*SSS 16 41 58.0
UZH MLR MLR
comp=N,2µm,19.0s,MS5.7
UZH MLR MLR
comp=E,2µm,19.0s,MS5.7
UZH MLR MLR
comp=Z,1µm,19.0s,MS5.4
NLWA Neilton Lookou 106.30 43 PFAKE 16 23 00.0 +12
NLWA LR LR
comp=Z,2µm,21.0s,MS5.7
CRVS Cervenica-Dubn 106.73 319 *e*PP PP 16 23 02.3 -2.1
DAG Danmarks Havn 107.87 353 *i* P PP 16 23 20.1 +8.3
DAG *i* S SP 16 32 26.9 -3.3
DAG
comp=Z,2µm,20.0s
PSZ Piszkesteto 107.93 318 PFAKE 16 23 00.0 +8.8
PSZ LR LR
comp=Z,3µm,22.0s,MS5.8
PMSA Palmer Station 108.02 174 PFAKE 16 23 00.0 +9.1
PMSA LR LR
comp=Z,5µm,20.0s,MS6.1
TSUM Tsumeb 108.02 247 PFAKE 16 23 00.0 +7.8
TSUM LR LR
comp=Z,3µm,20.0s,MS5.9
VYHS Vyhne 108.52 319 *e*PP PP 16 23 20.5 +3.1
OKC Ostrava-Krasne 108.69 320 *e*SDIF Sdif 16 30 55.0 +1.4
OKC AMS AMS 17 13 30.0
comp=Z,2µm,17.9s
TIR Tirane 108.98 311 PFAKE 16 23 00.0 +6.7
TIR LR LR
comp=Z,3µm,22.0s,MS5.8
MORC Moravsky Berou 109.09 320 PKPdf PKiKP 16 22 54.6 +1.4
NB2 NORSAR Subarra 109.21 333 PKPdf PKiKP 16 22 55.1 +2.0
comp=Z,11nm,1.7s,baz=44,slow=1.9
NB2 NORSAR Subarra 109.21 333 PKPdf PKiKP 16 22 55.1 +2.0
baz=44,slow=1.9
NOA NORSAR Array B 109.21 333 Pdiff Pdif 16 18 50.3 +0.7
comp=Z,0.7nm,0.8s,baz=150,slow=13,SNR=3.1
NOA PKiKP PKiKP 16 22 51.1 -2.1
comp=Z,1.6nm,0.9s,baz=259,slow=3.3,SNR=2.9
NOA NORSAR Array B 109.21 333 Pdif Pdif 16 18 50.2 +0.7
NOA PKPdf PKiKP 16 22 51.1 -2.1
NOA NORSAR Array B 109.21 333 P Pdif 16 18 50.3 +0.8
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA pmax pmax
comp=Z,2.0nm,0.9s
HAWA Hanford 109.40 43 PFAKE 16 23 10.0 +16
HAWA LR LR
comp=Z,3µm,22.0s,MS5.8
NAO01 NORSAR Array S 109.43 333 PFAKE 16 23 10.0 +16
NAO01 LR LR
comp=Z,5µm,21.0s,MS6.1
DPC Dobruska-Polom 109.72 321 *e*PKP PKiKP 16 22 59.8 +5.4
DPC *e*PP PP 16 23 39.6 +14
DPC AMS AMS 17 14 10.0
comp=Z,4µm,21.8s
UPC Upice 109.88 321 *e*PKP PKiKP 16 23 00.0 +5.3
UPC *e*PP PP 16 23 31.0 +3.8
KONO Kongsberg 110.48 332 PFAKE 16 23 10.0 +14
KONO LR LR
comp=Z,4µm,20.0s,MS6.0
TREC Trest 110.50 320 AMS AMS 17 12 30.0
comp=Z,3µm,24.4s
NEW Newport 110.60 41 PFAKE 16 23 10.0 +14
NEW LR LR
comp=Z,2µm,20.0s,MS5.8
PAHR Pah Rah Range 110.64 50 PKPdf PKiKP 16 22 58.4 +1.9
LLD Lille Linde 110.71 327 *i* P PP 16 23 52.2 +19
LLD
comp=Z,2µm,21.0s
WVOR Wild Horse Val 110.75 47 PFAKE 16 23 10.0 +13
WVOR LR LR
comp=Z,4µm,21.0s,MS5.9
PVCC Panska Ves 110.77 322 AMS AMS 17 11 30.0
comp=Z,3µm,19.3s
PRU Pruhonice 110.92 321 *ex* PP 16 23 43.6 +8.9
PRU *e*SKKS SKKSac 16 30 36.2 +0.7
PRU *e*SDIF Sdif 16 31 16.6 +4.4
PRU AMS AMS 17 14 50.0
comp=Z,2µm,21.5s
BRG Berggiesshubel 111.06 322 *e*PDIF Pdif 16 19 14.6 +17
comp=Z,5.1nm,1.6s
BRG *e* 16 23 02.1
comp=Z,26nm,1.7s
BRG PP PP 16 23 28.3 -7.4
comp=Z,17nm,1.4s
BRG SDIF Sdif 16 31 19.0 +5.7
BRG PS PS 16 32 52.0 -15
BRG SS SS 16 38 59.0 -6.4
BRG
comp=N,3µm,26.8s
BRG
comp=E,4µm,20.5s
BRG
comp=Z,3µm,19.4s
BRG Berggiesshubel 111.06 322 *e*P Pdif 16 19 14.6 +17
BRG PS PS 16 32 52.0 -15
BRG SS SS 16 38 59.0 -6.4
BRG pmax pmax
comp=Z,5.0nm,1.6s
BRG pmax pmax
comp=Z,26nm,1.7s
BRG pmax pmax
comp=Z,17nm,1.4s
BRG MLR MLR
comp=N,3µm,26.8s
BRG MLR MLR
comp=E,4µm,20.5s
BRG MLR MLR
comp=Z,3µm,19.4s
BMO Blue Mountains 111.23 44 PFAKE 16 23 10.0 +13
BMO LR LR
comp=Z,2µm,20.0s,MS5.8
CLL Collm 111.50 323 *e*PKIKP PKiKP 16 22 58.0 +0.2
CLL *e* 16 23 35.0
CLL *e* 16 34 05.0
CLL pmax pmax
comp=Z,16nm,1.3s
CLL MLR MLR
comp=Z,3µm,19.9s,MS5.8
CLL Collm 111.50 323 *e*PKiKP PKiKP 16 22 58.0 +0.2
CLL *e*PP PP 16 23 35.0 -3.8
comp=Z,16nm,1.3s
CLL *i* 16 24 01.1
CLL *e*PPPP 16 27 46.0
CLL *e*SKKSac SKKSac 16 30 30.0 -9.4
CLL *e*Sdif Sdif 16 31 19.0 +1.9
CLL *e*PS PS 16 33 04.0 -7.4
CLL *e*PKKPab PKKPab 16 34 05.0 +3.1
CLL *e*PPS 16 34 06.0
CLL *e* 16 34 54.0
CLL *e*SS SS 16 39 24.0 +13
CLL *e*SSS 16 43 42.0
CLL *e* 16 45 30.0
CLL *e*(SSSS) 16 46 18.0
CLL *e* 16 51 00.0
CLL LmV 17 23 00.0
comp=N,2µm,19.3s
CLL LmV 17 23 00.0
comp=E,1µm,20.0s
CLL LmV 17 23 00.0
comp=Z,3µm,19.9s
CLL Lm(360 18 21 00.0
comp=N,400nm,20.5s
CLL Lm(360 18 21 00.0
comp=E,600nm,19.9s
CLL Lm(360 18 21 00.0
comp=Z,700nm,19.1s
NVAR Mina Array Bea 111.66 51 Pdiff Pdif 16 19 07.4 +6.9
comp=Z,0.3nm,0.7s,baz=238,slow=3.1,SNR=3.5
NVAR PKiKP PKiKP 16 23 00.5 +2.0
comp=Z,1.0nm,0.8s,baz=276,slow=2.6,SNR=3.3
NVAR PKKPab PKKPab 16 33 59.7 -1.7
comp=Z,1.1nm,0.7s,baz=118,slow=4.3,SNR=7.1
NVAR PKKP PKKPbc 16 34 09.2 +16
comp=Z,6.0nm,0.8s,baz=94,slow=4.5,SNR=7.4
NVAR Mina Array Bea 111.66 51 Pdif Pdif 16 19 07.4 +6.9
NVAR PKPdf PKiKP 16 23 00.5 +2.0
NVAR PKKPab PKKPab 16 33 59.7 -1.7
NVAR PKKP PKKPbc 16 34 09.2 +16
GERES GERESS Array B 111.75 320 PKiKP PKiKP 16 22 58.2 -0.1
comp=Z,2.4nm,0.8s,baz=64,slow=1.4,SNR=15
GERES PP PP 16 23 44.7 +4.0
comp=Z,3.6nm,0.8s,baz=99,slow=4.5,SNR=6.0
GERES PKKP PKKPbc 16 34 10.8 +17
comp=Z,0.8nm,0.9s,baz=286,slow=1.0,SNR=4.0
GERES GERESS Array B 111.75 320 PKPdf PKiKP 16 22 58.2 -0.1
GERES PP PP 16 23 44.7 +4.0
GERES PKKP PKKPbc 16 34 10.8 +17
GERES GERESS Array B 111.75 320 *i* PKiKP PKiKP 16 22 58.2 -0.1
GERES 16 23 44.7
GERES 16 34 10.8
GERES pmax pmax
comp=Z,2.0nm,0.8s
GERES pmax pmax
comp=Z,4.0nm,0.8s
GERES pmax pmax
comp=Z,1.0nm,0.9s
KHC Kasperske Hory 111.75 320 *e*PKPdf PKiKP 16 22 57.0 -1.4
KHC Kasperske Hory 111.75 320 *e*PKIKP PKiKP 16 23 03.8 +5.5
KHC *e* 16 23 10.5
KHC *e* 16 23 44.8
KHC MLR MLR
comp=Z,3µm,23.7s,MS5.7
KHC Kasperske Hory 111.75 320 *e*PKP PKiKP 16 23 03.8 +5.5
KHC *ex* x 16 23 10.5
KHC *e*PP PP 16 23 44.8 +4.1
KHC *e*SDIF Sdif 16 31 22.9 +3.7
KHC AMS AMS 17 14 50.0
comp=Z,3µm,23.7s
NKC Novy Kostel 112.15 322 *e*SDIF Sdif 16 31 27.9 +5.4
NKC AMS AMS 17 16 20.0
comp=Z,3µm,19.2s
BMN Battle Mountai 112.16 49 PFAKE 16 23 10.0 +11
BMN LR LR
comp=Z,3µm,22.0s,MS5.8
CUC Castrocucco 112.23 310 PFAKE 16 23 10.0 +10
CUC LR LR
comp=Z,2µm,22.0s,MS5.7
MWC Mount Wilson 112.45 56 *e*PKPdf PKiKP 16 23 01.3 +1.2
MWC Mount Wilson 112.45 56 *e*PKIKP PKiKP 16 23 01.3 +1.2
CEL Celeste 112.47 309 PFAKE 16 23 10.0 +10
CEL LR LR
comp=Z,2µm,21.0s,MS5.7
TRI Trieste 112.51 317 PFAKE 16 23 10.0 +10
TRI LR LR
comp=Z,2µm,22.0s,MS5.7
DAC Darwin (Calif) 112.55 54 PFAKE 16 23 10.0 +10
DAC LR LR
comp=Z,5µm,20.0s,MS6.1
TPH Tonopah 112.56 52 PFAKE 16 23 10.0 +10
TPH LR LR
comp=Z,2µm,19.0s,MS5.8
MFID Camas Ranch 112.58 46 *e*PKPdf PKiKP 16 23 01.2 +1.1
SWMT Swartz Lake 112.83 41 *e*PKPdf PKiKP 16 23 01.6 +1.2
MSO Missoula 113.05 42 *e*PKPdf PKiKP 16 23 01.7 +0.8
MSO LR LR
comp=Z,2µm,20.0s,MS5.8
GRF Grafenberg Arr 113.07 321 *e*PKIKP PKiKP 16 23 00.4 -0.4
ABTA Abfaltersbach 113.08 318⇑ *i*PKiKP PKiKP 16 23 01.3 +0.3
comp=Z,17nm,1.1s
SLMT Seeley Lake 113.23 41 *e*PKPdf PKiKP 16 23 01.7 +0.5
WTTA Wattenberg 113.52 319⇑ *i*PKiKP PKiKP 16 23 02.6 +0.8
comp=Z,32nm,1.0s
AQU L'Aquila 113.54 313 PFAKE 16 23 10.0 +8.0
AQU LR LR
comp=Z,2µm,20.0s,MS5.8
HLID Hailey 113.55 45 *e*PKPdf PKiKP 16 23 03.5 +1.6
HLID LR LR

comp=Z,3µm,21.0s,MS5.9
SUMG Summit 113.77 356 *i* P PP 16 23 59.5 +5.3
SUMG
comp=Z,3µm,24.0s
MOTA Moosalm 113.84 319 ⇑*i* PKiKP PKiKP 16 23 02.9 +0.5
comp=Z,12nm,0.8s
PFO Pinyon Flat Ob 113.86 56 PFAKE 16 23 20.0 +17
PFO LR LR
comp=Z,3µm,20.0s,MS5.9
WDD Wield Dalam 113.94 306 PFAKE 16 23 10.0 +7.1
WDD LR LR
comp=Z,2µm,20.0s,MS5.7
RPN Rapa Nui 114.09 124 PFAKE 16 23 20.0 +17
RPN LR LR
comp=Z,4µm,22.0s,MS6.0
FETA Feichten 114.18 319 ⇑*i* PKiKP PKiKP 16 23 04.0 +0.9
comp=Z,13nm,1.2s
MCMT McKenzie Canyo 114.32 44 *e*PKPdf PKiKP 16 23 05.0 +1.6
DLMT Dillon 114.35 43 *e*PKPdf PKiKP 16 23 03.6 +0.2
SHPR Sheep Range 114.45 53 *e*PKPdf PKiKP 16 23 07.7 +3.8
DAVA Damuels 114.65 319 ⇑*i* PKiKP PKiKP 16 23 04.9 +0.9
comp=Z,14nm,0.7s
DAVOX Davos/Dischmat 114.81 319 PKP PKiKP 16 23 04.8 +0.5
comp=Z,2.9nm,0.5s,baz=295,slow=6.1,SNR=3.9
DAVOX PP PP 16 24 00.3 -2.2
comp=Z,3.2nm,0.6s,baz=321,slow=18,SNR=3.8
DAVOX PKKP PKKPbc 16 33 54.5 +12
comp=Z,4.3nm,0.9s,baz=236,slow=11,SNR=3.3
DAVOX Davos/Dischmat 114.81 319 PKP PKiKP 16 23 04.8 +0.5
DAVOX PP PP 16 24 00.3 -2.2
DAVOX PKKP PKKPbc 16 33 54.5 +12
DAVOX Davos/Dischmat 114.81 319 PKIKP PKiKP 16 23 04.8 +0.6
DAVOX 16 24 00.3
BOZ Bozeman (W) 114.92 43 PFAKE 16 23 20.0 +16
BOZ LR LR
comp=Z,2µm,20.0s,MS5.7
BGU Big Grassy Mou 115.17 48 *e*PKPdf PKiKP 16 23 08.4 +3.2
VLC Villacollemand 115.22 316 PFAKE 16 23 20.0 +15
VLC LR LR
comp=Z,3µm,21.0s,MS5.8
TUE Stuetta 115.25 319 PFAKE 16 23 20.0 +15
TUE LR LR
comp=Z,4µm,22.0s,MS6.0
BFO Black Forest 115.31 321 PFAKE 16 23 20.0 +15
BFO LR LR
comp=Z,2µm,21.0s,MS5.7
EGMT Eagleton 115.40 40 *e*PKPdf PKPdf 16 23 06.0 +0.7
EGMT LR LR
comp=Z,2µm,21.0s,MS5.8
LANF Langenberg 115.41 322 *e*P PKiKP 16 23 06.6 +1.3
LANF Langenberg 115.41 322 *e*PKIKP PKPdf 16 23 06.6 +1.3
LANF Langenberg 115.41 322 *e*P PKiKP 16 23 06.6 +1.3
DUG Dugway 115.50 49 *e*PKPdf PKPdf 16 23 07.1 +1.3
DUG LR LR
comp=Z,2µm,20.0s,MS5.7
DUG Dugway 115.50 49 *e*PKIKP PKPdf 16 23 07.1 +1.3
DUG MLR MLR
comp=Z,2µm,20.0s,MS5.7
YMR Madison River 115.65 43 *e*PKPdf PKPdf 16 23 08.3 +2.3
CCUT Cedar City 115.66 52 PKPdf PKPdf 16 23 08.6 +2.4
RRI2 Red Ridge 115.78 45 PKPdf PKPdf 16 23 08.8 +2.6
YFT Old Faithful 115.81 44 PKPdf PKPdf 16 23 05.8 -0.4
IMW Indian Meadow 115.89 44 *e*PKPdf PKPdf 16 23 07.7 +1.3
CDF Champ du Feu 115.94 321 *e*PKIKP PKPdf 16 23 07.2 +0.8
CDF Champ du Feu 115.94 321 *e*PKPdf PKPdf 16 23 07.2 +0.8
CDF Champ du Feu 115.94 321 *e*PKIKP PKPdf 16 23 07.2 +0.8
TPAW Teton Pass 116.00 45 PKPdf PKPdf 16 23 08.4 +1.8
FLWY Flagg Ranch 116.01 44 PKPdf PKPdf 16 23 06.8 +0.2
LKWY Lake 116.07 43 PFAKE 16 23 20.0 +13
LKWY LR LR
comp=Z,4µm,20.0s,MS6.1
MOOW Moose Ponds 116.07 44 *e*PKPdf PKPdf 16 23 08.4 +1.6
HWUT Hardware Ranch 116.07 47 *e*PKPdf PKPdf 16 23 07.6 +0.8
HWUT LR LR
comp=Z,3µm,21.0s,MS5.9
ECH Echery 116.08 321 PFAKE 16 23 20.0 +13
ECH LR LR
comp=Z,2µm,21.0s,MS5.8
AHID Auburn Hatcher 116.10 45 PFAKE 16 23 20.0 +13
AHID LR LR
comp=Z,3µm,19.0s,MS5.9
REDW Red Top Meadow 116.11 45 *e*PKPdf PKPdf 16 23 07.9 +1.0
SNOW Snow King Moun 116.14 45 PKPdf PKPdf 16 23 08.9 +2.0
WLF Walferdange 116.17 323 PFAKE 16 23 20.0 +13
WLF LR LR
comp=Z,3µm,21.0s,MS5.9
LOHW Long Hollow 116.21 44 *e*PKPdf PKPdf 16 23 08.3 +1.3
MVU Marysvale 116.34 50 PFAKE 16 23 20.0 +13
MVU LR LR
comp=Z,2µm,20.0s,MS5.8
MSU Marysvale 116.37 50 *e*PKPdf PKPdf 16 23 08.3 +0.8
MSU Marysvale 116.37 50 *e*PKIKP PKPdf 16 23 08.3 +0.8
HINF Hinteralfeld 116.42 321 *e*PKIKP PKPdf 16 23 07.2 -0.1
comp=Z,71nm,1.5s
HINF Hinteralfeld 116.42 321 *e*PKPdf PKPdf 16 23 07.2 -0.1
HINF Hinteralfeld 116.42 321 *e*PKIKP PKPdf 16 23 07.2 -0.1
MPU Maple Canyon 116.42 49 *e*PKPdf PKPdf 16 23 09.1 +1.5
LOMF Lomont 116.59 320 *e*P PKPdf 16 23 06.8 -0.9
LOMF Lomont 116.59 320 *e*PKIKP PKPdf 16 23 06.8 -0.9
LOMF Lomont 116.59 320 *e*P PKPdf 16 23 06.8 -0.9
DAU Daniels Canyon 116.61 48 *e*PKPdf PKPdf 16 23 10.4 +2.5
DAU *e*PP PP 16 24 15.2 -0.1
DAU Daniels Canyon 116.61 48 *e*PKIKP PKPdf 16 23 10.4 +2.5
DAU *e* 16 24 15.2
PGF Pioggiola 116.65 314 *e*PKIKP PKPdf 16 23 08.0 +0.1
comp=Z,73nm,1.4s
PGF Pioggiola 116.65 314 *e*PKPdf PKPdf 16 23 08.0 +0.1
PGF Pioggiola 116.65 314 *e*PKIKP PKPdf 16 23 08.0 +0.1
HAU Haudompre 116.67 321 *e*PKIKP PKPdf 16 23 07.9 +0.1
comp=Z,83nm,1.4s
HAU *e*R
comp=Z,4µm,22.2s
HAU Haudompre 116.67 321 *e*PKPdf PKPdf 16 23 07.9 +0.1
HAU LR LR
comp=Z,4µm,22.3s,MS6.0
HAU Haudompre 116.67 321 *e*PKIKP PKPdf 16 23 07.9 +0.1
HAU MLR MLR
comp=Z,4µm,22.3s,MS6.0
RLMT Red Lodge 116.67 43 PKPdf PKPdf 16 23 09.0 +1.1
RLMT LR LR
comp=Z,3µm,21.0s,MS5.9
THEF They Montfort 116.81 321 *e*P PKPdf 16 23 09.2 +1.2
THEF They Montfort 116.81 321 *e*PKIKP PKPdf 16 23 09.2 +1.2
THEF They Montfort 116.81 321 *e*P PKPdf 16 23 09.2 +1.2
PAGF Fort de Pagny 116.85 322 *e*PKIKP PKPdf 16 23 08.4 +0.3
TMUT Trail Mountain 116.92 49 *e*PKPdf PKPdf 16 23 10.2 +1.6
FFC Flin Flon 117.07 31 PFAKE 16 23 20.0 +12
FFC LR LR
comp=Z,2µm,20.0s,MS5.8
PD01 Pinedale Array 117.17 45 *e*PKPdf PKPdf 16 23 10.4 +1.5
PD02 Pinedale Array 117.18 45 *e*PKPdf PKPdf 16 23 10.0 +1.1
BAIF Baives 117.18 324 *e*PKIKP PKPdf 16 23 09.3 +0.6
BAIF Baives 117.18 324 *e*PKPdf PKPdf 16 23 09.3 +0.6
BAIF Baives 117.18 324 *e*PKIKP PKPdf 16 23 09.3 +0.6
VSL Villasalto 117.18 311 PFAKE 16 23 20.0 +11
VSL LR LR
comp=Z,1µm,21.0s,MS5.6
BW06 Boulder Array 117.19 45 PFAKE 16 23 20.0 +11
BW06 LR LR
comp=Z,2µm,21.0s,MS5.8
PDAR Pinedale Array 117.19 45 Pdiff Pdif 16 19 36.9 +12
comp=Z,0.4nm,0.9s,baz=235,slow=3.2,SNR=2.7
PDAR PKP PKPdf 16 23 10.3 +1.4
comp=Z,2.3nm,0.8s,baz=200,slow=1.1,SNR=9.1
PDAR PP PP 16 24 18.7 -0.6
comp=Z,1.8nm,1.0s,baz=289,slow=5.6,SNR=3.0
PDAR PKKPab PKKPab 16 33 38.3 +1.4
comp=Z,4.9nm,0.9s,baz=118,slow=5.3,SNR=12
PDAR Pinedale Array 117.19 45 Pdif Pdif 16 19 36.9 +12
PDAR PKP PKPdf 16 23 10.3 +1.4
PDAR PP PP 16 24 18.7 -0.6
PDAR PKKPab PKKPab 16 33 38.3 +1.4
LPG La Plagne 117.28 318 *e*PKIKP PKPdf 16 23 09.7 +0.7
comp=Z,34nm,1.0s
LPG La Plagne 117.28 318 *e*PKPdf PKPdf 16 23 09.7 +0.7
LPG La Plagne 117.28 318 *e*PKIKP PKPdf 16 23 09.7 +0.7
LPL La Plagne 117.28 318 *e*PKIKP PKPdf 16 23 09.6 +0.6
LPL La Plagne 117.28 318 *e*PKPdf PKPdf 16 23 09.6 +0.6
LPL La Plagne 117.28 318 *e*PKIKP PKPdf 16 23 09.6 +0.6
CABF La Chapelle 117.33 320 *e*PKIKP PKPdf 16 23 09.6 +0.5
CABF La Chapelle 117.33 320 *e*PKPdf PKPdf 16 23 09.6 +0.5
CABF La Chapelle 117.33 320 *e*PKIKP PKPdf 16 23 09.6 +0.5
SBF Sospel 117.35 316 *e*PKIKP PKPdf 16 23 09.5 +0.3
comp=Z,102nm,1.2s
SBF Sospel 117.35 316 *e*PKPdf PKPdf 16 23 09.5 +0.3
SBF Sospel 117.35 316 *e*PKIKP PKPdf 16 23 09.5 +0.3
LUCF Luceram 117.40 316 *e*P PKPdf 16 23 14.4 +5.1
LUCF Luceram 117.40 316 *e*P PKPdf 16 23 14.4 +5.1
SFTF Sexfontaines 117.41 321 *e*PKIKP PKPdf 16 23 09.4 +0.2
SFTF Sexfontaines 117.41 321 *e*PKPdf PKPdf 16 23 09.4 +0.2
TOUF Mont Tournerai 117.43 316 *e*P PKPdf 16 23 13.1 +3.7
TOUF Mont Tournerai 117.43 316 *e*PKIKP PKPdf 16 23 13.1 +3.7
TOUF Mont Tournerai 117.43 316 *e*P PKPdf 16 23 13.1 +3.7
SRU San Rafael 117.48 49 *e*PKPdf PKPdf 16 23 10.2 +0.6
SRU San Rafael 117.48 49 *e*PKIKP PKPdf 16 23 10.2 +0.6
MBDF Montbardon 117.52 317 *e*PKIKP PKPdf 16 23 10.1 +0.6
comp=Z,12nm,0.6s
MBDF Montbardon 117.52 317 *e*PKPdf PKPdf 16 23 10.1 +0.6
MBDF Montbardon 117.52 317 *e*PKIKP PKPdf 16 23 10.1 +0.6
MVIF Mont Vial 117.53 316 *e*P PKPdf 16 23 14.7 +5.1
MVIF Mont Vial 117.53 316 *e*PKIKP PKPdf 16 23 14.7 +5.1
MVIF Mont Vial 117.53 316 *e*P PKPdf 16 23 14.7 +5.1
WUAZ Wupatki 117.65 53 *e*PKPdf PKPdf 16 23 12.1 +2.0
WUAZ LR LR
comp=Z,4µm,21.0s,MS6.0
FRF La Foret Royal 117.98 316 *e*PKIKP PKPdf 16 23 10.8 +0.3
comp=Z,87nm,1.4s
FRF La Foret Royal 117.98 316 *e*PKPdf PKPdf 16 23 10.8 +0.3
FRF La Foret Royal 117.98 316 *e*PKIKP PKPdf 16 23 10.8 +0.3
ORIF Oris-en-Rattie 118.06 318 *e*PKIKP PKPdf 16 23 10.8 +0.2
comp=Z,18nm,0.9s
ORIF *e*R
comp=Z,4µm,20.0s
ORIF Oris-en-Rattie 118.06 318 *e*PKPdf PKPdf 16 23 10.8 +0.2
ORIF Oris-en-Rattie 118.06 318 *e*PKIKP PKPdf 16 23 10.8 +0.2
KEST Kesra 118.09 307 PKP PKPdf 16 23 11.4 +0.5
comp=Z,5.1nm,1.0s,baz=292,slow=3.9,SNR=5.9
KEST PP PP 16 24 19.5 -6.4
comp=Z,1.9nm,0.8s,baz=56,slow=3.6,SNR=2.7
KEST Kesra 118.09 307 PKP PKPdf 16 23 11.4 +0.5
KEST PP PP 16 24 19.5 -6.4
LAO LASA Array 118.12 40 *e*PKPdf PKPdf 16 23 12.4 +1.7
LAO LR LR
comp=Z,3µm,21.0s,MS5.8
LMR La Mourre 118.15 316 *e*PKIKP PKPdf 16 23 11.1 +0.3
comp=Z,61nm,1.4s
LMR La Mourre 118.15 316 *e*PKPdf PKPdf 16 23 11.1 +0.3
LMR La Mourre 118.15 316 *e*PKIKP PKPdf 16 23 11.1 +0.3
BORG Borgarnes 118.43 346 PFAKE 16 23 20.0 +9.3
BORG LR LR
comp=Z,3µm,19.0s,MS6.0
LOR Lormes 118.50 321 *e*PKIKP PKPdf 16 23 11.5 +0.2
comp=Z,46nm,1.3s
LOR *e*R
comp=Z,4µm,21.5s
LOR Lormes 118.50 321 *e*PKPdf PKPdf 16 23 11.5 +0.2
LOR LR LR
comp=Z,4µm,21.5s,MS6.0
LOR Lormes 118.50 321 *e*PKIKP PKPdf 16 23 11.5 +0.2
LOR MLR MLR
comp=Z,4µm,21.5s,MS6.0
SMRF Simiane la Rot 118.58 317 *e*PKIKP PKPdf 16 23 12.3 +0.7
comp=Z,87nm,1.3s
SMRF Simiane la Rot 118.58 317 *e*PKPdf PKPdf 16 23 12.3 +0.7
ESK Eskdalemuir 118.61 331 PFAKE 16 23 20.0 +8.7
ESK LR LR
comp=Z,3µm,20.0s,MS5.9
DGMT Dagmar 118.68 38 PFAKE 16 23 20.0 +8.4
DGMT LR LR
comp=Z,3µm,20.0s,MS6.0
SMF Signal de Mont 118.75 320 *e*PKIKP PKPdf 16 23 11.8 0.0
comp=Z,62nm,1.5s
SMF Signal de Mont 118.75 320 *e*PKPdf PKPdf 16 23 11.8 0.0
SMF Signal de Mont 118.75 320 *e*PKIKP PKPdf 16 23 11.8 0.0
TUC Tucson 118.77 57 *e*PKPdf PKPdf 16 23 13.4 +1.1
TUC LR LR
comp=Z,4µm,19.0s,MS6.1
TUC Tucson 118.77 57 *e*PKIKP PKPdf 16 23 13.5 +1.2
TUC MLR MLR
comp=Z,4µm,19.0s,MS6.1
SSF Saint Saulge 118.81 321 *e*PKIKP PKPdf 16 23 12.2 +0.3
comp=Z,64nm,1.3s
SSF Saint Saulge 118.81 321 *e*PKPdf PKPdf 16 23 12.2 +0.3
SSF Saint Saulge 118.81 321 *e*PKIKP PKPdf 16 23 12.2 +0.3
SSB Saint Sauveur 118.81 319 PKPdf PKPdf 16 23 12.8 +0.8
SSB LR LR
comp=Z,2µm,22.0s,MS5.7
SSB Saint Sauveur 118.81 319 PKIKP PKPdf 16 23 12.8 +0.8
SSB MLR MLR
comp=Z,2µm,22.0s,MS5.7
VIVF Saint-Julien-l 118.88 318 *e*PKIKP PKPdf 16 23 12.4 +0.3
VIVF Saint-Julien-l 118.88 318 *e*PKPdf PKPdf 16 23 12.4 +0.3
VIVF Saint-Julien-l 118.88 318 *e*PKIKP PKPdf 16 23 12.4 +0.3
PV04 Paradox Valley 118.89 50 *e*PKPdf PKPdf 16 23 13.9 +1.5
PV04 *e*PP PP 16 24 29.1 -2.2
AVF Avril sur Loir 119.01 320 *e*PKIKP PKPdf 16 23 12.4 +0.1
comp=Z,16nm,0.9s
AVF Avril sur Loir 119.01 320 *e*PKPdf PKPdf 16 23 12.4 +0.1
AVF Avril sur Loir 119.01 320 *e*PKIKP PKPdf 16 23 12.4 +0.1
PV01 Paradox Valley 119.21 50 *e*PKPdf PKPdf 16 23 14.1 +1.1
CMAH Djebel Manchou 119.40 308 P PKPdf 16 23 19.2 +5.8
BGF Bois d'Agland 119.42 320 *e*PKIKP PKPdf 16 23 13.6 +0.5
comp=Z,40nm,0.9s
BGF Bois d'Agland 119.42 320 *e*PKPdf PKPdf 16 23 13.6 +0.5
BGF Bois d'Agland 119.42 320 *e*PKIKP PKPdf 16 23 13.6 +0.5
AGO Saint Agoulin 119.44 320 *e*P PKPdf 16 23 12.8 -0.4
AGO Saint Agoulin 119.44 320 *e*P PKPdf 16 23 12.8 -0.4
ABSA Djebel Abâbsia 119.44 308 P PKPdf 16 23 18.4 +4.9
MVCO Mesa Verde 119.51 51 *e*PKPdf PKPdf 16 23 15.5 +1.9
MVCO LR LR
comp=Z,2µm,22.0s,MS5.8
LBL Lubilhac 119.68 319 *e*P PKPdf 16 23 14.6 +0.9
LBL Lubilhac 119.68 319 *e*PKIKP PKPdf 16 23 14.6 +0.9
LBL Lubilhac 119.68 319 *e*P PKPdf 16 23 14.6 +0.9
LASF Ste Croix 119.71 317 *e*PKIKP PKPdf 16 23 14.2 +0.4
comp=Z,115nm,1.6s
LASF Ste Croix 119.71 317 *e*PKPdf PKPdf 16 23 14.2 +0.4
CAEH `Ain El Ouahch 119.80 309 P PKPdf 16 23 19.8 +5.6
SFJD Kangerlussuaq 119.81 360 PFAKE 16 23 20.0 +6.7
SFJD LR LR
comp=Z,3µm,20.0s,MS6.0
SFJD Kangerlussuaq 119.81 360 *i* P PP 16 24 22.9 -13
SFJD *i* S SP 16 34 19.5 -1.7
TCF Toulx Ste Croi 119.93 320 *e*PKIKP PKPdf 16 23 14.6 +0.5
comp=Z,76nm,1.4s
TCF Toulx Ste Croi 119.93 320 *e*PKPdf PKPdf 16 23 14.6 +0.5
TCF Toulx Ste Croi 119.93 320 *e*PKIKP PKPdf 16 23 14.6 +0.5
SMCO Snowmass 120.12 48 *e*PKPdf PKPdf 16 23 16.8 +2.1
CASM Ain Smara 120.22 308 P PKPdf 16 23 21.0 +6.0
CTEI Djebel Teioual 120.33 308 P PKPdf 16 23 16.1 +0.9
LDF La Druitiere 120.37 324 *e*PKIKP PKPdf 16 23 14.9 0.0
LDF La Druitiere 120.37 324 *e*PKPdf PKPdf 16 23 14.9 0.0
LDF La Druitiere 120.37 324 *e*PKIKP PKPdf 16 23 14.9 0.0
FLN La Foliniere 120.50 324 *e*PKIKP PKPdf 16 23 15.4 +0.3
comp=Z,130nm,1.6s
FLN *e*R
comp=Z,3µm,20.8s
FLN La Foliniere 120.50 324 *e*PKPdf PKPdf 16 23 15.4 +0.3
FLN LR LR
comp=Z,3µm,20.8s,MS5.9
FLN La Foliniere 120.50 324 *e*PKIKP PKPdf 16 23 15.4 +0.3
FLN MLR MLR
comp=Z,3µm,20.8s,MS5.9
RSSD Black Hills 120.51 42 *e*PKPdf PKPdf 16 23 15.8 +0.5
RSSD Black Hills 120.51 42 *e*PKIKP PKPdf 16 23 15.8 +0.5
PHWY Pilot Hill 120.55 46 *e*PKPdf PKPdf 16 23 15.2 -0.2
CAF Calviac 120.57 319 *e*PKIKP PKPdf 16 23 16.2 +0.8
comp=Z,90nm,1.4s
CAF Calviac 120.57 319 *e*PKPdf PKPdf 16 23 16.2 +0.8
CAF Calviac 120.57 319 *e*PKIKP PKPdf 16 23 16.2 +0.8
DFRA Djebel Bou Aff 120.62 309 P PKPdf 16 23 22.0 +6.2
RJF Les Rejaudoux 120.78 320 *e*PKIKP PKPdf 16 23 16.7 +0.9
comp=Z,97nm,1.6s
RJF *e*R
comp=Z,4µm,22.5s
RJF Les Rejaudoux 120.78 320 *e*PKPdf PKPdf 16 23 16.7 +0.9
RJF LR LR
comp=Z,4µm,22.5s,MS6.0
RJF Les Rejaudoux 120.78 320 *e*PKIKP PKPdf 16 23 16.7 +0.9
RJF MLR MLR
comp=Z,4µm,22.5s,MS6.0
GRR Gorron 120.89 324 *e*PKIKP PKPdf 16 23 16.4 +0.5
comp=Z,96nm,1.4s
GRR Gorron 120.89 324 *e*PKPdf PKPdf 16 23 16.4 +0.5
GRR Gorron 120.89 324 *e*PKIKP PKPdf 16 23 16.4 +0.5
ISCO Idaho Springs 120.93 47 *e*PKPdf PKPdf 16 23 17.9 +1.7
ISCO LR LR
comp=Z,2µm,19.0s,MS5.9
ISCO Idaho Springs 120.93 47 *e*PKIKP PKPdf 16 23 17.9 +1.7
ISCO MLR MLR
comp=Z,2µm,19.0s,MS5.9
EJON La Jonquera 120.96 316 PKP PKPdf 16 23 19.8 +3.6
MTLF Montolieu 121.08 317 *e*PKIKP PKPdf 16 23 16.7 +0.3
comp=Z,60nm,1.4s
MTLF Montolieu 121.08 317 *e*PKPdf PKPdf 16 23 16.7 +0.3
MTLF Montolieu 121.08 317 *e*PKIKP PKPdf 16 23 16.7 +0.3
MFF Saint Martin d 121.28 321 *e*PKIKP PKPdf 16 23 16.9 +0.2
comp=Z,27nm,0.8s
MFF Saint Martin d 121.28 321 *e*PKPdf PKPdf 16 23 16.9 +0.2
MFF Saint Martin d 121.28 321 *e*PKIKP PKPdf 16 23 16.9 +0.2
LFF La Frestale 121.43 319 *e*PKIKP PKPdf 16 23 16.9 -0.1
comp=Z,68nm,1.2s
LFF La Frestale 121.43 319 *e*PKPdf PKPdf 16 23 16.9 -0.1
LFF La Frestale 121.43 319 *e*PKIKP PKPdf 16 23 16.9 -0.1
EFI East Falkland 121.50 175 PFAKE 16 23 30.0 +13
EFI LR LR
comp=Z,5µm,19.0s,MS6.2
CFON Fontmartina 121.52 315 PKP PKPdf 16 23 20.1 +2.8
VALF Valcebollere 121.57 316 *e*P PKPdf 16 23 18.8 +1.4
VALF Valcebollere 121.57 316 *e*P PKPdf 16 23 18.8 +1.4
CLLI Livia 121.57 316 PKP PKPdf 16 23 21.9 +4.5
SDCO Great Sand Dun 121.65 50 *e*PKPdf PKPdf 16 23 19.7 +2.0
SDCO LR LR
comp=Z,2µm,19.0s,MS5.8
ANMO Albuquerque 121.69 53 *e*PKPdf PKPdf 16 23 19.6 +1.8
ANMO LR LR
comp=Z,3µm,19.0s,MS6.0
ANMO Albuquerque 121.69 53 *e*PKIKP PKPdf 16 23 19.7 +1.8
ANMO MLR MLR
comp=Z,3µm,19.0s
LPM Los Pinos Moun 121.72 54 *e*PKPdf PKPdf 16 23 19.6 +1.6
BNM Barren Site 121.76 54 *e*PKPdf PKPdf 16 23 19.6 +1.5
ETOS Mallorca 121.95 313 PKP PKPdf 16 23 21.4 +3.2
SGMF Saint Gilles 121.95 324 *e*PKIKP PKPdf 16 23 18.1 +0.2
comp=Z,199nm,1.6s
SGMF Saint Gilles 121.95 324 *e*PKPdf PKPdf 16 23 18.1 +0.2
SGMF Saint Gilles 121.95 324 *e*PKIKP PKPdf 16 23 18.1 +0.2
EMIR Miracle 122.09 316 PKP PKPdf 16 23 24.1 +5.7
CSOR Sort 122.19 316 PKP PKPdf 16 23 23.2 +4.6
EPF Esparros 122.47 317 *e*PKIKP PKPdf 16 23 19.6 +0.5
EPF Esparros 122.47 317 *e*PKPdf PKPdf 16 23 19.6 +0.5
EPF Esparros 122.47 317 *e*PKIKP PKPdf 16 23 19.6 +0.5
QUIF Quistinic 122.48 324 *e*PKIKP PKPdf 16 23 19.2 +0.2
QUIF Quistinic 122.48 324 *e*PKPdf PKPdf 16 23 19.2 +0.2
QUIF Quistinic 122.48 324 *e*PKIKP PKPdf 16 23 19.2 +0.2
ULM Lac du Bonnet 122.59 33 PKP PKPdf 16 23 19.0 -0.1
comp=Z,3.9nm,0.6s,baz=8.5,slow=2.6,SNR=3.6
ULM PKKPbc PKKPbc 16 33 11.8 -2.9
comp=Z,5.9nm,0.9s,baz=76,slow=8.3,SNR=2.9
ULM Lac du Bonnet 122.59 33 PKPdf PKPdf 16 23 18.4 -0.7
ULM PKP PKPdf 16 23 19.0 -0.1
ULM PKKPbc PKKPbc 16 33 11.8 -2.9
ULM LR LR
comp=Z,5µm,22.0s,MS6.1
ULM Lac du Bonnet 122.59 33 PKIKP PKPdf 16 23 18.4 -0.7
ULM MLR MLR
comp=Z,5µm,22.0s
EPOB Poblet 122.62 315 PKP PKPdf 16 23 23.9 +4.4
EBIE Bielsa 122.74 317 PKP PKPdf 16 23 24.2 +4.5
REYF Montagne du Re 122.94 318 *e*P PKPdf 16 23 21.5 +1.5
REYF Montagne du Re 122.94 318 *e*P PKPdf 16 23 21.5 +1.5
OGNE Ogallala 123.09 45 PKPdf PKPdf 16 23 20.0 -0.4
OGNE LR LR
comp=Z,3µm,22.0s,MS5.9
ETSF Etsaut 123.12 318 *e*PKIKP PKPdf 16 23 21.8 +1.4
comp=Z,109nm,1.3s
ETSF Etsaut 123.12 318 *e*PKPdf PKPdf 16 23 21.8 +1.4
ETSF Etsaut 123.12 318 *e*PKIKP PKPdf 16 23 21.8 +1.4
EIBI Ibiza 123.27 313 PKP PKPdf 16 23 23.8 +3.0
SJPF Ste Jean 123.48 318 *e*PKIKP PKPdf 16 23 22.2 +1.2
comp=Z,77nm,1.4s
SJPF Ste Jean 123.48 318 *e*PKPdf PKPdf 16 23 22.2 +1.2
SJPF Ste Jean 123.48 318 *e*PKIKP PKPdf 16 23 22.2 +1.2
TRIS Tristan da Cun 123.57 217 PFAKE 16 23 30.0 +8.5
TRIS LR LR
comp=Z,3µm,19.0s,MS6.0
AGMN Agassiz Nation 123.65 35 PFAKE 16 23 30.0 +8.8
AGMN LR LR
comp=Z,5µm,22.0s,MS6.1
TAM Tamanrasset 123.66 293 *e*PKPdf PKPdf 16 23 24.0 +2.0
TAM LR LR
comp=Z,2µm,21.0s,MS5.8
TAM Tamanrasset 123.66 293 *e*PKIKP PKPdf 16 23 24.0 +2.0
TAM MLR MLR
comp=Z,2µm,21.0s,MS5.8
EMOS Mosqueruela 124.08 315 PKP PKPdf 16 23 25.1 +2.8
CLNB Carlsbad 124.48 55 *e*PKPdf PKPdf 16 23 24.9 +1.6
ECHE Chera 124.73 314 PKP PKPdf 16 23 25.7 +2.1
ECHE Chera 124.73 314 PKIKP PKPdf 16 23 25.7 +2.1
ETOR Torete 125.00 316 PKP PKPdf 16 23 27.6 +3.5
ETOR Torete 125.00 316 PKIKP PKPdf 16 23 27.6 +3.6
TXAR Lajitas Array 125.38 59 PKP PKPdf 16 23 26.3 +1.2
comp=Z,3.3nm,1.0s,baz=277,slow=1.7,SNR=15
TXAR PKKPbc 16 33 06.1
comp=Z,1.2nm,0.8s,baz=74,slow=7.6,SNR=3.7
TXAR SKKPbc 16 36 50.2
comp=Z,2.4nm,1.2s,baz=177,slow=7.2,SNR=3.0
TXAR Lajitas Array 125.38 59 PKP PKPdf 16 23 26.3 +1.2
TXAR PKKPbc 16 33 06.1
TXAR SKKPbc 16 36 50.2
TXAR Lajitas Array 125.38 59 PKIKP PKPdf 16 23 26.3 +1.2
TXAR 16 36 50.2
TXAR pmax pmax
comp=Z,3.0nm,1.0s
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR pmax pmax
comp=N,2.0nm,1.2s
AMTX Amarillo 125.47 52 *e*PKPdf PKPdf 16 23 26.5 +1.4
AMTX LR LR
comp=Z,4µm,20.0s,MS6.1
ETOB Tobarra 125.51 313 PKP PKPdf 16 23 27.7 +2.7
ECSD EROS Data Cent 125.52 40 *e*PKPdf PKPdf 16 23 24.6 -0.4
ECSD LR LR
comp=Z,3µm,21.0s,MS5.9
NRS Narsarsuaq 125.53 357 *i* S Sdif 16 33 14.5 +0.5
NRS
comp=Z,3µm,28.0s
CBKS Cedar Bluff 125.54 46 PFAKE 16 23 40.0 +15
CBKS LR LR
comp=Z,2µm,21.0s,MS5.8
EMUR La Murta 125.59 312 PKP PKPdf 16 23 27.9 +2.6
EVIA Vianos 126.20 314 PKP PKPdf 16 23 27.6 +1.2
EVIA Vianos 126.20 314 PKIKP PKPdf 16 23 27.6 +1.2
EYMN Ely 126.27 33 *e*PKPdf PKPdf 16 23 28.4 +2.2
EYMN LR LR
comp=Z,4µm,22.0s,MS6.0
GUD Guadarrama 126.52 317 PKP PKPdf 16 23 32.0 +5.1
GUD Guadarrama 126.52 317 PKIKP PKPdf 16 23 32.0 +5.1
EHUE Huescar 126.59 313 PKP PKPdf 16 23 31.6 +4.4
EHUE Huescar 126.59 313 PKIKP PKPdf 16 23 31.6 +4.4
ENIJ Nijar 126.63 312 PKP PKPdf 16 23 29.7 +2.5
ENIJ Nijar 126.63 312 PKIKP PKPdf 16 23 29.7 +2.4
ESDC Sonseca Array 126.81 315 PKP PKPdf 16 23 28.5 +1.0
comp=Z,12nm,1.1s,baz=28,slow=2.4,SNR=11
ESDC PP PP 16 25 25.4 +0.7
comp=Z,0.3nm,0.3s,baz=62,slow=7.7,SNR=5.8
ESDC SKKPbc 16 36 50.6
comp=Z,0.2nm,0.3s,baz=243,slow=8.4,SNR=3.7
ESDC Sonseca Array 126.81 315 PKP PKPdf 16 23 31.2 +3.7
ESLA Sonseca Array 126.81 315 PKPdf PKPdf 16 23 28.2 +0.7
ESLA LR LR
comp=Z,10µm,20.0s,MS6.5
PAB San Pablo 127.13 315 *e*PKPdf PKPdf 16 23 28.7 +0.6
PAB LR LR
comp=Z,2µm,22.0s,MS5.8
PAB San Pablo 127.13 315 *e*PKIKP PKPdf 16 23 28.7 +0.5
PAB MLR MLR
comp=Z,2µm,22.0s,MS5.8
ECAL Calabor 127.64 319 PKP PKPdf 16 23 34.8 +5.8
KSU1 Kansas State U 127.64 45 *e*PKPdf PKPdf 16 23 32.5 +3.4
KSU1 LR LR
comp=Z,4µm,22.0s,MS6.1
EGUA Guajares 127.69 312 PKP PKPdf 16 23 33.8 +4.5
EGUA Guajares 127.69 312 PKIKP PKPdf 16 23 33.8 +4.5
PBRG Braganca 127.70 319 *e*PKPdf PKPdf 16 23 27.2 -2.0
PBRG *i* P 16 23 35.7
PBRG Braganca 127.70 319 *e*LR LR 17 05 03.5
comp=Z,1µm,20.0s
WMOK Wichita Mounta 127.76 51 *e*PKPdf PKPdf 16 23 30.4 +0.8
WMOK LR LR
comp=Z,5µm,20.0s,MS6.2

WMOK Wichita Mounta 127.76 51 *e*PKIKP PKPdf 16 23 30.4 +0.9
WMOK MLR MLR
comp=Z,5µm,20.0s,MS6.2
EADA Adamuz 127.88 314 PKP PKPdf 16 23 32.4 +2.8
ELUQ Luque 127.91 313 PKP PKPdf 16 23 33.8 +4.1
ELUQ Luque 127.91 313 PKIKP PKPdf 16 23 33.8 +4.1
TORD Torodi Ar. Bea 128.07 281 PKP PKPdf 16 23 30.8 +0.3
comp=Z,9.8nm,0.8s,baz=60,slow=1.9,SNR=22
TORD SKKPbc 16 36 07.7
comp=Z,2.0nm,1.1s,baz=226,slow=3.4,SNR=4.4
TORD Torodi Ar. Bea 128.07 281 PKP PKPdf 16 23 30.9 +0.3
TORD SKKPbc 16 36 07.7
EPLA Plasencia 128.09 317 PKP PKPdf 16 23 33.4 +3.4
EPLA Plasencia 128.09 317 PKIKP PKPdf 16 23 33.4 +3.4
MVO Moncorvo 128.21 318 PKP PKPdf 16 23 36.0 +5.8
MVO Moncorvo 128.21 318 *e*PKPdf PKPdf 16 23 21.4 -8.8
MVO Moncorvo 128.21 318 *e*LQ 16 57 17.7
MVO LR LR 17 05 35.2
comp=Z,695nm,20.0s
MVO Moncorvo 128.21 318 *i* P PKPdf 16 23 35.8 +5.6
STS Santiago 128.31 321 PKP PKPdf 16 23 36.0 +5.7
STS Santiago 128.31 321 PKIKP PKPdf 16 23 36.0 +5.7
JCT Junction City 128.32 56 *e*PKPdf PKPdf 16 23 31.0 +0.3
JCT LR LR
comp=Z,4µm,20.0s,MS6.1
JCT Junction City 128.32 56 *e*PKIKP PKPdf 16 23 31.0 +0.3
JCT MLR MLR
comp=Z,4µm,20.0s,MS6.1
SCIA State Center 128.59 40 PFAKE 16 23 40.0 +9.1
SCIA LR LR
comp=Z,2µm,22.0s,MS5.8
POLO Lamas de Olo 128.60 319 *e*PKiKP PKiKP 16 23 30.6 -0.9
POLO *i* P 16 23 33.6
POLO Lamas de Olo 128.60 319 *e*LQ 16 57 42.3
POLO *e*LR LR 17 05 54.9
comp=Z,551nm,20.0s
PGAV Gavieira, Arco 128.61 320 *e*PKP PKPdf 16 23 22.7 -8.2
PGAV Gavieira, Arco 128.61 320 *e*PKPdf PKPdf 16 23 22.8 -8.1
PGAV Gavieira, Arco 128.61 320 *e*PKiKP PKiKP 16 23 31.4 -0.1
PGAV Gavieira, Arco 128.61 320 *e*LQ 16 58 02.3
PGAV *e*LR LR 17 05 33.8
comp=Z,1µm,20.0s
COWI Conover 128.67 34 *e*PKPdf PKPdf 16 23 31.1 +0.2
EMIJ Mijas 128.68 312 PKP PKPdf 16 23 35.4 +4.2
MTE Manteigas 128.92 318 *e*PKPdf PKPdf 16 23 32.3 +0.8
MTE LR LR
comp=Z,3µm,21.0s,MS5.9
MTE Manteigas 128.92 318 *i* P PKPdf 16 23 33.3 +1.8
MTE Manteigas 128.92 318 *e*PP PP 16 25 31.0 -7.5
MTE Manteigas 128.92 318 *e*LQ 16 57 33.4
MTE *e*LR LR 17 06 03.8
comp=Z,1µm,20.0s
PCBR Castelo Branco 129.15 317 *e*PKPdf PKPdf 16 23 26.5 -5.5
EJIF Jimena Fronter 129.24 312 PKP PKPdf 16 23 36.1 +3.8
EJIF Jimena Fronter 129.24 312 PKIKP PKPdf 16 23 36.1 +3.8
PMRV Marv??o 129.28 317 *e*PKPdf PKPdf 16 23 30.2 -2.1
PMRV *i* P 16 23 38.7
PMRV Marv??o 129.28 317 *e*LQ 16 58 06.2
PMRV *e*LR LR 17 04 34.1
comp=Z,2µm,22.0s
EBAD Badajoz 129.34 316 PKP PKPdf 16 23 37.4 +5.0
ESPR Espera 129.35 313 PKP PKPdf 16 23 35.3 +2.8
PLCA Paso Flores 129.38 161 PKP PKPdf 16 23 33.4 +1.0
comp=Z,4.2nm,1.0s,baz=217,slow=10,SNR=2.8
PLCA Paso Flores 129.38 161 PKP PKPdf 16 23 33.4 +1.0
PLCA LR LR
comp=Z,5µm,21.0s,MS6.1
EMIN Mina Concepcio 129.55 314 PKP PKPdf 16 23 36.7 +3.9
PBAR Barrancos 129.62 315 *e*PKPdf PKPdf 16 23 31.1 -1.8
PBAR *i* P 16 23 39.9
PBAR Barrancos 129.62 315 *e*LQ 16 58 02.3
PBAR *e*LR LR 17 06 54.5
comp=Z,863nm,22.0s
PESTR Estremoz 129.69 316 *e*LQ 16 57 54.3
PESTR *e*LR LR 17 04 28.2
comp=Z,621nm,22.0s
SFS San Fernando 129.78 313 PFAKE 16 23 40.0 +6.7
SFS LR LR
comp=Z,5µm,21.0s,MS6.2
JFWS Jewell Farm 129.90 38 *e*PKPdf PKPdf 16 23 33.6 +0.3
JFWS LR LR
comp=Z,4µm,21.0s,MS6.1
JFWS Jewell Farm 129.90 38 *e*PKIKP PKPdf 16 23 33.6 +0.3
JFWS MLR MLR
comp=Z,4µm,21.0s,MS6.1
PMTG Montargil 130.02 317 *e*LQ 17 01 53.6
PMTG *e*LR LR 17 06 24.4
comp=Z,782nm,20.0s
SHEL Horse Pasture 130.12 243 PFAKE 16 23 50.0 +16
SHEL LR LR
comp=Z,1µm,19.0s,MS5.6
EVO Evora 130.13 316 *e*PKIKP PKPdf 16 23 34.2 +0.3
comp=Z,169nm,1.5s
EVO *e*R
comp=Z,3µm,21.0s
EVOP Sao Brissos 130.21 316 *e*PKPdf PKPdf 16 23 34.2 +0.1
EVOP LR LR
comp=Z,3289µm,21.0s
EVOP Sao Brissos 130.21 316 *e*PKIKP PKPdf 16 23 34.2 +0.1
EVOP MLR MLR
comp=Z,3289µm,21.0s
EGRO El Granado 130.23 315 PKP PKPdf 16 23 36.2 +2.1
SCHQ Schefferville 130.30 12 PKP PKPdf 16 23 34.4 +0.7
comp=Z,5.7nm,1.0s,baz=39,slow=14,SNR=3.8
SCHQ Schefferville 130.30 12 PKP PKPdf 16 23 34.4 +0.7
SCHQ LR LR
comp=Z,4µm,22.0s,MS6.0
PVAQ Vaqueiros 130.45 314 PKPdf PKPdf 16 23 33.3 -1.2
PVAQ *i* P 16 23 42.1
PVAQ Vaqueiros 130.45 314 *e*LQ 16 58 30.2
PVAQ Vaqueiros 130.45 314 *e*LR LR 17 08 33.2
comp=Z,1µm,20.0s
PCVE Castro Verde 130.57 315 *e*PKPdf PKPdf 16 23 32.7 -2.1
PCVE *i* P 16 23 42.0
PCVE Castro Verde 130.57 315 *e*LQ 16 58 34.2
PCVE *e*LR LR 17 06 31.7
comp=Z,1µm,22.0s
MESJ Messejana 130.60 315 *e*PP PP 16 25 41.4 -8.2
MESJ *e*SS SS 16 43 11.4 -4.9
MESJ AMS AMS 17 34 58.6
comp=Z,2µm,14.8s,MS6.0
PBDV Barranco-do-Ve 130.68 314 *e*PKPdf PKPdf 16 23 33.6 -1.4
PBDV *i* P 16 23 42.2
PBDV Barranco-do-Ve 130.68 314 *e*LQ 16 58 18.2
PBDV Barranco-do-Ve 130.68 314 *e*LR LR 17 08 29.3
comp=Z,1µm,20.0s
PNCL Nicolau / Gran 130.69 316 PKP PKPdf 16 23 30.5 -4.5
PNCL Nicolau / Gran 130.69 316 PKPdf PKPdf 16 23 30.6 -4.4
PNCL *i* P 16 23 42.2
PNCL Nicolau / Gran 130.69 316 *e*PP PP 16 25 42.4 -7.7
PNCL Nicolau / Gran 130.69 316 *e*LQ 16 58 06.2
PNCL *e*LR LR 17 04 59.1
comp=Z,1µm,22.0s
KVTX Kingsville 130.75 59 PFAKE 16 23 50.0 +15
KVTX LR LR
comp=Z,3µm,19.0s,MS6.0
PMAFR Mafra 130.80 317 *e*LQ 16 58 38.1
PMAFR *e*LR LR 17 06 09.7
comp=Z,1µm,22.0s
LIS Lisbon 130.82 317 *e*PP PP 16 25 42.5 -8.4
LIS *e*SS SS 16 43 14.0 -4.8
LIS AMS AMS 17 30 12.1
comp=N,2µm,13.6s
MORF Marmelete 131.16 315 *e*PKPdf PKPdf 16 23 28.6 -7.3
MORF *i* P 16 23 43.4
MORF Marmelete 131.16 315 *e*LQ 16 59 00.9
MORF Marmelete 131.16 315 *e*LR LR 17 09 29.2
comp=N,2µm,22.0s
RTC Rabat Centre 131.28 310 PFAKE 16 23 50.0 +14
RTC LR LR
comp=Z,2µm,21.0s,MS5.7
PFVI Vila Bisbo 131.36 315 *e*LQ 16 58 46.1
PFVI Vila Bisbo 131.36 315 *e*LR LR 17 09 08.7
comp=Z,2µm,22.0s
MIAR Mount Ida 131.79 49 *e*PKPdf PKPdf 16 23 39.6 +2.4
MIAR *e*PP PP 16 25 59.5 +2.1
MIAR *e*SKPbc SKPbc 16 27 04.4 +3.4
MIAR LR LR
comp=Z,4µm,21.0s,MS6.1
MIAR Mount Ida 131.79 49 *e*PKIKP PKPdf 16 23 39.6 +2.4
MIAR *e* 16 25 59.5
MIAR MLR MLR
comp=Z,4µm,21.0s,MS6.1
HDIL Hopedale 131.81 40 PKPdf PKPdf 16 23 38.2 +1.2
HDIL LR LR
comp=Z,2µm,20.0s,MS5.8
CCM Cathedral Cave 131.85 44 *e*Pdif Pdif 16 20 33.9 +3.7
CCM *e*PKPdf PKPdf 16 23 38.3 +1.2
CCM *e*SKPbc SKPbc 16 27 02.9 +1.9
CCM Cathedral Cave 131.85 44 *e*P Pdif 16 20 33.9 +3.7
CCM *e* 16 23 38.3
GLMI Grayling 131.93 32 PFAKE 16 23 50.0 +13
GLMI LR LR
comp=Z,3µm,22.0s,MS5.9
NATX Nacogdoches 132.06 53 PKPdf PKPdf 16 23 41.0 +3.3
NATX LR LR
comp=Z,4µm,20.0s,MS6.1
FVM French Village 132.44 43 PKPdf PKPdf 16 23 39.2 +0.9
FVM French Village 132.44 43 PKIKP PKPdf 16 23 39.2 +0.9
UALR University of 132.61 48 PKPdf PKPdf 16 23 41.6 +2.9
SIUC Southern Illin 133.40 43 *e*PKPdf PKPdf 16 23 41.8 +1.7
AAM Ann Arbor 134.12 34 PFAKE 16 23 50.0 +8.7
AAM LR LR
comp=Z,4µm,20.0s,MS6.1
TRQA Tornquist 134.24 168 PFAKE 16 23 50.0 +8.3
TRQA LR LR
comp=Z,4µm,21.0s,MS6.1
DBIC Dimbokro 134.48 273 PKP PKPdf 16 23 40.9 -1.9
comp=Z,13nm,1.0s,baz=103,slow=3.0,SNR=8.0
DBIC PP PP 16 26 19.1 +3.5
comp=Z,11nm,1.1s,baz=64,slow=4.0,SNR=4.0
DBIC SKPbc SKPbc 16 27 11.8 +1.1
comp=Z,4.6nm,0.8s,baz=42,slow=9.9,SNR=3.2
DBIC Dimbokro 134.48 273 *e*PKPdf PKPdf 16 23 43.3 +0.5
DBIC PP PP 16 26 19.1 +3.5
DBIC SKPbc SKPbc 16 27 11.8 +1.1
DBIC LR LR
comp=Z,3µm,21.0s,MS6.0
DBIC Dimbokro 134.48 273 PKIKP PKPdf 16 23 40.9 -1.9
DBIC 16 26 19.1
DBIC pmax pmax
comp=Z,13nm,1.0s
DBIC pmax pmax
comp=Z,11nm,1.1s
DBIC pmax pmax
comp=N,5.0nm,0.8s
LIC Lamto 134.62 272 *e*PKIKP PKPdf 16 23 43.8 +0.7
comp=N,89nm,1.0s
LIC *e*R
comp=N,3µm,19.5s
LIC Lamto 134.62 272 *e*PKPdf PKPdf 16 23 43.8 +0.7
LIC LR LR
comp=Z,1µm,19.5s,MS5.7
SADO Sadowa 134.72 29 PKP PKPdf 16 23 43.7 +1.3
comp=Z,1.6nm,0.3s,baz=333,slow=8.9,SNR=1.8
SADO Sadowa 134.72 29 PKP PKPdf 16 23 43.7 +1.3
OXF Oxford 134.88 47 PFAKE 16 24 00.0 +17
OXF LR LR
comp=Z,4µm,20.0s,MS6.2
WCI Wyandotte Cave 135.05 40 *e*PKPdf PKPdf 16 23 43.9 +0.7
WCI Wyandotte Cave 135.05 40 *e*PKIKP PKPdf 16 23 43.9 +0.7
VBMS Vicksburg 135.10 50 PFAKE 16 24 00.0 +17
VBMS LR LR
comp=Z,3µm,19.0s,MS6.1
PLAL Pickwick Lake 135.60 45 PKPdf PKPdf 16 23 44.0 -0.3
PLAL LR LR
comp=Z,4µm,20.0s,MS6.1
ACSO Alum Creek Sta 135.86 36 *e*PKPdf PKPdf 16 23 46.0 +1.3
ACSO LR LR
comp=Z,3µm,22.0s,MS6.0
ERPA Erie 136.23 32 PFAKE 16 24 00.0 +15
ERPA LR LR
comp=Z,3µm,20.0s,MS6.1
LONY Lake Ozonia 136.88 25 PFAKE 16 24 00.0 +14
LONY LR LR
comp=Z,2µm,19.0s,MS6.0
SWET Sewanee 136.97 44 *e*PKPdf PKPdf 16 23 47.2 +0.4
SWET *e*PP PP 16 26 32.0 +2.0
NCB Newcomb 137.55 25 PFAKE 16 24 00.0 +12
NCB LR LR
comp=Z,3µm,20.0s,MS6.1
CPCT Cooper Cave 137.80 43 *e*PKPdf PKPdf 16 23 46.9 -1.5
MCWV Mont Chateau 138.03 34 PFAKE 16 24 00.0 +11
MCWV LR LR
comp=Z,4µm,20.0s,MS6.2
TKL Tuckaleechee C 138.18 42 PP PP 16 26 33.2 -4.3
comp=Z,3.9nm,0.4s,baz=307,slow=8.6,SNR=6.9
TKL Tuckaleechee C 138.18 42 *e*PKPdf PKPdf 16 23 50.4 +1.4
TKL Tuckaleechee C 138.18 42 *e*PKIKP PKPdf 16 23 50.4 +1.3
LBNH Lisbon 138.26 23 PFAKE 16 24 00.0 +11
LBNH LR LR
comp=Z,5µm,22.0s,MS6.2
BRAL Brewton 138.28 50 PFAKE 16 24 00.0 +11
BRAL LR LR
comp=Z,3µm,21.0s,MS6.1
CFAA Coronel Fontan 138.38 157 PKP PKPdf 16 23 46.8 -2.8
baz=234,slow=4.5
CFAA PP PP 16 26 41.5 +3.5
comp=Z,0.3nm,0.5s,baz=200,slow=5.2,SNR=3.7
CFAA SKPbc SKPbc 16 27 22.3 +0.3
comp=Z,0.4nm,0.8s,baz=270,slow=3.0,SNR=2.3
CFAA SKPab 16 27 31.0
comp=Z,0.5nm,0.9s,baz=136,slow=21,SNR=7.9
CFAA Coronel Fontan 138.38 157 PKP PKPdf 16 23 46.8 -2.8
CFAA PP PP 16 26 41.5 +3.5
CFAA SKPbc SKPbc 16 27 22.3 +0.3
CFAA SKPab 16 27 31.0
SSPA Standing Stone 138.39 32 *e*PKPdf PKPdf 16 23 48.4 -0.9
CFTV Fuerteventura 139.21 306 PKP PKPdf 16 23 51.3 +0.1
BLA Blacksburg 139.34 37 PKPdf PKPdf 16 23 52.9 +1.8
BLA LR LR
comp=Z,3µm,20.0s,MS6.0
BLA Blacksburg 139.34 37 PKIKP PKPdf 16 23 52.9 +1.8
BLA MLR MLR
comp=Z,3µm,20.0s,MS6.0
FUL Funchal 139.35 314 *e*PKPdf PKPdf 16 23 44.3 -7.0
PMOZ Porto Moniz, M 139.46 314 *e*LR LR 17 10 32.3
comp=Z,689nm,22.0s
LCO Las Campanas 139.60 152 *e*PKPdf PKPdf 16 23 51.8 -0.1
LCO LR LR
comp=Z,3µm,21.0s,MS6.1
GOGA Godfrey 139.66 44 *e*PKPdf PKPdf 16 23 52.0 +0.1
GOGA LR LR
comp=Z,3µm,20.0s,MS6.1
GOGA Godfrey 139.66 44 *e*PKIKP PKPdf 16 23 52.0 +0.1
GOGA MLR MLR
comp=Z,3µm,20.0s,MS6.1
PAYG Puerto Ayora 139.83 99 PFAKE 16 24 10.0 +17
PAYG LR LR
comp=Z,2µm,19.0s,MS5.8
CBN Corbin 140.42 34 PFAKE 16 24 10.0 +17
CBN LR LR
comp=Z,5µm,22.0s,MS6.2
TEIG Tepich 141.19 66 PKPdf PKPdf 16 23 55.0 0.0
TEIG LR LR
comp=Z,3µm,22.0s,MS6.0
NHSC New Hope 142.08 42 PFAKE 16 24 10.0 +14
NHSC LR LR
comp=Z,4µm,20.0s,MS6.2
CNNC Cliffs of the 142.18 38 PFAKE 16 24 10.0 +14
CNNC LR LR
comp=Z,4µm,21.0s,MS6.2
TGUH Tegucigalpa,Un 143.34 76 *e*PKPdf PKPdf 16 23 59.1 +0.2
TGUH LR LR
comp=Z,2µm,22.0s,MS5.9
JTS JuntasAbangare 145.96 82 *e*PKPdf PKPdf 16 24 04.1 +0.6
JTS LR LR
comp=Z,6µm,22.0s,MS6.3
JTS JuntasAbangare 145.96 82 *e*PKIKP PKPdf 16 24 04.1 +0.6
JTS MLR MLR
comp=Z,6µm,22.0s
CPUP Villa Florida 146.53 169 PKPbc PKPbc 16 24 02.6 -3.0
comp=Z,4.3nm,0.5s,baz=109,slow=1.2,SNR=5.9
CPUP Villa Florida 146.53 169 PKPbc PKPbc 16 24 02.6 -3.0
CPUP LR LR
comp=Z,958nm,21.0s,MS5.5
NNA Nana 148.05 125 *e*PKPdf PKPdf 16 24 08.5 +1.5
NNA *e*PKPbc PKPbc 16 24 11.8 +1.6
NNA LR LR
comp=Z,3µm,20.0s,MS6.1
NNA Nana 148.05 125 *e*PKIKP PKPdf 16 24 08.5 +1.5
NNA MLR MLR
comp=Z,3µm,20.0s
BCIP Isla Barro Col 151.05 83 *e*PKPdf PKPdf 16 24 11.5 -0.3
BCIP *e*PKPbc PKPbc 16 24 17.9 +0.3
BCIP LR LR
comp=Z,3µm,19.0s,MS6.0
BBSR BB Station 151.33 25 PFAKE 16 24 20.0 +8.3
BBSR LR LR
comp=Z,3µm,19.0s,MS6.1
LPAZ La Paz 151.37 143 PKPbc PKPbc 16 24 15.2 -3.1
comp=Z,50nm,1.1s,baz=21,slow=1.6,SNR=16
LPAZ La Paz 151.37 143 PKPbc PKPbc 16 24 15.2 -3.1
MTDJ Mount Denham 151.46 64 PFAKE 16 24 20.0 +7.7
MTDJ LR LR
comp=Z,2µm,20.0s,MS6.0
OTAV Otavalo 151.58 102 *e*PKPbc PKPbc 16 24 18.2 -0.7
OTAV LR LR
comp=Z,4µm,20.0s,MS5.8
GTBY Guantanamo Bay 152.91 59 PFAKE 16 24 30.0 +16
GTBY LR LR
comp=Z,3µm,22.0s,MS6.0
ROSC El Rosal 156.43 93 PKPbc PKPdf 16 24 21.9 +2.5
comp=Z,3.6nm,0.4s,baz=87,slow=16,SNR=1.6
ROSC El Rosal 156.43 93 PKPbc PKPdf 16 24 26.6 +7.1
comp=Z,5.2nm,0.4s,baz=289,slow=22,SNR=9.3
ROSC PP PP 16 28 31.5 +5.4
comp=Z,5.0nm,0.4s,baz=284,slow=7.1,SNR=2.4
ROSC El Rosal 156.43 93 PKPbc PKPdf 16 24 21.9 +2.5
ROSC PKPbc PKPdf 16 24 26.6 +7.1
ROSC PP PP 16 28 31.5 +5.4
SDDR Presa de Saban 156.55 57 PFAKE 16 24 30.0 +11
SDDR LR LR
comp=Z,3µm,21.0s,MS6.0
SDV Santo Domingo 160.14 82 *e*PKPdf PKPdf 16 24 24.6 +0.7
SDV LR LR
comp=Z,1µm,21.0s
CRPR Cabo Rojo, PR 160.46 53 *e*PKPdf PKPdf 16 24 23.2 -0.9
RCBR Riachuelo 160.68 230 PKPab PKPab 16 25 08.4 +2.1
comp=Z,22nm,1.1s,baz=201,slow=8.6,SNR=3.0
RCBR Riachuelo 160.68 230 PFAKE 16 24 40.0 +15
RCBR LR LR
comp=Z,3µm,22.0s
OBIP Obispado Ponce 160.84 53 PKPdf PKPdf 16 24 26.4 +1.8
CELP Cerrillos 160.84 52 *e*PKPdf PKPdf 16 24 27.0 +2.4
SJG San Juan 161.16 52 PP PP 16 28 49.7 -1.3
comp=Z,7.1nm,0.3s,baz=341,slow=5.2,SNR=2.3
SJG San Juan 161.16 52 *e*PKPdf PKPdf 16 24 24.9 0.0
SJG LR LR
comp=Z,3µm,21.0s
SJG San Juan 161.16 52 *e*PKIKP PKPdf 16 24 24.9 0.0
SJG MLR MLR
comp=Z,3µm,21.0s
MTP Monte Pirata 161.63 51 *e*PKPdf PKPdf 16 24 28.6 +3.2
STVI Saint Thomas 161.93 49 PKPdf PKPdf 16 24 26.4 +0.6
ANWB Willy Bob 164.65 44 PFAKE 16 24 40.0 +12
ANWB LR LR
comp=Z,2µm,21.0s
FDF Fort de France 167.01 51 *e*PKPdf PKPdf 16 24 30.7 +0.5
FDF LR LR
comp=Z,2µm,21.0s
FDF Fort de France 167.01 51 *e*PKIKP PKPdf 16 24 30.7 +0.4
FDF MLR MLR
comp=Z,2µm,21.0s
GRGR Grenville 167.93 63 PFAKE 16 24 40.0 +9.0
GRGR LR LR
comp=Z,2µm,21.0s
BBGH Gun Hill 169.19 53 PFAKE 16 24 40.0 +8.2
BBGH LR LR
comp=Z,4µm,22.0s

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*KRSC **07** 16:04:45.3±2.9,51°.93N×154°.02E,h491^{km}±80^{km},ML4.7*
*MOS **07** 16:04:45.6±1.0,52°.02N×153°.12E,h443^{km},mb3.6/7,Error ellipse: s-maj=21.4km s-min=15.5km az=61.1*
*ISCJB **07** 16:04:46.3±0.6,52°.2N±0°.2×153°.0E±0°.1,h428^{km}±7^{km}, mb3.5/16,Error ellipse: s-maj=25.2km s-min=10.8km az=161.6*
*NEIC **07** 16:04:47.7±0.5,52°.33N×152°.91E,h425^{km}±5^{km},mb3.7/2, Error ellipse: s-maj=17.2km s-min=7.0km az=166.0*
*IDC **07** 16:04:48.0±2.0,52°.37N×152°.92E,h424^{km}±18^{km}, mb3.1/12,mb1 3.3/13,mb1mx3.1/29,mbtmp3.1/13,Error ellipse: s-maj=44.1km s-min=12.8km az=180.0*

ISC 07 16:04:47.8±0.6,52°.3N±0°.2×153°.0E±0°.1,h425^{km}±7^{km},n70, s0°70/79,mb3.5/16,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PEA0B	**Petropavlovsk-**	**2.98**	**72**	*e*P	**P**		**16 05 52.6**	**+0.1**
PETK	**Petropavlovsk-**	**2.98**	**72**	P	**P**		**16 05 52.8**	**+0.3**
	2.8nm,0.3s,baz=221,slow=2.1,SNR=47							
PETK	**Petropavlovsk-**	**2.98**	**72**	P	**P**		**16 05 52.9**	**+0.3**
PETK	**Petropavlovsk-**	**2.98**	**72**	PN	**P**		**16 05 52.9**	**+0.3**
GNL	**Ganaly**	**3.31**	**63**	*e*P	**P**		**16 05 55.8**	**+0.6**
RUS	**Russkaya**	**3.39**	**85**	*i* P	**P**		**16 05 56.0**	**+0.1**
RUS				*i* S	**S**		**16 06 47.5**	**-3.8**
RUS	**Russkaya**	**3.39**	**85**	PN	**P**		**16 05 56.0**	**+0.1**
RUS				S	**S**		**16 06 47.5**	**-3.8**
PET	**Petropavlovsk**	**3.53**	**76**	*i* P	**P**		**16 05 57.6**	**+0.6**
PET				*i* S	**S**		**16 06 50.4**	**-3.0**
PET	**Petropavlovsk**	**3.53**	**76**	*e*P	**P**		**16 05 57.4**	**+0.4**
PET				*e*S	**S**		**16 06 47.0**	**-6.4**
PET	**Petropavlovsk**	**3.53**	**76**	PN	**P**		**16 05 57.6**	**+0.6**
PET				S	**S**		**16 06 50.4**	**-3.0**
AVH	**Avacha**	**3.63**	**72**	P	**P**		**16 05 58.6**	**+0.7**
NLC	**Nalytchevo**	**3.97**	**75**	P	**P**		**16 06 00.6**	**-0.3**
NLC				*i* S	**S**		**16 06 55.4**	**-5.0**
NLC	**Nalytchevo**	**3.97**	**75**	PN	**P**		**16 06 00.6**	**-0.3**
NLC				S	**S**		**16 06 55.4**	**-5.0**
SPN	**Mys Shipunski**	**4.36**	**76**	*e*P	**P**		**16 06 03.4**	**-1.1**
SPN				*i* S	**S**		**16 07 00.6**	**-6.4**
SPN	**Mys Shipunski**	**4.36**	**76**	PN	**P**		**16 06 03.4**	**-1.1**
SPN				S	**S**		**16 07 00.6**	**-6.4**
TUMR	**Tumrok**	**5.20**	**52**	P	**P**		**16 06 13.4**	**+0.7**
SRDR	**Sredinnyy**	**5.64**	**42**	P	**P**		**16 06 18.8**	**+1.6**
KBTR	**Krutoberegovo**	**6.97**	**52**	*e*P	**P**		**16 06 30.2**	**-1.2**
KBTR	**Krutoberegovo**	**6.97**	**52**	PN	**P**		**16 06 30.2**	**-1.2**
BILL	**Bilibino**	**17.06**	**17**	*e*P	**P**		**16 08 21.2**	**+0.3**
	1.6nm,0.4s							
BILL	**Bilibino**	**17.06**	**17**	*e*P	**P**		**16 08 21.2**	**+0.3**
BILL				pmax	pmax			
	comp=Z,2.0nm,0.4s							
KDAK	**Kodiak Island**	**30.94**	**58**	P	**P**		**16 10 27.0**	**-0.5**
	comp=Z,7.7nm,0.9s,mb4.0,baz=236,slow=3.6							
KDAK	**Kodiak Island**	**30.94**	**58**	P	**P**		**16 10 27.0**	**-0.5**
KDAK	**Kodiak Island**	**30.94**	**58**	P	**P**		**16 10 27.0**	**-0.5**
KDAK				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.0							
ILAR	**Eielson Array**	**32.43**	**44**	P	**P**		**16 10 40.3**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.2,baz=268,slow=5.1,SNR=16							
ILAR	**Eielson Array**	**32.43**	**44**	P	**P**		**16 10 40.3**	**+0.1**
ILAR	**Eielson Array**	**32.43**	**44**	P	**P**		**16 10 40.3**	**+0.1**
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
EGAK	**Eagle**	**34.85**	**43**	*e*P	**P**		**16 11 00.1**	**-0.6**
	comp=Z,1.2nm,0.4s,mb3.6							
INK	**Inuvik**	**37.12**	**36**	P	**P**		**16 11 20.0**	**+0.4**
	comp=Z,1.2nm,0.3s,mb3.7,baz=294,slow=6.2							
INK	**Inuvik**	**37.12**	**36**	P	**P**		**16 11 20.0**	**+0.4**
INK	**Inuvik**	**37.12**	**36**	P	**P**		**16 11 20.0**	**+0.3**
INK				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KURK	**Kurchatov**	**44.41**	**299**	P	**P**		**16 12 19.2**	**+0.7**
	comp=Z,0.8nm,0.5s,mb3.3,baz=62,slow=7.6,SNR=7.3							
KURK	**Kurchatov**	**44.41**	**299**	P	**P**		**16 12 19.2**	**+0.7**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb3.4							
MK31	**Makanchi Array**	**44.53**	**292**	*e*P	**P**		**16 12 18.8**	**-0.7**
MK31	**Makanchi Array**	**44.53**	**292**	*e*P	**P**		**16 12 18.8**	**-0.7**
MKAR	**Makanchi Array**	**44.53**	**292**	P	**P**		**16 12 19.3**	**-0.2**
	comp=Z,0.3nm,0.5s,mb2.9,baz=63,slow=7.1,SNR=5.1							
MKAR	**Makanchi Array**	**44.53**	**292**	P	**P**		**16 12 19.3**	**-0.2**
MKAR	**Makanchi Array**	**44.53**	**292**	P	**P**		**16 12 19.3**	**-0.2**
YKA	**Yellowknife Ar**	**46.62**	**40**	P	**P**		**16 12 35.6**	**+0.3**
	comp=Z,1.1nm,0.5s,mb3.4,baz=307,slow=7.3,SNR=3.1							
YKA	**Yellowknife Ar**	**46.62**	**40**	P	**P**		**16 12 35.6**	**+0.3**
YKA	**Yellowknife Ar**	**46.62**	**40**	P	**P**		**16 12 35.6**	**+0.3**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BVAR	**Borovoye Array**	**47.42**	**306**	P	**P**		**16 12 41.3**	**-0.2**
	comp=Z,0.8nm,0.5s,mb3.3,baz=67,slow=6.7,SNR=6.2							
BVAR	**Borovoye Array**	**47.42**	**306**	P	**P**		**16 12 41.3**	**-0.2**
BVAR	**Borovoye Array**	**47.42**	**306**	P	**P**		**16 12 41.3**	**-0.2**
BVAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ARCES	**ARCESS Array B**	**52.62**	**339**	P	**P**		**16 13 19.1**	**-0.6**
	comp=Z,7.4nm,1.1s,mb3.8,baz=31,slow=8.9,SNR=3.8							
ARCES	**ARCESS Array B**	**52.62**	**339**	P	**P**		**16 13 19.1**	**-0.6**
ARCES	**ARCESS Array B**	**52.62**	**339**	P	**P**		**16 13 19.1**	**-0.6**
ARCES				pmax	pmax			
	comp=Z,7.0nm,1.1s							
GUN	**Gumba**	**54.63**	**271**	*e*P	**P**		**16 13 34.8**	**+0.1**

GUN	**Gumba**	**54.63**	**271**	*eP*		**P**	**16 13 34.8**	**+0.1**
KKN	**Kakani**	**55.08**	**271**	*eP*		**P**	**16 13 38.1**	**+0.2**
	comp=Z,7.9nm,0.4s,mb4.2							
KKN	**Kakani**	**55.08**	**271**	*eP*		**P**	**16 13 38.1**	**+0.2**
	comp=Z,7.9nm,0.4s,mb4.3							
PKI	**Pulchoki**	**55.16**	**271**	*eP*		**P**	**16 13 38.4**	**0.0**
PKI	**Pulchoki**	**55.16**	**271**	*eP*		**P**	**16 13 38.4**	**0.0**
PKI	**Pulchoki**	**55.16**	**271**	*eP*		**P**	**16 13 38.4**	**0.0**
DMN	**Daman**	**55.32**	**271**	*eP*		**P**	**16 13 39.8**	**+0.3**
DMN	**Daman**	**55.32**	**271**	*eP*		**P**	**16 13 39.8**	**+0.3**
GKN	**Gorkha**	**55.32**	**272**	*eP*		**P**	**16 13 39.4**	**-0.2**
	comp=Z,4.5nm,0.3s,mb4.2							
GKN	**Gorkha**	**55.32**	**272**	*eP*		**P**	**16 13 39.4**	**-0.2**
	comp=Z,4.5nm,0.3s,mb4.4							
KOLN	**Koldanda**	**56.13**	**273**	*eP*		**P**	**16 13 45.1**	**-0.1**
	comp=Z,7.3nm,0.3s,mb4.4							
KOLN	**Koldanda**	**56.13**	**273**	*eP*		**P**	**16 13 45.1**	**-0.1**
	comp=Z,7.3nm,0.3s,mb4.5							
FINES	**FINESS Array B**	**59.02**	**333**	P		**P**	**16 14 03.2**	**-1.3**
	comp=Z,0.6nm,0.5s,mb3.2,baz=39,slow=12,SNR=4.0							
FINES	**FINESS Array B**	**59.02**	**333**	P		**P**	**16 14 03.2**	**-1.3**
FINES	**FINESS Array B**	**59.02**	**333**	P		**P**	**16 14 03.2**	**-1.3**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.5s							
NVAR	**Mina Array Bea**	**60.05**	**65**	P		**P**	**16 14 12.8**	**+0.9**
	comp=Z,0.3nm,0.7s,mb2.8,baz=312,slow=4.7,SNR=3.1							
NVAR	**Mina Array Bea**	**60.05**	**65**	P		**P**	**16 14 12.8**	**+1.0**
PDAR	**Pinedale Array**	**61.63**	**56**	P		**P**	**16 14 22.4**	**+0.1**
	comp=Z,0.6nm,0.6s,mb3.3,baz=317,slow=6.3,SNR=4.7							
PDAR	**Pinedale Array**	**61.63**	**56**	P		**P**	**16 14 22.4**	**+0.1**
TXAR	**Lajitas Array**	**74.89**	**62**	P		**P**	**16 15 43.9**	**+0.4**
	comp=Z,0.4nm,0.6s,mb3.2,baz=303,slow=5.0,SNR=6.7							
TXAR	**Lajitas Array**	**74.89**	**62**	P		**P**	**16 15 43.9**	**+0.4**
TXAR	**Lajitas Array**	**74.89**	**62**	P		**P**	**16 15 43.9**	**+0.4**

NIED ***07*** *16:06:00.38˝.30N×141˝.90E,h59km,Mw3.9 Best double couple: M₀8.39000×10¹⁴ NP1:φ₀164.00000°,δ80.00000°, λ-96.00000°. NP2:φ₀16.00000°,δ12.00000°,λ-59.00000°.*

JMA 07 16:06:53.1±0.1,38°29N×141°37E,h46km±1km,M3.5,7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.44**	**292**	⇓P	Pn	16 07 03.5	+0.1
JIO				S	Sn	16 07 10.7	0.0
OFUJ	**Ofunato**	**0.81**	**349**	⇓P	Pn	16 07 08.1	0.0
OFUJ				*e*S	Sn	16 07 18.8	-0.2
JMK	**Ichinoseki**	**0.83**	**323**	⇓P	Pn	16 07 08.9	+0.4
JMK				S	Sn	16 07 19.6	-0.1
JMM	**Marumori**	**0.95**	**244**	⇓P	Pn	16 07 09.6	-0.4
JOU	**Okura**	**0.95**	**275**	⇓P	Pn	16 07 10.4	+0.4
JOU				S	Sn	16 07 23.1	+0.6
JFK	**Kawauchi**	**1.21**	**221**	P	Pn	16 07 13.2	-0.4
JFK				S	Sn	16 07 27.7	-1.2
JOM	**Ohasama**	**1.26**	**339**	⇓P	Pn	16 07 14.9	+0.6
JOM				*e*S	Sn	16 07 30.7	+0.6
JYS	**Shirataka**	**1.42**	**268**	⇓P	Pn	16 07 16.9	+0.4
JYS				*e*S	Sn	16 07 34.8	+0.8
JFT	**Otama**	**1.44**	**238**	P	Pn	16 07 17.1	+0.4
JFT				S	Sn	16 07 34.8	+0.5

ISCJB ***07*** *16:29:38.6±0.5,5˝.96N±0˝.04×82˝.74W±0˝.04,h10km, mb3.9/10, Error ellipse: s-maj=7.6km s-min=3.7km az=139.4*

IDC ***07*** *16:29:39.4±0.9,5˝.94N×82˝.87W,h0km,mb4.0/10, mb1 4.3/13,mb1mx4.1/25,mbtmp4.1/13,ML3.7/3,MS4.1/1, Ms1 4.1/1,ms1mx3.4/36, Error ellipse: s-maj=29.6km s-min=17.1km az=54.0*

NEIC ***07*** *16:29:40.5±0.5,5˝.98N×82˝.78W,h10km,mb4.4/4, Error ellipse: s-maj=9.9km s-min=8.3km az=51.0*

CASC ***07*** *16:29:40.3±2.3,5˝.99N×82˝.92W,h0km±197km,MD4.3, ML4.1,mb4.4(NEIC)*

ISC 07 16:29:40.6±0.4,5°.96N±0°.04×82°.74W±0°.04,h10km,n72, σ1s09/71,mb3.9/10,2C-1D,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUS	**Buena Vista**	**3.71**	**344**	⇑*e*P	Pn	16 30 38.0	**0.0**
QCR	**Quepos**	**3.72**	**338**	*e*P	Pn	16 30 36.9	-1.2
QCR				*e*S	Sn	16 31 22.4	+0.4
URSC	**Urasca**	**3.98**	**345**	⇑*e*P	Pn	16 30 41.6	-0.2
SJS	**Escuela Geolog**	**4.16**	**342**	*e*P	Pn	16 30 44.5	+0.3
SJS				*e*S	Sn	16 31 35.4	+2.4
PRS1	**Puriscal**	**4.29**	**339**	*e*P	Pn	16 30 44.1	-1.8
BCIP	**Isla Barro Col**	**4.29**	**42**	*e*Pn	Pn	16 30 44.4	-1.6
BCIP				*e*Sn	Sn	16 31 36.2	0.0
CGA2	**Cerro Gallo 2**	**4.38**	**337**	*e*P	Pn	16 30 46.5	-0.6
CGA2				*e*S	Sn	16 31 39.7	+1.5
JCR	**Jicaral**	**4.52**	**329**	⇓*e*P	Pn	16 30 48.3	-0.8
JCR				*e*S	Sn	16 31 41.5	-0.3
JTS	**JuntasAbangare**	**4.83**	**333**	*e*Pn	Pn	16 30 52.4	-1.0
JTS				*e*Sn	Sn	16 31 48.4	-0.9
JTS	**JuntasAbangare**	**4.83**	**333**	*e*P	Pn	16 30 53.1	-0.3
JTS				*e*S	Sn	16 31 50.8	+1.5
CHPA	**Chiripa**	**4.94**	**334**	*i* P	Pn	16 30 54.2	-0.7
CHPA				*i* S	Sn	16 31 53.8	+1.6
VCR	**Vista de Mar**	**5.03**	**325**	*e*P	Pn	16 30 55.6	-0.6
VCR				*e*S	Sn	16 31 53.3	-1.1
PTEN	**Parque Tenorio**	**5.22**	**335**	*i* P	Pn	16 30 59.2	+0.5
CUI	**Cuipilapa**	**5.25**	**333**	*i* P	Pn	16 30 58.5	-0.6
CUI				*i* S	Sn	16 31 58.1	-1.6
COLC	**Colonia**	**5.27**	**333**	*i* P	Pn	16 30 58.9	-0.5
GUAB	**Guayabo de Bag**	**5.32**	**333**	*i* S	Sn	16 32 01.8	+0.3
LIM1	**Limonal**	**5.32**	**332**	*i* P	Pn	16 30 59.5	-0.6
MESS	**Mesas**	**5.33**	**333**	*i* P	Pn	16 30 59.8	-0.6
GPS1	**Guardaparques**	**5.43**	**332**	*i* P	Pn	16 31 02.6	+0.9
LAPC	**Finca la Perla**	**5.47**	**331**	*i* P	Pn	16 31 01.3	-0.9
GBS3	**Finca Las Im¯¡**	**5.49**	**331**	*i* P	Pn	16 31 01.7	-0.8
GB1A	**Boringuen Arri**	**5.50**	**332**	*i* P	Pn	16 31 03.0	+0.4
GBS2	**Las Lilas**	**5.54**	**331**	*i* P	Pn	16 31 03.2	+0.1
CONN	**Concepcion**	**6.25**	**333**	*e*P	Pn	16 31 14.9	+1.9
OTAV	**Otavalo**	**7.12**	**143**	*e*Pn	Pn	16 31 23.3	-1.6
COPN	**Copaltepe**	**7.25**	**329**	*e*P	Pn	16 31 28.9	+2.2
CRIN	**San Cristobal**	**7.93**	**328**	AML	AML	16 33 11.7	
	comp=E,131nm,0.5s						
ROSC	**El Rosal**	**8.44**	**97**	Pn	Pn	**16 31 45.6**	**+2.5**
	comp=E,4.5nm,0.3s,baz=281,slow=7.5,SNR=6.3						
ROSC	**El Rosal**	**8.44**	**97**	Pn	Pn	**16 31 45.6**	**+2.5**
CNCH	**Conchagua**	**8.83**	**326**	*e*P	Pn	**16 31 51.3**	**+2.9**
SDV	**Santo Domingo**	**12.35**	**76**	*e*Pn	Pn	**16 32 36.2**	**-0.4**
MTDJ	**Mount Denham**	**13.20**	**22**	Pn	Pn	**16 32 47.3**	**-1.0**
ATAH	**Atahualpa**	**13.71**	**162**	Pn	Pn	**16 32 55.4**	**+0.1**
	comp=E,0.4nm,0.3s,baz=318,slow=15,SNR=2.6						
CMIG	**Matias Romero**	**16.23**	**314**	Pn	Pn	**16 33 32.9**	**+4.0**
	comp=E,0.5nm,0.3s,baz=100,slow=12,SNR=6.4						
CMIG				LR	LR	16 39 07.3	
	comp=E,678nm,21.1s,baz=177,slow=35						
CMIG	**Matias Romero**	**16.23**	**314**	Pn	Pn	**16 33 32.9**	**+4.0**
CMIG				LR	LR	16 39 07.3	
SDDR	**Presa de Saban**	**17.09**	**40**	*e*P	Pn	**16 33 40.8**	**+1.1**
	comp=E,108nm,1.6s						
NNA	**Nana**	**18.77**	**162**	P	Pn	**16 34 01.0**	**+0.5**
	comp=E,1.2nm,0.3s,baz=350,slow=7.7,SNR=5.3						
NNA	**Nana**	**18.77**	**162**	P	Pn	**16 34 01.0**	**+0.5**
CRPR	**Cabo Rojo, PR**	**19.39**	**51**	*e*P	Pn	**16 34 07.5**	**-0.6**
	comp=E,18nm,1.3s						
CELP	**Cerrillos**	**19.84**	**51**	*e*P	Pn	**16 34 12.7**	**-0.7**
SJG	**San Juan**	**20.20**	**52**	P	P	**16 34 16.6**	**+0.9**
	comp=E,9.6nm,0.4s,baz=322,slow=22,SNR=7.4						
SJG	**San Juan**	**20.20**	**52**	P	P	**16 34 16.6**	**+0.9**
MTP	**Monte Pirata**	**20.66**	**53**	*e*P	P	**16 34 19.8**	**-0.9**
	comp=E,50nm,1.4s						
LPAZ	**La Paz**	**26.41**	**147**	P	P	**16 35 18.0**	**+0.4**
	comp=E,3.2nm,0.9s,mb3.8,baz=303,slow=9.8,SNR=4.6						
LPAZ	**La Paz**	**26.41**	**147**	P	P	**16 35 18.0**	**+0.4**
TXAR	**Lajitas Array**	**30.51**	**322**	P	P	**16 35 53.8**	**-0.4**
	comp=E,0.8nm,0.9s,mb3.5,baz=137,slow=8.0,SNR=2.9						
TXAR	**Lajitas Array**	**30.51**	**322**	P	P	**16 35 53.8**	**-0.4**
ANMO	**Albuquerque**	**36.21**	**326**	P	P	**16 36 42.9**	**-0.8**
	comp=E,1.8nm,0.8s,mb4.0						
PDAR	**Pinedale Array**	**43.66**	**331**	P	P	**16 37 46.6**	**+1.2**
	comp=E,1.5nm,1.1s,mb3.6,baz=108,slow=8.6,SNR=5.1						
PDAR	**Pinedale Array**	**43.66**	**331**	P	P	**16 37 46.6**	**+1.2**
ULM	**Lac du Bonnet**	**45.49**	**348**	P	P	**16 37 58.6**	**-1.4**
	comp=E,3.2nm,0.5s,mb4.4,baz=135,slow=7.4,SNR=5.6						
ULM	**Lac du Bonnet**	**45.49**	**348**	P	P	**16 37 58.6**	**-1.4**
NVAR	**Mina Array Bea**	**45.62**	**320**	P	P	**16 38 01.8**	**+0.5**
	comp=E,0.3nm,0.3s,mb3.7,baz=101,slow=4.7,SNR=5.5						
NVAR	**Mina Array Bea**	**45.62**	**320**	P	P	**16 38 01.8**	**+0.5**
RES	**Resolute Bay**	**69.03**	**357**	P	P	**16 40 45.8**	**-0.2**
	comp=E,3.6nm,0.9s,mb4.3,baz=81,slow=2.8,SNR=2.8						
RES	**Resolute Bay**	**69.03**	**357**	P	P	**16 40 45.8**	**-0.2**
ILAR	**Eielson Array**	**73.79**	**336**	P	P	**16 41 15.2**	**+0.3**
	comp=E,0.6nm,0.7s,mb3.6,baz=117,slow=4.6,SNR=13						
ILAR	**Eielson Array**	**73.79**	**336**	P	P	**16 41 15.2**	**+0.3**
ESDC	**Sonseca Array**	**77.58**	**51**	P	P	**16 41 39.7**	**+2.5**
	comp=E,0.4nm,0.3s,mb3.8,baz=293,slow=6.8,SNR=5.5						
ESDC	**Sonseca Array**	**77.58**	**51**	P	P	**16 41 39.7**	**+2.5**
TORD	**Torodi Ar. Bea**	**83.26**	**77**	P	P	**16 42 09.8**	**+1.6**
SONM	**Songino Array**	**125.83**	**352**	PKP	PKPdf	16 48 46.2	+3.3
	comp=E,0.5nm,0.8s,baz=314,slow=1.4,SNR=3.9						
SONM	**Songino Array**	**125.83**	**352**	PKP	PKPdf	16 48 46.2	+3.3
ASAR	**Alice Springs**	**140.62**	**240**	PKP	PKPdf	16 49 11.6	+0.3
	comp=E,0.6nm,0.8s,baz=97,slow=1.9,SNR=4.9						
ASAR	**Alice Springs**	**140.62**	**240**	PKP	PKPdf	16 49 11.6	+0.3
WRA	**Warramunga Arr**	**141.40**	**245**	PKP	PKPdf	16 49 11.9	-0.9
	comp=E,0.5nm,0.7s,baz=101,slow=1.8,SNR=7.2						
WRA	**Warramunga Arr**	**141.40**	**245**	PKP	PKPdf	16 49 11.9	-0.9
FITZ	**Fitzroy Crossi**	**149.79**	**244**	PKPbc	PKPbc	16 49 32.3	+0.4
	comp=E,1.6nm,0.8s,baz=146,slow=7.3,SNR=3.4						
FITZ	**Fitzroy Crossi**	**149.79**	**244**	PKPbc	PKPbc	16 49 32.3	+0.4
CMAR	**Chiang Mai Arr**	**155.68**	**356**	PKPbc	PKPdf	16 49 42.1	+6.3
	comp=E,0.7nm,1.0s,baz=318,slow=1.2,SNR=3.4						
CMAR	**Chiang Mai Arr**	**155.68**	**356**	PKPbc	PKPdf	16 49 42.1	+6.3

IDC 07 16:42:00.9±1.6,56°.10N×165°.99E,h0km,mb3.4/5, mb1 3.7/5,mb1mx3.4/27,mbtmp3.4/5,Error ellipse: s-maj=60.5km s-min=23.1km az=173.0,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILAR	**Eielson Array**	**24.25**	**50**	P	P	16 47 19.1	+0.1
	0.5nm,0.7s,baz=270,slow=9.2,SNR=6.8						
KURK	**Kurchatov**	**49.03**	**303**	P	P	16 50 49.4	+0.4
	0.5nm,0.5s,baz=56,slow=7.8,SNR=4.1						
BVAR	**Borovoye Array**	**51.17**	**309**	P	P	16 51 05.8	+0.6
	0.5nm,0.5s,baz=64,slow=6.6,SNR=2.9						
CMAR	**Chiang Mai Arr**	**62.09**	**262**	P	P	16 52 23.1	-0.2
	0.4nm,0.6s,baz=20,slow=7.4,SNR=3.6						
TXAR	**Lajitas Array**	**66.37**	**72**	P	P	16 52 51.5	+0.2
	0.1nm,0.6s,baz=319,slow=9.5,SNR=2.9						

IDC ***07*** *16:47:00.9±0.7,6°.70S×129°.65E,h0km,mb4.2/11, mb1 4.3/13,mb1mx4.3/18,mbtmp4.2/13,ML4.0/2,Error ellipse: s-maj=30.3km s-min=15.0km az=76.0*

NEIC ***07*** *16:47:01.8±0.5,6°.82S×129°.46E,h10km,mb4.7/6,Error ellipse: s-maj=14.4km s-min=7.1km az=61.0*

ISCJB ***07*** *16:47:02.6±0.3,6°.86S±0°.04×129°.43E±0°.05,h33km, mb4.3/15,Error ellipse: s-maj=8.5km s-min=4.2km az=151.1*

DJA ***07*** *16:47:04,6°.62S×129°.78E,h103km,mb4.7/12*

ISC 07 16:47:04.9±0.4,6°.84S±0°.04×129°.49E±0°.06,h35km,n68, σ1s27/75,mb4.3/15,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.34**	**10**	P	Pn	**16 47 38.0**	**-2.9**
AAI	**Ambon**	**3.39**	**338**	P	Pn	**16 47 50.5**	**-4.8**
MSAI	**Masohi**	**3.52**	**351**	P	Pn	**16 47 55.5**	**-1.6**
NLAI	**Namlea**	**4.30**	**326**	P	Pn	**16 48 07.0**	**-0.8**
KAKA	**Kakadu**	**6.52**	**154**	*e*P	Pn	**16 48 42.5**	**+4.1**
	29nm,0.6s						
KAKA				*e*S	Sn	**16 49 58.9**	**+7.4**
KAKA	**Kakadu**	**6.52**	**154**	*e*Pn	Pn	**16 48 41.2**	**+2.8**
	94nm,0.7s						
KAKA				*e*Sn	Sn	**16 49 52.8**	**+1.3**
BBSI	**Bau Bau**	**7.00**	**281**	P	Pn	**16 48 44.4**	**-0.7**
	129nm,0.9s						
MMRI	**Maumere**	**7.40**	**256**	P	Pn	**16 48 52.7**	**+2.2**
	188nm,1.2s						
TNTI	**Ternate**	**7.85**	**344**	P	Pn	**16 48 55.6**	**-1.1**
	52nm,1.0s						
KMSI	**Cibinong**	**9.19**	**323**	P	Pn	**16 49 14.8**	**-0.2**
BKSI	**Bulukumba**	**9.43**	**279**	P	Pn	**16 49 17.7**	**-0.7**
	82nm,1.0s						
BNSI	**Bone**	**9.64**	**284**	P	Pn	**16 49 20.7**	**-0.6**
	80nm,1.0s						
KAPI	**Kappang**	**9.85**	**280**	*e*Pn	Pn	**16 49 22.4**	**-1.7**
	41nm,0.8s						
KAPI	**Kappang**	**9.85**	**280**	P	Pn	**16 49 23.1**	**-1.0**
	57nm,0.8s						
SPSI	**Sidrap Palu**	**10.09**	**286**	P	Pn	**16 49 26.3**	**-1.0**
	31nm,0.9s						
TTSI	**Tana Toraja**	**10.34**	**291**	P	Pn	**16 49 33.8**	**+3.0**
	26nm,1.2s						
MRSI	**Marisa**	**10.47**	**314**	P	Pn	**16 49 32.7**	**+0.1**
	31nm,0.9s						
FITZ	**Fitzroy Crossi**	**11.80**	**198**	Pn	Pn	**16 49 49.3**	**-1.5**
	1.1nm,0.3s,baz=21,slow=11,SNR=28						
FITZ				Sn	Sn	**16 51 56.7**	**-4.7**
	1.5nm,0.3s,baz=94,slow=14,SNR=7.9						
FITZ	**Fitzroy Crossi**	**11.80**	**198**	*e*P	Pn	**16 49 49.7**	**-1.1**
	16nm,0.7s						
FITZ				*e*S	Sn	**16 51 57.5**	**-3.9**
FITZ	**Fitzroy Crossi**	**11.80**	**198**	Pn	Pn	**16 49 49.3**	**-1.5**
FITZ				Sn	Sn	**16 51 56.7**	**-4.7**
FITZ	**Fitzroy Crossi**	**11.80**	**198**	P	Pn	**16 49 49.1**	**-1.7**
	15nm,1.6s						
MTNI	**Maram**	**13.31**	**261**	P	Pn	**16 50 17.2**	**+5.7**
	28nm,1.1s						
KBKI	**Kotabaru**	**13.72**	**284**	P	Pn	**16 50 21.0**	**+3.9**
WRAB	**Tennant Creek**	**13.84**	**161**	*e*Pn	Pn	**16 50 17.6**	**-1.1**
WRAB	**Tennant Creek**	**13.84**	**161**	P	Pn	**16 50 17.6**	**-1.1**
WRA	**Warramunga Arr**	**13.85**	**161**	Pn	Pn	**16 50 18.1**	**-0.7**
	0.9nm,0.3s,baz=336,slow=13,SNR=36						
WRA				Sn	Sn	**16 52 47.8**	**-3.6**
	0.8nm,0.3s,baz=334,slow=21,SNR=6.6						
WRA	**Warramunga Arr**	**13.85**	**161**	Pn	Pn	**16 50 18.1**	**-0.7**
WRA				Sn	Sn	**16 52 47.8**	**-3.6**
WB2	**Warramunga Arr**	**13.85**	**161**	*e*Pn	Pn	**16 50 17.4**	**-1.4**
WB2				*e*Sn	Sn	**16 52 37.5**	**-14**
COEN	**Coen**	**15.20**	**119**	*e*Pn	Pn	**16 50 37.9**	**+0.9**
	67nm,0.7s						
COEN				*e*Sn	Sn	**16 53 17.7**	**-6.7**
ASAR	**Alice Springs**	**17.26**	**166**	Pn	Pn	**16 51 02.9**	**-0.3**
	0.3nm,0.3s,baz=341,slow=13,SNR=23						
ASAR				Sn	Sn	**16 54 10.5**	**-3.8**
	0.2nm,0.3s,baz=354,slow=25,SNR=5.2						
ASAR	**Alice Springs**	**17.26**	**166**	Pn	Pn	**16 51 02.9**	**-0.3**
ASAR				Sn	Sn	**16 54 10.5**	**-3.8**
PMG	**Port Moresby**	**17.68**	**99**	P	Pn	**16 51 13.0**	**+4.5**
	0.7nm,0.3s,baz=331,slow=5.2,SNR=7.8						
PMG	**Port Moresby**	**17.68**	**99**	P	Pn	**16 51 13.0**	**+4.5**
CTA	**Charters Tower**	**20.93**	**131**	P	P	**16 51 50.5**	**+5.8**
	7.1nm,0.9s,baz=300,slow=14,SNR=4.6						
CTA	**Charters Tower**	**20.93**	**131**	*e*P	P	**16 51 50.5**	**+5.8**
	4.6nm,1.0s						
CTA	**Charters Tower**	**20.93**	**131**	P	P	**16 51 50.5**	**+5.8**
CTAO	**Charters Tower**	**20.93**	**131**	*e*P	P	**16 51 43.3**	**-1.4**
	8.3nm,0.9s						
KLBR	**Kellerberrin**	**26.95**	**203**	*e*P	P	**16 52 47.9**	**+4.7**
	34nm,1.1s,mb4.8						
STKA	**Stephens Creek**	**27.35**	**157**	P	P	**16 52 48.4**	**+1.6**
	6.4nm,1.0s,mb4.1,baz=328,slow=15,SNR=5.1						
STKA	**Stephens Creek**	**27.35**	**157**	*e*P	P	**16 52 48.4**	**+1.6**
	5.8nm,1.0s,mb4.1						
STKA	**Stephens Creek**	**27.35**	**157**	P	P	**16 52 48.4**	**+1.6**
NWAO	**Narrogin (SRO)**	**28.34**	**202**	P	P	**16 52 58.4**	**+2.8**
	11nm,0.8s,mb4.5,baz=16,slow=7.4,SNR=4.1						
NWAO	**Narrogin (SRO)**	**28.34**	**202**	*e*P	P	**16 52 57.4**	**+1.8**
	24nm,1.1s,mb4.7						
NWAO				P		16 52 58.4	
PSI	**Prapat**	**31.97**	**286**	P	P	**16 53 30.1**	**+2.2**
	5.0nm,0.4s,mb4.7,baz=149,slow=7.2,SNR=4.9						
PSI	**Prapat**	**31.97**	**286**	P	P	**16 53 30.1**	**+2.2**
CMAR	**Chiang Mai Arr**	**39.24**	**310**	P	P	**16 54 30.8**	**+0.6**
	2.5nm,0.9s,mb4.0,baz=127,slow=8.3,SNR=16						
CMAR	**Chiang Mai Arr**	**39.24**	**310**	P	P	**16 54 30.9**	**+0.6**
CHTO	**Chiang Mai**	**39.45**	**311**	*e*P	P	**16 54 31.2**	**-0.8**
	6.1nm,0.9s,mb4.3						
CHTO				*e*		16 54 37.3	
MJAR	**Matsushiro Arr**	**43.92**	**10**	P	P	**16 55 08.2**	**-0.1**
	5.3nm,0.9s,mb4.3,baz=194,slow=12,SNR=7.8						
MJAR	**Matsushiro Arr**	**43.92**	**10**	P	P	**16 55 08.2**	**-0.1**
KSRS	**Korea Array**	**44.09**	**358**	P	P	**16 55 10.4**	**+0.8**
	1.1nm,0.5s,mb3.8,baz=168,slow=7.9,SNR=6.4						
LSA	**Lhasa**	**51.73**	**317**	*e*P	P	**16 56 09.6**	**+0.6**
	6.0nm,0.9s,mb4.5						
SONM	**Songino Array**	**58.13**	**342**	P	P	**16 56 56.0**	**+1.1**
	2.3nm,0.9s,mb4.2,baz=168,slow=8.8,SNR=13						
SONM	**Songino Array**	**58.13**	**342**	P	P	**16 56 56.0**	**+1.1**
MKAR	**Makanchi Array**	**67.81**	**327**	P	P	**16 58 00.7**	**+1.3**
	1.7nm,0.6s,mb4.3,baz=68,slow=6.3,SNR=2.3						
MKAR	**Makanchi Array**	**67.81**	**327**	P	P	**16 58 00.7**	**+1.3**
YAK	**Yakutsk**	**68.67**	**0**	*e*P	P	**16 58 05.3**	**+1.0**
	20nm,0.7s,mb5.2						
ZAA0	**Zalesovo Array**	**71.22**	**334**	*e*P	P	**16 58 19.9**	**-0.3**
ZALV	**Zalesovo Beam**	**71.22**	**334**	P	P	**16 58 20.6**	**+0.4**
	1.5nm,0.8s,mb4.0,baz=113,slow=1.9,SNR=7.1						
ZALV	**Zalesovo Beam**	**71.22**	**334**	P	P	**16 58 20.6**	**+0.4**
MAW	**Mawson**	**74.91**	**201**	P	P	**16 58 45.5**	**+3.6**
	1.9nm,0.9s,mb4.0,baz=33,slow=8.2,SNR=4.1						
MAW	**Mawson**	**74.91**	**201**	P	P	**16 58 45.5**	**+3.6**
ILAR	**Eielson Array**	**93.42**	**25**	P	P	**17 00 16.3**	**0.0**
	0.5nm,0.9s,mb4.0,baz=272,slow=6.0,SNR=3.6						
ILAR	**Eielson Array**	**93.42**	**25**	P	P	**17 00 16.3**	**0.0**
CPUP	**Villa Florida**	**146.37**	**169**	PKPbc	PKPbc	17 06 46.0	+3.2
	0.4nm,0.4s,baz=220,slow=7.3,SNR=4.6						
CPUP	**Villa Florida**	**146.37**	**169**	PKPbc	PKPbc	17 06 46.0	+3.2
LPAZ	**La Paz**	**151.15**	**143**	PKPbc	PKPbc	17 06 57.6	+2.2
	1.1nm,0.8s,baz=256,slow=4.2,SNR=3.2						
LPAZ				PKPab	PKPab	17 07 04.5	+1.4
	3.7nm,1.1s,baz=126,slow=3.5,SNR=5.3						
LPAZ	**La Paz**	**151.15**	**143**	PKPbc	PKPbc	17 06 57.6	+2.2
LPAZ				PKPab	PKPab	17 07 04.5	+1.4

JMA 07 16:52:26.3±0.3,29°.34N×139°.95E,h472km±5km,M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.98**	**138**	P	P	16 53 35.3	+0.3
CBIJ				*e*S	S	16 54 30.8	+0.1
JHHJ	**Haha-jima-NKT**	**3.34**	**143**	P	P	16 53 38.0	+0.4
JHHJ				*e*S	S	16 54 34.3	-1.2
JHJ2	**Mitsune**	**3.76**	**358**	*e*S	S	16 54 41.5	0.0
BSO1	**Boso 1**	**5.37**	**9**	*e*S	S	16 55 07.7	0.0
BSO3	**Boso 3**	**5.47**	**5**	*e*S	S	16 55 07.9	-1.6
JIE	**Ise**	**5.74**	**332**	P	P	16 53 59.9	+1.2
HMMJ	**Hamamatsu 2**	**5.81**	**342**	P	P	16 54 00.1	+0.6
JOD2	**Odawara 2**	**5.95**	**353**	P	P	16 54 02.1	+1.3
JOD2				*e*S	S	16 55 17.4	-0.7
JNY	**Yasuok**	**6.25**	**344**	P	P	16 54 04.7	+0.9
JRY	**Ryogami san**	**6.72**	**353**	P	P	16 54 09.4	+0.9
JYT	**Yasato**	**6.87**	**2**	P	P	16 54 11.3	+1.2
JYT				S	S	16 55 32.6	-2.6
JAG	**Ashikaga**	**7.08**	**357**	P	P	16 54 12.6	+0.4
JHO	**Hitachi**	**7.27**	**4**	P	P	16 54 16.2	+2.0
JHO				S	S	16 55 40.0	-2.8

BJI ***07*** *16:54:10.0,36°.59N×70°.59E,h201km,mb4.4/9*

MOS ***07*** *16:54:12.5±0.8,36°.53N×70°.92E,h221km,mb4.3/24, Error ellipse: s-maj=10.6km s

BHGR Bahadurgarh 9.33 145 *e*PKP **Pn** 16 56 22.8 -0.7
KHET Khetri 9.40 152 *e*PKP **Pn** 16 56 23.5 -0.8
KHET *e*S **S** 16 58 02.2 -7.6
NDI New Delhi 9.47 144 *e*PKP **Pn** 16 56 23.3 -1.9
NDI *ex* x 16 58 01.8
AYAN Aya Nagar 9.59 145 *e*PKP **Pn** 16 56 26.5 -0.3
KUDL Kundal 9.61 149 *e*PKP **Pn** 16 56 26.0 -1.0
KUDL *e*S **S** 16 58 07.0 -7.7
AJM Ajmer 10.52 161 *e*PKP **Pn** 16 56 37.0 -1.7
AJM *ex* x 16 58 30.0
AGRA Agra 11.04 145 *e*PKP **Pn** 16 56 44.6 -0.8
AGRA *e*S **S** 16 58 39.5 -9.2
AGRA AML AML 16 58 57.0
comp=E,71nm,0.4s
AGRA AML AML 16 58 58.0
comp=N,86nm,0.5s
MK31 Makanchi Array 13.31 36 ⇓P **Pn** 16 57 14.4 +0.6
comp=N,11nm,0.8s,baz=223,slow=19,SNR=13
MK31 Makanchi Array 13.31 36 *e*Pn **Pn** 16 57 13.4 -0.3
MK31 Makanchi Array 13.31 36 P **Pn** 16 57 14.7 +0.9
MK31 pmax pmax
comp=Z,2.0nm,0.3s
MKAR Makanchi Array 13.31 36 P **Pn** 16 57 13.9 +0.1
comp=Z,1.2nm,0.3s,baz=217,slow=11,SNR=30
MKAR S **S** 16 59 42.6 +0.6
baz=78,slow=19,SNR=1.1
MKAR Makanchi Array 13.31 36 P **Pn** 16 57 13.8 +0.1
MKAR S **S** 16 59 42.6 +0.6
MKAR Makanchi Array 13.31 36 P **Pn** 16 57 13.9 +0.1
MKAR S **S** 16 59 42.6 +0.7
MKAR pmax pmax
comp=Z,1.0nm,0.3s
DANN Dangsing 13.58 123 *e*P **Pn** 16 57 16.8 -0.5
comp=E,58nm,0.4s
DANN *e*S **S** 16 59 41.6 -6.8
DANN Dangsing 13.58 123 *e*P **Pn** 16 57 16.8 -0.5
comp=E,58nm,0.4s
DANN *e*S **S** 16 59 41.6 -6.8
KOLN Koldanda 13.85 126 *e*P **Pn** 16 57 20.0 -0.7
comp=Z,48nm,0.3s
KOLN Koldanda 13.85 126 *e*P **Pn** 16 57 20.0 -0.7
comp=Z,48nm,0.3s
GKN Gorkha 14.39 122 *e*P **Pn** 16 57 27.6 +0.3
comp=Z,103nm,0.4s
GKN Gorkha 14.39 122 *e*P **Pn** 16 57 27.6 +0.3
comp=Z,103nm,0.4s
BHPL Bhopal 14.40 155 *e*PKP **Pn** 16 57 29.7 +2.3
WMQ Urumqi 14.75 55 P **Pn** 16 57 32.0 +0.5
DMN Daman 14.96 122 *e*P **Pn** 16 57 34.3 0.0
comp=Z,82nm,0.5s
DMN Daman 14.96 122 *e*P **Pn** 16 57 34.3 0.0
comp=Z,82nm,0.5s
KKN Kakani 14.97 122 *e*P **Pn** 16 57 34.1 -0.2
comp=Z,102nm,0.5s
KKN Kakani 14.97 122 *e*P **Pn** 16 57 34.1 -0.2
comp=Z,102nm,0.5s
KKN Kakani 14.97 122 *e*P **Pn** 16 57 34.1 -0.2
KKN pmax pmax
comp=Z,102nm,0.5s
AB31 Akbulak array 15.02 331 P **Pn** 16 57 33.1 -1.6
comp=Z,4.2nm,0.6s,baz=144,slow=12,SNR=96
ABKAR Akbulak array 15.02 331 *e*Pn **Pn** 16 57 32.9 -1.8
comp=Z,5.2nm,0.5s
ABKAR *e*S **S** 17 00 15.1 -6.0
KURBB Kurchatov Arra 15.12 19 ⇑P **Pn** 16 57 34.4 -1.5
comp=Z,2.5nm,0.9s
PKIN Phulchoki 15.18 122 *e*P **Pn** 16 57 37.1 +0.2
comp=Z,144nm,0.5s
PKI Pulchoki 15.19 122 *e*P **Pn** 16 57 37.4 +0.3
comp=Z,150nm,0.6s
PKI Pulchoki 15.19 122 *e*P **Pn** 16 57 37.4 +0.3
comp=Z,150nm,0.6s
PKI Pulchoki 15.19 122 *e*P **Pn** 16 57 37.4 +0.3
PKI pmax pmax
comp=Z,150nm,0.6s
KURK Kurchatov 15.23 19 ⇑P **Pn** 16 57 36.5 -0.7
comp=Z,8.5nm,0.8s
KURK Kurchatov 15.23 19 P **Pn** 16 57 34.6 -2.6
comp=Z,0.4nm,0.3s,baz=210,slow=10,SNR=58
KURK Kurchatov 15.23 19 P **Pn** 16 57 34.6 -2.6
KURK Kurchatov 15.23 19⇑ *e*P **Pn** 16 57 36.3 -0.9
KURK pmax pmax
comp=Z,15nm,1.2s
GUN Gumba 15.31 120 *e*P **Pn** 16 57 39.2 +0.8
GUN Gumba 15.31 120 *e*P **Pn** 16 57 39.2 +0.8
VOSK Vostochnaya 16.19 0 ⇑P **P** 16 57 49.0 +1.0
comp=Z,13nm,1.1s
VOSK Vostochnaya 16.19 0 P **P** 16 57 48.8 +0.8
VOSK pmax pmax
comp=Z,9.0nm,0.9s
ZRNK Zerenda 16.47 356 ⇑P **P** 16 57 51.6 +0.5
comp=Z,7.5nm,0.7s
BVA0 Borovoye Array 16.50 359 ⇑P **P** 16 57 52.4 +1.0
comp=Z,1.0nm,0.8s,baz=177,slow=15,SNR=31
BVAR Borovoye Array 16.50 359 P **P** 16 57 52.0 +0.6
comp=Z,1.2nm,0.3s,baz=161,slow=9.4,SNR=24
BVAR S **S** 17 00 53.0 +0.2
baz=171,slow=20,SNR=6.8
BVAR Borovoye Array 16.50 359 P **P** 16 57 52.0 +0.6
BVAR S **S** 17 00 53.0 +0.2
BVAR Borovoye Array 16.50 359 P **P** 16 57 52.0 +0.6
BVAR S **S** 17 00 53.0 +0.1
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BRVK Borovoye 16.53 359 *e*P **P** 16 57 52.2 +0.4
comp=Z,8.2nm,0.7s
BRVK *e*S **S** 17 00 50.2 -3.4
BRVK Borovoye 16.53 359⇑ *e*P **P** 16 57 52.2 +0.5
BRVK pmax pmax
comp=Z,19nm,1.2s
AKTK Aktyubinsk 16.71 330 P **P** 16 57 54.6 +0.8
AKTK S **S** 17 00 54.6 -2.6
AKTO Aktyubinsk 16.71 330 ⇓P **P** 16 57 54.3 +0.6
comp=Z,2.6nm,0.6s
AKTO Aktyubinsk 16.71 330 P **P** 16 57 54.6 +0.8
comp=Z,1.9nm,0.3s,baz=137,slow=10.0,SNR=61
AKTO S **S** 17 00 54.6 -2.6
comp=Z,0.1nm,0.3s,baz=17,slow=17,SNR=2.2
AKTO Aktyubinsk 16.71 330 P **P** 16 57 54.6 +0.8
AKTO S **S** 17 00 54.7 -2.6
AKTO pmax pmax
comp=Z,2.0nm,0.3s
TAPN Taplejung 16.93 118 *e*P **P** 16 57 59.3 +2.8
comp=Z,53nm,0.3s
TAPN Taplejung 16.93 118 *e*P **P** 16 57 59.3 +2.8
comp=Z,53nm,0.3s
ODAN Odare 17.01 120 *e*P **P** 16 57 59.7 +2.4
comp=Z,96nm,0.6s
ODAN Odare 17.01 120 *e*P **P** 16 57 59.7 +2.4
comp=Z,96nm,0.6s
LSA Lhasa 18.27 106 P **P** 16 58 14.7 +3.7
LSA Lhasa 18.27 106 *e*P **P** 16 58 14.6 +3.6
comp=Z,16nm,0.6s
LSA *e*S **S** 17 01 32.3 +3.5
LSA Lhasa 18.27 106 *e*P **P** 16 58 14.6 +3.6
LSA *e*S **S** 17 01 32.3 +3.5
LSA pmax pmax
comp=Z,16nm,0.6s
ZAA0 Zalesovo Array 19.92 25 *e*P **P** 16 58 28.3 -0.1
ZALV Zalesovo Beam 19.92 25 P **P** 16 58 28.2 -0.2
comp=Z,4.9nm,0.3s,baz=218,slow=11,SNR=94
ZALV S **S** 17 01 58.8 -1.9
comp=Z,0.2nm,0.3s,baz=214,slow=20,SNR=3.0
ZALV Zalesovo Beam 19.92 25 P **P** 16 58 28.2 -0.2
ZALV S **S** 17 01 58.8 -1.9
ZALV Zalesovo Beam 19.92 25 P **P** 16 58 28.3 -0.2
ZALV S **S** 17 01 58.8 -1.9
ZALV pmax pmax
comp=Z,5.0nm,0.3s
NVS Novosibirsk 20.18 21 *e*P **P** 16 58 30.6 -0.6
NVS *i* S **S** 17 02 02.6 -3.1
NVS pmax pmax
comp=N,8.0nm,0.5s
NVS pmax pmax
comp=Z,30nm,0.5s
NVS pmax pmax
comp=E,5.0nm,0.6s
NVS smax
comp=N,8.0nm,0.8s
NVS smax
comp=E,28nm,1.3s
HYB Hyderabad 20.21 158 *i* P **P** 16 58 35.0 +3.1
MIB Mutribah 20.80 258 *e*P **P** 16 58 36.0 -2.1
MIB AMb AMB 16 58 40.9
comp=Z,36nm,0.8s

GNI Garni 20.80 288 *e*P **P** 16 58 40.2 +2.1
comp=Z,28nm,1.1s
GNI Garni 20.80 288 *e*P **P** 16 58 40.2 +2.2
GNI pmax pmax
comp=Z,28nm,1.1s
NAY Al-Naaiem 21.12 257 *e*P **P** 16 58 39.3 -2.1
NAY AMb AMB 16 58 43.3
comp=Z,19nm,0.7s,mb4.7
RST Umm Al-Ruwaisa 21.20 258 *e*P **P** 16 58 40.2 -2.1
RST AMb AMB 16 58 43.0
comp=Z,7.6nm,0.8s,mb4.3
SVE Sverdlovsk 21.44 344 *e*P **P** 16 58 44.6 +0.1
ARU Arti 21.57 341*c i*P **P** 16 58 46.0 +0.1
ARU 16 59 20.5
ARU S **S** 17 02 33.4 +3.3
ARU pmax pmax
comp=Z,23nm,1.7s,mb4.4
ZEI Tsey 21.65 295 *e*P **P** 16 58 52.2 +5.3
ZEI pmax pmax
comp=Z,6.0nm,0.9s,mb4.1
GTA Gaotai 22.94 74 *e*P **P** 16 59 00.5 +1.8
GTA pmax pmax
comp=Z,8.0nm,1.0s,mb4.2
ANN Anapa 26.55 299 *e*P **P** 16 59 33.4 +2.2
ANN pmax pmax
comp=Z,109nm,1.9s,mb5.2
SONM Songino Array 28.39 55 P **P** 16 59 49.1 +1.6
comp=Z,3.2nm,0.8s,mb4.0,baz=258,slow=9.9,SNR=20
SONM pP pP 17 00 34.3 +4.5
comp=Z,0.9nm,0.9s,baz=270,slow=10,SNR=2.0
SONM Songino Array 28.39 55 P **P** 16 59 49.1 +1.6
SONM pP pP 17 00 34.3 +4.5
SONM Songino Array 28.39 55 P **P** 16 59 49.1 +1.6
SONM *PP pP 17 00 34.3 +4.4
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM pmax pmax
comp=Z,1.0nm,0.9s
MMAI Mount Meron Ar 29.26 274 PcP PcP 17 02 57.1 +0.4
comp=Z,2.6nm,0.8s,baz=57,slow=3.1,SNR=4.6
BRTR Keskin Array B 29.34 288 P **P** 16 59 55.8 -0.3
comp=Z,0.7nm,0.6s,mb3.5,baz=96,slow=9.3,SNR=3.3
BRTR pP pP 17 00 41.4 +2.8
comp=Z,1.1nm,0.6s,baz=118,slow=10,SNR=3.9
BRTR PcP PcP 17 02 56.9 0.0
comp=Z,0.6nm,0.5s,baz=94,slow=5.8,SNR=3.4
BRTR Keskin Array B 29.34 288 P **P** 16 59 55.8 -0.3
BRTR pP pP 17 00 41.4 +2.8
BRTR PcP PcP 17 02 56.9 0.0
BRTR Keskin Array B 29.34 288 P **P** 16 59 55.8 -0.3
BRTR *PP pP 17 00 41.4 +2.8
BRTR 17 02 56.9
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR pmax pmax
comp=Z,1.0nm,0.5s
CMAR Chiang Mai Arr 30.54 119 P **P** 17 00 08.2 +1.3
comp=Z,1.9nm,0.8s,mb3.8,baz=302,slow=7.9,SNR=15
CMAR pP pP 17 00 52.5 +3.0
comp=Z,0.8nm,0.8s,baz=316,slow=10,SNR=2.3
CMAR Chiang Mai Arr 30.54 119 P **P** 17 00 08.2 +1.3
CMAR pP pP 17 00 52.5 +3.0
CMAR Chiang Mai Arr 30.54 119 P **P** 17 00 08.2 +1.4
CMAR *PP pP 17 00 52.5 +3.0
CMAR pmax pmax
comp=Z,2.0nm,0.9s
CMAR pmax pmax
comp=Z,1.0nm,0.8s
AKASG Malin Array Be 32.86 309 P **P** 17 00 27.5 +0.8
comp=Z,0.3nm,0.3s,mb3.4,baz=108,slow=9.2,SNR=3.1
AKASG pP pP 17 01 12.3 +2.7
comp=Z,1.2nm,0.6s,baz=79,slow=7.9,SNR=3.0
AKASG sP sP 17 01 35.1 +1.2
comp=Z,1.5nm,0.7s,baz=104,slow=7.7,SNR=1.9
AKASG Malin Array Be 32.86 309 P **P** 17 00 27.5 +0.8
AKASG pP pP 17 01 12.3 +2.7
AKASG sP sP 17 01 35.1 +1.2
AKASG Malin Array Be 32.86 309 P **P** 17 00 27.5 +0.8
AKASG *PP pP 17 01 12.4 +2.8
AKASG *SP sP 17 01 35.1 +1.2
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG pmax pmax
comp=Z,2.0nm,0.7s
BOD Bodaibo 35.38 39 *e*P **P** 17 00 48.6 +0.4
BOD pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
FINES FINESS Array B 37.41 326 P **P** 17 01 05.7 +0.4
comp=Z,4.5nm,0.7s,mb4.1,baz=119,slow=11,SNR=8.0
FINES FINESS Array B 37.41 326 P **P** 17 01 05.7 +0.4
FINES FINESS Array B 37.41 326 P **P** 17 01 05.7 +0.3
FINES pmax pmax
comp=Z,5.0nm,0.7s
ARCES ARCESS Array B 41.08 338 P **P** 17 01 36.1 +0.5
comp=Z,9.9nm,0.7s,mb4.4,baz=115,slow=8.4,SNR=53
ARCES ARCESS Array B 41.08 338 P **P** 17 01 36.1 +0.5
ARCES ARCESS Array B 41.08 338 P **P** 17 01 36.1 +0.5
ARCES pmax pmax
comp=Z,10.0nm,0.7s
ARE0 ARCESS Array S 41.08 338 *e*P **P** 17 01 36.5 +0.9
ARE0 ARCESS Array S 41.08 338 *e*P **P** 17 01 35.5 -0.1
KTK1 Kautokeino 41.55 336 *e*P **P** 17 01 39.9 +0.4
PSI Prapat 42.36 136 P **P** 17 01 46.7 +0.1
comp=Z,4.2nm,0.5s,mb4.1,baz=272,slow=7.4,SNR=4.5
PSI Prapat 42.36 136 P **P** 17 01 46.7 +0.1
PSI Prapat 42.36 136 P **P** 17 01 46.7 +0.1
PSI pmax pmax
comp=Z,4.0nm,0.5s,mb4.1
HFS Hagfors 42.99 322 P **P** 17 01 51.4 +0.3
comp=Z,2.9nm,0.6s,mb3.9,baz=102,slow=11,SNR=10
HFS pP pP 17 02 38.6 +2.7
comp=Z,2.4nm,0.6s,baz=87,slow=12,SNR=2.2
HFS Hagfors 42.99 322 P **P** 17 01 51.4 +0.3
HFS pP pP 17 02 38.5 +2.7
HFS Hagfors 42.99 322 P **P** 17 01 51.4 +0.3
HFS *PP pP 17 02 38.6 +2.7
HFS pmax pmax
comp=Z,3.0nm,0.6s
HFS pmax pmax
comp=Z,2.0nm,0.6s
TRO Tromso 43.20 336 *e*P **P** 17 01 53.4 +0.7
YAK Yakutsk 43.99 35 *e*P **P** 17 01 58.7 -0.3
comp=Z,15nm,0.8s,mb4.4
YAK Yakutsk 43.99 35 *e*P **P** 17 01 58.7 -0.3
YAK pmax pmax
comp=Z,15nm,0.8s,mb4.4
NB2 NORSAR Subarra 44.30 323 P **P** 17 02 01.0 -0.6
comp=Z,2.6nm,0.8s,mb3.6,baz=97,slow=7.9
NOA NORSAR Array B 44.30 323 P **P** 17 02 01.3 -0.3
comp=Z,3.1nm,0.7s,mb3.7,baz=97,slow=7.8,SNR=12
NOA NORSAR Array B 44.30 323 P **P** 17 02 01.3 -0.3
NOA NORSAR Array B 44.30 323 P **P** 17 02 01.3 -0.3
NOA pmax pmax
comp=Z,3.0nm,0.7s
SPA0 Spitsbergen Ar 47.44 347 *e*P **P** 17 02 27.1 +1.3
KBS Kingsbay 48.56 347 *e*P **P** 17 02 35.5 +1.1
KBS AMB AMB 17 02 39.9
comp=Z,59nm,2.0s,mb4.6
SEY Seymchan 54.44 34⇑ *e*P **P** 17 03 19.2 +1.1
DAG Danmarks Havn 54.68 344 *i* P **P** 17 03 19.5 -0.1
DAG MLR MLR
comp=Z,2μm,20.0s
BILL Bilibino 58.62 26⇑ *e*P **P** 17 03 48.3 +0.9
BILL *e*PP pP 17 04 43.1 +8.1
BILL *e* 17 05 56.2
BILL pmax pmax
comp=Z,15nm,1.2s,mb4.5
PETK Petropavlovsk- 60.00 44 P **P** 17 03 56.8 -0.3
comp=Z,2.6nm,0.9s,mb3.9,baz=264,slow=3.9,SNR=4.6
PETK Petropavlovsk- 60.00 44 P **P** 17 03 56.8 -0.3
PETK Petropavlovsk- 60.00 44 P **P** 17 03 56.8 -0.3
PETK pmax pmax
comp=Z,3.0nm,0.9s,mb3.9
SUMG Summit 61.00 341 *i* P **P** 17 04 04.8 +1.2
comp=Z,6.0nm,0.7s,mb4.3
TORD Torodi Ar. Bea 65.64 269 P **P** 17 04 33.1 -1.7
comp=Z,1.6nm,0.5s,mb3.9,baz=52,slow=6.1,SNR=24
TORD pP pP 17 05 25.8 +2.3
comp=Z,0.6nm,0.6s,baz=45,slow=6.5,SNR=1.9
TORD Torodi Ar. Bea 65.64 269 P **P** 17 04 33.1 -1.7
TORD pP pP 17 05 25.8 +2.3
INK Inuvik 73.89 9 P **P** 17 05 24.8 +0.6
comp=Z,7.1nm,0.6s,mb4.5,baz=360,slow=7.7,SNR=30

INK Inuvik 73.89 9 P **P** 17 05 24.8 +0.6
INK Inuvik 73.89 9 P **P** 17 05 24.8 +0.6
INK pmax pmax
comp=Z,7.0nm,0.6s
COLA College 74.47 16 *e*P **P** 17 05 27.7 0.0
comp=Z,5.3nm,0.8s,mb4.2
COLA College 74.47 16 *e*P **P** 17 05 27.7 0.0
COLA pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
LBTB Lobatse 74.64 222 P **P** 17 05 28.6 -0.5
comp=Z,3.2nm,0.5s,mb4.2,baz=196,slow=17,SNR=7.4
LBTB Lobatse 74.64 222 P **P** 17 05 28.6 -0.5
LBTB Lobatse 74.64 222 P **P** 17 05 28.7 -0.5
LBTB pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
ILAR Eielson Array 74.77 16 P **P** 17 05 28.7 -0.7
comp=Z,2.1nm,0.9s,mb3.8,baz=298,slow=5.0,SNR=26
ILAR pP pP 17 06 23.3 +4.0
comp=Z,0.5nm,0.9s,baz=316,slow=3.8,SNR=2.2
ILAR sP sP 17 06 47.8 +6.0
comp=Z,0.6nm,1.0s,baz=319,slow=6.5,SNR=2.7
ILAR Eielson Array 74.77 16 P **P** 17 05 28.7 -0.7
ILAR pP pP 17 06 23.3 +4.0
ILAR sP sP 17 06 47.8 +6.0
ILAR Eielson Array 74.77 16 P **P** 17 05 28.7 -0.7
ILAR *PP pP 17 06 23.3 +4.0
ILAR *SP sP 17 06 47.8 +6.0
ILAR pmax pmax
comp=Z,2.0nm,0.9s
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR pmax pmax
comp=Z,1.0nm,1.0s
FITZ Fitzroy Crossi 74.98 126 P **P** 17 05 31.0 -0.2
comp=Z,2.7nm,0.5s,mb4.2,baz=318,slow=6.5,SNR=14
FITZ Fitzroy Crossi 74.98 126 P **P** 17 05 31.0 -0.2
KAKA Kakadu 75.82 118 *e*P **P** 17 05 34.6 -1.5
comp=Z,8.4nm,0.5s,mb4.6
BOSA Boshof 77.72 220 P **P** 17 05 46.2 -0.1
comp=Z,4.7nm,0.8s,mb4.2,baz=106,slow=6.5,SNR=5.4
BOSA Boshof 77.72 220 P **P** 17 05 46.2 -0.1
BOSA Boshof 77.72 220 P **P** 17 05 46.3 -0.1
BOSA pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
KDAK Kodiak Island 79.20 22 P **P** 17 05 54.3 +0.1
comp=Z,5.4nm,0.5s,mb4.4,baz=28,slow=21,SNR=8.3
KDAK Kodiak Island 79.20 22 P **P** 17 05 54.3 +0.1
KDAK Kodiak Island 79.20 22 P **P** 17 05 54.3 +0.1
KDAK pmax pmax
comp=Z,5.0nm,0.5s,mb4.4
YKA Yellowknife Ar 81.22 3 P **P** 17 06 05.0 +0.2
comp=Z,4.6nm,0.4s,mb4.4,baz=350,slow=5.4,SNR=24
YKA Yellowknife Ar 81.22 3 P **P** 17 06 05.0 +0.2
YKA Yellowknife Ar 81.22 3 P **P** 17 06 05.0 +0.1
YKA pmax pmax
comp=Z,5.0nm,0.4s
WRA Warramunga Arr 82.08 122 P **P** 17 06 08.7 -1.3
comp=Z,3.5nm,0.5s,mb4.2,baz=323,slow=5.0,SNR=64
WRA Warramunga Arr 82.08 122 P **P** 17 06 08.7 -1.3
WRA Warramunga Arr 82.08 122 P **P** 17 06 08.7 -1.3
WRA pmax pmax
comp=Z,4.0nm,0.5s
WRAB Tennant Creek 82.08 122 *e*P **P** 17 06 08.4 -1.6
comp=Z,3.7nm,0.5s,mb4.3
WRAB Tennant Creek 82.08 122 *e*P **P** 17 06 08.4 -1.6
WRAB pmax pmax
comp=Z,4.0nm,0.5s,mb4.3
WB2 Warramunga Arr 82.09 122 *e*P **P** 17 06 08.3 -1.7
ASAR Alice Springs 84.34 125 P **P** 17 06 20.2 -1.3
comp=Z,4.4nm,0.5s,mb4.4,baz=312,slow=4.8,SNR=108
ASAR pP pP 17 07 16.9 +4.3
comp=Z,0.6nm,0.8s,baz=316,slow=5.2,SNR=1.6
ASAR Alice Springs 84.34 125 P **P** 17 06 20.2 -1.3
ASAR pP pP 17 07 16.9 +4.3
ASAR Alice Springs 84.34 125 P **P** 17 06 20.2 -1.2
ASAR *PP pP 17 07 16.9 +4.4
ASAR pmax pmax
comp=Z,4.0nm,0.5s
ASAR pmax pmax
comp=Z,1.0nm,0.8s
FFC Flin Flon 88.90 356 *i* P **P** 17 06 45.0 +1.9
CTA Charters Tower 90.63 115 P **P** 17 06 50.8 -0.9
comp=Z,4.3nm,1.0s,mb4.3,baz=0.1,slow=2.4,SNR=6.7
CTA Charters Tower 90.63 115 P **P** 17 06 50.8 -0.9
CTA Charters Tower 90.63 115 P **P** 17 06 50.8 -0.8
CTA pmax pmax
comp=Z,4.0nm,1.0s
VNA2 Neumayer--Watz 120.40 202 *e* PKPdf 17 12 34.5 -3.4
baz=25,slow=3.9
VNA3 Neumayer Olymp 121.20 202 *e* PKPdf 17 12 35.6 -3.9
CPUP Villa Florida 135.13 268 PKP PKPdf 17 13 06.8 -0.5
comp=Z,0.7nm,0.5s,baz=73,slow=7.5,SNR=5.9
CPUP Villa Florida 135.13 268 PKP PKPdf 17 13 06.8 -0.5
CPUP Villa Florida 135.13 268 PKIKP PKPdf 17 13 06.8 -0.6
CPUP pmax pmax
comp=Z,1.0nm,0.5s
PLCA Paso Flores 149.76 250 PKPbc PKPbc 17 13 37.5 -0.1
comp=Z,2.1nm,0.8s,baz=160,slow=12,SNR=3.5
PLCA Paso Flores 149.76 250 PKPbc PKPbc 17 13 37.5 -0.1

*IDC **07** 16:54:17.0±1.4,55°.29N×165°.83E,h0km,mb3.3/4, mb1 3.7/6,mb1mx3.5/27,mbtmp3.4/6,ML2.8/2,Error ellipse: s-maj=28.9km s-min=17.9km az=23.0*
*ISCJB **07** 16:54:19.6±0.7,55°.1N±0°.1×165°.89E±0°.09,h33km, mb3.3/4,Error ellipse: s-maj=18.6km s-min=7.4km az=177.5*
*NEIC **07** 16:54:21.7±0.7,54°.88N×166°.02E,h35km,Error ellipse: s-maj=29.0km s-min=9.0km az=166.0*

ISC 07 16:54:21.8±0.7,55°.1N±0°.1×165°.85E±0°.10,h35km,n14, σ1s21/18,mb3.3/4,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PET	**Petropavlovsk**	**4.73**	**247**	*e*Pn	**Pn**	**16 55 30.0**	**-0.5**
FX1	**Attu Island--F**	**4.86**	**114**	Pn	**Pn**	**16 55 29.8**	**-2.5**
	0.9nm,0.3s,baz=246,slow=10.0,SNR=2.6						
FX1				Sn	**Sn**	**16 56 28.4**	**+1.2**
	0.7nm,0.3s,baz=242,slow=21,SNR=2.2						
FX1	**Attu Island--F**	**4.86**	**114**	Pn	**Pn**	**16 55 29.8**	**-2.5**
FX1				Sn	**Sn**	**16 56 28.4**	**+1.2**
PEA0B	**Petropavlovsk-**	**5.20**	**251**	*e*Pn	**Pn**	**16 55 37.2**	**+0.3**
PETK	**Petropavlovsk-**	**5.20**	**251**	Pn	**Pn**	**16 55 37.5**	**+0.5**
	1.0nm,0.3s,baz=72,slow=18,SNR=26						
PETK				Sn	**Sn**	**16 56 40.5**	**+4.9**
	0.6nm,0.3s,baz=173,slow=21,SNR=4.8						
PETK	**Petropavlovsk-**	**5.20**	**251**	Pn	**Pn**	**16 55 37.5**	**+0.5**
PETK				Sn	**Sn**	**16 56 40.5**	**+4.9**
ILAR	**Eielson Array**	**24.96**	**48**	P	**P**	**16 59 41.8**	**+0.3**
	0.2nm,0.8s,mb2.7,baz=251,slow=7.5,SNR=2.8						
ILAR	**Eielson Array**	**24.96**	**48**	P	**P**	**16 59 41.8**	**+0.3**
NVAR	**Mina Array Bea**	**51.91**	**75**	P	**P**	**17 03 25.3**	**-1.3**
	0.5nm,0.9s,mb3.5,baz=298,slow=6.1,SNR=3.1						
NVAR	**Mina Array Bea**	**51.91**	**75**	P	**P**	**17 03 25.3**	**-1.3**
PDAR	**Pinedale Array**	**53.59**	**66**	P	**P**	**17 03 41.2**	**+2.2**
	0.3nm,0.8s,mb3.3,baz=297,slow=6.0,SNR=2.8						
PDAR	**Pinedale Array**	**53.59**	**66**	P	**P**	**17 03 41.2**	**+2.2**
TXAR	**Lajitas Array**	**66.75**	**72**	P	**P**	**17 05 08.7**	**-0.6**
	0.6nm,0.7s,mb3.7,baz=308,slow=4.4,SNR=6.2						
TXAR	**Lajitas Array**	**66.75**	**72**	P	**P**	**17 05 08.7**	**-0.6**

WEL 07 17:05:34.9±0.3,37°.82S×176°.24E,h163km±3km,ML3.7/8, 2C,Error ellipse: s-maj=3.3km s-min=3.0km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.81**	**123**	⇑PN	Pn	17 05 59.8	+0.3
URZ				SN	Sn	17 06 17.7	-0.6
MWZ	**Matawai**	**1.14**	**117**	PN	Pn	17 06 02.2	+0.2
MWZ				SN	Sn	17 06 22.0	-0.8
KATZ	**Kakaramea**	**1.23**	**200**	PN	Pn	17 06 03.5	+0.7
RAHZ	**Arahi**	**1.28**	**149**	PN	Pn	17 06 03.7	+0.4
RAHZ				SN	Sn	17 06 24.8	-0.3
NMHZ	**Naumai**	**1.35**	**161**	PN	Pn	17 06 04.7	+0.8
NMHZ				SN	Sn	17 06 26.6	+0.2
BKZ	**Black Stump Fm**	**1.36**	**172**	⇑PN	Pn	17 06 03.8	-0.3
TWVZ	**Taurewa**	**1.40**	**207**	PN	Pn	17 06 04.9	+0.4
OTVZ	**Oturere**	**1.42**	**199**	PN	Pn	17 06 05.1	+0.5
NGZ	**Ngauruhoe**	**1.45**	**200**	PN	Pn	17 06 05.5	+0.6
WPVZ	**Whakapapa**	**1.49**	**201**	PN	Pn	17 06 05.6	+0.3
TUVZ	**Tukino**	**1.52**	**198**	PN	Pn	17 06 05.8	+0.2
TUVZ				SN	Sn	17 06 29.5	+0.2

FWVZ	**Far West T-bar**	**1.53**	**201**	PN	Pn	17 06 06.0	+0.3
TRVZ	**Turoa**	**1.57**	**200**	PN	Pn	17 06 06.5	+0.3
WNVZ	**Wahianoa**	**1.59**	**198**	PN	Pn	17 06 06.4	+0.1
PUZ	**Puketiti**	**1.61**	**100**	PN	Pn	17 06 06.4	-0.1
MOVZ	**Moawhango**	**1.63**	**194**	PN	Pn	17 06 06.2	-0.6
KNZ	**Kokohu**	**1.64**	**137**	PN	Pn	17 06 06.7	-0.2
MXZ	**Matakaoa Point**	**1.66**	**82**	PN	Pn	17 06 07.5	+0.4
MCHZ	**McNeill Hill**	**1.66**	**168**	PN	Pn	17 06 07.2	+0.2
BHHZ	**Black Hill Sta**	**1.67**	**185**	PN	Pn	17 06 06.6	-0.6
PRGZ	**Paritu Road**	**1.69**	**131**	PN	Pn	17 06 08.0	+0.6
MHGZ	**Mahia Peninsul**	**1.86**	**136**	PN	Pn	17 06 09.2	-0.1
CKHZ	**Cape Kidnapper**	**1.95**	**161**	PN	Pn	17 06 09.8	-0.4
KAHZ	**Kahuranaki**	**2.03**	**166**	PN	Pn	17 06 10.7	-0.5
PNHZ	**Pukenui**	**2.09**	**181**	PN	Pn	17 06 10.7	-1.2
WAZ	**Wanganui**	**2.17**	**207**	PN	Pn	17 06 12.2	-0.5
NEZ	**North Egmont**	**2.22**	**229**	PN	Pn	17 06 14.7	+1.4
PKE	**Pukeiti**	**2.24**	**232**	PN	Pn	17 06 14.6	+1.0
TSZ	**Takapari Road**	**2.25**	**186**	PN	Pn	17 06 12.2	-1.4
WPHZ	**Waipukurau**	**2.25**	**176**	PN	Pn	17 06 11.8	-1.8
PXZ	**Pawanui**	**2.26**	**168**	PN	Pn	17 06 12.6	-1.2
PRHZ	**Porangahau**	**2.46**	**173**	PN	Pn	17 06 14.7	-1.5
DVHZ	**Dannevirke**	**2.48**	**181**	PN	Pn	17 06 14.5	-1.9
BFZ	**Birch Farm**	**2.86**	**180**	PN	Pn	17 06 18.7	-2.3
MRZ	**Mangatainoka R**	**2.88**	**190**	PN	Pn	17 06 18.7	-2.5
OGWZ	**Otaki Gorge**	**3.11**	**195**	PN	Pn	17 06 21.5	-2.5
HOWZ	**Holdsworth Sta**	**3.13**	**190**	PN	Pn	17 06 21.4	-2.9
KIW	**Kapiti Island**	**3.21**	**198**	PN	Pn	17 06 22.5	-2.8
TMWZ	**Te Maipa**	**3.29**	**185**	PN	Pn	17 06 23.4	-3.0
MTW	**Mount Morrison**	**3.38**	**190**	PN	Pn	17 06 24.1	-3.4
CAW	**Cannon Point**	**3.41**	**195**	PN	Pn	17 06 24.7	-3.1
DUWZ	**D'Urville Isla**	**3.48**	**210**	PN	Pn	17 06 26.0	-2.8
TRWZ	**Traveller**	**3.60**	**187**	PN	Pn	17 06 26.8	-3.4
WEL	**Wellington**	**3.64**	**198**	PN	Pn	17 06 27.3	-3.6
MSWZ	**Moikau Station**	**3.67**	**192**	PN	Pn	17 06 27.6	-3.6
SNZO	**South Karori**	**3.68**	**198**	PN	Pn	17 06 27.8	-3.6
TCW	**Tory Channel**	**3.71**	**204**	PN	Pn	17 06 28.5	-3.2
BHW	**Baring Head**	**3.74**	**196**	PN	Pn	17 06 28.4	-3.7
PLWZ	**Palliser**	**3.82**	**191**	PN	Pn	17 06 29.3	-3.8
TUWZ	**Tuamarina**	**4.02**	**206**	PN	Pn	17 06 32.1	-3.6
NNZ	**Nelson**	**4.05**	**212**	PN	Pn	17 06 32.4	-3.7
QRZ	**Quartz Range**	**4.16**	**223**	PN	Pn	17 06 33.8	-3.7
KHZ	**Kahutara**	**5.04**	**203**	PN	Pn	17 06 44.8	-4.2
LTZ	**Lake Taylor**	**5.81**	**210**	PN	Pn	17 06 54.2	-4.9

*ISCJB **07** 17:07:08.9±0.4, 60°.20N±0°.04×152°.94W±0°.09, h133km±5km, mb3.4/3, Error ellipse: s-maj=7.8km s-min=5.6km az=21.7*

*IDC **07** 17:07:10.1±0.3, 60°.18N×152°.98W, h116km±7km, mb3.3/3, mb1 3.6/7, mb1mx3.3/27, mbtmp3.5/7, MS3.6/1, Ms1 3.6/1, ms1mx3.3/21, Error ellipse: s-maj=9.9km s-min=3.9km az=107.0*

*NEIC **07** 17:07:11.3, 60°.18N×152°.84W, h125km, MG3.4(AEIC), After AEIC.*

ISC 07 17:07:10.0±0.4, **60°.20N**±0°.04×**152°.98W**±0°.09, **h124**km±5km, **n45**, σ0**85**/59, **mb3.6**/3, **Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSO	**Redoubt South**	**0.28**	**23**	*e*Pn	**Pn**	**17 07 28.1**	**+0.8**
CNPM	**China Poot**	**1.11**	**127**	P	**Pn**	**17 07 34.3**	**+0.9**
BRLK	**Bradley Lake**	**1.14**	**112**	P	**Pn**	**17 07 34.3**	**+0.6**
BRLK				S	**Sn**	**17 07 52.3**	**+0.6**
SLKM	**Skilak Lake**	**1.40**	**76**	P	**Pn**	**17 07 37.1**	**+0.5**
SLKM				S	**Sn**	**17 07 56.4**	**-0.3**
SVW2	**Sparrevohn**	**1.56**	**306**	*e*P	**Pn**	**17 07 37.7**	**-0.7**
SUA	**Susitna One**	**1.67**	**40**	P	**Pn**	**17 07 40.5**	**+0.9**
SUA				S	**Sn**	**17 08 03.1**	**+0.9**
FIB	**Fire Island**	**1.68**	**54**	P	**Pn**	**17 07 41.3**	**+1.5**
FIB				S	**Sn**	**17 08 04.6**	**+2.1**
SEW	**Seward**	**1.77**	**92**	P	**Pn**	**17 07 40.5**	**-0.2**
SEW				S	**Sn**	**17 08 03.2**	**-1.0**
RC01	**Rabbit Creek A**	**1.83**	**59**	P	**Pn**	**17 07 41.8**	**+0.3**
RC01				S	**Sn**	**17 08 05.7**	**+0.2**
SKT	**Skwentna**	**1.92**	**21**	P	**Pn**	**17 07 43.1**	**+0.5**
PMR	**Palmer**	**2.34**	**52**	P	**Pn**	**17 07 47.1**	**-0.7**
PMR				*e*P		17 07 47.8	
KDAK	**Kodiak Island**	**2.44**	**175**	P	**Pn**	**17 07 48.8**	**-0.3**
	23nm,0.3s,baz=1.4,slow=10,SNR=227						
KDAK				S	**Sn**	**17 08 18.4**	**-0.8**
	35nm,0.3s,baz=138,slow=23,SNR=33						
KDAK				LR	LR	17 08 53.1	
	comp=Z,1μm,18.5s,baz=58,slow=43						
KDAK	**Kodiak Island**	**2.44**	**175**	P	**Pn**	**17 07 48.9**	**-0.2**
PPLA	**Purkeypile**	**2.73**	**8**	P	**Pn**	**17 07 51.7**	**-1.1**
SML	**Sawmill**	**2.77**	**53**	P	**Pn**	**17 07 52.6**	**-0.8**
OHAK	**Old Harbor**	**3.00**	**183**	P	**Pn**	**17 07 55.7**	**-0.9**
OHAK				*e*P		17 07 55.7	
TT01	**Tatalina**	**3.08**	**333**	P	**Pn**	**17 07 57.3**	**0.0**
SCM	**Sheep Creek Mo**	**3.20**	**57**	P	**Pn**	**17 07 58.5**	**-0.5**
MID	**Middleton Isla**	**3.44**	**100**	*e*P	**Pn**	**17 08 02.6**	**+0.5**
TRF	**Thorofare Moun**	**3.50**	**20**	*e*Pn	**Pn**	**17 08 02.8**	**-0.1**
TRF				*e*Sn	**Sn**	**17 08 35.9**	**-7.8**
DIV	**Divide**	**3.67**	**72**	*e*Pn	**Pn**	**17 08 05.7**	**+0.6**
DIV				*e*Sn	**Sn**	**17 08 38.5**	**-9.2**
BPAW	**Bear Paw Mtn.**	**4.02**	**13**	*e*Pn	**Pn**	**17 08 09.4**	**-0.4**
BPAW				*e*Sn	**Sn**	**17 08 48.1**	**-8.0**
MCK	**McKinley**	**4.02**	**27**	*e*Pn	**Pn**	**17 08 10.1**	**+0.3**
MCK				*e*Sn	**Sn**	**17 08 47.2**	**-9.0**
PAX	**Paxson**	**4.53**	**49**	*e*Pn	**Pn**	**17 08 16.6**	**0.0**
PAX				*e*Sn	**Sn**	**17 09 06.6**	**-1.8**
CHGN	**Chignik**	**4.85**	**219**	*e*P	**Pn**	**17 08 20.7**	**-0.3**
MENT	**Mentasta**	**5.20**	**54**	*e*Pn	**Pn**	**17 08 23.9**	**-1.7**
COLA	**College**	**5.20**	**25**	*e*Pn	**Pn**	**17 08 25.2**	**-1.0**
ILAR	**Eielson Array**	**5.38**	**29**	P	**Pn**	**17 08 27.6**	**-0.4**
	11nm,0.3s,baz=220,slow=13,SNR=343						
ILAR				S	**Sn**	**17 09 23.7**	**-5.0**
	4.2nm,0.3s,baz=217,slow=24,SNR=5.8						
ILAR	**Eielson Array**	**5.38**	**29**	P	**Pn**	**17 08 27.6**	**-0.4**
ILAR				S	**Sn**	**17 09 23.7**	**-5.0**
DOT	**Dot Lake**	**5.45**	**47**	*e*Pn	**Pn**	**17 08 28.3**	**-0.5**
PNL	**Peninsula**	**6.85**	**89**	*e*Pn	**Pn**	**17 08 48.1**	**+0.4**
EGAK	**Eagle**	**7.13**	**45**	*e*Pn	**Pn**	**17 08 51.0**	**-0.6**
COLD	**Coldfoot**	**7.16**	**9**	*e*Pn	**Pn**	**17 08 51.9**	**0.0**
DAWY	**Dawson**	**7.45**	**53**	*e*Pn	**Pn**	**17 08 55.4**	**-0.4**
SIT	**Sitka**	**9.72**	**101**	Pn	**Pn**	**17 09 25.8**	**-0.8**
INK	**Inuvik**	**11.67**	**38**	P	**Pn**	**17 09 52.3**	**-0.1**
	0.4nm,0.3s,baz=246,slow=13,SNR=7.7						
INK	**Inuvik**	**11.67**	**38**	*e*Pn	**Pn**	**17 09 51.7**	**-0.7**
DLBC	**Dease Lake**	**11.84**	**89**	*e*Pn	**Pn**	**17 09 58.2**	**+3.5**
YKA	**Yellowknife Ar**	**18.36**	**66**	P	**P**	**17 11 16.1**	**+1.5**
	0.5nm,0.3s,baz=278,slow=10,SNR=8.3						
YKA	**Yellowknife Ar**	**18.36**	**66**	P	**P**	**17 11 16.1**	**+1.5**
SONM	**Songino Array**	**54.68**	**306**	P	**P**	**17 16 27.2**	**+1.5**
	1.0nm,0.7s,mb4.0,baz=45,slow=7.3,SNR=7.4						
SONM	**Songino Array**	**54.68**	**306**	P	**P**	**17 16 27.2**	**+1.5**
ZALV	**Zalesovo Beam**	**57.22**	**323**	P	**P**	**17 16 44.8**	**+1.1**
	0.6nm,0.4s,mb4.0,baz=28,slow=6.5,SNR=3.0						
ZALV	**Zalesovo Beam**	**57.22**	**323**	P	**P**	**17 16 44.8**	**+1.1**
MKAR	**Makanchi Array**	**64.28**	**321**	P	**P**	**17 17 31.4**	**-0.2**
	0.1nm,0.5s,mb2.9,baz=46,slow=7.7,SNR=3.2						

*MOS **07** 17:12:32.0±1.4, 41°.25N×50°.04E, h30km, mb4.3/7, Error ellipse: s-maj=12.5km s-min=9.6km az=70.7*

*NEIC **07** 17:12:33.6±1.5, 41°.15N×50°.06E, h36km±13km, mb3.9/4, Error ellipse: s-maj=16.1km s-min=6.2km az=184.0*

*CSEM **07** 17:12:34.9±0.6, 41°.17N×50°.04E, h51km±5km, mb4.3, Error ellipse: s-maj=13.1km s-min=5.2km az=3.0*

*IDC **07** 17:12:36.5±1.2, 41°.14N×50°.01E, h67km±9km, mb3.5/9, mb1 3.6/13, mb1mx3.4/29, mbtmp3.6/13, Error ellipse: s-maj=23.0km s-min=14.3km az=176.0*

*ISCJB **07** 17:12:38.1±0.7, 41°.55N±0°.06×50°.27E±0°.05, h77km±8km, mb3.7/12, Error ellipse: s-maj=10.8km s-min=5.5km az=157.7*

*NNC **07** 17:12:42.8±3.0, 41°.49N×50°.95E, h53km±37km, mb3.5, Error ellipse: s-maj=28.3km s-min=18.6km az=119.0*

ISC 07 17:12:39.0±0.7, **41°.47N**±0°.07×**50°.28E**±0°.05, **h75**km±7km, **n97**, σ1**814**/117, **mb3.7**/12, **8C-4D, Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DRN	**Derbent**	**1.56**	**292**	*e*PG	**Pn**	**17 13 04.5**	**-0.4**
DRN				*i* S	**Sn**	**17 13 26.5**	**+2.0**
DRN				pmax	pmax		
	comp=Z,113nm,0.2s						
DRN	**Derbent**	**1.56**	**292**	*i* Sg	**Sn**	**17 13 26.5**	**+2.0**
KSMR	**Kasumkent**	**1.62**	**276**	*e*PG	**Pn**	**17 13 04.0**	**-1.7**
KSMR				*e*S	**Sn**	**17 13 26.5**	**+0.7**
KSMR				pmax	pmax		
	comp=Z,161nm,0.2s						
KSMR	**Kasumkent**	**1.62**	**276**	*e*Pg	**Pn**	**17 13 04.0**	**-1.7**
	comp=Z,161nm,0.2s						
KSMR				*e*Sg	**Sn**	**17 13 26.5**	**+0.7**
GNI	**Garni**	**4.40**	**254**	P	**Pn**	**17 13 44.1**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=177,slow=9.7,SNR=1.9						
GNI	**Garni**	**4.40**	**254**	P	**Pn**	**17 13 44.1**	**+0.8**
ZEI	**Tsey**	**4.92**	**287**	*e*PN	Px	17 14 06.6	
ZEI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KIV	**Kislovodsk**	**6.12**	**296**	Pn	**Pn**	**17 14 02.0**	**-4.8**
KIV				*e*Sn	**Sn**	**17 15 04.6**	**-11**
KIV	**Kislovodsk**	**6.12**	**296**	*e*P	Px	17 14 16.9	
KIV				*i* S	**Sn**	**17 15 21.1**	**+5.8**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.2s						
AB31	**Akbulak array**	**10.33**	**38**	P	**Pn**	**17 15 03.2**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=2.9,slow=29,SNR=38						
AB31				⇑S	**Sn**	**17 16 57.6**	**-0.6**
	comp=Z,6.3nm,0.6s,baz=219,slow=22,SNR=9.4						
ABKAR	**Akbulak array**	**10.33**	**38**	*e*Pn	**Pn**	**17 15 03.5**	**-0.7**
	comp=Z,1.9nm,0.3s						
ABKAR				*e*Sn	**Sn**	**17 16 48.9**	**-9.2**
AKTK	**Aktyubinsk**	**10.46**	**28**	P	**Pn**	**17 15 06.8**	**+0.9**
AKTK				S	**Sn**	**17 17 01.1**	**0.0**
AKTK	**Aktyubinsk**	**10.46**	**28**	P	**Pn**	**17 15 06.8**	**+0.9**
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**10.46**	**28**	⇑P	**Pn**	**17 15 06.6**	**+0.7**
	comp=Z,0.4nm,0.4s						
AKTO				⇑S	**Sn**	**17 17 00.3**	**-0.8**
	comp=Z,4.8nm,0.8s						
AKTO	**Aktyubinsk**	**10.46**	**28**	P	**Pn**	**17 15 06.8**	**+0.9**
	comp=Z,1.2nm,0.3s,baz=195,slow=11,SNR=19						
AKTO				S	**Sn**	**17 17 01.1**	**0.0**
	comp=Z,2.0nm,0.3s,baz=4.0,slow=21,SNR=19						
AKTO	**Aktyubinsk**	**10.46**	**28**	P	**Pn**	**17 15 06.8**	**+0.9**
AKTO				S	**Sn**	**17 17 01.1**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				smax			
	comp=N,2.0nm,0.3s						
KK31	**Karatay Array**	**15.07**	**77**	⇑P	**Pn**	**17 16 06.0**	**-1.5**
	comp=N,0.8nm,0.5s						
KK31				⇑S	**S**	**17 18 47.0**	**-19**
	comp=N,2.1nm,0.6s,baz=278,slow=22,SNR=8.0						
KKAR	**Karatay Array**	**15.07**	**77**	*e*Pn	**Pn**	**17 16 05.4**	**-2.1**
	comp=N,1.0nm,0.5s						
KKAR	**Karatay Array**	**15.07**	**77**	*e*P	**Pn**	**17 16 05.4**	**-2.1**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARU	**Arti**	**15.91**	**17**	*e*Pn	**Pn**	**17 16 16.9**	**-1.3**
ARU				*e*Sn	**Sn**	**17 18 59.8**	**-14**
ARU	**Arti**	**15.91**	**17**	*e*P	**Pn**	**17 16 16.9**	**-1.3**
OBN	**Obninsk**	**16.38**	**331**	⇑*e*P	**Pn**	**17 16 09.9**	**-14**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
OBN				MLR	MLR		
	comp=Z,1μm,16.0s						
ZRNK	**Zerenda**	**17.08**	**41**	⇑P	**Pn**	**17 16 31.6**	**-1.1**
	comp=Z,4.2nm,1.4s						
ZRNK				⇓S	**S**	**17 19 38.6**	**-8.7**
	comp=Z,4.9nm,0.9s						
AKASG	**Malin Array Be**	**17.23**	**310**	P	**Pn**	**17 16 33.6**	**-0.9**
	comp=Z,3.0nm,0.3s,baz=103,slow=9.5,SNR=9.0						
AKASG	**Malin Array Be**	**17.23**	**310**	P	**Pn**	**17 16 33.6**	**-0.9**
AKASG	**Malin Array Be**	**17.23**	**310**	*e*P	**Pn**	**17 16 34.0**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AKASG	**Malin Array Be**	**17.23**	**310**	*e*P	**Pn**	**17 16 34.0**	**-0.5**
	comp=Z,3.0nm,0.3s						
EKS2	**Erkin-Say**	**17.48**	**78**	*e*P	**Pn**	**17 16 37.6**	**-0.1**
	comp=Z,0.9nm,0.6s						
EKS2	**Erkin-Say**	**17.48**	**78**	*e*P	**Pn**	**17 16 37.6**	**-0.1**
EKS2				pmax	pmax		
	comp=Z,1.0nm,0.6s						
EKS2	**Erkin-Say**	**17.48**	**78**	*e*P	**Pn**	**17 16 37.6**	**-0.1**
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**17.78**	**43**	⇓P	**Pn**	**17 16 42.4**	**+1.1**
	comp=Z,5.6nm,0.8s						
BRVK	**Borovoye**	**17.78**	**43**	*e*P	**Pn**	**17 16 42.7**	**+1.4**
BRVK				*e*Sn	**Sn**	**17 19 53.0**	**-5.9**
BRVK	**Borovoye**	**17.78**	**43**	*e*P	**Pn**	**17 16 42.7**	**+1.4**
BRVK				*e*		17 19 53.0	
BRVK	**Borovoye**	**17.78**	**43**	*e*P	**Pn**	**17 16 42.7**	**+1.4**
BVA0	**Borovoye Array**	**17.82**	**43**	⇓P	**Pn**	**17 16 41.2**	**-0.5**
	comp=Z,0.9nm,1.1s,baz=218,slow=7.6,SNR=9.3						
BVA0				S	**S**	**17 19 55.1**	**-5.6**
	comp=Z,0.9nm,1.4s,baz=238,slow=21,SNR=8.7						
BVAR	**Borovoye Array**	**17.82**	**43**	P	**Pn**	**17 16 42.0**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=224,slow=14,SNR=8.4						
BVAR				pP	pP	17 16 57.7	+1.2
	comp=Z,0.6nm,0.3s,baz=241,slow=11,SNR=6.5						
BVAR				S	**S**	**17 19 52.7**	**-8.0**
	comp=Z,0.4nm,0.3s,baz=237,slow=24,SNR=7.6						
BVAR	**Borovoye Array**	**17.82**	**43**	P	**Pn**	**17 16 42.0**	**+0.3**
BVAR				pP	pP	17 16 57.7	+1.2
BVAR				S	**S**	**17 19 52.7**	**-8.0**
BVAR	**Borovoye Array**	**17.82**	**43**	P	**Pn**	**17 16 42.0**	**+0.3**
BVAR				S	**S**	**17 19 52.7**	**-8.0**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**17.82**	**43**	P	**Pn**	**17 16 42.0**	**+0.3**
	comp=Z,1.0nm,0.3s						
VOSK	**Vostochnaya**	**17.97**	**44**	⇑P	**Pn**	**17 16 46.0**	**+2.5**
	comp=Z,3.7nm,0.7s						
AAK	**Ala-Archa**	**18.01**	**78**	P	**Pn**	**17 16 46.1**	**+1.9**
	comp=Z,0.0nm,0.3s,baz=314,slow=4.4,SNR=3.9						
AAK	**Ala-Archa**	**18.01**	**78**	P	**Pn**	**17 16 45.7**	**+1.5**
AAK	**Ala-Archa**	**18.01**	**78**	P	**Pn**	**17 16 46.1**	**+1.9**
AAK	**Ala-Archa**	**18.01**	**78**	P	**Pn**	**17 16 46.1**	**+1.9**
BUR08	**Bucovina Ar. S**	**18.86**	**298**	*e*Pn	**Pn**	**17 16 50.6**	**-3.7**
KWP	**Kalwaria Pacla**	**20.87**	**302**	*e*P	**P**	**17 17 12.9**	**-1.8**
	comp=Z,8.7nm,0.5s						
KWP	**Kalwaria Pacla**	**20.87**	**302**	*e*P	**P**	**17 17 12.9**	**-1.9**
KWP				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KWP	**Kalwaria Pacla**	**20.87**	**302**	*e*P	**P**	**17 17 12.9**	**-1.9**
	comp=Z,9.0nm,0.5s						
KURK	**Kurchatov**	**21.61**	**55**	P	**P**	**17 17 24.5**	**+1.9**
	comp=Z,0.2nm,0.3s,mb3.0,baz=258,slow=11,SNR=3.3						
KURK				pP		17 17 38.2	
	comp=Z,2.0nm,0.8s,baz=256,slow=12,SNR=6.4						
KURK				S	**S**	**17 21 17.8**	**+0.3**
	comp=Z,0.3nm,0.2s,baz=280,slow=25,SNR=3.0						
KURK	**Kurchatov**	**21.61**	**55**	P	**P**	**17 17 24.5**	**+1.9**
KURK				pP		17 17 38.1	
KURK				S	**S**	**17 21 17.8**	**+0.3**
KURK	**Kurchatov**	**21.61**	**55**	P	**P**	**17 17 24.5**	**+1.9**
KURK				*PP		17 17 38.2	
KURK				S	**S**	**17 21 17.8**	**+0.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.5						
KURK	**Kurchatov**	**21.61**	**55**	P	**P**	**17 17 24.5**	**+1.9**
	comp=Z,2.0nm,0.8s,mb3.5						
MK31	**Makanchi Array**	**23.49**	**66**	P	**P**	**17 17 43.2**	**+1.4**
	comp=Z,0.3nm,0.3s,mb3.1,baz=259,slow=8.5,SNR=10						
MK31	**Makanchi Array**	**23.49**	**66**	*e*P	**P**	**17 17 42.8**	**+0.9**
MK31	**Makanchi Array**	**23.49**	**66**	*e*P	**P**	**17 17 42.8**	**+1.0**
MK31	**Makanchi Array**	**23.49**	**66**	*e*P	**P**	**17 17 42.8**	**+1.0**
MKAR	**Makanchi Array**	**23.49**	**66**	P	**P**	**17 17 43.1**	**+1.2**
	comp=Z,0.4nm,0.4s,mb3.1,baz=258,slow=9.5,SNR=11						
MKAR	**Makanchi Array**	**23.49**	**66**	P	**P**	**17 17 43.1**	**+1.2**
MKAR	**Makanchi Array**	**23.49**	**66**	P	**P**	**17 17 43.1**	**+1.3**
MKAR	**Makanchi Array**	**23.49**	**66**	P	**P**	**17 17 43.1**	**+1.3**
JOF	**Joensuu**	**24.24**	**339**	*e*P	**P**	**17 17 48.2**	**-0.3**
JOF	**Joensuu**	**24.24**	**339**	*e*p	**P**	**17 17 48.2**	**-0.3**
JOF	**Joensuu**	**24.24**	**339**	*e*P	**P**	**17 17 48.2**	**-0.3**
FINES	**FINESS Array B**	**24.78**	**332**	P	**P**	**17 17 53.5**	**0.0**
	comp=Z,4.1nm,0.4s,mb4.2,baz=134,slow=9.8,SNR=37						
FINES	**FINESS Array B**	**24.78**	**332**	P	**P**	**17 17 53.5**	**0.0**
FINES	**FINESS Array B**	**24.78**	**332**	P	**P**	**17 17 53.5**	**0.0**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.4s						
FINES	**FINESS Array B**	**24.78**	**332**	P	**P**	**17 17 53.5**	**0.0**
KAF	**Kangasniemi**	**25.16**	**333**	*e*P	**P**	**17 17 57.8**	**+0.9**
KAF	**Kangasniemi**	**25.16**	**333**	*e*p	**P**	**17 17 57.8**	**+0.9**
KAF	**Kangasniemi**	**25.16**	**333**	*e*P	**P**	**17 17 57.8**	**+0.9**
ZALV	**Zalesovo Beam**	**26.10**	**50**	P	**P**	**17 18 06.7**	**+1.2**
	comp=Z,0.4nm,0.3s,mb3.3,baz=223,slow=9.8,SNR=2.5						
ZALV				pP	pP	17 18 23.3	+0.4
	comp=Z,0.6nm,0.4s,baz=261,slow=11,SNR=2.5						
ZALV	**Zalesovo Beam**	**26.10**	**50**	P	**P**	**17 18 06.8**	**+1.2**
ZALV				pP	pP	17 18 23.3	+0.4
ZALV	**Zalesovo Beam**	**26.10**	**50**	P	**P**	**17 18 06.8**	**+1.3**
ZALV				*PP	pP	17 18 23.3	+0.4
ZALV	**Zalesovo Beam**	**26.10**	**50**	P	**P**	**17 18 06.8**	**+1.3**
HFS	**Hagfors**	**29.17**	**322**	P	**P**	**17 18 32.5**	**-0.3**
	comp=Z,1.3nm,0.4s,mb3.9,baz=112,slow=9.4,SNR=20						
HFS	**Hagfors**	**29.17**	**322**	P	**P**	**17 18 32.5**	**-0.3**
HFS	**Hagfors**	**29.17**	**322**	P	**P**	**17 18 32.5**	**-0.4**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.4s						
HFS	**Hagfors**	**29.17**	**322**	P	**P**	**17 18 32.5**	**-0.4**
NB2	**NORSAR Subarra**	**30.65**	**323**	P	**P**	**17 18 45.2**	**-0.7**
	comp=Z,0.6nm,0.5s,mb3.6,baz=115,slow=8.6						
NOA	**NORSAR Array B**	**30.65**	**323**	P	**P**	**17 18 45.3**	**-0.6**
	comp=Z,1.0nm,0.6s,mb3.7,baz=118,slow=8.6,SNR=4.3						
NOA	**NORSAR Array B**	**30.65**	**323**	P	**P**	**17 18 45.3**	**-0.6**
NOA	**NORSAR Array B**	**30.65**	**323**	P	**P**	**17 18 45.3**	**-0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**30.65**	**323**	P	**P**	**17 18 45.3**	**-0.6**
NAO01	**NORSAR Array S**	**30.73**	**323**	P	**P**	**17 18 45.9**	**-0.7**
	comp=Z,5.3nm,0.8s,mb4.3						
NAO01	**NORSAR Array S**	**30.73**	**323**	P	**P**	**17 18 45.9**	**-0.7**
	comp=Z,5.3nm,0.8s,mb4.3						
ARCES	**ARCESS Array B**	**30.96**	**343**	P	**P**	**17 18 49.5**	**+0.9**
	comp=Z,4.8nm,0.9s,mb4.2,baz=134,slow=10,SNR=7.4						
ARCES	**ARCESS Array B**	**30.96**	**343**	P	**P**	**17 18 49.5**	**+0.9**
ARCES	**ARCESS Array B**	**30.96**	**343**	P	**P**	**17 18 49.5**	**+1.0**
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ARCES	**ARCESS Array B**	**30.96**	**343**	P	**P**	**17 18 49.5**	**+1.0**
CMAR	**Chiang Mai Arr**	**47.26**	**104**	P	**P**	**17 21 03.6**	**-1.1**
	comp=Z,0.6nm,0.6s,mb3.5,baz=298,slow=7.9,SNR=5.4						
CMAR	**Chiang Mai Arr**	**47.26**	**104**	P	**P**	**17 21 03.6**	**-1.1**
CMAR	**Chiang Mai Arr**	**47.26**	**104**	P	**P**	**17 21 03.6**	**-1.2**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**47.26**	**104**	P	**P**	**17 21 03.6**	**-1.2**
TORD	**Torodi Ar. Bea**	**50.70**	**251**	P	**P**	**17 21 27.1**	**-4.0**
	comp=Z,0.2nm,0.3s,mb3.6,baz=34,slow=6.4,SNR=5.6						
TORD				pP	pP	17 21 43.9	-5.9
	comp=Z,0.4nm,0.5s,baz=47,slow=6.6,SNR=2.8						
TORD	**Torodi Ar. Bea**	**50.70**	**251**	P	**P**	**17 21 27.1**	**-4.0**
TORD				pP	pP	17 21 43.9	-5.9
TORD	**Torodi Ar. Bea**	**50.70**	**251**	P	**P**	**17 21 27.1**	**-4.0**
BILL	**Bilibino**	**60.84**	**23**	⇓*e*P	**P**	**17 22 48.6**	**+5.7**
BILL				*e*		17 25 01.0	
BILL				*e*SS	SS	17 34 55.3	+1.9
BILL				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.3						

	26nm,1.0s,mb4.7							
STKA	**Stephens Creek**	**38.67**	**243**	*e*P		**P**	**17 30 29.0**	**+1.1**
	8.4nm,0.9s,mb4.3							
WB2	**Warramunga Arr**	**45.19**	**261**	*e*P		**P**	**17 31 18.7**	**-0.5**
WB2				*e*PcP		PcP	17 32 45.8	-0.9
WRAB	**Tennant Creek**	**45.19**	**261**	*e*P		**P**	**17 31 18.7**	**-0.5**
	28nm,1.0s,mb4.8							
WRA	**Warramunga Arr**	**45.20**	**261**	P		**P**	**17 31 18.7**	**-0.6**
	12nm,0.5s,mb4.7,baz=96,slow=8.0,SNR=161							
WRA				PcP		PcP	17 32 46.7	-0.1
	2.9nm,0.7s,baz=92,slow=3.8,SNR=6.9							
WRA				S		**S**	**17 37 15.4**	**-2.0**
	2.1nm,1.0s,baz=97,slow=13,SNR=9.2							
WRA	**Warramunga Arr**	**45.20**	**261**	P		**P**	**17 31 18.7**	**-0.6**
WRA				PcP		PcP	17 32 46.7	-0.1
WRA				S		**S**	**17 37 15.4**	**-2.0**
ASAR	**Alice Springs**	**45.21**	**256**	P		**P**	**17 31 19.4**	**+0.1**
	34nm,0.8s,mb4.9,baz=89,slow=7.8,SNR=325							
ASAR				PcP		PcP	17 32 47.0	+0.3
	4.8nm,0.7s,baz=100,slow=4.2,SNR=8.2							
ASAR				S		**S**	**17 37 17.1**	**-0.3**
	2.9nm,0.7s,baz=91,slow=16,SNR=16							
ASAR	**Alice Springs**	**45.21**	**256**	P		**P**	**17 31 19.4**	**+0.1**
ASAR				PcP		PcP	17 32 47.0	+0.3
ASAR				S		**S**	**17 37 17.1**	**-0.3**
MIDW	**Midway**	**47.35**	**0**	P		**P**	**17 31 37.8**	**+2.5**
KAKA	**Kakadu**	**48.41**	**270**	*e*P		**P**	**17 31 43.2**	**-0.2**
	28nm,0.6s,mb5.0							
KAKA	**Kakadu**	**48.41**	**270**	*e*P		**P**	**17 31 42.8**	**-0.6**
	78nm,0.6s,mb5.4							
FORT	**Forrest**	**50.14**	**246**	*e*P		**P**	**17 31 56.0**	**+0.1**
	60nm,0.6s,mb5.2							
MBWA	**Marble Bar**	**58.53**	**257**	*e*P		**P**	**17 32 54.5**	**-0.3**
	13nm,0.6s,mb4.2							
KLBR	**Kellerberrin**	**58.92**	**244**	*e*P		**P**	**17 32 57.5**	**+0.2**
	28nm,0.7s,mb4.5							
SBA	**Scott Base**	**58.98**	**184**	*e*P		**P**	**17 33 00.3**	**+3.5**
	4.0nm,0.9s,mb3.5							
NWAO	**Narrogin (SRO)**	**59.26**	**243**	P		**P**	**17 32 60.0**	**+0.5**
	8.2nm,0.7s,mb4.0,baz=99,slow=5.8,SNR=6.4							
NWAO	**Narrogin (SRO)**	**59.26**	**243**	*e*P		**P**	**17 32 59.8**	**+0.3**
	25nm,1.1s,mb4.3							
KKM	**Kota Kinabalu**	**69.92**	**284**	*e*P		**P**	**17 34 07.0**	**+0.1**
	12nm,0.6s,mb4.5							
QSPA	**South Pole Qui**	**70.65**	**180**	*e*P		**P**	**17 34 12.2**	**+2.2**
	12nm,1.1s,mb4.3							
KSM	**Kuching**	**73.71**	**278**	*e*P		**P**	**17 34 29.2**	**+0.3**
	15nm,0.9s,mb4.5							
PETK	**Petropavlovsk-**	**75.34**	**345**	P		**P**	**17 34 36.4**	**-0.7**
	3.0nm,0.7s,mb3.9,baz=134,slow=6.9,SNR=3.5							
PETK	**Petropavlovsk-**	**75.34**	**345**	P		**P**	**17 34 36.4**	**-0.7**
ISA	**Isabella**	**78.26**	**46**	P		**P**	**17 34 53.5**	**+0.1**
	2.2nm,0.8s,mb3.6							
NJ2	**Nanjing**	**79.54**	**309**	*e*P		**P**	**17 34 59.7**	**-0.5**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.5s,mb4.4							
MDJ	**Mudanjiang**	**79.89**	**325**	*e*P		**P**	**17 35 02.1**	**+0.3**
	comp=Z,11nm,1.0s,mb4.1							
NVAR	**Mina Array Bea**	**79.93**	**43**	P		**P**	**17 35 02.9**	**+0.7**
	comp=Z,1.1nm,0.7s,mb3.3,baz=218,slow=8.0,SNR=10							
NVAR	**Mina Array Bea**	**79.93**	**43**	P		**P**	**17 35 02.9**	**+0.7**
MAW	**Mawson**	**82.73**	**200**	P		**P**	**17 35 17.1**	**+1.1**
	comp=Z,3.0nm,0.8s,mb3.9,baz=126,slow=6.2,SNR=14							
MAW	**Mawson**	**82.73**	**200**	*e*P		**P**	**17 35 17.0**	**+1.0**
	comp=Z,2.0nm,0.6s,mb3.8							
MAW	**Mawson**	**82.73**	**200**	*e*P		**P**	**17 35 16.8**	**+0.8**
	comp=Z,0.6nm,0.7s,mb3.2							
KULM	**Kulim**	**84.06**	**278**	*e*P		**P**	**17 35 24.1**	**+0.4**
	comp=Z,8.6nm,0.7s,mb4.4							
PSI	**Prapat**	**84.84**	**275**	P		**P**	**17 35 27.3**	**-0.2**
	comp=Z,6.8nm,0.8s,mb4.3,baz=358,slow=22,SNR=4.8							
PSI	**Prapat**	**84.84**	**275**	P		**P**	**17 35 27.3**	**-0.2**
ENH	**Enshi**	**85.81**	**304**	*e*P		**P**	**17 35 31.4**	**-0.3**
	comp=Z,17nm,1.0s,mb4.6							
MCK	**McKinley**	**85.82**	**12**	*e*P		**P**	**17 35 29.3**	**-1.6**
	comp=Z,6.6nm,1.0s,mb4.2							
TXAR	**Lajitas Array**	**86.10**	**57**	P		**P**	**17 35 34.4**	**+1.3**
	comp=Z,1.5nm,0.7s,mb3.7,baz=220,slow=6.4,SNR=14							
TXAR	**Lajitas Array**	**86.10**	**57**	P		**P**	**17 35 34.4**	**+1.3**
GYA	**Guiyang**	**86.50**	**299**	*e*P		**P**	**17 35 34.8**	**-0.3**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.5							
MCMT	**McKenzie Canyo**	**86.84**	**40**	*e*P		**P**	**17 35 37.2**	**+1.0**
	comp=Z,1.8nm,1.1s,mb3.7							
ILAR	**Eielson Array**	**87.16**	**13**	P		**P**	**17 35 35.8**	**-1.4**
	comp=Z,1.0nm,0.8s,mb3.6,baz=232,slow=4.8,SNR=15							
ILAR	**Eielson Array**	**87.16**	**13**	P		**P**	**17 35 35.8**	**-1.4**
XAN	**Xi'an**	**87.83**	**307**	P		**P**	**17 35 41.8**	**+0.7**
XAN				pmax		pmax		
	comp=Z,3.0nm,1.0s,mb4.0							
PDAR	**Pinedale Array**	**87.87**	**43**	P		**P**	**17 35 41.1**	**+0.1**
	comp=Z,0.8nm,0.7s,mb3.5,baz=242,slow=3.2,SNR=6.2							
PDAR	**Pinedale Array**	**87.87**	**43**	P		**P**	**17 35 41.1**	**0.0**
SYO	**Syowa Base**	**87.88**	**193** ⇑	*e*P		**P**	**17 35 39.7**	**-1.0**
SDCO	**Great Sand Dun**	**88.31**	**49**	P		**P**	**17 35 43.2**	**0.0**
HHC	**Hu-ho-hao-te**	**88.92**	**314**	*e*P		**P**	**17 35 46.2**	**+0.2**
HHC				pP		pP	17 37 53.1	-0.2
HHC				PP		PP	17 39 30.2	+3.2
HHC				SKS			17 45 20.0	
HHC				S		S	17 45 43.2	-1.8
HHC				pmax		pmax		
	comp=Z,26nm,0.7s,mb5.2							
HHC				pmax		pmax		
	comp=Z,190nm,6.4s							
SNAA	**Sanae**	**89.08**	**178**	*e*P		**P**	**17 35 46.6**	**+0.4**
	comp=Z,2.9nm,0.7s,mb4.2							
VNA3	**Neumayer Olymp**	**89.19**	**176**	*e*		**P**	**17 35 44.9**	**-1.9**
KMI	**Kunming**	**89.26**	**297**	P		**P**	**17 35 48.7**	**+0.7**
KMI				pmax		pmax		
	comp=Z,7.0nm,1.1s,mb4.4							
VNA2	**Neumayer--Watz**	**89.64**	**177**	*e*		**P**	**17 35 47.3**	**-1.6**
VNA1	**Neumayer--Stat**	**89.86**	**176**	*e*		**P**	**17 35 48.8**	**-1.1**
CMAR	**Chiang Mai Arr**	**90.17**	**289**	P		**P**	**17 35 53.3**	**+1.0**
	comp=Z,4.0nm,0.9s,mb4.3,baz=117,slow=3.0,SNR=28							
CMAR	**Chiang Mai Arr**	**90.17**	**289**	P		**P**	**17 35 53.3**	**+1.0**
CHTO	**Chiang Mai**	**90.30**	**290**	*e*P		**P**	**17 35 53.5**	**+0.6**
	comp=Z,7.6nm,1.0s,mb4.5							
CD2	**Chengdu**	**90.58**	**303**	P		**P**	**17 35 53.1**	**-0.9**
LZH	**Lanzhou**	**92.47**	**307**	*e*P		**P**	**17 36 02.0**	**-0.5**
LZH				pP		pP	17 38 12.5	+2.2
LZH				sP		sP	17 39 11.0	+2.2
LZH				pmax		pmax		
	comp=Z,15nm,1.0s,mb5.0							
SONM	**Songino Array**	**95.23**	**319**	P		**P**	**17 36 15.1**	**+0.3**
	comp=Z,0.3nm,0.8s,mb3.5,baz=132,slow=2.1,SNR=2.7							
SONM	**Songino Array**	**95.23**	**319**	P		**P**	**17 36 15.1**	**+0.3**
ZALV	**Zalesovo Beam**	**109.93**	**321**	PKiKP		PKiKP	17 41 17.0	-1.2
	comp=Z,0.7nm,0.4s,baz=225,slow=1.3,SNR=3.6							
ZALV	**Zalesovo Beam**	**109.93**	**321**	PKPdf		PKiKP	17 41 17.0	-1.2
MK31	**Makanchi Array**	**110.78**	**314**	*e*PKPdf		PKiKP	17 41 18.8	-1.3
MKAR	**Makanchi Array**	**110.78**	**314**	PKiKP		PKiKP	17 41 19.0	-1.1
	comp=Z,0.8nm,0.5s,baz=155,slow=0.5,SNR=15							
MKAR	**Makanchi Array**	**110.78**	**314**	PKPdf		PKiKP	17 41 19.0	-1.1
KURK	**Kurchatov**	**113.50**	**318**	PKiKP		PKiKP	17 41 24.5	-0.7
	comp=Z,1.1nm,0.2s,baz=98,slow=1.9,SNR=8.0							
KURK	**Kurchatov**	**113.50**	**318**	PKPdf		PKiKP	17 41 24.4	-0.7
BVAR	**Borovoye Array**	**118.54**	**320**	PKP		PKPdf	17 41 33.8	-1.0
	comp=Z,2.4nm,0.6s,baz=146,slow=0.9,SNR=18							
BVAR	**Borovoye Array**	**118.54**	**320**	PKP		PKPdf	17 41 33.8	-1.0
AKTK	**Aktyubinsk**	**126.55**	**319**	PKP		PKPdf	17 41 49.0	-1.3
AKTO	**Aktyubinsk**	**126.55**	**319**	PKP		PKPdf	17 41 49.0	-1.3
	comp=Z,1.3nm,0.6s,baz=30,slow=4.2,SNR=6.9							
BOSA	**Boshof**	**127.42**	**205**	PKP		PKPdf	17 41 53.9	+1.2
	comp=Z,6.5nm,1.1s,baz=221,slow=3.1,SNR=3.5							
BOSA	**Boshof**	**127.42**	**205**	PKP		PKPdf	17 41 53.9	+1.2
ARCES	**ARCESS Array B**	**127.94**	**350**	PKP		PKPdf	17 41 52.1	-0.2
	comp=Z,2.8nm,0.7s,baz=29,slow=1.0,SNR=15							
ARCES	**ARCESS Array B**	**127.94**	**350**	PKP		PKPdf	17 41 52.1	-0.2
FINES	**FINESS Array B**	**134.86**	**344**	PKP		PKPdf	17 42 05.5	-0.2
	comp=Z,3.5nm,0.9s,baz=112,slow=2.1,SNR=4.6							
FINES	**FINESS Array B**	**134.86**	**344**	PKP		PKPdf	17 42 05.5	-0.2
AKASG	**Malin Array Be**	**142.28**	**332**	PKhKP		PKPpre	17 42 14.8	
	comp=Z,1.2nm,0.4s,baz=42,slow=4.4,SNR=14							
AKASG	**Malin Array Be**	**142.28**	**332**	PKP		PKPpre	17 42 14.8	
KWP	**Kalwaria Pacla**	**145.78**	**336** ⇓	*i*P		PKPdf	17 42 26.9	+1.3
BUR08	**Bucovina Ar. S**	**146.32**	**332**	*e*PKPbc		PKPbc	17 42 29.0	+0.1
BURAR	**Bucovina Array**	**146.33**	**332** ⇓	*i*P		PKPbc	17 42 30.8	+1.9
BR131	**Keskin Array S**	**146.43**	**314**	*e*PKPbc		PKPbc	17 42 28.9	-0.6
BRTR	**Keskin Array B**	**146.43**	**314**	PKPbc		PKPbc	17 42 29.1	-0.4
	comp=Z,5.5nm,0.8s,baz=133,slow=4.6,SNR=17							
BRTR	**Keskin Array B**	**146.43**	**314**	PKPbc		PKPbc	17 42 29.1	-0.4
KOLS	**Kolonicke sedl**	**146.51**	**336**	*e*PKP		PKPbc	17 42 29.4	0.0
CRVS	**Cervenica-Dubn**	**146.85**	**337**	*e*PKP		PKPab	17 42 33.5	0.0
VRI	**Vrincioaia**	**146.90**	**328** ⇑	*i*P		PKPbc	17 42 30.5	0.0
TRPA	**Tarpa**	**147.06**	**335** ⇑	*i*P		PKPbc	17 42 30.2	-0.7
CLL	**Collm**	**147.11**	**348** ⇓	*i*PKPbc		PKPbc	17 42 30.7	-0.2
	comp=Z,12nm,0.7s							
CLL				*e*PKPab		PKPab	17 42 34.0	-0.5
UPC	**Upice**	**147.16**	**344** ⇓	*e*PKP		PKPbc	17 42 31.3	+0.2
DPC	**Dobruska-Polom**	**147.23**	**344** ⇓	*e*PKP		PKPbc	17 42 31.7	+0.5
DPC				*e*PKPAB		PKPab	17 42 35.2	+0.2
BRG	**Berggiesshubel**	**147.32**	**347**	*i* PKP		PKPbc	17 42 31.6	+0.1
	comp=Z,16nm,1.6s							
BRG				*e*			18 22 53.0	
	comp=Z,10nm,1.6s							
MORC	**Moravsky Berou**	**147.40**	**342** ⇓	*i*P		PKPbc	17 42 31.8	+0.1
PVCC	**Panska Ves**	**147.50**	**346** ⇑	*e*PKP		PKPbc	17 42 32.0	+0.1
ISR	**Istrita**	**147.51**	**327** ⇑	*i*P		PKPbc	17 42 32.3	+0.1
MLR	**Muntele Rosu**	**147.55**	**329** ⇓	*i*P		PKPbc	17 42 32.7	+0.5
PRU	**Pruhonice**	**148.01**	**345** ⇓	*e*PKP		PKPbc	17 42 33.9	+0.7
VOIR		**148.03**	**329** ⇑	*i*P		PKPab	17 42 38.5	+0.1
DRGR		**148.06**	**333** ⇓	*i*P		PKPbc	17 42 33.4	-0.1
VYHS	**Vyhne**	**148.12**	**339**	*e*PKP		PKPbc	17 42 33.9	+0.3
PSZ	**Piszkesteto**	**148.24**	**338** ⇑	*i*P		PKPbc	17 42 34.1	+0.2
CSS	**Prodhromos**	**148.65**	**306**	*e*PKPbc		PKPbc	17 42 34.9	-0.4
GRF	**Grafenberg Arr**	**148.99**	**349**	*e*PKP		PKPbc	17 42 35.6	-0.1
KHC	**Kasperske Hory**	**149.04**	**346**	*e*PKPbc		PKPbc	17 42 35.5	-0.2
KHC	**Kasperske Hory**	**149.04**	**346** ⇑	*e*PKP		PKPbc	17 42 35.9	+0.1
KHC				*e*PKPAB		PKPab	17 42 42.5	+0.1
GERES	**GERESS Array B**	**149.28**	**345**	PKPbc		PKPbc	17 42 36.4	0.0
	comp=Z,5.5nm,0.9s,baz=39,slow=2.5,SNR=32							
GERES	**GERESS Array B**	**149.28**	**345**	PKPbc		PKPbc	17 42 36.4	0.0
GIVF	**Givet**	**149.33**	**357**	*e*PKP1		PKPbc	17 42 36.1	-0.4
GIVF	**Givet**	**149.33**	**357**	*e*PKP		PKPbc	17 42 36.1	-0.4
DOU	**Dourbes**	**149.34**	**357**	PKPbc		PKPbc	17 42 36.6	+0.1
BAIF	**Baives**	**149.40**	**358**	*e*PKP1		PKPbc	17 42 36.4	-0.2
	comp=Z,24nm,1.0s							
BAIF	**Baives**	**149.40**	**358**	*e*PKP		PKPbc	17 42 36.4	-0.2
WLF	**Walferdange**	**149.68**	**355**	PKPbc		PKPbc	17 42 37.9	+0.6
PKSM	**Moragy**	**150.14**	**337** ⇓	*i*P		PKPbc	17 42 38.2	-0.3
FLN	**La Foliniere**	**150.63**	**4**	*e*PKP1		PKPbc	17 42 38.8	-0.7
	comp=Z,62nm,1.1s							
FLN	**La Foliniere**	**150.63**	**4**	*e*PKP		PKPbc	17 42 38.8	-0.7
ROSF	**Rostrenen**	**150.78**	**8**	*e*PKP1		PKPbc	17 42 38.8	-1.1
ROSF	**Rostrenen**	**150.78**	**8**	*e*PKP		PKPbc	17 42 38.8	-1.1
PAGF	**Fort de Pagny**	**150.81**	**356**	*e*PKP1		PKPbc	17 42 39.9	-0.1
CDF	**Champ du Feu**	**150.82**	**353**	*e*PKP1		PKPbc	17 42 39.6	-0.4
	comp=Z,17nm,0.8s							
CDF	**Champ du Feu**	**150.82**	**353**	*e*PKP		PKPbc	17 42 39.6	-0.4
LDF	**La Druitiere**	**150.82**	**4**	*e*PKP1		PKPbc	17 42 39.1	-0.9
	comp=Z,9.6nm,0.6s							
LDF	**La Druitiere**	**150.82**	**4**	*e*PKP		PKPbc	17 42 39.1	-0.9
MEZF	**Maizieres J'vi**	**150.91**	**356**	*e*PKP1		PKPbc	17 42 40.0	-0.2
MEZF	**Maizieres J'vi**	**150.91**	**356**	*e*PKP		PKPbc	17 42 40.0	-0.2
PERS	**Pernice**	**150.94**	**342**	*i* PKPbc		PKPbc	17 42 39.7	-0.6
SGMF	**Saint Gilles**	**150.95**	**7**	*e*PKP1		PKPbc	17 42 39.3	-1.0
SGMF	**Saint Gilles**	**150.95**	**7**	*e*PKP		PKPbc	17 42 39.3	-1.0
GRR	**Gorron**	**150.97**	**5**	*e*PKP1		PKPbc	17 42 39.7	-0.6
	comp=Z,20nm,0.7s							
GRR	**Gorron**	**150.97**	**5**	*e*PKP		PKPbc	17 42 39.7	-0.6
VTS	**Vitosha**	**151.00**	**327** ⇑	*i*P		PKPbc	17 42 40.5	-0.1
SFTF	**Sexfontaines**	**151.21**	**356**	*e*PKP1		PKPbc	17 42 40.6	-0.3
	comp=Z,46nm,0.8s							
SFTF	**Sexfontaines**	**151.21**	**356**	*e*PKP		PKPbc	17 42 40.6	-0.3
HAU	**Haudompre**	**151.31**	**355**	*e*PKP1		PKPbc	17 42 40.6	-0.5
	comp=Z,13nm,0.7s							
HAU	**Haudompre**	**151.31**	**355**	*e*PKP		PKPbc	17 42 40.6	-0.5
HINF	**Hinteralfeld**	**151.45**	**354**	*e*PKP1		PKPbc	17 42 40.7	-0.7
	comp=Z,10nm,0.8s							
HINF	**Hinteralfeld**	**151.45**	**354**	*e*PKP		PKPbc	17 42 40.7	-0.7
LJU	**Ljubljana**	**151.65**	**342**	*i* PKPbc		PKPbc	17 42 41.8	-0.1
CRNS	**Crni Vrh**	**151.69**	**343**	*i* PKPbc		PKPbc	17 42 41.3	-0.7
BOJS	**Bojanci**	**151.91**	**341**	*i* PKPbc		PKPbc	17 42 42.5	0.0
LOR	**Lormes**	**152.20**	**358**	*e*PKP1		PKPbc	17 42 42.7	-0.4
	comp=Z,12nm,0.8s							
LOR	**Lormes**	**152.20**	**358**	*e*PKP		PKPbc	17 42 42.7	-0.4
SSF	**Saint Saulge**	**152.41**	**358**	*e*PKP1		PKPbc	17 42 43.2	-0.4
	comp=Z,15nm,0.9s							
SSF	**Saint Saulge**	**152.41**	**358**	*e*PKP		PKPbc	17 42 43.2	-0.4
MFF	**Saint Martin d**	**152.80**	**4**	*e*PKP1		PKPbc	17 42 43.1	-1.3
	comp=Z,13nm,0.8s							
MFF	**Saint Martin d**	**152.80**	**4**	*e*PKP		PKPbc	17 42 43.1	-1.3
BGF	**Bois d'Agland**	**152.93**	**359**	*e*PKP1		PKPbc	17 42 44.2	-0.5
BGF	**Bois d'Agland**	**152.93**	**359**	*e*PKP		PKPbc	17 42 44.2	-0.5
TCF	**Toulx Ste Croi**	**153.20**	**0**	*e*PKP1		PKPbc	17 42 44.6	-0.7
	comp=Z,11nm,1.0s							
TCF	**Toulx Ste Croi**	**153.20**	**0**	*e*PKP		PKPbc	17 42 44.6	-0.7
LPL	**La Plagne**	**153.74**	**353**	*e*PKP1		PKPbc	17 42 46.8	+0.3
LPL	**La Plagne**	**153.74**	**353**	*e*PKP		PKPbc	17 42 46.8	+0.3
LPG	**La Plagne**	**153.75**	**353**	*e*PKP1		PKPbc	17 42 47.0	+0.5
LPG	**La Plagne**	**153.75**	**353**	*e*PKP		PKPbc	17 42 47.0	+0.5
MBDF	**Montbardon**	**154.51**	**353**	*e*PKP1		PKPbc	17 42 47.2	-0.9
	comp=Z,6.3nm,0.8s							
MBDF	**Montbardon**	**154.51**	**353**	*e*PKP		PKPbc	17 42 47.2	-0.9
TORD	**Torodi Ar. Bea**	**173.72**	**173**	PKP		PKPdf	17 42 55.7	-1.1
	comp=Z,1.3nm,1.0s,baz=286,slow=1.4,SNR=6.3							
TORD				PKPab		PKPab	17 44 32.2	+1.4
	comp=Z,0.5nm,0.9s,baz=110,slow=2.2,SNR=2.3							
TORD	**Torodi Ar. Bea**	**173.72**	**173**	PKP		PKPdf	17 42 55.7	-1.1
TORD				PKPab		PKPab	17 44 32.2	+1.4

*ISCJB **07** 17:43:22.0±0.6, 43.32N±0.03×18.35E±0.03, h4km±4km, Error ellipse: s-maj=4.5km s-min=3.6km az=166.4*
*CSEM **07** 17:43:21.7±0.2, 43.33N×18.32E, h2km, ML2.4/10, Error ellipse: s-maj=3.8km s-min=3.0km az=108.0*
*PDG **07** 17:43:23.5±0.1, 43.27N×18.39E, h11km, MD2.5/1, ML2.4/10, Error ellipse: s-maj=0.2km s-min=0.4km az=0.0*
*BEO **07** 17:43:23.0±0.7, 43.38N×18.36E, h8km, 3km, ML2.4/1*

ISC 07 17:43:22.4±0.6, 43.33N±0.03×18.32E±0.03, h6km±4km, n46, σ0.85/86, 12C-12D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
UPM	**Unac-Piva**	**0.45**	**106**	⇑	*i*Pg		**Pg**	**17 43 30.8**	**-0.3**
UPM					*e*Sg		**Sg**	**17 43 37.2**	**+0.2**
UPM	**Unac-Piva**	**0.45**	**106**	⇑	*i*Pg		**Pg**	**17 43 30.8**	**-0.3**
UPM					*e*Sg		**Sg**	**17 43 37.2**	**+0.2**
BRY	**Bratogost**	**0.46**	**159**	⇑	*i*Pg		**Pg**	**17 43 30.7**	**-0.6**
BRY					*e*Sg		**Sg**	**17 43 37.0**	**-0.3**
BRY	**Bratogost**	**0.46**	**159**	⇑	*i*Pg		**Pg**	**17 43 30.7**	**-0.6**
BRY					*e*Sg		**Sg**	**17 43 37.0**	**-0.3**
STON	**Ston**	**0.65**	**225**		*e*Pg		**Pg**	**17 43 33.2**	**-1.6**
STON					Sg		**Sg**	**17 43 43.3**	**+0.1**
STON	**Ston**	**0.65**	**225**		*e*Pg		**Pg**	**17 43 33.2**	**-1.6**
STON					Sg		**Sg**	**17 43 43.3**	**+0.1**
NKY	**Niksic**	**0.72**	**136**	⇓	*i*Pg		**Pg**	**17 43 35.5**	**-0.7**
NKY					*e*Sg		**Sg**	**17 43 45.5**	**0.0**
NKY	**Niksic**	**0.72**	**136**	⇓	*i*Pg		**Pg**	**17 43 35.5**	**-0.7**
NKY					*e*Sg		**Sg**	**17 43 45.5**	**0.0**
PLE	**Pljevlja**	**0.78**	**90**	⇓	*i*Pg		**Pg**	**17 43 37.2**	**-0.3**
PLE					*e*Sg		**Sg**	**17 43 48.8**	**+1.1**
PLE	**Pljevlja**	**0.78**	**90**	⇓	*i*Pg		**Pg**	**17 43 37.2**	**-0.3**
PLE					*e*Sg		**Sg**	**17 43 48.8**	**+1.1**
HCY	**Herceg Novi**	**0.89**	**171**	⇑	*i*Pg		**Pg**	**17 43 38.9**	**-0.6**
HCY					*e*Sg		**Sg**	**17 43 51.7**	**+0.6**
HCY	**Herceg Novi**	**0.89**	**171**	⇑	*i*Pg		**Pg**	**17 43 38.9**	**-0.6**
HCY					*e*Sg		**Sg**	**17 43 51.7**	**+0.6**
BBLS	**Lazié**	**0.95**	**55**		*e*Pg		**Pg**	**17 43 40.3**	**-0.4**
BBLS					*e*Sg		**Sg**	**17 43 53.5**	**+0.4**
BBLS	**Lazié**	**0.95**	**55**		*e*Pg		**Pg**	**17 43 40.3**	**-0.4**
BBLS					*e*Sg		**Sg**	**17 43 53.5**	**+0.4**
BUM	**Brajici-Budva**	**1.11**	**157**	⇓	*i*Pg		**Pg**	**17 43 42.7**	**-1.1**
BUM					*e*Sg		**Sg**	**17 43 59.0**	**+0.8**
BUM	**Brajici-Budva**	**1.11**	**157**	⇓	*i*Pg		**Pg**	**17 43 42.7**	**-1.1**
BUM					*e*Sg		**Sg**	**17 43 59.0**	**+0.8**
PDG	**Podgorica**	**1.14**	**142**	⇓	*i*Pg		**Pg**	**17 43 42.7**	**-1.5**
PDG					*e*Sg		**Sg**	**17 43 59.5**	**+0.6**
TTG	**Podgorica**	**1.14**	**142**	⇓	*i*Pg		**Pg**	**17 43 42.7**	**-1.5**
TTG					*e*Sg		**Sg**	**17 43 59.5**	**+0.6**
SJES	**Sjenica**	**1.21**	**93**		*e*Pg		**Pn**	**17 43 44.8**	**-1.1**
SJES					*e*Sg		**Sg**	**17 44 01.4**	**+0.1**
BEY	**Berane**	**1.24**	**111**	⇑	*i*Pg		**Pn**	**17 43 45.1**	**-1.3**
BEY					*e*Sg		**Sg**	**17 44 03.4**	**+1.0**
IVA	**Berane**	**1.24**	**111**	⇑	*i*Pg		**Pn**	**17 43 45.1**	**-1.3**
IVA					*e*Sg		**Sg**	**17 44 03.4**	**+1.0**
IVAS	**Ivanjica**	**1.36**	**79**		*e*Pg		**Pn**	**17 43 47.1**	**-0.8**
IVAS					*e*Sg		**Sn**	**17 44 05.4**	**-0.9**
IVAS	**Ivanjica**	**1.36**	**79**		*e*Pg		**Pn**	**17 43 47.1**	**-0.8**
IVAS					*e*Sg		**Sn**	**17 44 05.4**	**-0.9**
PVY	**Plav**	**1.42**	**121**	⇓	*i*Pg		**Pn**	**17 43 48.5**	**-0.3**
PVY					*e*Sg		**Sg**	**17 44 09.4**	**+1.4**
PVY	**Plav**	**1.42**	**121**	⇓	*i*Pg		**Pn**	**17 43 48.5**	**-0.3**
PVY					*e*Sg		**Sg**	**17 44 09.4**	**+1.4**
DIVS	**Divibare**	**1.44**	**57**	⇑	*i*Pg		**Pn**	**17 43 48.9**	**-0.1**
DIVS					*e*Sg		**Sn**	**17 44 07.1**	**-1.1**
DIVS	**Divibare**	**1.44**	**57**	⇑	*i*Pg		**Pn**	**17 43 48.9**	**-0.1**
ULC	**Ulcinj**	**1.53**	**153**	⇓	*i*Pg		**Pn**	**17 43 50.0**	**-0.3**
ULC					*e*Sg		**Sg**	**17 44 12.5**	**+1.0**
ULC	**Ulcinj**	**1.53**	**153**	⇓	*i*Pg		**Pn**	**17 43 50.0**	**-0.3**
ULC					*e*Sg		**Sg**	**17 44 12.5**	**+1.0**
BCI	**Bajram Curri**	**1.61**	**126**		*e*PG		**Pn**	**17 43 51.5**	**+0.1**
BCI					*e*SG		**Pg**	**17 43 53.2

ZKR				*e*Sn		**Sn**	**17 51 20.4**	**+0.2**
NPS	**Neapolis**	**1.61**	**218**	*e*PN		**Pn**	**17 51 02.1**	**+0.1**
NPS				*e*SN		**Sn**	**17 51 22.2**	**-0.7**
NPS	**Neapolis**	**1.61**	**218**	*e*Pn		**Pn**	**17 51 02.1**	**+0.1**
NPS				*e*Sn		**Sn**	**17 51 22.2**	**-0.7**
LAST	**Lasithi**	**1.76**	**219**	*e*PN		**Pn**	**17 51 04.6**	**+0.5**
LAST				*e*SN		**Sn**	**17 51 27.4**	**+0.9**
LAST	**Lasithi**	**1.76**	**219**	*e*Pn		**Pn**	**17 51 04.6**	**+0.5**
LAST				*e*Sn		**Sn**	**17 51 27.4**	**+0.9**
FETY	**Fethiye**	**1.81**	**86**	*e*PN		**Pn**	**17 51 06.1**	**+1.3**
FETY	**Fethiye**	**1.81**	**86**	*e*Pn		**Pn**	**17 51 06.1**	**+1.3**

*IDC **07** 17:57:34.2±1.9, 6.72S×129.62E, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.8/17, mbtmp3.8/6, ML3.9/2, Error ellipse: s-maj=75.2km s-min=22.3km az=77.0*
*NEIC **07** 17:57:35.8±1.0, 6.80S×129.48E, h10km, Error ellipse: s-maj=25.4km s-min=10.4km az=58.0*
ISC 07 17:57:40.8±2.0, 7.1S±0.1×129.3E±0.2, h53km±22km, n17, σ1§13/23, mb3.7/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.38**	**151**	*e*Pn	**Pn**	**17 59 14.8**	**+2.6**
	40nm,0.6s						
KAKA				*e*Sn	**Sn**	**18 00 28.1**	**+4.3**
KAPI	**Kappang**	**9.68**	**282**	*e*Pn	**Pn**	**17 59 56.8**	**-0.7**
	7.9nm,0.6s						
WRAB	**Tennant Creek**	**13.66**	**159**	*e*Pn	**Pn**	**18 00 51.3**	**-0.5**
	3.7nm,0.6s						
WRAB				*e*Sn	**Sn**	**18 03 18.4**	**-3.7**
WRA	**Warramunga Arr**	**13.66**	**159**	Pn	**Pn**	**18 00 51.7**	**-0.2**
	0.6nm,0.3s,baz=334,slow=13,SNR=31						
WRA				Sn	**Sn**	**18 03 21.1**	**-1.1**
	0.7nm,0.3s,baz=338,slow=21,SNR=6.0						
WRA	**Warramunga Arr**	**13.66**	**159**	Pn	**Pn**	**18 00 51.7**	**-0.2**
WRA				Sn	**Sn**	**18 03 21.1**	**-1.1**
WB2	**Warramunga Arr**	**13.67**	**159**	*e*Pn	**Pn**	**18 00 51.5**	**-0.4**
MBWA	**Marble Bar**	**16.72**	**212**	Pn	**Pn**	**18 01 35.5**	**+4.0**
ASAR	**Alice Springs**	**17.04**	**165**	Pn	**Pn**	**18 01 37.8**	**+2.2**
	0.3nm,0.3s,baz=336,slow=9.0,SNR=20						
ASAR				Sn	**Sn**	**18 04 43.7**	**-0.5**
	0.2nm,0.3s,baz=220,slow=16,SNR=5.1						
ASAR	**Alice Springs**	**17.04**	**165**	Pn	**Pn**	**18 01 37.8**	**+2.2**
ASAR				Sn	**Sn**	**18 04 43.7**	**-0.5**
NWAO	**Narrogin (SRO)**	**28.00**	**202**	P	**P**	**18 03 32.0**	**+5.3**
	7.1nm,0.8s,mb4.3,baz=41,slow=9.3,SNR=3.8						
NWAO	**Narrogin (SRO)**	**28.00**	**202**	P	**P**	**18 03 32.0**	**+5.3**
CMAR	**Chiang Mai Arr**	**39.25**	**311**	P	**P**	**18 05 04.7**	**+0.3**
	0.3nm,0.7s,mb3.1,baz=150,slow=5.9,SNR=3.3						
CMAR	**Chiang Mai Arr**	**39.25**	**311**	P	**P**	**18 05 04.7**	**+0.3**
SONM	**Songino Array**	**58.33**	**342**	P	**P**	**18 07 29.8**	**-0.5**
	0.6nm,0.9s,mb3.6,baz=144,slow=5.2,SNR=3.7						
SONM	**Songino Array**	**58.33**	**342**	P	**P**	**18 07 29.8**	**-0.5**
MKAR	**Makanchi Array**	**67.92**	**327**	P	**P**	**18 08 33.5**	**-0.4**
	0.4nm,0.5s,mb3.7,baz=114,slow=7.6,SNR=6.5						
MKAR	**Makanchi Array**	**67.92**	**327**	P	**P**	**18 08 33.5**	**-0.4**

*IDC **07** 18:00:41.5±2.9, 36.21N×71.08E, h70km±24km, mb3.6/10, mb1 3.7/14, mb1mx3.5/29, mbtmp3.6/14, Error ellipse: s-maj=20.0km s-min=15.2km az=128.0*
*ISCJB **07** 18:00:44.0±0.5, 36.52N±0.03×70.96E±0.06, h103km±6km, mb3.8/13, Error ellipse: s-maj=8.1km s-min=4.5km az=15.3*
*NEIC **07** 18:00:45.1±0.9, 36.46N×70.99E, h99km±9km, mb4.0/5, Error ellipse: s-maj=11.6km s-min=9.8km az=112.0*
*NNC **07** 18:00:48.2±2.5, 36.69N×70.92E, h132km±27km, mb3.3, mpv4.4, Error ellipse: s-maj=20.0km s-min=15.8km az=11.0*
ISC 07 18:00:45.3±0.4, 36.49N±0.03×70.94E±0.06, h101km±5km, n69, σ1§18/89, mb3.8/13, 7C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.49**	**219**	*e*Pn	**Pn**	**18 01 25.1**	**+0.8**
KBL				*e*Sn	**Sn**	**18 01 54.2**	**+0.1**
CHCP	**Chirah Chowk**	**3.41**	**145**	P	**Pn**	**18 01 35.8**	**-0.8**
THW	**Thamme Wali**	**3.75**	**170**	P	**Pn**	**18 01 40.0**	**-1.1**
SARP	**Sargodha**	**4.78**	**162**	P	**Pn**	**18 01 55.0**	**-0.1**
SARP				S	**Sn**	**18 02 43.0**	**-6.3**
AML	**Almayashu**	**6.02**	**20**	P	**Pn**	**18 02 13.2**	**+1.3**
	SNR=52						
UCH	**Uchtor**	**6.36**	**25**	P	**Sn**	**18 03 28.1**	**+0.5**
	SNR=6.4						
KZA	**Kyzart**	**6.50**	**30**	P	**Pn**	**18 02 19.2**	**+0.8**
	SNR=9.3						
EKS2	**Erkin-Say**	**6.54**	**19**	P	**Pn**	**18 02 20.0**	**+1.2**
	SNR=36						
EKS2	**Erkin-Say**	**6.54**	**19**	*e*Pn	**Pn**	**18 02 19.7**	**+0.8**
	15nm,0.6s						
EKS2				*e*Sn	**Sn**	**18 03 30.2**	**-1.7**
KK31	**Karatay Array**	**6.61**	**357**	⇑P	**Pn**	**18 02 20.6**	**+0.7**
	12nm,0.3s,baz=168,slow=11,SNR=204						
KK31				⇑S	**Sn**	**18 03 32.4**	**-1.2**
	15nm,0.6s,baz=186,slow=25,SNR=6.4						
KKAR	**Karatay Array**	**6.61**	**357**	*e*Pn	**Pn**	**18 02 20.6**	**+0.8**
	2.1nm,0.4s						
KKAR				*e*Sn	**Sn**	**18 03 32.6**	**-1.0**
AAK	**Ala-Archa**	**6.72**	**23**	P	**Pn**	**18 02 22.6**	**+1.3**
	SNR=62						
AAK	**Ala-Archa**	**6.72**	**23**	P	**Pn**	**18 02 22.4**	**+1.1**
	0.3nm,0.3s,baz=179,slow=6.7,SNR=187						
AAK				S	**Sn**	**18 03 37.0**	**+0.7**
	0.0nm,0.3s,baz=326,slow=22,SNR=12						
AAK	**Ala-Archa**	**6.72**	**23**	⇓*i*Pn	**Pn**	**18 02 22.3**	**+1.0**
	52nm,0.4s						
AAK				*e*		18 02 29.0	
AAK				*e*Sn	**Sn**	**18 03 35.3**	**-1.0**
AAK				S	**Sn**	**18 03 37.0**	**+0.7**
KBK	**Karagaybulak**	**6.89**	**25**	P	**Pn**	**18 02 25.1**	**+1.4**
	SNR=8.8						
ULHL	**Ulahol**	**7.06**	**34**	P	**Pn**	**18 02 26.2**	**+0.2**
	SNR=8.2						
CHMS	**Chumysh**	**7.13**	**23**	P	**Pn**	**18 02 27.8**	**+0.9**
	SNR=41						
USP	**Ospenovka**	**7.30**	**21**	P	**Pn**	**18 02 29.5**	**+0.3**
	SNR=23						
TKM2	**Tokmak 2**	**7.36**	**28**	P	**Pn**	**18 02 30.7**	**+0.8**
	SNR=30						
TKM2	**Tokmak 2**	**7.36**	**28**	⇓P	**Pn**	**18 02 30.5**	**+0.5**
	10nm,0.5s						
TKM2				⇑S	**Sn**	**18 03 52.2**	**+0.5**
	11nm,0.7s						
TKM2	**Tokmak 2**	**7.36**	**28**	*e*Pn	**Pn**	**18 02 30.4**	**+0.5**
	17nm,0.4s						
TKM2				*e*		18 02 37.5	
TKM2				*e*Sn	**Sn**	**18 03 47.9**	**-3.9**
SMLA	**Simla**	**7.45**	**134**	*i* P	**Pn**	**18 02 27.1**	**-4.1**
SMLA				*i* S	**Sn**	**18 03 45.0**	**-9.1**
SMLA				*i* S	**Sn**	**18 03 45.2**	**-8.9**
SMLA				⇓		18 03 48.8	
	comp=E,1μm,0.2s						
SMLA				⇓		18 03 49.3	
	comp=N,1μm,0.2s						
MK31	**Makanchi Array**	**13.33**	**36**	⇓P	**Pn**	**18 03 49.8**	**-0.5**
	comp=N,0.4nm,0.3s,baz=222,slow=15,SNR=5.8						
MK31	**Makanchi Array**	**13.33**	**36**	*e*Pn	**Pn**	**18 03 49.4**	**-0.9**
MKAR	**Makanchi Array**	**13.33**	**36**	P	**Pn**	**18 03 49.6**	**-0.7**
	comp=N,0.1nm,0.3s,baz=221,slow=16,SNR=7.2						
MKAR	**Makanchi Array**	**13.33**	**36**	P	**Pn**	**18 03 49.6**	**-0.7**
AB31	**Akbulak array**	**15.07**	**331**	P	**Pn**	**18 04 11.1**	**-1.6**
	comp=N,1.5nm,0.3s,baz=142,slow=12,SNR=119						
AB31				⇑S	**S**	**18 06 49.2**	**-20**
	comp=N,2.6nm,0.5s,baz=152,slow=24,SNR=10.0						
ABKAR	**Akbulak array**	**15.07**	**331**	*e*Pn	**Pn**	**18 04 10.9**	**-1.7**
	comp=N,3.8nm,0.4s						
ABKAR				*e*Sn	**Sn**	**18 06 46.9**	**-12**
KURK	**Kurchatov**	**15.25**	**19**	P	**Pn**	**18 04 14.5**	**-0.5**
	comp=N,0.2nm,0.3s,baz=209,slow=11,SNR=10						
KURK	**Kurchatov**	**15.25**	**19**	P	**Pn**	**18 04 14.5**	**-0.5**
VOSK	**Vostochnaya**	**16.23**	**0**	⇑P	**Pn**	**18 04 25.6**	**-1.5**
	comp=N,6.1nm,1.4s						
ZRNK	**Zerenda**	**16.51**	**356**	⇑P	**Pn**	**18 04 29.5**	**-1.1**
	comp=N,2.5nm,0.6s						
BVA0	**Borovoye Array**	**16.54**	**359**	⇓P	**Pn**	**18 04 28.9**	**-2.0**
	comp=N,0.3nm,0.8s,baz=0.0,slow=0.1,SNR=12						
BVAR	**Borovoye Array**	**16.54**	**359**	P	**Pn**	**18 04 31.0**	**+0.1**
	comp=N,0.4nm,0.3s,baz=162,slow=10,SNR=11						
BVAR				S	**S**	**18 07 27.4**	**-12**
	comp=N,0.2nm,0.3s,baz=164,slow=24,SNR=3.4						
BVAR	**Borovoye Array**	**16.54**	**359**	P	**Pn**	**18 04 31.0**	**+0.1**
BVAR				S	**S**	**18 07 27.4**	**-12**
BRVK	**Borovoye**	**16.57**	**359**	*e*Pn	**Pn**	**18 04 29.9**	**-1.5**
	comp=N,2.6nm,0.6s						
AKTK	**Aktyubinsk**	**16.76**	**330**	P	**Pn**	**18 04 34.3**	**+0.6**
AKTK				S	**S**	**18 07 31.2**	**-13**
AKTO	**Aktyubinsk**	**16.76**	**330**	⇑P	**Pn**	**18 04 34.4**	**+0.7**
	comp=N,1.4nm,0.8s						
AKTO	**Aktyubinsk**	**16.76**	**330**	P	**Pn**	**18 04 34.3**	**+0.6**
	comp=N,1.1nm,0.3s,baz=139,slow=9.5,SNR=12						
AKTO				S	**S**	**18 07 31.2**	**-13**
	comp=N,0.2nm,0.3s,baz=191,slow=23,SNR=2.6						
LSA	**Lhasa**	**18.22**	**106**	P	**P**	**18 04 50.7**	**+0.2**
ZAA0	**Zalesovo Array**	**19.94**	**25**	*e*Pn	**Pn**	**18 05 08.1**	**-3.5**
ZALV	**Zalesovo Beam**	**19.94**	**25**	P	**P**	**18 05 08.8**	**-0.2**
	comp=N,2.2nm,0.3s,baz=224,slow=10,SNR=17						
ZALV				S	**S**	**18 08 52.3**	**+4.7**
	comp=N,0.4nm,0.4s,baz=199,slow=21,SNR=2.6						
ZALV	**Zalesovo Beam**	**19.94**	**25**	P	**P**	**18 05 08.8**	**-0.2**
ZALV				S	**S**	**18 08 52.3**	**+4.7**
MIB	**Mutribah**	**20.83**	**258**	*e*P	**P**	**18 05 19.9**	**+1.1**
MIB				AMb	AMB	18 05 23.3	
	comp=Z,1.3nm,0.7s						
RST	**Umm Al-Ruwaisa**	**21.23**	**258**	*e*P	**P**	**18 05 22.6**	**-0.4**
RST				AMb	AMB	18 05 23.5	
	comp=Z,4.1nm,1.0s,mb3.7						
ARU	**Arti**	**21.62**	**341**	P	**P**	**18 05 27.1**	**+0.1**
	comp=Z,5.0nm,0.9s,mb3.8						
SONM	**Songino Array**	**28.38**	**55**	P	**P**	**18 06 30.6**	**+0.7**
	comp=Z,0.4nm,0.4s,mb3.3,baz=272,slow=9.3,SNR=7.4						
SONM	**Songino Array**	**28.38**	**55**	P	**P**	**18 06 30.6**	**+0.7**
JOF	**Joensuu**	**35.85**	**330**	*e*P	**P**	**18 07 36.7**	**+1.8**
FINES	**FINESS Array B**	**37.46**	**326**	P	**P**	**18 07 50.9**	**+2.3**
	comp=Z,2.3nm,0.9s,mb4.1,baz=131,slow=8.1,SNR=8.6						
FINES	**FINESS Array B**	**37.46**	**326**	P	**P**	**18 07 50.9**	**+2.3**
KEV	**Kevo**	**40.79**	**338**	*e*P	**P**	**18 08 15.0**	**-1.2**
ARCES	**ARCESS Array B**	**41.13**	**338**	P	**P**	**18 08 21.8**	**+2.9**
	comp=Z,2.2nm,0.6s,mb4.2,baz=113,slow=9.3,SNR=16						
ARCES	**ARCESS Array B**	**41.13**	**338**	P	**P**	**18 08 21.9**	**+2.9**
NB2	**NORSAR Subarra**	**44.36**	**323**	P	**P**	**18 08 47.0**	**+1.9**
	comp=Z,1.1nm,0.5s,mb3.8,baz=96,slow=7.9						
NOA	**NORSAR Array B**	**44.36**	**323**	P	**P**	**18 08 47.0**	**+1.9**
	comp=Z,1.3nm,0.5s,mb3.9,baz=97,slow=7.9,SNR=9.1						
NOA	**NORSAR Array B**	**44.36**	**323**	P	**P**	**18 08 47.0**	**+1.9**
TORD	**Torodi Ar. Bea**	**65.67**	**269**	P	**P**	**18 11 18.1**	**-1.1**
	comp=Z,1.1nm,0.8s,mb3.8,baz=45,slow=5.4,SNR=7.7						
TORD	**Torodi Ar. Bea**	**65.67**	**269**	P	**P**	**18 11 18.1**	**-1.0**
INK	**Inuvik**	**73.92**	**9**	P	**P**	**18 12 10.5**	**+1.7**
	comp=Z,3.2nm,1.0s,mb4.0						
DBIC	**Dimbokro**	**74.65**	**267**	P	**P**	**18 12 10.3**	**-3.7**
	comp=Z,1.1nm,1.3s,mb4.4						
ILAR	**Eielson Array**	**74.80**	**16**	P	**P**	**18 12 15.2**	**+1.2**
	comp=Z,0.3nm,0.8s,mb3.1,baz=297,slow=4.0,SNR=3.4						
ILAR	**Eielson Array**	**74.80**	**16**	P	**P**	**18 12 15.2**	**+1.2**
YKA	**Yellowknife Ar**	**81.26**	**3**	P	**P**	**18 12 51.3**	**+1.6**
	comp=Z,1.3nm,0.8s,mb3.8,baz=354,slow=5.4,SNR=3.6						
YKA	**Yellowknife Ar**	**81.26**	**3**	P	**P**	**18 12 51.3**	**+1.6**
WRA	**Warramunga Arr**	**82.03**	**122**	P	**P**	**18 12 52.7**	**-1.7**
	comp=Z,0.4nm,0.5s,mb3.5,baz=325,slow=4.8,SNR=4.9						
WRA	**Warramunga Arr**	**82.03**	**122**	P	**P**	**18 12 52.7**	**-1.7**
ASAR	**Alice Springs**	**84.29**	**125**	P	**P**	**18 13 04.6**	**-1.3**
	comp=Z,0.4nm,0.9s,mb3.2,baz=313,slow=4.6,SNR=4.1						
ASAR	**Alice Springs**	**84.29**	**125**	P	**P**	**18 13 04.7**	**-1.3**

JMA 07 18:07:10.0, 35.35N×135.83E, h12km±1km, M2.5, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFM	**Mihama**	**0.22**	**35**	P	Pg	18 07 14.8	+0.1
JFM				S	Sg	18 07 18.0	+0.2
JWT	**Wachi**	**0.36**	**259**	P	Pg	18 07 17.0	-0.1
JWT				S	Sg	18 07 21.7	-0.2
JKY	**Yasaka**	**0.65**	**295**	P	Pg	18 07 22.7	0.0
JKY				S	Sg	18 07 31.3	0.0
JHE	**Heguri**	**0.70**	**190**	P	Pg	18 07 23.5	-0.2
JHE				S	Sg	18 07 32.5	-0.4
TSUJ	**Tsu 2**	**0.80**	**143**	P	Pg	18 07 24.9	-0.6
TSUJ				S	Sg	18 07 35.1	-0.9
MAT	**Matsushiro**	**2.27**	**58**	P	Pn	18 07 52.6	+5.3
MAT				*e*S	Sn	18 08 20.3	+5.2

*IDC **07** 18:19:43.2±2.5, 8.40S×106.95E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/19, mbtmp3.8/7, Error ellipse: s-maj=131.3km s-min=19.4km az=51.0*
*NEIC **07** 18:19:47.2±7.5, 8.36S×107.08E, h27km±56km, mb4.5/6, Error ellipse: s-maj=56.0km s-min=11.6km az=49.0*
*ISCJB **07** 18:19:50.0±1.1, 8.45S±0.09×107.02E±0.08, h73km±8km, mb4.0/13, Error ellipse: s-maj=17.7km s-min=7.7km az=37.8*
*DJA **07** 18:19:51, 8.37S×107.01E, h15km, MLv4.3/12*
ISC 07 18:19:51.3±1.0, 8.43S±0.08×107.06E±0.07, h64km±8km, n37, σ0§94/39, mb4.1/13, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**1.15**	**41**	P	**Pn**	**18 20 10.8**	**-0.7**
CISI				S	**Sn**	**18 20 25.1**	**-1.4**
SKJI	**Sukabumi**	**1.50**	**341**	P	**Pn**	**18 20 15.5**	**-0.6**
SKJI				S	**Sn**	**18 20 34.5**	**-0.3**
DBJI	**Dramaga**	**1.89**	**351**	P	**Pn**	**18 20 22.0**	**+0.6**
DBJI				S	**Sn**	**18 20 45.5**	**+1.3**
CGJI	**Cibinong**	**2.26**	**323**	P	**Pn**	**18 20 25.2**	**-1.1**
SBJI	**Serang**	**2.48**	**338**	P	**Pn**	**18 20 29.7**	**+0.4**
KLSI		**4.38**	**328**	P	**Pn**	**18 20 55.7**	**+0.4**
LWLI	**Liwa**	**4.51**	**319**	P	**Pn**	**18 20 57.9**	**+0.7**
SJI	**Sawahan**	**4.72**	**82**	P	**Pn**	**18 21 03.1**	**+3.2**
PWJI	**Pagerwojo**	**4.72**	**85**	P	**Pn**	**18 21 01.8**	**+1.9**
MDSI	**Maura Dua**	**4.85**	**324**	P	**Pn**	**18 21 01.5**	**-0.3**
MBWA	**Marble Bar**	**17.59**	**137**	*e*Pn	**Pn**	**18 23 50.3**	**-1.9**
MBWA				*e*Sn	**Sn**	**18 26 51.9**	**-16**
WRA	**Warramunga Arr**	**28.77**	**116**	P	**P**	**18 25 44.8**	**+1.6**
	0.2nm,0.6s,mb3.0,baz=288,slow=11,SNR=3.6						
WRA	**Warramunga Arr**	**28.77**	**116**	P	**P**	**18 25 44.8**	**+1.6**
ASAR	**Alice Springs**	**29.83**	**124**	P	**P**	**18 25 51.7**	**-0.9**
	0.2nm,0.7s,mb3.0,baz=302,slow=9.2,SNR=3.4						
ASAR	**Alice Springs**	**29.83**	**124**	P	**P**	**18 25 51.7**	**-0.9**
STKA	**Stephens Creek**	**39.65**	**131**	P	**P**	**18 27 18.4**	**+1.3**
	3.3nm,1.1s,mb4.0,baz=305,slow=16,SNR=2.7						
STKA	**Stephens Creek**	**39.65**	**131**	P	**P**	**18 27 18.4**	**+1.3**
LSA	**Lhasa**	**40.89**	**339**	*e*P	**P**	**18 27 28.0**	**+0.7**
	1.9nm,0.6s,mb3.9						
SONM	**Songino Array**	**56.02**	**359**	P	**P**	**18 29 23.7**	**+0.4**
	0.2nm,0.5s,mb3.4,baz=182,slow=7.8,SNR=4.7						
SONM	**Songino Array**	**56.02**	**359**	P	**P**	**18 29 23.7**	**+0.4**
TKM2	**Tokmak 2**	**58.60**	**333**	*e*P	**P**	**18 29 41.1**	**-0.5**
	3.2nm,0.6s,mb4.5						
AAK	**Ala-Archa**	**58.87**	**332**	P	**P**	**18 29 43.0**	**-0.5**
EKS2	**Erkin-Say**	**59.22**	**332**	*e*P	**P**	**18 29 46.1**	**+0.2**
	2.0nm,1.0s,mb4.1						
MK31	**Makanchi Array**	**59.25**	**340**	*e*P	**P**	**18 29 45.6**	**-0.4**
MKAR	**Makanchi Array**	**59.25**	**340**	P	**P**	**18 29 46.0**	**+0.1**
	0.8nm,0.4s,mb4.1,baz=151,slow=8.5,SNR=23						
MKAR	**Makanchi Array**	**59.25**	**340**	P	**P**	**18 29 46.0**	**+0.1**
KURK	**Kurchatov**	**63.86**	**340**	*e*P	**P**	**18 30 17.1**	**+0.2**
	7.1nm,0.9s,mb4.7						
ZAA0	**Zalesovo Array**	**64.93**	**346**	P	**P**	**18 30 23.9**	**0.0**
ZALV	**Zalesovo Beam**	**64.93**	**346**	P	**P**	**18 30 23.3**	**-0.5**
	0.8nm,0.3s,mb4.2,baz=145,slow=6.7,SNR=5.1						
ZALV	**Zalesovo Beam**	**64.93**	**346**	P	**P**	**18 30 23.3**	**-0.5**
BVAR	**Borovoye Array**	**68.70**	**337**	P	**P**	**18 30 48.3**	**+0.4**
	3.6nm,0.6s,mb4.5,baz=141,slow=9.1,SNR=29						
BVAR	**Borovoye Array**	**68.70**	**337**	P	**P**	**18 30 48.3**	**+0.4**
BRVK	**Borovoye**	**68.77**	**337**	*e*P	**P**	**18 30 48.3**	**0.0**
ABKAR	**Akbulak array**	**70.67**	**329**	*e*P	**P**	**18 31 00.2**	**+0.1**
	3.2nm,0.7s,mb4.4						
BILL	**Bilbino**	**86.82**	**19**	P	**P**	**18 32 26.3**	**-2.0**
	25nm,1.8s,mb5.1						
TXAR	**Lajitas Array**	**144.45**	**50**	PKP	PKPdf	18 39 21.9	+0.9
	0.1nm,0.4s,baz=270,slow=1.3,SNR=5.7						
TXAR	**Lajitas Array**	**144.45**	**50**	PKP	PKPdf	18 39 21.9	+0.9

*ISCJB **07** 18:22:17.5±0.9, 24.51N±0.09×97.75E±0.3, h10km, mb3.2/3, Error ellipse: s-maj=39.1km s-min=6.1km az=163.9*
*IDC **07** 18:22:20.0±1.4, 24.80N×97.75E, h0km, mb3.3/3, mb1 3.4/4, mb1mx3.2/26, mbtmp3.3/4, Error ellipse: s-maj=51.8km s-min=18.1km az=80.0*
ISC 07 18:22:20.2±0.9, 24.65N±0.09×97.6E±0.3, h10km, n6, σ1§30/10, mb3.2/3, 1D, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHRT	**Chiangrai**	**5.16**	**157**	⇓PN	**Pn**	**18 23 42.5**	**+4.9**
CHRT				PG	**Pg**	**18 23 58.0**	**-1.2**
CHRT				SG	**Sg**	**18 25 06.5**	**+0.4**
CHG	**Chiang Mai**	**5.94**	**168**	PG	**Pg**	**18 24 12.0**	**-2.0**
CHG				SG	**Sg**	**18 25 33.2**	**+2.2**
CMAR	**Chiang Mai Arr**	**6.29**	**168**	Pn	**Pn**	**18 23 54.4**	**+1.4**
	0.4nm,0.3s,baz=347,slow=13,SNR=12						
CMAR				Pg	**Pg**	**18 24 18.8**	**-1.9**
	0.7nm,0.3s,baz=347,slow=19,SNR=28						
CMAR				Lg		18 25 43.7	
	1.9nm,0.3s,baz=346,slow=30,SNR=9.1						
SONM	**Songino Array**	**24.16**	**15**	P	**P**	**18 27 36.8**	**+0.4**
	0.3nm,0.8s,mb2.8,baz=188,slow=9.9,SNR=2.3						
MKAR	**Makanchi Array**	**25.27**	**335**	P	**P**	**18 27 46.6**	**0.0**
	0.9nm,0.8s,mb3.3,baz=134,slow=8.3,SNR=5.7						
ZALV	**Zalesovo Beam**	**30.79**	**345**	P	**P**	**18 28 36.3**	**+0.4**
	0.6nm,0.7s,mb3.5,baz=160,slow=8.8,SNR=2.4						

*ISCJB **07** 18:37:39.3±0.4, 43.74N±0.04×105.25W±0.05, h0km, Error ellipse: s-maj=6.1km s-min=5.5km az=165.5*
*NEIC **07** 18:37:40.8±0.4, 43.74N×105.27W, h0km, ML2.9, Error ellipse: s-maj=5.5km s-min=4.8km az=163.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
*IDC **07** 18:37:40.8±1.8, 43.84N×105.52W, h0km, mb4.2/1, mb1 4.2/3, mb1mx3.6/25, mbtmp4.0/3, ML3.6/2, Error ellipse: s-maj=56.1km s-min=8.2km az=150.0*
ISC 07 18:37:40.9±0.4, 43.74N±0.04×105.26W±0.05, h0km, n36, σ0§96/38, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.96**	**66**	*e*Pg	**Pg**	**18 37 59.9**	**+0.6**
PHWY	**Pilot Hill**	**2.44**	**183**	*e*Pn	**Pn**	**18 38 20.4**	**-1.5**
RWWY	**Rawlins**	**2.50**	**216**	*e*Pn	**Pn**	**18 38 23.1**	**+0.3**
LAO	**LASA Array**	**3.02**	**347**	*e*Pn	**Pn**	**18 38 29.8**	**-0.2**
RLMT	**Red Lodge**	**3.18**	**297**	*e*Pn	**Pn**	**18 38 30.9**	**-1.2**
BW06	**Boulder Array**	**3.29**	**254**	*e*Pn	**Pn**	**18 38 33.1**	**-0.5**
PDAR	**Pinedale Array**	**3.29**	**254**	Pn	**Pn**	**18 38 33.5**	**-0.1**
	3.7nm,0.3s,baz=73,slow=16,SNR=56						
PDAR				Pg	**Pg**	**18 38 42.0**	**-1.9**
	7.6nm,0.3s,baz=66,slow=20,SNR=31						
PDAR				Lg		18 39 19.4	
	36nm,0.3s,baz=70,slow=32,SNR=34						
PDAR	**Pinedale Array**	**3.29**	**254**	Pn	**Pn**	**18 38 33.5**	**-0.1**
PDAR				Pg	**Pg**	**18 38 42.0**	**-1.9**
PDAR				Lg		18 39 19.4	
OGNE	**Ogallala**	**3.68**	**138**	*e*Pn	**Pn**	**18 38 39.4**	**+0.4**
GCMT	**Greycliff**	**3.75**	**305**	*e*Pn	**Pn**	**18 38 39.4**	**-0.5**
LOHW	**Long Hollow**	**3.88**	**270**	*e*Pn	**Pn**	**18 38 43.4**	**+1.7**
ISCO	**Idaho Springs**	**3.95**	**184**	*e*Pn	**Pn**	**18 38 42.8**	**+0.2**
MOOW	**Moose Ponds**	**3.97**	**272**	*e*Pn	**Pn**	**18 38 43.5**	**+0.5**
REDW	**Red Top Meadow**	**4.08**	**267**	*e*Pn	**Pn**	**18 38 44.0**	**-0.5**
IMW	**Indian Meadow**	**4.11**	**274**	*e*Pn	**Pn**	**18 38 45.4**	**+0.5**
TPAW	**Teton Pass**	**4.14**	**268**	*e*Pn	**Pn**	**18 38 45.9**	**+0.7**
YMR	**Madison River**	**4.20**	**285**	*e*Pn	**Pn**	**18 38 46.8**	**+0.6**
AHID	**Auburn Hatcher**	**4.37**	**259**	*e*Pn	**Pn**	**18 38 48.2**	**-0.3**
RRI2	**Red Ridge**	**4.42**	**267**	*e*Pn	**Pn**	**18 38 49.5**	**+0.4**
QLMT	**Earthquake Lak**	**4.56**	**286**	Pn	**Pn**	**18 38 47.9**	**-3.1**
SMCO	**Snowmass**	**4.74**	**196**	*e*Pn	**Pn**	**18 38 54.1**	**+0.6**
DGMT	**Dag

DFE	**Dawson Falls**	**2.18 290**	PN	Pn	18 39 03.6	+2.3
NEZ	**North Egmont**	**2.21 291**	PN	Pn	18 39 03.8	+2.1
DUWZ	**D'Urville Isla**	**2.27 251**	PN	Pn	18 39 02.1	-0.4
PKE	**Pukeiti**	**2.31 292**	PN	Pn	18 39 05.3	+2.1
TUWZ	**Tuamarina**	**2.51 237**	PN	Pn	18 39 04.6	-1.3
NNZ	**Nelson**	**2.80 245**	PN	Pn	18 39 09.1	-0.7
MXZ	**Matakaoa Point**	**2.81 26**	PN	Pn	18 39 09.2	-0.8
MKAZ	**Moumakai**	**3.23 337**	PN	Pn	18 39 16.1	+0.3
KHZ	**Kahutara**	**3.35 225**	PN	Pn	18 39 15.6	-1.8
THZ	**Tophouse**	**3.35 239**	PN	Pn	18 39 16.1	-1.3
LTZ	**Lake Taylor**	**4.30 230**	PN	Pn	18 39 28.3	-2.2
CTZ	**Chatham Island**	**6.14 128**	PN	Pn	18 39 56.0	+0.4

SKO 07 18:47:36.9, 40°49N × 21°39E, h8 km, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEST	**Nestorio**	**0.27**	**254**	P	Pg	18 47 43.6	+1.3
NEST				S	Sg	18 47 50.7	+4.8
FNA	**Florina**	**0.29**	**358**	P	Pg	18 47 42.4	-0.3
FNA				S	Sg	18 47 47.2	+0.5
BIA	**Bitola**	**0.53**	**355**	*e*Pg	Pg	18 47 46.1	-1.0
BIA				*e*Sg	Sg	18 47 54.8	+0.7
BIA	**Bitola**	**0.53**	**355**	*e*Pg	Pg	18 47 46.2	-1.0
BIA				*e*Sg	Sg	18 47 54.9	+0.7
BIA	**Bitola**	**0.53**	**355**	*e*Pg	Pg	18 47 46.2	-1.0
BIA				*e*Sg	Sg	18 47 55.3	+1.1
BIA	comp=E,11nm,0.2s			*e*Lg		18 47 55.4	
BIA	comp=N,13nm,0.2s			*e*Lg		18 47 56.3	
KRUS	**Krusevo**	**0.89**	**353**	*e*Pg	Pg	18 47 52.6	-1.3
KRUS	**Krusevo**	**0.89**	**353**	*e*Pg	Pg	18 47 52.8	-1.1
KRUS	**Krusevo**	**0.89**	**353**	*e*Pg	Pg	18 47 52.8	-1.1
LIT	**Litokhoron**	**0.93**	**114**	P	Pg	18 47 52.1	-2.3
LIT				S	Sg	18 48 04.2	-2.5

*ISCJB **07** 19:07:36.2±0.4, 43°.80N±0°.03 × 105°.28W±0°.05, h0 km, mb4.2/1, Error ellipse: s-maj=5.2km s-min=4.9km az=164.1*
*IDC **07** 19:07:36.0±1.4, 43°.46N × 105°.23W, h0 km, mb4.0/1, mb1 3.8/5, mb1mx3.5/27, mbtmp3.6/5, ML2.8/3, MS3.7/1, Ms1 3.7/1, ms1mx2.6/44, Error ellipse: s-maj=34.7km s-min=8.2km az=152.0*
*NEIC **07** 19:07:37.7±0.4, 43°.79N × 105°.23W, h0 km, ML3.2, Error ellipse: s-maj=5.1km s-min=4.9km az=199.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.

ISC 07 19:07:37.9±0.4, 43°.80N±0°.03 × 105°.25W±0°.05, h0 km, n56, σ0 99/57, mb4.2/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.94**	**69**	*e*Pg	**Pg**	**19 07 56.6**	**+0.7**
PHWY	**Pilot Hill**	**2.50**	**184**	*e*Pn	**Pn**	**19 08 19.3**	**-0.4**
RWWY	**Rawlins**	**2.55**	**215**	*e*Pn	**Pn**	**19 08 21.2**	**+0.8**
LAO	**LASA Array**	**2.97**	**347**	*e*Pn	**Pn**	**19 08 26.4**	**+0.1**
RLMT	**Red Lodge**	**3.17**	**296**	*e*Pn	**Pn**	**19 08 29.4**	**+0.5**
BW06	**Boulder Array**	**3.31**	**253**	*e*Pn	**Pn**	**19 08 30.9**	**0.0**
PDAR	**Pinedale Array** 5.8nm,0.3s,baz=70,slow=15,SNR=64	**3.31**	**253**	Pn	**Pn**	**19 08 30.9**	**+0.1**
PDAR	14nm,0.3s,baz=76,slow=19,SNR=36			Pg	**Pg**	**19 08 39.6**	**-1.7**
PDAR	16nm,0.3s,baz=340,slow=32,SNR=5.7			Lg		19 09 15.7	
PDAR	**Pinedale Array**	**3.31**	**253**	Pn	**Pn**	**19 08 30.9**	**+0.1**
PDAR				Pg	**Pg**	**19 08 39.6**	**-1.7**
PDAR				Lg		19 09 15.7	
OGNE	**Ogallala**	**3.71**	**139**	*e*Pn	**Pn**	**19 08 36.9**	**+0.4**
GCMT	**Greycliff**	**3.72**	**304**	*e*Pn	**Pn**	**19 08 37.0**	**+0.5**
LKWY	**Lake**	**3.78**	**284**	*e*Pn	**Pn**	**19 08 36.0**	**-1.4**
LOHW	**Long Hollow**	**3.89**	**269**	*e*Pn	**Pn**	**19 08 41.3**	**+2.5**
FLWY	**Flagg Ranch**	**3.95**	**276**	*e*Pn	**Pn**	**19 08 39.6**	**0.0**
MOOW	**Moose Ponds**	**3.98**	**271**	*e*Pn	**Pn**	**19 08 39.9**	**-0.2**
ISCO	**Idaho Springs**	**4.00**	**184**	*e*Pn	**Pn**	**19 08 40.7**	**+0.3**
REDW	**Red Top Meadow**	**4.09**	**266**	*e*Pn	**Pn**	**19 08 43.8**	**+2.2**
IMW	**Indian Meadow**	**4.12**	**273**	*e*Pn	**Pn**	**19 08 42.9**	**+0.9**
TPAW	**Teton Pass**	**4.15**	**268**	*e*Pn	**Pn**	**19 08 43.2**	**+0.8**
YMR	**Madison River**	**4.20**	**284**	*e*Pn	**Pn**	**19 08 41.2**	**-1.9**
AHID	**Auburn Hatcher**	**4.39**	**258**	*e*Pn	**Pn**	**19 08 47.2**	**+1.4**
RRI2	**Red Ridge**	**4.43**	**266**	*e*Pn	**Pn**	**19 08 46.4**	**0.0**
QLMT	**Earthquake Lak**	**4.55**	**285**	*e*Pn	**Pn**	**19 08 46.0**	**-2.0**
DGMT	**Dagmar**	**4.73**	**9**	*e*Pn	**Pn**	**19 08 52.2**	**+1.7**
SMCO	**Snowmass**	**4.79**	**196**	*e*Pn	**Pn**	**19 08 50.4**	**-0.9**
BOZ	**Bozeman (W)**	**4.91**	**294**	*e*Pn	**Pn**	**19 08 51.9**	**-1.0**
HWUT	**Hardware Ranch** 8.2nm,0.3s	**5.14**	**247**	*e*Pn	**Pn**	**19 08 55.4**	**-0.6**
EGMT	**Eagleton** 20nm,0.4s	**5.27**	**325**	*e*Pn	**Pn**	**19 08 57.1**	**-0.7**
DLMT	**Dillon** 4.1nm,0.3s	**5.48**	**289**	*e*Pn	**Pn**	**19 08 57.5**	**-3.1**
HRY	**Holter Researc** 15nm,0.3s	**5.49**	**304**	*e*Pn	**Pn**	**19 09 00.8**	**+0.1**
LRM	**Limekiln Ridge** 32nm,0.3s	**5.51**	**294**	*e*Pn	**Pn**	**19 09 01.9**	**+0.7**
MCMT	**McKenzie Canyo** 2.3nm,0.3s	**5.55**	**283**	*e*Pn	**Pn**	**19 09 07.1**	**+5.5**
DAU	**Daniels Canyon** 6.9nm,0.3s	**5.60**	**235**	*e*Pn	**Pn**	**19 09 04.8**	**+2.4**
HVU	**Hansel Valley**	**5.89**	**253**	*e*Pn	**Pn**	**19 09 06.1**	**-0.2**
SDCO	**Great Sand Dun** 0.7nm,0.4s	**6.05**	**182**	*e*Pn	**Pn**	**19 09 08.3**	**-0.2**
PV04	**Paradox Valley**	**6.06**	**208**	*e*Pn	**Pn**	**19 09 08.8**	**+0.2**
SRU	**San Rafael** 15nm,0.3s	**6.13**	**222**	*e*Pn	**Pn**	**19 09 09.1**	**-0.5**
ECSD	**EROS Data Cent** 6.1nm,0.3s	**6.25**	**88**	*e*Pn	**Pn**	**19 09 10.8**	**-0.5**
TMUT	**Trail Mountain** 7.9nm,0.4s	**6.34**	**227**	*e*Pn	**Pn**	**19 09 12.8**	**+0.3**
CHMT	**Chamberlain Mo** 2.0nm,0.3s	**6.44**	**302**	*e*Pn	**Pn**	**19 09 14.1**	**+0.2**
DUG	**Dugway** 3.0nm,0.4s	**6.68**	**240**	*e*Pn	**Pn**	**19 09 16.6**	**-0.7**
SLMT	**Seeley Lake** 2.1nm,0.3s	**6.74**	**304**	*e*Pn	**Pn**	**19 09 17.5**	**-0.5**
MSO	**Missoula** 1.6nm,0.3s	**6.84**	**299**	*e*Pn	**Pn**	**19 09 19.0**	**-0.3**
SWMT	**Swartz Lake** 2.6nm,0.4s	**7.17**	**304**	*e*Pn	**Pn**	**19 09 23.6**	**-0.3**
YBMT	**Yellow Bay** 5.8nm,0.3s	**7.35**	**307**	*e*Pn	**Pn**	**19 09 27.4**	**+1.1**
MSU	**Marysvale** 3.0nm,0.4s	**7.42**	**227**	*e*Pn	**Pn**	**19 09 27.4**	**0.0**
CCUT	**Cedar City** 1.4nm,0.6s	**8.77**	**227**	*e*Pn	**Pn**	**19 09 46.4**	**+0.6**
ANMO	**Albuquerque** 0.1nm,0.3s,baz=338,slow=11,SNR=3.3	**8.88**	**186**	Pn	**Pn**	**19 09 40.4**	**-7.0**
ANMO	**Albuquerque**	**8.88**	**186**	Pn	**Pn**	**19 09 40.4**	**-7.0**
ULM	**Lac du Bonnet** 1.3nm,0.3s,baz=232,slow=12,SNR=11	**9.09**	**41**	Pn	**Pn**	**19 09 49.1**	**-1.0**
ULM	0.8nm,0.3s,baz=207,slow=16,SNR=3.1			Pg	Pn	19 10 20.3	+30
ULM	0.5nm,0.3s,baz=125,slow=22,SNR=3.5			Lg		19 12 23.4	
ULM	**Lac du Bonnet**	**9.09**	**41**	Pn	**Pn**	**19 09 49.1**	**-1.0**
ULM				Pg	Pn	19 10 20.3	+30
ULM				Lg		19 12 23.4	
NVAR	**Mina Array Bea** 0.2nm,0.3s,baz=54,slow=19,SNR=3.9	**11.21**	**246**	Pn	**Pn**	**19 10 18.9**	**-0.3**
NVAR	**Mina Array Bea**	**11.21**	**246**	Pn	**Pn**	**19 10 18.9**	**-0.3**
FVM	**French Village** 16nm,0.3s	**12.62**	**112**	*e*Pn	**Pn**	**19 10 35.4**	**-3.3**
ATAH	**Atahualpa** comp=Z,58nm,18.0s,baz=185,slow=41	**56.22**	**147**	LR	LR	19 45 46.6	
ARCES	**ARCESS Array B** 1.4nm,0.7s,mb4.2,baz=307,slow=8.9,SNR=2.6	**61.36**	**18**	P	**P**	**19 17 55.2**	**+0.3**
ARCES	**ARCESS Array B**	**61.36**	**18**	P	**P**	**19 17 55.2**	**+0.3**

*ISCJB **07** 19:33:53.1±0.6, 43°.55N±0°.05 × 40°.87E±0°.04, h10 km, Error ellipse: s-maj=7.8km s-min=4.1km az=13.1*
*CSEM **07** 19:33:55.0, 43°.59N × 40°.91E, h18 km, mb4.1, After OBN MOS **07** 19:33:55.0±2.6, 43°.59N × 40°.91E, h18 km, mb4.1/1, Error ellipse: s-maj=21.6km s-min=7.2km az=9.6*

ISC 07 19:33:53.2±0.6, 43°.60N±0°.05 × 40°.89E±0°.04, h10 km, n42, σ1 931/76, 4C-1D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOMR	**Dombai**	**0.61**	**119**	*i* PG	**Pg**	**19 34 01.1**	**-4.0**
DOMR	**Dombai**	**0.61**	**119**	*i* Pg	**Pg**	**19 34 01.1**	**-4.0**
SOC	**Sochi**	**0.85**	**270**	*e*PG	**Pg**	**19 34 10.0**	**+0.4**
SOC				*e*		19 34 26.1	
SOC	comp=Z,138nm,0.9s			pmax	pmax		
SOC	comp=N,795nm,1.0s			smax			
SOC	comp=E,857nm,0.9s			smax			
SOC	**Sochi** comp=E,138nm,0.9s	**0.85**	**270**	*e*Pg	**Pg**	**19 34 10.0**	**+0.4**
SOC	comp=E,795nm,1.0s			*e*Sg	**Sg**	**19 34 26.1**	**+5.4**
KIV	**Kislovodsk**	**1.35**	**74**	*i* PG	**Pn**	**19 34 17.0**	**-1.1**
KIV				*i* S	**Sb**	**19 34 34.7**	**-1.2**
KIV	comp=Z,174nm,1.0s			pmax	pmax		
KIV	comp=N,249nm,0.8s			smax			
KIV	**Kislovodsk** comp=N,174nm,1.0s	**1.35**	**74**	*i* Pg	**Pn**	**19 34 17.0**	**-1.1**
KIV	comp=N,249nm,0.8s			*i* Sg	**Sb**	**19 34 34.7**	**-1.2**
BEYR	**Belyy Ugol+**	**1.46**	**73**	*d i* PG	**Pn**	**19 34 19.0**	**-0.6**
BEYR	**Belyy Ugol+**	**1.46**	**73**	*i* Pg	**Pn**	**19 34 19.0**	**-0.6**
KUBR	**Kubataba**	**1.84**	**83**	*i* PN	**Pn**	**19 34 24.7**	**-0.1**
KUBR	**Kubataba**	**1.84**	**83**	*e*Pn	**Pn**	**19 34 24.7**	**-0.1**
DIGR	**Digorskoe uzhe**	**2.09**	**109**	*i* PN	**Pb**	**19 34 30.6**	**-0.5**
DIGR				*e*S	**Sb**	**19 34 59.2**	**+2.1**
DIGR	**Digorskoe uzhe**	**2.09**	**109**	*i* Pn	**Pb**	**19 34 30.6**	**-0.5**
DIGR				*e*Sb	**Sb**	**19 34 59.2**	**+2.1**
ONI	**Oni**	**2.13**	**117**	P	**Pn**	**19 34 29.3**	**+0.5**
LSNR	**Lesken**	**2.16**	**98**	*i* PN	**Pb**	**19 34 32.4**	**+0.1**
LSNR				*e*S	**Sg**	**19 35 02.2**	**-0.3**
LSNR	**Lesken**	**2.16**	**98**	*i* Pn	**Pb**	**19 34 32.4**	**+0.1**
LSNR				*e*Sb	**Sg**	**19 35 02.2**	**-0.3**
ZEI	**Tsey**	**2.35**	**110**	*e*PN	**Pn**	**19 34 34.2**	**+2.3**
ZEI				*e*S	**Sb**	**19 35 05.1**	**+0.4**
ZEI	**Tsey**	**2.35**	**110**	*e*Pn	**Pn**	**19 34 34.2**	**+2.3**
ZEI				*e*Sn	**Sb**	**19 35 05.1**	**+0.4**
KORR	**Kora**	**2.37**	**101**	*e*PN	**Pb**	**19 34 35.1**	**-0.9**
KORR				*e*S	**Sb**	**19 35 06.7**	**+1.3**
KORR	**Kora**	**2.37**	**101**	*e*Pn	**Pb**	**19 34 35.1**	**-0.9**
KORR				*e*Sn	**Sb**	**19 35 06.7**	**+1.3**
PRTR	**Priterechnaya**	**2.47**	**85**	*e*PN	**Pb**	**19 34 37.4**	**-0.2**
PRTR				*e*S	**Sg**	**19 35 11.3**	**-1.1**
PRTR	**Priterechnaya**	**2.47**	**85**	*e*Pn	**Pb**	**19 34 37.4**	**-0.2**
PRTR				*e*Sn	**Sg**	**19 35 11.3**	**-1.1**
KMSR	**Komsomolskaya**	**2.49**	**94**	*e*PN	**Pb**	**19 34 37.1**	**-0.9**
KMSR				*e*S	**Sb**	**19 35 10.8**	**+2.2**
KMSR	**Komsomolskaya**	**2.49**	**94**	*e*Pn	**Pb**	**19 34 37.1**	**-0.9**
KMSR				*e*Sn	**Sb**	**19 35 10.8**	**+2.2**
ARNR	**Ardon**	**2.50**	**98**	*e*PN	**Pb**	**19 34 36.9**	**-1.4**
ARNR				*e*S	**Sb**	**19 35 10.4**	**+1.3**
ARNR	**Ardon**	**2.50**	**98**	*e*Pn	**Pb**	**19 34 36.9**	**-1.4**
ARNR				*e*Sn	**Sb**	**19 35 10.4**	**+1.3**
BTKR	**Batakoyurt**	**2.67**	**94**	*e*PN	**Pb**	**19 34 39.5**	**-1.5**
BTKR				*e*S	**Sb**	**19 35 15.2**	**+1.4**
BTKR	**Batakoyurt**	**2.67**	**94**	*e*Pn	**Pb**	**19 34 39.5**	**-1.5**
BTKR				*e*Sn	**Sb**	**19 35 15.2**	**+1.4**
ANN	**Anapa**	**2.76**	**297**	*e*PN	**Pb**	**19 34 42.5**	**-0.2**
ANN				*e*S	**Sb**	**19 35 20.5**	**+4.0**
ANN	comp=Z,23nm,0.5s			pmax	pmax		
ANN	**Anapa** comp=Z,23nm,0.5s	**2.76**	**297**	*e*Pn	**Pb**	**19 34 42.5**	**-0.2**
ANN				*e*Sn	**Sb**	**19 35 20.5**	**+4.0**
TRKR	**Terskaya**	**2.79**	**86**	*e*PN	**Pb**	**19 34 42.0**	**-1.2**
TRKR				*e*S	**Sb**	**19 35 18.6**	**+1.2**
TRKR	**Terskaya**	**2.79**	**86**	*e*Pn	**Pb**	**19 34 42.0**	**-1.2**
TRKR				*e*Sn	**Sb**	**19 35 18.6**	**+1.2**
VLKR	**Vladikavkaz**	**2.82**	**100**	*e*PN	**Pn**	**19 34 41.3**	**+3.0**
VLKR				*e*S	**Sb**	**19 35 17.6**	**-0.5**
VLKR	**Vladikavkaz**	**2.82**	**100**	*e*Pn	**Pn**	**19 34 41.3**	**+3.0**
VLKR				*e*Sn	**Sb**	**19 35 17.6**	**-0.5**
GOR	**Gori**	**2.86**	**123**	P	**Pn**	**19 34 39.3**	**+0.4**
GOR				S	**Sb**	**19 35 17.2**	**-2.3**
SNJR	**Sundja**	**2.91**	**99**	*e*PN	**Pn**	**19 34 42.6**	**+3.1**
SNJR				*e*S	**Sb**	**19 35 20.0**	**-0.8**
SNJR	**Sundja**	**2.91**	**99**	*e*Pn	**Pn**	**19 34 42.6**	**+3.1**
SNJR				*e*Sn	**Sb**	**19 35 20.0**	**-0.8**
AKH	**Akhalkalaki**	**2.91**	**138**	P	**Pn**	**19 34 39.4**	**-0.2**
AKH				S	**Sb**	**19 35 19.1**	**-1.7**
TBLG	**Delisi**	**3.40**	**122**	*e*PN	**Pb**	**19 34 51.8**	**-1.6**
TBLG				*e*S	**Sb**	**19 35 30.9**	**-3.9**
TBLG	**Delisi**	**3.40**	**122**	P	**Pb**	**19 34 51.8**	**-1.6**
TBLG				S	**Sb**	**19 35 31.0**	**-3.8**
TBLG	**Delisi**	**3.40**	**122**	*e*Pn	**Pb**	**19 34 51.8**	**-1.6**
TBLG				*e*Sn	**Sb**	**19 35 30.9**	**-3.9**
MTA	**Mtatsminda**	**3.45**	**122**	P	**Pn**	**19 34 48.7**	**+1.7**
MTA				S	**Sn**	**19 35 30.4**	**+2.6**
DGRG	**David-gareji**	**3.95**	**121**	P	**Pg**	**19 35 07.7**	**-1.1**
DGRG				S	**Sg**	**19 36 07.9**	**+8.0**

*IDC **07** 19:44:16.6±0.8, 6°.03S × 151°.21E, h0 km, mb4.3/11, mb1 4.5/12, mb1mx4.4/16, mbtmp4.3/12, MS4.0/19, Ms1 4.0/19, ms1mx3.9/27, Error ellipse: s-maj=35.1km s-min=15.8km az=120.0*
*NEIC **07** 19:44:17.7±5.2, 6.04S × 151°.27E, h9 km±33 km, mb4.9/6, Error ellipse: s-maj=14.7km s-min=9.1km az=158.0*
*ISCJB **07** 19:44:19.7±0.6, 6.07S±0°.09 × 151°.2E±0°.1, h33 km, mb4.4/15, MS4.1/17, Error ellipse: s-maj=17.7km s-min=8.4km az=37.7*
*GCMT **07** 19:44:26.2±0.3, 6.26S × 151°.25E, h22 km±1 km, MW5.0, Moment Tensor Solution. s25,c37; s62,c92; Moment tensor: Scale 10^{16}Nm; M_{rr}3.43±.26; $M_{\theta\theta}$-3.04±.16; $M_{\phi\phi}$-0.40±.15; $M_{r\theta}$1.67±.21; $M_{\theta\phi}$-1.26±.10; $M_{\phi r}$1.21±.27; Best double couple: $M_0$4.10000×10^{16} NP1:ϕ_s256.00000°, δ30.00000°, λ103.00000°. NP2:ϕ_s61.00000°, δ60.00000°, λ83.00000°. Principal axes: T 4.0200, Plg74.0000°, Azm312.0000°; N 0.0500, Plg6.0000°, Azm65.0000°; P -4.0800, Plg15.0000°, Azm156.0000°; Data Used: II IC IU G CN.*

ISC 07 19:44:21.4±0.5, 6°.14S±0°.08 × 151°.28E±0°.07, h35 km, n51, σ0 992/44, mb4.4/15, MS4.1/17, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 5.1nm,0.3s,baz=39,slow=9.9,SNR=13	**5.21**	**231**	Pn	**Pn**	**19 45 37.8**	**+0.8**
PMG	22nm,0.3s,baz=348,slow=14,SNR=6.9			Sn	**Sn**	**19 46 36.6**	**+0.6**
PMG	comp=Z,1μm,20.8s,baz=297,slow=32			LR	LR	19 47 03.5	
PMG	**Port Moresby**	**5.21**	**231**	Pn	**Pn**	**19 45 37.8**	**+0.8**
PMG				Sn	**Sn**	**19 46 36.6**	**+0.6**
PMG				LR	LR	19 47 03.5	
HNR	**Honiara**	**9.19**	**111**	*e*Pn	**Pn**	**19 46 30.0**	**-1.7**
CTA	**Charters Tower** comp=Z,132nm,20.9s,baz=257,slow=29	**14.70**	**199**	LR	LR	19 51 21.4	
CTAO	**Charters Tower** 17nm,1.2s	**14.70**	**199**	P	**Pn**	**19 47 55.0**	**+8.1**
EIDS	**Eidsvold**	**19.13**	**181**	*e*P	**Pn**	**19 48 43.2**	**+0.6**
EIDS	**Eidsvold** 25nm,1.1s	**19.13**	**181**	*e*P	**Pn**	**19 48 43.5**	**+0.9**
KAKA	**Kakadu** 21nm,0.5s	**19.69**	**249**	*e*P	**Pn**	**19 48 47.3**	**-2.1**
KAKA	**Kakadu** 58nm,0.5s	**19.69**	**249**	*e*P	**Pn**	**19 48 47.1**	**-2.3**
GUMO	**Guam** comp=Z,148nm,21.4s,MS3.3,baz=191,slow=29	**20.60**	**342**	LR	LR	19 54 14.4	
WRAB	**Tennant Creek** 50nm,1.1s,mb4.8	**21.41**	**229**	*e*P	**P**	**19 49 06.4**	**-0.1**
WRAB				*e*S	**S**	**19 52 54.1**	**-8.2**
WB2	**Warramunga Arr**	**21.42**	**229**	*e*P	**P**	**19 49 06.7**	**+0.1**
WB2				*e*S	**S**	**19 53 01.1**	**-1.3**
WRA	**Warramunga Arr** 26nm,0.7s,mb4.7,baz=53,slow=11,SNR=147	**21.43**	**229**	P	**P**	**19 49 06.9**	**+0.2**
WRA	9.3nm,1.4s,baz=58,slow=20,SNR=13			S	**S**	**19 53 01.6**	**-1.0**
WRA	0.6nm,0.7s,baz=41,slow=2.2,SNR=4.2			PcP	PcP	19 53 11.1	+1.7
WRA	comp=Z,334nm,20.4s,MS3.7,baz=75,slow=37			LR	LR	19 57 31.5	
WRA	**Warramunga Arr**	**21.43**	**229**	P	**P**	**19 49 06.9**	**+0.3**
WRA				S	**S**	**19 53 01.6**	**-1.0**
WRA				PcP	PcP	19 53 11.1	+1.7
WRA				LR	LR	19 57 31.5	
ASAR	**Alice Springs** 32nm,0.7s,mb4.8,baz=55,slow=9.2,SNR=262	**24.15**	**222**	P	**P**	**19 49 35.0**	**+0.6**
ASAR	**Alice Springs**	**24.15**	**222**	P	**P**	**19 49 35.0**	**+0.6**
STKA	**Stephens Creek** 8.5nm,1.0s,mb4.2,baz=124,slow=10,SNR=6.8	**27.16**	**198**	P	**P**	**19 50 02.2**	**+0.6**
STKA	comp=Z,475nm,18.5s,MS4.1,baz=125,slow=39			LR	LR	20 01 52.1	
STKA	**Stephens Creek** 8.9nm,0.8s,mb4.3	**27.16**	**198**	*e*P	**P**	**19 50 01.2**	**-0.4**
STKA	**Stephens Creek** 5.9nm,1.2s,mb4.0	**27.16**	**198**	*e*P	**P**	**19 50 01.7**	**+0.1**
STKA				LR	LR	20 01 52.1	
FITZ	**Fitzroy Crossi** 7.0nm,0.7s,mb4.4,baz=85,slow=6.1,SNR=36	**27.70**	**242**	P	**P**	**19 50 06.4**	**-0.1**
FITZ	comp=Z,344nm,18.6s,MS4.0,baz=241,slow=39			LR	LR	20 02 21.3	
FITZ	**Fitzroy Crossi** 16nm,0.6s,mb4.8	**27.70**	**242**	*e*P	**P**	**19 50 06.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**27.70**	**242**	P	**P**	**19 50 06.4**	**-0.1**
FITZ				LR	LR	20 02 21.3	
MBWA	**Marble Bar** 47nm,1.3s,mb5.3	**34.00**	**241**	*e*P	**P**	**19 51 01.9**	**-0.2**
MEEK	**Meekatharra**	**37.19**	**233**	*e*P	**P**	**19 51 29.0**	**-0.5**
RPZ	**Rata Peaks** comp=Z,352nm,19.3s,MS4.2,baz=339,slow=33	**41.27**	**158**	LR	LR	20 07 14.5	
NWAO	**Narrogin (SRO)** comp=Z,463nm,19.6s,MS4.4,baz=79,slow=40	**41.38**	**225**	LR	LR	20 11 34.1	
MJAR	**Matsushiro Arr** comp=Z,154nm,19.1s,MS3.9,baz=195,slow=34	**44.18**	**345**	LR	LR	20 09 08.5	
KSRS	**Korea Array** 1.2nm,0.6s,mb4.1,baz=154,slow=8.4,SNR=5.0	**48.53**	**335**	P	**P**	**19 53 05.8**	**+4.7**
KSRS	comp=Z,103nm,21.2s,MS3.8,baz=62,slow=31			LR	LR	20 09 08.5	
CMAR	**Chiang Mai Arr** 0.4nm,0.7s,mb3.5,baz=108,slow=5.5,SNR=2.9	**57.09**	**296**	P	**P**	**19 54 04.0**	**-0.7**
CMAR	comp=Z,84nm,19.6s,MS3.9,baz=280,slow=36			LR	LR	20 18 17.6	
CMAR	**Chiang Mai Arr**	**57.09**	**296**	P	**P**	**19 54 04.0**	**-0.7**
CMAR				LR	LR	20 18 17.6	
PETK	**Petropavlovsk-** 6.1nm,1.0s,mb4.6,baz=167,slow=13,SNR=3.7	**59.27**	**4**	P	**P**	**19 54 19.5**	**+0.2**
PETK	comp=Z,98nm,20.9s,MS3.9,baz=73,slow=34			LR	LR	20 17 16.3	
PETK	**Petropavlovsk-**	**59.27**	**4**	P	**P**	**19 54 19.5**	**+0.2**
PETK				LR	LR	20 17 16.4	
CASY	**Casey** 44nm,1.1s,mb5.4	**66.30**	**197**	P	**P**	**19 55 01.4**	**-4.5**
SONM	**Songino Array** 1.1nm,0.6s,mb4.1,baz=148,slow=5.3,SNR=5.9	**66.66**	**329**	P	**P**	**19 55 08.9**	**+0.4**
SONM	comp=Z,194nm,20.6s,MS4.3,baz=23,slow=36			LR	LR	20 23 52.8	
SONM	**Songino Array**	**66.66**	**329**	P	**P**	**19 55 08.9**	**+0.4**
SONM				LR	LR	20 23 52.8	
MKAR	**Makanchi Array** comp=Z,89nm,18.3s,MS4.2,baz=175,slow=36	**80.34**	**319**	LR	LR	20 32 39.3	
ZALV	**Zalesovo Beam** 0.7nm,0.5s,mb3.9,baz=77,slow=6.5,SNR=2.8	**81.42**	**327**	P	**P**	**19 56 35.0**	**+0.3**
ZALV	comp=Z,64nm,18.3s,MS4.0,baz=105,slow=37			LR	LR	20 34 46.4	
ZALV	**Zalesovo Beam**	**81.42**	**327**	P	**P**	**19 56 35.0**	**+0.3**
ZALV				LR	LR	20 34 46.4	
MAW	**Mawson** 1.4nm,0.6s,mb4.3,baz=91,slow=3.7,SNR=14	**83.76**	**203**	P	**P**	**19 56 47.6**	**+0.9**
MAW	comp=Z,149nm,18.7s,MS4.4,baz=95,slow=34			LR	LR	20 31 39.1	
MAW	**Mawson**	**83.76**	**203**	P	**P**	**19 56 47.6**	**+0.9**
MAW				LR	LR	20 31 39.1	
ILAR	**Eielson Array** 1.6nm,0.7s,mb4.3,baz=247,slow=5.3,SNR=28	**83.96**	**22**	P	**P**	**19 56 46.7**	**-1.0**
ILAR	comp=Z,122nm,18.2s,MS4.3,baz=257,slow=35			LR	LR	20 32 54.1	
ILAR	**Eielson Array**	**83.96**	**22**	P	**P**	**19 56 46.6**	**-1.0**
ILAR				LR	LR	20 32 54.1	
BBB	**Bella Bella** comp=Z,82nm,19.5s,MS4.2,baz=279,slow=30	**89.07**	**37**	LR	LR	20 29 09.7	
NVAR	**Mina Array Bea** 0.6nm,0.7s,mb4.2,baz=239,slow=6.8,SNR=5.8	**94.10**	**52**	P	**P**	**19 57 38.9**	**+2.3**
NVAR	comp=Z,186nm,18.8s,MS4.6,baz=102,slow=31			LR	LR	20 32 55.6	
NVAR	**Mina Array Bea**	**94.10**	**52**	P	**P**	**19 57 38.9**	**+2.3**
NVAR				LR	LR	20 32 55.6	
ARCES	**ARCESS Array B** 6.0nm,1.0s,baz=35,slow=3.3,SNR=4.1	**107.69**	**343**	PKiKP	PKiKP	20 02 43.9	-0.5
ARCES	**ARCESS Array B**	**107.69**	**343**	PKPdf	PKiKP	20 02 43.9	-0.5
GERES	**GERESS Array B** 1.4nm,0.7s,baz=48,slow=2.0,SNR=15	**124.37**	**327**	PKP	PKPdf	20 03 17.4	+0.6
GERES	**GERESS Array B**	**124.37**	**327**	PKP	PKPbc	20 04 07.2	-0.3
TORD	**Torodi Ar. Bea** 4.2nm,0.7s,baz=35,slow=2.7,SNR=36	**149.24**	**285**	PKPbc	PKPbc	20 04 07.2	-0.3
TORD	**Torodi Ar. Bea**	**149.24**	**285**	PKPbc	PKPbc	20 04 07.2	-0.3

**MEX 07 19:47:35.1±

PMG	**Port Moresby**	**5.11 230**	Pn	Pn	19 58 18.6	+0.3		
	0.5nm,0.3s,baz=14,slow=8.3,SNR=2.5							
PMG			Sn	Sn	19 59 17.9	-0.1		
	1.7nm,0.3s,baz=136,slow=12,SNR=2.4							
WRA	**Warramunga Arr**	**21.33 228**	P	P	20 01 48.5	-0.6		
	1.2nm,0.5s,baz=54,slow=11,SNR=12							
ASAR	**Alice Springs**	**24.06 222**	P	P	20 02 17.3	-0.3		
	1.8nm,0.8s,baz=55,slow=9.3,SNR=12							
FITZ	**Fitzroy Crossi**	**27.57 242**	P	P	20 02 51.2	+1.8		
	1.2nm,0.8s,baz=69,slow=14,SNR=3.9							
TORD	**Torodi Ar. Bea**	**149.07 285**	PKPbc	PKPbc	20 16 50.6	-1.1		
	0.2nm,0.6s,baz=58,slow=2.8,SNR=3.3							

IDC 07 20:01:12.3±3.6, 6°06S×150°91E, h0km, mb3.1/2, mb1 3.5/2, mb1mx3.3/15, mbtmp3.2/2, Error ellipse: s-maj=145.8km s-min=47.3km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.20**	**228**	P	P	20 06 00.2	+0.4
	0.5nm,0.5s,baz=54,slow=11,SNR=9.5						
ASAR	**Alice Springs**	**23.96**	**221**	P	P	20 06 28.8	+0.2
	0.4nm,0.6s,baz=59,slow=9.9,SNR=5.6						
TORD	**Torodi Ar. Bea**	**148.86**	**285**	PKPbc	PKPbc	20 21 02.3	-0.9
	0.4nm,1.1s,baz=82,slow=4.7,SNR=2.9						

IDC 07 20:02:56.4±3.1, 30°76N×83°29E, h0km, mb3.1/4, mb1 3.3/4, mb1mx3.2/26, mbtmp3.2/4, Error ellipse: s-maj=92.5km s-min=29.3km az=73.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**16.03**	**358**	Pn	Pn	20 06 46.4	+3.3
	0.1nm,0.3s,baz=177,slow=11,SNR=4.2						
KURK	**Kurchatov**	**20.24**	**351**	P	P	20 07 32.6	-0.5
	0.3nm,0.6s,baz=172,slow=11,SNR=5.3						
ZALV	**Zalesovo Beam**	**23.20**	**2**	P	P	20 08 04.3	-0.4
	0.2nm,0.3s,baz=158,slow=12,SNR=2.5						
SONM	**Songino Array**	**24.57**	**40**	P	P	20 08 18.3	+0.5
	0.6nm,0.8s,baz=230,slow=10,SNR=6.5						
WRA	**Warramunga Arr**	**70.33**	**129**	P	P	20 14 12.2	+0.1
	0.2nm,0.4s,baz=322,slow=6.6,SNR=5.1						

*ISCJB **07** 20:09:31.8±0.6, 43°53N±0°05×105°01W±0°07, h0km, Error ellipse: s-maj=7.7km s-min=6.6km az=146.0*
*NEIC **07** 20:09:33.1±0.5, 43°49N×105°02W, h0km, ML3.1, Error ellipse: s-maj=6.9km s-min=5.7km az=147.0, Suspected Mining explosion.*
NEIC 75 km [50 miles] WSW of Newcastle.
*IDC **07** 20:09:36.4±2.0, 43°98N×105°72W, h0km, mb1 3.4/3, mb1mx3.2/26, mbtmp3.1/3, ML2.9/3, Error ellipse: s-maj=77.0km s-min=9.0km az=147.0*
ISC 07 20:09:33.2±0.6, 43°50N±0°05×105°01W±0°07, h0km, n28, σ0°95/30, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.94**	**48**	*e*Pg	**Pg**	**20 09 52.2**	**+0.9**
PHWY	**Pilot Hill**	**2.22**	**189**	*e*Pn	**Pn**	**20 10 10.9**	**-0.3**
RWWY	**Rawlins**	**2.43**	**223**	*e*Pn	**Pn**	**20 10 13.3**	**-0.9**
LAO	**LASA Array**	**3.31**	**345**	*e*Pn	**Pn**	**20 10 26.2**	**0.0**
OGNE	**Ogallala**	**3.37**	**138**	*e*Pn	**Pn**	**20 10 26.6**	**-0.6**
PDAR	**Pinedale Array**	**3.41**	**259**	Pn	**Pn**	**20 10 28.3**	**+0.7**
	1.2nm,0.3s,baz=74,slow=16,SNR=26						
PDAR				Pg	**Pg**	**20 10 31.9**	**-6.6**
	2.0nm,0.3s,baz=74,slow=18,SNR=32						
PDAR				Lg		20 11 11.6	
	3.5nm,0.3s,baz=79,slow=30,SNR=5.5						
PDAR	**Pinedale Array**	**3.41**	**259**	Pn	**Pn**	**20 10 28.3**	**+0.7**
PDAR				Pg	**Pg**	**20 10 31.9**	**-6.6**
PDAR				Lg		20 11 11.6	
RLMT	**Red Lodge**	**3.46**	**299**	*e*Pn	**Pn**	**20 10 26.6**	**-1.8**
ISCO	**Idaho Springs**	**3.72**	**187**	*e*Pn	**Pn**	**20 10 32.4**	**+0.5**
LOHW	**Long Hollow**	**4.07**	**274**	*e*Pn	**Pn**	**20 10 35.3**	**-1.4**
FLWY	**Flagg Ranch**	**4.16**	**280**	*e*Pn	**Pn**	**20 10 38.2**	**+0.2**
MOOW	**Moose Ponds**	**4.17**	**275**	*e*Pn	**Pn**	**20 10 38.6**	**+0.4**
SNOW	**Snow King Moun**	**4.18**	**272**	*e*Pn	**Pn**	**20 10 42.8**	**+4.6**
REDW	**Red Top Meadow**	**4.26**	**270**	*e*Pn	**Pn**	**20 10 40.1**	**+0.8**
YNR	**Norris Junctio**	**4.26**	**289**	*e*Pn	**Pn**	**20 10 43.0**	**+3.7**
YFT	**Old Faithful**	**4.31**	**285**	*e*Pn	**Pn**	**20 10 44.5**	**+4.5**
IMW	**Indian Meadow**	**4.32**	**277**	*e*Pn	**Pn**	**20 10 39.2**	**-1.0**
TPAW	**Teton Pass**	**4.33**	**272**	*e*Pn	**Pn**	**20 10 40.7**	**+0.5**
YMR	**Madison River**	**4.45**	**287**	*e*Pn	**Pn**	**20 10 40.5**	**-1.5**
RRI2	**Red Ridge**	**4.60**	**270**	*e*Pn	**Pn**	**20 10 45.0**	**+1.0**
QLMT	**Earthquake Lak**	**4.81**	**288**	*e*Pn	**Pn**	**20 10 48.4**	**+1.5**
DGMT	**Dagmar**	**5.01**	**6**	Pn	**Pn**	**20 10 48.4**	**-1.2**
	27nm,0.5s						
HWUT	**Hardware Ranch**	**5.20**	**251**	*e*Pn	**Pn**	**20 10 52.4**	**+0.2**
	5.8nm,0.5s						
DAU	**Daniels Canyon**	**5.58**	**239**	*e*Pn	**Pn**	**20 10 57.6**	**+0.1**
	5.6nm,0.5s						
ULM	**Lac du Bonnet**	**9.20**	**40**	Pn	**Pn**	**20 11 47.5**	**+0.4**
	0.5nm,0.3s,baz=229,slow=11,SNR=3.7						
ULM				Lg		20 14 22.3	
	0.2nm,0.3s,baz=346,slow=8.3,SNR=2.8						
ULM	**Lac du Bonnet**	**9.20**	**40**	Pn	**Pn**	**20 11 47.5**	**+0.4**
ULM				Lg		20 14 22.3	
NVAR	**Mina Array Bea**	**11.25**	**248**	Pn	**Pn**	**20 12 19.2**	**+3.9**
	0.0nm,0.3s,baz=59,slow=14,SNR=2.8						
NVAR	**Mina Array Bea**	**11.25**	**248**	Pn	**Pn**	**20 12 19.2**	**+3.9**

MEX 07 20:13:32.4±1.0, 16°89N×95°21W, h106km±9km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.36**	**57**	*i* P	Pn	20 13 46.9	-1.1
CMIG				*i* S	Sn	20 13 57.5	-2.1
HUIG	**Huatulco**	**1.42**	**218**	*i* P	Pn	20 13 56.0	-2.0
HUIG				*i* S	Sn	20 14 16.1	-1.3
OXX	**Oaxaca**	**1.47**	**278**	*e*P	Pn	20 13 56.7	-1.8
OXX				*i* S	Sn	20 14 17.2	-1.2
VHO	**Vista Hermosa**	**1.47**	**277**	*i* P	Pn	20 13 59.1	+0.5
VHO				*i* S	Sn	20 14 17.4	-1.2
PCIG		**2.24**	**121**	*i* P	Pn	20 14 07.7	-0.7
PCIG				*i* S	Sn	20 14 35.4	-0.5
TPIG	**Tehuac#an**	**2.56**	**307**	*e*P	Pn	20 14 12.1	-0.4
TPIG				*i* S	Sn	20 14 42.5	-0.7
UTMO	**Huajuapan**	**2.65**	**291**	*i* P	Pn	20 14 12.2	-1.5
UTMO				*i* S	Sn	20 14 43.6	-1.8
PNIG	**Pinotepa**	**2.84**	**260**	*i* P	Pn	20 14 14.4	-1.8
PNIG				*i* S	Sn	20 14 48.2	-1.8
CCIG	**Comitan**	**3.00**	**101**	*i* P	Pn	20 14 17.4	-1.0
CCIG				*i* S	Sn	20 14 52.4	-1.4
LVIG	**Laguna Verde**	**3.04**	**338**	*e*P	Pn	20 14 17.6	-1.3
LVIG				*i* S	Sn	20 14 49.6	-5.0
CAIG	**El Cayaco**	**4.85**	**273**	*i* P	Pn	20 14 42.7	-0.4
CAIG				*i* S	Sn	20 15 36.4	-1.8

*ISCJB **07** 20:17:37.5±0.3, 71°49N±0°03×11°84W±0°08, h10km, mb3.8/12, MS3.2/5, Error ellipse: s-maj=4.4km s-min=3.1km az=142.0*
*CSEM **07** 20:17:38.0±0.1, 71°52N×11°79W, h2km, mb4.0/4, Error ellipse: s-maj=4.0km s-min=3.1km az=134.0*
*IDC **07** 20:17:39.4±0.9, 71°64N×11°70W, h0km, mb3.8/9, mb1 3.9/14, mb1mx3.7/34, mbtmp3.8/14, ML3.1/4, MS3.2/6, Ms1 3.3/6, ms1mx2.9/45, Error ellipse: s-maj=26.4km s-min=14.2km az=40.0*
*REY **07** 20:17:40.4, 71°18N×11°11W, h10km, ML3.5, ML3.4*
*NEIC **07** 20:17:40.7±0.4, 71°68N×11°59W, h10km, mb4.1/5, Error ellipse: s-maj=8.9km s-min=6.8km az=216.0*
*BER **07** 20:17:41.9±2.7, 71°39N×11°70W, h10km, MD2.7, ML3.5, ML2.5(NAO)*
*NAO **07** 20:17:42.2±6.2, 71°74N×10°54W, ML2.5*
ISC 07 20:17:39.6±0.3, 71°51N±0°03×11°69W±0°08, h10km, n101, σ1°21/123, mb3.8/12, MS3.2/5, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMIC	**Jan Mayen**	**1.15**	**115**	Pg	**Pg**	**20 17 59.9**	**-1.7**
JMIC				Lg		20 18 15.4	
JMIC	**Jan Mayen**	**1.15**	**115**	*e*P	**Pb**	**20 18 00.5**	**-1.0**
JMIC				*e*S	**Sb**	**20 18 15.2**	**-1.2**
JMIC				AML	AML	20 18 16.9	
	comp=Z,4μm,0.3s						
JMIC	**Jan Mayen**	**1.15**	**115**	Pn	**Pn**	**20 18 00.4**	**-1.3**
	comp=Z,74nm,0.3s,baz=231,slow=1.8,SNR=108						
JMIC				Sn	**Sn**	**20 18 15.3**	**-2.1**
	comp=Z,1μm,0.3s,baz=195,slow=20,SNR=168						
JMIC	**Jan Mayen**	**1.15**	**115**	Pn	**Pn**	**20 18 00.4**	**-1.3**
JMIC				Sn	**Sn**	**20 18 15.3**	**-2.1**
JMIC	**Jan Mayen**	**1.15**	**115**	Pg	**Pg**	**20 17 59.9**	**-1.7**
JMIC	**Jan Mayen**	**1.15**	**115**	Pn	**Pn**	**20 18 00.4**	**-1.3**
JMIC				*e*S	**Sb**	**20 18 15.2**	**-1.2**
	comp=Z,4μm,0.3s,SNR=70						
JNW	**Jan Mayen West**	**1.16**	**113**	*e*P	**Pb**	**20 18 00.5**	**-1.1**
JNW				*e*S	**Sb**	**20 18 15.0**	**-1.6**
JNW	**Jan Mayen West**	**1.16**	**113**	*e*P	**Pb**	**20 18 00.5**	**-1.1**
	SNR=7.0						
JNW				*e*S	**Sb**	**20 18 15.0**	**-1.6**
	SNR=7.0						
ILEI	**Leirhofn**	**5.41**	**201**	P	**Pn**	**20 18 58.9**	**-1.2**
ILEI				S	**Sn**	**20 20 02.2**	**-0.1**
IGRI	**Grimsey**	**5.48**	**208**	P	**Pn**	**20 19 01.1**	**0.0**
IGRI				S	**Sn**	**20 20 04.3**	**+0.3**
DAG	**Danmarks Havn**	**5.62**	**343**	*i* P	**Pn**	**20 19 00.0**	**-3.1**
DAG				*i* S	**Sn**	**20 19 57.5**	**-10**
IGIL	**Gilhagi**	**5.71**	**199**	P	**Pn**	**20 19 02.6**	**-1.7**
IGIL				S	**Sn**	**20 20 09.2**	**-0.5**
IHED	**Heoinshofoi**	**5.82**	**203**	S	**Sn**	**20 20 12.3**	**-0.1**
ISIG	**Siglufjorour**	**6.00**	**209**	P	**Pn**	**20 19 09.2**	**+1.0**
ISIG				S	**Sn**	**20 20 17.5**	**+0.7**
IGRA	**Granastaoir**	**6.01**	**204**	P	**Pn**	**20 19 08.1**	**-0.3**
IGRA				S	**Sn**	**20 20 17.2**	**+0.1**
IHLA	**Hella**	**6.09**	**207**	P	**Pn**	**20 19 09.8**	**+0.3**
IHLA				S	**Sn**	**20 20 19.6**	**+0.4**
IGRS	**Grimsstaoir**	**6.11**	**198**	P	**Pn**	**20 19 08.9**	**-0.9**
IGRS				S	**Sn**	**20 20 19.6**	**-0.1**
IREN	**Reynihlio**	**6.19**	**200**	P	**Pn**	**20 19 10.1**	**-0.7**
IHRN	**Hraun**	**6.22**	**213**	P	**Pn**	**20 19 10.4**	**-0.8**
IADA	**Aoalbol**	**6.67**	**194**	P	**Pn**	**20 19 16.4**	**-1.1**
IGLU	**Glumsstadir**	**6.68**	**193**	P	**Pn**	**20 19 16.9**	**-0.6**
BORG	**Borgarnes**	**7.67**	**213**	*e*Pn	**Pn**	**20 19 35.8**	**+4.7**
SUMG	**Summit**	**8.30**	**290**	*e*Pn	**Pn**	**20 19 39.6**	**-0.2**
	comp=Z,25nm,1.0s						
SUMG				*e*Sn	**Sn**	**20 21 06.7**	**-6.7**
SUMG	**Summit**	**8.30**	**290**	*i* P	**Pn**	**20 19 40.0**	**+0.2**
SUMG				*i* S	**Sn**	**20 21 10.9**	**-2.5**
SUMG	**Summit**	**8.30**	**290**	*e*Pn	**Pn**	**20 19 39.6**	**-0.2**
	comp=Z,25nm,1.0s						
KBS	**Kingsbay**	**9.48**	**28**	Pn	**Pn**	**20 19 54.0**	**-1.9**
KBS				Sn	**Sn**	**20 21 30.4**	**-12**
KBS	**Kingsbay**	**9.48**	**28**	*e*P	**Pn**	**20 19 53.9**	**-2.0**
KBS				*e*		20 21 29.7	
KBS				AML	AML	20 21 37.0	
	comp=Z,16nm,0.6s						
KBS	**Kingsbay**	**9.48**	**28**	*e*Pn	**Pn**	**20 19 53.5**	**-2.4**
	comp=Z,14nm,0.6s						
KBS				*e*Sn	**Sn**	**20 21 29.8**	**-12**
KBS	**Kingsbay**	**9.48**	**28**	Pn	**Pn**	**20 19 54.0**	**-1.8**
SPB4	**Spitsbergen Ar**	**9.79**	**35**	*e*Pn	**Pn**	**20 19 59.4**	**-0.8**
SPB4				*e*Sn	**Sn**	**20 21 33.2**	**-17**
SPB4	**Spitsbergen Ar**	**9.79**	**35**	*e*Pn	**Pn**	**20 19 59.4**	**-0.8**
SPA0	**Spitsbergen Ar**	**9.80**	**35**	Pn	**Pn**	**20 19 59.6**	**-0.6**
	baz=238,slow=9.3						
SPA0				Sn	**Sn**	**20 21 47.5**	**-2.5**
	baz=240,slow=28						
SPA0	**Spitsbergen Ar**	**9.80**	**35**	P	**Pn**	**20 19 59.6**	**-0.7**
	baz=238,slow=8.8,SNR=47						
SPITS	**Spitsbergen Ar**	**9.80**	**35**	Pn	**Pn**	**20 19 59.7**	**-0.6**
	baz=221,slow=7.5,SNR=86						
SPITS	**Spitsbergen Ar**	**9.80**	**35**	Pn	**Pn**	**20 19 59.7**	**-0.6**
SPITS	**Spitsbergen Ar**	**9.80**	**35**	Pn	**Pn**	**20 19 59.7**	**-0.6**
STOK	**Stokkvaagen**	**10.23**	**108**	*e*Pn	**Pn**	**20 20 06.7**	**+0.5**
STOK				*e*Sn	**Sn**	**20 21 53.7**	**-7.1**
STOK				AML	AML	20 21 58.9	
	comp=Z,13nm,0.5s						
TRO	**Tromso**	**10.30**	**86**	*e*Pn	**Pn**	**20 20 08.3**	**+1.1**
TRO	**Tromso**	**10.30**	**86**	*e*Pn	**Pn**	**20 20 08.3**	**+1.2**
	SNR=50						
FLOS	**Flostrand**	**10.34**	**108**	*e*Pn	**Pn**	**20 20 08.8**	**+1.2**
FLOS				*e*Sn	**Sn**	**20 21 58.4**	**-4.9**
FLOS				AML	AML	20 22 01.2	
	comp=Z,22nm,0.7s						
MOR8	**Moi Rana**	**10.77**	**107**	*e*Pn	**Pn**	**20 20 16.6**	**+2.9**
MOR8				*e*Sn	**Sn**	**20 22 09.6**	**-4.4**
MOR8				AML	AML	20 22 14.6	
	comp=Z,19nm,0.5s						
NSS	**Namsos**	**11.21**	**117**	*e*Pn	**Pn**	**20 20 19.3**	**-0.2**
NSS				*e*Sn	**Sn**	**20 22 17.0**	**-7.7**
NSS	**Namsos**	**11.21**	**117**	*e*Pn	**Pn**	**20 20 19.3**	**-0.2**
	SNR=50						
KTK1	**Kautokeino**	**11.95**	**85**	*e*Pn	**Pn**	**20 20 32.1**	**+2.5**
ARA0	**ARCESS Array S**	**12.43**	**81**	Pn	**Pn**	**20 20 36.6**	**+0.5**
	baz=284,slow=10						
ARA0	**ARCESS Array S**	**12.43**	**81**	Pn	**Pn**	**20 20 36.7**	**+0.5**
	baz=284,slow=10,SNR=9.4						
ARCES	**ARCESS Array B**	**12.43**	**81**	Pn	**Pn**	**20 20 37.0**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=292,slow=11,SNR=30						
ARCES	**ARCESS Array B**	**12.43**	**81**	Pn	**Pn**	**20 20 37.0**	**+0.9**
ARCES	**ARCESS Array B**	**12.43**	**81**	Pn	**Pn**	**20 20 37.0**	**+0.8**
KEV	**Kevo**	**12.80**	**79**	*e*Pn	**Pn**	**20 20 42.4**	**+1.1**
KEV	**Kevo**	**12.80**	**79**	*e*Pn	**Pn**	**20 20 42.4**	**+1.1**
NOA	**NORSAR Array B**	**13.84**	**128**	Pn	**Pn**	**20 20 57.4**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=322,slow=13,SNR=3.0						
NOA				LR	LR	20 25 54.4	
	comp=Z,39nm,19.3s,baz=0.0,slow=36						
NOA	**NORSAR Array B**	**13.84**	**128**	Pn	**Pn**	**20 20 57.4**	**+2.0**
NOA				LR	LR	20 25 54.4	
NOA	**NORSAR Array B**	**13.84**	**128**	Pn	**Pn**	**20 20 57.4**	**+1.9**
HFS	**Hagfors**	**15.25**	**125**	P	**Pn**	**20 21 18.9**	**+4.3**
	baz=350,slow=12						
HFS	**Hagfors**	**15.25**	**125**	Pn	**Pn**	**20 21 16.1**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=347,slow=12,SNR=3.0						
HFS	**Hagfors**	**15.25**	**125**	Pn	**Pn**	**20 21 16.1**	**+1.5**
HFS	**Hagfors**	**15.25**	**125**	Pn	**Pn**	**20 21 16.1**	**+1.5**
HFS	**Hagfors**	**15.25**	**125**	P	**Pn**	**20 21 18.9**	**+4.3**
	baz=350,slow=12,SNR=3.9						
FIA0	**FINESS Array S**	**17.76**	**105**	P	**Pn**	**20 21 49.2**	**+2.8**
	baz=315,slow=14						
FIA0	**FINESS Array S**	**17.76**	**105**	P	**Pn**	**20 21 49.2**	**+2.7**
	baz=315,slow=14,SNR=6.8						
FINES	**FINESS Array B**	**17.76**	**105**	P	**Pn**	**20 21 46.9**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=325,slow=10,SNR=3.9						
FINES	**FINESS Array B**	**17.76**	**105**	P	**Pn**	**20 21 46.9**	**+0.5**
FINES	**FINESS Array B**	**17.76**	**105**	P	**Pn**	**20 21 46.9**	**+0.4**
RES	**Resolute Bay**	**22.53**	**316**	P	**P**	**20 22 39.7**	**+0.7**
	comp=Z,6.4nm,0.9s,mb4.1,baz=53,slow=9.8,SNR=8.1						
RES				LR	LR	20 31 13.6	
	comp=Z,105nm,18.1s,MS3.3,baz=336,slow=36						
RES	**Resolute Bay**	**22.53**	**316**	*e*P	**P**	**20 22 38.6**	**-0.4**
	comp=Z,8.6nm,0.9s,mb4.2						
RES				LR	LR	20 31 13.6	
RES	**Resolute Bay**	**22.53**	**316**	*e*P	**P**	**20 22 38.6**	**-0.4**
	comp=Z,8.6nm,0.9s,mb4.2						
CLL	**Collm**	**23.11**	**138**	*e*P	**P**	**20 22 47.0**	**+1.8**
MORC	**Moravsky Berou**	**25.56**	**133**	*e*P	**P**	**20 23 12.3**	**+4.1**
	comp=Z,6.6nm,1.1s,mb4.1						
GERES	**GERESS Array B**	**25.59**	**139**	P	**P**	**20 23 11.5**	**+3.1**
	comp=Z,1.6nm,0.8s,mb3.6,baz=341,slow=7.8,SNR=12						
GERES				LR	LR	20 33 14.3	
	comp=Z,53nm,19.4s,MS3.1,baz=311,slow=36						
GERES	**GERESS Array B**	**25.59**	**139**	P	**P**	**20 23 11.5**	**+3.0**
GERES				LR	LR	20 33 14.3	
VRAC	**Vranov**	**25.78**	**135**	P	**P**	**20 23 13.8**	**+3.6**
	comp=Z,4.4nm,0.9s,mb4.0,baz=336,slow=8.7,SNR=4.4						
VRAC				LR	LR	20 32 58.5	
	comp=Z,67nm,18.3s,MS3.2,baz=202,slow=36						
VRAC	**Vranov**	**25.78**	**135**	P	**P**	**20 23 13.8**	**+3.6**
VRAC				LR	LR	20 32 58.5	
DAVOX	**Davos/Dischmat**	**26.82**	**146**	LR	LR	20 33 21.1	
	comp=Z,97nm,19.0s,MS3.4,baz=309,slow=35						
VYHS	**Vyhne**	**27.07**	**132**	*e*P	**P**	**20 23 25.2**	**+3.4**
KOLS	**Kolonicke sedl**	**27.50**	**127**	*e*P	**P**	**20 23 31.7**	**+6.0**
INK	**Inuvik**	**35.20**	**327**	P	**P**	**20 24 33.6**	**+0.5**
	comp=Z,0.3nm,0.3s,mb3.7,baz=22,slow=5.4,SNR=3.1						
INK	**Inuvik**	**35.20**	**327**	P	**P**	**20 24 33.6**	**+0.5**
INK	**Inuvik**	**35.20**	**327**	P	**P**	**20 24 33.6**	**+0.5**
AKTK	**Aktyubinsk**	**36.93**	**87**	P	**P**	**20 24 49.4**	**+1.2**
AKTK	**Aktyubinsk**	**36.93**	**87**	P	**P**	**20 24 49.3**	**+1.2**
AKTO	**Aktyubinsk**	**36.93**	**87**	P	**P**	**20 24 49.4**	**+1.2**
	comp=Z,0.4nm,0.4s,mb3.6,baz=13,slow=10,SNR=3.7						
KEST	**Kesra**	**37.50**	**151**	LR	LR	20 42 34.1	
	comp=Z,27nm,18.2s,MS3.1,baz=286,slow=40						
ABKAR	**Akbulak array**	**38.57**	**86**	*e*P	**P**	**20 25 03.3**	**+1.3**
	comp=Z,1.6nm,0.8s,mb3.8						
ABKAR	**Akbulak array**	**38.57**	**86**	*e*P	**P**	**20 25 03.3**	**+1.3**
	comp=Z,1.6nm,0.8s,mb3.8						
DAWY	**Dawson**	**40.06**	**327**	*e*P	**P**	**20 25 14.2**	**-0.1**
DAWY	**Dawson**	**40.06**	**327**	*e*P	**P**	**20 25 14.1**	**-0.2**
ILAR	**Eielson Array**	**40.61**	**332**	P	**P**	**20 25 19.4**	**+0.6**
	comp=Z,1.6nm,0.8s,mb3.7,baz=16,slow=6.9,SNR=18						
ILAR	**Eielson Array**	**40.61**	**332**	P	**P**	**20 25 19.4**	**+0.6**
ILAR	**Eielson Array**	**40.61**	**332**	P	**P**	**20 25 19.4**	**+0.6**
MCK	**McKinley**	**41.89**	**333**	*e*P	**P**	**20 25 29.7**	**+0.4**
	comp=Z,5.9nm,1.0s,mb4.2						
MCK	**McKinley**	**41.89**	**333**	*e*P	**P**	**20 25 29.7**	**+0.4**
	comp=Z,5.9nm,1.0s,mb4.2						
KURK	**Kurchatov**	**43.08**	**69**	P	**P**	**20 25 40.5**	**+1.4**
	comp=Z,0.4nm,0.7s,mb3.3,baz=329,slow=8.1,SNR=4.9						
KURK	**Kurchatov**	**43.08**	**69**	*e*P	**P**	**20 25 39.0**	**-0.1**
	comp=Z,1.3nm,0.8s,mb3.7						
KURK	**Kurchatov**	**43.08**	**69**	*e*P	**P**	**20 25 39.0**	**-0.1**
	comp=Z,1.3nm,0.8s,mb3.7						
PDAR	**Pinedale Array**	**52.48**	**293**	P	**P**	**20 26 52.3**	**+0.2**
	comp=Z,0.6nm,0.9s,mb3.5,baz=343,slow=3.1,SNR=4.1						
PDAR	**Pinedale Array**	**52.48**	**293**	P	**P**	**20 26 52.3**	**+0.2**
PDAR	**Pinedale Array**	**52.48**	**293**	P	**P**	**20 26 52.3**	**+0.2**
TORD	**Torodi Ar. Bea**	**58.89**	**165**	P	**P**	**20 27 40.0**	**+1.6**
	comp=Z,0.7nm,0.9s,mb3.7,baz=348,slow=7.5,SNR=4.5						
TORD	**Torodi Ar. Bea**	**58.89**	**165**	P	**P**	**20 27 40.0**	**+1.6**
TORD	**Torodi Ar. Bea**	**58.89**	**165**	P	**P**	**20 27 40.0**	**+1.6**

*NEIC **07** 20:30:54.7, 30°65N×114°45W, h6km, ML3.7(ECX), After ECX.*
ECX 07 20:30:54.7±0.6, 30°65N×114°45W, h6km, ML3.7, 1C-1D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPX	**San Pedro Mart**	**0.95**	**294**	*e*P	Pg	20 31 11.6	-1.5
SPX				*e*S	Sg	20 31 24.6	-0.8
SPX				⇑*e*		20 31 26.9	
	comp=N,2μm,0.4s						
ECBX	**El Chinero**	**0.97**	**328**	*e*P	Pg	20 31 11.1	-2.2
ECBX				*e*S	Sg	20 31 24.7	-1.1
ECBX				*e*		20 31 26.4	
	comp=N,2μm,0.4s						
RDX	**Rancho Dawling**	**1.80**	**315**	⇓*e*	Sg	20 31 56.6	+4.0
	comp=N,418nm,0.6s						
ECNX	**Esteban Cantu**	**2.10**	**299**	*e*P	Pn	20 31 30.2	-0.2
PBX	**Punta Banda**	**2.23**	**300**	*e*P	Pn	20 31 32.2	0.0
RMX	**La Rumorosa**	**2.39**	**325**	*e*PG	Pg	20 31 38.0	-2.5
GLA	**Glamis**	**2.41**	**352**	*e*Pn	Pn	20 31 34.9	+0.2
CBX	**Cerro Bola**	**2.51**	**312**	*e*PN	Pn	20 31 36.3	+0.2
BAR	**Barrett**	**2.77**	**317**	*e*Pn	Pn	20 31 44.0	+4.4
BAR				*e*S	Sn	20 32 19.2	+5.8
PFO	**Pinyon Flat Ob**	**3.40**	**331**	*e*Pn	Pn	20 31 53.6	+5.3
TUC	**Tucson**	**3.54**	**61**	*e*Pn	Pn	20 31 52.1	+1.9
MWC	**Mount Wilson**	**4.69**	**320**	*e*Pn	Pn	20 32 09.4	+3.4
MWC				*e*Pg	Pg	20 32 31.0	+6.5
MWC				*e*S	Sn	20 33 13.4	+13
GSC	**Goldstone**	**5.04**	**338**	Pn	Pn	20 32 15.7	+4.9
	comp=N,12nm,0.7s						
WUAZ	**Wupatki**	**5.49**	**27**	*e*Pn	Pn	20 32 17.5	+0.4
	comp=N,12nm,0.7s						
WUAZ				*e*Pb	Pb	20 32 32.3	+1.2
SHPR	**Sheep Range**	**5.87**	**354**	Pn	Pn	20 32 25.3	+3.2
ISA	**Isabella**	**6.03**	**327**	Pn	Pn	20 32 29.0	+4.6
ISA				*e*Pg	Pg	20 33 01.3	+11
ISA				*e*Sg	Sg	20 34 15.3

SNR=70
JMI *eS* **Sb** **21 13 49.9 +0.9**
comp=Z,633nm,0.4s,SNR=70
JMIC Jan Mayen 1.13 117 Pg **Pg** **21 13 35.1 -0.1**
JMIC Lg 21 13 50.1
JMIC Jan Mayen 1.13 117 *eP* **Pb** **21 13 34.9 -0.1**
JMIC *eS* **Sb** **21 13 50.2 +0.4**
JMIC AML AML 21 13 51.6
comp=Z,1μm,0.4s
JMIC Jan Mayen 1.13 117 Pn **Pn** **21 13 35.1 -0.1**
comp=Z,44nm,0.3s,baz=256,slow=2.4,SNR=54
JMIC Sn **Sn** **21 13 49.9 -1.0**
comp=Z,486nm,0.3s,baz=11,slow=21,SNR=104
JMIC Jan Mayen 1.13 117 *eP* **Pb** **21 13 34.9 -0.1**
SNR=70
JMIC *eS* **Sb** **21 13 50.2 +0.4**
comp=Z,1μm,0.4s,SNR=70
JNW Jan Mayen West 1.14 115 *eP* **Pb** **21 13 35.0 -0.1**
JNW *eP* 21 13 35.0
JNW *eS* **Sb** **21 13 49.0 -0.9**
JNW AML AML 21 13 52.1
comp=Z,1μm,0.3s
JNW Jan Mayen West 1.14 115 *eP* **Pb** **21 13 35.0 -0.1**
SNR=70
JNW *eS* **Sb** **21 13 49.0 -0.9**
comp=Z,1μm,0.3s,SNR=70
JNE Jan Mayen East 1.20 115 *eP* **Pn** **21 13 35.9 -0.2**
JNE *eS* **Sb** **21 13 51.6 0.0**
JNE AML AML 21 13 53.7
comp=Z,957nm,0.1s
JNE Jan Mayen East 1.20 115 *eP* **Pn** **21 13 35.9 -0.2**
SNR=70
JNE *eS* **Sb** **21 13 51.6 +0.1**
comp=Z,957nm,0.1s,SNR=70
ILEI Leirhofn 5.44 201 P **Pn** **21 14 33.5 -0.9**
ILEI S **Sn** **21 15 36.4 -0.5**
IGRI Grimsey 5.51 208 P **Pn** **21 14 35.8 +0.4**
IGRI S **Sn** **21 15 39.0 +0.3**
DAG Danmarks Havn 5.61 343 *i* P **Pn** **21 14 34.5 -2.2**
DAG *i* S **Sn** **21 15 30.9 -10**
DAG *eS* **Sn** **21 15 31.3 -10**
IGIL Gilhagi 5.74 200 P **Pn** **21 14 37.5 -1.1**
IGIL S **Sn** **21 15 43.8 -0.6**
IHED Heoinshofoi 5.85 203 S **Pn** **21 15 47.3 +0.3**
ISIG Siglufjorour 6.03 210 P **Pn** **21 14 43.3 +0.8**
ISIG S **Sn** **21 15 52.1 +0.6**
IGRA Granastaoir 6.04 204 S **Sn** **21 15 52.3 +0.6**
IHLA Hella 6.13 207 P **Pn** **21 14 44.4 +0.6**
IHLA S **Sn** **21 15 54.3 +0.5**
IGRS Grimsstaoir 6.15 198 P **Pn** **21 14 43.5 -0.6**
BORG Borgarnes 7.71 213 Pn **Pn** **21 15 05.0 -0.5**
comp=Z,0.4nm,0.3s,baz=77,slow=14,SNR=2.0
SUMG Summit 8.32 290 *i* P **Pn** **21 15 14.7 +0.8**
KBS Kingsbay 9.44 28 Pn **Pn** **21 15 28.5 -0.7**
KBS Sn **Sn** **21 17 04.6 -10**
KBS Kingsbay 9.44 28 Pn **Pn** **21 15 28.5 -0.7**
SPA0 Spitsbergen Ar 9.76 35 Pn **Pn** **21 15 34.2 +0.6**
baz=239,slow=11
SPA0 Spitsbergen Ar 9.76 35 Pn **Pn** **21 15 34.2 +0.7**
baz=239,slow=10,SNR=1.1
SPITS Spitsbergen Ar 9.76 35 Pn **Pn** **21 15 34.3 +0.8**
baz=222,slow=14,SNR=72
ARA0 ARCESS Array S 12.39 81 Pn **Pn** **21 16 11.9 +2.4**
baz=303,slow=12
ARA0 ARCESS Array S 12.39 81 Pn **Pn** **21 16 11.9 +2.4**
baz=303,slow=12,SNR=2.1
ARCES ARCESS Array B 12.39 81 Pn **Pn** **21 16 11.0 +1.5**
comp=Z,0.2nm,0.3s,baz=303,slow=12,SNR=14
ARCES LR LR 21 20 41.1
comp=Z,54nm,18.7s,baz=335,slow=36
NOA NORSAR Array B 13.83 128 LR LR 21 21 08.0
comp=Z,32nm,20.9s,baz=315,slow=35
HFS Hagfors 15.24 126 LR LR 21 21 22.8
comp=Z,54nm,22.0s,baz=71,slow=32
GERES GERESS Array B 25.59 139 P **P** **21 18 39.6 -2.6**
comp=Z,0.1nm,0.3s,mb2.8,baz=355,slow=11,SNR=2.1
ILAR Eielson Array 40.60 332 P **P** **21 20 53.2 +0.8**
comp=Z,0.5nm,0.8s,mb3.2,baz=22,slow=6.9,SNR=6.2

IDC 07 21:15:11.8±3.8, 5°92S×150°77E, h0km, mb3.3/2, mb1 3.7/2, mb1mx3.3/16, mbtmp3.4/2, Error ellipse: s-maj=151.6km s-min=48.2km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.19**	**227**	P	P	21 19 59.4	+0.2
	0.7nm,0.5s,baz=54,slow=11,SNR=7.8						
ASAR	**Alice Springs**	**23.97**	**221**	P	P	21 20 28.2	+0.1
	0.8nm,0.6s,baz=53,slow=10,SNR=9.8						
TORD	**Torodi Ar. Bea**	**148.69**	**286**	PKPbc	PKPbc	21 35 01.5	-0.7
	0.4nm,1.0s,baz=95,slow=3.2,SNR=2.3						

IDC 07 21:26:11.3±2.2, 6.79S×129.35E, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.6/4/18, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=105.0km s-min=27.7km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.81**	**197**	Pn	Pn	21 28 59.9	-1.3
	0.2nm,0.3s,baz=21,slow=14,SNR=4.9						
FITZ				Sn	Sn	21 31 07.3	-6.5
	0.1nm,0.3s,baz=109,slow=19,SNR=2.9						
WRA	**Warramunga Arr**	**13.94**	**160**	Pn	Pn	21 29 29.1	-1.3
	0.1nm,0.3s,baz=346,slow=14,SNR=4.9						
WRA				Sn	Sn	21 32 00.3	-5.6
	0.2nm,0.3s,baz=333,slow=22,SNR=4.2						
ASAR	**Alice Springs**	**17.34**	**166**	P	Pn	21 30 17.0	+2.1
	0.2nm,0.3s,baz=342,slow=9.6,SNR=18						
MKAR	**Makanchi Array**	**67.70**	**327**	P	P	21 37 10.5	+0.1
	0.4nm,0.8s,baz=116,slow=8.2,SNR=3.1						

GUC 07 21:36:08.0±0.8, 22.59S×68.86W, h95km±7km, ML3.7, 4C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB04	**Plate Boundary**	**0.67**	**299**	⇑*i* P	Pn	21 36 31.2	+6.6
PB04				*i* S	Sn	21 36 49.1	+12
SPCH	**San Pedro de A**	**0.69**	**117**	*eP*	Pn	21 36 25.5	+0.6
SPCH				*i* S	Sn	21 36 39.2	+1.8
SPCH				AML	AML	21 36 39.6	
	comp=E,3μm,0.2s						
PB09	**Plate Boundary**	**0.87**	**336**	⇓*i* P	Pn	21 36 27.6	+0.9
PB09				*i* S	Sn	21 36 42.1	+1.4
PB09				AML	AML	21 36 43.2	
	comp=N,7μm,0.5s						
MACH	**Maria Elena**	**0.92**	**295**	⇑*i* P	Pn	21 36 27.9	+0.7
MACH				*i* S	Sn	21 36 42.8	+1.2
PB07	**Plate Boundary**	**1.28**	**312**	⇑*i* P	Pn	21 36 32.0	+0.7
PB07				*i* S	Sn	21 36 50.2	+1.2
PB07				AML	AML	21 36 51.4	
	comp=N,1μm,0.4s						
ANCH	**Antofagasta**	**1.79**	**232**	*eP*	Pn	21 36 39.6	+1.9
ANCH				*i* S	Sn	21 37 01.5	+1.2
HMBC	**Humberston**	**2.49**	**337**	⇑*i* P	Pn	21 36 46.2	-0.7
HMBC				*i* S	Sn	21 37 17.3	+0.6
HMBC				AML	AML	21 37 24.6	
	comp=E,339nm,0.5s						

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*IDC **07** 21:40:55.5±0.5, 71.62N×12.03W, h0km, mb4.2/23, mb1 4.3/28, mb1mx4.3/36, mbtmp4.2/28, ML3.6/4, MS4.1/37, Ms1 4.1/37, ms1mx4.1/40, Error ellipse: s-maj=16.2km s-min=9.8km az=30.0*

*ISCJB **07** 21:40:55.5±0.1, 71.71N±0.02×11.73W±0.06, h10km, mb4.4/108, MS4.2/52, Error ellipse: s-maj=3.9km s-min=1.9km az=29.6*

*CSEM **07** 21:40:55.0±0.1, 71.63N×11.88W, h2km, mb4.7/59, Ms4.2, Mw5.1, Error ellipse: s-maj=3.9km s-min=2.9km az=24.0*

*MOS **07** 21:40:55.4±1.0, 71.64N×12.22W, h10km, mb4.7/46, MS4.0/40, Error ellipse: s-maj=17.1km s-min=4.8km az=100.6*

*BJI **07** 21:40:56.1, 71.80N×11.70W, h10km, mB5.2/10, mb4.5/16, Ms4.7/9, Ms7 4.3/9*

*NEIC **07** 21:40:57.0±0.1, 71.69N×11.82W, h10km, mb4.7/57, MS4.3/3, Error ellipse: s-maj=4.1km s-min=2.5km az=42.0*

*BER **07** 21:40:57.0±3.5, 71.64N×11.72W, h10km, MD3.5, ML3.7, ML3.1(NAO)*

*REY **07** 21:40:57.1, 70.88N×9.63W, h10km, ML4.4, MS4.0*

*GCMT **07** 21:40:58.3±0.2, 71.66N×11.92W, h19km±1km, MW5.1, Moment Tensor Solution. s38,c56; s82,c144; Moment tensor: Scale 10^16^Nm; Mrr=0.97±.16; Mθθ2.65±.16; Mφφ-1.69±.13; Mrθ0.78±.28; Mrφ4.70±.13; Mθφ1.36±.29; Best double couple: M0:5.40000×10^16^ NP1:φs103.00000°, δ74.00000°, λ0.00000°. NP2:φs13.00000°, δ90.00000°, λ164.00000°. Principal axes: T 5.9400, Plg11.0000°, Azm327.0000°; N -1.1100, Plg74.0000°, Azm192.0000°; P -4.8400, Plg11.0000°, Azm59.0000°; Data Used: II IU IC G CN.*

*NAO **07** 21:40:59.5±5.9, 71.74N×10.39W, ML3.1*

*SZGRF **07** 21:41:08.2, 70.87N×11.13W, h33km, mb4.5, Jan Mayen Island region*

ISC 07 21:40:57.5±0.1, 71.70N±0.02×11.69W±0.05, h10km, (h14km±2.1km:pP-P), n692, s0s80/709, mb4.4/108, MS4.2/52, 119C-109D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMIC	**Jan Mayen**	**1.24**	**123**	Pg	**Pg**	**21 41 17.0**	**-4.4**
JMIC				Lg		21 41 32.1	
JMIC	**Jan Mayen**	**1.24**	**123**	*eP*	**Pn**	**21 41 16.9**	**-4.0**
JMIC				*eS*	**Sb**	**21 41 31.8**	**-5.2**
JMIC				AML	AML	21 41 33.4	
	comp=Z,7μm,0.4s						
JMIC	**Jan Mayen**	**1.24**	**123**	Pn	**Pn**	**21 41 16.9**	**-4.0**
	comp=Z,209nm,0.3s,baz=204,slow=2.8,SNR=104						
JMIC				Sn	**Sn**	**21 41 31.7**	**-6.0**
	comp=Z,3μm,0.3s,baz=15,slow=22,SNR=139						
JMIC				LR	LR	21 41 34.6	
	comp=Z,2μm,21.6s,baz=101,slow=30						
JMIC	**Jan Mayen**	**1.24**	**123**	Pn	**Pn**	**21 41 16.9**	**-4.0**
JMIC				Sn	**Sn**	**21 41 31.7**	**-6.0**
JMIC				LR	LR	21 41 34.6	
JMIC	**Jan Mayen**	**1.24**	**123**	*eP*	**Pn**	**21 41 16.9**	**-4.0**
	SNR=50						
JMIC				*eS*	**Sb**	**21 41 31.8**	**-5.2**
	comp=Z,7μm,0.4s,SNR=50						
JNW	**Jan Mayen West**	**1.24**	**121**	*eP*	**Pn**	**21 41 16.5**	**-4.4**
JNW	**Jan Mayen West**	**1.24**	**121**	*eP*	**Pn**	**21 41 16.5**	**-4.4**
	SNR=5.0						
SCO	**Scoresbysund**	**3.56**	**255**	*i* P	**Pn**	**21 41 48.0**	**-4.6**
SCO				*i* S	**Sn**	**21 42 24.7**	**-10**
SCO	**Scoresbysund**	**3.56**	**255**	*i* P	**Pn**	**21 41 48.0**	**-4.6**
DAG	**Danmarks Havn**	**5.44**	**343**	*i* P	**Pn**	**21 42 16.3**	**-2.2**
DAG				*i* S	**Sn**	**21 43 13.2**	**-7.8**
DAG				MLR	MLR		
	comp=Z,2μm,10.0s						
DAG	**Danmarks Havn**	**5.44**	**343**	*i* P	**Pn**	**21 42 16.3**	**-2.2**
DAG				*i* S	**Sn**	**21 43 13.2**	**-7.8**
DAG				pmax	pmax		
	comp=Z,2μm,10.0s						
DAG	**Danmarks Havn**	**5.44**	**343**	*i* P	**Pn**	**21 42 16.3**	**-2.2**
	comp=Z,2μm,10.0s						
IGRI	**Grimsey**	**5.65**	**207**	P	**Pn**	**21 42 17.7**	**-3.6**
IFLA	**Flatey**	**5.98**	**205**	P	**Pn**	**21 42 23.0**	**-2.9**
IBRE	**Brettingsstaoi**	**6.03**	**205**	P	**Pn**	**21 42 22.7**	**-3.9**
ISIG	**Siglufjorour**	**6.16**	**208**	P	**Pn**	**21 42 25.1**	**-3.3**
IGRA	**Granastaoir**	**6.18**	**203**	P	**Pn**	**21 42 24.4**	**-4.3**
IHLA	**Hella**	**6.26**	**206**	P	**Pn**	**21 42 26.4**	**-3.4**
IREN	**Reynihlio**	**6.37**	**200**	S	**Sn**	**21 43 39.6**	**-4.2**
IHRN	**Hraun**	**6.38**	**213**	P	**Pn**	**21 42 30.6**	**-0.7**
BORG	**Borgarnes**	**7.83**	**212**	Pn	**Pn**	**21 42 52.5**	**+1.3**
	comp=Z,7.2nm,0.3s,baz=34,slow=6.7,SNR=22						
BORG				Sn	**Sn**	**21 44 21.7**	**+1.9**
	comp=Z,0.6nm,0.3s,baz=185,slow=23,SNR=3.6						
BORG				LR	LR	21 45 30.9	
	comp=Z,175nm,19.6s,baz=26,slow=36						
BORG	**Borgarnes**	**7.83**	**212**	*eP*	**Pn**	**21 42 51.9**	**+0.6**
BORG	**Borgarnes**	**7.83**	**212**	P	**Pn**	**21 42 52.6**	**+1.3**
BORG						21 44 21.7	
BORG				pmax	pmax		
	comp=Z,7.0nm,0.3s						
BORG				smax			
	comp=N,1.0nm,0.3s						
BORG				MLR	MLR		
	comp=Z,175nm,19.6s						
SUMG	**Summit**	**8.24**	**289**	*eP*	**Pn**	**21 42 55.8**	**-1.0**
SUMG	**Summit**	**8.24**	**289**	*eP*	**Pn**	**21 42 55.8**	**-1.0**
SUMG	**Summit**	**8.24**	**289**	*i* P	**Pn**	**21 42 56.1**	**-0.7**
SUMG				*i* S	**Sn**	**21 44 25.5**	**-4.3**
SUMG	**Summit**	**8.24**	**289**	*eP*	**Pn**	**21 42 55.8**	**-1.0**
KBS	**Kingsbay**	**9.31**	**29**	Pn	**Pn**	**21 43 10.3**	**-1.1**
KBS				*ePn*	**Pn**	**21 43 10.7**	**-0.8**
KBS				Sn	**Sn**	**21 44 46.2**	**-10**
KBS	**Kingsbay**	**9.31**	**29**	*eP*	**Pn**	**21 43 09.3**	**-2.2**
KBS				*eS*	**Sn**	**21 44 50.6**	**-5.4**
KBS	**Kingsbay**	**9.31**	**29**	*eP*	**Pn**	**21 43 09.3**	**-2.2**
KBS	**Kingsbay**	**9.31**	**29**	*eP*	**Pn**	**21 43 09.3**	**-2.2**
KBS	**Kingsbay**	**9.31**	**29**	*ePn*	**Pn**	**21 43 10.7**	**-0.8**
	SNR=50						
BJO	**Bjornoya**	**9.34**	**58**	*ePn*	**Pn**	**21 43 10.4**	**-1.5**
BJO	**Bjornoya**	**9.34**	**58**	*ePn*	**Pn**	**21 43 10.4**	**-1.5**
	SNR=50						
SPB4	**Spitsbergen Ar**	**9.64**	**35**	*eP*	**Pn**	**21 43 14.5**	**-1.5**
SPB4				*eS*	**Sn**	**21 45 00.3**	**-3.8**
SPB4	**Spitsbergen Ar**	**9.64**	**35**	*eP*	**Pn**	**21 43 14.5**	**-1.5**
SPA0	**Spitsbergen Ar**	**9.64**	**35**	Pn	**Pn**	**21 43 15.8**	**-0.2**
	baz=236,slow=12						
SPA0	**Spitsbergen Ar**	**9.64**	**35**	Pn	**Pn**	**21 43 15.8**	**-0.2**
	baz=236,slow=12,SNR=6.2						
SPITS	**Spitsbergen Ar**	**9.64**	**35**	Pn	**Pn**	**21 43 16.1**	**0.0**
	baz=234,slow=14,SNR=206						
SPITS				Sn	**Sn**	**21 45 00.2**	**-4.0**
	baz=262,slow=27,SNR=1.9						
SPITS				LR	LR	21 46 14.5	
	comp=Z,2μm,18.0s,baz=245,slow=33						
SPITS	**Spitsbergen Ar**	**9.64**	**35**	Pn	**Pn**	**21 43 16.1**	**0.0**
SPITS				Sn	**Sn**	**21 45 00.2**	**-4.0**
SPITS				LR	LR	21 46 14.5	
SPITS	**Spitsbergen Ar**	**9.64**	**35**	P	**Pn**	**21 43 16.1**	**+0.1**
SPITS						21 45 00.2	
SPITS				MLR	MLR		
	comp=Z,2μm,18.0s						
SPITS	**Spitsbergen Ar**	**9.64**	**35**	P	**Pn**	**21 43 16.1**	**+0.1**
	comp=Z,2μm,18.0s						
STEI	**Steigen**	**9.98**	**99**	*ePn*	**Pn**	**21 43 21.5**	**+0.8**
TRO	**Tromso**	**10.29**	**87**	*ePn*	**Pn**	**21 43 24.2**	**-0.7**
TRO	**Tromso**	**10.29**	**87**	*ePn*	**Pn**	**21 43 24.2**	**-0.7**
	SNR=50						
STOK	**Stokkvaagen**	**10.29**	**109**	*ePn*	**Pn**	**21 43 23.2**	**-1.8**
STOK				*eSn*	**Sn**	**21 45 10.7**	**-9.5**
STOK				AML	AML	21 45 19.5	
	comp=Z,26nm,0.8s						
FLOS	**Flostrand**	**10.40**	**109**	*ePn*	**Pn**	**21 43 25.4**	**-1.0**
FLOS				*eSn*	**Sn**	**21 45 14.7**	**-8.0**
FLOS				AML	AML	21 45 17.7	
	comp=Z,46nm,0.6s						
MOR8	**Moi Rana**	**10.83**	**108**	*ePn*	**Pn**	**21 43 32.9**	**+0.6**
MOR8				*eSn*	**Sn**	**21 45 27.6**	**-5.7**
MOR8				AML	AML	21 45 31.1	
	comp=Z,36nm,0.6s						
MOR8	**Moi Rana**	**10.83**	**108**	*ePn*	**Pn**	**21 43 32.9**	**+0.6**
	SNR=50						
NSS	**Namsos**	**11.29**	**118**	*ePn*	**Pn**	**21 43 35.6**	**-3.1**
NSS				*eSn*	**Sn**	**21 45 33.0**	**-12**
NSS				AML	AML	21 45 36.9	
	comp=Z,15nm,0.4s						
KTK1	**Kautokeino**	**11.93**	**86**	*ePn*	**Pn**	**21 43 47.4**	**+0.1**
KTK1	**Kautokeino**	**11.93**	**86**	*ePn*	**Pn**	**21 43 47.4**	**0.0**
	SNR=50						
ARA0	**ARCESS Array S**	**12.40**	**82**	Pn	**Pn**	**21 43 53.4**	**-0.3**
	baz=295,slow=12						
ARA0	**ARCESS Array S**	**12.40**	**82**	Pn	**Pn**	**21 43 53.4**	**-0.3**
	baz=295,slow=12,SNR=129						
ARCES	**ARCESS Array B**	**12.40**	**82**	Pn	**Pn**	**21 43 53.4**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=293,slow=12,SNR=51						
ARCES				LR	LR	21 47 52.6	
	comp=Z,634nm,19.8s,baz=295,slow=33						
ARCES	**ARCESS Array B**	**12.40**	**82**	Pn	**Pn**	**21 43 53.4**	**-0.4**
ARCES				LR	LR	21 47 52.6	
ARCES	**ARCESS Array B**	**12.40**	**82**	P	**Pn**	**21 43 53.4**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARCES				MLR	MLR		
	comp=Z,634nm,19.8s						
ARCES	**ARCESS Array B**	**12.40**	**82**	P	Pn	**21 43 53.4**	**-0.3**
	comp=Z,634nm,19.8s						
ARE0	**ARCESS Array S**	**12.40**	**82**	*eP*	**Pn**	**21 43 51.7**	**-2.0**
ARE0	**ARCESS Array S**	**12.40**	**82**	*eP*	**Pn**	**21 43 51.7**	**-2.0**
HYA	**Hoyanger**	**12.68**	**137**	*ePn*	**Pn**	**21 43 56.3**	**-1.3**
HYA	**Hoyanger**	**12.68**	**137**	*ePn*	**Pn**	**21 43 56.3**	**-1.3**
	SNR=50						
KEV	**Kevo**	**12.77**	**80**	*eP*	**Pn**	**21 43 58.3**	**-0.5**
KEV	**Kevo**	**12.77**	**80**	*eP*	**Pn**	**21 43 58.3**	**-0.4**
KEV	**Kevo**	**12.77**	**80**	*ep*	**Pn**	**21 43 58.3**	**-0.4**
KEV	**Kevo**	**12.77**	**80**	*eP*	**Pn**	**21 43 58.3**	**-0.4**
ODD1	**Odda**	**13.91**	**139**	*ePn*	**Pn**	**21 44 11.4**	**-3.0**
ODD1	**Odda**	**13.91**	**139**	*ePn*	**Pn**	**21 44 11.4**	**-3.0**
	SNR=50						
NB2	**NORSAR Subarra**	**13.96**	**128**	Pn	**Pn**	**21 44 13.6**	**-1.4**
	comp=Z,3.8nm,0.8s,baz=331,slow=14						
NB2	**NORSAR Subarra**	**13.96**	**128**	Pn	**Pn**	**21 44 14.6**	**-0.4**
	baz=336,slow=14						
NB2	**NORSAR Subarra**	**13.96**	**128**	Pn	**Pn**	**21 44 13.6**	**-1.4**
	comp=Z,3.8nm,0.8s,SNR=0.5						
NOA	**NORSAR Array B**	**13.96**	**128**	Pn	**Pn**	**21 44 13.3**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=323,slow=12,SNR=5.0						
NOA				Sn	**Sn**	**21 46 39.4**	**-10**
	comp=Z,0.3nm,0.3s,baz=324,slow=10,SNR=3.4						
NOA				LR	LR	21 49 02.3	
	comp=Z,643nm,20.8s,baz=325,slow=35						
NOA	**NORSAR Array B**	**13.96**	**128**	Pn	**Pn**	**21 44 13.3**	**-1.7**
NOA				Sn	**Sn**	**21 46 39.4**	**-10**
NOA				LR	LR	21 49 02.3	
NOA	**NORSAR Array B**	**13.96**	**128**	P	**Pn**	**21 44 13.3**	**-1.7**
NOA				MLR	MLR		
	comp=Z,643nm,20.8s						
NOA	**NORSAR Array B**	**13.96**	**128**	P	**Pn**	**21 44 13.3**	**-1.7**
	comp=Z,643nm,20.8s						
NAO01	**NORSAR Array S**	**14.05**	**129**	*ePn*	**Pn**	**21 44 15.6**	**-0.6**
NAO01				*e*		21 44 23.0	
NAO01	**NORSAR Array S**	**14.05**	**129**	*ePn*	**Pn**	**21 44 15.6**	**-0.6**
SFJD	**Kangerlussuaq**	**14.30**	**270**	*i* P	**Pn**	**21 44 15.3**	**-4.3**
HFS	**Hagfors**	**15.36**	**126**	P	**Pn**	**21 44 33.8**	**-0.2**
	slow=10						
HFS	**Hagfors**	**15.36**	**126**	Pn	**Pn**	**21 44 33.6**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=355,slow=10,SNR=8.3						
HFS				LR	LR	21 49 46.2	
	comp=Z,1μm,21.7s,baz=326,slow=34						
HFS	**Hagfors**	**15.36**	**126**	Pn	**Pn**	**21 44 33.6**	**-0.4**
HFS				LR	LR	21 49 46.2	
HFS	**Hagfors**	**15.36**	**126**	P	**Pn**	**21 44 33.6**	**-0.4**
HFS				MLR	MLR		
	comp=Z,1μm,21.7s						
HFS	**Hagfors**	**15.36**	**126**	Pn	**Pn**	**21 44 33.6**	**-0.4**
APA	**Apatity**	**15.90**	**83**	⇓*i* P	**Pn**	**21 44 44.8**	**+3.8**
APA				*i* S	**Sn**	**21 47 42.0**	**+5.0**
APA				pmax	pmax		
	comp=Z,230nm,2.0s						
APA				MLR	MLR		
	comp=Z,700nm,10.0s						
APA	**Apatity**	**15.90**	**83**	*i* P	**Pn**	**21 44 44.8**	**+3.8**
	comp=Z,230nm,2.0s						
KAF	**Kangasniemi**	**17.36**	**104**	*eP*	**Pn**	**21 45 00.1**	**+0.6**
KAF	**Kangasniemi**	**17.36**	**104**	*ep*	**Pn**	**21 45 00.1**	**+0.6**
KAF	**Kangasniemi**	**17.36**	**104**	*eP*	**Pn**	**21 45 00.1**	**+0.6**
FIA0	**FINESS Array S**	**17.81**	**106**	P	**Pn**	**21 45 04.0**	**-1.1**
	baz=342,slow=9.3						
FIA0	**FINESS Array S**	**17.81**	**106**	P	**Pn**	**21 45 04.0**	**-1.0**
	baz=342,slow=8.8,SNR=5.0						
FINES	**FINESS Array B**	**17.81**	**106**	P	**Pn**	**21 45 05.7**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=322,slow=13,SNR=11						
FINES				LR	LR	21 51 00.2	
	comp=Z,411nm,19.1s,baz=318,slow=34						
FINES	**FINESS Array B**	**17.81**	**106**	P	**Pn**	**21 45 05.7**	**+0.7**
FINES				LR	LR	21 51 00.2	
FINES	**FINESS Array B**	**17.81**	**106**	P	**Pn**	**21 45 05.7**	**+0.7**
FINES				MLR	MLR		
	comp=Z,411nm,19.2s						
FINES	**FINESS Array B**	**17.81**	**106**	P	**Pn**	**21 45 05.7**	**+0.7**
	comp=Z,411nm,19.2s						
JOF	**Joensuu**	**18.32**	**97**	*eP*	**Pn**	**21 45 11.8**	**+0.5**
JOF	**Joensuu**	**18.32**	**97**	*ep*	**Pn**	**21 45 11.8**	**+0.5**
JOF	**Joensuu**	**18.32**	**97**	*eP*	**Pn**	**21 45 11.8**	**+0.5**
FRB	**Frobisher Bay**	**22.09**	**278**	LR	LR	21 53 07.4	
	comp=Z,497nm,20.9s,MS3.9,baz=222,slow=33						
GKP	**Gorka Klasztor**	**22.38**	**130**	*eP*	**P**	**21 45 55.7**	**+0.2**
GKP	**Gorka Klasztor**	**22.38**	**130**	*eP*	**P**	**21 45 55.7**	**+0.3**
GKP	**Gorka Klasztor**	**22.38**	**130**	*eP*	**P**	**21 45 55.7**	**+0.3**
RES	**Resolute Bay**	**22.40**	**316**	P	**P**	**21 45 54.4**	**-1.1**
	comp=Z,54nm,0.8s,mb5.0,baz=49,slow=11,SNR=46						
RES	**Resolute Bay**	**22.40**	**316**	*eP*	**P**	**21 45 54.5**	**-1.0**
	comp=Z,62nm,0.9s,mb5.0						
RES	**Resolute Bay**	**22.40**	**316**	*eP*	**P**	**21 45 54.5**	**-0.9**
RES				pmax	pmax		
	comp=Z,62nm,0.9s,mb5.0						
RES	**Resolute Bay**	**22.40**	**316**	*eP*	**P**	**21 45 54.5**	**-0.9**
	comp=Z,62nm,0.9s,mb5.0						
KLMR	**Klimovskoe**	**22.45**	**92**	*eP*	**P**	**21 45 53.9**	**-2.2**
KLMR				S	**S**	**21 50 03.8**	**+1.4**
KLMR				pmax	pmax		
	comp=Z,80nm,1.7s,mb4.9						
KLMR				MLR	MLR		
	comp=Z,834nm,14.0s,MS4.3						
KLMR	**Klimovskoe**	**22.45**	**92**	*eP*	**P**	**21 45 53.9**	**-2.2**
	comp=Z,80nm,1.7s,mb4.9						
KLMR				S	**S**	**21 50 03.8**	**+1.4**
	comp=Z,834nm,14.0s						
SNF	**Seneffe**	**22.46**	**153**	E		21 46 02.4	
IZAR	**Zarasai**	**22.56**	**115**	*eP*	**P**	**21 45 57.4**	**+0.1**
IZAR				AMB	AMB	21 46 12.4	
	comp=Z,14nm,1.3s,mb4.2						
IZAR	**Zarasai**	**22.56**	**115**	*eP*	**P**	**21 45 57.4**	**+0.1**
	comp=Z,14nm,1.3s,mb4.2,SNR=33						
MEM	**Membach**	**22.62**	**150**	P	**P**	**21 45 59.1**	**+1.1**
	comp=Z,17nm,1.2s,mb4.3						
ISAL	**Salakas**	**22.68**	**115**	*eP*	**P**	**21 45 58.7**	**+0.1**
ISAL				AMB	AMB	21 46 09.8	
	comp=Z,16nm,1.9s,mb4.1						
ISAL	**Salakas**	**22.68**	**115**	*eP*	**P**	**21 45 58.7**	**+0.1**
	comp=Z,16nm,1.9s,mb4.1,SNR=33						
BCLA	**Clavier**	**22.70**	**151**	P	**P**	**21 45 59.5**	**+0.7**
	comp=Z,40nm,2.9s,mb4.3						
BAIF	**Baives**	**22.

CLL Collm 23.25 138 *e*P P **21 46 03.0 -1.7**
comp=Z,20nm,1.0s,mb4.5
NACGM Naroch 23.45 115 *e* P **21 46 05.0 -1.7**
WLF Walferdange 23.56 150 P P **21 46 08.1 +0.2**
comp=Z,25nm,2.3s,mb4.2
FLN La Foliniere 23.59 161 *e*P P **21 46 06.0 -2.1**
comp=Z,42nm,1.1s,mb4.5
FLN *e*R
comp=Z,1μm,20.8s
FLN La Foliniere 23.59 161 *e*P P **21 46 06.0 -2.1**
comp=Z,21nm,1.0s,mb4.5
FLN LR LR
comp=Z,1μm,20.8s,MS4.3
FLN La Foliniere 23.59 161 *e*P P **21 46 06.0 -2.1**
FLN pmax pmax
comp=Z,21nm,1.0s,mb4.5
FLN MLR MLR
comp=Z,1μm,20.8s,MS4.3
LDF La Druitiere 23.79 161 *e*P P **21 46 08.0 -2.0**
comp=Z,13nm,0.8s,mb4.1
LDF La Druitiere 23.79 161 *e*P P **21 46 08.0 -2.0**
comp=Z,6.5nm,0.8s,mb4.1
LDF La Druitiere 23.79 161 *e*P P **21 46 08.0 -2.0**
LDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.1
BRG Berggiesshubel 23.86 137 *i* P P **21 46 11.3 +0.7**
comp=Z,19nm,1.4s,mb4.3
BRG *e* 21 46 43.6
comp=Z,10nm,1.3s
BRG
comp=N,501nm,19.4s
BRG
comp=E,271nm,18.7s
BRG
comp=Z,614nm,21.2s
BRG Berggiesshubel 23.86 137 *i* P P **21 46 11.3 +0.7**
BRG *e* 21 46 43.6
BRG pmax pmax
comp=Z,19nm,1.4s,mb4.3
BRG pmax pmax
comp=Z,10.0nm,1.3s,mb4.1
BRG MLR MLR
comp=N,501nm,19.4s,MS4.1
BRG MLR MLR
comp=E,271nm,18.7s,MS4.1
BRG MLR MLR
comp=Z,614nm,21.2s,MS4.0
NKC Novy Kostel 24.16 140 *e*P P **21 46 12.7 -0.6**
NKC *e* 21 50 37.4
NKC MLR MLR
comp=Z,600nm,14.1s,MS4.2
NKC Novy Kostel 24.16 140 *e*P P **21 46 12.7 -0.6**
NKC *e*S S **21 50 37.4 +6.5**
NKC AMS AMS 21 57 40.0
comp=Z,600nm,14.1s
PVCC Panska Ves 24.32 137 AMS AMS 21 58 30.0
comp=Z,500nm,15.4s
KSP Ksiaz 24.41 134 *e*P P **21 46 16.1 +0.5**
KSP Ksiaz 24.41 134 *e*S S **21 50 35.5 +0.5**
GRF Grafenberg Arr 24.43 142 *e*P P **21 46 16.4 +0.6**
comp=Z,23nm,1.5s,mb4.4
GRF Grafenberg Arr 24.43 142 *e*P P **21 46 16.4 +0.6**
GRF pmax pmax
comp=Z,23nm,1.5s,mb4.4
MEZF Maizieres J'vi 24.53 153 *e*P P **21 46 16.8 +0.1**
comp=Z,49nm,1.2s,mb4.6
MEZF Maizieres J'vi 24.53 153 *e*P P **21 46 16.8 +0.1**
comp=Z,49nm,1.2s,mb4.9
BEL Belsk 24.57 127 *e*P P **21 46 18.8 +1.7**
BEL Belsk 24.57 127 *e*P P **21 46 18.8 +1.7**
PAGF Fort de Pagny 24.58 151 *e*P P **21 46 17.4 +0.2**
UPC Upice 24.66 135 *e*P P **21 46 20.7 +2.8**
UPC Upice 24.66 135 *e*P P **21 46 20.7 +2.8**
SFTF Sexfontaines 24.82 153 *e*P P **21 46 19.1 -0.2**
comp=Z,23nm,0.8s,mb4.5
SFTF Sexfontaines 24.82 153 *e*P P **21 46 19.1 -0.2**
comp=Z,23nm,0.8s,mb4.8
PRU Pruhonice 24.82 137 *e*P P **21 46 20.7 +1.3**
PRU *e* 21 50 48.7
PRU Pruhonice 24.82 137 *e*P P **21 46 20.7 +1.3**
PRU *e*S S **21 50 48.7 +7.0**
PRU AMS AMS 21 56 50.0
DPC Dobruska-Polom 24.88 134 *e*P P **21 46 20.0 +0.1**
DPC MLR MLR
comp=Z,400nm,8.8s
DPC Dobruska-Polom 24.88 134 *e*P P **21 46 20.0 +0.1**
DPC AMS AMS 21 58 40.0
comp=Z,400nm,8.8s
CDF Champ du Feu 24.96 149 *e*P P **21 46 20.7 +0.1**
comp=Z,17nm,0.9s,mb4.3
CDF Champ du Feu 24.96 149 *e*P P **21 46 20.7 +0.1**
comp=Z,8.5nm,0.9s,mb4.3
CDF Champ du Feu 24.96 149 *e*P P **21 46 20.7 +0.1**
CDF pmax pmax
comp=Z,9.0nm,0.9s,mb4.3
ECH Echery 25.13 149 *e*P P **21 46 22.4 +0.2**
comp=Z,11nm,0.8s,mb4.4
ECH Echery 25.13 149 *e*P P **21 46 22.4 +0.2**
ECH pmax pmax
comp=Z,11nm,0.8s,mb4.4
HAU Haudompre 25.21 151 *e*P P **21 46 22.9 0.0**
HAU *e*R
comp=Z,1μm,22.5s
HAU Haudompre 25.21 151 *e*P P **21 46 22.9 0.0**
HAU LR LR
comp=Z,1μm,22.5s,MS4.3
HAU Haudompre 25.21 151 *e*P P **21 46 22.9 0.0**
HAU MLR MLR
comp=Z,1μm,22.5s,MS4.3
BFO Black Forest 25.21 148 *e*P P **21 46 22.9 0.0**
comp=Z,14nm,1.2s,mb4.4
BFO Black Forest 25.21 148 *e*P P **21 46 22.9 0.0**
BFO pmax pmax
comp=Z,14nm,1.2s,mb4.4
KHC Kasperske Hory 25.43 139 *e*P P **21 46 24.9 0.0**
comp=Z,23nm,1.4s,mb4.5
KHC Kasperske Hory 25.43 139 *e*P P **21 46 25.3 +0.4**
KHC *e* 21 46 31.5
KHC *e* 21 50 56.6
KHC MLR MLR
comp=Z,500nm,12.7s,MS4.2
KHC Kasperske Hory 25.43 139 *e*P P **21 46 25.3 +0.4**
KHC *e*pP pP 21 46 31.5 +3.5
KHC *e*S S **21 50 56.6 +5.2**
KHC AMS AMS 21 58 30.0
comp=Z,500nm,12.7s
HINF Hinteralfeld 25.47 150 *e*P P **21 46 25.1 -0.2**
HINF Hinteralfeld 25.47 150 *e*P P **21 46 25.1 -0.2**
HINF Hinteralfeld 25.47 150 *e*P P **21 46 25.1 -0.2**
LOR Lormes 25.57 155 *e*P P **21 46 25.4 -0.8**
comp=Z,13nm,0.8s,mb4.2
LOR *e*R
comp=Z,641nm,19.8s
LOR Lormes 25.57 155 *e*P P **21 46 25.4 -0.8**
comp=Z,6.3nm,0.8s,mb4.2
LOR LR LR
comp=Z,640nm,19.8s,MS4.2
LOR Lormes 25.57 155 *e*P P **21 46 25.4 -0.8**
LOR pmax pmax
comp=Z,6.0nm,0.8s,mb4.2
LOR MLR MLR
comp=Z,640nm,19.8s,MS4.2
TREC Trest 25.68 136 AMS AMS 21 59 10.0
comp=Z,700nm,11.4s
MORC Moravsky Berou 25.69 133 *e*P P **21 46 27.5 +0.3**
comp=Z,14nm,1.0s,mb4.4
MORC Moravsky Berou 25.69 133 *e*P P **21 46 27.5 +0.2**
MORC pmax pmax
comp=Z,14nm,1.0s,mb4.5
SSF Saint Saulge 25.73 156 *e*P P **21 46 26.7 -0.9**
comp=Z,12nm,0.8s,mb4.2
SSF Saint Saulge 25.73 156 *e*P P **21 46 26.7 -0.9**
comp=Z,6.1nm,0.8s,mb4.2
SSF Saint Saulge 25.73 156 *e*P P **21 46 26.7 -0.9**
SSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.2
GERES GERESS Array B 25.73 139 P P **21 46 27.8 +0.2**
comp=Z,5.7nm,1.0s,mb4.0,baz=337,slow=8.8,SNR=20
GERES LR LR 21 56 38.2
comp=Z,340nm,19.9s,MS3.9,baz=328,slow=37
GERES GERESS Array B 25.73 139 P P **21 46 27.8 +0.2**
GERES LR LR 21 56 38.2
GERES GERESS Array B 25.73 139 P P **21 46 27.8 +0.2**
GERES pmax pmax
comp=Z,6.0nm,1.0s
GERES MLR MLR
comp=Z,340nm,19.9s
MFF Saint Martin d 25.76 161 *e*P P **21 46 26.9 -1.0**
MFF Saint Martin d 25.76 161 *e*P P **21 46 26.9 -1.0**
MFF Saint Martin d 25.76 161 *e*P P **21 46 26.9 -1.0**
OKC Ostrava-Krasne 25.78 132 *e*P P **21 46 30.1 +2.1**
OKC MLR MLR
comp=Z,600nm,10.1s,MS4.4
OKC Ostrava-Krasne 25.78 132 *e*P P **21 46 30.1 +2.1**
OKC *e*S S **21 51 06.4 +10**
OKC AMS AMS 21 59 30.0
comp=Z,600nm,10.1s
OJC Ojcow 25.82 130 *e*P P **21 46 28.7 +0.3**
OJC *e*pP pP 21 46 31.2 -0.2
OJC *e*sP sP 21 46 32.6 -0.1
OJC *e*S S **21 50 59.2 +1.8**
OJC L 21 58 25.2
comp=Z,0.6nm,15.3s
OJC Ojcow 25.82 130 *e*P P **21 46 28.7 +0.3**
OJC *e**PP pP 21 46 31.2 -0.2
OJC *e**SP sP 21 46 32.6 -0.1
OJC *e*S S **21 50 59.2 +1.8**
OJC MLR MLR
comp=Z,600nm,15.3s,MS4.2
VRAC Vranov 25.91 135 P P **21 46 29.6 +0.3**
comp=Z,4.9nm,0.4s,mb4.4,baz=351,slow=8.1,SNR=9.7
VRAC LR LR 21 56 26.7
comp=Z,388nm,20.1s,MS3.9,baz=334,slow=36
VRAC Vranov 25.91 135 P P **21 46 29.6 +0.3**
VRAC LR LR 21 56 26.7
VRAC Vranov 25.91 135 P P **21 46 29.6 +0.3**
VRAC pmax pmax
comp=Z,5.0nm,0.4s
VRAC MLR MLR
comp=Z,388nm,20.1s
AVF Avril sur Loir 25.97 156 *e*P P **21 46 28.5 -1.3**
comp=Z,41nm,1.4s,mb4.5
AVF Avril sur Loir 25.97 156 *e*P P **21 46 28.5 -1.3**
comp=Z,20nm,1.4s,mb4.5
AVF Avril sur Loir 25.97 156 *e*P P **21 46 28.5 -1.3**
AVF pmax pmax
comp=Z,21nm,1.4s,mb4.5
BGF Bois d'Agland 26.14 157 *e*P P **21 46 30.3 -1.0**
comp=Z,80nm,1.4s,mb4.8
BGF Bois d'Agland 26.14 157 *e*P P **21 46 30.3 -1.0**
comp=Z,40nm,1.4s,mb4.8
BGF Bois d'Agland 26.14 157 *e*P P **21 46 30.3 -1.0**
BGF pmax pmax
comp=Z,40nm,1.4s,mb4.8
SMF Signal de Mont 26.18 155 *e*P P **21 46 32.7 +1.0**
SMF Signal de Mont 26.18 155 *e*P P **21 46 32.7 +1.0**
SMF Signal de Mont 26.18 155 *e*P P **21 46 32.7 +1.0**
OBN Obninsk 26.18 104‖ *e*P P **21 46 33.9 +2.3**
OBN *e* 21 47 10.0
OBN *i*S S **21 51 09.8 +6.7**
OBN pmax pmax
comp=Z,10.0nm,1.2s,mb4.2
OBN MLR MLR
comp=Z,300nm,14.0s,MS4.0
TCF Toulx Ste Croi 26.33 158 *e*P P **21 46 32.0 -1.0**
comp=Z,29nm,1.1s,mb4.4
TCF Toulx Ste Croi 26.33 158 *e*P P **21 46 32.0 -1.0**
comp=Z,14nm,1.1s,mb4.4
TCF Toulx Ste Croi 26.33 158 *e*P P **21 46 32.0 -1.0**
TCF pmax pmax
comp=Z,15nm,1.1s,mb4.4
STHS Stebnicka Huta 26.91 128 *e*P P **21 46 44.1 +5.8**
STHS pmax pmax
comp=Z,9.0nm,1.0s,mb4.2
STHS Stebnicka Huta 26.91 128 *e*P P **21 46 44.1 +5.8**
DAVOX Davos/Dischmat 26.98 146 LR LR 21 57 22.0
comp=Z,520nm,19.6s,MS4.1,baz=342,slow=37
KOLL Kolacno 27.01 133 *e*P P **21 46 43.6 +4.4**
KOLL Kolacno 27.01 133 *e*P P **21 46 43.6 +4.4**
KWP Kalwaria Pacla 27.08 126 *e*P P **21 46 45.0 +5.1**
KWP Kalwaria Pacla 27.08 126 *e*P P **21 46 45.0 +5.2**
VYHS Vyhne 27.19 132 *e*P P **21 46 43.6 +2.8**
VYHS pmax pmax
comp=Z,8.0nm,1.0s,mb4.2
VYHS Vyhne 27.19 132 *e*P P **21 46 43.6 +2.8**
RJF Les Rejaudoux 27.22 159 *e*P P **21 46 40.3 -0.8**
RJF *e*R
comp=Z,1μm,22.0s
RJF Les Rejaudoux 27.22 159 *e*P P **21 46 40.3 -0.8**
RJF LR LR
comp=Z,1μm,22.0s,MS4.4
RJF Les Rejaudoux 27.22 159 *e*P P **21 46 40.3 -0.8**
RJF MLR MLR
comp=Z,1μm,22.0s,MS4.4
LVV L'vov 27.25 124 *e*P P **21 46 44.7 +3.4**
LVV MLR MLR
comp=Z,600nm,19.0s,MS4.2
LVV MLR MLR
comp=N,400nm,18.0s,MS4.1
LVV MLR MLR
comp=E,300nm,19.0s,MS4.1
CRVS Cervenica-Dubn 27.44 128 *e*P P **21 46 47.5 +4.4**
CRVS Cervenica-Dubn 27.44 128 *e*P P **21 46 47.5 +4.4**
KOLS Kolonicke sedl 27.62 127 *e*P P **21 46 47.7 +3.1**
KOLS Kolonicke sedl 27.62 127 *e*P P **21 46 47.7 +3.1**
CAF Calviac 27.65 159 *e*P P **21 46 43.8 -1.2**
CAF Calviac 27.65 159 *e*P P **21 46 43.8 -1.2**
CAF Calviac 27.65 159 *e*P P **21 46 43.8 -1.2**
CAF Calviac 27.65 159 *e*P P **21 46 43.8 -1.2**
LPL La Plagne 27.69 151 *e*P P **21 46 45.3 0.0**
LPL La Plagne 27.69 151 *e*P P **21 46 45.3 0.0**
LPL La Plagne 27.69 151 *e*P P **21 46 45.3 0.0**
LPL La Plagne 27.69 151 *e*P P **21 46 45.3 0.0**
LPG La Plagne 27.71 151 *e*P P **21 46 46.0 +0.5**
LPG La Plagne 27.71 151 *e*P P **21 46 46.0 +0.5**
LPG La Plagne 27.71 151 *e*P P **21 46 46.0 +0.5**
LPG La Plagne 27.71 151 *e*P P **21 46 46.0 +0.5**
AKASG Malin Array Be 27.86 117 P P **21 46 46.2 -0.6**
comp=E,0.3nm,0.4s,mb3.3,baz=321,slow=8.9,SNR=5.9
AKASG Malin Array Be 27.86 117 P P **21 46 46.2 -0.6**
AKASG Malin Array Be 27.86 117 P P **21 46 46.2 -0.6**
AKASG Malin Array Be 27.86 117 P P **21 46 46.2 -0.6**
UZH Uzhgorod 27.90 128 *e*P P **21 46 45.5 -1.7**
UZH *i* 21 46 52.0
UZH *e*PPP 21 47 45.9
UZH *e* 21 50 06.0
UZH *e*S S **21 51 25.0 -5.3**
UZH MLR MLR
comp=N,700nm,16.0s,MS4.6
UZH MLR MLR
comp=E,1μm,16.0s,MS4.6
UZH MLR MLR
comp=Z,500nm,16.0s,MS4.2
UZH Uzhgorod 27.90 128 *e*P P **21 46 45.5 -1.7**
PSZ Piszkesteto 27.98 131 *e*P P **21 46 47.6 -0.3**
comp=Z,17nm,1.4s,mb4.5
PSZ Piszkesteto 27.98 131 *e*P P **21 46 47.6 -0.3**
PSZ pmax pmax
comp=Z,17nm,1.4s,mb4.5
PSZ Piszkesteto 27.98 131 *e*P P **21 46 47.6 -0.3**
comp=Z,17nm,1.4s,mb4.5
VIVF Saint-Julien-l 28.05 155 *e*P P **21 46 47.8 -0.7**
VIVF Saint-Julien-l 28.05 155 *e*P P **21 46 47.8 -0.7**
VIVF Saint-Julien-l 28.05 155 *e*P P **21 46 47.8 -0.7**
VIVF Saint-Julien-l 28.05 155 *e*P P **21 46 47.8 -0.7**
ORIF Oris-en-Rattie 28.15 153 *e*P P **21 46 49.1 -0.3**
comp=Z,40nm,1.4s,mb4.5
ORIF *e*R
comp=Z,638nm,23.0s
ORIF Oris-en-Rattie 28.15 153 *e*P P **21 46 49.1 -0.3**
comp=Z,20nm,1.4s,mb4.5
ORIF Oris-en-Rattie 28.15 153 *e*P P **21 46 49.1 -0.3**
ORIF pmax pmax
comp=Z,20nm,1.4s,mb4.5
ORIF Oris-en-Rattie 28.15 153 *e*P P **21 46 49.1 -0.3**
comp=Z,20nm,1.4s,mb4.5
MBDF Montbardon 28.47 152 *e*P P **21 46 52.2 -0.1**
comp=Z,11nm,0.8s,mb4.3
MBDF Montbardon 28.47 152 *e*P P **21 46 52.2 -0.1**
comp=Z,5.7nm,0.8s,mb4.2
MBDF Montbardon 28.47 152 *e*P P **21 46 52.2 -0.1**
MBDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
SCHQ Schefferville 28.56 263 LR LR 21 57 12.6
comp=Z,571nm,22.0s,MS4.1,baz=45,slow=34
LASF Ste Croix 28.71 156 *e*P P **21 46 54.1 -0.3**
comp=Z,36nm,1.4s,mb4.6
LASF Ste Croix 28.71 156 *e*P P **21 46 54.1 -0.3**
SOKR Solikamsk 28.88 79 *e*P P **21 46 56.4 +0.6**
SOKR pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
SOKR MLR MLR
comp=Z,330nm,19.0s,MS4.0
EPF Esparros 29.34 162 *e*P P **21 46 59.0 -1.0**
EPF Esparros 29.34 162 *e*P P **21 46 59.0 -1.0**
EPF Esparros 29.34 162 *e*P P **21 46 59.0 -1.0**
SBF Sospel 29.42 151 *e*P P **21 47 01.6 +0.9**
comp=Z,37nm,0.8s,mb4.8
SBF Sospel 29.42 151 *e*P P **21 47 01.6 +0.9**
comp=Z,18nm,0.8s,mb4.9
SBF Sospel 29.42 151 *e*P P **21 47 01.6 +0.9**
SBF pmax pmax
comp=Z,18nm,0.8s,mb4.8
BUR08 Bucovina Ar. S 29.56 125 *e*P P **21 47 02.4 +0.5**
ARU Arti 31.98 81 *e*P P **21 47 23.6 +0.4**
comp=Z,12nm,1.4s,mb4.5
ARU Arti 31.98 81 *c i*P P **21 47 25.0 +1.8**
ARU *e* 21 48 26.1
ARU *e* 21 50 08.9
ARU S S **21 52 38.5 +4.3**
ARU SS SS 21 54 30.9 -20
ARU pmax pmax
comp=Z,7.0nm,1.7s,mb4.2
ESDC Sonseca Array 32.33 169 P P **21 47 25.7 -0.7**
comp=Z,0.3nm,0.5s,mb3.4,baz=358,slow=9.6,SNR=4.2
ESDC LR LR 21 58 59.3
comp=Z,281nm,21.2s,MS3.9,baz=345,slow=34
ESDC Sonseca Array 32.33 169 P P **21 47 25.7 -0.7**
ESDC LR LR 21 58 59.3
INK Inuvik 35.04 327 P P **21 47 49.0 -0.7**
comp=Z,9.9nm,1.1s,mb4.7,baz=27,slow=12,SNR=10.0
INK LR LR 22 03 05.5
comp=Z,594nm,18.9s,MS4.4,baz=4.1,slow=38
INK Inuvik 35.04 327 *e*P P **21 47 47.5 -2.2**
comp=Z,27nm,1.4s,mb5.0
INK Inuvik 35.04 327 P P **21 47 49.0 -0.6**
INK pmax pmax
comp=Z,10.0nm,1.1s
INK MLR MLR
comp=Z,594nm,18.9s
INK Inuvik 35.04 327 P P **21 47 49.0 -0.6**
comp=Z,594nm,18.9s
ANN Anapa 35.56 112 *e*P P **21 47 54.9 +0.5**
ANN *e*S S **21 53 29.9 +0.2**
ANN pmax pmax
comp=Z,79nm,1.7s,mb5.4
ANN MLR MLR
comp=Z,689nm,19.0s,MS4.4
ANN MLR MLR
comp=N,376nm,19.0s,MS4.5
ANN MLR MLR
comp=E,601nm,19.0s,MS4.5
ANN Anapa 35.56 112 *e*P P **21 47 54.9 +0.5**
comp=E,79nm,1.7s,mb5.4
ANN *e*S S **21 53 29.9 +0.2**
comp=E,689nm,19.0s
YKA Yellowknife Ar 36.15 310 P P **21 47 58.3 -0.9**
comp=E,4.1nm,0.6s,mb4.5,baz=28,slow=8.5,SNR=4.6
YKA LR LR 22 02 29.9
comp=E,78nm,21.6s,MS3.5,baz=115,slow=36
YKA Yellowknife Ar 36.15 310 P P **21 47 58.3 -0.9**
YKA LR LR 22 02 29.9
YKA Yellowknife Ar 36.15 310 P P **21 47 58.3 -0.9**
YKA pmax pmax
comp=Z,4.0nm,0.6s
YKA MLR MLR
comp=Z,78nm,21.6s
YKA Yellowknife Ar 36.15 310 P P **21 47 58.3 -0.9**
comp=Z,78nm,21.6s
AKTK Aktyubinsk 36.92 87 P P **21 48 06.7 +0.7**
AKTK Aktyubinsk 36.92 87 P P **21 48 06.7 +0.8**
comp=Z,1.0nm,0.8s,mb3.7
AKTO Aktyubinsk 36.92 87 P P **21 48 06.7 +0.7**
comp=Z,1.1nm,0.8s,mb3.7,baz=333,slow=9.0,SNR=3.3
AKTO Aktyubinsk 36.92 87 P P **21 48 06.7 +0.8**
AKTO pmax pmax
comp=Z,1.0nm,0.8s,mb3.7
GOF Gofitskoye 37.00 106 *e*P P **21 48 16.4 +10**
KEST Kesra 37.67 151 LR LR 22 03 13.9
comp=Z,140nm,21.2s,MS3.7,baz=330,slow=36
BRVK Borovoye 38.46 74‖ *e*P P **21 48 20.1 +1.2**
BRVK pmax pmax
comp=Z,7.0nm,2.0s,mb4.0
BRVK MLR MLR
comp=Z,272nm,16.0s,MS4.2
BRVK Borovoye 38.46 74 *e*P P **21 48 20.1 +1.2**
comp=Z,272nm,16.0s
BVAR Borovoye Array 38.52 74 P P **21 48 20.3 +0.8**
comp=Z,2.1nm,1.0s,mb3.8,baz=317,slow=6.3,SNR=7.1
BVAR Borovoye Array 38.52 74 P P **21 48 20.3 +0.8**
BVAR Borovoye Array 38.52 74 P P **21 48 20.3 +0.9**
BVAR pmax pmax
comp=Z,2.0nm,1.0s
BVAR Borovoye Array 38.52 74 P P **21 48 20.3 +0.9**
comp=Z,2.0nm,1.0s,mb3.8
ABKAR Akbulak array 38.56 86 *e*P P **21 48 20.0 +0.2**
comp=Z,2.2nm,0.8s,mb3.9
ABKAR Akbulak array 38.56 86 *e*P P **21 48 20.0 +0.2**
comp=Z,2.2nm,0.8s,mb3.9
BRTR Keskin Array B 39.17 120 P P **21 48 25.8 +0.8**
comp=Z,0.7nm,0.9s,mb3.4,baz=329,slow=5.2,SNR=2.7
BRTR LR LR 22 06 06.5
comp=Z,202nm,19.6s,MS4.0,baz=339,slow=38
BRTR Keskin Array B 39.17 120 P P **21 48 25.8 +0.8**
BRTR LR LR 22 06 06.5
BRTR Keskin Array B 39.17 120 P P **21 48 25.8 +0.8**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
BRTR MLR MLR
comp=Z,202nm,19.6s
BRTR Keskin Array B 39.17 120 P P **21 48 25.8 +0.8**
comp=Z,202nm,19.6s
FFC Flin Flon 39.48 294 *e*P P **21 48 26.7 -0.7**
comp=Z,8.2nm,0.8s,mb4.5
FFC Flin Flon 39.48 294 *i*P P **21 48 28.0 +0.6**
FFC Flin Flon 39.48 294 *e*P P **21 48 26.7 -0.7**
comp=Z,8.2nm,0.8s,mb4.5
EGAK Eagle 39.54 329 *e*P P **21 48 26.7 -1.1**
comp=Z,23nm,1.4s,mb4.7
EGAK Eagle 39.54 329 *e*P P **21 48 26.7 -1.1**
comp=Z,23nm,1.4s,mb4.7
DAWY Dawson 39.90 327 *e*P P **21 48 29.5 -1.3**
DAWY Dawson 39.90 327 *e*P P **21 48 29.5 -1.4**
ILAR Eielson Array 40.44 332 P P **21 48 35.5 +0.2**
comp=Z,6.8nm,1.0s,mb4.3,baz=18,slow=6.4,SNR=48
ILAR LR LR 22 06 41.3
comp=Z,288nm,21.9s,MS4.1,baz=210,slow=38
ILAR Eielson Array 40.44 332 P P **21 48 35.5 +0.2**
ILAR LR LR 22 06 41.2
ILAR Eielson Array 40.44 332 P P **21 48 35.5 +0.2**
ILAR pmax pmax
comp=Z,7.0nm,1.0s
ILAR MLR MLR
comp=Z,288nm,21.9s
ILAR Eielson Array 40.44 332 P P **21 48 35.5 +0.2**
comp=Z,288nm,21.9s
COLA College 40.48 333 *e*P P **21 48 34.3 -1.3**
comp=Z,22nm,1.3s,mb4.7
COLA College 40.48 333 *e*P P **21 48 34.3 -1.3**
COLA pmax pmax
comp=Z,22nm,1.3s,mb4.7
COLA College 40.48 333 *e*P P **21 48 34.3 -1.3**
comp=Z,22nm,1.3s,mb4.7
BILL Bilibino 40.51 1‖ *e*P P **21 48 36.4 +0.6**
BILL *e* 21 50 08.6
BILL *e*S S **21 54 47.5 +3.4**
BILL pmax pmax
comp=Z,18nm,1.2s,mb4.6
BILL MLR MLR
comp=Z,200nm,17.0s,MS4.0
BILL Bilibino 40.51 1 *e*P P **21 48 36.4 +0.6**
comp=Z,18nm,1.2s,mb4.6
NVS Novosibirsk 40.69 62 *e*P P **21 48 37.0 -0.5**
NVS Novosibirsk 40.69 62 *e*P P **21 48 37.0 -0.5**
DOT Dot Lake 41.06 330 *e*P P **21 48 39.8 -0.6**
comp=Z,78nm,1.2s,mb5.2
DOT Dot Lake 41.06 330 *e*P P **21 48 39.8 -0.6**
comp=Z,78nm,1.2s,mb5.2
ULM Lac du Bonnet 41.58 286 P P **21 48 43.7 -1.2**
comp=Z,7.0nm,0.8s,mb4.3,baz=9.9,slow=9.8,SNR=4.2
ULM LR LR 22 05 03.6
comp=Z,223nm,18.5s,MS4.1,baz=254,slow=35
ULM Lac du Bonnet 41.58 286 P P **21 48 43.7 -1.2**
ULM LR LR 22 05 03.6
ULM Lac du Bonnet 41.58 286 P P **21 48 43.7 -1.2**
ULM Lac du Bonnet 41.58 286 P P **21 48 43.7 -1.2**

BPAW Bear Paw Mtn. 41.66 334 *e*P P **21 48 44.6 -0.7**
comp=Z,26nm,1.3s,mb4.7
BPAW Bear Paw Mtn. 41.66 334 *e*P P **21 48 44.6 -0.7**
comp=Z,26nm,1.3s,mb4.7
MCK McKinley 41.72 333 *e*P P **21 48 45.8 0.0**
comp=Z,53nm,1.3s,mb5.0
MCK McKinley 41.72 333 *e*P P **21 48 45.8 0.0**
MCK pmax pmax
comp=Z,53nm,1.3s,mb5.0
MCK McKinley 41.72 333 *e*P P **21 48 45.8 0.0**
comp=Z,53nm,1.3s,mb5.0
ZALV Zalesovo Beam 41.92 62 P P **21 48 48.0 +0.5**
comp=Z,2.2nm,1.0s,mb3.8,baz=332,slow=9.1,SNR=8.4
ZALV LR LR 22 08 33.7
comp=Z,175nm,19.6s,MS3.9,baz=163,slow=39
ZALV Zalesovo Beam 41.92 62 P P **21 48 48.0 +0.5**
ZALV LR LR 22 08 33.7
ZALV Zalesovo Beam 41.92 62 P P **21 48 48.1 +0.5**
ZALV pmax pmax
comp=Z,2.0nm,1.0s,mb3.7
ZALV MLR MLR
comp=Z,175nm,19.6s,MS3.9
ZALV Zalesovo Beam 41.92 62 P P **21 48 48.0 +0.4**
TRF Thorofare Moun 42.18 334 *e*P P **21 48 49.9 +0.3**
comp=Z,2.8nm,0.6s,mb4.1
TRF Thorofare Moun 42.18 334 *e*P P **21 48 49.8 +0.2**
comp=Z,2.8nm,0.6s,mb4.1
EYMN Ely 42.27 280 P P **21 48 50.0 -0.5**
EYMN Ely 42.27 280 P P **21 48 50.0 -0.5**
PPLA Purkeypile 42.97 335 *e*P P **21 48 56.0 0.0**
comp=Z,36nm,1.6s,mb4.8
PPLA Purkeypile 42.97 335 *e*P P **21 48 56.0 0.0**
comp=Z,36nm,1.6s,mb4.8
KURK Kurchatov 43.01 69 P P **21 48 56.3 -0.1**
comp=Z,2.5nm,0.9s,mb3.9,baz=332,slow=7.6,SNR=9.6
KURK PP PP 21 50 46.5 +11
comp=Z,2.8nm,1.1s,baz=328,slow=12,SNR=4.9
KURK LR LR 22 10 27.4
comp=Z,362nm,18.4s,MS4.3,baz=320,slow=41
KURK Kurchatov 43.01 69 *e*P P **21 48 57.1 +0.6**
comp=Z,3.9nm,0.9s,mb4.1
KURK Kurchatov 43.01 69 P P **21 48 56.3 -0.2**
KURK 21 50 46.5
KURK pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
KURK pmax pmax
comp=Z,3.0nm,1.1s,mb3.9
KURK MLR MLR
comp=Z,362nm,18.4s,MS4.3
KURK Kurchatov 43.01 69 P P **21 48 56.3 -0.2**
comp=Z,3.0nm,0.9s,mb4.0
KURK Kurchatov 43.01 69 PcP PcP 21 50 46.5 +0.1
comp=Z,362nm,18.4s
DLBC Dease Lake 43.28 318 LR LR 22 06 48.5
comp=Z,451nm,19.5s,MS4.4,baz=221,slow=36
AGMN Agassiz Nation 43.31 284 *e*P P **21 48 58.3 -0.6**
comp=Z,22nm,1.2s,mb4.8
AGMN Agassiz Nation 43.31 284 *e*P P **21 48 58.3 -0.6**
comp=Z,22nm,1.2s,mb4.8
CSS Prodhromos 43.56 123 *e*P P **21 49 02.1 +1.1**
comp=Z,9.9nm,1.0s,mb4.5
CSS Prodhromos 43.56 123 *e*P P **21 49 02.1 +1.0**
comp=Z,9.9nm,1.0s,mb4.5
YAK Yakutsk 43.92 25 *e*P P **21 49 11.2 +7.5**
YAK pmax pmax
comp=Z,17nm,1.4s,mb4.6
YAK pmax pmax
comp=N,15nm,1.4s
DGMT Dagmar 45.66 292 ⇓P P **21 49 18.1 +0.4**
baz=45
A22A Carney Farms, 45.69 293 ⇓P P **21 49 18.6 +0.7**
baz=45
B23A Brockton 45.90 292 ⇑P P **21 49 19.8 +0.2**
baz=46
A21A Bergtoll Ranch 45.98 294 ⇑P P **21 49 20.2 0.0**
baz=46
A20A Cobblestone Ra 46.37 295 ⇑P P **21 49 23.2 -0.1**
baz=46
C23A Lambert 46.55 292 ⇓P P **21 49 25.2 +0.5**
baz=46
B20A Solberg Farm, 46.80 295 ⇓P P **21 49 26.3 -0.3**
baz=46
C22A Vida 46.80 293 ⇓P P **21 49 26.7 0.0**
baz=46
A18A Metzger Ranch, 46.88 297 ⇓P P **21 49 26.9 -0.4**
baz=47
A17A Triple J Farms 47.10 297 ⇓P P **21 49 28.5 -0.5**
baz=47
D23A Lindsay 47.12 292 ⇓P P **21 49 29.1 -0.1**
baz=47
B18A Beardsley Farm 47.34 296 ⇓P P **21 49 30.8 -0.1**
baz=47
D22A Cohagen 47.43 292 ⇑P P **21 49 31.5 -0.1**
baz=47
C20A Veseth Ranch, 47.45 294 ⇑P P **21 49 31.3 -0.4**
baz=47
MKAR Makanchi Array 47.60 68 P P **21 49 33.4 +0.5**
comp=N,2.4nm,1.0s,mb4.2,baz=340,slow=6.6,SNR=6.4
MKAR LR LR 22 12 31.7
comp=N,213nm,18.3s,MS4.2,baz=336,slow=40
MKAR Makanchi Array 47.60 68 P P **21 49 33.4 +0.5**
MKAR LR LR 22 12 31.7
MKAR Makanchi Array 47.60 68 P P **21 49 33.4 +0.5**
MKAR pmax pmax
comp=Z,2.0nm,1.0s
MKAR MLR MLR
comp=Z,213nm,18.3s
MKAR Makanchi Array 47.60 68 P P **21 49 33.4 +0.5**
comp=Z,213nm,18.3s
A15A Johnson Ranch, 47.64 299 ⇑P P **21 49 33.0 -0.1**
baz=47,SNR=5.8
EGMT Eagleton 47.67 296 ⇓P P **21 49 33.1 -0.3**
baz=47,SNR=8.6
EGMT Eagleton 47.67 296 *e*P P **21 49 32.7 -0.7**
comp=Z,60nm,1.4s,mb5.4
EGMT Eagleton 47.67 296 *e*P P **21 49 32.7 -0.7**
comp=Z,60nm,1.4s,mb5.4
B17A L&G Farms, Che 47.72 297 ⇓P P **21 49 33.0 -0.8**
baz=47
C19A Slack Wire Ran 47.73 295 ⇑P P **21 49 33.3 -0.6**
baz=48
D21A La Casta Ranch 47.74 293 ⇑P P **21 49 33.9 -0.2**
baz=48
A14A Double T Ranch 47.83 299 ⇑P P **21 49 33.7 -1.0**
baz=48,SNR=9.8
B16A M & M Farms, S 47.87 298 ⇓P P **21 49 34.1 -0.9**
baz=48,SNR=5.9
WALA Waterton Lakes 47.89 300 *e*P P **21 49 34.5 -0.6**
WALA Waterton Lakes 47.89 300 *e*P P **21 49 34.5 -0.6**
KDAK Kodiak Island 47.95 333 P P **21 49 35.0 -0.5**
comp=Z,14nm,0.9s,mb5.0,baz=64,slow=7.2,SNR=8.4
KDAK Kodiak Island 47.95 333 P P **21 49 35.0 -0.5**
KDAK Kodiak Island 47.95 333 P P **21 49 35.0 -0.5**
KDAK pmax pmax
comp=Z,14nm,1.0s,mb5.0
KDAK Kodiak Island 47.95 333 P P **21 49 35.0 -0.5**
comp=Z,14nm,1.0s,mb5.0
D20A Manuel Ranch, 48.05 294 ⇑P P **21 49 36.2 -0.2**
baz=48,SNR=5.4
A13A Flathead Natio 48.14 300 ⇓P P **21 49 36.8 -0.3**
baz=48
B15A Bradely Ranch, 48.19 298 ⇓P P **21 49 36.4 -1.1**
baz=48,SNR=8.7
D19A Cripps Ranch, 48.20 295 ⇑P P **21 49 37.2 -0.3**
baz=48,SNR=5.8
C17A Wharram Farm, 48.31 297 ⇑P P **21 49 37.4 -1.0**
baz=48,SNR=7.5
B14A Marquette Ranc 48.35 299 ⇑P P **21 49 38.5 -0.2**
baz=48
C16A Fuhringer Ranc 48.43 297 ⇓P P **21 49 39.2 -0.1**
baz=48
D18A Linhart Farms, 48.43 296 ⇓P P **21 49 39.7 +0.3**
baz=48
A12A Yaak River Ran 48.48 301 ⇑P P **21 49 40.0 +0.4**
baz=48
E20A Meyer Farm, Mu 48.58 294 ⇓P P **21 49 40.7 +0.2**
baz=48
C15A Salmond Ranch, 48.70 298 ⇓P P **21 49 40.5 -0.8**
baz=48,SNR=8.5
D17A Six Diamond Ra 48.72 296 ⇑P P **21 49 41.1 -0.5**
baz=48,SNR=8.2
E19A Rath Farm, Rou 48.81 294 ⇓P P **21 49 42.3 +0.1**
baz=48
C14A Swan Lake 49.02 299 ⇓P P **21 49 43.4 -0.5**
baz=49
AAK Ala-Archa 49.02 77 LR LR 22 10 03.4
comp=Z,235nm,21.6s,MS4.1,baz=316,slow=36

AAK Ala-Archa 49.02 77 *ce*P P **21 49 45.7 +1.8**
AAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.8
AAK MLR MLR
comp=Z,66nm,15.0s,MS3.8
AAK Ala-Archa 49.02 77 *e*P P **21 49 45.7 +1.8**
comp=Z,66nm,15.0s
E18A Harlowton 49.04 295 ⇑P P **21 49 44.2 +0.2**
baz=49
D16A Dana Ranch, Ca 49.08 297 ⇓P P **21 49 44.1 -0.2**
baz=49
H24A Dirks Ranch, A 49.13 290 ⇓P P **21 49 44.5 -0.2**
baz=49
JTMT Jette 49.19 300 *e*P P **21 49 44.8 -0.3**
comp=Z,19nm,1.7s,mb4.8
JTMT Jette 49.19 300 *e*P P **21 49 44.8 -0.3**
comp=Z,19nm,1.7s,mb4.8
BSMT Bassoo Peak 49.23 300 *e*P P **21 49 45.0 -0.4**
comp=Z,9.1nm,1.3s,mb4.7
BSMT Bassoo Peak 49.23 300 *e*P P **21 49 45.0 -0.4**
comp=Z,9.1nm,1.3s,mb4.7
SWMT Swartz Lake 49.32 299 *e*P P **21 49 46.4 +0.2**
comp=Z,12nm,1.2s,mb4.8
SWMT Swartz Lake 49.32 299 *e*P P **21 49 46.4 +0.2**
comp=Z,12nm,1.2s,mb4.8
C13A Hot Springs 49.33 300 ⇓P P **21 49 45.6 -0.6**
baz=49,SNR=11
D15A Lincoln 49.34 298 ⇓P P **21 49 45.2 -1.2**
baz=49,SNR=5.5
E17A Martinsdale 49.40 296 ⇓P P **21 49 46.8 0.0**
baz=49,SNR=11
F19A Roth Farm, Mol 49.41 294 ⇑P P **21 49 47.1 +0.2**
baz=49
SLMT Seeley Lake 49.43 299 *e*P P **21 49 46.7 -0.3**
comp=Z,26nm,1.0s,mb5.2
SLMT Seeley Lake 49.43 299 *e*P P **21 49 46.7 -0.3**
comp=Z,26nm,1.0s,mb5.2
NEW Newport 49.48 302 ⇑P P **21 49 46.9 -0.5**
baz=49
C12B Naegeli Ranch, 49.55 300 ⇓P P **21 49 47.9 +0.1**
baz=49
E16A East Helena 49.57 297 ⇑P P **21 49 47.8 -0.3**
baz=49
D14A Greenough 49.58 299 ⇑P P **21 49 47.1 -1.0**
baz=49,SNR=14
F18A Big Timber 49.58 295 ⇓P P **21 49 48.0 -0.2**
baz=49,SNR=7.0
C11A Tepee Creek (N 49.64 301 ⇑P P **21 49 47.9 -0.6**
baz=49
CHMT Chamberlain Mo 49.66 298 *e*P P **21 49 48.0 -0.8**
comp=Z,5.3nm,0.9s,mb4.6
CHMT Chamberlain Mo 49.66 298 *e*P P **21 49 48.0 -0.8**
comp=Z,5.2nm,0.9s,mb4.6
G20A Bridger 49.77 293 ⇓P P **21 49 49.4 -0.2**
baz=50
D13A Huson 49.83 299 ⇓P P **21 49 49.7 -0.3**
baz=50,SNR=10.0
F17A Fitzpatrick Pl 49.85 296 ⇑P P **21 49 49.9 -0.3**
baz=50,SNR=11
TAM Tamanrasset 49.91 159 *e*P P **21 49 50.7 -0.2**
comp=Z,10nm,1.4s,mb4.7
TAM Tamanrasset 49.91 159 *e*P P **21 49 50.7 -0.2**
TAM pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
TAM Tamanrasset 49.91 159 *e*P P **21 49 50.7 -0.2**
comp=Z,10nm,1.4s,mb4.7
MSO Missoula 49.93 299 ⇓P P **21 49 50.4 -0.5**
baz=50,SNR=8.3
MSO Missoula 49.93 299 *e*P P **21 49 50.2 -0.6**
comp=Z,12nm,1.1s,mb4.8
MSO Missoula 49.93 299 *e*P P **21 49 50.2 -0.6**
comp=Z,12nm,1.1s,mb4.8
E15A Deer Lodge 49.94 297 ⇑P P **21 49 50.2 -0.7**
baz=50
B08A Colville Reser 49.98 304 ⇑P P **21 49 51.7 +0.5**
baz=50
G18A Lazy EL Ranch, 50.08 294 ⇓P P **21 49 51.7 -0.3**
baz=50
D12A Red Ives Fores 50.11 300 ⇓P P **21 49 52.1 -0.1**
baz=50
RLMT Red Lodge 50.17 294 ⇑P P **21 49 52.8 +0.2**
baz=50
RLMT Red Lodge 50.17 294 *e*P P **21 49 53.2 +0.5**
comp=Z,12nm,1.4s,mb4.7
RLMT Red Lodge 50.17 294 *e*P P **21 49 53.2 +0.6**
comp=Z,12nm,1.4s,mb4.7
E14A Clinton 50.18 298 ⇓P P **21 49 52.7 -0.1**
baz=50
E13A Victor 50.35 299 ⇑P P **21 49 53.2 -0.8**
baz=50,SNR=9.0
BOZ Bozeman (W) 50.36 296 ⇓P P **21 49 54.6 +0.5**
baz=50
H20A Greybull 50.38 293 ⇓P P **21 49 54.1 -0.1**
baz=50
G17A Pierce Place, 50.41 295 ⇑P P **21 49 55.1 +0.6**
baz=50
F15A Butte 50.43 297 ⇓P P **21 49 54.6 0.0**
baz=50
LRM Limekiln Ridge 50.44 297 *e*P P **21 49 55.2 +0.6**
comp=Z,24nm,0.8s,mb5.3
LRM Limekiln Ridge 50.44 297 *e*P P **21 49 55.2 +0.5**
comp=Z,24nm,0.8s,mb5.3
I22A 9 Mile Ranch, 50.48 291 ⇓P P **21 49 54.9 -0.1**
baz=50
H19A Powell 50.50 293 ⇓P P **21 49 55.6 +0.4**
baz=50
H18A Shoshone NF, C 50.69 294 ⇑P P **21 49 56.4 -0.2**
baz=50
E12A Beaver Dam Sad 50.76 300 ⇓P P **21 49 56.5 -0.6**
baz=50
I21A Big Trails, Te 50.79 292 ⇑P P **21 49 56.8 -0.6**
baz=50,SNR=5.6
I20A Worland 50.91 292 ⇓P P **21 49 58.1 -0.2**
baz=51
J22A Midwest 50.91 291 ⇑P P **21 49 57.2 -1.1**
baz=51,SNR=5.3
F13A Darby 50.99 299 ⇓P P **21 49 58.7 -0.1**
baz=51
G15A Dillon 51.05 297 ⇑P P **21 49 59.6 +0.3**
baz=51
D08A Wollman Farm, 51.07 303 ⇑P P **21 49 59.8 +0.4**
baz=51
I19A Meeteetse 51.08 293 ⇑P P **21 49 59.8 +0.2**
baz=51
H16A Russell Place, 51.12 295 ⇑P P **21 49 59.7 -0.1**
baz=51,SNR=6.3
CCM Cathedral Cave 51.12 274 *e*P P **21 49 58.6 -1.3**
comp=Z,7.0nm,0.8s,mb4.6
CCM Cathedral Cave 51.12 274 *e*P P **21 49 58.6 -1.3**
CCM pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
CCM Cathedral Cave 51.12 274 *e*P P **21 49 58.6 -1.3**
comp=Z,7.0nm,0.8s,mb4.6
H17A Grant Village 51.21 295 ⇑P P **21 50 00.9 +0.4**
baz=51
J21A Lysite 51.26 291 ⇓P P **21 50 00.9 0.0**
baz=51
J20A Shoshoni 51.44 292 ⇓P P **21 50 02.3 0.0**
baz=51
H15A Lima 51.59 297 ⇓P P **21 50 02.6 -0.8**
baz=51,SNR=6.5
G13A Cobalt 51.60 298 ⇑P P **21 50 03.1 -0.3**
baz=51,SNR=15
F10A Beach Ranch, E 51.62 301 ⇑P P **21 50 03.2 -0.4**
baz=51
K22A Casper 51.62 290 ⇓P P **21 50 03.2 -0.4**
baz=51
IMW Indian Meadow 51.77 295 *e*P P **21 50 05.5 +0.8**
comp=Z,4.1nm,0.9s,mb4.4
IMW Indian Meadow 51.77 295 *e*P P **21 50 05.5 +0.8**
comp=Z,4.1nm,0.9s,mb4.4
E07A Sunnyside 51.78 303 ⇑P P **21 50 04.5 -0.3**
baz=52
H14A Leadore 51.80 297 ⇓P P **21 50 05.5 +0.6**
baz=52
J19A Crowheart 51.80 293 ⇑P P **21 50 05.3 +0.3**
baz=52
K21A Alcova 51.85 291 ⇓P P **21 50 04.9 -0.4**
baz=52
G12A Big Creek, Yel 51.88 299 ⇑P P **21 50 05.3 -0.2**
baz=52
WMQ Urumqi 51.88 65 P P **21 50 07.9 +2.4**
WMQ pP pP 21 50 12.4 +3.7
WMQ sP sP 21 50 14.9 +5.0
WMQ PP PP 21 52 06.5 +3.5
WMQ pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
WMQ pmax pmax
comp=Z,110nm,6.0s
WMQ LR LR
comp=N,250nm,11.2s
WMQ LR LR
comp=E,280nm,7.5s
WMQ LR LR
comp=Z,300nm,25.0s
I16A Newdale 51.95 295 ⇓P P **21 50 06.1 +0.1**
baz=52,SNR=5.5
H13A Challis 52.10 298 ⇓P P **21 50 06.9 -0.2**
baz=52,SNR=6.5
DCID1 Drake Creek 52.12 295 P P **21 50 05.6 -1.7**
DCID1 Drake Creek 52.12 295 P P **21 50 05.6 -1.7**
J18A Kendall Valley 52.13 294 ⇑P P **21 50 07.6 +0.2**
baz=52
K19A Absolon Red Bu 52.15 292 ⇑P P **21 50 07.2 -0.3**
baz=52
K20A Yellowstone Ra 52.15 292 ⇑P P **21 50 07.1 -0.4**
baz=52
L22A Ellis Ranch, M 52.16 290 ⇓P P **21 50 07.4 -0.2**
baz=52
H12A Diamond D Ranc 52.28 298 ⇓P P **21 50 08.2 -0.3**
baz=52,SNR=15
BW06 Boulder Array 52.41 293 ⇑P P **21 50 09.7 +0.2**
baz=52,SNR=6.8
PDAR Pinedale Array 52.41 293 P P **21 50 09.2 -0.3**
comp=Z,2.9nm,0.9s,mb4.2,baz=50,slow=5.7,SNR=17
PDAR LR LR 22 12 32.0
comp=Z,556nm,18.1s,MS4.6,baz=32,slow=36
PDAR Pinedale Array 52.41 293 P P **21 50 09.2 -0.3**
PDAR LR LR 22 12 32.0
PDAR Pinedale Array 52.41 293 P P **21 50 09.2 -0.3**
I14A Mackay 52.46 297 ⇓P P **21 50 10.1 +0.3**
baz=52
L21A Rawlins 52.50 291 ⇑P P **21 50 10.2 +0.1**
baz=52
RST Umm Al-Ruwaisa 52.56 110 *e*P P **21 50 11.7 +1.0**
RST AMb AMB 21 50 20.1
comp=Z,4.6nm,1.8s,mb4.1
J15A Blackfoot 52.66 296 ⇑P P **21 50 11.3 0.0**
baz=52,SNR=5.1
I13A Wildhorse Cree 52.66 297 ⇑P P **21 50 11.1 -0.2**
baz=52,SNR=10
BMO Blue Mountains 52.67 301 *e*P P **21 50 10.5 -0.9**
comp=Z,6.8nm,1.2s,mb4.5
BMO Blue Mountains 52.67 301 *e*P P **21 50 10.5 -0.9**
comp=Z,6.8nm,1.2s,mb4.5
G08A Pilot Rock 52.71 302 ⇑P P **21 50 11.7 0.0**
baz=52,SNR=11
K16A Soda Springs 52.94 295 ⇓P P **21 50 13.4 0.0**
baz=53
J14A Carey 53.03 297 ⇓P P **21 50 14.5 +0.5**
baz=53
I12A Atlanta 53.05 298 ⇑P P **21 50 14.0 -0.2**
baz=53,SNR=9.5
N23A Red Feather La 53.06 289 ⇓P P **21 50 14.3 0.0**
baz=53,SNR=7.0
HLID Hailey 53.06 297 ⇓P P **21 50 13.8 -0.5**
baz=53,SNR=8.7
HLID Hailey 53.06 297 *e*P P **21 50 14.2 -0.1**
comp=Z,6.3nm,1.1s,mb4.5
HLID Hailey 53.06 297 *e*P P **21 50 14.1 -0.2**
comp=Z,6.3nm,1.1s,mb4.5
SONM Songino Array 53.07 48 P P **21 50 16.3 +2.0**
comp=Z,0.8nm,0.9s,mb3.6,baz=350,slow=6.0,SNR=6.2
SONM LR LR 22 15 22.5
comp=Z,225nm,18.5s,MS4.2,baz=354,slow=39
SONM Songino Array 53.07 48 P P **21 50 16.3 +2.0**
SONM LR LR 22 15 22.5
SONM Songino Array 53.07 48 P P **21 50 16.3 +2.0**
SONM pmax pmax
comp=Z,1.0nm,0.9s
SONM MLR MLR
comp=Z,225nm,18.5s
SONM Songino Array 53.07 48 P P **21 50 16.3 +2.0**
comp=Z,225nm,18.5s
J13A Cove Ranch, Pi 53.15 297 ⇑P P **21 50 14.9 0.0**
baz=53
ULN Ulaanbaatar 53.19 48 *e*P P **21 50 15.6 +0.4**
comp=Z,6.3nm,1.2s,mb4.4
ULN Ulaanbaatar 53.19 48 *e*P P **21 50 15.6 +0.4**
ULN pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
ULN Ulaanbaatar 53.19 48 *e*P P **21 50 15.6 +0.4**
comp=Z,6.3nm,1.2s,mb4.4
G06A Carlson Farm, 53.21 303 ⇑P P **21 50 16.2 +0.8**
baz=53
N22A Wattenberg Ran 53.30 289 ⇓P P **21 50 16.4 +0.4**
baz=53
MFID Camas Ranch 53.59 299 ⇓P P **21 50 17.5 -0.7**
baz=53
L16A Fish Haven 53.64 294 ⇓P P **21 50 18.6 0.0**
baz=53
K14A Jones Ranch, D 53.65 296 ⇑P P **21 50 18.5 -0.1**
baz=53,SNR=5.4
O23A Lake Granby, G 53.68 289 ⇑P P **21 50 19.1 +0.3**
baz=53
P25A Willow Gulch B 53.80 287 ⇓P P **21 50 20.1 +0.4**
baz=54
N20A Spence Gulch, 53.81 291 ⇑P P **21 50 19.2 -0.6**
baz=54,SNR=7.1
O22A Kremmling 53.91 289 ⇓P P **21 50 21.0 +0.4**
baz=54
M17A Scullys Gap (B 53.92 293 ⇓P P **21 50 21.0 +0.3**
baz=54
L15A Malad City 53.93 295 ⇓P P **21 50 20.7 0.0**
baz=54,SNR=7.9
ISCO Idaho Springs 53.97 288 ⇑P P **21 50 21.2 +0.2**
baz=54
ISCO Idaho Springs 53.97 288 *e*P P **21 50 20.9 -0.1**
comp=Z,8.1nm,1.2s,mb4.5
ISCO Idaho Springs 53.97 288 *e*P P **21 50 20.9 -0.1**
ISCO pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
ISCO Idaho Springs 53.97 288 *e*P P **21 50 20.9 -0.1**
comp=Z,8.1nm,1.2s,mb4.5
I07A Izee 53.98 302 ⇑P P **21 50 21.6 +0.6**
baz=54
H04A Detroit Lake 54.13 304 ⇑P P **21 50 22.7 +0.6**
baz=54
O21A Pagoda 54.14 290 ⇑P P **21 50 22.1 -0.2**
baz=54
L14A Malta 54.14 296 ⇑P P **21 50 22.1 -0.1**
baz=54,SNR=5.8
M16A Huntsville 54.35 294 ⇑P P **21 50 23.5 -0.2**
baz=54,SNR=5.4
P23A Jefferson 54.43 288 ⇓P P **21 50 24.7 +0.3**
baz=54
M15A Larsen Ranch, 54.44 295 ⇑P P **21 50 24.7 +0.3**
baz=54
O20A White River Ci 54.44 291 ⇑P P **21 50 24.9 +0.5**
baz=54
N17A Moffit Pass 54.46 293 ⇑P P **21 50 24.6 +0.1**
baz=54
N16A Rees Ranch, Co 54.69 294 ⇓P P **21 50 26.3 +0.1**
baz=54
R25A Fountain Ranch 55.09 286 ⇑P P **21 50 29.3 +0.1**
baz=55
O17A Robinson Place 55.12 293 ⇑P P **21 50 29.7 +0.3**
baz=55
Q22A Crested Butte, 55.22 289 ⇑P P **21 50 30.5 +0.4**
baz=55
R24A Sanders Place, 55.26 287 ⇓P P **21 50 31.1 +0.7**
baz=55
PETK Petropavlovsk- 55.27 8 LR LR 22 14 19.6
comp=Z,109nm,18.1s,MS4.0,baz=356,slow=36
P18A Preston Nutter 55.50 292 ⇑P P **21 50 31.9 -0.2**
baz=55,SNR=7.8
O15A The Old Anders 55.54 294 ⇓P P **21 50 32.8 +0.5**
baz=55
Q20A Ridgley Place, 55.55 290 ⇓P P **21 50 32.6 +0.2**
baz=55
S25A Robets Cordova 55.58 286 ⇑P P **21 50 33.0 +0.3**
baz=55
K05A Summer Lake 55.61 303 ⇓P P **21 50 33.8 +1.0**
baz=55
DUG Dugway 55.72 295 ⇓P P **21 50 33.7 0.0**
baz=56,SNR=14
DUG Dugway 55.72 295 *e*P P **21 50 33.9 +0.2**
comp=Z,15nm,1.0s,mb5.0
DUG Dugway 55.72 295 *e*P P **21 50 33.9 +0.2**
DUG pmax pmax
comp=Z,15nm,1.0s,mb5.0
DUG Dugway 55.72 295 *e*P P **21 50 33.9 +0.2**
comp=Z,15nm,1.0s,mb5.0
R22A Saguache, Gunn 55.76 288 ⇓P P **21 50 34.5 +0.6**
baz=56
SDCO Great Sand Dun 55.83 287 ⇑P P **21 50 35.0 +0.6**

baz=56
S24A Houchin Ranch, 55.84 287 ⇑P **P** **21 50 34.7 +0.2**
baz=56
R21A Cimarron 55.87 289 ⇑P **P** **21 50 35.2 +0.5**
baz=56
Q18A Rafter H Ranch 55.95 292 ⇓P **P** **21 50 35.2 -0.1**
baz=56,SNR=8.1
SRU San Rafael 56.06 292 ⇑P **P** **21 50 36.1 0.0**
baz=56
S22A 4UR Ranch, Cre 56.23 288 ⇓P **P** **21 50 37.6 +0.2**
baz=56
R20A Redvale 56.28 290 ⇓P **P** **21 50 38.0 +0.3**
baz=56
T24A Torres, Weston 56.31 286 ⇑P **P** **21 50 38.4 +0.5**
baz=56
P14A Drum Mountains 56.35 294 ⇑P **P** **21 50 38.7 +0.5**
baz=56,SNR=7.8
PV01 Paradox Valley 56.39 290 *eP* **P** **21 50 37.8 -0.6**
PV01 Paradox Valley 56.39 290 *eP* **P** **21 50 37.8 -0.7**
Q16A Castle Valley 56.43 293 ⇑P **P** **21 50 39.3 +0.6**
baz=56
R19A Curley Farm, L 56.45 291 ⇓P **P** **21 50 39.5 +0.7**
baz=56
WMOK Wichita Mounta 56.54 280 *eP* **P** **21 50 38.2 -1.3**
comp=Z,6.8nm,1.1s,mb4.6
WMOK Wichita Mounta 56.54 280 *eP* **P** **21 50 38.3 -1.3**
WMOK pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
WMOK Wichita Mounta 56.54 280 *eP* **P** **21 50 38.3 -1.3**
comp=Z,7.0nm,1.1s,mb4.6
U26A Atchley Ranch, 56.54 285 ⇑P **P** **21 50 40.1 +0.5**
baz=56
R18A Canyonlands Na 56.55 291 ⇑P **P** **21 50 39.5 -0.1**
baz=56,SNR=9.9
S21A Coal Bank Pass 56.59 289 ⇑P **P** **21 50 39.8 -0.1**
baz=56
S20A Disappointment 56.61 290 ⇑P **P** **21 50 40.7 +0.7**
baz=56
U25A Circle Dot Ran 56.74 285 ⇑P **P** **21 50 41.3 +0.3**
baz=56
S19A Harvey Farm, M 56.91 290 ⇑P **P** **21 50 42.7 +0.5**
baz=57
T22A Edith 56.93 288 ⇓P **P** **21 50 42.6 +0.3**
baz=57
Q14A Sevier Lake (B 56.97 294 ⇑P **P** **21 50 43.4 +0.8**
baz=57,SNR=16
MSU Marysvale 57.10 293 *eP* **P** **21 50 44.0 +0.5**
comp=Z,12nm,1.4s,mb4.7
MSU Marysvale 57.10 293 *eP* **P** **21 50 44.0 +0.5**
MSU pmax pmax
comp=Z,12nm,1.4s,mb4.7
MSU Marysvale 57.10 293 *eP* **P** **21 50 44.0 +0.5**
comp=Z,12nm,1.4s,mb4.7
R16A Teasdale 57.11 293 ⇑P **P** **21 50 44.1 +0.5**
baz=57
V26A Tequesquite Ra 57.11 285 ⇑P **P** **21 50 43.9 +0.3**
baz=57
S18A Hurst Farm, Bl 57.22 291 ⇑P **P** **21 50 44.6 +0.2**
baz=57
MVCO Mesa Verde 57.22 289 ⇓P **P** **21 50 44.5 +0.1**
baz=57
MVCO Mesa Verde 57.22 289 *eP* **P** **21 50 44.1 -0.2**
comp=Z,18nm,1.0s,mb5.1
MVCO Mesa Verde 57.22 289 *eP* **P** **21 50 44.2 -0.2**
comp=Z,18nm,1.0s,mb5.1
V25A Rancho No Teng 57.32 285 ⇑P **P** **21 50 44.7 -0.4**
baz=57
S17A Black Ridge (B 57.51 292 ⇑P **P** **21 50 46.4 0.0**
baz=57,SNR=6.1
W27A Bowe Ranch, En 57.56 284 ⇑P **P** **21 50 47.1 +0.3**
baz=57
V24A Rampart Ranch, 57.62 286 ⇑P **P** **21 50 47.8 +0.5**
baz=57
S16A Weppner Ranch, 57.66 292 ⇑P **P** **21 50 48.1 +0.7**
baz=57
U21A Nageezi 57.70 288 ⇑P **P** **21 50 48.0 +0.3**
baz=58
T18A Mexican Hat 57.70 291 ⇑P **P** **21 50 47.8 0.0**
baz=57
T19A Beclabito 57.73 290 ⇓P **P** **21 50 48.4 +0.4**
baz=58
R13A O'Grain Ranch, 57.92 295 ⇑P **P** **21 50 50.0 +0.7**
baz=58,SNR=6.5
T17A Navajo Res., N 58.10 291 ⇓P **P** **21 50 50.5 0.0**
baz=58
W24A Lazy 6 Ranch, 58.14 286 ⇑P **P** **21 50 51.2 +0.3**
baz=58
R11A Troy Canyon, C 58.23 296 ⇑P **P** **21 50 51.5 0.0**
baz=58,SNR=13
V21A Milan 58.27 288 ⇓P **P** **21 50 51.9 +0.2**
baz=58
X26A CR and CF Fran 58.27 284 ⇓P **P** **21 50 52.0 +0.2**
baz=58
U19A Dine' College, 58.28 290 ⇓P **P** **21 50 52.4 +0.6**
baz=58
U18A Rough Rock, Ch 58.36 290 ⇓P **P** **21 50 52.5 +0.1**
baz=58
WCN Washoe City 58.50 300 ⇑P **P** **21 50 54.4 +1.0**
baz=58
Y27A Causey 58.69 283 ⇓P **P** **21 50 55.4 +0.7**
baz=58
NVAR Mina Array Bea 58.92 299 P **P** **21 50 55.6 -0.6**
comp=Z,2.2nm,1.0s,mb4.1,baz=24,slow=4.6,SNR=11
NVAR LR LR 22 16 07.9
comp=Z,336nm,20.6s,MS4.5,baz=333,slow=36
NVAR Mina Array Bea 58.92 299 P **P** **21 50 55.6 -0.6**
NVAR LR LR 22 16 07.9
NVAR Mina Array Bea 58.92 299 P **P** **21 50 55.6 -0.6**
X23A Hourglass Bar 58.96 286 ⇓P **P** **21 50 57.4 +0.8**
baz=59
U16A Tuba City 58.99 291 ⇓P **P** **21 50 57.0 +0.2**
baz=59
U15A North Rim 59.07 292 ⇓P **P** **21 50 57.7 +0.4**
baz=59
TORD Torodi Ar. Bea 59.08 165 P **P** **21 50 56.4 -1.2**
comp=Z,5.6nm,0.8s,mb4.7,baz=345,slow=7.5,SNR=20
TORD LR LR 22 15 50.9
comp=Z,216nm,19.2s,MS4.3,baz=340,slow=36
TORD Torodi Ar. Bea 59.08 165 P **P** **21 50 56.4 -1.2**
TORD LR LR 22 15 50.9
TORD Torodi Ar. Bea 59.08 165 P **P** **21 50 56.4 -1.2**
Y25A Mesa, Roswell 59.12 285 ⇓P **P** **21 50 58.0 +0.3**
baz=59
GTA Gaotai 59.32 57 *eP* **P** **21 51 03.5 +4.4**
GTA pP pP 21 51 08.3 +6.0
GTA sP sP 21 51 11.3 +7.8
GTA pmax pmax
comp=Z,4.0nm,1.4s,mb4.3
Y24A Capitan 59.34 285 ⇑P **P** **21 50 59.8 +0.5**
baz=59
V17A Tonalea, Kykot 59.38 291 ⇑P **P** **21 50 59.5 +0.1**
baz=59
Z26A Caprock 59.51 284 ⇑P **P** **21 51 00.8 +0.4**
baz=59
Y23A Lovelace Mesa, 59.53 286 ⇓P **P** **21 51 00.7 +0.2**
baz=59
U13A Pakoon Wash 59.56 294 ⇓P **P** **21 51 01.4 +0.6**
baz=59,SNR=5.5
X21A Alamocita Cree 59.57 288 ⇓P **P** **21 51 01.3 +0.4**
baz=59
V15A Kaibab Nationa 59.60 292 ⇓P **P** **21 51 01.2 +0.2**
baz=59
WUAZ Wupatki 59.65 291 ⇑P **P** **21 51 01.8 +0.5**
baz=59
X20A Quemado 59.70 288 ⇓P **P** **21 51 02.4 +0.7**
baz=60
Z25A Roswell 59.72 284 ⇓P **P** **21 51 02.9 +1.0**
baz=60
Z24A Sheeppen Canyo 59.88 285 ⇓P **P** **21 51 03.8 +0.8**
baz=60
X19A St. Johns 60.04 289 ⇓P **P** **21 51 04.0 0.0**
baz=60
Z23A Rita Site, Whi 60.20 286 ⇑P **P** **21 51 06.1 +0.9**
baz=60
125A Gardner Draw, 60.28 284 ⇓P **P** **21 51 06.2 +0.5**
baz=60
124A Stringfield Ra 60.49 285 ⇑P **P** **21 51 07.3 +0.2**
baz=60,SNR=7.9
Z21A St. Cloud Mine 60.59 287 ⇑P **P** **21 51 08.7 +0.8**
baz=60
226A Malaga, Loving 60.67 283 ⇑P **P** **21 51 09.3 +0.9**
baz=60
CWC Cottonwood Cre 60.71 298 ⇓P **P** **21 51 09.3 +0.7**
baz=60
MDJ Mudanjiang 60.79 31 P **P** **21 51 06.7 -2.3**
MDJ S **S** **21 59 22.7 -3.0**
MDJ pmax pmax
comp=Z,12nm,2.0s,mb4.7
MDJ pmax pmax
comp=Z,180nm,6.0s
MDJ LR LR
comp=N,77nm,35.3s,MS3.8
MDJ LR LR
comp=E,120nm,40.2s,MS3.8
MDJ LR LR
comp=Z,72nm,30.4s
HHC Hu-ho-hao-te 60.88 47 *eP* **P** **21 51 09.7 0.0**
HHC sP sP 21 51 17.9 +3.8
HHC PcP PcP 21 51 53.8 +0.6
HHC PP PP 21 53 25.3 +2.1
HHC ScP ScP 21 55 53.1 -1.0
HHC S **S** **21 59 24.8 -2.1**
HHC ScS ScS 22 00 56.2 -4.0
HHC pmax pmax
comp=Z,14nm,0.7s,mb5.2
HHC pmax pmax
comp=Z,170nm,4.4s
HHC LR LR
comp=N,430nm,16.2s,MS4.8
HHC LR LR
comp=E,310nm,17.6s,MS4.8
HHC LR LR
comp=Z,370nm,16.9s,MS4.6
MPMC Manual Prospec 60.90 297 ⇓P **P** **21 51 11.0 +1.1**
baz=61
326A Caldwell Ranch 61.32 283 ⇑P **P** **21 51 13.8 +1.0**
baz=61
121A Cookes Peak, D 61.35 287 ⇓P **P** **21 51 13.6 +0.6**
baz=61
LRMC Laurel Mountai 61.50 297 ⇓P **P** **21 51 15.1 +1.1**
baz=61
ISA Isabella 61.55 298 ⇑P **P** **21 51 14.7 +0.4**
baz=61
ISA Isabella 61.55 298 *eP* **P** **21 51 13.6 -0.7**
comp=Z,6.6nm,1.1s,mb4.7
ISA Isabella 61.55 298 *eP* **P** **21 51 13.6 -0.7**
ISA pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
ISA Isabella 61.55 298 *eP* **P** **21 51 13.6 -0.7**
comp=Z,6.6nm,1.1s,mb4.7
GMRC Granite Mounta 61.58 295 ⇑P **P** **21 51 15.4 +0.9**
baz=61
119A Ashpeak Ranch, 61.59 288 ⇑P **P** **21 51 15.2 +0.6**
baz=61
120A U Bar Ranch, L 61.59 288 ⇑P **P** **21 51 14.8 +0.1**
baz=61
426A McDonald Obser 61.94 283 ⇑P **P** **21 51 17.3 +0.3**
baz=62
IRM Iron Mountain 62.01 294 ⇓P **P** **21 51 17.2 -0.2**
baz=62
425A Indio Mountain 62.12 284 ⇑P **P** **21 51 18.7 +0.5**
baz=62
220A Playas Peak, P 62.16 287 ⇑P **P** **21 51 19.5 +1.1**
baz=62
117A Oracle 62.20 290 ⇓P **P** **21 51 19.1 +0.4**
baz=62
219A White Tail Can 62.29 288 ⇓P **P** **21 51 19.1 -0.2**
baz=62
527A Woodward Ranch 62.30 282 ⇓P **P** **21 51 20.3 +0.9**
baz=62
526A Mary Lane Ranc 62.52 282 ⇓P **P** **21 51 21.8 +0.9**
baz=62
BC3 Big Chuckawall 62.57 294 ⇓P **P** **21 51 22.1 +0.9**
baz=62
628A Black Gap, Mar 62.69 281 ⇑P **P** **21 51 22.1 +0.1**
baz=62
627A Terlingua Ranc 62.87 282 ⇑P **P** **21 51 23.3 +0.1**
baz=63
626A Big Bend Ranch 63.01 282 ⇑P **P** **21 51 24.5 +0.3**
baz=63
TXAR Lajitas Array 63.07 282 P **P** **21 51 23.3 -1.3**
comp=Z,0.7nm,0.8s,mb3.9,baz=53,slow=5.5,SNR=6.7
TXAR LR LR 22 17 44.6
comp=Z,297nm,18.9s,MS4.5,baz=5.0,slow=35
TXAR Lajitas Array 63.07 282 P **P** **21 51 23.3 -1.3**
TXAR LR LR 22 17 44.6
TXAR Lajitas Array 63.07 282 P **P** **21 51 23.3 -1.3**
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR MLR MLR
comp=Z,297nm,18.9s
TXAR Lajitas Array 63.07 282 P **P** **21 51 23.3 -1.3**
comp=Z,297nm,18.9s
LZH Lanzhou 63.51 55 *eP* **P** **21 51 29.0 +1.6**
LZH pP pP 21 51 32.0 +1.4
LZH sP sP 21 51 33.5 +1.7
LZH pmax pmax
comp=Z,13nm,1.0s,mb4.9
DBIC Dimbokro 65.09 173 LR LR 22 19 10.2
comp=Z,233nm,18.2s,MS4.4,baz=340,slow=35
KSRS Korea Array 67.48 34 LR LR 22 21 35.1
comp=Z,93nm,19.2s,MS4.0,baz=201,slow=36
MJAR Matsushiro Arr 69.98 25 P **P** **21 52 09.0 +0.3**
comp=Z,1.4nm,0.8s,mb3.9,baz=333,slow=5.5,SNR=3.7
MJAR LR LR 22 25 33.7
comp=Z,39nm,19.2s,MS3.7,baz=20,slow=38
MJAR Matsushiro Arr 69.98 25 P **P** **21 52 09.0 +0.3**
MJAR LR LR 22 25 33.7
MJAR Matsushiro Arr 69.98 25 P **P** **21 52 09.0 +0.3**
MJAR pmax pmax
comp=Z,1.0nm,0.9s
MJAR MLR MLR
comp=Z,39nm,19.3s
MJAR Matsushiro Arr 69.98 25 P **P** **21 52 09.0 +0.3**
comp=Z,39nm,19.3s
CMIG Matias Romero 71.76 269 P **P** **21 52 15.9 -3.8**
comp=Z,1.8nm,0.6s,mb4.2,baz=22,slow=16,SNR=3.7
CMIG Matias Romero 71.76 269 P **P** **21 52 15.9 -3.8**
GYA Guiyang 73.39 55 *eP* **P** **21 52 29.4 +0.1**
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
KMI Kunming 73.61 59 P **P** **21 52 30.2 -0.4**
KMI pP pP 21 52 33.6 -0.3
KMI PP PP 21 55 14.1 -0.1
KMI S S 22 02 00.2 -0.4
KMI SS SS 22 06 42.8 0.0
KMI pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
KMI pmax pmax
comp=Z,25nm,3.1s
KMI LR LR
comp=N,130nm,27.0s
KMI LR LR
comp=E,160nm,19.9s
KMI LR LR
comp=Z,230nm,29.6s,MS4.3
ROSC El Rosal 77.03 245 LR LR 22 25 48.4
comp=Z,22nm,18.6s,MS3.9,baz=196,slow=35
CMAR Chiang Mai Arr 78.88 65 P **P** **21 53 01.8 +1.2**
comp=Z,0.2nm,0.4s,mb3.4,baz=315,slow=6.1,SNR=3.0
CMAR LR LR 22 32 53.6
comp=Z,129nm,19.1s,MS4.3,baz=139,slow=40
CMAR Chiang Mai Arr 78.88 65 P **P** **21 53 01.8 +1.2**
CMAR LR LR 22 32 53.6
CMAR Chiang Mai Arr 78.88 65 P **P** **21 53 01.8 +1.2**
CMAR MLR MLR
comp=Z,129nm,19.1s
CMAR Chiang Mai Arr 78.88 65 P **P** **21 53 01.8 +1.2**
comp=Z,129nm,19.1s
KMBO Kilima Mbogo 79.11 130 LR LR 22 33 56.1
comp=Z,66nm,18.6s,MS4.0,baz=90,slow=40
PSI Prapat 93.73 70 LR LR 22 38 28.5
comp=Z,197nm,20.3s,MS4.6,baz=327,slow=37
LPAZ La Paz 95.55 234 LR LR 22 32 13.0
comp=Z,76nm,20.1s,MS4.2,baz=216,slow=32
ASAR Alice Springs 128.15 41 PKP PKPdf 22 00 01.7 -1.4
comp=Z,0.3nm,0.8s,baz=4.1,slow=1.3,SNR=3.2
ASAR Alice Springs 128.15 41 PKIKP PKPdf 22 00 01.7 -1.5
NVL N'lazarevskaya 143.05 167 *ePKIKP* PKPdf 22 00 28.8 -0.5
NVL pmax pmax
comp=Z,10.0nm,0.8s
SNAA Sanae 143.25 175 PKP PKPdf 22 00 26.9 -2.7
comp=Z,0.5nm,0.9s,baz=40,slow=2.0,SNR=3.8
SNAA Sanae 143.25 175 PKIKP PKPdf 22 00 26.9 -2.7
SNAA pmax pmax
comp=Z,1.0nm,0.9s

IDC 07 21:45:47.5±5.4, 14°48S×167°31E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/18, mbtmp4.0/4, Error ellipse: s-maj=138.9km s-min=44.8km az=117.0, Vanuatu Islands

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

STKA Stephens Creek 29.18 229 P P 21 51 49.6 -1.1
2.3nm,0.9s,baz=54,slow=8.7,SNR=3.1
WRA Warramunga Arr 31.92 256 P P 21 52 15.6 +0.4
1.5nm,0.7s,baz=85,slow=8.5,SNR=11
ASAR Alice Springs 32.80 249 P P 21 52 23.0 +0.2
2.4nm,0.4s,baz=74,slow=9.2,SNR=37
SONM Songino Array 82.32 324 P P 21 58 11.5 +0.4
0.2nm,0.6s,baz=131,slow=6.5,SNR=3.7

*IDC **07** 22:36:12.5±5.0, 2°.13N×95°.55E, h0km, mb3.8/5, mb1 3.8/7, mb1mx3.6/27, mbtmp3.7/7, ML2.6/1, Error ellipse: s-maj=100.7km s-min=38.7km az=17.0*
*ISCJB **07** 22:36:22.7±3.7, 2°.5N±0°.2×96°.1E±0°.3, h82km±30km, mb3.8/5, Error ellipse: s-maj=50.3km s-min=14.1km az=152.9*
*DJA **07** 22:36:26, 3°.60N×97°.19E, h142km, MLv3.4/6*
ISC 07 22:36:23.8±3.5, 2°.5N±0°.1×96°.0E±0°.3, h71km±31km, n10, σ0°73/12, mb3.8/5, Northern Sumatera

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

TPTI 1.35 57 P **Pn** **22 36 46.3 -0.6**
TPTI S **Sn** **22 37 04.2 0.0**
TSI Tuntungan 2.70 69 P **Pn** **22 36 55.1 -10**
PSI Prapat 2.89 85 Pn **Pn** **22 37 07.5 -0.1**
0.6nm,0.3s,baz=261,slow=18,SNR=5.6
MNSI Mandailing Nat 3.93 116 P **Pn** **22 37 22.8 +1.0**
MNSI S **Sn** **22 38 06.3 -0.4**
CMAR Chiang Mai Arr 16.09 10 Pn **Pn** **22 40 06.3 +0.6**
baz=206,slow=10.0,SNR=6.1
MKAR Makanchi Array 45.69 347 P **P** **22 44 37.9 +0.4**
0.9nm,0.6s,mb3.6,baz=153,slow=8.6,SNR=6.1
SONM Songino Array 46.01 10 P **P** **22 44 41.0 +0.9**
1.0nm,0.7s,mb3.7,baz=187,slow=8.9,SNR=10
KURK Kurchatov 50.22 346 P **P** **22 45 12.5 0.0**
1.0nm,0.8s,mb3.8,baz=169,slow=6.7,SNR=11
ZALV Zalesovo Beam 52.08 352 P **P** **22 45 26.1 -0.2**
1.1nm,0.6s,mb4.1,baz=172,slow=5.6,SNR=6.3
BVAR Borovoye Array 54.63 341 P **P** **22 45 43.3 -1.8**
1.0nm,0.8s,mb3.9,baz=130,slow=5.8,SNR=4.4

*ISK **07** 22:40:39.7, 39°.29N×33°.29E, h6km, MD3.0*
*ISCJB **07** 22:40:40.7±0.7, 39°.27N±0°.03×33°.20E±0°.04, h3km±7km, Error ellipse: s-maj=5.5km s-min=5.1km az=137.2*
*CSEM **07** 22:40:40.9±0.2, 39°.28N×33°.20E, h8km, MD3.0, Error ellipse: s-maj=5.9km s-min=5.6km az=37.0*
*DDA **07** 22:40:42.0, 39°.33N×33°.23E, h7km±3km, Md3.0*
ISC 07 22:40:41.5±0.6, 39°29N±0°03×33°20E±0°04, h8km±6km, n28, σ0°97/38, Turkey

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

BBAL Bala 0.26 346 *i* P **Pg** **22 40 46.8 +0.1**
BBAL *i* S **Sg** **22 40 50.1 -0.1**
BBAL Bala 0.26 346 *i* P **Pg** **22 40 46.8 +0.1**
BBAL *i* S **Sg** **22 40 50.1 -0.1**
LOD Lodumlu 0.69 331 *e*PG **Pg** **22 40 54.0 -0.7**
LOD Lodumlu 0.69 331 *e*Pg **Pg** **22 40 54.1 -0.7**
CDAG Cicekdag 0.96 69 *i* P **Pg** **22 40 60.0 0.0**
CDAG *i* S **Sg** **22 41 13.3 +0.8**
CDAG Cicekdag 0.96 69 *i* P **Pg** **22 41 00.0 0.0**
CDAG *i* S **Sg** **22 41 13.3 +0.8**
KIZT Kizilcal 1.11 249 *e*PN **Pg** **22 41 02.5 -0.2**
KIZT *e*SN **Sg** **22 41 19.1 +2.0**
KIZT Kizilcal 1.11 249 *e*Pn **Pg** **22 41 02.5 -0.2**
KIZT *e*Sn **Sg** **22 41 19.1 +2.0**
SULT Sultanhani-AKS 1.11 167 *e*PN **Pg** **22 41 01.3 -1.5**
SULT Sultanhani-AKS 1.11 167 *e*Pn **Pg** **22 41 01.3 -1.5**
ELDT Eldivan 1.21 8 *i* P **Pb** **22 41 04.4 -0.3**
ELDT *i* S **Sb** **22 41 21.1 +0.6**
ELDT Eldivan 1.21 8 *i* P **Pb** **22 41 04.4 -0.3**
ELDT *i* S **Sb** **22 41 21.1 +0.6**
SVRH Sivrihisar-ESK 1.31 277 *e*PN **Pn** **22 41 06.2 +0.1**
SVRH Sivrihisar-ESK 1.31 277 *e*Pn **Pn** **22 41 06.2 +0.1**
CANT Cankiri 1.35 14 *e*PN **Pn** **22 41 05.7 -1.0**
AVNT Avonos 1.38 111 *i* P **Pn** **22 41 08.7 +1.7**
AVNT *i* S **Sb** **22 41 27.2 +1.8**
AVNT Avonos 1.38 111 *i* P **Pn** **22 41 08.7 +1.6**
AVNT *i* S **Sb** **22 41 27.2 +1.8**
KONT Konya--Tatoy 1.49 206 *e*PN **Pn** **22 41 08.1 -0.5**
KONT Konya--Tatoy 1.49 206 *e*Pn **Pn** **22 41 08.1 -0.5**
YOZ Yozgat 1.68 77 *e*PN **Pn** **22 41 09.4 -1.7**
YOZ Yozgat 1.68 77 *e*Pn **Pn** **22 41 09.4 -1.7**
MDU Mudurnu 1.93 308 *e*PN **Pn** **22 41 14.8 +0.2**
MDU Mudurnu 1.93 308 *e*Pn **Pn** **22 41 14.8 +0.2**
GUL Gulveren 2.36 300 *e*PN **Pn** **22 41 21.1 +0.5**
GULT Gulveren 2.36 300 *e*PN **Pn** **22 41 21.1 +0.5**
HDMB Hadim 2.39 194 *e*PN **Pn** **22 41 20.6 -0.3**
HDMB Hadim 2.39 194 *e*Pn **Pn** **22 41 20.6 -0.3**
KOZT Kozan 2.74 130 *e*PN **Pn** **22 41 24.7 -1.1**

MEX 07 23:01:45.0±0.6, 15°.84N×97°.24W, h14km±8km, MD3.7, Near coast of Oaxaca

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

PNIG Pinotepa 1.02 303 *i* P **Pb** 23 02 01.4 -3.1
PNIG *i* S **Sb** 23 02 13.6 -4.2
HUIG Huatulco 1.09 93 *i* P **Pb** 23 02 01.9 -3.7
HUIG *i* S **Sb** 23 02 15.8 -4.0
VHO Vista Hermosa 1.32 21 *i* P **Pn** 23 02 05.2 -3.9
VHO *i* S **Sb** 23 02 22.2 -4.3
UTMO Huajuapan 2.06 345 *e*P **Pn** 23 02 17.0 -2.3
UTMO *i* S **Sn** 23 02 41.3 -3.4
CMIG Matias Romero 2.58 61 *e*P **Pn** 23 02 23.1 -3.3
CMIG *i* S **Sn** 23 02 53.8 -3.9

*JMA **07** 23:11:27.5±0.3, 36°.62N×142°.03E, h43km, M3.2*
*IDC **07** 23:11:30.0±2.7, 37°.29N×141°.61E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/24, mbtmp3.5/4, ML3.1/1, Error ellipse: s-maj=64.0km s-min=32.6km az=62.0*
ISC 07 23:11:29.1±1.5, 36°.64N±0°.07×142°.0E±0°.1, h35km, n14, σ1°9/03/19, mb3.4/2, Off east coast of Honshu

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

ONAJ Iwakimizuishiy 1.10 295 P **Pn** **23 11 47.5 -0.5**
JFK Kawauchi 1.18 308 P **Pn** **23 11 47.7 -1.4**
JHO Hitachi 1.18 269 P **Pn** **23 11 47.4 -1.7**
JHO *e*S **Sn** **23 12 01.9 -2.1**
JMM Marumori 1.58 321 P **Pn** **23 11 53.7 -0.9**
JMM *e*S **Sn** **23 12 13.3 -0.4**
JFT Otama 1.62 303 P **Pn** **23 11 54.9 -0.2**
JFT *e*S **Sn** **23 12 15.3 +0.5**
JIO Ouri 1.89 343 P **Pn** **23 11 58.8 -0.1**
JIO *e*S **Sn** **23 12 22.1 +0.6**
JFY Yanaizu 2.02 293 P **Pn** **23 12 01.5 +0.9**
JOU Okura 2.04 328 P **Pn** **23 12 01.1 +0.2**
JAG Ashikaga 2.09 265 P **Pn** **23 12 01.2 -0.5**
MJAR Matsushiro Arr 3.08 269 Pn **Pn** **23 12 16.2 +1.0**
3.2nm,0.3s,baz=103,slow=9.2,SNR=30
MJAR Sn **Sn** **23 12 59.5 +8.6**
2.1nm,0.3s,baz=19,slow=30,SNR=5.3
MAT Matsushiro 3.09 269 P **Pn** **23 12 16.4 +1.1**
MAT *e*S **Sn** **23 12 54.5 +3.5**
SONM Songino Array 28.42 304 P **P** **23 17 21.9 +1.7**
0.8nm,0.8s,mb3.4,baz=108,slow=9.0,SNR=6.3
MKAR Makanchi Array 44.76 303 P **P** **23 19 38.6 -0.3**
0.5nm,0.8s,mb3.4,baz=96,slow=12,SNR=3.1
WRA Warramunga Arr 56.74 189 P pP 23 21 19.8 -0.3
0.3nm,0.6s,baz=2.6,slow=7.3,SNR=4.8

*ATH **07** 23:12:55.2, 35°.67N×27°.98E, h41km±3km, MD3.1/5*
*CSEM **07** 23:12:55.2, 35°.67N×27°.98E, h41km, MD3.1, After ATH*
*ISK **07** 23:12:56.2, 36°.06N×28°.14E, h16km, MD2.7*
ISC 07 23:12:53.7±1.2, 35°.86N±0°.06×28°.04E±0°.08, h14km±8km, n20, σ0°65/26, Eastern Mediterranean Sea

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

ARG Arkhangelos 0.37 11 *e*P **Pg** **23 13 07.7 +6.5**
ARG *e*S **Sg** **23 13 16.4 +10**
ARG Arkhangelos 0.37 11 *e*P **Pg** **23 13 07.7 +6.5**
ARG *e*S **Sg** **23 13 16.4 +10**
KARP Karpathos 0.78 247 *e*P **Pg** **23 13 09.5 +0.7**
KARP *e*S **Sg** **23 13 19.2 +0.3**

KARP	Karpathos	0.78	247	*e*P	Pg	23 13 09.5	+0.7
KARP				*e*S	Sg	23 13 19.2	+0.3
DAT	Datca	0.95	337	*e*PG	Pg	23 13 12.3	+0.2
DAT				*e*SG	Sg	23 13 24.0	-0.5
DAT	Datca	0.95	337	*e*Pg	Pg	23 13 12.3	+0.2
DAT				*e*Sg	Sg	23 13 24.0	-0.5
FETY	Fethiye	1.15	47	*e*PG	Pg	23 13 15.1	-0.8
FETY	Fethiye	1.15	47	*e*Pg	Pg	23 13 15.1	-0.8
BODT	Bodrum	1.34	334	*e*PN	Pn	23 13 18.9	+0.9
BODT	Bodrum	1.34	334	*e*Pn	Pn	23 13 18.9	+0.9
MLSB	Milas	1.45	352	*e*PN	Pn	23 13 19.8	+0.3
MLSB	Milas	1.45	352	*e*Pn	Pn	23 13 19.8	+0.3
ZKR	Zakros	1.66	244	*e*P	Pn	23 13 22.1	-0.2
ZKR	Zakros	1.66	244	*e*P	Pn	23 13 22.1	-0.2
ELL	Elmali	1.76	59	*e*PN	Pn	23 13 24.4	+0.7
ELL	Elmali	1.76	59	*e*Pn	Pn	23 13 24.4	+0.7
NPS	Neapolis	2.06	254	*e*P	Pn	23 13 26.7	-1.2
NPS	Neapolis	2.06	254	*e*P	Pn	23 13 26.7	-1.2
LAST	Lasithi	2.20	252	*e*P	Pn	23 13 29.2	-0.5
LAST	Lasithi	2.20	252	*e*P	Pn	23 13 29.2	-0.5

*IDC **07** 23:13:31.8±2.1,39°.55N×73°.60E,h0km,mb3.7/3, mb1 3.6/5,mb1mx3.3/27,mbtmp3.4/5,ML2.1/2,Error ellipse: s-maj=41.6km s-min=16.7km az=133.0*
*ISCJB **07** 23:13:33.3±2.1,39°.28N±0°.10×73°.8E±0°.1,h34km±20km, mb3.7/3,Error ellipse: s-maj=16.7km s-min=13.4km az=3.2*
*NNC **07** 23:13:35.4±2.8,39°.64N×73°.76E,h0km,mb3.2,mpv2.8, Error ellipse: s-maj=22.6km s-min=11.1km az=170.0*
*NEIC **07** 23:13:35.5±1.6,39°.32N×73°.80E,h35km,Error ellipse: s-maj=25.2km s-min=12.8km az=143.0*

ISC 07 23:13:33.1±2.3,39°.28N±0°.08×73°.73E±0°.10,h15km±17km, n16,σ0s97/23,mb3.7/3,6C,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EKS2	Erkin-Say	3.38	1	*e*Pn	Pn	23 14 25.7	+0.4
EKS2				*e*Sn	Sn	23 15 06.2	+1.1
AAK	Ala-Archa	3.40	10	Pn	Pn	23 14 25.4	-0.1
	0.0nm,0.3s,baz=156,slow=5.4,SNR=15						
AAK				Sn	Sn	23 15 07.6	+1.9
	0.1nm,0.3s,baz=77,slow=18,SNR=12						
AAK	Ala-Archa	3.40	10	Pn	Pn	23 14 25.4	-0.1
AAK				Sn	Sn	23 15 07.6	+1.9
TKM2	Tokmak 2	3.91	21	⇑Pn	Pn	23 14 31.6	-0.8
	3.0nm,0.8s						
TKM2				⇑Sn	Sn	23 15 16.2	-1.8
	9.7nm,0.9s						
TKM2	Tokmak 2	3.91	21	*e*Pn	Pn	23 14 31.8	-0.7
KK31	Karatay Array	4.53	329	⇑Pn	Pn	23 14 42.2	+1.1
	0.5nm,0.4s,baz=123,slow=12,SNR=14						
KK31				⇑Pg	Pb	23 14 51.1	-1.1
	0.8nm,0.3s,baz=146,slow=17,SNR=10						
KK31				⇑Sn	Sn	23 15 32.9	-0.4
	2.0nm,0.4s,baz=153,slow=26,SNR=5.4						
KK31				⇑Lg		23 15 48.3	
	2.0nm,0.3s						
KKAR	Karatay Array	4.53	329	*e*Pn	Pn	23 14 41.9	+0.9
KKAR				*e*Sn	Sn	23 15 32.4	-1.0
MKAR	Makanchi Array	9.78	37	Pn	Pn	23 15 53.1	0.0
	0.0nm,0.3s,baz=195,slow=16,SNR=2.2						
MKAR	Makanchi Array	9.78	37	Pn	Pn	23 15 53.1	0.0
AB31	Akbulak array	14.02	320	P	Pn	23 16 51.7	+0.7
	0.2nm,0.4s,baz=122,slow=12,SNR=6.0						
FINES	FINESS Array B	36.47	323	P	P	23 20 36.5	-0.6
	3.4nm,1.1s,mb4.2,baz=125,slow=9.7,SNR=5.9						
FINES	FINESS Array B	36.47	323	P	P	23 20 36.5	-0.6
NOA	NORSAR Array B	43.52	321	P	P	23 21 34.6	-1.0
	1.0nm,0.9s,mb3.5,baz=110,slow=5.7,SNR=2.6						
NOA	NORSAR Array B	43.52	321	P	P	23 21 34.6	-1.0
TORD	Torodi Ar. Bea	67.93	269	P	P	23 24 32.1	+0.6
	0.2nm,0.6s,mb3.3,baz=43,slow=5.6,SNR=2.7						
TORD	Torodi Ar. Bea	67.93	269	P	P	23 24 32.1	+0.6

IDC 07 23:29:04.0±2.9,23°.61S×67°.83W,h0km,mb4.0/2, mb1 3.9/4,mb1mx3.7/17,mbtmp3.9/4,ML3.9/2,Error ellipse: s-maj=79.3km s-min=37.4km az=92.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	7.29	358	Pn	Pn	23 30 52.4	+0.6
	0.2nm,0.3s,baz=167,slow=5.7,SNR=8.6						
PLCA	Paso Flores	17.22	187	P	Pn	23 33 06.0	+0.1
	0.3nm,0.3s,baz=342,slow=9.6,SNR=3.2						
DBIC	Dimbokro	68.41	72	P	P	23 40 08.0	0.0
	1.1nm,0.6s,baz=222,slow=12,SNR=2.7						
TORD	Torodi Ar. Bea	77.14	69	P	P	23 41 00.1	+0.2
	0.5nm,0.4s,baz=256,slow=5.9,SNR=24						

IDC 07 23:43:29.3±1.8,58°.82S×25°.25W,h0km,mb4.2/2, mb1 4.1/2,mb1mx3.8/16,mbtmp4.2/2,MS3.5/2,Ms1 3.4/2, ms1mx3.1/19,Error ellipse: s-maj=95.3km s-min=55.5km az=120.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	13.83	156	*e*	Pn	23 46 44.6	-1.6
VNA3	Neumayer Olymp	14.02	159	*e*	Pn	23 46 46.2	-2.6
VNA3				*e*S	Sn	23 48 59.0	-26
VNA2	Neumayer--Watz	14.22	156	*e*	Pn	23 46 49.9	-1.7
VNA2				*e*S	Sn	23 49 01.4	-28
PLCA	Paso Flores	33.57	282	LR	LR	00 01 56.6	
	comp=Z,59nm,20.9s,baz=287,slow=33						
MAW	Mawson	37.31	141	LR	LR	00 04 09.2	
	comp=Z,76nm,19.4s,baz=39,slow=33						
DBIC	Dimbokro	67.30	22	P	P	23 54 25.2	-0.4
	2.3nm,0.9s,baz=141,slow=6.5,SNR=2.6						
TORD	Torodi Ar. Bea	75.00	27	P	P	23 55 12.7	+0.5
	1.6nm,0.5s,baz=200,slow=6.2,SNR=17						
SONM	Songino Array	149.77	90	PKPbc	PKPbc	00 03 19.6	-0.3
	1.5nm,0.9s,baz=209,slow=4.0,SNR=9.0						
ILAR	Eielson Array	152.69	307	PKPbc	PKPbc	00 03 26.1	0.0
	5.1nm,0.9s,baz=146,slow=2.4,SNR=40						

IDC 07 23:58:26.4±4.1,5°.74S×150°.72E,h0km,mb3.5/2, mb1 3.8/2,mb1mx3.4/16,mbtmp3.6/2,Error ellipse: s-maj=187.3km s-min=47.2km az=118.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	21.28	227	P	P	00 03 14.8	+0.1
	1.0nm,0.5s,baz=53,slow=10,SNR=5.1						
ASAR	Alice Springs	24.08	221	P	P	00 03 43.9	+0.2
	1.2nm,0.7s,baz=55,slow=9.4,SNR=14						
TORD	Torodi Ar. Bea	148.60	286	PKPbc	PKPbc	00 18 15.7	-0.7
	0.3nm,0.9s,baz=53,slow=2.6,SNR=3.3						

*ISCJB **08** 00:03:01.9±0.3,40°.24N±0°.02×36°.36E±0°.03,h10km,Error ellipse: s-maj=3.6km s-min=2.9km az=144.4*
*DDA **08** 00:03:01.1,40°.23N×36°.36E,h9km±1km,Md3.0*
*ISK **08** 00:03:01.3,40°.24N×36°.37E,h5km,MD3.2*
*CSEM **08** 00:03:02.0±0.2,40°.25N×36°.36E,h2km,MD3.0,Error ellipse: s-maj=4.1km s-min=3.4km az=164.0*

ISC 08 00:03:02.5±0.3,40°.24N±0°.02×36°.38E±0°.03,h10km,n43, σ1s03/66,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOKA	Tokat	0.11	43	*i* P	Pg	00 03 04.4	-0.8
TOKA				*i* S	Sg	00 03 06.4	-0.8
TOKA	Tokat	0.11	43	*i* P	Pg	00 03 04.4	-0.8
TOKA				*i* S	Sg	00 03 06.4	-0.8
ERBA	Erbaa	0.53	33	*i* P	Pg	00 03 12.2	-0.5
ERBA				*i* S	Sg	00 03 19.7	+0.1
ERBA	Erbaa	0.53	33	*i* P	Pg	00 03 12.1	-0.6
ERBA				*i* S	Sg	00 03 19.7	+0.1
SCER	sogukcermik	0.69	123	*i* P	Pg	00 03 14.2	-1.6
SCER				*i* S	Sg	00 03 24.8	+0.1
SCER	sogukcermik	0.69	123	*i* P	Pg	00 03 14.2	-1.6
SCER				*i* S	Sg	00 03 24.8	0.0
RSDY	Resadiye-TOKAT	0.74	78	PG	Pg	00 03 16.2	-0.6
RSDY				SG	Sg	00 03 26.9	+0.5
RSDY	Resadiye-TOKAT	0.74	78	*i* Pg	Pg	00 03 16.2	-0.6
				i Sg	Sg	00 03 26.9	+0.4
KVT	Kavak	0.88	343	*e*PG	Pg	00 03 18.7	-0.6
KVT				*e*SG	Sg	00 03 31.1	+0.4
KVT	Kavak	0.88	343	*e*Pg	Pg	00 03 18.7	-0.7
KVT				*e*Sg	Sg	00 03 31.2	+0.4
YOZ	Yozgat	1.01	234	*e*PG	Pg	00 03 20.4	-1.5
YOZ				*e*SG	Sg	00 03 35.4	+0.4
YOZ	Yozgat	1.01	234	*e*Pg	Pg	00 03 20.4	-1.5
YOZ				*e*Sg	Sg	00 03 35.4	+0.4
CTKT	Corum	1.27	288	*i* P	Pn	00 03 25.5	-0.8
CTKT				*i* S	Sb	00 03 42.8	0.0
CTKT	Corum	1.27	288	*i* P	Pn	00 03 25.5	-0.8
CTKT				*i* S	Sb	00 03 42.8	-0.1
PINB	Pinarbasi	1.56	179	*i* P	Pn	00 03 30.6	+0.3
PINB				*i* S	Sg	00 03 52.9	+0.2
PINB	Pinarbasi	1.56	179	*i* P	Pn	00 03 30.6	+0.4
PINB				*i* S	Sg	00 03 52.9	+0.2
SARI	SarD1z-Kayseri	1.58	171	*e*PN	Pg	00 03 34.4	+1.6
SARI	SarD1z-Kayseri	1.58	171	*e*Pn	Pg	00 03 34.4	+1.7
CDAG	Cicekdag	1.66	249	*i* P	Pn	00 03 31.9	+0.3
CDAG				*i* S	Sg	00 03 55.1	-0.8
CDAG	Cicekdag	1.66	249	*i* P	Pn	00 03 31.9	+0.3
CDAG				*i* S	Sg	00 03 55.1	-0.8
DARE	Darende-Malaty	1.69	139	*e*PN	Pg	00 03 35.1	+0.2
DARE	Darende-Malaty	1.69	139	*e*Pn	Pg	00 03 35.1	+0.1
AVNT	Avonos	1.88	219	*i* P	Pn	00 03 35.1	+0.5
AVNT				*i* S	Sg	00 04 01.5	-1.2
AVNT	Avonos	1.88	219	*i* P	Pn	00 03 35.1	+0.5
AVNT				*i* S	Sg	00 04 01.5	-1.2
KEMA	Kemaliye	1.90	120	*i* P	Pn	00 03 35.2	+0.3
KEMA				*i* S	Sg	00 04 00.8	-2.6
KEMA	Kemaliye	1.90	120	*i* P	Pn	00 03 35.2	+0.3
KEMA				*i* S	Sg	00 04 00.8	-2.6
ESPY	Espiye-Giresun	1.91	69	*e*PN	Pn	00 03 35.7	+0.6
ESPY	Espiye-Giresun	1.91	69	*e*Pn	Pn	00 03 35.7	+0.6
AKCD	Akcadag	2.28	148	*e*P	Pn	00 03 43.0	+2.9
AKCD				*e*S	Sg	00 04 13.7	-2.1
AKCD	Akcadag	2.28	148	*e*P	Pg	00 03 43.0	-3.2
EZC	Erzincan	2.34	101	*e*PN	Pn	00 03 41.5	+0.6
EZC	Erzincan	2.34	101	*e*Pn	Pn	00 03 41.5	+0.6
GUMT	Gumushane	2.38	84	*e*PN	Pn	00 03 42.6	+1.1
GUMT	Gumushane	2.38	84	*e*Pn	Pn	00 03 42.6	+1.1
PTK	Pertek	2.69	119	*e*PN	Pn	00 03 46.5	+0.8
PTK	Pertek	2.69	119	*e*Pn	Pn	00 03 46.6	+0.8
KMRS	Kahramanmaras	2.76	171	*e*PN	Pn	00 03 47.9	+1.1
KMRS	Kahramanmaras	2.76	171	*e*Pn	Pn	00 03 47.9	+1.2
KOZT	Kozan	2.79	189	*e*PN	Pn	00 03 48.1	+1.0
SVRC	Sivrice-ELAZID	2.94	128	*e*PN	Pn	00 03 50.3	+1.1
SVRC	Sivrice-ELAZID	2.94	128	*e*Pn	Pn	00 03 50.3	+1.2
SULT	Sultanhani-AKS	3.02	228	*e*PN	Pn	00 03 51.1	+0.8
SULT	Sultanhani-AKS	3.02	228	*e*Pn	Pn	00 03 51.1	+0.8

*ISCJB **08** 00:12:28.9±0.5,38°.27N±0°.02×39°.41E±0°.03,h1km±5km, Error ellipse: s-maj=3.9km s-min=3.6km az=1.6*
*CSEM **08** 00:12:29.5±0.1,38°.29N×39°.36E,h2km,MD3.1,Error ellipse: s-maj=3.4km s-min=2.9km az=140.0*
*DDA **08** 00:12:29.0,38°.27N×39°.36E,h7km±3km,Md3.3*
*ISK **08** 00:12:29.0,38°.29N×39°.38E,h6km,MD3.1*

ISC 08 00:12:29.8±0.4,38°.29N±0°.02×39°.39E±0°.03,h2km±5km, n44,σ0s83/66,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SVRC	Sivrice-ELAZID	0.11	325	PG	Pg	00 12 31.8	-0.1
SVRC				SG	Sg	00 12 33.7	+0.3
SVRC	Sivrice-ELAZID	0.11	325	*i* Pg	Pg	00 12 31.8	-0.2
SVRC				*i* Sg	Sg	00 12 33.7	+0.3
ELZG	Elazig	0.38	304	*i* P	Pg	00 12 36.1	-0.9
ELZG				*i* S	Sg	00 12 42.6	+0.5
ELZG	Elazig	0.38	304	*i* P	Pg	00 12 36.1	-1.0
ELZG				*i* S	Sg	00 12 42.6	+0.6
PTK	Pertek	0.60	0	*e*PG	Pg	00 12 41.1	-0.3
PTK				*e*SG	Sg	00 12 50.3	+1.1
PTK	Pertek	0.60	0	*e*Pg	Pg	00 12 41.1	-0.3
PTK				*e*Sg	Sg	00 12 50.3	+1.1
DIYA	Diyarbakir	0.68	122	*i* P	Pg	00 12 43.8	+1.0
DIYA				*i* S	Sg	00 12 58.1	+6.4
DIYA	Diyarbakir	0.68	122	*i* P	Pg	00 12 43.8	+1.0
DIYA				*i* S	Sg	00 12 58.1	+6.5
MYA	Malataya	0.76	273	*e*PG	Pg	00 12 43.7	-0.6
MYA				*e*SG	Sg	00 12 55.0	+0.8
MYA	Malataya	0.76	273	*e*Pg	Pg	00 12 43.7	-0.6
MYA				*e*Sg	Sg	00 12 55.0	+0.9
URFA	Urfa	0.96	208	*e*PG	Pg	00 12 47.4	-0.7
URFA				*e*SG	Sg	00 13 01.6	+1.2
URFA	Urfa	0.96	208	*e*Pg	Pg	00 12 47.4	-0.7
URFA				*e*Sg	Sg	00 13 01.7	+1.3
BINT	Bingol	1.04	55	*e*PG	Pg	00 12 49.5	-0.3
BINT	Bingol	1.04	55	*e*Pg	Pg	00 12 49.5	-0.3
AKCD	Akcadag	1.15	271	*i* P	Pg	00 12 50.5	-1.4
AKCD				*i* S	Sg	00 13 08.0	+1.1
AKCD	Akcadag	1.15	271	*i* P	Pg	00 12 50.5	-1.4
AKCD				*i* S	Sg	00 13 08.0	+1.2
ATAB	Bozova	1.19	227	*i* P	Pg	00 12 51.5	-1.1
ATAB				*i* S	Sg	00 13 08.4	+0.5
ATAB	Bozova	1.19	227	*i* P	Pg	00 12 51.5	-1.0
ATAB				*i* S	Sg	00 13 08.4	+0.5
KEMA	Kemaliye	1.21	325	*i* P	Pg	00 12 51.7	-1.1
KEMA				*i* S	Sg	00 13 08.7	+0.2
KEMA	Kemaliye	1.21	325	*i* P	Pg	00 12 51.7	-1.2
KEMA				*i* S	Sg	00 13 08.7	+0.2
DARE	Darende-Malaty	1.41	299	*e*PN	Pg	00 12 57.5	+0.7
DARE	Darende-Malaty	1.41	299	*e*Pn	Pg	00 12 57.5	+0.8
EZC	Erzincan	1.46	359	*e*PN	Pn	00 12 56.7	-0.5
EZC	Erzincan	1.46	359	*e*Pn	Pn	00 12 56.7	-0.5
MARD	Mardin	1.47	131	*i* P	Pn	00 12 56.2	-1.0
MARD				*i* S	Sg	00 13 16.9	0.0
BNGL	BINGOL	1.53	64	*i* P	Pg	00 12 59.0	-0.1
BNGL				*i* S	Sn	00 13 22.1	+3.5
BEST	Besiri	1.54	104	*i* P	Pg	00 12 58.3	-0.9
BEST				*i* S	Sn	00 13 21.5	+2.8
GZT	Gaziantep	1.72	238	*i* P	Pn	00 12 59.5	-1.2
GZT				*i* S	Sg	00 13 25.9	+0.9
GAZ	Gaziantep	2.05	238	*e*PN	Pn	00 13 04.7	-0.6
GAZ	Gaziantep	2.05	238	*e*Pn	Pn	00 13 04.7	-0.6
KMRS	Kahramanmaras	2.12	249	*e*PN	Pn	00 13 05.5	-0.7
KMRS	Kahramanmaras	2.12	249	*e*Pn	Pn	00 13 05.5	-0.7
SARI	SarD1z-Kayseri	2.15	281	*e*PN	Pb	00 13 09.5	+0.1
SARI	SarD1z-Kayseri	2.15	281	*e*Pn	Pb	00 13 09.5	+0.1
GUMT	Gumushane	2.17	2	*e*PN	Pn	00 13 07.1	+0.1
GUMT	Gumushane	2.17	2	*e*Pn	Pn	00 13 07.1	+0.2
BAYT	Ayd¨-ntepe-Bay	2.18	15	*e*PN	Pn	00 13 07.1	0.0
BAYT	Ayd¨-ntepe-Bay	2.18	15	*e*Pn	Pn	00 13 07.1	0.0
EZM	Erzurum	2.23	43	*e*PN	Pn	00 13 07.6	-0.1
KOZT	Kozan	2.93	255	*e*PN	Pn	00 13 17.5	+0.1
AGRB	Hanur-Agry	3.09	64	*e*PN	Pn	00 13 19.9	+0.3
AGRB	Hanur-Agry	3.09	64	*e*Pn	Pn	00 13 19.9	+0.3
CUKT	Cukurca	3.50	106	*e*PN	Pn	00 13 25.5	+0.3
CUKT	Cukurca	3.50	106	*e*Pn	Pn	00 13 25.5	+0.3

IDC 08 00:18:58.8±2.2,8°.24S×129°.60E,h0km,mb3.6/1, mb1 3.6/4,mb1mx3.4/18,mbtmp3.4/4,ML3.3/3,Error ellipse: s-maj=80.8km s-min=29.8km az=77.0,Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	10.53	201	Pn	Pn	00 21 31.1	-0.1
	0.2nm,0.3s,baz=18,slow=13,SNR=5.9						
WRA	Warramunga Arr	12.51	159	Pn	Pn	00 21 58.0	-0.2
	0.2nm,0.3s,baz=341,slow=12,SNR=2.5						
ASAR	Alice Springs	15.89	165	Pn	Pn	00 22 44.3	+0.4
	0.2nm,0.3s,baz=345,slow=9.2,SNR=10						
MKAR	Makanchi Array	69.04	327	P	P	00 30 06.5	+0.1
	0.3nm,0.6s,baz=136,slow=8.0,SNR=4.1						

JMA 08 00:23:00.7,35°.82N×137°.53E,h8km±1km,M2.9,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JGF	Kuroka	0.26	213	P	Pg	00 23 05.9	0.0
JGF				*e*S	Sg	00 23 09.5	+0.2
JGN	Niukaw	0.44	337	P	Pg	00 23 09.4	+0.2
JGN				*e*S	Sg	00 23 15.1	+0.1
MAT	Matsushiro	0.91	37	P	Pg	00 23 17.6	-0.5
MAT				S	Sg	00 23 29.3	-0.6

IDC 08 00:47:12.1±4.2,6°.69S×149°.22E,h96km±38km,mb3.5/3, mb1 3.8/5,mb1mx3.4/18,mbtmp3.6/5,Error ellipse: s-maj=87.1km s-min=30.2km az=133.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	3.38	217	P	Pn	00 48 01.6	-1.3
	31nm,0.3s,baz=34,slow=5.7,SNR=29						
PMG				S	Sn	00 48 43.1	+0.9
	29nm,0.3s,baz=134,slow=21,SNR=11						
WRA	Warramunga Arr	19.55	226	P	Pn	00 51 32.1	-2.4
	0.5nm,0.3s,baz=52,slow=11,SNR=6.4						
ASAR	Alice Springs	22.40	219	P	P	00 52 03.2	+0.5
	1.7nm,0.5s,baz=56,slow=9.4,SNR=18						
FITZ	Fitzroy Crossi	25.63	242	P	P	00 52 32.2	-0.8
	2.7nm,0.7s,baz=92,slow=8.6,SNR=15						
ILAR	Eielson Array	85.25	23	P	P	00 59 37.8	0.0
	0.4nm,0.6s,baz=254,slow=5.9,SNR=6.8						
TORD	Torodi Ar. Bea	147.40	284	PKPbc	PKPbc	01 06 46.0	+0.1
	0.3nm,0.4s,baz=72,slow=2.9,SNR=12						

*IDC **08** 00:50:54.4±4.8,6°.85S×151°.26E,h161km±39km,mb3.7/5, mb1 3.9/6,mb1mx3.5/17,mbtmp3.6/6,MS3.2/1,Ms1 3.2/1, ms1mx2.7/25,Error ellipse: s-maj=56.9km s-min=28.4km az=122.0*
*ISCJB **08** 00:50:55.5±2.9,6°.7S±0°.2×150°.8E±0°.3,h174km±22km, mb3.8/6,Error ellipse: s-maj=48.1km s-min=24.3km az=36.7*
*NEIC **08** 00:50:56.0±2.9,6°.82S×151°.04E,h175km±23km,mb4.2/3, Error ellipse: s-maj=43.5km s-min=21.5km az=124.0*

ISC 08 00:50:55.6±3.0,6°.8S±0°.2×151°.0E±0°.3,h165km±23km,n23, σ1s22/20,mb3.8/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	4.57	235	P	Pn	00 52 05.3	+1.6
	1.1nm,0.3s,baz=41,slow=14,SNR=2.3						
PMG				S	Sn	00 52 54.9	-2.0
	3.8nm,0.3s,baz=156,slow=23,SNR=5.0						
PMG	Port Moresby	4.57	235	P	Pn	00 52 05.3	+1.6
PMG				S	Sn	00 52 54.9	-2.0
KAKA	Kakadu	19.17	251	*e*P	P	00 55 05.6	-1.1
	17nm,0.6s						
WRAB	Tennant Creek	20.75	229	*e*P	P	00 55 22.8	-0.8
	4.7nm,0.6s						
WB2	Warramunga Arr	20.76	229	*e*P	P	00 55 23.4	-0.2
WRA	Warramunga Arr	20.77	229	P	P	00 55 24.1	+0.3
	5.8nm,0.7s,baz=52,slow=10,SNR=24						
WRA	Warramunga Arr	20.77	229	P	P	00 55 24.1	+0.3
ASAR	Alice Springs	23.45	223	P	P	00 55 52.1	+1.8
	9.7nm,0.7s,mb4.3,baz=54,slow=9.2,SNR=64						
ASAR	Alice Springs	23.45	223	P	P	00 55 52.1	+1.8
FITZ	Fitzroy Crossi	27.12	243	P	P	00 56 24.2	+0.7
	2.0nm,0.7s,mb3.9,baz=71,slow=14,SNR=3.1						
FITZ	Fitzroy Crossi	27.12	243	P	P	00 56 24.2	+0.7
KSRS	Korea Array	48.99	336	LR	LR	01 17 53.4	
	comp=Z,23nm,18.6s,baz=20,slow=33						
SONM	Songino Array	67.05	329	P	P	01 01 32.3	+1.4
	0.3nm,0.5s,mb3.4,baz=136,slow=4.9,SNR=4.0						
SONM	Songino Array	67.05	329	P	P	01 01 32.3	+1.4
KURK	Kurchatov	84.21	322	*e*P	P	01 03 07.9	-0.6
	1.3nm,0.6s,mb3.8						
ILAR	Eielson Array	84.68	22	P	P	01 03 05.9	-4.6
	0.6nm,0.9s,mb3.3,baz=254,slow=6.2,SNR=5.9						
ILAR	Eielson Array	84.68	22	P	P	01 03 05.9	-4.6
NVAR	Mina Array Basa	94.75	52	P	P	01 03 57.0	-1.5
	0.7nm,1.0s,mb3.9,baz=251,slow=5.5,SNR=2.7						
NVAR	Mina Array Basa	94.75	52	P	P	01 03 57.0	-1.5
GERES	GERESS Array B	124.75	327	PKP	PKPdf	01 09 35.5	-0.3
	0.1nm,0.3s,baz=75,slow=1.5,SNR=3.9						
GERES	GERESS Array B	124.75	327	PKP	PKPdf	01 09 35.5	-0.3
TORD	Torodi Ar. Bea	149.10	284	PKPbc	PKPbc	01 10 24.4	-1.1
	1.0nm,0.7s,baz=30,slow=3.1,SNR=6.4						
TORD	Torodi Ar. Bea	149.10	284	PKPbc	PKPbc	01 10 24.4	-1.1

*IDC **08** 01:30:39.8±0.6,39°.40N×73°.90E,h0km,mb4.2/17, mb1 4.4/22,mb1mx4.3/30,mbtmp4.2/22,ML3.6/6,MS3.3/10, Ms1 3.3/10,ms1mx3.0/35,Error ellipse: s-maj=12.0km s-min=11.0km az=105.0*
*BJI **08** 01:30:40.7,39°.85N×73°.74E,h10km,mB4.8/7,mb4.4/12, ML4.3/5,Ms3.9/4,Ms7 3.8/5*
*ISCJB **08** 01:30:43.0±0.7,39°.41N±0°.02×73°.86E±0°.03,h32km±5km, mb4.3/47,MS3.5/8,Error ellipse: s-maj=4.5km s-min=3.3km az=169.0*
*NNC **08** 01:30:43.0±1.9,39°.64N×73°.67E,h0km,mb4.5,mpv4.5, Error ellipse: s-maj=16.2km s-min=8.8km az=179.0*
*MOS **08** 01:30:43.5±0.9,39°.44N×73°.92E,h33km,mb4.6/29,Error ellipse: s-maj=8.1km s-min=5.1km az=101.6*
*NEIC **08** 01:30:44.2±1.4,39°.48N×73°.95E,h27km±10km,mb4.5/21, Error ellipse: s-maj=6.1km s-min=3.9km az=55

KK31 Karatay Array 4.44 327 PN **Pn** 01 31 51.6 +1.9
KK31 01 32 46.9
KKAR Karatay Array 4.44 327 *e*Pn **Pn** 01 31 50.7 +1.0
KKAR *e*Pg **Pb** 01 32 02.4 +1.5
KKAR *e*Sn **Sn** 01 32 39.7 -1.0
KKAR Karatay Array 4.44 327 *e*PN **Pn** 01 31 50.7 +1.0
KKAR *e* 01 32 02.4
KNDC Almaty 4.45 31 ⇑Pn **Pn** 01 31 52.2 +2.4
comp=E,317nm,0.8s
KNDC ⇑Lg 01 32 57.7
comp=E,750nm,0.9s
AAA Alma-Ata 4.49 30 *i* PN **Pn** 01 31 55.2 +4.8
AAA *e*S **Sn** 01 32 43.9 +2.0
AAA pmax pmax
comp=Z,325nm,0.5s
AAA smax
comp=E,886nm,0.9s
CHCP Chirah Chowk 5.79 185 P **Pn** 01 32 15.9 +7.7
KBL Kabul 6.21 220 *e*Pn **Pn** 01 32 18.5 +4.4
comp=E,32nm,0.8s
KBL *e*Sn **Sn** 01 33 23.6 -0.9
KBL *e*Sg **Sb** 01 33 44.0 -1.0
KBL Kabul 6.21 220 *e*PN **Pn** 01 32 18.5 +4.4
KBL pmax pmax
comp=Z,32nm,0.8s
THW Thamme Wali 6.84 195 P **Pn** 01 32 28.8 +6.1
SARP Sargodha 7.56 188 P **Pn** 01 32 37.4 +4.8
KLP Kalpa 8.66 154 *e*PKP **Pn** 01 32 47.8 0.0
KLP *e*S **Sn** 01 34 19.0 -5.8
KLP AML AML 01 34 40.0
comp=E,195nm,0.7s
KLP AML AML 01 34 43.1
comp=N,189nm,0.8s
SMLA Simla 8.72 161 *i* P **Pn** 01 32 51.8 +3.2
SMLA *i* x x 01 34 26.7
SMLA ⇓AML AML 01 34 28.5
comp=E,563nm,0.5s
SMLA ⇓AML AML 01 34 32.9
comp=N,804nm,0.5s
MK31 Makanchi Array 9.60 37 ⇓Pn **Pn** 01 33 01.9 +1.5
comp=N,6.8nm,0.7s,baz=218,slow=14,SNR=11
MK31 ⇑Lg 01 35 39.6
comp=N,15nm,0.8s,baz=222,slow=24,SNR=4.1
MK31 Makanchi Array 9.60 37 *e*Pn **Pn** 01 33 01.4 +1.0
MK31 Makanchi Array 9.60 37 P **Pn** 01 33 01.9 +1.4
MK31 pmax pmax
comp=Z,6.0nm,0.6s
MKAR Makanchi Array 9.60 37 Pn **Pn** 01 33 01.0 +0.5
comp=Z,0.2nm,0.3s,baz=228,slow=14,SNR=10
MKAR Lg 01 35 41.9
comp=Z,0.7nm,0.3s,baz=221,slow=26,SNR=6.1
MKAR Makanchi Array 9.60 37 Pn **Pn** 01 33 01.0 +0.5
MKAR Lg 01 35 41.9
MKAR Makanchi Array 9.60 37 P **Pn** 01 33 01.0 +0.5
DDI Dehra Dun 9.73 158 *e*PKP **Pn** 01 33 04.0 +1.7
DDI *ex* x 01 34 53.5
NDI New Delhi 11.08 164 *e*PKP **Pn** 01 33 24.0 +3.1
NDI *ex* x 01 35 21.0
KHET Khetri 11.45 171 *ex* **Pn** 01 33 24.9 -1.0
KHET *e*S **Sn** 01 35 26.8 -6.3
KUDL Kundal 11.48 168 *e*PKP **Pn** 01 33 28.5 +2.2
KUDL *e*S **Sn** 01 35 26.2 -7.6
KURBB Kurchatov Arra 11.66 15 ⇑Pn **Pn** 01 33 26.2 -2.5
comp=Z,0.9nm,1.0s
KURBB ⇑Lg 01 36 45.3
comp=Z,33nm,1.4s
KURK Kurchatov 11.77 15 ⇑Pn **Pn** 01 33 25.8 -4.4
comp=Z,4.9nm,1.0s
KURK ⇓Lg 01 36 49.7
comp=Z,114nm,1.4s
KURK Kurchatov 11.77 15 Pn **Pn** 01 33 26.5 -3.6
comp=Z,0.1nm,0.3s,baz=210,slow=12,SNR=13
KURK Lg 01 36 46.4
comp=Z,0.3nm,0.3s,baz=114,slow=9.6,SNR=6.1
KURK Kurchatov 11.77 15 *e*Pn **Pn** 01 33 30.8 +0.7
comp=Z,4.4nm,0.9s
KURK *e*Lg 01 36 31.6
KURK Kurchatov 11.77 15 *i* P **Pn** 01 33 31.8 +1.7
KURK pmax pmax
comp=Z,7.0nm,1.7s
KURK MLR MLR
comp=Z,44nm,7.0s
VOSK Vostochnaya 13.44 352 ⇓Pn **Pn** 01 33 50.2 -2.7
comp=Z,15nm,1.2s
VOSK ⇑Lg 01 37 39.2
comp=Z,31nm,1.2s
VOSK Vostochnaya 13.44 352 P **Pn** 01 33 50.1 -2.8
VOSK pmax pmax
comp=Z,15nm,1.2s
DANN Dangsing 13.78 140 *e*P **Pn** 01 33 57.4 -0.3
comp=Z,22nm,0.4s
DANN Dangsing 13.78 140 *e*P **Pn** 01 33 57.4 -0.3
comp=Z,22nm,0.4s
BVA0 Borovoye Array 13.80 351 ⇓Pn **Pn** 01 33 54.5 -3.3
comp=Z,3.6nm,1.1s,baz=156,slow=9.4,SNR=9.8
BVA0 ⇓Lg 01 37 55.9
comp=Z,5.0nm,1.1s,baz=149,slow=30,SNR=4.0
BVA0 Borovoye Array 13.80 351 *i* P **Pn** 01 34 05.6 +7.8
BVA0 pmax pmax
comp=Z,2.0nm,0.7s
BVAR Borovoye Array 13.80 351 Pn **Pn** 01 33 55.6 -2.3
comp=Z,0.5nm,0.3s,baz=161,slow=13,SNR=16
BVAR Lg 01 38 01.9
comp=Z,0.6nm,0.3s,baz=143,slow=22,SNR=7.3
BVAR LR LR 01 40 01.2
comp=Z,47nm,19.1s,baz=328,slow=41
BVAR Borovoye Array 13.80 351 Pn **Pn** 01 33 55.6 -2.3
BVAR Lg 01 38 01.9
BVAR LR LR 01 40 01.2
BVAR Borovoye Array 13.80 351 P **Pn** 01 33 55.6 -2.2
BRVK Borovoye 13.84 351 *e*Pn **Pn** 01 33 55.5 -2.9
comp=Z,29nm,0.9s
BRVK Borovoye 13.84 351 *i* P **Pn** 01 33 56.2 -2.2
BRVK pmax pmax
comp=Z,3.0nm,0.6s
BRVK MLR MLR
comp=Z,129nm,15.0s
ZRNK Zerenda 13.92 348 ⇓Pn **Pn** 01 33 55.8 -3.7
comp=Z,9.6nm,1.0s
AB31 Akbulak array 13.95 319 Pn **Pn** 01 33 57.4 -2.5
comp=Z,12nm,0.8s,baz=133,slow=12,SNR=97
AB31 ⇑Sn **Sn** 01 36 30.7 -3.4
comp=Z,5.5nm,0.6s,baz=124,slow=24,SNR=4.4
ABKAR Akbulak array 13.95 319 *e*Pn **Pn** 01 33 57.7 -2.2
comp=Z,11nm,0.6s
ABKAR *e*Sn **Sn** 01 36 24.4 -10
KOLN Koldanda 14.18 142 *e*P **Pn** 01 34 03.3 +0.1
comp=Z,22nm,0.6s
KOLN Koldanda 14.18 142 *e*P **Pn** 01 34 03.3 +0.1
comp=Z,22nm,0.6s
GKN Gorkha 14.50 139 *e*P **Pn** 01 34 06.5 -1.1
GKN Gorkha 14.50 139 *e*P **Pn** 01 34 06.5 -1.1
KKN Kakani 15.01 137 *e*P **Pn** 01 34 14.0 -0.5
KKN Kakani 15.01 137 *e*P **Pn** 01 34 14.0 -0.5
KKN Kakani 15.01 137 *e*P **Pn** 01 34 14.0 -0.5
DMN Daman 15.06 138 *e*P **Pn** 01 34 14.0 -1.2
comp=Z,16nm,0.5s
DMN Daman 15.06 138 *e*P **Pn** 01 34 14.0 -1.2
comp=Z,16nm,0.5s
GUN Gumba 15.23 135 *e*P **Pn** 01 34 16.6 -0.8
GUN Gumba 15.23 135 *e*P **Pn** 01 34 16.6 -0.8
PKIN Phulchoki 15.24 137 *e*P **Pn** 01 34 16.4 -1.1
comp=Z,19nm,0.6s
PKI Pulchoki 15.25 137 *e*P **Pn** 01 34 16.8 -0.9
comp=Z,28nm,0.8s
PKI Pulchoki 15.25 137 *e*P **Pn** 01 34 16.8 -0.9
comp=Z,28nm,0.8s
PKI Pulchoki 15.25 137 *e*P **Pn** 01 34 16.8 -0.9
PKI pmax pmax
comp=Z,28nm,0.8s
AKTK Aktyubinsk 15.66 320 Pn **Pn** 01 34 22.0 -0.8
AKTK LR LR 01 39 49.3
AKTO Aktyubinsk 15.66 320 ⇑Pn **Pn** 01 34 19.8 -3.0
comp=Z,4.4nm,1.1s
AKTO ⇓Sn **Sn** 01 37 12.1 -3.6
comp=Z,1.8nm,1.2s
AKTO Aktyubinsk 15.66 320 Pn **Pn** 01 34 22.0 -0.8
comp=Z,0.5nm,0.3s,baz=121,slow=14,SNR=13
AKTO LR LR 01 39 49.3
comp=Z,54nm,18.8s,baz=144,slow=35
AKTO Aktyubinsk 15.66 320 P **Pn** 01 34 22.0 -0.9
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO MLR MLR
comp=Z,54nm,18.8s
ZAA0 Zalesovo Array 16.32 24 *e*Pn **Pn** 01 34 29.6 -1.7
ZAA0 *e*P 01 34 33.3
ZALV Zalesovo Beam 16.32 24 Pn **Pn** 01 34 29.7 -1.6
comp=Z,0.6nm,0.3s,baz=213,slow=12,SNR=14
ZALV Lg 01 39 20.4
comp=Z,0.0nm,0.3s,baz=215,slow=25,SNR=3.6
ZALV LR LR 01 40 51.1
comp=Z,34nm,19.5s,baz=87,slow=37
ZALV Zalesovo Beam 16.32 24 Pn **Pn** 01 34 29.7 -1.7
ZALV Lg 01 39 20.4
ZALV LR LR 01 40 51.1
ZALV Zalesovo Beam 16.32 24 P **Pn** 01 34 29.7 -1.6
TAPN Taplejung 16.69 132 *e*P **Pn** 01 34 36.3 +0.1
comp=Z,42nm,1.0s
TAPN Taplejung 16.69 132 *e*P **Pn** 01 34 36.3 +0.1
comp=Z,42nm,1.0s
ODAN Odare 16.89 134 *e*P **Pn** 01 34 38.5 -0.2
comp=Z,51nm,1.0s
ODAN Odare 16.89 134 *e*P **Pn** 01 34 38.5 -0.2
comp=Z,51nm,1.0s
LSA Lhasa 17.23 119 P **Pn** 01 34 50.7 +7.8
SVE Sverdlovsk 19.44 338 *e*P **Pn** 01 35 12.0 +2.3
SVE pmax pmax
comp=Z,16nm,1.1s
ARU Arti 19.77 334 *e*P **Pn** 01 35 13.1 -0.5
comp=Z,13nm,0.9s
ARU Arti 19.77 334 *d i*P **Pn** 01 35 13.4 -0.2
ARU S **Sn** 01 38 54.6 -0.3
ARU pmax pmax
comp=Z,22nm,1.7s
GTA Gaotai 20.05 82 ⇑P **P** 01 35 16.1 +0.8
GTA pP 01 35 22.3
GTA sP sP 01 35 25.6 +1.6
GTA pmax pmax
comp=Z,15nm,1.1s
GTA pmax pmax
comp=Z,160nm,5.7s
GTA LR LR
comp=N,160nm,14.7s,MS3.7
GTA LR LR
comp=E,180nm,14.5s,MS3.7
GTA LR LR
comp=Z,170nm,14.2s,MS3.5
MAK Makhachkala 20.10 289 P **P** 01 35 13.6 -2.2
MAK *e*S **S** 01 38 53.6 -6.9
MAK pmax pmax
comp=Z,339nm,1.7s
MAK MLR MLR
comp=Z,75nm,6.0s
SHL Shillong 20.51 127 *ex* x 01 35 11.0
POO Poona 20.83 180 *ex* **P** 01 35 24.0 +0.1
DGRG David-gareji 21.72 284 P **P** 01 35 40.1 +6.8
MTA Mtatsminda 22.14 285 P Px 01 35 48.0
HYB Hyderabad 22.32 168 *i* P **P** 01 35 42.0 +2.2
GNI Garni 22.33 281 *e*P **P** 01 35 40.8 +0.9
comp=Z,40nm,1.2s,mb4.7
GNI Garni 22.33 281 *e*P **P** 01 35 40.8 +1.0
GNI pmax pmax
comp=Z,40nm,1.2s
MOY Mondy 22.46 48 *e*P **P** 01 35 41.8 +0.7
MOY pmax pmax
comp=Z,24nm,1.8s,mb4.3
GOR Gori 22.63 286 P **P** 01 35 50.4 +7.4
ZEI Tsey 22.75 288 *e*P **P** 01 35 48.8 +4.5
ZEI pmax pmax
comp=Z,9.0nm,1.3s,mb4.0
SOKR Solikamsk 22.86 337 *e*P **P** 01 35 48.5 +3.3
SOKR pmax pmax
comp=Z,30nm,1.4s,mb4.5
ONI Oni 23.09 288 P **P** 01 35 51.1 +3.3
AKH Akhalkalaki 23.13 285 P **P** 01 35 51.7 +3.4
ZAK Zakamensk 23.39 52 *e*P **P** 01 35 49.3 -1.7
ZAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.0
KIV Kislovodsk 23.62 291 *e*P **P** 01 35 57.6 +4.4
comp=Z,21nm,0.9s,mb4.6
KIV Kislovodsk 23.62 291 *e*P **P** 01 35 49.9 -3.3
KIV pmax pmax
comp=Z,12nm,1.4s,mb4.1
KIV MLR MLR
comp=Z,100nm,24.0s,MS3.2
SONM Songino Array 24.86 60 P **P** 01 36 04.8 +0.2
comp=Z,6.3nm,0.8s,mb4.2,baz=265,slow=9.7,SNR=33
SONM LR LR 01 46 30.8
comp=Z,93nm,19.3s,MS3.3,baz=194,slow=38
SONM Songino Array 24.86 60 P **P** 01 36 04.8 +0.2
SONM LR LR 01 46 30.8
SONM Songino Array 24.86 60 P **P** 01 36 04.8 +0.3
VRHR Novokhopersk 25.29 308 *e*P **P** 01 36 10.5 +2.2
VRHR pmax pmax
comp=Z,6.0nm,0.6s,mb4.3
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.7s
ULN Ulaanbaatar 25.31 60 *e*P **P** 01 36 07.4 -1.1
comp=E,8.3nm,0.8s,mb4.3
ULN Ulaanbaatar 25.31 60 *e*P **P** 01 36 07.4 -1.1
ULN pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
VSR Storozhevoye 26.82 308 *e*P **P** 01 36 19.7 -2.5
VSR pmax pmax
comp=Z,2.0nm,0.8s,mb3.7
VSR pmax pmax
comp=N,6.0nm,0.6s
VSR pmax pmax
comp=E,5.0nm,0.7s
OBN Obninsk 29.32 315 *e*P **P** 01 36 40.5 -4.0
OBN pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
CMAR Chiang Mai Arr 30.15 127 P **P** 01 36 52.2 +0.1
comp=Z,0.5nm,0.3s,mb3.7,baz=347,slow=38,SNR=2.2
CMAR LR LR 01 50 10.6
comp=Z,42nm,21.8s,MS3.0,baz=200,slow=39
CMAR Chiang Mai Arr 30.15 127 P **P** 01 36 52.2 +0.1
CMAR LR LR 01 50 10.6
CMAR Chiang Mai Arr 30.15 127 P **P** 01 36 52.3 +0.2
BR131 Keskin Array S 30.81 284 *e*P **P** 01 36 59.3 +1.5
comp=Z,1.3nm,0.5s,mb4.0
BRTR Keskin Array B 30.81 284 P **P** 01 36 58.9 +1.1
comp=Z,1.2nm,0.7s,mb3.9,baz=90,slow=7.9,SNR=5.8
BRTR Keskin Array B 30.81 284 P **P** 01 36 58.9 +1.1
BRTR Keskin Array B 30.81 284 P **P** 01 36 58.9 +1.1
BOD Bodaibo 31.66 41 *e*P **P** 01 37 04.0 -1.1
BOD pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
AKASG Malin Array Be 32.98 305 P **P** 01 37 16.7 -0.1
comp=Z,0.6nm,0.3s,mb4.0,baz=82,slow=7.3,SNR=7.0
AKASG Malin Array Be 32.98 305 P **P** 01 37 16.7 -0.1
AKASG Malin Array Be 32.98 305 P **P** 01 37 16.7 -0.1
AKBB Malin Array Si 32.98 305 *e*P **P** 01 37 16.6 -0.2
AKBB Malin Array Si 32.98 305 *e*P **P** 01 37 16.6 -0.2
KIEV Kiev 32.99 305 *e*P **P** 01 37 16.7 -0.2
comp=Z,3.1nm,0.6s,mb4.4
KIEV Kiev 32.99 305 *e*P **P** 01 37 16.7 -0.2
KIEV pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
JOF Joensuu 34.54 327 *e*P **P** 01 37 30.0 -0.2
JOF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
JOF Joensuu 34.54 327 *e*p **P** 01 37 30.0 -0.2
comp=Z,2.7nm,0.7s,mb4.3
BUR08 Bucovina Ar. S 35.70 300 *e*P **P** 01 37 40.0 -0.3
FINES FINESS Array B 36.39 323 P **P** 01 37 45.9 -0.2
comp=Z,2.4nm,0.4s,mb4.5,baz=110,slow=8.9,SNR=29
FINES LR LR 01 53 05.4
comp=Z,99nm,18.2s,MS3.6,baz=328,slow=37
FINES FINESS Array B 36.39 323 P **P** 01 37 45.9 -0.2
FINES LR LR 01 53 05.4
FINES FINESS Array B 36.39 323 P **P** 01 37 45.9 -0.2
KAF Kangasniemi 36.47 324 *e*P **P** 01 37 46.9 +0.2
KAF pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
KAF Kangasniemi 36.47 324 *e*p **P** 01 37 46.9 +0.2
comp=Z,2.2nm,0.8s,mb4.1
KEV Kevo 38.97 336 *e*P **P** 01 38 07.2 -0.5
KEV pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
KEV Kevo 38.97 336 *e*p **P** 01 38 07.2 -0.5
comp=Z,4.5nm,0.8s,mb4.2
ARCES ARCESS Array B 39.35 336 P **P** 01 38 10.5 -0.5
comp=Z,2.5nm,0.5s,mb4.2,baz=107,slow=8.9,SNR=15
ARCES ARCESS Array B 39.35 336 P **P** 01 38 10.5 -0.4
ARCES ARCESS Array B 39.35 336 P **P** 01 38 10.5 -0.4
KSRS Korea Array 41.87 75 P **P** 01 38 31.4 -0.7
comp=Z,2.9nm,0.7s,mb4.0,baz=285,slow=7.6,SNR=5.0
KSRS Korea Array 41.87 75 P **P** 01 38 31.5 -0.7
KSRS pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
GERES GERESS Array B 43.14 303 P **P** 01 38 43.5 +1.2
comp=Z,0.8nm,0.4s,mb3.8,baz=64,slow=7.8,SNR=11
GERES LR LR 01 57 25.3
comp=Z,63nm,19.0s,MS3.5,baz=294,slow=37
GERES GERESS Array B 43.14 303 P **P** 01 38 43.5 +1.2
GERES LR LR 01 57 25.4
GERES GERESS Array B 43.14 303 P **P** 01 38 43.5 +1.2
CLL Collm 43.17 307 *e*P **P** 01 38 43.0 +0.5
CLL Collm 43.17 307 *e*P **P** 01 38 43.0 +0.5
KHC Kasperske Hory 43.17 304 *e*P **P** 01 38 42.5 -0.1
KHC *e* pP 01 38 47.5 -1.7
KHC Kasperske Hory 43.17 304 *e*P **P** 01 38 42.5 -0.1
KHC *e*pP pP 01 38 47.5 -1.7
NB2 NORSAR Subarra 43.45 321 P **P** 01 38 43.9 -0.8
comp=Z,3.3nm,0.6s,mb4.2,baz=91,slow=7.9
NOA NORSAR Array B 43.45 321 P **P** 01 38 44.7 0.0
comp=Z,3.2nm,0.6s,mb4.2,baz=91,slow=8.0,SNR=11
NOA LR LR 01 57 02.5
comp=Z,57nm,18.2s,MS3.5,baz=90,slow=36
NOA NORSAR Array B 43.45 321 P **P** 01 38 44.7 0.0
NOA LR LR 01 57 02.5
NOA NORSAR Array B 43.45 321 P **P** 01 38 44.7 0.0
NAO01 NORSAR Array S 43.61 321 *e*P **P** 01 38 46.4 +0.4
comp=Z,2.8nm,0.6s,mb4.2
AQU L'Aquila 44.94 294 *e*P **P** 01 38 57.2 +0.3
comp=Z,9.5nm,1.0s,mb4.6
AQU L'Aquila 44.94 294 *e*P **P** 01 38 57.2 +0.3
AQU pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
CDF Champ du Feu 47.39 304 *e*P **P** 01 39 16.6 +0.5
CDF Champ du Feu 47.39 304 *e*P **P** 01 39 16.6 +0.5
CDF Champ du Feu 47.39 304 *e*P **P** 01 39 16.6 +0.5
PGF Pioggiola 47.97 296 *e*P **P** 01 39 20.7 +0.1
comp=Z,18nm,0.9s,mb4.8
PGF Pioggiola 47.97 296 *e*P **P** 01 39 20.7 +0.1
comp=Z,9.1nm,0.9s,mb4.8
PGF Pioggiola 47.97 296 *e*P **P** 01 39 20.7 +0.1
PGF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
HAU Haudompre 48.10 304 *e*P **P** 01 39 21.7 +0.1
HAU Haudompre 48.10 304 *e*P **P** 01 39 21.7 +0.1
HAU Haudompre 48.10 304 *e*P **P** 01 39 21.7 +0.1
LPG La Plagne 48.56 300 *e*P **P** 01 39 26.1 +0.9
LPG La Plagne 48.56 300 *e*P **P** 01 39 26.1 +0.9
LPG La Plagne 48.56 300 *e*P **P** 01 39 26.1 +0.9
LPL La Plagne 48.57 300 *e*P **P** 01 39 25.9 +0.6
comp=Z,4.6nm,0.6s,mb4.4
LPL La Plagne 48.57 300 *e*P **P** 01 39 25.9 +0.6
comp=Z,2.3nm,0.6s,mb4.4
LPL La Plagne 48.57 300 *e*P **P** 01 39 25.9 +0.6
LPL pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
MEZF Maizieres J'vi 48.79 304 *e*P **P** 01 39 26.4 -0.5
MEZF Maizieres J'vi 48.79 304 *e*P **P** 01 39 26.4 -0.5
MBDF Montbardon 48.79 299 *e*P **P** 01 39 27.1 +0.1
comp=Z,6.0nm,0.9s,mb4.3
MBDF Montbardon 48.79 299 *e*P **P** 01 39 27.1 +0.1
comp=Z,3.0nm,0.9s,mb4.3
MBDF Montbardon 48.79 299 *e*P **P** 01 39 27.1 +0.1
MBDF pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
MJAR Matsushiro Arr 49.85 72 P **P** 01 39 34.7 -0.4
comp=Z,4.9nm,0.9s,mb4.5,baz=285,slow=9.5,SNR=7.5
MJAR Matsushiro Arr 49.85 72 P **P** 01 39 34.7 -0.4
MJAR Matsushiro Arr 49.85 72 P **P** 01 39 34.7 -0.4
SMF Signal de Mont 50.13 302 *e*P **P** 01 39 37.9 +0.8
SMF Signal de Mont 50.13 302 *e*P **P** 01 39 37.9 +0.8
SMF Signal de Mont 50.13 302 *e*P **P** 01 39 37.9 +0.8
AVF Avril sur Loir 50.40 303 *e*P **P** 01 39 40.2 +1.0
AVF Avril sur Loir 50.40 303 *e*P **P** 01 39 40.2 +1.0
AVF Avril sur Loir 50.40 303 *e*P **P** 01 39 40.2 +1.0
BGF Bois d'Agland 50.81 303 *e*P **P** 01 39 44.8 +2.5
BGF Bois d'Agland 50.81 303 *e*P **P** 01 39 44.8 +2.5
BGF Bois d'Agland 50.81 303 *e*P **P** 01 39 44.8 +2.5
LDF La Druitiere 52.04 306 *e*P **P** 01 39 50.5 -0.9
comp=Z,2.9nm,0.4s,mb4.3
LDF La Druitiere 52.04 306 *e*P **P** 01 39 50.5 -0.9
comp=Z,1.5nm,0.4s,mb4.3
LDF La Druitiere 52.04 306 *e*P **P** 01 39 50.5 -0.9
LDF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
KMBO Kilima Mbogo 52.46 229 *e*P **P** 01 39 56.6 +1.7
comp=Z,0.9nm,0.5s,mb4.0
KMBO Kilima Mbogo 52.46 229 *e*P **P** 01 39 56.6 +1.7
KMBO pmax pmax
comp=Z,1.0nm,0.5s
BILL Bilibino 54.98 27 *e*P **P** 01 40 14.7 +2.0
BILL pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
ESDC Sonseca Array 58.09 297 P **P** 01 40 34.7 -0.6
comp=Z,0.2nm,0.3s,mb3.6,baz=56,slow=6.9,SNR=4.3
ESDC Sonseca Array 58.09 297 P **P** 01 40 34.7 -0.6
TAM Tamanrasset 59.49 275 *e*P **P** 01 40 46.3 +1.0
comp=Z,0.6nm,0.6s,mb3.8
TAM Tamanrasset 59.49 275 *e*P **P** 01 40 46.3 +1.0
TAM pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
TORD Torodi Ar. Bea 68.02 269 P **P** 01 41 41.4 -0.2
comp=Z,3.3nm,0.7s,mb4.5,baz=53,slow=4.7,SNR=31
TORD Torodi Ar. Bea 68.02 269 P **P** 01 41 41.4 -0.2
COLD Coldfoot 68.53 17 *e*P **P** 01 41 43.1 -0.9
comp=Z,5.7nm,0.8s,mb4.5
INK Inuvik 70.63 10 *e*P **P** 01 41 56.7 -0.2
comp=Z,12nm,1.2s,mb4.7
INK Inuvik 70.63 10 *e*P **P** 01 41 56.7 -0.2
INK pmax pmax
comp=Z,12nm,1.2s
COLA College 71.02 17 *e*P **P** 01 41 58.6 -0.8
comp=Z,11nm,1.0s,mb4.7
COLA College 71.02 17 *e*P **P** 01 41 58.6 -0.8
COLA pmax pmax
comp=Z,11nm,1.0s,mb4.7
ILAR Eielson Array 71.33 17 P **P** 01 41 59.6 -1.6
comp=Z,3.0nm,0.9s,mb4.2,baz=324,slow=4.2,SNR=30
ILAR Eielson Array 71.33 17 P **P** 01 41 59.6 -1.6
ILAR pmax pmax
comp=Z,3.0nm,0.9s
SML Sawmill 73.49 19 *e*P **P** 01 42 12.5 -1.6
comp=Z,2.7nm,0.8s,mb4.2
SML Sawmill 73.49 19 *e*P **P** 01 42 12.5 -1.6
SML pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
KAKA Kakadu 75.20 121 *e*P **P** 01 42 24.2 -0.5
comp=Z,10nm,0.5s,mb5.0
DBIC Dimbokro 77.07 268 P **P** 01 42 34.4 -1.1
comp=Z,2.4nm,0.5s,mb4.4,baz=38,slow=6.7,SNR=8.2
DBIC Dimbokro 77.07 268 *e*P **P** 01 42 35.2 -0.3
comp=Z,3.6nm,0.6s,mb4.5
DBIC Dimbokro 77.07 268 *e*P **P** 01 42 35.2 -0.3
DBIC pmax pmax
comp=Z,4.0nm,0.6s
YKA Yellowknife Ar 78.19 4 P **P** 01 42 39.9 -1.1
comp=Z,3.2nm,0.7s,mb4.3,baz=299,slow=10.0,SNR=3.5
YKA Yellowknife Ar 78.19 4 P **P** 01 42 39.9 -1.1
YKA Yellowknife Ar 78.19 4 P **P** 01 42 39.9 -1.1
BOSA Boshof 81.43 222 LR LR 02 23 28.5
comp=Z,42nm,18.9s,MS3.8,baz=332,slow=39
WRA Warramunga Arr 81.70 124 P **P** 01 43 00.2 -0.3
comp=Z,4.1nm,0.6s,mb4.5,baz=324,slow=5.1,SNR=24
WRA Warramunga Arr 81.70 124 P **P** 01 43 00.2 -0.3
WRA Warramunga Arr 81.70 124 P **P** 01 43 00.2 -0.3
WRAB Tennant Creek 81.71 124 *e*P **P** 01 42 59.7 -0.9
comp=Z,3.5nm,0.5s,mb4.5
WRAB Tennant Creek 81.71 124 *e*P **P** 01 42 59.7 -0.8
WRAB pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
ASAR Alice Springs 84.16 127 P **P** 01 43 12.6 -0.6
comp=Z,2.2nm,0.6s,mb4.5,baz=314,slow=4.8,SNR=29
ASAR Alice Springs 84.16 127 P **P** 01 43 12.6 -0.6
ASAR Alice Springs 84.16 127 P **P** 01 43 12.6 -0.6
TRQA Tornquist 145.77 258 *e*PKPbc PKPbc 01 50 20.7 -0.1

*IDC **08** 01:30:53.0±1.7,29.72S×176.92W,h0km,mb4.2/4, mb1 4.2/6,mb1mx3.9/20,mbtmp4.1/6,ML3.8/2,MS3.8/3, Ms1 3.8/3,ms1mx3.3/22,Error ellipse: s-maj=40.3km s-min=36.8km az=139.0*
*NEIC **08** 01:30:53.1±9.8,29.76S×176.81W,h6km±55km,mb4.5/3, Error ellipse: s-maj=39.2km s-min=14.6km az=66.0*
*ISCJB **08** 01:30:56.1±1.9,29.9S±0.1×177.0W±0.2,h33km,mb4.3/6,*

MS3.8/3, Error ellipse: s-maj=33.9km s-min=9.9km az=151.1

ISC 08 01:30:58.3±1.9, 29°38′S±0.1′×177°0′W±0.2, h35km, n25, σ0s86/17, mb4.3/6, MS3.8/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.98**	**304**	*e*Pn	**Pn**	**01 31 14.7**	**-0.7**
RAO				*e*Sn	**Sn**	**01 31 28.0**	**-0.1**
URZ	**Urewera**	**9.74**	**209**	Pn	**Pn**	**01 33 16.4**	**+0.5**
	0.4nm,0.3s,baz=191,slow=23,SNR=1.4						
URZ	**Urewera**	**9.74**	**209**	Pn	**Pn**	**01 33 16.4**	**+0.5**
RPZ	**Rata Peaks**	**16.84**	**211**	Pn	**Pn**	**01 34 49.8**	**-1.4**
	0.6nm,0.3s,baz=61,slow=18,SNR=1.4						
RPZ	**Rata Peaks**	**16.84**	**211**	Pn	**Pn**	**01 34 49.8**	**-1.4**
CTA	**Charters Tower**	**34.57**	**278**	P	**P**	**01 37 45.7**	**+1.9**
	1.7nm,0.4s,mb4.3,baz=92,slow=5.1,SNR=2.6						
CTA				LR	LR	01 48 13.2	
	comp=Z,48nm,20.4s,MS3.2,baz=236,slow=30						
CTA	**Charters Tower**	**34.57**	**278**	P	**P**	**01 37 45.7**	**+1.9**
CTA				LR	LR	01 48 13.2	
CTAO	**Charters Tower**	**34.57**	**278**	*e*P	**P**	**01 37 44.5**	**+0.7**
	3.3nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**35.46**	**256**	P	**P**	**01 37 52.9**	**+1.5**
	1.9nm,0.5s,mb4.2,baz=110,slow=16,SNR=3.1						
STKA	**Stephens Creek**	**35.46**	**256**	P	**P**	**01 37 52.9**	**+1.5**
PMG	**Port Moresby**	**39.15**	**294**	*e*P	**P**	**01 38 22.5**	**-0.3**
	13nm,0.9s,mb4.7						
ASAR	**Alice Springs**	**44.01**	**266**	P	**P**	**01 39 02.1**	**-0.5**
	1.0nm,0.7s,mb3.6,baz=102,slow=6.6,SNR=11						
ASAR	**Alice Springs**	**44.01**	**266**	P	**P**	**01 39 02.1**	**-0.5**
WRA	**Warramunga Arr**	**44.95**	**271**	P	**P**	**01 39 10.1**	**-0.1**
	2.2nm,0.4s,mb4.3,baz=109,slow=7.8,SNR=11						
WRA	**Warramunga Arr**	**44.95**	**271**	P	**P**	**01 39 10.1**	**-0.1**
VNDA	**Vanda**	**48.77**	**186**	LR	LR	01 56 42.4	
	comp=Z,134nm,21.4s,MS3.9,baz=257,slow=32						
QSPA	**South Pole Qui**	**60.30**	**180**	*e*P	**P**	**01 41 02.7**	**-0.2**
	8.8nm,1.3s,mb4.6						
PLCA	**Paso Flores**	**82.27**	**133**	LR	LR	02 11 19.8	
	comp=Z,133nm,20.4s,MS4.3,baz=281,slow=30						
FINES	**FINESS Array B**	**144.88**	**341**	PKP	PKPdf	01 50 31.2	+0.4
	1.7nm,0.5s,baz=63,slow=3.0,SNR=14						
FINES	**FINESS Array B**	**144.88**	**341**	PKP	PKPdf	01 50 31.2	+0.4
AKASG	**Malin Array Be**	**151.34**	**324**	PKPbc	PKPbc	01 50 48.1	+0.3
	0.7nm,0.3s,baz=43,slow=2.9,SNR=4.6						
AKASG	**Malin Array Be**	**151.34**	**324**	PKPbc	PKPbc	01 50 48.1	+0.3
BRTR	**Keskin Array B**	**153.07**	**300**	PKPab	PKPab	01 51 02.1	-1.6
	0.5nm,0.6s,baz=112,slow=4.0,SNR=2.5						
BRTR	**Keskin Array B**	**153.07**	**300**	PKPab	PKPab	01 51 02.1	-1.6
TORD	**Torodi Ar. Bea**	**163.38**	**176**	PKPab	PKPab	01 51 49.2	+0.7
	0.3nm,0.9s,baz=151,slow=3.5,SNR=1.5						

*ISCJB **08** 01:54:12.7±0.7, 59.0°S±0.1′×25.4°W±0.3, h10km, mb4.0/6, Error ellipse: s-maj=24.2km s-min=11.6km az=150.6*
*IDC **08** 01:54:14.2±0.8, 58.62°S×25.39°W, h0km, mb4.1/5, mb1 4.2/5, mb1mx4.0/16, mbtmp4.1/5, MS3.6/1, Ms1 3.5/1, ms1mx3.1/16, Error ellipse: s-maj=33.5km s-min=26.8km az=72.0*
*NEIC **08** 01:54:19.0±0.4, 58.77°S×25.26°W, h35km, mb4.0/3, Error ellipse: s-maj=18.9km s-min=12.4km az=54.0*

ISC 08 01:54:14.8±0.7, 59.0°S±0.1′×25.4°W±0.3, h10km, n33, σ0s85/17, mb4.0/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.72**	**156**	*e*P	**Pn**	**01 57 29.0**	**0.0**
VNA3	**Neumayer Olymp**	**13.90**	**159**	*e*P	**Pn**	**01 57 30.4**	**-1.1**
VNA3				*e*S	**Sn**	**01 59 50.8**	**-15**
VNA2	**Neumayer--Watz**	**14.11**	**155**	*e*P	**Pn**	**01 57 33.6**	**-0.8**
	baz=318,slow=15						
VNA2				*e*S	**Sn**	**01 59 55.3**	**-16**
SNAA	**Sanae**	**15.68**	**153**	*e*P	**Pn**	**01 57 57.4**	**+2.0**
	6.1nm,0.4s						
PLCA	**Paso Flores**	**33.55**	**283**	P	**P**	**02 00 54.2**	**-0.2**
	1.1nm,0.6s,mb3.9,baz=265,slow=5.9,SNR=3.3						
PLCA	**Paso Flores**	**33.55**	**283**	P	**P**	**02 00 54.2**	**-0.2**
MAW	**Mawson**	**37.23**	**141**	LR	LR	02 15 03.7	
	comp=Z,90nm,20.1s,baz=80,slow=33						
VNDA	**Vanda**	**43.69**	**182**	P	**P**	**02 02 23.6**	**+4.5**
	1.4nm,0.6s,mb3.9,baz=188,slow=6.5,SNR=17						
VNDA	**Vanda**	**43.69**	**182**	P	**P**	**02 02 23.6**	**+4.5**
LPAZ	**La Paz**	**52.87**	**305**	P	**P**	**02 03 30.5**	**0.0**
	1.1nm,0.6s,mb4.0,baz=220,slow=9.1,SNR=7.0						
LPAZ	**La Paz**	**52.87**	**305**	*e*P	**P**	**02 03 30.8**	**+0.2**
	1.0nm,0.6s,mb3.9						
LSZ	**Lusaka**	**58.60**	**65**	*e*P	**P**	**02 04 11.5**	**-0.2**
	1.0nm,0.6s,mb4.0						
TORD	**Torodi Ar. Bea**	**75.16**	**27**	P	**P**	**02 05 56.8**	**-0.2**
	2.6nm,0.7s,mb4.3,baz=201,slow=6.4,SNR=37						
TORD	**Torodi Ar. Bea**	**75.16**	**27**	P	**P**	**02 05 56.8**	**-0.2**
ASAR	**Alice Springs**	**95.90**	**161**	P	**P**	**02 07 42.4**	**+0.8**
	0.2nm,0.6s,mb3.7,baz=173,slow=4.4,SNR=2.2						
ASAR	**Alice Springs**	**95.90**	**161**	P	**P**	**02 07 42.4**	**+0.8**
DUG	**Dugway**	**122.16**	**295**	*e*PKPdf	PKPdf	02 13 08.9	+0.2
HWUT	**Hardware Ranch**	**122.69**	**297**	*e*PKPdf	PKPdf	02 13 09.8	+0.1
NVAR	**Mina Array Bea**	**123.39**	**290**	PKP	PKPdf	02 13 12.8	+1.7
	0.6nm,0.6s,baz=124,slow=2.9,SNR=4.1						
NVAR	**Mina Array Bea**	**123.39**	**290**	PKP	PKPdf	02 13 12.8	+1.7
LOHW	**Long Hollow**	**123.83**	**299**	*e*PKPdf	PKPdf	02 13 12.5	+0.7
TPAW	**Teton Pass**	**123.89**	**299**	*e*PKPdf	PKPdf	02 13 13.2	+1.3
MOOW	**Moose Ponds**	**124.00**	**299**	*e*PKPdf	PKPdf	02 13 13.1	+1.0
HLID	**Hailey**	**125.53**	**297**	*e*PKPdf	PKPdf	02 13 16.7	+1.6
WVOR	**Wild Horse Val**	**126.65**	**293**	*e*PKPdf	PKPdf	02 13 16.4	-0.9
ABKAR	**Akbulak array**	**128.20**	**56**	*e*PKPdf	PKPdf	02 13 19.8	-0.2
INK	**Inuvik**	**148.66**	**317**	PKPbc	PKPbc	02 14 00.5	+0.2
	8.8nm,0.7s,baz=359,slow=5.5,SNR=54						
INK	**Inuvik**	**148.66**	**317**	PKPbc	PKPbc	02 14 00.5	+0.2
SONM	**Songino Array**	**149.83**	**90**	PKPbc	PKPbc	02 14 04.1	+0.3
	1.3nm,0.7s,baz=216,slow=4.0,SNR=11						
SONM	**Songino Array**	**149.83**	**90**	PKPbc	PKPbc	02 14 04.1	+0.3
DOT	**Dot Lake**	**151.22**	**306**	*e*PKPbc	PKPbc	02 14 07.2	+0.5
MCK	**McKinley**	**153.31**	**304**	*e*PKPbc	PKPbc	02 14 11.4	0.0
BPAW	**Bear Paw Mtn.**	**154.28**	**305**	*e*PKPbc	PKPbc	02 14 13.3	-0.1

*CSEM **08** 02:58:58.2, 38°18N×26°13W, h2km, ML2.0, After PDA*

PDA 08 02:58:58.2±1.0, 38°18N×26°13W, h2km±5km, MD3.6, ML2.0, Error ellipse: s-maj=8.3km s-min=1.7km az=38.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSET	**Sete Cidades**	**0.48**	**137**	*e*P	Pg	02 59 07.1	-0.3
PSET				*e*S	Sg	02 59 13.4	-0.2
PSET				A		02 59 15.0	
	13nm,0.1s						
PSET	**Sete Cidades**	**0.48**	**137**	*e*P	Pg	02 59 07.1	-0.3
PSET				*e*S	Sg	02 59 13.4	-0.2
PDA	**Ponta Delgada**	**0.57**	**139**	*e*P	Pg	02 59 08.3	-0.8
PDA				*e*S	Sg	02 59 15.7	-0.7
PDA				A		02 59 16.8	
	73nm,0.1s						
PDA	**Ponta Delgada**	**0.57**	**139**	*e*P	Pg	02 59 08.3	-0.8
PDA				*e*S	Sg	02 59 15.7	-0.7
GRON	**Grota Negra**	**0.63**	**130**	*e*P	Pg	02 59 10.6	+0.4
GRON				*e*S	Sg	02 59 19.9	+1.6
GRON				A		02 59 23.1	
	7.5nm,0.2s						
BART	**Pico Bartolome**	**0.86**	**117**	*e*P	Pg	02 59 12.2	-2.5
BART				*e*S	Sg	02 59 23.0	-2.8
BART				A		02 59 23.2	
	14nm,0.2s						
BART	**Pico Bartolome**	**0.86**	**117**	*e*P	Pg	02 59 12.2	-2.5
BART				*e*S	Sg	02 59 23.0	-2.8
ADH	**Angra Heroismo**	**0.99**	**299**	*e*P	Pg	02 59 13.8	-3.3
ADH				*e*S	Sg	02 59 26.2	-3.8
ADH				A		02 59 28.3	
	26nm,0.3s						
ADH	**Angra Heroismo**	**0.99**	**299**	*e*P	Pg	02 59 13.8	-3.3
ADH				*e*S	Sg	02 59 26.2	-3.8
PSMA	**Santa Maria**	**1.42**	**146**	*e*P	Pn	02 59 20.3	-4.8
PSMA				*e*S	Sg	02 59 36.5	-7.4
PSMA				A		02 59 38.2	
	18nm,0.1s						
PSMN	**Pico do Norte,**	**1.45**	**144**	*e*P	Pn	02 59 20.4	-5.0
PSMN				*e*S	Sg	02 59 37.5	-7.1
PSMN	**Pico do Norte,**	**1.45**	**144**	*e*P	Pn	02 59 20.4	-5.0
PSMN				*e*S	Sg	02 59 37.5	-7.1
ROSA	**Rosais**	**1.74**	**289**	*e*P	Pn	02 59 24.9	-4.6
ROSA				*e*S	Sn	02 59 45.0	-7.2
ROSA	**Rosais**	**1.74**	**289**	*e*P	Pn	02 59 24.9	-4.6
ROSA				*e*S	Sn	02 59 45.0	-7.2
PICO	**Pico**	**1.83**	**281**	*e*P	Pn	02 59 26.1	-4.6
PICO				*e*S	Sn	02 59 46.3	-8.2
PICO	**Pico**	**1.83**	**281**	*e*P	Pn	02 59 26.1	-4.6
PICO				*e*S	Sn	02 59 46.3	-8.2
PCAN	**Candelaria**	**1.87**	**280**	*e*S	Sn	02 59 47.6	-7.9
PCAN				A		02 59 51.2	
	25nm,0.3s						
PCAN	**Candelaria**	**1.87**	**280**	*e*S	Sn	02 59 47.6	-7.9

*ISCJB **08** 03:10:42.9±0.8, 43.29°N±0.03′×40.84°E±0.02′, h1km±7km, Error ellipse: s-maj=5.3km s-min=2.9km az=170.9*
*CSEM **08** 03:10:44.2±0.2, 43.26°N×40.84°E, h2km, mb4.1, Error ellipse: s-maj=4.6km s-min=3.3km az=160.0*
*MOS **08** 03:10:44.0±2.1, 43.49°N×40.90°E, h15km, mb4.1/1, Error ellipse: s-maj=16.9km s-min=7.3km az=2.2*
*DDA **08** 03:10:48.6, 42.82°N×41.14°E, h14km±3km, Md3.3*

ISC 08 03:10:43.5±0.7, 43.32°N±0.03′×40.86°E±0.02′, h1km±6km, n74, σ1s20/119, 2C-4D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DOMR	**Dombai**	**0.56**	**93**	*i* PG	**Pg**	**03 10 50.9**	**-3.3**
DOMR	**Dombai**	**0.56**	**93**	*i* Pg	**Pg**	**03 10 50.9**	**-3.3**
SOC	**Sochi**	**0.87**	**288**	*e*PG	**Pg**	**03 10 59.9**	**-0.3**
SOC				*e*		03 11 13.1	
SOC				pmax	pmax		
	comp=Z,66nm,0.7s						
SOC				smax			
	comp=N,85nm,0.5s						
SOC				smax			
	comp=E,129nm,0.6s						
SOC	**Sochi**	**0.87**	**288**	*e*Pg	**Pg**	**03 10 59.9**	**-0.3**
	comp=E,66nm,0.7s						
SOC				*e*Sg	**Sg**	**03 11 13.1**	**+1.5**
	comp=E,85nm,0.5s						
KIV	**Kislovodsk**	**1.47**	**64**	*c* iPG	**Pn**	**03 11 06.9**	**-4.2**
KIV				*i* S	**Sb**	**03 11 25.1**	**-5.6**
KIV				pmax	pmax		
	comp=Z,84nm,0.5s						
KIV				smax			
	comp=N,228nm,0.6s						
BEYR	**Belyy Ugol+**	**1.58**	**63**	*d* iPG	**Pn**	**03 11 08.8**	**-3.8**
KUBR	**Kubataba**	**1.91**	**75**	‖ *e*PN	**Pn**	**03 11 15.9**	**-1.3**
BCA	**Borcka**	**1.96**	**163**	*e*PN	**Pn**	**03 11 17.2**	**-0.6**
BCA				*e*SN	**Sn**	**03 11 41.0**	**-2.0**
BCA	**Borcka**	**1.96**	**163**	*e*Pn	**Pn**	**03 11 17.2**	**-0.6**
BCA				*e*Sn	**Sn**	**03 11 41.0**	**-2.0**
DIGR	**Digorskoe uzhe**	**2.04**	**101**	‖ *i*PN	**Pn**	**03 11 19.9**	**+1.0**
DIGR				*e*S	**Sg**	**03 11 49.5**	**+0.6**
DIGR	**Digorskoe uzhe**	**2.04**	**101**	*i* Pn	**Pn**	**03 11 19.9**	**+1.0**
DIGR				*e*Sg	**Sg**	**03 11 49.5**	**+0.6**
ONI	**Oni**	**2.04**	**110**	P	**Pn**	**03 11 18.9**	**0.0**
ONI				S	**Sb**	**03 11 47.2**	**+0.1**
DBOC	**Borcka**	**2.06**	**163**	*i* P	**Pn**	**03 11 17.7**	**-1.6**
DBOC				*i* S	**Sn**	**03 11 42.5**	**-3.1**
DBOC	**Borcka**	**2.06**	**163**	*i* P	**Pn**	**03 11 17.7**	**-1.6**
DBOC				*i* S	**Sn**	**03 11 42.5**	**-3.1**
PZAR	**Pazar-Rize**	**2.15**	**179**	*e*PN	**Pn**	**03 11 19.2**	**-1.2**
PZAR	**Pazar-Rize**	**2.15**	**179**	*e*Pn	**Pn**	**03 11 19.2**	**-1.2**
LSNR	**Lesken**	**2.16**	**90**	‖ *i*PN	**Pn**	**03 11 21.5**	**+1.0**
LSNR				*i* S	**Sg**	**03 11 52.4**	**-0.4**
LSNR	**Lesken**	**2.16**	**90**	*i* Pn	**Pn**	**03 11 21.5**	**+1.0**
LSNR				*i* Sb	**Sg**	**03 11 52.4**	**-0.4**
ARTV	**Artvin**	**2.28**	**159**	*i* P	**Pn**	**03 11 19.3**	**-2.9**
ARTV				*i* S	**Sn**	**03 11 45.1**	**-5.8**
ARTV	**Artvin**	**2.28**	**159**	*i* P	**Pn**	**03 11 19.3**	**-2.9**
ARTV				*i* S	**Sn**	**03 11 45.1**	**-5.8**
ZEI	**Tsey**	**2.29**	**103**	*e*PN	**Pn**	**03 11 23.3**	**+0.9**
ZEI				*e*S	**Sg**	**03 11 55.8**	**-1.4**
ZEI	**Tsey**	**2.29**	**103**	*e*Pn	**Pn**	**03 11 23.3**	**+0.9**
GOF	**Gofitskoye**	**2.33**	**41**	*e*PN	**Pb**	**03 11 23.3**	**-3.0**
GOF				*i* S	**Sb**	**03 11 52.9**	**-2.7**
GOF				pmax	pmax		
	comp=Z,50nm,0.6s						
GOF				smax			
	comp=N,230nm,0.7s						
GOF				smax			
	comp=E,220nm,0.6s						
GOF	**Gofitskoye**	**2.33**	**41**	*e*Pn	**Pb**	**03 11 23.3**	**-3.0**
	comp=E,50nm,0.6s						
GOF				*i* Sn	**Sb**	**03 11 52.9**	**-2.7**
	comp=E,230nm,0.7s						
KORR	**Kora**	**2.36**	**95**	↑ iPN	**Pn**	**03 11 24.1**	**+0.8**
KORR				*e*S	**Sg**	**03 11 57.4**	**-1.8**
KORR	**Kora**	**2.36**	**95**	*i* Pn	**Pn**	**03 11 24.1**	**+0.8**
DAGI	**Agillar**	**2.38**	**160**	*i* P	**Pn**	**03 11 25.1**	**+1.5**
DAGI				*i* S	**Sn**	**03 11 47.7**	**-5.6**
DBAD	**Bademkaya**	**2.39**	**165**	*i* P	**Pn**	**03 11 24.0**	**+0.4**
DBAD				*i* S	**Sn**	**03 11 47.9**	**-5.6**
DBAD	**Bademkaya**	**2.39**	**165**	*i* P	**Pn**	**03 11 24.0**	**+0.3**
DBAD				*i* S	**Sn**	**03 11 47.9**	**-5.6**
KTUT	**Trabzon**	**2.47**	**200**	*e*PN	**Pn**	**03 11 24.7**	**-0.1**
KTUT	**Trabzon**	**2.47**	**200**	*e*Pn	**Pn**	**03 11 24.7**	**-0.2**
ARNR	**Ardon**	**2.50**	**92**	*e*PN	**Pn**	**03 11 26.6**	**+1.4**
ARNR				*i* S	**Sb**	**03 12 01.1**	**+0.7**
ARNR	**Ardon**	**2.50**	**92**	*e*Pn	**Pn**	**03 11 26.6**	**+1.4**
KMSR	**Komsomolskaya**	**2.50**	**88**	*e*PN	**Pn**	**03 11 26.3**	**+1.0**
KMSR				*e*S	**Sb**	**03 12 01.1**	**+0.6**
KMSR	**Komsomolskaya**	**2.50**	**88**	*e*Pn	**Pn**	**03 11 26.3**	**+1.0**
MACK	**Trabzon**	**2.51**	**199**	*e*P	**Pn**	**03 11 25.6**	**+0.1**
MACK				*e*S	**Sn**	**03 11 55.6**	**-1.1**
MACK	**Trabzon**	**2.51**	**199**	*e*P	**Pn**	**03 11 25.6**	**+0.2**
MACK				*e*S	**Sn**	**03 11 55.6**	**-1.1**
DDEM	**Demirkent**	**2.52**	**164**	*i* P	**Pn**	**03 11 24.8**	**-0.7**
DDEM				*i* S	**Sn**	**03 11 52.3**	**-4.5**
DDEM	**Demirkent**	**2.52**	**164**	*i* P	**Pn**	**03 11 24.8**	**-0.7**
DDEM				*i* S	**Sn**	**03 11 52.3**	**-4.5**
PRTR	**Priterechnaya**	**2.52**	**79**	*e*PN	**Pn**	**03 11 26.7**	**+1.1**
PRTR				*i* S	**Sb**	**03 12 01.7**	**+0.6**
PRTR	**Priterechnaya**	**2.52**	**79**	*e*Pn	**Pn**	**03 11 26.7**	**+1.1**
BTKR	**Batakoyurt**	**2.69**	**88**	*e*PN	**Pn**	**03 11 29.0**	**+1.2**
BTKR				*e*S	**Sb**	**03 12 05.7**	**0.0**
BTKR	**Batakoyurt**	**2.69**	**88**	*e*Pn	**Pn**	**03 11 29.0**	**+1.2**
AKH	**Akhalkalaki**	**2.73**	**134**	P	**Pn**	**03 11 29.1**	**+0.7**
AKH				S	**Sb**	**03 12 09.3**	**+2.2**
GOR	**Gori**	**2.74**	**118**	P	**Pn**	**03 11 28.8**	**+0.3**
GOR				S	**Sb**	**03 12 07.1**	**-0.3**
VLKR	**Vladikavkaz**	**2.80**	**94**	*e*PN	**Pn**	**03 11 30.5**	**+1.1**
VLKR				*e*S	**Sb**	**03 12 08.4**	**-0.8**
VLKR	**Vladikavkaz**	**2.80**	**94**	*e*Pn	**Pn**	**03 11 30.5**	**+1.1**
TRKR	**Terskaya**	**2.84**	**81**	*e*PN	**Pn**	**03 11 31.2**	**+1.2**
TRKR				*e*S	**Sb**	**03 12 09.2**	**-1.1**
TRKR	**Terskaya**	**2.84**	**81**	*e*Pn	**Pn**	**03 11 31.2**	**+1.2**
ANN	**Anapa**	**2.88**	**302**	*e*PN	**Pn**	**03 11 31.2**	**+0.7**
ANN				*e*S	**Sb**	**03 12 08.9**	**-2.4**
ANN				pmax	pmax		
	comp=Z,101nm,1.8s						
ANN	**Anapa**	**2.88**	**302**	*e*Pn	**Pn**	**03 11 31.2**	**+0.7**
	comp=Z,101nm,1.8s						
ANN				*e*Sn	**Sb**	**03 12 08.9**	**-2.4**
ESPY	**Espiye-Giresun**	**2.88**	**214**	*e*PN	**Pn**	**03 11 30.2**	**-0.3**
ESPY				*e*SN	**Sn**	**03 12 04.7**	**-1.1**
ESPY	**Espiye-Giresun**	**2.88**	**214**	*e*Pn	**Pn**	**03 11 30.2**	**-0.3**
ESPY				*e*Sn	**Sn**	**03 12 04.7**	**-1.1**
BAYT	**Ayd¨--ntepe-Bay**	**2.98**	**191**	*e*PN	**Pn**	**03 11 31.7**	**-0.1**
BAYT	**Ayd¨--ntepe-Bay**	**2.98**	**191**	*e*Pn	**Pn**	**03 11 31.7**	**-0.1**
GUMT	**Gumushane**	**3.04**	**200**	*e*PN	**Pn**	**03 11 33.2**	**+0.5**
GUMT	**Gumushane**	**3.04**	**200**	*e*Pn	**Pn**	**03 11 33.2**	**+0.5**
TBLG	**Delisi**	**3.28**	**118**	*e*PN	**Pn**	**03 11 37.9**	**+2.0**
TBLG				*e*S	**Sb**	**03 12 22.8**	**0.0**
TBLG	**Delisi**	**3.28**	**118**	P	**Pn**	**03 11 38.0**	**+2.0**
TBLG				S	**Sb**	**03 12 22.9**	**+0.1**
TBLG	**Delisi**	**3.28**	**118**	*e*Pn	**Pn**	**03 11 37.9**	**+2.0**
KOPT	**Kop Dagi**	**3.31**	**185**	*i* P	**Pn**	**03 11 38.5**	**+2.1**
KOPT				*i* S	**Sn**	**03 12 19.7**	**+3.3**
KOPT	**Kop Dagi**	**3.31**	**185**	*i* P	**Pn**	**03 11 38.5**	**+2.0**
KOPT				*i* S	**Sn**	**03 12 19.7**	**+3.3**
MTA	**Mtatsminda**	**3.33**	**118**	P	**Pn**	**03 11 37.0**	**+0.4**
MTA				S	**Sb**	**03 12 24.1**	**-0.2**
DIGO	**Kars**	**3.46**	**146**	*e*P	**Pn**	**03 11 36.3**	**-2.2**
DIGO				*e*S	**Sn**	**03 12 19.5**	**-0.5**
DIGO	**Kars**	**3.46**	**146**	*e*P	**Pn**	**03 11 36.3**	**-2.1**
DIGO				*e*S	**Sn**	**03 12 19.5**	**-0.5**
DGRG	**David-gareji**	**3.83**	**118**	P	**Pb**	**03 11 50.9**	**-0.9**
DGRG				S	**Sb**	**03 12 39.4**	**+0.8**
RSDY	**Resadiye-TOKAT**	**3.94**	**223**	*e*PN	**Pn**	**03 11 45.2**	**+0.2**
RSDY	**Resadiye-TOKAT**	**3.94**	**223**	*e*Pn	**Pn**	**03 11 45.2**	**+0.2**
ERBA	**Erbaa**	**4.04**	**231**	*i* P	**Pn**	**03 11 46.1**	**-0.3**
ERBA				*i* S	**Sn**	**03 12 28.1**	**-6.3**
ERBA	**Erbaa**	**4.04**	**231**	*i* P	**Pn**	**03 11 46.2**	**-0.2**
KVT	**Kavak**	**4.22**	**240**	*e*PN	**Pn**	**03 11 49.8**	**+0.9**
KVT	**Kavak**	**4.22**	**240**	*e*Pn	**Pn**	**03 11 49.8**	**+0.9**
PTK	**Pertek**	**4.56**	**195**	*e*PN	**Pn**	**03 11 55.0**	**+1.4**
PTK	**Pertek**	**4.56**	**195**	*e*Pn	**Pn**	**03 11 55.0**	**+1.4**

IDC 08 03:37:12.6±1.7, 4.15N×127.73E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.5/21, mbtmp3.5/5, Error ellipse: s-maj=174.0km s-min=21.7km az=71.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.81**	**165**	P	P	03 42 36.1	-0.3
	0.4nm,0.3s,baz=344,slow=11,SNR=1.6						
ASAR	**Alice Springs**	**28.30**	**168**	P	P	03 43 08.4	+0.4
	0.3nm,0.7s,baz=356,slow=8.0,SNR=4.3						
SONM	**Songino Array**	**47.23**	**340**	P	P	03 45 47.1	-0.1
	0.4nm,0.4s,baz=157,slow=7.8,SNR=5.9						
MKAR	**Makanchi Array**	**57.79**	**325**	P	P	03 47 05.8	+0.2
	0.5nm,0.6s,baz=117,slow=7.7,SNR=7.5						
ZALV	**Zalesovo Beam**	**60.67**	**333**	P	P	03 47 25.6	+0.1
	0.5nm,0.5s,baz=106,slow=9.1,SNR=3.6						

IDC 08 03:37:54.2±1.6, 22.17S×179.89W, h0km, mb4.2/5, mb1 4.4/6, mb1mx4.0/19, mbtmp4.2/6, ML3.9/1, Error ellipse: s-maj=58.5km s-min=30.1km az=160.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.24**	**188**	Pn	Pn	03 41 44.4	+0.7
	0.4nm,0.3s,baz=11,slow=13,SNR=3.2						
STKA	**Stephens Creek**	**35.49**	**246**	P	P	03 44 51.3	-1.4
	1.0nm,0.4s,baz=90,slow=6.1,SNR=4.8						
ASAR	**Alice Springs**	**42.44**	**259**	P	P	03 45 50.9	-0.2
	1.4nm,0.5s,baz=94,slow=6.9,SNR=25						
WRA	**Warramunga Arr**	**42.65**	**264**	P	P	03 45 53.7	+0.9
	3.1nm,0.4s,baz=97,slow=8.4,SNR=18						
FITZ	**Fitzroy Crossi**	**51.08**	**264**	P	P	03 46 58.7	-0.1
	4.0nm,0.7s,baz=110,slow=5.6,SNR=12						
TXAR	**Lajitas Array**	**89.43**	**58**	P	P	03 50 53.4	+0.1
	0.5nm,0.8s,baz=217,slow=6.0,SNR=6.9						

*ISCJB **08** 03:42:13.9±0.6, 43.37°N±0.04′×45.26°E±0.04′, h22km±6km, Error ellipse: s-maj=6.5km s-min=4.8km az=15.9*
*CSEM **08** 03:42:13.0, 43.34°N×45.18°E, h14km, mb4.0, After OBN*
*MOS **08** 03:42:13.0±0.4, 43.34°N×45.18°E, h14km, mb4.0/1, Error ellipse: s-maj=13.1km s-min=8.4km az=179.9*

ISC 08 03:42:13.0±0.6, 43.39°N±0.03′×45.29°E±0.03′, h20km±4km, n33, σ1s01/63, 1C-4D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**0.47**	**228**	*e*PG	**Pg**	**03 42 22.2**	**-0.5**
SNJR				*e*S	**Sg**	**03 42 29.9**	**+0.8**
SNJR	**Sundja**	**0.47**	**228**	*e*Pg	**Pg**	**03 42 22.2**	**-0.5**
SNJR				*e*Sg	**Sg**	**03 42 29.9**	**+0.8**
TRKR	**Terskaya**	**0.53**	**310**	‖ *i*PG	**Pg**	**03 42 23.8**	**+0.2**
TRKR				*i* S	**Sg**	**03 42 32.8**	**+2.1**
TRKR	**Terskaya**	**0.53**	**310**	*i* Pg	**Pg**	**03 42 23.8**	**+0.2**
TRKR				*i* Sg	**Sg**	**03 42 32.8**	**+2.1**
BTKR	**Batakoyurt**	**0.54**	**269**	*e*PG	**Pg**	**03 42

ASAR	**Alice Springs**	**45.81**	**164**	P	**P**	**03 50 51.0**	**+1.2**
	0.8nm,0.7s,mb3.8,baz=352,slow=7.7,SNR=11						
ASAR	**Alice Springs**	**45.81**	**164**	P	**P**	**03 50 51.0**	**+1.2**
STKA	**Stephens Creek**	**55.77**	**160**	P	**P**	**03 52 04.5**	**-0.2**
	1.9nm,0.6s,mb4.3,baz=319,slow=14,SNR=3.7						
STKA	**Stephens Creek**	**55.77**	**160**	P	**P**	**03 52 04.5**	**-0.2**

*ISCJB **08** 03:46:34.2±0.7, 38.30N±0.04×39.37E±0.05, h7km±11km, Error ellipse: s-maj=6.5km s-min=5.9km az=152.3*
*CSEM **08** 03:46:34.1±0.4, 38.32N×39.38E, h10km, MD2.6, Error ellipse: s-maj=9.1km s-min=4.6km az=106.0*
*DDA **08** 03:46:34.4, 38.29N×39.34E, h7km±4km, Md2.9*
*ISK **08** 03:46:34.1, 38.31N×39.36E, h8km, MD2.6*

ISC 08 03:46:35.0±0.7, 38.31N±0.04×39.36E±0.05, h7km±9km, n13, σ0°70/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SVRC	**Sivrice-ELAZID**	**0.08**	**329**	PG	**Pg**	**03 46 36.5**	**-0.5**
SVRC				SG	**Sg**	**03 46 38.3**	**0.0**
SVRC	**Sivrice-ELAZID**	**0.08**	**329**	*i* Pg	**Pg**	**03 46 36.5**	**-0.5**
SVRC				*i* Sg	**Sg**	**03 46 38.3**	**0.0**
ELZG	**Elazig**	**0.35**	**302**	*i* P	**Pg**	**03 46 41.6**	**-0.1**
ELZG				*i* S	**Sg**	**03 46 47.5**	**+1.1**
ELZG	**Elazig**	**0.35**	**302**	*i* P	**Pg**	**03 46 41.6**	**-0.2**
ELZG				*i* S	**Sg**	**03 46 47.5**	**+1.2**
PTK	**Pertek**	**0.58**	**3**	*e*PG	**Pg**	**03 46 45.3**	**-0.8**
PTK				*e*SG	**Sg**	**03 46 54.7**	**+0.9**
PTK	**Pertek**	**0.58**	**3**	*e*Pg	**Pg**	**03 46 45.3**	**-0.9**
PTK				*e*Sg	**Sg**	**03 46 54.7**	**+1.0**
MYA	**Malataya**	**0.73**	**271**	*e*PG	**Pg**	**03 46 48.7**	**-0.4**
MYA	**Malataya**	**0.73**	**271**	*e*Pg	**Pg**	**03 46 48.7**	**-0.4**
URFA	**Urfa**	**0.97**	**206**	*e*PG	**Pg**	**03 46 53.2**	**-0.4**
URFA				*e*SG	**Sg**	**03 47 07.2**	**+1.0**
URFA	**Urfa**	**0.97**	**206**	*e*Pg	**Pg**	**03 46 53.2**	**-0.4**
URFA				*e*Sg	**Sg**	**03 47 07.2**	**+1.1**
AKCD	**Akcadag**	**1.13**	**270**	*i* P	**Pg**	**03 46 55.3**	**-1.4**
AKCD				*i* S	**Sg**	**03 47 11.5**	**+0.2**
AKCD	**Akcadag**	**1.13**	**270**	*i* P	**Pg**	**03 46 55.3**	**-1.4**
AKCD				*i* S	**Sg**	**03 47 11.5**	**+0.2**
BEST	**Besiri**	**1.57**	**105**	*e*P	**Pn**	**03 47 03.3**	**+0.1**
BEST				*i* S	**Sg**	**03 47 25.6**	**+0.2**

*TIF **08** 03:48:28.2, 43.51N×45.29E, h19km±4km*
*ISCJB **08** 03:48:29.4±0.9, 43.45N±0.03×45.33E±0.05, h8km±4km, Error ellipse: s-maj=6.9km s-min=4.2km az=159.5*
*CSEM **08** 03:48:29.1, 43.43N×45.28E, h13km, mb4.0, After OBN*
*MOS **08** 03:48:29.7±0.6, 43.43N×45.28E, h13km, mb4.0/1, Error ellipse: s-maj=11.7km s-min=8.6km az=161.0*

ISC 08 03:48:30.5±1.0, 43.46N±0.03×45.32E±0.06, h13km±4km, n35, σ0°94/68, 6C-3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRKR	**Terskaya**	**0.50**	**302**	⇓*i*PG	**Pg**	**03 48 40.7**	**+0.4**
TRKR				*i* S	**Sg**	**03 48 48.6**	**+1.6**
TRKR	**Terskaya**	**0.50**	**302**	*i* Pg	**Pg**	**03 48 40.7**	**+0.4**
TRKR				*i* Sg	**Sg**	**03 48 48.6**	**+1.6**
SNJR	**Sundja**	**0.53**	**224**	*e*PG	**Pg**	**03 48 40.1**	**-0.8**
SNJR				*i* S	**Sg**	**03 48 47.9**	**-0.1**
SNJR	**Sundja**	**0.53**	**224**	*e*Pg	**Pg**	**03 48 40.1**	**-0.8**
SNJR				*i* Sg	**Sg**	**03 48 47.9**	**-0.1**
BTKR	**Batakoyurt**	**0.57**	**262**	⇑*i*PG	**Pg**	**03 48 41.0**	**-0.6**
BTKR				*i* S	**Sg**	**03 48 49.7**	**+0.5**
BTKR	**Batakoyurt**	**0.57**	**262**	*i* Pg	**Pg**	**03 48 41.0**	**-0.6**
BTKR				*i* Sg	**Sg**	**03 48 49.7**	**+0.5**
VLKR	**Vladikavkaz**	**0.62**	**229**	⇑*i*PG	**Pg**	**03 48 41.7**	**-0.8**
VLKR				*i* S	**Sg**	**03 48 50.7**	**0.0**
VLKR	**Vladikavkaz**	**0.62**	**229**	*i* Pg	**Pg**	**03 48 41.7**	**-0.8**
VLKR				*i* Sg	**Sg**	**03 48 50.7**	**0.0**
KMSR	**Komsomolskaya**	**0.75**	**264**	*e*PG	**Pg**	**03 48 44.5**	**-0.5**
KMSR				*i* S	**Sg**	**03 48 55.4**	**+0.5**
KMSR	**Komsomolskaya**	**0.75**	**264**	*e*Pg	**Pg**	**03 48 44.5**	**-0.5**
KMSR				*i* Sg	**Sg**	**03 48 55.4**	**+0.5**
ARNR	**Ardon**	**0.80**	**251**	⇓*i*PG	**Pg**	**03 48 45.2**	**-0.8**
ARNR				*i* S	**Sg**	**03 48 56.8**	**+0.3**
ARNR	**Ardon**	**0.80**	**251**	*i* Pg	**Pg**	**03 48 45.2**	**-0.8**
ARNR				*i* Sg	**Sg**	**03 48 56.8**	**+0.3**
PRTR	**Priterechnaya**	**0.81**	**292**	*e*PG	**Pg**	**03 48 45.8**	**-0.3**
PRTR				*i* S	**Sg**	**03 48 57.9**	**+1.2**
PRTR	**Priterechnaya**	**0.81**	**292**	*e*Pg	**Pg**	**03 48 45.8**	**-0.3**
PRTR				*i* Sg	**Sg**	**03 48 57.9**	**+1.2**
KORR	**Kora**	**0.98**	**248**	⇑*i*PG	**Pg**	**03 48 48.3**	**-1.1**
KORR				*i* S	**Sg**	**03 49 02.5**	**+0.2**
KORR	**Kora**	**0.98**	**248**	*i* Pg	**Pg**	**03 48 48.3**	**-1.1**
KORR				*i* Sg	**Sg**	**03 49 02.5**	**+0.2**
LSNR	**Lesken**	**1.11**	**261**	⇓*i*PG	**Pg**	**03 48 50.8**	**-1.0**
LSNR				*i* S	**Sg**	**03 49 06.4**	**+0.1**
LSNR	**Lesken**	**1.11**	**261**	*i* Pg	**Pg**	**03 48 50.8**	**-1.0**
LSNR				*i* Sg	**Sg**	**03 49 06.4**	**+0.1**
ZEI	**Tsey**	**1.24**	**237**	⇑*i*PG	**Pn**	**03 48 51.4**	**-2.2**
ZEI				*i* S	**Sn**	**03 49 08.0**	**-2.2**
ZEI	**Tsey**	**1.24**	**237**	*i* Pg	**Pn**	**03 48 51.4**	**-2.2**
ZEI				*i* Sg	**Sn**	**03 49 08.0**	**-2.2**
DIGR	**Digorskoe uzhe**	**1.39**	**247**	⇑*i*PG	**Pn**	**03 48 54.0**	**-1.5**
DIGR				*i* S	**Sn**	**03 49 12.8**	**-0.9**
DIGR	**Digorskoe uzhe**	**1.39**	**247**	*i* Pg	**Pn**	**03 48 54.0**	**-1.5**
DIGR				*i* Sg	**Sn**	**03 49 12.8**	**-0.9**
KUBR	**Kubataba**	**1.43**	**285**	⇑*e*PG	**Pn**	**03 48 55.5**	**-0.6**
KUBR				*e*S	**Sg**	**03 49 16.3**	**-0.1**
KUBR	**Kubataba**	**1.43**	**285**	*e*Pg	**Pn**	**03 48 55.5**	**-0.6**
KUBR				*e*Sg	**Sg**	**03 49 16.3**	**-0.1**
ONI	**Oni**	**1.62**	**238**	P	**Pn**	**03 48 58.0**	**-0.7**
ONI				S	**Sn**	**03 49 20.0**	**+0.6**
GOR	**Gori**	**1.72**	**212**	P	**Pn**	**03 49 00.0**	**-0.1**
GOR				S	**Sn**	**03 49 23.1**	**+1.2**
TBLG	**Delisi**	**1.77**	**194**	*e*PN	**Pn**	**03 49 01.3**	**+0.4**
TBLG				*e*S	**Sg**	**03 49 28.0**	**+0.5**
TBLG	**Delisi**	**1.77**	**194**	P	**Pn**	**03 49 01.4**	**+0.5**
TBLG				S	**Sn**	**03 49 26.1**	**+2.8**
TBLG	**Delisi**	**1.77**	**194**	*e*Pn	**Pn**	**03 49 01.3**	**+0.4**
TBLG				*e*Sg	**Sg**	**03 49 28.0**	**+0.5**
MTA	**Mtatsminda**	**1.80**	**193**	P	**Pn**	**03 49 01.8**	**+0.6**
MTA				S	**Sn**	**03 49 25.6**	**+1.6**
KIV	**Kislovodsk**	**1.97**	**286**	*e*PN	**Pn**	**03 49 04.1**	**+0.5**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KIV	**Kislovodsk**	**1.97**	**286**	*e*Pn	**Pn**	**03 49 04.1**	**+0.5**
	comp=Z,4.0nm,0.6s						
DGRG	**David-gareji**	**2.00**	**179**	P	**Pn**	**03 49 04.4**	**+0.4**
DGRG				S	**Sg**	**03 49 35.1**	**+0.3**
GOF	**Gofitskoye**	**2.29**	**315**	*e*PN	**Pn**	**03 49 07.7**	**-0.3**
GOF				*e*S	**Sg**	**03 49 45.4**	**+1.2**
GOF				pmax	pmax		
	comp=Z,20nm,0.6s						
GOF				smax			
	comp=N,60nm,0.7s						
GOF				smax			
	comp=E,90nm,0.9s						
GOF	**Gofitskoye**	**2.29**	**315**	*e*Pn	**Pn**	**03 49 07.7**	**-0.3**
	comp=E,20nm,0.6s						
GOF				*e*Sb	**Sg**	**03 49 45.4**	**+1.2**
	comp=E,60nm,0.7s						

*IDC **08** 03:53:43.1±2.5, 40.29N×51.76E, h0km, mb3.6/6, mb1 3.9/10, mb1mx3.7/29, mbtmp3.8/10, ML4.2/3, MS2.6/2, Ms1 2.6/2, ms1mx2.2/40, Error ellipse: s-maj=44.0km s-min=19.3km az=175.0*
*CSEM **08** 03:53:46.5±0.5, 40.65N×51.86E, h10km, mb3.8, Error ellipse: s-maj=16.0km s-min=7.2km az=7.0*
*NEIC **08** 03:53:49.6±4.6, 40.73N×51.85E, h28km±34km, mb3.9/3, Error ellipse: s-maj=19.3km s-min=6.9km az=194.0*
*ISCJB **08** 03:53:52.0±1.1, 41.24N±0.07×51.84E±0.05, h45km±15km, mb3.4/5, Error ellipse: s-maj=11.4km s-min=5.1km az=164.9*
*NNC **08** 03:53:59.9±3.3, 41.38N×53.04E, h0km, mb3.8, Error ellipse: s-maj=28.8km s-min=22.8km az=80.0*

ISC 08 03:53:53.1±0.9, 41.07N±0.07×51.87E±0.04, h43km±12km, n61, σ1°916/74, mb3.4/5, 5C-3D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DGRG	**David-gareji**	**4.91**	**277**	P	**Pn**	**03 55 04.1**	**-0.2**
DGRG				S	**Sn**	**03 56 00.4**	**+0.4**
MTA	**Mtatsminda**	**5.36**	**279**	P	**Pn**	**03 56 10.4**	**-0.6**
TBLG	**Delisi**	**5.41**	**279**	P	**Sn**	**03 56 11.1**	**-0.9**
AB31	**Akbulak array**	**9.97**	**32**	⇑Pn	**Pn**	**03 56 15.2**	**+1.6**
	0.8nm,0.2s,baz=210,slow=13,SNR=32						
AB31				⇑Sn	**Sn**	**03 58 01.9**	**-2.2**
	12nm,0.5s,baz=207,slow=24,SNR=14						
AB31	**Akbulak array**	**9.97**	**32**	Pn	**Pn**	**03 56 15.2**	**+1.6**
	0.8nm,0.2s,SNR=32						
AB31				Sn	**Sn**	**03 58 01.9**	**-2.1**
	12nm,0.5s,SNR=14						
ABKAR	**Akbulak array**	**9.97**	**32**	*e*Pn	**Pn**	**03 56 14.1**	**+0.4**
	2.0nm,0.4s						
ABKAR				*e*Sn	**Sn**	**03 58 02.0**	**-2.0**
ABKAR	**Akbulak array**	**9.97**	**32**	*e*Pn	**Pn**	**03 56 14.1**	**+0.5**
	2.0nm,0.4s						
ABKAR				*e*Sn	**Sn**	**03 58 02.0**	**-2.0**
AKTK	**Aktyubinsk**	**10.30**	**23**	Pn	**Pn**	**03 56 20.2**	**+2.0**
AKTK				LR	LR	04 01 37.1	
AKTK	**Aktyubinsk**	**10.30**	**23**	Pn	**Pn**	**03 56 20.2**	**+2.1**
AKTO	**Aktyubinsk**	**10.30**	**23**	⇓Pn	**Pn**	**03 56 20.2**	**+2.0**
	0.6nm,0.3s						
AKTO				⇑Sn	**Sn**	**03 58 11.5**	**-0.7**
	4.5nm,0.5s						
AKTO	**Aktyubinsk**	**10.30**	**23**	Pn	**Pn**	**03 56 20.2**	**+2.0**
	1.7nm,0.3s,baz=203,slow=10,SNR=23						
AKTO				LR	LR	04 01 37.2	
	comp=Z,41nm,18.1s,baz=221,slow=43						
AKTO	**Aktyubinsk**	**10.30**	**23**	Pn	**Pn**	**03 56 20.2**	**+2.1**
	0.6nm,0.3s						
KK31	**Karatay Array**	**13.99**	**75**	P	**Pn**	**03 57 08.9**	**+0.3**
	0.8nm,0.6s,baz=265,slow=11,SNR=5.8						
KK31				S	**Sn**	**03 59 32.7**	**-10**
	0.8nm,0.5s,baz=267,slow=24,SNR=6.1						
KK31	**Karatay Array**	**13.99**	**75**	P	**Pn**	**03 57 08.9**	**+0.3**
	0.8nm,0.6s,SNR=5.8						
KK31				S	**Sn**	**03 59 32.7**	**-10**
	0.8nm,0.5s,SNR=6.1						
KKAR	**Karatay Array**	**13.99**	**75**	*e*Pn	**Pn**	**03 57 08.1**	**-0.6**
	1.1nm,0.5s						
KKAR				*e*Sn	**Sn**	**03 59 30.5**	**-12**
KKAR	**Karatay Array**	**13.99**	**75**	*e*Pn	**Pn**	**03 57 08.1**	**-0.5**
	1.1nm,0.5s						
KKAR				*e*Sn	**Sn**	**03 59 30.5**	**-12**
ASF	**Jabal al Asfar**	**14.93**	**238**	LR	LR	04 04 08.7	
	comp=Z,17nm,18.4s,baz=272,slow=43						
ARU	**Arti**	**15.98**	**14**	*e*Pn	**Pn**	**03 57 36.8**	**+2.1**
	3.5nm,0.5s						
ARU	**Arti**	**15.98**	**14**	*e*Pn	**Pn**	**03 57 36.8**	**+2.2**
	3.5nm,0.5s						
EKS2	**Erkin-Say**	**16.39**	**77**	*e*Pn	**Pn**	**03 57 39.0**	**-0.9**
	2.0nm,0.6s						
EKS2	**Erkin-Say**	**16.39**	**77**	*e*Pn	**Pn**	**03 57 39.0**	**-1.0**
	2.0nm,0.6s						
ZRNK	**Zerenda**	**16.61**	**39**	⇓P	**Pn**	**03 57 40.4**	**-2.3**
	2.7nm,0.9s						
ZRNK				⇓S	**S**	**04 00 38.6**	**-17**
	9.5nm,1.2s						
AAK	**Ala-Archa**	**16.92**	**77**	P	**Pn**	**03 57 46.4**	**-0.2**
	0.0nm,0.3s,baz=22,slow=23,SNR=2.1						
AAK	**Ala-Archa**	**16.92**	**77**	*e*P	**Pn**	**03 57 45.0**	**-1.6**
	1.6nm,0.8s						
AAK	**Ala-Archa**	**16.92**	**77**	*e*P	**Pn**	**03 57 45.0**	**-1.6**
	1.6nm,0.8s						
BRVK	**Borovoye**	**17.29**	**40**	*e*P	**Pn**	**03 57 51.7**	**+0.6**
	2.2nm,0.4s						
BRVK				*e*Sn	**Sn**	**04 00 56.1**	**-6.3**
BRVK	**Borovoye**	**17.29**	**40**	*e*P	**Pn**	**03 57 51.7**	**+0.6**
	2.2nm,0.4s						
BVA0	**Borovoye Array**	**17.32**	**40**	P	**Pn**	**03 57 52.7**	**+1.2**
	0.5nm,0.8s,baz=224,slow=11,SNR=16						
BVA0				⇑S	**S**	**04 00 59.7**	**-11**
	0.7nm,0.8s,baz=233,slow=26,SNR=6.0						
BVAR	**Borovoye Array**	**17.32**	**40**	P	**Pn**	**03 57 52.8**	**+1.3**
	0.5nm,0.3s,baz=228,slow=10.0,SNR=17						
BVAR	**Borovoye Array**	**17.32**	**40**	P	**Pn**	**03 57 52.8**	**+1.3**
BVAR	**Borovoye Array**	**17.32**	**40**	P	**Pn**	**03 57 52.7**	**+1.2**
	0.5nm,0.8s,SNR=16						
VOSK	**Vostochnaya**	**17.44**	**42**	⇑P	**Pn**	**03 57 54.0**	**+1.0**
	1.5nm,0.6s						
VOSK				S	**S**	**04 00 59.5**	**-13**
	1.8nm,0.7s						
VOSK	**Vostochnaya**	**17.44**	**42**	P	**Pn**	**03 57 54.0**	**+1.0**
	1.5nm,0.6s						
TKM2	**Tokmak 2**	**17.72**	**76**	*e*P	**Pn**	**03 57 55.2**	**-1.3**
	3.0nm,0.8s						
TKM2	**Tokmak 2**	**17.72**	**76**	*e*P	**Pn**	**03 57 55.2**	**-1.3**
	3.0nm,0.8s						
AKASG	**Malin Array Be**	**18.41**	**309**	P	**Pn**	**03 58 04.5**	**-0.3**
	1.4nm,0.3s,baz=111,slow=11,SNR=7.5						
AKASG	**Malin Array Be**	**18.41**	**309**	P	**Pn**	**03 58 04.5**	**-0.3**
AKASG	**Malin Array Be**	**18.41**	**309**	P	**Pn**	**03 58 04.5**	**-0.4**
AKBB	**Malin Array Si**	**18.41**	**309**	*e*P	**Pn**	**03 58 04.6**	**-0.3**
AKBB	**Malin Array Si**	**18.41**	**309**	*e*P	**Pn**	**03 58 04.6**	**-0.3**
KIEV	**Kiev**	**18.42**	**309**	*e*P	**Pn**	**03 58 04.7**	**-0.2**
	6.5nm,0.7s						
KIEV	**Kiev**	**18.42**	**309**	*e*P	**Pn**	**03 58 04.7**	**-0.2**
	6.5nm,0.7s						
KURK	**Kurchatov**	**20.86**	**53**	P	**P**	**03 58 31.2**	**0.0**
	2.3nm,0.7s,baz=254,slow=11,SNR=14						
KURK	**Kurchatov**	**20.86**	**53**	*e*P	**P**	**03 58 31.6**	**+0.3**
	4.6nm,0.7s						
KURK	**Kurchatov**	**20.86**	**53**	*e*P	**P**	**03 58 31.5**	**+0.3**
	4.6nm,0.7s						
MK31	**Makanchi Array**	**22.55**	**65**	*e*P	**P**	**03 58 49.3**	**0.0**
MK31	**Makanchi Array**	**22.55**	**65**	*e*P	**P**	**03 58 49.3**	**0.0**
MKAR	**Makanchi Array**	**22.55**	**65**	P	**P**	**03 58 49.6**	**+0.3**
	0.9nm,0.7s,mb3.3,baz=263,slow=8.4,SNR=5.6						
MKAR	**Makanchi Array**	**22.55**	**65**	P	**P**	**03 58 49.6**	**+0.3**
MKAR	**Makanchi Array**	**22.55**	**65**	P	**P**	**03 58 49.6**	**+0.3**
ZALV	**Zalesovo Beam**	**25.45**	**48**	P	**P**	**03 59 16.8**	**+0.1**
	0.6nm,0.3s,mb3.6,baz=262,slow=10,SNR=4.7						
ZALV	**Zalesovo Beam**	**25.45**	**48**	P	**P**	**03 59 16.8**	**+0.1**
ZALV	**Zalesovo Beam**	**25.45**	**48**	P	**P**	**03 59 16.8**	**+0.1**
FINES	**FINESS Array B**	**25.70**	**331**	P	**P**	**03 59 21.0**	**+2.1**
	1.1nm,0.6s,mb3.6,baz=138,slow=11,SNR=9.2						
FINES	**FINESS Array B**	**25.70**	**331**	P	**P**	**03 59 21.0**	**+2.1**
FINES	**FINESS Array B**	**25.70**	**331**	P	**P**	**03 59 21.0**	**+2.1**
GERES	**GERESS Array B**	**27.87**	**299**	P	**P**	**03 59 38.3**	**-0.3**
	0.2nm,0.4s,mb3.1,baz=102,slow=10,SNR=4.7						
GERES	**GERESS Array B**	**27.87**	**299**	P	**P**	**03 59 38.3**	**-0.3**
GERES	**GERESS Array B**	**27.87**	**299**	P	**P**	**03 59 38.3**	**-0.2**
NOA	**NORSAR Array B**	**31.69**	**323**	P	**P**	**04 00 11.2**	**-1.1**
	0.8nm,0.8s,mb3.6,baz=144,slow=16,SNR=3.8						
NOA	**NORSAR Array B**	**31.69**	**323**	P	**P**	**04 00 11.2**	**-1.1**

MAN 08 03:58:19, 12.40N×123.65E, h5km, mb4.0, ML2.7, MS2.4, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMPH	**Masbate**	**0.05**	**213**	⇑*i*P	Pg	03 58 21.6	+1.2
MMPH				*i* S	Sg	03 58 23.1	+1.8
RCP	**Roxas**	**1.22**	**227**	⇑*e*P	Pg	03 58 42.8	+0.3
RCP				*i* S	Sg	03 59 00.4	+2.0
PVCP	**Virac**	**1.28**	**22**	*e*P	Pn	03 58 43.2	-0.4
PVCP				*e*S	Sg	03 58 55.4	-4.8
AUQP	**San Andres**	**1.32**	**314**	*e*P	Pn	03 58 44.0	-0.1
OTRP	**Odiongan**	**1.60**	**269**	*e*P	Pn	03 58 47.7	-0.2
GQP	**Guinayangan**	**1.90**	**322**	⇓*e*P	Pn	03 58 53.0	+1.0

*NIED **08** 03:59:00, 31.20N×130.30E, h185km, Mw3.9 Best double couple: M0 6.81000×10^14 NP1:φs9.00000°, δ62.00000°, λ,85.00000°. NP2:φs199.00000°, δ29.00000°, λ,99.00000°.*
*ISCJB **08** 03:59:50.1±0.5, 31.18N±0.05×130.3E±0.1, h179km±4km, mb3.6/8, Error ellipse: s-maj=15.4km s-min=8.6km az=8.5*
*NEIC **08** 03:59:51.4±0.9, 31.26N×130.36E, h178km±8km, mb3.4/1, Error ellipse: s-maj=21.1km s-min=10.8km az=90.0*
*JMA **08** 03:59:52.8±0.1, 31.24N×130.30E, h165km±2km, M3.6*
*IDC **08** 03:59:53.9±2.7, 31.13N×129.68E, h192km±21km, mb3.4/7, mb1 3.5/9, mb1mx3.3/25, mbtmp3.3/9, Error ellipse: s-maj=59.9km s-min=12.3km az=80.0*

ISC 08 03:59:51.2±0.5, 31.19N±0.05×130.2E±0.1, h174km±4km, n27, σ0°84/33, mb3.6/8, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSU	**Suzuyama**	**0.37**	**30**	P	Pn	**04 00 15.2**	**+0.4**
JTSR	**Tashiro 2**	**0.58**	**92**	P	Pn	**04 00 16.1**	**+0.4**
JTSR				*e*S	**Sn**	**04 00 33.6**	**-0.8**
JSJ	**Shimokoshiki**	**0.66**	**318**	P	Pn	**04 00 16.6**	**+0.5**
JSJ				S	**Sn**	**04 00 35.0**	**-0.2**
JTN	**Tanegashima 3**	**0.83**	**130**	P	Pn	**04 00 17.8**	**+0.7**
JTN				*e*S	**Sn**	**04 00 36.9**	**0.0**
JTZ	**Takazaki**	**1.02**	**45**	P	Pn	**04 00 18.4**	**0.0**
JTZ				S	**Sn**	**04 00 38.5**	**-0.9**
JNU	**Nakatsue**	**2.00**	**16**	*e*Pn	Pn	**04 00 27.9**	**0.0**
JOW	**Kunigami**	**4.67**	**202**	P	Pn	**04 01 01.3**	**+0.5**
	3.6nm,0.3s,baz=94,slow=16,SNR=17						
JOW				S	**Sn**	**04 01 54.0**	**-1.1**
	8.4nm,0.3s,baz=113,slow=27,SNR=12						
JOW	**Kunigami**	**4.67**	**202**	P	Pn	**04 01 01.3**	**+0.6**
JOW				S	**Sn**	**04 01 54.0**	**-1.1**
KSRS	**Korea Array**	**6.54**	**344**	P	Pn	**04 01 27.5**	**+2.3**
	0.4nm,0.3s,baz=172,slow=13,SNR=5.7						
ENH	**Enshi**	**17.87**	**272**	*e*P	Pn	**04 03 49.7**	**+0.6**
	21nm,0.6s						
SONM	**Songino Array**	**24.65**	**319**	P	P	**04 04 55.9**	**+0.3**
	0.4nm,0.4s,mb3.3,baz=147,slow=10,SNR=1.7						
SONM	**Songino Array**	**24.65**	**319**	P	P	**04 04 55.9**	**+0.3**
KURK	**Kurchatov**	**42.61**	**313**	*e*P	P	**04 07 29.2**	**-0.8**
	0.8nm,0.7s,mb3.5						
DDI	**Dehra Dun**	**44.50**	**283**	*ex*	P	**04 07 42.0**	**-3.5**
WRA	**Warramunga Arr**	**50.99**	**175**	P	P	**04 08 35.9**	**+0.6**
	0.8nm,0.5s,mb3.6,baz=354,slow=8.1,SNR=6.7						
WRA	**Warramunga Arr**	**50.99**	**175**	P	P	**04 08 35.9**	**+0.6**
ASAR	**Alice Springs**	**54.65**	**176**	P	P	**04 09 03.2**	**+1.2**
	0.5nm,0.3s,mb3.7,baz=1.2,slow=6.8,SNR=13						
ASAR	**Alice Springs**	**54.65**	**176**	P	P	**04 09 03.2**	**+1.2**
ARCES	**ARCESS Array B**	**66.07**	**338**	P	P	**04 10 18.1**	**-0.8**
	1.9nm,0.8s,mb4.0,baz=55,slow=10,SNR=3.7						
ARCES	**ARCESS Array B**	**66.07**	**338**	P	P	**04 10 18.1**	**-0.8**
FINES	**FINESS Array B**	**69.44**	**330**	P	P	**04 10 39.5**	**-0.7**
	1.7nm,0.4s,mb4.1,baz=67,slow=4.9,SNR=23						
FINES	**FINESS Array B**	**69.44**	**330**	P	P	**04 10 39.5**	**-0.7**
NB2	**NORSAR Subarra**	**75.66**	**334**	P	P	**04 11 15.7**	**-1.1**
	comp=Z,0.3nm,0.5s,mb3.2,baz=52,slow=5.3						
NOA	**NORSAR Array B**	**75.66**	**334**	P	P	**04 11 15.8**	**-1.0**
	comp=Z,1.0nm,0.9s,mb3.5,baz=29,slow=8.0,SNR=2.2						
NOA	**NORSAR Array B**	**75.66**	**334**	P	P	**04 11 15.8**	**-1.0**
GERES	**GERESS Array B**	**82.31**	**323**	P	P	**04 11 53.2**	**-0.1**
	comp=Z,0.3nm,0.5s,mb3.2,baz=44,slow=4.4,SNR=3.8						
GERES	**GERESS Array B**	**82.31**	**323**	P	P	**04 11 53.2**	**-0.1**

*NNC **08** 04:04:23.3±3.0, 38.34N×69.14E, h0km, mb4.5, mpv4.4, Error ellipse: s-maj=28.8km s-min=16.6km az=5.0*
*IDC **08** 04:04:27.0±0.8, 38.29N×69.45E, h0km, mb4.1/15, mb1 4.3/21, mb1mx4.2/31, mbtmp4.1/21, ML3.4/4, MS3.4/15, Ms1 3.4/15, ms1mx3.3/36, Error ellipse: s-maj=15.3km s-min=10.3km az=159.0*
*ISCJB **08** 04:04:28.6±0.2, 38.66N±0.03×69.59E±0.03, h10km, mb4.4/67, MS3.5/18, Error ellipse: s-maj=4.2km s-min=3.1km az=22.2*
*BJI **08** 04:04:30.6, 38.80N×69.54E, h24km, mB4.8/12, mb4.6/15, ML4.3/3, Ms4.1/11, Ms7 3.8/10*
*NEIC **08** 04:04:31.9±2.0, 38.57N×69.56E, h24km±15km, mb4.6/34, Error ellipse: s-maj=7.0km s-min=4.8km az=225.0*
*SZGRF **08** 04:04:31.6, 38.07N×69.67E, h33km, mb4.6, Tajikistan*
*MOS **08** 04:04:31.3±1.0, 38.60N×69.55E, h29km, mb4.6/42, Error ellipse: s-maj=6.9km s-min=4.6km az=122.7*

ISC 08 04:04:30.3±0.2, 38.63N±0.03×69.57E±0.03, h10km, (h35km±7km:pP-P), n308, σ1°922/330, mb4.4/67, MS3.5/18, 11C-33D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**4.10**	**186**	*e*Pn	Pn	**04 05 33.6**	**+0.6**
KBL				*e*Sn	**Sn**	**04 06 16.9**	**-4.1**
KBL	**Kabul**	**4.10**	**186**	*e*PN	Pn	**04 05 33.6**	**+0.6**
KK31	**Karatay Array**	**4.53**	**9**	Pn	Pn	**04 05 40.8**	**+1.9**
	5.2nm,0.3s,baz=204,slow=17,SNR=221						
KK31				⇓Pg	**Pg**	**04 05 53.9**	**-3.1**
	41nm,0.5s,baz=197,slow=17,SNR=19						
KK31				Lg		04 06 56.2

comp=Z,163nm,21.9s,baz=224,slow=39
MKAR Makanchi Array 12.40 45 Pn **Pn 04 07 27.6 +0.8**
MKAR Lg 04 11 12.5
MKAR LR LR 04 12 38.6
MKAR Makanchi Array 12.40 45 P **Pn 04 07 27.6 +0.8**
MKAR MLR MLR
comp=Z,163nm,21.9s
AB31 Akbulak array 12.67 330 Pn **Pn 04 07 28.1 -2.4**
comp=Z,6.0nm,0.5s,baz=151,slow=12,SNR=19.4
AB31 ⇑Sn **Sn 04 09 46.2 -5.3**
comp=Z,15nm,0.6s,baz=149,slow=22,SNR=4.7
AB31 Akbulak array 12.67 330 *e*P **Pn 04 07 28.0 -2.5**
AB31 pmax pmax
comp=Z,6.0nm,0.4s
ABKAR Akbulak array 12.67 330 *e*Pn **Pn 04 07 28.1 -2.4**
ABKAR *e*Sn **Sn 04 09 43.8 -7.8**
KURBB Kurchatov Arra 13.57 25 ⇓Pn **Pn 04 07 41.6 -1.1**
comp=Z,1.1nm,0.8s
KURK Kurchatov 13.68 25 ⇓Pn **Pn 04 07 42.4 -1.8**
comp=Z,6.9nm,1.3s
KURK Kurchatov 13.68 25 Pn **Pn 04 07 42.2 -2.0**
comp=Z,0.1nm,0.3s,baz=215,slow=12,SNR=15.5
KURK LR LR 04 13 42.2
comp=Z,97nm,21.5s,baz=210,slow=40
KURK Kurchatov 13.68 25 *e*Pn **Pn 04 07 43.4 -0.8**
KURK Kurchatov 13.68 25 *i* P **Pn 04 07 44.6 +0.4**
KURK pmax pmax
comp=Z,9.0nm,1.9s
KURK MLR MLR
comp=Z,217nm,15.0s
VOSK Vostochnaya 14.13 4 ⇑Pn **Pn 04 07 46.9 -3.4**
comp=Z,11nm,1.1s
ZRNK Zerenda 14.33 359 ⇑Pn **Pn 04 07 52.0 -1.0**
comp=Z,11nm,1.1s
AKTK Aktyubinsk 14.37 329 Pn **Pn 04 07 52.7 -0.9**
AKTK Sn **Sn 04 10 27.2 -5.7**
AKTK Lg 04 12 10.9
AKTK LR LR 04 13 41.7
AKTO Aktyubinsk 14.37 329 ⇓Pn **Pn 04 07 52.3 -1.3**
comp=Z,1.8nm,0.5s
AKTO ⇑Sn **Sn 04 10 28.4 -4.6**
comp=Z,10nm,1.2s
AKTO Aktyubinsk 14.37 329 Pn **Pn 04 07 52.7 -0.9**
comp=Z,1.3nm,0.3s,baz=149,slow=14,SNR=16
AKTO Sn **Sn 04 10 27.2 -5.8**
comp=Z,0.3nm,0.3s,baz=90,slow=3.4,SNR=5.0
AKTO Lg 04 12 10.9
baz=225,slow=18,SNR=2.4
AKTO LR LR 04 13 41.7
comp=Z,192nm,19.1s,baz=144,slow=38
AKTO Aktyubinsk 14.37 329 P **Pn 04 07 52.7 -0.9**
AKTO 04 10 27.2
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO MLR MLR
comp=Z,192nm,19.1s
BVA0 Borovoye Array 14.41 2 ⇑Pn **Pn 04 07 52.1 -2.0**
comp=Z,0.8nm,0.5s,baz=173,slow=12,SNR=34
BVA0 Borovoye Array 14.41 2 *i* P **Pn 04 07 52.1 -2.0**
BVA0 pmax pmax
comp=Z,1.0nm,0.5s
BVAR Borovoye Array 14.41 2 Pn **Pn 04 07 52.3 -1.9**
comp=Z,0.3nm,0.3s,baz=170,slow=12,SNR=8.9
BVAR Sn **Sn 04 10 35.5 +1.6**
comp=Z,0.1nm,0.3s,baz=188,slow=15,SNR=4.1
BVAR LR LR 04 13 49.1
comp=Z,145nm,18.3s,baz=12,slow=38
BVAR Borovoye Array 14.41 2 Pn **Pn 04 07 52.3 -1.9**
BVAR Sn **Sn 04 10 35.5 +1.6**
BVAR LR LR 04 13 49.1
BVAR Borovoye Array 14.41 2 P **Pn 04 07 52.3 -1.9**
BVAR 04 10 35.5
BVAR MLR MLR
comp=Z,145nm,18.3s
BRVK Borovoye 14.44 2 ⇓Pn **Pn 04 07 55.1 +0.5**
comp=Z,29nm,1.5s
BRVK ⇓Sn **Sn 04 10 35.0 +0.3**
comp=Z,21nm,1.0s
BRVK Borovoye 14.44 2 *e*Pn **Pn 04 07 55.4 +0.8**
BRVK *e*Sn **Sn 04 10 32.8 -1.9**
BRVK Borovoye 14.44 2 *e*P **Pn 04 07 55.4 +0.8**
BRVK *e* 04 10 32.8
WMQ Urumqi 14.59 63 P **Pn 04 08 02.4 +5.8**
WMQ pP pP 04 08 09.9 +3.9
WMQ S **Sn 04 10 43.9 +5.5**
WMQ pmax pmax
comp=Z,19nm,0.8s
WMQ pmax pmax
comp=Z,15nm,4.0s
WMQ smax
comp=N,3.0nm,0.7s
WMQ smax
comp=E,7.0nm,0.6s
WMQ LR LR
comp=N,550nm,12.4s
WMQ LR LR
comp=E,270nm,8.4s
WMQ LR LR
comp=Z,160nm,18.0s
GKN Gorkha 16.44 126 *e*P **Pn 04 08 21.8 +0.7**
GKN Gorkha 16.44 126 *e*P **Pn 04 08 21.8 +0.7**
KKN Kakani 17.00 125 *e*P **Pn 04 08 28.9 +0.8**
KKN Kakani 17.00 125 *e*P **Pn 04 08 28.9 +0.8**
KKN Kakani 17.00 125 *e*P **Pn 04 08 28.9 +0.8**
DMN Daman 17.01 126 *e*P **Pn 04 08 28.1 -0.2**
comp=Z,15nm,0.4s
DMN Daman 17.01 126 *e*P **Pn 04 08 28.1 -0.2**
comp=Z,15nm,0.4s
PKI Pulchoki 17.23 125 *e*P **Pn 04 08 31.0 0.0**
comp=Z,24nm,0.6s
PKI Pulchoki 17.23 125 *e*P **Pn 04 08 31.0 0.0**
comp=Z,24nm,0.6s
PKI Pulchoki 17.23 125 *e*P **Pn 04 08 31.0 0.0**
PKI pmax pmax
comp=Z,24nm,0.6s
MAK Makhachkala 17.24 292 *e*P **Pn 04 08 29.3 -1.8**
MAK *e*S **Sn 04 11 43.6 +0.7**
MAK pmax pmax
comp=Z,15nm,2.8s
MAK MLR MLR
comp=Z,336nm,17.0s
GUN Gumba 17.30 123 *e*P **Pn 04 08 31.5 -0.5**
GUN Gumba 17.30 123 *e*P **Pn 04 08 31.5 -0.5**
ZAA0 Zalesovo Array 18.53 29 *e*P **Pn 04 08 45.2 -1.7**
ZALV Zalesovo Beam 18.53 29 P **Pn 04 08 44.5 -2.4**
comp=Z,0.8nm,0.3s,baz=228,slow=11,SNR=54
ZALV LR LR 04 16 40.7
comp=Z,104nm,19.0s,baz=222,slow=39
ZALV Zalesovo Beam 18.53 29 P **Pn 04 08 44.5 -2.4**
ZALV LR LR 04 16 40.7
ZALV Zalesovo Beam 18.53 29 P **Pn 04 08 44.6 -2.3**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV MLR MLR
comp=Z,104nm,19.0s
NVS Novosibirsk 18.67 25 *e*P **Pn 04 08 46.0 -2.6**
NVS *e*S **Sn 04 12 22.8 +5.6**
NVS pmax pmax
comp=N,15nm,1.6s
NVS pmax pmax
comp=Z,27nm,1.6s
NVS pmax pmax
comp=E,7.0nm,1.2s
NVS smax
comp=N,5.0nm,1.2s
NVS smax
comp=E,16nm,1.6s
DGRG David-gareji 18.72 286 P **Pn 04 08 47.9 -1.4**
TAPN Taplejung 18.89 121 *e*P **Pn 04 08 49.1 -2.3**
TAPN Taplejung 18.89 121 *e*P **Pn 04 08 49.1 -2.3**
ODAN Odare 19.00 123 *e*P **Pn 04 08 50.2 -2.6**
ODAN Odare 19.00 123 *e*P **Pn 04 08 50.2 -2.6**
SVE Sverdlovsk 19.14 345 *e*P **Pn 04 08 54.6 +0.3**
SVE *e*S **Sn 04 12 21.5 -7.1**
SVE pmax pmax
comp=Z,15nm,1.2s
SVE MLR MLR
comp=Z,287nm,10.0s
MTA Mtatsminda 19.16 287 P **Pn 04 08 50.2 -4.4**
TBLG Delisi 19.20 287 *e*P **Pn 04 08 48.2 -7.0**
TBLG Delisi 19.20 287 P **Pn 04 08 48.3 -6.9**
GNI Garni 19.23 282 P **Pn 04 08 51.5 -4.0**
comp=Z,0.9nm,0.3s,baz=148,slow=19,SNR=2.6
GNI Garni 19.23 282 *e*P **Pn 04 08 52.9 -2.6**
comp=Z,32nm,1.1s
GNI Garni 19.23 282 ⇑*e*P **Pn 04 08 57.2 +1.7**
GNI pmax pmax
comp=Z,39nm,1.2s
GNI MLR MLR
comp=Z,55nm,19.0s
ARU Arti 19.25 341 *e*P **Pn 04 08 56.5 +0.9**
comp=Z,8.0nm,0.6s
ARU Arti 19.25 341 *d i*P **Pn 04 08 56.4 +0.8**
ARU S **Sn 04 12 35.9 +4.6**
ARU pmax pmax
comp=Z,14nm,1.2s
ARU MLR MLR
comp=Z,212nm,12.0s
GOR Gori 19.68 288 P **Pn 04 08 58.2 -2.7**
ZEI Tsey 19.87 290 *e*P **Pn 04 09 03.7 +0.6**
ZEI pmax pmax
comp=Z,6.0nm,0.6s
LSA Lhasa 19.92 110 Pn **Pn 04 09 04.1 +0.3**
LSA smax
comp=E,20nm,0.5s
AKH Akhalkalaki 20.14 286 P **P 04 09 01.9 -2.5**
ONI Oni 20.19 290 P **P 04 09 01.4 -3.5**
POO Poona 20.37 168 *e*PKP **P 04 09 10.5 +3.4**
KIV Kislovodsk 20.84 293 *e*P **P 04 09 11.9 -0.1**
comp=E,10nm,0.7s
KIV Kislovodsk 20.84 293 ⇑*e*P **P 04 09 12.8 +0.8**
KIV *e* 04 09 31.8
KIV *e*S **S 04 13 04.5 +0.1**
KIV pmax pmax
comp=Z,31nm,1.6s
KIV MLR MLR
comp=Z,200nm,19.0s,MS3.5
SHL Shillong 22.89 118 *e*PKP **P 04 09 33.0 -1.1**
VRHR Novokhopersk 23.24 312 *e*P **P 04 09 38.4 +0.8**
VRHR pmax pmax
comp=Z,10.0nm,0.7s,mb4.3
VRHR pmax pmax
comp=N,10.0nm,0.8s
VRHR pmax pmax
comp=E,8.0nm,0.7s
GTA Gaotai 23.47 79 *e*P **P 04 09 40.9 +0.8**
GTA pP 04 09 50.1
GTA sP sP 04 09 54.2 +10
GTA S **S 04 13 48.5 -4.7**
GTA sS sS 04 14 03.2 +5.0
GTA pmax pmax
comp=Z,53nm,6.2s
GTA LR LR
comp=N,300nm,14.2s,MS4.0
GTA LR LR
comp=E,200nm,15.9s,MS4.0
GTA LR LR
comp=Z,220nm,14.9s,MS3.7
ANN Anapa 24.66 295 *e*P **P 04 09 49.9 -1.1**
ANN *e*S **S 04 14 10.4 -2.0**
ANN pmax pmax
comp=Z,80nm,1.6s,mb5.0
VSR Storozhevoye 24.74 310 *e*P **P 04 09 49.9 -1.8**
VSR pmax pmax
comp=N,4.0nm,0.6s
VSR pmax pmax
comp=Z,6.0nm,0.6s,mb4.3
VSR pmax pmax
comp=E,8.0nm,0.9s
ZAK Zakamensk 26.53 53 *e*P **P 04 10 07.6 -0.3**
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb3.9
TLY Talaya 27.07 50 *e*P pP 04 10 24.1 +8.3
TLY *e*S **S 04 14 39.6 -11**
TLY pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
TLY MLR MLR
comp=Z,100nm,18.0s,MS3.4
LZH Lanzhou 27.27 85 *e*P **P 04 10 06.4 -8.4**
LZH pP pP 04 10 16.6 -1.2
LZH sP sP 04 10 21.0 +1.9
LZH pmax pmax
comp=Z,16nm,1.0s,mb4.5
ASF Jabal al Asfar 27.30 266 LR LR 04 22 36.3
comp=Z,38nm,19.3s,MS3.0,baz=182,slow=40
OBN Obninsk 27.59 318 *e*P **P 04 10 16.4 -1.0**
OBN *e* 04 11 02.9
OBN *e*S **S 04 14 56.8 -1.8**
OBN pmax pmax
comp=Z,5.0nm,1.0s,mb4.1
OBN MLR MLR
comp=Z,100nm,17.0s,MS3.5
BR131 Keskin Array S 27.76 284 *e*P **P 04 10 19.0 -0.1**
comp=Z,2.7nm,0.5s,mb4.1
BRTR Keskin Array B 27.76 284 P **P 04 10 17.4 -1.7**
comp=Z,3.0nm,0.5s,mb4.2,baz=93,slow=7.8,SNR=23
BRTR Keskin Array B 27.76 284 P **P 04 10 17.4 -1.7**
BRTR Keskin Array B 27.76 284 P **P 04 10 17.4 -1.7**
BRTR pmax pmax
comp=Z,3.0nm,0.5s
SONM Songino Array 28.14 59 P **P 04 10 22.5 +0.2**
comp=Z,0.5nm,0.6s,mb3.3,baz=243,slow=9.8,SNR=3.6
SONM LR LR 04 22 49.3
comp=Z,82nm,19.8s,MS3.3,baz=107,slow=39
SONM Songino Array 28.14 59 P **P 04 10 22.5 +0.2**
SONM LR LR 04 22 49.3
SONM Songino Array 28.14 59 P **P 04 10 22.5 +0.1**
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM MLR MLR
comp=Z,82nm,19.8s
CD2 Chengdu 29.00 95 P **P 04 10 31.0 +0.8**
CD2 pP pP 04 10 40.5 +7.2
CD2 sP sP 04 10 44.3 +10
CD2 PP PP 04 11 24.6 -11
CD2 S **S 04 15 17.8 -3.5**
CD2 sS sS 04 15 33.0 +6.7
CD2 SS SS 04 16 44.4 -40
CD2 pmax pmax
comp=Z,10.0nm,0.5s,mb4.8
CD2 pmax pmax
comp=Z,150nm,4.3s
CD2 LR LR
comp=E,300nm,6.6s
CD2 LR LR
comp=Z,210nm,4.9s
EIL Elat 29.86 263 LR LR 04 25 17.4
comp=Z,43nm,18.1s,MS3.1,baz=60,slow=42
AKASG Malin Array Be 30.75 306 P **P 04 10 45.1 -0.3**
comp=Z,1.1nm,0.4s,mb4.0,baz=83,slow=7.8,SNR=7.6
AKASG Malin Array Be 30.75 306 P **P 04 10 45.1 -0.3**
AKASG Malin Array Be 30.75 306 P **P 04 10 45.2 -0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
KMI Kunming 31.04 106 P **P 04 10 49.5 +1.2**
KMI pP pP 04 10 59.3 +7.9
KMI sP sP 04 11 03.4 +11
KMI PP PP 04 11 53.1 -5.3
KMI S **S 04 15 50.3 -3.1**
KMI SS SS 04 17 36.2 -30
KMI pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
KMI pmax pmax
comp=Z,30nm,3.1s
KMI LR LR
comp=N,130nm,23.5s,MS3.7
KMI LR LR
comp=E,160nm,23.5s,MS3.7
KMI LR LR
comp=Z,140nm,28.1s,MS3.5
HHC Hu-ho-hao-te 32.15 73 *e*P **P 04 10 59.5 +1.5**
HHC pP pP 04 11 09.0 +8.0
HHC sP sP 04 11 13.0 +11
HHC PP PP 04 12 06.1 -4.4
HHC PcP PcP 04 13 48.3 +1.5
HHC S **S 04 16 08.7 -1.8**
HHC SS SS 04 18 04.0 -24
HHC ScS ScS 04 21 25.0 -4.1
HHC pmax pmax
comp=Z,14nm,0.7s,mb4.9
HHC pmax pmax
comp=Z,120nm,4.8s
HHC LR LR
comp=N,290nm,17.8s,MS4.2
HHC LR LR
comp=E,350nm,15.5s,MS4.2
HHC LR LR
comp=Z,190nm,16.7s,MS3.9
VRI Vrincioaia 32.21 297 ⇓P **P 04 11 01.4 +3.0**
VRI Vrincioaia 32.21 297 ⇓*i*P **P 04 11 01.4 +3.0**
TESR 32.25 298 ⇓*i*P **P 04 11 00.0 +1.3**
PLOR Plostina 32.27 297 ⇓P **P 04 11 01.4 +2.5**
PLOR Plostina 32.27 297 ⇓*i*P **P 04 11 01.4 +2.5**
CMAR Chiang Mai Arr 32.49 120 LR LR 04 26 11.7
comp=Z,57nm,20.1s,MS3.3,baz=195,slow=40
MLR Muntele Rosu 32.78 296 P **P 04 11 02.4 -1.0**
comp=Z,1.0nm,0.8s,mb3.8,baz=153,slow=16,SNR=4.5
MLR Muntele Rosu 32.78 296 P **P 04 11 02.4 -1.0**
MLR Muntele Rosu 32.78 296 ⇓P **P 04 11 06.4 +3.0**
MLR Muntele Rosu 32.78 296 ⇓*i*P **P 04 11 06.4 +3.0**
DOPR Dopca 33.14 297 ⇓*i*P **P 04 11 08.0 +1.4**
BURAR Bucovina Array 33.20 300 ⇓P **P 04 11 09.4 +2.3**
BURAR Bucovina Array 33.20 300 ⇓*i*P **P 04 11 09.4 +2.3**
BUR08 Bucovina Ar. S 33.21 300 *e*P **P 04 11 08.0 +0.9**
GYA Guiyang 33.33 100 *e*P **P 04 11 08.9 +0.5**
GYA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
VOIR 33.41 296 ⇓P **P 04 11 10.5 +1.5**
VOIR 33.41 296 ⇓*i*P **P 04 11 10.5 +1.5**
JOF Joensuu 33.46 329 *e*P **P 04 11 08.4 -0.7**
JOF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
JOF Joensuu 33.46 329 *e*p **P 04 11 08.4 -0.7**
comp=Z,2.0nm,0.5s,mb4.3
LOT Lotru 34.31 296 ⇑*i*P **P 04 11 18.7 +1.9**
KWP Kalwaria Pacla 34.86 304 ⇓P **P 04 11 23.3 +1.9**
KWP Kalwaria Pacla 34.86 304 ⇓*i*P **P 04 11 23.3 +1.9**
DRGR 34.94 299 ⇓P **P 04 11 24.9 +2.7**
DRGR 34.94 299 ⇓*i*P **P 04 11 24.9 +2.7**
TRPA Tarpa 34.99 301 ⇓*i*P **P 04 11 17.4 -5.2**
FINES FINESS Array B 35.09 325 P **P 04 11 23.4 +0.1**
comp=Z,3.8nm,0.6s,mb4.5,baz=114,slow=9.5,SNR=12
FINES LR LR 04 25 57.5
comp=Z,95nm,18.7s,MS3.6,baz=157,slow=37
FINES FINESS Array B 35.09 325 P **P 04 11 23.4 +0.1**
FINES LR LR 04 25 57.5
FINES FINESS Array B 35.09 325 P **P 04 11 23.4 +0.1**
FINES pmax pmax
comp=Z,4.0nm,0.6s
FINES MLR MLR
comp=Z,95nm,18.7s
KAF Kangasniemi 35.23 326 *e*P **P 04 11 24.0 -0.4**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
KAF Kangasniemi 35.23 326 *e*p **P 04 11 24.0 -0.4**
comp=Z,1.6nm,0.5s,mb4.2
BZS Buzias 35.80 297 ⇓P **P 04 11 30.1 +0.5**
BZS Buzias 35.80 297 ⇓*i*P **P 04 11 30.1 +0.5**
ATD Arta Tunnel 35.99 229 LR LR 04 27 36.4
comp=Z,42nm,20.2s,MS3.2,baz=76,slow=39
PKSM Moragy 37.80 298 ⇓P **P 04 11 47.1 +0.5**
PKSM Moragy 37.80 298 ⇓*i*P **P 04 11 47.1 +0.5**
KEV Kevo 38.41 338 *e*P **P 04 11 50.5 -0.9**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
KEV Kevo 38.41 338 *e*p **P 04 11 50.5 -0.9**
comp=Z,0.6nm,0.4s,mb3.7
ARCES ARCESS Array B 38.74 337 P **P 04 11 55.0 +0.7**
comp=Z,2.9nm,0.7s,mb4.1,baz=119,slow=7.8,SNR=18
ARCES LR LR 04 29 03.7
comp=Z,121nm,18.1s,MS3.8,baz=142,slow=38
ARCES ARCESS Array B 38.74 337 P **P 04 11 55.0 +0.7**
ARCES LR LR 04 29 03.7
ARCES ARCESS Array B 38.74 337 P **P 04 11 55.0 +0.7**
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES MLR MLR
comp=Z,121nm,18.1s
VRAC Vranov 38.85 304 P **P 04 11 54.8 -0.6**
comp=Z,3.3nm,0.7s,mb4.2,baz=118,slow=7.8,SNR=4.8
VRAC Vranov 38.85 304 P **P 04 11 54.8 -0.6**
VRAC Vranov 38.85 304 ⇓P **P 04 11 54.1 -1.3**
VRAC Vranov 38.85 304 ⇓*i*P **P 04 11 54.1 -1.3**
DPC Dobruska-Polom 38.95 305 *e*P **P 04 11 57.5 +1.2**
DPC Dobruska-Polom 38.95 305 *e*P **P 04 11 57.5 +1.2**
UPC Upice 39.14 306 *e*P **P 04 11 57.8 0.0**
UPC Upice 39.14 306 *e*P **P 04 11 57.8 0.0**
CONA Conrad Observa 39.47 301 ⇑*i*P **P 04 11 59.9 -0.7**
comp=Z,10nm,1.1s,mb4.5
PERS Pernice 40.15 300 *i* P **P 04 12 07.3 +1.0**
BOJS Bojanci 40.24 298 *i* P **P 04 12 10.6 +3.6**
BRG Berggiesshubel 40.43 306 *i* P **P 04 12 09.6 +1.0**
comp=Z,5.5nm,0.6s,mb4.5
BRG Berggiesshubel 40.43 306 *i* P **P 04 12 09.6 +1.1**
BRG pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
VISS Visnje 40.48 298 *i* P **P 04 12 10.0 +1.0**
GERES GERESS Array B 40.79 303 P **P 04 12 10.7 -0.9**
comp=Z,1.4nm,0.6s,mb3.8,baz=72,slow=7.3,SNR=13
GERES GERESS Array B 40.79 303 P **P 04 12 10.7 -0.9**
GERES GERESS Array B 40.79 303 P **P 04 12 10.7 -0.9**
GERES pmax pmax
comp=Z,1.0nm,0.6s
KHC Kasperske Hory 40.84 304 *e*P **P 04 12 12.2 +0.2**
comp=Z,4.0nm,0.9s,mb4.0
KHC Kasperske Hory 40.84 304 *e*P **P 04 12 13.2 +1.3**
KHC *e* 04 12 25.5
KHC Kasperske Hory 40.84 304 *e*P **P 04 12 13.2 +1.3**
KHC *e*sP sP 04 12 25.5 +9.2
CLL Collm 40.99 307 *e*P **P 04 12 12.0 -1.1**
CLL Collm 40.99 307 *e*P **P 04 12 14.0 +0.9**
CLL Lm 04 31 00.0
comp=Z,100nm,20.9s
CN2 Changchun 41.68 64 *e*P **P 04 12 19.3 +0.4**
NB2 NORSAR Subarra 42.00 322 P **P 04 12 20.1 -1.2**
comp=Z,3.2nm,0.7s,mb4.1,baz=95,slow=8.6
NOA NORSAR Array B 42.00 322 P **P 04 12 19.6 -1.7**
comp=Z,2.9nm,0.7s,mb4.0,baz=95,slow=8.3,SNR=14
NOA LR LR 04 30 38.9
comp=Z,49nm,19.1s,MS3.4,baz=90,slow=37
NOA NORSAR Array B 42.00 322 P **P 04 12 19.6 -1.7**
NOA LR LR 04 30 38.9
NOA NORSAR Array B 42.00 322 P **P 04 12 19.6 -1.7**
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA MLR MLR
comp=Z,49nm,19.1s
GRF Grafenberg Arr 42.29 305 *e*P **P 04 12 24.5 +0.6**
comp=Z,20nm,1.8s,mb4.5
GRF Grafenberg Arr 42.29 305 *e*P **P 04 12 24.5 +0.6**
GRF pmax pmax
comp=Z,20nm,1.8s,mb4.5
DAVA Damuels 43.57 301 ⇑*i*P **P 04 12 28.3 -6.0**
comp=Z,17nm,1.5s,mb4.5
MDJ Mudanjiang 44.39 62 P **P 04 12 40.3 -0.5**
MDJ pmax pmax
comp=Z,8.0nm,1.7s,mb4.2
MDJ pmax pmax
comp=Z,220nm,3.7s
KSRS Korea Array 45.29 72 LR LR 04 34 13.1
comp=Z,73nm,18.3s,MS3.6,baz=280,slow=39
PGF Pioggiola 45.31 295 *e*P **P 04 12 48.2 0.0**
comp=Z,23nm,1.0s,mb4.7
PGF Pioggiola 45.31 295 *e*P **P 04 12 48.2 0.0**
comp=Z,12nm,1.0s,mb4.7
PGF Pioggiola 45.31 295 *e*P **P 04 12 48.2 0.0**
PGF pmax pmax
comp=Z,12nm,1.0s,mb4.7
HINF Hinteralfeld 45.47 303 *e*P **P 04 12 49.1 -0.3**
comp=Z,6.7nm,0.6s,mb4.3
HINF Hinteralfeld 45.47 303 *e*P **P 04 12 49.1 -0.3**
comp=Z,3.3nm,0.6s,mb4.3
HINF Hinteralfeld 45.47 303 *e*P **P 04 12 49.1 -0.3**
HINF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
WLF Walferdange 45.55 306 *e*P **P 04 12 51.0 +1.0**
comp=Z,4.0nm,0.6s,mb4.5
WLF Walferdange 45.55 306 *e*P **P 04 12 51.0 +1.0**
WLF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
HAU Haudompre 45.76 303 *e*P **P 04 12 51.5 -0.2**
comp=Z,4.9nm,0.6s,mb4.3
HAU *e*R
comp=Z,53nm,18.5s
HAU Haudompre 45.76 303 *e*P **P 04 12 51.5 -0.2**
comp=Z,2.5nm,0.6s,mb4.3
HAU LR LR
comp=Z,50nm,18.5s,MS3.5
HAU Haudompre 45.76 303 *e*P **P 04 12 51.5 -0.2**
HAU pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
HAU MLR MLR
comp=Z,50nm,18.5s,MS3.5
SBF Sospel 46.04 297 *e*P **P 04 12 54.8 +0.8**
comp=Z,39nm,0.8s,mb5.1

SBF	**Sospel**	**46.04**	**297**	*e*P		**P**	**04 12 54.8**	**+0.8**
	comp=Z,19nm,0.8s,mb5.1								
SBF	**Sospel**	**46.04**	**297**	*e*P		**P**	**04 12 54.8**	**+0.8**
SBF					pmax	pmax			
	comp=Z,19nm,0.8s,mb5.1								
PAGF	**Fort de Pagny**	**46.05**	**304**	*e*P		**P**	**04 12 54.6**	**+0.6**
	comp=Z,3.0nm,0.6s,mb4.1								
LPG	**La Plagne**	**46.08**	**300**	*e*P		**P**	**04 12 54.5**	**+0.2**
	comp=Z,8.0nm,0.6s,mb4.5								
LPG	**La Plagne**	**46.08**	**300**	*e*P		**P**	**04 12 54.5**	**+0.2**
	comp=Z,4.0nm,0.6s,mb4.5								
LPG	**La Plagne**	**46.08**	**300**	*e*P		**P**	**04 12 54.5**	**+0.2**
LPG					pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5								
LPL	**La Plagne**	**46.09**	**300**	*e*P		**P**	**04 12 54.5**	**+0.2**
	comp=Z,11nm,0.6s,mb4.7								
LPL	**La Plagne**	**46.09**	**300**	*e*P		**P**	**04 12 54.5**	**+0.2**
	comp=Z,5.3nm,0.6s,mb4.7								
LPL	**La Plagne**	**46.09**	**300**	*e*P		**P**	**04 12 54.5**	**+0.2**
LPL					pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.6								
CABF	**La Chapelle**	**46.25**	**301**	*e*P		**P**	**04 12 56.1**	**+0.5**
	comp=Z,13nm,0.7s,mb4.7								
CABF	**La Chapelle**	**46.25**	**301**	*e*P		**P**	**04 12 56.1**	**+0.5**
	comp=Z,6.3nm,0.7s,mb4.7								
CABF	**La Chapelle**	**46.25**	**301**	*e*P		**P**	**04 12 56.1**	**+0.5**
CABF					pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.6								
MBDF	**Montbardon**	**46.27**	**299**	*e*P		**P**	**04 12 55.9**	**+0.1**
	comp=Z,10nm,0.7s,mb4.6								
MBDF	**Montbardon**	**46.27**	**299**	*e*P		**P**	**04 12 55.9**	**+0.1**
	comp=Z,5.1nm,0.7s,mb4.6								
MBDF	**Montbardon**	**46.27**	**299**	*e*P		**P**	**04 12 55.9**	**+0.1**
MBDF					pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5								
MEZF	**Maizieres J'vi**	**46.49**	**304**	*e*P		**P**	**04 12 58.0**	**+0.5**
MEZF	**Maizieres J'vi**	**46.49**	**304**	*e*P		**P**	**04 12 58.0**	**+0.5**
SFTF	**Sexfontaines**	**46.57**	**304**	*e*P		**P**	**04 12 58.1**	**0.0**
	comp=Z,4.6nm,0.5s,mb4.8								
SFTF	**Sexfontaines**	**46.57**	**304**	*e*P		**P**	**04 12 58.1**	**0.0**
	comp=Z,4.6nm,0.5s,mb4.7								
FRF	**La Foret Royal**	**46.68**	**297**	*e*P		**P**	**04 12 58.6**	**-0.4**
	comp=Z,11nm,0.7s,mb4.6								
FRF	**La Foret Royal**	**46.68**	**297**	*e*P		**P**	**04 12 58.6**	**-0.4**
	comp=Z,5.7nm,0.7s,mb4.6								
FRF	**La Foret Royal**	**46.68**	**297**	*e*P		**P**	**04 12 58.6**	**-0.4**
FRF					pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.6								
ORIF	**Oris-en-Rattie**	**46.83**	**299**	*e*P		**P**	**04 13 00.0**	**-0.1**
	comp=Z,3.8nm,0.6s,mb4.2								
ORIF					*e*R				
	comp=Z,65nm,17.5s								
ORIF	**Oris-en-Rattie**	**46.83**	**299**	*e*P		**P**	**04 13 00.0**	**-0.1**
	comp=Z,1.9nm,0.6s,mb4.2								
ORIF	**Oris-en-Rattie**	**46.83**	**299**	*e*P		**P**	**04 13 00.0**	**-0.1**
ORIF					pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2								
SMRF	**Simiane la Rot**	**47.30**	**298**	*e*P		**P**	**04 13 03.8**	**-0.1**
	comp=Z,15nm,0.9s,mb4.6								
SMRF	**Simiane la Rot**	**47.30**	**298**	*e*P		**P**	**04 13 03.8**	**-0.1**
	comp=Z,15nm,0.9s,mb4.9								
KEST	**Kesra**	**47.31**	**286**	P		**P**	**04 13 05.2**	**+1.1**
	comp=Z,1.2nm,0.7s,mb3.9,baz=43,slow=16,SNR=7.7								
KEST	**Kesra**	**47.31**	**286**	P		**P**	**04 13 05.2**	**+1.1**
LOR	**Lormes**	**47.57**	**303**	*e*P		**P**	**04 13 05.3**	**-0.6**
	comp=Z,5.6nm,0.6s,mb4.5								
LOR					*e*R				
	comp=Z,78nm,21.8s								
LOR	**Lormes**	**47.57**	**303**	*e*P		**P**	**04 13 05.3**	**-0.6**
	comp=Z,2.8nm,0.6s,mb4.5								
LOR					LR	LR			
	comp=Z,80nm,21.8s,MS3.6								
LOR	**Lormes**	**47.57**	**303**	*e*P		**P**	**04 13 05.3**	**-0.6**
LOR					pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.5								
LOR					MLR	MLR			
	comp=Z,80nm,21.8s,MS3.6								
VIVF	**Saint-Julien-l**	**47.67**	**299**	*e*P		**P**	**04 13 06.7**	**0.0**
	comp=Z,8.5nm,0.6s,mb4.7								
VIVF	**Saint-Julien-l**	**47.67**	**299**	*e*P		**P**	**04 13 06.7**	**0.0**
	comp=Z,4.3nm,0.6s,mb4.7								
VIVF	**Saint-Julien-l**	**47.67**	**299**	*e*P		**P**	**04 13 06.7**	**0.0**
VIVF					pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.6								
SMF	**Signal de Mont**	**47.74**	**302**	*e*P		**P**	**04 13 07.0**	**-0.2**
	comp=Z,11nm,0.6s,mb4.8								
SMF	**Signal de Mont**	**47.74**	**302**	*e*P		**P**	**04 13 07.0**	**-0.2**
	comp=Z,5.5nm,0.6s,mb4.8								
SMF	**Signal de Mont**	**47.74**	**302**	*e*P		**P**	**04 13 07.0**	**-0.2**
SMF					pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.8								
SSF	**Saint Saulge**	**47.86**	**303**	*e*P		**P**	**04 13 07.7**	**-0.4**
	comp=Z,5.7nm,0.7s,mb4.4								
SSF	**Saint Saulge**	**47.86**	**303**	*e*P		**P**	**04 13 07.7**	**-0.4**
	comp=Z,2.8nm,0.7s,mb4.4								
SSF	**Saint Saulge**	**47.86**	**303**	*e*P		**P**	**04 13 07.7**	**-0.4**
SSF					pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.4								
AVF	**Avril sur Loir**	**48.03**	**302**	*e*P		**P**	**04 13 09.2**	**-0.3**
	comp=Z,12nm,0.6s,mb4.8								
AVF	**Avril sur Loir**	**48.03**	**302**	*e*P		**P**	**04 13 09.2**	**-0.3**
	comp=Z,5.8nm,0.6s,mb4.8								
AVF	**Avril sur Loir**	**48.03**	**302**	*e*P		**P**	**04 13 09.2**	**-0.3**
AVF					pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.8								
BGF	**Bois d'Agland**	**48.43**	**302**	*e*P		**P**	**04 13 12.7**	**+0.2**
BGF	**Bois d'Agland**	**48.43**	**302**	*e*P		**P**	**04 13 12.7**	**+0.2**
BGF	**Bois d'Agland**	**48.43**	**302**	*e*P		**P**	**04 13 12.7**	**+0.2**
LASF	**Ste Croix**	**48.46**	**299**	*e*P		**P**	**04 13 13.0**	**+0.2**
	comp=Z,25nm,1.1s,mb4.9								
LASF	**Ste Croix**	**48.46**	**299**	*e*P		**P**	**04 13 13.0**	**+0.2**
TCF	**Toulx Ste Croi**	**48.92**	**302**	*e*P		**P**	**04 13 16.5**	**+0.1**
	comp=Z,12nm,0.6s,mb4.8								
TCF	**Toulx Ste Croi**	**48.92**	**302**	*e*P		**P**	**04 13 16.5**	**+0.1**
	comp=Z,6.1nm,0.6s,mb4.8								
TCF	**Toulx Ste Croi**	**48.92**	**302**	*e*P		**P**	**04 13 16.5**	**+0.1**
TCF					pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.8								
CAF	**Calviac**	**49.42**	**300**	*e*P		**P**	**04 13 20.5**	**+0.3**
	comp=Z,7.3nm,0.7s,mb4.5								
CAF	**Calviac**	**49.42**	**300**	*e*P		**P**	**04 13 20.5**	**+0.3**
	comp=Z,3.7nm,0.7s,mb4.5								
CAF	**Calviac**	**49.42**	**300**	*e*P		**P**	**04 13 20.5**	**+0.3**
CAF					pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.6								
RJF	**Les Rejaudoux**	**49.68**	**301**	*e*P		**P**	**04 13 22.3**	**+0.2**
RJF	**Les Rejaudoux**	**49.68**	**301**	*e*P		**P**	**04 13 22.3**	**+0.2**
RJF	**Les Rejaudoux**	**49.68**	**301**	*e*P		**P**	**04 13 22.3**	**+0.2**
LDF	**La Druitiere**	**49.80**	**305**	*e*P		**P**	**04 13 22.5**	**-0.5**
	comp=Z,8.8nm,0.6s,mb4.7								
LDF	**La Druitiere**	**49.80**	**305**	*e*P		**P**	**04 13 22.5**	**-0.5**
	comp=Z,4.4nm,0.6s,mb4.7								
LDF	**La Druitiere**	**49.80**	**305**	*e*P		**P**	**04 13 22.5**	**-0.5**
LDF					pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.6								
MTLF	**Montolieu**	**49.81**	**298**	*e*P		**P**	**04 13 23.1**	**-0.1**
	comp=Z,5.8nm,0.6s,mb4.5								
MTLF	**Montolieu**	**49.81**	**298**	*e*P		**P**	**04 13 23.1**	**-0.1**
	comp=Z,2.9nm,0.6s,mb4.5								
MTLF	**Montolieu**	**49.81**	**298**	*e*P		**P**	**04 13 23.1**	**-0.1**
MTLF					pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.5								
FLN	**La Foliniere**	**49.98**	**306**	*e*P		**P**	**04 13 24.4**	**0.0**
	comp=Z,83nm,1.3s,mb5.3								
FLN					*e*R				
	comp=Z,70nm,17.8s								
FLN	**La Foliniere**	**49.98**	**306**	*e*P		**P**	**04 13 24.4**	**0.0**
	comp=Z,42nm,1.3s,mb5.3								
FLN					LR	LR			
	comp=Z,70nm,17.8s,MS3.7								
FLN	**La Foliniere**	**49.98**	**306**	*e*P		**P**	**04 13 24.4**	**0.0**
FLN					pmax	pmax			
	comp=Z,42nm,1.3s,mb5.3								
FLN					MLR	MLR			
	comp=Z,70nm,17.8s,MS3.7								
LFF	**La Frestale**	**50.31**	**301**	*e*P		**P**	**04 13 27.1**	**+0.1**
	comp=Z,14nm,0.6s,mb4.9								
LFF	**La Frestale**	**50.31**	**301**	*e*P		**P**	**04 13 27.1**	**+0.1**
	comp=Z,7.3nm,0.6s,mb4.9								
LFF	**La Frestale**	**50.31**	**301**	*e*P		**P**	**04 13 27.1**	**+0.1**
LFF					pmax	pmax			
	comp=Z,7.0nm,0.6s,mb4.9								
GRR	**Gorron**	**50.33**	**305**	*e*P		**P**	**04 13 26.8**	**-0.2**
GRR	**Gorron**	**50.33**	**305**	*e*P		**P**	**04 13 26.8**	**-0.2**
GRR	**Gorron**	**50.33**	**305**	*e*P		**P**	**04 13 26.8**	**-0.2**
EPF	**Esparros**	**51.21**	**298**	*e*P		**P**	**04 13 33.2**	**-0.6**
	comp=Z,3.3nm,0.5s,mb4.2								
EPF	**Esparros**	**51.21**	**298**	*e*P		**P**	**04 13 33.2**	**-0.6**
EPF					pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.3								
ETSF	**Etsaut**	**51.88**	**299**	*e*P		**P**	**04 13 38.8**	**0.0**
	comp=Z,9.1nm,0.6s,mb4.6								
ETSF	**Etsaut**	**51.88**	**299**	*e*P		**P**	**04 13 38.8**	**0.0**
	comp=Z,4.6nm,0.6s,mb4.6								
ETSF	**Etsaut**	**51.88**	**299**	*e*P		**P**	**04 13 38.8**	**0.0**
ETSF					pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.6								
ROSF	**Rostrenen**	**51.88**	**306**	*e*P		**P**	**04 13 38.6**	**-0.1**
ROSF	**Rostrenen**	**51.88**	**306**	*e*P		**P**	**04 13 38.6**	**-0.1**
ROSF	**Rostrenen**	**51.88**	**306**	*e*P		**P**	**04 13 38.6**	**-0.1**
ESDC	**Sonseca Array**	**55.48**	**296**	P		**P**	**04 14 05.0**	**-0.2**
	comp=Z,2.9nm,0.5s,mb4.5,baz=56,slow=7.5,SNR=34								
ESDC	**Sonseca Array**	**55.48**	**296**	P		**P**	**04 14 05.0**	**-0.2**
TAM	**Tamanrasset**	**56.23**	**273**	*e*P		**P**	**04 14 11.4**	**+0.5**
	comp=Z,4.3nm,1.2s,mb4.3								
TAM	**Tamanrasset**	**56.23**	**273**	*e*P		**P**	**04 14 11.4**	**+0.6**
TAM					pmax	pmax			
	comp=Z,4.0nm,1.2s,mb4.3								
TORD	**Torodi Ar. Bea**	**64.66**	**267**	P		**P**	**04 15 05.4**	**-3.1**
	comp=Z,0.7nm,0.4s,mb4.0,baz=48,slow=6.4,SNR=18								
TORD	**Torodi Ar. Bea**	**64.66**	**267**	P		**P**	**04 15 05.4**	**-3.1**
INK	**Inuvik**	**71.99**	**9**	*e*P		**P**	**04 15 54.4**	**+0.8**
	comp=Z,2.1nm,0.5s,mb4.3								
INK	**Inuvik**	**71.99**	**9**	*e*P		**P**	**04 15 54.4**	**+0.8**
INK					pmax	pmax			
	comp=Z,2.0nm,0.5s								
ILAR	**Eielson Array**	**73.04**	**15**	P		**P**	**04 16 00.1**	**+0.2**
	comp=Z,0.8nm,0.7s,mb3.8,baz=332,slow=3.6,SNR=11								
ILAR	**Eielson Array**	**73.04**	**15**	P		**P**	**04 16 00.1**	**+0.2**
ILAR	**Eielson Array**	**73.04**	**15**	P		**P**	**04 16 00.1**	**+0.2**
ILAR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
YKA	**Yellowknife Ar**	**79.17**	**2**	P		**P**	**04 16 35.8**	**+1.0**
	comp=Z,2.7nm,0.5s,mb4.4,baz=352,slow=5.5,SNR=8.0								
YKA	**Yellowknife Ar**	**79.17**	**2**	P		**P**	**04 16 35.9**	**+1.0**
YKA	**Yellowknife Ar**	**79.17**	**2**	P		**P**	**04 16 35.8**	**+0.9**
YKA					pmax	pmax			
	comp=Z,3.0nm,0.5s								
WRA	**Warramunga Arr**	**84.07**	**121**	P		**P**	**04 16 59.8**	**-1.6**
	comp=Z,1.4nm,0.9s,mb4.1,baz=322,slow=4.9,SNR=5.6								
WRA	**Warramunga Arr**	**84.07**	**121**	P		**P**	**04 16 59.8**	**-1.6**
WRA	**Warramunga Arr**	**84.07**	**121**	P		**P**	**04 16 59.8**	**-1.5**
WRA					pmax	pmax			
	comp=Z,1.0nm,0.9s								
WRAB	**Tennant Creek**	**84.07**	**121**	*e*P		**P**	**04 17 00.5**	**-0.9**
	comp=Z,2.7nm,0.9s,mb4.4								
WRAB	**Tennant Creek**	**84.07**	**121**	*e*P		**P**	**04 17 00.5**	**-0.8**
WRAB					pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.4								
ASAR	**Alice Springs**	**86.40**	**124**	P		**P**	**04 17 11.2**	**-1.6**
	comp=Z,0.7nm,0.8s,mb4.0,baz=318,slow=5.0,SNR=6.3								
ASAR	**Alice Springs**	**86.40**	**124**	P		**P**	**04 17 11.2**	**-1.6**
ASAR	**Alice Springs**	**86.40**	**124**	P		**P**	**04 17 11.3**	**-1.6**
ASAR					pmax	pmax			
	comp=Z,1.0nm,0.8s								

*TEH **08** 04:14:35.7,38.°73N×46.°57E,h22km*
*ISCJB **08** 04:14:36.1±0.3,38.°65N±0.°02×46.°55E±0.°03,h10km, Error ellipse: s-maj=3.2km s-min=2.4km az=156.8*
*CSEM **08** 04:14:36.1±0.2,38.°66N×46.°54E,h2km,ML3.5, Error ellipse: s-maj=4.6km s-min=3.9km az=50.0*
*NSSP **08** 04:14:41.8,38.°73N×46.°52E,h10km, Ms2.9*
ISC 08 04:14:36.8±0.3,38.°67N±0.°02×46.°53E±0.°03,h10km,n38, σ1$29/60,8C-20D,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MGRZ	**Megri**	**0.33**	**315**	⇓*i*P		Px	04 14 59.3	
MGRZ				⇓*i*S		Sx	04 15 05.3	
IHRS	**Heris**	**0.53**	**131**	⇑*e*Pg		**Pg**	**04 14 45.7**	**-1.4**
IHRS				*e*Sg		**Sg**	**04 14 54.1**	**0.0**
IHRS				*e*			04 14 56.2	
	comp=Z,52μm,0.1s							
IHRS	**Heris**	**0.53**	**131**	⇑*e*Pg		**Pg**	**04 14 45.7**	**-1.4**
IHRS				*e*Sg		**Sg**	**04 14 54.1**	**0.0**
ITBZ	**Tabriz**	**0.53**	**215**	⇓*e*Pg		**Pg**	**04 14 46.5**	**-0.6**
ITBZ				*e*			04 14 49.2	
	comp=Z,25μm,0.1s							
ITBZ				*e*Sg		**Sg**	**04 14 54.6**	**+0.5**
ITBZ	**Tabriz**	**0.53**	**215**	⇓*e*Pg		**Pg**	**04 14 46.5**	**-0.6**
ITBZ				*e*Sg		**Sg**	**04 14 54.6**	**+0.5**
KDR	**Kadzharan**	**0.59**	**325**	⇓*i*P		Px	04 15 03.8	
KDR				⇓*i*S		Sx	04 15 11.5	
XTNZ	**Xhotanan**	**0.62**	**349**	⇑*i*P		Px	04 15 04.9	
XTNZ				⇓*i*S		Sx	04 15 13.3	
IMRD	**Marand**	**0.65**	**274**	⇓*e*Pg		**Pg**	**04 14 48.8**	**-0.6**
IMRD				*e*Sg		**Sg**	**04 14 58.6**	**+0.7**
IMRD				*e*			04 14 59.3	
	comp=Z,43μm,0.1s							
IMRD	**Marand**	**0.65**	**274**	⇓*e*Pg		**Pg**	**04 14 48.8**	**-0.6**
IMRD				*e*Sg		**Sg**	**04 14 58.6**	**+0.7**
IFTB	**Fath-abad**	**0.66**	**190**	*e*Sg		**Sg**	**04 14 59.7**	**+1.5**
IFTB	**Fath-abad**	**0.66**	**190**	*e*Sg		**Sg**	**04 14 59.7**	**+1.5**
ISHB	**Shabestar**	**0.82**	**242**	⇓*e*Pg		**Pg**	**04 14 51.8**	**-0.7**
ISHB				*e*			04 14 52.1	
	comp=Z,27μm,0.1s							
ISHB				*e*Sg		**Sg**	**04 15 03.0**	**-0.2**
ISHB	**Shabestar**	**0.82**	**242**	⇓*e*Pg		**Pg**	**04 14 51.8**	**-0.7**
ISHB				*e*Sg		**Sg**	**04 15 03.0**	**-0.2**
GRS	**Goris**	**0.84**	**349**	⇓*i*P		**Pg**	**04 14 53.0**	**-0.1**
GRS				⇓*i*S		**Sg**	**04 15 03.0**	**-1.1**
GRS	**Goris**	**0.84**	**349**	⇓P		**Pg**	**04 14 53.0**	**-0.1**
GRS				S		**Sg**	**04 15 03.0**	**-1.1**
NAX	**Nakhchivan** SNR=67	**0.95**	**302**	P		**Pg**	**04 14 54.0**	**-1.2**
NAX				S		**Sg**	**04 15 07.6**	**0.0**
IBST	**Bostanabad**	**1.01**	**164**	⇓*e*Pg		**Pg**	**04 14 54.9**	**-1.3**
IBST				*e*Sg		**Sg**	**04 15 09.9**	**+0.6**
IBST				*e*			04 15 11.6	
	comp=Z,11μm,0.2s							
IBST	**Bostanabad**	**1.01**	**164**	⇓*e*Pg		**Pg**	**04 14 54.9**	**-1.3**
IBST				*e*Sg		**Sg**	**04 15 09.9**	**+0.6**
GRMI	**Germi**	**1.07**	**82**	*e*Pg		**Pg**	**04 14 55.3**	**-2.1**
IAZR	**Azarshahr**	**1.08**	**204**	⇓*e*Pg		**Pg**	**04 14 56.8**	**-0.8**
IAZR				*e*			04 14 58.7	
	comp=Z,37μm,0.1s							
IAZR				*e*Sg		**Sg**	**04 15 11.9**	**+0.3**
IAZR	**Azarshahr**	**1.08**	**204**	⇓*e*Pg		**Pg**	**04 14 56.8**	**-0.8**
IAZR				*e*Sg		**Sg**	**04 15 11.9**	**+0.3**
STKZ		**1.16**	**8**	⇑*i*P		Px	04 14 48.7	
STKZ				⇓*i*S		Sx	04 15 04.4	
ISRB	**Sarab**	**1.23**	**133**	⇑*e*Pg		**Pn**	**04 14 58.1**	**-1.9**
ISRB				*e*Sg		**Sg**	**04 15 15.3**	**-1.0**
ISRB				*e*			04 15 18.0	
	comp=Z,8μm,0.1s							
ISRB	**Sarab**	**1.23**	**133**	⇑*e*Pg		**Pn**	**04 14 58.1**	**-1.9**
ISRB				*e*Sg		**Sg**	**04 15 15.3**	**-1.0**
GLBA	**Clilabad** SNR=38	**1.56**	**68**	P		**Pn**	**04 15 05.3**	**+0.7**
GLBA				S		**Sn**	**04 15 27.2**	**+2.4**
MAKU	**Maku**	**1.60**	**296**	*e*Pg		**Pn**	**04 15 04.9**	**-0.2**
MAKU				*e*Sg		**Sn**	**04 15 26.1**	**+0.4**
VADZ	**Vardenis**	**1.62**	**338**	*e*P		**Pg**	**04 15 09.0**	**+1.1**
VADZ				*e*S		**Sg**	**04 15 33.0**	**+4.0**
BRDA	**Brd** SNR=4.3	**1.67**	**17**	P		**Pn**	**04 15 07.0**	**+0.9**
BRDA				S		**Sg**	**04 15 31.5**	**+1.0**
GANJ	**Ganja** SNR=17	**1.98**	**355**	P		**Pn**	**04 15 11.4**	**+1.0**
GANJ				S		**Sn**	**04 15 35.6**	**+0.3**
GNI	**Garni**	**2.03**	**317**	⇑*i*P		**Pn**	**04 15 13.5**	**+2.4**
GNI				⇓*i*S		**Sg**	**04 15 43.7**	**+1.7**
GNI	**Garni**	**2.03**	**317**	⇑P		**Pn**	**04 15 13.5**	**+2.5**
ZNJK	**Zanjan**	**2.62**	**139**	*e*Sg		**Sg**	**04 16 01.5**	**+0.4**
PQL	**Pirkuli** SNR=3.3	**2.65**	**36**	P		**Pn**	**04 15 21.9**	**+2.4**
STEZ	**Stepenevan**	**2.85**	**325**	*e*P		**Pn**	**04 15 25.5**	**+3.2**
DGRG	**David-gareji**	**2.92**	**343**	P		**Pg**	**04 15 28.6**	**-4.2**
DGRG				S		**Sg**	**04 16 08.4**	**-2.1**
MTA	**Mtatsminda**	**3.30**	**337**	P		**Pg**	**04 15 36.4**	**-3.7**
MTA				S		**Sg**	**04 16 21.4**	**-1.5**
TBLG	**Delisi**	**3.35**	**336**	P		**Pg**	**04 15 36.9**	**-4.1**
TBLG				S		**Sg**	**04 16 21.6**	**-2.9**
SNGE	**Sanandaj**	**3.63**	**169**	*e*Pn		**Pn**	**04 15 36.7**	**+3.7**

*NEIC **08** 04:22:07.3,18.°10N×68.°44W,h179km, MD3.9(RSPR), After RSPR.*
RSPR 08 04:22:07.3,18.°10N×68.°44W,h179km±2km,MD3.9/10, 19C,Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CRPR	**Cabo Rojo, PR**	**1.27**	**94**	⇑*e*P		Pn	04 22 36.5	-0.5
CRPR	**Cabo Rojo, PR**	**1.27**	**94**	⇑*e*P		Pn	04 22 36.5	-0.5
CRPR				*e*S		Sn	04 23 00.0	+0.1
LSP	**Las Mesas**	**1.29**	**86**	*e*Pn		Pn	04 22 36.4	-0.8
AGPR	**Aguadilla, PR**	**1.32**	**74**	⇑*e*P		Pn	04 22 37.2	-0.3
AGPR	**Aguadilla, PR**	**1.32**	**74**	⇑*e*P		Pn	04 22 37.2	-0.3
AGPR				*e*S		Sn	04 23 01.5	+0.8
LRS	**Lares**	**1.53**	**82**	⇑*e*P		Pn	04 22 39.2	-0.2
LRS				*e*S		Sn	04 23 05.0	+0.8
LRS	**Lares**	**1.53**	**82**	⇑*e*P		Pn	04 22 39.2	-0.2
LRS				*e*S		Sn	04 23 05.0	+0.8
OBIP	**Obispado Ponce**	**1.75**	**91**	*e*Pn		Pn	04 22 40.5	-1.2
OBIP				*e*Sn		Sn	04 23 06.6	-1.4
CELP	**Cerrillos**	**1.77**	**90**	⇑*e*P		Pn	04 22 42.5	+0.6
CELP				*e*S		Sn	04 23 08.9	+0.4
CELP	**Cerrillos**	**1.77**	**90**	⇑*e*P		Pn	04 22 42.5	+0.6
CELP				*e*S		Sn	04 23 08.9	+0.4
SJG	**San Juan**	**2.18**	**89**	⇑*e*P		Pn	04 22 47.1	+0.9
SJG				*e*S		Sn	04 23 16.5	+0.2
SJG	**San Juan**	**2.18**	**89**	⇑*e*P		Pn	04 22 46.8	+0.5
SJG	**San Juan**	**2.18**	**89**	⇑*e*P		Pn	04 22 46.8	+0.5
CBYP	**Canovanas**	**2.46**	**86**	⇑*e*P		Pn	04 22 49.3	-0.2
CBYP	**Canovanas**	**2.46**	**86**	⇑*e*P		Pn	04 22 49.3	-0.2
CBYP				*e*S		Sn	04 23 22.8	+0.6
HUMP	**Col San Antoni**	**2.46**	**89**	⇑*e*P		Pn	04 22 50.4	+0.9
HUMP	**Col San Antoni**	**2.46**	**89**	⇑*e*P		Pn	04 22 50.4	+0.9
HUMP				*e*S		Sn	04 23 23.6	+1.4
MTP	**Monte Pirata**	**2.75**	**90**	⇑*e*P		Pn	04 22 53.9	+1.0
MTP	**Monte Pirata**	**2.75**	**90**	⇑*e*P		Pn	04 22 53.9	+1.0
SDDR	**Presa de Saban**	**2.84**	**289**	*e*Pn		Pn	04 22 48.8	-5.2
STVI	**Saint Thomas**	**3.32**	**85**	⇑*e*P		Pn	04 23 00.2	+0.4
STVI	**Saint Thomas**	**3.32**	**85**	⇑*e*P		Pn	04 23 00.2	+0.4
STVI				*e*S		Sn	04 23 41.8	+1.0

*NEIC **08** 04:35:22.8±0.8, 17.°35S×174.°40W,h150km,mb3.4/1, Error ellipse: s-maj=35.1km s-min=19.5km az=116.0*
IDC 08 04:35:14.9±13.0,17.°22S×174.°34W,h75km±121km, mb3.7/6,mb1 3.9/6,mb1mx3.6/19,mbtmp3.7/6,Error ellipse: s-maj=39.6km s-min=34.5km az=10.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
URZ	**Urewera**	**22.27**	**198**	P		P	04 40 05.0	-0.7
	5.1nm,0.3s,baz=104,slow=12,SNR=10							
URZ	**Urewera**	**22.27**	**198**	P		P	04 40 05.0	-0.8
WRA	**Warramunga Arr**	**48.58**	**258**	P		P	04 43 51.3	+0.2
	1.4nm,0.5s,baz=97,slow=6.9,SNR=10							
WRA	**Warramunga Arr**	**48.58**	**258**	P		P	04 43 51.3	+0.2
ASAR	**Al

EQES					Lg			04 42 03.9	
	64nm,0.5s,SNR=5.0								
EQES	**Quesada**	**1.22**	**344**		Pg		**Pg**	**04 41 46.1**	**+0.6**
	3.5nm,0.2s,SNR=72								
EQES					Lg			04 42 03.9	
	64nm,0.5s,SNR=5.0								
ELOJ	**Sierra Loja**	**1.31**	**294**		Pg		**Pg**	**04 41 47.0**	**-0.2**
ELOJ					Lg			04 42 06.7	
ELOJ	**Sierra Loja**	**1.31**	**294**		Pg		**Pg**	**04 41 47.0**	**-0.2**
	5.9nm,0.2s,SNR=25								
ELOJ					Lg			04 42 06.7	
	18nm,0.3s,SNR=11								
ELOJ	**Sierra Loja**	**1.31**	**294**		Pg		**Pg**	**04 41 47.0**	**-0.2**
	5.9nm,0.2s,SNR=25								
ELOJ					Lg			04 42 06.7	
	18nm,0.3s,SNR=11								
MELI	**Melilla**	**1.35**	**190**	*e*P			**Pn**	**04 41 47.9**	**+2.2**
EMAL	**Malaga-Limoner**	**1.44**	**276**		Pg		**Pg**	**04 41 44.8**	**-4.8**
EMAL					Lg			04 42 01.4	
EMAL	**Malaga-Limoner**	**1.44**	**276**	*e*P			**Pn**	**04 41 44.8**	**-2.1**
EMAL				*e*S			**Sn**	**04 42 01.5**	**-3.7**
ELUQ	**Luque**	**1.59**	**306**		Pg		**Pg**	**04 41 52.6**	**+0.1**
ELUQ					Lg			04 42 14.6	
ELUQ	**Luque**	**1.59**	**306**		Pg		**Pg**	**04 41 52.6**	**0.0**
	4.1nm,0.2s,SNR=7.9								
ELUQ					Lg			04 42 14.6	
	24nm,0.3s,SNR=7.9								
ELUQ	**Luque**	**1.59**	**306**		Pg		**Pg**	**04 41 52.6**	**0.0**
	4.1nm,0.2s,SNR=7.9								
ELUQ					Lg			04 42 14.6	
	24nm,0.3s,SNR=7.9								
CART	**Cartagena**	**1.63**	**54**		Pg		**Pg**	**04 41 49.2**	**-4.1**
CART					Lg			04 42 11.2	
CART	**Cartagena**	**1.63**	**54**	*e*P			**Pn**	**04 41 49.2**	**-0.3**
CART				*e*S			**Sn**	**04 42 11.2**	**+1.3**
EMUR	**La Murta**	**1.65**	**42**		Pn		**Pn**	**04 41 48.6**	**-1.2**
EMUR					Pg		**Pg**	**04 41 51.2**	**-2.5**
EMUR					Sn		**Sn**	**04 42 10.4**	**-0.1**
EMUR	**La Murta**	**1.65**	**42**		Pn		**Pn**	**04 41 48.6**	**-1.2**
	1.2nm,0.3s,SNR=7.9								
EMUR					Pg		**Pg**	**04 41 51.2**	**-2.5**
	5.1nm,0.2s,SNR=17								
EMUR					Sn		**Sn**	**04 42 10.4**	**-0.1**
	32nm,0.3s,SNR=10								
EMUR	**La Murta**	**1.65**	**42**		Pn		**Pn**	**04 41 48.6**	**-1.3**
	1.2nm,0.3s,SNR=7.9								
EMUR	**La Murta**	**1.65**	**42**		Pg		**Pg**	**04 41 51.2**	**-2.5**
	5.1nm,0.2s,SNR=17								
EMUR					Sn		**Sn**	**04 42 10.4**	**-0.2**
	32nm,0.3s,SNR=10								
EMIJ	**Mijas**	**1.71**	**268**		Pn		**Pn**	**04 41 47.6**	**-3.0**
EMIJ					Sn		**Sn**	**04 42 07.2**	**-4.7**
EMIJ	**Mijas**	**1.71**	**268**		Pn		**Pn**	**04 41 47.6**	**-3.0**
	16nm,0.4s,SNR=7.9								
EMIJ	**Mijas**	**1.71**	**268**		Pn		**Pn**	**04 41 47.6**	**-3.0**
	16nm,0.4s,SNR=7.9								
EMIJ					Sn		**Sn**	**04 42 07.2**	**-4.8**
	23nm,0.3s,SNR=7.9								
USTO	**Oran**	**1.92**	**117**		P		**Sn**	**04 42 18.0**	**+0.9**
USTO	**Oran**	**1.92**	**117**		P		**Sn**	**04 42 18.0**	**+0.9**
EVIA	**Vianos**	**2.01**	**3**		Pg		**Pg**	**04 42 00.5**	**0.0**
EVIA					Lg			04 42 28.7	
EVIA	**Vianos**	**2.01**	**3**		Pg		**Pg**	**04 42 00.5**	**0.0**
	32nm,0.2s,SNR=7.9								
EVIA					Lg			04 42 28.7	
	109nm,0.6s,SNR=7.9								
EVIA	**Vianos**	**2.01**	**3**		Pg		**Pg**	**04 42 00.5**	**0.0**
	32nm,0.2s,SNR=7.9								
EVIA					Lg			04 42 28.7	
	109nm,0.6s,SNR=7.9								
EADA	**Adamuz**	**2.17**	**316**		Pg		**Pg**	**04 42 01.9**	**-1.7**
EADA					Lg			04 42 31.7	
EADA	**Adamuz**	**2.17**	**316**		Pg		**Pg**	**04 42 01.9**	**-1.7**
	1.7nm,0.2s,SNR=7.9								
EADA					Lg			04 42 31.7	
	12nm,0.3s,SNR=7.9								
EADA	**Adamuz**	**2.17**	**316**		Pg		**Pg**	**04 42 01.9**	**-1.7**
	1.7nm,0.2s,SNR=7.9								
EADA					Lg			04 42 31.7	
	12nm,0.3s,SNR=7.9								
ETOB	**Tobarra**	**2.19**	**23**		Pn		**Pn**	**04 41 58.0**	**+0.7**
ETOB					Sn		**Sn**	**04 42 24.8**	**+0.8**
ETOB	**Tobarra**	**2.19**	**23**		Pn		**Pn**	**04 41 58.0**	**+0.7**
	2.4nm,0.2s,SNR=24								
ETOB					Sn		**Sn**	**04 42 24.8**	**+0.8**
	5.7nm,0.2s,SNR=6.7								
ETOB	**Tobarra**	**2.19**	**23**		Pn		**Pn**	**04 41 58.0**	**+0.7**
	2.4nm,0.2s,SNR=24								
ETOB					Sn		**Sn**	**04 42 24.8**	**+0.9**
	5.7nm,0.2s,SNR=6.7								
LIJA	**Lijar**	**2.23**	**278**	*i* P			**Pn**	**04 42 02.0**	**+4.2**
EJIF	**Jimena Fronter**	**2.28**	**266**		Pn		**Pn**	**04 41 57.3**	**-1.1**
EJIF					Sn		**Sn**	**04 42 25.0**	**-1.0**
EJIF	**Jimena Fronter**	**2.28**	**266**		Pn		**Pn**	**04 41 57.3**	**-1.1**
	1.0nm,0.2s,SNR=7.9								
EJIF					Sn		**Sn**	**04 42 25.0**	**-1.0**
	9.9nm,0.4s,SNR=7.9								
EJIF	**Jimena Fronter**	**2.28**	**266**		Pn		**Pn**	**04 41 57.3**	**-1.1**
	1.0nm,0.2s,SNR=7.9								
EJIF					Sn		**Sn**	**04 42 25.0**	**-1.0**
	9.9nm,0.4s,SNR=7.9								
ESPR	**Espera**	**2.59**	**276**		Pn		**Pn**	**04 42 00.9**	**-1.8**
ESPR					Sn		**Sn**	**04 42 33.1**	**-0.5**
ESPR	**Espera**	**2.59**	**276**		Pn		**Pn**	**04 42 00.9**	**-1.8**
	0.4nm,0.1s,SNR=7.9								
ESPR					Sn		**Sn**	**04 42 33.1**	**-0.5**
	9.5nm,0.5s,SNR=7.9								
ESPR	**Espera**	**2.59**	**276**		Pn		**Pn**	**04 42 00.9**	**-1.8**
	0.4nm,0.1s,SNR=7.9								
ESPR					Sn		**Sn**	**04 42 33.1**	**-0.5**
	9.5nm,0.5s,SNR=7.9								
EBEN	**Beniarda**	**2.83**	**42**		Pn		**Pn**	**04 42 05.5**	**-0.5**
EBEN					Sn		**Sn**	**04 42 36.2**	**-3.3**
EBEN	**Beniarda**	**2.83**	**42**		Pn		**Pn**	**04 42 05.4**	**-0.5**
	0.7nm,0.4s,SNR=7.9								
EBEN					Sn		**Sn**	**04 42 36.2**	**-3.3**
	3.4nm,0.3s,SNR=7.9								
EBEN	**Beniarda**	**2.83**	**42**		Pn		**Pn**	**04 42 05.4**	**-0.6**
	0.7nm,0.4s,SNR=7.9								
EBEN					Sn		**Sn**	**04 42 36.2**	**-3.3**
	3.4nm,0.3s,SNR=7.9								
ESDC	**Sonseca Array**	**3.21**	**342**		Pn		**Pn**	**04 42 13.2**	**+1.9**
ESDC					Pg		**Pg**	**04 42 20.4**	**-3.0**
ESDC					Lg			04 43 05.3	
ESDC	**Sonseca Array**	**3.21**	**342**		Pn		**Pn**	**04 42 13.2**	**+1.9**
	0.2nm,0.1s,baz=158,slow=12,SNR=7.9								
ESDC					Pg		**Pg**	**04 42 20.4**	**-3.0**
	2.0nm,0.2s,baz=159,slow=13,SNR=5.6								
ESDC					Lg			04 43 05.3	
	12nm,0.5s,baz=155,slow=28,SNR=7.9								
ESDC	**Sonseca Array**	**3.21**	**342**		Pn		**Pn**	**04 42 13.2**	**+1.9**
	0.2nm,0.1s,SNR=7.9								
ESDC	**Sonseca Array**	**3.21**	**342**		Pg		**Pg**	**04 42 20.4**	**-3.0**
	2.0nm,0.2s,SNR=5.6								
ESDC					Lg			04 43 05.3	
	12nm,0.5s,SNR=7.9								
EMIN	**Mina Concepcio**	**3.41**	**291**		Pn		**Pn**	**04 42 13.9**	**0.0**
EMIN					Sn		**Sn**	**04 42 53.1**	**-0.7**
EMIN					Lg			04 43 07.6	
EMIN	**Mina Concepcio**	**3.41**	**291**		Pn		**Pn**	**04 42 13.9**	**0.0**
	0.3nm,0.1s,SNR=8.8								
EMIN					Sn		**Sn**	**04 42 53.1**	**-0.7**
	1.3nm,0.2s,SNR=5.0								
EMIN					Lg			04 43 07.6	
	2.5nm,0.4s,SNR=7.9								
EMIN	**Mina Concepcio**	**3.41**	**291**		Pn		**Pn**	**04 42 13.9**	**-0.1**
	0.3nm,0.1s,SNR=8.8								
EMIN					Sn		**Sn**	**04 42 53.1**	**-0.7**
	1.3nm,0.2s,SNR=5.0								
EMIN					Lg			04 43 07.6	
	2.5nm,0.4s,SNR=7.9								
PBAR	**Barrancos**	**3.82**	**295**	*e*Pn			**Pn**	**04 42 20.5**	**+0.8**
PBAR				*e*Sn			**Sn**	**04 43 04.3**	**+0.3**
	7.5nm,0.7s								
PBAR	**Barrancos**	**3.82**	**295**	*e*Pn			**Pn**	**04 42 20.5**	**+0.8**
PBAR				*e*Sn			**Sn**	**04 43 04.3**	**+0.3**
PBAR				A				04 43 42.7	
	7.5nm,0.7s								
EIBI	**Ibiza**	**3.96**	**52**		Pn		**Pn**	**04 42 19.9**	**-1.8**
EIBI					Sn		**Sn**	**04 43 03.1**	**-4.5**
EIBI	**Ibiza**	**3.96**	**52**		Pn		**Pn**	**04 42 19.8**	**-1.8**
	0.6nm,0.1s,SNR=8.3								
EIBI					Sn		**Sn**	**04 43 03.1**	**-4.5**
	4.2nm,0.3s,SNR=5.0								
EIBI	**Ibiza**	**3.96**	**52**		Pn		**Pn**	**04 42 19.8**	**-1.8**
	0.6nm,0.1s,SNR=8.3								
EIBI					Sn		**Sn**	**04 43 03.1**	**-4.5**
	4.2nm,0.3s,SNR=5.0								
EGRO	**El Granado**	**3.97**	**285**		Pn		**Pn**	**04 42 22.2**	**+0.5**
EGRO					Sn		**Sn**	**04 43 07.2**	**-0.5**
EGRO					Lg			04 43 25.7	
EGRO	**El Granado**	**3.97**	**285**		Pn		**Pn**	**04 42 22.2**	**+0.5**
	2.4nm,0.3s,SNR=6.1								
EGRO					Sn		**Sn**	**04 43 07.2**	**-0.5**
	1.3nm,0.1s,SNR=4.6								
EGRO					Lg			04 43 25.7	
	1.5nm,0.3s,SNR=5.0								
EGRO	**El Granado**	**3.97**	**285**		Pn		**Pn**	**04 42 22.2**	**+0.5**
	2.4nm,0.3s,SNR=6.1								
EGRO					Sn		**Sn**	**04 43 07.2**	**-0.5**
	1.3nm,0.1s,SNR=4.6								
EGRO					Lg			04 43 25.7	
	1.5nm,0.3s,SNR=5.0								
EBAD	**Badajoz**	**4.06**	**303**		Pn		**Pn**	**04 42 23.3**	**+0.4**
EBAD					Sn		**Sn**	**04 43 09.5**	**-0.4**
EBAD					Lg			04 43 30.9	
EBAD	**Badajoz**	**4.06**	**303**		Pn		**Pn**	**04 42 23.3**	**+0.4**
	0.4nm,0.1s,SNR=7.4								
EBAD					Sn		**Sn**	**04 43 09.5**	**-0.4**
	3.1nm,0.2s,SNR=7.9								
EBAD					Lg			04 43 30.9	
	3.0nm,0.3s,SNR=5.0								
EBAD	**Badajoz**	**4.06**	**303**		Pn		**Pn**	**04 42 23.3**	**+0.4**
	0.4nm,0.1s,SNR=7.4								
EBAD					Sn		**Sn**	**04 43 09.5**	**-0.4**
	3.1nm,0.2s,SNR=7.9								
EBAD					Lg			04 43 30.9	
	3.0nm,0.3s,SNR=5.0								
EMOS	**Mosqueruela**	**4.10**	**24**		Pn		**Pn**	**04 42 24.0**	**+0.5**
EMOS					Sn		**Sn**	**04 43 09.9**	**-1.0**
EMOS	**Mosqueruela**	**4.10**	**24**		Pn		**Pn**	**04 42 24.0**	**+0.5**
	0.1nm,0.1s,SNR=7.9								
EMOS					Sn		**Sn**	**04 43 09.9**	**-1.1**
	1.2nm,0.4s,SNR=7.9								
EMOS	**Mosqueruela**	**4.10**	**24**		Pn		**Pn**	**04 42 24.0**	**+0.5**
	0.1nm,0.1s,SNR=7.9								
EMOS					Sn		**Sn**	**04 43 09.9**	**-1.1**
	1.2nm,0.4s,SNR=7.9								
PVAQ	**Vaqueiros**	**4.13**	**282**	*e*Pn			**Pn**	**04 42 24.1**	**+0.2**
PVAQ				*e*Sn			**Sn**	**04 43 10.1**	**-1.5**
	5.1nm,0.5s								
PVAQ	**Vaqueiros**	**4.13**	**282**	*e*Pn			**Pn**	**04 42 24.1**	**+0.2**
PVAQ				*e*Sn			**Sn**	**04 43 10.1**	**-1.5**
PVAQ				A				04 43 13.9	
	5.1nm,0.5s								
GUD	**Guadarrama**	**4.18**	**344**		Pg		**Pg**	**04 42 37.7**	**-4.2**
GUD					Lg			04 43 35.4	
GUD	**Guadarrama**	**4.18**	**344**		Pg		**Pg**	**04 42 37.7**	**-4.2**
	0.9nm,0.2s,SNR=7.9								
GUD					Lg			04 43 35.4	
	16nm,0.5s,SNR=7.9								
GUD	**Guadarrama**	**4.18**	**344**		Pg		**Pg**	**04 42 37.7**	**-4.2**
	0.9nm,0.2s,SNR=7.9								
GUD					Lg			04 43 35.4	
	16nm,0.5s,SNR=7.9								
ETOR	**Torete**	**4.21**	**6**		Pn		**Pn**	**04 42 25.5**	**+0.5**
ETOR					Pg		**Pg**	**04 42 41.8**	**-0.7**
ETOR					Sn		**Sn**	**04 43 10.7**	**-3.0**
ETOR					Lg			04 43 33.3	
ETOR	**Torete**	**4.21**	**6**		Pn		**Pn**	**04 42 25.5**	**+0.5**
	2.1nm,0.3s,SNR=7.3								
ETOR					Pg		**Pg**	**04 42 41.8**	**-0.7**
	9.5nm,0.5s,SNR=7.9								
ETOR					Sn		**Sn**	**04 43 10.7**	**-3.0**
	5.4nm,0.5s,SNR=7.9								
ETOR					Lg			04 43 33.3	
	8.9nm,0.4s,SNR=5.0								
ETOR	**Torete**	**4.21**	**6**		Pn		**Pn**	**04 42 25.5**	**+0.5**
	2.1nm,0.3s,SNR=7.3								
ETOR	**Torete**	**4.21**	**6**		Pg		**Pg**	**04 42 41.8**	**-0.7**
	9.5nm,0.5s,SNR=7.9								
ETOR					Sn		**Sn**	**04 43 10.6**	**-3.0**
	5.4nm,0.5s,SNR=7.9								
ETOR					Lg			04 43 33.3	
	8.9nm,0.4s,SNR=5.0								
PBDV	**Barranco-do-Ve**	**4.28**	**280**	*e*Pn			**Pn**	**04 42 26.8**	**+0.9**
PBDV				*e*Sn			**Sn**	**04 43 13.8**	**-1.5**
	2.8nm,0.5s								
PBDV	**Barranco-do-Ve**	**4.28**	**280**	*e*Pn			**Pn**	**04 42 26.8**	**+0.9**
PBDV				*e*Sn			**Sn**	**04 43 13.8**	**-1.5**
PBDV				A				04 43 20.6	
	2.8nm,0.5s								
EPLA	**Plasencia**	**4.36**	**323**		Pn		**Pn**	**04 42 27.2**	**+0.1**
EPLA					Sn		**Sn**	**04 43 17.6**	**+0.2**
EPLA					Lg			04 43 39.2	
EPLA	**Plasencia**	**4.36**	**323**		Pn		**Pn**	**04 42 27.2**	**+0.1**
	0.8nm,0.2s,SNR=7.9								
EPLA					Sn		**Sn**	**04 43 17.6**	**+0.2**
	1.4nm,0.3s,SNR=7.9								
EPLA					Lg			04 43 39.2	
	6.4nm,0.5s,SNR=7.9								
EPLA	**Plasencia**	**4.36**	**323**		Pn		**Pn**	**04 42 27.2**	**+0.1**
	0.8nm,0.2s,SNR=7.9								
EPLA					Sn		**Sn**	**04 43 17.5**	**+0.1**
	1.4nm,0.3s,SNR=7.9								
EPLA					Lg			04 43 39.2	
	6.4nm,0.5s,SNR=7.9								
PBEJ	**Beja**	**4.39**	**290**	*e*Pn			**Pn**	**04 42 27.8**	**+0.4**
PBEJ				*e*Sn			**Sn**	**04 43 17.3**	**-0.7**
	2.9nm,0.5s								
PBEJ	**Beja**	**4.39**	**290**	*e*Pn			**Pn**	**04 42 27.8**	**+0.4**
PBEJ				*e*Sn			**Sn**	**04 43 17.3**	**-0.7**
PBEJ				A				04 43 51.5	
	2.9nm,0.5s								
PCVE	**Castro Verde**	**4.42**	**285**	*e*Pn			**Pn**	**04 42 28.2**	**+0.3**
PCVE				*e*Sn			**Sn**	**04 43 18.4**	**-0.5**
	3.2nm,0.5s								
PCVE	**Castro Verde**	**4.42**	**285**	*e*Pn			**Pn**	**04 42 28.2**	**+0.3**
PCVE				*e*Sn			**Sn**	**04 43 18.4**	**-0.5**
PCVE				A				04 43 24.3	
	3.2nm,0.5s								
PESTR	**Estremoz**	**4.51**	**301**	*e*Pn			**Pn**	**04 42 30.3**	**+1.2**
PESTR				*e*Sn			**Sn**	**04 43 21.5**	**+0.5**
	9.0nm,0.6s								
PESTR	**Estremoz**	**4.51**	**301**	*e*Pn			**Pn**	**04 42 30.3**	**+1.2**
PESTR				*e*Sn			**Sn**	**04 43 21.5**	**+0.5**
PESTR				A				04 44 03.6	
	9.0nm,0.6s								
EVO	**Evora**	**4.67**	**296**	*e*Pn			**Pn**	**04 42 31.9**	**+0.7**
EVO				*e*Sn			**Sn**	**04 43 24.5**	**-0.3**
	4.1nm,0.7s								
EVO	**Evora**	**4.67**	**296**	*e*Pn			**Pn**	**04 42 31.9**	**+0.7**
EVO				*e*Sn			**Sn**	**04 43 24.5**	**-0.3**
EVO				A				04 44 00.9	
	4.1nm,0.7s								
PMRV	**Marv??o**	**4.67**	**308**	*e*Pn			**Pn**	**04 42 32.5**	**+1.2**
PMRV				*e*Sn			**Sn**	**04 43 25.8**	**+0.8**
	9.8nm,0.7s								
PMRV	**Marv??o**	**4.67**	**308**	*e*Pn			**Pn**	**04 42 32.5**	**+1.2**
PMRV				*e*Sn			**Sn**	**04 43 25.8**	**+0.8**
PMRV				A				04 44 09.8	
	9.8nm,0.7s								
ERTA	**Horta de San J**	**4.91**	**27**		Pn		**Pn**	**04 42 35.6**	**+1.0**
ERTA					Sn		**Sn**	**04 43 28.4**	**-2.5**
ERTA	**Horta de San J**	**4.91**	**27**		Pn		**Pn**	**04 42 35.6**	**+1.0**
	0.7nm,0.3s,SNR=7.9								
ERTA					Sn		**Sn**	**04 43 28.4**	**-2.5**
	0.8nm,0.3s,SNR=7.9								
ERTA	**Horta de San J**	**4.91**	**27**		Pn		**Pn**	**04 42 35.6**	**+1.0**
	0.7nm,0.3s,SNR=7.9								
ERTA					Sn		**Sn**	**04 43 28.4**	**-2.5**
	0.8nm,0.3s,SNR=7.9								
PNCL	**Nicolau / Gran**	**4.91**	**289**	*e*Pn			**Pn**	**04 42 35.3**	**+0.7**
PNCL				*e*Sn			**Sn**	**04 43 30.2**	**-0.7**
	3.4nm,1.0s								
PNCL	**Nicolau / Gran**	**4.91**	**289**	*e*Pn			**Pn**	**04 42 35.3**	**+0.7**
PNCL				*e*Sn			**Sn**	**04 43 30.2**	**-0.7**
PNCL				A				04 43 45.2	
	3.4nm,1.0s								
PTEO	**Sao Teotonio**	**4.94**	**282**	*e*Pn			**Pn**	**04 42 35.6**	**+0.5**
PTEO				*e*Sn			**Sn**	**04 43 30.8**	**-0.9**
	6.9nm,1.0s								
PTEO	**Sao Teotonio**	**4.94**	**282**	*e*Pn			**Pn**	**04 42 35.6**	**+0.5**
PTEO				*e*Sn			**Sn**	**04 43 30.8**	**-0.9**
PTEO				A				04 44 05.6	
	6.9nm,1.0s								
PCBR	**Castelo Branco**	**4.97**	**312**	*e*Pn			**Pn**	**04 42 37.1**	**+1.6**
PCBR				*e*Sn			**Sn**	**04 43 33.3**	**+0.9**
	9.1nm,0.7s								
PCBR	**Castelo Branco**	**4.97**	**312**	*e*Pn			**Pn**	**04 42 37.1**	**+1.6**
PCBR				*e*Sn			**Sn**	**04 43 33.3**	**+0.9**
PCBR				A				04 44 15.1	
	9.1nm,0.7s								
PFVI	**Vila Bisbo**	**4.98**	**278**		Pn		**Pn**	**04 42 35.1**	**-0.4**
PFVI					Sn		**Sn**	**04 43 31.5**	**-1.1**
PFVI	**Vila Bisbo**	**4.98**	**278**		Pn		**Pn**	**04 42 35.1**	**-0.4**
	2.4nm,0.2s,SNR=7.9								
PFVI					Sn		**Sn**	**04 43 31.5**	**-1.1**
	1.6nm,0.2s,SNR=7.9								
PFVI	**Vila Bisbo**	**4.98**	**278**	*e*Pn			**Pn**	**04 42 35.6**	**0.0**
PFVI				*e*Sn			**Sn**	**04 43 31.5**	**-1.1**
	1.6nm,0.2s,SNR=7.9								
PFVI	**Vila Bisbo**	**4.98**	**278**	*e*Pn			**Pn**	**04 42 35.6**	**0.0**
PFVI				*e*Sn			**Sn**	**04 43 31.2**	**-1.4**
PFVI				A				04 43 38.4	
	7.1nm,0.5s								
PMTG	**Montargil**	**5.04**	**301**	*e*Pn			**Pn**	**04 42 37.4**	**+1.0**
PMTG				*e*Sn			**Sn**	**04 43 33.8**	**-0.3**
	7.7nm,0.7s								
PMTG	**Montargil**	**5.04**	**301**	*e*Pn			**Pn**	**04 42 37.4**	**+1.0**
PMTG				*e*Sn			**Sn**	**04 43 33.8**	**-0.3**
PMTG				A				04 44 17.1	
	7.7nm,0.7s								
ETOS	**Mallorca**	**5.32**	**52**		Pn		**Pn**	**04 42 38.7**	**-1.6**
ETOS					Sn		**Sn**	**04 43 37.2**	**-3.9**
ETOS	**Mallorca**	**5.32**	**52**		Pn		**Pn**	**04 42 38.7**	**-1.6**
	1.2nm,0.3s,SNR=6.4								
ETOS					Sn		**Sn**	**04 43 37.2**	**-3.9**
	0.3nm,0.2s,SNR=5.0								
ETOS	**Mallorca**	**5.32**	**52**		Pn		**Pn**	**04 42 38.7**	**-1.6**
	1.2nm,0.3s,SNR=6.4								
ETOS					Sn		**Sn**	**04 43 37.2**	**-3.9**
	0.3nm,0.2s,SNR=5.0								
MTE	**Manteigas**	**5.38**	**316**	*e*Pn			**Pn**	**04 42 44.7**	**+3.7**
MTE				*e*Sn			**Sn**	**04 43 43.9**	**+1.5**
	15nm,0.6s								
MTE	**Manteigas**	**5.38**	**316**	*e*Pn			**Pn**	**04 42 44.7**	**+3.7**
MTE				*e*Sn			**Sn**	**04 43 43.9**	**+1.5**
MTE				A				04 44 24.1	
	15nm,0.6s								
PTOM	**Tomar**	**5.43**	**305**	*e*Pn			**Pn**	**04 42 43.3**	**+1.5**
PTOM				*e*Sn			**Sn**	**04 43 45.6**	**+1.8**
	8.4nm,0.6s								
PTOM	**Tomar**	**5.43**	**305**	*e*Pn			**Pn**	**04 42 43.3**	**+1.5**
PTOM				*e*Sn			**Sn**	**04 43 45.6**	**+1.8**
PTOM				A				04 44 28.7	
	8.4nm,0.6s								
MVO	**Moncorvo**	**5.67**	**324**		Pn		**Pn**	**04 42 44.7**	**-0.4**
MVO					Sn		**Sn**	**04 43 49.0**	**-0.7**
MVO					Lg			04 44 20.8	
MVO	**Moncorvo**	**5.67**	**324**		Pn		**Pn**	**04 42 44.7**	**-0.4**
	0.6nm,0.2s,SNR=7.2								
MVO					Sn		**Sn**	**04 43 49.0**	**-0.7**
	6.1nm,0.5s,SNR=7.9								
MVO					Lg			04 44 20.8	
	6.3nm,0.6s,SNR=7.9								
MVO	**Moncorvo**	**5.67**	**324**		Pn		**Pn**	**04 42 44.7**	**-0.4**
	0.6nm,0.2s,SNR=7.2								
MVO					Sn		**Sn**	**04 43 49.0**	**-0.7**
	6.1nm,0.5s,SNR=7.9								
MVO					Lg			04 44 20.8	
	6.3nm,0.6s,SNR=7.9								
MVO	**Moncorvo**	**5.67**	**324**	*e*Pn			**Pn**	**04 42 47.4**	**+2.3**
MVO				*e*Sn			**Sn**	**04 43 51.1**	**+1.4**
MVO				A				04 44 43.0	
	9.2nm,0.6s								
PMAFR	**Mafra**	**5.74**	**296**		Pn		**Pn**	**04 42 45.4**	**-0.7**
	2.2nm,0.2s,SNR=7.9								
PMAFR					Sn		**Sn**	**04 43 48.5**	**-3.0**
	12nm,0.5s,SNR=7.9								
PMAFR	**Mafra**	**5.74**	**296**	*e*Pn			**Pn**	**04 42 46.5**	**+0.4**
PMAFR					Sn		**Sn**	**04 43 48.5**	**-2.9**
	12nm,0.5s,SNR=7.9								
PMAFR	**Mafra**	**5.74**	**296**	*e*Pn

DJA 08 05:11:10.5±5.5″S×102°07.0±0.7″E, h29km, MLv3.5/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.21**	**12**	P	Pn	05 11 31.4	+0.4
MNAI				S	Sn	05 11 46.4	0.0
LWLI	**Liwa**	**1.45**	**69**	P	Pn	05 11 34.0	-0.3
LWLI				S	Sn	05 11 53.2	+0.8
MDSI	**Maura Dua**	**1.81**	**54**	P	Pn	05 11 39.3	0.0
MDSI				S	Sn	05 12 03.0	+1.7
KLSI		**2.19**	**67**	P	Pn	05 11 45.1	+0.6

*NEIC **08** 05:11:59.6, 18°.11N×69°.89W, h134km, MD4.0(RSPR), After RSPR.*

RSPR 08 05:11:59.6, 18°.11N×69°.89W, h133km±8km, MD4.0/9, 13C-4D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**1.59**	**303**	*e*Pn	Pn	05 12 27.4	-1.6
SDDR				*e*Sn	Sn	05 12 50.9	-0.5
CRPR	**Cabo Rojo, PR**	**2.64**	**92↓**	*e*P	Pn	05 12 41.7	-0.1
CRPR	**Cabo Rojo, PR**	**2.64**	**92↓**	*e*P	Pn	05 12 41.7	-0.1
AGPR	**Aguadilla, PR**	**2.66**	**82↑**	*e*P	Pn	05 12 41.7	-0.3
AGPR	**Aguadilla, PR**	**2.66**	**82↑**	*e*P	Pn	05 12 41.7	-0.3
AGPR				*e*S	Sn	05 13 15.2	+0.5
LRS	**Lares**	**2.90**	**86↓**	*e*P	Pn	05 12 45.6	+0.6
LRS				*e*S	Sn	05 13 21.0	+0.9
LRS	**Lares**	**2.90**	**86↓**	*e*P	Pn	05 12 45.6	+0.6
LRS				*e*S	Sn	05 13 21.0	+0.9
CELP	**Cerrillos**	**3.14**	**90↑**	*e*P	Pn	05 12 48.4	+0.1
CELP	**Cerrillos**	**3.14**	**90↑**	*e*P	Pn	05 12 48.4	+0.1
SJG	**San Juan**	**3.55**	**89↑**	*e*P	Pn	05 12 54.5	+0.9
SJG				*e*S	Sn	05 13 36.1	+0.8
SJG	**San Juan**	**3.55**	**89↑**	*e*P	Pn	05 12 53.5	-0.1
SJG	**San Juan**	**3.55**	**89↑**	*e*P	Pn	05 12 53.5	-0.1
SJG				*e*S	Sn	05 13 36.1	+0.8
CBYP	**Canovanas**	**3.83**	**87↑**	*e*P	Pn	05 12 57.5	+0.2
CBYP	**Canovanas**	**3.83**	**87↑**	*e*P	Pn	05 12 57.5	+0.2
CBYP				*e*S	Sn	05 13 43.1	+1.1
HUMP	**Col San Antoni**	**3.84**	**89↑**	*e*P	Pn	05 12 57.6	+0.3
HUMP	**Col San Antoni**	**3.84**	**89↑**	*e*P	Pn	05 12 57.6	+0.3
HUMP				*e*S	Sn	05 13 43.0	+1.0
MTP	**Monte Pirata**	**4.12**	**89↑**	*e*P	Pn	05 13 02.1	+1.0
MTP	**Monte Pirata**	**4.12**	**89↑**	*e*P	Pn	05 13 02.1	+1.0
MTP				*e*S	Sn	05 13 49.5	+0.7

IDC 08 05:16:55.2±11.0, 16°.91S×176°.90W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.6/18, mbtmpg3.4/3, Error ellipse: s-maj=492.7km s-min=36.5km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.24**	**258**	P	P	05 25 22.6	0.0
	0.3nm,0.4s,baz=94,slow=6.9,SNR=6.8						
ASAR	**Alice Springs**	**46.45**	**253**	P	P	05 25 24.1	-0.2
	0.3nm,0.4s,baz=86,slow=7.7,SNR=5.0						
ILAR	**Eielson Array**	**84.60**	**12**	P	P	05 29 30.1	+0.1
	0.2nm,0.5s,baz=228,slow=5.7,SNR=7.8						

*ISCJB **08** 05:33:40.9±0.6, 38°.28N±0°.03×39°.31E±0°.03, h3km±5km, Error ellipse: s-maj=4.9km s-min=3.4km az=4.4*
*DDA **08** 05:33:40.7, 38°.31N×39°.33E, h7km±4km, Md3.4*
*ISK **08** 05:33:40.5, 38°.29N×39°.31E, h6km, MD3.3*
*CSEM **08** 05:33:41.1±0.2, 38°.31N×39°.31E, h2km, MD3.3, Error ellipse: s-maj=6.0km s-min=4.9km az=173.0*

ISC 08 05:33:41.4±0.5, 38°.30N±0°.03×39°.33E±0°.03, h3km±5km, n41, σ1.9±1.6/58, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.09**	**346**	PG	**Pg**	**05 33 43.0**	**-0.2**
SVRC				SG	**Sg**	**05 33 44.7**	**+0.4**
SVRC	**Sivrice-ELAZID**	**0.09**	**346**	*i* Pg	**Pg**	**05 33 43.0**	**-0.1**
SVRC				*i* Sg	**Sg**	**05 33 44.7**	**+0.4**
ELZG	**Elazig**	**0.34**	**307**	*i* P	**Pg**	**05 33 47.8**	**-0.2**
ELZG				*i* S	**Sg**	**05 33 54.1**	**+1.7**
ELZG	**Elazig**	**0.34**	**307**	*i* P	**Pg**	**05 33 47.8**	**-0.1**
ELZG				*i* S	**Sg**	**05 33 54.1**	**+1.7**
MYA	**Malataya**	**0.71**	**273**	*e*PG	**Pg**	**05 33 54.4**	**-0.7**
MYA	**Malataya**	**0.71**	**273**	*e*Pg	**Pg**	**05 33 54.4**	**-0.7**
DIYA	**Diyarbakir**	**0.72**	**121**	*i* P	**Pg**	**05 33 55.5**	**+0.2**
DIYA				*i* S	**Sg**	**05 34 07.4**	**+2.7**
DIYA	**Diyarbakir**	**0.72**	**121**	*i* P	**Pg**	**05 33 55.5**	**+0.2**
DIYA				*i* S	**Sg**	**05 34 07.4**	**+2.7**
BINT	**Bingol**	**1.08**	**57**	*e*PN	**Pg**	**05 34 01.7**	**-0.4**
BINT	**Bingol**	**1.08**	**57**	*e*Pn	**Pg**	**05 34 01.7**	**-0.3**
AKCD	**Akcadag**	**1.11**	**270**	*i* P	**Pg**	**05 34 01.5**	**-1.1**
AKCD				*i* S	**Sg**	**05 34 18.1**	**+1.0**
AKCD	**Akcadag**	**1.11**	**270**	*i* P	**Pg**	**05 34 01.5**	**-1.2**
AKCD				*i* S	**Sg**	**05 34 18.1**	**+1.0**
ATAB	**Bozova**	**1.16**	**225**	*i* P	**Pg**	**05 34 02.3**	**-1.4**
ATAB				*i* S	**Sg**	**05 34 19.3**	**+0.6**
ATAB	**Bozova**	**1.16**	**225**	*i* P	**Pg**	**05 34 02.3**	**-1.4**
ATAB				*i* S	**Sg**	**05 34 19.3**	**+0.5**
KEMA	**Kemaliye**	**1.17**	**326**	*i* P	**Pg**	**05 34 02.2**	**-1.7**
KEMA				*i* S	**Sg**	**05 34 18.4**	**-0.7**
KEMA	**Kemaliye**	**1.17**	**326**	*i* P	**Pg**	**05 34 02.2**	**-1.7**
KEMA				*i* S	**Sg**	**05 34 18.4**	**-0.7**
DARE	**Darende-Malaty**	**1.36**	**299**	*e*PN	**Pn**	**05 34 07.9**	**+0.6**
DARE	**Darende-Malaty**	**1.36**	**299**	*e*Pn	**Pn**	**05 34 07.9**	**+0.6**
EZC	**Erzincan**	**1.46**	**1**	*e*PN	**Pn**	**05 34 08.5**	**0.0**
EZC	**Erzincan**	**1.46**	**1**	*e*Pn	**Pn**	**05 34 08.5**	**-0.1**
MARD	**Mardin**	**1.51**	**130**	*i* P	**Pn**	**05 34 06.9**	**-2.3**
MARD				*i* S	**Sn**	**05 34 27.4**	**-1.9**
BNGL	**BINGOL**	**1.57**	**65**	*i* P	**Pn**	**05 34 09.6**	**-0.5**
BNGL				*i* S	**Sn**	**05 34 32.4**	**+1.5**
BEST	**Besiri**	**1.58**	**104**	*i* P	**Pn**	**05 34 09.7**	**-0.6**
BEST				*i* S	**Sn**	**05 34 33.0**	**+1.8**
GZT	**Gaziantep**	**1.69**	**237**	*i* P	**Pn**	**05 34 10.2**	**-1.5**
GZT				*i* S	**Sn**	**05 34 37.0**	**+3.2**
GAZ	**Gaziantep**	**2.02**	**237**	*e*PN	**Pn**	**05 34 15.9**	**-0.4**
GAZ	**Gaziantep**	**2.02**	**237**	*e*Pn	**Pn**	**05 34 15.9**	**-0.4**
KMRS	**Kahramanmaras**	**2.08**	**248**	*e*PN	**Pn**	**05 34 16.5**	**-0.7**
KMRS	**Kahramanmaras**	**2.08**	**248**	*e*Pn	**Pn**	**05 34 16.5**	**-0.6**
SARI	**SarD1z-Kayseri**	**2.10**	**281**	*e*PN	**Pn**	**05 34 19.6**	**+2.2**
SARI	**SarD1z-Kayseri**	**2.10**	**281**	*e*Pn	**Pn**	**05 34 19.6**	**+2.1**
GUMT	**Gumushane**	**2.17**	**3**	*e*PN	**Pn**	**05 34 17.6**	**-0.7**
GUMT	**Gumushane**	**2.17**	**3**	*e*Pn	**Pn**	**05 34 17.6**	**-0.7**
EZM	**Erzurum**	**2.25**	**44**	*e*PN	**Pn**	**05 34 19.6**	**+0.1**
ANDN	**Andirin**	**2.47**	**254**	*i* P	**Pg**	**05 34 28.4**	**-0.3**
ANDN				*i* S	**Sg**	**05 35 02.5**	**+1.8**
KOZT	**Kozan**	**2.89**	**255**	*e*PN	**Pn**	**05 34 28.1**	**-0.2**
YOZ	**Yozgat**	**3.40**	**294**	*e*PN	**Pn**	**05 34 35.4**	**+0.1**
YOZ	**Yozgat**	**3.40**	**294**	*e*Pn	**Pn**	**05 34 35.4**	**+0.1**
KARA	**Karaisali**	**3.54**	**254**	*e*PN	**Pn**	**05 34 36.9**	**-0.4**
KARA	**Karaisali**	**3.54**	**254**	*e*Pn	**Pn**	**05 34 36.9**	**-0.4**
CUKT	**Cukurca**	**3.54**	**106**	*e*PN	**Pn**	**05 34 38.5**	**+1.2**
CUKT	**Cukurca**	**3.54**	**106**	*e*Pn	**Pn**	**05 34 38.5**	**+1.2**

*ISCJB **08** 05:55:45.7±0.3, 7°.38S±0°.06×108°.85E±0°.03, h161km±3km, mb4.2/16, Error ellipse: s-maj=9.8km s-min=3.8km az=20.9*
*DJA **08** 05:55:46, 7°.51S×108°.81E, h146km, MLv4.8/27*
*IDC **08** 05:55:47.3±0.7, 7°.07S×109°.07E, h167km±6km, mb3.7/10, mb1 4.0/11, mb1mx3.8/22, mbtmpg3.8/11, Error ellipse: s-maj=21.4km s-min=8.8km az=47.0*
*NEIC **08** 05:55:48.6±1.6, 7°.08S×108°.99E, h181km±17km, mb4.4/11, Error ellipse: s-maj=17.5km s-min=6.7km az=49.0*

ISC 08 05:55:46.6±0.3, 7°.36S±0°.06×108°.86E±0°.03, h158km±2km, h166km±6.8km: pP-P, n74, σ1.9±0.2/82, mb4.2/16, 1D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLJI	**Cilicap**	**0.39**	**157**	S	**Sn**	**05 56 24.1**	**-1.1**
CISI	**Cisompet, Garu**	**1.05**	**259**	P	**Pn**	**05 56 11.9**	**-0.7**
CISI				S	**Sn**	**05 56 31.5**	**-1.0**
YOGI	**Yogyakarta**	**1.49**	**108**	P	**Pn**	**05 56 16.4**	**-0.3**
SMRI	**Semarang**	**1.60**	**79**	P	**Pn**	**05 56 18.0**	**+0.2**
SMRI				S	**Sn**	**05 56 44.2**	**+2.5**
UGM	**Wanagama**	**1.74**	**109**	P	**Pn**	**05 56 18.7**	**-0.6**
UGM				S	**Sn**	**05 56 44.4**	**0.0**
DBJI	**Dramaga**	**2.24**	**291**	P	**Pn**	**05 56 25.4**	**+0.3**
DBJI				S	**Sn**	**05 56 56.2**	**+1.5**
SKJI	**Sukabumi**	**2.31**	**279**	P	**Pn**	**05 56 25.7**	**-0.2**
PCJI	**Pacitan**	**2.44**	**110**	P	**Pn**	**05 56 26.5**	**-0.9**
PCJI				S	**Sn**	**05 56 57.1**	**-1.8**
TNG	**Tangerang**	**2.50**	**298**	P	**Pn**	**05 56 28.0**	**-0.1**
NGJI	**Ngawi**	**2.58**	**90**	P	**Pn**	**05 56 30.4**	**+1.3**
SJI	**Sawahan**	**2.91**	**98**	P	**Pn**	**05 56 33.1**	**0.0**
SBJI	**Serang**	**2.98**	**294**	P	**Pn**	**05 56 34.1**	**+0.1**
PWJI	**Pagerwojo**	**2.99**	**103**	P	**Pn**	**05 56 33.7**	**-0.5**
CGJI	**Cibinong**	**3.23**	**283**	P	**Pn**	**05 56 36.5**	**-0.7**
RBSI	**Rajabasa**	**3.44**	**296**	P	**Pn**	**05 56 39.8**	**-0.1**
KRKI	**Karangkates**	**3.65**	**103**	P	**Pn**	**05 56 42.0**	**-0.5**
BLSI	**Bandar Lampung**	**4.10**	**299**	P	**Pn**	**05 56 48.7**	**+0.3**
GMJI	**Gumukmas**	**4.63**	**102**	P	**Pn**	**05 56 55.5**	**+0.2**
KLI	**Kotabumi**	**4.69**	**302**	P	**Pn**	**05 56 56.3**	**+0.2**
BLJI	**Banyuglugur**	**4.71**	**95**	P	**Pn**	**05 56 56.6**	**+0.3**
KLSI		**4.89**	**303**	P	**Pn**	**05 56 58.8**	**+0.1**
KMMI	**Kalianget**	**5.08**	**87**	P	**Pn**	**05 57 01.4**	**+0.2**
	0.9nm3μm308nm,1.0s						
LWLI	**Liwa**	**5.31**	**296**	P	**Pn**	**05 57 04.9**	**+0.6**
	1.5nm8μm250nm,0.9s						
JAGI	**Jajag, Banyuwa**	**5.36**	**102**	P	**Pn**	**05 57 05.2**	**+0.3**
	0.9nm4μm284nm,0.8s						
MDSI	**Maura Dua**	**5.46**	**301**	P	**Pn**	**05 57 06.6**	**+0.3**
	0.6nm2μm213nm,1.0s						
SRBI	**Singaraja**	**6.34**	**97**	P	**Pn**	**05 57 19.0**	**+1.1**
	0.7nm3μm131nm,0.6s						
IGBI	**Denpasar**	**6.39**	**104**	P	**Pn**	**05 57 18.6**	**0.0**
SBUM	**Sibu**	**10.30**	**19**	P	**Pn**	**05 58 11.9**	**+1.4**
MYKOM	**Kota Tinggi**	**10.37**	**331**	P	**Pn**	**05 58 11.7**	**+0.3**
PDSI	**Padang**	**10.54**	**307**	P	**Pn**	**05 58 10.3**	**-3.4**
MNSI	**Mandailing Nat**	**12.30**	**311**	P	**Pn**	**05 58 32.1**	**-4.5**
IPM	**Ipoh**	**14.12**	**326**	*e*Pn	**Pn**	**05 59 00.2**	**+0.4**
	27nm,1.0s						
KULM	**Kulim**	**15.00**	**327**	*e*Pn	**Pn**	**05 59 09.7**	**-1.0**
	12nm,0.6s						
MBWA	**Marble Bar**	**17.28**	**144**	*e*P	**Pn**	**05 59 39.2**	**+0.8**
	8.0nm,0.5s						
MBWA				*e*S	**S**	**06 02 39.8**	**-9.4**
FITZ	**Fitzroy Crossi**	**19.52**	**125**	P	**P**	**06 00 03.1**	**+1.3**
	1.2nm,0.3s,baz=301,slow=6.2,SNR=70						
FITZ				S	**S**	**06 03 31.9**	**-2.0**
	0.3nm,0.3s,baz=148,slow=14,SNR=3.7						
FITZ	**Fitzroy Crossi**	**19.52**	**125**	*e*P	**P**	**06 00 03.1**	**+1.2**
	54nm,0.6s						
FITZ	**Fitzroy Crossi**	**19.52**	**125**	P	**P**	**06 00 03.1**	**+1.3**
FITZ				S	**S**	**06 03 31.9**	**-2.0**
KAKA	**Kakadu**	**23.81**	**105**	*e*P	**P**	**06 00 44.1**	**-1.0**
	24nm,0.7s,mb4.8						
KAKA	**Kakadu**	**23.81**	**105**	*e*P	**P**	**06 00 44.0**	**-1.1**
	72nm,0.7s,mb5.3						
CMAR	**Chiang Mai Arr**	**27.46**	**339**	P	**P**	**06 01 15.3**	**-2.6**
	0.7nm,0.4s,mb3.6,baz=174,slow=8.6,SNR=5.9						
CMAR				pP	pP	06 01 52.3	+1.3
	0.9nm,0.3s,baz=178,slow=9.3,SNR=2.7						
CMAR	**Chiang Mai Arr**	**27.46**	**339**	P	**P**	**06 01 15.3**	**-2.6**
CMAR				pP	pP	06 01 52.3	+1.3
WRA	**Warramunga Arr**	**27.68**	**119**	P	**P**	**06 01 20.5**	**+0.5**
	1.3nm,0.3s,mb4.1,baz=314,slow=9.4,SNR=19						
WRA				pP	pP	06 01 54.1	+1.0
	1.7nm,0.6s,baz=297,slow=11,SNR=2.6						
WRA				PcP	PcP	06 04 32.8	-0.4
	0.7nm,0.5s,baz=319,slow=1.7,SNR=3.1						
WRA				S	**S**	**06 05 49.1**	**-1.5**
	0.8nm,0.7s,baz=272,slow=15,SNR=4.8						
WRA	**Warramunga Arr**	**27.68**	**119**	P	**P**	**06 01 20.5**	**+0.5**
WRA				pP	pP	06 01 54.1	+1.0
WRA				PcP	PcP	06 04 32.8	-0.4
WRA				S	**S**	**06 05 49.1**	**-1.5**
WRAB	**Tennant Creek**	**27.69**	**119**	*e*P	**P**	**06 01 19.9**	**-0.1**
	4.0nm,0.6s,mb4.3						
WB2	**Warramunga Arr**	**27.70**	**119**	*e*P	**P**	**06 01 20.2**	**+0.1**
ASAR	**Alice Springs**	**28.99**	**127**	P	**P**	**06 01 32.2**	**+0.7**
	3.4nm,0.6s,mb4.2,baz=304,slow=8.2,SNR=43						
ASAR				PcP	PcP	06 04 36.4	0.0
	1.2nm,0.4s,baz=300,slow=1.9,SNR=9.1						
ASAR				S	**S**	**06 06 09.8**	**-1.1**
	1.5nm,0.9s,baz=295,slow=16,SNR=6.8						
ASAR	**Alice Springs**	**28.99**	**127**	P	**P**	**06 01 32.2**	**+0.7**
ASAR				PcP	PcP	06 04 36.4	0.0
ASAR				S	**S**	**06 06 09.8**	**-1.1**
COEN	**Coen**	**34.32**	**104**	*e*P	**P**	**06 02 17.5**	**-0.8**
	56nm,0.8s,mb5.3						
STKA	**Stephens Creek**	**39.04**	**133**	P	**P**	**06 02 59.4**	**+1.3**
	8.4nm,0.3s,mb4.8,baz=311,slow=8.1,SNR=47						
STKA				PcP	PcP	06 05 05.0	0.0
	2.7nm,0.5s,baz=309,slow=2.7,SNR=4.5						
STKA	**Stephens Creek**	**39.04**	**133**	*e*P	**P**	**06 02 59.3**	**+1.3**
	7.4nm,0.4s,mb4.7						
STKA	**Stephens Creek**	**39.04**	**133**	*e*P	**P**	**06 02 59.2**	**+1.2**
	2.0nm,0.4s,mb4.1						
STKA				PcP	PcP	06 05 05.0	0.0
SONM	**Songino Array**	**55.00**	**358**	P	**P**	**06 04 59.8**	**-1.5**
	0.6nm,0.5s,mb3.5,baz=176,slow=8.4,SNR=5.4						
SONM				pP	pP	06 05 38.1	+0.3
	1.8nm,0.6s,baz=178,slow=7.7,SNR=10						
SONM	**Songino Array**	**55.00**	**358**	P	**P**	**06 04 59.8**	**-1.5**
SONM				pP	pP	06 05 38.1	+0.3
MKAR	**Makanchi Array**	**58.87**	**339**	P	**P**	**06 05 25.8**	**-2.8**
	0.6nm,0.6s,mb3.6,baz=150,slow=7.4,SNR=5.8						
MKAR				pP	pP	06 06 04.0	-1.6
	0.8nm,0.6s,baz=145,slow=6.9,SNR=3.9						
MKAR	**Makanchi Array**	**58.87**	**339**	P	**P**	**06 05 25.8**	**-2.8**
MKAR				pP	pP	06 06 04.0	-1.6
ZALV	**Zalesovo Beam**	**64.36**	**345**	P	**P**	**06 06 05.6**	**+0.4**
	0.4nm,0.3s,mb3.7,baz=144,slow=10,SNR=3.1						
ZALV				pP	pP	06 06 41.3	-1.6
	1.4nm,0.7s,baz=114,slow=3.6,SNR=3.7						
ZALV	**Zalesovo Beam**	**64.36**	**345**	P	**P**	**06 06 05.6**	**+0.4**
ZALV				pP	pP	06 06 41.3	-1.5
MAW	**Mawson**	**67.57**	**197**	P	**P**	**06 06 27.4**	**+1.9**
	4.0nm,0.6s,mb4.3,baz=53,slow=6.8,SNR=21						
MAW	**Mawson**	**67.57**	**197**	*e*P	**P**	**06 06 26.8**	**+1.3**
	1.1nm,0.7s,mb3.7						
VNDA	**Vanda**	**75.28**	**170**	P	**P**	**06 07 13.2**	**+1.5**
	3.2nm,0.5s,mb4.2,baz=314,slow=7.0,SNR=29						
VNDA	**Vanda**	**75.28**	**170**	P	**P**	**06 07 13.2**	**+1.5**
SYO	**Syowa Base**	**75.81**	**200↓**	*e*P	**P**	**06 07 14.2**	**-0.5**
SBA	**Scott Base**	**76.35**	**169**	*e*P	**P**	**06 07 19.7**	**+2.0**
	5.5nm,0.8s,mb4.2						
QSPA	**South Pole Qui**	**82.63**	**180**	*e*P	**P**	**06 07 52.7**	**+1.1**
	7.0nm,1.1s,mb4.3						
BRTR	**Keskin Array B**	**83.45**	**311**	P	**P**	**06 07 54.6**	**-1.9**
	0.4nm,0.4s,mb3.5,baz=130,slow=5.8,SNR=2.7						
BRTR	**Keskin Array B**	**83.45**	**311**	P	**P**	**06 07 54.6**	**-1.9**
SNAA	**Sanae**	**89.73**	**197**	*e*P	**P**	**06 08 27.9**	**+1.5**
	4.3nm,0.8s,mb4.4						
VNA2	**Neumayer--Watz**	**91.38**	**197**	*e*	**P**	**06 08 33.3**	**-0.8**
	baz=100,slow=4.3						
VNA1	**Neumayer--Stat**	**91.76**	**197**	*e*	**P**	**06 08 36.0**	**+0.1**
VNA3	**Neumayer Olymp**	**91.88**	**197**	*e*	**P**	**06 08 35.9**	**-0.5**
TXAR	**Lajitas Array**	**142.40**	**50**	PKhKP	PKPpre	06 14 56.1	
	0.1nm,0.5s,baz=251,slow=2.8,SNR=3.0						
TXAR	**Lajitas Array**	**142.40**	**50**	PKP	PKPpre	06 14 56.1	
CPUP	**Villa Florida**	**143.93**	**201**	PKP	PKPdf	06 15 02.4	-1.5
	1.7nm,0.5s,baz=158,slow=3.0,SNR=8.9						
CPUP	**Villa Florida**	**143.93**	**201**	PKP	PKPdf	06 15 02.4	-1.5

IDC 08 06:04:10.0±1.3, 4.74N×122.82E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/24, mbtmpg3.7/5, Error ellipse: s-maj=88.3km s-min=21.8km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.87**	**173**	P	P	06 09 16.7	+1.5
	1.2nm,0.9s,baz=325,slow=12,SNR=2.5						
WRA	**Warramunga Arr**	**27.02**	**156**	P	P	06 09 52.6	-1.3
	0.6nm,0.3s,baz=337,slow=9.5,SNR=4.7						
ASAR	**Alice Springs**	**30.23**	**160**	P	P	06 10 21.4	-1.2
	0.3nm,0.5s,baz=341,slow=7.0,SNR=4.0						
CTA	**Charters Tower**	**33.75**	**138**	P	P	06 10 54.9	+1.3
	1.5nm,0.3s,baz=321,slow=6.5,SNR=3.3						
MKAR	**Makanchi Array**	**54.54**	**327**	P	P	06 13 39.9	0.0
	0.5nm,0.3s,baz=124,slow=7.8,SNR=14						

MEX 08 06:27:02.7±0.7, 18°.25N×101°.99W, h14km±6km, MD4.1, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.82**	**142**	*i* P	Pg	06 27 15.4	-3.1
ZIIG				*i* S	Sg	06 27 26.0	-3.3
MMIG	**Aquila**	**1.29**	**272**	*i* P	Pn	06 27 23.1	-3.1
MMIG				*i* S	Sb	06 27 37.7	-5.4
MOIG	**Morelia**	**1.61**	**28**	*i* P	Pn	06 27 27.1	-3.6
MOIG				*i* S	Sn	06 27 46.6	-4.6
CAIG	**El Cayaco**	**2.04**	**126**	*i* P	Pn	06 27 33.5	-3.1
CAIG				*i* S	Sn	06 27 57.7	-4.1
MEIG	**Mezcala**	**2.28**	**98**	*e*P	Pn	06 27 36.6	-3.4
MEIG				*i* S	Sn	06 28 03.3	-4.6
PLIG	**Platanillo**	**2.37**	**86**	*i* P	Pn	06 27 38.0	-3.2
PLIG				*i* S	Sn	06 28 06.8	-3.3
ACX	**Acapulco**	**2.46**	**124**	*i* P	Pn	06 27 39.3	-3.1
ACX				*i* S	Sn	06 28 07.2	-5.1
SZVM	**Salazar**	**2.69**	**66**	*e*P	Pn	06 27 43.4	-2.2
SZVM				*i* S	Sn	06 28 16.0	-2.1
MZVM		**2.78**	**70**	*e*P	Pn	06 27 44.9	-1.9
MZVM				*i* S	Sn	06 28 16.3	-3.8
UNM	**Universidad Na**	**2.87**	**68**	*e*P	Pn	06 27 45.8	-2.3
UNM				*i* S	Sn	06 28 19.5	-3.0
PBVM	**Pinon**	**3.00**	**66**	*e*P	Pn	06 27 45.4	-4.4
PBVM				*i* S	Sn	06 28 21.6	-3.9
PTVM	**Pico Tres Padr**	**3.03**	**64**	*e*P	Pn	06 27 48.2	-2.1
PTVM				*i* S	Sn	06 28 22.9	-3.6
IIO	**Organos**	**3.37**	**66**	*e*P	Pn	06 27 53.0	-2.0
IIO				*i* S	Sn	06 28 31.1	-3.7
ANIG	**Ahuacatlan**	**3.67**	**320**	*i* P	Pn	06 27 55.6	-3.4
ANIG				*i* S	Sn	06 28 38.5	-3.6
UTMO	**Huajuapan**	**4.01**	**95**	*i* P	Pn	06 28 01.0	-2.7
UTMO				*i* S	Sn	06 28 47.7	-2.8
PNIG	**Pinotepa**	**4.13**	**116**	*e*P	Pn	06 28 02.7	-2.7
PNIG				*i* S	Sn	06 28 51.6	-1.9
TPIG	**Tehuac#an**	**4.40**	**87**	*e*P	Pn	06 28 06.5	-2.6
TPIG				*i* S	Sn	06 28 56.7	-3.5
VHO	**Vista Hermosa**	**5.15**	**102**	*e*P	Pn	06 28 18.5	-0.9
VHO				*i* S	Sn	06 29 20.2	+1.5
HUIG	**Huatulco**	**6.15**	**113**	*e*P	Pn	06 28 31.3	-1.8
HUIG				*i* S	Sn	06 29 40.6	-2.7
CMIG	**Matias Romero**	**6.88**	**99**	*e*P	Pn	06 28 40.2	-2.9
CMIG				*i* S	Sn	06 30 02.6	+1.3

*ISCJB **08** 06:57:45.9±0.5, 38°.10N±0°.05×21°.37E±0°.03, h14km±4km, Error ellipse: s-maj=8.2km s-min=4.3km az=177.8*
*CSEM **08** 06:57:45.9±0.2, 38°.12N×21°.38E, h11km±1km, MD2.7, Error ellipse: s-maj=5.0km s-min=3.1km az=178.0*
*THE **08** 06:57:45.8, 38°.05N×21°.39E, h10km±3km, ML1.9/2, Error ellipse: s-maj=3.7km s-min=0.9km az=39.0*
*ATH **08** 06:57:46.4, 38°.13N×21°.37E, h13km±3km, MD2.7/6*

ISC 08 06:57:46.3±0.6, 38°.11N±0°.05×21°.38E±0°.03, h14km±5km, n32, σ0.9±0.91/51, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.09**	**125**	*e*PG	**Pg**	**06 57 49.2**	**-0.1**
RLS				*e*SG	**Sg**	**06 57 52.1**	**+0.7**
RLS	**Riolos of Patr**	**0.09**	**125**	*e*Pg	**Pg**	**06 57 49.2**	**-0.1**
RLS				*e*Sg	**Sg**	**06 57 52.1**	**+0.7**
UPR	**University Cam**	**0.37**	**61**	P	**Pg**	**06 57 53.7**	**-0.1**
UPR	**University Cam**	**0.37**	**61**	P	**Pg**	**06 57 53.7**	**-0.1**
KFL	**Anninata**	**0.47**	**270**	P	**Pg**	**06 57 54.9**	**-0.7**
KFL	**Anninata**	**0.47**	**270**	P	**Pg**	**06 57 54.9**	**-0.7**
LAKA	**Lakka**	**0.49**	**74**	P	**Pg**	**06 57 55.3**	**-0.7**
LAKA				S	**Sg**	**06 58 02.8**	**+0.2**
LAKA	**Lakka**	**0.49**	**74**	P	**Pg**	**06 57 55.3**	**-0.7**
LAKA	

EFP					S	**Sg**	07 13 02.4	**+0.9**
VLS	**Valsamata**	**0.61**	**277**	*e*PB	**Pg**	07 12 54.8	**-1.0**
VLS				*e*SB	**Sg**	07 13 04.8	**+1.0**
VLS	**Valsamata**	**0.61**	**277**	*e*Pb	**Pg**	07 12 54.8	**-1.0**
VLS				*e*Sb	**Sg**	07 13 04.8	**+1.0**
KALE	**Kalithea**	**0.68**	**65**	P	**Pg**	07 12 55.7	**-1.4**
KALE				S	**Sg**	07 13 06.0	**0.0**
KALE	**Kalithea**	**0.68**	**65**	P	**Pg**	07 12 55.7	**-1.4**
KALE				S	**Sg**	07 13 06.0	**0.0**
GUR	**Goura**	**0.80**	**102**	*e*PB	**Pg**	07 12 58.6	**-0.7**
GUR				*e*SB	**Sg**	07 13 11.0	**+1.4**
GUR	**Goura**	**0.80**	**102**	P	**Pg**	07 12 57.8	**-1.5**
GUR				S	**Sg**	07 13 10.6	**+1.0**
GUR	**Goura**	**0.80**	**102**	P	**Pg**	07 12 57.8	**-1.5**
GUR	**Goura**	**0.80**	**102**	*e*Pb	**Pg**	07 12 58.6	**-0.7**
GUR				S	**Sg**	07 13 10.6	**+1.0**
GUR				*e*Sb	**Sg**	07 13 11.0	**+1.4**
LKD2	**Lefkada island**	**0.88**	**321**	P	**Pg**	07 13 01.5	**+0.6**
EVR	**Evrytania**	**0.89**	**23**	*e*PG	**Pg**	07 13 00.1	**-0.9**
EVR	**Evrytania**	**0.89**	**23**	*e*Pg	**Pg**	07 13 00.1	**-0.9**
DSF	**Desfina**	**0.97**	**71**	P	**Pg**	07 13 00.9	**-1.7**
DSF				S	**Sg**	07 13 15.3	**+0.1**
DSF	**Desfina**	**0.97**	**71**	P	**Pg**	07 13 00.9	**-1.7**
DSF				S	**Sg**	07 13 15.3	**+0.1**
ITM	**Ithomi**	**1.03**	**154**	*e*PN	**Pg**	07 13 04.6	**+0.9**
ITM	**Ithomi**	**1.03**	**154**	*e*Pn	**Pg**	07 13 04.6	**+0.9**
VLX	**Vlachokerasia**	**1.09**	**132**	*e*PN	**Pg**	07 13 05.0	**+0.1**
VLX	**Vlachokerasia**	**1.09**	**132**	P	**Pg**	07 13 04.9	**0.0**
VLX	**Vlachokerasia**	**1.09**	**132**	*e*Pn	**Pg**	07 13 05.0	**+0.1**
AGG	**Agios Georgios**	**1.19**	**39**	*e*PB	**Pb**	07 13 06.5	**-0.2**
AGG	**Agios Georgios**	**1.19**	**39**	P	**Pb**	07 13 06.5	**-0.2**
AGG				S	**Sb**	07 13 23.8	**+1.6**
AGG	**Agios Georgios**	**1.19**	**39**	P	**Pb**	07 13 06.5	**-0.2**
AGG				S	**Sb**	07 13 23.8	**+1.6**
PYL	**PYLOS**	**1.24**	**166**	*e*PG	**Pg**	07 13 07.5	**-0.3**
PYL	**PYLOS**	**1.24**	**166**	P	**Pn**	07 13 06.9	**-0.5**
PYL	**PYLOS**	**1.24**	**166**	P	**Pn**	07 13 06.9	**-0.5**
PYL	**PYLOS**	**1.24**	**166**	*e*Pg	**Pg**	07 13 07.5	**-0.3**
LTK	**Loutraki**	**1.27**	**93**	*e*PG	**Pg**	07 13 07.6	**-0.8**
LTK	**Loutraki**	**1.27**	**93**	*e*Pg	**Pg**	07 13 07.6	**-0.8**
LKR	**Lokris**	**1.40**	**67**	*e*PB	**Pb**	07 13 10.7	**+0.5**
LKR	**Lokris**	**1.40**	**67**	*e*Pb	**Pb**	07 13 10.7	**+0.5**
THL	**Klokotos Trika**	**1.55**	**19**	*e*PB	**Pb**	07 13 13.6	**+0.9**
THL	**Klokotos Trika**	**1.55**	**19**	*e*Pb	**Pb**	07 13 13.6	**+0.9**
DID	**Didima**	**1.60**	**111**	*e*PB	**Pb**	07 13 14.4	**+0.7**
DID	**Didima**	**1.60**	**111**	*e*Pb	**Pb**	07 13 14.4	**+0.7**

IDC 08 07:27:23.7±2.7, 9°62'S×120°75'E, h0km, mb3.4/1, mb1 3.3/3, mb1mx3.2/18, mbtmp3.2/3, ML3.3/2, Error ellipse: s-maj=223.9km s-min=27.6km az=50.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.66**	**130**	Pn	Pn	07 31 19.4	**+0.6**
	0.1nm,0.3s,baz=302,slow=14,SNR=4.4						
WRA				Sn	Sn	07 34 24.0	-0.7
	0.1nm,0.3s,baz=290,slow=24,SNR=2.4						
ASAR	**Alice Springs**	**18.80**	**140**	P	Pn	07 31 45.0	-0.2
	0.1nm,0.3s,baz=320,slow=14,SNR=5.8						
MKAR	**Makanchi Array**	**65.79**	**332**	P	P	07 38 10.7	0.0
	0.2nm,0.5s,baz=139,slow=6.1,SNR=4.5						

NNC 08 07:29:08.3±4.0, 54°03N×87°34E, h0km, mb3.8, mpv3.4, 7C-2D, Error ellipse: s-maj=33.5km s-min=29.7km az=35.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**6.29**	**242**	⇑Pn	Pn	07 30 42.0	-0.2
	5.7nm,0.9s						
KURK				⇑Sn	Sn	07 32 00.5	+5.8
	3.9nm,0.9s						
KURK				⇑Lg		07 32 27.8	
	15nm,1.4s						
KURBB	**Kurchatov Arra**	**6.39**	**241**	⇓Pn	Pn	07 30 43.7	+0.1
	1.1nm,0.6s						
KURBB				Sn	Sn	07 31 56.2	-1.0
	1.3nm,0.6s						
KURBB				Lg		07 32 32.7	
	4.0nm,0.9s						
MK31	**Makanchi Array**	**7.93**	**206**	⇑Pn	Pn	07 31 08.3	+3.5
	1.0nm,0.6s,baz=29,slow=12,SNR=6.5						
MK31				⇑Sn	Sn	07 32 39.3	+4.2
	1.5nm,0.8s,baz=28,slow=27,SNR=5.2						
MK31				⇑Lg		07 33 14.7	
	9.0nm,1.2s,baz=21,slow=29,SNR=4.5						
VOSK	**Vostochnaya**	**9.87**	**269**	⇑Pn	Pn	07 31 29.5	-1.8
	2.8nm,0.8s						
ZRNK	**Zerenda**	**10.98**	**272**	⇓Pn	Pn	07 31 44.2	-2.3
	1.1nm,0.6s						

*UPA **08** 07:34:06.8, 7°97N×83°07W, h5km, MW3.8*
*UCR **08** 07:34:08.2, 7°97N×82°94W, h10km, MD3.5*
CASC 08 07:34:09.6±3.4, 8°08N×83°10W, h4km±19km, MD3.5, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.57**	**354**	*e*P	Pg	07 34 21.2	+0.6
ACR				*e*S	Sg	07 34 31.1	+3.1
BRU2	**Volcan**	**0.82**	**30**	*e*P	Pg	07 34 25.6	+0.4
BRU2				*e*S	Sg	07 34 39.4	+3.5
CTCR	**Cotoan**	**0.88**	**23**	*e*P	Pg	07 34 32.5	+6.1
CTCR				*e*S	Sg	07 34 40.5	+2.7
BUS	**Buena Vista**	**1.60**	**336**	*e*P	Pn	07 34 38.9	+0.2
BUS				*e*S	Sn	07 35 07.8	+2.0
URSC	**Urasca**	**1.86**	**339**	*e*P	Pn	07 34 43.0	+0.6
URSC				*e*S	Sn	07 35 07.7	+1.4
PRS1	**Puriscal**	**2.23**	**328**	*e*P	Pn	07 34 46.4	-1.0
PRS1				*e*S	Sn	07 35 16.1	+0.6

WEL 08 07:34:21.7±0.4, 37°94S×176°23E, h151km±4km, ML3.6/15, Error ellipse: s-maj=4.7km s-min=3.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.77**	**115**	PN	Pn	07 34 44.7	0.0
URZ				SN	Sn	07 35 01.9	-0.3
MWZ	**Matawai**	**1.10**	**111**	PN	Pn	07 34 47.7	+0.3
MWZ				SN	Sn	07 35 06.8	-0.2
RAHZ	**Arahi**	**1.19**	**145**	SN	Sn	07 35 08.7	+0.2
BKZ	**Black Stump Fm**	**1.24**	**170**	PN	Pn	07 34 48.7	0.0
BKZ				SN	Sn	07 35 08.4	-1.0
NMHZ	**Naumai**	**1.24**	**159**	PN	Pn	07 34 49.6	+1.0
NMHZ				SN	Sn	07 35 09.7	+0.3
FWVZ	**Far West T-bar**	**1.41**	**202**	PN	Pn	07 34 50.9	+0.6
WNVZ	**Wahianoa**	**1.47**	**199**	PN	Pn	07 34 51.5	+0.6
MOVZ	**Moawhango**	**1.51**	**194**	PN	Pn	07 34 51.3	0.0
KNZ	**Kokohu**	**1.57**	**134**	PN	Pn	07 34 51.6	-0.4
MXZ	**Matakaoa Point**	**1.69**	**78**	PN	Pn	07 34 53.6	+0.3
CKHZ	**Cape Kidnapper**	**1.84**	**159**	PN	Pn	07 34 54.8	-0.2
KAHZ	**Kahuranaki**	**1.92**	**165**	PN	Pn	07 34 55.6	-0.2
PNHZ	**Pukenui**	**1.97**	**181**	PN	Pn	07 34 55.8	-0.7
PXZ	**Pawanui**	**2.15**	**167**	PN	Pn	07 34 57.6	-0.9
PRHZ	**Porangahau**	**2.34**	**172**	PN	Pn	07 34 59.8	-1.1
DVHZ	**Dannevirke**	**2.35**	**181**	PN	Pn	07 34 59.7	-1.4
POWZ	**Post Office Ro**	**2.47**	**188**	PN	Pn	07 35 01.2	-1.3
BFZ	**Birch Farm**	**2.73**	**180**	PN	Pn	07 35 04.0	-1.7
MRZ	**Mangatainoka R**	**2.76**	**190**	PN	Pn	07 35 04.2	-1.8
OGWZ	**Otaki Gorge**	**2.99**	**196**	PN	Pn	07 35 06.9	-1.9
HOWZ	**Holdsworth Sta**	**3.00**	**190**	PN	Pn	07 35 06.8	-2.3
KIW	**Kapiti Island**	**3.09**	**199**	PN	Pn	07 35 08.0	-2.2
TMWZ	**Te Maipa**	**3.17**	**185**	PN	Pn	07 35 08.8	-2.4
MTW	**Mount Morrison**	**3.26**	**190**	PN	Pn	07 35 09.6	-2.8
CAW	**Cannon Point**	**3.29**	**195**	PN	Pn	07 35 10.2	-2.5
MSWZ	**Moikau Station**	**3.55**	**192**	PN	Pn	07 35 13.0	-3.0
SNZO	**South Karori**	**3.56**	**199**	PN	Pn	07 35 13.3	-2.9
TCW	**Tory Channel**	**3.60**	**204**	PN	Pn	07 35 14.1	-2.6
TUWZ	**Tuamarina**	**3.90**	**206**	PN	Pn	07 35 17.9	-2.7
NNZ	**Nelson**	**3.94**	**213**	PN	Pn	07 35 18.5	-2.6
QRZ	**Quartz Range**	**4.06**	**224**	PN	Pn	07 35 19.9	-2.8
THZ	**Tophouse**	**4.59**	**213**	PN	Pn	07 35 27.0	-2.6
KHZ	**Kahutara**	**4.92**	**204**	PN	Pn	07 35 30.5	-3.4

*ISCJB **08** 07:37:12.0±0.4, 60°86N±0°03×152°95W±0°08, h160km±5km, mb3.5/3, Error ellipse: s-maj=6.3km s-min=4.5km az=20.2*
*IDC **08** 07:37:13.9±6.7, 61°01N×152°97W, h140km±61km, mb3.3/3, mb1 3.8/5, mb1mx3.3/25, mbtmp3.5/5, Error ellipse: s-maj=58.3km s-min=20.5km az=39.0*
*NEIC **08** 07:37:14.1, 60°83N×152°91W, h160km, MG3.8(AEIC), After AEIC.*
ISC 08 07:37:13.1±0.4, 60°85N±0°03×152°97W±0°08, h154km±5km, n56, σ0°91/72, mb3.5/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSO	**Redoubt South**	**0.40**	**165**	*e*Pg	**Pn**	07 37 35.1	**+0.7**
SUA	**Susitna One**	**1.24**	**59**	P	**Pn**	07 37 41.5	**+1.3**
SUA				S	**Sn**	07 38 02.5	**+1.4**
SVW2	**Sparrevohn**	**1.30**	**282**	*e*P	**Pn**	07 37 40.5	**-0.3**
SKT	**Skwentna**	**1.33**	**31**	P	**Pn**	07 37 42.2	**+1.1**
SKT				S	**Sn**	07 38 03.7	**+1.1**
SLKM	**Skilak Lake**	**1.40**	**103**	P	**Pn**	07 37 42.0	**+0.2**
FIB	**Fire Island**	**1.40**	**76**	P	**Pn**	07 37 43.1	**+1.4**
BRLK	**Bradley Lake**	**1.50**	**136**	P	**Pn**	07 37 43.4	**+0.5**
BRLK				S	**Sn**	07 38 05.7	**0.0**
CNPM	**China Poot**	**1.59**	**146**	P	**Pn**	07 37 44.3	**+0.6**
RC01	**Rabbit Creek A**	**1.59**	**80**	P	**Pn**	07 37 44.1	**+0.3**
RC01				S	**Sn**	07 38 07.6	**+0.2**
SEW	**Seward**	**1.90**	**112**	P	**Pn**	07 37 47.1	**-0.1**
PMR	**Palmer**	**2.00**	**66**	P	**Pn**	07 37 47.9	**-0.4**
PMR				S	**Sn**	07 38 14.4	**-1.0**
PPLA	**Purkeypile**	**2.09**	**10**	P	**Pn**	07 37 50.5	**+1.2**
PPLA				S	**Sn**	07 38 19.6	**+2.4**
GHO	**Glory Hole Cre**	**2.16**	**63**	P	**Pn**	07 37 50.1	**-0.1**
KNK	**Knik Glacier**	**2.26**	**74**	P	**Pn**	07 37 51.1	**-0.2**
SML	**Sawmill**	**2.43**	**65**	P	**Pn**	07 37 53.1	**-0.3**
SML				S	**Sn**	07 38 23.9	**-0.6**
TT01	**Tatalina**	**2.52**	**326**	P	**Pn**	07 37 54.6	**+0.1**
SCM	**Sheep Creek Mo**	**2.89**	**68**	P	**Pn**	07 37 59.1	**0.0**
TRF	**Thorofare Moun**	**2.90**	**25**	P	**Pn**	07 37 59.3	**+0.2**
TRF				S	**Sn**	07 38 34.5	**-0.3**
CHUM	**Lake Minchumin**	**3.06**	**5**	P	**Pn**	07 38 01.4	**+0.2**
CHUM				S	**Sn**	07 38 37.7	**-0.7**
KDAK	**Kodiak Island**	**3.08**	**176**	P	**Pn**	07 38 00.5	**-1.1**
RND	**Reindeer**	**3.21**	**35**	P	**Pn**	07 38 02.9	**-0.2**
RND				S	**Sn**	07 38 39.7	**-2.2**
BPAW	**Bear Paw Mtn.**	**3.39**	**15**	P	**Pn**	07 38 04.8	**-0.5**
MCK	**McKinley**	**3.45**	**31**	P	**Pn**	07 38 06.1	**0.0**
MCK				S	**Sn**	07 38 45.3	**-2.1**
DHY	**Denali Highway**	**3.46**	**47**	P	**Pn**	07 38 06.5	**+0.3**
DHY				S	**Sn**	07 38 46.0	**-1.5**
KLU	**Klutina**	**3.47**	**76**	P	**Pn**	07 38 06.4	**-0.1**
DIV	**Divide**	**3.52**	**82**	P	**Pn**	07 38 06.7	**-0.3**
EYAK	**Cordova Ski Ar**	**3.56**	**92**	P	**Pn**	07 38 07.2	**-0.4**
MID	**Middleton Isla**	**3.61**	**110**	*e*P	**Pn**	07 38 08.2	**0.0**
OHAK	**Old Harbor**	**3.64**	**183**	P	**Pn**	07 38 06.9	**-1.8**
BMRM	**Bremner River**	**4.09**	**85**	P	**Pn**	07 38 14.2	**-0.2**
PAX	**Paxson**	**4.13**	**56**	P	**Pn**	07 38 15.9	**+0.9**
PAX				S	**Sn**	07 39 02.5	**-0.8**
DDM	**Donnelly Dome**	**4.43**	**45**	P	**Pn**	07 38 20.8	**+1.9**
HDA	**Harding Lake**	**4.52**	**35**	P	**Pn**	07 38 20.4	**+0.3**
MDM	**Murphy Dome**	**4.66**	**26**	P	**Pn**	07 38 21.2	**-0.6**
COLA	**College**	**4.67**	**28**	P	**Pn**	07 38 21.7	**-0.3**
IL1	**Eielson Array**	**4.82**	**33**	P	**Pn**	07 38 23.6	**-0.4**
ILAR	**Eielson Array**	**4.82**	**33**	P	**Pn**	07 38 23.8	**-0.3**
	52nm,0.3s,baz=216,slow=13,SNR=2071						
ILAR				S	**Sn**	07 39 16.3	**-3.1**
	7.9nm,0.3s,baz=214,slow=20,SNR=7.2						
ILAR	**Eielson Array**	**4.82**	**33**	P	**Pn**	07 38 23.8	**-0.3**
ILAR				S	**Sn**	07 39 16.3	**-3.1**
MENT	**Mentasta**	**4.85**	**60**	*e*P	**Pn**	07 38 25.5	**+1.1**
GLM	**Gilmore Dome**	**4.87**	**29**	P	**Pn**	07 38 24.8	**+0.1**
DOT	**Dot Lake**	**5.02**	**52**	*e*Pn	**Pn**	07 38 26.9	**+0.2**
DOT				*e*Sn	**Sn**	07 39 23.8	**-0.2**
IM3	**Indian Mountai**	**5.17**	**356**	P	**Pn**	07 38 28.6	**+0.1**
CHGN	**Chignik**	**5.38**	**214**	*e*P	**Pn**	07 38 30.4	**-1.0**
BCA3	**Beaver Creek A**	**5.72**	**62**	P	**Pn**	07 38 37.0	**+1.1**
COLD	**Coldfoot**	**6.52**	**10**	P	**Pn**	07 38 45.6	**-0.8**
EGAK	**Eagle**	**6.69**	**49**	P	**Pn**	07 38 48.5	**-0.3**
SDPT	**Sand Point**	**6.80**	**219**	*e*P	**Pn**	07 38 49.6	**-0.7**
PNL	**Peninsula**	**6.86**	**94**	P	**Pn**	07 38 51.0	**0.0**
DAWY	**Dawson**	**7.07**	**57**	P	**Pn**	07 38 54.6	**+0.8**
BM3	**Burnt Mountain**	**7.53**	**25**	P	**Pn**	07 38 58.6	**-1.3**
FALS	**False Pass**	**8.19**	**227**	P	**Pn**	07 39 07.3	**-1.5**
SKAG	**Skagway**	**8.90**	**91**	*e*P	**Pn**	07 39 18.6	**+0.3**
YKA	**Yellowknife Ar**	**18.10**	**68**	P	**P**	07 41 14.2	**+1.5**
	0.3nm,0.3s,baz=278,slow=9.4,SNR=7.4						
NVAR	**Mina Array Bea**	**31.13**	**120**	P	**P**	07 43 20.8	**+4.0**
	0.4nm,0.7s,mb3.2,baz=313,slow=8.0,SNR=5.7						
SONM	**Songino Array**	**54.31**	**305**	P	**P**	07 46 24.5	**+1.6**
	0.9nm,0.8s,mb3.6,baz=36,slow=6.4,SNR=5.8						
ZALV	**Zalesovo Beam**	**56.70**	**323**	P	**P**	07 46 40.6	**+0.7**
	0.4nm,0.5s,mb3.5,baz=19,slow=9.2,SNR=2.7						

*NEIC **08** 07:49:59.0±0.1, 15°22S×174°23W, h121km, mb5.4/186, MW6.0, MW5.9, Error ellipse: s-maj=5.0km s-min=3.2km az=148.0, Moment Tensor Solution. s110 Moment tensor: Scale 10^{18}Nm; M_{rr}=0.00; $M_{\theta\theta}$=0.00; $M_{r\theta}$=0.00; $M_{\theta\phi}$=0.00; $M_{r\phi}$=0.00; Best double couple: M_0=1.10000×10^{18} NP1:ϕ_s=223.00000°, δ=11.00000°, λ=-98.00000°. NP2:ϕ_s=51.00000°, δ=79.00000°, λ=-88.00000°. Principal axes: T 1.0500, Plg33.0000°, Azm139.0000°; N 0.0500, Plg1.0000°, Azm230.0000°; P -1.1000, Plg56.0000°, Azm323.0000°;*
NEIC Felt at Apia, Samoa.
*ISCJB **08** 07:49:59.7±0.1, 15°27S±0°03×174°31W±0°02, h139km, mb5.4/281 Error ellipse: s-maj=4.1km s-min=2.2km az=150.2*
*DJA **08** 07:50:00, 15°23S×174°22W, h128km, Mw6.0/52*
*BJI **08** 07:50:00.5, 14°78S×174°18W, h139km, mB5.6/35, mb5.4/33*
*IDC **08** 07:50:00.9±0.6, 15°20S×174°26W, h137km±5km, mb5.1/25, mb1 5.1/26, mb1mx5.1/26, mbtmp5.1/26, MS4.9/30, Ms1 4.9/30, ms1mx4.9/35, Error ellipse: s-maj=11.3km s-min=9.6km az=115.0*
*MOS **08** 07:50:00.9±0.7, 15°34S×174°15W, h162km, mb5.5/67, MS5.2/9, Error ellipse: s-maj=17.3km s-min=11.3km az=1.6*
*GCMT **08** 07:50:04.5±0.1, 15°07S×173°94W, h132km, MW6.0, Moment Tensor Solution. s112,c268; s81,c105; Moment tensor: Scale 10^{18}Nm; M_{rr}=0.00; $M_{\theta\theta}$=0.00; $M_{r\theta}$=0.00; $M_{\theta\phi}$=0.00; $M_{r\phi}$=0.00; Best double couple: M_0=1.10000×10^{18} NP1:ϕ_s=313.00000°, δ=31.00000°, λ=-17.00000°. NP2:ϕ_s=58.00000°, δ=81.00000°, λ=-120.00000°. Principal axes: T 1.0000, Plg30.0000°, Azm172.0000°; N 0.2900, Plg30.0000°, Azm63.0000°; P -1.2800, Plg45.0000°, Azm297.0000°; Data Used: II IU CN IC G. Surface waves: sta=119, comp=285, per= 50.*
ISC 08 07:50:01.5±0.1, 15°27S±0°03×174°29W±0°02, h141km, h141km±1.2km:pP-P, n1536, σ0°76/927, mb5.4/281, 206C-224D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**7.75**	**251**	*e*Pn	**Pn**	07 51 57.3	**+5.8**
MSVF	**Nonsavu**	**7.75**	**251**	*e*P	**Pn**	07 51 57.3	**+5.8**
FUNA	**Funafuti**	**9.25**	**316**	*e*Pn	**Pn**	07 52 10.9	**-0.8**
RAO	**Raoul Island**	**14.31**	**193**	*e*Pn	**Pn**	07 53 16.3	**-1.3**
RAO	**Raoul Island**	**14.31**	**193**	*e*P	**Pn**	07 53 16.3	**-1.3**
RAR	**Rarotonga**	**15.00**	**115**	P	**Pn**	07 53 24.2	**-2.1**
	16nm,0.3s,baz=277,slow=6.8,SNR=21						
RAR				S	**Sn**	07 56 02.9	**-10**
	11nm,0.3s,baz=117,slow=18,SNR=4.7						
RAR	**Rarotonga**	**15.00**	**115**	*e*Pn	**Pn**	07 53 24.0	**-2.3**
	576nm,1.1s						
RAR	**Rarotonga**	**15.00**	**115**	P	**Pn**	07 53 24.2	**-2.1**
RAR				S	**Sn**	07 56 02.9	**-10**
RAR				pmax	pmax		
	comp=Z,16nm,0.3s						
RAR				smax			
	comp=N,11nm,0.3s						
DZM	**Mont Dzumac**	**19.46**	**247**	*e*P	**P**	07 54 17.2	**-0.1**
	comp=N,807nm,1.2s						
DZM				*e*S	**S**	07 57 45.8	**-4.0**
	comp=N,19μm,28.8s						
DZM				*e*LR	LR	07 58 23.3	
	comp=N,7μm,25.4s						
DZM	**Mont Dzumac**	**19.46**	**247**	*e*P	**P**	07 54 17.0	**-0.3**
DZM	**Mont Dzumac**	**19.46**	**247**	*e*P	**P**	07 54 17.9	**+0.6**

	comp=N,167nm,0.8s						
NOUC	**Port Laguerre**	**19.59**	**247**	*e*P	**P**	07 54 18.3	**-0.4**
OUZ	**Omahuta**	**22.65**	**207**	*e*P	**P**	07 54 52.3	**+1.5**
	comp=N,322nm,1.5s,mb5.5						
MXZ	**Matakaoa Point**	**23.15**	**195**	PN	**P**	07 54 55.0	**-0.3**
PAE	**Paea**	**23.81**	**99**	*e*P	**P**	07 54 58.8	**-2.8**
	comp=N,33nm,0.9s,mb4.9						
PAE	**Paea**	**23.81**	**99**	*e*P	**P**	07 54 58.8	**-2.8**
	comp=N,33nm,0.9s,mb4.9						
PAE	**Paea**	**23.81**	**99**	*e*P	**P**	07 54 58.8	**-2.8**
PAE				pmax	pmax		
	comp=Z,33nm,0.9s,mb4.9						
PPT	**Papeete**	**23.81**	**99**	*e*P	**P**	07 54 58.3	**-3.3**
	comp=Z,140nm,1.2s,mb5.4						
PPT				*e*S	**S**	07 59 03.2	**-4.0**
	comp=Z,15μm,26.2s						
PPT				*e*LR	LR	08 00 16.2	
	comp=Z,16μm,38.2s						
PPT	**Papeete**	**23.81**	**99**	P	**P**	07 55 01.0	**-0.6**
	comp=Z,86nm,0.8s,mb5.3,baz=343,slow=1.8,SNR=11						
PPT	**Papeete**	**23.81**	**99**	*e*P	**P**	07 54 58.3	**-3.3**
	comp=Z,140nm,1.2s,mb5.4						
PPT				*e*S	**S**	07 59 03.2	**-4.0**
PPT	**Papeete**	**23.81**	**99**	*e*P	**P**	07 54 58.3	**-3.3**
PPT				*e*S	**S**	07 59 03.2	**-4.0**
PPT				pmax	pmax		
	comp=Z,140nm,1.2s						
XMAS	**Kiritimati**	**23.95**	**45**	*e*P	**P**	07 55 00.8	**-2.1**
	comp=Z,534nm,1.1s,mb6.0						
TIAR	**Tiarei**	**24.03**	**99**	*e*P	**P**	07 55 01.1	**-2.5**
	comp=Z,208nm,1.0s,mb5.6						
TIAR	**Tiarei**	**24.03**	**99**	*e*P	**P**	07 55 01.1	**-2.5**
	comp=Z,208nm,1.0s,mb5.6						
MWZ	**Matawai**	**24.08**	**196**	PN	**P**	07 55 03.5	**-0.3**
URZ	**Urewera**	**24.13**	**197**	P	**P**	07 55 02.9	**-1.3**
	comp=Z,32nm,0.3s,mb5.3,baz=21,slow=0.8,SNR=34						
URZ				S	**S**	07 59 13.1	**+1.3**
	comp=Z,16nm,0.7s,baz=223,slow=18,SNR=3.3						
URZ	**Urewera**	**24.13**	**197**	*e*P	**P**	07 55 03.7	**-0.5**
	comp=Z,176nm,0.5s,mb5.8						
URZ	**Urewera**	**24.13**	**197**	PN	**P**	07 55 02.6	**-1.6**
PRRZ	**Plateau Road**	**24.55**	**198**	PN	**P**	07 55 08.2	**+0.1**
TBI	**Tubuai**	**24.74**	**113**	*e*P	**P**	07 55 08.9	**-1.1**
	comp=Z,367nm,0.9s,mb5.9						
TBI				*e*pP		07 55 37.5	
	comp=Z,404nm,1.1s						
TBI				*e*S	**S**	07 59 20.4	**-1.5**
	comp=Z,4μm,30.0s						
TBI				*e*LR	LR	08 00 49.6	
	comp=Z,9μm,39.2s						
TBI	**Tubuai**	**24.74**	**113**	*e*P	**P**	07 55 08.9	**-1.1**
	comp=Z,367nm,0.9s,mb5.9						
TBI				*e*pP		07 55 37.5	
TBI				*e*S	**S**	07 59 20.4	**-1.5**
RAHZ	**Arahi**	**24.75**	**196**	PN	**P**	07 55 09.6	**-0.3**
NMHZ	**Naumai**	**24.99**	**197**	PN	**P**	07 55 12.1	**+0.1**
BKZ	**Black Stump Fm**	**25.14**	**197**	PN	**P**	07 55 11.5	**-2.0**
PMOR	**Pomariorio Ree**	**25.48**	**93**	*e*P	**P**	07 55 13.5	**-3.2**
	comp=Z,319nm,1.0s,mb5.8						
PMOR	**Pomariorio Ree**	**25.48**	**93**	*e*P	**P**	07 55 13.5	**-3.2**
	comp=Z,319nm,1.0s,mb5.8						
BHHZ	**Black Hill Sta**	**25.57**	**197**	PN	**P**	07 55 17.0	**-0.2**
KAHZ	**Kahuranaki**	**25.63**	**196**	PN	**P**	07 55 18.1	**+0.3**
HNR	**Honiara**	**25.82**	**280**	*e*P	**P**	07 55 20.8	**+1.0**
	comp=Z,344nm,0.8s,mb6.0						
HNR	**Honiara**	**25.82**	**280**	*e*P	**P**	07 55 20.8	**+1.0**
HNR				pmax	pmax		
	comp=Z,344nm,0.8s,mb6.0						
PXZ	**Pawanui**	**25.85**	**196**	PN	**P**	07 55 20.9	**+1.1**
BFZ	**Birch Farm**	**26.62**	**196**	PN	**P**	07 55 25.3	**-1.5**
CAW	**Cannon Point**	**27.35**	**198**	PN	**P**	07 55 31.7	**-1.5**
SNZO	**South Karori**	**27.64**	**198**	*e*P	**P**	07 55 34.9	**-1.0**
	comp=Z,61nm,0.5s,mb5.6						
QRZ	**Quartz Range**	**27.92**	**202**	PN	**P**	07 55 38.7	**+0.4**
THZ

COEN Coen 41.13 266 P **P** **07 57 33.1 +1.0**
comp=Z,3µmcomp=Z,184nm,1.2s,mb5.6
TOO Toolangi 41.88 230 *eP* **P** **07 57 38.3 +0.4**
TOO *e* pP 07 58 10.7 +1.5
MOO Moorlands 42.70 223 *eP* **P** **07 57 45.3 +0.9**
STKA Stephens Creek 43.36 240 P **P** **07 57 49.9 0.0**
comp=Z,28nm,0.5s,mb5.2,baz=90,slow=9.1,SNR=86
STKA PcP PcP 07 59 38.1 +2.0
comp=Z,17nm,0.7s,baz=25,slow=2.4,SNR=2.6
STKA LR LR 08 13 55.5
comp=Z,3µm,18.3s,baz=67,slow=33
STKA Stephens Creek 43.36 240 *eP* **P** **07 57 49.6 -0.3**
comp=Z,37nm,0.9s,mb5.0
STKA *e* 07 58 31.4
STKA *e*PCP PcP 07 59 37.3 +1.2
STKA *e*SCP ScP 08 03 21.2 +6.7
STKA *e*S **S** **08 04 05.6 -1.7**
STKA Stephens Creek 43.36 240 *eP* **P** **07 57 50.3 +0.4**
comp=Z,18nm,1.0s,mb4.7
STKA *e* 07 58 31.8
STKA *e*PcP PcP 07 59 37.9 +1.8
STKA *e*ScP ScP 08 03 20.7 +6.3
STKA Stephens Creek 43.36 240 *eP* **P** **07 57 50.3 +0.4**
STKA *e* 07 59 37.9
STKA pmax pmax
comp=Z,18nm,1.0s
JAY Jayapura 46.12 281 P **P** **07 58 13.0 +1.0**
comp=Z,282nm,1.1s,mb5.8
SMPI Sarmi 48.18 281 P **P** **07 58 28.4 +0.4**
comp=Z,4µmcomp=Z,346nm,1.0s,mb6.0
WB2 Warramunga Arr 49.03 257 *eP* **P** **07 58 33.5 -0.8**
WRAB Tennant Creek 49.03 257 *eP* **P** **07 58 33.5 -0.8**
comp=Z,109nm,0.8s,mb5.5
WRAB Tennant Creek 49.03 257 *eP* **P** **07 58 33.6 -0.8**
WRAB pmax pmax
comp=Z,109nm,0.8s,mb5.5
WRAB Tennant Creek 49.03 257 P **P** **07 58 33.7 -0.7**
comp=Z,3µmcomp=Z,259nm,1.1s,mb5.8
WRA Warramunga Arr 49.04 257 P **P** **07 58 33.6 -0.8**
comp=Z,66nm,0.5s,mb5.5,baz=90,slow=6.8,SNR=252
WRA S **S** **08 05 25.8 -2.9**
comp=Z,0.9nm,0.8s,baz=93,slow=13,SNR=3.2
WRA LR LR 08 16 32.4
comp=Z,3µm,20.1s,baz=95,slow=32
WRA Warramunga Arr 49.04 257 P **P** **07 58 33.6 -0.8**
WRA S **S** **08 05 25.8 -2.9**
WRA LR LR 08 16 32.4
WRA Warramunga Arr 49.04 257 P **P** **07 58 33.6 -0.9**
WRA S **S** **08 05 25.8 -2.9**
WRA pmax pmax
comp=Z,66nm,0.5s
WRA smax
comp=N,1.0nm,0.8s
ASAR Alice Springs 49.34 252 P **P** **07 58 36.6 -0.1**
comp=N,631nm,0.5s,mb6.5,baz=87,slow=7.7,SNR=3439
ASAR S **S** **08 05 30.6 -2.1**
comp=N,2.2nm,0.8s,baz=85,slow=14,SNR=7.1
ASAR Alice Springs 49.34 252 P **P** **07 58 36.6 -0.1**
ASAR S **S** **08 05 30.6 -2.1**
ASAR Alice Springs 49.34 252 P **P** **07 58 36.6 -0.1**
ASAR S **S** **08 05 30.7 -2.0**
ASAR pmax pmax
comp=Z,631nm,0.5s
ASAR smax
comp=N,2.0nm,0.8s
GUMO Guam 49.55 303 LR LR 08 14 09.6
comp=N,1µm,21.8s,baz=109,slow=29
GUMO Guam 49.55 303 *eP* **P** **07 58 38.0 -0.3**
comp=N,176nm,0.9s,mb5.7
GUMO Guam 49.55 303 *eP* **P** **07 58 38.0 -0.3**
GUMO pmax pmax
comp=Z,176nm,0.9s,mb5.7
KAKA Kakadu 51.65 266⇓*iP* **P** **07 58 53.9 -0.3**
comp=Z,134nm,0.5s,mb5.8
KAKA Kakadu 51.65 266 *eP* **P** **07 58 54.0 -0.2**
comp=Z,341nm,0.5s,mb6.2
FORT Forrest 54.71 243 *eP* **P** **07 59 15.6 -0.8**
comp=Z,185nm,0.5s,mb6.1
FORT Forrest 54.71 243 *eP* **P** **07 59 15.7 -0.6**
comp=Z,221nm,0.6s,mb6.1
BNDI Bandanaira 55.86 275 P **P** **07 59 25.2 +0.3**
comp=Z,5µmcomp=Z,433nm,1.1s,mb6.2
MSAI Masohi 57.11 276 P **P** **07 59 34.0 +0.3**
comp=Z,1µmcomp=Z,68nm,0.8s,mb5.6
FITZ Fitzroy Crossi 57.40 258 LR LR 08 21 58.7
comp=Z,2µm,20.2s,baz=354,slow=33
FITZ Fitzroy Crossi 57.40 258⇓*iP* **P** **07 59 35.6 0.0**
comp=Z,32nm,0.4s,mb5.5
FITZ Fitzroy Crossi 57.40 258 *eP* **P** **07 59 35.6 -0.1**
comp=Z,17nm,0.5s,mb5.1
FITZ Fitzroy Crossi 57.40 258 P **P** **07 59 35.7 +0.1**
comp=Z,42nm,0.8s,mb5.3
AAI Ambon 57.73 275 P **P** **07 59 38.0 0.0**
comp=Z,6µmcomp=Z,475nm,0.5s,mb6.6
NLAI Namlea 58.90 275 P **P** **07 59 46.6 +0.4**
comp=Z,4µmcomp=Z,283nm,0.8s,mb6.2
LBMI Labuha 59.25 279 P **P** **07 59 49.6 +1.0**
comp=Z,5µmcomp=Z,720nm,0.9s,mb6.5
DRV Dumont d'Urvil 59.43 199 P **P** **07 59 51.0 +2.1**
DRV S **S** **08 07 52.0 +5.3**
DRV SP 08 08 04.0
DRV R 08 18 00.0
CBIJ Chichi jima 59.65 315 P **P** **07 59 50.4 -0.7**
comp=Z,114nm,0.7s,mb5.8,baz=246,slow=6.4,SNR=10
CBIJ LR LR 08 19 37.2
comp=Z,2µm,20.6s,baz=134,slow=30
TNTI Ternate 59.80 280 P **P** **07 59 52.9 +0.5**
comp=Z,5µmcomp=Z,320nm,1.2s,mb6.0
MMRI Maumere 62.27 268 P **P** **08 00 08.6 -0.5**
comp=Z,4µmcomp=Z,388nm,0.9s,mb6.2
SGSI Sangihe 62.47 282 P **P** **08 00 11.1 +0.7**
comp=Z,8µmcomp=Z,602nm,1.1s,mb6.3
MBWA Marble Bar 62.57 254 *eP* **P** **08 00 10.1 -0.8**
comp=Z,86nm,0.7s,mb5.7
MBWA Marble Bar 62.57 254 P **P** **08 00 10.1 -0.8**
comp=Z,159nm,0.9s,mb5.8
BBSI Bau Bau 62.68 272 P **P** **08 00 21.5 +10**
KMSI Cibinong 62.97 279 P **P** **08 00 14.2 +0.5**
comp=Z,526nm,0.6s,mb6.6
SBA Scott Base 63.31 184 *eP* **P** **08 00 17.4 +2.6**
comp=Z,110nm,1.3s,mb5.5
SBA *e* pP 08 00 52.3 +3.7
SBA Scott Base 63.31 184 *eP* **P** **08 00 17.4 +2.6**
SBA *e* pP 08 00 52.3 +3.7
SBA pmax pmax
comp=Z,110nm,1.3s,mb5.5
VNDA Vanda 63.42 186 P **P** **08 00 17.7 +2.2**
comp=Z,32nm,1.0s,mb5.1,baz=6.9,slow=6.7,SNR=52
VNDA pP pP 08 00 50.4 +1.1
comp=Z,28nm,0.9s,baz=1.2,slow=5.9,SNR=5.9
VNDA Vanda 63.42 186 *eP* **P** **08 00 17.7 +2.2**
comp=Z,107nm,1.4s,mb5.5
VNDA *e* pP 08 00 52.6 +3.3
VNDA Vanda 63.42 186 P **P** **08 00 17.7 +2.2**
VNDA *PP pP 08 00 50.4 +1.1
VNDA pmax pmax
comp=Z,32nm,1.0s
VNDA pmax pmax
comp=Z,28nm,0.9s
KLBR Kellerberrin 63.54 242 *eP* **P** **08 00 16.6 -0.6**
comp=Z,45nm,0.6s,mb5.5
DAV Davao City (W) 63.58 286 LR LR 08 22 02.6
comp=Z,1µm,21.6s,baz=121,slow=30
DAV Davao City (W) 63.58 286 P **P** **08 00 19.0 +1.4**
comp=Z,291nm,0.8s,mb6.2
LUWI Luwuk 63.66 277 P **P** **08 00 18.7 +0.5**
comp=Z,5µmcomp=Z,404nm,1.1s,mb6.2
NWAO Narrogin (SRO) 63.94 241 LR LR 08 25 11.3
comp=Z,2µm,21.1s,baz=94,slow=33
NWAO Narrogin (SRO) 63.94 241 *eP* **P** **08 00 19.5 -0.2**
comp=Z,101nm,1.4s,mb5.5
NWAO Narrogin (SRO) 63.94 241 *eP* **P** **08 00 19.5 -0.2**
NWAO pmax pmax
comp=Z,101nm,1.4s
APSI Ampana 64.77 276 P **P** **08 00 25.5 0.0**
MRSI Marisa 64.89 278 P **P** **08 00 26.7 +0.5**
comp=Z,2µmcomp=Z,117nm,0.9s,mb5.7
BKSI Bulukumba 65.08 271 P **P** **08 00 27.2 -0.3**
comp=Z,834nmcomp=Z,50nm,1.2s,mb5.2
JHJ Hachijo jima 2 65.10 318 P **P** **08 00 26.5 -0.6**
comp=Z,226nm,0.7s,mb6.1,baz=75,slow=9.3,SNR=4.2
JHJ LR LR 08 23 20.6
comp=Z,664nm,20.1s,baz=230,slow=31
BNSI Bone 65.33 272 P **P** **08 00 29.5 +0.4**
comp=Z,2µmcomp=Z,178nm,1.2s,mb5.8
KAPI Kappang 65.52 271 *eP* **P** **08 00 29.6 -0.7**
comp=Z,50nm,0.6s,mb5.5
KAPI *e*PP PP 08 02 47.4 -8.9
KAPI Kappang 65.52 271 P **P** **08 00 29.7 -0.6**
comp=Z,2µmcomp=Z,113nm,0.7s,mb5.8
BMNI Bima 65.71 267 P **P** **08 00 30.5 -1.1**
comp=Z,3µmcomp=Z,356nm,0.7s,mb6.3
SPSI Sidrap Palu 65.77 273 P **P** **08 00 31.4 -0.5**
comp=Z,1µmcomp=Z,91nm,1.1s,mb5.5
TTSI Tana Toraja 65.95 274 P **P** **08 00 33.6 +0.5**
comp=Z,1µmcomp=Z,76nm,1.2s,mb5.4
MJSI Majene 66.63 273 P **P** **08 00 39.3 +1.9**
comp=Z,4µmcomp=Z,418nm,1.1s,mb6.2
MTNI Mataram 68.12 267 P **P** **08 00 46.4 -0.4**
comp=Z,135nm,0.9s,mb5.7
MJAR Matsushiro Arr 68.29 320 P **P** **08 00 46.5 -0.8**
comp=Z,13nm,0.5s,mb4.9,baz=155,slow=6.3,SNR=41
MJAR LR LR 08 25 07.0
comp=Z,1µm,21.2s,baz=130,slow=31
MJAR Matsushiro Arr 68.29 320 P **P** **08 00 46.5 -0.8**
MJAR LR LR 08 25 07.0
MJAR Matsushiro Arr 68.29 320 P **P** **08 00 46.5 -0.8**
MJAR pmax pmax
comp=Z,13nm,0.5s
MAJO Matsushiro 68.29 320 *eP* **P** **08 00 46.8 -0.5**
comp=Z,175nm,1.7s,mb5.5
MAJO *e* 08 01 26.5
MAJO Matsushiro 68.29 320 *eP* **P** **08 00 46.8 -0.5**
MAJO *e* 08 01 26.5
MAJO pmax pmax
comp=Z,175nm,1.7s,mb5.5
MAT Matsushiro 68.29 320 P **P** **08 00 46.4 -0.9**
MAT S S 08 09 36.0 -1.0
FX1 Attu Island--F 68.73 352 *eP* **P** **08 00 48.5 -1.2**
FX1 Attu Island--F 68.73 352 *eP* **P** **08 00 48.5 -1.2**
IGBI Denpasar 69.07 266 P **P** **08 00 52.5 -0.2**
comp=Z,286nm,1.2s,mb5.9
SMKI Samarinda 69.17 275 P **P** **08 00 56.9 +3.6**
comp=Z,267nm,1.3s,mb5.8
SRBI Singaraja 69.17 267 P **P** **08 00 53.0 -0.3**
comp=Z,3µmcomp=Z,262nm,1.1s,mb5.9
YUK Yuzh-Kuril'sk 69.32 330⇓*iP* **P** **08 00 47.1 -6.4**
YUK *i* 08 01 27.8
YUK *e*PPP 08 05 15.2
YUK S S 08 09 52.6 +3.8
KBKI Kotabaru 69.41 272 P **P** **08 00 55.2 +0.4**
comp=Z,3µmcomp=Z,166nm,1.1s,mb5.7
AKUT Akutan 69.51 5 *eP* **P** **08 00 52.5 -1.9**
comp=Z,162nm,0.7s,mb5.9
MYLDM Lahad Datu 69.58 282 P **P** **08 00 57.1 +1.3**
MYLDM Lahad Datu 69.58 282 P **P** **08 00 57.8 +2.0**
comp=Z,2µmcomp=Z,136nm,1.3s,mb5.5
NBBI Negara 69.68 267 P **P** **08 00 56.9 +0.5**
comp=Z,8µmcomp=Z,281nm,1.2s,mb5.9
JOW Kunigami 69.72 307 P **P** **08 00 56.7 +0.3**
comp=Z,44nm,0.7s,mb5.3,baz=160,slow=5.9,SNR=13
JOW Kunigami 69.72 307 *eP* **P** **08 00 55.7 -0.7**
comp=Z,14nm,0.7s,mb4.8
TSM Tawau 69.91 280 P **P** **08 00 58.7 +0.9**
JAGI Jajag, Banyuwa 70.11 266 P **P** **08 00 57.8 -1.2**
comp=Z,2µmcomp=Z,319nm,1.0s,mb6.0
CASY Casey 70.17 205 *eP* **P** **08 00 58.8 +0.4**
comp=Z,40nm,1.0s,mb5.1
TGY Tagaytay City 70.39 291 P **P** **08 01 02.9 +2.2**
comp=Z,152nm,0.4s,mb6.1,baz=201,slow=8.3,SNR=4.9
TGY Tagaytay City 70.39 291 P **P** **08 01 02.9 +2.2**
TGY Tagaytay City 70.39 291 P **P** **08 01 02.9 +2.3**
TGY pmax pmax
comp=Z,152nm,0.4s
FALS False Pass 70.46 7 *eP* **P** **08 00 58.2 -2.0**
comp=Z,74nm,0.7s,mb5.5
KMMI Kalianget 70.61 268 P **P** **08 01 02.9 +0.8**
comp=Z,115nm,0.9s,mb5.6
BBKI Banjar Baru 70.65 272 P **P** **08 01 02.8 +0.5**
comp=Z,4µmcomp=Z,238nm,1.9s,mb5.6
BLJI Banyuglugur 70.81 267 P **P** **08 01 03.7 +0.4**
comp=Z,3µmcomp=Z,266nm,1.0s,mb5.9
GMJI Gumukmas 70.83 266 P **P** **08 01 02.6 -0.9**
comp=Z,115nm,1.0s,mb5.6
SDKM Sandakan 70.96 282 P **P** **08 01 04.2 0.0**
ASAJ Asahikawa 70.98 329 P **P** **08 01 04.3 +0.6**
comp=Z,113nm,0.8s,mb5.7,baz=203,slow=9.2,SNR=34
ASAJ LR LR 08 26 04.8
comp=Z,1µm,21.2s,baz=213,slow=30
ASAJ Asahikawa 70.98 329 *eP* **P** **08 01 04.4 +0.7**
comp=Z,43nm,0.7s,mb5.3
ASAJ Asahikawa 70.98 329 P **P** **08 01 04.3 +0.6**
ASAJ pmax pmax
comp=Z,113nm,0.8s
JNU Nakatsue 71.09 314 *eP* **P** **08 01 04.2 -0.3**
comp=Z,54nm,0.8s,mb5.3
SDPT Sand Point 71.31 8 *eP* **P** **08 01 03.6 -1.8**
comp=Z,253nm,0.8s,mb6.0
KDM Kudat 71.70 283 P **P** **08 01 09.2 +0.6**
SAO San Andreas Ge 71.81 42 *eP* **P** **08 01 08.2 -0.6**
comp=Z,56nm,1.2s,mb5.2
SAO San Andreas Ge 71.81 42 *eP* **P** **08 01 08.2 -0.6**
SAO pmax pmax
comp=Z,56nm,1.2s,mb5.2
KRKI Karangkates 71.81 266 P **P** **08 01 10.2 +0.8**
comp=Z,302nm,0.5s,mb6.2
PET Petropavlovsk 71.91 343⇑*iP* **P** **08 01 06.4 -2.6**
PET *e* 08 03 50.9
PET *e*S S 08 10 15.6 -2.7
PET *e**SS sS 08 11 15.2 -2.7
PET *e*SS SS 08 14 58.1 -0.1
PET pmax pmax
comp=Z,2µm,9.3s
PET pmax pmax
comp=Z,32nm,0.8s,mb5.1
PET pmax pmax
comp=Z,700nm,14.8s
PET pmax pmax
comp=Z,300nm,15.1s
PET smax
comp=N,2µm,11.4s
PET MLR MLR
comp=Z,900nm,16.0s
SMMC Simmler 71.93 44⇑*P* **P** **08 01 10.6 +1.0**
baz=72,SNR=8.5
KKM Kota Kinabalu 72.01 282 P **P** **08 01 11.2 +0.6**
KKM Kota Kinabalu 72.01 282 *eP* **P** **08 01 11.1 +0.5**
comp=Z,111nm,0.6s,mb5.8
KKM Kota Kinabalu 72.01 282 P **P** **08 01 10.6 +0.1**
comp=Z,2µmcomp=Z,162nm,0.7s,mb5.8
HOPS Hopland 72.12 40 *eP* **P** **08 01 10.4 -0.2**
comp=Z,76nm,1.2s,mb5.3
KCPM Cahto Peak 72.23 39 *eP* **P** **08 01 11.6 +0.3**
comp=Z,28nm,1.3s,mb4.8
PEA0B Petropavlovsk- 72.25 343 *eP* **P** **08 01 10.4 -0.7**
PETK Petropavlovsk- 72.25 343 P **P** **08 01 10.6 -0.4**
comp=Z,126nm,0.7s,mb5.8,baz=132,slow=8.8,SNR=94
PETK LR LR 08 26 20.3
comp=Z,765nm,20.8s,baz=167,slow=30
PETK Petropavlovsk- 72.25 343 P **P** **08 01 10.6 -0.4**
PETK LR LR 08 26 20.3
PETK Petropavlovsk- 72.25 343 P **P** **08 01 10.6 -0.4**
PETK pmax pmax
comp=Z,126nm,0.7s,mb5.8
KIPM Iron Peak 72.37 39 *eP* **P** **08 01 12.3 +0.2**
comp=Z,114nm,1.5s,mb5.4
OSI Osito Adit 72.42 46 *eP* **P** **08 01 13.1 +0.7**
comp=Z,155nm,1.9s,mb5.4
PWJI Pagerwojo 72.47 266 P **P** **08 01 13.1 -0.2**
comp=Z,187nm,1.2s,mb5.7
CHGN Chignik 72.53 9 *eP* **P** **08 01 10.4 -2.2**
PASC Pasadena Art C 72.55 46 *eP* **P** **08 01 13.2 -0.1**
comp=Z,92nm,0.8s,mb5.6
SJI Sawahan 72.57 267 P **P** **08 01 14.4 +0.5**
comp=Z,160nm,0.9s,mb5.8
ARVC Arvin 72.62 45⇑*P* **P** **08 01 13.8 +0.1**
baz=73,SNR=9.2
MWC Mount Wilson 72.66 46 *eP* **P** **08 01 13.8 -0.1**
comp=Z,26nm,0.8s,mb5.0
MWC *e* pP 08 01 51.6 +3.1
MWC Mount Wilson 72.66 46 *eP* **P** **08 01 13.8 -0.1**
MWC *e* pP 08 01 51.6 +3.1
MWC pmax pmax
comp=Z,26nm,0.8s,mb5.0
BAR Barrett 72.83 48 *eP* **P** **08 01 14.6 -0.3**
comp=Z,89nm,2.2s,mb5.1
BAR *e* pP 08 01 53.8 +4.3
VES Vestal, Richgr 72.85 44⇓*P* **P** **08 01 15.0 0.0**
baz=73,SNR=10
KHMM Horse Mountain 72.88 38 *eP* **P** **08 01 15.5 +0.5**
comp=Z,53nm,1.2s,mb5.1
KHMM *e* pP 08 01 48.4 -1.3
MURC Murrieta 72.93 47⇑*P* **P** **08 01 15.8 +0.3**
baz=73,SNR=8.8
BFSC Mount Baldy Ra 72.95 46⇑*P* **P** **08 01 15.4 -0.2**
baz=73,SNR=14
YSS Yuzh-Sakhalins 72.95 331 *eP* **P** **08 01 15.6 +0.2**
comp=Z,202nm,0.8s,mb5.9
YSS Yuzh-Sakhalins 72.95 331⇑*iP* **P** **08 01 15.3 0.0**
YSS pmax pmax
comp=Z,220nm,0.9s,mb5.9
YSS pmax pmax
comp=N,50nm,0.7s
YSS pmax pmax
comp=E,50nm,0.9s
NGJI Ngawi 72.95 267 P **P** **08 01 18.2 +2.1**
comp=E,138nm,1.1s,mb5.6
RCTC Rector, Farmer 73.00 44⇓*P* **P** **08 01 15.9 0.0**
baz=73
PCJI Pacitan 73.03 266 P **P** **08 01 17.0 +0.4**
comp=E,7µmcomp=E,570nm,1.2s,mb6.2
MONP Monument Peak 73.12 48⇓*P* **P** **08 01 16.7 0.0**
baz=73,SNR=31
ISA Isabella 73.16 45⇓*P* **P** **08 01 17.3 +0.5**
baz=73,SNR=30
ISA Isabella 73.16 45 *eP* **P** **08 01 16.9 +0.1**
comp=E,37nm,1.2s,mb5.0
ISA *e* pP 08 01 53.0 +1.6
ISA Isabella 73.16 45 *eP* **P** **08 01 16.9 +0.1**
ISA *e* pP 08 01 53.0 +1.5
ISA pmax pmax
comp=Z,37nm,1.2s,mb5.0
KRMB Red Mountain 73.19 37 *eP* **P** **08 01 17.3 +0.4**
comp=Z,80nm,1.6s,mb5.2
KRMB *e* pP 08 01 51.2 -0.3
DVTC Desert V Tower 73.23 48⇑*P* **P** **08 01 17.5 +0.2**
baz=73,SNR=22
CMB Columbia Colle 73.24 42 *eP* **P** **08 01 16.9 -0.3**
comp=Z,35nm,1.0s,mb5.0
CMB Columbia Colle 73.24 42 *eP* **P** **08 01 16.9 -0.3**
CMB pmax pmax
comp=Z,35nm,1.0s,mb5.0
OHCM Honcut 73.31 40 *eP* **P** **08 01 18.0 +0.4**
WDC Whiskeytown Da 73.41 39 *eP* **P** **08 01 18.3 +0.1**
comp=Z,122nm,1.6s,mb5.4
WDC Whiskeytown Da 73.41 39 *eP* **P** **08 01 18.3 +0.1**
WDC pmax pmax
comp=Z,121nm,1.6s,mb5.4
PFO Pinyon Flat Ob 73.47 47⇑*P* **P** **08 01 18.9 +0.2**
baz=74,SNR=18
PFO Pinyon Flat Ob 73.47 47 *eP* **P** **08 01 18.3 -0.4**
comp=Z,25nm,1.3s,mb4.8
PFO *e* pP 08 01 57.5 +4.2
PFO Pinyon Flat Ob 73.47 47 *eP* **P** **08 01 18.3 -0.4**
PFO *e* pP 08 01 57.6 +4.3
PFO pmax pmax
comp=Z,25nm,1.3s,mb4.8
PFO Pinyon Flat Ob 73.47 47 P **P** **08 01 19.0 +0.3**
comp=Z,78nm,1.1s,mb5.3,SNR=9.9
SWSC Sam W. Stewart 73.59 48⇑*P* **P** **08 01 19.5 +0.1**
baz=74
LRMC Laurel Mountai 73.60 45⇑*P* **P** **08 01 19.8 +0.4**
baz=74,SNR=25
TWG Pinlang 73.71 300 *eP* **P** **08 01 18.8 -1.6**
comp=Z,31nm,0.6s,mb5.2
UGM Wanagama 73.73 266 *eP* **P** **08 01 21.0 +0.3**
UGM Wanagama 73.73 266 P **P** **08 01 21.1 +0.4**
comp=Z,349nm,1.4s,mb5.9
YULB Yu-li 73.76 300 *eP* **P** **08 01 19.9 -0.7**
comp=Z,29nm,0.7s,mb5.1
KEBM Edson Butte 73.80 36 *eP* **P** **08 01 20.1 -0.3**
comp=Z,152nm,1.5s,mb5.5
NACB Ninganchiao 73.85 301 *eP* **P** **08 01 20.5 -0.6**
comp=Z,69nm,0.6s,mb5.6
CWC Cottonwood Cre 73.86 44⇓*P* **P** **08 01 21.4 +0.5**
baz=74,SNR=9.6
PBKI Pangkalan Bun 73.90 272 P **P** **08 01 23.5 +1.8**
comp=Z,547nm,1.1s,mb6.2
YOGI Yogyakarta 73.97 266 P **P** **08 01 22.5 +0.4**
comp=Z,481nm,1.7s,mb5.9
BELC Belle Mtn. Jos 73.99 47⇓*P* **P** **08 01 22.0 +0.3**
baz=74,SNR=23
SMRI Semarang 74.01 267 P **P** **08 01 23.4 +1.1**
comp=Z,165nm,1.1s,mb5.7
MLAC Mammoth Lakes 74.01 43⇑*P* **P** **08 01 22.7 +0.9**
baz=74,SNR=12
YBH Yreka Blue Hor 74.02 38 *eP* **P** **08 01 22.0 +0.3**
comp=Z,36nm,0.9s,mb5.1
YBH *e* pP 08 01 53.7 -2.7
YBH Yreka Blue Hor 74.02 38 *eP* **P** **08 01 22.0 +0.3**
YBH pmax pmax
comp=Z,36nm,0.9s
MTUM Tungsten Hills 74.04 43 *eP* **P** **08 01 22.5 +0.6**
MPMC Manual Prospec 74.05 45⇑*P* **P** **08 01 22.5 +0.5**
baz=74,SNR=42
TIN Tinemaha 74.09 44⇓*P* **P** **08 01 22.7 +0.4**
baz=74,SNR=20
GSC Goldstone 74.11 46⇓*P* **P** **08 01 22.5 +0.1**
baz=74,SNR=25
GSC Goldstone 74.11 46 *eP* **P** **08 01 22.3 -0.1**
comp=Z,32nm,1.0s,mb5.0
GSC Goldstone 74.11 46 *eP* **P** **08 01 22.3 -0.1**
GSC pmax pmax
comp=Z,32nm,1.0s,mb5.0
WAKR Walker 74.12 42 *eP* **P** **08 01 22.9 +0.5**
comp=Z,45nm,0.9s,mb5.2
HEC Hector,Ludlow 74.19 46⇑*P* **P** **08 01 22.8 -0.1**
baz=74,SNR=39
BC3 Big Chuckawall 74.20 48⇑*P* **P** **08 01 23.5 +0.5**
baz=74,SNR=14
SSLB Suanglung 74.22 301 *eP* **P** **08 01 22.1 -1.2**
comp=Z,74nm,0.5s,mb5.7
YHNB Yeheng 74.24 302 *eP* **P** **08 01 24.8 +1.4**
comp=Z,262nm,1.8s,mb5.7
TATO Taipei 74.28 302 *eP* **P** **08 01 23.4 -0.2**
comp=Z,96nm,0.7s,mb5.6
TPUB Ta-pu 74.28 300 *eP* **P** **08 01 22.4 -1.3**
comp=Z,111nm,0.7s,mb5.7
OHAK Old Harbor 74.31 12 *eP* **P** **08 01 21.5 -1.5**
comp=Z,179nm,1.7s,mb5.5
GLA Glamis 74.35 49⇓*P* **P** **08 01 24.9 +1.0**
baz=74
GLA Glamis 74.35 49 *eP* **P** **08 01 24.9 +1.1**
comp=Z,50nm,1.4s,mb5.1
GLA Glamis 74.35 49 *eP* **P** **08 01 24.9 +1.1**
GLA pmax pmax
comp=Z,50nm,1.4s,mb5.0
WCN Washoe City 74.37 41⇓*P* **P** **08 01 24.2 +0.4**
baz=74,SNR=43
WCN Washoe City 74.37 41 *eP* **P** **08 01 24.2 +0.4**
comp=Z,48nm,1.0s,mb5.2
WCN *e* pP 08 01 57.0 -1.5
WCN Washoe City 74.37 41 *eP* **P** **08 01 24.2 +0.4**
WCN pmax pmax
comp=Z,48nm,1.0s,mb5.2
HUMO Hull Mountain 74.42 37 *eP* **P** **08 01 24.6 +0.6**
comp=Z,140nm,1.9s,mb5.4
HUMO *e* pP 08 01 58.3 -0.4
GMRC Granite Mounta 74.64 47 P **P** **08 01 25.4 0.0**
baz=75,SNR=22
GRAC Grapevine Rang 74.64 44⇑*P* **P** **08 01 25.8 +0.4**
baz=75,SNR=33
IRM Iron Mountain 74.68 48⇑*P* **P** **08 01 25.9 +0.2**
baz=75,SNR=40
FURC Furnace Creek, 74.70 45⇓*P* **P** **08 01 25.8 +0.1**
baz=75,SNR=21
SBUM Sibu 74.76 277 P **P** **08 01 27.3 +0.7**
SBUM Sibu 74.76 277 P **P** **08 01 26.8 +0.2**
comp=Z,988nmcomp=Z,42nm,1.3s,mb4.9
SHOC Shoshone 74.79 46⇑*P* **P** **08 01 26.1 -0.2**
baz=75,SNR=28
TUQ Turquoise Moun 74.79 46 P **P** **08 01 26.6 +0.3**
baz=75,SNR=26
NVAR Mina Array Bea 74.81 42 P **P** **08 01 26.6 +0.2**
comp=Z,26nm,0.7s,mb5.0,baz=228,slow=9.9,SNR=190
NVAR LR LR 08 27 50.8
comp=Z,788nm,18.6s,baz=121,slow=30
NVAR Mina Array Bea 74.81 42 P **P** **08 01 26.6 +0.2**
NVAR LR LR 08 27 50.8
STKI Sintang 74.82 274 P **P** **08 01 28.3 +1.3**
comp=Z,86nm,1.4s,mb5.2
PAHR Pah Rah Range 74.84 41 *eP* **P** **08 01 26.8 +0.3**
comp=Z,57nm,1.2s,mb5.1
PAHR *e* pP 08 02 04.7 +3.4
PAHR *e*PP PP 08 04 12.1 -3.9
Y12C Blythe 74.92 48⇑*P* **P** **08 01 27.2 +0.1**
baz=75,SNR=16
KDAK Kodiak Island 74.97 12 P **P** **08 01 26.2 -0.6**
comp=Z,60nm,0.8s,mb5.3,baz=209,slow=3.0,SNR=32

KDAK LR LR 08 26 46.2
comp=Z,989nm,21.6s,baz=206,slow=29
KDAK Kodiak Island 74.97 12 *e*P **P 08 01 25.8 -1.0**
comp=Z,615nm,2.1s,mb5.9
KDAK Kodiak Island 74.97 12 *ce*P **P 08 01 26.0 -0.8**
113A Mohawk Valley, 74.98 49 ⇓P **P 08 01 27.5 +0.1**
baz=75,SNR=14
LDFC Landfair 75.18 47 *e*P **P 08 01 29.3 +0.8**
comp=Z,114nm,1.1s,mb5.4
CLJI Cilicap 75.23 266 P **P 08 01 29.8 +0.5**
comp=Z,758nm,1.1s,mb6.2
Z13A Yuma Proving G 75.27 49 ⇓P **P 08 01 29.4 +0.2**
baz=75,SNR=14
214A Organ Pipe Nat 75.29 51 ⇓P **P 08 01 29.1 -0.1**
baz=75,SNR=9.4
COR Corvallis 75.46 35 *e*P **P 08 01 29.7 -0.2**
comp=Z,26nm,0.7s,mb5.0
COR Corvallis 75.46 35 *e*P **P 08 01 29.7 -0.2**
COR pmax pmax
comp=Z,26nm,0.7s,mb5.0
KSRS Korea Array 75.47 316 P **P 08 01 30.9 +0.7**
comp=Z,13nm,0.7s,mb4.7,baz=126,slow=5.4,SNR=29
KSRS PP PP 08 04 19.9 -1.5
comp=Z,2.7nm,0.9s,baz=126,slow=9.9,SNR=4.3
KSRS LR LR 08 32 35.5
comp=Z,440nm,19.1s,baz=116,slow=34
KSRS Korea Array 75.47 316 P **P 08 01 30.9 +0.7**
KSRS 08 04 19.9
KSRS pmax pmax
comp=Z,13nm,0.7s,mb4.7
KSRS pmax pmax
comp=Z,3.0nm,0.9s,mb3.9
PDMCI Parker Dam,Lak 75.47 48 ⇓P **P 08 01 30.3 +0.1**
baz=76,SNR=14
MOD Modoc 75.55 39 *e*P **P 08 01 30.4 -0.1**
comp=Z,38nm,1.1s,mb4.9
114A Black Gap (USA 75.62 50 ⇓P **P 08 01 31.1 -0.1**
baz=76,SNR=7.7
IRO Indian Ridge 75.69 36 P **P 08 01 31.1 -0.1**
K05A Summer Lake 75.69 38 ⇑P **P 08 01 31.8 +0.5**
baz=76,SNR=21
BROR Big Rock Looko 75.74 36 P **P 08 01 31.3 -0.2**
CMJI Cimerak 75.75 266 P **P 08 01 29.5 -2.8**
comp=Z,3μm,0.8s
Z14A Wintersburg 75.87 49 ⇓P **P 08 01 33.1 +0.6**
baz=76,SNR=11
SHPR Sheep Range 75.88 45 *e*P **P 08 01 32.5 0.0**
115A Sonoran Desert 76.08 50 ⇓P **P 08 01 34.1 +0.3**
baz=76
Y14A Wickenburg 76.11 49 ⇓P **P 08 01 34.1 +0.2**
baz=76,SNR=28
H04A Detroit Lake 76.14 35 ⇓P **P 08 01 33.4 -0.4**
baz=76,SNR=9.8
JCJI Jatiwangi 76.24 267 P **P 08 01 35.0 -0.1**
comp=Z,388nm,1.1s,mb5.9
G04A Mulino 76.31 35 ⇓P **P 08 01 34.8 0.0**
baz=76,SNR=9.1
KSM Kuching 76.32 275 P **P 08 01 36.4 +0.8**
KSM Kuching 76.32 275 *e*P **P 08 01 36.3 +0.7**
comp=Z,200nm,1.3s,mb5.6
KSM Kuching 76.32 275 P **P 08 01 36.1 +0.5**
comp=Z,2μmcomp=Z,118nm,1.5s,mb5.3
216A Three Points, 76.33 51 ⇓P **P 08 01 35.7 +0.6**
baz=76,SNR=16
INCN Inchon 76.35 315 *e*P **P 08 01 36.0 +0.8**
comp=Z,58nm,0.7s,mb5.3
116A Eloy 76.40 50 ⇓P **P 08 01 35.7 +0.1**
baz=76,SNR=9.5
CISI Cisompet, Garu 76.42 266 P **P 08 01 35.6 -0.5**
comp=Z,197nm,1.4s,mb5.5
R11A Troy Canyon, C 76.56 44 ⇑P **P 08 01 36.2 -0.1**
baz=77,SNR=29
E03A Lebam 76.57 33 ⇑P **P 08 01 36.2 0.0**
baz=77
Y15A Casa Rosa Ranc 76.60 49 ⇓P **P 08 01 37.1 +0.5**
baz=77,SNR=35
BMN Battle Mountai 76.62 41 *e*P **P 08 01 36.9 +0.3**
comp=Z,40nm,0.8s,mb5.1
BMN *e* pP 08 02 14.3 +2.8
BMN Battle Mountai 76.62 41 *e*P **P 08 01 36.9 +0.3**
BMN *e* pP 08 02 14.3 +2.8
BMN pmax pmax
comp=Z,40nm,0.8s,mb5.1
QZH Quanzhou 76.65 301 ⇓*i*P **P 08 01 36.2 -0.9**
QZH S S 08 11 15.0 +2.5
QZH pmax pmax
comp=Z,2μm,11.1s
QZH LR LR
comp=N,4μm,14.2s
QZH LR LR
comp=E,2μm,11.6s
QZH LR LR
comp=Z,6μm,34.0s
U13A Pakoon Wash 76.66 46 ⇑P **P 08 01 37.7 +0.8**
baz=77,SNR=89
217A Green Valley 76.70 52 ⇑P **P 08 01 37.7 +0.4**
baz=77,SNR=16
TDH Tom, Dick, Har 76.74 35 P **P 08 01 36.9 -0.2**
WVOR Wild Horse Val 76.87 39 *e*P **P 08 01 37.7 -0.2**
comp=Z,37nm,1.1s,mb4.9
WVOR *e* pP 08 02 10.2 -2.7
WVOR Wild Horse Val 76.87 39 *e*P **P 08 01 37.7 -0.3**
WVOR pmax pmax
comp=Z,37nm,1.1s,mb4.9
VLL Laurance Lake 76.91 35 P **P 08 01 38.1 0.0**
TUC Tucson 76.97 51 *e*P **P 08 01 39.4 +0.6**
comp=Z,24nm,0.9s,mb4.8
TUC Tucson 76.97 51 *e*P **P 08 01 39.4 +0.6**
TUC pmax pmax
comp=Z,24nm,0.9s,mb4.8
Z16A Peralta Trail, 76.98 50 ⇓P **P 08 01 39.5 +0.7**
baz=77,SNR=13
117A Oracle 77.13 51 ⇓P **P 08 01 39.9 +0.2**
baz=77,SNR=22
318A Bisbee 77.18 52 ⇑P **P 08 01 40.2 +0.2**
baz=77
MIR Mirnyy 77.19 204 *e*P **P 08 01 40.0 +0.6**
MIR pmax pmax
comp=Z,51nm,1.6s,mb4.9
Y16A Circle Bar Ran 77.19 49 ⇓P **P 08 01 40.8 +0.8**
baz=77,SNR=16
SSE Sheshan 77.20 307 *e*P **P 08 01 39.9 -0.2**
SSE PcP PcP 08 01 49.0 -1.2
SSE pP pP 08 02 13.5 -1.5
SSE sP sP 08 02 27.1 -2.9
SSE PP PP 08 04 36.7 +0.6
SSE S S 08 11 19.4 +1.2
SSE sS sS 08 12 21.0 +2.5
SSE pmax pmax
comp=Z,37nm,0.7s,mb5.1
SSE pmax pmax
comp=Z,670nm,7.9s
SSE LR LR
comp=N,310nm,27.3s
SSE LR LR
comp=E,860nm,27.3s
SSE LR LR
comp=Z,1μm,27.8s
U14A Mt Trumbull 77.21 46 ⇓P **P 08 01 40.9 +0.9**
baz=77,SNR=61
W15A Williams 77.25 48 ⇑P **P 08 01 41.0 +0.8**
baz=77
I07A Izee 77.31 37 ⇑P **P 08 01 40.6 +0.2**
baz=78,SNR=20
G06A Carlson Farm, 77.35 36 ⇓P **P 08 01 40.3 -0.3**
baz=78,SNR=11
218A Dragoon 77.38 52 ⇑P **P 08 01 42.0 +1.0**
baz=78
ASR Mount Adams--S 77.38 35 P **P 08 01 40.6 -0.1**
RSO Redoubt South 77.44 11 *e*P **P 08 01 39.7 -1.0**
X16A Lo Mia Camp, P 77.47 49 ⇑P **P 08 01 42.2 +0.6**
baz=78,SNR=27
J08A Circle Bar Ran 77.50 38 ⇑P **P 08 01 41.4 -0.1**
baz=78,SNR=19
R13A O'Grain Ranch, 77.56 45 ⇓P **P 08 01 42.6 +0.7**
baz=78,SNR=14
SVW2 Sparrevohn 77.56 9 *e*P **P 08 01 40.2 -1.2**
comp=Z,98nm,1.8s,mb5.1
Y17A Roosevelt 77.57 50 ⇑P **P 08 01 42.4 +0.3**
baz=78,SNR=19
GNW Green Mountain 77.61 33 *e*P **P 08 01 41.3 -0.7**
comp=Z,43nm,1.7s,mb4.8
V15A Kaibab Nationa 77.62 47 P **P 08 01 43.0 +0.7**
baz=78,SNR=41
LON Longmire 77.63 34 *e*P **P 08 01 40.9 -1.2**
comp=Z,14nm,0.8s,mb4.7
LON Longmire 77.63 34 *e*P **P 08 01 40.9 -1.2**
LON pmax pmax
comp=Z,14nm,0.8s,mb4.6
CCUT Cedar City 77.65 45 *e*P **P 08 01 43.4 +0.9**
comp=Z,48nm,1.3s,mb5.0
CCUT *e* pP 08 02 19.4 +2.0
DBJI Dramaga 77.69 267 P **P 08 01 43.6 +0.4**
comp=Z,5μmcomp=Z,235nm,1.2s,mb5.7
319A Douglas 77.69 53 ⇑P **P 08 01 43.4 +0.6**
baz=78,SNR=20
ARUT Antelope Range 77.72 45 *e*P **P 08 01 43.0 +0.2**
comp=Z,46nm,1.0s,mb5.1
ARUT Antelope Range 77.72 45 *e*P **P 08 01 43.0 +0.2**
ARUT pmax pmax
comp=Z,46nm,1.0s,mb5.1
118A Homack Ranch, 77.74 51 ⇑P **P 08 01 43.8 +0.8**
baz=78,SNR=28
WPW White Pass 77.74 34 P **P 08 01 42.3 -0.4**
SEW Seward 77.75 12 *e*P **P 08 01 41.4 -1.1**
comp=Z,68nm,0.8s,mb5.3
U15A North Rim 77.84 47 P **P 08 01 44.2 +0.7**
baz=78,SNR=52
Z18A Geronimo 77.89 51 ⇑P **P 08 01 44.1 +0.2**
baz=78
X17A Forest Lakes 77.90 49 ⇑P **P 08 01 44.9 +1.0**
baz=78,SNR=27
SLKM Skilak Lake 77.96 12 *e*P **P 08 01 42.6 -1.0**
SLKM Skilak Lake 77.96 12 *e*P **P 08 01 42.6 -1.0**
PGC Sidney 77.98 32 *e*P **P 08 01 43.8 -0.2**
comp=Z,10nm,1.5s,mb4.2
219A White Tail Can 77.99 52 ⇓P **P 08 01 45.0 +0.6**
baz=78,SNR=25
WUAZ Wupatki 78.05 48 ⇑P **P 08 01 45.4 +0.7**
baz=78,SNR=26
WUAZ Wupatki 78.05 48 *e*P **P 08 01 45.5 +0.8**
comp=Z,51nm,1.2s,mb5.0
T15A Red Dirt Ranch 78.06 46 ⇓P **P 08 01 45.4 +0.7**
baz=78,SNR=67
RMW Rattlesnake Mo 78.08 33 P **P 08 01 44.5 -0.1**
RMW Rattlesnake Mo 78.08 33 P **P 08 01 44.5 -0.1**
F07A Phinny Hill Vi 78.15 35 ⇑P **P 08 01 44.4 -0.6**
baz=78,SNR=8.7
BBB Bella Bella 78.16 27 LR LR 08 28 56.7
comp=Z,398nm,19.8s,baz=344,slow=30
Y18A Canyon Day Jun 78.21 50 ⇑P **P 08 01 46.2 +0.6**
baz=78,SNR=31
SPU Mount Spurr 78.24 11 *e*P **P 08 01 43.3 -1.8**
320A Kipp Ranch, An 78.25 53 ⇑P **P 08 01 46.7 +0.8**
baz=78,SNR=27
119A Ashpeak Ranch, 78.30 51 ⇑P **P 08 01 46.5 +0.4**
baz=78
G08A Pilot Rock 78.34 36 ⇑P **P 08 01 46.0 -0.1**
baz=78,SNR=25
S15A Panguitch 78.40 46 ⇑P **P 08 01 47.7 +1.1**
baz=78,SNR=25
MDJ Mudanjiang 78.40 323 P **P 08 01 46.6 +0.2**
MDJ pP pP 08 02 21.2 -0.2
MDJ sP sP 08 02 36.4 0.0
MDJ PP PP 08 04 44.9 -1.0
MDJ S S 08 11 30.8 +0.3
MDJ ScS ScS 08 11 53.8 -0.3
MDJ pmax pmax
comp=Z,510nm,3.7s
MDJ Mudanjiang 78.40 323 *e*P **P 08 01 46.9 +0.4**
comp=Z,135nm,1.7s,mb5.3
Q14A Sevier Lake (B 78.43 44 ⇓P **P 08 01 47.2 +0.5**
baz=79,SNR=60
JCW Jim Creek 78.47 33 *e*P **P 08 01 46.6 -0.1**
220A Playas Peak, P 78.50 52 ⇓P **P 08 01 48.0 +0.8**
baz=79,SNR=30
V17A Tonalea, Kykot 78.51 48 ⇑P **P 08 01 47.4 +0.1**
baz=79,SNR=50
U16A Tuba City 78.52 47 ⇑P **P 08 01 48.1 +0.9**
baz=79,SNR=47
E07A Sunnyside 78.58 35 ⇓P **P 08 01 47.4 0.0**
baz=79,SNR=9.5
X18A Snowflake 78.62 49 ⇑P **P 08 01 48.2 +0.3**
baz=79,SNR=17
RSW Rattlesnake Hi 78.63 35 *e*P **P 08 01 47.8 +0.1**
T16A Glen Canyon Da 78.66 47 ⇓P **P 08 01 49.0 +1.0**
baz=79,SNR=29
HAWA Hanford 78.66 35 *e*P **P 08 01 47.4 -0.4**
comp=Z,68nm,1.5s,mb5.0
HAWA *e* pP 08 02 19.8 -3.1
CGJI Cibinong 78.69 266 P **P 08 01 48.4 -0.3**
comp=Z,3μmcomp=Z,322nm,0.6s,mb6.1
120A U Bar Ranch, L 78.70 52 ⇓P **P 08 01 49.1 +0.8**
baz=79,SNR=13
R15A Junction 78.72 45 P **P 08 01 49.1 +0.8**
baz=79,SNR=19
RPW Rockport 78.85 33 *e*P **P 08 01 47.9 -0.9**
Y19A Nutrioso 78.87 50 ⇑P **P 08 01 50.4 +1.2**
baz=79,SNR=30
P14A Drum Mountains 78.88 44 ⇓P **P 08 01 49.2 0.0**
baz=79,SNR=62
MSU Marysvale 78.94 45 *e*P **P 08 01 50.0 +0.5**
MSU Marysvale 78.94 45 *e*P **P 08 01 50.0 +0.5**
S16A Weppner Ranch, 78.95 46 ⇓P **P 08 01 49.9 +0.3**
baz=79,SNR=43
ETW Entiat 78.95 34 *e*P **P 08 01 48.8 -0.6**
ETW *e* pP 08 02 23.8 -0.7
Z20A Nine Sixteen R 78.98 51 ⇑P **P 08 01 50.9 +1.0**
baz=79,SNR=38
BMO Blue Mountains 79.04 37 *e*P **P 08 01 49.2 -0.7**
comp=Z,13nm,0.9s,mb4.6
BMO Blue Mountains 79.04 37 *e*P **P 08 01 49.2 -0.7**
BMO pmax pmax
comp=Z,13nm,0.9s,mb4.6
Q15A Fillmore 79.04 44 ⇑P **P 08 01 50.6 +0.5**
baz=79,SNR=16
X19A St. Johns 79.05 50 ⇑P **P 08 01 50.8 +0.6**
baz=79,SNR=29
LNOR Lincton Mounta 79.06 36 *e*P **P 08 01 49.2 -0.7**
LNOR Lincton Mounta 79.06 36 *e*P **P 08 01 49.2 -0.8**
221A Mesquite Ranch 79.12 53 ⇓P **P 08 01 51.7 +1.1**
baz=79
MFID Camas Ranch 79.13 39 P **P 08 01 50.3 -0.1**
baz=79,SNR=18
MFID Camas Ranch 79.13 39 *e*P **P 08 01 50.2 -0.2**
comp=Z,89nm,1.9s,mb5.1
MFID *e* pP 08 02 22.6 -2.9
MFID *e*PP PP 08 04 48.7 -3.3
T17A Navajo Res., N 79.16 47 ⇑P **P 08 01 51.7 +1.0**
baz=79,SNR=51
PMR Palmer 79.17 12 *e*P **P 08 01 49.1 -1.1**
comp=Z,243nm,1.8s,mb5.5
PMR Palmer 79.17 12 *e*P **P 08 01 49.1 -1.1**
PMR pmax pmax
comp=Z,243nm,1.8s,mb5.5
V18A Ganado 79.17 48 ⇓P **P 08 01 51.6 +0.7**
baz=79,SNR=44
WTV Waterville 79.22 34 P **P 08 01 50.1 -0.7**
W19A Sanders 79.29 49 ⇑P **P 08 01 52.3 +0.8**
baz=79,SNR=13
R16A Teasdale 79.30 45 ⇑P **P 08 01 52.5 +1.0**
baz=79,SNR=38
121A Cookes Peak, D 79.34 52 ⇑P **P 08 01 52.8 +1.0**
baz=79,SNR=19
DUG Dugway 79.35 43 ⇓P **P 08 01 51.6 -0.1**
baz=80,SNR=19
DUG Dugway 79.35 43 *e*P **P 08 01 51.3 -0.4**
comp=Z,25nm,1.1s,mb4.8
DUG Dugway 79.35 43 *e*P **P 08 01 51.3 -0.4**
DUG pmax pmax
comp=Z,25nm,1.1s,mb4.8
PPBI Pangkal Pinang 79.38 271 P **P 08 01 52.9 +0.4**
comp=Z,3μmcomp=Z,92nm,1.4s,mb5.2
P15A Leamington 79.39 44 ⇑P **P 08 01 52.2 +0.3**
baz=80
D08A Wollman Farm, 79.40 35 ⇑P **P 08 01 51.0 -0.8**
baz=80,SNR=16
NJ2 Nanjing 79.41 307 *e*P **P 08 01 53.0 +0.8**
NJ2 PP PP 08 04 55.0 +0.5
NJ2 S S 08 11 44.0 +2.3
NJ2 SS SS 08 16 55.0 +2.4
NJ2 pmax pmax
comp=Z,20nm,0.6s,mb4.9
NJ2 pmax pmax
comp=Z,1μm,10.5s
NJ2 LR LR
comp=N,1μm,20.2s
NJ2 LR LR
comp=E,2μm,21.3s
NJ2 LR LR
comp=Z,7μm,24.4s
S17A Black Ridge (B 79.46 46 P **P 08 01 52.1 -0.3**
baz=80,SNR=31
DIV Divide 79.47 14 *e*P **P 08 01 51.0 -0.8**
comp=Z,121nm,0.8s,mb5.6
Y20A Horse Springs, 79.50 51 ⇓P **P 08 01 53.7 +1.1**
baz=80,SNR=29
E09A Wood Farm, Sta 79.51 36 ⇓P **P 08 01 51.7 -0.7**
baz=80,SNR=16
SML Sawmill 79.53 12 *e*P **P 08 01 51.1 -1.0**
comp=Z,10nm,0.8s,mb4.5
SML Sawmill 79.53 12 *e*P **P 08 01 51.1 -1.0**
SML pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
U18A Rough Rock, Ch 79.55 48 ⇓P **P 08 01 53.5 +0.6**
baz=80,SNR=25
WRAK Wrangell Islan 79.55 22 *e*P **P 08 01 51.6 -0.7**
comp=Z,73nm,1.2s,mb5.2
BGU Big Grassy Mou 79.58 42 *e*P **P 08 01 52.4 -0.6**
comp=Z,29nm,1.4s,mb4.7
BMRM Bremner River 79.60 14 *e*P **P 08 01 51.7 -0.8**
comp=Z,120nm,0.9s,mb5.5
222A Williams Famil 79.68 53 ⇓P **P 08 01 54.4 +0.7**
baz=80,SNR=7.7
X20A Quemado 79.69 50 P **P 08 01 54.9 +1.2**
baz=80,SNR=25
OD2 Odessa Site #2 79.71 35 *e*P **P 08 01 52.8 -0.7**
NLU North Lily Min 79.72 44 *e*P **P 08 01 53.2 -0.6**
comp=Z,18nm,1.3s,mb4.5
NLU *e* pP 08 02 32.3 +3.5
F10A Beach Ranch, E 79.72 37 ⇓P **P 08 01 52.9 -0.6**
baz=80,SNR=34
I12A Atlanta 79.76 39 ⇓P **P 08 01 53.9 +0.1**
baz=80,SNR=35
Z21A St. Cloud Mine 79.76 51 P **P 08 01 55.5 +1.3**
baz=80,SNR=23
PPLA Purkeypile 79.81 10 *e*P **P 08 01 52.1 -1.5**
comp=Z,26nm,0.8s,mb4.9
Q16A Castle Valley 79.82 45 ⇓P **P 08 01 54.8 +0.5**
baz=80,SNR=21
PNL Peninsula 79.85 17 *e*P **P 08 01 53.4 -0.5**
comp=Z,202nm,1.3s,mb5.6
T18A Mexican Hat 79.88 47 ⇓P **P 08 01 55.5 +0.8**
baz=80,SNR=82
R17A Hanksville Air 79.90 46 ⇓P **P 08 01 54.9 +0.2**
baz=80,SNR=38
KLR Kul'dur 79.95 327 *e*P **P 08 01 49.7 -5.0**
KLR *e*S S 08 11 49.5 +2.8
KLR pmax pmax
comp=Z,270nm,2.2s,mb5.5
KLR pmax pmax
comp=Z,2μm,11.5s
W20A Ramah 79.95 49 P **P 08 01 55.9 +0.8**
baz=80,SNR=46
U19A Dine' College, 79.96 48 P **P 08 01 55.6 +0.5**
baz=80,SNR=40
TMUT Trail Mountain 79.98 45 *e*P **P 08 01 55.6 +0.5**
comp=Z,46nm,0.9s,mb5.1
122A Conniff Cattle 80.01 52 ⇑P **P 08 01 56.6 +1.1**
baz=80,SNR=14
L14A Malta 80.01 41 ⇓P **P 08 01 55.0 -0.2**
baz=80,SNR=11
MPU Maple Canyon 80.05 44 *e*P **P 08 01 55.9 +0.4**
comp=Z,18nm,0.9s,mb4.7
S18A Hurst Farm, Bl 80.05 47 ⇓P **P 08 01 56.1 +0.6**
baz=80,SNR=12
Y21A Point of Rocks 80.07 51 ⇓P **P 08 01 56.9 +1.2**
baz=80,SNR=9.2
HLID Hailey 80.07 40 P **P 08 01 55.6 +0.1**
baz=80,SNR=52
HLID Hailey 80.07 40 *e*P **P 08 01 55.4 -0.1**
comp=Z,31nm,1.0s,mb4.9
HLID *e* pP 08 02 28.7 -2.0
J13A Cove Ranch, Pi 80.14 40 ⇓P **P 08 01 55.9 +0.1**
baz=80,SNR=41
SPUT South Promonto 80.15 42 *e*P **P 08 01 55.8 -0.2**
comp=Z,42nm,1.3s,mb4.9
X21A Alamosita Cree 80.17 50 ⇑P **P 08 01 57.2 +0.9**
baz=80,SNR=18
HVU Hansel Valley 80.18 42 *e*P **P 08 01 56.3 +0.1**
comp=Z,27nm,0.9s,mb4.9
HVU Hansel Valley 80.18 42 *e*P **P 08 01 56.3 +0.2**
HVU pmax pmax
comp=Z,27nm,0.9s,mb4.9
C09A Chrisman Ranch 80.19 35 P **P 08 01 55.5 -0.5**
baz=80,SNR=16
M15A Larsen Ranch, 80.23 42 ⇑P **P 08 01 56.2 -0.2**
baz=80,SNR=23
V20A Brimhall 80.28 49 ⇑P **P 08 01 56.9 +0.2**
baz=80,SNR=11
K14A Jones Ranch, D 80.31 41 ⇑P **P 08 01 56.9 0.0**
baz=80,SNR=42
H12A Diamond D Ranc 80.33 39 P **P 08 01 56.4 -0.4**
baz=80,SNR=18
T19A Beclabito 80.34 48 ⇓P **P 08 01 57.5 +0.4**
baz=80,SNR=30
SRU San Rafael 80.36 45 ⇑P **P 08 01 57.0 -0.1**
baz=80,SNR=32
SRU San Rafael 80.36 45 *e*P **P 08 01 57.0 -0.1**
comp=Z,48nm,1.2s,mb5.0
SRU San Rafael 80.36 45 *e*P **P 08 01 57.0 -0.2**
SRU pmax pmax
comp=Z,48nm,1.2s,mb5.0
G12A Big Creek, Yel 80.36 38 ⇑P **P 08 01 57.0 0.0**
baz=80,SNR=59
P17A Butcher Ranch, 80.39 45 ⇑P **P 08 01 57.5 +0.3**
baz=80
CN2 Changchun 80.44 320 *e*P **P 08 01 57.2 -0.3**
CN2 *ep*P pP 08 02 30.5 -2.2
CN2 *es*P sP 08 02 47.0 -0.6
CN2 *e*S S 08 11 50.0 -2.1
CN2 SS SS 08 17 06.3 -1.3
CN2 pmax pmax
comp=Z,70nm,0.9s,mb5.3
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,900nm,21.0s
CN2 LR LR
comp=E,700nm,21.0s
CN2 LR LR
comp=Z,1μm,22.0s
I13A Wildhorse Cree 80.44 39 ⇓P **P 08 01 57.6 +0.1**
baz=81,SNR=14
R18A Canyonlands Na 80.45 46 ⇓P **P 08 01 57.7 +0.1**
baz=81,SNR=27
JLU Jordanelle 80.46 43 *e*P **P 08 01 57.8 +0.2**
comp=Z,21nm,0.8s,mb4.8
JLU *e* pP 08 02 33.0 +0.2
DL2 Dalian 80.48 315 P **P 08 01 57.5 -0.3**
DL2 pP pP 08 02 31.0 -2.0
DL2 pmax pmax
comp=Z,620nm,8.0s
DAU Daniels Canyon 80.49 44 *e*P **P 08 01 58.2 +0.4**
DAU Daniels Canyon 80.49 44 *e*P **P 08 01 58.3 +0.5**
U20A Newcomb 80.50 48 ⇑P **P 08 01 58.2 +0.3**
baz=81,SNR=5.9
PMBI Palembang 80.50 270 P **P 08 02 00.3 +1.8**
comp=Z,364nm,0.6s,mb6.2
J14A Carey 80.50 40 ⇓P **P 08 01 58.6 +0.7**
baz=81,SNR=43
L15A Malad City 80.54 42 ⇑P **P 08 01 57.9 -0.1**
baz=81,SNR=16
Y22A Socorro 80.57 51 P **P 08 01 59.2 +0.8**
baz=81,SNR=23
SNY Shenyang 80.61 318 ⇓P **P 08 01 58.9 +0.5**
SNY pP pP 08 02 31.3 -2.3
SNY pmax pmax
comp=Z,64nm,2.3s,mb4.8
SNY LR LR
comp=N,470nm,17.2s
SNY LR LR
comp=E,620nm,27.4s
SNY LR LR
comp=Z,1μm,35.8s
N16A Rees Ranch, Co 80.61 43 ⇓P **P 08 01 58.7 +0.3**
baz=81,SNR=13
Q18A Rafter H Ranch 80.62 45 ⇓P **P 08 01 58.5 0.0**
baz=81,SNR=30
LAZ Ladron 80.64 51 *e*P **P 08 01 59.5 +0.7**
comp=Z,8.2nm,0.8s,mb4.4
TRF Thorofare Moun 80.66 11 *e*P **P 08 01 56.9 -1.3**
comp=Z,120nm,0.8s,mb5.6
324A Moseley Ranch, 80.66 54 ⇓P **P 08 01 59.0 +0.1**
baz=81,SNR=24
LENM Lemitar 80.66 51 *e*P **P 08 01 59.7 +0.8**
LWLI Liwa 80.66 267 P **P 08 01 59.8 +0.4**
comp=Z,206nm,0.9s,mb5.8
MDSI Maura Dua 80.68 268 P **P 08 01 59.0 -0.5**
comp=Z,68nm,2.0s,mb4.9

S19A Harvey Farm, M 80.68 47 ⇓P P 08 01 59.3 +0.4
baz=81,SNR=28
M16A Huntsville 80.69 43 ⇑P P 08 01 58.7 -0.2
baz=81,SNR=22
H13A Challis 80.70 39 ⇓P P 08 01 58.8 0.0
baz=81,SNR=26
TNA Tin City 80.73 3 eP P 08 01 58.4 -0.1
comp=Z,145nm,0.8s,mb5.7
O17A Robinson Place 80.73 44 ⇓P P 08 01 59.7 +0.6
baz=81,SNR=50
X22A Bernardo 80.78 51 ⇑P P 08 02 00.9 +1.4
baz=81
425A Indio Mountain 80.78 55 P P 08 01 59.9 +0.3
baz=81,SNR=45
P18A Preston Nutter 80.79 45 ⇓P P 08 01 59.8 +0.4
baz=81
K15A Arbon 80.80 41 ⇓P P 08 01 59.0 -0.4
baz=81,SNR=15
Z23A Rita Site, Whi 80.83 52 P P 08 02 00.5 +0.6
baz=81,SNR=9.9
R19A Curley Farm, L 80.84 46 ⇓P P 08 01 60.0 +0.2
baz=81,SNR=32
I14A Mackay 80.86 40 ⇑P P 08 02 00.1 +0.4
baz=81,SNR=21
HWUT Hardware Ranch 80.88 42 eP P 08 01 59.5 -0.3
comp=Z,14nm,0.8s,mb4.6
V21A Milan 80.88 49 ⇑P P 08 02 00.7 +0.7
baz=81,SNR=8.6
224A Cornudas Mount 80.88 53 ⇓P P 08 02 00.5 +0.4
baz=81,SNR=30
MVCO Mesa Verde 80.89 48 ⇓P P 08 02 00.2 +0.1
baz=81
MVCO Mesa Verde 80.89 48 eP P 08 01 59.8 -0.3
comp=Z,11nm,0.8s,mb4.5
SKAG Skagway 80.90 19 eP P 08 01 58.3 -1.2
comp=Z,323nm,2.0s,mb5.6
BNM Barren Site 80.91 51 eP P 08 02 00.7 +0.5
comp=Z,13nm,0.7s,mb4.7
BNM e pP 08 02 37.1 +1.7
E12A Beaver Dam Sad 80.92 37 ⇓P P 08 02 01.9 +1.9
baz=81
626A Big Bend Ranch 80.97 56 ⇓P P 08 02 01.0 +0.4
baz=81
LPM Los Pinos Moun 80.98 51 eP P 08 02 01.2 +0.7
LPM e pP 08 02 36.7 +0.9
G13A Cobalt 81.00 38 ⇓P P 08 02 00.2 -0.2
baz=81,SNR=17
325A Bean Ranch, Si 81.03 54 ⇑P P 08 02 00.8 -0.1
baz=81,SNR=35
N17A Moffit Pass 81.03 43 ⇑P P 08 02 00.7 0.0
baz=81
PV10 Paradox Valley 81.04 46 eP P 08 02 00.5 -0.3
comp=Z,698nm,0.7s,mb6.4
NEW Newport 81.09 35 ⇓P P 08 01 59.8 -1.0
baz=81,SNR=13
NEW Newport 81.09 35 eP P 08 01 59.5 -1.3
comp=Z,11nm,0.8s,mb4.5
NEW Newport 81.09 35 eP P 08 01 59.5 -1.3
NEW pmax pmax
comp=Z,11nm,0.8s
W22A Albuquerque 81.13 50 ⇑P P 08 02 02.3 +0.9
baz=81,SNR=10
BPAW Bear Paw Mtn. 81.13 10 eP P 08 01 58.7 -2.0
comp=Z,86nm,1.7s,mb5.1
PV04 Paradox Valley 81.14 46 eP P 08 02 01.8 +0.4
PV04 e pP 08 02 38.3 +1.7
U21A Nageezi 81.14 49 ⇑P P 08 02 02.1 +0.7
baz=81,SNR=61
Q19A Hogan Spring (81.15 46 ⇓P P 08 02 01.6 +0.2
baz=81,SNR=29
MCK McKinley 81.16 11 eP P 08 01 59.8 -1.0
MCK McKinley 81.16 11 eP P 08 01 59.8 -1.0
L16A Fish Haven 81.17 42 P P 08 02 01.1 -0.3
baz=81,SNR=21
PAX Paxson 81.17 13 eP P 08 01 59.7 -1.2
comp=Z,29nm,0.9s,mb4.9
PAX Paxson 81.17 13 eP P 08 01 59.7 -1.2
PAX pmax pmax
comp=Z,29nm,0.9s,mb4.9
124A Stringfield Ra 81.19 53 ⇑P P 08 02 02.5 +0.7
baz=81,SNR=14
526A Mary Lane Ranc 81.20 56 ⇑P P 08 02 02.6 +0.8
baz=81,SNR=19
J15A Blackfoot 81.22 41 ⇑P P 08 02 02.3 +0.7
baz=81,SNR=49
Y23A Lovelace Mesa, 81.25 51 ⇑P P 08 02 02.2 +0.2
baz=81,SNR=16
TXAR Lajitas Array 81.25 56 P P 08 02 02.1 -0.1
comp=Z,14nm,0.9s,mb4.6,baz=218,slow=9.2,SNR=46
TXAR LR LR 08 32 42.9
comp=Z,511nm,18.1s,baz=320,slow=32
TXAR Lajitas Array 81.25 56 P P 08 02 02.1 -0.1
TXAR LR LR 08 32 42.9
TXAR Lajitas Array 81.25 56 P P 08 02 02.1 0.0
TXAR pmax pmax
comp=Z,14nm,0.9s
PV01 Paradox Valley 81.26 47 eP P 08 02 01.6 -0.3
comp=Z,5µm,1.1s
PV01 e pP 08 02 36.7 -0.5
O18A Roosevelt 81.26 44 ⇓P P 08 02 02.4 +0.5
baz=81,SNR=6.3
S20A Disappointment 81.27 47 ⇑P P 08 02 02.5 +0.5
baz=81,SNR=22
H14A Leadore 81.27 39 ⇑P P 08 02 02.2 +0.4
baz=81,SNR=31
F13A Darby 81.31 38 ⇓P P 08 02 01.6 -0.4
baz=81,SNR=32
C11A Tepee Creek (N 81.33 35 ⇑P P 08 02 01.7 -0.3
baz=82
ANMO Albuquerque 81.38 50 LR LR 08 32 25.9
comp=Z,811nm,18.7s,baz=39,slow=31
ANMO Albuquerque 81.38 50 eP P 08 02 02.7 0.0
comp=Z,19nm,0.7s,mb4.8
ANMO e pP 08 02 39.1 +1.2
ANMO Albuquerque 81.38 50 eP P 08 02 02.7 0.0
ANMO e pP 08 02 39.1 +1.2
ANMO pmax pmax
comp=Z,19nm,0.7s
M17A Scullys Gap (B 81.40 43 ⇓P P 08 02 02.1 -0.5
baz=82,SNR=16
R20A Redvale 81.42 47 ⇑P P 08 02 03.0 +0.2
baz=82,SNR=20
X23A Hourglass Bar 81.42 51 ⇑P P 08 02 03.3 +0.4
baz=82,SNR=17
225A Deer Hill, Car 81.44 53 P P 08 02 03.7 +0.7
baz=82,SNR=34
V22A San Miguel Ran 81.46 49 ⇑P P 08 02 03.6 +0.5
baz=82,SNR=16
K16A Soda Springs 81.47 41 ⇑P P 08 02 03.3 +0.4
baz=82,SNR=22
T21A Navajo Lake 81.48 48 ⇓P P 08 02 03.8 +0.6
baz=82,SNR=17
426A McDonald Obser 81.49 55 P P 08 02 03.6 +0.3
baz=82,SNR=62
I15A Monteview 81.49 40 ⇑P P 08 02 03.5 +0.5
baz=82,SNR=13
Z24A Sheeppen Canyo 81.52 52 ⇓P P 08 02 04.1 +0.6
baz=82
627A Terlingua Ranc 81.52 56 P P 08 02 03.8 +0.2
baz=82,SNR=27
MENT Mentasta 81.53 14 eP P 08 02 02.1 -0.7
G14A Jackson 81.54 39 ⇓P P 08 02 03.5 +0.2
baz=82,SNR=22
L17A Cokeville 81.57 42 P P 08 02 02.9 -0.6
baz=82,SNR=8.5
S21A Coal Bank Pass 81.59 47 P P 08 02 04.0 +0.2
baz=82,SNR=64
527A Woodward Ranch 81.61 56 ⇑P P 08 02 04.1 0.0
baz=82,SNR=26
C12B Naegeli Ranch, 81.69 36 ⇑P P 08 02 03.5 -0.5
baz=82,SNR=12
MCMT McKenzie Canyo 81.69 39 eP P 08 02 04.1 0.0
comp=Z,6.9nm,0.7s,mb4.4
MCMT e pP 08 02 37.0 -2.4
W23A Werner Place, 81.70 50 P P 08 02 04.5 +0.2
baz=82,SNR=28
H15A Lima 81.71 39 ⇑P P 08 02 04.5 +0.4
baz=82,SNR=11
Y24A Capitan 81.71 52 ⇓P P 08 02 04.8 +0.3
baz=82,SNR=32
E13A Victor 81.74 37 ⇓P P 08 02 03.6 -0.7
baz=82,SNR=30
AHID Auburn Hatcher 81.75 42 eP P 08 02 03.9 -0.5
comp=Z,15nm,0.8s,mb4.7
M18A Lyman 81.77 43 P P 08 02 04.4 -0.2
baz=82,SNR=14
326A Caldwell Ranch 81.78 55 ⇑P P 08 02 05.1 +0.2
baz=82,SNR=14
125A Gardner Draw, 81.79 53 ⇑P P 08 02 05.3 +0.4
baz=82,SNR=12
Q20A Ridgley Place, 81.82 46 ⇑P P 08 02 05.1 +0.2
baz=82,SNR=39
K17A Gardner Place, 81.86 42 ⇑P P 08 02 05.1 +0.1
baz=82,SNR=28
O19A Miners Draw (B 81.87 45 P P 08 02 05.0 -0.1
baz=82,SNR=13
F14A Wisdom 81.89 38 ⇑P P 08 02 05.0 -0.1
baz=82,SNR=23
RRI2 Red Ridge 81.90 41 eP P 08 02 05.2 +0.1
comp=Z,35nm,0.9s,mb5.0
RRI2 e pP 08 02 42.0 +1.5
DLBC Dease Lake 81.90 22 LR LR 08 31 10.2
comp=Z,453nm,19.5s,baz=149,slow=30
DLBC Dease Lake 81.90 22 eP P 08 02 04.5 -0.3
V23A Ortiz Mt. (NFS 81.92 50 ⇓P P 08 02 06.7 +1.2
baz=82,SNR=32
D13A Huson 81.94 37 ⇓P P 08 02 04.3 -1.0
baz=82,SNR=40
628A Black Gap, Mar 81.94 57 ⇑P P 08 02 06.0 +0.3
baz=82
T22A Edith 81.94 48 P P 08 02 05.6 0.0
baz=82,SNR=20
226A Malaga, Loving 81.98 54 ⇑P P 08 02 06.1 +0.2
baz=82,SNR=32
Z25A Roswell 82.00 52 P P 08 02 06.6 +0.7
baz=82,SNR=17
P20A De Beque 82.00 45 ⇑P P 08 02 06.0 +0.2
baz=82,SNR=25
L18A Fontenelle, Gr 82.03 43 ⇓P P 08 02 05.9 0.0
baz=82,SNR=8.5
B12A Libby 82.05 35 ⇑P P 08 02 05.5 -0.3
baz=82,SNR=6.4
427A Hayter Ranch, 82.05 55 P P 08 02 06.4 +0.1
baz=82,SNR=44
I16A Newdale 82.05 40 ⇑P P 08 02 06.8 +0.8
baz=82,SNR=65
QIZ Qiongzhong 82.06 292 P P 08 02 06.9 +0.3
QIZ pP pP 08 02 42.5 +0.6
QIZ sP sP 08 02 55.2 -1.6
QIZ PP PP 08 05 16.5 -0.2
QIZ S S 08 12 11.7 +1.9
QIZ sS sS 08 13 09.7 -1.2
QIZ SS SS 08 17 31.5 -1.1
QIZ pmax pmax
comp=Z,830nm,11.0s
QIZ LR LR
comp=E,340nm,25.2s
QIZ LR LR
comp=Z,1µm,39.8s
DOT Dot Lake 82.07 13 eP P 08 02 04.9 -0.7
comp=Z,245nm,1.0s,mb5.8
DOT e pP 08 02 41.3 +0.3
R21A Cimarron 82.08 47 P P 08 02 06.6 +0.4
baz=82,SNR=49
G15A Dillon 82.09 39 ⇓P P 08 02 06.4 +0.2
baz=82,SNR=62
MSO Missoula 82.09 37 ⇓P P 08 02 05.3 -0.8
baz=82,SNR=23
MSO Missoula 82.09 37 eP P 08 02 05.3 -0.8
comp=Z,29nm,1.2s,mb4.8
MSO e pP 08 02 37.2 -4.2
MSO ePP PP 08 05 12.3 -4.0
DCID1 Drake Creek 82.11 41 eP P 08 02 06.5 +0.3
comp=Z,54nm,1.1s,mb5.1
N19A John Jarvie Ra 82.11 44 ⇓P P 08 02 07.2 +0.8
baz=82,SNR=10
DLMT Dillon 82.12 39 eP P 08 02 06.2 -0.1
comp=Z,153nm,1.8s,mb5.3
E14A Clinton 82.14 38 ⇑P P 08 02 06.1 -0.2
baz=82,SNR=49
BSMT Bassoo Peak 82.16 36 eP P 08 02 05.5 -0.9
BSMT e pP 08 02 38.3 -3.4
U23A El Rito 82.16 49 ⇓P P 08 02 07.5 +0.7
baz=82,SNR=42
SEY Seymchan 82.17 345 deP P 08 02 05.1 -1.1
C13A Hot Springs 82.19 36 ⇑P P 08 02 05.4 -1.2
baz=82,SNR=13
REDW Red Top Meadow 82.20 41 eP P 08 02 06.5 -0.3
comp=Z,39nm,1.1s,mb5.0
TPAW Teton Pass 82.20 41 eP P 08 02 06.8 0.0
comp=Z,69nm,1.4s,mb5.1
CLNB Carlsbad 82.23 54 eP P 08 02 07.4 +0.2
comp=Z,5.7nm,0.6s,mb4.4
Q21A Lamborn Mesa, 82.27 46 ⇑P P 08 02 07.7 +0.5
baz=82,SNR=10.0
W24A Lazy 6 Ranch, 82.27 50 ⇓P P 08 02 07.4 0.0
baz=82,SNR=30
Y25A Mesa, Roswell 82.28 52 P P 08 02 07.6 +0.2
baz=82,SNR=21
126A Clayton Basin, 82.28 53 ⇓P P 08 02 07.3 -0.1
baz=82,SNR=14
J17A Brown Place, J 82.29 41 ⇑P P 08 02 07.5 +0.2
baz=82,SNR=23
SNOW Snow King Moun 82.31 41 eP P 08 02 07.4 +0.1
comp=Z,29nm,0.8s,mb5.0
WHN Wuhan 82.31 304 P P 08 02 07.9 +0.2
WHN sS sS 08 13 16.6 +3.6
WHN pmax pmax
comp=Z,2µm,13.0s
WHN LR LR
comp=Z,2µm,25.1s
S22A 4UR Ranch, Cre 82.31 48 P P 08 02 07.9 +0.4
baz=82,SNR=60
K18A Toltan Ranch, 82.37 42 P P 08 02 07.7 +0.1
baz=82,SNR=40
JTMT Jette 82.39 36 eP P 08 02 06.5 -1.1
O20A White River Ci 82.39 45 ⇑P P 08 02 08.0 +0.2
baz=82,SNR=16
COLA College 82.40 11 eP P 08 02 06.1 -1.2
comp=Z,176nm,0.8s,mb5.7
COLA College 82.40 11 eP P 08 02 06.1 -1.2
COLA pmax pmax
comp=Z,176nm,0.8s,mb5.7
IMW Indian Meadow 82.41 41 eP P 08 02 07.8 0.0
comp=Z,25nm,0.7s,mb5.0
IMW e pP 08 02 44.6 +1.4
M19A Rock Springs 82.41 43 ⇓P P 08 02 07.9 0.0
baz=82,SNR=9.6
SWMT Swartz Lake 82.42 36 eP P 08 02 06.7 -1.1
F15A Butte 82.43 38 ⇑P P 08 02 07.4 -0.5
baz=83,SNR=22
LRM Limekiln Ridge 82.45 38 eP P 08 02 07.3 -0.7
MOOW Moose Ponds 82.46 41 eP P 08 02 07.7 -0.4
comp=Z,94nm,1.9s,mb5.1
MOOW e pP 08 02 44.5 +1.1
TIA Tai'an 82.47 311 P P 08 02 07.9 -0.5
D14A Greenough 82.48 37 ⇓P P 08 02 07.1 -1.0
baz=83,SNR=27
LOHW Long Hollow 82.48 41 eP P 08 02 07.9 -0.3
comp=Z,179nm,2.3s,mb5.3
ILAR Eielson Array 82.49 11 P P 08 02 06.4 -1.4
comp=Z,26nm,0.6s,mb5.0,baz=222,slow=5.7,SNR=404
ILAR S S 08 12 11.8 -0.5
comp=Z,0.3nm,0.9s,baz=187,slow=16,SNR=4.4
ILAR PKKP PKKPbc 08 20 31.6 -5.1
comp=Z,0.3nm,0.6s,baz=339,slow=2.7,SNR=7.9
ILAR LR LR 08 31 14.8
comp=Z,518nm,21.2s,baz=29,slow=30
ILAR Eielson Array 82.49 11 P P 08 02 06.4 -1.4
ILAR S S 08 12 11.8 -0.5
ILAR PKKP PKKPbc 08 20 31.6 -5.1
ILAR LR LR 08 31 14.8
ILAR Eielson Array 82.49 11 P P 08 02 06.4 -1.4
ILAR S S 08 12 11.8 -0.5
ILAR pmax pmax
comp=Z,27nm,0.6s
G16A Moss Hill, Enn 82.54 39 ⇑P P 08 02 08.5 0.0
baz=83
CHMT Chamberlain Mo 82.54 37 eP P 08 02 07.4 -1.0
CPRX Cap Rock 82.55 53 eP P 08 02 08.4 -0.4
comp=Z,72nm,1.2s,mb5.3
Z26A Caprock 82.56 53 ⇓P P 08 02 08.9 0.0
baz=83,SNR=40
L19A Farson 82.56 43 ⇑P P 08 02 08.7 +0.1
baz=83,SNR=22
QLMT Earthquake Lak 82.57 40 eP P 08 02 09.1 +0.4
SLMT Seeley Lake 82.57 37 eP P 08 02 07.3 -1.2
428A Kincaid Ranch, 82.58 55 ⇑P P 08 02 09.7 +0.7
baz=83,SNR=15
R22A Saguache, Gunn 82.58 47 P P 08 02 09.7 +0.8
baz=83,SNR=36
T23A Casias Ranch, 82.58 49 ⇓P P 08 02 09.4 +0.5
baz=83,SNR=26
V24A Rampart Ranch, 82.58 50 ⇑P P 08 02 09.4 +0.5
baz=83,SNR=39
YBMT Yellow Bay 82.60 36 eP P 08 02 07.5 -1.2
H16A Russell Place, 82.61 40 ⇑P P 08 02 09.9 +1.0
baz=83,SNR=65
B13A Whitefish 82.62 36 ⇓P P 08 02 07.9 -1.0
baz=83,SNR=9.2
MYKOM Kota Tinggi 82.62 274 P P 08 02 10.3 +0.6
MYKOM Kota Tinggi 82.62 274 P P 08 02 10.2 +0.5
comp=Z,996nmcomp=Z,90nm,1.0s,mb5.5
E15A Deer Lodge 82.64 38 ⇓P P 08 02 08.5 -0.5
baz=83,SNR=22
I17A Pilgrim Ck. 82.65 41 ⇑P P 08 02 09.9 +0.9
baz=83,SNR=38
FLWY Flagg Ranch 82.65 41 eP P 08 02 09.3 +0.2
comp=Z,180nm,1.8s,mb5.5
FLWY e pP 08 02 43.5 -0.9
J18A Kendall Valley 82.66 42 ⇓P P 08 02 09.2 +0.1
baz=83,SNR=86
P21A Newcastle 82.66 46 ⇓P P 08 02 09.6 +0.3
baz=83,SNR=18
N20A Spence Gulch, 82.70 44 ⇑P P 08 02 09.6 +0.1
baz=83,SNR=31
328A Wristen Ranch, 82.73 55 ⇑P P 08 02 09.5 -0.3
baz=83,SNR=15
BW06 Boulder Array 82.74 42 ⇓P P 08 02 09.3 -0.3
baz=83,SNR=44
BW06 Boulder Array 82.74 42 eP P 08 02 08.4 -1.2
comp=Z,31nm,0.9s,mb5.0
BW06 e pP 08 02 45.2 +0.3
PDAR Pinedale Array 82.74 42 P P 08 02 08.8 -0.8
comp=Z,21nm,0.7s,mb5.0,baz=213,slow=3.0,SNR=161
PDAR pP pP 08 02 44.2 -0.8
comp=Z,14nm,0.8s,baz=224,slow=4.1,SNR=3.5
PDAR PKKPbc PKKPbc 08 20 33.6 -1.3
comp=Z,1.0nm,0.9s,baz=104,slow=3.8,SNR=5.2
PDAR LR LR 08 32 52.4
comp=Z,616nm,18.8s,baz=245,slow=31
PDAR Pinedale Array 82.74 42 P P 08 02 08.8 -0.8
PDAR pP pP 08 02 44.2 -0.8
PDAR PKKPbc PKKPbc 08 20 33.6 -1.3
PDAR LR LR 08 32 52.4
YFT Old Faithful 82.75 40 eP P 08 02 11.3 +1.7
comp=Z,181nm,2.2s,mb5.4
Q22A Crested Butte, 82.75 47 ⇑P P 08 02 10.3 +0.6
baz=83,SNR=48
YMR Madison River 82.77 40 eP P 08 02 10.1 +0.4
comp=Z,153nm,1.4s,mb5.5
127A Arkansas Junct 82.80 53 ⇓P P 08 02 10.4 +0.2
baz=83,SNR=11
SMCO Snowmass 82.84 46 eP P 08 02 10.0 -0.2
comp=Z,34nm,0.7s,mb5.2
SMCO e pP 08 02 43.6 -1.9
BOZ Bozeman (W) 82.85 39 P P 08 02 09.8 -0.3
baz=83,SNR=35
BOZ Bozeman (W) 82.85 39 eP P 08 02 09.7 -0.4
comp=Z,67nm,1.5s,mb5.2
BOZ Bozeman (W) 82.85 39 eP P 08 02 09.7 -0.4
BOZ pmax pmax
comp=Z,67nm,1.5s,mb5.2
U24A Moreno Valley 82.86 49 ⇑P P 08 02 11.8 +1.4
baz=83,SNR=14
H17A Grant Village 82.88 40 ⇑P P 08 02 11.1 +0.9
baz=83,SNR=13
S23A Nye Farm, Mont 82.89 48 ⇓P P 08 02 11.2 +0.7
baz=83,SNR=7.9
F16A Kennard Place, 82.92 39 ⇓P P 08 02 10.5 0.0
baz=83,SNR=32
Y26A Elida 82.94 52 ⇑P P 08 02 10.7 -0.1
baz=83,SNR=28
A13A Flathead Natio 82.95 35 ⇑P P 08 02 10.2 -0.4
baz=83
O21A Pagoda 82.96 45 ⇑P P 08 02 10.6 -0.2
baz=83,SNR=12
YNR Norris Junctio 82.97 40 eP P 08 02 12.0 +1.3
comp=Z,54nm,1.3s,mb5.1
W25A X Bar L Ranch, 82.98 51 ⇑P P 08 02 10.7 -0.3
baz=83,SNR=26
I18A Diamond G Ranc 83.02 41 ⇑P P 08 02 11.2 +0.1
baz=83,SNR=27
D15A Lincoln 83.03 37 ⇓P P 08 02 10.8 -0.2
baz=83,SNR=35
M20A Sweetwater, Wa 83.05 44 ⇑P P 08 02 11.5 +0.3
baz=83,SNR=13
LKWY Lake 83.07 40 eP P 08 02 13.0 +1.8
comp=Z,49nm,1.0s,mb5.2
LKWY Lake 83.07 40 eP P 08 02 13.0 +1.7
LKWY pmax pmax
comp=Z,49nm,1.0s,mb5.2
V25A Rancho No Teng 83.12 50 ⇓P P 08 02 11.8 +0.1
baz=83,SNR=38
Z27A Tatum 83.16 53 ⇑P P 08 02 12.0 0.0
baz=83,SNR=18
N21A Black Mountain 83.17 45 ⇑P P 08 02 12.2 +0.3
baz=83,SNR=42
P22A Eagle 83.17 46 ⇑P P 08 02 12.1 +0.2
baz=83,SNR=33
L20A Wamsutter 83.19 43 P P 08 02 12.1 +0.2
baz=83,SNR=45
KGM Kluang 83.19 274 P P 08 02 13.2 +0.6
X26A CR and CF Fran 83.20 52 P P 08 02 12.6 +0.5
baz=83,SNR=7.6
K19A Absolon Red Bu 83.23 42 ⇑P P 08 02 11.5 -0.6
baz=83,SNR=30
G17A Pierce Place, 83.23 40 ⇑P P 08 02 12.5 +0.4
baz=83,SNR=14
SDCO Great Sand Dun 83.27 48 P P 08 02 12.3 -0.1
baz=83,SNR=32
SDCO Great Sand Dun 83.27 48 eP P 08 02 12.2 -0.2
comp=Z,32nm,1.3s,mb4.9
SDCO e pP 08 02 48.4 +0.6
HRY Holter Researc 83.27 38 eP P 08 02 11.8 -0.5
E16A East Helena 83.27 38 ⇑P P 08 02 12.1 -0.2
baz=83,SNR=23
WALA Waterton Lakes 83.30 35 eP P 08 02 11.9 -0.4
comp=Z,2.3nm,1.6s
J19A Crowheart 83.31 42 ⇓P P 08 02 12.2 -0.2
baz=83,SNR=34
T24A Torres, Weston 83.31 49 ⇓P P 08 02 13.3 +0.7
baz=83,SNR=30
Y27A Causey 83.43 52 ⇓P P 08 02 13.1 -0.3
baz=84,SNR=38
S24A Houchin Ranch, 83.43 48 ⇓P P 08 02 13.9 +0.7
baz=84,SNR=33
K20A Yellowstone Ra 83.48 43 ⇓P P 08 02 12.9 -0.5
baz=84,SNR=24
U25A Circle Dot Ran 83.50 50 ⇑P P 08 02 13.6 -0.1
baz=84,SNR=32
DAWY Dawson 83.51 15 eP P 08 02 12.7 -0.4
Q23A Hartsel 83.52 47 P P 08 02 14.2 +0.5
baz=84,SNR=10
A14A Double T Ranch 83.53 35 ⇓P P 08 02 13.0 -0.5
baz=84,SNR=32
O22A Kremmling 83.57 46 ⇑P P 08 02 14.1 +0.2
baz=84,SNR=50
F17A Fitzpatrick Pl 83.57 39 ⇓P P 08 02 14.1 +0.4
baz=84,SNR=25
H18A Shoshone NF, C 83.59 40 ⇑P P 08 02 14.1 +0.2
baz=84,SNR=28
D16A Dana Ranch, Ca 83.60 38 ⇓P P 08 02 13.8 -0.1
baz=84,SNR=28
M21A Separation Pea 83.65 44 ⇑P P 08 02 14.1 -0.2
baz=84,SNR=27
B15A Bradely Ranch, 83.67 36 ⇑P P 08 02 13.0 -1.2
baz=84,SNR=16
EGAK Eagle 83.69 14 eP P 08 02 13.5 -0.5
comp=Z,76nm,1.0s,mb5.4
I19A Meeteetse 83.71 41 ⇑P P 08 02 14.7 +0.2
baz=84,SNR=24
V26A Tequesquite Ra 83.72 50 ⇓P P 08 02 14.2 -0.6
baz=84,SNR=20
P23A Jefferson 83.72 46 ⇑P P 08 02 15.6 +0.9
baz=84,SNR=20
E17A Martinsdale 83.73 38 ⇓P P 08 02 14.5 0.0
baz=84,SNR=13
R24A Sanders Place, 83.75 48 ⇑P P 08 02 15.1 +0.2
baz=84,SNR=18
MSTX Muleshoe 83.76 52 ⇑P P 08 02 15.0 -0.1
baz=84,SNR=25
X27A F and S Farms, 83.78 52 ⇑P P 08 02 14.8 -0.3
baz=84,SNR=19
RWWY Rawlins 83.79 44 eP P 08 02 14.5 -0.5
comp=Z,364nm,2.1s,mb5.7
T25A Trinidad 83.80 49 ⇓P P 08 02 15.0 -0.2
baz=84,SNR=15
L21A Rawlins 83.81 44 ⇑P P 08 02 14.7 -0.4
baz=84,SNR=24
C16A Fuhringer Ranc 83.88 37 ⇓P P 08 02 14.7 -0.6
baz=84,SNR=18

N22A	**Wattenberg Ran**	**83.91**	**45**	⇓P		**P**	**08 02 16.1**	**+0.4**
	baz=84,SNR=66							
G18A	**Lazy EL Ranch,**	**83.96**	**40**	⇑P		**P**	**08 02 16.0**	**+0.3**
	baz=84,SNR=22							
W27A	**Bowe Ranch, En**	**83.97**	**51**	⇑P		**P**	**08 02 15.6**	**-0.5**
	baz=84,SNR=17							
J20A	**Shoshoni**	**83.97**	**42**	⇓P		**P**	**08 02 16.0**	**+0.1**
	baz=84,SNR=64							
U26A	**Atchley Ranch,**	**83.99**	**50**	⇑P		**P**	**08 02 15.8**	**-0.3**
	baz=84,SNR=22							
S25A	**Robets Cordova**	**84.00**	**49**	⇓P		**P**	**08 02 16.2**	**+0.1**
	baz=84,SNR=23							
H19A	**Powell**	**84.01**	**41**	P		**P**	**08 02 16.3**	**+0.3**
	baz=84,SNR=31							
O23A	**Lake Granby, G**	**84.02**	**46**	P		**P**	**08 02 16.6**	**+0.4**
	baz=84,SNR=11							
Q24A	**Divide**	**84.03**	**47**	⇓P		**P**	**08 02 16.6**	**+0.3**
	baz=84,SNR=21							
RLMT	**Red Lodge**	**84.05**	**40**	⇓P		**P**	**08 02 16.6**	**+0.4**
	baz=84,SNR=27							
RLMT	**Red Lodge**	**84.05**	**40**	*e*P		**P**	**08 02 16.3**	**+0.1**
	comp=Z,33nm,1.0s,mb5.0							
ISCO	**Idaho Springs**	**84.06**	**46**	⇓P		**P**	**08 02 16.7**	**+0.3**
	baz=84,SNR=19							
ISCO	**Idaho Springs**	**84.06**	**46**	*e*P		**P**	**08 02 16.4**	**0.0**
	comp=Z,14nm,0.8s,mb4.7							
ISCO	**Idaho Springs**	**84.06**	**46**	*e*P		**P**	**08 02 16.4**	**0.0**
ISCO					pmax	pmax		
	comp=Z,14nm,0.8s,mb4.7							
M22A	**Cedar Creek Ra**	**84.08**	**44**	⇓P		**P**	**08 02 16.7**	**+0.2**
	baz=84,SNR=17							
GCMT	**Greycliff**	**84.12**	**39**	*e*P		**P**	**08 02 16.6**	**0.0**
	comp=Z,23nm,1.1s,mb4.8							
F18A	**Big Timber**	**84.15**	**39**	⇓P		**P**	**08 02 17.1**	**+0.4**
	baz=84,SNR=20							
COLD	**Coldfoot**	**84.15**	**9**	*e*P		**P**	**08 02 16.3**	**+0.1**
	comp=Z,72nm,0.9s,mb5.4							
D17A	**Six Diamond Ra**	**84.17**	**38**	⇓P		**P**	**08 02 16.9**	**+0.1**
	baz=84,SNR=28							
K21A	**Alcova**	**84.19**	**43**	⇓P		**P**	**08 02 16.7**	**-0.3**
	baz=84,SNR=34							
B16A	**M & M Farms, S**	**84.21**	**36**	⇑P		**P**	**08 02 15.9**	**-1.0**
	baz=84,SNR=18							
I20A	**Worland**	**84.22**	**42**	⇓P		**P**	**08 02 16.9**	**-0.2**
	baz=84,SNR=42							
BILL	**Bilibino**	**84.27**	**353**	*e*P		**P**	**08 02 15.9**	**-0.9**
	comp=Z,110nm,1.3s,mb5.4							
BILL	**Bilibino**	**84.27**	**353**	*e*P		**P**	**08 02 15.9**	**-0.9**
BILL					pmax	pmax		
	comp=Z,110nm,1.3s,mb5.4							
N23A	**Red Feather La**	**84.30**	**45**	⇓P		**P**	**08 02 17.9**	**+0.3**
	baz=84,SNR=24							
R25A	**Fountain Ranch**	**84.31**	**48**	⇑P		**P**	**08 02 17.2**	**-0.5**
	baz=84,SNR=15							
E18A	**Harlowton**	**84.35**	**39**	⇓P		**P**	**08 02 18.1**	**+0.4**
	baz=84,SNR=36							
C17A	**Wharram Farm,**	**84.36**	**37**	⇓P		**P**	**08 02 17.5**	**-0.3**
	baz=84,SNR=82							
J21A	**Lysite**	**84.38**	**42**	⇓P		**P**	**08 02 18.1**	**+0.1**
	baz=84,SNR=84							
L22A	**Ellis Ranch, M**	**84.47**	**44**	P		**P**	**08 02 18.6**	**+0.2**
	baz=85,SNR=19							
A16A	**West Butte Ran**	**84.54**	**36**	⇑P		**P**	**08 02 18.1**	**-0.5**
	baz=85							
H20A	**Greybull**	**84.55**	**41**	⇓P		**P**	**08 02 18.0**	**-0.7**
	baz=85,SNR=19							
O24A	**Longmont**	**84.57**	**46**	⇑P		**P**	**08 02 18.8**	**-0.2**
	baz=85,SNR=8.0							
F19A	**Roth Farm, Mol**	**84.60**	**40**	⇓P		**P**	**08 02 18.9**	**-0.1**
	baz=85,SNR=28							
Q25A	**Bedland, Calha**	**84.65**	**47**	⇑P		**P**	**08 02 18.7**	**-0.7**
	baz=85							
B17A	**L&G Farms, Che**	**84.67**	**37**	P		**P**	**08 02 18.5**	**-0.7**
	baz=85,SNR=20							
K22A	**Casper**	**84.68**	**43**	⇓P		**P**	**08 02 19.0**	**-0.4**
	baz=85,SNR=14							
I21A	**Big Trails, Te**	**84.69**	**42**	⇓P		**P**	**08 02 19.0**	**-0.5**
	baz=85,SNR=39							
M23A	**Laramie**	**84.70**	**45**	⇑P		**P**	**08 02 19.5**	**-0.1**
	baz=85,SNR=24							
G20A	**Bridger**	**84.75**	**40**	⇑P		**P**	**08 02 19.7**	**-0.1**
	baz=85,SNR=9.7							
BJI	**Beijing**	**84.76**	**314**	P		**P**	**08 02 20.2**	**+0.3**
BJI					pmax	pmax		
	comp=Z,1μm,10.9s							
BJI					LR	LR		
	comp=N,740nm,21.7s							
BJI					LR	LR		
	comp=E,490nm,19.2s							
BJI					LR	LR		
	comp=Z,790nm,27.8s							
JCT	**Junction City**	**84.79**	**57**	⇑P		**P**	**08 02 19.9**	**-0.4**
	baz=85,SNR=6.1							
JCT	**Junction City**	**84.79**	**57**	*e*P		**P**	**08 02 19.1**	**-1.2**
	comp=Z,56nm,1.8s,mb5.0							
JCT	**Junction City**	**84.79**	**57**	*e*P		**P**	**08 02 19.1**	**-1.2**
JCT					pmax	pmax		
	comp=Z,56nm,1.8s,mb5.0							
PHWY	**Pilot Hill**	**84.81**	**45**	*e*P		**P**	**08 02 19.9**	**-0.2**
	comp=Z,19nm,1.1s,mb4.7							
AMTX	**Amarillo**	**84.94**	**52**	⇑P		**P**	**08 02 20.2**	**-0.8**
	baz=85,SNR=12							
AMTX	**Amarillo**	**84.94**	**52**	*e*P		**P**	**08 02 20.0**	**-1.0**
	comp=Z,20nm,0.7s,mb5.0							
AMTX				*e*		pP	08 02 56.2	-0.3
BKNI	**Bangkinang**	**84.94**	**272**	P		**P**	**08 02 21.9**	**+0.4**
	comp=Z,3μmcomp=Z,134nm,0.7s,mb5.8							
P25A	**Willow Gulch B**	**84.95**	**47**	P		**P**	**08 02 20.9**	**+0.1**
	baz=85,SNR=12							
E19A	**Rath Farm, Rou**	**84.98**	**39**	⇑P		**P**	**08 02 20.8**	**0.0**
	baz=85,SNR=26							
L23A	**Garrett**	**84.99**	**44**	⇓P		**P**	**08 02 20.7**	**-0.4**
	baz=85,SNR=24							
N24A	**Carr**	**85.00**	**45**	⇑P		**P**	**08 02 21.4**	**+0.3**
	baz=85,SNR=8.7							
J22A	**Midwest**	**85.04**	**43**	⇑P		**P**	**08 02 20.7**	**-0.6**
	baz=85,SNR=20							
A17A	**Triple J Farms**	**85.05**	**36**	⇑P		**P**	**08 02 21.0**	**-0.1**
	baz=85							
F20A	**Billings**	**85.06**	**40**	⇑P		**P**	**08 02 20.9**	**-0.3**
	baz=85,SNR=16							
EGMT	**Eagleton**	**85.15**	**37**	⇓P		**P**	**08 02 21.3**	**-0.3**
	baz=85,SNR=13							
EGMT	**Eagleton**	**85.15**	**37**	*e*P		**P**	**08 02 21.4**	**-0.3**
	comp=Z,104nm,1.7s,mb5.3							
FRIM	**Kepong**	**85.15**	**275**	P		**P**	**08 02 22.8**	**+0.3**
PDSI	**Padang**	**85.18**	**270**	P		**P**	**08 02 22.0**	**-0.7**
	comp=Z,6μmcomp=Z,81nm,0.9s,mb5.4							
H21A	**Big Horn, Sher**	**85.22**	**41**	⇓P		**P**	**08 02 21.9**	**-0.2**
	baz=85,SNR=11							
I22A	**9 Mile Ranch,**	**85.25**	**42**	⇓P		**P**	**08 02 21.9**	**-0.4**
	baz=85,SNR=12							
D19A	**Cripps Ranch,**	**85.25**	**39**	⇓P		**P**	**08 02 22.3**	**0.0**
	baz=85,SNR=27							
M24A	**Cheyenne**	**85.31**	**45**	⇑P		**P**	**08 02 22.7**	**+0.1**
	baz=85							
B18A	**Beardsley Farm**	**85.31**	**37**	⇑P		**P**	**08 02 22.2**	**-0.3**
	baz=85,SNR=17							
E20A	**Meyer Farm, Mu**	**85.40**	**39**	⇑P		**P**	**08 02 23.1**	**+0.1**
	baz=86,SNR=17							
C19A	**Slack Wire Ran**	**85.42**	**38**	⇓P		**P**	**08 02 23.3**	**+0.2**
	baz=86,SNR=35							
A18A	**Metzger Ranch,**	**85.53**	**37**	⇓P		**P**	**08 02 23.0**	**-0.5**
	baz=86,SNR=32							
H22A	**Clearmont**	**85.65**	**42**	⇓P		**P**	**08 02 23.7**	**-0.6**
	baz=86,SNR=11							
D20A	**Manuel Ranch,**	**85.67**	**39**	⇑P		**P**	**08 02 24.5**	**+0.2**
	baz=86,SNR=23							
COCO	**West Island**	**85.79**	**259**	P		**P**	**08 02 26.7**	**+1.0**
	comp=Z,149nm,2.4s,mb5.3							
B19A	**Brinkman Farms**	**85.83**	**37**	⇓P		**P**	**08 02 25.3**	**+0.2**
	baz=86,SNR=6.1							
C20A	**Veseth Ranch,**	**86.04**	**38**	⇓P		**P**	**08 02 26.3**	**+0.2**
	baz=86,SNR=27							
IPM	**Ipoh**	**86.06**	**276**	P		**P**	**08 02 27.7**	**+0.7**
IPM	**Ipoh**	**86.06**	**276**	*e*P		**P**	**08 02 27.4**	**+0.4**
	comp=Z,158nm,0.6s,mb5.9							
IPM	**Ipoh**	**86.06**	**276**	P		**P**	**08 02 27.6**	**+0.6**
	comp=Z,2μmcomp=Z,243nm,0.7s,mb6.0							
ENH	**Enshi**	**86.13**	**303**	*e*P		**P**	**08 02 27.4**	**+0.4**
	comp=Z,19nm,0.7s,mb4.9							
A19A	**Klindworth Far**	**86.17**	**37**	⇑P		**P**	**08 02 26.5**	**-0.2**
	baz=86,SNR=12							
D21A	**La Casta Ranch**	**86.35**	**39**	⇓P		**P**	**08 02 27.8**	**+0.2**
	baz=86,SNR=31							
B20A	**Solberg Farm,**	**86.36**	**38**	⇑P		**P**	**08 02 27.5**	**-0.2**
	baz=86,SNR=12							
SISI	**Saibi**	**86.40**	**270**	P		**P**	**08 02 29.1**	**+0.4**
	comp=Z,86nm,1.6s,mb5.2							
MNSI	**Mandailing Nat**	**86.47**	**272**	P		**P**	**08 02 29.0**	**-0.1**
	comp=Z,2μmcomp=Z,65nm,0.6s,mb5.5							
TIY	**Taiyuan**	**86.52**	**310**	*e*P		**P**	**08 02 26.3**	**-2.4**
TIY					sP	sP	08 03 16.5	-2.6
TIY					S	SKSac	08 12 44.7	+2.5
TIY					pmax	pmax		
	comp=Z,710nm,12.0s							
TIY					LR	LR		
	comp=N,290nm,5.3s							
TIY					LR	LR		
	comp=E,130nm,4.3s							
TIY					LR	LR		
	comp=Z,1μm,24.6s							
HIA	**Hailar**	**86.58**	**323**	*e*P		**P**	**08 02 28.6**	**-0.1**
	comp=Z,51nm,1.1s,mb5.3							
HIA	**Hailar**	**86.58**	**323**	*e*P		**P**	**08 02 28.6**	**-0.1**
HIA					pmax	pmax		
	comp=Z,51nm,1.1s							
A20A	**Cobblestone Ra**	**86.63**	**37**	⇓P		**P**	**08 02 28.8**	**-0.1**
	baz=87,SNR=30							
KULM	**Kulim**	**86.63**	**276**	P		**P**	**08 02 30.4**	**+0.6**
KULM	**Kulim**	**86.63**	**276**	*e*P		**P**	**08 02 30.6**	**+0.8**
	comp=Z,41nm,0.8s,mb5.3							
KULM	**Kulim**	**86.63**	**276**	P		**P**	**08 02 30.3**	**+0.5**
	comp=Z,991nmcomp=Z,57nm,0.8s,mb5.5							
C21A	**Desert Coulee**	**86.63**	**38**	⇑P		**P**	**08 02 28.7**	**-0.3**
	baz=87,SNR=11							
LAO	**LASA Array**	**86.66**	**40**	⇑P		**P**	**08 02 29.6**	**+0.5**
	baz=87,SNR=29							
LAO	**LASA Array**	**86.66**	**40**	*e*P		**P**	**08 02 29.2**	**+0.1**
	comp=Z,64nm,1.0s,mb5.4							
E22A	**Miles City**	**86.72**	**40**	⇓P		**P**	**08 02 29.2**	**-0.2**
	baz=87,SNR=9.3							
H24A	**Dirks Ranch, A**	**86.87**	**42**	⇓P		**P**	**08 02 29.2**	**-1.0**
	baz=87,SNR=19							
D22A	**Cohagen**	**86.89**	**39**	⇑P		**P**	**08 02 30.5**	**+0.2**
	baz=87,SNR=14							
RSSD	**Black Hills**	**86.95**	**43**	*e*P		**P**	**08 02 29.5**	**-1.1**
	comp=Z,14nm,1.0s,mb4.7							
RSSD				*e*		pP	08 03 01.4	-4.9
RSSD	**Black Hills**	**86.95**	**43**	*e*P		**P**	**08 02 29.5**	**-1.1**
RSSD					pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8							
B21A	**Ellsworth Farm**	**86.95**	**38**	⇓P		**P**	**08 02 30.5**	**0.0**
	baz=87							
WMOK	**Wichita Mounta**	**87.11**	**53**	*e*P		**P**	**08 02 33.0**	**+1.4**
	comp=Z,7.8nm,1.1s,mb4.5							
WMOK				*e*		pP	08 03 07.3	0.0
WMOK	**Wichita Mounta**	**87.11**	**53**	*e*P		**P**	**08 02 33.0**	**+1.4**
WMOK					pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.5							
E23A	**Ismay**	**87.14**	**40**	⇓P		**P**	**08 02 31.3**	**-0.2**
	baz=87,SNR=9.8							
GYA	**Guiyang**	**87.23**	**298**	⇓*i*P		**P**	**08 02 33.4**	**+1.0**
GYA					pP	pP	08 03 10.6	+2.5
GYA					sP	sP	08 03 25.4	+2.5
GYA					PP	PP	08 06 01.2	+2.7
GYA					SKS		08 12 44.7	
GYA					S	S	08 12 59.1	-1.6
GYA					sS	sS	08 14 03.0	+0.5
GYA					pmax	pmax		
	comp=Z,50nm,0.8s,mb5.4							
GYA					pmax	pmax		
	comp=Z,680nm,8.4s							
A21A	**Bergtoll Ranch**	**87.26**	**37**	⇓P		**P**	**08 02 31.8**	**-0.2**
	baz=87,SNR=28							
C22A	**Vida**	**87.33**	**39**	⇑P		**P**	**08 02 31.9**	**-0.4**
	baz=87,SNR=5.9							
D23A	**Lindsay**	**87.49**	**40**	⇓P		**P**	**08 02 33.4**	**+0.3**
	baz=88,SNR=15							
B22A	**Reddig Ranch S**	**87.51**	**38**	⇑P		**P**	**08 02 33.1**	**-0.1**
	baz=88,SNR=12							
PSI	**Prapat**	**87.63**	**274**	P		**P**	**08 02 34.1**	**-0.5**
	comp=Z,30nm,0.7s,mb5.2,baz=162,slow=4.6,SNR=15							
PSI					LR	LR	08 43 11.2	
	comp=Z,381nm,18.4s,baz=14,slow=36							
PSI	**Prapat**	**87.63**	**274**	P		**P**	**08 02 34.1**	**-0.5**
PSI					LR	LR	08 43 11.2	
PSI	**Prapat**	**87.63**	**274**	P		**P**	**08 02 34.1**	**-0.5**
PSI					pmax	pmax		
	comp=Z,30nm,0.7s,mb5.2							
PSI					MLR	MLR		
	comp=Z,381nm,18.4s							
MAW	**Mawson**	**87.64**	**199**	P		**P**	**08 02 34.2**	**+0.6**
	comp=Z,22nm,0.9s,mb5.0,baz=131,slow=6.5,SNR=45							
MAW					LR	LR	08 38 18.5	
	comp=Z,695nm,21.2s,baz=109,slow=33							
MAW	**Mawson**	**87.64**	**199**	*e*P		**P**	**08 02 34.1**	**+0.5**
	comp=Z,23nm,1.2s,mb4.9							
MAW					*e*S	SKSac	08 12 51.1	+3.0
MAW	**Mawson**	**87.64**	**199**	*e*P		**P**	**08 02 34.0**	**+0.4**
	comp=Z,14nm,1.2s,mb4.7							
MAW					*e*	pP	08 03 12.1	+2.8
MAW	**Mawson**	**87.64**	**199**	*e*P		**P**	**08 02 34.0**	**+0.4**
MAW					*e*	pP	08 03 12.1	+2.8
MAW					pmax	pmax		
	comp=Z,14nm,1.2s							
CLNS	**Chul'man**	**87.71**	**331**	*e*P		**P**	**08 02 32.9**	**-1.0**
CLNS					pmax	pmax		
	comp=Z,22nm,0.6s,mb5.2							
CLNS					pmax	pmax		
	comp=N,8.0nm,0.6s							
C23A	**Lambert**	**87.78**	**39**	⇑P		**P**	**08 02 34.6**	**+0.1**
	baz=88,SNR=19							
A22A	**Carney Farms,**	**87.86**	**38**	⇑P		**P**	**08 02 34.1**	**-0.7**
	baz=88,SNR=6.1							
XAN	**Xi'an**	**87.86**	**306**	P		**P**	**08 02 35.4**	**+0.2**
XAN					pP	pP	08 03 08.2	-2.8
XAN					sP	sP	08 03 26.5	+0.7
XAN					PP	PP	08 06 00.7	-2.8
XAN					SKS		08 12 47.9	
XAN					S	S	08 13 00.7	-5.8
XAN					SS	SS	08 18 55.0	-2.4
XAN					pmax	pmax		
	comp=Z,190nm,14.1s							
XAN					LR	LR		
	comp=N,540nm,42.4s							
XAN					LR	LR		
	comp=E,430nm,42.4s							
XAN					LR	LR		
	comp=Z,400nm,43.4s							
D24A	**Glendive**	**88.01**	**40**	⇓P		**P**	**08 02 35.5**	**-0.1**
	baz=88,SNR=10							
C24A	**Savage**	**88.13**	**40**	⇑P		**P**	**08 02 36.0**	**-0.2**
	baz=88,SNR=7.3							
B23A	**Brockton**	**88.18**	**39**	⇓P		**P**	**08 02 36.6**	**+0.2**
	baz=88,SNR=16							
HHC	**Hu-ho-hao-te**	**88.31**	**313**	*e*P		**P**	**08 02 38.0**	**+0.8**
HHC					pP	pP	08 03 13.9	+0.9
HHC					sP	sP	08 03 30.2	+2.4
HHC					PP	PP	08 06 10.8	+3.9
HHC					SKS		08 12 45.6	
HHC					S	S	08 13 08.2	-2.2
HHC					pmax	pmax		
	comp=Z,31nm,0.8s,mb5.2							
HHC					pmax	pmax		
	comp=Z,720nm,5.7s							
HHC					LR	LR		
	comp=N,260nm,14.1s							
HHC					LR	LR		
	comp=E,370nm,13.0s							
HHC					LR	LR		
	comp=Z,760nm,18.6s							
INK	**Inuvik**	**88.35**	**14**	LR		LR	08 35 01.4	
	comp=Z,442nm,21.2s,baz=315,slow=31							
INK	**Inuvik**	**88.35**	**14**	*e*P		**P**	**08 02 35.5**	**-1.3**
	comp=Z,40nm,0.8s,mb5.3							
INK					*e*	pP	08 03 15.2	+2.7
INK					*e*PP	PP	08 06 03.4	-3.2
INK	**Inuvik**	**88.35**	**14**	*e*P		**P**	**08 02 35.5**	**-1.2**
INK					*e*	pP	08 03 15.2	+2.7
INK					*e*		08 06 03.4	
INK					pmax	pmax		
	comp=Z,40nm,0.8s							
A23A	**Redstone**	**88.46**	**38**	⇑P		**P**	**08 02 37.6**	**-0.1**
	baz=89							
YAK	**Yakutsk**	**88.66**	**337**	*e*P		**P**	**08 02 36.4**	**-1.9**
	comp=Z,57nm,0.9s,mb5.5							
YAK	**Yakutsk**	**88.66**	**337**	*e*P		**P**	**08 02 35.6**	**-2.7**
YAK					pmax	pmax		
	comp=Z,47nm,0.9s,mb5.4							
YAK					pmax	pmax		
	comp=N,12nm,1.0s							
YAK					pmax	pmax		
	comp=E,17nm,1.2s							
DGMT	**Dagmar**	**88.66**	**39**	⇓P		**P**	**08 02 38.8**	**+0.1**
	baz=89,SNR=18							
DGMT	**Dagmar**	**88.66**	**39**	*e*P		**P**	**08 02 38.2**	**-0.4**
	comp=E,53nm,0.9s,mb5.5							
A24A	**Westby**	**88.97**	**38**	⇑P		**P**	**08 02 39.9**	**-0.1**
	baz=89							
BTO	**Baotou**	**89.32**	**312**	*e*P		**P**	**08 02 42.0**	**+0.1**
TPTI		**89.43**	**274**	P		**P**	**08 02 43.5**	**+0.4**
	comp=E,3μmcomp=E,86nm,0.8s,mb5.8							
KMI	**Kunming**	**90.20**	**296**	P		**P**	**08 02 47.2**	**+0.8**
KMI					pP	pP	08 03 24.3	+2.0
KMI					PP	PP	08 06 26.6	+4.3
KMI					SKS		08 13 04.4	
KMI					S	S	08 13 27.9	-0.8
KMI					sS	sS	08 14 33.0	+2.2
KMI					pmax	pmax		
	comp=Z,23nm,0.7s,mb5.2							
KMI					pmax	pmax		
	comp=Z,480nm,10.2s							
KMI					LR	LR		
	comp=N,540nm,20.6s							
KMI					LR	LR		
	comp=E,490nm,27.7s							
KMI					LR	LR		
	comp=Z,2μm,41.2s							
PLCA	**Paso Flores**	**90.23**	**132**	P		**P**	**08 02 47.6**	**+1.3**
	comp=Z,8.6nm,1.1s,mb4.6,baz=232,slow=7.5,SNR=5.3							
PLCA					pP	pP	08 03 21.9	-0.3
	comp=Z,11nm,1.1s,baz=304,slow=5.9,SNR=3.9							
PLCA					LR	LR	08 36 18.2	
	comp=Z,1μm,19.1s,baz=281,slow=31							
PLCA	**Paso Flores**	**90.23**	**132**	*e*P		**P**	**08 02 48.4**	**+2.1**
	comp=Z,18nm,1.2s,mb4.9							
PLCA				*e*		pP	08 03 24.1	+2.0
PLCA	**Paso Flores**	**90.23**	**132**	P		**P**	**08 02 47.6**	**+1.3**
PLCA					pmax	pmax		
	comp=Z,9.0nm,1.1s							
PLCA					pmax	pmax		
	comp=Z,11nm,1.1s							
YKA	**Yellowknife Ar**	**90.32**	**24**	P		**P**	**08 02 45.2**	**-0.9**
	comp=Z,12nm,0.8s,mb4.9,baz=239,slow=4.7,SNR=13							
YKA					pP	pP	08 03 20.6	-1.3
	comp=Z,4.9nm,0.8s,baz=237,slow=4.3,SNR=2.4							
YKA					LR	LR	08 37 58.9	
	comp=Z,42nm,20.1s,baz=335,slow=32							
YKA	**Yellowknife Ar**	**90.32**	**24**	P		**P**	**08 02 45.2**	**-0.9**
YKA					pP	pP	08 03 20.6	-1.3
YKA					LR	LR	08 37 58.9	
YKA	**Yellowknife Ar**	**90.32**	**24**	P		**P**	**08 02 45.2**	**-0.9**
YKA					pmax	pmax		
	comp=Z,13nm,0.8s							
YKA					pmax	pmax		
	comp=Z,5.0nm,0.8s							
TGUH	**Tegucigalpa,Un**	**90.83**	**76**	*e*P		**P**	**08 02 49.4**	**-0.1**
	comp=Z,34nm,1.1s,mb5.3							
CD2	**Chengdu**	**91.01**	**302**	P		**P**	**08 02 51.9**	**+1.8**
CD2					pP	pP	08 03 27.8	+1.9
CD2					sP	sP	08 03 43.0	+2.3
CD2					PP	PP	08 06 33.0	+4.4
CD2					SKS		08 13 09.0	
CD2					S	S	08 13 34.9	-1.0
CD2					sS	sS	08 14 37.7	-0.4
CD2					SS	SS	08 19 46.0	+2.8
CD2					pmax	pmax		
	comp=Z,20nm,0.5s,mb5.4							
CD2					pmax	pmax		
	comp=Z,590nm,11.8s							
MIAR	**Mount Ida**	**91.10**	**55**	*e*P		**P**	**08 02 50.3**	**-0.1**
	comp=Z,42nm,1.8s,mb5.2							
MIAR	**Mount Ida**	**91.10**	**55**	*e*P		**P**	**08 02 50.3**	**-0.1**
MIAR					pmax	pmax		
	comp=Z,42nm,1.8s,mb5.2							
CHRT	**Chiangrai**	**91.37**	**290**	⇑P		**P**	**08 02 52.5**	**+0.6**
	comp=Z,118nm,1.0s,mb5.9							
CMAR	**Chiang Mai Arr**	**91.76**	**289**	P		**P**	**08 02 54.6**	**+0.8**
	comp=Z,22nm,0.9s,mb5.2,baz=88,slow=2.7,SNR=51							
CMAR					PP	PP	08 06 39.1	+4.4
	comp=Z,5.8nm,1.0s,baz=107,slow=5.9,SNR=7.9							
CMAR					LR	LR	08 38 28.8	
	comp=Z,459nm,21.3s,baz=270,slow=32							
CMAR	**Chiang Mai Arr**	**91.76**	**289**	P		**P**	**08 02 54.6**	**+0.8**
CMAR					PP	PP	08 06 39.1	+4.4
CMAR					LR	LR	08 38 28.8	
CMAR	**Chiang Mai Arr**	**91.76**	**289**	P		**P**	**08 02 54.6**	**+0.8**
CMAR							08 06 39.1	
	comp=Z,22nm,0.9s							
CMAR					pmax	pmax		
	comp=Z,6.0nm,1.0s							
ECSD	**EROS Data Cent**	**91.78**	**45**	*e*P		**P**	**08 02 51.8**	**-1.4**
	comp=Z,21nm,1.4s,mb5.0							
CHG	**Chiang Mai**	**91.86**	**289**	⇓P		**P**	**08 02 55.0**	**+0.8**
	comp=Z,32nm,0.7s,mb5.5							
CHTO	**Chiang Mai**	**91.86**	**289**	*e*P		**P**	**08 02 54.6**	**+0.4**
	comp=Z,18nm,0.6s,mb5.3							
CHTO	**Chiang Mai**	**91.86**	**289**	*e*P		**P**	**08 02 54.6**	**+0.4**
CHTO					pmax	pmax		
	comp=Z,18nm,0.6s,mb5.3							
CHTO	**Chiang Mai**	**91.86**	**289**	P		**P**	**08 02 54.8**	**+0.6**
	comp=Z,506nmcomp=Z,36nm,0.8s,mb5.5							
JTS	**JuntasAbangare**	**92.03**	**80**	*e*P		**P**	**08 02 56.6**	**+1.5**
	comp=Z,78nm,1.2s,mb5.6							
JTS				*e*		pP	08 03 29.2	-1.8
JTS	**JuntasAbangare**	**92.03**	**80**	*e*P		**P**	**08 02 56.6**	**+1.5**
JTS					pmax	pmax

SONM 08 06 48.6
SONM pmax pmax
comp=Z,3.0nm,0.6s
SONM pmax pmax
comp=Z,4.0nm,1.0s
ULM Lac du Bonnet 94.37 39 P **P 08 03 03.4 -1.7**
comp=Z,6.7nm,0.7s,mb4.9,baz=260,slow=4.7,SNR=9.9
ULM LR LR 08 41 08.8
comp=Z,698nm,18.3s,baz=271,slow=32
ULM Lac du Bonnet 94.37 39 P **P 08 03 03.4 -1.7**
ULM LR LR 08 41 08.8
ULM Lac du Bonnet 94.37 39 P **P 08 03 03.4 -1.7**
OXF Oxford 94.39 56 *e*P **P 08 03 04.2 -1.3**
comp=Z,52nm,1.3s,mb5.5
OXF Oxford 94.39 56 *e*P **P 08 03 04.3 -1.2**
OXF pmax pmax
comp=Z,52nm,1.3s,mb5.5
FVM French Village 94.52 52 *e*P **P 08 03 04.7 -1.3**
comp=Z,29nm,1.3s,mb5.3
FVM French Village 94.52 52 *e*P **P 08 03 04.7 -1.4**
FVM pmax pmax
comp=Z,29nm,1.3s,mb5.3
PLAL Pickwick Lake 95.57 55 *e*P **P 08 03 09.5 -1.4**
comp=Z,25nm,1.4s,mb5.3
JFWS Jewell Farm 95.97 47 *e*P **P 08 03 10.9 -1.6**
comp=Z,21nm,0.8s,mb5.5
JFWS *e* pP 08 03 47.4 -1.1
JFWS Jewell Farm 95.97 47 *e*P **P 08 03 10.9 -1.6**
JFWS pmax pmax
comp=Z,21nm,0.8s,mb5.5
HDIL Hopedale 96.05 50 *e*P **P 08 03 11.2 -1.8**
comp=Z,29nm,1.2s,mb5.5
GTA Gaotai 96.43 309‖ *e*P **P 08 03 14.6 -0.1**
GTA pP pP 08 03 50.7 0.0
GTA sP sP 08 04 05.7 +0.2
GTA PP PP 08 07 13.3 +2.6
GTA SKS 08 13 37.4
GTA S S 08 14 19.8 -3.3
GTA sS sS 08 15 23.9 -1.9
GTA pmax pmax
comp=Z,410nm,7.3s
GTA LR LR
comp=N,550nm,22.8s
GTA LR LR
comp=E,990nm,23.7s
GTA LR LR
comp=Z,2µm,23.2s
ZAK Zakamensk 96.88 320 *e*P **P 08 03 15.6 -0.8**
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.4
LPAZ La Paz 100.66 110 P Pdif 08 03 35.1 +1.7
comp=Z,0.3nm,0.5s,baz=207,slow=4.5,SNR=2.7
LPAZ La Paz 100.66 110 P Pdif 08 03 35.1 +1.7
LPAZ La Paz 100.66 110 P Pdif 08 03 35.1 +1.7
RES Resolute Bay 101.84 15 *e*Pdif Pdif 08 03 37.3 -1.3
RES Resolute Bay 101.84 15 *e*P Pdif 08 03 37.3 -1.4
ZAA0 Zalesovo Array 108.60 322 *e*PKPdf PKiKP 08 08 11.7 -1.7
ZALV Zalesovo Beam 108.60 322 Pdiff Pdif 08 04 07.3 -1.4
comp=Z,0.3nm,0.3s,baz=66,slow=3.6,SNR=5.0
ZALV PKiKP PKiKP 08 08 11.9 -1.4
comp=Z,2.6nm,0.5s,baz=103,slow=0.7,SNR=12
ZALV PP PP 08 08 33.3 -7.9
comp=Z,2.8nm,0.9s,baz=83,slow=5.1,SNR=3.9
ZALV Zalesovo Beam 108.60 322 Pdif Pdif 08 04 07.3 -1.4
ZALV PKPdf PKiKP 08 08 11.9 -1.4
ZALV PP PP 08 08 33.3 -7.9
ZALV Zalesovo Beam 108.60 322 P Pdif 08 04 07.4 -1.3
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV pmax pmax
comp=Z,3.0nm,0.9s
MK31 Makanchi Array 110.13 315 *e*PKPdf PKiKP 08 08 14.8 -1.6
MK31 Makanchi Array 110.13 315 *i* PKiKP PKiKP 08 08 14.8 -1.6
MK31 pmax pmax
comp=Z,5.0nm,0.5s
MKAR Makanchi Array 110.13 315 Pdiff Pdif 08 04 17.0 +1.5
comp=Z,1.0nm,0.7s,baz=80,slow=5.3,SNR=9.3
MKAR PKiKP PKiKP 08 08 15.1 -1.4
comp=Z,5.0nm,0.6s,baz=90,slow=0.3,SNR=27
MKAR PP PP 08 08 48.2 -4.2
comp=Z,2.0nm,0.9s,baz=77,slow=6.5,SNR=3.8
MKAR Makanchi Array 110.13 315 Pdif Pdif 08 04 17.0 +1.5
MKAR PKPdf PKiKP 08 08 15.1 -1.4
MKAR PP PP 08 08 48.2 -4.2
MKAR Makanchi Array 110.13 315 P Pdif 08 04 17.0 +1.5
MKAR *i* 08 08 15.1
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR pmax pmax
comp=Z,5.0nm,0.6s
MKAR pmax pmax
comp=Z,2.0nm,0.9s
TRD Trivandrum 110.21 274‖ *e*PKP x 08 09 03.7
KURK Kurchatov 112.48 319 PKiKP PKiKP 08 08 19.8 -1.0
comp=Z,4.4nm,0.5s,baz=90,slow=1.9,SNR=27
KURK PP PP 08 09 06.2 -3.0
comp=Z,7.7nm,0.9s,baz=89,slow=7.5,SNR=16
KURK Kurchatov 112.48 319 *e*PKPdf PKiKP 08 08 19.6 -1.2
KURK Kurchatov 112.48 319*c i*PKIKP PKiKP 08 08 20.0 -0.8
KURK pmax pmax
comp=Z,5.0nm,0.6s
KSH Kashi 114.71 307 *e*PKP PKiKP 08 08 26.0 +0.6
KSH PKS 08 12 01.5
KSH SKS SKSdf 08 15 21.0 -3.5
KSH AMB AMB
comp=Z,130nm,7.2s
KSH LR LR
comp=N,560nm,9.0s
KSH LR LR
comp=E,700nm,9.2s
KSH LR LR
comp=Z,500nm,7.1s
TKM2 Tokmak 2 114.92 310 *e*PKPdf PKiKP 08 08 24.7 -1.0
TKM2 Tokmak 2 114.92 310 *e*PKIKP PKiKP 08 08 24.7 -1.0
POO Poona 115.07 284 *e*PKP PP 08 09 20.0 -8.5
AAK Ala-Archa 115.75 310 PKP PKPdf 08 08 26.6 -0.7
comp=Z,2.8nm,0.6s,baz=188,slow=3.6,SNR=11
AAK Ala-Archa 115.75 310 *e*PKPdf PKPdf 08 08 26.4 -0.9
AAK Ala-Archa 115.75 310*c i*PKIKP PKPdf 08 08 27.0 -0.3
AAK pmax pmax
comp=Z,1.0nm,0.6s
EKS2 Erkin-Say 116.28 310 *e*PKPdf PKPdf 08 08 27.8 -0.5
EKS2 Erkin-Say 116.28 310 *e*PKIKP PKPdf 08 08 27.8 -0.5
SPA0 Spitsbergen Ar 116.85 358 *e*P PKPdf 08 08 27.9 -0.6
BVA0 Borovoye Array 117.26 322 *i* PKIKP PKPdf 08 08 28.4 -1.5
BVA0 pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 117.26 322 PKP PKPdf 08 08 29.1 -0.7
comp=Z,9.8nm,0.7s,baz=93,slow=1.4,SNR=38
BVAR PP PP 08 09 44.1 +1.5
comp=Z,3.0nm,0.6s,baz=79,slow=7.7,SNR=3.8
BVAR Borovoye Array 117.26 322 PKP PKPdf 08 08 29.1 -0.7
BVAR PP PP 08 09 44.1 +1.5
BVAR Borovoye Array 117.26 322 PKIKP PKPdf 08 08 29.1 -0.8
BVAR 08 09 44.1
BVAR pmax pmax
comp=Z,10.0nm,0.7s
BVAR pmax pmax
comp=Z,3.0nm,0.6s
BRVK Borovoye 117.31 322 *e*PKPdf PKPdf 08 08 29.4 -0.6
BRVK Borovoye 117.31 322*c i*PKIKP PKPdf 08 08 29.3 -0.7
BRVK pmax pmax
comp=Z,7.0nm,0.6s
KKAR Karatay Array 118.63 311 *e*PKPdf PKPdf 08 08 31.8 -1.0
KKAR Karatay Array 118.63 311 *e*PKIKP PKPdf 08 08 31.8 -1.0
KBL Kabul 120.35 301 *e*PKPdf PKPdf 08 08 36.0 -0.4
KBL Kabul 120.35 301 *e*PKIKP PKPdf 08 08 36.1 -0.3
SVE Sverdlovsk 121.57 328 *i* PKIKP PKPdf 08 08 37.2 -0.8
SVE pmax pmax
comp=Z,14nm,0.9s
SOKR Solikamsk 122.27 332*d i*PKIKP PKPdf 08 08 38.4 -0.9
SOKR 08 15 33.0
SOKR pmax pmax
comp=Z,10.0nm,0.6s
SOKR MLR MLR
comp=Z,480nm,25.0s
ARU Arti 122.78 328 *e*PKPdf PKPdf 08 08 39.5 -0.8
ARU *e*PP PP 08 10 16.0 -4.2
ARU Arti 122.78 328 *i* PKIKP PKPdf 08 08 39.8 -0.6
ARU 08 10 16.1
ARU 08 15 36.7
ARU SP SP 08 19 59.7 -0.7
ARU PS PS 08 20 09.8 -7.9
ARU SS SS 08 26 45.7 -5.9

KEV Kevo 123.94 351 *e*PKIKP PKPdf 08 08 38.1 -4.2
KEV Kevo 123.94 351 *e*pkp PKPdf 08 08 38.1 -4.2
LVZ Lovozero 124.19 347*c i*PKIKP PKPdf 08 08 40.9 -1.9
LVZ pmax pmax
comp=Z,69nm,1.7s
ARCES ARCESS Array B 124.36 352 PKP PKPdf 08 08 42.1 -0.9
comp=Z,10.0nm,0.6s,baz=72,slow=1.3,SNR=39
ARCES PKKPab PKKPab 08 18 27.1 +1.1
comp=Z,2.0nm,0.7s,baz=206,slow=4.7,SNR=8.6
ARCES ARCESS Array B 124.36 352 PKP PKPdf 08 08 42.1 -0.9
ARCES PKKPab PKKPab 08 18 27.1 +1.1
ARCES ARCESS Array B 124.36 352 PKIKP PKPdf 08 08 42.1 -1.0
ARCES pmax pmax
comp=Z,10.0nm,0.6s
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARE0 ARCESS Array S 124.36 352 *e*P PKPdf 08 08 42.5 -0.6
ARE0 ARCESS Array S 124.36 352 *e*PKPdf PKPdf 08 08 42.4 -0.6
AB31 Akbulak array 124.57 320 *i* PKIKP PKPdf 08 08 42.9 -1.1
AB31 pmax pmax
comp=Z,1.0nm,0.4s
APA Apatity 124.73 347‖ *i*PKIKP PKPdf 08 08 42.6 -1.2
APA pmax pmax
comp=Z,23nm,1.0s
TRO Tromso 125.04 354 *e*P PKPdf 08 08 43.7 -0.7
TRO *e*P 08 08 43.7
TRO *e* 08 27 21.9
KTK1 Kautokeino 125.15 352 *e*P PKPdf 08 08 43.5 -1.1
KTK1 *e* 08 27 19.3
AKTK Aktyubinsk 125.36 322 PKP PKPdf 08 08 45.0 -0.5
AKTO Aktyubinsk 125.36 322 PKP PKPdf 08 08 45.0 -0.5
comp=Z,4.9nm,0.8s,baz=80,slow=3.0,SNR=20
AKTO Aktyubinsk 125.36 322 PKIKP PKPdf 08 08 45.0 -0.5
AKTO pmax pmax
comp=Z,5.0nm,0.8s
KLMR Klimovskoe 128.38 340 *e*PKIKP PKPdf 08 08 48.5 -2.5
KLMR pmax pmax
comp=Z,32nm,1.4s
JOF Joensuu 129.13 345 *e*PKIKP PKPdf 08 08 49.7 -2.6
JOF Joensuu 129.13 345 *e*pkp PKPdf 08 08 49.7 -2.6
KAF Kangasniemi 130.98 347 *e*PKIKP PKPpre 08 08 45.6
KAF Kangasniemi 130.98 347 *e*pkp PKPpre 08 08 45.6
FINES FINESS Array B 131.63 347 PKhKP PKPpre 08 08 45.2
comp=Z,2.9nm,0.8s,baz=318,slow=2.6,SNR=5.9
FINES PKP PKPdf 08 08 56.5 -0.7
comp=Z,5.5nm,0.7s,baz=23,slow=2.4,SNR=14
FINES FINESS Array B 131.63 347 PKP PKPdf 08 08 56.5 -0.7
FINES FINESS Array B 131.63 347 PKHKP PKPpre 08 08 45.2
FINES 08 08 56.5
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES pmax pmax
comp=Z,6.0nm,0.7s
BOSA Boshof 132.45 203 PKP PKPdf 08 09 00.8 +1.0
comp=Z,4.4nm,0.7s,baz=26,slow=2.9,SNR=9.4
BOSA Boshof 132.45 203 PKP PKPdf 08 09 00.8 +1.0
BOSA Boshof 132.45 203 PKIKP PKPdf 08 09 00.8 +1.0
BOSA pmax pmax
comp=Z,4.0nm,0.7s
OBN Obninsk 133.65 336⇑ *i*PKIKP PKPdf 08 09 01.1 0.0
OBN *e* 08 11 29.1
OBN pmax pmax
comp=Z,13nm,1.0s
NB2 NORSAR Subarra134.13 356 PKPdf PKPpre 08 08 50.8
comp=Z,24nm,2.0s,baz=14,slow=1.8
NB2 NORSAR Subarra134.13 356 PKPdf PKPpre 08 08 50.8
comp=Z,11nm,1.7s,baz=14,slow=1.8
NB2 NORSAR Subarra134.13 356 PKPdf PKPpre 08 08 50.8
baz=14,slow=1.8
NOA NORSAR Array B 134.13 356 PKP PKPdf 08 09 01.4 -0.4
comp=Z,2.6nm,0.9s,baz=13,slow=3.9,SNR=5.3
NOA PP PP 08 11 37.4 +3.7
comp=Z,4.4nm,1.0s,baz=10,slow=6.7,SNR=4.2
NOA NORSAR Array B 134.13 356 PKP PKPdf 08 09 01.4 -0.4
NOA PP PP 08 11 37.4 +3.7
NOA NORSAR Array B 134.13 356 PKIKP PKPdf 08 09 01.5 -0.3
NOA 08 11 37.4
NOA pmax pmax
comp=Z,3.0nm,0.9s
NOA pmax pmax
comp=Z,4.0nm,1.0s
MAK Makhachkala 134.91 316 *e*PKIKP PKPdf 08 09 02.3 -1.6
MAK *i* 08 11 38.5
MAK *e*PS PS 08 21 55.6 -7.8
MAK pmax pmax
comp=Z,234nm,2.0s
LBTB Lobatse 135.51 206 PKP PKPdf 08 09 06.4 +0.8
comp=Z,4.0nm,0.6s,baz=359,slow=0.6,SNR=5.9
LBTB Lobatse 135.51 206 PKP PKPdf 08 09 06.4 +0.8
LBTB Lobatse 135.51 206 PKIKP PKPdf 08 09 06.4 +0.8
LBTB pmax pmax
comp=Z,4.0nm,0.6s
NACGM Naroch 137.21 342 *e* PKPdf 08 09 03.0 -4.8
KIV Kislovodsk 137.55 320 *i* PKIKP PKPdf 08 09 10.2 +1.4
KIV *i* 08 11 56.4
KIV pmax pmax
comp=Z,7.0nm,0.7s
GNI Garni 137.97 314*c i*PKIKP PKPdf 08 09 12.9 +3.2
GNI pmax pmax
comp=Z,11nm,0.8s
SOC Sochi 139.57 321 *e*P Pdif 08 06 26.5 +0.1
SOC *e* 08 09 10.9
SOC *e* 08 12 06.6
SOC *e*SS SS 08 30 10.1 -6.6
AKASG Malin Array Be 139.89 337 PKhKP PKPpre 08 09 04.3
comp=Z,1.9nm,0.5s,baz=39,slow=3.9,SNR=14
AKASG PKP PKPdf 08 09 12.6 -0.2
comp=Z,6.1nm,0.6s,baz=44,slow=4.0,SNR=19
AKASG Malin Array Be 139.89 337 PKP PKPdf 08 09 12.6 -0.2
AKASG Malin Array Be 139.89 337 PKHKP PKPpre 08 09 04.3
AKASG 08 09 12.6
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKBB Malin Array Si 139.89 337 *e*PKPpre PKPpre 08 09 05.8
AKBB *e*PKPdf PKPdf 08 09 12.7 -0.1
AKBB Malin Array Si 139.89 337 *e*PKIKP PKPpre 08 09 05.8
KIEV Kiev 139.90 337 *e*PKPpre PKPpre 08 09 05.5
KIEV *e*PKPdf PKPdf 08 09 13.3 +0.5
KIEV Kiev 139.90 337 *e*PKIKP PKPpre 08 09 05.5
ANN Anapa 140.20 324 *i* PKIKP PKPdf 08 09 07.6 -6.0
ANN pmax pmax
comp=Z,280nm,10.7s
SIM Simferopol' 141.92 327 PKIKP PKPdf 08 09 10.7 -6.0
SIM pmax pmax
comp=Z,69nm,8.9s
LSZ Lusaka 142.39 217 *e*PKPpre PKPpre 08 09 13.8
LSZ Lusaka 142.39 217 *e*PKIKP PKPpre 08 09 13.8
LVV L'vov 142.46 340 *e*PKIKP PKPdf 08 09 11.7 -5.8
KIS Kishinev 142.98 334 *e*PKP PKPdf 08 09 16.0 -2.5
KIS Kishinev 142.98 334 *e*PKIKP PKPdf 08 09 16.0 -2.5
KIS *e* 08 09 54.0
KIS *e* 08 12 30.0
KIS MLR MLR
comp=Z,1µm,22.0s
OJC Ojcow 143.32 345 *e*PKPdf PKPdf 08 09 15.0 -4.0
OJC *e*pPKPdf pPKPdf 08 09 54.4 -2.1
OJC *e*SS SS 08 31 01.5 +2.7
OJC L 09 09 18.0
comp=Z,0.8nm,23.3s
OJC Ojcow 143.32 345 *e*PKIKP PKPdf 08 09 15.0 -4.0
OJC *e* 08 09 54.4
OJC *e*SS SS 08 31 01.5 +2.7
WTSB Winterswijk 143.38 359 *e*PKP PKPdf 08 09 12.1 -6.9
comp=Z,55nm,3.5s
KSP Ksiaz 143.51 349 *e*PKP PKPdf 08 09 16.2 -3.1
CLL Collm 143.58 352⇑ *i*PKIKP PKPdf 08 09 16.0 -3.4
CLL *e* 08 10 00.0
CLL *e* 08 12 36.0
CLL pmax pmax
comp=Z,21nm,0.8s
CLL Collm 143.58 352⇑ *i*PKPdf PKPdf 08 09 16.0 -3.4
comp=Z,21nm,0.8s
CLL *i* 08 09 20.1
CLL *i* 08 09 25.1
CLL *e*SPKPdf 08 10 00.0
CLL *e*PP PP 08 12 36.0 +4.0
CLL *e*SKPbc SKPbc 08 12 48.0 +3.0
CLL *e*SPP 08 13 13.0
CLL *e* 08 13 49.0
CLL *e*SKSac SKSac 08 16 24.0 +0.8
CLL *e*SKKSac SKKSac 08 19 12.0 +0.3
CLL *e*SKKSac 08 20 06.0
CLL *e*SKSP 08 22 36.0
CLL *e*pSKSP 08 23 19.0
CLL *e*pPPPrev 08 24 30.0
CLL *e* 08 26 55.0
CLL *e*SS SS 08 30 54.0 -7.6
CLL *e*(PSPS) 08 32 54.0
CLL *e*SSS 08 36 26.0
CLL *e* 08 37 51.0
CLL *e*SSSS 08 40 42.0
STHS Stebnicka Huta 143.66 343 *e*PKIKP PKPdf 08 09 17.0 -2.6
STHS Stebnicka Huta 143.66 343 *e*PKP PKPdf 08 09 17.0 -2.6
KOLS Kolonicke sedl 143.79 341 *e*PKIKP PKPdf 08 09 17.1 -2.7
KOLS Kolonicke sedl 143.79 341 *e*PKP PKPdf 08 09 17.1 -2.7
TSUM Tsumeb 143.81 199 *e*PKPdf PKPdf 08 09 19.1 -1.7
BRG Berggiesshubel 143.87 351 *e*PKP PKPdf 08 09 17.4 -2.5
comp=Z,17nm,0.9s
BRG *e* 08 09 22.2
comp=Z,20nm,0.8s
BRG *i* 08 09 28.0
comp=Z,11nm,0.7s
BRG *e* 08 09 56.5
comp=Z,13nm,1.1s
BRG PP PP 08 12 29.0 -4.7
BRG SS SS 08 31 04.0 -1.0
BRG
comp=N,364nm,10.7s
BRG
comp=E,370nm,13.3s
BRG
comp=Z,699nm,16.2s
BRG Berggiesshubel 143.87 351 *e*PKIKP PKPdf 08 09 17.4 -2.5
BRG *e* 08 09 56.5
BRG 08 12 29.0
BRG SS SS 08 31 04.0 -1.0
BRG pmax pmax
comp=Z,17nm,0.9s
BRG pmax pmax
comp=Z,21nm,0.9s
BRG pmax pmax
comp=Z,11nm,0.7s
BRG pmax pmax
comp=Z,13nm,1.1s
BRG MLR MLR
comp=N,364nm,10.7s
BRG MLR MLR
comp=E,370nm,13.3s
BRG MLR MLR
comp=Z,699nm,16.2s
UPC Upice 143.88 349 *e*PKIKP PKPdf 08 09 17.8 -2.1
UPC *e* 08 10 03.2
UPC Upice 143.88 349 *e*PKP PKPdf 08 09 17.8 -2.1
UPC *es*PKP 08 10 03.2
BUR08 Bucovina Ar. S 143.91 337 *e*PKPdf PKPdf 08 09 17.8 -2.3
NIE Niedzica 143.92 344 *e*PKP PKPdf 08 09 17.8 -2.2
NIE Niedzica 143.92 344 *e*PKIKP PKPdf 08 09 17.8 -2.2
BURAR Bucovina Array 143.93 337⇑ PKIKP PKPdf 08 09 18.6 -1.5
BURAR Bucovina Array 143.93 337‖ *i*P PKPdf 08 09 18.4 -1.7
BURAR Bucovina Array 143.93 337⇑ *i*P PKPdf 08 09 18.6 -1.5
DPC Dobruska-Polom 143.97 348 *e*PKIKP PKPdf 08 09 18.2 -1.9
DPC *e* 08 10 01.7
DPC Dobruska-Polom 143.97 348 *e*PKP PKPdf 08 09 18.2 -1.9
DPC *es*PKP 08 10 01.7
UZH Uzhgorod 144.05 341*d i*PKIKP PKPdf 08 09 18.2 -2.1
UZH *e* 08 10 21.7
UZH *e*SS SS 08 31 07.7 +0.4
CRVS Cervenica-Dubn 144.06 342 *e*PKIKP PKPdf 08 09 18.2 -2.1
CRVS Cervenica-Dubn 144.06 342 *e*PKP PKPdf 08 09 18.2 -2.1
OKC Ostrava-Krasne 144.07 346 *e*PKIKP PKPdf 08 09 18.2 -2.1
OKC *e* 08 10 00.3
OKC *e* 08 12 30.3
OKC *e*SS SS 08 31 06.6 -0.8
OKC Ostrava-Krasne 144.07 346 *e*PKP PKPdf 08 09 18.2 -2.1
OKC *ex* x 08 10 00.3
OKC *e*PP PP 08 12 30.3 -4.7
OKC *e*SS SS 08 31 06.6 -0.8
PVCC Panska Ves 144.11 350 *e*PKIKP PKPdf 08 09 18.6 -1.7
PVCC *e* 08 10 00.7
PVCC *e* 08 12 32.8
PVCC Panska Ves 144.11 350 *e*PKP PKPdf 08 09 18.6 -1.7
PVCC *ex* x 08 10 00.7
PVCC *e*PP PP 08 12 32.8 -2.4
PVCC *ex* x 08 30 59.0
SARI SarD1z-Kayseri 144.15 317 *e*P PKPdf 08 09 19.8 -1.0
GZT Gaziantep 144.23 314‖ *i*P PKPdf 08 09 18.8 -2.2
MORC Moravsky Berou 144.26 347 *e*PKPdf PKPdf 08 09 18.7 -2.0
MORC Moravsky Berou 144.26 347 PKIKP PKPdf 08 09 19.0 -1.6
MORC Moravsky Berou 144.26 347‖ *i*P PKPdf 08 09 18.6 -2.0
CTKT Corum 144.27 321‖ *i*P PKPdf 08 09 18.9 -2.0
TESR 144.28 335‖ *i*P PKPdf 08 09 18.2 -2.6
PINB Pinarbasi 144.34 317‖ *i*P PKPdf 08 09 19.5 -1.6
UBBA Unterbreizbach 144.38 355 *e*PKP PKPdf 08 09 18.5 -2.3
TLCR 144.38 332⇑ PKIKP PKPdf 08 09 19.9 -1.1
TLCR 144.38 332⇑ *i*P PKPdf 08 09 19.9 -1.1
MOX Moxa 144.40 354 *e*PKPbc PKPdf 08 09 19.0 -1.9
MOX Moxa 144.40 354 *e*PKP PKPdf 08 09 19.0 -1.8
MOX Moxa 144.40 354 *e*PKIKP PKPdf 08 09 19.0 -1.8
TRPA Tarpa 144.41 341‖ *i*P PKPdf 08 09 18.9 -2.0
WERD Werda 144.51 353 *e*PKPbc PKPdf 08 09 19.5 -1.5
WERD Werda 144.51 353 *e*PKP PKPdf 08 09 19.5 -1.5
TANN Tannenbergstha 144.53 353 *e*PKPbc PKPdf 08 09 19.5 -1.6
TANN Tannenbergstha 144.53 353 *e*PKP PKPdf 08 09 19.5 -1.6
BALT Daday 144.55 323‖ *i*P PKPdf 08 09 19.8 -1.6
UCC Uccle 144.55 1 PKP PKPdf 08 09 20.7 -0.4
BEBN Eben Emael 144.57 0 PKP PKPdf 08 09 20.0 -1.2
GAZ Gaziantep 144.57 314 *e*P PKPdf 08 09 18.6 -3.0
PRA Prague 144.58 350 PKP PKPdf 08 09 19.0 -2.2
PRA pPKP pPKPdf 08 09 57.0 -1.7
GUNZ Gunzen 144.59 353 *e*PKPbc PKPdf 08 09 19.7 -1.5
GUNZ Gunzen 144.59 353 *e*PKP PKPdf 08 09 19.9 -1.3
HGN Heimansgroeve 144.60 360 *e*PKP PKPdf 08 09 20.0 -1.2
comp=Z,78nm,2.2s
KMRS Kahramanmaras 144.62 315 *e*P PKPdf 08 09 21.0 -0.7
PRU Pruhonice 144.64 350 *e*PKIKP PKPdf 08 09 20.6 -0.7
PRU *e*SS SS 08 31 06.6 -7.2
PRU Pruhonice 144.64 350 *e*PKP PKPdf 08 09 20.6 -0.7
PRU *e*pPKP pPKPdf 08 09 55.7 -3.1
PRU *e*PP PP 08 12 32.5 -5.8
PRU *ex* x 08 31 06.6
WERN Wernitzgruen 144.66 353 *e*PKPbc PKPdf 08 09 20.1 -1.2
WERN Wernitzgruen 144.66 353 *e*PKP PKPdf 08 09 20.3 -1.0
PETR 144.66 334‖ *i*P PKPdf 08 09 21.6 +0.1
CFR Carcaliu 144.69 332 PKIKP PKPdf 08 09 20.8 -0.7
CFR Carcaliu 144.69 332‖ *i*P PKPdf 08 09 21.4 -0.1
NKC Novy Kostel 144.71 353 *e*PKIKP PKPdf 08 09 20.7 -0.7
NKC Novy Kostel 144.71 353 *e*PKP PKPdf 08 09 20.7 -0.7
MEM Membach 144.75 360 PKP PKPdf 08 09 20.1 -1.4
VRI Vrincioaia 144.76 334⇑ PKIKP PKPdf 08 09 20.7 -0.9
VRI Vrincioaia 144.76 334⇑ *i*P PKPdf 08 09 20.7 -0.9
PLOR Plostina 144.81 334 PKIKP PKPdf 08 09 20.9 -0.8
PLOR Plostina 144.81 334‖ *i*P PKPdf 08 09 20.3 -1.4
KMBO Kilima Mbogo 144.81 245 *e*PKPdf PKPdf 08 09 23.3 +0.6
KMBO *e* 08 10 05.4
KMBO Kilima Mbogo 144.81 245 *e*PKIKP PKPdf 08 09 23.3 +0.6
KMBO *e* 08 10 05.4
SNF Seneffe 144.84 2 PKP PKPdf 08 09 20.6 -1.0
KUZU Kuzuini 144.86 313‖ *i*P PKPdf 08 09 21.4 -0.7
VRAC Vranov 144.91 348 PKIKP PKPdf 08 09 21.3 -0.5
VRAC Vranov 144.91 348‖ *i*P PKPdf 08 09 20.8 -1.0
BCLA Clavier 144.94 0 PKP PKPdf 08 09 20.7 -1.1
ANDN Andirin 144.96 315‖ *i*P PKPdf 08 09 22.4 +0.2
CANT Cankiri 144.99 322 *e*P PKPdf 08 09 20.9 -1.2
TNS Taunus Mts 145.07 357 *e*PKPbc PKPdf 08 09 21.4 -0.3
TNS Taunus Mts 145.07 357 *e*PKP PKPdf 08 09 21.3 -0.7
TNS Taunus Mts 145.07 357 *e*PKIKP PKPdf 08 09 21.4 -0.6
TIRR Tirgusor 145.12 331 *e*PKPdf PKPdf 08 09 21.7 -0.6
TIRR Tirgusor 145.12 331‖ PKP2 PKPab 08 09 21.6 -0.6
TIRR Tirgusor 145.12 331‖ *i*P PKPbc 08 09 21.6 -0.5
CDAG Cicekdag 145.12 320‖ *i*P PKPbc 08 09 21.6 -0.7
TREC Trest 145.14 349 *e*PKP2 PKPab 08 09 21.3 -0.8
TREC Trest 145.14 349 *e*PKP PKPdf 08 09 21.3 -0.9
TREC *e*pPKP pPKPdf 08 09 58.5 -1.2
SAFT Safranbolu 145.14 323 *e*P PKPbc 08 09 22.7 +0.4
VYHS Vyhne 145.15 345 *e*PKP2 PKPab 08 09 21.8 -0.4
VYHS Vyhne 145.15 345 *e*PKP PKPdf 08 09 21.8 -0.4
ELDT Eldivan 145.18 322‖ *i*P PKPbc 08 09 22.7 +0.3
ROTZ Rotzenmuhle 145.19 353 *e*PKPbc PKPbc 08 09 22.1 0.0
ROTZ Rotzenmuhle 145.19 353 *e*PKP PKPdf 08 09 22.1 -0.1
DOPR Dopca 145.23 336⇑ *i*P PKPbc 08 09 23.0 +0.6
GIVF Givet 145.25 1 *e*PKP1 PKPbc 08 09 21.6 -0.7
comp=Z,164nm,1.0s
GIVF Givet 145.25 1 *e*PKP PKPdf 08 09 21.6 -0.7

GIVF	Givet	145.25	1	ePKP2	PKPab	08 09 21.6	-0.9	
DOU	Dourbes	145.26	1	PKP	PKPdf	08 09 21.8	-0.6	
BAIF	Baives	145.28	2	ePKP1	PKPbc	08 09 22.0	-0.4	
	comp=Z,114nm,0.5s							
BAIF	Baives	145.28	2	ePKP	PKPdf	08 09 22.0	-0.4	
BAIF	Baives	145.28	2	ePKP2	PKPab	08 09 22.0	-0.6	
AVNT	Avonos	145.30 318		⇓iP	PKPdf	08 09 22.8	0.0	
KOZT	Kozan	145.36 315		eP	PKPdf	08 09 23.1	+0.2	
GRF	Grafenberg Arr	145.38 354		ePKPbc	PKPbc	08 09 22.6	-0.1	
GRF	Grafenberg Arr	145.38 354		ePKP	PKPdf	08 09 22.6	0.0	
GRF	Grafenberg Arr	145.38 354		ePKP2	PKPab	08 09 22.6	-0.4	
GRFO	Grafenberg	145.38 354		ePKPdf	PKPdf	08 09 22.8	+0.2	
GRFO	Grafenberg	145.38 354		ePKP2	PKPab	08 09 22.8	-0.2	
MLR	Muntele Rosu	145.39 335		PKP2	PKPab	08 09 22.6	-0.6	
MLR	Muntele Rosu	145.39 335		⇓iP	PKPdf	08 09 22.2	-0.5	
PSZ	Piszkesteto	145.40 343		ePKPdf	PKPdf	08 09 22.6	0.0	
PSZ	Piszkesteto	145.40 343		ePKP2	PKPab	08 09 22.6	-0.5	
PSZ	Piszkesteto	145.40 343		⇓ePKP	PKPdf	08 09 22.5	-0.2	
PSZ	Piszkesteto	145.40 343		⇓iP	PKPdf	08 09 22.3	-0.4	
CVD	Cernavoda	145.40 331		⇑PKP2	PKPab	08 09 23.9	+0.6	
CVD	Cernavoda	145.40 331		⇑iP	PKPdf	08 09 23.9	+1.1	
ISR	Istrita	145.44 334		⇑PKP2	PKPab	08 09 23.2	-0.2	
ISR	Istrita	145.44 334		⇑iP	PKPdf	08 09 23.2	+0.4	
ABH	Alteburg	145.45 358		PKP	PKPdf	08 09 22.6	-0.1	
SMOL	Smolenice	145.48 346		ePKP2	PKPab	08 09 23.8	+0.4	
SMOL	Smolenice	145.48 346		ePKP	PKPdf	08 09 23.8	+1.0	
AMRR	Amara	145.49 332		⇓iP	PKPdf	08 09 24.2	+1.3	
BR131	Keskin Array S	145.52 320		ePKPdf	PKPdf	08 09 23.3	+0.2	
BRTR	Keskin Array B	145.52 320		PKPbc	PKPbc	08 09 23.2	-0.2	
	comp=Z,33nm,0.6s,baz=64,slow=2.1,SNR=131							
BRTR				pPKP	pPKPdf	08 09 58.0	-2.8	
	comp=Z,16nm,0.9s,baz=43,slow=2.4,SNR=1.8							
BRTR	Keskin Array B	145.52 320		PKP2	PKPab	08 09 23.3	-0.6	
BRTR				pmax	pmax			
	comp=Z,33nm,0.6s							
BRTR				pmax	pmax			
	comp=Z,16nm,0.9s							
MANR	Mangalia	145.52 330		⇓iP	PKPdf	08 09 24.0	+1.0	
DRGR		145.52 339		PKP2	PKPab	08 09 22.6	-1.0	
DRGR		145.52 339		⇑iP	PKPdf	08 09 22.8	-0.1	
KHC	Kasperske Hory	145.62 351		ePKPdf	PKPdf	08 09 23.2	+0.2	
KHC	Kasperske Hory	145.62 351		ePKP2	PKPab	08 09 23.5	-0.4	
KHC				e		08 12 43.2		
KHC				eSS	SS	08 31 21.9	-3.1	
KHC	Kasperske Hory	145.62 351		ePKP	PKPdf	08 09 23.5	+0.5	
KHC				ex	x	08 09 28.0		
KHC				epPKP	pPKPdf	08 09 59.7	-0.9	
KHC				ePP	PP	08 12 43.2	-1.0	
KHC				eSS	SS	08 31 21.9	-3.1	
RUP	Ruppelstein	145.65 358		PKP	PKPdf	08 09 23.2	+0.2	
RUP	Ruppelstein	145.65 358		PKP2	PKPab	08 09 23.2	-0.8	
CEYT	Ceyhan	145.66 315		eP	PKPdf	08 09 22.4	-1.1	
TOD	Tromm	145.67 356		PKP	PKPdf	08 09 23.0	-0.1	
TOD	Tromm	145.67 356		PKP2	PKPdf	08 09 23.0	-0.1	
WLF	Walferdange	145.70 359		PKP	PKPdf	08 09 23.6	+0.5	
WLF	Walferdange	145.70 359		ePKPbc	PKPbc	08 09 23.9	+0.2	
WLF	Walferdange	145.70 359		ePKP	PKPdf	08 09 23.9	+0.8	
WLF	Walferdange	145.70 359		ePKPdf	PKPdf	08 09 23.6	+0.5	
WLF	Walferdange	145.70 359		ePKP2	PKPab	08 09 23.7	-0.5	
WET	Wettzell	145.72 352		ePKPbc	PKPdf	08 09 23.6	+0.4	
WET	Wettzell	145.72 352		ePKP	PKPdf	08 09 23.7	+0.5	
WET	Wettzell	145.72 352		ePKP2	PKPdf	08 09 23.7	+0.5	
VOIR		145.80 335		PKP2	PKPab	08 09 24.4	-0.3	
VOIR		145.80 335		⇓iP	PKPdf	08 09 24.4	+1.0	
PSN	Preselentsi	145.81 330		eP	PKPdf	08 09 24.0	+0.5	
PSN	Preselentsi	145.81 330		eP	PKPdf	08 09 24.0	+0.5	
ZST	Bratislava	145.85 346		ePKP2	PKPdf	08 09 23.6	+0.2	
ZST	Bratislava	145.85 346		ePKP	PKPdf	08 09 23.6	+0.2	
GEC2	GERESS Array S	145.88 351		ePKPbc	PKPbc	08 09 24.1	-0.2	
GEC2	GERESS Array S	145.88 351		ePKP	PKPdf	08 09 24.1	+0.6	
GEC2	GERESS Array S	145.88 351		ePKP2	PKPab	08 09 24.1	-0.8	
GERES	GERESS Array B	145.88 351		PKPbc	PKPdf	08 09 23.4	0.0	
	comp=Z,37nm,0.9s,baz=29,slow=3.0,SNR=161							
GERES	GERESS Array B	145.88 351		PKP2	PKPdf	08 09 23.5	0.0	
GERES				pmax	pmax			
	comp=Z,37nm,0.9s							
SULR		145.91 333		⇑iP	PKPdf	08 09 24.2	+0.6	
BBAL	Bala	145.94 321		⇓iP	PKPdf	08 09 24.6	+0.7	
LOD	Lodumlu	145.95 321		eP	PKPdf	08 09 23.3	-0.6	
KTD	Kalmit	145.99 357		PKP	PKPdf	08 09 24.3	+0.7	
KTD	Kalmit	145.99 357		PKP2	PKPdf	08 09 24.3	+0.7	
KARA	Karaisali	146.00 316		eP	PKPdf	08 09 22.8	-1.2	
BUD	Budapest	146.03 344		⇓ePKP	PKPdf	08 09 24.5	+0.7	
BST	Brest	146.09 12		PKP	PKPdf	08 09 24.5	+0.7	
BST	Brest	146.09 12		PKP	PKPdf	08 09 24.5	+0.7	
GULE	Gulek	146.18 316		⇓iP	PKPdf	08 09 25.7	+1.4	
ROSF	Rostrenen	146.21 11		ePKP1	PKPdf	08 09 24.2	+0.2	
	comp=Z,82nm,0.8s							
ROSF	Rostrenen	146.21 11		ePKP	PKPdf	08 09 24.2	+0.2	
ROSF	Rostrenen	146.21 11		ePKP2	PKPdf	08 09 24.2	+0.2	
FLN	La Foliniere	146.22 7		ePKP1	PKPdf	08 09 24.3	+0.3	
	comp=Z,133nm,0.7s							
FLN				eR				
	comp=Z,658nm,21.8s							
FLN	La Foliniere	146.22 7		ePKP	PKPdf	08 09 24.3	+0.3	
FLN				LR	LR			
	comp=Z,660nm,21.8s							
FLN	La Foliniere	146.22 7		ePKP2	PKPdf	08 09 24.3	+0.3	
FLN				MLR	MLR			
	comp=Z,660nm,21.8s							
LOT	Lotru	146.29 337		⇓iP	PKPdf	08 09 25.1	+0.8	
LANF	Langenberg	146.34 358		PKP	PKPdf	08 09 25.2	+1.0	
LANF	Langenberg	146.34 358		PKP2	PKPdf	08 09 25.2	+1.0	
LANF	Langenberg	146.34 358		PKP	PKPdf	08 09 25.2	+1.0	
CONA	Conrad Observa	146.37 348		⇑iPKPbc	PKPdf	08 09 24.5	+0.2	
	comp=Z,61nm,0.8s,SNR=39							
SGMF	Saint Gilles	146.41 10		ePKP1	PKPdf	08 09 24.9	+0.5	
	comp=Z,143nm,0.8s							
SGMF	Saint Gilles	146.41 10		ePKP	PKPdf	08 09 24.9	+0.5	
SGMF	Saint Gilles	146.41 10		ePKP2	PKPdf	08 09 24.9	+0.5	
LDF	La Druitiere	146.43 7		ePKP1	PKPdf	08 09 24.7	+0.3	
	comp=Z,43nm,0.6s							
LDF	La Druitiere	146.43 7		ePKP	PKPdf	08 09 24.7	+0.3	
LDF	La Druitiere	146.43 7		ePKP2	PKPdf	08 09 24.7	+0.3	
SOP	Sopron	146.46 347		⇓ePKP	PKPdf	08 09 26.0	+1.5	
STU	Stuttgart	146.47 356		ePKPbc	PKPbc	08 09 25.9	-0.1	
STU	Stuttgart	146.47 356		ePKP	PKPbc	08 09 25.8	-0.2	
STU	Stuttgart	146.47 356		ePKPbc	PKPbc	08 09 25.6	-0.4	
STU	Stuttgart	146.47 356		ePKP2	PKPbc	08 09 25.6	-0.4	
MDU	Mudurnu	146.49 323		eP	PKPdf	08 09 25.4	+0.7	
GRR	Gorron	146.54 8		ePKP1	PKPdf	08 09 25.5	+0.9	
	comp=Z,141nm,0.7s							
GRR	Gorron	146.54 8		ePKP	PKPdf	08 09 25.5	+0.9	
GRR	Gorron	146.54 8		ePKP2	PKPdf	08 09 25.5	+0.9	
PRD	Provadia	146.55 331		eP	PKPdf	08 09 25.7	+0.9	
PRD	Provadia	146.55 331		eP	PKPdf	08 09 25.7	+0.9	
QUIF	Quistinic	146.63 11		ePKP1	PKPdf	08 09 25.4	+0.7	
	comp=Z,112nm,0.8s							
QUIF	Quistinic	146.63 11		ePKP	PKPdf	08 09 25.4	+0.7	
QUIF	Quistinic	146.63 11		ePKP2	PKPdf	08 09 25.4	+0.7	
MOA	Molln	146.75 349		⇑iPKPdf	PKPdf	08 09 24.6	-0.4	
	comp=Z,52nm,0.9s,SNR=30							
PAGF	Fort de Pagny	146.81 360		ePKP1	PKPbc	08 09 26.8	-0.2	
	comp=Z,15nm,0.6s							
HWQ	Hawqa	146.85 310		eP	PKPbc	08 09 27.4	-0.2	
MEZF	Maizieres J'vi	146.86 1		ePKP1	PKPbc	08 09 26.8	-0.3	
	comp=Z,171nm,1.1s							
MEZF	Maizieres J'vi	146.86 1		ePKP	PKPbc	08 09 26.8	-0.3	
FUR	Furstenfeldbru	146.88 353		ePKPbc	PKPbc	08 09 27.0	-0.2	
FUR	Furstenfeldbru	146.88 353		ePKP	PKPbc	08 09 27.2	0.0	
FUR	Furstenfeldbru	146.88 353		ePKP2	PKPbc	08 09 27.2	0.0	
GULT	Gulveren	146.91 324		eP	PKPbc	08 09 27.0	-0.6	
BZS	Buzias	146.92 339		⇑PKP2	PKPbc	08 09 26.8	-0.6	
BZS	Buzias	146.92 339		⇑iP	PKPbc	08 09 26.8	-0.6	
CDF	Champ du Feu	146.93 358		ePKP1	PKPbc	08 09 27.0	-0.3	
	comp=Z,175nm,1.0s							
CDF	Champ du Feu	146.93 358		ePKP	PKPbc	08 09 27.0	-0.3	
CDF	Champ du Feu	146.93 358		ePKP2	PKPbc	08 09 27.0	-0.3	
BFO	Black Forest	146.97 357		ePKPbc	PKPbc	08 09 27.2	-0.3	
BFO	Black Forest	146.97 357		ePKP	PKPbc	08 09 27.3	-0.2	
BFO	Black Forest	146.97 357		ePKPbc	PKPbc	08 09 26.9	-0.6	
BFO	Black Forest	146.97 357		ePKP2	PKPbc	08 09 27.3	-0.2	
RJOB	Jochberg	147.10 351		ePKPbc	PKPbc	08 09 27.7	-0.2	
RJOB	Jochberg	147.10 351		ePKP	PKPbc	08 09 27.8	-0.1	
KIZT	Kizilcal	147.11 321		eP	PKPbc	08 09 28.2	0.0	
ECH	Echery	147.13 358		ePKPbc	PKPbc	08 09 27.0	-0.9	
ECH	Echery	147.13 358		ePKP2	PKPbc	08 09 27.0	-0.9	
ECH	Echery	147.13 358		PKP	PKPbc	08 09 27.6	-0.3	
THEF	They Montfort	147.14 360		PKP	PKPbc	08 09 27.6	-0.3	
THEF	They Montfort	147.14 360		PKP2	PKPbc	08 09 27.6	-0.3	
THEF	They Montfort	147.14 360		PKP	PKPbc	08 09 27.6	-0.3	
KLYT	Kilyos	147.16 327		eP	PKPdf	08 09 25.1	-0.7	
SFTF	Sexfontaines	147.16 1		ePKP1	PKPbc	08 09 27.6	-0.4	
	comp=Z,109nm,0.7s							
SFTF	Sexfontaines	147.16 1		ePKP	PKPbc	08 09 27.6	-0.4	
SPAK	Spaichingen-Ko	147.17 356		PKP	PKPbc	08 09 27.6	-0.4	
SZH	Strazhica	147.17 332		eP	PKPbc	08 09 27.7	-0.5	
SZH	Strazhica	147.17 332		eP	PKPbc	08 09 27.7	-0.5	
LIBD	Limburg	147.18 358		PKP	PKPbc	08 09 27.1	-1.0	
LIBD	Limburg	147.18 358		PKP2	PKPbc	08 09 27.1	-1.0	
KDHN	Kadinhani	147.19 320		⇓iP	PKPbc	08 09 28.0	-0.4	
BHL	Bhannes	147.24 310		eP	PKPbc	08 09 28.6	-0.1	
PKSM	Moragy	147.31 343		PKP2	PKPdf	08 09 26.0	+0.1	
PKSM	Moragy	147.31 343		⇑iP	PKPbc	08 09 27.6	-0.9	
ADVT	Abdulvahap	147.35 325		eP	PKPbc	08 09 28.6	-0.2	
HAU	Haudompre	147.36 359		ePKP1	PKPbc	08 09 28.1	-0.4	
	comp=Z,119nm,0.8s							
HAU				eR				
	comp=Z,572nm,20.5s							
HAU	Haudompre	147.36 359		ePKP	PKPbc	08 09 28.1	-0.4	
HAU				LR	LR			
	comp=Z,570nm,20.5s							
HAU	Haudompre	147.36 359		ePKP2	PKPbc	08 09 28.1	-0.4	
HAU				MLR	MLR			
	comp=Z,570nm,20.5s							
KONT	Konya--Tatoy	147.38 319		eP	PKPbc	08 09 28.5	-0.5	
FELD	Feldberg im Sc	147.44 357		PKP	PKPbc	08 09 28.4	-0.4	
CAVI	Cavuskoy	147.45 324		eP	PKPbc	08 09 28.4	-0.7	
MOF	Molkenrain	147.49 358		PKP	PKPbc	08 09 28.0	-0.9	
MOF	Molkenrain	147.49 358		PKP2	PKPbc	08 09 28.0	-0.9	
MOF	Molkenrain	147.49 358		PKP	PKPbc	08 09 28.0	-0.9	
EREN	Erenkoy	147.51 314		eP	PKPbc	08 09 29.4	0.0	
HINF	Hinteralfeld	147.54 359		ePKP1	PKPbc	08 09 28.3	-0.7	
	comp=Z,114nm,1.3s							
HINF	Hinteralfeld	147.54 359		ePKP	PKPbc	08 09 28.3	-0.7	
HINF	Hinteralfeld	147.54 359		ePKP2	PKPbc	08 09 28.3	-0.7	
RETA	Reutte	147.61 354		⇓iPKPbc	PKPdf	08 09 27.5	+1.1	
	comp=Z,54nm,1.0s,SNR=24							
GEMT	Gemlik	147.65 325		eP	PKPdf	08 09 27.0	+0.3	
KBA	Koelnbreinsper	147.66 350		⇑iPKPdf	PKPdf	08 09 25.1	-1.4	
	comp=Z,29nm,0.7s,SNR=6.7							
WATA	Walderalm	147.66 353		⇑iPKPdf	PKPdf	08 09 26.2	-0.2	
	comp=Z,37nm,0.6s,SNR=13							
MOTA	Moosalm	147.71 353		⇑iPKPdf	PKPdf	08 09 26.2	-0.4	
	comp=Z,51nm,0.8s,SNR=23							
WTTA	Wattenberg	147.72 352		⇑iPKPdf	PKPdf	08 09 26.4	-0.2	
	comp=Z,62nm,0.7s,SNR=18							
SOKA	Soboth	147.74 348		⇑iPKPdf	PKPdf	08 09 26.0	-0.6	
	comp=Z,47nm,1.0s							
ARMT	Armutlu	147.74 326		eP	PKPdf	08 09 27.0	+0.2	
PERS	Pernice	147.76 348		iPKPdf	PKPdf	08 09 25.1	-1.6	
PERS				iPKPbc	PKPbc	08 09 28.8	-0.9	
BOLV	Bolvadin	147.78 321		⇓iP	PKPbc	08 09 29.9	-0.1	
HDMB	Hadim	147.87 317		eP	PKPdf	08 09 27.9	+0.8	
DAVA	Damuels	147.89 355		⇓iPKPbc	PKPdf	08 09 27.7	+0.8	
	comp=Z,75nm,0.9s,SNR=18							
OBKA	Obir	147.99 348		⇓iPKPbc	PKPdf	08 09 27.7	+0.6	
	comp=Z,34nm,1.0s,SNR=13							
HYF	Humbligny	148.00 4		ePKP1	PKPbc	08 09 30.1	-0.2	
HYF	Humbligny	148.00 4		ePKP	PKPbc	08 09 30.1	-0.2	
LOMF	Lomont	148.00 359		PKP	PKPbc	08 09 29.5	-0.8	
LOMF	Lomont	148.00 359		PKP2	PKPbc	08 09 29.5	-0.8	
LOMF	Lomont	148.00 359		PKP	PKPbc	08 09 29.5	-0.8	
ALT	Altintas	148.06 323		eP	PKPdf	08 09 28.4	+1.0	
LOR	Lormes	148.06 2		ePKP1	PKPbc	08 09 30.1	-0.4	
	comp=Z,87nm,0.6s							
LOR				eR				
	comp=Z,874nm,22.5s							
LOR	Lormes	148.06 2		ePKP	PKPbc	08 09 30.1	-0.4	
LOR				LR	LR			
	comp=Z,870nm,22.5s							
LOR	Lormes	148.06 2		ePKP2	PKPbc	08 09 30.1	-0.4	
LOR				MLR	MLR			
	comp=Z,870nm,22.5s							
FETA	Feichten	148.07 354		⇓iPKPdf	PKPdf	08 09 27.2	+0.1	
	comp=Z,44nm,1.0s,SNR=10.0							
LFK	Lefkose	148.09 314		eP	PKPbc	08 09 30.9	-0.1	
ABTA	Abfaltersbach	148.11 351		iPKPdf	PKPdf	08 09 26.6	-0.7	
	comp=Z,63nm,1.0s,SNR=37							
SHUT	Suhut-Afyon	148.12 321		eP	PKPbc	08 09 31.2	+0.3	
SSF	Saint Saulge	148.25 3		ePKP1	PKPbc	08 09 30.6	-0.4	
	comp=Z,131nm,1.0s							
SSF	Saint Saulge	148.25 3		ePKP	PKPbc	08 09 30.6	-0.4	
SSF	Saint Saulge	148.25 3		ePKP2	PKPbc	08 09 30.6	-0.4	
DIM	Dimitrovgrad	148.31 331		eP	PKPbc	08 09 30.5	-0.8	
DIM	Dimitrovgrad	148.31 331		eP	PKPbc	08 09 30.5	-0.8	
MFF	Saint Martin d	148.38 8		ePKP1	PKPbc	08 09 30.6	-0.7	
	comp=Z,93nm,0.8s							
MFF	Saint Martin d	148.38 8		ePKP	PKPbc	08 09 30.6	-0.7	
MFF	Saint Martin d	148.38 8		ePKP2	PKPbc	08 09 30.6	-0.7	
CSS	Prodhromos	148.40 313		eP	PKPbc	08 09 30.7	-1.0	
CSS	Prodhromos	148.40 313		ePKPbc	PKPbc	08 09 31.0	-0.8	
CSS	Prodhromos	148.40 313		P	PKPbc	08 09 31.1	-0.6	
GAZI	Gazipasa	148.40 316		⇓iP	PKPbc	08 09 31.9	+0.2	
GDZ	Gediz	148.41 323		⇓iP	PKPbc	08 09 30.2	-1.5	
LJU	Ljubljana	148.44 348		ePKPdf	PKPdf	08 09 28.1	+0.3	
LJU				ePKPbc	PKPbc	08 09 31.0	-0.5	
AVF	Avril sur Loir	148.51 3		ePKP1	PKPbc	08 09 30.9	-0.7	
	comp=Z,99nm,0.8s							
AVF	Avril sur Loir	148.51 3		ePKP	PKPbc	08 09 30.9	-0.7	
AVF	Avril sur Loir	148.51 3		ePKP2	PKPbc	08 09 30.9	-0.7	
SUTC	Sutluce-Ispart	148.52 319		eP	PKPdf	08 09 28.9	+0.7	
PGB	Panagyurishte	148.53 333		eP	PKPbc	08 09 31.3	-0.5	
PGB	Panagyurishte	148.53 333		eP	PKPbc	08 09 31.3	-0.5	
VOY	Vojsko	148.58 349		ePKPdf	PKPdf	08 09 27.7	-0.3	
VOY				e		08 09 30.8		
VOY				e		08 09 33.3		
VISS	Visnje	148.61 348		iPKPdf	PKPdf	08 09 27.5	-0.6	
VISS				iPKPbc	PKPbc	08 09 31.4	-0.6	
LEF	Lefka	148.62 314		eP	PKPbc	08 09 31.9	-0.5	
DURS	Dursunbey	148.62 325		⇓iP	PKPbc	08 09 31.5	-0.7	
JAVS	Javornik	148.68 349		iPKPdf	PKPdf	08 09 27.7	-0.5	
JAVS				iPKPbc	PKPbc	08 09 31.3	-0.8	
SMF	Signal de Mont	148.68 2		ePKP1	PKPbc	08 09 31.5	-0.6	
	comp=Z,146nm,1.0s							
SMF	Signal de Mont	148.68 2		ePKP	PKPbc	08 09 31.5	-0.6	
SMF	Signal de Mont	148.68 2		ePKP2	PKPbc	08 09 31.5	-0.6	
BGF	Bois d'Agland	148.72 4		ePKP1	PKPbc	08 09 31.7	-0.5	
	comp=Z,96nm,0.8s							
BGF	Bois d'Agland	148.72 4		ePKP	PKPbc	08 09 31.7	-0.5	
BGF	Bois d'Agland	148.72 4		ePKP2	PKPbc	08 09 31.7	-0.5	
GONE	Gonen-Balikesi	148.74 326		eP	PKPdf	08 09 27.5	-1.0	
TUE	Stuetta	148.75 355		ePKPdf	PKPdf	08 09 27.8	-0.5	
TUE				ePKPbc	PKPbc	08 09 32.1	-0.2	
CABF	La Chapelle	148.75 360		ePKP1	PKPbc	08 09 32.5	+0.2	
	comp=Z,182nm,0.9s							
CABF	La Chapelle	148.75 360		ePKP	PKPbc	08 09 32.5	+0.2	
CABF	La Chapelle	148.75 360		ePKP2	PKPbc	08 09 32.5	+0.2	
DIVS	Divibare	148.80 340		P	PKPbc	08 09 32.3	-0.2	
BOJS	Bojanci	148.81 347		iPKPdf	PKPdf	08 09 28.2	-0.2	
BOJS				iPKPbc	PKPbc	08 09 32.1	-0.3	
BOJS				i		08 10 14.4		
DEMI	Demirci	148.88 324		⇓iP	PKPbc	08 09 32.3	-0.5	
KHAL	Karahalli	148.88 322		⇓iP	PKPbc	08 09 32.4	-0.4	
VTS	Vitosha	148.90 335		P	PKPbc	08 09 32.6	-0.2	
VTS	Vitosha	148.90 335		⇓PKP2	PKPbc	08 09 32.8	0.0	
VTS	Vitosha	148.90 335		⇓iP	PKPbc	08 09 32.8	0.0	
VTS	Vitosha	148.90 335		eP	PKPbc	08 09 31.9	-0.9	
VTS	Vitosha	148.90 335		eP	PKPbc	08 09 31.9	-0.9	
TRI	Trieste	148.91 349		ePKPbc	PKPbc	08 09 31.8	-0.9	
TRI	Trieste	148.91 349		ePKP2	PKPbc	08 09 31.8	-0.9	
BALB	Balikesir	148.93 326		eP	PKPbc	08 09 30.8	-2.2	
TCF	Toulx Ste Croi	148.94 5		ePKP1	PKPbc	08 09 32.1	-0.6	
	comp=Z,128nm,1.2s							
TCF	Toulx Ste Croi	148.94 5		ePKP	PKPbc	08 09 32.1	-0.6	
TCF	Toulx Ste Croi	148.94 5		ePKP2	PKPbc	08 09 32.1	-0.6	
BALY	Balya	148.99 326		⇓iP	PKPbc	08 09 32.4	-0.7	
OG01	Vacheresse	149.03 359		PKP	PKPbc	08 09 33.3	+0.3	
OG01	Vacheresse	149.03 359		PKP	PKPbc	08 09 33.3	+0.3	
KORT	Korkueli	149.22 319		⇓iP	PKPbc	08 09 33.1	-0.7	
AGO	Saint Agoulin	149.24 4		PKP	PKPbc	08 09 33.2	-0.3	
AGO	Saint Agoulin	149.24 4		PKP	PKPbc	08 09 33.2	-0.3	
KULA	Kula-Manisa	149.26 323		eP	PKPbc	08 09 33.8	0.0	
MANT	Manisa	149.34 323		⇓iP	PKPbc	08 09 33.6	-0.4	
PLDF	La Plantade	149.35 3		PKP	PKPbc	08 09 33.7	-0.1	
PLDF	La Plantade	149.35 3		PKP2	PKPbc	08 09 33.7	-0.1	
PLDF	La Plantade	149.35 3		PKP	PKPbc	08 09 33.7	-0.1	
AKHS	Akhisar	149.50 325		⇓iP	PKPbc	08 09 33.6	-0.8	
PYM	Petit Puy Mans	149.53 4		PKP	PKPbc	08 09 34.2	0.0	
PYM	Petit Puy Mans	149.53 4		PKP2	PKPbc	08 09 34.2	0.0	
PYM	Petit Puy Mans	149.53 4		PKP	PKPbc	08 09 34.2	0.0	
KKB	Krupnik	149.55 334		eP	PKPbc	08 09 33.3	-1.1	
KKB	Krupnik	149.55 334		eP	PKPbc	08 09 33.3	-1.1	
DNZL	Cakiroluk	149.59 322		⇓iP	PKPbc	08 09 34.8	+0.1	
RSL	Roselend	149.67 359		PKP	PKPbc	08 09 34.1	-0.5	
RSL	Roselend	149.67 359		PKP2	PKPbc	08 09 34.1	-0.5	
RSL	Roselend	149.67 359		PKP	PKPbc	08 09 34.1	-0.5	
LPL	La Plagne	149.84 359		ePKP1	PKPbc	08 09 35.6	+0.6	
	comp=Z,116nm,0.9s							
RJF	Les Rejaudoux	149.85 6		ePKP1	PKPbc	08 09 34.4	-0.6	
RJF				eR				
	comp=Z,543nm,21.2s							
RJF	Les Rejaudoux	149.85 6		ePKP	PKPbc	08 09 34.4	-0.6	
RJF				LR	LR			
	comp=Z,540nm,21.3s							
RJF	Les Rejaudoux	149.85 6		ePKP2	PKPbc	08 09 34.4	-0.6	
RJF				MLR	MLR			
	comp=Z,540nm,21.3s							
LPG	La Plagne	149.86 359		ePKP1	PKPbc	08 09 35.7	+0.7	
	comp=Z,151nm,1.0s							
FRNF	Fournols	149.86 4		PKP	PKPbc	08 09 35.2	+0.1	
SRS	Serrai	149.94 332		P	PKPbc	08 09 33.8	-1.6	
LBL	Lubilhac	150.06 3		PKP	PKPbc	08 09 36.0	+0.5	
SSB	Saint Sauveur	150.07 2		ePKPbc	PKPbc	08 09 35.3	-0.2	
SSB	Saint Sauveur	150.07 2		ePKIKP	PKPbc	08 09 35.3	-0.3	
SSB	Saint Sauveur	150.07 2		PKP	PKPbc	08 09 35.6	0.0	
GRN	Grenoble	150.12 360		PKP	PKPbc	08 09 35.5	-0.2	
GRN	Grenoble	150.12 360		PKIKP	PKPbc	08 09 35.5	-0.2	
GRN	Grenoble	150.12 360		PKP	PKPbc	08 09 35.5	-0.2	
LFF	La Frestale	150.13 7		ePKP1	PKPbc	08 09 35.2	-0.5	
	comp=Z,173nm,1.0s							
LFF	La Frestale	150.13 7		ePKP	PKPbc	08 09 35.2	-0.5	
LFF	La Frestale	150.13 7		ePKIKP	PKPbc	08 09 35.2	-0.5	

EVO	**Evora**	**153.86**	**25**	*e*PKIKP	PKPdf	08 09 35.8	-0.5
	comp=Z,28nm,1.1s						
EVO				*e*R			
	comp=Z,448nm,22.8s						
EVO	**Evora**	**153.86**	**25**	*e*PKPbc	PKPbc	08 09 44.2	-0.2
EVO	**Evora**	**153.86**	**25**	*e*PKPab	PKPab	08 09 57.6	-0.3
PNCL	**Nicolau / Gran**	**154.00**	**26**	*e*PKPbc	PKPbc	08 09 44.4	-0.3
PNCL	**Nicolau / Gran**	**154.00**	**26**	*e*PKPab	PKPab	08 09 58.0	-0.5
PNCL	**Nicolau / Gran**	**154.00**	**26**	*e*LR	LR	09 02 25.3	
	comp=Z,263nm,20.0s						
ESDC	**Sonseca Array**	**154.25**	**17**	PKP	PKPdf	08 09 37.2	+0.4
	comp=Z,1.3nm,0.7s,baz=0.1,slow=2.3,SNR=8.2						
ESDC				PKPbc	PKPbc	08 09 45.2	0.0
	comp=Z,3.6nm,0.6s,baz=331,slow=2.8,SNR=17						
ESDC				PKPab	PKPab	08 09 59.3	-0.2
	comp=Z,16nm,0.8s,baz=337,slow=3.5,SNR=5.9						
ESDC	**Sonseca Array**	**154.25**	**17**	PKP	PKPdf	08 09 37.2	+0.4
ESDC				PKPbc	PKPbc	08 09 45.2	0.0
ESDC				PKPab	PKPab	08 09 59.3	-0.2
ESLA	**Sonseca Array**	**154.25**	**17**	*e*PKPbc	PKPbc	08 09 44.4	-0.8
ESLA				*e*PKPab	PKPab	08 09 58.8	-0.7
PAB	**San Pablo**	**154.26**	**18**	*e*PKPbc	PKPbc	08 09 44.8	-0.4
PAB	**San Pablo**	**154.26**	**18**	*e*PKIKP	PKPbc	08 09 44.8	-0.4
PBEJ	**Beja**	**154.35**	**25**	*e*PKPbc	PKPbc	08 09 45.6	+0.2
PBEJ	**Beja**	**154.35**	**25**	*e*PKPab	PKPab	08 09 59.7	-0.3
PTEO	**Sao Teotonio**	**154.39**	**27**	*e*PKPbc	PKPbc	08 09 45.4	-0.1
PTEO	**Sao Teotonio**	**154.39**	**27**	*e*PKPab	PKPab	08 09 59.9	-0.3
PBAR	**Barrancos**	**154.56**	**24**	*e*PKPdf	PKPdf	08 09 38.6	+1.3
PBAR	**Barrancos**	**154.56**	**24**	*e*PKPab	PKPab	08 10 00.7	-0.1
PBAR	**Barrancos**	**154.56**	**24**	*e*LR	LR	09 01 44.3	
	comp=Z,416nm,18.0s						
PCVE	**Castro Verde**	**154.61**	**26**	*e*PKPbc	PKPbc	08 09 46.3	+0.3
PCVE	**Castro Verde**	**154.61**	**26**	*e*PKPab	PKPab	08 10 00.9	-0.2
PCVE	**Castro Verde**	**154.61**	**26**	*e*LR	LR	09 02 07.1	
	comp=Z,193nm,20.0s						
MORF	**Marmelete**	**154.62**	**27**	*e*PKPab	PKPab	08 10 01.1	-0.1
MORF	**Marmelete**	**154.62**	**27**	*e*LR	LR	09 01 46.4	
	comp=Z,374nm,18.0s						
PFVI	**Vila Bisbo**	**154.68**	**28**	*e*PKPdf	PKPdf	08 09 38.4	+0.9
PFVI	**Vila Bisbo**	**154.68**	**28**	*e*PKPbc	PKPbc	08 09 46.4	+0.2
PFVI	**Vila Bisbo**	**154.68**	**28**	*e*PKPab	PKPab	08 10 01.4	0.0
PFVI	**Vila Bisbo**	**154.68**	**28**	*e*LR	LR	09 01 44.3	
	comp=Z,322nm,20.0s						
PVAQ	**Vaqueiros**	**154.94**	**26**	*e*PKPbc	PKPbc	08 09 46.5	-0.2
PVAQ	**Vaqueiros**	**154.94**	**26**	*e*PKPab	PKPab	08 10 02.3	-0.2
PVAQ	**Vaqueiros**	**154.94**	**26**	*e*LR	LR	09 02 50.2	
	comp=Z,201nm,18.0s						
PBDV	**Barranco-do-Ve**	**154.99**	**26**	*e*PKPab	PKPab	08 10 03.8	+1.1
PBDV	**Barranco-do-Ve**	**154.99**	**26**	*e*LR	LR	09 02 07.5	
	comp=Z,356nm,22.0s						
CAEH	**'Ain El Ouahch**	**158.56**	**358**	P	PKPab	08 10 16.5	-1.5
CMAH	**Djebel Manchou**	**158.68**	**356**	P	PKPab	08 10 17.2	-1.4
DFRA	**Djebel Bou Aff**	**158.81**	**360**	P	PKPab	08 10 19.4	+0.3
CKFL	**Kef-Lekhel**	**158.94**	**358**	P	PKPab	08 10 17.2	-2.5
EANR	**'Ain N'Sour**	**159.00**	**10**	P	PKPab	08 10 19.8	-0.2
EMHD	**Djebel Mahouad**	**159.01**	**6**	P	PKPab	08 10 20.5	+0.5
ABSA	**Djebel Ababsia**	**159.03**	**356**	P	PKPab	08 10 17.2	-2.9
CASM	**Ain Smara**	**159.09**	**358**	P	PKPab	08 10 19.9	-0.4
CTEI	**Djebel Teioual**	**159.29**	**358**	P	PKPab	08 10 21.3	+0.1
CKHR	**Kef el Ahmar**	**159.34**	**0**	P	PKPab	08 10 21.9	+0.5
KEST	**Kesra**	**159.37**	**352**	PKP	PKPdf	08 09 43.7	+0.2
	comp=Z,1.2nm,0.8s,baz=316,slow=7.3,SNR=3.8						
KEST				PKPab	PKPab	08 10 21.2	-0.4
	comp=Z,8.0nm,1.0s,baz=318,slow=3.2,SNR=11						
KEST	**Kesra**	**159.37**	**352**	PKP	PKPdf	08 09 43.7	+0.2
KEST				PKPab	PKPab	08 10 21.2	-0.4
ETRT	**Tiaret**	**159.58**	**10**	P	PKPab	08 10 22.5	0.0
LIC	**Lamto**	**166.15**	**129**	*e*PKIKP	PKPdf	08 09 49.5	-1.3
	comp=Z,16nm,0.8s						
LIC				*e*R			
	comp=Z,468nm,19.5s						
LIC	**Lamto**	**166.15**	**129**	*e*PKPdf	PKPdf	08 09 49.5	-1.3
LIC				LR	LR		
	comp=Z,230nm,19.5s						
DBIC	**Dimbokro**	**166.56**	**128**	PKP	PKPdf	08 09 49.3	-1.8
	comp=Z,12nm,1.0s,baz=162,slow=0.7,SNR=8.1						
DBIC				pPKP	pPKPdf	08 10 26.4	-2.5
	comp=Z,6.4nm,0.9s,baz=194,slow=0.5,SNR=2.6						
DBIC				PKPab	PKPab	08 10 54.2	+0.3
	comp=Z,18nm,1.1s,baz=193,slow=4.9,SNR=5.6						
DBIC	**Dimbokro**	**166.56**	**128**	*e*PKPdf	PKPdf	08 09 49.7	-1.4
DBIC				*e*PKPab	PKPab	08 10 54.3	+0.4
DBIC	**Dimbokro**	**166.56**	**128**	PKIKP	PKPdf	08 09 49.3	-1.8
DBIC						08 10 54.3	
DBIC				pmax	pmax		
	comp=Z,12nm,1.0s						
DBIC				pmax	pmax		
	comp=Z,6.0nm,1.0s						
DBIC				pmax	pmax		
	comp=Z,18nm,1.1s						
TORD	**Torodi Ar. Bea**	**175.57**	**118**	PKP	PKPdf	08 09 54.1	-1.5
	comp=Z,4.9nm,0.8s,baz=335,slow=1.2,SNR=27						
TORD				pPKP	pPKPdf	08 10 31.5	-1.9
	comp=Z,2.9nm,0.8s,baz=286,slow=0.9,SNR=3.1						
TORD				PKPab	PKPab	08 11 33.0	-0.8
	comp=Z,5.2nm,1.0s,baz=254,slow=4.0,SNR=6.4						
TORD				PP	PP	08 15 28.4	+1.9
	comp=Z,3.1nm,1.1s,baz=273,slow=4.5,SNR=5.7						
TORD	**Torodi Ar. Bea**	**175.57**	**118**	PKP	PKPdf	08 09 54.1	-1.5
TORD				pPKP	pPKPdf	08 10 31.5	-1.9
TORD				PKPab	PKPab	08 11 33.0	-0.8
TORD				PP	PP	08 15 28.4	+1.9

MEX 08 07:51:50.8±1.4, 15°57.N×95°92.W, h9km±10km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.27**	**316**	*i* P	Pg	07 51 55.6	-0.6
HUIG				*i* S	Sg	07 51 59.8	-0.1
VHO	**Vista Hermosa**	**1.68**	**332**	*i* P	Pn	07 52 18.0	-2.4
VHO				*i* S	Sn	07 52 36.1	-6.0
OXX	**Oaxaca**	**1.69**	**333**	*i* P	Pn	07 52 17.4	-3.1
OXX				*i* S	Sn	07 52 36.5	-5.6
CMIG	**Matias Romero**	**1.81**	**33**	*i* P	Pn	07 52 19.6	-2.4
CMIG				*i* S	Sn	07 52 41.1	-4.0
PNIG	**Pinotepa**	**2.28**	**291**	*i* P	Pn	07 52 25.2	-3.3
PNIG				*i* S	Sn	07 52 51.6	-5.1
PCIG		**2.60**	**87**	*i* P	Pn	07 52 29.9	-3.1
PCIG				*i* S	Sn	07 52 59.3	-5.4
UTMO	**Huajuapan**	**2.88**	**321**	*e*P	Pn	07 52 37.4	+0.5
UTMO				*i* S	Sn	07 53 09.9	-1.7
TPIG	**Tehuac#an**	**3.15**	**334**	*e*P	Pn	07 52 38.4	-2.1
TPIG				*i* S	Sn	07 53 15.0	-3.3
SCX	**San Cristobal**	**3.36**	**69**	*e*P	Pn	07 52 40.6	-2.8
SCX				*i* S	Sn	07 53 20.8	-2.6
THIG		**3.59**	**100**	*e*P	Pn	07 52 44.9	-1.7
THIG				*i* S	Sn	07 53 24.4	-4.6
CCIG	**Comitan**	**3.70**	**79**	*e*P	Pn	07 52 45.2	-2.9
CCIG				*i* S	Sn	07 53 27.7	-4.3
ACX	**Acapulco**	**4.00**	**289**	*e*P	Pn	07 52 50.7	-1.6
ACX				*i* S	Sn	07 53 38.7	-3.6
MEIG	**Mezcala**	**4.25**	**304**	*i* S	Sn	07 53 50.6	+5.2
PLIG	**Platanillo**	**4.43**	**310**	*e*P	Pn	07 52 58.5	+0.3
PLIG				*i* S	Sn	07 53 50.1	+0.2

*ISCJB **08** 07:56:24.6±0.5, 38°57N±0°02×21°60E±0°03, h9km±15km, Error ellipse: s-maj=4.1km s-min=3.9km az=19.3*
*CSEM **08** 07:56:24.6±0.2, 38°58N×21°60E, h10km, ML2.1/6, Error ellipse: s-maj=3.7km s-min=3.4km az=178.0*
*THE **08** 07:56:24.7, 38°55N×21°59E, h15km±1km, ML2.1/6, Error ellipse: s-maj=1.8km s-min=0.7km az=61.0*
*ATH **08** 07:56:25.1, 38°57N×21°59E, h7km, MD3.1/11*

ISC 08 07:56:24.8±0.6, 38°57N±0°03×21°61E±0°03, h18km±9km, n38, σ0°92/61, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.27**	**121**	*e*PG	**Pg**	**07 56 30.3**	**-0.6**
EFP				*e*SG	**Sg**	**07 56 35.3**	**+0.3**
EFP	**Efpalio**	**0.27**	**121**	P	**Pg**	**07 56 30.5**	**-0.4**
EFP				S	**Sg**	**07 56 35.6**	**+0.6**
EFP	**Efpalio**	**0.27**	**121**	*e*Pg	**Pg**	**07 56 30.3**	**-0.6**
EFP				*e*Sg	**Sg**	**07 56 35.3**	**+0.3**
EFP				S	**Sg**	**07 56 35.6**	**+0.6**
UPR	**University Cam**	**0.32**	**154**	*e*PG	**Pg**	**07 56 31.1**	**-0.5**
UPR	**University Cam**	**0.32**	**154**	P	**Pg**	**07 56 31.1**	**-0.5**
UPR				S	**Sg**	**07 56 35.8**	**-0.5**
UPR	**University Cam**	**0.32**	**154**	P	**Pg**	**07 56 31.1**	**-0.5**
UPR				S	**Sg**	**07 56 35.8**	**-0.5**
EVR	**Evrytania**	**0.38**	**24**	*e*PG	**Pg**	**07 56 32.3**	**-0.4**
EVR				*e*SB	**Sg**	**07 56 38.8**	**+0.7**
EVR	**Evrytania**	**0.38**	**24**	*e*Pg	**Pg**	**07 56 32.3**	**-0.4**
EVR				*e*Sb	**Sg**	**07 56 38.8**	**+0.7**
LAKA	**Lakka**	**0.44**	**138**	P	**Pg**	**07 56 33.1**	**-0.7**
LAKA				S	**Sg**	**07 56 39.9**	**+0.1**
LAKA	**Lakka**	**0.44**	**138**	P	**Pg**	**07 56 33.1**	**-0.7**
LAKA				S	**Sg**	**07 56 39.9**	**+0.1**
KALE	**Kalithea**	**0.45**	**113**	P	**Pg**	**07 56 33.2**	**-0.8**
KALE	**Kalithea**	**0.45**	**113**	P	**Pg**	**07 56 33.2**	**-0.8**
RLS	**Riolos of Patr**	**0.52**	**192**	*e*PB	**Pg**	**07 56 35.3**	**0.0**
RLS				*e*SB	**Sg**	**07 56 44.0**	**+1.7**
RLS	**Riolos of Patr**	**0.52**	**192**	*e*Pb	**Pg**	**07 56 35.3**	**0.0**
RLS				*e*Sb	**Sg**	**07 56 44.0**	**+1.7**
AGG	**Agios Georgios**	**0.72**	**51**	*e*PB	**Pg**	**07 56 39.2**	**+0.2**
AGG	**Agios Georgios**	**0.72**	**51**	P	**Pg**	**07 56 38.4**	**-0.6**
AGG				S	**Sg**	**07 56 50.4**	**+1.8**
AGG	**Agios Georgios**	**0.72**	**51**	P	**Pg**	**07 56 38.4**	**-0.6**
AGG	**Agios Georgios**	**0.72**	**51**	*e*Pb	**Pg**	**07 56 39.2**	**+0.2**
AGG				S	**Sg**	**07 56 50.4**	**+1.8**
DSF	**Desfina**	**0.74**	**102**	P	**Pg**	**07 56 38.0**	**-1.3**
DSF				S	**Sg**	**07 56 50.0**	**+0.9**
DSF	**Desfina**	**0.74**	**102**	P	**Pg**	**07 56 38.0**	**-1.3**
DSF				S	**Sg**	**07 56 50.0**	**+0.9**
LKD2	**Lefkada island**	**0.78**	**287**	P	**Pg**	**07 56 39.9**	**-0.1**
LKD2				S	**Sg**	**07 56 50.8**	**+0.5**
LKD2	**Lefkada island**	**0.78**	**287**	P	**Pg**	**07 56 39.9**	**-0.1**
LKD2				S	**Sg**	**07 56 50.8**	**+0.5**
KFL	**Anninata**	**0.79**	**235**	P	**Pg**	**07 56 38.9**	**-1.4**
KFL	**Anninata**	**0.79**	**235**	P	**Pg**	**07 56 38.9**	**-1.4**
GUR	**Goura**	**0.86**	**137**	*e*PG	**Pg**	**07 56 41.0**	**-0.5**
GUR				*e*SB	**Sg**	**07 56 53.8**	**+1.0**
GUR	**Goura**	**0.86**	**137**	P	**Pg**	**07 56 40.7**	**-0.8**
GUR				S	**Sg**	**07 56 53.6**	**+0.8**
GUR	**Goura**	**0.86**	**137**	P	**Pg**	**07 56 40.7**	**-0.8**
GUR	**Goura**	**0.86**	**137**	*e*Pg	**Pg**	**07 56 41.0**	**-0.5**
GUR				S	**Sg**	**07 56 53.6**	**+0.8**
VLS	**Valsamata**	**0.89**	**244**	*e*PB	**Pg**	**07 56 41.2**	**-1.0**
VLS				*e*SB	**Sg**	**07 56 55.0**	**+1.1**
VLS	**Valsamata**	**0.89**	**244**	*e*Pb	**Pg**	**07 56 41.2**	**-1.0**
VLS				*e*Sb	**Sg**	**07 56 55.0**	**+1.1**
THL	**Klokotos Trika**	**1.04**	**18**	*e*PG	**Pg**	**07 56 44.5**	**-0.5**
THL	**Klokotos Trika**	**1.04**	**18**	*e*Pg	**Pg**	**07 56 44.5**	**-0.5**
ITM	**Ithomi**	**1.41**	**170**	*e*PB	**Pg**	**07 56 52.7**	**+0.7**
ITM	**Ithomi**	**1.41**	**170**	*e*Pb	**Pg**	**07 56 52.7**	**+0.7**
PYL	**PYLOS**	**1.67**	**176**	*e*PB	**Pb**	**07 56 56.7**	**+1.6**
PYL	**PYLOS**	**1.67**	**176**	*e*Pb	**Pb**	**07 56 56.7**	**+1.6**
VLI	**Veliai**	**2.13**	**150**	*e*PN	**Pg**	**07 57 04.1**	**-1.6**
VLI	**Veliai**	**2.13**	**150**	*e*Pn	**Pg**	**07 57 04.1**	**-1.6**

MAN 08 08:00:13, 7°84N×124°57E, h17km, mb3.6, ML2.3, MS1.8, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**0.49**	**85**	*e*P	Pg	08 00 23.7	+0.8
BUKP				*e*S	Sg	08 00 34.8	+5.3
CTBH	**Cotabato--PC H**	**0.69**	**208**	⇓P	Pg	08 00 26.6	+0.1
PAGZ	**Pagadian**	**1.18**	**271**	*e*P	Pn	08 00 32.9	-1.8
PAGZ				*e*S	Sb	08 00 45.2	-4.6

IDC 08 08:06:34.4±1.4, 5°80S×147°46E, h0km, mb4.0/4, mb1 4.2/6, mb1mx3.8/18, mbtmp4.0/6, ML3.8/2, Error ellipse: s-maj=51.6km s-min=23.9km az=114.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.59**	**185**	Pn	Pn	08 07 31.2	-0.2
	18nm,0.3s,baz=347,slow=7.0,SNR=23						
PMG				Sn	Sn	08 08 09.3	-5.3
	25nm,0.3s,baz=215,slow=23,SNR=13						
WRA	**Warramunga Arr**	**18.98**	**221**	P	Pn	08 10 57.5	-0.7
	0.6nm,0.3s,baz=44,slow=11,SNR=8.6						
ASAR	**Alice Springs**	**22.04**	**215**	P	P	08 11 30.1	-0.8
	1.3nm,0.5s,baz=49,slow=9.1,SNR=33						
FITZ	**Fitzroy Crossi**	**24.56**	**238**	P	P	08 11 56.8	+0.6
	14nm,0.5s,baz=65,slow=7.9,SNR=74						
STKA	**Stephens Creek**	**26.51**	**191**	P	P	08 12 14.2	+0.4
	0.8nm,0.5s,baz=22,slow=11,SNR=2.9						
ILAR	**Eielson Array**	**85.12**	**23**	P	P	08 19 12.0	-0.1
	0.2nm,0.7s,baz=265,slow=5.4,SNR=3.2						
TORD	**Torodi Ar. Bea**	**145.49**	**285**	PKPbc	PKPbc	08 26 14.9	-0.7
	0.2nm,0.4s,baz=68,slow=3.8,SNR=4.5						

TRN 08 08:11:55.8, 13°65N×60°56W, h27km, MD3.5, M3.1 (FDF), 1C-2D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MCLT	**Moule a Chique**	**0.37**	**279**	⇑*i* P	Pb	08 12 06.9	+2.8
MCLT				*e*S	Sb	08 12 13.2	+3.5
SLPE	**Piton Saint Es**	**0.46**	**294**	*e*P	Pb	08 12 07.2	+1.7
SLPE				*e*S	Sb	08 12 15.1	+3.0
SLB	**Belfond**	**0.50**	**291**	*e*P	Pb	08 12 09.9	+3.8
SLB				*e*S	Sb	08 12 18.3	+5.2
SLDE	**Delcer**	**0.51**	**287**	*e*P	Pb	08 12 07.2	+1.0
SLDE				*e*S	Sb	08 12 16.4	+3.2
SLW	**Petit Monier**	**0.52**	**315**	*e*P	Pb	08 12 07.7	+1.2
SLW	**Petit Monier**	**0.52**	**315**	*e*P	Pb	08 12 07.8	+1.4
SLW				*e*S	Sb	08 12 15.5	+1.9
SLW				*e*S	Sb	08 12 15.5	+1.9
BHS	**Barnard House**	**0.65**	**237**	*e*S	Sb	08 12 20.9	+3.4
SSV	**Crater Summit**	**0.69**	**242**	*e*P	Pb	08 12 12.1	+2.7
SSV				*e*S	Sb	08 12 22.3	+3.8
SVV	**Soufriere Volc**	**0.72**	**243**	*e*P	Pb	08 12 12.3	+2.5
SVV				*e*S	Sb	08 12 22.4	+3.2
SVB	**Belmont**	**0.77**	**241**	*e*P	Pb	08 12 12.6	+2.0
SVB				*e*S	Sb	08 12 23.2	+2.5
FCV	**Fort Charlotte**	**0.83**	**234**	*e*P	Pb	08 12 13.2	+1.6
FCV				*e*S	Sb	08 12 24.7	+2.4
MVM	**Montagne Vaucl**	**0.95**	**340**	⇓*e*P	Pn	08 12 13.4	-0.1
MVM				⇓*e*S	Sb	08 12 26.0	0.0
BIM	**Bigot**	**0.99**	**330**	*e*P	Pn	08 12 14.4	+0.4
BIM				*e*S	Sb	08 12 28.3	+1.2
FDF	**Fort de France**	**1.22**	**332**	*e*P	Pn	08 12 18.1	+0.9
FDF				*e*S	Sn	08 12 33.8	+1.1
GRW	**Mount Saint Ca**	**1.83**	**216**	*e*P	Pn	08 12 26.6	+1.0
GRW				*e*S	Sn	08 12 48.9	+1.0
TOSP	**Speyside**	**2.34**	**179**	*e*P	Pn	08 12 34.2	+1.7
HMG	**Houelmont**	**2.56**	**335**	*e*P	Pn	08 12 37.6	+1.9
LZG	**Guadaloupe-1**	**2.74**	**335**	*e*P	Pn	08 12 39.7	+1.6

*ISCJB **08** 08:11:58.9±0.8, 38°03N±0°06×21°39E±0°04, h17km±7km, Error ellipse: s-maj=10.3km s-min=5.1km az=169.7*
*CSEM **08** 08:11:58.4±0.3, 38°06N×21°39E, h18km±1km, MD2.8, Error ellipse: s-maj=8.6km s-min=4.1km az=172.0*
*THE **08** 08:11:58.9, 38°07N×21°39E, h5km±15km, ML2.0/4, Error ellipse: s-maj=15.9km s-min=0.9km az=54.0*
*ATH **08** 08:11:58.7, 38°07N×21°38E, h18km±2km, MD2.8/5*

ISC 08 08:11:59.0±0.8, 38°06N±0°06×21°39E±0°04, h14km±6km, n24, σ0°78/45, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.06**	**87**	*e*PB	**Pg**	**08 12 02.2**	**+0.4**
RLS				*e*SB	**Sg**	**08 12 04.9**	**+1.1**
RLS	**Riolos of Patr**	**0.06**	**87**	*e*Pb	**Pg**	**08 12 02.2**	**+0.4**
RLS				*e*Sb	**Sg**	**08 12 04.9**	**+1.1**
UPR	**University Cam**	**0.39**	**54**	P	**Pg**	**08 12 06.1**	**-0.8**
UPR				S	**Sg**	**08 12 11.9**	**-0.2**
UPR	**University Cam**	**0.39**	**54**	P	**Pg**	**08 12 06.1**	**-0.8**
UPR				S	**Sg**	**08 12 11.9**	**-0.2**
KFL	**Anninata**	**0.48**	**277**	P	**Pg**	**08 12 08.2**	**-0.3**
KFL	**Anninata**	**0.48**	**277**	P	**Pg**	**08 12 08.2**	**-0.3**
LAKA	**Lakka**	**0.50**	**68**	P	**Pg**	**08 12 08.2**	**-0.7**
LAKA				S	**Sg**	**08 12 15.5**	**-0.1**
LAKA	**Lakka**	**0.50**	**68**	P	**Pg**	**08 12 08.2**	**-0.7**
LAKA				S	**Sg**	**08 12 15.5**	**-0.1**
EFP	**Efpalio**	**0.55**	**47**	*e*PN	**Pg**	**08 12 09.0**	**-0.9**
EFP				*e*SN	**Sg**	**08 12 17.2**	**0.0**
EFP	**Efpalio**	**0.55**	**47**	P	**Pg**	**08 12 08.6**	**-1.3**
EFP				S	**Sg**	**08 12 17.5**	**+0.3**
EFP	**Efpalio**	**0.55**	**47**	P	**Pg**	**08 12 08.6**	**-1.3**
EFP	**Efpalio**	**0.55**	**47**	*e*Pn	**Pg**	**08 12 09.0**	**-0.9**
EFP				S	**Sg**	**08 12 17.5**	**+0.3**
VLS	**Valsamata**	**0.64**	**281**	*e*PB	**Pg**	**08 12 10.7**	**-0.9**
VLS				*e*SB	**Sg**	**08 12 21.0**	**+0.9**
VLS	**Valsamata**	**0.64**	**281**	*e*Pb	**Pg**	**08 12 10.7**	**-0.9**
VLS				*e*Sb	**Sg**	**08 12 21.0**	**+0.9**
KALE	**Kalithea**	**0.68**	**60**	P	**Pg**	**08 12 10.9**	**-1.4**
KALE				S	**Sg**	**08 12 21.4**	**+0.1**
KALE	**Kalithea**	**0.68**	**60**	P	**Pg**	**08 12 10.9**	**-1.4**
KALE				S	**Sg**	**08 12 21.4**	**+0.1**
GUR	**Goura**	**0.76**	**99**	*e*PN	**Pg**	**08 12 13.8**	**-0.1**
GUR				*e*SN	**Sg**	**08 12 25.0**	**+1.1**
GUR	**Goura**	**0.76**	**99**	P	**Pg**	**08 12 13.2**	**-0.7**
GUR				S	**Sg**	**08 12 24.6**	**+0.7**
GUR	**Goura**	**0.76**	**99**	P	**Pg**	**08 12 13.2**	**-0.7**
GUR	**Goura**	**0.76**	**99**	*e*Pn	**Pg**	**08 12 13.8**	**-0.1**
GUR				S	**Sg**	**08 12 24.6**	**+0.7**
GUR				*e*Sn	**Sg**	**08 12 25.0**	**+1.1**
EVR	**Evrytania**	**0.92**	**21**	*e*PN	**Pg**	**08 12 16.9**	**0.0**
EVR				*e*SN	**Sg**	**08 12 28.9**	**-0.1**
EVR	**Evrytania**	**0.92**	**21**	*e*Pn	**Pg**	**08 12 16.9**	**0.0**
EVR				*e*Sn	**Sg**	**08 12 28.9**	**-0.1**
AGG	**Agios Georgios**	**1.22**	**37**	P	**Pn**	**08 12 22.2**	**+0.6**
AGG				S	**Sb**	**08 12 39.0**	**+1.7**
AGG	**Agios Georgios**	**1.22**	**37**	P	**Pn**	**08 12 22.2**	**+0.6**
AGG				S	**Sb**	**08 12 39.0**	**+1.7**

*NEIC **08** 08:17:37.8±1.3, 37°36N×72°17E, h166km±16km, mb4.5/9, Error ellipse: s-maj=20.8km s-min=6.0km az=58.0*
*IDC **08** 08:17:37.0±5.3, 37°19N×72°47E, h180km±44km, mb3.5/2, mb1 3.5/6, mb1mx3.1/28, mbtmp3.4/6, Error ellipse: s-maj=72.2km s-min=36.3km az=131.0*
*ISCJB **08** 08:17:38.5±1.1, 37°51N±0°07×72°4E±0°1, h189km±16km, mb3.8/2, Error ellipse: s-maj=18.3km s-min=5.8km az=147.0*
*NNC **08** 08:17:44.8±3.8, 38°34N×71°68E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=31.1km s-min=24.2km az=6.0*

ISC 08 08:17:39.0±1.2, 37°48N±0°07×72°3E±0°1, h175km±17km, n38, σ0°83/46, mb3.8/2, 2C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EKS2	**Erkin-Say**	**5.29**	**12**	*e*Pn	**Pn**	**08 18 57.0**	**+0.5**
	18nm,0.6s						
EKS2				*e*Sn	**Sn**	**08 19 56.1**	**-1.3**
AAK	**Ala-Archa**	**5.41**	**17**	P	**Pn**	**08 18 59.4**	**+1.4**
	0.0nm,0.3s,baz=171,slow=6.4,SNR=21						
AAK	**Ala-Archa**	**5.41**	**17**	*e*Pn	**Pn**	**08 18 59.0**	**+1.0**
AAK				*e*Sn	**Sn**	**08 19 59.7**	**-0.5**
KK31	**Karatay Array**	**5.79**	**347**	⇑Pn	**Pn**	**08 19 02.9**	**0.0**
	5.0nm,0.5s,baz=171,slow=12,SNR=38						
KK31				Sn	**Sn**	**08 20 02.4**	**-6.7**
	13nm,0.3s,baz=179,slow=19,SNR=18						
KKAR	**Karatay Array**	**5.79**	**347**	*e*Pn	**Pn**	**08 19 03.0**	**+0.1**
	6.1nm,0.3s						
KKAR				*e*Sn	**Sn**	**08 20 02.6**	**-6.4**
TKM2	**Tokmak 2**	**5.98**	**24**	⇓Pn	**Pn**	**08 19 06.0**	**+0.5**
	2.3nm,0.7s						
TKM2				⇓Sn	**Sn**	**08 20 12.1**	**-1.6**
	8.4nm,0.7s						
TKM2	**Tokmak 2**	**5.98**	**24**	*e*Pn	**Pn**	**08 19 06.2**	**+0.7**
	4.5nm,0.7s						
TKM2				*e*Sn	**Sn**	**08 20 02.6**	**-11**
MKAR	**Makanchi Array**	**11.87**	**35**	P	**Pn**	**08 20 28.5**	**+5.8**
	0.1nm,0.3s,baz=212,slow=8.8,SNR=4.6						
MKAR	**Makanchi Array**	**11.87**	**35**	P	**Pn**	**08 20 28.5**	**+5.8**
DANN	**Dangsing**	**13.22**	**130**	*e*P	**Pn**	**08 20 38.5**	**-1.5**
	8.4nm,0.2s						
DANN	**Dangsing**	**13.

*DJA **08** 08:46:13,56˙63N×121˙48E,h99km,mb4.9/13*
*SZGRF **08** 08:46:15.5,59˙20N×120˚82E,h33km,mb5.2,MS4.7,*
Southeastern Siberia, Russia
ISC 08 08:45:58.2±0.9,**56˚86N**±0˙02×**123˚01E**±0˙03,**h23**km±6km,
h19km±1.2km:**pP-P,n1133,**0°**73**/1127,**mb5.0**/325,
MS4.5/45,**141C-157D,Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NRGR	**Nerungri**	**0.97**	**102**	*i* P		**Pb**	**08 46 12.4**	**-3.8**
NRGR				S		**Sb**	**08 46 23.7**	**-4.8**
NRGR				smax				
	comp=N,438nm,0.3s							
CLNS	**Chul'man**	**1.03**	**91**	*e i* P		**Pn**	**08 46 13.6**	**-3.6**
CLNS				*e*			08 46 25.8	
CLNS				pmax	pmax			
	comp=Z,1μm,0.2s							
CLNS				pmax	pmax			
	comp=N,780nm,0.2s							
CLNS				pmax	pmax			
	comp=E,1μm,0.2s							
CLNS				smax				
	comp=E,13nm,0.6s							
CLNS				smax				
	comp=N,15nm,0.7s							
CLNS				smax				
	comp=Z,5.0nm,0.5s							
CRS	**Chara**	**2.60**	**273**	*e*P		**Pn**	**08 46 40.8**	**+2.1**
TUP	**Tupik**	**3.00**	**217**	*e*P		**Pn**	**08 46 43.0**	**-1.2**
TUP				*e*S		**Sn**	**08 47 19.0**	**-0.3**
TUP				pmax	pmax			
	comp=Z,1μm,0.6s							
TUP				smax				
	comp=N,20μm,1.2s							
NLYR	**Nelyaty**	**4.05**	**268**	*e*P		**Pn**	**08 46 59.5**	**+0.9**
BOD	**Bodaibo**	**4.97**	**285**	*e*P		**Pn**	**08 47 11.9**	**+0.6**
BOD				pmax	pmax			
	comp=Z,821nm,0.7s							
YAK	**Yakutsk**	**6.20**	**30**	*e*Pn		**Pn**	**08 47 27.1**	**-1.0**
YAK				*e*Sn		**Sn**	**08 48 35.8**	**-2.3**
YAK				*e*Sg		**Sb**	**08 49 03.6**	**+4.7**
YAK	**Yakutsk**	**6.20**	**30**	*e*P		**Pn**	**08 47 26.9**	**-1.2**
YAK				*e*			08 48 34.6	
YAK				pmax	pmax			
	comp=Z,153nm,0.4s							
YAK				pmax	pmax			
	comp=N,64nm,0.4s							
YAK				pmax	pmax			
	comp=E,65nm,0.4s							
YAK				smax				
	comp=N,634nm,0.6s							
YAK				smax				
	comp=E,269nm,0.4s							
YAK				smax				
	comp=Z,2μm,6.6s							
YLYR	**Ulyunkhan**	**6.96**	**258**	*e*P		**Pn**	**08 47 39.2**	**+0.6**
CIT	**Chita**	**7.34**	**233**	*e*P		**Pn**	**08 47 42.2**	**-1.6**
NIZ	**Nizh Angarsk**	**7.57**	**267**	*e*P		**Pn**	**08 47 48.5**	**+1.6**
NIZ				pmax	pmax			
	comp=Z,282nm,1.9s							
HIA	**Hailar**	**7.86**	**196**	*e*Pn		**Pn**	**08 47 48.4**	**-2.6**
	comp=Z,166nm,1.1s							
HIA				*e*S		Sn	08 49 58.8	+40
HIA	**Hailar**	**7.86**	**196**	*e*P		**Pn**	**08 47 48.4**	**-2.5**
HIA				pmax	pmax			
	comp=Z,166nm,1.1s							
KLR	**Kul'dur**	**9.28**	**142**	*e*P		**Pn**	**08 48 04.7**	**-5.6**
KLR				MLR	MLR			
	comp=N,8μm,8.0s							
KLR				MLR	MLR			
	comp=E,7μm,8.0s							
KLR				MLR	MLR			
	comp=Z,20μm,8.0s							
OGRR	**Ongureny**	**9.37**	**256**	*e*P		**Pn**	**08 48 12.6**	**+1.0**
OGRR				pmax	pmax			
	comp=Z,106nm,2.5s							
IRK	**Irkutsk**	**11.81**	**255**	*e*P		**Pn**	**08 48 46.3**	**+1.3**
TLY	**Talaya**	**12.43**	**254**	*e*P		Px	08 49 08.7	
TLY				pmax	pmax			
	comp=Z,15nm,0.9s							
MDJ	**Mudanjiang**	**12.94**	**159**	P		**Pn**	**08 48 59.0**	**-1.5**
MDJ				S		**Sn**	**08 51 22.2**	**-1.4**
MDJ				pmax	pmax			
	comp=Z,7.0nm,0.8s							
MDJ				pmax	pmax			
	comp=Z,200nm,3.9s							
MDJ				LR	LR			
	comp=N,3μm,15.6s							
MDJ				LR	LR			
	comp=E,1μm,11.6s							
MDJ				LR	LR			
	comp=Z,4μm,15.0s							
MDJ	**Mudanjiang**	**12.94**	**159**	*e*Pn		**Pn**	**08 48 59.5**	**-1.0**
	comp=Z,22nm,0.7s							
CN2	**Changchun**	**13.17**	**172**	*e*P		**Pn**	**08 48 59.9**	**-3.7**
CN2				*e*S		**Sn**	**08 51 25.8**	**-3.4**
CN2				pmax	pmax			
	comp=Z,20nm,1.3s							
CN2				pmax	pmax			
	comp=Z,200nm,5.0s							
CN2				LR	LR			
	comp=N,9μm,10.0s							
CN2				LR	LR			
	comp=E,5μm,10.0s							
CN2				LR	LR			
	comp=Z,12μm,10.0s							
ULN	**Ulaanbaatar**	**13.24**	**234**	*e*Pn		**Pn**	**08 49 04.7**	**+0.1**
ULN	**Ulaanbaatar**	**13.24**	**234**	*e*P		**Pn**	**08 49 04.7**	**+0.1**
ULN	**Ulaanbaatar**	**13.24**	**234**	P		**Pn**	**08 49 04.9**	**+0.3**
	comp=Z,25nm,1.0s							
ULN	**Ulaanbaatar**	**13.24**	**234**	P		**Pn**	**08 49 05.4**	**+0.8**
	SNR=5.2							
ZAK	**Zakamensk**	**13.36**	**249**	*e*P		**Pn**	**08 49 07.1**	**+1.0**
ZAK				pmax	pmax			
	comp=Z,12nm,1.1s							
SONM	**Songino Array**	**13.56**	**235**	Pn		**Pn**	**08 49 09.1**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=39,slow=9.8,SNR=32							
SONM				Sn		**Sn**	**08 51 44.4**	**+5.7**
	comp=Z,0.7nm,0.3s,baz=42,slow=18,SNR=3.5							
SONM				Lg			08 53 00.9	
	comp=Z,5.8nm,0.3s,baz=47,slow=22,SNR=9.5							
SONM				LR		LR	08 54 35.9	
	comp=Z,2μm,18.4s,baz=32,slow=38							
SONM	**Songino Array**	**13.56**	**235**	Pn		**Pn**	**08 49 09.1**	**+0.1**
SONM				Sn		**Sn**	**08 51 44.4**	**+5.7**
SONM				Lg			08 53 00.9	
SONM				LR		LR	08 54 35.9	
SONM	**Songino Array**	**13.56**	**235**	P		**Pn**	**08 49 09.1**	**+0.2**
SONM							08 51 44.4	
SONM				pmax	pmax			
	comp=Z,1.0nm,0.3s							
SONM				smax				
	comp=N,1.0nm,0.3s							
SONM				MLR	MLR			
	comp=Z,2μm,18.4s							
MOY	**Mondy**	**13.85**	**257**	*e*P		**Pn**	**08 49 15.5**	**+2.7**
MOY				*e*S		**Sn**	**08 51 41.2**	**-4.5**
MOY				pmax	pmax			
	comp=Z,35nm,1.4s							
MOY				smax				
	comp=N,2μm,1.8s							
VLA	**Vladivostok**	**14.88**	**154**	⇓*e*P		**Pn**	**08 49 25.3**	**-1.6**
VLA				*e*S		**Sn**	**08 52 08.1**	**-2.7**
VLA				pmax	pmax			
	comp=Z,24nm,0.7s							
SNY	**Shenyang**	**15.05**	**178**	⇓P		**Pn**	**08 49 29.2**	**0.0**
SNY				S		**Sn**	**08 52 14.9**	**-0.2**
SNY				pmax	pmax			
	comp=Z,9.0nm,0.5s							
SNY				pmax	pmax			
	comp=Z,330nm,4.3s							
SNY				LR	LR			
	comp=N,3μm,9.6s							
SNY				LR	LR			
	comp=E,1μm,6.7s							
SNY				LR	LR			
	comp=Z,2μm,8.3s							
SEY	**Seymchan**	**15.83**	**55**	*e*P		**Pn**	**08 49 38.7**	**-0.5**
BJI	**Beijing**	**17.42**	**198**	P		**Pn**	**08 50 03.4**	**+4.0**
BJI				pmax	pmax			
	comp=Z,17nm,0.9s							
BJI				LR	LR			
	comp=N,4μm,9.1s							
HHC	**Hu-ho-hao-te**	**17.67**	**210**	*e*P		**Pn**	**08 50 04.6**	**+2.1**
HHC				sP		sP	08 50 12.3	-0.3
HHC				PP			08 50 19.3	
HHC				S		**Sn**	**08 53 18.9**	**+0.4**
HHC				pmax	pmax			
	comp=Z,20nm,0.8s							
HHC				pmax	pmax			
	comp=Z,200nm,4.3s							
HHC				LR	LR			
	comp=N,2μm,10.7s							
HHC				LR	LR			
	comp=E,1μm,11.9s							
HHC				LR	LR			
	comp=Z,2μm,12.5s							
ASAJ	**Asahikawa**	**17.75**	**128**	Pn		**Pn**	**08 50 04.7**	**+1.2**
	comp=Z,0.8nm,0.3s,baz=298,slow=22,SNR=4.8							
ASAJ				LR		LR	08 57 15.1	
	comp=Z,1μm,19.1s,baz=40,slow=38							
ASAJ	**Asahikawa**	**17.75**	**128**	P		**Pn**	**08 50 04.7**	**+1.2**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ASAJ				MLR	MLR			
	comp=Z,1μm,19.1s							
BTO	**Baotou**	**18.33**	**213**	*e*P		**Pn**	**08 50 11.4**	**+0.7**
YUK	**Yuzh-Kuril'sk**	**19.29**	**122**	P		**Pn**	**08 50 15.1**	**-7.1**
YUK				S		**Sn**	**08 53 46.1**	**-11**
YUK				MLR	MLR			
	comp=N,800nm,17.0s							
YUK				MLR	MLR			
	comp=E,300nm,17.0s							
YUK				MLR	MLR			
	comp=Z,2μm,17.0s							
KSRS	**Korea Array**	**19.69**	**168**	P		**Pn**	**08 50 27.4**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=358,slow=9.3,SNR=20							
KSRS				Lg			08 56 13.7	
	comp=Z,0.2nm,0.3s,baz=352,slow=30,SNR=5.6							
KSRS				LR		LR	08 57 48.4	
	comp=Z,431nm,20.8s,baz=359,slow=36							
KSRS	**Korea Array**	**19.69**	**168**	P		**Pn**	**08 50 27.4**	**+0.3**
KSRS				MLR	MLR			
	comp=Z,431nm,20.8s							
PEA0B	**Petropavlovsk-**	**20.12**	**86**	*e*P		**P**	**08 50 29.7**	**-0.4**
PETK	**Petropavlovsk-**	**20.12**	**86**	P		**P**	**08 50 30.2**	**+0.1**
	comp=Z,88nm,0.8s,baz=291,slow=5.7,SNR=27							
PETK				LR		LR	08 57 52.9	
	comp=Z,316nm,21.0s,MS3.6,baz=106,slow=36							
PETK	**Petropavlovsk-**	**20.12**	**86**	P		**P**	**08 50 30.2**	**+0.1**
PETK				LR		LR	08 57 52.9	
PETK	**Petropavlovsk-**	**20.12**	**86**	P		**P**	**08 50 30.2**	**+0.1**
PETK				pmax	pmax			
	comp=Z,88nm,0.8s							
PETK				MLR	MLR			
	comp=Z,316nm,21.0s,MS3.6							
TIY	**Taiyuan**	**20.41**	**205**	*e*P		**P**	**08 50 38.6**	**+5.2**
TIY				S		**S**	**08 54 24.2**	**+3.5**
TIY				LR	LR			
	comp=N,2μm,7.8s							
TIY				LR	LR			
	comp=E,670nm,5.6s							
TIY				LR	LR			
	comp=Z,2μm,10.0s,MS4.9							
PET	**Petropavlovsk**	**20.68**	**86**	*e*P		**P**	**08 50 36.8**	**+0.7**
	comp=Z,153nm,1.2s							
PET	**Petropavlovsk**	**20.68**	**86**	*e*P		**P**	**08 50 37.0**	**+0.9**
PET				*e*S		**S**	**08 54 20.7**	**-5.1**
PET				pmax	pmax			
	comp=Z,65nm,0.8s							
PET				MLR	MLR			
	comp=Z,400nm,13.0s,MS4.0							
ZALV	**Zalesovo Beam**	**21.69**	**279**	P		**P**	**08 50 46.8**	**-0.3**
	comp=Z,18nm,0.8s,mb4.6,baz=72,slow=9.5,SNR=62							
ZALV				LR		LR	09 00 00.7	
	comp=Z,306nm,21.8s,MS3.7,baz=239,slow=39							
ZALV	**Zalesovo Beam**	**21.69**	**279**	P		**P**	**08 50 46.8**	**-0.3**
ZALV				LR		LR	09 00 00.7	
ZALV	**Zalesovo Beam**	**21.69**	**279**	P		**P**	**08 50 46.8**	**-0.2**
ZALV				pmax	pmax			
	comp=Z,18nm,0.8s,mb4.5							
ZALV				MLR	MLR			
	comp=Z,306nm,21.8s,MS3.7							
NVS	**Novosibirsk**	**22.20**	**282**	*e*P		**P**	**08 50 51.2**	**-1.3**
NVS				*e*S		**S**	**08 54 56.6**	**+1.0**
NVS				pmax	pmax			
	comp=N,30nm,1.6s							
NVS				pmax	pmax			
	comp=E,89nm,1.6s							
NVS				pmax	pmax			
	comp=Z,117nm,1.6s,mb5.1							
NVS				smax				
	comp=N,23nm,1.3s							
NVS				smax				
	comp=E,76nm,1.7s							
BILL	**Bilibino**	**22.37**	**43**	*e*P		**P**	**08 50 54.1**	**-0.1**
	comp=Z,78nm,0.9s,mb5.1							
BILL	**Bilibino**	**22.37**	**43**	⇓*i*P		**P**	**08 50 54.0**	**-0.2**
BILL				*i*			08 50 58.5	
BILL				*e*			08 51 15.6	
BILL				pmax	pmax			
	comp=Z,195nm,1.6s,mb5.3							
BILL				MLR	MLR			
	comp=Z,1μm,17.0s,MS4.5							
MJAR	**Matsushiro Arr**	**22.75**	**147**	P		**P**	**08 50 58.4**	**0.0**
	comp=Z,3.2nm,0.7s,mb3.9,baz=326,slow=9.7,SNR=6.4							
MJAR				LR		LR	09 00 00.0	
	comp=Z,675nm,19.7s,MS4.1,baz=340,slow=37							
MJAR	**Matsushiro Arr**	**22.75**	**147**	P		**P**	**08 50 58.4**	**0.0**
MJAR				LR		LR	09 00 00.0	
MJAR	**Matsushiro Arr**	**22.75**	**147**	P		**P**	**08 50 58.4**	**0.0**
MJAR				pmax	pmax			
	comp=Z,3.0nm,0.7s							
MJAR				MLR	MLR			
	comp=Z,675nm,19.7s							
GTA	**Gaotai**	**23.15**	**231**	P		**P**	**08 51 02.1**	**-0.5**
GTA				pP			08 51 08.3	
GTA				sP		sP	08 51 11.1	-0.9
GTA				S		**S**	**08 55 13.1**	**+0.7**
GTA				sS		sS	08 55 24.2	+0.5
GTA				SS			08 56 03.1	
GTA				pmax	pmax			
	comp=Z,19nm,1.0s,mb4.5							
GTA				pmax	pmax			
	comp=Z,260nm,5.2s							
GTA				LR	LR			
	comp=N,1μm,12.8s,MS4.7							
GTA				LR	LR			
	comp=E,1μm,13.3s,MS4.7							
GTA				LR	LR			
	comp=Z,2μm,13.3s,MS4.7							
LZH	**Lanzhou**	**24.46**	**220**	*e*P		**P**	**08 51 16.5**	**+1.5**
LZH				pP			08 51 23.0	
LZH				sP		sP	08 51 26.0	+1.3
LZH				*e*S		**S**	**08 55 32.0**	**-1.7**
LZH				pmax	pmax			
	comp=Z,60nm,1.1s,mb4.9							
LZH				pmax	pmax			
	comp=Z,320nm,4.3s							
LZH				LR	LR			
	comp=N,890nm,4.9s							
LZH				LR	LR			
	comp=E,2μm,10.4s							
LZH				LR	LR			
	comp=Z,2μm,12.1s,MS4.8							
XAN	**Xi'an**	**24.77**	**209**	P		**P**	**08 51 17.7**	**-0.2**
XAN				pP			08 51 23.3	
XAN				sP		sP	08 51 27.3	-0.3
XAN				pmax	pmax			
	comp=Z,33nm,7.5s							
XAN				LR	LR			
	comp=N,920nm,11.9s,MS4.5							
XAN				LR	LR			
	comp=E,170nm,13.9s,MS4.5							
XAN				LR	LR			
	comp=Z,410nm,13.2s,MS4.1							
NJ2	**Nanjing**	**24.98**	**188**	*e*P		**P**	**08 51 19.8**	**0.0**
NJ2				pP			08 51 29.5	
NJ2				sP		sP	08 51 33.6	+4.1
NJ2				PP			08 51 52.7	
NJ2				S		**S**	**08 55 44.0**	**+2.0**
NJ2				sS		sS	08 55 58.5	+5.1
NJ2				pmax	pmax			
	comp=Z,30nm,0.9s,mb4.8							
NJ2				pmax	pmax			
	comp=Z,740nm,3.9s							
NJ2				LR	LR			
	comp=N,560nm,15.4s,MS4.6							
NJ2				LR	LR			
	comp=E,1μm,12.1s,MS4.6							
NJ2				LR	LR			
	comp=Z,340nm,15.9s,MS4.0							
WMQ	**Urumqi**	**25.71**	**255**	P		**P**	**08 51 26.9**	**+0.5**
WMQ				pP		pP	08 51 31.1	-2.1
WMQ				PP			08 52 06.9	
WMQ				S		**S**	**08 55 52.7**	**-0.9**
WMQ				pmax	pmax			
	comp=Z,29nm,1.0s,mb4.8							
WMQ				pmax	pmax			
	comp=Z,320nm,4.6s							
WMQ				LR	LR			
	comp=N,2μm,6.0s							
WMQ				LR	LR			
	comp=E,1μm,5.5s							
WMQ				LR	LR			
	comp=Z,320nm,21.4s,MS3.8							
JHJ	**Hachijo jima 2**	**26.40**	**147**	LR		LR	09 02 27.9	
	comp=Z,804nm,19.5s,MS4.3,baz=353,slow=38							
KURK	**Kurchatov**	**26.55**	**276**	P		**P**	**08 51 34.4**	**+0.5**
	comp=Z,21nm,0.8s,mb4.7,baz=63,slow=9.4,SNR=39							
KURK				LR		LR	09 02 32.4	
	comp=Z,610nm,18.7s,MS4.2,baz=85,slow=37							
KURK	**Kurchatov**	**26.55**	**276**	*e*P		**P**	**08 51 33.3**	**-0.5**
	comp=Z,23nm,0.9s,mb4.7							
KURK	**Kurchatov**	**26.55**	**276**	P		**P**	**08 51 34.4**	**+0.6**
KURK				pmax	pmax			
	comp=Z,21nm,0.8s,mb4.7							
KURK				MLR	MLR			
	comp=Z,610nm,18.7s,MS4.2							
KURK	**Kurchatov**	**26.55**	**276**	P		**P**	**08 51 33.2**	**-0.6**
	comp=Z,150nm,0.9s,mb5.5,SNR=10.0							
KURK	**Kurchatov**	**26.55**	**276**	P		**P**	**08 51 33.7**	**-0.1**
	SNR=9.2							
MK31	**Makanchi Array**	**26.72**	**265**	*e*P		**P**	**08 51 34.8**	**-0.7**
MK31	**Makanchi Array**	**26.72**	**265**	*e*P		**P**	**08 51 34.8**	**-0.7**
MKAR	**Makanchi Array**	**26.72**	**265**	P		**P**	**08 51 34.8**	**-0.7**
	comp=Z,5.4nm,0.7s,mb4.2,baz=57,slow=8.4,SNR=40							
MKAR				LR		LR	09 02 36.9	
	comp=Z,2μm,18.5s,MS4.8,baz=151,slow=38							
MKAR	**Makanchi Array**	**26.72**	**265**	P		**P**	**08 51 34.8**	**-0.7**
MKAR				LR		LR	09 02 36.9	
MKAR	**Makanchi Array**	**26.72**	**265**	P		**P**	**08 51 34.8**	**-0.7**
MKAR				pmax	pmax			
	comp=Z,5.0nm,0.7s							
MKAR				MLR	MLR			
	comp=Z,2μm,18.5s							
WHN	**Wuhan**	**27.00**	**197**	P		**P**	**08 51 37.6**	**-0.5**
WHN				LR	LR			
	comp=Z,4μm,13.5s,MS5.1							
ENH	**Enshi**	**28.22**	**205**	*e*P		**P**	**08 51 48.4**	**-0.7**
	comp=Z,13nm,0.6s,mb4.7							
FX1	**Attu Island--F**	**28.60**	**76**	P		**P**	**08 51 50.1**	**-2.1**
	comp=Z,28nm,0.7s,mb5.1,baz=318,slow=3.9,SNR=8.2							
FX1	**Attu Island--F**	**28.60**	**76**	P		**P**	**08 51 50.1**	**-2.1**
FX1	**Attu Island--F**	**28.60**	**76**	P		**P**	**08 51 50.2**	**-2.0**
FX1				pmax	pmax			
	comp=Z,28nm,0.7s							
CD2	**Chengdu**	**29.21**	**215**	P		**P**	**08 51 57.9**	**+0.1**
CD2				pP		pP	08 52 02.2	-2.6
CD2				PP		PP	08 52 52.5	-11
CD2				S		**S**	**08 56 48.6**	**-0.3**
CD2				pmax	pmax			
	comp=Z,20nm,0.9s,mb4.8							
CD2				pmax	pmax			
	comp=Z,130nm,3.9s							
CD2				LR	LR			
	comp=E,1μm,9.5s							
CD2				LR	LR			
	comp=Z,1μm,10.7s,MS4.9							
BVA0	**Borovoye Array**	**29.84**	**285**	*i* P		**P**	**08 52 02.2**	**-1.0**
BVA0				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb3.9							
BVAR	**Borovoye Array**	**29.84**	**285**	P		**P**	**08 52 03.2**	**-0.1**
	comp=Z,8.2nm,0.7s,mb4.5,baz=59,slow=9.2,SNR=24							
BVAR				LR		LR	09 04 08.1	
	comp=Z,439nm,18.4s,MS4.1,baz=330,slow=37							
BVAR	**Borovoye Array**	**29.84**	**285**	P		**P**	**08 52 03.2**	**-0.1**
BVAR				LR		LR	09 04 08.1	
BVAR	**Borovoye Array**	**29.84**	**285**	P		**P**	**08 52 03.2**	**0.0**
BVAR				pmax	pmax			
	comp=Z,8.0nm,0.7s							
BVAR				MLR	MLR			
	comp=Z,439nm,18.4s							
BRVK	**Borovoye**	**29.88**	**285**	*e*P		**P**	**08 52 03.6**	**0.0**
	comp=Z,14nm,0.8s,mb4.7							
BRVK	**Borovoye**	**29.88**	**285**	*ce*P		**P**	**08 52 03.6**	**0.0**
BRVK				pmax	pmax			
	comp=Z,21nm,1.7s,mb4.6							
GYA	**Guiyang**	**32.57**	**208**	P		**P**	**08 52 28.9**	**+1.5**
GYA				PP		PP	08 53 37.8	-3.3
GYA				S		**S**	**08 57 41.5**	**+0.1**
GYA				SS		SS	08 59 40.0	-22
GYA				pmax	pmax			
	comp=Z,20nm,0.8s,mb5.1							
GYA				pmax	pmax			
	comp=Z,120nm,5.3s							
GYA				LR	LR			
	comp=N,560nm,16.6s,MS4.4							
GYA				LR	LR			
	comp=E,420nm,17.2s,MS4.4							
GYA				LR	LR			
	comp=Z,550nm,16.1s,MS4.3							
TKM2	**Tokmak 2**	**32.85**	**265**	P		**P**	**08 52 30.4**	**+0.5**
	SNR=20							
TKM2	**Tokmak 2**	**32.85**	**265**	*e*P		**P**	**08 52 30.4**	**+0.6**
	comp=Z,19nm,0.8s,mb5.1							
TKM2	**Tokmak 2**	**32.85**	**265**	*e*P		**P**	**08 52 30.4**	**+0.6**
TKM2				pmax	pmax			
	comp=Z,19nm,0.8s,mb5.1							
ULHL	**Ulahol**	**32.96**	**264**	P		**P**	**08 52 31.4**	**+0.7**
	SNR=13							
SVE	**Sverdlovsk**	**33.06**	**297**	*ce*P		**P**	**08 52 31.9**	**+0.4**
SVE				pmax	pmax			
	comp=Z,107nm,1.3s,mb5.6							
SVE				MLR	MLR			
	comp=Z,2μm,14.0s,MS5.0							
USP	**Ospenovka**	**33.23**	**267**	P		**P**	**08 52 33.8**	**+0.7**
	SNR=14							
CHMS	**Chumysh**	**33.27**	**266**	P		**P**	**08 52 34.3**	**+0.9**
	SNR=13							
KBK	**Karagaybulak**	**33.39**	**266**	P		**P**	**08 52 35.4**	**+1.0**
	SNR=9.6							
FRU	**Bishkek**	**33.45**	**266**	*e*P		**P**	**08 52 35.0**	**0.0**
FRU				pmax	pmax			
	comp=Z,45nm,1.8s,mb5.1							
AAK	**Ala-Archa**	**33.65**	**266**	P		**P**	**08 52 37.6**	**+0.8**
	SNR=19							
AAK	**Ala-Archa**	**33.65**	**266**	*e*P		**P**	**08 52 37.4**	**+0.6**
	comp=Z,20nm,0.9s,mb5.0							
AAK	**Ala-Archa**	**33.65**	**266**	*e*P		**P**	**08 52 37.5**	**+0.7**
AAK				pmax	pmax			
	comp=Z,17nm,1.2s,mb4.8							
AAK	**Ala-Archa**	**33.65**	**266**	P		**P**	**08 52 37.1**	**+0.3**
	comp=Z,135nm,0.9s,mb5.9,SNR=13							
AAK	**Ala-Archa**	**33.65**	**266**	P		**P**	**08 52 36.9**	**+0.1**
	comp=Z,28nm,1.1s,mb5.1							
AAK	**Ala-Archa**	**33.65**	**266**	P		**P**	**08 52 37.5**	**+0.7**
	SNR=12							
SOKR	**Solikamsk**	**33.69**	**303**	*e*P		**P**	**08 52 37.6**	**+0.7**
SOKR				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8							
SOKR				MLR	MLR			
	comp=Z,1μm,17.0s,MS4.7							
EKS2	**Erkin-Say**	**34.02**	**267**	P		**P**	**08 52 40.8**	**+0.7**
	SNR=13							
EKS2	**Erkin-Say**	**34.02**	**267**	*e*P		**P**	**08 52 41.1**	**+1.0**
	comp=Z,17nm,0.8s,mb5.0							
EKS2	**Erkin-Say**	**34.02**	**267**	*e*P		**P**	**08 52 41.1**	**+1.1**
EKS2				pmax	pmax			
	comp=Z,17nm,0.8s,mb5.0							
ARU	**Arti**	**34.26**	**297**	*e*P		**P**	**08 52 41.6**	**-0.4**
	comp=Z,110nm,1.7s,mb5.5							
ARU	**Arti**	**34.26**	**297**	*e*P		**P**	**08 52 41.6**	**-0.3**
ARU				*e*			08 53 56.5	
ARU				S		**S**	**08 58 08.7**	**+1.5**
ARU				pmax	pmax			
	comp=Z,44nm,1.2s,mb5.3							
ARU				MLR	MLR			
	comp=Z,1μm,16.0s,MS4.8							
KMI	**Kunming**	**34.93**	**213**	P		**P**	**08 52 47.3**	**-0.7**
KMI				pP		pP	08 52 52.0	-2.9
KMI				S		**S**	**08 58 18.0**	**0.0**
KMI			

KMI LR LR
comp=E,910nm,13.9s,MS4.7
KMI LR LR
comp=Z,940nm,16.8s,MS4.6
KSH Kashi 35.00 261 P **P** **08 52 53.6 +5.1**
KSH pP pP 08 52 59.5 +4.1
KSH sP sP 08 53 02.4 +4.1
KSH PP PP 08 54 13.4 +5.5
KSH PcP PcP 08 55 23.6 +3.4
KSH S **S** **08 58 26.5 +7.6**
KSH PcS PcS 08 59 09.5 +2.6
KSH ScS ScS 09 03 10.1 +2.5
KSH pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
KSH pmax pmax
comp=Z,140nm,6.7s
KSH LR LR
comp=N,560nm,9.0s
KSH LR LR
comp=E,700nm,9.2s
KSH LR LR
comp=Z,500nm,7.1s
LSA Lhasa 35.13 233 P **P** **08 52 50.0 +0.3**
KK31 Karatay Array 35.52 270 *i* P **P** **08 52 52.9 -0.1**
KK31 pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
KKAR Karatay Array 35.52 270 *eP* **P** **08 52 53.0 +0.1**
comp=Z,7.1nm,0.7s,mb4.7
KKAR Karatay Array 35.52 270 *eP* **P** **08 52 53.0 0.0**
KKAR pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
ABKAR Akbulak array 37.41 286 *eP* **P** **08 53 08.7 -0.3**
comp=Z,11nm,0.8s,mb4.7
AKTK Aktyubinsk 37.73 289 P **P** **08 53 11.6 0.0**
AKTO Aktyubinsk 37.73 289 P **P** **08 53 11.6 0.0**
comp=Z,9.1nm,0.9s,mb4.5,baz=54,slow=7.0,SNR=26
AKTO Aktyubinsk 37.73 289 P **P** **08 53 11.6 0.0**
AKTO pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
SPA0 Spitsbergen Ar 38.25 341 *eP* **P** **08 53 16.0 +0.2**
SPITS Spitsbergen Ar 38.25 341 P **P** **08 53 15.5 -0.3**
comp=Z,17nm,0.7s,mb4.8,baz=70,slow=9.9,SNR=22
SPITS Spitsbergen Ar 38.25 341 P **P** **08 53 15.5 -0.3**
SPITS Spitsbergen Ar 38.25 341 P **P** **08 53 15.5 -0.3**
SPITS pmax pmax
comp=Z,17nm,0.7s
SHL Shillong 38.44 229 *e*PKP **P** **08 53 18.5 +0.7**
KBS Kingsbay 38.58 343 *ce*P **P** **08 53 19.5 +1.0**
KBS pmax pmax
comp=Z,47nm,1.7s,mb4.9
COLD Coldfoot 38.58 39 *eP* **P** **08 53 18.7 +0.1**
comp=Z,42nm,1.3s,mb5.0
TAPN Taplejung 38.69 235 *eP* **P** **08 53 20.3 +0.4**
comp=Z,35nm,0.9s,mb5.1
TAPN Taplejung 38.69 235 *eP* **P** **08 53 20.3 +0.4**
comp=Z,35nm,0.9s,mb5.1
QIZ Qiongzhong 39.04 200 P **P** **08 53 23.2 +0.3**
QIZ S **S** **08 59 21.8 +1.2**
QIZ LR LR
comp=N,730nm,12.9s
QIZ LR LR
comp=Z,990nm,13.5s,MS4.8
GUN Gumba 39.05 238 *eP* **P** **08 53 23.6 +0.6**
GUN Gumba 39.05 238 *eP* **P** **08 53 23.6 +0.6**
ODAN Odare 39.25 235 *eP* **P** **08 53 25.4 +0.7**
comp=Z,89nm,1.0s,mb5.5
ODAN Odare 39.25 235 *eP* **P** **08 53 25.4 +0.7**
comp=Z,89nm,1.0s,mb5.5
APA Apatity 39.36 323⇑ *i*P **P** **08 53 29.4 +4.2**
APA pmax pmax
comp=Z,30nm,1.2s,mb4.9
APA MLR MLR
comp=Z,1μm,16.0s,MS4.7
KKN Kakani 39.43 239 *eP* **P** **08 53 27.0 +0.8**
comp=Z,37nm,0.5s,mb5.3
KKN Kakani 39.43 239 *eP* **P** **08 53 27.0 +0.8**
comp=Z,37nm,0.5s,mb5.4
KKN Kakani 39.43 239 *eP* **P** **08 53 27.0 +0.8**
KKN pmax pmax
comp=Z,37nm,0.5s,mb5.4
GKN Gorkha 39.55 240 *eP* **P** **08 53 28.1 +0.9**
GKN Gorkha 39.55 240 *eP* **P** **08 53 28.1 +0.9**
PKI Pulchoki 39.55 238 *eP* **P** **08 53 27.9 +0.7**
PKI Pulchoki 39.55 238 *eP* **P** **08 53 27.9 +0.7**
PKI Pulchoki 39.55 238 *eP* **P** **08 53 27.9 +0.7**
PKIN Phulchoki 39.55 238 *eP* **P** **08 53 27.9 +0.7**
SVW2 Sparrevohn 39.62 49 *eP* **P** **08 53 27.4 0.0**
comp=Z,34nm,1.2s,mb5.0
DMN Daman 39.66 239 *eP* **P** **08 53 29.0 +0.9**
DMN Daman 39.66 239 *eP* **P** **08 53 29.0 +0.9**
DANN Dangsing 39.68 241 *eP* **P** **08 53 29.6 +1.4**
comp=Z,49nm,0.8s,mb5.3
DANN Dangsing 39.68 241 *eP* **P** **08 53 29.6 +1.4**
comp=Z,49nm,0.8s,mb5.3
BPAW Bear Paw Mtn. 39.86 43 *eP* **P** **08 53 29.2 -0.1**
comp=Z,27nm,1.3s,mb4.8
PPLA Purkeypile 40.03 45 *eP* **P** **08 53 30.8 0.0**
comp=Z,43nm,1.4s,mb5.0
KEV Kevo 40.23 328 *eP* **P** **08 53 29.9 -2.5**
KEV pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
KEV Kevo 40.23 328 *ep* **P** **08 53 29.9 -2.5**
comp=Z,9.6nm,0.7s,mb4.6
KOLN Koldanda 40.24 241 *eP* **P** **08 53 34.0 +1.1**
comp=Z,14nm,0.6s,mb4.8
KOLN Koldanda 40.24 241 *eP* **P** **08 53 34.0 +1.1**
comp=Z,14nm,0.6s,mb4.8
TRF Thorofare Moun 40.47 44 *eP* **P** **08 53 34.7 +0.3**
comp=Z,63nm,1.0s,mb5.3
COLA College 40.61 41 *eP* **P** **08 53 35.6 +0.1**
comp=Z,20nm,0.8s,mb4.8
COLA College 40.61 41 *eP* **P** **08 53 35.6 +0.1**
COLA pmax pmax
comp=Z,21nm,0.8s,mb4.8
KLMR Klimovskoe 40.61 312 *d i*P **P** **08 53 35.5 -0.1**
KLMR pmax pmax
comp=Z,105nm,1.2s,mb5.3
ARCES ARCESS Array B 40.79 328 P **P** **08 53 36.8 -0.2**
comp=Z,4.0nm,0.7s,mb4.1,baz=64,slow=8.8,SNR=17
ARCES ARCESS Array B 40.79 328 P **P** **08 53 36.8 -0.2**
ARCES ARCESS Array B 40.79 328 P **P** **08 53 36.8 -0.2**
ARCES pmax pmax
comp=Z,4.0nm,0.7s
ARE0 ARCESS Array S 40.79 328 *eP* **P** **08 53 37.0 -0.1**
MCK McKinley 40.83 43 *eP* **P** **08 53 37.3 0.0**
comp=Z,24nm,1.0s,mb4.8
MCK McKinley 40.83 43 *eP* **P** **08 53 37.3 -0.1**
MCK pmax pmax
comp=Z,24nm,1.0s,mb4.8
ILAR Eielson Array 41.01 41 P **P** **08 53 38.6 -0.2**
comp=Z,15nm,0.7s,mb4.7,baz=290,slow=4.4,SNR=301
ILAR LR LR 09 11 56.5
comp=Z,366nm,18.3s,MS4.3,baz=347,slow=38
ILAR Eielson Array 41.01 41 P **P** **08 53 38.6 -0.2**
ILAR LR LR 09 11 56.5
ILAR Eielson Array 41.01 41 P **P** **08 53 38.6 -0.2**
ILAR pmax pmax
comp=Z,15nm,0.7s
ILAR MLR MLR
comp=Z,366nm,18.3s
SPU Mount Spurr 41.02 47 *eP* **P** **08 53 39.2 +0.3**
RSO Redoubt South 41.13 49 *eP* **P** **08 53 40.0 +0.1**
KTK1 Kautokeino 41.76 328 *eP* **P** **08 53 44.8 -0.1**
PMR Palmer 41.95 46 *eP* **P** **08 53 45.7 -0.9**
comp=Z,29nm,0.8s,mb5.0
PMR Palmer 41.95 46 *eP* **P** **08 53 45.7 -0.9**
PMR pmax pmax
comp=Z,29nm,0.8s,mb5.0
CHTO Chiang Mai 42.02 215 *eP* **P** **08 53 47.2 -0.4**
comp=Z,11nm,0.8s,mb4.5
CHTO Chiang Mai 42.02 215 *eP* **P** **08 53 47.2 -0.4**
CHTO pmax pmax
comp=Z,11nm,0.8s,mb4.5
CHTO Chiang Mai 42.02 215 P **P** **08 53 47.0 -0.6**
comp=Z,21nm,1.1s,mb4.7
SML Sawmill 42.14 45 *eP* **P** **08 53 47.8 -0.4**
comp=Z,17nm,0.8s,mb4.7
SML Sawmill 42.14 45 *eP* **P** **08 53 47.8 -0.3**
SML pmax pmax
comp=Z,17nm,0.8s,mb4.7
SLKM Skilak Lake 42.14 47 *eP* **P** **08 53 47.1 -1.0**
SLKM Skilak Lake 42.14 47 *eP* **P** **08 53 47.1 -1.0**
CMAR Chiang Mai Arr 42.36 215 P **P** **08 53 50.1 -0.2**
comp=Z,5.4nm,0.7s,mb4.3,baz=0.3,slow=7.3,SNR=31
CMAR PcP PcP 08 55 43.2 -0.2
comp=Z,1.5nm,0.4s,baz=343,slow=3.0,SNR=4.2
CMAR LR LR 09 13 05.8
comp=Z,469nm,18.4s,MS4.4,baz=5.0,slow=38
CMAR Chiang Mai Arr 42.36 215 P **P** **08 53 50.1 -0.2**
CMAR PcP PcP 08 55 43.2 -0.2
CMAR LR LR 09 13 05.8
CMAR Chiang Mai Arr 42.36 215 P **P** **08 53 50.1 -0.2**
CMAR 08 55 43.3
CMAR pmax pmax
comp=Z,5.0nm,0.7s
CMAR MLR MLR
comp=Z,469nm,18.4s
KBL Kabul 42.41 262 *eP* **P** **08 53 50.2 -0.5**
comp=Z,11nm,0.8s,mb4.5
KBL Kabul 42.41 262 *eP* **P** **08 53 50.2 -0.4**
KBL pmax pmax
comp=Z,11nm,0.8s,mb4.5
PAX Paxson 42.55 42 *eP* **P** **08 53 51.0 -0.5**
comp=Z,19nm,1.2s,mb4.7
PAX Paxson 42.55 42 *eP* **P** **08 53 51.0 -0.4**
PAX pmax pmax
comp=Z,19nm,1.2s,mb4.7
TRO Tromso 42.61 330 *eP* **P** **08 53 52.4 +0.5**
JOF Joensuu 42.65 318 *eP* **P** **08 53 50.9 -1.3**
JOF pmax pmax
comp=Z,32nm,0.7s,mb5.2
JOF Joensuu 42.65 318 *ep* **P** **08 53 50.9 -1.3**
comp=Z,32nm,0.7s,mb5.2
DOT Dot Lake 42.67 41 *eP* **P** **08 53 51.1 -1.3**
comp=Z,131nm,1.0s,mb5.6
SEW Seward 42.69 48 *eP* **P** **08 53 51.1 -1.5**
comp=Z,16nm,0.7s,mb4.9
KDAK Kodiak Island 42.75 52 P **P** **08 53 52.1 -1.1**
comp=Z,12nm,0.8s,mb4.7,baz=342,slow=5.0,SNR=13
KDAK LR LR 09 14 30.8
comp=Z,203nm,18.4s,MS4.0,baz=100,slow=40
KDAK Kodiak Island 42.75 52 P **P** **08 53 52.1 -1.1**
KDAK LR LR 09 14 30.8
KDAK Kodiak Island 42.75 52 *ce*P **P** **08 53 52.2 -0.9**
OHAK Old Harbor 42.78 53 *eP* **P** **08 53 51.5 -1.9**
comp=Z,22nm,0.9s,mb4.9
EGAK Eagle 43.02 39 *eP* **P** **08 53 55.0 -0.3**
comp=Z,56nm,1.5s,mb5.1
MENT Mentasta 43.21 42 *eP* **P** **08 53 56.2 -0.6**
INK Inuvik 43.26 32 P **P** **08 53 57.6 +0.5**
comp=Z,17nm,0.7s,mb4.9,baz=320,slow=7.9,SNR=71
INK Inuvik 43.26 32 *eP* **P** **08 53 57.5 +0.3**
comp=Z,24nm,0.9s,mb4.9
INK Inuvik 43.26 32 *eP* **P** **08 53 57.5 +0.3**
INK pmax pmax
comp=Z,24nm,0.9s
DAWY Dawson 44.06 39 *eP* **P** **08 54 02.8 -0.8**
BMRM Bremner River 44.08 44 *eP* **P** **08 54 04.1 +0.2**
comp=Z,47nm,1.0s,mb5.2
MOS Moscow 44.42 306 *eP* **P** **08 54 03.6 -3.0**
MOS *e* 08 55 47.0
MOS *e*PPP 08 56 22.6
MOS pmax pmax
comp=Z,100nm,1.5s,mb5.3
MOS pmax pmax
comp=Z,57nm,1.0s,mb5.3
DAG Danmarks Havn 44.44 348 *i* P **P** **08 54 05.7 -0.8**
DAG Danmarks Havn 44.44 348 *i* P **P** **08 54 05.7 -0.8**
comp=Z,34nm,1.0s,mb5.0
KAF Kangasniemi 44.98 319 *eP* **P** **08 54 08.5 -2.5**
KAF pmax pmax
comp=Z,14nm,0.8s,mb4.8
KAF Kangasniemi 44.98 319 *ep* **P** **08 54 08.5 -2.5**
comp=Z,14nm,0.8s,mb4.8
OBN Obninsk 45.29 306 *eP* **P** **08 54 13.0 -0.5**
OBN *e* pP 08 54 19.4 -1.2
OBN *e* 08 55 56.8
OBN pmax pmax
comp=Z,16nm,0.6s,mb5.0
FINES FINESS Array B 45.49 318 P **P** **08 54 14.7 -0.3**
comp=Z,23nm,0.7s,mb5.1,baz=42,slow=9.6,SNR=73
FINES LR LR 09 15 05.1
comp=Z,546nm,20.5s,MS4.5,baz=219,slow=38
FINES FINESS Array B 45.49 318 P **P** **08 54 14.7 -0.3**
FINES LR LR 09 15 05.1
FINES FINESS Array B 45.49 318 P **P** **08 54 14.7 -0.3**
FINES pmax pmax
comp=Z,23nm,0.7s
FINES MLR MLR
comp=Z,546nm,20.5s
VRHR Novokhopersk 45.54 299 *eP* **P** **08 54 14.0 -1.5**
VRHR pmax pmax
comp=N,20nm,0.5s
VRHR pmax pmax
comp=E,40nm,0.7s
VRHR pmax pmax
comp=Z,140nm,0.7s,mb6.0
MOR8 Moi Rana 46.17 328 *eP* **P** **08 54 18.6 -1.8**
RES Resolute Bay 46.33 13 LR LR 09 14 33.7
comp=Z,295nm,19.4s,MS4.2,baz=300,slow=37
RES Resolute Bay 46.33 13 *eP* **P** **08 54 21.1 -0.4**
comp=Z,20nm,1.0s,mb5.0
RES Resolute Bay 46.33 13 *eP* **P** **08 54 21.1 -0.4**
RES pmax pmax
comp=Z,20nm,1.0s,mb5.0
STOK Stokkvaagen 46.47 328 *eP* **P** **08 54 25.1 +2.4**
VSR Storozhevoye 46.63 301 *d i*P **P** **08 54 23.4 -0.7**
VSR *e**PP pP 08 54 30.0 -1.2
VSR pmax pmax
comp=Z,70nm,0.6s,mb5.8
VSR pmax pmax
comp=N,40nm,0.8s
VSR pmax pmax
comp=E,40nm,1.0s
VSR MLR MLR
comp=Z,920nm,16.0s,MS4.8
VSR MLR MLR
comp=N,410nm,15.0s,MS4.7
VSR MLR MLR
comp=E,460nm,13.0s,MS4.7
PNL Peninsula 46.91 44 *eP* **P** **08 54 27.0 +0.8**
comp=E,60nm,1.0s,mb5.5
BHPL Bhopal 47.04 244 *e*PKP **P** **08 54 27.4 -0.3**
BHPL AMb AMB 08 54 29.0
comp=Z,68nm,0.6s,mb5.8
SKAG Skagway 48.56 42 *eP* **P** **08 54 40.1 +1.1**
comp=Z,34nm,1.0s,mb5.3
VIS Vishakhapatnam 49.03 234 *e*PKP **P** **08 54 41.0 -2.1**
VIS AMb AMB 08 54 45.6
comp=Z,14nm,1.2s,mb4.9
IZAR Zarasai 49.25 312 *eP* **P** **08 54 44.7 +0.3**
IZAR AMB AMB 08 54 45.4
comp=Z,9.7nm,1.0s,mb4.8
ISAL Salakas 49.43 312 *eP* **P** **08 54 46.2 +0.5**
ISAL AMB AMB 08 54 46.9
comp=Z,21nm,0.8s,mb5.2
IIGN Ignalina 49.54 312 *eP* **P** **08 54 47.1 +0.5**
IIGN AMB AMB 08 54 47.8
comp=Z,17nm,1.0s,mb5.0
NACGM Naroch 49.63 311 *e* **P** **08 54 42.0 -5.2**
KIV Kislovodsk 49.86 291 *eP* **P** **08 54 50.4 +1.2**
comp=Z,145nm,0.7s,mb6.1
KIV Kislovodsk 49.86 291 *d i*P **P** **08 54 50.4 +1.3**
KIV *eS* **S** **09 01 49.7 -7.6**
KIV *eSS* SS 09 05 23.7 -5.8
KIV pmax pmax
comp=Z,237nm,1.0s,mb6.2
KIV Kislovodsk 49.86 291 P **P** **08 54 50.5 +1.4**
comp=Z,1μm,0.8s,SNR=20
KIV Kislovodsk 49.86 291 P **P** **08 54 50.6 +1.5**
SNR=26
ZEI Tsey 50.07 289 *eP* **P** **08 54 48.9 -1.9**
ZEI pmax pmax
comp=Z,39nm,1.4s,mb5.2
SUMG Summit 50.21 353 *eP* **P** **08 54 51.9 +0.5**
comp=Z,59nm,0.9s,mb5.6
SUMG Summit 50.21 353 *eP* **P** **08 54 51.9 +0.5**
SUMG pmax pmax
comp=Z,59nm,0.9s
SUMG Summit 50.21 353 *i* P **P** **08 54 52.0 +0.6**
comp=Z,48nm,0.9s,mb5.5
DGRG David-gareji 50.24 287 P **P** **08 54 52.6 +0.4**
MTA Mtatsminda 50.38 288 P **P** **08 54 53.2 +0.1**
TBLG Delisi 50.38 288 *eP* **P** **08 54 54.2 +1.1**
TBLG Delisi 50.38 288 P **P** **08 54 54.3 +1.2**
ONI Oni 50.43 290 P **P** **08 54 54.6 +1.1**
SCO Scoresbysund 50.51 346 *i* P **P** **08 54 54.4 +0.7**
SCO pmax pmax
comp=Z,32nm,0.8s,mb5.3
GOR Gori 50.52 289 P **P** **08 54 54.3 +0.1**
NB2 NORSAR Subarra 50.89 324 P **P** **08 54 55.7 -1.0**
comp=Z,19nm,0.8s,mb5.1,baz=40,slow=7.4
NOA NORSAR Array B 50.89 324 P **P** **08 54 56.0 -0.7**
comp=Z,12nm,0.7s,mb5.0,baz=40,slow=7.1,SNR=47
NOA NORSAR Array B 50.89 324 P **P** **08 54 56.0 -0.7**
NOA NORSAR Array B 50.89 324 P **P** **08 54 56.0 -0.7**
NOA pmax pmax
comp=Z,13nm,0.7s
KKM Kota Kinabalu 50.97 189 *eP* **P** **08 54 57.8 0.0**
comp=Z,23nm,1.2s,mb5.0
KKM Kota Kinabalu 50.97 189 P **P** **08 55 02.3 +4.5**
comp=Z,21nm,1.0s,mb5.0
BHJ Bhuj 50.98 252 *e*PKP **P** **08 54 57.6 -0.3**
BHJ AMb AMB 08 54 58.6
comp=Z,26nm,0.6s,mb5.3
NAO01 NORSAR Array S 51.15 324 *eP* **P** **08 54 57.6 -1.0**
comp=Z,13nm,0.8s,mb4.9
DLBC Dease Lake 51.21 40 LR LR 09 18 37.8
comp=Z,293nm,20.3s,MS4.3,baz=296,slow=38
DLBC Dease Lake 51.21 40 *eP* **P** **08 55 00.5 +1.3**
AKH Akhalkalaki 51.26 289 P **P** **08 55 00.8 +1.1**
HYB Hyderabad 51.47 239 *i* P **P** **08 55 01.0 -0.6**
GNI Garni 51.52 287 *eP* **P** **08 55 03.7 +2.0**
comp=Z,30nm,0.7s,mb5.3
GNI Garni 51.52 287 *ce*P **P** **08 55 03.8 +2.1**
GNI pmax pmax
comp=Z,67nm,1.2s
GNI Garni 51.52 287 P **P** **08 55 04.2 +2.5**
SNR=9.9
AKASG Malin Array Be 51.55 306 P **P** **08 55 01.1 -0.7**
comp=Z,25nm,0.6s,mb5.3,baz=42,slow=8.5,SNR=99
AKASG Malin Array Be 51.55 306 P **P** **08 55 01.1 -0.7**
AKASG Malin Array Be 51.55 306 P **P** **08 55 01.1 -0.7**
AKASG pmax pmax
comp=Z,25nm,0.6s
AKBB Malin Array Si 51.55 306 *eP* **P** **08 55 01.4 -0.4**
AKBB Malin Array Si 51.55 306 *eP* **P** **08 55 01.4 -0.4**
KIEV Kiev 51.56 306 *eP* **P** **08 55 01.2 -0.7**
comp=Z,25nm,0.7s,mb5.3
KIEV Kiev 51.56 306 *eP* **P** **08 55 01.2 -0.7**
KIEV pmax pmax
comp=Z,25nm,0.7s,mb5.2
SOC Sochi 51.63 293 *i* P **P** **08 55 03.0 +0.5**
SOC *e**PP pP 08 55 09.8 +0.1
SOC *eSS* SS 09 06 00.7 +3.0
SOC pmax pmax
comp=Z,154nm,0.8s,mb6.0
SOC pmax pmax
comp=Z,116nm,0.5s,mb6.1
SOC MLR MLR
comp=Z,652nm,14.0s,MS4.8
MYLDM Lahad Datu 51.66 186 P **P** **08 55 07.7 +4.7**
comp=Z,37nm,1.2s,mb5.2
SUW Suwalki 51.74 312 *eP* **P** **08 55 03.0 -0.2**
SUW Suwalki 51.74 312 *eP* **P** **08 55 03.0 -0.1**
ANN Anapa 51.90 296 *eP* **P** **08 55 01.8 -2.7**
ANN *eS* **S** **09 02 24.0 -1.6**
ANN *eSS* SS 09 06 03.5 +1.6
ANN pmax pmax
comp=Z,80nm,1.2s,mb5.5
ANN MLR MLR
comp=Z,392nm,13.0s,MS4.6
POO Poona 52.79 244 *e*PKP **P** **08 55 10.7 -0.7**
YKA Yellowknife Ar 52.88 29 P **P** **08 55 10.9 -0.5**
comp=Z,25nm,0.7s,mb5.3,baz=330,slow=7.0,SNR=28
YKA LR 09 17 07.1
comp=Z,19nm,21.8s,MS3.1,baz=285,slow=35
YKA Yellowknife Ar 52.88 29 P **P** **08 55 10.9 -0.5**
YKA LR LR 09 17 07.1
YKA Yellowknife Ar 52.88 29 P **P** **08 55 10.9 -0.6**
YKA pmax pmax
comp=Z,25nm,0.7s
YKA MLR MLR
comp=Z,19nm,21.8s
SIM Simferopol' 53.42 298 P **P** **08 55 11.1 -4.6**
SIM S **S** **09 02 55.2 +8.8**
SIM pmax pmax
comp=Z,26nm,0.7s,mb5.3
SIM MLR MLR
comp=Z,460nm,14.0s,MS4.7
KAD Karad 53.66 243 *i* P **P** **08 55 17.1 -0.8**
KAD AMb AMB 08 55 18.1
comp=Z,30nm,1.4s,mb5.0
BSD Bornholm Skovb 54.13 318 *i* P **P** **08 55 20.0 -0.8**
BSD pmax pmax
comp=Z,17nm,0.8s,mb5.0
BEL Belsk 54.32 312 *eP* **P** **08 55 22.7 +0.5**
BEL Belsk 54.32 312 *eP* **P** **08 55 22.7 +0.5**
KULM Kulim 54.39 208 *eP* **P** **08 55 22.7 -0.4**
comp=Z,24nm,1.2s,mb5.0
KULM Kulim 54.39 208 P **P** **08 55 24.2 +1.1**
comp=Z,18nm,1.3s,mb4.8
KIS Kishinev 54.42 303 *eP* **P** **08 55 19.0 -4.0**
KIS LRM 09 20 12.0
comp=Z,600nm,13.0s
KIS Kishinev 54.42 303 *eP* **P** **08 55 19.0 -4.0**
KIS *e* 08 55 23.0
KIS MLR MLR
comp=Z,800nm,14.0s,MS4.9
KIS MLR MLR
comp=N,600nm,13.0s,MS5.0
KIS MLR MLR
comp=E,500nm,12.0s,MS5.0
MDRS Chennai 54.50 234 *e*PKP **P** **08 55 25.0 +1.0**
GKP Gorka Klasztor 54.66 315 *eP* **P** **08 55 24.7 +0.1**
GKP Gorka Klasztor 54.66 315 *eP* **P** **08 55 24.7 +0.1**
SBUM Sibu 54.94 193 P **P** **08 55 30.9 +3.8**
comp=E,13nm,1.2s,mb4.8
LLD Lille Linde 54.94 319 *i* P **P** **08 55 20.0 -6.7**
comp=E,17nm,0.8s,mb5.1
MUD Monsted U'grnd 55.12 322 *i* P **P** **08 55 28.0 +0.1**
MUD pmax pmax
comp=Z,24nm,1.1s,mb5.1
MUD Monsted U'grnd 55.12 322 *i* P **P** **08 55 28.0 +0.1**
comp=Z,24nm,1.1s,mb5.1
KWP Kalwaria Pacla 55.18 309 *eP* **P** **08 55 28.8 +0.3**
KWP Kalwaria Pacla 55.18 309 *eP* **P** **08 55 29.0 +0.6**
comp=Z,32nm,0.8s,mb5.4
KWP Kalwaria Pacla 55.18 309 ⇓ P **P** **08 55 28.9 +0.4**
KWP Kalwaria Pacla 55.18 309 ⇓ *i*P **P** **08 55 28.9 +0.4**
BUR08 Bucovina Ar. S 55.59 306 *eP* **P** **08 55 31.5 +0.1**
BURAR Bucovina Array 55.60 306 ⇑ P **P** **08 55 31.4 -0.1**
BURAR Bucovina Array 55.60 306 ⇑ *i*P **P** **08 55 31.4 -0.1**
TLCR 55.78 301 ⇓ P **P** **08 55 33.4 +0.6**
TLCR 55.78 301 ⇓ *i*P **P** **08 55 33.4 +0.6**
TESR 55.78 304 ⇓ *i*P **P** **08 55 32.6 -0.2**
KOLS Kolonicke sedl 55.89 309 *eP* **P** **08 55 33.6 0.0**
KOLS pmax pmax
comp=Z,16nm,1.1s,mb5.0
KOLS Kolonicke sedl 55.89 309 *eP* **P** **08 55 33.6 0.0**
OJC Ojcow 55.96 311 *eP* **P** **08 55 33.9 -0.1**
OJC Ojcow 55.96 311 *eP* **P** **08 55 33.3 -0.7**
comp=Z,38nm,1.4s,mb5.2
OJC Ojcow 55.96 311 *eP* **P** **08 55 33.9 -0.1**
UZH Uzhgorod 56.11 308 *eP* **P** **08 55 31.2 -4.0**
UZH *e* 08 55 34.3
UZH *eS* **S** **09 03 14.5 -7.9**
UZH MLR MLR
comp=N,620nm,15.0s,MS5.1
UZH MLR MLR
comp=E,1μm,15.0s,MS5.1
UZH MLR MLR
comp=Z,1μm,15.0s,MS5.0
MRSI Marisa 56.22 181 P **P** **08 55 39.5 +3.2**
comp=Z,39nm,1.2s,mb5.3
VRI Vrincioaia 56.23 303 ⇓ P **P** **08 55 36.5 +0.4**
VRI Vrincioaia 56.23 303 ⇓ *i*P **P** **08 55 36.5 +0.4**
CRVS Cervenica-Dubn 56.26 309 *eP* **P** **08 55 36.0 -0.2**
CRVS pmax pmax
comp=Z,24nm,1.7s,mb5.0
CRVS Cervenica-Dubn 56.26 309 *eP* **P** **08 55 36.0 -0.2**
PLOR Plostina 56.28 303 ⇓ P **P** **08 55 37.0 +0.6**
PLOR Plostina 56.28 303 ⇓ *i*P **P** **08 55 37.0 +0.6**
BMR Baia Mare 56.32 307 P **P** **08 55 37.9 +1.3**
NIE Niedzica 56.35 310 *eP* **P** **08 55 37.6 +0.7**
NIE Niedzica 56.35 310 *eP* **P** **08 55 37.6 +0.7**
SFJD Kangerlussuaq 56.37 357 *i* P **P** **08 55 36.4 -0.3**
SFJD pmax pmax
comp=Z,21nm,0.8s,mb5.2
SFJD Kangerlussuaq 56.37 357 *i* P **P** **08 55 36.4 -0.3**
comp=Z,21nm,0.8s,mb5.2
TRPA Tarpa 56.39 308 ⇓ *i*P **P** **08 55 37.5 +0.4**
BBB Bella Bella 56.70 44 LR LR 09 21 25.5
comp=Z,262nm,18.6s,MS4.4,baz=295,slow=38
MLR Muntele Rosu 56.88 304 ⇓ P **P** **08 55 40.5 -0.1**
MLR Muntele Rosu 56.88 304 ⇓ *i*P **P** **08 55 40.5 -0.1**
ISR Istrita 56.88 303 ⇑ P **P** **08 55 41.7 +1.0**

ISR Istrita 56.88 303 ⇑iP P 08 55 41.7 +1.0
KSP Ksiaz 56.90 314 eP P 08 55 40.8 +0.1
OKC Ostrava-Krasne 56.93 312 eP P 08 55 41.1 +0.1
OKC e pP 08 55 47.7 -0.5
OKC MLR MLR
comp=Z,700nm,11.2s,MS5.0
OKC Ostrava-Krasne 56.93 312 eP P 08 55 41.1 +0.1
OKC epP pP 08 55 47.7 -0.5
OKC AMS AMS 09 22 40.0
comp=Z,700nm,11.2s
MORC Moravsky Berou 57.23 312 eP P 08 55 43.4 +0.3
comp=Z,34nm,1.4s,mb5.2
MORC Moravsky Berou 57.23 312 P P 08 55 44.0 +0.9
MORC Moravsky Berou 57.23 312 ⇓iP P 08 55 42.9 -0.2
UPC Upice 57.27 313 eP P 08 55 43.5 +0.1
UPC e 08 55 48.0
UPC Upice 57.27 313 eP P 08 55 43.5 +0.1
UPC epP pP 08 55 48.0 -2.6
VOIR 57.33 304 ⇑P P 08 55 44.8 +1.0
VOIR 57.33 304 ⇑iP P 08 55 44.8 +1.0
HOQ Hoqain 57.33 263 P P 08 55 44.5 +0.4
SNR=5.1
DRGR 57.34 307 P P 08 55 44.6 +0.7
DRGR 57.34 307 ⇑iP P 08 55 44.0 +0.1
BR131 Keskin Array S 57.55 294 eP P 08 55 46.1 +0.6
comp=Z,22nm,0.8s,mb5.2
BRTR Keskin Array B 57.55 294 P P 08 55 46.1 +0.6
comp=Z,23nm,0.7s,mb5.3,baz=64,slow=4.9,SNR=77
BRTR Keskin Array B 57.55 294 P P 08 55 46.1 +0.6
BRTR Keskin Array B 57.55 294 P P 08 55 46.1 +0.6
BRTR pmax pmax
comp=Z,23nm,0.7s
PSZ Piszkesteto 57.69 309 eP P 08 55 47.3 +1.0
comp=Z,31nm,1.1s,mb5.2
PSZ Piszkesteto 57.69 309 P P 08 55 47.7 +1.4
PSZ Piszkesteto 57.69 309 ⇓eP P 08 55 46.7 +0.3
PSZ Piszkesteto 57.69 309 ⇓iP P 08 55 46.9 +0.6
VYHS Vyhne 57.69 310 eP P 08 55 46.9 +0.6
VYHS pmax pmax
comp=Z,22nm,1.5s,mb5.0
VYHS Vyhne 57.69 310 eP P 08 55 46.9 +0.6
CLL Collm 57.82 316 eP P 08 55 46.8 -0.4
comp=Z,23nm,1.1s,mb5.1
CLL Collm 57.82 316 ⇓iP P 08 55 46.6 -0.6
CLL *PP pP 08 55 51.1 -3.4
CLL pmax pmax
comp=Z,24nm,1.1s,mb5.1
CLL Collm 57.82 316 ⇓iP P 08 55 46.6 -0.6
comp=Z,24nm,1.1s,mb5.1
CLL iP pP 08 55 51.1 -3.4
CLL iS sP 08 55 53.1 -4.2
CLL ePPPP 08 59 41.0
PVCC Panska Ves 57.83 314 eP P 08 55 47.5 +0.2
PVCC MLR MLR
comp=Z,900nm,17.1s,MS5.0
PVCC Panska Ves 57.83 314 eP P 08 55 47.5 +0.2
PVCC AMS AMS 09 22 40.0
comp=Z,900nm,17.1s
MIB Mutribah 57.90 276 eP P 08 55 47.7 -0.4
MIB AMb AMB 08 55 48.8
comp=Z,92nm,0.9s,mb5.8
NRDL Niedersach Rie 57.95 318 eP P 08 55 48.0 -0.1
comp=Z,22nm,1.3s,mb5.0
VRAC Vranov 57.98 312 ⇓P P 08 55 48.6 +0.2
VRAC Vranov 57.98 312 ⇓iP P 08 55 48.6 +0.2
PRA Prague 58.24 314 P P 08 55 51.0 +0.8
PRU Pruhonice 58.27 314 eP P 08 55 50.8 +0.4
PRU e pP 08 55 55.7 -1.9
PRU MLR MLR
comp=Z,700nm,15.0s,MS4.9
PRU Pruhonice 58.27 314 eP P 08 55 50.8 +0.4
PRU epP pP 08 55 55.7 -1.9
PRU AMS AMS 09 23 00.0
comp=Z,700nm,15.0s
NEUB Neuenburg 58.37 316 eP P 08 55 50.5 -0.5
comp=Z,38nm,1.6s,mb5.2
CLZ Clausthal 58.38 318 eP P 08 55 51.0 -0.1
comp=Z,61nm,1.8s,mb5.3
CLZ Clausthal 58.38 318 eP P 08 55 51.0 -0.1
CLZ pmax pmax
comp=Z,61nm,1.8s,mb5.3
NAY Al-Naaiem 58.38 276 eP P 08 55 50.7 -0.8
NAY AMb AMB 08 55 52.0
comp=Z,34nm,0.7s,mb5.5
BUD Budapest 58.40 309 ⇓eP P 08 55 46.8 -4.5
TREC Trest 58.44 313 AMS AMS 09 23 30.0
comp=Z,1μm,10.9s
RDF Al-Radifah 58.47 275 eP P 08 55 51.8 -0.2
ZST Bratislava 58.64 311 eP P 08 55 52.6 -0.4
ZST pmax pmax
comp=Z,24nm,1.7s,mb5.0
ZST Bratislava 58.64 311 eP P 08 55 52.6 -0.4
BZS Buzias 58.73 306 ⇑P P 08 55 53.7 +0.1
BZS Buzias 58.73 306 ⇑iP P 08 55 53.7 +0.1
TANN Tannenbergstha 58.74 316 eP P 08 55 53.6 -0.1
comp=Z,40nm,1.9s,mb5.1
WERD Werda 58.77 316 eP P 08 55 53.8 -0.1
comp=Z,45nm,1.6s,mb5.2
GUNZ Gunzen 58.83 316 eP P 08 55 54.1 -0.2
WERN Wernitzgruen 58.87 315 eP P 08 55 54.6 0.0
comp=Z,14nm,1.0s,mb5.0
MOX Moxa 58.88 316 eP P 08 55 54.5 -0.1
comp=Z,27nm,1.3s,mb5.1
MOX Moxa 58.88 316 eP P 08 55 54.5 -0.1
MOX pmax pmax
comp=Z,27nm,1.3s,mb5.1
NKC Novy Kostel 58.89 315 eP P 08 55 54.8 +0.1
NKC MLR MLR
comp=Z,900nm,11.3s,MS5.1
NKC Novy Kostel 58.89 315 eP P 08 55 54.8 +0.1
NKC AMS AMS 09 23 50.0
comp=Z,900nm,11.3s
SOP Sopron 59.27 311 ⇓eP P 08 55 58.1 +0.7
KHC Kasperske Hory 59.33 314 eP P 08 55 57.7 -0.1
comp=Z,55nm,1.4s,mb5.4
KHC Kasperske Hory 59.33 314 eP P 08 55 57.9 +0.1
KHC e 08 56 02.6
KHC MLR MLR
comp=Z,1μm,15.3s,MS5.1
KHC Kasperske Hory 59.33 314 eP P 08 55 57.9 +0.1
KHC epP pP 08 56 02.6 -2.4
KHC AMS AMS 09 23 30.0
comp=Z,1μm,15.3s
ROTZ Rotzenmuhle 59.36 315 eP P 08 55 58.3 +0.4
comp=Z,33nm,1.6s,mb5.1
CONA Conrad Observa 59.37 312 ⇓iP P 08 55 58.6 +0.6
comp=Z,30nm,1.6s,mb5.1
GEC2 GERESS Array S 59.51 314 eP P 08 55 59.1 +0.1
comp=Z,23nm,1.2s,mb5.1
GEC2 GERESS Array S 59.51 314 eP P 08 55 59.1 +0.1
GEC2 pmax pmax
comp=Z,23nm,1.2s,mb5.1
GERES GERESS Array B 59.51 314 P P 08 55 58.9 -0.1
comp=Z,3.6nm,0.8s,mb4.5,baz=42,slow=6.2,SNR=40
GERES GERESS Array B 59.51 314 P P 08 55 58.9 -0.1
GERES GERESS Array B 59.51 314 P P 08 55 58.9 -0.1
GERES pmax pmax
comp=Z,4.0nm,0.8s
MPEP Malo Peshtene 59.53 303 P P 08 55 58.8 -0.4
PKSM Moragy 59.56 309 ⇓P P 08 55 58.8 -0.6
PKSM Moragy 59.56 309 ⇓iP P 08 55 58.8 -0.6
WTSB Winterswijk 59.57 320 eP P 08 55 58.3 -1.1
comp=Z,24nm,1.2s,mb5.1
WET Wettzell 59.59 314 eP P 08 56 00.0 +0.4
comp=Z,24nm,1.0s,mb5.2
WET Wettzell 59.59 314 eP P 08 56 00.0 +0.4
WET pmax pmax
comp=Z,24nm,1.0s,mb5.2
GRA2 Grafenberg Arr 59.77 316 eP P 08 56 00.9 +0.1
comp=Z,17nm,1.3s,mb4.9
GRF Grafenberg Arr 59.80 316 eP P 08 56 01.0 0.0
comp=Z,91nm,2.0s,mb5.5
GRF eL 09 13 20.5
comp=Z,611nm,21.3s
GRF Grafenberg Arr 59.80 316 eP P 08 56 01.0 0.0
GRF pmax pmax
comp=Z,91nm,2.0s,mb5.5
BUG Bochum-Univer 59.84 319 eP P 08 56 00.8 -0.4
comp=Z,36nm,1.4s,mb5.2
GRB4 Grafenberg Arr 59.85 315 eP P 08 56 01.5 +0.2
comp=Z,41nm,1.3s,mb5.3
GRB3 Grafenberg Arr 59.85 315 eP P 08 56 01.7 +0.3
comp=Z,28nm,1.1s,mb5.2
GRB1 Grafenberg Arr 59.87 315 eP P 08 56 01.7 +0.2
comp=Z,39nm,1.2s,mb5.3

TRD Trivandrum 60.01 235 ePKP P 08 56 02.7 -0.2
ARSA Arzberg 60.04 311 ⇑iP P 08 56 03.6 +0.9
comp=Z,12nm,1.1s,mb4.8
MOA Molln 60.08 313 ⇓iP P 08 56 03.2 +0.2
comp=Z,19nm,1.2s,mb5.0
GRC4 Grafenberg Arr 60.17 315 eP P 08 56 03.6 +0.1
comp=Z,25nm,1.2s,mb5.1
GRC3 Grafenberg Arr 60.30 315 eP P 08 56 04.7 +0.2
comp=Z,15nm,0.9s,mb5.0
VTS Vitosha 60.37 303 ⇑P P 08 56 05.1 +0.1
VTS Vitosha 60.37 303 ⇑iP P 08 56 05.1 +0.1
VTS Vitosha 60.37 303 P P 08 56 04.7 -0.3
GROS Grobnik 60.68 311 iP P 08 56 07.2 +0.1
PERS Pernice 60.70 311 iP P 08 56 07.4 +0.2
SOKA Soboth 60.70 311 ⇑iP P 08 56 07.6 +0.4
comp=Z,16nm,1.4s,mb5.0
HGN Heimansgroeve 60.87 320 eP P 08 56 06.4 -1.9
comp=Z,35nm,1.5s,mb5.3
MMB Musomiste 60.91 302 eP P 08 56 08.5 -0.2
MEM Membach 60.97 320 P P 08 56 08.9 -0.1
comp=Z,15nm,1.0s,mb5.1
ABH Alteburg 61.02 318 eP P 08 56 09.2 -0.1
OBKA Obir 61.04 312 iP P 08 56 10.1 +0.6
comp=Z,27nm,0.8s,mb5.4,SNR=13
KBA Koelnbreinsper 61.07 313 ⇓iP P 08 56 10.8 +1.1
comp=Z,27nm,0.8s,mb5.4
MYKA Terra Mystica 61.31 312 ⇓iP P 08 56 11.9 +0.5
comp=Z,28nm,1.0s,mb5.3
RUP Ruppelstein 61.35 318 eP P 08 56 11.6 +0.1
RUP Ruppelstein 61.35 318 eP P 08 56 11.6 +0.1
CSS Prodhromos 61.36 291 eP P 08 56 11.8 -0.1
comp=Z,90nm,1.0s,mb5.8
BCLA Clavier 61.38 320 P P 08 56 11.8 0.0
VISS Visnje 61.49 311 iP P 08 56 12.2 -0.4
BOJS Bojanci 61.55 310 iP P 08 56 11.9 -1.1
WTTA Wattenberg 61.60 314 ⇓iP P 08 56 14.1 +0.8
comp=Z,20nm,0.8s,mb5.3
SNF Seneffe 61.67 320 P P 08 56 13.6 0.0
JAVS Javornik 61.73 311 iP P 08 56 14.9 +0.6
MOTA Moosalm 61.75 314 ⇓iP P 08 56 14.5 +0.2
comp=Z,12nm,0.8s,mb5.0
GIVF Givet 61.82 320 eP P 08 56 13.6 -1.1
GIVF Givet 61.82 320 eP P 08 56 13.6 -1.1
GIVF Givet 61.82 320 eP P 08 56 13.6 -1.1
DOU Dourbes 61.90 320 P P 08 56 15.4 +0.1
comp=Z,13nm,1.9s,mb4.7
BFO Black Forest 62.01 317 eP P 08 56 15.5 -0.5
comp=Z,20nm,1.3s,mb5.1
BFO Black Forest 62.01 317 eP P 08 56 15.5 -0.5
BFO pmax pmax
comp=Z,20nm,1.3s,mb5.1
BFO Black Forest 62.01 317 P P 08 56 16.5 +0.5
comp=Z,85nm,1.6s,mb5.6,SNR=5.8
BAIF Baives 62.07 320 eP P 08 56 15.5 -0.9
comp=Z,39nm,1.1s,mb5.2
BAIF Baives 62.07 320 eP P 08 56 15.5 -0.9
comp=Z,19nm,1.1s,mb5.2
BAIF Baives 62.07 320 eP P 08 56 15.5 -0.9
BAIF pmax pmax
comp=Z,19nm,1.1s,mb5.1
FETA Feichten 62.16 314 ⇓iP P 08 56 17.4 +0.4
comp=Z,23nm,1.3s,mb5.2,SNR=8.3
JCW Jim Creek 62.27 43 P P 08 56 17.8 +0.1
CDF Champ du Feu 62.34 317 eP P 08 56 17.5 -0.7
comp=Z,25nm,1.0s,mb5.0
CDF Champ du Feu 62.34 317 eP P 08 56 17.5 -0.7
comp=Z,12nm,1.0s,mb5.0
CDF Champ du Feu 62.34 317 eP P 08 56 17.5 -0.7
CDF pmax pmax
comp=Z,13nm,1.0s,mb5.0
FELD Feldberg im Sc 62.51 317 eP P 08 56 19.2 -0.2
PAGF Fort de Pagny 62.79 318 eP P 08 56 20.6 -0.6
comp=Z,14nm,1.2s,mb4.7
FFC Flin Flon 62.91 27 eP P 08 56 19.7 -2.2
comp=Z,16nm,0.9s,mb5.1
FFC Flin Flon 62.91 27 iP P 08 56 20.6 -1.4
WRW Wenatchee Ridg 62.94 43 P P 08 56 21.9 -0.3
HINF Hinteralfeld 62.99 317 eP P 08 56 21.6 -1.0
comp=Z,7.9nm,0.6s,mb4.7
HINF Hinteralfeld 62.99 317 eP P 08 56 21.6 -1.0
comp=Z,4.0nm,0.6s,mb4.7
HINF Hinteralfeld 62.99 317 eP P 08 56 21.6 -1.0
HINF pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
E03A Lebam 63.00 45 ⇓P P 08 56 23.2 +0.5
baz=63
HAU Haudompre 63.02 318 eP P 08 56 21.7 -1.1
comp=Z,64nm,1.5s,mb5.2
HAU Haudompre 63.02 318 eP P 08 56 21.7 -1.1
comp=Z,32nm,1.5s,mb5.2
HAU Haudompre 63.02 318 eP P 08 56 21.7 -1.1
HAU pmax pmax
comp=Z,32nm,1.5s,mb5.2
D05A Enumclaw 63.08 44 ⇑P P 08 56 22.8 -0.4
baz=63
MEZF Maizieres J'vi 63.08 319 eP P 08 56 22.5 -0.7
comp=Z,70nm,1.1s,mb5.4
MEZF Maizieres J'vi 63.08 319 eP P 08 56 22.5 -0.7
comp=Z,70nm,1.1s,mb5.7
B08A Colville Reser 63.09 41 ⇑P P 08 56 23.1 -0.1
baz=63
GSM Grass Mountain 63.14 44 P P 08 56 24.0 +0.4
GSM Grass Mountain 63.14 44 P P 08 56 24.0 +0.4
TUE Stuetta 63.15 315 eP P 08 56 23.9 +0.3
comp=Z,36nm,1.3s,mb5.3
SFTF Sexfontaines 63.33 319 eP P 08 56 23.9 -0.9
comp=Z,139nm,1.4s,mb5.6
SFTF Sexfontaines 63.33 319 eP P 08 56 23.9 -0.9
comp=Z,139nm,1.4s,mb5.9
ETW Entiat 63.35 43 P P 08 56 24.8 -0.2
LON Longmire 63.51 44 eP P 08 56 26.2 +0.2
comp=Z,10nm,0.9s,mb4.9
LON Longmire 63.51 44 eP P 08 56 26.2 +0.2
LON pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
TBM Table Mountain 63.62 43 P P 08 56 26.6 -0.1
A12A Yaak River Ran 63.91 39 ⇓P P 08 56 29.0 +0.4
baz=64,SNR=15
C09A Chrisman Ranch 63.94 41 ⇑P P 08 56 28.7 -0.1
baz=64
NEW Newport 63.96 40 ⇓P P 08 56 29.0 0.0
baz=64,SNR=5.8
NEW Newport 63.96 40 eP P 08 56 29.1 +0.1
comp=Z,31nm,1.8s,mb5.0
NEW Newport 63.96 40 eP P 08 56 29.1 +0.1
NEW pmax pmax
comp=Z,31nm,1.8s
OD2 Odessa Site #2 64.13 42 P P 08 56 29.8 -0.3
CABF La Chapelle 64.28 317 eP P 08 56 30.4 -0.7
comp=Z,34nm,1.4s,mb4.9
CABF La Chapelle 64.28 317 eP P 08 56 30.4 -0.7
comp=Z,17nm,1.4s,mb4.9
CABF La Chapelle 64.28 317 eP P 08 56 30.4 -0.7
CABF pmax pmax
comp=Z,17nm,1.4s,mb4.9
A13A Flathead Natio 64.33 38 ⇑P P 08 56 31.8 +0.4
baz=64
D08A Wollman Farm, 64.33 42 ⇓P P 08 56 31.3 -0.1
baz=64,SNR=12
WALA Waterton Lakes 64.39 38 eP P 08 56 31.6 -0.2
comp=Z,0.6nm,0.9s,mb3.6
E07A Sunnyside 64.41 43 ⇓P P 08 56 31.9 -0.1
baz=64,SNR=6.6
G04A Mulino 64.53 45 ⇓P P 08 56 33.2 +0.4
baz=64,SNR=7.0
LOR Lormes 64.55 319 eP P 08 56 31.5 -1.4
comp=Z,76nm,1.2s,mb5.3
LOR Lormes 64.55 319 eP P 08 56 31.5 -1.4
comp=Z,38nm,1.2s,mb5.3
LOR Lormes 64.55 319 eP P 08 56 31.5 -1.4
LOR pmax pmax
comp=Z,38nm,1.2s,mb5.3
A14A Double T Ranch 64.63 37 ⇓P P 08 56 33.3 -0.1
baz=64,SNR=15
C11A Tepee Creek (N 64.63 40 ⇓P P 08 56 33.3 -0.1
baz=64
RSW Rattlesnake Hi 64.64 43 eP P 08 56 33.9 +0.4
HAWA Hanford 64.67 43 eP P 08 56 33.7 0.0
comp=Z,14nm,0.9s,mb5.0
E08A Dider Farm, El 64.76 42 ⇓P P 08 56 34.2 -0.1
baz=64
FLN La Foliniere 64.78 322 eP P 08 56 32.9 -1.5
comp=Z,73nm,0.9s,mb5.4
FLN La Foliniere 64.78 322 eP P 08 56 32.9 -1.5
comp=Z,36nm,0.9s,mb5.4
FLN La Foliniere 64.78 322 eP P 08 56 32.9 -1.5
FLN pmax pmax
comp=Z,36nm,0.9s,mb5.4
LDF La Druitiere 64.81 322 eP P 08 56 33.0 -1.5
comp=Z,35nm,0.6s,mb5.2
LDF La Druitiere 64.81 322 eP P 08 56 33.0 -1.5
comp=Z,18nm,0.6s,mb5.3
LDF La Druitiere 64.81 322 eP P 08 56 33.0 -1.5
LDF pmax pmax
comp=Z,18nm,0.6s,mb5.3
SSF Saint Saulge 64.85 319 eP P 08 56 33.6 -1.2
comp=Z,52nm,1.2s,mb5.1
SSF Saint Saulge 64.85 319 eP P 08 56 33.6 -1.2
comp=Z,26nm,1.2s,mb5.1
SSF Saint Saulge 64.85 319 eP P 08 56 33.6 -1.2
SSF pmax pmax
comp=Z,26nm,1.2s,mb5.1
A15A Johnson Ranch, 64.85 37 ⇓P P 08 56 34.4 -0.5
baz=65
AQU L'Aquila 64.89 310 eP P 08 56 35.9 +0.7
comp=Z,54nm,1.0s,mb5.5
AQU L'Aquila 64.89 310 eP P 08 56 35.9 +0.7
AQU pmax pmax
comp=Z,55nm,1.0s,mb5.5
F07A Phinny Hill Vi 64.94 43 ⇑P P 08 56 35.7 +0.3
baz=65,SNR=5.5
LPL La Plagne 64.96 316 eP P 08 56 35.6 0.0
comp=Z,46nm,1.1s,mb5.1
LPL La Plagne 64.96 316 eP P 08 56 35.6 0.0
comp=Z,23nm,1.1s,mb5.1
LPL La Plagne 64.96 316 eP P 08 56 35.6 0.0
LPL pmax pmax
comp=Z,23nm,1.1s,mb5.1
LPG La Plagne 64.97 316 eP P 08 56 35.7 +0.1
comp=Z,69nm,1.2s,mb5.3
LPG La Plagne 64.97 316 eP P 08 56 35.7 +0.1
comp=Z,35nm,1.2s,mb5.3
LPG La Plagne 64.97 316 eP P 08 56 35.7 +0.1
LPG pmax pmax
comp=Z,35nm,1.2s,mb5.3
C12B Naegeli Ranch, 65.01 39 ⇑P P 08 56 36.6 +0.7
baz=65,SNR=26
E09A Wood Farm, Sta 65.08 42 ⇑P P 08 56 35.7 -0.6
baz=65,SNR=5.6
SMF Signal de Mont 65.08 318 eP P 08 56 35.1 -1.3
comp=Z,64nm,1.1s,mb5.2
SMF Signal de Mont 65.08 318 eP P 08 56 35.1 -1.3
comp=Z,32nm,1.1s,mb5.3
SMF Signal de Mont 65.08 318 eP P 08 56 35.1 -1.3
SMF pmax pmax
comp=Z,32nm,1.1s,mb5.3
H04A Detroit Lake 65.08 46 ⇑P P 08 56 36.4 0.0
baz=65
BSMT Bassoo Peak 65.13 39 eP P 08 56 37.0 +0.4
AVF Avril sur Loir 65.14 319 eP P 08 56 35.4 -1.3
comp=Z,38nm,1.2s,mb5.0
AVF Avril sur Loir 65.14 319 eP P 08 56 35.4 -1.3
comp=Z,19nm,1.3s,mb5.0
AVF Avril sur Loir 65.14 319 eP P 08 56 35.4 -1.3
AVF pmax pmax
comp=Z,19nm,1.3s,mb5.0
B14A Marquette Ranc 65.21 38 ⇓P P 08 56 37.1 0.0
baz=65,SNR=16
GRR Gorron 65.23 322 eP P 08 56 35.9 -1.4
comp=Z,57nm,0.9s,mb5.3
GRR Gorron 65.23 322 eP P 08 56 35.9 -1.4
comp=Z,28nm,0.9s,mb5.3
GRR Gorron 65.23 322 eP P 08 56 35.9 -1.4
GRR pmax pmax
comp=Z,28nm,0.9s,mb5.3
A16A West Butte Ran 65.25 36 ⇑P P 08 56 36.7 -0.7
baz=65
C13A Hot Springs 65.35 39 P P 08 56 38.5 +0.4
baz=65,SNR=13
YBMT Yellow Bay 65.39 38 eP P 08 56 38.6 +0.3
JTMT Jette 65.39 39 eP P 08 56 38.6 +0.3
B15A Bradely Ranch, 65.49 37 ⇓P P 08 56 37.6 -1.3
baz=65,SNR=5.4
BGF Bois d'Agland 65.52 319 eP P 08 56 37.9 -1.3
BGF Bois d'Agland 65.52 319 eP P 08 56 37.9 -1.3
BGF Bois d'Agland 65.52 319 eP P 08 56 37.9 -1.3
A17A Triple J Farms 65.54 36 ⇓P P 08 56 38.6 -0.7
baz=65
C14A Swan Lake 65.56 38 ⇓P P 08 56 39.9 +0.4
baz=65
LNOR Lincton Mounta 65.57 42 eP P 08 56 39.6 +0.1
comp=Z,6.7nm,1.1s,mb4.6
LNOR Lincton Mounta 65.57 42 eP P 08 56 39.6 +0.1
LNOR pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
MBDF Montbardon 65.61 315 eP P 08 56 38.9 -0.9
comp=Z,15nm,0.7s,mb4.8
MBDF Montbardon 65.61 315 eP P 08 56 38.9 -0.9
comp=Z,7.5nm,0.7s,mb4.8
MBDF Montbardon 65.61 315 eP P 08 56 38.9 -0.9
MBDF pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
D12A Red Ives Fores 65.62 40 ⇑P P 08 56 40.1 +0.3
baz=65,SNR=14
SWMT Swartz Lake 65.70 39 eP P 08 56 40.7 +0.4
KEBM Edson Butte 65.73 48 eP P 08 56 40.6 0.0
comp=Z,75nm,1.0s,mb5.7
PLDF La Plantade 65.74 318 eP P 08 56 40.4 -0.2
PLDF La Plantade 65.74 318 eP P 08 56 40.4 -0.2
PLDF La Plantade 65.74 318 eP P 08 56 40.4 -0.2
CUC Castrocucco 65.78 306 eP P 08 56 40.1 -0.8
comp=Z,9.7nm,1.0s,mb4.8
ORIF Oris-en-Rattie 65.79 316 eP P 08 56 40.4 -0.5
comp=Z,16nm,0.8s,mb4.8
ORIF Oris-en-Rattie 65.79 316 eP P 08 56 40.4 -0.5
comp=Z,7.8nm,0.8s,mb4.8
ORIF Oris-en-Rattie 65.79 316 eP P 08 56 40.4 -0.5
ORIF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
G08A Pilot Rock 65.81 43 ⇑P P 08 56 41.3 +0.2
baz=66,SNR=9.4
A18A Metzger Ranch, 65.84 35 P P 08 56 40.5 -0.7
baz=66,SNR=8.7
AGO Saint Agoulin 65.85 319 eP P 08 56 41.1 -0.2
AGO Saint Agoulin 65.85 319 eP P 08 56 41.1 -0.2
F10A Beach Ranch, E 65.87 42 ⇑P P 08 56 42.0 +0.5
baz=66,SNR=26
D13A Huson 65.90 39 P P 08 56 41.9 +0.3
baz=66,SNR=14
SGMF Saint Gilles 65.91 323 eP P 08 56 40.8 -0.9
comp=Z,96nm,1.1s,mb5.4
SGMF Saint Gilles 65.91 323 eP P 08 56 40.8 -0.9
comp=Z,48nm,1.1s,mb5.4
SGMF Saint Gilles 65.91 323 eP P 08 56 40.8 -0.9
SGMF pmax pmax
comp=Z,48nm,1.1s,mb5.4
SAOF Saorge 65.92 314 eP P 08 56 40.2 -1.6
SAOF Saorge 65.92 314 eP P 08 56 40.2 -1.6
SAOF Saorge 65.92 314 eP P 08 56 40.2 -1.6
C15A Salmond Ranch, 65.94 38 ⇑P P 08 56 41.9 +0.1
baz=66
AUTN L'Aution 65.97 315 eP P 08 56 42.8 +0.7
AUTN L'Aution 65.97 315 eP P 08 56 42.8 +0.7
AUTN L'Aution 65.97 315 eP P 08 56 42.8 +0.7
TCF Toulx Ste Croi 65.98 319 eP P 08 56 41.1 -1.0
comp=Z,15nm,0.8s,mb4.8
TCF Toulx Ste Croi 65.98 319 eP P 08 56 41.1 -1.0
comp=Z,7.7nm,0.8s,mb4.8
TCF Toulx Ste Croi 65.98 319 eP P 08 56 41.1 -1.0
TCF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
TOUF Mont Tournerai 66.02 315 eP P 08 56 41.3 -1.2
TOUF Mont Tournerai 66.02 315 eP P 08 56 41.3 -1.2
TOUF Mont Tournerai 66.02 315 eP P 08 56 41.3 -1.2
ROSF Rostrenen 66.07 324 eP P 08 56 41.4 -1.3
ROSF Rostrenen 66.07 324 eP P 08 56 41.4 -1.3
ROSF Rostrenen 66.07 324 eP P 08 56 41.4 -1.3
SBF Sospel 66.07 314 eP P 08 56 42.0 -0.8
SBF Sospel 66.07 314 eP P 08 56 42.0 -0.8
SBF Sospel 66.07 314 eP P 08 56 42.0 -0.8
B17A L&G Farms, Che 66.08 36 ⇑P P 08 56 42.7 -0.1
baz=66,SNR=21
LUCF Luceram 66.08 315 eP P 08 56 43.1 +0.2
LUCF Luceram 66.08 315 eP P 08 56 43.1 +0.2
E12A Beaver Dam Sad 66.09 40 ⇑P P 08 56 43.3 +0.5
baz=66
SLMT Seeley Lake 66.10 38 eP P 08 56 43.4 +0.4
MVIF Mont Vial 66.16 315 eP P 08 56 43.4 +0.1
MVIF Mont Vial 66.16 315 eP P 08 56 43.4 +0.1
MVIF Mont Vial 66.16 315 eP P 08 56 43.4 +0.1
A19A Klindworth Far 66.18 34 ⇓P P 08 56 43.0 -0.4
baz=66,SNR=11

D14A **Greenough** 66.23 39 P P 08 56 44.3 +0.5
baz=66,SNR=45
VIVF **Saint-Julien-I** 66.30 317 eP P 08 56 43.6 -0.6
comp=Z,83nm,1.5s,mb5.2
VIVF **Saint-Julien-I** 66.30 317 eP P 08 56 43.6 -0.6
comp=Z,42nm,1.5s,mb5.2
VIVF **Saint-Julien-I** 66.30 317 eP P 08 56 43.6 -0.6
VIVF pmax pmax
comp=Z,42nm,1.5s,mb5.2
MSO **Missoula** 66.30 39 P P 08 56 44.7 +0.4
baz=66,SNR=18
MSO **Missoula** 66.30 39 eP P 08 56 44.6 +0.4
comp=Z,11nm,0.9s,mb4.9
B18A **Beardsley Farm** 66.32 35 ⇑P P 08 56 43.8 -0.5
baz=66,SNR=17
QUIF **Quistinic** 66.41 324 eP P 08 56 43.4 -1.5
comp=Z,84nm,1.0s,mb5.4
QUIF **Quistinic** 66.41 324 eP P 08 56 43.4 -1.5
comp=Z,42nm,1.0s,mb5.4
QUIF **Quistinic** 66.41 324 eP P 08 56 43.4 -1.5
QUIF pmax pmax
comp=Z,42nm,1.0s,mb5.4
CHMT **Chamberlain Mo** 66.47 38 eP P 08 56 45.6 +0.3
A20A **Cobblestone Ra** 66.47 34 P P 08 56 45.0 -0.3
baz=66,SNR=17
LBL **Lubilhac** 66.50 318 eP P 08 56 41.5 -4.0
LBL **Lubilhac** 66.50 318 eP P 08 56 41.5 -4.0
LBL **Lubilhac** 66.50 318 eP P 08 56 41.5 -4.0
HUMO **Hull Mountain** 66.52 47 eP P 08 56 46.6 +0.9
comp=Z,6.5nm,0.7s,mb4.8
MFF **Saint Martin d** 66.54 321 eP P 08 56 44.8 -0.9
comp=Z,64nm,1.0s,mb5.3
MFF **Saint Martin d** 66.54 321 eP P 08 56 44.8 -0.9
comp=Z,32nm,1.0s,mb5.3
MFF **Saint Martin d** 66.54 321 eP P 08 56 44.8 -0.9
MFF pmax pmax
comp=Z,32nm,1.0s,mb5.3
E13A **Victor** 66.55 39 ⇓P P 08 56 46.2 +0.4
baz=66,SNR=28
PGF **Pioggiola** 66.55 313 eP P 08 56 45.1 -0.8
comp=Z,19nm,0.9s,mb4.8
PGF **Pioggiola** 66.55 313 eP P 08 56 45.1 -0.8
comp=Z,9.4nm,0.9s,mb4.8
PGF **Pioggiola** 66.55 313 eP P 08 56 45.1 -0.8
PGF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
D15A **Lincoln** 66.60 38 P P 08 56 46.5 +0.3
baz=66,SNR=6.3
I07A **Izee** 66.63 44 P P 08 56 47.2 +0.8
baz=66,SNR=19
FRF **La Foret Royal** 66.64 315 eP P 08 56 45.3 -1.1
comp=Z,28nm,1.1s,mb4.9
FRF **La Foret Royal** 66.64 315 eP P 08 56 45.3 -1.1
comp=Z,14nm,1.1s,mb4.9
FRF **La Foret Royal** 66.64 315 eP P 08 56 45.3 -1.1
FRF pmax pmax
comp=Z,14nm,1.1s,mb4.9
EGMT **Eagleton** 66.65 36 eP P 08 56 46.0 -0.4
comp=Z,19nm,1.3s,mb5.0
C17A **Wharram Farm,** 66.67 36 ⇓P P 08 56 46.2 -0.4
baz=66,SNR=9.8
A21A **Bergtoll Ranch** 66.68 33 P P 08 56 45.9 -0.7
baz=66,SNR=6.2
SMRF **Simiane la Rot** 66.70 316 eP P 08 56 46.1 -0.7
comp=Z,42nm,1.3s,mb5.0
SMRF **Simiane la Rot** 66.70 316 eP P 08 56 46.1 -0.7
comp=Z,42nm,1.3s,mb5.3
BMO **Blue Mountains** 66.80 42 eP P 08 56 47.6 +0.2
comp=Z,25nm,1.3s,mb5.1
E14A **Clinton** 66.82 39 ⇓P P 08 56 48.0 +0.5
baz=66,SNR=23
LMR **La Mourre** 66.88 315 eP P 08 56 47.0 -1.0
LMR **La Mourre** 66.88 315 eP P 08 56 47.0 -1.0
LMR **La Mourre** 66.88 315 eP P 08 56 47.0 -1.0
D16A **Dana Ranch, Ca** 66.94 37 ⇑P P 08 56 48.1 -0.2
baz=67
A22A **Carney Farms,** 66.98 33 ⇑P P 08 56 47.6 -0.8
baz=67,SNR=7.7
F13A **Darby** 67.07 40 ⇓P P 08 56 49.2 +0.1
baz=67
E15A **Deer Lodge** 67.10 38 ⇑P P 08 56 49.5 +0.2
baz=67,SNR=10
D17A **Six Diamond Ra** 67.12 37 ⇓P P 08 56 48.7 -0.7
baz=67
HRY **Holter Researc** 67.12 38 eP P 08 56 49.5 +0.1
comp=Z,10nm,0.6s,mb5.0
C19A **Slack Wire Ran** 67.13 35 ⇑P P 08 56 48.5 -1.0
baz=67
B21A **Ellsworth Farm** 67.15 34 ⇓P P 08 56 49.4 -0.2
baz=67,SNR=5.2
CEL **Celeste** 67.17 305 eP P 08 56 48.8 -1.1
comp=Z,24nm,0.9s,mb5.2
CAF **Calviac** 67.20 319 eP P 08 56 49.6 -0.4
CAF **Calviac** 67.20 319 eP P 08 56 49.6 -0.4
CAF **Calviac** 67.20 319 eP P 08 56 49.6 -0.4
K05A **Summer Lake** 67.24 46 ⇓P P 08 56 51.4 +1.1
baz=67,SNR=12
LASF **Ste Croix** 67.27 317 eP P 08 56 50.4 0.0
comp=Z,112nm,1.6s,mb5.3
LASF **Ste Croix** 67.27 317 eP P 08 56 50.4 0.0
G12A **Big Creek, Yel** 67.28 41 ⇑P P 08 56 50.2 -0.3
baz=67,SNR=14
E16A **East Helena** 67.33 38 P P 08 56 50.6 -0.2
baz=67,SNR=17
YBH **Yreka Blue Hor** 67.35 48 eP P 08 56 51.9 +0.9
comp=Z,10nm,1.0s,mb4.8
YBH **Yreka Blue Hor** 67.35 48 eP P 08 56 51.9 +0.9
YBH pmax pmax
comp=Z,10.0nm,1.0s
D18A **Linhart Farms,** 67.37 36 ⇓P P 08 56 51.0 0.0
baz=67,SNR=12
C20A **Veseth Ranch,** 67.48 35 ⇓P P 08 56 51.2 -0.5
baz=67,SNR=17
B22A **Reddig Ranch S** 67.57 33 ⇑P P 08 56 51.7 -0.5
baz=67
A24A **Westby** 67.60 31 ⇓P P 08 56 52.0 -0.4
baz=67,SNR=8.2
J08A **Circle Bar Ran** 67.64 44 ⇓P P 08 56 53.6 +0.9
baz=67,SNR=20
F15A **Butte** 67.66 39 P P 08 56 53.3 +0.4
baz=67,SNR=9.4
C21A **Desert Coulee** 67.66 34 ⇓P P 08 56 52.3 -0.5
baz=67,SNR=6.3
E17A **Martinsdale** 67.67 37 P P 08 56 53.2 +0.3
baz=67,SNR=14
D19A **Cripps Ranch,** 67.69 35 P P 08 56 52.9 -0.1
baz=67,SNR=18
LRM **Limekiln Ridge** 67.69 39 eP P 08 56 53.4 +0.3
G13A **Cobalt** 67.70 40 ⇑P P 08 56 52.3 -0.8
baz=67,SNR=7.9
G14A **Jackson** 67.85 39 ⇓P P 08 56 54.3 +0.3
baz=68,SNR=16
E18A **Harlowton** 67.89 36 ⇑P P 08 56 54.4 +0.2
baz=68,SNR=7.8
DGMT **Dagmar** 67.95 32 ⇓P P 08 56 53.7 -0.9
baz=68,SNR=8.5
DGMT **Dagmar** 67.95 32 eP P 08 56 53.9 -0.8
comp=Z,38nm,1.1s,mb5.3
H12A **Diamond D Ranc** 67.95 41 ⇓P P 08 56 53.7 -1.0
baz=68,SNR=6.4
D20A **Manuel Ranch,** 67.99 35 ⇑P P 08 56 54.5 -0.4
baz=68,SNR=12
F16A **Kennard Place,** 68.00 38 ⇑P P 08 56 55.4 +0.4
baz=68,SNR=20
DLMT **Dillon** 68.04 39 eP P 08 56 55.8 +0.6
comp=Z,35nm,0.9s,mb5.4
C22A **Vida** 68.10 33 ⇓P P 08 56 54.7 -0.9
baz=68,SNR=10.0
BOZ **Bozeman (W)** 68.12 38 ⇑P P 08 56 56.0 +0.2
baz=68,SNR=14
BOZ **Bozeman (W)** 68.12 38 eP P 08 56 56.2 +0.4
comp=Z,6.4nm,0.8s,mb4.7
BOZ **Bozeman (W)** 68.12 38 eP P 08 56 56.2 +0.4
BOZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
H13A **Challis** 68.16 40 ⇑P P 08 56 54.9 -1.1
baz=68,SNR=15
MOD **Modoc** 68.17 46 eP P 08 56 56.7 +0.6
comp=Z,24nm,1.0s,mb5.2
F17A **Fitzpatrick Pl** 68.22 37 ⇓P P 08 56 56.7 +0.3
baz=68,SNR=11
G15A **Dillon** 68.25 39 P P 08 56 57.1 +0.6
baz=68,SNR=54
C23A **Lambert** 68.26 33 ⇑P P 08 56 56.3 -0.3
baz=68,SNR=10
E19A **Rath Farm, Rou** 68.34 36 ⇓P P 08 56 56.6 -0.6
baz=68,SNR=7.6

WVOR **Wild Horse Val** 68.36 44 eP P 08 56 57.7 +0.3
comp=Z,14nm,0.9s,mb5.0
WVOR **Wild Horse Val** 68.36 44 eP P 08 56 57.7 +0.4
WVOR pmax pmax
comp=Z,14nm,0.9s,mb5.0
D21A **La Casta Ranch** 68.37 34 ⇑P P 08 56 56.3 -1.0
baz=68,SNR=12
SCHQ **Schefferville** 68.38 6 P P 08 56 57.0 -0.2
comp=Z,19nm,0.9s,mb5.2,baz=9.2,slow=6.2,SNR=11
SCHQ **Schefferville** 68.38 6 P P 08 56 57.0 -0.2
WDC **Whiskeytown Da** 68.39 48 eP P 08 56 57.5 0.0
comp=Z,17nm,1.0s,mb5.0
WDC **Whiskeytown Da** 68.39 48 eP P 08 56 57.5 0.0
WDC pmax pmax
comp=Z,17nm,1.0s,mb5.0
MCMT **McKenzie Canyo** 68.42 39 eP P 08 56 58.2 +0.5
comp=Z,13nm,0.7s,mb5.1
H14A **Leadore** 68.42 40 P P 08 56 57.9 +0.2
baz=68,SNR=18
G16A **Moss Hill, Enn** 68.43 38 ⇑P P 08 56 58.2 +0.5
baz=68
I12A **Atlanta** 68.51 41 P P 08 56 58.8 +0.6
baz=68,SNR=34
MTLF **Montolieu** 68.51 318 eP P 08 56 58.1 -0.1
comp=Z,32nm,1.3s,mb4.8
MTLF **Montolieu** 68.51 318 eP P 08 56 58.1 -0.1
comp=Z,16nm,1.3s,mb4.8
MTLF **Montolieu** 68.51 318 eP P 08 56 58.1 -0.1
MTLF pmax pmax
comp=Z,16nm,1.3s,mb4.8
ULM **Lac du Bonnet** 68.52 26 P P 08 56 55.9 -2.2
comp=Z,11nm,0.8s,mb4.8,baz=326,slow=4.8,SNR=6.6
ULM LR LR 09 24 57.4
comp=Z,208nm,19.5s,MS4.4,baz=236,slow=34
ULM **Lac du Bonnet** 68.52 26 P P 08 56 55.9 -2.2
ULM LR LR 09 24 57.4
ULM **Lac du Bonnet** 68.52 26 P P 08 56 55.9 -2.2
E20A **Meyer Farm, Mu** 68.52 35 P P 08 56 58.1 -0.1
baz=68,SNR=6.8
F18A **Big Timber** 68.53 37 ⇑P P 08 56 58.4 +0.1
baz=68,SNR=6.4
D22A **Cohagen** 68.55 34 ⇑P P 08 56 57.9 -0.4
baz=68,SNR=15
MFID **Camas Ranch** 68.58 42 ⇑P P 08 56 58.7 0.0
baz=68,SNR=17
MFID **Camas Ranch** 68.58 42 eP P 08 56 58.8 +0.1
comp=Z,14nm,0.9s,mb4.9
KIPM **Iron Peak** 68.65 49 eP P 08 56 59.4 +0.2
comp=Z,27nm,1.1s,mb5.1
GCMT **Greycliff** 68.65 37 eP P 08 56 59.4 +0.3
comp=Z,3.2nm,0.7s,mb4.4
H15A **Lima** 68.68 39 ⇑P P 08 56 60.0 +0.7
baz=68,SNR=42
G17A **Pierce Place,** 68.71 38 ⇓P P 08 57 00.3 +0.8
baz=68,SNR=8.7
C24A **Savage** 68.73 32 ⇑P P 08 56 59.4 -0.2
baz=68
I13A **Wildhorse Cree** 68.77 41 ⇑P P 08 57 00.3 +0.4
baz=68,SNR=39
E21A **Keefer Ranch,** 68.81 35 ⇓P P 08 56 59.9 -0.2
baz=68
D23A **Lindsay** 68.82 33 ⇑P P 08 56 59.8 -0.3
baz=68,SNR=10
F19A **Roth Farm, Mol** 68.83 36 ⇓P P 08 57 00.2 0.0
baz=68,SNR=11
QLMT **Earthquake Lak** 68.91 38 eP P 08 57 01.4 +0.7
HLID **Hailey** 68.97 41 P P 08 57 01.6 +0.5
baz=69,SNR=35
HLID **Hailey** 68.97 41 eP P 08 57 01.5 +0.4
comp=Z,8.9nm,0.8s,mb4.8
I14A **Mackay** 68.99 40 ⇑P P 08 57 02.1 +0.9
baz=69,SNR=7.7
EJON **La Jonquera** 69.03 317 P P 08 57 01.8 +0.3
comp=Z,11nm,0.9s,mb4.8
H16A **Russell Place,** 69.08 38 ⇑P P 08 57 02.5 +0.8
baz=69,SNR=20
D24A **Glendive** 69.13 33 ⇓P P 08 57 02.3 +0.3
baz=69,SNR=15
J13A **Cove Ranch, Pi** 69.20 41 ⇓P P 08 57 03.3 +0.8
baz=69,SNR=16
YMR **Madison River** 69.21 38 eP P 08 57 03.4 +0.8
comp=Z,25nm,1.3s,mb5.0
E22A **Miles City** 69.25 34 ⇑P P 08 57 02.1 -0.7
baz=69,SNR=6.4
I15A **Monteview** 69.27 39 ⇑P P 08 57 03.3 +0.3
baz=69,SNR=8.8
RLMT **Red Lodge** 69.37 37 ⇑P P 08 57 04.2 +0.6
baz=69,SNR=18
RLMT **Red Lodge** 69.37 37 eP P 08 57 03.8 +0.2
comp=Z,29nm,1.1s,mb5.1
E23A **Ismay** 69.40 33 ⇑P P 08 57 03.0 -0.7
baz=69,SNR=9.1
YFT **Old Faithful** 69.44 38 eP P 08 57 05.4 +1.4
comp=Z,15nm,0.9s,mb4.9
EPF **Esparros** 69.46 319 eP P 08 57 03.2 -1.0
EPF **Esparros** 69.46 319 eP P 08 57 03.2 -1.0
EPF **Esparros** 69.46 319 eP P 08 57 03.2 -1.0
J14A **Carey** 69.50 41 ⇑P P 08 57 05.4 +1.0
baz=69,SNR=16
H17A **Grant Village** 69.58 38 ⇑P P 08 57 05.0 +0.1
baz=69
G20A **Bridger** 69.63 36 ⇓P P 08 57 04.2 -0.9
baz=69,SNR=11
H18A **Shoshone NF, C** 69.64 37 ⇓P P 08 57 05.6 +0.4
baz=69,SNR=9.2
I16A **Newdale** 69.73 39 ⇑P P 08 57 06.7 +0.9
baz=70,SNR=15
CSOR **Sort** 69.74 318 P P 08 57 06.6 +0.7
comp=Z,55nm,1.3s,mb5.3
KAKA **Kakadu** 69.76 170 eP P 08 57 05.0 -1.2
comp=Z,12nm,0.8s,mb4.9
KAKA **Kakadu** 69.76 170 eP P 08 57 04.8 -1.3
comp=Z,47nm,0.8s,mb5.5
CFON **Fontmartina** 69.79 317 P P 08 57 05.6 -0.6
MDND **Maddock** 69.79 29 ⇓P P 08 57 05.8 -0.3
baz=70
FLWY **Flagg Ranch** 69.81 38 eP P 08 57 07.3 +1.0
comp=Z,12nm,0.9s,mb4.8
J15A **Blackfoot** 69.81 40 P P 08 57 07.0 +0.7
baz=70,SNR=6.9
EBIE **Bielsa** 69.83 319 P P 08 57 06.9 +0.5
comp=Z,35nm,1.4s,mb5.1
H19A **Powell** 69.87 37 ⇓P P 08 57 06.5 -0.1
baz=70
OHCM **Honcut** 69.87 48 eP P 08 57 06.4 -0.3
IMW **Indian Meadow** 69.90 38 eP P 08 57 07.8 +0.9
comp=Z,10nm,1.2s,mb4.6
ETSF **Etsaut** 69.90 319 eP P 08 57 07.2 +0.3
comp=Z,53nm,1.3s,mb5.0
ETSF **Etsaut** 69.90 319 eP P 08 57 07.2 +0.3
comp=Z,26nm,1.3s,mb5.0
ETSF **Etsaut** 69.90 319 eP P 08 57 07.2 +0.3
ETSF pmax pmax
comp=Z,26nm,1.3s,mb5.0
I17A **Pilgrim Ck.** 70.00 38 ⇓P P 08 57 08.4 +0.9
baz=70,SNR=6.8
DCID1 **Drake Creek** 70.08 39 eP P 08 57 09.3 +1.4
comp=Z,18nm,0.9s,mb5.0
MOOW **Moose Ponds** 70.09 38 eP P 08 57 08.7 +0.7
comp=Z,31nm,1.6s,mb5.0
RRI2 **Red Ridge** 70.25 39 eP P 08 57 09.8 +0.8
comp=Z,12nm,1.0s,mb4.8
TPAW **Teton Pass** 70.25 39 eP P 08 57 10.0 +1.0
comp=Z,23nm,1.1s,mb5.0
LOHW **Long Hollow** 70.26 38 eP P 08 57 09.7 +0.7
comp=Z,21nm,1.4s,mb4.9
K14A **Jones Ranch, D** 70.30 41 ⇓P P 08 57 10.3 +1.0
baz=70,SNR=34
AGMN **Agassiz Nation** 70.33 26 eP P 08 57 07.5 -1.9
comp=Z,22nm,0.9s,mb5.1
SNOW **Snow King Moun** 70.34 39 eP P 08 57 10.6 +1.0
comp=Z,16nm,1.1s,mb4.9
H20A **Greybull** 70.35 36 ⇑P P 08 57 08.8 -0.8
baz=70,SNR=12
REDW **Red Top Meadow** 70.40 39 eP P 08 57 10.6 +0.8
comp=Z,25nm,1.4s,mb5.0
PAHR **Pah Rah Range** 70.40 47 eP P 08 57 10.6 +0.6
comp=Z,18nm,0.9s,mb5.0
K15A **Arbon** 70.41 40 ⇑P P 08 57 10.9 +1.0
baz=70,SNR=9.5
I19A **Meeteetse** 70.43 37 ⇓P P 08 57 10.0 0.0
baz=70,SNR=7.9
J17A **Brown Place, J** 70.44 39 ⇑P P 08 57 11.0 +0.8
baz=70,SNR=9.1
I18A **Diamond G Ranc** 70.45 38 ⇓P P 08 57 11.0 +0.8
baz=70,SNR=5.3
H21A **Big Horn, Sher** 70.53 35 ⇓P P 08 57 10.7 0.0
baz=70,SNR=9.7

WCN **Washoe City** 70.60 47 ⇓P P 08 57 11.9 +0.7
baz=70,SNR=15
WCN **Washoe City** 70.60 47 eP P 08 57 11.7 +0.5
comp=Z,19nm,1.1s,mb4.9
WCN **Washoe City** 70.60 47 eP P 08 57 11.7 +0.5
WCN pmax pmax
comp=Z,19nm,1.1s,mb4.9
K16A **Soda Springs** 70.61 39 ⇑P P 08 57 11.8 +0.7
baz=70,SNR=10
ELAN **Lanestosa** 70.62 321 P P 08 57 11.7 +0.5
comp=Z,38nm,1.1s,mb5.2
BMN **Battle Mountai** 70.63 45 eP P 08 57 12.0 +0.6
comp=Z,6.7nm,1.1s,mb4.5
BMN **Battle Mountai** 70.63 45 eP P 08 57 12.0 +0.6
BMN pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
L14A **Malta** 70.72 41 ⇓P P 08 57 13.1 +1.2
baz=70,SNR=15
J18A **Kendall Valley** 70.81 38 P P 08 57 12.9 +0.5
baz=70,SNR=13
L15A **Malad City** 71.06 40 ⇓P P 08 57 14.2 +0.3
baz=71,SNR=14
J19A **Crowheart** 71.09 38 P P 08 57 14.6 +0.4
baz=71,SNR=10
HVU **Hansel Valley** 71.11 41 eP P 08 57 15.2 +0.9
comp=Z,6.3nm,0.7s,mb4.7
HVU **Hansel Valley** 71.11 41 eP P 08 57 15.2 +0.9
HVU pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
I21A **Big Trails, Te** 71.18 36 ⇑P P 08 57 14.0 -0.6
baz=71,SNR=7.4
K18A **Toltan Ranch,** 71.31 39 ⇑P P 08 57 15.3 -0.2
baz=71,SNR=11
J20A **Shoshoni** 71.34 37 P P 08 57 16.0 +0.4
baz=71,SNR=12
PD01 **Pinedale Array** 71.35 38 eP P 08 57 15.1 -0.6
PD02 **Pinedale Array** 71.35 38 eP P 08 57 14.6 -1.1
BW06 **Boulder Array** 71.36 38 ⇑P P 08 57 15.2 -0.6
baz=71,SNR=9.4
BW06 **Boulder Array** 71.36 38 eP P 08 57 15.4 -0.4
comp=Z,3.3nm,0.7s,mb4.4
PDAR **Pinedale Array** 71.36 38 P P 08 57 15.2 -0.6
comp=Z,2.8nm,0.5s,mb4.4,baz=25,slow=2.4,SNR=18
PDAR LR LR 09 30 47.3
comp=Z,163nm,18.2s,MS4.3,baz=184,slow=38
PDAR **Pinedale Array** 71.36 38 P P 08 57 15.2 -0.6
PDAR LR LR 09 30 47.3
I22A **9 Mile Ranch,** 71.37 35 ⇑P P 08 57 15.2 -0.5
baz=71
WAKR **Walker** 71.41 47 eP P 08 57 16.7 +0.5
CMB **Columbia Colle** 71.43 48 eP P 08 57 16.3 0.0
comp=Z,5.9nm,0.8s,mb4.6
CMB **Columbia Colle** 71.43 48 eP P 08 57 16.3 +0.1
CMB pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
L17A **Cokeville** 71.50 39 P P 08 57 16.9 +0.2
baz=71,SNR=10
M15A **Larsen Ranch,** 71.51 41 ⇑P P 08 57 17.1 +0.4
baz=71,SNR=7.5
J21A **Lysite** 71.55 36 ⇓P P 08 57 16.5 -0.4
baz=71,SNR=6.0
EYMN **Ely** 71.68 24 eP P 08 57 16.1 -1.4
comp=Z,23nm,0.9s,mb5.1
HWUT **Hardware Ranch** 71.70 40 eP P 08 57 18.4 +0.6
comp=Z,37nm,1.0s,mb5.3
J22A **Midwest** 71.80 36 ⇑P P 08 57 17.1 -1.4
baz=72,SNR=7.3
RSSD **Black Hills** 71.93 34 eP P 08 57 17.8 -1.3
comp=Z,9.7nm,1.1s,mb4.7
RSSD **Black Hills** 71.93 34 eP P 08 57 17.8 -1.3
RSSD pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
NVAR **Mina Array Bea** 71.93 46 P P 08 57 19.8 +0.5
comp=Z,9.2nm,0.9s,mb4.7,baz=305,slow=4.4,SNR=53
NVAR **Mina Array Bea** 71.93 46 P P 08 57 19.8 +0.5
M16A **Huntsville** 71.93 40 P P 08 57 19.5 +0.3
baz=72,SNR=12
M17A **Scullys Gap (B** 72.13 40 ⇓P P 08 57 20.4 0.0
baz=72,SNR=8.8
KEST **Kesra** 72.15 308 P P 08 57 20.5 -0.1
comp=Z,1.5nm,0.6s,mb4.1,baz=294,slow=4.2,SNR=6.0
KEST **Kesra** 72.15 308 P P 08 57 20.5 -0.1
CMAH **Djebel Manchou** 72.21 310 P P 08 57 19.7 -1.3
K21A **Alcova** 72.25 37 ⇓P P 08 57 20.6 -0.5
baz=72,SNR=6.3
ETOR **Torete** 72.26 319 P P 08 57 20.0 -1.2
comp=Z,25nm,1.0s,mb5.1
ETOR **Torete** 72.26 319 P P 08 57 20.0 -1.2
ETOR pmax pmax
comp=Z,25nm,1.0s,mb5.1
CAEH **'Ain El Ouahch** 72.31 311 P P 08 57 21.1 -0.5
N16A **Rees Ranch, Co** 72.38 40 ⇑P P 08 57 22.6 +0.7
baz=72,SNR=7.1
MLAC **Mammoth Lakes** 72.40 47 ⇓P P 08 57 23.1 +1.0
baz=72,SNR=5.8
DUG **Dugway** 72.49 42 P P 08 57 23.1 +0.6
baz=72,SNR=14
DUG **Dugway** 72.49 42 eP P 08 57 23.1 +0.5
comp=Z,15nm,1.0s,mb4.9
DUG **Dugway** 72.49 42 eP P 08 57 23.1 +0.5
DUG pmax pmax
comp=Z,15nm,1.0s,mb4.9
COEN **Coen** 72.53 159 eP P 08 57 21.3 -1.6
comp=Z,76nm,1.0s,mb5.6
O15A **The Old Anders** 72.54 41 ⇓P P 08 57 23.6 +0.7
baz=72
N17A **Moffit Pass** 72.54 40 ⇑P P 08 57 22.9 0.0
baz=72
JLU **Jordanelle** 72.62 40 eP P 08 57 24.1 +0.7
comp=Z,23nm,1.4s,mb4.9
CKFL **Kef-Lekhel** 72.69 311 P P 08 57 23.7 -0.1
MTUM **Tungsten Hills** 72.75 47 eP P 08 57 25.2 +1.0
L21A **Rawlins** 72.81 37 P P 08 57 24.5 0.0
baz=72,SNR=6.6
DAU **Daniels Canyon** 72.86 40 eP P 08 57 25.4 +0.6
DAU **Daniels Canyon** 72.86 40 eP P 08 57 25.4 +0.6
P14A **Drum Mountains** 72.93 42 ⇓P P 08 57 25.5 +0.3
baz=73,SNR=8.5
ECHE **Chera** 72.95 318 P P 08 57 25.4 +0.1
comp=Z,29nm,1.3s,mb5.0
ECHE **Chera** 72.95 318 P P 08 57 25.4 +0.1
ECHE pmax pmax
comp=Z,29nm,1.3s,mb5.0
M20A **Sweetwater, Wa** 72.96 38 P P 08 57 25.6 +0.3
baz=73,SNR=8.2
NLU **North Lily Min** 72.97 41 eP P 08 57 26.2 +0.8
comp=Z,23nm,1.1s,mb5.0
PBRG **Braganca** 73.00 323 eP P 08 57 25.6 0.0
comp=Z,34nm,1.5s,mb5.0
L22A **Ellis Ranch, M** 73.06 36 P P 08 57 26.1 +0.1
baz=73,SNR=6.9
R11A **Troy Canyon, C** 73.06 45 ⇓P P 08 57 25.9 -0.1
baz=73,SNR=17
MPU **Maple Canyon** 73.08 41 eP P 08 57 26.1 0.0
comp=Z,4.8nm,0.9s,mb4.4
BRSD **Miller** 73.11 30 ⇓P P 08 57 25.6 -0.6
baz=73,SNR=11
GUD **Guadarrama** 73.16 321 P P 08 57 26.2 -0.4
GUD **Guadarrama** 73.16 321 P P 08 57 26.2 -0.3
O17A **Robinson Place** 73.24 40 ⇑P P 08 57 27.7 +0.7
baz=73,SNR=13
Q14A **Sevier Lake (B** 73.38 43 ⇑P P 08 57 28.4 +0.5
baz=73,SNR=15
P16A **Fountain Green** 73.42 41 ⇓P P 08 57 28.9 +0.8
baz=73,SNR=5.5
O18A **Roosevelt** 73.43 40 ⇑P P 08 57 29.0 +0.8
baz=73,SNR=8.5
N20A **Spence Gulch,** 73.53 38 ⇓P P 08 57 29.4 +0.7
baz=73,SNR=12
GRAC **Grapevine Rang** 73.53 47 ⇓P P 08 57 30.0 +1.2
baz=73,SNR=8.8
Q15A **Fillmore** 73.70 42 ⇑P P 08 57 30.1 +0.4
baz=73,SNR=6.8
O19A **Miners Draw (B** 73.71 39 P P 08 57 29.9 +0.1
baz=73,SNR=12
POLO **Lamas de Olo** 73.73 324 eP P 08 57 30.3 +0.4
comp=Z,25nm,1.8s,mb4.8
CWC **Cottonwood Cre** 73.73 47 ⇑P P 08 57 30.6 +0.6
baz=74
R13A **O'Grain Ranch,** 73.83 43 P P 08 57 31.1 +0.6
baz=74,SNR=8.0
N21A **Black Mountain** 73.84 38 ⇑P P 08 57 30.8 +0.2
baz=74,SNR=7.2
TMUT **Trail Mountain** 73.86 41 eP P 08 57 31.4 +0.7
comp=Z,12nm,0.8s,mb4.9
P17A **Butcher Ranch,** 73.88 41 ⇓P P 08 57 31.3 +0.6
baz=74,SNR=8.3

P18A Preston Nutter 73.91 40 ⇑P P 08 57 31.1 +0.1
baz=74
SMMC Simmler 73.92 49 ⇓P P 08 57 31.7 +0.6
baz=74
SPMN St. Paul 73.95 25 ⇑P P 08 57 29.6 -1.5
baz=74,SNR=6.3
ESDC Sonseca Array 73.95 320 P P 08 57 31.5 +0.3
comp=Z,7.1nm,0.7s,mb4.7,baz=19,slow=6.5,SNR=28
ESDC Sonseca Array 73.95 320 P P 08 57 31.1 -0.2
ESLA Sonseca Array 73.95 320 eP P 08 57 31.6 +0.3
comp=Z,2.2nm,0.8s,mb4.1
M24A Cheyenne 74.08 35 ⇓P P 08 57 32.4 +0.4
baz=74,SNR=8.5
N22A Wattenberg Ran 74.16 37 ⇓P P 08 57 32.7 +0.3
baz=74
O20A White River Ci 74.16 38 P P 08 57 32.6 +0.2
baz=74,SNR=14
FURC Furnace Creek, 74.20 46 ⇑P P 08 57 33.2 +0.5
baz=74,SNR=13
PAB San Pablo 74.20 320 eP P 08 57 31.7 -0.9
comp=Z,17nm,1.5s,mb4.8
PAB San Pablo 74.20 320 eP P 08 57 31.7 -1.0
PAB pmax pmax
comp=Z,17nm,1.5s,mb4.8
MSU Marysvale 74.20 42 eP P 08 57 33.5 +0.8
MSU Marysvale 74.20 42 eP P 08 57 33.5 +0.8
Q16A Castle Valley 74.21 41 ⇓P P 08 57 33.3 +0.6
baz=74,SNR=9.5
ISA Isabella 74.25 48 ⇓P P 08 57 32.5 -0.5
baz=74,SNR=7.1
ISA Isabella 74.25 48 eP P 08 57 32.6 -0.4
comp=Z,6.3nm,0.9s,mb4.5
ISA Isabella 74.25 48 eP P 08 57 32.6 -0.4
ISA pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
SRU San Rafael 74.27 41 ⇓P P 08 57 33.1 0.0
baz=74,SNR=5.3
SRU San Rafael 74.27 41 eP P 08 57 33.2 +0.1
comp=Z,10.0nm,1.2s,mb4.6
SRU San Rafael 74.27 41 eP P 08 57 33.2 +0.1
SRU pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
MPMC Manual Prospec 74.30 47 ⇑P P 08 57 33.5 +0.2
baz=74,SNR=15
EVIA Vianos 74.35 319 P P 08 57 34.4 +0.8
comp=Z,5.7nm,0.6s,mb4.7
EVIA Vianos 74.35 319 P P 08 57 34.4 +0.9
EVIA pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
PVIS Viseu 74.36 323 eP P 08 57 34.2 +0.6
comp=Z,36nm,1.8s,mb5.0
ARUT Antelope Range 74.37 43 eP P 08 57 33.3 -0.4
comp=Z,13nm,1.0s,mb4.8
ARUT Antelope Range 74.37 43 eP P 08 57 33.3 -0.4
ARUT pmax pmax
comp=Z,13nm,1.0s,mb4.8
ECSD EROS Data Cent 74.39 29 eP P 08 57 32.5 -1.2
comp=Z,26nm,0.9s,mb5.2
Q18A Rafter H Ranch 74.42 40 ⇓P P 08 57 33.8 -0.2
baz=74,SNR=9.7
R15A Junction 74.43 42 ⇑P P 08 57 34.8 +0.7
baz=74,SNR=11
MTE Manteigas 74.53 323 eP P 08 57 35.0 +0.5
comp=Z,32nm,1.1s,mb5.2
EMUR La Murta 74.58 317 P P 08 57 34.9 -0.1
comp=Z,78nm,1.6s,mb5.4
CCUT Cedar City 74.61 43 eP P 08 57 35.8 +0.7
comp=Z,9.9nm,0.9s,mb4.7
R16A Teasdale 74.66 42 P P 08 57 36.1 +0.8
baz=74,SNR=30
O22A Kremmling 74.70 37 P P 08 57 35.9 +0.3
baz=74,SNR=7.5
FITZ Fitzroy Crossi 74.71 177 eP P 08 57 35.0 -0.7
comp=Z,22nm,0.9s,mb5.1
FITZ Fitzroy Crossi 74.71 177 eP P 08 57 34.8 -0.8
comp=Z,20nm,1.1s,mb5.0
LRMC Laurel Mountai 74.72 48 P P 08 57 36.1 +0.3
baz=74,SNR=20
R17A Hanksville Air 74.82 41 ⇑P P 08 57 35.8 -0.5
baz=74,SNR=13
SHPR Sheep Range 74.83 45 eP P 08 57 37.0 +0.6
Q19A Hogan Spring (74.86 40 ⇓P P 08 57 36.2 -0.3
baz=75,SNR=10
S15A Panguitch 74.87 43 ⇓P P 08 57 38.1 +1.5
baz=75,SNR=17
P21A Newcastle 74.97 38 ⇓P P 08 57 37.8 +0.6
baz=75,SNR=9.9
PCBR Castelo Branco 75.01 323 eP P 08 57 37.4 +0.1
comp=Z,25nm,1.9s,mb4.8
S16A Weppner Ranch, 75.11 42 P P 08 57 38.6 +0.6
baz=75,SNR=24
R18A Canyonlands Na 75.14 40 ⇑P P 08 57 37.6 -0.5
baz=75,SNR=9.8
P22A Eagle 75.14 38 ⇓P P 08 57 38.5 +0.3
baz=75,SNR=9.6
GSC Goldstone 75.23 47 ⇓P P 08 57 38.3 -0.4
baz=75,SNR=9.1
GSC Goldstone 75.23 47 eP P 08 57 38.9 +0.2
comp=Z,12nm,1.0s,mb4.8
GSC Goldstone 75.23 47 eP P 08 57 38.9 +0.2
GSC pmax pmax
comp=Z,12nm,1.0s,mb4.8
EQES Quesada 75.29 319 P P 08 57 39.7 +0.7
ISCO Idaho Springs 75.34 37 ⇓P P 08 57 39.4 +0.2
baz=75,SNR=4.7
ISCO Idaho Springs 75.34 37 eP P 08 57 39.8 +0.6
comp=Z,18nm,1.5s,mb4.8
ISCO Idaho Springs 75.34 37 eP P 08 57 39.8 +0.6
ISCO pmax pmax
comp=Z,18nm,1.5s,mb4.8
PMRV Marv??o 75.35 322 eP P 08 57 39.2 -0.1
comp=Z,15nm,2.0s,mb4.6
U13A Pakoon Wash 75.38 44 ⇓P P 08 57 40.0 +0.5
baz=75,SNR=8.2
SMCO Snowmass 75.45 38 eP P 08 57 40.5 +0.6
comp=Z,31nm,1.4s,mb5.0
R19A Curley Farm, L 75.45 40 ⇓P P 08 57 40.1 +0.2
baz=75,SNR=15
TUQ Turquoise Moun 75.47 46 ⇓P P 08 57 40.7 +0.6
baz=75,SNR=9.2
S17A Black Ridge (B 75.48 41 ⇑P P 08 57 40.3 +0.2
baz=75,SNR=18
PV04 Paradox Valley 75.48 40 eP P 08 57 40.5 +0.4
Q21A Lamborn Mesa, 75.55 39 ⇑P P 08 57 40.8 +0.3
baz=75,SNR=5.0
MWC Mount Wilson 75.66 48 eP P 08 57 41.7 +0.5
comp=Z,24nm,1.3s,mb5.0
MWC Mount Wilson 75.66 48 eP P 08 57 41.7 +0.5
MWC pmax pmax
comp=Z,24nm,1.3s,mb5.0
U14A Mt Trumbull 75.67 44 P P 08 57 41.7 +0.5
baz=75,SNR=7.4
S18A Hurst Farm, Bl 75.72 41 ⇓P P 08 57 41.4 -0.1
baz=76,SNR=14
Q22A Crested Butte, 75.75 38 ⇑P P 08 57 42.0 +0.3
baz=76,SNR=6.5
BFSC Mount Baldy Ra 75.81 48 ⇓P P 08 57 42.4 +0.4
baz=76,SNR=8.7
EBAD Badajoz 75.83 322 P P 08 57 42.3 +0.3
PV01 Paradox Valley 75.83 40 eP P 08 57 42.1 0.0
comp=Z,1µm,1.2s
HEC Hector,Ludlow 75.83 47 ⇓P P 08 57 42.8 +0.6
baz=76,SNR=15
R20A Redvale 75.85 39 P P 08 57 42.5 +0.3
baz=76,SNR=9.3
PESTR Estremoz 75.92 322 eP P 08 57 42.4 -0.2
comp=Z,25nm,1.5s,mb4.9
ECOG Cogollos-Vega 75.94 319 P P 08 57 42.5 -0.2
comp=Z,9.9nm,0.9s,mb4.7
ECOG Cogollos-Vega 75.94 319 P P 08 57 42.5 -0.2
ECOG pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ELUQ Luque 75.94 319 P P 08 57 43.2 +0.4
comp=Z,26nm,1.1s,mb5.1
ELUQ Luque 75.94 319 P P 08 57 43.2 +0.5
ELUQ pmax pmax
comp=Z,26nm,1.1s,mb5.1
PMTG Montargil 75.95 323 eP P 08 57 42.6 -0.2
comp=Z,22nm,1.5s,mb4.9
PMTG Montargil 75.95 323 eLR LR 09 26 42.9
comp=Z,230nm,18.0s
R21A Cimarron 75.98 39 ⇑P P 08 57 43.4 +0.5
baz=76,SNR=12
S19A Harvey Farm, M 75.98 40 ⇑P P 08 57 43.0 0.0
baz=76,SNR=5.7
U15A North Rim 76.00 43 ⇑P P 08 57 43.4 +0.3
baz=76,SNR=11

T17A Navajo Res., N 76.05 42 ⇑P P 08 57 42.6 -0.7
baz=76,SNR=8.3
LDFC Landfair 76.10 46 eP P 08 57 44.3 +0.6
comp=Z,35nm,0.9s,mb5.3
GMRC Granite Mounta 76.15 46 ⇓P P 08 57 44.1 +0.1
baz=76,SNR=8.7
S20A Disappointment 76.18 40 ⇑P P 08 57 44.5 +0.4
baz=76,SNR=12
ERON Agron 76.26 319 P P 08 57 44.2 -0.3
comp=Z,19nm,1.1s,mb4.9
T18A Mexican Hat 76.26 41 ⇑P P 08 57 44.3 -0.3
baz=76,SNR=8.9
ELOJ Sierra Loja 76.27 319 P P 08 57 44.8 +0.2
comp=Z,12nm,1.0s,mb4.8
ELOJ Sierra Loja 76.27 319 P P 08 57 44.8 +0.2
ELOJ pmax pmax
comp=Z,12nm,1.0s,mb4.8
EGUA Guajares 76.33 318 P P 08 57 44.5 -0.4
comp=Z,232nm,1.6s,mb5.9
EGUA Guajares 76.33 318 P P 08 57 44.5 -0.5
EGUA pmax pmax
comp=Z,232nm,1.6s,mb5.9
PBAR Barrancos 76.36 322 eP P 08 57 45.1 0.0
comp=Z,22nm,1.5s,mb4.9
PBAR Barrancos 76.36 322 eLR LR 09 29 59.4
comp=Z,474nm,18.0s
EVO Evora 76.37 322 eP P 08 57 45.0 -0.1
comp=Z,20nm,0.8s,mb4.8
EVO Evora 76.37 322 eP P 08 57 45.3 +0.2
comp=Z,29nm,1.9s,mb4.9
R22A Saguache, Gunn 76.37 38 ⇓P P 08 57 46.1 +1.0
baz=76,SNR=6.3
PMAFR Mafra 76.40 324 eLR LR 09 29 56.0
comp=Z,352nm,18.0s
EVOP Sao Brissos 76.41 323 eP P 08 57 45.0 -0.4
comp=Z,20nm,0.8s,mb5.1
EVOP Sao Brissos 76.41 323 eP P 08 57 45.0 -0.4
EVOP pmax pmax
comp=Z,20nm,0.8s,mb5.1
S21A Coal Bank Pass 76.53 39 P P 08 57 46.5 +0.4
baz=76,SNR=26
V15A Kaibab Nationa 76.58 43 ⇑P P 08 57 47.2 +0.8
baz=76,SNR=14
Q25A Bedland, Calha 76.59 36 ⇑P P 08 57 46.1 -0.2
baz=76,SNR=6.0
EMIN Mina Concepcio 76.60 321 P P 08 57 47.0 +0.6
comp=Z,38nm,1.6s,mb5.1
MVCO Mesa Verde 76.69 40 ⇑P P 08 57 46.2 -0.8
baz=76,SNR=12
MVCO Mesa Verde 76.69 40 eP P 08 57 47.0 0.0
comp=Z,27nm,1.4s,mb5.0
U16A Tuba City 76.69 42 ⇓P P 08 57 47.4 +0.4
baz=76,SNR=15
BELC Belle Mtn. Jos 76.69 47 ⇑P P 08 57 47.3 +0.3
baz=76,SNR=6.4
JFWS Jewell Farm 76.73 24 eP P 08 57 45.8 -1.3
comp=Z,25nm,1.0s,mb5.1
JFWS Jewell Farm 76.73 24 eP P 08 57 45.8 -1.3
JFWS pmax pmax
comp=Z,25nm,1.0s,mb5.1
PBEJ Beja 76.77 322 eP P 08 57 47.8 +0.4
comp=Z,27nm,1.4s,mb5.0
S22A 4UR Ranch, Cre 76.78 38 ⇑P P 08 57 47.2 -0.3
baz=76,SNR=8.0
T19A Beclabito 76.84 41 ⇓P P 08 57 48.2 +0.3
baz=77,SNR=19
PFO Pinyon Flat Ob 76.85 48 ⇑P P 08 57 47.9 -0.1
baz=77,SNR=7.4
PFO Pinyon Flat Ob 76.85 48 eP P 08 57 47.4 -0.6
comp=Z,5.9nm,1.0s,mb4.5
PFO Pinyon Flat Ob 76.85 48 eP P 08 57 47.4 -0.5
PFO pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
IRM Iron Mountain 76.89 46 ⇓P P 08 57 48.9 +0.7
baz=77,SNR=19
PNCL Nicolau / Gran 76.92 323 eP P 08 57 48.4 +0.1
comp=Z,29nm,1.6s,mb5.0
PNCL Nicolau / Gran 76.92 323 eLR LR 09 28 51.3
comp=Z,316nm,18.0s
R24A Sanders Place, 76.92 37 ⇑P P 08 57 48.4 +0.1
baz=77,SNR=5.4
EGRO El Granado 77.09 322 P P 08 57 49.5 +0.3
comp=Z,19nm,0.9s,mb5.0
WRAB Tennant Creek 77.09 169 eP P 08 57 48.0 -1.2
comp=Z,63nm,1.5s,mb5.3
WRAB Tennant Creek 77.09 169 eP P 08 57 48.1 -1.1
WRAB pmax pmax
comp=Z,63nm,1.5s,mb5.3
WRAB Tennant Creek 77.09 169 P P 08 57 48.0 -1.2
comp=Z,132nm,1.4s,mb5.7,SNR=10
WRA Warramunga Arr 77.10 169 P P 08 57 47.4 -1.9
comp=Z,12nm,0.8s,mb4.8,baz=353,slow=6.6,SNR=68
WRA Warramunga Arr 77.10 169 P P 08 57 47.4 -1.9
WRA Warramunga Arr 77.10 169 P P 08 57 47.4 -1.9
WRA pmax pmax
comp=Z,12nm,0.9s
WB2 Warramunga Arr 77.10 169 eP P 08 57 47.9 -1.3
W15A Williams 77.11 44 ⇓P P 08 57 50.4 +1.0
baz=77,SNR=7.0
ESPR Espera 77.12 320 P P 08 57 50.4 +0.9
comp=Z,16nm,0.9s,mb4.9
WUAZ Wupatki 77.15 43 ⇑P P 08 57 49.6 0.0
baz=77,SNR=9.8
WUAZ Wupatki 77.15 43 eP P 08 57 49.9 +0.3
comp=Z,13nm,1.1s,mb4.8
PDMCI Parker Dam,Lak 77.17 46 ⇑P P 08 57 50.0 +0.3
baz=77,SNR=6.4
PCVE Castro Verde 77.19 322 eP P 08 57 50.2 +0.4
comp=Z,42nm,1.0s,mb5.3
PCVE Castro Verde 77.19 322 eLR LR 09 28 37.3
comp=Z,256nm,18.0s
BC3 Big Chuckawall 77.21 47 ⇑P P 08 57 50.5 +0.5
baz=77,SNR=7.6
SDCO Great Sand Dun 77.23 38 ⇑P P 08 57 50.3 +0.2
baz=77,SNR=7.1
U19A Dine' College, 77.25 41 ⇑P P 08 57 50.2 0.0
baz=77,SNR=5.3
R25A Fountain Ranch 77.27 36 ⇑P P 08 57 49.8 -0.5
baz=77,SNR=6.7
V17A Tonalea, Kykot 77.27 42 ⇓P P 08 57 50.7 +0.4
baz=77,SNR=19
PVAQ Vaqueiros 77.28 322 eP P 08 57 50.6 +0.3
comp=Z,27nm,1.9s,mb4.8
PVAQ Vaqueiros 77.28 322 eLR LR 09 28 23.3
comp=Z,340nm,18.0s
EJIF Jimena Fronter 77.36 320 P P 08 57 51.4 +0.7
comp=Z,22nm,1.1s,mb5.0
EJIF Jimena Fronter 77.36 320 P P 08 57 51.4 +0.6
EJIF pmax pmax
comp=Z,22nm,1.1s,mb5.0
T22A Edith 77.42 39 ⇑P P 08 57 51.4 +0.3
baz=77,SNR=7.1
S24A Houchin Ranch, 77.42 37 ⇑P P 08 57 51.4 +0.3
baz=77,SNR=6.8
W16A Flagstaff 77.47 43 P P 08 57 52.1 +0.7
baz=77,SNR=9.9
MONP Monument Peak 77.49 48 ⇑P P 08 57 51.9 +0.3
baz=77,SNR=10
Y12C Blythe 77.50 46 ⇑P P 08 57 52.0 +0.4
baz=77,SNR=11
PBDV Barranco-do-Ve 77.50 322 eLR LR 09 27 17.8
comp=Z,313nm,20.0s
V18A Ganado 77.51 42 P P 08 57 51.8 +0.2
baz=77,SNR=7.6
BAR Barrett 77.57 48 eP P 08 57 51.5 -0.5
comp=Z,7.1nm,0.9s,mb4.6
U21A Nageezi 77.68 40 ⇓P P 08 57 52.2 -0.3
baz=77,SNR=12
T23A Casias Ranch, 77.69 38 P P 08 57 52.9 +0.3
baz=77,SNR=9.5
FRNY Flat Rock 77.72 12 eP P 08 57 51.2 -1.4
comp=Z,61nm,2.0s,mb5.2
LONY Lake Ozonia 77.81 13 eP P 08 57 52.6 -0.6
comp=Z,21nm,1.1s,mb5.0
DVTC Desert V Tower 77.82 48 ⇑P P 08 57 53.3 -0.1
baz=78,SNR=6.9
Y14A Wickenburg 77.93 45 ⇑P P 08 57 54.1 +0.1
baz=78,SNR=8.5
T24A Torres, Weston 77.99 37 ⇓P P 08 57 54.2 -0.1
baz=78,SNR=7.1
U22A Llaves 78.01 39 ⇑P P 08 57 55.0 +0.6
baz=78,SNR=6.4
X16A Lo Mia Camp, P 78.10 43 ⇓P P 08 57 55.2 +0.3
baz=78,SNR=6.9
Y15A Casa Rosa Ranc 78.17 44 ⇓P P 08 57 55.1 -0.2
baz=78,SNR=8.1
U23A El Rito 78.28 39 ⇓P P 08 57 56.1 +0.2
baz=78,SNR=6.2

Z13A Yuma Proving G 78.32 46 P P 08 57 56.6 +0.4
baz=78,SNR=12
V22A San Miguel Ran 78.41 39 P P 08 57 56.8 +0.2
baz=78,SNR=11
X17A Forest Lakes 78.41 43 ⇑P P 08 57 57.6 +1.0
baz=78,SNR=7.7
W20A Ramah 78.55 41 ⇓P P 08 57 57.3 -0.2
baz=78,SNR=6.6
Y16A Circle Bar Ran 78.56 44 ⇑P P 08 57 58.3 +0.8
baz=78,SNR=6.8
MDV Middlebury 78.59 12 eP P 08 57 57.2 -0.2
KSU1 Kansas State U 78.71 30 eP P 08 57 57.3 -1.0
comp=Z,17nm,0.8s,mb5.0
V23A Ortiz Mt. (NFS 78.81 39 ⇓P P 08 57 59.8 +1.0
baz=78,SNR=5.5
U25A Circle Dot Ran 78.82 37 ⇓P P 08 57 58.3 -0.6
baz=78,SNR=5.0
X19A St. Johns 78.89 42 P P 08 57 59.7 +0.4
baz=79,SNR=10
Y17A Roosevelt 78.97 43 ⇓P P 08 57 60.0 +0.2
baz=79,SNR=6.8
114A Black Gap (USA 79.02 45 P P 08 58 00.7 +0.6
baz=79,SNR=10
X20A Quemado 79.08 41 ⇑P P 08 58 01.0 +0.7
baz=79,SNR=17
CTA Charters Tower 79.11 158 eP P 08 57 59.7 -0.7
comp=Z,6.4nm,1.0s,mb4.5
CTAO Charters Tower 79.11 158 eP P 08 57 59.4 -1.0
comp=Z,6.1nm,0.6s,mb4.7
CTAO Charters Tower 79.11 158 eP P 08 57 59.4 -1.0
CTAO pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
ACCN Adirondack Com 79.14 12 eP P 08 58 00.1 -0.4
comp=Z,34nm,1.5s,mb5.0
HDIL Hopedale 79.19 24 eP P 08 57 59.7 -1.1
comp=Z,28nm,0.9s,mb5.2
Y18A Canyon Day Jun 79.20 43 ⇓P P 08 58 01.6 +0.6
baz=79,SNR=8.3
Y19A Nutrioso 79.33 42 ⇓P P 08 58 02.1 +0.4
baz=79,SNR=6.1
W23A Werner Place, 79.35 39 ⇑P P 08 58 02.2 +0.4
baz=79,SNR=7.7
X21A Alamocita Cree 79.42 41 ⇓P P 08 58 02.8 +0.7
baz=79,SNR=13
ANMO Albuquerque 79.43 39 eP P 08 58 01.9 -0.4
comp=Z,10nm,1.4s,mb4.6
ANMO Albuquerque 79.43 39 eP P 08 58 01.9 -0.4
ANMO pmax pmax
comp=Z,10.0nm,1.4s
V26A Tequesquite Ra 79.58 37 ⇓P P 08 58 01.9 -1.1
baz=79,SNR=7.5
116A Eloy 79.65 44 ⇓P P 08 58 03.9 +0.5
baz=79,SNR=5.8
LAZ Ladron 79.69 40 eP P 08 58 03.6 0.0
comp=Z,8.9nm,1.4s,mb4.5
Y20A Horse Springs, 79.69 41 ⇑P P 08 58 04.5 +0.9
baz=79,SNR=9.0
Y21A Point of Rocks 79.85 41 ⇑P P 08 58 04.8 +0.2
baz=80,SNR=12
LPM Los Pinos Moun 79.95 40 eP P 08 58 05.8 +0.8
117A Oracle 80.01 44 ⇓P P 08 58 05.4 0.0
baz=80
BNM Barren Site 80.10 40 eP P 08 58 06.1 +0.2
comp=Z,18nm,1.6s,mb4.8
118A Homack Ranch, 80.24 43 ⇓P P 08 58 06.9 +0.2
baz=80
Z20A Nine Sixteen R 80.33 42 ⇑P P 08 58 07.9 +0.8
baz=80,SNR=11
119A Ashpeak Ranch, 80.37 43 ⇓P P 08 58 07.8 +0.5
baz=80
W27A Bowe Ranch, En 80.48 37 ⇑P P 08 58 08.6 +0.7
baz=80,SNR=6.7
Z21A St. Cloud Mine 80.48 41 ⇓P P 08 58 08.7 +0.7
baz=80,SNR=6.7
Y23A Lovelace Mesa, 80.50 40 P P 08 58 08.5 +0.5
baz=80,SNR=11
ASAR Alice Springs 80.74 170 P P 08 58 08.2 -1.0
comp=Z,4.4nm,0.9s,mb4.4,baz=359,slow=5.7,SNR=38
ASAR PKKPbc PKKPbc 09 16 47.2 -0.1
comp=Z,1.1nm,0.8s,baz=156,slow=2.0,SNR=7.9
ASAR Alice Springs 80.74 170 P P 08 58 08.2 -1.0
ASAR PKKPbc PKKPbc 09 16 47.2 -0.1
ASAR Alice Springs 80.74 170 P P 08 58 08.2 -1.0
ASAR 09 16 47.2
ASAR pmax pmax
comp=Z,4.0nm,0.9s
218A Dragoon 80.80 43 ⇑P P 08 58 10.0 +0.3
baz=80
ACSO Alum Creek Sta 80.81 20 eP P 08 58 08.3 -1.3
comp=Z,10nm,0.9s,mb4.8
120A U Bar Ranch, L 80.82 42 ⇑P P 08 58 10.5 +0.8
baz=81
X27A F and S Farms, 80.85 37 P P 08 58 09.9 0.0
baz=81,SNR=11
219A White Tail Can 81.08 43 ⇑P P 08 58 11.6 +0.4
baz=81
AMTX Amarillo 81.10 36 ⇑P P 08 58 10.5 -0.7
baz=81,SNR=12
AMTX Amarillo 81.10 36 eP P 08 58 10.9 -0.3
comp=Z,67nm,1.4s,mb5.4
CCM Cathedral Cave 81.11 27 eP P 08 58 09.8 -1.4
comp=Z,16nm,0.8s,mb5.0
CCM Cathedral Cave 81.11 27 eP P 08 58 09.8 -1.4
CCM pmax pmax
comp=Z,16nm,0.8s,mb5.0
BLO Bloomington 81.13 23 eP P 08 58 10.7 -0.6
comp=Z,15nm,1.0s,mb4.9
BLO Bloomington 81.13 23 eP P 08 58 10.7 -0.6
BLO pmax pmax
comp=Z,15nm,1.0s,mb4.9
121A Cookes Peak, D 81.14 41 ⇓P P 08 58 12.5 +1.0
baz=81,SNR=5.8
OLIL Olney 81.20 24 eP P 08 58 11.2 -0.5
comp=Z,23nm,1.0s,mb5.1
Y26A Elida 81.27 38 ⇑P P 08 58 11.7 -0.5
baz=81
SSPA Standing Stone 81.28 16 eP P 08 58 10.9 -1.2
comp=Z,30nm,1.6s,mb5.0
Z24A Sheeppen Canyo 81.28 39 ⇓P P 08 58 12.8 +0.6
baz=81
318A Bisbee 81.30 44 ⇑P P 08 58 11.9 -0.5
baz=81
FVM French Village 81.37 26 eP P 08 58 11.3 -1.4
comp=Z,13nm,1.0s,mb4.8
FVM French Village 81.37 26 eP P 08 58 11.3 -1.3
FVM pmax pmax
comp=Z,13nm,1.0s,mb4.8
Y27A Causey 81.53 37 ⇑P P 08 58 13.0 -0.5
baz=81
Z25A Roswell 81.55 39 ⇓P P 08 58 13.7 +0.1
baz=81,SNR=7.7
MSTX Muleshoe 81.58 37 ⇑P P 08 58 13.2 -0.5
baz=81
319A Douglas 81.63 43 ⇓P P 08 58 14.4 +0.3
baz=81
Z26A Caprock 81.81 38 P P 08 58 14.7 -0.3
baz=82,SNR=7.2
124A Stringfield Ra 81.82 40 P P 08 58 15.3 +0.3
baz=82,SNR=9.6
TUL1 Tulsa 81.92 31 P P 08 58 15.3 -0.3
baz=82,SNR=7.4
Z27A Tatum 82.03 38 ⇓P P 08 58 15.5 -0.7
baz=82,SNR=6.9
USIN University of 82.03 24 eP P 08 58 15.8 -0.3
comp=Z,21nm,0.8s,mb5.1
CPRX Cap Rock 82.07 38 eP P 08 58 15.9 -0.4
comp=Z,13nm,1.4s,mb4.7
WCI Wyandotte Cave 82.08 23 eP P 08 58 15.7 -0.6
comp=Z,18nm,0.7s,mb5.1
WCI Wyandotte Cave 82.08 23 eP P 08 58 15.7 -0.7
WCI pmax pmax
comp=Z,18nm,0.7s,mb5.1
125A Gardner Draw, 82.14 39 ⇓P P 08 58 17.1 +0.4
baz=82,SNR=6.2
WMOK Wichita Mounta 82.14 34 eP P 08 58 16.1 -0.6
comp=Z,45nm,1.6s,mb5.2
WMOK Wichita Mounta 82.14 34 eP P 08 58 16.1 -0.6
WMOK pmax pmax
comp=Z,45nm,1.6s,mb5.2
224A Cornudas Mount 82.36 40 ⇓P P 08 58 17.9 -0.1
baz=82,SNR=10
225A Deer Hill, Car 82.58 39 P P 08 58 19.0 -0.1
baz=82,SNR=7.9
324A Moseley Ranch, 82.95 40 ⇓P P 08 58 20.7 -0.3
baz=83,SNR=5.8
325A Bean Ranch, Si 83.20 40 ⇑P P 08 58 22.2 -0.1
baz=83,SNR=8.5
326A Caldwell Ranch 83.59 39 ⇓P P 08 58 24.1 -0.2

baz=83,SNR=13

425A	**Indio Mountain**	**83.72**	**40**	⇓P		**P**	**08 58 25.0**	**0.0**
	baz=84,SNR=12							
WVT	**Waverly**	**83.75**	**25**	*e*P		**P**	**08 58 24.3**	**-0.8**
	comp=Z,17nm,0.8s,mb5.2							
WVT	**Waverly**	**83.75**	**25**	*e*P		**P**	**08 58 24.3**	**-0.8**
WVT				pmax	pmax			
	comp=Z,17nm,0.8s,mb5.2							
MIAR	**Mount Ida**	**83.82**	**30**	*e*P		**P**	**08 58 25.0**	**-0.4**
	comp=Z,5.9nm,0.9s,mb4.7							
MIAR	**Mount Ida**	**83.82**	**30**	*e*P		**P**	**08 58 25.0**	**-0.4**
MIAR				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.7							
328A	**Wristen Ranch,**	**83.94**	**38**	⇓P		**P**	**08 58 25.6**	**-0.4**
	baz=84,SNR=7.5							
BLA	**Blacksburg**	**84.21**	**19**	*e*P		**P**	**08 58 25.9**	**-1.4**
	comp=Z,20nm,1.1s,mb5.2							
BLA	**Blacksburg**	**84.21**	**19**	*e*P		**P**	**08 58 25.9**	**-1.5**
BLA				pmax	pmax			
	comp=Z,20nm,1.1s,mb5.2							
427A	**Hayter Ranch,**	**84.22**	**39**	⇓P		**P**	**08 58 27.3**	**-0.2**
	baz=84							
428A	**Kincaid Ranch,**	**84.58**	**38**	P		**P**	**08 58 29.5**	**+0.2**
	baz=84,SNR=12							
526A	**Mary Lane Ranc**	**84.70**	**40**	⇓P		**P**	**08 58 29.6**	**-0.4**
	baz=84,SNR=6.4							
SWET	**Sewanee**	**85.06**	**23**	*e*P		**P**	**08 58 30.8**	**-0.9**
	comp=Z,16nm,0.7s,mb5.3							
CPCT	**Cooper Cave**	**85.13**	**22**	*e*P		**P**	**08 58 30.4**	**-1.7**
626A	**Big Bend Ranch**	**85.15**	**40**	⇑P		**P**	**08 58 32.1**	**-0.1**
	baz=85,SNR=6.2							
627A	**Terlingua Ranc**	**85.50**	**39**	⇑P		**P**	**08 58 33.7**	**-0.3**
	baz=85,SNR=8.4							
TXAR	**Lajitas Array**	**85.51**	**40**	P		**P**	**08 58 33.8**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.9,baz=298,slow=2.7,SNR=7.0							
TXAR	**Lajitas Array**	**85.51**	**40**	P		**P**	**08 58 33.8**	**-0.3**
TXAR	**Lajitas Array**	**85.51**	**40**	P		**P**	**08 58 33.8**	**-0.2**
628A	**Black Gap, Mar**	**85.64**	**39**	⇑P		**P**	**08 58 34.1**	**-0.5**
	baz=85,SNR=10							
JCT	**Junction City**	**85.76**	**36**	⇓P		**P**	**08 58 34.7**	**-0.6**
	baz=86,SNR=9.3							
JCT	**Junction City**	**85.76**	**36**	*e*P		**P**	**08 58 34.8**	**-0.4**
	comp=Z,8.0nm,0.8s,mb5.0							
JCT	**Junction City**	**85.76**	**36**	*e*P		**P**	**08 58 34.8**	**-0.5**
JCT				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb5.0							
NATX	**Nacogdoches**	**86.14**	**31**	*e*P		**P**	**08 58 37.5**	**+0.5**
	comp=Z,19nm,1.0s,mb5.4							
KLBR	**Kellerberrin**	**88.22**	**184**	*e*P		**P**	**08 58 45.7**	**-1.1**
	comp=Z,19nm,0.7s,mb5.4							
STKA	**Stephens Creek**	**89.79**	**164**	P		**P**	**08 58 54.0**	**-0.1**
	comp=Z,2.0nm,0.7s,mb4.6,baz=49,slow=12,SNR=2.9							
STKA	**Stephens Creek**	**89.79**	**164**	P		**P**	**08 58 54.0**	**-0.1**
STKA	**Stephens Creek**	**89.79**	**164**	P		**P**	**08 58 54.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**95.12**	**303**	P		**P**	**08 59 18.4**	**-0.9**
	comp=Z,5.8nm,0.9s,mb5.0,baz=23,slow=4.6,SNR=34							
TORD				PP	PP		09 03 05.7	-2.9
	comp=Z,1.8nm,0.8s,baz=29,slow=7.6,SNR=6.4							
TORD	**Torodi Ar. Bea**	**95.12**	**303**	P		**P**	**08 59 18.4**	**-0.9**
TORD				PP	PP		09 03 05.7	-2.9
MAW	**Mawson**	**131.84**	**206**	PKP	PKPdf		09 05 06.8	-0.9
	comp=Z,3.5nm,0.8s,baz=322,slow=4.4,SNR=8.1							
MAW	**Mawson**	**131.84**	**206**	*e*PKPdf	PKPdf		09 05 06.7	-0.9
MAW	**Mawson**	**131.84**	**206**	PKIKP	PKPdf		09 05 06.8	-0.8
MAW				pmax	pmax			
	comp=Z,4.0nm,0.9s							
VNDA	**Vanda**	**136.27**	**169**	PKP	PKPdf		09 05 14.3	-1.4
	comp=Z,2.2nm,0.7s,baz=328,slow=3.5,SNR=13							
VNDA	**Vanda**	**136.27**	**169**	PKP	PKPdf		09 05 14.3	-1.4
VNDA	**Vanda**	**136.27**	**169**	PKIKP	PKPdf		09 05 14.3	-1.4
VNDA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
SBA	**Scott Base**	**137.11**	**168**	*e*PKPdf	PKPdf		09 05 15.8	-1.5
SBA	**Scott Base**	**137.11**	**168**	*e*PKIKP	PKPdf		09 05 15.8	-1.5
LPAZ	**La Paz**	**138.63**	**16**	PKP	PKPdf		09 05 20.6	-1.3
	comp=Z,0.7nm,0.5s,baz=274,slow=2.0,SNR=3.7							
LPAZ	**La Paz**	**138.63**	**16**	PKP	PKPdf		09 05 20.6	-1.3
LPAZ	**La Paz**	**138.63**	**16**	PKIKP	PKPdf		09 05 20.6	-1.3
LPAZ				pmax	pmax			
	comp=Z,1.0nm,0.5s							
QSPA	**South Pole Qui**	**146.62**	**180**	PKPbc	PKPbc		09 05 34.3	-1.5
	comp=Z,27nm,0.8s,baz=296,slow=1.2,SNR=126							
NVL	**N'lazarevskaya**	**148.67**	**216**	⇓*i*PKP2	PKPdf		09 05 41.0	+3.2
NVL				pmax	pmax			
	comp=Z,41nm,0.8s							
MAIT	**Maitri**	**148.71**	**216**	*e*P		PKPdf	09 05 40.6	+2.8
CPUP	**Villa Florida**	**149.49**	**1**	PKP		PKPdf	09 05 39.9	-0.6
	comp=Z,12nm,0.6s,baz=5.6,slow=3.7,SNR=4.6							
CPUP				PKPbc	PKPbc		09 05 43.8	-1.1
	comp=Z,5.4nm,0.6s,baz=5.1,slow=3.7,SNR=11							
CPUP	**Villa Florida**	**149.49**	**1**	PKP		PKPdf	09 05 39.9	-0.6
CPUP				PKPbc	PKPbc		09 05 43.8	-1.2
CPUP	**Villa Florida**	**149.49**	**1**	PKHKP		PKPdf	09 05 39.9	-0.6
CPUP				pmax	pmax			
	comp=Z,13nm,0.6s							
SNAA	**Sanae**	**153.45**	**215**	PKPbc	PKPbc		09 05 51.6	-1.2
	comp=Z,1.5nm,0.8s,baz=115,slow=2.8,SNR=22							
SNAA	**Sanae**	**153.45**	**215**	*e*PKPdf	PKPdf		09 05 47.9	+2.8
SNAA	**Sanae**	**153.45**	**215**	*e*PKIKP	PKPdf		09 05 47.9	+2.8
CFAA	**Coronel Fontan**	**153.56**	**22**	PKPbc	PKPbc		09 05 53.1	-1.1
	comp=Z,0.5nm,0.7s,baz=292,slow=3.1,SNR=12							
CFAA				PKPab	PKPab		09 06 03.9	-2.9
	comp=Z,0.3nm,0.7s,baz=334,slow=4.2,SNR=4.0							
VNA2	**Neumayer--Watz**	**154.99**	**216**	*e*		PKPdf	09 05 41.2	-6.0
VNA3	**Neumayer Olymp**	**155.67**	**215**	*e*		PKPdf	09 05 43.5	-4.7

*NEIC **08** 08:57:41.3,51.11N×178.66W,h18km,ML3.9(PMR), ML3.6(AEIC),After AEIC.*
*IDC **08** 08:57:50.7±3.2,51.80N×178.62W,h102km±27km,mb3.3/6, mb1 3.5/8,mb1mx3.4/27,mbtmp3.4/8,MS4.0/1,Ms1 4.0/1, ms1mx3.1/22,Error ellipse: s-maj=52.6km s-min=16.2km az=3.0*

ISC 08 08:57:40.8±4.4,51.6N±0.2×178.8W±0.1,h14km±30km,n26, σ0s78/27,mb3.9/6,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
AMKA	**Amchitka**	**1.19**	**260**	*e*P		**Pn**	**08 58 02.6**	**-0.5**
AMKA				S		**Sb**	**08 58 18.1**	**-0.4**
ATKA	**Atka Island**	**2.93**	**76**	P		**Pn**	**08 58 27.8**	**+0.8**
FX1	**Attu Island--F**	**5.09**	**288**	P		**Pn**	**08 59 03.6**	**+7.0**
	4.5nm,0.3s,baz=268,slow=23,SNR=8.7							
FX1				S		**Sn**	**09 00 05.3**	**+10**
	3.5nm,0.3s,baz=85,slow=20,SNR=2.6							
FX1	**Attu Island--F**	**5.09**	**288**	P		**Pn**	**08 59 03.6**	**+7.0**
FX1				S		**Sn**	**09 00 05.3**	**+10**
KDAK	**Kodiak Island**	**16.32**	**57**	P		**Pn**	**09 01 29.6**	**+0.3**
	1.2nm,0.3s,baz=255,slow=10,SNR=19							
KDAK	**Kodiak Island**	**16.32**	**57**	P		**Pn**	**09 01 29.6**	**+0.3**
ILAR	**Eielson Array**	**21.08**	**39**	P		**P**	**09 02 24.5**	**+0.1**
	0.4nm,0.7s,baz=236,slow=9.7,SNR=2.7							
ILAR	**Eielson Array**	**21.08**	**39**	P		**P**	**09 02 24.5**	**+0.1**
INK	**Inuvik**	**27.29**	**35**	LR		LR	09 14 33.4	
	comp=Z,322nm,20.1s,baz=145,slow=37							
PDAR	**Pinedale Array**	**46.26**	**72**	P		**P**	**09 06 04.0**	**-1.5**
	1.5nm,0.7s,mb4.0,baz=285,slow=4.2,SNR=11							
PDAR	**Pinedale Array**	**46.26**	**72**	P		**P**	**09 06 04.0**	**-1.5**
SONM	**Songino Array**	**46.54**	**296**	P		**P**	**09 06 08.2**	**+0.6**
	1.4nm,0.8s,mb3.9,baz=62,slow=8.3,SNR=3.8							
SONM	**Songino Array**	**46.54**	**296**	P		**P**	**09 06 08.2**	**+0.6**
ZALV	**Zalesovo Beam**	**53.87**	**313**	PcP		PcP	09 08 07.9	-0.6
	1.0nm,0.7s,baz=32,slow=4.2,SNR=4.1							
TXAR	**Lajitas Array**	**58.64**	**81**	P		**P**	**09 07 36.8**	**-0.6**
	0.1nm,0.5s,mb3.1,baz=310,slow=5.8,SNR=2.4							
MKAR	**Makanchi Array**	**59.89**	**308**	P		**P**	**09 07 44.3**	**-1.5**
	0.2nm,0.5s,mb3.5,baz=55,slow=6.3,SNR=4.1							
FINES	**FINESS Array B**	**65.57**	**347**	P		**P**	**09 08 21.8**	**-1.7**
	1.0nm,0.6s,mb4.0,baz=227,slow=36,SNR=2.9							
TAPN	**Taplejung**	**71.12**	**290**	*e*P		**P**	**09 08 59.6**	**+0.8**
	16nm,1.0s,mb4.9							
GUN	**Gumba**	**71.76**	**292**	*e*P		**P**	**09 09 03.4**	**+0.8**
	31nm,0.6s							
KKN	**Kakani**	**72.20**	**292**	*e*P		**P**	**09 09 05.8**	**+0.5**
PKI	**Pulchoki**	**72.29**	**292**	*e*P		**P**	**09 09 06.1**	**+0.3**
PKIN	**Phulchoki**	**72.29**	**292**	*e*P		**P**	**09 09 06.5**	**+0.7**
GKN	**Gorkha**	**72.41**	**293**	*e*P		**P**	**09 09 06.4**	**-0.1**
DMN	**Daman**	**72.44**	**292**	*e*P		**P**	**09 09 07.2**	**+0.5**
DANN	**Dangsing**	**72.65**	**294**	*e*P		**P**	**09 09 08.4**	**+0.5**
KOLN	**Koldanda**	**73.18**	**293**	*e*P		**P**	**09 09 11.2**	**+0.1**

FUNV 08 09:02:27.0,6.75N×73.16W,h161km,MW3.6,9D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.38**	**37**	⇓*i*P		Pn	09 02 55.9	-0.4
CAPV				*e*S		Sn	09 03 16.7	-2.1
VIGV	**El Vigia**	**2.73**	**40**	⇓*i*P		Pn	09 03 10.6	-0.9
VIGV				*e*S		Sn	09 03 42.8	-3.0
SOCV	**Socops**	**2.74**	**56**	⇓*e*P		Pn	09 03 10.7	-0.9
SOCV				*e*S		Sn	09 03 42.5	-3.6
ELOV	**Elorza**	**3.65**	**86**	*e*P		Pn	09 03 22.5	-0.6
VIRV	**Villa del Rosa**	**3.80**	**11**	⇓*i*P		Pn	09 03 23.0	-2.0
VIRV				*e*S		Sn	09 04 05.9	-4.2
QARV	**Quebrada Arrib**	**4.31**	**37**	⇓*i*P		Pn	09 03 30.6	-0.9
SANV	**Sanarito**	**4.50**	**52**	*e*P		Pn	09 03 32.5	-1.6
CURV	**Curarigua**	**4.53**	**44**	⇓*e*P		Pn	09 03 32.8	-1.6
DABV	**Dabajuro**	**4.83**	**31**	*e*P		Pn	09 03 37.3	-1.1
TEPV	**Terepaima**	**5.05**	**51**	⇓*e*P		Pn	09 03 39.8	-1.6
SIQV	**Siquisique**	**5.09**	**40**	⇓*e*P		Pn	09 03 40.1	-1.7
BAUV	**El Baul**	**5.51**	**66**	*e*P		Pn	09 03 44.7	-2.7
MAPV	**Macapo**	**5.56**	**56**	⇓*e*P		Pn	09 03 46.1	-1.9
IMOV	**Isla Los Monje**	**6.00**	**22**	*e*P		Pn	09 03 51.5	-2.3
MONV	**Montecano**	**6.05**	**31**	*e*P		Pn	09 03 52.1	-2.4
CUPV	**Cepira**	**7.99**	**65**	*e*P		Pn	09 04 17.8	-2.5

*MOS **08** 09:15:46.5±1.0,15.09S×174.25W,h100km,mb5.4/45, MS4.7/4,Error ellipse: s-maj=9.4km s-min=6.6km az=137.9*
*BJI **08** 09:15:48.7,15.26S×173.39W,h149km,mB5.3/19, mb5.1/29*
*DJA **08** 09:15:49,15.18S×174.22W,h111km,mb5.7/42*
*IDC **08** 09:15:49.8±1.7,15.19S×174.28W,h119km±14km, mb4.9/30,mb1 5.0/31,mb1mx5.0/34,mbtmp4.9/31, MS4.3/11,Ms1 4.3/11,ms1mx4.1/21,Error ellipse: s-maj=11.0km s-min=7.5km az=131.0*
*ISCJB **08** 09:15:50.1±0.1,15.30S±0.03×174.26W±0.02,h137km, mb5.2/234,Error ellipse: s-maj=5.2km s-min=2.6km az=152.1*
*NEIC **08** 09:15:51.9±0.1,15.22S×174.21W,mb5.3/170,Error ellipse: s-maj=5.0km s-min=3.0km az=145.0*
*GCMT **08** 09:15:54.5±0.2,15.04S×173.93W,h138km±1km,MW5.5, Moment Tensor Solution. s84,c124; s24,c25; Moment tensor: Scale 10^17^Nm; Mrr=0.78±.05; Mθφ1.77±.06; Mφφ-0.99±.06; Mrθ0.35±.04; Mrφ-0.26±.06; Mθφ-2.10±.04; Best double couple: M0:2.50000×10^17^ NP1:φ65.00000°, δ42.00000°,λ-159.00000°. NP2:φs320.00000°, δ76.00000°,λ-49.00000°. Principal axes: T 2.0100, Plg21.0000°, Azm20.0000°; N 0.9800, Plg39.0000°, Azm128.0000°; P -2.9900, Plg44.0000°, Azm269.0000°; Data Used: ll IU IC G CN. Surface waves: sta=106, comp=197, per= 50.*

ISC 08 09:15:51.9±0.1,15.30S±0.03×174.23W±0.02,h139km, h139km±1.6km;pP-P,n1137,σ0s68/831,mb5.2/234, 145C-161D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
					Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**7.79**	**251**	*e*Pn		**Pn**	**09 17 48.0**	**+5.4**
MSVF				*e*Sn		**Sn**	**09 19 21.6**	**+12**
MSVF	**Nonsavu**	**7.79**	**251**	*e*P		**Pn**	**09 17 48.0**	**+5.4**
MSVF	**Nonsavu**	**7.79**	**251**	Pn		**Pn**	**09 17 48.0**	**+5.4**
	2μm,1.0s,SNR=29							
FUNA	**Funafuti**	**9.31**	**316**	*e*Pn		**Pn**	**09 18 02.6**	**-0.4**
RAR	**Rarotonga**	**14.93**	**115**	P		**Pn**	**09 19 15.0**	**-1.1**
	2.3nm,0.3s,baz=273,slow=5.4,SNR=9.0							
RAR				S		**Sn**	**09 21 50.2**	**-12**
	1.4nm,0.3s,baz=133,slow=21,SNR=4.4							
RAR				LR		LR	09 23 50.7	
	comp=Z,666nm,19.6s,baz=293,slow=32							
RAR	**Rarotonga**	**14.93**	**115**	*e*Pn		**Pn**	**09 19 15.1**	**-1.1**
RAR				*e*Sn		**Sn**	**09 21 54.2**	**-7.6**
RAR	**Rarotonga**	**14.93**	**115**	*e*P		**Pn**	**09 19 15.1**	**-1.0**
RAR				*e*			09 21 54.2	
DZM	**Mont Dzumac**	**19.50**	**247**	*e*P		**P**	**09 20 08.8**	**+0.4**
	169nm,1.2s							
DZM				*e*LR		LR	09 24 57.2	
	3μm,29.9s							
DZM	**Mont Dzumac**	**19.50**	**247**	*e*P		**P**	**09 20 08.6**	**+0.2**
NOUC	**Port Laguerre**	**19.63**	**247**	*e*P		**P**	**09 20 08.3**	**-1.6**
OUZ	**Omahuta**	**22.65**	**207**	*e*P		**P**	**09 20 44.1**	**+2.7**
	99nm,1.1s,mb5.2							
MXZ	**Matakaoa Point**	**23.14**	**195**	PN		**P**	**09 20 45.7**	**-0.3**
PUZ	**Puketiti**	**23.64**	**195**	PN		**P**	**09 20 51.1**	**+0.7**
PAE	**Paea**	**23.75**	**99**	*e*P		**P**	**09 20 50.7**	**-1.0**
	26nm,1.1s,mb4.7							
PAE	**Paea**	**23.75**	**99**	*e*P		**P**	**09 20 50.7**	**-1.0**
	26nm,1.1s,mb4.7							
PAE	**Paea**	**23.75**	**99**	*e*P		**P**	**09 20 50.7**	**-1.0**
PAE				pmax	pmax			
	comp=Z,26nm,1.1s,mb4.7							
PPT	**Papeete**	**23.75**	**99**	*e*P		**P**	**09 20 50.7**	**-1.0**
	comp=Z,101nm,1.3s,mb5.2							
PPT				*e*LQ			09 25 49.2	
	comp=Z,1μm,25.2s							
PPT				*e*LR		LR	09 26 24.4	
	comp=Z,4μm,38.5s							
PPT	**Papeete**	**23.75**	**99**	LR		LR	09 28 22.1	
	comp=Z,311nm,18.1s,baz=287,slow=32							
PPT	**Papeete**	**23.75**	**99**	*e*P		**P**	**09 20 50.7**	**-1.0**
	comp=Z,101nm,1.3s,mb5.2							
PPT				*e*LQ			09 25 49.2	
PPT	**Papeete**	**23.75**	**99**	*e*P		**P**	**09 20 50.7**	**-1.0**
PPT				pmax	pmax			
	comp=Z,101nm,1.3s							
XMAS	**Kiritimati**	**23.93**	**45**	*e*P		**P**	**09 20 51.6**	**-1.8**
	comp=Z,384nm,0.9s,mb5.9							
TIAR	**Tiarei**	**23.97**	**99**	*e*P		**P**	**09 20 53.0**	**-0.7**
	comp=Z,135nm,1.0s,mb5.4							
TIAR	**Tiarei**	**23.97**	**99**	*e*P		**P**	**09 20 53.0**	**-0.7**
	comp=Z,135nm,1.0s,mb5.4							
MWZ	**Matawai**	**24.07**	**196**	PN		**P**	**09 20 53.2**	**-1.2**
URZ	**Urewera**	**24.12**	**197**	P		**P**	**09 20 53.6**	**-1.2**
	comp=Z,34nm,0.5s,mb5.2,baz=8.8,slow=4.9,SNR=23							
URZ				S		**S**	**09 25 07.7**	**+5.2**
	comp=Z,9.0nm,0.9s,baz=255,slow=10,SNR=3.1							
URZ				LR		LR	09 27 42.2	
	comp=Z,405nm,20.1s,baz=163,slow=29							
URZ	**Urewera**	**24.12**	**197**	*e*P		**P**	**09 20 54.1**	**-0.7**
	comp=Z,87nm,0.9s,mb5.3							
URZ	**Urewera**	**24.12**	**197**	PN		**P**	**09 20 53.5**	**-1.3**
TBI	**Tubuai**	**24.68**	**113**	*e*P		**P**	**09 21 00.5**	**+0.4**
	comp=Z,257nm,1.0s,mb5.7							
TBI				*e*LQ			09 26 08.9	
	comp=Z,2μm,39.2s							
TBI				*e*LR		LR	09 26 57.2	
	comp=Z,2μm,38.2s							
TBI	**Tubuai**	**24.68**	**113**	*e*P		**P**	**09 21 00.5**	**+0.4**
	comp=Z,257nm,1.0s,mb5.7							
TBI				*e*LQ			09 26 08.9	
BKZ	**Black Stump Fm**	**25.14**	**197**	PN		**P**	**09 21 02.5**	**-1.6**
PMOR	**Pomariorio Ree**	**25.42**	**93**	*e*P		**P**	**09 21 06.4**	**-0.5**
	comp=Z,498nm,1.2s,mb5.9							
PMOR	**Pomariorio Ree**	**25.42**	**93**	*e*P		**P**	**09 21 06.4**	**-0.5**
	comp=Z,498nm,1.2s,mb5.9							
HNR	**Honiara**	**25.88**	**280**	*e*P		**P**	**09 21 09.3**	**-1.7**
	comp=Z,277nm,1.1s,mb5.8							
HNR				*e*pP		pP	09 21 39.1	-1.2
HNR	**Honiara**	**25.88**	**280**	*e*P		**P**	**09 21 09.3**	**-1.7**
HNR				*e**PP		pP	09 21 39.1	-1.2
HNR				pmax	pmax			
	comp=Z,277nm,1.1s,mb5.8							
SNZO	**South Karori**	**27.64**	**198**	*e*P		**P**	**09 21 26.6**	**+0.2**
	comp=Z,54nm,1.0s,mb5.2							
THZ	**Tophouse**	**28.62**	**200**	PN		**P**	**09 21 34.6**	**-0.6**
KHZ	**Kahutara**	**29.00**	**199**	*e*P		**P**	**09 21 38.1**	**-0.5**
	comp=Z,49nm,1.1s,mb5.2							
KHZ				*e*PcP		PcP	09 24 43.5	-0.2
KHZ	**Kahutara**	**29.00**	**199**	PN		**P**	**09 21 37.5**	**-1.1**
WVZ	**Waitaha Valley**	**30.53**	**202**	PN		**P**	**09 21 50.0**	**-2.1**
RPZ	**Rata Peaks**	**30.98**	**201**	P		**P**	**09 21 55.1**	**-0.9**
	comp=Z,10nm,0.3s,mb5.0,baz=4.4,slow=4.1,SNR=17							
RPZ				LR		LR	09 33 12.0	
	comp=Z,291nm,21.9s,baz=206,slow=34							
RPZ	**Rata Peaks**	**30.98**	**201**	*e*P		**P**	**09 21 54.8**	**-1.3**
	comp=Z,370nm,2.6s,mb5.7							
ODZ	**Otahua Downs**	**32.29**	**200**	*e*P		**P**	**09 22 07.4**	**-0.1**
	comp=Z,119nm,1.0s,mb5.6							
TAOE	**Nuku Hiva Isla**	**33.91**	**83**	*e*P		**P**	**09 22 19.8**	**-2.1**
	comp=Z,273nm,1.3s,mb5.8							
TAOE				*e*S		**S**	**09 27 34.5**	**-2.0**
	comp=Z,2μm,33.8s							
TAOE				*e*LR		LR	09 31 02.3	
	comp=Z,2μm,30.7s							
TAOE	**Nuku Hiva Isla**	**33.91**	**83**	*e*P		**P**	**09 22 19.8**	**-2.1**
	comp=Z,273nm,1.3s,mb5.8							
TAOE				*e*S		**S**	**09 27 34.5**	**-2.0**
EIDS	**Eidsvold**	**33.94**	**247**	*e*P		**P**	**09 22 20.8**	**-1.4**
	comp=Z,65nm,1.7s,mb5.1							
WHZ	**Wether Hill Ro**	**33.98**	**202**	*e*P		**P**	**09 22 21.8**	**-0.3**
WHZ	**Wether Hill Ro**	**33.98**	**202**	PN		**P**	**09 22 21.4**	**-0.7**
ARMA	**Armidale**	**34.71**	**238**	*e*P		**P**	**09 22 29.0**	**+0.3**
ARMA	**Armidale**	**34.71**	**238**	*e*P		**P**	**09 22 29.2**	**+0.5**
	comp=Z,48nm,0.8s,mb5.2							
RKT	**Rikitea**	**37.79**	**108**	*e*P		**P**	**09 22 55.3**	**+0.4**
	comp=Z,147nm,1.0s,mb5.5							
RKT				*e*LQ			09 31 46.7	
	comp=Z,802nm,30.5s							
RKT				*e*LR		LR	09 33 01.0	
	comp=Z,1μm,35.2s							
RKT	**Rikitea**	**37.79**	**108**	*e*P		**P**	**09 22 55.3**	**+0.4**
	comp=Z,147nm,1.0s,mb5.6							
RKT				*e*LQ			09 31 46.7	
RKT	**Rikitea**	**37.79**	**108**	*e*P		**P**	**09 22 55.3**	**+0.4**
RKT				pmax	pmax			
	comp=Z,147nm,1.0s,mb5.6							
CTA	**Charters Tower**	**37.88**	**257**	P		**P**	**09 22 55.9**	**+0.1**
	comp=Z,25nm,0.4s,mb5.2,baz=82,slow=10,SNR=45							
CTA				PcP		PcP	09 25 09.9	+0.7
	comp=Z,7.1nm,0.6s,baz=358,slow=4.3,SNR=4.4							
CTA				LR		LR	09 37 03.0	
	comp=Z,356nm,18.9s,baz=282,slow=34							
CTA	**Charters Tower**	**37.88**	**257**	*e*P		**P**	**09 22 55.8**	**0.0**
	comp=Z,19nm,0.4s,mb5.1							
CTA				*e*PCP		PcP	09 25 09.7	+0.5
CTA	**Charters Tower**	**37.88**	**257**	P		**P**	**09 22 55.9**	**+0.1**
CTA				PcP		PcP	09 25 09.9	+0.7
CTA				LR		LR	09 37 03.0	
CTA	**Charters Tower**	**37.88**	**257**	P		**P**	**09 22 55.9**	**+0.1**
CTA							09 25 09.9	
CTAO	**Charters Tower**	**37.88**	**257**	*e*P		**P**	**09 22 55.8**	**0.0**
	comp=Z,74nm,0.9s,mb5.3							
CTAO				*e*pP		pP	09 23 25.4	-0.8
CTAO				*e*PcP		PcP	09 25 09.6	+0.3
CTAO	**Charters Tower**	**37.88**	**257**	*e*P		**P**	**09 22 55.8**	**0.0**
CTAO				*e*			09 25 09.6	
CTAO				pmax	pmax			
	comp=Z,73nm,0.9s,mb5.3							
CTAO	**Charters Tower**	**37.88**	**257**	P		**P**	**09 22 56.1**	**+0.3**
	comp=Z,70nm,1.1s,mb5.2							
PMG	**Port Moresby**	**38.13**	**274**	P		**P**	**09 22 59.0**	**+1.1**
	comp=Z,71nm,0.8s,mb5.3,baz=109,slow=4.8,SNR=22							
PMG	**Port Moresby**	**38.13**	**274**	*e*P		**P**	**09 22 58.8**	**+0.9**
	comp=Z,243nm,1.3s,mb5.7							
PMG				*e*PcP		PcP	09 25 11.7	+1.6
PMG	**Port Moresby**	**38.13**	**274**	*e*P		**P**	**09 22 58.8**	**+0.9**
PMG				*e*			09 25 11.7	
PMG				pmax	pmax			
	comp=Z,243nm,1.3s							
PMG	**Port Moresby**	**38.13**	**274**	P		**P**	**09 22 58.8**	**+0.9**
	comp=Z,2μmcomp=Z,155nm,1.4s,mb5.5							
CNB	**Canberra Magne**	**38.18**	**232**	*e*P		**P**	**09 22 58.2**	**+0.1**
CAN	**Canberra**	**38.46**	**232**	*e*P		**P**	**09 23 00.5**	**+0.1**
	comp=Z,22nm,0.8s,mb4.8							
CAN	**Canberra**	**38.46**	**232**	*e*P		**P**	**09 23 00.5**	**+0.1**
CAN				pmax	pmax			
	comp=Z,22nm,0.8s,mb4.8							
KIP	**Kipapa**	**39.81**	**24**	*e*P		**P**	**09 23

comp=Z,140nm,1.1s,mb5.7
MBWA ePP PP 09 28 18.8 -2.6
MBWA Marble Bar 62.62 254 P **P** 09 26 01.5 -0.5
comp=Z,149nm,1.2s,mb5.7
KMSI Cibinong 63.03 279 P **P** 09 26 04.8 0.0
comp=Z,335nm,0.9s,mb6.2
SBA Scott Base 63.29 184 eP **P** 09 26 08.0 +2.6
comp=Z,24nm,0.9s,mb5.0
SBA Scott Base 63.29 184 eP **P** 09 26 08.0 +2.6
SBA pmax pmax
comp=Z,23nm,0.9s,mb5.0
VNDA Vanda 63.40 186 P **P** 09 26 08.1 +2.0
comp=Z,31nm,1.1s,mb5.0,baz=10,slow=7.0,SNR=42
VNDA PcP PcP 09 26 42.2 +0.4
comp=Z,7.6nm,0.9s,baz=354,slow=4.1,SNR=4.6
VNDA Vanda 63.40 186 eP **P** 09 26 07.8 +1.7
comp=Z,23nm,1.0s,mb5.0
VNDA Vanda 63.40 186 eP **P** 09 26 07.8 +1.7
VNDA pmax pmax
comp=Z,23nm,1.0s
KLBR Kellerberrin 63.58 242 eP **P** 09 26 07.4 -0.7
comp=Z,198nm,1.4s,mb5.8
LUWI Luwuk 63.72 277 P **P** 09 26 09.9 +0.6
comp=Z,3µmcomp=Z,334nm,1.3s,mb6.0
NWAO Narrogin (SRO) 63.97 241 eP **P** 09 26 10.5 -0.2
comp=Z,34nm,0.9s,mb5.2,baz=73,slow=5.5,SNR=12
NWAO Narrogin (SRO) 63.97 241 eP **P** 09 26 10.2 -0.4
comp=Z,141nm,1.4s,mb5.6
NWAO Narrogin (SRO) 63.97 241 eP **P** 09 26 10.3 -0.4
NWAO pmax pmax
comp=Z,141nm,1.4s
MRSI Marisa 64.95 278 P **P** 09 26 16.9 -0.4
comp=Z,2µmcomp=Z,81nm,1.1s,mb5.5
BKSI Bulukumba 65.14 271 P **P** 09 26 18.0 -0.6
comp=Z,704nmcomp=Z,36nm,1.2s,mb5.1
BNSI Bone 65.39 272 P **P** 09 26 20.5 +0.3
comp=Z,2µmcomp=Z,146nm,1.3s,mb5.7
KAPI Kappang 65.57 271 eP **P** 09 26 20.3 -1.1
comp=Z,63nm,1.0s,mb5.4
KAPI Kappang 65.57 271 P **P** 09 26 20.5 -0.9
comp=Z,1µmcomp=Z,70nm,1.2s,mb5.3
BMNI Bima 65.77 267 P **P** 09 26 21.8 -0.8
comp=Z,5µmcomp=Z,290nm,1.0s,mb6.1
SPSI Sidrap Palu 65.82 273 P **P** 09 26 22.3 -0.7
comp=Z,938nmcomp=Z,59nm,1.1s,mb5.3
TTSI Tana Toraja 66.01 274 P **P** 09 26 24.6 +0.4
comp=Z,1µmcomp=Z,52nm,1.3s,mb5.2
MJSI Majene 66.69 273 P **P** 09 26 30.0 +1.5
comp=Z,4µmcomp=Z,381nm,1.2s,mb6.1
MTNI Mataram 68.18 267 P **P** 09 26 37.2 -0.7
comp=Z,128nm,1.2s,mb5.5
MJAR Matsushiro Arr 68.35 320 P **P** 09 26 37.7 -0.7
comp=Z,4.8nm,0.6s,mb4.4,baz=158,slow=6.3,SNR=19
MJAR Matsushiro Arr 68.35 320 P **P** 09 26 37.7 -0.7
MJAR Matsushiro Arr 68.35 320 P **P** 09 26 37.7 -0.7
FX1 Attu Island--F 68.77 352 P **P** 09 26 39.5 -1.1
comp=Z,11nm,0.6s,mb4.8,baz=308,slow=15,SNR=5.3
FX1 Attu Island--F 68.77 352 P **P** 09 26 39.5 -1.1
FX1 Attu Island--F 68.77 352 P **P** 09 26 39.5 -1.1
IGBI Denpasar 69.12 266 P **P** 09 26 43.7 0.0
comp=Z,258nm,1.2s,mb5.8
SMKI Samarinda 69.22 275 P **P** 09 26 47.2 +2.8
SRBI Singaraja 69.22 267 P **P** 09 26 44.2 -0.2
comp=Z,235nm,1.4s,mb5.7
KBKI Kotabaru 69.47 272 P **P** 09 26 46.6 +0.8
comp=Z,4µmcomp=Z,151nm,1.1s,mb5.6
MYLDM Lahad Datu 69.64 282 P **P** 09 26 49.2 +2.3
MYLDM Lahad Datu 69.64 282 P **P** 09 26 48.2 +1.3
comp=Z,2µmcomp=Z,149nm,1.4s,mb5.5
TSM Tawau 69.96 280 P **P** 09 26 49.8 +0.9
JAGI Jajag, Banyuwa 70.16 266 P **P** 09 26 48.7 -1.4
CASY Casey 70.17 205 eP **P** 09 26 48.6 -0.6
comp=Z,18nm,0.9s,mb4.8
FALS False Pass 70.48 7 eP **P** 09 26 48.8 -2.2
comp=Z,21nm,0.6s,mb5.0
KMMI Kalianget 70.67 268 P **P** 09 26 53.9 +0.7
comp=Z,2µmcomp=Z,105nm,1.2s,mb5.4
BBKI Banjar Baru 70.70 272 P **P** 09 26 54.3 +0.9
comp=Z,3µmcomp=Z,214nm,1.4s,mb5.7
BLJI Banyuglugur 70.86 267 P **P** 09 26 54.7 +0.3
comp=Z,3µmcomp=Z,259nm,1.1s,mb5.9
GMJI Gumukmas 70.89 266 P **P** 09 26 58.4 +3.9
SDKM Sandakan 71.02 282 P **P** 09 26 56.2 +0.9
ASAJ Asahikawa 71.03 329 P **P** 09 26 54.4 -0.2
comp=Z,15nm,0.7s,mb4.9,baz=99,slow=8.3,SNR=12
JNU Nakatsue 71.14 313 eP **P** 09 26 55.0 -0.7
comp=Z,12nm,0.6s,mb4.8
SDPT Sand Point 71.33 8 eP **P** 09 26 54.2 -1.9
comp=Z,122nm,1.1s,mb5.5
BSC Santa Cruz Isl 71.42 46 ⇓P **P** 09 26 57.6 +0.4
baz=72
SBC Santa Barbara 71.62 45 ⇓P **P** 09 26 58.9 +0.5
baz=72
SCI San Clemente I 71.62 47 ⇑P **P** 09 26 58.3 -0.2
baz=72
KDM Kudat 71.76 283 P **P** 09 27 01.5 +1.7
SAO San Andreas Ge 71.79 42 eP **P** 09 26 59.0 -0.4
comp=Z,118nm,1.3s,mb5.3
SAO San Andreas Ge 71.79 42 eP **P** 09 26 59.0 -0.4
SAO pmax pmax
comp=Z,118nm,1.3s,mb5.5
SMMC Simmler 71.91 44 ⇓P **P** 09 27 00.5 +0.3
baz=72
KKM Kota Kinabalu 72.07 282 P **P** 09 27 02.5 +0.9
KKM Kota Kinabalu 72.07 282 eP **P** 09 27 01.7 +0.1
comp=Z,71nm,0.6s,mb5.6
KCPM Cahto Peak 72.22 39 eP **P** 09 27 01.2 -0.7
comp=Z,62nm,1.5s,mb5.1
PETK Petropavlovsk- 72.29 343 P **P** 09 27 02.7 +0.7
comp=Z,12nm,0.7s,mb4.7,baz=123,slow=8.7,SNR=6.9
PETK Petropavlovsk- 72.29 343 P **P** 09 27 02.7 +0.7
PETK Petropavlovsk- 72.29 343 P **P** 09 27 02.7 +0.7
KIPM Iron Peak 72.35 39 eP **P** 09 27 02.8 +0.1
comp=Z,140nm,1.6s,mb5.4
OSI Osito Adit 72.39 45 ⇑P **P** 09 27 03.6 +0.5
baz=72
OSI Osito Adit 72.39 45 eP **P** 09 27 03.3 +0.2
comp=Z,87nm,1.3s,mb5.3
DECC Green Verdugo 72.47 46 ⇑P **P** 09 27 03.4 -0.1
baz=73
PWJI Pagerwojo 72.52 266 P **P** 09 27 04.3 0.0
comp=Z,160nm,1.6s,mb5.6
PASC Pasadena Art C 72.52 46 eP **P** 09 27 03.2 -0.6
comp=Z,72nm,1.3s,mb5.2
CHGN Chignik 72.55 9 eP **P** 09 27 02.0 -1.5
109C Camp Elliot, M 72.60 48 ⇓P **P** 09 27 04.3 0.0
baz=73,SNR=5.2
ARVC Arvin 72.60 45 ⇑P **P** 09 27 04.0 -0.3
baz=73
SJI Sawahan 72.62 267 P **P** 09 27 05.6 +0.7
comp=Z,141nm,1.4s,mb5.5
MWC Mount Wilson 72.64 46 eP **P** 09 27 04.3 -0.2
comp=Z,19nm,0.6s,mb5.0
MWC ePP PP 09 29 46.1 -2.1
MWC Mount Wilson 72.64 46 eP **P** 09 27 04.3 -0.2
MWC e 09 29 46.1
MWC pmax pmax
comp=Z,19nm,0.6s,mb5.0
BAR Barrett 72.80 48 eP **P** 09 27 04.7 -0.8
comp=Z,42nm,1.6s,mb4.9
VES Vestal, Richgr 72.83 44 ⇑P **P** 09 27 05.4 -0.2
baz=73,SNR=14
KHMM Horse Mountain 72.87 38 eP **P** 09 27 06.1 +0.4
comp=Z,71nm,1.2s,mb5.3
MURC Murrieta 72.91 47 P **P** 09 27 06.0 -0.1
baz=73,SNR=17
BFSC Mount Baldy Ra 72.93 46 P **P** 09 27 05.8 -0.4
baz=73,SNR=18
RCTC Rector, Farmer 72.99 44 ⇑P **P** 09 27 06.0 -0.5
baz=73,SNR=11
NGJI Ngawi 73.01 267 P **P** 09 27 09.0 +1.8
comp=Z,145nm,1.0s,mb5.7
PCJI Pacitan 73.09 266 P **P** 09 27 08.2 +0.6
comp=Z,503nm,1.1s,mb6.1
MONP Monument Peak 73.09 48 ⇑P **P** 09 27 07.3 +0.1
baz=73,SNR=43
ISA Isabella 73.14 45 P **P** 09 27 07.5 0.0
baz=73,SNR=69
ISA Isabella 73.14 45 eP **P** 09 27 07.3 -0.2
comp=Z,73nm,1.1s,mb5.3
ISA Isabella 73.14 45 eP **P** 09 27 07.3 -0.1
ISA pmax pmax
comp=Z,73nm,1.1s,mb5.3
DVTC Desert V Tower 73.20 48 ⇑P **P** 09 27 07.9 0.0
baz=73,SNR=27
CMB Columbia Colle 73.22 42 eP **P** 09 27 07.5 -0.3
comp=Z,69nm,1.1s,mb5.3
CMB Columbia Colle 73.22 42 eP **P** 09 27 07.5 -0.3
CMB pmax pmax
comp=Z,69nm,1.1s,mb5.3
WDC Whiskeytown Da 73.40 39 eP **P** 09 27 08.6 -0.3
comp=Z,122nm,1.4s,mb5.4
WDC ePcP PcP 09 27 24.3 0.0
WDC Whiskeytown Da 73.40 39 eP **P** 09 27 08.6 -0.2
WDC e 09 27 24.3
WDC pmax pmax
comp=Z,121nm,1.4s,mb5.4
PFO Pinyon Flat Ob 73.44 47 ⇓P **P** 09 27 09.1 -0.1
baz=74,SNR=21
PFO Pinyon Flat Ob 73.44 47 eP **P** 09 27 08.6 -0.6
comp=Z,37nm,1.2s,mb5.0
PFO ePcP PcP 09 27 25.6 +0.9
PFO epP pP 09 27 39.7 -3.7
PFO esP sP 09 27 55.8 -2.5
PFO Pinyon Flat Ob 73.44 47 eP **P** 09 27 08.6 -0.6
PFO e 09 27 25.6
PFO pmax pmax
comp=Z,37nm,1.2s,mb5.0
PFO Pinyon Flat Ob 73.44 47 P **P** 09 27 09.0 -0.2
comp=Z,144nm,1.4s,mb5.5,SNR=14
BBRC Big Bear Solar 73.46 47 ⇓P **P** 09 27 09.6 +0.3
baz=74,SNR=8.0
SWSC Sam W. Stewart 73.57 48 P **P** 09 27 09.6 -0.4
baz=74,SNR=19
LRMC Laurel Mountai 73.58 45 ⇓P **P** 09 27 09.9 0.0
baz=74,SNR=62
RRX Edison Barstow 73.73 46 ⇑P **P** 09 27 10.6 -0.3
baz=74
YULB Yu-li 73.82 300 eP **P** 09 27 11.5 -0.2
comp=Z,14nm,0.6s,mb4.9
CWC Cottonwood Cre 73.83 44 ⇑P **P** 09 27 11.6 +0.1
baz=74,SNR=16
BELC Belle Mtn. Jos 73.97 47 ⇓P **P** 09 27 12.3 0.0
baz=74,SNR=26
MLAC Mammoth Lakes 74.00 43 ⇑P **P** 09 27 12.8 +0.4
baz=74,SNR=22
YBH Yreka Blue Hor 74.00 38 eP **P** 09 27 11.9 -0.4
comp=Z,92nm,1.2s,mb5.4
YBH epP pP 09 27 46.7 +0.1
YBH Yreka Blue Hor 74.00 38 eP **P** 09 27 11.9 -0.4
YBH e*PP pP 09 27 46.7 +0.1
YBH pmax pmax
comp=Z,92nm,1.2s
MPMC Manual Prospec 74.03 45 ⇑P **P** 09 27 12.8 +0.2
baz=74,SNR=108
SMRI Semarang 74.06 267 P **P** 09 27 14.1 +0.8
comp=Z,200nm,1.2s,mb5.7
TIN Tinemaha 74.08 44 ⇓P **P** 09 27 13.1 +0.2
baz=74,SNR=19
GSC Goldstone 74.09 46 P **P** 09 27 12.8 -0.2
baz=74,SNR=60
GSC Goldstone 74.09 46 eP **P** 09 27 12.5 -0.5
comp=Z,63nm,1.0s,mb5.3
GSC Goldstone 74.09 46 eP **P** 09 27 12.5 -0.5
GSC pmax pmax
comp=Z,63nm,1.0s,mb5.3
WAKR Walker 74.10 42 eP **P** 09 27 12.9 -0.1
comp=Z,105nm,1.2s,mb5.4
WAKR epP pP 09 27 47.1 -0.1
HEC Hector,Ludlow 74.17 46 ⇓P **P** 09 27 13.3 -0.2
baz=74,SNR=69
BC3 Big Chuckawall 74.18 48 ⇑P **P** 09 27 13.7 +0.2
baz=74,SNR=23
BTM Bintulu 74.20 278 P **P** 09 27 15.5 +1.3
LBCM Butte Creek Ri 74.27 39 P **P** 09 27 13.8 -0.1
SSLB Suanglung 74.28 301 eP **P** 09 27 13.5 -0.9
comp=Z,47nm,0.5s,mb5.5
OHAK Old Harbor 74.32 12 eP **P** 09 27 12.4 -1.4
comp=Z,61nm,1.3s,mb5.2
GLA Glamis 74.32 49 ⇓P **P** 09 27 14.8 +0.4
baz=74,SNR=11
GLA Glamis 74.32 49 eP **P** 09 27 14.4 0.0
comp=Z,64nm,1.2s,mb5.2
GLA ePP PP 09 29 60.0 -2.6
GLA Glamis 74.32 49 eP **P** 09 27 14.4 0.0
GLA e 09 30 00.0
GLA pmax pmax
comp=Z,64nm,1.2s,mb5.2
TPUB Tapu 74.34 300 eP **P** 09 27 13.5 -1.2
comp=Z,60nm,0.6s,mb5.5
WCN Washoe City 74.36 41 P **P** 09 27 14.7 +0.3
baz=74,SNR=65
WCN Washoe City 74.36 41 eP **P** 09 27 14.3 -0.1
comp=Z,80nm,1.1s,mb5.4
WCN Washoe City 74.36 41 eP **P** 09 27 14.3 -0.1
WCN pmax pmax
comp=Z,80nm,1.1s,mb5.4
LTIM Timbered Crate 74.39 39 P **P** 09 27 14.6 0.0
HUMO Huli Mountain 74.40 37 eP **P** 09 27 14.7 +0.1
comp=Z,59nm,1.2s,mb5.2
HUMO epP pP 09 27 48.6 -0.3
GMRC Granite Mounta 74.61 47 P **P** 09 27 15.9 -0.1
baz=75,SNR=59
GRAC Grapevine Rang 74.62 44 ⇑P **P** 09 27 16.4 +0.4
baz=75,SNR=59
IRM Iron Mountain 74.66 48 ⇑P **P** 09 27 16.4 +0.1
baz=75,SNR=66
FURC Furnace Creek, 74.68 45 P **P** 09 27 16.3 -0.1
baz=75,SNR=32
QSPA South Pole Qui 74.75 180 P **P** 09 27 17.8 +1.7
comp=Z,57nm,1.0s,mb5.2,baz=38,slow=1.8,SNR=130
QSPA South Pole Qui 74.75 180 P **P** 09 27 17.8 +1.7
SHOC Shoshone 74.77 45 ⇓P **P** 09 27 16.9 0.0
baz=75,SNR=27
TUQ Turquoise Moun 74.77 46 ⇓P **P** 09 27 17.2 +0.2
baz=75,SNR=30
NVAR Mina Array Bea 74.79 42 P **P** 09 27 17.0 +0.1
comp=Z,53nm,0.8s,mb5.2,baz=228,slow=10,SNR=306
NVAR PP PP 09 30 03.2 -3.2
comp=Z,3.6nm,0.9s,baz=232,slow=11,SNR=5.2
NVAR LR LR 09 53 11.2
comp=Z,257nm,21.6s,baz=314,slow=30
NVAR Mina Array Bea 74.79 42 P **P** 09 27 17.0 +0.1
NVAR PP PP 09 30 03.2 -3.2
NVAR LR LR 09 53 11.2
SBUM Sibu 74.82 277 P **P** 09 27 18.6 +0.9
PAHR Pah Rah Range 74.82 41 eP **P** 09 27 16.9 -0.2
comp=Z,88nm,1.2s,mb5.3
STKI Sintang 74.87 274 P **P** 09 27 19.2 +1.2
Y12C Blythe 74.89 48 ⇓P **P** 09 27 17.8 +0.1
baz=75,SNR=27
113A Mohawk Valley, 74.95 49 ⇑P **P** 09 27 18.0 -0.1
baz=75,SNR=7.8
KDAK Kodiak Island 74.98 12 P **P** 09 27 17.2 -0.4
comp=Z,34nm,1.1s,mb4.9,baz=188,slow=3.5,SNR=8.8
KDAK Kodiak Island 74.98 12 eP **P** 09 27 16.7 -0.9
comp=Z,93nm,1.3s,mb5.2
KDAK Kodiak Island 74.98 12 eP **P** 09 27 16.7 -0.9
KDAK pmax pmax
comp=Z,93nm,1.3s,mb5.2
KDAK Kodiak Island 74.98 12 P **P** 09 27 17.0 -0.6
comp=Z,283nm,1.2s,mb5.8,SNR=7.2
LDFC Landfair 75.15 47 eP **P** 09 27 19.4 +0.3
comp=Z,197nm,1.2s,mb5.6
Z13A Yuma Proving G 75.25 49 ⇓P **P** 09 27 19.6 -0.1
baz=75,SNR=31
214A Organ Pipe Nat 75.27 51 P **P** 09 27 19.9 +0.1
baz=75,SNR=11
NEE2 Needles Airpor 75.34 47 ⇓P **P** 09 27 20.4 +0.2
baz=75,SNR=6.1
PDMCI Parker Dam,Lak 75.45 48 ⇑P **P** 09 27 20.9 +0.1
baz=76,SNR=19
KSRS Korea Array 75.53 316 P **P** 09 27 21.9 +0.7
comp=Z,3.7nm,0.6s,mb4.2,baz=124,slow=4.7,SNR=13
MOD Modoc 75.54 39 eP **P** 09 27 20.8 -0.4
comp=Z,75nm,1.1s,mb5.2
114A Black Gap (USA 75.60 50 ⇓P **P** 09 27 21.8 +0.1
baz=76,SNR=7.5
K05A Summer Lake 75.68 38 P **P** 09 27 22.4 +0.5
baz=76,SNR=27
Z14A Wintersburg 75.85 49 ⇑P **P** 09 27 23.4 +0.3
baz=76,SNR=25
SHPR Sheep Range 75.86 45 eP **P** 09 27 23.3 +0.2
comp=Z,64nm,1.1s,mb5.2
115A Sonoran Desert 76.06 50 ⇓P **P** 09 27 24.5 +0.2
baz=76
Y14A Wickenburg 76.08 49 ⇑P **P** 09 27 24.8 +0.3
baz=76
H04A Detroit Lake 76.13 35 ⇑P **P** 09 27 24.3 -0.2
baz=76,SNR=9.3
BKCOR Black Crater 76.17 36 P **P** 09 27 24.7 0.0
G04A Mulino 76.30 35 ⇓P **P** 09 27 25.3 -0.1
baz=76,SNR=7.9
216A Three Points, 76.30 51 P **P** 09 27 26.1 +0.4
baz=76,SNR=20
116A Eloy 76.38 50 ⇓P **P** 09 27 26.3 +0.2
baz=76,SNR=14
KSM Kuching 76.38 275 P **P** 09 27 27.5 +0.9
KSM Kuching 76.38 275 eP **P** 09 27 26.9 +0.3
comp=Z,193nm,1.2s,mb5.6
Z15A Gila River Ind 76.39 50 ⇑P **P** 09 27 26.3 +0.2
baz=76,SNR=10
R11A Troy Canyon, C 76.54 44 ⇓P **P** 09 27 27.0 +0.1
baz=77,SNR=58
E03A Lebam 76.56 33 ⇑P **P** 09 27 26.9 0.0
baz=77,SNR=6.4
Y15A Casa Rosa Ranc 76.58 49 ⇑P **P** 09 27 27.4 +0.1
baz=77,SNR=64
BMN Battle Mountai 76.60 41 eP **P** 09 27 27.2 0.0
comp=Z,78nm,1.1s,mb5.2
BMN Battle Mountai 76.60 41 eP **P** 09 27 27.3 +0.1
BMN pmax pmax
comp=Z,78nm,1.1s,mb5.2
U13A Pakoon Wash 76.64 46 P **P** 09 27 28.1 +0.5
baz=77,SNR=123
217A Green Valley 76.68 52 P **P** 09 27 28.1 +0.3
baz=77,SNR=19
WVOR Wild Horse Val 76.85 39 eP **P** 09 27 28.4 -0.2
comp=Z,60nm,1.1s,mb5.1
WVOR ePP PP 09 30 21.3 -2.3
WVOR Wild Horse Val 76.85 39 eP **P** 09 27 28.4 -0.2
WVOR e 09 30 21.3
WVOR pmax pmax
comp=Z,60nm,1.1s,mb5.1
VLL Laurance Lake 76.90 35 P **P** 09 27 28.6 -0.1
VIPM Ingram Point 76.91 36 P **P** 09 27 28.7 -0.2
VIPM Ingram Point 76.91 36 P **P** 09 27 28.7 -0.2
TUC Tucson 76.95 51 eP **P** 09 27 28.8 -0.6
comp=Z,62nm,1.2s,mb5.1
TUC epP pP 09 27 59.7 -4.1
TUC Tucson 76.95 51 eP **P** 09 27 28.8 -0.6
TUC pmax pmax
comp=Z,62nm,1.2s,mb5.1
Z16A Peralta Trail, 76.95 50 ⇓P **P** 09 27 29.6 +0.3
baz=77,SNR=22
117A Oracle 77.10 51 P **P** 09 27 30.6 +0.4
baz=77,SNR=30
318A Bisbee 77.15 52 ⇑P **P** 09 27 30.8 +0.3
baz=77
Y16A Circle Bar Ran 77.17 49 ⇓P **P** 09 27 31.0 +0.5
baz=77,SNR=29
U14A Mt Trumbull 77.19 46 P **P** 09 27 31.2 +0.7
baz=77,SNR=167
W15A Williams 77.22 48 ⇓P **P** 09 27 31.9 +1.1
baz=77,SNR=12
I07A Izee 77.30 37 ⇓P **P** 09 27 31.4 +0.4
baz=77,SNR=26
G06A Carlson Farm, 77.34 36 P **P** 09 27 30.9 -0.3
baz=78,SNR=8.5
218A Dragoon 77.35 52 ⇓P **P** 09 27 32.1 +0.5
baz=77,SNR=36
X16A Lo Mia Camp, P 77.45 49 P **P** 09 27 32.8 +0.7
baz=78,SNR=52
RSO Redoubt South 77.45 11 eP **P** 09 27 30.3 -1.2
comp=Z,58nm,0.7s,mb5.3
J08A Circle Bar Ran 77.48 38 P **P** 09 27 31.9 -0.1
baz=78,SNR=45
R13A O'Grain Ranch, 77.53 44 ⇓P **P** 09 27 33.1 +0.6
baz=78,SNR=43
Y17A Roosevelt 77.55 50 P **P** 09 27 33.1 +0.4
baz=78,SNR=29
GNW Green Mountain 77.60 33 eP **P** 09 27 32.1 -0.6
comp=Z,28nm,1.4s,mb4.7
GNW ePcP PcP 09 27 42.8 +0.5
V15A Kaibab Nationa 77.60 47 ⇓P **P** 09 27 33.7 +0.8
baz=78,SNR=95
LON Longmire 77.62 34 eP **P** 09 27 31.9 -0.9
comp=Z,16nm,1.1s,mb4.5
LON Longmire 77.62 34 eP **P** 09 27 31.9 -0.9
LON pmax pmax
comp=Z,16nm,1.1s,mb4.6
CCUT Cedar City 77.63 45 eP **P** 09 27 33.5 +0.4
comp=Z,71nm,1.1s,mb5.2
Z17A San Carlos Hig 77.64 50 ⇓P **P** 09 27 34.0 +0.8
baz=78,SNR=12
319A Douglas 77.66 52 P **P** 09 27 33.9 +0.6
baz=78,SNR=29
ARUT Antelope Range 77.69 45 eP **P** 09 27 33.7 +0.3
comp=Z,62nm,1.0s,mb5.2
ARUT ePP PP 09 30 28.9 -1.9
ARUT Antelope Range 77.69 45 eP **P** 09 27 33.7 +0.3
ARUT e 09 30 28.9
ARUT pmax pmax
comp=Z,62nm,1.0s,mb5.2
W16A Flagstaff 77.71 48 ⇑P **P** 09 27 34.5 +1.0
baz=78,SNR=32
118A Homack Ranch, 77.71 51 ⇓P **P** 09 27 34.2 +0.6
baz=78,SNR=46
SEW Seward 77.76 12 eP **P** 09 27 31.9 -1.4
comp=Z,40nm,1.2s,mb4.9
D05A Enumclaw 77.80 33 ⇑P **P** 09 27 34.2 +0.4
baz=78,SNR=11
U15A North Rim 77.81 47 P **P** 09 27 34.9 +0.8
baz=78,SNR=139
Z18A Geronimo 77.86 51 ⇓P **P** 09 27 34.8 +0.4
baz=78,SNR=8.3
X17A Forest Lakes 77.88 49 P **P** 09 27 35.4 +0.9
baz=78,SNR=44
219A White Tail Can 77.96 52 P **P** 09 27 35.4 +0.4
baz=78,SNR=33
WUAZ Wupatki 78.02 48 P **P** 09 27 35.9 +0.6
baz=78,SNR=60
WUAZ Wupatki 78.02 48 eP **P** 09 27 35.7 +0.4
comp=Z,121nm,1.3s,mb5.4
WUAZ epP pP 09 28 12.4 +2.6
T15A Red Dirt Ranch 78.04 46 P **P** 09 27 35.8 +0.5
baz=78,SNR=156
F07A Phinny Hill Vi 78.14 35 P **P** 09 27 35.4 -0.3
baz=78,SNR=15
BBB Bella Bella 78.16 27 P **P** 09 27 35.5 -0.1
comp=Z,41nm,1.0s,mb5.0,baz=252,slow=5.2,SNR=8.7
BBB Bella Bella 78.16 27 P **P** 09 27 35.5 -0.1
Y18A Canyon Day Jun 78.18 50 P **P** 09 27 36.9 +0.7
baz=78,SNR=33
320A Kipp Ranch, An 78.22 53 P **P** 09 27 37.3 +0.8
baz=78,SNR=20
119A Ashpeak Ranch, 78.27 51 ⇑P **P** 09 27 37.2 +0.6
baz=78
G08A Pilot Rock 78.32 36 ⇑P **P** 09 27 36.6 -0.1
baz=78,SNR=42
S15A Panguitch 78.38 46 ⇓P **P** 09 27 38.5 +1.4
baz=78,SNR=68
Q14A Sevier Lake (B 78.41 44 ⇑P **P** 09 27 37.6 +0.3
baz=78,SNR=112
MDJ Mudanjiang 78.46 323 P **P** 09 27 40.2 +2.8
MDJ pP pP 09 28 12.7 +0.7
MDJ sP sP 09 28 26.8 0.0
MDJ sS sS 09 38 24.2 +2.4
MDJ pmax pmax
comp=Z,10.0nm,1.0s,mb4.4
MDJ pmax pmax
comp=Z,180nm,6.4s
MDJ LR LR
comp=N,310nm,32.3s
MDJ LR LR
comp=E,310nm,28.5s
MDJ LR LR
comp=Z,180nm,40.9s
JCW Jim Creek 78.46 33 eP **P** 09 27 36.9 -0.4
comp=Z,66nm,1.0s,mb5.2
220A Playas Peak, P 78.47 52 ⇓P **P** 09 27 38.4 +0.6
baz=78,SNR=66
V17A Tonalea, Kykot 78.49 48 ⇑P **P** 09 27 38.3 +0.5
baz=79,SNR=92
U16A Tuba City 78.50 47 ⇑P **P** 09 27 38.6 +0.7
baz=79,SNR=87
E07A Sunnyside 78.57 35 P **P** 09 27 37.9 -0.1
baz=79,SNR=22
X18A Snowflake 78.59 49 P **P** 09 27 38.9 +0.5
baz=79,SNR=28
RSW Rattlesnake Hi 78.62 35 eP **P** 09 27 38.2 -0.1
comp=Z,133nm,1.3s,mb5.4
T16A Glen Canyon Da 78.63 47 P **P** 09 27 39.4 +0.8
baz=79,SNR=55
REDWA Red Mountain 78.65 35 P **P** 09 27 38.0 -0.4
HAWA Hanford 78.65 35 eP **P** 09 27 38.0 -0.5
comp=Z,51nm,1.0s,mb5.1
120A U Bar Ranch, L 78.68 52 ⇓P **P** 09 27 39.5 +0.6
baz=79,SNR=22
R15A Junction 78.70 45 ⇑P **P** 09 27 39.8 +0.8
baz=79

RPW Rockport 78.84 33 *e*P **P 09 27 38.4 -1.1**
comp=Z,14nm,0.8s,mb4.6
Y19A Nutrioso 78.84 50 P **P 09 27 40.8 +1.0**
baz=79,SNR=43
P14A Drum Mountains 78.86 44 ⇓P **P 09 27 40.0 +0.3**
baz=79,SNR=113
A05A Maple Falls 78.89 32 ⇓P **P 09 27 39.3 -0.4**
baz=79,SNR=5.4
VDB Vedder Mountai 78.90 32 P **P 09 27 38.8 -0.9**
MSU Marysvale 78.92 45 *e*P **P 09 27 40.8 +0.7**
comp=Z,62nm,1.1s,mb5.2
MSU Marysvale 78.92 45 *e*P **P 09 27 40.8 +0.7**
MSU pmax pmax
comp=Z,62nm,1.1s,mb5.2
S16A Weppner Ranch, 78.93 46 P **P 09 27 40.5 +0.3**
baz=79,SNR=57
ETW Entiat 78.95 34 P **P 09 27 39.6 -0.5**
Z20A Nine Sixteen R 78.96 51 P **P 09 27 41.2 +0.8**
baz=79,SNR=41
E08A Dider Farm, El 78.97 35 P **P 09 27 39.9 -0.3**
baz=79,SNR=24
W18A Petrified Fore 79.02 49 ⇑P **P 09 27 41.2 +0.4**
baz=79,SNR=6.7
Q15A Fillmore 79.02 44 P **P 09 27 41.0 +0.3**
baz=79,SNR=37
BMO Blue Mountains 79.03 37 P **P 09 27 39.9 -0.6**
BMO Blue Mountains 79.03 37 P **P 09 27 39.9 -0.7**
X19A St. Johns 79.03 50 P **P 09 27 41.6 +0.8**
baz=79,SNR=52
LNOR Lincton Mounta 79.05 36 *e*P **P 09 27 39.7 -0.9**
comp=Z,24nm,1.3s,mb4.7
LNOR Lincton Mounta 79.05 36 *e*P **P 09 27 39.7 -0.9**
LNOR pmax pmax
comp=Z,24nm,1.3s,mb4.7
221A Mesquite Ranch 79.09 52 ⇓P **P 09 27 42.1 +0.9**
baz=79,SNR=14
MFID Camas Ranch 79.11 39 ⇑P **P 09 27 40.8 -0.2**
baz=79,SNR=14
MFID Camas Ranch 79.11 39 *e*P **P 09 27 40.6 -0.4**
comp=Z,56nm,1.2s,mb5.1
T17A Navajo Res., N 79.13 47 P **P 09 27 42.1 +0.8**
baz=79,SNR=90
V18A Ganado 79.15 48 P **P 09 27 42.1 +0.7**
baz=79,SNR=75
PMR Palmer 79.18 12 *e*P **P 09 27 39.9 -1.1**
comp=Z,24nm,0.6s,mb5.0
PMR Palmer 79.18 12 *e*P **P 09 27 39.9 -1.1**
PMR pmax pmax
comp=Z,24nm,0.6s,mb5.0
W19A Sanders 79.27 49 ⇓P **P 09 27 42.7 +0.6**
baz=79,SNR=26
R16A Teasdale 79.28 45 P **P 09 27 43.0 +0.9**
baz=79,SNR=54
121A Cookes Peak, D 79.31 52 P **P 09 27 43.1 +0.7**
baz=79,SNR=28
DUG Dugway 79.33 43 ⇑P **P 09 27 42.1 -0.2**
baz=79,SNR=47
DUG Dugway 79.33 43 *e*P **P 09 27 41.9 -0.5**
comp=Z,50nm,1.0s,mb5.1
DUG *e*pP pP 09 28 18.8 +1.9
DUG Dugway 79.33 43 *e*P **P 09 27 41.9 -0.4**
DUG *e**PP pP 09 28 18.8 +1.8
DUG pmax pmax
comp=Z,50nm,1.0s,mb5.1
P15A Leamington 79.38 44 ⇓P **P 09 27 43.0 +0.4**
baz=80,SNR=10
D08A Wollman Farm, 79.39 35 ⇑P **P 09 27 42.2 -0.2**
baz=80,SNR=31
S17A Black Ridge (B 79.44 46 P **P 09 27 42.9 -0.1**
baz=80,SNR=45
NJ2 Nanjing 79.47 307 *e*P **P 09 27 44.2 +1.0**
NJ2 pmax pmax
comp=Z,20nm,1.0s,mb4.7
Y20A Horse Springs, 79.47 51 P **P 09 27 44.1 +0.9**
baz=80,SNR=58
DIV Divide 79.48 14 *e*P **P 09 27 41.5 -1.2**
comp=Z,163nm,1.2s,mb5.5
DIV *e*PcP PcP 09 27 50.0 -0.1
E09A Wood Farm, Sta 79.50 36 ⇑P **P 09 27 42.5 -0.5**
baz=80,SNR=20
U18A Rough Rock, Ch 79.52 48 P **P 09 27 44.0 +0.5**
baz=80,SNR=65
SML Sawmill 79.54 12 *e*P **P 09 27 42.0 -0.9**
comp=Z,16nm,1.3s,mb4.5
SML Sawmill 79.54 12 *e*P **P 09 27 42.0 -0.9**
SML pmax pmax
comp=Z,16nm,1.3s,mb4.5
BGU Big Grassy Mou 79.56 42 *e*P **P 09 27 43.2 -0.4**
comp=Z,69nm,1.8s,mb5.0
BMRM Bremner River 79.61 14 *e*P **P 09 27 42.5 -0.8**
comp=Z,158nm,1.2s,mb5.5
X20A Quemado 79.66 50 P **P 09 27 45.1 +0.9**
baz=80,SNR=50
OD2 Odessa Site #2 79.70 35 *e*P **P 09 27 43.5 -0.6**
comp=Z,52nm,1.0s,mb5.1
OD2 *e*PcP PcP 09 27 51.2 -0.2
NLU North Lily Min 79.70 44 *e*P **P 09 27 44.2 -0.1**
comp=Z,15nm,1.1s,mb4.5
NLU *e*PP PP 09 30 46.3 -1.2
F10A Beach Ranch, E 79.71 36 ⇓P **P 09 27 43.6 -0.6**
baz=80,SNR=25
Z21A St. Cloud Mine 79.74 51 P **P 09 27 45.7 +1.0**
baz=80,SNR=42
I12A Atlanta 79.74 39 ⇓P **P 09 27 44.7 +0.3**
baz=80,SNR=73
Q16A Castle Valley 79.80 45 P **P 09 27 45.6 +0.7**
baz=80,SNR=23
P16A Fountain Green 79.81 44 ⇓P **P 09 27 45.8 +0.9**
baz=80,SNR=14
T18A Mexican Hat 79.86 47 ⇓P **P 09 27 45.8 +0.6**
baz=80,SNR=190
PNL Peninsula 79.86 17 *e*P **P 09 27 44.1 -0.6**
comp=Z,72nm,1.1s,mb5.2
R17A Hanksville Air 79.88 46 ⇑P **P 09 27 45.5 +0.2**
baz=80,SNR=70
W20A Ramah 79.92 49 P **P 09 27 46.6 +0.9**
baz=80,SNR=90
B08A Colville Reser 79.94 34 ⇓P **P 09 27 44.4 -1.0**
baz=80
U19A Dine' College, 79.94 48 P **P 09 27 46.3 +0.6**
baz=80,SNR=89
TMUT Trail Mountain 79.96 45 *e*P **P 09 27 46.2 +0.5**
comp=Z,106nm,1.0s,mb5.4
122A Conniff Cattle 79.98 52 ⇑P **P 09 27 47.2 +1.2**
baz=80,SNR=24
L14A Malta 80.00 41 ⇑P **P 09 27 46.1 +0.2**
baz=80,SNR=30
NOQ North Oquirrh 80.02 43 *e*P **P 09 27 45.8 -0.2**
comp=Z,84nm,1.3s,mb5.2
MPU Maple Canyon 80.03 44 *e*P **P 09 27 46.0 -0.1**
comp=Z,43nm,1.1s,mb5.0
MPU *e*PcP PcP 09 27 51.9 -1.2
MPU *e*PP PP 09 30 44.5 -5.7
S18A Hurst Farm, Bl 80.03 47 ⇓P **P 09 27 46.5 +0.4**
baz=80,SNR=25
Y21A Point of Rocks 80.04 51 P **P 09 27 47.4 +1.1**
baz=80,SNR=40
HLID Hailey 80.06 40 P **P 09 27 46.5 +0.3**
baz=80,SNR=93
HLID Hailey 80.06 40 *e*P **P 09 27 46.4 +0.2**
comp=Z,60nm,1.0s,mb5.2
HLID *e*pP pP 09 28 22.4 +1.5
HLID *e*PP PP 09 30 48.6 -1.7
J13A Cove Ranch, Pi 80.12 40 ⇑P **P 09 27 46.9 +0.4**
baz=80,SNR=94
SPUT South Promonto 80.13 42 *e*P **P 09 27 46.4 -0.2**
comp=Z,59nm,1.3s,mb5.1
X21A Alamocita Cree 80.15 50 P **P 09 27 47.6 +0.7**
baz=80,SNR=38
HVU Hansel Valley 80.16 42 *e*P **P 09 27 46.4 -0.3**
comp=Z,55nm,1.0s,mb5.1
HVU *e*PP PP 09 30 49.2 -2.0
HVU Hansel Valley 80.16 42 *e*P **P 09 27 46.4 -0.4**
HVU *e* 09 30 49.2
HVU pmax pmax
comp=Z,55nm,1.0s,mb5.1
C09A Chrisman Ranch 80.18 35 ⇑P **P 09 27 46.5 -0.2**
baz=80,SNR=17
O16A Springville 80.21 44 ⇓P **P 09 27 47.3 +0.3**
baz=80
M15A Larsen Ranch, 80.21 42 P **P 09 27 46.8 -0.2**
baz=80,SNR=50
V20A Brimhall 80.25 49 P **P 09 27 47.7 +0.3**
baz=80,SNR=13
K14A Jones Ranch, D 80.30 41 ⇓P **P 09 27 47.9 +0.4**
baz=80,SNR=63
T19A Beclabito 80.32 48 ⇑P **P 09 27 48.4 +0.7**
baz=80,SNR=61
H12A Diamond D Ranc 80.32 39 P **P 09 27 47.2 -0.3**
baz=80,SNR=31
SRU San Rafael 80.34 45 ⇑P **P 09 27 48.0 +0.2**
baz=80,SNR=60
SRU San Rafael 80.34 45 *e*P **P 09 27 47.8 0.0**
comp=Z,77nm,1.2s,mb5.2
SRU *e*PP PP 09 30 49.7 -3.0
SRU San Rafael 80.34 45 *e*P **P 09 27 47.8 0.0**
SRU *e* 09 30 49.7
SRU pmax pmax
comp=Z,77nm,1.2s,mb5.2
G12A Big Creek, Yel 80.35 38 ⇓P **P 09 27 47.5 -0.1**
baz=80
P17A Butcher Ranch, 80.36 45 ⇓P **P 09 27 48.4 +0.5**
baz=80,SNR=18
I13A Wildhorse Cree 80.43 39 ⇑P **P 09 27 48.5 +0.4**
baz=80,SNR=30
R18A Canyonlands Na 80.43 46 ⇑P **P 09 27 48.4 +0.2**
baz=80,SNR=40
JLU Jordanelle 80.44 43 *e*P **P 09 27 48.1 -0.1**
comp=Z,44nm,1.0s,mb5.0
U20A Newcomb 80.47 48 P **P 09 27 49.1 +0.6**
baz=80,SNR=21
DAU Daniels Canyon 80.47 44 *e*P **P 09 27 48.4 -0.1**
comp=Z,37nm,1.1s,mb4.9
DAU Daniels Canyon 80.47 44 *e*P **P 09 27 48.4 -0.1**
DAU pmax pmax
comp=Z,37nm,1.1s,mb4.9
J14A Carey 80.49 40 ⇓P **P 09 27 49.0 +0.6**
baz=81,SNR=95
CN2 Changchun 80.50 320 *e*P **P 09 27 46.7 -1.8**
CN2 *e*pP pP 09 28 22.3 -0.9
CN2 *e*sP sP 09 28 37.7 -0.3
CN2 *e*S S 09 37 39.9 -3.7
CN2 SS SS 09 42 58.8 -0.5
CN2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.4
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,18.0s
CN2 LR LR
comp=E,400nm,18.0s
CN2 LR LR
comp=Z,400nm,20.0s
123A Bell Site, Whi 80.52 52 ⇑P **P 09 27 49.5 +0.6**
baz=81,SNR=7.1
L15A Malad City 80.53 42 ⇑P **P 09 27 48.5 -0.2**
baz=81,SNR=37
W21A San Fidel 80.55 50 ⇑P **P 09 27 49.7 +0.7**
baz=81,SNR=12
N16A Rees Ranch, Co 80.59 43 ⇓P **P 09 27 49.5 +0.4**
baz=81,SNR=20
Q18A Rafter H Ranch 80.60 45 ⇑P **P 09 27 49.4 +0.2**
baz=81,SNR=66
LAZ Ladron 80.61 51 *e*P **P 09 27 49.8 +0.5**
comp=Z,30nm,1.4s,mb4.7
324A Moseley Ranch, 80.63 54 ⇑P **P 09 27 49.5 +0.1**
baz=81,SNR=60
S19A Harvey Farm, M 80.66 47 ⇓P **P 09 27 49.7 +0.2**
baz=81,SNR=34
TRF Thorofare Moun 80.67 11 *e*P **P 09 27 47.9 -1.1**
comp=Z,27nm,0.8s,mb4.9
TRF *e*pP pP 09 28 24.3 +0.6
M16A Huntsville 80.67 43 ⇓P **P 09 27 49.4 -0.1**
baz=81,SNR=37
H13A Challis 80.69 39 ⇓P **P 09 27 49.5 0.0**
baz=81,SNR=43
O17A Robinson Place 80.71 44 ⇓P **P 09 27 50.2 +0.4**
baz=81,SNR=89
425A Indio Mountain 80.75 55 P **P 09 27 50.6 +0.4**
baz=81,SNR=84
X22A Bernardo 80.75 50 ⇑P **P 09 27 50.9 +0.9**
baz=81
P18A Preston Nutter 80.77 45 ⇑P **P 09 27 50.3 +0.3**
baz=81
K15A Arbon 80.78 41 P **P 09 27 50.1 0.0**
baz=81,SNR=22
Z23A Rita Site, Whi 80.81 52 ⇑P **P 09 27 50.8 +0.4**
baz=81,SNR=19
R19A Curley Farm, L 80.82 46 ⇓P **P 09 27 50.4 +0.1**
baz=81,SNR=46
I14A Mackay 80.84 40 P **P 09 27 50.5 +0.2**
baz=81,SNR=33
224A Cornudas Mount 80.86 53 ⇓P **P 09 27 51.2 +0.5**
baz=81,SNR=54
V21A Milan 80.86 49 ⇑P **P 09 27 51.1 +0.5**
baz=81,SNR=13
HWUT Hardware Ranch 80.86 42 *e*P **P 09 27 49.8 -0.6**
comp=Z,36nm,1.1s,mb4.9
MVCO Mesa Verde 80.86 47 ⇑P **P 09 27 51.0 +0.4**
baz=81,SNR=11
MVCO Mesa Verde 80.86 47 *e*P **P 09 27 50.4 -0.2**
comp=Z,20nm,1.1s,mb4.7
BNM Barren Site 80.88 51 *e*P **P 09 27 51.4 +0.6**
comp=Z,29nm,0.9s,mb4.9
BNM *e*pP pP 09 28 27.1 +1.6
SKAG Skagway 80.90 19 *e*P **P 09 27 50.3 0.0**
comp=Z,78nm,1.3s,mb5.2
626A Big Bend Ranch 80.93 56 P **P 09 27 51.5 +0.3**
baz=81,SNR=41
LPM Los Pinos Moun 80.95 51 *e*P **P 09 27 51.6 +0.5**
comp=Z,35nm,1.1s,mb4.9
LPM *e*pP pP 09 28 27.9 +2.0
G13A Cobalt 80.98 38 ⇑P **P 09 27 50.7 -0.3**
baz=81,SNR=31
325A Bean Ranch, Si 81.00 54 ⇓P **P 09 27 51.4 0.0**
baz=81,SNR=84
N17A Moffit Pass 81.01 43 ⇓P **P 09 27 51.6 +0.3**
baz=81
NEW Newport 81.08 35 P **P 09 27 50.5 -0.9**
baz=81,SNR=12
NEW Newport 81.08 35 *e*P **P 09 27 50.3 -1.2**
comp=Z,41nm,1.3s,mb4.9
NEW *e*pP pP 09 28 25.7 -0.6
NEW Newport 81.08 35 *e*P **P 09 27 50.3 -1.2**
NEW *e**PP pP 09 28 25.7 -0.6
NEW pmax pmax
comp=Z,41nm,1.3s
W22A Albuquerque 81.10 50 ⇓P **P 09 27 53.1 +1.2**
baz=81,SNR=14
U21A Nageezi 81.12 49 P **P 09 27 52.6 +0.6**
baz=81,SNR=99
PV04 Paradox Valley 81.12 46 *e*P **P 09 27 51.7 -0.2**
PV04 *e*PP PP 09 30 56.5 -2.7
Q19A Hogan Spring (81.13 46 ⇓P **P 09 27 52.1 +0.1**
baz=81,SNR=40
L16A Fish Haven 81.15 42 P **P 09 27 51.8 -0.2**
baz=81,SNR=25
BPAW Bear Paw Mtn. 81.15 10 *e*P **P 09 27 49.8 -1.7**
comp=Z,7.0nm,0.7s,mb4.4
124A Stringfield Ra 81.17 53 ⇑P **P 09 27 52.8 +0.4**
baz=81,SNR=35
526A Mary Lane Ranc 81.17 56 P **P 09 27 52.7 +0.3**
baz=81,SNR=58
MCK McKinley 81.17 11 *e*P **P 09 27 50.5 -1.1**
comp=Z,61nm,1.0s,mb5.2
MCK McKinley 81.17 11 *e*P **P 09 27 50.5 -1.1**
MCK pmax pmax
comp=Z,61nm,1.0s,mb5.2
PAX Paxson 81.18 13 *e*P **P 09 27 50.8 -0.9**
comp=Z,48nm,1.3s,mb5.0
PAX Paxson 81.18 13 *e*P **P 09 27 50.8 -0.9**
PAX pmax pmax
comp=Z,48nm,1.3s,mb5.0
J15A Blackfoot 81.20 41 ⇑P **P 09 27 53.0 +0.7**
baz=81,SNR=78
TXAR Lajitas Array 81.22 56 P **P 09 27 52.9 +0.2**
comp=Z,35nm,1.1s,mb4.9,baz=224,slow=5.2,SNR=117
TXAR PP PP 09 30 56.9 -3.4
comp=Z,3.4nm,1.2s,baz=210,slow=7.2,SNR=4.1
TXAR PKKPbc PKKPbc 09 46 28.4 +0.1
comp=Z,0.2nm,0.6s,baz=157,slow=3.9,SNR=4.0
TXAR LR LR 09 58 42.5
comp=Z,181nm,20.8s,baz=0.0,slow=32
TXAR Lajitas Array 81.22 56 P **P 09 27 52.9 +0.2**
TXAR PP PP 09 30 56.9 -3.4
TXAR PKKPbc PKKPbc 09 46 28.4 +0.1
TXAR LR LR 09 58 42.5
TXAR Lajitas Array 81.22 56 P **P 09 27 52.9 +0.2**
TXAR 09 30 56.9
TXAR 09 46 28.4
Y23A Lovelace Mesa, 81.22 51 ⇓P **P 09 27 52.8 +0.2**
baz=81,SNR=20
PV01 Paradox Valley 81.23 47 *e*P **P 09 27 52.4 -0.1**
comp=Z,4μm,1.1s
O18A Roosevelt 81.24 44 ⇑P **P 09 27 52.6 +0.1**
baz=81,SNR=11
S20A Disappointment 81.24 47 ⇑P **P 09 27 53.2 +0.6**
baz=81,SNR=42
H14A Leadore 81.25 39 ⇑P **P 09 27 52.8 +0.3**
baz=81,SNR=45
F13A Darby 81.30 38 P **P 09 27 52.1 -0.6**
baz=81,SNR=45
C11A Tepee Creek (N 81.32 35 ⇑P **P 09 27 52.4 -0.4**
baz=81
ANMO Albuquerque 81.35 50 P **P 09 27 53.5 +0.3**
comp=Z,15nm,0.7s,mb4.7,baz=237,slow=6.0,SNR=66
ANMO Albuquerque 81.35 50 *e*P **P 09 27 53.5 +0.2**
comp=Z,53nm,1.2s,mb5.0
ANMO *e*pP pP 09 28 30.0 +2.0
ANMO Albuquerque 81.35 50 *e*P **P 09 27 53.5 +0.3**
ANMO *e**PP pP 09 28 30.0 +1.9
ANMO pmax pmax
comp=Z,53nm,1.2s
M17A Scullys Gap (B 81.38 43 ⇓P **P 09 27 52.7 -0.5**
baz=82,SNR=8.3
D12A Red Ives Fores 81.39 36 ⇓P **P 09 27 52.4 -0.8**
baz=82
R20A Redvale 81.39 47 P **P 09 27 53.5 +0.1**
baz=82,SNR=24
X23A Hourglass Bar 81.40 51 P **P 09 27 53.8 +0.3**
baz=82,SNR=54
225A Deer Hill, Car 81.41 53 P **P 09 27 54.1 +0.4**
baz=82,SNR=53
V22A San Miguel Ran 81.44 49 ⇓P **P 09 27 54.1 +0.5**
baz=82,SNR=28
K16A Soda Springs 81.45 41 P **P 09 27 53.9 +0.3**
baz=82,SNR=52
T21A Navajo Lake 81.45 48 ⇓P **P 09 27 54.5 +0.8**
baz=82,SNR=30
426A McDonald Obser 81.46 55 ⇑P **P 09 27 54.5 +0.6**
baz=82,SNR=107
I15A Monteview 81.48 40 P **P 09 27 54.1 +0.5**
baz=82,SNR=30
627A Terlingua Ranc 81.49 56 ⇑P **P 09 27 54.7 +0.6**
baz=82,SNR=74
Z24A Sheeppen Canyo 81.49 52 ⇑P **P 09 27 54.4 +0.4**
baz=82
G14A Jackson 81.53 39 ⇑P **P 09 27 54.0 +0.1**
baz=82,SNR=26
MENT Mentasta 81.54 14 *e*P **P 09 27 53.0 -0.6**
L17A Cokeville 81.55 42 ⇑P **P 09 27 53.6 -0.5**
baz=82,SNR=17
S21A Coal Bank Pass 81.57 47 ⇓P **P 09 27 55.1 +0.8**
baz=82,SNR=101
527A Woodward Ranch 81.58 56 ⇓P **P 09 27 54.5 -0.1**
baz=82,SNR=92
W23A Werner Place, 81.67 50 ⇓P **P 09 27 55.5 +0.6**
baz=82,SNR=64
U22A Llaves 81.68 49 P **P 09 27 55.3 +0.4**
baz=82,SNR=27
C12B Naegeli Ranch, 81.68 36 P **P 09 27 54.1 -0.5**
baz=82,SNR=16
MCMT McKenzie Canyo 81.68 39 *e*P **P 09 27 54.8 +0.1**
comp=Z,34nm,1.2s,mb4.8
Y24A Capitan 81.69 52 ⇑P **P 09 27 55.3 +0.3**
baz=82,SNR=37
H15A Lima 81.70 39 P **P 09 27 55.2 +0.4**
baz=82,SNR=56
E13A Victor 81.73 37 ⇑P **P 09 27 54.2 -0.8**
baz=82,SNR=66
AHID Auburn Hatcher 81.73 42 *e*P **P 09 27 54.9 -0.1**
comp=Z,72nm,1.2s,mb5.2
326A Caldwell Ranch 81.75 54 ⇑P **P 09 27 55.1 -0.4**
baz=82,SNR=26
M18A Lyman 81.75 43 ⇑P **P 09 27 55.3 +0.1**
baz=82,SNR=24
125A Gardner Draw, 81.76 53 ⇑P **P 09 27 55.6 +0.2**
baz=82,SNR=15
Q20A Ridgley Place, 81.80 46 ⇑P **P 09 27 55.8 +0.3**
baz=82,SNR=25
N18A Larsen Ranch, 81.80 44 ⇑P **P 09 27 55.2 -0.3**
baz=82,SNR=14
K17A Gardner Place, 81.84 42 P **P 09 27 55.6 0.0**
baz=82,SNR=40
O19A Miners Draw (B 81.85 44 ⇑P **P 09 27 55.6 -0.1**
baz=82,SNR=20
F14A Wisdom 81.88 38 ⇑P **P 09 27 55.8 0.0**
baz=82,SNR=31
RRI2 Red Ridge 81.88 41 *e*P **P 09 27 55.9 0.0**
comp=Z,118nm,1.2s,mb5.4
V23A Ortiz Mt. (NFS 81.89 50 ⇑P **P 09 27 57.1 +1.0**
baz=82,SNR=92
DLBC Dease Lake 81.90 22 P **P 09 27 55.3 -0.3**
comp=Z,24nm,1.2s,mb4.7,baz=222,slow=6.5,SNR=13
DLBC Dease Lake 81.90 22 *e*P **P 09 27 55.5 0.0**
T22A Edith 81.92 48 ⇓P **P 09 27 56.3 +0.2**
baz=82,SNR=33
D13A Huson 81.92 37 P **P 09 27 54.9 -1.0**
baz=82,SNR=45
226A Malaga, Loving 81.95 54 ⇓P **P 09 27 56.4 0.0**
baz=82,SNR=11
X24A Lazy VL Ranch, 81.95 51 ⇓P **P 09 27 56.5 +0.1**
baz=82,SNR=7.0
Z25A Roswell 81.97 52 ⇑P **P 09 27 56.8 +0.3**
baz=82,SNR=35
P20A De Beque 81.98 45 ⇓P **P 09 27 56.9 +0.5**
baz=82,SNR=48
L18A Fontenelle, Gr 82.01 43 ⇓P **P 09 27 56.5 0.0**
baz=82,SNR=10
427A Hayter Ranch, 82.02 55 ⇑P **P 09 27 57.3 +0.5**
baz=82,SNR=56
B12A Libby 82.04 35 ⇑P **P 09 27 56.1 -0.4**
baz=82,SNR=7.9
I16A Newdale 82.04 40 ⇓P **P 09 27 57.1 +0.4**
baz=82,SNR=55
R21A Cimarron 82.06 47 P **P 09 27 57.5 +0.6**
baz=82,SNR=101
G15A Dillon 82.07 39 ⇓P **P 09 27 56.9 +0.1**
baz=82,SNR=47
MSO Missoula 82.08 37 ⇓P **P 09 27 55.9 -0.9**
baz=82,SNR=29
MSO Missoula 82.08 37 *e*P **P 09 27 55.5 -1.3**
comp=Z,41nm,1.2s,mb4.9
DOT Dot Lake 82.08 13 *e*P **P 09 27 55.6 -0.8**
comp=Z,237nm,1.2s,mb5.7
DCID1 Drake Creek 82.09 41 *e*P **P 09 27 56.9 0.0**
comp=Z,105nm,1.2s,mb5.3
N19A John Jarvie Ra 82.09 44 P **P 09 27 56.5 -0.5**
baz=82,SNR=24
DLMT Dillon 82.11 39 *e*P **P 09 27 56.8 -0.1**
comp=Z,59nm,1.1s,mb5.1
DLMT *e*PP PP 09 31 05.4 -1.8
E14A Clinton 82.12 38 P **P 09 27 56.6 -0.4**
baz=82,SNR=70
QIZ Qiongzhong 82.12 292 P **P 09 27 59.7 +2.1**
QIZ pP pP 09 28 31.3 -1.2
QIZ S S 09 38 06.2 +4.8
QIZ pmax pmax
comp=Z,23nm,1.8s,mb4.5
QIZ pmax pmax
comp=Z,210nm,5.0s
U23A El Rito 82.14 49 P **P 09 27 57.8 +0.5**
baz=82,SNR=92
BSMT Bassoo Peak 82.15 36 *e*P **P 09 27 56.4 -0.7**
comp=Z,39nm,1.1s,mb5.0
BSMT *e*PP PP 09 31 04.1 -3.3
C13A Hot Springs 82.17 36 P **P 09 27 56.3 -1.0**
baz=82,SNR=25
REDW Red Top Meadow 82.18 41 *e*P **P 09 27 57.1 -0.3**
comp=Z,112nm,1.3s,mb5.3
TPAW Teton Pass 82.18 41 *e*P **P 09 27 57.5 +0.1**
comp=Z,83nm,1.2s,mb5.2
CLNB Carlsbad 82.21 54 *e*P **P 09 27 57.6 -0.2**
comp=Z,12nm,1.1s,mb4.4
W24A Lazy 6 Ranch, 82.24 50 P **P 09 27 58.0 0.0**
baz=82,SNR=88
528A Cox Ranch, San 82.25 56 P **P 09 27 58.4 +0.3**
baz=82,SNR=60
Q21A Lamborn Mesa, 82.25 46 P **P 09 27 58.4 +0.5**
baz=82,SNR=62
126A Clayton Basin, 82.25 53 P **P 09 27 58.0 0.0**
baz=82,SNR=18
Y25A Mesa, Roswell 82.25 52 P **P 09 27 58.0 +0.1**
baz=82,SNR=55
A12A Yaak River Ran 82.26 35 ⇓P **P 09 27 57.3 -0.4**
baz=82,SNR=7.4
J17A Brown Place, J 82.27 41 P **P 09 27 58.0 +0.1**
baz=82,SNR=63
S22A 4UR Ranch, Cre 82.29 48 ⇑P **P 09 27 58.8 +0.7**
baz=82,SNR=100
SNOW Snow King Moun 82.29 41 *e*P **P 09 27 58.2 +0.2**
comp=Z,76nm,1.0s,mb5.3

K18A Toltan Ranch, 82.35 42 ⇓P P 09 27 58.8 +0.6
baz=82,SNR=92
O20A White River Ci 82.37 45 ⇓P P 09 27 58.7 +0.2
baz=82,SNR=24
JTMT Jette 82.38 36 *eP* P 09 27 56.8 -1.5
comp=Z,13nm,1.2s,mb4.5
JTMT *ePP* PP 09 31 06.8 -2.6
IMW Indian Meadow 82.39 41 *eP* P 09 27 58.6 +0.2
comp=Z,67nm,1.1s,mb5.2
M19A Rock Springs 82.39 43 ⇓P P 09 27 58.5 -0.1
baz=82,SNR=14
SWMT Swartz Lake 82.41 36 *eP* P 09 27 57.2 -1.3
comp=Z,22nm,1.5s,mb4.6
COLA College 82.41 11 *eP* P 09 27 56.9 -1.2
comp=Z,58nm,0.9s,mb5.2
COLA College 82.41 11 *eP* P 09 27 56.9 -1.2
COLA pmax pmax
comp=Z,58nm,0.9s,mb5.2
F15A Butte 82.42 38 ⇓P P 09 27 58.6 0.0
baz=82,SNR=26
LRM Limekiln Ridge 82.43 38 *eP* P 09 27 58.2 -0.4
comp=Z,264nm,1.0s,mb5.8
MOOW Moose Ponds 82.44 41 *eP* P 09 27 58.4 -0.4
comp=Z,50nm,1.4s,mb5.0
LOHW Long Hollow 82.46 41 *eP* P 09 27 58.8 -0.1
comp=Z,46nm,1.1s,mb5.0
D14A Greenough 82.47 37 P P 09 27 57.7 -1.1
baz=83,SNR=31
ILAR Eielson Array 82.50 11 P P 09 27 57.4 -1.2
comp=Z,11nm,0.6s,mb4.8,baz=228,slow=6.0,SNR=363
ILAR PP PP 09 31 03.5 -6.5
comp=Z,2.8nm,1.0s,baz=219,slow=7.3,SNR=4.5
ILAR Eielson Array 82.50 11 P P 09 27 57.4 -1.2
ILAR PP PP 09 31 03.5 -6.5
ILAR Eielson Array 82.50 11 P P 09 27 57.4 -1.2
ILAR 09 31 03.5
CPRX Cap Rock 82.52 53 *eP* P 09 27 59.3 -0.1
comp=Z,69nm,1.1s,mb5.3
G16A Moss Hill, Enn 82.52 39 ⇑P P 09 27 59.0 -0.1
baz=83
CHMT Chamberlain Mo 82.53 37 *eP* P 09 27 58.2 -0.8
comp=Z,30nm,1.1s,mb4.9
Z26A Caprock 82.53 53 ⇓P P 09 27 59.3 -0.1
baz=83,SNR=70
L19A Farson 82.54 43 ⇓P P 09 27 59.6 +0.3
baz=83,SNR=41
428A Kincaid Ranch, 82.55 55 ⇓P P 09 28 00.3 +0.7
baz=83,SNR=27
QLMT Earthquake Lak 82.55 40 *eP* P 09 27 59.9 +0.6
comp=Z,12nm,1.3s,mb4.5
T23A Casias Ranch, 82.55 49 ⇓P P 09 28 00.3 +0.8
baz=83,SNR=38
R22A Saguache, Gunn 82.55 47 P P 09 28 00.4 +0.9
baz=83,SNR=125
SLMT Seeley Lake 82.56 37 *eP* P 09 27 57.8 -1.5
comp=Z,25nm,1.0s,mb4.9
V24A Rampart Ranch, 82.56 50 P P 09 28 00.0 +0.5
baz=83,SNR=44
YBMT Yellow Bay 82.59 36 *eP* P 09 27 58.0 -1.4
comp=Z,13nm,1.1s,mb4.6
H16A Russell Place, 82.60 40 P P 09 28 00.4 +0.9
baz=83,SNR=110
B13A Whitefish 82.61 36 P P 09 27 58.5 -1.0
baz=83,SNR=16
E15A Deer Lodge 82.63 38 ⇑P P 09 27 59.3 -0.3
baz=83,SNR=31
I17A Pilgrim Ck. 82.63 41 P P 09 28 00.4 +0.7
baz=83,SNR=43
FLWY Flagg Ranch 82.63 41 *eP* P 09 27 59.9 +0.2
comp=Z,86nm,1.0s,mb5.4
J18A Kendall Valley 82.64 42 P P 09 27 59.8 0.0
baz=83,SNR=126
P21A Newcastle 82.64 46 P P 09 28 00.1 +0.3
baz=83,SNR=42
MYKOM Kota Tinggi 82.68 274 P P 09 28 01.8 +1.1
N20A Spence Gulch, 82.68 44 ⇓P P 09 28 00.6 +0.6
baz=83,SNR=63
328A Wristen Ranch, 82.70 55 ⇑P P 09 28 00.3 0.0
baz=83,SNR=26
PD01 Pinedale Array 82.71 42 *eP* P 09 27 59.7 -0.5
Q22A Crested Butte, 82.72 47 ⇑P P 09 28 00.8 +0.5
baz=83,SNR=84
BW06 Boulder Array 82.72 42 ⇓P P 09 27 59.7 -0.5
baz=83,SNR=74
PD02 Pinedale Array 82.73 42 *eP* P 09 27 59.5 -0.7
PDAR Pinedale Array 82.73 42 P P 09 27 59.6 -0.6
comp=Z,34nm,0.8s,mb5.1,baz=217,slow=3.2,SNR=246
PDAR PP PP 09 31 09.0 -3.4
comp=Z,4.1nm,1.3s,baz=256,slow=6.0,SNR=4.2
PDAR PKKPbc PKKPbc 09 46 24.2 -1.4
comp=Z,0.9nm,1.0s,baz=108,slow=4.8,SNR=4.6
PDAR Pinedale Array 82.73 42 P P 09 27 59.6 -0.6
PDAR PP PP 09 31 09.0 -3.4
PDAR PKKPbc PKKPbc 09 46 24.2 -1.4
YFT Old Faithful 82.73 40 *eP* P 09 28 01.5 +1.3
comp=Z,50nm,1.1s,mb5.2
YMR Madison River 82.76 40 *eP* P 09 28 01.0 +0.7
comp=Z,89nm,1.0s,mb5.5
YMR *ep*P pP 09 28 33.2 -2.0
127A Arkansas Junct 82.77 53 ⇓P P 09 28 00.1 -0.6
baz=83,SNR=22
SMCO Snowmass 82.82 46 *eP* P 09 28 01.1 +0.3
comp=Z,94nm,1.1s,mb5.4
BOZ Bozeman (W) 82.84 39 ⇓P P 09 28 00.6 -0.1
baz=83,SNR=41
BOZ Bozeman (W) 82.84 39 *eP* P 09 28 00.3 -0.4
comp=Z,66nm,1.4s,mb5.2
BOZ Bozeman (W) 82.84 39 *eP* P 09 28 00.3 -0.4
BOZ pmax pmax
comp=Z,66nm,1.4s,mb5.2
U24A Moreno Valley 82.84 49 ⇑P P 09 28 02.3 +1.4
baz=83,SNR=28
H17A Grant Village 82.86 40 P P 09 28 02.4 +1.5
baz=83,SNR=16
S23A Nye Farm, Mont 82.86 48 ⇓P P 09 28 01.5 +0.4
baz=83,SNR=18
Y26A Elida 82.91 52 ⇓P P 09 28 01.4 0.0
baz=83,SNR=62
F16A Kennard Place, 82.91 39 P P 09 28 01.2 +0.1
baz=83,SNR=39
O21A Pagoda 82.94 45 ⇑P P 09 28 01.3 0.0
baz=83,SNR=19
A13A Flathead Natio 82.94 35 ⇓P P 09 28 00.9 -0.3
baz=83
W25A X Bar L Ranch, 82.95 51 ⇑P P 09 28 01.5 -0.1
baz=83,SNR=58
YNR Norris Junctio 82.96 40 *eP* P 09 28 02.2 +0.8
comp=Z,92nm,1.5s,mb5.3
I18A Diamond G Ranc 83.01 41 ⇓P P 09 28 01.6 0.0
baz=83
D15A Lincoln 83.02 37 ⇑P P 09 28 01.6 -0.1
baz=83,SNR=45
M20A Sweetwater, Wa 83.03 44 ⇑P P 09 28 02.3 +0.4
baz=83,SNR=44
LKWY Lake 83.06 40 *eP* P 09 28 03.4 +1.5
comp=Z,89nm,1.1s,mb5.4
LKWY Lake 83.06 40 *eP* P 09 28 03.4 +1.5
LKWY pmax pmax
comp=Z,89nm,1.1s,mb5.4
V25A Rancho No Teng 83.09 50 P P 09 28 02.3 0.0
baz=83,SNR=95
Z27A Tatum 83.14 53 ⇑P P 09 28 02.2 -0.3
baz=83,SNR=49
N21A Black Mountain 83.15 45 ⇑P P 09 28 03.0 +0.5
baz=83,SNR=104
P22A Eagle 83.15 46 P P 09 28 02.7 +0.2
baz=83,SNR=57
L20A Wamsutter 83.17 43 ⇑P P 09 28 02.9 +0.4
baz=83,SNR=54
X26A CR and CF Fran 83.17 52 ⇑P P 09 28 02.8 0.0
baz=83,SNR=28
K19A Absolon Red Bu 83.21 42 P P 09 28 01.9 -0.8
baz=83,SNR=52
G17A Pierce Place, 83.22 39 P P 09 28 03.3 +0.6
baz=83,SNR=22
SDCO Great Sand Dun 83.24 48 ⇑P P 09 28 03.0 0.0
baz=83,SNR=56
SDCO Great Sand Dun 83.24 48 *eP* P 09 28 02.6 -0.4
comp=Z,48nm,1.3s,mb5.1
KGM Kluang 83.25 274 P P 09 28 05.0 +1.4
HRY Holter Researc 83.26 38 *eP* P 09 28 02.6 -0.3
comp=Z,58nm,0.9s,mb5.3
E16A East Helena 83.26 38 P P 09 28 02.6 -0.3
baz=83,SNR=49
B14A Marquette Ranc 83.28 36 ⇓P P 09 28 02.2 -0.7
baz=83,SNR=31
T24A Torres, Weston 83.28 49 P P 09 28 04.3 +1.1
baz=83,SNR=17
J19A Crowheart 83.29 42 P P 09 28 02.8 -0.3
baz=83,SNR=74
WALA Waterton Lakes 83.29 35 *eP* P 09 28 02.4 -0.6
comp=Z,2.0nm,1.5s
C15A Salmond Ranch, 83.35 37 ⇓P P 09 28 02.7 -0.7
baz=84,SNR=40
Y27A Causey 83.40 52 ⇑P P 09 28 03.8 -0.1
baz=84,SNR=81
S24A Houchin Ranch, 83.40 48 ⇓P P 09 28 04.7 +0.8
baz=84,SNR=50
K20A Yellowstone Ra 83.47 43 ⇑P P 09 28 03.4 -0.6
baz=84,SNR=48
U25A Circle Dot Ran 83.47 50 ⇑P P 09 28 04.3 0.0
baz=84,SNR=47
Q23A Hartsel 83.50 47 P P 09 28 04.8 +0.6
baz=84,SNR=15
A14A Double T Ranch 83.52 35 P P 09 28 03.5 -0.6
baz=84,SNR=31
DAWY Dawson 83.52 15 *eP* P 09 28 03.4 -0.4
DAWY *ep*P pP 09 28 34.2 -4.6
O22A Kremmling 83.55 46 ⇑P P 09 28 04.8 +0.3
baz=84,SNR=75
F17A Fitzpatrick Pl 83.56 39 P P 09 28 04.9 +0.5
baz=84,SNR=45
H18A Shoshone NF, C 83.57 40 ⇑P P 09 28 04.9 +0.3
baz=84,SNR=28
D16A Dana Ranch, Ca 83.59 38 ⇓P P 09 28 04.6 +0.1
baz=84,SNR=40
M21A Separation Pea 83.63 44 ⇓P P 09 28 05.0 +0.1
baz=84,SNR=29
B15A Bradely Ranch, 83.66 36 P P 09 28 03.6 -1.2
baz=84,SNR=28
I19A Meeteetse 83.69 41 ⇑P P 09 28 05.5 +0.3
baz=84,SNR=33
V26A Tequesquite Ra 83.69 50 ⇓P P 09 28 04.9 -0.4
baz=84,SNR=28
P23A Jefferson 83.70 46 ⇑P P 09 28 06.3 +1.0
baz=84,SNR=26
EGAK Eagle 83.71 14 *eP* P 09 28 04.1 -0.6
comp=Z,47nm,1.1s,mb5.1
E17A Martinsdale 83.71 38 ⇑P P 09 28 05.4 +0.2
baz=84
R24A Sanders Place, 83.73 48 ⇑P P 09 28 05.6 +0.1
baz=84,SNR=35
MSTX Muleshoe 83.73 52 ⇑P P 09 28 05.3 -0.3
baz=84,SNR=73
X27A F and S Farms, 83.75 52 ⇑P P 09 28 05.7 0.0
baz=84,SNR=37
RWWY Rawlins 83.77 44 *eP* P 09 28 05.3 -0.3
comp=Z,152nm,1.1s,mb5.6
T25A Trinidad 83.78 49 ⇓P P 09 28 05.8 +0.1
baz=84,SNR=16
L21A Rawlins 83.79 44 ⇓P P 09 28 05.6 -0.1
baz=84,SNR=29
C16A Fuhringer Ranc 83.86 37 ⇑P P 09 28 05.2 -0.7
baz=84,SNR=46
N22A Wattenberg Ran 83.89 45 ⇓P P 09 28 06.8 +0.5
baz=84,SNR=77
A15A Johnson Ranch, 83.91 36 ⇑P P 09 28 05.2 -0.9
baz=84
W27A Bowe Ranch, En 83.94 51 ⇓P P 09 28 06.4 -0.2
baz=84,SNR=34
G18A Lazy EL Ranch, 83.94 40 P P 09 28 06.5 +0.1
baz=84,SNR=32
J20A Shoshoni 83.95 42 ⇓P P 09 28 06.6 0.0
baz=84,SNR=130
U26A Atchley Ranch, 83.96 50 ⇓P P 09 28 06.4 -0.3
baz=84,SNR=60
S25A Robets Cordova 83.97 48 ⇑P P 09 28 06.8 +0.1
baz=84,SNR=43
H19A Powell 83.99 41 ⇑P P 09 28 07.1 +0.4
baz=84,SNR=61
O23A Lake Granby, G 84.00 46 ⇓P P 09 28 07.5 +0.7
baz=84,SNR=17
Q24A Divide 84.01 47 ⇓P P 09 28 07.4 +0.5
baz=84,SNR=52
RLMT Red Lodge 84.03 40 P P 09 28 07.3 +0.4
baz=84,SNR=52
RLMT Red Lodge 84.03 40 *eP* P 09 28 07.0 +0.2
comp=Z,56nm,1.0s,mb5.2
ISCO Idaho Springs 84.04 46 P P 09 28 07.2 +0.2
baz=84,SNR=28
ISCO Idaho Springs 84.04 46 *eP* P 09 28 06.9 -0.1
comp=Z,31nm,1.2s,mb4.9
ISCO Idaho Springs 84.04 46 *eP* P 09 28 06.9 -0.1
ISCO pmax pmax
comp=Z,31nm,1.2s,mb4.9
M22A Cedar Creek Ra 84.06 44 ⇓P P 09 28 07.2 +0.1
baz=84,SNR=32
GCMT Greycliff 84.11 39 *eP* P 09 28 07.3 +0.1
comp=Z,38nm,1.1s,mb5.0
F18A Big Timber 84.13 39 ⇑P P 09 28 07.6 +0.3
baz=84,SNR=40
D17A Six Diamond Ra 84.16 38 P P 09 28 07.5 0.0
baz=84,SNR=81
COLD Coldfoot 84.17 9 *eP* P 09 28 07.1 +0.1
comp=Z,27nm,1.0s,mb4.9
K21A Alcova 84.17 43 ⇓P P 09 28 07.2 -0.4
baz=84,SNR=65
B16A M & M Farms, S 84.20 36 ⇓P P 09 28 06.8 -0.8
baz=84,SNR=30
I20A Worland 84.20 42 ⇑P P 09 28 07.6 -0.1
baz=84,SNR=59
N23A Red Feather La 84.28 45 P P 09 28 08.5 +0.3
baz=84,SNR=39
R25A Fountain Ranch 84.28 48 ⇑P P 09 28 08.4 +0.1
baz=84,SNR=8.5
BILL Bilibino 84.31 353 *eP* P 09 28 07.2 -0.5
comp=Z,51nm,1.4s,mb5.1
BILL Bilibino 84.31 353 ⇓*iP* P 09 28 07.1 -0.6
BILL pmax pmax
comp=Z,33nm,1.3s,mb4.9
E18A Harlowton 84.33 39 P P 09 28 08.7 +0.3
baz=84,SNR=60
C17A Wharram Farm, 84.35 37 ⇑P P 09 28 08.1 -0.3
baz=84,SNR=148
J21A Lysite 84.36 42 P P 09 28 08.5 -0.1
baz=84,SNR=145
L22A Ellis Ranch, M 84.44 44 ⇓P P 09 28 09.5 +0.4
baz=84,SNR=94
A16A West Butte Ran 84.53 36 ⇑P P 09 28 09.0 -0.2
baz=85
H20A Greybull 84.53 41 P P 09 28 08.7 -0.7
baz=85,SNR=30
O24A Longmont 84.55 46 ⇓P P 09 28 10.1 +0.5
baz=85,SNR=18
F19A Roth Farm, Mol 84.58 40 ⇑P P 09 28 09.6 -0.1
baz=85,SNR=49
CMIG Matias Romero 84.60 71 P P 09 28 10.1 -0.2
comp=Z,7.7nm,0.7s,mb4.5,baz=250,slow=4.3,SNR=13
CMIG Matias Romero 84.60 71 P P 09 28 10.1 -0.2
Q25A Bedland, Calha 84.62 47 P P 09 28 09.4 -0.6
baz=85,SNR=13
B17A L&G Farms, Che 84.66 37 ⇑P P 09 28 09.6 -0.3
baz=85,SNR=28
K22A Casper 84.66 43 P P 09 28 09.7 -0.4
baz=85,SNR=16
I21A Big Trails, Te 84.68 42 ⇓P P 09 28 09.8 -0.3
baz=85,SNR=60
M23A Laramie 84.68 45 ⇑P P 09 28 10.4 +0.2
baz=85,SNR=5.4
D18A Linhart Farms, 84.70 38 P P 09 28 10.5 +0.3
baz=85,SNR=25
G20A Bridger 84.74 40 ⇓P P 09 28 10.0 -0.4
baz=85,SNR=9.5
JCT Junction City 84.76 57 ⇑P P 09 28 10.3 -0.6
baz=85,SNR=14
JCT Junction City 84.76 57 *eP* P 09 28 09.9 -1.0
comp=Z,21nm,1.1s,mb4.8
JCT *ePP* PP 09 31 25.3 -3.9
JCT Junction City 84.76 57 *eP* P 09 28 09.9 -1.0
JCT *e* 09 31 25.3
JCT pmax pmax
comp=Z,21nm,1.1s,mb4.8
PHWY Pilot Hill 84.79 45 *eP* P 09 28 09.2 -1.5
comp=Z,1.9nm,0.6s,mb4.0
BJI Beijing 84.82 314 P P 09 28 11.6 +0.7
BJI pmax pmax
comp=Z,27nm,2.1s,mb4.6
AMTX Amarillo 84.92 52 ⇓P P 09 28 11.1 -0.4
baz=85,SNR=21
AMTX Amarillo 84.92 52 *eP* P 09 28 10.9 -0.7
comp=Z,72nm,1.3s,mb5.2
AMTX *ep*P pP 09 28 41.0 -5.6
P25A Willow Gulch B 84.93 47 ⇓P P 09 28 11.6 +0.1
baz=85,SNR=28
E19A Rath Farm, Rou 84.96 39 ⇑P P 09 28 11.6 +0.1
baz=85,SNR=30
L23A Garrett 84.97 44 P P 09 28 11.3 -0.4
baz=85,SNR=39
J22A Midwest 85.03 43 P P 09 28 11.3 -0.6
baz=85,SNR=44
A17A Triple J Farms 85.04 36 ⇑P P 09 28 11.8 0.0
baz=85
F20A Billings 85.05 40 ⇓P P 09 28 12.3 +0.3
baz=85,SNR=13
EGMT Eagleton 85.14 37 ⇓P P 09 28 12.2 -0.2
baz=85,SNR=16
EGMT Eagleton 85.14 37 *eP* P 09 28 11.7 -0.7
comp=Z,49nm,1.1s,mb5.2
FRIM Kepong 85.20 275 P P 09 28 14.9 +1.4
H21A Big Horn, Sher 85.20 41 ⇑P P 09 28 12.7 0.0
baz=85,SNR=16
I22A 9 Mile Ranch, 85.23 42 ⇑P P 09 28 12.9 -0.1
baz=85,SNR=28
D19A Cripps Ranch, 85.24 38 ⇓P P 09 28 13.2 +0.3
baz=85,SNR=49
M24A Cheyenne 85.29 45 ⇓P P 09 28 13.4 +0.1
baz=85,SNR=14
B18A Beardsley Farm 85.30 37 ⇑P P 09 28 12.8 -0.4
baz=85,SNR=34
E20A Meyer Farm, Mu 85.39 39 ⇓P P 09 28 13.9 +0.3
baz=86,SNR=21
C19A Slack Wire Ran 85.41 38 P P 09 28 13.9 +0.2
baz=86,SNR=61
L24A Wheatland 85.46 44 ⇓P P 09 28 14.2 +0.2
baz=86,SNR=7.9
A18A Metzger Ranch, 85.52 37 ⇑P P 09 28 13.5 -0.7
baz=86,SNR=58
D20A Manuel Ranch, 85.66 39 P P 09 28 15.0 +0.1
baz=86,SNR=36
B19A Brinkman Farms 85.82 37 ⇓P P 09 28 15.8 +0.1
baz=86,SNR=37
C20A Veseth Ranch, 86.02 38 ⇓P P 09 28 16.9 +0.2
baz=86,SNR=46
E21A Keefer Ranch, 86.05 40 ⇓P P 09 28 17.4 +0.5
baz=86
IPM Ipoh 86.11 276 P P 09 28 19.4 +1.4
IPM Ipoh 86.11 276 *eP* P 09 28 18.5 +0.5
comp=Z,103nm,0.6s,mb5.7
A19A Klindworth Far 86.16 37 P P 09 28 17.1 -0.3
baz=86,SNR=30
D21A La Casta Ranch 86.34 39 ⇓P P 09 28 18.3 +0.1
baz=86,SNR=30
B20A Solberg Farm, 86.35 38 P P 09 28 18.1 -0.2
baz=86,SNR=20
A20A Cobblestone Ra 86.61 37 P P 09 28 19.4 -0.2
baz=87,SNR=55
C21A Desert Coulee 86.62 38 ⇓P P 09 28 19.6 -0.1
baz=87
LAO LASA Array 86.64 40 P P 09 28 20.2 +0.4
baz=87,SNR=30
LAO LASA Array 86.64 40 *eP* P 09 28 20.0 +0.2
comp=Z,74nm,1.0s,mb5.5
KULM Kulim 86.69 276 *eP* P 09 28 21.6 +0.8
comp=Z,16nm,0.7s,mb5.0
E22A Miles City 86.70 40 ⇓P P 09 28 19.6 -0.5
baz=87,SNR=8.0
H24A Dirks Ranch, A 86.86 42 ⇑P P 09 28 20.1 -0.8
baz=87,SNR=23
D22A Cohagen 86.87 39 P P 09 28 20.9 0.0
baz=87,SNR=17
RSSD Black Hills 86.93 43 *eP* P 09 28 20.1 -1.1
comp=Z,7.1nm,0.6s,mb4.7
RSSD Black Hills 86.93 43 *eP* P 09 28 20.1 -1.1
RSSD pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
B21A Ellsworth Farm 86.94 38 P P 09 28 21.2 0.0
baz=87,SNR=26
WMOK Wichita Mounta 87.08 53 *eP* P 09 28 21.7 -0.5
comp=Z,7.1nm,1.1s,mb4.4
WMOK *ep*P pP 09 28 55.9 -1.5
WMOK Wichita Mounta 87.08 53 *eP* P 09 28 21.7 -0.5
WMOK *e**PP pP 09 28 55.9 -1.5
WMOK pmax pmax
comp=Z,7.0nm,1.1s,mb4.4
E23A Ismay 87.12 40 P P 09 28 21.9 -0.2
baz=87,SNR=8.6
A21A Bergtoll Ranch 87.25 37 P P 09 28 22.4 -0.3
baz=87,SNR=29
GYA Guiyang 87.29 298 P P 09 28 24.6 +1.2
GYA pP pP 09 29 00.7 +2.1
GYA sP sP 09 29 15.0 +1.7
GYA PP PP 09 31 53.2 +3.5
GYA SKS 09 38 36.5
GYA S S 09 38 52.0 -0.2
GYA pmax pmax
comp=Z,20nm,1.0s,mb4.9
GYA pmax pmax
comp=Z,150nm,6.3s
C22A Vida 87.31 39 ⇑P P 09 28 22.5 -0.5
baz=87,SNR=9.5
D23A Lindsay 87.48 40 ⇑P P 09 28 24.0 +0.2
baz=88,SNR=24
B22A Reddig Ranch S 87.49 38 P P 09 28 23.8 0.0
baz=88,SNR=35
MAW Mawson 87.63 199 P P 09 28 25.0 +0.8
comp=Z,34nm,1.1s,mb5.1,baz=125,slow=6.6,SNR=43
MAW LR LR 10 03 22.3
comp=Z,165nm,18.3s,baz=95,slow=32
MAW Mawson 87.63 199 *eP* P 09 28 24.9 +0.6
comp=Z,21nm,1.1s,mb4.9
MAW Mawson 87.63 199 *eP* P 09 28 24.7 +0.5
comp=Z,7.5nm,1.0s,mb4.5
MAW Mawson 87.63 199 *eP* P 09 28 24.7 +0.4
MAW pmax pmax
comp=Z,8.0nm,1.0s
C23A Lambert 87.76 39 ⇓P P 09 28 25.3 +0.2
baz=88,SNR=20
A22A Carney Farms, 87.85 38 ⇑P P 09 28 25.0 -0.5
baz=88,SNR=9.9
XAN Xi'an 87.92 306 P P 09 28 26.2 0.0
XAN pP pP 09 29 02.7 +1.1
XAN sP sP 09 29 17.3 +1.1
XAN PP PP 09 31 57.7 +3.1
XAN SKS 09 38 39.9
XAN S S 09 38 57.6 -0.4
XAN SS SS 09 44 54.4 +5.2
XAN pmax pmax
comp=Z,47nm,4.6s
D24A Glendive 88.00 40 ⇓P P 09 28 26.3 +0.1
baz=88,SNR=18
C24A Savage 88.11 40 ⇓P P 09 28 26.8 0.0
baz=88,SNR=15
RFTA Plano 88.12 55 *eP* P 09 28 26.5 -0.7
B23A Brockton 88.17 39 ⇑P P 09 28 27.0 -0.1
baz=88,SNR=23
INK Inuvik 88.36 14 P P 09 28 26.6 -0.9
comp=Z,9.6nm,0.8s,mb4.7,baz=247,slow=3.8,SNR=45
INK Inuvik 88.36 14 *eP* P 09 28 26.6 -1.0
comp=Z,15nm,1.0s,mb4.8
INK *ep*P pP 09 28 57.6 -5.2
INK Inuvik 88.36 14 *eP* P 09 28 26.6 -0.9
INK *e**PP pP 09 28 57.6 -5.3
INK pmax pmax
comp=Z,15nm,1.0s
HHC Hu-ho-hao-te 88.37 313 *eP* P 09 28 28.6 +0.4
HHC pP pP 09 29 05.1 +1.6
HHC sP sP 09 29 20.5 +2.4
HHC PP PP 09 32 01.1 +3.0
HHC SKS 09 38 43.1
HHC S S 09 39 00.9 -1.0
HHC pmax pmax
comp=Z,37nm,0.8s,mb5.3
HHC pmax pmax
comp=Z,210nm,5.9s
DGMT Dagmar 88.65 39 ⇑P P 09 28 29.3 0.0
baz=89,SNR=29
DGMT Dagmar 88.65 39 *eP* P 09 28 28.9 -0.4
comp=Z,90nm,0.9s,mb5.7
A24A Westby 88.95 38 P P 09 28 30.6 -0.1
baz=89,SNR=9.4
KMI Kunming 90.26 296 P P 09 28 38.5 +1.1
KMI pmax pmax
comp=Z,17nm,0.9s,mb5.0
YKA Yellowknife Ar 90.32 24 P P 09 28 36.5 -0.2
comp=Z,4.1nm,0.5s,mb4.6,baz=232,slow=4.5,SNR=14
YKA Yellowknife Ar 90.32 24 P P 09 28 36.5 -0.2
YKA Yellowknife Ar 90.32 24 P P 09 28 36.5 -0.3
CD2 Chengdu 91.07 302 P P 09 28 41.3 +0.2
CD2 pP pP 09 29 17.3 +0.8
CD2 sP sP 09 29 33.2 +2.1
CD2 PP PP 09 32 22.4 +2.6
CD2 S S 09 39 24.8 -2.5

CD2 SS SS 09 45 36.3 +1.4
CD2 pmax pmax
comp=Z,20nm,0.5s,mb5.4
CD2 pmax pmax
comp=Z,170nm,5.3s
ECSD EROS Data Cent 91.75 45 *e*P **P** **09 28 42.2 -1.7**
comp=Z,15nm,1.1s,mb4.9
CMAR Chiang Mai Arr 91.82 289 P **P** **09 28 45.7 +0.9**
comp=Z,20nm,1.0s,mb5.1,baz=91,slow=2.5,SNR=50
CMAR Chiang Mai Arr 91.82 289 P **P** **09 28 45.7 +0.9**
CMAR Chiang Mai Arr 91.82 289 P **P** **09 28 45.7 +0.9**
CHTO Chiang Mai 91.92 289 *e*P **P** **09 28 46.1 +0.9**
comp=Z,18nm,0.8s,mb5.2
CHTO Chiang Mai 91.92 289 *e*P **P** **09 28 46.1 +0.9**
CHTO pmax pmax
comp=Z,18nm,0.8s,mb5.2
FFC Flin Flon 92.46 34 *e*P **P** **09 28 45.8 -1.1**
comp=Z,35nm,1.4s,mb5.2
FFC *ep*P pP 09 29 19.6 -2.7
FFC Flin Flon 92.46 34 *e*P **P** **09 28 45.8 -1.1**
FFC *e**PP pP 09 29 19.7 -2.6
FFC pmax pmax
comp=Z,35nm,1.4s,mb5.2
FFC Flin Flon 92.46 34 P **P** **09 28 46.6 -0.3**
comp=Z,96nm,1.3s,mb5.7,SNR=5.2
LZH Lanzhou 92.52 307 *e*P **P** **09 28 48.1 +0.5**
LZH pP pP 09 29 25.0 +1.9
LZH sP sP 09 29 38.3 +0.7
LZH SKS 09 39 10.0
LZH *e*S S 09 39 38.0 -2.1
LZH sS sS 09 40 44.0 +2.3
LZH pmax pmax
comp=Z,23nm,1.0s,mb5.3
LZH pmax pmax
comp=Z,200nm,6.0s
SYO Syowa Base 92.54 192⇑ *e*P **P** **09 28 44.2 -2.9**
VNA3 Neumayer Olymp 93.03 175 *e* **P** **09 28 47.4 -1.9**
SNAA Sanae 93.05 177 *e*P **P** **09 28 50.0 +0.6**
comp=Z,28nm,1.4s,mb5.2
SNAA *ep*P pP 09 29 25.1 +0.2
SNAA Sanae 93.05 177 *e*P **P** **09 28 50.0 +0.6**
SNAA *e**PP pP 09 29 25.1 +0.2
SNAA pmax pmax
comp=Z,28nm,1.4s
VNA2 Neumayer--Watz 93.52 176 *e* **P** **09 28 49.8 -1.8**
baz=199,slow=4.2
VNA2 *e* pP 09 29 24.5 -2.5
HBAR Harrisburg 93.65 54 *e*P **P** **09 28 52.3 -0.6**
HBAR *ep*P pP 09 29 29.3 +1.0
VNA1 Neumayer--Stat 93.72 175 *e* **P** **09 28 51.4 -1.1**
VNA1 *e* pP 09 29 27.4 -0.6
AGMN Agassiz Nation 93.74 41 *e*P **P** **09 28 51.2 -1.7**
comp=Z,41nm,1.3s,mb5.4
CCM Cathedral Cave 93.89 52 *e*P **P** **09 28 51.8 -2.1**
comp=Z,28nm,1.2s,mb5.3
CCM *ep*P pP 09 32 39.4 -2.4
CCM Cathedral Cave 93.89 52 *e*P **P** **09 28 51.8 -2.1**
CCM *e* 09 32 39.4
CCM pmax pmax
comp=Z,28nm,1.2s,mb5.3
ULM Lac du Bonnet 94.36 39 P **P** **09 28 54.0 -1.7**
comp=Z,9.0nm,0.6s,mb5.0,baz=281,slow=6.7,SNR=8.4
ULM PKPPKP 09 54 05.8
comp=Z,7.5nm,1.2s,baz=38,slow=4.1,SNR=3.0
ULM LR LR 10 05 00.1
comp=Z,298nm,20.6s,baz=266,slow=31
ULM Lac du Bonnet 94.36 39 P **P** **09 28 54.0 -1.7**
ULM P'P' 09 54 05.8
ULM LR LR 10 05 00.1
ULM Lac du Bonnet 94.36 39 P **P** **09 28 54.0 -1.7**
FVM French Village 94.50 52 *e*P **P** **09 28 55.9 -0.8**
comp=Z,64nm,1.4s,mb5.6
FVM French Village 94.50 52 *e*P **P** **09 28 55.9 -0.8**
FVM pmax pmax
comp=Z,64nm,1.4s,mb5.6
JFWS Jewell Farm 95.94 47 *e*P **P** **09 29 02.1 -1.1**
comp=Z,58nm,1.2s,mb5.8
JFWS Jewell Farm 95.94 47 *e*P **P** **09 29 02.1 -1.0**
JFWS pmax pmax
comp=Z,58nm,1.2s,mb5.8
HDIL Hopedale 96.02 50 *e*P **P** **09 29 02.7 -0.9**
comp=Z,60nm,1.3s,mb5.8
GTA Gaotai 96.49 309 *e*P **P** **09 29 09.8 +4.1**
GTA pP pP 09 29 45.9 +4.7
GTA sP sP 09 30 01.1 +5.3
GTA pmax pmax
comp=Z,5.0nm,1.1s,mb4.8
ZALV Zalesovo Beam 108.65 322 PKiKP PKiKP 09 34 02.8 -1.4
comp=Z,8.9nm,0.6s,baz=317,slow=1.3,SNR=4.8
ZALV Zalesovo Beam 108.65 322 PKPdf PKiKP 09 34 02.8 -1.4
MK31 Makanchi Array 110.19 315 *e*PKPdf PKiKP 09 34 06.0 -1.3
MK31 Makanchi Array 110.19 315 *e*PKIKP PKiKP 09 34 06.0 -1.3
MKAR Makanchi Array 110.19 315 PKiKP PKiKP 09 34 06.2 -1.1
comp=Z,2.5nm,0.6s,baz=68,slow=0.5,SNR=22
MKAR Makanchi Array 110.19 315 PKPdf PKiKP 09 34 06.2 -1.1
MKAR Makanchi Array 110.19 315 PKIKP PKiKP 09 34 06.2 -1.1
KURK Kurchatov 112.54 319 PKiKP PKiKP 09 34 06.0 -1.0
comp=Z,3.1nm,0.6s,baz=87,slow=1.9,SNR=22
KURK Kurchatov 112.54 319 PKPdf PKiKP 09 34 10.6 -1.0
KURK Kurchatov 112.54 319 PKIKP PKiKP 09 34 10.6 -1.0
AAK Ala-Archa 115.81 310 PKiKP PKPdf 09 34 16.9 -1.3
comp=Z,0.7nm,0.4s,baz=317,slow=3.9,SNR=4.2
AAK Ala-Archa 115.81 310 PKP PKPdf 09 34 16.9 -1.3
AAK Ala-Archa 115.81 310 PKIKP PKPdf 09 34 16.9 -1.3
BVAR Borovoye Array 117.31 322 PKP PKPdf 09 34 19.9 -0.8
comp=Z,4.2nm,0.6s,baz=167,slow=1.0,SNR=19
BVAR Borovoye Array 117.31 322 PKP PKPdf 09 34 19.9 -0.9
BVAR Borovoye Array 117.31 322 PKIKP PKPdf 09 34 19.9 -0.8
BRVK Borovoye 117.37 322 *e*PKPdf PKPdf 09 34 20.1 -0.7
BRVK *e*PP PP 09 35 28.6 -5.5
BRVK Borovoye 117.37 322 *e*PKIKP PKPdf 09 34 20.1 -0.7
KBL Kabul 120.41 301 *e*PKPdf PKPdf 09 34 27.6 +0.3
KBL Kabul 120.41 301 *e*PKIKP PKPdf 09 34 27.6 +0.3
ARU Arti 122.83 328 *e*PKPdf PKPdf 09 34 30.8 -0.4
ARU *e*PP PP 09 36 08.3 -2.9
ARU Arti 122.83 328 *e*PKIKP PKPdf 09 34 30.8 -0.4
ARU *e* 09 36 08.3
KEV Kevo 123.98 351 *e*PKIKP PKPdf 09 34 32.0 -1.1
KEV Kevo 123.98 351 *e*pkp PKPdf 09 34 32.0 -1.1
ARCES ARCESS Array B 124.40 352 PKP PKPdf 09 34 33.8 -0.1
comp=Z,5.1nm,0.6s,baz=7.9,slow=0.9,SNR=19
ARCES PKKPab PKKPab 09 44 16.4 -0.2
comp=Z,4.0nm,1.0s,baz=224,slow=3.3,SNR=6.0
ARCES ARCESS Array B 124.40 352 PKP PKPdf 09 34 33.8 -0.1
ARCES PKKPab PKKPab 09 44 16.4 -0.2
ARCES ARCESS Array B 124.40 352 PKIKP PKPdf 09 34 33.8 -0.1
ARE0 ARCESS Array S 124.40 352 *e*PKPdf PKPdf 09 34 34.0 +0.2
ABKAR Akbulak array 124.62 320 *e*PKPdf PKPdf 09 34 34.0 -0.9
ABKAR *ep*PKPdf pPKPdf 09 35 09.0 -2.9
APA Apatity 124.77 347⇓ *e*PKiKP PKPdf 09 34 34.2 -0.4
APA MLR MLR
comp=Z,300nm,16.0s
JOF Joensuu 129.17 345 *e*PKIKP PKPdf 09 34 42.5 -0.7
JOF Joensuu 129.17 345 *e*pkp PKPdf 09 34 42.5 -0.7
SUR Sutherland 130.45 197 PKP PKPdf 09 34 47.8 +1.1
comp=Z,4.9nm,0.8s,baz=53,slow=6.5,SNR=3.8
SUR Sutherland 130.45 197 PKP PKPdf 09 34 47.8 +1.1
KAF Kangasniemi 131.02 347 *e*PKIKP PKPdf 09 34 45.3 -1.4
KAF Kangasniemi 131.02 347 *e*pkp PKPdf 09 34 45.3 -1.4
FINES FINESS Array B 131.67 347 PKhKP PKPpre 09 34 36.6
comp=Z,1.4nm,0.8s,baz=347,slow=4.1,SNR=4.6
FINES PKP PKPdf 09 34 48.5 +0.6
comp=Z,3.3nm,0.8s,baz=49,slow=2.8,SNR=8.9
FINES SKPbc SKPbc 09 38 03.5 +2.6
comp=Z,9.6nm,1.1s,baz=355,slow=4.2,SNR=7.2
FINES FINESS Array B 131.67 347 PKP PKPdf 09 34 48.5 +0.5
FINES SKPbc SKPbc 09 38 03.5 +2.6
FINES FINESS Array B 131.67 347 PKIKP PKPdf 09 34 48.5 +0.6
BOSA Boshof 132.45 203 PKP PKPdf 09 34 51.0 +0.4
comp=Z,1.8nm,0.6s,baz=197,slow=20,SNR=4.2
BOSA Boshof 132.45 203 PKP PKPdf 09 34 51.0 +0.4
BOSA Boshof 132.45 203 PKIKP PKPdf 09 34 51.0 +0.5
NOA NORSAR Array B 134.16 356 PKP PKPdf 09 34 53.4 +0.7
comp=Z,0.7nm,0.7s,baz=13,slow=3.8,SNR=2.8
NOA NORSAR Array B 134.16 356 PKP PKPdf 09 34 53.4 +0.7
NOA NORSAR Array B 134.16 356 PKIKP PKPdf 09 34 53.4 +0.8
LBTB Lobatse 135.51 206 PKP PKPdf 09 34 58.1 +1.7
comp=Z,1.8nm,0.5s,baz=158,slow=3.2,SNR=4.1
LBTB Lobatse 135.51 206 PKP PKPdf 09 34 58.1 +1.7
LBTB Lobatse 135.51 206 PKIKP PKPdf 09 34 58.1 +1.7
AKASG Malin Array Be 139.94 337 PKhKP PKPpre 09 34 55.9
comp=Z,0.8nm,0.5s,baz=42,slow=4.1,SNR=4.9
AKASG PKP PKPdf 09 35 02.4 -1.3
comp=Z,0.8nm,0.3s,baz=24,slow=2.0,SNR=8.8

AKASG SKPbc SKPbc 09 38 29.9 +3.1
comp=Z,0.2nm,0.3s,baz=27,slow=2.7,SNR=5.0
AKASG Malin Array Be 139.94 337 PKP PKPdf 09 35 02.4 -1.3
AKASG SKPbc SKPbc 09 38 29.9 +3.1
AKASG Malin Array Be 139.94 337 PKIKP PKPdf 09 35 02.4 -1.2
KIEV Kiev 139.95 337 *e*PKPdf PKPdf 09 35 04.2 +0.6
KIEV Kiev 139.95 337 *e*PKIKP PKPdf 09 35 04.2 +0.5
LSZ Lusaka 142.40 217 *e*PKPdf PKPpre 09 35 05.0
LSZ Lusaka 142.40 217 *e*PKHKP PKPpre 09 35 05.0
LVV L'vov 142.50 341 *e*PKIKP PKPdf 09 35 09.5 +1.2
OJC Ojcow 143.36 345 *e*PKPdf PKPdf 09 35 06.7 -3.1
OJC Ojcow 143.36 345 *e*PKIKP PKPdf 09 35 06.7 -3.1
CLL Collm 143.61 352 *e*PKIKP PKPdf 09 35 07.0 -3.2
CLL *e* 09 38 27.0
CLL pmax pmax
comp=Z,7.0nm,0.8s
CLL Collm 143.61 352 *e*PKPdf PKPdf 09 35 07.0 -3.2
comp=Z,7.0nm,0.8s
CLL *e*PKiKP PKiKP 09 35 10.0 -3.6
CLL *e*PP PP 09 38 27.0 +4.1
CLL *e*SS SS 09 56 48.0 -4.9
CLL *e*SSS 10 02 24.0
CLL LmV 10 42 00.0
comp=Z,100nm,21.6s
ATD Arta Tunnel 143.77 269 PKP PKPdf 09 35 11.4 -0.1
comp=Z,11nm,0.5s,baz=291,slow=21,SNR=4.4
ATD Arta Tunnel 143.77 269 PKP PKPdf 09 35 11.4 -0.1
TSUM Tsumeb 143.80 199 *e*PKPdf PKPdf 09 35 10.4 -1.1
BRG Berggiesshubel 143.91 351 *e*PKP PKPdf 09 35 08.1 -2.6
comp=Z,3.4nm,0.6s
BRG *e* 09 35 52.2
comp=Z,9.9nm,1.4s
BRG Berggiesshubel 143.91 351 *e*PKIKP PKPdf 09 35 08.1 -2.6
BRG pmax pmax
comp=Z,3.0nm,0.6s
BRG pmax pmax
comp=Z,10.0nm,1.4s
UPC Upice 143.92 349 *e*PKIKP PKPdf 09 35 08.2 -2.5
UPC Upice 143.92 349 *e*PKP PKPdf 09 35 08.2 -2.5
UPC *ex* x 09 35 58.8
BUR08 Bucovina Ar. S 143.95 338 *e*PKPdf PKPdf 09 35 08.9 -2.0
NIE Niedzica 143.96 344 *e*PKPdf PKPdf 09 35 09.2 -1.6
NIE Niedzica 143.96 344 *e*PKIKP PKPdf 09 35 09.2 -1.6
BURAR Bucovina Array 143.97 337 ⇑PKIKP PKPdf 09 35 09.5 -1.4
BURAR Bucovina Array 143.97 337 ⇑*i*P PKPdf 09 35 09.5 -1.4
UZH Uzhgorod 144.09 341 *d i*PKIKP PKPdf 09 35 09.2 -1.9
UZH *e**PP 09 35 42.4
UZH *e* 09 38 25.9
CRVS Cervenica-Dubn 144.10 342 *e*PKIKP PKPdf 09 35 08.4 -2.7
CRVS Cervenica-Dubn 144.10 342 *e*PKP PKPdf 09 35 08.4 -2.7
OKC Ostrava-Krasne 144.11 346 *e*PKIKP PKPdf 09 35 09.1 -2.0
OKC Ostrava-Krasne 144.11 346 *e*PKP PKPdf 09 35 09.1 -2.0
PVCC Panska Ves 144.15 350 *e*PKIKP PKPdf 09 35 09.5 -1.6
PVCC Panska Ves 144.15 350 *e*PKP PKPdf 09 35 09.5 -1.6
MORC Moravsky Berou 144.30 347 *e*PKPdf PKPdf 09 35 10.0 -1.5
MORC Moravsky Berou 144.30 347 ⇓⇓PKIKP PKPdf 09 35 10.0 -1.4
MORC Moravsky Berou 144.30 347 ⇓*i*P PKPdf 09 35 10.0 -1.4
TLCR 144.43 332 ⇓⇓PKIKP PKPdf 09 35 10.6 -1.2
TLCR 144.43 332 ⇓⇓*i*P PKPdf 09 35 10.6 -1.2
TRPA Tarpa 144.46 341 ⇓⇓*i*P PKPdf 09 35 09.9 -1.9
WERD Werda 144.54 353 *e*PKPbc PKPdf 09 35 10.4 -1.4
TANN Tannenbergstha 144.56 353 *e*PKPbc PKPdf 09 35 10.6 -1.3
PRA Prague 144.61 350 PKP PKPdf 09 35 11.0 -1.0
PRU Pruhonice 144.67 350 *e*PKIKP PKPdf 09 35 11.5 -0.6
PRU Pruhonice 144.67 350 *e*PKP PKPdf 09 35 11.5 -0.6
PRU *ep*PKP pPKPdf 09 35 54.9 +5.7
NKC Novy Kostel 144.74 353 *e*PKIKP PKPdf 09 35 11.2 -1.0
NKC Novy Kostel 144.74 353 *e*PKP PKPdf 09 35 11.2 -1.0
MEM Memnbach 144.78 360 PKP PKPdf 09 35 12.2 -0.1
VRI Vrincioaia 144.81 334 ⇑PKIKP PKPdf 09 35 11.6 -0.9
VRI Vrincioaia 144.81 334 ⇑*i*P PKPdf 09 35 11.6 -0.9
KMBO Kilima Mbogo 144.85 245 *e*PKPbc PKPdf 09 35 14.1 +0.6
KMBO Kilima Mbogo 144.85 245 *e*PKIKP PKPdf 09 35 14.1 +0.6
SNF Seneffe 144.86 2 PKP PKPdf 09 35 12.7 +0.3
VRAC Vranov 144.95 348 ⇓⇓PKIKP PKPdf 09 35 11.9 -0.7
VRAC Vranov 144.95 348 ⇓⇓*i*P PKPdf 09 35 11.9 -0.7
TIRR Tirgusor 145.16 331 ⇓⇓PKIKP PKPdf 09 35 12.7 -0.4
TIRR Tirgusor 145.16 331 ⇓⇓*i*P PKPbc 09 35 12.7 -0.3
TREC Trest 145.18 349 *e*PKIKP PKPdf 09 35 12.5 -0.5
TREC Trest 145.18 349 *e*PKP PKPdf 09 35 12.5 -0.5
VYHS Vyhne 145.19 345 *e*PKIKP PKPdf 09 35 12.7 -0.3
VYHS Vyhne 145.19 345 *e*PKP PKPdf 09 35 12.7 -0.3
KOLL Kolacno 145.22 345 *e*PKIKP PKPdf 09 35 13.2 +0.1
KOLL Kolacno 145.22 345 *e*PKP PKPdf 09 35 13.2 +0.1
ROTZ Rotzenmuhle 145.23 353 *e*PKPbc PKPbc 09 35 12.9 -0.1
GIVF Givet 145.28 1 *e*PKP1 PKPbc 09 35 12.1 -1.0
GIVF Givet 145.28 1 *e*PKP PKPdf 09 35 12.1 -1.0
GIVF Givet 145.28 1 *e*PKIKP PKPdf 09 35 12.1 -1.0
DOU Dourbes 145.28 1 PKP PKPdf 09 35 12.8 -0.3
BAIF Baives 145.31 2 *e*PKP1 PKPbc 09 35 12.4 -0.8
comp=Z,22nm,0.6s
BAIF Baives 145.31 2 *e*PKP PKPdf 09 35 12.4 -0.8
BAIF Baives 145.31 2 *e*PKIKP PKPdf 09 35 12.4 -0.8
GRF Grafenberg Arr 145.41 354 *e*PKPbc PKPbc 09 35 13.8 +0.2
GRF Grafenberg Arr 145.41 354 *e*PKIKP PKPdf 09 35 13.8 +0.4
GRFO Grafenberg 145.41 354 *e*PKPbc PKPbc 09 35 14.2 +0.6
GRFO Grafenberg 145.41 354 *e*PKIKP PKPdf 09 35 14.2 +0.8
MLR Muntele Rosu 145.44 335 PKIKP PKPdf 09 35 14.3 +0.8
MLR Muntele Rosu 145.44 335 ⇑*i*P PKPdf 09 35 14.1 +0.6
PSZ Piszkesteto 145.44 343 *e*PKPbc PKPbc 09 35 13.9 +0.2
PSZ *ep*PKPdf pPKPdf 09 35 46.3 -4.3
PSZ Piszkesteto 145.44 343 *e*PKIKP PKPdf 09 35 13.9 +0.4
PSZ *e* 09 35 46.3
PSZ Piszkesteto 145.44 343⇓ *e*PKP PKPdf 09 35 13.4 -0.1
PSZ Piszkesteto 145.44 343⇓ *i*P PKPdf 09 35 13.4 -0.1
ABH Alteburg 145.48 358 PKP PKPdf 09 35 13.1 -0.4
ISR Istrita 145.49 334 ⇓⇓PKIKP PKPdf 09 35 14.1 +0.5
ISR Istrita 145.49 334 ⇓⇓*i*P PKPdf 09 35 14.1 +0.5
DRGR 145.57 339 PKIKP PKPdf 09 35 13.9 +0.2
DRGR 145.57 339 ⇓⇓*i*P PKPdf 09 35 13.8 +0.1
BR131 Keskin Array S 145.57 320 *e*PKPbc PKPbc 09 35 14.2 -0.2
BRTR Keskin Array B 145.57 320 PKPbc PKPbc 09 35 14.3 -0.1
comp=Z,8.2nm,0.4s,baz=52,slow=1.9,SNR=46
KHC Kasperske Hory 145.66 351 *e*PKPbc PKPbc 09 35 14.1 -0.2
KHC Kasperske Hory 145.66 351 *e*PKP2 PKPab 09 35 14.0 -0.8
KHC Kasperske Hory 145.66 351 *e*PKP PKPdf 09 35 14.0 +0.2
KHC *ep*PKP pPKPdf 09 35 50.5 -0.4
RUP Ruppelstein 145.67 359 PKP PKPdf 09 35 13.5 -0.3
RUP Ruppelstein 145.67 359 PKP2 PKPdf 09 35 13.5 -0.3
TOD Tromm 145.70 356 PKP PKPdf 09 35 13.9 +0.1
TOD Tromm 145.70 356 PKP2 PKPbc 09 35 13.9 -0.5
WLF Walferdange 145.72 360 PKP PKPbc 09 35 14.9 +0.3
WLF Walferdange 145.72 360 *e*PKPbc PKPbc 09 35 14.8 +0.2
WLF Walferdange 145.72 360 *e*PKP2 PKPab 09 35 14.8 -0.2
VOIR 145.85 336 ⇑PKP2 PKPab 09 35 15.5 -0.1
VOIR 145.85 336 ⇑*i*P PKPab 09 35 15.5 -0.1
ZST Bratislava 145.89 346 *e*PKP2 PKPab 09 35 15.6 -0.1
ZST Bratislava 145.89 346 *e*PKP PKPab 09 35 15.6 -0.1
GEC2 GERESS Array S 145.92 351 *e*PKPbc PKPbc 09 35 15.1 0.0
GEC2 GERESS Array S 145.92 351 *e*PKP2 PKPab 09 35 15.1 -0.7
GERES GERESS Array B 145.92 351 PKPbc PKPbc 09 35 14.9 -0.3
comp=Z,4.2nm,0.5s,baz=38,slow=2.4,SNR=41
BUD Budapest 146.07 344⇓ *e*PKP PKPdf 09 35 15.4 +0.8
FLN La Foliniere 146.24 7 *e*PKP1 PKPdf 09 35 14.6 -0.2
FLN *e*R
comp=Z,105nm,23.0s
FLN La Foliniere 146.24 7 *e*PKP PKPdf 09 35 14.6 -0.2
FLN LR LR
comp=Z,100nm,23.0s
FLN La Foliniere 146.24 7 *e*PKP2 PKPdf 09 35 14.6 -0.2
FLN MLR MLR
comp=Z,100nm,23.0s
LANF Langenberg 146.37 358 PKP PKPbc 09 35 16.3 -0.2
LANF Langenberg 146.37 358 PKP2 PKPbc 09 35 16.3 -0.2
LANF Langenberg 146.37 358 PKP PKPbc 09 35 16.3 -0.2
CONA Conrad Observa 146.41 348⇓ *i*PKPbc PKPbc 09 35 15.0 -1.6
comp=Z,32nm,1.3s,SNR=9.1
SGMF Saint Gilles 146.43 10 *e*PKP1 PKPdf 09 35 15.3 +0.2
comp=Z,120nm,1.2s
SGMF Saint Gilles 146.43 10 *e*PKP PKPdf 09 35 15.3 +0.2
SGMF Saint Gilles 146.43 10 *e*PKP2 PKPdf 09 35 15.3 +0.2
LDF La Druitiere 146.45 7 *e*PKP1 PKPdf 09 35 15.6 +0.4
comp=Z,11nm,0.5s
LDF La Druitiere 146.45 7 *e*PKP PKPdf 09 35 15.6 +0.4
LDF La Druitiere 146.45 7 *e*PKP2 PKPdf 09 35 15.6 +0.4
SOP Sopron 146.49 347⇓ *e*PKP PKPdf 09 35 16.7 +1.4
GRR Gorron 146.55 8 *e*PKP1 PKPdf 09 35 16.0 +0.7
GRR Gorron 146.55 8 *e*PKP PKPdf 09 35 16.0 +0.7
GRR Gorron 146.55 8 *e*PKP2 PKPdf 09 35 16.0 +0.7
MOA Molln 146.79 350⇓ *i*PKPab PKPbc 09 35 17.5 -0.2
comp=Z,43nm,1.3s,SNR=14

PAGF Fort de Pagny 146.84 0 *e*PKP1 PKPbc 09 35 17.2 -0.6
comp=Z,4.2nm,0.5s
MEZF Maizieres J'vi 146.88 1 *e*PKP1 PKPbc 09 35 17.4 -0.6
MEZF Maizieres J'vi 146.88 1 *e*PKP PKPbc 09 35 17.4 -0.6
FUR Furstenfeldbru 146.91 353 *e*PKPbc PKPbc 09 35 18.0 0.0
FUR Furstenfeldbru 146.91 353 *e*PKP2 PKPbc 09 35 18.0 0.0
CDF Champ du Feu 146.96 358 *e*PKP1 PKPbc 09 35 17.4 -0.8
comp=Z,44nm,0.9s
CDF Champ du Feu 146.96 358 *e*PKP PKPbc 09 35 17.4 -0.8
CDF Champ du Feu 146.96 358 *e*PKP2 PKPbc 09 35 17.4 -0.8
BZS Buzias 146.96 339⇓⇓ *i*PKP2 PKPbc 09 35 18.1 -0.2
BZS Buzias 146.96 339⇓⇓ *i*P PKPbc 09 35 18.1 -0.2
BFO Black Forest 146.99 357 *e*PKPbc PKPbc 09 35 18.1 -0.2
BFO Black Forest 146.99 357 *e*PKPbc PKPbc 09 35 17.8 -0.5
BFO *ep*PKPdf pPKPdf 09 35 52.0 -1.2
BFO Black Forest 146.99 357 *e*PKP2 PKPbc 09 35 17.8 -0.5
ASF Jabal al Asfar 147.09 306 PKPbc PKPbc 09 35 19.2 +0.1
comp=Z,6.3nm,0.6s,baz=353,slow=2.7,SNR=11
ARSA Arzberg 147.12 348⇓⇓ *i*PKPbc PKPbc 09 35 18.0 -0.7
comp=Z,26nm,1.4s,SNR=9.8
RJOB Jochberg 147.13 351 *e*PKPbc PKPbc 09 35 18.7 0.0
ECH Echery 147.16 358 *e*PKPbc PKPbc 09 35 18.9 +0.1
ECH Echery 147.16 358 *e*PKP2 PKPbc 09 35 18.9 +0.2
ECH Echery 147.16 358 PKP PKPbc 09 35 17.8 -0.9
THEF They Montfort 147.16 360 PKP PKPbc 09 35 17.6 -1.1
THEF They Montfort 147.16 360 PKP2 PKPbc 09 35 17.6 -1.1
THEF They Montfort 147.16 360 PKP PKPbc 09 35 17.6 -1.1
SFTF Sexfontaines 147.18 1 *e*PKP1 PKPbc 09 35 18.2 -0.6
comp=Z,48nm,0.8s
SFTF Sexfontaines 147.18 1 *e*PKP PKPbc 09 35 18.2 -0.6
SPAK Spaichingen-Ko 147.19 356 PKP PKPbc 09 35 18.0 -0.8
PKSM Moragy 147.35 343 ⇑PKP2 PKPbc 09 35 18.9 -0.4
PKSM Moragy 147.35 343 ⇑*i*P PKPbc 09 35 18.9 -0.4
HAU Haudompre 147.38 359 *e*PKP1 PKPbc 09 35 18.6 -0.8
comp=Z,30nm,0.7s
HAU *e*R
comp=Z,99nm,18.8s
HAU Haudompre 147.38 359 *e*PKP PKPbc 09 35 18.6 -0.8
HAU LR LR
comp=Z,100nm,18.8s
HAU Haudompre 147.38 359 *e*PKP2 PKPbc 09 35 18.6 -0.8
HAU MLR MLR
comp=Z,100nm,18.8s
FELD Feldberg im Sc 147.46 357 PKP PKPdf 09 35 18.0 +1.1
HINF Hinteralfeld 147.56 359 *e*PKP1 PKPbc 09 35 18.9 -1.0
HINF Hinteralfeld 147.56 359 *e*PKP PKPbc 09 35 18.9 -1.0
HINF Hinteralfeld 147.56 359 *e*PKP2 PKPbc 09 35 18.9 -1.0
WTTA Wattenberg 147.76 353⇓ *i*PKPdf PKPdf 09 35 16.8 -0.6
comp=Z,29nm,0.6s,SNR=16
SOKA Soboth 147.77 348⇑ *i*PKPdf PKPdf 09 35 17.1 -0.4
comp=Z,29nm,1.4s
PERS Pernice 147.79 348 *i* PKPdf PKPbc 09 35 19.6 -0.9
MMAI Mount Meron Ar 147.88 309 PKPbc PKPbc 09 35 21.4 +0.2
comp=Z,22nm,0.5s,baz=67,slow=6.4,SNR=24
DAVA Damuels 147.92 355⇑ *i*PKPdf PKPdf 09 35 16.1 -1.6
comp=Z,20nm,0.9s,SNR=6.3
MYKA Terra Mystica 148.08 350⇓⇓ *i*PKPbc PKPbc 09 35 20.0 -1.3
comp=Z,36nm,1.4s
LOR Lormes 148.09 2 *e*PKP1 PKPbc 09 35 20.6 -0.7
comp=Z,21nm,0.6s
LOR *e*R
comp=Z,185nm,21.5s
LOR Lormes 148.09 2 *e*PKP PKPbc 09 35 20.6 -0.7
LOR LR LR
comp=Z,190nm,21.5s
LOR Lormes 148.09 2 *e*PKP2 PKPbc 09 35 20.6 -0.7
LOR MLR MLR
comp=Z,190nm,21.5s
FETA Feichten 148.10 354⇓⇓ *i*PKPdf PKPdf 09 35 18.2 +0.2
comp=Z,21nm,1.5s
ABTA Abfaltersbach 148.14 351⇑ *i*PKPdf PKPdf 09 35 17.8 -0.3
comp=Z,36nm,1.3s,SNR=8.1
SSF Saint Saulge 148.28 3 *e*PKP1 PKPbc 09 35 21.2 -0.6
comp=Z,41nm,1.0s
SSF Saint Saulge 148.28 3 *e*PKP PKPbc 09 35 21.2 -0.6
SSF Saint Saulge 148.28 3 *e*PKP2 PKPbc 09 35 21.2 -0.6
MFF Saint Martin d 148.40 8 *e*PKP1 PKPbc 09 35 21.1 -1.0
comp=Z,15nm,0.6s
MFF Saint Martin d 148.40 8 *e*PKP PKPbc 09 35 21.1 -1.0
MFF Saint Martin d 148.40 8 *e*PKP2 PKPbc 09 35 21.1 -1.0
DAVOX Davos/Dischmat 148.43 355 PKPbc PKPbc 09 35 22.5 +0.4
comp=Z,12nm,0.5s,baz=12,slow=5.8,SNR=14
CSS Prodhromos 148.45 313 *e*PKPbc PKPbc 09 35 22.2 -0.4
LJU Ljubljana 148.48 348 *i* PKPbc PKPbc 09 35 22.3 0.0
AVF Avril sur Loir 148.54 3 *e*PKP1 PKPbc 09 35 21.4 -1.0
comp=Z,19nm,0.7s
AVF Avril sur Loir 148.54 3 *e*PKP PKPbc 09 35 21.4 -1.0
AVF Avril sur Loir 148.54 3 *e*PKP2 PKPbc 09 35 21.4 -1.0
VOY Vojsko 148.61 349 *e*PKPdf PKPdf 09 35 18.3 -0.5
VOY *e* 09 35 21.8
SMF Signal de Mont 148.71 3 *e*PKP1 PKPbc 09 35 22.0 -0.9
comp=Z,12nm,0.5s
SMF Signal de Mont 148.71 3 *e*PKP PKPbc 09 35 22.0 -0.9
SMF Signal de Mont 148.71 3 *e*PKP2 PKPbc 09 35 22.0 -0.9
JAVS Javornik 148.71 349 *i* PKPdf PKPdf 09 35 19.7 +0.7
JAVS *i* PKPbc PKPbc 09 35 23.8 +0.9
BGF Bois d'Agland 148.74 4 *e*PKP1 PKPbc 09 35 22.2 -0.8
comp=Z,19nm,0.7s
BGF Bois d'Agland 148.74 4 *e*PKP PKPbc 09 35 22.2 -0.8
BGF Bois d'Agland 148.74 4 *e*PKP2 PKPbc 09 35 22.2 -0.8
TUE Stuetta 148.78 355 *e*PKPdf PKPdf 09 35 19.0 -0.1
TUE *e*PKPbc PKPbc 09 35 23.6 +0.5
CABF La Chapelle 148.78 360 *e*PKP1 PKPbc 09 35 23.1 0.0
comp=Z,86nm,1.0s
CABF La Chapelle 148.78 360 *e*PKP PKPbc 09 35 23.1 0.0
CABF La Chapelle 148.78 360 *e*PKP2 PKPbc 09 35 23.1 0.0
BOJS Bojanci 148.85 347 *i* PKPdf PKPdf 09 35 20.1 +0.9
BOJS *i* PKPbc PKPbc 09 35 23.9 +0.6
VTS Vitosha 148.94 335⇓⇓ *i*PKP2 PKPab 09 35 28.7 +0.7
VTS Vitosha 148.94 335⇓⇓ *i*P PKPab 09 35 28.7 +0.7
VTS Vitosha 148.94 335 *e*P PKPdf 09 35 19.9 +0.4
TCF Toulx Ste Croi 148.96 5 *e*PKP1 PKPbc 09 35 22.8 -0.7
TCF Toulx Ste Croi 148.96 5 *e*PKP PKPbc 09 35 22.8 -0.7
TCF Toulx Ste Croi 148.96 5 *e*PKP2 PKPbc 09 35 22.8 -0.7
PLDF La Plantade 149.37 3 PKP PKPab 09 35 28.1 -1.5
MMB Musomiste 149.54 333 *e*P PKPbc 09 35 23.3 -1.8
KKB Krupnik 149.59 334 *e*P PKPbc 09 35 24.1 -1.2
RSL Roselend 149.70 359 PKP PKPbc 09 35 24.8 -0.6
RSL Roselend 149.70 359 PKP2 PKPbc 09 35 24.8 -0.6
RSL Roselend 149.70 359 PKP PKPbc 09 35 24.8 -0.6
LPL La Plagne 149.87 359 *e*PKP1 PKPbc 09 35 26.2 +0.4
comp=Z,17nm,0.7s
RJF Les Rejaudoux 149.87 6 *e*PKP1 PKPbc 09 35 25.2 -0.6
comp=Z,15nm,0.7s
RJF *e*R
comp=Z,152nm,22.8s
RJF Les Rejaudoux 149.87 6 *e*PKP PKPbc 09 35 25.2 -0.6
RJF LR LR
comp=Z,150nm,22.8s
RJF Les Rejaudoux 149.87 6 *e*PKP2 PKPbc 09 35 25.2 -0.6
RJF MLR MLR
comp=Z,150nm,22.8s
LPG La Plagne 149.88 359 *e*PKP1 PKPbc 09 35 26.3 +0.5
comp=Z,24nm,0.7s
LBL Lubilhac 150.09 4 PKP PKPbc 09 35 27.4 +1.1
SSB Saint Sauveur 150.10 2 *e*PKPbc PKPbc 09 35 27.0 +0.6
**SSB Saint

SMRF	**Simiane la Rot**	**151.42**	**0**	*e*PKP1	PKPbc	09 35 29.5	0.0
PBRG	**Braganca**	**151.46**	**20**	PKPbc	PKPbc	09 35 29.6	-0.1
LUCF	**Luceram**	**151.47**	**358**	PKP	PKPbc	09 35 29.9	+0.3
POLO	**Lamas de Olo**	**151.48**	**22**	PKPbc	PKPbc	09 35 30.1	+0.4
SBF	**Sospel**	**151.50**	**357**	*e*PKP1	PKPbc	09 35 28.6	-1.1
PVRL	**Vila Real**	**151.60**	**22**	PKPbc	PKPbc	09 35 30.4	+0.4
SJPF	**Ste Jean**	**151.64**	**11**	*e*PKP1	PKPbc	09 35 28.8	-1.2
	comp=Z,14nm,0.8s						
FRF	**La Foret Royal**	**151.82**	**359**	*e*PKP1	PKPbc	09 35 29.5	-0.9
MTLF	**Montolieu**	**151.89**	**6**	*e*PKP1	PKPbc	09 35 29.9	-0.7
MVO	**Moncorvo**	**151.94**	**21**	PKPbc	PKPbc	09 35 31.2	+0.4
ETSF	**Etsaut**	**151.96**	**10**	*e*PKP1	PKPbc	09 35 30.5	-0.3
	comp=Z,13nm,0.6s						
EPF	**Esparros**	**151.97**	**8**	*e*PKP1	PKPbc	09 35 30.0	-0.8
PVIS	**Viseu**	**152.02**	**23**	PKPbc	PKPbc	09 35 31.2	+0.2
LMR	**La Mourre**	**152.05**	**359**	*e*PKP1	PKPbc	09 35 30.1	-0.9
MTE	**Manteigas**	**152.43**	**22**	PKPbc	PKPbc	09 35 31.8	-0.1
PGF	**Pioggiola**	**152.70**	**355**	*e*PKP1	PKPbc	09 35 31.4	-1.0
	comp=Z,18nm,0.8s						
PTOM	**Tomar**	**152.77**	**24**	PKPbc	PKPbc	09 35 32.9	+0.2
PCBR	**Castelo Branco**	**152.94**	**23**	PKPbc	PKPbc	09 35 33.4	+0.3
PMTG	**Montargil**	**153.32**	**25**	PKPbc	PKPbc	09 35 35.0	+1.1
PMTG	**Montargil**	**153.32**	**25**	*e*PP	PP	09 39 20.4	+0.7
PMRV	**Marv??o**	**153.33**	**23**	*e*PKPdf	PKPdf	09 35 25.4	-0.9
PMRV	**Marv??o**	**153.33**	**23**	*e*PKPbc	PKPbc	09 35 34.0	+0.1
PESTR	**Estremoz**	**153.74**	**24**	*e*PKPab	PKPab	09 35 47.9	-0.2
EVOP	**Sao Brissos**	**153.82**	**25**	*e*PKPdf	PKPdf	09 35 26.4	-0.6
EVOP				LR	LR		
	comp=Z,170µm,21.8s						
EVOP	**Sao Brissos**	**153.82**	**25**	*e*PKIKP	PKPdf	09 35 26.4	-0.6
EVOP				MLR	MLR		
	comp=Z,170µm,21.8s						
EVO	**Evora**	**153.86**	**25**	*e*PKIKP	PKPdf	09 35 26.4	-0.7
EVO				*e*R			
	comp=Z,170nm,21.8s						
PNCL	**Nicolau / Gran**	**154.00**	**26**	*e*PKPdf	PKPdf	09 35 26.9	-0.4
PNCL	**Nicolau / Gran**	**154.00**	**26**	PKPbc	PKPbc	09 35 31.9	-3.5
ESDC	**Sonseca Array**	**154.26**	**17**	PKPbc	PKPbc	09 35 36.9	+1.0
	comp=Z,1.1nm,0.5s,baz=327,slow=2.3,SNR=8.4						
ESDC				PKPab	PKPab	09 35 50.4	+0.1
	comp=Z,3.2nm,0.6s,baz=334,slow=3.5,SNR=14						
PBAR	**Barrancos**	**154.56**	**24**	PKPbc	PKPbc	09 35 37.1	+0.5
PCVE	**Castro Verde**	**154.61**	**26**	PKPbc	PKPbc	09 35 37.6	+0.9
PCVE	**Castro Verde**	**154.61**	**26**	*e*PKPab	PKPab	09 35 51.8	0.0
MORF	**Marmelete**	**154.62**	**28**	*e*PKPab	PKPab	09 35 51.7	-0.2
PVAQ	**Vaqueiros**	**154.94**	**26**	*e*PKPab	PKPab	09 35 53.0	-0.2
KEST	**Kesra**	**159.40**	**352**	PKPab	PKPab	09 36 12.4	-0.1
	comp=Z,0.6nm,0.5s,baz=51,slow=6.1,SNR=4.5						
DBIC	**Dimbokro**	**166.50**	**128**	PKP	PKPdf	09 35 40.4	-1.4
	comp=Z,7.1nm,1.0s,baz=132,slow=4.2,SNR=5.4						
DBIC				PKPab	PKPab	09 36 45.1	+0.7
	comp=Z,4.3nm,1.1s,baz=182,slow=5.5,SNR=3.2						
DBIC	**Dimbokro**	**166.50**	**128**	PKP	PKPdf	09 35 40.4	-1.4
DBIC				PKPab	PKPab	09 36 45.1	+0.7
TORD	**Torodi Ar. Bea**	**175.51**	**118**	PKP	PKPdf	09 35 44.2	-2.1
	comp=Z,4.5nm,1.1s,baz=335,slow=1.1,SNR=14						
TORD				PKPab	PKPab	09 37 23.4	-1.0
	comp=Z,1.4nm,0.7s,baz=270,slow=4.1,SNR=5.7						
TORD	**Torodi Ar. Bea**	**175.51**	**118**	PKP	PKPdf	09 35 44.2	-2.1
TORD				PKPab	PKPab	09 37 23.4	-0.9

*IDC **08** 09:21:17.4±0.8,56°.65N×123°.35E,h0km,mb3.7/8, mb1 3.9/10,mb1mx3.7/27,mbtmp3.7/10,ML3.5/2,Error ellipse: s-maj=26.5km s-min=17.8km az=178.0*
*MOS **08** 09:21:19.0±1.3,56°.72N×123°.03E,h14km,mb4.2/4,Error ellipse: s-maj=17.5km s-min=16.0km az=72.9*
*NEIC **08** 09:21:19.0±0.6,56°.57N×123°.42E,h10km,Error ellipse: s-maj=17.9km s-min=10.9km az=158.0*
*ISCJB **08** 09:21:21.5±1.0,56°.73N±0°.08×123°.2E±0°.1,h36km±13km, mb3.6/8,Error ellipse: s-maj=14.5km s-min=8.8km az=160.4*

ISC 08 09:21:22.1±1.3,56°.70N±0°.10×123°.3E±0°.1,h26km±13km, n41,σ1°02/43,mb3.6/8,2C,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRGR	**Nerungri**	**0.78**	**92**	*i*P	**Pb**	**09 21 36.8**	**-0.2**
NRGR				S	**Sb**	**09 21 47.7**	**+0.6**
NRGR				smax			
	comp=N,44nm,0.2s						
CLNS	**Chul'man**	**0.88**	**80**	*c* *i*P	**Pb**	**09 21 38.0**	**-0.7**
CLNS				*e*		09 21 50.3	
CLNS				pmax	pmax		
	comp=Z,1µm,0.6s						
CLNS				pmax	pmax		
	comp=N,65nm,0.2s						
CLNS				pmax	pmax		
	comp=E,99nm,0.2s						
CLNS				smax			
	comp=Z,2µm,0.5s						
CLNS				smax			
	comp=N,6µm,0.7s						
CLNS				smax			
	comp=E,6µm,0.9s						
YAK	**Yakutsk**	**6.26**	**29**	*e*Pn	**Pn**	**09 22 54.5**	**+2.0**
	comp=E,32nm,0.6s						
YAK	**Yakutsk**	**6.26**	**29**	*e*P	**Pn**	**09 22 54.8**	**+2.2**
YAK				*e*		09 24 04.0	
YAK				pmax	pmax		
	comp=Z,25nm,0.9s						
YAK				pmax	pmax		
	comp=N,107nm,0.6s						
YAK				smax			
	comp=N,28nm,1.0s						
YAK				smax			
	comp=E,70nm,1.1s						
YAK				smax			
	comp=N,138nm,0.6s						
YAK				smax			
	comp=E,89nm,0.9s						
YAK				smax			
	comp=Z,114nm,7.6s						
KLR	**Kul'dur**	**9.04**	**142**	*e*P	**Pn**	**09 23 36.0**	**+5.3**
KLR				*e*		09 25 17.2	
TLY	**Talaya**	**12.55**	**255**	*e*Pn	**Pn**	**09 24 18.7**	**0.0**
TLY	**Talaya**	**12.55**	**255**	*e*P	**Pn**	**09 24 18.7**	**0.0**
ZAK	**Zakamensk**	**13.46**	**250**	*e*P	**Pn**	**09 24 37.9**	**+6.8**
ZAK				*e*		09 26 50.3	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
SONM	**Songino Array**	**13.61**	**236**	Pn	**Pn**	**09 24 32.6**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=45,slow=12,SNR=3.7						
SONM				Sn	**Sn**	**09 27 05.5**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=53,slow=20,SNR=3.4						
SONM				Lg		09 28 25.8	
	comp=Z,2.0nm,0.3s,baz=122,slow=13,SNR=10.0						
SONM	**Songino Array**	**13.61**	**236**	Pn	**Pn**	**09 24 32.6**	**-0.5**
SONM				Sn	**Sn**	**09 27 05.5**	**+2.2**
SONM				Lg		09 28 25.8	
SONM	**Songino Array**	**13.61**	**236**	P	**Pn**	**09 24 32.6**	**-0.5**
SONM						09 27 05.5	
MOY	**Mondy**	**13.98**	**258**	*e*P	**Pn**	**09 24 46.3**	**+8.1**
MOY				*e*S	**Sn**	**09 27 20.1**	**+7.8**
MOY				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MOY				smax			
	comp=N,125nm,1.8s						
PETK	**Petropavlovsk-**	**19.96**	**86**	P	**Pn**	**09 25 48.7**	**-5.0**
	comp=N,0.2nm,0.3s,baz=280,slow=8.2,SNR=3.1						
PETK	**Petropavlovsk-**	**19.96**	**86**	P	**Pn**	**09 25 48.7**	**-5.0**
PETK	**Petropavlovsk-**	**19.96**	**86**	P	**Pn**	**09 25 48.7**	**-5.0**
ZALV	**Zalesovo Beam**	**21.88**	**279**	P	**P**	**09 26 11.8**	**-0.8**
	comp=N,0.8nm,0.6s,mb3.4,baz=70,slow=12,SNR=5.4						
ZALV	**Zalesovo Beam**	**21.88**	**279**	P	**P**	**09 26 11.8**	**-0.8**
ZALV	**Zalesovo Beam**	**21.88**	**279**	P	**P**	**09 26 11.8**	**-0.8**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.4						
KURK	**Kurchatov**	**26.73**	**276**	P	**P**	**09 26 59.0**	**0.0**
	comp=Z,1.6nm,0.4s,mb3.9,baz=64,slow=9.0,SNR=9.4						
KURK	**Kurchatov**	**26.73**	**276**	P	**P**	**09 26 59.0**	**0.0**
KURK	**Kurchatov**	**26.73**	**276**	P	**P**	**09 26 59.0**	**0.0**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.0						
MKAR	**Makanchi Array**	**26.88**	**266**	P	**P**	**09 26 59.1**	**-1.2**
	comp=Z,0.4nm,0.7s,mb3.1,baz=51,slow=8.7,SNR=3.9						
MKAR	**Makanchi Array**	**26.88**	**266**	P	**P**	**09 26 59.1**	**-1.2**
MKAR	**Makanchi Array**	**26.88**	**266**	P	**P**	**09 26 59.1**	**-1.3**
FINES	**FINESS Array B**	**45.73**	**318**	P	**P**	**09 29 39.3**	**-1.1**
	comp=Z,1.4nm,0.8s,mb4.0,baz=39,slow=11,SNR=3.8						
FINES	**FINESS Array B**	**45.73**	**318**	P	**P**	**09 29 39.3**	**-1.1**
FINES	**FINESS Array B**	**45.73**	**318**	P	**P**	**09 29 39.3**	**-1.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KIV	**Kislovodsk**	**50.08**	**292**	*i*P	**P**	**09 30 14.9**	**+0.6**
KIV				pmax	pmax		
	comp=Z,14nm,0.9s						
BRTR	**Keskin Array B**	**57.77**	**294**	P	**P**	**09 31 10.9**	**+0.4**
	comp=Z,1.6nm,0.8s,mb4.1,baz=38,slow=2.6,SNR=4.2						
BRTR	**Keskin Array B**	**57.77**	**294**	P	**P**	**09 31 10.9**	**+0.4**
BRTR	**Keskin Array B**	**57.77**	**294**	P	**P**	**09 31 10.9**	**+0.4**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NVAR	**Mina Array Bea**	**71.92**	**47**	P	**P**	**09 32 43.1**	**+0.4**
	comp=Z,0.1nm,0.4s,mb3.1,baz=335,slow=4.0,SNR=3.6						
NVAR	**Mina Array Bea**	**71.92**	**47**	P	**P**	**09 32 43.1**	**+0.4**
WRA	**Warramunga Arr**	**76.90**	**169**	P	**P**	**09 33 12.1**	**+0.5**
	comp=Z,0.8nm,0.8s,mb3.7,baz=348,slow=6.5,SNR=4.7						
WRA	**Warramunga Arr**	**76.90**	**169**	P	**P**	**09 33 12.1**	**+0.5**
WRA	**Warramunga Arr**	**76.90**	**169**	P	**P**	**09 33 12.1**	**+0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**80.54**	**170**	P	**P**	**09 33 29.7**	**-1.8**
	comp=Z,0.4nm,0.7s,mb3.4,baz=354,slow=4.9,SNR=4.2						
ASAR	**Alice Springs**	**80.54**	**170**	P	**P**	**09 33 29.7**	**-1.8**
ASAR	**Alice Springs**	**80.54**	**170**	P	**P**	**09 33 29.7**	**-1.8**
QSPA	**South Pole Qui**	**146.45**	**180**	PKPbc	PKPbc	09 40 58.6	-0.2
	comp=Z,2.1nm,0.8s,baz=321,slow=4.9,SNR=12						
QSPA	**South Pole Qui**	**146.45**	**180**	PKPbc	PKPbc	09 40 58.6	-0.2

*CSEM **08** 10:03:48.0,37°.77N×35°.80E,h9km,MD2.5,After ISK*
ISK 08 10:03:48.0,37°.77N×35°.80E,h9km,MD2.5,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.29**	**175**	*e*PG	Pg	10 03 54.2	+0.5
KOZT				*e*SG	Sg	10 03 58.6	+1.1
KARA	**Karaisali**	**0.78**	**230**	*e*PG	Pg	10 04 03.6	+0.7
KARA				*e*SG	Sg	10 04 14.5	+1.5
KARA	**Karaisali**	**0.78**	**230**	*e*Pg	Pg	10 04 03.7	+0.8
KARA				*e*Sg	Sg	10 04 14.5	+1.5
KMRS	**Kahramanmaras**	**0.92**	**106**	*e*PG	Pg	10 04 06.2	+0.6
KMRS	**Kahramanmaras**	**0.92**	**106**	*e*Pg	Pg	10 04 06.2	+0.6
SARI	**SarD1z-Kayseri**	**1.16**	**38**	*e*PG	Pg	10 04 03.5	-6.7
SARI				*e*SG	Sg	10 04 15.6	-10
SARI	**SarD1z-Kayseri**	**1.16**	**38**	*e*Pg	Pg	10 04 03.5	-6.7
SARI				*e*Sg	Sg	10 04 15.6	-10
GAZ	**Gaziantep**	**1.27**	**117**	*e*PN	Pn	10 04 12.5	+0.6
GAZ	**Gaziantep**	**1.27**	**117**	*e*Pn	Pn	10 04 12.5	+0.6

*CSEM **08** 10:04:03.1,39°.65N×29°.46E,h8km,MD2.6,After ISK*
ISK 08 10:04:03.1,39°.65N×29°.46E,h8km,MD2.6,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAVI	**Cavuskoy**	**0.62**	**28**	*e*PG	Pg	10 04 15.4	+0.3
CAVI				*e*SG	Sg	10 04 24.6	+1.3
CAVI	**Cavuskoy**	**0.62**	**28**	*e*Pg	Pg	10 04 15.4	+0.3
CAVI				*e*Sg	Sg	10 04 24.6	+1.3
DST	**Dursunbey**	**0.65**	**266**	*e*PG	Pg	10 04 16.1	+0.4
DST				*e*SG	Sg	10 04 25.4	+1.3
DST	**Dursunbey**	**0.65**	**266**	*e*Pg	Pg	10 04 16.1	+0.5
DST				*e*Sg	Sg	10 04 25.4	+1.3
ALT	**Altintas**	**0.78**	**139**	*e*PG	Pg	10 04 18.6	+0.5
ALT				*e*SG	Sg	10 04 29.8	+1.5
ALT	**Altintas**	**0.78**	**139**	*e*Pg	Pg	10 04 18.7	+0.6
ALT				*e*Sg	Sg	10 04 29.8	+1.5
MDNY	**Mudanya-Bursa**	**0.84**	**329**	*e*PG	Pg	10 04 20.0	+0.7
MDNY	**Mudanya-Bursa**	**0.84**	**329**	*e*Pg	Pg	10 04 20.0	+0.7
GPA	**Golpazari**	**0.91**	**46**	*e*PG	Pg	10 04 21.3	+0.7
GPA	**Golpazari**	**0.91**	**46**	*e*Pg	Pg	10 04 21.3	+0.7
ESKT	**Eskisehir**	**1.08**	**97**	*e*PN	Pn	10 04 24.2	-0.3
ESKT	**Eskisehir**	**1.08**	**97**	*e*Pn	Pn	10 04 24.2	-0.4
BALB	**Balikesir**	**1.22**	**270**	*e*PN	Pn	10 04 27.3	+0.9
BALB	**Balikesir**	**1.22**	**270**	*e*Pn	Pn	10 04 27.3	+0.9
KULA	**Kula-Manisa**	**1.29**	**209**	*e*PN	Pn	10 04 27.6	+0.2
KULA	**Kula-Manisa**	**1.29**	**209**	*e*Pn	Pn	10 04 27.6	+0.2
GONE	**Gonen-Balikesi**	**1.42**	**287**	*e*PN	Pn	10 04 28.8	-0.3
GONE	**Gonen-Balikesi**	**1.42**	**287**	*e*Pn	Pn	10 04 28.8	-0.4
AKS	**Akhisar**	**1.49**	**239**	*e*PN	Pn	10 04 31.2	+1.0
AKS	**Akhisar**	**1.49**	**239**	*e*Pn	Pn	10 04 31.2	+1.0
SVRH	**Sivrihisar-ESK**	**1.61**	**97**	*e*PN	Pn	10 04 32.7	+0.9
SVRH	**Sivrihisar-ESK**	**1.61**	**97**	*e*Pn	Pn	10 04 32.7	+0.9
KRBG	**Karabiga-Canak**	**1.82**	**295**	*e*PN	Pn	10 04 35.4	+0.8
KRBG	**Karabiga-Canak**	**1.82**	**295**	*e*Pn	Pn	10 04 35.4	+0.8
KIZT	**Kizilcal**	**2.03**	**112**	*e*PN	Pn	10 04 39.0	+1.4
KIZT	**Kizilcal**	**2.03**	**112**	*e*Pn	Pn	10 04 39.0	+1.4

*CSEM **08** 10:14:42.0±0.2,38°.41N×21°.88E,h15km,ML2.0/7,Error ellipse: s-maj=5.1km s-min=4.5km az=129.0*
*ATH **08** 10:14:42.7,38°.39N×21°.89E,h5km±2km,MD3.0/14*
THE 08 10:14:42.5,38°.40N×21°.91E,h0km±2km,ML2.0/7,Error ellipse: s-maj=2.5km s-min=0.7km az=320.0,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.03**	**346**	*e*PG	Pg	10 14 43.4	+0.4
EFP				*e*SG	Sg	10 14 44.4	+1.1
EFP	**Efpalio**	**0.03**	**346**	P	Pg	10 14 43.4	+0.4
EFP	**Efpalio**	**0.03**	**346**	P	Pg	10 14 43.4	+0.4
EFP				*e*Sg	Sg	10 14 44.4	+1.1
UPR	**University Cam**	**0.15**	**220**	*e*PG	Pg	10 14 45.8	+0.3
UPR	**University Cam**	**0.15**	**220**	P	Pg	10 14 45.8	+0.3
UPR				S	Sg	10 14 48.4	+0.9
UPR	**University Cam**	**0.15**	**220**	P	Pg	10 14 45.8	+0.3
UPR				S	Sg	10 14 48.4	+0.9
LAKA	**Lakka**	**0.17**	**162**	P	Pg	10 14 45.9	+0.2
LAKA				S	Sg	10 14 49.0	+1.1
LAKA	**Lakka**	**0.17**	**162**	P	Pg	10 14 45.9	+0.2
LAKA				S	Sg	10 14 49.0	+1.1
KALE	**Kalithea**	**0.18**	**94**	P	Pg	10 14 46.1	+0.2
KALE				S	Sg	10 14 49.8	+1.6
KALE	**Kalithea**	**0.18**	**94**	P	Pg	10 14 46.1	+0.2
KALE				S	Sg	10 14 49.8	+1.6
DSF	**Desfina**	**0.48**	**89**	P	Pg	10 14 51.0	-0.7
DSF				S	Sg	10 14 59.2	+1.2
DSF	**Desfina**	**0.48**	**89**	P	Pg	10 14 51.0	-0.7
DSF				S	Sg	10 14 59.2	+1.2
RLS	**Riolos of Patr**	**0.49**	**226**	*e*PB	Pg	10 14 52.5	+0.6
RLS				*e*SB	Sg	10 14 59.5	+1.2
RLS	**Riolos of Patr**	**0.49**	**226**	*e*Pb	Pg	10 14 52.5	+0.6
RLS				*e*Sb	Sg	10 14 59.5	+1.2
EVR	**Evrytania**	**0.52**	**351**	*e*PB	Pg	10 14 52.2	-0.3
EVR				*e*SB	Sg	10 15 01.3	+2.1
EVR	**Evrytania**	**0.52**	**351**	*e*Pb	Pg	10 14 52.2	-0.3
EVR				*e*Sb	Sg	10 15 01.3	+2.1
GUR	**Goura**	**0.57**	**144**	*e*PB	Pg	10 14 52.8	-0.7
GUR				*e*SB	Sg	10 15 01.8	+0.8
GUR	**Goura**	**0.57**	**144**	P	Pg	10 14 52.9	-0.6
GUR				S	Sg	10 15 01.4	+0.4
GUR	**Goura**	**0.57**	**144**	P	Pg	10 14 52.9	-0.6
GUR				S	Sg	10 15 01.4	+0.4
GUR				*e*Sb	Sg	10 15 01.8	+0.8
AGG	**Agios Georgios**	**0.70**	**28**	*e*PB	Pg	10 14 56.4	+0.5
AGG	**Agios Georgios**	**0.70**	**28**	P	Pg	10 14 55.1	-0.8
AGG				S	Sg	10 15 05.6	+0.6
AGG	**Agios Georgios**	**0.70**	**28**	P	Pg	10 14 55.1	-0.8
AGG	**Agios Georgios**	**0.70**	**28**	*e*Pb	Pg	10 14 56.4	+0.5
AGG				S	Sg	10 15 05.6	+0.6
LKR	**Lokris**	**0.89**	**73**	*e*PB	Pb	10 15 00.1	-0.7
LKR	**Lokris**	**0.89**	**73**	*e*Pb	Pb	10 15 00.1	-0.7
LTK	**Loutraki**	**0.91**	**114**	*e*PN	Pn	10 15 01.4	-1.2
LTK	**Loutraki**	**0.91**	**114**	*e*Pn	Pn	10 15 01.4	-1.2
ATAL	**Atalanti**	**0.92**	**71**	P	Pg	10 15 00.5	+0.4
ATAL				S	Sg	10 15 13.8	+1.9
ATAL	**Atalanti**	**0.92**	**71**	P	Pg	10 15 00.5	+0.4
ATAL				S	Sg	10 15 13.8	+1.9
KFL	**Anninata**	**0.93**	**252**	P	Pg	10 15 00.0	-0.4
KFL	**Anninata**	**0.93**	**252**	P	Pg	10 15 00.0	-0.4
LKD2	**Lefkada island**	**1.06**	**292**	P	Pg	10 15 01.9	-0.9
LKD2				S	Sg	10 15 18.6	+2.1
LKD2	**Lefkada island**	**1.06**	**292**	P	Pg	10 15 01.9	-0.9
VLS	**Valsamata**	**1.07**	**258**	*e*PG	Pg	10 15 01.8	-1.1
VLS	**Valsamata**	**1.07**	**258**	*e*Pg	Pg	10 15 01.8	-1.1
VLX	**Vlachokerasia**	**1.09**	**160**	*e*PB	Pb	10 15 02.3	-2.0
VLX	**Vlachokerasia**	**1.09**	**160**	*e*Pb	Pb	10 15 02.3	-2.0
THL	**Klokotos Trika**	**1.16**	**4**	*e*PN	Pn	10 15 04.2	-1.8
THL	**Klokotos Trika**	**1.16**	**4**	*e*Pn	Pn	10 15 04.2	-1.8
ITM	**Ithomi**	**1.22**	**180**	*e*PN	Pn	10 15 05.0	-1.8
ITM	**Ithomi**	**1.22**	**180**	*e*Pn	Pn	10 15 05.0	-1.8
NEO	**Neokhori**	**1.36**	**48**	*e*PB	Pb	10 15 09.1	+0.2
NEO	**Neokhori**	**1.36**	**48**	*e*Pb	Pb	10 15 09.1	+0.2
DID	**Didima**	**1.38**	**130**	*e*PB	Pb	10 15 09.6	+0.5
DID	**Didima**	**1.38**	**130**	P	Pg	10 15 08.8	-0.1
DID	**Didima**	**1.38**	**130**	P	Pg	10 15 08.8	-0.1
DID	**Didima**	**1.38**	**130**	*e*Pb	Pb	10 15 09.6	+0.5
PYL	**PYLOS**	**1.51**	**185**	*e*PB	Pb	10 15 11.1	-0.3
PYL	**PYLOS**	**1.51**	**185**	*e*Pb	Pb	10 15 11.1	-0.3

*CSEM **08** 10:16:02.8,37°.27N×28°.29E,h20km,MD2.4,After ISK*
ISK 08 10:16:02.8,37°.27N×28°.29E,h20km,MD2.4,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.14**	**183**	*e*PG	Pb	10 16 07.5	+0.3
YER				*e*SG	Sb	10 16 10.7	+0.6
YER	**Yerkesik**	**0.14**	**183**	*e*Pg	Pb	10 16 07.5	+0.4
YER				*e*Sg	Sb	10 16 10.7	+0.6
MLSB	**Milas**	**0.41**	**273**	*e*PG	Pb	10 16 11.8	+0.4
MLSB				*e*SG	Sb	10 16 18.4	+1.1
MLSB	**Milas**	**0.41**	**273**	*e*Pg	Pb	10 16 11.8	+0.4
MLSB	**Milas**	**0.41**	**273**	*e*Pg	Pb	10 16 11.8	+0.4
MLSB				*e*Sg	Sb	10 16 18.4	+1.2
DAT	**Datca**	**0.79**	**227**	*e*PG	Pb	10 16 19.0	+1.2
DAT	**Datca**	**0.79**	**227**	*e*Pg	Pb	10 16 19.0	+1.2
BODT	**Bodrum**	**0.81**	**255**	*e*PG	Pb	10 16 18.9	+0.7
BODT				*e*SG	Sb	10 16 31.1	+2.3
BODT	**Bodrum**	**0.81**	**255**	*e*Pg	Pb	10 16 18.9	+0.7
BODT				*e*Sg	Sb	10 16 31.1	+2.4

*NIED **08** 10:22:00,38°.90N×140°.70E,h8km,Mw3.7 Best double couple: M₀3.95000×10¹⁴ NP1:φ₁173.00000°,δ56.00000°, λ56.00000°. NP2:φ₂44.00000°,δ46.00000°,λ130.00000°.*
*ISCJB **08** 10:22:29.6±0.5,38°.86N±0°.03×140°.76E±0°.04,h17km±6km, mb3.7/8,Error ellipse: s-maj=6.6km s-min=4.4km az=135.2*
*JMA **08** 10:22:29.7,38°.87N×140°.72E,h6km±1km,M3.8*
JMA Felt II J1.
*NEIC **08** 10:22:29.7,38°.87N×140°.72E,h6km,MG3.8(JMA),After JMA.*
*IDC **08** 10:22:35.2±2.6,38°.84N×140°.56E,h52km±25km,mb3.5/8, mb1 3.7/11,mb1mx3.5/27,mbtmp3.5/11,ML3.4/3,Error ellipse: s-maj=26.4km s-min=17.1km az=112.0*

ISC 08 10:22:29.5±0.5,38°.86N±0°.03×140°.74E±0°.04,h4km±5km, n28,σ0°.94/34,mb3.7/8,2C-5D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMK	**Ichinoseki**	**0.38**	**76**	⇓P	**Pg**	**10 22 37.2**	**+0.3**
JMK				S	**Sg**	**10 22 42.5**	**+0.6**
JOU	**Okura**	**0.49**	**187**	⇓P	**Pg**	**10 22 39.5**	**+0.5**
JRG	**Rokugo**	**0.55**	**351**	⇑P	**Pg**	**10 22 40.0**	**0.0**
JIO	**Ouri**	**0.62**	**130**	⇓P	**Pg**	**10 22 41.4**	**-0.1**
JIO				S	**Sg**	**10 22 49.7**	**+0.2**
JOM	**Ohasama**	**0.75**	**35**	⇑P	**Pg**	**10 22 43.6**	**-0.3**
JOM				*e*S	**Sg**	**10 22 53.0**	**-0.6**
JYS	**Shirataka**	**0.83**	**220**	⇓P	**Pg**	**10 22 45.3**	**-0.1**
JYS				S	**Sg**	**10 22 56.1**	**0.0**
JYA	**Atsumi**	**0.85**	**252**	⇓P	**Pg**	**10 22 45.4**	**-0.4**
JYA				S	**Sg**	**10 22 56.4**	**-0.4**
JMM	**Marumori**	**0.99**	**178**	P	**Pg**	**10 22 47.7**	**-0.8**
JMM				S	**Sg**	**10 23 01.0**	**-0.3**
MAJO	**Matsushiro**	**3.06**	**222**	*e*Pn	**Pn**	**10 23 19.9**	**+1.2**
MAT	**Matsushiro**	**3.06**	**222**	P	**Pn**	**10 23 19.6**	**+0.9**
MAT				*e*S	**Sn**	**10 24 01.3**	**+5.6**
MJAR	**Matsushiro Arr**	**3.06**	**222**	P	**Pn

Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.11**	**223**	Pn	Pn	11 12 41.2	+0.7
	0.4nm,0.3s,baz=308,slow=20,SNR=2.1						
PMG				Sn	Sn	11 13 42.5	+2.3
	1.2nm,0.3s,baz=99,slow=23,SNR=2.8						
WRA	**Warramunga Arr**	**21.32**	**227**	P	P	11 16 11.3	+0.1
	2.5nm,0.5s,baz=51,slow=10,SNR=12						
ASAR	**Alice Springs**	**24.12**	**220**	P	P	11 16 39.5	-0.8
	3.6nm,0.7s,baz=55,slow=9.3,SNR=53						
FITZ	**Fitzroy Crossi**	**27.42**	**241**	P	P	11 17 10.7	+0.5
	0.8nm,0.5s,baz=80,slow=12,SNR=3.9						
TORD	**Torodi Ar. Bea**	**148.58**	**286**	PKPbc	PKPbc	11 31 12.2	-0.5
	0.3nm,0.8s,baz=64,slow=3.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**148.58**	**286**	PKPbc	PKPbc	11 31 12.2	-0.5

*IDC **08** 11:11:21.0±4.5, 17°.14S×174°.49W, h170km±38km, mb3.8/12, mb1 4.0/12, mb1mx3.9/21, mbtmp3.8/12, MS4.2/1, Ms1 4.2/1, ms1mx2.9/31, Error ellipse: s-maj=25.8km s-min=11.2km az=131.0*

*NEIC **08** 11:11:26.6±2.2, 17°.18S×174°.50W, h223km±19km, mb4.2/5, Error ellipse: s-maj=23.4km s-min=13.4km az=138.0*

*ISCJB **08** 11:11:27.9±2.4, 17°.2S±0°.2×174°.6W±0°.1, h249km±22km, mb3.9/15, Error ellipse: s-maj=28.9km s-min=17.3km az=138.1*

ISC 08 11:11:27.9±2.5, 17°.2S±0°.2×174°.6W±0°.2, h236km±23km, n42,σ0$74/32, mb3.9/15, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.08**	**264**	*e*Pn	**Pn**	**11 13 09.4**	**-0.1**
	46nm,1.1s						
DZM	**Mont Dzumac**	**18.54**	**252**	*e*P	**P**	**11 15 32.5**	**+5.3**
	3.2nm,0.7s						
URZ	**Urewera**	**22.23**	**198**	P	**P**	**11 16 05.2**	**+0.2**
	6.6nm,0.8s,mb4.2,baz=355,slow=11,SNR=2.0						
URZ				S	**S**	**11 19 57.9**	**+5.9**
	11nm,1.1s,baz=109,slow=17,SNR=3.4						
URZ	**Urewera**	**22.23**	**198**	P	**P**	**11 16 05.2**	**+0.2**
URZ				S	**S**	**11 19 57.9**	**+5.9**
PMG	**Port Moresby**	**38.00**	**277**	LR	LR	11 29 59.3	
	comp=Z,383nm,20.6s,baz=282,slow=29						
STKA	**Stephens Creek**	**42.20**	**241**	P	**P**	**11 18 58.5**	**+0.7**
	3.4nm,0.4s,mb4.1,baz=73,slow=9.6,SNR=16						
STKA	**Stephens Creek**	**42.20**	**241**	P	**P**	**11 18 58.5**	**+0.7**
WRAB	**Tennant Creek**	**48.37**	**258**	*e*P	**P**	**11 19 45.6**	**-0.7**
	2.9nm,0.5s,mb3.9						
WRA	**Warramunga Arr**	**48.38**	**258**	P	**P**	**11 19 45.8**	**-0.6**
	2.8nm,0.5s,mb3.8,baz=95,slow=7.2,SNR=22						
WRA	**Warramunga Arr**	**48.38**	**258**	P	**P**	**11 19 45.8**	**-0.6**
ASAR	**Alice Springs**	**48.52**	**253**	P	**P**	**11 19 47.2**	**-0.2**
	18nm,0.7s,mb4.5,baz=88,slow=8.5,SNR=214						
ASAR	**Alice Springs**	**48.52**	**253**	P	**P**	**11 19 47.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**56.77**	**259**	P	**P**	**11 20 48.1**	**+0.2**
	1.7nm,0.7s,mb3.8,baz=106,slow=6.4,SNR=6.7						
FITZ	**Fitzroy Crossi**	**56.77**	**259**	P	**P**	**11 20 48.1**	**+0.2**
MJAR	**Matsushiro Arr**	**69.60**	**321**	P	**P**	**11 22 12.3**	**+0.8**
	0.9nm,0.5s,mb3.6,baz=156,slow=7.0,SNR=3.7						
MJAR	**Matsushiro Arr**	**69.60**	**321**	P	**P**	**11 22 12.3**	**+0.8**
PETK	**Petropavlovsk-**	**73.99**	**343**	P	**P**	**11 22 38.3**	**+1.1**
	4.0nm,0.5s,mb4.3,baz=120,slow=8.8,SNR=3.5						
PETK	**Petropavlovsk-**	**73.99**	**343**	P	**P**	**11 22 38.3**	**+1.1**
NVAR	**Mina Array Bea**	**76.39**	**42**	P	**P**	**11 22 51.5**	**+0.3**
	1.3nm,0.8s,mb3.6,baz=223,slow=7.4,SNR=7.9						
NVAR	**Mina Array Bea**	**76.39**	**42**	P	**P**	**11 22 51.5**	**+0.3**
TXAR	**Lajitas Array**	**82.52**	**56**	P	**P**	**11 23 25.3**	**+0.8**
	0.4nm,0.7s,mb3.2,baz=214,slow=8.7,SNR=6.3						
TXAR	**Lajitas Array**	**82.52**	**56**	P	**P**	**11 23 25.3**	**+0.8**
ANMO	**Albuquerque**	**82.79**	**50**	P	**P**	**11 23 26.2**	**+0.5**
	0.9nm,0.6s,mb3.7,baz=246,slow=3.7,SNR=6.0						
ANMO	**Albuquerque**	**82.79**	**50**	P	**P**	**11 23 26.2**	**+0.5**
COLA	**College**	**84.31**	**11**	*e*P	**P**	**11 23 32.2**	**-0.5**
	9.5nm,0.8s,mb4.6						
PDAR	**Pinedale Array**	**84.33**	**42**	P	**P**	**11 23 33.1**	**-0.2**
	2.0nm,0.8s,mb3.9,baz=205,slow=3.3,SNR=17						
PDAR	**Pinedale Array**	**84.33**	**42**	P	**P**	**11 23 33.1**	**-0.2**
ILAR	**Eielson Array**	**84.40**	**12**	P	**P**	**11 23 32.6**	**-0.6**
	1.5nm,0.6s,mb3.9,baz=234,slow=5.6,SNR=53						
ILAR	**Eielson Array**	**84.40**	**12**	P	**P**	**11 23 32.6**	**-0.6**
HRY	**Holter Researc**	**84.93**	**38**	*e*P	**P**	**11 23 33.6**	**-2.6**
EGAK	**Eagle**	**85.61**	**14**	*e*P	**P**	**11 23 39.3**	**+0.2**
	3.6nm,1.1s,mb4.0						
BVAR	**Borovoye Array**	**118.59**	**321**	PKP	PKPdf	11 29 47.9	+0.6
	0.9nm,0.6s,baz=150,slow=3.2,SNR=5.0						
BVAR	**Borovoye Array**	**118.59**	**321**	PKP	PKPdf	11 29 47.9	+0.6
CLL	**Collm**	**145.43**	**352**	*i*PKPbc	PKPbc	11 30 38.5	+0.6
	comp=Z,11nm,1.0s						
CLL				*e*		11 30 46.0	
BUR08	**Bucovina Ar. S**	**145.56**	**336**	*e*PKPbc	PKPbc	11 30 40.3	+1.9
BRG	**Berggiesshubel**	**145.71**	**350**	*e*P	PKPdf	11 30 39.7	+1.7
	comp=Z,5.2nm,1.0s						
BRTR	**Keskin Array B**	**146.79**	**318**	PKPbc	PKPbc	11 30 43.1	+0.8
	comp=Z,2.0nm,0.9s,baz=93,slow=2.5,SNR=6.0						
BRTR	**Keskin Array B**	**146.79**	**318**	PKPbc	PKPbc	11 30 43.1	+0.8
GERES	**GERESS Array B**	**147.72**	**350**	PKPbc	PKPbc	11 30 45.8	+1.2
	comp=Z,1.2nm,0.7s,baz=352,slow=2.0,SNR=10						
GERES	**GERESS Array B**	**147.72**	**350**	PKPbc	PKPbc	11 30 45.8	+1.2
DAVOX	**Davos/Dischmat**	**150.26**	**354**	PKPbc	PKPbc	11 30 52.8	+1.8
	comp=Z,4.7nm,0.7s,baz=342,slow=9.6,SNR=6.1						
DAVOX	**Davos/Dischmat**	**150.26**	**354**	PKPbc	PKPbc	11 30 52.8	+1.8

*IDC **08** 11:24:28.7±2.1, 8°.11S×118°.62E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.4/21, mbtmp3.5/4, ML3.4/2, Error ellipse: s-maj=182.9km s-min=22.2km az=54.0*

*NEIC **08** 11:24:31.4±1.2, 8°.15S×118°.52E, h25km, mb3.6/1, Error ellipse: s-maj=29.0km s-min=11.9km az=79.0*

*ISCJB **08** 11:24:33.4±0.8, 8°.27S±0°.04×118°.87E±0°.04, h25km±7km, mb3.4/2, Error ellipse: s-maj=6.9km s-min=6.2km az=136.4*

*DJA **08** 11:24:33, 8°.16S×118°.78E, h8km, MLv3.9/7*

ISC 08 11:24:33.6±1.1, 8°.23S±0°.04×118°.84E±0°.04, h11km±7km, n21,σ1$12/30, mb3.4/2, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMNI	**Bima**	**0.35**	**205**	P	**Pg**	**11 24 39.7**	**-0.8**
BMNI				S	**Sg**	**11 24 47.1**	**+1.9**
MTNI	**Mataram**	**2.67**	**261**	P	**Pn**	**11 25 16.4**	**-0.2**
MTNI				S	**Sn**	**11 25 48.7**	**-0.3**
BKSI	**Bulukumba**	**3.15**	**24**	P	**Pn**	**11 25 21.0**	**-2.2**
BKSI				S	**Sn**	**11 26 02.2**	**+1.4**
KAPI	**Kappang**	**3.31**	**16**	*e*Pn	**Pn**	**11 25 21.0**	**-4.4**
KAPI				*e*Sn	**Sn**	**11 25 59.2**	**-5.6**
KAPI	**Kappang**	**3.31**	**16**	P	**Pn**	**11 25 21.8**	**-3.6**
KAPI				S	**Sn**	**11 26 04.9**	**+0.1**
MMRI	**Maumere**	**3.38**	**97**	P	**Pn**	**11 25 28.0**	**+1.6**
SRBI	**Singaraja**	**3.59**	**272**	P	**Pn**	**11 25 28.2**	**-1.0**
DNP	**Denpasar**	**3.62**	**263**	P	**Pn**	**11 25 30.0**	**+0.4**
IGBI	**Denpasar**	**3.70**	**261**	S	**Sn**	**11 26 15.1**	**+0.7**
BNSI	**Bone**	**4.00**	**18**	P	**Pn**	**11 25 39.4**	**+4.5**
BNSI				S	**Sn**	**11 26 22.7**	**+0.9**
SPSI	**Sidrap Palu**	**4.33**	**12**	P	**Pn**	**11 25 39.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**11.84**	**147**	Pn	**Pn**	**11 27 22.7**	**+0.3**
	0.2nm,0.3s,baz=344,slow=15,SNR=5.4						
FITZ				Sn	**Sn**	**11 29 35.4**	**+0.8**
	0.1nm,0.3s,baz=117,slow=22,SNR=4.0						
FITZ	**Fitzroy Crossi**	**11.84**	**147**	Pn	**Pn**	**11 27 22.7**	**+0.3**
FITZ				Sn	**Sn**	**11 29 35.4**	**+0.8**
MBWA	**Marble Bar**	**12.89**	**176**	Pn	**Pn**	**11 27 32.9**	**-3.9**
MBWA				*e*Sn	**Sn**	**11 29 51.4**	**-8.9**
WRA	**Warramunga Arr**	**19.00**	**129**	P	**Pn**	**11 28 54.8**	**-1.3**
	0.1nm,0.3s,baz=302,slow=13,SNR=2.8						
WRA	**Warramunga Arr**	**19.00**	**129**	P	**Pn**	**11 28 54.8**	**-1.3**
WRAB	**Tennant Creek**	**19.00**	**129**	*e*P	**Pn**	**11 28 54.7**	**-1.4**
	3.8nm,1.0s						
ASAR	**Alice Springs**	**21.07**	**138**	P	**P**	**11 29 17.5**	**-0.5**
	1.0nm,0.5s,mb3.4,baz=316,slow=9.0,SNR=22						
ASAR	**Alice Springs**	**21.07**	**138**	P	**P**	**11 29 17.5**	**-0.5**
MKAR	**Makanchi Array**	**63.70**	**333**	P	**P**	**11 35 00.7**	**-4.4**
	0.4nm,0.9s,mb3.4,baz=146,slow=6.1,SNR=3.0						
MKAR	**Makanchi Array**	**63.70**	**333**	P	**P**	**11 35 00.7**	**-4.4**

*JMA **08** 11:29:10.8±0.9, 47°.01N×152°.95E, h30km, M4.8*

*ISCJB **08** 11:29:12.4±0.8, 46°.82N±0°.07×152°.80E±0°.09, h57km±6km, mb4.3/41, MS3.5/6, Error ellipse: s-maj=13.8km s-min=5.6km az=138.0*

*MOS **08** 11:29:13.1±1.1, 46°.92N×152°.85E, h61km, mb4.3/17, Error ellipse: s-maj=11.0km s-min=8.4km az=89.9*

*NEIC **08** 11:29:15.0±1.0, 46°.89N×152°.84E, h64km±8km, mb4.6/10, Error ellipse: s-maj=10.5km s-min=6.0km az=151.0*

*IDC **08** 11:29:17.0±2.3, 46°.91N×152°.73E, h82km±20km, mb3.8/25, mb1 4.0/28, mb1mx3.9/35, mbtmp3.8/28, MS3.4/7, Ms1 3.5/7, ms1mx3.0/44, Error ellipse: s-maj=14.7km s-min=10.2km az=139.0*

ISC 08 11:29:15.1±0.7, 46°.82N±0°.07×152°.78E±0°.09, h64km±6km, n184,σ1$10/192, mb4.3/41, 6C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**5.61**	**243**	PN	**Pn**	**11 30 36.8**	**+1.0**
YUK				S	**Sn**	**11 31 41.5**	**+2.7**
YUK				pmax	pmax		
	comp=Z,280nm,0.4s						
YUK				pmax	pmax		
	comp=N,200nm,0.2s						
YUK				pmax	pmax		
	comp=E,154nm,0.3s						
YUK				smax			
	comp=N,436nm,0.6s						
YUK				smax			
	comp=E,211nm,0.3s						
YUK				smax			
	comp=N,100nm,0.3s						
YUK				smax			
	comp=E,500nm,0.7s						
NEM2	**Nemuro 2**	**6.06**	**238**	P	**Pn**	**11 30 40.2**	**-1.8**
NEM2				*e*S	**Sn**	**11 31 45.7**	**-4.2**
JRA	**Rausu**	**6.11**	**245**	P	**Pn**	**11 30 43.6**	**+0.9**
JNK	**Nakash**	**6.55**	**243**	P	**Pn**	**11 30 48.8**	**+0.2**
JTKR	**Abashiri--Toko**	**6.86**	**249**	P	**Pn**	**11 30 54.2**	**+1.3**
YSS	**Yuzh-Sakhalins**	**6.87**	**275**	*e*Pn	**Pn**	**11 30 55.3**	**+2.3**
YSS	**Yuzh-Sakhalins**	**6.87**	**275**	*e*PN	**Pn**	**11 30 55.3**	**+2.3**
JAK	**Akkeshi**	**6.89**	**239**	P	**Pn**	**11 30 51.3**	**-2.1**
JAK				*e*S	**Sn**	**11 32 05.8**	**-4.5**
PETK	**Petropavlovsk-**	**7.05**	**25**	P	**Pn**	**11 30 54.9**	**-0.5**
	comp=E,0.7nm,0.3s,baz=183,slow=10,SNR=3.5						
PETK				S	**Sn**	**11 32 15.9**	**+2.0**
	comp=E,0.1nm,0.3s,baz=202,slow=18,SNR=2.2						
PETK	**Petropavlovsk-**	**7.05**	**25**	PN	**Pn**	**11 30 54.9**	**-0.5**
PETK				S	**Sn**	**11 32 15.9**	**+2.0**
PETK	**Petropavlovsk-**	**7.05**	**25**	PN	**Pn**	**11 30 54.9**	**-0.5**
PETK				S	**Sn**	**11 32 15.9**	**+1.9**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
JMP	**Maruseppu**	**7.20**	**250**	P	**Pn**	**11 31 00.1**	**+2.6**
JAR	**Ashorobuto**	**7.29**	**244**	P	**Pn**	**11 30 58.9**	**+0.2**
JAR				*e*S	**Sn**	**11 32 19.7**	**-0.2**
JOB	**Onbets**	**7.46**	**242**	P	**Pn**	**11 31 00.7**	**-0.4**
JOB				*e*S	**Sn**	**11 32 21.4**	**-2.8**
ASAJ	**Asahikawa**	**7.65**	**253**	P	**Pn**	**11 31 06.3**	**+2.6**
	comp=Z,2.6nm,0.3s,baz=100,slow=7.8,SNR=17						
ASAJ	**Asahikawa**	**7.65**	**253**	PN	**Pn**	**11 31 06.3**	**+2.6**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
JKK2	**Kamakawa 2**	**7.65**	**251**	P	**Pn**	**11 31 05.6**	**+1.8**
JCH	**Churui**	**7.91**	**241**	P	**Pn**	**11 31 05.8**	**-1.5**
JCH				*e*S	**Sn**	**11 32 31.3**	**-4.0**
JBT2	**Biratori 2**	**8.43**	**245**	P	**Pn**	**11 31 14.0**	**-0.4**
JNB	**Noboribetsu**	**9.43**	**247**	P	**Pn**	**11 31 27.7**	**-0.3**
JKB	**Kayabe**	**9.75**	**244**	P	**Pn**	**11 31 30.7**	**-1.7**
JKB				*e*S	**Sn**	**11 33 14.1**	**-6.1**
JSR	**Shiriuchi**	**10.33**	**244**	P	**Pn**	**11 31 37.2**	**-3.1**
JTM	**Tenmabayashi**	**10.39**	**239**	*e*S	**Sn**	**11 33 26.7**	**-9.1**
JANG	**Nango**	**10.40**	**236**	P	**Pn**	**11 31 36.5**	**-4.8**
JRG	**Rokugo**	**11.56**	**234**	P	**Pn**	**11 31 53.5**	**-3.6**
JRG				*e*S	**Sn**	**11 33 56.5**	**-7.9**
FX1	**Attu Island--F**	**14.46**	**58**	P	**Pn**	**11 32 32.6**	**-3.4**
	comp=Z,2.8nm,0.3s,baz=254,slow=19,SNR=7.2						
FX1				S	**Sn**	**11 35 02.1**	**-13**
	comp=Z,2.1nm,0.3s,baz=122,slow=1.3,SNR=4.5						
FX1				LR	LR	11 38 32.6	
	comp=Z,47nm,18.0s,baz=249,slow=38						
FX1	**Attu Island--F**	**14.46**	**58**	P	**Pn**	**11 32 32.6**	**-3.4**
FX1				S	**Sn**	**11 35 02.1**	**-13**
FX1				LR	LR	11 38 32.5	
FX1	**Attu Island--F**	**14.46**	**58**	P	**Pn**	**11 32 32.7**	**-3.3**
FX1				pmax	pmax		
	comp=Z,3.0nm,0.3s						
FX1				MLR	MLR		
	comp=Z,47nm,18.0s						
MAT	**Matsushiro**	**14.94**	**232**	P	**Pn**	**11 32 47.5**	**+5.1**
MJAR	**Matsushiro Arr**	**14.94**	**232**	P	**Pn**	**11 32 43.0**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=37,slow=8.4,SNR=4.6						
MJAR	**Matsushiro Arr**	**14.94**	**232**	P	**Pn**	**11 32 43.0**	**+0.6**
MJAR	**Matsushiro Arr**	**14.94**	**232**	P	**Pn**	**11 32 43.0**	**+0.6**
KSRS	**Korea Array**	**20.60**	**252**	P	**P**	**11 33 51.2**	**+2.5**
	comp=Z,3.1nm,0.6s,baz=59,slow=9.7,SNR=13						
KSRS	**Korea Array**	**20.60**	**252**	P	**P**	**11 33 51.2**	**+2.5**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.6s						
SONM	**Songino Array**	**31.09**	**289**	P	**P**	**11 35 27.4**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=126,slow=27,SNR=2.7						
SONM				LR	LR	11 48 30.9	
	comp=Z,65nm,18.6s,baz=153,slow=37						
SONM	**Songino Array**	**31.09**	**289**	P	**P**	**11 35 27.4**	**+0.5**
SONM				LR	LR	11 48 30.9	
SONM	**Songino Array**	**31.09**	**289**	P	**P**	**11 35 27.4**	**+0.5**
SONM				MLR	MLR		
	comp=Z,65nm,18.6s						
ILAR	**Eielson Array**	**36.64**	**39**	P	**P**	**11 36 14.3**	**-0.4**
	comp=Z,0.8nm,0.7s,mb3.7,baz=262,slow=6.8,SNR=18						
ILAR	**Eielson Array**	**36.64**	**39**	P	**P**	**11 36 14.3**	**-0.4**
ILAR	**Eielson Array**	**36.64**	**39**	P	**P**	**11 36 14.3**	**-0.4**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**41.72**	**32**	P	**P**	**11 36 57.5**	**+0.5**
	comp=Z,1.9nm,0.5s,mb4.0,baz=288,slow=7.5,SNR=30						
INK	**Inuvik**	**41.72**	**32**	P	**P**	**11 36 57.5**	**+0.5**
INK	**Inuvik**	**41.72**	**32**	P	**P**	**11 36 57.6**	**+0.6**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZALV	**Zalesovo Beam**	**42.38**	**306**	P	**P**	**11 37 01.2**	**-1.4**
	comp=Z,0.9nm,0.4s,mb3.8,baz=61,slow=7.3,SNR=7.8						
ZALV				PcP	PcP	11 38 54.7	0.0
	comp=Z,0.5nm,0.4s,baz=122,slow=1.9,SNR=5.1						
ZALV				LR	LR	11 56 08.4	
	comp=Z,58nm,18.1s,baz=57,slow=38						
ZALV	**Zalesovo Beam**	**42.38**	**306**	P	**P**	**11 37 01.2**	**-1.4**
ZALV				PcP	PcP	11 38 54.7	0.0
ZALV				LR	LR	11 56 08.4	
ZALV	**Zalesovo Beam**	**42.38**	**306**	P	**P**	**11 37 01.3**	**-1.3**
ZALV						11 38 54.7	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
ZALV				MLR	MLR		
	comp=Z,58nm,18.1s						
MK31	**Makanchi Array**	**46.70**	**297**	*e*P	**P**	**11 37 35.4**	**-1.8**
MK31	**Makanchi Array**	**46.70**	**297**	*e*P	**P**	**11 37 35.4**	**-1.7**
MKAR	**Makanchi Array**	**46.70**	**297**	P	**P**	**11 37 36.2**	**-0.9**
	comp=Z,0.8nm,0.6s,mb3.8,baz=68,slow=7.6,SNR=8.7						
MKAR				PcP	PcP	11 39 09.7	0.0
	comp=Z,0.7nm,0.6s,baz=72,slow=2.9,SNR=5.6						
MKAR				LR	LR	11 58 24.6	
	comp=Z,62nm,19.4s,baz=244,slow=38						
MKAR	**Makanchi Array**	**46.70**	**297**	P	**P**	**11 37 36.2**	**-0.9**
MKAR				PcP	PcP	11 39 09.7	0.0
MKAR				LR	LR	11 58 24.6	
MKAR	**Makanchi Array**	**46.70**	**297**	P	**P**	**11 37 36.2**	**-0.9**
MKAR						11 39 09.7	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,62nm,19.4s						
KURK	**Kurchatov**	**47.13**	**303**	P	**P**	**11 37 40.1**	**-0.3**
	comp=Z,1.4nm,0.5s,mb4.2,baz=70,slow=8.4,SNR=16						
KURK	**Kurchatov**	**47.13**	**303**	P	**P**	**11 37 40.1**	**-0.3**
KURK	**Kurchatov**	**47.13**	**303**	P	**P**	**11 37 40.1**	**-0.3**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
BVAR	**Borovoye Array**	**50.63**	**309**	P	**P**	**11 38 06.4**	**-0.8**
	comp=Z,0.8nm,0.4s,mb4.0,baz=51,slow=9.6,SNR=5.2						
BVAR	**Borovoye Array**	**50.63**	**309**	P	**P**	**11 38 06.4**	**-0.8**
BVAR	**Borovoye Array**	**50.63**	**309**	P	**P**	**11 38 06.4**	**-0.8**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**52.16**	**256**	P	**P**	**11 38 20.2**	**+1.2**
	comp=Z,2.3nm,0.8s,mb4.2,baz=36,slow=7.7,SNR=13						
CMAR				LR	LR	12 01 17.4	
	comp=Z,15nm,19.4s,baz=180,slow=37						
CMAR	**Chiang Mai Arr**	**52.16**	**256**	P	**P**	**11 38 20.2**	**+1.2**
CMAR				LR	LR	12 01 17.4	
CMAR	**Chiang Mai Arr**	**52.16**	**256**	P	**P**	**11 38 20.3**	**+1.3**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CMAR				MLR	MLR		
	comp=Z,15nm,19.4s						
SPITS	**Spitsbergen Ar**	**52.50**	**350**	P	**P**	**11 38 20.1**	**-0.7**
	comp=Z,4.2nm,0.7s,mb4.5,baz=67,slow=8.4,SNR=8.1						
SPITS	**Spitsbergen Ar**	**52.50**	**350**	P	**P**	**11 38 20.1**	**-0.7**
SPITS	**Spitsbergen Ar**	**52.50**	**350**	P	**P**	**11 38 20.1**	**-0.7**
SPITS				pmax	pmax		
	comp=Z,4.0nm,0.7s						
AAK	**Ala-Archa**	**53.59**	**296**	P	**P**	**11 38 29.4**	**0.0**
	comp=Z,0.4nm,0.3s,mb3.8,baz=180,slow=19,SNR=3.6						
AAK	**Ala-Archa**	**53.59**	**296**	P	**P**	**11 38 29.4**	**0.0**
AAK	**Ala-Archa**	**53.59**	**296**	P	**P**	**11 38 29.4**	**+0.1**
TAPN	**Taplejung**	**53.86**	**273**	*e*P	**P**	**11 38 32.5**	**+1.0**
	comp=Z,6.5nm,0.4s,mb4.9						
TAPN	**Taplejung**	**53.86**	**273**	*e*P	**P**	**11 38 32.5**	**+1.0**
	comp=Z,6.5nm,0.4s,mb4.9						
GUN	**Gumba**	**54.76**	**275**	*e*P	**P**	**11 38 39.1**	**+1.1**
	comp=Z,8.1nm,0.3s,mb5.2						
GUN	**Gumba**	**54.76**	**275**	*e*P	**P**	**11 38 39.1**	**+1.1**
	comp=Z,8.1nm,0.3s,mb5.2						
KKN	**Kakani**	**55.25**	**275**	*e*P	**P**	**11 38 43.0**	**+1.5**
KKN	**Kakani**	**55.25**	**275**	*e*P	**P**	**11 38 43.0**	**+1.5**
KKN	**Kakani**	**55.25**	**275**	*e*P	**P**	**11 38 43.0**	**+1.5**
PKI	**Pulchoki**	**55.30**	**275**	*e*P	**P**	**11 38 42.7**	**+0.8**
PKI	**Pulchoki**	**55.30**	**275**	*e*P	**P**	**11 38 43.6**	**+1.7**
	comp=Z,15nm,0.7s,mb5.1						
PKI	**Pulchoki**	**55.30**	**275**	*e*P	**P**	**11 38 43.6**	**+1.7**
PKI				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.1						
PKIN	**Phulchoki**	**55.30**	**275**	*e*P	**P**	**11 38 43.6**	**+1.7**
	comp=Z,15nm,0.7s,mb5.1						
DMN	**Daman**	**55.48**	**275**	*e*P	**P**	**11 38 44.6**	**+1.4**
DMN	**Daman**	**55.48**	**275**	*e*P	**P**	**11 38 44.6**	**+1.4**
GKN	**Gorkha**	**55.55**	**276**	*e*P	**P**	**11 38 44.1**	**+0.4**
	comp=Z,11nm,0.6s,mb5.0						
GKN	**Gorkha**	**55.55**	**276**	*e*P	**P**	**11 38 44.1**	**+0.4**
	comp=Z,11nm,0.6s,mb5.0						
DANN	**Dangsing**	**55.93**	**277**	*e*P	**P**	**11 38 47.0**	**+0.6**
DANN	**Dangsing**	**55.93**	**277**	*e*P	**P**	**11 38 47.0**	**+0.6**
KOLN	**Koldanda**	**56.41**	**276**	*e*P	**P**	**11 38 50.8**	**+1.0**
KOLN	**Koldanda**	**56.41**	**276**	*e*P	**P**	**11 38 50.8**	**+1.0**
KEV	**Kevo**	**57.20**	**340**	*e*P	**P**	**11 38 53.5**	**-1.3**
KEV	**Kevo**	**57.20**	**340**	*e*p	**P**	**11 38 53.5**	**-1.3**
	comp=Z,0.3nm,0.3s,mb3.8						
ARCES	**ARCESS Array B**	**57.71**	**341**	P	**P**	**11 38 57.5**	**-0.8**
	comp=Z,3.4nm,0.9s,mb4.4,baz=18,slow=7.8,SNR=5.7						
ARCES	**ARCESS Array B**	**57.71**	**341**	P	**P**	**11 38 57.5**	**-0.8**
ARCES	**ARCESS Array B**	**57.71**	**341**	P	**P**	**11 38 57.6**	**-0.8**
ABKAR	**Akbulak array**	**58.20**	**310**	*e*P	**P**	**11 39 01.0**	**-1.1**
	comp=Z,0.9nm,0.5s,mb4.1						
SUMG	**Summit**	**60.65**	**4**	*i* P	**P**	**11 39 19.0**	**+0.4**
	comp=Z,11nm,0.9s,mb5.0						
JOF	**Joensuu**	**61.17**	**334**	*e*P	**P**	**11 39 17.0**	**-5.3**
JOF	**Joensuu**	**61.17**	**334**	*e*p	**P**	**11 39 17.0**	**-5.3**
NVAR	**Mina Array Bea**	**62.61**	**62**	P	**P**	**11 39 32.5**	**+0.2**
	comp=Z,0.7nm,0.7s,mb3.9,baz=295,slow=7.0,SNR=7.3						
NVAR	**Mina Array Bea**	**62.61**	**62**	P	**P**	**11 39 32.5**	**+0.2**
KAF	**Kangasniemi**	**63.28**	**335**	*e*P	**P**	**11 39 35.0**	**-1.4**

STKA	**Stephens Creek**	**78.98**	**190**	LR		LR		12 16 49.8	
	comp=Z,71nm,18.1s,baz=25,slow=36								
CDF	**Champ du Feu**	**80.50**	**338**	*eP*		**P**		**11 41 19.4**	**-0.3**
PAGF	**Fort de Pagny**	**80.77**	**339**	*eP*		**P**		**11 41 20.3**	**-0.8**
MEZF	**Maizieres J'vi**	**80.99**	**339**	*eP*		**P**		**11 41 21.7**	**-0.6**
HAU	**Haudompre**	**81.12**	**338**	*eP*		**P**		**11 41 22.6**	**-0.4**
HINF	**Hinteralfeld**	**81.16**	**338**	*eP*		**P**		**11 41 22.1**	**-1.2**
SFTF	**Sexfontaines**	**81.27**	**339**	*eP*		**P**		**11 41 23.3**	**-0.5**
	comp=Z,6.0nm,0.3s,mb4.6								
LOR	**Lormes**	**82.43**	**339**	*eP*		**P**		**11 41 29.7**	**-0.2**
LOR	**Lormes**	**82.43**	**339**	*eP*		**P**		**11 41 29.7**	**-0.2**
LOR	**Lormes**	**82.43**	**339**	*eP*		**P**		**11 41 29.7**	**-0.2**
SSF	**Saint Saulge**	**82.71**	**339**	*eP*		**P**		**11 41 31.6**	**+0.2**
SSF	**Saint Saulge**	**82.71**	**339**	*eP*		**P**		**11 41 31.6**	**+0.2**
SSF	**Saint Saulge**	**82.71**	**339**	*eP*		**P**		**11 41 31.6**	**+0.2**
SMF	**Signal de Mont**	**83.01**	**339**	*eP*		**P**		**11 41 33.9**	**+0.9**
	comp=Z,7.6nm,0.9s,mb4.4								
SMF	**Signal de Mont**	**83.01**	**339**	*eP*		**P**		**11 41 33.9**	**+0.9**
	comp=Z,3.8nm,0.9s,mb4.4								
SMF	**Signal de Mont**	**83.01**	**339**	*eP*		**P**		**11 41 33.9**	**+0.9**
SMF				pmax		pmax			
	comp=Z,4.0nm,0.9s,mb4.5								
LPL	**La Plagne**	**83.31**	**337**	*eP*		**P**		**11 41 35.1**	**+0.6**
	comp=Z,5.3nm,0.9s,mb4.3								
LPL	**La Plagne**	**83.31**	**337**	*eP*		**P**		**11 41 35.1**	**+0.6**
	comp=Z,2.7nm,0.9s,mb4.3								
LPL	**La Plagne**	**83.31**	**337**	*eP*		**P**		**11 41 35.1**	**+0.6**
LPL				pmax		pmax			
	comp=Z,3.0nm,0.9s,mb4.3								
LPG	**La Plagne**	**83.33**	**337**	*eP*		**P**		**11 41 35.2**	**+0.6**
LPG	**La Plagne**	**83.33**	**337**	*eP*		**P**		**11 41 35.2**	**+0.6**
LPG	**La Plagne**	**83.33**	**337**	*eP*		**P**		**11 41 35.2**	**+0.6**
BGF	**Bois d'Agland**	**83.34**	**340**	*eP*		**P**		**11 41 35.6**	**+1.0**
	comp=Z,14nm,0.8s,mb4.7								
BGF	**Bois d'Agland**	**83.34**	**340**	*eP*		**P**		**11 41 35.6**	**+1.0**
	comp=Z,7.2nm,0.8s,mb4.8								
BGF	**Bois d'Agland**	**83.34**	**340**	*eP*		**P**		**11 41 35.6**	**+1.0**
BGF				pmax		pmax			
	comp=Z,7.0nm,0.8s,mb4.7								
ORIF	**Oris-en-Rattie**	**84.10**	**337**	*eP*		**P**		**11 41 39.3**	**+0.7**
	comp=Z,3.3nm,0.7s,mb4.3								
ORIF	**Oris-en-Rattie**	**84.10**	**337**	*eP*		**P**		**11 41 39.3**	**+0.7**
	comp=Z,1.6nm,0.7s,mb4.3								
ORIF	**Oris-en-Rattie**	**84.10**	**337**	*eP*		**P**		**11 41 39.3**	**+0.7**
ORIF				pmax		pmax			
	comp=Z,2.0nm,0.7s,mb4.4								
CPUP	**Villa Florida**	**148.63**	**60**	PKPbc		PKPbc		11 48 54.3	-0.3
	comp=Z,1.1nm,0.5s,baz=305,slow=0.8,SNR=4.2								
CPUP	**Villa Florida**	**148.63**	**60**	PKPbc		PKPbc		11 48 54.3	-0.3
VNA2	**Neumayer--Watz**	**154.01**	**195**	*e*		PKPdf		11 49 02.4	+4.8
	baz=260,slow=0.6								
VNA2				*e*				11 49 16.4	
VNA3	**Neumayer Olymp**	**154.11**	**193**	*e*		PKPdf		11 49 03.0	+5.2
VNA3				*e*				11 49 17.1	

*ISCJB **08** 11:57:24.5±0.2,38°.25S±0'.03×176°.03E±0'.05,h209km±2km, mb4.3/21,Error ellipse: s-maj=7.0km s-min=4.5km az=13.1*

*IDC **08** 11:57:24.5±0.4,37°.95S×176°.19E,h201km±3km,mb4.2/11, mb1 4.3/11,mb1mx4.1/16,mbtmp4.2/11,MS3.5/2, Ms1 3.5/2,ms1mx3.1/19,Error ellipse: s-maj=17.1km s-min=9.8km az=35.0*

*WEL **08** 11:57:25.9±0.3,38°.16S×176°.06E,h201km±2km, ML5.7/24, Error ellipse: s-maj=2.0km s-min=1.6km az=90.0,intensity MM 5.*

WEL Felt between Bay of Plenty, Wellington and Gisborne, maximum reported.

*NEIC **08** 11:57:25.7,38°.15S×176°.03E,h203km, mb4.4/12,After WEL.*

NEIC Felt [IV] at Gisborne, Kotemaori and Waituna West. Widely felt on the North Island.

ISC 08 11:57:25.4±0.2,**38°.27S**±0'.03×**176°.04E**±0'.05,**h205**km±2km, **h207**km±5.9km:**pP-P,n180,**σ1.9**00**/165,**mb4.3**/21,**2C-1D, North Island**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
UTU	**Utuhina**	**0.15**	**54**	PN		**Pn**	**11 57 52.4**	**+0.2**
UTU				SN		**Sn**	**11 58 13.1**	**+0.3**
HRRZ	**Handcock Road**	**0.23**	**123**	PN		**Pn**	**11 57 52.6**	**+0.3**
KARZ	**Kaharoa**	**0.29**	**34**	PN		**Pn**	**11 57 52.2**	**-0.2**
KARZ				SN		**Sn**	**11 58 12.9**	**-0.4**
OMRZ	**Omania**	**0.31**	**59**	PN		**Pn**	**11 57 52.4**	**-0.1**
OMRZ				SN		**Sn**	**11 58 12.7**	**-0.6**
MKRZ	**Makatiti**	**0.36**	**70**	PN		**Pn**	**11 57 53.1**	**+0.5**
PRRZ	**Plateau Road**	**0.36**	**130**	PN		**Pn**	**11 57 52.7**	**+0.1**
PRRZ				SN		**Sn**	**11 58 13.2**	**-0.5**
TARZ	**Mount Tarawera**	**0.37**	**85**	PN		**Pn**	**11 57 52.7**	**+0.1**
LIRZ	**Lichensteins R**	**0.38**	**47**	PN		**Pn**	**11 57 52.4**	**-0.2**
LIRZ				SN		**Sn**	**11 58 13.3**	**-0.4**
ALRZ	**Allen Road**	**0.38**	**141**	PN		**Pn**	**11 57 52.6**	**0.0**
ALRZ				SN		**Sn**	**11 58 13.7**	**-0.2**
RRRZ	**Republican Roa**	**0.38**	**101**	PN		**Pn**	**11 57 52.5**	**-0.1**
PRRZ				SN		**Sn**	**11 58 12.5**	**-1.2**
WHTZ	**Whakaora**	**0.41**	**189**	PN		**Pn**	**11 57 53.5**	**+0.8**
WATZ	**Wairara**	**0.50**	**208**	PN		**Pn**	**11 57 53.7**	**+0.7**
TGRZ	**Tauranga**	**0.56**	**18**	PN		**Pn**	**11 57 52.7**	**-0.6**
TGRZ				SN		**Sn**	**11 58 13.4**	**-1.5**
EDRZ	**Edgecumbe**	**0.57**	**74**	PN		**Pn**	**11 57 52.9**	**-0.4**
MARZ	**Manawahe**	**0.57**	**61**	PN		**Pn**	**11 57 53.1**	**-0.2**
OPRZ	**Ohinepanea**	**0.58**	**44**	PN		**Pn**	**11 57 52.1**	**-1.3**
OPRZ				SN		**Sn**	**11 58 12.9**	**-2.1**
HATZ	**Hinemaiaia**	**0.63**	**176**	PN		**Pn**	**11 57 54.0**	**+0.4**
RATZ	**Rangitukua**	**0.64**	**199**	PN		**Pn**	**11 57 53.4**	**-0.2**
TOZ	**Tahuroa Road**	**0.68**	**321**	PN		**Pn**	**11 57 53.6**	**-0.2**
RITZ	**Rihia Road**	**0.73**	**191**	PN		**Pn**	**11 57 54.9**	**+1.0**
KATZ	**Kakaramea**	**0.76**	**201**	PN		**Pn**	**11 57 55.1**	**+0.9**
URZ	**Urewera**	**0.84**	**90**	PN		**Pn**	**11 57 53.9**	**-0.8**
URZ	**Urewera**	**0.84**	**90**	P		**Pn**	**11 57 53.8**	**-0.8**
	550nm,0.3s,baz=267,slow=3.7,SNR=5891							
URZ				S		**Sn**	**11 58 15.0**	**-2.3**
	3μm,0.3s,baz=181,slow=24,SNR=168							
URZ	**Urewera**	**0.84**	**90**	*e*Pn		**Pn**	**11 57 53.9**	**-0.7**
URZ				*e*Sn		**Sn**	**11 58 14.8**	**-2.5**
KRVZ	**Karewarewa**	**0.89**	**200**	PN		**Pn**	**11 57 55.6**	**+0.8**
WTVZ	**West Tongariro**	**0.92**	**202**	PN		**Pn**	**11 57 55.9**	**+0.8**
TWVZ	**Taurewa**	**0.93**	**210**	PN		**Pn**	**11 57 56.1**	**+0.9**
OTVZ	**Oturere**	**0.94**	**198**	PN		**Pn**	**11 57 56.1**	**+0.9**
HIZ	**Hauiti**	**0.96**	**255**	PN		**Pn**	**11 57 55.5**	**+0.1**
NGZ	**Ngauruhoe**	**0.97**	**200**	PN		**Pn**	**11 57 56.1**	**+0.7**
WPVZ	**Whakapapa**	**1.01**	**202**	PN		**Pn**	**11 57 56.4**	**+0.7**
NMHZ	**Naumai**	**1.03**	**144**	PN		**Pn**	**11 57 57.3**	**+1.5**
RAHZ	**Arahi**	**1.05**	**129**	PN		**Pn**	**11 57 56.8**	**+0.9**
FWVZ	**Far West T-bar**	**1.06**	**201**	PN		**Pn**	**11 57 56.7**	**+0.7**
DRZ	**Dome Shelter**	**1.07**	**200**	PN		**Pn**	**11 57 57.2**	**+1.1**
TRVZ	**Turoa**	**1.10**	**200**	PN		**Pn**	**11 57 57.3**	**+1.0**
WNVZ	**Wahianoa**	**1.11**	**198**	PN		**Pn**	**11 57 57.4**	**+1.0**
PKVZ	**Pokaka**	**1.16**	**208**	PN		**Pn**	**11 57 57.6**	**+0.9**
MOVZ	**Moawhango**	**1.16**	**191**	PN		**Pn**	**11 57 57.2**	**+0.4**
WIZ	**White Island**	**1.17**	**51**	PN		**Pn**	**11 57 55.3**	**-1.6**
MWZ	**Matawai**	**1.18**	**94**	PN		**Pn**	**11 57 56.5**	**-0.4**
MTVZ	**Mangateitei**	**1.20**	**201**	PN		**Pn**	**11 57 58.0**	**+1.0**
BHHZ	**Black Hill Sta**	**1.22**	**179**	PN		**Pn**	**11 57 57.9**	**+0.7**
MCHZ	**McNeill Hill**	**1.28**	**157**	PN		**Pn**	**11 57 59.3**	**+1.7**
VRZ	**Vera Road**	**1.32**	**229**	PN		**Pn**	**11 57 58.4**	**+0.4**
MKAZ	**Moumakai**	**1.34**	**329**	PN		**Pn**	**11 57 57.2**	**-1.1**
KNZ	**Kokohu**	**1.49**	**121**	PN		**Pn**	**11 57 59.7**	**+0.3**
MHEZ	**Mangahewa**	**1.57**	**238**	PN		**Pn**	**11 58 01.6**	**+1.5**
OTAZ	**Otara**	**1.58**	**326**	PN		**Pn**	**11 57 59.8**	**-0.5**
PRGZ	**Paritu Road**	**1.59**	**115**	PN		**Pn**	**11 58 00.8**	**+0.5**
CKHZ	**Cape Kidnapper**	**1.61**	**150**	PN		**Pn**	**11 58 01.7**	**+1.3**
RAEZ	**Rainy Point**	**1.64**	**231**	PN		**Pn**	**11 58 02.0**	**+1.3**
PNHZ	**Pukenui**	**1.65**	**176**	PN		**Pn**	**11 58 01.7**	**+0.9**
KAHZ	**Kahuranaki**	**1.66**	**157**	PN		**Pn**	**11 58 02.3**	**+1.4**
WAZ	**Wanganui**	**1.70**	**208**	PN		**Pn**	**11 58 01.9**	**+0.7**
DREZ	**Durham Road**	**1.71**	**237**	PN		**Pn**	**11 58 02.7**	**+1.4**
MHGZ	**Mahia Peninsul**	**1.71**	**122**	PN		**Pn**	**11 58 02.3**	**+1.0**
PUZ	**Puketiti**	**1.76**	**84**	PN		**Pn**	**11 58 00.5**	**-1.4**
WTAZ	**Waiatarua**	**1.77**	**318**	PN		**Pn**	**11 58 01.8**	**-0.2**
TSZ	**Takapari Road**	**1.79**	**182**	PN		**Pn**	**11 58 02.5**	**+0.3**
NEZ	**North Egmont**	**1.82**	**236**	PN		**Pn**	**11 58 03.9**	**+1.5**
WPHZ	**Waipukurau**	**1.82**	**170**	PN		**Pn**	**11 58 03.5**	**+1.0**
DFE	**Dawson Falls**	**1.84**	**234**	PN		**Pn**	**11 58 04.1**	**+1.4**
PKE	**Pukeiti**	**1.85**	**239**	PN		**Pn**	**11 58 04.0**	**+1.3**
NWEZ	**Newall Road**	**1.97**	**239**	PN		**Pn**	**11 58 05.2**	**+1.3**
DVHZ	**Dannevirke**	**2.03**	**177**	PN		**Pn**	**11 58 05.1**	**+0.6**
PRHZ	**Porangahau**	**2.05**	**167**	PN		**Pn**	**11 58 05.6**	**+0.9**
POWZ	**Post Office Ro**	**2.13**	**186**	PN		**Pn**	**11 58 06.1**	**+0.5**
MRZ	**Mangatainoka R**	**2.42**	**188**	PN		**Pn**	**11 58 08.0**	**-0.6**
TIWZ	**Tintock**	**2.51**	**183**	PN		**Pn**	**11 58 09.9**	**+0.3**
OGWZ	**Otaki Gorge**	**2.64**	**194**	PN		**Pn**	**11 58 11.3**	**+0.2**
HOWZ	**Holdsworth Sta**	**2.66**	**189**	PN		**Pn**	**11 58 11.2**	**-0.1**
KIW	**Kapiti Island**	**2.74**	**198**	PN		**Pn**	**11 58 12.0**	**-0.1**
TMWZ	**Te Maipa**	**2.84**	**182**	PN		**Pn**	**11 58 13.3**	**0.0**
MTW	**Mount Morrison**	**2.92**	**188**	PN		**Pn**	**11 58 13.9**	**-0.4**
CAW	**Cannon Point**	**2.94**	**194**	PN		**Pn**	**11 58 14.3**	**-0.2**
DUWZ	**D'Urville Isla**	**3.02**	**212**	PN		**Pn**	**11 58 14.9**	**-0.5**
TRWZ	**Traveller**	**3.14**	**185**	PN		**Pn**	**11 58 16.7**	**-0.2**
MSWZ	**Moikau Station**	**3.20**	**191**	PN		**Pn**	**11 58 17.1**	**-0.5**
SNZO	**South Karori**	**3.21**	**198**	PN		**Pn**	**11 58 16.9**	**-0.8**
SNZO	**South Karori**	**3.21**	**198**	i*P*n		**Pn**	**11 58 17.1**	**-0.6**
SNZO				*e*Sn		**Sn**	**11 58 56.6**	**-2.2**
TCW	**Tory Channel**	**3.24**	**204**	PN		**Pn**	**11 58 17.6**	**-0.4**
BHW	**Baring Head**	**3.27**	**196**	PN		**Pn**	**11 58 17.7**	**-0.6**
PLWZ	**Palliser**	**3.35**	**190**	PN		**Pn**	**11 58 18.8**	**-0.6**
TUWZ	**Tuamarina**	**3.55**	**206**	PN		**Pn**	**11 58 20.9**	**-0.9**
OUZ	**Omahuta**	**3.62**	**326**	*e*Pn		**Pn**	**11 58 22.4**	**-0.3**
QRZ	**Quartz Range**	**3.73**	**226**	PN		**Pn**	**11 58 22.3**	**-1.7**
CMWZ	**Cape Campbell**	**3.75**	**201**	PN		**Pn**	**11 58 24.4**	**+0.2**
BSWZ	**Blackbirch Sta**	**3.82**	**205**	PN		**Pn**	**11 58 24.5**	**-0.6**
THZ	**Tophouse**	**4.24**	**214**	PN		**Pn**	**11 58 29.3**	**-1.0**
KHZ	**Kahutara**	**4.56**	**204**	i*e*P		**Pn**	**11 58 33.7**	**-0.6**
KHZ				*e*Sn		**Sn**	**11 59 25.5**	**-3.2**
DSZ	**Denniston Nort**	**4.76**	**222**	PN		**Pn**	**11 58 34.7**	**-2.0**
LTZ	**Lake Taylor**	**5.35**	**211**	PN		**Pn**	**11 58 42.0**	**-2.2**
MQZ	**McQueen's Vall**	**6.01**	**204**	PN		**Pn**	**11 58 50.4**	**-2.3**
WVZ	**Waitaha Valley**	**6.27**	**218**	PN		**Pn**	**11 58 53.5**	**-2.6**
RPZ	**Rata Peaks**	**6.62**	**213**	PN		**Pn**	**11 58 58.6**	**-2.1**
RPZ	**Rata Peaks**	**6.62**	**213**	P		**Pn**	**11 58 59.0**	**-1.6**
	42nm,0.3s,baz=3.8,slow=1.3,SNR=95							
RPZ				S		**Sn**	**12 00 10.1**	**-6.2**
	98nm,0.3s,baz=250,slow=12,SNR=14							
RPZ				LR		LR	12 01 41.0	
	comp=Z,116nm,18.8s,baz=53,slow=37							
RPZ	**Rata Peaks**	**6.62**	**213**	*e*Pn		**Pn**	**11 58 58.1**	**-2.5**
RPZ				*e*Sn		**Sn**	**12 00 09.9**	**-6.4**
FOZ	**Fox Glacier**	**7.15**	**220**	PN		**Pn**	**11 59 03.7**	**-3.8**
LBZ	**Lake Benmore**	**7.53**	**214**	PN		**Pn**	**11 59 09.8**	**-2.7**
ODZ	**Otahua Downs**	**7.88**	**209**	*e*Pn		**Pn**	**11 59 15.8**	**-1.2**
ODZ				*e*Sn		**Sn**	**12 00 40.8**	**-5.2**
WHZ	**Wether Hill Ro**	**9.70**	**216**	*e*Pn		**Pn**	**11 59 37.5**	**-3.1**
DZM	**Mont Dzumac**	**18.13**	**330**	*eP*		**P**	**12 01 22.8**	**+0.4**
	32nm,0.6s							
MSVF	**Nonsavu**	**20.53**	**5**	*eP*		**P**	**12 01 46.8**	**-1.4**
	23nm,0.5s							
ARMA	**Armidale**	**21.58**	**284**	*eP*		**P**	**12 01 56.7**	**-2.5**
	50nm,1.8s,mb4.8							
EIDS	**Eidsvold**	**24.71**	**294**	P		**P**	**12 02 28.2**	**+0.4**
	5.0nm,0.8s,mb4.2							
CMSA	**Cobar Meteorol**	**25.70**	**276**	*eP*		**P**	**12 02 37.8**	**+1.0**
STKA	**Stephens Creek**	**28.79**	**272**	P		**P**	**12 03 06.3**	**+2.1**
	9.0nm,0.7s,mb4.5,baz=98,slow=7.9,SNR=16							
STKA	**Stephens Creek**	**28.79**	**272**	*eP*		**P**	**12 03 06.4**	**+2.2**
	6.9nm,0.7s,mb4.4							
STKA	**Stephens Creek**	**28.79**	**272**	P		**P**	**12 03 04.2**	**-0.1**
	1.3nm,0.8s,mb3.6							
CTA	**Charters Tower**	**31.49**	**297**	P		**P**	**12 03 29.3**	**+1.2**
	14nm,0.7s,mb4.7,baz=125,slow=12,SNR=8.4							
CTA	**Charters Tower**	**31.49**	**297**	*eP*		**P**	**12 03 29.5**	**+1.4**
	10nm,0.6s,mb4.6							
CTA	**Charters Tower**	**31.49**	**297**	P		**P**	**12 03 29.3**	**+1.2**
CTAO	**Charters Tower**	**31.49**	**297**	*eP*		**P**	**12 03 29.6**	**+1.4**
	13nm,0.8s,mb4.6							
MTSU	**Mount Surprise**	**34.15**	**297**	*eP*		**P**	**12 03 52.4**	**+1.2**
	26nm,0.5s,mb5.0							
PPT	**Papeete**	**36.42**	**65**	P		**P**	**12 04 10.9**	**+0.3**
	34nm,0.6s,mb5.0,baz=231,slow=11,SNR=5.6							
PPT	**Papeete**	**36.42**	**65**	P		**P**	**12 04 10.9**	**+0.3**
COEN	**Coen**	**37.84**	**301**	*eP*		**P**	**12 04 22.8**	**+0.3**
COEN	**Coen**	**37.84**	**301**	*eP*		**P**	**12 04 22.8**	**+0.3**
	150nm,0.8s							
ASAR	**Alice Springs**	**38.61**	**280**	P		**P**	**12 04 29.4**	**+0.5**
	5.2nm,0.7s,mb4.2,baz=127,slow=8.7,SNR=95							
ASAR				pP		pP	12 05 11.4	-0.4
	2.7nm,1.0s,baz=117,slow=7.2,SNR=1.5							
ASAR				S		**S**	**12 10 09.8**	**+0.1**
	1.5nm,0.8s,baz=131,slow=15,SNR=8.0							
ASAR	**Alice Springs**	**38.61**	**280**	P		**P**	**12 04 29.4**	**+0.5**
ASAR				pP		pP	12 05 11.4	-0.4
ASAR				S		**S**	**12 10 09.8**	**+0.1**
PMG	**Port Moresby**	**38.71**	**310**	P		**P**	**12 04 30.1**	**+0.3**
	34nm,0.9s,mb4.9,baz=121,slow=5.1,SNR=10							
PMG	**Port Moresby**	**38.71**	**310**	*eP*		**P**	**12 04 30.1**	**+0.2**
	28nm,0.8s,mb4.8							
FORT	**Forrest**	**39.87**	**266**	*eP*		**P**	**12 04 39.7**	**+0.5**
	13nm,0.7s,mb4.5							
SBA	**Scott Base**	**39.89**	**183**	*eP*		**P**	**12 04 43.8**	**+5.1**
	4.0nm,1.0s,mb3.8							
WB2	**Warramunga Arr**	**40.35**	**285**	*eP*		**P**	**12 04 43.1**	**-0.1**
WRAB	**Tennant Creek**	**40.35**	**285**	*eP*		**P**	**12 04 43.1**	**-0.2**
	3.5nm,0.5s,mb4.0							
WRA	**Warramunga Arr**	**40.35**	**285**	P		**P**	**12 04 43.0**	**-0.3**
	1.7nm,0.5s,mb3.8,baz=118,slow=8.5,SNR=11							
WRA				S		**S**	**12 10 31.3**	**-4.5**
	1.0nm,0.9s,baz=134,slow=12,SNR=4.0							
WRA	**Warramunga Arr**	**40.35**	**285**	P		**P**	**12 04 43.0**	**-0.3**
WRA				S		**S**	**12 10 31.3**	**-4.5**
FITZ	**Fitzroy Crossi**	**48.11**	**280**	*eP*		**P**	**12 05 44.9**	**+0.1**
	4.5nm,0.5s,mb4.0							
MBWA	**Marble Bar**	**51.03**	**273**	*eP*		**P**	**12 06 06.5**	**-0.3**
	4.1nm,0.5s,mb4.1							
QSPA	**South Pole Qui**	**51.86**	**180**	P		**P**	**12 06 15.7**	**+3.6**
	3.7nm,0.4s,mb4.2,baz=236,slow=1.4,SNR=47							
QSPA	**South Pole Qui**	**51.86**	**180**	P		**P**	**12 06 15.7**	**+3.6**
KAPI	**Kappang**	**60.74**	**288**	*eP*		**P**	**12 07 15.6**	**-0.1**
	2.7nm,0.4s,mb4.2							
MAW	**Mawson**	**63.19**	**203**	P		**P**	**12 07 32.9**	**+1.6**
	1.1nm,0.8s,mb3.6,baz=141,slow=5.9,SNR=6.2							
MAW	**Mawson**	**63.19**	**203**	P		**P**	**12 07 32.9**	**+1.6**
SYO	**Syowa Base**	**68.30**	**195**	i*e*sP		sP	12 09 12.0	-1.7
VNA3	**Neumayer Olymp**	**70.72**	**178**	*e*		**P**	**12 08 17.0**	**-1.6**
VNA3				*e*		pP	12 09 05.0	-1.7
VNA3				*e*		pP	12 09 08.9	+2.2
VNA2	**Neumayer--Watz**	**71.09**	**179**	*e*		**P**	**12 08 19.7**	**-1.1**
	baz=180,slow=5.2							
VNA2				*e*		pP	12 09 07.6	-1.4
VNA2				*e*		pP	12 09 11.2	+2.2
PLCA	**Paso Flores**	**80.61**	**135**	P		**P**	**12 09 16.1**	**+0.9**
	8.4nm,0.8s,mb4.4,baz=232,slow=4.6,SNR=10							
PLCA	**Paso Flores**	**80.61**	**135**	P		**P**	**12 09 16.1**	**+0.9**
MJAR	**Matsushiro Arr**	**82.23**	**330**	P		**P**	**12 09 22.6**	**-0.9**
	3.7nm,0.7s,mb4.1,baz=173,slow=6.3,SNR=10.0							
MJAR	**Matsushiro Arr**	**82.23**	**330**	P		**P**	**12 09 22.6**	**-0.9**
KSRS	**Korea Array**	**87.43**	**324**	P		**P**	**12 09 49.9**	**+0.5**
	13nm,0.6s,mb4.9,baz=144,slow=5.5,SNR=20							
CMAR	**Chiang Mai Arr**	**91.56**	**292**	P		**P**	**12 10 08.8**	**-0.3**
	2.4nm,0.7s,mb4.2,baz=147,slow=3.1,SNR=16							
CMAR				pP		pP	12 10 59.1	-0.4
	1.1nm,0.7s,baz=148,slow=3.1,SNR=3.7							
CMAR	**Chiang Mai Arr**	**91.56**	**292**	P		**P**	**12 10 08.8**	**-0.3**
CMAR				pP		pP	12 10 59.1	-0.4
NVAR	**Mina Array Bea**	**97.29**	**46**	LR		LR	12 48 08.8	
	comp=Z,58nm,20.7s,baz=60,slow=31							
SONM	**Songino Array**	**105.74**	**319**	PKKPbc		PKKPbc	12 26 48.7	+0.3
	1.0nm,0.4s,baz=256,slow=2.8,SNR=10							
ILAR	**Eielson Array**	**106.74**	**16**	PKKPbc		PKKPbc	12 26 43.6	-2.3
	0.1nm,0.4s,baz=9.6,slow=2.8,SNR=5.4							
MKAR	**Makanchi Array**	**118.91**	**308**	PKP		PKPdf	12 15 46.5	-2.4
	0.7nm,0.6s,baz=150,slow=1.4,SNR=6.9							
MKAR				PKKPbc		PKKPbc	12 26 05.2	+0.8
	0.8nm,0.7s,baz=298,slow=2.6,SNR=6.3							
MKAR	**Makanchi Array**	**118.91**	**308**	PKP		PKPdf	12 15 46.5	-2.4
MKAR				PKKPbc		PKKPbc	12 26 05.2	+0.8
ZALV	**Zalesovo Beam**	**120.49**	**317**	PKP		PKPdf	12 15 48.9	-2.8
	0.3nm,0.3s,baz=186,slow=1.4,SNR=3.3							
ZALV	**Zalesovo Beam**	**120.49**	**317**	PKP		PKPdf	12 15 48.9	-2.8
KEV	**Kevo**	**144.40**	**342**	*e*pkp		PKPdf	12 16 32.6	-3.3
ARCES	**ARCESS Array B**	**144.92**	**342**	PKP		PKPdf	12 16 35.3	-1.5
	7.1nm,0.8s,baz=61,slow=3.5,SNR=25							
ARCES	**ARCESS Array B**	**144.92**	**342**	PKP		PKPdf	12 16 35.3	-1.5
ARE0	**ARCESS Array S**	**144.92**	**342**	*e*PKPdf		PKPdf	12 16 35.4	-1.4
JOF	**Joensuu**	**147.40**	**331**	*e*pkp		PKPdf	12 16 42.1	+0.9
LIC	**Lamto**	**148.09**	**178**	*e*PKIKP		PKPbc	12 16 46.5	-0.8
	6.1nm,0.3s							
LIC	**Lamto**	**148.09**	**178**	*e*PKPdf		PKPbc	12 16 46.5	-0.8
DBIC	**Dimbokro**	**148.54**	**178**	PKPbc		PKPbc	12 16 47.9	-0.6
	16nm,0.5s,baz=166,slow=5.1,SNR=33							
DBIC	**Dimbokro**	**148.54**	**178**	PKPbc		PKPbc	12 16 47.9	-0.6
KAF	**Kangasniemi**	**149.77**	**332**	*e*pkp		PKPdf	12 16 46.9	+1.9
FINES	**FINESS Array B**	**150.26**	**331**	PKPbc		PKPbc	12 16 49.5	-1.8
	7.7nm,0.8s,baz=30,slow=4.1,SNR=18							
FINES				PKPab		PKPab	12 16 56.5	-1.7
	2.8nm,0.5s,baz=65,slow=5.1,SNR=13							
FINES	**FINESS Array B**	**150.26**	**331**	PKPbc		PKPbc	12 16 49.5	-1.8
FINES				PKPab		PKPab	12 16 56.5	-1.7
BR131	**Keskin Array S**	**150.88**	**285**	*e*PKPdf		PKPbc	12 16 51.1	-2.3
BRTR	**Keskin Array B**	**150.88**	**285**	PKPbc		PKPbc	12 16 51.8	-1.6
	5.0nm,0.8s,baz=141,slow=4.7,SNR=18							
BRTR				PKPab		PKPab	12 16 59.8	-1.7
	2.4nm,0.9s,baz=140,slow=6.5,SNR=5.7							
BRTR				pPKPbc		pPKPbc	12 17 44.2	-1.7
	6.0nm,0.9s,baz=142,slow=4.2,SNR=7.0							
BRTR	**Keskin Array B**	**150.88**	**285**	PKPbc		PKPbc	12 16 51.8	-1.6
BRTR				PKPab		PKPab	12 16 59.8	-1.7
BRTR				pPKPbc		pPKPbc	12 17 44.2	-1.7
AKASG	**Malin Array Be**	**153.50**	**309**	PKPbc		PKPbc	12 16 57.0	-1.9
	0.5nm,0.3s,baz=67,slow=2.0,SNR=3.4							
AKASG				PKPab		PKPab	12 17 09.0	-3.2
	2.1nm,0.4s,baz=44,slow=4.4,SNR=10							
AKASG	**Malin Array Be**	**153.50**

DOBS	**Dobrina**	**0.34**	**267**	*i* Pg		**Pg**	**12 30 24.3**	**+0.2**
DOBS				*i* Sg		**Sg**	**12 30 29.6**	**+1.0**
	comp=Z,76nm,0.1s							
GCIS	**Gornji Cirnik**	**0.38**	**218**	*i* Pg		**Pg**	**12 30 24.4**	**-0.4**
GCIS								
	comp=Z,60nm,0.1s							
GCIS	**Gornji Cirnik**	**0.38**	**218**	*i* Pg		**Pg**	**12 30 24.4**	**-0.4**
	comp=Z,60nm,0.1s							
GROS	**Grobnik**	**0.43**	**312**	⇓*i* Pg		**Pg**	**12 30 26.0**	**+0.3**
GROS				*i* Sg		**Sg**	**12 30 32.2**	**+0.8**
GROS								
	comp=Z,51nm,0.1s							
GROS	**Grobnik**	**0.43**	**312**	⇓*i* Pg		**Pg**	**12 30 26.0**	**+0.2**
GROS				*i* Sg		**Sg**	**12 30 32.2**	**+0.8**
	comp=Z,51nm,0.1s							
CRES	**Cresnjev**	**0.49**	**226**	*i* Pg		**Pg**	**12 30 26.6**	**-0.3**
CRES				*i* Sg		**Sg**	**12 30 33.9**	**+0.6**
CRES								
	comp=Z,20nm,0.1s							
CRES	**Cresnjev**	**0.49**	**226**	*i* Pg		**Pg**	**12 30 26.6**	**-0.3**
CRES				*i* Sg		**Sg**	**12 30 33.9**	**+0.6**
	comp=Z,20nm,0.1s							
LEGS	**Legarje**	**0.50**	**244**	⇑*i* Pg		**Pg**	**12 30 26.9**	**-0.1**
LEGS				*i* Sg		**Sg**	**12 30 33.8**	**+0.2**
LEGS	**Legarje**	**0.50**	**244**	⇑*i* Pg		**Pg**	**12 30 27.0**	**-0.1**
LEGS				*i* Sg		**Sg**	**12 30 33.8**	**+0.2**
PDKS	**Podkum**	**0.68**	**261**	⇑*i* Pg		**Pg**	**12 30 30.4**	**-0.1**
PDKS				*i*			12 30 32.4	
PDKS	**Podkum**	**0.68**	**261**	⇑*i* Pg		**Pg**	**12 30 30.4**	**-0.1**
PERS	**Pernice**	**0.75**	**309**	*i* Pg		**Pg**	**12 30 31.6**	**-0.3**
PERS				*i*			12 30 33.8	
PERS	**Pernice**	**0.75**	**309**	*i* Pg		**Pg**	**12 30 31.5**	**-0.3**
SISC	**Sisak**	**0.76**	**158**	*e*Pg		**Pg**	**12 30 31.9**	**-0.1**
SISC				Sg		**Sg**	**12 30 42.8**	**+1.1**
SISC	**Sisak**	**0.76**	**158**	*e*Pg		**Pg**	**12 30 31.8**	**-0.2**
SISC				Sg		**Sg**	**12 30 42.8**	**+1.0**
SOKA	**Soboth**	**0.82**	**309**	⇓*i* Pg		**Pg**	**12 30 32.7**	**-0.5**
SOKA				⇑*i* Sg		**Sg**	**12 30 43.9**	**+0.1**
	comp=Z,6.6nm,0.1s							
SOKA	**Soboth**	**0.82**	**309**	Pg		**Pg**	**12 30 32.7**	**-0.5**
SOKA				Sg		**Sg**	**12 30 43.9**	**+0.1**
	comp=Z,6.6nm,0.1s							
BOJS	**Bojanci**	**0.83**	**217**	*i* Pg		**Pg**	**12 30 32.5**	**-0.9**
BOJS				*i* Sg		**Sg**	**12 30 43.6**	**-0.5**
BOJS								
	comp=Z,6.0nm,0.1s							
BOJS	**Bojanci**	**0.83**	**217**	*i* Pg		**Pg**	**12 30 32.5**	**-0.9**
BOJS				*i* Sg		**Sg**	**12 30 43.6**	**-0.6**
	comp=Z,6.0nm,0.1s							
VISS	**Visnje**	**0.86**	**245**	*i* Pg		**Pg**	**12 30 33.3**	**-0.8**
VISS	**Visnje**	**0.86**	**245**	*i* Pg		**Pg**	**12 30 33.3**	**-0.8**
VNDS	**Vrh nad Dolski**	**0.88**	**266**	*i* Pg		**Pg**	**12 30 34.0**	**-0.3**
OBKA	**Obir**	**1.04**	**290**	⇑*i* Pg		**Pg**	**12 30 36.9**	**-0.5**
OBKA				⇑*i* Sg		**Sg**	**12 30 50.9**	**+0.1**
	comp=Z,19nm,0.3s							
OBKA	**Obir**	**1.04**	**290**	Pg		**Pg**	**12 30 36.9**	**-0.4**
OBKA				Sg		**Sg**	**12 30 50.9**	**+0.1**
	comp=Z,19nm,0.3s							
MOZS	**Mozjanca**	**1.06**	**277**	*i* Pg		**Pg**	**12 30 37.3**	**-0.5**
MOZS	**Mozjanca**	**1.06**	**277**	*i* Pg		**Pg**	**12 30 37.3**	**-0.5**
ARSA	**Arzberg**	**1.12**	**345**	⇑*i* Pg		**Pg**	**12 30 38.0**	**-0.9**
ARSA				⇓*i* Sg		**Sg**	**12 30 52.6**	**-1.0**
	comp=Z,2.2nm,0.1s							
ARSA	**Arzberg**	**1.12**	**345**	Pg		**Pg**	**12 30 38.0**	**-1.0**
ARSA				Sg		**Sg**	**12 30 52.6**	**-0.9**
	comp=Z,2.2nm,0.1s							
VOY	**Vojsko**	**1.45**	**265**	*e*Pn		**Pn**	**12 30 44.2**	**-0.1**
VOY				*e*Sn		**Sn**	**12 31 05.3**	**+1.6**
VOJS	**Vojsko**	**1.45**	**265**	*i* Pg		**Pn**	**12 30 44.2**	**-0.2**
VOJS	**Vojsko**	**1.45**	**265**	*i* Pn		**Pn**	**12 30 44.2**	**-0.2**
NVLJ	**Novalja**	**1.78**	**206**	*e*Pn		**Pn**	**12 30 48.3**	**-0.6**
NVLJ				Sn		**Sn**	**12 31 11.7**	**-0.2**
NVLJ	**Novalja**	**1.78**	**206**	*e*Pn		**Pn**	**12 30 48.2**	**-0.7**
NVLJ				Sn		**Sn**	**12 31 11.6**	**-0.3**
KHC	**Kasperske Hory**	**3.37**	**332**	*e*P		**Pn**	**12 31 11.0**	**+0.2**
KHC				*ex*		x	12 32 09.0	
KHC	**Kasperske Hory**	**3.37**	**332**	P		**Pn**	**12 31 11.0**	**+0.2**

KRSC 08 12:48:48.3±1.2, 51°30'N×158°20'E, h17km±16km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**1.15**	**10**	*e*P	Pn	12 49 10.1	+0.5
RUS				*e*S	Sb	12 49 25.8	+1.4
GRL	**Gorelyy**	**1.26**	**356**	*e*P	Pn	12 49 12.1	+1.1
GRL				*e*S	Sb	12 49 29.2	+1.8
PET	**Petropavlovsk**	**1.75**	**9**	*e*P	Pn	12 49 18.8	+1.0
PET				*e*S	Sn	12 49 41.1	+1.4
NLC	**Nalytchevo**	**2.00**	**20**	*e*S	Sn	12 49 45.1	-0.8
SDLR	**Sedlovina**	**2.02**	**12**	*e*P	Pn	12 49 23.4	+1.8
SPN	**Mys Shipunski**	**2.12**	**31**	*e*S	Sn	12 49 50.5	+1.6
GNL	**Ganaly**	**2.40**	**356**	*e*P	Pn	12 49 28.4	+1.6
KBTR	**Krutoberegovo**	**5.63**	**27**	P	Pn	12 50 14.0	+2.9

IDC 08 13:09:43.0±1.6, 6°94'S×128°95'E, h0km, mb4.0/2, mb1 3.9/5, mb1mx3.6/18, mbtmp3.8/5, ML3.7/3, MS3.2/2, Ms1 3.2/2, ms1mx2.6/34, Error ellipse: s-maj=60.5km s-min=24.0km az=74.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.55**	**196**	Pn	Pn	13 12 31.2	+1.9
	0.4nm,0.3s,baz=355,slow=14,SNR=17						
FITZ				Sn	Sn	13 14 39.6	+0.4
	1.0nm,0.3s,baz=106,slow=20,SNR=8.1						
FITZ				LR	LR	13 16 20.9	
	comp=Z,46nm,20.0s,baz=48,slow=34						
WRA	**Warramunga Arr**	**13.94**	**158**	Pn	Pn	13 13 00.2	-1.8
	0.4nm,0.3s,baz=336,slow=13,SNR=8.2						
WRA				Sn	Sn	13 15 31.6	-6.0
	0.7nm,0.3s,baz=328,slow=24,SNR=6.1						
ASAR	**Alice Springs**	**17.30**	**165**	P	Pn	13 13 44.5	-1.5
	0.2nm,0.3s,baz=341,slow=12,SNR=15						
ASAR				S	Sn	13 16 53.1	-6.1
	0.1nm,0.3s,baz=249,slow=13,SNR=4.1						
STKA	**Stephens Creek**	**27.47**	**156**	P	P	13 15 31.6	+0.6
	3.7nm,1.0s,baz=328,slow=8.9,SNR=7.4						
MKAR	**Makanchi Array**	**67.61**	**327**	P	P	13 20 41.5	0.0
	0.5nm,0.5s,baz=124,slow=8.0,SNR=5.3						
MAW	**Mawson**	**74.63**	**201**	LR	LR	13 52 20.8	
	comp=Z,37nm,18.6s,baz=121,slow=34						

*NNC **08** 13:24:37.1±16.0, 40°39'N×76°23'E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=173.2km s-min=101.9km az=128.0*

ISC 08 13:24:47.4±3.3, 41°1'N±0°2×75°7'E±0°2, h10km, n11, σ1s23/12, 2C-5D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KZA	**Kyzart**	**1.05**	**340**	P	**Pg**	**13 25 07.6**	**0.0**
	SNR=39						
ULHL	**Ulahol**	**1.22**	**18**	P	**Pb**	**13 25 05.9**	**-4.6**
	SNR=27						
UCH	**Uchtor**	**1.46**	**322**	P	**Pn**	**13 25 15.7**	**+2.0**
	SNR=8.0						
AAK	**Ala-Archa**	**1.80**	**330**	P	**Pn**	**13 25 21.3**	**+2.9**
	SNR=9.8						
TKM2	**Tokmak 2**	**1.83**	**357**	P	**Pn**	**13 25 17.5**	**-1.4**
	SNR=14						
TKM2	**Tokmak 2**	**1.83**	**357**	⇓Pn	**Pn**	**13 25 17.4**	**-1.4**
	4.6nm,0.5s						
TKM2				⇑Pg	**Pg**	**13 25 22.4**	**-0.1**
	9.5nm,0.3s						
TKM2				⇑Lg		13 25 56.1	
	34nm,0.7s						
AML	**Almayashu**	**1.85**	**305**	P	**Pn**	**13 25 18.9**	**-0.2**
	SNR=18						
CHMS	**Chumysh**	**2.04**	**339**	P	**Pn**	**13 25 21.6**	**-0.2**
	SNR=9.4						
EKS2	**Erkin-Say**	**2.14**	**318**	P	**Pn**	**13 25 23.4**	**+0.3**
	SNR=18						
KNDC	**Almaty**	**2.32**	**23**	⇓Pn	**Pn**	**13 25 25.6**	**+0.1**
	30nm,0.6s						
KNDC				⇓Lg		13 26 05.5	
	63nm,0.6s						
KK31	**Karatay Array**	**4.37**	**299**	⇓Pn	**Pb**	**13 26 02.0**	**-2.3**
	1.1nm,0.5s,baz=141,slow=15,SNR=10						
KK31				⇓Lg		13 27 16.4	
	2.0nm,0.6s,baz=134,slow=31,SNR=3.8						

IDC 08 13:28:53.0±26.0, 29°21'S×73°14'E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/21, mbtmp3.7/3, MS3.5/2, Ms1 3.6/2, ms1mx2.9/31, Error ellipse: s-maj=631.0km s-min=49.2km az=65.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**41.69**	**259**	LR	LR	13 50 40.1	
	comp=Z,59nm,18.0s,baz=173,slow=31						
CMAR	**Chiang Mai Arr**	**53.54**	**31**	P	P	13 38 15.7	+0.1
	0.4nm,0.6s,baz=218,slow=8.7,SNR=3.7						
CMAR				LR	LR	13 57 37.3	
	comp=Z,41nm,18.1s,baz=40,slow=32						
ASAR	**Alice Springs**	**54.18**	**99**	P	P	13 38 20.6	+0.1
	0.5nm,0.6s,baz=250,slow=6.5,SNR=11						
WRA	**Warramunga Arr**	**55.89**	**95**	P	P	13 38 32.6	-0.3
	1.0nm,0.7s,baz=252,slow=6.7,SNR=5.7						

NNC 08 13:29:57.5±4.6, 37°49'N×70°96E, h0km, mb3.9, mpv3.5, 2C, Error ellipse: s-maj=36.8km s-min=35.1km az=176.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.62**	**357**	Pn	Pn	13 31 25.6	+3.5
	2.1nm,0.3s,baz=183,slow=12,SNR=24						
KK31				Sn	Sn	13 32 33.9	+6.5
	1.2nm,0.3s,baz=177,slow=27,SNR=5.3						
TKM2	**Tokmak 2**	**6.48**	**32**	⇑Pn	Pn	13 31 32.7	-1.3
	1.7nm,0.5s						
TKM2				⇑Sn	Sn	13 32 50.2	+1.5
	1.7nm,0.9s						
AB31	**Akbulak array**	**14.21**	**329**	Pn	Pn	13 33 16.8	-3.0
	0.5nm,0.2s,baz=4.4,slow=26,SNR=15						

IDC 08 13:48:54.6±29.0, 20°72'S×172°73'W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/21, mbtmp4.1/4, Error ellipse: s-maj=532.7km s-min=166.6km az=74.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**38.38**	**264**	P	P	13 56 17.9	+0.1
	3.6nm,0.8s,baz=90,slow=8.1,SNR=3.1						
STKA	**Stephens Creek**	**42.16**	**245**	P	P	13 56 49.2	+0.2
	1.8nm,0.6s,baz=80,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**49.27**	**256**	P	P	13 57 45.2	-0.1
	1.7nm,0.7s,baz=98,slow=7.9,SNR=30						
WRA	**Warramunga Arr**	**49.45**	**261**	P	P	13 57 46.5	-0.4
	0.4nm,0.3s,baz=100,slow=7.5,SNR=5.3						

*IDC **08** 13:57:43.4±0.8, 19°45N×66°32W, h0km, mb3.8/8, mb1 4.2/8, mb1mx3.9/23, mbtmp3.8/8, Error ellipse: s-maj=25.6km s-min=16.3km az=61.0*
*ISCJB **08** 13:57:47.6±0.9, 19°38N±0°06×66°34W±0°04, h43km±11km, mb4.1/22, Error ellipse: s-maj=9.9km s-min=6.9km az=9.8*
*BJI **08** 13:57:47.9, 19°40N×66°20W, h35km*
*RSPR **08** 13:57:49.1, 19°40N×66°35W, h29km±28km, MD4.3/13*
*NEIC **08** 13:57:49.1, 19°40N×66°35W, h29km, mb4.2/14, MD4.3(RSPR), After RSPR.*

ISC 08 13:57:48.5±1.8, 19°36N±0°03×66°34W±0°04, h34km±14km, n70, σ0s77/81, mb4.1/22, 21C-9D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AOPR	**Arecibo Observ**	**1.08**	**202**	*e*P	**Pn**	**13 58 06.7**	**-0.5**
AOPR	**Arecibo Observ**	**1.08**	**202**	⇑*e*P	**Pn**	**13 58 06.7**	**-0.5**
AOPR				*e*S	**Sn**	**13 58 20.6**	**-0.4**
AGPR	**Aguadilla, PR**	**1.15**	**220**	⇑*e*P	**Pn**	**13 58 07.7**	**-0.5**
AGPR	**Aguadilla, PR**	**1.15**	**220**	⇑*e*P	**Pn**	**13 58 07.7**	**-0.5**
AGPR				*e*S	**Sn**	**13 58 22.0**	**-0.8**
LRS	**Lares**	**1.16**	**205**	⇑*e*P	**Pn**	**13 58 07.7**	**-0.7**
LRS	**Lares**	**1.16**	**205**	⇑*e*P	**Pn**	**13 58 07.7**	**-0.7**
CBYP	**Canovanas**	**1.17**	**157**	⇑*e*P	**Pn**	**13 58 07.7**	**-0.8**
CBYP	**Canovanas**	**1.17**	**157**	⇑*e*P	**Pn**	**13 58 07.7**	**-0.8**
SJG	**San Juan**	**1.25**	**172**	⇑*e*P	**Pn**	**13 58 09.6**	**0.0**
SJG	**San Juan**	**1.25**	**172**	⇓*e*P	**Pn**	**13 58 09.6**	**0.0**
SJG				*e*S	**Sn**	**13 58 25.9**	**+0.6**
SJG	**San Juan**	**1.25**	**172**	Pn	**Pn**	**13 58 09.4**	**-0.2**
	37nm,0.3s,baz=35,slow=2.5,SNR=84						
SJG				Sn	**Sn**	**13 58 27.1**	**+1.9**
	112nm,0.3s,baz=93,slow=22,SNR=15						
SJG	**San Juan**	**1.25**	**172**	⇑*e*P	**Pn**	**13 58 09.6**	**0.0**
SJG				*e*S	**Sn**	**13 58 25.8**	**+0.6**
HUMP	**Col San Antoni**	**1.29**	**159**	⇑*e*P	**Pn**	**13 58 09.9**	**-0.2**
HUMP	**Col San Antoni**	**1.29**	**159**	⇑*e*P	**Pn**	**13 58 09.9**	**-0.2**
HUMP				*e*S	**Sn**	**13 58 27.1**	**+0.8**
CELP	**Cerrillos**	**1.29**	**190**	⇓*e*P	**Pn**	**13 58 10.1**	**-0.1**
CELP				*e*S	**Sn**	**13 58 26.7**	**+0.4**
CELP	**Cerrillos**	**1.29**	**190**	⇓*e*P	**Pn**	**13 58 10.1**	**-0.1**
CELP				*e*S	**Sn**	**13 58 26.7**	**+0.4**
OBIP	**Obispado Ponce**	**1.33**	**191**	⇑*e*P	**Pn**	**13 58 10.9**	**+0.2**
OBIP	**Obispado Ponce**	**1.33**	**191**	⇑*e*P	**Pn**	**13 58 10.9**	**+0.2**
OBIP				*e*S	**Sn**	**13 58 26.7**	**-0.6**
LSP	**Las Mesas**	**1.37**	**211**	⇑*e*P	**Pn**	**13 58 11.2**	**0.0**
LSP	**Las Mesas**	**1.37**	**211**	⇑*e*P	**Pn**	**13 58 11.2**	**0.0**
MTP	**Monte Pirata**	**1.46**	**149**	⇓*e*P	**Pn**	**13 58 11.8**	**-0.6**
MTP	**Monte Pirata**	**1.46**	**149**	⇓*e*P	**Pn**	**13 58 11.8**	**-0.6**
MTP				*e*S	**Sn**	**13 58 31.0**	**+0.7**
ICM	**Isla Caja Muer**	**1.47**	**187**	⇑*e*P	**Pn**	**13 58 13.1**	**+0.5**
ICM	**Isla Caja Muer**	**1.47**	**187**	⇑*e*P	**Pn**	**13 58 13.1**	**+0.5**
ICM				*e*S	**Sn**	**13 58 30.3**	**-0.2**
GBPR	**Guanica, Bosqu**	**1.47**	**201**	⇑*e*P	**Pn**	**13 58 12.9**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.53**	**209**	⇓*e*P	**Pn**	**13 58 13.7**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.53**	**209**	⇓*e*P	**Pn**	**13 58 13.7**	**+0.3**
CRPR				*e*S	**Sn**	**13 58 31.2**	**-0.9**
STVI	**Saint Thomas**	**1.65**	**127**	⇓*e*P	**Pn**	**13 58 14.4**	**-0.6**
STVI	**Saint Thomas**	**1.65**	**127**	⇓*e*P	**Pn**	**13 58 14.4**	**-0.6**
STVI				*e*S	**Sn**	**13 58 34.6**	**-0.4**
SDDR	**Presa de Saban**	**4.70**	**266**	⇑*e*P	**Pn**	**13 58 57.7**	**+0.7**
SDDR	**Presa de Saban**	**4.70**	**266**	⇑*e*P	**Pn**	**13 58 57.7**	**+0.7**
GTBY	**Guantanamo Bay**	**8.29**	**275**	*e*Pn	**Pn**	**13 59 41.7**	**-4.6**
GTBY				*e*Sn	**Sn**	**14 01 10.2**	**-8.6**
SDV	**Santo Domingo**	**11.21**	**202**	*e*Pn	**Pn**	**14 00 29.5**	**+3.1**
	8.6nm,1.0s						
BBSR	**BB Station**	**13.04**	**6**	*e*P	**Pn**	**14 00 47.1**	**-4.3**
	24nm,0.9s						
JSC	**Jenkinsville**	**19.92**	**321**	*e*P	**Pn**	**14 02 23.5**	**+4.3**
JSC				*e*S	**Sn**	**14 05 48.4**	**-14**
BLA	**Blacksburg**	**21.64**	**328**	*e*P	**P**	**14 02 35.2**	**-0.7**
	32nm,1.0s,mb4.7						
OTAV	**Otavalo**	**22.41**	**213**	*e*P	**P**	**14 02 45.2**	**+0.9**
	9.2nm,1.1s,mb4.1						
TZTN	**Tazewell**	**22.84**	**322**	*e*P	**P**	**14 02 50.4**	**+1.8**
	6.7nm,0.8s,mb4.1						
WVT	**Waverly**	**25.23**	**316**	P	**P**	**14 03 10.5**	**-0.8**
	3.6nm,0.9s,mb3.9						
HBAR	**Harrisburg**	**26.84**	**312**	*e*P	**P**	**14 03 27.4**	**+1.6**
ECSD	**EROS Data Cent**	**35.12**	**321**	*e*P	**P**	**14 04 37.8**	**-0.8**
	6.3nm,0.8s,mb4.6						
TXAR	**Lajitas Array**	**35.30**	**294**	P	**P**	**14 04 41.1**	**+0.6**
	1.0nm,0.5s,mb4.0,baz=106,slow=9.9,SNR=14						
TXAR	**Lajitas Array**	**35.30**	**294**	P	**P**	**14 04 41.1**	**+0.6**
SDCO	**Great Sand Dun**	**38.64**	**307**	*e*P	**P**	**14 05 09.2**	**+0.5**
	2.4nm,1.1s,mb3.8						
PDAR	**Pinedale Array**	**43.15**	**312**	P	**P**	**14 05 46.5**	**+0.6**
	0.7nm,0.8s,mb3.5,baz=118,slow=9.6,SNR=4.6						
PDAR				PcP	PcP	14 07 36.4	+1.3
	0.5nm,0.8s,baz=108,slow=4.8,SNR=3.7						
PDAR	**Pinedale Array**	**43.15**	**312**	P	**P**	**14 05 46.5**	**+0.6**
PDAR				PcP	PcP	14 07 36.4	+1.3
LOHW	**Long Hollow**	**44.15**	**313**	*e*P	**P**	**14 05 54.2**	**+0.3**
	2.9nm,0.8s,mb4.1						
HWUT	**Hardware Ranch**	**44.23**	**310**	P	**P**	**14 05 54.5**	**0.0**
	2.1nm,0.9s,mb3.9						
MOOW	**Moose Ponds**	**44.29**	**313**	*e*P	**P**	**14 05 55.4**	**+0.4**
	2.3nm,0.8s,mb4.0						
HLID	**Hailey**	**46.78**	**312**	*e*P	**P**	**14 06 15.1**	**+0.4**
	1.1nm,0.6s,mb4.0						
NVAR	**Mina Array Bea**	**48.64**	**304**	P	**P**	**14 06 29.4**	**+0.2**
	1.0nm,0.7s,mb4.0,baz=88,slow=7.3,SNR=8.6						
NVAR	**Mina Array Bea**	**48.64**	**304**	P	**P**	**14 06 29.4**	**+0.2**
NEW	**Newport**	**49.91**	**317**	*e*P	**P**	**14 06 38.5**	**-0.3**
	6.0nm,0.7s,mb4.7						
YKA	**Yellowknife Ar**	**54.30**	**335**	P	**P**	**14 07 08.8**	**-2.3**
	1.9nm,0.7s,mb4.1,baz=108,slow=8.4,SNR=3.2						
YKA	**Yellowknife Ar**	**54.30**	**335**	P	**P**	**14 07 08.8**	**-2.3**
ESDC	**Sonseca Array**	**56.81**	**55**	P	**P**	**14 07 30.1**	**+0.4**
	0.2nm,0.4s,mb3.5,baz=262,slow=6.5,SNR=4.2						
ESDC	**Sonseca Array**	**56.81**	**55**	P	**P**	**14 07 30.1**	**+0.4**
PLCA	**Paso Flores**	**59.91**	**184**	P	**P**	**14 07 51.3**	**+0.3**
	2.1nm,0.8s,mb4.2						
INK	**Inuvik**	**63.77**	**338**	P	**P**	**14 08 15.4**	**-1.3**
	1.8nm,0.8s,mb4.2,baz=95,slow=7.7,SNR=8.2						
INK	**Inuvik**	**63.77**	**338**	P	**P**	**14 08 15.4**	**-1.3**
TORD	**Torodi Ar. Bea**	**65.26**	**84**	P	**P**	**14 08 27.7**	**+0.4**
	0.2nm,0.5s,mb3.4,baz=288,slow=7.6,SNR=3.4						
TORD	**Torodi Ar. Bea**	**65.26**	**84**	P	**P**	**14 08 27.7**	**+0.4**
ILAR	**Eielson Array**	**68.65**	**333**	P	**P**	**14 08 47.4**	**-0.6**
	1.5nm,0.7s,mb4.1,baz=106,slow=4.2,SNR=37						
ILAR	**Eielson Array**	**68.65**	**333**	P	**P**	**14 08 47.4**	**-0.6**
TRF	**Thorofare Moun**	**70.18**	**332**	*e*P	**P**	**14 08 57.5**	**0.0**
	41nm,1.9s,mb5.0						
BPAW	**Bear Paw Mtn.**	**70.45**	**332**	*e*P	**P**	**14 08 58.5**	**-0.6**
	2.1nm,0.7s,mb4.2						
WMQ	**Urumqi**	**112.78**	**20**	PKP	PKiKP	14 16 20.1	-1.8
HHC	**Hu-ho-hao-te**	**120.08**	**2**	*e*PKP	PKPdf	14 16 32.8	-3.2
HHC				PP	PP	14 18 00.8	+1.4
HHC				PKS		14 20 08.1	
HHC				SKS	SKSdf	14 23 39.8	-5.8
HHC				SKKS	SKKSac	14 24 49.9	-8.4
HHC				SS	SS	14 34 20.2	-2.5
NJ2	**Nanjing**	**128.65**	**354**	*e*PKP	PKPdf	14 16 53.0	+0.3
CD2	**Chengdu**	**129.13**	**11**	PKP	PKPdf	14 16 51.3	-2.3

IDC 08 14:00:06.7±6.0, 13°75S×74°17W, h0km, mb4.7/1, mb1 4.5/2, mb1mx3.7/20, mbtmp4.5/2, ML4.0/1, MS3.6/2, Ms1 3.7/2, ms1mx3.1/32, Error ellipse: s-maj=242.7km s-min=47.4km az=33.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**6.35**	**114**	Pn	Pn	14 01 42.1	+0.5
	1.8nm,0.3s,baz=294,slow=7.7,SNR=24						
LPAZ				Sn	Sn	14 03 03.4	+8.5
	baz=315,slow=1.4,SNR=0.9						
LPAZ				LR	LR	14 04 21.6	
	comp=Z,208nm,18.2s,baz=50,slow=40						
PPT	**Papeete**	**72.28**	**256**	LR	LR	14 34 34.2	
	comp=Z,111nm,20.7s,baz=246,slow=29						
TORD	**Torodi Ar. Bea**	**79.76**	**74**	P	P	14 12 17.4	+0.1
	5.4nm,0.7s,baz=255,slow=5.3,SNR=34						
SONM	**Songino Array**	**146.02**	**359**	PKPbc	PKPbc	14 19 47.8	-0.7
	0.7nm,0.6s,baz=344,slow=1.1,SNR=5.9						

*IDC **08** 14:05:24.6±3.6, 28°46S×74°19E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/23, mbtmp3.8/8, MS3.4/2, Ms1 3.5/2, ms1mx2.8/33, Error ellipse: s-maj=111.2km s-min=28.4km az=44.0*
*NEIC **08** 14:05:26.5±2.8, 28°48S×74°31E, h10km, mb4.5/3, Error ellipse: s-maj=88.4km s-min=18.8km az=224.0*

ISC 08 14:05:26.7±3.1, 28°5S±0°5×74°3E±0°5, h10km, n20, σ0s87/19, mb3.9/11, MS3.4/2, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**42.85**	**258**	LR	LR	14 27 16.1	
	comp=Z,72nm,18.5s,MS3.6,baz=357,slow=31						
CMAR	**Chiang Mai Arr**	**52.39**	**30**	P	**P**	**14 14 39.4**	**+0.2**
	0.6nm,0.7s,mb3.6,baz=209,slow=7.2,SNR=3.4						
CMAR				LR	LR	14 33 04.4	
	comp=Z,28nm,20.8s,MS3.3,baz=205,slow=32						
CMAR	**Chiang Mai Arr**	**52.39**	**30**	P	**P**	**14 14 39.4**	**+0.2**
CMAR				LR	LR	14 33 04.4	
ASAR	**Alice Springs**	**53.27**	**99**	P	**P**	**14 14 46.3**	**+0.4**
	1.3nm,0.8s,mb3.9,baz=247,slow=6.4,SNR=11						
ASAR	**Alice Springs**	**53.27**	**99**	P	**P**	**14 14 46.3**	**+0.4**
WRA	**Warramunga Arr**	**54.92**	**95**	P	**P**	**14 14 58.2**	**+0.2**
	2.0nm,0.8s,mb4.2,baz=251,slow=7.2,SNR=6.6						
WRA	**Warramunga Arr**	**54.92**	**95**	P	**P**	**14 14 58.2**	**+0.2**
WRAB	**

NAY					AML	AML	14 09 46.0
	comp=Z,16nm,0.6s						
NAY					eS	Sn	**14 09 48.4 -1.3**
NAY	**Al-Naaiem**	**4.76**	**282**	*e*P	**Pn**	**Pn**	**14 08 56.2 +1.4**
NAY					eS	Sn	**14 09 48.4 -1.4**
MIB	**Mutribah**	**4.80**	**289**	*e*P	**Pn**	**Pn**	**14 08 55.9 +0.6**
MIB					AML	AML	14 09 49.4
	comp=Z,49nm,0.6s						
MIB					eS	Sn	**14 09 51.6 +0.8**
MIB	**Mutribah**	**4.80**	**289**	*e*P	**Pn**	**Pn**	**14 08 55.9 +0.6**
MIB					eS	Sn	**14 09 51.6 +0.9**
IKLH	**Kolahrood**	**5.02**	**350**	Pn	**Pn**	**Pn**	**14 08 59.0 +0.8**
IKLH	**Kolahrood**	**5.02**	**350**	*e*Pn	**Pn**	**Pn**	**14 08 59.0 +0.8**
IKLH				*e*			14 10 01.7
	comp=Z,274nm,0.2s						
IKLH	**Kolahrood**	**5.02**	**350**	*e*Pn	**Pn**	**Pn**	**14 08 59.0 +0.8**
HRDDS		**6.09**	**208**	P	**Pn**	**Pn**	**14 09 13.1 0.0**
ASF	**Jabal al Asfar**	**14.07**	**290**	LR	LR	LR	14 17 20.4
	comp=Z,29nm,18.8s,baz=192,slow=41						
BRTR	**Keskin Array B**	**19.32**	**311**	P	**Pn**	**Pn**	**14 12 06.7 -2.4**
	comp=Z,0.1nm,0.3s,baz=134,slow=7.2,SNR=2.7						
BRTR	**Keskin Array B**	**19.32**	**311**	P	**Pn**	**Pn**	**14 12 06.7 -2.4**
BRTR	**Keskin Array B**	**19.32**	**311**	P	**Pn**	**Pn**	**14 12 06.7 -2.4**
ABKAR	**Akbulak array**	**21.62**	**13**	*e*P	**P**	**P**	**14 12 31.9 -1.0**
	comp=Z,1.0nm,0.5s,mb3.5						
ABKAR	**Akbulak array**	**21.62**	**13**	*e*P	**P**	**P**	**14 12 31.9 -1.1**
	comp=Z,1.0nm,0.5s,mb3.5						
EKS2	**Erkin-Say**	**22.31**	**45**	*e*P	**P**	**P**	**14 12 42.7 +2.3**
	comp=Z,1.9nm,0.6s,mb3.7						
EKS2	**Erkin-Say**	**22.31**	**45**	*e*P	**P**	**P**	**14 12 42.7 +2.3**
	comp=Z,1.9nm,0.6s,mb3.7						
AKTK	**Aktyubinsk**	**22.43**	**9**	P	**P**	**P**	**14 12 40.8 -0.8**
AKTK	**Aktyubinsk**	**22.43**	**9**	P	**P**	**P**	**14 12 40.8 -0.8**
AKTO	**Aktyubinsk**	**22.43**	**9**	P	**P**	**P**	**14 12 40.8 -0.8**
	comp=Z,0.8nm,0.3s,mb3.6,baz=190,slow=12,SNR=3.5						
AAK	**Ala-Archa**	**22.74**	**45**	P	**P**	**P**	**14 12 40.5 -4.5**
BVAR	**Borovoye Array**	**27.94**	**23**	P	**P**	**P**	**14 13 32.2 -0.9**
	comp=Z,0.6nm,0.7s,mb3.4,baz=224,slow=8.1,SNR=3.6						
BVAR	**Borovoye Array**	**27.94**	**23**	P	**P**		**14 13 32.2 -0.9**
BVAR	**Borovoye Array**	**27.94**	**23**	P	**P**		**14 13 32.2 -0.9**
MKAR	**Makanchi Array**	**29.63**	**44**	P	**P**		**14 13 46.7 -1.5**
	comp=Z,0.2nm,0.3s,mb3.3,baz=242,slow=8.9,SNR=7.4						
MKAR	**Makanchi Array**	**29.63**	**44**	P	**P**		**14 13 46.7 -1.5**
MKAR	**Makanchi Array**	**29.63**	**44**	P	**P**		**14 13 46.7 -1.5**
ZALV	**Zalesovo Beam**	**34.74**	**34**	P	**P**		**14 14 31.2 -1.7**
	comp=Z,0.5nm,0.3s,mb3.9,baz=242,slow=9.3,SNR=4.2						
ZALV	**Zalesovo Beam**	**34.74**	**34**	P	**P**		**14 14 31.2 -1.7**
ZALV	**Zalesovo Beam**	**34.74**	**34**	P	**P**		**14 14 31.2 -1.7**
FINES	**FINESS Array B**	**37.50**	**339**	P	**P**		**14 14 55.3 -1.1**
	comp=Z,1.4nm,0.7s,mb3.9,baz=143,slow=10,SNR=11						
FINES	**FINESS Array B**	**37.50**	**339**	P	**P**		**14 14 55.3 -1.1**
FINES	**FINESS Array B**	**37.50**	**339**	P	**P**		**14 14 55.3 -1.1**
TORD	**Torodi Ar. Bea**	**49.57**	**263**	P	**P**		**14 16 33.6 -0.7**
	comp=Z,0.3nm,0.4s,mb3.6,baz=69,slow=7.8,SNR=3.7						
TORD	**Torodi Ar. Bea**	**49.57**	**263**	P	**P**		**14 16 33.6 -0.7**
TORD	**Torodi Ar. Bea**	**49.57**	**263**	P	**P**		**14 16 33.7 -0.6**

IDC 08 14:08:35.5±16.0, 27°.94S×74°.85E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/22, mbtmp3.8/4, Error ellipse: s-maj=597.9km s-min=36.0km az=41.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**52.90**	**100**	P	P	14 17 53.8	+0.2
	0.2nm,0.5s,baz=250,slow=6.3,SNR=4.4						
WRA	**Warramunga Arr**	**54.51**	**95**	P	P	14 18 05.1	-0.2
	1.0nm,0.8s,baz=252,slow=6.8,SNR=5.1						
BVAR	**Borovoye Array**	**80.71**	**357**	P	P	14 20 50.4	+0.4
	1.2nm,0.8s,baz=163,slow=5.6,SNR=4.7						
ZALV	**Zalesovo Beam**	**82.00**	**6**	P	P	14 20 56.7	-0.2
	0.2nm,0.3s,baz=178,slow=8.4,SNR=3.5						

*IDC **08** 14:23:33.3±0.6, 29°.65S×177°.28W, h0km, mb4.2/12, mb1 4.3/12, mb1mx4.3/20, mbtmp4.1/12, MS4.2/12, Ms1 4.2/12, ms1mx4.0/20, Error ellipse: s-maj=21.1km s-min=19.0km az=141.0*

*NEIC **08** 14:23:35.1±2.1, 29°.93S×177°.20W, h17km±11km, mb4.9/8, Error ellipse: s-maj=15.3km s-min=9.0km az=101.0*

*ISCJB **08** 14:23:36.6±0.5, 29°.99S±0°.03×177°.26W±0°.08, h33km, mb4.4/17, MS4.2/11, Error ellipse: s-maj=10.2km s-min=4.9km az=3.7*

ISC 08 14:23:38.2±0.5, 29°.91S±0°.04×177°.22W±0°.08, h35km, n89, σ1°43/63, mb4.4/17, MS4.2/11, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.89**	**317**	*e*Pg	**Pn**	**14 23 53.1**	**-1.1**
RAO				*e*Sg	**Sn**	**14 24 06.1**	**+0.3**
PUZ	**Puketiti**	**8.97**	**204**	PN	**Pn**	**14 25 41.7**	**-3.5**
PUZ				SN	**Sn**	**14 27 27.0**	**+2.1**
MWZ	**Matawai**	**9.47**	**206**	PN	**Pn**	**14 25 49.8**	**-2.2**
MWZ				SN	**Sn**	**14 27 38.6**	**+1.5**
URZ	**Urewera**	**9.56**	**208**	Pn	**Pn**	**14 25 51.7**	**-1.6**
	0.7nm,0.3s,baz=333,slow=18,SNR=5.4						
URZ				Sn	**Sn**	**14 27 40.7**	**+1.2**
	4.3nm,0.3s,baz=210,slow=15,SNR=10						
URZ	**Urewera**	**9.56**	**208**	Pn	**Pn**	**14 25 51.7**	**-1.6**
URZ				Sn	**Sn**	**14 27 40.7**	**+1.2**
BKZ	**Black Stump Fm**	**10.59**	**208**	PN	**Pn**	**14 26 04.1**	**-3.3**
BKZ				SN	**Sn**	**14 28 05.9**	**+1.2**
MCHZ	**McNeill Hill**	**10.75**	**206**	PN	**Pn**	**14 26 09.5**	**-0.1**
SNZO	**South Karori**	**13.13**	**208**	*e*Pn	**Pn**	**14 26 39.3**	**-2.8**
SNZO				*e*Sn	**Sn**	**14 28 57.0**	**-10**
THZ	**Tophouse**	**14.27**	**211**	PN	**Pn**	**14 26 58.0**	**+0.3**
KHZ	**Kahutara**	**14.53**	**208**	PN	**Pn**	**14 26 58.9**	**-2.3**
WVZ	**Waitaha Valley**	**16.30**	**213**	PN	**Pn**	**14 27 22.4**	**-1.9**
DZM	**Mont Dzumac**	**16.62**	**294**	*e*P	**Pn**	**14 27 34.9**	**+6.4**
	115nm,1.4s						
DZM				*e*LR	LR	14 31 33.1	
	2μm,23.0s						
DZM	**Mont Dzumac**	**16.62**	**294**	*e*Pn	**Pn**	**14 27 33.7**	**+5.2**
	90nm,1.5s						
RPZ	**Rata Peaks**	**16.65**	**211**	Pn	**Pn**	**14 27 27.4**	**-1.3**
	3.2nm,0.3s,baz=71,slow=2.2,SNR=15						
RPZ				Sn	**Sn**	**14 30 21.3**	**-11**
	0.5nm,0.3s,baz=41,slow=19,SNR=4.4						
RPZ	**Rata Peaks**	**16.65**	**211**	*e*Pn	**Pn**	**14 27 26.1**	**-2.6**
RPZ				*e*Sn	**Sn**	**14 30 15.4**	**-17**
NOUC	**Port Laguerre**	**16.71**	**294**	*e*P	**Pn**	**14 27 35.4**	**+5.7**
RAR	**Rarotonga**	**17.95**	**65**	LR	LR	14 32 07.2	
	comp=Z,439nm,19.9s,baz=280,slow=29						
TBI	**Tubuai**	**25.62**	**82**	*e*LQ		14 33 53.4	
	470nm,26.8s						
TBI				*e*LR	LR	14 35 15.9	
	836nm,29.8s,baz=246						
ARMA	**Armidale**	**26.90**	**261**	*e*P	**P**	**14 29 20.1**	**+4.2**
PPT	**Papeete**	**28.05**	**70**	*e*LQ		14 34 47.9	
	636nm,25.0s						
PPT				*e*LR	LR	14 36 34.5	
	655nm,25.0s,baz=235						
EIDS	**Eidsvold**	**28.39**	**271**	*e*P	**P**	**14 29 31.5**	**+2.1**
	121nm,1.9s,mb5.2						
CMSA	**Cobar Meteorol**	**31.83**	**258**	*e*P	**P**	**14 30 02.8**	**+3.1**
CTA	**Charters Tower**	**34.39**	**278**	P	**P**	**14 30 22.2**	**+0.1**
	4.1nm,0.4s,mb4.7,baz=104,slow=11,SNR=18						
CTA				LR	LR	14 43 08.3	
	comp=Z,944nm,18.2s,MS4.6,baz=100,slow=34						
CTA	**Charters Tower**	**34.39**	**278**	*e*P	**P**	**14 30 23.4**	**+1.2**
	8.3nm,0.8s,mb4.7						
CTA	**Charters Tower**	**34.39**	**278**	P	**P**	**14 30 22.2**	**+0.1**
CTA				LR	LR	14 43 08.3	
CTAO	**Charters Tower**	**34.39**	**278**	*e*P	**P**	**14 30 23.3**	**+1.2**
	12nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**35.25**	**256**	P	**P**	**14 30 29.8**	**+0.3**
	8.4nm,0.8s,mb4.7,baz=99,slow=9.5,SNR=14						
STKA				LR	LR	14 44 06.9	
	comp=Z,691nm,18.0s,MS4.5,baz=290,slow=35						
STKA	**Stephens Creek**	**35.25**	**256**	*e*P	**P**	**14 30 31.0**	**+1.5**
	4.7nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**35.25**	**256**	P	**P**	**14 30 29.8**	**+0.3**
STKA				LR	LR	14 44 06.9	
RKT	**Rikitea**	**38.24**	**90**	*e*LR	LR	14 41 02.9	
	535nm,27.5s						
TAOE	**Nuku Hiva Isla**	**40.49**	**67**	*e*LR	LR	14 42 01.6	
	410nm,27.0s						
ASAR	**Alice Springs**	**43.81**	**266**	P	**P**	**14 31 41.0**	**+0.1**
	1.5nm,0.5s,mb4.0,baz=105,slow=7.7,SNR=23						
ASAR				PcP	PcP	14 33 28.9	+1.8
	0.6nm,0.6s,baz=107,slow=4.5,SNR=4.3						
ASAR	**Alice Springs**	**43.81**	**266**	P	**P**	**14 31 41.0**	**+0.1**
ASAR				PcP	PcP	14 33 28.9	+1.8
WB2	**Warramunga Arr**	**44.74**	**271**	*e*P	**P**	**14 31 47.6**	**-0.7**
WRAB	**Tennant Creek**	**44.75**	**271**	*e*P	**P**	**14 31 48.0**	**-0.5**
	16nm,0.9s,mb4.9						
WRA	**Warramunga Arr**	**44.76**	**271**	P	**P**	**14 31 48.4**	**-0.1**
	8.3nm,0.5s,mb4.9,baz=110,slow=7.5,SNR=38						
WRA				LR	LR	14 50 18.1	
	comp=Z,495nm,18.8s,MS4.5,baz=95,slow=36						
WRA	**Warramunga Arr**	**44.76**	**271**	P	**P**	**14 31 48.4**	**-0.1**
WRA				LR	LR	14 50 18.1	
SBA	**Scott Base**	**48.58**	**184**	*e*P	**P**	**14 32 17.9**	**+0.3**
	9.6nm,1.2s,mb4.7						
VNDA	**Vanda**	**48.66**	**186**	P	**P**	**14 32 20.4**	**+2.2**
	0.5nm,0.6s,mb3.8,baz=357,slow=3.4,SNR=6.1						
VNDA				LR	LR	14 49 29.9	
	comp=Z,124nm,21.1s,MS3.9,baz=23,slow=32						
VNDA	**Vanda**	**48.66**	**186**	P	**P**	**14 32 20.4**	**+2.2**
VNDA				LR	LR	14 49 29.9	
FITZ	**Fitzroy Crossi**	**53.04**	**269**	P	**P**	**14 32 51.9**	**-0.1**
	5.1nm,0.9s,mb4.5,baz=120,slow=8.2,SNR=8.5						
FITZ	**Fitzroy Crossi**	**53.04**	**269**	*e*P	**P**	**14 32 51.9**	**-0.1**
	8.3nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**53.04**	**269**	P	**P**	**14 32 51.9**	**-0.1**
CASY	**Casey**	**55.89**	**208**	*e*P	**P**	**14 33 13.3**	**+1.3**
	34nm,1.0s,mb5.3						
QSPA	**South Pole Qui**	**60.20**	**180**	P	**P**	**14 33 45.1**	**+3.1**
	4.8nm,0.7s,mb4.6,baz=43,slow=2.6,SNR=46						
QSPA	**South Pole Qui**	**60.20**	**180**	*e*P	**P**	**14 33 44.8**	**+2.8**
	9.9nm,0.8s,mb4.9						
MAW	**Mawson**	**73.01**	**200**	P	**P**	**14 35 05.3**	**+1.4**
	1.7nm,0.7s,mb4.1,baz=128,slow=4.8,SNR=5.3						
MAW				LR	LR	15 07 28.4	
	comp=Z,167nm,20.4s,MS4.3,baz=320,slow=36						
MAW	**Mawson**	**73.01**	**200**	*e*P	**P**	**14 35 04.1**	**+0.2**
	0.7nm,0.8s,mb3.6						
MAW				LR	LR	15 07 28.4	
MJAR	**Matsushiro Arr**	**78.22**	**325**	P	**P**	**14 35 33.6**	**-0.5**
	1.0nm,0.5s,mb4.0,baz=173,slow=4.6,SNR=3.9						
MJAR	**Matsushiro Arr**	**78.22**	**325**	P	**P**	**14 35 33.6**	**-0.5**
SNAA	**Sanae**	**78.63**	**178**	*e*P	**P**	**14 35 36.6**	**+0.7**
	3.8nm,1.0s,mb4.3						
VNA3	**Neumayer Olymp**	**78.75**	**176**	*e*	**P**	**14 35 34.8**	**-1.8**
VNA2	**Neumayer--Watz**	**79.19**	**177**	*e*	**P**	**14 35 37.2**	**-1.9**
	baz=188,slow=3.9						
PLCA	**Paso Flores**	**82.35**	**133**	LR	LR	15 06 49.0	
	comp=Z,146nm,20.1s,MS4.3,baz=295,slow=31						
KSRS	**Korea Array**	**84.41**	**319**	LR	LR	15 10 59.4	
	comp=Z,52nm,18.4s,MS4.0,baz=125,slow=34						
NVAR	**Mina Array Bea**	**87.42**	**42**	P	**P**	**14 36 22.5**	**+0.7**
	0.1nm,0.3s,mb3.5,baz=234,slow=7.6,SNR=3.4						
NVAR	**Mina Array Bea**	**87.42**	**42**	P	**P**	**14 36 22.5**	**+0.7**
TXAR	**Lajitas Array**	**91.56**	**57**	P	**P**	**14 36 43.0**	**+1.6**
	0.5nm,1.1s,mb3.8,baz=197,slow=2.8,SNR=1.7						
TXAR				LR	LR	15 11 03.7	
	comp=Z,50nm,19.2s,MS4.0,baz=240,slow=31						
TXAR	**Lajitas Array**	**91.56**	**57**	P	**P**	**14 36 43.0**	**+1.6**
TXAR				LR	LR	15 11 03.7	
PDAR	**Pinedale Array**	**95.31**	**43**	LR	LR	15 15 04.1	
	comp=Z,89nm,18.6s,MS4.3,baz=153,slow=32						
ILAR	**Eielson Array**	**97.30**	**13**	P	**P**	**14 37 07.0**	**+0.2**
	0.3nm,1.0s,mb3.7,baz=224,slow=7.6,SNR=3.6						
ILAR	**Eielson Array**	**97.30**	**13**	P	**P**	**14 37 07.0**	**+0.2**
LPAZ	**La Paz**	**97.73**	**114**	LR	LR	15 10 11.8	
	comp=Z,79nm,21.5s,MS4.2,baz=129,slow=29						
CPUP	**Villa Florida**	**99.76**	**128**	LR	LR	15 11 30.4	
	comp=Z,95nm,21.1s,MS4.3,baz=49,slow=29						
MKAR	**Makanchi Array**	**117.97**	**310**	PKP	PKPdf	14 42 19.8	-1.0
	0.3nm,0.5s,baz=170,slow=1.2,SNR=6.1						
MKAR	**Makanchi Array**	**117.97**	**310**	PKP	PKPdf	14 42 19.8	-1.0
AKTK	**Aktyubinsk**	**134.26**	**313**	PKP	PKPdf	14 42 52.4	+0.6
AKTO	**Aktyubinsk**	**134.26**	**313**	PKP	PKPdf	14 42 52.4	+0.6
	1.0nm,0.6s,baz=107,slow=1.1,SNR=4.4						
ARCES	**ARCESS Array B**	**138.25**	**348**	PKP	PKPdf	14 42 58.1	-0.6
	2.8nm,0.8s,baz=0.0,slow=0.2,SNR=4.6						
ARCES	**ARCESS Array B**	**138.25**	**348**	PKP	PKPdf	14 42 58.1	-0.6
JOF	**Joensuu**	**142.20**	**339**	*e*pkp	PKPdf	14 42 59.8	-6.2
KAF	**Kangasniemi**	**144.30**	**341**	*e*pkp	PKPdf	14 43 07.7	-2.0
FINES	**FINESS Array B**	**144.91**	**341**	PKP	PKPdf	14 43 08.7	-2.1
	5.6nm,0.6s,baz=59,slow=4.0,SNR=34						
FINES	**FINESS Array B**	**144.91**	**341**	PKP	PKPdf	14 43 08.7	-2.1
NOA	**NORSAR Array B**	**148.36**	**352**	PKPbc	PKPbc	14 43 19.1	-0.9
	1.6nm,0.6s,baz=14,slow=4.4,SNR=7.3						
NOA	**NORSAR Array B**	**148.36**	**352**	PKPbc	PKPbc	14 43 19.1	-0.9
HFS	**Hagfors**	**148.89**	**349**	PKPbc	PKPbc	14 43 20.2	-1.3
	2.1nm,0.5s,baz=51,slow=7.8,SNR=11						
HFS	**Hagfors**	**148.89**	**349**	PKPbc	PKPbc	14 43 20.2	-1.3
ASF	**Jabal al Asfar**	**150.75**	**283**	PKPbc	PKPbc	14 43 26.0	-1.0
	1.2nm,0.4s,baz=303,slow=2.9,SNR=4.2						
ASF	**Jabal al Asfar**	**150.75**	**283**	PKPbc	PKPbc	14 43 26.0	-1.0
AKASG	**Malin Array Be**	**151.31**	**324**	PKPbc	PKPbc	14 43 27.0	-0.6
	2.7nm,0.5s,baz=48,slow=3.3,SNR=12						
AKASG	**Malin Array Be**	**151.31**	**324**	PKPbc	PKPbc	14 43 27.0	-0.6
AKBB	**Malin Array Si**	**151.31**	**324**	*e*PKPbc	PKPbc	14 43 26.2	-1.4
KIEV	**Kiev**	**151.32**	**324**	*e*PKPbc	PKPbc	14 43 26.2	-1.5
MMAI	**Mount Meron Ar**	**152.06**	**285**	PKPbc	PKPbc	14 43 31.5	+1.5
	3.3nm,0.5s,baz=78,slow=7.8,SNR=4.7						
BRTR	**Keskin Array B**	**152.95**	**300**	PKPbc	PKPbc	14 43 33.2	+1.5
	0.5nm,0.5s,baz=142,slow=7.3,SNR=2.6						
BRTR	**Keskin Array B**	**152.95**	**300**	PKPbc	PKPbc	14 43 33.2	+1.5
GERES	**GERESS Array B**	**159.33**	**339**	PKPab	PKPab	14 44 08.4	-1.6
	0.2nm,0.5s,baz=25,slow=4.4,SNR=4.4						
TORD	**Torodi Ar. Bea**	**163.29**	**176**	PKPab	PKPab	14 44 28.5	+0.4
	0.5nm,0.5s,baz=186,slow=5.0,SNR=4.3						

*IDC **08** 14:51:47.8±3.3, 24°.10S×179°.63E, h482km±33km, mb3.4/6, mb1 3.8/6, mb1mx3.4/16, mbtmp3.4/6, Error ellipse: s-maj=105.8km s-min=18.5km az=158.0*

*NEIC **08** 14:51:55.6±0.6, 24°.78S×179°.72E, h600km, mb4.0/8, Error ellipse: s-maj=23.8km s-min=14.0km az=165.0*

*ISCJB **08** 14:51:56.5±4.0, 24°.9S±0°.1×179°.6E±0°.2, h624km±51km, mb3.9/13, Error ellipse: s-maj=29.0km s-min=15.3km az=139.9*

ISC 08 14:51:55.1±3.8, 25°.0S±0°.2×179°.7E±0°.2, h591km±45km, n27, σ0°82/25, mb3.9/13, 1C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.42**	**189**	S	**S**	**14 57 09.9**	**-0.1**
	0.5nm,0.3s,baz=45,slow=22,SNR=9.2						
EIDS	**Eidsvold**	**25.91**	**263**	*e*P	**P**	**14 56 42.0**	**+0.2**
	7.7nm,0.8s,mb4.4						
CTAO	**Charters Tower**	**31.25**	**272**	*e*P	**P**	**14 57 28.2**	**+0.1**
STKA	**Stephens Creek**	**34.10**	**250**	P	**P**	**14 57 53.1**	**+1.2**
	3.1nm,0.4s,mb4.3,baz=84,slow=9.5,SNR=15						
STKA	**Stephens Creek**	**34.10**	**250**	*e*P	**P**	**14 57 52.8**	**+0.8**
	0.8nm,0.5s,mb3.6						
ASAR	**Alice Springs**	**41.62**	**262**	P	**P**	**14 58 53.3**	**+0.2**
	2.6nm,0.6s,mb4.0,baz=92,slow=6.9,SNR=76						
ASAR	**Alice Springs**	**41.62**	**262**	P	**P**	**14 58 53.3**	**+0.2**
WB2	**Warramunga Arr**	**42.09**	**267**	*e*P	**P**	**14 58 56.1**	**-0.7**
WRAB	**Tennant Creek**	**42.09**	**267**	*e*P	**P**	**14 58 55.9**	**-0.9**
	12nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**42.10**	**267**	P	**P**	**14 58 56.4**	**-0.5**
	7.5nm,0.5s,mb4.5,baz=103,slow=8.1,SNR=36						
WRA				ScP	ScP	15 03 44.2	+12
	2.0nm,0.8s,baz=100,slow=4.1,SNR=9.9						
WRA	**Warramunga Arr**	**42.10**	**267**	P	**P**	**14 58 56.4**	**-0.5**
WRA				ScP	ScP	15 03 44.2	+12
FITZ	**Fitzroy Crossi**	**50.51**	**267**	*e*P	**P**	**15 00 00.7**	**+0.4**
	38nm,1.7s,mb4.5						
VNDA	**Vanda**	**53.28**	**185**	*e*P	**P**	**15 00 18.9**	**-0.3**
	0.6nm,0.5s,mb3.2						
MBWA	**Marble Bar**	**54.95**	**261**	*e*P	**P**	**15 00 31.8**	**0.0**
QSPA	**South Pole Qui**	**65.10**	**180**	*e*P	**P**	**15 01 40.9**	**+3.0**
	2.4nm,1.0s,mb3.6						
KSM	**Kuching**	**72.05**	**280**	*e*P	**P**	**15 02 21.4**	**+0.5**
	7.1nm,1.0s,mb4.2						
VNA3	**Neumayer Olymp**	**83.81**	**177**	*e*	**P**	**15 03 22.2**	**-0.6**
ISA	**Isabella**	**83.95**	**46**	*e*P	**P**	**15 03 20.9**	**-3.1**
	3.1nm,0.9s,mb3.8						
VNA2	**Neumayer--Watz**	**84.22**	**178**	*e*	**P**	**15 03 24.2**	**-0.6**
	baz=188,slow=4.4						
NVAR	**Mina Array Bea**	**85.70**	**44**	P	**P**	**15 03 32.2**	**-0.3**
	0.2nm,0.3s,mb3.2,baz=229,slow=8.2,SNR=7.4						
NVAR	**Mina Array Bea**	**85.70**	**44**	P	**P**	**15 03 32.2**	**-0.3**
TXAR	**Lajitas Array**	**91.21**	**58**	P	**P**	**15 03 59.1**	**+0.8**
	0.8nm,0.7s,mb3.7,baz=218,slow=5.8,SNR=10.0						
TXAR	**Lajitas Array**	**91.21**	**58**	P	**P**	**15 03 59.1**	**+0.8**
PDAR	**Pinedale Array**	**93.64**	**44**	P	**P**	**15 04 09.8**	**+0.6**
	0.3nm,0.6s,mb3.6,baz=226,slow=2.4,SNR=2.8						
PDAR	**Pinedale Array**	**93.64**	**44**	P	**P**	**15 04 09.8**	**+0.6**
HFS	**Hagfors**	**143.56**	**348**	PKhKP	PKPpre	15 10 20.9	
	0.9nm,0.4s,baz=64,slow=6.8,SNR=8.0						
HFS	**Hagfors**	**143.56**	**348**	PKP	PKPpre	15 10 20.9	

NEIC 08 14:57:52.1, 57°.73N×152°.55W, h4km, ML2.7(AEIC), After AEIC., Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**0.06**	**342**	P	Pg	14 57 53.5	+0.1
KDAK				S	Sg	14 57 55.1	+0.8
OHAK	**Old Harbor**	**0.65**	**218**	P	Pg	14 58 04.7	+0.3
OHAK				S	Sg	14 58 14.9	+2.1
CNPM	**China Poot**	**1.93**	**20**	P	Pn	14 58 24.1	-1.5
BRLK	**Bradley Lake**	**2.22**	**22**	P	Pn	14 58 27.4	-2.1
RSO	**Redoubt South**	**2.74**	**358**	*e*Pn	Pn	14 58 35.6	-1.1
SEW	**Seward**	**2.87**	**33**	P	Pn	14 58 35.3	-3.2
SEW				S	Sn	14 59 07.4	-6.0
SLKM	**Skilak Lake**	**3.03**	**22**	P	Pn	14 58 38.4	-2.3
PMR	**Palmer**	**4.25**	**23**	*e*Pn	Pn	14 58 53.7	-3.7
PPLA	**Purkeypile**	**5.19**	**2**	*e*Pn	Pn	14 59 08.2	-2.1
PNL	**Peninsula**	**7.12**	**69**	*e*Pn	Pn	14 59 34.4	-2.4

*ISCJB **08** 15:02:06.1±0.6, 22°.92N±0°.04×122°.87E±0°.03, h33km, Error ellipse: s-maj=6.3km s-min=2.9km az=157.0*

*TAP **08** 15:02:06.8, 22°.89N×122°.82E, h57km±2km, ML3.4, C*

*JMA **08** 15:02:06.9±0.3, 22°.97N×122°.96E, h73km*

ISC 08 15:02:06.7±0.6, 22°.91N±0°.04×122°.88E±0°.03, h35km, n34, σ1°25/55, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**1.41**	**278**	P	**Pn**	**15 02 28.4**	**-1.4**
	baz=286						
CHKT				S	**Sn**	**15 02 44.4**	**-2.8**
	baz=286						
HATJ	**Hateruma jima**	**1.43**	**36**	P	**Pn**	**15 02 30.0**	**-0.1**
HATJ				*e*S	**Sn**	**15 02 47.3**	**-0.3**
TWF1	**Yuli**	**1.52**	**287**	P	**Pn**	**15 02 30.5**	**-0.9**
	baz=288						
EHY	**Hungye**	**1.55**	**293**	P	**Pn**	**15 02 31.0**	**-0.7**
	baz=295						
EHY				S	**Sn**	**15 02 49.2**	**-1.5**
	baz=295						
TTN	**Taitung**	**1.60**	**265**	*e*P	**Pn**	**15 02 31.8**	**-0.7**
	baz=260						
ESL	**Shilin**	**1.61**	**305**	P	**Pn**	**15 02 31.6**	**-0.9**
	baz=315						
ESL				*e*S	**Sn**	**15 02 49.4**	**-2.6**
	baz=315						
IRIF	**Iriomote-Funau**	**1.62**	**29**	P	**Pn**	**15 02 32.8**	**0.0**
IRIF				*e*S	**Sn**	**15 02 52.1**	**-0.3**
TWD	**Chiawan**	**1.66**	**315**	*e*S	**Sn**	**15 02 52.0**	**-1.3**
	baz=318						
TWG	**Pinlang**	**1.67**	**267**	P	**Pn**	**15 02 32.6**	**-0.8**
	baz=269						
TWG				S	**Sn**	**15 02 51.9**	**-1.7**
	baz=269						
JKRS	**Kuro-shima**	**1.68**	**38**

HUEN		**1.63**	**97**	*e*P	Pn	15 25 57.9	-0.4
TICN	**Ticuantepe**	**1.64**	**108**	*e*P	Pn	15 25 58.4	0.0
BOQS	**Boqueron**	**1.85**	**310**	*e*P	Pn	15 26 02.1	+0.8
SBLS	**San Blas**	**2.17**	**307**	*e*P	Pn	15 26 06.0	+0.2
CONN	**Concepcion**	**2.36**	**114**	*e*P	Pn	15 26 08.5	+0.1
JCR	**Jicaral**	**3.77**	**135**	*e*P	Pn	15 26 26.8	-1.0
CGA2	**Cerro Gallo 2**	**4.14**	**127**	*e*P	Pn	15 26 35.2	+2.4
PRS1	**Puriscal**	**4.28**	**126**	*e*P	Pn	15 26 38.3	+3.5
PRS1				*e*S	Sn	15 27 24.7	+1.2
URSC	**Urasca**	**4.80**	**124**	*e*P	Pn	15 26 46.0	+4.1
BUS	**Buena Vista**	**4.97**	**126**	*e*P	Pn	15 26 46.8	+2.5
BUS				*e*S	Sn	15 27 40.4	-0.2
ACR	**Cerro Adams**	**5.99**	**130**	*e*P	Pn	15 26 59.8	+1.6
ACR				*e*S	Sn	15 28 00.4	-5.2

NEIC ***08*** *15:34:24.3, 19°.41N×66°.33W, h8km, MD3.4(RSPR), After RSPR.*

RSPR 08 15:34:24.3, 19°.41N×66°.33W, h7km±5km, MD3.4/13, 24C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.13**	**201**	⇑*e*P			Pg	15 34 42.8	-3.4
AOPR	**Arecibo Observ**	**1.13**	**201**	⇑*e*P			Pg	15 34 42.8	-3.4
AOPR				*e*S			Sg	15 34 57.4	-3.4
AGPR	**Aguadilla, PR**	**1.20**	**219**	⇑*e*P			Pb	15 34 43.8	-3.5
AGPR	**Aguadilla, PR**	**1.20**	**219**	⇑*e*P			Pb	15 34 43.8	-3.5
AGPR				*e*S			Sg	15 34 59.1	-3.8
CBYP	**Canovanas**	**1.22**	**159**	⇑*e*P			Pb	15 34 44.5	-3.1
CBYP	**Canovanas**	**1.22**	**159**	⇑*e*P			Pb	15 34 44.5	-3.1
CBYP				*e*S			Sg	15 35 00.7	-2.9
LRS	**Lares**	**1.22**	**204**	⇑*e*P			Pb	15 34 44.3	-3.4
LRS	**Lares**	**1.22**	**204**	⇑*e*P			Pb	15 34 44.3	-3.4
SJG	**San Juan**	**1.30**	**173**	⇑*e*P			Pn	15 34 45.5	-3.4
SJG	**San Juan**	**1.30**	**173**	⇑*e*P			Pn	15 34 45.9	-3.0
SJG	**San Juan**	**1.30**	**173**	⇑*e*P			Pn	15 34 45.5	-3.4
SJG				*e*S			Sb	15 35 02.6	-3.4
HUMP	**Col San Antoni**	**1.34**	**160**	⇑*e*P			Pn	15 34 45.7	-3.7
HUMP	**Col San Antoni**	**1.34**	**160**	⇑*e*P			Pn	15 34 45.7	-3.7
HUMP				*e*S			Sb	15 35 02.8	-4.3
CELP	**Cerrillos**	**1.35**	**190**	⇑*e*P			Pn	15 34 46.1	-3.4
CELP	**Cerrillos**	**1.35**	**190**	⇑*e*P			Pn	15 34 46.1	-3.4
OBIP	**Obispado Ponce**	**1.39**	**191**	⇓*e*P			Pn	15 34 47.8	-2.3
OBIP	**Obispado Ponce**	**1.39**	**191**	⇓*e*P			Pn	15 34 47.8	-2.3
OBIP				*e*S			Sb	15 35 05.2	-3.2
LSP	**Las Mesas**	**1.43**	**211**	⇓*e*P			Pn	15 34 47.3	-3.2
LSP				*e*S			Sb	15 35 05.8	-3.8
LSP	**Las Mesas**	**1.43**	**211**	⇓*e*P			Pn	15 34 47.3	-3.2
LSP				*e*S			Sb	15 35 05.8	-3.8
MTP	**Monte Pirata**	**1.50**	**151**	⇑*e*P			Pn	15 34 48.1	-3.4
MTP	**Monte Pirata**	**1.50**	**151**	⇑*e*P			Pn	15 34 48.1	-3.4
MTP				*e*S			Sn	15 35 06.4	-5.0
ICM	**Isla Caja Muer**	**1.52**	**187**	⇑*e*P			Pn	15 34 49.7	-2.2
ICM	**Isla Caja Muer**	**1.52**	**187**	⇑*e*P			Pn	15 34 49.7	-2.2
ICM				*e*S			Sn	15 35 07.9	-4.0
GBPR	**Guanica, Bosqu**	**1.52**	**200**	⇑*e*P			Pn	15 34 49.1	-2.9
CRPR	**Cabo Rojo, PR**	**1.58**	**208**	⇑*e*P			Pn	15 34 49.8	-3.0
CRPR	**Cabo Rojo, PR**	**1.58**	**208**	⇑*e*P			Pn	15 34 49.8	-3.0
CRPR				*e*S			Sn	15 35 10.1	-3.3
STVI	**Saint Thomas**	**1.67**	**129**	⇑*e*P			Pn	15 34 51.4	-2.6
STVI	**Saint Thomas**	**1.67**	**129**	⇑*e*P			Pn	15 34 51.4	-2.6
STVI				*e*S			Sn	15 35 12.2	-3.5
SDDR	**Presa de Saban**	**4.71**	**266**	*e*Pn			Pn	15 35 33.6	-2.2

IDC ***08*** *15:34:52.4±1.6, 24°.41N×94°.41E, h0km, mb3.5/6, mb1 3.5/7, mb1mx3.4/27, mbtmp3.4/7, ML2.7/1, MS3.7/1, Ms1 3.7/1, ms1mx2.5/26, Error ellipse: s-maj=81.0km s-min=17.6km az=64.0*

ISCJB ***08*** *15:34:55.7±0.8, 24°.5N±0°.1×94°.7E±0°.1, h33km, mb3.4/6, Error ellipse: s-maj=20.7km s-min=9.2km az=39.0*

ISC 08 15:34:58.2±0.7, 24°.5N±0°.1×94°.7E±0°.1, h35km, n9, σ1§07/9, mb3.4/6, 1C, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHL	**Shillong**	**2.74**	**293**	⇑*i*PN			**Pn**	**15 35 42.0**	**+2.2**
SHL				*e*SN			**Sn**	**15 36 11.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**7.22**	**146**	Pn			**Pn**	**15 36 41.0**	**-0.3**
	0.0nm,0.3s,baz=319,slow=13,SNR=2.8								
MKAR	**Makanchi Array**	**24.34**	**339**	P			**P**	**15 40 12.6**	**-0.1**
	0.7nm,0.4s,mb3.4,baz=148,slow=10,SNR=13								
SONM	**Songino Array**	**25.06**	**19**	P			**P**	**15 40 20.2**	**+1.0**
	0.6nm,0.7s,mb3.2,baz=194,slow=10,SNR=5.1								
KURK	**Kurchatov**	**28.95**	**339**	P			**P**	**15 40 52.3**	**-1.8**
	0.3nm,0.2s,mb3.7,baz=135,slow=9.2,SNR=3.5								
ZALV	**Zalesovo Beam**	**30.31**	**348**	P			**P**	**15 41 06.1**	**0.0**
	0.3nm,0.4s,mb3.4,baz=142,slow=7.3,SNR=2.8								
CBIJ	**Chichi jima**	**42.65**	**76**	LR		LR		15 59 20.9	
	comp=Z,108nm,21.8s,slow=34								
WRA	**Warramunga Arr**	**58.68**	**135**	P			**P**	**15 44 51.6**	**-0.8**
	0.3nm,0.7s,mb3.4,baz=325,slow=7.4,SNR=2.7								
ASAR	**Alice Springs**	**61.16**	**139**	P			**P**	**15 45 10.3**	**+0.9**
	0.1nm,0.3s,mb3.4,baz=318,slow=6.3,SNR=5.4								

ISCJB ***08*** *15:45:14.4±0.8, 36°.50N±0°.03×38°.25E±0°.03, h6km±5km, Error ellipse: s-maj=6.0km s-min=4.0km az=146.6*

DDA ***08*** *15:45:14.7, 36°.54N×38°.20E, h4km±5km, Md3.3*

CSEM ***08*** *15:45:15.1±0.4, 36°.52N×38°.25E, h10km, Mc2.3, Error ellipse: s-maj=8.3km s-min=4.5km az=127.0*

NSSC ***08*** *15:45:15, 36°.51N×38°.21E, h11km±4km*

ISK ***08*** *15:45:15.3, 36°.56N×38°.25E, h11km, MD3.1*

ISC 08 15:45:14.0±0.7, 36°.46N±0°.03×38°.27E±0°.03, h2km±4km, n40, σ1§02/65, 6D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SLMH	**Al Salmeh**	**0.37**	**228**	⇑P			**Pg**	**15 45 23.0**	**+1.9**
SLMH	**Al Salmeh**	**0.37**	**228**	⇑*i*P			**Pg**	**15 45 23.2**	**+2.1**
ATAB	**Bozova**	**1.01**	**1**	*i* P			**Pg**	**15 45 33.4**	**+0.1**
ATAB				*i* S			**Sg**	**15 45 46.4**	**0.0**
ATAB	**Bozova**	**1.01**	**1**	*i* P			**Pg**	**15 45 33.4**	**+0.1**
ATAB				*i* S			**Sg**	**15 45 46.4**	**0.0**
KUZU	**Kuzuini**	**1.01**	**288**	*i* P			**Pg**	**15 45 33.8**	**+0.4**
KUZU				*i* S			**Sg**	**15 45 47.4**	**+1.0**
KUZU	**Kuzuini**	**1.01**	**288**	*i* P			**Pg**	**15 45 33.8**	**+0.5**
KUZU				*i* S			**Sg**	**15 45 47.4**	**+1.0**
GZT	**Gaziantep**	**1.05**	**328**	*i* P			**Pg**	**15 45 33.7**	**-0.5**
GZT				*i* S			**Sg**	**15 45 47.5**	**-0.4**
URFA	**Urfa**	**1.07**	**24**	*e*PG			**Pg**	**15 45 34.7**	**+0.1**
URFA				*e*SG			**Sg**	**15 45 48.6**	**+0.1**
URFA	**Urfa**	**1.07**	**24**	*e*Pg			**Pg**	**15 45 34.7**	**+0.1**
URFA				*e*Sg			**Sg**	**15 45 48.6**	**+0.1**
GAZ	**Gaziantep**	**1.10**	**310**	*e*PG			**Pg**	**15 45 35.7**	**+0.5**
GAZ				*e*SG			**Sg**	**15 45 50.2**	**+0.7**
GAZ	**Gaziantep**	**1.10**	**310**	*e*Pg			**Pg**	**15 45 35.7**	**+0.5**
GAZ				*e*Sg			**Sg**	**15 45 50.2**	**+0.7**
DRWC	**Darouich**	**1.30**	**278**	⇑P			**Pg**	**15 45 38.0**	**-0.9**
DRWC				⇓S			**Sg**	**15 45 56.0**	**+0.3**
DRWC	**Darouich**	**1.30**	**278**	⇑*i*P			**Pg**	**15 45 38.9**	**0.0**
DRWC				⇓*i*S			**Sg**	**15 45 56.1**	**+0.4**
COBT	**Iskenderun**	**1.62**	**273**	*i* P			**Pn**	**15 45 43.0**	**-0.5**
COBT				*i* S			**Sn**	**15 46 03.0**	**-2.0**
COBT	**Iskenderun**	**1.62**	**273**	*i* P			**Pn**	**15 45 43.0**	**-0.6**
COBT				*i* S			**Sn**	**15 46 03.0**	**-2.0**
HTY	**Hatay**	**1.75**	**259**	*e*PN			**Pn**	**15 45 46.2**	**+0.8**
HTY				*e*SN			**Sn**	**15 46 08.9**	**+0.7**
HTY	**Hatay**	**1.75**	**259**	*e*Pn			**Pn**	**15 45 46.2**	**+0.8**
HTY				*e*Sn			**Sn**	**15 46 09.0**	**+0.8**
WRDH	**Warideh**	**1.78**	**238**	⇑P			**Pn**	**15 45 45.0**	**-0.7**
WRDH				⇓S			**Sn**	**15 46 10.0**	**+1.1**
WRDH	**Warideh**	**1.78**	**238**	⇑*i*P			**Pn**	**15 45 45.4**	**-0.3**
WRDH				⇓*i*S			**Sn**	**15 46 10.3**	**+1.4**
YAYL	**Yayladag**	**1.80**	**257**	*i* P			**Pn**	**15 45 44.8**	**-1.2**
YAYL				*e*S			**Sn**	**15 46 06.2**	**-3.1**
YAYL	**Yayladag**	**1.80**	**257**	*i* P			**Pn**	**15 45 44.8**	**-1.2**
YAYL				*e*S			**Sn**	**15 46 06.2**	**-3.1**
MYA	**Malataya**	**1.86**	**4**	*e*PN			**Pn**	**15 45 47.0**	**+0.1**
MYA	**Malataya**	**1.86**	**4**	*e*Pn			**Pn**	**15 45 47.1**	**+0.2**
ANDN	**Andirin**	**1.90**	**307**	*e*P			**Pn**	**15 45 46.6**	**-0.8**
ANDN				*e*S			**Sn**	**15 46 10.9**	**-0.9**
ANDN	**Andirin**	**1.90**	**307**	*e*P			**Pn**	**15 45 46.6**	**-0.8**
ANDN				*e*S			**Sn**	**15 46 10.9**	**-1.0**
SVRC	**Sivrice-ELAZID**	**2.08**	**23**	*e*PN			**Pn**	**15 45 50.2**	**+0.3**
SVRC	**Sivrice-ELAZID**	**2.08**	**23**	*e*Pn			**Pn**	**15 45 50.2**	**+0.3**
CEYT	**Ceyhan**	**2.10**	**286**	*e*PN			**Pn**	**15 45 50.9**	**+0.8**
CEYT	**Ceyhan**	**2.10**	**286**	*e*Pn			**Pn**	**15 45 50.9**	**+0.8**
BIDA	**Albida**	**2.14**	**228**	⇑P			**Pn**	**15 45 51.0**	**+0.3**
BIDA				⇓S			**Sn**	**15 46 17.0**	**-0.9**
BIDA	**Albida**	**2.14**	**228**	⇑*i*P			**Pn**	**15 45 51.5**	**+0.8**
BIDA				⇓*i*S			**Sn**	**15 46 18.0**	**+0.1**
MARD	**Mardin**	**2.19**	**66**	*i* P			**Pn**	**15 45 51.4**	**+0.1**
MARD				*i* S			**Sn**	**15 46 20.2**	**+1.3**
KOZT	**Kozan**	**2.20**	**298**	*e*PN			**Pn**	**15 45 52.3**	**+0.7**
KRTS	**Karatas**	**2.33**	**274**	*e*PN			**Pn**	**15 45 54.8**	**+1.5**
KRTS	**Karatas**	**2.33**	**274**	*e*Pn			**Pn**	**15 45 54.8**	**+1.5**
SARI	**SarD1z-Kayseri**	**2.54**	**331**	*e*PN			**Pn**	**15 45 54.8**	**-1.4**
SARI	**SarD1z-Kayseri**	**2.54**	**331**	*e*Pn			**Pn**	**15 45 54.8**	**-1.4**
BEST	**Besiri**	**2.79**	**58**	*i* P			**Pn**	**15 46 01.0**	**+1.3**
BEST				*i* S			**Sg**	**15 46 41.3**	**-2.3**
HWQ	**Hawqa**	**2.89**	**222**	*e*P			**Pg**	**15 46 07.7**	**-1.7**
BHL	**Bhannes**	**3.33**	**221**	*e*P			**Pg**	**15 46 16.6**	**-1.2**

NNC ***08*** *16:10:06.1±5.3, 39°.78N×73°.68E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=43.3km s-min=23.2km az=169.0*

ISC 08 16:10:13.2±4.3, 40°.0N±0°.2×73°.5E±0°.1, h14km±25km, n9, σ1§11/12, 4C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.11**	**4**	P			**Pn**	**16 10 49.9**	**+1.8**
	SNR=33								
UCH	**Uchtor**	**2.33**	**19**	P			**Pn**	**16 10 51.1**	**0.0**
	SNR=6.6								
KZA	**Kyzart**	**2.44**	**32**	P			**Pn**	**16 10 53.5**	**+0.8**
	SNR=9.5								
EKS2	**Erkin-Say**	**2.65**	**4**	P			**Pn**	**16 10 56.7**	**+1.3**
	SNR=6.3								
AAK	**Ala-Archa**	**2.71**	**16**	P			**Pn**	**16 10 56.3**	**-0.1**
	SNR=18								
TKM2	**Tokmak 2**	**3.30**	**28**	⇓Pn			**Pn**	**16 11 02.8**	**-1.5**
TKM2				⇑Pg			**Pb**	**16 11 10.2**	**-1.2**
	3.6nm,0.5s								
TKM2				⇓Lg				16 11 56.7	
	11nm,0.4s								
KK31	**Karatay Array**	**3.81**	**325**	Pn			**Pn**	**16 11 11.1**	**-0.3**
	0.6nm,0.2s,baz=134,slow=15,SNR=14								
KK31				Pg			**Pb**	**16 11 21.3**	**+1.1**
	8.3nm,0.8s,baz=131,slow=16,SNR=11								
KK31				⇑Sn			**Sb**	**16 12 05.6**	**-0.5**
	5.2nm,0.5s,baz=143,slow=23,SNR=5.3								
KK31				⇓Lg				16 12 14.8	
	7.2nm,0.5s,baz=144,slow=31								
KNDC	**Almaty**	**4.12**	**38**	⇑Lg				16 12 21.6	
	70nm,0.7s								
AB31	**Akbulak array**	**13.34**	**318**	⇓Pn			**Pn**	**16 13 18.8**	**-3.2**
	0.2nm,0.3s,baz=127,slow=14,SNR=10								
AB31				⇑Sn			**Sn**	**16 15 49.9**	**0.0**
	0.6nm,0.7s								

NEIC ***08*** *16:14:11.6, 19°.15N×64°.80W, h35km, MD3.1(RSPR), After RSPR.*

RSPR 08 16:14:11.6, 19°.15N×64°.80W, h35km±24km, MD3.1/4, 15C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.81**	**190**	⇑*e*P			Pn	16 14 24.9	-1.5
STVI	**Saint Thomas**	**0.81**	**190**	⇑*e*P			Pn	16 14 24.9	-1.5
STVI				*e*S			Sn	16 14 36.1	-1.1
STVI	**Saint Thomas**	**0.81**	**190**	⇑*e*P			Pn	16 14 24.9	-1.5
STVI				*e*S			Sn	16 14 36.1	-1.1
MTP	**Monte Pirata**	**1.27**	**214**	⇑*e*P			Pn	16 14 31.9	-0.8
MTP	**Monte Pirata**	**1.27**	**214**	⇑*e*P			Pn	16 14 31.9	-0.8
MTP				*e*S			Sn	16 14 47.5	-1.1
MTP	**Monte Pirata**	**1.27**	**214**	⇑*e*P			Pn	16 14 31.9	-0.8
MTP				*e*S			Sn	16 14 47.5	-1.1
CBYP	**Canovanas**	**1.33**	**229**	⇑*e*P			Pn	16 14 32.3	-1.3
CBYP	**Canovanas**	**1.33**	**229**	⇑*e*P			Pn	16 14 32.3	-1.3
CBYP				*e*S			Sn	16 14 48.2	-1.8
CBYP	**Canovanas**	**1.33**	**229**	⇑*e*P			Pn	16 14 32.3	-1.3
CBYP				*e*S			Sn	16 14 48.2	-1.8
HUMP	**Col San Antoni**	**1.41**	**225**	⇑*e*P			Pn	16 14 33.2	-1.6
HUMP	**Col San Antoni**	**1.41**	**225**	⇑*e*P			Pn	16 14 33.2	-1.6
HUMP				*e*S			Sn	16 14 50.7	-1.5
HUMP	**Col San Antoni**	**1.41**	**225**	⇑*e*P			Pn	16 14 33.2	-1.6
HUMP				*e*S			Sn	16 14 50.7	-1.5
CELP	**Cerrillos**	**2.00**	**238**	⇑*e*P			Pn	16 14 42.4	-0.4
CELP				*e*S			Sn	16 15 05.8	-0.8
CELP	**Cerrillos**	**2.00**	**238**	⇑*e*P			Pn	16 14 42.4	-0.4
CELP				*e*S			Sn	16 15 05.8	-0.8
CELP	**Cerrillos**	**2.00**	**238**	⇑*e*P			Pn	16 14 42.4	-0.4
CELP				*e*S			Sn	16 15 05.8	-0.8

NEIC ***08*** *16:28:14.7±2.4, 29°.98S×177°.15W, h11km±13km, mb4.8/10, Error ellipse: s-maj=16.6km s-min=10.5km az=108.0*

IDC ***08*** *16:28:14.4±0.7, 29°.66S×177°.26W, h0km, mb4.2/10, mb1 4.4/10, mb1mx4.3/18, mbtmp4.2/10, MS3.8/4, Ms1 3.8/4, ms1mx3.3/31, Error ellipse: s-maj=25.1km s-min=20.0km az=95.0*

ISCJB ***08*** *16:28:17.1±0.5, 30°.08S±0°.05×177°.20W±0°.08, h33km, mb4.5/19, MS4.0/3, Error ellipse: s-maj=10.6km s-min=7.1km az=169.9*

ISC 08 16:28:18.8±0.5, 30°.02S±0°.05×177°.17W±0°.08, h35km, n80, σ1§48/54, mb4.5/19, MS4.0/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.00**	**319**	*e*Pg			**Pn**	**16 28 33.9**	**-2.5**
RAO				*e*Sg			**Sn**	**16 28 47.6**	**-1.7**
URZ	**Urewera**	**9.49**	**208**	Pn			**Pn**	**16 30 31.5**	**-1.4**
	0.7nm,0.3s,baz=33,slow=13,SNR=9.9								
URZ				Sn			**Sn**	**16 32 16.7**	**-1.6**
	2.8nm,0.3s,baz=301,slow=19,SNR=9.0								
URZ	**Urewera**	**9.49**	**208**	Pn			**Pn**	**16 30 31.5**	**-1.4**
URZ				Sn			**Sn**	**16 32 16.7**	**-1.6**
SNZO	**South Karori**	**13.05**	**208**	*e*Pn			**Pn**	**16 31 14.6**	**-7.1**
SNZO				*e*Sn			**Sn**	**16 33 40.5**	**-5.1**
RPZ	**Rata Peaks**	**16.58**	**211**	Pn			**Pn**	**16 32 07.4**	**-1.1**
	1.7nm,0.3s,baz=20,slow=11,SNR=7.0								
RPZ				Sn			**Sn**	**16 34 59.9**	**-11**
	0.4nm,0.3s,baz=45,slow=20,SNR=2.4								
RPZ	**Rata Peaks**	**16.58**	**211**	*e*Pn			**Pn**	**16 32 05.6**	**-2.9**
RPZ				Sn			**Sn**	**16 34 59.9**	**-11**
RPZ				*e*Sn			**Sn**	**16 35 01.8**	**-10**
DZM	**Mont Dzumac**	**16.70**	**294**	*e*P			**Pn**	**16 32 15.6**	**+5.4**
	66nm,1.2s								
DZM				*e*LR		LR		16 36 11.4	
	515nm,23.2s								
DZM	**Mont Dzumac**	**16.70**	**294**	*e*Pn			**Pn**	**16 32 12.7**	**+2.4**
	29nm,1.1s								
RAR	**Rarotonga**	**17.95**	**65**	LR		LR		16 37 00.1	
	comp=Z,146nm,21.5s,baz=68,slow=29								
TBI	**Tubuai**	**25.59**	**82**	*e*LR		LR		16 40 02.9	
	211nm,25.8s								
ARMA	**Armidale**	**26.93**	**261**	*e*P			**P**	**16 34 00.8**	**+4.0**
PPT	**Papeete**	**28.04**	**70**	*e*LR		LR		16 41 17.4	
	190nm,25.2s								
EIDS	**Eidsvold**	**28.44**	**272**	*e*P			**P**	**16 34 12.1**	**+1.7**
	37nm,1.4s,mb4.8								
RMQ	**Roma**	**30.16**	**268**	*e*P			**P**	**16 34 28.6**	**+3.0**
	53nm,1.9s,mb5.0								
CMSA	**Cobar Meteorol**	**31.85**	**258**	*e*P			**P**	**16 34 43.2**	**+2.7**
QLP	**Quilpie**	**34.05**	**266**	*e*P			**P**	**16 35 01.4**	**+1.6**
CTA	**Charters Tower**	**34.45**	**278**	LR		LR		16 47 37.6	
	comp=Z,216nm,18.2s,MS3.9,baz=100,slow=34								
CTA	**Charters Tower**	**34.45**	**278**	*e*P			**P**	**16 35 05.1**	**+1.8**
	7.5nm,1.2s,mb4.5								
CTAO	**Charters Tower**	**34.45**	**278**	*e*P			**P**	**16 35 05.0**	**+1.7**
	27nm,1.1s,mb5.1								
STKA	**Stephens Creek**	**35.27**	**256**	P			**P**	**16 35 11.6**	**+1.3**
	12nm,0.9s,mb4.8,baz=100,slow=8.0,SNR=14								
STKA	**Stephens Creek**	**35.27**	**256**	*e*P			**P**	**16 35 12.8**	**+2.5**
	8.3nm,0.8s,mb4.7								
STKA	**Stephens Creek**	**35.27**	**256**	P			**P**	**16 35 11.6**	**+1.3**
ASAR	**Alice Springs**	**43.85**	**266**	P			**P**	**16 36 21.6**	**-0.2**
	1.9nm,0.5s,mb4.0,baz=103,slow=6.1,SNR=45								
ASAR	**Alice Springs**	**43.85**	**266**	P			**P**	**16 36 21.6**	**-0.2**
WB2	**Warramunga Arr**	**44.79**	**271**	*e*P			**P**	**16 36 28.7**	**-0.7**
WRA	**Warramunga Arr**	**44.80**	**271**	P			**P**	**16 36 29.1**	**-0.4**
	7.1nm,0.5s,mb4.7,baz=109,slow=7.8,SNR=34								
WRA	**Warramunga Arr**	**44.80**	**271**	P			**P**	**16 36 29.1**	**-0.4**
SBA	**Scott Base**	**48.47**	**184**	*e*P			**P**	**16 37 01.4**	**+3.9**
	8.5nm,1.3s,mb4.6								
VNDA	**Vanda**	**48.55**	**186**	P			**P**	**16 37 02.1**	**+4.1**
	0.5nm,0.7s,mb3.6,baz=11,slow=8.3,SNR=2.2								
VNDA	**Vanda**	**48.55**	**186**	P			**P**	**16 37 02.1**	**+4.1**
CASY	**Casey**	**55.81**	**208**	*e*P			**P**	**16 37 53.4**	**+1.3**

	43nm,1.2s,mb5.4								
MBWA	**Marble Bar**	**56.98**	**263**	*e*P			**P**	**16 37 58.2**	**-2.9**
QSPA	**South Pole Qui**	**60.09**	**180**	P			**P**	**16 38 26.0**	**+4.1**
	3.4nm,0.7s,mb4.5,baz=4.4,slow=2.1,SNR=23								
QSPA	**South Pole Qui**	**60.09**	**180**	*e*P			**P**	**16 38 25.4**	**+3.4**
	7.3nm,0.8s,mb4.8								
PMSA	**Palmer Station**	**72.32**	**156**	P			**P**	**16 39 40.3**	**-0.2**
	84nm,1.2s,mb5.5								
MAW	**Mawson**	**72.92**	**200**	P			**P**	**16 39 46.7**	**+2.6**
	1.4nm,0.7s,mb4.0,baz=108,slow=8.5,SNR=5.3								
MAW	**Mawson**	**72.92**	**200**	P			**P**	**16 39 46.7**	**+2.6**
MJAR	**Matsushiro Arr**	**78.34**	**325**	P			**P**	**16 40 14.3**	**-1.1**
	1.5nm,0.9s,mb3.9,baz=170,slow=8.0,SNR=3.5								
MJAR						LR	LR	17 12 21.7	
	comp=Z,68nm,18.6s,MS4.0,baz=240,slow=34								
MJAR	**Matsushiro Arr**	**78.34**	**325**	P			**P**	**16 40 14.3**	**-1.1**
MJAR						LR	LR	17 12 21.7	
SNAA	**Sanae**	**78.52**	**178**	*e*P			**P**	**16 40 17.6**	**+1.6**
	5.4nm,1.0s,mb4.4								
VNA3	**Neumayer Olymp**	**78.64**	**176**	*e*			**P**	**16 40 15.7**	**-0.9**
VNA2	**Neumayer--Watz**	**79.08**	**177**	*e*			**P**	**16 40 18.4**	**-0.7**
VNA1	**Neumayer--Stat**	**79.31**	**176**	*e*			**P**	**16 40 20.0**	**-0.3**
KSRS	**Korea Array**	**84.52**	**319**	P			**P**	**16 40 48.7**	**+0.6**
	1.4nm,0.9s,mb4.1,baz=128,slow=5.0,SNR=3.1								
ISA	**Isabella**	**85.52**	**44**	P			**P**	**16 40 51.8**	**-1.4**
	4.4nm,1.1s,mb4.6								
CMB	**Columbia Colle**	**86.00**	**41**	*e*P			**P**	**16 40 55.0**	**-0.4**
	4.2nm,1.1s,mb4.6								
NVAR	**Mina Array Bea**	**87.47**	**42**	P			**P**	**16 41 03.4**	**+0.8**
	0.9nm,0.8s,mb4.1,baz=226,slow=11,SNR=7.0								
NVAR	**Mina Array Bea**	**87.47**	**42**	P			**P**	**16 41 03.4**	**+0.8**
ENH	**Enshi**	**91.98**	**304**	P			**P**	**16 41 22.8**	**-1.2**
ILAR	**Eielson Array**	**97.39**	**13**	P			**P**	**16 41 48.1**	**+0.2**
	0.3nm,0.8s,mb3.8,baz=203,slow=5.9,SNR=2.9								
ILAR	**Eielson Array**	**97.39**	**13**	P			**P**	**16 41 48.1**	**+0.2**
CPUP	**Villa Florida**	**99.66**	**128**	LR		LR		17 19 56.5	
	comp=Z,62nm,20.1s,MS4.1,baz=194,slow=31								
MKAR	**Makanchi Array**	**118.08**	**310**	PKP		PKPdf		16 47 01.1	-0.6
	0.3nm,0.5s,baz=158,slow=1.2,SNR=5.7

MJAR	**Matsushiro Arr**	**43.78**	**10**	P		**P**	**16 50 48.7**	**+1.5**
	0.8nm,0.6s,mb3.6,baz=189,slow=11,SNR=3.5							
MJAR	**Matsushiro Arr**	**43.78**	**10**	P		**P**	**16 50 48.7**	**+1.5**
KSRS	**Korea Array**	**43.95**	**358**	LR		LR	17 09 51.5	
	comp=Z,28nm,19.1s,MS3.2,baz=0.1,slow=37							
URZ	**Urewera**	**53.22**	**133**	LR		LR	17 13 10.1	
	comp=Z,55nm,21.7s,MS3.6,baz=278,slow=34							
SONM	**Songino Array**	**58.01**	**342**	P		**P**	**16 52 35.3**	**+1.2**
	1.0nm,0.8s,mb3.9,baz=174,slow=7.4,SNR=6.3							
SONM	**Songino Array**	**58.01**	**342**	P		**P**	**16 52 35.3**	**+1.2**
MKAR	**Makanchi Array**	**67.71**	**327**	P		**P**	**16 53 38.5**	**-0.2**
	1.1nm,0.8s,mb4.0,baz=137,slow=8.0,SNR=7.7							
MKAR	**Makanchi Array**	**67.71**	**327**	P		**P**	**16 53 38.5**	**-0.2**
ZALV	**Zalesovo Beam**	**71.10**	**334**	P		**P**	**16 53 58.8**	**-0.7**
	0.9nm,0.6s,mb3.9,baz=115,slow=6.7,SNR=6.2							
ZALV	**Zalesovo Beam**	**71.10**	**334**	P		**P**	**16 53 58.8**	**-0.7**
KURK	**Kurchatov**	**72.01**	**329**	P		**P**	**16 54 04.7**	**-0.5**
	1.3nm,0.8s,mb3.9,baz=130,slow=4.8,SNR=10							
KURK	**Kurchatov**	**72.01**	**329**	P		**P**	**16 54 04.7**	**-0.4**
VNDA	**Vanda**	**72.80**	**173**	LR		LR	17 20 44.3	
	comp=Z,42nm,21.3s,MS3.7,baz=340,slow=31							
MAW	**Mawson**	**75.05**	**201**	P		**P**	**16 54 27.0**	**+4.2**
	4.6nm,0.9s,mb4.4,baz=62,slow=8.9,SNR=8.9							

*ISCJB **08** 16:46:00.2±0.4, 40.°54N±0.°03×123.°05E±0.°04, h10km, mb3.9/9, Error ellipse: s-maj=4.8km s-min=4.3km az=165.8*
*IDC **08** 16:46:01.5±1.3, 40.°58N×122.°92E, h0km, mb3.9/8, mb1 3.9/10, mb1mx3.7/29, mbtmp3.8/10, ML3.1/2, MS3.3/2, Ms1 3.3/2, ms1mx2.7/38, Error ellipse: s-maj=40.3km s-min=17.7km az=29.0*
*MOS **08** 16:46:03.1±1.1, 40.°36N×122.°85E, h33km, mb4.1/7, Error ellipse: s-maj=25.0km s-min=13.1km az=44.7*
*BJI **08** 16:46:04.7, 40.°77N×122.°75E, h22km, mB4.6/2, mb4.2/2, ML3.7/8*
*NEIC **08** 16:46:13.2±0.9, 40.°68N×122.°21E, h65km±12km, mb3.9/1, Error ellipse: s-maj=18.8km s-min=11.5km az=189.0*

ISC 08 16:46:02.4±0.4, 40.°58N±0.°03×123.°05E±0.°04, h10km, n43, σ1§07/51, mb3.9/9, 1D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNY	**Shenyang**	**1.31**	**18**	⇓Pg	**Pg**	**16 46 27.1**	**-0.5**
SNY				Sg	**Sg**	**16 46 43.8**	**-0.9**
SNY				smax			
	comp=N,1μm,0.7s						
SNY				smax			
	comp=E,890nm,0.7s						
DL2	**Dalian**	**1.99**	**214**	Pg	**Pg**	**16 46 39.8**	**-0.8**
DL2				Sg	**Sg**	**16 47 05.8**	**-0.6**
DL2				smax			
	comp=N,700nm,1.2s						
DL2				smax			
	comp=E,640nm,0.9s						
CN2	**Changchun**	**3.69**	**28**	*e*Pg	**Pb**	**16 47 08.9**	**+1.3**
CN2				*e*Sg	**Sg**	**16 47 57.5**	**-3.2**
CN2				smax			
	comp=N,100nm,0.8s						
CN2				smax			
	comp=E,100nm,0.8s						
INCN	**Inchon**	**4.16**	**137**	*e*Pn	**Pg**	**16 47 21.5**	**-0.7**
INCN				*e*Sn	**Sn**	**16 47 53.2**	**-1.5**
INCN				*e*Sg	**Sg**	**16 48 17.6**	**+1.5**
KSRS	**Korea Array**	**4.91**	**128**	Pn	**Pn**	**16 47 17.1**	**+0.8**
	comp=E,0.9nm,0.3s,baz=312,slow=14,SNR=19						
KSRS				Lg		16 48 39.9	
	comp=E,8.3nm,0.3s,baz=307,slow=26,SNR=12						
KSRS	**Korea Array**	**4.91**	**128**	P	**Pn**	**16 47 17.1**	**+0.8**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BJI	**Beijing**	**5.28**	**266**	Pg	**Pg**	**16 47 41.7**	**-1.8**
BJI				Sg	**Sg**	**16 48 47.8**	**-4.1**
BJI				smax			
	comp=N,52nm,0.8s						
BJI				smax			
	comp=E,89nm,0.8s						
BJT	**Baijiatuau**	**5.29**	**266**	*e*Pn	**Pn**	**16 47 20.4**	**-1.0**
BJT				*e*Sn	**Sg**	**16 48 46.4**	**-5.8**
BJT	**Baijiatuau**	**5.29**	**266**	*e*P	**Pn**	**16 47 20.4**	**-1.0**
MDJ	**Mudanjiang**	**6.30**	**48**	*e*Pn	**Pb**	**16 47 49.4**	**-2.6**
MDJ				*e*Sn	**Sg**	**16 49 19.1**	**-5.3**
HHC	**Hu-ho-hao-te**	**8.73**	**276**	*e*P	**Pn**	**16 48 09.2**	**+0.6**
HHC				sP		16 48 15.4	
HHC				S	**Sn**	**16 49 47.5**	**+0.5**
HHC				sS		16 49 52.2	
HHC				pmax	pmax		
	comp=Z,17nm,0.7s						
HHC				pmax	pmax		
	comp=Z,220nm,6.2s						
SONM	**Songino Array**	**13.96**	**307**	Pn	**Pn**	**16 49 20.3**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=113,slow=11,SNR=4.1						
SONM				LR	LR	16 53 49.0	
	comp=Z,49nm,20.4s,baz=223,slow=34						
SONM	**Songino Array**	**13.96**	**307**	Pn	**Pn**	**16 49 20.3**	**+0.2**
SONM				LR	LR	16 53 49.0	
SONM	**Songino Array**	**13.96**	**307**	P	**Pn**	**16 49 20.3**	**+0.2**
SONM				MLR	MLR		
	comp=Z,49nm,20.4s						
ZAK	**Zakamensk**	**16.93**	**312**	*e*P	**Pn**	**16 50 00.5**	**+1.3**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
LSA	**Lhasa**	**28.11**	**257**	P	**P**	**16 51 50.0**	**-4.3**
LSA	**Lhasa**	**28.11**	**257**	P	**P**	**16 51 50.0**	**-4.4**
KURK	**Kurchatov**	**32.23**	**303**	P	**P**	**16 52 31.1**	**+0.5**
	comp=Z,0.4nm,0.3s,mb3.7,baz=92,slow=9.5,SNR=9.0						
KURK	**Kurchatov**	**32.23**	**303**	P	**P**	**16 52 31.1**	**+0.5**
KURK	**Kurchatov**	**32.23**	**303**	P	**P**	**16 52 31.1**	**+0.5**
BVAR	**Borovoye Array**	**37.30**	**308**	P	**P**	**16 53 15.2**	**+0.8**
	comp=Z,1.3nm,0.6s,mb4.0,baz=77,slow=9.2,SNR=9.8						
BVAR	**Borovoye Array**	**37.30**	**308**	P	**P**	**16 53 15.2**	**+0.8**
BVAR	**Borovoye Array**	**37.30**	**308**	P	**P**	**16 53 15.2**	**+0.8**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ABKAR	**Akbulak array**	**44.34**	**303**	*e*P	**P**	**16 54 12.8**	**+0.4**
	comp=Z,1.4nm,0.6s,mb3.9						
ILAR	**Eielson Array**	**54.20**	**32**	P	**P**	**16 55 28.8**	**+1.2**
	comp=Z,0.8nm,0.8s,mb3.7,baz=286,slow=6.7,SNR=15						
ILAR	**Eielson Array**	**54.20**	**32**	P	**P**	**16 55 28.8**	**+1.2**
ILAR	**Eielson Array**	**54.20**	**32**	P	**P**	**16 55 28.8**	**+1.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**55.16**	**335**	P	**P**	**16 55 34.2**	**-0.2**
	comp=Z,0.8nm,0.6s,mb3.9,baz=73,slow=9.0,SNR=4.7						
ARCES	**ARCESS Array B**	**55.16**	**335**	P	**P**	**16 55 34.2**	**-0.2**
ARCES	**ARCESS Array B**	**55.16**	**335**	P	**P**	**16 55 34.3**	**-0.2**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**57.61**	**25**	P	**P**	**16 55 53.0**	**+1.0**
	comp=Z,0.8nm,0.8s,mb3.8,baz=356,slow=15,SNR=4.0						
INK	**Inuvik**	**57.61**	**25**	P	**P**	**16 55 53.0**	**+1.0**
INK	**Inuvik**	**57.61**	**25**	P	**P**	**16 55 53.0**	**+1.0**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**58.41**	**326**	P	**P**	**16 55 57.5**	**-0.2**
	comp=Z,1.9nm,0.6s,mb4.3,baz=71,slow=6.5,SNR=13						
FINES	**FINESS Array B**	**58.41**	**326**	P	**P**	**16 55 57.5**	**-0.2**
FINES	**FINESS Array B**	**58.41**	**326**	P	**P**	**16 55 57.5**	**-0.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HFS	**Hagfors**	**64.24**	**328**	LR	LR	17 25 06.8	
	comp=Z,54nm,18.7s,baz=250,slow=36						
NOA	**NORSAR Array B**	**64.65**	**330**	P	**P**	**16 56 40.8**	**+0.9**
	comp=Z,0.7nm,0.7s,mb3.8,baz=75,slow=6.3,SNR=4.1						
NOA	**NORSAR Array B**	**64.65**	**330**	P	**P**	**16 56 40.8**	**+0.9**
NOA	**NORSAR Array B**	**64.65**	**330**	P	**P**	**16 56 40.8**	**+1.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**65.26**	**302**	P	**P**	**16 56 44.1**	**0.0**
	comp=Z,0.8nm,0.7s,mb3.9,baz=93,slow=5.4,SNR=4.4						
BRTR	**Keskin Array B**	**65.26**	**302**	P	**P**	**16 56 44.1**	**0.0**
BRTR	**Keskin Array B**	**65.26**	**302**	P	**P**	**16 56 44.2**	**0.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						

*ISCJB **08** 16:48:08.7±0.5, 14.°01N±0.°05×92.°02W±0.°03, h77km±6km, mb4.0/9, Error ellipse: s-maj=8.9km s-min=3.0km az=29.5*
*NEIC **08** 16:48:11.3±1.8, 14.°25N×91.°71W, h72km±14km, mb4.1/8, Error ellipse: s-maj=26.5km s-min=12.2km az=210.0*
NEIC Felt at Quetzaltenango.
*IDC **08** 16:48:12.4±1.3, 14.°33N×91.°77W, h58km±6km, mb3.7/4, mb1 4.0/6, mb1mx3.6/24, mbtmp3.7/6, MS3.7/2, Ms1 3.7/2, ms1mx2.9/26, Error ellipse: s-maj=24.2km s-min=17.4km az=25.0*
*MEX **08** 16:48:12.3±0.4, 13.°99N×92.°18W, h25km±11km, MD4.3*
*CASC **08** 16:48:12.8±1.7, 14.°21N×91.°76W, h61km±17km, MD4.0, ML4.1, mb4.1(NEIC)*

ISC 08 16:48:10.1±0.5, 14.°02N±0.°05×92.°01W±0.°03, h65km±6km, n63, σ1§24/81, mb4.0/9, 4C-1D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.46**	**51**	⇓*i*P	**Pn**	**16 48 22.5**	**+0.3**
THIG		**0.92**	**344**	*i* P	**Pn**	**16 48 26.5**	**-0.8**
THIG				*i* S	**Sn**	**16 48 38.1**	**-2.0**
FUG	**Fuego 3**	**1.20**	**69**	⇑*i*P	**Pn**	**16 48 30.5**	**-0.5**
FG6		**1.21**	**64**	⇑*e*P	**Pn**	**16 48 30.9**	**-0.2**
PCG	**Pacaya**	**1.40**	**75**	*e*P	**Pn**	**16 48 33.8**	**+0.1**
IXG	**Ixpaco**	**1.51**	**84**	⇑*e*P	**Pn**	**16 48 34.9**	**-0.2**
NBG	**Las Nubes**	**1.70**	**71**	⇑*e*P	**Pn**	**16 48 38.8**	**+1.2**
NBG				*e*S	**Sn**	**16 49 00.3**	**+1.8**
PCIG		**2.04**	**325**	*i* P	**Pn**	**16 48 42.1**	**-0.1**
PCIG				*i* S	**Sn**	**16 49 05.6**	**-1.1**
CCIG	**Comitan**	**2.25**	**357**	*i* P	**Pn**	**16 48 46.7**	**+1.6**
CCIG				*i* S	**Sn**	**16 49 13.0**	**+1.3**
RBDL	**Robledal**	**2.25**	**87**	*e*P	**Pn**	**16 48 44.9**	**-0.2**
RTR	**El Retiro**	**2.29**	**93**	*e*P	**Pn**	**16 48 45.9**	**+0.3**
SBLS	**San Blas**	**2.32**	**94**	*e*P	**Pn**	**16 48 45.8**	**-0.2**
SBLS				*e*S	**Sn**	**16 49 11.7**	**-1.7**
SNJE	**San Jose**	**2.33**	**93**	*e*P	**Pn**	**16 48 46.3**	**+0.1**
SNJE				*e*S	**Sn**	**16 49 11.5**	**-2.3**
MTO2	**Montecristo 2**	**2.59**	**81**	*e*P	**Pn**	**16 48 48.9**	**-0.8**
BOQS	**Boqueron**	**2.66**	**96**	*e*P	**Pn**	**16 48 51.0**	**+0.4**
BOQS				*e*S	**Sn**	**16 49 21.0**	**-0.8**
SCX	**San Cristobal**	**2.77**	**347**	*e*P	**Pn**	**16 48 52.2**	**+0.1**
SCX				*i* S	**Sn**	**16 49 24.5**	**+0.2**
LFRS	**El Faro**	**2.89**	**98**	*e*P	**Pn**	**16 48 54.4**	**+0.6**
LFRS				*e*S	**Sn**	**16 49 25.9**	**-1.4**
LBRS	**Las Brisas**	**2.89**	**95**	*e*P	**Pn**	**16 48 53.8**	**+0.1**
SNVI	**San Vicente**	**3.10**	**97**	*e*P	**Pn**	**16 48 57.5**	**+0.9**
SNVI				*e*S	**Sn**	**16 49 32.3**	**-0.3**
CAHU	**Cacaucatique**	**3.69**	**93**	*e*P	**Pn**	**16 49 04.3**	**-0.5**
BLLM	**Bellamira**	**3.71**	**99**	*e*P	**Pn**	**16 49 06.1**	**+1.2**
CNCH	**Conchagua**	**4.12**	**100**	*e*P	**Pn**	**16 49 11.1**	**+0.5**
CNCH				*e*S	**Sn**	**16 49 57.5**	**-0.1**
CMIG	**Matias Romero**	**4.12**	**318**	P	**Pn**	**16 49 12.0**	**+1.4**
	8.2nm,0.3s,baz=135,slow=11,SNR=53						
CMIG				S	**Sn**	**16 49 58.5**	**+0.8**
	23nm,0.3s,baz=87,slow=22,SNR=7.6						
CMIG	**Matias Romero**	**4.12**	**318**	P	**Pn**	**16 49 12.0**	**+1.4**
CMIG				S	**Sn**	**16 49 58.5**	**+0.8**
CMIG	**Matias Romero**	**4.12**	**318**	*i* P	**Pn**	**16 49 10.9**	**+0.3**
CMIG				*i* S	**Sn**	**16 49 55.4**	**-2.2**
HUIG	**Huatulco**	**4.33**	**294**	*e*P	**Pn**	**16 49 12.2**	**-1.3**
HUIG				*i* S	**Sn**	**16 49 58.5**	**-4.2**
TGUH	**Tegucigalpa,Un**	**4.59**	**89**	*e*Pn	**Pn**	**16 49 14.5**	**-2.6**
TGUH	**Tegucigalpa,Un**	**4.59**	**89**	*e*P	**Pn**	**16 49 16.2**	**-0.9**
SCIG	**Sabancuy**	**4.98**	**9**	*i* P	**Pn**	**16 49 24.9**	**+2.6**
SCIG				*i* S	**Sn**	**16 50 20.2**	**+1.6**
CRIN	**San Cristobal**	**5.00**	**105**	*e*P	**Pn**	**16 49 24.1**	**+1.5**
CRIN				AML	AML	16 50 34.3	
	comp=N,402nm,0.4s						
CNGN	**Cerro Negro**	**5.38**	**106**	*e*P	**Pn**	**16 49 27.9**	**0.0**
OXX	**Oaxaca**	**5.47**	**304**	*e*P	**Pn**	**16 49 29.6**	**+0.5**
OXX				*i* S	**Sn**	**16 50 31.8**	**+1.1**
VHO	**Vista Hermosa**	**5.47**	**304**	*i* P	**Pn**	**16 49 30.8**	**+1.7**
VHO				*i* S	**Sn**	**16 50 29.1**	**-1.6**
COPN	**Copaltepe**	**5.58**	**109**	*e*P	**Pn**	**16 49 31.1**	**+0.5**
APYN	**Apoyeque**	**5.79**	**107**	*e*P	**Pn**	**16 49 34.4**	**+1.0**
HUEN		**5.92**	**106**	*e*P	**Pn**	**16 49 38.0**	**+2.7**
PNIG	**Pinotepa**	**6.36**	**293**	*i* P	**Pn**	**16 49 43.0**	**+1.7**
PNIG				*i* S	**Sn**	**16 50 50.8**	**-1.8**
UTMO	**Huajuapan**	**6.74**	**305**	*e*P	**Pn**	**16 49 46.2**	**-0.3**
UTMO				*i* S	**Sn**	**16 51 00.5**	**-1.4**
TEIG	**Tepich**	**7.12**	**29**	P	**Pn**	**16 49 50.2**	**-1.5**
	comp=N,37nm,0.3s,baz=235,slow=2.6,SNR=52						
TEIG				S	**Sn**	**16 51 05.1**	**-6.1**
	comp=N,3.0nm,0.3s,baz=70,slow=22,SNR=6.1						
TEIG	**Tepich**	**7.12**	**29**	P	**Pn**	**16 49 50.2**	**-1.5**
TEIG				*e*Pn	**Pn**	**16 49 50.6**	**-1.1**
TEIG				S	**Sn**	**16 51 05.1**	**-6.1**
TXAR	**Lajitas Array**	**18.68**	**327**	P	**Pn**	**16 52 26.3**	**+2.3**
	comp=N,0.1nm,0.3s,baz=155,slow=12,SNR=32						
TXAR				ScP	ScP	17 00 24.3	+5.0
	comp=N,0.0nm,0.3s,baz=148,slow=5.3,SNR=3.2						
TXAR	**Lajitas Array**	**18.68**	**327**	P	**Pn**	**16 52 26.3**	**+2.3**
TXAR				ScP	ScP	17 00 24.3	+5.0
MIAR	**Mount Ida**	**20.48**	**356**	*e*P	**P**	**16 52 48.4**	**+5.8**
	comp=N,9.7nm,1.2s						
OXF	**Oxford**	**20.53**	**6**	*e*P	**P**	**16 52 48.0**	**+4.8**
	comp=N,53nm,1.3s						
WMOK	**Wichita Mounta**	**21.52**	**345**	*e*P	**P**	**16 52 50.8**	**-2.9**
	comp=N,3.6nm,1.0s,mb3.7						
SDV	**Santo Domingo**	**21.55**	**101**	*e*P	**P**	**16 52 51.6**	**-2.7**
	comp=N,2.9nm,0.6s,mb3.8						
WVT	**Waverly**	**22.33**	**9**	*e*P	**P**	**16 52 59.6**	**-2.8**
	comp=N,11nm,1.2s,mb4.1						
CPCT	**Cooper Cave**	**22.37**	**16**	*e*P	**P**	**16 52 59.3**	**-3.6**
AMTX	**Amarillo**	**22.53**	**339**	*e*P	**P**	**16 53 04.1**	**-0.4**
	comp=N,5.4nm,0.5s,mb4.1						
TKL	**Tuckaleechee C**	**22.78**	**18**	LR	LR	17 02 45.8	
	comp=N,117nm,18.6s,baz=101,slow=39						
SIUC	**Southern Illin**	**23.73**	**6**	P	**P**	**16 53 14.5**	**-1.7**
	comp=N,23nm,0.8s,mb4.6						
ANMO	**Albuquerque**	**24.58**	**330**	P	**P**	**16 53 26.4**	**+2.3**
	comp=N,0.5nm,0.4s,mb3.3,baz=133,slow=14,SNR=5.2						
ANMO	**Albuquerque**	**24.58**	**330**	P	**P**	**16 53 25.0**	**+0.9**
	comp=N,1.5nm,0.6s,mb3.6						
NVAR	**Mina Array Bea**	**33.65**	**321**	P	**P**	**16 54 48.8**	**+4.1**
	comp=N,3.7nm,0.7s,mb4.3,baz=133,slow=8.4,SNR=34						
NVAR				pP	pP	16 55 03.2	+2.7
	comp=N,2.9nm,0.7s,baz=133,slow=8.2,SNR=8.9						
NVAR	**Mina Array Bea**	**33.65**	**321**	P	**P**	**16 54 48.8**	**+4.1**
NVAR				pP	pP	16 55 03.2	+2.7
INK	**Inuvik**	**60.41**	**344**	P	**P**	**16 58 12.8**	**+0.3**
	comp=N,0.6nm,0.7s,mb3.8,baz=154,slow=7.3,SNR=5.0						
INK	**Inuvik**	**60.41**	**344**	P	**P**	**16 58 12.8**	**+0.3**
KDAK	**Kodiak Island**	**62.70**	**328**	pP	pP	16 58 45.7	+0.5
	comp=N,4.2nm,0.7s,baz=77,slow=7.9,SNR=2.6						
ILAR	**Eielson Array**	**62.82**	**337**	P	**P**	**16 58 29.4**	**+0.7**
	comp=N,1.1nm,0.9s,mb3.8,baz=103,slow=5.9,SNR=13						
ILAR				pP	pP	16 58 45.9	-0.1
	comp=N,1.1nm,0.9s,baz=124,slow=5.4,SNR=6.2						
ILAR	**Eielson Array**	**62.82**	**337**	P	**P**	**16 58 29.4**	**+0.7**
ILAR				pP	pP	16 58 45.9	-0.1
TORD	**Torodi Ar. Bea**	**90.38**	**76**	LR	LR	17 36 06.5	
	comp=N,53nm,20.1s,baz=75,slow=32						
CMAR	**Chiang Mai Arr**	**145.97**	**341**	PKPbc	PKPbc	17 07 44.5	+1.2
	comp=N,2.1nm,0.8s,baz=331,slow=3.1,SNR=19						
CMAR				pPKPbc	pPKPbc	17 08 01.7	-0.3
	comp=N,4.8nm,0.7s,baz=332,slow=3.4,SNR=17						
CMAR	**Chiang Mai Arr**	**145.97**	**341**	PKPbc	PKPbc	17 07 44.5	+1.2
CMAR				pPKPbc	pPKPbc	17 08 01.7	-0.3

*ISCJB **08** 16:51:37.6±0.6, 44.°18N±0.°07×145.°84E±0.°08, h152km±5km, mb3.7/9, Error ellipse: s-maj=12.0km s-min=9.8km az=171.5*
*MOS **08** 16:51:38.8±0.7, 44.°26N×145.°63E, h161km, mb3.9/8, Error ellipse: s-maj=19.9km s-min=17.4km az=75.5*
*JMA **08** 16:51:39.0±0.3, 44.°17N×145.°83E, h145km±2km, M3.4*
*NEIC **08** 16:51:39.1±1.2, 44.°24N×145.°70E, h153km±10km, mb4.1/7, Error ellipse: s-maj=18.2km s-min=11.5km az=135.0*
*IDC **08** 16:51:41.6±2.3, 44.°49N×145.°51E, h163km±14km, mb3.3/5, mb1 3.5/6, mb1mx3.2/26, mbtmp3.3/6, MS2.8/1, Ms1 2.8/1, ms1mx2.3/18, Error ellipse: s-maj=57.8km s-min=18.3km az=157.0*

ISC 08 16:51:38.6±0.6, 44.°17N±0.°07×145.°85E±0.°08, h148km±5km, n46, σ0§69/55, mb3.7/9, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JRA	**Rausu**	**0.58**	**246**	P	**Pn**	**16 52 00.2**	**+0.1**
JRA				*e*S	**Sn**	**16 52 16.5**	**+0.1**
NEM2	**Nemuro 2**	**0.81**	**186**	P	**Pn**	**16 52 01.5**	**-0.2**
NEM2				*e*S	**Sn**	**16 52 17.9**	**-1.3**
JNK	**Nakash**	**1.01**	**235**	P	**Pn**	**16 52 03.4**	**+0.2**
JTKR	**Abashiri--Toko**	**1.42**	**262**	P	**Pn**	**16 52 06.9**	**-0.2**
JTKR				*e*S	**Sn**	**16 52 28.5**	**-0.3**
JAK	**Akkeshi**	**1.44**	**216**	P	**Pn**	**16 52 07.5**	**+0.1**
JAK				*e*S	**Sn**	**16 52 29.0**	**-0.4**
JAR	**Ashorobuto**	**1.75**	**241**	P	**Pn**	**16 52 11.2**	**+0.6**
JMP	**Maruseppu**	**1.80**	**266**	P	**Pn**	**16 52 11.2**	**-0.1**
JOB	**Onbets**	**1.94**	**230**	P	**Pn**	**16 52 13.5**	**+0.7**
JOB				*e*S	**Sn**	**16 52 39.6**	**+0.5**
JKK2	**Kamakawa 2**	**2.26**	**263**	P	**Pn**	**16 52 16.9**	**+0.3**
JKK2				*e*S	**Sn**	**16 52 45.8**	**-0.1**
ASAJ	**Asahikawa**	**2.34**	**270**	P	**Pn**	**16 52 18.2**	**+0.6**
	14nm,0.3s,baz=85,slow=8.6,SNR=99						
ASAJ				S	**Sn**	**16 52 48.4**	**+0.6**
	3.6nm,0.3s,baz=1.7,slow=29,SNR=6.7						
ASAJ	**Asahikawa**	**2.34**	**270**	*e*Pn	**Pn**	**16 52 18.1**	**+0.5**
ASAJ	**Asahikawa**	**2.34**	**270**	PN	**Pn**	**16 52 18.3**	**+0.7**
ASAJ				S	**Sn**	**16 52 48.4**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,14nm,0.3s						
ASAJ				smax			
	comp=N,4.0nm,0.3s						
ASAJ	**Asahikawa**	**2.34**	**270**	P	**Pn**	**16 52 18.1**	**+0.5**
ASAJ				*e*S	**Sn**	**16 52 48.2**	**+0.5**
JCH	**Churui**	**2.39**	**230**	P	**Pn**	**16 52 18.4**	**+0.2**
JCH				*e*S	**Sn**	**16 52 48.1**	**-0.6**
JFR	**Furan**	**2.57**	**248**	P	**Pn**	**16 52 21.3**	**+0.9**
JAB	**Ashibetsu**	**2.71**	**257**	P	**Pn**	**16 52 23.4**	**+1.3**
YSS	**Yuzh-Sakhalins**	**3.53**	**323**	Pn	**Pn**	**16 52 31.3**	**-1.3**
YSS	**Yuzh-Sakhalins**	**3.53**	**323**	PN	**Pn**	**16 52 31.3**	**-1.3**
MAJO	**Matsushiro**	**9.59**	**220**	*e*Pn	**Pn**	**16 53 52.5**	**-0.7**
	comp=N,8.1nm,0.9s						
MAJO	**Matsushiro**	**9.59**	**220**	*e*PN	**Pn**	**16 53 52.5**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.9s						
PETK	**Petropavlovsk-**	**11.88**	**37**	LR	LR	16 58 49.1	
	comp=Z,47nm,20.2s,baz=260,slow=36						
BILL	**Bilibino**	**26.23**	**17**	*e*P	**P**	**16 57 08.3**	**+9.1**
	comp=Z,3.0nm,1.0s,mb3.9						
BILL	**Bilibino**	**26.23**	**17**	*e*P	**P**	**16 57 08.3**	**+9.1**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.9						
SONM	**Songino Array**	**27.44**	**292**	P	**P**	**16 57 09.8**	**-0.5**
	comp=Z,0.5nm,0.4s,mb3.5,baz=74,slow=7.8,SNR=5.4						
SONM	**Songino Array**	**27.44**	**292**	P	**P**	**16 57 09.8**	**-0.5**
SONM	**Songino Array**	**27.44**	**292**	P	**P**	**16 57 09.8**	**-0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SML	**Sawmill**	**41.31**	**41**	*e*P	**P**	**16 59 10.2**	**+1.1**
	comp=Z,1.3nm,0.7s,mb3.7						
SML	**Sawmill**	**41.31**	**41**	*e*P	**P**	**16 59 10.2**	**+1.1**
SML				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
ILAR	**Eielson Array**	**41.70**	**36**	P	**P**	**16 59 12.8**	**+0.6**
	comp=Z,1.6nm,0.8s,mb3.7,baz=257,slow=5.6,SNR=16						
ILAR	**Eielson Array**	**41.70**	**36**	P	**P**	**16 59 12.8**	**+0.6**
ILAR	**Eielson Array**	**41.70**	**36**	P	**P**	**16 59 12.8**	**+0.6**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**44.52**	**303**	P	**P**	**16 59 33.5**	**-1.5**
	comp=Z,0.6nm,0.5s,mb3.5,baz=77,slow=8.6,SNR=8.6						
KURK	**Kurchatov**	**44.52**	**303**	P	**P**	**16 59 33.5**	**-1.5**
KURK	**Kurchatov**	**44.52**	**303**	P	**P**	**16 59 33.5**	**-1.5**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7						
INK	**Inuvik**	**46.51**	**30**	P	**P**	**16 59 50.9**	**+0.5**
	comp=Z,0.9nm,0.4s,mb3.7,baz=311,slow=11,SNR=8.4						
INK	**Inuvik**	**46.51**	**30**	*e*P	**P**	**16 59 49.6**	**-0.8**
	comp=Z,1.2nm,0.5s,mb3.8						
INK	**Inuvik**	**46.51**	**30**	P	**P**	**16 59 50.9**	**+0.5**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR	**Chiang Mai Arr**	**46.75**	**252**	P	**P**	**16 59 53.5**	**+0.5**
	comp=

	comp=E,37nm,0.6s						
SONA				AML	AML	16 56 59.2	
	comp=N,32nm,0.2s						
AYAN	**Aya Nagar**	**10.31 301**	*eS*		**Sn**	**16 55 57.2**	**-2.2**
NDI	**New Delhi**	**10.33 302**	*ex*		x	16 55 48.0	
DDI	**Dehra Dun**	**10.60 312**	*ex*		**Sn**	**16 56 07.0**	**+0.6**
RTK	**Rohtak**	**11.12 302**	*eS*		**Sn**	**16 56 13.2**	**-6.0**
LATR	**Latur**	**11.14 245**	*ex*		x	16 56 04.0	
KHET	**Khetri**	**11.21 296**	*ex*		**Pn**	**16 54 14.7**	**-2.3**
KHET			*eS*		**Sn**	**16 56 16.6**	**-4.9**
KHET				AML	AML	16 56 24.6	
	comp=E,17nm,0.3s						
KHET				AML	AML	16 57 05.0	
	comp=N,11nm,0.3s						
AJM	**Ajmer**	**11.75 287**	*eS*		**Sn**	**16 56 30.0**	**-4.7**
SDNR	**Sundarnagar**	**12.06 314**	*eS*		**Sn**	**16 56 36.0**	**-6.2**
SDNR			*ex*		x	16 58 16.0	
BOM	**Bombay**	**14.16 254**	*ex*		x	16 57 43.9	
BOM			*ex*		x	17 00 50.5	
ENH	**Enshi**	**20.99 66**	*eP*		**P**	**16 56 17.8**	**-1.9**
	comp=N,10nm,0.7s						
AAK	**Ala-Archa**	**21.79 334**	P		**P**	**16 56 32.1**	**+3.8**
	comp=N,2.0nm,0.6s,mb3.7,baz=161,slow=8.5,SNR=8.2						
AAK	**Ala-Archa**	**21.79 334**	P		**P**	**16 56 32.1**	**+3.8**
EKS2	**Erkin-Say**	**22.11 333**	*eP*		**P**	**16 56 36.4**	**+4.7**
	comp=N,4.9nm,0.7s,mb4.0						
IPM	**Ipoh**	**23.16 143**	*eP*		**P**	**16 56 44.1**	**+1.1**
MK31	**Makanchi Array**	**23.57 352**	*eP*		**P**	**16 56 49.5**	**+2.7**
MKAR	**Makanchi Array**	**23.57 352**	P		**P**	**16 56 48.2**	**+1.3**
	comp=N,2.0nm,0.8s,mb3.6,baz=167,slow=11,SNR=10						
MKAR	**Makanchi Array**	**23.57 352**	P		**P**	**16 56 48.2**	**+1.3**
KURK	**Kurchatov**	**27.97 348**	P		**P**	**16 57 28.2**	**+1.6**
	comp=N,0.3nm,0.4s,mb3.3,baz=168,slow=9.5,SNR=3.8						
KURK	**Kurchatov**	**27.97 348**	P		**P**	**16 57 28.2**	**+1.6**
SONM	**Songino Array**	**28.71 27**	P		**P**	**16 57 32.9**	**-0.3**
	comp=N,0.6nm,0.4s,mb3.6,baz=217,slow=9.7,SNR=8.0						
SONM	**Songino Array**	**28.71 27**	P		**P**	**16 57 32.9**	**-0.3**
ZALV	**Zalesovo Beam**	**30.45 357**	P		**P**	**16 57 51.3**	**+2.6**
	comp=N,0.7nm,0.5s,mb3.7,baz=180,slow=8.2,SNR=4.1						
ZALV	**Zalesovo Beam**	**30.45 357**	P		**P**	**16 57 51.3**	**+2.6**

*ISCJB **08** 16:54:44.0±0.3, 30.38N±0.05×67.56E±0.04, h10km, mb4.0/21, MS3.4/5, Error ellipse: s-maj=7.1km s-min=5.0km az=157.0*

*IDC **08** 16:54:44.7±0.8, 30.43N×67.34E, h0km, mb3.8/17, mb1 4.1/18, mb1mx3.9/33, mbtmp3.9/18, ML3.5/1, MS3.4/7, Ms1 3.4/7, ms1mx3.0/45, Error ellipse: s-maj=19.6km s-min=15.6km az=27.0*

*OMAN **08** 16:56:00.1±99.0, 26.66N×63.07E, h10km, Error ellipse: s-maj=977.6km s-min=32.5km az=233.0*

ISC 08 16:54:46.1±0.3, 30.39N±0.05×67.59E±0.04, h10km, n43, σ1s27/43, mb4.0/21, MS3.4/5, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THW	**Thamme Wali**	**4.28**	**55**	P	**Pn**	**16 55 53.3**	**+2.0**
CHCP	**Chirah Chowk**	**5.82**	**54**	P	**Pn**	**16 56 15.1**	**+2.7**
WBK	**Wadi Bani Khal**	**10.93**	**227**	P	**Pn**	**16 57 21.5**	**-1.1**
	SNR=12						
SMDO	**Samad**	**11.22**	**232**	P	**Pn**	**16 57 26.3**	**-0.3**
	SNR=20						
HOQ	**Hoqain**	**11.40**	**236**	P	**Pn**	**16 57 29.6**	**+0.6**
	SNR=7.1						
JMDO	**Jabal Madar**	**11.66**	**229**	P	**Pn**	**16 57 32.4**	**-0.1**
	SNR=18						
BSY	**Bisya**	**12.01**	**233**	P	**Pn**	**16 57 38.1**	**+0.7**
	SNR=30						
ARQ	**Araqi**	**12.12**	**237**	P	**Pn**	**16 57 41.3**	**+2.5**
	SNR=13						
AAK	**Ala-Archa**	**13.42**	**22**	Pn	**Pn**	**16 57 56.4**	**-0.1**
	0.0nm,0.3s,baz=188,slow=5.4,SNR=12						
AAK				Sn	**Sn**	**17 00 26.5**	**+0.9**
	0.0nm,0.3s,baz=322,slow=19,SNR=3.0						
AAK				LR	LR	17 04 20.6	
	comp=Z,114nm,19.8s,baz=200,slow=43						
DANN	**Dangsing**	**14.25**	**94**	*eP*	**Pn**	**16 58 07.6**	**-0.3**
GKN	**Gorkha**	**15.08**	**95**	*eP*	**Pn**	**16 58 17.5**	**-1.7**
GKN				*eS*	**Sn**	**17 00 59.1**	**-7.2**
DMN	**Daman**	**15.57**	**96**	*eP*	**Pn**	**16 58 24.6**	**-1.1**
KKN	**Kakani**	**15.68**	**95**	*eP*	**Pn**	**16 58 25.4**	**-1.7**
	57nm,0.9s						
PKI	**Pulchoki**	**15.84**	**96**	*eP*	**Pn**	**16 58 28.7**	**-0.5**
	38nm,0.7s						
GUN	**Gumba**	**16.17**	**94**	*eP*	**Pn**	**16 58 31.4**	**-2.0**
	242nm,0.9s						
ODAN	**Odare**	**17.73**	**97**	*eP*	**Pn**	**16 58 53.8**	**+0.7**
	86nm,0.9s						
TAPN	**Taplejung**	**17.88**	**95**	*eP*	**Pn**	**16 58 54.4**	**-0.5**
	49nm,0.9s						
MKAR	**Makanchi Array**	**19.95**	**31**	P	**Pn**	**16 59 17.2**	**-2.7**
	2.4nm,0.6s,baz=212,slow=8.2,SNR=20						
MKAR				LR	LR	17 08 40.4	
	comp=Z,78nm,18.8s,baz=215,slow=42						
MKAR	**Makanchi Array**	**19.95**	**31**	P	**Pn**	**16 59 17.2**	**-2.7**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,78nm,18.8s						
AKTO	**Aktyubinsk**	**21.28**	**343**	P	**P**	**16 59 32.3**	**-0.2**
	comp=Z,1.0nm,0.7s,mb3.3,baz=166,slow=6.3,SNR=3.8						
AKTO				LR	LR	17 08 02.7	
	comp=Z,61nm,18.2s,MS3.0,baz=160,slow=38						
KURK	**Kurchatov**	**21.92**	**19**	P	**P**	**16 59 39.3**	**-0.1**
	comp=Z,5.9nm,0.7s,mb4.1,baz=208,slow=9.6,SNR=23						
BVAR	**Borovoye Array**	**22.71**	**4**	P	**P**	**16 59 47.4**	**-0.4**
	comp=Z,1.9nm,0.7s,mb3.7,baz=171,slow=10,SNR=8.9						
ZALV	**Zalesovo Beam**	**26.64**	**23**	P	**P**	**17 00 25.6**	**+0.8**
	comp=Z,5.3nm,0.5s,mb4.3,baz=226,slow=9.8,SNR=19						
ZALV				LR	LR	17 11 51.6	
	comp=Z,56nm,18.3s,MS3.1,baz=282,slow=38						
CMAR	**Chiang Mai Arr**	**30.81**	**105**	P	**P**	**17 01 04.0**	**+1.8**
	comp=Z,1.3nm,0.8s,mb3.8,baz=295,slow=8.2,SNR=9.4						
SONM	**Songino Array**	**34.35**	**48**	LR	LR	17 17 46.9	
	comp=Z,111nm,18.7s,MS3.6,baz=194,slow=40						
MLR	**Muntele Rosu**	**35.72**	**307**	P	**P**	**17 01 42.6**	**-2.1**
	comp=Z,0.7nm,1.0s,mb3.6,baz=130,slow=7.8,SNR=3.0						
PSI	**Prapat**	**40.39**	**127**	LR	LR	17 20 05.1	
	comp=Z,92nm,19.1s,MS3.6,baz=144,slow=37						
FINES	**FINESS Array B**	**41.21**	**331**	P	**P**	**17 02 29.6**	**-1.0**
	comp=Z,2.3nm,1.0s,mb3.8,baz=106,slow=15,SNR=2.7						
GERES	**GERESS Array B**	**44.42**	**310**	P	**P**	**17 02 55.5**	**-1.4**
	comp=Z,0.3nm,0.6s,mb3.2,baz=82,slow=7.0,SNR=3.3						
ARCES	**ARCESS Array B**	**45.84**	**341**	P	**P**	**17 03 06.9**	**-1.0**
	comp=Z,1.3nm,0.8s,mb3.9,baz=112,slow=8.0,SNR=4.0						
ARCES				LR	LR	17 24 41.6	
	comp=Z,42nm,18.0s,MS3.4,baz=73,slow=39						
PGF	**Pioggiola**	**47.79**	**302**	*eP*	**P**	**17 03 24.6**	**+1.0**
	comp=Z,32nm,1.3s,mb4.9						
SBF	**Sospel**	**48.81**	**304**	*eP*	**P**	**17 03 31.5**	**+0.1**
	comp=Z,27nm,0.9s,mb5.0						
KSRS	**Korea Array**	**49.82**	**65**	P	**P**	**17 03 42.2**	**+3.0**
	comp=Z,2.2nm,1.0s,mb4.2,baz=278,slow=8.7,SNR=4.2						
SSF	**Saint Saulge**	**51.28**	**308**	*eP*	**P**	**17 03 49.9**	**-0.2**
	comp=Z,38nm,1.4s,mb4.8						
AVF	**Avril sur Loir**	**51.41**	**308**	*eP*	**P**	**17 03 53.7**	**+2.6**
	comp=Z,29nm,1.2s,mb4.8						
JOW	**Kunigami**	**52.84**	**78**	P	**P**	**17 04 03.9**	**+1.8**
	comp=Z,11nm,0.9s,mb4.8,baz=306,slow=8.9,SNR=4.0						
ESDC	**Sonseca Array**	**57.92**	**300**	P	**P**	**17 04 37.8**	**-0.7**
	comp=Z,0.4nm,0.5s,mb3.7,baz=71,slow=8.0,SNR=3.9						
ESDC	**Sonseca Array**	**57.92**	**300**	P	**P**	**17 04 37.8**	**-0.7**
TORD	**Torodi Ar. Bea**	**62.77**	**270**	P	**P**	**17 05 10.6**	**-1.4**
	comp=Z,0.9nm,0.9s,mb3.9,baz=52,slow=5.4,SNR=6.2						
INK	**Inuvik**	**80.36**	**8**	P	**P**	**17 06 57.3**	**+0.2**
	comp=Z,2.6nm,1.1s,mb4.1,baz=11,slow=12,SNR=4.4						
WRA	**Warramunga Arr**	**81.36**	**119**	P	**P**	**17 07 04.5**	**+1.4**
	comp=Z,0.8nm,0.9s,mb3.7,baz=320,slow=5.1,SNR=5.6						
ILAR	**Eielson Array**	**81.41**	**14**	P	**P**	**17 07 02.8**	**0.0**
	comp=Z,0.5nm,0.9s,mb3.4,baz=333,slow=4.7,SNR=4.9						
ASAR	**Alice Springs**	**83.26**	**122**	P	**P**	**17 07 14.2**	**+1.2**
	comp=Z,0.8nm,0.7s,mb3.8,baz=308,slow=4.9,SNR=8.6						

*IDC **08** 17:05:58.1±1.1, 19.87N×121.54E, h0km, mb3.5/7, mb1 3.7/8, mb1mx3.6/25, mbtmp3.6/8, ML3.5/1, MS3.6/2, Ms1 3.6/2, ms1mx2.8/29, Error ellipse: s-maj=42.2km s-min=18.1km az=67.0*

*NEIC **08** 17:05:59.7±0.7, 19.73N×121.35E, h10km, mb4.6/1, Error ellipse: s-maj=22.1km s-min=9.7km az=78.0*

*ISCJB **08** 17:06:01.9±2.2, 19.89N±0.09×121.6E±0.2, h47km±22km, mb3.5/8, MS3.6/2, Error ellipse: s-maj=26.9km s-min=14.3km az=167.5*

ISC 08 17:06:03.1±2.0, 19.86N±0.09×121.6E±0.2, h40km±21km, n22, σ1s10/21, mb3.5/8, MS3.6/2, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TPUB	**Ta-pu**	**3.53**	**346**	*ePn*	**Pn**	**17 06 55.5**	**+0.1**
NACB	**Ninganchiao**	**4.29**	**0**	Pn	**Pn**	**17 07 00.4**	**-5.5**
NACB				*eSn*	**Sn**	**17 07 53.8**	**-0.9**
YHNB	**Yeheng**	**4.79**	**358**	*ePn*	**Pn**	**17 07 14.6**	**+1.8**
KSRS	**Korea Array**	**18.38**	**16**	P	**Pn**	**17 10 13.1**	**-1.8**
	0.2nm,0.3s,baz=186,slow=12,SNR=4.1						
CMAR	**Chiang Mai Arr**	**21.41**	**270**	P	**P**	**17 10 46.9**	**-0.8**
	0.2nm,0.3s,mb2.9,baz=106,slow=8.5,SNR=4.5						
CMAR	**Chiang Mai Arr**	**21.41**	**270**	P	**P**	**17 10 46.9**	**-0.8**
SONM	**Songino Array**	**30.50**	**340**	P	**P**	**17 12 13.3**	**+1.0**
	0.5nm,0.8s,mb3.3,baz=165,slow=14,SNR=4.1						
SONM	**Songino Array**	**30.50**	**340**	P	**P**	**17 12 13.3**	**+1.0**
MBWA	**Marble Bar**	**40.81**	**183**	P	**P**	**17 13 39.1**	**-1.7**
	18nm,1.4s,mb4.5						
WRA	**Warramunga Arr**	**41.49**	**162**	P	**P**	**17 13 47.0**	**+0.5**
	1.0nm,0.6s,mb3.6,baz=342,slow=9.1,SNR=9.1						
WRA	**Warramunga Arr**	**41.49**	**162**	P	**P**	**17 13 47.0**	**+0.5**
MKAR	**Makanchi Array**	**41.75**	**319**	P	**P**	**17 13 49.6**	**+1.2**
	0.7nm,0.8s,mb3.4,baz=110,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**41.75**	**319**	P	**P**	**17 13 49.6**	**+1.2**
ZALV	**Zalesovo Beam**	**44.09**	**329**	P	**P**	**17 14 07.5**	**+0.3**
	0.8nm,0.6s,mb3.6,baz=118,slow=7.1,SNR=5.8						
ZALV	**Zalesovo Beam**	**44.09**	**329**	P	**P**	**17 14 07.5**	**+0.3**
TKM2	**Tokmak 2**	**44.78**	**311**	P	**P**	**17 14 11.8**	**-1.1**
ASAR	**Alice Springs**	**44.91**	**164**	P	**P**	**17 14 14.9**	**+0.9**
	0.7nm,0.8s,mb3.5,baz=353,slow=7.4,SNR=9.1						
ASAR	**Alice Springs**	**44.91**	**164**	P	**P**	**17 14 14.9**	**+0.9**
KURK	**Kurchatov**	**45.67**	**323**	P	**P**	**17 14 20.3**	**+0.5**
	0.6nm,0.8s,mb3.6,baz=129,slow=6.7,SNR=4.8						
KURK	**Kurchatov**	**45.67**	**323**	P	**P**	**17 14 20.3**	**+0.5**
NWAO	**Narrogin (SRO)**	**52.66**	**185**	LR	LR	17 37 50.7	
	comp=Z,65nm,18.2s,MS3.7,baz=108,slow=36						
MMAI	**Mount Meorga Ar**	**76.34**	**300**	LR	LR	17 55 51.4	
	comp=Z,26nm,19.4s,MS3.5,baz=115,slow=39						

IDC 08 17:14:21.1±58.0, 17.31S×176.04W, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/18, mbtmp3.7/3, Error ellipse: s-maj=1076.0km s-min=186.1km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.90**	**241**	P	P	17 22 05.5	+0.2
	2.4nm,1.1s,baz=68,slow=11,SNR=4.6						
WRA	**Warramunga Arr**	**46.97**	**259**	P	P	17 22 53.9	-0.3
	0.3nm,0.5s,baz=97,slow=7.8,SNR=5.1						
ASAR	**Alice Springs**	**47.13**	**254**	P	P	17 22 55.4	-0.1
	1.2nm,0.6s,baz=89,slow=8.3,SNR=46						

*ISCJB **08** 17:23:57.5±0.7, 3.64S±0.07×129.02E±0.07, h108km±6km, Error ellipse: s-maj=13.5km s-min=10.1km az=44.9*

*DJA **08** 17:24:00, 3.61S×129.00E, h76km, MLv3.3/5*

*IDC **08** 17:24:06.8±4.5, 4.34S×129.64E, h102km±73km, mb3.6/1, mb1 3.8/4, mb1mx3.2/19, mbtmp3.6/4, ML4.0/3, MS3.8/1, Ms1 3.8/1, ms1mx2.7/22, Error ellipse: s-maj=110.4km s-min=49.7km az=100.0*

ISC 08 17:23:58.9±0.7, 3.62S±0.07×129.02E±0.07, h99km±7km, n11, σ1s06/14, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.29**	**342**	P	**Pn**	**17 24 13.1**	**-0.2**
MSAI				S	**Sn**	**17 24 23.2**	**-0.8**
AAI	**Ambon**	**0.82**	**265**	P	**Pn**	**17 24 17.4**	**0.0**
AAI				S	**Sn**	**17 24 30.5**	**-0.8**
BNDI	**Bandanaira**	**1.26**	**135**	P	**Pn**	**17 24 22.2**	**0.0**
BNDI				S	**Sn**	**17 24 41.0**	**+1.2**
NLAI	**Namlea**	**1.95**	**281**	P	**Pn**	**17 24 32.0**	**+1.2**
SWI	**Sorong**	**3.54**	**39**	P	**Pn**	**17 24 51.8**	**-0.1**
TNTI	**Ternate**	**4.66**	**339**	P	**Pn**	**17 25 07.8**	**+0.7**
FITZ	**Fitzroy Crossi**	**14.77**	**193**	P	**Pn**	**17 27 24.6**	**+1.8**
	0.1nm,0.3s,baz=14,slow=12,SNR=9.3						
WRA	**Warramunga Arr**	**17.03**	**163**	P	**Pn**	**17 27 47.9**	**-3.1**
	1.0nm,0.3s,baz=344,slow=12,SNR=37						
ASAR	**Alice Springs**	**20.48**	**167**	P	**P**	**17 28 27.2**	**-1.6**
	1.2nm,0.3s,baz=351,slow=12,SNR=198						
ASAR				S	**S**	**17 32 04.8**	**-7.9**
	0.0nm,0.3s,baz=351,slow=22,SNR=2.8						
STKA	**Stephens Creek**	**30.49**	**159**	P	**P**	**17 30 02.5**	**0.0**
	1.1nm,0.7s,baz=318,slow=15,SNR=2.4						
CBIJ	**Chichi jima**	**33.08**	**22**	LR	LR	17 41 23.5	
	comp=Z,159nm,21.9s,baz=154,slow=31						

*IDC **08** 17:28:55.6±1.1, 14.94S×168.16E, h0km, mb4.1/11, mb1 4.3/11, mb1mx4.1/21, mbtmp4.1/11, MS3.6/8, Ms1 3.6/8, ms1mx3.4/31, Error ellipse: s-maj=26.5km s-min=24.1km az=112.0*

*ISCJB **08** 17:28:59.1±0.7, 15.06S±0.05×168.3E±0.1, h33km, mb4.3/18, MS3.6/8, Error ellipse: s-maj=14.5km s-min=6.7km az=176.0*

*NEIC **08** 17:29:01.8±2.1, 15.04S×168.32E, h49km±17km, mb4.5/5, Error ellipse: s-maj=18.4km s-min=12.9km az=69.0*

ISC 08 17:29:02.1±1.9, 15.04S±0.07×168.3E±0.1, h45km±15km, n55, σ1s05/47, mb4.3/18, MS3.6/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.20**	**193**	*ePn*	**Pn**	**17 30 44.0**	**-0.9**
	8.4nm,0.3s						
DZM				*eSn*	**Sn**	**17 32 06.0**	**+0.6**
	3.3nm,0.3s						
DZM				*eLR*	LR	17 32 41.1	
	266nm,24.0s						
DZM	**Mont Dzumac**	**7.20**	**193**	*eP*	**Pn**	**17 30 43.2**	**-1.6**
DZM				*eS*	**Sn**	**17 32 05.9**	**+0.5**
DZM	**Mont Dzumac**	**7.20**	**193**	*ePn*	**Pn**	**17 30 43.7**	**-1.1**
	23nm,0.6s						
DZM				*eSn*	**Sn**	**17 32 04.1**	**-1.4**
HNR	**Honiara**	**9.84**	**304**	P	**Pn**	**17 31 21.9**	**+0.8**
	97nm,0.8s						
EIDS	**Eidsvold**	**19.09**	**235**	*eP*	**Pn**	**17 33 23.1**	**+0.8**
EIDS	**Eidsvold**	**19.09**	**235**	*eP*	**Pn**	**17 33 22.8**	**+0.5**
	18nm,0.8s						
PMG	**Port Moresby**	**21.35**	**283**	P	**P**	**17 33 46.3**	**+0.6**
	16nm,1.0s,mb4.3,baz=84,slow=4.3,SNR=5.1						
PMG	**Port Moresby**	**21.35**	**283**	P	**P**	**17 33 46.3**	**+0.6**
RMQ	**Roma**	**21.46**	**235**	*eP*	**P**	**17 33 48.3**	**+1.5**
	99nm,1.8s,mb4.8						
CTA	**Charters Tower**	**21.55**	**253**	P	**P**	**17 33 47.8**	**-0.1**
	11nm,0.9s,mb4.3,baz=73,slow=10,SNR=8.6						
CTA				LR	LR	17 40 47.0	
	comp=Z,317nm,21.2s,MS3.7,baz=61,slow=33						
CTA	**Charters Tower**	**21.55**	**253**	*eP*	**P**	**17 33 49.5**	**+1.6**
	8.3nm,0.9s,mb4.2						
CTA	**Charters Tower**	**21.55**	**253**	P	**P**	**17 33 47.8**	**-0.1**
CTA				LR	LR	17 40 47.0	
CTAO	**Charters Tower**	**21.55**	**253**	*eP*	**P**	**17 33 49.1**	**+1.2**
	52nm,1.7s,mb4.7						
MTSU	**Mount Surprise**	**23.14**	**259**	*eP*	**P**	**17 34 04.4**	**-0.3**
	25nm,0.8s,mb4.7						
URZ	**Urewera**	**24.43**	**163**	P	**P**	**17 34 16.0**	**-0.5**
	11nm,0.9s,mb4.3,baz=207,slow=6.0,SNR=3.2						
URZ	**Urewera**	**24.43**	**163**	P	**P**	**17 34 16.0**	**-0.5**
QLP	**Quilpie**	**25.17**	**239**	*eP*	**P**	**17 34 23.6**	**+0.2**
STKA	**Stephens Creek**	**29.52**	**231**	P	**P**	**17 35 02.2**	**-0.2**
	2.8nm,0.8s,mb4.0,baz=67,slow=7.7,SNR=4.0						
STKA				LR	LR	17 45 14.8	
	comp=Z,106nm,20.9s,MS3.4,baz=26,slow=33						
STKA	**Stephens Creek**	**29.52**	**231**	P	**P**	**17 35 02.2**	**-0.2**
STKA				LR	LR	17 45 14.8	
WRA	**Warramunga Arr**	**32.67**	**256**	P	**P**	**17 35 28.0**	**-2.3**
	2.9nm,0.7s,mb4.3,baz=87,slow=8.7,SNR=20						
WRA	**Warramunga Arr**	**32.67**	**256**	P	**P**	**17 35 28.0**	**-2.3**
ASAR	**Alice Springs**	**33.45**	**250**	P	**P**	**17 35 35.6**	**-1.5**
	12nm,0.7s,mb4.9,baz=81,slow=8.1,SNR=63						
ASAR	**Alice Springs**	**33.45**	**250**	P	**P**	**17 35 35.6**	**-1.5**
GUMO	**Guam**	**36.66**	**320**	LR	LR	17 48 54.2	
	comp=Z,106nm,21.0s,MS3.6,baz=110,slow=33						
FORT	**Forrest**	**39.96**	**240**	*eP*	**P**	**17 36 32.2**	**-0.2**
	20nm,0.7s,mb5.0						
PPT	**Papeete**	**40.50**	**100**	*eLR*	LR	17 48 11.5	
	201nm,27.8s						
PPT	**Papeete**	**40.50**	**100**	LR	LR	17 49 12.0	
	comp=Z,102nm,21.0s,MS3.6,baz=259,slow=30						
TBI	**Tubuai**	**40.67**	**108**	*eLR*	LR	17 48 17.0	
	210nm,31.5s						
FITZ	**Fitzroy Crossi**	**40.89**	**260**	P	**P**	**17 36 38.7**	**-1.6**
	5.4nm,0.8s,mb4.2,baz=114,slow=7.3,SNR=10						
FITZ				LR	LR	17 53 24.5	
	comp=Z,245nm,19.4s,MS4.1,baz=82,slow=36						
FITZ	**Fitzroy Crossi**	**40.89**	**260**	*eP*	**P**	**17 36 39.2**	**-1.0**
	9.7nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**40.89**	**260**	P	**P**	**17 36 38.7**	**-1.6**
FITZ				LR	LR	17 53 24.5	
MBWA	**Marble Bar**	**46.38**	**255**	*eP*	**P**	**17 37 24.2**	**-0.2**
MBWA	**Marble Bar**	**46.38**	**255**	*eP*	**P**	**17 37 23.9**	**-0.4**
	7.0nm,0.8s,mb4.6						
MEEK	**Meekatharra**	**47.54**	**248**	*eP*	**P**	**17 37 32.8**	**-0.6**
KKM	**Kota Kinabalu**	**55.65**	**288**	*eP*	**P**	**17 38 35.2**	**+1.1**
VNDA	**Vanda**	**62.58**	**182**	P	**P**	**17 39 22.7**	**+1.6**
	0.5nm,0.8s,mb3.7,baz=4.4,slow=7.6,SNR=2.7						
VNDA	**Vanda**	**62.58**	**182**	P	**P**	**17 39 22.7**	**+1.6**
SBA	**Scott Base**	**62.84**	**180**	*eP*	**P**	**17 39 25.4**	**+2.6**
	4.1nm,0.9s,mb4.6						
ASAJ	**Asahikawa**	**63.35**	**340**	LR	LR	18 05 15.9	
	comp=Z,42nm,19.9s,MS3.6,baz=57,slow=34						
YSS	**Yuzh-Sakhalins**	**65.82**	**341**	P	**P**	**17 39 41.9**	**-0.8**
	84nm,1.4s						
QSPA	**South Pole Qui**	**75.00**	**180**	*eP*	**P**	**17 40 42.0**	**+3.7**
	2.1nm,0.9s,mb4.1						
CMAR	**Chiang Mai Arr**	**75.94**	**294**	P	**P**	**17 40 45.2**	**+0.5**
	0.5nm,0.7s,mb3.6,baz=127,slow=5.0,SNR=4.3						
CMAR	**Chiang Mai Arr**	**75.94**	**294**	P	**P**	**17 40 45.2**	**+0.5**
SONM	**Songino Array**	**83.30**	**323**	P	**P**	**17 41 24.4**	**+0.3**
ILAR	**Eielson Array**	**86.53**	**18**	P	**P**	**17 41 39.1**	**-0.8**
	0.6nm,0.9s,mb3.6,baz=116,slow=6.7,SNR=3.3						
SONM	**Songino Array**	**83.30**	**323**	P	**P**	**17 41 24.4**	**+0.3**
ILAR	**Eielson Array**	**86.53**	**18**	P	**P**	**17 41 39.1**	**-0.8**
	0.8nm,0.7s,mb4.0,baz=246,slow=4.5,SNR=9.0						
ILAR	**Eielson Array**	**86.53**	**18**	P	**P**	**17 41 39.1**	**-0.8**
PDAR	**Pinedale Array**	**94.46**	**47**	LR	LR	18 22 26.8	
	comp=Z,39nm,18.9s,MS3.9,baz=254,slow=34						
YKA	**Yellowknife Ar**	**97.38**	**27**	LR	LR	18 26 54.1	
	comp=Z,3.8nm,18.3s,MS2.9,baz=215,slow=36						
MKAR	**Makanchi Array**	**98.08**	**316**	P	**P**	**17 42 33.5**	**-0.4**
	0.3nm,0.7s,mb4.0,baz=131,slow=6.5,SNR=3.1						
MKAR	**Makanchi Array**	**98.08**	**316**	P	**P**	**17 42 33.5**	**-0.4**
HINF	**Hinteralfeld**	**143.86**	**339**	*ePKP1*	PKPdf	17 48 30.0	-2.5
	4.2nm,0.7s						
HINF	**Hinteralfeld**	**143.86**	**339**	*ePKP*	PKPdf	17 48 30.0	-2.5
AVF	**Avril sur Loir**	**145.92**	**341**	*ePKP1*	PKPbc	17 48 34.5	-2.3
AVF	**Avril sur Loir**	**145.92**	**341**	*ePKP*	PKPdf	17 48 34.5	-1.6

IDC 08 17:32:54.6±7.6, 16.88S×175.31W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.7/3, Error ellipse: s-maj=334.5km s-min=33.7km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**47.74**	**258**	P	P	17 41 33.1	-0.5
	0.4nm,0.5s,baz=96,slow=8.0,SNR=7.2						
ASAR	**Alice Springs**	**47.92**	**253**	P	P	17 41 35.5	+0.4
	0.9nm,0.5s,baz=88,slow=7.8,SNR=30						
ILAR	**Eielson Array**	**84.25**	**12**	P	P	17 45 27.6	0.0
	0.6nm,0.6s,baz=219,slow=5.2,SNR=18						

RSPR 08 17:51:58.0, 18.80N×65.02W, h25km±12km, 4C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**0.45**	**172**	*eP*	Pb	17 52 06.4	-1.1
STVI	**Saint Thomas**	**0.45**	**172**	*eP*	Pb	17 52 06.4	-1.1

FITZ	Fitzroy Crossi	24.28	180	*e*P		P		18 03 54.8	0.0
	8.3nm,0.4s,mb4.4								
FITZ	Fitzroy Crossi	24.28	180	P		P		18 03 53.7	-1.1
KULM	Kulim	24.98	269	P		P		18 04 01.3	0.0
KULM	Kulim	24.98	269	*e*P		P		18 03 59.9	-1.4
	30nm,1.2s,mb4.6								
PMG	Port Moresby	26.46	126	P		P		18 04 16.5	+1.9
	20nm,0.8s,mb4.6,baz=337,slow=7.2,SNR=6.8								
PMG	Port Moresby	26.46	126	*e*P		P		18 04 16.3	+1.7
	21nm,0.8s,mb4.6								
WRA	Warramunga Arr	27.45	162	P		P		18 04 23.2	-0.1
	1.8nm,0.5s,mb3.9,baz=330,slow=11,SNR=22								
WRA				S		S		18 08 53.9	-4.0
	0.6nm,0.7s,baz=341,slow=18,SNR=5.0								
WRA	Warramunga Arr	27.45	162	P		P		18 04 23.2	-0.1
WRA				S		S		18 08 53.9	-4.0
WB2	Warramunga Arr	27.45	162	*e*P		P		18 04 23.0	-0.4
MBWA	Marble Bar	27.95	192	P		P		18 04 25.9	-2.0
CMAR	Chiang Mai Arr	28.76	297	P		P		18 04 34.6	-0.5
	0.6nm,0.9s,mb3.2,baz=129,slow=10.0,SNR=5.3								
CMAR	Chiang Mai Arr	28.76	297	P		P		18 04 34.6	-0.5
ASAR	Alice Springs	30.86	165	P		P		18 04 53.9	+0.3
	1.8nm,0.4s,mb4.1,baz=342,slow=6.7,SNR=138								
ASAR				S		S		18 09 50.0	-1.5
	0.4nm,0.7s,baz=343,slow=13,SNR=4.8								
ASAR	Alice Springs	30.86	165	P		P		18 04 53.9	+0.3
ASAR				S		S		18 09 50.0	-1.5
KSRS	Korea Array	31.04	3	P		P		18 04 57.6	+2.6
	1.2nm,0.9s,mb3.6,baz=173,slow=11,SNR=4.7								
CTA	Charters Tower	33.11	143	P		P		18 05 14.3	+0.9
	3.1nm,0.7s,mb4.3,baz=347,slow=9.8,SNR=4.0								
CTA	Charters Tower	33.11	143	P		P		18 05 14.3	+0.9
CTAO	Charters Tower	33.11	143	P		P		18 05 14.8	+1.4
NWAO	Narrogin (SRO)	39.87	191	P		P		18 06 10.5	-0.2
	3.1nm,0.5s,mb4.4,baz=26,slow=9.8,SNR=6.4								
NWAO	Narrogin (SRO)	39.87	191	P		P		18 06 10.5	-0.2
STKA	Stephens Creek	40.90	159	P		P		18 06 20.6	+1.4
	2.8nm,0.5s,mb4.3,baz=306,slow=5.1,SNR=12								
STKA	Stephens Creek	40.90	159	*e*P		P		18 06 20.4	+1.2
	3.0nm,0.6s,mb4.3								
STKA	Stephens Creek	40.90	159	P		P		18 06 20.6	+1.4
TAPN	Taplejung	41.71	305	*e*P		P		18 06 25.7	-0.4
	4.1nm,0.5s,mb4.5								
TAPN	Taplejung	41.71	305	*e*P		P		18 06 25.7	-0.4
	4.1nm,0.5s,mb4.4								
ODAN	Odare	41.79	304	*e*P		P		18 06 26.6	-0.1
	12nm,0.9s,mb4.7								
ODAN	Odare	41.79	304	*e*P		P		18 06 26.6	-0.1
	12nm,0.9s,mb4.6								
YSS	Yuzh-Sakhalins	43.03	17	P		P		18 06 35.6	-0.8
	67nm,1.2s,mb5.2								
GUN	Gumba	43.43	304	*e*P		P		18 06 39.9	0.0
	9.8nm,0.4s,mb4.8								
GUN	Gumba	43.43	304	*e*P		P		18 06 39.9	0.0
	9.8nm,0.4s,mb4.9								
PKI	Pulchoki	43.69	304	*e*P		P		18 06 42.2	+0.1
	5.1nm,0.7s,mb4.4								
PKIN	Phulchoki	43.70	304	*e*P		P		18 06 42.2	0.0
	5.1nm,0.7s,mb4.4								
KKN	Kakani	43.88	304	*e*P		P		18 06 42.7	-0.8
KKN	Kakani	43.88	304	*e*P		P		18 06 42.7	-0.8
DMN	Daman	43.95	304	*e*P		P		18 06 43.4	-0.8
DMN	Daman	43.95	304	*e*P		P		18 06 43.4	-0.8
GKN	Gorkha	44.48	304	*e*P		P		18 06 47.2	-1.2
GKN	Gorkha	44.48	304	*e*P		P		18 06 47.2	-1.2
SONM	Songino Array	44.53	341	P		P		18 06 50.9	+2.5
	0.2nm,0.8s,baz=156,slow=7.4,SNR=3.0								
SONM					LR	LR		18 25 39.9	
	comp=Z,28nm,21.6s,baz=195,slow=36								
SONM	Songino Array	44.53	341	P		P		18 06 50.9	+2.5
SONM					LR	LR		18 25 39.9	
KOLN	Koldanda	45.26	303	*e*P		P		18 06 54.2	-0.4
KOLN	Koldanda	45.26	303	*e*P		P		18 06 54.2	-0.4
DANN	Dangsing	45.33	304	*e*P		P		18 06 54.8	-0.3
DANN	Dangsing	45.33	304	*e*P		P		18 06 54.8	-0.3
MKAR	Makanchi Array	54.87	325	P		P		18 08 06.2	-0.7
	0.3nm,0.4s,mb3.7,baz=111,slow=7.9,SNR=5.7								
MKAR	Makanchi Array	54.87	325	P		P		18 08 06.2	-0.7

*NEIC **08** 18:01:01.6, 19°.64N×66°.33W, h34km, MD3.5(RSPR), After RSPR.*

RSPR 08 18:01:01.6, 19°.64N×66°.33W, h34km±12km**, MD3.5/9, 26C, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
AOPR	Arecibo Observ	1.35	197⇑	*e*P		Pn	18 01 22.5		-1.5
AOPR	Arecibo Observ	1.35	197⇑	*e*P		Pn	18 01 22.5		-1.5
AOPR				*e*S		Sn	18 01 39.2		-1.4
AGPR	Aguadilla, PR	1.38	212⇑	*e*P		Pn	18 01 23.0		-1.4
AGPR	Aguadilla, PR	1.38	212⇑	*e*P		Pn	18 01 23.0		-1.4
AGPR				*e*S		Sn	18 01 39.8		-1.7
LRS	Lares	1.43	200	*e*Pn		Pn	18 01 22.8		-2.3
CBYP	Canovanas	1.43	162⇑	*e*P		Pn	18 01 23.7		-1.4
CBYP	Canovanas	1.43	162⇑	*e*P		Pn	18 01 23.7		-1.4
CBYP				*e*S		Sn	18 01 41.2		-1.6
SJG	San Juan	1.53	173⇑	*e*P		Pn	18 01 25.5		-1.0
SJG	San Juan	1.53	173⇑	*e*P		Pn	18 01 25.3		-1.2
SJG				*e*S		Sn	18 01 44.0		-1.2
SJG	San Juan	1.53	173⇑	*e*P		Pn	18 01 25.5		-1.0
SJG				*e*S		Sn	18 01 43.5		-1.7
HUMP	Col San Antoni	1.56	163⇑	*e*P		Pn	18 01 25.5		-1.4
HUMP	Col San Antoni	1.56	163⇑	*e*P		Pn	18 01 25.5		-1.4
HUMP				*e*S		Sn	18 01 44.8		-1.1
CELP	Cerrillos	1.57	189⇑	*e*P		Pn	18 01 26.0		-1.1
CELP				*e*S		Sn	18 01 45.2		-1.1
CELP	Cerrillos	1.57	189⇑	*e*P		Pn	18 01 26.0		-1.1
CELP				*e*S		Sn	18 01 45.2		-1.1
OBIP	Obispado Ponce	1.61	189⇑	*e*P		Pn	18 01 26.7		-0.9
OBIP	Obispado Ponce	1.61	189⇑	*e*P		Pn	18 01 26.7		-0.9
OBIP				*e*S		Sn	18 01 45.8		-1.4
LSP	Las Mesas	1.62	206⇑	*e*P		Pn	18 01 27.0		-0.7
LSP				*e*S		Sn	18 01 46.1		-1.3
LSP	Las Mesas	1.62	206⇑	*e*P		Pn	18 01 27.0		-0.7
LSP				*e*S		Sn	18 01 46.1		-1.3
MTP	Monte Pirata	1.70	154⇑	*e*P		Pn	18 01 27.8		-1.1
MTP	Monte Pirata	1.70	154⇑	*e*P		Pn	18 01 27.8		-1.1
MTP				*e*S		Sn	18 01 48.0		-1.5
GBPR	Guanica, Bosqu	1.73	197⇑	*e*P		Pn	18 01 28.1		-1.2
ICM	Isla Caja Muer	1.75	186⇑	*e*P		Pn	18 01 28.4		-1.1
ICM	Isla Caja Muer	1.75	186⇑	*e*P		Pn	18 01 28.4		-1.1
ICM				*e*S		Sn	18 01 49.5		-1.1
CRPR	Cabo Rojo, PR	1.78	205⇑	*e*P		Pn	18 01 29.1		-0.9
CRPR	Cabo Rojo, PR	1.78	205⇑	*e*P		Pn	18 01 29.1		-0.9
CRPR				*e*S		Sn	18 01 50.1		-1.3
STVI	Saint Thomas	1.83	134⇑	*e*P		Pn	18 01 29.7		-0.9
STVI	Saint Thomas	1.83	134⇑	*e*P		Pn	18 01 29.7		-0.9
STVI				*e*S		Sn	18 01 51.3		-1.2
SDDR	Presa de Saban	4.72	263	*e*Pn		Pn	18 02 12.8		+2.3

IDC 08 18:23:45.9±1.9, 14°.66S×176°.28W, h0km, mb3.7/6, mb1 4.1/6, mb1mx3.8/18, mbtmp3.7/6, MS3.7/9, Ms1 3.7/9, ms1mx3.4/27, Error ellipse: s-maj=124.9km s-min=22.9km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
RAR	Rarotonga	17.00	115	LR		LR	18 32 26.8		
	comp=Z,240nm,21.9s,baz=313,slow=31								
DZM	Mont Dzumac	17.97	243	*e*LR		LR	18 32 55.6		
	87nm,26.8s								
URZ	Urewera	24.22	193	LR		LR	18 37 43.1		
	comp=Z,185nm,18.6s,baz=296,slow=35								
PPT	Papeete	25.81	100	*e*LQ			18 34 13.5		
	372nm,24.3s								
PPT				*e*LR		LR	18 35 20.8		
	244nm,27.0s								
TBI	Tubuai	26.75	113	*e*LR		LR	18 35 49.4		
	372nm,33.2s								
WRA	Warramunga Arr	47.31	256	P		P	18 32 21.2		-0.4
	1.7nm,1.0s,baz=89,slow=7.3,SNR=7.8								
ASAR	Alice Springs	47.70	251	P		P	18 32 25.0		+0.4
	1.3nm,0.7s,baz=85,slow=8.6,SNR=13								
VNDA	Vanda	63.84	185	LR		LR	18 55 12.7		
	comp=Z,44nm,21.3s,baz=233,slow=30								
MJAR	Matsushiro Arr	66.60	321	LR		LR	18 58 43.1		
	comp=Z,49nm,21.6s,baz=80,slow=32								
FX1	Attu Island--F	67.88	353	LR		LR	18 58 20.6		
	comp=Z,54nm,20.6s,baz=289,slow=31								
KSRS	Korea Array	73.70	317	LR		LR	19 03 38.3		
	comp=Z,31nm,19.4s,baz=125,slow=32								
NVAR	Mina Array Bea	75.67	43	P		P	18 35 33.5		+0.3
	0.4nm,0.7s,baz=238,slow=8.4,SNR=3.2								
DLBC	Dease Lake	82.06	23	LR		LR	19 07 45.2		
	comp=Z,72nm,19.4s,baz=157,slow=32								
ILAR	Eielson Array	82.29	12	P		P	18 36 09.2		+0.3
	0.6nm,0.9s,baz=207,slow=7.1,SNR=3.9								
TXAR	Lajitas Array	82.53	57	P		P	18 36 11.5		+0.6
	0.1nm,0.4s,baz=210,slow=5.2,SNR=3.5								
PDAR	Pinedale Array	83.60	43	P		P	18 36 16.1		0.0
	1.1nm,0.8s,baz=207,slow=3.7,SNR=4.7								
SONM	Songino Array	92.45	319	LR		LR	19 20 14.5		
	comp=Z,35nm,18.2s,baz=325,slow=37								
SNAA	Sanae	93.76	178	LR		LR	19 17 16.5		
	comp=Z,26nm,19.1s,baz=27,slow=34								
BRTR	Keskin Array B	143.81	319	PKP		PKPdf	18 43 21.8		-1.6
	1.7nm,1.0s,baz=69,slow=0.5,SNR=4.3								

*IDC **08** 18:26:09.0±4.3, 36°.28N×70°.19E, h186km±40km, mb3.4/9, mb1 3.6/14, mb1mx3.3/30, mbtmp3.5/14, Error ellipse: s-maj=30.3km s-min=14.8km az=32.0*
*ISCJB **08** 18:26:11.4±0.4, 36°.50N±0°.03×70°.19E±0°.06, h220km±5km, mb3.4/8, Error ellipse: s-maj=8.0km s-min=4.5km az=167.4*
*MOS **08** 18:26:11.6±1.1, 36°.49N×70°.21E, h222km, mb3.9/6, Error ellipse: s-maj=13.5km s-min=7.8km az=82.8*
*NEIC **08** 18:26:12.3±0.7, 36°.48N×70°.20E, h212km±8km, mb4.9/12, Error ellipse: s-maj=10.4km s-min=5.9km az=61.0*
*NNC **08** 18:26:17.1±5.9, 36°.91N×70°.21E, h210km±54km, mb3.1, mpv4.5, Error ellipse: s-maj=53.3km s-min=30.1km az=14.0*

ISC 08 18:26:12.5±0.4, 36°.50N±0°.03×70°.21E±0°.06, h211km±5km**, n102, σ0.97/114, mb3.4/8, 4C-7D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
KBL	Kabul	2.17	206	*e*Pn		Pn	18 26 54.1		+0.5
KBL				*e*Sn		S	18 27 24.9		-0.8
KBL	Kabul	2.17	206	*e*PN		Pn	18 26 54.1		+0.5
KBL				*e*			18 27 24.9		
CEP	Cherat	3.01	152	⇑P		Pn	18 27 03.8		+1.0
CEP				S		S	18 27 47.0		+4.7
CHCP	Chirah Chowk	3.78	138	⇓P		Pn	18 27 13.0		+1.0
THW	Thamme Wali	3.91	161	P		Pn	18 27 14.0		+0.5
AML	Almayashu	6.24	25	P		Pn	18 27 43.2		+0.4
	SNR=120								
KK31	Karatay Array	6.60	2	P		Pn	18 27 47.3		-0.2
	2.6nm,0.2s,baz=176,slow=12,SNR=111								
KK31				⇑S		S	18 28 59.2		-3.9
	4.6nm,0.2s,baz=187,slow=23,SNR=4.5								
KKAR	Karatay Array	6.60	2	*e*Pn		Pn	18 27 47.3		-0.2
	11nm,0.3s								
KKAR				*e*Sn		S	18 28 55.5		-7.6
KKAR	Karatay Array	6.60	2	*e*PN		Pn	18 27 47.3		-0.2
KKAR				pmax		pmax			
	comp=Z,11nm,0.3s								
UCH	Uchtor	6.62	29	P		Pn	18 27 48.7		+0.9
	SNR=8.2								
EKS2	Erkin-Say	6.74	23	P		Pn	18 27 49.7		+0.4
	SNR=118								
EKS2	Erkin-Say	6.74	23	*e*Pn		Pn	18 27 49.5		+0.2
	comp=Z,29nm,0.3s								
EKS2				*e*Sn		S	18 29 00.2		-6.2
EKS2	Erkin-Say	6.74	23	*e*PN		Pn	18 27 49.5		+0.2
EKS2				pmax		pmax			
	comp=Z,29nm,0.3s								
KZA	Kyzart	6.81	34	P		Pn	18 27 50.4		+0.3
	SNR=73								
AAK	Ala-Archa	6.96	27	P		Pn	18 27 52.8		+0.6
	SNR=32								
AAK	Ala-Archa	6.96	27	P		Pn	18 27 52.7		+0.6
	comp=Z,0.2nm,0.3s,baz=184,slow=4.9,SNR=84								
AAK				S		S	18 29 10.0		-1.6
	comp=Z,0.2nm,0.3s,baz=143,slow=20,SNR=14								
AAK	Ala-Archa	6.96	27	P		Pn	18 27 52.7		+0.6
AAK				S		S	18 29 10.0		-1.6
AAK	Ala-Archa	6.96	27	PN		Pn	18 27 52.7		+0.5
AAK				S		S	18 29 10.0		-1.6
AAK				pmax		pmax			
	comp=Z,11nm,0.3s								
AAK				smax					
	comp=N,10.0nm,0.3s								
CHMS	Chumysh	7.38	27	P		Pn	18 27 57.3		-0.1
	SNR=17								
ULHL	Ulahol	7.40	37	P		Pn	18 27 58.6		+0.7
	SNR=64								
USP	Ospenovka	7.52	25	P		Pn	18 27 59.1		-0.3
	SNR=14								
TKM2	Tokmak 2	7.64	31	P		Pn	18 28 01.1		+0.2
	SNR=56								
TKM2	Tokmak 2	7.64	31	⇓P		Pn	18 28 00.9		0.0
	comp=N,25nm,0.8s								
TKM2				S		S	18 29 23.1		-4.3
TKM2	Tokmak 2	7.64	31	*e*Pn		Pn	18 28 00.8		-0.2
	comp=N,26nm,0.3s								
TKM2	Tokmak 2	7.64	31	*e*PN		Pn	18 28 00.8		-0.1
TKM2				pmax		pmax			
	comp=Z,26nm,0.3s								
SMLA	Simla	7.89	131	*i* P		Pn	18 28 02.7		-1.5
SMLA				*i* S		S	18 29 26.5		-7.0
SMLA				*i* S		S	18 29 26.6		-6.9
SMLA				⇓			18 29 30.5		
	comp=E,963nm,0.3s								
SMLA							18 29 30.7		
	comp=N,844nm,0.3s								
KNDC	Almaty	8.48	36	⇑P		Pn	18 28 12.7		+0.9
	comp=N,94nm,0.9s								
MK31	Makanchi Array	13.67	37	P		Pn	18 29 17.2		-0.5
	comp=N,9.5nm,0.8s,baz=218,slow=12,SNR=62								
MK31	Makanchi Array	13.67	37	*e*Pn		Pn	18 29 17.2		-0.5
MK31	Makanchi Array	13.67	37	*e*P		Pn	18 29 17.2		-0.5
MKAR	Makanchi Array	13.67	37	P		Pn	18 29 17.3		-0.4
	comp=N,1.4nm,0.3s,baz=229,slow=13,SNR=32								
MKAR	Makanchi Array	13.67	37	P		Pn	18 29 17.3		-0.4
MKAR	Makanchi Array	13.67	37	P		Pn	18 29 17.3		-0.4
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
DANN	Dangsing	14.03	122	*e*P		Pn	18 29 21.3		-1.0
DANN	Dangsing	14.03	122	*e*P		Pn	18 29 21.3		-1.0
KOLN	Koldanda	14.29	124	*e*P		Pn	18 29 24.7		-0.8
	comp=Z,9.6nm,0.3s								
KOLN	Koldanda	14.29	124	*e*P		Pn	18 29 24.7		-0.8
	comp=Z,9.6nm,0.3s								
AB31	Akbulak array	14.79	333	⇓P		Pn	18 29 31.1		-0.3
	comp=Z,2.9nm,0.4s,baz=160,slow=9.3,SNR=178								
ABKAR	Akbulak array	14.79	333	*e*Pn		Pn	18 29 30.2		-1.2
	comp=Z,5.6nm,0.3s								
ABKAR				*e*S		S	18 32 14.2		-1.1
GKN	Gorkha	14.85	121	*e*P		Pn	18 29 31.5		-0.8
	comp=Z,56nm,0.5s								
GKN	Gorkha	14.85	121	*e*P		Pn	18 29 31.5		-0.8
	comp=Z,56nm,0.5s								
DMN	Daman	15.42	121	*e*P		Pn	18 29 38.8		-0.4
	comp=Z,14nm,0.2s								
DMN	Daman	15.42	121	*e*P		Pn	18 29 38.8		-0.4
	comp=Z,14nm,0.2s								
KKN	Kakani	15.43	120	*e*P		Pn	18 29 38.6		-0.8
	comp=Z,78nm,0.5s								
KKN	Kakani	15.43	120	*e*P		Pn	18 29 38.6		-0.8
	comp=Z,78nm,0.5s								
KKN	Kakani	15.43	120	*e*P		Pn	18 29 38.6		-0.8
KKN				pmax		pmax			
	comp=Z,78nm,0.5s								
KURK	Kurchatov	15.45	20	P		Pn	18 29 37.0		-2.3
	comp=Z,0.4nm,0.3s,baz=209,slow=11,SNR=18								
KURK	Kurchatov	15.45	20	P		Pn	18 29 37.0		-2.3
KURK	Kurchatov	15.45	20	P		Pn	18 29 37.0		-2.4
PKIN	Phulchoki	15.64	120	*e*P		Pn	18 29 41.3		-0.6
PKI	Pulchoki	15.65	120	*e*P		Pn	18 29 41.9		-0.2
PKI	Pulchoki	15.65	120	*e*P		Pn	18 29 41.9		-0.2
PKI	Pulchoki	15.65	120	*e*P		Pn	18 29 41.9		-0.2
GUN	Gumba	15.77	118	*e*P		Pn	18 29 43.7		+0.1
	comp=Z,53nm,0.6s								
GUN	Gumba	15.77	118	*e*P		Pn	18 29 43.7		+0.1
	comp=Z,53nm,0.6s								
VOSK	Vostochnaya	16.23	2	⇓P		P	18 29 48.0		+0.1
	comp=Z,1.0nm,0.3s								
AKTK	Aktyubinsk	16.47	332	P		P	18 29 51.2		+0.6
AKTO	Aktyubinsk	16.47	332	⇓P		P	18 29 51.0		+0.4
	comp=Z,0.3nm,0.6s								
AKTO	Aktyubinsk	16.47	332	P		P	18 29 51.2		+0.6
	comp=Z,0.4nm,0.3s,baz=136,slow=10,SNR=7.4								
AKTO	Aktyubinsk	16.47	332	P		P	18 29 51.2		+0.6
ZRNK	Zerenda	16.47	357	⇑P		P	18 29 51.3		+0.7
	comp=Z,2.0nm,0.3s								
BVA0	Borovoye Array	16.53	0	P		P	18 29 51.9		+0.8
	comp=Z,0.2nm,0.4s,baz=22,slow=63,SNR=29								
BVAR	Borovoye Array	16.53	0	P		P	18 29 52.0		+0.9
	comp=Z,1.4nm,0.3s,baz=172,slow=12,SNR=24								
BVAR	Borovoye Array	16.53	0	P		P	18 29 52.0		+0.9
BVAR	Borovoye Array	16.53	0	P		P	18 29 52.0		+0.8
BVAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
BRVK	Borovoye	16.56	0	⇓P		P	18 29 52.5		+1.0
	comp=Z,3.6nm,0.5s								
TAPN	Taplejung	17.41	117	*e*P		P	18 30 02.7		+1.6
	comp=Z,30nm,0.6s								
TAPN	Taplejung	17.41	117	*e*P		P	18 30 02.7		+1.6
	comp=Z,30nm,0.6s								
ODAN	Odare	17.48	119	*e*P		P	18 30 03.3		+1.5
	comp=Z,49nm,0.6s								
ODAN	Odare	17.48	119	*e*P		P	18 30 03.3		+1.5
	comp=Z,49nm,0.6s								
LSA	Lhasa	18.79	105	*e*P		P	18 30 18.2		+2.1
	comp=Z,7.6nm,0.3s								
LSA	Lhasa	18.79	105	*e*P		P	18 30 18.2		+2.1
LSA				pmax		pmax			
	comp=Z,8.0nm,0.3s								
ZAA0	Zalesovo Array	20.19	26	*e*P		P	18 30 30.6		-0.2
ZALV	Zalesovo Beam	20.19	26	P		P	18 30 30.7		0.0
	comp=Z,5.0nm,0.4s,baz=220,slow=11,SNR=36								
ZALV	Zalesovo Beam	20.19	26	P		P	18 30 30.7		0.0
ZALV	Zalesovo Beam	20.19	26	P		P	18 30 30.7		-0.1
ZALV				pmax		pmax			
	comp=Z,5.0nm,0.4s								
NVS	Novosibirsk	20.42	22	*e*P		P	18 30 32.1		-1.1
NVS				pmax		pmax			
	comp=N,2.0nm,0.5s								
NVS				pmax		pmax			
	comp=E,2.0nm,0.5s								
NVS				pmax		pmax			
	comp=Z,3.0nm,0.5s								
SONM	Songino Array	28.86	55	P		P	18 31 52.9		+1.7
	comp=Z,0.8nm,0.8s,mb3.4,baz=255,slow=10,SNR=4.4								
SONM	Songino Array	28.86	55	P		P	18 31 52.9		+1.7
SONM	Songino Array	28.86	55	P		P	18 31 52.9		+1.7
SONM				pmax		pmax			
	comp=Z,1.0nm,0.8s								
CHTO	Chiang Mai	30.79	117	P		P	18 32 08.9		+0.5
CHTO	Chiang Mai	30.79	117	P		P	18 32 08.9		+0.5
CMAR	Chiang Mai Arr	31.02	118	P		P	18 32 10.2		-0.3
	comp=Z,1.1nm,0.6s,mb3.7,baz=301,slow=8.0,SNR=9.7								
CMAR	Chiang Mai Arr	31.02	118	P		P	18 32 10.2		-0.2
CMAR	Chiang Mai Arr	31.02	118	P		P	18 32 10.2		-0.2
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
FINES	FINESS Array B	37.13	326	P		P	18 33 03.4		+0.9
	comp=Z,4.1nm,1.0s,mb3.9,baz=123,slow=10,SNR=3.3								
FINES	FINESS Array B	37.13	326	P		P	18 33 03.4		+0.9
FINES	FINESS Array B	37.13	326	P		P	18 33 03.4		+1.0
FINES				pmax		pmax			
	comp=Z,4.0nm,1.0s								
ARCES	ARCESS Array B	40.91	338	P		P	18 33 34.6		+1.1
	comp=Z,4.0nm,1.0s,mb3.8,baz=109,slow=8.1,SNR=4.0								
ARCES	ARCESS Array B	40.91	338	P		P	18 33 34.6		+1.1
ARCES	ARCESS Array B	40.91	338	P		P	18 33 34.7		+1.1
NOA	NORSAR Array B	44.00	323	P		P	18 33 59.3		+0.7
	comp=Z,0.1nm,0.3s,mb2.6,baz=90,slow=8.0,SNR=2.6								
NOA	NORSAR Array B	44.00	323	P		P	18 33 59.3		+0.7
NOA	NORSAR Array B	44.00	323	P		P	18 33 59.3		+0.7
TORD	Torodi Ar. Bea	65.08	268	P		P	18 36 29.4		-1.3
	comp=Z,0.2nm,0.4s,mb3.1,baz=47,slow=6.4,SNR=7.2								
TORD	Torodi Ar. Bea	65.08	268	P		P	18 36 29.4		-1.3
WRA	Warramunga Arr	82.53	121	P		P	18 38 09.4		-2.3
	comp=Z,0.2nm,0.3s,mb3.3,baz=325,slow=4.7,SNR=6.3								
WRA	Warramunga Arr	82.53	121	P		P	18 38 09.4		-2.3
WRA	Warramunga Arr	82.53	121	P		P	18 38 09.4		-2

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**13.26**	**190**	LR	LR	18 45 31.2	
	comp=Z,125nm,18.8s,baz=4.6,slow=34						
RPZ	**Rata Peaks**	**21.09**	**357**	LR	LR	18 49 03.3	
	comp=Z,157nm,21.9s,baz=224,slow=32						
MAW	**Mawson**	**38.84**	**215**	LR	LR	19 00 50.9	
	comp=Z,66nm,21.1s,baz=283,slow=35						
ASAR	**Alice Springs**	**48.12**	**310**	P	P	18 46 40.5	+0.7
	0.6nm,1.0s,baz=151,slow=7.4,SNR=6.7						
WRA	**Warramunga Arr**	**51.45**	**312**	P	P	18 47 04.4	-0.8
	1.0nm,0.9s,baz=160,slow=6.2,SNR=4.8						
ILAR	**Eielson Array**	**132.56**	**22**	PKP	PKPdf	18 57 13.1	0.0
	1.0nm,0.9s,baz=213,slow=3.9,SNR=8.1						
BRTR	**Keskin Array B**	**145.54**	**244**	PKPbc	PKPbc	18 57 36.9	-0.8
	0.7nm,0.8s,baz=132,slow=2.1,SNR=3.6						

*IDC **08** 18:38:11.4±5.8, 37°.21N×72°.12E, h89km±52km, mb3.4/3, mb1 3.3/8, mb1mx3.1/29, mbtmp3.3/8, ML3.2/5, Error ellipse: s-maj=56.5km s-min=40.5km az=123.0*
*ISCJB **08** 18:38:12.9±0.8, 37°.41N±0°.05×71°.9E±0°.1, h103km±11km, mb3.7/3, Error ellipse: s-maj=14.9km s-min=6.1km az=27.9*
*MOS **08** 18:38:12.6±1.1, 37°.32N×72°.03E, h105km, mb4.1/2, Error ellipse: s-maj=27.0km s-min=9.0km az=81.1*
*NEIC **08** 18:38:13.6±1.1, 37°.33N×71°.98E, h103km±12km, mb4.2/2, Error ellipse: s-maj=21.0km s-min=10.0km az=126.0*
*NNC **08** 18:38:17.9±2.6, 38°.03N×71°.49E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=21.3km s-min=18.5km az=2.0*

ISC 08 18:38:14.3±0.8, 37°.39N±0°.05×71°.9E±0°.1, h101km±9km, n39, σ0°99/47, mb3.7/3, 4C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**3.68**	**220**	*e*Pn	**Pn**	**18 39 08.7**	**-0.5**
KBL				*e*Sn	**Sn**	**18 39 51.6**	**0.0**
KBL	**Kabul**	**3.68**	**220**	*e*PN	**Pn**	**18 39 08.7**	**-0.5**
KBL				*e*		18 39 51.6	
EKS2	**Erkin-Say**	**5.45**	**15**	*e*Pn	**Pn**	**18 39 34.1**	**+0.9**
	2.4nm,0.3s						
EKS2				*e*Sn	**Sn**	**18 40 33.2**	**-1.3**
EKS2	**Erkin-Say**	**5.45**	**15**	*e*PN	**Pn**	**18 39 34.1**	**+1.0**
EKS2				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AAK	**Ala-Archa**	**5.60**	**20**	P	**Pn**	**18 39 33.9**	**-1.2**
	comp=Z,0.0nm,0.3s,baz=188,slow=7.1,SNR=9.2						
AAK				S	**Sn**	**18 40 38.4**	**+0.4**
	comp=Z,0.0nm,0.3s,baz=311,slow=19,SNR=15						
AAK	**Ala-Archa**	**5.60**	**20**	P	**Pn**	**18 39 33.9**	**-1.2**
AAK				S	**Sn**	**18 40 38.4**	**+0.4**
AAK	**Ala-Archa**	**5.60**	**20**	PN	**Pn**	**18 39 33.9**	**-1.2**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KK31	**Karatay Array**	**5.80**	**350**	Pn	**Pn**	**18 39 38.9**	**+1.0**
	comp=Z,4.1nm,0.3s,baz=164,slow=10,SNR=121						
KK31				⇑Sn	**Sn**	**18 40 42.6**	**-0.5**
	comp=Z,6.8nm,0.4s,baz=176,slow=20,SNR=18						
KKAR	**Karatay Array**	**5.80**	**350**	*e*Pn	**Pn**	**18 39 38.7**	**+0.8**
	comp=Z,13nm,0.3s						
KKAR				*e*Sn	**Sn**	**18 40 41.8**	**-1.2**
KKAR	**Karatay Array**	**5.80**	**350**	*e*PN	**Pn**	**18 39 38.7**	**+0.8**
KKAR				pmax	pmax		
	comp=Z,13nm,0.3s						
TKM2	**Tokmak 2**	**6.20**	**26**	⇑Pn	**Pn**	**18 39 44.7**	**+1.5**
	comp=Z,3.2nm,1.1s						
TKM2				⇑Sn	**Sn**	**18 40 53.8**	**+1.2**
	comp=Z,3.5nm,0.9s						
TKM2	**Tokmak 2**	**6.20**	**26**	*e*Pn	**Pn**	**18 39 43.2**	**0.0**
TKM2	**Tokmak 2**	**6.20**	**26**	*e*PN	**Pn**	**18 39 43.2**	**0.0**
MKAR	**Makanchi Array**	**12.14**	**36**	P	**Pn**	**18 41 03.0**	**-0.7**
	comp=Z,0.0nm,0.3s,baz=214,slow=14,SNR=2.2						
MKAR	**Makanchi Array**	**12.14**	**36**	P	**Pn**	**18 41 03.0**	**-0.7**
MKAR	**Makanchi Array**	**12.14**	**36**	P	**Pn**	**18 41 03.0**	**-0.6**
KURK	**Kurchatov**	**14.16**	**18**	P	**Pn**	**18 41 30.6**	**+0.6**
	comp=Z,0.0nm,0.3s,baz=201,slow=10,SNR=5.3						
KURK	**Kurchatov**	**14.16**	**18**	P	**Pn**	**18 41 30.6**	**+0.6**
KURK	**Kurchatov**	**14.16**	**18**	P	**Pn**	**18 41 30.6**	**+0.6**
AB31	**Akbulak array**	**14.69**	**328**	⇓Pn	**Pn**	**18 41 37.3**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=137,slow=12,SNR=9.7						
AB31				⇓Sn	**Sn**	**18 44 09.7**	**-9.0**
	comp=Z,0.2nm,0.4s,baz=155,slow=21,SNR=3.5						
ABKAR	**Akbulak array**	**14.69**	**328**	P	**Pn**	**18 41 35.0**	**-1.8**
BVAR	**Borovoye Array**	**15.67**	**357**	P	**Pn**	**18 41 48.0**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=162,slow=12,SNR=11						
BVAR	**Borovoye Array**	**15.67**	**357**	P	**Pn**	**18 41 48.0**	**-1.2**
BVAR	**Borovoye Array**	**15.67**	**357**	P	**Pn**	**18 41 48.0**	**-1.2**
AKTK	**Aktyubinsk**	**16.40**	**327**	P	**Pn**	**18 41 60.0**	**+1.7**
AKTO	**Aktyubinsk**	**16.40**	**327**	⇑Pn	**Pn**	**18 42 00.0**	**+1.7**
	comp=Z,0.4nm,0.6s						
AKTO	**Aktyubinsk**	**16.40**	**327**	P	**Pn**	**18 41 60.0**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=131,slow=14,SNR=14						
AKTO	**Aktyubinsk**	**16.40**	**327**	P	**Pn**	**18 42 00.0**	**+1.7**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZALV	**Zalesovo Beam**	**18.80**	**24**	P	**P**	**18 42 24.9**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=221,slow=10.0,SNR=4.3						
ZALV	**Zalesovo Beam**	**18.80**	**24**	P	**P**	**18 42 24.9**	**-0.7**
ZALV	**Zalesovo Beam**	**18.80**	**24**	P	**P**	**18 42 24.9**	**-0.7**
FINES	**FINESS Array B**	**37.16**	**325**	P	**P**	**18 45 15.5**	**+0.5**
	comp=Z,2.0nm,0.8s,mb4.1,baz=118,slow=10.0,SNR=8.1						
FINES	**FINESS Array B**	**37.16**	**325**	P	**P**	**18 45 15.5**	**+0.5**
FINES	**FINESS Array B**	**37.16**	**325**	P	**P**	**18 45 15.5**	**+0.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES	**ARCESS Array B**	**40.61**	**337**	P	**P**	**18 45 43.9**	**+0.3**
	comp=Z,1.7nm,0.7s,mb4.0,baz=110,slow=8.0,SNR=7.9						
ARCES	**ARCESS Array B**	**40.61**	**337**	P	**P**	**18 45 43.9**	**+0.3**
ARCES	**ARCESS Array B**	**40.61**	**337**	P	**P**	**18 45 43.9**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**66.47**	**269**	P	**P**	**18 48 52.3**	**-0.9**
	comp=Z,0.1nm,0.5s,mb2.9,baz=54,slow=5.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**66.47**	**269**	P	**P**	**18 48 52.3**	**-0.9**

*NEIC **08** 18:40:07.8, 19°.28N×68°.62W, h70km, MD3.6(RSPR), After RSPR.*

RSPR 08 18:40:07.8, 19°.28N×68°.62W, h70km±9km, MD3.5/3, 23C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**1.82**	**127**	⇑*e*P	Pn	18 40 36.4	-0.6
LSP	**Las Mesas**	**1.82**	**127**	⇑*e*P	Pn	18 40 36.4	-0.6
CRPR	**Cabo Rojo, PR**	**1.91**	**131**	⇑*e*P	Pn	18 40 36.6	-1.7
CRPR	**Cabo Rojo, PR**	**1.91**	**131**	⇑*e*P	Pn	18 40 36.6	-1.7
CRPR				*e*S	Sn	18 41 01.3	-0.2
LRS	**Lares**	**1.95**	**120**	⇑*e*P	Pn	18 40 38.4	-0.4
LRS				*e*S	Sn	18 41 01.6	-0.7
LRS	**Lares**	**1.95**	**120**	⇑*e*P	Pn	18 40 38.4	-0.4
LRS				*e*S	Sn	18 41 01.6	-0.7
AOPR	**Arecibo Observ**	**2.00**	**117**	⇑*e*P	Pn	18 40 39.1	-0.3
AOPR	**Arecibo Observ**	**2.00**	**117**	⇑*e*P	Pn	18 40 39.1	-0.3
AOPR				*e*S	Sn	18 41 02.8	-0.7
OBIP	**Obispado Ponce**	**2.27**	**122**	⇑*e*P	Pn	18 40 42.5	-0.6
OBIP	**Obispado Ponce**	**2.27**	**122**	⇑*e*P	Pn	18 40 42.5	-0.6
OBIP				*e*S	Sn	18 41 09.5	-0.6
CELP	**Cerrillos**	**2.27**	**121**	⇑*e*P	Pn	18 40 42.3	-0.9
CELP				*e*S	Sn	18 41 09.6	-0.6
CELP	**Cerrillos**	**2.27**	**121**	⇑*e*P	Pn	18 40 42.3	-0.9
CELP				*e*S	Sn	18 41 09.6	-0.6
ICM	**Isla Caja Muer**	**2.42**	**124**	⇑*e*P	Pn	18 40 44.4	-0.7
ICM	**Isla Caja Muer**	**2.42**	**124**	⇑*e*P	Pn	18 40 44.4	-0.7
ICM				*e*S	Sn	18 41 13.5	-0.2
SDDR	**Presa de Saban**	**2.54**	**264**	*e*Pn	Pn	18 40 42.8	-3.9
SJG	**San Juan**	**2.61**	**116**	⇑*e*P	Pn	18 40 47.3	-0.5
SJG	**San Juan**	**2.61**	**116**	⇑*e*P	Pn	18 40 47.3	-0.5
SJG	**San Juan**	**2.61**	**116**	⇑*e*P	Pn	18 40 47.3	-0.5
SJG				*e*S	Sn	18 41 18.3	-0.2
HUMP	**Col San Antoni**	**2.86**	**113**	⇑*e*P	Pn	18 40 50.6	-0.5
HUMP	**Col San Antoni**	**2.86**	**113**	⇑*e*P	Pn	18 40 50.6	-0.5
HUMP				*e*S	Sn	18 41 23.9	-0.5
MTP	**Monte Pirata**	**3.14**	**111**	⇑*e*P	Pn	18 40 55.2	+0.4
MTP	**Monte Pirata**	**3.14**	**111**	⇑*e*P	Pn	18 40 55.2	+0.4
STVI	**Saint Thomas**	**3.59**	**104**	⇑*e*P	Pn	18 41 01.0	-0.1
STVI				*e*S	Sn	18 41 42.6	+0.3
STVI	**Saint Thomas**	**3.59**	**104**	⇑*e*P	Pn	18 41 01.0	-0.1
STVI				*e*S	Sn	18 41 42.6	+0.3

*CSEM **08** 19:10:03.9±0.2, 38°.46N×39°.36E, h10km, MD2.5, Error ellipse: s-maj=4.3km s-min=3.5km az=68.0*
*DDA **08** 19:10:04.0, 38°.45N×39°.38E, h7km±4km, Md2.9*
*ISK **08** 19:10:03.6, 38°.46N×39°.37E, h9km, MD2.5*
*ISCJB **08** 19:10:04.2±0.6, 38°.46N±0°.03×39°.37E±0°.04, h4km±5km, Error ellipse: s-maj=5.3km s-min=4.5km az=35.2*

ISC 08 19:10:04.6±0.5, 38°.45N±0°.03×39°.35E±0°.04, h7km±5km, n19, σ0°71/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.08**	**206**	*e*PG	**Pg**	**19 10 06.3**	**-0.3**
SVRC				*e*SG	**Sg**	**19 10 08.2**	**+0.3**
SVRC	**Sivrice-ELAZID**	**0.08**	**206**	*e*Pg	**Pg**	**19 10 06.3**	**-0.3**
SVRC				*e*Sg	**Sg**	**19 10 08.2**	**+0.3**
ELZG	**Elazig**	**0.29**	**279**	*i* P	**Pg**	**19 10 10.6**	**+0.3**
ELZG				*i* S	**Sg**	**19 10 15.3**	**+1.1**
ELZG	**Elazig**	**0.29**	**279**	*i* P	**Pg**	**19 10 10.6**	**+0.3**
ELZG				*i* S	**Sg**	**19 10 15.3**	**+1.1**
PTK	**Pertek**	**0.44**	**4**	*e*PG	**Pg**	**19 10 12.3**	**-0.8**
PTK				*e*SG	**Sg**	**19 10 19.3**	**+0.4**
PTK	**Pertek**	**0.44**	**4**	*e*Pg	**Pg**	**19 10 12.3**	**-0.8**
PTK				*e*Sg	**Sg**	**19 10 19.3**	**+0.4**
MYA	**Malataya**	**0.74**	**260**	*e*PG	**Pg**	**19 10 18.5**	**-0.3**
MYA	**Malataya**	**0.74**	**260**	*e*Pg	**Pg**	**19 10 18.5**	**-0.3**
DIYA	**Diyarbakir**	**0.80**	**131**	*i* P	**Pg**	**19 10 19.7**	**-0.4**
DIYA				*i* S	**Sg**	**19 10 31.0**	**+0.5**
DIYA	**Diyarbakir**	**0.80**	**131**	*i* P	**Pg**	**19 10 19.7**	**-0.4**
DIYA				*i* S	**Sg**	**19 10 31.0**	**+0.5**
KEMA	**Kemaliye**	**1.05**	**321**	*i* P	**Pg**	**19 10 24.0**	**-0.8**
KEMA				*i* S	**Sg**	**19 10 38.8**	**+0.3**
KEMA	**Kemaliye**	**1.05**	**321**	*i* P	**Pg**	**19 10 24.0**	**-0.9**
KEMA				*i* S	**Sg**	**19 10 38.8**	**+0.2**
URFA	**Urfa**	**1.09**	**203**	*e*PN	**Pg**	**19 10 25.1**	**-0.5**
URFA	**Urfa**	**1.09**	**203**	*e*Pn	**Pg**	**19 10 25.1**	**-0.5**
AKCD	**Akcadag**	**1.13**	**262**	*i* P	**Pg**	**19 10 24.9**	**-1.5**
AKCD				*i* S	**Sg**	**19 10 42.5**	**+1.4**
AKCD	**Akcadag**	**1.13**	**262**	*i* P	**Pg**	**19 10 24.9**	**-1.5**
AKCD				*i* S	**Sg**	**19 10 42.5**	**+1.4**
ATAB	**Bozova**	**1.29**	**221**	*i* P	**Pn**	**19 10 28.7**	**-0.4**
ATAB				*i* S	**Sb**	**19 10 45.5**	**-0.4**
ATAB	**Bozova**	**1.29**	**221**	*i* P	**Pn**	**19 10 28.7**	**-0.4**
ATAB				*i* S	**Sb**	**19 10 45.5**	**-0.5**
BEST	**Besiri**	**1.61**	**110**	*i* P	**Pn**	**19 10 33.8**	**+0.3**
BEST				*i* S	**Sn**	**19 10 55.5**	**+0.9**

*ISK **08** 19:11:18.8, 38°.46N×39°.31E, h10km, MD3.2*
*ISCJB **08** 19:11:19.2±0.5, 38°.44N±0°.02×39°.36E±0°.03, h7km±4km, Error ellipse: s-maj=4.2km s-min=4.1km az=38.5*
*CSEM **08** 19:11:19.4±0.1, 38°.45N×39°.32E, h8km, MD3.2, Error ellipse: s-maj=3.8km s-min=3.2km az=137.0*
*DDA **08** 19:11:19.2, 38°.43N×39°.36E, h7km±5km, Ml3.5*

ISC 08 19:11:19.8±0.4, 38°.45N±0°.02×39°.35E±0°.03, h8km±3km, n43, σ0°86/61, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.07**	**206**	PG	**Pg**	**19 11 21.5**	**-0.3**
SVRC				SG	**Sg**	**19 11 22.9**	**-0.3**
SVRC	**Sivrice-ELAZID**	**0.07**	**206**	*i* Pg	**Pg**	**19 11 21.5**	**-0.2**
SVRC				*i* Sg	**Sg**	**19 11 22.9**	**-0.3**
ELZG	**Elazig**	**0.29**	**281**	*i* P	**Pg**	**19 11 25.6**	**+0.2**
ELZG				*i* S	**Sg**	**19 11 30.3**	**+0.9**
ELZG	**Elazig**	**0.29**	**281**	*i* P	**Pg**	**19 11 25.6**	**+0.1**
ELZG				*i* S	**Sg**	**19 11 30.3**	**+0.9**
PTK	**Pertek**	**0.45**	**4**	*e*PG	**Pg**	**19 11 27.4**	**-1.1**
PTK				*e*SG	**Sg**	**19 11 35.2**	**+0.8**
PTK	**Pertek**	**0.45**	**4**	*e*Pg	**Pg**	**19 11 27.4**	**-1.1**
PTK				*e*Sg	**Sg**	**19 11 35.2**	**+0.8**
MYA	**Malataya**	**0.73**	**261**	*e*PG	**Pg**	**19 11 33.3**	**-0.6**
MYA	**Malataya**	**0.73**	**261**	*e*Pg	**Pg**	**19 11 33.3**	**-0.6**
DIYA	**Diyarbakir**	**0.80**	**130**	*i* P	**Pg**	**19 11 35.1**	**0.0**
DIYA				*i* S	**Sg**	**19 11 46.1**	**+0.6**
DIYA	**Diyarbakir**	**0.80**	**130**	*i* P	**Pg**	**19 11 35.1**	**-0.1**
DIYA				*i* S	**Sg**	**19 11 46.1**	**+0.5**
BINT	**Bingol**	**0.99**	**64**	*e*PG	**Pg**	**19 11 39.2**	**+0.4**
BINT	**Bingol**	**0.99**	**64**	*e*Pg	**Pg**	**19 11 39.2**	**+0.4**
KEMA	**Kemaliye**	**1.06**	**321**	*i* P	**Pg**	**19 11 39.0**	**-1.1**
KEMA				*i* S	**Sg**	**19 11 54.0**	**+0.2**
KEMA	**Kemaliye**	**1.06**	**321**	*i* P	**Pg**	**19 11 39.0**	**-1.1**
KEMA				*i* S	**Sg**	**19 11 54.0**	**+0.1**
URFA	**Urfa**	**1.08**	**203**	*e*PN	**Pg**	**19 11 39.9**	**-0.7**
URFA				*e*SN	**Sg**	**19 11 55.5**	**+0.9**
URFA	**Urfa**	**1.08**	**203**	*e*Pn	**Pg**	**19 11 39.9**	**-0.7**
URFA				*e*Sn	**Sg**	**19 11 55.5**	**+0.8**
AKCD	**Akcadag**	**1.13**	**263**	*i* P	**Pg**	**19 11 40.2**	**-1.2**
AKCD				*i* S	**Sg**	**19 11 57.6**	**+1.5**
AKCD	**Akcadag**	**1.13**	**263**	*i* P	**Pg**	**19 11 40.2**	**-1.2**
AKCD				*i* S	**Sg**	**19 11 57.6**	**+1.5**
ATAB	**Bozova**	**1.28**	**221**	*i* P	**Pn**	**19 11 43.2**	**-0.7**
ATAB				*i* S	**Sb**	**19 12 00.4**	**-0.3**
ATAB	**Bozova**	**1.28**	**221**	*i* P	**Pn**	**19 11 43.2**	**-0.7**
ATAB				*i* S	**Sb**	**19 12 00.4**	**-0.3**
EZC	**Erzincan**	**1.30**	**0**	*e*PN	**Pn**	**19 11 43.3**	**-0.9**
EZC	**Erzincan**	**1.30**	**0**	*e*Pn	**Pn**	**19 11 43.3**	**-0.9**
DARE	**Darende-Malaty**	**1.31**	**293**	*e*PN	**Pn**	**19 11 45.5**	**+1.2**
DARE	**Darende-Malaty**	**1.31**	**293**	*e*Pn	**Pn**	**19 11 45.5**	**+1.2**
BNGL	**BINGOL**	**1.50**	**70**	*i* P	**Pn**	**19 11 46.7**	**-0.2**
BNGL				*i* S	**Sn**	**19 12 09.8**	**+3.2**
BEST	**Besiri**	**1.61**	**109**	*i* P	**Pn**	**19 11 48.3**	**-0.2**
BEST				*i* S	**Sn**	**19 12 08.4**	**-1.0**
GUMT	**Gumushane**	**2.02**	**3**	*e*PN	**Pn**	**19 11 53.4**	**-0.6**
GUMT	**Gumushane**	**2.02**	**3**	*e*Pn	**Pn**	**19 11 53.4**	**-0.6**
BAYT	**Ayd¯–ntepe-Bay**	**2.04**	**17**	*e*PN	**Pn**	**19 11 53.9**	**-0.5**
BAYT	**Ayd¯–ntepe-Bay**	**2.04**	**17**	*e*Pn	**Pn**	**19 11 53.9**	**-0.5**
SARI	**SarD1z-Kayseri**	**2.09**	**277**	*e*PN	**Pn**	**19 11 57.8**	**+2.8**
GAZ	**Gaziantep**	**2.12**	**234**	*e*PN	**Pn**	**19 11 55.2**	**-0.2**
GAZ	**Gaziantep**	**2.12**	**234**	*e*Pn	**Pn**	**19 11 55.2**	**-0.2**
EZM	**Erzurum**	**2.14**	**46**	*e*PN	**Pn**	**19 11 55.7**	**0.0**
KMRS	**Kahramanmaras**	**2.15**	**245**	*e*PN	**Pn**	**19 11 55.5**	**-0.4**
KMRS	**Kahramanmaras**	**2.15**	**245**	*e*Pn	**Pn**	**19 11 55.5**	**-0.3**
ESPY	**Espiye-Giresun**	**2.52**	**349**	*e*PN	**Pn**	**19 12 00.5**	**-0.4**
ESPY	**Espiye-Giresun**	**2.52**	**349**	*e*Pn	**Pn**	**19 12 00.5**	**-0.4**
KOZT	**Kozan**	**2.94**	**252**	*e*PN	**Pn**	**19 12 06.3**	**-0.5**
AGRB	**Hanur-Agry**	**3.06**	**67**	*e*PN	**Pn**	**19 12 09.4**	**+1.1**
AGRB	**Hanur-Agry**	**3.06**	**67**	*e*Pn	**Pn**	**19 12 09.4**	**+1.1**
CUKT	**Cukurca**	**3.58**	**108**	*e*PN	**Pn**	**19 12 16.6**	**+1.1**
CUKT	**Cukurca**	**3.58**	**108**	*e*Pn	**Pn**	**19 12 16.6**	**+1.1**

JMA 08 19:18:03.4±0.2, 28°.85N×128°.87E, h113km±4km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.78**	**124**	P	Pn	19 18 22.6	-0.1
JAM				S	Sn	19 18 36.6	-0.7
JTK	**Tokunoshima**	**1.06**	**176**	P	Pn	19 18 26.1	+0.6
JTK				S	Sn	19 18 42.4	+0.2
JZK	**Kikaishima**	**1.11**	**119**	P	Pn	19 18 26.5	+0.6
JZK				S	Sn	19 18 44.1	+1.1
JNN	**Nakanoshima**	**1.32**	**41**	P	Pn	19 18 28.8	+0.5
JIH	**Iheya**	**1.98**	**204**	P	Pn	19 18 36.4	+0.2
JIH				S	Sn	19 19 00.8	-0.5
JKC	**Kuchinoerabu**	**1.98**	**35**	P	Pn	19 18 36.5	+0.3
JOW	**Kunigami**	**2.08**	**195**	P	Pn	19 18 37.2	-0.3
JOW				*e*S	Sn	19 19 02.6	-1.0
JTN	**Tanegashima 3**	**2.57**	**45**	P	Pn	19 18 43.5	-0.3
JAGN	**Aguni-jima**	**2.67**	**213**	P	Pn	19 18 45.4	+0.2
JAGN				*e*S	Sn	19 19 16.5	-0.9
NAH1	**Naha**	**2.84**	**202**	S	Sn	19 19 19.6	-1.6
JJT2	**Tamagusuku 2**	**2.88**	**201**	P	Pn	19 18 48.0	+0.1
JJT2				*e*S	Sn	19 19 21.2	-1.0
JSJ	**Shimokoshiki**	**2.91**	**14**	P	Pn	19 18 49.5	+1.2
JTSR	**Tashiro 2**	**2.92**	**37**	P	Pn	19 18 48.9	+0.6
JSU	**Suzuyama**	**2.98**	**27**	P	Pn	19 18 50.1	+0.9
JKE	**Kume jima 2**	**3.12**	**217**	P	Pn	19 18 50.8	-0.3

*CSEM **08** 19:55:38.8±0.2, 36°.81N×29°.30E, h2km, MD2.7, Error ellipse: s-maj=4.4km s-min=3.6km az=172.0*
*DDA **08** 19:55:38.5, 36°.82N×29°.31E, h7km±6km, Md3.0*
*ISK **08** 19:55:38.5, 36°.82N×29°.29E, h5km, MD2.7*
*ISCJB **08** 19:55:39.4±0.5, 36°.84N±0°.03×29°.30E±0°.04, h10km, Error ellipse: s-maj=4.5km s-min=4.4km az=12.3*

ISC 08 19:55:38.9±0.7, 36°.81N±0°.04×29°.28E±0°.04, h0km±8km, n28, σ0°64/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.24**	**221**	*e*PG	**Pg**	**19 55 43.3**	**-0.1**
FETY	**Fethiye**	**0.24**	**221**	*e*Pg	**Pg**	**19 55 43.3**	**-0.1**
GLHS	**Glhisar (BURDU**	**0.39**	**28**	*e*PG	**Pg**	**19 55 45.9**	**-0.4**
GLHS				*e*SG	**Sg**	**19 55 51.8**	**+0.5**
GLHS	**Glhisar (BURDU**	**0.39**	**28**	*e*Pg	**Pg**	**19 55 45.9**	**-0.4**
GLHS				*e*Sg	**Sg**	**19 55 51.8**	**+0.5**
GOLH	**Golhisar**	**0.48**	**28**	*i* P	**Pg**	**19 55 46.4**	**-1.7**
GOLH				*i* S	**Sg**	**19 55 54.4**	**+0.1**
GOLH	**Golhisar**	**0.48**	**28**	*i* P	**Pg**	**19 55 46.4**	**-1.7**
GOLH				*i* S	**Sg**	**19 55 54.4**	**+0.1**
ELL	**Elmali**	**0.51**	**97**	*e*PG	**Pg**	**19 55 49.1**	**+0.4**
ELL	**Elmali**	**0.51**	**97**	*e*Pg	**Pg**	**19 55 49.2**	**+0.5**
AKAS	**Kas**	**0.64**	**155**	*i* P	**Pg**	**19 55 50.2**	**-0.9**
AKAS				*i* S	**Sg**	**19 56 03.4**	**+4.0**
AKAS	**Kas**	**0.64**	**155**	*i* P	**Pg**	**19 55 50.2**	**-0.9**
AKAS				*i* S	**Sg**	**19 56 03.4**	**+4.1**
YER	**Yerkesik**	**0.86**	**292**	*e*PG	**Pg**	**19 55 55.8**	**+0.5**
YER	**Yerkesik**	**0.86**	**292**	*e*Pg	**Pg**	**19 55 55.8**	**+0.5**
KORT	**Korkueli**	**0.88**	**77**	*i* P	**Pg**	**19 55 56.0**	**+0.2**
KORT				*i* S	**Sg**	**19 56 08.2**	**+0.9**
KORT	**Korkueli**	**0.88**	**77**	*i* P	**Pg**	**19 55 56.0**	**+0.2**
KORT				*i* S	**Sg**	**19 56 08.2**	**+1.0**
DNZL	**Cakiroluk**	**0.89**	**348**	*i* P	**Pg**	**19 55 56.2**	**+0.2**
DNZL				*i* S	**Sg**	**19 56 07.4**	**-0.2**
DNZL	**Cakiroluk**	**0.89**	**348**	*i* P	**Pg**	**19 55 56.2**	**+0.2**
DNZL				*i* S	**Sg**	**19 56 07.4**	**-0.2**
BCK	**Bucak**	**1.23**	**58**	*e*PN	**Pn**	**19 56 02.2**	**-1.1**
BCK	**Bucak**	**1.23**	**58**	*e*Pn	**Pn**	**19 56 02.2**	**-1.1**
DAT	**Datca**	**1.37**	**267**	*e*PN	**Pn**	**19 56 05.4**	**+0.2**
DAT	**Datca**	**1.37**	**267**	*e*Pn	**Pn**	**19 56 05.4**	**+0.2**
AYDN	**Tasoluk**	**1.40**	**308**	*i* P	**Pn**	**19 56 06.3**	**+0.7**
AYDN				*i* S	**Sg**	**19 56 23.9**	**0.0**
AYDN	**Tasoluk**	**1.40**	**308**	*i* P	**Pn**	**19 56 06.3**	**+0.7**
AYDN				*i* S	**Sg**	**19 56 23.9**	**+0.1**
SUTC	**Sutluce-Ispart**	**1.53**	**64**	*e*PN	**Pn**	**19 56 07.5**	**+0.1**
SUTC	**Sutluce-Ispart**	**1.53**	**64**	*e*Pn	**Pn**	**19 56 07.5**	**+0.1**
BODT	**Bodrum**	**1.59**	**280**	*e*PN	**Pn**	**19 56 08.3**	**0.0**
BODT	**Bodrum**	**1.59**	**280**	*e*Pn	**Pn**	**19 56 08.3**	**0.0**
HDMB	**Hadim**	**2.58**	**86**	*e*PN	**Pn**	**19 56 21.9**	**0.0**
HDMB	**Hadim**	**2.58**	**86**	*e*Pn	**Pn**	**19 56 21.9**	**+0.1**

IDC 08 20:10:30.2±2.4, 2°.41N×126°.19E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/20, mbtmp3.2/3, MS3.6/1, Ms1 3.6/1, ms1mx2.6/10, Error ellipse: s-maj=232.5km s-min=26.7km az=65.0, Northern Molucca Sea

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

FETY				*e*SN	**Sn**	**20 38 07.2**	**-0.2**
FETY	**Fethiye**	**1.37**	**49**	*e*Pn	**Pn**	**20 37 50.2**	**-0.2**
FETY				*e*Sn	**Sn**	**20 38 06.6**	**-0.8**
BODT	**Bodrum**	**1.38**	**344**	*e*PN	**Pn**	**20 37 49.8**	**-0.7**
BODT	**Bodrum**	**1.38**	**344**	*e*Pn	**Pn**	**20 37 49.8**	**-0.7**
BODT				*e*Sn	**Sn**	**20 38 06.6**	**-0.9**
YER	**Yerkesik**	**1.45**	**16**	*e*PN	**Pn**	**20 37 51.8**	**+0.3**
YER	**Yerkesik**	**1.45**	**16**	*e*Pn	**Pn**	**20 37 51.8**	**+0.3**
AKAS	**Kas**	**1.55**	**71**	*i* P	**Pn**	**20 37 53.3**	**+0.5**
AKAS				*i* S	**Sn**	**20 38 10.6**	**-1.0**
AKAS	**Kas**	**1.55**	**71**	*i* P	**Pn**	**20 37 53.3**	**+0.5**
AKAS				*i* S	**Sn**	**20 38 10.6**	**-1.1**
MLSB	**Milas**	**1.55**	**359**	*e*PN	**Pn**	**20 37 53.4**	**+0.5**
MLSB	**Milas**	**1.55**	**359**	*e*Pn	**Pn**	**20 37 52.8**	**-0.1**
AYDN	**Tasoluk**	**1.92**	**2**	*i* P	**Pn**	**20 37 58.8**	**+0.9**
AYDN				*i* S	**Sn**	**20 38 19.8**	**-1.1**
AYDN	**Tasoluk**	**1.92**	**2**	*i* P	**Pn**	**20 37 58.8**	**+0.8**
AYDN				*i* S	**Sn**	**20 38 19.8**	**-1.0**
GLHS	**Glhisar (BURDU**	**1.97**	**44**	*e*PN	**Pn**	**20 37 59.1**	**+0.5**
GLHS	**Glhisar (BURDU**	**1.97**	**44**	*e*Pn	**Pn**	**20 37 59.1**	**+0.5**
ELL	**Elmali**	**1.98**	**59**	*e*PN	**Pn**	**20 37 59.4**	**+0.6**
ELL	**Elmali**	**1.98**	**59**	*e*Pn	**Pn**	**20 37 59.4**	**+0.6**
GOLH	**Golhisar**	**2.06**	**43**	*i* P	**Pn**	**20 38 00.9**	**+1.0**
GOLH				*i* S	**Sn**	**20 38 24.9**	**+0.5**
GOLH	**Golhisar**	**2.06**	**43**	*i* P	**Pn**	**20 38 00.9**	**+1.0**
GOLH				*i* S	**Sn**	**20 38 24.9**	**+0.5**
APE	**Apeiranthos**	**2.26**	**307**	*e*PN	**Pn**	**20 38 04.0**	**+1.4**
APE	**Apeiranthos**	**2.26**	**307**	*e*Pn	**Pn**	**20 38 04.0**	**+1.4**
HDMB	**Hadim**	**3.98**	**71**	*e*PN	**Pn**	**20 38 27.9**	**+1.7**
HDMB	**Hadim**	**3.98**	**71**	*e*Pn	**Pn**	**20 38 27.9**	**+1.7**
HMAT	**Matruh**	**4.67**	**187**	P	**Pn**	**20 38 35.8**	**0.0**
	baz=191						
HMAT				AMP		20 39 00.0	
	comp=N,20µm,0.2s,logA/T=4.9,baz=191						
HMAT				S	**Sn**	**20 39 24.7**	**-4.1**
	baz=191						
HMAT	**Matruh**	**4.67**	**187**	P	**Pn**	**20 38 38.2**	**+2.4**
SLUM		**4.75**	**208**	P	**Pn**	**20 38 38.9**	**+1.9**
	baz=213						
SLUM				S	**Sn**	**20 39 28.6**	**-2.2**
	baz=213						
SLUM		**4.75**	**208**	P	**Pn**	**20 38 38.9**	**+1.9**
AMAG	**Maghara**	**6.81**	**137**	P	**Pn**	**20 39 04.6**	**-0.7**
	baz=136						
AMAG	**Maghara**	**6.81**	**137**	P	**Pn**	**20 39 04.6**	**-0.6**
HHAG	**Hagoal**	**6.81**	**147**	P	**Pn**	**20 39 04.9**	**-0.3**
	baz=146						
HSAF	**As Saff**	**6.88**	**152**	P	**Pn**	**20 39 06.0**	**-0.2**
	baz=151						
HSAF				S	**Sn**	**20 40 15.5**	**-7.6**
	baz=151						
GLL	**Jalalah**	**6.97**	**151**	P	**Pn**	**20 39 07.5**	**+0.1**
	baz=150						
GLL	**Jalalah**	**6.97**	**151**	P	**Pn**	**20 39 07.7**	**+0.3**
SUZ		**7.25**	**143**	P	**Pn**	**20 39 10.6**	**-0.6**
	baz=142						
SUZ				S	**Sn**	**20 40 24.6**	**-7.7**
	baz=142						
SUZ		**7.25**	**143**	P	**Pn**	**20 39 11.4**	**+0.2**
HNKL	**Nakhl**	**7.79**	**136**	P	**Pn**	**20 39 18.1**	**-0.5**
	baz=135						
HNKL	**Nakhl**	**7.79**	**136**	P	**Pn**	**20 39 18.1**	**-0.5**
TR2		**8.89**	**144**	P	**Pn**	**20 39 33.5**	**-0.2**
	baz=143						
HKAT	**Jabal Katrina**	**8.91**	**142**	P	**Pn**	**20 39 33.9**	**-0.1**
	baz=142						

BJI ***08*** *20:55:36.3,6˚.87S×129˚.28E,h10km,mB5.1/16,mb4.6/26, Ms4.8/11,Ms7 4.7/12*
NEIC ***08*** *20:55:37.4±0.3,6˚.76S×129˚.26E,h10km,mb4.8/28,Error ellipse: s-maj=12.5km s-min=6.3km az=60.0*
IDC ***08*** *20:55:37.3±0.6,6˚.52S×129˚.26E,h0km,mb4.3/15, mb1 4.4/16,mb1mx4.3/21,mbtmp4.3/16,ML3.6/1,MS4.0/25, Ms1 4.1/25,ms1mx4.0/36,Error ellipse: s-maj=24.5km s-min=13.6km az=70.0*
ISCJB ***08*** *20:55:39.5±0.3,6˚.63S±0˚.04×129˚.34E±0˚.05,h33km, mb4.5/45,MS4.0/25,Error ellipse: s-maj=7.0km s-min=5.4km az=159.9*
GCMT ***08*** *20:55:40.9±0.3,6˚.53S×129˚.23E,h13km±2km,MW4.9, Moment Tensor Solution. s19,c24; s57,c83; Moment tensor: Scale 10¹⁶Nm; Mrr-0.14±.11; Mθθ-2.28±.10; Mφφ2.42±.12; Mrθ-0.62±.26; Mθφ0.60±.10; Mφr1.50±.41; Best double couple: M₀2.90000×10¹⁶ NP1:φ₁54.00000°, δ58.00000°,λ3.00000°. NP2:φ₂323.00000°,δ88.00000°, λ148.00000°. Principal axes: T 3.1300, Plg24.0000°, Azm273.0000°; N -0.4700, Plg57.0000°, Azm139.0000°; P -2.6600, Plg20.0000°, Azm13.0000°; Data Used: IU IC II G CN.*
DJA ***08*** *20:55:42,6˚.21S×129˚.26E,h23km,mb4.8/12*
ISC 08 20:55:41.6±0.3,6˚.67S±0˚.04×129˚.38E±0˚.05,h35km, (h9km±3.7km:pP-P),n155,σ1s29/135,mb4.5/45,MS4.0/25, 1D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.19**	**14**	P	**Pn**	**20 56 12.2**	**-3.4**
BNDI				S	**Sn**	**20 56 34.1**	**-7.4**
AAI	**Ambon**	**3.19**	**338**	P	**Pn**	**20 56 24.9**	**-4.3**
AAI				S	**Sn**	**20 56 58.2**	**-7.8**
MSAI	**Masohi**	**3.33**	**352**	P	**Pn**	**20 56 28.5**	**-2.7**
NLAI	**Namlea**	**4.09**	**326**	P	**Pn**	**20 56 40.1**	**-1.6**
SWI	**Sorong**	**6.06**	**18**	P	**Pn**	**20 57 07.6**	**-1.2**
	0.5nm1µm115nm,1.2s						
BBSI	**Bau Bau**	**6.87**	**279**	P	**Pn**	**20 57 18.8**	**-1.0**
	0.4nm1µm138nm,1.0s						
MMRI	**Maumere**	**7.34**	**254**	P	**Pn**	**20 57 27.5**	**+1.2**
	1.2nm4µm313nm,0.9s						
TNTI	**Ternate**	**7.66**	**345**	P	Px	20 57 41.3	
BKSI	**Bulukumba**	**9.30**	**278**	P	**Pn**	**20 57 52.6**	**-0.6**
	490nm62nm,1.1s						
BNSI	**Bone**	**9.50**	**283**	P	**Pn**	**20 57 56.0**	**+0.1**
	1µm75nm,1.1s						
KAPI	**Kappang**	**9.71**	**279**	P	**Pn**	**20 57 59.8**	**+0.9**
	920nm50nm,1.8s						
SPSI	**Sidrap Palu**	**9.94**	**285**	P	**Pn**	**20 58 00.9**	**-1.0**
	578nm40nm,0.8s						
MRSI	**Marisa**	**10.27**	**313**	P	**Pn**	**20 58 08.0**	**+1.5**
FITZ	**Fitzroy Crossi**	**11.94**	**197**	Pn	**Pn**	**20 58 25.3**	**-4.0**
	1.0nm,0.3s,baz=32,slow=9.8,SNR=26						
FITZ				S	**Sn**	**21 00 34.6**	**-6.7**
	1.7nm,0.3s,baz=85,slow=17,SNR=6.5						
FITZ				LR	LR	21 03 40.4	
	comp=Z,668nm,20.0s,baz=18,slow=40						
FITZ	**Fitzroy Crossi**	**11.94**	**197**	*e*P	**Pn**	**20 58 25.2**	**-4.1**
	26nm,0.6s						
FITZ				*e*S	**Sn**	**21 00 32.9**	**-8.4**
FITZ	**Fitzroy Crossi**	**11.94**	**197**	*e*Pn	**Pn**	**20 58 24.9**	**-4.4**
	0.3nm,0.3s						
FITZ				*e*Sn	**Sn**	**21 00 34.5**	**-6.8**
FITZ	**Fitzroy Crossi**	**11.94**	**197**	P	**Pn**	**20 58 26.2**	**-3.1**
WRAB	**Tennant Creek**	**14.04**	**160**	P	**Pn**	**20 58 55.9**	**-2.2**
WRA	**Warramunga Arr**	**14.05**	**160**	Pn	**Pn**	**20 58 54.8**	**-3.4**
	1.3nm,0.3s,baz=345,slow=10.0,SNR=39						
WRA				Sn	**Sn**	**21 01 25.6**	**-7.3**
	1.8nm,0.3s,baz=337,slow=21,SNR=5.5						
WRA				LR	LR	21 05 08.9	
	comp=Z,1µm,18.4s,baz=345,slow=40						
WRA	**Warramunga Arr**	**14.05**	**160**	Pn	**Pn**	**20 58 54.8**	**-3.4**
WRA				Sn	**Sn**	**21 01 25.6**	**-7.3**
WRA				LR	LR	21 05 08.9	
WB2	**Warramunga Arr**	**14.05**	**160**	*e*Pn	**Pn**	**20 58 53.0**	**-5.3**
WB2				*e*Sn	**Sn**	**21 01 25.4**	**-7.7**
BBKI	**Banjar Baru**	**14.82**	**282**	P	**Pn**	**20 59 13.7**	**+4.9**
COEN	**Coen**	**15.38**	**119**	*e*Pn	**Pn**	**20 59 15.1**	**-1.0**
	93nm,0.6s						
COEN				*e*Sn	**Sn**	**21 01 56.9**	**-8.6**
COEN	**Coen**	**15.38**	**119**	P	**Pn**	**20 59 10.2**	**-5.9**
MYLDM	**Lahad Datu**	**16.01**	**317**	P	**Pn**	**20 59 25.5**	**+1.3**
MBWA	**Marble Bar**	**17.17**	**212**	*e*Pn	**Pn**	**20 59 38.5**	**-0.2**
	42nm,1.1s						
MBWA	**Marble Bar**	**17.17**	**212**	P	**Pn**	**20 59 40.8**	**+2.0**
	40nm,1.2s						
ASAR	**Alice Springs**	**17.45**	**166**	P	**Pn**	**20 59 40.5**	**-1.9**
	0.5nm,0.3s,baz=338,slow=11,SNR=29						
ASAR				S	**S**	**21 02 48.2**	**-15**
	0.4nm,0.3s,baz=358,slow=23,SNR=4.8						
ASAR	**Alice Springs**	**17.45**	**166**	P	**Pn**	**20 59 40.5**	**-1.9**
ASAR				S		**21 02 48.2**	**-15**
PMG	**Port Moresby**	**17.82**	**100**	P	**Pn**	**20 59 50.4**	**+3.5**
	0.7nm,0.3s,baz=284,slow=10,SNR=6.2						
PMG	**Port Moresby**	**17.82**	**100**	*e*Pn	**Pn**	**20 59 48.1**	**+1.2**
	77nm,1.4s						
PMG	**Port Moresby**	**17.82**	**100**	P	**Pn**	**20 59 55.4**	**+8.5**
PBKI	**Pangkalan Bun**	**18.08**	**282**	P	**Pn**	**20 59 55.8**	**+5.7**
KKM	**Kota Kinabalu**	**18.22**	**314**	*e*Pn	**Pn**	**20 59 43.2**	**-8.6**
STKI	**Sintang**	**19.07**	**290**	P	**Pn**	**21 00 01.4**	**-0.8**
	48nm,1.5s						
SBUM	**Sibu**	**19.37**	**297**	P	**Pn**	**21 00 05.1**	**-0.7**
	515nm32nm,1.2s						
KSM	**Kuching**	**20.68**	**292**	*e*P	**P**	**21 00 18.3**	**-0.4**
	15nm,0.9s						
KSM	**Kuching**	**20.68**	**292**	P	**P**	**21 00 23.6**	**+4.9**
CTA	**Charters Tower**	**21.12**	**131**	P	**P**	**21 00 26.3**	**+2.8**
	6.3nm,0.9s,mb4.0,baz=305,slow=13,SNR=4.6						
CTA				LR	LR	21 09 34.3	
	comp=Z,1µm,18.4s,MS4.3,baz=318,slow=39						
CTA	**Charters Tower**	**21.12**	**131**	*e*P	**P**	**21 00 26.5**	**+3.0**
	15nm,1.0s,mb4.3						
CTA	**Charters Tower**	**21.12**	**131**	P	**P**	**21 00 26.3**	**+2.8**
CTA				LR	LR	21 09 34.3	
CTAO	**Charters Tower**	**21.12**	**131**	*e*P	**P**	**21 00 25.9**	**+2.4**
	47nm,1.3s,mb4.7						
CTAO	**Charters Tower**	**21.12**	**131**	P	**P**	**21 00 30.1**	**+6.6**
	30nm,1.2s,mb4.5						
FORT	**Forrest**	**24.02**	**183**	*e*P	**P**	**21 00 53.8**	**+0.6**
	28nm,0.5s,mb4.9						
FORT	**Forrest**	**24.02**	**183**	*e*P	**P**	**21 00 51.6**	**-1.7**
	33nm,0.6s,mb4.9						
GUMO	**Guam**	**25.33**	**37**	LR	LR	21 09 39.1	
	comp=Z,150nm,20.4s,MS3.5,baz=219,slow=33						
MYKOM	**Kota Tinggi**	**26.83**	**287**	P	Px	21 01 29.5	
KLBR	**Kellerberrin**	**27.07**	**202**	*e*P	**P**	**21 01 23.1**	**+2.2**
	38nm,1.2s,mb4.8						
STKA	**Stephens Creek**	**27.56**	**157**	P	**P**	**21 01 26.6**	**+1.3**
	7.5nm,0.8s,mb4.3,baz=331,slow=10.0,SNR=9.2						
STKA				LR	LR	21 13 14.9	
	comp=Z,648nm,20.8s,MS4.2,baz=328,slow=38						
STKA	**Stephens Creek**	**27.56**	**157**	*e*P	**P**	**21 01 26.7**	**+1.4**
	2.2nm,0.5s,mb4.0						
STKA	**Stephens Creek**	**27.56**	**157**	*e*P	**P**	**21 01 26.1**	**+0.8**
	10nm,1.6s,mb4.2						
NWAO	**Narrogin (SRO)**	**28.46**	**202**	P	**P**	**21 01 35.2**	**+1.9**
	9.7nm,0.6s,mb4.6,baz=67,slow=9.1,SNR=9.3						
NWAO				LR	LR	21 15 12.2	
	comp=Z,301nm,18.0s,MS3.9,baz=220,slow=41						
NWAO	**Narrogin (SRO)**	**28.46**	**202**	*e*P	**P**	**21 01 35.1**	**+1.7**
	21nm,1.0s,mb4.7						
HNR	**Honiara**	**30.39**	**97**	P	**P**	**21 01 57.2**	**+6.5**
	75nm,1.0s,mb5.4						
MNSI	**Mandailing Nat**	**30.65**	**283**	P	**P**	**21 01 53.8**	**+0.8**
PSI	**Prapat**	**31.82**	**286**	P	**P**	**21 02 03.9**	**+0.6**
	4.3nm,0.4s,mb4.6,baz=147,slow=6.9,SNR=4.3						
PSI				LR	LR	21 15 37.3	
	comp=Z,844nm,19.1s,MS4.4,baz=117,slow=38						
PSI	**Prapat**	**31.82**	**286**	P	**P**	**21 02 03.9**	**+0.6**
PSI				LR	LR	21 15 37.3	
JOW	**Kunigami**	**33.32**	**358**	LR	LR	21 13 45.6	
	comp=Z,250nm,20.0s,MS3.9,baz=311,slow=33						
CBIJ	**Chichi jima**	**35.78**	**20**	LR	LR	21 14 59.1	
	comp=Z,266nm,20.0s,MS4.0,baz=230,slow=33						
DZM	**Mont Dzumac**	**38.90**	**117**	*e*LR	LR	21 13 46.8	
	648nm,30.3s						
CMAR	**Chiang Mai Arr**	**39.04**	**310**	P	**P**	**21 03 04.2**	**-1.1**
	3.9nm,1.0s,mb4.1,baz=144,slow=7.3,SNR=9.0						
CMAR				PcP	PcP	21 05 18.2	+3.2
	2.0nm,1.0s,baz=162,slow=3.4,SNR=6.1						
CMAR				LR	LR	21 22 07.0	
	comp=Z,250nm,18.1s,MS4.1,baz=343,slow=41						
CMAR	**Chiang Mai Arr**	**39.04**	**310**	P	**P**	**21 03 04.2**	**-1.1**
CMAR				PcP	PcP	21 05 18.2	+3.2
CMAR				LR	LR	21 22 07.0	
CHTO	**Chiang Mai**	**39.26**	**311**	*e*P	**P**	**21 03 06.5**	**-0.6**
	12nm,1.2s,mb4.5						
GYA	**Guiyang**	**39.62**	**327**	P	**P**	**21 03 12.0**	**+2.0**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
NJ2	**Nanjing**	**39.79**	**346**	*e*P	**P**	**21 03 05.8**	**-5.5**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.8						
JHJ	**Hachijo jima 2**	**40.78**	**13**	LR	LR	21 17 20.5	
	comp=Z,246nm,19.0s,MS4.1,baz=96,slow=32						
KMI	**Kunming**	**40.87**	**322**	P	**P**	**21 03 24.1**	**+3.7**
KMI				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.2						
MJAR	**Matsushiro Arr**	**43.77**	**10**	P	**P**	**21 03 42.7**	**-1.1**
	comp=Z,1.6nm,0.9s,mb3.8,baz=186,slow=12,SNR=3.6						
MJAR				LR	LR	21 19 07.7	
	comp=Z,124nm,20.5s,MS3.8,baz=225,slow=32						
MJAR	**Matsushiro Arr**	**43.77**	**10**	P	**P**	**21 03 42.7**	**-1.1**
MJAR				LR	LR	21 19 07.7	
MAJO	**Matsushiro**	**43.77**	**10**	*e*P	**P**	**21 03 45.7**	**+1.9**
	comp=Z,20nm,1.3s,mb4.7						
MAT	**Matsushiro**	**43.77**	**10**	P	**P**	**21 03 47.3**	**+3.5**
KSRS	**Korea Array**	**43.91**	**358**	P	**P**	**21 03 45.4**	**+0.4**
	comp=Z,1.2nm,0.7s,mb3.7,baz=170,slow=7.5,SNR=3.9						
KSRS				LR	LR	21 20 45.9	
	comp=Z,108nm,19.6s,MS3.8,baz=164,slow=34						
CD2	**Chengdu**	**44.69**	**328**	P	**P**	**21 03 53.7**	**+2.4**
CD2				pP	pP	21 03 58.2	-3.5
CD2				sP	sP	21 04 00.7	-5.1
CD2				PP	PP	21 05 39.4	+3.2
CD2				S	**S**	**21 10 31.0**	**+5.4**
CD2				sS	sS	21 10 37.7	-5.0
CD2				SS	SS	21 13 43.6	-3.4
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.9						
CD2				pmax	pmax		
	comp=Z,170nm,4.7s						
CD2				LR	LR		
	comp=N,540nm,5.4s						
CD2				LR	LR		
	comp=Z,360nm,4.7s						
BJI	**Beijing**	**48.05**	**346**	P	**P**	**21 04 17.0**	**-0.4**
BJI				LR	LR		
	comp=N,39nm,29.9s,MS3.6						
BJI				LR	LR		
	comp=E,98nm,29.9s,MS3.6						
LZH	**Lanzhou**	**48.82**	**332**	*e*P	**P**	**21 04 27.0**	**+3.5**
LZH				pP	pP	21 04 31.0	-3.0
LZH				sP	sP	21 04 34.0	-4.1
LZH				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
HHC	**Hu-ho-hao-te**	**50.04**	**342**	*e*P	**P**	**21 04 35.2**	**+2.5**
HHC				sP	sP	21 04 41.6	-5.7
HHC				PcP	PcP	21 05 52.9	+0.7
HHC				PP	PP	21 06 31.0	+2.9
HHC				S	**S**	**21 11 46.2**	**+4.8**
HHC				ScS	ScS	21 14 22.0	+0.6
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
HHC				pmax	pmax		
	comp=Z,97nm,4.1s						
HHC				LR	LR		
	comp=N,150nm,11.8s,MS4.5						
HHC				LR	LR		
	comp=E,260nm,10.9s,MS4.5						
HHC				LR	LR		
	comp=Z,170nm,20.2s						
CN2	**Changchun**	**50.36**	**356**	*e*P	**P**	**21 04 36.7**	**+1.6**
MDJ	**Mudanjiang**	**51.05**	**0**	P	**P**	**21 04 42.4**	**+2.2**
MDJ				pP	pP	21 04 45.6	-5.1
MDJ				sP	sP	21 04 46.9	-8.0
MDJ				ScP	ScP	21 09 53.6	+3.9
MDJ				PcS	PcS	21 09 54.8	+1.5
MDJ				S	**S**	**21 12 02.3**	**+7.1**
MDJ				sS	sS	21 12 07.7	-4.8
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
MDJ				pmax	pmax		
	comp=Z,110nm,4.5s						
MDJ				LR	LR		
	comp=N,96nm,25.2s						
MDJ				LR	LR		
	comp=E,47nm,31.3s						
MDJ				LR	LR		
	comp=Z,130nm,33.9s						
LSA	**Lhasa**	**51.53**	**317**	P	**P**	**21 04 44.1**	**-0.1**
LSA	**Lhasa**	**51.53**	**317**	*e*P	**P**	**21 04 41.8**	**-2.4**
	comp=Z,11nm,1.3s,mb4.6						
ASAJ	**Asahikawa**	**51.94**	**12**	LR	LR	21 23 45.9	
	comp=Z,297nm,20.3s,MS4.3,baz=183,slow=33						
ODAN	**Odare**	**52.57**	**311**	*e*P	**P**	**21 04 51.1**	**-0.9**
	comp=Z,32nm,1.1s,mb5.2						
ODAN	**Odare**	**52.57**	**311**	*e*P	**P**	**21 04 51.1**	**-0.9**
	comp=Z,32nm,1.1s,mb5.2						
TAPN	**Taplejung**	**52.60**	**312**	*e*P	**P**	**21 04 51.0**	**-1.2**
TAPN	**Taplejung**	**52.60**	**312**	*e*P	**P**	**21 04 51.0**	**-1.2**
GTA	**Gaotai**	**53.38**	**332**	*e*P	**P**	**21 04 57.8**	**+0.1**
GTA				pP	pP	21 05 02.4	-5.9
GTA				sP	sP	21 05 04.8	-7.6
GTA				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb4.0						
GUN	**Gumba**	**54.27**	**311**	*e*P	**P**	**21 05 03.4**	**-1.0**
	comp=Z,36nm,0.8s,mb5.3						
GUN	**Gumba**	**54.27**	**311**	*e*P	**P**	**21 05 03.4**	**-1.0**
	comp=Z,36nm,0.8s,mb5.3						
PKI	**Pulchoki**	**54.44**	**311**	*e*P	**P**	**21 05 05.4**	**-0.3**
PKI	**Pulchoki**	**54.44**	**311**	*e*P	**P**	**21 05 05.4**	**-0.3**
PKIN	**Phulchoki**	**54.45**	**311**	*e*P	**P**	**21 05 05.4**	**-0.4**
KKN	**Kakani**	**54.65**	**311**	*e*P	**P**	**21 05 06.3**	**-0.9**
KKN	**Kakani**	**54.65**	**311**	*e*P	**P**	**21 05 06.3**	**-0.9**
DMN	**Daman**	**54.69**	**311**	*e*P	**P**	**21 05 07.4**	**-0.1**
	comp=Z,32nm,1.3s,mb5.2						
DMN	**Daman**	**54.69**	**311**	*e*P	**P**	**21 05 07.4**	**-0.1**
	comp=Z,32nm,1.3s,mb5.2						
GKN	**Gorkha**	**55.25**	**311**	*e*P	**P**	**21 05 10.4**	**-1.1**
	comp=Z,38nm,1.1s,mb5.3						
GKN	**Gorkha**	**55.25**	**311**	*e*P	**P**	**21 05 10.4**	**-1.1**
	comp=Z,38nm,1.1s,mb5.3						
KOLN	**Koldanda**	**55.91**	**310**	*e*P	**P**	**21 05 15.1**	**-1.2**
	comp=Z,24nm,0.9s,mb5.2						
KOLN	**Koldanda**	**55.91**	**310**	*e*P	**P**	**21 05 15.1**	**-1.2**
	comp=Z,24nm,0.9s,mb5.2						
DANN	**Dangsing**	**56.09**	**311**	*e*P	**P**	**21 05 17.1**	**-0.5**
DANN	**Dangsing**	**56.09**	**311**	*e*P	**P**	**21 05 17.1**	**-0.5**
ULN	**Ulaanbaatar**	**57.76**	**342**	*e*P	**P**	**21 05 29.6**	**+0.6**
	comp=Z,30nm,1.5s,mb5.1						
SONM	**Songino Array**	**57.93**	**342**	P	**P**	**21 05 31.0**	**+0.8**
	comp=Z,4.1nm,1.0s,mb4.4,baz=162,slow=5.9,SNR=15						
SONM				LR	LR	21 35 14.1	
	comp=Z,73nm,18.6s,MS3.8,baz=168,slow=41						
SONM	**Songino Array**	**57.93**	**342**	P	**P**	**21 05 31.0**	**+0.8**
SONM				LR	LR	21 35 14.1	
WMQ	**Urumqi**	**62.78**	**327**	P	**P**	**21 06 04.6**	**+1.2**
WMQ				pP	pP	21 06 09.2	-5.0
WMQ				sP	sP	21 06 11.6	-6.7
WMQ				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
PETK	**Petropavlovsk-**	**64.20**	**19**	LR	LR	21 29 42.5	
	comp=Z,105nm,19.6s,MS4.0,baz=30,slow=32						
KSH	**Kashi**	**67.36**	**318**	*e*P	**P**	**21 06 39.8**	**+6.5**
KSH				pP	pP	21 06 44.5	+0.4
KSH				sP	sP	21 06 46.8	-1.4
KSH				PcP	PcP	21 07 05.3	+4.6
KSH				ScP		21 11 07.1	
KSH				PcS		21 11 08.8	
KSH				S	S	21 15 38.5	+12
KSH				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
KSH				pmax	pmax		
	comp=Z,42nm,4.5s						
KSH				LR	LR		
	comp=N,35nm,3.5s						
KSH				LR	LR		
	comp=E,59nm,4.0s						
KSH				LR	LR		
	comp=Z,110nm,5.8s						
MK31	**Makanchi Array**	**67.61**	**327**	*e*P	**P**	**21 06 34.4**	**-0.3**
MKAR	**Makanchi Array**	**67.61**	**327**	P	**P**	**21 06 34.2**	**-0.5**
	comp=Z,1.4nm,0.6s,mb4.2,baz=118,slow=8.1,SNR=14						
MKAR	**Makanchi Array**	**67.61**	**327**	P	**P**	**21 06 34.2**	**-0.6**
YAK	**Yakutsk**	**68.49**	**0**	P	**P**	**21 06 38.8**	**-1.1**
	comp=Z,21nm,0.8s,mb5.2						
TKM2	**Tokmak 2**	**69.33**	**321**	*e*P	**P**	**21 06 45.0**	**-0.6**
	comp=Z,3.2nm,0.9s,mb4.2						
AAK	**Ala-Archa**	**69.89**	**320**	P	**P**	**21 06 49.3**	**+0.2**
	comp=Z,0.8nm,0.5s,mb3.9,baz=159,slow=8.6,SNR=3.2						
AAK	**Ala-Archa**	**69.89**	**320**	P	**P**	**21 06 49.3**	**+0.3**
KBL	**Kabul**	**70.08**	**310**	P	**P**	**21 06 51.3**	**+1.0**
	comp=Z,6.2nm,1.1s,mb4.5						
EKS2	**Erkin-Say**	**70.36**	**320**	P	**P**	**21 06 50.9**	**-1.1**
	comp=Z,4.2nm,0.9s,mb4.4						
ZALV	**Zalesovo Beam**	**71.01**	**334**	P	**P**	**21 06 54.7**	**-0.9**
	comp=Z,4.2nm,0.8s,mb4.4,baz=108,slow=4.8,SNR=10						
ZALV				LR	LR	21 37 12.8	
	comp=Z,45nm,18.1s,MS3.8,baz=251,slow=35						
ZALV	**Zalesovo Beam**	**71.01**	**334**	P	**P**	**21 06 54.7**	**-0.9**
ZALV				LR	LR	21 37 12.8	
VNDA	**Vanda**	**72.85**	**173**	P	**P**	**21 07 09.2**	**+2.9**
	comp=Z,3.6nm,1.2s,mb4.2,baz=322,slow=5.6,SNR=5.4						
VNDA				LR	LR	21 36 13.1	
	comp=Z,144nm,21.9s,MS4.2,baz=347,slow=33						
VNDA	**Vanda**	**72.85**	**173**	*e*P	**P**	**21 07 06.6**	**+0.2**
	comp=Z,10nm,1.5s,mb4.5						
SBA	**

AVH			*i* S	Sn	21 16 15.3	+2.0
PET	**Petropavlovsk**	**1.09 264**	P	Pn	21 16 01.4	+0.8
PET			*i* S	Sn	21 16 15.3	+0.6
RUS	**Russkaya**	**1.38 239**	P	Pn	21 16 04.2	-0.3
RUS			*i* S	Sn	21 16 20.8	-0.9
GRL	**Gorelyy**	**1.56 248**	P	Pn	21 16 07.9	+0.9
GRL			*i* S	Sn	21 16 27.8	+1.5
GNL	**Ganaly**	**1.60 291**	*i* P	Pn	21 16 09.0	+1.5
GNL			*i* S	Sn	21 16 29.5	+2.3
TUMR	**Tumrok**	**2.15 355**	*e*P	Pn	21 16 16.1	+1.0
TUMR			*e*S	Sn	21 16 40.9	+0.2
SRDR	**Sredinnyy**	**3.20 353**	P	Pn	21 16 31.4	+1.8
KBTR	**Krutoberegovo**	**3.36 23**	*e*P	Pn	21 16 32.5	+0.8
KBTR			*e*S	Sn	21 17 11.0	+0.4

CSEM ***08*** *21:16:54.3±0.2, 33.°09N×5.°25W, h10km, MD3.5, Error ellipse: s-maj=4.7km s-min=3.1km az=106.0*
ISCJB ***08*** *21:16:55.3±0.4, 33.°31N±0.°02×5.°53W±0.°04, h10km, Error ellipse: s-maj=4.9km s-min=2.9km az=21.3*
CNRM ***08*** *21:16:55.4, 33.°09N×5.°23W, h2km, MD3.5*
MDD ***08*** *21:16:56.3±0.8, 33.°20N×5.°46W, h0km, mb3.8/15, Error ellipse: s-maj=14.4km s-min=3.8km az=115.0, PRIMO*
INMG ***08*** *21:16:56.5±0.9, 33.°17N×5.°28W, h15km±4km, ML2.3, Error ellipse: s-maj=6.5km s-min=4.4km az=119.0*
IGIL ***08*** *21:16:56.4, 33.°13N×5.°27W, h13km, ML2.6*
NEIC ***08*** *21:16:58.0, 33.°28N×5.°59W, h0km, MN3.8(MDD), After MDD.*

ISC 08 21:16:56.3±0.5, 33.°25N±0.°02×5.°47W±0.°04, h10km, n86, σ1=14/141, 1D, Morocco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CZD	**Col de Zad**	**0.42**	**121**	Pg	**Pg**	**21 16 58.0**	**-6.6**
CZD				Lg		21 17 02.0	
CZD	**Col de Zad**	**0.42**	**121**	*i* P	**Pg**	**21 16 58.0**	**-6.6**
CZD				*i* S	**Sg**	**21 17 02.0**	**-8.2**
KIB	**El Ksiba**	**0.83**	**215**	Pg	**Pg**	**21 17 10.5**	**-1.8**
KIB				Lg		21 17 23.0	
KIB	**El Ksiba**	**0.83**	**215**	*i* P	**Pg**	**21 17 10.5**	**-1.8**
KIB				*i* S	**Sg**	**21 17 23.0**	**0.0**
TGT	**Taghat**	**0.89**	**23**	Pg	**Pg**	**21 17 13.0**	**-0.4**
TGT				Lg		21 17 26.0	
TGT	**Taghat**	**0.89**	**23**	*i* P	**Pg**	**21 17 13.0**	**-0.4**
TGT				*i* S	**Sg**	**21 17 26.0**	**+1.0**
TZK	**Tazeka**	**1.36**	**52**	Pg	**Pn**	**21 17 19.5**	**-1.9**
TZK				Lg		21 17 36.0	
TZK	**Tazeka**	**1.36**	**52**	*i* P	**Pn**	**21 17 19.5**	**-1.9**
TZK				*i* S	**Sb**	**21 17 36.0**	**-3.3**
TZC	**Tazercounte**	**1.40**	**218**	Pg	**Pn**	**21 17 20.0**	**-1.9**
TZC				Lg		21 17 40.0	
TZC	**Tazercounte**	**1.40**	**218**	*e*P	**Pn**	**21 17 20.0**	**-1.9**
TZC				*i* S	**Sn**	**21 17 40.0**	**-0.3**
ZFT	**Errachidia**	**1.54**	**142**	Pn	**Pn**	**21 17 19.0**	**-4.8**
ZFT				Sn	**Sn**	**21 17 36.0**	**-7.9**
ZFT	**Errachidia**	**1.54**	**142**	*i* P	**Pn**	**21 17 19.0**	**-4.8**
ZFT				*i* S	**Sn**	**21 17 36.0**	**-7.9**
RSA	**Sarsar**	**1.65**	**350**	Pg	**Pg**	**21 17 28.0**	**+0.1**
RSA				Lg		21 17 50.0	
RSA	**Sarsar**	**1.65**	**350**	*e*P	**Pg**	**21 17 28.0**	**+0.1**
RSA				*i* S	**Sn**	**21 17 50.0**	**+3.5**
CIA	**Chichaoua**	**3.25**	**240**	Pn	**Pn**	**21 17 47.0**	**-0.3**
CIA				Sn	**Sn**	**21 18 24.0**	**-2.1**
CIA	**Chichaoua**	**3.25**	**240**	*e*P	**Pn**	**21 17 47.0**	**-0.3**
CIA				*e*S	**Sn**	**21 18 24.0**	**-2.1**
EMIJ	**Mijas**	**3.35**	**10**	Pn	**Pn**	**21 17 49.6**	**+0.8**
EMIJ				Sn	**Sn**	**21 18 27.8**	**-0.8**
EMIJ	**Mijas**	**3.35**	**10**	Pn	**Pn**	**21 17 49.6**	**+0.8**
	0.6nm,0.2s,SNR=7.9						
EMIJ				Sn	**Sn**	**21 18 27.8**	**-0.8**
	1.2nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**3.35**	**10**	Pn	**Pn**	**21 17 49.6**	**+0.8**
	0.6nm,0.2s,SNR=7.9						
EMIJ				Sn	**Sn**	**21 18 27.8**	**-0.8**
	1.2nm,0.1s,SNR=7.9						
ESPR	**Espera**	**3.62**	**355**	Sn	**Sn**	**21 18 35.3**	**+0.1**
ESPR	**Espera**	**3.62**	**355**	Sn	**Sn**	**21 18 35.3**	**+0.1**
	1.8nm,0.2s,SNR=7.9						
ESPR	**Espera**	**3.62**	**355**	Sn	**Sn**	**21 18 35.3**	**+0.1**
	SNR=7.9						
EGUA	**Guajares**	**3.90**	**23**	Pn	**Pn**	**21 17 55.4**	**-0.9**
EGUA				Sn	**Sn**	**21 18 39.4**	**-2.7**
EGUA	**Guajares**	**3.90**	**23**	Pn	**Pn**	**21 17 55.4**	**-0.9**
	0.6nm,0.2s,SNR=7.9						
EGUA				Sn	**Sn**	**21 18 38.1**	**-4.0**
	5.7nm,0.3s,SNR=7.9						
EGUA	**Guajares**	**3.90**	**23**	Pn	**Pn**	**21 17 55.4**	**-0.9**
	0.6nm,0.2s,SNR=7.9						
EGUA				Sn	**Sn**	**21 18 39.4**	**-2.7**
	5.7nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**4.28**	**22**	Pn	**Pn**	**21 18 02.3**	**+0.8**
	0.3nm,0.2s,SNR=7.9						
EQUE				Sn	**Sn**	**21 18 51.7**	**+0.2**
	0.4nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**4.28**	**22**	Pn	**Pn**	**21 18 04.6**	**+3.1**
	0.3nm,0.2s,SNR=7.9						
EQUE				Sn	**Sn**	**21 18 52.7**	**+1.2**
	0.4nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**4.41**	**13**	Sn	**Sn**	**21 18 54.0**	**-0.6**
	1.7nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**4.41**	**13**	Sn	**Sn**	**21 18 55.4**	**+0.7**
	1.7nm,0.2s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**4.46**	**334**	⇓*e*Pn	**Pn**	**21 18 04.6**	**+0.6**
PBDV				*e*Sn	**Sn**	**21 18 55.9**	**0.0**
PBDV				A		21 18 59.4	
	2.4nm,0.2s						
PVAQ	**Vaqueiros**	**4.53**	**337**	*e*Pn	**Pn**	**21 18 05.5**	**+0.6**
PVAQ				*e*Sn	**Sn**	**21 18 57.3**	**-0.3**
	4.1nm,0.3s						
PVAQ	**Vaqueiros**	**4.53**	**337**	*e*Pn	**Pn**	**21 18 05.5**	**+0.6**
PVAQ				*e*Sn	**Sn**	**21 18 57.3**	**-0.3**
PVAQ				A		21 19 01.3	
	4.1nm,0.3s						
EGRO	**El Granado**	**4.58**	**340**	Pn	**Pn**	**21 18 07.2**	**+1.6**
EGRO	**El Granado**	**4.58**	**340**	Pn	**Pn**	**21 18 07.2**	**+1.6**
	8.7nm,0.1s,SNR=13						
EGRO	**El Granado**	**4.58**	**340**	Pn	**Pn**	**21 18 07.2**	**+1.6**
	8.7nm,0.1s,SNR=13						
EMIN	**Mina Concepcio**	**4.61**	**348**	Pn	**Pn**	**21 18 06.5**	**+0.5**
EMIN				Sn	**Sn**	**21 18 58.8**	**-0.8**
EMIN	**Mina Concepcio**	**4.61**	**348**	Pn	**Pn**	**21 18 06.5**	**+0.5**
	0.6nm,0.1s,SNR=18						
EMIN				Sn	**Sn**	**21 18 58.8**	**-0.8**
	1.2nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.61**	**348**	Pn	**Pn**	**21 18 06.5**	**+0.5**
	0.6nm,0.1s,SNR=18						
EMIN				Sn	**Sn**	**21 18 58.8**	**-0.8**
	1.2nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.74**	**326**	Pn	**Pn**	**21 18 08.9**	**+1.0**
PFVI				Sn	**Sn**	**21 19 01.9**	**-1.1**
PFVI	**Vila Bisbo**	**4.74**	**326**	Pn	**Pn**	**21 18 08.9**	**+1.0**
	4.0nm,0.4s,SNR=9.4						
PFVI				Sn	**Sn**	**21 19 01.9**	**-1.1**
	SNR=7.9						
PFVI	**Vila Bisbo**	**4.74**	**326**	Pn	**Pn**	**21 18 08.9**	**+1.0**
	4.0nm,0.4s,SNR=9.4						
PFVI				Sn	**Sn**	**21 19 01.9**	**-1.0**
	SNR=7.9						
PFVI	**Vila Bisbo**	**4.74**	**326**	*e*Pn	**Pn**	**21 18 08.9**	**+1.0**
PFVI				*e*Sn	**Sn**	**21 19 03.8**	**+0.9**
PFVI				A		21 19 07.1	
	2.4nm,0.3s						
MORF	**Marmelete**	**4.81**	**328**	Pn	**Pn**	**21 18 09.7**	**+1.0**
	SNR=7.9						
MORF				Sn	**Sn**	**21 19 02.6**	**-1.8**
	SNR=7.9						
MORF	**Marmelete**	**4.81**	**328**	*e*Pn	**Pn**	**21 18 09.8**	**+1.1**
MORF				*e*Sn	**Sn**	**21 19 04.5**	**+0.1**
	6.3nm,0.1s						
MORF	**Marmelete**	**4.81**	**328**	*e*Pn	**Pn**	**21 18 09.8**	**+1.1**
MORF				*e*Sn	**Sn**	**21 19 04.5**	**+0.1**
MORF				A		21 19 08.1	
	6.3nm,0.1s						
PCVE	**Castro Verde**	**4.84**	**335**	*e*Pn	**Pn**	**21 18 10.2**	**+0.9**
PCVE				*e*Sn	**Sn**	**21 19 05.2**	**-0.2**
	3.0nm,0.2s						
PCVE	**Castro Verde**	**4.84**	**335**	*e*Pn	**Pn**	**21 18 10.2**	**+0.9**
PCVE				*e*Sn	**Sn**	**21 19 05.2**	**-0.2**
PCVE				A		21 19 09.2	
	3.0nm,0.2s						
EQES	**Quesada**	**4.94**	**23**	Pn	**Pn**	**21 18 13.0**	**+2.4**
EQES				Sn	**Sn**	**21 19 10.7**	**+2.8**
EQES	**Quesada**	**4.94**	**23**	Pn	**Pn**	**21 18 13.0**	**+2.4**
	0.3nm,0.1s,SNR=7.9						
EQES				Sn	**Sn**	**21 19 09.3**	**+1.5**
	0.7nm,0.3s,SNR=7.9						
EQES	**Quesada**	**4.94**	**23**	Pn	**Pn**	**21 18 13.0**	**+2.4**
	0.3nm,0.1s,SNR=7.9						
EQES				Sn	**Sn**	**21 19 10.7**	**+2.9**
	SNR=7.9						
EADA	**Adamuz**	**4.96**	**8**	Pn	**Pn**	**21 18 11.5**	**+0.7**
EADA				Sn	**Sn**	**21 19 06.1**	**-2.0**
EADA	**Adamuz**	**4.96**	**8**	Pn	**Pn**	**21 18 11.5**	**+0.7**
	0.5nm,0.1s,SNR=7.9						
EADA				Sn	**Sn**	**21 19 06.1**	**-2.0**
	0.5nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**4.96**	**8**	Pn	**Pn**	**21 18 11.5**	**+0.7**
	0.5nm,0.1s,SNR=7.9						
EADA				Sn	**Sn**	**21 19 06.1**	**-2.1**
	0.5nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**5.04**	**329**	*e*Pn	**Pn**	**21 18 13.3**	**+1.4**
PTEO				*e*Sn	**Sn**	**21 19 10.6**	**+0.4**
	3.1nm,0.4s						
PTEO	**Sao Teotonio**	**5.04**	**329**	*e*Pn	**Pn**	**21 18 13.3**	**+1.4**
PTEO				*e*Sn	**Sn**	**21 19 10.6**	**+0.4**
PTEO				A		21 19 18.5	
	3.1nm,0.4s						
PBAR	**Barrancos**	**5.07**	**346**	*e*Pn	**Pn**	**21 18 12.9**	**+0.5**
PBAR				*e*Sn	**Sn**	**21 19 09.9**	**-1.1**
	2.8nm,0.2s						
PBAR	**Barrancos**	**5.07**	**346**	*e*Pn	**Pn**	**21 18 12.9**	**+0.5**
PBAR				*e*Sn	**Sn**	**21 19 09.9**	**-1.1**
PBAR				A		21 19 15.0	
	2.8nm,0.2s						
MESJ	**Messejana**	**5.09**	**335**	*e*P	**Pn**	**21 18 12.9**	**+0.2**
MESJ				*e*		21 18 13.7	
	baz=119,slow=12						
MESJ	**Messejana**	**5.09**	**335**	Pn	**Pn**	**21 18 12.6**	**-0.1**
	SNR=7.9						
PBEJ	**Beja**	**5.14**	**338**	*e*Pn	**Pn**	**21 18 14.7**	**+1.3**
PBEJ				*e*Sn	**Sn**	**21 19 12.2**	**-0.6**
	1.5nm,0.2s						
PBEJ	**Beja**	**5.14**	**338**	*e*Pn	**Pn**	**21 18 14.7**	**+1.3**
PBEJ				*e*Sn	**Sn**	**21 19 12.2**	**-0.6**
PBEJ				A		21 19 15.8	
	1.5nm,0.2s						
PNCL	**Nicolau / Gran**	**5.45**	**334**	*e*Pn	**Pn**	**21 18 18.1**	**+0.6**
PNCL	**Nicolau / Gran**	**5.45**	**334**	*e*Pn	**Pn**	**21 18 18.1**	**+0.6**
PNCL				*e*Sn	**Sn**	**21 19 19.7**	**-0.6**
PNCL				A		21 19 22.9	
	2.6nm,0.3s						
EBAD	**Badajoz**	**5.63**	**348**	Pn	**Pn**	**21 18 20.7**	**+0.6**
	1.8nm,0.1s						
EBAD				Sn	**Sn**	**21 19 22.5**	**-2.2**
EBAD	**Badajoz**	**5.63**	**348**	Pn	**Pn**	**21 18 20.7**	**+0.6**
	1.8nm,0.1s,SNR=21						
EBAD				Sn	**Sn**	**21 19 22.5**	**-2.2**
	1.6nm,0.3s,SNR=4.9						
EBAD	**Badajoz**	**5.63**	**348**	Pn	**Pn**	**21 18 20.7**	**+0.7**
	1.8nm,0.1s,SNR=21						
EVO	**Evora**	**5.66**	**339**	*e*Pn	**Pn**	**21 18 21.6**	**+1.2**
EVO	**Evora**	**5.66**	**339**	*e*Pn	**Pn**	**21 18 21.6**	**+1.2**
EVO				*e*Sn	**Sn**	**21 19 24.5**	**-0.9**
EVO				A		21 19 27.7	
	2.2nm,0.1s						
PESTR	**Estremoz**	**5.86**	**344**	*e*Pn	**Pn**	**21 18 24.0**	**+0.8**
PESTR	**Estremoz**	**5.86**	**344**	*e*Pn	**Pn**	**21 18 24.0**	**+0.8**
PESTR				*e*Sn	**Sn**	**21 19 29.7**	**-0.7**
PESTR				A		21 19 32.8	
	1.5nm,0.3s						
ETOB	**Tobarra**	**6.25**	**30**	Pn	**Pn**	**21 18 29.2**	**+0.6**
	0.1nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**6.35**	**346**	*e*Pn	**Pn**	**21 18 30.8**	**+0.8**
PMRV	**Marv??o**	**6.35**	**346**	*e*Pn	**Pn**	**21 18 30.8**	**+0.8**
PMRV				*e*Sn	**Sn**	**21 19 41.7**	**-0.9**
PMRV				A		21 19 43.0	
	1.5nm,0.4s						
PMAFR	**Mafra**	**6.47**	**333**	Pn	**Pn**	**21 18 32.7**	**+1.1**
	1.7nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**6.52**	**10**	Sn	**Sn**	**21 19 43.6**	**-3.1**
	0.3nm,0.2s,baz=192,slow=23,SNR=6.1						
PCBR	**Castelo Branco**	**6.77**	**347**	*e*Pn	**Pn**	**21 18 36.5**	**+0.8**
PCBR	**Castelo Branco**	**6.77**	**347**	*e*Pn	**Pn**	**21 18 36.5**	**+0.8**
PCBR				*e*Sn	**Sn**	**21 19 51.4**	**-1.4**
PCBR				A		21 19 53.1	
	1.2nm,0.3s						
EPLA	**Plasencia**	**6.81**	**356**	Pn	**Pn**	**21 18 35.4**	**-0.9**
EPLA	**Plasencia**	**6.81**	**356**	Pn	**Pn**	**21 18 35.4**	**-0.9**
	2.4nm,0.2s,SNR=11						
EPLA				Sn	**Sn**	**21 19 49.7**	**-4.2**
	0.7nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**6.81**	**356**	Pn	**Pn**	**21 18 35.4**	**-0.9**
	2.4nm,0.2s,SNR=11						
MVO	**Moncorvo**	**7.99**	**352**	Pn	**Pn**	**21 18 53.6**	**+1.1**
	2.3nm,0.3s						
MVO	**Moncorvo**	**7.99**	**352**	Pn	**Pn**	**21 18 53.6**	**+1.1**
	2.3nm,0.3s,SNR=8.6						
MVO				Sn	**Sn**	**21 20 19.1**	**-3.8**
	0.8nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**7.99**	**352**	Pn	**Pn**	**21 18 53.6**	**+1.1**
	2.3nm,0.3s,SNR=8.6						
ECAL	**Calabor**	**8.73**	**354**	Pn	**Pn**	**21 19 03.1**	**+0.5**
	0.6nm,0.3s,SNR=7.9						
ECAL				Sn	**Sn**	**21 20 35.8**	**-5.2**
	0.3nm,0.2s,SNR=7.9						
CFTV	**Fuerteventura**	**8.83**	**239**	Pn	**Pn**	**21 19 05.3**	**+1.3**
	0.2nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**8.84**	**347**	Pn	**Pn**	**21 19 04.6**	**+0.5**
	0.6nm,0.2s,SNR=7.9						

BER 08 21:21:55.0±0.4, 71.°22N×6.°65W, h12km±2km, MD3.0, ML3.6, 2C, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNE	**Jan Mayen East**	**0.58**	**247**	*i* P	Pg	21 22 05.4	-1.0
JNE				*e*S	Sg	21 22 13.1	-1.0
JNE				AML	AML	21 22 14.8	
	comp=Z,3μm,0.4s						
JNW	**Jan Mayen West**	**0.61**	**252**	⇑*i*P	Pg	21 22 06.0	-0.9
JNW				*e*S	Sg	21 22 13.7	-1.1
JNW				AML	AML	21 22 14.4	
	comp=Z,6μm,0.2s						
JMI	**Jan Mayen**	**0.74**	**247**	⇑*i*P	Pg	21 22 07.7	-1.6
JMI				*e*S	Sg	21 22 17.1	-1.9
JMI				AML	AML	21 22 21.0	
	comp=Z,862nm,0.4s						

GUC 08 21:27:05.9±0.7, 32.°65S×71.°73W, h12km±4km, MD4.0, ML3.5, 8C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.38**	**169**	⇑*i*P	Pg	21 27 13.9	+0.4
IHA				*i* S	Sg	21 27 20.1	+1.4
ROCH	**El Roble**	**0.68**	**118**	⇓*i*P	Pg	21 27 19.2	+0.1
ROCH				*i* S	Sg	21 27 29.1	+0.9
ROCH				AML	AML	21 27 31.7	
	comp=N,5μm,0.4s						
CHNG	**Los Chungos**	**0.79**	**14**	⇓*i*P	Pg	21 27 20.5	-0.7
CHNG				*i* S	Sg	21 27 31.5	-0.1
CHNG				AML	AML	21 27 32.0	
	comp=E,1μm,0.4s						
LCCH	**Las Cruces**	**0.83**	**171**	⇓*i*P	Pg	21 27 21.0	-1.1
LCCH				*i* S	Sg	21 27 31.4	-1.6
JACH	**Jahuel**	**0.96**	**92**	⇑*i*P	Pg	21 27 23.4	-1.0
JACH				*i* S	Sg	21 27 36.3	-0.6
PEL	**Peldehue**	**1.00**	**120**	⇑*i*P	Pb	21 27 24.4	-0.8
PEL				*i* S	Sb	21 27 38.1	-0.2
PEL				AML	AML	21 27 40.3	
	comp=E,8μm,0.3s						
TACH	**Talagante**	**1.20**	**147**	⇓*i*P	Pn	21 27 26.9	-1.5
SAN	**Santiago**	**1.20**	**132**	⇑*i*P	Pn	21 27 27.3	-1.2
SAN				*i* S	Sb	21 27 43.3	-0.7
SAN				AML	AML	21 27 47.4	
	comp=N,2μm,0.6s						
CLCH	**Cerro Calan**	**1.25**	**127**	⇓*i*P	Pn	21 27 28.1	-1.0
CLCH				*i* S	Sb	21 27 44.8	-0.5
CLCH				AML	AML	21 27 46.1	
	comp=E,2μm,0.3s						
ANTU	**Antumapu**	**1.30**	**135**	⇑*i*P	Pn	21 27 28.8	-0.9
ANTU				*i* S	Sb	21 27 45.9	-0.9
ANTU				AML	AML	21 27 51.2	
	comp=E,2μm,0.2s						
FCH	**Farellones**	**1.38**	**120**	⇑*i*P	Pn	21 27 30.1	-0.9
FCH				*i* S	Sn	21 27 48.7	-0.5
FCH				AML	AML	21 27 49.8	
	comp=E,2μm,0.3s						
PCH	**Pirque**	**1.41**	**134**	⇓*i*P	Pn	21 27 30.5	-0.7
PCH				*i* S	Sn	21 27 49.3	-0.3
CHCH	**Chadas Angostu**	**1.56**	**145**	*e*P	Pn	21 27 33.1	-0.3
CACH	**El Canelo**	**1.74**	**147**	⇑*i*P	Pn	21 27 36.1	+0.3
CACH				*i* S	Sn	21 27 59.8	+1.9
LMEL	**Las Melosas**	**1.75**	**133**	⇑*i*P	Pn	21 27 36.2	+0.2
LMEL				*i* S	Sn	21 27 59.4	+1.3

IDC 08 21:30:36.9±2.0, 0.°40S×127.°71E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.3/20, mbtmp3.4/4, Error ellipse: s-maj=187.6km s-min=23.2km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.48**	**162**	P	P	21 35 16.7	+0.2
	0.4nm,0.8s,baz=341,slow=12,SNR=2.2						
ASAR	**Alice Springs**	**23.90**	**166**	P	P	21 35 52.6	+0.1
	0.1nm,0.5s,baz=345,slow=12,SNR=4.0						
MKAR	**Makanchi Array**	**61.49**	**326**	P	P	21 40 55.6	+0.1
	0.3nm,0.3s,baz=115,slow=7.9,SNR=10						
KURK	**Kurchatov**	**65.73**	**328**	P	P	21 41 23.3	-0.2
	0.8nm,0.2s,baz=135,slow=5.8,SNR=4.5						

IDC ***08*** *21:34:10.6±2.2, 1.°59S×98.°94E, h0km, mb3.5/5, mb1 3.5/7, mb1mx3.4/24, mbtmp3.4/7, ML3.3/2, Error ellipse: s-maj=95.6km s-min=19.6km az=57.0*
ISCJB ***08*** *21:34:17.6±1.1, 1.°06S±0.°10×100.°06E±0.°08, h33km, mb3.6/5, Error ellipse: s-maj=15.5km s-min=8.9km az=33.2*
DJA ***08*** *21:34:17, 1.°02S×100.°07E, h10km, MLv3.7/5*

ISC 08 21:34:18.9±1.2, 1.°05S±0.°10×100.°11E±0.°08, h35km, n12, σ1=44/13, mb3.6/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**0.38**	**68**	P	**Pn**	**21 34 25.1**	**-2.7**
PDSI				S	**Sn**	**21 34 32.7**	**-1.3**
SDSI	**Sungai Dareh**	**1.32**	**85**	P	**Pn**	**21 34 42.1**	**+1.3**
BKNI	**Bangkinang**	**1.66**	**34**	P	**Pn**	**21 34 47.0**	**+1.5**
MNSI	**Mandailing Nat**	**1.91**	**344**	P	**Pn**	**21 34 48.8**	**-0.2**
MNSI				S	**Sn**	**21 35 13.9**	**+2.1**
PSI	**Prapat**	**4.01**	**343**	Pn	**Pn**	**21 35 17.8**	**-0.1**
	1.1nm,0.3s,baz=183,slow=12,SNR=3.5						
CMAR	**Chiang Mai Arr**	**19.42**	**357**	P	**Pn**	**21 38 43.6**	**0.0**
	0.1nm,0.3s,baz=191,slow=8.3,SNR=4.1						
WRA	**Warramunga Arr**	**38.39**	**122**	P	**P**	**21 41 40.7**	**+3.6**
	0.2nm,0.3s,mb3.3,baz=304,slow=8.8,SNR=4.3						
ASAR	**Alice Springs**	**39.72**	**127**	P	**P**	**21 41 49.9**	**+1.7**
	0.3nm,0.7s,mb3.1,baz=294,slow=6.8,SNR=5.3						
MKAR	**Makanchi Array**	**50.15**	**344**	P	**P**	**21 43 09.9**	**-0.9**
	0.6nm,0.5s,mb3.9,baz=151,slow=8.8,SNR=14						
ZALV	**Zalesovo Beam**	**56.27**	**349**	P	**P**	**21 43 54.1**	**-1.5**
	0.4nm,0.4s,mb3.8,baz=189,slow=5.9,SNR=5.2						
BVAR	**Borovoye Array**	**59.34**	**340**	P	**P**	**21 44 15.5**	**-1.8**
	0.3nm,0.4s,mb3.6,baz=141,slow=9.3,SNR=2.9						
TXAR	**Lajitas Array**	**143.88**	**37**	PKPbc	PKPdf	21 53 48.2	-3.1
	0.1nm,0.5s,baz=23,slow=0.9,SNR=4.6						

KRSC 08 22:01:06.3±1.2, 55.°10N×160.°84E, h136km±45km, ML4.2, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TUMR	**Tumrok**	**0.44**	**295**	*e*P	Pn	22 01 27.7	+2.1
KMNR	**Kamenistaya**	**0.74**	**333**	*i* P	Pn	22 01 28.7	+1.2
KOZ	**Kozyrevsk**	**1.11**	**331**	*i* P	Pn	22 01 31.0	+0.3
KLY	**Klyuchi**	**1.22**	**355**	*i* P	Pn	22 01 32.2	+0.4
SRDR	**Sredinnyy**	**1.38**	**333**	*e*P	Pn	22 01 32.9	-0.5
KBTR	**Krutoberegovo**	**1.58**	**44**	*i* P	Pn	22 01 36.6	+1.0
KBTR				*e*S	Sn	22 01 58.7	+0.7
SPN	**Mys Shipunski**	**2.06**	**194**	S	Sn	22 02 08.3	+0.2
SDLR	**Sedlovina**	**2.16**	**213**	P	Pn	22 01 42.8	+0.4
GNL	**Ganaly**	**2.20**	**231**	P	Pn	22 01 43.9	+0.9
BKI	**Bering**	**2.95**	**86**	*i* P	Pn	22 01 53.9	+1.6
BKI				*i* S	Sn	22 02 28.8	+0.9

ISCJB ***08*** *22:17:43.0±0.6, 60.°4S±0.°1×25.°2W±0.°3, h10km, mb4.3/11, MS3.7/6, Error ellipse: s-maj=23.4km s-min=11.5km az=150.3*
IDC ***08*** *22:17:43.1±0.5, 60.°42S×25.°38W, h0km, mb4.5/9, mb1 4.6/9, mb1mx4.4/16, mbtmp4.5/9, MS3.7/7, Ms1 3.7/7, ms1mx3.4/19, Error ellipse: s-maj=25.6km s-min=15.4km az=63.0*
NEIC ***08*** *22:17:49.9±4.6, 60.°41S×25.°37W, h48km±40km, mb4.3/4, Error ellipse: s-maj=22.2km s-min=11.2km az=63.0*

ISC 08 22:17:44.7±0.6, 60.°5S±0.°1×25.°2W±0.°3, h10km, n48, σ1=15/27, mb4.3/11, MS3.7/6, South Sandwich Islands region

| Code

TORD	**Torodi Ar. Bea**	**76.45**	**27**	P		**P**		**22 29 35.5**	**+1.2**
STKA	**Stephens Creek**	**87.37**	**169**	P		**P**		**22 30 31.8**	**+0.2**
	1.2nm,0.5s,mb4.4,baz=198,slow=9.6,SNR=4.0								
STKA	**Stephens Creek**	**87.37**	**169**	P		**P**		**22 30 31.8**	**+0.2**
ASAR	**Alice Springs**	**94.47**	**161**	P		**P**		**22 31 04.0**	**-0.9**
	1.6nm,0.7s,mb4.6,baz=185,slow=4.2,SNR=28								
ASAR	**Alice Springs**	**94.47**	**161**	P		**P**		**22 31 04.0**	**-0.9**
CMAR	**Chiang Mai Arr**	**122.50**	**111**	PKP	PKPdf		22 36 39.5		-0.4
	0.4nm,0.3s,baz=256,slow=2.6,SNR=3.8								
CMAR	**Chiang Mai Arr**	**122.50**	**111**	PKP	PKPdf		22 36 39.5		-0.4
FINES	**FINESS Array B**	**127.78**	**28**	PKP	PKPdf		22 36 48.1		-0.5
	3.2nm,0.9s,baz=304,slow=3.4,SNR=4.8								
FINES	**FINESS Array B**	**127.78**	**28**	PKP	PKPdf		22 36 48.1		-0.5
ARCES	**ARCESS Array B**	**134.64**	**22**	PKP	PKPdf		22 37 02.0		+0.6
	2.5nm,0.9s,baz=255,slow=3.5,SNR=2.8								
ARCES	**ARCESS Array B**	**134.64**	**22**	PKP	PKPdf		22 37 02.0		+0.6
ZALV	**Zalesovo Beam**	**143.21**	**68**	PKP	PKPdf		22 37 15.6		-2.0
	0.3nm,0.4s,baz=248,slow=1.6,SNR=2.5								
ZALV	**Zalesovo Beam**	**143.21**	**68**	PKP	PKPdf		22 37 15.6		-2.0
DLBC	**Dease Lake**	**143.65**	**301**	PKP	PKPdf		22 37 17.2		-0.9
	1.4nm,0.5s,baz=79,slow=5.2,SNR=3.7								
DLBC	**Dease Lake**	**143.65**	**301**	PKP	PKPdf		22 37 17.2		-0.9
SONM	**Songino Array**	**149.71**	**93**	PKPbc	PKPbc		22 37 33.1		-0.2
	2.0nm,0.9s,baz=198,slow=2.7,SNR=8.9								
SONM				PKPab	PKPab		22 37 38.3		-0.5
	1.5nm,0.9s,baz=217,slow=4.3,SNR=5.0								
SONM	**Songino Array**	**149.71**	**93**	PKPbc	PKPbc		22 37 33.1		-0.2
SONM				PKPab	PKPab		22 37 38.3		-0.5
INK	**Inuvik**	**149.79**	**315**	PKPbc	PKPbc		22 37 33.0		0.0
	4.0nm,0.7s,baz=88,slow=4.0,SNR=23								
INK				PKPab	PKPab		22 37 37.9		-0.6
	1.6nm,0.7s,baz=118,slow=10,SNR=5.7								
INK	**Inuvik**	**149.79**	**315**	PKPbc	PKPbc		22 37 33.0		0.0
INK				PKPab	PKPab		22 37 37.9		-0.6
DOT	**Dot Lake**	**152.13**	**303**	*e*PKPbc	PKPbc		22 37 39.5		+0.9
ILAR	**Eielson Array**	**153.68**	**305**	PKPbc	PKPbc		22 37 41.5		-0.4
	1.1nm,0.8s,baz=56,slow=0.7,SNR=12								
ILAR				PKPab	PKPab		22 37 54.4		-0.5
	0.3nm,0.6s,baz=17,slow=0.2,SNR=4.6								
ILAR	**Eielson Array**	**153.68**	**305**	PKPbc	PKPbc		22 37 41.5		-0.4
ILAR				PKPab	PKPab		22 37 54.4		-0.5

*IDC **08** 22:23:48.5±0.8, 19°.15N×121°.47E, h0km, mb3.6/10, mb1 3.8/10, mb1mx3.7/26, mbtmp3.6/10, MS3.3/11, Ms1 3.4/11, ms1mx3.1/32, Error ellipse: s-maj=33.1km s-min=17.4km az=65.0*

*ISCJB **08** 22:23:53.4±1.1, 19°.25N±0°.05×121°.4E±0°.2, h46km±10km, mb3.5/10, MS3.3/10, Error ellipse: s-maj=23.8km s-min=8.0km az=178.8*

*NEIC **08** 22:23:55.0±0.9, 19°.22N×121°.42E, h46km±9km, Error ellipse: s-maj=19.3km s-min=8.5km az=86.0*

ISC 08 22:23:55.1±1.0, 19°.23N±0°.05×121°.4E±0°.1, h45km±10km, n36, σ0s89/32, mb3.5/10, MS3.3/10, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWG	**Pinlang**	**3.58**	**355**	*e*P	**Pn**	**22 24 46.7**	**-1.5**
TPUB	**Ta-pu**	**4.11**	**350**	*e*Pn	**Pn**	**22 24 54.4**	**-1.1**
YULB	**Yu-li**	**4.14**	**358**	*e*Pn	**Pn**	**22 24 57.2**	**+1.3**
YULB				*e*S	**Sn**	**22 25 44.0**	**+1.0**
SSLB	**Suanglung**	**4.55**	**355**	*e*Pn	**Pn**	**22 25 02.2**	**+0.7**
SSLB				*e*S	**Sn**	**22 25 52.5**	**-0.6**
NACB	**Ninganchiao**	**4.92**	**2**	*e*Pn	**Pn**	**22 25 06.6**	**+0.1**
NACB				*e*S	**Sn**	**22 26 01.1**	**-1.0**
TGY	**Tagaytay City**	**5.12**	**185**	Pn	**Pn**	**22 25 10.6**	**+1.2**
	28nm,0.3s,baz=335,slow=19,SNR=2.0						
TGY	**Tagaytay City**	**5.12**	**185**	Pn	**Pn**	**22 25 10.6**	**+1.2**
YHNB	**Yeheng**	**5.41**	**360**	*e*Pn	**Pn**	**22 25 13.7**	**+0.5**
YHNB				*e*S	**Sn**	**22 26 14.2**	**-0.1**
JOW	**Kunigami**	**9.85**	**39**	LR	LR	22 30 07.7	
	comp=Z,98nm,19.6s,baz=278,slow=38						
CBIJ	**Chichi jima**	**20.61**	**64**	LR	LR	22 35 08.1	
	comp=Z,65nm,20.8s,MS3.0,baz=182,slow=33						
CMAR	**Chiang Mai Arr**	**21.29**	**272**	P	**P**	**22 28 36.8**	**-1.3**
	0.6nm,0.3s,mb3.4,baz=72,slow=9.3,SNR=6.4						
CMAR				LR	LR	22 37 48.2	
	comp=Z,47nm,18.8s,MS2.9,baz=55,slow=39						
CMAR	**Chiang Mai Arr**	**21.29**	**272**	P	**P**	**22 28 36.8**	**-1.3**
CMAR				LR	LR	22 37 48.2	
GUMO	**Guam**	**23.17**	**100**	LR	LR	22 36 36.3	
	comp=Z,68nm,18.3s,MS3.1,baz=84,slow=33						
PSI	**Prapat**	**27.40**	**236**	LR	LR	22 39 17.6	
	comp=Z,60nm,20.8s,MS3.1,baz=340,slow=34						
SONM	**Songino Array**	**31.04**	**340**	P	**P**	**22 30 08.4**	**-0.2**
	0.1nm,0.3s,mb3.1,baz=163,slow=11,SNR=2.9						
SONM				LR	LR	22 44 34.1	
	comp=Z,41nm,18.8s,MS3.1,baz=330,slow=40						
SONM	**Songino Array**	**31.04**	**340**	P	**P**	**22 30 08.4**	**-0.2**
SONM				LR	LR	22 44 34.1	
WRA	**Warramunga Arr**	**40.94**	**161**	P	**P**	**22 31 31.3**	**-2.2**
	0.6nm,0.4s,mb3.6,baz=342,slow=9.1,SNR=3.0						
WRA	**Warramunga Arr**	**40.94**	**161**	P	**P**	**22 31 31.3**	**-2.2**
MKAR	**Makanchi Array**	**42.14**	**320**	P	**P**	**22 31 43.9**	**+0.8**
	0.6nm,0.7s,mb3.3,baz=106,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	**42.14**	**320**	P	**P**	**22 31 43.9**	**+0.8**
PETK	**Petropavlovsk-**	**43.91**	**31**	LR	LR	22 48 45.1	
	comp=Z,80nm,20.3s,MS3.6,baz=258,slow=34						
ASAR	**Alice Springs**	**44.34**	**164**	P	**P**	**22 32 00.7**	**-0.4**
	0.5nm,0.5s,mb3.5,baz=347,slow=8.3,SNR=17						
ASAR	**Alice Springs**	**44.34**	**164**	P	**P**	**22 32 00.7**	**-0.4**
ZALV	**Zalesovo Beam**	**44.56**	**330**	P	**P**	**22 32 03.1**	**+0.7**
	0.3nm,0.4s,mb3.5,baz=107,slow=7.7,SNR=3.5						
ZALV				LR	LR	22 51 22.3	
	comp=Z,27nm,18.1s,MS3.2,baz=68,slow=37						
ZALV	**Zalesovo Beam**	**44.56**	**330**	P	**P**	**22 32 03.1**	**+0.7**
ZALV				LR	LR	22 51 22.3	
AAK	**Ala-Archa**	**45.80**	**311**	LR	LR	22 53 38.5	
	comp=Z,36nm,20.0s,MS3.3,baz=187,slow=39						
KURK	**Kurchatov**	**46.09**	**323**	P	**P**	**22 32 15.1**	**+0.4**
	0.5nm,0.5s,mb3.7,baz=118,slow=8.3,SNR=4.7						
KURK	**Kurchatov**	**46.09**	**323**	P	**P**	**22 32 15.1**	**+0.4**
AKTK	**Aktyubinsk**	**58.52**	**318**	P	**P**	**22 33 47.1**	**+0.3**
AKTO	**Aktyubinsk**	**58.52**	**318**	P	**P**	**22 33 47.1**	**+0.3**
	0.6nm,0.6s,mb3.8,baz=130,slow=11,SNR=3.9						
ILAR	**Eielson Array**	**73.51**	**27**	P	**P**	**22 35 22.9**	**0.0**
	0.1nm,0.5s,mb3.0,baz=267,slow=3.7,SNR=3.4						
ILAR	**Eielson Array**	**73.51**	**27**	P	**P**	**22 35 22.9**	**0.0**
SPITS	**Spitsbergen Ar**	**74.35**	**348**	LR	LR	23 14 57.6	
	comp=Z,41nm,19.1s,MS3.7,baz=235,slow=41						
INK	**Inuvik**	**77.72**	**22**	P	**P**	**22 35 47.6**	**+0.7**
	1.4nm,1.1s,mb3.8,baz=256,slow=4.2,SNR=3.1						
INK	**Inuvik**	**77.72**	**22**	P	**P**	**22 35 47.6**	**+0.7**
NOA	**NORSAR Array B**	**82.69**	**333**	LR	LR	23 15 33.7	
	comp=Z,28nm,18.6s,MS3.7,baz=270,slow=38						

*NEIC **08** 22:25:47.7, 17°.77N×68°.37W, h52km, MD3.4(RSPR), After RSPR.*

RSPR 08 22:25:47.7, 17°.77N×68°.37W, h52km±5km, MD3.4/11, 13C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMO	**Isla Mona**	**0.56**	**53**⇓	*e*P	Pn	22 25 59.1	-0.7
IMO	**Isla Mona**	**0.56**	**53**⇓	*e*P	Pn	22 25 59.1	-0.7
CRPR	**Cabo Rojo, PR**	**1.23**	**79**⇑	*e*P	Pn	22 26 07.6	-0.9
CRPR	**Cabo Rojo, PR**	**1.23**	**79**	*e*Pn	Pn	22 26 07.2	-1.3
CRPR				*e*S	Sn	22 26 23.6	-0.4
LSP	**Las Mesas**	**1.29**	**72**⇓	*e*P	Pn	22 26 08.1	-1.3
LSP	**Las Mesas**	**1.29**	**72**	*e*Pn	Pn	22 26 08.0	-1.4
AGPR	**Aguadilla, PR**	**1.39**	**60**⇑	*e*P	Pn	22 26 09.7	-1.0
AGPR	**Aguadilla, PR**	**1.39**	**60**	*e*Pn	Pn	22 26 08.7	-2.0
AGPR				*e*S	Sn	22 26 26.2	-1.7
LRS	**Lares**	**1.54**	**70**⇑	*e*P	Pn	22 26 12.3	-0.5
LRS	**Lares**	**1.54**	**70**	*e*Pn	Pn	22 26 12.1	-0.7
LRS				*e*S	Sn	22 26 31.6	-0.2
AOPR	**Arecibo Observ**	**1.65**	**69**⇑	*e*P	Pn	22 26 13.6	-0.6
AOPR	**Arecibo Observ**	**1.65**	**69**⇑	*e*P	Pn	22 26 13.6	-0.6
AOPR				*e*S	Sn	22 26 33.8	-0.4
OBIP	**Obispado Ponce**	**1.71**	**81**⇑	*e*P	Pn	22 26 13.9	-1.1
OBIP	**Obispado Ponce**	**1.71**	**81**	*e*Pn	Pn	22 26 13.5	-1.5
OBIP				*e*S	Sn	22 26 34.7	-1.0
CELP	**Cerrillos**	**1.74**	**80**⇑	*e*P	Pn	22 26 14.4	-1.1
CELP	**Cerrillos**	**1.74**	**80**	*e*Pn	Pn	22 26 14.1	-1.3
CELP				*e*S	Sn	22 26 35.8	-0.6
ICM	**Isla Caja Muer**	**1.77**	**86**⇑	*e*P	Pn	22 26 14.8	-1.1
ICM	**Isla Caja Muer**	**1.77**	**86**⇑	*e*P	Pn	22 26 14.8	-1.1
ICM				*e*S	Sn	22 26 36.5	-0.8
SJG	**San Juan**	**2.14**	**81**⇑	*e*P	Pn	22 26 20.3	-0.7
SJG				*e*S	Sn	22 26 46.0	-0.5
SJG	**San Juan**	**2.14**	**81**⇑	*e*P	Pn	22 26 20.5	-0.5
SJG	**San Juan**	**2.14**	**81**	*e*Pn	Pn	22 26 19.4	-1.6
SJG				*e*S	Sn	22 26 45.5	-1.0
CBYP	**Canovanas**	**2.45**	**78**⇓	*e*P	Pn	22 26 24.8	-0.4
CBYP				*e*S	Sn	22 26 53.4	-0.5
CBYP	**Canovanas**	**2.45**	**78**	*e*Pn	Pn	22 26 23.8	-1.4
CBYP				*e*S	Sn	22 26 53.4	-0.5
MTP	**Monte Pirata**	**2.71**	**83**⇓	*e*P	Pn	22 26 28.3	-0.4
MTP	**Monte Pirata**	**2.71**	**83**	*e*Pn	Pn	22 26 27.6	-1.1
MTP				*e*S	Sn	22 27 01.6	+1.3
SDDR	**Presa de Saban**	**3.02**	**294**	*e*Pn	Pn	22 26 32.8	-0.2
SDDR				*e*S	Sn	22 27 09.5	+1.6
STVI	**Saint Thomas**	**3.31**	**79**⇑	*e*P	Pn	22 26 36.4	-0.5
STVI	**Saint Thomas**	**3.31**	**79**⇑	*e*P	Pn	22 26 36.4	-0.5
STVI				*e*S	Sn	22 27 14.2	-0.8

*IDC **08** 22:36:02.3±1.1, 41°.14N×20°.27E, h0km, mb3.6/8, mb1 3.6/14, mb1mx3.6/31, mbtmp3.5/14, ML3.0/6, MS3.1/3, Ms1 3.1/3, ms1mx2.4/43, Error ellipse: s-maj=18.8km s-min=14.1km az=34.0*

*TIR **08** 22:36:03.0±2.3, 41°.22N×20°.33E, h12km±30km, ML3.5*

*PDG **08** 22:36:03.9±0.7, 41°.23N×20°.32E, h0km±11km, MD3.8/9, ML3.9/10, Error ellipse: s-maj=1.1km s-min=1.6km az=0.0*

*NEIC **08** 22:36:03.8±0.7, 41°.13N×20°.22E, h10km, ML3.6(THE), Error ellipse: s-maj=10.1km s-min=5.5km az=169.0*

*CSEM **08** 22:36:03.8±0.1, 41°.15N×20°.25E, h5km, Ms3.6, Error ellipse: s-maj=3.4km s-min=2.2km az=36.0*

*SKO **08** 22:36:03.7, 41°.22N×20°.20E, h0km, M3.3, ML3.8*

*BEO **08** 22:36:04.0±0.7, 41°.16N×20°.32E, h0km±3km, ML3.5/1*

*VIE **08** 22:36:05.8±0.5, 41°.27N×20°.24E, h10km, mb3.1/5, Ms3.6/5, Error ellipse: s-maj=9.4km s-min=3.0km az=34.0 35 km ESE of Tirana*

*THE **08** 22:36:05.4, 41°.20N×20°.47E, h0km±2km, ML3.6/4, Error ellipse: s-maj=2.5km s-min=1.0km az=284.0*

*LDG **08** 22:36:05.4±0.1, 41°.23N×20°.39E, h10km, Ml3.5/14, Error ellipse: s-maj=3.1km s-min=1.8km az=34.0*

*SOF **08** 22:36:13.8, 41°.52N×21°.22E, h12km, MD3.5*

ISC 08 22:36:04.2±0.3, 41°.17N±0°.01×20°.26E±0°.02, h6km±2km, n320, σ1s23/457, mb3.7/6, MS3.3/2, 33C-27D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.35**	**302**	*e*PG	**Pg**	**22 36 11.2**	**+0.1**
TIR				*e*SG	**Sg**	**22 36 17.7**	**+2.0**
TIR	**Tirane**	**0.35**	**302**⇑	*i*Pg	**Pg**	**22 36 10.5**	**-0.6**
TIR				*e*SG	**Sg**	**22 36 17.0**	**+1.3**
TIR	**Tirane**	**0.35**	**302**	*e*Pg	**Pg**	**22 36 10.7**	**-0.4**
TIR				*e*S	**Sg**	**22 36 17.8**	**+2.1**
TIR	**Tirane**	**0.35**	**302**	*e*Pg	**Pg**	**22 36 11.2**	**+0.1**
TIR				*e*Sg	**Sg**	**22 36 17.0**	**+1.3**
TIR				*e*S	**Sg**	**22 36 17.8**	**+2.1**
KBN	**Korca**	**0.67**	**143**	*e*PG	**Pg**	**22 36 17.2**	**+0.1**
KBN				*e*SG	**Sg**	**22 36 27.3**	**+1.5**
KBN	**Korca**	**0.67**	**143**	*e*Pg	**Pg**	**22 36 17.2**	**+0.1**
KBN				*e*Sg	**Sg**	**22 36 27.3**	**+1.5**
KRUS	**Krusevo**	**0.77**	**74**	*i*Pg	**Pg**	**22 36 17.2**	**-1.8**
KRUS				*e*Sg	**Sg**	**22 36 27.6**	**-1.4**
KRUS	**Krusevo**	**0.77**	**74**	*i*Pg	**Pg**	**22 36 17.2**	**-1.9**
KRUS				*e*Sg	**Sg**	**22 36 27.6**	**-1.5**
BIA	**Bitola**	**0.81**	**100**	P	**Pg**	**22 36 18.2**	**-1.7**
BIA				S	**Sg**	**22 36 28.1**	**-2.4**
BIA	**Bitola**	**0.81**	**100**	*i*Pg	**Pg**	**22 36 17.9**	**-2.0**
BIA				*e*Sg	**Sg**	**22 36 30.8**	**+0.3**
BIA	**Bitola**	**0.81**	**100**	*i*Pg	**Pg**	**22 36 17.9**	**-2.0**
BIA	**Bitola**	**0.81**	**100**	P	**Pg**	**22 36 18.2**	**-1.7**
BIA				S	**Sg**	**22 36 28.1**	**-2.4**
BIA				*e*Sg	**Sg**	**22 36 30.7**	**+0.2**
PUK	**Puka**	**0.92**	**343**	*e*PG	**Pg**	**22 36 20.1**	**-1.8**
PUK				*e*SG	**Sg**	**22 36 35.2**	**+1.3**
PUK	**Puka**	**0.92**	**343**	*e*Pg	**Pg**	**22 36 20.1**	**-1.8**
PUK				*e*Sg	**Sg**	**22 36 35.2**	**+1.3**
FNA	**Florina**	**0.93**	**114**	P	**Pg**	**22 36 20.6**	**-1.4**
FNA				S	**Sg**	**22 36 33.7**	**-0.3**
FNA	**Florina**	**0.93**	**114**	P	**Pg**	**22 36 20.6**	**-1.4**
FNA				S	**Sg**	**22 36 33.7**	**-0.3**
NEST	**Nestorio**	**0.96**	**141**	P	**Pg**	**22 36 21.7**	**-0.9**
NEST				S	**Sg**	**22 36 36.4**	**+1.4**
NEST	**Nestorio**	**0.96**	**141**	P	**Pg**	**22 36 21.7**	**-0.9**
NEST				S	**Sg**	**22 36 36.4**	**+1.4**
ULC	**Ulcinj**	**1.10**	**317**	⇓*i*Pg	**Pg**	**22 36 23.7**	**-1.7**
ULC				*e*Sg	**Sg**	**22 36 41.6**	**+1.9**
ULC	**Ulcinj**	**1.10**	**317**	*e*PG	**Pg**	**22 36 23.7**	**-1.7**
ULC				*e*SG	**Sg**	**22 36 41.6**	**+1.9**
ULC	**Ulcinj**	**1.10**	**317**	⇓*i*Pg	**Pg**	**22 36 23.7**	**-1.7**
ULC				*e*Sg	**Sg**	**22 36 41.6**	**+1.9**
SKO	**Skopje**	**1.20**	**47**	*e*Pg	**Pg**	**22 36 26.7**	**-0.5**
SKO				*e*Sg	**Sg**	**22 36 41.6**	**-1.1**
SKO	**Skopje**	**1.20**	**47**	P	**Pg**	**22 36 25.7**	**-1.5**
SKO				S	**Sg**	**22 36 43.0**	**+0.3**
SKO	**Skopje**	**1.20**	**47**	*e*Pg	**Pg**	**22 36 26.9**	**-0.3**
SKO				*e*Sg	**Sg**	**22 36 42.1**	**-0.6**
SKO				*e*Lg		22 36 42.2	
	comp=N,2μm,0.4s						
SKO				*e*Lg		22 36 42.8	
	comp=E,2μm,0.7s						
SKO	**Skopje**	**1.20**	**47**	P	**Pg**	**22 36 25.7**	**-1.5**
SKO	**Skopje**	**1.20**	**47**	*e*Pg	**Pg**	**22 36 26.9**	**-0.3**
SKO				*e*Sg	**Sg**	**22 36 42.1**	**-0.6**
SKO				*e*Lg		22 36 42.2	
	comp=E,2μm,0.4s						
SKO				S	**Sg**	**22 36 43.0**	**+0.3**
BCI	**Bajram Curri**	**1.21**	**353**	*e*PG	**Pg**	**22 36 25.2**	**-2.3**
BCI				*e*SG	**Sg**	**22 36 44.4**	**+1.2**
BCI	**Bajram Curri**	**1.21**	**353**	*e*Pg	**Pg**	**22 36 25.2**	**-2.3**
BCI				*e*Sg	**Sg**	**22 36 44.4**	**+1.2**
SRN	**Sarande**	**1.30**	**189**	*e*PG	**Pg**	**22 36 30.3**	**+1.2**
SRN				*e*SG	**Sg**	**22 36 50.2**	**+4.2**
SRN	**Sarande**	**1.30**	**189**	*e*Pg	**Pg**	**22 36 30.3**	**+1.2**
KZN	**Kozani**	**1.43**	**126**	*e*P	**Pn**	**22 36 29.4**	**-0.3**
PVY	**Plav**	**1.45**	**352**	⇑*i*Pg	**Pn**	**22 36 29.5**	**-1.4**
PVY				*e*Sg	**Sg**	**22 36 51.6**	**+0.9**
PVY	**Plav**	**1.45**	**352**	*e*PG	**Pn**	**22 36 29.5**	**-1.4**
PVY				*e*SG	**Sg**	**22 36 51.6**	**+0.9**
PVY	**Plav**	**1.45**	**352**	⇑*i*Pg	**Pn**	**22 36 29.5**	**-1.4**
PVY				*e*Sg	**Sg**	**22 36 51.6**	**+0.9**
PDG	**Podgorica**	**1.47**	**330**	*e*PG	**Pn**	**22 36 29.9**	**-1.4**
PDG				*e*SG	**Sg**	**22 36 52.8**	**+1.3**
PDG	**Podgorica**	**1.47**	**330**	⇓*i*Pg	**Pn**	**22 36 29.9**	**-1.4**
PDG				*e*Sg	**Sg**	**22 36 52.8**	**+1.3**
TTG	**Podgorica**	**1.47**	**330**	⇓*i*Pg	**Pn**	**22 36 29.9**	**-1.4**
TTG				*e*Sg	**Sg**	**22 36 52.8**	**+1.3**
KEK	**Kerkira**	**1.49**	**194**	*e*P	**Pn**	**22 36 32.3**	**+0.7**
BUM	**Brajici-Budva**	**1.53**	**318**⇑	*i*Pg	**Pn**	**22 36 31.6**	**-0.5**
BUM				*e*Sg	**Sg**	**22 36 55.7**	**+2.4**
BUM	**Brajici-Budva**	**1.53**	**318**⇑	*i*Pg	**Pn**	**22 36 31.6**	**-0.5**
BUM				*e*Sg	**Sg**	**22 36 55.7**	**+2.4**
MEV	**Metsovon**	**1.56**	**152**	P	**Pn**	**22 36 33.6**	**+1.1**
MEV	**Metsovon**	**1.56**	**152**	P	**Pn**	**22 36 33.6**	**+1.1**
JAN	**Janina**	**1.57**	**163**	*e*P	**Pn**	**22 36 35.8**	**+3.1**
IGT	**Igoumenitsa**	**1.63**	**178**	P	**Pn**	**22 36 34.8**	**+1.3**
IGT				S	**Sn**	**22 36 59.2**	**+4.4**
IGT	**Igoumenitsa**	**1.63**	**178**	P	**Pn**	**22 36 34.8**	**+1.3**
BEY	**Berane**	**1.73**	**351**⇑	*i*Pn	**Pn**	**22 36 34.8**	**0.0**
BEY				*e*Sn	**Sn**	**22 37 00.4**	**+3.2**
IVA	**Berane**	**1.73**	**351**⇑	*i*Pn	**Pn**	**22 36 34.8**	**0.0**
IVA				*e*Sn	**Sn**	**22 37 00.4**	**+3.2**
VAY	**Valandovo**	**1.75**	**84**	P	**Pn**	**22 36 33.7**	**-1.4**
VAY				S	**Sn**	**22 36 56.6**	**-1.1**
VAY	**Valandovo**	**1.75**	**84**⇑	*e*Pn	**Pn**	**22 36 34.8**	**-0.2**
VAY				*e*Lg		22 36 59.3	
	comp=N,2μm,1.2s						
VAY				*e*Lg		22 36 59.5	
	comp=E,522nm,1.1s						
VAY	**Valandovo**	**1.75**	**84**	P	**Pn**	**22 36 33.7**	**-1.4**
VAY	**Valandovo**	**1.75**	**84**⇑	*e*Pn	**Pn**	**22 36 34.8**	**-0.3**
VAY				S	**Sn**	**22 36 56.6**	**-1.1**
VAY				*e*Lg		22 36 59.3	
	comp=E,2μm,1.2s						
HCY	**Herceg Novi**	**1.84**	**315**⇓	*i*Pn	**Pn**	**22 36 36.7**	**+0.4**
HCY				*e*Sn	**Sn**	**22 37 04.1**	**+4.2**
HCY	**Herceg Novi**	**1.84**	**315**⇓	*i*Pn	**Pn**	**22 36 36.7**	**+0.4**
HCY				*e*Sn	**Sn**	**22 37 04.1**	**+4.2**
NKY	**Niksic**	**1.90**	**331**⇓	*i*Pn	**Pn**	**22 36 37.7**	**+0.5**
NKY				*e*Sn	**Sn**	**22 37 05.6**	**+4.2**
NKY	**Niksic**	**1.90**	**331**⇓	*i*Pn	**Pn**	**22 36 37.7**	**+0.5**
NKY				*e*Sn	**Sn**	**22 37 05.6**	**+4.2**
KNT	**Kendrikon**	**1.99**	**89**	P	**Pn**	**22 36 37.0**	**-1.4**
KNT	**Kendrikon**	**1.99**	**89**	P	**Pn**	**22 36 37.0**	**-1.4**
LIT	**Litokhoron**	**2.00**	**121**	*e*P	**Pn**	**22 36 38.3**	**-0.3**
LIT	**Litokhoron**	**2.00**	**121**	P	**Pn**	**22 36 38.0**	**-0.6**
LIT				S	**Sn**	**22 37 02.8**	**-1.1**
LIT	**Litokhoron**	**2.00**	**121**	P	**Pn**	**22 36 38.0**	**-0.6**
LIT				S	**Sn**	**22 37 02.8**	**-1.1**
BARS	**Barje**	**2.02**	**35**	*e*Pn	**Pn**	**22 36 38.8**	**0.0**
BARS				*e*Sg	**Sg**	**22 37 07.6**	**-1.4**
THL	**Klokotos Trika**	**2.08**	**139**	*e*P	**Pn**	**22 36 39.9**	**+0.2**
SJES	**Sjenica**	**2.11**	**354**⇓	*i*Pn	**Pn**	**22 36 41.4**	**+1.4**
SJES				*e*Sg	**Sg**	**22 37 10.8**	**-1.1**
THE	**Thessaloniki**	**2.12**	**104**	P	**Pn**	**22 36 39.1**	**-1.1**
THE	**Thessaloniki**	**2.12**	**104**	P	**Pn**	**22 36 39.1**	**-1.1**
SELS	**Selova**	**2.15**	**17**	*e*Pn	**Pn**	**22 36 41.3**	**+0.7**
SELS				*e*Sg	**Sg**	**22 37 12.1**	**-1.2**
BRY	**Bratogost**	**2.16**	**324**⇓	*i*Pn	**Pn**	**22 36 41.4**	**+0.7**
BRY				*e*Sn	**Sn**	**22 37 12.0**	**+4.3**
BRY	**Bratogost**	**2.16**	**324**⇓	*i*Pn	**Pn**	**22 36 41.4**	**+0.7**
BRY				*e*Sn	**Sn**	**22 37 12.0**	**+4.3**
PE1	**Pezze di Greco**	**2.18**	**261**	*e*Pn	**Pn**	**22 36 40.4**	**-0.6**
HORT	**Hortiatis**	**2.23**	**104**	P	**Pn**	**22 36 40.7**	**-0.9**
HORT	**Hortiatis**	**2.23**	**104**	P	**Pn**	**22 36 40.7**	**-0.9**
KKB	**Krupnik**	**2.23**	**71**	*e*P	**Pn**	**22 36 41.6**	**-0.1**
KKB	**Krupnik**	**2.23**	**71**	*e*P	**Pn**	**22 36 41.6**	**-0.1**
PLE	**Pljevlja**	**2.26**	**344**⇑	*i*Pn	**Pn**	**22 36 43.6**	**+1.5**
PLE				*e*Sn	**Sn**	**22 37 13.8**	**+3.5**
PLE	**Pljevlja**	**2.26**	**344**⇑	*i*Pn	**Pn**	**22 36 43.6**	**+1.5**
PLE				*e*Sn	**Sn**	**22 37 13.8**	**+3.5**
UPM	**Unac-Piva**	**2.27**	**334**	*e*Pn	**Pn**	**22 36 43.8**	**+1.5**
UPM				*e*Sn	**Sn**	**22 37 13.8**	**+3.2**
UPM	**Unac-Piva**	**2.27**	**334**	*e*Pn	**Pn**	**22 36 43.8**	**+1.5**
UPM				*e*Sn	**Sn**	**22 37 13.8**	**+3.2**
SOH	**Sokhos**	**2.37**	**97**	*e*P	**Pn**	**22 36 43.9**	**+0.3**
SOH	**Sokhos**	**2.37**	**97**	P	**Pn**	**22 36 43.2**	**-0.4**
SOH	**Sokhos**	**2.37**	**97**	P	**Pn**	**22 36 43.2**	**-0.4**
LKD2	**Lefkada island**	**2.39**	**173**	P	**Pn**	**22 36 45.0**	**+1.1**
LKD2	**Lefkada island**	**2.39**	**173**	P	**Pn**	**22 36 45.0**	**+1.1**
IVAS	**Ivanjica**	**2.41**	**358**⇑	*i*Pn	**Pn**	**22 36 46.1**	**+1.9**
IVAS				*e*Sg	**Sg**	**22 37 21.6**	**-0.1**
IVAS	**Ivanjica**	**2.41**	**358**⇑	*i*Pn	**Pn**	**22 36 46.1**	**+1.9**
IVAS				*e*Sg	**Sg**	**22 37 21.6**	**-0.1**
SRS	**Serrai**	**2.52**	**90**	P	**Pn**	**22 36 44.8**	**-0.8**
SRS	**Serrai**	**2.52**	**90**	P	**Pn**	**22 36 44.8**	**-0.8**
EVR	**Evrytania**	**2.54**	**152**	*e*P	**Pg**	**22 36 50.0**	**-2.9**
PLG	**Polygyros**	**2.54**	**107**	*e*P	**Pn**	**22 36 46.5**	**+0.5**
BAI	**Bari**	**2.56**	**270**	*e*

BOJS				*i* Sn	**Sn**	**22 38 33.0**	**-1.3**	
BOJS	**Bojanci**	**5.67**	**322**	*i* Pn	**Pn**	**22 37 29.0**	**0.0**	
BOJS				*i* Sn	**Sn**	**22 38 33.0**	**-1.4**	
DRGR		**5.90**	**17**	⇓*i*P	**Pn**	**22 37 33.9**	**+1.8**	
DRGR		**5.90**	**17**	⇓*i*P	**Pn**	**22 37 33.9**	**+1.8**	
DRGR				S	**Sn**	**22 38 41.8**	**+1.9**	
MLR	**Muntele Rosu**	**5.99**	**42**	Pn	**Pn**	**22 37 34.4**	**+1.1**	
	comp=E,0.0nm,0.3s,baz=220,slow=7.9,SNR=3.8							
MLR				Sn	**Sn**	**22 38 39.5**	**-2.7**	
	comp=E,0.1nm,0.3s,baz=281,slow=19,SNR=2.5							
MLR	**Muntele Rosu**	**5.99**	**42**	Pn	**Pn**	**22 37 34.4**	**+1.1**	
MLR				Sn	**Sn**	**22 38 39.5**	**-2.7**	
MLR	**Muntele Rosu**	**5.99**	**42**	⇓*i*P	**Pn**	**22 37 34.6**	**+1.2**	
MLR	**Muntele Rosu**	**5.99**	**42**	Pn	**Pn**	**22 37 34.4**	**+1.0**	
BUD	**Budapest**	**6.38**	**352**	*e*Pn	**Pn**	**22 37 40.8**	**+2.1**	
BUD				*e*		22 38 42.7		
BUD	**Budapest**	**6.38**	**352**	*e*P	**Pn**	**22 37 40.8**	**+2.1**	
JAVS	**Javornik**	**6.53**	**318**	*i* Pn	**Pn**	**22 37 40.0**	**-0.7**	
JAVS				*i* Sn	**Sn**	**22 38 53.6**	**-1.9**	
JAVS	**Javornik**	**6.53**	**318**	*i* Pn	**Pn**	**22 37 40.0**	**-0.8**	
JAVS				*i* Sn	**Sn**	**22 38 53.6**	**-1.9**	
TRI	**Trieste**	**6.56**	**316**	*e*Pn	**Pn**	**22 37 37.7**	**-3.5**	
TRI				*e*S	**Sg**	**22 39 41.2**	**+6.5**	
PERS	**Pernice**	**6.61**	**328**	*i* Pn	**Pn**	**22 37 43.2**	**+1.3**	
PERS				*i* Sn	**Sn**	**22 38 55.0**	**-2.5**	
PERS	**Pernice**	**6.61**	**328**	*i* Pn	**Pn**	**22 37 43.2**	**+1.3**	
VRI	**Vrincioaia**	**6.64**	**43**	⇑*i*P	**Pn**	**22 37 43.4**	**+1.0**	
VRI	**Vrincioaia**	**6.64**	**43**	⇑*i*P	**Pn**	**22 37 43.4**	**+1.0**	
SOKA	**Soboth**	**6.68**	**327**	⇓*i*Pn	**Pn**	**22 37 43.0**	**+0.2**	
SOKA	**Soboth**	**6.68**	**327**	Pn	**Pn**	**22 37 43.0**	**+0.2**	
VOY	**Vojsko**	**6.71**	**319**	*e*Pn	**Pn**	**22 37 43.5**	**+0.2**	
VOY				*e*Sn	**Sn**	**22 38 58.3**	**-1.7**	
VOY	**Vojsko**	**6.71**	**319**	*e*Pn	**Pn**	**22 37 43.5**	**+0.2**	
VOY				*e*Sn	**Sn**	**22 38 58.3**	**-1.7**	
OBKA	**Obir**	**6.75**	**324**	⇑*i*Pn	**Pn**	**22 37 44.1**	**+0.3**	
OBKA				⇑*i*Sn	**Sn**	**22 39 00.4**	**-0.6**	
OBKA	**Obir**	**6.75**	**324**	Pn	**Pn**	**22 37 44.1**	**+0.3**	
OBKA				Sn	**Sn**	**22 39 00.4**	**-0.6**	
PSZ	**Piszkesteto**	**6.76**	**358**	*e*Pn	**Pn**	**22 37 45.0**	**+1.1**	
	comp=E,8.3nm,0.6s							
PSZ				*e*S	**Sn**	**22 39 02.1**	**+0.9**	
PSZ	**Piszkesteto**	**6.76**	**358**	*e*Pn	**Pn**	**22 37 47.7**	**+3.8**	
PSZ				*e*Sn	**Sn**	**22 39 01.6**	**+0.5**	
PSZ	**Piszkesteto**	**6.76**	**358**	⇑*i*P	**Pn**	**22 37 47.2**	**+3.3**	
PSZ	**Piszkesteto**	**6.76**	**358**	S	**Sn**	**22 39 00.5**	**-0.6**	
PSZ	**Piszkesteto**	**6.76**	**358**	*e*Pn	**Pn**	**22 37 45.0**	**+1.1**	
	comp=E,8.3nm,0.6s							
PSZ				*e*S	**Sn**	**22 39 02.1**	**+1.0**	
SOP	**Sopron**	**7.04**	**339**	*e*Pn	**Pn**	**22 37 53.8**	**+6.1**	
SOP				*e*Sn	**Sn**	**22 39 06.6**	**-1.4**	
SOP	**Sopron**	**7.04**	**339**	*e*S	**Sn**	**22 39 06.6**	**-1.4**	
BUR08	**Bucovina Ar. S**	**7.38**	**27**	*e*Pn	**Pn**	**22 37 53.3**	**+0.8**	
BUR08	**Bucovina Ar. S**	**7.38**	**27**	*e*Pn	**Pn**	**22 37 53.3**	**+0.9**	
VYHS	**Vyhne**	**7.40**	**353**	*e*PN	**Pn**	**22 37 55.3**	**+2.6**	
VYHS	**Vyhne**	**7.40**	**353**	*e*Pn	**Pn**	**22 37 55.3**	**+2.6**	
KBA	**Koelnbreinsper**	**7.72**	**322**	⇓*i*Pn	**Pn**	**22 37 57.2**	**0.0**	
KBA				⇓*i*Sn	**Sn**	**22 39 24.7**	**-0.3**	
KBA	**Koelnbreinsper**	**7.72**	**322**	Pn	**Pn**	**22 37 57.2**	**0.0**	
KBA				Sn	**Sn**	**22 39 24.7**	**-0.2**	
CRVS	**Cervenica-Dubn**	**7.78**	**6**	*e*PN	**Pn**	**22 38 01.5**	**+3.5**	
VLC	**Villacollemand**	**7.87**	**296**	*e*Pn	**Pn**	**22 37 58.7**	**-0.5**	
VLC				*e*S	**Sn**	**22 39 24.0**	**-4.5**	
VLC	**Villacollemand**	**7.87**	**296**	*e*Pn	**Pn**	**22 37 58.7**	**-0.5**	
KOLS	**Kolonicke sedl**	**7.90**	**10**	*e*PN	**Pn**	**22 38 04.3**	**+4.8**	
MOA	**Molln**	**7.94**	**329**	⇑*i*Pn	**Pn**	**22 38 00.0**	**-0.1**	
MOA				⇑*i*Sn	**Sn**	**22 39 30.5**	**+0.4**	
MOA	**Molln**	**7.94**	**329**	Pn	**Pn**	**22 38 00.0**	**-0.1**	
MOA				Sn	**Sn**	**22 39 30.5**	**+0.4**	
PGF	**Pioggiola**	**8.52**	**283**	*e*Pn	**Pn**	**22 38 07.5**	**-0.6**	
PGF				*e*Sn	**Sn**	**22 39 38.8**	**-5.7**	
	comp=E,0.4nm,0.2s							
PGF	**Pioggiola**	**8.52**	**283**	*e*Pn	**Pn**	**22 38 07.5**	**-0.6**	
PGF				*e*Sn	**Sn**	**22 39 38.8**	**-5.7**	
PGF	**Pioggiola**	**8.52**	**283**	*e*Pn	**Pn**	**22 38 07.5**	**-0.6**	
VRAC	**Vranov**	**8.54**	**344**	Pn	**Pn**	**22 38 09.4**	**+1.0**	
	comp=E,0.1nm,0.3s,baz=184,slow=14,SNR=2.1							
VRAC	**Vranov**	**8.54**	**344**	Pn	**Pn**	**22 38 09.4**	**+1.0**	
VRAC	**Vranov**	**8.54**	**344**	Pn	**Pn**	**22 38 09.4**	**+1.0**	
WTTA	**Wattenberg**	**8.69**	**317**	⇓*i*Pn	**Pn**	**22 38 09.9**	**-0.5**	
WTTA				⇓*i*Sn	**Sn**	**22 39 47.6**	**-1.0**	
WTTA	**Wattenberg**	**8.69**	**317**	Pn	**Pn**	**22 38 09.9**	**-0.5**	
WTTA				Sn	**Sn**	**22 39 47.6**	**-1.0**	
WATA	**Walderalm**	**8.77**	**318**	⇑*i*Pn	**Pn**	**22 38 11.7**	**+0.2**	
WATA				⇓*i*Sn	**Sn**	**22 39 49.8**	**-0.7**	
WATA	**Walderalm**	**8.77**	**318**	Pn	**Pn**	**22 38 11.7**	**+0.2**	
WATA				Sn	**Sn**	**22 39 49.8**	**-0.7**	
MORC	**Moravsky Berou**	**8.82**	**348**	⇑*i*P	**Pn**	**22 38 16.1**	**+3.9**	
GERES	**GERESS Array B**	**8.97**	**331**	Pn	**Pn**	**22 38 14.4**	**+0.1**	
	comp=E,0.2nm,0.3s,baz=153,slow=14,SNR=13							
GERES				Sn	**Sn**	**22 39 55.9**	**+0.3**	
	comp=E,0.2nm,0.3s,baz=153,slow=24,SNR=2.9							
GERES	**GERESS Array B**	**8.97**	**331**	Pn	**Pn**	**22 38 14.4**	**+0.1**	
GERES				Sn	**Sn**	**22 39 55.9**	**+0.3**	
GERES	**GERESS Array B**	**8.97**	**331**	Pn	**Pn**	**22 38 14.4**	**+0.1**	
GERES				Sn	**Sn**	**22 39 55.9**	**+0.3**	
MOTA	**Moosalm**	**9.02**	**316**	⇑*i*Pn	**Pn**	**22 38 15.4**	**+0.5**	
MOTA				⇑*i*Sn	**Sn**	**22 39 57.1**	**+0.5**	
MOTA	**Moosalm**	**9.02**	**316**	Pn	**Pn**	**22 38 15.4**	**+0.5**	
MOTA				Sn	**Sn**	**22 39 57.1**	**+0.4**	
KHC	**Kasperske Hory**	**9.26**	**332**	*e*PN	**Pn**	**22 38 20.0**	**+1.8**	
KHC				*ex*	x	22 38 25.0		
KHC				*ex*	x	22 39 13.5		
KHC				*e*SN	**Sn**	**22 40 02.0**	**-0.6**	
KHC	**Kasperske Hory**	**9.26**	**332**	Pn	**Pn**	**22 38 20.0**	**+1.8**	
KHC				Sn	**Sn**	**22 40 02.0**	**-0.6**	
DAVOX	**Davos/Dischmat**	**9.35**	**310**	Pn	**Pn**	**22 38 19.3**	**-0.2**	
	comp=E,0.7nm,0.3s,baz=165,slow=18,SNR=8.0							
DAVOX				Sn	**Sn**	**22 40 04.4**	**-0.5**	
	comp=E,0.2nm,0.3s,baz=317,slow=19,SNR=3.5							
DAVOX				LR	LR	22 42 43.0		
	comp=E,45nm,18.1s,baz=164,slow=43							
DAVOX	**Davos/Dischmat**	**9.35**	**310**	Pn	**Pn**	**22 38 19.3**	**-0.2**	
DAVOX				Sn	**Sn**	**22 40 04.5**	**-0.5**	
DAVOX				LR	LR	22 42 43.0		
DAVOX	**Davos/Dischmat**	**9.35**	**310**	Pn	**Pn**	**22 38 19.3**	**-0.2**	
DAVOX				Sn	**Sn**	**22 40 04.4**	**-0.5**	
TUE	**Stuetta**	**9.50**	**308**	*e*Pn	**Pn**	**22 38 20.5**	**-1.1**	
	comp=E,6.3nm,0.6s							
TUE				*e*S	**Sn**	**22 40 02.8**	**-5.9**	
TUE	**Stuetta**	**9.50**	**308**	*e*Pn	**Pn**	**22 38 20.5**	**-1.1**	
	comp=E,6.3nm,0.6s							
SBF	**Sospel**	**9.85**	**290**	*e*Pn	**Pn**	**22 38 25.4**	**-0.9**	
SBF				*e*Sn	**Sn**	**22 40 10.3**	**-6.8**	
	comp=E,2.1nm,0.2s							
SBF	**Sospel**	**9.85**	**290**	*e*Pn	**Pn**	**22 38 25.4**	**-0.9**	
SBF				*e*Sn	**Sn**	**22 40 10.3**	**-6.8**	
SBF	**Sospel**	**9.85**	**290**	*e*Pn	**Pn**	**22 38 25.4**	**-0.9**	
BRTR	**Keskin Array B**	**10.30**	**94**	Pn	**Pn**	**22 38 33.1**	**+0.7**	
	comp=E,0.1nm,0.3s,baz=260,slow=12,SNR=3.8							
BRTR	**Keskin Array B**	**10.30**	**94**	Pn	**Pn**	**22 38 33.1**	**+0.6**	
FRF	**La Foret Royal**	**10.36**	**288**	*e*Pn	**Pn**	**22 38 33.6**	**+0.3**	
FRF				*e*Sn	**Sn**	**22 40 22.6**	**-7.0**	
	comp=E,2.1nm,0.5s							
FRF	**La Foret Royal**	**10.36**	**288**	*e*Pn	**Pn**	**22 38 33.6**	**+0.3**	
FRF				*e*Sn	**Sn**	**22 40 22.6**	**-7.0**	
FRF	**La Foret Royal**	**10.36**	**288**	*e*Pn	**Pn**	**22 38 33.6**	**+0.3**	
LMR	**La Mourre**	**10.43**	**287**	*e*Pn	**Pn**	**22 38 33.2**	**-1.0**	
LMR				*e*Sn	**Sn**	**22 40 24.0**	**-7.3**	
	comp=E,0.2nm,0.3s							
LMR	**La Mourre**	**10.43**	**287**	*e*Pn	**Pn**	**22 38 33.2**	**-1.0**	
LMR				*e*Sn	**Sn**	**22 40 24.0**	**-7.3**	
LMR	**La Mourre**	**10.43**	**287**	*e*Pn	**Pn**	**22 38 33.2**	**-1.0**	
MBDF	**Montbardon**	**10.51**	**294**	*e*Pn	**Pn**	**22 38 34.3**	**-1.1**	
MBDF				*e*Sn	**Sn**	**22 40 26.0**	**-7.4**	
	comp=E,2.2nm,0.5s							
MBDF	**Montbardon**	**10.51**	**294**	*e*Pn	**Pn**	**22 38 34.3**	**-1.1**	
MBDF				*e*Sn	**Sn**	**22 40 26.0**	**-7.4**	
MBDF	**Montbardon**	**10.51**	**294**	*e*Pn	**Pn**	**22 38 34.3**	**-1.1**	
LPG	**La Plagne**	**10.75**	**298**	*e*Pn	**Pn**	**22 38 38.0**	**-0.6**	
LPG				*e*Sn	**Sn**	**22 40 31.7**	**-7.5**	
	comp=E,0.7nm,0.2s							
LPG	**La Plagne**	**10.75**	**298**	*e*Pn	**Pn**	**22 38 38.0**	**-0.6**	
LPG				*e*Sn	**Sn**	**22 40 31.7**	**-7.5**	
LPG	**La Plagne**	**10.75**	**298**	*e*Pn	**Pn**	**22 38 38.0**	**-0.6**	
LPL	**La Plagne**	**10.77**	**298**	*e*Pn	**Pn**	**22 38 38.6**	**-0.3**	
LPL				*e*Sn	**Sn**	**22 40 32.0**	**-7.7**	
	comp=E,2.6nm,0.4s							
LPL	**La Plagne**	**10.77**	**298**	*e*Pn	**Pn**	**22 38 38.6**	**-0.3**	
LPL				*e*Sn	**Sn**	**22 40 32.0**	**-7.7**	
LPL	**La Plagne**	**10.77**	**298**	*e*Pn	**Pn**	**22 38 38.6**	**-0.3**	
ORIF	**Oris-en-Rattie**	**11.17**	**294**	*e*Pn	**Pn**	**22 38 43.4**	**-1.0**	
ORIF				*e*Sn	**Sn**	**22 40 41.8**	**-7.8**	
	comp=E,8.7nm,0.9s							
ORIF	**Oris-en-Rattie**	**11.17**	**294**	*e*Pn	**Pn**	**22 38 43.4**	**-1.0**	
ORIF				*e*Sn	**Sn**	**22 40 41.8**	**-7.8**	
ORIF	**Oris-en-Rattie**	**11.17**	**294**	*e*Pn	**Pn**	**22 38 43.4**	**-1.0**	
CABF	**La Chapelle**	**11.58**	**303**	*e*Pn	**Pn**	**22 38 48.4**	**-1.6**	
CABF				*e*Sn	**Sn**	**22 40 50.9**	**-8.7**	
	comp=E,4.0nm,0.7s							
CABF	**La Chapelle**	**11.58**	**303**	*e*Pn	**Pn**	**22 38 48.4**	**-1.6**	
CABF				*e*Sn	**Sn**	**22 40 50.9**	**-8.7**	
CABF	**La Chapelle**	**11.58**	**303**	*e*Pn	**Pn**	**22 38 48.4**	**-1.6**	
HINF	**Hinteralfeld**	**11.65**	**309**	*e*Pn	**Pn**	**22 38 49.2**	**-1.7**	
HINF				*e*Sn	**Sn**	**22 40 52.4**	**-8.9**	
	comp=E,1.5nm,0.5s							
HINF	**Hinteralfeld**	**11.65**	**309**	*e*Pn	**Pn**	**22 38 49.2**	**-1.7**	
HINF				*e*Sn	**Sn**	**22 40 52.4**	**-8.9**	
HINF	**Hinteralfeld**	**11.65**	**309**	*e*Pn	**Pn**	**22 38 49.2**	**-1.7**	
CDF	**Champ du Feu**	**11.72**	**313**	*e*Pn	**Pn**	**22 38 50.2**	**-1.7**	
CDF				*e*Sn	**Sn**	**22 40 54.1**	**-8.9**	
	comp=E,1.1nm,0.5s							
CDF	**Champ du Feu**	**11.72**	**313**	*e*Pn	**Pn**	**22 38 50.2**	**-1.7**	
CDF				*e*Sn	**Sn**	**22 40 54.1**	**-8.9**	
CDF	**Champ du Feu**	**11.72**	**313**	*e*Pn	**Pn**	**22 38 50.2**	**-1.7**	
SMF	**Signal de Mont**	**13.04**	**300**	*e*Pn	**Pn**	**22 39 08.1**	**-1.8**	
SMF				*e*Sn	**Sn**	**22 41 26.0**	**-9.2**	
	comp=E,2.6nm,0.7s							
SMF	**Signal de Mont**	**13.04**	**300**	*e*Pn	**Pn**	**22 39 08.1**	**-1.8**	
SMF				*e*Sn	**Sn**	**22 41 26.0**	**-9.2**	
SMF	**Signal de Mont**	**13.04**	**300**	*e*Pn	**Pn**	**22 39 08.1**	**-1.8**	
LOR	**Lormes**	**13.24**	**303**	*e*Pn	**Pn**	**22 39 11.2**	**-1.5**	
LOR				*e*Sn	**Sn**	**22 41 30.8**	**-9.4**	
	comp=E,2.5nm,0.5s							
LOR	**Lormes**	**13.24**	**303**	*e*Pn	**Pn**	**22 39 11.2**	**-1.5**	
LOR				*e*Sn	**Sn**	**22 41 30.8**	**-9.4**	
LOR	**Lormes**	**13.24**	**303**	*e*Pn	**Pn**	**22 39 11.2**	**-1.5**	
SSF	**Saint Saulge**	**13.40**	**302**	*e*Pn	**Pn**	**22 39 13.1**	**-1.7**	
SSF				*e*Sn	**Sn**	**22 41 34.5**	**-9.4**	
	comp=E,3.6nm,0.8s							
SSF	**Saint Saulge**	**13.40**	**302**	*e*Pn	**Pn**	**22 39 13.1**	**-1.7**	
SSF				*e*Sn	**Sn**	**22 41 34.5**	**-9.4**	
SSF	**Saint Saulge**	**13.40**	**302**	*e*Pn	**Pn**	**22 39 13.1**	**-1.7**	
HFS	**Hagfors**	**19.43**	**350**	P	**Pn**	**22 40 28.6**	**-3.5**	
	comp=E,0.1nm,0.3s,baz=195,slow=11,SNR=4.6							
HFS	**Hagfors**	**19.43**	**350**	P	**Pn**	**22 40 28.6**	**-3.5**	
FINES	**FINESS Array B**	**20.61**	**8**	P	**P**	**22 40 42.1**	**-1.8**	
	comp=E,3.6nm,0.9s,baz=173,slow=12,SNR=7.2							
FINES	**FINESS Array B**	**20.61**	**8**	P	**P**	**22 40 42.1**	**-1.8**	
FINES	**FINESS Array B**	**20.61**	**8**	P	**P**	**22 40 42.1**	**-1.8**	
NB2	**NORSAR Subarra**	**20.66**	**347**	P	**P**	**22 40 42.4**	**-2.0**	
	comp=Z,1.0nm,0.6s,baz=155,slow=11							
NB2	**NORSAR Subarra**	**20.66**	**347**	P	**P**	**22 40 42.4**	**-2.0**	
	comp=Z,1.0nm,0.6s,SNR=3.5							
NOA	**NORSAR Array B**	**20.66**	**347**	P	**P**	**22 40 42.6**	**-1.8**	
	comp=Z,2.0nm,1.0s,baz=164,slow=10,SNR=2.6							
NOA	**NORSAR Array B**	**20.66**	**347**	P	**P**	**22 40 42.6**	**-1.8**	
NOA	**NORSAR Array B**	**20.66**	**347**	P	**P**	**22 40 42.6**	**-1.8**	
ARCES	**ARCESS Array B**	**28.57**	**4**	LR	LR	22 53 58.6		
	comp=Z,23nm,18.3s,MS2.8,baz=260,slow=38							
TORD	**Torodi Ar. Bea**	**32.29**	**216**	P	**P**	**22 42 33.2**	**-0.7**	
	comp=Z,1.3nm,0.8s,mb3.8,baz=25,slow=8.7,SNR=9.4							
TORD	**Torodi Ar. Bea**	**32.29**	**216**	P	**P**	**22 42 33.2**	**-0.7**	
BVAR	**Borovoye Array**	**35.42**	**53**	P	**P**	**22 43 00.6**	**-0.1**	
	comp=Z,0.2nm,0.3s,mb3.5,baz=324,slow=7.1,SNR=3.1							
BVAR	**Borovoye Array**	**35.42**	**53**	P	**P**	**22 43 00.6**	**-0.1**	
BVAR	**Borovoye Array**	**35.42**	**53**	P	**P**	**22 43 00.6**	**-0.2**	
ZALV	**Zalesovo Beam**	**43.89**	**50**	P	**P**	**22 44 09.7**	**-1.6**	
	comp=Z,1.5nm,0.7s,mb3.9,baz=278,slow=9.1,SNR=7.4							
ZALV	**Zalesovo Beam**	**43.89**	**50**	P	**P**	**22 44 09.7**	**-1.6**	
ZALV	**Zalesovo Beam**	**43.89**	**50**	P	**P**	**22 44 09.7**	**-1.6**	
MKAR	**Makanchi Array**	**43.97**	**61**	P	**P**	**22 44 10.8**	**-1.2**	
	comp=Z,0.3nm,0.5s,mb3.3,baz=280,slow=7.0,SNR=2.0							
MKAR	**Makanchi Array**	**43.97**	**61**	P	**P**	**22 44 10.8**	**-1.2**	
MKAR	**Makanchi Array**	**43.97**	**61**	P	**P**	**22 44 10.8**	**-1.2**	
SONM	**Songino Array**	**58.74**	**52**	P	**P**	**22 46 02.1**	**-0.6**	
	comp=Z,1.2nm,0.9s,mb3.9,baz=288,slow=10,SNR=7.1							
SONM	**Songino Array**	**58.74**	**52**	P	**P**	**22 46 02.1**	**-0.6**	
SONM	**Songino Array**	**58.74**	**52**	P	**P**	**22 46 02.1**	**-0.7**	
CMAR	**Chiang Mai Arr**	**69.70**	**83**	P	**P**	**22 47 12.8**	**-2.3**	
	comp=Z,0.3nm,0.3s,mb3.7,baz=317,slow=7.7,SNR=4.3							
CMAR	**Chiang Mai Arr**	**69.70**	**83**	P	**P**	**22 47 12.8**	**-2.3**	
CMAR	**Chiang Mai Arr**	**69.70**	**83**	P	**P**	**22 47 12.8**	**-2.2**	
TKL	**Tuckaleechee C**	**76.62**	**306**	LR	LR	23 19 27.7		
	comp=Z,41nm,18.6s,MS3.8,baz=52,slow=34							

*ISCJB **08** 22:51:53.5±0.7, 41°.13N±0°.04×20°.26E±0°.04, h13km±6km,*
Error ellipse: s-maj=7.5km s-min=4.2km az=33.0
*SKO **08** 22:51:53.5, 41°.17N×20°.13E, h0km*
*PDG **08** 22:51:53.4±0.4, 41°.11N×20°.35E, h0km±11km, ML2.6/10,*
Error ellipse: s-maj=2.3km s-min=3.1km az=0.0
*TIR **08** 22:51:54.0±2.3, 41°.17N×20°.32E, h11km±36km, ML2.8*
*CSEM **08** 22:51:54.9±0.4, 41°.14N×20°.28E, h2km, ML2.8, Error*
ellipse: s-maj=8.8km s-min=5.2km az=35.0

ISC 08 22:51:53.9±0.8, 41°.10N±0°.04×20°.22E±0°.04, h2km±7km,
n40, σ1$51/71, 11C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
TIR	**Tirane**	**0.37**	**314**	*e*PG		**Pg**	**22 52 01.8**	**+0.9**
TIR				*e*SG		**Sg**	**22 52 08.0**	**+2.4**
TIR	**Tirane**	**0.37**	**314**	*e*Pg		**Pg**	**22 52 01.8**	**+0.9**
TIR				*e*Sg		**Sg**	**22 52 08.0**	**+2.4**
KBN	**Korca**	**0.64**	**137**	*e*PG		**Pg**	**22 52 08.4**	**+2.3**
KBN	**Korca**	**0.64**	**137**	*e*Pg		**Pg**	**22 52 08.4**	**+2.3**
KRUS	**Krusevo**	**0.82**	**70**	*e*Pg		**Pg**	**22 52 08.5**	**-1.2**
KRUS	**Krusevo**	**0.82**	**70**	*e*Pg		**Pg**	**22 52 08.5**	**-1.2**
BIA	**Bitola**	**0.84**	**95**	*e*Sg		**Sg**	**22 52 21.8**	**+0.9**
BIA				*e*Lg			22 52 21.9	
	comp=N,23nm,0.3s							
BIA				*e*Lg			22 52 22.1	
	comp=E,24nm,0.2s							
BIA	**Bitola**	**0.84**	**95**	*e*Sg		**Sg**	**22 52 21.7**	**+0.8**
BIA				*e*Lg			22 52 21.8	
	comp=E,23nm,0.3s							
PUK	**Puka**	**0.98**	**346**	*e*PG		**Pg**	**22 52 12.6**	**0.0**
PUK				*e*SG		**Sg**	**22 52 26.5**	**+1.2**
PUK	**Puka**	**0.98**	**346**	*e*Pg		**Pg**	**22 52 12.6**	**0.0**
PUK				*e*Sg		**Sg**	**22 52 26.5**	**+1.2**
ULC	**Ulcinj**	**1.13**	**320**	⇑*e*Pg		**Pg**	**22 52 14.8**	**-0.7**
ULC				*e*Sg		**Sg**	**22 52 33.9**	**+3.7**
ULC	**Ulcinj**	**1.13**	**320**	*e*PG		**Pg**	**22 52 14.8**	**-0.7**
ULC				*e*SG		**Sg**	**22 52 33.9**	**+3.7**
ULC	**Ulcinj**	**1.13**	**320**	*e*Pg		**Pg**	**22 52 14.8**	**-0.7**
ULC				*e*Sg		**Sg**	**22 52 33.9**	**+3.7**
SKO	**Skopje**	**1.27**	**46**	*e*Sg		**Sg**	**22 52 34.1**	**-0.5**
SKO				*e*Lg			22 52 34.2	
	comp=E,0.0nm,0.4s							
SKO				*e*Lg			22 52 34.5	
	comp=N,76nm,0.4s							
SKO	**Skopje**	**1.27**	**46**	*e*Sg		**Sg**	**22 52 34.1**	**-0.5**
SKO				*e*Lg			22 52 34.2	
BCI	**Bajram Curri**	**1.27**	**355**	*e*PG		**Pg**	**22 52 17.4**	**-0.9**
BCI				*e*SG		**Sg**	**22 52 36.0**	**+1.2**
BCI	**Bajram Curri**	**1.27**	**355**	*e*Pg		**Pg**	**22 52 17.4**	**-0.9**
BCI				*e*Sg		**Sg**	**22 52 36.0**	**+1.2**
PVY	**Plav**	**1.51**	**353**	⇑*i*Pg		**Pg**	**22 52 21.0**	**-1.8**
PVY				*e*Sg		**Sg**	**22 52 44.2**	**+1.9**
PVY	**Plav**	**1.51**	**353**	*e*PG		**Pg**	**22 52 21.0**	**-1.8**
PVY				*e*SG		**Sg**	**22 52 44.2**	**+1.9**
PVY	**Plav**	**1.51**	**353**	⇑*i*Pg		**Pg**	**22 52 21.0**	**-1.8**
PVY				*e*Sg		**Sg**	**22 52 44.2**	**+1.9**
PDG	**Podgorica**	**1.51**	**332**	⇑*i*Pg		**Pg**	**22 52 21.2**	**-1.7**
PDG				*e*Sg		**Sg**	**22 52 46.0**	**+3.5**
TTG	**Podgorica**	**1.51**	**332**	⇑*i*Pg		**Pg**	**22 52 21.2**	**-1.7**
TTG				*e*Sg		**Sg**	**22 52 46.0**	**+3.5**
BUM	**Brajici-Budva**	**1.56**	**321**	⇑*i*Pn		**Pg**	**22 52 23.6**	**-0.1**
BUM				*e*Sn		**Sg**	**22 52 48.4**	**+4.5**
BUM	**Brajici-Budva**	**1.56**	**321**	⇑*i*Pn		**Pg**	**22 52 23.6**	**-0.1**
BUM				*e*Sn		**Sg**	**22 52 48.4**	**+4.5**
BEY	**Berane**	**1.79**	**352**	⇓*i*Pn		**Pg**	**22 52 26.8**	**-1.4**
BEY				*e*Sn		**Sg**	**22 52 53.6**	**+2.2**
IVA	**Berane**	**1.79**	**352**	⇓*i*Pn		**Pg**	**22 52 26.8**	**-1.4**
IVA				*e*Sn		**Sg**	**22 52 53.6**	**+2.2**
HCY	**Herceg Novi**	**1.86**	**317**	⇓*i*Pn		**Pg**	**22 52 27.9**	**-1.7**
HCY				*e*Sn		**Sg**	**22 52 56.7**	**+2.9**
HCY	**Herceg Novi**	**1.86**	**317**	⇓*i*Pn		**Pg**	**22 52 27.9**	**-1.7**
HCY				*e*Sn		**Sg**	**22 52 56.7**	**+2.9**
NKY	**Niksic**	**1.94**	**332**	⇓*i*Pn		**Pg**	**22 52 29.0**	**-2.1**
NKY				*e*Sn		**Sg**	**22 52 57.2**	**+1.0**
NKY	**Niksic**	**1.94**	**332**	⇓*i*Pn		**Pg**	**22 52 29.0**	**-2.1**
NKY				*e*Sn		**Sg**	**22 52 57.2**	**+1.0**
BRY	**Bratogost**	**2.19**	**326**	⇑*i*Pn		**Pg**	**22 52 33.2**	**-2.7**
BRY				*e*Sn		**Sg**	**22 53 04.0**	**-0.3**
BRY	**Bratogost**	**2.19**	**326**	⇑*i*Pn		**Pg**	**22 52 33.2**	**-2.7**
BRY				*e*Sn		**Sg**	**22 53 04.0**	**-0.3**
PLE	**Pljevlja**	**2.31**	**345**	⇓*i*Pn		**Pn**	**22 52 33.1**	**+0.1**
PLE				*e*Sn		**Sg**	**22 53 04.9**	**-3.3**
PLE	**Pljevlja**	**2.31**	**345**	⇓*i*Pn		**Pn**	**22 52 33.1**	**+0.1**
PLE				*e*Sn		**Sg**	**22 53 04.9**	**-3.3**
UPM	**Unac-Piva**	**2.32**	**336**	⇑*i*Pn		**Pg**	**22 52 34.8**	**-3.5**
UPM				*e*Sn		**Sg**	**22 53 06.7**	**-1.7**
UPM	**Unac-Piva**	**2.32**	**336**	⇑*i*Pn		**Pg**	**22 52 34.8**	**-3.5**
UPM				*e*Sn		**Sg**	**22 53 06.7**	**-1.7**
STON	**Ston**	**2.58**	**314**	*i* Pn		**Pn**	**22 52 36.8**	**+0.1**
STON				Sn		**Sg**	**22 53 15.4**	**

HOWZ	Holdsworth Sta	3.82	210	PN	Pn	23 14 29.0	-2.6
KIW	Kapiti Island	4.05	216	PN	Pn	23 14 32.2	-2.5

NNC 08 23:29:56.0±8.3, 37.45N×69.35E, h0km, mb3.6, mpv3.4, 3C, Error ellipse: s-maj=152.7km s-min=68.6km az=94.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	5.72	9	Pn	Pn	23 31 25.2	+3.2
	0.6nm,0.2s,baz=163,slow=5.8,SNR=51						
KK31				⇑Sn	Sn	23 32 34.9	+6.6
	1.4nm,0.3s,baz=197,slow=24,SNR=8.7						
TKM2	Tokmak 2	7.26	39	⇑Pn	Pn	23 31 42.5	-0.7
	3.3nm,0.9s						
AB31	Akbulak array	13.62	333	⇑Pn	Pn	23 33 08.2	-2.2
	0.3nm,0.5s,baz=150,slow=12,SNR=13						

IDC 08 23:42:56.8±1.2, 23.80S×13.48W, h0km, mb4.0/3, mb1 4.0/3, mb1mx3.6/19, mbtmp4.0/3, MS3.5/4, Ms1 3.5/4, ms1mx3.2/23, Error ellipse: s-maj=44.4km s-min=31.7km az=171.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	Boshof	34.98	106	P	P	23 49 51.3	+0.4
	3.0nm,0.8s,baz=255,slow=12,SNR=3.2						
BOSA				LR	LR	00 01 28.4	
	comp=Z,47nm,18.2s,baz=327,slow=32						
TORD	Torodi Ar. Bea	39.61	24	P	P	23 50 30.0	-0.2
	1.4nm,0.8s,baz=203,slow=8.2,SNR=7.9						
CPUP	Villa Florida	39.66	257	LR	LR	00 05 08.9	
	comp=Z,88nm,20.3s,baz=188,slow=34						
PLCA	Paso Flores	50.27	236	LR	LR	00 10 19.5	
	comp=Z,78nm,21.7s,baz=357,slow=33						
LPAZ	La Paz	51.63	268	P	P	23 52 06.2	+0.7
	0.5nm,0.6s,baz=100,slow=6.1,SNR=5.8						
ATD	Arta Tunnel	65.29	64	LR	LR	00 19 12.4	
	comp=Z,28nm,18.2s,baz=359,slow=33						
ASAR	Alice Springs	123.17	144	PKP	PKPdf	00 01 55.4	-0.8
	0.4nm,0.8s,baz=201,slow=2.1,SNR=4.3						
ILAR	Eielson Array	129.23	336	PKP	PKPdf	00 02 06.7	+0.3
	0.5nm,0.8s,baz=22,slow=3.3,SNR=8.1						

IDC 08 23:42:57.5±3.9, 11.65S×117.88E, h0km, mb3.7/1, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=257.3km s-min=27.9km az=46.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.84	120	P	Pn	23 47 05.5	-1.8
	0.1nm,0.3s,baz=286,slow=13,SNR=3.2						
ASAR	Alice Springs	19.36	130	P	Pn	23 47 26.4	+0.5
	0.1nm,0.3s,baz=304,slow=11,SNR=9.4						
MKAR	Makanchi Array	66.33	334	P	P	23 53 47.9	0.0
	0.3nm,0.4s,baz=144,slow=7.1,SNR=9.9						

IDC 08 23:46:52.0±2.0, 7.18S×129.05E, h0km, mb3.7/1, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=126.0km s-min=32.0km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.69	158	Pn	Pn	23 50 07.4	-0.1
	0.2nm,0.3s,baz=337,slow=13,SNR=3.1						
WRA				Sn	Sn	23 52 35.6	-4.9
	0.2nm,0.3s,baz=336,slow=23,SNR=2.7						
ASAR	Alice Springs	17.05	165	Pn	Pn	23 50 52.2	+0.3
	0.1nm,0.3s,baz=344,slow=9.6,SNR=5.1						
MKAR	Makanchi Array	67.86	327	P	P	23 57 52.3	+0.1
	0.8nm,0.8s,baz=139,slow=7.3,SNR=3.0						

IDC 08 23:57:16.5±2.0, 6.90S×105.30E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.7/21, mbtmp3.8/9, Error ellipse: s-maj=102.0km s-min=19.2km az=53.0
ISCJB 08 23:57:28.7±1.2, 6.45S±0.2×105.9E±0.2, h98km±7km, mb3.8/9, Error ellipse: s-maj=40.9km s-min=9.9km az=44.9
DJA 08 23:57:30, 6.02S×106.15E, h94km, MLv3.6/6
ISC 08 23:57:29.3±1.3, 6.55S±0.2×105.8E±0.2, h88km±8km, n17, σ1s03/18, mb3.8/9, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBJI	Serang	0.49	44	P	Pn	23 57 44.1	+0.3
SBJI				S	Sn	23 57 52.9	-1.7
SKJI	Sukabumi	0.93	124	P	Pn	23 57 51.1	+3.1
DBJI	Dramaga	0.96	95	P	Pn	23 57 48.5	+0.1
DBJI				S	Sn	23 58 03.5	+0.8
BLSI	Bandar Lampung	1.23	334	P	Pn	23 57 51.2	-0.4
KLI	Kotabumi	1.85	330	P	Pn	23 58 07.9	+8.4
KLSI		2.06	329	P	Pn	23 58 02.2	-0.1
CISI	Cisompet, Garu	2.28	118	P	Pn	23 58 05.4	+0.3
CMAR	Chiang Mai Arr	25.68	345	P	P	00 02 52.0	+0.8
	0.7nm,0.6s,mb3.3,baz=180,slow=8.4,SNR=5.3						
WRA	Warramunga Arr	30.78	119	P	P	00 03 35.9	-0.8
	0.4nm,0.3s,mb3.6,baz=300,slow=9.8,SNR=3.1						
ASAR	Alice Springs	31.97	125	P	P	00 03 46.5	-0.6
	0.2nm,0.6s,mb3.0,baz=308,slow=8.3,SNR=2.7						
STKA	Stephens Creek	41.88	132	P	P	00 05 09.4	-1.6
	1.3nm,0.7s,mb3.8,baz=306,slow=14,SNR=2.6						
SONM	Songino Array	54.08	1	P	P	00 06 46.8	+2.0
	0.3nm,0.4s,mb3.6,baz=183,slow=8.4,SNR=2.6						
SONM				PcP	PcP	00 07 49.0	+0.5
	0.4nm,0.6s,baz=174,slow=4.5,SNR=3.0						
MKAR	Makanchi Array	56.99	341	P	P	00 07 05.1	-0.5
	0.3nm,0.3s,mb3.8,baz=155,slow=8.1,SNR=12						
ZALV	Zalesovo Beam	62.73	346	P	P	00 07 43.8	-1.1
	0.8nm,0.3s,mb4.1,baz=145,slow=6.6,SNR=5.9						
FINES	FINESS Array B	90.74	332	P	P	00 10 23.1	+1.0
	1.1nm,0.7s,mb4.1,baz=89,slow=5.7,SNR=5.7						
ARCES	ARCESS Array B	92.63	340	P	P	00 10 31.0	+0.3
	2.2nm,0.9s,mb4.5,baz=112,slow=6.9,SNR=2.5						
TXAR	Lajitas Array	144.11	47	PKP	PKPdf	00 16 54.8	-0.7
	0.2nm,0.4s,baz=261,slow=0.8,SNR=6.2						

IDC 08 23:57:48.0±0.9, 51.00N×178.68E, h0km, mb3.7/14, mb1 3.9/16, mb1mx3.8/31, mbtmp3.8/16, ML3.8/2, Error ellipse: s-maj=26.4km s-min=13.2km az=7.0
ISCJB 08 23:57:51.1±0.8, 51.0N±0.1×178.49E±0.08, h33km, mb3.7/14, Error ellipse: s-maj=17.2km s-min=7.3km az=172.2
NEIC 08 23:57:51.7, 51.02N×178.51E, h8km, ML3.4(AEIC), After AEIC.
ISC 08 23:57:53.5±0.8, 51.1N±0.1×178.55E±0.09, h35km, n38, σ0s95/36, mb3.7/14, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.56	58	ePg	Pn	23 58 04.2	-0.6
AMKA				eS	Sn	23 58 14.0	+1.1
SMY	Shemya	3.21	303	P	Pn	23 58 41.3	0.0
FX1	Attu Island--F	3.79	301	Pn	Pn	23 58 48.6	-0.6
	20nm,0.3s,baz=164,slow=4.7,SNR=33						
FX1				Sn	Sn	23 59 40.0	+7.5
	11nm,0.3s,baz=210,slow=20,SNR=3.2						
FX1	Attu Island--F	3.79	301	P	Pn	23 58 48.4	-0.8
KDAK	Kodiak Island	17.98	57	P	Pn	00 01 57.8	-2.5
	0.4nm,0.3s,baz=193,slow=11,SNR=5.6						
KDAK	Kodiak Island	17.98	57	P	Pn	00 01 57.8	-2.5
ILAR	Eielson Array	22.52	39	P	P	00 02 47.4	-2.3
	0.4nm,0.8s,mb2.9,baz=234,slow=8.0,SNR=8.9						
ILAR	Eielson Array	22.52	39	P	P	00 02 47.4	-2.3
INK	Inuvik	28.66	35	P	P	00 03 46.5	+0.1
	0.4nm,0.4s,mb3.5,baz=220,slow=5.5,SNR=2.9						
INK	Inuvik	28.66	35	P	P	00 03 46.5	+0.1
NVAR	Mina Array Bea	45.24	81	P	P	00 06 08.0	+0.9
	0.3nm,0.7s,mb3.3,baz=302,slow=8.4,SNR=3.4						
NVAR	Mina Array Bea	45.24	81	P	P	00 06 08.0	+0.9
SONM	Songino Array	45.28	296	P	P	00 06 08.0	+0.7
	0.4nm,0.7s,mb3.3,baz=48,slow=8.6,SNR=2.7						
SONM	Songino Array	45.28	296	P	P	00 06 08.0	+0.7
PDAR	Pinedale Array	47.98	70	P	P	00 06 29.1	+0.6
	0.8nm,0.6s,mb3.9,baz=308,slow=4.4,SNR=6.4						
PDAR	Pinedale Array	47.98	70	P	P	00 06 29.1	+0.6
SPITS	Spitsbergen Ar	50.55	355	P	P	00 06 47.8	+0.2
	6.0nm,0.9s,mb4.5,baz=53,slow=7.5,SNR=2.6						
SPITS	Spitsbergen Ar	50.55	355	P	P	00 06 47.8	+0.2
ZALV	Zalesovo Beam	53.02	312	P	P	00 07 07.8	+1.5
	0.3nm,0.6s,mb3.4,baz=46,slow=4.2,SNR=3.2						
ZALV	Zalesovo Beam	53.02	312	P	P	00 07 07.8	+1.5
ARCES	ARCESS Array B	58.09	349	P	P	00 07 42.1	-0.4
	2.1nm,0.8s,mb4.2,baz=24,slow=9.0,SNR=4.0						
ARCES	ARCESS Array B	58.09	349	P	P	00 07 42.1	-0.4
MKAR	Makanchi Array	58.90	307	P	P	00 07 48.0	-0.5
	0.4nm,0.5s,mb3.7,baz=50,slow=6.4,SNR=6.6						
MKAR	Makanchi Array	58.90	307	P	P	00 07 48.0	-0.5
TXAR	Lajitas Array	60.34	79	P	P	00 07 59.4	+0.7
	0.2nm,0.4s,mb3.5,baz=303,slow=5.2,SNR=2.9						
TXAR	Lajitas Array	60.34	79	P	P	00 07 59.4	+0.7
FINES	FINESS Array B	65.69	346	P	P	00 08 33.5	-0.2
	3.5nm,1.0s,mb4.3,baz=1.8,slow=6.1,SNR=4.2						
FINES	FINESS Array B	65.69	346	P	P	00 08 33.5	-0.2
AKTK	Aktyubinsk	66.95	323	P	P	00 08 42.7	+0.7
AKTO	Aktyubinsk	66.95	323	P	P	00 08 42.7	+0.8
	1.1nm,0.5s,mb4.1,baz=63,slow=6.8,SNR=4.2						
ASAR	Alice Springs	84.16	220	P	P	00 10 19.5	-1.2
	0.3nm,0.8s,mb3.5,baz=19,slow=5.9,SNR=3.6						
ASAR	Alice Springs	84.16	220	P	P	00 10 19.5	-1.2
BRTR	Keskin Array B	84.50	334	P	P	00 10 22.4	0.0
	1.1nm,0.8s,mb4.0,baz=23,slow=2.8,SNR=4.6						
BRTR	Keskin Array B	84.50	334	P	P	00 10 22.4	0.0
LBTB	Lobatse	146.72	311	PKPbc	PKPbc	00 17 31.4	0.0
	1.4nm,0.6s,baz=198,slow=3.2,SNR=3.2						
LBTB	Lobatse	146.72	311	PKPbc	PKPbc	00 17 31.4	0.0
BOSA	Boshof	149.90	308	PKPbc	PKPbc	00 17 40.0	+0.4
	4.0nm,1.1s,baz=90,slow=2.0,SNR=3.5						
BOSA	Boshof	149.90	308	PKPbc	PKPbc	00 17 40.0	+0.4

ISCJB 09 00:09:11.5±0.7, 45.3S±0.1×87.8E±0.2, h10km, mb4.0/10, MS3.8/15, Error ellipse: s-maj=24.6km s-min=12.4km az=40.9
IDC 09 00:09:11.9±0.8, 45.30S×87.95E, h0km, mb4.1/10, mb1 4.2/10, mb1mx4.1/21, mbtmp4.1/10, MS3.8/15, Ms1 3.7/15, ms1mx3.5/33, Error ellipse: s-maj=28.8km s-min=16.5km az=125.0
NEIC 09 00:09:13.2±0.6, 45.23S×87.85E, h10km, mb3.9/3, Error ellipse: s-maj=22.1km s-min=12.9km az=127.0
ISC 09 00:09:13.3±0.7, 45.3S±0.1×87.9E±0.2, h10km, n36, σ0s95/22, mb4.0/10, MS3.8/15, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	Mawson	25.89	202	P	P	00 14 45.3	+0.4
	4.0nm,0.7s,mb4.0,baz=33,slow=11,SNR=14						
MAW				LR	LR	00 23 00.5	
	comp=Z,224nm,19.5s,MS3.7,baz=209,slow=32						
MAW	Mawson	25.89	202	eP	P	00 14 45.1	+0.1
	0.9nm,0.8s,mb3.4						
FITZ	Fitzroy Crossi	41.48	62	P	P	00 17 01.0	+0.5
	3.3nm,1.1s,mb3.9,baz=194,slow=12,SNR=3.1						
FITZ	Fitzroy Crossi	41.48	62	P	P	00 17 01.0	+0.5
VNDA	Vanda	42.78	162	P	P	00 17 09.4	-1.0
	1.4nm,0.8s,mb3.8,baz=286,slow=7.9,SNR=4.8						
VNDA				LR	LR	00 32 30.2	
	comp=Z,78nm,21.8s,MS3.6,baz=274,slow=33						
VNDA	Vanda	42.78	162	eP	P	00 17 10.8	+0.4
	1.7nm,0.8s,mb3.8						
ASAR	Alice Springs	42.95	76	P	P	00 17 11.8	-0.6
	2.0nm,0.8s,mb3.9,baz=223,slow=7.6,SNR=17						
ASAR				PcP	PcP	00 19 02.4	-0.6
	1.5nm,0.7s,baz=218,slow=2.6,SNR=15						
ASAR	Alice Springs	42.95	76	P	P	00 17 11.8	-0.6
ASAR				PcP	PcP	00 19 02.4	-0.6
STKA	Stephens Creek	43.32	91	P	P	00 17 15.3	-0.1
	8.2nm,0.7s,mb4.5,baz=232,slow=5.9,SNR=17						
STKA				PcP	PcP	00 19 03.2	-0.9
	1.7nm,0.6s,baz=298,slow=5.7,SNR=4.5						
STKA				LR	LR	00 31 56.4	
	comp=Z,109nm,18.3s,MS3.8,baz=208,slow=32						
STKA	Stephens Creek	43.32	91	P	P	00 17 15.3	-0.1
STKA				PcP	PcP	00 19 03.2	-0.9
QSPA	South Pole Qui	44.84	180	P	P	00 17 28.5	+1.6
	5.9nm,1.1s,mb4.3,baz=297,slow=2.5,SNR=8.3						
QSPA				LR	LR	00 36 43.0	
	comp=Z,72nm,19.7s,MS3.6,baz=5.6,slow=37						
QSPA	South Pole Qui	44.84	180	eP	P	00 17 28.4	+1.6
	6.6nm,1.1s,mb4.4						
WRA	Warramunga Arr	45.78	72	P	P	00 17 34.8	-0.4
	3.2nm,1.1s,mb4.2,baz=227,slow=7.6,SNR=7.4						
WRA	Warramunga Arr	45.78	72	P	P	00 17 34.8	-0.4
SNAA	Sanae	47.97	205	P	P	00 17 53.2	+1.6
	0.9nm,1.0s,mb3.8,baz=162,slow=9.8,SNR=6.4						
SNAA				LR	LR	00 35 13.2	
	comp=Z,15nm,20.0s,MS3.0,baz=208,slow=32						
SNAA	Sanae	47.97	205	P	P	00 17 53.2	+1.6
PSI	Prapat	48.91	15	LR	LR	00 34 45.0	
	comp=Z,152nm,18.2s,MS4.0,baz=207,slow=31						
VNA2	Neumayer--Watz	49.61	205	e	P	00 18 02.6	-1.6
	baz=107,slow=7.4						
VNA3	Neumayer Olymp	50.16	205	e	P	00 18 07.1	-1.3
BOSA	Boshof	51.46	266	LR	LR	00 36 10.0	
	comp=Z,31nm,18.7s,MS3.4,baz=358,slow=31						
LBTB	Lobatse	53.42	270	LR	LR	00 37 59.1	
	comp=Z,60nm,18.4s,MS3.7,baz=314,slow=32						
CMAR	Chiang Mai Arr	64.26	12	P	P	00 19 49.2	+0.6
	0.3nm,0.3s,mb3.7,baz=213,slow=6.5,SNR=4.0						
CMAR				LR	LR	00 43 30.6	
	comp=Z,44nm,21.6s,MS3.6,baz=41,slow=32						
CMAR	Chiang Mai Arr	64.26	12	P	P	00 19 49.2	+0.6
PMSA	Palmer Station	68.07	193	LR	LR	00 49 02.3	
	comp=Z,200nm,20.1s,MS4.3,baz=137,slow=35						
USHA	Ushuaia	78.22	194	LR	LR	00 52 46.6	
	comp=Z,219nm,21.3s,MS4.5,baz=44,slow=33						
PLCA	Paso Flores	92.17	196	LR	LR	01 06 10.4	
	comp=Z,108nm,20.5s,MS4.3,baz=284,slow=37						
SONM	Songino Array	94.18	12	LR	LR	01 05 32.6	
	comp=Z,40nm,18.8s,MS3.9,baz=88,slow=36						
TORD	Torodi Ar. Bea	96.56	282	P	P	00 22 43.0	-0.3
	1.0nm,0.7s,mb4.4,baz=109,slow=3.7,SNR=4.2						
TORD				LR	LR	01 04 06.2	
	comp=Z,43nm,19.6s,MS3.9,baz=160,slow=34						
TORD	Torodi Ar. Bea	96.56	282	P	P	00 22 43.0	-0.3
ZALV	Zalesovo Beam	98.92	358	LR	LR	01 07 04.5	
	comp=Z,21nm,18.2s,MS3.7,baz=51,slow=35						
ILAR	Eielson Array	144.57	37	PKP	PKPdf	00 28 46.4	-2.4
	0.9nm,0.6s,baz=282,slow=3.3,SNR=13						
ILAR	Eielson Array	144.57	37	PKP	PKPdf	00 28 46.4	-2.4
INK	Inuvik	148.72	28	PKPbc	PKPbc	00 28 59.3	-0.2
	6.7nm,0.8s,baz=326,slow=2.6,SNR=38						
INK	Inuvik	148.72	28	ePKPbc	PKPbc	00 28 59.1	-0.3
NVAR	Mina Array Bea	159.39	100	PKPab	PKPab	00 29 49.4	0.0
	0.7nm,0.7s,baz=219,slow=8.4,SNR=5.3						
TXAR	Lajitas Array	161.63	146	PKPab	PKPab	00 29 59.1	-0.1
	0.2nm,0.7s,baz=211,slow=4.7,SNR=2.9						

NIED 09 00:11:00, 42.70N×143.70E, h83km, Mw3.9 Best double couple: M0 8.94000×10^14 NP1:φ=266.00000°, δ=84.00000°, λ=-103.00000°. NP2:φ=154.00000°, δ=15.00000°, λ=-23.00000°.
ISCJB 09 00:11:31.9±0.3, 42.68N±0.03×143.78E±0.05, h101km±2km, mb4.2/23, Error ellipse: s-maj=6.4km s-min=4.3km az=37.4
MOS 09 00:11:32.5±1.1, 42.77N×143.76E, h104km, mb4.5/15, Error ellipse: s-maj=15.1km s-min=9.0km az=86.1
JMA 09 00:11:33.5±0.1, 42.71N×143.70E, h93km±1km, M3.8 JMA Felt II J1.
NEIC 09 00:11:33.6, 42.71N×143.70E, h93km, mb4.4/5, After JMA.
NEIC Recorded [2 JMA] in southern Hokkaido.
IDC 09 00:11:35.1±1.8, 42.80N×143.68E, h106km±11km, mb3.8/16, mb1 3.9/18, mb1mx3.8/29, mbtmp3.7/18, Error ellipse: s-maj=18.5km s-min=14.3km az=160.0
ISC 09 00:11:33.1±0.3, 42.68N±0.03×143.78E±0.05, h95km±2km, n97, σ0s76/112, mb4.2/23, 2C-10D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOB	Onbets	0.22	10	⇓P	Pn	00 11 47.3	+0.6
JOB				eS	Sn	00 11 57.3	+0.5
JCH	Churui	0.32	258	⇑P	Pn	00 11 47.2	+0.1
JCH				eS	Sn	00 11 56.7	-0.9
JAR	Ashorobuto	0.61	359	⇓P	Pn	00 11 49.4	+0.2
JAR				eS	Sn	00 12 01.1	-0.1
JAK	Akkeshi	0.74	65	⇓P	Pn	00 11 50.8	+0.4
JAK				eS	Sn	00 12 03.5	+0.2
JEM	Erimo	0.81	215	P	Pn	00 11 51.3	+0.2
JNBK	Urakawa-nobuka	0.86	242	⇑P	Pn	00 11 51.7	+0.1
JNBK				eS	Sn	00 12 05.0	-0.5
JFR	Furan	1.00	299	⇓P	Pn	00 11 52.4	-0.6
JBT2	Biratori 2	1.05	276	⇓P	Pn	00 11 53.5	-0.1
JNK	Nakash	1.13	37	⇓P	Pn	00 11 54.7	+0.1
JNK				eS	Sn	00 12 10.2	-0.6
JTKR	Abashiri--Toko	1.29	4	⇓P	Pn	00 11 56.7	+0.2
JTKR				eS	Sn	00 12 13.7	-0.4
JMP	Maruseppu	1.36	347	⇓P	Pn	00 11 57.2	-0.1
JMP				eS	Sn	00 12 14.8	-0.8
JAB	Ashibetsu	1.41	306	⇓P	Pn	00 11 58.3	+0.4
JKK2	Kamakawa 2	1.41	328	⇓P	Pn	00 11 58.0	+0.1
JKK2				eS	Sn	00 12 16.6	-0.1
JRA	Rausu	1.59	37	P	Pn	00 12 01.0	+0.9
JRA				eS	Sn	00 12 22.1	+1.4
NEM2	Nemuro 2	1.59	64	P	Pn	00 12 00.0	-0.1
NEM2				eS	Sn	00 12 19.2	-1.5
ASAJ	Asahikawa	1.67	329	P	Pn	00 12 01.3	+0.1
	57nm,0.3s,baz=190,slow=10,SNR=189						
ASAJ				S	Sn	00 12 22.8	+0.2
	52nm,0.3s,baz=273,slow=32,SNR=9.9						
ASAJ	Asahikawa	1.67	329	ePn	Pn	00 12 01.6	+0.4
ASAJ				eS	Sn	00 12 22.6	+0.1
ASAJ	Asahikawa	1.67	329	PN	Pn	00 12 01.3	+0.1
ASAJ				S	Sn	00 12 22.8	+0.2
ASAJ	comp=Z,57nm,0.3s			pmax	pmax		
ASAJ				smax			
	comp=N,52nm,0.3s						
JEW	Eniwo	1.73	276	P	Pn	00 12 02.5	+0.6
JHR	Hokuryu	1.84	306	P	Pn	00 12 03.9	+0.6
YSS	Yuzh-Sakhalins	4.33	351	ePn	Pn	00 12 37.0	+0.4
YSS				eS	Sn	00 13 27.1	+1.2
YSS	Yuzh-Sakhalins	4.33	351	ePN	Pn	00 12 36.7	+0.1
YSS				eS	Sn	00 13 24.3	-1.6
YSS				smax			
	comp=E,70nm,0.8s						
MAJO	Matsushiro	7.49	217	ePn	Pn	00 13 20.8	+1.2
	comp=E,11nm,0.4s						
MAJO	Matsushiro	7.49	217	ePN	Pn	00 13 20.8	+1.2
MAJO				pmax	pmax		
	comp=Z,11nm,0.4s						
MAT	Matsushiro	7.49	217	P	Pn	00 13 19.7	+0.1
MAT				eS	Sn	00 14 41.9	-1.0
MJAR	Matsushiro Arr	7.49	217	P	Pn	00 13 20.4	+0.8
	comp=Z,2.2nm,0.3s,baz=28,slow=13,SNR=28						
MJAR	Matsushiro Arr	7.49	217	P	Pn	00 13 20.4	+0.8
MJAR	Matsushiro Arr	7.49	217	PN	Pn	00 13 20.4	+0.8
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JHJ	Hachijo jima 2	10.06	200	P	Pn	00 13 52.8	-1.8
	comp=Z,17nm,0.3s,baz=84,slow=23,SNR=7.3						
JHJ				S	Sn	00 15 39.2	-6.2
	comp=Z,17nm,0.3s,baz=73,slow=23,SNR=6.4						
KSRS	Korea Array	13.22	252	P	Pn	00 14 39.4	+2.5
	comp=Z,0.3nm,0.3s,baz=63,slow=14,SNR=2.7						
KSRS	Korea Array	13.22	252	PN	Pn	00 14 39.4	+2.5
PETK	Petropavlovsk-	13.97	37	P	Pn	00 14 44.0	-2.6
	comp=Z,1.0nm,0.3s,baz=214,slow=11,SNR=11						
PETK	Petropavlovsk-	13.97	37	P	Pn	00 14 44.0	-2.6
PETK	Petropavlovsk-	13.97	37	P	Pn	00 14 44.0	-2.6
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
CBIJ	Chichi jima	15.61	185	P	Pn	00 15 07.0	-0.6
	comp=Z,3.0nm,0.3s,baz=205,slow=16,SNR=6.0						
CBIJ				S	S	00 17 50.9	-18
	comp=Z,4.1nm,0.3s,baz=88,slow=24,SNR=4.7						
SONM	Songino Array	26.63	294	P	P	00 17 02.5	0.0
	comp=Z,3.4nm,0.9s,mb3.9,baz=83,slow=8.7,SNR=15						
SONM	Songino Array	26.63	294	P	P	00 17 02.5	0.0
SONM	Songino Array	26.63	294	P	P	00 17 02.5	-0.1
SONM				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ZALV	Zalesovo Beam	39.69	308	P	P	00 18 55.5	-0.1
	comp=Z,1.2nm,0.3s,mb4.2,baz=96,slow=8.3,SNR=9.0						
ZALV	Zalesovo Beam	39.69	308	P	P	00 18 55.5	-0.1
ZALV	Zalesovo Beam	39.69	308	P	P	00 18 55.5	-0.1
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.1						
MKAR	Makanchi Array	42.90	297	P	P	00 19 21.5	-0.4
	comp=Z,0.9nm,0.6s,mb3.7,baz=82,slow=9.8,SNR=9.5						
MKAR	Makanchi Array	42.90	297	P	P	00 19 21.5	-0.4
MKAR	Makanchi Array	42.90	297	P	P	00 19 21.5	-0.5
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
COLA	College	43.37	35	eP	P	00 19 25.4	-0.2
	comp=Z,5.7nm,0.8s,mb4.3						
COLA	College	43.37	35	eP	P	00 19 25.4	-0.2
COLA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
ILAR	Eielson Array	43.79	35	P	P	00 19 29.4	+0.4
	comp=Z,2.9nm,0.8s,mb4.1,baz=259,slow=5.9,SNR=46						
ILAR	Eielson Array	43.79	35	P	P	00 19 29.4	+0.4
ILAR	Eielson Array	43.79	35	P	P	00 19 29.4	+0.5
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURK	Kurchatov	44.09	304	P	P	00 19 32.0	+0.5
	comp=Z,4.3nm,0.4s,mb4.5,baz=72,slow=8.9,SNR=41				

	comp=Z,2.3nm,0.7s,mb4.1,baz=37,slow=6.1,SNR=8.2							
NOA	**NORSAR Array B**	**69.68**	**338**	P	**P**	00 22 31.7	**-0.3**	
NOA	**NORSAR Array B**	**69.68**	**338**	P	**P**	**00 22 31.7**	**-0.3**	
NOA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
NVAR	**Mina Array Bea**	**70.22**	**56**	P	**P**	**00 22 36.9**	**+1.2**	
	comp=Z,0.4nm,0.5s,mb3.5,baz=304,slow=5.3,SNR=3.7							
NVAR	**Mina Array Bea**	**70.22**	**56**	P	**P**	**00 22 36.9**	**+1.2**	
PDAR	**Pinedale Array**	**72.46**	**48**	P	**P**	**00 22 49.7**	**+0.6**	
	comp=Z,0.4nm,0.6s,mb3.4,baz=263,slow=1.5,SNR=4.0							
PDAR	**Pinedale Array**	**72.46**	**48**	P	**P**	**00 22 49.7**	**+0.6**	
GERES	**GERESS Array B**	**78.85**	**329**	P	**P**	**00 23 25.5**	**0.0**	
	comp=Z,0.3nm,0.4s,mb3.5,baz=17,slow=5.6,SNR=4.4							
GERES	**GERESS Array B**	**78.85**	**329**	P	**P**	**00 23 25.5**	**+0.1**	
GERES	**GERESS Array B**	**78.85**	**329**	P	**P**	**00 23 25.5**	**+0.1**	
TXAR	**Lajitas Array**	**85.28**	**54**	P	**P**	**00 24 00.5**	**+1.0**	
	comp=Z,0.2nm,0.5s,mb3.3,baz=295,slow=3.2,SNR=7.6							
TXAR	**Lajitas Array**	**85.28**	**54**	P	**P**	**00 24 00.5**	**+1.0**	
TXAR	**Lajitas Array**	**85.28**	**54**	P	**P**	**00 24 00.5**	**+1.1**	
SNAA	**Sanae**	**146.68**	**198**	PKPbc	PKPbc	00 31 04.3	+1.8	
	comp=Z,0.7nm,0.7s,baz=201,slow=4.2,SNR=11							
SNAA	**Sanae**	**146.68**	**198**	PKPbc	PKPbc	00 31 04.3	+1.8	
SNAA	**Sanae**	**146.68**	**198**	PKP2	PKPab	00 31 04.3	+0.4	
SNAA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
VNA2	**Neumayer--Watz**	**148.25**	**198**	*e*	PKPdf	00 31 05.4	+2.1	

*IDC **09** 00:12:03.9±1.0, 32.80N×96.38E, h0km, mb3.6/5, mb1 3.7/8, mb1mx3.5/27, mbtmp3.6/8, ML3.5/2, MS3.1/3, Ms1 3.1/3, ms1mx2.6/37, Error ellipse: s-maj=51.3km s-min=18.8km az=61.0*

*BJI **09** 00:12:10.0, 32.96N×96.68E, h30km, mb4.1/2, ML3.7/6, Ms3.6/2, Ms7 3.4/2*

*NEIC **09** 00:12:12.7±2.0, 33.07N×96.63E, h63km±21km, Error ellipse: s-maj=22.5km s-min=13.0km az=100.0*

ISC 09 00:12:06.5±1.5, 33.14N±0.07×96.94E±0.08, h15km±13km, n29, σ1s30/29, mb3.6/5, MS2.9/2, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**6.02**	**237**	*e*Pn	**Pn**	**00 13 37.9**	**+2.8**
	7.0nm,0.6s						
LSA				*e*S	**Sn**	**00 14 48.5**	**+4.8**
CD2	**Chengdu**	**6.20**	**109**	Pg	**Pg**	**00 14 05.4**	**+0.2**
GTA	**Gaotai**	**6.68**	**20**	*e*Pg	**Pg**	**00 14 13.8**	**-0.6**
GUN	**Gumba**	**10.86**	**244**	*e*P	**Pn**	**00 14 42.1**	**+0.6**
	16nm,0.4s						
GUN	**Gumba**	**10.86**	**244**	*e*P	**Pn**	**00 14 42.1**	**+0.6**
	16nm,0.4s						
PKI	**Pulchoki**	**11.40**	**244**	*e*P	**Pn**	**00 14 47.5**	**-1.3**
	7.3nm,0.4s						
PKI	**Pulchoki**	**11.40**	**244**	*e*P	**Pn**	**00 14 47.5**	**-1.3**
	7.3nm,0.4s						
PKIN	**Phulchoki**	**11.40**	**244**	*e*P	**Pn**	**00 14 47.3**	**-1.6**
	6.2nm,0.4s						
DANN	**Dangsing**	**12.30**	**251**	*e*P	**Pn**	**00 15 03.1**	**+2.0**
DANN	**Dangsing**	**12.30**	**251**	*e*P	**Pn**	**00 15 03.1**	**+2.0**
KOLN	**Koldanda**	**12.69**	**249**	*e*P	**Pn**	**00 15 05.8**	**-0.7**
KOLN	**Koldanda**	**12.69**	**249**	*e*P	**Pn**	**00 15 05.8**	**-0.7**
CMAR	**Chiang Mai Arr**	**14.73**	**173**	Pn	**Pn**	**00 15 29.0**	**-5.4**
	baz=344,slow=12,SNR=2.6						
CMAR	**Chiang Mai Arr**	**14.73**	**173**	Pn	**Pn**	**00 15 29.0**	**-5.4**
SONM	**Songino Array**	**16.33**	**23**	Pn	**Pn**	**00 16 00.0**	**+4.9**
	0.1nm,0.3s,baz=208,slow=8.4,SNR=4.7						
SONM				LR	LR	00 22 41.8	
	comp=Z,59nm,18.3s,baz=135,slow=38						
SONM	**Songino Array**	**16.33**	**23**	Pn	**Pn**	**00 16 00.1**	**+4.9**
MKAR	**Makanchi Array**	**17.63**	**325**	P	**Pn**	**00 16 12.7**	**+1.2**
	0.3nm,0.3s,baz=133,slow=13,SNR=18						
MKAR	**Makanchi Array**	**17.63**	**325**	P	**Pn**	**00 16 12.7**	**+1.2**
KURK	**Kurchatov**	**22.13**	**328**	P	**P**	**00 17 00.2**	**-1.3**
	0.5nm,0.6s,mb3.1,baz=135,slow=10,SNR=5.0						
KURK				LR	LR	00 26 19.8	
	comp=Z,44nm,18.1s,MS2.9,baz=310,slow=39						
KURK	**Kurchatov**	**22.13**	**328**	P	**P**	**00 17 00.1**	**-1.3**
ZALV	**Zalesovo Beam**	**22.52**	**341**	P	**P**	**00 17 07.1**	**+1.6**
	1.5nm,0.8s,mb3.5,baz=151,slow=10,SNR=7.8						
ZALV	**Zalesovo Beam**	**22.52**	**341**	P	**P**	**00 17 07.1**	**+1.6**
BVAR	**Borovoye Array**	**27.51**	**324**	LR	LR	00 29 53.8	
	comp=Z,30nm,20.7s,MS2.9,baz=46,slow=39						
WRA	**Warramunga Arr**	**63.73**	**140**	P	**P**	**00 22 37.8**	**+0.1**
	0.4nm,0.3s,mb3.9,baz=337,slow=7.1,SNR=3.3						
WRA	**Warramunga Arr**	**63.73**	**140**	P	**P**	**00 22 37.8**	**+0.1**
ASAR	**Alice Springs**	**66.57**	**143**	P	**P**	**00 22 56.5**	**+0.3**
	0.7nm,0.7s,mb3.8,baz=320,slow=5.5,SNR=4.5						
ASAR	**Alice Springs**	**66.57**	**143**	P	**P**	**00 22 56.5**	**+0.3**
TORD	**Torodi Ar. Bea**	**87.24**	**284**	P	**P**	**00 24 50.8**	**-2.1**
	0.5nm,0.8s,mb3.8,baz=47,slow=6.0,SNR=2.1						
TORD	**Torodi Ar. Bea**	**87.24**	**284**	P	**P**	**00 24 50.8**	**-2.1**

*IDC **09** 00:14:44.9±0.9, 13.41N×120.38E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.7/25, mbtmp3.7/8, Error ellipse: s-maj=18.5km s-min=10.6km az=126.0*

*ISCJB **09** 00:14:46.2±3.9, 13.4N±0.2×120.4E±0.2, h23km±30km, mb3.8/8, Error ellipse: s-maj=43.6km s-min=18.0km az=152.1*

*MAN **09** 00:14:46, 13.71N×120.32E, h33km, mb4.1, ML3.0, MS2.7 MAN INTENSITY II - PALUAN OCCIDENTAL MINDORO.*

ISC 09 00:14:46.4±4.0, 13.4N±0.1×120.4E±0.2, h11km±27km, n10, σ0s39/10, mb3.8/8, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.82**	**36**	Pg	**Pg**	**00 15 02.3**	**0.0**
	119nm,0.3s,baz=180,slow=3.0,SNR=9.7						
TGY				Lg		00 15 13.8	
	328nm,0.3s,baz=155,slow=8.7,SNR=21						
RCP	**Roxas**	**2.93**	**129**	*e*P	**Pn**	**00 15 38.9**	**+6.0**
CMAR	**Chiang Mai Arr**	**21.25**	**286**	P	**P**	**00 19 32.9**	**0.0**
	0.5nm,0.4s,mb3.2,baz=91,slow=9.3,SNR=5.7						
WRA	**Warramunga Arr**	**35.88**	**157**	P	**P**	**00 21 46.4**	**-0.3**
	1.1nm,0.6s,mb4.0,baz=336,slow=9.6,SNR=6.7						
SONM	**Songino Array**	**36.23**	**344**	P	**P**	**00 21 49.8**	**+0.4**
	1.2nm,0.7s,mb4.0,baz=165,slow=9.1,SNR=10						
ASAR	**Alice Springs**	**39.16**	**160**	P	**P**	**00 22 14.7**	**+0.3**
	0.8nm,0.5s,mb3.7,baz=343,slow=6.3,SNR=16						
MKAR	**Makanchi Array**	**46.09**	**324**	P	**P**	**00 23 10.4**	**-0.1**
	0.7nm,0.7s,mb3.7,baz=117,slow=8.3,SNR=3.6						
ZALV	**Zalesovo Beam**	**49.17**	**333**	P	**P**	**00 23 33.6**	**-0.7**
	0.3nm,0.4s,mb3.7,baz=132,slow=6.9,SNR=2.7						
KURK	**Kurchatov**	**50.26**	**327**	P	**P**	**00 23 42.4**	**-0.3**
	1.1nm,0.7s,mb4.0,baz=132,slow=7.4,SNR=7.4						
BVAR	**Borovoye Array**	**55.84**	**326**	P	**P**	**00 24 24.5**	**+0.7**
	1.1nm,0.6s,mb4.1,baz=134,slow=11,SNR=5.2						

MEX 09 00:15:10.0±0.6, 16.05N×97.15W, h9km±6km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**1.00**	**290**	*e*P	Pg	00 15 26.4	-2.9
PNIG				*i* S	Sg	00 15 39.2	-3.1
HUIG	**Huatulco**	**1.04**	**105**	*e*P	Pg	00 15 26.7	-3.2
HUIG				*i* S	Sg	00 15 40.2	-3.2
VHO	**Vista Hermosa**	**1.09**	**21**	*e*P	Pg	00 15 27.6	-3.4
VHO				*i* S	Sg	00 15 41.2	-4.0
OXX	**Oaxaca**	**1.10**	**21**	*e*P	Pg	00 15 28.4	-2.8
OXX				*e*S	Sg	00 15 42.3	-3.3
UTMO	**Huajuapan**	**1.88**	**341**	*e*P	Pn	00 15 40.0	-2.3
UTMO				*e*S	Sn	00 16 01.8	-4.5
CMIG	**Matias Romero**	**2.40**	**64**	*e*P	Pn	00 15 45.7	-3.9
CMIG				*e*S	Sn	00 16 15.0	-4.2

IDC 09 00:18:38.8±1.0, 55.57S×28.23W, h0km, mb3.9/3, mb1 3.9/4, mb1mx3.7/17, mbtmp3.9/4, ML4.3/1, Error ellipse: s-maj=53.9km s-min=23.9km az=79.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**17.64**	**160**	*e*P	Pn	00 22 45.5	-0.1
VNA3				*e*		00 22 51.6	
VNA2	**Neumayer--Watz**	**17.86**	**158**	*e*P	Pn	00 22 47.7	-0.6
	baz=316,slow=13						
VNA2				*e*		00 22 53.0	
SNAA	**Sanae**	**19.42**	**156**	P	Pn	00 23 07.1	-0.1
	1.0nm,0.3s,baz=319,slow=12,SNR=117						
QSPA	**South Pole Qui**	**34.69**	**180**	P	P	00 25 30.4	+0.9
	1.3nm,0.5s,baz=206,slow=4.2,SNR=22						
MAW	**Mawson**	**40.89**	**144**	P	P	00 26 21.0	-0.9
	1.0nm,0.6s,baz=243,slow=4.5,SNR=5.4						
TORD	**Torodi Ar. Bea**	**72.93**	**31**	P	P	00 30 10.6	+0.9
	0.5nm,0.6s,baz=201,slow=7.5,SNR=5.2						
INK	**Inuvik**	**145.06**	**321**	PKPbc	PKPbc	00 38 14.8	-0.9
	3.8nm,1.3s,baz=106,slow=6.0,SNR=6.8						
ILAR	**Eielson Array**	**149.35**	**312**	PKPbc	PKPbc	00 38 27.1	-0.9
	0.3nm,0.6s,baz=104,slow=1.5,SNR=10						
SONM	**Songino Array**	**151.28**	**86**	PKPbc	PKPbc	00 38 32.6	-0.5
	0.9nm,0.4s,baz=224,slow=3.7,SNR=8.4						

IDC 09 00:37:53.6±7.2, 30.44S×176.94W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.5/17, mbtmp3.5/2, Error ellipse: s-maj=303.8km s-min=57.9km az=155.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.02**	**266**	P	P	00 46 03.3	+0.2
	0.2nm,0.5s,baz=103,slow=6.9,SNR=3.5						
WRA	**Warramunga Arr**	**45.01**	**272**	P	P	00 46 10.5	-0.6
	0.6nm,0.4s,baz=112,slow=6.5,SNR=2.4						
FINES	**FINESS Array B**	**145.49**	**341**	PKPbc	PKPbc	00 57 32.5	-0.4
	2.8nm,1.1s,baz=35,slow=4.7,SNR=5.7						

*CSEM **09** 00:39:29.4, 37.31N×24.68W, h5km, ML1.7, After PDA*

PDA 09 00:39:29.4±0.8, 37.31N×24.68W, h5km, MD3.7, ML1.7, Error ellipse: s-maj=8.1km s-min=2.1km az=90.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSMN	**Pico do Norte,**	**0.44**	**225**	*e*P	Pg	00 39 37.3	-0.5
PSMN				*e*S	Sg	00 39 42.9	-0.6
PSMN	**Pico do Norte,**	**0.44**	**225**	*e*P	Pg	00 39 37.3	-0.5
PSMN				*e*S	Sg	00 39 42.9	-0.6
PSMA	**Santa Maria**	**0.48**	**229**	*e*P	Pg	00 39 37.7	-1.0
PSMA				*e*S	Sg	00 39 43.8	-1.1
PSMA				A		00 39 45.7	
	26nm,0.1s						
BART	**Pico Bartolome**	**0.61**	**320**	*e*P	Pg	00 39 39.6	-1.5
BART				*e*S	Sg	00 39 47.4	-1.6
BART				A		00 39 48.8	
	35nm,0.1s						
BART	**Pico Bartolome**	**0.61**	**320**	*e*P	Pg	00 39 39.6	-1.5
BART				*e*S	Sg	00 39 47.4	-1.6
GRON	**Grota Negra**	**0.82**	**304**	*e*P	Pg	00 39 41.5	-3.6
GRON				*e*S	Sg	00 39 50.1	-5.7
GRON				A		00 39 51.5	
	13nm,0.2s						
PDA	**Ponta Delgada**	**0.90**	**299**	*e*P	Pg	00 39 44.0	-2.6
PDA				*e*S	Sg	00 39 54.7	-3.6
PDA				A		00 39 55.5	
	31nm,0.1s						
PDA	**Ponta Delgada**	**0.90**	**299**	*e*P	Pg	00 39 44.0	-2.6
PDA				*e*S	Sg	00 39 54.7	-3.6
PSET	**Sete Cidades**	**0.97**	**302**	*e*S	Sg	00 39 56.9	-3.9
PSET				A		00 39 58.0	
	3.4nm,0.2s						
PSET	**Sete Cidades**	**0.97**	**302**	*e*S	Sg	00 39 56.9	-3.9
ADH	**Angra Heroismo**	**2.43**	**304**	*e*P	Pn	00 40 23.0	+13

*IDC **09** 00:46:21.0±1.4, 30.30N×67.73E, h0km, mb3.8/9, mb1 3.8/11, mb1mx3.6/32, mbtmp3.8/11, ML2.9/1, Error ellipse: s-maj=31.3km s-min=23.4km az=119.0*

*NEIC **09** 00:46:22.1±1.0, 30.21N×67.73E, h10km, mb3.6/1, Error ellipse: s-maj=21.5km s-min=15.2km az=116.0*

ISC 09 00:46:25.5±4.0, 30.29N±0.09×67.7E±0.2, h32km±29km, n25, σ0s95/28, mb3.7/9, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**4.38**	**14**	*e*Pn	**Pn**	**00 47 32.3**	**+2.5**
KKAR	**Karatay Array**	**12.98**	**9**	*e*Pn	**Pn**	**00 49 28.5**	**+0.8**
KKAR				*e*S	**Sn**	**00 51 51.3**	**+0.3**
AAK	**Ala-Archa**	**13.46**	**22**	Pn	**Pn**	**00 49 33.9**	**-0.3**
	0.0nm,0.3s,baz=189,slow=5.6,SNR=5.1						
AAK				Sn	**Sn**	**00 52 03.0**	**+0.4**
	0.0nm,0.3s,baz=180,slow=20,SNR=3.5						
AAK	**Ala-Archa**	**13.46**	**22**	Pn	**Pn**	**00 49 33.9**	**-0.3**
AAK				Sn	**Sn**	**00 52 03.0**	**+0.4**
ABKAR	**Akbulak array**	**19.85**	**345**	*e*P	**Pn**	**00 50 54.5**	**-0.9**
	1.8nm,0.6s						
MKAR	**Makanchi Array**	**19.98**	**30**	P	**Pn**	**00 50 54.5**	**-2.4**
	0.3nm,0.3s,baz=212,slow=10,SNR=14						
MKAR	**Makanchi Array**	**19.98**	**30**	P	**Pn**	**00 50 54.5**	**-2.4**
AKTK	**Aktyubinsk**	**21.41**	**343**	P	**P**	**00 51 10.7**	**+0.1**
AKTO	**Aktyubinsk**	**21.41**	**343**	P	**P**	**00 51 10.7**	**+0.1**
	1.3nm,0.5s,mb3.5,baz=153,slow=12,SNR=7.6						
KURK	**Kurchatov**	**21.98**	**19**	P	**P**	**00 51 14.9**	**-1.7**
	2.5nm,0.7s,mb3.8,baz=209,slow=10,SNR=8.3						
KURK	**Kurchatov**	**21.98**	**19**	P	**P**	**00 51 14.9**	**-1.7**
BVAR	**Borovoye Array**	**22.80**	**4**	P	**P**	**00 51 25.6**	**+0.2**
	1.1nm,0.7s,mb3.4,baz=166,slow=8.6,SNR=6.2						
BVAR	**Borovoye Array**	**22.80**	**4**	P	**P**	**00 51 25.6**	**+0.2**
ZALV	**Zalesovo Beam**	**26.68**	**23**	P	**P**	**00 52 01.1**	**-0.4**
	2.3nm,0.6s,mb3.9,baz=222,slow=10,SNR=18						
ZALV	**Zalesovo Beam**	**26.68**	**23**	P	**P**	**00 52 01.1**	**-0.4**
FINES	**FINESS Array B**	**41.36**	**331**	P	**P**	**00 54 07.9**	**-0.3**
	1.7nm,0.9s,mb3.7,baz=132,slow=8.1,SNR=3.8						
FINES	**FINESS Array B**	**41.36**	**331**	P	**P**	**00 54 07.9**	**-0.3**
ARCES	**ARCESS Array B**	**45.98**	**341**	P	**P**	**00 54 45.7**	**+0.5**
	2.0nm,0.8s,mb4.1,baz=124,slow=9.2,SNR=3.5						
ARCES	**ARCESS Array B**	**45.98**	**341**	P	**P**	**00 54 45.8**	**+0.5**
TORD	**Torodi Ar. Bea**	**62.90**	**270**	P	**P**	**00 56 49.1**	**0.0**
	0.5nm,0.7s,mb3.8,baz=58,slow=6.9,SNR=5.4						
TORD	**Torodi Ar. Bea**	**62.90**	**270**	P	**P**	**00 56 49.1**	**0.0**
INK	**Inuvik**	**80.44**	**8**	P	**P**	**00 58 33.5**	**-0.1**
	0.9nm,0.8s,mb3.7,baz=350,slow=7.0,SNR=3.8						
INK	**Inuvik**	**80.44**	**8**	P	**P**	**00 58 33.5**	**-0.1**
ASAR	**Alice Springs**	**83.09**	**122**	P	**P**	**00 58 49.5**	**+1.2**
	0.3nm,0.7s,mb3.4,baz=308,slow=5.3,SNR=4.6						
ASAR	**Alice Springs**	**83.09**	**122**	P	**P**	**00 58 49.5**	**+1.2**

PGC 09 01:01:26.7±1.1, 52.65N×132.40W, h20km, ML3.6/4, 5D, 76km southwest of Sandspit, Bc Queen Charlotte Islands Region, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNB	**Barry Inlet**	**0.40**	**101**	||P	Pb	01 01 34.6	-0.4
DIB	**Dawson Inlet,**	**0.55**	**355**	||P	Pb	01 01 37.6	0.0
DIB				||S	Sb	01 01 44.8	-0.3
MOBC	**Moresby Island**	**0.56**	**28**	||P	Pb	01 01 37.3	-0.5
MOBC				||S	Sb	01 01 44.5	-0.7
NDB	**Naden**	**1.34**	**346**	||P	Pn	01 01 49.5	-0.7

*ISK **09** 01:09:37.5, 37.49N×38.61E, h4km, MD2.2*

*ISCJB **09** 01:09:38.4±0.8, 37.42N±0.06×38.64E±0.04, h10km, Error ellipse: s-maj=8.3km s-min=4.1km az=162.2*

*CSEM **09** 01:09:38.0±0.4, 37.41N×38.62E, h5km, MD2.7, Error ellipse: s-maj=8.1km s-min=4.8km az=165.0*

*DDA **09** 01:09:41.0, 37.51N×38.44E, h4km±5km, Md2.7*

ISC 09 01:09:38.6±0.8, 37.42N±0.05×38.62E±0.04, h7km±8km, n13, σ0s72/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URFA	**Urfa**	**0.16**	**83**	*e*PG	**Pg**	**01 09 41.4**	**-0.5**
URFA				*e*SG	**Sg**	**01 09 45.2**	**+1.1**
URFA	**Urfa**	**0.16**	**83**	*e*Pg	**Pg**	**01 09 41.4**	**-0.5**
URFA				*e*Sg	**Sg**	**01 09 45.2**	**+1.1**
ATAB	**Bozova**	**0.27**	**280**	*i* P	**Pg**	**01 09 43.5**	**-0.4**
ATAB				*i* S	**Sg**	**01 09 46.6**	**-0.8**
ATAB	**Bozova**	**0.27**	**280**	*i* P	**Pg**	**01 09 43.5**	**-0.3**
ATAB				*i* S	**Sg**	**01 09 46.6**	**-0.8**
GZT	**Gaziantep**	**0.85**	**266**	*i* P	**Pg**	**01 09 54.6**	**-0.3**
GZT				*i* S	**Sg**	**01 10 06.9**	**+1.0**
AKCD	**Akcadag**	**1.03**	**328**	*i* P	**Pg**	**01 09 58.4**	**-0.1**
AKCD				*i* S	**Sg**	**01 10 12.4**	**+0.5**
AKCD	**Akcadag**	**1.03**	**328**	*i* P	**Pg**	**01 09 58.4**	**-0.1**
AKCD				*i* S	**Sg**	**01 10 12.4**	**+0.5**
SVRC	**Sivrice-ELAZID**	**1.10**	**29**	*e*PG	**Pg**	**01 09 58.4**	**-1.3**
SVRC				*e*SG	**Sg**	**01 10 13.1**	**-0.8**
SVRC	**Sivrice-ELAZID**	**1.10**	**29**	*e*Pg	**Pg**	**01 09 58.4**	**-1.3**
SVRC				*e*Sg	**Sg**	**01 10 13.1**	**-0.8**
ELZG	**Elazig**	**1.11**	**15**	*i* P	**Pg**	**01 10 00.7**	**+0.8**
ELZG				*i* S	**Sg**	**01 10 15.1**	**+0.7**
ELZG	**Elazig**	**1.11**	**15**	*i* P	**Pg**	**01 10 00.7**	**+0.7**
ELZG				*i* S	**Sg**	**01 10 15.1**	**+0.7**
KMRS	**Kahramanmaras**	**1.37**	**274**	*e*PN	**Pn**	**01 10 03.8**	**-0.4**
KMRS				*e*SN	**Sn**	**01 10 23.1**	**+0.4**
KMRS	**Kahramanmaras**	**1.37**	**274**	*e*Pn	**Pn**	**01 10 03.8**	**-0.4**
KMRS				*e*Sn	**Sn**	**01 10 23.1**	**+0.5**

IDC 09 01:18:41.0±1.7, 2.41S×139.17E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/16, mbtmp3.4/4, ML3.6/1, MS3.7/1, Ms1 3.7/1, ms1mx2.7/20, Error ellipse: s-maj=112.3km s-min=28.3km az=113.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.05**	**195**	P	Pn	01 22 53.8	+0.3
	0.2nm,0.3s,baz=19,slow=12,SNR=5.2						
FITZ	**Fitzroy Crossi**	**20.48**	**220**	P	P	01 23 20.1	-0.4
	2.6nm,1.0s,baz=34,slow=11,SNR=2.4						
ASAR	**Alice Springs**	**21.74**	**193**	P	P	01 23 33.6	-0.5
	0.2nm,0.4s,baz=16,slow=10,SNR=4.1						
PETK	**Petropavlovsk-**	**57.47**	**13**	LR	LR	01 50 35.5	
	comp=Z,75nm,20.4s,baz=66,slow=33						
ILAR	**Eielson Array**	**85.37**	**24**	P	P	01 31 20.3	+0.4
	0.5nm,1.0s,baz=257,slow=5.0,SNR=6.4						

*ISCJB **09** 01:19:14.8±0.5, 38.98N±0.03×30.16E±0.03, h9km±4km, Error ellipse: s-maj=4.9km s-min=4.2km az=172.9*

*CSEM **09** 01:19:14.7±0.2, 38.98N×30.17E, h10km, MD2.1, Error ellipse: s-maj=5.1km s-min=4.3km az=160.0*

*DDA **09** 01:19:14.0, 38.99N×30.16E, h7km±4km, Md2.7*

*ISK **09** 01:19:14.4, 38.98N×30.20E, h12km, MD2.1*

ISC 09 01:19:15.1±0.6, 38.98N±0.03×30.16E±0.03, h11km±8km, n18, σ0s72/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALT	**Altintas**	**0.08**	**333**	*e*PG	**Pg**	**01 19 17.6**	**+0.1**
ALT				*e*SG	**Sg**	**01 19 19.9**	**+0.6**
ALT	**Altintas**	**0.08**	**333**	*e*Pg	**Pg**	**01 19 17.6**	**+0.1**
ALT				*e*Sg	**Sg**	**01 19 19.9**	**+0.6**
SHUT	**Suhut-Afyon**	**0.53**	**144**	*e*PG	**Pg**	**01 19 24.5**	**-0.9**
SHUT				*e*SG	**Sg**	**01 19 32.4**	**+0.1**
SHUT	**Suhut-Afyon**	**0.53**	**144**	*e*Pg	**Pg**	**01 19 24.5**	**-0.9**
SHUT				*e*Sg	**Sg**	**01 19 32.4**	**+0.1**
GDZ	**Gediz**	**0.54**	**282**	*i* P	**Pg**	**01 19 24.9**	**-0.7**
GDZ				*i* S	**Sg**	**01 19 32.2**	**-0.4**
GDZ	**Gediz**	**0.54**	**282**	*i* P	**Pg**	**01 19 24.9**	**-0.7**
GDZ				*i* S	**Sg**	**01 19 32.2**	**-0.5**
BOLV	**Bolvadin**	**0.67**	**113**	*i* P	**Pg**	**01 19 29.1**	**+1.0**
BOLV				*i* S	**Sg**	**01 19 37.1**	**+0.2**
BOLV	**Bolvadin**	**0.67**	**113**	*i* P	**Pg**	**01 19 29.1**	**+1.0**
BOLV				*i* S	**Sg**	**01 19 37.2**	**+0.3**
ESKT	**Eskisehir**	**0.76**	**45**	*e*PG	**Pg**	**01 19 29.3**	**-0.5**
ESKT				*e*SG	**Sg**	**01 19 40.0**	**+0.4**
ESKT	**Eskisehir**	**0.76**	**45**	*i* P	**Pg**	**01 19 28.1**	**-1.7**
ESKT				*i* S	**Sg**	**01 19 39.6**	**-0.1**
ESKT	**Eskisehir**	**0.76**	**45**	*e*Pg	**Pg**	**01 19 29.3**	**-0.5**
ESKT				*e*Sg	**Sg**	**01 19 40.0**	**+0.3**
SEYT	**Eskypehyr**	**0.76**	**45**	*i* P	**Pg**	**01 19 28.1**	**-1.7**
SEYT				*i* S	**Sg**	**01 19 39.6**	**-0.1**
KHAL	**Karahalli**	**0.80**	**221**	*i* P	**Pg**	**01 19 29.3**	**-1.3**
KHAL				*i* S	**Sg**	**01 19 41.5**	**+0.4**
KHAL	**Karahalli**	**0.80**	**221**	*i* P	**Pg**	**01 19 29.3**	**-1.3**
KHAL				*i* S	**Sg**	**01 19 41.5**	**+0.4**
BORA	**Eskisehir**	**0.93**	**14**	*i* P	**Pg**	**01 19 33.2**	**+0.3**
BORA				*i* S	**Sg**	**01 19 44.6**	**-0.4**
BORA	**Eskisehir**	**0.93**	**14**	*i* P	**Pg**	**01 19 33.2**	**+0.3**
BORA				*i* S	**Sg**	**01 19 44.6**	**-0.4**
DEMI	**Demirci**	**1.12**	**273**	*i* P	**Pb**	**01 19 37.9**	**+1.4**
DEMI				*i* S	**Sg**	**01 19 51.6**	**+0.3**
DEMI	**Demirci**	**1.12**	**273**	*i* P	**Pb**	**01 19 37.9**	**+1.3**
DEMI				*i* S	**Sg**	**01 19 51.7**	**+0.4**

**IDC 09 01:22:05.8±1.7, 2.70S×138.84E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/16, mbt

0.9nm,0.4s,baz=48,slow=3.4,SNR=6.1
AKASG PKPab PKPab 02 20 24.7 -1.1
0.3nm,0.3s,baz=48,slow=3.1,SNR=4.3
MMAI Mount Meron Ar 151.31 287 PKPbc PKPbc 02 20 24.8 +0.9
3.0nm,0.6s,baz=78,slow=8.6,SNR=8.5
BRTR Keskin Array B 151.93 302 PKPbc PKPbc 02 20 25.2 +0.1
0.3nm,0.6s,baz=123,slow=3.3,SNR=4.1
TORD Torodi Ar. Bea 164.65 178 PKPab PKPab 02 21 29.9 +0.3
0.3nm,0.5s,baz=178,slow=4.4,SNR=7.6

*ISCJB **09** 02:01:03.0±1.7,20°01'S±0'09×69°0W±0'2,h148km±16km, mb3.6/6,Error ellipse: s-maj=26.6km s-min=15.0km az=171.6*
*NEIC **09** 02:01:03.7±1.3,20°04S×68°98W,h136km±12km,mb3.9/2, Error ellipse: s-maj=18.4km s-min=11.4km az=81.0*
*IDC **09** 02:01:03.5±2.0,19°98S×69°05W,h137km±18km,mb3.5/7, mb1 3.5/9,mb1mx3.4/21,mbtmp3.4/9,Error ellipse: s-maj=26.1km s-min=15.4km az=93.0*
ISC 09 02:01:04.1±1.5,20°02S±0°09×69°0W±0'2,h139km±15km, n20,σ0°57/20,mb3.6/6,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.80**	**12**	P			**Pn**	**02 02 02.2**	**+0.7**
	2.7nm,0.3s,baz=186,slow=8.4,SNR=26								
LPAZ				S			**Sn**	**02 02 45.6**	**-0.3**
	0.8nm,0.3s,baz=273,slow=4.5,SNR=3.9								
LPAZ	**La Paz**	**3.80**	**12**	P			**Pn**	**02 02 02.2**	**+0.7**
LPAZ				S			**Sn**	**02 02 45.6**	**-0.3**
CPUP	**Villa Florida**	**12.40**	**123**	P			**Pn**	**02 03 55.0**	**-0.9**
	0.5nm,0.3s,baz=301,slow=9.1,SNR=3.8								
CPUP	**Villa Florida**	**12.40**	**123**	P			**Pn**	**02 03 55.0**	**-0.9**
PLCA	**Paso Flores**	**20.69**	**183**	P			**P**	**02 05 33.6**	**+0.6**
	2.7nm,0.7s,baz=350,slow=9.7,SNR=6.8								
PLCA	**Paso Flores**	**20.69**	**183**	*eP*			**P**	**02 05 33.3**	**+0.3**
	2.5nm,0.6s								
RCBR	**Riachuelo**	**35.08**	**71**	P			**P**	**02 07 44.6**	**+0.5**
	5.3nm,0.9s,mb4.2,baz=251,slow=17,SNR=6.4								
RCBR	**Riachuelo**	**35.08**	**71**	P			**P**	**02 07 44.6**	**+0.5**
TXAR	**Lajitas Array**	**59.40**	**325**	P			**P**	**02 10 51.0**	**-1.0**
	0.1nm,0.5s,mb2.9,baz=143,slow=9.1,SNR=3.0								
TXAR	**Lajitas Array**	**59.40**	**325**	P			**P**	**02 10 51.0**	**-1.0**
SNAA	**Sanae**	**63.69**	**161**	P			**P**	**02 11 20.1**	**0.0**
	0.3nm,0.6s,mb3.3,baz=289,slow=7.3,SNR=9.4								
SNAA	**Sanae**	**63.69**	**161**	*eP*			**P**	**02 11 19.8**	**-0.4**
	1.1nm,0.7s,mb3.8								
DBIC	**Dimbokro**	**68.37**	**74**	P			**P**	**02 11 51.5**	**+0.4**
	0.7nm,0.3s,mb3.9,baz=159,slow=4.4,SNR=6.8								
DBIC	**Dimbokro**	**68.37**	**74**	P			**P**	**02 11 51.5**	**+0.4**
QSPA	**South Pole Qui**	**70.16**	**180**	P			**P**	**02 12 01.4**	**+0.4**
	0.5nm,0.5s,mb3.5,baz=135,slow=5.7,SNR=3.0								
QSPA	**South Pole Qui**	**70.16**	**180**	P			**P**	**02 12 01.4**	**+0.4**
TORD	**Torodi Ar. Bea**	**76.91**	**71**	P			**P**	**02 12 41.5**	**0.0**
	1.1nm,0.4s,mb3.9,baz=254,slow=5.5,SNR=38								
TORD	**Torodi Ar. Bea**	**76.91**	**71**	P			**P**	**02 12 41.5**	**0.0**
SONM	**Songino Array**	**152.00**	**7**	PKPbc		PKPbc	PKPbc	02 20 43.8	+1.1
	0.4nm,0.4s,baz=335,slow=1.2,SNR=3.6								
SONM				PKPab		PKPab	PKPab	02 20 50.1	-2.4
	0.2nm,0.4s,baz=42,slow=4.5,SNR=2.7								
SONM	**Songino Array**	**152.00**	**7**	PKPbc		PKPbc	PKPbc	02 20 43.8	+1.1
SONM				PKPab		PKPab	PKPab	02 20 50.1	-2.4

*IDC **09** 02:10:45.7±3.4,35°99N×140°99E,h0km,mb3.4/2, mb1 3.6/4,mb1mx3.4/26,mbtmp3.5/4,ML3.4/2,Error ellipse: s-maj=65.9km s-min=26.9km az=41.0*
*ISCJB **09** 02:10:55.1±0.7,35°68N±0°03×140°22E±0°06,h64km±8km, mb3.5/2,Error ellipse: s-maj=8.6km s-min=5.2km az=164.8*
*JMA **09** 02:10:55.7±0.1,35°73N×140°20E,h62km±1km,M2.6*
ISC 09 02:10:55.9±0.6,35°69N±0°03×140°22E±0°06,h57km±8km, n16,σ0°79/27,mb3.5/2,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.27**	**183**	P			**Pn**	**02 11 06.9**	**+1.4**
JYT	**Yasato**	**0.54**	**358**	P			**Pn**	**02 11 07.7**	**-0.5**
JYT				S			**Sn**	**02 11 16.6**	**-0.4**
BSO3	**Boso 3**	**0.91**	**165**	P			**Pn**	**02 11 12.8**	**+0.1**
BSO3				S			**Sn**	**02 11 25.2**	**+0.2**
JAG	**Ashikaga**	**0.97**	**320**	P			**Pn**	**02 11 13.1**	**-0.3**
JAG				S			**Sn**	**02 11 26.1**	**-0.2**
JOD2	**Odawara 2**	**1.02**	**246**	P			**Pn**	**02 11 13.7**	**-0.4**
JOD2				S			**Sn**	**02 11 27.0**	**-0.5**
JRY	**Ryogami san**	**1.12**	**288**	P			**Pn**	**02 11 15.8**	**+0.3**
JIM2	**Oshima 3**	**1.16**	**214**	P			**Pn**	**02 11 15.3**	**-0.7**
JIM2				S			**Sn**	**02 11 30.6**	**-0.3**
BSO1	**Boso 1**	**1.20**	**149**	P			**Pn**	**02 11 16.4**	**-0.1**
JKT	**Katashina**	**1.34**	**324**	P			**Pn**	**02 11 18.6**	**+0.3**
JKT				S			**Sn**	**02 11 34.2**	**-0.9**
JYN	**Shimob**	**1.38**	**263**	P			**Pn**	**02 11 18.9**	**0.0**
JYN				S			**Sn**	**02 11 36.5**	**+0.4**
JIZS	**Izushimoda**	**1.46**	**229**	P			**Pn**	**02 11 19.6**	**-0.4**
JIZS				eS			**Sn**	**02 11 37.3**	**-0.9**
MJAR	**Matsushiro Arr**	**1.84**	**298**	Pn			**Pn**	**02 11 25.2**	**0.0**
	6.3nm,0.3s,baz=100,slow=15,SNR=43								
MJAR				Sn			**Sn**	**02 11 54.0**	**+6.6**
	4.2nm,0.3s,baz=74,slow=19,SNR=6.4								
MAT	**Matsushiro**	**1.84**	**298**	P			**Pn**	**02 11 26.1**	**+0.9**
MAT				eS			**Sn**	**02 11 50.1**	**+2.7**
JHJ	**Hachijo jima 2**	**2.58**	**188**	Pn			**Pn**	**02 11 35.2**	**-0.1**
	16nm,0.3s,baz=22,slow=19,SNR=9.7								
JHJ				Sn			**Sn**	**02 12 06.3**	**+0.8**
	47nm,0.3s,baz=71,slow=23,SNR=6.5								
WRA	**Warramunga Arr**	**55.60**	**187**	P			**P**	**02 20 24.0**	**-1.8**
	0.5nm,0.5s,mb3.8,baz=1.6,slow=7.6,SNR=5.9								
ASAR	**Alice Springs**	**59.33**	**187**	P			**P**	**02 20 53.4**	**+1.4**
	0.1nm,0.4s,mb3.2,baz=13,slow=8.8,SNR=3.4								

FUNV 09 02:18:47.9,6°73N×73°18W,h170km,MW3.5,1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.42**	**37**	*iP*			Pn	02 19 17.9	-0.3
CAPV				eS			Sn	02 19 39.9	-1.8
VIGV	**El Vigia**	**2.76**	**41**	*eP*			Pn	02 19 32.4	-0.8
VIGV				eS			Sn	02 20 04.6	-3.8
SOCV	**Socops**	**2.77**	**56**	*eP*			Pn	02 19 32.6	-0.8
SOCV				eS			Sn	02 20 04.4	-4.2
ELOV	**Elorza**	**3.68**	**86**	*eP*			Pn	02 19 43.5	-1.2
VIRV	**Villa del Rosa**	**3.83**	**12**	*eP*			Pn	02 19 44.9	-1.6
VIRV				eS			Sn	02 20 27.1	-5.2
QARV	**Quebrada Arrib**	**4.34**	**37**	*eP*			Pn	02 19 52.4	-0.8
QARV				eS			Sn	02 20 39.0	-5.1
SANV	**Sanarito**	**4.54**	**52**	*eP*			Pn	02 19 54.1	-1.5
CURV	**Curarigua**	**4.56**	**44**	*eP*			Pn	02 19 54.6	-1.3
CURV				eS			Sn	02 20 44.5	-4.6
BAUV	**El Baul**	**5.55**	**66**	*eP*			Pn	02 20 06.0	-2.8
BAUV				eS			Sn	02 21 05.9	-6.5
MAPV	**Macapo**	**5.60**	**56**	*eP*			Pn	02 20 07.5	-2.0
IMOV	**Isla Los Monje**	**6.03**	**22**	*eP*			Pn	02 20 13.7	-1.5
MONV	**Montecano**	**6.08**	**31**	*eP*			Pn	02 20 13.3	-2.6

*IDC **09** 02:19:52.2±1.0,19°46N×66°16W,h0km,mb3.6/5, mb1 4.0/5,mb1mx3.7/22,mbtmp3.6/5,Error ellipse: s-maj=29.3km s-min=17.5km az=67.0*
*NEIC **09** 02:19:54.2±0.5,19°46N×66°26W,h10km,MD3.6(RSPR), Error ellipse: s-maj=8.0km s-min=6.0km az=60.0*
*ISCJB **09** 02:19:58.2±1.2,19°3N±0°1×66°33W±0°05,h61km±17km, mb3.7/5,Error ellipse: s-maj=19.5km s-min=7.9km az=3.3*
*RSPR **09** 02:20:00.5,19°24N×66°30W,h13km±6km,MD3.6/14*
ISC 09 02:19:58.9±1.1,19°27N±0°10×66°32W±0°05,h49km±16km, n40,σ0°62/49,mb3.7/5,14C-14D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.09**	**156**	*iP*			**Pn**	**02 20 18.4**	**+0.5**
CBYP	**Canovanas**	**1.09**	**156**	*eP*			**Pn**	**02 20 18.4**	**+0.5**
LRS	**Lares**	**1.10**	**207**	*iP*			**Pn**	**02 20 17.3**	**-0.6**
LRS	**Lares**	**1.10**	**207**	*eP*			**Pn**	**02 20 17.3**	**-0.6**
AGPR	**Aguadilla, PR**	**1.10**	**223**	*iP*			**Pn**	**02 20 17.2**	**-0.7**
AGPR	**Aguadilla, PR**	**1.10**	**223**	*eP*			**Pn**	**02 20 17.2**	**-0.7**
AGPR				eS			**Sn**	**02 20 31.6**	**-0.4**
SJG	**San Juan**	**1.17**	**172**	*iP*			**Pn**	**02 20 18.9**	**0.0**
SJG	**San Juan**	**1.17**	**172**	*eP*			**Pn**	**02 20 18.8**	**-0.1**
SJG	**San Juan**	**1.17**	**172**	Pn			**Pn**	**02 20 18.8**	**0.0**
	41nm,0.3s,baz=9.6,slow=10,SNR=106								
SJG				Sn			**Sn**	**02 20 36.0**	**+2.3**
	62nm,0.3s,baz=43,slow=18,SNR=15								
SJG	**San Juan**	**1.17**	**172**	*iP*			**Pn**	**02 20 18.9**	**0.0**
SJG				eS			**Sn**	**02 20 33.7**	**0.0**
HUMP	**Col San Antoni**	**1.21**	**158**	*iP*			**Pn**	**02 20 19.5**	**0.0**
HUMP	**Col San Antoni**	**1.21**	**158**	*eP*			**Pn**	**02 20 19.5**	**0.0**
CELP	**Cerrillos**	**1.22**	**192**	*iP*			**Pn**	**02 20 19.3**	**-0.3**
CELP				eS			**Sn**	**02 20 34.1**	**-0.8**
CELP	**Cerrillos**	**1.22**	**192**	*eP*			**Pn**	**02 20 19.3**	**-0.3**
CELP				eS			**Sn**	**02 20 34.1**	**-0.8**
OBIP	**Obispado Ponce**	**1.25**	**193**	*iP*			**Pn**	**02 20 20.3**	**+0.3**
OBIP	**Obispado Ponce**	**1.25**	**193**	*eP*			**Pn**	**02 20 20.3**	**+0.3**
LSP	**Las Mesas**	**1.31**	**214**	*iP*			**Pn**	**02 20 20.6**	**-0.2**
LSP	**Las Mesas**	**1.31**	**214**	*eP*			**Pn**	**02 20 20.6**	**-0.2**
LSP				eS			**Sn**	**02 20 36.9**	**-0.3**
LSP	**Las Mesas**	**1.31**	**214**	*eP*			**Pn**	**02 20 20.6**	**-0.2**
LSP				eS			**Sn**	**02 20 36.9**	**-0.3**
MTP	**Monte Pirata**	**1.38**	**148**	*iP*			**Pn**	**02 20 21.3**	**-0.4**
MTP	**Monte Pirata**	**1.38**	**148**	*eP*			**Pn**	**02 20 21.3**	**-0.4**
ICM	**Isla Caja Muer**	**1.39**	**188**	*iP*			**Pn**	**02 20 22.6**	**+0.7**
ICM	**Isla Caja Muer**	**1.39**	**188**	*eP*			**Pn**	**02 20 22.6**	**+0.7**
ICM				eS			**Sn**	**02 20 38.8**	**-0.2**
GBPR	**Guanica, Bosqu**	**1.40**	**202**	*eP*			**Pn**	**02 20 23.1**	**+1.1**
CRPR	**Cabo Rojo, PR**	**1.47**	**211**	*iP*			**Pn**	**02 20 23.2**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.47**	**211**	*eP*			**Pn**	**02 20 23.2**	**+0.2**
STVI	**Saint Thomas**	**1.59**	**125**	*iP*			**Pn**	**02 20 24.2**	**-0.4**
STVI	**Saint Thomas**	**1.59**	**125**	*eP*			**Pn**	**02 20 24.2**	**-0.4**
STVI				eS			**Sn**	**02 20 43.9**	**0.0**
IMO	**Isla Mona**	**1.90**	**233**	*iP*			**Pn**	**02 20 30.1**	**+1.2**
IMO	**Isla Mona**	**1.90**	**233**	*eP*			**Pn**	**02 20 30.1**	**+1.2**
SDDR	**Presa de Saban**	**4.71**	**267**	*ePn*			**Pn**	**02 21 06.8**	**-0.6**
TXAR	**Lajitas Array**	**35.35**	**294**	P			**P**	**02 26 50.1**	**+0.4**
	1.0nm,0.6s,mb4.0,baz=109,slow=9.2,SNR=21								
TXAR	**Lajitas Array**	**35.35**	**294**	P			**P**	**02 26 50.1**	**+0.4**
PDAR	**Pinedale Array**	**43.22**	**313**	P			**P**	**02 27 55.5**	**+0.3**
	0.3nm,0.5s,mb3.2,baz=104,slow=9.7,SNR=3.1								
PDAR	**Pinedale Array**	**43.22**	**313**	P			**P**	**02 27 55.5**	**+0.3**
NVAR	**Mina Array Bea**	**48.70**	**305**	P			**P**	**02 28 39.1**	**+0.7**
	0.7nm,0.7s,mb3.8,baz=96,slow=8.2,SNR=5.5								
NVAR	**Mina Array Bea**	**48.70**	**305**	P			**P**	**02 28 39.1**	**+0.7**
TORD	**Torodi Ar. Bea**	**65.25**	**84**	P			**P**	**02 30 35.3**	**-0.7**
	0.5nm,0.8s,mb3.6,baz=294,slow=6.1,SNR=3.1								
TORD	**Torodi Ar. Bea**	**65.25**	**84**	P			**P**	**02 30 35.3**	**-0.7**
ILAR	**Eielson Array**	**68.73**	**333**	P			**P**	**02 30 56.5**	**-0.7**
	0.8nm,0.7s,mb3.8,baz=108,slow=4.1,SNR=16								
ILAR	**Eielson Array**	**68.73**	**333**	P			**P**	**02 30 56.5**	**-0.7**

*ISCJB **09** 02:22:02.8±0.5,38°99N±0°03×30°17E±0°03,h6km±4km, Error ellipse: s-maj=4.4km s-min=3.7km az=0.8*
*DDA **09** 02:22:02.2,39°01N×30°17E,h7km±6km,Md3.0*
*CSEM **09** 02:22:03.0±0.1,39°00N×30°16E,h5km,MD2.5,Error ellipse: s-maj=3.1km s-min=2.5km az=170.0*
*ISK **09** 02:22:03.0,38°99N×30°16E,h9km,MD2.5*
ISC 09 02:22:03.1±0.4,39°00N±0°03×30°15E±0°03,h7km±4km, n38,σ0°67/60,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ALT	**Altintas**	**0.07**	**330**	PG			**Pg**	**02 22 05.7**	**+0.8**
ALT				SG			**Sg**	**02 22 07.2**	**+1.0**
ALT	**Altintas**	**0.07**	**330**	*i* Pg			**Pg**	**02 22 05.7**	**+0.8**
ALT				*i* Sg			**Sg**	**02 22 07.2**	**+1.1**
GDZ	**Gediz**	**0.53**	**280**	*i* P			**Pg**	**02 22 12.3**	**-1.1**
GDZ				*i* S			**Sg**	**02 22 19.9**	**-0.5**
GDZ	**Gediz**	**0.53**	**280**	*i* P			**Pg**	**02 22 12.3**	**-1.1**
GDZ				*i* S			**Sg**	**02 22 19.9**	**-0.4**
SHUT	**Suhut-Afyon**	**0.54**	**145**	*ePG*			**Pg**	**02 22 14.6**	**+1.0**
SHUT				*eSG*			**Sg**	**02 22 21.1**	**+0.5**
SHUT	**Suhut-Afyon**	**0.54**	**145**	*ePg*			**Pg**	**02 22 14.6**	**+1.0**
SHUT				*eSg*			**Sg**	**02 22 21.1**	**+0.5**
BOLV	**Bolvadin**	**0.68**	**114**	*i* P			**Pg**	**02 22 16.1**	**-0.1**
BOLV				*i* S			**Sg**	**02 22 24.3**	**-0.8**
BOLV	**Bolvadin**	**0.68**	**114**	*i* P			**Pg**	**02 22 16.1**	**-0.1**
BOLV				*i* S			**Sg**	**02 22 24.3**	**-0.8**
ESKT	**Eskisehir**	**0.75**	**46**	*ePG*			**Pg**	**02 22 17.2**	**-0.4**
ESKT	**Eskisehir**	**0.75**	**46**	*i* P			**Pg**	**02 22 16.1**	**-1.5**
ESKT				*i* S			**Sg**	**02 22 26.6**	**-0.7**
ESKT	**Eskisehir**	**0.75**	**46**	*ePg*			**Pg**	**02 22 17.2**	**-0.4**
SEYT	**Eskypehyr**	**0.75**	**46**	*i* P			**Pg**	**02 22 16.1**	**-1.5**
SEYT				*i* S			**Sg**	**02 22 26.6**	**-0.8**
KHAL	**Karahalli**	**0.81**	**220**	*i* P			**Pg**	**02 22 18.2**	**-0.5**
KHAL				*i* S			**Sg**	**02 22 29.1**	**-0.2**
KHAL	**Karahalli**	**0.81**	**220**	*i* P			**Pg**	**02 22 18.2**	**-0.5**
KHAL				*i* S			**Sg**	**02 22 29.1**	**-0.2**
BORA	**Eskisehir**	**0.91**	**15**	*i* P			**Pg**	**02 22 20.5**	**-0.2**
BORA				*i* S			**Sg**	**02 22 32.0**	**-0.5**
BORA	**Eskisehir**	**0.91**	**15**	*i* P			**Pg**	**02 22 20.5**	**-0.1**
BORA				*i* S			**Sg**	**02 22 32.0**	**-0.5**
DEMI	**Demirci**	**1.12**	**273**	*i* P			**Pg**	**02 22 24.6**	**0.0**
DEMI				*i* S			**Sg**	**02 22 39.5**	**+0.3**
DEMI	**Demirci**	**1.12**	**273**	*i* P			**Pg**	**02 22 24.6**	**0.0**
DEMI				*i* S			**Sg**	**02 22 39.5**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.16**	**67**	*ePN*			**Pn**	**02 22 25.7**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.16**	**67**	*ePn*			**Pn**	**02 22 25.7**	**0.0**
KULA	**Kula-Manisa**	**1.26**	**248**	*ePN*			**Pn**	**02 22 27.1**	**-0.1**
KULA	**Kula-Manisa**	**1.26**	**248**	*ePn*			**Pn**	**02 22 27.1**	**-0.1**
DST	**Dursunbey**	**1.33**	**297**	*ePN*			**Pn**	**02 22 28.6**	**+0.4**
DST	**Dursunbey**	**1.33**	**297**	*ePn*			**Pn**	**02 22 28.6**	**+0.4**
MANT	**Manisa**	**1.35**	**248**	*i* P			**Pn**	**02 22 29.4**	**+1.0**
MANT				*i* S			**Sb**	**02 22 44.3**	**-1.8**
MANT	**Manisa**	**1.35**	**248**	*i* P			**Pn**	**02 22 29.4**	**+1.1**
MANT				*i* S			**Sb**	**02 22 44.3**	**-1.8**
KIZT	**Kizilcal**	**1.35**	**94**	*ePN*			**Pn**	**02 22 28.9**	**+0.5**
KIZT	**Kizilcal**	**1.35**	**94**	*ePn*			**Pn**	**02 22 28.9**	**+0.5**
ULDT	**Uludag**	**1.39**	**326**	*i* P			**Pn**	**02 22 28.9**	**0.0**
ULDT				*i* S			**Sb**	**02 22 46.9**	**-0.4**
ULDT	**Uludag**	**1.39**	**326**	*i* P			**Pn**	**02 22 28.9**	**0.0**
ULDT				*i* S			**Sb**	**02 22 46.9**	**-0.4**
DURS	**Dursunbey**	**1.44**	**295**	*i* P			**Pn**	**02 22 30.3**	**+0.7**
DURS				*i* S			**Sn**	**02 22 49.1**	**+0.4**
DURS	**Dursunbey**	**1.44**	**295**	*i* P			**Pn**	**02 22 30.3**	**+0.7**
DURS				*i* S			**Sn**	**02 22 49.1**	**+0.4**
GULT	**Gulveren**	**1.46**	**11**	*ePN*			**Pn**	**02 22 30.2**	**+0.3**
GULT	**Gulveren**	**1.46**	**11**	*ePn*			**Pn**	**02 22 30.2**	**+0.3**
GEMT	**Gemlik**	**1.62**	**333**	*ePN*			**Pn**	**02 22 32.3**	**+0.2**
GEMT	**Gemlik**	**1.62**	**333**	*ePn*			**Pn**	**02 22 32.3**	**+0.2**
MDU	**Mudurnu**	**1.68**	**29**	*ePN*			**Pn**	**02 22 33.4**	**+0.4**
MDU	**Mudurnu**	**1.68**	**29**	*ePn*			**Pn**	**02 22 33.4**	**+0.5**

*CSEM **09** 02:54:03.5,36°81N×29°27E,h15km,MD2.2,After ISK*
ISK 09 02:54:03.5,36°81N×29°27E,h15km,MD2.2,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.23**	**222**	PG			Pg	02 54 08.9	+0.3
FETY				SG			Sg	02 54 13.1	+1.1
FETY	**Fethiye**	**0.23**	**222**	*i* Pg			Pg	02 54 08.9	+0.3
FETY				*i* Sg			Sg	02 54 13.1	+1.0
GLHS	**Glhisar (BURDU**	**0.39**	**27**	*ePG*			Pg	02 54 12.1	+0.6
GLHS				*eSG*			Sg	02 54 17.9	+1.1
GLHS	**Glhisar (BURDU**	**0.39**	**27**	*ePg*			Pg	02 54 12.1	+0.7
GLHS				*eSg*			Sg	02 54 17.9	+1.1
ELL	**Elmali**	**0.51**	**96**	*ePG*			Pg	02 54 14.2	+0.5
ELL	**Elmali**	**0.51**	**96**	*ePg*			Pg	02 54 14.2	+0.6
DAT	**Datca**	**1.36**	**267**	*ePN*			Pn	02 54 28.0	0.0
DAT	**Datca**	**1.36**	**267**	*ePn*			Pn	02 54 28.0	0.0

*ATH **09** 02:58:17.3,36°98N×27°93E,h77km±7km*
*ISCJB **09** 02:58:18.6±0.4,36°97N±0°02×27°77E±0°04,h8km±5km, Error ellipse: s-maj=4.8km s-min=3.8km az=0.9*
*CSEM **09** 02:58:18.6±0.1,36°94N×27°78E,h8km,MD2.9,Error ellipse: s-maj=2.9km s-min=2.7km az=84.0*
*DDA **09** 02:58:18.0,36°97N×27°80E,h7km±6km,Md3.2*
*ISK **09** 02:58:18.1,36°97N×27°79E,h4km,MD2.9*
ISC 09 02:58:19.1±0.4,36°96N±0°02×27°78E±0°04,h12km±4km, n40,σ0°87/61,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.28**	**215**	*i* Pg			**Pg**	**02 58 24.2**	**-0.7**
DAT				*i* Sg			**Sg**	**02 58 29.4**	**+0.6**
DAT	**Datca**	**0.28**	**215**	PG			**Pg**	**02 58 24.2**	**-0.7**
DAT				SG			**Sg**	**02 58 29.4**	**+0.6**
MLSB	**Milas**	**0.33**	**359**	PG			**Pg**	**02 58 25.4**	**-0.4**
MLSB	**Milas**	**0.33**	**359**	*i* Pg			**Pg**	**02 58 25.4**	**-0.4**
BODT	**Bodrum**	**0.39**	**285**	PG			**Pg**	**02 58 25.7**	**-1.1**
BODT	**Bodrum**	**0.39**	**285**	*i* Pg			**Pg**	**02 58 25.7**	**-1.1**
YER	**Yerkesik**	**0.44**	**67**	*ePG*			**Pg**	**02 58 27.5**	**-0.3**
YER				*eSG*			**Sg**	**02 58 33.3**	**-0.3**
YER	**Yerkesik**	**0.44**	**67**	*ePg*			**Pg**	**02 58 27.5**	**-0.2**
YER				*eSg*			**Sg**	**02 58 33.3**	**-0.3**
TURN	**Turunc**	**0.67**	**97**	*i* P			**Pg**	**02 58 26.3**	**-5.7**
TURN				*i* S			**Sg**	**02 58 31.8**	**-8.9**
TURN	**Turunc**	**0.67**	**97**	*i* P			**Pg**	**02 58 26.3**	**-5.7**
AYDN	**Tasoluk**	**0.70**	**6**	*i* P			**Pg**	**02 58 32.3**	**-0.4**
AYDN				*i* S			**Sg**	**02 58 41.8**	**-0.2**
AYDN	**Tasoluk**	**0.70**	**6**	*i* P			**Pg**	**02 58 32.3**	**-0.4**
AYDN				*i* S			**Sg**	**02 58 41.8**	**-0.2**
ARG	**Arkhangelos**	**0.79**	**159**	*eP*			**Pg**	**02 58 33.8**	**-0.7**
ARG				*eS*			**Sg**	**02 58 47.1**	**+2.3**
ARG	**Arkhangelos**	**0.79**	**159**	*eP*			**Pg**	**02 58 33.8**	**-0.7**
ARG				*eS*			**Sg**	**02 58 47.1**	**+2.3**
GCAM	**G?zelcaml?**	**0.86**	**330**	*i* P			**Pg**	**02 58 35.5**	**-0.1**
GCAM				*i* S			**Sg**	**02 58 47.6**	**+0.7**
GCAM	**G?zelcaml?**	**0.86**	**330**	*i* P			**Pg**	**02 58 35.5**	**-0.2**
GCAM				*i* S			**Sg**	**02 58 47.6**	**+0.7**
SMG	**Samos**	**1.06**	**315**	*eP*			**Pg**	**02 58 38.8**	**-0.7**
SMG				*eS*			**Sg**	**02 58 54.3**	**+1.0**
SMG	**Samos**	**1.06**	**315**	*eP*			**Pg**	**02 58 38.8**	**-0.7**
SMG				*eS*			**Sg**	**02 58 54.3**	**+1.0**
FETY	**Fethiye**	**1.10**	**107**	*ePN*			**Pg**	**02 58 39.7**	**-0.5**
FETY	**Fethiye**	**1.10**	**107**	*ePn*			**Pg**	**02 58 39.7**	**-0.5**
DNZL	**Cakiroluk**	**1.24**	**54**	*i* P			**Pn**	**02 58 42.0**	**-0.2**
DNZL				*i* S			**Sb**	**02 58 58.5**	**0.0**
DNZL	**Cakiroluk**	**1.24**	**54**	*i* P			**Pn**	**02 58 42.0**	**-0.2**
DNZL				*i* S			**Sb**	**02 58 58.5**	**+0.1**
DENT	**Denizli**	**1.27**	**51**	*ePN*			**Pn**	**02 58 42.7**	**+0.1**
DENT	**Denizli**	**1.27**	**51**	*ePn*			**Pn**	**02 58 42.7**	**+0.1**
GLHS	**Glhisar (BURDU**	**1.39**	**81**	*ePN*			**Pn**	**02 58 44.7**	**+0.5**
GLHS	**Glhisar (BURDU**	**1.39**	**81**	*ePn*			**Pn**	**02 58 44.7**	**+0.5**
IZM	**Izmir**	**1.49**	**344**	*ePN*			**Pn**	**02 58 46.7**	**+1.0**
IZM	**Izmir**	**1.49**	**344**	*ePn*			**Pn**	**02 58 46.7**	**+1.1**
KARP	**Karpathos**	**1.50**	**200**	*eP*			**Pn**	**02 58 44.7**	**-1.0**
KARP				*eS*			**Sn**	**02 59 03.8**	**-1.3**
KARP	**Karpathos**	**1.50**	**200**	*eP*			**Pn**	**02 58 44.7**	**-1.0**
KARP				*eS*			**Sn**	**02 59 03.8**	**-1.3**
BLCB	**Balcova**	**1.54**	**338**	*ePN*			**P

YER	**Yerkesik**	**0.86**	**292**	*e*Pg	**Pg**	**03 19 49.7**	**-0.3**
KORT	**Korkueli**	**0.88**	**78**	*i* P	**Pg**	**03 19 50.5**	**+0.1**
KORT				*i* S	**Sg**	**03 20 02.6**	**+0.8**
KORT	**Korkueli**	**0.88**	**78**	*i* P	**Pg**	**03 19 50.5**	**+0.1**
KORT				*i* S	**Sg**	**03 20 02.6**	**+0.8**
DNZL	**Cakiroluk**	**0.89**	**348**	*i* P	**Pg**	**03 19 50.5**	**-0.1**
DNZL				*i* S	**Sg**	**03 20 02.9**	**+0.8**
DNZL	**Cakiroluk**	**0.89**	**348**	*i* P	**Pg**	**03 19 50.5**	**-0.1**
DNZL				*i* S	**Sg**	**03 20 02.9**	**+0.8**
DAT	**Datca**	**1.37**	**267**	*e*PN	**Pn**	**03 19 59.3**	**-0.2**
DAT	**Datca**	**1.37**	**267**	*e*Pn	**Pn**	**03 19 59.3**	**-0.2**
AYDN	**Tasoluk**	**1.40**	**307**	*i* P	**Pn**	**03 20 00.8**	**+0.9**
AYDN				*i* S	**Sg**	**03 20 19.5**	**+1.1**
AYDN	**Tasoluk**	**1.40**	**307**	*i* P	**Pn**	**03 20 00.8**	**+0.9**
AYDN				*i* S	**Sg**	**03 20 19.5**	**+1.1**
SUTC	**Sutluce-Ispart**	**1.53**	**64**	*e*PN	**Pn**	**03 20 01.4**	**-0.2**
SUTC	**Sutluce-Ispart**	**1.53**	**64**	*e*Pn	**Pn**	**03 20 01.4**	**-0.2**
BODT	**Bodrum**	**1.59**	**279**	*e*PN	**Pn**	**03 20 02.5**	**-0.1**
BODT	**Bodrum**	**1.59**	**279**	*e*Pn	**Pn**	**03 20 02.5**	**-0.1**
KULA	**Kula-Manisa**	**1.76**	**344**	*e*PN	**Pn**	**03 20 04.4**	**-0.5**
KULA	**Kula-Manisa**	**1.76**	**344**	*e*Pn	**Pn**	**03 20 04.4**	**-0.5**

FUNV 09 03:20:34.6, 10.12N × 60.34W, h35 km, MW3.6, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**1.92**	**286**	*e*P	Pn	03 21 04.0	-0.8
GUIV				*e*S	Sn	03 21 26.1	-1.7
RIOV	**Rio Grande**	**2.50**	**216**	*e*P	Pn	03 21 12.4	-0.4
RIOV				*e*S	Sn	03 21 39.3	-2.8
GUNV	**Guanoco**	**2.56**	**271**	*i* P	Pn	03 21 13.7	+0.1
GUNV				*e*S	Sn	03 21 41.2	-2.4
CRUV	**Carupano**	**2.90**	**281**	*e*P	Pn	03 21 16.1	-2.1
CRUV				*e*S	Sn	03 21 46.7	-5.3
PCRV	**Puerto La Cruz**	**4.23**	**271**	*e*P	Pn	03 21 34.5	-2.1
LUEV	**Luepa**	**4.39**	**195**	*e*P	Pn	03 21 37.6	-1.1
IBAV	**Isla La Blanqu**	**4.49**	**293**	*e*P	Pn	03 21 38.5	-1.7
CUPV	**Cœpira**	**5.36**	**270**	*e*P	Pn	03 21 50.6	-1.6
CUPV				*e*S	Sn	03 22 46.8	-5.9
BIRV	**Birongo**	**5.84**	**274**	*e*P	Pn	03 21 57.0	-1.8
MERV	**Las Mercedes**	**5.93**	**262**	*e*P	Pn	03 21 57.4	-2.7
TURV	**Turiamo**	**7.38**	**273**	*e*P	Pn	03 22 17.9	-2.0
BAUV	**El Baul**	**7.68**	**262**	*e*P	Pn	03 22 21.4	-2.6
BAUV				*e*S	Sn	03 23 41.1	-8.8
MAPV	**Macapo**	**8.00**	**269**	*e*P	Pn	03 22 25.5	-2.9
TEPV	**Terepaima**	**8.71**	**270**	*e*P	Pn	03 22 35.0	-3.2

*IDC **09** 03:21:59.1±6.1, 36.22N × 71.27E, h88 km±54 km, mb3.5/5, mb1 3.6/10, mb1mx3.3/29, mbtmp3.5/10, ML3.7/5, Error ellipse: s-maj=57.4km s-min=39.7km az=130.0*
*ISCJB **09** 03:22:00.7±0.5, 36.55N±0.04 × 70.99E±0.08, h95 km±10 km, mb3.8/4, Error ellipse: s-maj=10.5km s-min=5.0km az=20.2*
*NEIC **09** 03:22:01.6±1.1, 36.43N × 71.06E, h97 km±11 km, mb3.7/1, Error ellipse: s-maj=22.0km s-min=9.7km az=128.0*
*NNC **09** 03:22:07.5±2.5, 37.36N × 70.62E, h0 km, mb4.0, mpv3.9, Error ellipse: s-maj=19.9km s-min=18.8km az=83.0*
ISC 09 03:22:03.3±0.7, 36.66N±0.06 × 70.8E±0.1, h81 km±10 km, n42, σ0.89/56, mb3.8/4, 4C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.54**	**214**	*e*Pn	**Pn**	**03 22 41.3**	**-1.2**
KBL				*e*Sn	**Sn**	**03 23 12.6**	**+0.1**
CEP	**Cherat**	**2.98**	**161**	P	**Pn**	**03 22 43.8**	**-4.6**
CEP				S	**Sn**	**03 23 16.0**	**-7.1**
CHCP	**Chirah Chowk**	**3.63**	**145**	P	**Pn**	**03 22 52.9**	**-4.2**
THW	**Thamme Wali**	**3.94**	**168**	P	**Pn**	**03 22 56.3**	**-5.1**
THW				S	**Sn**	**03 23 37.0**	**-9.4**
AML	**Almayashu** SNR=47	**5.91**	**22**	P	**Pn**	**03 23 29.0**	**+0.8**
UCH	**Uchtor** SNR=7.2	**6.27**	**26**	P	**Sn**	**03 24 43.8**	**+0.6**
EKS2	**Erkin-Say** SNR=8.4	**6.43**	**20**	P	**Pn**	**03 23 36.0**	**+0.8**
EKS2	**Erkin-Say** 13nm,0.6s	**6.43**	**20**	*e*Pn	**Pn**	**03 23 35.5**	**+0.2**
EKS2				*e*Sn	**Sn**	**03 24 46.9**	**-0.2**
KZA	**Kyzart** SNR=7.0	**6.43**	**31**	P	**Pn**	**03 23 35.1**	**-0.1**
KK31	**Karatay Array** 6.0nm,0.3s,baz=186,slow=13,SNR=256	**6.44**	**358**	Pn	**Pn**	**03 23 36.8**	**+1.4**
KK31				⇓Sn	**Sn**	**03 24 47.0**	**-0.3**
KKAR	**Karatay Array** 20nm,0.3s	**6.44**	**358**	*e*Pn	**Pn**	**03 23 36.5**	**+1.1**
KKAR				*e*Sn	**Sn**	**03 24 45.1**	**-2.3**
AAK	**Ala-Archa** SNR=45	**6.62**	**25**	P	**Pn**	**03 23 38.5**	**+0.6**
AAK	**Ala-Archa** 0.2nm,0.3s,baz=168,slow=6.0,SNR=118	**6.62**	**25**	P	**Pn**	**03 23 38.6**	**+0.8**
AAK				S	**Sn**	**03 24 51.9**	**0.0**
AAK	**Ala-Archa**	**6.62**	**25**	P	**Pn**	**03 23 38.6**	**+0.8**
AAK				S	**Sn**	**03 24 51.9**	**0.0**
CHMS	**Chumysh** SNR=14	**7.03**	**25**	P	**Pn**	**03 23 43.7**	**+0.2**
USP	**Ospenovka** SNR=14	**7.19**	**22**	P	**Pn**	**03 23 45.6**	**0.0**
TKM2	**Tokmak 2** SNR=11	**7.27**	**29**	P	**Pn**	**03 23 46.8**	**0.0**
TKM2	**Tokmak 2** 8.1nm,1.1s	**7.27**	**29**	⇓Pn	**Pn**	**03 23 46.6**	**-0.1**
TKM2				⇑Sn	**Sn**	**03 25 06.8**	**-0.9**
TKM2	**Tokmak 2** 5.9nm,0.8s	**7.27**	**29**	*e*Pn	**Pn**	**03 23 46.3**	**-0.4**
MKAR	**Makanchi Array** 8.7nm,0.5s	**13.27**	**37**	P	**Pn**	**03 25 07.3**	**-0.9**
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=218,slow=48,SNR=4.0	**13.27**	**37**	P	**Pn**	**03 25 07.3**	**-0.8**
AB31	**Akbulak array** 0.5nm,0.3s,baz=158,slow=12,SNR=17	**14.85**	**331**	⇑Pn	**Pn**	**03 25 29.3**	**+0.6**
AB31				⇑Sn	**Sn**	**03 28 07.2**	**-5.0**
ABKAR	**Akbulak array** 1.6nm,0.3s	**14.85**	**331**	*e*Pn	**Pn**	**03 25 28.6**	**-0.2**
ABKAR				*e*Sn	**Sn**	**03 28 04.1**	**-8.1**
KURK	**Kurchatov** 0.1nm,0.3s,baz=207,slow=10,SNR=5.4	**15.14**	**19**	P	**Pn**	**03 25 31.9**	**-0.5**
KURK	**Kurchatov**	**15.14**	**19**	P	**Pn**	**03 25 31.9**	**-0.5**
BVAR	**Borovoye Array** 0.2nm,0.3s,baz=185,slow=8.9,SNR=3.6	**16.37**	**359**	P	**Pn**	**03 25 48.0**	**+0.2**
BVAR	**Borovoye Array**	**16.37**	**359**	P	**Pn**	**03 25 48.0**	**+0.2**
AKTK	**Aktyubinsk**	**16.55**	**330**	P	**Pn**	**03 25 53.1**	**+3.0**
AKTK				S	**S**	**03 28 49.9**	**-10**
AKTO	**Aktyubinsk** 0.5nm,0.7s	**16.55**	**330**	⇑Pn	**Pn**	**03 25 54.8**	**+4.7**
AKTO				⇓Sn	**Sn**	**03 28 49.0**	**-4.2**
AKTO	**Aktyubinsk** 0.6nm,0.8s	**16.55**	**330**	P	**Pn**	**03 25 53.1**	**+3.0**
AKTO				S	**S**	**03 28 49.9**	**-10**
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=130,slow=12,SNR=16	**19.85**	**25**	P	**Pn**	**03 26 25.0**	**-4.7**
ZALV	**Zalesovo Beam** 2.3nm,0.7s,baz=228,slow=11,SNR=8.8	**19.85**	**25**	P	**Pn**	**03 26 25.0**	**-4.7**
AKBB	**Malin Array Si**	**32.70**	**309**	*e*P	**P**	**03 28 28.0**	**+0.2**
FINES	**FINESS Array B** 1.4nm,0.6s,mb4.1,baz=119,slow=8.7,SNR=11	**37.25**	**326**	P	**P**	**03 29 07.0**	**+0.4**
FINES	**FINESS Array B**	**37.25**	**326**	P	**P**	**03 29 07.0**	**+0.4**
ARCES	**ARCESS Array B** 2.7nm,0.9s,mb4.1,baz=110,slow=7.8,SNR=5.4	**40.92**	**338**	P	**P**	**03 29 37.1**	**-0.2**
ARCES	**ARCESS Array B**	**40.92**	**338**	P	**P**	**03 29 37.1**	**-0.2**
NB2	**NORSAR Subarra** comp=Z,1.0nm,0.5s,mb3.8,baz=96,slow=7.9	**44.14**	**323**	P	**P**	**03 30 03.5**	**+0.1**
NOA	**NORSAR Array B** comp=Z,1.6nm,0.6s,mb3.9,baz=96,slow=7.8,SNR=6.8	**44.14**	**323**	P	**P**	**03 30 03.9**	**+0.6**
NOA	**NORSAR Array B**	**44.14**	**323**	P	**P**	**03 30 03.9**	**+0.5**
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.7s,mb3.2,baz=54,slow=6.5,SNR=5.0	**65.53**	**268**	P	**P**	**03 32 34.8**	**-3.7**
TORD	**Torodi Ar. Bea**	**65.53**	**268**	P	**P**	**03 32 34.8**	**-3.7**

*ISCJB **09** 03:25:07.3±0.4, 45.09S±0.06 × 167.60E±0.08, h141 km±5 km, mb3.8/6, Error ellipse: s-maj=11.5km s-min=5.8km az=44.5*
*IDC **09** 03:25:08.3±0.7, 44.96S × 167.55E, h128 km±6 km, mb3.6/5, mb1 3.9/7, mb1mx3.6/16, mbtmp3.7/7, MS3.6/2, Ms1 3.6/2, ms1mx2.9/14, Error ellipse: s-maj=19.2km s-min=10.1km az=160.0*

*WEL **09** 03:25:08.8±0.4, 45.16S × 167.31E, h122 km±3 km, ML5.0/20, Error ellipse: s-maj=4.0km s-min=1.7km az=90.0*
WEL Felt from Otago to Fiordland, maximum reported intensity MM 4.
*NEIC **09** 03:25:09.3±1.2, 45.01S × 167.62E, h141 km±13 km, mb4.2/1, Error ellipse: s-maj=16.4km s-min=11.3km az=75.0*
ISC 09 03:25:08.3±0.4, 45.08S±0.05 × 167.57E±0.08, h133 km±5 km, n68, σ0.97/62, mb3.8/6, 4C-6D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.48**	**33**	PN	**Pn**	**03 25 28.0**	**+0.6**
DCZ	**Deep Cove**	**0.49**	**216**	⇑PN	**Pn**	**03 25 25.8**	**-1.8**
DCZ				SN	**Sn**	**03 25 38.2**	**-3.9**
MLZ	**Mavora Lakes**	**0.51**	**122**	⇑PN	**Pn**	**03 25 27.6**	**0.0**
WHZ	**Wether Hill Ro**	**0.86**	**162**	⇓PN	**Pn**	**03 25 29.7**	**-0.4**
WKZ	**Wanaka**	**1.06**	**77**	⇑PN	**Pn**	**03 25 33.6**	**+1.7**
EAZ	**Earnscleugh**	**1.24**	**98**	⇓PN	**Pn**	**03 25 35.0**	**+1.3**
PYZ	**Puysegur Point**	**1.25**	**209**	PN	**Pn**	**03 25 31.8**	**-2.0**
JCZ	**Jackson Bay**	**1.32**	**41**	PN	**Pn**	**03 25 35.8**	**+1.3**
TUZ	**Tuapeka**	**1.70**	**122**	⇓PN	**Pn**	**03 25 39.8**	**+1.1**
APZ	**The Paps**	**1.78**	**171**	PN	**Pn**	**03 25 38.8**	**-0.9**
SYZ	**Scrubby Hill**	**1.83**	**144**	⇓PN	**Pn**	**03 25 40.6**	**+0.4**
LBZ	**Lake Benmore**	**1.99**	**71**	⇓PN	**Pn**	**03 25 43.0**	**+0.8**
FOZ	**Fox Glacier**	**2.15**	**46**	⇓PN	**Pn**	**03 25 45.5**	**+1.4**
ODZ	**Otahua Downs**	**2.18**	**90**	⇑PN	**Pn**	**03 25 45.5**	**+1.0**
ODZ	**Otahua Downs**	**2.18**	**90**	*e*Pn	**Pn**	**03 25 45.5**	**+0.9**
ODZ				*e*Sn	**Sn**	**03 26 12.2**	**-0.2**
RPZ	**Rata Peaks**	**2.85**	**63**	PN	**Pn**	**03 25 53.2**	**+0.2**
RPZ	**Rata Peaks** 89nm,0.3s,baz=224,slow=5.6,SNR=184	**2.85**	**63**	P	**Pn**	**03 25 53.3**	**+0.3**
RPZ				S	**Sn**	**03 26 27.1**	**-0.3**
RPZ	**Rata Peaks** 151nm,0.3s,baz=331,slow=19,SNR=35	**2.85**	**63**	P	**Pn**	**03 25 53.3**	**+0.3**
RPZ				S	**Sn**	**03 26 27.1**	**-0.3**
WVZ	**Waitaha Valley**	**3.04**	**50**	PN	**Pn**	**03 25 55.0**	**-0.4**
MQZ	**McQueen's Vall**	**3.90**	**71**	PN	**Pn**	**03 26 06.9**	**+0.3**
CRLZ	**Canterbury Las**	**3.93**	**69**	PN	**Pn**	**03 26 08.5**	**+1.5**
LTZ	**Lake Taylor**	**4.10**	**58**	PN	**Pn**	**03 26 09.1**	**-0.3**
DSZ	**Denniston Nort**	**4.54**	**44**	PN	**Pn**	**03 26 15.2**	**-0.1**
KHZ	**Kahutara**	**5.08**	**61**	PN	**Pn**	**03 26 22.7**	**+0.3**
KHZ	**Kahutara** 81nm,0.4s	**5.08**	**61**	*e*Pn	**Pn**	**03 26 23.3**	**+0.9**
KHZ				*e*Sn	**Sn**	**03 27 18.9**	**-1.3**
THZ	**Tophouse**	**5.11**	**51**	PN	**Pn**	**03 26 22.5**	**-0.3**
QRZ	**Quartz Range**	**5.59**	**42**	PN	**Pn**	**03 26 29.2**	**-0.1**
NNZ	**Nelson**	**5.74**	**50**	PN	**Pn**	**03 26 30.7**	**-0.6**
TCW	**Tory Channel**	**6.25**	**54**	PN	**Pn**	**03 26 39.2**	**+1.1**
DUWZ	**D'Urville Isla**	**6.32**	**50**	PN	**Pn**	**03 26 39.3**	**+0.2**
SNZO	**South Karori**	**6.43**	**57**	PN	**Pn**	**03 26 40.9**	**+0.3**
SNZO	**South Karori** 34nm,0.5s	**6.43**	**57**	*e*Pn	**Pn**	**03 26 40.8**	**+0.1**
SNZO				*e*Sn	**Sn**	**03 27 51.0**	**-1.7**
PLWZ	**Palliser**	**6.61**	**61**	PN	**Pn**	**03 26 43.0**	**0.0**
CAW	**Cannon Point**	**6.77**	**57**	PN	**Pn**	**03 26 44.9**	**-0.3**
KIW	**Kapiti Island**	**6.84**	**55**	*e*PN	**Pn**	**03 26 45.1**	**-0.9**
MTW	**Mount Morrison**	**7.00**	**59**	*e*PN	**Pn**	**03 26 46.7**	**-1.6**
MRZ	**Mangatainoka R**	**7.36**	**56**	*e*PN	**Pn**	**03 26 51.4**	**-1.6**
FWVZ	**Far West T-bar**	**8.30**	**48**	*e*PN	**Pn**	**03 27 05.6**	**-0.2**
URZ	**Urewera** 2.4nm,0.3s,baz=257,slow=7.4,SNR=11	**9.86**	**50**	P	**Pn**	**03 27 25.8**	**-0.9**
URZ				S	**Sn**	**03 29 09.9**	**-5.7**
URZ	1.1nm,0.3s,baz=313,slow=19,SNR=4.9			LR	LR	03 31 28.7	
	comp=Z,49nm,18.5s,baz=86,slow=39						
URZ	**Urewera**	**9.86**	**50**	*e*Pn	**Pn**	**03 27 25.4**	**-1.2**
URZ				S	**Sn**	**03 29 09.9**	**-5.7**
URZ				LR	LR	03 31 28.7	
OUZ	**Omahuta**	**10.87**	**27**	*e*Pn	**Pn**	**03 27 41.1**	**+1.0**
ASAR	**Alice Springs** 0.8nm,0.6s,mb3.5,baz=131,slow=6.2,SNR=18	**34.68**	**297**	P	**P**	**03 31 45.4**	**+0.2**
ASAR	**Alice Springs**	**34.68**	**297**	P	**P**	**03 31 45.4**	**+0.2**
WRA	**Warramunga Arr** 0.7nm,0.5s,mb3.6,baz=136,slow=8.1,SNR=10	**37.17**	**301**	P	**P**	**03 32 06.4**	**0.0**
WRA	**Warramunga Arr**	**37.17**	**301**	P	**P**	**03 32 06.4**	**0.0**
FITZ	**Fitzroy Crossi** 1.0nm,0.5s,mb3.8,baz=147,slow=8.1,SNR=6.0	**44.00**	**294**	P	**P**	**03 33 02.5**	**0.0**
FITZ	**Fitzroy Crossi**	**44.00**	**294**	P	**P**	**03 33 02.5**	**0.0**
QSPA	**South Pole Qui** 2.6nm,0.6s,mb4.0,baz=8.1,slow=1.8,SNR=20	**45.05**	**180**	P	**P**	**03 33 12.0**	**+1.9**
QSPA	**South Pole Qui**	**45.05**	**180**	P	**P**	**03 33 12.0**	**+1.9**
SNAA	**Sanae** 2.2nm,0.6s,mb4.2	**63.36**	**183**	*e*P	**P**	**03 35 23.4**	**+0.7**
VNA2	**Neumayer--Watz**	**64.25**	**182**	*e*	**P**	**03 35 26.8**	**-1.7**
VNA1	**Neumayer--Stat**	**64.55**	**182**	*e*	**P**	**03 35 29.5**	**-0.9**
CBIJ	**Chichi jima** comp=Z,234nm,19.6s,baz=49,slow=30	**75.47**	**337**	LR	LR	04 03 10.0	
CMAR	**Chiang Mai Arr** 0.9nm,0.4s,mb4.0,baz=171,slow=3.4,SNR=6.8	**88.68**	**298**	P	**P**	**03 37 47.5**	**+0.9**
CMAR				pP	pP	03 38 20.8	+0.5
CMAR	**Chiang Mai Arr** 0.6nm,0.4s,baz=171,slow=3.4,SNR=1.8	**88.68**	**298**	P	**P**	**03 37 47.5**	**+0.9**
CMAR				pP	pP	03 38 20.9	+0.5
BRTR	**Keskin Array B** 1.5nm,0.8s,baz=116,slow=3.6,SNR=6.5	**145.92**	**278**	PKPbc	PKPbc	03 44 31.9	+0.1
BRTR				pPKPbc	pPKPbc	03 45 04.7	-2.0
BRTR	**Keskin Array B** 0.8nm,0.7s,baz=132,slow=2.5,SNR=3.0	**145.92**	**278**	PKPbc	PKPbc	03 44 31.9	+0.1
BRTR				pPKPbc	pPKPbc	03 45 04.7	-2.0
TORD	**Torodi Ar. Bea** 5.8nm,0.6s,baz=159,slow=2.3,SNR=65	**145.98**	**205**	PKPbc	PKPbc	03 44 32.8	+0.2
TORD				pPKPbc	pPKPbc	03 45 05.9	-1.6
TORD	**Torodi Ar. Bea** 1.4nm,0.7s,baz=143,slow=2.6,SNR=2.8	**145.98**	**205**	PKPbc	PKPbc	03 44 32.8	+0.2
TORD				pPKPbc	pPKPbc	03 45 05.9	-1.6
KEV	**Kevo**	**148.43**	**335**	*e*pkp	PKPbc	03 44 36.1	-1.7
ARCES	**ARCESS Array B** 2.2nm,0.7s,baz=71,slow=2.2,SNR=13	**149.00**	**335**	PKPbc	PKPbc	03 44 39.7	+0.5
ARCES	**ARCESS Array B**	**149.00**	**335**	PKPbc	PKPbc	03 44 39.7	+0.5
JOF	**Joensuu**	**149.51**	**321**	*e*pkp	PKPbc	03 44 39.9	-0.7
AKASG	**Malin Array Be** 0.9nm,0.5s,baz=74,slow=2.4,SNR=6.1	**151.79**	**297**	PKPbc	PKPbc	03 44 46.1	-0.3
AKASG	**Malin Array Be**	**151.79**	**297**	PKPbc	PKPbc	03 44 46.1	-0.3
KAF	**Kangasniemi**	**151.97**	**321**	*e*pkp	PKPbc	03 44 45.8	-0.6
FINES	**FINESS Array B** 2.2nm,0.7s,baz=72,slow=2.8,SNR=10	**152.29**	**320**	PKPbc	PKPbc	03 44 46.5	-0.7
FINES				PKPab	PKPab	03 44 57.4	-0.4
FINES	**FINESS Array B** 1.5nm,0.8s,baz=76,slow=5.5,SNR=6.0	**152.29**	**320**	PKPbc	PKPbc	03 44 46.5	-0.7
FINES				PKPab	PKPab	03 44 57.4	-0.4

*ISCJB **09** 03:31:24.0±1.0, 42.07N±0.07 × 70.82E±0.07, h10 km, Error ellipse: s-maj=12.3km s-min=4.5km az=33.1*
*NNC **09** 03:31:29.8±2.1, 42.46N × 71.28E, h0 km, mb3.9, mpv4.1, Error ellipse: s-maj=16.8km s-min=8.8km az=17.0*
ISC 09 03:31:26.4±1.1, 42.10N±0.08 × 70.98E±0.08, h10 km, n19, σ1.38/24, 12C-5D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array** 63nm,0.3s,baz=132,slow=16,SNR=2012	**1.06**	**341**	⇑P	**Pg**	**03 31 45.8**	**-1.0**
KK31				⇑S	**Sg**	**03 31 58.9**	**-1.7**
AML	**Almayashu** SNR=127	**2.02**	**88**	P	**Pn**	**03 31 59.3**	**-1.1**
EKS2	**Erkin-Say** SNR=453	**2.15**	**74**	P	**Pn**	**03 32 00.4**	**-1.8**
UCH	**Uchtor** SNR=19	**2.63**	**86**	P	**Pn**	**03 32 09.9**	**+1.1**
AAK	**Ala-Archa** SNR=161	**2.66**	**77**	P	**Pn**	**03 32 10.5**	**+1.2**
USP	**Ospenovka** SNR=54	**2.85**	**65**	P	**Pn**	**03 32 09.8**	**-2.0**
CHMS	**Chumysh** SNR=17	**2.93**	**71**	P	**Pn**	**03 32 11.6**	**-1.3**
KBK	**Karagaybulak** SNR=25	**2.99**	**78**	P	**Pn**	**03 32 15.3**	**+1.5**
KZA	**Kyzart** SNR=9.6	**3.18**	**89**	P	**Pn**	**03 32 17.6**	**+1.3**
TKM2	**Tokmak 2** SNR=12	**3.51**	**75**	P	**Pn**	**03 32 19.6**	**-1.3**
TKM2	**Tokmak 2** 26nm,0.5s	**3.51**	**75**	⇑Pn	**Pn**	**03 32 23.9**	**+3.0**
TKM2				⇓Sn	**Sn**	**03 33 06.6**	**+4.1**
ULHL	**Ulahol** SNR=6.6	**3.92**	**86**	P	**Pn**	**03 32 27.3**	**+0.8**
KNDC	**Almaty** 92nm,0.7s	**4.56**	**74**	⇑Pg	**Pb**	**03 32 45.1**	**-1.2**
KNDC				⇑Lg		03 33 41.0	
MK31	**Makanchi Array**	**9.35**	**56**	⇑Pn	**Pn**	**03 33 37.9**	**-3.2**
	1.5nm,0.4s,baz=234,slow=13,SNR=11						
MK31				⇑Lg		03 36 14.3	
KURK	**Kurchatov** 14nm,0.8s	**10.10**	**29**	⇓Lg		03 36 40.4	
AB31	**Akbulak array** 52nm,1.1s	**10.52**	**317**	⇑Pn	**Pn**	**03 33 57.8**	**+0.7**
AB31	1.2nm,0.6s,baz=112,slow=15,SNR=26			⇓Sn	**Sn**	**03 35 54.6**	**-0.3**
VOSK	**Vostochnaya** 2.1nm,0.9s	**10.63**	**0**	⇑Pn	**Pn**	**03 33 54.9**	**-3.7**
VOSK				⇓Sn	**Sn**	**03 35 59.6**	**+2.0**
VOSK	5.5nm,0.8s			⇓Lg		03 36 55.9	
BVA0	**Borovoye Array** 27nm,0.9s	**10.94**	**358**	Pn	**Pn**	**03 34 04.2**	**+1.4**
BVA0	0.2nm,0.7s,baz=170,slow=10,SNR=9.0			⇑Sn	**Sn**	**03 36 06.6**	**+1.4**
AKTO	**Aktyubinsk** 1.1nm,1.2s	**12.23**	**317**	⇑Pn	**Pn**	**03 34 20.4**	**-0.1**
AKTO	0.3nm,0.8s			⇑Sn	**Sn**	**03 36 36.8**	**0.0**
	0.3nm,0.7s						

*IDC **09** 03:35:16.8±3.8, 4.51S × 146.77E, h0 km, mb4.0/3, mb1 4.3/5, mb1mx3.8/18, mbtmp4.1/5, ML4.1/2, Error ellipse: s-maj=65.4km s-min=47.7km az=62.0*
NEIC 09 03:35:33.9±5.4, 5.55S × 147.45E, h156 km±47 km, Error ellipse: s-maj=91.8km s-min=32.0km az=145.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 10nm,0.3s,baz=4.8,slow=12,SNR=34	**3.84**	**184**	Pn	Pn	03 36 32.0	-0.2
PMG				Sn	Sn	03 37 17.0	-0.7
PMG	**Port Moresby** 14nm,0.3s,baz=338,slow=19,SNR=14	**3.84**	**184**	Pn	Pn	03 36 32.0	-0.2
PMG				Sn	Sn	03 37 17.0	-0.7
COEN	**Coen**	**9.35**	**206**	*e*Pn	Pn	03 37 45.8	+0.5
WB2	**Warramunga Arr**	**19.16**	**221**	*e*P	P	03 39 45.0	-0.3
WRA	**Warramunga Arr** 1.6nm,0.3s,baz=45,slow=11,SNR=57	**19.16**	**221**	P	P	03 39 44.9	-0.5
WRA	**Warramunga Arr**	**19.16**	**221**	P	P	03 39 44.9	-0.5
ASAR	**Alice Springs** 3.5nm,0.7s,baz=48,slow=8.6,SNR=42	**22.24**	**215**	P	P	03 40 18.6	+0.5
ASAR	**Alice Springs**	**22.24**	**215**	P	P	03 40 18.6	+0.5
FITZ	**Fitzroy Crossi** 2.1nm,0.5s,baz=66,slow=7.8,SNR=19	**24.68**	**238**	P	P	03 40 40.7	+0.2
FITZ	**Fitzroy Crossi**	**24.68**	**238**	P	P	03 40 40.7	+0.2
STKA	**Stephens Creek** 1.0nm,0.7s,baz=12,slow=8.9,SNR=3.7	**26.76**	**191**	P	P	03 41 08.2	+9.1
TORD	**Torodi Ar. Bea** 0.7nm,1.2s,baz=85,slow=3.0,SNR=3.5	**145.41**	**285**	PKP	PKPdf	03 54 54.7	+0.4
TORD	**Torodi Ar. Bea**	**145.41**	**285**	PKP	PKPdf	03 54 54.7	+0.4

*NEIC **09** 03:49:23.7, 19.24N × 66.32W, h83 km, MD3.5(RSPR), After RSPR.*
RSPR 09 03:49:23.7, 19.24N × 66.32W, h83 km±17 km, MD3.5/5, 12C-1D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**1.06**	**155**	⇑*e*P	Pn	03 49 43.2	-0.5
CBYP	**Canovanas**	**1.06**	**155**	⇑*e*P	Pn	03 49 43.2	-0.5
CBYP				*e*S	Sn	03 49 58.2	-0.4
SJG	**San Juan**	**1.13**	**172**	⇑*e*P	Pn	03 49 43.4	-1.2
SJG	**San Juan**	**1.13**	**172**	⇓*e*P	Pn	03 49 44.0	-0.6
SJG	**San Juan**	**1.13**	**172**	⇑*e*P	Pn	03 49 43.4	-1.2
HUMP	**Col San Antoni**	**1.18**	**158**	⇑*e*P	Pn	03 49 44.4	-0.8
HUMP	**Col San Antoni**	**1.18**	**158**	⇑*e*P	Pn	03 49 44.4	-0.8
MTP	**Monte Pirata**	**1.35**	**147**	⇑*e*P	Pn	03 49 46.5	-0.8
MTP	**Monte Pirata**	**1.35**	**147**	⇑*e*P	Pn	03 49 46.5	-0.8
CRPR	**Cabo Rojo, PR**	**1.44**	**212**	⇑*e*P	Pn	03 49 48.3	-0.1
CRPR	**Cabo Rojo, PR**	**1.44**	**212**	⇑*e*P	Pn	03 49 48.3	-0.1
STVI	**Saint Thomas**	**1.56**	**124**	⇑*e*P	Pn	03 49 49.5	-0.5
STVI	**Saint Thomas**	**1.56**	**124**	⇑*e*P	Pn	03 49 49.5	-0.5
STVI				*e*S	Sn	03 50 09.8	-0.1

MEX 09 04:23:01.1±0.4, 17.28N × 101.26W, h16 km±5 km, MD3.9, Near coast of Guerrero

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h m s | Res ISC |
|---|---|---|---|---|---

mb4.0/17, Error ellipse: s-maj=18.8km s-min=15.0km az=161.2
*NEIC **09** 04:36:08.7±1.8, 4.°93S×151.°55E, h147km±16km, mb4.0/4, Error ellipse: s-maj=13.7km s-min=10.2km az=76.0*
ISC 09 04:36:08.4±2.2, 4.°94S±0.°09×151.°6E±0.°1, h143km±19km, h128km±1.0km:pP-P, n40, σ0.°82/38, mb4.0/17, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.22**	**224**	P	**Pn**	**04 37 37.9**	**-0.1**
	28nm,0.3s,baz=58,slow=6.3,SNR=69						
PMG				S	**Sn**	**04 38 47.7**	**-0.2**
	141nm,0.3s,baz=122,slow=4.5,SNR=16						
PMG	**Port Moresby**	**6.22**	**224**	P	**Pn**	**04 37 37.9**	**-0.1**
PMG				S	**Sn**	**04 38 47.7**	**-0.2**
COEN	**Coen**	**12.18**	**222**	*e*Pn	**Pn**	**04 38 58.5**	**+1.2**
	293nm,1.5s						
DZM	**Mont Dzumac**	**22.32**	**141**	*e*P	**P**	**04 40 53.4**	**-1.2**
DZM	**Mont Dzumac**	**22.32**	**141**	*e*P	**P**	**04 40 54.1**	**-0.5**
	20nm,0.8s,mb4.6						
WB2	**Warramunga Arr**	**22.42**	**227**	*e*P	**P**	**04 40 54.9**	**-0.6**
WRA	**Warramunga Arr**	**22.43**	**227**	P	**P**	**04 40 55.2**	**-0.4**
	4.8nm,0.3s,mb4.3,baz=51,slow=10.0,SNR=64						
WRA				pP		04 41 18.5	
	6.4nm,0.6s,baz=51,slow=11,SNR=8.2						
WRA				ScP	ScP	04 48 10.3	+0.9
	1.3nm,0.5s,baz=51,slow=2.7,SNR=18						
WRA	**Warramunga Arr**	**22.43**	**227**	P	**P**	**04 40 55.2**	**-0.4**
WRA				pP		04 41 18.5	
WRA				ScP	ScP	04 48 10.3	+0.9
ASAR	**Alice Springs**	**25.22**	**221**	P	**P**	**04 41 21.7**	**+0.7**
	2.6nm,0.5s,mb4.0,baz=51,slow=9.4,SNR=29						
ASAR				pP	pP	04 41 48.2	-2.9
	2.2nm,0.5s,baz=55,slow=8.8,SNR=4.2						
ASAR				PcP	PcP	04 44 50.5	-0.5
	0.4nm,0.6s,baz=35,slow=3.4,SNR=3.5						
ASAR				ScP	ScP	04 48 18.2	+1.3
	0.9nm,0.7s,baz=35,slow=2.5,SNR=5.4						
ASAR	**Alice Springs**	**25.22**	**221**	P	**P**	**04 41 21.7**	**+0.7**
ASAR				pP	pP	04 41 48.2	-2.9
ASAR				PcP	PcP	04 44 50.5	-0.5
ASAR				ScP	ScP	04 48 18.2	+1.3
STKA	**Stephens Creek**	**28.37**	**198**	P	**P**	**04 41 48.3**	**-0.9**
	1.6nm,0.5s,mb4.0,baz=338,slow=21,SNR=5.7						
STKA	**Stephens Creek**	**28.37**	**198**	P	**P**	**04 41 48.3**	**-0.9**
FITZ	**Fitzroy Crossi**	**28.50**	**241**	P	**P**	**04 41 50.3**	**-0.2**
	0.8nm,0.4s,mb3.8,baz=59,slow=10,SNR=14						
FITZ				pP	pP	04 42 17.2	-3.8
	2.8nm,0.7s,baz=30,slow=5.2,SNR=4.0						
FITZ	**Fitzroy Crossi**	**28.50**	**241**	P	**P**	**04 41 50.3**	**-0.2**
FITZ				pP	pP	04 42 17.2	-3.8
URZ	**Urewera**	**40.51**	**148**	P	**P**	**04 43 33.7**	**+0.4**
	6.5nm,0.7s,mb4.4,baz=297,slow=0.9,SNR=3.7						
URZ	**Urewera**	**40.51**	**148**	P	**P**	**04 43 33.7**	**+0.4**
RPZ	**Rata Peaks**	**42.28**	**159**	P	**P**	**04 43 48.5**	**+0.9**
	7.5nm,0.3s,mb4.7,baz=330,slow=4.8,SNR=3.0						
RPZ	**Rata Peaks**	**42.28**	**159**	P	**P**	**04 43 48.5**	**+0.9**
MJAR	**Matsushiro Arr**	**43.11**	**344**	P	**P**	**04 43 54.4**	**-0.1**
	1.0nm,0.7s,mb3.6,baz=165,slow=9.1,SNR=3.5						
MJAR	**Matsushiro Arr**	**43.11**	**344**	P	**P**	**04 43 54.4**	**-0.1**
SONM	**Songino Array**	**65.78**	**328**	P	**P**	**04 46 39.5**	**+1.4**
	1.0nm,0.4s,mb4.0,baz=147,slow=5.2,SNR=7.8						
SONM	**Songino Array**	**65.78**	**328**	P	**P**	**04 46 39.5**	**+1.4**
VNDA	**Vanda**	**72.74**	**178**	*e*P	**P**	**04 47 20.6**	**+0.2**
	1.4nm,0.6s,mb3.9						
MKAR	**Makanchi Array**	**79.61**	**319**	P	**P**	**04 47 59.5**	**-0.3**
	0.5nm,0.6s,mb3.4,baz=100,slow=7.9,SNR=3.3						
MKAR	**Makanchi Array**	**79.61**	**319**	P	**P**	**04 47 59.5**	**-0.3**
ZALV	**Zalesovo Beam**	**80.58**	**327**	P	**P**	**04 48 04.0**	**-0.7**
	1.4nm,0.5s,mb3.9,baz=101,slow=8.0,SNR=5.1						
ZALV	**Zalesovo Beam**	**80.58**	**327**	P	**P**	**04 48 04.0**	**-0.7**
MCK	**McKinley**	**81.47**	**23**	*e*P	**P**	**04 48 08.9**	**-0.4**
	1.7nm,0.6s,mb3.9						
ILAR	**Eielson Array**	**82.76**	**22**	P	**P**	**04 48 13.9**	**-2.1**
	1.0nm,0.6s,mb3.7,baz=253,slow=5.1,SNR=26						
ILAR	**Eielson Array**	**82.76**	**22**	P	**P**	**04 48 13.9**	**-2.1**
EKS2	**Erkin-Say**	**84.38**	**314**	*e*P	**P**	**04 48 25.4**	**+0.7**
	1.9nm,0.7s,mb3.9						
MAW	**Mawson**	**84.96**	**203**	P	**P**	**04 48 26.9**	**-0.3**
	1.8nm,0.7s,mb3.9,baz=50,slow=5.2,SNR=5.2						
MAW				pP	pP	04 48 59.7	-3.6
	1.3nm,0.7s,baz=118,slow=4.6,SNR=2.7						
MAW	**Mawson**	**84.96**	**203**	P	**P**	**04 48 26.9**	**-0.3**
MAW				pP	pP	04 48 59.7	-3.6
NVAR	**Mina Array Bea**	**93.15**	**52**	P	**P**	**04 49 08.0**	**+1.5**
	0.7nm,0.8s,mb3.9,baz=240,slow=5.0,SNR=4.9						
NVAR	**Mina Array Bea**	**93.15**	**52**	P	**P**	**04 49 08.0**	**+1.5**
GERES	**GERESS Array B**	**123.52**	**328**	PKP	PKPdf	04 54 49.0	+0.2
	0.9nm,0.5s,baz=81,slow=2.1,SNR=16						
GERES	**GERESS Array B**	**123.52**	**328**	PKP	PKPdf	04 54 49.0	+0.2
TORD	**Torodi Ar. Bea**	**149.16**	**287**	PKPbc	PKPbc	04 55 40.9	-0.1
	0.6nm,0.4s,baz=86,slow=2.2,SNR=12						
TORD				pPKPbc	pPKPbc	04 56 14.3	-4.6
	0.6nm,0.6s,baz=75,slow=3.3,SNR=2.6						
TORD	**Torodi Ar. Bea**	**149.16**	**287**	PKPbc	PKPbc	04 55 40.9	-0.1
TORD				pPKPbc	pPKPbc	04 56 14.3	-4.6

IDC 09 04:40:39.3±2.8, 19.°41S×178.°41W, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.7/17, mbtmp3.7/3, Error ellipse: s-maj=288.1km s-min=35.6km az=161.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.38**	**261**	P	P	04 48 51.7	-0.2
	0.5nm,0.3s,baz=97,slow=7.6,SNR=9.7						
ASAR	**Alice Springs**	**44.40**	**256**	P	P	04 48 52.1	+0.1
	0.5nm,0.4s,baz=94,slow=8.0,SNR=5.1						
TXAR	**Lajitas Array**	**86.79**	**58**	P	P	04 53 26.0	+0.1
	0.3nm,1.0s,baz=228,slow=4.9,SNR=3.4						

MAN 09 05:01:17.7±3.8, 3.°83N×123.°04E, h25km±5.3km, mb3.8, ML2.5, MS2.1, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAGZ	**Pagadian**	**0.34**	**88**	*e*P	Pb	05 01 26.1	+1.6
PAGZ				*e*S	Sb	05 01 33.8	+4.1
IPIL	**Ipil**	**0.47**	**264**	*e*P	Pb	05 01 27.9	+1.1
IPIL				*e*S	Sb	05 01 34.0	+0.6
BUKP	**Musuan**	**2.00**	**89**	*e*P	Pn	05 01 51.3	+2.1
TBP	**Tagbilaran**	**2.01**	**24**	*e*P	Pn	05 01 42.3	-7.1
TBP				*e*S	Sn	05 02 02.5	-11

TRN 09 05:16:43.4, 10.°62N×61.°10W, h15km, MD2.9, Trinidad

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBH	**Brigand Hill**	**0.13**	**166**	*e*P	Pg	05 16 47.1	-0.1
TBH				*e*S	Sg	05 16 50.3	+0.7
TRN	**Trinidad (W)**	**0.30**	**276**	*e*P	Pg	05 16 49.7	0.0
TRN				*e*S	Sg	05 16 54.3	+0.3
TPR	**Prospect**	**0.65**	**29**	*e*P	Pg	05 16 56.8	+0.6
TPR				*e*S	Sg	05 17 06.2	+1.4
BOT	**Bacolet**	**0.67**	**34**	*e*P	Pg	05 16 55.9	-0.5
TOSP	**Speyside**	**0.88**	**39**	*e*P	Pb	05 16 59.7	-0.6
TOSP				*e*S	Sb	05 17 12.9	+1.0
SVB	**Belmont**	**2.65**	**357**	*e*S	Sn	05 17 57.7	+0.4

*IDC **09** 05:16:37.8±4.1, 34.°76N×30.°11E, h0km, mb3.8/4, mb1 3.7/7, mb1mx3.5/24, mbtmp3.7/7, ML3.3/3, Error ellipse: s-maj=77.7km s-min=25.9km az=45.0*
*ISK **09** 05:16:41.9, 35.°02N×30.°84E, h5km, MD3.7*
*ISCJB **09** 05:16:44.7±0.4, 34.°89N±0.°03×30.°74E±0.°04, h61km±11km, mb3.7/4, Error ellipse: s-maj=5.4km s-min=4.2km az=174.5*
*CSEM **09** 05:16:46.2±0.2, 34.°94N×30.°74E, h40km, Mw3.2, Error ellipse: s-maj=5.8km s-min=5.1km az=95.0*
*NIC **09** 05:16:46.8±0.2, 34.°86N×30.°84E, h45km, ML3.2, MW3.2*
*NEIC **09** 05:16:46.8, 34.°88N×30.°83E, h45km, MG3.3(NIC), After NIC.*
*HLW **09** 05:16:47.2, 34.°80N×30.°63E, h33km±30km, Md3.4, Ml3.4*
ISC 09 05:16:46.3±0.4, 34.°91N±0.°02×30.°75E±0.°04, h38km±10km, n75, σ1.°03/93, mb3.7/4, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPCY	**Paphos**	**1.31**	**91**	P	**Pn**	**05 17 07.9**	**-0.2**
PPCY	**Paphos**	**1.31**	**91**	P	**Pn**	**05 17 07.9**	**-0.2**
ALFC	**Alevga**	**1.54**	**80**	P	**Pn**	**05 17 10.8**	**-0.4**
	15nm,0.2s						
ALFC				S	**Sn**	**05 17 30.3**	**+0.4**
ALFC	**Alevga**	**1.54**	**80**	P	**Pn**	**05 17 10.8**	**-0.4**
	15nm,0.2s						
ALFC				S	**Sn**	**05 17 30.3**	**+0.4**
LEF	**Lefka**	**1.77**	**82**	*e*PN	**Pn**	**05 17 12.4**	**-1.9**
LEF				*e*SN	**Sn**	**05 17 35.1**	**-0.5**
LEF	**Lefka**	**1.77**	**82**	*e*Pn	**Pn**	**05 17 12.5**	**-1.9**
LEF				*e*Sn	**Sn**	**05 17 35.1**	**-0.5**
MAMC	**Mammari**	**2.04**	**82**	P	**Pn**	**05 17 18.1**	**0.0**
MAMC	**Mammari**	**2.04**	**82**	P	**Pn**	**05 17 18.1**	**0.0**
CSS	**Prodhromos**	**2.12**	**88**	P	**Pn**	**05 17 19.4**	**+0.2**
	1.9nm,0.3s						
CSS				S	**Sn**	**05 17 44.1**	**-0.2**
CSS	**Prodhromos**	**2.12**	**88**	*e*PN	**Pn**	**05 17 19.2**	**0.0**
CSS				*e*SN	**Sn**	**05 17 46.3**	**+2.0**
CSS	**Prodhromos**	**2.12**	**88**	*e*Pn	**Pn**	**05 17 19.4**	**+0.2**
CSS	**Prodhromos**	**2.12**	**88**	*e*Pn	**Pn**	**05 17 19.2**	**0.0**
CSS				S	**Sn**	**05 17 44.1**	**-0.2**
CSS				*e*Sn	**Sn**	**05 17 46.3**	**+2.0**
LFK	**Lefkose**	**2.31**	**80**	*e*PN	**Pn**	**05 17 21.5**	**-0.3**
LFK	**Lefkose**	**2.31**	**80**	*e*Pn	**Pn**	**05 17 21.5**	**-0.3**
HDMB	**Hadim**	**2.49**	**34**	*e*PN	**Pn**	**05 17 23.2**	**-1.1**
HDMB				*e*SN	**Sn**	**05 17 53.5**	**0.0**
HDMB	**Hadim**	**2.49**	**34**	*e*Pn	**Pn**	**05 17 23.2**	**-1.1**
HDMB				*e*Sn	**Sn**	**05 17 53.5**	**+0.1**
BCK	**Bucak**	**2.55**	**357**	*e*PN	**Pn**	**05 17 24.7**	**-0.5**
BCK	**Bucak**	**2.55**	**357**	*e*Pn	**Pn**	**05 17 24.7**	**-0.5**
YER	**Yerkesik**	**2.99**	**319**	*e*PN	**Pn**	**05 17 31.6**	**+0.3**
YER	**Yerkesik**	**2.99**	**319**	*e*Pn	**Pn**	**05 17 31.6**	**+0.4**
DAT	**Datca**	**3.16**	**306**	*e*PN	**Pn**	**05 17 34.5**	**+1.0**
DAT	**Datca**	**3.16**	**306**	*e*Pn	**Pn**	**05 17 34.5**	**+1.0**
KONT	**Konya--Tatoy**	**3.30**	**23**	*e*PN	**Pn**	**05 17 34.8**	**-0.6**
KONT	**Konya--Tatoy**	**3.30**	**23**	*e*Pn	**Pn**	**05 17 34.8**	**-0.6**
MLSB	**Milas**	**3.39**	**316**	*e*PN	**Pn**	**05 17 37.2**	**+0.5**
MLSB	**Milas**	**3.39**	**316**	*e*Pn	**Pn**	**05 17 37.2**	**+0.5**
BODT	**Bodrum**	**3.52**	**309**	*e*PN	**Pn**	**05 17 39.8**	**+1.3**
BODT	**Bodrum**	**3.52**	**309**	*e*Pn	**Pn**	**05 17 39.8**	**+1.3**
SHUT	**Suhut-Afyon**	**3.64**	**358**	*e*PN	**Pn**	**05 17 39.8**	**-0.3**
SHUT	**Suhut-Afyon**	**3.64**	**358**	*e*Pn	**Pn**	**05 17 39.8**	**-0.4**
KIZT	**Kizilcal**	**4.07**	**12**	*e*PN	**Pn**	**05 17 45.4**	**-0.6**
KIZT	**Kizilcal**	**4.07**	**12**	*e*Pn	**Pn**	**05 17 45.4**	**-0.6**
KARA	**Karaisali**	**4.20**	**55**	*e*PN	**Pn**	**05 17 47.8**	**0.0**
KARA	**Karaisali**	**4.20**	**55**	*e*Pn	**Pn**	**05 17 47.8**	**0.0**
MMAI	**Mount Meron Ar**	**4.30**	**115**	Pn	**Pn**	**05 17 49.6**	**+0.5**
	6.6nm,0.3s,baz=311,slow=13,SNR=19						
MMAI				Sn	**Sn**	**05 18 38.0**	**-0.1**
	9.9nm,0.3s,baz=288,slow=26,SNR=11						
ESKT	**Eskisehir**	**4.61**	**1**	*e*PN	**Pn**	**05 17 53.3**	**-0.1**
ESKT	**Eskisehir**	**4.61**	**1**	*e*Pn	**Pn**	**05 17 53.3**	**-0.1**
AMAG	**Maghara**	**4.73**	**153**	P	**Pn**	**05 17 55.8**	**+0.7**
	baz=151						
AMAG	**Maghara**	**4.73**	**153**	P	**Pn**	**05 17 55.8**	**+0.7**
KOZT	**Kozan**	**4.84**	**56**	*e*PN	**Pn**	**05 17 57.1**	**+0.5**
HMAT	**Matruh**	**4.89**	**220**	P	**Pn**	**05 17 56.8**	**-0.5**
	baz=220						
HMAT				S	**Sn**	**05 18 48.7**	**-3.9**
	baz=220						
HMAT	**Matruh**	**4.89**	**220**	P	**Pn**	**05 17 56.8**	**-0.5**
KOT	**Kottamia**	**5.05**	**169**	P	**Pn**	**05 17 59.5**	**+0.1**
	baz=167						
KOT	**Kottamia**	**5.05**	**169**	P	**Pn**	**05 18 01.0**	**+1.5**
HSAF	**As Saff**	**5.32**	**172**	P	**Pn**	**05 18 03.6**	**+0.5**
	baz=171						
HSAF	**As Saff**	**5.32**	**172**	P	**Pn**	**05 18 03.6**	**+0.4**
BRTR	**Keskin Array B**	**5.33**	**25**	Pn	**Pn**	**05 18 03.0**	**-0.4**
	0.3nm,0.3s,baz=209,slow=13,SNR=9.6						
BRTR				Sn	**Sn**	**05 19 03.1**	**-0.4**
	0.2nm,0.3s,baz=209,slow=29,SNR=3.6						
BRTR	**Keskin Array B**	**5.33**	**25**	Pn	**Pn**	**05 18 03.0**	**-0.4**
BRTR				Sn	**Sn**	**05 19 03.1**	**-0.4**
BRTR	**Keskin Array B**	**5.33**	**25**	Pn	**Pn**	**05 18 03.0**	**-0.3**
BRTR				Sn	**Sn**	**05 19 03.1**	**-0.4**
SUZ		**5.35**	**160**	P	**Pn**	**05 18 04.0**	**+0.4**
	baz=158						
SUZ				S	**Sn**	**05 19 02.1**	**-1.9**
	baz=158						
GLL	**Jalalah**	**5.38**	**171**	P	**Pn**	**05 18 04.4**	**+0.4**
	baz=169						
GLL	**Jalalah**	**5.38**	**171**	P	**Pn**	**05 18 04.8**	**+0.8**
HNKL	**Nakhl**	**5.66**	**150**	P	**Pn**	**05 18 08.4**	**+0.5**
	baz=148						
HNKL				S	**Sn**	**05 19 10.7**	**-1.0**
	baz=148						
HNKL	**Nakhl**	**5.66**	**150**	P	**Pn**	**05 18 08.7**	**+0.8**
ASF	**Jabal al Asfar**	**5.81**	**116**	Pn	**Pn**	**05 18 12.2**	**+2.3**
	0.4nm,0.3s,baz=78,slow=20,SNR=5.4						
ASF	**Jabal al Asfar**	**5.81**	**116**	Pn	**Pn**	**05 18 12.2**	**+2.3**
AWBH		**6.75**	**194**	P	**Pn**	**05 18 22.6**	**-0.3**
	baz=194						
AWBH		**6.75**	**194**	P	**Pn**	**05 18 22.6**	**-0.3**
HKAT	**Jabal Katrina**	**6.94**	**156**	P	**Pn**	**05 18 26.8**	**+1.3**
	baz=154						
HKAT				S	**Sn**	**05 19 40.0**	**-3.1**
	baz=154						
TR2		**6.98**	**158**	P	**Pn**	**05 18 26.9**	**+1.0**
	baz=156						
SWA2		**7.22**	**220**	P	**Pn**	**05 18 29.1**	**-0.2**
	baz=220						
SWA2				AMP		05 19 00.0	
	comp=N,20μm,0.3s,logA/T=4.8,baz=220						
SWA2		**7.22**	**220**	P	**Pn**	**05 18 27.8**	**-1.5**
HFRF	**Wahat Farafira**	**8.01**	**196**	P	**Pn**	**05 18 39.5**	**-0.7**
AKTK	**Aktyubinsk**	**25.16**	**44**	P	**P**	**05 22 10.1**	**+2.3**
AKTK	**Aktyubinsk**	**25.16**	**44**	P	**P**	**05 22 10.1**	**+2.3**
AKTO	**Aktyubinsk**	**25.16**	**44**	P	**P**	**05 22 10.1**	**+2.3**
	comp=N,0.5nm,0.3s,mb3.5,baz=230,slow=16,SNR=3.1						
FINES	**FINESS Array B**	**26.72**	**355**	P	**P**	**05 22 19.6**	**-2.2**
	comp=N,1.5nm,0.6s,mb3.7,baz=160,slow=12,SNR=6.7						
FINES	**FINESS Array B**	**26.72**	**355**	P	**P**	**05 22 19.6**	**-2.2**
FINES	**FINESS Array B**	**26.72**	**355**	P	**P**	**05 22 19.6**	**-2.2**
ARCES	**ARCESS Array B**	**34.80**	**357**	P	**P**	**05 23 30.6**	**-2.3**
	comp=N,0.9nm,0.7s,mb3.8,baz=173,slow=8.2,SNR=3.9						
ARCES	**ARCESS Array B**	**34.80**	**357**	P	**P**	**05 23 30.6**	**-2.3**
ARCES	**ARCESS Array B**	**34.80**	**357**	P	**P**	**05 23 30.6**	**-2.4**
MKAR	**Makanchi Array**	**40.08**	**57**	P	**P**	**05 24 18.2**	**+0.4**
	comp=N,1.0nm,0.7s,mb3.6,baz=261,slow=9.3,SNR=6.4						
MKAR	**Makanchi Array**	**40.08**	**57**	P	**P**	**05 24 18.2**	**+0.4**
MKAR	**Makanchi Array**	**40.08**	**57**	P	**P**	**05 24 18.2**	**+0.3**

*IDC **09** 05:35:32.9±21.0, 16.°89N×94.°97W, h89km±156km, mb3.4/2, mb1 3.7/3, mb1mx3.3/22, mbtmp3.2/3, ML3.8/1, Error ellipse: s-maj=184.7km s-min=111.0km az=82.0*
*ISCJB **09** 05:35:35.3±0.5, 17.°04N±0.°06×95.°59W±0.°03, h98km±7km, mb3.4/2, Error ellipse: s-maj=10.4km s-min=4.3km az=13.0*
*NEIC **09** 05:35:36.2±3.5, 16.°91N×95.°25W, h112km±30km, mb3.7/2, Error ellipse: s-maj=39.3km s-min=18.4km az=216.0*
*MEX **09** 05:35:37.4±1.0, 17.°06N×95.°57W, h93km±11km, MD4.0*
ISC 09 05:35:36.5±0.4, 17.°05N±0.°06×95.°59W±0.°03, h89km±7km, n22, σ0.°91/32, mb3.4/2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.68**	**86**	*i* P	**Pn**	**05 35 52.4**	**-0.3**
CMIG				*i* S	**Sn**	**05 36 04.2**	**-0.6**
OXX	**Oaxaca**	**1.08**	**272**	*e*P	**Pn**	**05 35 58.5**	**+1.4**
OXX				*e*S	**Sn**	**05 36 13.6**	**+1.1**
VHO	**Vista Hermosa**	**1.09**	**272**	*e*P	**Pn**	**05 35 58.5**	**+1.4**
VHO				*e*S	**Sn**	**05 36 12.9**	**+0.2**
HUIG	**Huatulco**	**1.36**	**201**	*e*P	**Pn**	**05 36 00.1**	**-0.4**
HUIG				*e*S	**Sn**	**05 36 18.9**	**+0.4**
UTMO	**Huajuapan**	**2.25**	**291**	*e*P	**Pn**	**05 36 12.5**	**+0.6**
UTMO				*i* S	**Sn**	**05 36 38.1**	**-1.0**
PNIG	**Pinotepa**	**2.51**	**255**	*i* P	**Pn**	**05 36 14.2**	**-1.3**
PNIG				*i* S	**Sn**	**05 36 44.6**	**-0.8**
PCIG		**2.64**	**120**	*e*P	**Pn**	**05 36 17.1**	**-0.1**
PCIG				*i* S	**Sn**	**05 36 48.4**	**0.0**
CCIG	**Comitan**	**3.40**	**102**	*e*P	**Pn**	**05 36 27.8**	**+0.4**
CCIG				*e*S	**Sn**	**05 37 07.4**	**+0.7**
THIG		**3.84**	**123**	*e*P	**Pn**	**05 36 33.0**	**-0.4**
THIG				*e*S	**Sn**	**05 37 17.8**	**+0.3**
ACX	**Acapulco**	**4.09**	**268**	*i* P	**Pn**	**05 36 35.5**	**-1.2**
CAIG	**El Cayaco**	**4.47**	**271**	*e*P	**Pn**	**05 36 41.8**	**-0.2**
CAIG				*e*S	**Sn**	**05 37 32.4**	**-0.4**
TEIG	**Tepich**	**7.62**	**64**	*e*Pn	**Pn**	**05 37 21.5**	**-3.3**
	36nm,0.4s						
TEIG				*e*Sn	**Sn**	**05 38 41.8**	**-7.9**
TXAR	**Lajitas Array**	**14.30**	**330**	P	**Pn**	**05 38 56.8**	**+2.2**
	0.1nm,0.3s,baz=160,slow=13,SNR=7.1						
TXAR	**Lajitas Array**	**14.30**	**330**	P	**Pn**	**05 38 56.8**	**+2.2**
MIAR	**Mount Ida**	**17.52**	**6**	*e*P	**Pn**	**05 39 33.9**	**-1.0**
	4.1nm,0.6s						
MIAR				*e*S	**S**	**05 42 39.5**	**-11**
WMOK	**Wichita Mounta**	**17.85**	**351**	*e*P	**Pn**	**05 39 38.6**	**-0.3**
	3.0nm,0.8s						
PDAR	**Pinedale Array**	**28.27**	**338**	P	**P**	**05 41 21.0**	**-0.2**
	0.5nm,0.7s,mb3.1,baz=156,slow=6.7,SNR=4.1						
PDAR	**Pinedale Array**	**28.27**	**338**	P	**P**	**05 41 21.0**	**-0.2**
NVAR	**Mina Array Bea**	**29.14**	**321**	P	**P**	**05 41 30.5**	**+1.4**
	1.6nm,0.8s,mb3.7,baz=140,slow=9.2,SNR=10						
NVAR	**Mina Array Bea**	**29.14**	**321**	P	**P**	**05 41 30.5**	**+1.4**
WRA	**Warramunga Arr**	**132.69**	**258**	PKP	PKPdf	05 54 38.9	-2.8
	0.3nm,0.6s,baz=91,slow=3.3,SNR=3.6						
WRA	**Warramunga Arr**	**132.69**	**258**	PKP	PKPdf	05 54 39.0	-2.8

*IDC **09** 06:09:30.2±1.9, 1.°96N×96.°23E, h0km, mb3.8/5, mb1 3.9/7, mb1mx3.7/24, mbtmp3.8/7, ML3.5/2, MS3.3/3, Ms1 3.3/3, ms1mx2.9/34, Error ellipse: s-maj=53.9km s-min=20.8km az=56.0*
*ISCJB **09** 06:09:33.8±1.2, 2.°0N±0.°1×96.°4E±0.°1, h33km, mb3.9/5, MS3.3/3, Error ellipse: s-maj=19.5km s-min=15.1km az=44.2*
*NEIC **09** 06:09:36.0±0.9, 2.°04N×96.°41E, h35km, Error ellipse: s-maj=15.4km s-min=11.4km az=47.0*
ISC 09 06:09:36.0±1.2, 2.°0N±0.°1×96.°4E±0.°1, h35km, n18, σ0.°30/16, mb3.9/5, MS3.3/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.63**	**73**	Pn	**Pn**	**06 10 16.2**	**+0.1**
	2.8nm,0.3s,baz=271,slow=11,SNR=8.9						
PSI	**Prapat**	**2.63**	**73**	Pn	**Pn**	**06 10 16.2**	**+0.1**
IPM	**Ipoh**	**5.21**	**62**	*e*Pn	**Pn**	**06 10 51.6**	**0.0**
	21nm,0.9s						
KULM	**Kulim**	**5.33**	**53**	*e*Pn	**Pn**	**06 10 52.7**	**-0.5**
	49nm,0.9s						
CMAR	**Chiang Mai Arr**	**16.51**	**9**	Pn	**Pn**	**06 13 25.7**	**+0.7**
	0.1nm,0.3s,baz=199,slow=11,SNR=9.8						
CMAR	**Chiang Mai Arr**	**16.51**	**9**	Pn	**Pn**	**06 13 25.7**	**+0.7**
WRA	**Warramunga Arr**	**43.15**	**122**	P	**P**	**06 17 33.8**	**+0.2**
	0.7nm,0.8s,mb3.4,baz=299,slow=9.3,SNR=3.9						
WRA				LR	LR	06 37 34.8	
	comp=Z,46nm,20.6s,MS3.4,baz=10.0,slow=39						
WRA	**Warramunga Arr**	**43.15**	**122**	P	**P**	**06 17 33.8**	**+0.2**
WRA				LR	LR	06 37 34.8	
ASAR	**Alice Springs**	**44.53**	**127**	P	**P**	**06 17 44.6**	**0.0**
	0.4nm,0.9s,mb3.3,baz=297,slow=7.5,SNR=5.7						
ASAR	**Alice Springs**	**44.53**	**127**	P	**P**	**06 17 44.6**	**0.0**
AAK	**Ala-Archa**	**44.92**	**337**	LR	LR	06 41 03.3	
	comp=Z,36nm,18.7s,MS3.3,baz=360,slow=42						
KSRS	**Korea Array**	**45.63**	**36**	LR	LR	06 38 54.6	
	comp=Z,34nm,18.3s,MS3.3,baz=210,slow=39						
MKAR	**Makanchi Array**	**46.25**	**347**	P	**P**	**06 17 57.6**	**-0.2**
	2.9nm,0.8s,mb4.3,baz=163,slow=6.3,SNR=12						
MKAR	**Makanchi Array**	**46.25**	**347**	P	**P**	**06 17 57.6**	**-0.2**
SONM	**Songino Array**	**46.43**	**9**	P	**P**	**06 17 59.2**	**-0.1**
	0.7nm,0.5s,mb3.8,baz=188,slow=9.3,SNR=4.8						
SONM	**Songino Array**	**46.43**	**9**	P	**P**	**06 17 59.2**	**-0.1**
ZALV	**Zalesovo Beam**	**52.62**	**351**	P	**P**	**06 18 46.0**	**-0.3**
	2.8nm,0.5s,mb4.5,baz=177,slow=5.7,SNR=13						
ZALV	**Zalesovo Beam**	**52.62**	**351**	P	**P**	**06 18 46.0**	**-0.3**

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FETY	**Fethiye**	**0.31**	**197**	*e*Pg	**Pg**	**06 40 38.6**	**-0.5**
FETY				*e*Sg	**Sg**	**06 40 44.1**	**+1.0**
GLHS	**Glhisar (BURDU**	**0.33**	**47**	*e*PG	**Pg**	**06 40 38.9**	**-0.6**
GLHS				SG	**Sg**	**06 40 44.9**	**+1.2**
GLHS	**Glhisar (BURDU**	**0.33**	**47**	*e*Pg	**Pg**	**06 40 38.9**	**-0.5**
GLHS				*i* Sg	**Sg**	**06 40 44.9**	**+1.2**
GOLH	**Golhisar**	**0.42**	**44**	*i* P	**Pg**	**06 40 39.8**	**-1.4**
GOLH				*i* S	**Sg**	**06 40 47.6**	**+1.0**
GOLH	**Golhisar**	**0.42**	**44**	*i* P	**Pg**	**06 40 39.8**	**-1.4**
GOLH				*i* S	**Sg**	**06 40 47.6**	**+0.9**
YER	**Yerkesik**	**0.76**	**286**	*e*PG	**Pg**	**06 40 47.2**	**-0.5**
YER				*e*SG	**Sg**	**06 40 59.5**	**+2.0**
YER	**Yerkesik**	**0.76**	**286**	*e*Pg	**Pg**	**06 40 47.2**	**-0.5**
YER				*e*Sg	**Sg**	**06 40 59.5**	**+2.0**
DNZL	**Cakiroluk**	**0.76**	**351**	*i* P	**Pg**	**06 40 45.9**	**-1.9**
DNZL				*i* S	**Sg**	**06 40 58.2**	**+0.5**
DNZL	**Cakiroluk**	**0.76**	**351**	*i* P	**Pg**	**06 40 45.9**	**-1.9**
DNZL				*i* S	**Sg**	**06 40 58.2**	**+0.5**
AYDN	**Tasoluk**	**1.28**	**305**	*i* P	**Pg**	**06 40 56.4**	**-1.2**
AYDN				*i* S	**Sg**	**06 41 14.1**	**-0.1**
AYDN	**Tasoluk**	**1.28**	**305**	*i* P	**Pg**	**06 40 56.4**	**-1.2**
AYDN				*i* S	**Sg**	**06 41 14.1**	**-0.1**
KHAL	**Karahalli**	**1.45**	**9**	*i* P	**Pn**	**06 41 00.5**	**+0.2**
KHAL				*i* S	**Sg**	**06 41 20.3**	**+0.5**
KHAL	**Karahalli**	**1.45**	**9**	*i* P	**Pn**	**06 41 00.5**	**+0.1**
KHAL				*i* S	**Sg**	**06 41 20.3**	**+0.5**

DJA 09 06:51:58.0±53N×129°25E, h22km, MLv3.6/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.90**	**277**	P	Pn	06 52 29.8	+0.7
TNTI				S	Sn	06 52 54.2	+1.8
LBMI	**Labuha**	**2.10**	**236**	P	Pn	06 52 32.9	+1.0
LBMI				S	Sn	06 52 59.2	+1.9
SWI	**Sorong**	**2.44**	**125**	P	Pn	06 52 37.3	+0.8
SWI				S	Sn	06 53 07.8	+2.1

CASC 09 06:57:20.1±1.9, 8°05N×83°14W, h0km±27km, MD4.2, 4C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.60**	**358**⇑	*e*P	Pg	06 57 33.0	+1.3
ACR				*e*S	Sg	06 57 42.7	+3.2
BUS	**Buena Vista**	**1.61**	**338**⇑	*i*P	Pn	06 57 50.0	+0.1
QCR	**Quepos**	**1.70**	**324**⇑	*e*P	Pn	06 57 49.6	-1.4
QCR				*e*S	Sn	06 58 13.8	+0.4
URSC	**Urasca**	**1.88**	**341**	*e*P	Pn	06 57 53.2	-0.3
URSC				*e*S	Sn	06 58 20.9	+2.9
SJS	**Escuela Geolog**	**2.08**	**334**⇑	*e*P	Pn	06 57 57.0	+0.7
SJS				*e*S	Sn	06 58 24.8	+1.8
PRS1	**Puriscal**	**2.24**	**329**⇓	*e*P	Pn	06 57 57.3	-1.2
CGA2	**Cerro Gallo 2**	**2.35**	**326**	*e*P	Pn	06 57 59.2	-0.8
CGA2				*e*S	Sn	06 58 32.3	+2.8
JCR	**Jicaral**	**2.64**	**313**⇓	*e*P	Pn	06 58 03.9	-0.1
CHPA	**Chiripa**	**2.95**	**324**	*i* P	Pn	06 58 10.1	+1.9
PTEN	**Parque Tenorio**	**3.21**	**326**	*i* P	Pn	06 58 12.9	+1.1
CUI	**Cuipilapa**	**3.27**	**323**	*i* P	Pn	06 58 14.0	+1.3
MESS	**Mesas**	**3.35**	**323**	*i* P	Pn	06 58 14.8	+1.0
MESS				*i* S	Sn	06 58 55.5	+1.2
NY14	**Universidad de**	**3.50**	**318**	*i* P	Pn	06 58 16.4	+0.6

IDC 09 07:01:32.0±1.8, 0°36N×128°49E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/19, mbtmp4.0/4, Error ellipse: s-maj=115.1km s-min=25.7km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.97**	**164**	P	P	07 06 15.1	-1.8
	2.0nm,0.6s,baz=345,slow=11,SNR=25						
ASAR	**Alice Springs**	**24.45**	**168**	P	P	07 06 52.9	+0.3
	13nm,1.1s,baz=346,slow=9.4,SNR=36						
STKA	**Stephens Creek**	**34.38**	**160**	P	P	07 08 22.0	+1.2
	1.4nm,0.7s,baz=343,slow=10.0,SNR=5.4						
MKAR	**Makanchi Array**	**61.31**	**326**	P	P	07 11 49.3	0.0
	0.4nm,0.6s,baz=124,slow=8.8,SNR=4.2						

*IDC **09** 07:15:12.6±2.0, 26°86N×88°82E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.4/25, mbtmp3.4/5, Error ellipse: s-maj=77.9km s-min=21.6km az=69.0*
*ISCJB **09** 07:15:14.3±0.5, 27°13N±0°05×89°16E±0°03, h10km, mb3.4/4, Error ellipse: s-maj=7.6km s-min=4.0km az=1.6*
*DMN **09** 07:15:15.8±0.5, 27°03N×89°35E, h10km, Ml4.6/7, Error ellipse: s-maj=43.3km s-min=8.4km az=11.0*
*NEIC **09** 07:15:15.3±0.7, 27°03N×89°22E, h10km, Error ellipse: s-maj=13.5km s-min=7.6km az=175.0*

ISC 09 07:15:15.8±0.5, 27°07N±0°05×89°16E±0°03, h10km, n28, σ0991/45, mb3.4/4, Bhutan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTK	**Gangtok**	**0.55**	**298**	*e*PG	**Pg**	**07 15 22.5**	**-4.0**
GTK				*e*SG	**Sg**	**07 15 28.0**	**-5.7**
SHL	**Shillong**	**2.87**	**121**	*e*PN	**Pn**	**07 16 02.0**	**+0.4**
SHL				*e*SN	**Sn**	**07 16 36.0**	**-0.2**
GUN	**Gumba**	**3.03**	**287**	*e*Pn	**Pn**	**07 16 05.1**	**+1.2**
GUN	**Gumba**	**3.03**	**287**	*e*Pn	**Pn**	**07 16 05.1**	**+1.2**
LSA	**Lhasa**	**3.15**	**33**	*e*Pn	**Pn**	**07 16 05.1**	**-0.4**
LSA				*e*Sg	**Sg**	**07 16 57.1**	**0.0**
PKI	**Pulchoki**	**3.37**	**279**	*e*Pn	**Pn**	**07 16 09.1**	**+0.5**
PKI				*e*Sn	**Sn**	**07 16 49.0**	**+0.4**
	386nm,0.5s						
PKI	**Pulchoki**	**3.37**	**279**	*e*Pn	**Pn**	**07 16 10.1**	**+1.5**
PKI				*e*Sn	**Sn**	**07 16 49.0**	**+0.4**
PKI				*e*Sn	**Sn**	**07 16 49.2**	**+0.6**
PKIN	**Phulchoki**	**3.38**	**279**	*e*Pn	**Pn**	**07 16 10.1**	**+1.4**
PKIN				*e*Sn	**Sn**	**07 16 49.2**	**+0.3**
	549nm,0.3s						
KKN	**Kakani**	**3.52**	**283**	*e*Pn	**Pn**	**07 16 11.2**	**+0.6**
KKN				*e*Sn	**Sn**	**07 16 52.3**	**0.0**
	190nm,0.2s						
KKN	**Kakani**	**3.52**	**283**	*e*Pn	**Pn**	**07 16 11.2**	**+0.6**
KKN				*e*Sn	**Sn**	**07 16 52.3**	**0.0**
DMN	**Daman**	**3.64**	**279**	*e*Pn	**Pn**	**07 16 12.9**	**+0.6**
DMN				*e*Sn	**Sn**	**07 16 55.8**	**+0.5**
	338nm,0.5s						
DMN	**Daman**	**3.64**	**279**	*e*Pn	**Pn**	**07 16 12.9**	**+0.6**
DMN				*e*Sn	**Sn**	**07 16 55.8**	**+0.5**
GKN	**Gorkha**	**4.12**	**284**	*e*Pn	**Pn**	**07 16 19.4**	**+0.6**
GKN				*e*Sn	**Sn**	**07 17 05.9**	**-1.2**
	210nm,0.3s						
GKN	**Gorkha**	**4.12**	**284**	*e*Pn	**Pn**	**07 16 19.4**	**+0.6**
GKN				*e*Sn	**Sn**	**07 17 05.9**	**-1.2**
DANN	**Dangsing**	**4.95**	**286**	*e*Pn	**Pn**	**07 16 30.6**	**+0.3**
DANN				*e*Sn	**Sn**	**07 17 26.2**	**-1.4**
	117nm,0.3s						
DANN	**Dangsing**	**4.95**	**286**	*e*Pn	**Pn**	**07 16 30.6**	**+0.3**
DANN				*e*Sn	**Sn**	**07 17 26.2**	**-1.4**
KOLN	**Koldanda**	**4.99**	**279**	*e*Pn	**Pn**	**07 16 30.5**	**-0.3**
KOLN				*e*Sn	**Sn**	**07 17 26.7**	**-1.8**
	196nm,0.4s						
KOLN	**Koldanda**	**4.99**	**279**	*e*Pn	**Pn**	**07 16 30.5**	**-0.3**
KOLN				*e*Sn	**Sn**	**07 17 26.7**	**-1.8**
MKAR	**Makanchi Array**	**20.42**	**346**	P	**P**	**07 19 53.0**	**-0.1**
	0.4nm,0.3s,baz=169,slow=10,SNR=5.2						
MKAR	**Makanchi Array**	**20.42**	**346**	P	**P**	**07 19 53.0**	**-0.1**
SONM	**Songino Array**	**24.73**	**29**	P	**P**	**07 20 38.6**	**+1.4**
	0.2nm,0.4s,mb3.0,baz=201,slow=7.7,SNR=3.0						
SONM	**Songino Array**	**24.73**	**29**	P	**P**	**07 20 38.6**	**+1.4**
KURK	**Kurchatov**	**24.94**	**344**	P	**P**	**07 20 38.0**	**-1.2**
	0.5nm,0.5s,mb3.3,baz=158,slow=9.1,SNR=3.3						
KURK	**Kurchatov**	**24.94**	**344**	P	**P**	**07 20 38.0**	**-1.2**
WRA	**Warramunga Arr**	**64.04**	**132**	P	**P**	**07 25 49.5**	**-0.5**
	0.5nm,0.8s,mb3.6,baz=308,slow=9.7,SNR=3.0						
WRA	**Warramunga Arr**	**64.04**	**132**	P	**P**	**07 25 49.5**	**-0.5**
ASAR	**Alice Springs**	**66.42**	**135**	P	**P**	**07 26 03.8**	**-1.6**
	0.6nm,0.9s,mb3.6,baz=316,slow=6.5,SNR=3.7						
ASAR	**Alice Springs**	**66.42**	**135**	P	**P**	**07 26 03.8**	**-1.6**

IDC 09 07:15:58.6±3.9, 29°03S×177°63W, h0km, mb4.1/4, mb1 4.3/4, mb1mx4.0/16, mbtmp4.1/4, MS3.5/4, Ms1 3.5/4, ms1mx3.2/25, Error ellipse: s-maj=243.1km s-min=29.2km az=159.0, Kermadec Islands

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

CTA	**Charters Tower**	**33.92**	**277**	LR	LR	07 35 23.2	
	comp=Z,60nm,18.1s,baz=51,slow=34						
STKA	**Stephens Creek**	**35.12**	**255**	P	P	07 22 54.0	+0.2
	1.2nm,0.4s,baz=116,slow=8.6,SNR=3.4						
STKA				LR	LR	07 37 01.2	
	comp=Z,80nm,18.9s,baz=206,slow=36						
ASAR	**Alice Springs**	**43.52**	**265**	P	P	07 24 04.0	-0.1
	2.6nm,0.8s,baz=107,slow=7.5,SNR=20						
WRA	**Warramunga Arr**	**44.39**	**271**	P	P	07 24 11.3	+0.2
	2.6nm,0.7s,baz=111,slow=7.9,SNR=10						
VNDA	**Vanda**	**49.49**	**186**	LR	LR	07 40 54.1	
	comp=Z,36nm,19.4s,baz=230,slow=30						
FITZ	**Fitzroy Crossi**	**52.70**	**269**	LR	LR	07 47 43.1	
	comp=Z,61nm,19.1s,baz=276,slow=36						
NVAR	**Mina Array Bea**	**87.01**	**43**	P	P	07 28 46.8	+1.0
	0.7nm,0.9s,baz=234,slow=8.5,SNR=3.5						
FINES	**FINESS Array B**	**143.96**	**341**	PKP	PKPdf	07 35 33.4	-1.9
	7.2nm,0.8s,baz=46,slow=5.5,SNR=14						
AKASG	**Malin Array Be**	**150.39**	**324**	PKPbc	PKPbc	07 35 50.5	-1.1
	1.6nm,0.7s,baz=52,slow=2.0,SNR=5.6						

*ISCJB **09** 07:22:30.2±0.2, 46°801N±0°008×9°14E±0°01, h4km±1km, Error ellipse: s-maj=1.4km s-min=1.3km az=141.6*
*ZUR **09** 07:22:31.3, 46°79N×9°20E, h4km, ML3.7/28*
*CSEM **09** 07:22:31.2±0.1, 46°81N×9°18E, h5km, ML3.8/40, Error ellipse: s-maj=1.5km s-min=1.3km az=159.0*
*VIE **09** 07:22:31.9±0.4, 46°79N×9°28E, h8km±1km, mb2.9/14, ML3.8/16, Error ellipse: s-maj=2.5km s-min=1.6km az=82.0 24 km W of Chur*
*ROM **09** 07:22:31.8±0.5, 46°74N×9°22E, h7km±3km, Md3.2/26, Ml3.2/14, Error ellipse: s-maj=4.7km s-min=2.2km az=164.0*
*GEN **09** 07:22:31.1, 46°87N×9°17E, h5km, ML3.3*
*NEIC **09** 07:22:31.3, 46°79N×9°20E, h4km, ML3.7(ZUR), ML3.6(ROM), ML3.5(LDG), ML3.4(STR), After ZUR.*
*LDG **09** 07:22:32.0±0.1, 46°86N×9°27E, h2km, Ml3.5/39, Error ellipse: s-maj=1.9km s-min=1.6km az=145.0*
*LEDBW **09** 07:22:32.5±0.5, 46°82N±0°03×9°23E±0°02, h10km, ML3.9, Error ellipse: s-maj=12.2km s-min=7.2km az=157.0*
*STR **09** 07:22:33.3±0.2, 46°81N×9°14E, h5km, Ml3.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*PRU **09** 07:22:33.2, 47°22N×8°99E, h8km*
*BGR **09** 07:22:33.6±0.4, 46°89N×9°20E, h10km, ML3.7/14, Error ellipse: s-maj=7.8km s-min=5.6km az=23.0*

ISC 09 07:22:31.4±0.2, 46°811N±0°008×9°17E±0°01, h7km±1km, n513, σ1124/838, 53C-46D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LLS	**Linth-Limmern**	**0.11**	**288**⇓	*i*Pg	**Pg**	**07 22 34.7**	**+0.8**
	40μm,0.1s						
LLS				*i* Sg	**Sg**	**07 22 36.8**	**+1.3**
	40μm,0.1s						
PLONS	**Plons/SG**	**0.28**	**32**⇑	*i*Pg	**Pg**	**07 22 37.0**	**+0.1**
	19μm,0.4s						
PLONS				*i* Sg	**Sg**	**07 22 40.8**	**+0.2**
	19μm,0.4s						
TUE	**Stuetta**	**0.36**	**160**	*e*Pg	**Pg**	**07 22 38.0**	**-0.4**
TUE				*e*Sg	**Sg**	**07 22 42.6**	**-0.5**
TUE	**Stuetta**	**0.36**	**160**	Pg	**Pg**	**07 22 38.4**	**0.0**
TUE				Sg	**Sg**	**07 22 42.7**	**-0.4**
	3μm,0.2s						
TUE	**Stuetta**	**0.36**	**160**	*e*Pg	**Pg**	**07 22 38.0**	**-0.4**
TUE				Sg	**Sg**	**07 22 42.7**	**-0.4**
	3μm,0.2s						
VDL	**Val di Lei**	**0.38**	**149**⇓	*i*Pg	**Pg**	**07 22 38.5**	**-0.3**
	12μm,0.4s						
VDL				*i* Sg	**Sg**	**07 22 43.1**	**-0.7**
	12μm,0.4s						
VDL	**Val di Lei**	**0.38**	**149**⇓	*i*Pg	**Pg**	**07 22 38.5**	**-0.3**
	12μm,0.4s						
VDL				*i* Sg	**Sg**	**07 22 43.1**	**-0.7**
	12μm,0.4s						
MUO	**Muotathal**	**0.40**	**294**⇓	*i*Pg	**Pg**	**07 22 39.9**	**+0.9**
	5μm,0.8s						
MUO				*i* Sg	**Sg**	**07 22 46.0**	**+1.8**
	5μm,0.8s						
MUO	**Muotathal**	**0.40**	**294**⇓	*i*Pg	**Pg**	**07 22 39.9**	**+0.9**
	5μm,0.8s						
MUO				*i* Sg	**Sg**	**07 22 46.0**	**+1.8**
	5μm,0.8s						
DAVOX	**Davos/Dischmat**	**0.49**	**93**⇓	*i*Pg	**Pg**	**07 22 40.6**	**-0.3**
	5μm,0.4s						
DAVOX				*i* Sg	**Sg**	**07 22 47.0**	**-0.3**
	5μm,0.4s						
DAVOX	**Davos/Dischmat**	**0.49**	**93**	Pg	**Pg**	**07 22 40.6**	**-0.3**
DAVOX				Sg	**Sg**	**07 22 47.1**	**-0.2**
DAVOX	**Davos/Dischmat**	**0.49**	**93**⇓	*i*Pg	**Pg**	**07 22 40.6**	**-0.3**
	5μm,0.4s						
DAVOX				*i* Sg	**Sg**	**07 22 47.0**	**-0.3**
	5μm,0.4s						
FUSIO	**Fusio**	**0.50**	**224**⇑	*i*Pg	**Pg**	**07 22 41.4**	**+0.4**
	35μm,0.2s						
FUSIO				*e*Sg	**Sg**	**07 22 48.2**	**+0.8**
	35μm,0.2s						
FUSIO	**Fusio**	**0.50**	**224**	Pg	**Pg**	**07 22 41.4**	**+0.4**
FUSIO				Sg	**Sg**	**07 22 48.2**	**+0.8**
FUSIO	**Fusio**	**0.50**	**224**⇑	*i*Pg	**Pg**	**07 22 41.4**	**+0.4**
	35μm,0.2s						
FUSIO				*e*Sg	**Sg**	**07 22 48.2**	**+0.8**
	35μm,0.2s						
BNALP	**Bannalp**	**0.51**	**277**⇓	*i*Pg	**Pg**	**07 22 41.8**	**+0.5**
	3μm,0.3s						
BNALP				*e*Sg	**Sg**	**07 22 42.0**	**-5.9**
	3μm,0.3s						
BNALP	**Bannalp**	**0.51**	**277**⇓	*i*Pg	**Pg**	**07 22 41.8**	**+0.5**
	3μm,0.3s						
LIENZ	**Kanor/St.Gall**	**0.53**	**25**⇑	*i*Pg	**Sg**	**07 22 49.1**	**+0.5**
	1μm,0.4s						
WILA	**Wila**	**0.63**	**344**⇓	*i*Pg	**Pg**	**07 22 44.4**	**+0.9**
	8μm,0.2s						
WILA				*i* Sg	**Sg**	**07 22 44.7**	**-7.0**
	8μm,0.2s						
WILA	**Wila**	**0.63**	**344**⇓	*i*Pg	**Pg**	**07 22 44.4**	**+0.9**
	8μm,0.2s						
DAVA	**Damuels**	**0.68**	**45**	*e*Pg	**Pg**	**07 22 44.4**	**-0.1**
	SNR=355						
DAVA				⇑*i*Sg	**Sg**	**07 22 54.2**	**+0.8**
	680nm,0.2s						
DAVA	**Damuels**	**0.68**	**45**	*e*Pg	**Pg**	**07 22 43.9**	**-0.6**
DAVA				*e*Sg	**Sg**	**07 22 54.0**	**+0.7**
DAVA	**Damuels**	**0.68**	**45**	Pg	**Pg**	**07 22 43.9**	**-0.6**
DAVA				Sg	**Sg**	**07 22 54.0**	**+0.6**
ZUR	**Degenried**	**0.69**	**325**⇓	*i*Pg	**Pg**	**07 22 45.3**	**+0.7**
	15μm,0.1s						
ZUR				*e*Sg	**Sg**	**07 22 54.7**	**+1.2**
	15μm,0.1s						
ZUR	**Degenried**	**0.69**	**325**⇓	*i*Pg	**Pg**	**07 22 45.3**	**+0.7**
	15μm,0.1s						
ZUR				*e*Sg	**Sg**	**07 22 54.7**	**+1.2**
	15μm,0.1s						
HASLI	**Hasliberg/Brie**	**0.70**	**266**⇓	*i*Pg	**Pg**	**07 22 45.8**	**+1.0**
	4μm,0.1s						
HASLI				*e*Sg	**Sg**	**07 22 55.7**	**+1.8**
	4μm,0.1s						
HASLI	**Hasliberg/Brie**	**0.70**	**266**⇓	*i*Pg	**Pg**	**07 22 45.8**	**+1.0**
	4μm,0.1s						
HASLI				*e*Sg	**Sg**	**07 22 55.7**	**+1.8**
	4μm,0.1s						
BERNI	**Berninapass**	**0.71**	**124**⇓	*i*Pg	**Sg**	**07 22 53.8**	**-0.5**
	1μm,0.2s						
BERNI	**Berninapass**	**0.71**	**124**	Pg	**Pg**	**07 22 44.4**	**-0.7**
BERNI				Sg	**Sg**	**07 22 53.7**	**-0.6**
BERNI	**Berninapass**	**0.71**	**124**	Pg	**Pg**	**07 22 44.4**	**-0.7**
BERNI				Sg	**Sg**	**07 22 53.7**	**-0.6**
WEIN	**Weingarten**	**0.73**	**350**⇑	*i*Pg	**Pg**	**07 22 46.5**	**+1.1**
	8μm,0.2s						
WEIN	**Weingarten**	**0.73**	**350**⇑	*i*Pg	**Pg**	**07 22 46.5**	**+1.1**
	8μm,0.2s						
FLACH	**Flaach**	**0.86**	**332**⇓	*i*Pg	**Pg**	**07 22 49.0**	**+1.0**
	6μm,0.2s						
FLACH	**Flaach**	**0.86**	**332**⇓	*i*Pg	**Pg**	**07 22 49.0**	**+1.0**
	6μm,0.2s						
STEIN	**Stein am Rhein**	**0.88**	**347**⇑	*i*Pg	**Pg**	**07 22 49.5**	**+1.2**
	5μm,0.3s						
STEIN				*i* Sg	**Sg**	**07 22 51.4**	**-8.4**
	5μm,0.3s						
STEIN	**Stein am Rhein**	**0.88**	**347**⇑	*i*Pg	**Pg**	**07 22 49.5**	**+1.2**
	5μm,0.3s						
SISB	**Singen-Schiene**	**0.89**	**351**	⇑P*	**Pb**	**07 22 49.4**	**+0.3**
SISB				PmP		07 22 51.3	
SISB				S*	**Sb**	**07 23 02.0**	**+0.9**
SISB				SmS		07 23 04.9	
SISB	**Singen-Schiene**	**0.89**	**351**	⇑Pg	**Pb**	**07 22 49.4**	**+0.3**
SISB				Sg	**Sb**	**07 23 02.0**	**+0.9**
MUGIO	**Muggio**	**0.89**	**186**⇑	*i*Pg	**Pg**	**07 22 48.1**	**-0.4**
	2μm,0.2s						
MUGIO	**Muggio**	**0.89**	**186**	Pg	**Pg**	**07 22 48.2**	**-0.3**
MUGIO				Sg	**Sg**	**07 22 59.7**	**-0.4**
MUGIO	**Muggio**	**0.89**	**186**	Pg	**Pg**	**07 22 48.2**	**-0.3**
MUGIO				Sg	**Sg**	**07 22 59.7**	**-0.4**
BRMO	**Bormio**	**0.90**	**112**	Pg	**Pg**	**07 22 47.6**	**-1.0**
BRMO				Sg	**Sg**	**07 23 00.0**	**-0.2**
	139nm,0.2s						
BRMO	**Bormio**	**0.90**	**112**	Pg	**Pg**	**07 22 47.6**	**-1.0**
BRMO				Sg	**Sg**	**07 23 00.0**	**-0.2**
	139nm,0.2s						
TRULL	**Truellikon**	**0.90**	**339**⇓	*i*Pg	**Sg**	**07 23 01.8**	**+1.4**
	5μm,0.3s						
TRULL				*i* Sg	**Sn**	**07 23 04.8**	**+1.0**
	5μm,0.3s						
OBER	**Oberstdorf**	**0.97**	**52**⇑	P*	**Pg**	**07 22 50.0**	**-0.1**
OBER				⇑*i*Pg	**Pg**	**07 22 50.0**	**-0.1**
OBER				PmP		07 22 52.6	
OBER				⇑*i*Sg	**Sg**	**07 23 03.7**	**+1.0**
OBER	**Oberstdorf**	**0.97**	**52**⇑	Pg	**Pg**	**07 22 50.0**	**-0.1**
SULZ	**Cheisacher**	**1.02**	**315**⇓	*i*Pg	**Pg**	**07 22 49.7**	**-1.2**
	10μm,0.9s						
SULZ	**Cheisacher**	**1.02**	**315**⇓	*i*Pg	**Pg**	**07 22 49.7**	**-1.2**
	10μm,0.9s						
SLE	**Schleitheim**	**1.06**	**335**⇓	*i*Pg	**Pg**	**07 22 51.6**	**-0.1**
	12μm,0.5s						
SLE	**Schleitheim**	**1.06**	**335**⇓	*i*Pg	**Pg**	**07 22 51.6**	**-0.1**
	12μm,0.5s						
WIMIS	**Wimmis**	**1.07**	**263**⇓	*i*Pg	**Sg**	**07 23 02.1**	**-3.7**
	839nm,0.4s						
UBR	**Ueberruh**	**1.08**	**36**	⇑P*	**Pb**	**07 22 52.6**	**+0.2**
UBR				Pg	**Pg**	**07 22 53.2**	**+1.1**
UBR				S*	**Sb**	**07 23 07.5**	**+0.7**
UBR	**Ueberruh**	**1.08**	**36**	⇑P	**Pb**	**07 22 52.6**	**+0.2**
UBR				S	**Sb**	**07 23 07.5**	**+0.7**
UBR	**Ueberruh**	**1.08**	**36**	Px	**Pg**	**07 22 53.2**	**+1.1**
FETA	**Feichten**	**1.09**	**78**⇑	*e*Pg	**Pg**	**07 22 51.3**	**-1.0**
	SNR=499						
FETA				⇓*i*Sg	**Sg**	**07 23 06.3**	**-0.2**
	309nm,0.2s						
FETA	**Feichten**	**1.09**	**78**	Pg	**Pg**	**07 22 51.3**	**-1.0**
	SNR=499						
FETA				Sg	**Sg**	**07 23 06.3**	**-0.2**
	309nm,0.2s						
MMK	**Mattmark**	**1.13**	**228**⇑	*i*Pg	**Sg**	**07 23 05.0**	**-2.6**
	1μm,0.5s						
MMK	**Mattmark**	**1.13**	**228**	Pg	**Pg**	**07 22 52.6**	**-0.4**
MMK				Sg	**Sg**	**07 23 08.1**	**+0.5**
MMK	**Mattmark**	**1.13**	**228**	Pg	**Pg**	**07 22 52.6**	**-0.4**
MMK				Sg	**Sg**	**07 23 08.1**	**+0.5**
BALST	**Balsthal**	**1.13**	**298**⇓	*i*P	**Pg**	**07 22 55.0**	**+1.9**
	5μm,0.5s						
BALST	**Balsthal**	**1.13**	**298**⇓	*i*P	**Pg**	**07 22 55.0**	**+1.9**
	5μm,0.5s						
LKBD2	**Leukerbad 2**	**1.14**	**248**⇑	*i*Pg	**Pg**	**07 22 51.9**	**-1.3**
LKBD2	**Leukerbad 2**	**1.14**	**248**⇑	*i*Pg	**Pg**	**07 22 51.9**	**-1.3**
LKBD	**Leukerbad**	**1.14**	**249**⇑	*i*Pg	**Pg**	**07 22 52.3**	**-1.0**
	843nm,0.5s						
LKBD				*i* Sg		07 22 52.4	
	843nm,0.5s						
LKBD	**Leukerbad**	**1.14**	**249**⇑	*i*Pg	**Pg**	**07 22 52.3**	**-1.0**
	843nm,0.5s						
MABI	**Malga Bissina**	**1.20**	**129**	Pn	**Pn**	**07 22 53.1**	**-1.5**
	219nm,0.2s						
MABI	**Malga Bissina**	**1.20**	**129**	Pn	**Pn**	**07 22 53.1**	**-1.5**
	219nm,0.2s						
HTN	**Hohentengen**	**1.23**	**7**	⇑P	**Pg**	**07 22 54.9**	**0.0**
HTN	**Hohentengen**	**1.23**	**7**	P	**Pg**	**07 22 56.0**	**+1.1**
WYH	**Wyhlen**	**1.24**	**307**	Pn	**Pn**	**07 22 55.9**	**+0.7**
GUT	**Gutenstein**	**1.26**	**358**	⇑P*	**Pn**	**07 22 55.3**	**-0.1**
GUT				⇓Pg	**Pg**	**07 22 56.7**	**+1.2**
GUT	**Gutenstein**	**1.26**	**358**	⇑P	**Pn**	**07 22 55.3**	**-0.1**
GUT	**Gutenstein**	**1.26**	**358**	⇓P	**Pg**	**07 22 56.7**	**+1.2**
RETA	**Reutte**	**1.28**	**58**⇓	*i*Pg	**Pg**	**07 22 55.9**	**-0.1**
	SNR=452						
RETA				⇑*i*Sg	**Sg**	**07 23 12.9**	**+0.3**
	241nm,0.2s						
RETA	**Reutte**	**1.28**	**58**	Pg	**Pg**	**07 22 55.9**	**-0.1**
	SNR=452						
RETA				Sg	**Sg**	**07 23 12.9**	**+0.3**
	241nm,0.2s						
LOES	**Loerrach-Stett**	**

PART Sn **Sn** 07 23 20.3 +1.9
ENGD Engstlatt 1.52 353 ⇑Pn **Pn** 07 22 58.8 -0.1
ENGD Engstlatt 1.52 353 Px **Pg** 07 23 01.2 +0.8
TORNY Torny/Romont 1.52 269 ⇓*i*Pn **Pn** 07 22 53.3 -5.7
2µm,0.4s
SALO Salr 1.52 141 Pn **Pn** 07 22 59.8 +0.8
443nm,0.9s
SALO Salr 1.52 141 Pn **Pn** 07 22 59.8 +0.8
443nm,0.9s
JUND Jungingen 1.52 357 ⇑Pn **Pn** 07 22 58.9 -0.1
JUND Jungingen 1.52 357 P **Pn** 07 23 01.2 +2.2
AIGLE Aigle 1.60 254 ⇓*i*P **Pn** 07 23 07.8 +7.8
1µm,0.3s
BFO Black Forest 1.62 340 *e*Pn **Pn** 07 23 00.2 -0.2
BFO *e*Sn **Sn** 07 23 23.6 +2.1
BFO Black Forest 1.62 340 ⇑P **Pn** 07 23 00.5 +0.1
BFO Pg **Pg** 07 23 03.0 +0.5
BFO S **Sn** 07 23 20.1 -1.4
BFO Sg **Sg** 07 23 24.0 +0.5
BFO Black Forest 1.62 340 ⇑Pn **Pn** 07 23 00.5 +0.1
BFO Sn **Sn** 07 23 20.1 -1.4
BFO Black Forest 1.62 340 Px **Pg** 07 23 03.0 +0.5
BFO S **Sg** 07 23 24.0 +0.5
BFO Black Forest 1.62 340 *e*Pn **Pn** 07 23 00.2 -0.2
BFO Black Forest 1.62 340 P **Pn** 07 23 00.5 +0.1
BFO Black Forest 1.62 340 Pg **Pg** 07 23 03.0 +0.5
BFO S **Sn** 07 23 20.1 -1.4
BFO *e*Sn **Sn** 07 23 23.6 +2.1
BFO Sg **Sg** 07 23 24.0 +0.5
TRAV Traversella 1.63 218 Pg **Pg** 07 22 59.4 -3.2
243nm,0.3s
TRAV Traversella 1.63 218 P **Pn** 07 22 59.5 -1.0
BUCH Bad Urach 1.64 4 ⇑Pn **Pn** 07 23 00.4 -0.3
BUCH Pg **Pg** 07 23 03.3 +0.4
BUCH Sg **Sg** 07 23 25.1 +0.9
BUCH Bad Urach 1.64 4 ⇑Pn **Pn** 07 23 00.4 -0.3
BUCH S **Sg** 07 23 25.1 +0.9
BUCH Bad Urach 1.64 4 P **Pg** 07 23 03.3 +0.4
BUCH Bad Urach 1.64 4 P **Pn** 07 23 00.4 -0.3
LOMF Lomont 1.69 290 Pn **Pn** 07 23 02.4 +1.1
LOMF Pg **Pg** 07 23 04.5 +0.8
LOMF Lomont 1.69 290 ⇓P **Pn** 07 23 02.4 +1.2
LOMF Lomont 1.69 290 ⇓P **Pn** 07 23 02.4 +1.2
LOMF Lomont 1.69 290 P **Pn** 07 23 02.4 +1.1
LOMF Lomont 1.69 290 Pn **Pn** 07 23 02.4 +1.1
LIBD Limburg 1.71 322 Pg **Pg** 07 23 04.9 +0.8
LIBD Limburg 1.71 322 Pg **Pg** 07 23 05.0 +0.8
LIBD Sg **Sg** 07 23 27.6 +1.3
LIBD Limburg 1.71 322 P **Pg** 07 23 05.0 +0.8
LIBD S **Sg** 07 23 27.6 +1.3
LIBD Limburg 1.71 322 Pg **Pg** 07 23 04.9 +0.8
LIBD Sg **Sg** 07 23 27.6 +1.3
TUBL Tuebingen-Lenn 1.71 358 ⇑P **Pn** 07 23 01.6 -0.1
TUBL S **Sn** 07 23 22.1 -1.7
TUBL Sg **Sg** 07 23 26.9 +0.5
TUBL Tuebingen-Lenn 1.71 358 ⇑P **Pn** 07 23 01.6 -0.1
TUBL S **Sn** 07 23 22.1 -1.7
TUBL S **Sg** 07 23 26.9 +0.5
TUBL Tuebingen-Lenn 1.71 358 P **Pn** 07 23 01.6 -0.1
TUBL S **Sn** 07 23 22.1 -1.7
TUBL Sg **Sg** 07 23 26.9 +0.5
WATA Walderalm 1.73 71 ⇑Pg **Pg** 07 23 04.0 -0.5
SNR=127
WATA ⇓*i*Sg **Sg** 07 23 26.7 -0.2
178nm,0.2s
WATA Walderalm 1.73 71 Pg **Pg** 07 23 04.0 -0.5
SNR=127
WATA Sg **Sg** 07 23 26.7 -0.2
178nm,0.2s
MOF Molkenrain 1.73 308 Pn **Pn** 07 23 02.6 +0.7
MOF Molkenrain 1.73 308 P **Pn** 07 23 02.6 +0.7
MOF Molkenrain 1.73 308 P **Pn** 07 23 02.6 +0.7
MOF Molkenrain 1.73 308 P **Pn** 07 23 02.6 +0.7
MOF Molkenrain 1.73 308 Pn **Pn** 07 23 02.6 +0.7
EMV Vieux Emosson 1.74 245 Pg **Pg** 07 23 04.2 -0.5
EMV Vieux Emosson 1.74 245 Pg **Pg** 07 23 04.2 -0.5
WTTA Wattenberg 1.75 74 ⇓*i*Pg **Pg** 07 23 03.9 -1.0
SNR=366
WTTA ⇑*i*Sg **Sg** 07 23 28.0 +0.5
243nm,0.2s
WTTA Wattenberg 1.75 74 *e*Pn **Pn** 07 23 03.4 +1.3
WTTA *e*Pg **Pg** 07 23 05.1 +0.2
WTTA *e*Sg **Sg** 07 23 29.2 +1.6
WTTA Wattenberg 1.75 74 Pn **Pn** 07 23 03.4 +1.3
WTTA Wattenberg 1.75 74 Pg **Pg** 07 23 03.9 -1.0
SNR=366
WTTA Sg **Sg** 07 23 28.0 +0.4
243nm,0.2s
SCE Schlegeis 1.76 82 ⇑*i*Pn **Pn** 07 23 02.4 +0.1
SCE Schlegeis 1.76 82 Pn **Pn** 07 23 02.4 +0.1
ROVR Rover˜¤ Verone 1.76 131 Pn **Pn** 07 23 03.6 +1.3
242nm,0.5s
ROVR Rover˜¤ Verone 1.76 131 Pn **Pn** 07 23 03.6 +1.3
242nm,0.5s
MRGE Morge 1.79 235 Pn **Pn** 07 23 04.8 +2.1
233nm,0.5s
MRGE Morge 1.79 235 Pn **Pn** 07 23 04.8 +2.1
233nm,0.5s
OPP Oppenau 1.81 339 Px Px 07 24 28.9
OPP x x 07 24 50.1
OFBG Offenburg 1.82 334 Sx **Sg** 07 23 30.1 +0.2
HINF Hinteralfeld 1.87 303 *e*Pn **Pn** 07 23 04.4 +0.6
HINF Hinteralfeld 1.87 303 *e*Pg **Pg** 07 23 07.1 -0.1
HINF *e*Sn **Sn** 07 23 26.8 -0.8
HINF *e*Sg **Sg** 07 23 30.9 -0.5
127nm,0.2s
HINF Hinteralfeld 1.87 303 *e*Pn **Pn** 07 23 04.4 +0.6
HINF *e*Pg **Pg** 07 23 07.1 -0.1
HINF *e*Sn **Sn** 07 23 26.8 -0.8
HINF *e*Sg **Sg** 07 23 30.9 -0.5
64nm,0.2s
LBG Lerchenberg 1.87 352 ⇑P **Pn** 07 23 03.6 -0.2
LBG Sg **Sg** 07 23 31.5 0.0
LBG Lerchenberg 1.87 352 ⇑P **Pn** 07 23 03.6 -0.2
LBG S **Sg** 07 23 31.5 0.0
LBG Lerchenberg 1.87 352 P **Pn** 07 23 03.6 -0.2
LBG Sg **Sg** 07 23 31.5 0.0
CTI Castel Tesino 1.88 113 Pg **Pg** 07 23 05.8 -1.6
177nm,0.5s
CTI Castel Tesino 1.88 113 Pg **Pg** 07 23 05.8 -1.6
177nm,0.5s
MONC Moncucco Torin 1.94 207 Pn **Pn** 07 23 07.0 +2.2
MONC Moncucco Torin 1.94 207 Pn **Pn** 07 23 07.0 +2.2
ECH Echery 1.96 317 Pn **Pn** 07 23 05.7 +0.7
ECH Echery 1.96 317 P **Pn** 07 23 05.5 +0.6
ECH Echery 1.96 317 P **Pn** 07 23 05.5 +0.6
ECH Echery 1.96 317 P **Pn** 07 23 05.6 +0.6
ECH Echery 1.96 317 Pn **Pn** 07 23 05.7 +0.7
STU Stuttgart 1.96 1 *e*Pn **Pn** 07 23 04.4 -0.6
STU *e*Sg **Sg** 07 23 33.9 -0.5
STU Stuttgart 1.96 1 ⇑P **Pn** 07 23 04.5 -0.5
STU *e*Sg **Sg** 07 23 34.4 0.0
STU Stuttgart 1.96 1 ⇑P **Pn** 07 23 04.5 -0.5
STU Stuttgart 1.96 1 P **Pn** 07 23 04.6 -0.5
STU *e*Sg **Sg** 07 23 33.9 -0.5
FUR Furstenfeldbru 1.97 46 *e*Pn **Pn** 07 23 05.7 +0.5
FUR *e*Pg **Pg** 07 23 08.5 -0.7
FUR *e*Sg **Sg** 07 23 34.6 -0.1
FUR Furstenfeldbru 1.97 46 Pn **Pn** 07 23 05.7 +0.5
GIMEL St. Georges / 2.02 263 ⇓*i*Pn Px 07 22 53.9
781nm,0.4s
FAU Forcella Aurin 2.03 106 *e*Pn **Pn** 07 23 08.0 +2.1
FAU *e*Sn **Sn** 07 23 35.1 +3.5
FAU Forcella Aurin 2.03 106 *e*Pn **Pn** 07 23 08.0 +2.0
FAU *e*Sn **Sn** 07 23 35.1 +3.6
ROTM Rocchetta Tana 2.04 196 P **Pn** 07 23 06.2 0.0
ROTM S **Sn** 07 23 29.5 -2.4
CDF Champ du Feu 2.05 322 *e*Pn **Pn** 07 23 06.8 +0.5
CDF *e*Sg **Sg** 07 23 37.2 0.0
505nm,0.4s
CDF Champ du Feu 2.05 322 *e*Pn **Pn** 07 23 06.8 +0.5
CDF *e*Sg **Sg** 07 23 37.2 0.0
CDF Champ du Feu 2.05 322 *e*Pn **Pn** 07 23 06.8 +0.5
CDF *e*Sg **Sg** 07 23 37.2 0.0
253nm,0.4s
BOB Bobbio (Coli) 2.05 174 Pn **Pn** 07 23 08.8 +2.5
BOB Bobbio (Coli) 2.05 174 Pn **Pn** 07 23 08.8 +2.5
AGOR Agordo 2.06 104 Pn **Pn** 07 23 08.5 +2.1
171nm,0.4s
RSL Roselend 2.09 238 Pn **Pn** 07 23 07.3 +0.5
RSL Sg **Sg** 07 23 40.9 +2.4
RSL Roselend 2.09 238 Pn **Pn** 07 23 07.3 +0.5
RSL Sg **Sg** 07 23 40.9 +2.4
AFL Alpe Faloria 2.09 97 ⇑*e*Pn **Pn** 07 23 09.4 +2.5
AFL *e*Sn **Sn** 07 23 39.0 +5.8
AFL Alpe Faloria 2.09 97 *e*Pn **Pn** 07 23 09.4 +2.5
RSP Reno Superiore 2.13 219 Pg **Pg** 07 23 06.5 -5.6
99nm,0.4s
RSP Reno Superiore 2.13 219 P **Pn** 07 23 06.9 -0.4
RSP S **Sn** 07 23 30.8 -3.2
CABF La Chapelle 2.13 266 *e*Pn **Pn** 07 23 08.6 +1.3
CABF La Chapelle 2.13 266 *e*Pg **Pg** 07 23 12.5 +0.4
CABF *e*Sg **Sg** 07 23 41.2 +1.5
165nm,0.3s
CABF La Chapelle 2.13 266 *e*Pn **Pn** 07 23 08.6 +1.3
CABF *e*Pg **Pg** 07 23 12.5 +0.4
CABF *e*Sg **Sg** 07 23 41.2 +1.5
CABF La Chapelle 2.13 266 *e*Pn **Pn** 07 23 08.6 +1.3
CABF La Chapelle 2.13 266 *e*Pg **Pg** 07 23 12.5 +0.4
CABF *e*Sg **Sg** 07 23 41.2 +1.5
83nm,0.3s
LPL La Plagne 2.13 233 *e*Pg **Pg** 07 23 10.6 -1.6
LPL *e*Sg **Sg** 07 23 41.4 +1.6
158nm,0.6s
LPL La Plagne 2.13 233 *e*Pg **Pg** 07 23 10.6 -1.6
LPL *e*Sg **Sg** 07 23 41.4 +1.6
LPL La Plagne 2.13 233 *e*Pg **Pg** 07 23 10.6 -1.6
LPL *e*Sg **Sg** 07 23 41.4 +1.6
79nm,0.6s
LPG La Plagne 2.13 233 *e*Pg **Pg** 07 23 10.4 -1.8
LPG *e*Sg **Sg** 07 23 41.7 +1.9
107nm,0.4s
LPG La Plagne 2.13 233 *e*Pg **Pg** 07 23 10.4 -1.8
LPG *e*Sg **Sg** 07 23 41.7 +1.9
LPG La Plagne 2.13 233 *e*Pg **Pg** 07 23 10.4 -1.8
LPG *e*Sg **Sg** 07 23 41.7 +1.9
54nm,0.4s
NORI Noerdlinger Ri 2.15 27 ⇑*i*Pn **Pn** 07 23 06.6 -1.0
NORI Noerdlinger Ri 2.15 27 Pn **Pn** 07 23 06.6 -1.0
VARN Col Varnada, M 2.19 111 ⇓*e*Pn **Pn** 07 23 10.6 +2.4
VARN *e*Sn **Sn** 07 23 39.7 +4.1
VARN Col Varnada, M 2.19 111 *e*Pn **Pn** 07 23 10.6 +2.4
VARN *e*Sn **Sn** 07 23 39.7 +4.1
CSO Casso 2.25 103 *e*Pn **Pn** 07 23 11.7 +2.8
CSO *e*Sn **Sn** 07 23 41.7 +4.8
CSO Casso 2.25 103 *e*Pn **Pn** 07 23 11.7 +2.8
HAU Haudompre 2.26 303 *e*Pn **Pn** 07 23 09.8 +0.7
HAU Haudompre 2.26 303 *e*Pg **Pg** 07 23 14.2 -0.4
HAU *e*Sg **Sg** 07 23 43.7 -0.1
207nm,0.4s
HAU Haudompre 2.26 303 *e*Pn **Pn** 07 23 09.8 +0.7
HAU *e*Pg **Pg** 07 23 14.2 -0.4
HAU *e*Sg **Sg** 07 23 43.7 -0.1
HAU Haudompre 2.26 303 *e*Pn **Pn** 07 23 09.8 +0.7
HAU Haudompre 2.26 303 *e*Pg **Pg** 07 23 14.2 -0.4
HAU *e*Sg **Sg** 07 23 43.7 -0.1
104nm,0.4s
MTLO Montello 2.26 115 ⇑*e*Pn **Pn** 07 23 12.7 +3.5
TEOL Teolo 2.27 129 *e*Pn **Pn** 07 23 10.4 +1.1
TEOL *e*Sn **Sn** 07 23 42.2 +4.7
TEOL Teolo 2.27 129 *e*Pn **Pn** 07 23 10.4 +1.1
ABTA Abfaltersbach 2.30 90 ⇓Pg **Pg** 07 23 13.6 -1.9
12nm,0.3s,SNR=47
ABTA ⇑*i*Sg **Sg** 07 23 45.5 +0.3
66nm,0.4s
ABTA Abfaltersbach 2.30 90 Pg **Pg** 07 23 13.6 -1.8
12nm,0.3s,SNR=47
ABTA Sg **Sg** 07 23 45.5 +0.3
66nm,0.4s
PCP Piancastagn 2.31 191 Pn **Pn** 07 23 11.3 +1.4
60nm,0.4s
PCP Piancastagn 2.31 191 P **Pn** 07 23 10.2 +0.3
PCP Piancastagn 2.31 191 Pn **Pn** 07 23 11.3 +1.4
60nm,0.4s
PCP S **Sn** 07 23 35.4 -3.1
LANF Langenberg 2.36 338 Pn **Pn** 07 23 10.9 +0.4
LANF Langenberg 2.36 338 ⇑P **Pn** 07 23 11.0 +0.5
LANF S **Sn** 07 23 37.3 -2.3
LANF Langenberg 2.36 338 ⇑P **Pn** 07 23 11.0 +0.5
LANF Sx Sx 07 23 37.3
LANF Langenberg 2.36 338 Pn **Pn** 07 23 10.9 +0.4
LANF S **Sn** 07 23 37.3 -2.3
LANF Langenberg 2.36 338 Pn **Pn** 07 23 10.9 +0.4
CAE Caneva 2.40 108 ⇑*e*Pn **Pn** 07 23 14.1 +3.0
CAE *e*Sn **Sn** 07 23 44.5 +3.8
CAE Caneva 2.40 108 *e*Pn **Pn** 07 23 14.1 +3.0
CAE *e*Sn **Sn** 07 23 44.5 +3.7
GRAM Graiana 2.40 164 P **Pn** 07 23 12.0 +0.9
GRAM S **Sn** 07 23 38.0 -2.5
CSMI Casera Mimoias 2.42 96 Pn **Pn** 07 23 14.9 +3.6
CSMI Casera Mimoias 2.42 96 Pn **Pn** 07 23 14.9 +3.6
SC2M Scurtabo 2.42 174 Pn **Pn** 07 23 14.2 +2.8
SC2M Scurtabo 2.42 174 P **Pn** 07 23 11.4 0.0
SC2M Scurtabo 2.42 174 Pn **Pn** 07 23 14.2 +2.8
SC2M S **Sn** 07 23 37.9 -3.3
MLNI Malnisio 2.47 104 *e*Pn **Pn** 07 23 15.1 +3.1
MLNI *e*Sn **Sn** 07 23 46.2 +3.7
MLNI Malnisio 2.47 104 *e*Pn **Pn** 07 23 15.1 +3.1
MLNI *e*Sn **Sn** 07 23 46.2 +3.8
FVI Forni Avoltri 2.50 94 Pn **Pn** 07 23 16.2 +3.8
70nm,0.4s
FVI Forni Avoltri 2.50 94 Pn **Pn** 07 23 16.2 +3.8
70nm,0.4s
SIND Sindeldorf 2.56 6 ⇑P **Pn** 07 23 11.9 -1.3
SIND Sg **Sg** 07 23 52.7 -0.7
SIND Sindeldorf 2.56 6 ⇑P **Pn** 07 23 11.9 -1.3
SIND Sx Sx 07 23 52.7
SIND Sindeldorf 2.56 6 P **Pn** 07 23 11.9 -1.3
SIND Sg **Sg** 07 23 52.7 -0.8
VALM Valbona 2.58 162 P **Pn** 07 23 13.4 -0.1
VALM S **Sn** 07 23 41.6 -3.5
THEF They Montfort 2.58 304 Pn **Pn** 07 23 14.8 +1.3
THEF They Montfort 2.58 304 Pg **Pn** 07 23 15.5 +1.9
THEF They Montfort 2.58 304 P **Pn** 07 23 15.5 +1.9
THEF They Montfort 2.58 304 Pn **Pn** 07 23 14.8 +1.3
THEF They Montfort 2.58 304 Pg **Pn** 07 23 15.5 +2.0
THEF They Montfort 2.58 304 Pn **Pn** 07 23 14.8 +1.3
ZOU Zoufplan 2.63 94 ⇓*e*Pn **Pn** 07 23 17.8 +3.5
ZOU *e*Sn **Sn** 07 23 51.9 +5.4
ZOU Zoufplan 2.63 94 *e*Pn **Pn** 07 23 17.8 +3.5
RJOB Jochberg 2.64 68 *e*Pn **Pn** 07 23 15.8 +1.4
RJOB *e*Sn **Sn** 07 23 49.1 +2.5
RJOB *e*Sg **Sg** 07 23 56.3 +0.2
RJOB Jochberg 2.64 68 Pn **Pn** 07 23 15.8 +1.4
RJOB Sn **Sn** 07 23 49.1 +2.5
RJOB Sg **Sg** 07 23 56.3 +0.2
MBDF Montbardon 2.67 220 *e*Pn **Pn** 07 23 15.4 +0.5
MBDF *e*Sn **Sn** 07 23 47.5 0.0
MBDF *e*Sg **Sg** 07 23 58.6 +1.3
92nm,0.5s
MBDF Montbardon 2.67 220 *e*Pn **Pn** 07 23 15.4 +0.5
MBDF *e*Sn **Sn** 07 23 47.5 0.0
MBDF *e*Sg **Sg** 07 23 58.6 +1.3
MBDF Montbardon 2.67 220 *e*Pn **Pn** 07 23 15.4 +0.5
MBDF *e*Sn **Sn** 07 23 47.5 0.0
MBDF *e*Sg **Sg** 07 23 58.6 +1.3
46nm,0.5s
FIN Finale Ligure 2.69 195 P **Pn** 07 23 14.1 -0.9
SWS Schriesheim-Wi 2.69 354 ⇑P **Pn** 07 23 14.5 -0.6
SWS Sn **Sn** 07 23 46.5 -1.4
SWS Schriesheim-Wi 2.69 354 ⇑P **Pn** 07 23 14.5 -0.6
SWS Sx Sx 07 23 46.5
SWS Schriesheim-Wi 2.69 354 P **Pn** 07 23 14.5 -0.6
SWS Sn **Sn** 07 23 46.5 -1.5
PZZ Stroppo 2.72 213 Pn **Pn** 07 23 15.3 -0.1
PZZ Stroppo 2.72 213 S **Sn** 07 23 44.6 -3.9
VINC Vinca 2.76 165 P **Pn** 07 23 16.4 +0.4
VINC S **Sn** 07 23 46.3 -3.3
SARO Sassorosso 2.77 161 P **Pn** 07 23 16.8 +0.7
SARO S **Sn** 07 23 46.6 -3.2
TOD Tromm 2.81 355 Pn **Pn** 07 23 15.9 -0.8
TOD Tromm 2.81 355 P **Pn** 07 23 15.9 -0.8
TOD Sn **Sn** 07 23 49.9 -0.9
TOD Tromm 2.81 355 P **Pn** 07 23 15.9 -0.8
TOD Sn **Sn** 07 23 49.9 -0.9
TOD Tromm 2.81 355 P **Pn** 07 23 15.9 -0.8
TOD Tromm 2.81 355 Pn **Pn** 07 23 17.2 +0.5
TOD Sn **Sn** 07 23 49.8 -1.0
KBA Koelnbreinsper 2.88 83 ⇓*e*Pn **Pn** 07 23 20.1 +2.5
SNR=56
KBA Koelnbreinsper 2.88 83 *e*Pn **Pn** 07 23 20.1 +2.5
KBA *e*Sg **Sg** 07 24 02.6 -1.1
KBA Koelnbreinsper 2.88 83 Pn **Pn** 07 23 20.1 +2.5
KBA Sg **Sg** 07 24 02.6 -1.1
MONE Monesi 2.91 200 P **Pn** 07 23 17.9 -0.2
MONE S **Sn** 07 23 49.2 -4.0
PTCC Patocco-Chiusa 2.92 96 Pn **Pn** 07 23 21.0 +2.8
21nm,0.4s
PTCC Patocco-Chiusa 2.92 96 Pn **Pn** 07 23 21.0 +2.8
21nm,0.4s
BDI Bagni Di Lucca 2.93 159 Pn **Pn** 07 23 22.2 +3.9
BDI Bagni Di Lucca 2.93 159 Pn **Pn** 07 23 22.2 +3.9
ORIF Oris-en-Rattie 2.98 232 *e*Pn **Pn** 07 23 20.1 +1.1
ORIF Oris-en-Rattie 2.98 232 *e*Pg **Pg** 07 23 28.4 0.0
ORIF *e*Sg **Sg** 07 24 08.2 +1.3
52nm,0.4s
ORIF Oris-en-Rattie 2.98 232 *e*Pn **Pn** 07 23 20.1 +1.1
ORIF *e*Pg **Pg** 07 23 28.4 0.0
ORIF *e*Sg **Sg** 07 24 08.2 +1.3
ORIF Oris-en-Rattie 2.98 232 *e*Pn **Pn** 07 23 20.1 +1.1
ORIF Oris-en-Rattie 2.98 232 *e*Pg **Pg** 07 23 28.4 0.0
ORIF *e*Sg **Sg** 07 24 08.2 +1.3
26nm,0.4s
ACOM Acomizza, Ital 3.00 93 Pn **Pn** 07 23 22.9 +3.5
96nm,0.5s
ACOM Acomizza, Ital 3.00 93 Pn **Pn** 07 23 22.9 +3.5
96nm,0.5s
IMI Imperia 3.04 198 P **Pn** 07 23 19.0 -0.8
MAIM Mastiano 3.04 162 Pn **Pn** 07 23 23.1 +3.2
MAIM Mastiano 3.04 162 P **Pn** 07 23 21.0 +1.1
MAIM Mastiano 3.04 162 Pn **Pn** 07 23 23.1 +3.2
MAIM S **Sn** 07 23 53.0 -3.6
SAOF Saorge 3.04 202 Pn **Pn** 07 23 19.9 0.0
SAOF Saorge 3.04 202 Pn **Pn** 07 23 19.9 0.0
SAOF Saorge 3.04 202 Pn **Pn** 07 23 19.9 0.0
AUTN L'Aution 3.07 204 Pn **Pn** 07 23 21.3 +1.0
AUTN L'Aution 3.07 204 Pn **Pn** 07 23 21.3 +1.0
AUTN L'Aution 3.07 204 Pn **Pn** 07 23 21.3 +1.0
TOUF Mont Tournerai 3.11 206 Pn **Pn** 07 23 21.0 +0.2
TOUF Mont Tournerai 3.11 206 Pn **Pn** 07 23 21.0 +0.2
TOUF Mont Tournerai 3.11 206 Pn **Pn** 07 23 21.0 +0.2
SFTF Sexfontaines 3.13 298 *e*Pn **Pn** 07 23 21.8 +0.7
SFTF Sexfontaines 3.13 298 *e*Pg **Pg** 07 23 31.2 -0.1
SFTF *e*Sn **Sn** 07 23 57.2 -1.4
SFTF *e*Sg **Sg** 07 24 11.3 -0.4
52nm,0.3s
SFTF Sexfontaines 3.13 298 *e*Pn **Pn** 07 23 21.8 +0.7
SFTF *e*Pg **Pg** 07 23 31.2 -0.1
SFTF *e*Sn **Sn** 07 23 57.2 -1.4
SFTF *e*Sg **Sg** 07 24 11.3 -0.4
SFTF Sexfontaines 3.13 298 *e*Pn **Pn** 07 23 21.8 +0.7
SFTF Sexfontaines 3.13 298 *e*Pg **Pg** 07 23 31.2 -0.1
SFTF *e*Sn **Sn** 07 23 57.2 -1.4
SFTF *e*Sg **Sg** 07 24 11.3 -0.4
26nm,0.3s
RONM Roccetta Nervi 3.14 201 P **Pn** 07 23 20.2 -1.0
NEGI Seborga 3.14 200 P **Pn** 07 23 20.5 -0.7
LUCF Luceram 3.19 204 Pn **Pn** 07 23 21.8 -0.1
LUCF Luceram 3.19 204 Pn **Pn** 07 23 21.8 -0.1
LUCF Luceram 3.19 204 Pn **Pn** 07 23 21.8 -0.1
SBF Sospel 3.19 203 *e*Pg **Pn** 07 23 22.8 +0.8
SBF *e*Sn **Sn** 07 23 59.1 -1.1
37nm,0.3s
SBF Sospel 3.19 203 *e*Pg **Pn** 07 23 22.8 +0.8
SBF *e*Sn **Sn** 07 23 59.1 -1.1
SBF Sospel 3.19 203 *e*Sn **Sn** 07 23 59.1 -1.1
18nm,0.3s
GRFO Grafenberg 3.19 25 *e*Pn **Pn** 07 23 19.4 -2.5
GRFO Grafenberg 3.19 25 *e*Pn **Pn** 07 23 19.4 -2.6
GRA1 Grafenberg Arr 3.19 25 Pn **Pn** 07 23 20.1 -1.9
GRA1 Grafenberg Arr 3.19 25 Pg **Pg** 07 23 32.2 -0.3
GRA1 Sg **Sg** 07 24 12.7 -1.2
GRF Grafenberg Arr 3.19 25 *e*Pn **Pn** 07 23 20.1 -1.9
GRF *e*Pg **Pg** 07 23 32.2 -0.3
GRF *e*Sg **Sg** 07 24 12.7 -1.2
RUP Ruppelstein 3.22 335 Pn **Pn** 07 23 23.5 +1.2
RUP Ruppelstein 3.22 335 Pn **Pn** 07 23 23.7 +1.4
RUP Ruppelstein 3.22 335 Pn **Pn** 07 23 23.7 +1.4
RUP Ruppelstein 3.22 335 Pn **Pn** 07 23 23.5 +1.2
PII Pisa 3.23 162 Pn **Pn** 07 23 25.1 +2.5
PII Pisa 3.23 162 Pn **Pn** 07 23 25.1 +2.5
MVIF Mont Vial 3.24 207 Pn **Pn** 07 23 23.6 +0.9
MVIF Mont Vial 3.24 207 Pn **Pn** 07 23 23.6 +0.9
MVIF Mont Vial 3.24 207 Pn **Pn** 07 23 23.6 +0.9
MEZF Maizieres J'vi 3.25 303 *e*Pn **Pn** 07 23 22.8 0.0
MEZF Maizieres J'vi 3.25 303 *e*Pg **Pg** 07 23 33.2 -0.5
MEZF *e*Sn **Sn** 07 23 59.9 -1.9
33nm,0.4s
MEZF Maizieres J'vi 3.25 303 *e*Pn **Pn** 07 23 22.8 0.0
MEZF *e*Pg **Pg** 07 23 33.2 -0.5
MEZF *e*Sn **Sn** 07 23 59.9 -1.9
MEZF Maizieres J'vi 3.25 303 *e*Pn **Pn** 07 23 22.8 0.0
MEZF Maizieres J'vi 3.25 303 *e*Pg **Pg** 07 23 33.2 -0.5
MEZF *e*Sn **Sn** 07 23 59.9 -1.9
16nm,0.4s
ABH Alteburg 3.26 341 Pn **Pn** 07 23 23.6 +0.8
ABH Alteburg 3.26 341 Pn **Pn** 07 23 23.6 +0.8
ABH Alteburg 3.26 341 Pn **Pn** 07 23 23.6 +0.7
VOY Vojsko 3.36 102 *e*Pn **Pn** 07 23 26.6 +2.3
VOY *e* 07 23 28.2
VOY *e*Sn **Sn** 07 24 06.4 +2.0
VOY Vojsko 3.36 102 *e*Pn **Pn** 07 23 26.6 +2.3
VOY *e*Sn **Sn** 07 24 06.4 +2.0
WET Wettzell 3.42 46 *e*Pn **Pn** 07 23 24.5 -0.6
WET *e*Pg **Pg** 07 23 35.2 -1.6
WET *e*Sn **Sn** 07 24 04.3 -1.4
WET *e*Sg **Sg** 07 24 16.9 -4.1
WET Wettzell 3.42 46 Pn **Pn** 07 23 24.5 -0.5
TNS Taunus Mts 3.45 352 ⇑P **Pn** 07 23 25.3 -0.1
TNS *e*Sn **Sn** 07 24 05.5 -1.1
TNS Taunus Mts 3.45 352 ⇑P **Pn** 07 23 25.3 -0.1
TNS Taunus Mts 3.45 352 P **Pn** 07 23 25.3 -0.2
TNS Sn **Sn** 07 24 05.5 -1.0
SFI Santa Sofia 3.47 146 Pn **Pn** 07 23 27.9 +2.2
SFI Santa Sofia 3.47 146 Pn **Pn** 07 23 27.9 +2.2
SSB Saint Sauveur 3.57 246 *e*Pn **Pn** 07 23 29.2 +2.1
SSB *e*Sg **Sg** 07 24 24.6 -1.3
SSB Saint Sauveur 3.57 246 *e*Pn **Pn** 07 23 29.2 +2.1
SSB *e*Sg **Sg** 07 24 24.6 -1.3
ROTZ Rotzenmuhle 3.59 33 *e*Pn **Pn** 07 23 25.6 -1.8
ROTZ *e*Pg **Pg** 07 23 38.8 -1.3
ROTZ *e*Sg **Sg** 07 24 23.7 -2.9
ROTZ Rotzenmuhle 3.59 33 Pn **Pn** 07 23 25.6 -1.8
MOA Molln 3.62 71 *i* Pn **Pn** 07 23 28.7 +0.9
SNR=18
MOA ⇓*i*Sn **Sn** 07 24 10.5 -0.4
MOA Molln 3.62 71 *e*Pn **Pn** 07 23 28.8 +0.9
MOA *e*Pg **Pg** 07 23 38.4 -2.3
MOA *e*Sg **Sg** 07 24 26.3 -1.3
MOA Molln 3.62 71 Pn **Pn** 07 23 28.7 +0.8
SNR=18
MOA Molln 3.62 71 Pg **Pg** 07 23 38.4 -2.3
MOA Sn **Sn** 07 24 10.5 -0.3
MOA Sg **Sg** 07 24 26.3 -1.3
LOR Lormes 3.66 279 *e*Pn **Pn** 07 23 29.1 +0.7
LOR Lormes 3.66 279 *e*Pg **Pg** 07 23 40.1 -1.3
LOR *e*Sg **Sg** 07 24 28.1 -0.7
29nm,0.2s
LOR Lormes 3.66 279 *e*Pn **Pn** 07 23 29.1 +0.7
LOR *e*Pg **Pg** 07 23 40.1 -1.3
LOR *e*Sg **Sg** 07 24 28.1 -0.7
LOR Lormes 3.66 279 *e*Pn **Pn** 07 23 29.1 +0.7
LOR Lormes 3.66 279 *e*Pg **Pg** 07 23 40.1 -1.3
LOR *e*Sg **Sg** 07 24 28.1 -0.7
15nm,0.2s
SMF Signal de Mont 3.67 269 *e*Pn **Pn** 07 23 29.3 +0.8
SMF Signal de Mont 3.67 269 *e*Pg **Pg** 07 23 40.7 -0.9
SMF *e*Sn **Sn** 07 24 08.4 -3.6
SMF *e*Sg **Sg** 07 24 29.1 0.0
75nm,0.5s
SMF Signal de Mont 3.67 269 *e*Pn **Pn** 07 23 29.3 +0.8
SMF *e*Pg **Pg** 07 23 40.7 -0.9
SMF *e*Sn **Sn** 07 24 08.4 -3.6
SMF *e*Sg **Sg** 07 24 29.1 0.0
SMF Signal de Mont 3.67 269 *e*Pn **Pn** 07 23 29.3 +0.8
SMF Signal de Mont 3.67 269 *e*Pg **Pg** 07 23 40.7 -0.9
SMF *e*Sn **Sn** 07 24 08.4 -3.6
SMF *e*Sg **Sg** 07 24 29.1 0.0
38nm,0.5s
GEC2 GERESS Array S 3.67 55 *e*Pn **Pn** 07 23 28.5 0.0

GEC2				ePg	Pg	07 23 39.8	-1.9		
GEC2				eSn	Sn	07 24 09.7	-2.4		
GEC2				eSg	Sg	07 24 26.5	-2.7		
GEC2	**GERESS Array S**	3.67	55	Pn	Pn	07 23 28.5	0.0		
VIVF	**Saint-Julien-l**	3.70	240	ePn	Pn	07 23 29.9	+1.0		
VIVF	**Saint-Julien-l**	3.70	240	ePg	Pg	07 23 41.7	-0.5		
VIVF				eSn	Sn	07 24 11.8	-1.0		
VIVF				eSg	Sg	07 24 30.6	+0.5		
	48nm,0.5s								
VIVF	**Saint-Julien-l**	3.70	240	ePn	Pn	07 23 29.9	+1.0		
VIVF				ePg	Pg	07 23 41.7	-0.5		
VIVF				eSn	Sn	07 24 11.8	-1.0		
VIVF				eSg	Sg	07 24 30.6	+0.5		
VIVF	**Saint-Julien-l**	3.70	240	ePn	Pn	07 23 29.9	+1.0		
VIVF	**Saint-Julien-l**	3.70	240	ePg	Pg	07 23 41.7	-0.5		
VIVF				eSn	Sn	07 24 11.8	-1.0		
VIVF				eSg	Sg	07 24 30.6	+0.5		
	24nm,0.5s								
FRF	**La Foret Royal**	3.71	210	ePn	Pn	07 23 29.5	+0.5		
FRF				eSn	Sn	07 24 12.0	-1.0		
	16nm,0.4s								
FRF	**La Foret Royal**	3.71	210	ePn	Pn	07 23 29.5	+0.5		
FRF				eSn	Sn	07 24 12.0	-1.0		
FRF	**La Foret Royal**	3.71	210	ePn	Pn	07 23 29.5	+0.5		
FRF				eSn	Sn	07 24 12.0	-1.0		
	8.1nm,0.4s								
OBKA	**Obir**	3.72	93⇑	ePn	Pn	07 23 30.0	+0.8		
	SNR=13								
OBKA	**Obir**	3.72	93	Pn	Pn	07 23 30.0	+0.8		
	SNR=13								
KHC	**Kasperske Hory**	3.76	50	ePn	Pn	07 23 29.5	-0.4		
KHC				eSn	Sn	07 24 12.6	-1.7		
KHC	**Kasperske Hory**	3.76	50	ePN	Pn	07 23 29.6	-0.2		
KHC				ePG	Pg	07 23 38.8	-4.7		
KHC				eSN	Sn	07 24 12.4	-2.0		
KHC				eSG	Sg	07 24 26.9	-5.3		
	comp=Z,54nm,0.3s								
KHC	**Kasperske Hory**	3.76	50	ePn	Pn	07 23 29.5	-0.4		
SMRF	**Simiane la Rot**	3.80	223	ePn	Pn	07 23 30.3	0.0		
SMRF				eSg	Sg	07 24 33.6	+0.2		
	comp=Z,65nm,1.2s								
SMRF	**Simiane la Rot**	3.80	223	ePn	Pn	07 23 30.3	0.0		
SMRF				eSg	Sg	07 24 33.6	+0.2		
SMRF	**Simiane la Rot**	3.80	223	ePn	Pn	07 23 30.3	0.0		
SMRF				eSg	Sg	07 24 33.6	+0.2		
	comp=Z,32nm,1.2s								
PARC	**Parchiule**	3.84	144	Pn	Pn	07 23 33.2	+2.4		
PARC	**Parchiule**	3.84	144	Pn	Pn	07 23 33.2	+2.4		
SSF	**Saint Saulge**	3.89	276	ePn	Pn	07 23 32.8	+1.3		
SSF	**Saint Saulge**	3.89	276	ePg	Pg	07 23 44.8	-1.0		
SSF				eSg	Sg	07 24 34.9	-1.2		
	comp=Z,24nm,0.3s								
SSF	**Saint Saulge**	3.89	276	ePn	Pn	07 23 32.8	+1.3		
SSF				ePg	Pg	07 23 44.8	-1.0		
SSF				eSg	Sg	07 24 34.9	-1.2		
SSF	**Saint Saulge**	3.89	276	ePn	Pn	07 23 32.8	+1.3		
SSF	**Saint Saulge**	3.89	276	ePg	Pg	07 23 44.8	-1.0		
SSF				eSg	Sg	07 24 34.9	-1.2		
	comp=Z,12nm,0.3s								
PLDF	**La Plantade**	3.93	260	Pn	Pn	07 23 31.5	-0.6		
PLDF	**La Plantade**	3.93	260	Pn	Pn	07 23 31.5	-0.6		
PLDF	**La Plantade**	3.93	260	Pn	Pn	07 23 31.5	-0.6		
LMR	**La Mourre**	3.95	209	ePn	Pn	07 23 32.7	+0.3		
LMR				eSn	Sn	07 24 17.8	-1.2		
	comp=Z,17nm,0.6s								
LMR	**La Mourre**	3.95	209	ePn	Pn	07 23 32.7	+0.3		
LMR				eSn	Sn	07 24 17.8	-1.2		
LMR	**La Mourre**	3.95	209	ePn	Pn	07 23 32.7	+0.3		
LMR				eSn	Sn	07 24 17.8	-1.2		
	comp=Z,8.4nm,0.6s								
AVF	**Avril sur Loir**	3.99	272	ePn	Pn	07 23 33.8	+0.8		
AVF	**Avril sur Loir**	3.99	272	ePg	Pg	07 23 46.8	-1.0		
AVF				eSg	Sg	07 24 39.0	-0.6		
	comp=Z,14nm,0.3s								
AVF	**Avril sur Loir**	3.99	272	ePn	Pn	07 23 33.8	+0.8		
AVF				ePg	Pg	07 23 46.8	-1.0		
AVF				eSg	Sg	07 24 39.0	-0.6		
AVF	**Avril sur Loir**	3.99	272	ePn	Pn	07 23 33.8	+0.8		
AVF	**Avril sur Loir**	3.99	272	ePg	Pg	07 23 46.8	-1.0		
AVF				eSg	Sg	07 24 39.0	-0.6		
	comp=Z,7.0nm,0.3s								
NKC	**Novy Kostel**	4.06	31	ePN	Pn	07 23 31.3	-2.6		
NKC	**Novy Kostel**	4.06	31	Pn	Pn	07 23 31.3	-2.6		
MOX	**Moxa**	4.17	22	ePn	Pn	07 23 32.7	-2.6		
MOX				ePg	Pg	07 23 50.3	-0.8		
MOX				eSg	Sg	07 24 43.1	-2.0		
MOX	**Moxa**	4.17	22	Pn	Pn	07 23 32.7	-2.6		
AGO	**Saint Agoulin**	4.24	262	Pn	Pn	07 23 36.8	+0.4		
AGO	**Saint Agoulin**	4.24	262	Pn	Pn	07 23 36.8	+0.4		
AGO	**Saint Agoulin**	4.24	262	Pn	Pn	07 23 36.8	+0.4		
PGF	**Pioggiola**	4.26	182	ePn	Pn	07 23 37.8	+1.1		
PGF				eSn	Sn	07 24 24.6	-2.1		
	comp=Z,8.2nm,0.4s								
PGF	**Pioggiola**	4.26	182	ePn	Pn	07 23 37.8	+1.1		
PGF				eSn	Sn	07 24 24.6	-2.1		
PGF	**Pioggiola**	4.26	182	ePn	Pn	07 23 37.8	+1.1		
PGF				eSn	Sn	07 24 24.6	-2.1		
	comp=Z,4.1nm,0.4s								
BGF	**Bois d'Agland**	4.36	269	ePn	Pn	07 23 38.5	+0.5		
BGF	**Bois d'Agland**	4.36	269	ePg	Pg	07 23 53.9	-0.9		
BGF				eSn	Sn	07 24 27.3	-1.7		
BGF				eSg	Sg	07 24 50.3	-0.9		
	comp=Z,42nm,0.3s								
BGF	**Bois d'Agland**	4.36	269	ePn	Pn	07 23 38.5	+0.5		
BGF				ePg	Pg	07 23 53.9	-0.9		
BGF				eSn	Sn	07 24 27.3	-1.7		
BGF				eSg	Sg	07 24 50.3	-0.9		
BGF	**Bois d'Agland**	4.36	269	ePn	Pn	07 23 38.5	+0.5		
BGF	**Bois d'Agland**	4.36	269	ePg	Pg	07 23 53.9	-0.9		
BGF				eSn	Sn	07 24 27.3	-1.7		
BGF				eSg	Sg	07 24 50.3	-0.9		
	comp=Z,21nm,0.3s								
GIVF	**Givet**	4.38	320	ePn	Pn	07 23 37.9	-0.4		
GIVF				eSn	Sn	07 24 26.9	-2.7		
GIVF				eSg	Sg	07 24 50.4	-1.6		
	comp=Z,26nm,0.5s								
GIVF	**Givet**	4.38	320	ePn	Pn	07 23 37.9	-0.4		
GIVF				eSn	Sn	07 24 26.9	-2.7		
GIVF				eSg	Sg	07 24 50.4	-1.6		
GIVF	**Givet**	4.38	320	ePn	Pn	07 23 37.9	-0.4		
GIVF				eSn	Sn	07 24 26.9	-2.7		
GIVF				eSg	Sg	07 24 50.4	-1.6		
	comp=Z,13nm,0.5s								
PYM	**Petit Puy Mans**	4.40	258	Pn	Pn	07 23 38.8	+0.2		
PYM	**Petit Puy Mans**	4.40	258	Pn	Pn	07 23 38.8	+0.2		
PYM	**Petit Puy Mans**	4.40	258	Pn	Pn	07 23 38.8	+0.2		
LBL	**Lubilhac**	4.42	251	Pn	Pn	07 23 39.0	+0.2		
LBL	**Lubilhac**	4.42	251	Pn	Pn	07 23 39.0	+0.2		
LBL	**Lubilhac**	4.42	251	Pn	Pn	07 23 39.0	+0.2		
HYF	**Humbligny**	4.49	278	ePn	Pn	07 23 41.2	+1.5		
HYF	**Humbligny**	4.49	278	ePn	Pn	07 23 41.2	+1.5		
HYF				ePg	Pg	07 23 56.1	-1.2		
HYF				eSg	Sg	07 24 54.4	-1.0		
HYF	**Humbligny**	4.49	278	ePn	Pn	07 23 41.2	+1.5		
NVLJ	**Novalja**	4.59	117	ePn	Pn	07 23 42.7	+1.6		
NVLJ				Sn	Sn	07 24 36.0	+1.4		
NVLJ	**Novalja**	4.59	117	ePn	Pn	07 23 42.7	+1.6		
NVLJ				Sn	Sn	07 24 36.0	+1.4		
LASF	**Ste Croix**	4.63	236	ePn	Pn	07 23 42.7	+1.0		
LASF	**Ste Croix**	4.63	236	ePg	Pg	07 23 59.3	-0.7		
LASF				eSn	Sn	07 24 33.5	-2.2		
LASF				eSg	Sg	07 24 59.5	-0.5		
	comp=Z,21nm,0.5s								
LASF	**Ste Croix**	4.63	236	ePn	Pn	07 23 42.7	+1.0		
LASF				ePg	Pg	07 23 59.3	-0.7		
LASF				eSn	Sn	07 24 33.5	-2.2		
LASF				eSg	Sg	07 24 59.5	-0.5		
LASF	**Ste Croix**	4.63	236	ePn	Pn	07 23 42.7	+1.0		
LASF	**Ste Croix**	4.63	236	ePg	Pg	07 23 59.3	-0.7		
LASF				eSn	Sn	07 24 33.5	-2.2		
LASF				eSg	Sg	07 24 59.5	-0.5		
	comp=Z,10nm,0.5s								
BAIF	**Baives**	4.63	316	ePn	Pn	07 23 43.1	+1.4		
BAIF				eSn	Sn	07 24 32.2	-3.5		
	comp=Z,8.6nm,0.3s								
BAIF	**Baives**	4.63	316	ePn	Pn	07 23 43.1	+1.4		
BAIF				eSn	Sn	07 24 32.2	-3.5		
BAIF	**Baives**	4.63	316	ePn	Pn	07 23 43.1	+1.4		
BAIF				eSn	Sn	07 24 32.2	-3.5		
	comp=Z,4.3nm,0.3s								
CONA	**Conrad Observa**	4.69	74⇑	iPn	Pn	07 23 42.7	+0.2		
	SNR=18								
CONA				⇑iSn	Sn	07 24 35.6	-1.4		
CONA	**Conrad Observa**	4.69	74	Pn	Pn	07 23 42.7	+0.2		
	SNR=18								
CONA				Sn	Sn	07 24 35.6	-1.5		
PRU	**Pruhonice**	4.79	46	ePN	Pn	07 23 43.4	-0.5		
PRU				eSG	Sg	07 24 59.8	-5.2		
	comp=Z,32nm,0.7s								
PRU	**Pruhonice**	4.79	46	Pn	Pn	07 23 43.4	-0.5		
PRU				Sg	Sg	07 24 59.8	-5.2		
	comp=Z,32nm,0.7s								
TCF	**Toulx Ste Croi**	4.83	266	ePn	Pn	07 23 44.8	+0.4		
TCF				eSn	Sn	07 24 37.5	-3.1		
TCF				eSg	Sg	07 25 03.9	-2.4		
	comp=Z,18nm,0.4s								
TCF	**Toulx Ste Croi**	4.83	266	ePn	Pn	07 23 44.8	+0.4		
TCF				eSn	Sn	07 24 37.5	-3.1		
TCF				eSg	Sg	07 25 03.9	-2.4		
TCF	**Toulx Ste Croi**	4.83	266	ePn	Pn	07 23 44.8	+0.4		
TCF				eSn	Sn	07 24 37.5	-3.1		
TCF				eSg	Sg	07 25 03.9	-2.4		
	comp=Z,9.2nm,0.4s								
BRG	**Berggiesshubel**	5.14	36	PN	Pn	07 23 47.1	-1.7		
BRG				PG	Pg	07 24 07.1	-2.8		
BRG				SG	Sg	07 25 12.7	-3.8		
	comp=Z,17nm,0.6s								
CLL	**Collm**	5.16	28	ePn	Pn	07 23 46.0	-3.0		
CLL				ePg	Pg	07 24 09.0	-1.1		
CLL				i		07 24 12.2			
CLL				eSb	Sg	07 25 15.0	-1.9		
	comp=Z,19nm,0.7s								
CLL				eSg	Sg	07 25 21.0	+4.1		
	comp=Z,24nm,0.7s								
CAF	**Calviac**	5.31	252	ePn	Pn	07 23 51.7	+0.7		
CAF				eSg	Sg	07 25 20.8	-0.9		
	comp=Z,16nm,0.6s								
CAF	**Calviac**	5.31	252	ePn	Pn	07 23 51.7	+0.7		
CAF				eSg	Sg	07 25 20.8	-0.9		
CAF	**Calviac**	5.31	252	ePn	Pn	07 23 51.7	+0.7		
CAF				eSg	Sg	07 25 20.8	-0.9		
	comp=Z,8.1nm,0.6s								
RJF	**Les Rejaudoux**	5.53	257	ePn	Pn	07 23 55.3	+1.2		
RJF				eSg	Sg	07 25 27.6	-1.4		
	comp=Z,16nm,0.5s								
RJF	**Les Rejaudoux**	5.53	257	ePn	Pn	07 23 55.3	+1.2		
RJF				eSg	Sg	07 25 27.6	-1.4		
RJF	**Les Rejaudoux**	5.53	257	ePn	Pn	07 23 55.3	+1.2		
RJF				eSg	Sg	07 25 27.6	-1.4		
	comp=Z,7.8nm,0.5s								
VRAC	**Vranov**	5.57	61	ePn	Pn	07 23 54.4	-0.2		
DPC	**Dobruska-Polom**	5.92	51	eSG	Sg	07 25 35.4	-6.0		
	comp=Z,18nm,0.5s								
MTLF	**Montolieu**	6.02	237	ePn	Pn	07 24 01.0	+0.2		
MTLF				eSg	Sg	07 25 43.0	-1.6		
	comp=Z,14nm,0.8s								
MTLF	**Montolieu**	6.02	237	ePn	Pn	07 24 01.0	+0.2		
MTLF				eSg	Sg	07 25 43.0	-1.6		
MTLF	**Montolieu**	6.02	237	ePn	Pn	07 24 01.0	+0.2		
MTLF				eSg	Sg	07 25 43.0	-1.6		
	comp=Z,7.0nm,0.8s								
LFF	**La Frestale**	6.17	255	ePn	Pn	07 24 02.3	-0.6		
LFF				eSg	Sg	07 25 47.6	-1.9		
	comp=Z,21nm,0.6s								
LFF	**La Frestale**	6.17	255	ePn	Pn	07 24 02.3	-0.6		
LFF				eSg	Sg	07 25 47.6	-1.9		
LFF	**La Frestale**	6.17	255	ePn	Pn	07 24 02.3	-0.6		
LFF				eSg	Sg	07 25 47.6	-1.9		
	comp=Z,11nm,0.6s								
MORC	**Moravsky Berou**	6.33	59	ePn	Pn	07 24 04.1	-1.0		
	comp=Z,6.4nm,0.2s								
MORC				eSg	Sg	07 25 51.1	-3.3		
MORC	**Moravsky Berou**	6.33	59	ePn	Pn	07 24 04.1	-0.9		
	comp=Z,6.3nm,0.2s								
MORC				eSg	Sg	07 25 51.1	-3.3		
MFF	**Saint Martin d**	6.41	272	ePn	Pn	07 24 06.8	+0.7		
MFF				eSn	Sn	07 25 16.1	-3.4		
	comp=Z,12nm,0.6s								
MFF	**Saint Martin d**	6.41	272	ePn	Pn	07 24 06.8	+0.7		
MFF				eSn	Sn	07 25 16.1	-3.4		
MFF	**Saint Martin d**	6.41	272	ePn	Pn	07 24 06.8	+0.7		
LDF	**La Druitiere**	6.52	289	ePn	Pn	07 24 08.0	+0.4		
LDF	**La Druitiere**	6.52	289	ePg	Pg	07 24 32.5	-3.6		
LDF				eSn	Sn	07 25 18.4	-3.8		
LDF				eSg	Sg	07 25 57.6	-2.9		
	comp=Z,9.6nm,0.3s								
LDF	**La Druitiere**	6.52	289	ePn	Pn	07 24 08.0	+0.4		
LDF				ePg	Pg	07 24 32.5	-3.6		
LDF				eSn	Sn	07 25 18.4	-3.8		
LDF				eSg	Sg	07 25 57.6	-2.9		
LDF	**La Druitiere**	6.52	289	ePn	Pn	07 24 08.0	+0.4		
OKC	**Ostrava-Krasne**	6.71	60	eSG	Sg	07 26 04.4	-2.2		
	comp=Z,23nm,0.6s								
OKC	**Ostrava-Krasne**	6.71	60	Sg	Sg	07 26 04.4	-2.2		
	comp=Z,23nm,0.6s								
VYHS	**Vyhne**	6.75	72	ePN	Pn	07 24 09.9	-0.9		
VYHS				e		07 25 18.3			
FLN	**La Foliniere**	6.79	290	ePn	Pn	07 24 11.9	+0.6		
FLN	**La Foliniere**	6.79	290	ePg	Pg	07 24 39.0	-2.3		
FLN				eSn	Sn	07 25 24.6	-4.2		
FLN				eSg	Sg	07 26 06.1	-3.1		
	comp=Z,9.5nm,0.4s								
FLN	**La Foliniere**	6.79	290	ePn	Pn	07 24 11.9	+0.6		
FLN				ePg	Pg	07 24 39.0	-2.3		
FLN				eSn	Sn	07 25 24.6	-4.2		
FLN				eSg	Sg	07 26 06.1	-3.1		
FLN	**La Foliniere**	6.79	290	ePn	Pn	07 24 11.9	+0.6		
GRR	**Gorron**	6.96	287	ePn	Pn	07 24 14.1	+0.4		
GRR				eSn	Sn	07 25 28.8	-4.3		
	comp=Z,12nm,0.6s								
GRR	**Gorron**	6.96	287	ePn	Pn	07 24 14.1	+0.4		
GRR				eSn	Sn	07 25 28.8	-4.3		
GRR	**Gorron**	6.96	287	ePn	Pn	07 24 14.1	+0.4		
STON	**Ston**	7.23	120	ePn	Pn	07 24 18.5	+1.0		
STON				Sn	Sn	07 25 39.0	-0.8		
STON	**Ston**	7.23	120	ePn	Pn	07 24 18.4	+1.0		
STON				Sn	Sn	07 25 38.9	-0.9		
EPF	**Esparros**	7.32	242	ePn	Pn	07 24 18.6	0.0		
EPF				eSg	Sg	07 26 23.5	-2.6		
	comp=Z,12nm,0.8s								
EPF	**Esparros**	7.32	242	ePn	Pn	07 24 18.6	0.0		
EPF				eSg	Sg	07 26 23.5	-2.6		
EPF	**Esparros**	7.32	242	ePn	Pn	07 24 18.6	0.0		
SGMF	**Saint Gilles**	8.07	285	ePn	Pn	07 24 29.3	+0.4		
SGMF				eSn	Sn	07 25 55.5	-4.8		
	comp=Z,8.3nm,0.4s								
SGMF	**Saint Gilles**	8.07	285	ePn	Pn	07 24 29.3	+0.4		
SGMF				eSn	Sn	07 25 55.5	-4.8		
SGMF	**Saint Gilles**	8.07	285	ePn	Pn	07 24 29.3	+0.4		
QUIF	**Quistinic**	8.45	282	ePn	Pn	07 24 34.0	-0.1		
QUIF				eSn	Sn	07 26 04.6	-5.0		
	comp=Z,3.6nm,0.2s								
QUIF	**Quistinic**	8.45	282	ePn	Pn	07 24 34.0	-0.1		
QUIF				eSn	Sn	07 26 04.6	-5.0		
QUIF	**Quistinic**	8.45	282	ePn	Pn	07 24 34.0	-0.1		
ROSF	**Rostrenen**	8.55	285	ePn	Pn	07 24 35.6	+0.1		
ROSF				eSn	Sn	07 26 07.1	-5.1		
	comp=Z,2.6nm,0.3s								
ROSF	**Rostrenen**	8.55	285	ePn	Pn	07 24 35.6	+0.1		
ROSF				eSn	Sn	07 26 07.1	-5.1		
ROSF	**Rostrenen**	8.55	285	ePn	Pn	07 24 35.6	+0.1		

MEX 09 07:39:36.4±1.1, 15°17.17N×91°38.88W, h190km±11km, MD4.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.45	235	iP	Pn	07 40 00.2	-2.0
THIG				iS	Sn	07 40 20.2	-1.8
CCIG	**Comitan**	1.14	348	iP	Pn	07 40 05.0	-1.1
CCIG				iS	Sn	07 40 26.8	-2.5
PCIG		1.40	293	iP	Pn	07 40 07.5	-0.8
PCIG				iS	Sn	07 40 30.7	-2.2
SCX	**San Cristobal**	1.72	335	ePn	Pn	07 40 11.3	0.0
SCX				iS	Sn	07 40 37.8	-0.7
CMIG	**Matias Romero**	3.46	304	iP	Pn	07 40 31.2	0.0
CMIG				iS	Sn	07 41 12.1	-1.8
HUIG	**Huatulco**	4.12	279	iP	Pn	07 40 38.3	-1.1
HUIG				iS	Sn	07 41 25.5	-3.1
VHO	**Vista Hermosa**	5.03	293	eP	Pn	07 40 51.6	+0.6
VHO				iS	Sn	07 41 46.2	-3.5
TEIG	**Tepich**	6.09	34	iP	Pn	07 41 02.9	-1.8
PNIG	**Pinotepa**	6.13	282	eP	Pn	07 41 06.0	+0.7
PNIG				iS	Sn	07 42 12.1	-3.3
UTMO	**Huajuapan**	6.27	296	eP	Pn	07 41 08.6	+1.6
UTMO				iS	Sn	07 42 15.6	-3.0

*MOS **09** 07:48:45.5±1.5, 35°.55N×27°.98E, h33km, mb4.3/26, Error ellipse: s-maj=10.5km s-min=3.8km az=122.4*
*ISCJB **09** 07:48:53.0±0.1, 36°.12N±0°.01×27°.99E±0°.01, h75km±2km, mb4.0/45, Error ellipse: s-maj=2.5km s-min=1.9km az=22.6*
*IDC **09** 07:48:53.5±2.2, 36°.25N×27°.87E, h53km±22km, mb3.7/14, mb1 3.9/18, mb1mx3.8/29, mbtmp3.9/18, ML4.5/4, MS3.2/1, Ms1 3.2/1, ms1mx2.3/47, Error ellipse: s-maj=16.6km s-min=14.8km az=128.0*
*DDA **09** 07:48:53.6, 36°.23N×27°.82E, h53km±5km, Ml4.5*
*CSEM **09** 07:48:54.5±0.1, 36°.12N×27°.99E, h75km±1km, mb4.2/36, Mw3.8, Error ellipse: s-maj=2.5km s-min=2.0km az=29.0*
*ATH **09** 07:48:54.2, 36°.27N×27°.89E, h61km, ML3.7*
*ISK **09** 07:48:54.6, 36°.32N×27°.86E, h72km, ML4.3*
*NEIC **09** 07:48:54.2, 36°.27N×27°.89E, h61km, mb4.2/46, After ATH.*
NEIC Felt on Rhodes.
*SGS **09** 07:48:55.4, 36°.14N×27°.94E, h54km*
*THE **09** 07:48:55.1, 36°.23N×28°.03E, h33km±4km, ML3.9/3, Error ellipse: s-maj=4.2km s-min=1.0km az=280.0*
*NIC **09** 07:48:56.6±0.1, 36°.09N×28°.19E, h46km, mb4.3, ML3.9, MW3.8*
*HLW **09** 07:49:06.5, 35°.05N×28°.07E, h31km±3km, Md3.5, Ml3.9*
ISC 09 07:48:54.5±0.1, 36°.14N±0°.01×27°.97E±0°.01, h70km±2km, n691, σ1^{s}19/780, mb4.0/45, 22C-14D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	0.15	59	eP	Pn	07 49 04.5	-0.4
ARG				eS	Sn	07 49 11.4	-1.1
ARG	**Arkhangelos**	0.15	59	eP	Pn	07 49 04.5	-0.4
DAT	**Datca**	0.67	332	PG	Pn	07 49 07.9	-1.2
DAT				eSG	Sn	07 49 16.9	-2.9
DAT	**Datca**	0.67	332	iPg	Pn	07 49 07.9	-1.1
DAT				eSg	Sn	07 49 16.9	-2.8
NIS1	**Nisyros Isl.**	0.79	306	P	Pn	07 49 09.3	-1.1
NIS1				S	Sn	07 49 19.9	-2.2
NIS1	**Nisyros Isl.**	0.79	306	P	Pn	07 49 09.3	-1.1
NIS1				S	Sn	07 49 19.9	-2.2
KARP	**Karpathos**	0.88	228	eP	Pn	07 49 12.0	+0.5
KARP				eS	Sn	07 49 24.9	+0.8
KARP	**Karpathos**	0.88	228	eP	Pn	07 49 12.0	+0.5
KARP				eS	Sn	07 49 24.9	+0.8
TURN	**Turunc**	0.90	35	iP	Pn	07 49 08.4	-3.3
TURN				iS	Sn	07 49 18.6	-5.8
TURN	**Turunc**	0.90	35	iP	Pn	07 49 08.4	-3.3
YER	**Yerkesik**	1.03	14	PG	Pn	07 49 13.0	-0.3
YER	**Yerkesik**	1.03	14	iPg	Pn	07 49 13.0	-0.3
FETY	**Fethiye**	1.03	61	PG	Pn	07 49 12.7	-0.7
FETY	**Fethiye**	1.03	61	iPg	Pn	07 49 12.7	-0.6
BODT	**Bodrum**	1.06	330	PG	Pn	07 49 11.5	-2.2
BODT	**Bodrum**	1.06	330	Pg	Pn	07 49 11.5	-2.2
MLSB	**Milas**	1.16	353	PG	Pn	07 49 14.0	-1.0
KSL	**Kastellorizon**	1.31	89	eP	Pn	07 49 18.2	+1.3
KSL	**Kastellorizon**	1.31	89	eP	Pn	07 49 18.2	+1.3
AKAS	**Kas**	1.33	85	iP	Pn	07 49 17.4	+0.2
AKAS				iS	Sn	07 49 33.6	-0.6
AKAS	**Kas**	1.33	85	iP	Pn	07 49 17.4	+0.2
AKAS				iS	Sn	07 49 33.6	-0.6
AYDN	**Tasoluk**	1.52	357	iP	Pn	07 49 18.9	-0.8
AYDN				iS	Sn	07 49 37.1	-1.6
AYDN	**Tasoluk**	1.52	357	iP	Pn	07 49 18.9	-0.8
AYDN				iS	Sn	07 49 37.1	-1.6
GLHS	**Glhisar (BURDU**	1.60	50	PN	Pn	07 49 22.0	+1.2
GLHS	**Glhisar (BURDU**	1.60	50	iPn

VAM	Vamos	3.15	258	*e*P		Pn	07 49 42.4	+0.7
VAM				*e*S		Sn	07 50 19.1	+1.0
SHUT	Suhut-Afyon	3.17	40	PN		Pn	07 49 42.4	+0.4
SHUT	Suhut-Afyon	3.17	40	*i* Pn		Pn	07 49 42.4	+0.4
GDZ	Gediz	3.18	22	*i* P		Pn	07 49 41.0	-1.1
GDZ	Gediz	3.18	22	*i* P		Pn	07 49 41.0	-1.1
AYVA	Ayvalik	3.32	343	*i* P		Pn	07 49 43.1	-0.9
AYVA	Ayvalik	3.32	343	*i* P		Pn	07 49 43.1	-0.9
KARN	Karanos	3.37	259	*e*P		Pn	07 49 45.5	+0.7
KARN				*e*S		Sn	07 50 23.9	+0.3
KARN	Karanos	3.37	259	P		Pn	07 49 45.7	+0.9
KARN				S		Sn	07 50 24.9	+1.3
KARN	Karanos	3.37	259	*e*P		Pn	07 49 45.5	+0.7
KARN				S		Sn	07 50 24.9	+1.3
PRK	Paraskevi	3.38	337	*e*P		Pn	07 49 44.4	-0.4
PRK				*e*S		Sn	07 50 21.4	-2.4
PRK	Paraskevi	3.38	337	*e*P		Pn	07 49 44.4	-0.4
DURS	Dursunbey	3.48	6	*i* P		Pn	07 49 45.5	-0.7
DURS	Dursunbey	3.48	6	*i* P		Pn	07 49 45.5	-0.7
SIGR	SIGRI	3.49	332	P		Pn	07 49 45.8	-0.6
SIGR				S		Sn	07 50 23.4	-3.1
SIGR	SIGRI	3.49	332	P		Pn	07 49 45.8	-0.6
SIGR				S		Sn	07 50 23.4	-3.1
BALB	Balikesir	3.50	359	*e*PN		Pn	07 49 46.5	0.0
BALB	Balikesir	3.50	359	*e*Pn		Pn	07 49 46.5	+0.1
BOLV	Bolvadin	3.50	42	*i* P		Pn	07 49 47.3	+0.8
BOLV	Bolvadin	3.50	42	*i* P		Pn	07 49 47.3	+0.8
GAZI	Gazipasa	3.52	87	*i* P		Pn	07 49 48.5	+1.7
GAZI	Gazipasa	3.52	87	*i* P		Pn	07 49 48.5	+1.7
BALY	Balya	3.61	356	*i* P		Pn	07 49 47.4	-0.6
BALY	Balya	3.61	356	*i* P		Pn	07 49 47.4	-0.5
HDMB	Hadim	3.73	76	*e*PN		Pn	07 49 52.4	+2.7
HDMB	Hadim	3.73	76	*e*Pn		Pn	07 49 52.4	+2.8
VLY	Voula,Athens	3.75	298	*e*P		Pn	07 49 50.7	+0.8
VLY				*e*S		Sn	07 50 30.1	-2.7
VLY	Voula,Athens	3.75	298	*e*P		Pn	07 49 50.7	+0.8
PPCY	Paphos	3.79	108	P		Pn	07 49 50.6	+0.2
PPCY	Paphos	3.79	108	P		Pn	07 49 50.6	+0.2
PTL	Penteli	3.79	301	*e*P		Pn	07 49 50.5	0.0
PTL				*e*S		Sn	07 50 30.8	-3.0
PTL	Penteli	3.79	301	*e*P		Pn	07 49 50.5	0.0
ATH	Athens Observa	3.86	300	*e*P		Pn	07 49 50.6	-0.8
ATH				*e*S		Sn	07 50 32.7	-2.8
ATH	Athens Observa	3.86	300	*e*P		Pn	07 49 50.6	-0.8
ALFC	Alevga 57nm,0.2s	3.90	103	P		Pn	07 49 52.0	+0.1
ALFC				S		Sn	07 50 35.9	-0.6
ALFC	Alevga 57nm,0.2s	3.90	103	P		Pn	07 49 52.0	+0.1
ALFC				S		Sn	07 50 35.9	-0.6
EZN	Ezine	3.90	341	*e*PN		Pn	07 49 51.4	-0.5
EZN	Ezine	3.90	341	*e*Pn		Pn	07 49 51.4	-0.6
GONE	Gonen-Balikesi	3.91	357	*e*PN		Pn	07 49 51.9	-0.1
GONE	Gonen-Balikesi	3.91	357	*e*Pn		Pn	07 49 51.9	-0.1
KONT	Konya--Tatoy	3.95	62	*e*PN		Pn	07 49 54.7	+2.0
KONT	Konya--Tatoy	3.95	62	*e*Pn		Pn	07 49 54.7	+2.1
KYTH	Kithira	3.99	273	*e*P		Pn	07 49 54.4	+1.3
KYTH	Kithira	3.99	273	*e*P		Pn	07 49 54.4	+1.3
BOZC	Bozcaada	3.99	338	*i* P		Pn	07 49 52.5	-0.7
ERMK	Ermenek	4.02	81	*i* P		Pn	07 49 44.1	-9.5
DID	Didima	4.03	291	*e*P		Pn	07 49 54.6	+0.9
DID	Didima	4.03	291	P		Pn	07 49 54.5	+0.8
DID	Didima	4.03	291	*e*P		Pn	07 49 54.6	+0.9
KDHN	Kadinhani	4.07	53	*i* P		Pn	07 49 55.4	+1.1
KDHN	Kadinhani	4.07	53	*i* P		Pn	07 49 55.4	+1.1
ESKT	Eskisehir	4.08	33	*i* P		Pn	07 49 53.3	-1.0
SEYT	Eskypehyr	4.08	33	*i* P		Pn	07 49 53.3	-1.0
VLI	Veliai	4.10	280	*e*P		Pn	07 49 56.1	+1.5
VLI				*e*S		Sn	07 50 40.4	-0.9
VLI	Veliai	4.10	280	*e*P		Pn	07 49 56.1	+1.5
VLI				*e*S		Sn	07 50 40.4	-0.9
KIZT	Kizilcal	4.14	48	*e*PN		Pn	07 49 56.3	+1.0
KIZT	Kizilcal	4.14	48	*e*Pn		Pn	07 49 56.3	+1.0
BORA	Eskisehir	4.22	27	*i* P		Pn	07 49 56.4	+0.1
BORA	Eskisehir	4.22	27	*i* P		Pn	07 49 56.4	+0.1
SZAC	Souni-Zanaja	4.25	108	P		Pn	07 49 57.1	+0.4
SZAC	Souni-Zanaja	4.25	108	P		Pn	07 49 57.1	+0.4
KRBG	Karabiga-Canak	4.28	353	*e*PN		Pn	07 49 56.4	-0.8
KRBG	Karabiga-Canak	4.28	353	*e*Pn		Pn	07 49 56.4	-0.7
MDNY	Mudanya-Bursa	4.29	9	*e*PN		Pn	07 49 57.0	-0.2
MDNY	Mudanya-Bursa	4.29	9	*e*Pn		Pn	07 49 57.0	-0.2
LPK	Lapseki	4.33	348	*e*PN		Pn	07 49 57.3	-0.6
LPK	Lapseki	4.33	348	*e*Pn		Pn	07 49 57.3	-0.5
SVRH	Sivrihisar-ESK	4.34	39	*e*PN		Pn	07 49 58.8	+0.8
SVRH	Sivrihisar-ESK	4.34	39	*e*Pn		Pn	07 49 58.8	+0.9
GADA	Gvkgeada	4.36	339	*e*PN		Pn	07 49 57.7	-0.6
GADA	Gvkgeada	4.36	339	*e*Pn		Pn	07 49 57.7	-0.5
MAMC	Mammari	4.38	101	P		Pn	07 49 58.9	+0.3
MAMC	Mammari	4.38	101	P		Pn	07 49 58.9	+0.3
GELI	Tayfur-Gelibol	4.41	345	*e*PN		Pn	07 49 58.5	-0.4
GELI	Tayfur-Gelibol	4.41	345	*e*Pn		Pn	07 49 58.5	-0.4
LTK	Loutraki	4.42	297	*e*P		Pn	07 49 59.9	+0.9
LTK	Loutraki	4.42	297	P		Pn	07 50 00.3	+1.3
LTK	Loutraki	4.42	297	*e*P		Pn	07 49 59.9	+0.9
AOS	Alonnisos	4.43	314	P		Pn	07 49 59.7	+0.5
AOS	Alonnisos	4.43	314	P		Pn	07 49 59.7	+0.5
ARMT	Armutlu	4.48	9	*e*PN		Pn	07 49 59.6	-0.2
ARMT	Armutlu	4.48	9	*e*Pn		Pn	07 49 59.6	-0.2
CSS	Prodhromos 14nm,0.3s	4.53	103	P		Pn	07 50 00.9	+0.4
CSS				S		Sn	07 50 51.2	-0.7
CSS	Prodhromos	4.53	103	*e*Pn		Pn	07 50 01.1	+0.6
CSS	Prodhromos	4.53	103	P		Pn	07 50 01.1	+0.6
CSS				S		Sn	07 50 50.3	-1.6
CSS	Prodhromos 14nm,0.3s	4.53	103	P		Pn	07 50 00.9	+0.4
CSS				S		Sn	07 50 51.2	-0.7
RKY	Sarkoy-Tekirda	4.58	352	*e*PN		Pn	07 50 00.5	-0.7
RKY	Sarkoy-Tekirda	4.58	352	*e*Pn		Pn	07 50 00.5	-0.8
VLX	Vlachokerasia	4.65	287	*e*P		Pn	07 50 02.4	+0.2
VLX				*e*S		Sn	07 50 52.6	-2.3
VLX	Vlachokerasia	4.65	287	P		Pn	07 50 04.2	+2.0
VLX	Vlachokerasia	4.65	287	*e*P		Pn	07 50 02.4	+0.2
ERIK	Erikli-Kesan	4.67	346	*e*PN		Pn	07 50 02.0	-0.3
ERIK	Erikli-Kesan	4.67	346	*e*Pn		Pn	07 50 02.1	-0.3
MFT	Murefte	4.67	354	*e*PN		Pn	07 50 02.5	0.0
MFT	Murefte	4.67	354	*e*Pn		Pn	07 50 02.5	0.0
LKR	Lokris	4.68	304	*e*P		Pn	07 50 03.3	+0.7
LKR	Lokris	4.68	304	*e*P		Pn	07 50 03.3	+0.7
ATAL	Atalanti	4.69	304	P		Pn	07 50 04.1	+1.4
ATAL	Atalanti	4.69	304	P		Pn	07 50 04.1	+1.4
GULT	Gulveren	4.73	24	*e*PN		Pn	07 50 04.1	+0.8
GULT	Gulveren	4.73	24	*e*Pn		Pn	07 50 04.1	+0.8
ENEZ	Enez	4.81	343	*e*PN		Pn	07 50 04.4	+0.1
ENEZ	Enez	4.81	343	*e*Pn		Pn	07 50 04.4	+0.1
GUR	Goura	4.84	293	*e*P		Pn	07 50 06.1	+1.3
GUR				*e*S		Sn	07 50 58.1	-1.5
GUR	Goura	4.84	293	P		Pn	07 50 06.8	+2.0
GUR	Goura	4.84	293	*e*P		Pn	07 50 06.1	+1.3
DSF	Desfina	4.89	299	P		Pn	07 50 06.9	+1.4
DSF	Desfina	4.89	299	P		Pn	07 50 06.9	+1.4
NEO	Neokhori	4.91	311	*e*P		Pn	07 50 06.7	+0.9
NEO	Neokhori	4.91	311	*e*P		Pn	07 50 06.7	+0.9
ITM	Ithomi	4.96	284	*e*P		Pn	07 50 07.2	+0.7
ITM				*e*S		Sn	07 51 01.3	-1.2
ITM	Ithomi	4.96	284	*e*P		Pn	07 50 07.2	+0.7
ALN	Alexandroupoli	4.98	343	*e*P		Pn	07 50 06.4	-0.3
ALN				*e*S		Sn	07 50 59.9	-3.1
ALN	Alexandroupoli	4.98	343	P		Pn	07 50 06.5	-0.2
ALN				S		Sn	07 51 00.4	-2.6
ALN	Alexandroupoli	4.98	343	P		Pn	07 50 06.5	-0.2
ALN				S		Sn	07 51 00.4	-2.6
MDU	Mudurnu	5.02	30	*e*PN		Pn	07 50 07.3	+0.1
MDU	Mudurnu	5.02	30	*e*Pn		Pn	07 50 07.3	+0.1
PYL	PYLOS	5.07	280	*e*P		Pn	07 50 08.9	+1.0
PYL				*e*S		Sn	07 51 03.9	-1.2
PYL	PYLOS	5.07	280	P		Pn	07 50 09.6	+1.7
PYL	PYLOS	5.07	280	*e*P		Pn	07 50 08.9	+1.0
PHNC	Paralimni 12nm,0.3s	5.07	101	P		Pn	07 50 09.1	+1.1
PHNC				S		Sn	07 51 04.9	-0.3
PHNC	Paralimni 12nm,0.3s	5.07	101	P		Pn	07 50 09.1	+1.1
PHNC				S		Sn	07 51 04.9	-0.3
PAIG	Paliouri	5.07	319	P		Pn	07 50 08.3	+0.3
PAIG	Paliouri	5.07	319	P		Pn	07 50 08.3	+0.3
HMAT	Matruh baz=192	5.08	188	P		Pn	07 50 06.3	-1.8
HMAT				S		Sn	07 50 50.7	-15
	baz=192							

HMAT	Matruh	5.08	188	P		Pn	07 50 07.2	-0.9
KALE	Kalithea	5.16	298	P		Pn	07 50 10.9	+1.7
KALE	Kalithea	5.16	298	P		Pn	07 50 10.9	+1.7
SLUM		5.17	207	P		Pn	07 50 09.5	+0.1
	baz=215							
SLUM				S		Sn	07 50 55.9	-12
	baz=215							
SLUM		5.17	207	P		Pn	07 50 09.0	-0.3
LAKA	Lakka	5.22	295	P		Pn	07 50 11.7	+1.7
LAKA	Lakka	5.22	295	P		Pn	07 50 11.7	+1.7
OUR	Ouranopolis	5.23	324	P		Pn	07 50 10.5	+0.4
OUR	Ouranopolis	5.23	324	P		Pn	07 50 10.5	+0.4
LTBQ	Tobruq SNR=43	5.28	221	*e*P		Pn	07 50 11.4	+0.6
AGG	Agios Georgios	5.32	304	*e*P		Pn	07 50 12.4	+1.1
AGG	Agios Georgios	5.32	304	P		Pn	07 50 13.0	+1.7
AGG	Agios Georgios	5.32	304	*e*P		Pn	07 50 12.4	+1.1
EFP	Efpalio	5.34	297	*e*P		Pn	07 50 12.9	+1.2
EFP	Efpalio	5.34	297	P		Pn	07 50 13.8	+2.1
EFP	Efpalio	5.34	297	*e*P		Pn	07 50 12.9	+1.2
RDO	Rodhopi	5.35	340	*e*P		Pn	07 50 11.7	0.0
RDO				*e*S		Sn	07 51 08.8	-3.1
RDO	Rodhopi	5.35	340	*e*P		Pn	07 50 11.7	0.0
PLG	Polygyros	5.53	321	*e*P		Pn	07 50 13.6	-0.5
PLG				*e*S		Sn	07 51 12.2	-4.0
PLG	Polygyros	5.53	321	*e*P		Pn	07 50 13.6	-0.5
RLS	Riolos of Patr	5.54	292	*e*P		Pn	07 50 15.4	+1.1
RLS				*e*S		Sn	07 51 15.0	-1.5
RLS	Riolos of Patr	5.54	292	*e*P		Pn	07 50 15.4	+1.1
KAVA	Kavala	5.55	332	P		Pn	07 50 14.4	-0.1
KAVA	Kavala	5.55	332	P		Pn	07 50 14.4	-0.1
GULE	Gulek	5.59	76	*i* P		Pn	07 50 16.9	+1.9
EVR	Evrytania	5.62	301	*e*P		Pn	07 50 16.6	+1.1
EVR	Evrytania	5.62	301	*e*P		Pn	07 50 16.6	+1.1
BR131	Keskin Array S 12nm,0.5s	5.74	50	*e*Pn		Pn	07 50 17.8	+0.7
BR131				*e*Sn		Sn	07 51 22.2	+0.7
BR131	Keskin Array S 12nm,0.5s	5.74	50	*e*Pn		Pn	07 50 17.8	+0.8
BR131				*e*Sn		Sn	07 51 22.2	+0.7
BRTR	Keskin Array B 3.6nm,0.3s,baz=212,slow=15,SNR=77	5.74	50	P		Pn	07 50 17.8	+0.7
BRTR				S		Sn	07 51 21.4	0.0
	0.9nm,0.3s,baz=229,slow=25,SNR=3.0							
BRTR	Keskin Array B	5.74	50	P		Pn	07 50 17.8	+0.7
BRTR				S		Sn	07 51 21.4	0.0
BRTR	Keskin Array B comp=N,4.0nm,0.3s	5.74	50	P		Pn	07 50 17.8	+0.8
BRTR				S		Sn	07 51 21.4	-0.1
BRTR				pmax	pmax			
	comp=Z,4.0nm,0.3s							
BRTR				smax				
	comp=N,1.0nm,0.3s							
BRTR	Keskin Array B comp=N,4.0nm,0.3s	5.74	50	P		Pn	07 50 17.8	+0.8
BRTR				S		Sn	07 51 21.5	0.0
HBRG	Burj al 'Arab baz=161	5.77	164	P		Pn	07 50 15.5	-2.0
HBRG				S		Sn	07 51 06.9	-15
	baz=161							
THL	Klokotos Trika	5.82	308	*e*P		Pn	07 50 18.9	+0.8
THL	Klokotos Trika	5.82	308	*e*P		Pn	07 50 18.9	+0.8
LIT	Litokhoron	5.85	314	*e*P		Pn	07 50 19.8	+1.2
LIT	Litokhoron	5.85	314	P		Pn	07 50 20.3	+1.7
LIT	Litokhoron	5.85	314	*e*P		Pn	07 50 19.8	+1.2
HORT	Hortiatis	5.87	321	P		Pn	07 50 20.2	+1.4
HORT	Hortiatis	5.87	321	P		Pn	07 50 20.2	+1.4
SOH	Sokhos	5.91	324	*e*P		Pn	07 50 20.5	+1.1
SOH	Sokhos	5.91	324	*e*P		Pn	07 50 20.5	+1.1
SRS	Serrai	6.04	327	P		Pn	07 50 21.8	+0.7
SRS	Serrai	6.04	327	P		Pn	07 50 21.8	+0.7
KFL	Anninata	6.06	291	P		Pn	07 50 23.2	+1.7
KFL	Anninata	6.06	291	P		Pn	07 50 23.2	+1.7
AVNT	Avonos	6.08	62	*i* P		Pn	07 50 23.0	+1.2
AVNT	Avonos	6.08	62	*i* P		Pn	07 50 23.0	+1.3
NVR	Nevrokopi	6.11	330	*e*P		Pn	07 50 22.6	+0.5
NVR				*e*S		Sn	07 51 26.6	-4.0
NVR	Nevrokopi	6.11	330	*e*P		Pn	07 50 22.6	+0.5
VLS	Valsamata	6.23	291	*e*P		Pn	07 50 24.6	+0.8
VLS				*e*S		Sn	07 51 32.6	-1.0
VLS	Valsamata	6.23	291	*e*P		Pn	07 50 24.6	+0.8
VLS				*e*S		Sn	07 51 32.6	-1.0
LKD2	Lefkada island	6.39	297	P		Pn	07 50 27.1	+1.2
LKD2	Lefkada island	6.39	297	P		Pn	07 50 27.1	+1.2
KZN	Kozani	6.41	312	*e*P		Pn	07 50 27.1	+0.9
KZN	Kozani	6.41	312	*e*P		Pn	07 50 27.1	+0.9
MEV	Metsovon	6.45	306	P		Pn	07 50 28.9	+2.2
MEV	Metsovon	6.45	306	P		Pn	07 50 28.9	+2.2
JAN	Janina	6.63	304	*e*P		Pn	07 50 30.9	+1.7
JAN	Janina	6.63	304	*e*P		Pn	07 50 30.9	+1.7
VAY	Valandovo	6.67	322	*e*Pn		Pn	07 50 32.2	+2.4
VAY				*e*Sn		Sn	07 51 34.9	-10
VAY	Valandovo	6.67	322	*e*Pn		Pn	07 50 32.2	+2.4
BHL	Bhannes	6.69	107	*e*P		Pn	07 50 27.1	-3.0
BHL	Bhannes	6.69	107	*e*P		Pn	07 50 27.1	-3.0
COBT	Iskenderun	6.70	84	*i* P		Pn	07 50 30.2	-0.1
COBT	Iskenderun	6.70	84	*i* P		Pn	07 50 30.2	-0.1
HMYD	Mayadein baz=155	6.76	159	P		Pn	07 50 29.5	-1.6
HMYD	Mayadein	6.76	159	P		Pn	07 50 30.2	-0.9
HWQ	Hawqa	6.79	104	*e*P		Pn	07 50 31.8	+0.4
HWQ	Hawqa	6.79	104	*e*P		Pn	07 50 31.8	+0.3
SQR		6.80	156	P		Pn	07 50 31.1	-0.5
	baz=151							
SQR		6.80	156	P		Pn	07 50 31.2	-0.5
HNAT	Natroun baz=157	6.86	160	P		Pn	07 50 31.0	-1.4
HNAT	Natroun	6.86	160	P		Pn	07 50 31.5	-0.9
MMAI	Mount Meron Ar comp=N,24nm,0.3s,baz=310,slow=12,SNR=38	6.88	115	P		Pn	07 50 32.2	-0.4
MMAI				S		Sn	07 51 44.7	-4.8
	comp=N,79nm,0.3s,baz=307,slow=28,SNR=17							
NEST	Nestorio	6.91	310	P		Pn	07 50 36.0	+2.9
NEST	Nestorio	6.91	310	P		Pn	07 50 36.0	+2.9
FYM	Al Fayyum baz=153	6.93	157	P		Pn	07 50 32.6	-0.7
FYM	Al Fayyum	6.93	157	P		Pn	07 50 33.2	-0.2
AYT	Al 'Ayyat baz=153	6.95	156	P		Pn	07 50 32.7	-1.0
AYT	Al 'Ayyat	6.95	156	P		Pn	07 50 32.7	-1.0
RCY	Rachaya	6.99	110	*e*P		Pn	07 50 34.0	-0.2
RCY	Rachaya	6.99	110	*e*P		Pn	07 50 34.0	-0.2
KOT	Kottamia baz=147	6.99	151	P		Pn	07 50 33.6	-0.6
KOT	Kottamia	6.99	151	P		Pn	07 50 33.6	-0.6
HHAG	Hagoal baz=145	7.08	149	P		Pn	07 50 35.0	-0.4
HHAG	Hagoal	7.08	149	P		Pn	07 50 34.8	-0.6
FKH	Fakeheh	7.17	103	*e*P		Pn	07 50 37.3	+0.7
FKH	Fakeheh	7.17	103	*e*P		Pn	07 50 37.3	+0.7
HSAF	As Saff baz=150	7.17	154	P		Pn	07 50 35.7	-0.9
HSAF	As Saff	7.17	154	P		Pn	07 50 36.0	-0.6
SWA2		7.19	198	P		Pn	07 50 36.5	-0.5
	baz=202							
SWA2				S		Sn	07 51 43.2	-14
	baz=202							
SWA2		7.19	198	P		Pn	07 50 36.8	-0.2
GLL	Jalalah baz=149	7.26	153	P		Pn	07 50 37.2	-0.7
GLL	Jalalah	7.26	153	P		Pn	07 50 37.1	-0.8
KEK	Kerkira	7.37	301	*e*P		Pn	07 50 40.2	+0.8
KEK	Kerkira	7.37	301	*e*P		Pn	07 50 40.2	+0.8
KRUS	Krusevo	7.40	317	*e*Pn		Pn	07 50 41.8	+2.0
KRUS	Krusevo	7.40	317	*e*Pn		Pn	07 50 41.7	+1.9
VTS	Vitosha	7.42	332	⇑P		Pn	07 50 41.6	+1.6
VTS	Vitosha	7.42	332	⇑*i*P		Pn	07 50 41.6	+1.6
VTS	Vitosha	7.42	332	P		Pn	07 50 41.6	+1.6
SUZ		7.49	146	P		Pn	07 50 41.0	0.0
	baz=140							
SUZ		7.49	146	P		Pn	07 50 40.8	-0.3
HBNS	Bani Suwayf baz=155	7.67	158	P		Pn	07 50 42.9	-0.6
HBNS	Bani Suwayf	7.67	158	P		Pn	07 50 42.6	-0.9
AWBH		7.83	174	P		Pn	07 50 43.7	-2.1
	baz=173							
ZAF		7.85	149	P		Pn	07 50 45.5	-0.5
	baz=145							
ZAF		7.85	149	P		Pn	07 50 45.6	-0.4
ZNM		7.91	147	P		Pn	07 50 46.7	-0.1
	baz=142							
ZNM		7.91	147	P		Pn	07 50 46.7	-0.1
BARS	Barje	8.19	326	⇑*i*Pn		Pn	07 50 51.9	+1.4

TIR	Tirane comp=N,35nm,0.8s	8.19	312	*e*Pn		Pn	07 50 54.7	+4.2
TIR	Tirane	8.19	312	*e*P		Pn	07 50 54.7	+4.2
TIR				pmax	pmax			
	comp=Z,35nm,0.8s							
LJBD	Adjabya SNR=41	8.32	233	*e*P		Pn	07 50 51.6	-0.7
ASF	Jabal al Asfar comp=Z,3.4nm,0.3s,baz=117,slow=1.3,SNR=18	8.39	116	P		Pn	07 50 53.6	+0.2
ASF				S		Sn	07 52 23.2	-3.3
	comp=Z,2.9nm,0.3s,baz=6.8,slow=21,SNR=3.6							
ASF	Jabal al Asfar	8.39	116	P		Pn	07 50 53.6	+0.2
ASF				S		Sn	07 52 23.2	-3.3
ASF	Jabal al Asfar	8.39	116	P		Pn	07 50 53.6	+0.2
ASF				S		Sn	07 52 23.2	-3.3
ASF				pmax	pmax			
	comp=Z,3.0nm,0.3s							
ASF				smax				
	comp=N,3.0nm,0.3s							
SCTE	Santa Cesarea	8.45	301	*e*P		Pn	07 50 55.0	+0.9
SCTE	Santa Cesarea	8.45	301	*e*P		Pn	07 50 55.0	+0.9
EIL	Elat comp=N,9.7nm,0.3s,baz=329,slow=5.9,SNR=44	8.72	136	P		Pn	07 50 57.8	-0.1
EIL				S		Sn	07 52 27.9	-6.7
	comp=N,21nm,0.3s,baz=337,slow=21,SNR=12							
EIL	Elat	8.72	136	P		Pn	07 50 57.8	-0.1
EIL				S		Sn	07 52 27.9	-6.7
EIL	Elat	8.72	136	P		Pn	07 50 57.8	-0.1
HFRF	Wahat Farafira baz=178	8.97	178	P		Pn	07 50 59.8	-1.5
HFRF				AMP			07 52 00.0	
	comp=N,80µm,0.2s,logA/T=5.5,baz=178							
HFRF				S		Sn	07 52 24.6	-16
	baz=178							
HFRF	Wahat Farafira	8.97	178	P		Pn	07 51 00.4	-0.9
HQLS		9.06	137	P		Pn	07 51 01.4	-1.1
HQLS		9.06	137	P		Pn	07 51 01.4	-1.2
TR2		9.14	146	P		Pn	07 51 03.2	-0.3
	baz=142							
HAQS	Haql	9.18	138	P		Pn	07 51 03.2	-1.0
HAQS	Haql	9.18	138	P		Pn	07 51 03.2	-1.0
MLR	Muntele Rosu comp=N,0.1nm,0.3s,baz=192,slow=3.1,SNR=13	9.47	351	P		Pn	07 51 08.4	+0.5
MLR				S		Sn	07 52 51.0	-1.6
	comp=N,0.1nm,0.3s,baz=248,slow=19,SNR=4.0							
MLR	Muntele Rosu	9.47	351	P		Pn	07 51 08.4	+0.5
MLR				S		Sn	07 52 51.0	-1.6
MLR	Muntele Rosu	9.47	351	P		Pn	07 51 08.4	+0.5
MLR	Muntele Rosu	9.47	351	⇓*i*P		Pn	07 51 09.3	+1.4
MLR	Muntele Rosu	9.47	351	P		Pn	07 51 08.4	+0.5
VOIR		9.55	348	⇑P		Pn	07 51 09.7	+0.7
VOIR		9.55	348	⇑*i*P		Pn	07 51 09.7	+0.7
VOIR		9.55	348	P		Pn	07 51 09.7	+0.7
IVAS	Ivanjica	9.55	323	⇑*i*Pn		Pn	07 51 11.1	+2.0
RSHS		9.72	142	P		Pn	07 51 09.9	-1.6
RSHS		9.72	142	P		Pn	07 51 09.9	-1.6
JLOS		9.74	137	P		Pn	07 51 10.5	-1.3
JLOS		9.74	137	P		Pn	07 51 10.5	-1.3
VRI	Vrincioaia	9.76	355	⇑P		Pn	07 51 05.5	-6.5
VRI	Vrincioaia	9.76	355	⇑*i*P		Pn	07 51 05.5	-6.5
BDAS	Al

UPC Upice 16.76 333 *e*P Pn 07 52 48.5 +4.0
FETA Feichten 16.83 316⇑ *i*P Pn 07 52 48.6 +3.2
comp=Z,30nm,0.9s,SNR=27
FETA Feichten 16.83 316 P Pn 07 52 48.6 +3.2
comp=Z,30nm,0.9s,SNR=27
PRU Pruhonice 16.93 329 *e*P Pn 07 52 48.5 +1.9
PRU Pruhonice 16.93 329 *e*P Pn 07 52 48.5 +1.9
PRU Pruhonice 16.93 329 *e*P Pn 07 52 48.5 +1.9
DAVOX Davos/Dischmat 17.19 314 P Pn 07 52 52.0 +2.2
comp=Z,0.7nm,0.3s,baz=140,slow=14,SNR=13
DAVOX Davos/Dischmat 17.19 314 P Pn 07 52 52.0 +2.2
DAVOX Davos/Dischmat 17.19 314 P Pn 07 52 52.1 +2.3
DAVOX Davos/Dischmat 17.19 314 P Pn 07 52 52.0 +2.2
TUE Stuetta 17.34 312 *e*Pn Pn 07 52 54.1 +2.3
TUE Stuetta 17.34 312 *e*Pn Pn 07 52 54.1 +2.3
DAVA Damuels 17.46 315⇑ *i*P Pn 07 52 54.2 +1.1
comp=Z,11nm,0.4s,SNR=19
DAVA Damuels 17.46 315 P Pn 07 52 54.2 +1.0
comp=Z,11nm,0.4s,SNR=19
SBF Sospel 17.49 302 *e*P Pn 07 52 53.4 -0.2
comp=Z,29nm,0.8s
SBF Sospel 17.49 302 *e*P Pn 07 52 53.4 -0.2
comp=Z,14nm,0.8s
SBF Sospel 17.49 302 *e*P Pn 07 52 53.4 -0.2
SBF pmax pmax
comp=Z,14nm,0.8s
SBF Sospel 17.49 302 *e*P Pn 07 52 53.4 -0.2
comp=Z,14nm,0.8s
BRG Berggiesshubel 17.85 330 *i* P Pn 07 52 58.1 +0.2
comp=Z,5.3nm,0.9s
BRG Berggiesshubel 17.85 330 *i* P Pn 07 52 58.1 +0.2
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG Berggiesshubel 17.85 330 *i* P Pn 07 52 58.1 +0.2
comp=Z,5.0nm,0.9s
FRF La Foret Royal 17.94 301 *e*P Pn 07 52 56.9 -2.2
comp=Z,20nm,1.0s
FRF La Foret Royal 17.94 301 *e*P Pn 07 52 56.9 -2.2
comp=Z,10nm,1.0s
FRF La Foret Royal 17.94 301 *e*P Pn 07 52 56.9 -2.2
FRF pmax pmax
comp=Z,10.0nm,1.0s
FRF La Foret Royal 17.94 301 *e*P Pn 07 52 56.9 -2.2
comp=Z,10nm,1.0s
LMR La Mourre 17.97 300 *e*P Pn 07 52 55.5 -3.9
LMR La Mourre 17.97 300 *e*P Pn 07 52 55.5 -3.9
LMR La Mourre 17.97 300 *e*P Pn 07 52 55.5 -3.9
NKC Novy Kostel 18.02 326 *e*P Pn 07 53 00.0 +0.1
NKC Novy Kostel 18.02 326 *e*P Pn 07 53 00.0 +0.1
NKC Novy Kostel 18.02 326 *e*P Pn 07 53 00.0 +0.1
GRA1 Grafenberg Arr 18.21 323 *e*P Pn 07 53 03.9 +1.6
comp=Z,19nm,1.1s
GRF Grafenberg Arr 18.21 323 *e*P Pn 07 53 03.9 +1.6
GRF pmax pmax
comp=Z,19nm,1.1s
GRF Grafenberg Arr 18.21 323 *e*P Pn 07 53 03.9 +1.6
comp=Z,19nm,1.1s
MBDF Montbardon 18.23 305 *e*P Pn 07 52 59.3 -3.3
comp=Z,12nm,0.5s
MBDF Montbardon 18.23 305 *e*P Pn 07 52 59.3 -3.3
comp=Z,5.9nm,0.5s
MBDF Montbardon 18.23 305 *e*P Pn 07 52 59.3 -3.3
MBDF pmax pmax
comp=Z,6.0nm,0.5s
LPG La Plagne 18.53 307 *e*P Pn 07 53 06.3 +0.1
comp=Z,13nm,0.4s
LPG La Plagne 18.53 307 *e*P Pn 07 53 06.3 +0.1
comp=Z,6.4nm,0.4s
LPG La Plagne 18.53 307 *e*P Pn 07 53 06.3 +0.1
LPG pmax pmax
comp=Z,6.0nm,0.4s
LPG La Plagne 18.53 307 *e*P Pn 07 53 06.3 +0.1
comp=Z,6.4nm,0.4s
SENIN Lac Senin/Sane 18.55 310 *e*Pn Pn 07 53 06.3 -0.1
SENIN Lac Senin/Sane 18.55 310 *e*Pn Pn 07 53 06.3 0.0
LPL La Plagne 18.55 307 *e*P Pn 07 53 06.4 0.0
comp=Z,37nm,0.6s
LPL La Plagne 18.55 307 *e*P Pn 07 53 06.4 0.0
comp=Z,18nm,0.6s
LPL La Plagne 18.55 307 *e*P Pn 07 53 06.4 0.0
LPL pmax pmax
comp=Z,18nm,0.6s
LPL La Plagne 18.55 307 *e*P Pn 07 53 06.4 0.0
comp=Z,18nm,0.6s
CLL Collm 18.57 329⇓ *i*P Pn 07 53 06.5 0.0
CLL pmax pmax
comp=Z,12nm,0.7s
CLL Collm 18.57 329⇓ *i*P Pn 07 53 06.5 0.0
comp=Z,12nm,0.7s
CLL Collm 18.57 329 *i* P Pn 07 53 06.5 0.0
comp=Z,12nm,0.7s
STU Stuttgart 18.68 318 *e*Pn Pn 07 53 07.2 -0.7
STU Stuttgart 18.68 318 *e*P Pn 07 53 07.2 -0.7
STU Stuttgart 18.68 318 *e*P Pn 07 53 07.2 -0.7
SMRF Simiane la Rot 18.80 301 *e*P Pn 07 53 08.0 -1.5
comp=Z,11nm,0.8s
SMRF Simiane la Rot 18.80 301 *e*P Pn 07 53 08.0 -1.5
comp=Z,11nm,0.8s
SMRF Simiane la Rot 18.80 301 *e*P Pn 07 53 08.0 -1.5
comp=Z,5.7nm,0.8s
ORIF Oris-en-Rattie 18.90 304 *e*P Pn 07 53 08.3 -2.2
comp=Z,6.5nm,0.5s
ORIF Oris-en-Rattie 18.90 304 *e*P Pn 07 53 08.3 -2.2
comp=Z,3.3nm,0.5s
ORIF Oris-en-Rattie 18.90 304 *e*P Pn 07 53 08.3 -2.2
ORIF pmax pmax
comp=Z,3.0nm,0.5s
ORIF Oris-en-Rattie 18.90 304 *e*P Pn 07 53 08.3 -2.2
comp=Z,3.2nm,0.5s
BFO Black Forest 18.90 316 *e*Pn Pn 07 53 11.6 +1.0
comp=Z,205nm,3.0s
BFO Black Forest 18.90 316 *e*P Pn 07 53 11.6 +1.0
BFO pmax pmax
comp=Z,205nm,3.0s
BFO Black Forest 18.90 316 *e*P Pn 07 53 11.6 +1.0
comp=Z,205nm,3.0s
CABF La Chapelle 19.41 309 *e*P Pn 07 53 14.4 -2.2
comp=Z,37nm,0.6s
CABF La Chapelle 19.41 309 *e*P Pn 07 53 14.4 -2.2
comp=Z,18nm,0.6s
CABF La Chapelle 19.41 309 *e*P Pn 07 53 14.4 -2.2
CABF pmax pmax
comp=Z,18nm,0.6s
CABF La Chapelle 19.41 309 *e*P Pn 07 53 14.4 -2.2
comp=Z,18nm,0.6s
HINF Hinteralfeld 19.49 313 *e*P Pn 07 53 15.8 -1.7
comp=Z,6.5nm,0.5s
HINF Hinteralfeld 19.49 313 *e*P Pn 07 53 15.8 -1.7
comp=Z,3.3nm,0.5s
HINF Hinteralfeld 19.49 313 *e*P Pn 07 53 15.8 -1.7
HINF pmax pmax
comp=Z,3.0nm,0.5s
HINF Hinteralfeld 19.49 313 *e*P Pn 07 53 15.8 -1.7
comp=Z,3.2nm,0.5s
ECH Echery 19.51 315 *e*Pn Pn 07 53 16.6 -1.2
comp=Z,8.6nm,1.0s
ECH Echery 19.51 315 *e*P Pn 07 53 16.6 -1.2
ECH pmax pmax
comp=Z,9.0nm,1.0s
ECH Echery 19.51 315 *e*P Pn 07 53 16.6 -1.2
comp=Z,9.0nm,1.0s
CDF Champ du Feu 19.54 315⇓ *i*P Pn 07 53 17.4 -0.8
comp=Z,34nm,0.8s
CDF Champ du Feu 19.54 315⇓ *i*P Pn 07 53 17.4 -0.8
comp=Z,17nm,0.8s
CDF Champ du Feu 19.54 315⇓ *i*P Pn 07 53 17.4 -0.8
CDF pmax pmax
comp=Z,17nm,0.8s
CDF Champ du Feu 19.54 315⇓ *i*P Pn 07 53 17.4 -0.8
comp=Z,17nm,0.8s
VIVF Saint-Julien-I 19.69 303 *e*P Pn 07 53 17.8 -2.1
comp=Z,22nm,0.6s
VIVF Saint-Julien-I 19.69 303 *e*P Pn 07 53 17.8 -2.1
comp=Z,11nm,0.6s
VIVF Saint-Julien-I 19.69 303 *e*P Pn 07 53 17.8 -2.1
VIVF pmax pmax
comp=Z,11nm,0.6s
VIVF Saint-Julien-I 19.69 303 *e*P Pn 07 53 17.8 -2.1
comp=Z,11nm,0.6s
HAU Haudompre 19.88 313 *e*P Pn 07 53 20.8 -1.3
comp=Z,25nm,0.6s
HAU Haudompre 19.88 313 *e*P Pn 07 53 20.8 -1.3
comp=Z,13nm,0.6s
HAU Haudompre 19.88 313 *e*P Pn 07 53 20.8 -1.3
HAU pmax pmax
comp=Z,13nm,0.6s
HAU Haudompre 19.88 313 *e*P Pn 07 53 20.8 -1.3
comp=Z,13nm,0.6s
LASF Ste Croix 20.02 301 *e*P P 07 53 21.9 +0.4
comp=Z,6.2nm,0.6s
LASF Ste Croix 20.02 301 *e*P P 07 53 21.9 +0.4
LASF Ste Croix 20.02 301 *e*P P 07 53 21.9 +0.4
comp=Z,3.1nm,0.6s
PAGF Fort de Pagny 20.51 314 *e*P P 07 53 27.3 +0.6
PAGF Fort de Pagny 20.51 314 *e*P P 07 53 27.3 +0.6
CFON Fontmartina 20.60 294 P P 07 53 28.5 +0.7
comp=Z,3.2nm,0.4s
CFON Fontmartina 20.60 294 P P 07 53 28.5 +0.7
comp=Z,3.2nm,0.4s
SFTF Sexfontaines 20.75 313 *e*P P 07 53 29.6 +0.3
comp=Z,32nm,0.8s
SFTF Sexfontaines 20.75 313 *e*P P 07 53 29.6 +0.3
comp=Z,32nm,0.8s
SFTF Sexfontaines 20.75 313 *e*P P 07 53 29.6 +0.3
comp=Z,16nm,0.8s
SMF Signal de Mont 20.84 308⇓ *i*P P 07 53 29.8 -0.6
comp=Z,30nm,0.7s
SMF Signal de Mont 20.84 308⇓ *i*P P 07 53 29.8 -0.6
comp=Z,15nm,0.7s
SMF Signal de Mont 20.84 308⇓ *i*P P 07 53 29.8 -0.6
SMF pmax pmax
comp=Z,15nm,0.7s
SMF Signal de Mont 20.84 308⇓ *i*P P 07 53 29.8 -0.6
comp=Z,15nm,0.7s
MEZF Maizieres J'vi 20.88 313 *e*P P 07 53 31.8 +1.1
comp=Z,24nm,0.7s
MEZF Maizieres J'vi 20.88 313 *e*P P 07 53 31.8 +1.1
comp=Z,24nm,0.7s
MEZF Maizieres J'vi 20.88 313 *e*P P 07 53 31.8 +1.1
comp=Z,12nm,0.7s
MTLF Montolieu 21.01 298 *e*P P 07 53 31.7 -0.5
comp=Z,10nm,0.6s,mb4.1
MTLF Montolieu 21.01 298 *e*P P 07 53 31.7 -0.5
comp=Z,5.2nm,0.6s,mb4.0
MTLF Montolieu 21.01 298 *e*P P 07 53 31.7 -0.5
MTLF pmax pmax
comp=Z,5.0nm,0.6s,mb4.0
MTLF Montolieu 21.01 298 *e*P P 07 53 31.7 -0.5
comp=Z,5.2nm,0.6s,mb4.1
CLLI Llivia 21.04 295 P P 07 53 32.5 -0.1
comp=Z,7.2nm,0.8s,mb4.0
CLLI Llivia 21.04 295 P P 07 53 32.5 0.0
comp=Z,7.2nm,0.8s,mb4.0
LOR Lormes 21.07 309 *e*P P 07 53 33.2 +0.4
comp=Z,13nm,0.6s,mb4.2
LOR Lormes 21.07 309 *e*P P 07 53 33.2 +0.4
comp=Z,6.5nm,0.6s,mb4.1
LOR Lormes 21.07 309 *e*P P 07 53 33.2 +0.4
LOR pmax pmax
comp=Z,7.0nm,0.6s,mb4.2
LOR Lormes 21.07 309 *e*P P 07 53 33.2 +0.4
comp=Z,6.5nm,0.6s,mb4.2
AVF Avril sur Loir 21.21 308 *e*P P 07 53 32.9 -1.4
comp=Z,16nm,0.7s,mb4.2
AVF Avril sur Loir 21.21 308 *e*P P 07 53 32.9 -1.4
comp=Z,7.9nm,0.7s,mb4.2
AVF Avril sur Loir 21.21 308 *e*P P 07 53 32.9 -1.4
AVF pmax pmax
comp=Z,8.0nm,0.7s,mb4.2
AVF Avril sur Loir 21.21 308 *e*P P 07 53 32.9 -1.4
comp=Z,7.9nm,0.7s,mb4.2
SSF Saint Saulge 21.21 309 *e*P P 07 53 33.8 -0.5
comp=Z,31nm,0.6s,mb4.5
SSF Saint Saulge 21.21 309 *e*P P 07 53 33.8 -0.5
comp=Z,15nm,0.6s,mb4.5
SSF Saint Saulge 21.21 309 *e*P P 07 53 33.8 -0.5
SSF pmax pmax
comp=Z,15nm,0.6s,mb4.5
SSF Saint Saulge 21.21 309 *e*P P 07 53 33.8 -0.5
comp=Z,15nm,0.6s,mb4.5
EMIR Miracle 21.29 294 P P 07 53 35.8 +0.5
comp=Z,8.1nm,0.6s,mb4.2
EMIR Miracle 21.29 294 P P 07 53 35.8 +0.6
comp=Z,8.1nm,0.6s,mb4.2
BGF Bois d'Agland 21.45 307 *e*P P 07 53 36.5 -0.4
comp=Z,14nm,0.6s,mb4.2
BGF Bois d'Agland 21.45 307 *e*P P 07 53 36.5 -0.4
comp=Z,7.1nm,0.6s,mb4.2
BGF Bois d'Agland 21.45 307 *e*P P 07 53 36.5 -0.4
BGF pmax pmax
comp=Z,7.0nm,0.6s,mb4.2
BGF Bois d'Agland 21.45 307 *e*P P 07 53 36.5 -0.4
comp=Z,7.1nm,0.6s,mb4.2
CAF Calviac 21.48 302 *e*P P 07 53 37.2 0.0
comp=Z,17nm,0.9s,mb4.1
CAF Calviac 21.48 302 *e*P P 07 53 37.2 0.0
comp=Z,8.5nm,0.9s,mb4.1
CAF Calviac 21.48 302 *e*P P 07 53 37.2 0.0
CAF pmax pmax
comp=Z,9.0nm,0.9s,mb4.1
CAF Calviac 21.48 302 *e*P P 07 53 37.2 0.0
comp=Z,8.5nm,0.9s,mb4.1
CSOR Sort 21.64 295 P P 07 53 39.7 +0.8
comp=Z,6.3nm,0.5s,mb4.2
CSOR Sort 21.64 295 P P 07 53 39.7 +0.8
comp=Z,6.3nm,0.5s,mb4.2
TCF Toulx Ste Croi 21.78 306 *e*P P 07 53 40.5 +0.1
comp=Z,12nm,0.8s,mb4.0
TCF Toulx Ste Croi 21.78 306 *e*P P 07 53 40.5 +0.1
comp=Z,5.8nm,0.8s,mb4.0
TCF Toulx Ste Croi 21.78 306 *e*P P 07 53 40.5 +0.1
TCF pmax pmax
comp=Z,6.0nm,0.8s,mb4.0
TCF Toulx Ste Croi 21.78 306 *e*P P 07 53 40.5 +0.1
comp=Z,5.8nm,0.8s,mb4.0
RJF Les Rejaudoux 21.96 303 *e*P P 07 53 42.1 -0.2
comp=Z,16nm,0.7s,mb4.1
RJF Les Rejaudoux 21.96 303 *e*P P 07 53 42.1 -0.2
comp=Z,8.1nm,0.7s,mb4.2
RJF Les Rejaudoux 21.96 303 *e*P P 07 53 42.1 -0.2
RJF pmax pmax
comp=Z,8.0nm,0.7s,mb4.2
RJF Les Rejaudoux 21.96 303 *e*P P 07 53 42.1 -0.2
comp=Z,8.1nm,0.7s,mb4.2
BAIF Baives 22.11 316 *e*P P 07 53 43.2 -0.7
comp=Z,12nm,0.7s,mb4.0
BAIF Baives 22.11 316 *e*P P 07 53 43.2 -0.7
comp=Z,5.8nm,0.7s,mb4.0
BAIF Baives 22.11 316 *e*P P 07 53 43.2 -0.7
BAIF pmax pmax
comp=Z,6.0nm,0.7s,mb4.0
BAIF Baives 22.11 316 *e*P P 07 53 43.2 -0.7
comp=Z,5.8nm,0.7s,mb4.0
EPF Esparros 22.31 296 *e*P P 07 53 44.9 -1.2
EPF Esparros 22.31 296 *e*P P 07 53 44.9 -1.2
EPF Esparros 22.31 296 *e*P P 07 53 44.9 -1.2
EPF Esparros 22.31 296 *e*P P 07 53 44.9 -1.2
LFF La Frestale 22.40 301 *e*P P 07 53 47.8 +0.8
LFF La Frestale 22.40 301 *e*P P 07 53 47.8 +0.8
LFF La Frestale 22.40 301 *e*P P 07 53 47.8 +0.8
LFF La Frestale 22.40 301 *e*P P 07 53 47.8 +0.8
EBIE Bielsa 22.41 295 P P 07 53 47.2 +0.1
comp=Z,3.9nm,0.6s,mb3.9
EBIE Bielsa 22.41 295 P P 07 53 47.2 +0.1
comp=Z,3.9nm,0.6s,mb3.9
ESAC San Caprasio 22.75 293 P P 07 53 51.0 +0.3
comp=Z,5.8nm,0.3s,mb4.4
ESAC San Caprasio 22.75 293 P P 07 53 51.0 +0.2
comp=Z,5.8nm,0.3s,mb4.4
ETSF Etsaut 22.95 296 *e*P P 07 53 50.6 -2.2
comp=Z,5.0nm,0.5s,mb3.8
ETSF Etsaut 22.95 296 *e*P P 07 53 50.6 -2.2
comp=Z,2.5nm,0.5s,mb3.8
ETSF Etsaut 22.95 296 *e*P P 07 53 50.6 -2.2
ETSF pmax pmax
comp=Z,3.0nm,0.5s,mb3.9
ETSF Etsaut 22.95 296 *e*P P 07 53 50.6 -2.2
comp=Z,2.5nm,0.5s,mb3.8
MFF Saint Martin d 23.43 305 *e*P P 07 53 56.0 -1.3
comp=Z,13nm,0.4s,mb4.3
MFF Saint Martin d 23.43 305 *e*P P 07 53 56.0 -1.3
comp=Z,6.6nm,0.4s,mb4.3
MFF Saint Martin d 23.43 305 *e*P P 07 53 56.0 -1.3
MFF pmax pmax
comp=Z,7.0nm,0.4s,mb4.3
MFF Saint Martin d 23.43 305 *e*P P 07 53 56.0 -1.3
comp=Z,6.6nm,0.4s,mb4.3
SJPF Ste Jean 23.46 296 *e*P P 07 53 56.7 -0.9
comp=Z,12nm,0.6s,mb4.1
SJPF Ste Jean 23.46 296 *e*P P 07 53 56.7 -0.9
comp=Z,5.8nm,0.6s,mb4.1
SJPF Ste Jean 23.46 296 *e*P P 07 53 56.7 -0.9
SJPF pmax pmax
comp=Z,6.0nm,0.6s,mb4.1
SJPF Ste Jean 23.46 296 *e*P P 07 53 56.7 -0.9
comp=Z,5.8nm,0.6s,mb4.1
LDF La Druitiere 24.05 310 *e*P P 07 54 01.9 -1.0
comp=Z,25nm,0.4s,mb4.6
LDF La Druitiere 24.05 310 *e*P P 07 54 01.9 -1.0
comp=Z,12nm,0.4s,mb4.6
LDF La Druitiere 24.05 310 *e*P P 07 54 01.9 -1.0
LDF pmax pmax
comp=Z,12nm,0.4s,mb4.6
LDF La Druitiere 24.05 310 *e*P P 07 54 01.9 -1.0
comp=Z,12nm,0.4s,mb4.6
FLN La Foliniere 24.33 310 *e*P P 07 54 04.5 -1.0
comp=Z,43nm,0.6s,mb4.6
FLN La Foliniere 24.33 310 *e*P P 07 54 04.5 -1.0
comp=Z,22nm,0.6s,mb4.7
FLN La Foliniere 24.33 310 *e*P P 07 54 04.5 -1.0
FLN pmax pmax
comp=Z,22nm,0.6s,mb4.7
FLN La Foliniere 24.33 310 *e*P P 07 54 04.5 -1.0
comp=Z,22nm,0.6s,mb4.6
GRR Gorron 24.44 309 *e*P P 07 54 05.6 -0.9
comp=Z,69nm,0.5s,mb4.9
GRR Gorron 24.44 309 *e*P P 07 54 05.6 -0.9
comp=Z,34nm,0.5s,mb4.9
GRR Gorron 24.44 309 *e*P P 07 54 05.6 -0.9
GRR pmax pmax
comp=Z,35nm,0.5s,mb5.0
GRR Gorron 24.44 309 *e*P P 07 54 05.6 -0.9
comp=Z,34nm,0.5s,mb4.9
ELAN Lanestosa 25.08 296 P P 07 54 14.4 +2.0
comp=Z,6.3nm,0.6s,mb4.2
ELAN Lanestosa 25.08 296 P P 07 54 14.4 +2.0
comp=Z,6.3nm,0.6s,mb4.2
FINES FINESS Array B 25.35 358 P P 07 54 13.9 -0.8
comp=Z,1.5nm,0.4s,mb3.8,baz=160,slow=10,SNR=15
FINES PcP PcP 07 57 46.2 +0.9
comp=Z,1.2nm,0.6s,baz=205,slow=3.2,SNR=6.2
FINES FINESS Array B 25.35 358 P P 07 54 13.9 -0.8
FINES PcP PcP 07 57 46.2 +0.9
FINES FINESS Array B 25.35 358 P P 07 54 13.9 -0.7
FINES 07 57 46.2
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 25.35 358 P P 07 54 13.9 -0.7
comp=Z,2.0nm,0.4s,mb3.9
FINES FINESS Array B 25.35 358 PcP PcP 07 57 46.2 +0.8
comp=Z,1.0nm,0.6s
ESDC Sonseca Array 25.37 288 P P 07 54 15.4 +0.4
comp=Z,2.5nm,0.5s,mb3.9,baz=83,slow=9.2,SNR=26
ESDC Sonseca Array 25.37 288 P P 07 54 15.4 +0.4
comp=Z,4.2nm,0.4s,mb4.2
ESDC Sonseca Array 25.37 288 P P 07 54 15.4 +0.4
comp=Z,4.2nm,0.4s,mb4.2
SGMF Saint Gilles 25.47 308 *e*P P 07 54 15.7 -0.2
comp=Z,17nm,0.5s,mb4.5
SGMF Saint Gilles 25.47 308 *e*P P 07 54 15.7 -0.2
comp=Z,8.6nm,0.4s,mb4.5
SGMF Saint Gilles 25.47 308 *e*P P 07 54 15.7 -0.2
SGMF pmax pmax
comp=Z,9.0nm,0.4s,mb4.5
SGMF Saint Gilles 25.47 308 *e*P P 07 54 15.7 -0.2
comp=Z,8.6nm,0.5s,mb4.5
GUD Guadarrama 25.49 290 P P 07 54 17.1 +0.9
comp=Z,2.9nm,0.5s,mb4.0
GUD Guadarrama 25.49 290 P P 07 54 17.1 +1.0
GUD pmax pmax
comp=Z,3.0nm,0.5s,mb4.0
GUD Guadarrama 25.49 290 P P 07 54 17.1 +1.0
comp=Z,2.9nm,0.5s,mb4.0
HFS Hagfors 25.71 343 P P 07 54 17.1 -0.8
comp=Z,1.8nm,0.4s,mb3.9,baz=146,slow=11,SNR=19
HFS Hagfors 25.71 343 P P 07 54 17.1 -0.8
HFS Hagfors 25.71 343 P P 07 54 17.1 -0.8
HFS pmax pmax
comp=Z,2.0nm,0.4s
HFS Hagfors 25.71 343 P P 07 54 17.1 -0.8
comp=Z,2.0nm,0.4s,mb3.9
QUIF Quistinic 25.77 307 *e*P P 07 54 17.3 -1.3
QUIF Quistinic 25.77 307 *e*P P 07 54 17.3 -1.3
QUIF Quistinic 25.77 307 *e*P P 07 54 17.3 -1.3
QUIF Quistinic 25.77 307 *e*P P 07 54 17.3 -1.3
AKTK Aktyubinsk 25.91 47 P P 07 54 19.2 -0.6
AKTK Aktyubinsk 25.91 47 P P 07 54 19.2 -0.6
AKTO Aktyubinsk 25.91 47 P P 07 54 19.2 -0.6
comp=Z,1.0nm,0.7s,mb3.4,baz=265,slow=8.3,SNR=5.0
AKTO Aktyubinsk 25.91 47 P P 07 54 19.3 -0.5
AKTO pmax pmax
comp=Z,1.0nm,0.7s,mb3.4
KAF Kangasniemi 26.02 358 *e*P P 07 54 18.7 -1.9
KAF Kangasniemi 26.02 358 *e*p P 07 54 18.7 -1.9
KAF Kangasniemi 26.02 358 *e*P P 07 54 18.7 -1.9
EMIJ Mijas 26.30 281 P P 07 54 23.1 -0.5
comp=Z,4.1nm,0.8s,mb3.9
EMIJ Mijas 26.30 281 P P 07 54 23.1 -0.4
comp=Z,4.1nm,0.8s,mb3.9
JOF Joensuu 26.89 3 *e*P P 07 54 26.2 -2.2
JOF pmax pmax
comp=Z,2.0nm,0.6s,mb3.8
JOF Joensuu 26.89 3 *e*p P 07 54 26.2 -2.2
comp=Z,1.5nm,0.6s,mb3.7
JOF Joensuu 26.89 3 *e*P P 07 54 26.2 -2.2
comp=Z,2.0nm,0.6s,mb3.8
NB2 NORSAR Subarra 27.11 342 P P 07 54 29.1 -1.3
comp=Z,5.1nm,1.1s,mb4.0,baz=149,slow=9.3
NB2 NORSAR Subarra 27.11 342 P P 07 54 29.1 -1.3
comp=Z,5.1nm,1.1s,mb4.0,baz=149,slow=9.0,SNR=4.8
NOA NORSAR Array B 27.11 342 P P 07 54 28.8 -1.7
comp=Z,0.4nm,0.4s,mb3.4,baz=154,slow=10.0,SNR=6.2
NOA NORSAR Array B 27.11 342 P P 07 54 28.8 -1.7
NOA NORSAR Array B 27.11 342 P P 07 54 28.8 -1.6
NOA NORSAR Array B 27.11 342 P P 07 54 28.8 -1.6
EMIN Mina Concepcio 27.64 284 P P 07 54 35.7 +0.2
comp=Z,3.4nm,0.5s,mb4.1
EMIN Mina Concepcio 27.64 284 P P 07 54 35.7 +0.2
comp=Z,3.4nm,0.5s,mb4.1
TORD Torodi Ar. Bea 32.88 233 P P 07 55 23.3 +1.4
comp=Z,1.0nm,0.5s,mb3.9,baz=34,slow=8.7,SNR=8.6
TORD Torodi Ar. Bea 32.88 233 P P 07 55 23.3 +1.4
TORD Torodi Ar. Bea 32.88 233 P P 07 55 23.3 +1.4
ZRNK Zerenda 33.19 47⇑Pn P 07 55 28.7 +4.5
comp=Z,2.8nm,0.9s,mb4.1
ZRNK ⇑Lg 07 56 21.6
comp=Z,4.8nm,1.0s
ARCES ARCESS Array B 33.48 358 P P 07 55 25.9 -0.7
comp=Z,1.3nm,0.7s,mb3.9,baz=171,slow=8.6,SNR=13
ARCES ARCESS Array B 33.48 358 P P 07 55 25.9 -0.7
ARCES ARCESS Array B 33.48 358 P P 07 55 25.9 -0.7
ARCES pmax pmax
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 33.48 358 P P 07 55 25.9 -0.7
comp=Z,1.0nm,0.7s,mb3.8
KEV Kevo 33.68 359 *e*P P 07 55 26.0 -2.3
KEV Kevo 33.68 359 *e*p P 07 55 26.0 -2.3
comp=Z,0.4nm,0.3s,mb3.7
KEV Kevo 33.68 359 *e*P P 07 55 26.0 -2.3
BRVK Borovoye 33.96 47⇓Pn P 07 55 31.5 +0.5
comp=Z,2.5nm,0.6s,mb4.2
BRVK ⇑Lg 07 56 30.2
comp=Z,6.6nm,0.8s
BVA0 Borovoye Array 34.02 47⇑Pn P 07 55 31.7 +0.2
comp=Z,0.6nm,1.2s,mb3.3,baz=190,slow=17,SNR=5.4
BVA0 ⇑Lg 07 56 30.0
comp=Z,0.5nm,0.8s,baz=195,slow=34,SNR=4.5
VOSK Vostochnaya 34.30 47⇓Pn P 07 55 29.6 -4.3
comp=Z,0.8nm,0.5s,mb3.8
VOSK ⇓Lg 07 56 23.5
comp=Z,5.4nm,1.1s
MKAR Makanchi Array 41.33 58 P P 07 56 34.6 +1.4
comp=Z,1.1nm,0.5s,mb3.9,baz=271,slow=9.3,SNR=16
MKAR Makanchi Array 41.33 58 P P 07 56 34.6 +1.4
MKAR Makanchi Array 41.33 58 P P 07 56 34.6 +1.4
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 41.33 58 P P 07 56 34.6 +1.4
comp=Z,1.0nm,0.5s,mb3.9
SPITS Spitsbergen Ar 42.44 356 P P 07 56 41.6 -0.2
comp=Z,0.6nm,0.3s,mb3.8,baz=140,slow=10,SNR=15
SPITS Spitsbergen Ar 42.44 356 P P 07 56 41.6 -0.2
SPITS Spitsbergen Ar 42.44 356 P P 07 56 41.6 -0.2
SPITS pmax pmax
comp=Z,1.0nm,0.3s
SPITS Spitsbergen Ar 42.44 356 P P 07 56 41.6 -0.2
comp=Z,1.0nm,0.3s,mb4.0

ZALV	Zalesovo Beam	42.67	47	P		P	07 56 44.8	+0.8
	comp=Z,0.7nm,0.4s,mb3.7,baz=249,slow=12,SNR=3.6							
ZALV	Zalesovo Beam	42.67	47	P		P	07 56 44.8	+0.8
ZALV	Zalesovo Beam	42.67	47	P		P	07 56 44.8	+0.8
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb3.9							
ZALV	Zalesovo Beam	42.67	47	P		P	07 56 44.8	+0.8
	comp=Z,1.0nm,0.4s,mb3.9							
SONM	Songino Array	57.09	52	P		P	07 58 35.0	+1.5
	comp=Z,0.3nm,0.7s,mb3.5,baz=301,slow=5.8,SNR=4.6							
SONM	Songino Array	57.09	52	P		P	07 58 35.0	+1.5
SONM	Songino Array	57.09	52	P		P	07 58 35.0	+1.6
SONM	Songino Array	57.09	52	P		P	07 58 35.0	+1.6
RES	Resolute Bay	63.30	346	P		P	07 59 15.1	-0.3
	comp=Z,1.1nm,0.8s,mb3.9,baz=55,slow=12,SNR=4.0							
RES	Resolute Bay	63.30	346	P		P	07 59 15.1	-0.3
RES	Resolute Bay	63.30	346	P		P	07 59 15.1	-0.3
RES				pmax	pmax			
	comp=Z,1.0nm,0.8s,mb3.8							
RES	Resolute Bay	63.30	346	P		P	07 59 15.1	-0.3
	comp=Z,1.0nm,0.8s,mb3.8							
ILAR	Eielson Array	79.34	358	P		P	08 00 52.1	0.0
	comp=Z,0.5nm,0.6s,mb3.5,baz=338,slow=3.7,SNR=15							
ILAR	Eielson Array	79.34	358	P		P	08 00 52.1	0.0
ILAR	Eielson Array	79.34	358	P		P	08 00 52.2	0.0
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ILAR	Eielson Array	79.34	358	P		P	08 00 52.2	0.0
	comp=Z,1.0nm,0.6s,mb3.8							
ULM	Lac du Bonnet	80.75	327	P		P	08 00 59.4	-0.6
	comp=Z,2.5nm,0.6s,mb4.2,baz=88,slow=8.4,SNR=5.5							
ULM	Lac du Bonnet	80.75	327	P		P	08 00 59.4	-0.6
ULM	Lac du Bonnet	80.75	327	P		P	08 00 59.4	-0.6
ULM	Lac du Bonnet	80.75	327	P		P	08 00 59.4	-0.6

IDC ***09*** *08:00:55.9±0.5,4.4N×75.4W,h0km,mb4.1/18, mb1 4.4/19,mb1mx4.3/22, mbtmp4.2/19,ML5.9/1,MS3.8/11, Ms1 3.8/11,ms1mx3.6/28,Error ellipse: s-maj=15.0km s-min=10.8km az=171.0*

NEIC ***09*** *08:00:56.7±1.2,4.50N×75.31W,h3km±7km,mb4.5/46, Error ellipse: s-maj=7.1km s-min=5.8km az=201.0*

NEIC Felt at Armenia, Bélalcazar, Ibague and Pereira.

BJI ***09*** *08:00:58.3,4.50N×75.30W,h10km,mB5.0/2,Ms5.0/2, Ms7 4.7/2*

ISCJB ***09*** *08:00:59.3±0.7,4.53N±0.04×75.21W±0.04,h28km±4km, mb4.4/60,MS3.9/12,Error ellipse: s-maj=7.6km s-min=6.6km az=10.6*

ISC 09 08:01:00.2±0.8,4.50N±0.04×75.19W±0.04,h22km±5km, n286,σ0974/266,mb4.4/60,MS3.9/12,72C-73D,Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOLC	Tolima	0.17	301	⇓iP	Pb	08 00 57.2	-7.9
TOLC				eS	Sb	08 01 08.1	-0.5
ROSC	El Rosal	0.93	68	Pg	Pb	08 01 18.3	+0.6
	202nm,0.3s,baz=264,slow=4.7,SNR=584						
ROSC				Lg		08 01 36.3	
	488nm,0.3s,baz=86,slow=19,SNR=17						
ROSC	El Rosal	0.93	68	Pg	Pb	08 01 18.3	+0.6
ROSC				Lg		08 01 36.3	
HELC	Santa Helena	1.76	348	eP	Pn	08 01 24.8	-4.6
HELC				eS	Sn	08 01 53.1	+2.0
OTAV	Otavalo	5.34	218	ePn	Pn	08 02 18.3	-0.3
SDV	Santo Domingo	6.29	46	ePn	Pn	08 02 34.1	+2.5
BCIP	Isla Barro Col	6.54	315	ePn	Pn	08 02 31.2	-3.9
JTS	JuntasAbangare	11.26	301	ePn	Pn	08 03 37.4	-2.5
ATAH	Atahualpa	11.99	195	Pn	Pn	08 03 52.6	+2.7
	0.8nm,0.3s,baz=36,slow=8.1,SNR=22						
ATAH				Lg		08 07 02.8	
	0.5nm,0.3s,baz=217,slow=12,SNR=3.6						
SDDR	Presa de Saban	14.89	15	ePn	Pn	08 04 31.2	+1.7
CELP	Cerrillos	15.91	31	ePn	Pn	08 04 41.7	-1.1
LRS	Lares	15.96	30	ePn	Pn	08 04 34.4	-9.1
SJG	San Juan	16.16	32	Pn	Pn	08 04 46.4	+0.3
	0.9nm,0.3s,baz=246,slow=10.0,SNR=3.3						
SJG	San Juan	16.16	32	ePn	Pn	08 04 44.3	-1.9
	32nm,1.2s						
HUMP	Col San Antoni	16.35	33	ePn	Pn	08 04 48.1	-0.5
	9.3nm,0.8s						
CBYP	Canovanas	16.45	33	ePn	Pn	08 04 49.7	-0.1
	20nm,0.8s						
NNA	Nana	16.46	186	Pn	Pn	08 04 53.0	+3.1
	0.7nm,0.3s,baz=352,slow=8.8,SNR=5.8						
NNA	Nana	16.46	186	Pn	Pn	08 04 53.0	+3.1
MTP	Monte Pirata	16.48	34	ePn	Pn	08 04 49.5	-0.6
	8.5nm,0.6s						
TEIG	Tepich	20.16	322	P	P	08 05 29.5	-3.8
	13nm,1.0s,baz=215,slow=16,SNR=2.6						
TEIG				LR	LR	08 13 35.2	
	comp=Z,137nm,18.6s,MS3.3,baz=331,slow=38						
TEIG	Tepich	20.16	322	P	P	08 05 29.5	-3.8
TEIG				LR	LR	08 13 35.2	
LPAZ	La Paz	21.80	161	P	P	08 05 48.7	-2.2
	3.0nm,1.0s,mb3.7,baz=342,slow=14,SNR=7.6						
LPAZ				LR	LR	08 14 47.0	
	comp=Z,443nm,18.5s,MS3.9,baz=37,slow=38						
LPAZ	La Paz	21.80	161	eP	P	08 05 49.8	-1.1
	8.5nm,1.0s,mb4.1						
WVT	Waverly	33.56	341	eP	P	08 07 39.1	+0.6
	32nm,1.9s,mb4.9						
CPUP	Villa Florida	35.20	151	P	P	08 07 48.5	-4.4
	0.4nm,0.4s,mb3.7,baz=54,slow=13,SNR=2.5						
CPUP				LR	LR	08 23 34.2	
	comp=Z,276nm,18.7s,MS4.0,baz=304,slow=38						
CPUP	Villa Florida	35.20	151	P	P	08 07 48.5	-4.4
CPUP				LR	LR	08 23 34.2	
627A	Terlingua Ranc	36.44	316	⇑P	P	08 08 03.3	-0.2
	baz=36,SNR=11						
CCM	Cathedral Cave	36.47	338	eP	P	08 08 01.9	-1.8
	6.2nm,0.8s,mb4.6						
CFAA	Coronel Fontan	36.51	170	P	P	08 08 03.5	-0.6
	0.4nm,0.7s,mb3.4,baz=342,slow=12,SNR=3.2						
CFAA	Coronel Fontan	36.51	170	P	P	08 08 03.5	-0.6
TXAR	Lajitas Array	36.56	316	P	P	08 08 03.6	-0.9
	1.6nm,0.8s,mb3.9,baz=136,slow=8.8,SNR=15						
TXAR				PcP	PcP	08 10 28.7	+0.9
	2.7nm,0.7s,baz=139,slow=5.4,SNR=22						
TXAR	Lajitas Array	36.56	316	P	P	08 08 03.6	-0.9
TXAR				PcP	PcP	08 10 28.7	+0.9
TUL1	Tulsa	36.57	331	⇓P	P	08 08 04.0	-0.5
	baz=37						
428A	Kincaid Ranch,	36.76	318	⇑P	P	08 08 06.0	-0.2
	baz=37						
527A	Woodward Ranch	37.02	317	⇑P	P	08 08 07.8	-0.6
	baz=37						
626A	Big Bend Ranch	37.02	316	⇓P	P	08 08 08.7	+0.2
	baz=37						
WMOK	Wichita Mounta	37.19	327	eP	P	08 08 08.0	-1.8
	7.6nm,1.0s,mb4.5						
526A	Mary Lane Ranc	37.29	316	⇓P	P	08 08 10.5	-0.3
	baz=37,SNR=6.9						
427A	Hayter Ranch,	37.31	318	⇓P	P	08 08 10.8	-0.2
	baz=37						
426A	McDonald Obser	37.62	317	⇓P	P	08 08 12.9	-0.7
	baz=38,SNR=7.2						
425A	Indio Mountain	38.35	316	⇑P	P	08 08 19.3	-0.4
	baz=38						
325A	Bean Ranch, Si	38.69	317	P	P	08 08 21.9	-0.7
	baz=39,SNR=11						
Z27A	Tatum	38.78	321	⇓P	P	08 08 23.3	0.0
	baz=39						
AMTX	Amarillo	38.93	324	eP	P	08 08 24.8	+0.3
	8.8nm,0.9s,mb4.5						
MSTX	Muleshoe	38.95	322	⇓P	P	08 08 24.6	-0.1
	baz=39,SNR=11						
Y27A	Causey	39.13	322	⇑P	P	08 08 25.7	-0.4
	baz=39,SNR=8.8						
Z26A	Caprock	39.23	320	⇓P	P	08 08 27.0	-0.1
	baz=39						
224A	Cornudas Mount	39.49	318	⇑P	P	08 08 29.0	-0.3
	baz=40						
Z25A	Roswell	39.71	320	⇓P	P	08 08 31.1	+0.1
	baz=40,SNR=10						
124A	Stringfield Ra	39.83	318	⇓P	P	08 08 32.7	+0.6
	baz=40,SNR=8.1						
W27A	Bowe Ranch, En	39.87	323	⇑P	P	08 08 32.3	0.0
	baz=40,SNR=8.4						
X26A	CR and CF Fran	39.97	322	⇓P	P	08 08 34.2	+1.0
	baz=40						
Y25A	Mesa, Roswell	40.11	321	⇑P	P	08 08 34.3	0.0
	baz=40						
Y24A	Capitan	40.59	320	⇑P	P	08 08 38.3	0.0
	baz=41,SNR=11						
V26A	Tequesquite Ra	40.80	323	⇑P	P	08 08 40.1	0.0
	baz=41,SNR=11						
W25A	X Bar L Ranch,	40.81	322	⇑P	P	08 08 39.8	-0.4
	baz=41,SNR=5.1						
U26A	Atchley Ranch,	41.18	324	⇑P	P	08 08 43.1	-0.1
	baz=41,SNR=11						
121A	Cookes Peak, D	41.30	316	⇑P	P	08 08 45.4	+1.2
	baz=41						
V25A	Rancho No Teng	41.32	323	⇑P	P	08 08 45.4	+1.1
	baz=41,SNR=7.9						
220A	Playas Peak, P	41.46	315	⇓P	P	08 08 46.3	+0.7
	baz=41,SNR=13						
BNM	Barren Site	41.50	319	eP	P	08 08 45.7	-0.1
	2.0nm,0.8s,mb3.8						
U25A	Circle Dot Ran	41.58	324	⇑P	P	08 08 46.5	+0.1
	baz=42						
Y22A	Socorro	41.59	319	⇑P	P	08 08 47.4	+0.9
	baz=42						
V24A	Rampart Ranch,	41.65	322	⇑P	P	08 08 48.1	+1.1
	baz=42,SNR=6.9						
Z21A	St. Cloud Mine	41.68	317	⇑P	P	08 08 48.3	+1.0
	baz=42						
319A	Douglas	41.70	314	⇑P	P	08 08 48.0	+0.4
	baz=42						
ANMO	Albuquerque	41.89	320	LR	LR	08 27 25.8	
	comp=Z,54nm,19.3s,MS3.4,baz=67,slow=38						
ANMO	Albuquerque	41.89	320	eP	P	08 08 49.1	+0.1
	3.9nm,0.9s,mb4.0						
120A	U Bar Ranch, L	41.90	316	⇓P	P	08 08 49.7	+0.6
	baz=42						
LAZ	Ladron	41.98	319	eP	P	08 08 49.9	+0.1
	3.7nm,0.9s,mb4.0						
Z20A	Nine Sixteen R	42.19	317	⇑P	P	08 08 52.2	+0.7
	baz=42,SNR=6.2						
V23A	Ortiz Mt. (NFS	42.22	321	⇓P	P	08 08 52.5	+0.8
	42,SNR=8.2						
X21A	Alamocita Cree	42.44	319	⇓P	P	08 08 54.2	+0.7
	baz=42,SNR=12						
U23A	El Rito	42.60	322	⇑P	P	08 08 56.5	+1.7
	baz=43,SNR=10						
V22A	San Miguel Ran	42.78	321	⇑P	P	08 08 56.6	+0.4
	baz=43,SNR=5.9						
118A	Homack Ranch,	42.88	315	⇓P	P	08 08 57.5	+0.4
	baz=43						
S24A	Houchin Ranch,	42.89	324	⇑P	P	08 08 58.3	+1.1
	baz=43						
X20A	Quemado	42.96	318	⇓P	P	08 08 58.6	+0.8
	baz=43,SNR=8.6						
T23A	Casias Ranch,	42.97	323	⇓P	P	08 08 58.4	+0.6
	baz=43,SNR=8.3						
U22A	Llaves	43.04	322	⇓P	P	08 08 59.2	+0.8
	baz=43,SNR=7.0						
Y19A	Nutrioso	43.13	317	⇑P	P	08 09 00.3	+1.2
	baz=43,SNR=7.7						
SDCO	Great Sand Dun	43.13	324	⇓P	P	08 08 59.4	+0.3
	baz=43,SNR=12						
SDCO	Great Sand Dun	43.13	324	eP	P	08 08 59.1	0.0
	7.0nm,1.0s,mb4.3						
V21A	Milan	43.17	320	⇑P	P	08 09 00.6	+1.1
	baz=43						
R24A	Sanders Place,	43.23	325	⇑P	P	08 09 00.5	+0.6
	baz=43,SNR=5.0						
TUC	Tucson	43.28	314	eP	P	08 09 00.2	-0.2
	13nm,1.7s,mb4.4						
W20A	Ramah	43.31	319	⇑P	P	08 09 01.4	+0.8
	baz=43,SNR=8.0						
X19A	St. Johns	43.42	318	⇓P	P	08 09 02.4	+0.9
	baz=43,SNR=5.9						
Y18A	Canyon Day Jun	43.56	316	⇓P	P	08 09 02.9	+0.3
	baz=44,SNR=7.5						
U21A	Nageezi	43.58	321	⇑P	P	08 09 03.2	+0.5
	baz=44						
Z17A	San Carlos Hig	43.60	315	⇑P	P	08 09 03.5	+0.6
	baz=44						
P25A	Willow Gulch B	43.61	327	⇓P	P	08 09 03.2	+0.3
	baz=44,SNR=9.2						
S22A	4UR Ranch, Cre	43.91	323	⇓P	P	08 09 05.5	+0.1
	baz=44,SNR=7.9						
X18A	Snowflake	43.93	317	⇓P	P	08 09 05.9	+0.3
	baz=44,SNR=6.9						
R22A	Saguache, Gunn	44.19	324	⇓P	P	08 09 08.2	+0.6
	baz=44						
X17A	Forest Lakes	44.40	316	⇑P	P	08 09 09.5	+0.1
	baz=44						
S21A	Coal Bank Pass	44.44	322	⇓P	P	08 09 09.9	+0.3
	baz=44,SNR=9.1						
U19A	Dine' College,	44.48	320	⇑P	P	08 09 09.8	-0.1
	baz=44						
214A	Organ Pipe Nat	44.58	312	⇓P	P	08 09 11.2	+0.4
	baz=44						
MVCO	Mesa Verde	44.59	321	eP	P	08 09 10.2	-0.6
	7.0nm,1.1s,mb4.4						
ISCO	Idaho Springs	44.60	326	eP	P	08 09 10.7	-0.1
	6.1nm,1.1s,mb4.3						
Y16A	Circle Bar Ran	44.62	315	⇓P	P	08 09 11.8	+0.7
	baz=45						
T19A	Beclabito	44.69	321	⇑P	P	08 09 11.8	+0.2
	baz=45,SNR=5.3						
X16A	Lo Mia Camp, P	44.88	316	⇑P	P	08 09 14.1	+0.9
	baz=45						
S20A	Disappointment	44.90	322	⇓P	P	08 09 13.7	+0.5
	baz=45,SNR=11						
SMCO	Snowmass	44.95	325	eP	P	08 09 13.6	0.0
	3.9nm,0.9s,mb4.2						
U18A	Rough Rock, Ch	44.98	320	⇓P	P	08 09 14.5	+0.6
	baz=45						
V17A	Tonalea, Kykot	45.12	318	⇑P	P	08 09 15.4	+0.3
	baz=45						
R20A	Redvale	45.13	323	⇑P	P	08 09 15.8	+0.7
	baz=45						
PLCA	Paso Flores	45.21	175	P	P	08 09 16.4	+0.8
	2.7nm,0.9s,mb4.1,baz=352,slow=12,SNR=4.5						
PLCA				LR	LR	08 26 45.6	
	comp=Z,146nm,21.8s,MS3.9,baz=344,slow=34						
PLCA	Paso Flores	45.21	175	P	P	08 09 16.4	+0.8
PLCA				LR	LR	08 26 45.6	
PV01	Paradox Valley	45.22	322	eP	P	08 09 15.2	-0.6
	483nm,1.0s						
S19A	Harvey Farm, M	45.32	322	⇓P	P	08 09 17.3	+0.7
	baz=45						
O22A	Kremmling	45.37	326	⇑P	P	08 09 17.2	+0.3
	baz=45,SNR=8.0						
WUAZ	Wupatki	45.45	317	⇑P	P	08 09 18.3	+0.6
	baz=45,SNR=8.5						
WUAZ	Wupatki	45.45	317	eP	P	08 09 17.6	0.0
	7.5nm,0.8s,mb4.6						
U16A	Tuba City	45.64	318	⇑P	P	08 09 19.3	+0.1
	baz=46,SNR=7.2						
Y14A	Wickenburg	45.72	315	⇑P	P	08 09 20.1	+0.2
	baz=46						
T17A	Navajo Res., N	45.92	320	⇑P	P	08 09 22.1	+0.7
	baz=46						
Q19A	Hogan Spring (	46.16	323	⇓P	P	08 09 23.1	-0.1
	baz=46,SNR=11						
V15A	Kaibab Nationa	46.16	317	P	P	08 09 24.1	+0.8
	baz=46,SNR=6.5						
S17A	Black Ridge (B	46.30	320	⇓P	P	08 09 25.6	+1.2
	baz=46,SNR=7.3						
T16A	Glen Canyon Da	46.37	319	⇑P	P	08 09 25.5	+0.5
	baz=46						
P19A	Cripple Cowboy	46.42	324	⇓P	P	08 09 25.7	+0.5
	baz=46						
R17A	Hanksville Air	46.71	321	⇓P	P	08 09 27.6	0.0
	baz=47						
RWWY	Rawlins	46.78	327	eP	P	08 09 27.9	-0.2
	14nm,1.2s,mb4.8						
M21A	Separation Pea	46.81	327	⇓P	P	08 09 28.5	+0.3
	baz=47						
S16A	Weppner Ranch,	46.86	320	⇑P	P	08 09 28.8	+0.1
	baz=47						
RSSD	Black Hills	46.92	332	eP	P	08 09 29.2	+0.1
	5.0nm,0.9s,mb4.4						
T15A	Red Dirt Ranch	46.97	319	⇓P	P	08 09 29.7	+0.1
	baz=47						
R16A	Teasdale	47.12	321	⇑P	P	08 09 30.9	+0.2
	baz=47						
K21A	Alcova	47.46	328	⇑P	P	08 09 33.3	0.0
	baz=48,SNR=6.5						
MSU	Marysvale	47.69	320	eP	P	08 09 35.5	+0.3
O17A	Robinson Place	47.82	323	⇑P	P	08 09 36.3	+0.1
	baz=48						
I22A	9 Mile Ranch,	47.95	330	⇓P	P	08 09 37.3	+0.2
	baz=48						
ARUT	Antelope Range	48.10	319	eP	P	08 09 37.6	-0.8
	3.2nm,0.6s,mb4.5						
Q15A	Fillmore	48.11	321	⇑P	P	08 09 38.8	+0.4
	baz=48						
MPU	Maple Canyon	48.25	322	eP	P	08 09 38.8	-0.7
	5.7nm,0.8s,mb4.7						
DAU	Daniels Canyon	48.27	323	eP	P	08 09 40.4	+0.7
O16A	Springville	48.29	323	⇑P	P	08 09 39.8	0.0
	baz=48						
N17A	Moffit Pass	48.34	324	⇓P	P	08 09 40.2	-0.1
	baz=48						
J20A	Shoshoni	48.40	328	⇑P	P	08 09 40.6	0.0
	baz=48,SNR=8.9						
K19A	Absolon Red Bu	48.45	327	P	P	08 09 40.4	-0.6
	baz=48,SNR=5.8						
L18A	Fontenelle, Gr	48.51	325	⇑P	P	08 09 41.5	0.0
	baz=48						
M17A	Scullys Gap (B	48.58	324	⇑P	P	08 09 41.5	-0.6
	baz=49						
R13A	O'Grain Ranch,	48.66	319	⇓P	P	08 09 42.5	-0.2
	baz=49						
Q14A	Sevier Lake (B	48.67	320	⇑P	P	08 09 43.2	+0.5
	baz=49,SNR=7.5						
BW06	Boulder Array	48.80	326	⇓P	P	08 09 42.9	-0.8
	baz=49,SNR=7.6						
BW06	Boulder Array	48.80	326	eP	P	08 09 44.8	+1.1
	5.2nm,1.0s,mb4.5						
PDAR	Pinedale Array	48.80	326	P	P	08 09 43.0	-0.6
	3.6nm,0.9s,mb4.4,baz=131,slow=8.5,SNR=18						
PDAR	Pinedale Array	48.80	326	P	P	08 09 43.0	-0.6
PD02	Pinedale Array	48.81	326	eP	P	08 09 42.4	-1.4
ULM	Lac du Bonnet	48.81	342	P	P	08 09 42.2	-1.4
	7.9nm,1.0s,mb4.7,baz=156,slow=12,SNR=4.1						
ULM				LR	LR	08 30 55.4	
	comp=Z,143nm,18.7s,MS4.0,baz=15,slow=37						
ULM	Lac du Bonnet	48.81	342	P	P	08 09 42.2	-1.4
ULM				LR	LR	08 30 55.4	
PD01	Pinedale Array	48.82	326	eP	P	08 09 43.0	-0.8
J19A	Crowheart	48.85	327	P	P	08 09 43.4	-0.8
	baz=49,SNR=6.4						
P14A	Drum Mountains	48.89	321	⇑P	P	08 09 45.0	+0.6
	baz=49						
K18A	Toltan Ranch,	48.98	326	⇑P	P	08 09 45.2	+0.1
	baz=49,SNR=6.8						
M16A	Huntsville	49.05	324	⇓P	P	08 09 45.4	-0.2
	baz=49						
DUG	Dugway	49.08	322	⇓P	P	08 09 45.3	-0.6
	baz=49						
DUG	Dugway	49.08	322	eP	P	08 09 45.3	-0.6
	4.0nm,0.8s,mb4.5						
L17A	Cokeville	49.10	325	⇓P	P	08 09 45.4	-0.6
	baz=49,SNR=13						
HWUT	Hardware Ranch	49.19	324	eP	P	08 09 45.6	-1.1
J18A	Kendall Valley	49.34	327	⇑P	P	08 09 47.1	-0.8
	baz=49,SNR=6.7						
I19A	Meeteetse	49.35	328	⇓P	P	08 09 48.0	+0.2
	baz=49						
L16A	Fish Haven	49.37	325	⇓P	P	08 09 47.3	-0.8
	baz=49						
M15A	Larsen Ranch,	49.62	323	⇑P	P	08 09 49.6	-0.4
	baz=50						
BGU	Big Grassy Mou	49.65	322	eP	P	08 09 49.4	-0.8
	5.4nm,0.9s,mb4.6						
R11A	Troy Canyon, C	49.82	318	⇓P	P	08 09 51.6	0.0
	baz=50						
J17A	Brown Place, J	49.83	326	P	P	08 09 52.2	+0.7
	baz=50,SNR=5.7						
REDW	Red Top Meadow	49.90	326	eP	P	08 09 51.6	-0.5
	8.5nm,0.9s,mb4.8						
SNOW	Snow King Moun	49.91	326	eP	P	08 09 52.6	+0.4
	15nm,1.3s,mb4.8						
L15A	Malad City	49.92	324	⇑P	P	08 09 51.5	-0.7
	baz=50						
LOHW	Long Hollow	49.93	327	eP	P	08 09 52.2	-0.1
	4.9nm,0.9s,mb4.5						
TPAW	Teton Pass	50.04	326	eP	P	08 09 52.6	-0.6
	14nm,1.5s,mb4.8						
MOOW	Moose Ponds	50.09	327	eP	P	08 09 52.9	-0.7
	3.8nm,0.8s,mb4.5						
H18A	Shoshone NF, C	50.13	328	⇓P	P	08 09 53.6	-0.3
	baz=50						
RRI2	Red Ridge	50.15	326	eP	P	08 09 53.4	-0.6
	8.6nm,1.0s,mb4.7						
D22A	Cohagen	50.19	333	⇑P	P	08 09 53.7	-0.5
	baz=50,SNR=6.7						
IMW	Indian Meadow	50.30	327	eP	P	08 09 54.6	-0.5
	4.4nm,0.6s,mb4.7						
L14A	Malta	50.44	323	⇓P	P	08 09 55.6	-0.6
	baz=50						
I16A	Newdale	50.59	326	⇓P	P	08 09 57.8	+0.5
	baz=51						
E20A	Meyer Farm, Mu	50.63	331	⇓P	P	08 09 56.9	-0.6
	baz=51						
SCHQ	Schefferville	50.64	6	P	P	08 09 58.1	+0.7
	3.0nm,0.7s,mb4.3,baz=206,slow=13,SNR=5.6						
SCHQ	Schefferville	50.64	6	P	P	08 09 58.1	+0.7
K14A	Jones Ranch, D	50.71	324	⇓P	P	08 09 57.3	-0.9
	baz=51,SNR=5.4						
J15A	Blackfoot	50.81	325	⇓P	P	08 09 58.7	-0.3
	baz=51						
YMR	Madison River	50.82	327	eP	P	08 09 56.7	-2.3
	18nm,1.5s,mb4.8						
GCMT	Greycliff	50.90	329	eP	P	08 09 58.9	-0.7
	4.9nm,0.7s,mb4.5						
H16A	Russell Place,	50.99	327	⇓P	P	08 10 00.9	+0.5
	baz=51						
F18A	Big Timber	51.00	329	P	P	08 09 59.7	-0.7
	baz=51,SNR=6.2						
D20A	Manuel Ranch,	51.05	331	⇑P	P	08 10 00.3	-0.4
	baz=51						
J14A	Carey	51.39	325	⇓P	P	08 10 03.0	-0.3
	baz=51						
A22A	Carney Farms,	51.45	335	⇓P	P	08 10 04.0	+0.3
	baz=52						
D19A	Cripps Ranch,	51.46	331	P	P	08 10 03.2	-0.6
	baz=52,SNR=5.3						
E18A	Harlowton	51.55	330	⇓P	P	08 10 04.1	-0.4
	baz=52						
NVAR	Mina Array Bea	51.69	317	P	P	08 10 05.7	-0.1
	1.5nm,0.8s,mb4.0,baz=135,slow=6.5,SNR=10						
NVAR				PcP	PcP	08

	baz=54								
C13A	**Hot Springs**	**54.68**	**328**	⇓P		**P**	**08**	**10**	**28.5 +1.0**
	baz=55								
F10A	**Beach Ranch, E**	**55.09**	**325**	⇑P		**P**	**08**	**10**	**29.5 -1.0**
	baz=55								
I07A	**Izee**	**55.38**	**322**	⇓P		**P**	**08**	**10**	**32.6 0.0**
	baz=55								
LNOR	**Lincton Mounta**	**55.64**	**325**	*e*P		**P**	**08**	**10**	**35.0 +0.5**
	5.4nm,0.8s,mb4.6								
C11A	**Tepee Creek (N**	**55.67**	**328**	⇑P		**P**	**08**	**10**	**34.0 -0.6**
	baz=56								
G08A	**Pilot Rock**	**55.71**	**324**	⇓P		**P**	**08**	**10**	**34.5 -0.5**
	baz=56								
E09A	**Wood Farm, Sta**	**55.92**	**325**	⇑P		**P**	**08**	**10**	**36.6 0.0**
	baz=56								
B08A	**Colville Reser**	**57.64**	**327**	⇓P		**P**	**08**	**10**	**47.9 -0.8**
	baz=58								
YKA	**Yellowknife Ar**	**64.75**	**341**	P		**P**	**08**	**11**	**33.7 -2.8**
	2.0nm,0.5s,mb4.4,baz=135,slow=6.1,SNR=14								
YKA				LR		LR	08	41	55.6
	comp=Z,10nm,18.5s,MS3.1,baz=355,slow=38								
YKA	**Yellowknife Ar**	**64.75**	**341**	P		**P**	**08**	**11**	**33.7 -2.8**
YKA				LR		LR	08	41	55.6
SUMG	**Summit**	**71.64**	**11**	*i* P		**P**	**08**	**12**	**20.5 +0.8**
	9.9nm,0.9s,mb4.7								
ESDC	**Sonseca Array**	**72.72**	**50**	P		**P**	**08**	**12**	**26.4 -0.3**
	0.9nm,0.6s,mb3.9,baz=270,slow=5.6,SNR=7.6								
ESDC	**Sonseca Array**	**72.72**	**50**	P		**P**	**08**	**12**	**26.4 -0.3**
INK	**Inuvik**	**74.52**	**341**	LR		LR	08	44	30.4
	comp=Z,58nm,19.9s,MS3.9,baz=133,slow=35								
TORD	**Torodi Ar. Bea**	**76.24**	**78**	P		**P**	**08**	**12**	**46.4 -1.3**
	1.0nm,0.5s,mb4.0,baz=290,slow=6.0,SNR=12								
TORD				LR		LR	08	45	11.1
	comp=Z,62nm,18.5s,MS4.0,baz=185,slow=35								
TORD	**Torodi Ar. Bea**	**76.24**	**78**	P		**P**	**08**	**12**	**46.4 -1.3**
TORD				LR		LR	08	45	11.1
EPF	**Esparros**	**76.37**	**47**	*e*P		**P**	**08**	**12**	**48.9 +1.0**
	12nm,0.8s,mb4.6								
EPF	**Esparros**	**76.37**	**47**	*e*P		**P**	**08**	**12**	**48.9 +1.0**
	6.3nm,0.8s,mb4.6								
DOT	**Dot Lake**	**76.69**	**335**	*e*P		**P**	**08**	**12**	**49.2 -0.1**
	12nm,0.6s,mb5.0								
LDF	**La Druitiere**	**76.78**	**41**	*e*P		**P**	**08**	**12**	**50.0 -0.1**
	6.8nm,0.8s,mb4.3								
LDF	**La Druitiere**	**76.78**	**41**	*e*P		**P**	**08**	**12**	**50.0 -0.1**
	3.4nm,0.8s,mb4.3								
MTLF	**Montolieu**	**77.77**	**47**	*e*P		**P**	**08**	**12**	**55.8 0.0**
	39nm,1.4s,mb4.8								
MTLF	**Montolieu**	**77.77**	**47**	*e*P		**P**	**08**	**12**	**55.8 0.0**
	20nm,1.4s,mb4.8								
ILAR	**Eielson Array**	**78.19**	**335**	P		**P**	**08**	**12**	**56.5 -1.1**
	1.3nm,0.7s,mb4.0,baz=115,slow=3.3,SNR=22								
ILAR	**Eielson Array**	**78.19**	**335**	P		**P**	**08**	**12**	**56.5 -1.1**
ORIF	**Oris-en-Rattie**	**80.52**	**45**	*e*P		**P**	**08**	**13**	**11.1 +0.3**
	15nm,1.0s,mb4.6								
ORIF	**Oris-en-Rattie**	**80.52**	**45**	*e*P		**P**	**08**	**13**	**11.1 +0.3**
	7.5nm,1.0s,mb4.6								
LMR	**La Mourre**	**80.89**	**47**	*e*P		**P**	**08**	**13**	**12.4 -0.4**
	12nm,0.8s,mb4.6								
LMR	**La Mourre**	**80.89**	**47**	*e*P		**P**	**08**	**13**	**12.4 -0.4**
	6.3nm,0.8s,mb4.6								
FRF	**La Foret Royal**	**81.00**	**47**	*e*P		**P**	**08**	**13**	**12.9 -0.5**
	31nm,1.2s,mb4.8								
FRF	**La Foret Royal**	**81.00**	**47**	*e*P		**P**	**08**	**13**	**12.9 -0.5**
	15nm,1.2s,mb4.8								
KEST	**Kesra**	**82.96**	**55**	P		**P**	**08**	**13**	**24.9 +1.1**
	0.4nm,0.5s,mb3.7,baz=68,slow=5.4,SNR=2.6								
KEST	**Kesra**	**82.96**	**55**	P		**P**	**08**	**13**	**24.9 +1.1**
NB2	**NORSAR Subarra**	**84.35**	**29**	P		**P**	**08**	**13**	**33.6 +3.2**
	comp=Z,1.2nm,0.7s,mb4.1,baz=268,slow=5.1								
NOA	**NORSAR Array B**	**84.35**	**29**	P		**P**	**08**	**13**	**30.3 -0.1**
	comp=Z,1.6nm,0.8s,mb4.2,baz=273,slow=4.9,SNR=4.4								
NOA				LR		LR	08	45	31.1
	comp=Z,62nm,19.1s,MS4.0,baz=100,slow=32								
NOA	**NORSAR Array B**	**84.35**	**29**	P		**P**	**08**	**13**	**30.3 -0.1**
NOA				LR		LR	08	45	31.1
GERES	**GERESS Array B**	**85.92**	**41**	P		**P**	**08**	**13**	**38.2 -0.3**
	comp=Z,1.8nm,1.0s,mb4.3,baz=270,slow=4.0,SNR=9.5								
GERES	**GERESS Array B**	**85.92**	**41**	P		**P**	**08**	**13**	**38.2 -0.3**
ARCES	**ARCESS Array B**	**89.55**	**20**	P		**P**	**08**	**13**	**55.1 -0.5**
	comp=Z,5.1nm,1.1s,mb4.8,baz=285,slow=2.4,SNR=4.0								
ARCES	**ARCESS Array B**	**89.55**	**20**	P		**P**	**08**	**13**	**55.1 -0.5**
FINES	**FINESS Array B**	**91.45**	**28**	P		**P**	**08**	**14**	**05.6 +1.0**
	comp=Z,1.0nm,0.6s,mb4.3,baz=256,slow=13,SNR=3.7								
FINES	**FINESS Array B**	**91.45**	**28**	P		**P**	**08**	**14**	**05.6 +1.0**
FX1	**Attu Island--F**	**99.26**	**325**	LR		LR	08	59	36.5
	comp=Z,28nm,18.3s,MS3.8,baz=26,slow=36								
KURK	**Kurchatov**	**120.57**	**19**	PKP		PKPdf	08	19	50.2 0.0
	comp=Z,0.6nm,0.7s,baz=325,slow=2.1,SNR=4.7								
KURK	**Kurchatov**	**120.57**	**19**	PKP		PKPdf	08	19	50.2 0.0
MKAR	**Makanchi Array**	**125.18**	**19**	PKP		PKPdf	08	19	58.5 -0.8
	comp=Z,0.3nm,0.5s,baz=283,slow=2.3,SNR=4.5								
MKAR	**Makanchi Array**	**125.18**	**19**	PKP		PKPdf	08	19	58.5 -0.8
SONM	**Songino Array**	**127.87**	**359**	PKP		PKPdf	08	20	01.7 -2.7
	comp=Z,0.3nm,0.5s,baz=328,slow=1.9,SNR=2.3								
SONM	**Songino Array**	**127.87**	**359**	PKP		PKPdf	08	20	01.7 -2.7
CNG	**Changchun**	**128.45**	**341**	*e*PKP		PKPdf	08	20	10.4 +4.8
WMQ	**Urumqi**	**129.49**	**16**	PKP		PKPdf	08	20	07.4 -0.2
HHC	**Hu-ho-hao-te**	**134.45**	**353**	*e*PKP		PKPdf	08	20	16.0 -1.0
HHC				PP		PP	08	22	51.4 +3.5
HHC				PKS			08	23	51.0
HHC				SKS		SKSdf	08	27	23.2 -3.9
HHC				SKKS		SKKSac	08	29	40.5 -3.1
HHC				SS		SS	08	40	36.7 +0.2
HHC				AMB		AMB			
	comp=Z,200nm,5.4s								
HHC				LR		LR			
	comp=N,140nm,19.9s,MS5.0								
HHC				LR		LR			
	comp=E,220nm,19.3s,MS5.0								
HHC				LR		LR			
	comp=Z,210nm,18.4s,MS4.9								
STKA	**Stephens Creek**	**136.07**	**227**	PKP		PKPdf	08	20	20.5 +0.2
	comp=Z,1.8nm,0.7s,baz=112,slow=2.5,SNR=7.1								
STKA	**Stephens Creek**	**136.07**	**227**	PKP		PKPdf	08	20	20.5 +0.2
CD2	**Chengdu**	**144.78**	**2**	PKP		PKPdf	08	20	36.5 +0.4
ASAR	**Alice Springs**	**146.08**	**233**	PKPbc		PKPbc	08	20	37.6 -1.7
	comp=Z,1.9nm,0.7s,baz=118,slow=3.8,SNR=24								
ASAR	**Alice Springs**	**146.08**	**233**	PKPbc		PKPbc	08	20	37.6 -1.7
WRA	**Warramunga Arr**	**147.40**	**239**	PKPbc		PKPbc	08	20	41.3 -1.9
	comp=Z,1.1nm,0.8s,baz=112,slow=2.2,SNR=15								
WRA	**Warramunga Arr**	**147.40**	**239**	PKPbc		PKPbc	08	20	41.3 -1.9
KMI	**Kunming**	**150.49**	**4**	PKPbc		PKPdf	08	20	45.1 -0.6
CMAR	**Chiang Mai Arr**	**156.47**	**14**	PKPab		PKPab	08	21	22.6 0.0
	comp=Z,0.9nm,0.4s,baz=42,slow=2.3,SNR=5.8								
CMAR	**Chiang Mai Arr**	**156.47**	**14**	PKPab		PKPab	08	21	22.6 0.0

*ISCJB **09** 08:45:35.6±0.7, 33.51N±0.04×140.70E±0.07, h62km±8km, mb3.6/3, Error ellipse: s-maj=9.5km s-min=5.6km az=15.6*
*JMA **09** 08:45:36.1±0.1, 33.55N×140.74E, h47km, M3.3*
*NEIC **09** 08:45:36.1, 33.55N×140.74E, h47km, MG3.3(JMA), After JMA.*
*IDC **09** 08:45:36.7±2.8, 33.46N×140.64E, h52km±28km, mb3.3/3, mb1 3.6/4, mb1mx3.2/24, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=39.8km s-min=10.7km az=87.0*

ISC 09 08:45:36.4±0.8, 33.50N±0.04×140.72E±0.07, h48km±11km, n22, σ0.93/36, mb3.6/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.85**	**243**	P		**Pn**		**08 45 52.5**	**+0.4**
JHJ2				S		**Sn**		**08 46 03.2**	**-0.3**
JHJ	**Hachijo jima 2**	**0.87**	**244**	P		**Pn**		**08 45 52.6**	**+0.2**
	620nm,0.3s,baz=65,slow=22,SNR=434								
JHJ				S		**Sn**		**08 46 03.2**	**-0.8**
	944nm,0.3s,baz=242,slow=24,SNR=59								
JMY	**Miyakejima3**	**1.15**	**300**	P		**Pn**		**08 45 56.2**	**0.0**
BSO1	**Boso 1**	**1.17**	**11**	P		**Pn**		**08 45 55.5**	**-0.9**
BSO1				S		**Sn**		**08 46 10.2**	**-1.0**
BSO2	**Boso 2**	**1.25**	**1**	*e*S		**Sn**		**08 46 13.3**	**+0.2**
BSO3	**Boso 3**	**1.31**	**352**	P		**Pn**		**08 45 57.9**	**-0.4**
BSO3				S		**Sn**		**08 46 14.4**	**-0.2**
JKO	**Kozu shima**	**1.48**	**298**	P		**Pn**		**08 46 01.0**	**+0.3**
JKO				S		**Sn**		**08 46 19.2**	**+0.3**
BSO4	**Boso 4**	**1.52**	**348**	P		**Pn**		**08 46 01.3**	**+0.1**
BSO4				S		**Sn**		**08 46 20.0**	**+0.3**
JIM2	**Oshima 3**	**1.62**	**319**	P		**Pn**		**08 46 02.3**	**-0.2**
JIM2				S		**Sn**		**08 46 20.9**	**-1.3**
JIZS	**Izushimoda**	**1.95**	**309**	P		**Pn**		**08 46 06.6**	**-0.5**
JIZS				S		**Sn**		**08 46 28.3**	**-2.1**
JOD2	**Odawara 2**	**2.21**	**323**	P		**Pn**		**08 46 10.8**	**+0.1**
JOD2				S		**Sn**		**08 46 35.1**	**-1.8**
JYN	**Shimob**	**2.68**	**319**	P		**Pn**		**08 46 18.5**	**+1.4**
JYN				S		**Sn**		**08 46 49.3**	**+1.0**
MJAR	**Matsushiro Arr**	**3.67**	**327**	P		**Pn**		**08 46 31.9**	**+1.3**
	2.6nm,0.3s,baz=24,slow=14,SNR=26								
MJAR				S		**Sn**		**08 47 12.8**	**+0.3**
	2.1nm,0.3s,baz=144,slow=21,SNR=8.0								
MJAR	**Matsushiro Arr**	**3.67**	**327**	P		**Pn**		**08 46 31.9**	**+1.3**
MJAR				S		**Sn**		**08 47 12.8**	**+0.3**
MAJO	**Matsushiro**	**3.67**	**327**	*e*Pn		**Pn**		**08 46 33.3**	**+2.6**
MAJO				*e*Sn		**Sn**		**08 47 17.8**	**+5.3**
MAT	**Matsushiro**	**3.67**	**327**	P		**Pn**		**08 46 32.7**	**+2.1**
MAT				S		**Sn**		**08 47 13.4**	**+0.8**
ILAR	**Eielson Array**	**52.79**	**31**	P		**P**		**08 54 45.5**	**-0.8**
	0.8nm,1.0s,mb3.6,baz=267,slow=7.7,SNR=5.0								
ILAR	**Eielson Array**	**52.79**	**31**	P		**P**		**08 54 45.5**	**-0.8**
WRA	**Warramunga Arr**	**53.49**	**187**	P		**P**		**08 54 51.8**	**-0.2**
	0.5nm,0.4s,mb3.8,baz=6.2,slow=7.6,SNR=14								
WRA	**Warramunga Arr**	**53.49**	**187**	P		**P**		**08 54 51.8**	**-0.2**
ASAR	**Alice Springs**	**57.22**	**187**	P		**P**		**08 55 18.4**	**-0.3**
	0.1nm,0.3s,mb3.4,baz=3.3,slow=6.3,SNR=5.1								
ASAR	**Alice Springs**	**57.22**	**187**	P		**P**		**08 55 18.4**	**-0.3**

IDC 09 08:58:56.1±1.4, 5.21N×76.58W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.3/20, mbtmp3.3/2, Error ellipse: s-maj=62.7km s-min=43.6km az=85.0, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**22.94**	**159**	P		P		09 04 02.7	+0.6
	1.9nm,1.2s,baz=314,slow=8.6,SNR=3.7								
GERES	**GERESS Array B**	**86.30**	**41**	P		P		09 11 40.2	+0.2
	0.1nm,0.3s,baz=292,slow=3.1,SNR=3.7								
ASAR	**Alice Springs**	**145.38**	**235**	PKPbc		PKPbc		09 18 36.0	-0.8
	0.4nm,0.5s,baz=117,slow=3.7,SNR=13								
WRA	**Warramunga Arr**	**146.55**	**241**	PKPbc		PKPbc		09 18 39.7	-0.8
	0.2nm,0.6s,baz=106,slow=2.9,SNR=5.2								

*TRN **09** 09:07:40.7, 18.59N×64.30W, h24km*
*NEIC **09** 09:07:42.1, 18.69N×64.17W, h45km, MD3.4(RSPR), After RSPR.*

RSPR 09 09:07:42.1, 18.69N×64.17W, h45km±3km, MD3.4/4, 9C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.82**	**246**	*e*P		Pn		09 07 56.1	-1.2
STVI	**Saint Thomas**	**0.82**	**246**	*e*P		Pn		09 07 56.1	-1.2
STVI				*e*S		Sn		09 08 06.8	-1.5
STVI	**Saint Thomas**	**0.82**	**246**	*e*P		Pn		09 07 56.1	-1.2
STVI				*e*S		Sn		09 08 06.8	-1.5
MTP	**Monte Pirata**	**1.44**	**246**	*e*P		Pn		09 08 04.8	-1.0
MTP	**Monte Pirata**	**1.44**	**246**	*e*P		Pn		09 08 04.8	-1.0
MTP				*e*S		Sn		09 08 22.4	-1.1
MTP	**Monte Pirata**	**1.44**	**246**	*e*P		Pn		09 08 04.8	-1.0
MTP				*e*S		Sn		09 08 22.4	-1.1
CBYP	**Canovanas**	**1.66**	**256**	*e*P		Pn		09 08 07.9	-0.8
CBYP	**Canovanas**	**1.66**	**256**	*e*P		Pn		09 08 07.9	-0.8
CBYP				*e*S		Sn		09 08 27.7	-1.1
CBYP	**Canovanas**	**1.66**	**256**	*e*P		Pn		09 08 07.9	-0.8
CBYP				*e*S		Sn		09 08 27.7	-1.1
HUMP	**Col San Antoni**	**1.69**	**252**	*e*P		Pn		09 08 08.1	-1.1
HUMP	**Col San Antoni**	**1.69**	**252**	*e*P		Pn		09 08 08.1	-1.1
HUMP				*e*S		Sn		09 08 28.9	-0.7
HUMP	**Col San Antoni**	**1.69**	**252**	*e*P		Pn		09 08 08.1	-1.1
HUMP				*e*S		Sn		09 08 28.9	-0.7

*NEIC **09** 09:11:50.4, 19.15N×66.45W, h32km, MD3.5(RSPR), After RSPR.*

RSPR 09 09:11:50.4, 19.15N×66.45W, h32km±27km, MD3.5/6, 12C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LRS	**Lares**	**0.94**	**204**	*e*P		Pn		09 12 05.4	-1.9
LRS				*e*S		Sn		09 12 17.6	-2.0
LRS	**Lares**	**0.94**	**204**	*e*P		Pn		09 12 05.4	-1.9
LRS				*e*S		Sn		09 12 17.6	-2.0
CBYP	**Canovanas**	**1.04**	**147**	*e*Pn		Pn		09 12 07.0	-1.8
SJG	**San Juan**	**1.07**	**165**	*e*P		Pn		09 12 07.3	-1.9
SJG	**San Juan**	**1.07**	**165**	*e*P		Pn		09 12 07.3	-1.9
CELP	**Cerrillos**	**1.08**	**187**	*e*P		Pn		09 12 08.4	-0.9
CELP	**Cerrillos**	**1.08**	**187**	*e*P		Pn		09 12 08.4	-0.9
OBIP	**Obispado Ponce**	**1.11**	**188**	*e*P		Pn		09 12 08.6	-1.2
OBIP	**Obispado Ponce**	**1.11**	**188**	*e*P		Pn		09 12 08.6	-1.2
LSP	**Las Mesas**	**1.14**	**212**	*e*P		Pn		09 12 08.3	-1.9
LSP	**Las Mesas**	**1.14**	**212**	*e*P		Pn		09 12 08.3	-1.9
ICM	**Isla Caja Muer**	**1.25**	**183**	*e*P		Pn		09 12 10.8	-1.0
ICM	**Isla Caja Muer**	**1.25**	**183**	*e*P		Pn		09 12 10.8	-1.0
CRPR	**Cabo Rojo, PR**	**1.30**	**209**	*e*P		Pn		09 12 11.0	-1.3
CRPR	**Cabo Rojo, PR**	**1.30**	**209**	*e*P		Pn		09 12 11.0	-1.3
STVI	**Saint Thomas**	**1.62**	**119**	*e*S		Sn		09 12 34.8	-1.9

MEX 09 09:15:03.1±1.4, 16.65N×95.23W, h77km±16km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.55**	**36**	*i* P		Pn		09 15 15.3	-1.7
CMIG				*i* S		Sn		09 15 25.5	-1.8
HUIG	**Huatulco**	**1.22**	**224**	*i* P		Pn		09 15 22.3	-2.3
HUIG				*i* S		Sn		09 15 39.8	-1.0
VHO	**Vista Hermosa**	**1.50**	**287**	*i* P		Pn		09 15 27.7	-0.7
VHO				*i* S		Sn		09 15 46.9	-0.5
PCIG		**2.14**	**116**	*i* P		Pn		09 15 36.3	-0.5
PCIG				*i* S		Sn		09 16 00.7	-1.9
UTMO	**Huajuapan**	**2.73**	**296**	*i* P		Pn		09 15 44.2	-0.5
UTMO				*i* S		Sn		09 16 14.3	-2.4
PNIG	**Pinotepa**	**2.79**	**265**	*i* P		Pn		09 15 42.6	-3.0
PNIG				*i* S		Sn		09 16 15.0	-3.4
CCIG	**Comitan**	**2.99**	**97**	*e*P		Pn		09 15 48.5	+0.3
CCIG				*i* S		Sn		09 16 23.3	+0.3
THIG		**3.33**	**121**	*e*P		Pn		09 15 53.1	+0.2
THIG				*i* S		Sn		09 16 30.8	-0.6

*ISCJB **09** 09:15:27.7±0.4, 48.86N±0.02×122.59W±0.03, h11km±3km, Error ellipse: s-maj=4.2km s-min=3.0km az=8.8*
*NEIC **09** 09:15:28.5, 48.87N×122.54W, h19km, MD2.8(SEA), After SEA.*
NEIC Felt at Blaine, Custer, Ferndale and Lynden. Also felt at Abbotsford and White Rock, British Columbia.
*PGC **09** 09:15:28.5±1.7, 48.86N×122.53W, h21km, ML2.6/7, 27km southwest of Albertabotsford, Bc Washington*
*PNSN **09** 09:15:28.5, 48.87N×122.54W, h19km, MD2.8, Fault plane solution: NP1:φs115.00000°, δ60.00000°, NP2: φs276.00000°, δ31.00000°, Principal axes: T Plg73.0000°, Azm50.0000°; P Plg14.0000°, Azm198.0000°; Fault plane solution: NP1:φs325.00000°, δ10.00000°, NP2: φs145.00000°, δ80.00000°, Principal axes: T Plg55.0000°, Azm55.0000°; P Plg35.0000°, Azm235.0000°;*

ISC 09 09:15:28.0±0.3, 48.86N±0.02×122.58W±0.03, h10km±4km, n34, σ0.82/55, 4C-18D, Washington

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SBES	**Silver Beach E**	**0.14**	**129**	⇑P		**Pg**		**09 15 31.9**	**+0.8**
A05A	**Maple Falls**	**0.36**	**67**	⇓P		**Pg**		**09 15 35.0**	**0.0**
VDB	**Vedder Mountai**	**0.36**	**62**	⇓P		**Pg**		**09 15 35.0**	**-0.1**
VDB				S		**Sg**		**09 15 39.9**	**0.0**
VDB	**Vedder Mountai**	**0.36**	**62**	⇓P		**Pg**		**09 15 35.0**	**-0.1**
VDB				⇑S		**Sg**		**09 15 39.8**	**-0.1**
SNB	**Saturna Island**	**0.40**	**258**	⇑P		**Pg**		**09 15 36.9**	**+1.2**
SNB	**Saturna Island**	**0.40**	**258**	⇑P		**Pg**		**09 15 36.9**	**+1.2**
SNB				⇓S		**Sg**		**09 15 42.5**	**+1.4**
HNB	**Haney**	**0.42**	**0**	⇓P		**Pg**		**09 15 36.2**	**+0.1**
HNB				⇑S		**Sg**		**09 15 42.1**	**+0.4**
HNB	**Haney**	**0.42**	**0**	⇓P		**Pg**		**09 15 36.2**	**+0.1**
HNB				⇓S		**Sg**		**09 15 42.1**	**+0.4**
CMW	**Cultus Mountai**	**0.53**	**145**	⇓P		**Pg**		**09 15 38.3**	**0.0**
CMW				S		**Sg**		**09 15 46.4**	**+1.1**
PGC	**Sidney**	**0.61**	**250**	*e*Pg		**Pg**		**09 15 39.8**	**0.0**
PGC				*e*Sg		**Sg**		**09 15 47.0**	**-0.8**
PGC	**Sidney**	**0.61**	**250**	⇑P		**Pg**		**09 15 39.9**	**+0.1**
PGC				⇑S		**Sg**		**09 15 48.3**	**+0.5**
GOBB	**Galiano Island**	**0.62**	**279**	P		**Pg**		**09 15 40.2**	**+0.3**
GOBB				⇑S		**Sg**		**09 15 48.4**	**+0.4**
VGZ	**Gonzales**	**0.66**	**228**	⇓P		**Pg**		**09 15 40.6**	**-0.2**
VGZ	**Gonzales**	**0.66**	**228**	⇓P		**Pg**		**09 15 40.6**	**-0.2**
VGZ				⇓S		**Sg**		**09 15 49.4**	**0.0**
ATES	**Arlington Traf**	**0.71**	**151**	P		**Pg**		**09 15 41.4**	**-0.4**
BIB	**Bowen Island**	**0.72**	**319**	⇓P		**Pg**		**09 15 41.6**	**-0.4**
BIB				⇓S		**Sg**		**09 15 51.3**	**-0.2**
BPCB	**Bare Point**	**0.74**	**275**	⇑P		**Pg**		**09 15 42.0**	**-0.3**
BPCB				⇑S		**Sg**		**09 15 51.9**	**-0.1**
JCW	**Jim Creek**	**0.79**	**147**	⇓P		**Pg**		**09 15 42.6**	**-0.6**
B06A	**Marblemount**	**0.80**	**115**	⇑P		**Pg**		**09 15 42.4**	**-1.0**
RPW	**Rockport**	**0.82**	**120**	P		**Pg**		**09 15 42.8**	**-1.0**
SQM	**Sequim**	**0.84**	**202**	⇓P		**Pg**		**09 15 44.1**	**-0.1**
LZB	**Mount Lazard**	**0.86**	**254**	⇓P		**Pg**		**09 15 43.9**	**-0.6**
LZB				⇑S		**Sg**		**09 15 55.1**	**-0.5**
HTW	**Haystack Looko**	**1.19**	**152**	⇑P		**Pb**		**09 15 49.5**	**-1.1**
HDW	**Hoyndsport**	**1.25**	**195**	⇓P		**Pn**		**09 15 49.9**	**-1.6**
OSD	**Olympics--Snow**	**1.28**	**216**	P		**Pn**		**09 15 51.0**	**-0.9**
OBC	**Olympics--Boli**	**1.29**	**231**	P		**Pn**		**09 15 51.1**	**-1.0**
RMW	**Rattlesnake Mo**	**1.49**	**159**	⇓P		**Pn**		**09 15 54.2**	**-0.7**
NLWA	**Neilton Lookou**	**1.70**	**211**	*e*Pn		**Pn**		**09 15 57.8**	**0.0**
NLWA				*e*Sg		**Sg**		**09 16 22.6**	**0.0**
ETW	**Entiat**	**1.96**	**129**	*e*Pn		**Pn**		**09 16 02.3**	**+1.0**
ETW				*e*Sn		**Sn**		**09 16 26.7**	**+0.8**
LON	**Longmire**	**2.17**	**166**	*e*Pn		**Pn**		**09 16 04.4**	**+0.2**
LON				*e*Sn		**Sn**		**09 16 31.6**	**+0.4**
OD2	**Odessa Site #2**	**2.98**	**118**	Pn		**Pn**		**09 16 16.1**	**+0.8**
OD2				*e*Sg		**Sg**		**09 16 58.6**	**-5.1**
RSW	**Rattlesnake Hi**	**3.19**	**140**	*e*Pn		**Pn**		**09 16 20.8**	**+2.6**
RSW				*e*Sg		**Sg**		**09 17 05.4**	**-4.9**
HAWA	**Hanford**	**3.22**	**139**	*e*Pn		**Pn**		**09 16 20.4**	**+1.8**
HAWA				*e*Sg		**Sg**		**09 17 03.6**	**-7.6**
NEW	**Newport**	**3.67**	**97**	*e*Pn		**Pn**		**09 16 23.9**	**-0.9**
NEW				*e*Pg		**Pg**		**09 16 34.2**	**-4.1**
NEW				*e*Sg		**Sg**		**09 17 22.1**	**-3.8**

*ISCJB **09** 09:15:42.6±0.6, 29.1N±0.1×127.9E±0.2, h278km±12km, mb3.3/6, Error ellipse: s-maj=28.6km s-min=18.0km az=29.9*
*IDC **09** 09:15:43.8±0.7, 28.62N×127.88E, h307km±27km, mb3.0/6, mb1 3.1/7, mb1mx2.9/24, mbtmp2.9/7, Error ellipse: s-maj=52.1km s-min=25.7km az=177.0*
*JMA **09** 09:15:46.0±0.5, 29.33N×127.71E, h223km, M3.6*

ISC 09 09:15:43.4±0.6, 29.1N±0.1×127.9E±0.2, h270km±13km, n13, σ1.9/15/18, mb3.3/6, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**1.61**	**146**	P		**Pn**		**09 16 25.3**	**+0.7**
JTK				S		**S**		**09 16 56.5**	**-0.6**
JAM	**Amami Oshima**	**1.64**	**116**	P		**Pn**		**09 16 25.0**	**+0.3**
JAM				*e*S		**S**		**09 16 55.0**	**-2.3**
JZK	**Kikaishima**	**1.97**	**114**	P		**Pn**		**09 16 29.5**	**+2.1**
JZK				*e*S		**S

FITZ	**Fitzroy Crossi**	**11.42**	**199**	P		**Pn**	**10 41 25.1**	**-8.1**
SGSI	**Sangihe**	**11.58**	**340**	P		**Pn**	**10 41 38.3**	**+3.0**
	7µm753nm,0.8s							
JAY	**Jayapura**	**12.10**	**68**	P		**Pn**	**10 41 41.4**	**-0.9**
	67nm,0.7s							
MTNI	**Mataram**	**13.29**	**263**	P		**Pn**	**10 41 58.8**	**+1.2**
	64nm,0.9s							
WRAB	**Tennant Creek**	**13.44**	**160**	*e*Pn		**Pn**	**10 41 52.2**	**-7.3**
WRAB				*e*Sn		**Sn**	**10 44 10.9**	**-17**
WRAB	**Tennant Creek**	**13.44**	**160**	*e*P		**Pn**	**10 41 52.3**	**-7.3**
WRAB	**Tennant Creek**	**13.44**	**160**	Pn		**Pn**	**10 41 52.0**	**-7.6**
	3µm,1.1s							
WRAB	**Tennant Creek**	**13.44**	**160**	P		**Pn**	**10 41 52.0**	**-7.6**
WRA	**Warramunga Arr**	**13.45**	**160**	P		**Pn**	**10 41 51.9**	**-7.8**
	1.4nm,0.3s,baz=335,slow=13,SNR=177							
WRA				S		**Sn**	**10 44 15.2**	**-13**
	15nm,0.3s,baz=341,slow=22,SNR=11							
WRA				ScP	ScP		10 50 40.4	+2.7
	baz=332,slow=2.1,SNR=4.7							
WRA	**Warramunga Arr**	**13.45**	**160**	P		**Pn**	**10 41 51.9**	**-7.8**
WRA				S		**Sn**	**10 44 15.2**	**-13**
WRA				ScP	ScP		10 50 40.4	+2.7
WRA	**Warramunga Arr**	**13.45**	**160**	P		**Pn**	**10 41 51.9**	**-7.7**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.3s							
WB2	**Warramunga Arr**	**13.45**	**160**	*e*Pn		**Pn**	**10 41 52.2**	**-7.5**
WB2				*e*Sn		**Sn**	**10 44 10.8**	**-18**
KBKI	**Kotabaru**	**13.86**	**286**	P		**Pn**	**10 42 08.0**	**+3.1**
	comp=Z,1µmcomp=Z,189nm,0.8s							
SMKI	**Samarinda**	**14.01**	**298**	P		**Pn**	**10 42 16.1**	**+9.2**
DAV	**Davao City (W)**	**14.77**	**345**	P		**Pn**	**10 42 14.9**	**-1.5**
	comp=Z,33nm,0.3s,baz=88,slow=17,SNR=2.5							
DAV	**Davao City (W)**	**14.77**	**345**	P		**Pn**	**10 42 14.9**	**-1.5**
DAV	**Davao City (W)**	**14.77**	**345**	P		**Pn**	**10 42 24.0**	**+7.6**
DAV	**Davao City (W)**	**14.77**	**345**	P		**Pn**	**10 42 20.3**	**+3.9**
	SNR=11							
DMPH	**Davao City--Mi**	**14.80**	**344**	*e*P		**Pn**	**10 42 18.7**	**+2.0**
COEN	**Coen**	**14.98**	**117**	*e*P		**Pn**	**10 42 14.5**	**-4.5**
	comp=Z,2µm,0.6s							
COEN				*e*S		**Sn**	**10 44 50.1**	**-15**
COEN	**Coen**	**14.98**	**117**	P		**Pn**	**10 42 14.4**	**-4.7**
	comp=Z,4µmcomp=Z,501nm,0.8s							
BBKI	**Banjar Baru**	**15.09**	**284**	P		**Pn**	**10 42 24.6**	**+4.2**
CTBH	**Cotabato--PC H**	**15.31**	**340**	*j*eP		**Pn**	**10 42 22.4**	**-0.8**
KMMI	**Kalianget**	**15.43**	**270**	P		**Pn**	**10 42 32.4**	**+7.8**
PLKI	**Palangkaraya**	**16.30**	**287**	P		**Pn**	**10 42 38.1**	**+2.8**
	comp=Z,973nm,1.0s							
TSM	**Tawau**	**16.33**	**314**	P		**Pn**	**10 42 37.3**	**+1.6**
MYLDM	**Lahad Datu**	**16.54**	**318**	P		**Pn**	**10 42 42.5**	**+4.3**
MYLDM	**Lahad Datu**	**16.54**	**318**	P		**Pn**	**10 42 41.8**	**+3.5**
	comp=Z,4µmcomp=Z,316nm,1.4s							
MBWA	**Marble Bar**	**16.75**	**213**	*e*P		**Pn**	**10 42 37.8**	**-2.9**
	comp=Z,53nm,1.1s							
MBWA				*e*S		**S**	**10 45 31.6**	**-16**
MBWA	**Marble Bar**	**16.75**	**213**	P		**Pn**	**10 42 46.9**	**+6.2**
ASAR	**Alice Springs**	**16.85**	**166**	P		**Pn**	**10 42 36.8**	**-5.2**
	comp=Z,5.8nm,0.3s,baz=328,slow=9.2,SNR=182							
ASAR				S		**S**	**10 45 36.6**	**-13**
	comp=Z,1.3nm,0.3s,baz=333,slow=17,SNR=4.1							
ASAR				ScP	ScP		10 50 46.4	+2.6
	baz=4.1,slow=2.0,SNR=4.5							
ASAR	**Alice Springs**	**16.85**	**166**	P		**Pn**	**10 42 36.8**	**-5.2**
ASAR				S		**S**	**10 45 36.6**	**-13**
ASAR				ScP	ScP		10 50 46.4	+2.6
ASAR	**Alice Springs**	**16.85**	**166**	P		**Pn**	**10 42 36.8**	**-5.2**
ASAR				pmax	pmax			
	comp=Z,6.0nm,0.3s							
PWJI	**Pagerwojo**	**17.57**	**266**	P		**Pn**	**10 42 50.7**	**-0.1**
	comp=Z,49nm,1.2s							
PMG	**Port Moresby**	**17.59**	**98**	P		**Pn**	**10 42 49.3**	**-1.7**
	comp=Z,8.3nm,0.3s,baz=277,slow=7.2,SNR=22							
PMG	**Port Moresby**	**17.59**	**98**	*e*P		**Pn**	**10 42 52.4**	**+1.4**
	comp=Z,187nm,1.0s							
PMG	**Port Moresby**	**17.59**	**98**	*d iP*		**Pn**	**10 42 49.2**	**-1.8**
PMG				pmax	pmax			
	comp=Z,256nm,1.2s							
PMG	**Port Moresby**	**17.59**	**98**	P		**Pn**	**10 42 52.4**	**+1.4**
SJI	**Sawahan**	**17.60**	**267**	P		**Pn**	**10 42 48.9**	**-2.2**
	comp=Z,67nm,1.0s							
TBP	**Tagbilaran**	**17.75**	**341**	*e*P		**Pn**	**10 42 55.1**	**+2.1**
SDKM	**Sandakan**	**17.76**	**316**	P		**Pn**	**10 42 55.1**	**+2.1**
KKM	**Kota Kinabalu**	**18.73**	**315**	P		**P**	**10 43 03.5**	**+1.1**
KKM	**Kota Kinabalu**	**18.73**	**315**	*e*P		**P**	**10 43 02.7**	**+0.2**
	comp=Z,276nm,1.1s							
KKM	**Kota Kinabalu**	**18.73**	**315**	P		**P**	**10 43 02.8**	**+0.3**
KDM	**Kudat**	**18.93**	**318**	P		**P**	**10 43 06.4**	**+1.8**
STKI	**Sintang**	**19.40**	**291**	P		**P**	**10 43 10.6**	**+0.7**
BTM	**Bintulu**	**19.41**	**302**	P		**P**	**10 43 12.4**	**+2.5**
SBUM	**Sibu**	**19.77**	**299**	P		**P**	**10 43 15.3**	**+1.5**
RCP	**Roxas**	**19.87**	**340**	*j*eP		**P**	**10 43 15.4**	**+0.6**
CTA	**Charters Tower**	**20.64**	**130**	P		**P**	**10 43 24.3**	**+1.2**
	comp=Z,124nm,0.9s,baz=307,slow=12,SNR=33							
CTA	**Charters Tower**	**20.64**	**130**	*e*P		**P**	**10 43 24.2**	**+1.1**
	comp=Z,102nm,1.0s							
CTA	**Charters Tower**	**20.64**	**130**	P		**P**	**10 43 24.3**	**+1.2**
CTA	**Charters Tower**	**20.64**	**130**	P		**P**	**10 43 24.3**	**+1.2**
CTA				pmax	pmax			
	comp=Z,124nm,0.9s							
CTAO	**Charters Tower**	**20.64**	**130**	*e*P		**P**	**10 43 24.5**	**+1.4**
	comp=Z,178nm,1.0s							
CTAO	**Charters Tower**	**20.64**	**130**	*e*P		**P**	**10 43 24.5**	**+1.4**
CTAO				pmax	pmax			
	comp=Z,178nm,1.0s							
KSM	**Kuching**	**21.03**	**294**	P		**P**	**10 43 26.7**	**-0.7**
KSM	**Kuching**	**21.03**	**294**	*e*P		**P**	**10 43 26.1**	**-1.3**
	comp=Z,168nm,0.8s,mb5.4							
KSM				*e*S		**S**	**10 47 17.1**	**+3.0**
TGY	**Tagaytay City**	**22.86**	**338**	P		**P**	**10 43 45.8**	**-0.2**
	comp=Z,1µm,0.7s,mb6.3,baz=175,slow=4.3,SNR=66							
TGY	**Tagaytay City**	**22.86**	**338**	P		**P**	**10 43 45.8**	**-0.2**
TGY	**Tagaytay City**	**22.86**	**338**	P		**P**	**10 43 45.8**	**-0.2**
FORT	**Forrest**	**23.44**	**183**	*e*P		**P**	**10 43 50.4**	**-0.7**
	comp=Z,127nm,0.6s,mb5.5							
FORT				*e*S		**S**	**10 47 55.3**	**+0.9**
FORT	**Forrest**	**23.44**	**183**	*e*P		**P**	**10 43 50.6**	**-0.5**
	comp=Z,220nm,0.9s,mb5.6							
FORT				*e*S		**S**	**10 48 07.9**	**+14**
GUMO	**Guam**	**25.72**	**36**	*e*P		**P**	**10 44 12.3**	**+0.3**
	comp=Z,84nm,0.8s,mb5.4							
GUMO	**Guam**	**25.72**	**36**	*e*P		**P**	**10 44 12.3**	**+0.3**
GUMO				pmax	pmax			
	comp=Z,84nm,0.8s,mb5.4							
KLBR	**Kellerberrin**	**26.58**	**203**	*e*P		**P**	**10 44 19.1**	**-0.5**
	comp=Z,44nm,0.9s,mb5.1							
KLBR				*e*S		S	10 49 14.3	+30
STKA	**Stephens Creek**	**26.96**	**157**	P		**P**	**10 44 23.1**	**+0.1**
	comp=Z,21nm,0.7s,mb4.8,baz=322,slow=8.5,SNR=28							
STKA				LR	LR		10 56 49.6	
	comp=Z,1µm,18.8s,baz=151,slow=40							
STKA	**Stephens Creek**	**26.96**	**157**	*e*P		**P**	**10 44 23.0**	**0.0**
	comp=Z,43nm,1.1s,mb5.0							
STKA	**Stephens Creek**	**26.96**	**157**	*e*P		**P**	**10 44 23.2**	**+0.2**
	comp=Z,25nm,0.9s,mb4.8							
STKA	**Stephens Creek**	**26.96**	**157**	*e*P		**P**	**10 44 23.2**	**+0.2**
STKA				pmax	pmax			
	comp=Z,25nm,0.9s							
MYKOM	**Kota Tinggi**	**27.14**	**288**	P		**P**	**10 44 24.9**	**+0.1**
EIDS	**Eidsvold**	**27.36**	**134**	*e*P		**P**	**10 44 27.5**	**+0.9**
	comp=Z,32nm,0.9s,mb5.0							
KGM	**Kluang**	**27.71**	**288**	P		**P**	**10 44 31.0**	**+1.0**
NWAO	**Narrogin (SRO)**	**27.97**	**202**	P		**P**	**10 44 32.1**	**+0.1**
	comp=Z,16nm,0.9s,mb4.7,baz=42,slow=8.0,SNR=7.0							
NWAO				LR		LR	10 57 04.8	
	comp=Z,223nm,19.0s,baz=287,slow=39							
NWAO	**Narrogin (SRO)**	**27.97**	**202**	*e*P		**P**	**10 44 32.1**	**+0.1**
	comp=Z,41nm,1.0s,mb5.1							
NWAO	**Narrogin (SRO)**	**27.97**	**202**	P		**P**	**10 44 32.1**	**+0.1**
NWAO				pmax	pmax			
	comp=Z,16nm,0.9s							
NWAO				MLR	MLR			
	comp=Z,223nm,19.0s							
HNR	**Honiara**	**30.18**	**96**	*e*P		**P**	**10 44 52.8**	**+0.9**
	comp=Z,116nm,0.8s,mb5.7							
HNR	**Honiara**	**30.18**	**96**	*e*P		**P**	**10 44 52.8**	**+1.0**
HNR				pmax	pmax			
	comp=Z,117nm,0.8s,mb5.7							
IPM	**Ipoh**	**30.73**	**291**	P		**P**	**10 44 56.7**	**0.0**
IPM	**Ipoh**	**30.73**	**291**	*e*P		**P**	**10 44 55.4**	**-1.3**
	comp=Z,21nm,0.9s,mb4.9							
IPM				*e*PcP	PcP		10 47 52.8	+1.5
ARMA	**Armidale**	**31.00**	**141**	*e*P		**P**	**10 45 00.2**	**+1.4**
ARMA	**Armidale**	**31.00**	**141**	*e*P		**P**	**10 44 60.0**	**+1.2**
	comp=Z,37nm,1.0s,mb5.1							
KULM	**Kulim**	**31.38**	**293**	P		**P**	**10 45 03.9**	**+1.5**
KULM	**Kulim**	**31.38**	**293**	*e*P		**P**	**10 45 02.5**	**+0.1**
	comp=Z,34nm,1.2s,mb5.0							
KULM				*e*			10 45 38.1	
PSI	**Prapat**	**32.12**	**287**	P		**P**	**10 45 07.3**	**-1.6**
	comp=Z,64nm,0.9s,mb5.3							
PSI				LR	LR		10 59 52.3	
	comp=Z,268nm,19.7s,baz=22,slow=39							
PSI	**Prapat**	**32.12**	**287**	P		**P**	**10 45 07.3**	**-1.6**
PSI				LR	LR		10 59 52.3	
PSI	**Prapat**	**32.12**	**287**	P		**P**	**10 45 07.3**	**-1.6**
PSI				pmax	pmax			
	comp=Z,64nm,0.9s,mb5.3							
PSI				MLR	MLR			
	comp=Z,268nm,19.7s							
YHNB	**Yeheng**	**32.71**	**346**	*e*P		**P**	**10 45 11.8**	**-2.0**
	comp=Z,36nm,0.7s,mb5.2							
CAN	**Canberra**	**33.17**	**150**	*e*P		**P**	**10 45 19.2**	**+1.5**
	comp=Z,43nm,0.9s,mb5.2							
CAN	**Canberra**	**33.17**	**150**	*e*P		**P**	**10 45 19.2**	**+1.5**
CAN				pmax	pmax			
	comp=Z,43nm,0.9s,mb5.2							
CNB	**Canberra Magne**	**33.34**	**150**	*e*P		**P**	**10 45 21.0**	**+1.8**
TOO	**Toolangi**	**33.48**	**157**	*e*P		**P**	**10 45 22.6**	**+2.2**
JOW	**Kunigami**	**33.91**	**358**	P		**P**	**10 45 24.8**	**+0.6**
	comp=Z,53nm,0.7s,mb5.4,baz=180,slow=11,SNR=5.7							
JOW				LR	LR		10 58 42.2	
	comp=Z,193nm,21.5s,baz=328,slow=35							
JOW	**Kunigami**	**33.91**	**358**	*e*P		**P**	**10 45 24.2**	**0.0**
	comp=Z,19nm,0.7s,mb4.9							
CBIJ	**Chichi jima**	**36.29**	**19**	P		**P**	**10 45 44.1**	**-0.5**
	comp=Z,71nm,0.5s,mb5.6,baz=253,slow=11							
CBIJ				LR	LR		10 59 33.1	
	comp=Z,65nm,18.2s,baz=116,slow=34							
DZM	**Mont Dzumac**	**38.51**	**116**	*e*P		**P**	**10 46 04.0**	**+0.6**
BDT	**Bhumibol Dam**	**38.76**	**309**	P		**P**	**10 46 05.0**	**-0.5**
	comp=Z,60nm,0.9s,mb5.2							
SSE	**Sheshan**	**38.96**	**349**	P		**P**	**10 46 06.5**	**-0.5**
SSE				S		**S**	**10 51 57.3**	**+1.7**
SSE				pmax	pmax			
	comp=Z,40nm,0.9s,mb5.0							
SSE				pmax	pmax			
	comp=Z,280nm,4.1s							
CMAR	**Chiang Mai Arr**	**39.53**	**311**	P		**P**	**10 46 11.8**	**-0.1**
	comp=Z,57nm,0.8s,mb5.2,baz=142,slow=7.4,SNR=241							
CMAR				PcP	PcP		10 48 18.5	+1.6
	comp=Z,9.1nm,0.8s,baz=167,slow=2.6,SNR=9.6							
CMAR				ScP	ScP		10 51 56.4	+3.2
	comp=Z,2.2nm,0.4s,baz=159,slow=3.3,SNR=12							
CMAR	**Chiang Mai Arr**	**39.53**	**311**	P		**P**	**10 46 11.8**	**-0.1**
CMAR				PcP	PcP		10 48 18.5	+1.6
CMAR				ScP	ScP		10 51 56.4	+3.2
CMAR	**Chiang Mai Arr**	**39.53**	**311**	P		**P**	**10 46 11.9**	**0.0**
CMAR							10 48 18.5	
CMAR							10 51 56.4	
CMAR				pmax	pmax			
	comp=Z,57nm,0.8s							
CMAR				pmax	pmax			
	comp=Z,9.0nm,0.8s							
CMAR				pmax	pmax			
	comp=N,2.0nm,0.4s							
CHG	**Chiang Mai**	**39.75**	**311**	⇑P		**P**	**10 46 13.6**	**-0.1**
	comp=N,29nm,1.0s,mb4.9							
CHTO	**Chiang Mai**	**39.75**	**311**	*e*P		**P**	**10 46 13.5**	**-0.2**
	comp=N,124nm,0.9s,mb5.5							
CHTO				*e*PcP	PcP		10 48 19.4	+1.8
CHTO	**Chiang Mai**	**39.75**	**311**	*e*P		**P**	**10 46 13.5**	**-0.2**
CHTO				*e*			10 48 19.4	
CHTO				pmax	pmax			
	comp=Z,124nm,0.9s,mb5.5							
CHTO	**Chiang Mai**	**39.75**	**311**	P		**P**	**10 46 13.9**	**+0.2**
	SNR=25							
JNU	**Nakatsue**	**40.18**	**2**	*e*P		**P**	**10 46 16.2**	**-0.8**
	comp=Z,26nm,1.2s,mb4.7							
GYA	**Guiyang**	**40.19**	**327**	⇑*i*P		**P**	**10 46 16.4**	**-0.9**
GYA				pP	pP		10 46 35.8	-12
GYA				sP	sP		10 46 46.0	-17
GYA				PP	PP		10 47 56.0	+3.4
GYA				PcP	PcP		10 48 20.2	+1.3
GYA				ScP	ScP		10 52 03.2	+7.6
GYA				S	**S**		**10 52 20.5**	**+6.4**
GYA				pmax	pmax			
	comp=Z,20nm,0.8s,mb4.8							
GYA				pmax	pmax			
	comp=Z,130nm,5.2s							
GYA				LR	LR			
	comp=N,530nm,17.8s							
GYA				LR	LR			
	comp=E,460nm,18.2s							
GYA				LR	LR			
	comp=Z,630nm,17.5s							
WHN	**Wuhan**	**40.30**	**340**	P		**P**	**10 46 18.5**	**+0.4**
NJ2	**Nanjing**	**40.39**	**346**	*e*P		**P**	**10 46 18.9**	**0.0**
NJ2				PP	PP		10 48 00.3	+5.5
NJ2				sS	sS		10 52 54.0	-16
NJ2				pmax	pmax			
	comp=Z,70nm,0.8s,mb5.3							
NJ2				pmax	pmax			
	comp=Z,480nm,5.1s							
NJ2				LR	LR			
	comp=N,470nm,23.7s							
NJ2				LR	LR			
	comp=E,340nm,23.7s							
NJ2				LR	LR			
	comp=Z,770nm,24.4s							
JHJ	**Hachijo jima 2**	**41.32**	**13**	LR		LR	11 01 14.2	
	comp=Z,220nm,19.5s,baz=48,slow=32							
KMI	**Kunming**	**41.42**	**322**	⇑P		**P**	**10 46 27.9**	**+0.5**
KMI				pP	pP		10 46 47.4	-10
KMI				sP	sP		10 46 56.3	-17
KMI				PP	PP		10 48 08.0	+2.1
KMI				S	**S**		**10 52 39.1**	**+6.7**
KMI				sS	sS		10 53 10.7	-14
KMI				SS	SS		10 55 38.9	-3.3
KMI				pmax	pmax			
	comp=Z,44nm,1.3s,mb4.9							
KMI				pmax	pmax			
	comp=Z,160nm,3.1s							
KMI				LR	LR			
	comp=N,410nm,11.0s							
KMI				LR	LR			
	comp=E,210nm,10.7s							
KMI				LR	LR			
	comp=Z,180nm,10.1s							
ENH	**Enshi**	**41.98**	**334**	*e*P		**P**	**10 46 29.6**	**-2.2**
	comp=Z,11nm,0.6s,mb4.7							
MJAR	**Matsushiro Arr**	**44.33**	**10**	P		**P**	**10 46 49.3**	**-1.3**
	comp=Z,54nm,0.9s,mb5.2,baz=193,slow=10,SNR=82							
MJAR				LR	LR		11 04 03.3	
	comp=Z,62nm,18.2s,baz=160,slow=34							
MJAR	**Matsushiro Arr**	**44.33**	**10**	P		**P**	**10 46 49.3**	**-1.3**
MJAR				LR	LR		11 04 03.3	
MJAR	**Matsushiro Arr**	**44.33**	**10**	P		**P**	**10 46 49.3**	**-1.3**
MJAR				pmax	pmax			
	comp=Z,54nm,0.9s							
MAJO	**Matsushiro**	**44.33**	**10**	*e*P		**P**	**10 46 48.9**	**-1.8**
	comp=Z,50nm,0.7s,mb5.2							
MAJO	**Matsushiro**	**44.33**	**10**	*e*P		**P**	**10 46 48.9**	**-1.7**
MAJO				pmax	pmax			
	comp=Z,50nm,0.7s,mb5.2							
MAT	**Matsushiro**	**44.33**	**10**	P		**P**	**10 46 49.2**	**-1.4**
KSRS	**Korea Array**	**44.50**	**358**	P		**P**	**10 46 52.2**	**+0.2**
	comp=Z,15nm,0.9s,mb4.6,baz=177,slow=11,SNR=23							
KSRS				PcP	PcP		10 48 34.1	+1.1
	comp=Z,2.4nm,0.7s,baz=191,slow=2.4,SNR=4.4							
KSRS				LR	LR		11 05 10.1	
	comp=Z,66nm,21.2s,baz=170,slow=36							
KSRS	**Korea Array**	**44.50**	**358**	P		**P**	**10 46 52.2**	**+0.2**
KSRS							10 48 34.1	
KSRS				pmax	pmax			
	comp=Z,15nm,0.9s,mb4.6							
KSRS				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb3.9							
KSRS				MLR	MLR			
	comp=Z,66nm,21.2s							
CD2	**Chengdu**	**45.27**	**328**	P		**P**	**10 46 57.1**	**-1.1**
CD2				pP	pP		10 47 15.5	-13
CD2				sP	sP		10 47 24.7	-20
CD2				PP	PP		10 48 45.0	-1.9
CD2				S	**S**		**10 53 32.2**	**+3.9**
CD2				sS	sS		10 54 03.1	-19
CD2				pmax	pmax			
	comp=Z,60nm,0.5s,mb5.5							
CD2				pmax	pmax			
	comp=Z,280nm,4.9s							
CD2				LR	LR			
	comp=N,680nm,6.5s							
CD2				LR	LR			
	comp=Z,470nm,6.0s							
XAN	**Xi'an**	**45.47**	**336**	P		**P**	**10 46 58.3**	**-1.4**
XAN				pmax	pmax			
	comp=Z,11nm,1.1s,mb4.4							
MSVF	**Nonsavu**	**48.39**	**107**	*e*P		**P**	**10 47 23.9**	**+1.2**
	comp=Z,19nm,0.9s,mb4.7							
MSVF	**Nonsavu**	**48.39**	**107**	*e*P		**P**	**10 47 23.9**	**+1.2**
MSVF				pmax	pmax			
	comp=Z,19nm,0.9s,mb4.7							
BJT	**Baijiatuao**	**48.63**	**346**	*e*P		**P**	**10 47 23.4**	**-0.8**
	comp=Z,122nm,0.6s,mb5.7							
BJT	**Baijiatuao**	**48.63**	**346**	*e*P		**P**	**10 47 23.4**	**-0.7**
BJT				pmax	pmax			
	comp=Z,122nm,0.6s							
BJI	**Beijing**	**48.65**	**346**	P		**P**	**10 47 23.0**	**-1.3**
BJI				pP	pP		10 47 43.3	-12
BJI				sP	sP		10 47 50.6	-20
BJI				PcP	PcP		10 48 48.8	+1.2
BJI				PP	PP		10 49 19.5	+0.8
BJI				ScP	ScP		10 52 37.0	+7.0
BJI				S	**S**		**10 54 22.6**	**+6.5**
BJI				pmax	pmax			
	comp=Z,170nm,0.8s,mb5.7							
SHL	**Shillong**	**49.02**	**313**	⇑*i*P		**P**	**10 47 27.0**	**-0.4**
SHL				*i* PCP	PcP		10 48 50.5	+1.2
SHL				*ex*	x		10 54 22.0	
LZH	**Lanzhou**	**49.41**	**332**	⇑P		**P**	**10 47 30.0**	**-0.1**
LZH				pP	pP		10 47 48.7	-13
LZH				sP	sP		10 47 57.6	-19
LZH				PP	PP		10 49 25.9	+0.3
LZH				*e*S	**S**		**10 54 30.8**	**+4.0**
LZH				sS	sS		10 55 03.2	-18
LZH				*e*SS	SS		10 57 59.1	-1.5
LZH				pmax	pmax			
	comp=Z,110nm,1.5s,mb5.3							
LZH				pmax	pmax			
	comp=Z,260nm,4.2s							
LZH				LR	LR			
	comp=N,380nm,14.2s							
LZH				LR	LR			
	comp=E,410nm,15.0s							
LZH				LR	LR			
	comp=Z,600nm,18.0s							
VLA	**Vladivostok**	**50.19**	**2**	*d iP*		**P**	**10 47 36.3**	**+0.4**
VLA				pmax	pmax			
	comp=Z,105nm,1.2s,mb5.3							
HHC	**Hu-ho-hao-te**	**50.64**	**342**	*e*P		**P**	**10 47 39.4**	**+0.1**
HHC				pP	pP		10 47 58.3	-12
HHC				sP	sP		10 48 06.9	-19
HHC				PP	PP		10 49 37.2	+0.4
HHC				S	**S**		**10 54 47.5**	**+3.8**
HHC				sS	sS		10 55 21.1	-17
HHC				SS	SS		10 58 20.4	+0.4
HHC				pmax	pmax			
	comp=Z,34nm,0.6s,mb5.2							
HHC				pmax	pmax			
	comp=Z,140nm,4.9s							
HHC				LR	LR			
	comp=N,220nm,11.7s							
HHC				LR	LR			
	comp=E,210nm,10.8s							
HHC				LR	LR			
	comp=Z,180nm,13.0s							
CN2	**Changchun**	**50.95**	**356**	*e*P		**P**	**10 47 41.1**	**-0.5**
CN2				*e*S		**S**	**10 54 53.0**	**+5.0**
CN2				pmax	pmax			
	comp=Z,30nm,1.0s,mb4.9							
RPZ	**Rata Peaks**	**51.33**	**142**	P		**P**	**10 47 47.5**	**+3.0**
	comp=Z,31nm,1.0s,mb4.9,baz=14,slow=18,SNR=5.6							
RPZ	**Rata Peaks**	**51.33**	**142**	P		**P**	**10 47 47.5**	**+3.0**
MDJ	**Mudanjiang**	**51.63**	**0**	P		**P**	**10 47 46.9**	**+0.2**
MDJ				pP	pP		10 48 04.9	-13
MDJ				sP	sP		10 48 12.6	-21
MDJ				PcP	PcP		10 48 56.5	-2.0
MDJ				PP	PP		10 49 45.7	0.0
MDJ				ScP	ScP		10 52 47.0	+4.3
MDJ				PcS	PcS		10 52 55.2	-1.3
MDJ				S	**S**		**10 55 04.7**	**+7.4**
MDJ				ScS	ScS		10 57 29.9	+6.8
MDJ				SS	SS		10 58 48.3	+13
MDJ				pmax	pmax			
	comp=Z,37nm,0.9s,mb5.0							
MDJ				pmax	pmax			
	comp=Z,190nm,6.6s							
MDJ				LR	LR			
	comp=N,52nm,20.8s							
MDJ				LR	LR			
	comp=E,82nm,20.8s							
MDJ				LR	LR			
	comp=Z,200nm,37.6s							
MDJ	**Mudanjiang**	**51.63**	**0**	P		**P**	**10 47 46.7**	**0.0**
MDJ				PcP	PcP		10 49 01.7	+3.2
MDJ				PP	PP		10 49 42.1	-3.6
MDJ				S	**S**		**10 55 00.8**	**+3.5**
MDJ				SS	SS		10 58 43.6	+8.0
MDJ				pmax	pmax			
	comp=Z,37nm,1.0s,mb5.0							
MDJ				pmax	pmax			
	comp=Z,190nm,5.6s							
MDJ				LR	LR			
	comp=N,130nm,34.1s							
MDJ				LR	LR			
	comp=E,19nm,14.7s							
MDJ				LR	LR			
	comp=Z,200nm,37.9s							
MDJ	**Mudanjiang**	**51.63**	**0**	*

KKN pmax pmax
comp=Z,154nm,0.7s,mb5.8
DMN Daman 55.17 311 *e*P **P 10 48 12.7 -0.2**
comp=Z,201nm,0.8s,mb5.9
DMN Daman 55.17 311 *e*P **P 10 48 12.7 -0.2**
comp=Z,201nm,0.8s,mb5.9
YSS Yuzh-Sakhalins 55.24 11 *e*P **P 10 48 12.4 -0.6**
GKN Gorkha 55.74 311 *e*P **P 10 48 16.6 -0.3**
GKN Gorkha 55.74 311 *e*P **P 10 48 16.6 -0.3**
HYB Hyderabad 56.00 297 *i*P **P 10 48 17.0 -1.9**
KLR Kul'dur 56.28 2 *e*P **P 10 48 17.0 -3.4**
KLR pmax pmax
comp=E,40nm,1.6s
KLR pmax pmax
comp=Z,140nm,1.6s,mb5.5
KOLN Koldanda 56.40 310 *e*P **P 10 48 21.5 -0.1**
comp=Z,132nm,0.6s,mb5.9
KOLN Koldanda 56.40 310 *e*P **P 10 48 21.5 -0.1**
comp=Z,132nm,0.6s,mb5.9
DANN Dangsing 56.58 311 *e*P **P 10 48 22.6 -0.3**
comp=Z,134nm,0.7s,mb5.9
DANN Dangsing 56.58 311 *e*P **P 10 48 22.6 -0.3**
comp=Z,134nm,0.7s,mb5.9
ULN Ulaanbaatar 58.36 342 *e*P **P 10 48 35.7 +0.8**
comp=Z,31nm,0.7s,mb5.2
ULN Ulaanbaatar 58.36 342 *e*P **P 10 48 35.7 +0.7**
ULN pmax pmax
comp=Z,31nm,0.7s,mb5.2
ULN Ulaanbaatar 58.36 342 P P **10 48 36.2 +1.2**
SNR=12
SONM Songino Array 58.53 342 P P **10 48 36.8 +0.6**
comp=Z,21nm,0.7s,mb5.1,baz=154,slow=6.4,SNR=120
SONM PcP PcP 10 49 25.6 +0.6
comp=Z,12nm,0.9s,baz=154,slow=6.2,SNR=6.2
SONM ScP ScP 10 53 16.3 +3.5
comp=Z,2.4nm,0.9s,baz=147,slow=3.4,SNR=5.0
SONM PKPPKP 11 18 13.9
comp=Z,0.6nm,0.6s,baz=187,slow=2.3,SNR=4.2
SONM PKP2bc 11 18 24.3
comp=Z,1.8nm,0.9s,baz=20,slow=0.6,SNR=4.3
SONM Songino Array 58.53 342 P P **10 48 36.8 +0.6**
SONM PcP PcP 10 49 25.6 +0.6
SONM ScP ScP 10 53 16.3 +3.5
SONM P'P' 11 18 13.9
SONM ⇑*e* 11 18 24.3
SONM Songino Array 58.53 342 P P **10 48 36.8 +0.6**
SONM 10 49 25.6
SONM pmax pmax
comp=Z,21nm,0.7s
SONM pmax pmax
comp=Z,12nm,1.0s
SONM pmax pmax
comp=N,2.0nm,0.9s
BHPL Bhopal 59.24 302 *e*PKP **P 10 48 40.0 -1.5**
KAD Karad 59.87 295 *e*PKP **P 10 48 44.8 -1.1**
CASY Casey 60.37 189 *e*P **P 10 48 49.3 +0.8**
CASY Casey 60.37 189 *e*P **P 10 48 49.5 +0.9**
comp=N,19nm,0.8s,mb5.0
POO Poona 60.58 296 *e*PKP **P 10 48 48.9 -1.9**
BISR Bishrakh 61.53 308 *e*PKP **P 10 48 55.4 -1.7**
AYAN Aya Nagar 61.74 308 *e*PKP **P 10 48 56.6 -1.8**
AYAN AMb AMB 10 48 58.0
comp=Z,66nm,0.8s,mb5.5
ZAK Zakamensk 61.75 341⇑*i*P **P 10 48 58.5 +0.5**
ZAK *e* 10 49 38.8
ZAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
NDI New Delhi 61.76 308 *ex* **P 10 48 54.0 -4.6**
BHGR Bahadurgarh 61.98 308 *e*PKP **P 10 48 57.9 -2.1**
RTK Rohtak 62.55 308 *e*PKP **P 10 49 02.5 -1.3**
KHET Khetri 62.60 307 *e*PKP **P 10 49 02.5 -1.7**
KHET AMb AMB 10 49 03.5
comp=Z,67nm,0.5s,mb5.8
KKR Kurukshetra 62.65 309 *e*PKP **P 10 49 03.6 -0.8**
TLY Talaya 62.77 342 *e*P **P 10 49 05.7 +0.9**
comp=Z,22nm,0.9s,mb5.0
TLY Talaya 62.77 342 *e*P **P 10 49 04.6 -0.2**
TLY *e* pP 10 49 41.4 +3.9
TLY pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
TLY MLR MLR
comp=Z,58nm,19.0s
TLY Talaya 62.77 342 P P **10 49 05.9 +1.1**
comp=Z,160nm,0.9s,mb5.8,SNR=5.0
IRK Irkutsk 63.08 343 *e*P **P 10 49 06.6 -0.2**
IRK *e* pP 10 49 38.2 -1.3
IRK pmax pmax
comp=Z,86nm,1.0s,mb5.5
WMQ Urumqi 63.35 327 P P **10 49 09.0 +0.2**
WMQ pP pP 10 49 28.5 -13
WMQ sP sP 10 49 37.2 -19
WMQ PP PP 10 51 30.3 +0.4
WMQ pmax pmax
comp=Z,51nm,0.9s,mb5.3
WMQ LR LR
comp=N,100nm,20.0s
WMQ LR LR
comp=E,120nm,20.0s
MOY Mondy 63.60 341 *e*P **P 10 49 11.6 +1.4**
MOY pmax pmax
comp=Z,82nm,1.8s,mb5.3
CLNS Chul'man 63.98 357 *e*P **P 10 49 13.0 +0.3**
CLNS pmax pmax
comp=Z,32nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,19nm,0.9s
CLNS pmax pmax
comp=E,9.0nm,0.9s
MIR Mirnyy 64.27 195 *e*P **P 10 49 16.0 +1.6**
MIR pmax pmax
comp=Z,43nm,1.2s,mb5.2
PEA0B Petropavlovsk- 64.72 18 *e*P **P 10 49 18.6 +1.1**
PETK Petropavlovsk- 64.72 18 P **P 10 49 18.8 +1.3**
comp=Z,42nm,0.8s,mb5.3,baz=189,slow=3.5,SNR=33
PETK PcP PcP 10 49 50.3 +0.2
comp=Z,11nm,0.7s,baz=177,slow=5.8,SNR=2.8
PETK LR LR 11 15 25.9
comp=Z,72nm,18.7s,baz=30,slow=34
PETK Petropavlovsk- 64.72 18 P **P 10 49 18.8 +1.3**
PETK PcP PcP 10 49 50.3 +0.2
PETK LR LR 11 15 25.9
PETK Petropavlovsk- 64.72 18 P **P 10 49 18.8 +1.3**
PETK pP 10 49 50.3 -0.1
PETK pmax pmax
comp=Z,42nm,0.8s,mb5.3
PETK pmax pmax
comp=Z,11nm,0.7s,mb4.8
KSH Kashi 67.88 318⇑*i*P **P 10 49 38.1 +0.1**
KSH pP pP 10 49 57.9 -13
KSH PcP PcP 10 50 04.7 +1.1
KSH sP sP 10 50 06.6 -19
KSH PP PP 10 52 09.8 +0.2
KSH ScP 10 54 00.1
KSH PcS 10 54 08.2
KSH S S 10 58 27.6 +1.8
KSH ScS ScS 10 59 25.8 +1.6
KSH pmax pmax
comp=Z,39nm,0.7s,mb5.2
KSH pmax pmax
comp=Z,260nm,4.2s
KSH LR LR
comp=N,190nm,5.4s
KSH LR LR
comp=E,64nm,3.5s
KSH LR LR
comp=Z,160nm,5.7s
MK31 Makanchi Array 68.18 327 *e*P **P 10 49 39.6 -0.1**
MK31 Makanchi Array 68.18 327 *e*P **P 10 49 39.6 -0.1**
MK31 pmax pmax
comp=Z,42nm,0.7s,mb5.3
MKAR Makanchi Array 68.18 327 P **P 10 49 39.9 +0.2**
comp=Z,39nm,0.6s,mb5.3,baz=127,slow=7.7,SNR=329
MKAR PcP PcP 10 50 05.1 +0.5
comp=Z,30nm,0.7s,baz=116,slow=5.4,SNR=12
MKAR Makanchi Array 68.18 327 P **P 10 49 39.9 +0.2**
MKAR PcP PcP 10 50 05.1 +0.5
MKAR Makanchi Array 68.18 327 P **P 10 49 39.9 +0.2**
MKAR 10 50 05.1
MKAR pmax pmax
comp=Z,39nm,0.6s
MKAR pmax pmax
comp=Z,30nm,0.7s
YAK Yakutsk 69.08 0 *e*P **P 10 49 44.8 -0.1**
comp=Z,213nm,0.7s,mb6.0
YAK Yakutsk 69.08 0 *e*P **P 10 49 45.1 +0.1**
YAK *e* 10 50 08.6
YAK *e**PP pP 10 50 11.4 -6.8
YAK *e* 10 52 18.6
YAK *e*PPP 10 53 58.5
YAK *e*S S 10 58 43.4 +4.4
YAK *e**SS sS 10 59 26.2 -10
YAK *e* 10 59 37.8
YAK *e*SS SS 11 03 12.6 +4.6
YAK pmax pmax
comp=Z,145nm,0.8s,mb5.8
YAK pmax pmax
comp=N,50nm,1.1s
YAK pmax pmax
comp=E,6.0nm,0.8s
YAK pmax pmax
comp=Z,124nm,3.2s
YAK pmax pmax
comp=N,53nm,2.0s
YAK pmax pmax
comp=E,204nm,3.0s
YAK smax
comp=N,98nm,3.7s
YAK smax
comp=E,139nm,2.9s
TKM2 Tokmak 2 69.88 321 P **P 10 49 50.9 +0.6**
SNR=8.3
TKM2 Tokmak 2 69.88 321 *e*P **P 10 49 50.7 +0.4**
comp=E,16nm,0.8s,mb4.8
TKM2 Tokmak 2 69.88 321 *i*P **P 10 49 50.9 +0.6**
KBK Karagaybulak 70.15 320 P **P 10 49 51.9 0.0**
SNR=6.2
FX1 Attu Island--F 70.42 26 P **P 10 49 54.5 +1.2**
comp=E,32nm,0.6s,mb5.2,baz=290,slow=2.8,SNR=9.1
FX1 LR LR 11 19 19.3
comp=E,45nm,19.4s,baz=45,slow=34
FX1 Attu Island--F 70.42 26 P **P 10 49 54.5 +1.2**
FX1 LR LR 11 19 19.3
FX1 Attu Island--F 70.42 26 P **P 10 49 54.5 +1.2**
FX1 pmax pmax
comp=Z,32nm,0.6s
AAK Ala-Archa 70.42 320 P **P 10 49 54.4 +0.7**
SNR=13
AAK Ala-Archa 70.42 320 P **P 10 49 54.5 +0.9**
comp=Z,15nm,0.9s,mb4.7,baz=128,slow=4.4,SNR=32
AAK Ala-Archa 70.42 320 *e*P **P 10 49 54.0 +0.3**
comp=Z,18nm,0.8s,mb4.9
AAK Ala-Archa 70.42 320*c i*P **P 10 49 54.3 +0.7**
AAK pmax pmax
comp=Z,15nm,1.2s,mb4.6
AAK Ala-Archa 70.42 320 P **P 10 49 54.9 +1.3**
comp=Z,146nm,0.7s,mb5.8,SNR=8.9
KBL Kabul 70.56 310 *e*P **P 10 49 54.6 -0.1**
comp=Z,22nm,0.9s,mb4.9
KBL Kabul 70.56 310 *e*P **P 10 49 54.6 0.0**
KBL pmax pmax
comp=Z,22nm,0.9s,mb4.9
AML Almayashu 70.69 319 P **P 10 49 56.4 +1.2**
SNR=19
USP Ospenovka 70.74 321 P **P 10 49 55.9 +0.4**
SNR=20
EKS2 Erkin-Say 70.90 320 P **P 10 49 57.5 +1.1**
SNR=18
EKS2 Erkin-Say 70.90 320 *e*P **P 10 49 57.2 +0.8**
comp=Z,27nm,0.9s,mb5.0
EKS2 Erkin-Say 70.90 320 *e*P **P 10 49 57.2 +0.7**
EKS2 pmax pmax
comp=Z,27nm,0.9s,mb5.0
ZALV Zalesovo Beam 71.60 334 P **P 10 49 59.8 -0.7**
comp=Z,97nm,0.9s,mb5.5,baz=121,slow=4.9,SNR=187
ZALV LR LR 11 26 36.8
comp=Z,31nm,18.8s,baz=142,slow=40
ZALV Zalesovo Beam 71.60 334 P **P 10 49 59.8 -0.7**
ZALV LR LR 11 26 36.8
ZALV Zalesovo Beam 71.60 334 P **P 10 49 59.8 -0.7**
ZALV pmax pmax
comp=Z,97nm,0.9s,mb5.5
ZALV MLR MLR
comp=Z,31nm,18.8s
SEY Seymchan 72.15 11*c i*P **P 10 50 04.6 +1.1**
VNDA Vanda 72.25 173 P **P 10 50 04.8 +0.7**
comp=Z,7.9nm,0.8s,mb4.5,baz=319,slow=6.1,SNR=37
VNDA LR LR 11 21 06.9
comp=Z,201nm,21.3s,baz=344,slow=35
VNDA Vanda 72.25 173 *e*P **P 10 50 04.4 +0.4**
comp=Z,10nm,0.9s,mb4.6
VNDA Vanda 72.25 173 P **P 10 50 04.8 +0.8**
VNDA pmax pmax
comp=Z,8.0nm,0.8s
KURK Kurchatov 72.49 329 P **P 10 50 05.8 -0.1**
comp=Z,44nm,0.7s,mb5.3,baz=131,slow=4.8,SNR=145
KURK Kurchatov 72.49 329 *e*P **P 10 50 05.9 +0.1**
comp=Z,92nm,0.9s,mb5.5
KURK Kurchatov 72.49 329*c i*P **P 10 50 05.5 -0.3**
KURK pmax pmax
comp=Z,86nm,1.0s,mb5.4
KURK Kurchatov 72.49 329 P **P 10 50 05.5 -0.3**
comp=Z,547nm,1.0s,mb6.2,SNR=47
KURK Kurchatov 72.49 329 P **P 10 50 06.1 +0.3**
SNR=24
NVS Novosibirsk 72.89 334⇑*i*P **P 10 50 06.2 -1.9**
NVS *e*S S 10 59 20.2 -3.1
NVS pmax pmax
comp=N,29nm,1.1s
NVS pmax pmax
comp=E,36nm,1.1s
NVS pmax pmax
comp=Z,78nm,1.1s,mb5.3
NVS smax
comp=N,7.0nm,1.4s
NVS smax
comp=E,8.0nm,1.4s
NVS smax
comp=Z,12nm,1.3s
NVS smax
comp=N,2.0nm,1.1s
NVS smax
comp=E,3.0nm,1.1s
SBA Scott Base 73.14 172 *e*P **P 10 50 11.1 +1.8**
comp=E,11nm,0.9s,mb4.6
SBA Scott Base 73.14 172 *e*P **P 10 50 11.1 +1.8**
SBA pmax pmax
comp=Z,11nm,0.9s,mb4.6
KK31 Karatay Array 73.22 319 *i*P **P 10 50 09.9 -0.4**
KK31 pmax pmax
comp=Z,32nm,1.1s,mb5.0
KKAR Karatay Array 73.22 319 *e*P **P 10 50 10.4 +0.1**
comp=Z,12nm,0.7s,mb4.7
KKAR Karatay Array 73.22 319 *e*P **P 10 50 10.4 +0.1**
KKAR pmax pmax
comp=Z,12nm,0.7s,mb4.7
MAW Mawson 74.53 201 P **P 10 50 18.8 +1.3**
comp=Z,27nm,1.0s,mb4.8,baz=69,slow=6.3,SNR=45
MAW LR LR 11 20 10.3
comp=Z,95nm,20.8s,baz=223,slow=33
MAW Mawson 74.53 201 *e*P **P 10 50 18.7 +1.2**
comp=Z,19nm,0.9s,mb4.7
MAW Mawson 74.53 201 *e*P **P 10 50 18.6 +1.1**
comp=Z,8.0nm,1.0s,mb4.3
MAW Mawson 74.53 201 P **P 10 50 18.8 +1.3**
MAW pmax pmax
comp=Z,27nm,1.0s
WBK Wadi Bani Khal 75.08 296 P **P 10 50 22.0 +0.4**
SNR=7.3
SMDO Samad 76.02 296 P **P 10 50 26.9 0.0**
SNR=9.2
BSY Bisya 76.70 295 P **P 10 50 30.8 0.0**
SNR=6.8
HOQ Hoqain 76.80 296 P **P 10 50 31.6 +0.3**
SNR=8.5
BVA0 Borovoye Array 78.02 328 *i*P **P 10 50 36.4 -1.0**
BVA0 pmax pmax
comp=Z,13nm,1.2s,mb4.4
BRVK Borovoye 78.10 328 *e*P **P 10 50 37.5 -0.4**
comp=Z,76nm,1.0s,mb5.3
BRVK Borovoye 78.10 328*c i*P **P 10 50 37.4 -0.4**
BRVK pmax pmax
comp=Z,91nm,1.2s,mb5.3
BRVK Borovoye 78.10 328 P **P 10 50 37.7 -0.1**
comp=Z,368nm,1.1s,mb5.9,SNR=32
BRVK Borovoye 78.10 328 P **P 10 50 38.1 +0.3**
SNR=19
PPT Papeete 79.21 106 LR LR 11 19 10.3
comp=Z,114nm,21.7s,baz=264,slow=30
BILL Bilibino 79.47 13 *e*P **P 10 50 44.8 -0.3**
comp=Z,8.8nm,1.0s,mb4.3
BILL Bilibino 79.47 13 *e*P **P 10 50 45.2 +0.1**
BILL pmax pmax
comp=Z,12nm,1.2s,mb4.4
ABKT Ailbek 80.01 310 P **P 10 50 48.3 -0.3**
comp=Z,116nm,1.5s,mb5.3,SNR=5.1
AB31 Akbulak array 82.41 322 *i*P **P 10 51 00.2 -0.8**
AB31 pmax pmax
comp=Z,48nm,0.9s,mb5.1
ABKAR Akbulak array 82.41 322 *e*P **P 10 51 00.4 -0.6**
comp=Z,52nm,0.9s,mb5.2
SYO Syowa Base 83.25 201‖*e*P **P 10 51 04.6 -0.4**
SYO Syowa Base 83.25 201‖*e*PcP PcP 10 51 09.6 +0.4
AKTK Aktyubinsk 83.98 322 P **P 10 51 09.1 0.0**
AKTO Aktyubinsk 83.98 322 P **P 10 51 09.1 0.0**
comp=Z,22nm,0.7s,mb5.0,baz=104,slow=6.1,SNR=60
AKTO Aktyubinsk 83.98 322 P **P 10 51 09.1 0.0**
AKTO pmax pmax
comp=Z,22nm,0.7s,mb5.0
SVE Sverdlovsk 84.74 329*de*P **P 10 51 13.0 +0.3**
SVE pmax pmax
comp=Z,189nm,1.1s,mb5.7
ARU Arti 85.67 328 *e*P **P 10 51 16.6 -0.8**
comp=Z,93nm,0.9s,mb5.5
ARU Arti 85.67 328*c i*P **P 10 51 16.4 -1.0**
ARU 10 54 34.6
ARU S S 11 01 38.1 -0.1
ARU SS SS 11 07 25.5 +7.7
ARU pmax pmax
comp=Z,139nm,1.2s,mb5.6
ARU Arti 85.67 328 P **P 10 51 16.3 -1.1**
comp=Z,608nm,0.7s,mb6.4,SNR=17
CHGN Chignik 86.22 32 *e*P **P 10 51 20.6 +0.5**
NAY Al-Naaiem 86.81 300 *e*P **P 10 51 22.8 -0.8**
NAY AMb AMB 10 51 24.2
comp=Z,39nm,0.7s,mb5.3
MIB Mutribah 86.83 300 *e*P **P 10 51 22.8 -0.9**
MIB AMb AMB 10 51 26.2
comp=Z,68nm,0.8s,mb5.5
RST Umm Al-Ruwaisa 87.07 300 *e*P **P 10 51 23.8 -1.0**
RST AMb AMB 10 51 27.1
comp=Z,15nm,0.9s,mb4.8
SOKR Solikamsk 87.59 331*c i*P **P 10 51 25.6 -1.1**
SOKR pmax pmax
comp=Z,50nm,1.3s,mb5.2
SVW2 Sparrevohn 89.09 28 *e*P **P 10 51 35.3 +1.6**
comp=Z,29nm,0.9s,mb5.2
KDAK Kodiak Island 89.69 32 P **P 10 51 37.2 +0.7**
comp=Z,26nm,0.8s,mb5.2,baz=200,slow=6.5,SNR=5.0
KDAK Kodiak Island 89.69 32 P **P 10 51 37.2 +0.7**
KDAK Kodiak Island 89.69 32 P **P 10 51 37.3 +0.7**
KDAK pmax pmax
comp=Z,26nm,0.8s,mb5.2
PPLA Purkeypile 91.11 27 *e*P **P 10 51 42.5 -0.5**
comp=Z,72nm,1.5s,mb5.5
SLKM Skilak Lake 91.49 29 *e*P **P 10 51 45.0 +0.1**
SLKM Skilak Lake 91.49 29 *e*P **P 10 51 45.0 +0.1**
ZEI Tsey 91.67 313 *e*P **P 10 51 45.8 -0.3**
ZEI pmax pmax
comp=Z,20nm,1.3s,mb5.0
NVL N'lazarevskaya 91.97 197 *e*P **P 10 51 49.2 +2.2**
NVL pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
MAIT Maitri 91.99 197 *e*P **P 10 51 48.5 +1.4**
TRF Thorofare Moun 92.08 26 *e*P **P 10 51 46.9 -0.6**
comp=Z,36nm,1.3s,mb5.2
PMR Palmer 92.23 28 *e*P **P 10 51 48.0 -0.3**
comp=Z,29nm,1.3s,mb5.2
PMR Palmer 92.23 28 *e*P **P 10 51 48.0 -0.3**
PMR pmax pmax
comp=Z,29nm,1.3s,mb5.2
SML Sawmill 92.64 28 *e*P **P 10 51 50.4 +0.2**
comp=Z,16nm,1.1s,mb5.0
SML Sawmill 92.64 28 *e*P **P 10 51 50.4 +0.2**
SML pmax pmax
comp=Z,16nm,1.1s,mb5.1
KIV Kislovodsk 92.70 314 *e*P **P 10 51 51.0 +0.1**
KIV pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
MCK McKinley 92.73 26 *e*P **P 10 51 50.0 -0.5**
MCK McKinley 92.73 26 *e*P **P 10 51 50.0 -0.5**
COLD Coldfoot 92.89 23 *e*P **P 10 51 51.8 +0.6**
comp=Z,22nm,0.9s,mb5.3
COLA College 93.39 25 *e*P **P 10 51 52.5 -1.1**
comp=Z,15nm,0.8s,mb5.2
COLA College 93.39 25 *e*P **P 10 51 52.5 -1.1**
COLA pmax pmax
comp=Z,15nm,0.8s,mb5.2
DIV Divide 93.75 29 *e*P **P 10 51 56.4 +1.1**
comp=Z,156nm,1.5s,mb5.9
ILAR Eielson Array 93.78 25 P **P 10 51 54.6 -0.8**
comp=Z,16nm,0.8s,mb5.2,baz=270,slow=4.3,SNR=132
ILAR PKKP PKKPbc 11 08 59.5 -2.4
comp=Z,1.5nm,0.7s,baz=3.4,slow=1.7,SNR=19
ILAR LR LR 11 30 49.9
comp=Z,56nm,20.9s,baz=296,slow=33
ILAR Eielson Array 93.78 25 P **P 10 51 54.6 -0.8**
ILAR PKKP PKKPbc 11 08 59.5 -2.4
ILAR LR LR 11 30 49.9
ILAR Eielson Array 93.78 25 P **P 10 51 54.6 -0.8**
ILAR pmax pmax
comp=Z,16nm,0.8s
ILAR pmax pmax
comp=Z,2.0nm,0.7s
PAX Paxson 94.14 27 *e*P **P 10 51 57.3 +0.2**
comp=Z,54nm,1.1s,mb5.6
PAX Paxson 94.14 27 *e*P **P 10 51 57.3 +0.2**
PAX pmax pmax
comp=Z,54nm,1.1s,mb5.6
VRHR Novokhopersk 94.27 321 *e*P **P 10 51 56.3 -1.6**
VRHR pmax pmax
comp=Z,20nm,0.8s,mb5.3
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,10.0nm,0.7s
BMRM Bremner River 94.29 29 *e*P **P 10 51 58.6 +0.9**
comp=E,36nm,0.9s,mb5.5
DOT Dot Lake 94.86 27 *e*P **P 10 52 00.0 -0.3**
comp=E,109nm,0.8s,mb6.1
MENT Mentasta 94.94 27 *e*P **P 10 52 01.8 +1.1**
SNAA Sanae 95.30 194 PKKPbc PKKPbc 11 08 54.5 -3.2
comp=E,0.5nm,0.8s,baz=252,slow=10,SNR=6.1
VSR Storozhevoye 95.82 321 *e*P **P 10 52 03.6 -1.4**
VSR pmax pmax
comp=Z,20nm,0.9s,mb5.5
VSR pmax pmax
comp=N,4.0nm,0.6s
VSR pmax pmax
comp=E,20nm,1.2s
ASF Jabal al Asfar 96.02 302 P **P 10 52 07.0 +0.7**
comp=E,1.3nm,0.3s,mb4.8,baz=40,slow=1.3,SNR=4.4
ASF Jabal al Asfar 96.02 302 P **P 10 52 07.0 +0.7**
ASF Jabal al Asfar 96.02 302 P **P 10 52 07.0 +0.6**
ASF pmax pmax
comp=Z,1.0nm,0.3s
EGAK Eagle 96.22 26 *e*P **P 10 52 07.3 +0.8**
comp=Z,38nm,1.1s,mb5.6
KLMR Klimovskoe 96.28 330 *e*P **P 10 52 03.7 -3.1**
KLMR pmax pmax
comp=Z,35nm,1.5s,mb5.5
ANN Anapa 96.53 314 *e*P Px 10 52 22.4
VNA2 Neumayer--Watz 96.87 193 *e* **P 10 52 07.9 -1.5**
baz=119,slow=3.7
DAWY Dawson 96.95 26 *e*P **P 10 52 10.4 +0.6**
VNA3 Neumayer Olymp 97.13 192 *e* **P 10 52 08.9 -1.7**
VNA1 Neumayer--Stat 97.27 193 *e* **P 10 52 10.5 -0.7**
OBN Obninsk 97.59 325*d i*P **P 10 52 11.4 -1.5**
OBN pmax pmax
comp=Z,68nm,1.6s,mb5.8
SKAG Skagway 98.83 31 *e*P **P 10 52 19.6 +1.3**
comp=Z,16nm,0.9s,mb5.4
SIM Simferopol' 98.90 314 P **P 10 52 24.7 +5.7**
SIM PPP 10 58 35.0
SIM SS SS 11 10 34.0 +6.2
SIM pmax pmax
comp=Z,50nm,8.5s
LSZ Lusaka 98.93 253 *e*P **P 10 52 20.0 +0.2**
comp=Z,5.7nm,0.9s,mb5.0
LSZ Lusaka 98.93 253 *e*P **P 10 52 20.0 +0.2**
LSZ pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
APA Apatity 99.00 337‖*i*P **P 10 52 18.0 -0.9**
BRTR Keskin Array B 99.10 309 P **P 10 52 18.6 -1.4**
comp=Z,1.4nm,0.9s,mb4.4,baz=90,slow=1.4,SNR=5.1
BRTR Keskin Array B 99.10 309 P **P 10 52 18.6 -1.4**
BRTR Keskin Array B 99.10 309 P **P 10 52 18.7 -1.4**
BRTR pmax pmax
comp=Z,1.0nm,0.9s

INK Inuvik 99.28 22 P Pdif 10 52 20.2 -0.3
comp=Z,9.0nm,1.1s,baz=279,slow=6.7,SNR=14
INK PKKPbc PKKPbc 11 08 44.9 -2.1
comp=Z,3.5nm,0.8s,baz=56,slow=3.2,SNR=17
INK Inuvik 99.28 22 P Pdif 10 52 20.2 -0.3
INK PKKPbc PKKPbc 11 08 44.9 -2.1
INK Inuvik 99.28 22 P Pdif 10 52 20.2 -0.3
INK pmax pmax
comp=Z,9.0nm,1.1s
INK pmax pmax
comp=Z,4.0nm,0.8s
LBTB Lobatse 99.42 243 *e*P Pdif 10 52 22.3 +1.1
comp=Z,6.4nm,0.8s
LBTB Lobatse 99.42 243 *e*P Pdif 10 52 22.3 +1.1
LBTB pmax pmax
comp=Z,6.0nm,0.8s,mb5.1
JOF Joensuu 100.16 333 *e*P Pdif 10 52 20.9 -3.5
JOF pmax pmax
comp=Z,8.0nm,0.7s
JOF Joensuu 100.16 333 *e*p Pdif 10 52 20.9 -3.5
comp=Z,8.3nm,0.7s
KEV Kevo 101.10 340 *e*P Pdif 10 52 26.3 -2.3
KEV pmax pmax
comp=Z,5.0nm,0.7s
KEV Kevo 101.10 340 *e*p Pdif 10 52 26.3 -2.3
comp=Z,4.8nm,0.7s
DLBC Dease Lake 101.62 32 P Pdif 10 52 31.7 +0.8
comp=Z,4.5nm,0.8s,baz=247,slow=1.5,SNR=7.8
DLBC Dease Lake 101.62 32 P Pdif 10 52 31.7 +0.8
ARCES ARCESS Array B 101.65 340 P Pdif 10 52 29.8 -1.3
comp=Z,18nm,0.7s,baz=90,slow=7.3,SNR=40
ARCES PKiKP PKiKP 10 56 54.1 +0.7
comp=Z,3.1nm,1.0s,baz=113,slow=2.0,SNR=6.6
ARCES PKKPbc PKKPbc 11 08 38.2 -1.9
comp=Z,1.4nm,0.8s,baz=228,slow=3.1,SNR=5.9
ARCES ARCESS Array B 101.65 340 P Pdif 10 52 29.8 -1.3
ARCES ARCESS Array B 101.65 340 P Pdif 10 52 29.8 -1.3
ARCES pmax pmax
comp=Z,18nm,0.7s
ARCES pmax pmax
comp=Z,3.0nm,1.0s
ARCES pmax pmax
comp=Z,1.0nm,0.8s
ARE0 ARCESS Array S 101.65 340 *e*Pdif Pdif 10 52 29.6 -1.5
SPITS Spitsbergen Ar 101.73 349 P Pdif 10 52 32.1 +0.7
comp=Z,7.0nm,0.9s,baz=84,slow=7.7,SNR=4.4
SPITS Spitsbergen Ar 101.73 349 P Pdif 10 52 32.1 +0.7
SPITS Spitsbergen Ar 101.73 349 P Pdif 10 52 32.1 +0.7
SPITS pmax pmax
comp=Z,7.0nm,0.9s
AKASG Malin Array Be 102.10 320 P Pdif 10 52 31.8 -1.3
comp=Z,2.9nm,0.7s,baz=67,slow=5.4,SNR=9.2
AKASG Malin Array Be 102.10 320 P Pdif 10 52 31.8 -1.3
AKASG Malin Array Be 102.10 320 P Pdif 10 52 31.8 -1.3
AKASG pmax pmax
comp=Z,3.0nm,0.7s
KAF Kangasniemi 102.55 332 *e*P Pdif 10 52 32.7 -2.4
KAF pmax pmax
comp=Z,2.0nm,0.6s
KAF Kangasniemi 102.55 332 *e*p Pdif 10 52 32.7 -2.4
comp=Z,2.4nm,0.6s
FINES FINESS Array B 102.76 331 P Pdif 10 52 34.4 -1.6
comp=Z,3.3nm,0.8s,baz=90,slow=7.6,SNR=9.0
FINES FINESS Array B 102.76 331 P Pdif 10 52 34.4 -1.6
FINES FINESS Array B 102.76 331 P Pdif 10 52 34.4 -1.6
FINES pmax pmax
comp=Z,3.0nm,0.8s
MLR Muntele Rosu 104.65 315 PKiKP PKiKP 10 56 59.3 -0.4
comp=Z,0.8nm,0.7s,baz=175,slow=4.0,SNR=3.7
RES Resolute Bay 108.02 11 Pdiff Pdif 10 52 59.5 +0.2
comp=Z,1.6nm,0.7s,baz=165,slow=2.7,SNR=5.7
RES Resolute Bay 108.02 11 Pdif Pdif 10 52 59.5 +0.2
RES Resolute Bay 108.02 11 P Pdif 10 52 59.6 +0.2
RES pmax pmax
comp=Z,2.0nm,0.7s
HFS Hagfors 108.96 332 Pdiff Pdif 10 53 02.0 -1.6
comp=Z,1.7nm,0.6s,baz=123,slow=7.4,SNR=6.5
HFS PKiKP PKiKP 10 57 07.2 0.0
comp=Z,4.0nm,0.8s,baz=179,slow=8.7,SNR=3.6
HFS Hagfors 108.96 332 Pdif Pdif 10 53 02.0 -1.6
HFS PKPdf PKiKP 10 57 07.2 0.0
HFS Hagfors 108.96 332 P Pdif 10 53 02.0 -1.6
HFS pmax pmax
comp=Z,2.0nm,0.6s
HFS pmax pmax
comp=Z,4.0nm,0.9s
NOA NORSAR Array B 109.79 333 Pdiff Pdif 10 53 06.9 -0.3
comp=Z,3.1nm,0.8s,baz=67,slow=4.6,SNR=7.2
NOA PKiKP PKiKP 10 57 08.6 -0.2
comp=Z,2.2nm,0.8s,baz=353,slow=1.2,SNR=4.9
NOA NORSAR Array B 109.79 333 Pdif Pdif 10 53 06.9 -0.3
NOA PKPdf PKiKP 10 57 08.6 -0.2
NOA NORSAR Array B 109.79 333 P Pdif 10 53 06.9 -0.3
NOA pmax pmax
comp=Z,3.0nm,0.8s
NOA pmax pmax
comp=Z,2.0nm,0.8s
DPC Dobruska-Polom 110.28 321 *e*PKP PKiKP 10 57 11.0 +1.0
PVCC Panska Ves 111.33 322 *e*PKIKP PKiKP 10 57 12.6 +0.6
PVCC Panska Ves 111.33 322 *e*PKP PKiKP 10 57 12.6 +0.6
PRU Pruhonice 111.48 321 *e*PKIKP PKiKP 10 57 13.3 +1.0
PRU Pruhonice 111.48 321 *e*PKP PKiKP 10 57 13.3 +1.0
GOLS Golise 111.72 317 *e*PKiKP PKiKP 10 57 13.8 +1.0
NVAR Mina Array Bea 111.83 52 Pdiff Pdif 10 53 20.7 +4.4
comp=Z,1.0nm,0.9s,baz=265,slow=4.0,SNR=4.0
NVAR PKiKP PKiKP 10 57 14.8 +1.5
comp=Z,2.1nm,0.8s,baz=262,slow=2.7,SNR=9.6
NVAR PKKPbc PKKPbc 11 08 08.7 +1.2
comp=Z,0.9nm,0.8s,baz=114,slow=4.5,SNR=5.9
NVAR PKKPab PKKPab 11 08 17.2 +1.5
comp=Z,1.2nm,0.8s,baz=112,slow=4.4,SNR=7.1
NVAR Mina Array Bea 111.83 52 Pdif Pdif 10 53 20.7 +4.4
NVAR PKPdf PKiKP 10 57 14.8 +1.5
NVAR PKKPbc PKKPbc 11 08 08.7 +1.2
NVAR PKKPab PKKPab 11 08 17.2 +1.5
BOJS Bojanci 112.08 316 *i* PKiKP PKiKP 10 57 14.2 +0.6
VISS Visnje 112.30 317 *i* PKiKP PKiKP 10 57 14.8 +0.8
GERES GERESS Array B 112.31 320 PKiKP PKiKP 10 57 14.5 +0.6
comp=Z,2.9nm,0.6s,baz=67,slow=1.5,SNR=27
GERES GERESS Array B 112.31 320 PKPdf PKiKP 10 57 14.5 +0.6
GERES GERESS Array B 112.31 320 *i* PKiKP PKiKP 10 57 14.5 +0.6
GERES pmax pmax
comp=Z,3.0nm,0.6s
KHC Kasperske Hory 112.31 320 *e*PKIKP PKiKP 10 57 14.6 +0.7
KHC Kasperske Hory 112.31 320 *e*PKP PKiKP 10 57 14.6 +0.7
D12A Red Ives Fores 112.32 42 ⇓PKiKP PKiKP 10 57 14.7 +0.7
baz=112
A13A Flathead Natio 112.45 40 ⇑PKiKP PKiKP 10 57 15.7 +1.6
baz=112
BSMT Bassoo Peak 112.49 41 *e*PKPdf PKiKP 10 57 15.1 +0.8
C13A Hot Springs 112.67 41 ⇑PKiKP PKiKP 10 57 15.5 +0.8
baz=113
F12A Elk City 112.69 43 ⇓PKiKP PKiKP 10 57 15.8 +1.1
baz=113
MFID Camas Ranch 112.80 46 ⇓PKiKP PKiKP 10 57 17.1 +2.0
baz=113
SWMT Swartz Lake 113.09 41 *e*PKPdf PKiKP 10 57 16.3 +0.8
I12A Atlanta 113.22 45 ⇑PKiKP PKiKP 10 57 17.9 +2.2
baz=113
H12A Diamond D Ranc 113.24 45 ⇓PKiKP PKiKP 10 57 17.8 +1.9
baz=113,SNR=7.3
E13A Victor 113.24 42 ⇓PKiKP PKiKP 10 57 17.2 +1.5
baz=113
MSO Missoula 113.31 42 ⇑PKiKP PKiKP 10 57 17.0 +1.1
baz=113
B14A Marquette Ranc 113.33 40 ⇑PKiKP PKiKP 10 57 16.7 +0.9
baz=113
SLMT Seeley Lake 113.50 41 *e*PKPdf PKiKP 10 57 17.1 +0.8
D14A Greenough 113.53 42 ⇑PKiKP PKiKP 10 57 17.2 +0.9
baz=113,SNR=5.3
ABTA Abfaltersbach 113.63 318 *i* PKiKP PKiKP 10 57 16.6 +0.1
comp=Z,7.1nm,0.8s
H13A Challis 113.66 44 ⇓PKiKP PKiKP 10 57 18.6 +2.0
baz=114,SNR=17
E14A Clinton 113.71 42 ⇑PKiKP PKiKP 10 57 17.8 +1.1
baz=114
HLID Hailey 113.78 46 ⇑PKiKP PKiKP 10 57 19.4 +2.5
baz=114,SNR=15
HLID Hailey 113.78 46 *e*PKPdf PKiKP 10 57 19.0 +2.1
B15A Bradely Ranch, 113.80 40 ⇑PKiKP PKiKP 10 57 17.5 +0.7
baz=114
I13A Wildhorse Cree 113.91 45 ⇓PKiKP PKiKP 10 57 19.2 +2.1
baz=114,SNR=16
C15A Salmond Ranch, 113.93 41 ⇓PKiKP PKiKP 10 57 18.2 +1.2
baz=114,SNR=5.7
R11A Troy Canyon, C 113.95 51 ⇑PKiKP PKiKP 10 57 19.0 +1.6
baz=114
J13A Cove Ranch, Pi 113.98 46 ⇑PKiKP PKiKP 10 57 19.7 +2.4
baz=114,SNR=13
WTTA Wattenberg 114.07 319 ⇑*i*PKiKP PKiKP 10 57 17.8 +0.5
comp=Z,15nm,0.7s
WATA Walderalm 114.09 319 ⇑*i*PKPdf PKiKP 10 57 17.6 +0.3
comp=Z,4.3nm,0.6s
A16A West Butte Ran 114.23 39 ⇑PKiKP PKiKP 10 57 18.6 +1.1
baz=114
H14A Leadore 114.26 44 ⇑PKiKP PKiKP 10 57 19.7 +1.9
baz=114,SNR=5.9
E15A Deer Lodge 114.28 42 ⇑PKiKP PKiKP 10 57 19.3 +1.5
baz=114
BELC Belle Mtn. Jos 114.30 56 ⇓PKiKP PKiKP 10 57 20.5 +2.4
baz=114
I14A Mackay 114.37 45 ⇑PKiKP PKiKP 10 57 19.9 +2.0
baz=114,SNR=6.8
MOTA Moosalm 114.39 319 ⇑*i*PKPdf PKiKP 10 57 18.2 +0.2
comp=Z,6.9nm,0.8s
GMRC Granite Mounta 114.47 55 ⇓PKiKP PKiKP 10 57 21.1 +2.7
baz=114
C16A Fuhringer Ranc 114.48 41 ⇓PKiKP PKiKP 10 57 18.7 +0.6
baz=114
F15A Butte 114.54 43 ⇑PKiKP PKiKP 10 57 19.2 +0.9
baz=114
MCMT McKenzie Canyo 114.56 44 *e*PKPdf PKiKP 10 57 20.6 +2.3
SHPR Sheep Range 114.60 53 *e*PKPdf PKiKP 10 57 21.5 +2.9
G15A Dillon 114.72 43 ⇑PKiKP PKiKP 10 57 20.6 +1.9
baz=115,SNR=5.3
FETA Feichten 114.73 319 ⇑*i*PKiKP PKiKP 10 57 19.2 +0.7
comp=Z,3.5nm,0.7s
H15A Lima 114.76 44 ⇑PKiKP PKiKP 10 57 21.0 +2.2
baz=115,SNR=10.0
A17A Triple J Farms 114.79 39 PKiKP PKiKP 10 57 20.0 +1.4
baz=115,SNR=14
D16A Dana Ranch, Ca 114.83 41 ⇑PKiKP PKiKP 10 57 20.6 +1.8
baz=115,SNR=7.0
K14A Jones Ranch, D 114.89 46 ⇓PKiKP PKiKP 10 57 21.5 +2.4
baz=115
B17A L&G Farms, Che 114.93 40 ⇑PKiKP PKiKP 10 57 19.9 +1.0
baz=115
L14A Malta 114.97 47 ⇓PKiKP PKiKP 10 57 21.6 +2.4
baz=115
IRM Iron Mountain 114.97 56 ⇓PKiKP PKiKP 10 57 22.0 +2.5
baz=115
I15A Monteview 115.03 45 ⇑PKiKP PKiKP 10 57 21.8 +2.5
baz=115
F16A Kennard Place, 115.14 43 ⇑PKiKP PKiKP 10 57 21.1 +1.7
baz=115,SNR=8.0
C17A Wharram Farm, 115.16 40 ⇓PKiKP PKiKP 10 57 20.3 +0.9
baz=115,SNR=7.7
G16A Moss Hill, Enn 115.17 43 ⇑PKiKP PKiKP 10 57 21.5 +2.0
baz=115
BOZ Bozeman (W) 115.17 43 ⇓PKiKP PKiKP 10 57 21.5 +2.0
baz=115
BOZ Bozeman (W) 115.17 43 *e*PKPdf PKPdf 10 57 21.4 +1.9
BOZ Bozeman (W) 115.17 43 *e*PKIKP PKPdf 10 57 21.4 +1.9
DAVA Damuels 115.21 319 ⇑*i*PKiKP PKiKP 10 57 20.1 +0.7
comp=Z,9.4nm,0.7s
J15A Blackfoot 115.22 45 ⇑PKiKP PKiKP 10 57 22.4 +2.8
baz=115,SNR=9.7
R13A O'Grain Ranch, 115.24 51 ⇑PKiKP PKiKP 10 57 22.8 +2.9
baz=115
K15A Arbon 115.32 46 ⇓PKiKP PKiKP 10 57 22.6 +2.8
baz=115,SNR=9.6
A18A Metzger Ranch, 115.33 39 ⇑PKiKP PKiKP 10 57 20.6 +0.9
baz=115,SNR=6.3
D17A Six Diamond Ra 115.36 41 ⇑PKiKP PKiKP 10 57 20.9 +1.1
baz=115
E17A Martinsdale 115.45 42 ⇓PKiKP PKiKP 10 57 21.7 +1.7
baz=115,SNR=5.5
B18A Beardsley Farm 115.55 39 ⇑PKiKP PKiKP 10 57 21.1 +1.0
baz=115
L15A Malad City 115.59 47 ⇑PKiKP PKiKP 10 57 22.2 +1.8
baz=116
Q14A Sevier Lake (B 115.61 50 ⇓PKiKP PKiKP 10 57 22.1 +1.5
baz=116
P14A Drum Mountains 115.64 50 ⇑PKiKP PKiKP 10 57 22.7 +2.1
baz=116
M15A Larsen Ranch, 115.68 47 ⇓PKiKP PKiKP 10 57 21.9 +1.3
baz=116
EGMT Eagleton 115.68 40 ⇓PKiKP PKiKP 10 57 21.9 +1.5
baz=116,SNR=6.4
EGMT Eagleton 115.68 40 *e*PKPdf PKPdf 10 57 21.7 +1.3
H16A Russell Place, 115.69 44 ⇑PKiKP PKiKP 10 57 23.1 +2.6
baz=116
DUG Dugway 115.70 49 ⇑PKiKP PKiKP 10 57 22.9 +2.3
baz=116
DUG Dugway 115.70 49 *e*PKPdf PKPdf 10 57 22.7 +2.0
DUG Dugway 115.70 49 *e*PKIKP PKPdf 10 57 22.7 +2.0
F17A Fitzpatrick Pl 115.75 42 ⇑PKiKP PKiKP 10 57 22.9 +2.3
baz=116,SNR=14
I16A Newdale 115.75 45 ⇓PKiKP PKiKP 10 57 23.1 +2.4
baz=116,SNR=6.8
D18A Linhart Farms, 115.92 41 ⇑PKiKP PKiKP 10 57 22.1 +1.3
baz=116,SNR=6.0
K16A Soda Springs 115.96 46 ⇑PKiKP PKiKP 10 57 23.5 +2.4
baz=116,SNR=8.1
DCID1 Drake Creek 116.04 45 *e*PKPdf PKPdf 10 57 23.6 +2.4
E18A Harlowton 116.04 41 ⇑PKiKP PKiKP 10 57 22.7 +1.6
baz=116
IMW Indian Meadow 116.13 44 *e*PKPdf PKPdf 10 57 24.0 +2.6
U14A Mt Trumbull 116.19 53 ⇑PKiKP PKiKP 10 57 24.4 +2.6
baz=116
C19A Slack Wire Ran 116.23 40 ⇓PKiKP PKiKP 10 57 22.8 +1.4
baz=116,SNR=5.1
L16A Fish Haven 116.28 47 ⇑PKiKP PKiKP 10 57 23.8 +2.1
baz=116
HWUT Hardware Ranch 116.28 47 *e*PKPdf PKPdf 10 57 23.5 +1.8
Q15A Fillmore 116.29 50 ⇑PKiKP PKiKP 10 57 24.4 +2.5
baz=116
M16A Huntsville 116.31 47 ⇓PKiKP PKiKP 10 57 23.0 +1.2
baz=116
113A Mohawk Valley, 116.32 57 ⇓PKiKP PKiKP 10 57 23.9 +1.8
baz=116
REDW Red Top Meadow 116.34 45 *e*PKPdf PKPdf 10 57 23.8 +2.0
Z13A Yuma Proving G 116.35 57 ⇓PKiKP PKiKP 10 57 24.0 +1.8
baz=116
F18A Big Timber 116.38 42 ⇓PKiKP PKiKP 10 57 23.8 +2.0
baz=116,SNR=9.7
SNOW Snow King Moun 116.38 45 *e*PKPdf PKPdf 10 57 24.1 +2.2
J17A Brown Place, J 116.44 45 ⇑PKiKP PKiKP 10 57 24.4 +2.4
baz=116,SNR=11
LOHW Long Hollow 116.44 45 *e*PKPdf PKPdf 10 57 23.8 +1.8
GCMT Greycliff 116.44 42 *e*PKPdf PKPdf 10 57 24.1 +2.2
CDF Champ du Feu 116.50 321 *e*PKIKP PKPdf 10 57 22.4 +0.5
CDF Champ du Feu 116.50 321 *e*PKPdf PKPdf 10 57 22.4 +0.5
CDF Champ du Feu 116.50 321 *e*PKIKP PKPdf 10 57 22.4 +0.5
D19A Cripps Ranch, 116.52 41 ⇑PKiKP PKiKP 10 57 23.2 +1.2
baz=116,SNR=6.4
A20A Cobblestone Ra 116.54 38 ⇑PKiKP PKiKP 10 57 23.0 +1.0
baz=116
MSU Marysvale 116.55 51 *e*PKPdf PKPdf 10 57 25.4 +3.1
MSU Marysvale 116.55 51 *e*PKIKP PKPdf 10 57 25.4 +3.0
L17A Cokeville 116.66 46 ⇑PKiKP PKiKP 10 57 24.4 +1.9
baz=117,SNR=8.0
O16A Springville 116.67 49 ⇑PKiKP PKiKP 10 57 24.1 +1.5
baz=117
P16A Fountain Green 116.69 49 ⇓PKiKP PKiKP 10 57 24.6 +2.0
baz=117
T15A Red Dirt Ranch 116.70 52 ⇑PKiKP PKiKP 10 57 25.2 +2.5
baz=117
E19A Rath Farm, Rou 116.81 41 ⇑PKiKP PKiKP 10 57 23.6 +1.0
baz=117,SNR=5.2
U15A North Rim 116.89 53 ⇓PKiKP PKiKP 10 57 26.1 +3.0
baz=117,SNR=22
C20A Veseth Ranch, 116.90 40 ⇓PKiKP PKiKP 10 57 24.2 +1.5
baz=117,SNR=8.1
F19A Roth Farm, Mol 116.91 42 ⇑PKiKP PKiKP 10 57 24.4 +1.6
baz=117
J18A Kendall Valley 116.96 45 ⇓PKiKP PKiKP 10 57 24.8 +1.8
baz=117,SNR=7.1
I18A Diamond G Ranc 116.97 44 ⇓PKiKP PKiKP 10 57 25.0 +2.0
baz=117
M17A Scullys Gap (B 116.97 47 ⇑PKiKP PKiKP 10 57 24.6 +1.5
baz=117,SNR=9.5
HINF Hinteralfeld 116.97 320 *e*PKIKP PKPdf 10 57 22.7 -0.2
comp=Z,17nm,0.8s
HINF Hinteralfeld 116.97 320 *e*PKPdf PKPdf 10 57 22.7 -0.2
HINF Hinteralfeld 116.97 320 *e*PKIKP PKPdf 10 57 22.7 -0.2
N17A Moffit Pass 116.99 48 ⇑PKiKP PKiKP 10 57 25.2 +2.1
baz=117,SNR=9.1
D20A Manuel Ranch, 117.03 40 ⇑PKiKP PKiKP 10 57 24.1 +1.1
baz=117,SNR=6.1
114A Black Gap (USA 117.06 57 ⇑PKiKP PKiKP 10 57 25.8 +2.3
baz=117,SNR=7.5
V15A Kaibab Nationa 117.10 53 ⇑PKiKP PKiKP 10 57 26.3 +2.8
baz=117,SNR=18
K18A Toltan Ranch, 117.11 46 ⇑PKiKP PKiKP 10 57 25.5 +2.2
baz=117,SNR=17
TMUT Trail Mountain 117.11 49 *e*PKPdf PKPdf 10 57 25.1 +1.7
A21A Bergtoll Ranch 117.11 38 ⇓PKiKP PKiKP 10 57 24.3 +1.2
baz=117,SNR=5.0
R16A Teasdale 117.13 51 ⇓PKiKP PKiKP 10 57 26.1 +2.6
baz=117,SNR=11
S16A Weppner Ranch, 117.17 51 PKiKP PKiKP 10 57 25.8 +2.2
baz=117,SNR=20
PGF Pioggiola 117.18 314 *e*PKIKP PKPdf 10 57 23.8 +0.3
comp=Z,5.0nm,0.6s
PGF Pioggiola 117.18 314 *e*PKPdf PKPdf 10 57 23.8 +0.3
PGF Pioggiola 117.18 314 *e*PKIKP PKPdf 10 57 23.8 +0.3
Q16A Castle Valley 117.22 50 ⇑PKiKP PKiKP 10 57 25.8 +2.1
baz=117,SNR=9.1
HAU Haudompre 117.22 321 *e*PKIKP PKPdf 10 57 23.5 +0.1
comp=Z,11nm,0.8s
HAU Haudompre 117.22 321 *e*PKPdf PKPdf 10 57 23.5 +0.1
HAU Haudompre 117.22 321 *e*PKIKP PKPdf 10 57 23.5 +0.1
O17A Robinson Place 117.24 48 PKiKP PKiKP 10 57 25.8 +2.1
baz=117,SNR=15
H19A Powell 117.25 43 ⇓PKiKP PKiKP 10 57 25.9 +2.4
baz=117
L18A Fontenelle, Gr 117.31 46 ⇓PKiKP PKiKP 10 57 25.6 +1.9
baz=117,SNR=14
Y15A Casa Rosa Ranc 117.31 56 ⇓PKiKP PKiKP 10 57 26.3 +2.3
baz=117,SNR=12
GIVF Givet 117.36 323 *e*PKIKP PKPdf 10 57 24.1 +0.5
GIVF Givet 117.36 323 *e*PKPdf PKPdf 10 57 24.1 +0.5
GIVF Givet 117.36 323 *e*PKIKP PKPdf 10 57 24.1 +0.5
PD01 Pinedale Array 117.39 45 *e*PKPdf PKPdf 10 57 25.0 +1.2
T16A Glen Canyon Da 117.39 52 ⇑PKiKP PKiKP 10 57 25.8 +1.8
baz=117
PD02 Pinedale Array 117.41 45 *e*PKPdf PKPdf 10 57 25.6 +1.7
PAGF Fort de Pagny 117.41 322 *e*PKIKP PKPdf 10 57 23.9 +0.2
BW06 Boulder Array 117.41 45 ⇑PKiKP PKiKP 10 57 25.6 +1.7
baz=117,SNR=7.3
PDAR Pinedale Array 117.41 45 PKP PKPdf 10 57 25.2 +1.3
comp=Z,4.9nm,0.7s,baz=236,slow=1.1,SNR=39
PDAR PKKPbc PKKPbc 11 07 48.1 -0.5
comp=Z,1.6nm,0.8s,baz=106,slow=4.9,SNR=8.1
PDAR Pinedale Array 117.41 45 PKP PKPdf 10 57 25.2 +1.3
PDAR PKKPbc PKKPbc 11 07 48.1 -0.5
M18A Lyman 117.42 47 ⇓PKiKP PKiKP 10 57 25.5 +1.5
baz=117
P17A Butcher Ranch, 117.42 49 ⇓PKiKP PKiKP 10 57 25.7 +1.7
baz=117,SNR=8.8
C21A Desert Coulee 117.43 39 ⇓PKiKP PKiKP 10 57 25.2 +1.4
baz=117,SNR=7.8
G20A Bridger 117.59 42 ⇑PKiKP PKiKP 10 57 26.1 +2.0
baz=118,SNR=16
115A Sonoran Desert 117.61 57 ⇓PKiKP PKiKP 10 57 26.7 +2.0
baz=118
J19A Crowheart 117.62 45 ⇑PKiKP PKiKP 10 57 26.0 +1.7
baz=118,SNR=14
SRU San Rafael 117.67 50 ⇓PKiKP PKiKP 10 57 26.0 +1.5
baz=118,SNR=16
SRU San Rafael 117.67 50 *e*PKPdf PKPdf 10 57 26.1 +1.6
SRU San Rafael 117.67 50 *e*PKIKP PKPdf 10 57 26.1 +1.6
R17A Hanksville Air 117.69 50 ⇓PKiKP PKiKP 10 57 26.6 +2.0
baz=118,SNR=13
A22A Carney Farms, 117.73 38 ⇓PKiKP PKiKP 10 57 25.6 +1.3
baz=118,SNR=7.1
BAIF Baives 117.74 324 *e*PKIKP PKPdf 10 57 24.9 +0.6
BAIF Baives 117.74 324 *e*PKPdf PKPdf 10 57 24.9 +0.6
BAIF Baives 117.74 324 *e*PKIKP PKPdf 10 57 24.9 +0.6
L19A Farson 117.75 46 ⇓PKiKP PKiKP 10 57 26.6 +2.1
baz=118,SNR=6.1
P18A Preston Nutter 117.75 49 ⇓PKiKP PKiKP 10 57 26.9 +2.2
baz=118,SNR=5.1
W16A Flagstaff 117.75 54 ⇑PKiKP PKiKP 10 57 27.3 +2.5
baz=118
D21A La Casta Ranch 117.77 40 ⇓PKiKP PKiKP 10 57 25.9 +1.5
baz=118,SNR=5.9
O18A Roosevelt 117.77 48 ⇓PKiKP PKiKP 10 57 27.0 +2.4
baz=118,SNR=7.5
WUAZ Wupatki 117.80 54 ⇑PKiKP PKiKP 10 57 27.4 +2.5
baz=118,SNR=19
WUAZ Wupatki 117.80 54 *e*PKPdf PKPdf 10 57 26.6 +1.8
S17A Black Ridge (B 117.80 51 ⇓PKiKP PKiKP 10 57 26.8 +2.0
baz=118,SNR=14
LPG La Plagne 117.83 318 *e*PKPdf PKPdf 10 57 25.3 +0.7
comp=Z,12nm,0.7s
LPG La Plagne 117.83 318 *e*PKPdf PKPdf 10 57 25.3 +0.7
LPG La Plagne 117.83 318 *e*PKIKP PKPdf 10 57 25.3 +0.7
LPL La Plagne 117.83 318 ⇑*i*PKIKP PKPdf 10 57 25.2 +0.6
comp=Z,12nm,0.7s
LPL La Plagne 117.83 318 ⇑*i*PKPdf PKPdf 10 57 25.2 +0.6
LPL La Plagne 117.83 318 ⇑*i*PKIKP PKPdf 10 57 25.2 +0.6
U16A Tuba City 117.86 53 ⇑PKiKP PKiKP 10 57 27.5 +2.5
baz=118,SNR=19
CABF La Chapelle 117.88 319 *e*PKIKP PKPdf 10 57 25.2 +0.5
comp=Z,20nm,0.7s
CABF La Chapelle 117.88 319 *e*PKPdf PKPdf 10 57 25.2 +0.5
CABF La Chapelle 117.88 319 *e*PKIKP PKPdf 10 57 25.2 +0.5
SBF Sospel 117.89 316 *e*PKIKP PKPdf 10 57 24.8 0.0
SBF Sospel 117.89 316 *e*PKPdf PKPdf 10 57 24.8 0.0
SBF Sospel 117.89 316 *e*PKIKP PKPdf 10 57 24.8 0.0
K19A Absolon Red Bu 117.90 45 ⇑PKiKP PKiKP 10 57 26.2 +1.4
baz=118,SNR=16
E21A Keefer Ranch, 117.90 41 ⇑PKiKP PKiKP 10 57 26.4 +1.7
baz=118,SNR=7.9
T17A Navajo Res., N 117.94 52 ⇓PKiKP PKiKP 10 57 27.6 +2.4
baz=118,SNR=38
X16A Lo Mia Camp, P 117.96 55 ⇓PKiKP PKiKP 10 57 27.9 +2.6
baz=118,SNR=14
Q18A Rafter H Ranch 117.97 49 ⇑PKiKP PKiKP 10 57 26.6 +1.5
baz=118,SNR=10
H20A Greybull 117.97 43 ⇓PKiKP PKiKP 10 57 26.4 +1.4
baz=118,SNR=12
I20A Worland 118.06 44 ⇑PKiKP PKiKP 10 57 26.6 +1.5
baz=118,SNR=16
M19A Rock Springs 118.06 47 ⇑PKiKP PKiKP 10 57 27.3 +2.1
baz=118,SNR=5.3
MBDF Montbardon 118.07 317 *e*PKIKP PKPdf 10 57 25.8 +0.7
comp=Z,10nm,0.7s
MBDF Montbardon 118.07 317 *e*PKPdf PKPdf 10 57 25.8 +0.7
MBDF Montbardon 118.07 317 *e*PKIKP PKPdf 10 57 25.8 +0.7
116A Eloy 118.07 57 ⇑PKiKP PKiKP 10 57 27.6 +2.1
baz=118,SNR=14
Z16A Peralta Trail, 118.17 56 ⇑PKiKP PKiKP 10 57 27.6 +1.9
baz=118,SNR=11
C22A Vida 118.22 39 ⇓PKiKP PKiKP 10 57 26.9 +1.6
baz=118,SNR=6.9
V17A Tonalea, Kykot 118.24 53 ⇓PKiKP PKiKP 10 57 28.0 +2.2
baz=118,SNR=7.2
D22A Cohagen 118.25 40 ⇑PKiKP PKiKP 10 57 27.2 +1.8
baz=118,SNR=17
J20A Shoshoni 118.27 44 ⇓PKiKP PKiKP 10 57 27.2 +1.7
baz=118,SNR=13
K20A Yellowstone Ra 118.30 45 ⇑PKiKP PKiKP 10 57 26.3 +0.7
baz=118,SNR=6.7
R18A Canyonlands Na 118.32 50 ⇑PKiKP PKiKP 10 57 27.5 +1.7
baz=118,SNR=13
216A Three Points, 118.37 58 ⇑PKiKP PKiKP 10 57 28.2 +2.1
baz=118,SNR=5.1
LAO LASA Array 118.39 40 ⇓PKiKP PKiKP 10 57 27.6 +1.9
baz=118,SNR=9.3
LAO LASA Array 118.39 40 *e*PKPdf PKPdf 10 57 27.4 +1.7
O19A Miners Draw (B 118.41 48 ⇑PKiKP PKiKP 10 57 27.5 +1.6
baz=118,SNR=9.1
S18A Hurst Farm, Bl 118.41 51 ⇑PKiKP PKiKP 10 57 28.0 +2.0
baz=118,SNR=13
X17A Forest Lakes 118.49 55 ⇑PKiKP PKiKP 10 57 28.6 +2.4
baz=118,SNR=6.8
B23A Brockton 118.50 38 ⇑PKiKP PKiKP 10 57 27.1 +1.2
baz=118,SNR=6.7
L20A Wamsutter 118.50 46 ⇑PKiKP PKiKP 10 57 28.1 +2.1
baz=118,SNR=7.3
FRF La Foret Royal 118.53 316 *e*PKIKP PKPdf 10 57 26.2 +0.2
comp=Z,16nm,0.9s
FRF La Foret Royal 118.53 316 *e*PKPdf PKPdf 10 57 26.2 +0.2
FRF La Foret Royal 118.53 316 *e*PKIKP PKPdf 10 57 26.2 +0.2
H21A Big Horn, Sher 118.57 43 ⇑PKiKP PKiKP 10 57 27.1 +1.0
baz=118
Y17A Roosevelt 118.58 56 ⇓PKiKP PKiKP 10 57 28.6 +2.2
baz=118,SNR=8.8
KEST Kesra 118.59 307 PKP PKPdf 10 57 27.8 +1.4
comp=Z,2.6nm,0.8s,baz=261,slow=2.9,SNR=7.6
KEST Kesra 118.59 307 PKP PKPdf 10 57 27.8 +1.4
ORIF Oris-en-Rattie 118.60 318 *e*PKIKP PKPdf 10 57 26.4 +0.3
comp=Z,10nm,0.7s
ORIF Oris-en-Rattie 118.60 318 *e*PKPdf PKPdf 10 57 26.4 +0.3
ORIF Oris-en-Rattie 118.60 318 *e*PKIKP PKPdf 10 57 26.4 +0.3
T18A Mexican Hat 118.63 52 ⇓PKiKP PKiKP 10 57 28.0 +1.6

C23A **Lambert** 118.64 39 ⇑PKiKP PKiKP 10 57 27.3 +1.2
baz=118,SNR=13
Q19A **Hogan Spring (** 118.66 49 ⇓PKiKP PKiKP 10 57 28.7 +2.2
baz=119,SNR=11
E22A **Miles City** 118.66 40 ⇓PKiKP PKiKP 10 57 27.6 +1.4
baz=119,SNR=8.8
I21A **Big Trails, Te** 118.67 44 ⇓PKiKP PKiKP 10 57 27.3 +1.0
baz=119,SNR=13
P19A **Cripple Cowboy** 118.69 49 ⇑PKiKP PKiKP 10 57 28.5 +2.0
baz=119
LMR **La Mourre** 118.69 316 *e*PKiKP PKPdf 10 57 26.6 +0.3
comp=Z,34nm,1.4s
LMR **La Mourre** 118.69 316 *e*PKPdf PKPdf 10 57 26.6 +0.3
LMR **La Mourre** 118.69 316 *e*PKiKP PKPdf 10 57 26.6 +0.3
J21A **Lysite** 118.72 44 ⇑PKiKP PKiKP 10 57 28.0 +1.6
baz=119,SNR=11
M20A **Sweetwater, Wa** 118.76 46 ⇓PKiKP PKiKP 10 57 28.5 +1.9
baz=119
U18A **Rough Rock, Ch** 118.80 52 ⇑PKiKP PKiKP 10 57 29.2 +2.4
baz=119,SNR=20
R19A **Curley Farm, L** 118.83 50 ⇓PKiKP PKiKP 10 57 28.6 +1.8
baz=119,SNR=6.2
D23A **Lindsay** 118.86 39 ⇑PKiKP PKiKP 10 57 28.5 +1.9
baz=119,SNR=11
117A **Oracle** 118.87 57 PKiKP PKiKP 10 57 29.1 +2.1
baz=119,SNR=11
TUC **Tucson** 118.88 57 *e*PKPdf PKPdf 10 57 29.2 +2.1
TUC **Tucson** 118.88 57 *e*PKiKP PKPdf 10 57 29.2 +2.2
N20A **Spence Gulch,** 118.89 47 ⇑PKiKP PKiKP 10 57 28.9 +2.1
baz=119,SNR=17
V18A **Ganado** 118.91 53 PKiKP PKiKP 10 57 29.5 +2.4
baz=119,SNR=12
217A **Green Valley** 118.95 58 ⇓PKiKP PKiKP 10 57 29.5 +2.2
baz=119,SNR=10
Z17A **San Carlos Hig** 118.96 56 ⇑PKiKP PKiKP 10 57 29.7 +2.5
baz=119,SNR=6.7
DGMT **Dagmar** 118.98 38 *e*PKPdf PKPdf 10 57 27.8 +1.1
E23A **Ismay** 119.05 40 ⇑PKiKP PKiKP 10 57 28.6 +1.6
baz=119,SNR=11
S19A **Harvey Farm, M** 119.06 51 ⇓PKiKP PKiKP 10 57 29.0 +1.8
baz=119,SNR=5.4
LOR **Lormes** 119.06 321 *e*PKiKP PKPdf 10 57 27.1 +0.2
LOR **Lormes** 119.06 321 *e*PKPdf PKPdf 10 57 27.1 +0.2
LOR **Lormes** 119.06 321 *e*PKiKP PKPdf 10 57 27.1 +0.2
PV04 **Paradox Valley** 119.07 50 *e*PKPdf PKPdf 10 57 29.7 +2.5
K21A **Alcova** 119.08 45 ⇑PKiKP PKiKP 10 57 28.7 +1.6
baz=119,SNR=18
O20A **White River Ci** 119.10 48 ⇑PKiKP PKiKP 10 57 29.4 +2.1
baz=119,SNR=24
SMRF **Simiane la Rot** 119.13 317 *e*PKiKP PKPdf 10 57 27.2 +0.1
comp=Z,17nm,1.0s
SMRF **Simiane la Rot** 119.13 317 *e*PKPdf PKPdf 10 57 27.2 +0.1
P20A **De Beque** 119.17 49 ⇑PKiKP PKiKP 10 57 29.7 +2.3
baz=119,SNR=15
I22A **9 Mile Ranch,** 119.20 43 ⇑PKiKP PKiKP 10 57 28.4 +1.0
baz=119,SNR=6.1
L21A **Rawlins** 119.20 46 ⇓PKiKP PKiKP 10 57 29.1 +1.7
baz=119,SNR=12
C24A **Savage** 119.21 39 ⇓PKiKP PKiKP 10 57 28.9 +1.6
baz=119,SNR=14
Y18A **Canyon Day Jun** 119.23 55 ⇑PKiKP PKiKP 10 57 29.9 +2.2
baz=119,SNR=9.9
SMF **Signal de Mont** 119.31 320 *e*PKiKP PKPdf 10 57 27.5 +0.1
SMF **Signal de Mont** 119.31 320 *e*PKPdf PKPdf 10 57 27.5 +0.1
SMF **Signal de Mont** 119.31 320 *e*PKiKP PKPdf 10 57 27.5 +0.1
M21A **Separation Pea** 119.31 46 ⇓PKiKP PKiKP 10 57 28.8 +1.2
baz=119,SNR=11
U19A **Dine' College,** 119.35 52 ⇑PKiKP PKiKP 10 57 29.9 +2.1
baz=119,SNR=8.8
Z18A **Geronimo** 119.36 56 ⇑PKiKP PKiKP 10 57 30.2 +2.2
baz=119
J22A **Midwest** 119.36 44 ⇓PKiKP PKiKP 10 57 28.7 +1.0
baz=119
SSF **Saint Saulge** 119.36 321 *e*PKiKP PKPdf 10 57 27.9 +0.4
comp=Z,15nm,0.7s
SSF **Saint Saulge** 119.36 321 *e*PKPdf PKPdf 10 57 27.9 +0.4
SSF **Saint Saulge** 119.36 321 *e*PKiKP PKPdf 10 57 27.9 +0.4
T19A **Beclabito** 119.36 52 ⇑PKiKP PKiKP 10 57 30.0 +2.1
baz=119,SNR=6.0
Q20A **Ridgley Place,** 119.39 49 ⇓PKiKP PKiKP 10 57 30.3 +2.4
baz=119,SNR=8.7
PV01 **Paradox Valley** 119.39 50 *e*PKPdf PKPdf 10 57 29.9 +2.1
RWWY **Rawlins** 119.40 46 *e*PKPdf PKPdf 10 57 29.2 +1.4
VIVF **Saint-Julien-I** 119.43 318 *e*PKiKP PKPdf 10 57 28.0 +0.3
comp=Z,11nm,0.8s
VIVF **Saint-Julien-I** 119.43 318 *e*PKPdf PKPdf 10 57 28.0 +0.3
VIVF **Saint-Julien-I** 119.43 318 *e*PKiKP PKPdf 10 57 28.0 +0.3
N21A **Black Mountain** 119.45 47 ⇓PKiKP PKiKP 10 57 30.1 +2.2
baz=119,SNR=15
118A **Homack Ranch,** 119.50 57 ⇓PKiKP PKiKP 10 57 30.5 +2.2
baz=119,SNR=9.7
R20A **Redvale** 119.52 50 ⇑PKiKP PKiKP 10 57 30.5 +2.3
baz=119,SNR=7.2
AVF **Avril sur Loir** 119.57 320 *e*PKiKP PKPdf 10 57 27.9 0.0
comp=Z,15nm,0.9s
AVF **Avril sur Loir** 119.57 320 *e*PKPdf PKPdf 10 57 27.9 0.0
AVF **Avril sur Loir** 119.57 320 *e*PKiKP PKPdf 10 57 27.9 0.0
K22A **Casper** 119.58 45 ⇓PKiKP PKiKP 10 57 29.2 +1.1
baz=120,SNR=7.8
S20A **Disappointment** 119.63 50 PKiKP PKiKP 10 57 30.8 +2.4
baz=120,SNR=12
O21A **Pagoda** 119.65 48 ⇓PKiKP PKiKP 10 57 30.5 +2.2
baz=120,SNR=7.2
MVCO **Mesa Verde** 119.68 51 PKiKP PKiKP 10 57 30.8 +2.3
baz=120,SNR=18
MVCO **Mesa Verde** 119.68 51 *e*PKPdf PKPdf 10 57 30.5 +2.0
X19A **St. Johns** 119.70 54 ⇓PKiKP PKiKP 10 57 30.9 +2.3
baz=120,SNR=7.6
318A **Bisbee** 119.70 58 PKiKP PKiKP 10 57 30.8 +2.0
baz=120,SNR=11
Y19A **Nutrioso** 119.83 55 PKiKP PKiKP 10 57 31.7 +2.8
baz=120,SNR=14
P21A **Newcastle** 119.86 48 ⇑PKiKP PKiKP 10 57 31.2 +2.4
baz=120
U20A **Newcomb** 119.87 52 ⇑PKiKP PKiKP 10 57 31.1 +2.2
baz=120
M22A **Cedar Creek Ra** 119.92 46 PKiKP PKiKP 10 57 30.8 +2.0
baz=120,SNR=7.1
Q21A **Lamborn Mesa,** 119.96 49 ⇑PKiKP PKiKP 10 57 31.7 +2.7
baz=120,SNR=14
BGF **Bois d'Agland** 119.98 320 *e*PKiKP PKPdf 10 57 29.3 +0.6
comp=Z,25nm,0.7s
BGF **Bois d'Agland** 119.98 320 *e*PKPdf PKPdf 10 57 29.3 +0.6
BGF **Bois d'Agland** 119.98 320 *e*PKiKP PKPdf 10 57 29.3 +0.6
119A **Ashpeak Ranch,** 120.03 56 ⇑PKiKP PKiKP 10 57 31.8 +2.5
baz=120,SNR=9.3
V20A **Brimhall** 120.05 53 ⇑PKiKP PKiKP 10 57 31.5 +2.2
baz=120,SNR=9.0
R21A **Cimarron** 120.11 50 ⇓PKiKP PKiKP 10 57 31.7 +2.4
baz=120,SNR=7.1
S21A **Coal Bank Pass** 120.11 51 ⇓PKiKP PKiKP 10 57 32.0 +2.7
baz=120,SNR=52
W20A **Ramah** 120.18 54 ⇑PKiKP PKiKP 10 57 31.7 +2.2
baz=120,SNR=15
H24A **Dirks Ranch, A** 120.19 42 ⇑PKiKP PKiKP 10 57 30.1 +0.9
baz=120,SNR=18
219A **White Tail Can** 120.21 57 ⇑PKiKP PKiKP 10 57 31.6 +1.9
baz=120,SNR=23
N22A **Wattenberg Ran** 120.21 47 ⇓PKiKP PKiKP 10 57 31.7 +2.2
baz=120,SNR=7.0
LASF **Ste Croix** 120.25 317 *e*PKiKP PKPdf 10 57 29.7 +0.4
comp=Z,6.7nm,0.8s
LASF **Ste Croix** 120.25 317 *e*PKPdf PKPdf 10 57 29.7 +0.4
319A **Douglas** 120.31 58 ⇑PKiKP PKiKP 10 57 32.1 +2.2
baz=120,SNR=14
X20A **Quemado** 120.31 54 ⇑PKiKP PKiKP 10 57 32.5 +2.6
baz=120,SNR=8.1
SMCO **Snowmass** 120.31 49 *e*PKPdf PKPdf 10 57 32.0 +2.4
L23A **Garrett** 120.33 45 ⇓PKiKP PKiKP 10 57 30.1 +0.5
baz=120
P22A **Eagle** 120.35 48 ⇓PKiKP PKiKP 10 57 32.3 +2.6
baz=120,SNR=13
Q22A **Crested Butte,** 120.45 49 ⇓PKiKP PKiKP 10 57 32.5 +2.6
baz=120,SNR=25
I24A **Kuemmerle Ranc** 120.47 43 ⇓PKiKP PKiKP 10 57 30.4 +0.5
baz=120
T21A **Navajo Lake** 120.48 51 ⇑PKiKP PKiKP 10 57 32.9 +2.8
baz=120,SNR=8.6
TCF **Toulx Ste Croi** 120.49 320 *e*PKiKP PKPdf 10 57 30.1 +0.4
comp=Z,12nm,0.8s
TCF **Toulx Ste Croi** 120.49 320 *e*PKPdf PKPdf 10 57 30.1 +0.4
TCF **Toulx Ste Croi** 120.49 320 *e*PKiKP PKPdf 10 57 30.1 +0.4
U21A **Nageezi** 120.53 52 ⇑PKiKP PKiKP 10 57 32.6 +2.4
baz=120,SNR=21
Z20A **Nine Sixteen R** 120.54 56 PKiKP PKiKP 10 57 32.8 +2.5
baz=120,SNR=18

Y20A **Horse Springs,** 120.55 55 ⇓PKiKP PKiKP 10 57 32.7 +2.4
baz=120,SNR=7.6
N23A **Red Feather La** 120.55 46 ⇑PKiKP PKiKP 10 57 31.9 +1.8
baz=120
120A **U Bar Ranch, L** 120.62 56 ⇓PKiKP PKiKP 10 57 32.8 +2.3
baz=121,SNR=21
J24A **Dixon Ranch, L** 120.64 43 ⇑PKiKP PKiKP 10 57 31.1 +0.9
baz=120
R22A **Saguache, Gunn** 120.75 50 ⇓PKiKP PKiKP 10 57 33.7 +3.1
baz=121
PHWY **Pilot Hill** 120.77 46 *e*PKPdf PKPdf 10 57 31.5 +1.1
RSSD **Black Hills** 120.77 42 *e*PKPdf PKPdf 10 57 31.0 +0.7
RSSD **Black Hills** 120.77 42 *e*PKiKP PKPdf 10 57 31.0 +0.7
O23A **Lake Granby, G** 120.78 47 ⇓PKiKP PKiKP 10 57 33.0 +2.4
baz=121,SNR=8.9
S22A **4UR Ranch, Cre** 120.82 50 ⇓PKiKP PKiKP 10 57 33.3 +2.6
baz=121,SNR=26
220A **Playas Peak, P** 120.84 57 ⇓PKiKP PKiKP 10 57 33.2 +2.3
baz=121,SNR=22
X21A **Alamocita Cree** 120.91 54 PKiKP PKiKP 10 57 33.5 +2.5
baz=121,SNR=25
LDF **La Druitiere** 120.93 323 *e*PKiKP PKPdf 10 57 30.7 +0.2
LDF **La Druitiere** 120.93 323 *e*PKPdf PKPdf 10 57 30.7 +0.2
LDF **La Druitiere** 120.93 323 *e*PKiKP PKPdf 10 57 30.7 +0.2
320A **Kipp Ranch, An** 120.95 58 ⇓PKiKP PKiKP 10 57 33.7 +2.5
baz=121,SNR=29
T22A **Edith** 120.96 51 ⇓PKiKP PKiKP 10 57 33.9 +2.9
baz=121,SNR=9.4
Y21A **Point of Rocks** 121.10 55 ⇑PKiKP PKiKP 10 57 34.3 +2.9
baz=121,SNR=12
CAF **Calviac** 121.12 319 *e*PKiKP PKPdf 10 57 31.8 +0.8
comp=Z,11nm,0.9s
CAF **Calviac** 121.12 319 *e*PKPdf PKPdf 10 57 31.8 +0.8
CAF **Calviac** 121.12 319 *e*PKiKP PKPdf 10 57 31.8 +0.8
ISCO **Idaho Springs** 121.13 48 ⇓PKiKP PKiKP 10 57 33.3 +2.0
baz=121,SNR=8.8
U22A **Llaves** 121.17 52 PKiKP PKiKP 10 57 34.3 +2.8
baz=121,SNR=26
Q23A **Hartsel** 121.24 49 ⇑PKiKP PKiKP 10 57 34.0 +2.5
baz=121,SNR=7.5
V22A **San Miguel Ran** 121.25 52 ⇓PKiKP PKiKP 10 57 34.7 +3.1
baz=121,SNR=17
Z21A **St. Cloud Mine** 121.25 55 ⇑PKiKP PKiKP 10 57 34.3 +2.6
baz=121
121A **Cookes Peak, D** 121.33 56 ⇓PKiKP PKiKP 10 57 34.4 +2.5
baz=121
RJF **Les Rejaudoux** 121.33 319 *e*PKiKP PKPdf 10 57 31.3 0.0
RJF **Les Rejaudoux** 121.33 319 *e*PKPdf PKPdf 10 57 31.3 0.0
RJF **Les Rejaudoux** 121.33 319 *e*PKiKP PKPdf 10 57 31.3 0.0
N24A **Carr** 121.33 46 ⇑PKiKP PKiKP 10 57 32.8 +1.1
baz=121
221A **Mesquite Ranch** 121.44 57 ⇑PKiKP PKiKP 10 57 34.6 +2.5
baz=121
S23A **Nye Farm, Mont** 121.46 50 ⇓PKiKP PKiKP 10 57 35.0 +3.0
baz=121,SNR=5.7
X22A **Bernardo** 121.51 54 ⇓PKiKP PKiKP 10 57 35.0 +2.8
baz=121,SNR=11
LENM **Lemitar** 121.62 54 *e*PKPdf PKPdf 10 57 34.7 +2.4
T23A **Casias Ranch,** 121.62 51 ⇑PKiKP PKiKP 10 57 35.3 +2.9
baz=122,SNR=24
MTLF **Montolieu** 121.63 317 *e*PKiKP PKPdf 10 57 32.2 +0.2
comp=Z,14nm,0.9s
MTLF **Montolieu** 121.63 317 *e*PKPdf PKPdf 10 57 32.2 +0.2
MTLF **Montolieu** 121.63 317 *e*PKiKP PKPdf 10 57 32.2 +0.2
Y22A **Socorro** 121.69 55 PKiKP PKiKP 10 57 34.7 +2.2
baz=122,SNR=24
Y22D **IRIS PASSCAL I** 121.69 54 ⇓PKiKP PKiKP 10 57 35.2 +2.7
baz=122,SNR=7.3
U23A **El Rito** 121.70 52 ⇑PKiKP PKiKP 10 57 35.3 +2.8
baz=122,SNR=17
SDCO **Great Sand Dun** 121.83 50 ⇑PKiKP PKiKP 10 57 35.1 +2.4
baz=122,SNR=20
SDCO **Great Sand Dun** 121.83 50 *e*PKPdf PKPdf 10 57 34.6 +2.0
MFF **Saint Martin d** 121.84 321 *e*PKiKP PKPdf 10 57 32.6 +0.3
comp=Z,22nm,0.7s
MFF **Saint Martin d** 121.84 321 *e*PKPdf PKPdf 10 57 32.6 +0.3
MFF **Saint Martin d** 121.84 321 *e*PKiKP PKPdf 10 57 32.6 +0.3
ANMO **Albuquerque** 121.84 53 *e*PKPdf PKPdf 10 57 34.5 +1.8
ANMO **Albuquerque** 121.84 53 *e*PKiKP PKPdf 10 57 34.5 +1.8
Z22A **Elephant Butte** 121.84 55 ⇑PKiKP PKiKP 10 57 35.2 +2.3
baz=122
V23A **Ortiz Mt. (NFS** 121.86 52 PKiKP PKiKP 10 57 36.0 +3.2
baz=122,SNR=16
LPM **Los Pinos Moun** 121.86 54 *e*PKPdf PKPdf 10 57 35.0 +2.3
BNM **Barren Site** 121.91 54 *e*PKPdf PKPdf 10 57 34.5 +1.7
122A **Conniff Cattle** 121.94 56 ⇓PKiKP PKiKP 10 57 35.6 +2.5
baz=122,SNR=14
222A **Williams Famil** 121.98 57 ⇓PKiKP PKiKP 10 57 35.5 +2.4
baz=122
R24A **Sanders Place,** 121.99 49 ⇑PKiKP PKiKP 10 57 35.2 +2.2
baz=122,SNR=8.3
MDND **Maddock** 122.02 37 ⇓PKiKP PKiKP 10 57 33.6 +0.9
baz=122
W23A **Werner Place,** 122.04 53 ⇓PKiKP PKiKP 10 57 35.0 +1.8
baz=122,SNR=19
CFON **Fontmartina** 122.06 315 PKP PKPdf 10 57 33.5 +0.7
S24A **Houchin Ranch,** 122.08 50 ⇑PKiKP PKiKP 10 57 35.9 +2.7
baz=122,SNR=10
O25A **Wiggins** 122.12 47 ⇑PKiKP PKiKP 10 57 34.8 +1.6
baz=122,SNR=7.6
P25A **Willow Gulch B** 122.28 47 ⇑PKiKP PKiKP 10 57 35.7 +2.2
baz=122,SNR=6.2
T24A **Torres, Weston** 122.37 50 ⇑PKiKP PKiKP 10 57 36.1 +2.3
baz=122,SNR=8.1
Q25A **Bedland, Calha** 122.42 48 ⇑PKiKP PKiKP 10 57 35.5 +1.6
baz=122,SNR=9.2
Y23A **Lovelace Mesa,** 122.42 54 ⇑PKiKP PKiKP 10 57 35.9 +1.9
baz=122,SNR=20
Z23A **Rita Site, Whi** 122.44 55 ⇑PKiKP PKiKP 10 57 36.3 +2.2
baz=122,SNR=19
ETOS **Mallorca** 122.48 313 PKP PKPdf 10 57 35.0 +1.3
SGMF **Saint Gilles** 122.52 324 *e*PKiKP PKPdf 10 57 33.7 +0.2
SGMF **Saint Gilles** 122.52 324 *e*PKPdf PKPdf 10 57 33.7 +0.2
SGMF **Saint Gilles** 122.52 324 *e*PKiKP PKPdf 10 57 33.7 +0.2
V24A **Rampart Ranch,** 122.58 52 ⇓PKiKP PKiKP 10 57 36.6 +2.3
baz=122,SNR=40
W24A **Lazy 6 Ranch,** 122.61 53 ⇑PKiKP PKiKP 10 57 36.4 +2.0
baz=122,SNR=27
R25A **Fountain Ranch** 122.63 49 ⇓PKiKP PKiKP 10 57 36.1 +1.8
baz=122,SNR=11
S25A **Robets Cordova** 122.67 50 PKiKP PKiKP 10 57 36.4 +2.1
baz=123,SNR=14
T25A **Trinidad** 122.84 50 ⇓PKiKP PKiKP 10 57 37.0 +2.3
baz=123,SNR=14
ROSF **Rostrenen** 122.90 324 *e*PKiKP PKPdf 10 57 34.6 +0.3
ROSF **Rostrenen** 122.90 324 *e*PKPdf PKPdf 10 57 34.6 +0.3
ROSF **Rostrenen** 122.90 324 *e*PKiKP PKPdf 10 57 34.6 +0.3
Y24A **Capitan** 122.92 54 ⇓PKiKP PKiKP 10 57 36.9 +1.9
baz=123,SNR=80
ULM **Lac du Bonnet** 122.92 33 PKP PKPdf 10 57 34.2 -0.1
comp=Z,4.9nm,0.6s,baz=7.2,slow=2.3,SNR=8.1
ULM **Lac du Bonnet** 122.92 33 PKP PKPdf 10 57 34.2 -0.1
ULM **Lac du Bonnet** 122.92 33 PKiKP PKPdf 10 57 34.2 0.0
EPF **Esparros** 123.02 317 *e*PKiKP PKPdf 10 57 35.1 +0.4
comp=Z,8.1nm,0.7s
EPF **Esparros** 123.02 317 *e*PKPdf PKPdf 10 57 35.1 +0.4
EPF **Esparros** 123.02 317 *e*PKiKP PKPdf 10 57 35.1 +0.4
QUIF **Quistinic** 123.04 324 *e*PKiKP PKPdf 10 57 34.7 +0.1
QUIF **Quistinic** 123.04 324 *e*PKPdf PKPdf 10 57 34.7 +0.1
QUIF **Quistinic** 123.04 324 *e*PKiKP PKPdf 10 57 34.7 +0.1
U25A **Circle Dot Ran** 123.06 51 ⇓PKiKP PKiKP 10 57 37.2 +2.0
baz=123,SNR=13
V25A **Rancho No Teng** 123.06 52 ⇓PKiKP PKiKP 10 57 37.3 +2.1
baz=123,SNR=21
Z24A **Sheeppen Canyo** 123.13 55 PKiKP PKiKP 10 57 37.6 +2.2
baz=123,SNR=53
124A **Stringfield Ra** 123.21 56 ⇑PKiKP PKiKP 10 57 37.7 +2.1
baz=123,SNR=24
224A **Cornudas Mount** 123.30 56 ⇓PKiKP PKiKP 10 57 37.9 +2.2
baz=123
W25A **X Bar L Ranch,** 123.36 52 ⇑PKiKP PKiKP 10 57 37.7 +1.9
baz=123,SNR=14
324A **Moseley Ranch,** 123.47 57 ⇑PKiKP PKiKP 10 57 37.8 +1.7
baz=123,SNR=27
Y25A **Mesa, Roswell** 123.52 54 ⇑PKiKP PKiKP 10 57 37.9 +1.7
baz=123,SNR=18
U26A **Atchley Ranch,** 123.57 51 ⇓PKiKP PKiKP 10 57 38.0 +1.8
baz=124,SNR=11
Z25A **Roswell** 123.67 55 ⇑PKiKP PKiKP 10 57 38.6 +2.1
baz=124,SNR=18
ETSF **Etsaut** 123.67 317 *e*PKiKP PKPdf 10 57 37.2 +1.3
comp=Z,15nm,0.8s
ETSF **Etsaut** 123.67 317 *e*PKPdf PKPdf 10 57 37.2 +1.3
ETSF **Etsaut** 123.67 317 *e*PKiKP PKPdf 10 57 37.2 +1.3
V26A **Tequesquite Ra** 123.72 52 ⇑PKiKP PKiKP 10 57 38.1 +1.6
baz=124,SNR=15

225A **Deer Hill, Car** 123.87 56 ⇓PKiKP PKiKP 10 57 38.9 +2.0
baz=124,SNR=13
125A **Gardner Draw,** 123.87 55 ⇑PKiKP PKiKP 10 57 38.7 +1.8
baz=124,SNR=19
325A **Bean Ranch, Si** 123.92 57 ⇓PKiKP PKiKP 10 57 38.5 +1.4
baz=124,SNR=16
W26A **Owens Ranch, T** 123.94 52 ⇑PKiKP PKiKP 10 57 38.7 +1.7
baz=124,SNR=8.1
BRSD **Miller** 123.97 40 ⇓PKiKP PKiKP 10 57 37.3 +0.5
baz=124
SJPF **Ste Jean** 124.03 318 *e*PKiKP PKPdf 10 57 38.3 +1.7
SJPF **Ste Jean** 124.03 318 *e*PKPdf PKPdf 10 57 38.3 +1.7
SJPF **Ste Jean** 124.03 318 *e*PKiKP PKPdf 10 57 38.3 +1.7
425A **Indio Mountain** 124.04 58 PKiKP PKiKP 10 57 38.6 +1.3
baz=124,SNR=32
X26A **CR and CF Fran** 124.05 53 ⇓PKiKP PKiKP 10 57 38.8 +1.6
baz=124,SNR=10
TAM **Tamanrasset** 124.07 293 *e*PKPdf PKPdf 10 57 39.5 +2.3
TAM **Tamanrasset** 124.07 293 *e*PKiKP PKPdf 10 57 39.6 +2.3
Z26A **Caprock** 124.26 55 ⇑PKiKP PKiKP 10 57 38.7 +1.1
baz=124,SNR=7.7
126A **Clayton Basin,** 124.39 55 ⇓PKiKP PKiKP 10 57 39.3 +1.4
baz=124,SNR=7.0
CPRX **Cap Rock** 124.42 55 *e*PKPdf PKPdf 10 57 39.3 +1.7
226A **Malaga, Loving** 124.47 56 ⇑PKiKP PKiKP 10 57 39.5 +1.4
baz=124,SNR=20
W27A **Bowe Ranch, En** 124.50 52 ⇓PKiKP PKiKP 10 57 39.5 +1.4
baz=124,SNR=9.7
EMOS **Mosqueruela** 124.62 315 PKP PKPdf 10 57 39.8 +2.0
Y27A **Causey** 124.75 54 ⇑PKiKP PKiKP 10 57 40.0 +1.4
baz=125,SNR=24
326A **Caldwell Ranch** 124.75 57 ⇓PKiKP PKiKP 10 57 39.5 +0.8
baz=125,SNR=16
426A **McDonald Obser** 124.87 58 ⇑PKiKP PKiKP 10 57 40.3 +1.4
baz=125,SNR=8.1
Z27A **Tatum** 124.87 54 ⇑PKiKP PKiKP 10 57 40.0 +1.1
baz=125,SNR=25
127A **Arkansas Junct** 124.92 55 ⇑PKiKP PKiKP 10 57 40.0 +1.0
baz=125,SNR=9.7
526A **Mary Lane Ranc** 124.95 58 ⇓PKiKP PKiKP 10 57 40.8 +1.7
baz=125,SNR=21
626A **Big Bend Ranch** 125.03 59 ⇓PKiKP PKiKP 10 57 40.4 +1.2
baz=125,SNR=10
MSTX **Muleshoe** 125.04 53 ⇓PKiKP PKiKP 10 57 40.5 +1.3
baz=125,SNR=18
ECHE **Chera** 125.27 314 PKP PKPdf 10 57 40.4 +1.3
ECHE **Chera** 125.27 314 PKiKP PKPdf 10 57 40.4 +1.3
527A **Woodward Ranch** 125.34 58 ⇓PKiKP PKiKP 10 57 41.1 +1.3
baz=125,SNR=34
427A **Snyder Ranch,** 125.35 57 ⇑PKiKP PKiKP 10 57 41.3 +1.5
baz=125,SNR=28
TXAR **Lajitas Array** 125.47 59 PKP PKPdf 10 57 41.2 +1.4
comp=Z,9.3nm,0.9s,baz=243,slow=1.3,SNR=79
TXAR PKKPab 11 07 19.5
comp=Z,0.9nm,0.9s,baz=114,slow=6.0,SNR=7.0
TXAR **Lajitas Array** 125.47 59 PKP PKPdf 10 57 41.2 +1.4
TXAR PKKPab 11 07 19.5
TXAR **Lajitas Array** 125.47 59 PKiKP PKiKP 10 57 41.2 +1.4
TXAR pmax pmax
comp=Z,9.0nm,0.9s
TXAR pmax pmax
comp=Z,1.0nm,1.0s
ETOR **Torete** 125.54 316 PKP PKPdf 10 57 40.5 +0.9
ETOR **Torete** 125.54 316 PKiKP PKPdf 10 57 40.5 +0.9
AMTX **Amarillo** 125.63 52 *e*PKPdf PKPdf 10 57 41.8 +1.9
627A **Terlingua Ranc** 125.68 59 ⇑PKiKP PKiKP 10 57 42.0 +1.5
baz=126,SNR=24
328A **Wristen Ranch,** 125.71 56 ⇓PKiKP PKiKP 10 57 41.6 +1.0
baz=126,SNR=17
CBKS **Cedar Bluff** 125.75 47 ⇑PKiKP PKiKP 10 57 41.3 +0.9
baz=126
CBKS **Cedar Bluff** 125.75 47 *e*PKPdf PKPdf 10 57 41.4 +1.3
CBKS **Cedar Bluff** 125.75 47 *e*PKiKP PKPdf 10 57 41.4 +1.4
ECSD **EROS Data Cent** 125.80 40 *e*PKPdf PKPdf 10 57 40.7 +0.7
BGNE **Belgrade** 125.83 43 ⇑PKiKP PKiKP 10 57 41.2 +0.7
baz=126
428A **Kincaid Ranch,** 125.98 57 ⇑PKiKP PKiKP 10 57 42.8 +1.7
baz=126,SNR=17
528A **Cox Ranch, San** 126.03 58 ⇓PKiKP PKiKP 10 57 42.6 +1.3
baz=126,SNR=16
ETOB **Tobarra** 126.04 313 PKP PKPdf 10 57 42.0 +1.4
EYMN **Ely** 126.60 33 *e*PKPdf PKPdf 10 57 41.9 +0.5
EVIA **Vianos** 126.73 313 PKP PKPdf 10 57 43.1 +1.2
EVIA **Vianos** 126.73 313 PKiKP PKPdf 10 57 43.1 +1.2
GUD **Guadarrama** 127.06 316 PKP PKPdf 10 57 44.3 +1.8
GUD **Guadarrama** 127.06 316 PKiKP PKPdf 10 57 44.3 +1.8
EHUE **Huescar** 127.12 313 PKP PKPdf 10 57 44.1 +1.4
EHUE **Huescar** 127.12 313 PKiKP PKPdf 10 57 44.1 +1.4
ENIJ **Nijar** 127.15 311 PKP PKPdf 10 57 43.5 +0.7
ENIJ **Nijar** 127.15 311 PKiKP PKPdf 10 57 43.5 +0.7
ESDC **Sonseca Array** 127.35 315 PKP PKPdf 10 57 43.9 +0.9
comp=Z,3.5nm,1.0s,baz=30,slow=2.7,SNR=10
ESDC PP PP 10 59 44.2 0.0
comp=Z,2.8nm,0.9s,baz=63,slow=7.0,SNR=8.4
ESDC **Sonseca Array** 127.35 315 PKP PKPdf 10 57 43.8 +0.7
KSU1 **Kansas State U** 127.87 45 *e*PKPdf PKPdf 10 57 46.1 +2.0
WMOK **Wichita Mounta** 127.94 51 *e*PKPdf PKPdf 10 57 45.5 +1.1
WMOK **Wichita Mounta** 127.94 51 *e*PKiKP PKPdf 10 57 45.5 +1.2
EGUA **Guajares** 128.21 312 PKP PKPdf 10 57 46.0 +1.2
EGUA **Guajares** 128.21 312 PKiKP PKPdf 10 57 46.0 +1.2
TORD **Torodi Ar. Bea** 128.38 281 PKP PKPdf 10 57 45.4 -0.3
comp=Z,14nm,0.7s,baz=81,slow=3.4,SNR=3.5
TORD SKPbc 11 00 55.0
comp=Z,2.5nm,0.9s,baz=80,slow=3.3,SNR=6.3
TORD SKP 11 01 10.3
comp=Z,1.8nm,0.9s,baz=37,slow=1.2,SNR=13
TORD **Torodi Ar. Bea** 128.38 281 PKP PKPdf 10 57 45.4 -0.3
TORD SKPbc 11 00 55.0
TORD SKP 11 01 10.3
EADA **Adamuz** 128.41 314 PKP PKPdf 10 57 47.0 +1.9
JCT **Junction City** 128.44 57 ⇑PKiKP PKiKP 10 57 47.0 +0.9
baz=128
JCT **Junction City** 128.44 57 *e*PKPdf PKPdf 10 57 46.6 +1.2
JCT **Junction City** 128.44 57 *e*PKiKP PKPdf 10 57 46.6 +1.2
ELOJ **Sierra Loja** 128.52 312 PKP PKPdf 10 57 45.8 +0.4
ELOJ **Sierra Loja** 128.52 312 PKiKP PKPdf 10 57 45.8 +0.4
MVO **Moncorvo** 128.76 318 *e*PKP PKPdf 10 57 47.5 +1.8
PLCA **Paso Flores** 128.80 160 PKP PKPdf 10 57 48.0 +2.1
comp=Z,13nm,1.0s,baz=199,slow=2.5,SNR=17
PLCA SKPbc 11 00 57.3
comp=Z,7.4nm,1.1s,baz=201,slow=5.9,SNR=3.4
PLCA **Paso Flores** 128.80 160 PKP PKPdf 10 57 48.0 +2.1
PLCA SKPbc 11 00 57.3
PLCA **Paso Flores** 128.80 160 PKiKP PKPdf 10 57 48.0 +2.1
PLCA pmax pmax
comp=Z,13nm,1.0s
PLCA pmax pmax
comp=N,7.0nm,1.2s
POLO **Lamas de Olo** 129.16 319 PKPdf PKPdf 10 57 48.6 +2.1
MTE **Manteigas** 129.47 318 *i* P SKPdf 11 00 59.4 -11
PVIS **Viseu** 129.55 318 PKPdf PKPdf 10 57 47.0 -0.2
PVIS *i* P 11 00 59.8
PCBR **Castelo Branco** 129.69 317 PKPdf PKPdf 10 57 49.2 +1.7
PCBR *i* P 11 01 00.0
TUL1 **Tulsa** 129.77 49 ⇑PKiKP PKiKP 10 57 49.2 +0.6
baz=130
PMRV **Marv??o** 129.83 316 *e*PKPdf PKPdf 10 57 49.6 +1.8
PMRV *i* P 11 01 00.3
PBAR **Barrancos** 130.16 315 *e*PKPdf PKPdf 10 57 48.3 -0.2
PBAR *i* P 11 01 00.2
RFTA **Plano** 130.16 53 *e*PKPdf PKPdf 10 57 51.9 +3.3
PESTR **Estremoz** 130.23 316 *e*PKPdf PKPdf 10 57 50.5 +1.9
PESTR *i* P 11 01 01.3
PTOM **Tomar** 130.43 317 *e*PKPdf PKPdf 10 57 51.6 +2.7
PTOM *i* P 11 01 02.7
MDT **Midelt** 130.49 307 PKP PKPdf 10 57 50.8 +1.5
comp=N,3.9nm,0.8s,baz=58,slow=4.6,SNR=8.9
MDT SKPbc SKPbc 11 01 03.0 +2.5
comp=N,8.7nm,1.1s,baz=61,slow=2.5,SNR=8.0
MDT **Midelt** 130.49 307 PKP PKPdf 10 57 50.8 +1.5
MDT SKPbc SKPbc 11 01 03.0 +2.5
PMTG **Montargil** 130.57 316 *i* P SKPbc 11 01 02.0 +1.5
EVO **Evora** 130.68 316 *e*PKiKP PKPdf 10 57 49.9 +0.5
comp=N,33nm,1.3s
EVO **Evora** 130.68 316 *i* P SKPbc 11 01 03.7 +2.8
EVOP **Sao Brissos** 130.75 316 *e*PKPdf PKPdf 10 57 49.9 +0.3
EVOP **Sao Brissos** 130.75 316 *e*PKiKP PKPdf 10 57 49.9 +0.3
SCHQ **Schefferville** 130.78 12 PKP PKPdf 10 57 50.6 +1.5
comp=N,3.0nm,0.7s,baz=290,slow=9.9,SNR=3.9
SCHQ **Schefferville** 130.78 12 PKP PKPdf 10 57 50.6 +1.5
PBEJ

PBDV	**Barranco-do-Ve**	**131.21**	**314**	PKPdf	PKPdf	10 57 52.0	+1.5
PBDV				*i* P		11 01 06.3	
PNCL	**Nicolau / Gran**	**131.23**	**315**	PKPdf	PKPdf	10 57 52.9	+2.4
PNCL				*i* P		11 01 05.8	
MORF	**Marmelete**	**131.69**	**315**	*i* P	SKPbc	11 01 07.8	+3.1
PFVI	**Vila Bisbo**	**131.90**	**314**	PKPdf	PKPdf	10 57 53.4	+1.6
MIAR	**Mount Ida**	**131.99**	**49**	*e*PKPdf	PKPdf	10 57 53.6	+1.6
MIAR	**Mount Ida**	**131.99**	**49**	*e*PKIKP	PKPdf	10 57 53.6	+1.6
CCM	**Cathedral Cave**	**132.09**	**44**	*e*PKPdf	PKPdf	10 57 52.6	+0.5
CCM	**Cathedral Cave**	**132.09**	**44**	*e*PKIKP	PKPdf	10 57 52.6	+0.5
NATX	**Nacogdoches**	**132.21**	**53**	*e*PKPdf	PKPdf	10 57 55.7	+3.2
FVM	**French Village**	**132.69**	**44**	*e*PKPdf	PKPdf	10 57 54.0	+0.8
FVM	**French Village**	**132.69**	**44**	*e*PKIKP	PKPdf	10 57 54.0	+0.7
UALR	**University of**	**132.81**	**48**	*e*PKPdf	PKPdf	10 57 55.7	+2.1
TRQA	**Tornquist**	**133.66**	**167**	*e*PKPdf	PKPdf	10 57 57.2	+2.1
OLIL	**Olney**	**133.86**	**41**	*e*PKPdf	PKPdf	10 57 56.5	+1.1
DBIC	**Dimbokro**	**134.72**	**272**	PKP	PKPdf	10 57 58.4	+0.6
	comp=N,11nm,0.6s,baz=116,slow=2.1,SNR=19						
DBIC				SKPbc	SKPbc	11 01 17.8	+2.1
	comp=N,13nm,0.8s,baz=66,slow=3.6,SNR=14						
DBIC	**Dimbokro**	**134.72**	**272**	*e*PKPdf	PKPdf	10 57 58.1	+0.4
DBIC	**Dimbokro**	**134.72**	**272**	PKIKP	PKPdf	10 57 58.4	+0.6
DBIC				pmax	pmax		
	comp=Z,11nm,0.6s						
DBIC				pmax	pmax		
	comp=N,13nm,0.8s						
LIC	**Lamto**	**134.86**	**272**	*e*PKIKP	PKPdf	10 57 58.2	+0.2
	comp=N,28nm,0.8s,baz=104						
LIC	**Lamto**	**134.86**	**272**	*e*PKPdf	PKPdf	10 57 58.2	+0.2
VBMS	**Vicksburg**	**135.28**	**51**	*e*PKPdf	PKPdf	10 58 00.2	+1.9
WVT	**Waverly**	**135.41**	**44**	*e*PKPdf	PKPdf	10 57 58.5	+0.1
WVT	**Waverly**	**135.41**	**44**	*e*PKIKP	PKPdf	10 57 58.6	+0.2
PLAL	**Pickwick Lake**	**135.82**	**46**	*e*PKPdf	PKPdf	10 57 59.4	+0.2
JSC	**Jenkinsville**	**140.91**	**42**	*e*PKPdf	PKPdf	10 58 12.1	+3.5
JSC	**Jenkinsville**	**140.91**	**42**	*e*PKIKP	PKPdf	10 58 12.1	+3.5
TGUH	**Tegucigalpa,Un**	**143.26**	**76**	*e*PKPdf	PKPdf	10 58 12.0	-1.3
DWPF	**Disney**	**144.14**	**51**	*e*PKPdf	PKPdf	10 58 13.7	-0.7
JTS	**JuntasAbangare**	**145.82**	**82**	*e*PKPdf	PKPdf	10 58 19.4	+1.7
JTS	**JuntasAbangare**	**145.82**	**82**	*e*PKP2	PKPab	10 58 19.4	+0.3
BBTS	**Babate**	**145.90**	**285**	PKPbc	PKPbc	10 58 19.7	+1.0
	comp=N,180nm,0.8s,baz=153,slow=0.5,SNR=46						
CPUP	**Villa Florida**	**145.96**	**169**	PKPbc	PKPbc	10 58 19.8	+1.2
	comp=N,48nm,0.9s,baz=186,slow=2.2,SNR=66						
CPUP	**Villa Florida**	**145.96**	**169**	PKP2	PKPab	10 58 19.8	+0.6
CPUP				pmax	pmax		
	comp=Z,48nm,0.9s						
NNA	**Nana**	**147.56**	**126**	*e*PKPdf	PKPdf	10 58 22.8	+2.1
NNA				*e*PKPbc	PKPbc	10 58 25.0	+1.5
NNA	**Nana**	**147.56**	**126**	*e*PKIKP	PKPdf	10 58 22.8	+2.1
NNA				*e*		10 58 25.0	
LPAZ	**La Paz**	**150.81**	**143**	PKP	PKPdf	10 58 28.6	+2.9
	comp=Z,16nm,1.0s,baz=309,slow=0.5,SNR=31						
LPAZ				PKPbc	PKPbc	10 58 34.4	+2.9
	comp=Z,62nm,1.0s,baz=146,slow=4.6,SNR=43						
LPAZ	**La Paz**	**150.81**	**143**	*e*PKPdf	PKPdf	10 58 28.4	+2.6
LPAZ				*e*PKPbc	PKPbc	10 58 34.6	+3.1
LPAZ	**La Paz**	**150.81**	**143**	*e*PKIKP	PKPdf	10 58 28.4	+2.6
BCIP	**Isla Barro Col**	**150.89**	**84**	*e*PKPdf	PKPdf	10 58 26.9	+0.9
BCIP				*e*PKPbc	PKPbc	10 58 32.2	+0.4
OTAV	**Otavalo**	**151.25**	**103**	*e*PKPdf	PKPdf	10 58 30.0	+3.4
MTDJ	**Mount Denham**	**151.50**	**65**	*e*PKPbc	PKPbc	10 58 33.8	+0.8
ROSC	**El Rosal**	**156.17**	**94**	PKP	PKPdf	10 58 35.6	+2.0
	comp=Z,7.5nm,0.4s,baz=102,slow=21,SNR=8.1						
ROSC				PKPab	PKPab	10 59 04.1	+2.1
	comp=Z,12nm,0.5s,baz=281,slow=18,SNR=8.0						
ROSC	**El Rosal**	**156.17**	**94**	PKP	PKPdf	10 58 35.6	+2.0
ROSC				PKPab	PKPab	10 59 04.1	+2.1
SDDR	**Presa de Saban**	**156.66**	**58**	*e*PKPab	PKPab	10 59 05.7	+1.8
SDV	**Santo Domingo**	**159.99**	**84**	*e*PKPdf	PKPdf	10 58 39.0	+0.8
RCBR	**Riachuelo**	**160.49**	**229**	PKPab	PKPab	10 59 22.4	+1.9
	comp=Z,28nm,0.8s,baz=150,slow=6.1,SNR=18						
SJG	**San Juan**	**161.31**	**53**	PKP	PKPdf	10 58 39.6	+0.1
	comp=Z,13nm,0.7s,baz=36,slow=5.0,SNR=5.6						
SJG				PKPab	PKPab	10 59 25.3	+1.3
	comp=Z,31nm,0.8s,baz=320,slow=2.5,SNR=9.4						
SJG	**San Juan**	**161.31**	**53**	PKP	PKPdf	10 58 39.6	+0.1
SJG				PKPab	PKPab	10 59 25.3	+1.3
SJG	**San Juan**	**161.31**	**53**	PKIKP	PKPdf	10 58 39.6	+0.1
SJG						10 59 25.3	
SJG				pmax	pmax		
	comp=Z,13nm,0.7s						
SJG				pmax	pmax		
	comp=Z,31nm,0.8s						
CBYP	**Canovanas**	**161.46**	**52**	*e*PKPab	PKPab	10 59 26.1	+1.5

MAN 09 10:42:13,8.33N×124.57E,h35km,mb4.2,ML3.0,MS2.8, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**0.18**	**45**	*e*P	Pn	10 42 25.1	+5.5
BUKP	**Musuan**	**0.66**	**132**	*e*P	Pn	10 42 28.1	+2.2
BUKP				*e*S	Sn	10 42 37.2	+2.1
PAGZ	**Pagadian**	**1.26**	**248**	*e*P	Pn	10 42 34.4	+0.2
PAGZ				*e*S	Sn	10 42 51.5	+1.6
CNP	**Catarman**	**4.16**	**1**	*e*P	Pn	10 43 18.1	+4.1
CNP				*e*S	Sn	10 43 40.8	-21
PVCP	**Virac**	**5.25**	**356**	*e*P	Pn	10 43 31.3	+2.2
PVCP				*e*S	Sn	10 43 48.5	-40

NIED ***09*** *10:47:00.45°.00N×141°.90E,h220km,Mw3.9 Best double couple: M₀9.22000×10¹⁴ NP1:φ₉70.00000°, δ84.00000°,λ-153.00000°. NP2:φ₉337.00000°, δ64.00000°,λ-6.00000°.*

MOS ***09*** *10:47:01.2±0.8,44°.97N×141°.82E,h271km,mb3.8/11, Error ellipse: s-maj=17.8km s-min=10.5km az=90.7*

ISCJB ***09*** *10:47:01.1±0.3,44°.90N±0°.05×141°.92E±0°.08, h274km±4km,mb3.7/16,Error ellipse: s-maj=9.6km s-min=7.6km az=5.5*

IDC ***09*** *10:47:01.9±0.5,44°.90N×141°.84E,h267km±9km,mb3.5/12, mb1 3.6/15,mb1mx3.5/29,mbtmp3.6/15,Error ellipse: s-maj=26.6km s-min=14.2km az=156.0*

NEIC ***09*** *10:47:02.1,45°.03N×141°.92E,h264km,mb3.8/5,After JMA.*

JMA ***09*** *10:47:02.0±0.3,45°.03N×141°.92E,h264km±3km,M3.8*

ISC 09 10:47:02.0±0.3,44°.88N±0°.05×141°.92E±0°.09,h269km±4km, n78,σ1§01/89,mb3.7/16,2C-10D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWK2	**Keihoku**	**0.44**	**358**	⇓P	**Pn**	**10 47 36.1**	**-0.7**
JSE	**Soyaes**	**0.48**	**80**	⇓P	**Pn**	**10 47 36.6**	**-0.3**
JSE				*e*S	**S**	**10 48 03.2**	**-1.3**
JSS	**Shosan**	**0.48**	**186**	⇓P	**Pn**	**10 47 37.2**	**+0.2**
JRR	**Rishiri**	**0.51**	**301**	P	**Pn**	**10 47 36.6**	**-0.4**
JYG	**Yagishiri**	**0.57**	**218**	⇓P	**Pn**	**10 47 37.2**	**-0.1**
ASAJ	**Asahikawa**	**0.90**	**147**	P	**Pn**	**10 47 38.9**	**+0.3**
	80nm,0.3s,baz=324,slow=4.2,SNR=498						
ASAJ				S	**S**	**10 48 07.6**	**+0.2**
	baz=176,slow=32,SNR=3.2						
ASAJ	**Asahikawa**	**0.90**	**147**	*e*Pn	**Pn**	**10 47 38.9**	**+0.3**
ASAJ	**Asahikawa**	**0.90**	**147**	PN	**Pn**	**10 47 38.9**	**+0.3**
ASAJ				S	**S**	**10 48 07.6**	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,80nm,0.3s						
ASAJ	**Asahikawa**	**0.90**	**147**	⇓P	**Pn**	**10 47 38.8**	**+0.2**
ASAJ				*e*S	**S**	**10 48 07.6**	**+0.2**
JHR	**Hokuryu**	**1.15**	**187**	P	**Pn**	**10 47 40.5**	**+0.6**
JKK2	**Kamakawa 2**	**1.17**	**149**	⇓P	**Pn**	**10 47 40.5**	**+0.5**
JMP	**Maruseppu**	**1.35**	**130**	⇓P	**Pn**	**10 47 41.6**	**+0.5**
JAB	**Ashibetsu**	**1.39**	**171**	⇓P	**Pn**	**10 47 41.8**	**+0.4**
JTKR	**Abashiri--Toko**	**1.69**	**122**	⇓P	**Pn**	**10 47 44.3**	**+0.8**
JAR	**Ashorobuto**	**2.07**	**139**	⇓P	**Pn**	**10 47 47.7**	**+1.1**
JAR				*e*S	**S**	**10 48 23.5**	**+1.5**
JEW	**Eniwo**	**2.07**	**190**	⇑P	**Pn**	**10 47 47.8**	**+1.1**
JEW				*e*S	**S**	**10 48 23.3**	**+1.3**
YSS	**Yuzh-Sakhalins**	**2.15**	**15**	*e*Pn	**Pn**	**10 47 46.0**	**-1.3**
YSS	**Yuzh-Sakhalins**	**2.15**	**15**	⇑*i*PN	**Pn**	**10 47 45.6**	**-1.7**
YSS				pmax	pmax		
	comp=Z,210nm,0.3s						
JRA	**Rausu**	**2.48**	**111**	P	**Pn**	**10 47 51.6**	**+1.2**
JCH	**Churui**	**2.49**	**155**	P	**Pn**	**10 47 49.9**	**-0.7**
JCH				*e*S	**S**	**10 48 26.9**	**-2.2**
JNBK	**Urakawa-nobuka**	**2.67**	**167**	P	**Pn**	**10 47 53.3**	**+1.0**
JNBK				*e*S	**S**	**10 48 31.3**	**-0.9**
JAK	**Akkeshi**	**2.75**	**132**	P	**Pn**	**10 47 53.2**	**+0.1**
JAK				*e*S	**S**	**10 48 31.6**	**-2.0**
ERM	**Erimo**	**3.00**	**162**	*e*Pn	**Pn**	**10 47 57.5**	**+1.8**
ERM				*e*S	**S**	**10 48 38.2**	**-0.1**
ERM	**Erimo**	**3.00**	**162**	*e*PN	**Pn**	**10 47 57.5**	**+1.8**
ERM				*e*S	**S**	**10 48 38.3**	**0.0**
NEM2	**Nemuro 2**	**3.14**	**117**	*e*S	**S**	**10 48 38.5**	**-2.4**
MAJO	**Matsushiro**	**8.79**	**200**	*e*Pn	**Pn**	**10 49 05.0**	**-0.3**
MAJO	**Matsushiro**	**8.79**	**200**	*e*PN	**Pn**	**10 49 05.0**	**-0.3**
MAT	**Matsushiro**	**8.79**	**200**	P	**Pn**	**10 49 04.4**	**-0.9**
MJAR	**Matsushiro Arr**	**8.79**	**200**	P	**Pn**	**10 49 05.5**	**+0.2**
	comp=Z,2.4nm,0.3s,baz=3.7,slow=13,SNR=22						
MJAR	**Matsushiro Arr**	**8.79**	**200**	P	**Pn**	**10 49 05.5**	**+0.2**
MJAR	**Matsushiro Arr**	**8.79**	**200**	PN	**Pn**	**10 49 05.5**	**+0.2**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
JHJ	**Hachijo jima 2**	**11.86**	**189**	P	**Pn**	**10 49 42.7**	**-0.7**
	comp=Z,22nm,0.3s,baz=26,slow=22,SNR=6.2						
PETK	**Petropavlovsk-**	**13.21**	**46**	P	**Pn**	**10 50 01.2**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=212,slow=9.3,SNR=6.1						
PETK	**Petropavlovsk-**	**13.21**	**46**	P	**Pn**	**10 50 01.2**	**+1.5**
PETK	**Petropavlovsk-**	**13.21**	**46**	PN	**Pn**	**10 50 01.2**	**+1.5**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ULN	**Ulaanbaatar**	**24.12**	**290**	*e*P	**P**	**10 51 53.9**	**+0.4**
	comp=Z,2.1nm,0.6s,mb3.6						
ULN	**Ulaanbaatar**	**24.12**	**290**	*e*P	**P**	**10 51 53.9**	**+0.4**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.6						
SONM	**Songino Array**	**24.57**	**290**	P	**P**	**10 51 58.2**	**+0.7**
	comp=Z,4.7nm,0.5s,mb4.2,baz=84,slow=8.9,SNR=25						
SONM	**Songino Array**	**24.57**	**290**	P	**P**	**10 51 58.2**	**+0.7**
SONM	**Songino Array**	**24.57**	**290**	P	**P**	**10 51 58.2**	**+0.7**
SONM				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ENH	**Enshi**	**29.33**	**251**	*e*P	**P**	**10 52 38.1**	**-2.0**
	comp=Z,9.2nm,0.4s,mb4.6						
ZALV	**Zalesovo Beam**	**37.30**	**305**	P	**P**	**10 53 47.3**	**-1.0**
	comp=Z,0.8nm,0.4s,mb3.5,baz=105,slow=5.1,SNR=3.5						
ZALV	**Zalesovo Beam**	**37.30**	**305**	P	**P**	**10 53 47.3**	**-1.0**
ZALV	**Zalesovo Beam**	**37.30**	**305**	P	**P**	**10 53 47.3**	**-1.0**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.6						
MKAR	**Makanchi Array**	**40.72**	**295**	P	**P**	**10 54 17.1**	**+0.5**
	comp=Z,3.7nm,0.6s,mb3.8,baz=81,slow=10,SNR=6.7						
MKAR	**Makanchi Array**	**40.72**	**295**	P	**P**	**10 54 17.1**	**+0.5**
MKAR	**Makanchi Array**	**40.72**	**295**	P	**P**	**10 54 17.1**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KURK	**Kurchatov**	**41.76**	**301**	P	**P**	**10 54 25.3**	**+0.3**
	comp=Z,1.9nm,0.5s,mb3.6,baz=71,slow=8.6,SNR=5.8						
KURK	**Kurchatov**	**41.76**	**301**	P	**P**	**10 54 25.3**	**+0.4**
KURK	**Kurchatov**	**41.76**	**301**	P	**P**	**10 54 25.3**	**+0.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.6						
ILAR	**Eielson Array**	**42.81**	**37**	P	**P**	**10 54 33.4**	**+0.2**
	comp=Z,0.5nm,0.6s,mb3.0,baz=278,slow=10.0,SNR=7.4						
ILAR	**Eielson Array**	**42.81**	**37**	P	**P**	**10 54 33.4**	**+0.2**
ILAR	**Eielson Array**	**42.81**	**37**	P	**P**	**10 54 33.4**	**+0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**47.32**	**30**	P	**P**	**10 55 08.6**	**+0.1**
	comp=Z,1.1nm,0.3s,mb3.7,baz=282,slow=6.6,SNR=23						
INK	**Inuvik**	**47.32**	**30**	*e*P	**P**	**10 55 08.1**	**-0.4**
	comp=Z,1.6nm,0.4s,mb3.7						
INK	**Inuvik**	**47.32**	**30**	P	**P**	**10 55 08.6**	**+0.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AAK	**Ala-Archa**	**47.47**	**292**	*e*P	**P**	**10 55 10.9**	**+1.0**
	comp=Z,2.2nm,0.5s,mb3.7						
AAK	**Ala-Archa**	**47.47**	**292**	*e*P	**P**	**10 55 10.9**	**+0.9**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.7						
KKAR	**Karatay Array**	**49.85**	**295**	*e*P	**P**	**10 55 28.1**	**+0.1**
	comp=Z,0.8nm,0.3s,mb3.5						
KKAR	**Karatay Array**	**49.85**	**295**	*e*P	**P**	**10 55 28.1**	**+0.1**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.6						
YKA	**Yellowknife Ar**	**56.91**	**33**	P	**P**	**10 56 20.0**	**+1.2**
	comp=Z,0.6nm,0.4s,mb3.3,baz=303,slow=6.5,SNR=4.9						
YKA	**Yellowknife Ar**	**56.91**	**33**	P	**P**	**10 56 20.0**	**+1.2**
YKA	**Yellowknife Ar**	**56.91**	**33**	P	**P**	**10 56 20.0**	**+1.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MOS	**Moscow**	**61.27**	**321**	*e*P	**P**	**10 56 45.1**	**-3.5**
FINES	**FINESS Array B**	**62.11**	**331**	P	**P**	**10 56 52.1**	**-2.0**
	comp=Z,2.4nm,0.8s,mb3.9,baz=40,slow=11,SNR=5.6						
FINES	**FINESS Array B**	**62.11**	**331**	P	**P**	**10 56 52.1**	**-2.0**
FINES	**FINESS Array B**	**62.11**	**331**	P	**P**	**10 56 52.2**	**-1.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
HFS	**Hagfors**	**67.13**	**335**	P	**P**	**10 57 25.7**	**-0.7**
	comp=Z,2.5nm,0.9s,mb4.0,baz=31,slow=6.9,SNR=6.6						
HFS	**Hagfors**	**67.13**	**335**	P	**P**	**10 57 25.7**	**-0.7**
HFS	**Hagfors**	**67.13**	**335**	P	**P**	**10 57 25.7**	**-0.8**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
AKASG	**Malin Array Be**	**68.39**	**321**	P	**P**	**10 57 33.6**	**-0.8**
	comp=Z,1.3nm,0.4s,mb4.0,baz=43,slow=6.5,SNR=6.7						
AKASG	**Malin Array Be**	**68.39**	**321**	P	**P**	**10 57 33.6**	**-0.8**
AKASG	**Malin Array Be**	**68.39**	**321**	P	**P**	**10 57 33.7**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GERES	**GERESS Array B**	**76.27**	**328**	P	**P**	**10 58 21.1**	**+0.2**
	comp=Z,0.3nm,0.4s,mb3.3,baz=38,slow=6.8,SNR=4.0						
GERES	**GERESS Array B**	**76.27**	**328**	P	**P**	**10 58 21.1**	**+0.2**
GERES	**GERESS Array B**	**76.27**	**328**	P	**P**	**10 58 21.1**	**+0.2**
ESDC	**Sonseca Array**	**90.41**	**334**	P	**P**	**10 59 33.2**	**+0.3**
	comp=Z,0.3nm,0.4s,mb3.5,baz=9.8,slow=4.1,SNR=3.8						
ESDC	**Sonseca Array**	**90.41**	**334**	P	**P**	**10 59 33.2**	**+0.3**

NIED ***09*** *10:50:00,46°.30N×147°.50E,h400km,Mw4.3 Best double couple: M₀3.16000×10¹⁵ NP1:φ₉160.00000°, δ82.00000°,λ84.00000°. NP2:φ₉17.00000°,δ10.00000°, λ127.00000°.*

MOS ***09*** *10:50:49.6±1.1,46°.92N×146°.98E,h320km,mb4.0/31, Error ellipse: s-maj=10.1km s-min=7.1km az=73.3*

BJI ***09*** *10:50:49.6,47°.00N×147°.02E,h324km,mB4.6/16, mb4.4/26*

ISCJB ***09*** *10:50:50.4±0.3,46°.85N±0°.04×146°.93E±0°.04, h330km±4km,mb4.0/56,Error ellipse: s-maj=7.1km s-min=4.3km az=163.3*

JMA ***09*** *10:50:50.1±0.6,46°.32N×147°.51E,h352km,M4.1*

SKHL ***09*** *10:50:50.6±0.5,46°.63N×146°.96E,h328km±26km,mb5.0/2, msh5.0/1*

IDC ***09*** *10:50:51.6±0.9,46°.90N×146°.90E,h331km±9km,mb3.6/23, mb1 3.8/28,mb1mx3.7/34,mbtmp3.6/28,Error ellipse: s-maj=11.6km s-min=7.8km az=145.0*

NEIC ***09*** *10:50:51.6±0.5,46°.87N×146°.96E,h327km±6km,mb4.2/31, Error ellipse: s-maj=10.1km s-min=5.3km az=158.0*

ISC 09 10:50:51.3±0.3,46°.81N±0°.04×146°.98E±0°.04,h324km±4km, h321km±1.4km:pP-P,n342,σ0§81/357,mb4.0/56,95C-84D, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**2.88**	**196**	⇑*i*PN	**Pn**	**10 51 48.3**	**+0.6**
YUK				*e*S	**S**	**10 52 33.7**	**+0.8**
YUK				pmax	pmax		
	comp=N,101nm,0.6s						
YUK				pmax	pmax		
	comp=Z,201nm,0.6s						
YUK				pmax	pmax		
	comp=E,75nm,0.3s						
YUK				smax			
	comp=N,289nm,0.7s						
YUK				smax			
	comp=E,628nm,0.7s						
YUK				smax			
	comp=N,700nm,1.2s						
YUK				smax			
	comp=E,1μm,1.2s						
YUK	**Yuzh-Kuril'sk**	**2.88**	**196**	⇑*i*P	**Pn**	**10 51 48.3**	**+0.6**
YUK				AMB	AMB	10 52 02.6	
	comp=E,101nm,0.6s						
YUK				AMB	AMB	10 52 02.6	
	comp=E,201nm,0.6s						
YUK				AMB	AMB	10 52 02.6	
	comp=E,75nm,0.3s						
YUK				*e*S	**S**	**10 52 33.7**	**+0.8**
YUK				A		10 52 35.0	
	comp=E,580nm,0.5s						
YUK				A		10 52 35.0	
	comp=E,380nm,0.5s						
YUK				A		10 52 37.1	
	comp=E,740nm,1.2s						
YUK				A		10 52 37.1	
	comp=E,1μm,1.2s						
YSS	**Yuzh-Sakhalins**	**2.90**	**274**	*e*Pn	**Pn**	**10 51 49.0**	**+1.2**
YSS	**Yuzh-Sakhalins**	**2.90**	**274**	*e*PN	**Pn**	**10 51 49.0**	**+1.3**
YSS	**Yuzh-Sakhalins**	**2.90**	**274**	⇑*i*P	**Pn**	**10 51 49.0**	**+1.3**
YSS				AMB	AMB	10 51 50.0	
	comp=E,320nm,0.6s						
YSS				*e*S	**S**	**10 52 34.2**	**+1.2**
YSS				A		10 52 38.0	
	comp=E,210nm,1.1s						
NEM2	**Nemuro 2**	**3.55**	**195**	P	**Pn**	**10 51 51.4**	**-2.8**
NEM2				*e*S	**S**	**10 52 38.8**	**-5.9**
JTKR	**Abashiri--Toko**	**3.57**	**218**	P	**Pn**	**10 51 54.6**	**+0.2**
JSE	**Soyaes**	**3.58**	**240**	P	**Pn**	**10 51 56.2**	**+1.7**
JWK2	**Keihoku**	**3.84**	**249**	P	**Pn**	**10 51 59.5**	**+2.4**
ASAJ	**Asahikawa**	**4.09**	**230**	P	**Pn**	**10 52 01.3**	**+1.5**
	comp=E,11nm,0.3s,baz=66,slow=9.4,SNR=51						
ASAJ				S	**S**	**10 52 56.7**	**+1.8**
	baz=178,slow=32,SNR=3.0						
ASAJ	**Asahikawa**	**4.09**	**230**	*e*Pn	**Pn**	**10 52 00.9**	**+1.1**
ASAJ	**Asahikawa**	**4.09**	**230**	PN	**Pn**	**10 52 01.3**	**+1.5**
ASAJ				S	**S**	**10 52 56.7**	**+1.8**
ASAJ				pmax	pmax		
	comp=Z,11nm,0.3s						
JAK	**Akkeshi**	**4.14**	**204**	P	**Pn**	**10 51 58.0**	**-2.4**
JAK				*e*S	**S**	**10 52 50.9**	**-5.0**
JAR	**Ashorobuto**	**4.18**	**214**	P	**Pn**	**10 52 00.4**	**-0.4**
JAR				*e*S	**S**	**10 52 55.9**	**-0.8**
JKK2	**Kamakawa 2**	**4.19**	**227**	P	**Pn**	**10 52 01.8**	**+1.0**
JFR	**Furan**	**4.79**	**222**	P	**Pn**	**10 52 07.8**	**+0.3**
JFR				*e*S	**S**	**10 53 09.0**	**+0.2**
JCH	**Churui**	**4.92**	**213**	P	**Pn**	**10 52 06.9**	**-2.0**
JCH				*e*S	**S**	**10 53 05.7**	**-5.8**
JNBK	**Urakawa-nobuka**	**5.44**	**215**	P	**Pn**	**10 52 12.5**	**-2.3**
JNBK				*e*S	**S**	**10 53 17.0**	**-5.3**
ERM	**Erimo**	**5.52**	**211**	*e*Pn	**Pn**	**10 52 14.2**	**-1.5**
ERM				*e*Sn	**S**	**10 53 14.3**	**-10**
ERM	**Erimo**	**5.52**	**211**	⇑*e*PN	**Pn**	**10 52 14.2**	**-1.5**
ERM	**Erimo**	**5.52**	**211**	*e*P	**Pn**	**10 52 14.2**	**-1.5**
JEW	**Eniwo**	**5.59**	**227**	P	**Pn**	**10 52 16.9**	**+0.4**
JEW				*e*S	**S**	**10 53 22.9**	**-2.4**
JKB	**Kayabe**	**6.51**	**223**	P	**Pn**	**10 52 25.5**	**-1.8**
JKB				*e*S	**S**	**10 53 37.8**	**-7.2**
JOT	**Ohata**	**6.90**	**220**	P	**Pn**	**10 52 29.2**	**-2.7**
JOT				*e*S	**S**	**10 53 44.8**	**-8.7**
JOSM	**Okushiri--Mats**	**7.15**	**231**	P	**Pn**	**10 52 34.4**	**-0.5**
SKR	**Severo-Kuril's**	**7.18**	**54**	*e*PN	**Pn**	**10 52 39.9**	**+4.9**
SKR	**Severo-Kuril's**	**7.18**	**54**	*e*P	**Pn**	**10 52 39.9**	**+4.9**
SKR				*e*rx	rx	10 54 01.2	
JANG	**Nango**	**7.56**	**214**	P	**Pn**	**10 52 36.8**	**-3.0**
JANG				*e*S	**S**	**10 53 58.2**	**-10**
PETK	**Petropavlovsk-**	**9.35**	**44**	P	**Pn**	**10 53 01.5**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=279,slow=19,SNR=4.8						
PETK	**Petropavlovsk-**	**9.35**	**44**	P	**Pn**	**10 53 01.5**	**+0.4**
PETK	**Petropavlovsk-**	**9.35**	**44**	PN	**Pn**	**10 53 01.5**	**+0.4**
PET	**Petropavlovsk**	**9.76**	**46**	*e*P	**Pn**	**10 53 07.1**	**+1.0**
KLR	**Kul'dur**	**10.49**	**289**	*e*PN	**Pn**	**10 53 13.6**	**-1.4**
KLR				pmax	pmax		
	comp=E,33nm,1.4s						
KLR				pmax	pmax		
	comp=Z,48nm,1.4s						
VLA	**Vladivostok**	**11.31**	**256**	*d i*PN	**Pn**	**10 53 25.9**	**+0.9**
VLA	**Vladivostok**	**11.31**	**256**	*e*P	**Pn**	**10 53 25.9**	**+0.9**
MAJO	**Matsushiro**	**12.17**	**216**	*e*P	**Pn**	**10 53 36.2**	**+0.8**
	comp=Z,13nm,0.6s						
MAJO	**Matsushiro**	**12.17**	**216**	*e*PN	**Pn**	**10

CD2 S **S** 11 02 48.1 +1.0
CD2 sS sS 11 04 39.6 -1.6
CD2 SS SS 11 05 38.7 -4.5
CD2 pmax pmax
comp=Z,20nm,0.6s,mb4.5
CD2 pmax pmax
comp=Z,390nm,4.9s
KDAK Kodiak Island 37.32 50 P **P 10 57 32.2 -0.8**
comp=Z,7.2nm,0.3s,mb4.3,baz=259,slow=4.2,SNR=17
KDAK Kodiak Island 37.32 50 P **P 10 57 32.2 -0.8**
KDAK Kodiak Island 37.32 50 P **P 10 57 32.2 -0.8**
KDAK pmax pmax
comp=Z,7.0nm,0.3s,mb4.4
GYA Guiyang 37.67 252 *e*P **P 10 57 37.0 +0.8**
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.0
PMR Palmer 38.48 44 *e*P **P 10 57 42.3 -0.2**
comp=Z,7.7nm,0.7s,mb4.0
PMR Palmer 38.48 44 *e*P **P 10 57 42.3 -0.2**
PMR pmax pmax
comp=Z,8.0nm,0.7s,mb4.1
COLA College 38.71 38 *e*P **P 10 57 43.9 -0.4**
comp=Z,8.0nm,0.7s,mb4.1
COLA College 38.71 38 *e*P **P 10 57 43.9 -0.4**
COLA pmax pmax
comp=Z,8.0nm,0.7s,mb4.1
SML Sawmill 38.83 43 *e*P **P 10 57 44.4 -0.9**
comp=Z,3.8nm,0.6s,mb3.8
SML Sawmill 38.83 43 *e*P **P 10 57 44.4 -0.9**
SML pmax pmax
comp=Z,4.0nm,0.6s,mb3.8
ZALV Zalesovo Beam 39.12 304 P **P 10 57 46.2 -1.6**
comp=Z,1.8nm,0.3s,mb3.8,baz=81,slow=7.3,SNR=8.7
ZALV Zalesovo Beam 39.12 304 P **P 10 57 46.2 -1.6**
ZALV Zalesovo Beam 39.12 304 *e*P **P 10 57 48.4 +0.5**
ZALV pmax pmax
comp=Z,2.0nm,0.3s,mb3.8
ILAR Eielson Array 39.13 38 P **P 10 57 46.6 -1.2**
comp=Z,3.1nm,0.6s,mb3.7,baz=248,slow=5.6,SNR=41
ILAR Eielson Array 39.13 38 P **P 10 57 46.6 -1.2**
ILAR Eielson Array 39.13 38 P **P 10 57 46.6 -1.2**
ILAR pmax pmax
comp=Z,3.0nm,0.6s
BMRM Bremner River 40.74 44 *e*P **P 10 58 01.3 +0.3**
comp=Z,34nm,1.5s,mb4.3
MENT Mentasta 40.77 41 *e*P **P 10 58 01.1 0.0**
WMQ Urumqi 40.94 288 *e*P **P 10 58 01.6 -1.2**
EGAK Eagle 41.56 38 *e*P **P 10 58 05.9 -1.6**
comp=Z,7.9nm,0.8s,mb3.9
MK31 Makanchi Array 43.13 295 *e*P **P 10 58 20.0 -0.3**
MK31 Makanchi Array 43.13 295 *e*P **P 10 58 20.0 -0.3**
MKAR Makanchi Array 43.13 295 P **P 10 58 20.0 -0.3**
comp=Z,6.8nm,0.6s,mb4.0,baz=70,slow=7.6,SNR=41
MKAR ScP ScP 11 03 20.9 -1.9
comp=Z,0.5nm,0.7s,baz=46,slow=6.9,SNR=4.2
MKAR Makanchi Array 43.13 295 P **P 10 58 20.0 -0.3**
MKAR ScP ScP 11 03 20.9 -1.9
MKAR Makanchi Array 43.13 295 P **P 10 58 20.0 -0.3**
MKAR pmax pmax
comp=Z,7.0nm,0.6s
MKAR pmax pmax
comp=N,1.0nm,0.7s
KURK Kurchatov 43.78 301 P **P 10 58 25.7 +0.3**
comp=N,13nm,0.6s,mb4.3,baz=70,slow=8.8,SNR=40
KURK Kurchatov 43.78 301 *e*P **P 10 58 24.6 -0.8**
comp=N,15nm,0.6s,mb4.3
KURK Kurchatov 43.78 301*d i*P **P 10 58 24.5 -0.9**
KURK pmax pmax
comp=Z,17nm,0.8s,mb4.2
INK Inuvik 43.84 32 P **P 10 58 24.4 -1.3**
comp=Z,1.4nm,0.3s,mb3.6,baz=313,slow=6.0,SNR=23
INK Inuvik 43.84 32 *e*P **P 10 58 24.2 -1.5**
comp=Z,3.5nm,0.7s,mb3.6
INK Inuvik 43.84 32 P **P 10 58 24.4 -1.3**
INK pmax pmax
comp=Z,1.0nm,0.3s
LSA Lhasa 46.06 269 *e*P **P 10 58 45.5 +2.0**
comp=Z,9.5nm,0.6s,mb4.1
LSA Lhasa 46.06 269 *e*P **P 10 58 45.5 +2.0**
LSA pmax pmax
comp=Z,10.0nm,0.6s,mb4.1
BRVK Borovoye 47.56 307⇓ *e*P **P 10 58 54.2 -0.5**
BRVK pmax pmax
comp=Z,6.0nm,1.2s,mb3.7
CMAR Chiang Mai Arr 48.34 251 P **P 10 58 59.3 -1.8**
comp=Z,0.3nm,0.3s,mb3.0,baz=46,slow=6.4,SNR=2.8
CMAR Chiang Mai Arr 48.34 251 P **P 10 58 59.3 -1.8**
CMAR Chiang Mai Arr 48.34 251 P **P 10 58 59.3 -1.8**
DLBC Dease Lake 48.53 44 P **P 10 59 03.3 +1.3**
comp=Z,5.8nm,0.8s,mb3.9,baz=270,slow=8.9,SNR=11
DLBC Dease Lake 48.53 44 *e*P **P 10 59 03.1 +1.1**
AAK Ala-Archa 49.98 293 *e*P **P 10 59 13.4 +0.3**
comp=Z,5.4nm,0.7s,mb3.9
AAK Ala-Archa 49.98 293*de*P **P 10 59 13.4 +0.3**
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb3.6
EKS2 Erkin-Say 50.42 294 *e*P **P 10 59 16.8 +0.4**
comp=Z,5.9nm,0.5s,mb4.1
EKS2 Erkin-Say 50.42 294 *e*P **P 10 59 16.8 +0.4**
EKS2 pmax pmax
comp=Z,6.0nm,0.5s,mb4.1
ARU Arti 52.06 315*c i*P **P 10 59 26.8 -1.4**
ARU 11 01 26.1
ARU SS SS 11 10 04.5 -2.8
ARU pmax pmax
comp=Z,4.0nm,0.8s,mb3.8
RES Resolute Bay 52.08 17 P **P 10 59 26.3 -1.8**
comp=Z,2.9nm,0.6s,mb3.8,baz=315,slow=6.1,SNR=13
RES Resolute Bay 52.08 17 *e*P **P 10 59 25.9 -2.2**
comp=Z,3.3nm,0.7s,mb3.8
RES Resolute Bay 52.08 17 P **P 10 59 26.3 -1.8**
RES pmax pmax
comp=Z,3.0nm,0.6s,mb3.8
KKAR Karatay Array 52.23 296 *e*P **P 10 59 29.6 -0.1**
comp=Z,7.2nm,0.6s,mb4.2
KKAR Karatay Array 52.23 296 *e*P **P 10 59 29.6 -0.1**
KKAR pmax pmax
comp=Z,7.0nm,0.6s,mb4.2
YKA Yellowknife Ar 53.34 35 P **P 10 59 36.5 -0.9**
comp=Z,0.7nm,0.6s,mb3.1,baz=302,slow=7.2,SNR=5.0
YKA Yellowknife Ar 53.34 35 P **P 10 59 36.5 -0.9**
YKA Yellowknife Ar 53.34 35 P **P 10 59 36.5 -0.9**
YKA pmax pmax
comp=Z,1.0nm,0.6s
ARCES ARCESS Array B 56.34 339 P **P 10 59 56.8 -1.9**
comp=Z,4.2nm,1.0s,mb3.7,baz=14,slow=5.4,SNR=3.6
ARCES ARCESS Array B 56.34 339 P **P 10 59 56.8 -1.9**
ARCES ARCESS Array B 56.34 339 P **P 10 59 56.8 -1.9**
ARCES pmax pmax
comp=Z,4.0nm,1.0s
NEW Newport 60.43 50⇓ *e*P **P 11 00 26.8 -0.2**
baz=60
NEW Newport 60.43 50 *e*P **P 11 00 27.1 +0.2**
comp=Z,5.9nm,0.9s,mb4.0
NEW Newport 60.43 50 *e*P **P 11 00 27.1 +0.1**
NEW pmax pmax
comp=Z,6.0nm,0.9s
E09A Wood Farm, Sta 60.97 52⇓ P **P 11 00 30.1 -0.5**
baz=61
C11A Tepee Creek (N 61.15 50⇑ P **P 11 00 31.8 0.0**
baz=61
G08A Pilot Rock 61.29 53⇓ P **P 11 00 32.0 -0.8**
baz=61
A13A Flathead Natio 61.41 48⇓ P **P 11 00 32.2 -1.4**
baz=61
C12B Naegeli Ranch, 61.64 50⇓ P **P 11 00 34.8 -0.3**
baz=61,SNR=5.4
B13A Whitefish 61.74 48⇑ P **P 11 00 36.0 +0.3**
baz=61
I07A Izee 61.74 55⇑ P **P 11 00 35.6 -0.2**
baz=62
K05A Summer Lake 61.80 57⇓ P **P 11 00 37.0 +0.8**
baz=62
F10A Beach Ranch, E 61.80 52⇑ P **P 11 00 35.5 -0.7**
baz=62
FINES FINESS Array B 62.10 332 P **P 11 00 36.5 -1.4**
comp=Z,3.3nm,0.5s,mb4.1,baz=41,slow=7.7,SNR=27
FINES FINESS Array B 62.10 332 P **P 11 00 36.5 -1.4**
FINES pmax pmax
comp=Z,3.0nm,0.5s
D12A Red Ives Fores 62.12 50⇑ P **P 11 00 37.3 -0.9**
baz=62
C13A Hot Springs 62.12 49⇑ P **P 11 00 38.1 -0.2**
baz=62
A15A Johnson Ranch, 62.23 47⇑ P **P 11 00 37.9 -1.0**
baz=62
B14A Marquette Ranc 62.36 48⇑ P **P 11 00 38.9 -0.9**
baz=62
E12A Beaver Dam Sad 62.41 51⇑ P **P 11 00 40.5 +0.4**
baz=62
C14A Swan Lake 62.50 49⇓ P **P 11 00 40.9 +0.2**
baz=62
SWMT Swartz Lake 62.53 49 *e*P **P 11 00 41.6 +0.7**
D13A Huson 62.56 50⇑ P **P 11 00 41.1 0.0**
baz=62,SNR=5.3
SLMT Seeley Lake 62.97 49 *e*P **P 11 00 44.2 +0.4**
comp=Z,47nm,2.1s,mb4.7
F12A Elk City 63.00 51⇑ P **P 11 00 44.0 -0.1**
baz=63
MSO Missoula 63.00 50⇑ P **P 11 00 43.9 -0.2**
baz=63
MSO Missoula 63.00 50 *e*P **P 11 00 44.5 +0.4**
comp=Z,3.0nm,1.0s,mb3.8
D14A Greenough 63.06 49⇑ P **P 11 00 44.6 +0.1**
baz=63,SNR=5.2
C15A Salmond Ranch, 63.08 48⇑ P **P 11 00 44.2 -0.3**
baz=63
A17A Triple J Farms 63.27 46⇓ P **P 11 00 45.5 -0.2**
baz=63,SNR=5.6
FFC Flin Flon 63.33 37 *i* P **P 11 00 46.2 +0.2**
F13A Darby 63.47 51⇑ P **P 11 00 46.1 -1.1**
baz=63
C16A Fuhringer Ranc 63.50 48⇓ P **P 11 00 47.6 +0.3**
baz=63,SNR=8.5
E14A Clinton 63.51 50⇑ P **P 11 00 47.4 +0.1**
baz=63
B17A L&G Farms, Che 63.65 47⇓ P **P 11 00 48.4 +0.2**
baz=63
A18A Metzger Ranch, 63.71 46⇓ P **P 11 00 48.2 -0.4**
baz=63
E15A Deer Lodge 63.95 49⇑ P **P 11 00 49.3 -0.9**
baz=64
G13A Cobalt 63.98 51⇑ P **P 11 00 49.9 -0.6**
baz=64
H12A Diamond D Ranc 64.00 52⇑ P **P 11 00 50.4 -0.1**
baz=64
B18A Beardsley Farm 64.09 46⇑ P **P 11 00 50.9 -0.2**
baz=64
C17A Wharram Farm, 64.11 47⇑ P **P 11 00 50.5 -0.7**
baz=64
HRY Holter Researc 64.17 49 *e*P **P 11 00 52.4 +0.7**
A19A Klindworth Far 64.24 45⇓ P **P 11 00 51.7 -0.4**
baz=64
H13A Challis 64.32 52⇑ P **P 11 00 52.4 -0.2**
baz=64
I12A Atlanta 64.34 53⇓ P **P 11 00 53.4 +0.6**
baz=64,SNR=6.1
EGMT Eagleton 64.35 46⇑ P **P 11 00 51.6 -1.1**
baz=64
E16A East Helena 64.37 49⇓ P **P 11 00 52.7 -0.3**
baz=64
F15A Butte 64.41 50⇓ P **P 11 00 53.1 -0.1**
baz=64,SNR=5.8
LRM Limekiln Ridge 64.44 50 *e*P **P 11 00 53.8 +0.4**
I13A Wildhorse Cree 64.82 52⇑ P **P 11 00 56.2 +0.4**
baz=64,SNR=5.8
G15A Dillon 64.86 50⇓ P **P 11 00 56.4 +0.3**
baz=65,SNR=8.6
C19A Slack Wire Ran 64.90 46⇑ P **P 11 00 56.8 +0.6**
baz=65
F16A Kennard Place, 64.90 49⇓ P **P 11 00 56.7 +0.4**
baz=65
BOZ Bozeman (W) 64.99 49⇓ P **P 11 00 57.3 +0.4**
baz=65,SNR=7.5
BOZ Bozeman (W) 64.99 49 *e*P **P 11 00 57.5 +0.7**
comp=Z,4.5nm,0.9s,mb4.1
BOZ Bozeman (W) 64.99 49 *e*P **P 11 00 57.6 +0.7**
BOZ pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
A21A Bergtoll Ranch 65.08 44⇓ P **P 11 00 57.0 -0.4**
baz=65,SNR=5.5
J13A Cove Ranch, Pi 65.13 53⇓ P **P 11 00 57.5 -0.4**
baz=65
I14A Mackay 65.17 52⇑ P **P 11 00 58.2 +0.1**
baz=65
G16A Moss Hill, Enn 65.18 50⇑ P **P 11 00 57.5 -0.6**
baz=65
C20A Veseth Ranch, 65.43 46⇑ P **P 11 00 60.0 +0.3**
baz=65,SNR=6.1
J14A Carey 65.54 52⇓ P **P 11 01 00.6 +0.1**
baz=65
A22A Carney Farms, 65.56 44⇓ P **P 11 00 59.8 -0.6**
baz=65,SNR=5.3
G17A Pierce Place, 65.67 49⇓ P **P 11 01 01.6 +0.4**
baz=65
D20A Manuel Ranch, 65.79 46⇓ P **P 11 01 02.3 +0.3**
baz=66
C21A Desert Coulee 65.80 45⇑ P **P 11 01 01.5 -0.5**
baz=66
F18A Big Timber 65.80 48⇑ P **P 11 01 01.8 -0.3**
baz=66
H16A Russell Place, 65.82 50⇓ P **P 11 01 02.6 +0.3**
baz=66
E19A Rath Farm, Rou 65.90 47⇓ P **P 11 01 03.3 +0.6**
baz=66
J15A Blackfoot 66.07 52⇓ P **P 11 01 05.0 +1.2**
baz=66
NVAR Mina Array Bea 66.08 59 P **P 11 01 04.6 +0.6**
comp=Z,3.1nm,0.7s,mb4.2,baz=292,slow=6.6,SNR=16
F19A Roth Farm, Mol 66.23 48⇓ P **P 11 01 04.8 0.0**
baz=66
K14A Jones Ranch, D 66.24 53⇑ P **P 11 01 05.9 +1.0**
baz=66,SNR=5.3
I16A Newdale 66.26 51⇑ P **P 11 01 05.6 +0.7**
baz=66
B23A Brockton 66.36 44⇑ P **P 11 01 05.7 +0.1**
baz=66
H17A Grant Village 66.39 50⇑ P **P 11 01 07.9 +2.1**
baz=66
RLMT Red Lodge 66.57 49⇑ P **P 11 01 07.2 +0.3**
baz=66
CTA Charters Tower 66.58 181 P **P 11 01 07.9 +0.7**
comp=Z,1.6nm,0.7s,mb3.9,baz=333,slow=9.0,SNR=3.0
CTA Charters Tower 66.58 181 P **P 11 01 07.9 +0.7**
CTA pmax pmax
comp=Z,2.0nm,0.7s
H18A Shoshone NF, C 66.67 49⇓ P **P 11 01 07.2 -0.4**
baz=66
RRI2 Red Ridge 66.70 51 *e*P **P 11 01 08.9 +1.1**
comp=Z,7.0nm,0.8s,mb4.4
NB2 NORSAR Subarra 66.71 338 P **P 11 01 06.2 -1.3**
comp=Z,1.1nm,0.5s,mb3.8,baz=30,slow=6.5
NOA NORSAR Array B 66.71 338 P **P 11 01 06.3 -1.2**
comp=Z,1.8nm,0.5s,mb4.1,baz=30,slow=6.3,SNR=8.7
DGMT Dagmar 66.74 43⇑ P **P 11 01 07.4 -0.5**
baz=66
TPAW Teton Pass 66.80 51 *e*P **P 11 01 09.9 +1.4**
comp=Z,45nm,2.5s,mb4.8
REDW Red Top Meadow 66.94 51 *e*P **P 11 01 10.9 +1.6**
comp=Z,15nm,1.6s,mb4.5
H19A Powell 67.02 49⇑ P **P 11 01 09.9 +0.1**
baz=67
D23A Lindsay 67.17 45⇓ P **P 11 01 10.3 -0.3**
baz=67
E22A Miles City 67.33 46⇑ P **P 11 01 12.0 +0.3**
baz=67
M15A Larsen Ranch, 67.38 53⇓ P **P 11 01 12.2 +0.2**
baz=67,SNR=5.3
WRAB Tennant Creek 67.40 193 *e*P **P 11 01 12.1 -0.2**
comp=Z,2.0nm,0.8s,mb3.9
WRAB Tennant Creek 67.40 193 *e*P **P 11 01 12.1 -0.2**
WRAB pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
WRA Warramunga Arr 67.41 193 P **P 11 01 11.1 -1.2**
comp=Z,1.2nm,0.6s,mb3.8,baz=10.0,slow=6.6,SNR=38
WRA Warramunga Arr 67.41 193 P **P 11 01 11.1 -1.3**
WRA pmax pmax
comp=Z,1.0nm,0.6s
D24A Glendive 67.64 44⇑ P **P 11 01 13.3 -0.2**
baz=67
KIV Kislovodsk 67.65 311 *e*P **P 11 01 14.2 +0.5**
comp=Z,6.7nm,0.6s,mb4.5
KIV Kislovodsk 67.65 311 *e*P **P 11 01 14.1 +0.4**
KIV pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
H20A Greybull 67.66 48⇓ P **P 11 01 13.4 -0.3**
baz=67
R11A Troy Canyon, C 67.72 57⇓ P **P 11 01 13.2 -1.0**
baz=67
HWUT Hardware Ranch 67.76 53 *e*P **P 11 01 15.0 +0.6**
comp=Z,2.2nm,0.7s,mb4.0
K18A Toltan Ranch, 67.87 51⇑ P **P 11 01 15.7 +0.6**
baz=68
J19A Crowheart 67.96 50⇓ P **P 11 01 16.0 +0.4**
baz=68
PD01 Pinedale Array 68.02 51 *e*P **P 11 01 16.0 0.0**
DUG Dugway 68.04 54⇑ P **P 11 01 16.2 +0.1**
baz=68
DUG Dugway 68.04 54 *e*P **P 11 01 16.8 +0.6**
comp=Z,3.0nm,0.8s,mb4.1
DUG Dugway 68.04 54 *e*P **P 11 01 16.8 +0.6**
DUG pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
BW06 Boulder Array 68.04 51⇓ P **P 11 01 15.9 -0.2**
baz=68,SNR=7.6
BW06 Boulder Array 68.04 51 *e*P **P 11 01 15.9 -0.3**
comp=Z,5.4nm,0.9s,mb4.3
PDAR Pinedale Array 68.04 51 P **P 11 01 16.1 0.0**
comp=Z,3.7nm,0.5s,mb4.4,baz=36,slow=0.8,SNR=44
H21A Big Horn, Sher 68.05 48⇑ P **P 11 01 16.5 +0.4**
baz=68
MPMC Manual Prospec 68.14 60⇓ P **P 11 01 17.0 +0.1**
baz=68
P14A Drum Mountains 68.31 55⇓ P **P 11 01 17.9 +0.1**
baz=68
M17A Scullys Gap (B 68.34 52⇓ P **P 11 01 18.2 +0.2**
baz=68
K19A Absolon Red Bu 68.38 50⇓ P **P 11 01 17.6 -0.6**
baz=68
J20A Shoshoni 68.41 49⇑ P **P 11 01 18.1 -0.2**
baz=68
I21A Big Trails, Te 68.50 49⇓ P **P 11 01 19.3 +0.4**
baz=68,SNR=9.1
Q14A Sevier Lake (B 68.61 56⇓ P **P 11 01 20.3 +0.6**
baz=68,SNR=5.1
N17A Moffit Pass 68.62 53⇑ P **P 11 01 19.6 -0.1**
baz=68
AKASG Malin Array Be 69.06 323 P **P 11 01 20.8 -1.4**
comp=Z,0.5nm,0.3s,mb3.7,baz=35,slow=6.6,SNR=3.2
AKASG Malin Array Be 69.06 323 P **P 11 01 20.8 -1.4**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
GSC Goldstone 69.07 61⇓ P **P 11 01 22.5 -0.1**
baz=69
ULM Lac du Bonnet 69.14 38 P **P 11 01 21.4 -1.3**
comp=Z,2.7nm,0.6s,mb4.2,baz=314,slow=8.4,SNR=4.1
J22A Midwest 69.20 48⇑ P **P 11 01 22.1 -1.0**
baz=69
H24A Dirks Ranch, A 69.22 46⇑ P **P 11 01 22.2 -1.1**
baz=69
K21A Alcova 69.35 49⇑ P **P 11 01 23.7 -0.4**
baz=69
TUQ Turquoise Moun 69.50 60⇑ P **P 11 01 25.1 -0.1**
baz=69
P17A Butcher Ranch, 69.69 54⇓ P **P 11 01 25.1 -1.1**
baz=69
ANN Anapa 69.71 314 *e*P **P 11 01 25.0 -1.3**
ANN *e**PP pP 11 02 37.0 -1.7
ANN *e*S S 11 10 06.1 -1.8
ANN pmax pmax
comp=Z,82nm,1.3s
K22A Casper 69.71 49⇑ P **P 11 01 25.9 -0.4**
baz=69
RSSD Black Hills 69.92 46 *e*P **P 11 01 27.6 0.0**
comp=Z,4.0nm,0.7s,mb4.3
RSSD Black Hills 69.92 46 *e*P **P 11 01 27.6 0.0**
RSSD pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
U13A Pakoon Wash 69.98 58⇑ P **P 11 01 28.5 +0.4**
baz=70,SNR=5.9
O19A Miners Draw (B 70.00 52⇓ P **P 11 01 27.5 -0.6**
baz=70
M21A Separation Pea 70.02 50⇑ P **P 11 01 27.9 -0.3**
baz=70
SRU San Rafael 70.06 54⇑ P **P 11 01 29.0 +0.4**
baz=70,SNR=6.2
SRU San Rafael 70.06 54 *e*P **P 11 01 29.0 +0.5**
comp=Z,7.3nm,1.0s,mb4.4
SRU San Rafael 70.06 54 *e*P **P 11 01 29.0 +0.5**
SRU pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
N20A Spence Gulch, 70.09 51⇓ P **P 11 01 28.8 +0.2**
baz=70
R16A Teasdale 70.11 55⇑ P **P 11 01 29.6 +0.8**
baz=70
S16A Weppner Ranch, 70.43 56⇑ P **P 11 01 31.3 +0.6**
baz=70,SNR=6.8
U14A Mt Trumbull 70.43 58⇓ P **P 11 01 30.6 -0.2**
baz=70
R17A Hanksville Air 70.44 55⇑ P **P 11 01 30.9 +0.1**
baz=70
T15A Red Dirt Ranch 70.48 57⇓ P **P 11 01 31.4 +0.4**
baz=70
N21A Black Mountain 70.53 51⇓ P **P 11 01 30.4 -1.0**
baz=70
Q19A Hogan Spring (70.87 53⇓ P **P 11 01 32.7 -0.7**
baz=71,SNR=9.6
R18A Canyonlands Na 70.92 54⇓ P **P 11 01 33.2 -0.5**
baz=71
U15A North Rim 70.94 57⇓ P **P 11 01 33.9 0.0**
baz=71,SNR=5.2
ASAR Alice Springs 71.13 193 P **P 11 01 36.0 +1.1**
comp=Z,0.4nm,0.3s,mb3.6,baz=10,slow=6.1,SNR=6.7
ASAR Alice Springs 71.13 193 P **P 11 01 36.0 +1.1**
R19A Curley Farm, L 71.34 54⇓ P **P 11 01 35.7 -0.5**
baz=71
S18A Hurst Farm, Bl 71.36 55⇓ P **P 11 01 35.9 -0.4**
baz=71
PV10 Paradox Valley 71.40 54 *e*P **P 11 01 37.5 +0.9**
V15A Kaibab Nationa 71.44 57⇑ P **P 11 01 37.0 +0.2**
baz=71
PV04 Paradox Valley 71.47 53 *e*P **P 11 01 37.0 0.0**
P22A Eagle 71.78 51⇑ P **P 11 01 38.3 -0.5**
baz=72
S19A Harvey Farm, M 71.80 54⇑ P **P 11 01 38.6 -0.3**
baz=72,SNR=6.4
U16A Tuba City 71.81 56⇑ P **P 11 01 39.0 0.0**
baz=72,SNR=5.2
T18A Mexican Hat 71.82 55⇑ P **P 11 01 38.9 -0.1**
baz=72
PV01 Paradox Valley 71.83 53 *e*P **P 11 01 39.6 +0.5**
comp=Z,186nm,0.8s
R20A Redvale 71.90 53⇓ P **P 11 01 39.2 -0.3**
baz=72
R21A Cimarron 72.23 53⇑ P **P 11 01 41.9 +0.5**
baz=72,SNR=5.4
Y14A Wickenburg 72.27 59⇓ P **P 11 01 41.5 -0.2**
baz=72,SNR=5.3
V17A Tonalea, Kykot 72.37 57⇑ P **P 11 01 43.1 +0.7**
baz=72,SNR=7.6
T19A Beclabito 72.51 55⇓ P **P 11 01 42.7 -0.5**
baz=72
S21A Coal Bank Pass 72.60 53⇓ P **P 11 01 44.0 +0.3**
baz=72,SNR=5.8
Y15A Casa Rosa Ranc 72.65 59⇑ P **P 11 01 44.1 +0.1**
baz=72
U19A Dine' College, 72.79 55⇑ P **P 11 01 45.1 +0.3**
baz=72
V18A Ganado 72.80 56⇑ P **P 11 01 45.3 +0.5**
baz=72,SNR=5.3
P24A Kohler Place, 72.82 50⇓ P **P 11 01 45.2 +0.3**
baz=72
X16A Lo Mia Camp, P 72.85 58⇓ P **P 11 01 45.7 +0.6**
baz=73
S22A 4UR Ranch, Cre 73.07 53⇑ P **P 11 01 46.4 +0.1**
baz=73
114A Black Gap (USA 73.18 60⇑ P **P 11 01 47.6 +0.6**
baz=73
Y16A Circle Bar Ran 73.21 58⇑ P **P 11 01 47.1 -0.1**
baz=73
W19A Sanders 73.54 56⇓ P **P 11 01 49.5 +0.4**
baz=73
T22A Edith 73.56 53⇑ P **P 11 01 49.1 -0.1**
baz=73
U21A Nageezi 73.57 54⇑ P **P 11 01 49.6 +0.3**
baz=73
X18A Snowflake 73.63 57⇓ P **P 11 01 50.1 +0.4**
baz=73
R24A Sanders Place, 73.65 51⇑ P **P 11 01 49.6 -0.1**
baz=73
SDCO Great Sand Dun 73.79 52⇑ P **P 11 01 50.8 +0.2**
baz=74
X19A St. Johns 74.08 57⇑ P **P 11 01 53.1 +0.9**
baz=74,SNR=9.3
Y18A Canyon Day Jun 74.12 58⇓ P **P 11 01 53.3 +0.8**
baz=74
U23A El Rito 74.45 53⇓ P **P 11 01 54.6 +0.3**
baz=74,SNR=5.9
X20A Quemado 74.45 56⇓ P **P 11 01 55.3 +0.9**
baz=74
T24A Torres, Weston 74.53 52⇑ P **P 11 01 55.6 +0.9**
baz=74

X21A	Alamocita Cree	74.93	56	⇑P		P	11 01 57.8	+0.7
	baz=75							
118A	Homack Ranch,	74.97	58	⇑P		P	11 01 57.9	+0.5
	baz=75,SNR=5.1							
Y20A	Horse Springs,	74.98	56	⇑P		P	11 01 58.4	+0.9
	baz=75							
BRTR	Keskin Array B	75.36	313	P		P	11 01 59.7	+0.2
	comp=Z,0.3nm,0.3s,mb3.5,baz=353,slow=4.8,SNR=2.6							
BRTR	Keskin Array B	75.36	313	P		P	11 01 59.7	+0.2
U25A	Circle Dot Ran	75.37	52	⇓P		P	11 01 59.7	+0.1
	baz=75							
Z20A	Nine Sixteen R	75.43	57	⇓P		P	11 01 59.2	-0.7
	baz=75							
Y22A	Socorro	75.76	56	⇓P		P	11 02 02.1	+0.3
	baz=76							
120A	U Bar Ranch, L	75.82	58	⇑P		P	11 02 02.9	+0.7
	baz=76							
Z21A	St. Cloud Mine	75.82	56	⇑P		P	11 02 02.9	+0.7
	baz=76							
318A	Bisbee	75.83	59	⇑P		P	11 02 02.6	+0.4
	baz=76							
W25A	X Bar L Ranch,	76.22	53	⇓P		P	11 02 04.3	-0.1
	baz=76							
Z22A	Elephant Butte	76.26	56	⇓P		P	11 02 04.4	-0.3
	baz=76							
Y23A	Lovelace Mesa,	76.28	55	⇓P		P	11 02 05.5	+0.8
	baz=76							
319A	Douglas	76.29	59	⇑P		P	11 02 05.5	+0.6
	baz=76							
121A	Cookes Peak, D	76.32	57	⇑P		P	11 02 06.0	+1.1
	baz=76							
Z26A	Caprock	77.93	54	⇑P		P	11 02 14.1	+0.3
	baz=78							
Z27A	Tatum	78.32	54	⇓P		P	11 02 15.3	-0.7
	baz=78							
226A	Malaga, Loving	78.77	55	⇑P		P	11 02 18.4	-0.1
	baz=78							
325A	Bean Ranch, Si	78.79	56	⇓P		P	11 02 18.2	-0.3
	baz=78							
425A	Indio Mountain	79.22	56	⇑P		P	11 02 21.1	+0.3
	baz=79							
326A	Caldwell Ranch	79.39	55	⇑P		P	11 02 21.8	0.0
	baz=79							
426A	McDonald Obser	79.85	56	⇓P		P	11 02 23.7	-0.5
	baz=80							
328A	Wristen Ranch,	80.00	55	⇑P		P	11 02 25.0	0.0
	baz=80							
427A	Hayter Ranch,	80.07	55	⇓P		P	11 02 25.5	+0.1
	baz=80							
TUL1	Tulsa	80.25	47	⇓P		P	11 02 25.5	-0.8
	baz=80							
526A	Mary Lane Ranc	80.27	56	⇑P		P	11 02 26.9	+0.5
	baz=80							
527A	Woodward Ranch	80.48	56	⇓P		P	11 02 27.0	-0.6
	baz=80							
428A	Kincaid Ranch,	80.56	55	⇑P		P	11 02 28.6	+0.6
	baz=80							
626A	Big Bend Ranch	80.62	57	⇓P		P	11 02 28.2	-0.1
	baz=80							
528A	Cox Ranch, San	80.93	55	⇑P		P	11 02 30.4	+0.4
	baz=81							
TXAR	Lajitas Array	81.06	57	P		P	11 02 30.8	+0.2
	comp=Z,3.7nm,0.8s,mb4.2,baz=290,slow=3.4,SNR=39							
TXAR	Lajitas Array	81.06	57	P		P	11 02 30.8	+0.2
TXAR				pmax		pmax		
	comp=Z,4.0nm,0.8s							
627A	Terlingua Ranc	81.13	56	⇓P		P	11 02 30.9	-0.1
	baz=81							
CFAA	Coronel Fontan	149.07	73	PKPbc		PKPbc	11 10 00.3	-0.7
	comp=Z,0.3nm,0.7s,baz=256,slow=4.2,SNR=4.8							
SNAA	Sanae	151.32	199	PKPbc		PKPbc	11 10 04.9	-0.2
	comp=Z,0.3nm,0.5s,baz=164,slow=2.9,SNR=9.7							
PLCA	Paso Flores	152.42	91	*e*PKPdf		PKPdf	11 09 57.8	-3.6
PLCA	Paso Flores	152.42	91	*e*PKIKP		PKPdf	11 09 57.8	-3.6

*ISCJB **09** 10:51:09.5±0.3,40°.48N±0°.03×29°.13E±0°.03,h7km±3km, Error ellipse: s-maj=4.3km s-min=3.2km az=10.2*
*ISK **09** 10:51:09.2,40°.47N×29°.13E,h9km,MD2.7*
*CSEM **09** 10:51:09.6±0.1,40°.47N×29°.12E,h5km,MD2.7, Error ellipse: s-maj=1.7km s-min=1.5km az=174.0*
*DDA **09** 10:51:09.4,40°.40N×29°.13E,h4km±5km,Md2.8*
ISC 09 10:51:09.8±0.3, 40°.47N±0°.02×29°.13E±0°.03, h8km±3km, n52, σ0°63/80, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
GEMT	Gemlik	0.06	127	PG		Pg	10 51 11.6	0.0
GEMT				SG		Sg	10 51 12.8	0.0
GEMT	Gemlik	0.06	127	*i* Pg		Pg	10 51 11.6	0.0
GEMT				*i* Sg		Sg	10 51 12.8	0.0
MDNY	Mudanya-Bursa	0.21	241	PG		Pg	10 51 14.0	-0.1
MDNY				SG		Sg	10 51 17.6	+0.6
MDNY	Mudanya-Bursa	0.21	241	*i* Pg		Pg	10 51 14.0	-0.1
MDNY				*i* Sg		Sg	10 51 17.6	+0.6
YLV	Yalova	0.21	63	PG		Pg	10 51 14.3	+0.2
YLV	Yalova	0.21	63	*i* Pg		Pg	10 51 14.3	+0.2
ARMT	Armutlu	0.22	295	PG		Pg	10 51 14.4	+0.1
ARMT				SG		Sg	10 51 17.8	+0.4
ARMT	Armutlu	0.22	295	*i* Pg		Pg	10 51 14.4	+0.1
ARMT				*i* Sg		Sg	10 51 17.8	+0.4
ADVT	Abdulvahap	0.47	94	*e*PG		Pg	10 51 19.1	+0.2
ADVT				*e*SG		Sg	10 51 25.8	+0.7
ADVT	Abdulvahap	0.47	94	*e*Pg		Pg	10 51 19.1	+0.2
ADVT				*e*Sg		Sg	10 51 25.8	+0.8
HRT	Hereke	0.54	49	*e*PG		Pg	10 51 20.4	+0.1
HRT	Hereke	0.54	49	*e*Pg		Pg	10 51 20.4	+0.1
ISK	Istanbul-Kandi	0.60	355	*e*PG		Pg	10 51 20.8	-0.6
ISK				*e*SG		Sg	10 51 29.4	+0.3
ISK	Istanbul-Kandi	0.60	355	*e*Pg		Pg	10 51 20.8	-0.6
ISK				*e*Sg		Sg	10 51 29.4	+0.2
CAVI	Cavuskoy	0.61	116	PG		Pg	10 51 21.5	-0.1
CAVI				SG		Sg	10 51 29.6	+0.1
CAVI	Cavuskoy	0.61	116	*i* Pg		Pg	10 51 21.5	-0.1
CAVI				*i* Sg		Sg	10 51 29.6	+0.1
BGKT	Bogazkoy	0.76	339	*e*PG		Pg	10 51 24.1	-0.3
BGKT	Bogazkoy	0.76	339	*e*Pg		Pg	10 51 24.1	-0.3
KLYT	Kilyos	0.78	355	*e*PG		Pg	10 51 24.4	-0.5
KLYT	Kilyos	0.78	355	*e*Pg		Pg	10 51 24.4	-0.5
CTKS	Kestanelik-??a	0.90	329	*e*PG		Pg	10 51 26.9	-0.2
CTKS	Kestanelik-??a	0.90	329	*e*Pg		Pg	10 51 26.9	-0.2
GPA	Golpazari	0.92	101	*e*PG		Pg	10 51 27.7	+0.2
GPA	Golpazari	0.92	101	*e*Pg		Pg	10 51 27.7	+0.2
SPNC	Sapanca-Adapaz	0.93	76	*e*PG		Pg	10 51 27.6	0.0
SPNC	Sapanca-Adapaz	0.93	76	*e*Pg		Pg	10 51 27.6	0.0
BNT	Bandirma	0.93	263	*e*PG		Pg	10 51 27.6	0.0
BNT	Bandirma	0.93	263	*e*Pg		Pg	10 51 27.7	0.0
DST	Dursunbey	0.95	204	PG		Pg	10 51 28.0	-0.1
DST	Dursunbey	0.95	204	*i* Pg		Pg	10 51 28.0	-0.1
DURS	Dursunbey	1.00	210	*i* P		Pg	10 51 28.5	-0.5
DURS				*i* S		Sg	10 51 41.8	-0.3
DURS	Dursunbey	1.00	210	*i* P		Pg	10 51 28.5	-0.6
DURS				*i* S		Sg	10 51 41.8	-0.3
GULT	Gulveren	1.06	92	*e*PG		Pg	10 51 29.9	-0.3
GULT	Gulveren	1.06	92	*e*Pg		Pg	10 51 29.9	-0.3
BORA	Eskisehir	1.18	120	*i* P		Pg	10 51 31.9	-0.5
BORA				*i* S		Sg	10 51 47.6	0.0
BORA	Eskisehir	1.18	120	*i* P		Pg	10 51 31.9	-0.5
BORA				*i* S		Sg	10 51 47.6	0.0
GONE	Gonen-Balikesi	1.18	249	*e*PN		Pn	10 51 32.1	-0.5
GONE	Gonen-Balikesi	1.18	249	*e*Pn		Pn	10 51 32.1	-0.6
BALB	Balikesir	1.27	229	*e*PN		Pn	10 51 33.6	-0.2
BALB	Balikesir	1.27	229	*e*Pn		Pn	10 51 33.7	-0.1
BALY	Balya	1.37	238	*i* P		Pn	10 51 34.8	-0.4
BALY				*i* S		Sb	10 51 53.4	+0.1
BALY	Balya	1.37	238	*i* P		Pn	10 51 34.8	-0.4
BALY				*i* S		Sb	10 51 53.4	+0.1
GDZ	Gediz	1.41	169	*i* P		Pn	10 51 35.8	+0.1
GDZ				*i* S		Sb	10 51 52.6	-1.8
GDZ	Gediz	1.41	169	*i* P		Pn	10 51 35.8	0.0
GDZ				*i* S		Sb	10 51 52.6	-1.8
DEMI	Demirci	1.46	193	*i* P		Pn	10 51 36.5	0.0
DEMI				*i* S		Sn	10 51 55.3	-0.5
DEMI	Demirci	1.46	193	*i* P		Pn	10 51 36.5	0.0
DEMI				*i* S		Sn	10 51 55.3	-0.5
ESKT	Eskisehir	1.63	125	*i* P		Pn	10 51 38.8	-0.1
ESKT				*i* S		Sn	10 51 59.9	-0.1
SEYT	Eskypehyr	1.63	125	*i* P		Pn	10 51 38.8	0.0
SEYT				*i* S		Sn	10 51 59.9	-0.1
MANT	Manisa	2.02	193	*i* P		Pn	10 51 46.7	+2.4
MANT				*i* S		Sn	10 52 12.8	+3.0
MANT	Manisa	2.02	193	*i* P		Pn	10 51 46.7	+2.4
MANT				*i* S		Sn	10 52 12.8	+3.0
KHAL	Karahalli	2.12	172	*i* P		Pn	10 51 46.3	+0.8
KHAL				*i* S		Sn	10 52 16.9	+4.9
KHAL	Karahalli	2.12	172	*i* P		Pn	10 51 46.3	+0.8
KHAL				*i* S		Sn	10 52 16.9	+4.9

*ISCJB **09** 10:04:45.1±1.0, 17°.5S±0°.1×178°.6W±0°.1, h567km±13km, mb4.0/15, Error ellipse: s-maj=24.7km s-min=12.9km az=145.3*
*IDC **09** 10:04:45.5±3.3, 17°.48S×178°.56W, h557km±41km, mb3.4/10, mb1 3.7/10, mb1mx3.4/21, mbtmp3.4/10, Error ellipse: s-maj=31.1km s-min=12.6km az=153.0*
*NEIC **09** 10:04:46.1±1.1, 17°.38S×178°.61W, h562km±13km, mb4.2/8, Error ellipse: s-maj=21.5km s-min=13.1km az=135.0*
ISC 09 11:04:46.1±1.1, 17°.4S±0°.1×178°.6W±0°.1, h562km±12km, n31, σ0°93/31, mb4.0/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
MSVF	Nonsavu	3.21	264	*e*Pn		P	11 06 03.5	0.0
OUZ	Omahuta	19.04	200	*e*P		P	11 08 35.9	+3.2
	22nm,0.7s							
URZ	Urewera	21.09	189	P		P	11 08 49.3	-2.0
	6.8nm,0.6s,mb4.5,baz=140,slow=4.3,SNR=7.1							
URZ	Urewera	21.09	189	*e*P		P	11 08 49.2	-2.1
	13nm,0.7s,mb4.7							
RPZ	Rata Peaks	27.63	196	P		P	11 09 48.7	-0.4
	9.3nm,0.7s,mb4.5,baz=63,slow=2.3,SNR=3.7							
RPZ	Rata Peaks	27.63	196	P		P	11 09 48.8	-0.4
COEN	Coen	36.92	270	*e*P		P	11 11 09.0	+0.8
	44nm,0.7s,mb5.1							
STKA	Stephens Creek	38.70	241	P		P	11 11 22.9	+0.4
	1.0nm,0.5s,mb3.6,baz=162,slow=13,SNR=2.0							
STKA	Stephens Creek	38.70	241	P		P	11 11 22.9	+0.4
WB2	Warramunga Arr	44.53	259	*e*P		P	11 12 08.6	0.0
WRAB	Tennant Creek	44.53	259	*e*P		P	11 12 08.4	-0.2
	2.3nm,0.6s,mb3.9							
WRA	Warramunga Arr	44.54	259	P		P	11 12 08.1	-0.6
	2.1nm,0.5s,mb3.9,baz=94,slow=6.9,SNR=62							
WRA	Warramunga Arr	44.54	259	P		P	11 12 08.1	-0.6
ASAR	Alice Springs	44.74	254	P		P	11 12 10.7	+0.5
	14nm,0.7s,mb4.6,baz=88,slow=8.0,SNR=309							
ASAR				S		S	11 18 07.0	+0.2
	1.1nm,0.9s,baz=90,slow=16,SNR=7.3							
ASAR	Alice Springs	44.74	254	P		P	11 12 10.7	+0.5
ASAR				S		S	11 18 07.0	+0.2
CMB	Columbia Colle	77.62	43	*e*P		P	11 15 45.0	+0.1
	2.9nm,0.9s,mb3.6							
ISA	Isabella	77.62	46	*e*P		P	11 15 45.4	+0.4
	2.9nm,0.8s,mb3.7							
NVAR	Mina Array Bea	79.21	44	P		P	11 15 53.0	-0.4
	2.0nm,0.8s,mb3.5,baz=226,slow=9.4,SNR=14							
NVAR	Mina Array Bea	79.21	44	P		P	11 15 53.0	-0.4
TRF	Thorofare Moun	83.58	12	*e*P		P	11 16 13.9	-1.3
	11nm,0.9s,mb4.4							
ILAR	Eielson Array	85.46	13	P		P	11 16 23.3	-1.0
	1.0nm,0.4s,mb3.7,baz=225,slow=5.1,SNR=31							
ILAR	Eielson Array	85.46	13	P		P	11 16 23.3	-1.0
TXAR	Lajitas Array	85.89	58	P		P	11 16 28.9	+1.6
	1.0nm,0.8s,mb3.5,baz=218,slow=6.5,SNR=12							
TXAR	Lajitas Array	85.89	58	P		P	11 16 28.9	+1.6
MCMT	McKenzie Canyo	85.99	41	*e*P		P	11 16 28.3	+1.0
	1.7nm,1.2s,mb3.5							
PDAR	Pinedale Array	87.13	44	P		P	11 16 33.2	+0.5
	1.1nm,0.6s,mb3.7,baz=214,slow=3.2,SNR=10.0							
PDAR	Pinedale Array	87.13	44	P		P	11 16 33.2	+0.5
INK	Inuvik	91.47	15	P		P	11 16 51.3	-1.0
	0.9nm,0.7s,mb3.8,baz=230,slow=3.9,SNR=4.9							
INK	Inuvik	91.47	15	P		P	11 16 51.3	-1.0
GERES	GERESS Array B	147.10	345	PKPbc		PKPbc	11 23 26.6	+0.4
	0.4nm,0.6s,baz=9.9,slow=2.3,SNR=5.6							
GERES	GERESS Array B	147.10	345	PKPbc		PKPbc	11 23 26.6	+0.4

*ISCJB **09** 11:09:57.0±0.4, 30°.54N±0°.05×138°.10E±0°.07, h477km±4km, mb4.1/32, Error ellipse: s-maj=10.0km s-min=7.2km az=172.0*
*JMA **09** 11:09:56.1±0.2, 30°.51N×138°.20E, h504km, M4.2*
*IDC **09** 11:09:57.3±0.6, 30°.55N×138°.02E, h459km±9km, mb3.5/17, mb1 3.5/21, mb1mx3.4/31, mbtmp3.4/21, Error ellipse: s-maj=17.5km s-min=8.5km az=72.0*
*NEIC **09** 11:09:58.5±0.6, 30°.58N×137°.99E, h475km±6km, mb4.5/11, Error ellipse: s-maj=9.3km s-min=7.3km az=83.0*
ISC 09 11:09:58.0±0.4, 30°.57N±0°.05×138°.14E±0°.08, h475km±5km, n85, σ0°98/92, mb4.1/32, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
JHJ	Hachijo jima 2	2.90	28	P		P	11 11 06.5	+0.4
	14nm,0.3s,baz=61,slow=19,SNR=13							
JHJ				S		S	11 11 59.4	-2.3
	31nm,0.3s,baz=64,slow=20,SNR=5.1							
JHJ2	Mitsune	2.91	29	P		P	11 11 07.8	+1.6
JWZ	Kozaga	3.60	326	P		P	11 11 12.5	+1.2
JIE	Ise	4.00	343	P		P	11 11 16.6	+2.0
BSO1	Boso 1	4.72	30	P		P	11 11 21.7	+0.8
BSO1				*e*S		S	11 12 28.2	-0.5
JOD2	Odawara 2	4.75	9	P		P	11 11 21.8	+0.7
JOD2				S		S	11 12 27.6	-1.4
CBIJ	Chichi jima	4.96	133	P		P	11 11 22.1	-1.2
	10nm,0.3s,baz=315,slow=18,SNR=11							
CBIJ				S		S	11 12 29.8	-3.0
	91nm,0.3s,baz=300,slow=22,SNR=25							
CBIJ	Chichi jima	4.96	133	P		P	11 11 22.2	-1.1
CBIJ				*e*S		S	11 12 31.3	-1.5
JTO	Tosashimizu	5.09	298	P		P	11 11 25.1	+0.7
JRY	Ryogami san	5.47	6	P		P	11 11 28.6	+0.7
JRY				S		S	11 12 40.0	-1.4
MJAR	Matsushiro Arr	5.96	1	P		P	11 11 32.3	-0.3
	4.8nm,0.3s,baz=186,slow=11,SNR=54							
MJAR	Matsushiro Arr	5.96	1	P		P	11 11 32.3	-0.3
MAJO	Matsushiro	5.96	1	*e*Pn		P	11 11 32.6	0.0
	41nm,0.6s							
MAT	Matsushiro	5.96	1	P		P	11 11 32.9	+0.2
MAT				S		S	11 12 48.7	-1.4
MAT	Matsushiro	5.96	1	P		P	11 11 32.7	0.0
MAT				S		S	11 12 48.6	-1.5
JHS	Saijyo	6.11	318	P		P	11 11 35.5	+1.2
JNU	Nakatsue	6.68	294	*e*Pn		P	11 11 40.8	+0.8
JMK	Ichinoseki	8.73	16	P		P	11 12 00.0	+1.5
JMK				S		S	11 13 40.8	-2.1
KSRS	Korea Array	10.90	312	P		P	11 12 25.0	+0.2
	0.4nm,0.3s,baz=127,slow=10,SNR=6.9							
JOT	Ohata	11.04	11	P		P	11 12 28.5	+2.3
JOSM	Okushiri--Mats	11.54	5	P		P	11 12 33.3	+1.8
ASAJ	Asahikawa	13.97	13	P		P	11 13 00.7	+3.2
	2.6nm,0.3s,baz=230,slow=9.5,SNR=18							
ENH	Enshi	24.69	277	*e*P		P	11 14 38.6	-1.5
	26nm,0.3s,mb5.1							
SONM	Songino Array	29.76	314	P		P	11 15 24.6	0.0
	1.2nm,0.5s,mb3.5,baz=127,slow=9.1,SNR=9.8							
SONM	Songino Array	29.76	314	P		P	11 15 24.6	0.0
CHTO	Chiang Mai	37.31	261	*e*P		P	11 16 28.0	-0.8
	10.0nm,0.8s,mb4.3							
CMAR	Chiang Mai Arr	37.47	260	P		P	11 16 29.9	-0.3
	3.9nm,0.7s,mb4.0,baz=58,slow=6.6,SNR=33							
CMAR	Chiang Mai Arr	37.47	260	P		P	11 16 29.9	-0.3
ZALV	Zalesovo Beam	44.54	317	P		P	11 17 25.6	-0.6
	0.9nm,0.4s,mb3.6,baz=96,slow=7.4,SNR=6.7							
ZALV				PcP		PcP	11 18 59.3	0.0
	0.9nm,0.5s,baz=119,slow=4.4,SNR=3.9							
ZALV	Zalesovo Beam	44.54	317	P		P	11 17 25.6	-0.6
ZALV				PcP		PcP	11 18 59.3	0.0
GUN	Gumba	45.35	280	*e*P		P	11 17 33.0	+0.2
	29nm,0.5s,mb5.0							
GUN	Gumba	45.35	280	*e*P		P	11 17 33.0	+0.2
	29nm,0.5s,mb5.0							
MK31	Makanchi Array	45.54	307	*e*P		P	11 17 33.7	-0.3
MKAR	Makanchi Array	45.54	307	P		P	11 17 33.8	-0.2
	2.1nm,0.4s,mb3.9,baz=92,slow=9.5,SNR=31							
MKAR				PcP		PcP	11 19 03.1	+0.1
	0.4nm,0.4s,baz=113,slow=3.7,SNR=3.4							
MKAR	Makanchi Array	45.54	307	P		P	11 17 33.8	-0.2
MKAR				PcP		PcP	11 19 03.1	+0.1
PKI	Pulchoki	45.84	280	*e*P		P	11 17 36.2	-0.4
PKI	Pulchoki	45.84	280	*e*P		P	11 17 36.2	-0.4
PKIN	Phulchoki	45.85	280	*e*P		P	11 17 35.8	-0.9
	5.7nm,0.5s,mb4.3							
KKN	Kakani	45.89	280	*e*P		P	11 17 36.8	-0.1
KKN	Kakani	45.89	280	*e*P		P	11 17 36.8	-0.1
DMN	Daman	46.09	280	*e*P		P	11 17 38.0	-0.5
	13nm,0.5s,mb4.6							
DMN	Daman	46.09	280	*e*P		P	11 17 38.0	-0.5
	13nm,0.5s,mb4.6							
GKN	Gorkha	46.37	281	*e*P		P	11 17 40.4	-0.2
	9.9nm,0.4s,mb4.6							
DANN	Dangsing	47.02	282	*e*P		P	11 17 45.7	+0.2
DANN	Dangsing	47.02	282	*e*P		P	11 17 45.7	+0.2
KOLN	Koldanda	47.32	281	*e*P		P	11 17 47.7	-0.1
	23nm,0.7s,mb4.7							
KOLN	Koldanda	47.32	281	*e*P		P	11 17 47.7	-0.1
	23nm,0.7s,mb4.7							
KURK	Kurchatov	48.03	313	P		P	11 17 52.8	0.0
	5.6nm,0.6s,mb4.1,baz=92,slow=7.3,SNR=52							
KURK	Kurchatov	48.03	313	*e*P		P	11 17 52.1	-0.7
	3.7nm,0.5s,mb4.0							
WRAB	Tennant Creek	50.34	185	*e*P		P	11 18 10.3	0.0
	2.5nm,0.5s,mb3.8							
WRA	Warramunga Arr	50.35	185	P		P	11 18 10.6	+0.3
	1.6nm,0.3s,mb3.8,baz=23,slow=7.2,SNR=68							
WRA	Warramunga Arr	50.35	185	P		P	11 18 10.6	+0.3
AAK	Ala-Archa	51.39	302	P		P	11 18 17.9	+0.2
	2.7nm,0.4s,mb4.0,baz=109,slow=4.5,SNR=8.8							
AAK	Ala-Archa	51.39	302	*e*P		P	11 18 17.6	-0.1
	3.8nm,0.4s,mb4.1							
BVAR	Borovoye Array	53.09	316	P		P	11 18 29.8	0.0
	2.0nm,0.4s,mb3.8,baz=96,slow=7.1,SNR=17							
BVAR				PcP		PcP	11 19 31.2	+0.5
	0.9nm,0.6s,baz=124,slow=3.8,SNR=4.0							
BVAR	Borovoye Array	53.09	316	P		P	11 18 29.8	0.0
BVAR				PcP		PcP	11 19 31.2	+0.5
ASAR	Alice Springs	54.08	185	P		P	11 18 37.9	+0.7
	1.5nm,0.4s,mb3.6,baz=23,slow=11,SNR=46							
ASAR	Alice Springs	54.08	185	P		P	11 18 37.9	+0.7
KKAR	Karatay Array	54.20	303	*e*P		P	11 18 37.9	0.0
	9.7nm,0.7s,mb4.2							
ABKAR	Akbulak array	60.14	312	*e*P		P	11 19 18.3	-0.2
	9.8nm,0.6s,mb4.4							
INK	Inuvik	61.38	25	P		P	11 19 28.6	+2.2
	0.4nm,0.3s,mb3.3,baz=38,slow=4.0,SNR=5.9							
INK	Inuvik	61.38	25	P		P	11 19 28.6	+2.2
STKA	Stephens Creek	62.19	177	P		P	11 19 33.5	+1.3
	2.1nm,0.7s,mb3.7,baz=338,slow=7.9,SNR=6.4							
STKA	Stephens Creek	62.19	177	P		P	11 19 33.5	+1.3
KEV	Kevo	68.52	340	*e*p		P	11 20 11.7	+0.1
ARCES	ARCESS Array B	69.08	340	P		P	11 20 16.1	+1.1
	2.4nm,0.4s,mb4.1,baz=57,slow=8.6,SNR=40							
ARCES	ARCESS Array B	69.08	340	P		P	11 20 16.1	+1.1
JOF	Joensuu	70.39	332	*e*p		P	11 20 22.5	-0.4
	3.2nm,0.5s,mb4.1							
KAF	Kangasniemi	72.79	333	*e*p		P	11 20 36.2	-0.8
	3.4nm,0.5s,mb4.1							
FINES	FINESS Array B	73.25	332	P		P	11 20 40.0	+0.3
	2.6nm,0.4s,mb4.1,baz=66,slow=5.7,SNR=40							
FINES	FINESS Array B	73.25	332	P		P	11 20 40.0	+0.4
MIB	Mutribah	76.13	296	*e*P		P	11 20 55.7	-0.8
MIB				AMb		AMB	11 20 56.7	
	comp=Z,18nm,0.6s,mb4.8							
NAY	Al-Naaiem	76.46	296	*e*P		P	11 20 57.6	-0.8
NAY				AMb		AMB	11 20 58.5	
	comp=Z,15nm,1.2s,mb4.4							
RST	Umm Al-Ruwaisa	76.53	296	*e*P		P	11 20 57.6	-1.1
RST				AMb		AMB	11 20 58.6	
	comp=Z,2.8nm,0.6s,mb4.0							
AKASG	Malin Array Be	77.72	322	P		P	11 21 04.6	-0.2
	comp=Z,2.2nm,0.5s,mb3.9,baz=53,slow=5.4,SNR=8.8							
AKASG	Malin Array Be	77.72	322	P		P	11 21 04.6	-0.2
NB2	NORSAR Subarra	79.05	337	P		P	11 21 11.9	+0.1
	comp=Z,1.8nm,0.6s,mb3.8,baz=45,slow=5.3							
NOA	NORSAR Array B	79.05	337	P		P	11 21 12.1	+0.3
	comp=Z,2.8nm,0.7s,mb3.9,baz=45,slow=5.3,SNR=16							
NOA	NORSAR Array B	79.05	337	P		P	11 21 12.1	+0.3
BRTR	Keskin Array B	81.05	311	P		P	11 21 22.4	-0.3
	comp=Z,1.1nm,0.9s,mb3.6,baz=76,slow=1.5,SNR

LPAZ	**La Paz**	**52.46**	**304**	P		**P**	**11 59 16.7**	**-0.3**	
	1.5nm,0.4s,mb4.3,baz=129,slow=3.6,SNR=12								
LPAZ	**La Paz**	**52.46**	**304**	*e*P		**P**	**11 59 16.6**	**-0.3**	
	1.7nm,0.5s,mb4.2								
DBIC	**Dimbokro**	**66.54**	**22**	P		**P**	**12 00 54.5**	**+0.4**	
	2.2nm,0.4s,mb4.5,baz=143,slow=7.2,SNR=9.3								
DBIC	**Dimbokro**	**66.54**	**22**	P		**P**	**12 00 54.5**	**+0.4**	
TORD	**Torodi Ar. Bea**	**74.26**	**27**	P		**P**	**12 01 41.9**	**+0.6**	
	4.4nm,0.6s,mb4.5,baz=199,slow=6.3,SNR=32								
ASAR	**Alice Springs**	**96.74**	**161**	P		**P**	**12 03 33.9**	**-1.0**	
	0.4nm,0.7s,mb3.9,baz=174,slow=3.3,SNR=5.9								
ASAR	**Alice Springs**	**96.74**	**161**	P		**P**	**12 03 33.9**	**-1.0**	
PDAR	**Pinedale Array**	**122.35**	**300**	PKP		PKPdf	12 08 57.1	-1.4	
	0.2nm,0.4s,baz=186,slow=0.9,SNR=2.7								
PDAR	**Pinedale Array**	**122.35**	**300**	PKP		PKPdf	12 08 57.1	-1.4	
CMAR	**Chiang Mai Arr**	**123.30**	**110**	PKP		PKPdf	12 09 00.1	-0.9	
	0.8nm,0.8s,baz=223,slow=3.8,SNR=4.4								
CMAR	**Chiang Mai Arr**	**123.30**	**110**	PKP		PKPdf	12 09 00.1	-0.9	
FINES	**FINESS Array B**	**125.61**	**27**	PKP		PKPdf	12 09 03.3	-0.8	
	1.8nm,0.8s,baz=226,slow=5.0,SNR=8.5								
FINES	**FINESS Array B**	**125.61**	**27**	PKP		PKPdf	12 09 03.3	-0.8	
ARCES	**ARCESS Array B**	**132.37**	**22**	PKP		PKPdf	12 09 16.1	-0.7	
	3.0nm,1.0s,baz=236,slow=1.6,SNR=4.2								
ARCES	**ARCESS Array B**	**132.37**	**22**	PKP		PKPdf	12 09 16.1	-0.7	
KURK	**Kurchatov**	**137.20**	**65**	PKP		PKPdf	12 09 25.6	-0.8	
	0.2nm,0.3s,baz=248,slow=2.5,SNR=4.8								
KURK	**Kurchatov**	**137.20**	**65**	PKP		PKPdf	12 09 25.6	-0.8	
YKA	**Yellowknife Ar**	**138.41**	**316**	PKP		PKPdf	12 09 26.8	-1.4	
	1.8nm,0.8s,baz=135,slow=2.0,SNR=7.4								
YKA	**Yellowknife Ar**	**138.41**	**316**	PKP		PKPdf	12 09 26.8	-1.4	
INK	**Inuvik**	**148.06**	**318**	PKPbc		PKPbc	12 09 47.2	-1.0	
	3.4nm,0.6s,baz=66,slow=3.1,SNR=21								
INK	**Inuvik**	**148.06**	**318**	PKPbc		PKPbc	12 09 47.2	-1.0	
SONM	**Songino Array**	**149.67**	**88**	PKPbc		PKPbc	12 09 52.5	-0.4	
	1.6nm,0.6s,baz=220,slow=3.2,SNR=15								
SONM				PKPab		PKPab	12 09 58.7	+0.5	
	0.6nm,0.5s,baz=243,slow=1.3,SNR=3.9								
SONM	**Songino Array**	**149.67**	**88**	PKPbc		PKPbc	12 09 52.5	-0.4	
SONM				PKPab		PKPab	12 09 58.7	+0.5	
ILAR	**Eielson Array**	**152.28**	**308**	PKPbc		PKPbc	12 09 57.8	-0.7	
	1.7nm,0.8s,baz=146,slow=2.8,SNR=33								
ILAR				PKPab		PKPab	12 10 07.2	-1.5	
	0.6nm,0.4s,baz=133,slow=4.5,SNR=9.2								
ILAR	**Eielson Array**	**152.28**	**308**	PKPbc		PKPbc	12 09 57.8	-0.7	
ILAR				PKPab		PKPab	12 10 07.2	-1.5	
KDAK	**Kodiak Island**	**152.68**	**292**	PKPbc		PKPbc	12 09 59.8	+0.2	
	17nm,0.9s,baz=88,slow=20,SNR=4.2								
KDAK	**Kodiak Island**	**152.68**	**292**	PKPbc		PKPbc	12 09 59.8	+0.2	

*ISCJB **09** 11:52:35.7±0.7, 6.94N±0.06×73.01W±0.07, h168km±8km, mb3.1/2, Error ellipse: s-maj=12.6km s-min=9.3km az=32.6*
*FUNV **09** 11:52:35.6, 6.75N×73.17W, h159km, MW4.1*
*IDC **09** 11:52:39.7±6.1, 4.75N×76.59W, h95km±67km, mb2.8/2, mb1 3.2/3, mb1mx3.1/21, mbtmp3.0/3, ML2.5/1, Error ellipse: s-maj=69.9km s-min=28.2km az=58.0*

ISC 09 11:52:36.5±0.7, 6.93N±0.06×73.00W±0.07, h164km±8km, n24, σ0=81/29, mb3.1/2, 1C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.15**	**36**	↓	*i*P		**Pn**	**11 53 04.7**	**+0.8**
CAPV					*e*S		**Sn**	**11 53 25.2**	**+0.3**
ROSC	**El Rosal**	**2.44**	**213**	P			**Pn**	**11 53 16.3**	**-1.5**
	25nm,0.3s,baz=274,slow=18,SNR=52								
ROSC				S			**Sn**	**11 53 44.3**	**-5.2**
	32nm,0.3s,baz=98,slow=16,SNR=11								
SOCV	**Socops**	**2.52**	**57**	↓	*e*P		**Pn**	**11 53 19.4**	**+0.9**
SOCV					*e*S		**Sn**	**11 53 51.7**	**+0.7**
ELOV	**Elorza**	**3.49**	**89**	*e*	P		**Pn**	**11 53 31.0**	**+0.4**
VIRV	**Villa del Rosa**	**3.60**	**9**	↑	*i*P		**Pn**	**11 53 31.7**	**-0.4**
VIRV					*e*S		**Sn**	**11 54 13.6**	**-1.7**
QARV	**Quebrada Arrib**	**4.08**	**37**	*e*	P		**Pn**	**11 53 39.3**	**+1.1**
QARV					*e*S		**Sn**	**11 54 25.8**	**-0.4**
SANV	**Sanarito**	**4.28**	**53**	*e*	P		**Pn**	**11 53 41.1**	**+0.4**
CURV	**Curarigua**	**4.29**	**44**	*e*	P		**Pn**	**11 53 42.0**	**+1.0**
DABV	**Dabajuro**	**4.61**	**30**	*e*	P		**Pn**	**11 53 45.7**	**+0.6**
TEPV	**Terepaima**	**4.83**	**51**	*e*	P		**Pn**	**11 53 48.6**	**+0.7**
SIQV	**Siquisique**	**4.86**	**40**	↓	*e*P		**Pn**	**11 53 49.0**	**+0.6**
SIQV					*e*S		**Sn**	**11 54 43.9**	**-0.7**
BAUV	**El Baul**	**5.30**	**67**	*e*	P		**Pn**	**11 53 53.6**	**-0.5**
BAUV					*e*S		**Sn**	**11 54 52.0**	**-3.0**
MAPV	**Macapo**	**5.34**	**57**	*e*	P		**Pn**	**11 53 55.0**	**+0.3**
IMOV	**Isla Los Monje**	**5.78**	**21**	*e*	P		**Pn**	**11 54 00.7**	**+0.1**
MONV	**Montecano**	**5.82**	**31**	*e*	P		**Pn**	**11 54 00.9**	**-0.1**
TURV	**Turiamo**	**6.18**	**55**	*e*	P		**Pn**	**11 54 06.0**	**+0.1**
MERV	**Las Mercedes**	**7.03**	**70**	*e*	P		**Pn**	**11 54 16.2**	**-0.7**
BIRV	**Birongo**	**7.53**	**66**	*e*	P		**Pn**	**11 54 22.9**	**-0.7**
CUPV	**Cospira**	**7.78**	**66**	*e*	P		**Pn**	**11 54 26.1**	**-0.9**
PCRV	**Puerto La Cruz**	**8.88**	**68**	*e*	P		**Pn**	**11 54 42.0**	**+0.4**
LPAZ	**La Paz**	**23.56**	**168**	P			**P**	**11 57 32.2**	**-0.1**
	0.5nm,0.5s,mb3.3,baz=331,slow=10,SNR=2.7								
TXAR	**Lajitas Array**	**36.48**	**311**	P			**P**	**11 59 26.6**	**+0.5**
	0.1nm,0.4s,mb2.8,baz=126,slow=9.1,SNR=3.0								
ASAR	**Alice Springs**	**149.27**	**234**	PKPbc		PKPbc	12 12 06.5	-0.2	
	0.3nm,0.7s,baz=124,slow=3.2,SNR=3.6								
WRA	**Warramunga Arr**	**150.49**	**241**	PKPbc		PKPbc	12 12 09.3	-0.4	
	0.2nm,0.5s,baz=105,slow=3.1,SNR=6.2								

*MAN **09** 12:10:10, 16.23N×119.19E, h48km, mb4.8, ML3.7, MS3.7*
*ISCJB **09** 12:10:14.3±1.1, 16.07N±0.05×119.59E±0.10, h75km±11km, mb4.0/19, Error ellipse: s-maj=16.1km s-min=8.0km az=174.3*
*IDC **09** 12:10:15.5±2.5, 16.06N×119.66E, h70km±25km, mb3.8/16, mb1 3.9/18, mb1mx3.8/28, mbtmp3.8/18, MS3.5/4, Ms1 3.5/4, ms1mx3.0/37, Error ellipse: s-maj=23.7km s-min=11.2km az=69.0*
*NEIC **09** 12:10:16.6±1.1, 16.01N×119.64E, h83km±11km, mb4.4/6, Error ellipse: s-maj=13.7km s-min=6.4km az=60.0*

ISC 09 12:10:15.1±1.1, 16.08N±0.05×119.58E±0.09, h66km±11km, n47, σ0=97/50, mb4.0/19, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**1.90**	**35**	*e*	P		**Pn**	**12 10 43.3**	**-2.0**
ABRA					*e*S		**Sn**	**12 11 07.3**	**-1.1**
CAUP	**Cauayan**	**2.32**	**68**	*e*	P		**Pn**	**12 10 52.1**	**+1.1**
TGY	**Tagaytay City**	**2.37**	**146**	P			**Pn**	**12 10 52.4**	**+0.7**
	91nm,0.3s,baz=196,slow=0.9,SNR=13								
TGY				S			**Sn**	**12 11 31.9**	**+12**
	94nm,0.3s,baz=144,slow=9.1,SNR=7.1								
TGY	**Tagaytay City**	**2.37**	**146**	P			**Pn**	**12 10 52.4**	**+0.7**
TGY				S			**Sn**	**12 11 31.9**	**+12**
APYP	**Conner**	**2.38**	**42**	*e*	P		**Pn**	**12 10 50.2**	**-1.7**
APYP					*e*S		**Sn**	**12 11 20.9**	**+0.9**
CVP	**Callao Caves**	**2.69**	**53**	↓	*i*P		**Pn**	**12 10 55.7**	**-0.3**
CVP					*i*S		**Sn**	**12 11 32.7**	**+5.2**
PALP	**Palanan**	**2.90**	**70**	*e*	P		**Pn**	**12 11 02.2**	**+3.3**
GQP	**Guinayangan**	**3.52**	**128**	↓	*e*P		**Pn**	**12 11 09.1**	**+1.7**
DAV	**Davao City (W)**	**10.71**	**146**	LR		LR	LR	12 17 30.4	
	comp=Z,117nm,19.2s,baz=92,slow=41								
CMAR	**Chiang Mai Arr**	**19.84**	**280**	P			**Pn**	**12 14 42.2**	**-0.7**
	0.2nm,0.3s,baz=91,slow=7.3,SNR=21								
CMAR				LR			LR	12 22 43.0	
	comp=Z,65nm,18.6s,baz=90,slow=38								
CMAR	**Chiang Mai Arr**	**19.84**	**280**	P			**Pn**	**12 14 42.2**	**-0.7**
CMAR				LR			LR	12 22 43.0	
KSRS	**Korea Array**	**22.53**	**18**	P			**P**	**12 15 08.5**	**-0.9**
	1.3nm,0.8s,mb3.3,baz=195,slow=11,SNR=4.0								
SONM	**Songino Array**	**33.48**	**344**	P			**P**	**12 16 48.7**	**+0.8**
	1.9nm,0.7s,mb4.0,baz=163,slow=9.1,SNR=14								
SONM	**Songino Array**	**33.48**	**344**	P			**P**	**12 16 48.7**	**+0.8**
FITZ	**Fitzroy Crossi**	**34.49**	**170**	P			**P**	**12 16 57.1**	**+0.2**
	0.8nm,0.6s,mb3.7,baz=180,slow=24,SNR=16								
FITZ	**Fitzroy Crossi**	**34.49**	**170**	P			**P**	**12 16 57.1**	**+0.2**
WRAB	**Tennant Creek**	**38.62**	**157**	*e*	P		**P**	**12 17 30.6**	**-1.5**
	3.6nm,0.4s,mb4.5								
WRA	**Warramunga Arr**	**38.63**	**157**	P			**P**	**12 17 30.6**	**-1.6**
	3.1nm,0.5s,mb4.4,baz=328,slow=10,SNR=64								
WRA				PcP			PcP	12 19 44.6	+1.2
	0.5nm,0.7s,baz=344,slow=3.2,SNR=3.8								
WRA	**Warramunga Arr**	**38.63**	**157**	P			**P**	**12 17 30.6**	**-1.6**
WRA				PcP			PcP	12 19 44.6	+1.2
ASAR	**Alice Springs**	**41.91**	**160**	P			**P**	**12 17 58.2**	**-1.1**
	4.3nm,0.4s,mb4.5,baz=341,slow=6.9,SNR=152								
ASAR	**Alice Springs**	**41.91**	**160**	P			**P**	**12 17 58.2**	**-1.1**
MK31	**Makanchi Array**	**43.48**	**323**	*e*	P		**P**	**12 18 12.0**	**+0.2**
MKAR	**Makanchi Array**	**43.48**	**323**	P			**P**	**12 18 12.6**	**+0.8**
	2.3nm,0.8s,mb3.9,baz=123,slow=8.8,SNR=15								
MKAR	**Makanchi Array**	**43.48**	**323**	P			**P**	**12 18 12.6**	**+0.8**

ZALV	**Zalesovo Beam**	**46.45**	**332**	P			**P**	**12 18 34.5**	**-0.7**
	0.8nm,0.5s,mb3.7,baz=117,slow=7.2,SNR=6.2								
ZALV				LR			LR	12 39 05.1	
	comp=Z,28nm,19.7s,baz=97,slow=37								
ZALV	**Zalesovo Beam**	**46.45**	**332**	P			**P**	**12 18 34.5**	**-0.7**
ZALV				LR			LR	12 39 05.1	
PETK	**Petropavlovsk-**	**47.50**	**30**	P			**P**	**12 18 44.4**	**+1.0**
	5.9nm,0.9s,mb4.4,baz=235,slow=8.2,SNR=6.7								
PETK	**Petropavlovsk-**	**47.50**	**30**	P			**P**	**12 18 44.4**	**+1.0**
KURK	**Kurchatov**	**47.62**	**326**	P			**P**	**12 18 45.0**	**+0.7**
	5.0nm,0.8s,mb4.4,baz=121,slow=8.4,SNR=34								
KURK	**Kurchatov**	**47.62**	**326**	*e*	P		**P**	**12 18 44.9**	**+0.5**
	5.9nm,0.6s,mb4.6								
KKAR	**Karatay Array**	**49.55**	**313**	*e*	P		**P**	**12 18 59.7**	**+0.4**
	2.9nm,0.9s,mb4.2								
STKA	**Stephens Creek**	**52.15**	**156**	P			**P**	**12 19 18.6**	**-0.3**
	1.1nm,0.4s,mb4.2,baz=344,slow=10,SNR=4.8								
STKA	**Stephens Creek**	**52.15**	**156**	*e*	P		**P**	**12 19 18.6**	**-0.4**
	0.3nm,0.5s,mb3.6								
BVAR	**Borovoye Array**	**53.20**	**325**	P			**P**	**12 19 27.1**	**+0.6**
	1.3nm,0.6s,mb4.1,baz=123,slow=11,SNR=7.9								
BVAR	**Borovoye Array**	**53.20**	**325**	P			**P**	**12 19 27.1**	**+0.6**
ABKAR	**Akbulak array**	**58.24**	**318**	*e*	P		**P**	**12 20 03.2**	**+0.6**
	1.3nm,0.6s,mb4.1								
ARCES	**ARCESS Array B**	**76.48**	**339**	P			**P**	**12 21 57.9**	**+0.4**
	1.7nm,0.8s,mb3.9,baz=68,slow=6.7,SNR=5.9								
ARCES	**ARCESS Array B**	**76.48**	**339**	P			**P**	**12 21 57.9**	**+0.4**
BRTR	**Keskin Array B**	**76.83**	**308**			LR	LR	12 58 27.2	
	comp=Z,194nm,19.9s,baz=78,slow=38								
ILAR	**Eielson Array**	**77.10**	**26**	P			**P**	**12 22 00.8**	**-0.2**
	0.4nm,0.5s,mb3.4,baz=259,slow=4.8,SNR=10								
ILAR	**Eielson Array**	**77.10**	**26**	P			**P**	**12 22 00.8**	**-0.2**
FINES	**FINESS Array B**	**77.69**	**331**	P			**P**	**12 22 04.8**	**+0.4**
	1.4nm,0.7s,mb3.8,baz=80,slow=4.3,SNR=5.5								
FINES	**FINESS Array B**	**77.69**	**331**	P			**P**	**12 22 04.8**	**+0.4**
INK	**Inuvik**	**81.28**	**21**	P			**P**	**12 22 24.0**	**+0.2**
	2.8nm,1.1s,mb4.0,baz=225,slow=5.6,SNR=4.2								
INK	**Inuvik**	**81.28**	**21**	*e*	P		**P**	**12 22 23.3**	**-0.5**
	5.9nm,1.3s,mb4.3								
HFS	**Hagfors**	**83.88**	**331**	P			**P**	**12 22 37.7**	**+0.2**
	2.7nm,0.9s,mb4.1,baz=168,slow=2.7,SNR=5.8								
HFS	**Hagfors**	**83.88**	**331**	P			**P**	**12 22 37.7**	**+0.2**

GUC 09 12:19:34.8±0.5, 27.12S×70.42W, h63km±3km, ML3.8, 2C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.24**	**167**	↑	*i*P		Pn	12 19 45.1	+0.3
CPCH					*i*S		Sn	12 19 52.6	+0.5
CPCH					AML		AML	12 19 53.6	
	comp=N,67μm,0.1s								
CDCH	**Caldera**	**0.37**	**278**	↓	*i*P		Pn	12 19 46.0	+0.3
CDCH					*i*S		Sn	12 19 54.1	+0.5
VACH	**Vallenar**	**1.48**	**192**	↑	*i*P		Pn	12 19 59.7	+0.4
VACH					*i*S		Sn	12 20 18.8	+1.0
VACH					AML		AML	12 20 20.2	
	comp=N,1μm,0.1s								
LCO	**Las Campanas**	**1.90**	**188**	*e*	P		Pn	12 20 05.2	+0.2
LCO					*i*S		Sn	12 20 28.9	+1.1
TLL	**Tololo Astrono**	**3.06**	**186**	*e*	P		Pn	12 20 21.6	+0.9
TLL					AML		AML	12 21 23.0	
	comp=N,70nm,0.7s								

*IDC **09** 12:31:10.9±1.2, 34.42N×26.53E, h0km, mb3.7/7, mb1 3.7/10, mb1mx3.6/24, mbtmp3.6/10, ML3.6/3, Error ellipse: s-maj=24.6km s-min=20.6km az=0.0*
*ISCJB **09** 12:31:13.9±0.3, 34.21N±0.02×26.66E±0.03, h68km±8km, mb3.5/7, Error ellipse: s-maj=4.6km s-min=3.4km az=135.3*
*CSEM **09** 12:31:15.3±0.1, 34.26N×26.63E, h80km, ML3.2/1, Error ellipse: s-maj=4.0km s-min=2.9km az=45.0*
*THE **09** 12:31:16.9, 34.25N×26.61E, h76km±3km, ML3.2/1, Error ellipse: s-maj=4.5km s-min=1.1km az=354.0*
*HLW **09** 12:31:18.3, 34.00N×26.81E, h31km±30km, Md3.6, Ml3.6*
*ISK **09** 12:31:19.9, 34.75N×27.00E, h13km, MD3.7*

ISC 09 12:31:15.5±0.3, 34.22N±0.02×26.64E±0.03, h46km±7km, n112, σ0=99/139, mb3.6/7, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LAST	**Lasithi**	**1.34**	**315**	P			**Pn**	**12 31 38.4**	**+0.7**
LAST				S			**Sn**	**12 31 55.9**	**+1.5**
LAST	**Lasithi**	**1.34**	**315**	P			**Pn**	**12 31 38.4**	**+0.7**
LAST				S			**Sn**	**12 31 55.9**	**+1.5**
NPS	**Neapolis**	**1.34**	**321**	P			**Pn**	**12 31 38.8**	**+1.1**
NPS				S			**Sn**	**12 31 55.5**	**+1.1**
NPS	**Neapolis**	**1.34**	**321**	P			**Pn**	**12 31 38.8**	**+1.1**
NPS				S			**Sn**	**12 31 55.5**	**+1.1**
KARP	**Karpathos**	**1.39**	**18**	P			**Pn**	**12 31 39.4**	**+1.0**
KARP				S			**Sn**	**12 31 57.4**	**+1.8**
KARP	**Karpathos**	**1.39**	**18**	P			**Pn**	**12 31 39.4**	**+1.0**
KARP				S			**Sn**	**12 31 57.4**	**+1.8**
SIVA	**Sivas**	**1.71**	**298**	P			**Pn**	**12 31 43.9**	**+1.2**
SIVA				S			**Sn**	**12 32 05.1**	**+1.8**
SIVA	**Sivas**	**1.71**	**298**	P			**Pn**	**12 31 43.9**	**+1.2**
SIVA				S			**Sn**	**12 32 05.1**	**+1.8**
VAM	**Vamos**	**2.33**	**301**	P			**Pn**	**12 31 52.5**	**+1.2**
VAM	**Vamos**	**2.33**	**301**	P			**Pn**	**12 31 52.5**	**+1.2**
ARG	**Arkhangelos**	**2.33**	**31**	P			**Pn**	**12 31 52.6**	**+1.3**
ARG				S			**Sn**	**12 32 19.4**	**+0.6**
ARG	**Arkhangelos**	**2.33**	**31**	P			**Pn**	**12 31 52.6**	**+1.3**
ARG				S			**Sn**	**12 32 19.4**	**+0.6**
THR6	**Thira Island,**	**2.36**	**335**	P			**Pn**	**12 31 51.5**	**-0.2**
THR6	**Thira Island,**	**2.36**	**335**	P			**Pn**	**12 31 51.5**	**-0.2**
THR3	**Thira Island,**	**2.41**	**335**	P			**Pn**	**12 31 51.8**	**-0.6**
THR3	**Thira Island,**	**2.41**	**335**	P			**Pn**	**12 31 51.8**	**-0.6**
KARN	**Karanos**	**2.53**	**298**	P			**Pn**	**12 31 54.0**	**-0.1**
KARN				S			**Sn**	**12 32 23.0**	**-0.7**
KARN	**Karanos**	**2.53**	**298**	P			**Pn**	**12 31 54.0**	**-0.1**
KARN				S			**Sn**	**12 32 23.0**	**-0.7**
DAT	**Datca**	**2.62**	**17**	*e*	PN		**Pn**	**12 31 54.7**	**-0.5**
DAT				*e*	SN		**Sn**	**12 32 20.2**	**-5.6**
DAT	**Datca**	**2.62**	**17**	*e*	Pn		**Pn**	**12 31 54.7**	**-0.5**
SLUM		**2.98**	**204**	P			**Pn**	**12 32 01.3**	**+1.1**
	baz=209								
SLUM				S			**Sn**	**12 32 32.8**	**-1.9**
	baz=209								
SLUM		**2.98**	**204**	P			**Pn**	**12 32 01.3**	**+1.1**
SLUM				S			**Sn**	**12 32 32.8**	**-1.8**
TURN	**Turunc**	**3.09**	**31**	*i*	P		**Pn**	**12 31 59.1**	**-2.6**
TURN	**Turunc**	**3.09**	**31**	*i*	P		**Pn**	**12 31 59.2**	**-2.6**
FETY	**Fethiye**	**3.13**	**39**	*e*	PN		**Pn**	**12 32 01.7**	**-0.5**
FETY				*e*	SN		**Sn**	**12 32 32.7**	**-5.6**
FETY	**Fethiye**	**3.13**	**39**	*e*	Pn		**Pn**	**12 32 01.7**	**-0.6**
HMAT	**Matruh**	**3.14**	**173**	P			**Pn**	**12 32 02.4**	**-0.1**
	baz=175								
HMAT	**Matruh**	**3.14**	**173**	P			**Pn**	**12 32 02.4**	**-0.1**
AKAS	**Kas**	**3.15**	**50**	*i*	P		**Pn**	**12 32 01.8**	**-0.8**
AKAS	**Kas**	**3.15**	**50**	*i*	P		**Pn**	**12 32 01.8**	**-0.8**
YER	**Yerkesik**	**3.20**	**24**	*e*	PN		**Pn**	**12 32 03.1**	**-0.1**
YER	**Yerkesik**	**3.20**	**24**	*e*	Pn		**Pn**	**12 32 03.1**	**-0.1**
AYDN	**Tasoluk**	**3.58**	**16**	*i*	P		**Pn**	**12 32 07.5**	**-0.9**
AYDN	**Tasoluk**	**3.58**	**16**	*i*	P		**Pn**	**12 32 07.5**	**-0.9**
ELL	**Elmali**	**3.67**	**46**	*e*	PN		**Pn**	**12 32 09.9**	**+0.2**
ELL	**Elmali**	**3.67**	**46**	*e*	Pn		**Pn**	**12 32 09.9**	**+0.2**
GLHS	**Glhisar (BURDU**	**3.74**	**38**	*e*	PN		**Pn**	**12 32 10.8**	**+0.1**
GLHS	**Glhisar (BURDU**	**3.74**	**38**	*e*	Pn		**Pn**	**12 32 10.8**	**+0.1**
VLI	**Veliai**	**3.92**	**311**	P			**Pn**	**12 32 12.3**	**-0.8**
VLI	**Veliai**	**3.92**	**311**	P			**Pn**	**12 32 12.3**	**-0.8**
DNZL	**Cakiroluk**	**3.97**	**29**	*i*	P		**Pn**	**12 32 14.6**	**+0.7**
DNZL	**Cakiroluk**	**3.97**	**29**	*i*	P		**Pn**	**12 32 14.6**	**+0.7**
KORT	**Korkueli**	**4.10**	**46**	*i*	P		**Pn**	**12 32 15.6**	**-0.1**
KORT	**Korkueli**	**4.10**	**46**	*i*	P		**Pn**	**12 32 15.6**	**0.0**
KORT				*i*	S		**Sn**	**12 32 57.2**	**-5.1**
DID	**Didima**	**4.29**	**321**	P			**Pn**	**12 32 17.6**	**-0.6**
DID	**Didima**	**4.29**	**321**	P			**Pn**	**12 32 17.6**	**-0.6**
VLY	**Voula,Athens**	**4.29**	**328**	P			**Pn**	**12 32 18.4**	**+0.1**
VLY	**Voula,Athens**	**4.29**	**328**	P			**Pn**	**12 32 18.4**	**+0.1**
PYL	**PYLOS**	**4.80**	**305**	P			**Pn**	**12 32 23.8**	**-1.4**
PYL	**PYLOS**	**4.80**	**305**	P			**Pn**	**12 32 23.8**	**-1.4**
ITM	**Ithomi**	**4.84**	**309**	P			**Pn**	**12 32 25.2**	**-0.6**
ITM	**Ithomi**	**4.84**	**309**	P			**Pn**	**12 32 25.2**	**-0.6**
GAZI	**Gazipasa**	**5.06**	**65**	*i*	P		**Pn**	**12 32 28.9**	**+0.1**
GAZI	**Gazipasa**	**5.06**	**65**	*i*	P		**Pn**	**12 32 28.9**	**+0.1**
SWA2		**5.07**	**192**	P			**Pn**	**12 32 29.9**	**+1.0**
	baz=195								
SWA2					AMP			12 33 00.0	
	comp=N,70μm,0.2s,logA/T=5.6,baz=195								
SWA2				S			**Sn**	**12 33 22.5**	**-3.6**

	baz=195								
SWA2		**5.07**	**192**	P			**Pn**	**12 32 29.9**	**+1.0**
SWA2				S			**Sn**	**12 33 22.5**	**-3.6**
GUR	**Goura**	**5.08**	**318**	P			**Pn**	**12 32 28.3**	**-0.8**
GUR	**Goura**	**5.08**	**318**	P			**Pn**	**12 32 28.3**	**-0.8**
LKR	**Lokris**	**5.30**	**327**	P			**Pn**	**12 32 31.2**	**-0.9**
LKR	**Lokris**	**5.30**	**327**	P			**Pn**	**12 32 31.2**	**-0.9**
DSF	**Desfina**	**5.34**	**323**	P			**Pn**	**12 32 31.5**	**-1.1**
DSF	**Desfina**	**5.34**	**323**	P			**Pn**	**12 32 31.5**	**-1.1**
HDMB	**Hadim**	**5.49**	**58**	*e*	PN		**Pn**	**12 32 36.7**	**+2.0**
HDMB	**Hadim**	**5.49**	**58**	*e*	Pn		**Pn**	**12 32 36.7**	**+2.0**
KALE	**Kalithea**	**5.52**	**320**	P			**Pn**	**12 32 34.8**	**-0.3**
KALE	**Kalithea**	**5.52**	**320**	P			**Pn**	**12 32 34.8**	**-0.3**
CSS	**Prodhromos**	**5.57**	**80**	P			**Pn**	**12 32 35.9**	**+0.1**
CSS				S			**Sn**	**12 33 36.5**	**-1.9**
CSS	**Prodhromos**	**5.57**	**80**	P			**Pn**	**12 32 35.9**	**+0.1**
CSS				S			**Sn**	**12 33 36.5**	**-1.9**
HMYD	**Mayadein**	**5.65**	**140**	P			**Pn**	**12 32 37.2**	**+0.3**
	baz=139								
HNAT	**Natroun**	**5.69**	**142**	P			**Pn**	**12 32 37.3**	**-0.2**
	baz=142								
HNAT	**Natroun**	**5.69**	**142**	P			**Pn**	**12 32 37.6**	**+0.2**
AGG	**Agios Georgios**	**5.91**	**325**	P			**Pn**	**12 32 39.8**	**-0.7**
AGG	**Agios Georgios**	**5.91**	**325**	P			**Pn**	**12 32 39.8**	**-0.7**
AYT	**Al 'Ayyat**	**5.92**	**138**	P			**Pn**	**12 32 40.3**	**-0.3**
	baz=138								
AYT	**Al 'Ayyat**	**5.92**	**138**	P			**Pn**	**12 32 40.9**	**+0.4**
KFL	**Anninata**	**6.12**	**311**	P			**Pn**	**12 32 42.8**	**-0.5**
KFL	**Anninata**	**6.12**	**311**	P			**Pn**	**12 32 42.8**	**-0.

2.2nm,0.4s
PTEO Sao Teotonio 1.52 309 *e*Pn Pn 12 39 06.6 -1.4
PTEO *e*Sn Sn 12 39 25.1 -2.2
PTEO A 12 39 28.5
2.2nm,0.4s
PBAR Barrancos 1.59 6 *e*Pn Pn 12 39 07.8 -1.2
PBAR *e*Sn Sn 12 39 26.8 -2.2
1.6nm,0.1s
PBAR Barrancos 1.59 6 *e*Pn Pn 12 39 07.8 -1.2
PBAR *e*Sn Sn 12 39 26.8 -2.2
PBAR A 12 39 28.1
2.6nm,0.1s
PBAR A 12 39 32.7
1.6nm,0.1s
PNCL Nicolau / Gran 1.83 326 *e*Pn Pn 12 39 10.9 -1.4
PNCL *e*Sn Sn 12 39 32.5 -2.5
1.4nm,0.1s
PNCL Nicolau / Gran 1.83 326 *e*Pn Pn 12 39 10.9 -1.4
PNCL *e*Sn Sn 12 39 32.5 -2.5
PNCL A 12 39 37.7
1.4nm,0.1s
EVO Evora 2.03 343 *e*Sn Sn 12 39 37.4 -2.5
4.3nm,0.1s
EVO Evora 2.03 343 *e*Sn Sn 12 39 37.4 -2.5
EVO A 12 39 38.5
4.3nm,0.1s
EBAD Badajoz 2.17 5 P Pn 12 39 15.0 -2.0
0.2nm,0.1s,SNR=4.0
EBAD S Sn 12 39 40.2 -3.2
1.0nm,0.1s,SNR=7.9
EBAD Badajoz 2.17 5 P Pn 12 39 15.0 -2.0
0.2nm,0.1s,SNR=4.0
EBAD S Sn 12 39 40.2 -3.1
1.0nm,0.1s,SNR=7.9
PESTR Estremoz 2.29 353 *e*Sn Sn 12 39 43.5 -2.8
0.8nm,0.4s
PESTR Estremoz 2.29 353 *e*Sn Sn 12 39 43.5 -2.8
PESTR A 12 39 47.0
0.8nm,0.4s
PMTG Montargil 2.59 343 *e*Sn Sn 12 39 50.0 -3.8
1.4nm,0.2s
PMTG Montargil 2.59 343 *e*Sn Sn 12 39 50.0 -3.8
PMTG A 12 39 52.4
1.4nm,0.2s
EADA Adamuz 2.65 53 P Pn 12 39 21.3 -2.2
0.2nm,0.1s,SNR=7.9
EADA S Sn 12 39 51.1 -4.0
0.5nm,0.1s,SNR=7.9
PMRV Marv??o 2.83 358 *e*Pn Pn 12 39 25.0 -1.1
PMRV *e*Sn Sn 12 39 56.6 -3.2
1.3nm,0.1s
PMRV Marv??o 2.83 358 *e*Pn Pn 12 39 25.0 -1.1
PMRV *e*Sn Sn 12 39 56.6 -3.2
PMRV A 12 39 58.4
1.3nm,0.1s
EPLA Plasencia 3.58 14 P Pn 12 39 34.9 -1.6
1.5nm,0.1s,SNR=7.9
EPLA S Sn 12 40 13.9 -4.4
3.0nm,0.2s,SNR=7.9
EPLA Plasencia 3.58 14 P Pn 12 39 34.9 -1.5
1.5nm,0.1s,SNR=7.9
EPLA S Sn 12 40 13.9 -4.4
3.0nm,0.2s,SNR=7.9
MVO Moncorvo 4.57 2 P Pn 12 39 47.8 -2.1
0.1nm,0.0s,SNR=7.9
MVO S Sn 12 40 38.3 -4.2
0.2nm,0.1s,SNR=7.9
MVO Moncorvo 4.57 2 P Pn 12 39 47.8 -2.1
0.1nm,0.0s,SNR=7.9
MVO S Sn 12 40 38.3 -4.2
0.2nm,0.1s,SNR=7.9
ETOB Tobarra 4.97 64 P Pn 12 39 52.3 -3.2
0.1nm,0.1s,SNR=7.9
ETOB S Sn 12 40 45.8 -6.6
0.4nm,0.1s,SNR=7.9
ETOB Tobarra 4.97 64 P Pn 12 39 52.3 -3.1
0.1nm,0.1s,SNR=7.9
ETOB S Sn 12 40 45.8 -6.6
0.4nm,0.1s,SNR=7.9

MOS ***09*** *12:49:33.5±1.6, 36°.85N×71°.44E, h123km, mb3.8/2, Error ellipse: s-maj=24.2km s-min=8.8km az=81.2*
ISCJB ***09*** *12:49:34.9±0.5, 37°.04N±0°.03×71°.32E±0°.07, h115km±10km, mb3.8/2, Error ellipse: s-maj=9.5km s-min=5.4km az=179.4*
NEIC ***09*** *12:49:35.1±0.7, 36°.97N×71°.32E, h102km±12km, mb4.3/7, Error ellipse: s-maj=10.8km s-min=6.1km az=67.0*
IDC ***09*** *12:49:36.7±8.3, 37°.05N×71°.31E, h103km±61km, mb3.5/1, mb1 3.5/7, mb1mx3.2/28, mbtmp3.4/7, Error ellipse: s-maj=72.8km s-min=46.1km az=165.0*
NNC ***09*** *12:49:41.7±6.6, 37°.99N×70°.33E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=82.7km s-min=48.9km az=102.0*
DMN ***09*** *12:51:42.5±13.0, 31°.60N×81°.57E, h10km, Mb4.6/1, Error ellipse: s-maj=343.5km s-min=28.1km az=141.0*

ISC 09 12:49:36.1±0.4, 37°.02N±0°.03×71°.32E±0°.07, h113km±9km, n54, σ0s99/60, mb3.8/2, 3C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**3.09**	**217**	*e*Pn	**Pn**	**12 50 22.3**	**-1.0**
KBL				*e*Sn	**Sn**	**12 51 00.0**	**+0.3**
KBL	**Kabul**	**3.09**	**217**	*e*PN	**Pn**	**12 50 22.3**	**-1.0**
KBL				*e*		12 51 00.0	
CEP	**Cherat**	**3.23**	**171**	⇑P	**Pn**	**12 50 25.7**	**+0.6**
CEP				S	**Sn**	**12 51 06.0**	**+3.0**
THW	**Thamme Wali**	**4.23**	**175**	P	**Pn**	**12 50 38.5**	**-0.1**
AML	**Almayashu**	**5.42**	**19**	P	**Pn**	**12 50 54.7**	**+0.2**
	SNR=26						
EKS2	**Erkin-Say**	**5.94**	**18**	P	**Pn**	**12 51 01.8**	**+0.3**
	SNR=10						
EKS2	**Erkin-Say**	**5.94**	**18**	*e*Pn	**Pn**	**12 51 01.8**	**+0.2**
	9.6nm,0.5s						
EKS2	**Erkin-Say**	**5.94**	**18**	*e*PN	**Pn**	**12 51 01.8**	**+0.2**
EKS2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KK31	**Karatay Array**	**6.11**	**354**	⇓Pn	**Pn**	**12 51 02.0**	**-1.8**
	comp=Z,5.5nm,0.2s,baz=174,slow=12,SNR=210						
KK31				⇑Sn	**Sn**	**12 52 05.8**	**-6.5**
	comp=Z,3.6nm,0.4s,baz=185,slow=25,SNR=4.1						
KKAR	**Karatay Array**	**6.11**	**354**	*e*Pn	**Pn**	**12 51 02.1**	**-1.7**
	comp=Z,23nm,0.3s						
KKAR				*e*Sn	**Sn**	**12 52 06.0**	**-6.2**
KKAR	**Karatay Array**	**6.11**	**354**	*e*PN	**Pn**	**12 51 02.1**	**-1.7**
KKAR				pmax	pmax		
	comp=Z,23nm,0.3s						
AAK	**Ala-Archa**	**6.12**	**23**	P	**Pn**	**12 51 03.0**	**-0.9**
	SNR=6.7						
AAK	**Ala-Archa**	**6.12**	**23**	P	**Pn**	**12 51 04.8**	**+0.9**
	comp=Z,0.0nm,0.3s,baz=190,slow=7.5,SNR=25						
AAK				S	**Sn**	**12 52 13.4**	**+1.0**
	comp=Z,0.0nm,0.3s,baz=322,slow=23,SNR=4.0						
AAK	**Ala-Archa**	**6.12**	**23**	*e*Pn	**Pn**	**12 51 04.2**	**+0.3**
AAK				S	**Sn**	**12 52 13.4**	**+1.0**
AAK	**Ala-Archa**	**6.12**	**23**	PN	**Pn**	**12 51 04.8**	**+0.9**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CHMS	**Chumysh**	**6.53**	**23**	P	**Pn**	**12 51 09.7**	**+0.2**
	SNR=15						
USP	**Ospenovka**	**6.70**	**20**	P	**Pn**	**12 51 11.4**	**-0.4**
	SNR=8.4						
TKM2	**Tokmak 2**	**6.75**	**28**	*e*Pn	**Pn**	**12 51 12.8**	**+0.4**
	comp=Z,10.0nm,0.6s						
TKM2	**Tokmak 2**	**6.75**	**28**	*e*PN	**Pn**	**12 51 12.8**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MKAR	**Makanchi Array**	**12.72**	**36**	P	**Pn**	**12 52 33.1**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=221,slow=14,SNR=3.0						
MKAR	**Makanchi Array**	**12.72**	**36**	P	**Pn**	**12 52 33.1**	**+0.4**
MKAR	**Makanchi Array**	**12.72**	**36**	P	**Pn**	**12 52 33.1**	**+0.4**
KOLN	**Koldanda**	**13.87**	**128**	*e*P	**Pn**	**12 52 48.7**	**+0.9**
KOLN	**Koldanda**	**13.87**	**128**	*e*P	**Pn**	**12 52 48.7**	**+0.9**
GKN	**Gorkha**	**14.38**	**125**	*e*P	**Pn**	**12 52 52.1**	**-2.2**
	comp=Z,16nm,0.6s						
GKN	**Gorkha**	**14.38**	**125**	*e*P	**Pn**	**12 52 52.1**	**-2.2**
	comp=Z,16nm,0.6s						
KURK	**Kurchatov**	**14.66**	**19**	P	**Pn**	**12 52 58.9**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=208,slow=11,SNR=6.6						
KURK	**Kurchatov**	**14.66**	**19**	P	**Pn**	**12 52 58.9**	**+1.2**
KURK	**Kurchatov**	**14.66**	**19**	P	**Pn**	**12 52 58.9**	**+1.3**
AB31	**Akbulak array**	**14.76**	**330**	Pn	**Pn**	**12 52 54.1**	**-4.8**
	comp=Z,1.9nm,0.3s,baz=140,slow=13,SNR=121						
ABKAR	**Akbulak array**	**14.76**	**330**	*e*Pn	**Pn**	**12 52 54.2**	**-4.8**
	comp=Z,4.3nm,0.3s						
DMN	**Daman**	**14.95**	**125**	*e*P	**Pn**	**12 53 00.1**	**-1.4**
DMN	**Daman**	**14.95**	**125**	*e*P	**Pn**	**12 53 00.1**	**-1.4**
GUN	**Gumba**	**15.27**	**122**	*e*P	**Pn**	**12 53 04.0**	**-1.5**
GUN	**Gumba**	**15.27**	**122**	*e*P	**Pn**	**12 53 04.0**	**-1.5**
BVAR	**Borovoye Array**	**16.02**	**358**	P	**Pn**	**12 53 14.1**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=158,slow=13,SNR=7.7						
BVAR	**Borovoye Array**	**16.02**	**358**	P	**Pn**	**12 53 14.1**	**-0.5**
BVAR	**Borovoye Array**	**16.02**	**358**	P	**Pn**	**12 53 14.1**	**-0.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTK	**Aktyubinsk**	**16.46**	**329**	P	**Pn**	**12 53 19.9**	**-0.2**
AKTO	**Aktyubinsk**	**16.46**	**329**	⇑Pn	**Pn**	**12 53 20.9**	**+0.7**
	comp=Z,0.8nm,0.5s						
AKTO	**Aktyubinsk**	**16.46**	**329**	P	**Pn**	**12 53 19.9**	**-0.2**
	comp=Z,1.8nm,0.3s,baz=136,slow=13,SNR=20						
AKTO	**Aktyubinsk**	**16.46**	**329**	P	**Pn**	**12 53 19.9**	**-0.2**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.3s						
TAPN	**Taplejung**	**16.88**	**120**	*e*P	**Pn**	**12 53 25.5**	**+0.1**
TAPN	**Taplejung**	**16.88**	**120**	*e*P	**Pn**	**12 53 25.5**	**+0.1**
ODAN	**Odare**	**16.97**	**122**	*e*P	**Pn**	**12 53 26.7**	**+0.2**
	comp=Z,8.0nm,0.6s						
ODAN	**Odare**	**16.97**	**122**	*e*P	**Pn**	**12 53 26.7**	**+0.2**
	comp=Z,8.0nm,0.6s						
ZALV	**Zalesovo Beam**	**19.34**	**25**	P	**P**	**12 53 52.8**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=217,slow=11,SNR=19						
ZALV	**Zalesovo Beam**	**19.34**	**25**	P	**P**	**12 53 52.8**	**+0.5**
ZALV	**Zalesovo Beam**	**19.34**	**25**	P	**P**	**12 53 52.8**	**+0.5**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARU	**Arti**	**21.23**	**340**	*e*P	**P**	**12 54 12.7**	**+0.1**
	comp=Z,2.3nm,0.5s,mb3.8						
ARU	**Arti**	**21.23**	**340**	*e*P	**P**	**12 54 12.7**	**+0.1**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.7						
FINES	**FINESS Array B**	**37.20**	**326**	P	**P**	**12 56 37.5**	**+1.6**
	comp=Z,0.6nm,0.3s,mb3.9,baz=125,slow=10,SNR=7.6						
FINES	**FINESS Array B**	**37.20**	**326**	P	**P**	**12 56 37.5**	**+1.6**
FINES	**FINESS Array B**	**37.20**	**326**	P	**P**	**12 56 37.5**	**+1.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						

MAN ***09*** *12:50:52, 18°.53N×119°.43E, h2km, mb4.9, ML3.8, MS3.9*
IDC ***09*** *12:50:57.3±0.6, 18°.19N×120°.08E, h0km, mb4.1/19, mb1 4.2/19, mb1mx4.1/28, mbtmp4.1/19, MS3.6/7, Ms1 3.6/7, ms1mx3.2/38, Error ellipse: s-maj=25.1km s-min=12.0km az=67.0*
NEIC ***09*** *12:51:00.7±2.2, 18°.19N×120°.13E, h23km±16km, mb4.4/7, Error ellipse: s-maj=11.4km s-min=5.5km az=77.0*
ISCJB ***09*** *12:51:02.6±0.9, 18°.36N±0°.03×120°.01E±0°.10, h49km±9km, mb4.1/21, MS3.6/6, Error ellipse: s-maj=15.5km s-min=5.1km az=172.0*

ISC 09 12:51:03.5±0.8, 18°.29N±0°.04×120°.01E±0°.09, h44km±9km, n63, σ1s23/65, mb4.1/21, MS3.6/6, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ABRA	**Dolores**	**0.92**	**133**	*e*P	**Pn**	**12 51 19.1**	**-0.9**
APYP	**Conner**	**1.25**	**110**	*e*P	**Pn**	**12 51 24.2**	**-0.2**
CVP	**Callao Caves**	**1.82**	**108**	*e*P	**Pn**	**12 51 33.1**	**+0.7**
CVP				*i* S	**Sn**	**12 52 03.2**	**+9.0**
CAUP	**Cauayan**	**2.19**	**127**	*e*P	**Pn**	**12 51 39.9**	**+2.5**
PALP	**Palanan**	**2.61**	**117**	*e*P	**Pn**	**12 51 45.9**	**+2.7**
TGY	**Tagaytay City**	**4.25**	**168**	Pn	**Pn**	**12 52 08.1**	**+2.3**
	36nm,0.3s,baz=268,slow=4.0,SNR=2.9						
TGY				Sn	**Sn**	**12 53 05.5**	**+11**
	32nm,0.3s,baz=161,slow=15,SNR=1.7						
TGY	**Tagaytay City**	**4.25**	**168**	Pn	**Pn**	**12 52 08.1**	**+2.3**
TGY				Sn	**Sn**	**12 53 05.5**	**+11**
TWG	**Pinlang**	**4.62**	**12**	*e*Pn	**Pn**	**12 52 10.0**	**-0.8**
TWG				*e*Sn	**Sn**	**12 53 02.7**	**-0.5**
TPUB	**Ta-pu**	**5.02**	**7**	*e*Pn	**Pn**	**12 52 14.1**	**-2.2**
TPUB				*e*Sn	**Sn**	**12 53 10.0**	**-3.1**
YULB	**Yu-li**	**5.22**	**13**	*e*Pn	**Pn**	**12 52 19.1**	**0.0**
YULB				*e*Sn	**Sn**	**12 53 18.0**	**0.0**
SSLB	**Suanglung**	**5.54**	**9**	*e*Pn	**Pn**	**12 52 23.1**	**-0.4**
SSLB				*e*Sn	**Sn**	**12 53 18.5**	**-7.5**
PVCP	**Virac**	**6.14**	**139**	*e*P	**Pn**	**12 52 36.2**	**+4.5**
PVCP				*e*S	Px	12 52 44.2	
YHNB	**Yeheng**	**6.48**	**11**	*e*Pn	**Pn**	**12 52 36.5**	**+0.2**
YHNB				*e*Sn	**Sn**	**12 53 48.8**	**-0.1**
CNP	**Catarman**	**7.29**	**141**	*e*P	**Pn**	**12 52 55.1**	**+7.7**
CNP				*e*S	Px	12 53 13.3	
QIZ	**Qiongzhong**	**9.66**	**276**	*e*Pn	**Pn**	**12 53 13.9**	**-6.1**
CMAR	**Chiang Mai Arr**	**19.99**	**274**	P	**Pn**	**12 55 33.0**	**-1.5**
	2.6nm,0.7s,baz=78,slow=10,SNR=12						
CMAR				LR	LR	13 03 03.1	
	comp=Z,37nm,19.5s,baz=85,slow=36						
CMAR	**Chiang Mai Arr**	**19.99**	**274**	P	**Pn**	**12 55 33.0**	**-1.5**
CMAR				LR	LR	13 03 03.1	
KSRS	**Korea Array**	**20.32**	**18**	P	**P**	**12 55 37.2**	**+1.4**
	3.5nm,0.8s,baz=201,slow=11,SNR=10						
KSRS				LR	LR	13 04 52.3	
	comp=Z,103nm,19.8s,MS3.2,baz=210,slow=41						
KAPI	**Kappang**	**23.15**	**181**	*e*P	**P**	**12 56 06.0**	**-0.3**
	36nm,1.4s,mb4.6						
MJAR	**Matsushiro Arr**	**24.25**	**38**	P	**P**	**12 56 16.5**	**+0.2**
	0.4nm,0.5s,mb3.1,baz=42,slow=51,SNR=3.4						
MJAR	**Matsushiro Arr**	**24.25**	**38**	P	**P**	**12 56 16.6**	**+0.2**
PSI	**Prapat**	**25.76**	**236**	LR	LR	13 05 05.8	
	comp=Z,52nm,18.8s,MS3.1,baz=34,slow=33						
SONM	**Songino Array**	**31.50**	**342**	P	**P**	**12 57 22.2**	**+1.1**
	0.8nm,0.7s,mb3.7,baz=164,slow=10,SNR=7.2						
SONM	**Songino Array**	**31.50**	**342**	P	**P**	**12 57 22.2**	**+1.1**
FITZ	**Fitzroy Crossi**	**36.58**	**171**	*e*P	**P**	**12 58 04.6**	**-0.8**
	2.3nm,0.7s,mb4.1,baz=304,slow=3.2,SNR=5.8						
FITZ	**Fitzroy Crossi**	**36.58**	**171**	*e*P	**P**	**12 58 03.8**	**-1.6**
	2.3nm,0.7s,mb4.1						
WRAB	**Tennant Creek**	**40.50**	**159**	*e*P	**P**	**12 58 36.0**	**-2.3**
	8.1nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**40.51**	**159**	P	**P**	**12 58 36.1**	**-2.3**
	7.0nm,0.7s,mb4.4,baz=342,slow=8.9,SNR=65						
WRA	**Warramunga Arr**	**40.51**	**159**	P	**P**	**12 58 36.1**	**-2.3**
WB2	**Warramunga Arr**	**40.51**	**159**	*e*P	**P**	**12 58 36.0**	**-2.4**
MKAR	**Makanchi Array**	**42.01**	**321**	P	**P**	**12 58 51.8**	**+1.4**
	1.4nm,0.8s,mb3.6,baz=115,slow=9.5,SNR=5.7						
MKAR	**Makanchi Array**	**42.01**	**321**	P	**P**	**12 58 51.8**	**+1.4**
ASAR	**Alice Springs**	**43.85**	**161**	P	**P**	**12 59 04.6**	**-0.9**
	8.5nm,0.8s,mb4.5,baz=341,slow=6.9,SNR=121						
ASAR	**Alice Springs**	**43.85**	**161**	P	**P**	**12 59 04.6**	**-0.9**
ZALV	**Zalesovo Beam**	**44.72**	**331**	P	**P**	**12 59 13.5**	**+1.3**
	1.0nm,0.7s,mb3.8,baz=119,slow=8.7,SNR=4.8						
ZALV	**Zalesovo Beam**	**44.72**	**331**	P	**P**	**12 59 13.5**	**+1.3**
PETK	**Petrolovsk-**	**45.41**	**31**	LR	LR	13 20 08.3	
	comp=Z,76nm,19.5s,MS3.6,baz=108,slow=38						
CTA	**Charters Tower**	**46.01**	**145**	P	**P**	**12 59 21.6**	**-1.2**
	2.3nm,0.6s,mb4.3,baz=301,slow=6.0,SNR=4.2						
CTA	**Charters Tower**	**46.01**	**145**	P	**P**	**12 59 21.6**	**-1.2**
KURK	**Kurchatov**	**46.06**	**324**	P	**P**	**12 59 24.4**	**+1.5**
	4.2nm,0.6s,mb4.5,baz=123,slow=8.3,SNR=13						
KURK	**Kurchatov**	**46.06**	**324**	*e*P	**P**	**12 59 23.8**	**+1.0**
	3.7nm,0.6s,mb4.5						
FORT	**Forrest**	**49.39**	**171**	*e*P	**P**	**12 59 48.2**	**-0.6**
	15nm,0.7s,mb5.1						
BVAR	**Borovoye Array**	**51.66**	**324**	P	**P**	**13 00 06.6**	**+0.9**
	0.9nm,0.6s,mb3.9,baz=107,slow=9.7,SNR=3.1						
BVAR	**Borovoye Array**	**51.66**	**324**	P	**P**	**13 00 06.6**	**+0.9**
STKA	**Stephens Creek**	**54.00**	**157**	P	**P**	**13 00 23.2**	**-0.1**
	5.9nm,0.8s,mb4.6,baz=337,slow=8.3,SNR=15						
STKA				LR	LR	13 24 40.6	
	comp=Z,63nm,19.2s,MS3.7,baz=25,slow=38						
STKA	**Stephens Creek**	**54.00**	**157**	*e*P	**P**	**13 00 22.9**	**-0.3**
	1.1nm,0.7s,mb3.9						
STKA				LR	LR	13 24 40.6	
ILAR	**Eielson Array**	**74.95**	**26**	P	**P**	**13 02 39.7**	**0.0**
	0.7nm,0.7s,mb3.7,baz=270,slow=4.6,SNR=8.5						
ILAR	**Eielson Array**	**74.95**	**26**	P	**P**	**13 02 39.7**	**0.0**
FINES	**FINESS Array B**	**75.98**	**330**	P	**P**	**13 02 46.1**	**+0.5**
	1.0nm,0.5s,mb4.0,baz=41,slow=3.8,SNR=6.1						
FINES	**FINESS Array B**	**75.98**	**330**	P	**P**	**13 02 46.1**	**+0.5**
AKASG	**Malin Array Be**	**76.56**	**319**	P	**P**	**13 02 49.1**	**-0.1**
	0.3nm,0.3s,mb3.6,baz=68,slow=5.2,SNR=3.4						
AKASG	**Malin Array Be**	**76.56**	**319**	P	**P**	**13 02 49.1**	**-0.1**
RPZ	**Rata Peaks**	**77.39**	**145**	LR	LR	13 36 10.7	
	comp=Z,94nm,18.8s,MS4.1,baz=268,slow=35						
INK	**Inuvik**	**79.09**	**21**	*e*P	**P**	**13 03 03.2**	**+0.3**
	2.5nm,0.9s,mb4.1						
MLR	**Muntele Rosu**	**79.96**	**315**	P	**P**	**13 03 09.3**	**+1.2**
	0.5nm,0.6s,mb3.6,baz=183,slow=19,SNR=3.7						
MLR	**Muntele Rosu**	**79.96**	**315**	P	**P**	**13 03 09.3**	**+1.2**
HFS	**Hagfors**	**82.16**	**331**	P	**P**	**13 03 21.2**	**+1.7**
	5.2nm,1.0s,mb4.4,baz=74,slow=26,SNR=3.6						
HFS	**Hagfors**	**82.16**	**331**	P	**P**	**13 03 21.2**	**+1.7**
NOA	**NORSAR Array B**	**82.91**	**332**	P	**P**	**13 03 22.9**	**-0.5**
	3.1nm,1.1s,mb4.3,baz=68,slow=4.8,SNR=2.8						
NOA				LR	LR	13 45 57.4	
	comp=Z,80nm,18.5s,MS4.1,baz=60,slow=40						
NOA	**NORSAR Array B**	**82.91**	**332**	P	**P**	**13 03 22.9**	**-0.5**
NOA				LR	LR	13 45 57.4	
TXAR	**Lajitas Array**	**116.62**	**42**	PKP	PKPdf	13 09 44.6	+1.3
	0.3nm,0.6s,baz=209,slow=1.2,SNR=5.4						
TXAR	**Lajitas Array**	**116.62**	**42**	PKP	PKPdf	13 09 44.6	+1.3
SDV	**Santo Domingo**	**151.03**	**22**	*e*PKPbc	PKPbc	13 10 53.0	+0.4

ISCJB ***09*** *12:51:53.0±0.4, 38°.72N±0°.01×20°.17E±0°.01, h9km±2km, mb4.3/32, MS3.6/15, Error ellipse: s-maj=2.4km s-min=1.6km az=38.6*
LDG ***09*** *12:51:52.0±0.2, 38°.88N×20°.44E, h10km, Mb4.8/18, Ms3.3/6, Error ellipse: s-maj=8.3km s-min=4.3km az=26.0*
ATH ***09*** *12:51:53.2, 38°.67N×20°.20E, h19km, ML4.4*
NEIC ***09*** *12:51:53.2, 38°.67N×20°.20E, h19km, mb4.4/5, ML4.4(ATH), After ATH.*
CSEM ***09*** *12:51:54.7±0.1, 38°.71N×20°.23E, h10km, mb4.3/19, Ms3.7, Error ellipse: s-maj=3.0km s-min=1.9km az=38.0*
MOS ***09*** *12:51:55.7±1.4, 38°.76N×20°.19E, h33km, mb4.4/18, Error ellipse: s-maj=6.7km s-min=3.9km az=99.3*
THE ***09*** *12:51:55.2, 38°.74N×20°.35E, h0km±1km, ML4.3/21, Error ellipse: s-maj=1.8km s-min=0.6km az=255.0*
PDG ***09*** *12:51:55.1±0.9, 38°.75N×20°.25E, h14km±2km, MD4.2/1, ML4.3/10, Error ellipse: s-maj=1.2km s-min=1.0km az=90.0*
IDC ***09*** *12:51:57.9±1.8, 38°.71N×20°.38E, h41km±16km, mb3.9/18, mb1 4.0/27, mb1mx4.0/36, mbtmp3.9/27, ML3.9/8, MS3.6/17, Ms1 3.6/17, ms1mx3.3/45, Error ellipse: s-maj=17.0km s-min=11.0km az=156.0*
SKO ***09*** *12:51:58.9, 38°.77N×20°.77E, h9km, M3.7, ML4.4*
VIE ***09*** *12:52:00.3±0.8, 39°.18N×20°.00E, h10km, mb3.6/7, Ms4.0/6, Error ellipse: s-maj=11.3km s-min=4.7km az=43.0 183 km NW of Patras*
HLW ***09*** *12:52:05.9, 37°.85N×20°.91E, h30km±25km, Md4.0, Ml4.1*

ISC 09 12:51:54.3±0.4, 38°.70N±0°.01×20°.22E±0°.02, h7km±2km, n563, σ1s17/705, mb4.3/32, MS3.6/15, 31C-33D, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LKD2	**Lefkada island**	**0.35**	**76**	P	**Pg**	**12 51 59.1**	**-2.0**
LKD2				S	**Sg**	**12 52 04.5**	**-1.3**
VLS	**Valsamata**	**0.60**	**151**	*e*PN	**Pg**	**12 52 05.2**	**-0.6**
VLS				*e*SN	**Sg**	**12 52 13.2**	**-0.4**
VLS	**Valsamata**	**0.60**	**151**	P	**Pg**	**12 52 05.3**	**-0.5**
VLS				S	**Sg**	**12 52 15.4**	**+1.8**
VLS	**Valsamata**	**0.60**	**151**	P	**Pg**	**12 52 05.3**	**-0.5**
VLS				S	**Sg**	**12 52 15.4**	**+1.8**
KFL	**Anninata**	**0.74**	**143**	P	**Pg**	**12 52 07.5**	**-1.0**
KFL				S	**Sg**	**12 52 20.0**	**+1.8**
KFL	**Anninata**	**0.74**	**143**	P	**Pg**	**12 52 07.5**	**-1.0**
KFL				S	**Sg**	**12 52 20.0**	**+1.8**
IGT	**Igoumenitsa**	**0.83**	**6**	P	**Pg**	**12 52 09.9**	**-0.4**
IGT				S	**Sg**	**12 52 22.1**	**+1.0**
IGT	**Igoumenitsa**	**0.83**	**6**	P	**Pg**	**12 52 09.9**	**-0.4**
IGT				S	**Sg**	**12 52 22.1**	**+1.0**
KEK	**Kerkira**	**1.06**	**342**	*e*PN	**Pg**	**12 52 14.0**	**-0.6**
KEK				*e*SN	**Sg**	**12 52 28.1**	**-0.3**
KEK	**Kerkira**	**1.06**	**342**	P	**Pg**	**12 52 15.4**	**+0.8**
KEK				S	**Sg**	**12 52 32.1**	**+3.7**
KEK	**Kerkira**	**1.06**	**342**	*e*Pn	**Pg**	**12 52 14.0**	**-0.6**
KEK	**Kerkira**	**1.06**	**342**	P	**Pg**	**12 52 15.4**	**+0.8**
KEK				*e*Sn	**Sg**	**12 52 28.1**	**-0.3**
JAN	**Janina**	**1.07**	**27**	*e*PN	**Pg**	**12 52 14.2**	**-0.6**
JAN				*e*SN	**Sg**	**12 52 28.9**	**+0.2**
JAN	**Janina**	**1.07**	**27**	P	**Pg**	**12 52 13.8**	**-1.0**
JAN				S	**Sg**	**12 52 28.8**	**+0.1**
JAN	**Janina**	**1.07**	**27**	P	**Pg**	**12 52 13.8**	**-1.0**
JAN	**Janina**	**1.07**	**27**	*e*Pn	**Pg**	**12 52 14.2**	**-0.6**
JAN				S	**Sg**	**12 52 28.8**	**+0.1**
RLS	**Riolos of Patr**	**1.17**	**123**	*e*PN	**Pn**	**12 52 15.6**	**-1.5**
RLS				*e*SN	**Sn**	**12 52 32.0**	**-1.3**
RLS	**Riolos of Patr**	**1.17**	**123**	P	**Pg**	**12 52 15.7**	**-1.1**
RLS				S	**Sg**	**12 52 32.7**	**+0.7**
RLS	**Riolos of Patr**	**1.17**	**123**	P	**Pg**	**12 52 15.7**	**-1.1**
RLS				*e*Sn	**Sn**	**12 52 32.0**	**-1.3**
RLS				S	**Sg**	**12 52 32.7**	**+0.7**
SRN	**Sarande**	**1.19**	**352**	*i* P	**Pg**	**12 52 18.1**	**+1.1**
SRF	**Sarande**	**1.19**	**352**	*i* P	**Pg**	**12 52 18.1**	**+1.1**
EVR	**Evrytania**	**1.26**	**80**	*e*PN	**Pn**	**12 52 17.3**	**-0.9**
EVR				*e*SN	**Sn**	**12 52 35.2**	**-0.2**
EVR	**Evrytania**	**1.26**	**80**	P	**Pn**	**12 52 16.6**	**-1.6**
EVR				S	**Sb**	**12 52 34.0**	**-0.7**
EVR	**Evrytania**	**1.26**	**80**	P	**Pn**	**12 52 16.6**	**-1.6**
**EVR

ITM					S		Sn	12 52 56.3	+1.8	
ITM	**Ithomi**	**2.03**	**138**		*e*Pn		**Pn**	12 52 29.1	+0.2	
ITM	**Ithomi**	**2.03**	**138**		P		**Pn**	12 52 30.3	+1.4	
ITM					*e*Sn		**Sn**	12 52 54.9	+0.4	
ITM					S		**Sn**	12 52 56.3	+1.8	
VLX	**Vlachokerasia**	**2.16**	**127**		*e*PB		**Pn**	12 52 30.1	-0.6	
VLX					*e*SN		**Sn**	12 52 58.0	+0.3	
VLX	**Vlachokerasia**	**2.16**	**127**		P		**Pn**	12 52 31.9	+1.2	
VLX					S		**Sn**	12 52 58.2	+0.5	
VLX	**Vlachokerasia**	**2.16**	**127**		*e*Pb		**Pn**	12 52 30.1	-0.6	
VLX	**Vlachokerasia**	**2.16**	**127**		P		**Pn**	12 52 31.9	+1.2	
VLX					*e*Sn		**Sn**	12 52 58.0	+0.3	
PYL	**PYLOS**	**2.17**	**146**		*e*PN		**Pn**	12 52 31.3	+0.5	
PYL					*e*SN		**Sn**	12 52 57.0	-0.9	
PYL	**PYLOS**	**2.17**	**146**		P		**Pn**	12 52 32.0	+1.2	
PYL					S		**Sn**	12 52 59.3	+1.4	
PYL	**PYLOS**	**2.17**	**146**		*e*Pn		**Pn**	12 52 31.3	+0.5	
PYL	**PYLOS**	**2.17**	**146**		P		**Pn**	12 52 32.0	+1.2	
PYL					*e*Sn		**Sn**	12 52 57.0	-0.9	
PYL					S		**Sn**	12 52 59.3	+1.4	
LKR	**Lokris**	**2.17**	**91**		*e*PN		**Pn**	12 52 31.8	+1.0	
LKR					*e*SN		**Sn**	12 52 59.0	+1.0	
LKR	**Lokris**	**2.17**	**91**		P		**Pn**	12 52 31.4	+0.6	
LKR					S		**Sn**	12 52 59.4	+1.4	
LKR	**Lokris**	**2.17**	**91**		P		**Pn**	12 52 31.4	+0.6	
LKR	**Lokris**	**2.17**	**91**		*e*Pn		**Pn**	12 52 31.8	+1.0	
LKR					*e*Sn		**Sn**	12 52 59.0	+1.0	
LKR					S		**Sn**	12 52 59.4	+1.4	
ATAL	**Atalanti**	**2.19**	**89**		P		**Pn**	12 52 31.6	+0.5	
ATAL					S		**Sn**	12 52 59.3	+0.9	
ATAL	**Atalanti**	**2.19**	**89**		P		**Pn**	12 52 31.6	+0.5	
ATAL					S		**Sn**	12 52 59.3	+0.9	
LIT	**Litokhoron**	**2.24**	**51**		*e*PN		**Pn**	12 52 32.4	+0.6	
LIT					*e*SN		**Sn**	12 53 00.4	+0.7	
LIT	**Litokhoron**	**2.24**	**51**		P		**Pn**	12 52 32.5	+0.7	
LIT					S		**Sn**	12 53 00.3	+0.6	
LIT	**Litokhoron**	**2.24**	**51**		*e*Pn		**Pn**	12 52 32.4	+0.6	
LIT					S		**Sn**	12 53 00.3	+0.6	
LTK	**Loutraki**	**2.26**	**107**		*e*PN		**Pn**	12 52 32.1	0.0	
LTK					*e*SN		**Sn**	12 53 00.4	+0.2	
LTK	**Loutraki**	**2.26**	**107**		P		**Pn**	12 52 32.3	+0.2	
LTK					S		**Sn**	12 53 00.3	+0.1	
LTK	**Loutraki**	**2.26**	**107**		P		**Pn**	12 52 32.3	+0.2	
LTK					S		**Sn**	12 53 00.3	+0.1	
NEO	**Neokhori**	**2.42**	**75**		*e*PN		**Pn**	12 52 34.2	+0.1	
NEO					*e*SN		**Sn**	12 53 03.6	-0.3	
NEO	**Neokhori**	**2.42**	**75**		P		**Pn**	12 52 34.3	+0.1	
NEO	**Neokhori**	**2.42**	**75**		P		**Pn**	12 52 34.3	+0.1	
NEO					*e*Sn		**Sn**	12 53 03.6	-0.3	
BIA	**Bitola**	**2.46**	**20**		P		**Pn**	12 52 35.7	+0.9	
BIA					S		**Sn**	12 53 06.2	+1.1	
BIA	**Bitola**	**2.46**	**20**		*e*Pn		**Pn**	12 52 36.2	+1.4	
BIA					*e*Sn		**Sn**	12 53 05.0	-0.1	
BIA					*e*Lg			12 53 12.6		
	comp=E,1µm,0.6s									
BIA					*e*Lg			12 53 14.4		
	comp=N,864nm,0.6s									
BIA	**Bitola**	**2.46**	**20**		P		**Pn**	12 52 35.7	+0.9	
BIA	**Bitola**	**2.46**	**20**		*e*Pn		**Pn**	12 52 36.2	+1.4	
BIA					*e*Sn		**Sn**	12 53 05.0	-0.1	
BIA					S		**Sn**	12 53 06.2	+1.1	
BIA					*e*Lg			12 53 12.6		
	comp=N,1µm,0.6s									
TIR	**Tirane**	**2.66**	**354**		*i* P		**Pn**	12 52 38.3	+0.8	
TIR	**Tirane**	**2.66**	**354**		*e*PN		**Pn**	12 52 38.0	+0.6	
TIR					*e*SN		**Sn**	12 53 11.0	+1.1	
TIR	**Tirane**	**2.66**	**354**		*e*Pn		**Pn**	12 52 38.2	+0.8	
TIR	**Tirane**	**2.66**	**354**		*e*P		**Pn**	12 52 38.3	+0.9	
TIR	**Tirane**	**2.66**	**354**		*e*Pn		**Pn**	12 52 38.0	+0.6	
TIR	**Tirane**	**2.66**	**354**		*e*P		**Pn**	12 52 38.3	+0.9	
TIR					*e*Sn		**Sn**	12 53 11.0	+1.1	
DID	**Didima**	**2.66**	**116**		*e*PN		**Pn**	12 52 37.2	-0.3	
DID					*e*SN		**Sn**	12 53 10.3	+0.3	
DID	**Didima**	**2.66**	**116**		P		**Pn**	12 52 37.2	-0.3	
DID					S		**Sn**	12 53 10.9	+0.9	
DID	**Didima**	**2.66**	**116**		P		**Pn**	12 52 37.2	-0.3	
DID					*e*Sn		**Sn**	12 53 10.3	+0.3	
DID					S		**Sn**	12 53 10.9	+0.9	
NAIG	**Nisos Aigina**	**2.74**	**109**		*e*PN		**Pn**	12 52 38.2	-0.4	
NAIG	**Nisos Aigina**	**2.74**	**109**		*e*Pn		**Pn**	12 52 38.2	-0.4	
KRUS	**Krusevo**	**2.78**	**16**		*e*Pn		**Pn**	12 52 39.8	+0.7	
KRUS	**Krusevo**	**2.78**	**16**		*e*Pn		**Pn**	12 52 39.7	+0.6	
ATH	**Athens Observa**	**2.84**	**104**		*e*PN		**Pn**	12 52 40.4	+0.4	
ATH					*e*SN		**Sn**	12 53 14.7	+0.2	
ATH	**Athens Observa**	**2.84**	**104**		P		**Pn**	12 52 40.4	+0.4	
ATH	**Athens Observa**	**2.84**	**104**		P		**Pn**	12 52 40.4	+0.4	
ATH					*e*Sn		**Sn**	12 53 14.7	+0.2	
THE	**Thessaloniki**	**2.86**	**47**		P		**Pn**	12 52 41.1	+0.8	
THE	**Thessaloniki**	**2.86**	**47**		P		**Pn**	12 52 41.1	+0.8	
AOS	**Alonnisos**	**2.89**	**80**		P		**Pn**	12 52 40.6	-0.1	
AOS	**Alonnisos**	**2.89**	**80**		P		**Pn**	12 52 40.6	-0.1	
TAR1	**Taranto**	**2.91**	**310**		*e*Pn		**Pn**	12 52 40.9	0.0	
HORT	**Hortiatis**	**2.92**	**49**		P		**Pn**	12 52 40.7	-0.4	
HORT					S		**Sn**	12 53 15.9	-0.4	
HORT	**Hortiatis**	**2.92**	**49**		P		**Pn**	12 52 40.7	-0.4	
HORT					S		**Sn**	12 53 15.9	-0.4	
VLI	**Veliai**	**2.93**	**132**		*e*PB		**Pn**	12 52 42.1	+0.9	
VLI					*e*SN		**Sn**	12 53 15.9	-0.7	
VLI	**Veliai**	**2.93**	**132**		P		**Pn**	12 52 42.4	+1.2	
VLI	**Veliai**	**2.93**	**132**		P		**Pn**	12 52 42.4	+1.2	
VLI					*e*Sn		**Sn**	12 53 15.9	-0.7	
PTL	**Penteli**	**2.94**	**102**		*e*PN		**Pn**	12 52 41.4	+0.1	
PTL					*e*SN		**Sn**	12 53 16.3	-0.5	
PTL	**Penteli**	**2.94**	**102**		P		**Pn**	12 52 41.6	+0.3	
PTL	**Penteli**	**2.94**	**102**		P		**Pn**	12 52 41.6	+0.3	
PTL					*e*Sn		**Sn**	12 53 16.3	-0.5	
VLY	**Voula,Athens**	**2.94**	**106**		*e*PN		**Pn**	12 52 41.4	+0.1	
VLY					*e*SN		**Sn**	12 53 16.2	-0.6	
VLY	**Voula,Athens**	**2.94**	**106**		P		**Pn**	12 52 41.2	-0.1	
VLY	**Voula,Athens**	**2.94**	**106**		*e*Pn		**Pn**	12 52 41.4	+0.1	
VLY					*e*Sn		**Sn**	12 53 16.2	-0.6	
PAIG	**Paliouri**	**2.95**	**64**		P		**Pn**	12 52 41.4	-0.1	
PAIG					S		**Sn**	12 53 17.1	0.0	
PAIG	**Paliouri**	**2.95**	**64**		P		**Pn**	12 52 41.4	-0.1	
PAIG					S		**Sn**	12 53 17.1	0.0	
PLG	**Polygyros**	**3.00**	**55**		*e*PN		**Pn**	12 52 41.9	-0.3	
PLG					*e*SN		**Sn**	12 53 17.7	-0.7	
PLG	**Polygyros**	**3.00**	**55**		P		**Pn**	12 52 42.0	-0.2	
PLG	**Polygyros**	**3.00**	**55**		P		**Pn**	12 52 42.0	-0.2	
PLG					*e*Sn		**Sn**	12 53 17.7	-0.7	
PE1	**Pezze di Greco**	**3.01**	**315**		*e*Pn		**Pn**	12 52 43.2	+0.9	
VAY	**Valandovo**	**3.18**	**34**		P		**Pn**	12 52 44.7	+0.1	
VAY	**Valandovo**	**3.18**	**34**		*e*Pn		**Pn**	12 52 45.6	+1.0	
VAY					*e*Sn		**Sn**	12 53 21.2	-1.5	
VAY					*e*Lg			12 53 28.2		
	comp=E,808nm,0.9s									
VAY					*e*Lg			12 53 31.2		
	comp=N,1µm,0.9s									
VAY	**Valandovo**	**3.18**	**34**		P		**Pn**	12 52 44.7	+0.1	
VAY	**Valandovo**	**3.18**	**34**		*e*Pn		**Pn**	12 52 45.6	+1.0	
VAY					*e*Sn		**Sn**	12 53 21.1	-1.6	
KNT	**Kendrikon**	**3.20**	**39**		P		**Pn**	12 52 44.9	-0.1	
KNT					S		**Sn**	12 53 23.1	-0.3	
KNT	**Kendrikon**	**3.20**	**39**		P		**Pn**	12 52 44.9	-0.1	
KNT					S		**Sn**	12 53 23.1	-0.3	
SOH	**Sokhos**	**3.21**	**48**		*e*PN		**Pn**	12 52 45.4	+0.3	
SOH					*e*SN		**Sn**	12 53 23.3	-0.2	
SOH	**Sokhos**	**3.21**	**48**		P		**Pn**	12 52 44.8	-0.3	
SOH					S		**Sn**	12 53 22.7	-0.8	
SOH	**Sokhos**	**3.21**	**48**		P		**Pn**	12 52 44.8	-0.3	
SOH	**Sokhos**	**3.21**	**48**		*e*Pn		**Pn**	12 52 45.4	+0.3	
SOH					S		**Sn**	12 53 22.7	-0.8	
SOH					*e*Sn		**Sn**	12 53 23.3	-0.2	
KYTH	**Kithira**	**3.30**	**136**		*e*PB		**Pn**	12 52 47.5	+1.2	
KYTH	**Kithira**	**3.30**	**136**		P		**Pn**	12 52 48.6	+2.3	
KYTH	**Kithira**	**3.30**	**136**		P		**Pn**	12 52 48.6	+2.3	
OUR	**Ouranopolis**	**3.33**	**60**		P		**Pn**	12 52 47.4	+0.6	
OUR	**Ouranopolis**	**3.33**	**60**		P		**Pn**	12 52 47.4	+0.6	
ULC	**Ulcinj**	**3.34**	**347**	⇓	*i*Pn		**Pn**	12 52 46.3	-0.5	
ULC					*e*Sn		**Sn**	12 53 27.0	+0.3	
ULC	**Ulcinj**	**3.34**	**347**	⇓	*i*Pn		**Pn**	12 52 46.3	-0.5	
ULC					*e*Sn		**Sn**	12 53 27.0	+0.3	
PUK	**Puka**	**3.34**	**356**		*i* P		**Pn**	12 52 47.4	+0.4	
PUK	**Puka**	**3.34**	**356**		*i* P		**Pn**	12 52 47.4	+0.5	
SKO	**Skopje**	**3.40**	**16**		P		**Pn**	12 52 48.6	+1.0	
SKO	**Skopje**	**3.40**	**16**		*e*Pn		**Pn**	12 52 49.3	+1.7	
SKO					*e*Sn		**Sn**	12 53 30.1	+2.0	
SKO					*e*Lg			12 53 37.2		
	comp=E,626nm,0.8s									
SKO					*e*Lg			12 53 46.7		
	comp=N,600nm,0.8s									
SKO	**Skopje**	**3.40**	**16**		P		**Pn**	12 52 48.6	+1.0	
SKO	**Skopje**	**3.40**	**16**		*e*Pn		**Pn**	12 52 49.3	+1.7	
SKO					*e*Sn		**Sn**	12 53 30.0	+1.9	
SKO					*e*Lg			12 53 46.6		
	comp=N,600nm,0.8s									
CEL	**Celeste**	**3.42**	**264**		*e*Pn		**Pn**	12 52 48.7	+0.7	
CEL	**Celeste**	**3.42**	**264**		*e*Pn		**Pn**	12 52 48.7	+0.7	
SG1	**Sgolgore (BA)**	**3.46**	**309**		*e*Pn		**Pn**	12 52 49.1	+0.5	
BAI	**Bari**	**3.52**	**314**		*e*Pn		**Pn**	12 52 49.9	+0.6	
SRS	**Serrai**	**3.54**	**46**		P		**Pn**	12 52 49.5	-0.1	
SRS	**Serrai**	**3.54**	**46**		P		**Pn**	12 52 49.5	-0.1	
CUC	**Castrocucco**	**3.65**	**292**		*e*Pn		**Pn**	12 52 53.5	+2.4	
CUC	**Castrocucco**	**3.65**	**292**		*e*Pn		**Pn**	12 52 53.5	+2.4	
BCI	**Bajram Curri**	**3.66**	**358**		*i* P		**Pn**	12 52 52.3	+1.1	
BCI	**Bajram Curri**	**3.66**	**358**		*i* P		**Pn**	12 52 52.3	+1.0	
BUM	**Brajici-Budva**	**3.73**	**345**	⇑	*i*Pn		**Pn**	12 52 52.0	-0.2	
BUM					*e*Sn		**Sn**	12 53 37.7	+1.3	
BUM	**Brajici-Budva**	**3.73**	**345**	⇑	*i*Pn		**Pn**	12 52 52.0	-0.2	
BUM					*e*Sn		**Sn**	12 53 37.7	+1.3	
PDG	**Podgorica**	**3.79**	**349**	⇑	*i*Pn		**Pn**	12 52 53.1	0.0	
PDG					*e*Sn		**Sn**	12 53 38.6	+0.7	
TTG	**Podgorica**	**3.79**	**349**	⇑	*i*Pn		**Pn**	12 52 53.1	0.0	
TTG					*e*Sn		**Sn**	12 53 38.6	+0.7	
NVR	**Nevrokopi**	**3.85**	**45**		*e*PN		**Pn**	12 52 54.4	+0.6	
NVR					*e*SN		**Sn**	12 53 39.3	+0.1	
NVR	**Nevrokopi**	**3.85**	**45**		P		**Pn**	12 52 53.8	0.0	
NVR	**Nevrokopi**	**3.85**	**45**		P		**Pn**	12 52 53.8	0.0	
NVR	**Nevrokopi**	**3.85**	**45**		*e*Pn		**Pn**	12 52 54.4	+0.6	
NVR					*e*Sn		**Sn**	12 53 39.3	+0.1	
CDT	**Castel del Mon**	**3.85**	**309**		*e*Pn		**Pn**	12 52 54.8	+0.9	
PVY	**Plav**	**3.89**	**357**	⇓	*i*Pn		**Pn**	12 52 55.0	+0.6	
PVY					*e*Sn		**Sn**	12 53 40.6	+0.3	
PVY	**Plav**	**3.89**	**357**	⇓	*i*Pn		**Pn**	12 52 55.0	+0.6	
PVY					*e*Sn		**Sn**	12 53 40.6	+0.3	
HCY	**Herceg Novi**	**3.96**	**341**	⇑	*i*Pn		**Pn**	12 52 54.9	-0.5	
HCY					*e*Sn		**Sn**	12 53 42.7	+0.6	
HCY	**Herceg Novi**	**3.96**	**341**	⇑	*i*Pn		**Pn**	12 52 54.9	-0.5	
HCY					*e*Sn		**Sn**	12 53 42.7	+0.6	
KAVA	**Kavala**	**4.02**	**54**		P		**Pn**	12 52 56.3	+0.1	
KAVA	**Kavala**	**4.02**	**54**		P		**Pn**	12 52 56.3	+0.1	
BEY	**Berane**	**4.17**	**357**	⇓	*i*Pn		**Pn**	12 52 58.7	+0.4	
BEY					*e*Sn		**Sn**	12 53 47.0	-0.2	
IVA	**Berane**	**4.17**	**357**	⇓	*i*Pn		**Pn**	12 52 58.7	+0.4	
IVA					*e*Sn		**Sn**	12 53 47.0	-0.2	
NIK	**Niksic**	**4.21**	**348**	⇓	*i*Pn		**Pn**	12 52 58.8	0.0	
NIK					*e*Sn		**Sn**	12 53 48.5	+0.3	
NKY	**Niksic**	**4.21**	**348**	⇓	*i*Pn		**Pn**	12 52 58.8	0.0	
NKY					*e*Sn		**Sn**	12 53 48.5	+0.3	
BARS	**Barje**	**4.28**	**16**	⇓	*i*Pn		**Pn**	12 52 59.9	+0.1	
BRY	**Bratogost**	**4.38**	**344**	⇓	*i*Pn		**Pn**	12 53 00.3	-0.9	
BRY					*e*Sn		**Sn**	12 53 52.0	-0.4	
BRY	**Bratogost**	**4.38**	**344**	⇓	*i*Pn		**Pn**	12 53 00.3	-0.9	
BRY					*e*Sn		**Sn**	12 53 52.0	-0.4	
SIGR	**SIGRI**	**4.42**	**82**		P		**Pn**	12 53 01.8	+0.1	
SIGR	**SIGRI**	**4.42**	**82**		P		**Pn**	12 53 01.8	+0.1	
KARN	**Karanos**	**4.43**	**137**		*e*PN		**Pn**	12 53 03.0	+1.2	
KARN	**Karanos**	**4.43**	**137**		*e*Pn		**Pn**	12 53 03.0	+1.2	
MS1	**Monte Sant'Ang**	**4.44**	**314**		*e*Pn		**Pn**	12 53 03.3	+1.3	
VTS	**Vitosha**	**4.50**	**29**	⇑	P		**Pn**	12 53 08.4	+5.6	
VTS	**Vitosha**	**4.50**	**29**	⇑	P		**Pn**	12 53 08.4	+5.6	
APE	**Apeiranthos**	**4.51**	**110**		*e*PN		**Pn**	12 53 03.9	+1.0	
APE	**Apeiranthos**	**4.51**	**110**		P		**Pn**	12 53 03.6	+0.7	
APE	**Apeiranthos**	**4.51**	**110**		P		**Pn**	12 53 03.6	+0.7	
APE	**Apeiranthos**	**4.51**	**110**		*e*Pn		**Pn**	12 53 03.9	+1.0	
VAM	**Vamos**	**4.58**	**135**		*e*PN		**Pn**	12 53 04.6	+0.7	
VAM	**Vamos**	**4.58**	**135**		P		**Pn**	12 53 04.3	+0.4	
VAM	**Vamos**	**4.58**	**135**		P		**Pn**	12 53 04.3	+0.4	
VAM	**Vamos**	**4.58**	**135**		*e*Pn		**Pn**	12 53 04.6	+0.7	
STON	**Ston**	**4.58**	**336**		*e*Pn		**Pn**	12 53 01.8	-2.1	
STON					*e*Sn		**Sn**	12 53 52.0	-5.3	
STON	**Ston**	**4.58**	**336**		*e*Pn		**Pn**	12 53 01.8	-2.1	
CHOS	**Chios island**	**4.58**	**92**		*e*PN		**Pn**	12 53 04.4	+0.4	
CHOS	**Chios island**	**4.58**	**92**		P		**Pn**	12 53 05.0	+1.0	
CHOS	**Chios island**	**4.58**	**92**		*e*Pn		**Pn**	12 53 04.4	+0.4	
CHOS	**Chios island**	**4.58**	**92**		P		**Pn**	12 53 05.0	+1.0	
UPM	**Unac-Piva**	**4.60**	**348**	⇑	*i*Pn		**Pn**	12 53 05.0	+0.8	
UPM					*e*Sn		**Sn**	12 53 58.0	+0.1	
UPM	**Unac-Piva**	**4.60**	**348**	⇑	*i*Pn		**Pn**	12 53 05.0	+0.8	
UPM					*e*Sn		**Sn**	12 53 58.0	+0.1	
PLE	**Pljevlja**	**4.66**	**353**	⇓	*i*Pn		**Pn**	12 53 05.2	+0.2	
PLE					*e*Sn		**Sn**	12 53 59.1	-0.3	
PLE	**Pljevlja**	**4.66**	**353**	⇓	*i*Pn		**Pn**	12 53 05.2	+0.2	
PLE					*e*Sn		**Sn**	12 53 59.1	-0.3	
RDO	**Rodhopi**	**4.76**	**58**		*e*PN		**Pn**	12 53 07.5	+1.1	
RDO	**Rodhopi**	**4.76**	**58**		P		**Pn**	12 53 06.7	+0.3	
RDO	**Rodhopi**	**4.76**	**58**		P		**Pn**	12 53 06.7	+0.3	
RDO	**Rodhopi**	**4.76**	**58**		*e*Pn		**Pn**	12 53 07.5	+1.1	
IVAS	**Ivanjica**	**4.87**	**359**	⇑	*i*Pn		**Pn**	12 53 07.6	-0.2	
ALN	**Alexandroupoli**	**4.99**	**62**		*e*PN		**Pn**	12 53 10.0	+0.4	
ALN	**Alexandroupoli**	**4.99**	**62**		P		**Pn**	12 53 09.6	0.0	
ALN	**Alexandroupoli**	**4.99**	**62**		P		**Pn**	12 53 09.6	0.0	
ALN	**Alexandroupoli**	**4.99**	**62**		*e*Pn		**Pn**	12 53 10.0	+0.4	
GRUS	**Gruza**	**5.19**	**4**	⇓	*i*Pn		**Pn**	12 53 11.9	-0.4	
BBLS	**Lazići**	**5.19**	**353**		*e*Pn		**Pn**	12 53 12.3	0.0	
SIVA	**Sivas**	**5.20**	**134**		*e*PN		**Pn**	12 53 13.6	+1.1	
SIVA	**Sivas**	**5.20**	**134**		*e*Pn		**Pn**	12 53 13.6	+1.1	
BOLS	**Boljevac**	**5.28**	**14**		*e*Pn		**Pn**	12 53 13.8	+0.2	
SMG	**Samos**	**5.30**	**99**		*e*PN		**Pn**	12 53 14.6	+0.7	
SMG	**Samos**	**5.30**	**99**		*e*Pn		**Pn**	12 53 14.6	+0.7	
WDD	**Wield Dalam**	**5.35**	**240**		*e*Pn		**Pn**	12 53 15.1	+0.5	
	comp=N,195nm,0.6s									
WDD	**Wield Dalam**	**5.35**	**240**		*e*Pn		**Pn**	12 53 15.1	+0.6	
	comp=N,195nm,0.6s									
DIVS	**Divibare**	**5.39**	**358**	⇑	*i*Pn		**Pn**	12 53 14.1	-0.9	
LAST	**Lasithi**	**5.50**	**128**		*e*PN		**Pn**	12 53 17.0	+0.5	
LAST	**Lasithi**	**5.50**	**128**		*e*Pn		**Pn**	12 53 17.0	+0.5	
NPS	**Neapolis**	**5.51**	**127**		*e*PN		**Pn**	12 53 17.0	+0.2	
NPS	**Neapolis**	**5.51**	**127**		*e*Pn		**Pn**	12 53 17.0	+0.2	
AQU	**L'Aquila**	**6.35**	**307**		*e*Pn		**Pn**	12 53 30.3	+2.2	
	comp=N,72nm,0.8s									
AQU	**L'Aquila**	**6.35**	**307**		*e*P		**Pn**	12 53 30.3	+2.2	
AQU					pmax	pmax				
	comp=Z,72nm,0.8s									
AQU	**L'Aquila**	**6.35**	**307**		*e*P		**Pn**	12 53 30.3	+2.2	
	comp=Z,72nm,0.8s									
KARP	**Karpathos**	**6.38**	**117**		*e*PN		**Pn**	12 53 29.6	+1.0	
KARP	**Karpathos**	**6.38**	**117**		*e*Pn		**Pn**	12 53 29.6	+1.0	
ARG	**Arkhangelos**	**6.76**	**109**		*e*PN		**Pn**	12 53 35.6	+1.7	
ARG	**Arkhangelos**	**6.76**	**109**		*e*Pn		**Pn**	12 53 35.6	+1.7	
BZS	**Buzias**	**6.99**	**8**	⇑	P		**Pn**	12 53 37.1	+0.2	
BZS	**Buzias**	**6.99**	**8**	⇑	*i*P		**Pn**	12 53 37.1	+0.2	
BZS	**Buzias**	**6.99**	**8**		P		**Pn**	12 53 37.1	+0.2	
NVLJ	**Novalja**	**7.09**	**327**		*e*Pn		**Pn**	12 53 38.1	-0.3	
NVLJ					*e*Sn		**Sn**	12 54 55.9	-3.3	
NVLJ	**Novalja**	**7.09**	**327**		*e*Pn		**Pn**	12 53 38.0	-0.4	
LOT	**Lotru**	**7.24**	**20**	⇑	*i*P		Px	12 53 51.0		
RHK3	**Tenkes**	**7.33**	**349**	⇓	*e*P		**Pn**	12 53 39.5	-2.1	
PKSM	**Moragy**	**7.59**	**352**	⇓	*i*P		**Pb**	12 54 00.5	-5.7	
PKSM	**Moragy**	**7.59**	**352**		*e*P		**Pn**	12 53 47.6	+2.3	
VOIR		**7.62**	**27**	⇓	P		**Pn**	12 53 47.0	+1.3	
VOIR		**7.62**	**27**	⇓	*i*P		**Pn**	12 53 47.0	+1.3	
VOIR		**7.62**	**27**		P		**Pn**	12 53 47.0	+1.3	
BOJS	**Bojanci**	**7.73**	**333**		*e*Pn		**Pn**	12 53 46.9	-0.3	
BOJS					*e*Sn		**Sn**	12 55 10.6	-4.3	
KSL	**Kastellorizon**	**7.87**	**106**		*e*PN		**Pn**	12 53 52.0	+2.9	
KSL	**Kastellorizon**	**7.87**	**106**		*e*Pn		**Pn**	12 53 52.0	+2.9	
MLR	**Muntele Rosu**	**8.00**	**30**		P		**Pn**	12 53 52.2	+1.3	
	comp=Z,0.2nm,0.3s,baz=281,slow=3.1,SNR=11									
MLR					S		**Sn**	12 55 22.9	+1.3	
	baz=122,slow=21,SNR=1.7									
MLR	**Muntele Rosu**	**8.00**	**30**		P		**Pn**	12 53 52.2	+1.3	
MLR					S		**Sn**	12 55 22.9	+1.3	
MLR	**Muntele Rosu**	**8.00**	**30**		P		**Pn**	12 53 52.2	+1.3	
MLR					S		**Sn**	12 55 22.9	+1.3	
MLR	**Muntele Rosu**	**8.00**	**30**	⇑	*i*P		Px	12 54 02.8		
MLR	**Muntele Rosu**	**8.00**	**30**		P		**Pn**	12 53 52.2	+1.3	
MLR					S		**Sn**	12 55 22.9	+1.3	
LEGS	**Legarje**	**8.10**	**335**		*e*Pn		**Pn**	12 53 51.4	-0.8	
DOPR	**Dopca**	**8.20**	**26**	⇓	*i*P		**Pn**	12 53 57.0	+3.4	
CEY	**Cerknica**	**8.24**	**330**		*e*Pn		**Pn**	12 53 53.8	-0.3	
SLUM		**8.28**	**149**		P		**Pn**	12 53 50.6	-4.0	
	baz=149									
SLUM					AMP			12 55 00.0		
	comp=N,100µm,0.8s,logA/T=5.1,baz=149									
SLUM					S		**Sn**	12 55 09.0	-19	
	baz=149									
SLUM		**8.28**	**149**		P		**Pn**	12 53 51.8	-2.9	
SLUM					S		**Sn**	12 55 09.0	-19	
DRGR		**8.29**	**12**	⇓	P		**Pn**	12 53 57.2	+2.4	
DRGR		**8.29**	**12**	⇓	*i*P		**Pn**	12 53 57.2	+2.4	
DRGR		**8.29**	**12**		P		**Pn**	12 53 57.2	+2.4	
**GRER

comp=Z,14nm,1.3s
LMR La Mourre 11.34 298 *e*P **Pn 12 54 36.8 +0.2**
comp=Z,38nm,1.5s
LMR La Mourre 11.34 298 *e*P **Pn 12 54 36.8 +0.2**
comp=Z,19nm,1.5s
LMR La Mourre 11.34 298 *e*P **Pn 12 54 36.8 +0.2**
LMR pmax pmax
comp=Z,19nm,1.5s
LMR La Mourre 11.34 298 *e*P **Pn 12 54 36.8 +0.2**
comp=Z,19nm,1.5s
KHC Kasperske Hory 11.46 338 *e*Pn **Pn 12 54 40.6 +2.3**
comp=Z,11nm,1.0s
KHC Kasperske Hory 11.46 338 *e*P **Pn 12 54 36.7 -1.6**
KHC MLR MLR
comp=Z,600nm,9.7s
KHC Kasperske Hory 11.46 338 *e*P **Pn 12 54 36.7 -1.6**
KHC *ex* x 12 54 50.4
KHC *ex* x 12 55 04.0
KHC AMS AMS 12 59 40.0
comp=Z,600nm,9.7s
KHC Kasperske Hory 11.46 338 *e*P **Pn 12 54 36.7 -1.6**
comp=Z,600nm,9.7s
KHC Kasperske Hory 11.46 338 *e*Pn **Pn 12 54 40.6 +2.3**
comp=Z,11nm,1.0s
MBDF Montbardon 11.71 305 *e*P **Pn 12 54 44.4 +2.8**
comp=Z,19nm,0.8s
MBDF Montbardon 11.71 305 *e*P **Pn 12 54 44.4 +2.8**
comp=Z,9.6nm,0.8s
MBDF Montbardon 11.71 305 *e*P **Pn 12 54 44.4 +2.8**
MBDF pmax pmax
comp=Z,10.0nm,0.8s
MBDF Montbardon 11.71 305 *e*P **Pn 12 54 44.4 +2.8**
comp=Z,9.6nm,0.8s
DPC Dobruska-Polom 11.97 348 AMS AMS 13 00 10.0
comp=Z,1µm,9.0s
PRU Pruhonice 11.99 342 AMS AMS 13 01 10.0
comp=Z,500nm,10.1s
LPG La Plagne 12.08 308 *e*P **Pn 12 54 49.4 +2.7**
LPG La Plagne 12.08 308 *e*P **Pn 12 54 49.4 +2.7**
LPG La Plagne 12.08 308 *e*P **Pn 12 54 49.4 +2.7**
LPG La Plagne 12.08 308 *e*P **Pn 12 54 49.4 +2.7**
LPL La Plagne 12.10 309 *e*P **Pn 12 54 49.6 +2.6**
LPL La Plagne 12.10 309 *e*P **Pn 12 54 49.6 +2.6**
LPL La Plagne 12.10 309 *e*P **Pn 12 54 49.6 +2.6**
LPL La Plagne 12.10 309 *e*P **Pn 12 54 49.6 +2.6**
SMRF Simiane la Rot 12.20 300 *e*P **Pn 12 54 50.4 +2.1**
comp=Z,23nm,1.1s
SMRF Simiane la Rot 12.20 300 *e*P **Pn 12 54 50.4 +2.1**
comp=Z,23nm,1.1s
SMRF Simiane la Rot 12.20 300 *e*P **Pn 12 54 50.4 +2.1**
comp=Z,12nm,1.1s
HNAT Natroun 12.48 133 P **Pn 12 54 50.3 -1.9**
baz=132
BRG Berggiesshubel 12.95 342 *e*P **Pn 12 54 57.1 -1.5**
comp=Z,8.6nm,1.2s
BRG Berggiesshubel 12.95 342 *e*P **Pn 12 54 57.1 -1.5**
BRG pmax pmax
comp=Z,9.0nm,1.3s
BRG Berggiesshubel 12.95 342 *e*P **Pn 12 54 57.1 -1.5**
comp=Z,9.0nm,1.3s
CABF La Chapelle 13.05 312 *e*P **Pn 12 54 58.2 -1.7**
comp=Z,30nm,1.2s
CABF La Chapelle 13.05 312 *e*P **Pn 12 54 58.2 -1.7**
comp=Z,15nm,1.2s
CABF La Chapelle 13.05 312 *e*P **Pn 12 54 58.2 -1.7**
CABF pmax pmax
comp=Z,15nm,1.2s
CABF La Chapelle 13.05 312 *e*P **Pn 12 54 58.2 -1.7**
comp=Z,15nm,1.2s
HINF Hinteralfeld 13.32 317 *e*P **Pn 12 55 02.4 -1.2**
HINF Hinteralfeld 13.32 317 *e*P **Pn 12 55 02.4 -1.2**
HINF Hinteralfeld 13.32 317 *e*P **Pn 12 55 02.4 -1.2**
HINF Hinteralfeld 13.32 317 *e*P **Pn 12 55 02.4 -1.2**
CDF Champ du Feu 13.48 320 *e*P **Pn 12 55 05.5 -0.3**
CDF Champ du Feu 13.48 320 *e*P **Pn 12 55 05.5 -0.3**
CDF Champ du Feu 13.48 320 *e*P **Pn 12 55 05.5 -0.3**
CDF Champ du Feu 13.48 320 *e*P **Pn 12 55 05.5 -0.3**
MMAI Mount Meron Ar 13.55 110 P **Pn 12 55 04.6 -2.3**
comp=Z,2.2nm,0.3s,baz=311,slow=13,SNR=5.8
AKASG Malin Array Be 13.58 25 P **Pn 12 55 06.9 -0.3**
comp=Z,0.5nm,0.3s,baz=211,slow=12,SNR=3.5
AKASG Malin Array Be 13.58 25 P **Pn 12 55 06.9 -0.3**
AKASG Malin Array Be 13.58 25 P **Pn 12 55 06.9 -0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 13.58 25 P **Pn 12 55 06.9 -0.3**
comp=Z,1.0nm,0.3s
CLL Collm 13.59 340 *e*(PP) 12 55 17.0
CLL LmH 12 59 00.0
comp=N,300nm,21.4s
CLL LmH 12 59 00.0
comp=E,900nm,18.0s
SUZ 13.66 127 P **Pn 12 55 06.8 -1.6**
baz=125
SUZ S **Sn 12 57 23.2 -17**
baz=125
PAGF Fort de Pagny 14.37 318 *e*P **Pn 12 55 18.4 +0.5**
comp=E,38nm,1.6s
SFTF Sexfontaines 14.53 316 *e*P **Pn 12 55 19.6 -0.5**
comp=E,71nm,1.4s
SFTF Sexfontaines 14.53 316 *e*P **Pn 12 55 19.6 -0.5**
comp=E,71nm,1.4s
MEZF Maizieres J'vi 14.69 317 *e*P **Pn 12 55 21.7 -0.7**
comp=E,125nm,1.3s
MEZF Maizieres J'vi 14.69 317 *e*P **Pn 12 55 21.7 -0.7**
comp=E,125nm,1.3s
LOR Lormes 14.70 311 *e*P **Pn 12 55 22.1 -0.3**
LOR *e*R
comp=E,152nm,18.1s
LOR Lormes 14.70 311 *e*P **Pn 12 55 22.1 -0.3**
LOR Lormes 14.70 311 *e*P **Pn 12 55 22.1 -0.3**
SSF Saint Saulge 14.81 310 *e*P **Pn 12 55 22.6 -1.3**
comp=E,40nm,1.4s
SSF Saint Saulge 14.81 310 *e*P **Pn 12 55 22.6 -1.3**
comp=E,20nm,1.4s
SSF Saint Saulge 14.81 310 *e*P **Pn 12 55 22.6 -1.3**
SSF pmax pmax
comp=Z,20nm,1.4s
WLF Walferdange 14.87 322 E 12 55 32.8
WLF E 12 55 40.7
ASF Jabal al Asfar 15.07 111 P **Pn 12 55 31.2 +3.7**
comp=Z,0.3nm,0.3s,baz=182,slow=3.4,SNR=6.9
ASF Jabal al Asfar 15.07 111 P **Pn 12 55 31.2 +3.7**
EIL Elat 15.14 122 P **Pn 12 55 23.8 -4.8**
comp=Z,0.7nm,0.3s,baz=22,slow=8.3,SNR=6.6
EIL S **Sn 12 58 02.4 -14**
comp=Z,2.6nm,0.3s,baz=110,slow=15,SNR=6.4
EIL Elat 15.14 122 P **Pn 12 55 23.8 -4.8**
EIL S **Sn 12 58 02.4 -14**
HDK1 Dakhla 15.24 147 P **Pn 12 55 27.1 -2.7**
baz=147
HKAT Jabal Katrina 15.30 127 P **Pn 12 55 30.8 +0.1**
baz=126
EPF Esparros 15.64 292 *e*P **Pn 12 55 35.2 +0.2**
EPF Esparros 15.64 292 *e*P **Pn 12 55 35.2 +0.2**
EPF Esparros 15.64 292 *e*P **Pn 12 55 35.2 +0.2**
GIVF Givet 15.80 321 *e*P **Pn 12 55 36.0 -1.1**
comp=Z,69nm,1.2s
GIVF Givet 15.80 321 *e*P **Pn 12 55 36.0 -1.1**
comp=Z,34nm,1.2s
GIVF Givet 15.80 321 *e*P **Pn 12 55 36.0 -1.1**
GIVF pmax pmax
comp=Z,34nm,1.2s
DOU Dourbes 15.91 321 E 12 55 43.1
BAIF Baives 16.08 320 *e*P **Pn 12 55 40.3 -0.4**
comp=Z,77nm,1.3s
BAIF Baives 16.08 320 *e*P **Pn 12 55 40.3 -0.4**
comp=Z,38nm,1.3s
BAIF Baives 16.08 320 *e*P **Pn 12 55 40.3 -0.4**
BAIF pmax pmax
comp=Z,39nm,1.3s
IIGN Ignalina 17.14 12 *e*P **Pn 12 55 52.0 -2.0**
IIGN Ignalina 17.14 12 *e*P **Pn 12 55 52.0 -2.0**
SNR=35
ISAL Salakas 17.33 11 *e*P **Pn 12 55 54.0 -2.5**
ISAL Salakas 17.33 11 *e*P **Pn 12 55 54.0 -2.5**
SNR=35
IZAR Zarasai 17.52 11 *e*P **Pn 12 55 56.1 -2.8**
IZAR Zarasai 17.52 11 *e*P **Pn 12 55 56.1 -2.8**
SNR=35
VSR Storozhevoye 18.27 41 *e*P **Pn 12 56 08.0 -0.1**
VSR pmax pmax
comp=Z,5.0nm,0.5s
VSR pmax pmax
comp=N,10.0nm,1.3s
VSR pmax pmax
comp=E,8.0nm,0.8s
VSR Storozhevoye 18.27 41 *e*P **Pn 12 56 08.0 -0.1**
comp=E,10.0nm,1.3s
ZEI Tsey 18.38 70 *e*P **Pn 12 56 09.3 -0.2**
ZEI pmax pmax
comp=Z,8.0nm,0.9s
ZEI Tsey 18.38 70 *e*P **Pn 12 56 09.3 -0.2**
comp=Z,8.0nm,0.9s
ESDC Sonseca Array 18.76 281 P **Pn 12 56 13.9 -0.3**
comp=Z,0.3nm,0.3s,baz=77,slow=11,SNR=18
ESDC Sonseca Array 18.76 281 P **Pn 12 56 13.9 -0.3**
ESDC Sonseca Array 18.76 281 P **Pn 12 56 13.9 -0.3**
ESLA Sonseca Array 18.76 281 *e*P **Pn 12 56 14.2 0.0**
comp=Z,1.4nm,0.9s
ESLA Sonseca Array 18.76 281 *e*P **Pn 12 56 14.1 -0.1**
comp=Z,1.4nm,0.9s
GNI Garni 18.99 78 LR LR 13 03 33.4
comp=Z,157nm,20.7s,baz=85,slow=37
VRHR Novokhopersk 19.49 44 *e*P **Pn 12 56 23.1 +0.2**
VRHR pmax pmax
comp=Z,20nm,0.5s
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.8s
VRHR Novokhopersk 19.49 44 *e*P **Pn 12 56 23.1 +0.2**
comp=E,10.0nm,0.6s
OBN Obninsk 19.77 29 *e*P **Pn 12 56 24.6 -1.6**
OBN pmax pmax
comp=Z,15nm,1.2s
OBN MLR MLR
comp=Z,100nm,12.0s
OBN Obninsk 19.77 29 *e*P **Pn 12 56 24.6 -1.6**
comp=Z,100nm,12.0s
MDT Midelt 20.96 261 P **P 12 56 38.1 +0.3**
comp=Z,1.6nm,0.9s,baz=110,slow=10.0,SNR=4.2
MDT Midelt 20.96 261 P **P 12 56 38.1 +0.3**
MDT Midelt 20.96 261 P **P 12 56 38.1 +0.3**
MVO Mincorvo 21.01 285 *e*P **P 12 56 41.6 +3.3**
PMRV Marv??o 21.43 281 *e*P **P 12 56 42.8 0.0**
comp=Z,37nm,1.6s,mb4.5
PMRV Marv??o 21.43 281 *e*P **P 12 56 42.8 0.0**
comp=Z,37nm,1.6s,mb4.5
PCBR Castelo Branco 21.45 282 *e*P **P 12 56 46.7 +3.7**
PESTR Estremoz 21.65 279 *e*P **P 12 56 44.3 -0.9**
comp=Z,29nm,1.3s,mb4.5
PESTR Estremoz 21.65 279 *e*P **P 12 56 44.3 -0.9**
comp=Z,29nm,1.3s,mb4.5
PVIS Viseu 21.69 284 *e*P **P 12 56 46.1 +0.5**
comp=Z,42nm,1.9s,mb4.5
PVIS Viseu 21.69 284 *e*P **P 12 56 46.1 +0.5**
comp=Z,42nm,1.9s,mb4.5
HFS Hagfors 21.84 351 P **P 12 56 46.4 -0.6**
comp=Z,7.0nm,0.6s,mb4.2,baz=162,slow=10,SNR=14
HFS LR LR 13 04 56.6
comp=Z,124nm,18.9s,MS3.3,baz=356,slow=36
HFS Hagfors 21.84 351 P **P 12 56 46.4 -0.6**
HFS LR LR 13 04 56.6
HFS Hagfors 21.84 351 P **P 12 56 46.4 -0.7**
HFS pmax pmax
comp=Z,7.0nm,0.6s
HFS MLR MLR
comp=Z,124nm,18.9s
HFS Hagfors 21.84 351 P **P 12 56 46.4 -0.7**
comp=Z,124nm,18.9s
PVAQ Vaqueiros 22.01 275 *e*P **P 12 56 56.7 +7.7**
comp=Z,24nm,1.5s,mb4.4
EVO Evora 22.03 278 *e*P **P 12 56 48.9 -0.4**
comp=Z,18nm,1.1s,mb4.1
EVO Evora 22.03 278 *e*P **P 12 56 48.5 -0.8**
comp=Z,25nm,1.5s,mb4.4
EVO Evora 22.03 278 *e*P **P 12 56 48.5 -0.8**
comp=Z,25nm,1.5s,mb4.4
PMTG Montargil 22.11 280 *e*P **P 12 56 49.0 -1.1**
comp=Z,28nm,1.6s,mb4.5
PMTG Montargil 22.11 280 *e*P **P 12 56 49.0 -1.1**
comp=Z,28nm,1.6s,mb4.5
EVOP Sao Brissos 22.12 278 *e*P **P 12 56 48.9 -1.3**
comp=Z,18nm,1.1s,mb4.4
EVOP Sao Brissos 22.12 278 *e*P **P 12 56 48.9 -1.3**
EVOP pmax pmax
comp=Z,18nm,1.1s,mb4.4
EVOP Sao Brissos 22.12 278 *e*P **P 12 56 48.9 -1.3**
comp=Z,9.2nm,1.1s,mb4.1
PNCL Nicolau / Gran 22.50 278 *e*P **P 12 56 54.0 -0.3**
comp=Z,26nm,1.1s,mb4.6
PNCL Nicolau / Gran 22.50 278 *e*P **P 12 56 54.0 -0.3**
comp=Z,26nm,1.1s,mb4.6
FINES FINESS Array B 23.05 7 P **P 12 56 58.5 -1.4**
comp=Z,5.3nm,0.5s,mb4.2,baz=173,slow=8.5,SNR=32
FINES PcP PcP 13 00 46.9 -2.0
comp=Z,1.7nm,0.7s,baz=180,slow=1.3,SNR=3.3
FINES FINESS Array B 23.05 7 P **P 12 56 58.5 -1.4**
FINES PcP PcP 13 00 46.9 -2.0
FINES FINESS Array B 23.05 7 P **P 12 56 58.5 -1.4**
FINES 13 00 46.9
FINES pmax pmax
comp=Z,5.0nm,0.5s
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 23.05 7 P **P 12 56 58.5 -1.4**
comp=Z,5.0nm,0.5s,mb4.2
NB2 NORSAR Subarra 23.06 349 P **P 12 56 58.4 -1.5**
comp=Z,5.9nm,0.7s,mb4.1,baz=157,slow=10
NB2 NORSAR Subarra 23.06 349 P **P 12 56 58.4 -1.5**
comp=Z,5.9nm,0.7s,mb4.1,SNR=1.9
NOA NORSAR Array B 23.06 349 P **P 12 56 59.0 -0.9**
comp=Z,3.9nm,0.8s,mb3.9,baz=158,slow=9.4,SNR=5.1
NOA LR LR 13 06 50.0
comp=Z,113nm,18.4s,MS3.4,baz=180,slow=39
NOA NORSAR Array B 23.06 349 P **P 12 56 59.0 -1.0**
NOA LR LR 13 06 50.0
NOA NORSAR Array B 23.06 349 P **P 12 56 59.0 -0.9**
NOA pmax pmax
comp=Z,4.0nm,0.8s
NOA MLR MLR
comp=Z,113nm,18.4s
NOA NORSAR Array B 23.06 349 P **P 12 56 59.0 -0.9**
comp=Z,113nm,18.4s
KAF Kangasniemi 23.73 7 *e*P **P 12 57 03.4 -3.4**
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.0
KAF Kangasniemi 23.73 7 *e*p **P 12 57 03.4 -3.4**
comp=Z,4.1nm,0.6s,mb4.0
RST Umm Al-Ruwaisa 23.93 104 *e*P **P 12 57 05.3 -3.6**
RST AMb AMB 12 57 08.4
comp=Z,6.4nm,0.8s,mb4.1
RST Umm Al-Ruwaisa 23.93 104 *e*P **P 12 57 05.3 -3.6**
comp=Z,6.0nm,0.8s,mb4.1
MIB Mutribah 24.04 103 *e*P **P 12 57 06.8 -3.1**
MIB AMb AMB 12 57 07.6
comp=Z,42nm,0.7s,mb5.0
MIB Mutribah 24.04 103 *e*P **P 12 57 06.8 -3.1**
comp=Z,42nm,0.7s,mb5.0
NAY Al-Naaiem 24.24 105 *e*P **P 12 57 08.9 -2.8**
NAY AMb AMB 12 57 10.6
comp=Z,19nm,0.8s,mb4.6
NAY Al-Naaiem 24.24 105 *e*P **P 12 57 08.9 -2.8**
comp=Z,19nm,0.8s,mb4.6
JOF Joensuu 25.16 12 *e*P **P 12 57 16.2 -3.6**
JOF pmax pmax
comp=Z,8.0nm,0.7s,mb4.4
JOF Joensuu 25.16 12 *e*p **P 12 57 16.2 -3.6**
comp=Z,7.5nm,0.7s,mb4.3
AKTK Aktyubinsk 29.06 54 P **P 12 57 52.5 -2.4**
AKTK LR LR 13 11 53.1
AKTO Aktyubinsk 29.06 54 P **P 12 57 52.5 -2.4**
comp=Z,1.4nm,0.5s,mb3.9,baz=257,slow=12,SNR=4.1
AKTO LR LR 13 11 53.1
comp=Z,68nm,18.5s,MS3.3,baz=30,slow=41
AKTO Aktyubinsk 29.06 54 P **P 12 57 52.5 -2.4**
AKTO pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
AKTO MLR MLR
comp=Z,68nm,18.5s,MS3.3
TORD Torodi Ar. Bea 30.30 218 P **P 12 58 06.3 +0.1**
comp=Z,2.0nm,0.9s,mb3.9,baz=33,slow=8.6,SNR=13
TORD LR LR 13 11 05.9
comp=Z,98nm,21.3s,MS3.4,baz=325,slow=38
TORD Torodi Ar. Bea 30.30 218 P **P 12 58 06.3 +0.1**
TORD LR LR 13 11 05.9
TORD Torodi Ar. Bea 30.30 218 P **P 12 58 06.3 +0.1**
ARCES ARCESS Array B 31.02 4 P **P 12 58 10.2 -1.9**
comp=Z,3.0nm,0.9s,mb4.1,baz=192,slow=11,SNR=5.5
ARCES LR LR 13 11 44.6
comp=Z,90nm,20.5s,MS3.4,baz=1.1,slow=38
ARCES ARCESS Array B 31.02 4 P **P 12 58 10.2 -1.9**
ARCES LR LR 13 11 44.6
ARCES ARCESS Array B 31.02 4 P **P 12 58 10.3 -1.8**
ARCES pmax pmax
comp=Z,3.0nm,1.0s
ARCES MLR MLR
comp=Z,91nm,20.5s
ARCES ARCESS Array B 31.02 4 P **P 12 58 10.3 -1.8**
comp=Z,91nm,20.5s
BVAR Borovoye Array 36.96 50 P **P 12 59 02.2 -1.7**
comp=Z,2.3nm,0.6s,mb4.2,baz=265,slow=6.3,SNR=16
BVAR Borovoye Array 36.96 50 P **P 12 59 02.2 -1.7**
BVAR Borovoye Array 36.96 50 P **P 12 59 02.2 -1.6**
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 36.96 50 P **P 12 59 02.2 -1.6**
comp=Z,2.0nm,0.6s,mb4.1
DBIC Dimbokro 39.12 222 LR LR 13 16 21.2
comp=Z,81nm,18.7s,MS3.6,baz=15,slow=37
LIC Lamto 39.59 222 *e*P **P 12 59 27.3 +1.0**
comp=Z,18nm,1.1s,mb4.4
LIC Lamto 39.59 222 *e*P **P 12 59 27.3 +1.0**
comp=Z,9.3nm,1.1s,mb4.4
LIC Lamto 39.59 222 *e*P **P 12 59 27.3 +1.0**
comp=Z,9.2nm,1.1s,mb4.4
SPITS Spitsbergen Ar 39.62 359 LR LR 13 17 07.8
comp=Z,111nm,18.0s,MS3.7,baz=155,slow=38
AAK Ala-Archa 40.77 67 LR LR 13 18 10.0
comp=Z,159nm,19.1s,MS3.9,baz=232,slow=39
KURK Kurchatov 42.16 54 P **P 12 59 44.4 -2.8**
comp=Z,4.2nm,0.7s,mb4.2,baz=280,slow=9.0,SNR=7.4
KURK LR LR 13 20 16.4
comp=Z,57nm,18.8s,MS3.5,baz=75,slow=40
KURK Kurchatov 42.16 54 P **P 12 59 44.4 -2.8**
KURK LR LR 13 20 16.4
KURK Kurchatov 42.16 54 P **P 12 59 44.4 -2.7**
KURK pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
KURK MLR MLR
comp=Z,57nm,18.8s,MS3.5
MKAR Makanchi Array 45.23 59 P **P 13 00 09.4 -2.6**
comp=Z,2.8nm,0.6s,mb4.2,baz=284,slow=6.5,SNR=10
MKAR LR LR 13 21 12.0
comp=Z,64nm,20.2s,MS3.5,baz=125,slow=39
MKAR Makanchi Array 45.23 59 P **P 13 00 09.4 -2.6**
MKAR LR LR 13 21 12.0
MKAR Makanchi Array 45.23 59 P **P 13 00 09.4 -2.5**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR MLR MLR
comp=Z,64nm,20.2s
ZALV Zalesovo Beam 45.52 48 P **P 13 00 11.5 -2.6**
comp=Z,6.4nm,0.5s,mb4.8,baz=276,slow=8.1,SNR=32
ZALV Zalesovo Beam 45.52 48 P **P 13 00 11.5 -2.6**
ZALV Zalesovo Beam 45.52 48 P **P 13 00 11.5 -2.6**
ZALV pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
SCHQ Schefferville 57.91 317 P **P 13 01 45.1 -1.5**
comp=Z,2.0nm,0.6s,mb4.3,baz=27,slow=6.8,SNR=3.2
SCHQ Schefferville 57.91 317 P **P 13 01 45.1 -1.5**
SCHQ Schefferville 57.91 317 P **P 13 01 45.2 -1.5**
SONM Songino Array 60.31 51 P **P 13 02 01.6 -1.8**
comp=Z,1.6nm,0.7s,mb4.2,baz=275,slow=8.2,SNR=12
SONM Songino Array 60.31 51 P **P 13 02 01.6 -1.8**
SONM Songino Array 60.31 51 P **P 13 02 01.6 -1.8**
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM Songino Array 60.31 51 P **P 13 02 01.6 -1.8**
comp=Z,2.0nm,0.7s,mb4.3
CMAR Chiang Mai Arr 70.05 82 P **P 13 03 04.4 -2.7**
comp=Z,0.7nm,0.7s,mb3.7,baz=300,slow=7.2,SNR=4.9
CMAR LR LR 13 35 30.8
comp=Z,25nm,20.8s,MS3.5,baz=335,slow=37
CMAR Chiang Mai Arr 70.05 82 P **P 13 03 04.4 -2.7**
CMAR LR LR 13 35 30.8
CMAR Chiang Mai Arr 70.05 82 P **P 13 03 04.4 -2.7**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR MLR MLR
comp=Z,25nm,20.8s
SUR Sutherland 70.72 179 LR LR 13 38 52.1
comp=Z,70nm,18.6s,MS3.9,baz=352,slow=40
ULM Lac du Bonnet 75.14 323 P **P 13 03 36.9 0.0**
comp=Z,6.6nm,0.9s,mb4.5,baz=80,slow=5.5,SNR=3.6
ILAR Eielson Array 76.36 354 P **P 13 03 43.6 0.0**
comp=Z,0.6nm,0.9s,mb3.5,baz=359,slow=4.5,SNR=4.1
ILAR Eielson Array 76.36 354 P **P 13 03 43.6 0.0**
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 76.36 354 P **P 13 03 43.6 0.0**
comp=Z,1.0nm,0.9s,mb3.8
KSRS Korea Array 79.18 51 P **P 13 03 58.4 -1.5**
comp=Z,3.8nm,1.0s,mb4.3,baz=328,slow=4.4,SNR=5.4
KSRS LR LR 13 41 20.7
comp=Z,34nm,19.3s,MS3.7,baz=325,slow=38
KSRS Korea Array 79.18 51 P **P 13 03 58.4 -1.4**
KSRS pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
KSRS MLR MLR
comp=Z,34nm,19.3s,MS3.7
KSRS Korea Array 79.18 51 P **P 13 03 58.4 -1.4**
comp=Z,34nm,19.3s
PETK Petropavlovsk- 81.42 24 LR LR 13 44 34.0
comp=Z,61nm,18.2s,MS4.0,baz=278,slow=39
EGMT Eagleton 82.87 329 *e*P **P 13 04 20.2 +0.9**
comp=Z,29nm,1.2s,mb5.2
EGMT Eagleton 82.87 329 *e*P **P 13 04 20.2 +0.9**
comp=Z,29nm,1.2s,mb5.2
MJAR Matsushiro Arr 85.79 45 LR LR 13 46 19.3
comp=Z,47nm,18.3s,MS3.9,baz=305,slow=38
TXAR Lajitas Array 94.44 313 P **P 13 05 16.0 +0.8**
comp=Z,0.6nm,0.9s,mb4.0,baz=44,slow=3.8,SNR=5.3
TXAR Lajitas Array 94.44 313 P **P 13 05 16.0 +0.8**
TXAR pmax pmax
comp=Z,1.0nm,0.9s
TXAR Lajitas Array 94.44 313 P **P 13 05 16.0 +0.8**
comp=Z,1.0nm,0.9s,mb4.2
WRA Warramunga Arr 120.79 92 PKP PKPdf 13 10 45.3 -2.1
comp=Z,0.6nm,0.8s,baz=302,slow=1.9,SNR=5.1
WRA Warramunga Arr 120.79 92 PKIKP PKPdf 13 10 45.3 -2.1
WRA pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 122.46 96 PKP PKPdf 13 10 48.8 -1.7
comp=Z,1.3nm,0.9s,baz=304,slow=1.4,SNR=10
ASAR Alice Springs 122.46 96 PKIKP PKPdf 13 10 48.8 -1.7
ASAR pmax pmax
comp=Z,1.0nm,0.9s

ISK ***09*** *13:11:09.9, 36°.89N ± 29°.38E, h18km, MD2.4*
ISCJB ***09*** *13:11:10.6 ± 1.4, 36°.88N ± 0°.06 × 29°.37E ± 0°.07, h4km ± 8km, Error ellipse: s-maj=10.3km s-min=9.1km az=21.8*
CSEM ***09*** *13:11:12.9 ± 0.6, 37°.02N × 29°.47E, h15km, MD2.4, Error ellipse: s-maj=14.5km s-min=10.9km az=14.0*
DDA ***09*** *13:11:13.5, 36°.99N × 29°.29E, h7km ± 4km, Md3.0*
ISC 09 13:11:12.3 ± 1.1, **36°.94N** ± 0°.06 × **29°.42E** ± 0°.07, **h11**km ± 6km, **n16**, σ **1°.22**/30, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GLHS	**Glhisar (BURDU**	**0.23**	**16**	*e*PG		**Pg**		**13 11 16.4**	**-0.7**
GLHS				*e*SG		**Sg**		**13 11 21.1**	**+0.8**
GLHS	**Glhisar (BURDU**	**0.23**	**16**	*e*Pg		**Pg**		**13 11 16.4**	**-0.7**
GLHS				*e*Sg		**Sg**		**13 11 21.1**	**+0.7**
TURN	**Turunc**	**0.66**	**265**	*i* P		**Pg**		**13 11 27.6**	**+2.5**
TURN				*i* S		**Sg**		**13 11 43.7**	**+10**
TURN	**Turunc**	**0.66**	**265**	*i* P		**Pg**		**13 11 27.6**	**+2.5**
TURN				*i* S		**Sg**		**13 11 43.7**	**+10**
KORT	**Korkueli**	**0.75**	**85**	*i* P		**Pg**		**13 11 26.6**	**-0.2**
KORT				*i* S		**Sg**		**13 11 42.3**	**+5.8**
KORT	**Korkueli**	**0.75**	**85**	*i* P		**Pg**		**13 11 26.6**	**-0.2**
KORT				*i* S		**Sg**		**13 11 42.3**	**+5.8**
DNZL	**Cakiroluk**	**0.81**	**338**	*i* P		**Pg**		**13 11 25.9**	**-2.1**
DNZL				*i* S		**Sg**		**13 11 38.8**	**+0.2**
DNZL	**Cakiroluk**	**0.81**	**338**	*i* P		**Pg**		**13 11 25.9**	**-2.1**
DNZL				*i* S		**Sg**		**13 11 38.8**	**+0.2**
DENT	**Denizli**	**0.87**	**339**	*e*PG		**Pg**		**13 11 27.9**	**-1.3**
DENT				*e*SG		**Sg**		**13 11 40.8**	**+0.2**
DENT	**Denizli**	**0.87**	**339**	*e*Pg		**Pg**		**13 11 28.0**	**-1.2**
DENT				*e*Sg		**Sg**		**13 11 40.8**	**+0.2**
AYDN	**Tasoluk**	**1.43**	**301**	*i* P		**Pn**		**13 11 37.5**	**-0.6**
AYDN				*i* S		**Sn**		**13 11 56.6**	**-0.3**
AYDN	**Tasoluk**	**1.43**	**301**	*i* P		**Pn**		**13 11 37.5**	**-0.7**
AYDN				*i* S		**Sn**		**13 11 56.6**	**-0.3**
KHAL	**Karahalli**	**1.43**	**2**	*i* P		**Pn**		**13 11 39.1**	**+0.9**
KHAL				*i* S		**Sn**		**13 11 58.6**	**+1.6**

KHAL	**Karahalli**	**1.43**	**2**	*i* P	**Pn**	**13 11 39.1**	**+0.8**
KHAL				*i* S	**Sn**	**13 11 58.6**	**+1.5**
BODT	**Bodrum**	**1.69**	**275**	*e*Pn	**Pn**	**13 11 38.7**	**-3.1**
BODT	**Bodrum**	**1.69**	**275**	*e*Pn	**Pn**	**13 11 38.7**	**-3.2**

*IDC **09** 13:16:20.0±4.4,36°.39N×71°.29E,h152km±39km,mb3.4/9, mb1 3.5/15,mb1mx3.4/30,mbtmp3.4/15,Error ellipse: s-maj=29.7km s-min=16.7km az=28.0*
*NNC **09** 13:16:22.9±3.5,37°.21N×70°.88E,h0km,mb3.9,mpv4.3, Error ellipse: s-maj=33.4km s-min=22.5km az=46.0*
*ISCJB **09** 13:16:23.9±0.5,36°.71N±0°.04×71°.37E±0°.08,h195km±6km, mb3.5/9,Error ellipse: s-maj=9.9km s-min=6.2km az=7.4*
*NEIC **09** 13:16:24.1±0.8,36°.62N×71°.41E,h184km±7km,mb4.1/9, Error ellipse: s-maj=9.6km s-min=8.1km az=118.0*

ISC 09 13:16:24.8±0.5,36.71N±0.04×71.37E±0.08,h189km±6km, n63,σ0§92/71,mb3.6/9,5C-9D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.88**	**222**	*e*P	**Pn**	**13 17 11.8**	**-0.6**
CEP	**Cherat**	**2.92**	**171**	⇓P	**Pn**	**13 17 13.4**	**+0.4**
CEP				S	**Sn**	**13 17 41.0**	**-9.4**
THW	**Thamme Wali**	**3.92**	**175**	⇓P	**Pn**	**13 17 25.3**	**0.0**
AML	**Almayashu**	**5.70**	**18**	P	**Pn**	**13 17 48.4**	**+0.4**
	SNR=172						
UCH	**Uchtor**	**6.02**	**23**	P	**Sn**	**13 18 59.3**	**-1.7**
	SNR=7.8						
KZA	**Kyzart**	**6.14**	**28**	P	**Pn**	**13 17 53.9**	**+0.2**
	SNR=10						
EKS2	**Erkin-Say**	**6.22**	**17**	P	**Pn**	**13 17 55.1**	**+0.4**
	SNR=22						
EKS2	**Erkin-Say**	**6.22**	**17**	*e*P	**Pn**	**13 17 54.9**	**+0.2**
	16nm,0.3s						
AAK	**Ala-Archa**	**6.38**	**21**	P	**Pn**	**13 17 57.5**	**+0.7**
	SNR=23						
AAK	**Ala-Archa**	**6.38**	**21**	P	**Pn**	**13 17 57.5**	**+0.6**
	0.2nm,0.3s,baz=177,slow=5.8,SNR=85						
AAK				S	**Sn**	**13 19 07.6**	**-1.9**
	0.0nm,0.3s,baz=119,slow=19,SNR=9.9						
AAK	**Ala-Archa**	**6.38**	**21**	*e*P	**Pn**	**13 17 57.1**	**+0.3**
AAK				S	**Sn**	**13 19 07.6**	**-1.9**
KK31	**Karatay Array**	**6.42**	**354**	⇓Pn	**Pn**	**13 17 56.7**	**-0.5**
	10nm,0.4s,baz=185,slow=14,SNR=92						
KK31				⇑Sn	**Sn**	**13 19 05.8**	**-4.5**
	8.1nm,0.3s,baz=177,slow=16,SNR=26						
KKAR	**Karatay Array**	**6.42**	**354**	*e*P	**Pn**	**13 17 56.7**	**-0.5**
	17nm,0.3s						
KKAR				*e*S	**Sn**	**13 19 05.2**	**-5.1**
KBK	**Karagaybulak**	**6.54**	**24**	P	**Pn**	**13 17 59.8**	**+0.9**
	SNR=11						
ULHL	**Ulahol**	**6.69**	**33**	P	**Pn**	**13 18 01.9**	**+1.1**
	SNR=18						
CHMS	**Chumysh**	**6.79**	**21**	P	**Pn**	**13 18 02.3**	**+0.1**
	SNR=18						
USP	**Ospenovka**	**6.97**	**19**	P	**Pn**	**13 18 04.1**	**-0.4**
	SNR=20						
TKM2	**Tokmak 2**	**7.00**	**26**	P	**Pn**	**13 18 05.6**	**+0.7**
	SNR=22						
TKM2	**Tokmak 2**	**7.00**	**26**	⇓Pn	**Pn**	**13 18 05.6**	**+0.8**
	10.0nm,0.4s						
TKM2				⇓Sn	**Sn**	**13 19 24.1**	**0.0**
	17nm,1.0s						
TKM2	**Tokmak 2**	**7.00**	**26**	*e*P	**Pn**	**13 18 05.4**	**+0.6**
	17nm,0.4s						
MK31	**Makanchi Array**	**12.95**	**36**	⇓Pn	**Pn**	**13 19 27.2**	**+5.4**
	0.7nm,0.3s,baz=218,slow=12,SNR=11						
MK31	**Makanchi Array**	**12.95**	**36**	*e*P	**Pn**	**13 19 22.9**	**+1.1**
MKAR	**Makanchi Array**	**12.95**	**36**	P	**Pn**	**13 19 21.0**	**-0.8**
	0.1nm,0.3s,baz=220,slow=12,SNR=9.2						
MKAR	**Makanchi Array**	**12.95**	**36**	P	**Pn**	**13 19 21.0**	**-0.8**
KURBB	**Kurchatov Arra**	**14.83**	**18**	Pn	**Pn**	**13 19 47.5**	**+2.4**
	0.4nm,0.6s						
KURK	**Kurchatov**	**14.94**	**18**	⇑Pn	**Pn**	**13 19 47.9**	**+1.4**
	5.7nm,1.3s						
KURK	**Kurchatov**	**14.94**	**18**	P	**Pn**	**13 19 44.1**	**-2.4**
	0.2nm,0.3s,baz=205,slow=11,SNR=26						
KURK	**Kurchatov**	**14.94**	**18**	*e*P	**Pn**	**13 19 48.2**	**+1.7**
AB31	**Akbulak array**	**15.04**	**330**	Pn	**Pn**	**13 19 48.7**	**+0.9**
	0.9nm,0.6s,baz=146,slow=12,SNR=23						
AB31				Sn	**Sn**	**13 22 26.1**	**-10**
	4.3nm,0.9s,baz=147,slow=22,SNR=7.7						
ABKAR	**Akbulak array**	**15.04**	**330**	*e*P	**Pn**	**13 19 48.2**	**+0.3**
	0.7nm,0.3s						
VOSK	**Vostochnaya**	**16.01**	**359**	⇑Pn	**Pn**	**13 19 59.5**	**0.0**
	2.3nm,0.7s						
ZRNK	**Zerenda**	**16.32**	**355**	⇓Pn	**Pn**	**13 20 02.9**	**-0.4**
	1.0nm,0.5s						
BVA0	**Borovoye Array**	**16.32**	**358**	⇓Pn	**Pn**	**13 20 03.2**	**-0.1**
	0.4nm,0.9s,baz=156,slow=10,SNR=16						
BVAR	**Borovoye Array**	**16.35**	**358**	P	**Pn**	**13 20 02.8**	**-0.5**
	0.6nm,0.3s,baz=156,slow=9.4,SNR=14						
BVAR	**Borovoye Array**	**16.32**	**358**	P	**Pn**	**13 20 02.8**	**-0.5**
BRVK	**Borovoye**	**16.36**	**358**	⇑Pn	**Pn**	**13 20 02.6**	**-1.2**
	4.2nm,1.0s						
BRVK	**Borovoye**	**16.36**	**358**	P	**Pn**	**13 20 03.5**	**-0.3**
	1.1nm,0.5s						
AKTK	**Aktyubinsk**	**16.75**	**329**	P	**Pn**	**13 20 08.3**	**-0.1**
AKTO	**Aktyubinsk**	**16.75**	**329**	⇓Pn	**Pn**	**13 20 08.3**	**-0.1**
	0.3nm,0.5s						
AKTO				⇑Sn	**S**	**13 23 09.3**	**-3.1**
	0.5nm,0.9s						
AKTO	**Aktyubinsk**	**16.75**	**329**	P	**Pn**	**13 20 08.3**	**0.0**
	0.7nm,0.3s,baz=134,slow=12,SNR=10						
ZALV	**Zalesovo Beam**	**19.60**	**24**	P	**P**	**13 20 39.5**	**+1.1**
	0.8nm,0.3s,baz=226,slow=11,SNR=20						
ZALV	**Zalesovo Beam**	**19.60**	**24**	P	**P**	**13 20 39.5**	**+1.1**
AKASG	**Malin Array Be**	**33.04**	**309**	P	**P**	**13 22 42.5**	**+0.3**
	0.6nm,0.3s,mb3.8,baz=82,slow=7.8,SNR=6.3						
AKASG	**Malin Array Be**	**33.04**	**309**	P	**P**	**13 22 42.5**	**+0.3**
FINES	**FINESS Array B**	**37.47**	**326**	P	**P**	**13 23 20.5**	**+0.7**
	2.6nm,0.9s,mb3.9,baz=125,slow=9.0,SNR=11						
FINES	**FINESS Array B**	**37.47**	**326**	P	**P**	**13 23 20.5**	**+0.7**
ARCES	**ARCESS Array B**	**41.06**	**337**	P	**P**	**13 23 50.3**	**+1.0**
	1.1nm,0.8s,mb3.5,baz=108,slow=8.0,SNR=9.4						
ARCES	**ARCESS Array B**	**41.06**	**337**	P	**P**	**13 23 50.3**	**+1.0**
HFS	**Hagfors**	**43.08**	**322**	P	**P**	**13 24 06.4**	**+0.7**
	2.5nm,0.5s,mb4.1,baz=106,slow=11,SNR=22						
HFS	**Hagfors**	**43.08**	**322**	P	**P**	**13 24 06.4**	**+0.7**
NB2	**NORSAR Subarra**	**44.39**	**323**	P	**P**	**13 24 16.1**	**-0.1**
	comp=Z,1.3nm,0.5s,mb3.8,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.39**	**323**	P	**P**	**13 24 16.3**	**+0.2**
	comp=Z,1.5nm,0.5s,mb3.9,baz=96,slow=7.7,SNR=7.6						
NOA	**NORSAR Array B**	**44.39**	**323**	P	**P**	**13 24 16.3**	**+0.2**
TORD	**Torodi Ar. Bea**	**66.02**	**269**	P	**P**	**13 26 49.5**	**-1.9**
	comp=Z,0.8nm,0.6s,mb3.7,baz=52,slow=6.0,SNR=12						
TORD	**Torodi Ar. Bea**	**66.02**	**269**	P	**P**	**13 26 49.5**	**-1.9**
INK	**Inuvik**	**73.65**	**9**	P	**P**	**13 27 38.2**	**+1.1**
	comp=Z,1.0nm,1.1s,mb3.5,baz=304,slow=4.7,SNR=4.7						
INK	**Inuvik**	**73.65**	**9**	P	**P**	**13 27 38.2**	**+1.1**
WRA	**Warramunga Arr**	**81.85**	**122**	P	**P**	**13 28 21.6**	**-1.4**
	comp=Z,0.2nm,0.4s,mb3.1,baz=325,slow=4.9,SNR=7.9						
WRA	**Warramunga Arr**	**81.85**	**122**	P	**P**	**13 28 21.6**	**-1.4**
WRAB	**Tennant Creek**	**81.86**	**122**	P	**P**	**13 28 22.8**	**-0.3**
WB2	**Warramunga Arr**	**81.86**	**122**	*e*P	**P**	**13 28 22.4**	**-0.7**
ASAR	**Alice Springs**	**84.14**	**125**	P	**P**	**13 28 34.1**	**-0.6**
	comp=Z,0.4nm,0.8s,mb3.2,baz=314,slow=5.1,SNR=6.6						
ASAR	**Alice Springs**	**84.14**	**125**	P	**P**	**13 28 34.1**	**-0.6**

*ISCJB **09** 13:19:50.3±0.7,38°.69N±0°.03×20°.05E±0°.05,h10km, Error ellipse: s-maj=6.4km s-min=3.4km az=156.8*
*ATH **09** 13:19:50.2,38°.75N×20°.14E,h9km±1km,MD3.3/9*
*CSEM **09** 13:19:51.1±0.4,38°.71N×20°.20E,h0km±2km,ML2.4/4, Error ellipse: s-maj=7.2km s-min=4.1km az=66.0*
*THE **09** 13:19:53.2,38°.72N×20°.38E,h0km±2km,ML2.4/4,Error ellipse: s-maj=2.8km s-min=0.8km az=256.0*

ISC 09 13:19:50.9±0.7,38.74N±0.03×20.17E±0.05,h0km±4km, n54,σ1§22/89,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LKD2	**Lefkada island**	**0.38**	**82**	P	**Pg**	**13 19 57.6**	**-0.6**
LKD2				S	**Sg**	**13 20 00.5**	**-2.7**
LKD2	**Lefkada island**	**0.38**	**82**	P	**Pg**	**13 19 57.6**	**-0.6**
LKD2				S	**Sg**	**13 20 00.5**	**-2.7**
VLS	**Valsamata**	**0.65**	**150**	*e*PG	**Pg**	**13 20 03.2**	**-0.1**
VLS				*e*SB	**Sg**	**13 20 12.6**	**+0.9**
VLS	**Valsamata**	**0.65**	**150**	P	**Pg**	**13 20 02.9**	**-0.4**
VLS				S	**Sg**	**13 20 12.2**	**+0.5**
VLS	**Valsamata**	**0.65**	**150**	P	**Pg**	**13 20 02.9**	**-0.4**
VLS	**Valsamata**	**0.65**	**150**	*e*Pg	**Pg**	**13 20 03.2**	**-0.1**
VLS				S	**Sg**	**13 20 12.2**	**+0.5**
VLS				*e*Sb	**Sg**	**13 20 12.6**	**+0.9**
KFL	**Anninata**	**0.79**	**142**	P	**Pg**	**13 20 05.7**	**-0.3**
KFL				S	**Sg**	**13 20 17.0**	**+0.7**
KFL	**Anninata**	**0.79**	**142**	P	**Pg**	**13 20 05.7**	**-0.3**
KFL				S	**Sg**	**13 20 17.0**	**+0.7**
IGT	**Igoumenitsa**	**0.80**	**9**	P	**Pg**	**13 20 07.9**	**+1.6**
IGT				S	**Sg**	**13 20 21.3**	**+4.5**
IGT	**Igoumenitsa**	**0.80**	**9**	P	**Pg**	**13 20 07.9**	**+1.6**
KEK	**Kerkira**	**1.02**	**343**	P	**Pg**	**13 20 12.9**	**+2.5**
KEK				S	**Sg**	**13 20 30.4**	**+6.8**
KEK	**Kerkira**	**1.02**	**343**	P	**Pg**	**13 20 12.9**	**+2.5**
JAN	**Janina**	**1.06**	**30**	P	**Pg**	**13 20 11.6**	**+0.4**
JAN				S	**Sg**	**13 20 26.5**	**+1.6**
JAN	**Janina**	**1.06**	**30**	P	**Pg**	**13 20 11.6**	**+0.4**
JAN				S	**Sg**	**13 20 26.5**	**+1.6**
RLS	**Riolos of Patr**	**1.22**	**123**	*e*PG	**Pg**	**13 20 13.5**	**-0.8**
RLS				*e*SB	**Sb**	**13 20 31.7**	**+0.6**
RLS	**Riolos of Patr**	**1.22**	**123**	P	**Pg**	**13 20 13.8**	**-0.5**
RLS	**Riolos of Patr**	**1.22**	**123**	*e*Pg	**Pg**	**13 20 13.5**	**-0.8**
RLS	**Riolos of Patr**	**1.22**	**123**	P	**Pg**	**13 20 13.8**	**-0.5**
RLS				*e*Sb	**Sb**	**13 20 31.7**	**+0.6**
EVR	**Evrytania**	**1.29**	**81**	*e*PB	**Pb**	**13 20 15.2**	**-0.8**
EVR				*e*SB	**Sb**	**13 20 32.9**	**-0.2**
EVR	**Evrytania**	**1.29**	**81**	P	**Pg**	**13 20 15.1**	**-0.5**
EVR				S	**Sg**	**13 20 30.4**	**-1.9**
EVR	**Evrytania**	**1.29**	**81**	P	**Pg**	**13 20 15.1**	**-0.5**
EVR				S	**Sg**	**13 20 30.4**	**-1.9**
EVR				*e*Sb	**Sb**	**13 20 32.9**	**-0.2**
MEV	**Metsovon**	**1.33**	**38**	P	**Pg**	**13 20 16.1**	**-0.3**
MEV	**Metsovon**	**1.33**	**38**	P	**Pg**	**13 20 16.1**	**-0.3**
EFP	**Efpalio**	**1.39**	**102**	*e*PG	**Pg**	**13 20 16.3**	**-1.3**
EFP				*e*SB	**Sb**	**13 20 36.9**	**+0.8**
EFP	**Efpalio**	**1.39**	**102**	P	**Pg**	**13 20 16.1**	**-1.5**
EFP	**Efpalio**	**1.39**	**102**	P	**Pn**	**13 20 16.1**	**-1.5**
EFP				*e*Sb	**Sb**	**13 20 36.9**	**+0.8**
LAKA	**Lakka**	**1.50**	**109**	P	**Pn**	**13 20 18.3**	**-0.7**
LAKA				S	**Sn**	**13 20 38.6**	**-0.7**
LAKA	**Lakka**	**1.50**	**109**	P	**Pn**	**13 20 18.3**	**-0.7**
LAKA				S	**Sn**	**13 20 38.6**	**-0.7**
KALE	**Kalithea**	**1.58**	**102**	P	**Pn**	**13 20 20.2**	**+0.1**
KALE	**Kalithea**	**1.58**	**102**	P	**Pn**	**13 20 20.2**	**+0.1**
THL	**Klokotos Trika**	**1.65**	**59**	*e*PB	**Pb**	**13 20 21.4**	**-0.8**
THL				*e*SB	**Sb**	**13 20 44.4**	**+0.8**
THL	**Klokotos Trika**	**1.65**	**59**	P	**Pn**	**13 20 21.2**	**+0.1**
THL	**Klokotos Trika**	**1.65**	**59**	P	**Pn**	**13 20 21.2**	**+0.1**
THL				*e*Sb	**Sb**	**13 20 44.4**	**+0.8**
AGG	**Agios Georgios**	**1.71**	**80**	*e*PN	**Pn**	**13 20 22.9**	**+1.0**
AGG				*e*SN	**Sn**	**13 20 45.5**	**+1.1**
AGG	**Agios Georgios**	**1.71**	**80**	P	**Pn**	**13 20 22.0**	**+0.1**
AGG				S	**Sn**	**13 20 43.3**	**-1.1**
AGG	**Agios Georgios**	**1.71**	**80**	P	**Pn**	**13 20 22.0**	**+0.1**
AGG	**Agios Georgios**	**1.71**	**80**	*e*Pn	**Pn**	**13 20 22.9**	**+1.0**
AGG				S	**Sn**	**13 20 43.3**	**-1.1**
AGG				*e*Sn	**Sn**	**13 20 45.5**	**+1.1**
NEST	**Nestorio**	**1.81**	**22**	P	**Pn**	**13 20 25.1**	**+1.8**
NEST	**Nestorio**	**1.81**	**22**	P	**Pn**	**13 20 25.1**	**+1.8**
GUR	**Goura**	**1.88**	**114**	*e*PN	**Pn**	**13 20 25.1**	**+0.8**
GUR				*e*SN	**Sn**	**13 20 49.9**	**+1.2**
GUR	**Goura**	**1.88**	**114**	*e*Pn	**Pn**	**13 20 25.1**	**+0.8**
GUR				*e*Sn	**Sn**	**13 20 49.9**	**+1.2**
KZN	**Kozani**	**2.00**	**38**	P	**Pn**	**13 20 26.4**	**+0.5**
KZN	**Kozani**	**2.00**	**38**	P	**Pn**	**13 20 26.4**	**+0.5**
ITM	**Ithomi**	**2.08**	**138**	*e*PN	**Pn**	**13 20 28.5**	**+1.5**
ITM				*e*SN	**Sn**	**13 20 56.0**	**+2.3**
ITM	**Ithomi**	**2.08**	**138**	*e*Pn	**Pn**	**13 20 28.5**	**+1.5**
ITM				*e*Sn	**Sn**	**13 20 56.0**	**+2.3**
LKR	**Lokris**	**2.21**	**91**	P	**Pn**	**13 20 27.0**	**-1.2**
LKR	**Lokris**	**2.21**	**91**	P	**Pn**	**13 20 27.6**	**-1.2**
DID	**Didima**	**2.71**	**116**	*e*PN	**Pn**	**13 20 37.1**	**+1.4**
DID	**Didima**	**2.71**	**116**	*e*Pn	**Pn**	**13 20 37.1**	**+1.4**
STON	**Ston**	**4.54**	**336**	*e*Pn	**Pn**	**13 20 58.8**	**-2.0**
STON				Sn	**Sn**	**13 21 50.1**	**-4.1**
STON	**Ston**	**4.54**	**336**	*e*Pn	**Pn**	**13 20 58.8**	**-2.0**
STON				Sn	**Sn**	**13 21 50.0**	**-4.2**
NVLJ	**Novalja**	**7.04**	**327**	*e*Pn	**Pn**	**13 21 35.6**	**+0.4**
NVLJ				Sn	**Sn**	**13 22 53.5**	**-2.5**
NVLJ	**Novalja**	**7.04**	**327**	*e*Pn	**Pn**	**13 21 35.6**	**+0.4**
SLUM		**8.32**	**149**	P	**Pn**	**13 21 50.1**	**-2.7**

*ISCJB **09** 13:20:25.7±0.2,36°.87N±0°.02×28°.16E±0°.02,h73km±2km, mb3.8/11,Error ellipse: s-maj=2.8km s-min=2.6km az=156.5*
*DDA **09** 13:20:25.9,36°.88N×28°.17E,h51km±4km,Md4.0*
*ATH **09** 13:20:25.8,36°.91N×28°.17E,h72km±3km,ML3.8*
*IDC **09** 13:20:25.9±1.8,36°.79N×28°.24E,h58km±18km,mb3.7/11, mb1 3.8/17,mb1mx3.7/29,mbtmp3.7/17,ML3.6/5,Error ellipse: s-maj=13.8km s-min=12.4km az=48.0*
*ISK **09** 13:20:26.2,36°.94N×28°.11E,h67km,ML4.0*
*NEIC **09** 13:20:27.2±0.7,36°.80N×28°.24E,h71km±7km,mb3.8/3, Error ellipse: s-maj=9.2km s-min=6.1km az=202.0*
*CSEM **09** 13:20:27.1±0.1,36°.87N×28°.15E,h64km±1km,ML4.0, Error ellipse: s-maj=2.4km s-min=2.3km az=170.0*
*THE **09** 13:20:29.0,36°.91N×28°.06E,h56km±3km,ML3.7/5,Error ellipse: s-maj=3.8km s-min=0.7km az=149.0*
*HLW **09** 13:20:39.8,35°.69N×28°.26E,h32km±35km,Md3.5,Ml4.0*

ISC 09 13:20:26.9±0.2,36.88N±0.02×28.16E±0.02,h65km±3km, n270,σ0§96/338,mb3.8/11,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.28**	**21**	PG	**Pn**	**13 20 37.2**	**-0.2**
YER				SG	**Sn**	**13 20 45.2**	**+0.2**
YER	**Yerkesik**	**0.28**	**21**	*i* Pg	**Pn**	**13 20 37.2**	**-0.2**
YER				*i* Sg	**Sn**	**13 20 45.2**	**+0.2**
DAT	**Datca**	**0.49**	**253**	*e*PG	**Pn**	**13 20 39.0**	**-0.2**
DAT				SG	**Sn**	**13 20 47.9**	**-0.2**
DAT	**Datca**	**0.49**	**253**	*e*Pg	**Pn**	**13 20 39.0**	**-0.1**
DAT				*i* Sg	**Sn**	**13 20 47.9**	**-0.2**
MLSB	**Milas**	**0.52**	**324**	*e*PG	**Pn**	**13 20 39.6**	**+0.1**
MLSB				*e*SG	**Sn**	**13 20 48.0**	**-0.6**
MLSB	**Milas**	**0.52**	**324**	*e*Pg	**Pn**	**13 20 39.6**	**+0.2**
MLSB				*e*Sg	**Sn**	**13 20 48.0**	**-0.6**
ARG	**Arkhangelos**	**0.66**	**182**	*e*P	**Pn**	**13 20 42.0**	**+1.0**
ARG				*e*S	**Sn**	**13 20 53.0**	**+1.7**
ARG	**Arkhangelos**	**0.66**	**182**	P	**Pn**	**13 20 42.0**	**+1.0**
ARG				S	**Sn**	**13 20 52.9**	**+1.6**
ARG	**Arkhangelos**	**0.66**	**182**	P	**Pn**	**13 20 42.0**	**+1.0**
ARG				S	**Sn**	**13 20 52.9**	**+1.6**
BODT	**Bodrum**	**0.70**	**286**	*e*PG	**Pn**	**13 20 40.7**	**-0.8**
BODT				SG	**Sn**	**13 20 51.7**	**-0.6**
BODT	**Bodrum**	**0.70**	**286**	*e*Pg	**Pn**	**13 20 40.7**	**-0.8**
BODT				*e*Sg	**Sn**	**13 20 51.7**	**-0.5**
FETY	**Fethiye**	**0.78**	**108**	*e*PG	**Pn**	**13 20 41.7**	**-0.7**
AYDN	**Tasoluk**	**0.81**	**344**	*i* P	**Pn**	**13 20 43.2**	**+0.4**
AYDN				*i* S	**Sn**	**13 20 55.1**	**+0.5**
AYDN	**Tasoluk**	**0.81**	**344**	*i* P	**Pn**	**13 20 43.2**	**+0.4**
AYDN				*i* S	**Sn**	**13 20 55.1**	**+0.5**
NIS1	**Nisyros Isl.**	**0.83**	**251**	P	**Pn**	**13 20 43.3**	**+0.3**
NIS1				S	**Sn**	**13 20 55.0**	**+0.1**
NIS1	**Nisyros Isl.**	**0.83**	**251**	P	**Pn**	**13 20 43.3**	**+0.3**
NIS1				S	**Sn**	**13 20 55.0**	**+0.1**
DNZL	**Cakiroluk**	**1.08**	**41**	*i* P	**Pn**	**13 20 46.3**	**+0.2**
DNZL				*i* S	**Sn**	**13 20 59.1**	**-1.3**
DNZL	**Cakiroluk**	**1.08**	**41**	*i* P	**Pn**	**13 20 46.3**	**+0.2**
DNZL				*i* S	**Sn**	**13 20 59.1**	**-1.3**
GCAM	**G?zelcaml?**	**1.10**	**318**	*i* P	**Pn**	**13 20 46.8**	**+0.3**
GCAM				*i* S	**Sn**	**13 21 00.7**	**-0.4**
GCAM	**G?zelcaml?**	**1.10**	**318**	*i* P	**Pn**	**13 20 46.8**	**+0.3**
GCAM				*i* S	**Sn**	**13 21 00.7**	**-0.4**
GLHS	**Glhisar (BURDU**	**1.11**	**75**	*e*PN	**Pn**	**13 20 47.1**	**+0.6**
GLHS	**Glhisar (BURDU**	**1.11**	**75**	*e*Pn	**Pn**	**13 20 47.1**	**+0.6**
DENT	**Denizli**	**1.12**	**38**	PN	**Pn**	**13 20 46.8**	**+0.1**
DENT	**Denizli**	**1.12**	**38**	*i* Pn	**Pn**	**13 20 46.8**	**+0.1**
AKAS	**Kas**	**1.33**	**118**	*i* P	**Pn**	**13 20 49.0**	**-0.4**
AKAS	**Kas**	**1.33**	**118**	*i* P	**Pn**	**13 20 49.0**	**-0.4**
SMG	**Samos**	**1.34**	**309**	*e*P	**Pn**	**13 20 49.5**	**-0.1**
SMG				*e*S	**Sn**	**13 21 06.2**	**-0.4**
SMG	**Samos**	**1.34**	**309**	*e*P	**Pn**	**13 20 49.5**	**-0.1**
SMG				*e*S	**Sn**	**13 21 06.2**	**-0.4**
KSL	**Kastellorizon**	**1.36**	**122**	*e*P	**Pn**	**13 20 49.9**	**+0.1**
ELL	**Elmali**	**1.41**	**95**	*e*PN	**Pn**	**13 20 51.5**	**+1.0**
ELL	**Elmali**	**1.41**	**95**	*e*Pn	**Pn**	**13 20 51.5**	**+1.0**
KARP	**Karpathos**	**1.55**	**212**	*e*P	**Pn**	**13 20 52.9**	**+0.5**
KARP				*e*S	**Sn**	**13 21 12.0**	**+0.4**
KARP	**Karpathos**	**1.55**	**212**	P	**Pn**	**13 20 53.1**	**+0.7**
KARP				S	**Sn**	**13 21 12.2**	**+0.6**
KARP	**Karpathos**	**1.55**	**212**	P	**Pn**	**13 20 53.1**	**+0.7**
KARP				S	**Sn**	**13 21 12.2**	**+0.6**
MANT	**Manisa**	**1.64**	**11**	*i* P	**Pn**	**13 20 53.4**	**-0.2**
MANT				*i* S	**Sn**	**13 21 13.1**	**-0.6**
MANT	**Manisa**	**1.64**	**11**	*i* P	**Pn**	**13 20 53.4**	**-0.2**
MANT				*i* S	**Sn**	**13 21 13.1**	**-0.7**
IZM	**Izmir**	**1.68**	**335**	*e*PN	**Pn**	**13 20 53.7**	**-0.4**
IZM	**Izmir**	**1.68**	**335**	*e*Pn	**Pn**	**13 20 53.7**	**-0.3**
KULA	**Kula-Manisa**	**1.68**	**14**	*e*PN	**Pn**	**13 20 54.1**	**-0.1**
KULA	**Kula-Manisa**	**1.68**	**14**	*e*Pn	**Pn**	**13 20 54.1**	**0.0**
BLCB	**Balcova**	**1.75**	**330**	*e*PN	**Pn**	**13 20 54.8**	**-0.2**
BLCB	**Balcova**	**1.75**	**330**	*e*Pn	**Pn**	**13 20 54.8**	**-0.2**
KHAL	**Karahalli**	**1.83**	**35**	*i* P	**Pn**	**13 20 56.2**	**+0.1**
KHAL				*i* S	**Sn**	**13 21 14.2**	**-4.0**
KHAL	**Karahalli**	**1.83**	**35**	*i* P	**Pn**	**13 20 56.2**	**+0.1**
KHAL				*i* S	**Sn**	**13 21 14.2**	**-4.1**
URLA	**Izmir**	**1.93**	**321**	*i* P	**Pn**	**13 20 56.9**	**-0.6**
URLA				*i* S	**Sn**	**13 21 18.7**	**-2.1**
URLA	**Izmir**	**1.93**	**321**	*i* P	**Pn**	**13 20 56.9**	**-0.6**
URLA				*i* S	**Sn**	**13 21 18.7**	**-2.1**
ANTB	**Antalya**	**2.00**	**89**	*e*PN	**Pn**	**13 21 00.2**	**+1.8**
ANTB	**Antalya**	**2.00**	**89**	*e*Pn	**Pn**	**13 21 00.2**	**+1.8**
AKHS	**Akhisar**	**2.02**	**352**	*i* P	**Pn**	**13 20 58.3**	**-0.4**
AKHS				*i* S	**Sn**	**13 21 21.8**	**-1.0**
AKHS	**Akhisar**	**2.02**	**352**	*i* P	**Pn**	**13 20 58.3**	**-0.3**
AKHS				*i* S	**Sn**	**13 21 21.8**	**-1.0**
AKS	**Akhisar**	**2.02**	**352**	*e*PN	**Pn**	**13 20 58.4**	**-0.2**
AKS	**Akhisar**	**2.02**	**352**	*e*Pn	**Pn**	**13 20 58.4**	**-0.2**
BCK	**Bucak**	**2.03**	**73**	*e*PN	**Pn**	**13 20 59.8**	**+1.0**
BCK	**Bucak**	**2.03**	**73**	*e*Pn	**Pn**	**13 20 59.8**	**+1.0**
APE	**Apeiranthos**	**2.11**	**276**	*e*PN	**Pn**	**13 21 00.5**	**+0.6**
APE	**Apeiranthos**	**2.11**	**276**	*e*P	**Pn**	**13 21 00.5**	**+0.6**
APE	**Apeiranthos**	**2.11**	**276**	P	**Pn**	**13 21 25.0**	**+0.7**
APE				S	**Sn**	**13 21 25.0**	**-0.1**
APE	**Apeiranthos**	**2.11**	**276**	*e*P	**Pn**	**13 21 00.5**	**+0.6**
APE	**Apeiranthos**	**2.11**	**276**	*e*Pn	**Pn**	**13 21 00.5**	**+0.6**
APE				S	**Sn**	**13 21 25.0**	**-0.1**
DEMI	**Demirci**	**2.21**	**11**	*i* P	**Pn**	**13 21 00.8**	**-0.4**
DEMI				*i* S	**Sn**	**13 21 18.3**	**-9.1**
DEMI	**Demirci**	**2.21**	**11**	*i* P	**Pn**	**13 21 00.8**	**-0.4**
CHOS	**Chios island**	**2.25**	**313**	*e*P	**Pn**	**13 21 02.2**	**+0.4**
CHOS				*e*S	**Sn**	**13 21 27.9**	**-0.6**
CHOS	**Chios island**	**2.25**	**313**	P	**Pn**	**13 21 02.1**	**+0.

BRTR	**Keskin Array B**	**5.16**	**55**	P	**Pn**	**13 21 42.6**	**+1.0**
BRTR				S	**Sn**	**13 22 38.6**	**-1.2**
BRTR	**Keskin Array B**	**5.16**	**55**	P	**Pn**	**13 21 42.6**	**+1.0**
BRTR				S	**Sn**	**13 22 38.6**	**-1.2**
KDZ	**Kurdzhali**	**5.22**	**337** *i*	P	**Sn**	**13 22 39.5**	**-1.6**
RZN	**Rozhen**	**5.50**	**332** *i*	P	**Sn**	**13 22 46.4**	**-1.5**
NVR	**Nevrokopi**	**5.58**	**325**	P	**Pn**	**13 21 47.8**	**+0.6**
NVR	**Nevrokopi**	**5.58**	**325**	P	**Pn**	**13 21 47.8**	**+0.6**
HMAT	**Matruh**	**5.83**	**189**	P	**Pn**	**13 21 48.2**	**-2.6**
	baz=193						
HMAT				AMP		13 22 00.0	
	comp=N,160μm,0.4s,logA/T=5.6,baz=193						
HMAT				S	**Sn**	**13 22 39.6**	**-17**
	baz=193						
HMAT	**Matruh**	**5.83**	**189**	P	**Pn**	**13 21 49.3**	**-1.5**
SLUM		**5.90**	**205**	P	**Pn**	**13 21 50.9**	**-0.8**
	baz=213						
SLUM				S	**Sn**	**13 22 45.6**	**-12**
	baz=213						
KKB	**Krupnik**	**6.35**	**323**	P	**Sn**	**13 23 03.9**	**-4.8**
PGB	**Panagyurishte**	**6.45**	**333**	P	**Sn**	**13 23 08.3**	**-2.9**
PVL	**Pavlikeni**	**6.69**	**342**	P	**Sn**	**13 23 14.7**	**-2.5**
BHL	**Bhannes**	**6.80**	**114**	*e*P	**Pn**	**13 22 00.9**	**-3.1**
HWQ	**Hawqa**	**6.85**	**110**	*e*P	**Pn**	**13 22 03.2**	**-1.5**
VTS	**Vitosha**	**6.86**	**328**	P	**Sn**	**13 23 20.5**	**-0.9**
MMAI	**Mount Meron Ar**	**7.09**	**121**	P	**Pn**	**13 22 06.4**	**-1.5**
	comp=N,17nm,0.3s,baz=302,slow=13,SNR=41						
MMAI				S	**Sn**	**13 23 21.1**	**-5.8**
	comp=N,25nm,0.3s,baz=333,slow=20,SNR=11						
HNAT	**Natroun**	**7.51**	**163**	P	**Pn**	**13 22 12.5**	**-1.2**
	baz=161						
TIRR	**Tirgusor**	**7.58**	**1** *e*P		**Pn**	**13 22 14.6**	**+0.1**
TIRR	**Tirgusor**	**7.58**	**1** *e*P		**Pn**	**13 22 14.6**	**+0.1**
AYT	**Al 'Ayyat**	**7.58**	**160**	P	**Pn**	**13 22 12.9**	**-1.8**
	baz=157						
AYT	**Al 'Ayyat**	**7.58**	**160**	P	**Pn**	**13 22 13.5**	**-1.1**
KOT	**Kottamia**	**7.58**	**155**	P	**Pn**	**13 22 13.4**	**-1.3**
	baz=151						
HHAG	**Hagoal**	**7.65**	**153**	P	**Pn**	**13 22 14.9**	**-0.7**
	baz=149						
HHAG	**Hagoal**	**7.65**	**153**	P	**Pn**	**13 22 14.9**	**-0.7**
HSAF	**As Saff**	**7.78**	**158**	P	**Pn**	**13 22 15.9**	**-1.4**
	baz=154						
HSAF	**As Saff**	**7.78**	**158**	P	**Pn**	**13 22 15.9**	**-1.4**
GLL	**Jalalah**	**7.86**	**157**	P	**Pn**	**13 22 17.2**	**-1.3**
	baz=153						
GLL	**Jalalah**	**7.86**	**157**	P	**Pn**	**13 22 17.2**	**-1.3**
SWA2		**7.94**	**197**	P	**Pn**	**13 22 17.9**	**-1.7**
	baz=201						
SWA2				S	**Sn**	**13 23 32.9**	**-15**
	baz=201						
SUZ		**8.03**	**150**	P	**Pn**	**13 22 20.4**	**-0.4**
	baz=145						
ZAF		**8.42**	**153**	P	**Pn**	**13 22 26.0**	**-0.2**
	baz=149						
ZAF				S	**Sn**	**13 23 44.4**	**-15**
	baz=149						
ASF	**Jabal al Asfar**	**8.60**	**121**	P	**Pn**	**13 22 27.1**	**-1.5**
	comp=N,1.0nm,0.3s,baz=88,slow=2.3,SNR=4.2						
ASF				S	**Sn**	**13 24 00.6**	**-3.4**
	comp=N,0.9nm,0.3s,baz=298,slow=14,SNR=3.3						
ASF	**Jabal al Asfar**	**8.60**	**121**	P	**Pn**	**13 22 27.1**	**-1.5**
ASF				S	**Sn**	**13 24 00.6**	**-3.4**
MLR	**Muntele Rosu**	**8.77**	**350**	P	**Pn**	**13 22 31.5**	**+0.8**
	comp=N,0.0nm,0.3s,baz=130,slow=17,SNR=5.2						
MLR				S	**Sn**	**13 24 09.6**	**+1.6**
	comp=N,0.1nm,0.3s,baz=266,slow=21,SNR=4.6						
MLR	**Muntele Rosu**	**8.77**	**350**	P	**Pn**	**13 22 31.5**	**+0.8**
MLR				S	**Sn**	**13 24 09.6**	**+1.6**
MLR	**Muntele Rosu**	**8.77**	**350**	P	**Pn**	**13 22 31.5**	**+0.7**
MLR				S	**Sn**	**13 24 09.6**	**+1.6**
EIL	**Elat**	**9.16**	**140**	P	**Pn**	**13 22 35.6**	**-0.6**
	comp=N,1.0nm,0.3s,baz=180,slow=1.2,SNR=6.2						
EIL				S	**Sn**	**13 24 10.7**	**-7.1**
	comp=N,3.3nm,0.3s,baz=122,slow=19,SNR=8.5						
EIL	**Elat**	**9.16**	**140**	P	**Pn**	**13 22 35.6**	**-0.6**
EIL				S	**Sn**	**13 24 10.7**	**-7.1**
EIL	**Elat**	**9.16**	**140**	P	**Pn**	**13 22 35.7**	**-0.6**
HFRF	**Wahat Farafira**	**9.70**	**179**	P	**Pn**	**13 22 41.6**	**-2.0**
	baz=179						
CUC	**Castrocucco**	**10.17**	**292** *e*P		**Pn**	**13 22 53.2**	**+3.2**
KEST	**Kesra**	**15.21**	**271**	P	**Pn**	**13 24 03.7**	**+5.9**
	comp=N,0.1nm,0.3s,baz=326,slow=3.9,SNR=4.8						
KEST	**Kesra**	**15.21**	**271**	P	**Pn**	**13 24 03.7**	**+5.9**
KEST	**Kesra**	**15.21**	**271**	P	**Pn**	**13 24 03.7**	**+5.9**
DPC	**Dobruska-Polom**	**15.94**	**331** *e*P		**Pn**	**13 24 11.7**	**+4.9**
DPC	**Dobruska-Polom**	**15.94**	**331**	P	**Pn**	**13 24 11.7**	**+4.9**
GERES	**GERESS Array B**	**15.95**	**323**	P	**Pn**	**13 24 09.9**	**+2.9**
	comp=N,0.2nm,0.3s,baz=129,slow=10,SNR=8.2						
GERES	**GERESS Array B**	**15.95**	**323**	P	**Pn**	**13 24 09.9**	**+2.9**
KHC	**Kasperske Hory**	**16.20**	**324** *e*P		**Pn**	**13 24 14.8**	**+4.6**
KHC	**Kasperske Hory**	**16.20**	**324**	P	**Pn**	**13 24 14.8**	**+4.6**
MBDF	**Montbardon**	**17.96**	**303** *e*P		**Pn**	**13 24 31.3**	**-0.6**
MBDF	**Montbardon**	**17.96**	**303** *e*P		**Pn**	**13 24 31.3**	**-0.6**
MBDF	**Montbardon**	**17.96**	**303** *e*P		**Pn**	**13 24 31.3**	**-0.6**
LPL	**La Plagne**	**18.25**	**305** *e*P		**Pn**	**13 24 38.6**	**+3.2**
LPL	**La Plagne**	**18.25**	**305** *e*P		**Pn**	**13 24 38.6**	**+3.2**
CABF	**La Chapelle**	**19.07**	**308** *e*P		**Pn**	**13 24 44.4**	**-0.9**
	comp=N,12nm,0.7s						
CABF	**La Chapelle**	**19.07**	**308** *e*P		**Pn**	**13 24 44.4**	**-0.9**
	comp=N,5.8nm,0.7s						
CABF	**La Chapelle**	**19.07**	**308** *e*P		**Pn**	**13 24 44.4**	**-0.9**
	comp=N,11nm,0.7s						
HINF	**Hinteralfeld**	**19.11**	**312** *e*P		**Pn**	**13 24 45.2**	**-0.5**
	comp=N,2.3nm,0.5s						
HINF	**Hinteralfeld**	**19.11**	**312** *e*P		**Pn**	**13 24 45.2**	**-0.5**
	comp=N,1.1nm,0.5s						
HINF	**Hinteralfeld**	**19.11**	**312** *e*P		**Pn**	**13 24 45.2**	**-0.5**
	comp=N,2.0nm,0.5s						
CDF	**Champ du Feu**	**19.14**	**314** *e*P		**Pn**	**13 24 46.1**	**+0.1**
	comp=N,9.1nm,0.8s						
CDF	**Champ du Feu**	**19.14**	**314** *e*P		**Pn**	**13 24 46.1**	**+0.1**
	comp=N,4.6nm,0.8s						
CDF	**Champ du Feu**	**19.14**	**314** *e*P		**Pn**	**13 24 46.1**	**+0.1**
	comp=N,4.6nm,0.8s						
VIVF	**Saint-Julien-l**	**19.42**	**302** *e*P		**Pn**	**13 24 49.0**	**-0.5**
	comp=N,7.7nm,0.8s						
VIVF	**Saint-Julien-l**	**19.42**	**302** *e*P		**Pn**	**13 24 49.0**	**-0.5**
	comp=N,3.8nm,0.8s						
VIVF	**Saint-Julien-l**	**19.42**	**302** *e*P		**Pn**	**13 24 49.0**	**-0.5**
	comp=N,3.8nm,0.8s						
HAU	**Haudompre**	**19.50**	**312** *e*P		**Pn**	**13 24 49.9**	**-0.4**
	comp=N,11nm,0.6s						
HAU	**Haudompre**	**19.50**	**312** *e*P		**Pn**	**13 24 49.9**	**-0.4**
	comp=N,5.7nm,0.6s						
HAU	**Haudompre**	**19.50**	**312** *e*P		**Pn**	**13 24 49.9**	**-0.4**
	comp=N,5.7nm,0.6s						
SMF	**Signal de Mont**	**20.53**	**306** *e*P		**P**	**13 24 59.8**	**+0.1**
	comp=N,10nm,0.8s						
SMF	**Signal de Mont**	**20.53**	**306** *e*P		**P**	**13 24 59.8**	**+0.1**
	comp=N,5.1nm,0.8s						
SMF	**Signal de Mont**	**20.53**	**306** *e*P		**P**	**13 24 59.8**	**+0.1**
	comp=N,10.0nm,0.8s						
SSF	**Saint Saulge**	**20.89**	**307** *e*P		**P**	**13 25 04.2**	**+0.7**
	comp=N,7.0nm,0.8s						
SSF	**Saint Saulge**	**20.89**	**307** *e*P		**P**	**13 25 04.2**	**+0.7**
	comp=N,7.0nm,0.8s						
MFF	**Saint Martin d**	**23.14**	**304** *e*P		**P**	**13 25 27.1**	**-0.3**
MFF	**Saint Martin d**	**23.14**	**304** *e*P		**P**	**13 25 27.1**	**-0.3**
MFF	**Saint Martin d**	**23.14**	**304** *e*P		**P**	**13 25 27.1**	**-0.3**
FINES	**FINESS Array B**	**24.62**	**358**	P	**P**	**13 25 40.7**	**-0.1**
	comp=N,3.6nm,0.8s,mb3.9,baz=164,slow=9.9,SNR=5.9						
FINES	**FINESS Array B**	**24.62**	**358**	P	**P**	**13 25 40.7**	**-0.1**
FINES	**FINESS Array B**	**24.62**	**358**	P	**P**	**13 25 40.7**	**-0.1**
HFS	**Hagfors**	**25.06**	**343**	P	**P**	**13 25 44.1**	**-0.6**
	comp=N,2.5nm,0.8s,mb3.7,baz=185,slow=8.7,SNR=3.6						
HFS	**Hagfors**	**25.06**	**343**	P	**P**	**13 25 44.1**	**-0.6**
HFS	**Hagfors**	**25.06**	**343**	P	**P**	**13 25 44.1**	**-0.6**
AKTK	**Aktyubinsk**	**25.30**	**48**	P	**P**	**13 25 47.2**	**+0.1**
AKTK	**Aktyubinsk**	**25.30**	**48**	P	**P**	**13 25 47.2**	**+0.1**
AKTO	**Aktyubinsk**	**25.30**	**48**	P	**P**	**13 25 47.2**	**+0.2**
	comp=N,1.9nm,0.5s,mb3.8,baz=245,slow=10,SNR=6.5						
ESDC	**Sonseca Array**	**25.30**	**286**	P	**P**	**13 25 47.6**	**+0.4**
	comp=N,1.3nm,0.6s,mb3.6,baz=81,slow=9.5,SNR=11						
ESDC	**Sonseca Array**	**25.30**	**286**	P	**P**	**13 25 47.6**	**+0.4**
ESDC	**Sonseca Array**	**25.30**	**286**	P	**P**	**13 25 47.6**	**+0.4**
ARCES	**ARCESS Array B**	**32.75**	**358**	P	**P**	**13 26 53.4**	**+0.3**
	comp=N,2.1nm,0.9s,mb4.0,baz=174,slow=9.1,SNR=5.2						
ARCES	**ARCESS Array B**	**32.75**	**358**	P	**P**	**13 26 53.4**	**+0.3**
ARCES	**ARCESS Array B**	**32.75**	**358**	P	**P**	**13 26 53.4**	**+0.4**
TORD	**Torodi Ar. Bea**	**33.45**	**232**	P	**P**	**13 26 59.6**	**-0.1**
	comp=N,1.2nm,0.3s,mb4.2,baz=33,slow=9.0,SNR=25						
TORD	**Torodi Ar. Bea**	**33.45**	**232**	P	**P**	**13 26 59.6**	**-0.1**
TORD	**Torodi Ar. Bea**	**33.45**	**232**	P	**P**	**13 26 59.6**	**-0.1**
KURK	**Kurchatov**	**38.21**	**52**	P	**P**	**13 27 40.0**	**-0.1**
	comp=N,1.9nm,0.7s,mb4.0,baz=276,slow=8.8,SNR=17						
KURK	**Kurchatov**	**38.21**	**52**	P	**P**	**13 27 40.0**	**-0.1**
KURK	**Kurchatov**	**38.21**	**52**	P	**P**	**13 27 40.0**	**-0.1**
MK31	**Makanchi Array**	**40.80**	**58** *e*P		**P**	**13 28 02.0**	**+0.3**
MK31	**Makanchi Array**	**40.80**	**58** *e*P		**P**	**13 28 02.0**	**+0.3**
MKAR	**Makanchi Array**	**40.80**	**58**	P	**P**	**13 28 02.0**	**+0.3**
	comp=N,1.2nm,0.8s,mb3.8,baz=275,slow=6.0,SNR=7.4						
MKAR	**Makanchi Array**	**40.80**	**58**	P	**P**	**13 28 02.0**	**+0.3**
MKAR	**Makanchi Array**	**40.80**	**58**	P	**P**	**13 28 02.0**	**+0.3**
ZALV	**Zalesovo Beam**	**42.06**	**47**	P	**P**	**13 28 12.2**	**+0.4**
	comp=N,0.5nm,0.4s,mb3.6,baz=266,slow=9.2,SNR=4.3						
ZALV	**Zalesovo Beam**	**42.06**	**47**	P	**P**	**13 28 12.2**	**+0.4**
SONM	**Songino Array**	**56.52**	**52**	P	**P**	**13 30 03.1**	**+0.9**
	comp=N,0.6nm,0.5s,mb3.9,baz=290,slow=7.9,SNR=5.9						
SONM	**Songino Array**	**56.52**	**52**	P	**P**	**13 30 03.1**	**+0.9**
ILAR	**Eielson Array**	**78.61**	**358**	P	**P**	**13 32 21.0**	**-0.1**
	comp=N,0.2nm,0.6s,mb3.1,baz=329,slow=3.4,SNR=4.2						
ILAR	**Eielson Array**	**78.61**	**358**	P	**P**	**13 32 21.0**	**-0.1**
ILAR	**Eielson Array**	**78.61**	**358**	P	**P**	**13 32 21.0**	**-0.1**
ASAR	**Alice Springs**	**115.98**	**101**	PKP	PKPdf	13 39 01.3	-1.1
	comp=N,0.3nm,0.8s,baz=272,slow=1.3,SNR=4.1						
ASAR	**Alice Springs**	**115.98**	**101**	PKP	PKPdf	13 39 01.4	-1.1
ASAR	**Alice Springs**	**115.98**	**101**	PKIKP	PKPdf	13 39 01.4	-1.1

*ISCJB **09** 13:25:56.3±0.8, 38°.65N±0°.03×20°.14E±0°.07, h8km±5km, Error ellipse: s-maj=10.0km s-min=4.2km az=157.1*
*CSEM **09** 13:25:56.5±0.3, 38°.66N×20°.14E, h8km, ML2.5/4, Error ellipse: s-maj=7.4km s-min=3.8km az=60.0*
*ATH **09** 13:25:56.2, 38°.54N×20°.04E, h30km±4km, MD3.3/8*
*THE **09** 13:25:58.4, 38°.69N×20°.33E, h0km±2km, ML2.5/4, Error ellipse: s-maj=2.8km s-min=0.7km az=253.0*

ISC 09 13:25:57.4±0.7, 38°.67N±0°.03×20°.20E±0°.06, h9km±4km, n46, σ0s96/67, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LKD2	**Lefkada island**	**0.38**	**72**	P		**Pg**		**13 26 03.2**	**-1.5**
LKD2				S		**Sg**		**13 26 07.5**	**-2.2**
LKD2	**Lefkada island**	**0.38**	**72**	P		**Pg**		**13 26 03.2**	**-1.5**
VLS	**Valsamata**	**0.58**	**148**	*e*PN		**Pg**		**13 26 07.9**	**-0.7**
VLS				*e*SN		**Sg**		**13 26 17.2**	**+1.0**
VLS	**Valsamata**	**0.58**	**148**	P		**Pg**		**13 26 08.0**	**-0.6**
VLS				S		**Sg**		**13 26 17.1**	**+0.9**
VLS	**Valsamata**	**0.58**	**148**	P		**Pg**		**13 26 08.0**	**-0.6**
VLS				S		**Sg**		**13 26 17.1**	**+0.9**
KFL	**Anninata**	**0.73**	**140**	P		**Pg**		**13 26 10.6**	**-0.8**
KFL				S		**Sg**		**13 26 21.9**	**+1.1**
KFL	**Anninata**	**0.73**	**140**	P		**Pg**		**13 26 10.6**	**-0.8**
KFL				S		**Sg**		**13 26 21.9**	**+1.1**
IGT	**Igoumenitsa**	**0.86**	**7**	P		**Pg**		**13 26 13.6**	**-0.4**
IGT				S		**Sg**		**13 26 26.7**	**+1.4**
IGT	**Igoumenitsa**	**0.86**	**7**	P		**Pg**		**13 26 13.6**	**-0.4**
IGT				S		**Sg**		**13 26 26.7**	**+1.4**
KEK	**Kerkira**	**1.09**	**343**	*e*PN		**Pg**		**13 26 18.7**	**+0.5**
KEK				*e*SN		**Sg**		**13 26 34.9**	**+2.5**
KEK	**Kerkira**	**1.09**	**343**	P		**Pg**		**13 26 18.8**	**+0.6**
KEK				S		**Sg**		**13 26 35.8**	**+3.4**
KEK	**Kerkira**	**1.09**	**343**	*e*Pn		**Pg**		**13 26 18.7**	**+0.5**
KEK				*e*Sn		**Sg**		**13 26 34.9**	**+2.5**
JAN	**Janina**	**1.10**	**27**	*e*PB		**Pb**		**13 26 18.5**	**-0.1**
JAN	**Janina**	**1.10**	**27**	P		**Pb**		**13 26 18.6**	**0.0**
JAN				S		**Sg**		**13 26 33.3**	**+0.3**
JAN	**Janina**	**1.10**	**27**	P		**Pb**		**13 26 18.6**	**0.0**
JAN				S		**Sg**		**13 26 33.3**	**+0.3**
RLS	**Riolos of Patr**	**1.17**	**121**	*e*PN		**Pn**		**13 26 19.0**	**-0.8**
RLS	**Riolos of Patr**	**1.17**	**121**	*e*Pn		**Pn**		**13 26 19.0**	**-0.8**
EVR	**Evrytania**	**1.28**	**78**	*e*PN		**Pn**		**13 26 22.4**	**+1.0**
EVR	**Evrytania**	**1.28**	**78**	P		**Pn**		**13 26 20.8**	**-0.6**
EVR				S		**Sb**		**13 26 37.5**	**-0.6**
EVR	**Evrytania**	**1.28**	**78**	P		**Pn**		**13 26 20.8**	**-0.6**
EVR	**Evrytania**	**1.28**	**78**	*e*Pn		**Pn**		**13 26 22.4**	**+1.0**
EVR				S		**Sb**		**13 26 37.5**	**-0.6**
EFP	**Efpalio**	**1.36**	**100**	*e*PN		**Pn**		**13 26 23.0**	**+0.6**
EFP	**Efpalio**	**1.36**	**100**	P		**Pn**		**13 26 23.0**	**+0.6**
EFP				S		**Sb**		**13 26 41.5**	**+1.1**
EFP	**Efpalio**	**1.36**	**100**	P		**Pn**		**13 26 23.0**	**+0.6**
EFP				S		**Sb**		**13 26 41.5**	**+1.1**
MEV	**Metsovon**	**1.37**	**35**	P		**Pn**		**13 26 22.8**	**+0.2**
MEV	**Metsovon**	**1.37**	**35**	P		**Pn**		**13 26 22.8**	**+0.2**
LAKA	**Lakka**	**1.46**	**107**	P		**Pn**		**13 26 24.0**	**+0.2**
LAKA	**Lakka**	**1.46**	**107**	P		**Pn**		**13 26 24.0**	**+0.2**
KALE	**Kalithea**	**1.54**	**100**	P		**Pn**		**13 26 24.8**	**-0.2**
KALE	**Kalithea**	**1.54**	**100**	P		**Pn**		**13 26 24.8**	**-0.2**
THL	**Klokotos Trika**	**1.67**	**57**	P		**Pn**		**13 26 27.2**	**+0.5**
THL	**Klokotos Trika**	**1.67**	**57**	P		**Pn**		**13 26 27.2**	**+0.5**
AGG	**Agios Georgios**	**1.70**	**77**	*e*PB		**Pb**		**13 26 28.5**	**-0.2**
AGG	**Agios Georgios**	**1.70**	**77**	P		**Pn**		**13 26 27.8**	**+0.7**
AGG				S		**Sn**		**13 26 49.1**	**+0.2**
AGG	**Agios Georgios**	**1.70**	**77**	P		**Pn**		**13 26 27.8**	**+0.7**
AGG	**Agios Georgios**	**1.70**	**77**	*e*Pb		**Pb**		**13 26 28.5**	**-0.2**
AGG				S		**Sn**		**13 26 49.1**	**+0.2**
GUR	**Goura**	**1.84**	**113**	*e*PN		**Pn**		**13 26 28.6**	**-0.4**
GUR	**Goura**	**1.84**	**113**	P		**Pn**		**13 26 30.1**	**+1.1**
GUR	**Goura**	**1.84**	**113**	*e*Pn		**Pn**		**13 26 28.6**	**-0.4**
GUR	**Goura**	**1.84**	**113**	P		**Pn**		**13 26 30.1**	**+1.6**
DSF	**Desfina**	**1.84**	**97**	P		**Pn**		**13 26 29.5**	**+0.4**
DSF	**Desfina**	**1.84**	**97**	P		**Pn**		**13 26 29.5**	**+0.4**
STON	**Ston**	**4.61**	**336**	*e*Pn		**Pn**		**13 27 04.5**	**-2.6**
STON				Sn		**Sn**		**13 27 56.0**	**-4.7**
STON	**Ston**	**4.61**	**336**	*e*Pn		**Pn**		**13 27 04.4**	**-2.7**
STON				Sn		**Sn**		**13 27 55.9**	**-4.7**
NVLJ	**Novalja**	**7.11**	**328**	*e*Pn		**Pn**		**13 27 40.5**	**-0.9**
NVLJ	**Novalja**	**7.11**	**328**	*e*Pn		**Pn**		**13 27 40.5**	**-1.0**

*ISCJB **09** 13:37:27.1±0.9, 30°.4N±0°.1×67°.4E±0°.2, h10km, mb3.4/7, MS4.3/2, Error ellipse: s-maj=21.2km s-min=14.0km az=14.4*
*IDC **09** 13:37:27.0±1.1, 30°.23N×67°.29E, h0km, mb3.4/8, mb1 3.6/8, mb1mx3.4/27, mbtmp3.5/8, MS4.2/2, Ms1 4.2/2, ms1mx2.9/29, Error ellipse: s-maj=31.3km s-min=24.1km az=88.0*
*NEIC **09** 13:37:28.4±1.1, 30°.25N×67°.17E, h10km, Error ellipse: s-maj=21.2km s-min=17.0km az=108.0*

ISC 09 13:37:28.7±0.9, 30°.32N±0°.10×67°.4E±0°.2, h10km, n27, σ0s95/25, mb3.4/7, MS4.3/2, Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBL	**Kabul**	**4.45**	**18**	P		**Pn**		**13 38 39.3**	**+3.1**
NIL	**Nilore**	**6.01**	**55**	*e*P		**Pn**		**13 39 02.3**	**+4.6**
KKAR	**Karatay Array**	**13.01**	**10**	*e*P		**Pn**		**13 40 34.4**	**+0.8**
EKS2	**Erkin-Say**	**13.35**	**21**	*e*P		**Pn**		**13 40 37.8**	**-0.5**
AAK	**Ala-Archa**	**13.56**	**23**	Pn		**Pn**		**13 40 40.9**	**-0.2**
	0.0nm,0.3s,baz=185,slow=9.4,SNR=5.1								
AAK	**Ala-Archa**	**13.56**	**23**	*e*P		**Pn**		**13 40 40.4**	**-0.7**
	1.7nm,0.4s								
TKM2	**Tokmak 2**	**14.20**	**25**	*e*P		**Pn**		**13 40 48.8**	**-1.1**
ABKAR	**Akbulak array**	**19.73**	**346**	P		**Pn**		**13 41 59.0**	**-0.9**
MK31	**Makanchi Array**	**20.12**	**31**	P		**P**		**13 42 01.6**	**-1.1**
MKAR	**Makanchi Array**	**20.12**	**31**	P		**P**		**13 42 01.8**	**-0.8**
	0.5nm,0.4s,baz=207,slow=11,SNR=5.1								
MKAR	**Makanchi Array**	**20.12**	**31**	P		**P**		**13 42 01.8**	**-0.8**
KURK	**Kurchatov**	**22.06**	**19**	P		**P**		**13 42 23.5**	**+0.1**
	0.5nm,0.7s,mb3.1,baz=212,slow=9.6,SNR=5.5								
KURK	**Kurchatov**	**22.06**	**19**	P		**P**		**13 42 23.5**	**+0.1**
BVAR	**Borovoye Array**	**22.80**	**5**	P		**P**		**13 42 32.4**	**+1.0**
	0.4nm,0.5s,mb3.1,baz=168,slow=10,SNR=4.1								
BVAR	**Borovoye Array**	**22.80**	**5**	P		**P**		**13 42 32.4**	**+1.0**
ZALV	**Zalesovo Beam**	**26.79**	**23**	P		**P**		**13 43 10.4**	**+1.8**
	0.5nm,0.5s,mb3.3,baz=231,slow=9.4,SNR=4.8								
ZALV	**Zalesovo Beam**	**26.79**	**23**	P		**P**		**13 43 10.4**	**+1.8**
ARCES	**ARCESS Array B**	**45.84**	**341**	P		**P**		**13 45 50.6**	**+0.1**
	2.4nm,0.9s,mb4.1,baz=119,slow=7.3,SNR=3.4								
ARCES	**ARCESS Array B**	**45.84**	**341**	P		**P**		**13 45 50.6**	**+0.1**
JOW	**Kunigami**	**53.06**	**78**	LR		LR		14 09 46.8	
	comp=Z,322nm,20.3s,MS4.4,baz=109,slow=36								
TORD	**Torodi Ar. Bea**	**62.56**	**270**	P		**P**		**13 47 52.8**	**-0.4**
	0.4nm,0.6s,mb3.7,baz=59,slow=6.1,SNR=4.7								
TORD	**Torodi Ar. Bea**	**62.56**	**270**	P		**P**		**13 47 52.8**	**-0.4**
PETK	**Petropavlovsk-**	**66.58**	**41**	LR		LR		14 19 17.0	
	comp=Z,155nm,20.3s,MS4.2,baz=43,slow=38								
WRA	**Warramunga Arr**	**81.50**	**119**	P		**P**		**13 49 46.5**	**-0.1**
	0.2nm,0.7s,mb3.2,baz=314,slow=5.2,SNR=2.9								
WRA	**Warramunga Arr**	**81.50**	**119**	P		**P**		**13 49 46.5**	**-0.1**
ASAR	**Alice Springs**	**83.40**	**122**	P		**P**		**13 49 56.8**	**+0.3**
	0.2nm,0.7s,mb3.3,baz=298,slow=5.2,SNR=4.3								
ASAR	**Alice Springs**	**83.40**	**122**	P		**P**		**13 49 56.8**	**+0.3**

*JMA **09** 13:49:44.0, 38°.79N×140°.79E, h3km±1km, M3.4 Broadband fault plane solution: P waves. NP1: φs174.00000°, δ36.00000°, λ54.00000°. NP2:φs37.00000°, δ62.00000°, λ113.00000°. Principal axes: T Plg65.0000°, Azm348.0000°; N Plg20.0000°, Azm205.0000°; P Plg14.0000°, Azm110.0000°;*
JMA Felt II J1.
*ISCJB **09** 13:49:45.2±0.4, 38°.74N±0°.04×140°.94E±0°.06, h33km, mb3.7/5 Error ellipse: s-maj=7.0km s-min=4.4km az=30.7*
*NEIC **09** 13:49:49.0±0.9, 38°.70N×140°.88E, h42km±10km, MG3.4(JMA), Error ellipse: s-maj=20.1km s-min=7.7km az=119.0*
*IDC **09** 13:49:49.6±2.5, 38°.72N×140°.86E, h48km±25km, mb3.4/5, mb1 3.6/8, mb1mx3.4/27, mbtmp3.4/8, ML3.1/3, MS2.8/1, Ms1 2.8/1, ms1mx2.4/22, Error ellipse: s-maj=29.7km s-min=19.1km az=100.0*

ISC 09 13:49:48.1±0.5, 38°.63N±0°.05×141°.04E±0°.08, h35km, n25, σ0s93/35, mb3.7/5, 2C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIO	**Ouri**	**0.30**	**125**	⇑P			**Pn**	**13 49 54.4**	**-1.5**
JIO				S			**Sn**	**13 50 02.1**	**+0.8**
JMK	**Ichinoseki**	**0.36**	**23**	⇓P			**Pn**	**13 49 51.2**	**-5.5**
JMK				S			**Sn**	**13 49 56.5**	**-6.1**
JOU	**Okura**	**0.39**	**229**	⇓P			**Pn**	**13 49 52.5**	**-4.7**
JOU				S			**Sn**	**13 49 58.5**	**-5.0**
JMM	**Marumori**	**0.78**	**194**	P			**Pn**	**13 50 00.7**	**-1.9**
JMM				S			**Sn**	**13 50 13.1**	**0.0**
JYS	**Shirataka**	**0.86**	**243**	⇓P			**Pn**	**13 49 59.4**	**-4.3**
JYS				*e*S			**Sn**	**13 50 10.3**	**-4.8**
JOM	**Ohasama**	**0.87**	**13**	⇑P			**Pn**	**13 49 58.7**	**-5.1**
JOM				*e*S			**Sn**	**13 50 09.5**	**-5.8**
JYA	**Atsumi**	**1.04**	**269**	⇓P			**Pn**	**13 50 00.3**	**-5.8**
JYA				*e*S			**Sn**	**13 50 11.3**	**-8.1**
MAJO	**Matsushiro**	**3.06**	**228**	*e*P			**Pn**	**13 50 33.9**	**0.0**
MAT	**Matsushiro

CMAR	**Chiang Mai Arr**	**90.03**	**290**	P	**P**	**14 10 25.4**	**+1.8**
ZALV	**Zalesovo Beam**	**110.48**	**321**	PKiKP	PKiKP	14 15 50.5	-1.2
	0.6nm,0.5s,baz=144,slow=5.2,SNR=3.1						
ZALV	**Zalesovo Beam**	**110.48**	**321**	PKPdf	PKiKP	14 15 50.5	-1.2
MK31	**Makanchi Array**	**111.17**	**313**	*e*P	PKiKP	14 15 52.0	-1.2
MKAR	**Makanchi Array**	**111.17**	**313**	PKiKP	PKiKP	14 15 52.2	-1.1
	0.4nm,0.3s,baz=263,slow=1.0,SNR=4.5						
MKAR	**Makanchi Array**	**111.17**	**313**	PKPdf	PKiKP	14 15 52.2	-1.1
KURK	**Kurchatov**	**113.97**	**317**	PKiKP	PKiKP	14 15 58.6	+0.1
	1.1nm,0.2s,baz=179,slow=7.6,SNR=7.6						
KURK	**Kurchatov**	**113.97**	**317**	PKPdf	PKiKP	14 15 58.6	+0.1
BVAR	**Borovoye Array**	**119.06**	**320**	PKP	PKPdf	14 16 07.3	-0.9
	1.6nm,0.4s,baz=139,slow=1.6,SNR=11						
BVAR	**Borovoye Array**	**119.06**	**320**	PKP	PKPdf	14 16 07.3	-0.9
AKTK	**Aktyubinsk**	**127.05**	**318**	PKP	PKPdf	14 16 23.6	+0.1
AKTO	**Aktyubinsk**	**127.05**	**318**	PKP	PKPdf	14 16 23.6	+0.1
	1.2nm,0.7s,baz=29,slow=5.3						
ARCES	**ARCESS Array B**	**128.98**	**350**	PKP	PKPdf	14 16 25.4	-1.3
	4.1nm,0.9s,baz=340,slow=6.8,SNR=8.1						
ARCES	**ARCESS Array B**	**128.98**	**350**	PKP	PKPdf	14 16 25.4	-1.3
FINES	**FINESS Array B**	**135.81**	**344**	PKP	PKPdf	14 16 37.9	-1.9
	1.2nm,0.7s,baz=191,slow=7.2,SNR=3.5						
FINES	**FINESS Array B**	**135.81**	**344**	PKP	PKPdf	14 16 37.9	-1.9
HFS	**Hagfors**	**139.60**	**351**	PKhKP	PKPpre	14 16 39.6	
	1.3nm,0.4s,baz=69,slow=4.9,SNR=8.8						
HFS	**Hagfors**	**139.60**	**351**	PKP	PKPpre	14 16 39.6	
AKASG	**Malin Array Be**	**143.03**	**331**	PKhKP	PKPpre	14 16 49.6	
	6.7nm,0.5s,baz=43,slow=4.3,SNR=30						
AKASG	**Malin Array Be**	**143.03**	**331**	PKP	PKPpre	14 16 49.6	
ASF	**Jabal al Asfar**	**146.71**	**298**	PKPbc	PKPbc	14 17 03.5	+0.7
	3.7nm,0.6s,baz=324,slow=4.3,SNR=6.5						
ASF	**Jabal al Asfar**	**146.71**	**298**	PKPbc	PKPbc	14 17 03.5	+0.7
BR131	**Keskin Array S**	**146.81**	**312**	*e*PKPdf	PKPbc	14 17 02.5	-0.3
BRTR	**Keskin Array B**	**146.81**	**312**	PKPbc	PKPbc	14 17 02.6	-0.1
	2.7nm,0.6s,baz=130,slow=4.8,SNR=12						
BRTR	**Keskin Array B**	**146.81**	**312**	PKPbc	PKPbc	14 17 02.6	-0.1
BUR08	**Bucovina Ar. S**	**147.06**	**331**	*e*PKPbc	PKPbc	14 17 03.5	+0.3
MMAI	**Mount Meron Ar**	**147.75**	**300**	PKPbc	PKPbc	14 17 06.1	+0.6
	6.3nm,0.6s,baz=57,slow=6.1,SNR=7.6						
MLR	**Muntele Rosu**	**148.23**	**327**	PKPbc	PKPbc	14 17 06.1	-0.2
	0.8nm,0.8s,baz=96,slow=1.1,SNR=5.0						
GERES	**GERESS Array B**	**150.24**	**344**	PKP	PKPdf	14 17 06.7	+1.4
	1.8nm,0.7s,baz=51,slow=8.9,SNR=3.6						
GERES				PKPbc	PKPbc	14 17 10.7	-0.3
	1.9nm,0.7s,baz=40,slow=2.3,SNR=16						
GERES				PKPab	PKPab	14 17 17.4	-2.1
	0.4nm,0.8s,baz=359,slow=5.3,SNR=4.2						
GERES	**GERESS Array B**	**150.24**	**344**	PKP	PKPdf	14 17 06.7	+1.4
GERES				PKPbc	PKPbc	14 17 10.7	-0.3
GERES				PKPab	PKPab	14 17 17.4	-2.1
DAVOX	**Davos/Dischmat**	**153.06**	**348**	PKPbc	PKPbc	14 17 17.3	-0.1
	3.9nm,0.8s,baz=288,slow=3.5,SNR=6.3						
DAVOX	**Davos/Dischmat**	**153.06**	**348**	PKPbc	PKPbc	14 17 17.3	-0.1
TORD	**Torodi Ar. Bea**	**172.61**	**179**	PKP	PKPdf	14 17 27.9	-1.0
	0.9nm,0.8s,baz=144,slow=1.3,SNR=5.7						
TORD				PKPab	PKPab	14 18 58.8	+1.0
	0.6nm,0.7s,baz=175,slow=3.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**172.61**	**179**	PKP	PKPdf	14 17 27.9	-1.0
TORD				PKPab	PKPab	14 18 58.8	+1.0

NIED ***09*** *14:10:00,46.90N×141.70E,h11km,Mw4.3 Best double couple: M0 3.26000×10^15 NP1:φ=186.00000°,δ=67.00000°, λ=84.00000°. NP2:φ=21.00000°,δ=24.00000°,λ=104.00000°.*
JMA ***09*** *14:10:43.6±0.4,46.91N×141.75E,h16km,M4.6*
SKHL ***09*** *14:10:43.5±0.3,46.87N×141.71E,h10km,mb4.1/3*
SKHL Felt (III-IV) at Nevel'sk, (II-III) at Kholmsk.
IDC ***09*** *14:10:43.8±0.5,46.79N×141.84E,h0km,mb3.8/18, mb1 4.0/20,mb1mx4.0/28,mbtmp3.8/20,ML3.6/2,MS3.5/8, Ms1 3.5/8,ms1mx3.1/40,Error ellipse: s-maj=15.3km s-min=11.1km az=80.0*
MOS ***09*** *14:10:43.2±1.6,46.66N×141.81E,h8km,mb4.3/16,Error ellipse: s-maj=12.1km s-min=7.4km az=92.1*
MOS Felt (III-IV) at Nevel'sk, (II-III) at Kholmsk.
ISCJB ***09*** *14:10:43.1±0.8,46.84N±0.02×141.80E±0.05,h4km±5km, mb4.1/36,MS3.5/9,Error ellipse: s-maj=6.3km s-min=3.5km az=171.8*
NEIC ***09*** *14:10:45.5±1.9,46.87N×141.73E,h10km±13km,mb4.4/4, Error ellipse: s-maj=11.0km s-min=7.3km az=119.0*
BJI ***09*** *14:10:46.6,46.75N×141.36E,h10km,mB4.8/3,mb4.5/6, ML4.4/1,Ms4.1/3,Ms7 4.1/3*

ISC 09 14:10:44.3±0.7,46.80N±0.02×141.88E±0.06,h1km±5km, n115,σ0=0.94/125,mb4.2/36,MS3.5/9,6C-1D,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**0.62**	**75**	*e*P	**Pg**	**14 10 58.2**	**+2.1**
YSS	**Yuzh-Sakhalins**	**0.62**	**75**	↑*i*PN	**Pg**	**14 10 58.0**	**+1.9**
YSS				*e*		14 11 08.3	
YSS				pmax	pmax		
	comp=Z,290nm,0.5s						
YSS				smax			
	comp=E,40nm,0.3s						
YSS				smax			
	comp=N,2μm,1.0s						
YSS	**Yuzh-Sakhalins**	**0.62**	**75**	↑*i*Pg	**Pg**	**14 10 58.0**	**+1.9**
YSS				↑*i*Pg	**Pg**	**14 10 58.0**	**+1.9**
YSS				AMB	AMB	14 10 58.7	
YSS				A		14 11 09.9	
	comp=N,290nm,0.5s						
YSS				AMS	AMS	14 11 27.0	
	comp=N,2μm,1.0s						
YSS				AMS	AMS	14 11 27.0	
	comp=N,13μm,7.0s						
YSS				AMS	AMS	14 11 27.0	
	comp=N,16μm,7.0s						
YSS				AMS	AMS	14 11 27.0	
	comp=N,10μm,7.0s						
YSS				AMS	AMS	14 11 27.0	
	comp=N,15μm,7.0s						
JWK2	**Keihoku**	**1.48**	**180**	P	**Pn**	**14 11 11.6**	**-0.5**
JWK2				*e*S	**Sg**	**14 11 31.7**	**-0.2**
JRR	**Rishiri**	**1.71**	**194**	P	**Pn**	**14 11 14.9**	**-0.3**
JRR				*e*S	**Sn**	**14 11 38.0**	**+0.4**
JSE	**Soyaes**	**1.91**	**165**	P	**Pn**	**14 11 17.3**	**-0.6**
JSE				*e*S	**Sn**	**14 11 42.4**	**-0.1**
UGL	**Uglegorsk**	**2.28**	**3**	*e*PN	**Pg**	**14 11 28.0**	**0.0**
UGL				pmax	pmax		
	comp=Z,115nm,0.9s						
UGL	**Uglegorsk**	**2.28**	**3**	*e*Pg	**Pg**	**14 11 28.0**	**0.0**
UGL				AMB	AMB	14 11 30.0	
	comp=Z,115nm,0.9s						
UGL				*e*Sg	**Sg**	**14 11 57.0**	**-0.6**
UGL				A		14 11 57.5	
	comp=Z,240nm,0.8s						
JYG	**Yagishiri**	**2.40**	**188**	P	**Pn**	**14 11 24.9**	**+0.3**
JYG				*e*S	**Sn**	**14 11 54.4**	**-0.1**
JSS	**Shosan**	**2.40**	**181**	P	**Pn**	**14 11 25.6**	**+0.9**
ASAJ	**Asahikawa**	**2.73**	**169**	Pn	**Pn**	**14 11 29.5**	**+0.3**
	comp=Z,8.4nm,0.3s,baz=32,slow=10,SNR=53						
ASAJ				Pg	**Pg**	**14 11 34.0**	**-2.6**
	comp=Z,34nm,0.3s,baz=344,slow=15,SNR=42						
ASAJ				Sn	**Sn**	**14 12 03.2**	**+0.4**
	comp=Z,22nm,0.3s,baz=16,slow=29,SNR=4.2						
ASAJ				Lg		14 12 09.2	
	comp=Z,35nm,0.3s,baz=38,slow=24,SNR=5.4						
ASAJ	**Asahikawa**	**2.73**	**169**	*e*P	**Pn**	**14 11 29.3**	**+0.1**
ASAJ	**Asahikawa**	**2.73**	**169**	PN	**Pn**	**14 11 29.5**	**+0.3**
ASAJ						14 12 03.3	
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.3s						
ASAJ				pmax	pmax		
	comp=Z,34nm,0.3s						
ASAJ				smax			
	comp=N,22nm,0.3s						
ASAJ	**Asahikawa**	**2.73**	**169**	P	**Pn**	**14 11 29.2**	**0.0**
JMP	**Maruseppu**	**2.98**	**159**	P	**Pn**	**14 11 32.5**	**-0.1**
JKK2	**Kamakawa 2**	**2.99**	**168**	P	**Pn**	**14 11 32.9**	**+0.1**
JTKR	**Abashiri--Toko**	**3.17**	**153**	P	**Pn**	**14 11 35.2**	**0.0**
JAR	**Ashorobuto**	**3.75**	**158**	P	**Pn**	**14 11 43.1**	**-0.1**
TEY	**Ternei**	**4.08**	**246**	*i* P	**Pn**	**14 11 47.0**	**-0.8**
TEY				AMB	AMB	14 11 48.0	
	comp=N,31nm,0.8s						
TEY				*e*Pg	**Pg**	**14 12 03.5**	**+1.0**
TEY				AMB	AMB	14 12 09.0	
	comp=N,101nm,0.9s						
TEY				*e*S	**Sn**	**14 12 31.5**	**-4.7**
TEY				A		14 12 34.0	
	comp=N,63nm,0.9s						
TEY				A		14 12 34.0	
	comp=N,80nm,0.9s						
ERM	**Erimo**	**4.87**	**169**	*e*P	**Pn**	**14 12 02.6**	**+4.0**
ERM	**Erimo**	**4.87**	**169**	*e*PN	**Pn**	**14 11 52.7**	**-5.9**
KLR	**Kul'dur**	**7.22**	**293**	*e*PN	**Pn**	**14 12 31.9**	**+1.1**
KLR				*e*		14 14 04.3	
KLR				MLR	MLR		
	comp=Z,5μm,12.0s						
KLR	**Kul'dur**	**7.22**	**293**	*e*P	**Pn**	**14 12 31.9**	**+1.1**
KLR				AMS	AMS	14 15 55.5	
	comp=Z,5μm,12.0s						
EKMR	**Ekimchan**	**8.52**	**321**	*e*P	**Pn**	**14 12 47.0**	**-1.6**
EKMR				AMB	AMB	14 12 54.6	
	comp=N,3.0nm,0.5s						
EKMR				*e*Pg	**Pb**	**14 13 07.5**	**-4.8**
EKMR				*e*S	**Sn**	**14 14 26.0**	**+0.8**
EKMR				*e*Sg	**Sg**	**14 15 31.5**	**+14**
EKMR				A		14 15 35.0	
	comp=Z,110nm,1.2s						
EKMR				A		14 15 35.0	
	comp=Z,140nm,1.2s						
MAJO	**Matsushiro**	**10.61**	**196**	*e*P	**Pn**	**14 13 17.9**	**+0.5**
MAJO	**Matsushiro**	**10.61**	**196**	*e*PN	**Pn**	**14 13 17.9**	**+0.5**
MJAR	**Matsushiro Arr**	**10.61**	**196**	Pn	**Pn**	**14 13 18.9**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=6,9,slow=14,SNR=5.6						
MJAR	**Matsushiro Arr**	**10.61**	**196**	Pn	**Pn**	**14 13 18.9**	**+1.5**
MJAR	**Matsushiro Arr**	**10.61**	**196**	PN	**Pn**	**14 13 18.9**	**+1.5**
CN2	**Changchun**	**11.96**	**261**	*e*P	**Pn**	**14 13 36.5**	**+0.8**
CN2				*es*P		14 13 40.0	
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CN2				LR	LR		
	comp=N,700nm,14.0s						
CN2				LR	LR		
	comp=E,500nm,14.0s						
CN2				LR	LR		
	comp=Z,700nm,14.0s						
PETK	**Petropavlovsk-**	**11.97**	**52**	Pn	**Pn**	**14 13 39.6**	**+3.7**
	comp=Z,0.2nm,0.3s,baz=228,slow=6.6,SNR=5.5						
PETK	**Petropavlovsk-**	**11.97**	**52**	Pn	**Pn**	**14 13 39.6**	**+3.7**
PETK	**Petropavlovsk-**	**11.97**	**52**	PN	**Pn**	**14 13 39.6**	**+3.7**
KSRS	**Korea Array**	**13.93**	**233**	LR	LR	14 18 38.2	
	comp=Z,106nm,19.5s,baz=188,slow=34						
YAK	**Yakutsk**	**16.78**	**340**	*e*P	**Pn**	**14 14 46.4**	**+6.1**
YAK				pmax	pmax		
	comp=Z,14nm,1.2s						
SONM	**Songino Array**	**23.96**	**286**	P	**P**	**14 15 59.6**	**-0.2**
	comp=Z,2.2nm,1.1s,mb3.6,baz=74,slow=8.4,SNR=9.2						
SONM				PcP	PcP	14 19 44.6	+2.6
	comp=Z,0.2nm,0.4s,baz=72,slow=4.4,SNR=4.5						
SONM				LR	LR	14 24 33.1	
	comp=Z,66nm,21.7s,MS3.1,baz=10,slow=35						
SONM	**Songino Array**	**23.96**	**286**	P	**P**	**14 15 59.6**	**-0.2**
SONM				PcP	PcP	14 19 44.6	+2.6
SONM				LR	LR	14 24 33.1	
SONM	**Songino Array**	**23.96**	**286**	P	**P**	**14 15 59.6**	**-0.2**
SONM						14 19 44.6	
SONM				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SONM				MLR	MLR		
	comp=Z,66nm,21.7s						
BILL	**Bilibino**	**24.68**	**22**	*e*P	**P**	**14 16 06.2**	**0.0**
	comp=Z,8.5nm,1.1s,mb4.4						
BILL	**Bilibino**	**24.68**	**22**	*d i*P	**P**	**14 16 07.8**	**+1.5**
BILL				*e*		14 16 38.3	
BILL				*i*		14 19 43.0	
BILL				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
BILL				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.4						
ZAK	**Zakamensk**	**25.59**	**292**	*e*P	**P**	**14 16 15.0**	**+0.4**
ZALV	**Zalesovo Beam**	**36.20**	**303**	P	**P**	**14 17 47.6**	**-0.6**
	comp=Z,1.7nm,0.8s,mb3.9,baz=57,slow=11,SNR=3.6						
ZALV				PcP	PcP	14 20 16.2	+2.8
	comp=Z,0.8nm,0.6s,baz=80,slow=1.6,SNR=4.5						
ZALV				LR	LR	14 33 49.1	
	comp=Z,43nm,18.7s,MS3.2,baz=86,slow=38						
ZALV	**Zalesovo Beam**	**36.20**	**303**	P	**P**	**14 17 47.6**	**-0.6**
ZALV				PcP	PcP	14 20 16.2	+2.8
ZALV				LR	LR	14 33 49.1	
ZALV	**Zalesovo Beam**	**36.20**	**303**	P	**P**	**14 17 47.6**	**-0.6**
ZALV						14 20 16.3	
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
ZALV				MLR	MLR		
	comp=Z,43nm,18.7s,MS3.2						
MK31	**Makanchi Array**	**39.92**	**293**	*e*P	**P**	**14 18 19.1**	**-0.6**
MK31	**Makanchi Array**	**39.92**	**293**	*e*P	**P**	**14 18 19.1**	**-0.6**
MKAR	**Makanchi Array**	**39.92**	**293**	P	**P**	**14 18 19.1**	**-0.5**
	comp=Z,0.3nm,0.3s,mb3.4,baz=82,slow=8.1,SNR=7.5						
MKAR				PcP	PcP	14 20 29.3	+4.2
	comp=Z,0.2nm,0.2s,baz=60,slow=5.7,SNR=2.9						
MKAR				LR	LR	14 35 01.3	
	comp=Z,47nm,18.3s,MS3.4,baz=66,slow=36						
MKAR	**Makanchi Array**	**39.92**	**293**	P	**P**	**14 18 19.1**	**-0.5**
MKAR				PcP	PcP	14 20 29.3	+4.2
MKAR				LR	LR	14 35 01.3	
MKAR	**Makanchi Array**	**39.92**	**293**	P	**P**	**14 18 19.2**	**-0.5**
MKAR						14 20 29.3	
MKAR				MLR	MLR		
	comp=Z,47nm,18.3s						
KURK	**Kurchatov**	**40.76**	**300**	P	**P**	**14 18 27.4**	**+0.9**
	comp=Z,2.0nm,0.7s,mb3.9,baz=71,slow=9.0,SNR=4.7						
KURK				PcP	PcP	14 20 32.0	+4.3
	comp=Z,0.7nm,0.2s,baz=64,slow=2.2,SNR=2.6						
KURK	**Kurchatov**	**40.76**	**300**	*e*P	**P**	**14 18 23.4**	**-3.2**
KURK				PcP	PcP	14 20 32.0	+4.3
KURK	**Kurchatov**	**40.76**	**300**	↑*e*P	**P**	**14 18 23.2**	**-3.4**
KURK				pmax	pmax		
	comp=Z,10.0nm,2.5s,mb4.1						
COLA	**College**	**40.88**	**38**	P	**P**	**14 18 25.8**	**-1.5**
	comp=Z,9.4nm,1.2s,mb4.4						
COLA	**College**	**40.88**	**38**	P	**P**	**14 18 25.8**	**-1.5**
COLA				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.4						
ILAR	**Eielson Array**	**41.30**	**38**	P	**P**	**14 18 30.8**	**-0.1**
	comp=Z,1.1nm,0.7s,mb3.7,baz=284,slow=9.6,SNR=26						
ILAR	**Eielson Array**	**41.30**	**38**	P	**P**	**14 18 30.8**	**-0.1**
ILAR	**Eielson Array**	**41.30**	**38**	P	**P**	**14 18 30.8**	**0.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
EGAK	**Eagle**	**43.70**	**37**	*e*P	**P**	**14 18 49.9**	**-0.4**
	comp=Z,5.5nm,0.8s,mb4.3						
BVAR	**Borovoye Array**	**44.70**	**305**	P	**P**	**14 18 56.6**	**-1.9**
	comp=Z,0.2nm,0.4s,mb3.4,baz=46,slow=4.2,SNR=3.4						
BVAR				PcP	PcP	14 20 45.1	+4.3
	comp=Z,1.9nm,0.8s,baz=38,slow=2.6,SNR=9.0						
BVAR	**Borovoye Array**	**44.70**	**305**	P	**P**	**14 18 56.6**	**-1.9**
BVAR				PcP	PcP	14 20 45.1	+4.3
BVAR	**Borovoye Array**	**44.70**	**305**	P	**P**	**14 18 56.6**	**-1.9**
BVAR						14 20 45.1	
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	**Borovoye**	**44.74**	**306**	↑*i*P	**P**	**14 18 57.9**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
CMAR	**Chiang Mai Arr**	**45.09**	**246**	P	**P**	**14 19 00.6**	**-1.3**
	comp=Z,0.6nm,0.8s,mb3.5,baz=58,slow=7.5,SNR=2.9						
CMAR				PcP	PcP	14 20 46.9	+4.2
	comp=Z,0.3nm,0.3s,baz=20,slow=3.2,SNR=4.9						
CMAR				LR	LR	14 39 04.6	
	comp=Z,46nm,19.9s,MS3.4,baz=35,slow=38						
CMAR	**Chiang Mai Arr**	**45.09**	**246**	P	**P**	**14 19 00.6**	**-1.3**
CMAR				PcP	PcP	14 20 46.9	+4.2
CMAR				LR	LR	14 39 04.6	
CMAR	**Chiang Mai Arr**	**45.09**	**246**	P	**P**	**14 19 00.6**	**-1.3**
CMAR						14 20 46.9	
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
CMAR				MLR	MLR		
	comp=Z,46nm,19.9s						
INK	**Inuvik**	**45.68**	**31**	P	**P**	**14 19 05.4**	**-0.7**
	comp=Z,1.5nm,0.9s,mb4.0,baz=249,slow=7.7,SNR=4.5						
INK	**Inuvik**	**45.68**	**31**	*e*P	**P**	**14 19 06.2**	**+0.1**
INK	**Inuvik**	**45.68**	**31**	*e*P	**P**	**14 19 06.2**	**+0.1**
ARU	**Arti**	**49.56**	**314**	*c i*P	**P**	**14 19 36.5**	**+0.1**
ARU						14 21 27.4	
ARU				S	**S**	**14 26 45.6**	**+0.7**
ARU				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.5						
ABKAR	**Akbulak array**	**52.26**	**305**	*e*P	**P**	**14 19 56.5**	**-0.3**
	comp=Z,8.7nm,1.1s,mb4.6						
AKTK	**Aktyubinsk**	**52.73**	**307**	P	**P**	**14 20 00.8**	**+0.5**
AKTK				PcP	PcP	14 21 12.3	+2.4
AKTK				LR	LR	14 44 34.5	
AKTO	**Aktyubinsk**	**52.73**	**307**	P	**P**	**14 20 00.8**	**+0.5**
	comp=Z,0.5nm,0.6s,mb3.6,baz=39,slow=11,SNR=2.8						
AKTO				PcP	PcP	14 21 12.3	+2.4
	comp=Z,1.2nm,0.9s,baz=47,slow=6.4,SNR=3.6						
AKTO				LR	LR	14 44 34.4	
	comp=Z,63nm,18.0s,MS3.7,baz=127,slow=38						
AKTO	**Aktyubinsk**	**52.73**	**307**	P	**P**	**14 20 00.8**	**+0.6**
AKTO						14 21 12.3	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
AKTO				MLR	MLR		
	comp=Z,63nm,18.0s,MS3.7						
YKA	**Yellowknife Ar**	**55.32**	**33**	P	**P**	**14 20 19.2**	**+0.3**
	comp=Z,1.1nm,0.6s,mb4.0,baz=306,slow=8.1,SNR=3.4						
YKA	**Yellowknife Ar**	**55.32**	**33**	P	**P**	**14 20 19.2**	**+0.3**
YKA	**Yellowknife Ar**	**55.32**	**33**	P	**P**	**14 20 19.2**	**+0.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**60.42**	**330**	P	**P**	**14 20 54.2**	**-0.6**
	comp=Z,1.5nm,0.6s,mb4.2,baz=55,slow=7.6,SNR=7.8						
FINES	**FINESS Array B**	**60.42**	**330**	P	**P**	**14 20 54.2**	**-0.6**
FINES	**FINESS Array B**	**60.42**	**330**	P	**P**	**14 20 54.2**	**-0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
OBN	**Obninsk**	**60.63**	**321**	*e*P	**P**	**14 20 58.5**	**+2.2**
OBN				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.6						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.1						
VRHR	**Novokhopersk**	**60.87**	**315**	*e*P	**P**	**14 21 00.8**	**+2.8**
VRHR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.9						
VRHR				pmax	pmax		
	comp=N,3.0nm,0.4s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.5s						
VSR	**Storozhevoye**	**61.98**	**316**	*e*P	**P**	**14 21 09.1**	**+3.6**
VSR				pmax	pmax		
	comp=N,4.0nm,0.8s						
VSR				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.9						
VSR				pmax	pmax		
	comp=E,2.0nm,0.4s						
KIV	**Kislovodsk**	**64.96**	**308**	*e*P	**P**	**14 21 26.0**	**+0.6**
KIV				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.2						
GNI	**Garni**	**66.34**	**304**	LR	LR	14 55 27.2	
	comp=Z,24nm,18.7s,MS3.4,baz=273,slow=40						
WRA	**Warramunga Arr**	**66.78**	**188**	P	**P**	**14 21 37.0**	**-0.2**
	comp=Z,0.6nm,0.8s,mb3.9,baz=6.1,slow=6.5,SNR=5.0						
WRA	**Warramunga Arr**	**66.78**	**188**	P	**P**	**14 21 37.0**	**-0.2**
WRA	**Warramunga Arr**	**66.78**	**188**	P	**P**	**14 21 37.0**	**-0.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**66.89**	**320**	P	**P**	**14 21 41.8**	**+4.1**
	comp=Z,3.8nm,0.8s,mb4.7,baz=40,slow=6.8,SNR=13						
AKASG	**Malin Array Be**	**66.89**	**320**	P	**P**	**14 21 41.8**	**+4.1**
AKASG	**Malin Array Be**	**66.89**	**320**	P	**P**	**14 21 41.8**	**+4.1**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NVAR	**Mina Array Bea**	**69.03**	**56**	P	**P**	**14 21 51.8**	**+0.4**
	comp=Z,0.9nm,0.7s,mb4.1,baz=291,slow=4.6,SNR=5.2						
NVAR	**Mina Array Bea**	**69.03**	**56**	P	**P**	**14 21 51.8**	**+0.4**
ASAR	**Alice Springs**	**70.50**	**188**	P	**P**	**14 21 59.7**	**-0.7**
	comp=Z,1.0nm,0.9s,mb3.9,baz=359,slow=5.1,SNR=8.6						
ASAR	**Alice Springs**	**70.50**	**188**	P	**P**	**14 21 59.7**	**-0.7**
ASAR	**Alice Springs**	**70.50**	**188**	P	**P**	**14 21 59.7**	**-0.7**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PDAR	**Pinedale Array**	**70.69**	**48**	P	**P**	**14 22 01.1**	**-0.4**
	comp=Z,1.1nm,1.0s,mb3.9,baz=333,slow=2.3,SNR=4.3						
PDAR	**Pinedale Array**	**70.69**	**48**	P	**P**	**14 22 01.1**	**-0.4**
BRTR	**Keskin Array B**	**72.74**	**310**	P	**P**	**14 22 12.4**	**-1.5**
	comp=Z,0.3nm,0.4s,mb3.8,baz=27,slow=6.8,SNR=2.5						
BRTR	**Keskin Array B**	**72.74**	**310**	P	**P**	**14 22 12.4**	**-1.5**
BRTR	**Keskin Array B**	**72.74**	**310**	P	**P**	**14 22 12.5**	**-1.4**
CLL	**Collm**	**72.84**	**329**	*i* P	**P**	**14 22 18.7**	**+4.4**
CLL				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.8						
CLL	**Collm**	**72.84**	**329**	*i* (pP)	pP	14 22 18.7	+4.0
	comp=Z,7.0nm,0.9s						
GERES	**GERESS Array B**	**74.63**	**327**	LR	LR	14 58 07.8	
	comp=Z,129nm,18.2s,MS4.3,baz=101,slow=38						
LOR	**Lormes**	**79.38**	**332**	*e*PKP2	**

Error ellipse: s-maj=11.7km s-min=8.5km az=165.0
*VIE **09** 14:16:10.1±0.7,39°.31N±20°.37E,h10^{km},mb3.3/5,Ms3.8/3,*
Error ellipse: s-maj=16.4km s-min=5.1km az=59.0 168 km NW of Patras
ISC 09 14:16:04.8±0.5,**38°.71N**±0°.02,**20°.17E**±0°.02,**h11**^{km}±3^{km},
n334,σ1**09**/406,**mb4.0**/17,**20C-16D,Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
LKD2	**Lefkada island**	**0.39**	**78**	P	**Pg**	**14 16 10.5**	**-2.0**
LKD2				S	**Sg**	**14 16 14.4**	**-3.3**
LKD2	**Lefkada island**	**0.39**	**78**	P	**Pg**	**14 16 10.5**	**-2.0**
VLS	**Valsamata**	**0.62**	**148**	*e*PN	**Pg**	**14 16 15.6**	**-1.3**
VLS				*e*SN	**Sg**	**14 16 24.3**	**-0.8**
VLS	**Valsamata**	**0.62**	**148**	P	**Pg**	**14 16 15.4**	**-1.5**
VLS				S	**Sg**	**14 16 24.7**	**-0.4**
VLS	**Valsamata**	**0.62**	**148**	P	**Pg**	**14 16 15.4**	**-1.5**
VLS				S	**Sg**	**14 16 24.7**	**-0.4**
KFL	**Anninata**	**0.77**	**141**	P	**Pg**	**14 16 18.0**	**-1.7**
KFL	**Anninata**	**0.77**	**141**	P	**Pg**	**14 16 18.0**	**-1.7**
IGT	**Igoumenitsa**	**0.83**	**9**	P	**Pg**	**14 16 20.2**	**-0.7**
IGT				S	**Sg**	**14 16 32.8**	**+1.1**
IGT	**Igoumenitsa**	**0.83**	**9**	P	**Pg**	**14 16 20.2**	**-0.7**
IGT				S	**Sg**	**14 16 32.8**	**+1.1**
KEK	**Kerkira**	**1.04**	**344**	*e*PN	**Pg**	**14 16 25.5**	**+0.6**
KEK				*e*SN	**Sg**	**14 16 40.1**	**+1.6**
KEK	**Kerkira**	**1.04**	**344**	P	**Pg**	**14 16 25.4**	**+0.5**
KEK				S	**Sg**	**14 16 41.7**	**+3.2**
KEK	**Kerkira**	**1.04**	**344**	*e*Pn	**Pg**	**14 16 25.5**	**+0.6**
KEK				*e*Sn	**Sg**	**14 16 40.1**	**+1.6**
JAN	**Janina**	**1.08**	**29**	*e*PN	**Pg**	**14 16 24.1**	**-1.6**
JAN				*e*SN	**Sg**	**14 16 40.4**	**+0.6**
JAN	**Janina**	**1.08**	**29**	P	**Pg**	**14 16 24.0**	**-1.7**
JAN				S	**Sg**	**14 16 40.6**	**+0.8**
JAN	**Janina**	**1.08**	**29**	P	**Pg**	**14 16 24.0**	**-1.7**
JAN				*e*Sn	**Sg**	**14 16 40.4**	**+0.6**
SRN	**Sarande**	**1.18**	**354**	*i* PN	**Pn**	**14 16 26.9**	**-0.2**
SRN				*i* SN	**Sn**	**14 16 42.6**	**-0.5**
SRN	**Sarande**	**1.18**	**354**	*i* Pn	**Pn**	**14 16 26.9**	**-0.2**
SRN				*i* Sn	**Sn**	**14 16 42.6**	**-0.5**
RLS	**Riolos of Patr**	**1.21**	**122**	*e*PN	**Pn**	**14 16 26.3**	**-1.2**
RLS	**Riolos of Patr**	**1.21**	**122**	P	**Pn**	**14 16 26.2**	**-1.3**
RLS	**Riolos of Patr**	**1.21**	**122**	*e*Pn	**Pn**	**14 16 26.3**	**-1.2**
EVR	**Evrytania**	**1.29**	**80**	*e*PN	**Pn**	**14 16 28.6**	**-0.2**
EVR				*e*SN	**Sn**	**14 16 45.7**	**-0.3**
EVR	**Evrytania**	**1.29**	**80**	P	**Pn**	**14 16 28.4**	**-0.4**
EVR				S	**Sb**	**14 16 46.1**	**+0.4**
EVR	**Evrytania**	**1.29**	**80**	*e*Pn	**Pn**	**14 16 28.6**	**-0.2**
EVR				*e*Sn	**Sn**	**14 16 45.7**	**-0.3**
EVR				S	**Sb**	**14 16 46.1**	**+0.4**
UPR	**University Cam**	**1.34**	**108**	*e*PN	**Pn**	**14 16 29.1**	**-0.2**
UPR				*e*SN	**Sn**	**14 16 46.0**	**-1.0**
UPR	**University Cam**	**1.34**	**108**	P	**Pn**	**14 16 29.2**	**-0.1**
UPR	**University Cam**	**1.34**	**108**	P	**Pn**	**14 16 29.2**	**-0.1**
UPR				*e*Sn	**Sn**	**14 16 46.0**	**-1.0**
MEV	**Metsovon**	**1.35**	**37**	P	**Pn**	**14 16 29.5**	**0.0**
MEV	**Metsovon**	**1.35**	**37**	P	**Pn**	**14 16 29.5**	**0.0**
EFP	**Efpalio**	**1.39**	**101**	*e*PN	**Pn**	**14 16 29.0**	**-1.0**
EFP	**Efpalio**	**1.39**	**101**	P	**Pn**	**14 16 28.2**	**-1.8**
EFP				S	**Sn**	**14 16 48.6**	**+0.3**
EFP	**Efpalio**	**1.39**	**101**	P	**Pn**	**14 16 28.2**	**-1.8**
EFP	**Efpalio**	**1.39**	**101**	*e*Pn	**Pn**	**14 16 29.0**	**-1.0**
EFP				S	**Sn**	**14 16 48.6**	**+0.3**
LSK	**Leskovik**	**1.48**	**13**	*i* PN	**Pn**	**14 16 32.4**	**+1.2**
LSK				*i* SN	**Sn**	**14 16 54.3**	**+3.8**
LSK	**Leskovik**	**1.48**	**13**	*i* Pn	**Pn**	**14 16 32.4**	**+1.1**
LSK				*i* Sn	**Sn**	**14 16 54.3**	**+3.8**
LAKA	**Lakka**	**1.49**	**108**	P	**Pn**	**14 16 30.4**	**-1.1**
LAKA				S	**Sn**	**14 16 51.6**	**+0.7**
LAKA	**Lakka**	**1.49**	**108**	P	**Pn**	**14 16 30.4**	**-1.1**
LAKA				S	**Sn**	**14 16 51.6**	**+0.7**
KALE	**Kalithea**	**1.57**	**101**	P	**Pn**	**14 16 32.7**	**+0.1**
KALE				S	**Sn**	**14 16 53.2**	**+0.3**
KALE	**Kalithea**	**1.57**	**101**	P	**Pn**	**14 16 32.7**	**+0.1**
KALE				S	**Sn**	**14 16 53.2**	**+0.3**
THL	**Klokotos Trika**	**1.67**	**59**	*e*PB	**Pn**	**14 16 33.4**	**-0.5**
THL	**Klokotos Trika**	**1.67**	**59**	P	**Pn**	**14 16 33.4**	**-0.5**
THL	**Klokotos Trika**	**1.67**	**59**	P	**Pn**	**14 16 33.4**	**-0.5**
AGG	**Agios Georgios**	**1.71**	**79**	*e*PN	**Pn**	**14 16 35.4**	**+0.9**
AGG	**Agios Georgios**	**1.71**	**79**	P	**Pn**	**14 16 34.7**	**+0.2**
AGG				S	**Sn**	**14 16 57.6**	**+1.2**
AGG	**Agios Georgios**	**1.71**	**79**	P	**Pn**	**14 16 34.7**	**+0.2**
AGG	**Agios Georgios**	**1.71**	**79**	*e*Pn	**Pn**	**14 16 35.4**	**+0.9**
AGG				S	**Sn**	**14 16 57.6**	**+1.2**
NEST	**Nestorio**	**1.83**	**21**	P	**Pn**	**14 16 37.4**	**+1.2**
NEST	**Nestorio**	**1.83**	**21**	P	**Pn**	**14 16 37.4**	**+1.2**
DSF	**Desfina**	**1.87**	**98**	P	**Pn**	**14 16 36.6**	**-0.1**
DSF				S	**Sn**	**14 17 00.6**	**+0.4**
DSF	**Desfina**	**1.87**	**98**	P	**Pn**	**14 16 36.6**	**-0.1**
DSF				S	**Sn**	**14 17 00.6**	**+0.4**
GUR	**Goura**	**1.87**	**114**	*e*PN	**Pn**	**14 16 36.4**	**-0.3**
GUR	**Goura**	**1.87**	**114**	P	**Pn**	**14 16 37.0**	**+0.3**
GUR	**Goura**	**1.87**	**114**	*e*Pn	**Pn**	**14 16 36.4**	**-0.3**
GUR	**Goura**	**1.87**	**114**	P	**Pn**	**14 16 37.0**	**+0.3**
SCTE	**Santa Cesarea**	**1.90**	**316**	*e*PN	**Pn**	**14 16 38.0**	**+1.0**
SCTE	**Santa Cesarea**	**1.90**	**316**	*e*Pn	**Pn**	**14 16 38.0**	**+1.0**
KBN	**Korca**	**1.97**	**14**	*i* PN	**Pn**	**14 16 39.6**	**+1.6**
KBN				*i* SN	**Sn**	**14 17 04.8**	**+2.1**
KBN	**Korca**	**1.97**	**14**	*i* Pn	**Pn**	**14 16 39.6**	**+1.6**
KBN				*i* Sn	**Sn**	**14 17 04.8**	**+2.1**
KZN	**Kozani**	**2.02**	**37**	*e*PN	**Pn**	**14 16 39.7**	**+1.0**
KZN	**Kozani**	**2.02**	**37**	P	**Pn**	**14 16 39.7**	**+1.0**
KZN				S	**Sn**	**14 17 04.8**	**+0.9**
KZN	**Kozani**	**2.02**	**37**	P	**Pn**	**14 16 39.7**	**+1.0**
KZN				S	**Sn**	**14 17 04.8**	**+0.9**
ITM	**Ithomi**	**2.06**	**137**	*e*PN	**Pn**	**14 16 40.6**	**+1.3**
ITM	**Ithomi**	**2.06**	**137**	P	**Pn**	**14 16 40.1**	**+0.8**
ITM	**Ithomi**	**2.06**	**137**	P	**Pn**	**14 16 40.1**	**+0.8**
ITM	**Ithomi**	**2.06**	**137**	*e*Pn	**Pn**	**14 16 40.6**	**+1.3**
PYL	**PYLOS**	**2.20**	**145**	*e*PN	**Pn**	**14 16 42.3**	**+1.2**
PYL	**PYLOS**	**2.20**	**145**	P	**Pn**	**14 16 42.2**	**+1.1**
PYL	**PYLOS**	**2.20**	**145**	P	**Pn**	**14 16 42.2**	**+1.1**
VLX	**Vlachokerasia**	**2.20**	**127**	P	**Pn**	**14 16 41.5**	**+0.4**
VLX	**Vlachokerasia**	**2.20**	**127**	P	**Pn**	**14 16 41.5**	**+0.4**
LKR	**Lokris**	**2.21**	**91**	*e*PN	**Pn**	**14 16 41.7**	**+0.3**
LKR	**Lokris**	**2.21**	**91**	P	**Pn**	**14 16 41.8**	**+0.4**
LKR	**Lokris**	**2.21**	**91**	*e*Pn	**Pn**	**14 16 41.7**	**+0.3**
ATAL	**Atalanti**	**2.23**	**90**	P	**Pn**	**14 16 41.6**	**0.0**
ATAL	**Atalanti**	**2.23**	**90**	P	**Pn**	**14 16 41.6**	**0.0**
LIT	**Litokhoron**	**2.27**	**52**	*e*PB	**Pn**	**14 16 42.0**	**-0.2**
LIT	**Litokhoron**	**2.27**	**52**	P	**Pn**	**14 16 42.4**	**+0.2**
LIT	**Litokhoron**	**2.27**	**52**	*e*Pb	**Pn**	**14 16 42.0**	**-0.2**
LIT	**Litokhoron**	**2.27**	**52**	P	**Pn**	**14 16 42.4**	**+0.2**
LTK	**Loutraki**	**2.30**	**106**	*e*PN	**Pn**	**14 16 42.7**	**+0.1**
LTK	**Loutraki**	**2.30**	**106**	P	**Pn**	**14 16 42.8**	**+0.2**
LTK	**Loutraki**	**2.30**	**106**	*e*Pn	**Pn**	**14 16 42.7**	**+0.1**
NEO	**Neokhori**	**2.45**	**75**	*e*PN	**Pn**	**14 16 44.0**	**-0.6**
NEO	**Neokhori**	**2.45**	**75**	P	**Pn**	**14 16 44.2**	**-0.4**
NEO	**Neokhori**	**2.45**	**75**	P	**Pn**	**14 16 44.2**	**-0.4**
BIA	**Bitola**	**2.47**	**21**	P	**Pn**	**14 16 46.2**	**+1.3**
BIA	**Bitola**	**2.47**	**21**	*e*Pn	**Pn**	**14 16 46.3**	**+1.3**
BIA				*e*Sn	**Sn**	**14 17 17.0**	**+2.0**
BIA	**Bitola**	**2.47**	**21**	P	**Pn**	**14 16 46.2**	**+1.3**
BIA				*e*Sn	**Sn**	**14 17 17.0**	**+1.9**
TIR	**Tirane**	**2.65**	**355**	*i* PN	**Pn**	**14 16 48.7**	**+1.4**
TIR				*i* SN	**Sn**	**14 17 14.1**	**-5.3**
TIR	**Tirane**	**2.65**	**355**	*e*PN	**Pn**	**14 16 48.6**	**+1.3**
TIR	**Tirane**	**2.65**	**355**	*e*P	**Pn**	**14 16 48.4**	**+1.0**
TIR	**Tirane**	**2.65**	**355**	*e*P	**Pn**	**14 16 48.4**	**+1.1**
TIR	**Tirane**	**2.65**	**355**	*e*P	**Pn**	**14 16 48.4**	**+1.1**
DID	**Didima**	**2.70**	**115**	*e*PN	**Pn**	**14 16 47.7**	**-0.4**
DID	**Didima**	**2.70**	**115**	P	**Pn**	**14 16 47.5**	**-0.6**
DID	**Didima**	**2.70**	**115**	*e*Pn	**Pn**	**14 16 47.7**	**-0.4**
NAIG	**Nisos Aigina**	**2.78**	**109**	*e*PN	**Pn**	**14 16 49.7**	**+0.5**
NAIG	**Nisos Aigina**	**2.78**	**109**	*e*Pn	**Pn**	**14 16 49.7**	**+0.5**
KRUS	**Krusevo**	**2.78**	**17**	*e*Pn	**Pn**	**14 16 49.5**	**+0.3**
KRUS	**Krusevo**	**2.78**	**17**	*e*Pn	**Pn**	**14 16 49.5**	**+0.3**
TAR1	**Taranto**	**2.88**	**310**	*e*Pn	**Pn**	**14 16 50.6**	**+0.1**
ATH	**Athens Observa**	**2.88**	**104**	*e*PN	**Pn**	**14 16 50.0**	**-0.6**
ATH	**Athens Observa**	**2.88**	**104**	P	**Pn**	**14 16 50.7**	**+0.1**
ATH	**Athens Observa**	**2.88**	**104**	*e*Pn	**Pn**	**14 16 50.0**	**-0.6**
ATH	**Athens Observa**	**2.88**	**104**	P	**Pn**	**14 16 50.7**	**+0.1**
THE	**Thessaloniki**	**2.89**	**47**	P	**Pn**	**14 16 51.0**	**+0.4**
THE	**Thessaloniki**	**2.89**	**47**	P	**Pn**	**14 16 51.0**	**+0.4**
AOS	**Alonnisos**	**2.93**	**80**	P	**Pn**	**14 16 50.8**	**-0.4**
AOS	**Alonnisos**	**2.93**	**80**	P	**Pn**	**14 16 50.8**	**-0.4**
HORT	**Hortiatis**	**2.94**	**49**	P	**Pn**	**14 16 50.9**	**-0.5**
HORT	**Hortiatis**	**2.94**	**49**	P	**Pn**	**14 16 50.9**	**-0.5**
VLI	**Veliai**	**2.96**	**131**	*e*PB	**Pn**	**14 16 53.3**	**+1.7**
VLI	**Veliai**	**2.96**	**131**	*e*Pb	**Pn**	**14 16 53.3**	**+1.7**
PTL	**Penteli**	**2.98**	**102**	*e*PN	**Pn**	**14 16 51.5**	**-0.4**
PTL	**Penteli**	**2.98**	**102**	P	**Pn**	**14 16 51.6**	**-0.3**
PTL	**Penteli**	**2.98**	**102**	P	**Pn**	**14 16 51.6**	**-0.3**
VLY	**Voula,Athens**	**2.98**	**106**	*e*PN	**Pn**	**14 16 51.7**	**-0.2**
VLY	**Voula,Athens**	**2.98**	**106**	P	**Pn**	**14 16 51.6**	**-0.3**
VLY	**Voula,Athens**	**2.98**	**106**	*e*Pn	**Pn**	**14 16 51.7**	**-0.2**
PE1	**Pezze di Greco**	**2.98**	**316**	*e*Pn	**Pn**	**14 16 53.2**	**+1.3**
PAIG	**Paliouri**	**2.98**	**65**	P	**Pn**	**14 16 51.7**	**-0.2**
PAIG	**Paliouri**	**2.98**	**65**	P	**Pn**	**14 16 51.7**	**-0.2**
PLG	**Polygyros**	**3.03**	**56**	*e*PN	**Pn**	**14 16 52.3**	**-0.3**
PLG	**Polygyros**	**3.03**	**56**	P	**Pn**	**14 16 52.2**	**-0.4**
PLG	**Polygyros**	**3.03**	**56**	*e*Pn	**Pn**	**14 16 52.3**	**-0.3**
VAY	**Valandovo**	**3.19**	**34**	P	**Pn**	**14 16 55.3**	**+0.4**
VAY	**Valandovo**	**3.19**	**34**	*e*Pn	**Pn**	**14 16 55.5**	**+0.6**
VAY				*e*Sn	**Sn**	**14 17 34.3**	**+1.5**
VAY				*e*Lg		14 17 48.9	
	comp=N,248nm,1.0s						
VAY				*e*Lg		14 17 49.8	
	comp=E,251nm,1.1s						
VAY	**Valandovo**	**3.19**	**34**	P	**Pn**	**14 16 55.3**	**+0.4**
VAY				*e*Sn	**Sn**	**14 17 34.3**	**+1.4**
VAY				*e*Lg		14 17 48.9	
	comp=E,248nm,1.0s						
KNT	**Kendrikon**	**3.22**	**40**	P	**Pn**	**14 16 55.0**	**-0.3**
KNT	**Kendrikon**	**3.22**	**40**	P	**Pn**	**14 16 55.0**	**-0.3**
SOH	**Sokhos**	**3.23**	**48**	*e*PN	**Pn**	**14 16 55.5**	**+0.1**
SOH	**Sokhos**	**3.23**	**48**	P	**Pn**	**14 16 55.4**	**0.0**
SOH	**Sokhos**	**3.23**	**48**	P	**Pn**	**14 16 55.4**	**0.0**
KYTH	**Kithira**	**3.33**	**136**	*e*PB	**Pn**	**14 16 58.7**	**+2.0**
ULC	**Ulcinj**	**3.33**	**348**	*i* PN	**Pn**	**14 16 56.2**	**-0.5**
ULC				*e*Sn	**Sn**	**14 17 36.0**	**-0.2**
ULC	**Ulcinj**	**3.33**	**348**	*i* Pn	**Pn**	**14 16 56.2**	**-0.5**
ULC				*e*Sn	**Sn**	**14 17 36.0**	**-0.2**
PUK	**Puka**	**3.34**	**356**	*i* PN	**Pn**	**14 16 57.0**	**+0.2**
PUK				*i* SN	**Sn**	**14 17 23.8**	**-13**
PUK	**Puka**	**3.34**	**356**	*i* Pn	**Pn**	**14 16 57.0**	**+0.2**
OUR	**Ouranopolis**	**3.36**	**60**	P	**Pn**	**14 16 57.7**	**+0.5**
OUR	**Ouranopolis**	**3.36**	**60**	P	**Pn**	**14 16 57.7**	**+0.5**
CEL	**Celeste**	**3.39**	**264**	*e*P	**Pn**	**14 16 58.6**	**+1.1**
CEL	**Celeste**	**3.39**	**264**	*e*P	**Pn**	**14 16 58.6**	**+1.1**
SKO	**Skopje**	**3.40**	**16**	*e*Pn	**Pn**	**14 16 59.4**	**+1.7**
SKO				*e*Sn	**Sn**	**14 17 38.0**	**0.0**
SKO				*e*Lg		14 17 39.0	
	comp=N,112nm,0.5s						
SKO				*e*Lg		14 17 47.5	
	comp=E,164nm,0.7s						
SKO	**Skopje**	**3.40**	**16**	*e*Pn	**Pn**	**14 16 59.3**	**+1.6**
SKO				*e*Sn	**Sn**	**14 17 38.0**	**0.0**
SG1	**Sgolgore (BA)**	**3.43**	**309**	*e*Pn	**Pn**	**14 16 59.0**	**+0.9**
CUC	**Castrocucco**	**3.61**	**292**	*e*P	**Pn**	**14 17 02.8**	**+2.2**
CUC	**Castrocucco**	**3.61**	**292**	*e*P	**Pn**	**14 17 02.8**	**+2.2**
BCI	**Bajram Curri**	**3.66**	**359**	*i* PN	**Pn**	**14 17 02.2**	**+1.0**
BCI	**Bajram Curri**	**3.66**	**359**	*i* Pn	**Pn**	**14 17 02.2**	**+1.0**
BUM	**Brajici-Budva**	**3.72**	**345**	*i* Pn	**Pn**	**14 17 01.5**	**-0.6**
BUM				*e*Sn	**Sn**	**14 17 45.6**	**-0.2**
BUM	**Brajici-Budva**	**3.72**	**345**	*i* Pn	**Pn**	**14 17 01.5**	**-0.6**
BUM				*e*Sn	**Sn**	**14 17 45.6**	**-0.2**
PDG	**Podgorica**	**3.78**	**350**	*i* Pn	**Pn**	**14 17 02.7**	**-0.2**
PDG				*e*Sn	**Sn**	**14 17 47.0**	**-0.4**
TTG	**Podgorica**	**3.78**	**350**	*i* Pn	**Pn**	**14 17 02.7**	**-0.2**
TTG				*e*Sn	**Sn**	**14 17 47.0**	**-0.4**
CDT	**Castel del Mon**	**3.82**	**310**	*e*Pn	**Pn**	**14 17 04.7**	**+1.2**
NVR	**Nevrokopi**	**3.87**	**46**	*e*PN	**Pn**	**14 17 04.0**	**-0.2**
NVR	**Nevrokopi**	**3.87**	**46**	P	**Pn**	**14 17 04.1**	**-0.1**
NVR	**Nevrokopi**	**3.87**	**46**	*e*Pn	**Pn**	**14 17 04.0**	**-0.2**
PVY	**Plav**	**3.88**	**358**	*i* Pn	**Pn**	**14 17 05.0**	**+0.6**
PVY				*e*Sn	**Sn**	**14 17 50.2**	**+0.3**
PVY	**Plav**	**3.88**	**358**	*i* Pn	**Pn**	**14 17 05.0**	**+0.6**
PVY				*e*Sn	**Sn**	**14 17 50.2**	**+0.3**
HCY	**Herceg Novi**	**3.95**	**342**	*i* Pn	**Pn**	**14 17 04.2**	**-1.0**
HCY				*e*Sn	**Sn**	**14 17 51.4**	**0.0**
HCY	**Herceg Novi**	**3.95**	**342**	*i* Pn	**Pn**	**14 17 04.2**	**-1.0**
HCY				*e*Sn	**Sn**	**14 17 51.4**	**0.0**
BEY	**Berane**	**4.16**	**357**	*i* Pn	**Pn**	**14 17 09.0**	**+0.8**
BEY				*e*Sn	**Sn**	**14 17 56.2**	**-0.6**
IVA	**Berane**	**4.16**	**357**	*i* Pn	**Pn**	**14 17 09.0**	**+0.8**
IVA				*e*Sn	**Sn**	**14 17 56.2**	**-0.6**
NKY	**Niksic**	**4.20**	**348**	*e*Pn	**Pn**	**14 17 08.6**	**0.0**
NKY				*e*Sn	**Sn**	**14 17 57.2**	**-0.4**
NKY	**Niksic**	**4.20**	**348**	*e*Pn	**Pn**	**14 17 08.6**	**0.0**
NKY				*e*Sn	**Sn**	**14 17 57.2**	**-0.4**
BARS	**Barje**	**4.29**	**16**	*i* Pn	**Pn**	**14 17 09.5**	**-0.4**
BRY	**Bratogost**	**4.37**	**344**	*i* Pn	**Pn**	**14 17 10.5**	**-0.5**
BRY				*e*Sn	**Sn**	**14 18 01.4**	**-0.4**
BRY	**Bratogost**	**4.37**	**344**	*i* Pn	**Pn**	**14 17 10.5**	**-0.5**
BRY				*e*Sn	**Sn**	**14 18 01.4**	**-0.4**
MS1	**Monte Sant'Ang**	**4.41**	**314**	*e*Pn	**Pn**	**14 17 11.9**	**+0.3**
KARN	**Karanos**	**4.46**	**137**	*e*PN	**Pn**	**14 17 12.1**	**-0.1**
KARN	**Karanos**	**4.46**	**137**	*e*Pn	**Pn**	**14 17 12.1**	**-0.1**
VTS	**Vitosha**	**4.51**	**30**	P	**Pn**	**14 17 13.9**	**+0.9**
VTS	**Vitosha**	**4.51**	**30**	P	**Pn**	**14 17 13.9**	**+0.9**
APE	**Apeiranthos**	**4.54**	**109**	P	**Pn**	**14 17 14.2**	**+0.8**
APE	**Apeiranthos**	**4.54**	**109**	P	**Pn**	**14 17 14.2**	**+0.8**
SJES	**Sjenica**	**4.55**	**358**	*i* Pn	**Pn**	**14 17 13.9**	**+0.4**
STON	**Ston**	**4.56**	**337**	*i* Pn	**Pn**	**14 17 12.1**	**-1.6**
STON				Sn	**Sn**	**14 18 03.5**	**-3.1**
STON	**Ston**	**4.56**	**337**	*i* Pn	**Pn**	**14 17 12.1**	**-1.6**
STON				Sn	**Sn**	**14 18 03.4**	**-3.2**
UPM	**Unac-Piva**	**4.59**	**348**	*i* Pn	**Pn**	**14 17 14.0**	**0.0**
UPM				*e*Sn	**Sn**	**14 18 07.3**	**0.0**
UPM	**Unac-Piva**	**4.59**	**348**	*i* Pn	**Pn**	**14 17 14.0**	**0.0**
UPM				*e*Sn	**Sn**	**14 18 07.3**	**0.0**
CHOS	**Chios island**	**4.62**	**92**	*e*PN	**Pn**	**14 17 15.1**	**+0.6**
CHOS	**Chios island**	**4.62**	**92**	P	**Pn**	**14 17 15.2**	**+0.7**
CHOS	**Chios island**	**4.62**	**92**	*e*Pn	**Pn**	**14 17 15.1**	**+0.6**
PLE	**Pljevlja**	**4.65**	**353**	*i* Pn	**Pn**	**14 17 15.0**	**+0.1**
PLE				*e*Sn	**Sn**	**14 18 08.1**	**-0.8**
PLE	**Pljevlja**	**4.65**	**353**	*i* Pn	**Pn**	**14 17 15.0**	**+0.1**
PLE				*e*Sn	**Sn**	**14 18 08.1**	**-0.8**
RDO	**Rodhopi**	**4.79**	**58**	*e*PN	**Pn**	**14 17 18.0**	**+1.2**
RDO	**Rodhopi**	**4.79**	**58**	*e*Pn	**Pn**	**14 17 18.0**	**+1.2**
IVAS	**Ivanjica**	**4.86**	**360**	*i* Pn	**Pn**	**14 17 15.7**	**-2.1**
ALN	**Alexandroupoli**	**5.02**	**62**	P	**Pn**	**14 17 19.9**	**-0.1**
ALN	**Alexandroupoli**	**5.02**	**62**	P	**Pn**	**14 17 19.9**	**-0.1**
BBLS	**Lazić**	**5.18**	**354**	*i* Pn	**Pn**	**14 17 21.5**	**-0.7**
GRUS	**Gruza**	**5.19**	**4**	*i* Pn	**Pn**	**14 17 22.2**	**-0.1**
WDD	**Wield Dalam**	**5.32**	**240**	*e*P	**Pn**	**14 17 25.1**	**+0.9**
	comp=E,153nm,0.6s						
WDD	**Wield Dalam**	**5.32**	**240**	*e*P	**Pn**	**14 17 25.0**	**+0.9**
	comp=E,153nm,0.6s						
DIVS	**Divibare**	**5.39**	**359**	*i* Pn	**Pn**	**14 17 23.9**	**-1.1**
TRUS	**Trudelj**	**5.51**	**2**	*e*Pn	**Pn**	**14 17 24.5**	**-2.2**
AQU	**L'Aquila**	**6.31**	**307**	*e*P	**Pn**	**14 17 40.5**	**+2.8**
AQU				*e*Sn	**Sn**	**14 19 27.6**	**-4.1**
	comp=E,15nm,0.6s						
AQU	**L'Aquila**	**6.31**	**307**	*e*P	**Pn**	**14 17 40.5**	**+2.8**
AQU				pmax	pmax		
	comp=E,15nm,0.6s						
AQU	**L'Aquila**	**6.31**	**307**	*e*P	**Pn**	**14 17 40.5**	**+2.8**
	comp=E,15nm,0.6s						
FGSL	**Fruska Gora**	**6.45**	**358**	*e*Pn	**Pn**	**14 17 37.0**	**-2.6**
NVLJ	**Novalja**	**7.07**	**328**	*i* Pn	**Pn**	**14 17 48.5**	**+0.4**
NVLJ				Sn	**Sn**	**14 19 05.7**	**-2.6**
NVLJ	**Novalja**	**7.07**	**328**	*i* Pn	**Pn**	**14 17 48.4**	**+0.3**
VOIR		**7.64**	**27**	*i*P	**Pn**	**14 17 59.3**	**+3.4**
BOJS	**Bojanci**	**7.71**	**333**	*e*Pn	**Pn**	**14 17 56.7**	**-0.2**
BOJS	**Bojanci**	**7.71**	**333**	Pn	**Pn**	**14 17 56.7**	**-0.2**
GBRS	**Gornja Briga**	**7.89**	**331**	*i* Pn	**Pn**	**14 17 59.9**	**+0.5**
MLR	**Muntele Rosu**	**8.02**	**30**	Pn	**Pn**	**14 18 05.8**	**+4.7**
	comp=Z,0.3nm,0.3s,baz=251,slow=6.1,SNR=6.3						
MLR				Sn	**Sn**	**14 19 27.6**	**-4.1**
	comp=Z,0.1nm,0.3s,baz=252,slow=15,SNR=3.3						
MLR	**Muntele Rosu**	**8.02**	**30**	Pn	**Pn**	**14 18 05.8**	**+4.7**
MLR				Sn	**Sn**	**14 19 27.6**	**-4.1**
MLR	**Muntele Rosu**	**8.02**	**30**	P	**Pn**	**14 18 05.8**	**+4.7**
MLR						14 19 27.6	
MLR	**Muntele Rosu**	**8.02**	**30**	*i*P	**Pn**	**14 18 06.6**	**+5.5**
KNDS	**Knezji Dol**	**8.06**	**330**	*e*Pn	**Pn**	**14 18 01.9**	**+0.3**
KNDS	**Knezji Dol**	**8.06**	**330**	*e*Pn	**Pn**	**14 18 02.0**	**+0.4**
PLOR	**Plostina**	**8.60**	**32**	||P	**Pn**	**14 18 11.0**	**+1.9**
PLOR	**Plostina**	**8.60**	**32**	||P	**Pn**	**14 18 11.0**	**+1.9**
PLOR	**Plostina**	**8.60**	**32**	P	**Pn**	**14 18 11.0**	**+1.9**
VRI	**Vrincioaia**	**8.64**	**32**	||P	**Pn**	**14 18 12.2**	**+2.5**
VRI	**Vrincioaia**	**8.64**	**32**	||P	**Pn**	**14 18 12.2**	**+2.5**
VOY	**Vojsko**	**8.67**	**330**	*e*Pn	**Pn**	**14 18 09.7**	**-0.3**
VOY				*e*		14 18 10.9	
VOY				*e*		14 18 26.2	
VOY				*e*Sn	**Sn**	**14 19 42.7**	**-4.9**
VOY				*e*		14 19 45.8	
VOY	**Vojsko**	**8.67**	**330**	*e*Pn	**Pn**	**14 18 09.7**	**-0.3**
SOKA	**Soboth**	**8.81**	**336**	⇑*i*Pn	**Pn**	**14 18 11.0**	**-1.1**
SOKA				⇓*i*Sn	**Sn**	**14 19 45.3**	**-6.0**
SOKA	**Soboth**	**8.81**	**336**	Pn	**Pn**	**14 18 11.0**	**-1.0**
OBKA	**Obir**	**8.83**	**334**	⇓*i*Pn	**Pn**	**14 18 11.9**	**-0.3**
OBKA				⇑*i*Sn	**Sn**	**14 19 47.8**	**-3.8**
OBKA	**Obir**	**8.83**	**334**	Pn	**Pn**	**14 18 11.9**	**-0.3**
KEST	**Kesra**	**9.13**	**254**	Pn	**Pn**	**14 18 23.9**	**+7.5**
	comp=Z,0.1nm,0.3s,baz=354,slow=5.3,SNR=3.1						
KEST	**Kesra**	**9.13**	**254**	Pn	**Pn**	**14 18 23.9**	**+7.5**
PGF	**Pioggiola**	**9.32**	**298**	*e*P	**Pn**	**14 18 21.6**	**+2.7**
	comp=Z,13nm,1.1s						
PGF	**Pioggiola**	**9.32**	**298**	*e*P	**Pn**	**14 18 21.6**	**+2.7**
	comp=Z,6.7nm,1.1s						
PGF	**Pioggiola**	**9.32**	**298**	*e*P	**

MKAR	**Makanchi Array**	**45.26**	**59**	P		**P**	**14 24 19.3**	**-2.7**	
	comp=Z,0.9nm,0.5s,mb3.9,baz=281,slow=6.9,SNR=11								
MKAR	**Makanchi Array**	**45.26**	**59**	P		**P**	**14 24 19.3**	**-2.7**	
MKAR	**Makanchi Array**	**45.26**	**59**	P		**P**	**14 24 19.3**	**-2.7**	
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.5s								
ZALV	**Zalesovo Beam**	**45.54**	**48**	P		**P**	**14 24 21.6**	**-2.5**	
	comp=Z,2.1nm,0.5s,mb4.4,baz=277,slow=8.3,SNR=13								
ZALV	**Zalesovo Beam**	**45.54**	**48**	P		**P**	**14 24 21.6**	**-2.5**	
ZALV	**Zalesovo Beam**	**45.54**	**48**	P		**P**	**14 24 21.7**	**-2.5**	
ZALV				pmax	pmax				
	comp=Z,2.0nm,0.5s,mb4.3								
SCHQ	**Schefferville**	**57.88**	**317**	P		**P**	**14 25 57.1**	**+0.7**	
	comp=Z,4.4nm,1.0s,mb4.5,baz=63,slow=9.0,SNR=2.4								
SCHQ	**Schefferville**	**57.88**	**317**	P		**P**	**14 25 57.1**	**+0.8**	
SCHQ	**Schefferville**	**57.88**	**317**	P		**P**	**14 25 57.1**	**+0.8**	
SONM	**Songino Array**	**60.33**	**51**	P		**P**	**14 26 11.8**	**-1.6**	
	comp=Z,0.2nm,0.3s,mb3.6,baz=262,slow=7.8,SNR=4.4								
SONM	**Songino Array**	**60.33**	**51**	P		**P**	**14 26 11.8**	**-1.6**	
SONM	**Songino Array**	**60.33**	**51**	P		**P**	**14 26 11.8**	**-1.6**	
SONM	**Songino Array**	**60.33**	**51**	P		**P**	**14 26 11.8**	**-1.6**	
INK	**Inuvik**	**71.50**	**350**	P		**P**	**14 27 24.4**	**-0.6**	
	comp=Z,0.6nm,0.6s,mb3.7,baz=181,slow=5.5,SNR=3.8								
INK	**Inuvik**	**71.50**	**350**	*e*P		**P**	**14 27 24.1**	**-0.8**	
	comp=Z,2.9nm,1.1s,mb4.1								
INK	**Inuvik**	**71.50**	**350**	P		**P**	**14 27 24.4**	**-0.5**	
INK				pmax	pmax				
	comp=Z,1.0nm,0.6s								
INK	**Inuvik**	**71.50**	**350**	P		**P**	**14 27 24.4**	**-0.5**	
	comp=Z,1.0nm,0.6s,mb3.9								
YKA	**Yellowknife Ar**	**72.80**	**340**	P		**P**	**14 27 33.0**	**+0.2**	
	comp=Z,0.7nm,0.7s,mb3.9,baz=49,slow=5.8,SNR=4.0								
YKA	**Yellowknife Ar**	**72.80**	**340**	P		**P**	**14 27 33.0**	**+0.2**	
YKA	**Yellowknife Ar**	**72.80**	**340**	P		**P**	**14 27 33.0**	**+0.2**	
YKA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
YKA	**Yellowknife Ar**	**72.80**	**340**	P		**P**	**14 27 33.0**	**+0.2**	
	comp=Z,1.0nm,0.7s,mb3.9								
KSRS	**Korea Array**	**79.20**	**50**	P		**P**	**14 28 08.4**	**-1.4**	
	comp=Z,0.7nm,0.6s,mb3.8,baz=330,slow=6.4,SNR=3.3								
KSRS	**Korea Array**	**79.20**	**50**	P		**P**	**14 28 08.4**	**-1.4**	
KSRS				pmax	pmax				
	comp=Z,1.0nm,0.6s,mb3.9								
KSRS	**Korea Array**	**79.20**	**50**	P		**P**	**14 28 08.4**	**-1.4**	
	comp=Z,1.0nm,0.6s,mb3.9								
WRA	**Warramunga Arr**	**120.83**	**92**	PKP		PKPdf	14 34 56.5	-0.7	
	comp=Z,0.6nm,1.1s,baz=324,slow=1.5,SNR=2.9								
WRA	**Warramunga Arr**	**120.83**	**92**	PKP		PKPdf	14 34 56.5	-0.7	
WRA	**Warramunga Arr**	**120.83**	**92**	PKIKP		PKPdf	14 34 56.5	-0.7	
WRA				pmax	pmax				
	comp=Z,1.0nm,1.1s								
ASAR	**Alice Springs**	**122.50**	**96**	PKP		PKPdf	14 34 59.0	-1.4	
	comp=Z,1.0nm,0.7s,baz=322,slow=1.9,SNR=7.0								
ASAR	**Alice Springs**	**122.50**	**96**	PKP		PKPdf	14 34 59.0	-1.4	
ASAR	**Alice Springs**	**122.50**	**96**	PKIKP		PKPdf	14 34 59.0	-1.4	

PRU 09 14:21:09.4, 50.26N × 19.26E, h0 km, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.35**	**96**	*e*Pg	Pg	14 21 16.2	+0.1
OJC				*e*Sg	Sg	14 21 20.7	+0.1
DPC	**Dobruska-Polom**	**1.89**	**274**	*e*SG	Sg	14 22 09.2	-0.7

*IDC **09** 14:24:13.7±3.9, 27.84N × 128.02E, h0 km, mb3.6/3, mb1 3.8/3, mb1mx3.5/23, mbtmp3.6/3, MS3.0/1, Ms1 3.0/1, ms1mx2.6/31, Error ellipse: s-maj=189.8km s-min=20.1km az=65.0*

*JMA **09** 14:24:15.1±0.4, 27.66N × 127.46E, h11 km±4 km, M3.1*

*ISCJB **09** 14:24:16.1±1.5, 27.65N±0.06 × 127.49E±0.07, h19 km±10 km, mb3.6/3, Error ellipse: s-maj=11.4km s-min=8.6km az=141.9*

ISC 09 14:24:16.4±1.6, 27.60N±0.05 × 127.51E±0.06, h13 km±9 km, n13, σ 0s 71/17, mb3.6/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIH	**Iheya**	**0.70**	**144**	P	**Pg**	**14 24 29.8**	**-0.1**
JIH				S	**Sg**	**14 24 39.9**	**+0.8**
JOW	**Kunigami**	**1.03**	**138**	Pn	**Pn**	**14 24 35.3**	**-1.2**
	85nm,0.3s,baz=336,slow=9.9,SNR=288						
JOW				Sn	**Sn**	**14 24 50.1**	**-0.6**
	84nm,0.3s,baz=154,slow=24,SNR=12						
JOW	**Kunigami**	**1.03**	**138**	P	**Pb**	**14 24 35.2**	**-0.8**
JOW				*e*S	**Sb**	**14 24 49.8**	**+0.5**
JAGN	**Aguni-jima**	**1.04**	**193**	P	**Pb**	**14 24 35.1**	**-1.1**
JAGN				*e*S	**Sb**	**14 24 49.9**	**+0.2**
JTK	**Tokunoshima**	**1.29**	**82**	P	**Pn**	**14 24 39.3**	**-0.8**
NAH1	**Naha**	**1.40**	**173**	P	**Pn**	**14 24 42.2**	**+0.5**
JKE	**Kume jima 2**	**1.43**	**207**	P	**Pn**	**14 24 41.3**	**-0.7**
JKE				*e*S	**Sn**	**14 24 50.6**	**0.0**
JJT2	**Tamagusuku 2**	**1.48**	**172**	P	**Pn**	**14 24 43.1**	**+0.5**
JAM	**Amami Oshima**	**2.02**	**66**	P	**Pn**	**14 24 50.6**	**+0.5**
CBIJ	**Chichi jima**	**13.05**	**89**	LR	LR	14 31 49.3	
	comp=Z,74nm,20.1s,baz=128,slow=36						
MKAR	**Makanchi Array**	**40.15**	**311**	P	**P**	**14 31 52.3**	**+0.3**
	0.3nm,0.2s,mb3.6,baz=99,slow=9.8,SNR=5.0						
WRA	**Warramunga Arr**	**47.72**	**171**	P	**P**	**14 32 53.4**	**+0.4**
	0.8nm,0.7s,mb3.9,baz=354,slow=8.5,SNR=11						
ASAR	**Alice Springs**	**51.34**	**172**	P	**P**	**14 33 22.1**	**+1.5**
	0.3nm,0.7s,mb3.3,baz=360,slow=14,SNR=9.1						

IDC 09 14:43:50.3±2.3, 57.36S × 146.66E, h0 km, mb3.7/3, mb1 3.9/3, mb1mx3.6/11, mbtmp3.7/3, Error ellipse: s-maj=479.1km s-min=29.9km az=67.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**34.90**	**339**	P	P	14 50 43.4	+0.1
	0.2nm,0.7s,baz=163,slow=8.8,SNR=4.4						
WRA	**Warramunga Arr**	**38.46**	**341**	P		14 51 13.6	-0.1
	0.9nm,0.6s,baz=168,slow=7.5,SNR=29						
PLCA	**Paso Flores**	**77.39**	**152**	P	P	14 55 47.0	+0.2
	1.5nm,0.8s,baz=180,slow=6.1,SNR=3.9						

*ISK **09** 14:47:18.2, 37.39N × 28.17E, h5 km, MD2.6*

*ISCJB **09** 14:47:19.3±0.7, 37.34N±0.05 × 28.16E±0.06, h16 km±14 km, Error ellipse: s-maj=8.9km s-min=6.7km az=37.5*

*CSEM **09** 14:47:19.0±0.2, 37.35N × 28.18E, h12 km, MD2.6, Error ellipse: s-maj=5.4km s-min=4.8km az=166.0*

ISC 09 14:47:19.3±0.7, 37.35N±0.05 × 28.17E±0.06, h13 km±8 km, n16, σ 0s 64/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.23**	**157**	*e*PG	**Pg**	**14 47 24.1**	**-0.2**
YER				*e*SG	**Sg**	**14 47 28.4**	**+0.8**
YER	**Yerkesik**	**0.23**	**157**	*e*Pg	**Pg**	**14 47 24.1**	**-0.2**
YER				*e*Sg	**Sg**	**14 47 28.4**	**+0.8**
MLSB	**Milas**	**0.32**	**261**	*e*PG	**Pg**	**14 47 25.0**	**-0.9**
MLSB				*e*SG	**Sg**	**14 47 30.3**	**+0.1**
MLSB	**Milas**	**0.32**	**261**	*e*Pg	**Pg**	**14 47 25.0**	**-0.8**
MLSB				*e*Sg	**Sg**	**14 47 30.3**	**+0.1**
AYDN	**Tasoluk**	**0.39**	**324**	*i* P	**Pg**	**14 47 26.4**	**-0.8**
AYDN				*i* S	**Sg**	**14 47 33.1**	**+0.7**
AYDN	**Tasoluk**	**0.39**	**324**	*i* P	**Pg**	**14 47 26.4**	**-0.8**
AYDN				*i* S	**Sg**	**14 47 33.1**	**+0.7**
BODT	**Bodrum**	**0.74**	**248**	*e*PG	**Pg**	**14 47 33.7**	**-0.1**
BODT	**Bodrum**	**0.74**	**248**	*e*Pg	**Pg**	**14 47 33.7**	**0.0**
DAT	**Datca**	**0.78**	**218**	*e*PG	**Pg**	**14 47 34.6**	**+0.3**
DAT	**Datca**	**0.78**	**218**	*e*Pg	**Pg**	**14 47 34.6**	**+0.2**
DNZL	**Cakiroluk**	**0.78**	**64**	*i* P	**Pg**	**14 47 33.9**	**-0.5**
DNZL	**Cakiroluk**	**0.78**	**64**	*i* P	**Pg**	**14 47 33.9**	**-0.5**
GLHS	**Glhisar (BURDU**	**1.08**	**100**	*e*PN	**Pn**	**14 47 39.4**	**-0.6**
GLHS	**Glhisar (BURDU**	**1.08**	**100**	*e*Pn	**Pn**	**14 47 39.4**	**-0.6**
MANT	**Manisa**	**1.18**	**15**	*i* P	**Pn**	**14 47 42.7**	**+1.2**
MANT	**Manisa**	**1.18**	**15**	*i* P	**Pn**	**14 47 42.7**	**+1.2**

IDC 09 15:06:23.0±2.1, 6.94S × 129.05E, h0 km, mb3.3/1, mb1 3.4/4, mb1mx3.3/16, mbtmp3.2/4, ML3.2/3, Error ellipse: s-maj=85.9km s-min=25.7km az=80.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.58**	**196**	Pn	Pn	15 09 11.2	+1.6
	0.2nm,0.3s,baz=32,slow=11,SNR=7.2						
FITZ				Sn	Sn	15 11 19.1	-0.7
	0.2nm,0.3s,baz=355,slow=21,SNR=5.0						
WRA	**Warramunga Arr**	**13.91**	**159**	Pn	Pn	15 09 40.1	-1.3
	0.1nm,0.3s,baz=331,slow=12,SNR=8.3						
WRA				Sn	Sn	15 12 12.9	-3.8
	0.1nm,0.3s,baz=338,slow=22,SNR=5.7						
ASAR	**Alice Springs**	**17.27**	**165**	Pn	Pn	15 10 26.1	+0.4
	0.1nm,0.3s,baz=341,slow=8.9,SNR=7.3						
MKAR	**Makanchi Array**	**67.66**	**327**	P	P	15 17 21.9	+0.1
	0.1nm,0.3s,baz=120,slow=7.8,SNR=2.6						

*IDC **09** 15:15:03.6±1.4, 6.02S × 152.05E, h0 km, mb4.1/7, mb1 4.3/8, mb1mx4.0/18, mbtmp4.2/8, ML3.4/1, MS4.0/1, Ms1 4.0/1, ms1mx2.7/30, Error ellipse: s-maj=50.6km s-min=18.8km az=121.0*

*ISCJB **09** 15:15:08.6±4.5, 6.15S±0.2 × 152.10E±0.2, h45 km±36 km, mb4.0/8, Error ellipse: s-maj=42.7km s-min=23.6km az=28.7*

*NEIC **09** 15:15:11.4±3.1, 6.13S × 151.99E, h58 km±23 km, mb3.7/2, Error ellipse: s-maj=36.9km s-min=16.6km az=110.0*

ISC 09 15:15:08.4±6.7, 6.15S±0.2 × 152.16E±0.2, h33 km±48 km, n23, σ 0s 66/22, mb4.0/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.91**	**236**	Pn	**Pn**	**15 16 33.8**	**+0.1**
	6.1nm,0.3s,baz=50,slow=9.3,SNR=22						
PMG				Sn	**Sn**	**15 17 41.0**	**+0.7**
	4.2nm,0.3s,baz=272,slow=21,SNR=5.2						
PMG	**Port Moresby**	**5.91**	**236**	*e*P	**Pn**	**15 16 34.8**	**+1.1**
PMG				*e*S	**Sn**	**15 17 40.2**	**-0.1**
WRAB	**Tennant Creek**	**22.07**	**230**	*e*P	**P**	**15 20 00.9**	**+0.1**
	12nm,1.1s,mb4.2						
WB2	**Warramunga Arr**	**22.07**	**230**	*e*P	**P**	**15 19 59.9**	**-0.9**
WRA	**Warramunga Arr**	**22.08**	**230**	P	**P**	**15 20 00.4**	**-0.5**
	4.7nm,0.8s,mb4.0,baz=53,slow=10.0,SNR=22						
WRA	**Warramunga Arr**	**22.08**	**230**	P	**P**	**15 20 00.4**	**-0.5**
ASAR	**Alice Springs**	**24.74**	**223**	P	**P**	**15 20 27.2**	**+0.1**
	6.3nm,0.8s,mb4.2,baz=53,slow=7.5,SNR=59						
ASAR	**Alice Springs**	**24.74**	**223**	P	**P**	**15 20 27.2**	**+0.1**
STKA	**Stephens Creek**	**27.47**	**200**	P	**P**	**15 20 52.5**	**+0.9**
	2.8nm,0.9s,mb3.8,baz=18,slow=8.1,SNR=5.4						
STKA	**Stephens Creek**	**27.47**	**200**	*e*P	**P**	**15 20 52.5**	**+0.8**
	2.0nm,0.9s,mb3.6						
STKA	**Stephens Creek**	**27.47**	**200**	*e*P	**P**	**15 20 52.0**	**+0.3**
	0.6nm,0.9s,mb3.1						
FITZ	**Fitzroy Crossi**	**28.45**	**243**	P	**P**	**15 20 59.5**	**-1.1**
	4.2nm,0.6s,mb4.3,baz=73,slow=7.5,SNR=20						
FITZ	**Fitzroy Crossi**	**28.45**	**243**	*e*P	**P**	**15 20 59.4**	**-1.2**
	7.9nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**28.45**	**243**	*e*P	**P**	**15 20 59.5**	**-1.1**
CBIJ	**Chichi jima**	**34.37**	**344**	LR	LR	15 32 57.2	
	comp=Z,236nm,21.4s,baz=146,slow=31						
MKAR	**Makanchi Array**	**80.85**	**319**	P	**P**	**15 27 20.1**	**+0.9**
	0.5nm,0.9s,mb3.4,baz=117,slow=5.0,SNR=3.6						
MKAR	**Makanchi Array**	**80.85**	**319**	P	**P**	**15 27 20.1**	**+0.9**
ZALV	**Zalesovo Beam**	**81.84**	**327**	P	**P**	**15 27 24.1**	**-0.2**
	0.5nm,0.3s,mb3.9,baz=111,slow=7.9,SNR=3.0						
ZALV	**Zalesovo Beam**	**81.84**	**327**	P	**P**	**15 27 24.1**	**-0.2**
ILAR	**Eielson Array**	**83.61**	**22**	P	**P**	**15 27 33.1**	**-0.1**
	1.1nm,0.7s,mb4.1,baz=249,slow=5.2,SNR=16						
ILAR	**Eielson Array**	**83.61**	**22**	P	**P**	**15 27 33.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**150.02**	**286**	PKPbc	PKPbc	15 34 56.3	-0.4
	0.8nm,0.6s,baz=62,slow=3.1,SNR=5.1						
TORD				PKPab	PKPab	15 35 02.0	-0.6
	0.9nm,0.6s,baz=80,slow=4.0,SNR=6.2						
TORD	**Torodi Ar. Bea**	**150.02**	**286**	PKPbc	PKPbc	15 34 56.3	-0.4
TORD				PKPab	PKPab	15 35 02.0	-0.6

*ISCJB **09** 15:21:51.8±0.6, 38.86N±0.03 × 27.66E±0.03, h5 km±5 km, Error ellipse: s-maj=4.6km s-min=4.0km az=142.4*

*CSEM **09** 15:21:51.9±0.1, 38.85N × 27.66E, h10 km, MD2.9, Error ellipse: s-maj=2.9km s-min=2.4km az=124.0*

*DDA **09** 15:21:51.3, 38.85N × 27.68E, h7 km±4 km, MD2.7*

*ISK **09** 15:21:51.1, 38.88N × 27.64E, h4 km, MD2.9*

ISC 09 15:21:52.2±0.5, 38.86N±0.03 × 27.66E±0.03, h10 km±5 km, n23, σ 0s 78/42, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKS	**Akhisar**	**0.12**	**79**	PG	**Pg**	**15 21 54.6**	**-0.5**
AKS				SG	**Sg**	**15 21 57.0**	**-0.1**
AKS	**Akhisar**	**0.12**	**79**	*i* Pg	**Pg**	**15 21 54.6**	**-0.5**
AKS				*i* Sg	**Sg**	**15 21 57.0**	**-0.1**
IZM	**Izmir**	**0.55**	**214**	*e*PG	**Pg**	**15 22 02.4**	**-0.5**
IZM				*e*SG	**Sg**	**15 22 11.1**	**+0.8**
IZM	**Izmir**	**0.55**	**214**	*e*Pg	**Pg**	**15 22 02.4**	**-0.6**
IZM				*e*Sg	**Sg**	**15 22 11.1**	**+0.9**
BLCB	**Balcova**	**0.68**	**226**	*e*PG	**Pg**	**15 22 05.4**	**+0.1**
BLCB	**Balcova**	**0.68**	**226**	*e*Pg	**Pg**	**15 22 05.4**	**+0.1**
MANT	**Manisa**	**0.79**	**117**	*i* P	**Pg**	**15 22 07.4**	**-0.1**
MANT				*i* S	**Sg**	**15 22 17.8**	**+0.1**
MANT	**Manisa**	**0.79**	**117**	*i* P	**Pg**	**15 22 07.4**	**0.0**
MANT				*i* S	**Sg**	**15 22 17.8**	**+0.1**
BALB	**Balikesir**	**0.80**	**12**	*e*PG	**Pg**	**15 22 07.3**	**-0.3**
BALB	**Balikesir**	**0.80**	**12**	*e*Pg	**Pg**	**15 22 07.3**	**-0.4**
DEMI	**Demirci**	**0.84**	**77**	*i* P	**Pg**	**15 22 09.5**	**+1.0**
DEMI				*i* S	**Sg**	**15 22 18.9**	**-0.6**
AYVA	**Ayvalik**	**0.88**	**301**	*i* P	**Pg**	**15 22 08.5**	**-0.6**
AYVA				*i* S	**Sg**	**15 22 21.7**	**+1.0**
AYVA	**Ayvalik**	**0.88**	**301**	*i* P	**Pg**	**15 22 08.5**	**-0.7**
AYVA				*i* S	**Sg**	**15 22 21.7**	**+1.1**
BALY	**Balya**	**0.88**	**358**	*i* P	**Pg**	**15 22 08.4**	**-0.8**
BALY				*i* S	**Sg**	**15 22 20.6**	**-0.1**
BALY	**Balya**	**0.88**	**358**	*i* P	**Pg**	**15 22 08.4**	**-0.8**
BALY				*i* S	**Sg**	**15 22 20.6**	**-0.2**
DURS	**Dursunbey**	**0.98**	**40**	*i* P	**Pg**	**15 22 11.2**	**+0.2**
DURS				*i* S	**Sg**	**15 22 24.7**	**+1.0**
DURS	**Dursunbey**	**0.98**	**40**	*i* P	**Pg**	**15 22 11.2**	**+0.2**
DURS				*i* S	**Sg**	**15 22 24.7**	**+1.0**
DST	**Dursunbey**	**1.05**	**45**	*e*PG	**Pg**	**15 22 11.8**	**-0.6**
DST				*e*SG	**Sg**	**15 22 27.0**	**+0.8**
DST	**Dursunbey**	**1.05**	**45**	*e*Pg	**Pg**	**15 22 11.9**	**-0.6**
DST				*e*Sg	**Sg**	**15 22 27.0**	**+0.8**
AYDN	**Tasoluk**	**1.21**	**172**	*i* P	**Pb**	**15 22 14.0**	**-1.1**
AYDN				*i* S	**Sb**	**15 22 31.0**	**+0.2**
AYDN	**Tasoluk**	**1.21**	**172**	*i* P	**Pb**	**15 22 14.0**	**-1.1**
AYDN				*i* S	**Sb**	**15 22 31.0**	**+0.3**
GDZ	**Gediz**	**1.44**	**80**	*i* P	**Pn**	**15 22 15.6**	**-2.7**
GDZ				*i* S	**Sn**	**15 22 37.1**	**-0.2**
KHAL	**Karahalli**	**1.51**	**108**	*i* P	**Pn**	**15 22 20.4**	**+1.1**
KHAL				*i* S	**Sn**	**15 22 39.9**	**+0.8**

*ISCJB **09** 15:49:29.3±0.7, 38.80N±0.05 × 141.7E±0.1, h69 km±5 km, mb3.6/3, Error ellipse: s-maj=16.0km s-min=5.8km az=24.4*

*JMA **09** 15:49:30.7±0.1, 38.79N × 141.64E, h63 km±1 km, M3.5 Broadband fault plane solution: P waves. NP1: φs 343.00000°, δ2.00000°, λ53.00000°. NP2: φs 199.00000°, δ88.00000°, λ91.00000°. Principal axes: T Plg47.0000°, Azm111.0000°; N Plg1.0000°, Azm19.0000°; P Plg43.0000°, Azm288.0000°;*

JMA Felt II J1.

*IDC **09** 15:49:31.1±2.6, 38.84N × 141.83E, h76 km±27 km, mb3.3/3, mb1 3.3/5, mb1mx3.1/26, mbtmp3.2/5 Error ellipse: s-maj=41.9km s-min=17.5km az=100.0*

*NEIC **09** 15:49:32.1±0.9, 38.83N × 141.73E, h85 km±9 km, mb3.9/1, Error ellipse: s-maj=21.6km s-min=8.5km az=116.0*

ISC 09 15:49:30.6±0.7, 38.79N±0.05 × 141.7E±0.1, h62 km±5 km, n20, σ 0s 79/30, mb3.7/3, 7C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.29**	**357**	⇑P	**Pn**	**15 49 41.0**	**+0.1**
OFUJ				S	**Sn**	**15 49 48.3**	**0.0**
JMK	**Ichinoseki**	**0.40**	**294**	⇑P	**Pn**	**15 49 41.6**	**-0.2**
JMK				S	**Sn**	**15 49 49.4**	**-0.4**
JIO	**Ouri**	**0.43**	**219**	⇑P	**Pn**	**15 49 42.0**	**0.0**
JIO				S	**Sn**	**15 49 49.9**	**-0.3**
JOM	**Ohasama**	**0.75**	**336**	⇑P	**Pn**	**15 49 45.5**	**-0.1**
JOM				S	**Sn**	**15 49 56.4**	**-0.2**
JOU	**Okura**	**0.91**	**243**	⇑P	**Pn**	**15 49 47.3**	**-0.2**
JOU				S	**Sn**	**15 49 59.8**	**-0.2**
JMM	**Marumori**	**1.16**	**218**	⇑P	**Pn**	**15 49 50.2**	**-0.6**
JMM				S	**Sn**	**15 50 05.0**	**-0.8**
JYS	**Shirataka**	**1.39**	**247**	⇑P	**Pn**	**15 49 54.0**	**+0.1**
JYS				S	**Sn**	**15 50 11.7**	**+0.3**
ERM	**Erimo**	**3.41**	**19**	*e*P	**Pn**	**15 50 22.7**	**+1.3**
MAJO	**Matsushiro**	**3.56**	**232**	*e*P	**Pn**	**15 50 26.0**	**+2.6**
MJAR	**Matsushiro Arr**	**3.56**	**232**	P	**Pn**	**15 50 25.5**	**+2.2**
	0.8nm,0.3s,baz=30,slow=12,SNR=9.1						
MJAR				S	**Sn**	**15 51 17.4**	**+13**
	0.6nm,0.3s,baz=21,slow=13,SNR=2.6						
MJAR	**Matsushiro Arr**	**3.56**	**232**	P		**15 50 25.5**	**+2.2**
MJAR				S	**Sn**	**15 51 17.4**	**+13**
ASAJ	**Asahikawa**	**5.37**	**7**	P	**Pn**	**15 50 48.0**	**-0.1**
	0.5nm,0.3s,baz=88,slow=32,SNR=5.7						
ASAJ				S	**Sn**	**15 51 47.9**	**-0.6**
	0.6nm,0.3s,baz=282,slow=28,SNR=2.6						
ASAJ	**Asahikawa**	**5.37**	**7**	*e*P	**Pn**	**15 50 48.9**	**+0.8**
MK31	**Makanchi Array**	**43.39**	**301**	P	**P**	**15 57 26.6**	**-0.2**
KURK	**Kurchatov**	**45.04**	**307**	P	**P**	**15 57 40.1**	**+0.2**
	1.0nm,0.7s,mb3.8,baz=83,slow=8.4,SNR=8.8						
KURK	**Kurchatov**	**45.04**	**307**	P	**P**	**15 57 38.8**	**-1.2**
	1.6nm,0.8s,mb3.9						
WRA	**Warramunga Arr**	**58.82**	**188**	P	**P**	**15 59 21.7**	**-1.0**
	0.7nm,0.9s,mb3.7,baz=7.8,slow=7.7,SNR=9.8						
WRA	**Warramunga Arr**	**58.82**	**188**	P	**P**	**15 59 21.7**	**-1.0**
ASAR	**Alice Springs**	**62.55**	**188**	P	**P**	**15 59 47.7**	**-0.3**
	0.3nm,0.8s,mb3.5,baz=357,slow=5.7,SNR=5.7						
ASAR	**Alice Springs**	**62.55**	**188**	P	**P**	**15 59 47.7**	**-0.3**

*ISCJB **09** 16:11:15.3±0.4, 36.48N±0.03 × 70.79E±0.06, h203 km±5 km, mb3.5/10, Error ellipse: s-maj=7.9km s-min=3.9km az=164.0*

*NNC **09** 16:11:15.6±4.4, 37.05N × 70.26E, h0 km, mb4.2, mpv4.1, Error ellipse: s-maj=39.3km s-min=33.9km az=85.0*

*IDC **09** 16:11:15.6±3.7, 36.43N × 70.79E, h194 km±35 km, mb3.4/9, mb1 3.5/14, mb1mx3.3/29, mbtmp3.4/14, Error ellipse: s-maj=28.5km s-min=12.8km az=40.0*

*NEIC **09** 16:11:16.0±0.6, 36.46N × 70.74E, h197 km±7 km, mb4.4/12, Error ellipse: s-maj=9.0km s-min=5.0km az=60.0*

ISC 09 16:11:16.0±0.4, 36.49N±0.03 × 70.76E±0.06, h198 km±5 km, n83, σ 0s 88/101, mb3.5/10, 5C-11D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.40**	**216**	*e*P	**Pn**	**16 11 58.7**	**0.0**
CEP	**Cherat**	**2.82**	**160**	⇓P	**Pn**	**16 12 04.1**	**+0.6**
CEP				S	**Sn**	**16 12 40.0**	**-0.4**
CHCP	**Chirah Chowk**	**3.49**	**143**	⇓P	**Pn**	**16 12 12.2**	**+0.8**
THW	**Thamme Wali**	**3.77**	**167**	⇓P	**Pn**	**16 12 15.1**	**+0.2**
SARP	**Sargodha**	**4.82**	**160**	⇓P	**Pn**	**16 12 27.6**	**-0.5**
AML	**Almayashu**	**6.08**	**21**	P	**Pn**	**16 12 44.8**	**+0.7**
	SNR=109						
UCH	**Uchtor**	**6.43**	**26**	P	**Sn**	**16 14 00.1**	**-2.0**
	SNR=9.4						
EKS2	**Erkin-Say**	**6.59**	**20**	P	**Pn**	**16 12 51.6**	**+0.8**
	SNR=25						
EKS2	**Erkin-Say**	**6.59**	**20**	*e*P	**Pn**	**16 12 51.3**	**+0.5**
	8.2nm,0.4s						
KK31	**Karatay Array**	**6.61**	**358**	⇑Pn	**Pn**	**16 12 51.1**	**+0.1**
	4.2nm,0.3s,baz=196,slow=15,SNR=87						
KK31				⇓Sn	**Sn**	**16 14 02.6**	**-3.8**
	44nm,0.4s,baz=164,slow=12,SNR=25						
KKAR	**Karatay Array**	**6.61**	**358**	*e*P	**Pn**	**16 12 50.9**	**-0.1**
	13nm,0.3s						
AAK	**Ala-Archa**	**6.78**	**24**	P	**Pn**	**16 12 54.2**	**+1.0**
	SNR=15						
AAK	**Ala-Archa**	**6.78**	**24**	P	**Pn**	**16 12 54.1**	**+0.9**
	0.1nm,0.3s,baz=160,slow=4.2,SNR=42						
AAK				S	**Sn**	**16 14 09.2**	**-1.2**
	0.2nm,0.3s,baz=167,slow=22,SNR=38						
AAK	**Ala-Archa**	**6.78**	**24**	*e*P	**Pn**	**16 12 53.9**	**+0.6**
AAK				S	**Sn**	**16 14 09.2**	**-1.2**
KBK	**Karagaybulak**	**6.96**	**26**	P	**Pn**	**16 12 56.7**

	comp=N,2.4nm,0.3s,baz=141,slow=11,SNR=49							
AKTO				S	S	16 18 00.1	-1.4	
	comp=N,0.3nm,0.3s,baz=131,slow=20,SNR=6.9							
TAPN	**Taplejung**	**17.01**	**118**	*e*P	**Pn**	**16 15 03.8**	**+1.3**	
	comp=N,9.4nm,0.3s							
TAPN	**Taplejung**	**17.01**	**118**	*e*P	**Pn**	**16 15 03.8**	**+1.3**	
	comp=N,9.4nm,0.3s							
ODAN	**Odare**	**17.08**	**119**	*e*P	**Pn**	**16 15 05.1**	**+1.7**	
	comp=N,8.3nm,0.4s							
ODAN	**Odare**	**17.08**	**119**	*e*P	**Pn**	**16 15 05.1**	**+1.7**	
	comp=N,8.3nm,0.4s							
ZALV	**Zalesovo Beam**	**20.01**	**25**	P	**P**	**16 15 34.5**	**+1.1**	
	comp=N,5.0nm,0.5s,baz=218,slow=11,SNR=34							
ZALV	**Zalesovo Beam**	**20.01**	**25**	P	**P**	**16 15 34.5**	**+1.1**	
ULN	**Ulaanbaatar**	**28.94**	**55**	*e*P	**P**	**16 16 56.6**	**0.0**	
	comp=N,0.8nm,0.5s,mb3.6							
CMAR	**Chiang Mai Arr**	**30.62**	**118**	P	**P**	**16 17 11.6**	**-0.1**	
	comp=N,0.4nm,0.6s,mb3.2,baz=286,slow=7.1,SNR=5.1							
CMAR	**Chiang Mai Arr**	**30.62**	**118**	P	**P**	**16 17 11.6**	**-0.1**	
FINES	**FINESS Array B**	**37.39**	**326**	P	**P**	**16 18 09.2**	**-0.2**	
	comp=N,4.4nm,0.9s,mb4.0,baz=150,slow=7.9,SNR=7.1							
FINES	**FINESS Array B**	**37.39**	**326**	P	**P**	**16 18 09.2**	**-0.2**	
ARCES	**ARCESS Array B**	**41.08**	**338**	P	**P**	**16 18 41.8**	**+1.9**	
	comp=N,2.0nm,0.8s,mb3.6,baz=107,slow=6.5,SNR=5.2							
ARCES	**ARCESS Array B**	**41.08**	**338**	P	**P**	**16 18 41.8**	**+1.9**	
HFS	**Hagfors**	**42.96**	**322**	P	**P**	**16 18 55.2**	**+0.1**	
	comp=N,1.0nm,0.4s,mb3.6,baz=97,slow=12,SNR=4.3							
HFS	**Hagfors**	**42.96**	**322**	P	**P**	**16 18 55.2**	**+0.1**	
NOA	**NORSAR Array B**	**44.27**	**323**	P	**P**	**16 19 06.4**	**+0.8**	
	comp=N,0.7nm,0.7s,mb3.1,baz=95,slow=9.7,SNR=2.4							
NOA	**NORSAR Array B**	**44.27**	**323**	P	**P**	**16 19 06.4**	**+0.8**	
TORD	**Torodi Ar. Bea**	**65.52**	**268**	P	**P**	**16 21 38.0**	**-0.5**	
	comp=N,0.4nm,0.5s,mb3.3,baz=50,slow=6.1,SNR=7.0							
TORD	**Torodi Ar. Bea**	**65.52**	**268**	P	**P**	**16 21 38.0**	**-0.5**	
WRA	**Warramunga Arr**	**82.15**	**122**	P	**P**	**16 23 14.2**	**-0.6**	
	comp=N,0.8nm,0.7s,mb3.5,baz=326,slow=5.0,SNR=16							
WRA	**Warramunga Arr**	**82.15**	**122**	P	**P**	**16 23 14.2**	**-0.6**	
WRAB	**Tennant Creek**	**82.15**	**122**	*e*P	**P**	**16 23 14.2**	**-0.6**	
	comp=N,1.2nm,0.7s,mb3.6							
WB2	**Warramunga Arr**	**82.16**	**122**	*e*P	**P**	**16 23 14.0**	**-0.8**	
ASAR	**Alice Springs**	**84.41**	**125**	P	**P**	**16 23 25.9**	**-0.3**	
	comp=N,0.5nm,0.6s,mb3.5,baz=317,slow=4.9,SNR=14							
ASAR	**Alice Springs**	**84.41**	**125**	P	**P**	**16 23 25.9**	**-0.3**	

IDC 09 16:12:03.4±8.3, 5.89S×151.60E, h86km±58km, mb3.5/3, mb1 3.7/4, mb1mx3.3/18, mbtmp3.6/4, ML2.8/1, Error ellipse: s-maj=91.7km s-min=54.2km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.62**	**231**	P	Pn	16 13 23.3	-1.2
	1.8nm,0.3s,baz=31,slow=5.8,SNR=11						
PMG				S	Sn	16 14 29.3	+1.6
	4.1nm,0.3s,baz=157,slow=22,SNR=8.8						
WRA	**Warramunga Arr**	**21.83**	**229**	P	P	16 16 49.6	+0.8
	1.3nm,0.7s,baz=54,slow=10,SNR=13						
ASAR	**Alice Springs**	**24.54**	**222**	P	P	16 17 14.8	-0.4
	2.0nm,0.8s,baz=54,slow=8.7,SNR=25						
FITZ	**Fitzroy Crossi**	**28.09**	**242**	P	P	16 17 46.7	-0.5
	1.8nm,0.7s,baz=64,slow=11,SNR=7.4						
TORD	**Torodi Ar. Bea**	**149.48**	**286**	PKPbc	PKPbc	16 31 43.7	0.0
	0.3nm,0.7s,baz=90,slow=3.1,SNR=2.4						

IDC 09 16:35:38.5±28.0, 16.05S×175.45W, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.9/19, mbtmp4.2/4, Error ellipse: s-maj=549.7km s-min=138.7km az=84.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.00**	**240**	P	P	16 43 31.8	+0.2
	1.5nm,0.5s,baz=82,slow=7.6,SNR=14						
WRA	**Warramunga Arr**	**47.77**	**257**	P	P	16 44 17.6	-0.2
	0.7nm,0.5s,baz=94,slow=7.1,SNR=17						
ASAR	**Alice Springs**	**48.03**	**252**	P	P	16 44 19.6	-0.2
	6.7nm,0.6s,baz=88,slow=8.4,SNR=110						
FITZ	**Fitzroy Crossi**	**56.14**	**259**	P	P	16 45 20.4	+0.1
	1.5nm,0.9s,baz=82,slow=7.1,SNR=5.1						

*ISCJB **09** 16:44:57.2±0.5, 36.70N±0.04×141.48E±0.05, h33km, mb3.6/9, Error ellipse: s-maj=6.4km s-min=4.9km az=21.5*
*JMA **09** 16:44:59.6±0.1, 36.72N×141.27E, h47km±2km, M3.7*
JMA Felt I J1.
*NEIC **09** 16:45:00.2±1.3, 36.70N×141.40E, h43km±11km, mb3.9/2, Error ellipse: s-maj=16.2km s-min=9.9km az=135.0*
*NIED **09** 16:45:00, 36.70N×141.30E, h44km, Mw3.8 Best double couple: M₀6.23000×10¹⁴ NP1:φ=27.00000°, δ=86.00000°, λ=93.00000°. NP2:φ=168.00000°, δ=5.00000°, λ=51.00000°.*
*IDC **09** 16:45:00.1±1.8, 36.67N×141.44E, h42km±18km, mb3.3/7, mb1 3.7/11, mb1mx3.5/27, mbtmp3.6/11, ML3.7/3, MS3.2/2, Ms1 3.2/2, ms1mx2.6/23, Error ellipse: s-maj=14.9km s-min=10.7km az=88.0*

ISC 09 16:44:59.6±0.5, 36.72N±0.04×141.37E±0.06, h35km, n32, σ1°06/39, mb3.6/9, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.59**	**310**	↓P	**Pn**	**16 45 10.7**	**-0.8**
ONAJ				S	**Sn**	**16 45 18.6**	**-1.4**
JHO	**Hitachi**	**0.65**	**261**	↓P	**Pn**	**16 45 11.4**	**-0.9**
JFK	**Kawauchi**	**0.76**	**329**	↓P	**Pn**	**16 45 13.2**	**-0.6**
JFK				S	**Sn**	**16 45 22.3**	**-1.7**
JYT	**Yasato**	**1.06**	**243**	↓P	**Pn**	**16 45 17.2**	**-0.8**
JYT				S	**Sn**	**16 45 29.9**	**-1.7**
JAG	**Ashikaga**	**1.57**	**260**	P	**Pn**	**16 45 24.7**	**-0.2**
MJAR	**Matsushiro Arr**	**2.55**	**267**	P	**Pn**	**16 45 39.3**	**+1.0**
	11nm,0.3s,baz=72,slow=29,SNR=106						
MJAR				S	**Sn**	**16 46 10.3**	**+2.2**
	14nm,0.3s,baz=29,slow=16,SNR=8.4						
MJAR	**Matsushiro Arr**	**2.55**	**267**	P	**Pn**	**16 45 39.4**	**+1.0**
MJAR				S	**Sn**	**16 46 10.3**	**+2.2**
MAJO	**Matsushiro**	**2.55**	**267**	*e*P	**Pn**	**16 45 39.8**	**+1.4**
MAT	**Matsushiro**	**2.55**	**267**	P	**Pn**	**16 45 39.7**	**+1.3**
MAT				S	**Sn**	**16 46 08.9**	**+0.7**
JHJ	**Hachijo jima 2**	**3.82**	**200**	P	**Pn**	**16 45 57.0**	**+1.2**
	23nm,0.3s,baz=242,slow=18,SNR=9.0						
JHJ				S	**Sn**	**16 46 39.4**	**-0.2**
	47nm,0.3s,baz=86,slow=24,SNR=7.4						
ERM	**Erimo**	**5.47**	**14**	*e*P	**Pn**	**16 46 17.9**	**-0.6**
ASAJ	**Asahikawa**	**7.45**	**7**	P	**Pn**	**16 46 47.5**	**+1.8**
	0.6nm,0.3s,baz=70,slow=30,SNR=6.8						
ASAJ				S	**Sn**	**16 48 09.3**	**+0.4**
	0.4nm,0.3s,baz=53,slow=20,SNR=2.5						
ASAJ	**Asahikawa**	**7.45**	**7**	*e*P	**Pn**	**16 46 47.4**	**+1.8**
CBIJ	**Chichi jima**	**9.62**	**176**	P	**Pn**	**16 47 14.1**	**-1.4**
	4.5nm,0.3s,baz=288,slow=20,SNR=3.8						
CBIJ				S	**Sn**	**16 48 53.8**	**-8.5**
	4.8nm,0.3s,baz=288,slow=20,SNR=2.8						
KSRS	**Korea Array**	**10.77**	**278**	LR	LR	16 50 31.1	
	comp=Z,28nm,20.9s,baz=151,slow=30						
ULN	**Ulaanbaatar**	**27.50**	**305**	P	**P**	**16 50 43.0**	**+0.5**
	1.0nm,0.6s,mb3.6						
SONM	**Songino Array**	**27.93**	**304**	P	**P**	**16 50 47.9**	**+1.5**
	1.2nm,0.6s,mb3.7,baz=122,slow=9.0,SNR=6.3						
SONM	**Songino Array**	**27.93**	**304**	P	**P**	**16 50 47.9**	**+1.5**
ZALV	**Zalesovo Beam**	**42.10**	**313**	P	**P**	**16 52 47.4**	**-0.5**
	0.6nm,0.4s,mb3.5,baz=93,slow=6.6,SNR=4.0						
ZALV	**Zalesovo Beam**	**42.10**	**313**	P	**P**	**16 52 47.4**	**-0.5**
MKAR	**Makanchi Array**	**44.26**	**302**	P	**P**	**16 53 05.3**	**-0.2**
	0.2nm,0.3s,mb3.3,baz=129,slow=4.6,SNR=3.0						
MKAR	**Makanchi Array**	**44.26**	**302**	P	**P**	**16 53 05.3**	**-0.2**
KURK	**Kurchatov**	**46.10**	**308**	*e*P	**P**	**16 53 19.0**	**-1.0**
	2.6nm,0.8s,mb4.2						
ILAR	**Eielson Array**	**49.78**	**32**	P	**P**	**16 53 49.4**	**+1.1**
	0.3nm,0.9s,mb3.3,baz=255,slow=6.5,SNR=3.0						
ILAR	**Eielson Array**	**49.78**	**32**	P	**P**	**16 53 49.4**	**+1.1**
WRA	**Warramunga Arr**	**56.74**	**188**	P	**P**	**16 54 39.2**	**-0.6**
	0.3nm,0.4s,mb3.7,baz=6.6,slow=7.4,SNR=8.2						
WRA	**Warramunga Arr**	**56.74**	**188**	P	**P**	**16 54 39.2**	**-0.6**
ASAR	**Alice Springs**	**60.47**	**188**	P	**P**	**16 55 05.5**	**-0.3**
	0.4nm,0.8s,mb3.5,baz=9.7,slow=8.8,SNR=4.2						
ASAR	**Alice Springs**	**60.47**	**188**	P	**P**	**16 55 05.5**	**-0.3**
RES	**Resolute Bay**	**62.91**	**14**	LR	LR	17 24 47.3	
	comp=Z,64nm,18.1s,baz=360,slow=38						
PDAR	**Pinedale Array**	**77.91**	**45**	P	**P**	**16 56 53.7**	**-0.1**
	0.3nm,0.8s,mb3.3,baz=270,slow=0.9,SNR=2.6						
PDAR	**Pinedale Array**	**77.91**	**45**	P	**P**	**16 56 53.7**	**-0.1**

*ISCJB **09** 16:46:03.3±0.9, 19.08S±0.09×169.26E±0.08, h252km±9km, mb3.8/15, Error ellipse: s-maj=15.6km s-min=11.8km az=158.3*
*NEIC **09** 16:46:04.2±0.9, 19.03S×169.30E, h249km±8km, mb3.9/7, Error ellipse: s-maj=11.9km s-min=8.7km az=162.0*
*IDC **09** 16:46:06.0±7.9, 18.99S×169.31E, h266km±71km, mb3.5/11, mb1 3.6/11, mb1mx3.5/18, mbtmp3.5/11, Error ellipse: s-maj=31.5km s-min=20.9km az=94.0*

ISC 09 16:46:04.0±0.9, 19.05S±0.09×169.27E±0.08, h243km±9km, n74, σ0°74/35, mb3.8/15, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.00**	**221**	*e*P	**Pn**	**16 47 06.5**	**-1.0**
DZM	**Mont Dzumac**	**4.00**	**221**	*e*P	**Pn**	**16 47 07.6**	**+0.1**
NOUC	**Port Laguerre**	**4.11**	**222**	*e*P	**Pn**	**16 47 08.9**	**+0.1**
NOUC				*e*S	**S**	**16 48 11.8**	**+12**
MSVF	**Nonsavu**	**8.44**	**82**	*e*P	**Pn**	**16 48 03.1**	**+0.2**
HNR	**Honiara**	**13.15**	**315**	*e*P	**Pn**	**16 49 02.6**	**+0.4**
	119nm,0.8s						
CTA	**Charters Tower**	**21.71**	**263**	P	**P**	**16 50 36.5**	**+0.4**
	2.0nm,0.5s,mb3.9,baz=97,slow=9.3,SNR=5.3						
CTA	**Charters Tower**	**21.71**	**263**	P	**P**	**16 50 36.5**	**+0.4**
CTAO	**Charters Tower**	**21.71**	**263**	*e*P	**P**	**16 50 36.6**	**+0.6**
	2.2nm,0.5s,mb3.9						
STKA	**Stephens Creek**	**27.97**	**237**	P	**P**	**16 51 33.6**	**+1.3**
	1.7nm,0.6s,mb3.9,baz=76,slow=15,SNR=9.8						
STKA				PcP	PcP	16 54 40.3	-0.7
	1.9nm,1.1s,baz=127,slow=9.7,SNR=6.6						
STKA	**Stephens Creek**	**27.97**	**237**	*e*P	**P**	**16 51 33.3**	**+1.0**
	0.4nm,0.6s,mb3.2						
STKA				PcP	PcP	16 54 40.3	-0.7
WB2	**Warramunga Arr**	**32.90**	**263**	*e*P	**P**	**16 52 15.1**	**-0.6**
WRAB	**Tennant Creek**	**32.90**	**263**	*e*P	**P**	**16 52 14.3**	**-1.4**
WRA	**Warramunga Arr**	**32.91**	**263**	P	**P**	**16 52 15.0**	**-0.7**
	0.4nm,0.4s,mb3.3,baz=89,slow=8.4,SNR=20						
WRA	**Warramunga Arr**	**32.91**	**263**	P	**P**	**16 52 15.0**	**-0.8**
ASAR	**Alice Springs**	**33.20**	**256**	P	**P**	**16 52 18.5**	**+0.2**
	1.6nm,0.5s,mb3.8,baz=82,slow=8.7,SNR=67						
ASAR				PcP	PcP	16 54 54.2	-0.8
	0.5nm,0.7s,baz=93,slow=2.3,SNR=5.0						
ASAR	**Alice Springs**	**33.20**	**256**	P	**P**	**16 52 18.5**	**+0.2**
ASAR				PcP	PcP	16 54 54.2	-0.8
FITZ	**Fitzroy Crossi**	**41.29**	**264**	P	**P**	**16 53 27.1**	**+1.0**
	2.1nm,0.8s,mb3.6,baz=67,slow=7.3,SNR=5.7						
FITZ	**Fitzroy Crossi**	**41.29**	**264**	P	**P**	**16 53 27.1**	**+1.0**
MBWA	**Marble Bar**	**46.42**	**259**	*e*P	**P**	**16 54 07.0**	**+0.2**
	1.7nm,0.3s,mb3.9						
VNDA	**Vanda**	**58.62**	**182**	P	**P**	**16 55 34.9**	**-0.3**
	1.1nm,0.5s,mb3.7,baz=344,slow=6.9,SNR=5.6						
VNDA	**Vanda**	**58.62**	**182**	*e*P	**P**	**16 55 34.8**	**-0.3**
	1.1nm,0.5s,mb3.7						
SBA	**Scott Base**	**58.85**	**181**	*e*P	**P**	**16 55 37.3**	**+0.5**
	3.2nm,0.7s,mb4.1						
QSPA	**South Pole Qui**	**71.00**	**180**	*e*P	**P**	**16 56 54.4**	**-0.4**
	7.8nm,1.1s,mb4.2						
PETK	**Petropavlovsk-**	**72.55**	**353**	P	**P**	**16 57 04.4**	**+0.2**
	1.9nm,0.6s,mb3.9,baz=156,slow=6.2,SNR=4.5						
PETK	**Petropavlovsk-**	**72.55**	**353**	P	**P**	**16 57 04.4**	**+0.2**
MAW	**Mawson**	**78.62**	**202**	P	**P**	**16 57 38.8**	**+0.3**
	1.1nm,0.8s,mb3.6,baz=82,slow=1.6,SNR=5.7						
MAW	**Mawson**	**78.62**	**202**	P	**P**	**16 57 38.8**	**+0.3**
SONM	**Songino Array**	**87.09**	**323**	P	**P**	**16 58 22.5**	**+0.4**
	0.7nm,0.6s,mb3.5,baz=146,slow=6.7,SNR=5.7						
SONM	**Songino Array**	**87.09**	**323**	P	**P**	**16 58 22.5**	**+0.4**
NVAR	**Mina Array Bea**	**88.66**	**48**	P	**P**	**16 58 30.3**	**+0.5**
	0.3nm,0.3s,mb3.6,baz=237,slow=8.3,SNR=3.1						
NVAR	**Mina Array Bea**	**88.66**	**48**	P	**P**	**16 58 30.3**	**+0.5**
ILAR	**Eielson Array**	**90.04**	**17**	P	**P**	**16 58 33.2**	**-2.4**
	0.7nm,0.4s,mb3.8,baz=237,slow=5.3,SNR=25						
ILAR	**Eielson Array**	**90.04**	**17**	P	**P**	**16 58 33.2**	**-2.4**
HLID	**Hailey**	**93.45**	**45**	*e*P	**P**	**16 58 52.1**	**+0.2**
	0.7nm,0.7s,mb3.8						
ARCES	**ARCESS Array B**	**124.89**	**345**	PKP	PKPdf	17 04 32.8	-1.5
	0.9nm,0.3s,baz=81,slow=2.2,SNR=8.3						
ARCES	**ARCESS Array B**	**124.89**	**345**	PKP	PKPdf	17 04 32.8	-1.5
GERES	**GERESS Array B**	**144.34**	**332**	PKP	PKPdf	17 05 09.4	-1.6
	1.2nm,0.6s,baz=27,slow=2.8,SNR=15						
GERES	**GERESS Array B**	**144.34**	**332**	PKP	PKPdf	17 05 09.4	-1.6
CDF	**Champ du Feu**	**147.28**	**338**	*e*PKP1	PKPbc	17 05 18.0	-0.7
CDF	**Champ du Feu**	**147.28**	**338**	*e*PKP	PKPbc	17 05 18.0	-0.7
HAU	**Haudompre**	**147.95**	**338**	*e*PKP1	PKPbc	17 05 19.7	-0.8
HAU	**Haudompre**	**147.95**	**338**	*e*PKP	PKPbc	17 05 19.7	-0.8
SFTF	**Sexfontaines**	**148.23**	**340**	*e*PKP1	PKPbc	17 05 20.5	-0.7
SFTF	**Sexfontaines**	**148.23**	**340**	*e*PKP	PKPbc	17 05 20.5	-0.7
CABF	**La Chapelle**	**149.23**	**337**	*e*PKP1	PKPbc	17 05 23.5	-0.3
CABF	**La Chapelle**	**149.23**	**337**	*e*PKP	PKPbc	17 05 23.5	-0.3
LOR	**Lormes**	**149.43**	**340**	*e*PKP1	PKPbc	17 05 23.4	-0.8
LOR	**Lormes**	**149.43**	**340**	*e*PKP	PKPbc	17 05 23.4	-0.8
SSF	**Saint Saulge**	**149.73**	**341**	*e*PKP1	PKPbc	17 05 24.1	-0.9
SSF	**Saint Saulge**	**149.73**	**341**	*e*PKP	PKPbc	17 05 24.1	-0.9
LPL	**La Plagne**	**149.90**	**335**	*e*PKP1	PKPbc	17 05 25.1	-0.3
LPL	**La Plagne**	**149.90**	**335**	*e*PKP	PKPbc	17 05 25.1	-0.3
LPG	**La Plagne**	**149.91**	**335**	*e*PKP1	PKPbc	17 05 25.3	-0.1
	3.9nm,0.6s						
LPG	**La Plagne**	**149.91**	**335**	*e*PKP	PKPbc	17 05 25.3	-0.1
SMF	**Signal de Mont**	**149.99**	**340**	*e*PKP1	PKPbc	17 05 25.0	-0.6
SMF	**Signal de Mont**	**149.99**	**340**	*e*PKP	PKPbc	17 05 25.0	-0.6
BGF	**Bois d'Agland**	**150.38**	**341**	*e*PKP1	PKPbc	17 05 25.6	-0.9
BGF	**Bois d'Agland**	**150.38**	**341**	*e*PKP	PKPbc	17 05 25.6	-0.9
MBDF	**Montbardon**	**150.53**	**334**	*e*PKP1	PKPbc	17 05 26.5	-0.5
MBDF	**Montbardon**	**150.53**	**334**	*e*PKP	PKPbc	17 05 26.5	-0.5
ORIF	**Oris-en-Rattie**	**150.73**	**335**	*e*PKP1	PKPbc	17 05 26.7	-0.7
	5.6nm,0.6s						
ORIF	**Oris-en-Rattie**	**150.73**	**335**	*e*PKP	PKPbc	17 05 26.7	-0.7
TCF	**Toulx Ste Croi**	**150.82**	**341**	*e*PKP1	PKPbc	17 05 26.5	-1.1
TCF	**Toulx Ste Croi**	**150.82**	**341**	*e*PKP	PKPbc	17 05 26.5	-1.1
PGF	**Pioggiola**	**151.23**	**329**	*e*PKP1	PKPbc	17 05 27.8	-0.9
	8.7nm,0.6s						
PGF	**Pioggiola**	**151.23**	**329**	*e*PKP	PKPbc	17 05 27.8	-0.9
FRF	**La Foret Royal**	**151.53**	**333**	*e*PKP1	PKPbc	17 05 28.0	-1.3
FRF	**La Foret Royal**	**151.53**	**333**	*e*PKP	PKPbc	17 05 28.0	-1.3
SMRF	**Simiane la Rot**	**151.64**	**335**	*e*PKP1	PKPbc	17 05 29.1	-0.4
SMRF	**Simiane la Rot**	**151.64**	**335**	*e*PKP	PKPbc	17 05 29.1	-0.4
LMR	**La Mourre**	**151.77**	**333**	*e*PKP1	PKPbc	17 05 28.7	-1.2
LMR	**La Mourre**	**151.77**	**333**	*e*PKP	PKPbc	17 05 28.7	-1.2
TORD	**Torodi Ar. Bea**	**166.70**	**246**	PKP	PKPdf	17 05 39.9	-1.3
	0.4nm,0.7s,baz=82,slow=0.4,SNR=4.7						
TORD	**Torodi Ar. Bea**	**166.70**	**246**	PKP	PKPdf	17 05 39.9	-1.3

*ISCJB **09** 17:17:54.9±0.6, 37.87N±0.05×140.21E±0.06, h119km±4km, mb3.5/3, Error ellipse: s-maj=8.8km s-min=6.8km az=43.2*
*JMA **09** 17:17:56.0±0.1, 37.89N×140.24E, h112km±1km, M2.9*
*IDC **09** 17:18:04.5±3.7, 37.44N×138.91E, h163km±13km, mb3.0/3, mb1 3.2/3, mb1mx2.8/25, mbtmp3.0/3, Error ellipse: s-maj=92.5km s-min=23.3km az=58.0*

ISC 09 17:17:55.9±0.6, 37.87N±0.05×140.21E±0.06, h114km±4km, n18, σ0°41/28, mb3.5/3, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYS	**Shirataka**	**0.37**	**342**	P	**Pn**	**17 18 12.5**	**+0.1**
JYS				S	**Sn**	**17 18 24.7**	**-0.1**
JFT	**Otama**	**0.37**	**164**	P	**Pn**	**17 18 12.2**	**-0.2**
JFT				S	**Sn**	**17 18 24.9**	**+0.1**
JMM	**Marumori**	**0.46**	**91**	P	**Pn**	**17 18 12.6**	**-0.3**
JMM				*e*S	**Sn**	**17 18 25.1**	**-0.6**
JOU	**Okura**	**0.61**	**36**	P	**Pn**	**17 18 14.0**	**+0.1**
JFY	**Yanaizu**	**0.61**	**221**	P	**Pn**	**17 18 14.2**	**+0.2**
JFY				*e*S	**Sn**	**17 18 27.5**	**0.0**
JNS	**Sasagawa**	**0.71**	**266**	P	**Pn**	**17 18 14.7**	**0.0**
JNS				*e*S	**Sn**	**17 18 29.1**	**+0.3**
JFK	**Kawauchi**	**0.73**	**134**	P	**Pn**	**17 18 14.5**	**-0.4**
JYA	**Atsumi**	**0.82**	**332**	P	**Pn**	**17 18 15.8**	**+0.2**
JYA				S	**Sn**	**17 18 30.8**	**+0.3**
JAW	**Awa shima**	**0.95**	**308**	P	**Pn**	**17 18 17.0**	**+0.1**
JAW				S	**Sn**	**17 18 32.6**	**-0.2**
JMK	**Ichinoseki**	**1.34**	**36**	P	**Pn**	**17 18 21.0**	**0.0**
JSD	**Sado**	**1.55**	**277**	P	**Pn**	**17 18 23.4**	**-0.1**
JSD				S	**Sn**	**17 18 43.8**	**-0.7**
JAG	**Ashikaga**	**1.57**	**203**	P	**Pn**	**17 18 24.4**	**+0.7**
JOM	**Ohasama**	**1.81**	**28**	P	**Pn**	**17 18 27.1**	**+0.4**
JOM				*e*S	**Sn**	**17 18 50.2**	**+0.1**
MAT	**Matsushiro**	**2.08**	**231**	P	**Pn**	**17 18 30.9**	**+0.8**
MAT				*e*S	**Sn**	**17 18 55.3**	**-0.8**
MJAR	**Matsushiro Arr**	**2.08**	**231**	P	**Pn**	**17 18 31.1**	**+1.0**
	1.7nm,0.3s,baz=30,slow=14,SNR=50						
KURK	**Kurchatov**	**44.66**	**307**	P	**P**	**17 25 56.7**	**-0.3**
	0.5nm,0.6s,mb3.5,baz=85,slow=8.8,SNR=4.6						
WRA	**Warramunga Arr**	**57.77**	**187**	P	**P**	**17 27 34.8**	**-0.3**
	0.3nm,0.3s,mb3.8,baz=3.1,slow=7.2,SNR=16						
ASAR	**Alice Springs**	**61.50**	**187**	P	**P**	**17 28 00.3**	**-0.2**
	0.1nm,0.3s,mb3.3,baz=355,slow=3.9,SNR=9.6						

*ISCJB **09** 17:25:05.7±0.3, 23.89N±0.02×122.66E±0.02, h33km, Error ellipse: s-maj=3.6km s-min=2.4km az=161.4*
*JMA **09** 17:25:05.8±0.3, 24.06N×122.64E, h39km, M2.5*
*TAP **09** 17:25:05.5, 23.85N×122.58E, h13km±1km, ML3.2, D*

ISC 09 17:25:06.2±0.3, 23.90N±0.03×122.66E±0.02, h35km, n38, σ0°84/73, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.64**	**30**	P	**Pn**	**17 25 16.8**	**-2.0**
YOJ				S	**Sn**	**17 25 24.5**	**-3.2**
ENA	**Nanau**	**0.99**	**302**	P	**Pn**	**17 25 22.9**	**-0.7**
	baz=307						
ENA				*e*S	**Sn**	**17 25 36.1**	**-0.3**
	baz=307						
TWD	**Chiawan**	**0.99**	**280**	*i* P	**Pn**	**17 25 22.2**	**-1.4**
	baz=284						
TWD				*i* S	**Sn**	**17 25 34.9**	**-1.5**
	baz=284						
TWC	**Suao**	**1.02**	**314**	P	**Pn**	**17 25 23.4**	**-0.6**
	baz=318						
TWC				*e*S	**Sn**	**17 25 35.7**	**-1.5**
	baz=318						
HATJ	**Hateruma jima**	**1.05**	**81**	P	**Pn**	**17 25 24.4**	**-0.1**
HATJ				*e*S	**Sn**	**17 25 38.4**	**+0.4**
IRIF	**Iriomote-Funau**	**1.06**	**66**	P	**Pn**	**17 25 24.3**	**-0.3**
IRIF				*e*S	**Sn**	**17 25 37.7**	**-0.5**
ESL	**Shilin**	**1.13**	**266**	*i* P	**Pn**	**17 25 24.3**	**-1.2**
	baz=267						
ESL				S	**Sn**	**17 25 38.0**	**-1.8**
	baz=267						
ILA	**Ilan**	**1.20**	**316**	*e*P	**Pn**	**17 25 26.5**	**0.0**
	baz=320						
ILA				*e*S	**Sn**	**17 25 42.5**	**+1.1**
	baz=320						
TWE	**Neicheng**	**1.22**	**312**	P	**Pn**	**17 25 26.8**	**0.0**
	baz=316						
TWE				S	**Sn**	**17 25 42.9**	**+0.8**
	baz=316						
ENTT	**Nioudou**	**1.24**	**306**	P	**Pn**	**17 25 27.8**	**+0.8**
	baz=310						
ENTT				S	**Sn**	**17 25 43.5**	**+0.9**
	baz=310						
TWB1	**Santiao Chiao**	**1.26**	**331**	*e*P	**Pn**	**17 25 26.5**	**-0.8**
	baz=335						
JKRS	**Kuro-shima**	**1.27**	**75**	P	**Pn**	**17 25 28.0**	**+0.5**
JKRS				*e*S	**Sn**	**17 25 44.9**	**+1.5**
NNS	**Nan Shan**	**1.29**	**295**	P	**Pn**	**17 25 27.6**	**-0.2**
	baz=298						
NNS				S	**Sn**	**17 25 43.6**	**-0.2**
	baz=298						

IDC ***09*** *17:45:17.5±1.1,5˚.07S×134˚.05E,h0km,mb3.8/3, mb1 4.1/7,mb1mx3.8/16,mbtmp3.9/7,ML3.7/4,MS4.1/1, Ms1 4.1/1,ms1mx3.0/26,Error ellipse: s-maj=49.7km s-min=19.6km az=79.0*

NEIC ***09*** *17:45:22.6±0.8,5˚.19S×133˚.95E,h35km,mb3.9/1,Error ellipse: s-maj=21.2km s-min=10.9km az=81.0*

ISC 09 17:45:27.2±5.3,5˚.5S±0˚.2×133˚.8E±0˚.1,h80km±55km,n20, σ1§41/22,mb3.5/3,Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**14.38**	**178**	*e*Pn	**Pn**	**17 48 45.2**	**-1.7**
	5.6nm,0.6s						
WB2	**Warramunga Arr**	**14.39**	**178**	*e*P	**Pn**	**17 48 47.7**	**+0.7**
WRA	**Warramunga Arr**	**14.39**	**178**	Pn	**Pn**	**17 48 47.9**	**+0.9**
	0.1nm,0.3s,baz=354,slow=13,SNR=9.2						
WRA				Sn	**Sn**	**17 51 22.2**	**-3.2**
	0.1nm,0.3s,baz=350,slow=24,SNR=3.1						
WRA				Lg		17 53 10.0	
	0.2nm,0.3s,baz=360,slow=25,SNR=4.3						
WRA	**Warramunga Arr**	**14.39**	**178**	Pn	**Pn**	**17 48 47.9**	**+0.9**
WRA				Sn	**Sn**	**17 51 22.2**	**-3.2**
WRA				Lg		17 53 10.0	
FITZ	**Fitzroy Crossi**	**14.86**	**212**	Pn	**Pn**	**17 48 53.5**	**+0.5**
	0.5nm,0.3s,baz=41,slow=14,SNR=21						
FITZ				Sn	**Sn**	**17 51 35.7**	**-1.1**
	0.6nm,0.3s,baz=157,slow=13,SNR=6.8						
FITZ	**Fitzroy Crossi**	**14.86**	**212**	*e*P	**Pn**	**17 48 55.2**	**+2.1**
FITZ				Sn	**Sn**	**17 51 35.7**	**-1.1**
ASAR	**Alice Springs**	**18.09**	**180**	P	**Pn**	**17 49 34.9**	**+1.8**
	0.6nm,0.3s,baz=3.9,slow=11,SNR=62						
ASAR	**Alice Springs**	**18.09**	**180**	P	**Pn**	**17 49 34.9**	**+1.8**
CTA	**Charters Tower**	**18.92**	**141**	P	**Pn**	**17 49 42.7**	**-0.5**
	0.2nm,0.3s,baz=324,slow=10,SNR=4.6						
CTA				Lg		17 55 33.1	
	0.2nm,0.3s,baz=36,slow=19,SNR=3.7						
CTA	**Charters Tower**	**18.92**	**141**	P	**Pn**	**17 49 42.7**	**-0.5**
CTA				Lg		17 55 33.1	
CTAO	**Charters Tower**	**18.92**	**141**	*e*P	**Pn**	**17 49 42.2**	**-1.0**
	5.9nm,0.8s						
GUMO	**Guam**	**21.91**	**30**	LR	LR	17 57 13.6	
	comp=Z,22nm,19.7s,baz=255,slow=33						
STKA	**Stephens Creek**	**27.27**	**165**	P	**P**	**17 51 06.4**	**+2.4**
	0.8nm,0.7s,mb3.3,baz=333,slow=14,SNR=2.3						
STKA	**Stephens Creek**	**27.27**	**165**	P	**P**	**17 51 06.4**	**+2.4**
MK31	**Makanchi Array**	**69.08**	**325**	*e*P	**P**	**17 56 24.1**	**-0.4**
MKAR	**Makanchi Array**	**69.08**	**325**	P	**P**	**17 56 25.0**	**+0.5**
	0.6nm,0.6s,mb3.6,baz=112,slow=7.8,SNR=11						
MKAR	**Makanchi Array**	**69.08**	**325**	P	**P**	**17 56 25.0**	**+0.5**
BVAR	**Borovoye Array**	**78.83**	**327**	LR	LR	18 36 47.1	
	comp=Z,96nm,18.9s,baz=242,slow=39						
ILAR	**Eielson Array**	**90.38**	**25**	P	**P**	**17 58 17.3**	**-1.9**
	0.6nm,0.9s,mb3.7,baz=257,slow=3.6,SNR=3.8						
ILAR	**Eielson Array**	**90.38**	**25**	P	**P**	**17 58 17.3**	**-1.9**

ISK ***09*** *17:57:11.9,36˚.88N×29˚.32E,h5km,MD2.3*

ISCJB ***09*** *17:57:12.5±0.7,36˚.85N±0˚.03×29˚.30E±0˚.05,h10km,Error ellipse: s-maj=6.1km s-min=4.3km az=164.8*

CSEM ***09*** *17:57:12.4±0.3,36˚.84N×29˚.37E,h10km,MD2.3,Error ellipse: s-maj=8.5km s-min=6.3km az=78.0*

DDA ***09*** *17:57:12.1,36˚.85N×29˚.33E,h7km±6km,Md2.9*

ISC 09 17:57:13.1±0.7,36˚.85N±0˚.03×29˚.31E±0˚.05,h10km,n16, σ1§14/26,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLHS	**Glhisar (BURDU**	**0.34**	**26**	*e*PG	**Pg**	**17 57 18.8**	**-1.0**
GLHS				*e*SG	**Sg**	**17 57 25.2**	**+0.7**
GLHS	**Glhisar (BURDU**	**0.34**	**26**	*e*Pg	**Pg**	**17 57 18.8**	**-1.1**
GLHS				*e*Sg	**Sg**	**17 57 25.2**	**+0.8**
GOLH	**Golhisar**	**0.43**	**27**	*i* P	**Pg**	**17 57 19.7**	**-2.0**
GOLH				*i* S	**Sg**	**17 57 27.6**	**+0.2**
GOLH	**Golhisar**	**0.43**	**27**	*i* P	**Pg**	**17 57 19.7**	**-1.9**
GOLH				*i* S	**Sg**	**17 57 27.6**	**+0.2**
ELL	**Elmali**	**0.49**	**102**	*e*PG	**Pg**	**17 57 21.9**	**-0.8**
ELL				*e*SG	**Sg**	**17 57 30.9**	**+1.8**
ELL	**Elmali**	**0.49**	**102**	*e*Pg	**Pg**	**17 57 21.9**	**-0.8**
TURN	**Turunc**	**0.57**	**272**	*e*P	**Pg**	**17 57 28.6**	**+4.5**
TURN				*i* S	**Sg**	**17 57 41.6**	**+10**
TURN	**Turunc**	**0.57**	**272**	*e*P	**Pg**	**17 57 28.6**	**+4.5**
AKAS	**Kas**	**0.66**	**159**	*i* P	**Pg**	**17 57 23.7**	**-2.2**
AKAS				*i* S	**Sg**	**17 57 35.5**	**+1.0**
AKAS	**Kas**	**0.66**	**159**	*i* P	**Pg**	**17 57 23.7**	**-2.2**
AKAS				*i* S	**Sg**	**17 57 35.5**	**+1.0**
DNZL	**Cakiroluk**	**0.86**	**346**	*i* P	**Pg**	**17 57 29.4**	**-0.3**
DNZL				*i* S	**Sg**	**17 57 42.0**	**+0.9**
DNZL	**Cakiroluk**	**0.86**	**346**	*i* P	**Pg**	**17 57 29.4**	**-0.4**
DNZL				*i* S	**Sg**	**17 57 42.0**	**+1.0**
YER	**Yerkesik**	**0.87**	**289**	*e*PG	**Pg**	**17 57 30.2**	**+0.3**
YER	**Yerkesik**	**0.87**	**289**	*e*Pg	**Pg**	**17 57 30.2**	**+0.3**
DAT	**Datca**	**1.40**	**265**	*e*PN	**Pn**	**17 57 39.3**	**+0.7**
DAT	**Datca**	**1.40**	**265**	*e*Pn	**Pn**	**17 57 39.3**	**+0.7**

BJI ***09*** *17:59:06.4,0˚.67N×97˚.35E,h35km,mB5.1/29,mb4.8/43, Ms4.7/30,MS7 4.4/30*

DJA ***09*** *17:59:07,1˚.13N×97˚.03E,h9km,MLv4.8/11*

MOS ***09*** *17:59:09.5±1.0,1˚.18N×97˚.19E,h33km,mb4.8/9,Error ellipse: s-maj=14.1km s-min=7.1km az=101.9*

ISCJB ***09*** *17:59:09.4±0.7,1˚.06N±0˚.04×97˚.15E±0˚.05,h34km±6km, mb4.6/58,MS4.0/16,Error ellipse: s-maj=9.0km s-min=5.2km az=146.2*

IDC ***09*** *17:59:11.2±5.1,1˚.10N×97˚.18E,h33km±36km,mb4.1/15, mb1 4.2/17,mb1mx4.1/24,mbtmp4.1/17,ML4.0/2,MS3.7/7, Ms1 3.7/7,ms1mx3.3/46,Error ellipse: s-maj=32.8km s-min=13.0km az=55.0*

NEIC ***09*** *17:59:11.8±0.4,1˚.15N×97˚.25E,h35km,mb4.8/24,Error ellipse: s-maj=9.1km s-min=5.7km az=221.0*

ISC 09 17:59:10.8±1.2,1˚.09N±0˚.04×97˚.17E±0˚.04,h29km±8km, h34km±1.7km:pP-P,n165,σ1§06/168,mb4.6/58,MS4.0/16, 6C-2D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPTI		**2.15**	**0**	P	**Pn**	**17 59 42.7**	**-2.1**
TPTI				S	**Sn**	**18 00 10.7**	**+0.1**
MNSI	**Mandailing Nat**	**2.43**	**97**	P	**Pn**	**17 59 49.0**	**+0.4**
PSI	**Prapat**	**2.44**	**46**	Pn	**Pn**	**17 59 47.8**	**-1.0**
	17nm,0.3s,baz=222,slow=8.1,SNR=61						
PSI				Pg	**Pn**	**17 59 55.6**	**+6.9**
	24nm,0.3s,baz=239,slow=9.9,SNR=42						
PSI				LR	LR	18 00 27.9	
	comp=Z,716nm,18.2s,baz=267,slow=32						
PSI	**Prapat**	**2.44**	**46**	Pn	**Pn**	**17 59 47.8**	**-1.0**
PSI				Pg	**Pn**	**17 59 55.6**	**+6.9**
PSI				LR	LR	18 00 27.9	
PSI	**Prapat**	**2.44**	**46**	P	**Pn**	**17 59 47.8**	**-1.0**
PSI	**Prapat**	**2.44**	**46**	P	**Pn**	**17 59 47.8**	**-1.0**
TSI	**Tuntungan**	**2.77**	**30**	P	**Pn**	**17 59 53.4**	**+0.1**
SISI	**Saibi**	**3.08**	**141**	P	**Pn**	**17 59 58.2**	**+0.7**
PDSI	**Padang**	**3.85**	**121**	P	**Pn**	**18 00 09.3**	**+1.1**
BKNI	**Bangkinang**	**3.94**	**101**	P	**Pn**	**18 00 10.1**	**+0.6**
SDSI	**Sungai Dareh**	**4.71**	**115**	P	Px	18 00 37.5	
FRIM	**Kepong**	**4.94**	**64**	P	**Pn**	**18 00 24.0**	**+0.9**
IPM	**Ipoh**	**5.11**	**49**	P	**Pn**	**18 00 26.2**	**+0.7**
IPM	**Ipoh**	**5.11**	**49**	*e*Pn	**Pn**	**18 00 25.8**	**+0.3**
	130nm,0.8s						
IPM	**Ipoh**	**5.11**	**49**	P	**Pn**	**18 00 26.0**	**+0.4**
	0.7nm1μm188nm,0.8s						
KULM	**Kulim**	**5.43**	**40**	P	**Pn**	**18 00 29.7**	**-0.2**
KULM	**Kulim**	**5.43**	**40**	*e*Pn	**Pn**	**18 00 29.1**	**-0.8**
	225nm,0.8s						
KULM	**Kulim**	**5.43**	**40**	P	**Pn**	**18 00 29.3**	**-0.6**
	0.9nm2μm260nm,0.8s						
KGM	**Kluang**	**6.22**	**81**	P	**Pn**	**18 00 41.5**	**+0.8**
MYKOM	**Kota Tinggi**	**6.71**	**84**	P	**Pn**	**18 00 48.1**	**+0.6**
MYKOM	**Kota Tinggi**	**6.71**	**84**	P	**Pn**	**18 00 48.0**	**+0.4**
	0.2nm39nm,1.2s						
MNAI	**Manna**	**7.92**	**133**	P	**Pn**	**18 01 04.5**	**+0.3**
	215nm,1.1s						
MDSI	**Maura Dua**	**8.93**	**128**	P	**Pn**	**18 01 18.0**	**0.0**
	36nm,0.9s						
KLSI		**9.49**	**127**	P	**Pn**	**18 01 25.5**	**-0.2**
KSM	**Kuching**	**13.14**	**88**	P	**Pn**	**18 02 17.0**	**+1.3**
	13nm,1.0s						
SBUM	**Sibu**	**15.10**	**85**	P	**Pn**	**18 02 43.3**	**+1.0**
CMAR	**Chiang Mai Arr**	**17.34**	**6**	P	**Pn**	**18 03 09.2**	**-1.8**
	0.3nm,0.3s,baz=195,slow=13,SNR=26						
CMAR	**Chiang Mai Arr**	**17.34**	**6**	P	**Pn**	**18 03 09.2**	**-1.8**
CHTO	**Chiang Mai**	**17.70**	**6**	*e*P	**Pn**	**18 03 13.3**	**-2.0**
	6.3nm,0.8s						
CHTO	**Chiang Mai**	**17.70**	**6**	P	**Pn**	**18 03 13.3**	**-2.0**
KKM	**Kota Kinabalu**	**19.63**	**75**	P	**Pn**	**18 03 37.1**	**-1.7**
KKM	**Kota Kinabalu**	**19.63**	**75**	*e*P	**Pn**	**18 03 37.2**	**-1.6**
	32nm,1.0s						
KDM	**Kudat**	**20.44**	**73**	P	**P**	**18 03 45.8**	**-0.4**
SDKM	**Sandakan**	**20.49**	**77**	P	**P**	**18 03 46.8**	**+0.1**
TSM	**Tawau**	**20.92**	**81**	P	**P**	**18 03 51.1**	**-0.3**
MYLDM	**Lahad Datu**	**21.68**	**79**	P	**P**	**18 03 59.3**	**-0.3**
KAPI	**Kappang**	**23.36**	**105**	*e*P	**P**	**18 04 15.7**	**-1.7**
	17nm,1.1s,mb4.4						
HYB	**Hyderabad**	**24.46**	**313**	*i* P	**P**	**18 04 30.0**	**+2.5**
KMI	**Kunming**	**24.49**	**12**	⇑P	**P**	**18 04 28.2**	**+0.5**
KMI				pP		18 04 37.9	
KMI				sP	sP	18 04 42.0	+2.5
KMI				PP		18 05 06.6	
KMI				PcP	PcP	18 08 08.7	+2.7
KMI				S	**S**	**18 08 45.8**	**-0.6**
KMI				sS	sS	18 09 02.4	+2.3
KMI				ScP	ScP	18 11 43.2	+0.2
KMI				PcS	PcS	18 11 47.2	+1.1
KMI				pmax	pmax		
	comp=Z,63nm,1.2s,mb4.9						
KMI				pmax	pmax		
	comp=Z,220nm,3.1s						
KMI				LR	LR		
	comp=N,800nm,13.7s,MS4.5						
KMI				LR	LR		
	comp=E,380nm,11.5s,MS4.5						
KMI				LR	LR		
	comp=Z,750nm,16.0s,MS4.3						
SHL	**Shillong**	**24.86**	**349**	*e*PKP	**P**	**18 04 32.0**	**+1.0**
GYA	**Guiyang**	**26.82**	**19**	*e*P	**P**	**18 04 51.2**	**+2.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.4						
ODAN	**Odare**	**27.29**	**341**	*e*P	**P**	**18 04 53.9**	**+0.9**
	comp=Z,44nm,1.0s,mb5.0						
ODAN	**Odare**	**27.29**	**341**	*e*P	**P**	**18 04 53.9**	**+0.9**
	comp=Z,44nm,1.0s,mb5.0						
TAPN	**Taplejung**	**27.64**	**342**	*e*P	**P**	**18 04 57.4**	**+1.3**
	comp=Z,70nm,0.9s,mb5.3						
TAPN	**Taplejung**	**27.64**	**342**	*e*P	**P**	**18 04 57.4**	**+1.3**
	comp=Z,70nm,0.9s,mb5.3						
PKI	**Pulchoki**	**28.64**	**338**	*e*P	**P**	**18 05 06.2**	**+1.1**
PKI	**Pulchoki**	**28.64**	**338**	*e*P	**P**	**18 05 06.2**	**+1.1**
PKI	**Pulchoki**	**28.64**	**338**	P	**P**	**18 05 06.2**	**+1.1**
GUN	**Gumba**	**28.77**	**339**	*e*P	**P**	**18 05 07.4**	**+1.1**
	comp=Z,41nm,0.8s,mb5.2						
GUN	**Gumba**	**28.77**	**339**	*e*P	**P**	**18 05 07.4**	**+1.1**
	comp=Z,41nm,0.8s,mb5.2						
DMN	**Daman**	**28.79**	**337**	*e*P	**P**	**18 05 07.8**	**+1.4**
DMN	**Daman**	**28.79**	**337**	*e*P	**P**	**18 05 07.8**	**+1.4**
KKN	**Kakani**	**28.89**	**338**	*e*P	**P**	**18 05 08.1**	**+0.8**
	comp=Z,38nm,1.1s,mb5.0						
KKN	**Kakani**	**28.89**	**338**	*e*P	**P**	**18 05 08.1**	**+0.8**
	comp=Z,38nm,1.1s,mb5.0						
KKN	**Kakani**	**28.89**	**338**	P	**P**	**18 05 08.1**	**+0.8**
LSA	**Lhasa**	**29.02**	**349**	P	**P**	**18 05 09.8**	**+1.4**
LSA	**Lhasa**	**29.02**	**349**	*e*P	**P**	**18 05 09.1**	**+0.7**
	comp=Z,10nm,0.9s,mb4.6						
LSA	**Lhasa**	**29.02**	**349**	*e*P	**P**	**18 05 09.1**	**+0.7**
GKN	**Gorkha**	**29.32**	**337**	*e*P	**P**	**18 05 11.9**	**+0.8**
	comp=Z,56nm,1.2s,mb5.2						
GKN	**Gorkha**	**29.32**	**337**	*e*P	**P**	**18 05 11.9**	**+0.8**
	comp=Z,56nm,1.2s,mb5.2						
KOLN	**Koldanda**	**29.54**	**335**	*e*P	**P**	**18 05 14.1**	**+1.0**
	comp=Z,21nm,0.7s,mb5.0						
KOLN	**Koldanda**	**29.54**	**335**	*e*P	**P**	**18 05 14.1**	**+1.0**
	comp=Z,21nm,0.7s,mb5.0						
DANN	**Dangsing**	**29.98**	**336**	*e*P	**P**	**18 05 17.3**	**+0.3**
DANN	**Dangsing**	**29.98**	**336**	*e*P	**P**	**18 05 17.3**	**+0.3**
CD2	**Chengdu**	**30.30**	**11**	P	**P**	**18 05 22.3**	**+2.5**
CD2				pP	pP	18 05 31.9	+3.7
CD2				sP	sP	18 05 35.8	+4.1
CD2				PP	PP	18 06 22.1	-6.5
CD2				S	**S**	**18 10 19.5**	**+1.3**
CD2				sS	sS	18 10 34.5	+2.5
CD2				SS	SS	18 12 01.3	-27
CD2				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.8						
CD2				pmax	pmax		
	comp=Z,250nm,5.9s						
CD2				LR	LR		
	comp=N,740nm,12.5s						
CD2				LR	LR		
	comp=Z,760nm,15.5s,MS4.5						
ENH	**Enshi**	**31.29**	**21**	*e*P	**P**	**18 05 26.9**	**-1.5**
	comp=Z,31nm,1.0s,mb5.1						
FITZ	**Fitzroy Crossi**	**33.89**	**126**	P	**P**	**18 05 49.5**	**-2.0**
	comp=Z,1.8nm,0.6s,mb4.2,baz=341,slow=5.2,SNR=12						
FITZ	**Fitzroy Crossi**	**33.89**	**126**	*e*P	**P**	**18 05 50.6**	**-0.9**
	comp=Z,4.2nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**33.89**	**126**	*e*P	**P**	**18 05 50.3**	**-1.2**
XAN	**Xi'an**	**34.57**	**17**	P	**P**	**18 05 55.7**	**-1.4**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.9						
XAN				LR	LR		
	comp=N,250nm,10.5s						
XAN				LR	LR		
	comp=E,100nm,9.9s						
XAN				LR	LR		
	comp=Z,82nm,14.3s,MS3.6						
LZH	**Lanzhou**	**35.36**	**9**	*e*P	**P**	**18 06 04.0**	**+0.1**
LZH				pP	pP	18 06 14.1	+1.7
LZH				sP	sP	18 06 18.2	+2.3
LZH				PP	PP	18 07 25.3	+0.7
LZH				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.9						
LZH				pmax	pmax		
	comp=Z,65nm,4.5s						
LZH				LR	LR		
	comp=N,450nm,14.0s,MS4.5						
LZH				LR	LR		
	comp=E,380nm,15.2s,MS4.5						
LZH				LR	LR		
	comp=Z,720nm,17.8s,MS4.5						
SSE	**Sheshan**	**37.52**	**35**	P	**P**	**18 06 22.9**	**+0.5**
SSE				S	**S**	**18 12 09.5**	**-0.3**
SSE				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.1						
SSE				pmax	pmax		
	comp=Z,230nm,5.8s						
SSE				LR	LR		
	comp=N,100nm,16.0s,MS3.8						
SSE				LR	LR		
	comp=E,48nm,16.0s,MS3.8						
SSE				LR	LR		
	comp=Z,130nm,14.8s,MS3.9						
GTA	**Gaotai**	**38.21**	**3**	⇑P	**P**	**18 06 27.4**	**-0.7**
GTA				pP	pP	18 06 34.8	-1.8
GTA				sP	sP	18 06 38.0	-2.1
GTA				S	**S**	**18 12 21.1**	**+1.1**
GTA				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.7						
GTA				pmax	pmax		
	comp=Z,100nm,8.1s						
GTA				LR	LR		
	comp=N,210nm,16.6s,MS4.2						
GTA				LR	LR		
	comp=E,190nm,14.7s,MS4.2						
GTA				LR	LR		
	comp=Z,250nm,16.6s,MS4.1						
HHC	**Hu-ho-hao-te**	**41.67**	**16**	*e*P	**P**	**18 06 58.6**	**+1.8**
HHC				pP	pP	18 07 08.4	+3.0
HHC				sP	sP	18 07 12.3	+3.5
HHC				PP	PP	18 08 38.8	+5.3
HHC				PcP	PcP	18 08 54.9	+1.6
HHC				S	**S**	**18 13 13.7**	**+1.9**
HHC				sS	sS	18 13 30.0	+4.2
HHC				SS	SS	18 16 15.0	-2.9
HHC				pmax	pmax		
	comp=Z,19nm,0.7s,mb4.8						
HHC				pmax	pmax		
	comp=Z,130nm,8.0s						
HHC				LR	LR		
	comp=N,330nm,12.4s,MS4.5						
HHC				LR	LR		
	comp=E,360nm,14.4s,MS4.5						
HHC				LR	LR		
	comp=Z,320nm,13.2s,MS4.4						
WRA	**Warramunga Arr**	**42.01**	**122**	P	**P**	**18 06 59.1**	**-0.8**
	comp=Z,4.5nm,0.7s,mb4.2,baz=301,slow=9.1,SNR=63						
WRA	**Warramunga Arr**	**42.01**	**122**	P	**P**	**18 06 59.1**	**-0.8**
WRA	**Warramunga Arr**	**42.01**	**122**	P	**P**	**18 06 59.1**	**-0.8**
WRAB	**Tennant Creek**	**42.01**	**122**	*e*P	**P**	**18 06 59.5**	**-0.5**
	comp=Z,8.6nm,0.9s,mb4.4						
WRAB	**Tennant Creek**	**42.01**	**122**	*e*P	**P**	**18 06 59.5**	**-0.5**
WB2	**Warramunga Arr**	**42.02**	**122**	*e*P	**P**	**18 06 59.4**	**-0.6**
BJT	**Baijiatuau**	**42.43**	**22**	*e*P	**P**	**18 07 03.4**	**+0.4**
	comp=Z,24nm,0.7s,mb4.9						
BJT	**Baijiatuau**	**42.43**	**22**	*e*P	**P**	**18 07 03.4**	**+0.4**
BJI	**Beijing**	**42.45**	**22**	P	**P**	**18 07 03.6**	**+0.4**
BJI				pP	pP	18 07 13.4	+1.6
BJI				sP	sP	18 07 17.7	+2.5
BJI				PP	PP	18 08 44.1	+2.1
BJI				S	**S**	**18 13 24.9**	**+1.6**
BJI				sS	sS	18 13 41.9	+4.5
BJI				pmax	pmax		
	comp=Z,31nm,0.7s,mb5.0						
BJI				LR	LR		
	comp=N,180nm,17.4s,MS4.2						
BJI				LR	LR		
	comp=E,200nm,16.5s,MS4.2						
BJI				LR	LR		
	comp=Z,71nm,16.5s,MS3.6						
KSH	**Kashi**	**42.85**	**336**	*e*P	**P**	**18 07 05.5**	**-1.0**
KSH				pP	pP	18 07 15.3	+0.2
KSH				sP	sP	18 07 19.2	+0.7
KSH				PP	PP	18 08 47.4	+1.1
KSH				PcP	PcP	18 08 57.9	+0.6
KSH				ScP	ScP	18 12 44.7	-1.8
KSH				PcS	PcS	18 12 48.7	-0.8
KSH				S	**S**	**18 13 25.6**	**-3.7**
KSH				sS	sS	18 13 41.9	-1.5
KSH				ScS	ScS	18 17 01.8	-3.8
KSH				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.3						
KSH				pmax	pmax		
	comp=Z,150nm,5.5s						
KSH				LR	LR		
	comp=N,180nm,6.0s						
KSH				LR	LR		
	comp=E,87nm,5.8s						
KSH				LR	LR		
	comp=Z,100nm,5.5s						
ASAR	**Alice Springs**	**43.36**	**127**	P	**P**	**18 07 10.9**	**+0.1**
	comp=Z,2.6nm,0.8s,mb4.0,baz=300,slow=7.5,SNR=42						
ASAR				PcP	PcP	18 08 59.3	0.0
	comp=Z,0.6nm,0.8s,baz=316,slow=5.2,SNR=2.7						
ASAR	**Alice Springs**	**43.36**	**127**	P	**P**	**18 07 10.9**	**+0.1**
ASAR				PcP	PcP	18 08 59.3	0.0
ASAR	**Alice Springs**	**43.36**	**127**	P	**P**	**18 07 10.9**	**0.0**
WMQ	**Urumqi**	**43.37**	**350**	P	**P**	**18 07 11.3**	**+0.7**
WMQ				pP	pP	18 07 21.2	+2.0
WMQ				sP	sP	18 07 25.1	+2.4
WMQ				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.7						
WMQ				pmax	pmax		
	comp=Z,200nm,6.0s						
WMQ				LR	LR		
	comp=N,99nm,18.6s						
WMQ				LR	LR		
	comp=E,110nm,26.4s						
WMQ				LR	LR		
	comp=Z,92nm,24.9s						
TKM2	**Tokmak 2**	**45.90**	**338**	*e*P	**P**	**18 07 30.8**	**-0.1**
	comp=Z,8.6nm,1.2s,mb4.6						
TKM2	**Tokmak 2**	**45.90**	**338**	*e*P	**P**	**18 07 30.7**	**-0.2**
KSRS	**Korea Array**	**45.95**	**34**	P	**P**	**18 07 30.9**	**-0.5**
	comp=Z,19nm,0.8s,mb5.0,baz=222,slow=9.1,SNR=38						
KSRS				LR	LR	18 27 24.3	
	comp=Z,82nm,18.4s,MS3.7,baz=31,slow=37						
AAK	**Ala-Archa**	**46.08**	**337**	*e*P	**P**	**18 07 33.2**	**+1.0**
	comp=Z,4.8nm,1.0s,mb4.4						
AAK	**Ala-Archa**	**46.08**	**337**	⇑*i*P	**P**	**18 07 32.7**	**+0.4**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.5s,mb4.1						
EKS2	**Erkin-Say**	**46.39**	**336**	*e*P	**P**	**18 07 35.8**	**+1.1**
	comp=Z,4.9nm,0.9s,mb4.4						
EKS2	**Erkin-Say**	**46.39**	**336**	*e*P	**P**	**18 07 30.8**	**-3.9**
SONM	**Songino Array**	**47.24**	**8**	P	**P**	**18 07 41.5**	**+0.2**
	comp=Z,8.6nm,0.8s,mb4.7,baz=189,slow=8.7,SNR=31						
SONM				PcP	PcP	18 09 12.8	+0.6
	comp=Z,2.9nm,0.8s,baz=177,slow=3.8,SNR=5.6						
SONM	**Songino Array**	**47.24**	**8**	P	**P**	**18 07 41.5**	**+0.2**
SONM				PcP	PcP	18 09 12.8	+0.6
SONM	**Songino Array**	**47.24**	**8**	P	**P**	**18 07 41.5**	**+0.2**
MK31	**Makanchi Array**	**47.34**	**346**	*e*P	**P**	**18 07 41.1**	**-0.9**
MK31	**Makanchi Array**	**47.34**	**346**	*i* P	**P**	**18 07 42.1**	**+0.1**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
MKAR	**Makanchi Array**	**47.34**	**346**	P	**P**	**18 07 42.4**	**+0.4**
	comp=Z,5.5nm,0.8s,mb4.5,baz=157,slow=7.9,SNR=43						
MKAR				LR	LR	18 29 28.1	
	comp=Z,69nm,19.0s,MS3.6,baz=1.4,slow=38						
MKAR	**Makanchi Array**	**47.34**	**346**	P	**P**	**18 07 42.4**	**+0.4**
MKAR				LR	LR	18 29 28.1	
MKAR	**Makanchi Array**	**47.34**	**346**	P	**P**	**18 07 42.4**	**+0.4**
ULN	**Ulaanbaatar**	**47.37**	**9**	*e*P	**P**	**18 07 39.4**	**-2.9**
	comp=Z,7.3nm,0.8s,mb4.7						
ULN	**Ulaanbaatar**	**47.37**	**9**	*e*P	**P**	**18 07 39.4**	**-2.9**
KKAR	**Karatay Array**	**48.14**	**334**	*e*P	**P**	**18 07 48.7**	**+0.4**
	comp=Z,11nm,1.3s,mb4.7						
KKAR	**Karatay Array**	**48.14**	**334**	*e*P	**P**	**18 07 48.7**	**+0.4**
ZAK	**Zakamensk**	**49.38**	**5**	*e*P	**P**	**18 07 53.5**	**-4.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
**CN

NVS					pmax	pmax			
	comp=Z,12nm,1.2s,mb4.8								
NVS					pmax	pmax			
	comp=N,4.0nm,1.0s								
NVS					pmax	pmax			
	comp=E,6.0nm,1.0s								
VOSK	**Vostochnaya**	**55.89**	**341**		P	**P**	**18 08 44.5**	**-1.4**	
VOSK					pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.8								
BVA0	**Borovoye Array**	**56.34**	**341**	*i*	P	**P**	**18 08 48.2**	**-0.9**	
BVA0					pmax	pmax			
	comp=Z,1.0nm,1.3s,mb3.7								
KLR	**Kul'dur**	**56.36**	**27**	*e*	P	**P**	**18 08 45.8**	**-3.5**	
BRVK	**Borovoye**	**56.40**	**341**	*e*	P	**P**	**18 08 48.4**	**-1.1**	
	comp=Z,6.2nm,0.9s,mb4.6								
BRVK	**Borovoye**	**56.40**	**341⇑**	*e*	P	**P**	**18 08 48.5**	**-1.0**	
BRVK					pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.8								
AB31	**Akbulak array**	**57.59**	**332**		P	**P**	**18 08 56.9**	**-1.1**	
AB31					pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.8								
ABKAR	**Akbulak array**	**57.59**	**332**	*e*	P	**P**	**18 08 57.3**	**-0.7**	
	comp=Z,6.6nm,0.8s,mb4.7								
ZEI	**Tsey**	**63.06**	**319**	*e*	P	**P**	**18 09 35.5**	**0.0**	
ZEI					pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.5								
KIV	**Kislovodsk**	**64.37**	**319**	*e*	P	**P**	**18 09 44.8**	**+0.6**	
KIV					pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.5								
YAK	**Yakutsk**	**65.53**	**16**	*e*	P	**P**	**18 09 49.6**	**-1.8**	
	comp=Z,33nm,1.0s,mb5.3								
YAK	**Yakutsk**	**65.53**	**16**	*e*	P	**P**	**18 09 50.1**	**-1.3**	
YAK				*e*			18 10 22.4		
YAK				*e*			18 12 12.2		
YAK				*e*	PPP		18 13 49.9		
YAK				*e*	S	S	18 18 26.5	-7.9	
YAK				*e**	SS	sS	18 19 10.2	+21	
YAK				*e*			18 19 36.5		
YAK				*e*	SS	SS	18 22 42.8	-5.7	
YAK					pmax	pmax			
	comp=Z,25nm,0.9s,mb5.2								
YAK					pmax	pmax			
	comp=Z,224nm,4.2s								
YAK					pmax	pmax			
	comp=N,312nm,5.0s								
YAK					pmax	pmax			
	comp=E,166nm,4.3s								
YAK					smax				
	comp=N,163nm,4.7s								
YAK					smax				
	comp=E,202nm,5.8s								
VRHR	**Novokhopersk**	**68.20**	**326**	*e*	P	**P**	**18 10 09.4**	**+0.8**	
VRHR					pmax	pmax			
	comp=Z,9.0nm,1.6s,mb4.5								
VRHR					pmax	pmax			
	comp=N,10.0nm,1.7s								
VRHR					pmax	pmax			
	comp=E,8.0nm,0.7s								
BRTR	**Keskin Array B**	**69.16**	**312**		P	**P**	**18 10 14.2**	**-0.6**	
	comp=E,1.2nm,0.9s,mb3.8,baz=101,slow=6.4,SNR=6.1								
BRTR	**Keskin Array B**	**69.16**	**312**		P	**P**	**18 10 14.2**	**-0.6**	
BRTR	**Keskin Array B**	**69.16**	**312**		P	**P**	**18 10 14.2**	**-0.6**	
VSR	**Storozhevoye**	**69.64**	**325**	*e*	P	**P**	**18 10 15.3**	**-2.2**	
VSR					pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.3								
VSR					pmax	pmax			
	comp=N,5.0nm,1.0s								
VSR					pmax	pmax			
	comp=E,3.0nm,0.7s								
SEY	**Seymchan**	**73.87**	**23⇓**	*e*	P	**P**	**18 10 42.7**	**0.0**	
AKASG	**Malin Array Be**	**75.32**	**322**		P	**P**	**18 10 50.5**	**-1.0**	
	comp=E,2.4nm,0.9s,mb4.1,baz=107,slow=4.0,SNR=6.2								
AKASG	**Malin Array Be**	**75.32**	**322**		P	**P**	**18 10 50.5**	**-1.0**	
AKASG	**Malin Array Be**	**75.32**	**322**		P	**P**	**18 10 50.5**	**-0.9**	
FINES	**FINESS Array B**	**80.08**	**333**		P	**P**	**18 11 16.6**	**-1.1**	
	comp=E,1.9nm,0.8s,mb4.1,baz=180,slow=3.6,SNR=3.4								
FINES	**FINESS Array B**	**80.08**	**333**		P	**P**	**18 11 16.6**	**-1.1**	
FINES	**FINESS Array B**	**80.08**	**333**		P	**P**	**18 11 16.6**	**-1.1**	
ARCES	**ARCESS Array B**	**82.62**	**340**		P	**P**	**18 11 30.7**	**-0.3**	
	comp=E,2.2nm,0.8s,mb4.2,baz=118,slow=4.8,SNR=4.6								
ARCES					LR	LR	18 52 17.8		
	comp=E,79nm,19.1s,MS4.1,baz=74,slow=39								
ARCES	**ARCESS Array B**	**82.62**	**340**		P	**P**	**18 11 30.7**	**-0.3**	
ARCES					LR	LR	18 52 17.8		
ARCES	**ARCESS Array B**	**82.62**	**340**		P	**P**	**18 11 30.7**	**-0.4**	
GERES	**GERESS Array B**	**84.87**	**319**		P	**P**	**18 11 43.1**	**+0.1**	
	comp=E,1.6nm,0.9s,mb4.1,baz=57,slow=4.9,SNR=9.0								
GERES	**GERESS Array B**	**84.87**	**319**		P	**P**	**18 11 43.1**	**+0.1**	
GERES	**GERESS Array B**	**84.87**	**319**		P	**P**	**18 11 43.1**	**+0.1**	
KEST	**Kesra**	**87.60**	**306**		P	**P**	**18 11 58.0**	**+1.2**	
	comp=E,1.3nm,0.9s,mb4.2,baz=117,slow=7.6,SNR=4.0								
KEST	**Kesra**	**87.60**	**306**		P	**P**	**18 11 58.0**	**+1.2**	
TORD	**Torodi Ar. Bea**	**95.08**	**283**		LR	LR	18 53 12.6		
	comp=E,57nm,18.1s,MS4.1,baz=25,slow=34								
TXAR	**Lajitas Array**	**143.78**	**32**		PKP	PKPdf	18 18 41.8	-2.3	
	comp=E,0.7nm,0.9s,baz=200,slow=0.9,SNR=6.6								
TXAR	**Lajitas Array**	**143.78**	**32**		PKP	PKPdf	18 18 41.8	-2.3	
TXAR	**Lajitas Array**	**143.78**	**32**		PKIKP	PKPdf	18 18 41.8	-2.2	
CPUP	**Villa Florida**	**144.91**	**222**		PKP	PKPdf	18 18 46.3	+0.3	
	comp=E,4.4nm,1.0s,baz=100,slow=3.0,SNR=5.0								
CPUP	**Villa Florida**	**144.91**	**222**		PKP	PKPdf	18 18 46.3	+0.3	
CPUP	**Villa Florida**	**144.91**	**222**		PKIKP	PKPdf	18 18 46.3	+0.2	

*ISCJB **09** 17:59:19.7±0.8, 0.4N±0.2×29.0W±0.2, h10km, mb3.8/7, MS3.6/4, Error ellipse: s-maj=36.5km s-min=12.4km az=145.1*

*IDC **09** 17:59:20.3±1.2, 0.5N×28.9W, h0km, mb3.8/7, mb1 4.1/8, mb1mx3.8/22, mbtmp3.9/8, ML3.9/1, MS3.5/6, Ms1 3.5/6, ms1mx3.1/42, Error ellipse: s-maj=49.8km s-min=19.8km az=151.0*

*NEIC **09** 17:59:21.5±0.7, 0.4N×28.9W, h10km, mb4.1/2, Error ellipse: s-maj=34.8km s-min=12.0km az=145.0*

ISC 09 17:59:21.8±0.8, 0.5N±0.2×29.0W±0.2, h10km, n20, σ0s92/18, mb3.8/7, MS3.6/4, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m	s	ISC
RCBR	**Riachuelo**	**9.32**	**228**	Pn		**Pn**	**18 01 35.7**			**-0.7**
	1.3nm,0.3s,baz=296,slow=8.9,SNR=26									
RCBR					Sn	**Sn**	**18 03 10.5**			**-11**
	0.7nm,0.3s,baz=135,slow=20,SNR=3.8									
RCBR					LR	LR	18 04 38.7			
	comp=Z,88nm,18.4s,baz=229,slow=34									
RCBR	**Riachuelo**	**9.32**	**228**	*e*	P	**Pn**	**18 01 35.8**			**-0.6**
RCBR				*e*			18 01 41.3			
RCBR					Sn	**Sn**	**18 03 10.5**			**-11**
RCBR					LR	LR	18 04 38.7			
BBTS	**Babate**	**18.72**	**40**		LR	LR	18 09 28.9			
	comp=Z,70nm,19.0s,baz=91,slow=33									
DBIC	**Dimbokro**	**24.82**	**75**		P	**P**	**18 04 45.8**			**+1.3**
	8.9nm,0.9s,mb4.3,baz=243,slow=9.6,SNR=7.8									
DBIC	**Dimbokro**	**24.82**	**75**	*e*	P	**P**	**18 04 45.1**			**+0.7**
	11nm,1.0s,mb4.3									
TORD	**Torodi Ar. Bea**	**32.88**	**66**		P	**P**	**18 05 56.5**			**+0.2**
	0.5nm,0.8s,mb3.5,baz=270,slow=8.3,SNR=3.7									
TORD					LR	LR	18 17 21.4			
	comp=Z,63nm,18.5s,MS3.4,baz=190,slow=33									
TORD	**Torodi Ar. Bea**	**32.88**	**66**		P	**P**	**18 05 56.5**			**+0.2**
TORD					LR	LR	18 17 21.4			
CPUP	**Villa Florida**	**38.17**	**224**		LR	LR	18 22 00.4			
	comp=Z,125nm,20.1s,MS3.7,baz=222,slow=36									
LPAZ	**La Paz**	**42.07**	**245**		P	**P**	**18 07 14.7**			**+0.5**
	0.4nm,0.5s,mb3.3,baz=64,slow=6.7,SNR=4.7									
LPAZ	**La Paz**	**42.07**	**245**	*e*	P	**P**	**18 07 14.5**			**+0.3**
	1.1nm,0.8s,mb3.5									
ESDC	**Sonseca Array**	**45.22**	**27**		P	**P**	**18 07 39.3**			**+0.1**
	1.6nm,1.0s,mb3.8,baz=229,slow=8.0,SNR=5.4									
ESDC	**Sonseca Array**	**45.22**	**27**		P	**P**	**18 07 39.3**			**+0.1**
ATAH	**Atahualpa**	**49.89**	**260**		LR	LR	18 29 39.6			
	comp=Z,56nm,20.4s,MS3.6,baz=84,slow=36									
GERES	**GERESS Array B**	**60.55**	**31**		P	**P**	**18 09 31.7**			**-0.6**
	0.6nm,0.7s,mb3.9,baz=211,slow=7.6,SNR=6.7									
GERES	**GERESS Array B**	**60.55**	**31**		P	**P**	**18 09 31.7**			**-0.6**
TKL	**Tuckaleechee C**	**61.73**	**311**		LR	LR	18 32 46.2			
	comp=Z,71nm,18.9s,MS3.9,baz=52,slow=32									
AKASG	**Malin Array Be**	**70.05**	**35**		P	**P**	**18 10 32.0**			**-1.8**
	2.5nm,0.8s,mb4.2,baz=248,slow=5.2,SNR=6.7									
AKASG	**Malin Array Be**	**70.05**	**35**		P	**P**	**18 10 32.0**			**-1.8**
TXAR	**Lajitas Array**	**76.47**	**300**		P	**P**	**18 11 13.6**			**+1.3**
	0.4nm,0.8s,mb3.4,baz=123,slow=9.1,SNR=4.3									
TXAR	**Lajitas Array**	**76.47**	**300**		P	**P**	**18 11 13.6**			**+1.3**

*ISCJB **09** 18:03:00.7±0.4, 41.99N±0.03×15.20E±0.03, h28km±3km, Error ellipse: s-maj=5.1km s-min=3.2km az=8.4*

*CSEM **09** 18:03:00.6±0.2, 41.96N×15.19E, h24km±1km, ML3.2/10, Error ellipse: s-maj=3.8km s-min=2.2km az=12.0*

*ROM **09** 18:03:00.1±0.2, 42.00N×15.21E, h8km±1km, Md2.7/30, Ml2.5/30, Error ellipse: s-maj=2.2km s-min=1.4km az=16.0*

ISC 09 18:03:01.0±0.4, 41.98N±0.03×15.19E±0.03, h27km±3km, n77, σ0s78/108, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m	s	ISC
FG2	**Serracapriola**	**0.17**	**187**	Pg		**Pb**	**18 03 05.7**			**-0.8**
FG2				Sg		**Sb**	**18 03 08.6**			**-1.6**
FG2	**Serracapriola**	**0.17**	**187**	Pg		**Pb**	**18 03 05.7**			**-0.8**
FG2				Sg		**Sb**	**18 03 08.6**			**-1.6**
MELA	**Melanico ??? S**	**0.27**	**190**	Pg		**Pb**	**18 03 07.1**			**-0.7**
MELA				Sg		**Sb**	**18 03 12.2**			**-0.2**
	1µm,0.3s									
MELA	**Melanico ??? S**	**0.27**	**190**	Pg		**Pb**	**18 03 07.1**			**-0.7**
MELA				Sg		**Sb**	**18 03 12.2**			**-0.2**
	1µm,0.3s									
CIGN	**Sant'Elia a Pi**	**0.39**	**214**	Pg		**Pb**	**18 03 09.2**			**-0.2**
CIGN				Sg		**Sb**	**18 03 15.6**			**+0.5**
	125nm,0.4s									
CIGN	**Sant'Elia a Pi**	**0.39**	**214**	Pg		**Pb**	**18 03 09.2**			**-0.2**
CIGN				Sg		**Sb**	**18 03 15.6**			**+0.5**
	125nm,0.4s									
FRES	**Fresagrandinar**	**0.39**	**270**	Pg		**Pb**	**18 03 09.1**			**-0.3**
FRES				Sg		**Sb**	**18 03 15.0**			**-0.2**
	1µm,0.8s									
FRES	**Fresagrandinar**	**0.39**	**270**	Pg		**Pb**	**18 03 09.1**			**-0.3**
FRES				Sg		**Sb**	**18 03 15.0**			**-0.2**
	1µm,0.8s									
RGNG	**Rignano Grg**	**0.42**	**135**	Pg		**Pb**	**18 03 09.1**			**-0.9**
RGNG				Sg		**Sb**	**18 03 16.8**			**+0.7**
RGNG	**Rignano Grg**	**0.42**	**135**	Pg		**Pb**	**18 03 09.1**			**-0.9**
RGNG				Sg		**Sb**	**18 03 16.8**			**+0.7**
SGRT	**San Giovanni R**	**0.47**	**118**	Pg		**Pb**	**18 03 09.9**			**-0.8**
SGRT				Sg		**Sb**	**18 03 17.5**			**+0.1**
	581nm,0.2s									
SGRT	**San Giovanni R**	**0.47**	**118**	Pg		**Pb**	**18 03 09.9**			**-0.8**
SGRT				Sg		**Sb**	**18 03 17.5**			**+0.1**
	581nm,0.2s									
TRIV	**Trivento**	**0.52**	**247**	Pg		**Pb**	**18 03 11.7**			**+0.1**
TRIV				Sg		**Sb**	**18 03 20.1**			**+1.3**
	125nm,0.6s									
TRIV	**Trivento**	**0.52**	**247**	Pg		**Pb**	**18 03 11.7**			**+0.1**
TRIV				Sg		**Sb**	**18 03 20.1**			**+1.3**
	125nm,0.6s									
MSAG	**Monte S. Angel**	**0.60**	**116**	Pg		**Pb**	**18 03 12.2**			**-0.7**
MSAG				Sg		**Sb**	**18 03 22.0**			**+1.0**
	722nm,0.2s									
MSAG	**Monte S. Angel**	**0.60**	**116**	Pg		**Pb**	**18 03 12.2**			**-0.7**
MSAG				Sg		**Sb**	**18 03 22.0**			**+1.0**
	722nm,0.2s									
MOCO	**Biccari - m.te**	**0.60**	**182**	Pg		**Pb**	**18 03 12.8**			**-0.2**
BSSO	**Busso**	**0.62**	**226**	Pg		**Pb**	**18 03 13.0**			**-0.2**
BSSO				Sg		**Sb**	**18 03 23.0**			**+1.5**
	66nm,0.3s									
BSSO	**Busso**	**0.62**	**226**	Pg		**Pb**	**18 03 13.0**			**-0.2**
BSSO				Sg		**Sb**	**18 03 23.0**			**+1.5**
	66nm,0.3s									
MS1	**Monte Sant'Ang**	**0.62**	**115**	*e*Pg		**Pb**	**18 03 13.4**			**+0.1**
MS1				*e*Sg		**Sb**	**18 03 23.5**			**+1.8**
CAFR	**Castel Frentan**	**0.68**	**292**	Pg		**Pb**	**18 03 14.1**			**-0.1**
CAFR				Sg		**Sb**	**18 03 25.2**			**+2.0**
	708nm,0.2s									
CAFR	**Castel Frentan**	**0.68**	**292**	Pg		**Pb**	**18 03 14.1**			**-0.1**
CAFR				Sg		**Sb**	**18 03 25.2**			**+2.0**
	708nm,0.2s									
SACR	**S. Croce Del S**	**0.68**	**212**	Pg		**Pb**	**18 03 13.8**			**-0.5**
SACR				Sg		**Sb**	**18 03 24.6**			**+1.3**
	155nm,0.3s									
SACR	**S. Croce Del S**	**0.68**	**212**	Pg		**Pb**	**18 03 13.8**			**-0.5**
SACR				Sg		**Sb**	**18 03 24.6**			**+1.3**
	155nm,0.3s									
LPEL	**Lama dei Pelig**	**0.75**	**276**	Pn		**Pn**	**18 03 15.2**			**-0.7**
	277nm,0.3s									
LPEL	**Lama dei Pelig**	**0.75**	**276**	Pn		**Pn**	**18 03 15.2**			**-0.7**
	277nm,0.3s									
MIDA	**Miranda**	**0.78**	**245**	Pn		**Pn**	**18 03 15.1**			**-1.1**
	97nm,0.3s									
MIDA	**Miranda**	**0.78**	**245**	Pn		**Pn**	**18 03 15.1**			**-1.1**
	97nm,0.3s									
PTRJ	**Pietraroja**	**0.79**	**219**	Pg		**Pb**	**18 03 14.9**			**-1.1**
PTRJ				Sg		**Sb**	**18 03 26.9**			**+0.6**
	235nm,0.4s									
PTRJ	**Pietraroja**	**0.79**	**219**	Pg		**Pb**	**18 03 14.9**			**-1.1**
PTRJ				Sg		**Sb**	**18 03 26.9**			**+0.6**
	235nm,0.4s									
PSB1	**Pescosannita**	**0.80**	**201**	Pn		**Pn**	**18 03 15.7**			**-0.8**
	78nm,0.6s									
PSB1	**Pescosannita**	**0.80**	**201**	Pn		**Pn**	**18 03 15.7**			**-0.8**
	78nm,0.6s									
RNI2	**Rionero Sannit**	**0.82**	**251**	Pn		**Pn**	**18 03 16.3**			**-0.5**
	106nm,0.4s									
RNI2	**Rionero Sannit**	**0.82**	**251**	Pn		**Pn**	**18 03 16.3**			**-0.5**
	106nm,0.4s									
SGG	**Gregorio Mates**	**0.84**	**226**	Pn		**Pn**	**18 03 16.7**			**-0.4**
	73nm,0.5s									
SGG	**Gregorio Mates**	**0.84**	**226**	Pn		**Pn**	**18 03 16.7**			**-0.4**
	73nm,0.5s									
MRB1	**Monte Rocchett**	**0.86**	**191**	Pn		**Pn**	**18 03 17.5**			**+0.1**
	151nm,0.5s									
MRB1	**Monte Rocchett**	**0.86**	**191**	Pn		**Pn**	**18 03 17.5**			**+0.1**
	151nm,0.5s									
VAGA	**Valle Agricola**	**0.91**	**232**	Pn		**Pn**	**18 03 17.7**			**-0.3**
	86nm,0.2s									
VAGA	**Valle Agricola**	**0.91**	**232**	Pn		**Pn**	**18 03 17.7**			**-0.3**
	86nm,0.2s									
CAFE	**Carife**	**0.95**	**178**	Pn		**Pn**	**18 03 18.3**			**-0.2**
	41nm,0.4s									
CAFE	**Carife**	**0.95**	**178**	Pn		**Pn**	**18 03 18.3**			**-0.2**
	41nm,0.4s									
CERA	**Filignano**	**0.95**	**247**	Pn		**Pn**	**18 03 17.8**			**-0.8**
	102nm,0.6s									
CERA	**Filignano**	**0.95**	**247**	Pn		**Pn**	**18 03 17.8**			**-0.8**
	102nm,0.6s									
INTR	**Introdacqua**	**0.96**	**273**	Pn		**Pn**	**18 03 18.2**			**-0.5**
	245nm,0.7s									
INTR	**Introdacqua**	**0.96**	**273**	Pn		**Pn**	**18 03 18.2**			**-0.5**
	245nm,0.7s									
SNAL	**S. Angelo Dei**	**1.05**	**179**	Pn		**Pn**	**18 03 19.7**			**-0.2**
	105nm,0.5s									
SNAL	**S. Angelo Dei**	**1.05**	**179**	Pn		**Pn**	**18 03 19.7**			**-0.2**
	105nm,0.5s									
SDI	**San Donato**	**1.06**	**256**	Pn		**Pn**	**18 03 19.7**			**-0.4**
	46nm,0.3s									
SDI	**San Donato**	**1.06**	**256**	Pn		**Pn**	**18 03 19.7**			**-0.4**
	46nm,0.3s									
VULT	**Monte Vulture**	**1.07**	**162**	Pn		**Pn**	**18 03 20.2**			**0.0**
	216nm,0.4s									
VULT	**Monte Vulture**	**1.07**	**162**	Pn		**Pn**	**18 03 20.2**			**0.0**
	216nm,0.4s									
VCEL	**Villa Celiera**	**1.09**	**293**	Pn		**Pn**	**18 03 21.3**			**+0.9**
	123nm,0.4s									
VCEL	**Villa Celiera**	**1.09**	**293**	Pn		**Pn**	**18 03 21.3**			**+0.9**
	123nm,0.4s									
POFI	**Posta Fibreno**	**1.13**	**257**	Pn		**Pn**	**18 03 21.2**			**+0.1**
	46nm,0.7s									
POFI	**Posta Fibreno**	**1.13**	**257**	Pn		**Pn**	**18 03 21.2**			**+0.1**
	46nm,0.7s									
VVLD	**Villa Vallelon**	**1.18**	**265**	Pn		**Pn**	**18 03 22.0**			**+0.3**
	114nm,0.5s									
VVLD	**Villa Vallelon**	**1.18**	**265**	Pn		**Pn**	**18 03 22.0**			**+0.3**
	114nm,0.5s									
PALZ	**Palazzo San Ge**	**1.18**	**150**	Pn		**Pn**	**18 03 21.6**			**-0.1**
	73nm,0.4s									
PALZ	**Palazzo San Ge**	**1.18**	**150**	Pn		**Pn**	**18 03 21.6**			**-0.1**
	73nm,0.4s									
MRVN	**Minervino Murg**	**1.19**	**140**	Pn		**Pn**	**18 03 21.5**			**-0.3**
	50nm,0.1s									
MRVN	**Minervino Murg**	**1.19**	**140**	Pn		**Pn**	**18 03 21.5**			**-0.3**
	50nm,0.1s									
MCRV	**Calabrutti - M**	**1.19**	**181**	Pn		**Pn**	**18 03 21.5**			**-0.4**
	112nm,0.4s									
MCRV	**Calabrutti - M**	**1.19**	**181**	Pn		**Pn**	**18 03 21.5**			**-0.4**
	112nm,0.4s									
CDT	**Castel del Mon**	**1.21**	**137**	*e*Pg		**Pn**	**18 03 22.0**			**-0.1**
CDT				*e*Sg		**Sn**	**18 03 42.2**			**+4.6**
FAGN	**Fagnano**	**1.23**	**284**	Pn		**Pn**	**18 03 23.5**			**+1.1**
	190nm,0.3s									
FAGN	**Fagnano**	**1.23**	**284**	Pn		**Pn**	**18 03 23.5**			**+1.1**
	190nm,0.3s									
MRLC	**Muro Lucano**	**1.24**	**169**	Pn		**Pn**	**18 03 22.6**			**+0.1**
	49nm,0.5s									
MRLC	**Muro Lucano**	**1.24**	**169**	Pn		**Pn**	**18 03 22.6**			**+0.1**
	49nm,0.5s									
BAI	**Bari**	**1.54**	**124**	*e*Pn		**Pn**	**18 03 27.8**			**+1.2**
BAI				*e*Sn		**Sn**	**18 03 49.4**			**+3.7**
SG1	**Sgolgore (BA)**	**1.59**	**135**	*e*Pn		**Pn**	**18 03 30.7**			**+3.3**
PE1	**Pezze di Greco**	**2.05**	**124**	*e*Pn		**Pn**	**18 03 34.0**			**+0.4**
STON	**Ston**	**2.06**	**63**	*e*Pn		**Pn**	**18 03 32.9**			**-0.9**
STON				Sn		**Sn**	**18 03 58.6**			**0.0**
STON	**Ston**	**2.06**	**63**	*e*Pn		**Pn**	**18 03 32.9**			**-1.0**
STON				Sn		**Sn**	**18 03 58.6**			**-0.1**
TAR1	**Taranto**	**2.14**	**132**	*e*Pn		**Pn**	**18 03 35.1**			**+0.1**
NVLJ	**Novalja**	**2.60**	**355**	*e*Pn		**Pn**	**18 03 41.5**			**+0.3**
NVLJ				Sn		**Sn**	**18 03 41.5**			**+0.3**
NVLJ	**Novalja**	**2.60**	**355**	*e*Pn		**Pn**	**18 03 41.5**			**+0.3**
NVLJ				Sn		**Sn**	**18 04 12.0**			**+0.1**

MEX 09 18:06:13.7±0.9, 16.54N×98.30W, h16km±11km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m	s	ISC
PNIG	**Pinotepa**	**0.22**	**132**	*i*	P	Pg	18 06 17.4			-1.4
PNIG				*i*	S	Sg	18 06 22.4			+0.1
UTMO	**Huajuapan**	**1.36**	**20**	*i*	P	Pn	18 06 34.8			-3.3
UTMO				*i*	S	Sn	18 06 51.0			-4.9
ACX	**Acapulco**	**1.53**	**282**	*i*	P	Pn	18 06 38.1			-2.2
ACX				*i*	S	Sn	18 06 56.0			-3.8
VHO	**Vista Hermosa**	**1.59**	**70**	*e*	P	Pn	18 06 38.3			-2.9
VHO				*i*	S	Sn	18 06 57.5			-3.9
MEIG	**Mezcala**	**1.87**	**318**	*i*	P	Pn	18 06 42.3			-2.6
MEIG				*i*	S	Sn	18 07 02.9			-5.4
CAIG	**El Cayaco**	**1.95**	**285**	*e*	P	Pn	18 06 43.6			-2.6
CAIG				*i*	S	Sn	18 07 05.2			-5.1
HUIG	**Huatulco**	**2.24**	**110**	*e*	P	Pn	18 06 48.0			-2.2
HUIG				*i*	S	Sn	18 07 13.0			-4.6
MZVM		**2.78**	**342**	*e*	P	Pn	18 06 55.2			-2.3
CMIG	**Matias Romero**	**3.32**	**80**	*i*	P	Pn	18 07 00.2			-4.8

*IDC **09** 18:10:27.8±0.9, 30.27N×67.41E, h0km, mb3.7/12, mb1 3.9/12, mb1mx3.7/29, mbtmp3.7/12, MS3.3/5, Ms1 3.4/5, ms1mx2.9/48, Error ellipse: s-maj=24.2km s-min=19.2km az=56.0*

*NEIC **09** 18:10:29.4±0.9, 30.30N×67.57E, h10km, mb4.0/6, Error ellipse: s-maj=16.0km s-min=9.7km az=45.0*

*ISCJB **09** 18:10:31.7±2.6, 30.41N±0.06×67.71E±0.07, h32km±18km, mb3.6/16, MS3.3/5, Error ellipse: s-maj=13.7km s-min=6.2km az=135.9*

*NNC **09** 18:10:31.7±5.0, 30.54N×67.80E, h0km, mb3.6, Error ellipse: s-maj=65.5km s-min=44.5km az=174.0*

*MOS **09** 18:10:33.9±1.4, 30.60N×67.93E, h33km, mb4.1/10, Error ellipse: s-maj=15.8km s-min=8.5km az=78.2*

ISC 09 18:10:31.2±2.3, 30.32N±0.05×67.57E±0.06, h19km±15km, n88, σ1s35/88, mb3.6/16, MS3.3/5, 4C-4D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m	s	ISC
THW	**Thamme Wali**	**4.33**	**54**		P	**Pn**	**18 11 36.0**			**0.0**
KBL	**Kabul**	**4.39**	**16**	*e*	P	**Pn**	**18 11 39.2**			**+2.5**
KBL	**Kabul**	**4.39**	**16**	*e*	P	**Pn**	**18 11 39.2**			**+2.5**
CEP	**Cherat**	**5.08**	**45**		P	**Pn**	**18 11 46.5**			**+0.3**
CEP					S	**Sn**	**18 12 47.0**			**+2.8**
CHCP	**Chirah Chowk**	**5.87**	**54**		P	**Pn**	**18 11 57.7**			**+0.6**
**KUDL

ZEI					pmax	pmax			
	comp=Z,7.0nm,1.8s,mb3.8								
BVA0	**Borovoye Array**	**22.78**	**4**	⇑P	**P**		**18 15 32.3**	**+0.1**	
	comp=Z,1.3nm,1.6s,mb3.1,baz=167,slow=9.0,SNR=11								
BVAR	**Borovoye Array**	**22.78**	**4**	P	**P**		**18 15 32.5**	**+0.2**	
	comp=Z,2.0nm,0.6s,mb3.7,baz=178,slow=10,SNR=11								
BVAR				LR	LR		18 24 53.2		
	comp=Z,27nm,20.1s,MS2.7,baz=1.3,slow=38								
BVAR	**Borovoye Array**	**22.78**	**4**	P	**P**		**18 15 32.5**	**+0.2**	
BVAR				LR	LR		18 24 53.2		
BVAR	**Borovoye Array**	**22.78**	**4**	P	**P**		**18 15 32.5**	**+0.2**	
BVAR				pmax	pmax				
	comp=Z,2.0nm,0.6s								
BVAR				MLR	MLR				
	comp=Z,27nm,20.1s								
BRVK	**Borovoye**	**22.80**	**4**	⇓P	**P**		**18 15 31.5**	**-1.0**	
	comp=Z,14nm,1.2s,mb4.3								
BRVK	**Borovoye**	**22.80**	**4**	*e*P	**P**		**18 15 31.6**	**-1.0**	
	comp=Z,5.9nm,0.9s,mb4.0								
BRVK	**Borovoye**	**22.80**	**4**	*e*P	**P**		**18 15 31.6**	**-0.9**	
BRVK				pmax	pmax				
	comp=Z,6.0nm,0.9s,mb4.0								
ZALV	**Zalesovo Beam**	**26.71**	**23**	P	**P**		**18 16 09.8**	**+0.8**	
	comp=Z,2.2nm,0.5s,mb3.9,baz=222,slow=10,SNR=10								
ZALV	**Zalesovo Beam**	**26.71**	**23**	P	**P**		**18 16 09.8**	**+0.8**	
ZALV	**Zalesovo Beam**	**26.71**	**23**	P	**P**		**18 16 09.8**	**+0.8**	
ZALV				pmax	pmax				
	comp=Z,2.0nm,0.5s,mb3.9								
CMAR	**Chiang Mai Arr**	**30.82**	**105**	P	**P**		**18 16 47.2**	**+1.3**	
	comp=Z,0.3nm,0.6s,mb3.3,baz=267,slow=7.9,SNR=3.0								
CMAR	**Chiang Mai Arr**	**30.82**	**105**	P	**P**		**18 16 47.2**	**+1.3**	
CMAR	**Chiang Mai Arr**	**30.82**	**105**	P	**P**		**18 16 47.2**	**+1.3**	
VRAC	**Vranov**	**42.60**	**311**	LR	LR		18 39 21.0		
	comp=Z,62nm,19.9s,MS3.5,baz=203,slow=41								
ARCES	**ARCESS Array B**	**45.89**	**341**	P	**P**		**18 18 50.9**	**-1.1**	
	comp=Z,1.4nm,0.7s,mb4.0,baz=126,slow=6.2,SNR=6.6								
ARCES	**ARCESS Array B**	**45.89**	**341**	P	**P**		**18 18 50.9**	**-1.1**	
ARCES	**ARCESS Array B**	**45.89**	**341**	P	**P**		**18 18 50.9**	**-1.0**	
ARCES				pmax	pmax				
	comp=Z,1.0nm,0.7s								
DAVOX	**Davos/Dischmat**	**46.96**	**307**	LR	LR		18 42 03.2		
	comp=Z,90nm,18.5s,MS3.8,baz=350,slow=40								
ESDC	**Sonseca Array**	**57.94**	**300**	P	**P**		**18 20 21.5**	**-0.7**	
	comp=Z,0.1nm,0.3s,mb3.3,baz=58,slow=7.1,SNR=4.6								
ESDC	**Sonseca Array**	**57.94**	**300**	P	**P**		**18 20 21.5**	**-0.7**	
TORD	**Torodi Ar. Bea**	**62.75**	**270**	P	**P**		**18 20 53.7**	**-1.7**	
	comp=Z,0.7nm,0.8s,mb3.9,baz=60,slow=5.6,SNR=5.2								
TORD	**Torodi Ar. Bea**	**62.75**	**270**	P	**P**		**18 20 53.7**	**-1.7**	
DBIC	**Dimbokro**	**71.50**	**267**	LR	LR		18 58 30.0		
	comp=Z,53nm,18.0s,MS3.9,baz=212,slow=40								
INK	**Inuvik**	**80.42**	**8**	P	**P**		**18 22 42.5**	**+1.5**	
	comp=Z,2.4nm,1.0s,mb4.1,baz=330,slow=8.1,SNR=2.5								
INK	**Inuvik**	**80.42**	**8**	P	**P**		**18 22 42.5**	**+1.5**	
INK	**Inuvik**	**80.42**	**8**	P	**P**		**18 22 42.5**	**+1.5**	
INK				pmax	pmax				
	comp=Z,2.0nm,1.0s								
WRA	**Warramunga Arr**	**81.34**	**119**	P	**P**		**18 22 46.6**	**-0.1**	
	comp=Z,0.3nm,0.7s,mb3.3,baz=319,slow=5.2,SNR=4.6								
WRA	**Warramunga Arr**	**81.34**	**119**	P	**P**		**18 22 46.5**	**-0.1**	
WRA	**Warramunga Arr**	**81.34**	**119**	P	**P**		**18 22 46.6**	**-0.1**	
ASAR	**Alice Springs**	**83.24**	**122**	P	**P**		**18 22 57.2**	**+0.7**	
	comp=Z,0.5nm,0.7s,mb3.7,baz=310,slow=5.0,SNR=6.5								
ASAR	**Alice Springs**	**83.24**	**122**	P	**P**		**18 22 57.2**	**+0.7**	
ASAR	**Alice Springs**	**83.24**	**122**	P	**P**		**18 22 57.2**	**+0.7**	
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								

*ISK **09** 18:22:10.5,37.49N×38.93E,h11km,MD2.6*
*ISCJB **09** 18:22:11.1±1.0,37.45N±0.06×38.95E±0.05,h6km±5km, Error ellipse: s-maj=10.5km s-min=4.8km az=149.0*
*CSEM **09** 18:22:11.2±0.4,37.47N×38.91E,h8km,MD2.6,Error ellipse: s-maj=9.1km s-min=4.9km az=145.0*
*DDA **09** 18:22:11.2,37.47N×38.94E,h7km±3km,Md2.8*
ISC 09 18:22:11.4±0.9, 37.44N±0.05×38.95E±0.05, h11km±4km, n18, σ0≈83/31, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s ISC
URFA	**Urfa**	**0.10**	**269**	*e*PG		**Pg**	**18**	**22**	**13.4 -0.8**
URFA				*e*SG		**Sg**	**18**	**22**	**15.9 -0.3**
URFA	**Urfa**	**0.10**	**269**	*e*Pg		**Pg**	**18**	**22**	**13.4 -0.8**
URFA				*e*Sg		**Sg**	**18**	**22**	**15.9 -0.3**
SVRC	**Sivrice-ELAZID**	**0.98**	**17**	*e*PG		**Pg**	**18**	**22**	**29.0 -1.2**
SVRC				*e*SG		**Sg**	**18**	**22**	**42.2 -0.7**
SVRC	**Sivrice-ELAZID**	**0.98**	**17**	*e*Pg		**Pg**	**18**	**22**	**29.0 -1.2**
SVRC				*e*Sg		**Sg**	**18**	**22**	**42.2 -0.8**
DIYA	**Diyarbakir**	**1.04**	**62**	*i* P		**Pg**	**18**	**22**	**32.9 +1.4**
DIYA				*i* S		**Sg**	**18**	**22**	**45.7 +0.6**
DIYA	**Diyarbakir**	**1.04**	**62**	*i* P		**Pg**	**18**	**22**	**32.9 +1.4**
DIYA				*i* S		**Sg**	**18**	**22**	**45.7 +0.6**
ELZG	**Elazig**	**1.05**	**1**	*i* P		**Pg**	**18**	**22**	**31.7 -0.1**
ELZG				*i* S		**Sg**	**18**	**22**	**47.0 +1.5**
ELZG	**Elazig**	**1.05**	**1**	*i* P		**Pg**	**18**	**22**	**31.7 0.0**
ELZG				*i* S		**Sg**	**18**	**22**	**47.0 +1.5**
GZT	**Gaziantep**	**1.11**	**266**	*i* P		**Pb**	**18**	**22**	**32.3 -0.3**
GZT				*i* S		**Sg**	**18**	**22**	**48.5 +1.3**
AKCD	**Akcadag**	**1.18**	**317**	*i* P		**Pb**	**18**	**22**	**32.8 -1.0**
AKCD				*i* S		**Sb**	**18**	**22**	**49.3 +0.3**
AKCD	**Akcadag**	**1.18**	**317**	*i* P		**Pb**	**18**	**22**	**32.8 -1.0**
AKCD				*i* S		**Sb**	**18**	**22**	**49.3 +0.3**
GAZ	**Gaziantep**	**1.41**	**260**	*e*PN		**Pn**	**18**	**22**	**36.8 -0.2**
GAZ				*e*SN		**Sn**	**18**	**22**	**55.6 0.0**
GAZ	**Gaziantep**	**1.41**	**260**	*e*Pn		**Pn**	**18**	**22**	**36.8 -0.2**
GAZ				*e*Sn		**Sn**	**18**	**22**	**55.7 +0.1**
PTK	**Pertek**	**1.49**	**13**	*e*PN		**Pn**	**18**	**22**	**37.2 -0.8**
PTK	**Pertek**	**1.49**	**13**	*e*Pn		**Pn**	**18**	**22**	**37.2 -0.9**
KMRS	**Kahramanmaras**	**1.63**	**273**	*e*PN		**Pn**	**18**	**22**	**39.6 -0.4**
KMRS	**Kahramanmaras**	**1.63**	**273**	*e*Pn		**Pn**	**18**	**22**	**39.7 -0.4**
AKAS	**Kas**	**7.59**	**264**	*i* S		**Sn**	**18**	**25**	**28.7 +0.8**

*IDC **09** 18:23:43.7±0.8,34.72N×34.01E,h0km,mb4.0/19, mb1 4.2/22,mb1mx4.1/29,mbtmp4.1/22,ML4.2/3,MS3.2/7, Ms1 3.2/7,ms1mx2.9/39,Error ellipse: s-maj=20.9km s-min=14.1km az=30.0*
*ISK **09** 18:23:44.7,34.33N×33.96E,h31km,ML4.2*
*MOS **09** 18:23:46.6±1.1,34.62N×33.87E,h33km,mb4.3/25,Error ellipse: s-maj=10.5km s-min=5.6km az=111.3*
*THE **09** 18:23:46.7,34.48N×33.84E,h6km±71km,Error ellipse: s-maj=71.1km s-min=9.0km az=114.0*
*ISCJB **09** 18:23:47.7±0.1,34.58N±0.01×33.93E±0.01,h55km±2km, mb4.1/32,MS3.4/5,Error ellipse: s-maj=2.4km s-min=1.8km az=37.4*
*CSEM **09** 18:23:49.3±0.1,34.61N×33.92E,h48km±1km,mb4.2/17, Mw3.8,Error ellipse: s-maj=2.4km s-min=1.9km az=38.0*
*NEIC **09** 18:23:50.4±0.5,34.63N×33.89E,h57km±5km,mb4.1/14, Error ellipse: s-maj=6.1km s-min=4.8km az=219.0*
NEIC Felt at Larnaca, Nicosia and Tersefanou.
*GRAL **09** 18:23:50.1±1.4,34.60N×34.02E,h34km±999km,MD4.4*
*NIC **09** 18:23:50.1±0.2,34.69N×33.95E,h50km,ML4.1,MW3.8*
NIC Felt earthquake; Maximum Intensity 4; Felt I=IV MM at Larnaca.
*HLW **09** 18:23:54.0,34.27N×33.48E,h32km±34km,Md3.9,MI3.8*
*SGS **09** 18:23:56.4,34.03N×33.10E,h57km*
ISC 09 18:23:49.2±0.1, 34.60N±0.01×33.96E±0.01, h49km±2km, n466, σ1§10/512, mb4.1/32, MS3.4/5, 3C-26D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s ISC
PHNC	**Paralimni**	**0.41**	**8**	⇑P		**Pn**	**18**	**23**	**59.4 +0.1**
	18nm,0.5s								
PHNC				S		**Sn**	**18**	**24**	**07.1 +0.6**
PHNC	**Paralimni**	**0.41**	**8**	⇑P		**Pn**	**18**	**23**	**59.4 +0.1**
	18nm,0.5s								
PHNC				S		**Sn**	**18**	**24**	**07.1 +0.6**
CSS	**Prodhromos**	**0.64**	**305**	⇓P		**Pn**	**18**	**24**	**02.1 +0.1**
	36nm,0.7s								
CSS				S		**Sn**	**18**	**24**	**11.4 +0.1**
CSS	**Prodhromos**	**0.64**	**305**	*e*PG		**Pn**	**18**	**24**	**01.1 -0.9**
CSS	**Prodhromos**	**0.64**	**305**	*e*P		**Pn**	**18**	**24**	**02.2 +0.2**
CSS	**Prodhromos**	**0.64**	**305**	*e*P		**Pn**	**18**	**24**	**02.0 0.0**
CSS	**Prodhromos**	**0.64**	**305**	*e*Pg		**Pn**	**18**	**24**	**01.1 -0.9**
CSS	**Prodhromos**	**0.64**	**305**	*e*P		**Pn**	**18**	**24**	**02.0 0.0**
CSS				S		**Sn**	**18**	**24**	**11.4 +0.1**
LFK	**Lefkose**	**0.77**	**333**	PG		**Pn**	**18**	**24**	**03.4 -0.3**
LFK	**Lefkose**	**0.77**	**333**	*i* Pg		**Pn**	**18**	**24**	**03.4 -0.3**
MAMC	**Mammari**	**0.84**	**313**	⇓P		**Pn**	**18**	**24**	**05.2 +0.5**
MAMC	**Mammari**	**0.84**	**313**	⇓P		**Pn**	**18**	**24**	**05.2 +0.5**
SZAC	**Souni-Zanaja**	**0.91**	**280**	P		**Pn**	**18**	**24**	**06.2 +0.7**
SZAC	**Souni-Zanaja**	**0.91**	**280**	P		**Pn**	**18**	**24**	**06.2 +0.7**
EREN	**Erenkoy**	**0.95**	**10**	P		**Pn**	**18**	**24**	**06.3 +0.2**
EREN						**Sn**	**18**	**24**	**21.1 +2.5**
EREN	**Erenkoy**	**0.95**	**10**	*i* Pn		**Pn**	**18**	**24**	**06.3 +0.2**
EREN				*i* Sn		**Sn**	**18**	**24**	**21.1 +2.5**
LEF	**Lefka**	**1.02**	**301**	PN		**Pn**	**18**	**24**	**06.0 -1.1**
LEF						**Sn**	**18**	**24**	**21.2 +0.8**
LEF	**Lefka**	**1.02**	**301**	*i* Pn		**Pn**	**18**	**24**	**06.0 -1.2**
LEF				*i* Sn		**Sn**	**18**	**24**	**21.2 +0.7**
ALFC	**Alevga**	**1.25**	**297**	P		**Pn**	**18**	**24**	**10.6 +0.3**
ALFC	**Alevga**	**1.25**	**297**	P		**Pn**	**18**	**24**	**10.6 +0.3**
PPCY	**Paphos**	**1.36**	**283**	P		**Pn**	**18**	**24**	**12.6 +0.8**
PPCY	**Paphos**	**1.36**	**283**	P		**Pn**	**18**	**24**	**12.6 +0.8**
BEYL	**Beirut**	**1.46**	**119**	*e*P		**Pn**	**18**	**24**	**12.8 -0.3**
BEYL	**Beirut**	**1.46**	**119**	*e*P		**Pn**	**18**	**24**	**12.8 -0.3**
BHL	**Bhannes**	**1.56**	**116**	*e*P		**Pn**	**18**	**24**	**13.9 -0.6**
BHL				*e*S		**Sn**	**18**	**24**	**31.0 -2.5**
BHL	**Bhannes**	**1.56**	**116**	*e*P		**Pn**	**18**	**24**	**13.9 -0.6**
BHL				*e*S		**Sn**	**18**	**24**	**31.0 -2.5**
MATL	**Matarih**	**1.58**	**134**	*e*P		**Pn**	**18**	**24**	**14.7 -0.1**
MATL	**Matarih**	**1.58**	**134**	*e*P		**Pn**	**18**	**24**	**14.6 -0.2**
HWQ	**Hawqa**	**1.67**	**100**	*e*P		**Pn**	**18**	**24**	**16.1 +0.2**
HWQ				*e*S		**Sn**	**18**	**24**	**34.2 -2.0**
HWQ	**Hawqa**	**1.67**	**100**	*e*P		**Pn**	**18**	**24**	**16.1 +0.2**
HWQ				*e*S		**Sn**	**18**	**24**	**34.2 -2.0**
RCY	**Rachaya**	**1.90**	**125**	*e*P		**Pn**	**18**	**24**	**19.6 +0.5**
RCY				*e*S		**Sn**	**18**	**24**	**40.4 -1.5**
RCY	**Rachaya**	**1.90**	**125**	*e*P		**Pn**	**18**	**24**	**19.6 +0.5**
RCY				*e*S		**Sn**	**18**	**24**	**40.4 -1.5**
MMAI	**Mount Meron Ar**	**1.98**	**142**	Pn			**18**	**24**	**20.7 +0.5**
	208nm,0.3s,baz=331,slow=13,SNR=1317								
MMAI						**Sn**	**18**	**24**	**42.9 -0.9**
	914nm,0.3s,baz=335,slow=26,SNR=33								
BIDA	**Albida**	**1.98**	**77**	⇓*i*P		**Pn**	**18**	**24**	**20.4 +0.2**
BIDA				⇓*i*S		**Sn**	**18**	**24**	**41.2 -2.7**
HAWK	**Haweek**	**2.02**	**91**	⇓*i*P		**Pn**	**18**	**24**	**21.5 +0.8**
HAWK				⇓*i*S		**Sn**	**18**	**24**	**42.9 -1.8**
BRBR	**Barbar**	**2.03**	**125**	⇓*i*P		**Pn**	**18**	**24**	**22.0 +1.1**
BRBR				⇓*i*S		**Sn**	**18**	**24**	**44.5 -0.5**
FKH	**Fakeheh**	**2.05**	**99**	*e*P		**Pn**	**18**	**24**	**22.1 +0.9**
FKH	**Fakeheh**	**2.05**	**99**	*e*P		**Pn**	**18**	**24**	**22.1 +0.9**
ARNB	**Al Arnab**	**2.07**	**52**	⇑*i*P		**Pn**	**18**	**24**	**21.5 0.0**
ARNB				⇑*i*S		**Sn**	**18**	**24**	**43.6 -2.5**
SLNF	**Slenfeh**	**2.10**	**61**	⇑*i*P		**Pn**	**18**	**24**	**21.5 -0.4**
SLNF				⇑*i*S		**Sn**	**18**	**24**	**44.2 -2.6**
GAZI	**Gazipasa**	**2.12**	**321**	*i* P		**Pn**	**18**	**24**	**23.6 +1.5**
GAZI	**Gazipasa**	**2.12**	**321**	*i* P		**Pn**	**18**	**24**	**23.6 +1.5**
GAZI				*i* S		**Sn**	**18**	**24**	**49.4 +2.2**
MARH	**Ras Al Marh**	**2.16**	**105**	⇓*i*P		**Pn**	**18**	**24**	**23.9 +1.2**
MARH				⇓*i*S		**Sn**	**18**	**24**	**47.0 -1.2**
QASN	**Qassioun**	**2.19**	**118**	⇓*i*P		**Pn**	**18**	**24**	**24.4 +1.3**
QASN				⇓*i*S		**Sn**	**18**	**24**	**47.7 -1.3**
WRDH	**Warideh**	**2.21**	**65**	⇓*i*P		**Pn**	**18**	**24**	**23.3 0.0**
WRDH				⇓*i*S		**Sn**	**18**	**24**	**46.6 -2.7**
YAYL	**Yayladag**	**2.27**	**50**	*i* P		**Pn**	**18**	**24**	**24.3 +0.2**
YAYL	**Yayladag**	**2.27**	**50**	*i* P		**Pn**	**18**	**24**	**24.3 +0.2**
YAYL				*i* S		**Sn**	**18**	**24**	**49.1 -1.7**
KRTS	**Karatas**	**2.28**	**30**	*e*PN		**Pn**	**18**	**24**	**24.4 0.0**
KRTS	**Karatas**	**2.28**	**30**	*e*Pn		**Pn**	**18**	**24**	**24.4 +0.1**
HTY	**Hatay**	**2.34**	**49**	*e*PN		**Pn**	**18**	**24**	**25.1 0.0**
HTY	**Hatay**	**2.34**	**49**	*e*Pn		**Pn**	**18**	**24**	**25.1 0.0**
TOTH	**TOTAH**	**2.39**	**120**	⇓*i*P		**Pn**	**18**	**24**	**27.7 +1.9**
TOTH				⇓*i*S		**Sn**	**18**	**24**	**52.6 -1.3**
KFRA	**Kufra**	**2.41**	**74**	⇓*i*P		**Pn**	**18**	**24**	**26.7 +0.6**
BTCH	**Batrach**	**2.50**	**54**	⇑*i*P		**Pn**	**18**	**24**	**27.6 +0.3**
BTCH				⇑*i*S		**Sn**	**18**	**24**	**54.6 -1.9**
TCHB	**Talchebab**	**2.55**	**138**	⇓*i*P		**Pn**	**18**	**24**	**29.7 +1.7**
TCHB				⇓*i*S		**Sn**	**18**	**24**	**57.5 -0.3**
HDMB	**Hadim**	**2.65**	**333**	*e*PN		**Pn**	**18**	**24**	**29.4 0.0**
HDMB	**Hadim**	**2.65**	**333**	*e*Pn		**Pn**	**18**	**24**	**29.4 0.0**
COBT	**Iskenderun**	**2.68**	**44**	*i* P		**Pn**	**18**	**24**	**29.2 -0.5**
COBT	**Iskenderun**	**2.68**	**44**	*i* P		**Pn**	**18**	**24**	**29.2 -0.6**
COBT				*i* S		**Sn**	**18**	**24**	**59.3 -1.7**
RABH	**Abou Rabah**	**2.68**	**93**	⇓*i*P		**Pn**	**18**	**24**	**31.4 +1.6**
GULE	**Gulek**	**2.76**	**14**	*i* P		**Pn**	**18**	**24**	**31.9 +1.0**
GULE	**Gulek**	**2.76**	**14**	*i* P		**Pn**	**18**	**24**	**31.9 +1.0**
GULE				*i* S		**Sn**	**18**	**25**	**04.6 +1.6**
ROOS	**tl_alroos**	**2.78**	**98**	⇑*i*P		**Pn**	**18**	**24**	**31.9 +0.7**
ROOS				⇑*i*S		**Sn**	**18**	**25**	**02.7 -0.8**
KARA	**Karaisali**	**2.80**	**18**	*e*PN		**Pn**	**18**	**24**	**32.3 +0.8**
KARA	**Karaisali**	**2.80**	**18**	*e*Pn		**Pn**	**18**	**24**	**32.3 +0.8**
CEYT	**Ceyhan**	**2.81**	**31**	*e*PN		**Pn**	**18**	**24**	**31.9 +0.4**
CEYT	**Ceyhan**	**2.81**	**31**	*e*Pn		**Pn**	**18**	**24**	**31.9 +0.3**
SALA	**Sala**	**2.98**	**128**	⇓*i*P		**Pn**	**18**	**24**	**36.4 +2.5**
SALA				⇓*i*S		**Sn**	**18**	**25**	**08.1 -0.3**
DRWC	**Darouich**	**2.99**	**47**	⇑*i*P		**Pn**	**18**	**24**	**33.8 -0.2**
DRWC				⇑*i*S		**Sn**	**18**	**25**	**06.0 -2.6**
KOZT	**Kozan**	**3.25**	**27**	*e*PN		**Pn**	**18**	**24**	**38.4 +0.8**
ZALF	**Zalf**	**3.27**	**120**	⇓*i*P		**Pn**	**18**	**24**	**39.7 +1.9**
ZALF				⇓*i*S		**Sn**	**18**	**25**	**14.7 -0.8**
KUZU	**Kuzuini**	**3.34**	**48**	*i* P		**Pn**	**18**	**24**	**38.6 -0.2**
KUZU	**Kuzuini**	**3.34**	**48**	*i* P		**Pn**	**18**	**24**	**38.6 -0.2**
KUZU				*i* S		**Sn**	**18**	**25**	**15.7 -1.5**
ASF	**Jabal al Asfar**	**3.44**	**134**	Pn		**Pn**	**18**	**24**	**42.6 +2.3**
	24nm,0.3s,baz=201,slow=5.0,SNR=120								
ASF						**Sn**	**18**	**25**	**24.2 +4.3**
	57nm,0.3s,baz=3.9,slow=21,SNR=5.0								
ASF				LR		LR	18	26	22.6
	comp=Z,183nm,21.7s,baz=111,slow=45								
ASF	**Jabal al Asfar**	**3.44**	**134**	Pn		**Pn**	**18**	**24**	**42.6 +2.3**
ASF				Sn		**Sn**	**18**	**25**	**24.2 +4.3**
ASF				LR		LR	18	26	22.6
ASF	**Jabal al Asfar**	**3.44**	**134**	P		**Pn**	**18**	**24**	**42.6 +2.3**
ASF							18	25	24.2
ASF				pmax	pmax				
	comp=Z,24nm,0.3s								
ASF				smax					
	comp=N,57nm,0.3s								
ASF				MLR	MLR				
	comp=Z,183nm,21.7s								
ANDN	**Andirin**	**3.55**	**32**	*i* P		**Pn**	**18**	**24**	**42.9 +1.2**
ANDN	**Andirin**	**3.55**	**32**	*i* P		**Pn**	**18**	**24**	**42.9 +1.2**
ANDN				*i* S		**Sn**	**18**	**25**	**21.8 -0.5**
KONT	**Konya--Tatoy**	**3.58**	**339**	*e*PN		**Pn**	**18**	**24**	**43.1 +1.0**
KONT	**Konya--Tatoy**	**3.58**	**339**	*e*Pn		**Pn**	**18**	**24**	**43.1 +0.9**
SLMH	**Al Salmeh**	**3.62**	**62**	⇓*i*P		**Pn**	**18**	**24**	**43.0 +0.4**
RSH		**3.63**	**183**	P		**Pn**	**18**	**24**	**43.0 +0.1**
GAZ	**Gaziantep**	**3.68**	**45**	*e*PN		**Pn**	**18**	**24**	**43.9 +0.3**
GAZ	**Gaziantep**	**3.68**	**45**	*e*Pn		**Pn**	**18**	**24**	**43.9 +0.4**
SUTC	**Sutluce-Ispart**	**3.75**	**321**	*e*PN		**Pn**	**18**	**24**	**45.3 +0.9**
SUTC	**Sutluce-Ispart**	**3.75**	**321**	*e*Pn		**Pn**	**18**	**24**	**45.3 +0.9**
KORT	**Korkueli**	**3.79**	**310**	*i* P		**Pn**	**18**	**24**	**44.5 -0.6**
KORT	**Korkueli**	**3.79**	**310**	*i* P		**Pn**	**18**	**24**	**44.5 -0.5**
JHLN	**Al Jahlan**	**3.82**	**72**	⇑*i*P		**Pn**	**18**	**24**	**46.2 +0.7**
KSL	**Kastellorizon**	**3.90**	**295**	*e*P		**Pn**	**18**	**24**	**45.8 -0.7**
AKAS	**Kas**	**3.92**	**296**	*i* P		**Pn**	**18**	**24**	**45.0 -1.8**
AKAS	**Kas**	**3.92**	**296**	*i* P		**Pn**	**18**	**24**	**45.0 -1.7**
ELL	**Elmali**	**3.94**	**304**	*e*PN		**Pn**	**18**	**24**	**47.1 +0.1**
ELL	**Elmali**	**3.94**	**304**	*e*Pn		**Pn**	**18**	**24**	**47.1 +0.1**
AMAG	**Maghara**	**3.99**	**189**	P		**Pn**	**18**	**24**	**48.1 +0.3**
	baz=184								
AMAG	**Maghara**	**3.99**	**189**	P		**Pn**	**18**	**24**	**48.1 +0.3**
GZT	**Gaziantep**	**4.01**	**46**	*i* P		**Pn**	**18**	**24**	**46.6 -1.5**
KDHN	**Kadinhani**	**4.19**	**340**	*i* P		**Pn**	**18**	**24**	**51.5 +1.0**
KDHN	**Kadinhani**	**4.19**	**340**	*i* P		**Pn**	**18**	**24**	**51.5 +1.0**
KDHN				*i* S		**Sn**	**18**	**25**	**39.0 +0.9**
AVNT	**Avonos**	**4.24**	**9**	*i* P		**Pn**	**18**	**24**	**51.9 +0.7**
AVNT	**Avonos**	**4.24**	**9**	*i* P		**Pn**	**18**	**24**	**51.9 +0.8**
AVNT				*i* S		**Sn**	**18**	**25**	**37.8 -1.5**
GLHS	**Glhisar (BURDU**	**4.43**	**306**	*e*PN		**Pn**	**18**	**24**	**54.0 +0.1**
GLHS	**Glhisar (BURDU**	**4.43**	**306**	*e*Pn		**Pn**	**18**	**24**	**54.0 +0.1**
GOLH	**Golhisar**	**4.44**	**308**	*i* P		**Pn**	**18**	**24**	**54.8 +0.9**
GOLH	**Golhisar**	**4.44**	**308**	*i* P		**Pn**	**18**	**24**	**54.8 +0.9**
GOLH				*i* S		**Sn**	**18**	**25**	**43.2 -1.1**
FETY	**Fethiye**	**4.47**	**298**	*e*PN		**Pn**	**18**	**24**	**54.2 -0.1**
FETY	**Fethiye**	**4.47**	**298**	*e*Pn		**Pn**	**18**	**24**	**54.2 -0.1**
PINB	**Pinarbasi**	**4.52**	**25**	*i* P		**Pn**	**18**	**24**	**57.0 +2.0**
PINB	**Pinarbasi**	**4.52**	**25**	*i* P		**Pn**	**18**	**24**	**57.0 +2.0**
ATAB	**Bozova**	**4.53**	**50**	*i* P		**Pn**	**18**	**24**	**54.7 -0.4**
ATAB	**Bozova**	**4.53**	**50**	*i* P		**Pn**	**18**	**24**	**54.7 -0.5**
KIZT	**Kizilcal**	**4.59**	**339**	*e*PN		**Pn**	**18**	**24**	**58.0 +2.0**
KIZT	**Kizilcal**	**4.59**	**339**	*e*Pn		**Pn**	**18**	**24**	**58.0 +2.0**
SARI	**SarD1z-Kayseri**	**4.63**	**28**	*e*PN		**Pn**	**18**	**24**	**52.7 -3.8**
SARI	**SarD1z-Kayseri**	**4.63**	**28**	*e*Pn		**Pn**	**18**	**24**	**52.7 -3.8**
HNKL	**Nakhl**	**4.65**	**180**	P		**Pn**	**18**	**24**	**57.3 +0.4**
	baz=174								
HNKL				S		**Sn**	**18**	**25**	**45.8 -3.8**
	baz=174								
HNKL	**Nakhl**	**4.65**	**180**	P		**Pn**	**18**	**24**	**57.2 +0.3**
HNKL				S		**Sn**	**18**	**25**	**45.7 -3.9**
BOLV	**Bolvadin**	**4.77**	**330**	*i* P		**Pn**	**18**	**25**	**01.4 +2.9**
BOLV	**Bolvadin**	**4.77**	**330**	*i* P		**Pn**	**18**	**25**	**01.4 +2.9**
BOLV				*i* S		**Sn**	**18**	**25**	**56.1 +3.6**
SUZ		**4.84**	**192**	P		**Pn**	**18**	**24**	**59.8 +0.4**
	baz=188								
SUZ		**4.84**	**192**	P		**Pn**	**18**	**25**	**00.0 +0.6**
AKCD	**Akcadag**	**4.88**	**40**	*i* P		**Pn**	**18**	**25**	**00.7 +0.7**
AKCD	**Akcadag**	**4.88**	**40**	*i* P		**Pn**	**18**	**25**	**00.7 +0.8**
AKCD				*i* S		**Sn**	**18**	**25**	**52.8 -2.3**
HHAG	**Hagoal**	**4.89**	**199**	P		**Pn**	**18**	**24**	**58.9 -1.3**
	baz=196								
HHAG				AMP			18	25	00.0
	comp=N,510µm,0.2s,logA/T=6.5,baz=196								
HHAG	**Hagoal**	**4.89**	**199**	P		**Pn**	**18**	**25**	**00.7 +0.5**
EIL	**Elat**	**4.98**	**170**	Pn		**Pn**	**18**	**25**	**02.6 +1.2**
	comp=N,6.2nm,0.3s,baz=352,slow=11,SNR=41								
EIL				Sn		**Sn**	**18**	**25**	**57.0 -0.7**
	comp=N,70nm,0.3s,baz=74,slow=14,SNR=13								
**EIL

VAM Vamos 8.05 279 P **Pn** 18 25 41.3 -2.2
VAM Vamos 8.05 279 P **Pn** 18 25 41.3 -2.2
WJHS 8.11 164 P **Pn** 18 25 47.1 +2.8
WJHS 8.11 164 P **Pn** 18 25 47.1 +2.7
BIDS Bi'r al Bayda' 8.12 161 P **Pn** 18 25 45.6 +1.2
BIDS Bi'r al Bayda' 8.12 161 P **Pn** 18 25 45.6 +1.1
KARN Karanos 8.28 278 *eP* **Pn** 18 25 45.0 -1.6
KARN Karanos 8.28 278 P **Pn** 18 25 44.7 -1.9
KARN Karanos 8.28 278 P **Pn** 18 25 44.7 -1.9
LIA Limnos Island 8.77 310 P **Pn** 18 25 53.7 +0.4
LIA Limnos Island 8.77 310 P **Pn** 18 25 53.7 +0.4
VLY Voula,Athens 8.84 295 *eP* **Pn** 18 25 53.9 -0.3
VLY Voula,Athens 8.84 295 P **Pn** 18 25 53.9 -0.3
VLY Voula,Athens 8.84 295 P **Pn** 18 25 53.9 -0.3
PTL Penteli 8.85 296 *eP* **Pn** 18 25 52.1 -2.2
HFRF Wahat Farafira 8.87 215 P **Pn** 18 25 53.7 -1.0
baz=214
HFRF AMP 18 27 00.0
comp=N,30µm,0.5s,logA/T=4.7,baz=214
HFRF S Sn 18 27 04.3 -29
baz=214
KYTH Kithira 9.07 284 *eP* **Pn** 18 25 54.9 -2.6
DID Didima 9.16 292 *eP* **Pn** 18 25 58.0 -0.6
DID Didima 9.16 292 P **Pn** 18 25 58.0 -0.6
DID Didima 9.16 292 P **Pn** 18 25 58.0 -0.6
VLI Veliai 9.22 286 *eP* **Pn** 18 25 57.0 -2.5
VLI Veliai 9.22 286 P **Pn** 18 25 57.0 -2.5
VLI Veliai 9.22 286 P **Pn** 18 25 57.0 -2.5
LTK Loutraki 9.51 294 *eP* **Pn** 18 26 03.0 -0.4
VLX Vlachokerasia 9.79 290 *eP* **Pn** 18 26 05.8 -1.4
VLX Vlachokerasia 9.79 290 P **Pn** 18 26 05.9 -1.3
VLX Vlachokerasia 9.79 290 P **Pn** 18 26 05.9 -1.3
GUR Goura 9.96 293 *eP* **Pn** 18 26 09.6 +0.1
ITM Ithomi 10.10 288 *eP* **Pn** 18 26 10.2 -1.3
ITM Ithomi 10.10 288 P **Pn** 18 26 10.2 -1.3
ITM Ithomi 10.10 288 P **Pn** 18 26 10.2 -1.3
PYL PYLOS 10.20 287 *eP* **Pn** 18 26 09.5 -3.3
PYL PYLOS 10.20 287 P **Pn** 18 26 10.2 -2.6
PYL PYLOS 10.20 287 P **Pn** 18 26 10.2 -2.6
AGG Agios Georgios 10.32 299 *eP* **Pn** 18 26 15.9 +1.4
LIT Litokhoron 10.65 304 *eP* **Pn** 18 26 19.6 +0.5
RLS Riolos of Patr 10.66 293 *eP* **Pn** 18 26 19.6 +0.5
RLS Riolos of Patr 10.66 293 P **Pn** 18 26 19.6 +0.5
RLS Riolos of Patr 10.66 293 P **Pn** 18 26 19.6 +0.5
EVR Evrytania 10.66 297 *eP* **Pn** 18 26 22.6 +3.5
TIRR Tirgusor 10.74 338 P **Pn** 18 26 21.4 +1.2
TIRR Tirgusor 10.74 338 P **Pn** 18 26 21.4 +1.2
TIRR Tirgusor 10.74 338 P **Pn** 18 26 21.4 +1.2
THL Klokotos Trika 10.75 301 *eP* **Pn** 18 26 21.6 +1.2
ZEI Tsey 11.26 41 *eP* **Pn** 18 26 30.3 +3.0
ZEI pmax pmax
comp=Z,3.0nm,1.1s
ZEI Tsey 11.26 41 *eP* **Pn** 18 26 30.3 +3.0
comp=Z,3.0nm,1.1s
VLS Valsamata 11.36 292 *eP* **Pn** 18 26 26.2 -2.5
VLS Valsamata 11.36 292 P **Pn** 18 26 27.0 -1.6
VLS Valsamata 11.36 292 P **Pn** 18 26 27.0 -1.6
IGT Igoumenitsa 11.95 298 P **Pn** 18 26 36.3 -0.4
IGT Igoumenitsa 11.95 298 P **Pn** 18 26 36.3 -0.4
RST Umm Al-Ruwaisa 12.16 111 *eP* **Pn** 18 26 40.2 +0.5
RST AMb AMB 18 26 46.9
comp=Z,5.3nm,1.0s
RST Umm Al-Ruwaisa 12.16 111 *eP* **Pn** 18 26 40.2 +0.4
comp=Z,5.0nm,1.0s
MIB Mutribah 12.29 109 *eP* **Pn** 18 26 42.0 +0.5
MIB AMb AMB 18 26 42.7
comp=Z,19nm,0.5s
MIB Mutribah 12.29 109 *eP* **Pn** 18 26 42.0 +0.5
comp=Z,19nm,0.5s
NAY Al-Naaiem 12.47 112 *eP* **Pn** 18 26 43.8 -0.1
NAY Al-Naaiem 12.47 112 *eP* **Pn** 18 26 43.8 -0.2
MLR Muntele Rosu 12.49 333 LR LR 18 31 49.9
comp=Z,33nm,20.7s,baz=139,slow=39
SCTE Santa Cesarea 13.48 298 *eP* **Pn** 18 26 55.4 -2.3
CEL Celeste 15.00 289 *eP* **Pn** 18 27 13.0 -4.9
comp=Z,16nm,0.8s
CUC Castrocucco 15.41 296 *eP* **Pn** 18 27 19.3 -3.9
comp=Z,11nm,0.6s
KIEV Kiev 16.46 349 *eP* **Pn** 18 27 36.9 +0.3
comp=Z,16nm,1.0s
KIEV Kiev 16.46 349 *eP* **Pn** 18 27 36.9 +0.4
KIEV pmax pmax
comp=Z,16nm,1.0s
KIEV Kiev 16.46 349 *eP* **Pn** 18 27 36.9 +0.4
comp=Z,16nm,1.0s
AKASG Malin Array Be 16.46 349 Pn **Pn** 18 27 36.9 +0.4
comp=Z,2.4nm,0.3s,baz=168,slow=11,SNR=17
AKASG Malin Array Be 16.46 349 Pn **Pn** 18 27 36.9 +0.4
AKASG Malin Array Be 16.46 349 P **Pn** 18 27 36.9 +0.3
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG Malin Array Be 16.46 349 P **Pn** 18 27 36.9 +0.3
comp=Z,2.0nm,0.3s
AKBB Malin Array Si 16.46 349 *eP* **Pn** 18 27 38.6 +2.1
AKBB Malin Array Si 16.46 349 *eP* **Pn** 18 27 38.6 +2.0
AKBB Malin Array Si 16.46 349 *eP* **Pn** 18 27 38.6 +2.0
VRAC Vranov 19.50 324 P **Pn** 18 28 13.0 -0.7
comp=Z,0.2nm,0.3s,baz=158,slow=10,SNR=4.5
VRAC Vranov 19.50 324 P **Pn** 18 28 13.0 -0.7
VRAC Vranov 19.50 324 P **Pn** 18 28 13.0 -0.7
VRAC Vranov 19.50 324 P **Pn** 18 28 13.0 -0.7
KEST Kesra 20.15 280 P **P** 18 28 20.6 +1.4
comp=Z,2.1nm,0.9s,baz=53,slow=6.6,SNR=4.8
KEST Kesra 20.15 280 P **P** 18 28 20.6 +1.4
KEST Kesra 20.15 280 P **P** 18 28 20.6 +1.4
OBN Obninsk 20.60 4⇑ *iP* **P** 18 28 23.7 -0.2
OBN *i* *PP 18 28 46.3
OBN pmax pmax
comp=Z,14nm,0.9s
OBN Obninsk 20.60 4 *i* P **P** 18 28 23.7 -0.2
comp=Z,14nm,0.9s
GERES GERESS Array B 20.68 320 P **P** 18 28 25.2 +0.4
comp=Z,3.8nm,0.5s,baz=124,slow=11,SNR=26
GERES GERESS Array B 20.68 320 P **P** 18 28 25.2 +0.4
GERES GERESS Array B 20.68 320 P **P** 18 28 25.2 +0.3
GERES pmax pmax
comp=Z,4.0nm,0.5s
GERES GERESS Array B 20.68 320 P **P** 18 28 25.2 +0.3
comp=Z,4.0nm,0.5s
NACGM Naroch 20.91 348 *e* **P** 18 28 24.0 -3.3
KHC Kasperske Hory 20.92 320 *eP* **P** 18 28 26.6 -0.8
comp=Z,4.0nm,0.7s
KHC Kasperske Hory 20.92 320 *eP* **P** 18 28 28.3 +0.9
KHC *e* 18 28 38.5
KHC Kasperske Hory 20.92 320 *eP* **P** 18 28 28.3 +0.9
KHC *ep*P 18 28 38.5
KHC Kasperske Hory 20.92 320 *eP* **P** 18 28 26.6 -0.8
comp=Z,4.0nm,0.7s
PGF Pioggiola 21.02 300 *eP* **P** 18 28 29.0 +0.4
PGF Pioggiola 21.02 300 *eP* **P** 18 28 29.0 +0.4
PGF Pioggiola 21.02 300 *eP* **P** 18 28 29.0 +0.4
PGF Pioggiola 21.02 300 *eP* **P** 18 28 29.0 +0.4
DAVOX Davos/Dischmat 21.85 311 P **P** 18 28 39.1 +1.7
comp=Z,3.6nm,0.6s,mb4.0,baz=139,slow=15,SNR=12
DAVOX Davos/Dischmat 21.85 311 P **P** 18 28 39.1 +1.7
DAVOX Davos/Dischmat 21.85 311 P **P** 18 28 39.1 +1.7
MBDF Montbardon 23.15 304 *eP* **P** 18 28 50.9 -0.4
comp=Z,14nm,0.8s,mb4.1
MBDF Montbardon 23.15 304 *eP* **P** 18 28 50.9 -0.4
comp=Z,6.9nm,0.8s,mb4.1
MBDF Montbardon 23.15 304 *eP* **P** 18 28 50.9 -0.4
MBDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.1
LPG La Plagne 23.40 306 *eP* **P** 18 28 53.3 -0.3
comp=Z,20nm,1.1s,mb4.2
LPG La Plagne 23.40 306 *eP* **P** 18 28 53.3 -0.3
comp=Z,10.0nm,1.1s,mb4.2
LPG La Plagne 23.40 306 *eP* **P** 18 28 53.3 -0.3
LPG pmax pmax
comp=Z,10.0nm,1.1s,mb4.2
LPL La Plagne 23.41 306 *eP* **P** 18 28 52.9 -0.9
comp=Z,8.9nm,0.7s,mb4.0
LPL La Plagne 23.41 306 *eP* **P** 18 28 52.9 -0.9
comp=Z,4.4nm,0.6s,mb4.1
LPL La Plagne 23.41 306 *eP* **P** 18 28 52.9 -0.9
LPL pmax pmax
comp=Z,4.0nm,0.6s,mb4.0
AKTK Aktyubinsk 23.61 41 P **P** 18 28 55.3 -0.3
AKTO Aktyubinsk 23.61 41 P **P** 18 28 55.3 -0.3
comp=Z,3.4nm,0.7s,mb3.9,baz=244,slow=9.6,SNR=14
AKTO Aktyubinsk 23.61 41 P **P** 18 28 55.3 -0.2
AKTO pmax pmax
comp=Z,3.0nm,0.7s,mb3.8

ORIF Oris-en-Rattie 23.82 304 *eP* **P** 18 28 56.7 -0.8
ORIF Oris-en-Rattie 23.82 304 *eP* **P** 18 28 56.7 -0.8
ORIF Oris-en-Rattie 23.82 304 *eP* **P** 18 28 56.7 -0.8
ABKAR Akbulak array 24.09 45 *eP* **P** 18 28 59.4 -0.5
comp=Z,0.5nm,0.5s,mb3.2
CDF Champ du Feu 24.14 313 *eP* **P** 18 29 00.1 -0.3
comp=Z,23nm,1.0s,mb4.3
CDF Champ du Feu 24.14 313 *eP* **P** 18 29 00.1 -0.3
comp=Z,12nm,1.0s,mb4.3
CDF Champ du Feu 24.14 313 *eP* **P** 18 29 00.1 -0.3
CDF pmax pmax
comp=Z,12nm,1.0s,mb4.3
HINF Hinteralfeld 24.15 311 *eP* **P** 18 29 00.0 -0.5
comp=Z,16nm,1.0s,mb4.1
HINF Hinteralfeld 24.15 311 *eP* **P** 18 29 00.0 -0.5
comp=Z,7.9nm,1.0s,mb4.1
HINF Hinteralfeld 24.15 311 *eP* **P** 18 29 00.0 -0.5
HINF pmax pmax
comp=Z,8.0nm,1.0s,mb4.1
CABF La Chapelle 24.20 308 *eP* **P** 18 29 00.5 -0.4
CABF La Chapelle 24.20 308 *eP* **P** 18 29 00.5 -0.4
CABF La Chapelle 24.20 308 *eP* **P** 18 29 00.5 -0.4
ATD Arta Tunnel 24.35 158 LR LR 18 39 18.3
comp=Z,22nm,18.3s,MS2.7,baz=46,slow=38
VIVF Saint-Julien-l 24.63 303 *eP* **P** 18 29 04.1 -0.8
VIVF Saint-Julien-l 24.63 303 *eP* **P** 18 29 04.1 -0.8
VIVF Saint-Julien-l 24.63 303 *eP* **P** 18 29 04.1 -0.8
LASF Ste Croix 25.02 301 *eP* **P** 18 29 08.7 +0.3
LASF Ste Croix 25.02 301 *eP* **P** 18 29 08.7 +0.3
PAGF Fort de Pagny 25.14 312 *eP* **P** 18 29 08.8 -0.7
SFTF Sexfontaines 25.43 311 *eP* **P** 18 29 11.7 -0.4
SFTF Sexfontaines 25.43 311 *eP* **P** 18 29 11.7 -0.4
MEZF Maizieres J'vi 25.53 312 *eP* **P** 18 29 12.9 -0.1
MEZF Maizieres J'vi 25.53 312 *eP* **P** 18 29 12.9 -0.1
SMF Signal de Mont 25.68 307 *eP* **P** 18 29 13.1 -1.3
SMF Signal de Mont 25.68 307 *eP* **P** 18 29 13.1 -1.3
SMF Signal de Mont 25.68 307 *eP* **P** 18 29 13.1 -1.3
LOR Lormes 25.85 308 *eP* **P** 18 29 15.1 -0.9
comp=Z,2.3nm,0.4s,mb3.8
LOR Lormes 25.85 308 *eP* **P** 18 29 15.1 -0.9
comp=Z,1.1nm,0.4s,mb3.7
LOR Lormes 25.85 308 *eP* **P** 18 29 15.1 -0.9
LOR pmax pmax
comp=Z,1.0nm,0.4s,mb3.7
SSF Saint Saulge 26.02 308 *eP* **P** 18 29 16.9 -0.6
comp=Z,9.6nm,0.8s,mb4.1
SSF Saint Saulge 26.02 308 *eP* **P** 18 29 16.9 -0.6
comp=Z,4.8nm,0.8s,mb4.1
SSF Saint Saulge 26.02 308 *eP* **P** 18 29 16.9 -0.6
SSF pmax pmax
comp=Z,5.0nm,0.8s,mb4.1
AVF Avril sur Loir 26.04 307 *eP* **P** 18 29 17.4 -0.3
comp=Z,6.2nm,0.7s,mb4.0
AVF Avril sur Loir 26.04 307 *eP* **P** 18 29 17.4 -0.3
comp=Z,3.1nm,0.7s,mb4.0
AVF Avril sur Loir 26.04 307 *eP* **P** 18 29 17.4 -0.3
AVF pmax pmax
comp=Z,3.0nm,0.7s,mb3.9
FINES FINESS Array B 27.34 352 P **P** 18 29 29.0 -0.1
comp=Z,2.6nm,0.4s,mb4.2,baz=157,slow=10,SNR=48
FINES FINESS Array B 27.34 352 P **P** 18 29 29.0 -0.1
FINES FINESS Array B 27.34 352 P **P** 18 29 29.0 -0.1
FINES pmax pmax
comp=Z,3.0nm,0.4s
FINES FINESS Array B 27.34 352 P **P** 18 29 29.0 -0.1
comp=Z,3.0nm,0.4s,mb4.2
JOF Joensuu 28.39 357 *eP* **P** 18 29 38.1 -0.5
JOF pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
JOF Joensuu 28.39 357 *ep* **P** 18 29 38.1 -0.5
comp=Z,2.9nm,0.6s,mb4.1
JOF Joensuu 28.39 357 *eP* **P** 18 29 38.1 -0.5
comp=Z,3.0nm,0.6s,mb4.1
HFS Hagfors 28.76 339 P **P** 18 29 41.2 -0.6
comp=Z,1.0nm,0.5s,mb3.8,baz=134,slow=11,SNR=6.0
HFS Hagfors 28.76 339 P **P** 18 29 41.2 -0.6
HFS Hagfors 28.76 339 P **P** 18 29 41.2 -0.7
HFS pmax pmax
comp=Z,1.0nm,0.5s
HFS Hagfors 28.76 339 P **P** 18 29 41.2 -0.7
comp=Z,1.0nm,0.5s,mb3.8
LDF La Druitiere 28.80 309 *eP* **P** 18 29 40.9 -1.5
comp=Z,3.1nm,0.3s,mb4.2
LDF La Druitiere 28.80 309 *eP* **P** 18 29 40.9 -1.5
comp=Z,1.5nm,0.3s,mb4.2
LDF La Druitiere 28.80 309 *eP* **P** 18 29 40.9 -1.5
LDF pmax pmax
comp=Z,2.0nm,0.3s,mb4.3
LDF La Druitiere 28.80 309 *eP* **P** 18 29 40.9 -1.5
comp=Z,1.5nm,0.3s,mb4.2
NOA NORSAR Array B 30.23 338 LR LR 18 43 22.8
comp=Z,57nm,21.1s,MS3.2,baz=265,slow=39
ESDC Sonseca Array 30.50 291 P **P** 18 29 59.0 +1.4
comp=Z,0.3nm,0.5s,mb3.4,baz=81,slow=9.5,SNR=6.6
ESDC Sonseca Array 30.50 291 P **P** 18 29 59.0 +1.4
ESDC Sonseca Array 30.50 291 P **P** 18 29 59.0 +1.5
ARCES ARCESS Array B 35.31 355 P **P** 18 30 39.1 0.0
comp=Z,4.6nm,0.5s,mb4.6,baz=167,slow=9.3,SNR=45
ARCES PcP PcP 18 33 08.7 +0.3
comp=Z,3.2nm,1.0s,baz=165,slow=3.7,SNR=4.4
ARCES ARCESS Array B 35.31 355 P **P** 18 30 39.1 0.0
ARCES PcP PcP 18 33 08.8 +0.3
ARCES ARCESS Array B 35.31 355 P **P** 18 30 39.1 0.0
ARCES 18 33 08.7
ARCES pmax pmax
comp=Z,5.0nm,0.5s
ARCES pmax pmax
comp=Z,3.0nm,1.0s
ARCES ARCESS Array B 35.31 355 P **P** 18 30 39.1 0.0
comp=Z,5.0nm,0.5s,mb4.7
ARCES ARCESS Array B 35.31 355 PcP PcP 18 33 08.8 +0.4
ARE0 ARCESS Array S 35.31 355 *eP* **P** 18 30 39.1 +0.1
ARE0 ARCESS Array S 35.31 355 *eP* **P** 18 30 39.2 +0.1
KEV Kevo 35.42 356 *eP* **P** 18 30 39.4 -0.7
KEV pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
KEV Kevo 35.42 356 *ep* **P** 18 30 39.4 -0.7
comp=Z,3.9nm,0.7s,mb4.5
KEV Kevo 35.42 356 *eP* **P** 18 30 39.4 -0.7
comp=Z,4.0nm,0.7s,mb4.5
KMBO Kilima Mbogo 35.67 174 *eP* **P** 18 30 45.0 +2.3
comp=Z,6.1nm,0.6s,mb4.7
KMBO Kilima Mbogo 35.67 174 *eP* **P** 18 30 45.1 +2.4
KMBO pmax pmax
comp=Z,6.0nm,0.6s
KMBO Kilima Mbogo 35.67 174 *eP* **P** 18 30 45.0 +2.3
comp=Z,6.1nm,0.6s,mb4.7
KURK Kurchatov 35.97 50 P **P** 18 30 45.5 +0.5
comp=Z,0.5nm,0.6s,mb3.6,baz=265,slow=8.3,SNR=6.2
KURK PcP PcP 18 33 11.5 +0.8
comp=Z,1.5nm,0.6s,baz=268,slow=3.7,SNR=14
KURK Kurchatov 35.97 50 P **P** 18 30 45.5 +0.5
KURK PcP PcP 18 33 11.5 +0.8
KURK Kurchatov 35.97 50 P **P** 18 30 45.5 +0.5
KURK 18 33 11.5
KURK pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
KURK pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
KURK Kurchatov 35.97 50 P **P** 18 30 45.5 +0.5
comp=Z,1.0nm,0.6s,mb3.9
KURK Kurchatov 35.97 50 PcP PcP 18 33 11.5 +0.8
comp=Z,2.0nm,0.6s
MK31 Makanchi Array 38.05 56 *eP* **P** 18 31 03.4 +0.8
MK31 Makanchi Array 38.05 56 *eP* **P** 18 31 03.4 +0.7
MK31 Makanchi Array 38.05 56 *eP* **P** 18 31 03.4 +0.7
MKAR Makanchi Array 38.05 56 P **P** 18 31 04.0 +1.3
comp=Z,0.7nm,0.8s,mb3.4,baz=253,slow=5.5,SNR=5.3
MKAR PcP PcP 18 33 17.8 +0.6
comp=Z,0.7nm,0.8s,baz=276,slow=3.6,SNR=4.2
MKAR Makanchi Array 38.05 56 P **P** 18 31 04.0 +1.3
MKAR PcP PcP 18 33 17.8 +0.6
MKAR Makanchi Array 38.05 56 P **P** 18 31 04.0 +1.3
MKAR 18 33 17.8
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR Makanchi Array 38.05 56 P **P** 18 31 04.0 +1.3
comp=Z,1.0nm,0.8s,mb3.6
MKAR Makanchi Array 38.05 56 PcP PcP 18 33 17.8 +0.7
comp=Z,1.0nm,0.8s
SPITS Spitsbergen Ar 44.34 355 P **P** 18 31 54.5 +0.5
comp=Z,6.3nm,0.6s,mb4.5,baz=140,slow=12,SNR=19
SPITS Spitsbergen Ar 44.34 355 P **P** 18 31 54.5 +0.5

SPITS Spitsbergen Ar 44.34 355 P **P** 18 31 54.5 +0.6
SPITS pmax pmax
comp=Z,6.0nm,0.6s
SPITS Spitsbergen Ar 44.34 355 P **P** 18 31 54.5 +0.6
comp=Z,6.0nm,0.6s,mb4.5
DBIC Dimbokro 45.28 241 P **P** 18 32 02.7 +0.5
DBIC Dimbokro 45.28 241 P **P** 18 32 02.7 +0.5
DBIC Dimbokro 45.28 241 P **P** 18 32 02.7 +0.5
SUMG Summit 52.12 339 *i* P **P** 18 32 55.2 +1.3
comp=Z,4.1nm,1.1s,mb4.3
SUMG Summit 52.12 339 *eP* **P** 18 32 55.3 +1.4
comp=Z,4.1nm,1.1s,mb4.3
SONM Songino Array 54.17 52 P **P** 18 33 10.5 +1.1
comp=Z,0.4nm,0.7s,mb3.4,baz=282,slow=7.1,SNR=3.8
SONM LR LR 18 59 05.5
comp=Z,56nm,19.9s,MS3.6,baz=0.6,slow=39
SONM Songino Array 54.17 52 P **P** 18 33 10.5 +1.1
SONM LR LR 18 59 05.5
SONM Songino Array 54.17 52 P **P** 18 33 10.5 +1.1
SONM MLR MLR
comp=Z,56nm,19.9s
SONM Songino Array 54.17 52 P **P** 18 33 10.5 +1.1
comp=Z,56nm,19.9s
CMAR Chiang Mai Arr 59.40 88 P **P** 18 33 47.1 +0.3
comp=Z,0.7nm,0.8s,mb3.7,baz=299,slow=8.3,SNR=5.6
CMAR Chiang Mai Arr 59.40 88 P **P** 18 33 47.1 +0.3
CMAR Chiang Mai Arr 59.40 88 P **P** 18 33 47.2 +0.3
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 59.40 88 P **P** 18 33 47.2 +0.3
comp=Z,1.0nm,0.8s,mb3.9
SCHQ Schefferville 68.19 322 P **P** 18 34 44.2 +0.1
comp=Z,6.1nm,0.7s,mb4.7,baz=93,slow=5.1,SNR=7.4
SCHQ Schefferville 68.19 322 P **P** 18 34 44.2 +0.1
SCHQ Schefferville 68.19 322 P **P** 18 34 44.2 +0.1
BILL Bilibino 71.65 17 *eP* **P** 18 35 02.8 -2.4
BILL pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
KSRS Korea Array 72.73 56 P **P** 18 35 12.3 +0.1
comp=Z,1.3nm,0.6s,mb4.0,baz=286,slow=5.2,SNR=3.9
KSRS LR LR 19 09 16.1
comp=Z,22nm,18.2s,MS3.5,baz=80,slow=38
KSRS Korea Array 72.73 56 P **P** 18 35 12.3 +0.1
KSRS pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
KSRS MLR MLR
comp=Z,22nm,18.2s,MS3.5
KSRS Korea Array 72.73 56 P **P** 18 35 12.3 +0.1
comp=Z,22nm,18.2s
INK Inuvik 76.98 355 P **P** 18 35 36.3 +0.2
comp=Z,1.8nm,0.9s,mb4.0,baz=29,slow=13,SNR=5.7
INK Inuvik 76.98 355 P **P** 18 35 36.3 +0.2
INK Inuvik 76.98 355 P **P** 18 35 36.3 +0.1
INK pmax pmax
comp=Z,2.0nm,0.9s
INK Inuvik 76.98 355 P **P** 18 35 36.3 +0.1
comp=Z,2.0nm,0.9s,mb4.0
YKA Yellowknife Ar 79.99 346 P **P** 18 35 53.6 +0.7
comp=Z,2.0nm,0.5s,mb4.3,baz=22,slow=5.4,SNR=12
YKA Yellowknife Ar 79.99 346 P **P** 18 35 53.6 +0.7
YKA Yellowknife Ar 79.99 346 P **P** 18 35 53.6 +0.7
YKA pmax pmax
comp=Z,2.0nm,0.5s
YKA Yellowknife Ar 79.99 346 P **P** 18 35 53.6 +0.7
comp=Z,2.0nm,0.5s,mb4.3
MJAR Matsushiro Arr 80.12 52 LR LR 19 17 23.7
comp=Z,57nm,19.8s,MS3.9,baz=120,slow=40
ILAR Eielson Array 80.96 0 P **P** 18 35 59.6 +1.6
comp=Z,1.0nm,0.6s,mb3.9,baz=324,slow=3.2,SNR=13
ILAR Eielson Array 80.96 0 P **P** 18 35 59.6 +1.6
ILAR Eielson Array 80.96 0 P **P** 18 35 59.6 +1.6
ILAR pmax pmax
comp=Z,1.0nm,0.6s
ILAR Eielson Array 80.96 0 P **P** 18 35 59.6 +1.6
comp=Z,1.0nm,0.6s,mb3.9
ULM Lac du Bonnet 84.60 330 P **P** 18 36 17.1 -0.1
comp=Z,3.7nm,0.6s,mb4.7,baz=57,slow=3.1,SNR=7.2
ULM Lac du Bonnet 84.60 330 P **P** 18 36 17.1 -0.1
ULM Lac du Bonnet 84.60 330 P **P** 18 36 17.1 -0.1
ULM Lac du Bonnet 84.60 330 P **P** 18 36 17.1 -0.1

IDC 09 18:36:49.3±2.2, 6.65S×129.01E, h0km, mb3.3/1, mb1 3.4/4, mb1mx3.3/16, mbtmp3.2/4, ML2.7/3, Error ellipse: s-maj=86.0km s-min=28.7km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.85**	**196**	Pn		Pn	18 39 41.2	+1.5
	0.0nm,0.3s,baz=31,slow=12,SNR=3.8							
WRA	**Warramunga Arr**	**14.19**	**159**	Pn		Pn	18 40 09.7	-2.0
	0.0nm,0.3s,baz=336,slow=13,SNR=3.9							
ASAR	**Alice Springs**	**17.56**	**165**	P		Pn	18 40 55.9	+0.2
	0.0nm,0.3s,baz=341,slow=9.3,SNR=4.0							
MKAR	**Makanchi Array**	**67.40**	**327**	P		P	18 47 46.5	+0.1
	0.1nm,0.4s,baz=110,slow=7.6,SNR=4.5							

IDC 09 18:38:09.8±1.4, 5.89S×131.15E, h0km, mb4.0/3, mb1 4.0/6, mb1mx3.7/16, mbtmp3.9/6, ML3.7/1, Error ellipse: s-maj=86.4km s-min=20.5km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.28**	**203**	Pn		Pn	18 41 18.0	-1.7
	0.3nm,0.3s,baz=25,slow=13,SNR=12							
FITZ				Sn		Sn	18 43 30.5	-18
	0.7nm,0.3s,baz=140,slow=19,SNR=7.8							
WRA	**Warramunga Arr**	**14.31**	**168**	Pn		Pn	18 41 35.2	+1.4
	0.4nm,0.3s,baz=353,slow=13,SNR=21							
WRA				Sn		Sn	18 44 02.4	-11
	1.0nm,0.3s,baz=332,slow=22,SNR=10							
ASAR	**Alice Springs**	**17.87**	**172**	P		Pn	18 42 21.6	+1.6
	0.4nm,0.3s,baz=346,slow=9.8,SNR=20							
ASAR				S		Sn	18 45 30.2	-10
	0.3nm,0.3s,baz=0.3,slow=27,SNR=6.0							
STKA	**Stephens Creek**	**27.64**	**161**	P		P	18 43 58.8	-0.5
	4.5nm,1.2s,baz=326,slow=11,SNR=3.0							
MKAR	**Makanchi Array**	**67.93**	**326**	P		P	18 49 10.9	+0.4
	0.8nm,0.4s,baz=114,slow=8.1,SNR=27							
ZALV	**Zelesovo Beam**	**71.10**	**333**	P		P	18 49 29.7	-0.2
	0.2nm,0.3s,baz=113,slow=11,SNR=2.9							

*NEIC **09** 18:40:13.7±3.9, 23.27N×122.17E, h10km, Error ellipse: s-maj=41.6km s-min=13.0km az=113.0*
*TAP **09** 18:40:17.5, 23.31N×122.06E, h36km, ML3.7, C*
*JMA **09** 18:40:18.1±0.2, 23.29N×122.16E, h59km, M3.0*
ISC 09 18:40:15.5±0.5, 23.30N±0.02×122.09E±0.02, h12km±3km, n59, σ1.503/106, 9C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TEGC	**Jichi Village**	**0.65**	**309**	*eP*		**Pg**	**18 40 29.1**	**+0.9**
	baz=310							
CHKT	**Chengkung**	**0.69**	**253**⇑	*iP*		**Pg**	**18 40 29.2**	**+0.2**
	baz=245							
CHKT				S		**Sg**	**18 40 37.8**	**-0.4**
	baz=245							
TWF1	**Yuli**	**0.73**	**274**⇑	*iP*		**Pg**	**18 40 30.1**	**+0.4**
	baz=266							
TWF1				S		**Sg**	**18 40 40.1**	**+0.8**
	baz=266							
YULB	**Yu-li**	**0.73**	**277**	*eP*		**Pg**	**18 40 29.9**	**+0.1**
YULB				*eS*		**Sg**	**18 40 39.7**	**+0.3**
ESL	**Shilin**	**0.79**	**310**⇑	*iP*		**Pg**	**18 40 30.8**	**0.0**
	baz=311							
ESL				S		**Sg**	**18 40 40.3**	**-0.9**
	baz=311							
HWA	**Hwalien**	**0.81**	**327**	P		**Pg**	**18 40 31.5**	**+0.3**
	baz=328							
HWA				*eS*		**Sg**	**18 40 43.2**	**+1.4**
	baz=328							
TWD	**Chiawan**	**0.90**	**330**	P		**Pg**	**18 40 32.7**	**-0.2**
	baz=331							
TWD				*eS*		**Sg**	**18 40 43.4**	**-1.3**
	baz=331							
NACB	**Ninganchiao**	**0.98**	**333**	*eP*		**Pg**	**18 40 33.2**	**-1.2**
ELDTW	**Lidau**	**0.99**	**264**⇑	*iP*		**Pb**	**18 40 33.8**	**-0.8**
	baz=263							
ELDTW				*eS*		**Sg**	**18 40 45.7**	**-1.9**
	baz=263							
TTN	**Taitung**	**1.02**	**238**	*eP*		**Pb**	**18 40 34.4**	**-0.8**
	baz=231							

TTN				*e*S		**Sb**	**18 40 47.2**	**-1.3**
	baz=231							
TWG	**Pinlang**	**1.05**	**243**	*e*P		**Pb**	**18 40 34.2**	**-1.4**
TWG				*e*S		**Sb**	**18 40 47.1**	**-2.3**
TWG	**Pinlang**	**1.05**	**243**	P		**Pb**	**18 40 34.7**	**-0.9**
	baz=235							
TWG				*e*S		**Sb**	**18 40 47.4**	**-1.9**
	baz=235							
WHF	**Hehuan Shan**	**1.13**	**318**	*i* P		**Pb**	**18 40 36.6**	**-0.4**
	baz=319							
WHF				*e*S		**Sb**	**18 40 50.0**	**-1.6**
	baz=319							
SSLB	**Suanglung**	**1.15**	**295**	*e*P		**Pb**	**18 40 36.4**	**-0.9**
SSLB				*e*S		**Sb**	**18 40 47.6**	**-4.6**
ENA	**Nanau**	**1.17**	**344**	P		**Pb**	**18 40 37.2**	**-0.4**
	baz=345							
ENA				*e*S		**Sb**	**18 40 51.5**	**-1.2**
	baz=345							
STYT	**Tauyuan**	**1.23**	**264⇑**	*i*P		**Pn**	**18 40 38.0**	**-0.6**
	baz=258							
STYT				*e*S		**Sb**	**18 40 52.5**	**-2.1**
	baz=258							
SMLT	**Sun Moon Lake**	**1.23**	**298⇑**	*i*P		**Pn**	**18 40 38.4**	**-0.2**
	baz=298							
SMLT				*e*S		**Sb**	**18 40 55.2**	**+0.6**
	baz=298							
ECL	**Taimali**	**1.26**	**236**	*i* P		**Pn**	**18 40 37.3**	**-1.6**
	baz=245							
ECL				*e*S		**Sb**	**18 40 51.7**	**-3.6**
	baz=245							
TWT	**Tachien**	**1.27**	**319**	P		**Pn**	**18 40 39.3**	**+0.3**
	baz=318							
TWT				*e*S		**Sb**	**18 40 53.2**	**-2.3**
	baz=318							
TYC	**Yuchr**	**1.28**	**298⇑**	*i*P		**Pn**	**18 40 39.0**	**-0.2**
	baz=306							
TYC				*e*S		**Sb**	**18 40 55.2**	**-0.8**
	baz=306							
NNS	**Nan Shan**	**1.31**	**330**	P		**Pn**	**18 40 39.5**	**-0.1**
	baz=330							
NNS				*e*S		**Sb**	**18 40 54.9**	**-2.0**
	baz=330							
TWC	**Suao**	**1.32**	**350**	*e*P		**Pn**	**18 40 40.2**	**+0.4**
	baz=351							
TWC				*e*S		**Sb**	**18 40 56.4**	**-0.7**
	baz=351							
TPUB	**Ta-pu**	**1.34**	**270**	*e*P		**Pn**	**18 40 40.3**	**+0.2**
WTP	**Ta-pu**	**1.36**	**268⇑**	*i*P		**Pn**	**18 40 40.8**	**+0.5**
	baz=261							
WTP				S		**Sb**	**18 40 57.8**	**-0.4**
	baz=261							
WNT	**Mingjian**	**1.41**	**294**	P		**Pn**	**18 40 42.1**	**+1.1**
	baz=294							
WNT				*e*S		**Sn**	**18 40 59.7**	**+0.1**
	baz=294							
ENTT	**Nioudou**	**1.42**	**340**	P		**Pn**	**18 40 41.3**	**+0.2**
	baz=341							
ENTT				*e*S		**Sn**	**18 40 58.6**	**-1.1**
	baz=341							
YOJ	**Yonaguni jima**	**1.43**	**36**	P		**Pn**	**18 40 41.9**	**+0.6**
YOJ				*e*S		**Sn**	**18 40 59.4**	**-0.6**
CHN1	**Nanshi**	**1.44**	**266⇑**	*i*P		**Pn**	**18 40 42.3**	**+0.9**
	baz=265							
CHN1				*e*S		**Sn**	**18 41 00.6**	**+0.4**
	baz=265							
SSD	**Sandimen**	**1.45**	**248**	*i* P		**Pn**	**18 40 40.8**	**-0.7**
	baz=239							
WGK	**Gukeng**	**1.45**	**286**	P		**Pn**	**18 40 42.5**	**+0.9**
	baz=285							
WGK				*e*S		**Sn**	**18 41 00.6**	**0.0**
	baz=285							
EAST	**Anshuo**	**1.46**	**232**	P		**Pn**	**18 40 40.5**	**-1.3**
	baz=239							
TWE	**Neicheng**	**1.47**	**345**	*e*P		**Pn**	**18 40 42.2**	**+0.5**
	baz=335							
TWE				*e*S		**Sn**	**18 40 59.2**	**-1.7**
	baz=335							
YHNB	**Yeheng**	**1.51**	**335**	*e*P		**Pn**	**18 40 42.5**	**+0.1**
NSK	**Sanguang**	**1.52**	**334**	*e*P		**Pn**	**18 40 42.8**	**+0.2**
	baz=344							
CHY	**Chiayi**	**1.54**	**278**	*e*P		**Pn**	**18 40 42.1**	**-0.7**
	baz=277							
CHY				*e*S		**Sn**	**18 41 02.6**	**-0.1**
	baz=277							
TCU	**Taichung**	**1.54**	**303**	*e*P		**Pn**	**18 40 44.0**	**+1.1**
	baz=303							
TCU				*e*S		**Sn**	**18 41 03.8**	**+0.9**
	baz=303							
SGLT	**Jiouru**	**1.58**	**249**	*e*P		**Pn**	**18 40 44.9**	**+1.6**
	baz=245							
TWQ1	**Liyutan**	**1.59**	**311**	P		**Pn**	**18 40 45.1**	**+1.6**
	baz=324							
TWQ1				*e*S		**Sn**	**18 41 04.5**	**+0.5**
	baz=324							
CHN3	**Shinhua**	**1.60**	**262**	P		**Pn**	**18 40 46.1**	**+2.5**
	baz=261							
CHN3				*e*S		**Sn**	**18 41 06.4**	**+2.2**
	baz=261							
TWM1	**Shoushan**	**1.61**	**253**	*e*P		**Pn**	**18 40 46.1**	**+2.4**
	baz=264							
TWM1				*e*S		**Sn**	**18 41 08.8**	**+4.5**
	baz=264							
SCZT	**Fangliau**	**1.64**	**236**	*e*P		**Pn**	**18 40 44.1**	**0.0**
	baz=230							
SCZT				*e*S		**Sn**	**18 41 04.9**	**-0.3**
	baz=230							
NSY	**Sanyi**	**1.65**	**313**	*e*P		**Pn**	**18 40 45.9**	**+1.6**
	baz=312							
NSY				*e*S		**Sn**	**18 41 06.1**	**+0.7**
	baz=312							
NSTT	**Nanjuang**	**1.66**	**323**	*e*P		**Pn**	**18 40 45.6**	**+1.2**
	baz=323							
NSTT				*e*S		**Sn**	**18 41 05.5**	**-0.1**
	baz=323							
CHN8	**Yiju**	**1.73**	**272**	*e*P		**Pn**	**18 40 46.4**	**+1.0**
	baz=271							
CHN8				*e*S		**Sn**	**18 41 07.9**	**+0.6**
	baz=271							
TWA	**Mucha**	**1.73**	**345**	*e*P		**Pn**	**18 40 46.7**	**+1.3**
	baz=335							
TWA				*e*S		**Sn**	**18 41 07.5**	**0.0**
	baz=335							
HATJ	**Hateruma jima**	**1.74**	**64**	P		**Pn**	**18 40 45.9**	**+0.3**
HATJ				*e*S		**Sn**	**18 41 06.1**	**-1.6**
WSF	**Szhu**	**1.75**	**281**	*e*P		**Pn**	**18 40 47.1**	**+1.5**
	baz=281							
WSF				*e*S		**Sn**	**18 41 07.9**	**+0.1**
	baz=281							
WTCT	**Ta-ch'eng**	**1.75**	**289**	*e*P		**Pn**	**18 40 47.7**	**+2.0**
	baz=276							
NWF	**Wu-fen Shan**	**1.79**	**351**	*e*P		**Pn**	**18 40 47.2**	**+1.1**
	baz=351							
NWF				*e*S		**Sn**	**18 41 09.1**	**+0.3**
	baz=351							
HEN	**Hengchun**	**1.79**	**224**	*e*P		**Pn**	**18 40 46.6**	**+0.4**
	baz=223							
HEN				*e*S		**Sn**	**18 41 07.7**	**-1.3**
	baz=223							
TWK1	**Hengchun**	**1.80**	**222**	*e*P		**Pn**	**18 40 46.8**	**+0.5**
	baz=220							
TWK1				*e*S		**Sn**	**18 41 07.7**	**-1.3**
	baz=220							
IRIF	**Iriomote-Funau**	**1.82**	**55**	P		**Pn**	**18 40 47.1**	**+0.4**
IRIF				*e*S		**Sn**	**18 41 09.2**	**-0.5**
TWP	**Hsiaoliuchiu**	**1.85**	**240**	*e*P		**Pn**	**18 40 50.3**	**+3.2**
	baz=238							
NCU	**National Centr**	**1.85**	**334**	*e*S		**Sn**	**18 41 11.6**	**+1.2**
	baz=334							
TWS1	**Kuangyinshan**	**1.89**	**341**	*e*P		**Pn**	**18 40 49.0**	**+1.3**
	baz=341							
TWS1				*e*S		**Sn**	**18 41 11.7**	**+0.2**
	baz=341							
JKRS	**Kuro-shima**	**1.99**	**62**	P		**Pn**	**18 40 49.6**	**+0.6**
JKRS				*e*S		**Sn**	**18 41 12.9**	**-0.9**
JIJ	**Ishigaki jima**	**2.16**	**60**	P		**Pn**	**18 40 51.7**	**+0.4**
JIJ				*e*S		**Sn**	**18 41 16.5**	**-1.5**
PNG	**Penghu**	**2.34**	**277**	*e*P		**Pn**	**18 40 53.9**	**+0.1**
	baz=276							
JTJ	**Tarama**	**2.74**	**60**	P		**Pn**	**18 40 59.7**	**+0.4**
JTJ				*e*S		**Sn**	**18 41 31.6**	**-0.7**

*IDC **09** 18:45:08.6±0.9, 11°.84S×166°.68E, h0km, mb4.0/8, mb1 4.1/8, mb1mx4.0/18, mbtmp4.0/8, MS3.4/3, Ms1 3.4/3, ms1mx3.0/25, Error ellipse: s-maj=28.5km s-min=24.8km az=110.0*

*NEIC **09** 18:45:15.9±0.8, 11°.41S×166°.37E, h35km, mb4.0/3, Error ellipse: s-maj=26.7km s-min=13.1km az=129.0*

ISC 09 18:45:16.4±1.0, 11°.4S±0°.2×166°.3E±0°.2, h35km, n27, σ0.75/25, mb3.9/11, MS3.3/3, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**21.11**	**243**	P	**P**	**18 49 59.4**	**+1.2**
	4.4nm,0.8s,mb3.9,baz=60,slow=10.0,SNR=4.0						
CTA				LR	LR	18 56 06.6	
	comp=Z,79nm,18.5s,MS3.1,baz=46,slow=31						
CTA	**Charters Tower**	**21.11**	**243**	P	**P**	**18 49 59.4**	**+1.2**
CTA				LR	LR	18 56 06.6	
CTAO	**Charters Tower**	**21.11**	**243**	*e*P	**P**	**18 49 59.2**	**+1.1**
	4.9nm,0.8s,mb3.9						
URZ	**Urewera**	**28.45**	**162**	P	**P**	**18 50 59.9**	**-8.1**
	13nm,0.3s,baz=219,slow=6.5,SNR=28						
URZ	**Urewera**	**28.45**	**162**	*e*P	**P**	**18 50 59.8**	**-8.2**
STKA	**Stephens Creek**	**30.56**	**224**	P	**P**	**18 51 27.6**	**+0.8**
	2.2nm,0.8s,mb4.0,baz=43,slow=6.1,SNR=4.5						
STKA				LR	LR	19 02 59.1	
	comp=Z,85nm,20.2s,MS3.4,baz=205,slow=35						
STKA	**Stephens Creek**	**30.56**	**224**	*e*P	**P**	**18 51 27.3**	**+0.5**
	0.7nm,0.8s,mb3.5						
STKA				LR	LR	19 02 59.1	
WRA	**Warramunga Arr**	**31.86**	**251**	P	**P**	**18 51 37.4**	**-1.0**
	1.2nm,0.8s,mb3.8,baz=83,slow=9.3,SNR=8.5						
WRA				PcP	PcP	18 54 26.1	-2.7
	0.6nm,0.8s,baz=88,slow=3.9,SNR=4.9						
WRA	**Warramunga Arr**	**31.86**	**251**	P	**P**	**18 51 37.4**	**-1.0**
WRA				PcP	PcP	18 54 26.1	-2.7
ASAR	**Alice Springs**	**33.11**	**244**	P	**P**	**18 51 48.0**	**-1.3**
	1.9nm,0.8s,mb4.1,baz=70,slow=9.6,SNR=26						
ASAR				PcP	PcP	18 54 32.2	+0.1
	0.9nm,0.8s,baz=76,slow=2.5,SNR=9.4						
ASAR	**Alice Springs**	**33.11**	**244**	P	**P**	**18 51 48.0**	**-1.3**
ASAR				PcP	PcP	18 54 32.2	+0.1
FITZ	**Fitzroy Crossi**	**39.80**	**255**	P	**P**	**18 52 46.1**	**-0.4**
	1.7nm,0.9s,mb3.8,baz=105,slow=3.3,SNR=6.1						
FITZ				LR	LR	19 06 58.8	
	comp=Z,44nm,20.1s,MS3.3,baz=170,slow=33						
FITZ	**Fitzroy Crossi**	**39.80**	**255**	P	**P**	**18 52 46.1**	**-0.4**
FITZ				LR	LR	19 06 58.8	
CMAR	**Chiang Mai Arr**	**72.74**	**293**	P	**P**	**18 56 42.9**	**+1.3**
	1.2nm,0.8s,mb3.9,baz=128,slow=4.6,SNR=10						
CMAR	**Chiang Mai Arr**	**72.74**	**293**	P	**P**	**18 56 42.9**	**+1.3**
QSPA	**South Pole Qui**	**78.61**	**180**	*e*P	**P**	**18 57 14.1**	**0.0**
	3.8nm,1.0s,mb4.3						
SONM	**Songino Array**	**79.26**	**324**	P	**P**	**18 57 18.2**	**+0.1**
	0.3nm,0.5s,mb3.5,baz=154,slow=5.4,SNR=4.4						
SONM	**Songino Array**	**79.26**	**324**	P	**P**	**18 57 18.2**	**+0.1**
ILAR	**Eielson Array**	**83.67**	**18**	P	**P**	**18 57 40.9**	**-0.2**
	0.4nm,0.6s,mb3.7,baz=232,slow=5.8,SNR=9.2						
ILAR	**Eielson Array**	**83.67**	**18**	P	**P**	**18 57 40.9**	**-0.2**
MK31	**Makanchi Array**	**94.14**	**317**	*e*P	**P**	**18 58 31.3**	**-0.1**
MKAR	**Makanchi Array**	**94.14**	**317**	P	**P**	**18 58 31.6**	**+0.2**
	1.4nm,0.7s,mb4.5,baz=91,slow=6.4,SNR=12						
MKAR	**Makanchi Array**	**94.14**	**317**	P	**P**	**18 58 31.6**	**+0.2**
ZALV	**Zalesovo Beam**	**94.15**	**324**	P	**P**	**18 58 30.9**	**-0.4**
	0.4nm,0.5s,mb4.1,baz=129,slow=3.9,SNR=2.9						
ZALV	**Zalesovo Beam**	**94.15**	**324**	P	**P**	**18 58 30.9**	**-0.4**
ARCES	**ARCESS Array B**	**116.80**	**346**	PKP	PKPdf	19 03 55.5	-1.1
	2.3nm,0.8s,baz=63,slow=2.3,SNR=11						
ARCES	**ARCESS Array B**	**116.80**	**346**	PKP	PKPdf	19 03 55.5	-1.0

TRN 09 19:11:32.4, 15°.22N×60°.92W, h124km, MD3.6, M2.7(FDF), 2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDF	**Fort de France**	**0.53**	**204**	*e*P	Pn	19 11 51.5	+0.5
FDF				*e*S	Sn	19 12 07.0	+1.8
MVM	**Montagne Vaucl**	**0.66**	**178**	⇓*i*P	Pn	19 11 52.4	+0.4
MVM				⇓*e*S	Sn	19 12 08.3	+1.5
BIM	**Bigot**	**0.71**	**192**	*e*P	Pn	19 11 52.4	0.0
MGG	**Marie-Galante**	**0.79**	**331**	*e*P	Pn	19 11 54.8	+1.8
DEG	**La Desirade**	**1.09**	**353**	*e*P	Pn	19 11 57.8	+2.0
DEG				*e*S	Sn	19 12 17.6	+4.1
SLW	**Petit Monier**	**1.20**	**181**	*e*P	Pn	19 11 55.6	-1.2
SLW				*e*S	Sn	19 12 14.5	-0.8
SLB	**Belfond**	**1.39**	**185**	*e*P	Pn	19 11 59.7	+0.8
SLB				*e*S	Sn	19 12 19.8	+0.7
MCLT	**Moule a Chique**	**1.50**	**181**	*e*P	Pn	19 12 00.1	-0.1
MCLT				*e*S	Sn	19 12 20.1	-1.2
SSV	**Crater Summit**	**1.90**	**188**	*e*P	Pn	19 12 06.4	+1.4
SSV				*e*S	Sn	19 12 31.5	+1.8
SVV	**Soufriere Volc**	**1.91**	**189**	*e*P	Pn	19 12 07.0	+1.9
SVV				*e*S	Sn	19 12 31.8	+1.7
SVB	**Belmont**	**1.96**	**189**	*e*P	Pn	19 12 07.3	+1.6
SVB				*e*S	Sn	19 12 32.4	+1.3

IDC 09 19:13:59.7±58.0, 12°.80S×170°.75E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.5/18, mbtmp3.6/3, Error ellipse: s-maj=997.8km s-min=127.5km az=66.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**32.81**	**230**	P	P	19 20 34.8	-0.1
	0.4nm,0.4s,baz=84,slow=9.2,SNR=4.8						
WRA	**Warramunga Arr**	**35.59**	**254**	P	P	19 20 59.5	+0.2
	0.2nm,0.5s,baz=84,slow=8.7,SNR=6.9						
ASAR	**Alice Springs**	**36.52**	**247**	P	P	19 21 07.0	-0.1
	0.4nm,0.3s,baz=81,slow=9.4,SNR=21						

*LDG **09** 19:22:43.1±0.1, 39°.22N×73°.86E, h10km, Mb4.4/6, Ms3.1/1, Error ellipse: s-maj=5.9km s-min=4.2km az=42.0*

*IDC **09** 19:22:44.5±0.6, 39°.40N×73°.89E, h0km, mb4.2/16, mb1 4.4/21, mb1mx4.3/28, mbtmp4.2/21, ML3.8/5, MS3.3/12, Ms1 3.4/12, ms1mx3.2/40, Error ellipse: s-maj=13.4km s-min=12.3km az=15.0*

*NNC **09** 19:22:47.2±2.3, 39°.60N×73°.60E, h0km, mb4.6, mpv4.6, Error ellipse: s-maj=21.9km s-min=10.2km az=12.0*

*ISCJB **09** 19:22:48.8±0.5, 39°.38N±0°.03×73°.83E±0°.05, h44km±5km, mb4.3/33, MS3.4/8, Error ellipse: s-maj=6.6km s-min=3.9km az=157.4*

*MOS **09** 19:22:48.3±1.2, 39°.49N×73°.77E, h33km, mb4.5/29, Error ellipse: s-maj=8.3km s-min=4.8km az=102.1*

*NEIC **09** 19:22:49.4±0.2, 39°.45N×73°.97E, h35km, mb4.4/13, Error ellipse: s-maj=6.2km s-min=4.3km az=47.0*

*BJI **09** 19:22:54.0, 39°.72N×74°.56E, h30km, mB4.8/5, mb4.4/13, ML3.9/4, Ms3.9/3, Ms7 3.8/3*

ISC 09 19:22:49.1±0.9, 39°.43N±0°.02×73°.70E±0°.04, h27km±6km, n230, σ1.9/29/238, mb4.3/33, MS3.4/8, 14C-18D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.76**	**86**	⇓*i*Pg	**Pn**	**19 23 11.3**	**-6.5**
KSH				Sg	**Sn**	**19 23 30.9**	**-8.4**
KSH				smax			
	comp=N,2μm,0.6s						
KSH				smax			
	comp=E,2μm,0.6s						
AML	**Almayashu**	**2.70**	**360**	P	**Pn**	**19 23 31.4**	**+0.7**
	SNR=76						
UCH	**Uchtor**	**2.86**	**12**	P	**Pn**	**19 23 34.3**	**+1.3**
	SNR=141						
KZA	**Kyzart**	**2.90**	**23**	P	**Pn**	**19 23 34.4**	**+0.9**
	SNR=33						
EKS2	**Erkin-Say**	**3.23**	**1**	P	**Pn**	**19 23 39.0**	**+0.9**
	SNR=159						
EKS2	**Erkin-Say**	**3.23**	**1**	*e*P	**Pn**	**19 23 38.9**	**+0.9**
EKS2				*e*S	**Sb**	**19 24 22.9**	**-1.8**
EKS2	**Erkin-Say**	**3.23**	**1**	*e*PN	**Pn**	**19 23 38.9**	**+0.9**
EKS2				*e*S	**Sb**	**19 24 22.9**	**-1.8**
AAK	**Ala-Archa**	**3.26**	**10**	P	**Pn**	**19 23 39.9**	**+1.5**
	SNR=241						
AAK	**Ala-Archa**	**3.26**	**10**	*i* PN	**Pn**	**19 23 39.8**	**+1.4**
KBK	**Karagaybulak**	**3.36**	**16**	P	**Pn**	**19 23 41.2**	**+1.4**
	SNR=237						
ULHL	**Ulahol**	**3.41**	**34**	P	**Pn**	**19 23 42.6**	**+2.0**
	SNR=15						
FRU	**Bishkek**	**3.47**	**11**	*e*PN	**Pn**	**19 23 42.5**	**+1.2**
FRU				*i*		19 23 47.0	
FRU				pmax	pmax		
	comp=Z,40nm,1.4s						
CHMS	**Chumysh**	**3.66**	**12**	P	**Pn**	**19 23 44.9**	**+1.1**
	SNR=51						
TKM2	**Tokmak 2**	**3.77**	**22**	P	**Pn**	**19 23 46.4**	**+1.0**
	SNR=95						
TKM2	**Tokmak 2**	**3.77**	**22**	⇑Pn	**Pn**	**19 23 46.6**	**+1.2**
	comp=Z,88nm,0.5s						
TKM2				⇓Lg		19 24 40.6	
	comp=Z,273nm,0.8s						
TKM2	**Tokmak 2**	**3.77**	**22**	*e*P	**Pn**	**19 23 46.2**	**+0.7**
TKM2				*e*S	**Sn**	**19 24 30.3**	**+1.4**
TKM2	**Tokmak 2**	**3.77**	**22**	*e*PN	**Pn**	**19 23 46.2**	**+0.7**
TKM2				*e*S	**Sn**	**19 24 30.3**	**+1.4**
USP	**Ospenovka**	**3.88**	**9**	P	**Pn**	**19 23 48.1**	**+1.1**
	SNR=20						
KK31	**Karatay Array**	**4.39**	**328**	Pn	**Pn**	**19 23 54.7**	**+0.8**
	comp=Z,18nm,0.4s,baz=130,slow=12,SNR=894						
KK31				⇓Pg	**Pb**	**19 24 04.9**	**-0.6**
	comp=Z,198nm,0.9s,baz=145,slow=16,SNR=18						
KK31				⇑Sn	**Sn**	**19 24 49.3**	**+5.1**
	comp=Z,46nm,0.4s,baz=128,slow=22,SNR=5.8						
KK31				⇓Lg		19 25 07.5	
	comp=Z,165nm,0.7s,baz=138,slow=28,SNR=4.5						
KK31	**Karatay Array**	**4.39**	**328**	*e*PN	**Pn**	**19 23 54.7**	**+0.8**
KK31				*e*		19 24 04.8	
KK31						19 24 49.2	
KK31				pmax	pmax		
	comp=Z,18nm,0.4s						
KK31				pmax	pmax		
	comp=Z,198nm,0.9s						
KK31				smax			
	comp=Z,46nm,0.4s						
KK31				pmax	pmax		
	comp=Z,165nm,0.7s						
KKAR	**Karatay Array**	**4.39**	**328**	*e*P	**Pn**	**19 23 54.6**	**+0.7**
KKAR	**Karatay Array**	**4.39**	**328**	*e*PN	**Pn**	**19 23 54.6**	**+0.7**
KNDC	**Almaty**	**4.51**	**32**	⇑Pn	**Pn**	**19 23 57.5**	**+1.9**
	comp=Z,87nm,0.8s						
KNDC				⇓Pg	**Pb**	**19 24 07.6**	**0.0**
	comp=Z,161nm,0.7s						
KNDC				⇑Lg		19 25 04.6	
	comp=Z,842nm,0.8s						
AAA	**Alma-Ata**	**4.55**	**31**	*i* PN	**Pb**	**19 24 09.2**	**+1.0**
AAA				*i* S	**Sb**	**19 25 04.7**	**+2.1**
AAA				pmax	pmax		
	comp=Z,256nm,0.4s						
AAA				smax			
	comp=E,649nm,0.6s						
CHCP	**Chirah Chowk**	**5.77**	**184**	⇓P	**Pn**	**19 24 19.0**	**+6.1**
CHCP				S	**Sn**	**19 25 27.0**	**+8.8**
CEP	**Cherat**	**5.78**	**195**	⇓P	**Pn**	**19 24 18.8**	**+5.8**
KBL	**Kabul**	**6.14**	**219**	*e*P	**Pn**	**19 24 22.9**	**+4.9**
	comp=E,44nm,0.9s						
KBL	**Kabul**	**6.14**	**219**	*e*PN	**Pn**	**19 24 22.9**	**+4.9**
KBL				pmax	pmax		
	comp=Z,44nm,0.9s						
SDNR	**Sundarnagar**	**8.35**	**160**	*e*PKP	**Pn**	**19 24 50.0**	**+1.7**
SDNR				*ex*	x	19 26 25.0	
SMLA	**Simla**	**8.75**	**160**	*i* P	**Pn**	**19 24 55.5**	**+1.6**
SMLA				*i* x	x	19 26 33.4	
SMLA				⇓AML	AML	19 26 37.2	
	comp=N,897nm,0.5s						
SMLA				⇓AML	AML	19 26 40.6	
	comp=E,991nm,0.4s						
MK31	**Makanchi Array**	**9.67**	**38**	⇓Pn	**Pn**	**19 25 08.4**	**+2.0**
	comp=E,3.7nm,0.6s,baz=209,slow=14,SNR=24						
MK31				⇓Lg		19 27 46.7	
	comp=E,18nm,0.9s						
MK31	**Makanchi Array**	**9.67**	**38**	*e*P	**Pn**	**19 25 08.0**	**+1.6**
MK31	**Makanchi Array**	**9.67**	**38**	*i* P	**Pn**	**19 25 08.4**	**+2.0**
MK31				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MKAR	**Makanchi Array**	**9.67**	**38**	Pn	**Pn**	**19 25 04.5**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=213,slow=13,SNR=12						
MKAR				Lg		19 27 44.0	
	comp=Z,0.3nm,0.3s,baz=236,slow=33,SNR=2.5						
MKAR				LR	LR	19 28 19.7	
	comp=Z,51nm,21.5s,baz=229,slow=35						
MKAR	**Makanchi Array**	**9.67**	**38**	Pn	**Pn**	**19 25 04.5**	**-1.9**
MKAR				Lg		19 27 44.0	
MKAR				LR	LR	19 28 19.7	
MKAR	**Makanchi Array**	**9.67**	**38**	P	**Pn**	**19 25 04.6**	**-1.8**
MKAR				MLR	MLR		
	comp=Z,51nm,21.5s						
DDI	**Dehra Dun**	**9.76**	**157**	*e*PKP	**Pn**	**19 25 08.0**	**+0.3**
DDI				*ex*	x	19 26 53.0	
NDI	**New Delhi**	**11.11**	**164**	*e*PKP	**Pn**	**19 25 26.0**	**-0.1**
NDI				*ex*	x	19 27 27.0	
WMQ	**Urumqi**	**11.35**	**63**	P	**Pn**	**19 25 28.0**	**-1.5**
KUDL	**Kundal**	**11.49**	**168**	*e*PKP	**Pn**	**19 25 33.5**	**+2.2**
KUDL				*e*S	**Sn**	**19 27 29.8**	**-9.0**
KUDL				AML	AML	19 27 42.6	
	comp=E,23nm,0.5s						
KUDL				AML	AML	19 27 52.7	
	comp=N,15nm,0.5s						
SONA	**Sohna**	**11.50**	**165**	*e*PKP	**Pn**	**19 25 32.5**	**+1.1**
SONA				*ex*	x	19 27 36.8	
SONA				AML	AML	19 27 49.5	
	comp=N,29nm,0.6s						
SONA				AML	AML	19 27 49.8	
	comp=E,48nm,0.6s						
KURBB	**Kurchatov Arra**	**11.70**	**15**	Pn	**Pn**	**19 25 31.4**	**-2.7**
	comp=E,0.9nm,1.2s						
KURBB				⇑Lg		19 28 53.1	
	comp=E,35nm,1.5s						
KURK	**Kurchatov**	**11.81**	**15**	⇓Pn	**Pn**	**19 25 38.1**	**+2.5**
	comp=E,7.5nm,1.4s						
KURK				⇑Lg		19 28 56.4	
	comp=E,240nm,1.6s						
KURK	**Kurchatov**	**11.81**	**15**	Pn	**Pn**	**19 25 32.1**	**-3.5**
	comp=E,0.1nm,0.3s,baz=207,slow=12,SNR=11						
KURK				Lg		19 28 45.0	
	comp=E,0.1nm,0.3s,baz=241,slow=43,SNR=4.1						
KURK				LR	LR	19 30 05.3	
	comp=E,178nm,18.5s,baz=190,slow=38						
KURK	**Kurchatov**	**11.81**	**15**	*e*P	**Pn**	**19 25 34.1**	**-1.5**
KURK				Lg		19 28 45.0	
KURK				LR	LR	19 30 05.3	
KURK	**Kurchatov**	**11.81**	**15**	⇓*e*P	**Pn**	**19 25 37.7**	**+2.1**
AJM	**Ajmer**	**12.94**	**176**	*e*PKP	**Pn**	**19 25 55.0**	**+

ZRNK	**Zerenda**	**13.91**	**348**	⇑Pn		**Pn**	**19 26 01.3**	**-2.9**
	comp=Z,8.1nm,0.7s								
ZRNK				⇑Lg			19 30 03.8		
	comp=Z,22nm,1.1s								
KOLN	**Koldanda**	**14.24**	**142**	*e*P		**Pn**	**19 26 05.4**	**-3.6**
	comp=Z,24nm,0.5s								
KOLN	**Koldanda**	**14.24**	**142**	*e*P		**Pn**	**19 26 05.4**	**-3.6**
	comp=Z,24nm,0.5s								
GKN	**Gorkha**	**14.57**	**138**	*e*P		**Pn**	**19 26 10.2**	**-3.2**
	comp=Z,24nm,0.5s								
GKN	**Gorkha**	**14.57**	**138**	*e*P		**Pn**	**19 26 10.2**	**-3.2**
	comp=Z,24nm,0.5s								
KKN	**Kakani**	**15.07**	**137**	*e*P		**Pn**	**19 26 17.2**	**-3.0**
	comp=Z,19nm,0.6s								
KKN	**Kakani**	**15.07**	**137**	*e*P		**Pn**	**19 26 17.2**	**-3.0**
	comp=Z,19nm,0.6s								
KKN	**Kakani**	**15.07**	**137**	*e*P		**Pn**	**19 26 17.2**	**-3.0**
KKN				pmax		pmax			
	comp=Z,19nm,0.6s								
GUN	**Gumba**	**15.30**	**135**	*e*P		**Pn**	**19 26 21.7**	**-1.5**
GUN	**Gumba**	**15.30**	**135**	*e*P		**Pn**	**19 26 21.7**	**-1.5**
AKTK	**Aktyubinsk**	**15.60**	**320**	Pn		**Pn**	**19 26 24.8**	**-2.2**
AKTK				Sn		**Sn**	**19 29 13.9**	**-5.0**
AKTK				LR		LR	19 33 08.0		
AKTO	**Aktyubinsk**	**15.60**	**320**	⇓Pn		**Pn**	**19 26 24.1**	**-2.8**
	comp=Z,4.0nm,1.0s								
AKTO				⇓Sn		**Sn**	**19 29 16.1**	**-2.8**
	comp=Z,0.6nm,0.6s								
AKTO	**Aktyubinsk**	**15.60**	**320**	Pn		**Pn**	**19 26 24.8**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=129,slow=16,SNR=32								
AKTO				Sn		**Sn**	**19 29 13.9**	**-5.0**
	comp=Z,0.2nm,0.3s,baz=311,slow=19,SNR=4.8								
AKTO				LR		LR	19 33 08.0		
	comp=Z,117nm,18.7s,baz=119,slow=40								
AKTO	**Aktyubinsk**	**15.60**	**320**	P		**Pn**	**19 26 24.8**	**-2.2**
AKTO							19 29 13.9		
AKTO				pmax		pmax			
	comp=Z,1.0nm,0.3s								
AKTO				MLR		MLR			
	comp=Z,117nm,18.7s								
ZALV	**Zalesovo Beam**	**16.37**	**24**	Pn		**Pn**	**19 26 34.4**	**-2.4**
	comp=Z,0.6nm,0.3s,baz=211,slow=11,SNR=26								
ZALV				Lg			19 31 17.1		
	comp=Z,0.2nm,0.3s,baz=206,slow=22,SNR=3.8								
ZALV				LR		LR	19 32 54.8		
	comp=Z,46nm,19.3s,baz=203,slow=37								
ZALV	**Zalesovo Beam**	**16.37**	**24**	Pn		**Pn**	**19 26 34.4**	**-2.4**
ZALV				Lg			19 31 17.1		
ZALV				LR		LR	19 32 54.8		
ZALV	**Zalesovo Beam**	**16.37**	**24**	P		**Pn**	**19 26 34.4**	**-2.5**
ZALV				pmax		pmax			
	comp=Z,1.0nm,0.3s								
ZALV				MLR		MLR			
	comp=Z,46nm,19.3s								
NVS	**Novosibirsk**	**16.70**	**19**	⇑*i*P		**Pn**	**19 26 40.4**	**-0.6**
NVS				*e*S		**Sn**	**19 29 47.1**	**+1.6**
NVS				pmax		pmax			
	comp=N,42nm,1.2s								
NVS				pmax		pmax			
	comp=E,20nm,1.2s								
NVS				pmax		pmax			
	comp=Z,63nm,1.2s								
NVS				smax					
	comp=N,7.0nm,1.9s								
NVS				smax					
	comp=E,9.0nm,1.6s								
TAPN	**Taplejung**	**16.77**	**132**	*e*P		**Pn**	**19 26 40.7**	**-1.3**
TAPN	**Taplejung**	**16.77**	**132**	*e*P		**Pn**	**19 26 40.7**	**-1.3**
ODAN	**Odare**	**16.96**	**134**	*e*P		**Pn**	**19 26 41.4**	**-3.0**
ODAN	**Odare**	**16.96**	**134**	*e*P		**Pn**	**19 26 41.4**	**-3.0**
LSA	**Lhasa**	**17.32**	**119**	P		**Pn**	**19 26 50.5**	**+1.6**
LSA	**Lhasa**	**17.32**	**119**	*e*P		**Pn**	**19 26 52.0**	**+3.1**
	comp=E,7.6nm,0.9s								
LSA	**Lhasa**	**17.32**	**119**	*e*P		**Pn**	**19 26 52.0**	**+3.1**
LSA				pmax		pmax			
	comp=Z,8.0nm,0.9s								
SVE	**Sverdlovsk**	**19.41**	**338**	*e*P		**Pn**	**19 27 12.7**	**-1.5**
SVE				pmax		pmax			
	comp=Z,18nm,0.9s								
ARU	**Arti**	**19.73**	**335**	*e*P		**Pn**	**19 27 15.8**	**-2.2**
	comp=Z,25nm,0.9s								
ARU	**Arti**	**19.73**	**335**	*e*P		**Pn**	**19 27 16.2**	**-1.8**
ARU				S		**Sn**	**19 30 56.7**	**-1.9**
GTA	**Gaotai**	**20.16**	**82**	P		**P**	**19 27 21.6**	**+0.4**
GTA				pP			19 27 26.2		
GTA				sP		sP	19 27 28.7	-3.4	
GTA				pmax		pmax			
	comp=Z,10.0nm,1.3s								
SHL	**Shillong**	**20.59**	**127**	*e*PKP		**P**	**19 27 27.0**	**+1.0**
POO	**Poona**	**20.82**	**180**	*ex*		**P**	**19 27 28.0**	**-0.6**
GNI	**Garni**	**22.23**	**281**	P		**P**	**19 27 43.6**	**+0.1**
	comp=Z,68nm,1.3s,mb4.9								
GNI	**Garni**	**22.23**	**281**	*ce*P		**P**	**19 27 43.3**	**-0.2**
GNI				pmax		pmax			
	comp=Z,27nm,1.7s								
HYB	**Hyderabad**	**22.33**	**168**	*i* P		**P**	**19 27 45.0**	**+0.2**
ZEI	**Tsey**	**22.65**	**288**	*e*P		**P**	**19 27 52.0**	**+4.0**
ZEI				pmax		pmax			
	comp=Z,6.0nm,0.6s,mb4.2								
SOKR	**Solikamsk**	**22.83**	**338**	*e*P		**P**	**19 27 50.5**	**+0.8**
SOKR				pmax		pmax			
	comp=Z,10.0nm,0.9s,mb4.2								
ZAK	**Zakamensk**	**23.49**	**52**	*e*P		**P**	**19 27 57.2**	**+0.6**
ZAK				pmax		pmax			
	comp=Z,2.0nm,0.9s,mb3.5								
ZAK				pmax		pmax			
	comp=Z,2.0nm,0.8s,mb3.6								
KIV	**Kislovodsk**	**23.52**	**291**	P		**P**	**19 27 57.3**	**+0.3**
	comp=Z,5.4nm,0.9s,mb4.0								
KIV	**Kislovodsk**	**23.52**	**291**	*e*P		**P**	**19 27 57.0**	**0.0**
KIV				pmax		pmax			
	comp=Z,12nm,1.0s,mb4.3								
KIV				MLR		MLR			
	comp=Z,47nm,14.0s,MS3.1								
SONM	**Songino Array**	**24.96**	**60**	P		**P**	**19 28 09.7**	**-0.5**
	comp=Z,2.4nm,0.8s,mb3.8,baz=264,slow=9.6,SNR=15								
SONM				LR		LR	19 39 14.3		
	comp=Z,37nm,18.8s,MS2.9,baz=244,slow=40								
SONM	**Songino Array**	**24.96**	**60**	P		**P**	**19 28 09.7**	**-0.5**
SONM				LR		LR	19 39 14.3		
SONM	**Songino Array**	**24.96**	**60**	P		**P**	**19 28 09.7**	**-0.4**
SONM				pmax		pmax			
	comp=Z,2.0nm,0.8s								
SONM				MLR		MLR			
	comp=Z,37nm,18.8s								
VRHR	**Novokhopersk**	**25.21**	**308**	*e*P		**P**	**19 28 12.2**	**-0.1**
VRHR				*e**PP		pP	19 28 21.5	+1.3	
VRHR				pmax		pmax			
	comp=Z,10.0nm,0.9s,mb4.3								
VRHR				pmax		pmax			
	comp=N,10.0nm,0.8s								
VRHR				pmax		pmax			
	comp=E,6.0nm,0.6s								
ULN	**Ulaanbaatar**	**25.41**	**60**	*e*P		**P**	**19 28 12.1**	**-2.1**
	comp=E,3.5nm,0.8s,mb3.9								
ULN	**Ulaanbaatar**	**25.41**	**60**	*e*P		**P**	**19 28 12.1**	**-2.1**
ULN				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.0								
VSR	**Storozhevoye**	**26.74**	**308**	*e*P		**P**	**19 28 26.1**	**-0.1**
VSR				*e**PP		pP	19 28 38.8	+4.7	
VSR				pmax		pmax			
	comp=Z,8.0nm,1.0s,mb4.2								
VSR				pmax		pmax			
	comp=N,7.0nm,1.3s								
VSR				pmax		pmax			
	comp=E,10.0nm,0.9s								
CMAR	**Chiang Mai Arr**	**30.23**	**126**	P		**P**	**19 28 56.0**	**-1.6**
	comp=E,0.6nm,0.6s,mb3.5,baz=305,slow=8.2,SNR=6.1								
CMAR				PcP		PcP	19 31 58.5	+0.5	
	comp=E,0.5nm,0.7s,baz=296,slow=3.0,SNR=6.3								
CMAR				LR		LR	19 42 57.3		
	comp=E,57nm,18.1s,MS3.2,baz=305,slow=40								
CMAR	**Chiang Mai Arr**	**30.23**	**126**	P		**P**	**19 28 56.0**	**-1.6**
CMAR				PcP		PcP	19 31 58.5	+0.5	
CMAR				LR		LR	19 42 57.3		
CMAR	**Chiang Mai Arr**	**30.23**	**126**	P		**P**	**19 28 56.0**	**-1.5**
CMAR							19 31 58.5		
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
CMAR				MLR		MLR			
	comp=Z,57nm,18.1s								
BR131	**Keskin Array S**	**30.70**	**284**	*e*P		**P**	**19 29 04.5**	**+2.9**
	comp=Z,2.9nm,0.8s,mb4.2								
BRTR	**Keskin Array B**	**30.70**	**284**	P		**P**	**19 29 04.2**	**+2.6**
	comp=Z,2.5nm,0.7s,mb4.1,baz=72,slow=6.4,SNR=8.0								
BRTR	**Keskin Array B**	**30.70**	**284**	P		**P**	**19 29 04.2**	**+2.6**
BRTR				pmax		pmax			
	comp=Z,3.0nm,0.7s								
AKASG	**Malin Array Be**	**32.90**	**305**	P		**P**	**19 29 20.8**	**0.0**
	comp=Z,0.9nm,0.4s,mb4.0,baz=81,slow=7.5,SNR=9.1								
AKASG	**Malin Array Be**	**32.90**	**305**	P		**P**	**19 29 20.8**	**0.0**
AKASG	**Malin Array Be**	**32.90**	**305**	P		**P**	**19 29 20.8**	**0.0**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.4s								
JOF	**Joensuu**	**34.49**	**327**	*e*P		**P**	**19 29 34.6**	**+0.2**
JOF				pmax		pmax			
	comp=Z,3.0nm,0.7s,mb4.3								
JOF	**Joensuu**	**34.49**	**327**	*ep*		**P**	**19 29 34.6**	**+0.2**
	comp=Z,2.5nm,0.7s,mb4.2								
FINES	**FINESS Array B**	**36.34**	**323**	P		**P**	**19 29 50.5**	**+0.3**
	comp=Z,2.6nm,0.3s,mb4.6,baz=113,slow=9.8,SNR=56								
FINES				LR		LR	19 47 37.5		
	comp=Z,95nm,18.0s,MS3.6,baz=113,slow=41								
FINES	**FINESS Array B**	**36.34**	**323**	P		**P**	**19 29 50.5**	**+0.3**
FINES				LR		LR	19 47 37.5		
FINES	**FINESS Array B**	**36.34**	**323**	P		**P**	**19 29 50.6**	**+0.3**
FINES				pmax		pmax			
	comp=Z,3.0nm,0.3s								
FINES				MLR		MLR			
	comp=Z,95nm,18.0s								
KEV	**Kevo**	**38.93**	**336**	*e*P		**P**	**19 30 10.9**	**-1.2**
KEV				pmax		pmax			
	comp=Z,3.0nm,0.7s,mb4.1								
KEV	**Kevo**	**38.93**	**336**	*ep*		**P**	**19 30 10.9**	**-1.2**
	comp=Z,3.4nm,0.7s,mb4.2								
ARCES	**ARCESS Array B**	**39.31**	**336**	P		**P**	**19 30 15.6**	**+0.2**
	comp=Z,3.1nm,0.4s,mb4.4,baz=110,slow=8.9,SNR=65								
ARCES				LR		LR	19 47 45.0		
	comp=Z,45nm,21.2s,MS3.3,baz=1.0,slow=38								
ARCES	**ARCESS Array B**	**39.31**	**336**	P		**P**	**19 30 15.6**	**+0.2**
ARCES				LR		LR	19 47 45.0		
ARCES	**ARCESS Array B**	**39.31**	**336**	P		**P**	**19 30 15.6**	**+0.3**
ARCES				pmax		pmax			
	comp=Z,3.0nm,0.4s								
ARCES				MLR		MLR			
	comp=Z,45nm,21.2s								
ARE0	**ARCESS Array S**	**39.31**	**336**	*e*P		**P**	**19 30 15.4**	**+0.1**
GERES	**GERESS Array B**	**43.05**	**303**	P		**P**	**19 30 48.1**	**+1.7**
	comp=Z,1.5nm,0.6s,mb3.9,baz=66,slow=7.8,SNR=11								
GERES				LR		LR	19 52 03.4		
	comp=Z,91nm,18.0s,MS3.7,baz=80,slow=41								
GERES	**GERESS Array B**	**43.05**	**303**	P		**P**	**19 30 48.1**	**+1.7**
GERES				LR		LR	19 52 03.4		
GERES	**GERESS Array B**	**43.05**	**303**	P		**P**	**19 30 48.1**	**+1.8**
GERES				pmax		pmax			
	comp=Z,2.0nm,0.6s								
GERES				MLR		MLR			
	comp=Z,91nm,18.0s								
KHC	**Kasperske Hory**	**43.08**	**304**	*e*P		**P**	**19 30 47.5**	**+0.9**
KHC	**Kasperske Hory**	**43.08**	**304**	*e*P		**P**	**19 30 47.5**	**+0.9**
KHC				*ex*		x	19 30 50.5		
CLL	**Collm**	**43.09**	**307**	*e*P		**P**	**19 30 47.0**	**+0.4**
CLL	**Collm**	**43.09**	**307**	*e*P		**P**	**19 30 47.0**	**+0.4**
NB2	**NORSAR Subarra**	**43.39**	**321**	P		**P**	**19 30 48.4**	**-0.5**
	comp=Z,3.0nm,0.6s,mb4.2,baz=90,slow=8.6								
NOA	**NORSAR Array B**	**43.39**	**321**	P		**P**	**19 30 48.7**	**-0.1**
	comp=Z,2.1nm,0.5s,mb4.1,baz=91,slow=7.9,SNR=8.3								
NOA				LR		LR	19 49 18.4		
	comp=Z,87nm,20.8s,MS3.6,baz=320,slow=37								
NOA	**NORSAR Array B**	**43.39**	**321**	P		**P**	**19 30 48.7**	**-0.2**
NOA				LR		LR	19 49 18.4		
NOA	**NORSAR Array B**	**43.39**	**321**	P		**P**	**19 30 48.7**	**-0.2**
NOA				pmax		pmax			
	comp=Z,2.0nm,0.5s								
NOA				MLR		MLR			
	comp=Z,87nm,20.8s								
CDF	**Champ du Feu**	**47.31**	**304**	*e*P		**P**	**19 31 20.8**	**+0.7**
CDF	**Champ du Feu**	**47.31**	**304**	*e*P		**P**	**19 31 20.8**	**+0.7**
CDF	**Champ du Feu**	**47.31**	**304**	*e*P		**P**	**19 31 20.8**	**+0.7**
PGF	**Pioggiola**	**47.88**	**296**	*e*P		**P**	**19 31 24.9**	**+0.3**
PGF	**Pioggiola**	**47.88**	**296**	*e*P		**P**	**19 31 24.9**	**+0.3**
PGF	**Pioggiola**	**47.88**	**296**	*e*P		**P**	**19 31 24.9**	**+0.3**
HAU	**Haudompre**	**48.01**	**304**	*e*P		**P**	**19 31 26.2**	**+0.6**
HAU	**Haudompre**	**48.01**	**304**	*e*P		**P**	**19 31 26.2**	**+0.6**
HAU	**Haudompre**	**48.01**	**304**	*e*P		**P**	**19 31 26.2**	**+0.6**
LPG	**La Plagne**	**48.48**	**300**	*e*P		**P**	**19 31 30.3**	**+1.1**
LPG	**La Plagne**	**48.48**	**300**	*e*P		**P**	**19 31 30.3**	**+1.1**
LPG	**La Plagne**	**48.48**	**300**	*e*P		**P**	**19 31 30.3**	**+1.1**
LPL	**La Plagne**	**48.48**	**300**	*e*P		**P**	**19 31 30.2**	**+0.9**
	comp=Z,5.1nm,0.5s,mb4.5								
LPL	**La Plagne**	**48.48**	**300**	*e*P		**P**	**19 31 30.2**	**+0.9**
	comp=Z,2.5nm,0.5s,mb4.5								
LPL	**La Plagne**	**48.48**	**300**	*e*P		**P**	**19 31 30.2**	**+0.9**
LPL				pmax		pmax			
	comp=Z,3.0nm,0.5s,mb4.6								
CABF	**La Chapelle**	**48.58**	**302**	*e*P		**P**	**19 31 30.6**	**+0.6**
CABF	**La Chapelle**	**48.58**	**302**	*e*P		**P**	**19 31 30.6**	**+0.6**
CABF	**La Chapelle**	**48.58**	**302**	*e*P		**P**	**19 31 30.6**	**+0.6**
MBDF	**Montbardon**	**48.70**	**299**	*e*P		**P**	**19 31 31.4**	**+0.4**
	comp=Z,6.2nm,0.6s,mb4.5								
MBDF	**Montbardon**	**48.70**	**299**	*e*P		**P**	**19 31 31.4**	**+0.4**
	comp=Z,3.1nm,0.6s,mb4.5								
MBDF	**Montbardon**	**48.70**	**299**	*e*P		**P**	**19 31 31.4**	**+0.4**
MBDF				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.5								
BAIF	**Baives**	**48.81**	**307**	*e*P		**P**	**19 31 32.4**	**+0.7**
BAIF	**Baives**	**48.81**	**307**	*e*P		**P**	**19 31 32.4**	**+0.7**
BAIF	**Baives**	**48.81**	**307**	*e*P		**P**	**19 31 32.4**	**+0.7**
FRF	**La Foret Royal**	**49.17**	**298**	*e*P		**P**	**19 31 34.7**	**+0.2**
	comp=Z,5.1nm,0.7s,mb4.4								
FRF	**La Foret Royal**	**49.17**	**298**	*e*P		**P**	**19 31 34.7**	**+0.2**
	comp=Z,2.5nm,0.7s,mb4.3								
FRF	**La Foret Royal**	**49.17**	**298**	*e*P		**P**	**19 31 34.7**	**+0.2**
FRF				pmax		pmax			
	comp=Z,3.0nm,0.7s,mb4.4								
MJAR	**Matsushiro Arr**	**49.95**	**72**	P		**P**	**19 31 39.4**	**-1.3**
	comp=Z,1.9nm,0.8s,mb4.2,baz=288,slow=9.1,SNR=5.8								
MJAR	**Matsushiro Arr**	**49.95**	**72**	P		**P**	**19 31 39.4**	**-1.3**
MJAR	**Matsushiro Arr**	**49.95**	**72**	P		**P**	**19 31 39.4**	**-1.2**
MJAR				pmax		pmax			
	comp=Z,2.0nm,0.9s								
SMF	**Signal de Mont**	**50.04**	**302**	*e*P		**P**	**19 31 41.0**	**-0.2**
SMF	**Signal de Mont**	**50.04**	**302**	*e*P		**P**	**19 31 41.0**	**-0.2**
SMF	**Signal de Mont**	**50.04**	**302**	*e*P		**P**	**19 31 41.0**	**-0.2**
VIVF	**Saint-Julien-l**	**50.07**	**300**	*e*P		**P**	**19 31 41.3**	**-0.1**
VIVF	**Saint-Julien-l**	**50.07**	**300**	*e*P		**P**	**19 31 41.3**	**-0.1**
VIVF	**Saint-Julien-l**	**50.07**	**300**	*e*P		**P**	**19 31 41.3**	**-0.1**
ASAJ	**Asahikawa**	**50.23**	**61**	LR		LR	19 54 44.2		
	comp=Z,51nm,21.3s,MS3.5,baz=335,slow=38								
AVF	**Avril sur Loir**	**50.32**	**303**	*e*P		**P**	**19 31 43.1**	**-0.1**
AVF	**Avril sur Loir**	**50.32**	**303**	*e*P		**P**	**19 31 43.1**	**-0.1**
AVF	**Avril sur Loir**	**50.32**	**303**	*e*P		**P**	**19 31 43.1**	**-0.1**
BGF	**Bois d'Agland**	**50.72**	**303**	*e*P		**P**	**19 31 46.8**	**+0.5**
BGF	**Bois d'Agland**	**50.72**	**303**	*e*P		**P**	**19 31 46.8**	**+0.5**
BGF	**Bois d'Agland**	**50.72**	**303**	*e*P		**P**	**19 31 46.8**	**+0.5**
LASF	**Ste Croix**	**50.89**	**299**	*e*P		**P**	**19 31 48.6**	**+1.0**
LASF	**Ste Croix**	**50.89**	**299**	*e*P		**P**	**19 31 48.6**	**+1.0**
LDF	**La Druitiere**	**51.95**	**306**	*e*P		**P**	**19 31 55.1**	**-0.4**
	comp=Z,10nm,0.5s,mb4.7								
LDF	**La Druitiere**	**51.95**	**306**	*e*P		**P**	**19 31 55.1**	**-0.4**
	comp=Z,5.3nm,0.5s,mb4.7								
LDF	**La Druitiere**	**51.95**	**306**	*e*P		**P**	**19 31 55.1**	**-0.4**
LDF				pmax		pmax			
	comp=Z,5.0nm,0.5s,mb4.7								
FLN	**La Foliniere**	**52.12**	**306**	*e*P		**P**	**19 31 57.3**	**+0.5**
FLN	**La Foliniere**	**52.12**	**306**	*e*P		**P**	**19 31 57.3**	**+0.5**
FLN	**La Foliniere**	**52.12**	**306**	*e*P		**P**	**19 31 57.3**	**+0.5**
MTLF	**Montolieu**	**52.26**	**299**	*e*P		**P**	**19 31 58.6**	**+0.7**
MTLF	**Montolieu**	**52.26**	**299**	*e*P		**P**	**19 31 58.6**	**+0.7**
MTLF	**Montolieu**	**52.26**	**299**	*e*P		**P**	**19 31 58.6**	**+0.7**
ESDC	**Sonseca Array**	**58.00**	**297**	P		**P**	**19 32 40.2**	**+0.8**
	comp=Z,1.0nm,0.6s,mb4.0,baz=56,slow=7.1,SNR=9.8								
ESDC	**Sonseca Array**	**58.00**	**297**	P		**P**	**19 32 40.2**	**+0.8**
TAM	**Tamanrasset**	**59.38**	**275**	*e*P		**P**	**19 32 49.7**	**+0.5**
	comp=Z,1.6nm,0.6s,mb4.2								
TAM	**Tamanrasset**	**59.38**	**275**	*e*P		**P**	**19 32 49.7**	**+0.5**
TAM				pmax		pmax			
	comp=Z,2.0nm,0.6s,mb4.3								
TORD	**Torodi Ar. Bea**	**67.91**	**269**	P		**P**	**19 33 45.2**	**-0.3**
	comp=Z,3.9nm,0.5s,mb4.7,baz=45,slow=5.4,SNR=91								
TORD	**Torodi Ar. Bea**	**67.91**	**269**	P		**P**	**19 33 45.2**	**-0.3**
ILAR	**Eielson Array**	**71.37**	**17**	P		**P**	**19 34 04.2**	**-1.9**
	comp=Z,1.4nm,0.8s,mb3.9,baz=321,slow=5.4,SNR=17								
ILAR	**Eielson Array**	**71.37**	**17**	P		**P**	**19 34 04.2**	**-1.9**
ILAR	**Eielson Array**	**71.37**	**17**	P		**P**	**19 34 04.2**	**-1.9**
ILAR				pmax		pmax			
	comp=Z,1.0nm,0.9s								
DBIC	**Dimbokro**	**76.96**	**268**	P		**P**	**19 34 39.5**	**0.0**
	comp=Z,3.9nm,0.8s,mb4.4,baz=43,slow=6.8,SNR=5.5								
DBIC	**Dimbokro**	**76.96**	**268**	P		**P**	**19 34 39.5**	**0.0**
DBIC	**Dimbokro**	**76.96**	**268**	P		**P**	**19 34 39.6**	**0.0**
DBIC				pmax		pmax			
	comp=Z,4.0nm,0.8s								
LIC	**Lamto**	**77.37**	**268**	*e*P		**P**	**19 34 41.9**	**0.0**
LIC	**Lamto**	**77.37**	**268**	*e*P		**P**	**19 34 41.9**	**0.0**
YKA	**Yellowknife Ar**	**78.21**	**4**	P		**P**	**19 34 44.9**	**-0.8**
	comp=Z,1.8nm,0.6s,mb4.2,baz=349,slow=5.6,SNR=4.7								
YKA	**Yellowknife Ar**	**78.21**	**4**	P		**P**	**19 34 44.9**	**-0.8**
YKA	**Yellowknife Ar**	**78.21**	**4**	P		**P**	**19 34 44.9**	**-0.8**
YKA				pmax		pmax			
	comp=Z,2.0nm,0.6s								
LBTB	**Lobatse**	**78.27**	**224**	*e*P		**P**	**19 34 47.2**	**+0.7**
	comp=Z,7.9nm,0.8s,mb4.7								
LBTB	**Lobatse**	**78.27**	**224**	*e*P		**P**	**19 34 47.2**	**+0.7**
LBTB				pmax		pmax			
	comp=Z,8.0nm,0.8s,mb4.7								
WRA	**Warramunga Arr**	**81.79**	**124**	P		**P**	**19 35 04.9**	**-0.7**
	comp=Z,6.0nm,0.8s,mb4.6,baz=324,slow=5.2,SNR=42								
WRA	**Warramunga Arr**	**81.79**	**124**	P		**P**	**19 35 04.9**	**-0.7**
WRA	**Warramunga Arr**	**81.79**	**124**	P		**P**	**19 35 04.9**	**-0.7**
WRA				pmax		pmax			
	comp=Z,6.0nm,0.8s								
WRAB	**Tennant Creek**	**81.79**	**124**	*e*P		**P**	**19 35 05.0**	**-0.6**
	comp=Z,5.7nm,0.7s,mb4.6								
WRAB	**Tennant Creek**	**81.79**	**124**	*e*P		**P**	**19 35 05.0**	**-0.6**
WRAB				pmax		pmax			
	comp=Z,6.0nm,0.7s,mb4.6								
WB2	**Warramunga Arr**	**81.80**	**124**	*e*P		**P**	**19 35 04.8**	**-0.8**
ASAR	**Alice Springs**	**84.24**	**127**	P		**P**	**19 35 17.6**	**-0.6**
	comp=Z,3.3nm,0.8s,mb4.5,baz=323,slow=5.2,SNR=30								
ASAR	**Alice Springs**	**84.24**	**127**	P		**P**	**19 35 17.6**	**-0.6**
ASAR	**Alice Springs**	**84.24**	**127**	P		**P**	**19 35 17.6**	**-0.6**
ASAR				pmax		pmax			
	comp=Z,3.0nm,0.8s								
CHMT	**Chamberlain Mo**	**93.82**	**5**	*e*P		**P**	**19 36 03.4**	**-0.2**
CPUP	**Villa Florida**	**137.34**	**273**	PKP		PKPdf	19 42 08.9	-1.3	
	comp=Z,0.8nm,0.5s,baz=32,slow=4.7,SNR=4.2								
CPUP	**Villa Florida**	**137.34**	**273**	PKP		PKPdf	19 42 08.9	-1.3	
CPUP	**Villa Florida**	**137.34**	**273**	PKIKP		PKPdf	19 42 08.9	-1.3	
CPUP				pmax		pmax			
	comp=Z,1.0nm,0.5s								
LPAZ	**La Paz**	**139.56**	**294**	PKP		PKPdf	19 42 14.2	-0.3	
	comp=Z,1.0nm,0.9s,baz=61,slow=6.0,SNR=3.4								
LPAZ	**La Paz**	**139.56**	**294**	PKP		PKPdf	19 42 14.2	-0.3	
LPAZ	**La Paz**	**139.56**	**294**	PKIKP		PKPdf	19 42 14.2	-0.3	
LPAZ				pmax		pmax			
	comp=Z,1.0nm,0.9s								
PLCA	**Paso Flores**	**152.73**	**256**	PKPbc		PKPbc	19 42 43.4	+0.3	
	comp=Z,1.2nm,0.6s,baz=98,slow=3.7,SNR=5.0								
PLCA	**Paso Flores**	**152.73**	**256**	PKPbc		PKPbc	19 42 43.4	+0.3	

IDC 09 19:43:17.7±10.0, 6°33S×130°09E, h75km±103km, mb3.6/2, mb1 3.5/5, mb1mx3.3/17, mbtmp3.4/5, ML3.2/3, Error ellipse: s-maj=116.2km s-min=33.0km az=55.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.

s-min=16.8km az=100.0
*NEIC **09** 20:15:45.9±1.7, 12.°00S×165.°86E, h38km±14km, mb4.7/6, Error ellipse: s-maj=13.2km s-min=9.7km az=77.0*
ISC 09 20:15:45.0±4.3, **12.°05S**±0.°07×**165.°83E**±0.°09, **h28**km±29km, **n131**, σ1§05/59, **mb4.6**/25, **MS4.0**/7, **10C, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**6.34**	**294**	*e*P		**Pn**	**20 17 17.5**	**+0.9**
	183nm,0.6s							
HNR				*e*S		**Sn**	**20 18 29.6**	**+1.4**
DZM	**Mont Dzumac**	**9.98**	**177**	*e*Pn		**Pn**	**20 18 05.5**	**-1.1**
	5.0nm,0.3s							
DZM				*e*Sn		**Sn**	**20 19 50.5**	**-7.3**
	6.3nm,0.3s							
DZM				*e*LR		LR	20 20 26.9	
	383nm,23.9s							
DZM	**Mont Dzumac**	**9.98**	**177**	*e*P		**Pn**	**20 18 05.8**	**-0.9**
DZM	**Mont Dzumac**	**9.98**	**177**	*e*P		**Pn**	**20 18 06.2**	**-0.5**
	17nm,0.6s							
EIDS	**Eidsvold**	**19.23**	**224**	*e*P		**Pn**	**20 20 08.3**	**+0.1**
CTA	**Charters Tower**	**20.42**	**244**	*e*P		**P**	**20 20 21.3**	**+1.1**
	4.3nm,0.5s,baz=71,slow=13,SNR=9.6							
CTA	**Charters Tower**	**20.42**	**244**	*e*P		**P**	**20 20 21.1**	**+0.9**
	3.1nm,0.4s							
CTA	**Charters Tower**	**20.42**	**244**	P		**P**	**20 20 21.3**	**+1.1**
CTAO	**Charters Tower**	**20.42**	**244**	*e*P		**P**	**20 20 20.9**	**+0.7**
ARMA	**Armidale**	**22.52**	**214**	*e*P		**P**	**20 20 44.0**	**+1.4**
ARMA	**Armidale**	**22.52**	**214**	*e*P		**P**	**20 20 43.8**	**+1.1**
	34nm,1.0s,mb4.7							
STKA	**Stephens Creek**	**29.78**	**225**	P		**P**	**20 21 50.0**	**+0.5**
	3.6nm,0.6s,mb4.3,baz=48,slow=11,SNR=11							
STKA				LR		LR	20 33 45.3	
	comp=Z,423nm,18.1s,MS4.1,baz=26,slow=36							
STKA	**Stephens Creek**	**29.78**	**225**	*e*P		**P**	**20 21 50.1**	**+0.6**
	5.6nm,1.0s,mb4.2							
STKA	**Stephens Creek**	**29.78**	**225**	*e*P		**P**	**20 21 50.0**	**+0.5**
STKA				LR		LR	20 33 45.3	
WB2	**Warramunga Arr**	**31.22**	**251**	*e*P		**P**	**20 22 01.1**	**-1.3**
WRAB	**Tennant Creek**	**31.22**	**251**	*e*P		**P**	**20 22 01.1**	**-1.2**
WRA	**Warramunga Arr**	**31.23**	**251**	P		**P**	**20 22 01.6**	**-0.8**
	1.7nm,0.5s,mb4.2,baz=85,slow=9.5,SNR=23							
WRA	**Warramunga Arr**	**31.23**	**251**	P		**P**	**20 22 01.6**	**-0.8**
RPZ	**Rata Peaks**	**31.87**	**173**	P		**P**	**20 22 07.7**	**0.0**
	11nm,0.7s,mb4.8,baz=235,slow=11,SNR=5.8							
RPZ	**Rata Peaks**	**31.87**	**173**	P		**P**	**20 22 07.7**	**0.0**
ASAR	**Alice Springs**	**32.43**	**245**	P		**P**	**20 22 11.7**	**-1.2**
	5.3nm,0.7s,mb4.5,baz=70,slow=9.5,SNR=86							
ASAR				PcP		PcP	20 25 01.3	+1.3
	1.7nm,1.0s,baz=79,slow=3.6,SNR=5.7							
ASAR	**Alice Springs**	**32.43**	**245**	P		**P**	**20 22 11.7**	**-1.2**
ASAR				PcP		PcP	20 25 01.3	+1.3
GUMO	**Guam**	**32.88**	**320**	LR		LR	20 35 32.8	
	comp=Z,166nm,18.2s,MS3.8,baz=84,slow=36							
FITZ	**Fitzroy Crossi**	**39.21**	**256**	*e*P		**P**	**20 23 10.9**	**-0.2**
	6.2nm,0.7s,mb4.5							
FORT	**Forrest**	**39.54**	**236**	*e*P		**P**	**20 23 10.3**	**-3.5**
	14nm,0.7s,mb4.8							
PPT	**Papeete**	**43.38**	**103**	*e*S		**S**	**20 30 22.6**	**+11**
	68nm,26.2s							
PPT				*e*LR		LR	20 35 53.1	
	240nm,27.0s							
KAPI	**Kappang**	**46.05**	**275**	*e*P		**P**	**20 24 06.3**	**-0.5**
	10.0nm,1.3s,mb4.6							
KLBR	**Kellerberrin**	**48.25**	**238**	*e*P		**P**	**20 24 23.0**	**-0.7**
	20nm,1.3s,mb5.0							
NWAO	**Narrogin (SRO)**	**48.98**	**237**	P		**P**	**20 24 28.6**	**-0.7**
	9.4nm,0.9s,mb4.8,baz=67,slow=7.7,SNR=3.6							
NWAO				LR		LR	20 45 51.2	
	comp=Z,466nm,18.0s,MS4.5,baz=80,slow=37							
NWAO	**Narrogin (SRO)**	**48.98**	**237**	P		**P**	**20 24 28.6**	**-0.6**
NWAO				LR		LR	20 45 51.2	
MJAR	**Matsushiro Arr**	**54.90**	**333**	P		**P**	**20 25 11.9**	**-1.2**
	4.7nm,0.8s,mb4.6,baz=167,slow=10,SNR=11							
MJAR	**Matsushiro Arr**	**54.90**	**333**	P		**P**	**20 25 11.9**	**-1.2**
MAT	**Matsushiro**	**54.90**	**333**	P		**P**	**20 25 11.8**	**-1.4**
KSRS	**Korea Array**	**60.75**	**326**	P		**P**	**20 25 54.7**	**+0.4**
	3.7nm,1.1s,mb4.4,baz=128,slow=6.0,SNR=3.6							
VNDA	**Vanda**	**65.50**	**181**	P		**P**	**20 26 26.9**	**+1.6**
	1.8nm,0.8s,mb4.1,baz=12,slow=7.5,SNR=5.3							
VNDA	**Vanda**	**65.50**	**181**	*e*P		**P**	**20 26 25.7**	**+0.5**
	4.4nm,1.1s,mb4.4							
SBA	**Scott Base**	**65.80**	**180**	*e*P		**P**	**20 26 29.0**	**+1.8**
	5.0nm,0.7s,mb4.7							
CN2	**Changchun**	**66.64**	**329**	*e*P		**P**	**20 26 33.0**	**0.0**
CN2				*e*pP		pP	20 26 43.9	+2.1
CN2				pmax		pmax		
	comp=Z,20nm,0.8s,mb5.2							
PSI	**Prapat**	**68.09**	**278**	P		**P**	**20 26 43.2**	**+0.3**
	comp=Z,6.1nm,0.6s,mb4.8,baz=180,slow=8.1,SNR=3.9							
PSI	**Prapat**	**68.09**	**278**	P		**P**	**20 26 43.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**72.59**	**294**	P		**P**	**20 27 10.9**	**+0.6**
	comp=Z,3.2nm,0.8s,mb4.3,baz=122,slow=4.5,SNR=20							
CMAR	**Chiang Mai Arr**	**72.59**	**294**	P		**P**	**20 27 10.9**	**+0.6**
QSPA	**South Pole Qui**	**77.96**	**180**	LR		LR	21 01 28.2	
	comp=Z,83nm,19.4s,MS4.1,baz=40,slow=35							
QSPA	**South Pole Qui**	**77.96**	**180**	*e*P		**P**	**20 27 40.5**	**+0.4**
	comp=Z,14nm,1.1s,mb4.8							
YAK	**Yakutsk**	**79.08**	**344**	*e*P		**P**	**20 27 46.2**	**-0.1**
ULN	**Ulaanbaatar**	**79.16**	**324**	*e*P		**P**	**20 27 48.4**	**+1.3**
	comp=Z,9.1nm,0.9s,mb4.7							
SONM	**Songino Array**	**79.52**	**324**	P		**P**	**20 27 50.3**	**+1.2**
	comp=Z,3.0nm,0.8s,mb4.3,baz=136,slow=5.7,SNR=16							
SONM	**Songino Array**	**79.52**	**324**	P		**P**	**20 27 50.3**	**+1.2**
MAW	**Mawson**	**83.83**	**202**	P		**P**	**20 28 12.2**	**+0.6**
	comp=Z,4.6nm,0.9s,mb4.6,baz=125,slow=7.9,SNR=8.2							
MAW	**Mawson**	**83.83**	**202**	P		**P**	**20 28 12.2**	**+0.6**
ILAR	**Eielson Array**	**84.43**	**18**	P		**P**	**20 28 11.1**	**-3.4**
	comp=Z,0.6nm,0.7s,mb3.8,baz=209,slow=7.2,SNR=7.6							
ILAR	**Eielson Array**	**84.43**	**18**	P		**P**	**20 28 11.1**	**-3.4**
NVAR	**Mina Array Bea**	**86.60**	**50**	P		**P**	**20 28 28.4**	**+2.4**
	comp=Z,0.5nm,0.5s,mb4.0,baz=270,slow=6.9,SNR=4.7							
NVAR	**Mina Array Bea**	**86.60**	**50**	P		**P**	**20 28 28.4**	**+2.4**
DLBC	**Dease Lake**	**87.25**	**28**	LR		LR	21 03 34.5	
	comp=Z,77nm,18.4s,MS4.1,baz=278,slow=33							
MK31	**Makanchi Array**	**94.31**	**317**	*e*P		**P**	**20 29 00.1**	**-1.7**
MKAR	**Makanchi Array**	**94.31**	**317**	P		**P**	**20 29 01.2**	**-0.7**
	comp=Z,3.8nm,0.7s,mb4.9,baz=91,slow=6.4,SNR=36							
MKAR	**Makanchi Array**	**94.31**	**317**	P		**P**	**20 29 01.2**	**-0.7**
ZALV	**Zalesovo Beam**	**94.41**	**324**	P		**P**	**20 29 01.6**	**-0.6**
	comp=Z,1.9nm,0.7s,mb4.6,baz=109,slow=4.3,SNR=11							
ZALV	**Zalesovo Beam**	**94.41**	**324**	P		**P**	**20 29 01.6**	**-0.6**
YKA	**Yellowknife Ar**	**95.82**	**27**	LR		LR	21 09 04.5	
	comp=Z,6.7nm,18.0s,MS3.2,baz=175,slow=34							
TXAR	**Lajitas Array**	**96.23**	**61**	LR		LR	21 05 20.6	
	comp=Z,61nm,19.9s,MS4.1,baz=0.0,slow=31							
ARCES	**ARCESS Array B**	**117.32**	**345**	PKP		PKPdf	20 34 26.6	-0.7
	comp=Z,3.0nm,0.5s,baz=100,slow=1.6,SNR=32							
ARCES	**ARCESS Array B**	**117.32**	**345**	PKP		PKPdf	20 34 26.6	-0.7
FINES	**FINESS Array B**	**122.73**	**338**	PKP		PKPdf	20 34 37.0	-0.8
	comp=Z,3.5nm,0.8s,baz=51,slow=0.9,SNR=12							
FINES				PP		PP	20 36 18.5	+3.0
	comp=Z,1.2nm,0.3s,baz=58,slow=2.8,SNR=11							
FINES	**FINESS Array B**	**122.73**	**338**	PKP		PKPdf	20 34 37.0	-0.8
FINES				PP		PP	20 36 18.5	+3.0
NB2	**NORSAR Subarra**	**127.69**	**345**	PKPdf		PKPdf	20 34 47.2	-0.2
	comp=Z,17nm,1.7s,baz=31,slow=1.9							
NB2	**NORSAR Subarra**	**127.69**	**345**	PKPdf		PKPdf	20 34 47.2	-0.2
	baz=31,slow=1.9							
NOA	**NORSAR Array B**	**127.69**	**345**	PKP		PKPdf	20 34 46.6	-0.7
	comp=Z,1.7nm,0.8s,baz=36,slow=1.8,SNR=4.3							
NOA	**NORSAR Array B**	**127.69**	**345**	PKP		PKPdf	20 34 46.6	-0.7
AKASG	**Malin Array Be**	**127.74**	**326**	PKP		PKPdf	20 34 46.6	-1.2
	comp=Z,0.5nm,0.5s,baz=53,slow=2.9,SNR=6.2							
AKASG	**Malin Array Be**	**127.74**	**326**	PKP		PKPdf	20 34 46.6	-1.2
BRTR	**Keskin Array B**	**129.70**	**312**	PKP		PKPdf	20 34 52.0	+0.2
	comp=Z,0.7nm,0.7s,baz=56,slow=3.6,SNR=3.3							
BRTR	**Keskin Array B**	**129.70**	**312**	PKP		PKPdf	20 34 52.0	+0.2
CLL	**Collm**	**135.05**	**336**	*e*PKPdf		PKPdf	20 34 59.0	-2.6
GERES	**GERESS Array B**	**136.64**	**333**	PKP		PKPdf	20 35 04.3	-0.3
	comp=Z,1.2nm,0.8s,baz=52,slow=1.6,SNR=8.3							
GERES	**GERESS Array B**	**136.64**	**333**	PKP		PKPdf	20 35 04.3	-0.3
ROSF	**Rostrenen**	**142.70**	**348**	*e*PKP1		PKPdf	20 35 13.3	-2.4
ROSF	**Rostrenen**	**142.70**	**348**	*e*PKP		PKPdf	20 35 13.3	-2.4
MBDF	**Montbardon**	**142.82**	**335**	*e*PKP1		PKPdf	20 35 11.6	-4.4
	comp=Z,6.4nm,0.8s							
MBDF	**Montbardon**	**142.82**	**335**	*e*PKP		PKPdf	20 35 11.6	-4.4
ORIF	**Oris-en-Rattie**	**143.02**	**336**	*e*PKP1		PKPdf	20 35 12.9	-3.5
	comp=Z,19nm,0.8s							
ORIF	**Oris-en-Rattie**	**143.02**	**336**	*e*PKP		PKPdf	20 35 12.9	-3.5
SBF	**Sospel**	**143.24**	**334**	*e*PKP1		PKPdf	20 35 12.8	-4.0
	comp=Z,54nm,0.9s							
SBF	**Sospel**	**143.24**	**334**	*e*PKP		PKPdf	20 35 12.8	-4.0
VIVF	**Saint-Julien-l**	**143.54**	**337**	*e*PKP1		PKPdf	20 35 14.6	-2.7
	comp=Z,20nm,1.0s							
VIVF	**Saint-Julien-l**	**143.54**	**337**	*e*PKP		PKPdf	20 35 14.6	-2.7
PGF	**Pioggiola**	**143.55**	**331**	⇑*i*PKP1		PKPdf	20 35 14.2	-3.2
	comp=Z,15nm,0.8s							
PGF	**Pioggiola**	**143.55**	**331**	⇑*i*PKP		PKPdf	20 35 14.2	-3.2
MFF	**Saint Martin d**	**143.58**	**344**	*e*PKP1		PKPdf	20 35 14.1	-3.2
MFF	**Saint Martin d**	**143.58**	**344**	*e*PKP		PKPdf	20 35 14.1	-3.2
FRF	**La Foret Royal**	**143.82**	**334**	⇑*i*PKP1		PKPdf	20 35 15.0	-2.8
	comp=Z,35nm,0.9s							
FRF	**La Foret Royal**	**143.82**	**334**	⇑*i*PKP		PKPdf	20 35 15.0	-2.8
SMRF	**Simiane la Rot**	**143.93**	**336**	*e*PKP1		PKPdf	20 35 16.0	-2.0
	comp=Z,26nm,0.9s							
SMRF	**Simiane la Rot**	**143.93**	**336**	*e*PKP		PKPdf	20 35 16.0	-2.0
LMR	**La Mourre**	**144.06**	**334**	⇑*i*PKP1		PKPdf	20 35 16.0	-2.2
	comp=Z,71nm,1.0s							
LMR	**La Mourre**	**144.06**	**334**	⇑*i*PKP		PKPdf	20 35 16.0	-2.2
RJF	**Les Rejaudoux**	**144.26**	**341**	*e*PKP1		PKPdf	20 35 16.7	-1.8
RJF	**Les Rejaudoux**	**144.26**	**341**	*e*PKP		PKPdf	20 35 16.7	-1.8
CAF	**Calviac**	**144.41**	**340**	*e*PKP1		PKPdf	20 35 17.5	-1.3
	comp=Z,30nm,1.0s							
CAF	**Calviac**	**144.41**	**340**	*e*PKP		PKPdf	20 35 17.5	-1.3
LASF	**Ste Croix**	**144.51**	**337**	⇑*i*PKP1		PKPdf	20 35 18.0	-1.0
	comp=Z,43nm,0.9s							
LASF	**Ste Croix**	**144.51**	**337**	⇑*i*PKP		PKPdf	20 35 18.0	-1.0
LFF	**La Frestale**	**144.83**	**342**	*e*PKP1		PKPdf	20 35 18.6	-0.9
	comp=Z,22nm,0.7s							
LFF	**La Frestale**	**144.83**	**342**	*e*PKP		PKPdf	20 35 18.6	-0.9
VSL	**Villasalto**	**145.62**	**327**	*e*PKP		PKPdf	20 35 21.1	0.0
MTLF	**Montolieu**	**145.75**	**339**	⇑*i*PKP1		PKPbc	20 35 21.9	+0.3
	comp=Z,30nm,0.8s							
MTLF	**Montolieu**	**145.75**	**339**	⇑*i*PKP		PKPdf	20 35 21.9	+0.7
EJON	**La Jonquera**	**146.27**	**337**	PKP		PKPab	20 35 26.1	+2.1
CSOR	**Sort**	**146.98**	**339**	PKP		PKPab	20 35 27.9	+1.3
CFON	**Fontmartina**	**147.03**	**337**	PKP		PKPab	20 35 27.3	+0.4
EPOB	**Poblet**	**147.90**	**338**	PKP		PKPbc	20 35 27.3	-0.5
EPON	**Pontenova**	**148.25**	**350**	PKP		PKPdf	20 35 26.9	+1.5
KEST	**Kesra**	**148.26**	**322**	PKPbc		PKPbc	20 35 28.4	-0.6
	comp=Z,3.3nm,0.9s,baz=50,slow=1.3,SNR=8.7							
KEST	**Kesra**	**148.26**	**322**	PKPbc		PKPbc	20 35 28.4	-0.6
MSKU	**Masuku**	**149.22**	**246**	PKPbc		PKPbc	20 35 30.9	-1.2
	comp=Z,21nm,0.7s,baz=180,slow=3.0,SNR=3.6							
MSKU	**Masuku**	**149.22**	**246**	PKPbc		PKPbc	20 35 30.9	-1.2
EIBI	**Ibiza**	**149.80**	**336**	PKP		PKPbc	20 35 33.2	+0.4
EBEN	**Beniarda**	**150.70**	**337**	PKP		PKPbc	20 35 35.4	+0.5
ESDC	**Sonseca Array**	**151.04**	**344**	PKPbc		PKPbc	20 35 34.8	-0.8
	comp=Z,3.1nm,0.9s,baz=359,slow=2.0,SNR=14							
ESDC				PKPab		PKPab	20 35 42.2	-0.9
	comp=Z,0.7nm,0.5s,baz=14,slow=3.1,SNR=4.2							
ESDC	**Sonseca Array**	**151.04**	**344**	PKP		PKPbc	20 35 35.7	+0.1
ETOB	**Tobarra**	**151.23**	**339**	PKP		PKPbc	20 35 37.0	+0.8
EMUR	**La Murta**	**151.83**	**338**	PKP		PKPbc	20 35 37.4	-0.2
EQES	**Quesada**	**152.50**	**341**	PKP		PKPbc	20 35 39.3	+0.2
EADA	**Adamuz**	**152.62**	**343**	PKP		PKPbc	20 35 39.9	+0.6
EBAD	**Badajoz**	**152.65**	**348**	PKP		PKPbc	20 35 39.0	-0.4
EVO	**Evora**	**153.06**	**349**	*e*PKIKP		PKPdf	20 35 30.4	-2.6
EVOP	**Sao Brissos**	**153.09**	**349**	*e*PKPdf		PKPdf	20 35 30.4	-2.6
ESPR	**Espera**	**154.18**	**345**	PKP		PKPbc	20 35 42.0	-0.8
TORD	**Torodi Ar. Bea**	**164.48**	**276**	PKP		PKPdf	20 35 46.0	-1.1
	comp=Z,2.3nm,0.9s,baz=70,slow=1.7,SNR=13							
TORD				PKPab		PKPab	20 36 42.8	+0.8
	comp=Z,1.8nm,0.9s,baz=86,slow=4.1,SNR=5.8							
TORD	**Torodi Ar. Bea**	**164.48**	**276**	PKP		PKPdf	20 35 46.0	-1.1
TORD				PKPab		PKPab	20 36 42.8	+0.9

MEX 09 20:28:40.8±1.0, **16.°07N**×**97.°72W**, **h13**km±14km, **MD3.6, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PNIG	**Pinotepa**	**0.51**	**310**	*i* P		Pg	20 28 49.2	-1.6
PNIG				*i* S		Sg	20 28 56.7	-0.9
VHO	**Vista Hermosa**	**1.38**	**43**	*i* P		Pn	20 29 01.3	-4.4
VHO				*i* S		Sn	20 29 18.6	-5.3
HUIG	**Huatulco**	**1.58**	**101**	*i* P		Pn	20 29 05.5	-3.0
HUIG				*i* S		Sn	20 29 24.1	-4.7
UTMO	**Huajuapan**	**1.76**	**357**	*i* P		Pn	20 29 08.8	-2.2
UTMO				*i* S		Sn	20 29 29.4	-3.8
CAIG	**El Cayaco**	**2.63**	**292**	*e*P		Pn	20 29 20.6	-2.4
CAIG				*i* S		Sn	20 29 50.8	-4.0
CMIG	**Matias Romero**	**2.90**	**69**	*e*P		Pn	20 29 24.1	-2.6
CMIG				*i* S		Sn	20 29 56.6	-4.9

*ISCJB **09** 20:56:47.1±0.5, 39.°89N±0.°02×23.°75E±0.°04, h8km±3km, Error ellipse: s-maj=5.0km s-min=3.2km az=6.0*
*CSEM **09** 20:56:47.9±0.2, 39.°90N×23.°76E, h18km, ML2.3/7, Error ellipse: s-maj=4.7km s-min=3.4km az=95.0*
*THE **09** 20:56:47.8, 39.°91N×23.°77E, h2km±1km, ML2.3/7, Error ellipse: s-maj=1.7km s-min=0.5km az=179.0*
*ATH **09** 20:56:47.0, 39.°88N×23.°75E, h28km±1km, MD3.2/12*
*SKO **09** 20:56:49.1, 39.°92N×23.°73E, h20km, M1.6, ML2.0*
ISC 09 20:56:47.5±0.5, **39.°89N**±0.°02×**23.°76E**±0.°04, **h10**km±3km, **n53**, σ0§73/84, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PAIG	**Paliouri**	**0.07**	**299**	P		**Pg**	**20 56 49.3**	**-0.5**
PAIG				S		**Sg**	**20 56 50.9**	**-0.5**
PAIG	**Paliouri**	**0.07**	**299**	P		**Pg**	**20 56 49.3**	**-0.5**
PAIG				S		**Sg**	**20 56 50.9**	**-0.5**
OUR	**Ouranopolis**	**0.47**	**21**	P		**Pg**	**20 56 57.0**	**+0.2**
OUR				S		**Sg**	**20 57 02.8**	**-0.2**
OUR	**Ouranopolis**	**0.47**	**21**	P		**Pg**	**20 56 57.0**	**+0.2**
OUR				S		**Sg**	**20 57 02.8**	**-0.2**
PLG	**Polygyros**	**0.54**	**333**	*e*PN		**Pg**	**20 56 57.4**	**-0.6**
PLG				*e*SN		**Sg**	**20 57 05.1**	**0.0**
PLG	**Polygyros**	**0.54**	**333**	P		**Pg**	**20 56 57.3**	**-0.7**
PLG				S		**Sg**	**20 57 04.9**	**-0.2**
PLG	**Polygyros**	**0.54**	**333**	P		**Pg**	**20 56 57.3**	**-0.7**
PLG				S		**Sg**	**20 57 04.9**	**-0.2**
NEO	**Neokhori**	**0.72**	**216**	*e*PN		**Pg**	**20 57 01.8**	**+0.5**
NEO				*e*SN		**Sg**	**20 57 11.9**	**+1.2**
NEO	**Neokhori**	**0.72**	**216**	P		**Pg**	**20 57 01.8**	**+0.5**
NEO				S		**Sg**	**20 57 12.5**	**+1.8**
NEO	**Neokhori**	**0.72**	**216**	P		**Pg**	**20 57 01.8**	**+0.5**
NEO				*e*Sn		**Sg**	**20 57 11.9**	**+1.2**
NEO				S		**Sg**	**20 57 12.5**	**+1.8**
AOS	**Alonnisos**	**0.72**	**173**	P		**Pg**	**20 57 01.8**	**+0.3**
AOS				S		**Sg**	**20 57 12.6**	**+1.6**
AOS	**Alonnisos**	**0.72**	**173**	P		**Pg**	**20 57 01.8**	**+0.3**
AOS				S		**Sg**	**20 57 12.6**	**+1.6**
HORT	**Hortiatis**	**0.87**	**324**	P		**Pg**	**20 57 03.3**	**-1.0**
HORT				S		**Sg**	**20 57 15.8**	**+0.2**
HORT	**Hortiatis**	**0.87**	**324**	P		**Pg**	**20 57 03.3**	**-1.0**
HORT				S		**Sg**	**20 57 15.8**	**+0.2**
THE	**Thessaloniki**	**0.96**	**321**	P		**Pg**	**20 57 05.8**	**-0.2**
THE	**Thessaloniki**	**0.96**	**321**	P		**Pg**	**20 57 05.8**	**-0.2**
SOH	**Sokhos**	**0.98**	**342**	*e*PN		**Pg**	**20 57 06.5**	**+0.1**
SOH				*e*SN		**Sg**	**20 57 20.3**	**+1.1**
SOH	**Sokhos**	**0.98**	**342**	P		**Pg**	**20 57 06.1**	**-0.3**
SOH				S		**Sg**	**20 57 19.5**	**+0.3**
SOH	**Sokhos**	**0.98**	**342**	P		**Pg**	**20 57 06.1**	**-0.3**
SOH	**Sokhos**	**0.98**	**342**	*e*Pn		**Pg**	**20 57 06.5**	**+0.1**
SOH				S		**Sg**	**20 57 19.5**	**+0.3**
SOH				*e*Sn		**Sg**	**20 57 20.3**	**+1.1**
LIT	**Litokhoron**	**1.00**	**283**	*e*PN		**Pg**	**20 57 06.7**	**0.0**
LIT				*e*SN		**Sg**	**20 57 20.5**	**+0.7**
LIT	**Litokhoron**	**1.00**	**283**	P		**Pg**	**20 57 06.5**	**-0.2**
LIT				S		**Sg**	**20 57 20.5**	**+0.7**
LIT	**Litokhoron**	**1.00**	**283**	P		**Pg**	**20 57 06.5**	**-0.2**
LIT				S		**Sg**	**20 57 20.5**	**+0.7**
LIA	**Limnos Island**	**1.09**	**89**	P		**Pb**	**20 57 07.9**	**-0.5**
LIA	**Limnos Island**	**1.09**	**89**	P		**Pb**	**20 57 07.9**	**-0.5**
SRS	**Serrai**	**1.23**	**354**	P		**Pn**	**20 57 10.5**	**-0.2**
SRS				S		**Sb**	**20 57 27.5**	**+0.7**
SRS	**Serrai**	**1.23**	**354**	P		**Pn**	**20 57 10.5**	**-0.2**
SRS				S		**Sb**	**20 57 27.5**	**+0.7**
KAVA	**Kavala**	**1.24**	**27**	P		**Pn**	**20 57 10.3**	**-0.6**
KAVA				S		**Sb**	**20 57 28.1**	**+1.0**
KAVA	**Kavala**	**1.24**	**27**	P		**Pn**	**20 57 10.3**	**-0.6**
KAVA				S		**Sb**	**20 57 28.1**	**+1.0**
LKR	**Lokris**	**1.37**	**206**	*e*PB		**Pn**	**20 57 11.4**	**-1.3**
LKR	**Lokris**	**1.37**	**206**	*e*Pb		**Pn**	**20 57 11.4**	**-1.3**
THL	**Klokotos Trika**	**1.39**	**257**	*e*PN		**Pn**	**20 57 12.4**	**-0.5**
THL	**Klokotos Trika**	**1.39**	**257**	*e*Pn		**Pn**	**20 57 12.4**	**-0.5**
AGG	**Agios Georgios**	**1.41**	**232**	*e*PN		**Pn**	**20 57 12.3**	**-0.8**
AGG				*e*SN		**Sn**	**20 57 31.5**	**-0.2**
AGG	**Agios Georgios**	**1.41**	**232**	*e*Pn		**Pn**	**20 57 12.3**	**-0.8**
AGG				*e*Sn		**Sn**	**20 57 31.5**	**-0.2**
KNT	**Kendrikon**	**1.43**	**333**	P		**Pn**	**20 57 13.8**	**+0.3**
KNT				S		**Sn**	**20 57 34.3**	**+2.0**
KNT	**Kendrikon**	**1.43**	**333**	P		**Pn**	**20 57 13.8**	**+0.3**
NVR	**Nevrokopi**	**1.46**	**3**	*e*PN		**Pn**	**20 57 13.9**	**0.0**
NVR	**Nevrokopi**	**1.46**	**3**	P		**Pn**	**20 57 13.6**	**-0.3**
NVR	**Nevrokopi**	**1.46**	**3**	P		**Pn**	**20 57 13.6**	**-0.3**
NVR	**Nevrokopi**	**1.46**	**3**	*e*Pn		**Pn**	**20 57 13.9**	**0.0**
VAY	**Valandovo**	**1.69**	**328**	*e*Pn		**Pn**	**20 57 17.8**	**+0.8**
VAY				*e*Sg		**Sg**	**20 57 41.6**	**-0.3**
VAY				*e*Lg			20 57 43.3	
	comp=N,17nm,0.7s							
VAY				*e*Lg			20 57 43.5	
	comp=E,9.3nm,0.5s							
VAY	**Valandovo**	**1.69**	**328**	*e*Pn		**Pn**	**20 57 17.8**	**+0.7**
VAY				*e*Sg		**Sg**	**20 57 41.5**	**-0.4**
VAY				*e*Lg			20 57 43.3	
	comp=E,17nm,0.7s							
EVR	**Evrytania**	**1.80**	**238**	*e*PB		**Pn**	**20 57 17.5**	**-1.0**
EVR	**Evrytania**	**1.80**	**238**	*e*Pb		**Pn**	**20 57 17.5**	**-1.0**
RDO	**Rodhopi**	**1.84**	**47**	*e*PN		**Pn**	**20 57 19.3**	**+0.1**
RDO	**Rodhopi**	**1.84**	**47**	*e*Pn		**Pn**	**20 57 19.3**	**+0.1**
ALN	**Alexandroupoli**	**2.01**	**59**	*e*PN		**Pn**	**20 57 21.3**	**-0.2**
ALN	**Alexandroupoli**	**2.01**	**59**	*e*Pn		**Pn**	**20 57 21.3**	**-0.2**
VLY	**Voula,Athens**	**2.04**	**179**	*e*PN		**Pn**	**20 57 21.3**	**-0.5**
VLY	**Voula,Athens**	**2.04**	**179**	*e*Pn		**Pn**	**20 57 21.3**

HNKL	**Nakhl**	**4.65**	**180**	P		**Pn**	**21 10 09.4**	**+0.7**
	baz=177							
HNKL				S		**Sn**	**21 11 00.0**	**-1.4**
	baz=177							
HNKL	**Nakhl**	**4.65**	**180**	P		**Pn**	**21 10 09.4**	**+0.7**
HNKL				S		**Sn**	**21 11 00.0**	**-1.4**
SUZ		**4.83**	**192**	P		**Pn**	**21 10 11.7**	**+0.4**
	baz=190							
SUZ		**4.83**	**192**	P		**Pn**	**21 10 11.7**	**+0.4**
HHAG	**Hagoal**	**4.89**	**200**	P		**Pn**	**21 10 11.6**	**-0.5**
	baz=198							
HHAG				AMP			21 11 00.0	
	comp=E,10μm,0.2s,logA/T=4.7,baz=198							
HHAG				S		**Sn**	**21 11 03.9**	**-3.5**
	baz=198							
HHAG	**Hagoal**	**4.89**	**200**	P		**Pn**	**21 10 11.6**	**-0.5**
HHAG				S		**Sn**	**21 11 04.7**	**-2.7**
KOT	**Kottamia**	**4.99**	**202**	P		**Pn**	**21 10 13.2**	**-0.3**
	baz=201							
KOT				S		**Sn**	**21 11 06.6**	**-3.4**
	baz=201							
KOT	**Kottamia**	**4.99**	**202**	P		**Pn**	**21 10 13.2**	**-0.3**
KOT				S		**Sn**	**21 11 06.6**	**-3.4**
YER	**Yerkesik**	**5.28**	**300**	*e*PN		**Pn**	**21 10 18.3**	**+0.9**
YER	**Yerkesik**	**5.28**	**300**	*e*Pn		**Pn**	**21 10 18.3**	**+0.9**
GLL	**Jalalah**	**5.36**	**202**	P		**Pn**	**21 10 18.0**	**-0.5**
	baz=200							
GLL	**Jalalah**	**5.36**	**202**	P		**Pn**	**21 10 18.0**	**-0.5**
DAT	**Datca**	**5.63**	**294**	*e*PN		**Pn**	**21 10 23.1**	**+0.9**
DAT	**Datca**	**5.63**	**294**	*e*Pn		**Pn**	**21 10 23.1**	**+0.8**
HDHB	**Dhahab**	**5.88**	**175**	P		**Pn**	**21 10 26.4**	**+0.8**
	baz=172							
HDHB	**Dhahab**	**5.88**	**175**	P		**Pn**	**21 10 26.4**	**+0.8**
BODT	**Bodrum**	**5.96**	**296**	*e*PN		**Pn**	**21 10 27.7**	**+1.0**
BODT	**Bodrum**	**5.96**	**296**	*e*Pn		**Pn**	**21 10 27.7**	**+1.0**
HKAT	**Jabal Katrina**	**6.05**	**180**	P		**Pn**	**21 10 28.8**	**+0.8**
	baz=177							
HKAT	**Jabal Katrina**	**6.05**	**180**	P		**Pn**	**21 10 28.8**	**+0.8**
TR2		**6.19**	**182**	P		**Pn**	**21 10 30.6**	**+0.7**
	baz=181							
TR2		**6.19**	**182**	P		**Pn**	**21 10 30.6**	**+0.7**
GRB	**Gharib**	**6.38**	**190**	P		**Pn**	**21 10 32.8**	**+0.2**
	baz=188							
GRB	**Gharib**	**6.38**	**190**	P		**Pn**	**21 10 32.8**	**+0.2**
HMAT	**Matruh**	**6.76**	**241**	P		**Pn**	**21 10 37.1**	**-0.6**
	baz=241							
HMAT	**Matruh**	**6.76**	**241**	P		**Pn**	**21 10 37.1**	**-0.7**

IDC 09 21:30:02.4±7.0, 17°93S×176°13W, h0km, mb4.1/2, mb1 4.4/2, mb1mx3.8/18, mbtmp4.1/2, MS3.4/2, Ms1 3.4/2, ms1mx2.9/27, Error ellipse: s-maj=305.3km s-min=63.8km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**27.90**	**200**	LR	LR	21 44 25.7	
	comp=Z,28nm,19.5s,baz=131,slow=31						
WRA	**Warramunga Arr**	**46.76**	**259**	P	P	21 38 33.4	-0.5
	0.7nm,0.5s,baz=96,slow=6.8,SNR=14						
ASAR	**Alice Springs**	**46.88**	**254**	P	P	21 38 35.0	+0.3
	4.6nm,0.6s,baz=89,slow=8.3,SNR=66						
NVAR	**Mina Array Bea**	**77.94**	**43**	LR	LR	22 07 59.4	
	comp=Z,53nm,22.0s,baz=103,slow=29						
BRTR	**Keskin Array B**	**146.32**	**316**	PKPbc	PKPbc	21 49 44.8	-0.5
	0.7nm,0.4s,baz=82,slow=2.7,SNR=4.9						

*ISCJB **09** 22:10:43.1±0.4, 36°.01N±0°.04×69°.87E±0°.06, h163km±7km, mb4.1/2, Error ellipse: s-maj=9.0km s-min=5.4km az=151.0*
*NEIC **09** 22:10:43.9±0.8, 36°.02N×69°.88E, h166km±11km, mb4.0/11, Error ellipse: s-maj=10.9km s-min=7.0km az=51.0*
*NNC **09** 22:10:49.5±2.2, 37°.01N×69°.34E, h0km, mb3.7, mpv3.6, Error ellipse: s-maj=27.9km s-min=15.6km az=106.0*
ISC 09 22:10:44.1±0.4, 36°.00N±0°.04×69.87E±0°.06, h158km±7km, n42, σ1s20/53, mb4.1/2, 3C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.61**	**205**	*e*P	**Pn**	**22 11 16.0**	**+0.6**
KBL				*e*S	**Sn**	**22 11 37.6**	**-1.6**
CEP	**Cherat**	**2.74**	**142**	⇓P	**Pn**	**22 11 29.3**	**+0.8**
CEP				S	**Sn**	**22 12 03.0**	**+0.2**
THW	**Thamme Wali**	**3.55**	**154**	P	**Pn**	**22 11 39.4**	**+0.7**
CHCP	**Chirah Chowk**	**3.64**	**129**	⇓P	**Pn**	**22 11 41.0**	**+1.2**
SARP	**Sargodha**	**4.69**	**149**	P	**Pn**	**22 11 53.6**	**+0.1**
KK31	**Karatay Array**	**7.11**	**4**	Pn	**Pn**	**22 12 24.6**	**-0.8**
	1.7nm,0.3s,baz=198,slow=14,SNR=38						
KK31				⇑Sn	**Sn**	**22 13 39.3**	**-5.8**
	4.3nm,0.5s,baz=195,slow=18,SNR=8.2						
KKAR	**Karatay Array**	**7.11**	**4**	*e*Pn	**Pn**	**22 12 24.9**	**-0.5**
	5.4nm,0.4s						
KKAR				*e*Sn	**Sn**	**22 13 39.0**	**-6.1**
EKS2	**Erkin-Say**	**7.30**	**23**	*e*Pn	**Pn**	**22 12 27.4**	**-0.6**
	3.0nm,0.5s						
EKS2				*e*Sn	**Sn**	**22 13 49.0**	**-0.9**
SMLA	**Simla**	**7.79**	**127**	*i* P	**Pn**	**22 12 33.6**	**-1.0**
SMLA				*i* S	**Sn**	**22 13 55.4**	**-6.1**
SMLA				*i* S	**Sn**	**22 13 56.9**	**-4.7**
SMLA				⇓		22 13 59.8	
	comp=E,720nm,0.2s						
SMLA				⇓		22 14 00.0	
	comp=N,2μm,0.2s						
TKM2	**Tokmak 2**	**8.20**	**31**	*e*Pn	**Pn**	**22 12 41.4**	**+1.5**
	comp=N,2.5nm,0.4s						
TKM2				*e*Sn	**Sn**	**22 14 21.7**	**+10**
DANN	**Dangsing**	**14.01**	**119**	*e*P	**Pn**	**22 13 55.3**	**-0.4**
DANN	**Dangsing**	**14.01**	**119**	*e*P	**Pn**	**22 13 55.3**	**-0.4**
MK31	**Makanchi Array**	**14.23**	**37**	*e*Pn	**Pn**	**22 13 57.0**	**-1.3**
KOLN	**Koldanda**	**14.25**	**121**	*e*P	**Pn**	**22 13 57.2**	**-1.6**
KOLN	**Koldanda**	**14.25**	**121**	*e*P	**Pn**	**22 13 57.2**	**-1.6**
GKN	**Gorkha**	**14.84**	**118**	*e*P	**Pn**	**22 14 04.9**	**-1.2**
	comp=N,31nm,0.5s						
GKN	**Gorkha**	**14.84**	**118**	*e*P	**Pn**	**22 14 04.9**	**-1.2**
	comp=N,31nm,0.5s						
AB31	**Akbulak array**	**15.11**	**334**	Pn	**Pn**	**22 14 10.3**	**+1.1**
	comp=N,1.8nm,0.5s,baz=154,slow=13,SNR=118						
AB31				Sn	**Sn**	**22 16 46.2**	**-11**
	comp=N,1.6nm,0.6s,baz=156,slow=23,SNR=5.7						
ABKAR	**Akbulak array**	**15.11**	**334**	*e*Pn	**Pn**	**22 14 09.8**	**+0.6**
	comp=N,2.6nm,0.4s						
ABKAR				*e*Sn	**Sn**	**22 16 46.3**	**-11**
DMN	**Daman**	**15.40**	**119**	*e*P	**Pn**	**22 14 13.0**	**-0.1**
DMN	**Daman**	**15.40**	**119**	*e*P	**Pn**	**22 14 13.0**	**-0.1**
KKN	**Kakani**	**15.42**	**118**	*e*P	**Pn**	**22 14 13.3**	**0.0**
KKN	**Kakani**	**15.42**	**118**	*e*P	**Pn**	**22 14 13.3**	**0.0**
PKI	**Pulchoki**	**15.64**	**118**	*e*P	**Pn**	**22 14 15.6**	**-0.4**
PKI	**Pulchoki**	**15.64**	**118**	*e*P	**Pn**	**22 14 15.6**	**-0.4**
GUN	**Gumba**	**15.79**	**116**	*e*P	**Pn**	**22 14 19.3**	**+1.5**
GUN	**Gumba**	**15.79**	**116**	*e*P	**Pn**	**22 14 19.3**	**+1.5**
KURK	**Kurchatov**	**16.00**	**21**	*e*Pn	**Pn**	**22 14 19.8**	**-0.4**
	comp=N,0.5nm,0.6s						
VOSK	**Vostochnaya**	**16.74**	**2**	⇑Pn	**Pn**	**22 14 30.5**	**+1.5**
	comp=N,2.6nm,0.9s						
AKTO	**Aktyubinsk**	**16.78**	**333**	⇑Pn	**Pn**	**22 14 31.9**	**+2.3**
	comp=N,0.6nm,0.8s						
AKTO				⇓Sn	**Sn**	**22 17 28.8**	**-8.4**
	comp=N,0.5nm,1.1s						
ZRNK	**Zerenda**	**16.96**	**358**	⇓Pn	**Pn**	**22 14 34.4**	**+2.7**
	comp=N,0.6nm,0.5s						
BVA0	**Borovoye Array**	**17.02**	**1**	⇓Pn	**Pn**	**22 14 35.2**	**+2.7**
	comp=N,0.6nm,1.4s,baz=172,slow=13,SNR=9.4						
BRVK	**Borovoye**	**17.06**	**1**	*e*Pn	**Pn**	**22 14 32.1**	**-0.8**
	comp=N,1.1nm,0.4s						
TAPN	**Taplejung**	**17.44**	**115**	*e*P	**Pn**	**22 14 39.8**	**+2.0**
TAPN	**Taplejung**	**17.44**	**115**	*e*P	**Pn**	**22 14 39.8**	**+2.0**
ODAN	**Odare**	**17.49**	**117**	*e*P	**Pn**	**22 14 39.1**	**+0.8**
	comp=N,12nm,0.5s						
ODAN	**Odare**	**17.49**	**117**	*e*P	**Pn**	**22 14 39.1**	**+0.8**
	comp=N,12nm,0.5s						
GNI	**Garni**	**20.19**	**289**	*e*Pn	**P**	**22 15 04.8**	**-1.6**
	comp=N,2.7nm,0.5s						
ARU	**Arti**	**21.82**	**343**	*e*P	**P**	**22 15 20.2**	**-3.3**
	comp=N,2.1nm,0.5s,mb3.8						
KIV	**Kislovodsk**	**22.23**	**299**	*e*P	**P**	**22 15 28.2**	**+0.3**
CSS	**Prodhromos**	**29.67**	**279**	*e*P	**P**	**22 16 34.8**	**-0.1**
	comp=N,3.9nm,0.5s,mb4.4						
HIA	**Hailar**	**38.32**	**54**	*e*P	**P**	**22 17 47.0**	**-2.2**

MEX 09 22:46:36.5±0.6, 18°.34N×103°.10W, h58km±15km, MD3.8, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.24**	**257**	*i* P	Pn	22 46 44.4	-1.6
MMIG				*i* S	Sn	22 46 51.3	-1.6
R15V		**1.17**	**315**	*e*P	Pn	22 46 55.8	-1.0
R15V				*e*S	Sn	22 47 10.5	-1.4
EZ5V		**1.23**	**337**	*e*P	Pn	22 46 55.3	-2.1
EZ5V				*e*S	Sn	22 47 12.0	-1.1
ZIIG	**Zihuatanejo**	**1.72**	**115**	*e*P	Pn	22 47 02.0	-2.1
ZIIG				*i* S	Sn	22 47 23.1	-1.9
CAIG	**El Cayaco**	**2.99**	**115**	*e*P	Pn	22 47 20.4	-1.1
CAIG				*e*S	Sn	22 47 55.1	-1.1
ACX	**Acapulco**	**3.42**	**115**	*e*P	Pn	22 47 26.5	-0.9
ACX				*e*S	Sn	22 48 04.4	-2.3

*ISCJB **09** 22:50:16.4±0.4, 46°.54N±0°.03×14°.75E±0°.03, h4km±7km, Error ellipse: s-maj=4.8km s-min=3.2km az=144.6*
*CSEM **09** 22:50:16.6±0.1, 46°.55N×14°.74E, h2km, ML2.5/6, Error ellipse: s-maj=2.5km s-min=2.0km az=148.0*
*LJU **09** 22:50:16.4, 46°.53N×14°.75E, h8km, ML1.8*
*VIE **09** 22:50:16.2±0.2, 46°.54N×14°.75E, h10km±2km, mb1.1/3, ML2.2/4, Error ellipse: s-maj=2.0km s-min=0.8km az=167.0 7 km SSW of Bleiburg*
*PRU **09** 22:50:17.5, 46°.55N×14°.74E, h0km*
ISC 09 22:50:16.9±0.4, 46°.54N±0°.02×14°.76E±0°.03, h4km±7km, n31, σ0s62/53, 7C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBKA	**Obir**	**0.15**	**258**	⇑*e*Pg	**Pg**	**22 50 19.9**	**+0.1**
	11nm,0.1s,SNR=201						
OBKA				⇑*i*Sg	**Sg**	**22 50 22.1**	**+0.4**
	69nm,0.1s						
OBKA	**Obir**	**0.15**	**258**	Pg	**Pg**	**22 50 19.9**	**+0.2**
	11nm,0.1s,SNR=201						
OBKA				Sg	**Sg**	**22 50 22.1**	**+0.4**
	69nm,0.1s						
SOKA	**Soboth**	**0.24**	**54**	⇑*i*Pg	**Pg**	**22 50 21.6**	**+0.1**
	9.6nm,0.0s						
SOKA				⇑*i*Sg	**Sg**	**22 50 24.8**	**+0.3**
	61nm,0.1s						
SOKA	**Soboth**	**0.24**	**54**	Pg	**Pg**	**22 50 21.6**	**+0.2**
	9.6nm,0.0s						
SOKA				Sg	**Sg**	**22 50 24.8**	**+0.3**
	61nm,0.1s						
PERS	**Pernice**	**0.27**	**69**	*i* Pg	**Pg**	**22 50 22.0**	**0.0**
PERS				*i* Sg	**Sg**	**22 50 25.5**	**0.0**
PERS							
	comp=Z,80nm,0.1s						
PERS	**Pernice**	**0.27**	**69**	Pg	**Pg**	**22 50 22.0**	**0.0**
PERS				*i* Sg	**Sg**	**22 50 25.5**	**0.0**
	comp=Z,80nm,0.1s						
BISS	**Bistriski jare**	**0.28**	**67**	*i* Pg	**Pg**	**22 50 22.3**	**+0.1**
BISS				*i* Sg	**Sg**	**22 50 26.1**	**+0.2**
BISS							
	comp=Z,139nm,0.1s						
BISS	**Bistriski jare**	**0.28**	**67**	*i* Pg	**Pg**	**22 50 22.3**	**+0.1**
BISS				*i* Sg	**Sg**	**22 50 26.1**	**+0.2**
	comp=Z,139nm,0.1s						
MOZS	**Mozjanca**	**0.33**	**221**	⇓*i*Pg	**Pg**	**22 50 23.0**	**-0.2**
MOZS				*i* Sg	**Sg**	**22 50 27.4**	**0.0**
MOZS	**Mozjanca**	**0.33**	**221**	⇓*i*Pg	**Pg**	**22 50 23.0**	**-0.2**
MOZS				*i* Sg	**Sg**	**22 50 27.4**	**0.0**
VNDS	**Vrh nad Dolski**	**0.44**	**185**	*i* Pg	**Pg**	**22 50 25.4**	**+0.1**
PDKS	**Podkum**	**0.51**	**161**	*i* Pg	**Pg**	**22 50 26.7**	**+0.2**
PDKS				*e*Sg	**Sg**	**22 50 33.5**	**+0.3**
PDKS							
	comp=Z,13nm,0.1s						
PDKS	**Podkum**	**0.51**	**161**	*i* Pg	**Pg**	**22 50 26.7**	**+0.1**
PDKS				*e*Sg	**Sg**	**22 50 33.5**	**+0.3**
	comp=Z,13nm,0.1s						
GROS	**Grobnik**	**0.52**	**98**	*i* Pg	**Pg**	**22 50 26.7**	**-0.2**
GROS	**Grobnik**	**0.52**	**98**	*i* Pg	**Pg**	**22 50 26.7**	**-0.2**
CRNS	**Crni Vrh**	**0.57**	**217**	*i* Pg	**Pg**	**22 50 27.7**	**-0.2**
CRNS				*i* Sg	**Sg**	**22 50 35.9**	**+0.7**
CRNS							
	comp=Z,16nm,0.1s						
LEGS	**Legarje**	**0.71**	**146**	⇑*i*Pg	**Pg**	**22 50 30.4**	**0.0**
LEGS				*i* Sg	**Sg**	**22 50 39.5**	**-0.1**
LEGS	**Legarje**	**0.71**	**146**	⇑*i*Pg	**Pg**	**22 50 30.4**	**0.0**
LEGS				*i* Sg	**Sg**	**22 50 39.5**	**-0.1**
GOLS	**Golise**	**0.80**	**131**	*i* Pg	**Pg**	**22 50 32.1**	**-0.1**
GOLS							
	comp=Z,6.0nm,0.1s						
GOLS	**Golise**	**0.80**	**131**	*i* Pg	**Pg**	**22 50 32.1**	**-0.1**
	comp=Z,6.0nm,0.1s						
DRE	**Drenchia**	**0.85**	**245**	*e*Pg	**Pg**	**22 50 32.2**	**-1.0**
DRE				*e*Sg	**Sg**	**22 50 44.7**	**+0.4**
DRE	**Drenchia**	**0.85**	**245**	*e*Pg	**Pg**	**22 50 32.2**	**-1.0**
DRE				*e*Sg	**Sg**	**22 50 44.7**	**+0.4**
ARSA	**Arzberg**	**0.89**	**36**	*e*Pg	**Pg**	**22 50 33.1**	**-0.7**
	comp=Z,1.2nm,0.1s,SNR=13						
ARSA	**Arzberg**	**0.89**	**36**	Pg	**Pg**	**22 50 33.1**	**-0.7**
	comp=Z,1.2nm,0.1s,SNR=13						
GBRS	**Gornja Briga**	**1.01**	**178**	*i* Pg	**Pg**	**22 50 35.8**	**-0.4**
KBA	**Koelnbreinsper**	**1.11**	**300**	⇑*i*Pg	**Pg**	**22 50 37.3**	**-0.8**
	comp=Z,0.7nm,0.1s						
KBA	**Koelnbreinsper**	**1.11**	**300**	Pg	**Pg**	**22 50 37.3**	**-0.8**
	comp=Z,0.7nm,0.1s						
NVLJ	**Novalja**	**1.98**	**178**	*e*Pn	**Pn**	**22 50 51.3**	**+0.3**
NVLJ				Sn	**Sb**	**22 51 17.5**	**-0.8**
NVLJ	**Novalja**	**1.98**	**178**	*e*Pn	**Pn**	**22 50 51.3**	**+0.2**
NVLJ				Sn	**Sb**	**22 51 17.4**	**-0.9**
KHC	**Kasperske Hory**	**2.71**	**343**	*e*PN	**Pn**	**22 51 02.5**	**+1.4**
KHC				*e*PG	**Pg**	**22 51 10.5**	**+1.7**
KHC				*e*SG	**Sg**	**22 51 42.4**	**-1.5**
	comp=Z,1.9nm,0.3s						
KHC	**Kasperske Hory**	**2.71**	**343**	Pn	**Pn**	**22 51 02.5**	**+1.4**
KHC				Sg	**Sg**	**22 51 42.4**	**-1.5**
	comp=Z,1.9nm,0.3s						

*ISCJB **09** 23:07:50.7±0.7, 38°.65N±0°.03×20°.04E±0°.05, h10km, Error ellipse: s-maj=6.4km s-min=3.2km az=153.5*
*CSEM **09** 23:07:51.5±0.4, 38°.68N×20°.15E, h2km, ML2.4/2, Error ellipse: s-maj=7.5km s-min=4.2km az=64.0*
*ATH **09** 23:07:52.8, 38°.69N×20°.24E, h11km±2km, MD3.1/14*
*THE **09** 23:07:53.1, 38°.68N×20°.28E, h0km±2km, ML2.4/2, Error ellipse: s-maj=3.1km s-min=0.7km az=257.0*
ISC 09 23:07:51.7±0.7, 38°.66N±0°.03×20°.14E±0°.05, h3km±4km, n55, σ1s06/89, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD2	**Lefkada island**	**0.42**	**72**	P	**Pg**	**23 07 58.4**	**-1.4**
LKD2				S	**Sg**	**23 08 03.6**	**-1.7**
LKD2	**Lefkada island**	**0.42**	**72**	P	**Pg**	**23 07 58.4**	**-1.4**
LKD2				S	**Sg**	**23 08 03.6**	**-1.7**
VLS	**Valsamata**	**0.59**	**144**	*e*PB	**Pg**	**23 08 03.4**	**+0.3**
VLS				*e*SB	**Sg**	**23 08 12.3**	**+1.6**
VLS	**Valsamata**	**0.59**	**144**	P	**Pg**	**23 08 03.4**	**+0.3**
VLS				S	**Sg**	**23 08 12.6**	**+1.9**
VLS	**Valsamata**	**0.59**	**144**	P	**Pg**	**23 08 03.4**	**+0.3**
VLS				*e*Sb	**Sg**	**23 08 12.3**	**+1.6**
VLS				S	**Sg**	**23 08 12.6**	**+1.9**
KFL	**Anninata**	**0.74**	**137**	P	**Pg**	**23 08 06.2**	**+0.2**
KFL				S	**Sg**	**23 08 16.9**	**+1.3**
KFL	**Anninata**	**0.74**	**137**	P	**Pg**	**23 08 06.2**	**+0.2**
KFL				S	**Sg**	**23 08 16.9**	**+1.3**
IGT	**Igoumenitsa**	**0.89**	**9**	P	**Pg**	**23 08 08.4**	**-0.3**
IGT				S	**Sg**	**23 08 21.9**	**+1.6**
IGT	**Igoumenitsa**	**0.89**	**9**	P	**Pg**	**23 08 08.4**	**-0.3**
IGT				S	**Sg**	**23 08 21.9**	**+1.6**
KEK	**Kerkira**	**1.09**	**346**	*e*PN	**Pg**	**23 08 13.9**	**+1.3**
KEK				*e*SB	**Sg**	**23 08 27.9**	**+1.2**
KEK	**Kerkira**	**1.09**	**346**	P	**Pg**	**23 08 13.7**	**+1.1**
KEK	**Kerkira**	**1.09**	**346**	*e*Pn	**Pg**	**23 08 13.9**	**+1.3**
KEK				*e*Sb	**Sg**	**23 08 27.9**	**+1.2**
JAN	**Janina**	**1.14**	**29**	*e*PB	**Pg**	**23 08 13.1**	**-0.5**
JAN				*e*SB	**Sg**	**23 08 28.0**	**-0.4**
JAN	**Janina**	**1.14**	**29**	P	**Pg**	**23 08 13.1**	**-0.5**
JAN				S	**Sg**	**23 08 29.4**	**+1.0**
JAN	**Janina**	**1.14**	**29**	P	**Pg**	**23 08 13.1**	**-0.5**
JAN				*e*Sb	**Sg**	**23 08 28.0**	**-0.4**
JAN				S	**Sg**	**23 08 29.4**	**+1.0**
RLS	**Riolos of Patr**	**1.20**	**119**	*e*Pn	**Pn**	**23 08 14.4**	**-1.0**
RLS				*e*SB	**Sb**	**23 08 31.2**	**+0.2**
RLS	**Riolos of Patr**	**1.20**	**119**	P	**Pg**	**23 08 13.6**	**-1.1**
RLS				S	**Sg**	**23 08 30.2**	**0.0**
RLS	**Riolos of Patr**	**1.20**	**119**	P	**Pg**	**23 08 13.6**	**-1.1**
RLS				S	**Sg**	**23 08 30.2**	**0.0**
RLS	**Riolos of Patr**	**1.20**	**119**	*e*Pn	**Pn**	**23 08 14.4**	**-1.0**
RLS				S	**Sg**	**23 08 30.2**	**0.0**
RLS				*e*Sb	**Sb**	**23 08 31.2**	**+0.2**
EVR	**Evrytania**	**1.33**	**78**	*e*PG	**Pg**	**23 08 16.1**	**-1.0**
EVR				*e*SB	**Sb**	**23 08 34.1**	**-0.5**
EVR	**Evrytania**	**1.33**	**78**	P	**Pn**	**23 08 16.7**	**-0.4**
EVR	**Evrytania**	**1.33**	**78**	*e*Pg	**Pg**	**23 08 16.1**	**-1.0**
EVR	**Evrytania**	**1.33**	**78**	P	**Pn**	**23 08 16.7**	**-0.4**
EVR				*e*Sb	**Sb**	**23 08 34.1**	**-0.5**
EFP	**Efpalio**	**1.40**	**99**	*e*PB	**Pb**	**23 08 18.1**	**-0.4**
EFP				*e*SB	**Sb**	**23 08 36.4**	**-0.3**
EFP	**Efpalio**	**1.40**	**99**	*e*Pb	**Pb**	**23 08 18.1**	**-0.4**
EFP				*e*Sb	**Sb**	**23 08 36.4**	**-0.3**
KALE	**Kalithea**	**1.59**	**99**	P	**Pn**	**23 08 20.0**	**-0.7**
KALE	**Kalithea**	**1.59**	**99**	P	**Pn**	**23 08 20.0**	**-0.7**
THL	**Klokotos Trika**	**1.71**	**57**	*e*PG	**Pn**	**23 08 22.7**	**+0.2**
THL	**Klokotos Trika**	**1.71**	**57**	P	**Pn**	**23 08 22.3**	**-0.2**
THL				S	**Sn**	**23 08 45.3**	**+0.4**
THL	**Klokotos Trika**	**1.71**	**57**	P	**Pn**	**23 08 22.3**	**-0.2**
THL	**Klokotos Trika**	**1.71**	**57**	*e*Pg	**Pn**	**23 08 22.7**	**+0.2**
THL				S	**Sn**	**23 08 45.3**	**+0.4**
AGG	**Agios Georgios**	**1.75**	**77**	*e*PG	**Pn**	**23 08 23.5**	**+0.6**
AGG				*e*SB	**Sb**	**23 08 46.9**	**+0.2**
AGG	**Agios Georgios**	**1.75**	**77**	P	**Pn**	**23 08 22.9**	**0.0**
AGG				S	**Sn**	**23 08 45.7**	**0.0**
AGG	**Agios Georgios**	**1.75**	**77**	P	**Pn**	**23 08 22.9**	**0.0**
AGG	**Agios Georgios**	**1.75**	**77**	*e*Pg	**Pn**	**23 08 23.5**	**+0.6**
AGG				S	**Sn**	**23 08 45.7**	**0.0**
AGG				*e*Sb	**Sb**	**23 08 46.9**	**+0.2**
GUR	**Goura**	**1.87**	**112**	P	**Pn**	**23 08 25.2**	**+0.6**
GUR	**Goura**	**1.87**	**112**	P	**Pn**	**23 08 25.2**	**+0.6**
NEST	**Nestorio**	**1.89**	**21**	P	**Pn**	**23 08 25.8**	**+0.9**
NEST	**Nestorio**	**1.89**	**21**	P	**Pn**	**23 08 25.8**	**+0.9**
ITM	**Ithomi**	**2.04**	**136**	*e*PG	**Pg**	**23 08 29.7**	**-1.1**
ITM				*e*SN	**Sg**	**23 08 55.7**	**-1.5**
ITM	**Ithomi**	**2.04**	**136**	*e*Pg	**Pg**	**23 08 29.7**	**-1.1**
ITM				*e*Sn	**Sg**	**23 08 55.7**	**-1.5**
LKR	**Lokris**	**2.24**	**89**	*e*PN	**Pn**	**23 08 31.2**	**+1.6**
LKR	**Lokris**	**2.24**	**89**	*e*Pn	**Pn**	**23 08 31.2**	**+1.6**
NEO	**Neokhori**	**2.49**	**74**	*e*PB	**Pn**	**23 08 33.5**	**+0.4**
NEO	**Neokhori**	**2.49**	**74**	*e*Pb	**Pn**	**23 08 33.5**	**+0.4**
DID	**Didima**	**2.70**	**114**	*e*PN	**Pn**	**23 08 38.1**	**+2.1**
DID	**Didima**	**2.70**	**114**	*e*Pn	**Pn**	**23 08 38.1**	**+2.1**
VLY	**Voula,Athens**	**2.98**	**104**	*e*PN	**Pn**	**23 08 41.6**	**+1.7**
VLY	**Voula,Athens**	**2.98**	**104**	*e*Pn	**Pn**	**23 08 41.6**	**+1.7**
SOH	**Sokhos**	**3.29**	**48**	*e*PN	**Pn**	**23 08 44.8**	**+0.7**
SOH	**Sokhos**	**3.29**	**48**	*e*Pn	**Pn**	**23 08 44.8**	**+0.7**
STON	**Ston**	**4.60**	**337**	*i* Pn	**Pn**	**23 08 60.0**	**-2.2**
STON				Sn	**Sn**	**23 09 50.6**	**-5.5**
STON	**Ston**	**4.60**	**337**	*i* Pn	**Pn**	**23 08 59.9**	**-2.3**
NVLJ	**Novalja**	**7.10**	**328**	*e*Pn	**Pn**	**23 09 35.0**	**-1.4**
NVLJ				Sn	**Sn**	**23 10 53.9**	**-3.8**
NVLJ	**Novalja**	**7.10**	**328**	*e*Pn	**Pn**	**23 09 35.0**	**-1.5**

MEX 09 23:08:42.0±0.4, 17°.94N×100°.38W, h29km±22km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.90**	**173**	*i* P	Pn	23 08 56.5	-2.1
CAIG				*i* S	Sn	23 09 07.0	-3.6
ZIIG	**Zihuatanejo**	**1.09**	**252**	*i* P	Pn	23 08 58.9	-2.4
ZIIG				*i* S	Sn	23 09 12.0	-3.4
ACX	**Acapulco**	**1.18**	**155**	*e*P	Pn	23 08 59.7	-2.8
ACX				*i* S	Sn	23 09 14.1	-3.4
MZVM		**1.65**	**41**	*e*P	Pn	23 09 07.2	-1.8
MZVM				*i* S	Sn	23 09 26.0	-3.2
SZVM	**Salazar**	**1.67**	**34**	*e*P	Pn	23 09 07.1	-2.1
SZVM				*i* S	Sn	23 09 27.2	-2.5
IIO	**Organos**	**2.27**	**43**	*e*P

CPCH Copiapo 3.52 11 eP Pn 23 29 05.8 -1.7
CDCH Caldera 3.76 4 P Pn 23 29 09.2 -1.6
CDCH Caldera 3.76 4 eP Pn 23 29 09.2 -1.6
PLCA Paso Flores 9.89 178 P Pn 23 30 34.8 +0.1
comp=N,0.2nm,0.3s,baz=352,slow=15,SNR=3.2
PLCA S Sn 23 32 16.4 -7.7
comp=N,0.1nm,0.3s,baz=16,slow=6.7,SNR=1.6
PLCA LR LR 23 34 19.1
comp=N,178nm,21.1s,baz=82,slow=37
PLCA Paso Flores 9.89 178 ePn Pn 23 30 43.4 +8.7
PLCA S Sn 23 32 16.4 -7.7
PLCA LR LR 23 34 19.1
TRQA Tornquist 10.42 136 ePn Pn 23 30 43.4 +1.5
CPUP Villa Florida 12.90 73 P Pn 23 31 14.4 -1.4
comp=N,0.5nm,0.3s,baz=235,slow=14,SNR=4.0
CPUP LR LR 23 36 46.5
comp=N,179nm,20.5s,baz=53,slow=39
CPUP Villa Florida 12.90 73 P Pn 23 31 14.4 -1.4
CPUP LR LR 23 36 46.5
LPAZ La Paz 14.73 11 P Pn 23 31 41.3 +1.0
comp=N,0.8nm,0.3s,baz=175,slow=9.7,SNR=33
LPAZ La Paz 14.73 11 ePn Pn 23 31 41.5 +1.2
USHA Ushuaia 24.07 176 P P 23 33 23.6 -1.3
comp=N,15nm,0.8s,mb4.5,baz=352,slow=11,SNR=9.7
USHA Ushuaia 24.07 176 P P 23 33 23.6 -1.3
SDV Santo Domingo 39.49 1 eP P 23 35 39.6 -0.7
comp=N,5.9nm,0.6s,mb4.5
ICM Isla Caja Muer 48.64 6 eP P 23 36 52.5 -0.9
comp=N,40nm,0.7s,mb5.6
CRPR Cabo Rojo, PR 48.70 5 eP P 23 36 53.7 -0.2
CELP Cerrillos 48.81 6 eP P 23 36 54.3 -0.5
SJG San Juan 48.89 6 eP P 23 36 53.7 -1.7
comp=N,19nm,0.9s,mb5.1
HUMP Col San Antoni 48.95 7 eP P 23 36 55.9 +0.1
comp=N,27nm,1.7s,mb5.0
CBYP Canovanas 49.08 7 eP P 23 36 55.7 -1.1
comp=N,12nm,0.8s,mb5.0
VNA3 Neumayer Olymp 52.01 159 e P 23 37 15.5 -2.8
VNA3 e pP 23 37 30.4 -3.2
VNA2 Neumayer--Watz 52.64 158 e P 23 37 20.1 -2.9
VNA2 e pP 23 37 35.0 -3.3
TEIG Tepich 53.38 340 eP P 23 37 28.3 -0.7
comp=N,70nm,1.4s,mb5.4
SNAA Sanae 54.23 159 eP P 23 37 34.2 -0.4
comp=N,19nm,0.9s,mb5.0
SNAA epP pP 23 37 49.6 -0.4
QSPA South Pole Qui 59.40 180 eP P 23 38 11.3 +0.2
comp=N,6.4nm,0.9s,mb4.7
QSPA epP pP 23 38 26.7 -0.1
JCT Junction City 66.80 333 eP P 23 39 00.8 +0.1
comp=N,30nm,1.6s,mb5.1
OXF Oxford 67.24 344 eP P 23 39 02.6 -0.8
comp=N,24nm,1.0s,mb5.2
627A Terlingua Ranc 67.37 330 ⇓P P 23 39 03.9 -0.4
baz=68
TXAR Lajitas Array 67.39 329 P P 23 39 04.1 -0.4
comp=N,1.8nm,0.6s,mb4.3,baz=153,slow=8.0,SNR=22
TXAR LR LR 00 03 58.0
comp=N,46nm,18.9s,MS3.7,baz=5.0,slow=32
TXAR Lajitas Array 67.39 329 P P 23 39 04.1 -0.4
TXAR LR LR 00 03 58.0
528A Cox Ranch, San 67.73 331 ⇑P P 23 39 06.4 -0.2
baz=68
626A Big Bend Ranch 67.78 329 ⇓P P 23 39 07.0 +0.1
baz=68,SNR=8.0
527A Woodward Ranch 68.06 330 ⇑P P 23 39 08.7 0.0
baz=68
428A Kincaid Ranch, 68.17 331 ⇑P P 23 39 08.8 -0.6
baz=68
526A Mary Lane Ranc 68.20 329 ⇓P P 23 39 09.6 0.0
baz=68,SNR=7.8
MIAR Mount Ida 68.39 340 eP P 23 39 10.2 -0.5
comp=N,13nm,1.4s,mb4.8
WVT Waverly 68.43 345 eP P 23 39 09.8 -1.1
comp=N,16nm,0.9s,mb5.0
SYO Syowa Base 68.52 159⇑ eP P 23 39 09.0 -2.1
SYO Syowa Base 68.52 159⇑ epP pP 23 39 30.3 +3.2
426A McDonald Obser 68.70 330 ⇑P P 23 39 13.0 +0.3
baz=69,SNR=5.3
328A Wristen Ranch, 68.80 331 ⇑P P 23 39 13.0 -0.3
baz=69
325A Bean Ranch, Si 69.71 329 ⇑P P 23 39 18.4 -0.5
baz=70,SNR=7.3
TUL1 Tulsa 70.32 339 ⇑P P 23 39 21.5 -1.1
baz=71
224A Cornudas Mount 70.55 329 ⇑P P 23 39 23.2 -0.9
baz=71
Z27A Tatum 70.65 332 ⇑P P 23 39 23.9 -0.7
baz=71
CPRX Cap Rock 70.67 331 eP P 23 39 24.1 -0.7
comp=N,9.4nm,1.0s,mb4.7
125A Gardner Draw, 70.68 330 ⇑P P 23 39 24.0 -0.8
baz=71
FVM French Village 70.80 344 eP P 23 39 24.6 -0.8
comp=N,21nm,1.1s,mb5.0
Z26A Caprock 70.93 331 P P 23 39 25.9 -0.4
baz=71,SNR=11
MSTX Muleshoe 71.05 333 ⇓P P 23 39 26.3 -0.7
baz=71
124A Stringfield Ra 71.06 330 ⇑P P 23 39 27.1 0.0
baz=71
CCM Cathedral Cave 71.06 343 eP P 23 39 25.9 -1.1
comp=N,14nm,0.8s,mb4.9
AMTX Amarillo 71.43 334 ⇓P P 23 39 29.5 +0.2
baz=72
Z24A Sheeppen Canyo 71.56 330 ⇓P P 23 39 30.2 0.0
baz=72
220A Playas Peak, P 71.77 327 ⇓P P 23 39 31.9 +0.5
baz=72
Z23A Rita Site, Whi 71.88 330 ⇓P P 23 39 32.8 +0.7
baz=72
121A Cookes Peak, D 71.95 328 ⇓P P 23 39 33.4 +0.8
baz=72,SNR=5.2
318A Bisbee 72.08 326 ⇓P P 23 39 33.7 +0.3
baz=72
Y24A Capitan 72.10 330 ⇑P P 23 39 33.6 +0.2
baz=72
W27A Bowe Ranch, En 72.12 333 ⇑P P 23 39 33.1 -0.3
baz=72
219A White Tail Can 72.19 327 ⇓P P 23 39 34.3 +0.4
baz=72,SNR=6.6
120A U Bar Ranch, L 72.35 327 ⇑P P 23 39 35.4 +0.5
baz=73
Y23A Lovelace Mesa, 72.37 330 ⇓P P 23 39 35.4 +0.5
baz=73
218A Dragoon 72.55 326 ⇓P P 23 39 36.4 +0.3
baz=73
Z21A St. Cloud Mine 72.55 328 ⇑P P 23 39 36.3 +0.2
baz=73
Z20A Nine Sixteen R 72.81 328 ⇑P P 23 39 38.0 +0.4
baz=73,SNR=5.7
W25A X Bar L Ranch, 72.81 332 ⇑P P 23 39 37.5 -0.1
baz=73
119A Ashpeak Ranch, 72.85 327 ⇓P P 23 39 38.4 +0.6
baz=73
V26A Tequesquite Ra 73.04 333 ⇓P P 23 39 38.4 -0.5
baz=73
Y21A Point of Rocks 73.14 329 ⇑P P 23 39 40.4 +0.8
baz=73
W24A Lazy 6 Ranch, 73.19 331 ⇓P P 23 39 39.9 0.0
baz=74
LAZ Ladron 73.24 329 eP P 23 39 40.3 +0.2
comp=N,0.8nm,0.9s,mb3.6
Y20A Horse Springs, 73.37 328 ⇓P P 23 39 41.7 +0.7
baz=74
V25A Rancho No Teng 73.41 332 ⇓P P 23 39 40.9 -0.2
baz=74
ANMO Albuquerque 73.41 330 P P 23 39 41.0 -0.2
comp=N,1.2nm,0.6s,mb4.0,baz=148,slow=5.6,SNR=3.6
ANMO Albuquerque 73.41 330 P P 23 39 41.0 -0.2
DBIC Dimbokro 73.42 72 P P 23 39 41.6 -0.1
comp=N,11nm,0.6s,mb5.0,baz=211,slow=6.8,SNR=26
DBIC LR LR 00 08 45.8
comp=N,52nm,19.4s,MS3.8,baz=279,slow=33
DBIC Dimbokro 73.42 72 P P 23 39 41.6 -0.1
DBIC LR LR 00 08 45.8
U26A Atchley Ranch, 73.55 333 ⇑P P 23 39 42.2 +0.3
baz=74
X21A Alamocita Cree 73.56 329 ⇓P P 23 39 42.7 +0.7
baz=74
U25A Circle Dot Ran 73.81 333 ⇓P P 23 39 43.5 0.0
baz=74
Y19A Nutrioso 73.81 328 ⇓P P 23 39 44.7 +1.2
baz=74,SNR=10
W21A San Fidel 74.07 329 ⇓P P 23 39 45.8 +0.8
baz=74
Y17A Roosevelt 74.34 326 ⇑P P 23 39 47.1 +0.5
baz=75
V22A San Miguel Ran 74.42 330 ⇑P P 23 39 48.0 +1.0
baz=75
W20A Ramah 74.45 329 ⇑P P 23 39 47.8 +0.7
baz=75,SNR=7.8
T25A Trinidad 74.46 333 ⇓P P 23 39 48.0 +0.8
baz=75,SNR=6.0
114A Black Gap (USA 74.58 324 ⇑P P 23 39 48.3 +0.4
baz=75
T24A Torres, Weston 74.66 332 ⇑P P 23 39 49.3 +0.9
baz=75
W19A Sanders 74.84 328 ⇑P P 23 39 49.9 +0.5
baz=75
S25A Robets Cordova 74.92 333 ⇑P P 23 39 50.3 +0.5
baz=75
U21A Nageezi 75.18 330 ⇓P P 23 39 52.1 +0.7
baz=75,SNR=7.0
V19A Window Rock 75.18 329 ⇑P P 23 39 52.3 +0.8
baz=75
S24A Houchin Ranch, 75.21 333 ⇑P P 23 39 52.4 +0.9
baz=76,SNR=10
X16A Lo Mia Camp, P 75.22 326 ⇓P P 23 39 52.0 +0.3
baz=76
Y15A Casa Rosa Ranc 75.27 325 ⇑P P 23 39 51.9 -0.1
baz=76
T22A Edith 75.36 331 ⇓P P 23 39 53.3 +0.9
baz=76,SNR=6.6
SDCO Great Sand Dun 75.42 332 ⇓P P 23 39 53.1 +0.4
baz=76,SNR=5.2
SDCO Great Sand Dun 75.42 332 eP P 23 39 53.4 +0.7
comp=N,3.5nm,1.0s,mb4.2
T21A Navajo Lake 75.60 331 ⇓P P 23 39 54.7 +0.9
baz=76
R24A Sanders Place, 75.68 333 ⇑P P 23 39 54.5 +0.3
baz=76,SNR=5.2
V17A Tonalea, Kykot 75.90 328 ⇑P P 23 39 55.7 +0.1
baz=76
S22A 4UR Ranch, Cre 75.95 331 ⇓P P 23 39 56.2 +0.5
baz=76
MAW Mawson 75.99 163 P P 23 39 55.2 -0.5
comp=N,3.4nm,0.5s,mb4.5,baz=213,slow=7.1,SNR=32
MAW LR LR 00 13 54.7
comp=N,32nm,19.5s,MS3.6,baz=291,slow=36
MAW Mawson 75.99 163 P P 23 39 55.2 -0.5
MAW LR LR 00 13 54.7
WUAZ Wupatki 76.08 327 ⇓P P 23 39 56.7 +0.1
baz=76
WUAZ Wupatki 76.08 327 eP P 23 39 57.5 +0.9
comp=N,13nm,1.1s,mb4.8
T19A Beclabito 76.11 329 P P 23 39 57.0 +0.3
baz=76,SNR=5.6
U18A Rough Rock, Ch 76.14 329 ⇑P P 23 39 57.4 +0.5
baz=76
MVCO Mesa Verde 76.20 330 ⇓P P 23 39 57.5 +0.3
baz=76
MVCO Mesa Verde 76.20 330 eP P 23 39 57.5 +0.3
comp=N,8.2nm,1.1s,mb4.6
S21A Coal Bank Pass 76.28 331 ⇑P P 23 39 58.4 +0.8
baz=76,SNR=5.2
Q24A Divide 76.33 333 ⇓P P 23 39 58.4 +0.5
baz=77,SNR=7.9
P25A Willow Gulch B 76.44 334 ⇑P P 23 39 59.3 +0.8
baz=77,SNR=5.2
S20A Disappointment 76.66 330 ⇑P P 23 40 00.5 +0.7
baz=77
V15A Kaibab Nationa 76.70 327 ⇑P P 23 40 00.8 +0.8
baz=77
T18A Mexican Hat 76.74 329 ⇓P P 23 40 00.1 -0.1
baz=77
S19A Harvey Farm, M 76.92 330 ⇓P P 23 40 01.3 +0.1
baz=77
Q22A Crested Butte, 76.94 332 P P 23 40 02.1 +0.8
baz=77,SNR=5.6
R20A Redvale 76.97 331 ⇑P P 23 40 02.3 +0.8
baz=77,SNR=5.2
ISCO Idaho Springs 77.23 333 ⇓P P 23 40 03.5 +0.5
baz=78
ISCO Idaho Springs 77.23 333 eP P 23 40 03.6 +0.6
comp=N,5.6nm,1.1s,mb4.4
SMCO Snowmass 77.23 332 eP P 23 40 04.0 +1.0
comp=N,12nm,1.0s,mb4.8
S18A Hurst Farm, Bl 77.25 329 P P 23 40 03.8 +0.7
baz=78,SNR=14
U15A North Rim 77.26 327 ⇑P P 23 40 03.8 +0.7
baz=78
R19A Curley Farm, L 77.43 330 ⇓P P 23 40 04.4 +0.3
baz=78
P22A Eagle 77.51 333 ⇓P P 23 40 04.9 +0.5
baz=78
U14A Mt Trumbull 77.67 326 ⇓P P 23 40 06.3 +0.9
baz=78
O23A Lake Granby, G 77.71 333 ⇓P P 23 40 06.4 +0.9
baz=78,SNR=7.0
P21A Newcastle 77.72 332 ⇑P P 23 40 06.1 +0.5
baz=78
ECSD EROS Data Cent 77.79 341 eP P 23 40 05.2 -0.7
comp=N,18nm,0.8s,mb5.1
O22A Kremmling 77.91 333 P P 23 40 07.4 +0.7
baz=78,SNR=5.1
Q19A Hogan Spring (77.99 330 ⇓P P 23 40 07.2 0.0
baz=78
U13A Pakoon Wash 78.04 326 ⇑P P 23 40 07.4 -0.1
baz=78
N23A Red Feather La 78.31 334 ⇓P P 23 40 09.8 +0.9
baz=79
N22A Wattenberg Ran 78.42 333 ⇑P P 23 40 09.9 +0.4
baz=79
P19A Cripple Cowboy 78.44 331 ⇓P P 23 40 10.0 +0.3
baz=79,SNR=7.7
O20A White River Ci 78.56 332 ⇑P P 23 40 10.4 +0.1
baz=79
SRU San Rafael 78.66 330 ⇓P P 23 40 10.8 -0.1
baz=79,SNR=5.4
SRU San Rafael 78.66 330 eP P 23 40 11.1 +0.2
comp=N,5.6nm,0.9s,mb4.5
CCUT Cedar City 78.67 327 eP P 23 40 12.2 +1.3
comp=N,9.3nm,1.1s,mb4.6
Q16A Castle Valley 78.78 329 ⇓P P 23 40 12.1 +0.5
baz=79
P18A Preston Nutter 78.97 330 ⇓P P 23 40 13.1 +0.6
baz=79,SNR=7.7
N20A Spence Gulch, 79.16 332 ⇑P P 23 40 13.9 +0.3
baz=79
RWWY Rawlins 79.48 333 eP P 23 40 15.7 +0.5
comp=N,13nm,1.1s,mb4.8
N19A John Jarvie Ra 79.58 332 ⇑P P 23 40 15.8 -0.1
baz=80
O17A Robinson Place 79.65 330 ⇑P P 23 40 16.9 +0.7
baz=80
L21A Rawlins 79.77 333 ⇑P P 23 40 16.9 0.0
baz=80
Q14A Sevier Lake (B 79.79 328 ⇓P P 23 40 17.0 -0.1
baz=80
P14A Drum Mountains 80.18 328 ⇑P P 23 40 19.6 +0.4
baz=80,SNR=5.3
K21A Alcova 80.30 334 ⇓P P 23 40 20.0 +0.3
baz=81,SNR=5.6
N17A Moffit Pass 80.31 331 ⇑P P 23 40 20.3 +0.5
baz=81
R11A Troy Canyon, C 80.36 326 ⇑P P 23 40 20.4 +0.3
baz=81
RSSD Black Hills 80.43 337 eP P 23 40 20.5 +0.2
comp=N,5.3nm,0.9s,mb4.5
DUG Dugway 80.56 329 ⇓P P 23 40 21.1 0.0
baz=81
DUG Dugway 80.56 329 eP P 23 40 20.9 -0.2
comp=N,3.9nm,1.0s,mb4.3
J22A Midwest 80.68 335 ⇓P P 23 40 21.3 -0.4
baz=81
I22A 9 Mile Ranch, 81.10 335 ⇑P P 23 40 23.7 -0.3
baz=81
H24A Dirks Ranch, A 81.16 337 ⇓P P 23 40 23.7 -0.6
baz=82
HWUT Hardware Ranch 81.17 330 eP P 23 40 24.0 -0.4
comp=N,5.8nm,0.8s,mb4.6
J20A Shoshoni 81.23 334 ⇓P P 23 40 24.6 0.0
baz=82
PDAR Pinedale Array 81.31 332 P P 23 40 24.2 -0.9
comp=N,1.2nm,0.7s,mb3.9,baz=133,slow=7.5,SNR=8.4
PDAR Pinedale Array 81.31 332 P P 23 40 24.2 -0.9
K18A Toltan Ranch, 81.40 332 ⇑P P 23 40 25.2 -0.3
baz=82
M15A Larsen Ranch, 81.43 330 ⇓P P 23 40 25.4 -0.4
baz=82,SNR=5.6
L16A Fish Haven 81.45 331 ⇓P P 23 40 25.5 -0.3
baz=82,SNR=5.3
J19A Crowheart 81.53 333 ⇓P P 23 40 26.0 -0.3
baz=82,SNR=5.9
NVAR Mina Array Bea 81.76 324 P P 23 40 27.5 -0.1
comp=N,1.6nm,0.9s,mb4.0,baz=140,slow=6.2,SNR=7.3
NVAR pP pP 23 40 40.9 -3.0
comp=N,1.2nm,0.8s,baz=152,slow=5.7,SNR=4.5
NVAR Mina Array Bea 81.76 324 P P 23 40 27.5 -0.1
NVAR pP pP 23 40 40.9 -3.0
I20A Worland 81.76 334 ⇑P P 23 40 27.0 -0.4
baz=82
AGMN Agassiz Nation 81.83 344 eP P 23 40 27.1 -0.7
comp=N,7.6nm,0.6s,mb4.8
L15A Malad City 81.85 330 ⇑P P 23 40 27.3 -0.6
baz=82
J18A Kendall Valley 81.87 332 ⇑P P 23 40 27.2 -0.8
baz=82
H20A Greybull 82.17 334 ⇑P P 23 40 29.2 -0.3
baz=82,SNR=5.0
K16A Soda Springs 82.19 331 ⇓P P 23 40 30.2 +0.4
baz=82
I18A Diamond G Ranc 82.20 333 ⇑P P 23 40 29.8 +0.1
baz=82
L14A Malta 82.24 330 ⇓P P 23 40 29.5 -0.6
baz=82
TORD Torodi Ar. Bea 82.38 70 P P 23 40 31.1 -0.3
comp=N,6.1nm,0.6s,mb4.7,baz=249,slow=4.7,SNR=123
TORD pP pP 23 40 46.4 -1.3
comp=N,3.8nm,0.6s,baz=275,slow=6.1,SNR=9.9
TORD LR LR 00 14 01.5
comp=N,54nm,19.7s,MS3.9,baz=195,slow=33
TORD Torodi Ar. Bea 82.38 70 P P 23 40 31.1 -0.3
TORD pP pP 23 40 46.4 -1.3
TORD LR LR 00 14 01.5
K14A Jones Ranch, D 82.63 330 ⇑P P 23 40 31.4 -0.7
baz=83
I17A Pilgrim Ck. 82.68 332 ⇑P P 23 40 32.8 +0.5
baz=83
G20A Bridger 82.87 335 ⇑P P 23 40 32.5 -0.7
baz=83
E23A Ismay 82.95 337 ⇓P P 23 40 32.9 -0.7
baz=83
H18A Shoshone NF, C 82.96 333 ⇑P P 23 40 33.4 -0.2
baz=83,SNR=5.6
J15A Blackfoot 83.01 331 ⇑P P 23 40 33.9 0.0
baz=83
RLMT Red Lodge 83.18 334 eP P 23 40 34.4 -0.5
comp=N,21nm,1.8s,mb4.9
RLMT epP pP 23 40 50.0 -1.2
D23A Lindsay 83.50 337 ⇓P P 23 40 36.5 +0.1
baz=84,SNR=6.1
C24A Savage 83.56 338 ⇑P P 23 40 36.8 +0.1
baz=84,SNR=7.9
ULM Lac du Bonnet 83.66 344 P P 23 40 35.5 -1.6
comp=N,9.0nm,0.8s,mb5.0,baz=147,slow=4.3,SNR=8.7
ULM Lac du Bonnet 83.66 344 P P 23 40 35.5 -1.6
J13A Cove Ranch, Pi 83.75 330 ⇓P P 23 40 37.9 +0.1
baz=84
HLID Hailey 83.98 330 ⇑P P 23 40 38.3 -0.6
baz=84
F18A Big Timber 84.01 334 ⇓P P 23 40 38.6 -0.4
baz=84
D21A La Casta Ranch 84.02 336 ⇓P P 23 40 38.8 -0.3
baz=84
C23A Lambert 84.05 338 ⇑P P 23 40 38.9 -0.2
baz=84
E19A Rath Farm, Rou 84.14 335 ⇑P P 23 40 39.1 -0.6
baz=84
I13A Wildhorse Cree 84.14 330 ⇑P P 23 40 40.5 +0.7
baz=84,SNR=7.8
DGMT Dagmar 84.32 339 ⇓P P 23 40 40.5 0.0
baz=85
DGMT Dagmar 84.32 339 eP P 23 40 40.6 +0.1
comp=N,25nm,0.8s,mb5.4
MCMT McKenzie Canyo 84.35 332 eP P 23 40 40.6 -0.2
comp=N,1.1nm,0.8s,mb4.0
MCMT epP pP 23 40 56.1 -1.1
H14A Leadore 84.39 331 ⇑P P 23 40 40.8 -0.2
baz=85
I12A Atlanta 84.48 330 ⇓P P 23 40 41.4 -0.1
baz=85
H13A Challis 84.72 331 ⇑P P 23 40 42.7 0.0
baz=85
G13A Cobalt 85.14 331 ⇑P P 23 40 44.8 0.0
baz=85
F14A Wisdom 85.37 332 ⇑P P 23 40 46.3 +0.4
baz=86
F13A Darby 85.74 331 ⇓P P 23 40 47.3 -0.4
baz=86
C17A Wharram Farm, 85.85 334 ⇓P P 23 40 47.5 -0.8
baz=86
D15A Lincoln 86.03 333 ⇓P P 23 40 49.1 0.0
baz=86
F12A Elk City 86.10 331 ⇑P P 23 40 49.0 -0.5
baz=86
B18A Beardsley Farm 86.13 335 ⇑P P 23 40 49.0 -0.6
baz=86
C16A Fuhringer Ranc 86.36 334 ⇓P P 23 40 50.4 -0.4
baz=87
C15A Salmond Ranch, 86.67 333 ⇓P P 23 40 52.2 -0.1
baz=87
E12A Beaver Dam Sad 86.76 331 ⇑P P 23 40 52.3 -0.5
baz=87
A17A Triple J Farms 86.93 335 ⇑P P 23 40 52.8 -0.7
baz=87,SNR=5.7
B15A Bradely Ranch, 87.09 334 ⇑P P 23 40 53.2 -1.1
baz=87
C14A Swan Lake 87.11 333 ⇑P P 23 40 53.5 -0.9
baz=87
D12A Red Ives Fores 87.18 331 ⇑P P 23 40 54.1 -0.7
baz=87
C13A Hot Springs 87.36 332 ⇓P P 23 40 54.9 -0.8
baz=88
C11A Tepee Creek (N 88.18 331 ⇑P P 23 40 58.8 -0.7
baz=88
A13A Flathead Natio 88.31 333 ⇓P P 23 41 00.1 0.0
baz=89
LSZ Lusaka 90.03 108 eP P 23 41 09.8 +0.7
comp=N,3.4nm,0.9s,mb4.7
LSZ epP pP 23 41 25.1 -0.5
TAM Tamanrasset 90.73 64 eP P 23 41 12.5 +0.4
comp=N,3.4nm,1.1s,mb4.6
TAM epP pP 23 41 27.7 -0.9
ASAR Alice Springs 120.75 207 PKP PKPdf 23 46 59.2 -2.1
comp=N,0.3nm,0.7s,baz=106,slow=1.4,SNR=3.6
ASAR Alice Springs 120.75 207 PKP PKPdf 23 46 59.2 -2.1
WRA Warramunga Arr 123.91 209 PKP PKPdf 23 47 05.2 -2.2
comp=N,0.8nm,0.4s,baz=159,slow=1.6,SNR=6.0
WRA pPKP pPKPdf 23 47 22.2 -2.3
comp=N,1.4nm,0.7s,baz=160,slow=1.5,SNR=3.4
WRA Warramunga Arr 123.91 209 PKP PKPdf 23 47 05.2 -2.2
WRA pPKP pPKPdf 23 47 22.2 -2.3
AKTK Aktyubinsk 137.65 47 P PKPdf 23 47 35.2 +2.9
BVAR Borovoye Array 144.39 40 PKP PKPdf 23 47 42.8 -1.6
comp=N,2.9nm,0.5s,baz=294,slow=2.8,SNR=16
BVAR pPKP pPKPdf 23 47 59.1 -2.5
comp=N,1.1nm,0.3s,baz=310,slow=0.1,SNR=3.0
BVAR Borovoye Array 144.39 40 PKP PKPdf 23 47 42.8 -1.6
BVAR pPKP pPKPdf 23 47 59.1 -2.5
KURK Kurchatov 149.98 40 PKPbc PKPbc 23 47 58.0 -0.7
comp=N,1.3nm,0.6s,baz=302,slow=2.6,SNR=4.4
KURK pPKPbc pPKPbc 23 48 13.7 -2.2
comp=N,1.8nm,0.6s,baz=304,slow=3.3,SNR=5.3
KURK Kurchatov 149.98 40 PKPbc PKPbc 23 47 58.0 -0.7
KURK pPKPbc pPKPbc 23 48 13.7 -2.2
ZALV Zalesovo Beam 151.11 30 PKPbc PKPbc 23 48 00.4 -0.9
comp=N,8.4nm,0.7s,baz=306,slow=3.5,SNR=18
PKPab PKPab 23 48 07.5 -1.7
ZALV comp=N,3.2nm,0.7s,baz=318,slow=3.6,SNR=4.5
ZALV pPKPbc pPKPbc 23 48 16.4 -2.0
comp=N,9.9nm,0.7s,baz=299,slow=3.1,SNR=10.0
ZALV Zalesovo Beam 151.11 30 PKPbc PKPbc 23 48 00.4 -0.9
ZALV PKPab PKPab 23 48 07.5 -1.7
ZALV pPKPbc pPKPbc 23 48 16.4 -2.0
MKAR Makanchi Array 154.02 45 pPKPbc pPKPbc 23 48 22.6 -2.6
comp=N,0.7nm,0.4s,baz=291,slow=3.0,SNR=3.3
WMQ Urumqi 158.80 46 PKP PKPdf 23 48 04.4 -1.9
CN2 Changchun 161.58 319 ePKP PKPdf 23 48 08.0 -1.4
HHC Hu-ho-hao-te 169.77 349 ePKP PKPdf 23 48 13.1 -3.0
HHC pPKP pPKPdf 23 48 40.0 +6.6
HHC sPKP 23 48 50.6
HHC PKS 23 51 44.3
HHC SKS SKSdf 23 55 05.5 -9.2
HHC AMB AMB
comp=Z,110nm,5.9s
HHC LR LR
comp=Z,150nm,17.0s
LZH Lanzhou 173.27 38 ePKP PKPdf 23 48 16.0 -2.0
LZH pPKP pPKPdf 23 48 42.5 +7.2
LZH sPKP 23 48 53.1

GYA	**Guiyang**	**175.22**	**155**	PKP	PKPdf	23 48 18.2	-0.8
GYA				sPKP		23 48 52.5	
GYA				PKPab	PKPab	23 49 56.4	+1.4
GYA				PKS		23 51 48.0	
GYA				PP	PP	23 53 48.9	+2.1
GYA				AMB	AMB		
	comp=Z,90nm,8.0s						
CD2	**Chengdu**	**175.58**	**88**	PKP	PKPdf	23 48 19.1	+0.2

*IDC **09** 23:36:54.7±1.0, 60.12N×153.33W, h100km±11km, mb3.8/17, mb1 4.1/22, mb1mx3.9/32, mbtmp4.0/22, Error ellipse: s-maj=11.3km s-min=9.1km az=107.0*
*ISCJB **09** 23:36:55.6±0.3, 60.09N±0.03×153.16W±0.06, h129km±3km, mb4.1/23, Error ellipse: s-maj=4.6km s-min=4.3km az=176.0*
*NEIC **09** 23:36:57.6, 60.00N×153.02W, h127km, mb5.0/12, After AEIC.*
NEIC Felt at Anchorage, Anchor Point, Chugiak, Eagle River, Girdwood, Homer and Palmer.

ISC 09 23:36:56.8±0.3, 60.06N±0.03×153.15W±0.06, h123km±3km, n89, σ0=89/119, mb4.2/23, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSO	**Redoubt Sth**	**0.45**	**26**	*e*P	**Pn**	**23 37 15.5**	**+0.9**
CNPM	**China Poot**	**1.11**	**118**	P	**Pn**	**23 37 20.5**	**+0.5**
CNPM				S	**Sn**	**23 37 38.4**	**+0.7**
BRLK	**Bradley Lake**	**1.18**	**104**	P	**Pn**	**23 37 21.1**	**+0.3**
BRLK				S	**Sn**	**23 37 39.3**	**+0.3**
SLKM	**Skilak Lake**	**1.52**	**72**	*e*Pn	**Pn**	**23 37 24.7**	**+0.1**
SLKM				*e*Sn	**Sn**	**23 37 45.8**	**0.0**
SVW2	**Sparrevohn**	**1.59**	**312**	*e*P	**Pn**	**23 37 25.2**	**-0.1**
SUA	**Susitna One**	**1.84**	**39**	P	**Pn**	**23 37 29.3**	**+1.1**
SUA				S	**Sn**	**23 37 53.5**	**+1.2**
FIB	**Fire Island**	**1.84**	**52**	P	**Pn**	**23 37 29.8**	**+1.6**
SEW	**Seward**	**1.85**	**87**	*e*Pn	**Pn**	**23 37 28.4**	**-0.1**
SEW				*e*Sn	**Sn**	**23 37 52.1**	**-0.6**
RC01	**Rabbit Creek A**	**1.97**	**57**	P	**Pn**	**23 37 30.3**	**+0.4**
RC01				S	**Sn**	**23 37 55.3**	**-0.1**
SKT	**Skwentna**	**2.08**	**22**	P	**Pn**	**23 37 32.0**	**+0.7**
SKT				S	**Sn**	**23 37 59.2**	**+1.5**
KDAK	**Kodiak Island**	**2.31**	**172**	P	**Pn**	**23 37 32.6**	**-1.5**
	220nm,0.3s,baz=4.7,slow=9.0,SNR=738						
KDAK				S	**Sn**	**23 38 00.6**	**-2.2**
	280nm,0.3s,baz=127,slow=20,SNR=19						
KDAK	**Kodiak Island**	**2.31**	**172**	*e*Pn	**Pn**	**23 37 33.8**	**-0.3**
KDAK				*e*Sn	**Sn**	**23 38 01.8**	**-0.9**
PMR	**Palmer**	**2.50**	**50**	*e*P	**Pn**	**23 37 36.1**	**-0.4**
PMR				S	**Sn**	**23 38 06.0**	**-1.1**
OHAK	**Old Harbor**	**2.85**	**182**	P	**Pn**	**23 37 39.2**	**-1.9**
PPLA	**Purkeypile**	**2.88**	**9**	*e*Pn	**Pn**	**23 37 43.0**	**+1.6**
PPLA				*e*Sn	**Sn**	**23 38 16.6**	**+0.6**
SML	**Sawmill**	**2.93**	**51**	*e*Pn	**Pn**	**23 37 41.8**	**-0.3**
SML				*e*Sn	**Sn**	**23 38 16.1**	**-1.0**
TT01	**Tatalina**	**3.17**	**335**	P	**Pn**	**23 37 45.2**	**0.0**
MID	**Middleton Isla**	**3.50**	**98**	*e*P	**Pn**	**23 37 50.2**	**+0.5**
TRF	**Thorofare Moun**	**3.66**	**21**	*e*Pn	**Pn**	**23 37 52.1**	**+0.4**
TRF				*e*Sn	**Sn**	**23 38 33.7**	**-0.6**
DIV	**Divide**	**3.79**	**70**	*e*Pn	**Pn**	**23 37 52.6**	**-0.8**
DIV				*e*Sn	**Sn**	**23 38 36.6**	**-0.8**
BPAW	**Bear Paw Mtn.**	**4.18**	**13**	*e*Pn	**Pn**	**23 37 58.4**	**-0.2**
BPAW				*e*Sn	**Sn**	**23 38 41.2**	**-5.4**
MCK	**McKinley**	**4.19**	**27**	*e*Pn	**Pn**	**23 37 59.1**	**+0.4**
MCK				*e*Sn	**Sn**	**23 38 45.6**	**-1.2**
BMRM	**Bremner River**	**4.32**	**74**	*e*Pn	**Pn**	**23 37 59.6**	**-0.9**
BMRM				*e*Sn	**Sn**	**23 38 48.0**	**-2.0**
CHGN	**Chignik**	**4.69**	**219**	*e*P	**Pn**	**23 38 04.5**	**-1.0**
PAX	**Paxson**	**4.69**	**48**	*e*Pn	**Pn**	**23 38 05.6**	**+0.2**
PAX				*e*Sn	**Sn**	**23 38 57.3**	**-1.6**
MENT	**Mentasta**	**5.36**	**53**	*e*P	**Pn**	**23 38 15.1**	**+0.7**
COLA	**College**	**5.42**	**25**	*e*Pn	**Pn**	**23 38 14.8**	**-0.3**
	265nm,0.6s						
COLA				*e*Sn	**Sn**	**23 39 14.7**	**-1.5**
ILAR	**Eielson Array**	**5.55**	**29**	P	**Pn**	**23 38 16.5**	**-0.4**
	80nm,0.3s,baz=214,slow=14,SNR=5645						
ILAR				S	**Sn**	**23 39 15.1**	**-4.3**
	44nm,0.3s,baz=218,slow=19,SNR=14						
ILAR	**Eielson Array**	**5.55**	**29**	P	**Pn**	**23 38 16.5**	**-0.4**
ILAR				S	**Sn**	**23 39 15.1**	**-4.3**
DOT	**Dot Lake**	**5.61**	**46**	*e*Pn	**Pn**	**23 38 17.4**	**-0.3**
	649nm,0.9s						
DOT				*e*Sn	**Sn**	**23 39 20.1**	**-0.7**
YKU2	**Yakutat**	**6.83**	**89**	*e*Pn	**Pn**	**23 38 36.2**	**+2.0**
PNL	**Peninsula**	**6.94**	**87**	*e*Pn	**Pn**	**23 38 35.9**	**+0.2**
	706nm,0.4s						
PNL				*e*Sn	**Sn**	**23 39 53.7**	**+0.7**
EGAK	**Eagle**	**7.30**	**44**	*e*Pn	**Pn**	**23 38 39.5**	**-1.0**
	47nm,0.6s						
EGAK				*e*Sn	**Sn**	**23 39 53.7**	**-7.9**
COLD	**Coldfoot**	**7.31**	**9**	*e*Pn	**Pn**	**23 38 40.5**	**-0.2**
	185nm,0.5s						
COLD				*e*Sn	**Sn**	**23 40 02.8**	**+0.8**
DAWY	**Dawson**	**7.60**	**52**	*e*Pn	**Pn**	**23 38 44.9**	**+0.2**
SKAG	**Skagway**	**9.01**	**86**	*e*P	**Pn**	**23 39 05.6**	**+1.9**
SIT	**Sitka**	**9.78**	**100**	*e*P	**Pn**	**23 39 14.6**	**+0.5**
	25nm,0.3s						
WRAK	**Wrangell Islan**	**11.54**	**99**	*e*Pn	**Pn**	**23 39 38.3**	**+0.9**
	91nm,0.6s						
WRAK				*e*Sn	**Sn**	**23 41 44.0**	**-0.3**
INK	**Inuvik**	**11.84**	**38**	P	**Pn**	**23 39 40.3**	**-0.9**
	1.9nm,0.3s,baz=247,slow=14,SNR=72						
INK	**Inuvik**	**11.84**	**38**	P	**Pn**	**23 39 40.3**	**-0.9**
DLBC	**Dease Lake**	**11.93**	**88**	P	**Pn**	**23 39 43.7**	**+1.1**
	7.3nm,0.3s,baz=279,slow=10,SNR=20						
DLBC				S	**Sn**	**23 41 53.1**	**-0.7**
	0.8nm,0.3s,baz=151,slow=19,SNR=2.1						
DLBC	**Dease Lake**	**11.93**	**88**	P	**Pn**	**23 39 43.7**	**+1.1**
DLBC				S	**Sn**	**23 41 53.1**	**-0.7**
BBB	**Bella Bella**	**15.95**	**109**	P	**Pn**	**23 40 38.5**	**+4.5**
	0.7nm,0.3s,baz=318,slow=14,SNR=11						
BBB				S	**S**	**23 43 30.4**	**-5.6**
	0.6nm,0.3s,baz=108,slow=19,SNR=5.3						
BBB	**Bella Bella**	**15.95**	**109**	P	**Pn**	**23 40 38.5**	**+4.5**
BBB				S	**S**	**23 43 30.4**	**-5.6**
YKA	**Yellowknife Ar**	**18.49**	**66**	P	**P**	**23 41 03.6**	**+0.7**
	1.9nm,0.3s,baz=277,slow=10.0,SNR=42						
YKA				PcP	PcP	23 45 26.5	-0.5
	0.2nm,0.3s,baz=278,slow=1.3,SNR=5.4						
YKA	**Yellowknife Ar**	**18.49**	**66**	P	**P**	**23 41 03.6**	**+0.7**
YKA				PcP	PcP	23 45 26.6	-0.5
BILL	**Bilibino**	**19.11**	**312**	*e*P	**P**	**23 41 10.0**	**+0.4**
	12nm,1.2s						
FX1	**Attu Island--F**	**19.77**	**264**	P	**P**	**23 41 15.8**	**-1.0**
	7.4nm,0.3s,baz=345,slow=3.6,SNR=12						
FX1	**Attu Island--F**	**19.77**	**264**	P	**P**	**23 41 15.8**	**-1.0**
ETW	**Entiat**	**22.75**	**108**	*e*P	**P**	**23 41 47.8**	**-0.6**
	22nm,1.2s,mb4.4						
RES	**Resolute Bay**	**25.29**	**32**	P	**P**	**23 42 12.5**	**+1.3**
	2.4nm,0.5s,mb3.9,baz=249,slow=9.8,SNR=11						
RES	**Resolute Bay**	**25.29**	**32**	P	**P**	**23 42 12.5**	**+1.3**
PETK	**Petropavlovsk-**	**27.38**	**277**	P	**P**	**23 42 30.2**	**+0.2**
	5.9nm,0.7s,mb4.3,baz=80,slow=10,SNR=6.9						
PETK	**Petropavlovsk-**	**27.38**	**277**	P	**P**	**23 42 30.2**	**+0.2**
NVAR	**Mina Array Bea**	**30.82**	**119**	P	**P**	**23 43 04.0**	**+3.3**
	0.3nm,0.5s,mb3.3,baz=308,slow=7.9,SNR=2.4						
NVAR				PcP	PcP	23 45 55.6	+1.0
	1.2nm,0.6s,baz=310,slow=2.9,SNR=6.0						
NVAR	**Mina Array Bea**	**30.82**	**119**	P	**P**	**23 43 04.0**	**+3.3**
NVAR				PcP	PcP	23 45 55.6	+1.0
TXAR	**Lajitas Array**	**45.07**	**110**	P	**P**	**23 45 02.3**	**+2.1**
	0.5nm,0.5s,mb3.5,baz=347,slow=7.4,SNR=13						
TXAR				ScP	ScP	23 50 19.7	+0.2
	0.5nm,0.9s,baz=6.7,slow=3.1,SNR=4.7						
TXAR	**Lajitas Array**	**45.07**	**110**	P	**P**	**23 45 02.3**	**+2.2**
TXAR				ScP	ScP	23 50 19.7	+0.2
JCT	**Junction City**	**45.96**	**106**	*e*P	**P**	**23 45 08.4**	**+1.2**
	12nm,0.6s,mb4.8						
MJAR	**Matsushiro Arr**	**48.70**	**273**	P	**P**	**23 45 28.5**	**+0.2**
	1.9nm,0.5s,mb4.3,baz=7.5,slow=8.7,SNR=7.8						
MJAR	**Matsushiro Arr**	**48.70**	**273**	P	**P**	**23 45 28.5**	**+0.2**
MAT	**Matsushiro**	**48.70**	**273**	P	**P**	**23 45 28.0**	**-0.3**
ARCES	**ARCESS Array B**	**50.69**	**1**	P	**P**	**23 45 43.0**	**0.0**
	1.2nm,0.6s,mb4.1,baz=358,slow=8.1,SNR=13						
ARCES	**ARCESS Array B**	**50.69**	**1**	P	**P**	**23 45 43.0**	**0.0**
KSRS	**Korea Array**	**53.09**	**282**	P	**P**	**23 46 01.3**	**+0.1**
	8.5nm,0.9s,mb4.8,baz=37,slow=6.9,SNR=14						
ULN	**Ulaanbaatar**	**54.40**	**305**	*e*P	**P**	**23 46 11.3**	**+0.8**
	3.9nm,0.6s,mb4.6						
SONM	**Songino Array**	**54.69**	**306**	P	**P**	**23 46 13.2**	**+0.6**
	9.2nm,0.7s,mb4.9,baz=42,slow=7.4,SNR=62						
SONM	**Songino Array**	**54.69**	**306**	P	**P**	**23 46 13.2**	**+0.6**
ZALV	**Zalesovo Beam**	**57.28**	**323**	P	**P**	**23 46 31.0**	**+0.1**
	5.5nm,0.5s,mb4.8,baz=29,slow=7.0,SNR=28						
ZALV	**Zalesovo Beam**	**57.28**	**323**	P	**P**	**23 46 31.0**	**+0.1**
FINES	**FINESS Array B**	**58.82**	**0**	P	**P**	**23 46 41.6**	**+0.1**
	1.8nm,0.7s,mb4.2,baz=8.5,slow=10,SNR=9.0						
FINES	**FINESS Array B**	**58.82**	**0**	P	**P**	**23 46 41.6**	**+0.1**
KURK	**Kurchatov**	**61.94**	**326**	P	**P**	**23 47 03.0**	**+0.2**
	2.8nm,0.8s,mb4.4,baz=30,slow=6.8,SNR=7.5						
KURK	**Kurchatov**	**61.94**	**326**	P	**P**	**23 47 03.0**	**+0.2**
BRVK	**Borovoye**	**61.97**	**332**	*e*P	**P**	**23 47 02.6**	**-0.5**
	4.2nm,0.9s,mb4.5						
BVAR	**Borovoye Array**	**61.98**	**332**	P	**P**	**23 47 02.3**	**-0.8**
	4.7nm,0.8s,mb4.6,baz=30,slow=6.2,SNR=19						
BVAR	**Borovoye Array**	**61.98**	**332**	P	**P**	**23 47 02.3**	**-0.8**
GTA	**Gaotai**	**64.33**	**305**	*e*P	**P**	**23 47 19.4**	**+0.6**
GTA				pP	pP	23 47 50.3	+1.6
GTA				sP	sP	23 48 03.9	+1.9
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
MKAR	**Makanchi Array**	**64.34**	**321**	P	**P**	**23 47 18.1**	**-0.7**
	comp=Z,0.7nm,0.4s,mb3.8,baz=37,slow=6.8,SNR=4.9						
MKAR	**Makanchi Array**	**64.34**	**321**	P	**P**	**23 47 18.1**	**-0.7**
AKTO	**Aktyubinsk**	**67.01**	**339**	P	**P**	**23 47 35.2**	**-0.6**
	comp=Z,1.8nm,0.7s,mb4.0,baz=32,slow=8.2,SNR=6.3						
ABKAR	**Akbulak array**	**67.78**	**337**	*e*P	**P**	**23 47 39.7**	**-1.0**
	comp=Z,2.1nm,0.7s,mb4.1						
AKASG	**Malin Array Be**	**69.58**	**358**	P	**P**	**23 47 50.9**	**-0.9**
	comp=Z,0.6nm,0.3s,mb3.9,baz=3.3,slow=6.3,SNR=6.4						
AKASG	**Malin Array Be**	**69.58**	**358**	P	**P**	**23 47 50.9**	**-0.9**
KMI	**Kunming**	**75.26**	**295**	P	**P**	**23 48 17.1**	**-8.8**
KMI				pmax	pmax		
	comp=Z,7.0nm,2.0s,mb4.0						
ESDC	**Sonseca Array**	**77.43**	**24**	P	**P**	**23 48 37.9**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=350,slow=5.6,SNR=3.0						
ESDC	**Sonseca Array**	**77.43**	**24**	P	**P**	**23 48 37.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**82.77**	**294**	P	**P**	**23 49 05.6**	**-1.3**
	comp=Z,2.5nm,1.0s,mb4.0,baz=18,slow=3.8,SNR=9.2						
CMAR	**Chiang Mai Arr**	**82.77**	**294**	P	**P**	**23 49 05.6**	**-1.3**

*IDC **09** 23:40:40.9±1.2, 39.27N×73.66E, h0km, mb3.6/4, mb1 3.6/7, mb1mx3.4/27, mbtmp3.4/7, ML3.1/3, Error ellipse: s-maj=26.2km s-min=21.0km az=108.0*
*ISCJB **09** 23:40:44.4±0.8, 39.55N±0.06×73.75E±0.07, h10km, mb3.7/6, Error ellipse: s-maj=9.3km s-min=7.2km az=138.3*
*NEIC **09** 23:40:47.3±0.7, 39.49N×73.82E, h35km, mb3.9/3, Error ellipse: s-maj=13.3km s-min=10.6km az=108.0*

ISC 09 23:40:46.6±0.8, 39.62N±0.06×73.67E±0.07, h10km, n38, σ1=14/43, mb3.7/6, 3C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.51**	**0**	P	**Pn**	**23 41 27.6**	**+0.2**
	SNR=32						
UCH	**Uchtor**	**2.68**	**14**	P	**Pn**	**23 41 30.8**	**+1.0**
	SNR=7.4						
KZA	**Kyzart**	**2.73**	**26**	P	**Pn**	**23 41 31.1**	**+0.6**
	SNR=9.0						
EKS2	**Erkin-Say**	**3.04**	**2**	P	**Pn**	**23 41 35.3**	**+0.6**
	SNR=30						
EKS2	**Erkin-Say**	**3.04**	**2**	*e*Pn	**Pn**	**23 41 35.1**	**+0.4**
EKS2				*e*Sn	**Sn**	**23 42 10.3**	**-0.9**
AAK	**Ala-Archa**	**3.07**	**11**	P	**Pn**	**23 41 35.9**	**+0.7**
	SNR=14						
KBK	**Karagaybulak**	**3.18**	**17**	P	**Pn**	**23 41 38.1**	**+1.4**
	SNR=24						
ULHL	**Ulahol**	**3.27**	**36**	P	**Pn**	**23 41 37.8**	**-0.1**
	SNR=22						
CHMS	**Chumysh**	**3.47**	**13**	P	**Pn**	**23 41 42.0**	**+1.3**
	SNR=7.3						
TKM2	**Tokmak 2**	**3.60**	**23**	P	**Pn**	**23 41 43.5**	**+1.0**
	SNR=11						
TKM2	**Tokmak 2**	**3.60**	**23**	⇑Pg	**Pn**	**23 41 43.5**	**+1.1**
	2.6nm,0.3s						
TKM2				⇓Lg		23 42 32.7	
	44nm,0.7s						
TKM2	**Tokmak 2**	**3.60**	**23**	*e*Pn	**Pn**	**23 41 42.8**	**+0.3**
TKM2				*e*Sn	**Sn**	**23 42 24.1**	**-0.9**
USP	**Ospenovka**	**3.69**	**9**	P	**Pn**	**23 41 44.1**	**+0.3**
	SNR=11						
KK31	**Karatay Array**	**4.21**	**327**	⇓Pn	**Pn**	**23 41 51.9**	**+1.1**
	0.6nm,0.2s,baz=118,slow=13,SNR=58						
KK31				⇑Pg	**Pb**	**23 42 01.8**	**+1.0**
	5.7nm,0.6s,baz=157,slow=17,SNR=13						
KK31				⇓Sn	**Sn**	**23 42 43.9**	**+3.9**
	2.8nm,0.3s,baz=159,slow=28,SNR=4.2						
KK31				⇑Lg		23 42 56.7	
	12nm,0.6s,baz=132,slow=27,SNR=3.9						
KKAR	**Karatay Array**	**4.21**	**327**	*e*Pn	**Pn**	**23 41 51.4**	**+0.6**
KKAR				*e*Sn	**Sn**	**23 42 38.6**	**-1.4**
KBL	**Kabul**	**6.28**	**218**	*e*Pn	**Pn**	**23 42 19.1**	**-0.1**
MKAR	**Makanchi Array**	**9.54**	**38**	Pn	**Pn**	**23 43 04.9**	**+1.0**
	0.1nm,0.3s,baz=225,slow=14,SNR=2.2						
MKAR	**Makanchi Array**	**9.54**	**38**	Pn	**Pn**	**23 43 04.9**	**+1.0**
KURK	**Kurchatov**	**11.63**	**16**	*e*Pn	**Pn**	**23 43 32.2**	**-0.2**
BVAR	**Borovoye Array**	**13.59**	**352**	Pn	**Pn**	**23 43 56.8**	**-2.5**
	0.1nm,0.3s,baz=158,slow=16,SNR=6.8						
BVAR	**Borovoye Array**	**13.59**	**352**	Pn	**Pn**	**23 43 56.8**	**-2.5**
BRVK	**Borovoye**	**13.64**	**351**	*e*Pn	**Pn**	**23 43 57.9**	**-2.0**
ABKAR	**Akbulak array**	**13.72**	**319**	*e*Pn	**Pn**	**23 44 00.2**	**-0.9**
	0.6nm,0.6s						
AKTK	**Aktyubinsk**	**15.44**	**320**	Pn	**Pn**	**23 44 25.6**	**+1.3**
AKTO	**Aktyubinsk**	**15.44**	**320**	Pn	**Pn**	**23 44 25.6**	**+1.3**
	0.1nm,0.3s,baz=112,slow=15,SNR=3.3						
ZALV	**Zalesovo Beam**	**16.21**	**24**	Pn	**Pn**	**23 44 32.6**	**-1.6**
	0.1nm,0.3s,baz=197,slow=9.0,SNR=2.4						
ZALV	**Zalesovo Beam**	**16.21**	**24**	Pn	**Pn**	**23 44 32.6**	**-1.6**
ARU	**Arti**	**19.54**	**334**	*e*P	**Pn**	**23 45 13.4**	**-2.0**
	2.5nm,0.7s						
KIV	**Kislovodsk**	**23.43**	**291**	*e*P	**P**	**23 45 55.9**	**-0.1**
	5.4nm,1.1s,mb3.9						
TLY	**Talaya**	**23.99**	**50**	*e*P	**P**	**23 46 00.2**	**-1.0**
	3.1nm,0.6s,mb3.9						
ARCES	**ARCESS Array B**	**39.12**	**335**	P	**P**	**23 48 12.2**	**-1.5**
	1.6nm,0.8s,mb3.8,baz=105,slow=8.8,SNR=7.9						
ARCES	**ARCESS Array B**	**39.12**	**335**	P	**P**	**23 48 12.2**	**-1.5**
TORD	**Torodi Ar. Bea**	**67.89**	**269**	P	**P**	**23 51 41.6**	**-3.9**
	0.2nm,0.4s,mb3.5,baz=46,slow=5.8,SNR=8.5						
TORD	**Torodi Ar. Bea**	**67.89**	**269**	P	**P**	**23 51 41.6**	**-3.9**
WRA	**Warramunga Arr**	**81.92**	**124**	P	**P**	**23 53 01.4**	**-5.1**
	0.5nm,0.5s,mb3.8,baz=329,slow=5.1,SNR=2.5						
WRA	**Warramunga Arr**	**81.92**	**124**	P	**P**	**23 53 01.4**	**-5.1**
ASAR	**Alice Springs**	**84.37**	**127**	P	**P**	**23 53 13.8**	**-5.3**
	0.2nm,0.5s,mb3.5,baz=323,slow=4.1,SNR=3.5						
ASAR	**Alice Springs**	**84.37**	**127**	P	**P**	**23 53 13.8**	**-5.3**

*MOS **09** 23:47:10.9±1.8, 42.69N×46.42E, h14km, mb3.9/1, Error ellipse: s-maj=12.2km s-min=7.3km az=23.7*
*CSEM **09** 23:47:10.9, 42.69N×46.42E, h14km, mb3.9, After OBN*

ISC 09 23:47:12.0±0.4, 42.67N±0.03×46.33E±0.02, h4km±5km, n42, σ0=98/76, 5C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.08**	**264**	*e*PG	**Pg**	**23 47 11.5**	**-2.2**
BTLR	**Botlikh**	**0.08**	**264**	*e*Pg	**Pg**	**23 47 11.5**	**-2.2**
XNZR	**Khunzakh**	**0.30**	**115**	*e*PG	**Pg**	**23 47 17.0**	**-0.9**
XNZR				*e*S	**Sg**	**23 47 22.5**	**+0.7**
XNZR	**Khunzakh**	**0.30**	**115**	*e*Pg	**Pg**	**23 47 17.0**	**-0.9**
XNZR				*e*Sg	**Sg**	**23 47 22.5**	**+0.7**
UNCR	**Uncukul**	**0.34**	**83**	*e*PG	**Pg**	**23 47 17.7**	**-0.9**
UNCR				*e*S	**Sg**	**23 47 23.5**	**+0.4**
UNCR				pmax	pmax		
	comp=Z,51nm,0.3s						
UNCR	**Uncukul**	**0.34**	**83**	*e*Pg	**Pg**	**23 47 17.7**	**-0.9**
	comp=Z,51nm,0.3s						
UNCR				*e*Sg	**Sg**	**23 47 23.5**	**+0.4**
KRNR	**Karanay**	**0.45**	**70**	*e*PG	**Pg**	**23 47 19.8**	**-0.9**
KRNR				*i* S	**Sg**	**23 47 27.0**	**+0.5**
KRNR				pmax	pmax		
	comp=Z,23nm,0.2s						
KRNR	**Karanay**	**0.45**	**70**	*e*Pg	**Pg**	**23 47 19.8**	**-0.9**
	comp=Z,23nm,0.2s						
KRNR				*i* Sg	**Sg**	**23 47 27.0**	**+0.5**
DBC	**Dubki**	**0.50**	**46**	*e*PG	**Pg**	**23 47 21.3**	**-0.4**
DBC				*e*S	**Sg**	**23 47 29.3**	**+1.1**
DBC	**Dubki**	**0.50**	**46**	*e*Pg	**Pg**	**23 47 21.3**	**-0.4**
DBC				*e*Sg	**Sg**	**23 47 29.3**	**+1.1**
GRO	**Groznyy**	**0.78**	**327**	⇑*i* PG	**Pg**	**23 47 24.1**	**-2.8**
GRO				*i* S	**Sg**	**23 47 34.4**	**-2.6**
GRO	**Groznyy**	**0.78**	**327**	*i* Pg	**Pg**	**23 47 24.1**	**-2.8**
GRO				*i* Sg	**Sg**	**23 47 34.4**	**-2.6**
KMKR	**Kumukh**	**0.78**	**133**	*e*PG	**Pg**	**23 47 26.0**	**-1.0**
KMKR				*e*S	**Sg**	**23 47 38.0**	**+0.8**
KMKR				pmax	pmax		
	comp=Z,45nm,0.3s						
KMKR	**Kumukh**	**0.78**	**133**	*e*Pg	**Pg**	**23 47 26.0**	**-1.0**
	comp=Z,45nm,0.3s						
KMKR				*e*Sg	**Sg**	**23 47 38.0**	**+0.8**
URKR	**Urkarakh**	**1.09**	**117**	*e*PG	**Pg**	**23 47 32.8**	**-0.1**
URKR				*e*S	**Sg**	**23 47 49.0**	**+2.1**
URKR				pmax	pmax		
	comp=Z,30nm,0.3s						
URKR	**Urkarakh**	**1.09**	**117**	*e*Pg	**Pg**	**23 47 32.8**	**-0.1**
	comp=Z,30nm,0.3s						
URKR				*e*Sg	**Sg**	**23 47 49.0**	**+2.1**
SNJR	**Sundja**	**1.19**	**290**	*e*PG	**Pg**	**23 47 34.8**	**0.0**
SNJR				*e*S	**Sg**	**23 47 52.1**	**+1.9**
SNJR	**Sundja**	**1.19**	**290**	*e*Pg	**Pg**	**23 47 34.8**	**0.0**
SNJR				*e*Sg	**Sg**	**23 47 52.1**	**+1.9**
VLKR	**Vladikavkaz**	**1.27**	**288**	*e*PG	**Pn**	**23 47 35.9**	**-0.7**
VLKR				*e*S	**Sg**	**23 47 54.9**	**+1.9**
VLKR	**Vladikavkaz**	**1.27**	**288**	*e*Pg	**Pn**	**23 47 35.9**	**-0.7**
VLKR				*e*Sg	**Sg**	**23 47 54.9**	**+1.9**
DGRG	**David-gareji**	**1.42**	**211**	P	**Pn**	**23 47 37.3**	**-1.2**
BTKR	**Batakoyurt**	**1.49**	**299**	⇑*i* PG	**Pn**	**23 47 39.3**	**-0.3**
BTKR				*e*S	**Sg**	**23 48 00.9**	**+1.1**
BTKR	**Batakoyurt**	**1.49**	**299**	*i* Pg	**Pn**	**23 47 39.3**	**-0.3**
BTKR				*e*Sg	**Sg**	**23 48 00.9**	**+1.1**
MTA	**Mtatsminda**	**1.51**	**230**	P	**Pn**	**23 47 39.0**	**-0.8**
MTA				S	**Sn**	**23 48 00.3**	**+0.4**
TBLG	**Delisi**	**1.51**	**232**	*e*PG	**Pn**	**23 47 39.1**	**-0.8**
TBLG				*e*S	**Sg**	**23 48 00.5**	**-0.1**
TBLG	**Delisi**	**1.51**	**232**	P	**Pn**	**23 47 39.2**	**-0.7**
TBLG				S	**Sn**	**23 48 00.5**	**+0.5**
TBLG	**Delisi**	**1.51**	**232**	*e*Pg	**Pn**	**23 47 39.1**	**-0.8**
TBLG				*e*Sg	**Sg**	**23 48 00.5**	**-0.1**
TRKR	**Terskaya**	**1.57**	**312**	⇓*i* PG	**Pn**	**23 47 40.5**	**-0.3**
TRKR				*e*S	**Sg**	**23 48 03.2**	**+0.6**
TRKR	**Terskaya**	**1.57**	**312**	*i* Pg	**Pn**	**23 47 40.5**	**-0.3**
TRKR				*e*Sg	**Sg**	**23 48 03.2**	**+0.6**
ARNR	**Ardon**	**1.59**	**290**	⇑*i* PN	**Pn**	**23 47 41.1**	**+0.1**
ARNR				*i* S	**Sg**	**23 48 03.7**	**+0.4**
ARNR	**Ardon**	**1.59**	**290**	*i* Pn	**Pn**	**23 47 41.1**	**+0.1**
ARNR				*i* Sg	**Sg**	**23 48 03.7**	**+0.4**
KORR	**Kora**	**1.72**	**285**	*e*PN	**Pn**	**23 47 42.8**	**+0.1**
KORR				*i* S	**Sg**	**23 48 07.3**	**+0.1**
KORR	**Kora**	**1.72**	**285**	*e*Pn	**Pn**	**23 47 42.8**	**+0.1**
KORR				*i* Sg	**Sg**	**23 48 07.3**	**+0.1**
GOR	**Gori**	**1.79**	**248**	P	**Pn**	**23 47 43.8**	**+0.2**
GOR				S	**Sn**	**23 48 08.2**	**+1.4**
ZEI	**Tsey**	**1.80**	**274**	⇑*i* PN	**Pn**	**23 47 43.7**	**-0.1**
ZEI	**Tsey**	**1.80**	**274**	*i* Pn	**Pn**	**23 47 43.7**	**-0.1**
LSNR	**Lesken**	**1.94**	**289**	*e

JNU				*e*Sn		**Sn**	**00 24 46.2**	**-0.5**
KSRS	**Korea Array**	**8.44**	**346**	Pn		**Pn**	**00 25 08.3**	**+3.5**
	0.2nm,0.3s,baz=163,slow=14,SNR=5.2							
KSRS				LR		LR	00 28 37.0	
	comp=Z,138nm,21.0s,baz=167,slow=40							
JHJ	**Hachijo jima 2**	**8.92**	**62**	LR		LR	00 28 05.0	
	comp=Z,96nm,19.6s,baz=338,slow=34							
TATO	**Taipei**	**9.01**	**244**	*e*Pn		**Pn**	**00 25 11.6**	**-1.1**
NACB	**Ninganchiao**	**9.35**	**239**	*e*Pn		**Pn**	**00 25 16.6**	**-0.8**
ASAJ	**Asahikawa**	**17.75**	**30**	LR		LR	00 33 46.0	
	comp=Z,67nm,19.1s,baz=314,slow=37							
ULN	**Ulaanbaatar**	**25.89**	**322**	P		**P**	**00 28 32.0**	**-0.6**
	3.3nm,1.2s,mb3.7							
SONM	**Songino Array**	**26.22**	**322**	P		**P**	**00 28 34.2**	**-1.4**
	0.8nm,0.8s,mb3.3,baz=146,slow=8.7,SNR=3.5							
SONM				LR		LR	00 39 13.8	
	comp=Z,91nm,18.6s,MS3.3,baz=172,slow=37							
SONM	**Songino Array**	**26.22**	**322**	P		**P**	**00 28 34.2**	**-1.4**
SONM				LR		LR	00 39 13.8	
YAK	**Yakutsk**	**32.79**	**359**	*e*P		**P**	**00 29 32.2**	**-1.4**
	14nm,0.3s							
MKAR	**Makanchi Array**	**41.05**	**309**	P		**P**	**00 30 43.7**	**-0.3**
	1.3nm,0.8s,mb3.6,baz=89,slow=10,SNR=8.7							
MKAR	**Makanchi Array**	**41.05**	**309**	P		**P**	**00 30 43.7**	**-0.3**
ZALV	**Zalesovo Beam**	**41.09**	**320**	P		**P**	**00 30 44.0**	**-0.2**
	1.0nm,0.7s,mb3.6,baz=119,slow=5.8,SNR=4.3							
ZALV				LR		LR	00 48 42.5	
	comp=Z,39nm,18.5s,MS3.3,baz=86,slow=38							
ZALV	**Zalesovo Beam**	**41.09**	**320**	P		**P**	**00 30 44.0**	**-0.2**
ZALV				LR		LR	00 48 42.5	
KURK	**Kurchatov**	**44.03**	**314**	P		**P**	**00 31 08.7**	**+0.5**
	3.0nm,0.3s,mb4.6,baz=101,slow=8.9,SNR=14							
KURK				LR		LR	00 51 00.1	
	comp=Z,89nm,20.3s,MS3.7,baz=105,slow=38							
KURK	**Kurchatov**	**44.03**	**314**	P		**P**	**00 31 08.7**	**+0.6**
KURK				LR		LR	00 51 00.1	
COEN	**Coen**	**44.69**	**162**	*e*P		**P**	**00 31 10.7**	**-2.9**
TKM2	**Tokmak 2**	**45.59**	**303**	*e*P		**P**	**00 31 21.9**	**+1.3**
	1.1nm,0.5s,mb4.0							
EKS2	**Erkin-Say**	**46.93**	**303**	*e*P		**P**	**00 31 28.6**	**-2.7**
WRA	**Warramunga Arr**	**49.05**	**175**	P		**P**	**00 31 48.5**	**+0.8**
	0.5nm,0.7s,mb3.6,baz=354,slow=8.4,SNR=2.8							
WRA	**Warramunga Arr**	**49.05**	**175**	P		**P**	**00 31 48.5**	**+0.8**
BVAR	**Borovoye Array**	**49.37**	**316**	P		**P**	**00 31 49.9**	**+0.1**
	4.8nm,0.7s,mb4.7,baz=93,slow=9.5,SNR=32							
BVAR				PcP		PcP	00 33 12.4	+0.7
	0.6nm,0.7s,baz=72,slow=4.7,SNR=3.0							
BVAR	**Borovoye Array**	**49.37**	**316**	P		**P**	**00 31 49.9**	**+0.1**
BVAR				PcP		PcP	00 33 12.4	+0.7
ASAR	**Alice Springs**	**52.72**	**176**	P		**P**	**00 32 16.4**	**+1.2**
	0.3nm,0.6s,mb3.4,baz=8.9,slow=13,SNR=4.6							
ASAR	**Alice Springs**	**52.72**	**176**	P		**P**	**00 32 16.4**	**+1.2**
AKTK	**Aktyubinsk**	**57.12**	**313**	P		**P**	**00 32 47.2**	**+0.4**
AKTO	**Aktyubinsk**	**57.12**	**313**	P		**P**	**00 32 47.2**	**+0.4**
	3.1nm,0.8s,mb4.4,baz=89,slow=11,SNR=13							
FINES	**FINESS Array B**	**71.19**	**331**	P		**P**	**00 34 18.4**	**-0.5**
	2.3nm,1.0s,mb4.1,baz=72,slow=8.9,SNR=6.0							
FINES	**FINESS Array B**	**71.19**	**331**	P		**P**	**00 34 18.4**	**-0.5**
AKASG	**Malin Array Be**	**74.49**	**320**	P		**P**	**00 34 38.6**	**0.0**
	1.6nm,0.5s,mb4.2,baz=58,slow=6.4,SNR=5.0							
AKASG	**Malin Array Be**	**74.49**	**320**	P		**P**	**00 34 38.6**	**0.0**
BRTR	**Keskin Array B**	**76.70**	**308**	P		**P**	**00 34 52.8**	**+1.3**
	1.7nm,0.7s,mb4.1,baz=96,slow=5.4,SNR=11							
BRTR	**Keskin Array B**	**76.70**	**308**	P		**P**	**00 34 52.8**	**+1.3**
PDAR	**Pinedale Array**	**89.62**	**40**	P		**P**	**00 36 00.0**	**+2.0**
	0.1nm,0.3s,mb3.6,baz=2.3,slow=4.5,SNR=3.8							
PDAR	**Pinedale Array**	**89.62**	**40**	P		**P**	**00 36 00.0**	**+2.0**

*KISR **10** 00:23:45.6±1.0, 31°.45N×51°.46E, h44km±999km, ML3.1*
*IDC **10** 00:23:47.5±2.5, 31°.37N×50°.91E, h0km, mb3.5/4, mb1 3.5/4, mb1mx3.3/25, mbtmp3.5/4, Error ellipse: s-maj=65.3km s-min=28.2km az=151.0*
*ISCJB **10** 00:23:48.7±0.4, 31°.21N±0°.03×51°.30E±0°.03, h10km, mb3.3/4, Error ellipse: s-maj=4.7km s-min=3.3km az=145.8*
*CSEM **10** 00:23:49.0±0.2, 31°.29N×51°.23E, h2km, mb3.3, Error ellipse: s-maj=7.2km s-min=3.5km az=143.0*
*TEH **10** 00:23:49.8, 31°.04N×51°.06E, h32km*
*NEIC **10** 00:23:49.1, 31°.06N×51°.08E, h24km, MN3.3(TEH), After TEH.*

ISC 10 00:23:50.1±0.4, 31°.23N±0°.03×51°.29E±0°.03, h10km, n48, σ1§23/68, mb3.3/4, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGAR	**Gharneh**	**1.34**	**28**	*e*	**Sg**	**00 24 32.0**	**-1.2**
	comp=Z,5μm,0.1s						
IGAR				*e*Pn	**Pn**	**00 24 09.9**	**-5.0**
IZEF	**Zefreh**	**1.88**	**28**	Pn	**Pn**	**00 24 21.8**	**-0.6**
IZEF				Sn	**Sn**	**00 24 48.4**	**+2.2**
IZEF	**Zefreh**	**1.88**	**28**	*e*Pn	**Pn**	**00 24 21.8**	**-0.6**
IZEF				*e*		00 24 30.4	
	comp=Z,1μm,0.2s						
IZEF				*e*Sn	**Sn**	**00 24 48.6**	**+2.4**
IZEF	**Zefreh**	**1.88**	**28**	Pn	**Pn**	**00 24 21.8**	**-0.6**
IZEF				Sn	**Sn**	**00 24 48.4**	**+2.2**
IPAR	**Pars**	**2.05**	**132**	Pn	**Pn**	**00 24 22.2**	**-2.5**
IPAR				Sn	**Sn**	**00 24 47.6**	**-2.7**
IPAR	**Pars**	**2.05**	**132**	*e*Pn	**Pn**	**00 24 22.3**	**-2.4**
IPAR				*e*Sg	**Sg**	**00 24 56.0**	**-0.1**
IPAR				*e*		00 25 03.6	
	comp=Z,2μm,0.3s						
IKLH	**Kolahrood**	**2.10**	**7**	Pn	**Pn**	**00 24 25.0**	**-0.3**
IKLH				Sn	**Sn**	**00 24 52.3**	**+0.8**
IKLH	**Kolahrood**	**2.10**	**7**	*e*Pn	**Pn**	**00 24 25.1**	**-0.2**
IKLH				*e*		00 25 00.1	
	comp=Z,1μm,0.3s						
IKLH	**Kolahrood**	**2.10**	**7**	Pn	**Pn**	**00 24 25.0**	**-0.3**
IKLH				Sn	**Sn**	**00 24 52.3**	**+0.8**
ISAD	**Sadrabad**	**2.16**	**71**	Pn	**Pn**	**00 24 26.1**	**0.0**
ISAD				Sn	**Sn**	**00 24 54.9**	**+2.0**
ISAD	**Sadrabad**	**2.16**	**71**	*e*Pn	**Pn**	**00 24 26.1**	**0.0**
ISAD				*e*		00 25 01.4	
	comp=Z,4μm,0.3s						
ISAD	**Sadrabad**	**2.16**	**71**	Pn	**Pn**	**00 24 26.1**	**0.0**
ISAD				Sn	**Sn**	**00 24 54.9**	**+2.0**
ICHK	**Chekchek**	**2.84**	**68**	Pn	**Pn**	**00 24 36.6**	**+1.0**
ICHK				Sn	**Sn**	**00 25 11.7**	**+1.8**
ICHK	**Chekchek**	**2.84**	**68**	*e*Pn	**Pn**	**00 24 36.7**	**+1.1**
ICHK				*e*		00 25 17.6	
	comp=Z,629nm,0.2s						
ICHK	**Chekchek**	**2.84**	**68**	Pn	**Pn**	**00 24 36.6**	**+1.0**
ICHK				Sn	**Sn**	**00 25 11.7**	**+1.8**
IMEH	**Mehriz**	**2.85**	**86**	*e*Pn	**Pn**	**00 24 36.1**	**+0.4**
IMEH				*e*		00 24 41.4	
	comp=Z,434nm,0.1s						
ISFB	**Sefidab**	**3.22**	**14**	Pn	**Pn**	**00 24 40.4**	**-0.3**
ISFB	**Sefidab**	**3.22**	**14**	*e*Pn	**Pn**	**00 24 40.5**	**-0.2**
ISFB				*e*		00 25 34.8	
	comp=Z,526nm,0.3s						
ISFB	**Sefidab**	**3.22**	**14**	Pn	**Pn**	**00 24 40.4**	**-0.3**
IBAF	**Bafgh**	**3.68**	**83**	Pn	**Pn**	**00 24 47.4**	**+0.4**
IBAF	**Bafgh**	**3.68**	**83**	*e*Pn	**Pn**	**00 24 47.5**	**+0.5**
IBAF				*e*		00 25 03.1	
	comp=Z,305nm,0.3s						
IBAF	**Bafgh**	**3.68**	**83**	Pn	**Pn**	**00 24 47.4**	**+0.4**
MIB	**Mutribah**	**3.69**	**248**	*e*P	**Pn**	**00 24 46.0**	**-1.3**
MIB				*e*S	**Sn**	**00 25 31.6**	**+0.8**
MIB				AML	AML	00 25 34.7	
	comp=Z,24nm,0.7s						
MIB	**Mutribah**	**3.69**	**248**	*e*P	**Pn**	**00 24 46.0**	**-1.2**
MIB				*e*S	**Sn**	**00 25 31.6**	**+0.8**
	comp=Z,24nm,0.7s						
KBD	**Kabd**	**3.72**	**238**	*e*P	**Pn**	**00 24 47.1**	**-0.6**
KBD				*e*S	**Sn**	**00 25 33.1**	**+1.5**
KBD				AML	AML	00 25 35.1	
	comp=Z,19nm,0.4s						
KBD	**Kabd**	**3.72**	**238**	*e*P	**Pn**	**00 24 47.1**	**-0.6**
KBD				*e*S	**Sn**	**00 25 33.1**	**+1.5**
	comp=Z,28nm,0.4s						
RDF	**Al-Radifah**	**3.97**	**236**	*e*P	**Pn**	**00 24 50.8**	**-0.3**
RDF				*e*S	**Sn**	**00 25 38.9**	**+1.2**
RDF				AML	AML	00 25 43.8	
	comp=Z,28nm,0.4s						
RDF	**Al-Radifah**	**3.97**	**236**	*e*P	**Pn**	**00 24 50.8**	**-0.3**
RDF				*e*S	**Sn**	**00 25 38.9**	**+1.2**
NAY	**Al-Naaiem**	**4.02**	**242**	*e*P	**Pn**	**00 24 51.3**	**-0.5**
NAY				*e*S	**Sn**	**00 25 40.9**	**+2.1**
NAY	**Al-Naaiem**	**4.02**	**242**	*e*P	**Pn**	**00 24 51.3**	**-0.4**
NAY				*e*S	**Sn**	**00 25 40.9**	**+2.0**
IRAZ	**Razeghan**	**4.32**	**345**	Pn	**Pn**	**00 24 54.6**	**-1.2**
IRAZ	**Razeghan**	**4.32**	**345**	*e*Pn	**Pn**	**00 24 54.6**	**-1.2**
IRAZ				*e*		00 25 27.0	
	comp=Z,220nm,0.3s						
IRAZ	**Razeghan**	**4.32**	**345**	Pn	**Pn**	**00 24 54.6**	**-1.2**
IKOM	**Komasi**	**4.33**	**314**	Pn	**Pn**	**00 24 54.0**	**-2.1**
IKOM	**Komasi**	**4.33**	**314**	*e*Pn	**Pn**	**00 24 53.6**	**-2.5**
IKOM				*e*		00 25 51.2	
	comp=Z,375nm,0.3s						
IKOM	**Komasi**	**4.33**	**314**	Pn	**Pn**	**00 24 54.0**	**-2.1**
ISHM	**Shahmirzad**	**4.86**	**20**	Pn	**Pn**	**00 25 03.6**	**+0.3**
ISHM	**Shahmirzad**	**4.86**	**20**	*e*Pn	**Pn**	**00 25 03.6**	**+0.3**
ISHM				*e*		00 25 56.1	
	comp=Z,189nm,0.2s						
ISHM	**Shahmirzad**	**4.86**	**20**	Pn	**Pn**	**00 25 03.6**	**+0.3**
IKOO	**Kooshah**	**6.67**	**78**	*e*Pn	**Pn**	**00 25 27.8**	**-0.4**
IKOO				*e*		00 27 26.4	
	comp=N,49nm,0.2s						
AKASG	**Malin Array Be**	**25.45**	**326**	P	**P**	**00 29 14.0**	**-4.0**
	comp=N,0.5nm,0.3s,mb3.5,baz=134,slow=8.5,SNR=7.7						
AKASG	**Malin Array Be**	**25.45**	**326**	P	**P**	**00 29 14.0**	**-4.0**
BVAR	**Borovoye Array**	**25.83**	**27**	P	**P**	**00 29 20.8**	**-0.6**
	comp=N,0.6nm,0.8s,mb3.2,baz=224,slow=8.1,SNR=4.0						
BVAR	**Borovoye Array**	**25.83**	**27**	P	**P**	**00 29 20.8**	**-0.6**
MKAR	**Makanchi Array**	**28.44**	**48**	P	**P**	**00 29 44.9**	**-0.1**
	comp=N,0.3nm,0.7s,mb3.0,baz=254,slow=8.4,SNR=3.1						
MKAR	**Makanchi Array**	**28.44**	**48**	P	**P**	**00 29 44.9**	**-0.1**
TORD	**Torodi Ar. Bea**	**48.89**	**260**	P	**P**	**00 32 33.0**	**-3.4**
	comp=N,0.4nm,0.6s,mb3.6,baz=55,slow=7.8,SNR=8.8						
TORD	**Torodi Ar. Bea**	**48.89**	**260**	P	**P**	**00 32 33.0**	**-3.4**

*ATH **10** 00:30:21.3, 40°.85N×22°.30E, h27km±5km, MD3.1/4*
*SKO **10** 00:30:22.6, 40°.73N×22°.47E, h15km, M1.0, ML1.5*
*CSEM **10** 00:30:23.4±0.3, 40°.79N×22°.44E, h20km, ML1.5, Error ellipse: s-maj=10.0km s-min=5.3km az=15.0*
*ISCJB **10** 00:30:24.3±0.7, 40°.79N±0°.06×22°.42E±0°.05, h26km±9km, Error ellipse: s-maj=9.4km s-min=5.6km az=11.9*

ISC 10 00:30:24.3±0.7, 40°.78N±0°.05×22°.42E±0°.05, h23km±10km, n14, σ1§06/24, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.55**	**12**	*e*Pg	**Pb**	**00 30 33.9**	**-1.4**
VAY				*e*Sg	**Sb**	**00 30 42.9**	**+0.1**
VAY				*e*Lg		00 30 43.3	
	comp=N,20nm,0.3s						
VAY				*e*Lg		00 30 43.4	
	comp=E,14nm,0.3s						
VAY	**Valandovo**	**0.55**	**12**	*e*Pg	**Pb**	**00 30 33.8**	**-1.5**
VAY				*e*Sg	**Sb**	**00 30 42.8**	**0.0**
KZN	**Kozani**	**0.68**	**226**	*e*PN	**Pb**	**00 30 35.0**	**-2.5**
KZN	**Kozani**	**0.68**	**226**	*e*Pn	**Pb**	**00 30 35.0**	**-2.5**
SOH	**Sokhos**	**0.71**	**86**	*e*PN	**Pb**	**00 30 36.9**	**-1.1**
SOH				*e*SN	**Sb**	**00 30 48.3**	**+0.9**
SOH	**Sokhos**	**0.71**	**86**	*e*Pn	**Pb**	**00 30 36.9**	**-1.1**
SOH				*e*Sn	**Sb**	**00 30 48.3**	**+0.9**
BIA	**Bitola**	**0.86**	**286**	*e*Pg	**Pb**	**00 30 41.1**	**+0.6**
BIA				*e*Sg	**Sb**	**00 30 53.4**	**+1.8**
BIA				*e*Lg		00 30 53.6	
	comp=N,5.7nm,0.3s						
BIA				*e*Lg		00 30 53.9	
	comp=E,11nm,0.3s						
BIA	**Bitola**	**0.86**	**286**	*e*Pg	**Pb**	**00 30 41.0**	**+0.5**
BIA				*e*Sg	**Sb**	**00 30 53.4**	**+1.8**
PLG	**Polygyros**	**0.88**	**117**	*e*PN	**Pb**	**00 30 40.8**	**-0.1**
PLG				*e*SN	**Sb**	**00 30 53.5**	**+1.2**
PLG	**Polygyros**	**0.88**	**117**	*e*Pn	**Pb**	**00 30 40.8**	**-0.1**
PLG				*e*Sn	**Sb**	**00 30 53.5**	**+1.2**
KRUS	**Krusevo**	**1.06**	**304**	*e*Pg	**Pn**	**00 30 43.8**	**+0.1**
KRUS	**Krusevo**	**1.06**	**304**	*e*Pg	**Pn**	**00 30 43.7**	**0.0**
NVR	**Nevrokopi**	**1.23**	**62**	*e*PN	**Pn**	**00 30 45.9**	**-0.2**
NVR				*e*SN	**Sn**	**00 31 02.1**	**+0.1**
NVR	**Nevrokopi**	**1.23**	**62**	*e*Pn	**Pn**	**00 30 45.9**	**-0.2**
NVR				*e*Sn	**Sn**	**00 31 02.1**	**+0.1**

*PGC **10** 00:35:01.7±2.0, 60°.03N×140°.36W, h1km, ML2.6/3, 95km northwest of Yakutat, Ak Southeastern Alaska*

NEIC 10 00:35:00.3, 60°.09N×140°.56W, h12km, ML2.6(PGC), ML2.5(AEIC), 2C-2D, After AEIC., Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNL	**Peninsula**	**0.72**	**125**	P	Pg	00 35 13.9	-0.4
PNL				S	Sg	00 35 24.8	+1.1
BMRM	**Bremner River**	**2.19**	**296**	P	Pn	00 35 36.3	-0.1
BMRM				*e*Sn	Sn	00 36 04.7	+1.3
PLBC	**Pleasant Camp**	**2.21**	**105**	⇑Pn	Pn	00 35 37.8	+1.0
PLBC				Sg	Sg	00 36 06.8	-4.6
PLBC	**Pleasant Camp**	**2.21**	**105**	⇑Pn	Pn	00 35 37.8	+1.0
PLBC				⇑Sg	Sg	00 36 06.8	-4.6
DIV	**Divide**	**2.77**	**294**	*e*Pn	Pn	00 35 46.0	+1.6
DIV				*e*Sn	Sn	00 36 22.1	+4.2
WHY	**Whitehorse**	**2.88**	**76**	⇑Pn	Pn	00 35 47.2	+1.3
WHY				Sg	Sg	00 36 29.1	-3.6
WHY	**Whitehorse**	**2.88**	**76**	⇑Pn	Pn	00 35 47.2	+1.3
WHY				⇑Sg	Sg	00 36 29.1	-3.6
DAWY	**Dawson**	**4.03**	**7**	*e*Pn	Pn	00 36 03.7	+2.0
DAWY				*e*Sn	Sn	00 36 48.2	-0.6
DAWY	**Dawson**	**4.03**	**7**	⇓Pn	Pn	00 36 03.9	+2.1
DAWY				⇓Sn	Sn	00 36 51.3	+2.5
DAWY				⇑Sg	Sg	00 37 07.6	-2.0

*NEIC **10** 00:38:43.0±1.1, 7°.16S×129°.08E, h160km±11km, mb4.7/6, Error ellipse: s-maj=10.9km s-min=5.0km az=51.0*
*ISCJB **10** 00:38:45.1±0.4, 7°.28S±0°.03×129°.13E±0°.04, h200km±5km, mb4.2/23, Error ellipse: s-maj=6.9km s-min=5.0km az=148.6*
*IDC **10** 00:38:45.2±1.9, 7°.09S×129°.14E, h180km±16km, mb3.7/15, mb1 3.9/17, mb1mx3.9/22, mbtmp3.8/17, MS3.0/3, Ms1 3.0/3, ms1mx2.8/30, Error ellipse: s-maj=20.8km s-min=9.7km az=59.0*
*DJA **10** 00:38:48, 7°.42S×129°.02E, h105km, mb4.8/15*

ISC 10 00:38:45.8±0.5, 7°.29S±0°.04×129°.13E±0°.04, h191km±5km, n96, σ1§29/100, mb4.3/23, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.86**	**16**	P	**Pn**	**00 39 36.6**	**+3.3**
BNDI				S	**Sn**	**00 40 10.1**	**-0.3**
AAI	**Ambon**	**3.70**	**345**	P	**Pn**	**00 39 42.3**	**-1.3**
AAI				S	**Sn**	**00 40 28.5**	**-0.4**
MSAI	**Masohi**	**3.92**	**357**	P	**Pn**	**00 39 47.1**	**+0.7**
MSAI				S	**Sn**	**00 40 35.5**	**+1.6**
NLAI	**Namlea**	**4.51**	**333**	P	**Pn**	**00 39 53.0**	**-0.7**
BBSI	**Bau Bau**	**6.76**	**285**	P	**Pn**	**00 40 25.2**	**+2.2**
	0.3nm98nm,1.2s						
LBMI	**Labuha**	**6.81**	**346**	P	**Pn**	**00 40 23.9**	**+0.4**
	0.3nm1μm87nm,0.7s						
MMRI	**Maumere**	**6.96**	**258**	S	**Sn**	**00 41 43.9**	**-0.5**
BKSI	**Bulukumba**	**9.17**	**282**	P	**Pn**	**00 40 55.2**	**+0.8**
	406nm30nm,0.9s						
BNSI	**Bone**	**9.43**	**287**	P	**Pn**	**00 41 03.4**	**+5.6**
	606nm,0.9s						
KAPI	**Kappang**	**9.60**	**283**	*e*Pn	**Pn**	**00 41 00.1**	**0.0**
	14nm,0.8s						
KAPI				*e*Sn	**Sn**	**00 42 43.7**	**-3.6**
KAPI	**Kappang**	**9.60**	**283**	P	**Pn**	**00 41 01.0**	**+1.0**
	19nm,1.1s						
SPSI	**Sidrap Palu**	**9.89**	**289**	P	**Pn**	**00 41 05.9**	**+2.1**
	21nm,0.8s						
BMNI	**Bima**	**10.42**	**262**	P	**Pn**	**00 41 10.1**	**-0.6**
	2μm79nm,0.7s						
MRSI	**Marisa**	**10.54**	**317**	P	**Pn**	**00 41 17.8**	**+5.6**
	2μm45nm,1.1s						
FITZ	**Fitzroy Crossi**	**11.27**	**197**	P	**Pn**	**00 41 19.3**	**-2.3**
	1.3nm,0.3s,baz=33,slow=10.0,SNR=44						
FITZ				S	**Sn**	**00 43 19.6**	**-7.6**
	2.2nm,0.3s,baz=314,slow=11,SNR=7.7						
FITZ				LR	LR	00 46 02.2	
	comp=Z,52nm,20.2s,baz=20,slow=38						
FITZ	**Fitzroy Crossi**	**11.27**	**197**	*e*P	**Pn**	**00 41 19.5**	**-2.2**
	12nm,0.6s						
FITZ				*e*S	**Sn**	**00 43 19.4**	**-7.8**
FITZ	**Fitzroy Crossi**	**11.27**	**197**	P	**Pn**	**00 41 19.3**	**-2.3**
FITZ				S	**Sn**	**00 43 19.6**	**-7.6**
FITZ				LR	LR	00 46 02.2	
FITZ	**Fitzroy Crossi**	**11.27**	**197**	P	**Pn**	**00 41 20.0**	**-1.7**
	11nm,1.5s						
JAY	**Jayapura**	**12.46**	**68**	P	**Pn**	**00 41 45.0**	**+8.0**
	53nm,0.5s						
KBKI	**Kotabaru**	**13.51**	**286**	P	**Pn**	**00 41 56.5**	**+6.4**
	4μm33nm,1.0s						
WRAB	**Tennant Creek**	**13.55**	**159**	*e*Pn	**Pn**	**00 41 47.8**	**-2.7**
	77nm,0.6s						
WRAB				*e*Sn	**Sn**	**00 44 12.8**	**-8.7**
WRA	**Warramunga Arr**	**13.55**	**159**	P	**Pn**	**00 41 47.7**	**-2.9**
	1.3nm,0.3s,baz=345,slow=13,SNR=29						
WRA				S	**Sn**	**00 44 15.2**	**-6.5**
	2.9nm,0.3s,baz=336,slow=23,SNR=12						
WRA				LR	LR	00 46 40.1	
	comp=Z,60nm,21.7s,baz=95,slow=35						
WRA				ScP	ScP	00 50 18.7	+1.3
	0.6nm,0.3s,baz=313,slow=2.0,SNR=11						
WRA	**Warramunga Arr**	**13.55**	**159**	P	**Pn**	**00 41 47.7**	**-2.9**
WRA				S	**Sn**	**00 44 15.2**	**-6.5**
WRA				LR	LR	00 46 40.1	
WRA				ScP	ScP	00 50 18.7	+1.4
WB2	**Warramunga Arr**	**13.56**	**159**	*e*Pn	**Pn**	**00 41 47.6**	**-3.0**
WB2				*e*Sn	**Sn**	**00 44 15.1**	**-6.7**
BBKI	**Banjar Baru**	**14.73**	**284**	P	**Pn**	**00 42 10.3**	**+5.1**
	4μm212nm,0.7s						
KMMI	**Kalianget**	**15.05**	**270**	P	**Pn**	**00 42 12.1**	**+2.9**
	2μm37nm,0.9s						
COEN	**Coen**	**15.30**	**117**	*e*Pn	**Pn**	**00 42 12.3**	**+0.1**
	186nm,0.7s						
COEN				*e*Sn	**Sn**	**00 44 52.0**	**-12**
ASAR	**Alice Springs**	**16.91**	**165**	P	**Pn**	**00 42 32.3**	**+0.7**
	7.4nm,0.3s,baz=344,slow=11,SNR=374						
ASAR				S	**S**	**00 45 36.1**	**-1.0**
	0.6nm,0.3s,baz=347,slow=24,SNR=13						
ASAR				ScP	ScP	00 50 24.9	+1.4
	0.6nm,0.3s,baz=0.8,slow=1.8,SNR=11						
ASAR	**Alice Springs**	**16.91**	**165**	P	**Pn**	**00 42 32.3**	**+0.7**
ASAR				S	**S**	**00 45 36.1**	**-1.0**
ASAR				ScP	ScP	00 50 24.9	+1.4
PWJI	**Pagerwojo**	**17.19**	**266**	P	**Pn**	**00 42 34.9**	**-0.1**
PMG	**Port Moresby**	**17.96**	**98**	P	**Pn**	**00 42 43.6**	**-0.4**
	2.6nm,0.3s,baz=272,slow=6.0,SNR=10						
PMG	**Port Moresby**	**17.96**	**98**	P	**Pn**	**00 42 43.6**	**-0.4**
KSM	**Kota Kinabalu**	**18.48**	**315**	*e*P	**P**	**00 42 46.2**	**-1.4**
	31nm,1.0s						
KSM	**Kuching**	**20.70**	**294**	*e*P	**P**	**00 43 10.0**	**-1.5**
	13nm,0.7s						
CTA	**Charters Tower**	**20.91**	**129**	P	**P**	**00 43 15.0**	**+1.4**
	7.9nm,0.9s,baz=307,slow=12,SNR=4.6						
CTA	**Charters Tower**	**20.91**	**129**	*e*P	**P**	**00 43 15.1**	**+1.5**
	11nm,1.3s						
CTA	**Charters Tower**	**20.91**	**129**	P	**P**	**00 43 15.0**	**+1.4**
FORT	**Forrest**	**23.39**	**182**	*e*P	**P**	**00 43 39.6**	**+2.1**
	25nm,0.5s,mb4.9						
STKA	**Stephens Creek**	**27.08**	**156**	P	**P**	**00 44 12.1**	**+1.3**
	7.4nm,0.5s,mb4.6,baz=325,slow=8.4,SNR=32						
STKA				ScP	ScP	00 50 50.2	+1.0
	3.0nm,0.5s,baz=346,slow=4.8,SNR=9.9						
STKA				LR	LR	00 56 40.0	
	comp=Z,68nm,18.7s,baz=65,slow=39						
STKA	**Stephens Creek**	**27.08**	**156**	*e*P	**P**	**00 44 12.0**	**+1.2**
	5.0nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**27.08**	**156**	*e*P	**P**	**00 44 11.7**	**+0.9**
	2.0nm,0.7s,mb3.9						
STKA				*e*	pP	00 44 49.5	0.0
STKA				ScP	ScP	00 50 50.2	+1.0
STKA				LR	LR	00 56 40.0	
ARMA	**Armidale**	**31.21**	**140**	*e*P	**P**	**00 44 50.4**	**+3.1**
PSI	**Prapat**	**31.77**	**287**	P	**P**	**00 44 52.8**	**+0.4**
	16nm,0.8s,mb4.8,baz=95,slow=2.1,SNR=9.2						
PSI	**Prapat**	**31.77**	**287**	P	**P**	**00 44 52.8**	**+0.4**
TOO	**Toolangi**	**33.60**	**156**	*e*P	**P**	**00 45 11.0**	**+3.0**
CMAR	**Chiang Mai Arr**	**39.27**	**311**	P	**P**	**00 45 55.6**	**-0.6**
	2.0nm,0.5s,mb4.0,baz=141,slow=7.5,SNR=12						
CMAR	**Chiang Mai Arr**	**39.27**	**311**	P	**P**	**00 45 55.6**	**-0.6**
RPZ	**Rata Peaks**	**51.53**	**142**	P	**P**	**00 47 34.1**	**+2.0

ISCJB ***10*** *00:57:21.3±0.4, 3.°60S±0.°04×139.°99E±0.°06, h33km, mb4.0/11, MS3.7/4, Error ellipse: s-maj=8.6km s-min=5.3km az=173.7*

NEIC ***10*** *00:57:23.4±1.0, 3.°52S×139.°91E, h35km±10km, mb4.3/7, Error ellipse: s-maj=9.1km s-min=6.6km az=94.0*

ISC 10 00:57:23.8±1.4, **3.°60S**±0.°05×**139.°92E**±0.°07, **h38**km±14km, **n50**, σ0**97**/51, **mb4.0**/11, **MS3.7**/4, **Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**9.22**	**129**	Pn	**Pn**	**00 59 34.6**	**+0.2**
	3.9nm,0.3s,baz=309,slow=9.3,SNR=9.9						
PMG				Sn	**Sn**	**01 01 15.1**	**-1.8**
	1.2nm,0.3s,baz=232,slow=19,SNR=4.0						
PMG	**Port Moresby**	**9.22**	**129**	Pn	**Pn**	**00 59 34.6**	**+0.2**
PMG				Sn	**Sn**	**01 01 15.1**	**-1.8**
COEN	**Coen**	**10.78**	**163**	*e*Pn	**Pn**	**00 59 56.0**	**+0.3**
	160nm,1.0s						
COEN				*e*Sn	**Sn**	**01 01 56.3**	**+1.1**
WRAB	**Tennant Creek**	**17.12**	**198**	*e*Pn	**Pn**	**01 01 20.9**	**+0.6**
	36nm,0.8s						
WRAB				*e*Sn	**Sn**	**01 04 27.5**	**-2.2**
WRA	**Warramunga Arr**	**17.13**	**198**	P	**Pn**	**01 01 19.5**	**-0.9**
	2.0nm,0.3s,baz=11,slow=12,SNR=18						
WRA				S	**S**	**01 04 27.1**	**-11**
	1.0nm,0.3s,baz=9.8,slow=22,SNR=6.6						
WRA				Lg		01 06 25.7	
	baz=17,slow=29,SNR=2.9						
WRA				LR	LR	01 08 33.7	
	comp=Z,473nm,19.5s,baz=30,slow=39						
WRA	**Warramunga Arr**	**17.13**	**198**	P	**Pn**	**01 01 19.5**	**-0.9**
WRA				S	**S**	**01 04 27.1**	**-11**
WRA				Lg		01 06 25.6	
WRA				LR	LR	01 08 33.7	
CTA	**Charters Tower**	**17.51**	**160**	P	**Pn**	**01 01 27.0**	**+1.8**
	0.6nm,0.3s,baz=345,slow=14,SNR=7.3						
CTA				Lg		01 06 39.6	
	0.5nm,0.3s,baz=198,slow=9.6,SNR=3.8						
CTA				LR	LR	01 08 07.2	
	comp=Z,264nm,20.2s,baz=26,slow=37						
CTA	**Charters Tower**	**17.51**	**160**	P	**Pn**	**01 01 27.0**	**+1.8**
CTA				Lg		01 06 39.6	
CTA				LR	LR	01 08 07.2	
CTAO	**Charters Tower**	**17.51**	**160**	*e*Pn	**Pn**	**01 01 25.8**	**+0.7**
	14nm,1.0s						
GUMO	**Guam**	**17.77**	**16**	LR	LR	01 07 11.9	
	comp=Z,184nm,20.6s,baz=103,slow=34						
GUMO	**Guam**	**17.77**	**16**	Pn	**Pn**	**01 01 27.5**	**-0.9**
FITZ	**Fitzroy Crossi**	**20.08**	**223**	P	**P**	**01 01 55.7**	**+1.6**
	10nm,0.7s,baz=45,slow=13,SNR=39						
FITZ				S	**S**	**01 05 36.5**	**-1.4**
	11nm,0.7s,baz=24,slow=18,SNR=6.4						
FITZ				Lg		01 08 13.5	
	23nm,0.9s,baz=148,slow=18,SNR=3.7						
FITZ				LR	LR	01 10 20.0	
	comp=Z,380nm,19.0s,MS3.8,baz=55,slow=39						
FITZ	**Fitzroy Crossi**	**20.08**	**223**	*e*P	**P**	**01 01 58.0**	**+3.8**
	16nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.08**	**223**	*e*P	**P**	**01 01 55.5**	**+1.3**
	6.8nm,0.5s						
FITZ				S	**S**	**01 05 36.5**	**-1.4**
FITZ				Lg		01 08 13.5	
FITZ				LR	LR	01 10 20.0	
KAPI	**Kappang**	**20.16**	**265**	*e*P	**P**	**01 01 55.4**	**+0.3**
ASAR	**Alice Springs**	**20.78**	**196**	P	**P**	**01 02 02.6**	**+1.0**
	20nm,0.6s,baz=29,slow=8.5,SNR=100						
ASAR				S	**S**	**01 05 51.9**	**+0.3**
	9.2nm,0.9s,baz=19,slow=21,SNR=9.3						
ASAR	**Alice Springs**	**20.78**	**196**	P	**P**	**01 02 02.6**	**+1.0**
ASAR				S	**S**	**01 05 51.9**	**+0.3**
EIDS	**Eidsvold**	**24.16**	**155**	*e*P	**P**	**01 02 36.9**	**+0.3**
	5.5nm,0.5s,mb4.2						
TGY	**Tagaytay City**	**25.76**	**313**	LR	LR	01 13 39.6	
	comp=Z,65nm,21.5s,MS3.1,baz=241,slow=38						
MBWA	**Marble Bar**	**26.27**	**227**	*e*P	**P**	**01 02 54.8**	**-0.9**
STKA	**Stephens Creek**	**28.17**	**177**	P	**P**	**01 03 12.4**	**-0.3**
	1.0nm,0.7s,mb3.6,baz=343,slow=14,SNR=3.7						
STKA				LR	LR	01 15 43.1	
	comp=Z,521nm,18.2s,MS4.2,baz=23,slow=39						
STKA	**Stephens Creek**	**28.17**	**177**	*e*P	**P**	**01 03 13.0**	**+0.3**
	3.1nm,1.8s,mb3.6						
STKA	**Stephens Creek**	**28.17**	**177**	*e*P	**P**	**01 03 13.3**	**+0.6**
STKA				LR	LR	01 15 43.1	
CBIJ	**Chichi jima**	**30.59**	**4**	LR	LR	01 14 05.1	
	comp=Z,168nm,18.2s,MS3.7,baz=146,slow=33						
NWAO	**Narrogin (SRO)**	**36.08**	**213**	P	**P**	**01 04 22.5**	**+0.6**
KSRS	**Korea Array**	**42.34**	**346**	P	**P**	**01 05 15.4**	**+1.3**
	1.3nm,0.6s,mb3.7,baz=158,slow=8.9,SNR=3.1						
COCO	**West Island**	**43.46**	**256**	P	**P**	**01 05 22.8**	**-0.9**
PETK	**Petropavlovsk-**	**58.45**	**12**	P	**P**	**01 07 15.9**	**+0.2**
	3.5nm,0.8s,mb4.4,baz=188,slow=4.5,SNR=3.5						
PETK	**Petropavlovsk-**	**58.45**	**12**	P	**P**	**01 07 15.9**	**+0.2**
SONM	**Songino Array**	**59.03**	**334**	P	**P**	**01 07 21.3**	**+1.4**
	0.2nm,0.5s,mb3.4,baz=142,slow=6.0,SNR=2.7						
SONM	**Songino Array**	**59.03**	**334**	P	**P**	**01 07 21.3**	**+1.4**
MKAR	**Makanchi Array**	**71.22**	**322**	P	**P**	**01 08 38.3**	**-0.7**
	0.6nm,0.5s,mb3.8,baz=100,slow=7.7,SNR=12						
MKAR	**Makanchi Array**	**71.22**	**322**	P	**P**	**01 08 38.3**	**-0.7**
TKM2	**Tokmak 2**	**74.02**	**316**	*e*P	**P**	**01 08 55.0**	**-0.7**
VNDA	**Vanda**	**74.80**	**175**	P	**P**	**01 08 59.6**	**0.0**
	2.4nm,0.8s,mb4.2,baz=318,slow=6.2,SNR=13						
VNDA	**Vanda**	**74.80**	**175**	*e*P	**P**	**01 08 59.9**	**+0.3**
KURK	**Kurchatov**	**75.13**	**325**	P	**P**	**01 09 01.9**	**-0.1**
BRVK	**Borovoye**	**80.80**	**325**	*e*P	**P**	**01 09 33.6**	**+0.2**
	1.9nm,0.7s,mb4.1						
MAW	**Mawson**	**81.76**	**202**	P	**P**	**01 09 38.6**	**+0.3**
	2.0nm,0.7s,mb4.1,baz=85,slow=5.2,SNR=7.9						
MAW	**Mawson**	**81.76**	**202**	*e*P	**P**	**01 09 38.5**	**+0.2**
	0.6nm,0.7s,mb3.6						
ILAR	**Eielson Array**	**86.14**	**24**	P	**P**	**01 09 58.4**	**-2.2**
	0.5nm,0.7s,mb3.9,baz=257,slow=4.3,SNR=9.8						
ILAR	**Eielson Array**	**86.14**	**24**	P	**P**	**01 09 58.4**	**-2.2**
QSPA	**South Pole Qui**	**86.35**	**180**	*e*P	**P**	**01 10 02.1**	**+0.6**
	8.6nm,0.8s,mb5.0						
ARU	**Arti**	**88.20**	**327**	*e*P	**P**	**01 10 10.6**	**-0.2**
DBIC	**Dimbokro**	**144.79**	**276**	PKP	PKPdf	01 16 58.6	+0.8
	0.6nm,0.5s,mb3.8,baz=100,slow=7.7,SNR=2.9						
DBIC	**Dimbokro**	**144.79**	**276**	PKP	PKPdf	01 16 58.6	+0.8
CPUP	**Villa Florida**	**145.88**	**152**	PKPbc	PKPbc	01 17 00.7	+0.7
	0.3nm,0.3s,baz=216,slow=3.2,SNR=3.6						
CPUP	**Villa Florida**	**145.88**	**152**	PKPbc	PKPbc	01 17 00.7	+0.7
LPAZ	**La Paz**	**145.95**	**126**	PKPbc	PKPbc	01 17 02.1	+1.7
	1.4nm,0.7s,baz=207,slow=2.3,SNR=6.3						
LPAZ	**La Paz**	**145.95**	**126**	PKPbc	PKPbc	01 17 02.1	+1.7

MEX 10 00:57:51.0±0.6, **16.°87N**×**100.°75W**, **h16**km±11km, **MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.49**	**69**	*i* P	Pg	00 57 59.1	-1.7
CAIG				*i* S	Sg	00 58 05.8	-1.7
ACX	**Acapulco**	**0.85**	**90**	*i* P	Pb	00 58 04.5	-2.9
ACX				*i* S	Sb	00 58 14.5	-4.1
ZIIG	**Zihuatanejo**	**1.00**	**317**	*i* P	Pb	00 58 06.6	-3.4
ZIIG				*i* S	Sb	00 58 18.9	-4.1
MEIG	**Mezcala**	**1.50**	**46**	*e*P	Pn	00 58 13.9	-3.4
MEIG				*i* S	Sn	00 58 31.6	-4.9
PNIG	**Pinotepa**	**2.56**	**100**	*e*P	Pn	00 58 29.4	-2.4
PNIG				*i* S	Sn	00 58 57.5	-5.1
MMIG	**Aquila**	**2.85**	**300**	*e*P	Pn	00 58 32.5	-3.3
MMIG				*i* S	Sn	00 59 06.0	-3.9
UTMO	**Huajuapan**	**2.97**	**71**	*e*P	Pn	00 58 36.5	-0.9
UTMO				*i* S	Sn	00 59 10.3	-2.5

IDC ***10*** *01:21:58.9±0.3, 37.°59N×95.°97E, h0km, mb5.7/40, mb1 5.7/45, mb1mx5.7/46, mbtmp5.6/45, ML5.4/4, MS6.3/38, Ms1 6.3/38, ms1mx6.2/41, Error ellipse: s-maj=7.7km s-min=5.6km az=51.0*

BJI ***10*** *01:21:59.1, 37.°66N×95.°91E, h16km, mB6.5/33, mb5.8/53, ML6.5/9, Ms6.6/71, Ms7 6.5/59*

ISCJB ***10*** *01:21:59.6±0.1, 37.°58N±0.°01×95.°81E±0.°01, h10km, mb6.2/495, MS6.5/277, Error ellipse: s-maj=2.0km s-min=1.4km az=19.5*

MOS ***10*** *01:22:02.5±0.9, 37.°50N×95.°94E, h39km, mb6.4/155, MS6.5/104, Error ellipse: s-maj=5.5km s-min=3.5km az=124.4*

NEIC ***10*** *01:22:02.6±0.1, 37.°57N×95.°83E, h19km, mb6.4/285, ME6.4, MS6.4/180, MW6.3, MW6.1, Error ellipse: s-maj=2.6km s-min=2.2km az=19.0, Moment Tensor Solution. s134 Moment tensor: Scale 10*^{18}*Nm; Mrr1.40; Mθθ-1.26; Mφφ-0.14; Mrθ0.81; Mrφ0.05; Mθφ-0.30; Best double couple: M*$_w$*1.60000×10*^{18} *NP1:*ϕ_s*265.00000°, δ29.00000°, λ76.00000°. NP2:*ϕ_s*101.00000°, δ61.00000°, λ98.00000°. Principal axes: T 1.6700, Plg72.0000°, Azm29.0000°; N -0.1700, Plg6.0000°, Azm277.0000°; P -1.5000, Plg16.0000°, Azm185.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC Three people injured, several buildings damaged and utilities disrupted at the Dameigou Coal Mine. Damage at the mine was estimated at 4 million US dollars. Several homes collapsed at Golmud. About 20 homes damaged and utilities disrupted at Da Qaidam.

NNC ***10*** *01:22:05.8±1.9, 38.°01N×95.°36E, h6km±13km, mb6.1 Error ellipse: s-maj=19.1km s-min=10.8km az=21.0*

SZGRF ***10*** *01:22:06.0, 37.°85N×95.°84E, h33km, mb6.6, MS6.7, Qinghai, China*

DJA ***10*** *01:22:08, 37.°81N×95.°79E, h78km, Mw6.6/47*

GCMT ***10*** *01:22:10.2±0.1, 37.°51N×95.°75E, h27km, MW6.3, Moment Tensor Solution. s109,c262; s94,c142; Moment tensor: Scale 10*^{18}*Nm; Mrr2.51±.03; Mθθ-3.48±.02; Mφφ0.97±.02; Mrθ2.49±.05; Mrφ0.20±.02; Mθφ-0.99±.05; Best double couple: M*$_w$*4.10000×10*^{18} *NP1:*ϕ_s*252.00000°, δ28.00000°, λ57.00000°. NP2:*ϕ_s*108.00000°, δ67.00000°, λ106.00000°. Principal axes: T 3.6900, Plg64.0000°, Azm45.0000°; N 0.7500, Plg15.0000°, Azm282.0000°; P -4.4300, Plg20.0000°, Azm186.0000°; Data Used: II IU CN IC G. Surface waves: sta=114, comp=279, per= 50.*

BGS ***10*** *01:22:15.5±2.3, 38.°54N×93.°25E, h20km, mb5.8, MS6.7*

ISC 10 01:21:59.7±0.5, **37.°62N**±0.°01×**95.°89E**±0.°01, **h0**km±3km, **n2103**, σ0**97**/1959, **mb6.3**/495, **MS6.5**/277, **487C-184D, Qinghai**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**3.56**	**59**	Pg	**Pn**	**01 22 59.2**	**+3.0**
GTA				Sn	**Sn**	**01 23 41.5**	**+2.5**
GTA				Sg	**Sg**	**01 23 51.1**	**-3.1**
GTA				smax			
	comp=N,43μm,0.9s						
GTA				smax			
	comp=E,32μm,1.3s						
GTA				LR	LR		
	comp=N,897μm,12.1s						
GTA				LR	LR		
	comp=E,960μm,14.5s						
GTA				LR	LR		
	comp=Z,990μm,11.4s						
LZH	**Lanzhou**	**6.56**	**101**	Pn	**Pn**	**01 23 38.6**	**+1.2**
LZH				Sn	**Sn**	**01 24 53.6**	**+0.6**
LZH				smax			
	comp=N,53μm,1.1s						
LZH				smax			
	comp=E,39μm,1.0s						
LZH				LR	LR		
	comp=N,287μm,12.2s						
LZH				LR	LR		
	comp=E,316μm,11.0s						
LZH				LR	LR		
	comp=Z,515μm,14.3s						
WMQ	**Urumqi**	**8.77**	**317**	P	**Pn**	**01 24 08.9**	**+1.1**
WMQ				pP		01 24 12.1	
WMQ				sP		01 24 14.9	
WMQ				S	**Sn**	**01 25 49.1**	**+1.8**
WMQ				PcP	PcP	01 30 34.6	-0.3
WMQ				ScS	ScS	01 37 37.5	-4.4
WMQ				pmax	pmax		
	comp=Z,3μm,0.9s						
WMQ				pmax	pmax		
	comp=Z,17μm,3.8s						
WMQ				LR	LR		
	comp=N,499μm,11.6s						
WMQ				LR	LR		
	comp=E,616μm,10.5s						
WMQ				LR	LR		
	comp=Z,184μm,15.3s						
LSA	**Lhasa**	**8.83**	**208**	P	**Pn**	**01 24 12.5**	**+4.0**
LSA	**Lhasa**	**8.83**	**208**	*e*Pn	**Pn**	**01 24 10.7**	**+2.1**
	comp=Z,891nm,0.8s						
LSA	**Lhasa**	**8.83**	**208**	*e*P	**Pn**	**01 24 10.7**	**+2.1**
LSA				pmax	pmax		
	comp=Z,891nm,0.8s						
CD2	**Chengdu**	**9.34**	**133**	P	**Pn**	**01 24 18.2**	**+2.7**
CD2				pP		01 24 23.0	
CD2				sP		01 24 25.8	
CD2				S	**Sn**	**01 26 05.9**	**+4.7**
CD2				sS		01 26 11.5	
CD2				pmax	pmax		
	comp=Z,750nm,1.2s						
CD2				pmax	pmax		
	comp=Z,13μm,7.8s						
CD2				LR	LR		
	comp=N,496μm,15.5s						
CD2				LR	LR		
	comp=Z,394μm,15.5s						
XAN	**Xi'an**	**11.17**	**105**	P	**Pn**	**01 24 38.4**	**-2.2**
XAN				LR	LR		
	comp=N,113μm,17.4s						
XAN				LR	LR		
	comp=E,84μm,15.3s						
XAN				LR	LR		
	comp=Z,85μm,16.3s						
BTO	**Baotou**	**11.38**	**70**	*e*P	**Pn**	**01 24 44.3**	**+0.8**
BTO				LR	LR		
	comp=N,47μm,12.0s						
BTO				LR	LR		
	comp=E,62μm,12.0s						
GTK	**Gangtok**	**11.95**	**213**	*e*PKP	**Pn**	**01 24 50.5**	**-0.8**
TAPN	**Taplejung**	**12.34**	**216**	*e*P	**Pn**	**01 24 56.3**	**-0.4**
TAPN	**Taplejung**	**12.34**	**216**	*e*P	**Pn**	**01 24 56.3**	**-0.4**
SHL	**Shillong**	**12.49**	**197**	⇓*i*P	**Pn**	**01 24 58.0**	**-0.7**
SHL				ex	x	01 27 30.0	
HHC	**Hu-ho-hao-te**	**12.58**	**70**	⇑*i*P	**Pn**	**01 24 59.9**	**+0.1**
HHC				sP		01 25 06.7	
HHC				PP		01 25 10.2	
HHC				S	**Sn**	**01 27 21.3**	**+0.7**
HHC				SS		01 27 36.0	
HHC				PcS	PcS	01 34 10.5	-2.4
HHC				pmax	pmax		
	comp=Z,190nm,1.1s						
HHC				pmax	pmax		
	comp=Z,7μm,4.4s						
HHC				LR	LR		
	comp=N,166μm,15.7s						
HHC				LR	LR		
	comp=E,208μm,18.1s						
HHC				LR	LR		
	comp=Z,268μm,20.8s						
SONM	**Songino Array**	**12.79**	**34**	Pn	**Pn**	**01 25 04.0**	**+1.4**
	comp=Z,16nm,0.3s,baz=219,slow=13,SNR=425						
SONM				Lg		01 28 45.9	
	comp=Z,4.1nm,0.3s,baz=220,slow=26,SNR=2.9						
SONM				LR	LR	01 30 29.0	
	comp=Z,405μm,19.7s,baz=218,slow=40						
SONM				P3KP		02 01 44.3	
	baz=324,slow=2.0,SNR=3.7						
SONM	**Songino Array**	**12.79**	**34**	Pn	**Pn**	**01 25 04.0**	**+1.4**
SONM				Lg		01 28 45.9	
SONM				LR	LR	01 30 29.0	
SONM	**Songino Array**	**12.79**	**34**	P	**Pn**	**01 25 04.0**	**+1.3**
SONM				pmax	pmax		
	comp=Z,16nm,0.3s						
SONM				MLR	MLR		
	comp=Z,405μm,19.7s						
GUN	**Gumba**	**12.82**	**224**	*e*P	**Pn**	**01 25 02.6**	**-0.6**
	comp=Z,2μm,1.1s						
GUN	**Gumba**	**12.82**	**224**	*e*P	**Pn**	**01 25 02.6**	**-0.6**
	comp=Z,2μm,1.0s						
ODAN	**Odare**	**12.91**	**216**	*e*P	**Pn**	**01 25 03.2**	**-1.2**
	comp=Z,2μm,1.2s						
ODAN	**Odare**	**12.91**	**216**	*e*P	**Pn**	**01 25 03.2**	**-1.2**
	comp=Z,2μm,1.2s						
ULN	**Ulaanbaatar**	**13.11**	**35**	*e*Pn	**Pn**	**01 25 08.8**	**+1.8**
ULN				*e*S	**Sn**	**01 27 43.8**	**+10**
ULN	**Ulaanbaatar**	**13.11**	**35**	*e*P	**Pn**	**01 25 08.9**	**+1.9**
ULN				*e*S	**Sn**	**01 27 43.8**	**+10**
ULN	**Ulaanbaatar**	**13.11**	**35**	P	**Pn**	**01 25 09.2**	**+2.2**
ULN	**Ulaanbaatar**	**13.11**	**35**	P	**Pn**	**01 25 09.6**	**+2.6**
	SNR=234						
TIY	**Taiyuan**	**13.12**	**85**	*e*P	**Pn**	**01 25 04.5**	**-2.7**
TIY				pP		01 25 07.8	
TIY				PP		01 25 15.2	
TIY				S	**Sn**	**01 27 31.9**	**-1.9**
TIY				pmax	pmax		
	comp=Z,9μm,5.3s						
TIY				LR	LR		
	comp=N,37μm,10.1s						
TIY				LR	LR		
	comp=E,279μm,19.8s						
TIY				LR	LR		
	comp=Z,295μm,19.4s						
KKN	**Kakani**	**13.25**	**225**	*e*P	**Pn**	**01 25 07.7**	**-1.4**
	comp=Z,844nm,0.7s						
KKN	**Kakani**	**13.25**	**225**	*e*P	**Pn**	**01 25 07.7**	**-1.4**
	comp=Z,844nm,0.7s						
KKN	**Kakani**	**13.25**	**225**	*e*P	**Pn**	**01 25 07.7**	**-1.4**
KKN				pmax	pmax		
	comp=Z,844nm,0.7s						
PKI	**Pulchoki**	**13.35**	**224**	*e*P	**Pn**	**01 25 09.4**	**-1.0**
	comp=Z,1μm,1.0s						
PKI	**Pulchoki**	**13.35**	**224**	*e*P	**Pn**	**01 25 09.4**	**-1.0**
	comp=Z,1μm,1.0s						
PKI	**Pulchoki**	**13.35**	**224**	*e*P	**Pn**	**01 25 09.4**	**-1.0**
PKI				pmax	pmax		
	comp=Z,1μm,1.0s						
PKIN	**Phulchoki**	**13.35**	**224**	*e*P	**Pn**	**01 25 09.3**	**-1.1**
	comp=Z,833nm,1.0s						
ENH	**Enshi**	**13.45**	**119**	*e*Pn	**Pn**	**01 25 11.0**	**-0.8**
	comp=Z,301nm,0.8s						
GKN	**Gorkha**	**13.46**	**228**	*e*P	**Pn**	**01 25 10.3**	**-1.6**
	comp=Z,4μm,1.5s						
GKN	**Gorkha**	**13.46**	**228**	*e*P	**Pn**	**01 25 10.3**	**-1.6**
	comp=Z,4μm,1.5s						
DMN	**Daman**	**13.49**	**225**	*e*P	**Pn**	**01 25 11.0**	**-1.3**
DMN	**Daman**	**13.49**	**225**	*e*P	**Pn**	**01 25 11.0**	**-1.3**
MK31	**Makanchi Array**	**13.61**	**317**	⇓P	**Pn**	**01 25 11.6**	**-2.2**
	comp=Z,261nm,0.6s,baz=132,slow=10,SNR=2093						
MK31				⇓S	**Sn**	**01 27 37.3**	**-8.3**
	comp=Z,781nm,0.8s,baz=118,slow=22,SNR=3.5						
MK31				⇓Lg		01 29 01.6	
	comp=Z,2μm,1.2s,baz=127,slow=26,SNR=4.7						
MK31	**Makanchi Array**	**13.61**	**317**	*e*Pn	**Pn**	**01 25 12.1**	**-1.8**
MK31				*e*S	**Sn**	**01 27 37.5**	**-8.1**
MK31	**Makanchi Array**	**13.61**	**317**	*c e*P	**Pn**	**01 25 11.8**	**-2.0**
MK31				pmax	pmax		
	comp=Z,613nm,0.7s						
MKAR	**Makanchi Array**	**13.61**	**317**	Pn	**Pn**	**01 25 11.8**	**-2.1**
	comp=Z,38nm,0.3s,baz=128,slow=12,SNR=120						
MKAR				Sn	**Sn**	**01 27 37.5**	**-8.1**
	comp=Z,9.6nm,0.3s,baz=121,slow=22,SNR=3.4						
MKAR				Lg		01 29 19.4	
	baz=123,slow=33,SNR=2.6						
MKAR				LR	LR	01 30 21.7	
	comp=Z,54μm,19.4s,baz=125,slow=37						
MKAR				PKiKP	PKiKP	01 38 35.5	-0.6
	comp=Z,0.2nm,0.3s,baz=81,slow=0.4,SNR=4.2						
MKAR				P3KP		02 01 49.2	
	comp=Z,0.1nm,0.3s,baz=288,slow=1.2,SNR=3.6						
MKAR	**Makanchi Array**	**13.61**	**317**	Pn	**Pn**	**01 25 11.8**	**-2.1**
MKAR				Sn	**Sn**	**01 27 37.5**	**-8.1**
MKAR				Lg		01 29 19.4	
MKAR				LR	LR	01 30 21.7	
MKAR	**Makanchi Array**	**13.61**	**317**	P	**Pn**	**01 25 11.8**	**-2.0**
MKAR				pmax	pmax		
	comp=Z,38nm,0.3s						
MKAR				MLR	MLR		
	comp=Z,54μm,19.4s						
DANN	**Dangsing**	**13.74**	**231**	*e*P	**Pn**	**01 25 13.4**	**-2.3**
DANN	**Dangsing**	**13.74**	**231**	*e*P	**Pn**	**01 25 13.4**	**-2.3**
KMI	**Kunming**	**13.76**	**153**	P	**Pn**	**01 25 15.1**	**-0.9**
KMI				pP		01 25 19.1	
KMI				sP		01 25 20.9	
KMI				PP		01 25 26.5	
KMI				S	**Sn**	**01 27 47.1**	**-2.5**
KMI				sS		01 27 54.3	
KMI				SS		01 28 05.0	
KMI				pmax	pmax		
	comp=Z,45nm,0.9s						
KMI				pmax	pmax		
	comp=Z,950nm,5.4s						
KMI				LR	LR		
	comp=N,122μm,11.7s						
KMI				LR	LR		
	comp=E,113μm,15.7s						
KMI				LR	LR		
	comp=Z,193μm,12.9s						
ZAK	**Zakamensk**	**13.81**	**20**	*e*P	**Pn**	**01 25 20.2**	**+3.6**
ZAK				pmax	pmax		
	comp=Z,44nm,0.9s						
KOLN	**Koldanda**	**14.25**	**230**	*e*P	**Pn**	**01 25 19.6**	**-3.1**
	comp=Z,474nm,0.9s						
KOLN	**Koldanda**	**14.25**	**230**	*e*P	**Pn**	**01 25 19.6**	**-3.1**
	comp=Z,474nm,0.9s						
GYA	**Guiyang**	**14.39**	**138**	⇑*i*P	**Pn**	**01 25 23.3**	**-1.3**
GYA				pP	pP	01 25 30.0	-1.9
GYA				PP		01 25 37.6	
GYA				S	**Sn**	**01 27 59.9**	**-5.0**
GYA				SS		01 28 23.8	
GYA				PcP	PcP	01 30 41.2	-0.1
GYA				pmax	pmax		
	comp=Z,340nm,1.0s						
GYA				pmax	pmax		
	comp=Z,7μm,5.3s						
GYA				LR	LR		
	comp=N,89μm,16.2s						
GYA				LR	LR		
	comp=E,89μm,16.5s						
GYA				LR	LR		
	comp=Z,161μm,16.5s						
MOY	**Mondy**	**14.50**	**13**	*e*P	**Pn**	**01 25 29.8**	**+3.8**
MOY				pmax	pmax		
	comp=Z,2μm,2.3s						
TLY	**Talaya**	**15.09**	**19**	*e*Pn	**Pn**	**01 25 37.1**	**+3.1**
	comp=Z,2μm,1.7s						
TLY				*e*S	**Sn**	**01 28 22.6**	**+0.8**
TLY	**Talaya**	**15.09**	**19**	*c i*P	**Pn**	**01 25 36.7**	**+2.7**
TLY				pmax	pmax		
	comp=Z,857nm,1.6s						
TLY				MLR	MLR		
	comp=Z,326μm,18.0s						
TLY	**Talaya**	**15.09**	**19**	Pn	**Pn**	**01 25 37.0**	**+3.0**
	comp=Z,2μm,1.5s,SNR=68						
TLY	**Talaya**	**15.09**	**19**	P	**Pn**	**01 25 37.5**	**+3.5**
	SNR=169						
KNDC	**Almaty**	**15.45**	**297**	⇑P	**Pn**	**01 25 36.2**	**-2.6**
KNDC				⇑Lg		01 30 01.1	
AAA	**Alma-Ata**	**15.47**	**297**	*e*P	**Pn**	**01 25 37.1**	**-2.1**
AAA				*e*S	**Sn**	**01 28 28.3**	**-2.9**
AAA				pmax	pmax		
	comp=Z,10μm,1.7s						
AAA				smax			
	comp=E,8μm,1.8s						
AAA				MLR	MLR		
	comp=Z,185μm,16.0s						
KSH	**Kashi**	**15.69**	**283**	⇑*i*P	**Pn**	**01 25 42.7**	**+0.7**
KSH				pP	pP	01 25 46.1	-0.2
KSH				PP		01 25 55.3	
KSH				S	**Sn**	**01 28 35.9**	**-0.6**
KSH				PcP	PcP	01 30 44.9	+2.0
KSH				pmax	pmax		
	comp=Z,330nm,

TKM2 Tokmak 2 16.35 295 P **Pn** **01 25 48.2 -2.4**
SNR=1091
TKM2 Tokmak 2 16.35 295 ⇑P **Pn** **01 25 48.1 -2.4**
comp=Z,2μm,1.2s
TKM2 ⇓S **Sn** **01 28 46.7 -5.9**
comp=Z,398nm,0.7s
TKM2 ⇓Lg 01 30 28.7
comp=Z,1μm,1.4s
TKM2 Tokmak 2 16.35 295 *e*Pn **Pn** **01 25 48.9 -1.7**
comp=Z,1μm,0.9s
TKM2 *e*S **Sn** **01 28 44.0 -8.5**
TKM2 Tokmak 2 16.35 295 *e*P **Pn** **01 25 48.9 -1.7**
TKM2 *e*S **Sn** **01 28 44.0 -8.6**
TKM2 pmax pmax
comp=Z,1μm,0.9s
CAL Calcutta 16.38 206 *e*PKP **Pn** **01 25 50.0 -1.0**
CAL *ex* x 01 29 01.0
KZA Kyzart 16.45 292 P **Pn** **01 25 50.4 -1.4**
SNR=110
DDI Dehra Dun 16.47 249 *e*PKP **Pn** **01 25 48.0 -4.1**
DDI *ex* x 01 29 05.0
SDNR Sundarnagar 16.72 254 *e*PKP **Pn** **01 25 53.0 -2.4**
SDNR *ex* x 01 29 09.4
SMLA Simla 16.74 253 *i*P **Pn** **01 25 52.4 -3.2**
SMLA *i*x x 01 29 07.5
KBK Karagaybulak 16.77 294 P **Pn** **01 25 54.8 -1.0**
SNR=490
WHN Wuhan 16.83 109 ⇑P **Pn** **01 25 55.2 -1.5**
WHN S **Sn** **01 29 07.3 +2.9**
WHN LR LR
comp=N,221μm,12.5s
WHN LR LR
comp=E,326μm,10.8s
CHMS Chumysh 16.98 295 P **Pn** **01 25 57.0 -1.5**
SNR=161
UCH Uchtor 17.02 292 P **Pn** **01 25 58.4 -0.6**
SNR=38
FRU Bishkek 17.04 294 *i*P **Pn** **01 25 58.0 -1.3**
FRU *e* 01 29 14.0
FRU pmax pmax
comp=Z,9μm,3.0s
FRU smax
comp=E,25μm,8.0s
FRU MLR MLR
comp=Z,150μm,17.0s
TIA Tai'an 17.04 88 P **Pn** **01 25 57.5 -1.9**
TIA pP pP 01 26 03.0 +1.7
TIA LR LR
comp=N,60μm,13.0s
TIA LR LR
comp=E,180μm,16.3s
TIA LR LR
comp=Z,234μm,16.0s
AAK Ala-Archa 17.10 294 P **Pn** **01 25 59.1 -0.9**
SNR=230
AAK Ala-Archa 17.10 294 *e*Pn **Pn** **01 25 58.2 -1.8**
comp=Z,963nm,1.0s
AAK Ala-Archa 17.10 294*c i*P **Pn** **01 25 58.2 -1.8**
AAK pmax pmax
comp=Z,184nm,0.8s
AAK MLR MLR
comp=Z,98μm,19.0s
AAK Ala-Archa 17.10 294 Pn **Pn** **01 25 59.0 -1.0**
comp=Z,6μm,0.9s
AAK Ala-Archa 17.10 294 P **Pn** **01 25 58.6 -1.4**
comp=Z,1μm,1.1s
BHK Bhakra 17.18 255 *e*PKP **Pn** **01 25 59.4 -1.8**
BHK *ex* x 01 26 41.2
USP Ospenovka 17.21 296 P **Pn** **01 26 00.0 -1.4**
SNR=198
KKR Kurukshetra 17.57 250 *e*PKP **Pn** **01 26 04.6 -1.4**
KKR AMb AMB 01 26 22.8
comp=Z,2μm,0.7s
AML Almayashu 17.61 292 P **Pn** **01 26 06.9 +0.6**
SNR=124
EKS2 Erkin-Say 17.62 294 P **Pn** **01 26 06.5 0.0**
SNR=321
EKS2 Erkin-Say 17.62 294 *e*Pn **Pn** **01 26 06.9 +0.3**
comp=Z,792nm,1.1s
EKS2 Erkin-Say 17.62 294 *e*P **Pn** **01 26 06.9 +0.4**
EKS2 pmax pmax
comp=Z,792nm,1.1s
KURK Kurchatov 17.96 322 ⇑P **Pn** **01 26 08.3 -2.4**
comp=Z,3μm,1.9s
KURK Kurchatov 17.96 322 P **Pn** **01 26 09.0 -1.7**
comp=Z,2.4nm,0.3s,baz=134,slow=12,SNR=158
KURK S **Sn** **01 29 26.3 -5.1**
comp=Z,1.4nm,0.3s,baz=133,slow=26,SNR=3.8
KURK Lg 01 31 30.9
baz=130,slow=27,SNR=3.0
KURK LR LR 01 33 00.1
comp=Z,102μm,20.1s,baz=125,slow=37
KURK P3KPbc 02 00 53.1
comp=Z,0.1nm,0.3s,baz=315,slow=4.3,SNR=2.8
KURK Kurchatov 17.96 322 *e*Pn **Pn** **01 26 08.6 -2.1**
comp=Z,2μm,1.3s
KURK *e*S **Sn** **01 29 29.0 -2.4**
KURK Kurchatov 17.96 322 P **Pn** **01 26 09.0 -1.7**
KURK S **Sn** **01 29 26.3 -5.2**
KURK pmax pmax
comp=Z,2.0nm,0.3s
KURK smax
comp=N,1.0nm,0.3s
KURK MLR MLR
comp=Z,102μm,20.1s
NDI New Delhi 17.97 246 *ex* **Pn** **01 26 04.0 -7.0**
CHRT Chiangrai 18.01 168 ⇓P **Pn** **01 26 10.0 -1.4**
comp=Z,1μm,1.3s
ZALV Zalesovo Beam 18.02 338 P **Pn** **01 26 10.7 -0.8**
comp=Z,5.0nm,0.3s,baz=150,slow=12,SNR=94
ZALV S **Sn** **01 29 31.7 -1.2**
comp=Z,0.2nm,0.3s,baz=170,slow=26,SNR=2.0
ZALV Lg 01 31 35.1
comp=Z,1.1nm,0.3s,baz=140,slow=23,SNR=3.8
ZALV LR LR 01 33 21.2
comp=Z,131μm,18.3s,baz=155,slow=38
ZALV P3KPbc 02 00 52.2
comp=Z,0.1nm,0.3s,baz=343,slow=4.5,SNR=2.5
ZALV Zalesovo Beam 18.02 338 P **Pn** **01 26 10.7 -0.8**
ZALV S **Sn** **01 29 31.7 -1.2**
ZALV Lg 01 31 35.1
ZALV LR LR 01 33 21.2
ZALV Zalesovo Beam 18.02 338 P **Pn** **01 26 10.7 -0.7**
ZALV S **Sn** **01 29 31.7 -1.2**
ZALV pmax pmax
comp=Z,5.0nm,0.3s
ZALV MLR MLR
comp=Z,131μm,18.3s
AYAN Aya Nagar 18.15 245 *ex* x 01 26 07.0
RTK Rohtak 18.36 248 *e*PKP **Pn** **01 26 11.4 -4.3**
RTK AMb AMB 01 26 20.5
comp=Z,526nm,0.5s
KUDL Kundal 18.80 245 *e*PKP **Pn** **01 26 17.1 -4.1**
CHG Chiang Mai 18.93 171 ⇓P **Pn** **01 26 21.8 -0.9**
comp=Z,56nm,0.8s
CHTO Chiang Mai 18.93 171 *e*Pn **Pn** **01 26 22.2 -0.5**
comp=Z,983nm,1.6s
CHTO *e*S **Sn** **01 29 57.2 +2.1**
CHTO Chiang Mai 18.93 171 *e*P **Pn** **01 26 22.2 -0.5**
CHTO pmax pmax
comp=Z,983nm,1.6s
CHTO Chiang Mai 18.93 171 P **Pn** **01 26 22.3 -0.4**
comp=Z,574nm,3.2s
CHTO Chiang Mai 18.93 171 P **Pn** **01 26 22.0 -0.7**
SNR=151
CIT Chita 19.01 35 *e*P **Pn** **01 26 23.8 +0.3**
CIT pmax pmax
comp=Z,7μm,2.7s
NVS Novosibirsk 19.27 337⇑*i*P **Pn** **01 26 24.5 -2.0**
NVS *e*S **Sn** **01 30 08.4 +5.5**
NVS pmax pmax
comp=N,2μm,1.8s
NVS pmax pmax
comp=E,1μm,1.8s
NVS pmax pmax
comp=Z,3μm,1.8s
NVS smax
comp=N,867nm,2.2s
NVS smax
comp=E,1μm,2.1s
CMAR Chiang Mai Arr 19.28 171 P **Pn** **01 26 26.2 -0.7**
comp=E,9.1nm,0.3s,baz=342,slow=10,SNR=117
CMAR S **Sn** **01 30 03.0 -0.6**
baz=336,slow=13,SNR=2.1
CMAR PcP PcP 01 30 48.9 -0.1
comp=E,1.4nm,0.3s,baz=307,slow=2.7,SNR=5.5
CMAR LR LR 01 33 20.4
comp=E,24μm,19.4s,baz=352,slow=35
CMAR ScP ScP 01 34 25.4 -0.7
comp=E,0.6nm,0.3s,baz=318,slow=3.0,SNR=6.8
CMAR PKiKP PKiKP 01 38 37.6 -1.4
comp=E,0.3nm,0.3s,baz=289,slow=2.8,SNR=3.5
CMAR P3KPbc 02 00 49.5
comp=E,0.9nm,0.3s,baz=188,slow=0.6,SNR=3.5
CMAR Chiang Mai Arr 19.28 171 P **Pn** **01 26 26.2 -0.7**
CMAR S **Sn** **01 30 03.0 -0.6**
CMAR PcP PcP 01 30 48.9 -0.1
CMAR LR LR 01 33 20.4
CMAR ScP ScP 01 34 25.4 -0.7
CMAR Chiang Mai Arr 19.28 171 P **Pn** **01 26 26.2 -0.7**
CMAR S **Sn** **01 30 03.0 -0.6**
CMAR pmax pmax
comp=Z,9.0nm,0.3s
CMAR MLR MLR
comp=Z,24μm,19.4s
KHET Khetri 19.34 246 *e*PKP **Pn** **01 26 23.5 -4.1**
BWNR Bhubaneshwar 19.36 210 *ex* x 01 26 19.0
KK31 Karatay Array 20.06 294 ⇑P **P** **01 26 34.0 -0.4**
comp=Z,480nm,0.9s
KK31 ⇓S **S** **01 30 15.0 -5.6**
comp=Z,193nm,1.4s,baz=127,slow=13,SNR=2.7
KK31 ⇓Lg 01 32 26.1
comp=Z,445nm,1.4s
KK31 Karatay Array 20.06 294*ce*P **P** **01 26 34.9 +0.5**
KK31 pmax pmax
comp=Z,2μm,1.2s
KKAR Karatay Array 20.06 294 *e*Pn **P** **01 26 34.3 -0.1**
KKAR *e*S **S** **01 30 15.5 -5.1**
KKAR Karatay Array 20.06 294 *e*P **P** **01 26 34.3 -0.1**
KKAR *e*S **S** **01 30 15.5 -5.1**
DL2 Dalian 20.24 78 P **P** **01 26 37.3 +0.9**
DL2 S **S** **01 30 26.3 +2.1**
DL2 pmax pmax
comp=Z,270nm,0.9s
DL2 pmax pmax
comp=Z,14μm,13.9s
DL2 LR LR
comp=N,52μm,13.8s,MS6.4
DL2 LR LR
comp=E,109μm,16.8s,MS6.4
DL2 LR LR
comp=Z,142μm,17.1s,MS6.4
BDT Bhumibol Dam 20.48 171 PG **P** **01 26 40.0 +0.9**
comp=Z,218nm,1.0s
HIA Hailar 20.77 48 *e*P **P** **01 26 42.7 +0.6**
comp=Z,2μm,1.5s
HIA LR LR
comp=Z,253μm,19.0s,MS6.6
HIA Hailar 20.77 48 *e*P **P** **01 26 42.7 +0.6**
HIA pmax pmax
comp=Z,2μm,1.5s
HIA MLR MLR
comp=Z,253μm,19.0s
GZH Guangzhou 20.85 129 P **P** **01 26 40.9 -2.2**
GZH S **S** **01 30 31.6 -4.9**
GZH LR LR
comp=N,137μm,14.9s,MS6.7
GZH LR LR
comp=E,150μm,13.1s,MS6.7
GZH LR LR
comp=Z,321μm,14.3s,MS6.8
AJM Ajmer 21.11 244 *e*PKP **P** **01 26 44.0 -1.9**
BHPL Bhopal 21.36 233 *e*PKP **P** **01 26 47.8 -0.8**
BHPL AMb AMB 01 26 50.6
comp=Z,766nm,0.5s,mb6.3
BHPL *ex* x 01 30 41.3
SNY Shenyang 21.67 70 ⇑P **P** **01 26 51.9 +0.1**
SNY S **S** **01 30 49.6 -2.8**
SNY pmax pmax
comp=Z,1μm,1.8s,mb6.0
SNY pmax pmax
comp=Z,19μm,12.0s
SNY LR LR
comp=N,62μm,8.8s
SNY LR LR
comp=E,226μm,18.2s
SNY LR LR
comp=Z,284μm,19.2s,MS6.7
SSE Sheshan 21.84 100 P **P** **01 26 53.8 0.0**
SSE sP sP 01 26 58.4 +4.6
SSE S **S** **01 30 57.1 +1.1**
SSE pmax pmax
comp=Z,560nm,1.4s,mb5.8
SSE pmax pmax
comp=Z,12μm,6.6s
SSE LR LR
comp=N,38μm,12.5s,MS6.1
SSE LR LR
comp=E,32μm,12.8s,MS6.1
SSE LR LR
comp=Z,58μm,15.1s,MS6.1
KBL Kabul 21.89 270 *e*P **P** **01 26 54.3 +0.1**
comp=Z,2μm,1.4s,mb6.4
KBL Kabul 21.89 270 *e*P **P** **01 26 54.3 +0.1**
KBL pmax pmax
comp=Z,2μm,1.4s,mb6.4
HKC Hong Kong Obse 21.94 129 *i*P **P** **01 26 56.0 +1.1**
HKC *i*S **S** **01 30 56.0 -2.0**
KKTK Khon Kaen 22.07 162 ⇑P **P** **01 26 56.0 -0.2**
comp=Z,494nm,0.8s,mb6.0
QIZ Qiongzhong 22.18 143 P **P** **01 26 57.3 -0.1**
QIZ sP sP 01 27 06.7 +9.3
QIZ S **S** **01 30 55.5 -7.1**
QIZ SS 01 31 31.1
QIZ pmax pmax
comp=Z,220nm,1.5s,mb5.4
QIZ LR LR
comp=N,57μm,15.8s,MS6.2
QIZ LR LR
comp=E,61μm,16.3s,MS6.2
QIZ LR LR
comp=Z,57μm,13.8s,MS6.2
QIZ Qiongzhong 22.18 143 *e*P **P** **01 26 57.3 -0.1**
comp=Z,496nm,0.9s,mb5.9
QIZ LR LR
comp=Z,44μm,22.0s,MS5.8
NST Nakhon Sawan 22.18 169 ⇑P **P** **01 26 57.5 +0.1**
comp=Z,142nm,1.0s,mb5.3
VOSK Vostochnaya 23.00 319 ⇑P **P** **01 27 05.4 -0.4**
comp=Z,1μm,1.3s,mb6.3
QZH Quanzhou 23.09 117 P **P** **01 27 04.8 -2.2**
QZH S **S** **01 31 14.9 -4.2**
QZH pmax pmax
comp=Z,2μm,1.5s,mb6.4
QZH pmax pmax
comp=Z,13μm,6.2s
QZH LR LR
comp=N,88μm,12.3s,MS6.6
QZH LR LR
comp=E,88μm,12.7s,MS6.6
QZH LR LR
comp=Z,198μm,19.5s
CN2 Changchun 23.17 65 ⇑P **P** **01 27 07.7 -0.1**
CN2 *es*P sP 01 27 16.5 +8.7
CN2 *e*PP 01 27 37.4
CN2 *e*S **S** **01 31 13.7 -6.5**
BOD Bodaibo 23.46 25 *e*P **P** **01 27 11.3 +0.7**
BOD pmax pmax
comp=Z,831nm,1.9s,mb5.9
BVA0 Borovoye Array 23.46 319 P **P** **01 27 10.2 -0.5**
BVA0 pmax pmax
comp=Z,2μm,3.0s
BVAR Borovoye Array 23.46 319 P **P** **01 27 10.5 -0.2**
comp=Z,116nm,0.7s,mb5.5,baz=116,slow=8.5,SNR=214
BVAR S **S** **01 31 18.8 -5.9**
comp=Z,12nm,0.8s,baz=118,slow=19,SNR=2.0
BVAR Lg 01 34 37.7
comp=Z,22nm,0.9s,baz=107,slow=28,SNR=2.5
BVAR LR LR 01 36 55.1
comp=Z,245μm,19.5s,MS6.7,baz=225,slow=38
BVAR P3KPbc 02 00 33.6
comp=Z,1.2nm,0.8s,baz=340,slow=2.1,SNR=3.9
BVAR Borovoye Array 23.46 319 P **P** **01 27 10.5 -0.2**
BVAR S **S** **01 31 18.8 -5.9**
BVAR Lg 01 34 37.7
BVAR LR LR 01 36 55.1
BVAR Borovoye Array 23.46 319 P **P** **01 27 10.5 -0.2**
BVAR S **S** **01 31 18.8 -5.9**
BVAR pmax pmax
comp=Z,116nm,0.7s
BVAR smax
comp=N,12nm,0.8s
BVAR MLR MLR
comp=Z,245μm,19.5s
AKL Akola 23.50 229 *e*PKP **P** **01 27 09.9 -1.5**
AKL AMb AMB 01 27 23.9
comp=Z,2μm,1.5s,mb6.5
AKL *e*S **S** **01 31 22.0 -3.9**
BRVK Borovoye 23.53 319 ⇑P **P** **01 27 11.4 -0.1**
comp=Z,900nm,0.9s,mb6.3
BRVK Borovoye 23.53 319 *e*P **P** **01 27 11.3 -0.1**
comp=Z,5μm,2.1s,mb6.7
BRVK *e*S **S** **01 31 29.3 +3.4**
BRVK LR LR
comp=Z,297μm,19.0s,MS6.8
BRVK Borovoye 23.53 319*c i*P **P** **01 27 11.2 -0.2**
BRVK pmax pmax
comp=Z,751nm,1.7s,mb6.0
BRVK MLR MLR
comp=Z,258μm,17.0s,MS6.8
UBT Ubonrachathani 23.71 158 ⇑P **P** **01 27 12.4 -1.1**
ZRNK Zerenda 24.15 318 ⇓P **P** **01 27 16.4 -0.8**
comp=Z,982nm,1.4s,mb6.1
INCN Inchon 24.33 81 *e*P **P** **01 27 18.9 -0.1**
comp=Z,459nm,0.8s,mb6.1
INCN LR LR
comp=Z,75μm,20.0s,MS6.2
INCN Inchon 24.33 81 P **P** **01 27 19.4 +0.4**
SNR=22
TATO Taipei 25.16 113 *e*P **P** **01 27 28.1 +1.4**
comp=Z,990nm,1.8s,mb6.2
TATO LR LR
comp=Z,21μm,22.0s,MS5.6
NNT Nongplab 25.16 171 P **P** **01 27 28.8 +2.1**
HYB Hyderabad 25.24 222 *i*P **P** **01 27 26.5 -0.9**
comp=Z,300nm,1.0s,mb6.0
HYB *e* 01 27 40.0
HYB *e*PP 01 28 07.5
HYB *e*S **S** **01 31 48.0 -6.0**
HYB LR LR 01 38 06.0
comp=Z,74nm,16.0s
YHNB Yeheng 25.26 113 *e*P **P** **01 27 28.0 +0.4**
comp=Z,592nm,1.0s,mb6.3
YHNB LR LR
comp=Z,155μm,20.0s,MS6.5
KSRS Korea Array 25.34 80 P **P** **01 27 27.0 -1.2**
comp=Z,272nm,0.8s,mb6.0,baz=276,slow=8.6,SNR=138
KSRS S **S** **01 32 00.7 +5.2**
comp=Z,5.1nm,1.1s,baz=291,slow=10,SNR=3.3
KSRS ScP ScP 01 34 39.8 -1.6
comp=Z,5.1nm,0.9s,baz=291,slow=2.3,SNR=4.1
KSRS LR LR 01 38 28.8
comp=Z,94μm,21.7s,MS6.3,baz=284,slow=39
KSRS Korea Array 25.34 80 P **P** **01 27 27.0 -1.2**
KSRS pmax pmax
comp=Z,272nm,0.8s,mb6.0
KSRS pmax pmax
comp=N,5.0nm,0.9s
KSRS MLR MLR
comp=Z,94μm,21.7s,MS6.3
SSLB Suanglung 25.49 116 *e*P **P** **01 27 30.8 +1.1**
comp=Z,422nm,0.9s,mb6.2
LATR Latur 25.54 227 *e*PKP **P** **01 27 30.3 +0.1**
TPUB Ta-pu 25.56 117 *e*P **P** **01 27 31.2 +0.9**
comp=Z,2μm,1.3s,mb6.5
NACB Ninganchiao 25.71 114 *e*P **P** **01 27 32.7 +1.0**
YULB Yu-li 25.98 116 *e*P **P** **01 27 35.4 +1.2**
comp=Z,700nm,1.3s,mb6.1
TWG Pinlang 26.10 117 *e*P **P** **01 27 37.0 +1.0**
comp=Z,2μm,1.3s,mb6.7
MDJ Mudanjiang 26.20 64 P **P** **01 27 35.8 -0.2**
MDJ pP 01 27 39.0
MDJ PcP PcP 01 31 03.1 +0.3
MDJ S **S** **01 32 02.9 -6.0**
MDJ pmax pmax
comp=Z,190nm,2.0s,mb5.4
MDJ LR LR
comp=N,65μm,14.1s,MS6.5
MDJ LR LR
comp=E,89μm,15.6s,MS6.5
MDJ LR LR
comp=Z,107μm,15.1s,MS6.5
MDJ Mudanjiang 26.20 64 *e*P **P** **01 27 36.0 0.0**
comp=Z,286nm,1.3s,mb5.7
MDJ LR LR
comp=Z,28μm,20.0s,MS5.8
BHJ Bhuj 26.66 245 *e*PKP **P** **01 27 38.5 -1.7**
BHJ AMb AMB 01 27 46.5
comp=Z,563nm,0.9s,mb6.3
BHJ *ex* x 01 32 19.4
POO Poona 27.08 231 *e*PKP **P** **01 27 43.5 -0.6**
POO AMb AMB 01 27 49.5
comp=Z,784nm,1.1s,mb6.3
POO *e*S **S** **01 32 21.9 -1.2**
CLNS Chul'man 27.19 36 *e*P **P** **01 27 45.5 +0.8**
CLNS *e*PPP 01 28 38.0
CLNS *e* 01 31 02.0
CLNS *e*S **S** **01 32 25.8 +1.6**
CLNS *e*SS 01 33 38.3
CLNS pmax pmax
comp=Z,108nm,1.4s,mb5.4
CLNS pmax pmax
comp=E,117nm,1.7s
CLNS pmax pmax
comp=N,66nm,1.6s
CLNS smax
comp=E,14μm,15.7s
CLNS smax
comp=N,7μm,14.6s
CLNS MLR MLR
comp=Z,195μm,15.0s,MS6.8
CLNS MLR MLR
comp=N,98μm,15.0s,MS6.8
CLNS MLR MLR
comp=E,169μm,14.0s,MS6.8
KAD Karad 27.81 229 *e*PKP **P** **01 27 49.3 -1.3**
KAD AMb AMB 01 28 13.6
comp=Z,838nm,1.9s,mb6.2
KAD *e*S **S** **01 32 31.4 -3.2**
VLA Vladivostok 27.83 67⇓*i*P **P** **01 27 48.9 -1.7**
VLA *e* 01 28 34.7
VLA *e* 01 31 02.6
VLA *e*S **S** **01 32 33.3 -1.3**
VLA pmax pmax
comp=Z,40nm,0.6s,mb5.4
MDRS Chennai 28.16 214⇓*i*P **P** **01 28 00.2 +6.5**
MDRS *i*S **S** **01 32 48.2 +8.2**
MDRS *ex* x 01 35 34.2
MDRS *ex* x 01 39 07.2
MDRS *ex* x 01 42 49.2
MDRS *ex* x 01 48 43.2
KLR Kul'dur 28.25 54⇑*i*P **P** **01 27 50.2 -4.1**
KLR pmax pmax
comp=E,400nm,1.8s
KLR pmax pmax
comp=Z,800nm,1.8s,mb6.2
KLR pmax pmax
comp=E,4μm,12.5s
KLR pmax pmax
comp=Z,14μm,12.5s
AB31 Akbulak array 28.31 306 ⇑P **P** **01 27 54.9 +0.1**
comp=Z,162nm,1.0s,mb5.8
AB31 Akbulak array 28.31 306*ce*P **P** **01 27 54.8 0.0**
AB31 pmax pmax
comp=Z,310nm,1.2s,mb6.0
ABKAR Akbulak array 28.31 306 *e*P **P** **01 27 55.2 +0.4**
JNU Nakatsue 28.78 88 *e*P **P** **01 27 58.4 -0.8**
comp=Z,111nm,1.2s,mb5.6
JOW Kunigami 29.30 102 P **P** **01 28 02.6 -1.2**
comp=Z,36nm,0.5s,mb5.5,baz=324,slow=8.4,SNR=12
JOW LR LR 01 42 04.4
comp=Z,28μm,18.2s,MS5.9,baz=304,slow=41
JOW Kunigami 29.30 102 *e*P **P** **01 28 01.9 -1.9**
comp=Z,104nm,1.2s,mb5.5
GOA Goa 29.44 227⇓*i*P **P** **01 28 05.0 -0.1**
GOA AMb AMB 01 28 19.2
comp=Z,584nm,1.3s,mb6.3
GOA *i*S **S** **01 32 57.8 -2.4**
APYP Conner 29.69 125 *e*P **P** **01 28 09.5 +2.1**
ABKT Ailbek 29.72 282 P **P** **01 28 08.8 +1.3**
comp=Z,2μm,1.2s,mb6.8,SNR=99
AKTK Aktyubinsk 29.75 308 P **P** **01 28 08.2 +0.5**
AKTK S **S** **01 33 01.3 -3.4**
AKTK LR LR 01 40 30.1
AKTO Aktyubinsk 29.75 308 ⇑P **P** **01 28 08.1 +0.4**
comp=Z,89nm,1.2s,mb5.5
AKTO Aktyubinsk 29.75 308 P **P** **01 28 08.2 +0.5**
comp=Z,262nm,1.0s,mb6.0,baz=96,slow=9.0,SNR=196

AKTO S **S** **01 33 01.3 -3.4**
comp=Z,11nm,1.0s,baz=78,slow=12,SNR=1.6
AKTO LR LR 01 40 30.1
comp=Z,40μm,18.5s,MS6.1,baz=276,slow=37
AKTO Aktyubinsk 29.75 308 P **P** **01 28 08.2 +0.6**
AKTO S **S** **01 33 01.3 -3.4**
AKTO pmax pmax
comp=Z,262nm,1.0s,mb6.0
AKTO smax
comp=N,11nm,1.0s
AKTO MLR MLR
comp=Z,40μm,18.5s,MS6.1
SVE Sverdlovsk 30.20 321*c i*P **P** **01 28 12.1 +0.6**
SVE *e* 01 29 14.5
SVE *e*S **S** **01 33 09.0 -2.6**
SVE pmax pmax
comp=Z,4μm,15.5s
SVE pmax pmax
comp=Z,760nm,1.6s,mb6.3
SVE smax
comp=E,18μm,23.5s
SVE smax
comp=N,10μm,21.9s
SVE MLR MLR
comp=N,31μm,13.0s,MS6.5
SVE MLR MLR
comp=Z,128μm,18.0s,MS6.6
SVE MLR MLR
comp=E,85μm,18.0s,MS6.5
CAUP Cauayan 30.74 125 *e*P **P** **01 28 18.8 +2.1**
ARU Arti 31.11 319 *e*P **P** **01 28 19.8 +0.2**
comp=E,510nm,1.1s,mb6.4
ARU LR LR
comp=Z,164μm,19.0s,MS6.7
ARU Arti 31.11 319*c i*P **P** **01 28 19.4 -0.1**
ARU *e* 01 29 21.2
ARU *e*PPP 01 29 32.7
ARU *e* 01 31 12.5
ARU S **S** **01 33 27.4 +1.7**
ARU SS SS 01 35 09.6 -29
ARU SSS 01 35 29.7
ARU pmax pmax
comp=Z,1μm,1.7s,mb6.5
ARU pmax pmax
comp=Z,4μm,20.0s
ARU MLR MLR
comp=Z,156μm,18.0s,MS6.7
ARU Arti 31.11 319 P **P** **01 28 19.2 -0.3**
comp=Z,3μm,0.8s,mb7.3
BALP Baler 31.47 127 *e*P **P** **01 28 24.5 +1.4**
YAK Yakutsk 32.10 30 *e*P **P** **01 28 28.3 +0.2**
comp=Z,203nm,0.9s,mb6.0
YAK LR LR
comp=Z,157μm,20.0s,MS6.7
YAK Yakutsk 32.10 30*c i*P **P** **01 28 27.9 -0.3**
YAK *e**PP 01 28 38.0
YAK *e* 01 29 31.4
YAK *e*PPP 01 29 47.3
YAK *e* 01 31 15.3
YAK *e*S **S** **01 33 42.3 +1.2**
YAK *e**SS sS 01 33 57.5 +16
YAK *e*SS SS 01 35 39.4 -19
YAK *e*SSS 01 35 59.2
YAK *e* 01 38 52.3
YAK pmax pmax
comp=N,46nm,1.1s
YAK pmax pmax
comp=E,76nm,1.1s
YAK pmax pmax
comp=Z,135nm,1.2s,mb5.8
YAK pmax pmax
comp=E,866nm,3.2s
YAK pmax pmax
comp=N,741nm,3.2s
YAK pmax pmax
comp=Z,853nm,2.7s,mb6.2
YAK smax
comp=N,867nm,4.0s
YAK smax
comp=E,803nm,4.9s
YAK MLR MLR
comp=Z,116μm,16.0s,MS6.7
YAK MLR MLR
comp=E,71μm,15.0s,MS6.6
YAK MLR MLR
comp=N,40μm,11.0s,MS6.6
TGY Tagaytay City 32.31 130 P **P** **01 28 32.0 +1.4**
comp=N,150nm,0.3s,mb6.4,baz=270,slow=12,SNR=2.0
TGY LR LR 01 42 39.3
comp=N,2μm,18.4s,baz=241,slow=38
TGY Tagaytay City 32.31 130 P **P** **01 28 32.0 +1.4**
TGY LR LR 01 42 39.3
TGY Tagaytay City 32.31 130 P **P** **01 28 32.0 +1.5**
TGY pmax pmax
comp=Z,150nm,0.3s
TGY MLR MLR
comp=Z,2μm,18.4s
KULM Kulim 32.47 171 P **P** **01 28 32.5 +0.6**
KULM Kulim 32.47 171 *e*P **P** **01 28 31.5 -0.4**
comp=Z,504nm,1.6s,mb6.2
KULM *e*PcP PcP 01 31 19.7 +0.5
KULM LR LR
comp=Z,85μm,19.0s,MS6.5
KULM Kulim 32.47 171 P **P** **01 28 31.4 -0.5**
comp=Z,7μmcomp=Z,207nm,1.1s,mb6.0
SOKR Solikamsk 33.19 324*c i*P **P** **01 28 38.1 +0.4**
SOKR S **S** **01 33 51.3 -6.8**
SOKR pmax pmax
comp=Z,430nm,1.1s,mb6.3
SOKR MLR MLR
comp=Z,83μm,21.0s,MS6.4
IPM Ipoh 33.32 171 P **P** **01 28 39.8 +0.6**
IPM Ipoh 33.32 171 *e*P **P** **01 28 38.3 -0.9**
comp=Z,271nm,1.4s,mb6.0
IPM *e*PcP PcP 01 31 19.4 -2.1
IPM Ipoh 33.32 171 P **P** **01 28 37.8 -1.5**
comp=Z,6μmcomp=Z,172nm,1.4s,mb5.8
BOAC Boac 33.37 129 *e*P **P** **01 28 41.0 +1.2**
MAJO Matsushiro 33.58 79 *e*P **P** **01 28 38.8 -2.6**
comp=Z,464nm,2.2s,mb6.0
MAJO LR LR
comp=Z,44μm,20.0s,MS6.2
MAJO Matsushiro 33.58 79 *e*P **P** **01 28 38.8 -2.6**
MAJO pmax pmax
comp=Z,464nm,2.2s,mb6.0
MAJO MLR MLR
comp=Z,44μm,20.0s,MS6.2
MAT Matsushiro 33.58 79 P **P** **01 28 38.3 -3.1**
MAT S **S** **01 34 04.0 -0.7**
MJAR Matsushiro Arr 33.58 79 P **P** **01 28 39.2 -2.3**
comp=Z,19nm,1.0s,mb5.0,baz=281,slow=11,SNR=16
MJAR PcP PcP 01 31 21.1 -0.8
comp=Z,24nm,0.9s,baz=272,slow=3.1,SNR=6.9
MJAR LR LR 01 42 56.6
comp=Z,40μm,20.2s,MS6.1,baz=260,slow=38
MJAR Matsushiro Arr 33.58 79 P **P** **01 28 39.2 -2.3**
MJAR PcP PcP 01 31 21.1 -0.8
MJAR LR LR 01 42 56.6
MJAR Matsushiro Arr 33.58 79 P **P** **01 28 39.2 -2.2**
MJAR 01 31 21.1
MJAR pmax pmax
comp=Z,19nm,1.0s
MJAR MLR MLR
comp=Z,40μm,20.2s
TRD Trivandrum 33.66 215 *e*PKP **P** **01 28 41.5 -0.9**
TRD *ex* x 01 33 59.6
ENPP El Nido 33.73 135 *e*P **P** **01 28 44.5 +1.5**
TSI Tuntungan 34.05 175 P **P** **01 28 50.4 +4.8**
comp=Z,490nm,1.3s,mb6.3
TPTI 34.22 178 P **P** **01 28 49.3 +2.2**
comp=Z,88nm,1.1s,mb5.6
FRIM Kepong 34.62 170 P **P** **01 28 52.5 +1.9**
PSI Prapat 34.76 175 P **P** **01 28 51.4 -0.4**
comp=Z,40nm,0.9s,mb5.3,baz=331,slow=6.7,SNR=14
PSI PcP PcP 01 31 24.8 -0.8
comp=Z,61nm,0.9s,baz=276,slow=3.5,SNR=8.3
PSI S **S** **01 34 13.9 -9.4**
comp=Z,2.0nm,0.3s,baz=346,slow=17,SNR=1.7
PSI ScP ScP 01 35 09.6 -2.5
comp=Z,21nm,1.1s,baz=338,slow=4.2,SNR=4.0
PSI Prapat 34.76 175 P **P** **01 28 51.4 -0.4**
PSI PcP PcP 01 31 24.8 -0.8
PSI S **S** **01 34 13.9 -9.4**
PSI ScP ScP 01 35 09.6 -2.5
PSI Prapat 34.76 175 P **P** **01 28 51.4 -0.4**
PSI 01 31 24.8
PSI S **S** **01 34 13.9 -9.3**
PSI pmax pmax
comp=Z,40nm,0.9s,mb5.3
PSI smax
comp=N,2.0nm,0.3s
PSI Prapat 34.76 175 P **P** **01 28 54.1 +2.3**
comp=N,4μmcomp=N,61nm,1.4s,mb5.3
BATP Bataraza 34.87 140 *e*P **P** **01 28 53.4 +0.7**
CUYO Cuyo Island 34.93 133 *e*P **P** **01 28 54.6 +1.3**
RCP Roxas 35.39 130⇓*e*P **P** **01 28 58.0 +0.7**
YSS Yuzh-Sakhalins 35.44 60 *e*P **P** **01 28 58.1 +0.7**
comp=N,880nm,1.7s,mb6.4
YSS LR LR
comp=Z,33μm,22.0s,MS6.0
YSS Yuzh-Sakhalins 35.44 60⇑*i*P **P** **01 28 56.0 -1.4**
YSS *e**SP sP 01 29 06.0 +8.5
YSS *i* 01 30 23.0
YSS *e*S **S** **01 34 26.0 -7.2**
YSS pmax pmax
comp=Z,140nm,1.1s,mb5.8
YSS pmax pmax
comp=Z,2μm,6.0s
YSS pmax pmax
comp=E,7μm,13.0s
YSS pmax pmax
comp=Z,10μm,13.0s
YSS smax
comp=N,4μm,13.0s
YSS smax
comp=E,2μm,11.0s
YSS MLR MLR
comp=N,49μm,14.0s,MS6.9
YSS MLR MLR
comp=E,126μm,14.0s,MS6.9
YSS MLR MLR
comp=Z,131μm,14.0s,MS6.8
SMDO Samad 35.48 257 P **P** **01 28 59.2 +1.2**
SNR=92
ASAJ Asahikawa 35.53 64 P **P** **01 28 57.3 -0.9**
comp=Z,119nm,0.9s,mb5.7,baz=270,slow=11,SNR=19
ASAJ S **S** **01 34 33.1 -1.5**
comp=Z,2.5nm,0.3s,baz=254,slow=18,SNR=1.8
ASAJ Asahikawa 35.53 64 *e*P **P** **01 28 57.2 -1.1**
comp=Z,3μm,3.0s
ASAJ Asahikawa 35.53 64 P **P** **01 28 57.3 -0.9**
ASAJ S **S** **01 34 33.2 -1.4**
ASAJ pmax pmax
comp=Z,119nm,0.9s
ASAJ smax
comp=N,3.0nm,0.3s
KDM Kudat 36.01 143 P **P** **01 29 03.6 +1.1**
GUIM Jordan 36.03 131 *e*P **P** **01 29 00.4 -2.3**
KGM Kluang 36.09 167 P **P** **01 29 03.9 +0.7**
ASHO Ashiyiah 36.18 261 P **P** **01 29 05.7 +1.7**
SNR=159
ERM Erimo 36.21 68 *e*P **P** **01 29 06.0 +1.9**
comp=N,204nm,1.3s,mb5.8
ERM LR LR
comp=Z,108μm,20.0s,MS6.6
ERM Erimo 36.21 68⇓*e*P **P** **01 29 05.3 +1.2**
ERM pmax pmax
comp=Z,224nm,1.6s,mb5.8
ERM MLR MLR
comp=Z,111μm,19.0s,MS6.7
NAZ Nazwa, Dubai 36.34 262 P **P** **01 29 06.9 +1.5**
SNR=74
MYKOM Kota Tinggi 36.40 167 P **P** **01 29 06.6 +0.6**
MYKOM Kota Tinggi 36.40 167 P **P** **01 29 05.8 -0.1**
comp=Z,6μmcomp=Z,154nm,2.2s,mb5.4
KKM Kota Kinabalu 36.48 144 P **P** **01 29 07.6 +1.0**
KKM Kota Kinabalu 36.48 144 *e*P **P** **01 29 07.1 +0.5**
comp=Z,816nm,1.2s,mb6.4
KKM LR LR
comp=Z,28μm,20.0s,MS6.0
KKM Kota Kinabalu 36.48 144 P **P** **01 29 06.7 +0.1**
comp=Z,635nm,1.3s,mb6.3
ARQ Araqi 36.51 258 P **P** **01 29 08.9 +2.0**
SNR=104
ASUD Al Ashush, Dub 36.78 261 P **P** **01 29 11.0 +1.9**
SNR=61
MNSI Mandailing Nat 36.80 174 P **P** **01 29 08.5 -0.8**
comp=Z,9μmcomp=Z,82nm,1.2s,mb5.3
MAK Makhachkala 36.88 294 *e*P **P** **01 29 08.7 -1.1**
MAK *i* 01 30 31.3
MAK *e*S **S** **01 34 52.8 -2.5**
MAK *e*SS SS 01 37 23.1 -13
MAK pmax pmax
comp=N,509nm,1.5s
MAK pmax pmax
comp=E,720nm,2.2s
MAK pmax pmax
comp=Z,4μm,3.0s
MAK pmax pmax
comp=Z,657nm,2.2s,mb6.0
MAK smax
comp=N,4μm,5.9s
MAK smax
comp=E,3μm,6.3s
MAK MLR MLR
comp=Z,67μm,15.0s,MS6.5
MAK MLR MLR
comp=E,74μm,12.0s
HMDM Hanimaadhoo 36.99 220 P **P** **01 29 12.8 +1.8**
comp=E,9μmcomp=E,455nm,1.4s,mb6.0
PLP Palo 37.08 128⇓*e*P **P** **01 29 11.2 -0.6**
LLP Lapu-Lapu 37.10 130 *e*P **P** **01 29 13.0 +1.1**
SDKM Sandakan 37.29 143 P **P** **01 29 14.2 +0.7**
BKNI Bangkinang 37.41 171 P **P** **01 29 17.7 +3.2**
comp=E,8μmcomp=E,366nm,1.4s,mb5.9
TBP Tagbilaran 37.53 131⇓*e*P **P** **01 29 18.5 +2.9**
BTM Bintulu 37.71 151 P **P** **01 29 18.0 +0.9**
MSLP Masstin 37.79 129 *e*P **P** **01 29 19.1 +1.4**
YUK Yuzh-Kuril'sk 37.88 64*d i*P **P** **01 29 18.8 +0.6**
YUK *e*PPP 01 30 43.7
YUK S **S** **01 35 07.4 -3.0**
YUK pmax pmax
comp=Z,4μm,2.0s,mb6.8
YUK pmax pmax
comp=N,1μm,2.0s
YUK pmax pmax
comp=Z,3μm,2.0s,mb6.6
YUK pmax pmax
comp=E,572nm,1.0s
YUK smax
comp=N,3μm,2.4s
YUK smax
comp=E,3μm,2.5s
YUK MLR MLR
comp=N,10μm,17.0s,MS6.0
YUK MLR MLR
comp=E,16μm,17.0s,MS6.0
YUK MLR MLR
comp=Z,35μm,17.0s,MS6.2
SBUM Sibu 38.08 153 P **P** **01 29 21.3 +1.1**
SBUM Sibu 38.08 153 P **P** **01 29 21.3 +1.1**
comp=Z,9μmcomp=Z,260nm,2.0s,mb5.6
RGRI Rengat 38.25 170 P **P** **01 29 26.7 +5.1**
comp=Z,599nm,0.5s,mb6.6
MYLDM Lahad Datu 38.32 142 P **P** **01 29 23.7 +1.5**
MYLDM Lahad Datu 38.32 142 P **P** **01 29 24.3 +2.1**
comp=Z,2μm,1.5s,mb6.7
KSM Kuching 38.34 156 P **P** **01 29 23.4 +1.0**
KSM Kuching 38.34 156 *e*P **P** **01 29 22.8 +0.4**
comp=Z,203nm,1.0s,mb5.8
KSM *e*PcP PcP 01 31 35.5 -0.8
KSM LR LR
comp=Z,61μm,19.0s,MS6.4
KSM Kuching 38.34 156 P **P** **01 29 22.9 +0.5**
comp=Z,7μmcomp=Z,238nm,1.1s,mb5.8
PDSI Padang 38.57 173 P **P** **01 29 22.3 -2.0**
comp=Z,282nm,1.1s,mb5.8
DGRG David-gareji 38.70 292 P **P** **01 29 26.0 +0.8**
SDSI Sungai Dareh 38.70 171 P **P** **01 29 31.9 +6.5**
PAGZ Pagadian 38.71 133 *e*P **P** **01 29 26.7 +1.2**
TSM Tawau 38.79 143 P **P** **01 29 26.7 +0.5**
SISI Saibi 38.86 175 P **P** **01 29 30.5 +3.7**
comp=Z,396nm,1.2s,mb5.9
MTA Mtatsminda 39.08 292 P **P** **01 29 31.2 +2.8**
TBLG Delisi 39.11 292 *e*P **P** **01 29 29.1 +0.5**
TBLG Delisi 39.11 292 P **P** **01 29 29.1 +0.5**
GNI Garni 39.45 290 *e*P **P** **01 29 33.8 +2.3**
GNI Garni 39.45 290 *e*P **P** **01 29 33.6 +2.1**
comp=Z,1μm,1.4s,mb6.3
GNI LR LR
comp=Z,25μm,22.0s,MS6.0
GNI Garni 39.45 290*c i*P **P** **01 29 32.7 +1.2**
GNI pmax pmax
comp=Z,587nm,1.7s
GNI MLR MLR
comp=Z,24μm,18.0s
GNI Garni 39.45 290 P **P** **01 29 33.5 +2.1**
SNR=62
GOR Gori 39.52 293 P **P** **01 29 33.4 +1.3**
ZEI Tsey 39.52 294 *e*P **P** **01 29 31.1 -1.0**
ZEI *e* 01 31 01.9
ZEI *e*S **S** **01 35 34.3 -1.1**
ZEI *e* 01 39 39.5
ZEI pmax pmax
comp=Z,205nm,1.3s,mb5.6
ZEI pmax pmax
comp=N,95nm,0.7s
ZEI pmax pmax
comp=E,128nm,0.8s
ZEI pmax pmax
comp=Z,86nm,3.5s
ZEI smax
comp=N,2μm,14.4s
ZEI smax
comp=E,6μm,16.5s
ZEI MLR MLR
comp=Z,13μm,12.0s,MS6.0
BUKP Musuan 39.68 131 *e*P **P** **01 29 34.9 +1.2**
ONI Oni 39.88 294 P **P** **01 29 36.8 +1.8**
AKH Akhalkalaki 40.09 292 P **P** **01 29 39.0 +2.2**
CBIJ Chichi jima 40.14 91 LR LR 01 48 26.6
comp=Z,19μm,18.7s,MS6.0,baz=114,slow=40
VRHR Novokhopersk 40.16 307 *e*P **P** **01 29 36.4 -0.9**
VRHR *e* 01 29 50.2
VRHR *e*PPP 01 31 10.0
VRHR *e*S **S** **01 35 41.7 -3.0**
VRHR pmax pmax
comp=Z,470nm,0.9s,mb6.1
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,80nm,1.0s
VRHR smax
comp=N,340nm,1.3s
VRHR smax
comp=Z,90nm,2.4s
VRHR smax
comp=E,230nm,1.4s
KIV Kislovodsk 40.19 296 *e*P **P** **01 29 38.0 +0.4**
comp=E,285nm,0.9s,mb5.9
KIV LR LR
comp=Z,64μm,19.0s,MS6.5
KIV Kislovodsk 40.19 296*c i*P **P** **01 29 37.7 +0.1**
KIV *e* 01 31 10.2
KIV *e* 01 31 43.3
KIV *e*S **S** **01 35 45.7 +0.5**
KIV pmax pmax
comp=Z,523nm,4.6s
KIV pmax pmax
comp=Z,240nm,1.0s,mb5.8
KIV MLR MLR
comp=Z,47μm,15.0s,MS6.5
KIV Kislovodsk 40.19 296 P **P** **01 29 38.1 +0.5**
comp=Z,2μm,0.8s,mb6.7,SNR=54
KIV Kislovodsk 40.19 296 P **P** **01 29 38.5 +1.0**
SNR=82
CLDR Caldiran 40.31 289 *e*P **P** **01 29 39.9 +1.3**
UMR Umm Al-Rimmam 40.56 273 *e*P **P** **01 29 40.8 -0.1**
UMR AMb AMB 01 29 45.2
comp=Z,336nm,0.9s,mb6.1
DMPH Davao City--Mi 40.58 131 *e*P **P** **01 29 43.1 +2.0**
DAV Davao City (W) 40.63 131 P **P** **01 29 40.2 -1.3**
comp=Z,325nm,0.4s,mb6.4,baz=249,slow=19,SNR=8.6
DAV S **S** **01 35 54.4 +2.1**
comp=Z,166nm,0.4s,baz=347,slow=14,SNR=1.8
DAV LR LR 01 49 08.5
comp=Z,38μm,18.6s,MS6.3,baz=358,slow=40
DAV Davao City (W) 40.63 131 *e*P **P** **01 29 43.3 +1.7**
comp=Z,1μm,1.1s,mb6.5
DAV S **S** **01 35 54.4 +2.1**
DAV LR LR 01 49 08.5
DAV Davao City (W) 40.63 131⇓*e*P **P** **01 29 44.5 +3.0**
DAV Davao City (W) 40.63 131 P **P** **01 29 43.9 +2.4**
SNR=35
KBD Kabd 40.74 273 *e*P **P** **01 29 42.8 +0.5**
KBD AMb AMB 01 29 56.8
comp=Z,459nm,1.2s,mb6.1
QRN Al-Qurain 40.74 272 *e*P **P** **01 29 42.4 0.0**
QRN AMb AMB 01 29 52.9
comp=Z,702nm,2.0s,mb6.0
MIB Mutribah 40.76 274 *e*P **P** **01 29 42.8 +0.3**
MIB AMb AMB 01 29 50.8
comp=Z,796nm,1.2s,mb6.3
AGRB Hanur-Agry 40.89 290 *e*P **P** **01 29 46.0 +2.5**
RDF Al-Radifah 40.96 272 *e*P **P** **01 29 44.3 +0.2**
RDF AMb AMB 01 29 58.7
comp=Z,724nm,1.2s,mb6.3
VANT Van 40.99 288 *e*P **P** **01 29 42.7 -1.6**
CUKT Cukurca 41.06 286 *e*P **P** **01 29 45.2 +0.3**
NAY Al-Naaiem 41.06 273 *e*P **P** **01 29 45.2 +0.2**
NAY AMb AMB 01 29 56.4
comp=Z,645nm,1.8s,mb6.1
PMBI Palembang 41.18 166 P **P** **01 29 50.4 +4.4**
comp=Z,694nm,0.6s,mb6.6
RBK Rabkut 41.62 253 P **P** **01 29 49.8 +0.1**
SNR=39
VOR Voronezh 41.65 309 *e*P **P** **01 29 46.5 -3.0**
VOR pmax pmax
comp=Z,1μm,1.5s,mb6.4
VSR Storozhevoye 41.70 308 *e*P **P** **01 29 49.8 -0.2**
VSR *e* 01 30 02.4
VSR *e*SSS 01 39 06.3
VSR pmax pmax
comp=Z,1μm,1.2s,mb6.4
VSR pmax pmax
comp=N,40nm,1.1s
VSR pmax pmax
comp=E,180nm,0.9s
VSR MLR MLR
comp=Z,30μm,12.0s,MS6.4
VSR MLR MLR
comp=N,13μm,13.0s,MS6.3
VSR MLR MLR
comp=E,24μm,13.0s,MS6.3
KLMR Klimovskoe 41.81 322*c i*P **P** **01 29 51.0 +0.3**
KLMR 01 31 31.6
KLMR S **S** **01 36 02.8 -6.2**
KLMR pmax pmax
comp=Z,495nm,2.9s,mb5.7
KLMR pmax pmax
comp=Z,2μm,1.5s,mb6.6
KLMR MLR MLR
comp=Z,94μm,19.0s,MS6.7
EZM Erzurum 42.02 291 *e*P **P** **01 29 55.9 +3.2**
PZAR Pazar-Rize 42.05 293 *e*P **P** **01 29 54.4 +1.5**
SEY Seymchan 42.18 35⇑*e*P **P** **01 29 53.6 -0.1**
SOC Sochi 42.37 296*c i*P **P** **01 29 55.6 +0.1**
SOC *e* 01 31 32.7
SOC *e* 01 31 44.0
SOC *i* S **S** **01 36 18.6 +0.9**
SOC *i* SS SS 01 39 16.4 -10
SOC pmax pmax
comp=Z,626nm,1.8s,mb6.0
SOC pmax pmax
comp=Z,247nm,0.9s,mb5.9
SOC MLR MLR
comp=Z,47μm,16.0s,MS6.5
MOS Moscow 42.48 315 *e*P **P** **01 29 53.7 -2.5**
MOS *i* 01 30 08.0
MOS *e* 01 31 31.3
MOS *e* 01 31 45.3
MOS *e*PPP 01 32 05.3
MOS *i* S **S** **01 36 16.3 -2.7**
MOS *i* SS SS 01 39 28.0 +0.3
MOS *i* SSS 01 40 02.1
MOS pmax pmax
comp=Z,3μm,1.6s,mb6.7
MOS pmax pmax
comp=Z,2μm,1.3s,mb6.7
MOS MLR MLR
comp=Z,101μm,19.0s,MS6.7
MOS MLR MLR
comp=E,86μm,18.0s
MDSI Maura Dua 42.59 168 P **P** **01 29 58.0 +0.4**
comp=E,4μmcomp=E,119nm,1.3s,mb5.5
SMKI Samarinda 42.69 148 P **P** **01 30 00.4 +2.0**

comp=E,614nm,1.2s,mb6.2
BAYT Ayd¯–ntepe-Bay 42.80 292 *e*P **P 01 30 01.0 +1.9**
KLSI 42.89 167 P **P 01 29 59.2 -0.8**
comp=E,296nm,1.5s,mb5.8
KTUT Trabzon 42.92 293 *e*P **P 01 30 00.5 +0.4**
BINT Bingol 42.95 289 *e*P **P 01 30 00.9 +0.5**
PLKI Palangkaraya 43.04 153 P **P 01 30 06.6 +5.4**
comp=E,379nm,1.0s,mb6.1
OBN Obninsk 43.09 314 *e*P **P 01 30 01.0 -0.2**
comp=E,2μm,1.5s,mb6.7
OBN LR LR
comp=Z,110μm,19.0s,MS6.8
OBN Obninsk 43.09 314*c i*P **P 01 30 00.5 -0.7**
OBN *i* 01 30 10.2
OBN *i* 01 30 14.5
OBN *i* 01 31 37.9
OBN *i* S **S 01 36 25.3 -2.6**
OBN *i* 01 36 40.8
OBN *i* SS SS 01 39 38.0 -1.7
OBN *i* SSS 01 40 21.1
OBN pmax pmax
comp=Z,1μm,1.7s,mb6.3
OBN MLR MLR
comp=Z,126μm,22.0s,MS6.8
OBN Obninsk 43.09 314 P **P 01 30 01.0 -0.2**
comp=Z,3μm,1.2s,mb6.9,SNR=28
LWLI Liwa 43.09 168 P **P 01 30 00.1 -1.5**
comp=Z,504nm,0.9s,mb6.2
GUMT Gumushane 43.27 292 *e*P **P 01 30 04.8 +1.9**
DIYA Diyarbakir 43.51 288⇑*i*P **P 01 30 06.4 +1.6**
EZC Erzincan 43.55 291 *e*P **P 01 30 07.3 +2.1**
ESPY Espiye-Giresun 43.70 293 *e*P **P 01 30 07.0 +0.7**
ANN Anapa 43.73 299*c i*P **P 01 30 06.0 -0.5**
ANN *e* 01 31 49.6
ANN *i* S **S 01 36 37.2 -0.4**
ANN *e*SS SS 01 39 56.2 +3.6
ANN pmax pmax
comp=N,139nm,1.3s
ANN pmax pmax
comp=E,161nm,1.3s
ANN pmax pmax
comp=Z,607nm,1.3s,mb6.2
ANN pmax pmax
comp=N,769nm,9.5s
ANN pmax pmax
comp=E,853nm,9.5s
ANN pmax pmax
comp=Z,2μm,9.5s
ANN smax
comp=N,4μm,11.4s
ANN smax
comp=E,3μm,11.5s
ANN MLR MLR
comp=N,41μm,15.0s,MS6.6
ANN MLR MLR
comp=E,33μm,15.0s,MS6.6
ANN MLR MLR
comp=Z,31μm,15.0s,MS6.3
PTK Pertek 43.77 290 *e*P **P 01 30 07.7 +0.8**
SKR Severo-Kuril's 43.96 53 *e*P **P 01 30 05.0 -3.3**
SKR *e**PP PcP 01 31 54.0 -0.1
SKR *e* 01 40 03.0
SKR pmax pmax
comp=Z,180nm,0.9s,mb5.8
SKR pmax pmax
comp=E,5μm,12.0s
SKR pmax pmax
comp=Z,5μm,12.0s
SKR smax
comp=N,15μm,18.0s
SKR smax
comp=E,10μm,16.0s
SVRC Sivrice-ELAZID 43.98 289 *e*P **P 01 30 10.3 +1.6**
MRSI Marisa 44.08 141 P **P 01 30 10.3 +0.7**
comp=E,225nm,1.7s,mb5.6
ELZG Elazig 44.19 289⇑*i*P **P 01 30 12.5 +2.2**
SUSE Susehri 44.28 292⇑*i*P **P 01 30 11.7 +0.7**
KEMA Kemaliye 44.33 291⇑*i*P **P 01 30 13.1 +1.7**
BBKI Banjar Baru 44.51 152 P **P 01 30 14.0 +1.0**
comp=E,10μmcomp=E,167nm,3.2s
URFA Urfa 44.63 288 *e*P **P 01 30 14.3 +0.4**
MYA Malataya 44.66 289 *e*P **P 01 30 15.0 +0.9**
PEA0B Petropavlovsk- 44.68 49 *e*P **P 01 30 13.7 -0.3**
PETK Petropavlovsk- 44.68 49 P **P 01 30 13.0 -1.0**
comp=E,93nm,0.8s,mb5.8,baz=216,slow=4.4,SNR=33
PETK PcP PcP 01 31 55.7 -0.8
comp=E,26nm,0.8s,baz=225,slow=1.8,SNR=2.8
PETK S **S 01 36 52.3 +1.1**
comp=E,3.1nm,1.0s,baz=289,slow=13,SNR=2.6
PETK LR LR 01 50 02.3
comp=E,30μm,20.4s,MS6.2,baz=279,slow=38
PETK Petropavlovsk- 44.68 49 P **P 01 30 13.0 -1.0**
PETK PcP PcP 01 31 55.7 -0.8
PETK S **S 01 36 52.3 +1.1**
PETK LR LR 01 50 02.3
PETK Petropavlovsk- 44.68 49 P **P 01 30 13.0 -1.0**
PETK 01 31 55.7
PETK S **S 01 36 52.3 +1.1**
PETK pmax pmax
comp=Z,93nm,0.8s,mb5.8
PETK smax
comp=N,3.0nm,1.0s
PETK MLR MLR
comp=Z,30μm,20.4s,MS6.2
KBKI Kotabaru 44.86 151 P **P 01 30 16.3 +0.5**
comp=Z,5μmcomp=Z,137nm,1.3s,mb5.7
RSDY Resadiye-TOKAT 44.87 293 *e*P **P 01 30 15.4 -0.3**
DARE Darende-Malaty 44.93 290 *e*P **P 01 30 19.0 +2.8**
LVZ Lovozero 44.99 332 *e*P **P 01 30 15.9 -0.3**
comp=Z,959nm,1.7s,mb6.5
LVZ LR LR
comp=Z,34μm,21.0s,MS6.2
LVZ Lovozero 44.99 332*c i*P **P 01 30 15.7 -0.6**
LVZ pmax pmax
comp=Z,417nm,1.7s,mb6.1
LVZ MLR MLR
comp=Z,44μm,16.0s,MS6.5
LVZ Lovozero 44.99 332 P **P 01 30 16.5 +0.2**
comp=Z,1μm,1.4s,mb6.6,SNR=43
ATAB Bozova 45.02 288⇑*i*P **P 01 30 17.5 +0.5**
AKCD Akcadag 45.04 290⇑*i*P **P 01 30 18.6 +1.5**
SCER sogukcermik 45.17 292⇑*i*P **P 01 30 19.6 +1.5**
ERBA Erbaa 45.21 293⇑*i*P **P 01 30 19.4 +0.9**
PET Petropavlovsk 45.26 49 *e*P **P 01 30 16.5 -2.2**
comp=Z,409nm,1.3s,mb6.2
PET LR LR
comp=Z,35μm,20.0s,MS6.3
PET Petropavlovsk 45.26 49 *e*P **P 01 30 16.6 -2.0**
PET *e* 01 31 56.4
PET *e* 01 32 06.8
PET *e*S **S 01 36 53.9 -5.7**
PET pmax pmax
comp=Z,4μm,13.2s
PET pmax pmax
comp=Z,4μm,12.6s
PET pmax pmax
comp=Z,4μm,7.8s
PET pmax pmax
comp=Z,4μm,16.8s
PET MLR MLR
comp=Z,28μm,13.0s,MS6.4
PET MLR MLR
comp=Z,33μm,13.0s
APA Apatity 45.40 331⇑*i*P **P 01 30 20.0 +0.4**
APA *i* 01 30 34.0
APA *i* 01 32 00.0
APA *i* S **S 01 37 00.0 -1.4**
APA *i* SS SS 01 40 16.0 -8.4
APA pmax pmax
comp=Z,380nm,1.7s,mb6.0
APA pmax pmax
comp=Z,6μm,17.0s
APA MLR MLR
comp=Z,82μm,13.0s,MS6.8
TOKT Tokat 45.46 293 *e*P **P 01 30 20.6 +0.2**
TOKA Tokat 45.51 293⇑*i*P **P 01 30 21.6 +0.8**
KVT Kavak 45.61 294 *e*P **P 01 30 21.8 +0.2**
SARI SarD1z-Kayseri 45.84 290 *e*P **P 01 30 26.4 +2.9**
JOF Joensuu 45.85 325 *e*P **P 01 30 22.5 -0.7**
JOF pmax pmax
comp=Z,153nm,0.7s,mb6.1
JOF Joensuu 45.85 325 *e*p **P 01 30 22.5 -0.7**
comp=Z,153nm,0.7s,mb6.1
GAZ Gaziantep 45.94 288 *e*P **P 01 30 25.6 +1.3**
SIM Simferopol' 46.00 300*c i*P **P 01 30 24.7 +0.1**
SIM *e*S **S 01 37 10.0 -0.5**
SIM *e*SS SS 01 40 18.0 -17
SIM pmax pmax
comp=Z,160nm,1.0s,mb6.0
PINB Pinarbasi 46.06 291⇑*i*P **P 01 30 26.8 +1.6**
KMRS Kahramanmaras 46.06 289 *e*P **P 01 30 26.4 +1.2**
KUZU Kuzuini 46.17 288⇑*i*P **P 01 30 27.2 +1.1**
PUL Pulkovo 46.33 320⇑*e*P **P 01 30 27.1 +0.1**
PUL pmax pmax
comp=Z,751nm,1.2s,mb6.6
PUL MLR MLR
comp=Z,85μm,18.0s,MS6.7
ANDN Andirin 46.45 289⇑*i*P **P 01 30 30.2 +1.9**
SMRI Semarang 46.47 160 P **P 01 30 30.3 +1.7**
comp=Z,342nm,2.6s,mb5.9
TNTI Ternate 46.74 134 P **P 01 30 30.6 -0.2**
comp=Z,708nm,2.3s,mb6.4
BZK Bozkurt 46.84 296 *e*P **P 01 30 29.5 -1.8**
KOZT Kozan 46.88 289 *e*P **P 01 30 32.6 +1.0**
SPSI Sidrap Palu 46.95 146 P **P 01 30 30.8 -1.6**
comp=Z,429nm,1.5s,mb6.4
CEYT Ceyhan 47.09 289 *e*P **P 01 30 33.9 +0.6**
TOS Tosya 47.09 294 *e*P **P 01 30 34.8 +1.5**
HTY Hatay 47.11 287 *e*P **P 01 30 33.9 +0.5**
YAYL Yayladag 47.16 287⇑*i*P **P 01 30 34.6 +0.8**
AVNT Avonos 47.17 291⇑*i*P **P 01 30 34.8 +0.8**
CDAG Cicekdag 47.27 292⇑*i*P **P 01 30 34.5 -0.1**
ILGA Ilgaz 47.31 295⇑*i*P **P 01 30 36.4 +1.4**
UGM Wanagama 47.32 160 *e*P **P 01 30 36.2 +1.0**
comp=Z,388nm,1.6s,mb6.3
MUKL Al Mukalla 47.39 254 *e*P **P 01 30 35.9 0.0**
MUKL AMb AMB 01 30 36.6
comp=Z,2μm,1.3s,mb7.0
BALT Daday 47.41 295⇑*i*P **P 01 30 35.8 +0.1**
SJI Sawahan 47.50 158 P **P 01 30 37.4 +0.8**
comp=Z,450nm,2.0s,mb6.2
CANT Cankiri 47.51 294 *e*P **P 01 30 36.3 -0.2**
KRTS Karatas 47.52 288 *e*P **P 01 30 39.9 +3.3**
KARA Karaisali 47.53 289 *e*P **P 01 30 37.9 +1.1**
KMMI Kalianget 47.54 155 P **P 01 30 37.9 +1.0**
comp=Z,326nm,0.9s,mb6.4
FKH Fakeheh 47.58 285 *e*P **P 01 30 38.1 +0.9**
ELDT Eldivan 47.69 294⇑*i*P **P 01 30 39.0 +1.1**
GULE Gulek 47.73 289⇑*i*P **P 01 30 40.2 +1.9**
PCJI Pacitan 47.77 159 P **P 01 30 42.2 +3.5**
comp=Z,4μmcomp=Z,105nm,1.8s,mb5.7
BR131 Keskin Array S 47.77 293 *e*P **P 01 30 39.0 +0.4**
comp=Z,110nm,0.7s,mb6.1
BR131 LR LR
comp=Z,15μm,20.0s,MS6.0
BRTR Keskin Array B 47.77 293 P **P 01 30 39.0 +0.4**
comp=Z,138nm,0.8s,mb6.2,baz=98,slow=6.7,SNR=202
BRTR S **S 01 37 36.4 +0.4**
comp=Z,0.6nm,0.8s,baz=25,slow=2.1,SNR=2.2
BRTR LR LR 01 53 44.4
comp=Z,15μm,19.8s,MS6.0,baz=59,slow=40
BRTR PKP2bc 02 02 04.2
comp=Z,1.6nm,1.0s,baz=346,slow=2.5,SNR=3.8
BRTR Keskin Array B 47.77 293 P **P 01 30 39.0 +0.4**
BRTR S **S 01 37 36.4 +0.4**
BRTR LR LR 01 53 44.4
BRTR ⇑*e* 02 02 04.2
BRTR Keskin Array B 47.77 293 P **P 01 30 39.0 +0.4**
BRTR S **S 01 37 36.4 +0.4**
BRTR pmax pmax
comp=Z,138nm,0.8s
BRTR smax
comp=N,1.0nm,0.8s
BRTR MLR MLR
comp=Z,15μm,19.8s
PWJI Pagerwojo 47.78 158 P **P 01 30 38.3 -0.5**
comp=Z,6μmcomp=Z,219nm,1.5s,mb6.0
KAPI Kappang 47.88 147 *e*P **P 01 30 38.3 -1.3**
comp=Z,254nm,1.3s,mb6.2
KAPI *e*ScP ScP 01 36 03.0 -0.8
KAPI LR LR
comp=Z,14μm,20.0s,MS5.9
KAPI Kappang 47.88 147 P **P 01 30 38.1 -1.5**
comp=Z,6μmcomp=Z,165nm,1.9s,mb5.8
KAPI Kappang 47.88 147 P **P 01 30 38.7 -0.9**
SNR=44
HWQ Hawqa 47.92 285 *e*P **P 01 30 40.7 +0.9**
LBMI Labuha 47.98 135 P **P 01 30 40.1 -0.3**
comp=Z,726nm,1.0s,mb6.7
KEV Kevo 47.98 334 *e*P **P 01 30 40.0 +0.2**
comp=Z,1μm,2.1s,mb6.6
KEV LR LR
comp=Z,45μm,22.0s,MS6.4
KEV Kevo 47.98 334 *e*P **P 01 30 40.0 +0.3**
KEV pmax pmax
comp=Z,1μm,2.1s,mb6.6
KEV MLR MLR
comp=Z,45μm,22.0s,MS6.4
KEV Kevo 47.98 334 *e*p **P 01 30 38.5 -1.2**
comp=Z,36nm,0.6s,mb5.7
SAFT Safranbolu 48.00 295 *e*P **P 01 30 41.6 +1.3**
AKASG Malin Array Be 48.00 308 P **P 01 30 39.8 -0.4**
comp=Z,178nm,1.1s,mb6.1,baz=70,slow=7.0,SNR=129
AKASG S **S 01 37 35.4 -3.5**
comp=Z,0.2nm,0.3s,baz=83,slow=9.4,SNR=2.2
AKASG LR LR 01 51 11.5
comp=Z,21μm,19.6s,MS6.1,baz=65,slow=36
AKASG Malin Array Be 48.00 308 P **P 01 30 39.8 -0.4**
AKASG S **S 01 37 35.4 -3.5**
AKASG LR LR 01 51 11.5
AKASG Malin Array Be 48.00 308 P **P 01 30 39.8 -0.4**
AKASG S **S 01 37 35.4 -3.5**
AKASG pmax pmax
comp=Z,178nm,1.1s
AKASG MLR MLR
comp=Z,21μm,19.6s
AKBB Malin Array Si 48.00 308 *e*P **P 01 30 39.8 -0.3**
AKBB Malin Array Si 48.00 308 *e*P **P 01 30 39.8 -0.4**
ASF Jabal al Asfar 48.01 282 P **P 01 30 41.8 +1.3**
comp=Z,136nm,0.9s,mb6.1,baz=311,slow=3.1,SNR=76
ASF S **S 01 37 40.9 +1.3**
comp=Z,2.4nm,0.7s,baz=246,slow=19,SNR=2.3
ASF Jabal al Asfar 48.01 282 P **P 01 30 41.8 +1.3**
ASF S **S 01 37 40.9 +1.3**
ASF Jabal al Asfar 48.01 282 P **P 01 30 41.8 +1.3**
ASF S **S 01 37 40.9 +1.4**
ASF pmax pmax
comp=Z,136nm,0.9s
ASF smax
comp=N,2.0nm,0.7s
KIEV Kiev 48.01 308 *e*P **P 01 30 39.9 -0.4**
comp=N,560nm,1.4s,mb6.5
KIEV LR LR
comp=Z,26μm,19.0s,MS6.2
KIEV Kiev 48.01 308 *e*P **P 01 30 39.9 -0.3**
KIEV pmax pmax
comp=Z,560nm,1.4s,mb6.5
KIEV MLR MLR
comp=Z,26μm,19.0s,MS6.2
BLJI Banyuglugur 48.07 156 P **P 01 30 44.6 +3.6**
comp=Z,7μmcomp=Z,148nm,1.2s,mb6.0
MICGM Minsk 48.15 313⇑*i*P **P 01 30 40.0 -1.3**
MNK Minsk 48.18 313⇑*i*P **P 01 30 40.0 -1.5**
MNK *e* 01 32 10.0
MNK *e* 01 32 38.0
MNK *e*S **S 01 37 40.0 -1.3**
MNK pmax pmax
comp=E,1μm,1.2s
MNK pmax pmax
comp=Z,1μm,1.2s,mb6.9
MNK pmax pmax
comp=Z,10μm,8.0s
MNK smax
comp=E,13μm,13.0s
MNK MLR MLR
comp=N,34μm,14.0s,MS7.2
MNK MLR MLR
comp=E,178μm,18.0s,MS7.2
MNK MLR MLR
comp=Z,170μm,17.0s,MS7.1
KAF Kangasniemi 48.19 324 *e*P **P 01 30 39.6 -1.8**
KAF pmax pmax
comp=Z,76nm,0.8s,mb5.9
KAF Kangasniemi 48.19 324 *e*p **P 01 30 39.6 -1.8**
comp=Z,76nm,0.8s,mb5.9
BBAL Bala 48.21 293⇑*i*P **P 01 30 42.7 +0.8**
VSU Vasula 48.27 319*c i*P **P 01 30 41.9 -0.2**
VSU pmax pmax
comp=Z,787nm,1.7s,mb6.6
VSU MLR MLR
comp=Z,78μm,15.0s,MS6.8
BHL Bhannes 48.29 285 *e*P **P 01 30 43.4 +0.8**
RCY Rachaya 48.31 284 *e*P **P 01 30 44.3 +1.5**
FINES FINESS Array B 48.34 323 P **P 01 30 42.5 -0.1**
comp=Z,100nm,0.8s,mb6.0,baz=85,slow=6.9,SNR=86
FINES S **S 01 37 41.5 -1.9**
comp=Z,5.7nm,0.9s,baz=84,slow=18,SNR=1.9
FINES LR LR 01 52 23.7
comp=Z,76μm,18.8s,MS6.7,baz=88,slow=38
FINES FINESS Array B 48.34 323 P **P 01 30 42.5 -0.1**
FINES S **S 01 37 41.5 -1.9**
FINES LR LR 01 52 23.7
FINES FINESS Array B 48.34 323 P **P 01 30 42.5 -0.1**
FINES S **S 01 37 41.5 -1.9**
FINES pmax pmax
comp=Z,100nm,0.8s
FINES smax
comp=N,6.0nm,0.9s
FINES MLR MLR
comp=Z,76μm,18.8s
LOD Lodumlu 48.36 293 *e*P **P 01 30 43.0 -0.1**
SULT Sultanhani-AKS 48.36 291 *e*P **P 01 30 44.7 +1.6**
BILL Bilibino 48.44 28 *e*P **P 01 30 43.8 +0.5**
comp=Z,519nm,1.4s,mb6.5
BILL LR LR
comp=Z,108μm,20.0s,MS6.8
BILL Bilibino 48.44 28*c i*P **P 01 30 43.7 +0.4**
BILL *i* 01 30 55.1
BILL *i* 01 32 39.7
BILL *i* S **S 01 37 48.5 +3.8**
BILL *i* PS 01 38 03.2
BILL pmax pmax
comp=Z,347nm,1.7s,mb6.2
BILL MLR MLR
comp=Z,121μm,22.0s,MS6.8
ARCES ARCESS Array B 48.49 334 P **P 01 30 43.8 +0.1**
comp=Z,82nm,0.9s,mb5.8,baz=94,slow=8.2,SNR=152
ARCES PcP PcP 01 32 09.3 -0.4
comp=Z,14nm,0.5s,baz=74,slow=3.2,SNR=8.0
ARCES S **S 01 37 48.6 +3.2**
comp=Z,2.8nm,0.9s,baz=88,slow=22,SNR=2.3
ARCES LR LR 01 52 35.9
comp=Z,29μm,19.5s,MS6.3,baz=96,slow=38
ARCES ARCESS Array B 48.49 334 P **P 01 30 43.8 +0.1**
ARCES PcP PcP 01 32 09.3 -0.4
ARCES S **S 01 37 48.6 +3.2**
ARCES LR LR 01 52 35.9
ARCES ARCESS Array B 48.49 334 P **P 01 30 43.8 +0.1**
ARCES 01 32 09.3
ARCES S **S 01 37 48.6 +3.2**
ARCES pmax pmax
comp=Z,82nm,0.9s
ARCES smax
comp=N,3.0nm,0.9s
ARCES MLR MLR
comp=Z,29μm,19.5s
ARE0 ARCESS Array S 48.49 334 *e*P **P 01 30 43.7 0.0**
ARE0 *e*PP PP 01 32 38.6 +2.6
ARE0 *e*S **S 01 37 45.8 +0.4**
ARE0 *e* 01 41 26.0
ARE0 ARCESS Array S 48.49 334 *e*P **P 01 30 44.0 +0.3**
GMJI Gumukmas 48.52 157 P **P 01 30 44.0 -0.5**
comp=Z,7μmcomp=Z,157nm,1.8s,mb5.7
IDID Didziasalis 48.68 315 *e*P **P 01 30 45.9 +0.6**
IDID AMB AMB 01 30 57.6
comp=Z,164nm,1.1s,mb6.0
IDID *e*PP PP 01 32 37.9 -0.1
XMIS Christmas Isla 48.71 167 *e*P **P 01 30 45.6 -0.4**
XMIS Christmas Isla 48.71 167 *e*P **P 01 30 46.0 +0.1**
comp=Z,998nm,1.0s,mb6.8
NACGM Naroch 48.72 314 *e*P **P 01 30 43.0 -2.6**
EREN Erenkoy 48.81 287 *e*P **P 01 30 46.8 +0.1**
KDZE Karadeniz Ereo 48.87 296 *e*P **P 01 30 43.2 -3.8**
IZAR Zarasai 48.89 315 *e*P **P 01 30 47.4 +0.5**
IZAR AMB AMB 01 30 59.2
comp=Z,127nm,1.2s,mb5.8
IZAR *e*PP PP 01 32 40.3 +0.3
JAGI Jajag, Banyuwa 48.93 156 P **P 01 30 44.7 -3.0**
comp=Z,7μmcomp=Z,263nm,1.3s,mb6.1
IIGN Ignalina 48.96 315 *e*P **P 01 30 48.1 +0.6**
IIGN AMB AMB 01 30 59.0
comp=Z,183nm,1.2s,mb6.0
IIGN *e*PP PP 01 32 41.8 +1.2
ISAL Salakas 48.98 315 *e*P **P 01 30 48.2 +0.6**
ISAL AMB AMB 01 30 52.2
comp=Z,132nm,1.3s,mb5.8
ISAL *e*PP PP 01 32 41.8 +1.0
NBBI Negara 48.99 155 P **P 01 30 48.8 +0.7**
comp=Z,682nm,1.2s,mb6.5
KIS Kishinev 49.09 303⇑*i*P **P 01 30 47.5 -1.1**
comp=Z,2μm,1.6s,mb6.8
KIS Kishinev 49.09 303 *e*PP PP 01 32 46.0 +4.1
comp=Z,3μm,12.0s
KIS Kishinev 49.09 303⇑*i*P **P 01 30 47.5 -1.1**
KIS *i* 01 32 46.0
KIS *i* S **S 01 37 52.0 -2.4**
KIS pmax pmax
comp=Z,2μm,1.6s,mb6.8
KIS pmax pmax
comp=N,600nm,1.8s
KIS pmax pmax
comp=E,1μm,1.8s
KIS pmax pmax
comp=Z,6μm,13.0s
KIS pmax pmax
comp=Z,3μm,12.0s
KIS smax
comp=N,4μm,12.0s
KIS smax
comp=E,3μm,10.0s
KIS MLR MLR
comp=N,14μm,13.0s,MS6.4
KIS MLR MLR
comp=E,22μm,14.0s,MS6.4
KIS MLR MLR
comp=Z,22μm,14.0s,MS6.3
KIS Kishinev 49.09 303⇓*i*P **P 01 30 48.6 0.0**
PHNC Paralimni 49.11 287 P **P 01 30 51.0 +2.0**
KTK1 Kautokeino 49.28 333 *e*P **P 01 30 49.8 0.0**
KTK1 *e*S **S 01 37 56.0 -0.6**
KTK1 AMS AMS 01 53 27.3
comp=Z,119μm,18.7s,MS6.9
KDHN Kadinhani 49.28 292⇑*i*P **P 01 30 50.4 +0.1**
MDU Mudurnu 49.30 295 *e*P **P 01 30 50.2 -0.1**
KONT Konya--Tatoy 49.30 291 *e*P **P 01 30 40.8 -10**
KIZT Kizilcal 49.34 292 *e*P **P 01 30 50.8 +0.2**
LFK Lefkose 49.39 287 *e*P **P 01 30 50.8 -0.2**
SVRH Sivrihisar-ESK 49.41 293 *e*P **P 01 30 51.7 +0.5**
COCO West Island 49.55 179 *e*P **P 01 30 57.1 +4.7**
comp=Z,449nm,1.4s,mb6.2
COCO LR LR
comp=Z,6μm,22.0s,MS5.6
COCO West Island 49.55 179 *e*P **P 01 30 57.1 +4.7**
COCO pmax pmax
comp=Z,449nm,1.4s,mb6.2
COCO MLR MLR
comp=Z,6μm,22.0s,MS5.6
HDMB Hadim 49.56 290 *e*P **P 01 30 52.6 +0.3**
GUMO Guam 49.56 105 P **P 01 30 50.5 -2.0**
comp=Z,136nm,1.0s,mb5.8,baz=64,slow=7.6,SNR=3.2
GUMO S **S 01 37 59.1 -2.6**
comp=Z,102nm,1.0s,baz=18,slow=20,SNR=2.2
GUMO LR LR 01 51 45.7
comp=Z,10μm,20.5s,MS5.8,baz=133,slow=36
GUMO Guam 49.56 105 *e*P **P 01 30 51.5 -1.1**
comp=Z,672nm,1.6s,mb6.3
GUMO LR LR
comp=Z,11μm,20.0s,MS5.8
GUMO Guam 49.56 105 P **P 01 30 50.5 -2.1**
GUMO S **S 01 37 59.1 -2.6**
GUMO pmax pmax
comp=Z,136nm,1.0s,mb5.8
GUMO smax
comp=N,102nm,1.0s
GUMO MLR MLR
comp=Z,10μm,20.5s,MS5.8
BBSI Bau Bau 49.57 144 P **P 01 30 55.4 +2.8**
LEOM Leova 49.60 303 P **P 01 30 52.8 +0.3**
LEOM Leova 49.60 303⇑*i*P **P 01 30 50.4 -2.1**
CSS Prodhromos 49.66 287 P **P 01 30 53.5 +0.3**
comp=Z,2.6nm,0.8s
CSS Prodhromos 49.66 287 *e*P **P 01 30 53.0 -0.2**
CSS Prodhromos 49.66 287 *e*P **P 01 30 53.7 +0.6**
comp=Z,191nm,0.8s,mb6.1
CSS LR LR

comp=Z,15µm,21.0s,MS6.0
CSS Prodhromos 49.66 287 P **P 01 30 55.1 +1.9**
MAMC Mammari 49.67 287 P **P 01 30 53.5 +0.3**
GULT Gulveren 49.81 295 *eP* **P 01 30 53.6 -0.6**
DGAR Diego Garcia 49.86 211 *eP* **P 01 30 54.6 -0.1**
comp=Z,521nm,1.3s,mb6.3
DGAR LR LR
comp=Z,16µm,19.0s,MS6.0
DGAR Diego Garcia 49.86 211 *deP* **P 01 30 52.8 -2.0**
IAS Iasi 49.87 304 P **P 01 30 54.4 -0.1**
ESKT Eskisehir 49.87 293 *eP* **P 01 30 55.3 +0.6**
SPNC Sapanca-Adapaz 49.88 295 *eP* **P 01 30 52.4 -2.3**
LEF Lefka 49.93 287 *eP* **P 01 30 55.3 0.0**
GAZI Gazipasa 49.95 289⇑ *iP* **P 01 30 56.1 +0.7**
GPA Golpazari 50.01 295 *eP* **P 01 30 55.2 -0.5**
CFR Carcaliu 50.03 301⇓ *P* **P 01 30 55.8 0.0**
CFR Carcaliu 50.03 301⇓ *iP* **P 01 30 55.8 0.0**
TIRR Tirgusor 50.05 300 *eP* **P 01 30 55.9 -0.1**
comp=Z,520nm,1.9s,mb6.1
TIRR Tirgusor 50.05 300⇑ *P* **P 01 30 56.0 0.0**
TIRR Tirgusor 50.05 300⇑ *iP* **P 01 30 56.0 0.0**
BOLV Bolvadin 50.07 292⇑ *iP* **P 01 30 56.6 +0.3**
ALFC Alevga 50.14 288 P **P 01 30 56.3 -0.5**
comp=Z,3.1nm,1.2s
SILT Sile 50.20 296 *eP* **P 01 30 56.5 -0.7**
GHRR 50.27 303⇑ *iP* **P 01 30 58.6 +0.9**
HRT Hereke 50.30 295 *eP* **P 01 30 57.3 -0.6**
BDHA Al Bayda' 50.35 256⇑ *eP* **P 01 30 58.9 +0.3**
BDHA AMb AMB 01 30 59.6
comp=Z,478nm,1.1s,mb6.3
ADVT Abdulvahap 50.37 295 *eP* **P 01 30 58.8 +0.3**
CAVI Cavuskoy 50.38 295 *eP* **P 01 30 57.3 -1.3**
SHUT Suhut-Afyon 50.42 292 *eP* **P 01 30 59.5 +0.6**
PPCY Paphos 50.44 287 P **P 01 30 58.2 -0.9**
PSN Preselentsi 50.44 299 P **P 01 30 59.3 +0.4**
PSN Preselentsi 50.44 299 P **P 01 30 59.3 +0.4**
SUTC Sutluce-Ispart 50.48 291 *eP* **P 01 30 59.7 +0.4**
ALT Altintas 50.57 293 *eP* **P 01 31 00.2 +0.2**
YLV Yalova 50.59 295 *eP* **P 01 30 59.3 -0.9**
KLYT Kilyos 50.60 296 *eP* **P 01 31 00.5 +0.3**
BJO Bjornoya 50.61 340 *eP* **P 01 30 58.7 -1.1**
BJO AMB AMB 01 31 14.9
comp=Z,590nm,1.8s,mb6.2
ISK Istanbul-Kandi 50.65 296 *eP* **P 01 30 59.3 -1.3**
TESR 50.65 303⇑ *iP* **P 01 31 00.6 +0.1**
LBOS 50.66 256⇑ *eP* **P 01 31 01.3 +0.4**
LBOS AMb AMB 01 31 03.5
comp=Z,1µm,1.9s,mb6.5
AMRR Amara 50.74 301⇑ *iP* **P 01 31 01.9 +0.7**
GRER 50.76 302⇑ *iP* **P 01 31 02.4 +1.1**
GEMT Gemlik 50.77 295 *eP* **P 01 31 01.6 +0.1**
VRI Vrincioaia 50.78 303⇑ *P* **P 01 31 02.5 +1.0**
VRI Vrincioaia 50.78 303⇑ *iP* **P 01 31 02.5 +1.0**
BCK Bucak 50.79 291 *eP* **P 01 31 00.7 -0.9**
TRO Tromso 50.79 334 *eP* **P 01 31 00.6 -0.6**
TRO AMB AMB 01 31 16.6
comp=Z,375nm,2.1s,mb6.0
TRO *ePP* PP 01 33 01.0 +4.0
TRO *eS* **S 01 38 17.1 -0.5**
TRO AMS AMS 01 54 34.8
comp=Z,47µm,15.7s,MS6.6
BGKT Bogazkoy 50.82 296 *eP* **P 01 30 59.7 -2.2**
PLOR Plostina 50.84 303⇑ *P* **P 01 31 02.8 +0.9**
PLOR Plostina 50.84 303⇑ *iP* **P 01 31 02.8 +0.9**
HAJJ Hajjah 50.85 259⇑ *eP* **P 01 31 02.7 +0.3**
DHBB Dhamar BB 50.90 258⇑ *eP* **P 01 31 03.2 +0.4**
DHBB AMb AMB 01 31 06.1
comp=Z,2µm,1.7s,mb6.7
ANTB Antalya 50.95 290 *eP* **P 01 31 02.5 -0.4**
SUW Suwalki 50.95 313 *eP* **P 01 31 02.3 -0.4**
SUW *epP* 01 31 04.9
SUW *esP* sP 01 31 07.3 +4.6
SUW *e* 01 31 12.2
SUW *e* 01 31 15.6
SUW *eS* **S 01 38 18.1 -2.0**
SUW LMZ 01 53 25.0
comp=Z,100µm,20.8s
SUW Suwalki 50.95 313 *eP* **P 01 31 02.3 -0.3**
comp=Z,574nm,1.1s,mb6.4
SUW Suwalki 50.95 313 *eP* **P 01 31 02.3 -0.3**
SUW pmax pmax
comp=Z,574nm,1.1s,mb6.4
ARMT Armutlu 50.96 295 *eP* **P 01 31 01.7 -1.2**
CTKS Kestanelik-??a 50.99 296 *eP* **P 01 31 04.1 +1.0**
MDNY Mudanya-Bursa 51.01 295 *eP* **P 01 31 01.7 -1.6**
CTYL Yal??k??y-??at 51.06 297 *eP* **P 01 31 02.5 -1.2**
ISR Istrita 51.13 302⇑ *P* **P 01 31 05.4 +1.3**
ISR Istrita 51.13 302⇑ *iP* **P 01 31 05.4 +1.3**
PRD Provadia 51.13 299 *i P* **P 01 31 04.6 +0.4**
PRD Provadia 51.13 299 *i P* **P 01 31 04.6 +0.4**
KORT Korkueli 51.13 291⇑ *iP* **P 01 31 03.6 -0.6**
SLVT Silivri 51.20 296 *eP* **P 01 31 05.3 +0.6**
KHAL Karahalli 51.27 293⇑ *iP* **P 01 31 05.4 +0.1**
BURAR Bucovina Array 51.29 305⇑ *P* **P 01 31 05.6 +0.3**
BURAR Bucovina Array 51.29 305⇑ *iP* **P 01 31 05.6 +0.3**
BUR08 Bucovina Ar. S 51.29 305 *eP* **P 01 31 05.5 +0.2**
SPA0 Spitsbergen Ar 51.35 345 *eP* **P 01 31 06.0 +0.6**
SPA0 *eS* **S 01 38 27.0 +1.8**
SPA0 *eSS* SS 01 42 05.5 +5.4
SPITS Spitsbergen Ar 51.35 345 LR LR 01 56 49.4
comp=Z,34µm,18.3s,MS6.4,baz=75,slow=41
MLR Muntele Rosu 51.42 302⇑ *P* **P 01 31 07.1 +0.8**
MLR Muntele Rosu 51.42 302⇑ *iP* **P 01 31 07.1 +0.8**
LVV L'vov 51.45 308⇓ *iP* **P 01 31 06.8 +0.4**
LVV *e* 01 33 04.8
LVV *eS* **S 01 38 25.6 -1.5**
LVV *e* 01 38 36.8
LVV *e* 01 40 57.8
LVV MLR MLR
comp=N,15µm,16.0s,MS6.3
LVV MLR MLR
comp=E,16µm,15.0s,MS6.3
LVV MLR MLR
comp=Z,16µm,15.0s,MS6.2
SULR 51.46 301⇑ *iP* **P 01 31 06.0 -0.6**
DST Dursunbey 51.46 294 *eP* **P 01 31 07.0 +0.3**
ELL Elmali 51.56 290 *eP* **P 01 31 07.4 0.0**
DURS Dursunbey 51.57 294⇑ *iP* **P 01 31 07.4 -0.1**
DEMI Demirci 51.59 294⇑ *iP* **P 01 31 07.7 0.0**
GOLH Golhisar 51.63 291⇑ *iP* **P 01 31 06.4 -1.6**
DOPR Dopca 51.65 303⇓ *iP* **P 01 31 09.2 +1.2**
BNT Bandirma 51.70 296 *eP* **P 01 31 08.9 +0.4**
GLHS Glhisar (BURDU 51.71 291 *eP* **P 01 31 07.7 -0.8**
TKR Tekirdag 51.76 296 *eP* **P 01 31 00.1 -8.8**
KULA Kula-Manisa 51.82 293 *eP* **P 01 31 08.1 -1.3**
DENT Denizli 51.83 292 *eP* **P 01 31 09.8 +0.4**
DNZL Cakiroluk 51.84 292⇑ *iP* **P 01 31 09.4 -0.2**
JMB Yambol 51.94 298 P **P 01 31 08.0 -2.2**
JMB Yambol 51.94 298 *i P* **P 01 31 12.4 +2.2**
JMB Yambol 51.94 298 *i P* **P 01 31 12.4 +2.2**
AKAS Kas 51.98 290⇑ *iP* **P 01 31 08.1 -2.5**
GONE Gonen-Balikesi 51.98 295 *eP* **P 01 31 10.8 +0.2**
BALB Balikesir 51.98 295 *eP* **P 01 31 11.0 +0.4**
MFT Murefte 52.01 296 *eP* **P 01 31 09.8 -1.0**
KSL Kastellorizon 52.03 290 *eP* **P 01 31 11.8 +0.8**
EDRB Edirne 52.03 298 *eP* **P 01 31 11.0 0.0**
VOIR 52.04 302⇑ *P* **P 01 31 11.2 +0.3**
VOIR 52.04 302⇑ *iP* **P 01 31 11.2 +0.3**
RKY Sarkoy-Tekirda 52.12 296 *eP* **P 01 31 10.6 -1.0**
SZH Strazhica 52.12 300 *i P* **P 01 31 14.3 +2.7**
SZH Strazhica 52.12 300 *i P* **P 01 31 14.3 +2.7**
BALY Balya 52.14 295⇑ *iP* **P 01 31 11.9 +0.2**
FETY Fethiye 52.21 291 *eP* **P 01 31 09.3 -3.0**
KBS Kingsbay 52.23 346 *eP* **P 01 31 12.5 +0.6**
comp=Z,148nm,1.1s,mb5.8
KBS LR LR
comp=Z,49µm,21.0s,MS6.5
KBS Kingsbay 52.23 346⇑ *eP* **P 01 31 12.0 +0.1**
KBS pmax pmax
comp=Z,154nm,1.3s,mb5.8
KBS MLR MLR
comp=Z,49µm,21.0s,MS6.5
STEI Steigen 52.30 332 *eP* **P 01 31 12.7 +0.2**
AKHS Akhisar 52.31 294⇑ *iP* **P 01 31 13.0 0.0**
AKS Akhisar 52.31 294 *eP* **P 01 31 13.4 +0.3**
KWP Kalwaria Pacla 52.32 308 *eP* **P 01 31 13.8 +0.9**
KWP *epP* 01 31 16.6
KWP *esP* sP 01 31 18.8 +5.8
KWP *e* 01 31 23.1
KWP *e* 01 31 27.6
KWP *eS* **S 01 38 40.6 +1.4**
KWP *eSS* SS 01 42 39.1 +23
KWP LMZ 01 57 53.2
comp=Z,31µm,16.4s
KWP Kalwaria Pacla 52.32 308 *eP* **P 01 31 13.7 +0.7**
comp=Z,910nm,1.0s,mb6.7
KWP LR LR
comp=Z,22µm,19.0s,MS6.2
KWP Kalwaria Pacla 52.32 308 *eP* **P 01 31 13.8 +0.8**
KWP *e* 01 31 23.2
KWP *e* 01 31 27.6
KWP *eS* **S 01 38 40.6 +1.4**
KWP MLR MLR
comp=Z,31µm,16.4s,MS6.4
KWP Kalwaria Pacla 52.32 308⇑ *iP* **P 01 31 13.7 +0.7**
BMR Baia Mare 52.38 306⇓ *P* **P 01 31 14.2 +0.7**
BMR Baia Mare 52.38 306⇓ *iP* **P 01 31 14.2 +0.7**
TURN Turunc 52.48 291⇑ *iP* **P 01 31 15.7 +1.4**
LPK Lapseki 52.53 296 *eP* **P 01 31 13.8 -0.9**
PVL Pavlikeni 52.55 300 *i P* **P 01 31 17.2 +2.4**
PVL Pavlikeni 52.55 300 *i P* **P 01 31 17.2 +2.4**
ERIK Erikli-Kesan 52.60 296 *eP* **P 01 31 13.4 -1.8**
YER Yerkesik 52.62 292 *eP* **P 01 31 12.6 -2.8**
AYDN Tasoluk 52.71 292⇑ *iP* **P 01 31 16.3 +0.3**
GELI Tayfur-Gelibol 52.72 296 *eP* **P 01 31 14.6 -1.5**
DIM Dimitrovgrad 52.81 298 *i P* **P 01 31 17.2 +0.5**
DIM Dimitrovgrad 52.81 298 *i P* **P 01 31 17.2 +0.5**
ENEZ Enez 52.83 297 *eP* **P 01 31 16.2 -0.7**
ALN Alexandroupoli 52.85 297 *eP* **P 01 31 16.9 -0.1**
ALN Alexandroupoli 52.85 297 P **P 01 31 19.1 +2.1**
TRPA Tarpa 52.86 306⇑ *iP* **P 01 31 17.8 +0.8**
UZH Uzhgorod 52.87 307 *c iP* **P 01 31 16.1 -0.9**
UZH *e* 01 32 26.3
UZH *e* 01 33 16.3
UZH *ePPP* 01 34 26.5
UZH *eS* **S 01 38 40.9 -5.8**
UZH *ePS* 01 38 50.7
UZH *e* 01 40 57.3
UZH MLR MLR
comp=N,11µm,12.0s,MS6.5
UZH MLR MLR
comp=E,25µm,12.0s,MS6.5
UZH MLR MLR
comp=Z,18µm,12.0s,MS6.3
BEL Belsk 52.88 311 *eP* **P 01 31 17.7 +0.6**
BEL *epP* 01 31 20.3
BEL *esP* sP 01 31 22.9 +5.7
BEL *e* 01 31 27.4
BEL *e* 01 31 30.2
BEL *ePP* PP 01 33 23.5 +7.3
BEL *eS* **S 01 38 48.7 +1.8**
BEL *eSS* SS 01 42 43.9 +19
BEL LMZ 01 54 51.8
comp=Z,97µm,18.0s
BEL Belsk 52.88 311 *eP* **P 01 31 17.7 +0.6**
BEL *e* 01 31 30.2
BEL *e* 01 33 23.5
BEL *eS* **S 01 38 48.7 +1.9**
BEL MLR MLR
comp=Z,97µm,18.0s,MS6.9
IZM Izmir 52.89 293 *eP* **P 01 31 16.6 -0.7**
MOR8 Moi Rana 52.89 330 *eP* **P 01 31 15.4 -1.5**
MOR8 AMB AMB 01 31 31.0
comp=Z,370nm,1.9s,mb6.0
LOT Lotru 52.89 303⇑ *iP* **P 01 31 18.0 +0.8**
MLSB Milas 52.93 292 *eP* **P 01 31 17.8 +0.2**
EZN Ezine 53.04 295 *eP* **P 01 31 17.0 -1.4**
BLCB Balcova 53.05 293 *eP* **P 01 31 18.2 -0.3**
ARG Arkhangelos 53.09 291 *eP* **P 01 31 16.4 -2.4**
ARG Arkhangelos 53.09 291 P **P 01 31 21.8 +3.0**
RDO Rodhopi 53.12 297 *eP* **P 01 31 19.3 +0.3**
RDO Rodhopi 53.12 297 P **P 01 31 20.4 +1.4**
DRGR 53.16 305⇑ *P* **P 01 31 19.9 +0.7**
DRGR 53.16 305⇑ *iP* **P 01 31 19.9 +0.7**
GCAM G?zelcaml? 53.17 293⇑ *iP* **P 01 31 19.7 +0.3**
GADA Gvkgeada 53.21 296 *eP* **P 01 31 19.4 -0.3**
CRAR CRAIOVA 53.23 302⇑ *P* **P 01 31 20.0 +0.2**
CRAR CRAIOVA 53.23 302⇑ *iP* **P 01 31 20.0 +0.2**
FLOS Flostrand 53.28 330 *eP* **P 01 31 20.7 +0.8**
PRK Paraskevi 53.29 295 *eP* **P 01 31 19.9 -0.4**
PRK Paraskevi 53.29 295 P **P 01 31 22.5 +2.2**
DAT Datca 53.29 291 *eP* **P 01 31 17.8 -2.5**
STHS Stebnicka Huta 53.30 308 *eP* **P 01 31 21.2 +1.0**
STHS Stebnicka Huta 53.30 308 *eP* **P 01 31 21.2 +1.0**
CRVS Cervenica-Dubn 53.31 308 *eP* **P 01 31 20.4 +0.1**
CRVS pmax pmax
comp=Z,47nm,1.4s,mb5.2
CRVS Cervenica-Dubn 53.31 308 *eP* **P 01 31 20.4 +0.1**
CRVS *ePCP* PcP 01 32 30.4 +2.5
CRVS *eS* **S 01 38 50.6 -2.2**
CRVS *eSS* SS 01 42 49.9 +18
DEV Deva 53.32 304⇑ *P* **P 01 31 21.2 +0.8**
DEV Deva 53.32 304⇑ *iP* **P 01 31 21.2 +0.8**
KONS Konsvik 53.35 330 *eP* **P 01 31 19.9 -0.4**
BODT Bodrum 53.36 292 *eP* **P 01 31 18.2 -2.6**
PLD Plovdiv 53.37 299 P **P 01 31 18.8 -2.0**
STOK Stokkvaagen 53.42 330 *eP* **P 01 31 20.6 -0.3**
STOK AMB AMB 01 31 33.2
comp=Z,298nm,2.7s,mb5.7
STOK *eS* **S 01 38 53.2 -0.6**
STOK AMS AMS 01 55 05.3
comp=Z,60µm,17.9s,MS6.7
SMG Samos 53.46 293 *eP* **P 01 31 21.9 +0.4**
RZN Rozhen 53.51 298 *i P* **P 01 31 23.0 +1.1**
RZN Rozhen 53.51 298 *i P* **P 01 31 23.0 +1.1**
PGB Panagyurishte 53.59 299 *i P* **P 01 31 23.0 +0.6**
PGB Panagyurishte 53.59 299 *i P* **P 01 31 23.0 +0.6**
CHOS Chios island 53.77 294 *eP* **P 01 31 24.1 +0.3**
CHOS Chios island 53.77 294 P **P 01 31 26.9 +3.1**
NIE Niedzica 53.88 308 *eP* **P 01 31 25.4 +1.0**
NIE Niedzica 53.88 308 *eP* **P 01 31 25.4 +1.0**
FX1 Attu Island--F 53.88 47 P **P 01 31 23.1 -1.4**
comp=Z,160nm,0.8s,mb6.1,baz=293,slow=5.8,SNR=21
FX1 S **S 01 38 58.1 -2.2**
comp=Z,11nm,0.8s,baz=258,slow=19,SNR=2.5
FX1 LR LR 01 56 13.8
comp=Z,25µm,21.0s,MS6.2,baz=292,slow=38
FX1 Attu Island--F 53.88 47 P **P 01 31 23.1 -1.4**
FX1 S **S 01 38 58.1 -2.2**
FX1 LR LR 01 56 13.8
FX1 Attu Island--F 53.88 47 P **P 01 31 23.1 -1.3**
FX1 S **S 01 38 58.1 -2.2**
FX1 pmax pmax
comp=Z,160nm,0.8s
FX1 smax
comp=N,11nm,0.8s
FX1 MLR MLR
comp=Z,25µm,21.0s
KAVA Kavala 53.90 297 P **P 01 31 26.7 +2.0**
OJC Ojcow 53.95 310 *eP* **P 01 31 25.3 +0.3**
OJC *esP* sP 01 31 29.7 +4.7
OJC *ePP* PP 01 33 25.5 -0.4
OJC *eS* **S 01 38 59.0 -2.4**
OJC *eSS* SS 01 42 41.0 -1.0
OJC L 01 55 07.4
comp=Z,68nm,17.5s
OJC Ojcow 53.95 310 *eP* **P 01 31 25.3 +0.3**
OJC *e* 01 33 25.5
OJC *eS* **S 01 38 59.0 -2.4**
OJC *eSS* SS 01 42 41.0 -1.0
OJC MLR MLR
comp=Z,68µm,17.5s,MS6.8
KARP Karpathos 54.07 290 *eP* **P 01 31 25.8 -0.3**
KARP Karpathos 54.07 290 P **P 01 31 28.3 +2.2**
NVR Nevrokopi 54.23 298 *eP* **P 01 31 27.1 0.0**
NVR Nevrokopi 54.23 298 P **P 01 31 28.1 +1.0**
MMB Musomiste 54.23 298 *i P* **P 01 31 27.8 +0.6**
MMB Musomiste 54.23 298 *i P* **P 01 31 27.8 +0.6**
VTS Vitosha 54.23 300 P **P 01 31 28.3 +1.1**
VTS Vitosha 54.23 300⇑ *P* **P 01 31 28.0 +0.8**
VTS Vitosha 54.23 300⇑ *iP* **P 01 31 28.0 +0.8**
VTS Vitosha 54.23 300 *i P* **P 01 31 27.3 +0.1**
VTS Vitosha 54.23 300 *i P* **P 01 31 27.3 +0.1**
NSS Namsos 54.24 328 *eP* **P 01 31 25.0 -1.8**
NSS AMB AMB 01 31 40.2
comp=Z,505nm,1.9s,mb6.2
NSS *eS* **S 01 39 06.6 +1.8**
NSS AMS AMS 01 55 23.0
comp=Z,36µm,14.9s,MS6.6
BZS Buzias 54.26 304⇑ *P* **P 01 31 27.6 +0.3**
BZS Buzias 54.26 304⇑ *iP* **P 01 31 27.6 +0.3**
SMY Shemya 54.47 47 *eP* **P 01 31 27.8 -0.9**
comp=Z,748nm,1.2s,mb6.6
SMY Shemya 54.47 47 *eP* **P 01 31 27.8 -0.9**
SMY pmax pmax
comp=Z,748nm,1.2s,mb6.6
TIM Timisoara 54.48 304⇑ *P* **P 01 31 29.9 +1.0**
TIM Timisoara 54.48 304⇑ *iP* **P 01 31 29.9 +1.0**
SRS Serrai 54.50 298 P **P 01 31 30.0 +0.9**
OUR Ouranopolis 54.52 297 P **P 01 31 32.6 +3.3**
GKP Gorka Klasztor 54.56 314 *eP* **P 01 31 29.7 +0.3**
GKP *epP* 01 31 32.3
GKP *esP* sP 01 31 34.8 +5.4
GKP *e* 01 31 39.2
GKP *e* 01 31 42.8
GKP *ePP* PP 01 33 33.9 +2.5
GKP *eS* **S 01 39 07.9 -1.6**
GKP LMZ 01 56 02.4
comp=Z,142µm,18.3s
GKP Gorka Klasztor 54.56 314 *eP* **P 01 31 29.7 +0.4**
GKP *e* 01 31 42.8
GKP *e* 01 33 33.8
GKP *eS* **S 01 39 07.9 -1.6**
GKP MLR MLR
comp=Z,142µm,18.3s,MS7.1
KKB Krupnik 54.58 299 *i P* **P 01 31 30.2 +0.5**
KKB Krupnik 54.58 299 *i P* **P 01 31 30.2 +0.5**
PSZ Piszkesteto 54.62 307 *eP* **P 01 31 30.5 +0.7**
comp=Z,3µm,2.6s,mb6.9
PSZ LR LR
comp=Z,20µm,19.0s,MS6.2
PSZ Piszkesteto 54.62 307⇑ *P* **P 01 31 30.5 +0.7**
PSZ Piszkesteto 54.62 307⇑ *eP* **P 01 31 30.5 +0.7**
PSZ Piszkesteto 54.62 307⇑ *iP* **P 01 31 30.5 +0.7**
APE Apeiranthos 54.67 293 *eP* **P 01 31 27.5 -2.9**
APE Apeiranthos 54.67 293⇓ *P* **P 01 31 29.8 -0.6**
APE Apeiranthos 54.67 293⇓ *iP* **P 01 31 29.8 -0.6**
SOH Sokhos 54.78 298 *eP* **P 01 31 30.8 -0.4**
SOH Sokhos 54.78 298 P **P 01 31 33.6 +2.4**
PLG Polygyros 54.88 297 *eP* **P 01 31 31.6 -0.3**
PLG Polygyros 54.88 297 P **P 01 31 33.5 +1.6**
PAIG Paliouri 54.89 296 P **P 01 31 34.3 +2.4**
KNT Kendrikon 54.97 298 P **P 01 31 33.2 +0.7**
AOS Alonnisos 55.04 296 P **P 01 31 36.9 +3.9**
HORT Hortiatis 55.04 297 P **P 01 31 34.4 +1.3**
THR5 Thira Island, 55.06 292 P **P 01 31 34.5 +1.2**
OKC Ostrava-Krasne 55.08 309⇑ *iP* **P 01 31 33.5 +0.3**
OKC *eS* **S 01 39 18.1 +1.5**
OKC MLR MLR
comp=Z,58µm,14.5s,MS6.8
OKC Ostrava-Krasne 55.08 309⇑ *iP* **P 01 31 33.5 +0.3**
OKC *eS* **S 01 39 18.1 +1.5**
OKC AMS AMS 01 56 10.0
comp=Z,58µm,14.5s
VYHS Vyhne 55.09 308 *eP* **P 01 31 33.9 +0.6**
VYHS pmax pmax
comp=Z,351nm,1.7s,mb6.1
VYHS Vyhne 55.09 308 *eP* **P 01 31 33.9 +0.6**
VYHS *eS* **S 01 39 14.9 -1.9**
VYHS *eSS* SS 01 42 58.9 -1.2
THE Thessaloniki 55.13 298 P **P 01 31 35.4 +1.7**
VAY Valandovo 55.14 298 P **P 01 31 36.4 +2.6**
VAY Valandovo 55.14 298 *eP* **P 01 31 31.7 -2.1**
BSD Bornholm Skovb 55.31 316⇑ *iP* **P 01 31 33.7 -1.1**
BSD *i* 01 32 38.0
BSD *i S* **S 01 39 17.5 -2.0**
BSD pmax pmax
comp=Z,150nm,0.9s,mb6.0
BSD MLR MLR
comp=Z,89µm,18.0s,MS6.9
NPS Neapolis 55.34 291 *eP* **P 01 31 35.3 0.0**
NPS Neapolis 55.34 291 P **P 01 31 38.8 +3.5**
NC602 NORSAR Array S 55.40 324 *eP* **P 01 31 35.6 +0.3**
NEO Neokhori 55.45 296 *eP* **P 01 31 35.6 -0.4**
NEO Neokhori 55.45 296 P **P 01 31 38.9 +2.9**
NB2 NORSAR Subarra 55.47 324 P **P 01 31 35.2 -0.6**
comp=Z,303nm,1.2s,mb6.2,baz=74,slow=7.4
NOA NORSAR Array B 55.47 324 P **P 01 31 35.2 -0.5**
comp=Z,86nm,0.8s,mb5.8,baz=73,slow=7.2,SNR=115
NOA S **S 01 39 23.3 +1.8**
comp=Z,1.4nm,0.8s,baz=248,slow=21,SNR=2.5
NOA LR LR 01 56 34.8
comp=Z,48µm,19.1s,MS6.6,baz=70,slow=37
NOA NORSAR Array B 55.47 324 P **P 01 31 35.2 -0.5**
NOA S **S 01 39 23.3 +1.8**
NOA LR LR 01 56 34.8
NOA NORSAR Array B 55.47 324 P **P 01 31 35.3 -0.5**
NOA S **S 01 39 23.3 +1.9**
NOA pmax pmax
comp=Z,86nm,0.8s
NOA smax
comp=N,1.0nm,0.8s
NOA MLR MLR
comp=Z,48µm,19.1s
MORC Moravsky Berou 55.47 310 *eP* **P 01 31 36.6 +0.6**
comp=Z,2µm,2.1s,mb6.7
MORC Moravsky Berou 55.47 310⇑ *P* **P 01 31 36.6 +0.6**
MORC Moravsky Berou 55.47 310⇑ *iP* **P 01 31 36.6 +0.6**
LAST Lasithi 55.48 290 *eP* **P 01 31 36.6 +0.3**
LAST Lasithi 55.48 290 P **P 01 31 38.0 +1.7**
PTL Penteli 55.49 294 *eP* **P 01 31 36.2 -0.1**
PTL Penteli 55.49 294 P **P 01 31 37.7 +1.4**
VLY Voula,Athens 55.62 294 *eP* **P 01 31 36.6 -0.6**
VLY Voula,Athens 55.62 294 P **P 01 31 38.9 +1.7**
ATH Athens Observa 55.63 294 *eP* **P 01 31 36.7 -0.6**
ATH Athens Observa 55.63 294 P **P 01 31 38.4 +1.1**
NAO01 NORSAR Array S 55.68 324 *eP* **P 01 31 36.6 -0.7**
comp=Z,101nm,0.8s,mb5.9
NAO01 LR LR
comp=Z,37µm,20.0s,MS6.5
SKO Skopje 55.68 300 *eP* **P 01 31 37.8 +0.1**
ATAL Atalanti 55.84 295 P **P 01 31 40.6 +1.8**
LKR Lokris 55.87 295 *eP* **P 01 31 37.8 -1.3**
LKR Lokris 55.87 295 P **P 01 31 40.9 +1.8**
KSP Ksiaz 55.88 311 *eP* **P 01 31 39.4 +0.6**
KSP *epP* 01 31 42.1
KSP *esP* sP 01 31 44.2 +5.3
KSP *e* 01 31 49.0
KSP *eS* **S 01 39 27.6 +0.4**
KSP LMZ 01 56 49.3
comp=Z,98µm,17.4s
NAIG Nisos Aigina 55.88 294 *eP* **P 01 31 37.9 -1.2**
DIVS Divibare 55.88 302 P **P 01 31 39.5 +0.5**
PKSM Moragy 56.00 305 P **P 01 31 40.1 +0.2**
OSL Oslo 56.02 323 *eP* **P 01 31 38.9 -0.9**
DPC Dobruska-Polom 56.02 311 *eP* **P 01 31 40.7 +0.8**
DPC Dobruska-Polom 56.02 311⇑ *iP* **P 01 31 40.9 +1.0**
DPC *e* 01 31 50.2
DPC *eS* **S 01 39 30.8 +1.6**
DPC MLR MLR
comp=Z,88µm,16.1s,MS6.9
DPC Dobruska-Polom 56.02 311⇑ *iP* **P 01 31 40.9 +1.0**
DPC *esP* sP 01 31 50.2 +10
DPC *eS* **S 01 39 30.8 +1.6**
DPC AMS AMS 01 56 40.0
comp=Z,88µm,16.1s
SIVA Sivas 56.04 291 *eP* **P 01 31 40.3 0.0**
SIVA Sivas 56.04 291 P **P 01 31 41.9 +1.6**
KRUS Krusevo 56.05 299 *eP* **P 01 31 38.6 -1.7**
KZN Kozani 56.09 298 *eP* **P 01 31 40.2 -0.4**
KZN Kozani 56.09 298 P **P 01 31 41.8 +1.2**
BIA Bitola 56.13 299 *eP* **P 01 31 39.1 -1.7**
LTK Loutraki 56.15 295 *eP* **P 01 31 38.8 -2.2**
LTK Loutraki 56.15 295 P **P 01 31 43.0 +2.0**
UPC Upice 56.16 311⇑ *iP* **P 01 31 41.6 +0.7**
UPC Upice 56.16 311⇑ *iP* **P 01 31 41.6 +0.7**
DID Didima 56.16 294 *eP* **P 01 31 38.8 -2.4**
DID Didima 56.16 294 P **P 01 31 42.1 +0.9**
AGG Agios Georgios 56.20 296 *eP* **P 01 31 40.4 -1.0**
AGG Agios Georgios 56.20 296 P **P 01 31 41.1 -0.3**
THL Klokotos Trika 56.21 297 *eP* **P 01 31 40.2 -1.3**
THL Klokotos Trika 56.21 297 P **P 01 31 40.9 -0.6**
VRAC Vranov 56.21 309⇑ *P* **P 01 31 42.1 +0.8**
VRAC Vranov 56.21 309⇑ *iP* **P 01 31 42.1 +0.8**
ZST Bratislava 56.28 308 *eP* **P 01 31 42.8 +1.0**
ZST pmax pmax
comp=Z,28nm,0.9s,mb5.3
ZST Bratislava 56.28 308 *eP* **P 01 31 42.8 +1.0**
ZST *eS* **S 01 39 32.3 -0.4**
DSF Desfina 56.31 295 P **P 01 31 42.3 +0.1**
VAM Vamos 56.33 291 *eP* **P 01 31 41.9 -0.5**
VAM Vamos 56.33 291 P **P 01 31 46.1 +3.7**
RGN Rugen 56.37 316 *eP* **P 01 31 43.3 +1.0**
comp=Z,1µm,1.6s,mb6.7
RGN Rugen 56.37 316 *eP* **P 01 31 42.9 +0.6**
comp=Z,449nm,0.9s,mb6.5

MSEY Mahe Island 56.39 231 *e*P **P 01 31 43.3 +0.3**
comp=Z,614nm,2.0s,mb6.3
MSEY LR LR
comp=Z,40µm,21.0s,MS6.5
MSEY Mahe Island 56.39 231 *e*P **P 01 31 43.3 +0.3**
MSEY pmax pmax
comp=Z,614nm,2.0s,mb6.3
MSEY MLR MLR
comp=Z,40µm,21.0s,MS6.5
MSEY Mahe Island 56.39 231 P **P 01 31 43.9 +0.9**
SNR=7.3
IVA Berane 56.40 301⇑ *i*P **P 01 31 43.6 +0.8**
PVY Plav 56.45 301⇑ *i*P **P 01 31 43.1 -0.1**
BCI Bajram Curri 56.48 300 *i* P **P 01 31 43.1 -0.2**
COP Copenhagen 56.48 318 *i* P **P 01 31 42.9 -0.2**
COP *i* S **S 01 39 38.5 +3.4**
COP pmax pmax
comp=Z,100nm,0.9s,mb5.8
COP MLR MLR
comp=Z,49µm,16.0s,MS6.7
COP Copenhagen 56.48 318 *i* P **P 01 31 42.9 -0.2**
comp=Z,100nm,0.9s,mb5.8
COP *i* S **S 01 39 38.5 +3.4**
COP
comp=Z,49µm,16.0s
KARN Karanos 56.54 291 *e*P **P 01 31 43.6 -0.3**
KARN Karanos 56.54 291 P **P 01 31 45.3 +1.4**
NEST Nestorio 56.56 298 P **P 01 31 44.7 +0.8**
PLE Pljevlja 56.57 302⇑ *i*P **P 01 31 44.8 +0.9**
KALE Kalithea 56.59 295 P **P 01 31 44.4 +0.2**
EVR Evrytania 56.62 296 *e*P **P 01 31 43.7 -0.7**
EVR Evrytania 56.62 296 P **P 01 31 46.1 +1.7**
GUR Goura 56.63 295 *e*P **P 01 31 42.8 -1.7**
GUR Goura 56.63 295 P **P 01 31 44.9 +0.4**
KONO Kongsberg 56.65 323 *e*P **P 01 31 43.5 -0.7**
comp=Z,2µm,2.0s,mb6.7
KONO *e*PP PP 01 33 44.1 -5.7
KONO LR LR
comp=Z,50µm,19.0s,MS6.6
KONO Kongsberg 56.65 323 *e*P **P 01 31 43.5 -0.8**
KONO pmax pmax
comp=Z,2µm,2.0s,mb6.7
KONO MLR MLR
comp=Z,50µm,19.0s,MS6.6
KBN Korca 56.66 298 *i* P **P 01 31 43.4 -1.2**
MOL Molde 56.67 326 *e*P **P 01 31 43.7 -0.7**
MOL AMB AMB 01 31 59.1
comp=Z,506nm,1.8s,mb6.2
MOL *e*S **S 01 39 37.9 +0.4**
MOL AMS AMS 01 56 34.0
comp=Z,38µm,17.9s,MS6.5
MEV Metsovon 56.68 297 P **P 01 31 50.3 +5.5**
VLI Veliai 56.71 293 *e*P **P 01 31 42.5 -2.5**
VLI Veliai 56.71 293 P **P 01 31 44.9 -0.1**
PUK Puka 56.72 300 *i* P **P 01 31 44.6 -0.5**
EFP Efpalio 56.75 295 *e*P **P 01 31 44.4 -0.9**
EFP Efpalio 56.75 295 P **P 01 31 45.9 +0.6**
LAKA Lakka 56.77 295 P **P 01 31 45.1 -0.4**
RUE Ruedersdorf 56.80 314 *e*P **P 01 31 45.9 +0.5**
comp=Z,3µm,2.4s,mb6.8
RUE Ruedersdorf 56.80 314 *e*P **P 01 31 45.8 +0.3**
comp=Z,212nm,0.8s,mb6.2
SOP Sopron 56.81 307⇑ *e*P **P 01 31 46.2 +0.6**
KYTH Kithira 56.82 293 *e*P **P 01 31 44.7 -1.1**
VLX Vlachokerasia 56.84 294 *e*P **P 01 31 44.2 -1.8**
VLX Vlachokerasia 56.84 294 P **P 01 31 46.9 +0.9**
TREC Trest 56.90 310⇑ *i*P **P 01 31 46.7 +0.5**
TREC *e*S **S 01 39 44.5 +3.7**
TREC MLR MLR
comp=Z,51µm,13.9s,MS6.8
TREC Trest 56.90 310⇑ *i*P **P 01 31 46.7 +0.5**
TREC *e*S **S 01 39 44.5 +3.7**
TREC AMS AMS 01 57 10.0
comp=Z,51µm,13.9s
UPM Unac-Piva 56.94 302⇑ *i*P **P 01 31 47.0 +0.4**
JAN Janina 57.00 297 *e*P **P 01 31 46.3 -0.8**
JAN Janina 57.00 297 P **P 01 31 48.2 +1.1**
TTG Podgorica 57.00 301⇑ *i*P **P 01 31 46.4 -0.7**
PVCC Panska Ves 57.01 311⇑ *i*P **P 01 31 47.6 +0.6**
PVCC MLR MLR
comp=Z,92µm,16.1s,MS7.0
PVCC Panska Ves 57.01 311⇑ *i*P **P 01 31 47.6 +0.6**
PVCC AMS AMS 01 57 20.0
comp=Z,92µm,16.1s
TIR Tirane 57.01 299 *i* P **P 01 31 45.5 -1.6**
TIR Tirane 57.01 299 *e*P **P 01 31 46.9 -0.2**
comp=Z,470nm,1.3s,mb6.4
TIR LR LR
comp=Z,18µm,19.0s,MS6.2
TIR Tirane 57.01 299 *e*P **P 01 31 46.9 -0.2**
TIR pmax pmax
comp=Z,470nm,1.3s,mb6.4
TIR MLR MLR
comp=Z,18µm,19.0s,MS6.2
NKY Niksic 57.03 301⇑ *i*P **P 01 31 46.4 -0.9**
CONA Conrad Observa 57.16 308 *i* P **P 01 31 48.8 +0.7**
comp=Z,316nm,1.4s,mb6.2,SNR=106
ULC Ulcinj 57.19 300⇑ *i*P **P 01 31 48.1 -0.3**
RLS Riolos of Patr 57.21 295 *e*P **P 01 31 47.8 -0.8**
RLS Riolos of Patr 57.21 295 P **P 01 31 49.2 +0.6**
PRU Pruhonice 57.22 311⇑ *i*P **P 01 31 49.7 +1.2**
PRU *e* 01 31 58.9
PRU *e*S **S 01 39 47.7 +2.7**
PRU MLR MLR
comp=Z,98µm,14.9s,MS7.0
PRU Pruhonice 57.22 311⇑ *i*P **P 01 31 49.7 +1.2**
PRU *e*sP sP 01 31 58.9 +10
PRU *e*S **S 01 39 47.7 +2.7**
PRU AMS AMS 01 57 20.0
comp=Z,98µm,14.9s
ITM Ithomi 57.25 294 *e*P **P 01 31 46.7 -2.2**
ITM Ithomi 57.25 294 P **P 01 31 49.3 +0.4**
PRA Prague 57.26 311 ⇑P **P 01 31 49.0 +0.3**
PRA S **S 01 39 49.0 +3.5**
PRA AMS AMS 01 58 00.0
BRG Berggiesshubel 57.26 312⇑ *i*P **P 01 31 48.9 +0.1**
comp=Z,451nm,1.4s,mb6.3
BRG *i* 01 31 59.1
comp=Z,647nm,1.7s
BRG PCP PcP 01 32 39.0 -4.1
BRG PP PP 01 33 57.0 +1.5
BRG SCP ScP 01 36 42.1 -1.9
comp=Z,29nm,1.4s
BRG S **S 01 39 49.0 +3.4**
BRG SCS ScS 01 41 42.4 +3.1
comp=Z,101nm,1.9s
BRG SS SS 01 43 45.0 +11
BRG *e*PKPPKP 02 01 54.3
comp=Z,6.0nm,2.0s
BRG
comp=N,17µm,15.9s
BRG
comp=E,72µm,15.8s
BRG
comp=Z,91µm,15.6s
BRG Berggiesshubel 57.26 312⇑ *i*P **P 01 31 48.9 +0.1**
BRG *i* 01 31 59.1
BRG 01 32 39.0
BRG 01 33 57.0
BRG S **S 01 39 49.0 +3.4**
BRG pmax pmax
comp=Z,451nm,1.4s,mb6.3
BRG pmax pmax
comp=N,29nm,1.4s
BRG MLR MLR
comp=N,17µm,15.9s,MS6.9
BRG MLR MLR
comp=E,72µm,15.8s,MS6.9
BRG MLR MLR
comp=Z,91µm,15.6s,MS7.0
BUM Brajici-Budva 57.30 301⇑ *i*P **P 01 31 49.2 0.0**
BRY Bratogost 57.31 302⇑ *i*P **P 01 31 48.7 -0.5**
IGT Igoumenitsa 57.41 297 P **P 01 31 49.6 -0.4**
LKD2 Lefkada island 57.49 296 P **P 01 31 50.2 -0.4**
PYL PYLOS 57.50 294 *e*P **P 01 31 48.5 -2.2**
PYL PYLOS 57.50 294 P **P 01 31 50.1 -0.6**
SRN Sarande 57.51 298 *i* P **P 01 31 48.2 -2.5**
HCY Herceg Novi 57.52 301⇑ *i*P **P 01 31 50.5 -0.2**
FBE Freiberg 57.59 312 *e*P **P 01 31 51.9 +0.8**
comp=Z,1µm,1.8s,mb6.6
ARSA Arzberg 57.62 307 *i* P **P 01 31 51.5 +0.2**
comp=Z,128nm,0.9s,mb5.9,SNR=59
CLL Collm 57.66 313 *e*P **P 01 31 51.7 +0.1**
comp=Z,1µm,2.0s,mb6.5

CLL Collm 57.66 313⇑ *i*P **P 01 31 51.6 0.0**
CLL *i* 01 32 01.1
CLL *e*S **S 01 39 52.0 +1.2**
CLL pmax pmax
comp=Z,370nm,1.3s,mb6.2
CLL MLR MLR
comp=Z,57µm,18.9s,MS6.7
CLL Collm 57.66 313⇑ *i*P **P 01 31 51.6 0.0**
comp=Z,370nm,1.3s,mb6.2
CLL *i* pP 01 31 57.1
CLL *i* sP sP 01 32 01.1 +10
CLL *i* 01 32 05.5
CLL *e*PP PP 01 34 00.0 +1.0
CLL *e*S **S 01 39 52.0 +1.2**
CLL *e*ScS ScS 01 41 48.0 +5.9
CLL *e*SS SS 01 43 42.0 +1.7
CLL *e* 01 44 42.0
CLL LmV 01 57 00.0
comp=Z,57µm,18.9s
CLL *e*PKPPKPdf 02 01 35.0
CLL *e*P 02 01 58.0
comp=Z,306nm,2.8s
KFL Anninata 57.68 296 P **P 01 31 53.3 +1.4**
KEK Kerkira 57.72 298 *e*P **P 01 31 50.6 -1.5**
KEK Kerkira 57.72 298 P **P 01 31 53.6 +1.5**
HYA Hoyanger 57.75 325 *e*P **P 01 31 54.6 +2.6**
HYA AMB AMB 01 32 08.4
comp=Z,351nm,1.4s,mb6.2
SISC Sisak 57.75 305 P **P 01 31 52.7 +0.4**
VLS Valsamata 57.79 296 *e*P **P 01 31 50.9 -1.8**
VLS Valsamata 57.79 296 P **P 01 31 52.4 -0.3**
STON Ston 57.89 302 P **P 01 31 51.0 -2.3**
MUD Monsted U'grnd 57.94 319 *i* P **P 01 31 54.9 +1.5**
MUD *i* S **S 01 39 58.4 +4.1**
MUD pmax pmax
comp=Z,130nm,1.0s,mb5.9
MUD MLR MLR
comp=Z,93µm,16.0s,MS7.0
MUD Monsted U'grnd 57.94 319 *i* P **P 01 31 54.9 +1.5**
comp=Z,133nm,1.0s,mb5.9
MUD *i* S **S 01 39 58.4 +4.1**
MUD
comp=Z,93µm,16.0s
AMKA Amchitka 57.95 47 *e*P **P 01 31 52.2 -1.4**
comp=Z,3µm,1.2s,mb7.2
GAMB Gambell 58.02 32 *e*P **P 01 31 55.5 +1.6**
comp=Z,2µm,2.3s,mb6.7
DOBS Dobrina 58.07 306 *e*P **P 01 31 54.6 0.0**
GCIS Gornji Cirnik 58.08 306 *e*P **P 01 31 54.9 +0.2**
FOO Floro 58.11 326 *e*P **P 01 31 55.0 +0.5**
FOO *e*S **S 01 39 54.4 -1.9**
FOO AMS AMS 01 58 13.4
comp=Z,42µm,19.3s,MS6.6
PERS Pernice 58.11 307 *i* P **P 01 31 55.0 +0.2**
PERS *i* 01 32 04.5
PERS *e*S **S 01 39 57.1 +0.3**
KHC Kasperske Hory 58.12 310 *e*P **P 01 31 55.3 +0.5**
comp=Z,808nm,2.0s,mb6.4
KHC Kasperske Hory 58.12 310 *e*P **P 01 31 55.3 +0.5**
KHC pmax pmax
comp=Z,808nm,2.0s,mb6.4
KHC Kasperske Hory 58.12 310⇑ *i*P **P 01 31 55.3 +0.5**
KHC *e*sP sP 01 32 04.6 +10
KHC *e*S **S 01 39 58.8 +1.9**
KHC AMS AMS 01 57 50.0
comp=Z,63µm,14.0s
CESS Cesta pri Krsk 58.15 306 *e*P **P 01 31 55.4 +0.3**
SOKA Soboth 58.15 307⇑ *i*P **P 01 31 55.3 +0.2**
comp=Z,388nm,1.4s,mb6.2
GEC2 GERESS Array S 58.15 310 *e*P **P 01 31 55.8 +0.7**
comp=Z,629nm,1.7s,mb6.4
GEC2 pmax pmax
comp=Z,629nm,1.7s,mb6.4
GERES GERESS Array B 58.15 310 P **P 01 31 55.5 +0.4**
comp=Z,54nm,0.9s,mb5.6,baz=65,slow=6.2,SNR=86
GERES S **S 01 39 59.7 +2.4**
comp=Z,0.6nm,0.8s,baz=28,slow=21,SNR=2.6
GERES LR LR 01 57 56.4
comp=Z,40µm,18.1s,MS6.6,baz=63,slow=37
GERES PKP2bc 02 01 47.8
comp=Z,1.2nm,1.0s,baz=270,slow=2.0,SNR=4.8
GERES GERESS Array B 58.15 310 P **P 01 31 55.5 +0.4**
GERES S **S 01 39 59.7 +2.4**
GERES LR LR 01 57 56.4
GERES ⇑*e* 02 01 47.8
GERES GERESS Array B 58.15 310 P **P 01 31 55.5 +0.4**
GERES S **S 01 39 59.7 +2.4**
GERES pmax pmax
comp=Z,54nm,0.9s
GERES smax
comp=N,1.0nm,0.8s
GERES MLR MLR
comp=Z,40µm,18.1s
MOA Molln 58.18 308 *i* P **P 01 31 55.7 +0.4**
comp=Z,185nm,1.2s,mb6.0,SNR=66
BSEG Bad Segeberg 58.23 316 *e*P **P 01 31 56.5 +1.0**
comp=Z,2µm,1.9s,mb6.9
BSEG Bad Segeberg 58.23 316 *e*P **P 01 31 56.5 +1.0**
BSEG pmax pmax
comp=Z,2µm,1.9s,mb6.9
BLS5 Blasjo 58.23 323 *e*P **P 01 31 55.9 +0.4**
BLS5 *e*pP 01 32 01.7
SNART Snartemo 58.26 322 *e*P **P 01 31 56.3 +0.6**
SNART *e*S **S 01 39 58.8 +0.4**
SNART AMS AMS 01 58 08.2
comp=Z,36µm,14.2s,MS6.6
TANN Tannenbergstha 58.31 312 *e*P **P 01 31 56.8 +0.7**
comp=Z,1µm,2.0s,mb6.5
NKC Novy Kostel 58.38 311⇑ *i*P **P 01 31 57.1 +0.4**
NKC *e*S **S 01 40 03.7 +3.4**
NKC MLR MLR
comp=Z,96µm,14.9s,MS7.0
NKC Novy Kostel 58.38 311⇑ *i*P **P 01 31 57.1 +0.4**
NKC *e*S **S 01 40 03.7 +3.4**
NKC AMS AMS 01 58 10.0
comp=Z,96µm,14.9s
WERD Werda 58.39 312 *e*P **P 01 31 57.2 +0.5**
comp=Z,915nm,2.0s,mb6.5
RUND Rundenannen 58.39 324 *e*P **P 01 31 55.7 -0.8**
GUNZ Gunzen 58.41 312 *e*P **P 01 31 57.4 +0.6**
comp=Z,1µm,1.9s,mb6.6
WERN Wernitzgruen 58.41 312 *e*P **P 01 31 57.5 +0.7**
comp=Z,1µm,1.9s,mb6.5
NEUB Neuenburg 58.41 313 *e*P **P 01 31 57.2 +0.4**
comp=Z,1µm,1.7s,mb6.7
BER Bergen 58.42 324 *e*P **P 01 31 56.0 -0.7**
BER AMS AMS 01 57 58.8
comp=Z,40µm,20.6s,MS6.5
ASK Askoy 58.44 324 *e*P **P 01 31 57.0 +0.1**
BOJS Bojanci 58.47 306 *i* P **P 01 31 57.8 +0.5**
BOJS *e* 01 32 07.4
BOJS *e*PP PP 01 34 10.6 +4.3
BOJS *e*S **S 01 40 03.2 +1.7**
OBKA Obir 58.52 307 *i* P **P 01 31 58.0 +0.3**
comp=Z,239nm,1.2s,mb6.1,SNR=79
WET Wettzell 58.54 310 *e*P **P 01 31 58.6 +0.8**
comp=Z,1µm,2.1s,mb6.6
WET Wettzell 58.54 310 *e*P **P 01 31 58.6 +0.8**
WET pmax pmax
comp=Z,1µm,2.1s,mb6.6
ROTZ Rotzenmuhle 58.71 311 *e*P **P 01 32 00.0 +1.1**
comp=Z,1µm,1.9s,mb6.7
LJU Ljubljana 58.72 306 *i* P **P 01 31 59.1 +0.1**
LJU *i* 01 32 08.6
LJU *e*PP PP 01 34 08.2 -0.3
LJU *e*S **S 01 40 05.0 +0.3**
MOX Moxa 58.72 312 *e*P **P 01 31 59.5 +0.5**
comp=Z,800nm,1.7s,mb6.5
MOX Moxa 58.72 312 *e*P **P 01 31 59.5 +0.5**
MOX pmax pmax
comp=Z,800nm,1.7s,mb6.5
STAV Stavanger 58.77 323 AMS AMS 02 16 56.6
comp=Z,34µm,17.6s,MS6.5
FURI Furi 58.78 256 *e*P **P 01 32 02.0 +2.1**
comp=Z,153nm,0.8s,mb6.1
FURI Furi 58.78 256 PG **P 01 32 01.7 +1.9**
FURI SG **S 01 40 14.0 +7.7**
TNA Tin City 58.86 29 *e*P **P 01 32 00.5 +0.7**
comp=Z,1µm,1.8s,mb6.7
NRDL Niedersach Rie 58.89 315 *e*P **P 01 32 01.1 +1.0**
comp=Z,2µm,1.8s,mb6.8
DAG Danmarks Havn 58.97 346⇑ *i*P **P 01 31 58.8 -1.5**
DAG *e*S **S 01 40 04.1 -3.1**

DAG MLR MLR
comp=Z,35µm,18.0s,MS6.5
DAG Danmarks Havn 58.97 346⇑ *i*P **P 01 31 58.8 -1.5**
comp=Z,33nm,1.0s,mb5.3
DAG *i* 01 32 58.0
DAG *e*S **S 01 40 04.1 -3.1**
DAG
comp=Z,34µm,18.0s
CLZ Clausthal 58.99 314 *e*P **P 01 32 01.5 +0.7**
comp=Z,656nm,1.4s,mb6.5
CLZ Clausthal 58.99 314 *e*P **P 01 32 01.5 +0.7**
CLZ pmax pmax
comp=Z,656nm,1.4s,mb6.5
MYKA Terra Mystica 59.05 307⇑ *i*P **P 01 32 01.3 0.0**
comp=Z,116nm,1.5s,mb5.7
KBA Koelnbreinsper 59.06 308 *i* P **P 01 32 01.6 +0.2**
comp=Z,172nm,1.2s,mb5.9,SNR=42
JAVS Javornik 59.07 306 *i* P **P 01 32 01.2 -0.3**
JAVS *i* 01 32 10.7
JAVS *e*S **S 01 40 08.8 -0.6**
NVLJ Novalja 59.09 305 P **P 01 32 01.0 -0.6**
VOY Vojsko 59.13 307 *e*P **P 01 32 01.0 -0.9**
VOY *e* 01 33 06.9
VOY *e* 01 33 25.8
VOY *e* 01 33 34.9
VOY *e* 01 34 14.7
VOY *e* 01 34 24.7
RJOB Jochberg 59.14 309 *e*P **P 01 32 03.0 +1.1**
comp=Z,2µm,2.2s,mb6.8
GRF Grafenberg Arr 59.33 311 *e*P **P 01 32 04.2 +1.0**
comp=Z,3µm,2.0s,mb6.9
GRF *e*L 01 58 21.6
comp=Z,68µm,21.2s
GRF Grafenberg Arr 59.33 311 *e*P **P 01 32 04.2 +1.0**
GRF pmax pmax
comp=Z,3µm,2.0s,mb6.9
GRF MLR MLR
comp=Z,68µm,21.2s,MS6.8
GRFO Grafenberg 59.33 311 *e*P **P 01 32 04.2 +1.0**
comp=Z,2µm,1.9s,mb6.8
GRFO Grafenberg 59.33 311 *e*P **P 01 32 04.2 +1.0**
GRFO pmax pmax
comp=Z,2µm,1.9s,mb6.8
TRI Trieste 59.34 306 *e*P **P 01 32 03.0 -0.4**
comp=Z,403nm,1.3s,mb6.3
TRI LR LR
comp=Z,25µm,20.0s,MS6.3
TRI Trieste 59.34 306 *e*P **P 01 32 03.0 -0.4**
TRI pmax pmax
comp=Z,403nm,1.3s,mb6.3
TRI MLR MLR
comp=Z,25µm,20.0s,MS6.3
JMIC Jan Mayen 59.37 338 *e*P **P 01 32 10.2 +7.0**
JMIC *e*S **S 01 40 11.8 -0.6**
JMIC AMS AMS 01 59 36.0
comp=Z,14µm,20.1s,MS6.1
JMIC Jan Mayen 59.37 338 LR LR 01 59 53.2
comp=Z,16µm,18.3s,MS6.2,baz=227,slow=38
HLG Helgoland 59.47 317 *e*P **P 01 32 05.0 +0.9**
comp=Z,1µm,1.6s,mb6.7
UBBA Unterbreizbach 59.60 313 *e*P **P 01 32 05.5 +0.4**
comp=Z,601nm,1.7s,mb6.3
ALE Alert 59.62 357 P **P 01 32 04.0 -0.8**
comp=Z,623nm,2.0s,mb6.3,SNR=29
ABTA Abfaltersbach 59.71 308 *i* P **P 01 32 05.3 -0.6**
comp=Z,251nm,1.4s,mb6.0,SNR=75
FUR Furstenfeldbru 59.90 310 *e*P **P 01 32 08.3 +1.1**
comp=Z,3µm,1.9s,mb7.0
FUR Furstenfeldbru 59.90 310 *e*P **P 01 32 08.3 +1.1**
FUR pmax pmax
comp=Z,3µm,1.9s,mb7.0
WTTA Wattenberg 60.05 309 *i* P **P 01 32 08.6 +0.3**
comp=Z,693nm,1.4s,mb6.5,SNR=210
WATA Walderalm 60.06 309 *i* P **P 01 32 08.4 +0.1**
comp=Z,192nm,0.8s,mb6.2,SNR=82
IBBN Ibbenburen 60.28 315 *e*P **P 01 32 10.3 +0.5**
comp=Z,2µm,2.0s,mb6.7
MOTA Moosalm 60.35 309 *i* P **P 01 32 10.4 +0.1**
comp=Z,508nm,1.2s,mb6.4,SNR=313
CUC Castrocucco 60.38 299 *e*P **P 01 32 10.1 -0.5**
comp=Z,200nm,0.9s,mb6.2
CUC LR LR
comp=Z,12µm,19.0s,MS6.1
RETA Reutte 60.50 309 *i* P **P 01 32 11.5 +0.2**
comp=Z,279nm,1.2s,mb6.2,SNR=94
WIT Witteveen 60.68 316 *e*P **P 01 32 14.7 +2.3**
comp=Z,1µm,1.4s,mb6.8
FETA Feichten 60.71 309 *i* P **P 01 32 12.8 +0.1**
comp=Z,245nm,1.0s,mb6.3,SNR=170
TNS Taunus Mts 60.75 313 *e*P **P 01 32 13.6 +0.6**
comp=Z,1µm,2.3s,mb6.6
TNS Taunus Mts 60.75 313 *e*P **P 01 32 13.6 +0.6**
TNS pmax pmax
comp=Z,1µm,2.3s,mb6.6
TOD Tromm 60.80 312 *e*P **P 01 32 13.3 0.0**
TOD Tromm 60.80 312 *e*P **P 01 32 13.3 0.0**
STU Stuttgart 60.91 311 *e*P **P 01 32 14.5 +0.4**
comp=Z,1µm,1.9s,mb6.6
STU Stuttgart 60.91 311 *e*P **P 01 32 14.3 +0.2**
comp=Z,281nm,1.0s,mb6.3
STU Stuttgart 60.91 311 *e*P **P 01 32 14.3 +0.2**
STU pmax pmax
comp=Z,281nm,1.0s,mb6.3
BUG Bochum--Univer 60.92 314 *e*P **P 01 32 14.7 +0.6**
comp=Z,1µm,1.8s,mb6.7
WTSB Winterswijk 60.96 315⇑ *e*P **P 01 32 14.9 +0.5**
comp=Z,405nm,1.9s,mb6.2
AQU L'Aquila 60.99 303 *e*P **P 01 32 15.2 +0.5**
comp=Z,4µm,2.6s,mb7.1
AQU LR LR
comp=Z,19µm,20.0s,MS6.2
AQU L'Aquila 60.99 303 *e*P **P 01 32 15.2 +0.5**
AQU pmax pmax
comp=Z,4µm,2.6s,mb7.1
AQU MLR MLR
comp=Z,19µm,20.0s,MS6.2
CEL Celeste 61.09 298 *e*P **P 01 32 15.1 -0.4**
comp=Z,730nm,1.2s,mb6.7
CEL *e*PP PP 01 34 28.7 -1.0
CEL LR LR
comp=Z,10µm,21.0s,MS6.0
DAVA Damuels 61.13 309 *i* P **P 01 32 15.5 -0.1**
comp=Z,92nm,1.1s,mb5.8,SNR=43
DAVOX Davos/Dischmat 61.34 309 LR LR 02 00 34.5
comp=Z,42µm,19.0s,MS6.6,baz=234,slow=38
KTD Kalmit 61.34 312 *e*P **P 01 32 17.2 +0.2**
KTD Kalmit 61.34 312 *e*P **P 01 32 17.2 +0.2**
ABH Alteburg 61.42 313 *e*P **P 01 32 18.0 +0.5**
SPAK Spaichingen-Ko 61.45 310 *e*P **P 01 32 18.1 +0.4**
BFO Black Forest 61.62 311 *e*P **P 01 32 19.1 +0.2**
comp=Z,895nm,1.8s,mb6.7
BFO Black Forest 61.62 311 *e*P **P 01 32 18.8 -0.2**
comp=Z,724nm,1.6s,mb6.7
BFO LR LR
comp=Z,41µm,20.0s,MS6.6
BFO Black Forest 61.62 311 *e*P **P 01 32 18.8 -0.1**
BFO pmax pmax
comp=Z,724nm,1.6s,mb6.7
BFO MLR MLR
comp=Z,41µm,20.0s,MS6.6
LANF Langenberg 61.65 312 *e*P **P 01 32 19.3 +0.2**
LANF Langenberg 61.65 312 *e*P **P 01 32 19.3 +0.2**
LANF Langenberg 61.65 312 *e*P **P 01 32 19.3 +0.2**
TUE Stuetta 61.81 308 *e*P **P 01 32 20.2 0.0**
comp=Z,1µm,1.8s,mb6.9
TUE LR LR
comp=Z,42µm,20.0s,MS6.6
HGN Heimansgroeve 61.97 314⇑ *e*P **P 01 32 19.8 -1.4**
comp=Z,227nm,1.4s,mb6.2
HGN Heimansgroeve 61.97 314 *e*PP PP 01 34 43.6 +6.5
HGN Heimansgroeve 61.97 314 *e*S **S 01 40 50.0 +3.7**
MEM Membach 61.99 314 P **P 01 32 21.4 0.0**
comp=Z,204nm,2.3s,mb6.0
FELD Feldberg im Sc 62.02 310 *e*P **P 01 32 21.6 0.0**
FITZ Fitzroy Crossi 62.10 148 P **P 01 32 21.3 -1.1**
comp=Z,16nm,0.6s,mb5.5,baz=341,slow=7.7,SNR=30
FITZ Fitzroy Crossi 62.10 148 *e*P **P 01 32 21.2 -1.2**
comp=Z,113nm,1.0s,mb6.0
FITZ *e*PP PP 01 34 49.8 +11
FITZ *e*S **S 01 40 50.2 +1.7**
FITZ Fitzroy Crossi 62.10 148 *e*P **P 01 32 21.7 -0.6**
comp=Z,148nm,1.3s,mb6.1
BEBN Eben Emael 62.10 314 P **P 01 32 22.2 +0.1**
LIBD Limburg 62.14 311 *e*P **P 01 32 22.4 0.0**
LIBD Limburg 62.14 311 *e*P **P 01 32 22.4 0.0**
VLC Villacollemand 62.17 306 *e*P **P 01 32 22.9 +0.2**

comp=Z,432nm,1.2s,mb6.6
VLC LR LR
comp=Z,29µm,19.0s,MS6.5
CDF Champ du Feu 62.22 311⇑ iP P 01 32 22.8 -0.1
comp=Z,493nm,1.1s,mb6.3
CDF Champ du Feu 62.22 311⇑ iP P 01 32 22.8 -0.1
comp=Z,247nm,1.1s,mb6.3
CDF Champ du Feu 62.22 311⇑ iP P 01 32 22.8 -0.1
CDF pmax pmax
comp=Z,247nm,1.1s,mb6.3
WLF Walferdange 62.33 313 P P 01 32 24.4 +0.8
comp=Z,338nm,1.5s,mb6.3
WLF Walferdange 62.33 313 eP P 01 32 24.7 +1.1
comp=Z,1µm,1.8s,mb6.9
WLF Walferdange 62.33 313 eP P 01 32 24.4 +0.7
comp=Z,460nm,1.1s,mb6.6
WLF LR LR
comp=Z,40µm,20.0s,MS6.6
WLF Walferdange 62.33 313 eP P 01 32 24.4 +0.8
WLF pmax pmax
comp=Z,460nm,1.1s,mb6.6
WLF MLR MLR
comp=Z,40µm,20.0s,MS6.6
ECH Echery 62.38 311 eP P 01 32 23.7 -0.3
comp=Z,226nm,1.3s,mb6.2
ECH LR LR
comp=Z,36µm,22.0s,MS6.5
ECH Echery 62.38 311 eP P 01 32 23.7 -0.3
ECH pmax pmax
comp=Z,226nm,1.3s,mb6.2
ECH MLR MLR
comp=Z,36µm,22.0s,MS6.5
ECH Echery 62.38 311 eP P 01 32 23.8 -0.2
BCLA Clavier 62.48 314 P P 01 32 25.0 +0.3
BBS Basel-Blauen 62.50 310 eP P 01 32 24.7 -0.1
BBS Basel-Blauen 62.50 310 eP P 01 32 24.7 -0.1
MOF Molkenrain 62.55 311 eP P 01 32 24.9 -0.3
MOF Molkenrain 62.55 311 eP P 01 32 24.9 -0.3
MOF Molkenrain 62.55 311 eP P 01 32 24.9 -0.3
MBWA Marble Bar 62.63 155 eP P 01 32 25.6 -0.3
comp=Z,391nm,1.5s,mb6.3
MBWA LR LR
comp=Z,8µm,20.0s,MS5.9
MBWA Marble Bar 62.63 155 P P 01 32 26.3 +0.4
SNR=17
HINF Hinteralfeld 62.74 311⇑ iP P 01 32 26.1 -0.3
comp=Z,272nm,1.0s,mb6.0
HINF Hinteralfeld 62.74 311⇑ iP P 01 32 26.1 -0.3
comp=Z,136nm,1.0s,mb6.0
HINF Hinteralfeld 62.74 311⇑ iP P 01 32 26.1 -0.3
HINF pmax pmax
comp=Z,136nm,1.0s,mb6.0
GIVF Givet 62.90 314⇑ iP P 01 32 27.5 +0.1
comp=Z,937nm,1.4s,mb6.4
GIVF Givet 62.90 314⇑ iP P 01 32 27.5 +0.1
comp=Z,468nm,1.4s,mb6.4
GIVF Givet 62.90 314⇑ iP P 01 32 27.5 +0.1
GIVF pmax pmax
comp=Z,468nm,1.4s,mb6.4
HAU Haudompre 62.95 311⇑ iP P 01 32 27.6 -0.3
comp=Z,764nm,1.4s,mb6.3
HAU eR
comp=Z,53µm,21.5s
HAU Haudompre 62.95 311⇑ iP P 01 32 27.6 -0.3
comp=Z,382nm,1.4s,mb6.3
HAU LR LR
comp=Z,53µm,21.5s,MS6.7
HAU Haudompre 62.95 311⇑ iP P 01 32 27.6 -0.3
HAU pmax pmax
comp=Z,382nm,1.4s,mb6.3
HAU MLR MLR
comp=Z,53µm,21.5s,MS6.7
SNF Seneffe 63.02 314 P P 01 32 28.4 +0.1
comp=Z,269nm,2.5s,mb5.9
DOU Dourbes 63.03 314 P P 01 32 28.6 +0.3
comp=Z,106nm,1.6s,mb5.7
SOFL Sornfelli, Far 63.06 329 AMS AMS 02 02 00.7
comp=Z,25µm,16.0s,MS6.5
THEF They Montfort 63.07 311 eP P 01 32 28.6 0.0
THEF They Montfort 63.07 311 eP P 01 32 28.6 0.0
THEF They Montfort 63.07 311 eP P 01 32 28.6 0.0
PAGF Fort de Pagny 63.08 312⇑ iP P 01 32 29.0 +0.3
comp=Z,437nm,1.4s,mb6.1
SENIN Lac Senin/Sane 63.12 309 eP P 01 32 29.0 0.0
comp=Z,2µm,2.3s,mb6.9
WDD Wield Dalam 63.16 296 PFAKE 01 32 40.0 +11
WDD LR LR
comp=Z,4µm,20.0s,MS5.6
BAIF Baives 63.27 314⇑ iP P 01 32 30.2 +0.3
comp=Z,590nm,1.2s,mb6.3
BAIF Baives 63.27 314⇑ iP P 01 32 30.2 +0.3
comp=Z,295nm,1.2s,mb6.3
BAIF Baives 63.27 314⇑ iP P 01 32 30.2 +0.3
BAIF pmax pmax
comp=Z,295nm,1.2s,mb6.3
SCO Scoresbysund 63.39 341 eP P 01 32 30.7 +0.3
SCO pmax pmax
comp=Z,55nm,0.9s,mb5.7
SCO MLR MLR
comp=Z,19µm,19.0s,MS6.3
MEZF Maizieres J'vi 63.50 312⇑ iP P 01 32 31.7 +0.2
comp=Z,566nm,1.2s,mb6.3
MEZF Maizieres J'vi 63.50 312⇑ iP P 01 32 31.7 +0.2
comp=Z,566nm,1.2s,mb6.6
MME1 Meikle Cairn 63.62 323 eP P 01 32 32.0 -0.1
MME1 Meikle Cairn 63.62 323 P P 01 32 32.0 -0.1
MCD Coleburn Disti 63.63 324⇑ eP P 01 32 32.2 +0.1
MCD Coleburn Disti 63.63 324 P P 01 32 32.2 +0.1
SFTF Sexfontaines 63.64 312⇑ iP P 01 32 32.2 -0.2
comp=Z,436nm,1.1s,mb6.3
SFTF Sexfontaines 63.64 312⇑ iP P 01 32 32.2 -0.2
comp=Z,436nm,1.1s,mb6.6
CABF La Chapelle 63.75 310⇑ iP P 01 32 32.9 -0.3
comp=Z,200nm,1.0s,mb6.0
CABF La Chapelle 63.75 310⇑ iP P 01 32 32.9 -0.3
comp=Z,100nm,1.0s,mb6.0
CABF La Chapelle 63.75 310⇑ iP P 01 32 32.9 -0.3
CABF pmax pmax
comp=Z,100nm,1.0s,mb6.0
PGF Pioggiola 63.81 305⇑ iP P 01 32 33.9 +0.3
comp=Z,2µm,1.5s,mb6.9
PGF Pioggiola 63.81 305⇑ iP P 01 32 33.9 +0.3
comp=Z,1µm,1.5s,mb6.9
PGF Pioggiola 63.81 305⇑ iP P 01 32 33.9 +0.3
PGF pmax pmax
comp=Z,1µm,1.5s,mb6.9
LPG La Plagne 63.86 308⇑ iP P 01 32 34.6 +0.7
comp=Z,642nm,1.0s,mb6.5
LPG La Plagne 63.86 308⇑ iP P 01 32 34.6 +0.7
comp=Z,321nm,1.0s,mb6.5
LPG La Plagne 63.86 308⇑ iP P 01 32 34.6 +0.7
LPG pmax pmax
comp=Z,321nm,1.0s,mb6.5
LPL La Plagne 63.87 308⇑ iP P 01 32 34.6 +0.7
comp=Z,466nm,0.9s,mb6.4
LPL La Plagne 63.87 308⇑ iP P 01 32 34.6 +0.7
comp=Z,233nm,0.9s,mb6.4
LPL La Plagne 63.87 308⇑ iP P 01 32 34.6 +0.7
LPL pmax pmax
comp=Z,233nm,0.9s,mb6.4
MVH1 Achvaich 63.90 324 eP P 01 32 33.1 -0.8
MVH1 Achvaich 63.90 324 P P 01 32 33.1 -0.8
SAOF Saorge 64.06 307 eP P 01 32 35.5 +0.2
SAOF Saorge 64.06 307 eP P 01 32 35.5 +0.2
SAOF Saorge 64.06 307 eP P 01 32 35.5 +0.2
RSC Scourie 64.14 325 eP P 01 32 33.3 -2.2
RSC Scourie 64.14 325 P P 01 32 33.3 -2.2
AUTN L'Aution 64.14 307 eP P 01 32 36.1 +0.3
AUTN L'Aution 64.14 307 eP P 01 32 36.1 +0.3
AUTN L'Aution 64.14 307 eP P 01 32 36.1 +0.3
SBF Sospel 64.20 307⇑ iP P 01 32 36.0 -0.2
comp=Z,998nm,0.9s,mb6.7
SBF Sospel 64.20 307⇑ iP P 01 32 36.0 -0.2
comp=Z,499nm,0.9s,mb6.7
SBF Sospel 64.20 307⇑ iP P 01 32 36.0 -0.2
SBF pmax pmax
comp=Z,499nm,0.9s,mb6.7
MBDF Montbardon 64.21 308⇑ iP P 01 32 35.6 -0.6
comp=Z,1µm,1.5s,mb6.5
MBDF Montbardon 64.21 308⇑ iP P 01 32 35.6 -0.6
comp=Z,515nm,1.5s,mb6.5
MBDF Montbardon 64.21 308⇑ iP P 01 32 35.6 -0.6
MBDF pmax pmax
comp=Z,515nm,1.5s,mb6.5
MDO Dochfour 64.22 324 eP P 01 32 35.1 -0.9
MDO Dochfour 64.22 324 P P 01 32 35.1 -0.9
COLD Coldfoot 64.24 23 eP P 01 32 36.4 +0.4
comp=Z,236nm,0.9s,mb6.4
LUCF Luceram 64.24 307 eP P 01 32 36.5 +0.1
LUCF Luceram 64.24 307 eP P 01 32 36.5 +0.1
TOUF Mont Tournerai 64.25 307 eP P 01 32 36.7 +0.2
TOUF Mont Tournerai 64.25 307 eP P 01 32 36.7 +0.2
TOUF Mont Tournerai 64.25 307 eP P 01 32 36.7 +0.2
REVF Revere 64.30 306 eP P 01 32 36.6 -0.2
REVF Revere 64.30 306 eP P 01 32 36.6 -0.2
REVF Revere 64.30 306 eP P 01 32 36.6 -0.2
SURF Saint Ours 64.30 307 eP P 01 32 36.9 +0.1
SURF Saint Ours 64.30 307 eP P 01 32 36.9 +0.1
MVIF Mont Vial 64.36 307 eP P 01 32 37.0 -0.2
MVIF Mont Vial 64.36 307 eP P 01 32 37.0 -0.2
MVIF Mont Vial 64.36 307 eP P 01 32 37.0 -0.2
GDM Grand'Maison 64.40 308 eP P 01 32 37.6 +0.2
GDM Grand'Maison 64.40 308 eP P 01 32 37.6 +0.2
EDI Edinburgh 64.41 322 eP P 01 32 35.5 -1.9
EDI AMB AMB 01 32 41.1
comp=Z,269nm,3.9s
EDI AMS AMS 02 02 02.9
comp=Z,23µm,16.1s,MS6.5
EDI Edinburgh 64.41 322 P P 01 32 35.5 -1.9
EDI AMB AMB 01 32 41.1
comp=Z,269nm,3.9s
EDI AMS AMS 02 02 02.9
comp=Z,23µm,16.1s
CALN Calern 64.60 307 eP P 01 32 38.6 -0.2
CALN Calern 64.60 307 eP P 01 32 38.6 -0.2
CALN Calern 64.60 307 eP P 01 32 38.6 -0.2
GRN Grenoble 64.61 309 eP P 01 32 39.4 +0.6
GRN Grenoble 64.61 309 eP P 01 32 39.4 +0.6
GRN Grenoble 64.61 309 eP P 01 32 39.4 +0.6
KAC Achnashellach 64.63 324⇑ eP P 01 32 38.4 -0.4
KAC Achnashellach 64.63 324 P P 01 32 38.4 -0.4
ORIF Oris-en-Rattie 64.68 308⇑ iP P 01 32 39.1 -0.2
comp=Z,502nm,1.0s,mb6.4
ORIF eR
comp=Z,72µm,18.0s
ORIF Oris-en-Rattie 64.68 308⇑ iP P 01 32 39.1 -0.2
comp=Z,251nm,1.0s,mb6.4
ORIF Oris-en-Rattie 64.68 308⇑ iP P 01 32 39.1 -0.2
ORIF pmax pmax
comp=Z,251nm,1.0s,mb6.4
RRR Rubha Reidh 64.68 325 eP P 01 32 38.5 -0.6
RRR Rubha Reidh 64.68 325 P P 01 32 38.5 -0.6
ESK Eskdalemuir 64.72 321 eP P 01 32 38.1 -1.3
ESK AMB AMB 01 32 52.7
comp=Z,436nm,1.9s,mb6.3
ESK AMS AMS 02 02 57.6
comp=Z,30µm,17.2s,MS6.5
ESK Eskdalemuir 64.72 321 P P 01 32 38.1 -1.3
ESK AMB AMB 01 32 52.7
comp=Z,436nm,1.9s,mb6.3
ESK AMS AMS 02 02 57.6
comp=Z,30µm,17.2s
ESK Eskdalemuir 64.72 321 eP P 01 32 39.5 +0.2
comp=Z,982nm,1.8s,mb6.7
ESK LR LR
comp=Z,30µm,19.0s,MS6.5
ESK Eskdalemuir 64.72 321 eP P 01 32 39.5 +0.1
ESK pmax pmax
comp=Z,982nm,1.8s,mb6.7
ESK MLR MLR
comp=Z,30µm,19.0s,MS6.5
LOR Lormes 64.79 311⇑ iP P 01 32 39.1 -0.8
comp=Z,423nm,1.2s,mb6.2
LOR eR
comp=Z,35µm,22.3s
LOR Lormes 64.79 311⇑ iP P 01 32 39.1 -0.8
comp=Z,212nm,1.2s,mb6.2
LOR LR LR
comp=Z,35µm,22.3s,MS6.5
LOR Lormes 64.79 311⇑ iP P 01 32 39.1 -0.8
LOR pmax pmax
comp=Z,212nm,1.2s,mb6.2
LOR MLR MLR
comp=Z,35µm,22.3s,MS6.5
KSB Sheil Bridge 64.83 324⇑ eP P 01 32 38.9 -1.2
KSB Sheil Bridge 64.83 324 P P 01 32 38.9 -1.2
FRF La Foret Royal 64.85 307⇑ iP P 01 32 40.0 -0.4
comp=Z,1µm,1.6s,mb6.5
FRF La Foret Royal 64.85 307⇑ iP P 01 32 40.0 -0.4
comp=Z,505nm,1.5s,mb6.5
FRF La Foret Royal 64.85 307⇑ iP P 01 32 40.0 -0.4
FRF pmax pmax
comp=Z,505nm,1.5s,mb6.5
KPL Plockton 64.88 324 eP P 01 32 40.5 +0.1
KPL AMB AMB 01 32 44.4
comp=Z,241nm,4.1s
KPL AMS AMS 02 02 06.8
comp=Z,54µm,16.3s,MS6.8
KPL Plockton 64.88 324 P P 01 32 40.5 +0.1
KPL AMB AMB 01 32 44.4
comp=Z,241nm,4.1s
KPL AMS AMS 02 02 06.8
comp=Z,54µm,16.3s
KBI1 Birley Grange 64.89 319⇑ eP P 01 32 38.4 -2.1
KBI1 Birley Grange 64.89 319 P P 01 32 38.4 -2.1
AKUT Akutan 64.94 40 eP P 01 32 41.1 +0.4
comp=Z,3µm,2.7s,mb7.1
VSL Villasalto 65.01 302 eP P 01 32 41.2 -0.3
comp=Z,3µm,3.0s
VSL LR LR
comp=Z,7µm,22.0s,MS5.8
CWF Charnwood Fore 65.03 318 eP P 01 32 39.3 -2.2
CWF AMB AMB 01 32 51.5
comp=Z,216nm,2.6s,mb5.9
CWF AMS AMS 02 03 00.4
comp=Z,87µm,17.7s,MS7.0
CWF Charnwood Fore 65.03 318 P P 01 32 39.3 -2.2
CWF AMB AMB 01 32 51.5
comp=Z,216nm,2.6s,mb5.9
CWF AMS AMS 02 03 00.4
comp=Z,87µm,17.7s
LMR La Mourre 65.04 306⇑ iP P 01 32 41.4 -0.3
comp=Z,1µm,1.4s,mb6.6
LMR La Mourre 65.04 306⇑ iP P 01 32 41.4 -0.3
comp=Z,526nm,1.4s,mb6.6
LMR La Mourre 65.04 306⇑ iP P 01 32 41.4 -0.3
LMR pmax pmax
comp=Z,526nm,1.4s,mb6.6
RRH Rhenigidale 65.05 325⇑ eP P 01 32 41.3 -0.2
RRH Rhenigidale 65.05 325 P P 01 32 41.3 -0.2
SMF Signal de Mont 65.10 311⇑ iP P 01 32 41.6 -0.4
comp=Z,771nm,0.9s,mb6.6
SMF Signal de Mont 65.10 311⇑ iP P 01 32 41.6 -0.4
comp=Z,386nm,0.9s,mb6.6
SMF Signal de Mont 65.10 311⇑ iP P 01 32 41.6 -0.4
SMF pmax pmax
comp=Z,386nm,0.9s,mb6.6
SSF Saint Saulge 65.10 311⇑ iP P 01 32 41.4 -0.6
comp=Z,699nm,1.6s,mb6.3
SSF Saint Saulge 65.10 311⇑ iP P 01 32 41.4 -0.6
comp=Z,350nm,1.6s,mb6.3
SSF Saint Saulge 65.10 311⇑ iP P 01 32 41.4 -0.6
SSF pmax pmax
comp=Z,349nm,1.6s,mb6.3
PGBU Glenifferbraes 65.10 322 eP P 01 32 41.8 -0.1
PGBU AMB AMB 01 32 56.5
comp=Z,546nm,1.8s,mb6.5
PGBU AMS AMS 02 02 23.9
comp=Z,30µm,15.4s,MS6.6
PGBU Glenifferbraes 65.10 322 P P 01 32 41.8 -0.1
PGBU AMB AMB 01 32 56.5
comp=Z,546nm,1.8s,mb6.5
PGBU AMS AMS 02 02 23.9
comp=Z,30µm,15.4s
STOF St-Etienne Org 65.10 307 eP P 01 32 42.5 +0.4
STOF St-Etienne Org 65.10 307 eP P 01 32 42.5 +0.4
KWE Weaver Farm 65.18 319 eP P 01 32 41.6 -0.7
KWE Weaver Farm 65.18 319 P P 01 32 41.6 -0.7
XDE Dent Fell 65.27 321⇑ eP P 01 32 41.9 -1.0
XDE Dent Fell 65.27 321 P P 01 32 41.9 -1.0
GCD Castle Douglas 65.32 321⇑ eP P 01 32 42.6 -0.6
GCD Castle Douglas 65.32 321 P P 01 32 42.6 -0.6
AVF Avril sur Loir 65.32 311⇑ iP P 01 32 43.0 -0.4
comp=Z,527nm,1.0s,mb6.4
AVF Avril sur Loir 65.32 311⇑ iP P 01 32 43.0 -0.4
comp=Z,264nm,1.0s,mb6.4
AVF Avril sur Loir 65.32 311⇑ iP P 01 32 43.0 -0.4
AVF pmax pmax
comp=Z,264nm,1.0s,mb6.4
SMRF Simiane la Rot 65.33 307⇑ iP P 01 32 43.5 0.0
comp=Z,553nm,1.4s,mb6.3
SMRF Simiane la Rot 65.33 307⇑ iP P 01 32 43.5 0.0
comp=Z,553nm,1.4s,mb6.6
STNC Stoke 65.33 319 eP P 01 32 43.1 -0.2
STNC AMB AMB 01 32 57.8
comp=Z,672nm,2.6s,mb6.4
STNC AMS AMS 02 03 19.9
comp=Z,78µm,17.2s,MS7.0
STNC Stoke 65.33 319 P P 01 32 43.1 -0.2
STNC AMB AMB 01 32 57.8
comp=Z,672nm,2.6s,mb6.4
STNC AMS AMS 02 03 19.9
comp=Z,78µm,17.2s
SSB Saint Sauveur 65.34 309 eP P 01 32 42.9 -0.7
comp=Z,247nm,1.3s,mb6.3
SSB LR LR
comp=Z,15µm,21.0s,MS6.2
SSB Saint Sauveur 65.34 309 eP P 01 32 42.9 -0.6
SSB pmax pmax
comp=Z,247nm,1.3s,mb6.3
SSB MLR MLR
comp=Z,15µm,21.0s,MS6.2
VIVF Saint-Julien-l 65.46 309⇑ iP P 01 32 44.2 -0.2
comp=Z,716nm,1.3s,mb6.4
VIVF Saint-Julien-l 65.46 309⇑ iP P 01 32 44.2 -0.2
comp=Z,358nm,1.3s,mb6.4
VIVF Saint-Julien-l 65.46 309⇑ iP P 01 32 44.2 -0.2
VIVF pmax pmax
comp=Z,358nm,1.3s,mb6.4
HYF Humbligny 65.51 312⇑ iP P 01 32 44.6 -0.1
HYF Humbligny 65.51 312⇑ iP P 01 32 44.6 -0.1
BERF Bertagne 65.58 307 eP P 01 32 45.5 +0.4
BERF Bertagne 65.58 307 eP P 01 32 45.5 +0.4
TREF Trevaresse 65.62 307 eP P 01 32 45.5 +0.1
TREF Trevaresse 65.62 307 eP P 01 32 45.5 +0.1
SUMG Summit 65.64 346 eP P 01 32 44.7 -0.4
comp=Z,5µm,2.9s,mb7.3
SUMG Summit 65.64 346 eP P 01 32 44.7 -0.4
SUMG pmax pmax
comp=Z,5µm,2.9s
SUMG Summit 65.64 346 iP P 01 32 44.7 -0.4
comp=Z,91nm,1.0s,mb6.0
SUMG
comp=Z,32µm,19.0s
GAL1 Galloway 65.70 321 eP P 01 32 44.9 -0.8
GAL1 AMB AMB 01 33 00.1
comp=Z,442nm,2.2s,mb6.3
GAL1 AMS AMS 02 03 37.5
comp=Z,24µm,19.1s,MS6.4
GAL1 Galloway 65.70 321 P P 01 32 44.9 -0.8
GAL1 AMB AMB 01 33 00.1
comp=Z,442nm,2.2s,mb6.3
GAL1 AMS AMS 02 03 37.5
comp=Z,24µm,19.1s
WOL Wolverton 65.70 317 AMS AMS 02 03 32.5
comp=Z,55µm,15.4s,MS6.9
BGF Bois d'Agland 65.74 311⇑ iP P 01 32 45.7 -0.4
comp=Z,317nm,1.0s,mb6.2
BGF Bois d'Agland 65.74 311⇑ iP P 01 32 45.7 -0.4
comp=Z,158nm,1.0s,mb6.2
BGF Bois d'Agland 65.74 311⇑ iP P 01 32 45.7 -0.4
BGF pmax pmax
comp=Z,158nm,1.0s,mb6.2
AGO Saint Agoulin 65.82 310 eP P 01 32 46.6 -0.1
AGO Saint Agoulin 65.82 310 eP P 01 32 46.6 -0.1
BPAW Bear Paw Mtn. 65.85 26 eP P 01 32 46.8 +0.2
comp=Z,971nm,1.5s,mb6.8
SVW2 Sparrevohn 65.88 30 eP P 01 32 47.6 +0.8
comp=Z,717nm,2.1s,mb6.5
SWN1 Swindon 65.91 317 eP P 01 32 46.7 -0.5
SWN1 AMB AMB 01 33 01.8
comp=Z,626nm,1.8s,mb6.5
SWN1 AMS AMS 02 03 22.1
comp=Z,55µm,15.9s,MS6.8
SWN1 Swindon 65.91 317 P P 01 32 46.7 -0.5
SWN1 AMB AMB 01 33 01.8
comp=Z,626nm,1.8s,mb6.5
SWN1 AMS AMS 02 03 22.1
comp=Z,55µm,15.9s
PYM Petit Puy Mans 66.04 310 eP P 01 32 48.4 +0.3
PYM Petit Puy Mans 66.04 310 eP P 01 32 48.4 +0.3
PYM Petit Puy Mans 66.04 310 eP P 01 32 48.4 +0.3
WPM1 Penmaenmawr 66.12 320⇑ eP P 01 32 47.6 -0.8
WPM1 Penmaenmawr 66.12 320 P P 01 32 47.6 -0.8
PPLA Purkeypile 66.14 28 eP P 01 32 49.0 +0.6
LBL Lubilhac 66.16 309 eP P 01 32 48.9 +0.1
LBL Lubilhac 66.16 309 eP P 01 32 48.9 +0.1
LBL Lubilhac 66.16 309 eP P 01 32 48.9 +0.1
TCF Toulx Ste Croi 66.26 311⇑ iP P 01 32 49.4 -0.1
comp=Z,2µm,1.4s,mb6.7
TCF Toulx Ste Croi 66.26 311⇑ iP P 01 32 49.4 -0.1
comp=Z,766nm,1.4s,mb6.7
TCF Toulx Ste Croi 66.26 311⇑ iP P 01 32 49.4 -0.1
TCF pmax pmax
comp=Z,767nm,1.4s,mb6.7
MCH1 Michaelchurch 66.30 318 eP P 01 32 48.5 -1.1
MCH1 AMB AMB 01 33 04.8
comp=Z,447nm,2.3s,mb6.3
MCH1 Michaelchurch 66.30 318 P P 01 32 48.5 -1.1
MCH1 AMB AMB 01 33 04.8
comp=Z,447nm,2.3s,mb6.3
YLL Llanberis 66.32 320 eP P 01 32 50.8 +1.1
YLL Llanberis 66.32 320 P P 01 32 50.8 +1.1
KMBO Kilima Mbogo 66.34 249 eP P 01 32 50.3 -0.1
comp=Z,612nm,1.9s,mb6.5
KMBO LR LR
comp=Z,13µm,19.0s,MS6.2
KMBO Kilima Mbogo 66.34 249 eP P 01 32 50.3 -0.1
KMBO pmax pmax
comp=Z,612nm,1.9s
KMBO MLR MLR
comp=Z,13µm,19.0s
KMBO Kilima Mbogo 66.34 249 P P 01 32 50.8 +0.4
SNR=135
LASF Ste Croix 66.35 308⇑ iP P 01 32 50.2 +0.1
comp=Z,1µm,1.5s,mb6.7
LASF Ste Croix 66.35 308⇑ iP P 01 32 50.2 +0.1
WLF1 Llynfaes 66.36 320 eP P 01 32 49.7 -0.2
WLF1 AMB AMB 01 33 01.7
comp=Z,412nm,1.8s,mb6.4
WLF1 AMS AMS 02 03 58.9
comp=Z,40µm,16.9s,MS6.7
WLF1 Llynfaes 66.36 320 P P 01 32 49.7 -0.2
WLF1 AMB AMB 01 33 01.7
comp=Z,412nm,1.8s,mb6.4
WLF1 AMS AMS 02 03 58.9
comp=Z,40µm,16.9s
HGH Gray Hill 66.39 318⇑ eP P 01 32 49.4 -0.8
HGH Gray Hill 66.39 318 P P 01 32 49.4 -0.8
COLA College 66.44 25 eP P 01 32 50.2 -0.1
comp=Z,330nm,0.9s,mb6.6
COLA LR LR
comp=Z,42µm,20.0s,MS6.7
COLA College 66.44 25 eP P 01 32 50.3 -0.1
COLA pmax pmax
comp=Z,330nm,0.9s,mb6.6
COLA MLR MLR
comp=Z,42µm,20.0s,MS6.7
LDF La Druitiere 66.46 314⇑ iP P 01 32 50.2 -0.5
comp=Z,187nm,0.8s,mb6.0
LDF La Druitiere 66.46 314⇑ iP P 01 32 50.2 -0.5
comp=Z,93nm,0.8s,mb6.1
LDF La Druitiere 66.46 314⇑ iP P 01 32 50.2 -0.5
LDF pmax pmax
comp=Z,93nm,0.8s,mb6.1
YRC Rhoscolyn 66.47 320 eP P 01 32 48.2 -2.5
YRC Rhoscolyn 66.47 320 P P 01 32 48.2 -2.5
TRF Thorofare Moun 66.49 27 eP P 01 32 50.5 -0.2
comp=Z,577nm,1.6s,mb6.6
YRE Yr Eifl 66.53 320⇑ eP P 01 32 51.6 +0.4
YRE Yr Eifl 66.53 320 P P 01 32 51.6 +0.4
FLN La Foliniere 66.58 314⇑ iP P 01 32 51.1 -0.4
comp=Z,861nm,1.4s,mb6.5
FLN eR
comp=Z,94µm,19.0s
FLN La Foliniere 66.58 314⇑ iP P 01 32 51.1 -0.4
comp=Z,430nm,1.4s,mb6.5
FLN LR LR
comp=Z,94µm,19.0s,MS7.0
FLN La Foliniere 66.58 314⇑ iP P 01 32 51.1 -0.4
FLN pmax pmax
comp=Z,431nm,1.4s,mb6.5
FLN MLR MLR
comp=Z,94µm,19.0s,MS7.0
GMM Mts of Mourne 66.64 321 eP P 01 32 51.1 -0.7
GMM Mts of Mourne 66.64 321 P P 01 32 51.1 -0.7
MCK McKinley 66.80 26 eP P 01 32 52.6 0.0

comp=Z,2µm,2.4s,mb6.9
MCK McKinley 66.80 26 *e*P **P** **01 32 52.6 0.0**
MCK pmax pmax
comp=Z,2µm,2.4s,mb6.9
ILAR Eielson Array 66.83 24 P **P** **01 32 51.8 -1.1**
comp=Z,65nm,0.8s,mb5.9,baz=295,slow=5.2,SNR=219
ILAR S S 01 41 46.4 +0.4
comp=Z,0.5nm,0.9s,baz=317,slow=6.3,SNR=2.7
ILAR PKP2bc 02 01 21.7
comp=Z,2.7nm,1.0s,baz=128,slow=1.5,SNR=6.7
ILAR LR LR 02 05 50.2
comp=Z,45µm,18.3s,MS6.7,baz=323,slow=39
ILAR Eielson Array 66.83 24 P **P** **01 32 51.8 -1.1**
ILAR S S 01 41 46.4 +0.4
ILAR ⇑*e* 02 01 21.7
ILAR LR LR 02 05 50.2
ILAR Eielson Array 66.83 24 P **P** **01 32 51.8 -1.0**
ILAR S S 01 41 46.4 +0.4
ILAR pmax pmax
comp=Z,65nm,0.8s
ILAR smax
comp=N,1.0nm,0.9s
BORG Borgarnes 66.84 335 LR LR 02 03 15.6
comp=N,11µm,18.1s,MS6.1,baz=45,slow=37
BORG Borgarnes 66.84 335 PFAKE 01 33 10.0 +17
BORG LR LR
comp=Z,17µm,21.0s,MS6.2
KEST Kesra 66.90 298 P **P** **01 32 52.8 -0.9**
comp=Z,39nm,1.0s,mb5.6,baz=336,slow=2.3,SNR=45
KEST S S 01 41 47.2 -0.6
comp=Z,0.9nm,1.0s,baz=348,slow=20,SNR=2.5
KEST PKP2bc 02 01 24.9
comp=Z,1.0nm,1.0s,baz=350,slow=6.1,SNR=2.5
KEST LR LR 02 06 28.5
comp=Z,4µm,18.4s,MS5.7,baz=3.4,slow=40
KEST Kesra 66.90 298 *e*P **P** **01 32 53.7 0.0**
KEST *e*PP PP 01 35 22.9 +2.1
SDPT Sand Point 66.92 37 *e*P **P** **01 32 55.0 +1.5**
comp=Z,757nm,1.9s,mb6.6
PMG Port Moresby 66.95 123 P **P** **01 32 53.7 -0.5**
comp=Z,125nm,0.9s,mb6.2,baz=273,slow=6.7,SNR=18
PMG S S 01 41 48.1 -0.7
comp=Z,7.0nm,0.7s,baz=277,slow=19,SNR=2.0
PMG Port Moresby 66.95 123 *e*P **P** **01 32 53.7 -0.6**
comp=Z,545nm,1.4s,mb6.6
PMG LR LR
comp=Z,5µm,20.0s,MS5.7
PMG Port Moresby 66.95 123 P **P** **01 32 53.7 -0.6**
PMG S S 01 41 48.1 -0.6
PMG pmax pmax
comp=Z,125nm,0.9s
PMG smax
comp=N,7.0nm,0.7s
GRR Gorron 66.99 314⇑*i*P **P** **01 32 53.6 -0.5**
comp=N,670nm,0.9s,mb6.5
GRR Gorron 66.99 314⇑*i*P **P** **01 32 53.6 -0.5**
comp=N,335nm,0.9s,mb6.6
GRR Gorron 66.99 314⇑*i*P **P** **01 32 53.6 -0.5**
GRR pmax pmax
comp=Z,335nm,0.9s,mb6.6
CAF Calviac 67.03 310⇑*i*P **P** **01 32 54.8 +0.4**
comp=Z,556nm,1.2s,mb6.4
CAF Calviac 67.03 310⇑*i*P **P** **01 32 54.8 +0.4**
comp=Z,278nm,1.2s,mb6.4
CAF Calviac 67.03 310⇑*i*P **P** **01 32 54.8 +0.4**
CAF pmax pmax
comp=Z,278nm,1.2s,mb6.4
RJF Les Rejaudoux 67.17 310⇑*i*P **P** **01 32 55.6 +0.3**
comp=Z,2µm,1.6s,mb6.7
RJF *e*R
comp=Z,43µm,22.8s
RJF Les Rejaudoux 67.17 310⇑*i*P **P** **01 32 55.6 +0.3**
comp=Z,857nm,1.6s,mb6.7
RJF LR LR
comp=Z,43µm,22.8s,MS6.6
RJF Les Rejaudoux 67.17 310⇑*i*P **P** **01 32 55.6 +0.3**
RJF pmax pmax
comp=Z,857nm,1.6s,mb6.7
RJF MLR MLR
comp=Z,43µm,22.8s,MS6.6
SPU Mount Spurr 67.22 29 *e*P **P** **01 32 55.2 -0.2**
JSA Saint Aubin 67.31 315 AMS AMS 02 04 27.9
comp=Z,74µm,16.9s,MS7.0
CHGN Chignik 67.36 36 *e*P **P** **01 32 57.5 +1.2**
RSO Redoubt South 67.38 30 *e*P **P** **01 32 57.4 +1.0**
DSB Dublin 67.39 320 *e*P **P** **01 32 56.6 +0.1**
comp=Z,1µm,2.3s,mb6.7
DLF Lyons Farm 67.44 321⇑*i*P **P** **01 32 56.8 -0.1**
MFF Saint Martin d 67.50 312⇑*i*P **P** **01 32 57.1 -0.3**
comp=Z,1µm,1.4s,mb6.6
MFF Saint Martin d 67.50 312⇑*i*P **P** **01 32 57.1 -0.3**
comp=Z,529nm,1.4s,mb6.6
MFF Saint Martin d 67.50 312⇑*i*P **P** **01 32 57.1 -0.3**
MFF pmax pmax
comp=Z,529nm,1.4s,mb6.6
HTL Hartland 67.62 318 *e*P **P** **01 32 57.5 -0.6**
HTL AMB AMB 01 33 10.5
comp=Z,351nm,4.0s
HTL Hartland 67.62 318 P **P** **01 32 57.5 -0.6**
HTL AMB AMB 01 33 10.5
comp=Z,351nm,4.0s
DYA Yadsworthy 67.62 317 *e*P **P** **01 32 55.3 -2.7**
DYA AMB AMB 01 33 09.1
comp=Z,380nm,4.0s
DYA AMB AMB 02 04 52.1
comp=Z,34µm,13.6s,MS6.7
DYA Yadsworthy 67.62 317 P **P** **01 32 55.3 -2.7**
DYA AMB AMB 01 33 09.1
comp=Z,380nm,4.0s
DYA AMB AMB 02 04 52.1
comp=Z,34µm,13.6s
WRAB Tennant Creek 67.73 141 *e*P **P** **01 32 57.9 -1.2**
comp=Z,1µm,1.8s,mb6.9
WRAB LR LR
comp=Z,9µm,20.0s,MS6.0
WRAB Tennant Creek 67.73 141 *e*P **P** **01 32 57.9 -1.1**
WRAB pmax pmax
comp=Z,1µm,1.8s,mb6.9
WRAB MLR MLR
comp=Z,9µm,20.0s,MS6.0
WRA Warramunga Arr 67.73 141 P **P** **01 32 57.6 -1.4**
comp=Z,32nm,1.0s,mb5.5,baz=336,slow=6.5,SNR=59
WRA S S 01 41 53.4 -4.5
comp=Z,1.0nm,1.1s,baz=66,slow=18,SNR=4.1
WRA PKP2bc 02 01 19.4
comp=Z,1.8nm,0.9s,baz=136,slow=3.3,SNR=5.0
WRA Warramunga Arr 67.73 141 P **P** **01 32 57.6 -1.4**
WRA S S 01 41 53.4 -4.4
WRA ⇑*e* 02 01 19.4
WRA Warramunga Arr 67.73 141 P **P** **01 32 57.6 -1.5**
WRA S S 01 41 53.4 -4.4
WRA pmax pmax
comp=Z,32nm,1.0s
WRA smax
comp=N,1.0nm,1.1s
WB2 Warramunga Arr 67.74 141 *e*P **P** **01 32 58.1 -1.0**
RES Resolute Bay 67.75 3 P **P** **01 32 58.3 -0.2**
comp=N,69nm,1.1s,mb5.8,baz=18,slow=9.1,SNR=42
RES S S 01 41 57.5 +0.7
comp=N,4.4nm,1.0s,baz=322,slow=19,SNR=1.7
RES PKP2bc 02 01 20.9
comp=N,2.7nm,1.1s,baz=180,slow=5.1,SNR=2.3
RES LR LR 02 03 42.7
comp=N,29µm,19.2s,MS6.5,baz=344,slow=37
RES Resolute Bay 67.75 3 *e*P **P** **01 32 58.2 -0.3**
comp=N,3µm,2.8s,mb7.0
RES Resolute Bay 67.75 3 P **P** **01 32 58.3 -0.2**
RES S S 01 41 57.5 +0.7
RES pmax pmax
comp=Z,69nm,1.1s,mb5.8
RES smax
comp=N,4.0nm,1.0s
MTLF Montolieu 67.75 308⇑*i*P **P** **01 32 59.0 0.0**
comp=N,420nm,1.3s,mb6.2
MTLF Montolieu 67.75 308⇑*i*P **P** **01 32 59.0 0.0**
comp=N,210nm,1.3s,mb6.2
MTLF Montolieu 67.75 308⇑*i*P **P** **01 32 59.0 0.0**
MTLF pmax pmax
comp=Z,210nm,1.3s,mb6.2
LRDF Laroque-de-Fa 67.76 308 *e*P **P** **01 32 58.2 -0.9**
LRDF Laroque-de-Fa 67.76 308 *e*P **P** **01 32 58.2 -0.9**
SJAF Saint Jean de 67.78 307 *e*P **P** **01 32 58.6 -0.6**
SJAF Saint Jean de 67.78 307 *e*P **P** **01 32 58.6 -0.6**
CMAH Djebel Manchou 67.78 300 P **P** **01 32 58.6 -0.7**
EJON La Jonquera 67.79 307 P **P** **01 32 58.8 -0.5**
comp=Z,1µm,3.4s

LFF La Frestale 67.83 310⇑*i*P **P** **01 32 59.8 +0.3**
comp=Z,516nm,1.0s,mb6.4
LFF La Frestale 67.83 310⇑*i*P **P** **01 32 59.8 +0.3**
comp=Z,258nm,1.0s,mb6.4
LFF La Frestale 67.83 310⇑*i*P **P** **01 32 59.8 +0.3**
LFF pmax pmax
comp=Z,258nm,1.0s,mb6.4
COEN Coen 67.84 130 *e*P **P** **01 32 58.9 -0.9**
comp=Z,720nm,1.1s,mb6.8
ABSA Djebel Ababsia 67.92 299 P **P** **01 32 59.0 -1.2**
FILF Fillols 67.94 307 *e*P **P** **01 33 00.4 +0.2**
FILF Fillols 67.94 307 *e*P **P** **01 33 00.4 +0.2**
MRIV Mauritius Mete 68.00 219 *e*P **P** **01 33 00.3 -0.4**
SGMF Saint Gilles 68.02 315⇑*i*P **P** **01 33 00.7 +0.1**
comp=Z,935nm,1.2s,mb6.6
SGMF Saint Gilles 68.02 315⇑*i*P **P** **01 33 00.7 +0.1**
comp=Z,468nm,1.2s,mb6.6
SGMF Saint Gilles 68.02 315⇑*i*P **P** **01 33 00.7 +0.1**
SGMF pmax pmax
comp=Z,467nm,1.2s,mb6.6
PMR Palmer 68.07 28 *e*P **P** **01 32 58.9 -1.8**
comp=Z,548nm,1.7s,mb6.5
PMR Palmer 68.07 28 *e*P **P** **01 32 58.9 -1.8**
PMR pmax pmax
comp=Z,548nm,1.7s,mb6.5
CAEH 'Ain El Ouahch 68.09 300 P **P** **01 33 00.0 -1.3**
CARF Carcanieres 68.14 308 *e*P **P** **01 33 01.2 -0.3**
CARF Carcanieres 68.14 308 *e*P **P** **01 33 01.2 -0.3**
INK Inuvik 68.15 18 P **P** **01 32 59.8 -1.3**
comp=Z,111nm,0.8s,mb6.2,baz=330,slow=7.5,SNR=117
INK S S 01 42 01.6 -0.1
comp=Z,2.6nm,1.1s,baz=135,slow=19,SNR=2.0
INK PKP2bc 02 01 16.0
comp=Z,7.9nm,1.2s,baz=130,slow=3.0,SNR=4.3
INK LR LR 02 08 22.5
comp=Z,16µm,18.3s,MS6.3,baz=289,slow=41
INK Inuvik 68.15 18 *e*P **P** **01 33 00.8 -0.3**
comp=Z,399nm,1.0s,mb6.6
INK Inuvik 68.15 18 P **P** **01 32 59.8 -1.3**
INK S S 01 42 01.6 -0.1
INK pmax pmax
comp=Z,111nm,0.8s
INK smax
comp=N,3.0nm,1.1s
SML Sawmill 68.23 27 *e*P **P** **01 33 01.8 +0.1**
comp=N,146nm,1.0s,mb6.2
SML Sawmill 68.23 27 *e*P **P** **01 33 01.8 +0.1**
SML pmax pmax
comp=Z,146nm,1.0s,mb6.2
CLLI Livia 68.35 307 P **P** **01 33 03.1 +0.2**
comp=Z,1µm,3.2s
VALF Valcebollere 68.36 307 *e*P **P** **01 33 03.3 +0.4**
VALF Valcebollere 68.36 307 *e*P **P** **01 33 03.3 +0.4**
CKFL Kef-Lekhel 68.38 300 P **P** **01 33 02.0 -1.1**
ROSF Rostrenen 68.38 315⇑*i*P **P** **01 33 02.9 0.0**
comp=Z,2µm,1.6s,mb6.7
ROSF Rostrenen 68.38 315⇑*i*P **P** **01 33 02.9 0.0**
comp=Z,852nm,1.6s,mb6.7
ROSF Rostrenen 68.38 315⇑*i*P **P** **01 33 02.9 0.0**
ROSF pmax pmax
comp=Z,852nm,1.6s,mb6.7
CFON Fontmartina 68.43 307 P **P** **01 33 03.6 +0.2**
comp=Z,3µm,2.5s,mb7.0
PAX Paxson 68.48 26 *e*P **P** **01 33 02.6 -0.7**
comp=Z,54nm,0.6s,mb6.0
PAX Paxson 68.48 26 *e*P **P** **01 33 02.6 -0.7**
PAX pmax pmax
comp=Z,54nm,0.6s,mb6.0
DOT Dot Lake 68.50 25 *e*P **P** **01 33 02.9 -0.5**
comp=Z,4µm,2.2s,mb7.3
QUIF Quistinic 68.55 314⇑*i*P **P** **01 33 03.8 -0.1**
comp=Z,720nm,1.1s,mb6.5
QUIF Quistinic 68.55 314⇑*i*P **P** **01 33 03.8 -0.1**
comp=Z,360nm,1.1s,mb6.5
QUIF Quistinic 68.55 314⇑*i*P **P** **01 33 03.8 -0.1**
QUIF pmax pmax
comp=Z,360nm,1.1s,mb6.5
CASM Ain Smara 68.61 300 P **P** **01 33 03.8 -0.8**
EGAK Eagle 68.65 23 *e*P **P** **01 33 04.1 -0.2**
comp=Z,424nm,1.0s,mb6.6
EGAK LR LR
comp=Z,34µm,19.0s,MS6.6
CTEI Djebel Teioual 68.77 300 P **P** **01 33 05.7 +0.1**
DFRA Djebel Bou Aff 68.88 300 P **P** **01 33 06.6 +0.4**
SEW Seward 68.90 29 *e*P **P** **01 33 05.1 -0.8**
EMIR Miracle 68.93 307 P **P** **01 33 06.7 +0.2**
comp=Z,3µm,2.3s,mb7.1
CSOR Sort 68.94 308 P **P** **01 33 06.4 -0.1**
comp=Z,966nm,1.7s,mb6.8
KDAK Kodiak Island 69.08 32 P **P** **01 33 06.2 -0.9**
comp=Z,49nm,0.5s,mb6.0,baz=334,slow=4.9,SNR=7.6
KDAK S S 01 42 15.0 +1.9
comp=Z,27nm,1.1s,baz=288,slow=12,SNR=2.2
KDAK LR LR 02 06 56.7
comp=Z,69µm,18.0s,MS6.9,baz=312,slow=39
KDAK Kodiak Island 69.08 32 P **P** **01 33 06.2 -0.9**
KDAK S S 01 42 15.0 +1.9
KDAK LR LR 02 06 56.7
KDAK Kodiak Island 69.08 32 P **P** **01 33 06.2 -0.8**
KDAK S S 01 42 15.0 +2.0
KDAK pmax pmax
comp=Z,49nm,0.5s,mb6.0
KDAK smax
comp=N,27nm,1.1s
KDAK MLR MLR
comp=Z,69µm,18.0s,MS6.9
EPF Esparros 69.08 309⇑*i*P **P** **01 33 06.7 -0.7**
comp=Z,815nm,1.7s,mb6.4
EPF Esparros 69.08 309⇑*i*P **P** **01 33 06.7 -0.7**
comp=Z,407nm,1.7s,mb6.4
EPF Esparros 69.08 309⇑*i*P **P** **01 33 06.7 -0.7**
EPF pmax pmax
comp=Z,407nm,1.7s,mb6.4
MENT Mentasta 69.10 25 *e*P **P** **01 33 08.0 +0.9**
OHAK Old Harbor 69.12 33 *e*P **P** **01 33 08.2 +0.9**
comp=Z,983nm,1.8s,mb6.7
RESF Ens 69.20 308 *e*P **P** **01 33 08.9 +0.8**
RESF Ens 69.20 308 *e*P **P** **01 33 08.9 +0.8**
ETOS Mallorca 69.24 305 P **P** **01 33 09.0 +0.6**
comp=Z,3µm,3.5s
VIEF Viey 69.36 309 *e*P **P** **01 33 09.4 +0.3**
VIEF Viey 69.36 309 *e*P **P** **01 33 09.4 +0.3**
EBIE Bielsa 69.39 308 P **P** **01 33 09.7 +0.5**
comp=Z,2µm,2.6s,mb6.8
SETF Setif 69.39 300 P **P** **01 33 11.0 +1.6**
CKHR Kef el Ahmar 69.41 300 P **P** **01 33 09.6 +0.1**
DIV Divide 69.61 27 *e*P **P** **01 33 10.5 +0.2**
comp=Z,255nm,0.9s,mb6.3
RER Riviere de l'E 69.61 220 *e*P **P** **01 33 11.0 +0.3**
comp=Z,187nm,1.0s,mb6.2
RER LR LR
comp=Z,8µm,21.0s,MS6.0
DAWY Dawson 69.69 23 *e*P **P** **01 33 10.7 -0.1**
ETSF Etsaut 69.71 309⇑*i*P **P** **01 33 11.7 +0.4**
comp=Z,1µm,1.6s,mb6.5
ETSF Etsaut 69.71 309⇑*i*P **P** **01 33 11.7 +0.4**
comp=Z,575nm,1.6s,mb6.5
ETSF Etsaut 69.71 309⇑*i*P **P** **01 33 11.7 +0.4**
ETSF pmax pmax
comp=Z,575nm,1.6s,mb6.5
ORDF Ordiarp 69.77 309 *e*P **P** **01 33 11.2 -0.4**
ORDF Ordiarp 69.77 309 *e*P **P** **01 33 11.2 -0.4**
SJPF Ste Jean 70.00 309⇑*i*P **P** **01 33 13.5 +0.4**
comp=Z,399nm,1.1s,mb6.1
SJPF Ste Jean 70.00 309⇑*i*P **P** **01 33 13.5 +0.4**
comp=Z,199nm,1.1s,mb6.2
SJPF Ste Jean 70.00 309⇑*i*P **P** **01 33 13.5 +0.4**
SJPF pmax pmax
comp=Z,199nm,1.1s,mb6.2
VAL Valentia 70.08 321 *e*P **P** **01 33 13.2 -0.1**
VAL *e*PP PP 01 35 52.3 +4.5
VAL Valentia 70.08 321 ||*iS* S 01 42 32.0 +7.0
EALK Alkurruntz 70.12 310 P **P** **01 33 13.7 -0.1**
comp=Z,1µm,2.4s,mb6.7
BMRM Bremner River 70.14 27 *e*P **P** **01 33 13.7 +0.1**
comp=Z,328nm,1.2s,mb6.3
ELIZ Elizondo 70.16 310 P **P** **01 33 13.3 -0.8**
comp=Z,57nm,0.9s,mb5.7
ELIZ Elizondo 70.16 310 P **P** **01 33 13.3 -0.7**
ELIZ pmax pmax
comp=Z,57nm,0.9s,mb5.7
ERTA Horta de San J 70.20 307 P **P** **01 33 14.1 -0.2**
comp=Z,1µm,1.6s,mb6.7
ESAC San Caprasio 70.29 308 P **P** **01 33 15.0 +0.1**
comp=Z,2µm,2.1s,mb6.9
RAGM Ragged Mountai 70.50 27 *e*P **P** **01 33 18.7 +2.9**

comp=Z,1µm,1.3s,mb6.8
EIBI Ibiza 70.60 305 P **P** **01 33 17.3 +0.5**
comp=Z,2µm,2.7s,mb6.7
ASAR Alice Springs 70.67 143 P **P** **01 33 16.2 -1.0**
comp=Z,21nm,0.5s,mb5.5,baz=329,slow=5.8,SNR=81
ASAR S S 01 42 31.6 -0.9
comp=Z,0.3nm,0.4s,baz=328,slow=6.6,SNR=2.4
ASAR PKPPKP 02 01 10.8
comp=Z,0.9nm,0.8s,baz=144,slow=3.2,SNR=5.0
ASAR Alice Springs 70.67 143 P **P** **01 33 16.2 -1.0**
ASAR S S 01 42 31.6 -0.9
ASAR P'P' 02 01 10.8
ASAR Alice Springs 70.67 143 P **P** **01 33 16.3 -0.9**
ASAR S S 01 42 31.6 -0.9
ASAR pmax pmax
comp=Z,21nm,0.5s
ABA Alger-Bouzarea 70.68 302 P **P** **01 33 27.2 +10**
MIDW Midway 70.99 69 PFAKE 01 33 30.0 +11
MIDW LR LR
comp=Z,8µm,19.0s,MS6.0
EMOS Mosqueruela 71.04 307 P **P** **01 33 19.9 +0.5**
comp=Z,3µm,3.0s
EMHD Djebel Mahouad 71.06 301 P **P** **01 33 20.5 +0.9**
ELAN Lanestosa 71.28 310 P **P** **01 33 21.2 +0.4**
comp=Z,3µm,3.5s
ECHE Chera 71.78 306 P **P** **01 33 24.5 +0.5**
comp=Z,100nm,0.8s,mb6.0
ECHE Chera 71.78 306 P **P** **01 33 24.5 +0.6**
ECHE pmax pmax
comp=Z,100nm,0.8s,mb6.0
EBEN Beniarda 71.80 305 P **P** **01 33 23.6 -0.4**
comp=Z,1µm,2.9s,mb6.5
KLBR Kellerberrin 71.82 160 *e*P **P** **01 33 23.1 -0.9**
comp=Z,435nm,1.3s,mb6.4
EBNR Beni Rached 71.97 302 P **P** **01 33 25.8 +0.7**
ECHA Ech Chlef 72.16 302 P **P** **01 33 27.0 +0.7**
EARI Arriondas 72.31 311 P **P** **01 33 27.8 +0.8**
comp=Z,770nm,2.1s,mb6.5
EANR 'Ain N'Sour 72.45 302 P **P** **01 33 28.0 0.0**
ABPO Ambohimpanom 72.58 228 *e*P **P** **01 33 28.5 -0.4**
comp=Z,603nm,2.1s,mb6.4
ABPO LR LR
comp=Z,23µm,20.0s,MS6.5
ABPO Ambohimpanom 72.58 228 *e*P **P** **01 33 28.5 -0.3**
ABPO pmax pmax
comp=Z,603nm,2.1s,mb6.4
ABPO MLR MLR
comp=Z,23µm,20.0s,MS6.5
SFJD Kangerlussuaq 72.62 347 *e*P **P** **01 33 26.7 -1.8**
SFJD LR LR
comp=Z,45µm,20.0s,MS6.7
SFJD Kangerlussuaq 72.62 347 *i* P **P** **01 33 27.1 -1.4**
SFJD pmax pmax
comp=Z,92nm,0.8s,mb6.0
SFJD MLR MLR
comp=Z,33µm,19.0s,MS6.6
SFJD Kangerlussuaq 72.62 347 *i* P **P** **01 33 27.1 -1.4**
comp=Z,92nm,0.9s,mb5.9
SFJD
comp=Z,33µm,19.0s
ETRT Tiaret 72.63 301 P **P** **01 33 30.0 +0.9**
ETOB Tobarra 72.69 306 P **P** **01 33 29.9 +0.5**
comp=Z,727nm,2.8s,mb6.3
OKGL Djebel Kef Gue 72.71 302 P **P** **01 33 31.0 +1.5**
PNL Peninsula 72.89 26 *e*P **P** **01 33 30.8 +0.6**
comp=Z,136nm,0.7s,mb6.2
CART Cartagena 72.93 304 *e*P **P** **01 33 30.4 -0.4**
comp=Z,1µm,1.6s,mb6.7
CART *e*PP PP 01 36 06.0 -6.7
EMUR La Murta 72.94 305 P **P** **01 33 30.8 -0.1**
comp=Z,2µm,3.0s
NWAO Narrogin (SRO) 72.95 161 P **P** **01 33 29.4 -1.3**
comp=Z,188nm,0.9s,mb6.2,baz=331,slow=6.7,SNR=22
NWAO S S 01 42 48.4 -10
comp=Z,1.1nm,0.5s,baz=11,slow=16,SNR=2.9
NWAO Narrogin (SRO) 72.95 161 P **P** **01 33 29.4 -1.3**
NWAO S S 01 42 48.4 -10
NWAO Narrogin (SRO) 72.95 161 P **P** **01 33 29.4 -1.3**
NWAO S S 01 42 48.4 -10
NWAO pmax pmax
comp=Z,188nm,0.9s
NWAO smax
comp=N,1.0nm,0.5s
NWAO Narrogin (SRO) 72.95 161 P **P** **01 33 31.5 +0.8**
SNR=11
GUD Guadarrama 73.20 308 P **P** **01 33 32.6 +0.2**
comp=N,327nm,1.2s,mb6.3
GUD Guadarrama 73.20 308 P **P** **01 33 32.6 +0.2**
GUD pmax pmax
comp=Z,327nm,1.2s,mb6.3
EVIA Vianos 73.31 306 P **P** **01 33 33.4 +0.4**
comp=Z,666nm,1.4s,mb6.6
EVIA Vianos 73.31 306 P **P** **01 33 33.4 +0.4**
EVIA pmax pmax
comp=Z,666nm,1.4s,mb6.6
EPON Pontenova 73.45 312 P **P** **01 33 34.9 +1.1**
comp=Z,81nm,1.0s,mb5.8
ESDC Sonseca Array 73.64 308 P **P** **01 33 35.0 +0.1**
comp=Z,45nm,0.7s,mb5.6,baz=45,slow=6.0,SNR=177
ESDC S S 01 43 06.9 +0.4
comp=Z,0.1nm,0.2s,baz=14,slow=12,SNR=2.8
ESDC LR LR 02 07 46.8
comp=Z,15µm,21.9s,MS6.2,baz=50,slow=37
ESDC Sonseca Array 73.64 308 P **P** **01 33 35.1 +0.1**
comp=Z,84nm,0.9s,mb5.8
ESLA Sonseca Array 73.64 308 *e*P **P** **01 33 34.9 -0.1**
comp=Z,477nm,1.8s,mb6.2
ESLA LR LR
comp=Z,121µm,22.0s,MS7.1
USTO Oran 73.68 303 P **P** **01 33 37.0 +1.7**
EHUE Huescar 73.84 305 P **P** **01 33 35.8 -0.4**
comp=Z,1µm,1.8s,mb6.6
EHUE Huescar 73.84 305 P **P** **01 33 35.8 -0.4**
EHUE pmax pmax
comp=Z,1µm,1.8s,mb6.6
PAB San Pablo 73.96 308 *e*P **P** **01 33 36.0 -0.8**
PAB LR LR
comp=Z,19µm,21.0s,MS6.4
PAB San Pablo 73.96 308 *e*P **P** **01 33 36.0 -0.8**
PAB MLR MLR
comp=Z,19µm,21.0s,MS6.4
ERUA La Rua 74.00 311 P **P** **01 33 37.5 +0.4**
comp=Z,947nm,2.3s,mb6.4
ERUA La Rua 74.00 311 P **P** **01 33 37.5 +0.5**
ERUA pmax pmax
comp=Z,947nm,2.3s,mb6.4
ECAL Calabor 74.02 311 P **P** **01 33 37.5 +0.3**
comp=Z,1µm,2.2s,mb6.6
ENIJ Nijar 74.07 304 P **P** **01 33 37.0 -0.5**
comp=Z,591nm,1.6s,mb6.4
ENIJ Nijar 74.07 304 P **P** **01 33 37.0 -0.6**
ENIJ pmax pmax
comp=Z,591nm,1.6s,mb6.4
PBRG Braganca 74.11 311 *e*P **P** **01 33 37.6 -0.1**
comp=Z,243nm,1.8s,mb5.9
PBRG *e*S S 01 43 10.5 -1.1
PBRG Braganca 74.11 311 *e*LQ 01 54 54.9
PBRG *e*LR LR 01 57 59.1
comp=Z,12µm,16.0s
EQES Quesada 74.15 306 P **P** **01 33 38.1 +0.1**
comp=Z,86nm,0.8s,mb5.8
FORT Forrest 74.40 152 *e*P **P** **01 33 38.4 -0.9**
comp=Z,237nm,0.8s,mb6.3
FORT *e*S S 01 43 15.5 +0.7
FORT Forrest 74.40 152 *e*P **P** **01 33 38.9 -0.4**
comp=Z,250nm,0.8s,mb6.3
SKAG Skagway 74.42 24 *e*P **P** **01 33 39.0 -0.2**
comp=Z,947nm,2.3s,mb6.4
CTA Charters Tower 74.42 131 P **P** **01 33 38.9 -0.8**
comp=Z,50nm,0.9s,mb5.5,baz=317,slow=7.3,SNR=23
CTA Charters Tower 74.42 131 *e*P **P** **01 33 38.8 -0.9**
comp=Z,72nm,0.9s,mb5.7
CTA *e*PP PP 01 36 43.0 +17
CTA *e*S S 01 43 10.0 -5.5
CTA Charters Tower 74.42 131 P **P** **01 33 38.9 -0.8**
CTA Charters Tower 74.42 131 P **P** **01 33 38.9 -0.8**
CTA pmax pmax
comp=Z,50nm,0.9s
CTAO Charters Tower 74.42 131 *e*P **P** **01 33 38.9 -0.8**
CTAO LR LR
comp=Z,8µm,22.0s,MS5.9
CTAO Charters Tower 74.42 131 *e*P **P** **01 33 38.9 -0.8**
CTAO MLR MLR
comp=Z,8µm,22.0s,MS5.9
STS Santiago 74.53 312 P **P** **01 33 41.6 +1.5**
comp=Z,716nm,1.8s,mb6.4

STS Santiago 74.53 312 P **P** **01 33 41.6 +1.4**
STS pmax pmax
comp=Z,716nm,1.8s,mb6.4
MVO Moncorvo 74.66 310 P **P** **01 33 41.2 +0.3**
comp=Z,71nm,0.8s,mb5.8
MVO Moncorvo 74.66 310 *e*P **P** **01 33 41.0 +0.1**
comp=Z,254nm,1.6s,mb6.0
MVO Moncorvo 74.66 310 PP PP 01 36 28.2 +1.0
MVO eS S 01 43 18.2 +0.3
MVO Moncorvo 74.66 310 eLQ 01 55 48.1
MVO eLR LR 02 00 22.1
comp=Z,16µm,16.0s
EPLA Plasencia 74.73 309 P **P** **01 33 41.0 -0.4**
comp=Z,853nm,2.6s,mb6.3
EPLA Plasencia 74.73 309 P **P** **01 33 41.0 -0.4**
EPLA pmax pmax
comp=Z,853nm,2.6s,mb6.3
EMAZ Mazaricos 74.75 313 P **P** **01 33 41.5 +0.1**
comp=Z,3µm,3.0s
ECOG Cogollos-Vega 74.78 305 P **P** **01 33 41.1 -0.6**
comp=Z,49nm,0.9s,mb5.5
ECOG Cogollos-Vega 74.78 305 P **P** **01 33 41.1 -0.6**
ECOG pmax pmax
comp=Z,49nm,0.9s,mb5.5
ELOB Lobios 74.86 311 P **P** **01 33 42.8 +0.7**
comp=Z,3µm,2.9s,mb6.8
EADA Adamuz 74.91 307 P **P** **01 33 42.4 0.0**
comp=Z,2µm,2.6s,mb6.7
PGAV Gavieira, Arco 74.92 312 *e*P **P** **01 33 43.1 +0.7**
comp=Z,341nm,1.9s,mb6.0
PGAV Gavieira, Arco 74.92 312 PP PP 01 36 30.4 +1.0
PGAV eS S 01 43 24.7 +3.9
PGAV Gavieira, Arco 74.92 312 eLQ 01 57 33.1
PGAV eLR LR 02 04 50.6
comp=Z,14µm,18.0s
PCAB Cabril 74.93 311 *e*P **P** **01 33 42.9 +0.4**
comp=Z,418nm,1.3s,mb6.3
POLO Lamas de Olo 75.00 311 *e*P **P** **01 33 43.0 +0.1**
comp=Z,86nm,1.5s,mb5.6
POLO eS S 01 43 22.2 +0.6
POLO Lamas de Olo 75.00 311 eLQ 01 55 53.9
POLO eLR LR 02 01 32.3
comp=Z,10µm,18.0s
PVRL Vila Real 75.01 311 *e*P **P** **01 33 43.3 +0.4**
comp=Z,192nm,1.7s,mb5.8
EGUA Guajares 75.04 305 P **P** **01 33 41.5 -1.7**
comp=Z,1µm,0.9s,mb6.9
EGUA Guajares 75.04 305 P **P** **01 33 41.5 -1.7**
ELUQ Luque 75.06 306 P **P** **01 33 41.8 -1.5**
comp=Z,302nm,0.9s,mb6.3
ELUQ Luque 75.06 306 P **P** **01 33 41.8 -1.5**
ELUQ pmax pmax
comp=Z,302nm,0.9s,mb6.3
EZAM Zamans 75.06 312 P **P** **01 33 43.4 +0.2**
comp=Z,199nm,1.0s,mb6.1
EZAM Zamans 75.06 312 P **P** **01 33 43.4 +0.2**
EZAM pmax pmax
comp=Z,199nm,1.0s,mb6.1
ERON Agron 75.08 305 P **P** **01 33 42.0 -1.5**
comp=Z,70nm,0.7s,mb5.8
EALB Alboran 75.21 304 P **P** **01 33 43.3 -0.9**
comp=Z,3µm,1.8s,mb7.0
ELOJ Sierra Loja 75.23 306 P **P** **01 33 43.4 -0.9**
comp=Z,97nm,1.2s,mb5.7
ELOJ Sierra Loja 75.23 306 P **P** **01 33 43.4 -0.9**
ELOJ pmax pmax
comp=Z,97nm,1.2s,mb5.7
MTE Manteigas 75.43 310 *e*P **P** **01 33 46.1 +0.8**
MTE LR LR
comp=Z,13µm,21.0s,MS6.2
MTE Manteigas 75.43 310 *e*P **P** **01 33 45.9 +0.5**
comp=Z,572nm,1.6s,mb6.3
MTE eS S 01 43 25.4 -1.1
MTE Manteigas 75.43 310 eLQ 02 00 47.6
MTE eLR LR 02 05 37.1
comp=Z,13µm,16.0s
PVIS Viseu 75.45 310 *e*P **P** **01 33 46.0 +0.5**
comp=Z,371nm,1.7s,mb6.1
PTO Porto 75.62 311 *e*P **P** **01 33 47.0 +0.5**
comp=Z,249nm,1.3s,mb6.2
PCBR Castelo Branco 75.73 309 *e*P **P** **01 33 47.2 +0.1**
comp=Z,242nm,1.5s,mb6.1
HNR Honiara 75.89 114 PFAKE 01 34 00.0 +12
HNR LR LR
comp=Z,6µm,22.0s,MS5.8
PMRV Marv??o 75.92 309 *e*P **P** **01 33 48.2 0.0**
comp=Z,574nm,1.9s,mb6.4
PMRV eS S 01 43 33.3 +1.3
PMRV Marv??o 75.92 309 eLQ 01 56 35.1
PMRV eLR LR 02 02 24.7
comp=Z,15µm,16.0s
EMIJ Mijas 75.98 305 P **P** **01 33 46.8 -1.8**
comp=Z,435nm,1.6s,mb6.3
EBAD Badajoz 76.09 308 P **P** **01 33 49.2 0.0**
comp=Z,595nm,2.9s,mb6.2
SIT Sitka 76.27 26 *e*P **P** **01 33 52.3 +2.4**
comp=Z,1µm,1.9s,mb6.7
SIT Sitka 76.27 26 *e*P **P** **01 33 52.3 +2.4**
SIT pmax pmax
comp=Z,1µm,1.9s,mb6.7
PESTR Estremoz 76.38 309 *e*P **P** **01 33 50.8 -0.1**
comp=Z,316nm,1.9s,mb6.1
PESTR Estremoz 76.38 309 PP PP 01 36 43.3 +1.4
PESTR eS S 01 43 34.2 -2.9
PESTR Estremoz 76.38 309 eLQ 01 58 20.4
PESTR eLR LR 02 05 34.1
comp=Z,17µm,18.0s
PTOM Tomar 76.43 310 *e*P **P** **01 33 51.3 +0.2**
comp=Z,464nm,1.8s,mb6.3
PBAR Barrancos 76.46 308 *e*P **P** **01 33 51.2 -0.1**
comp=Z,507nm,1.9s,mb6.3
PBAR Barrancos 76.46 308 PP PP 01 36 42.8 +0.3
PBAR eS S 01 43 39.5 +1.6
PBAR Barrancos 76.46 308 eLQ 01 58 33.0
PBAR eLR LR 02 05 33.6
comp=Z,15µm,22.0s
EMIN Mina Concepcio 76.47 307 P **P** **01 33 51.5 +0.1**
comp=Z,1µm,2.1s,mb6.7
ESPR Espera 76.50 306 P **P** **01 33 51.2 -0.3**
comp=Z,2µm,2.8s,mb6.8
EJIF Jimena Fronter 76.50 306 P **P** **01 33 50.6 -0.9**
comp=Z,347nm,1.2s,mb6.4
EJIF Jimena Fronter 76.50 306 P **P** **01 33 50.6 -0.9**
EJIF pmax pmax
comp=Z,347nm,1.2s,mb6.4
PMTG Montargil 76.65 309 *e*P **P** **01 33 52.6 +0.2**
comp=Z,385nm,1.8s,mb6.2
TAM Tamanrasset 76.73 289 *e*P **P** **01 33 53.2 +0.1**
comp=Z,634nm,2.0s,mb6.4
TAM LR LR
comp=Z,8µm,20.0s,MS6.0
TAM Tamanrasset 76.73 289 *e*P **P** **01 33 53.2 +0.1**
TAM pmax pmax
comp=Z,634nm,2.0s,mb6.4
TAM MLR MLR
comp=Z,8µm,20.0s,MS6.0
ALMR Almeirim 76.82 309 *e*P **P** **01 33 53.4 +0.1**
ALMR Almeirim 76.82 309 *e*P **P** **01 33 53.4 +0.1**
EVO Evora 76.85 309⇑*i*P **P** **01 33 54.2 +0.7**
comp=Z,730nm,1.3s,mb6.3
EVO *e*R
comp=Z,17µm,19.5s
EVO Evora 76.85 309 *e*P **P** **01 33 53.7 +0.2**
comp=Z,474nm,1.9s,mb6.3
DLBC Dease Lake 76.92 23 P **P** **01 33 54.6 +1.1**
comp=Z,126nm,1.2s,mb5.9,baz=334,slow=5.5,SNR=28
DLBC S S 01 43 44.0 +1.7
comp=Z,1.1nm,0.4s,baz=197,slow=19,SNR=2.2
DLBC Dease Lake 76.92 23 P **P** **01 33 54.6 +1.1**
DLBC S S 01 43 44.0 +1.7
EVOP Sao Brissos 76.92 309⇑*i*P **P** **01 33 54.2 +0.3**
comp=Z,730nm,1.3s,mb6.7
EVOP LR LR
comp=Z,17076µm,19.5s
EVOP Sao Brissos 76.92 309⇑*i*P **P** **01 33 54.2 +0.3**
EVOP pmax pmax
comp=Z,730nm,1.3s,mb6.7
SFS San Fernando 76.96 306 *e*P **P** **01 33 55.3 +1.2**
comp=Z,453nm,1.1s,mb6.5
SFS LR LR
comp=Z,41µm,19.0s,MS6.8
SFS San Fernando 76.96 306 *e*P **P** **01 33 55.3 +1.1**
SFS pmax pmax
comp=Z,453nm,1.1s,mb6.5
SFS MLR MLR
comp=Z,41µm,19.0s,MS6.8

PBEJ Beja 77.07 308 *e*P **P** **01 33 54.8 +0.1**
comp=Z,329nm,1.9s,mb6.1
EGRO El Granado 77.13 307 P **P** **01 33 55.9 +0.8**
comp=Z,2µm,3.2s
YKA Yellowknife Ar 77.25 14 P **P** **01 33 54.5 -0.8**
comp=Z,20nm,0.6s,mb5.4,baz=333,slow=5.2,SNR=50
YKA S S 01 43 40.1 -5.7
comp=Z,1.3nm,0.8s,baz=249,slow=12,SNR=2.9
YKA LR LR 02 09 35.1
comp=Z,1µm,18.6s,MS5.2,baz=55,slow=37
YKA Yellowknife Ar 77.25 14 P **P** **01 33 54.5 -0.8**
YKA S S 01 43 40.0 -5.7
YKA LR LR 02 09 35.1
YKA Yellowknife Ar 77.25 14 P **P** **01 33 54.5 -0.8**
YKA S S 01 43 40.1 -5.6
YKA pmax pmax
comp=Z,20nm,0.6s
YKA smax
comp=N,1.0nm,0.8s
YKA MLR MLR
comp=Z,1µm,18.6s
PVAQ Vaqueiros 77.35 308 *e*P **P** **01 33 56.6 +0.2**
comp=Z,323nm,1.7s,mb6.2
PVAQ Vaqueiros 77.35 308 PP PP 01 36 51.7 +1.6
PVAQ eS S 01 43 48.0 +0.3
PVAQ Vaqueiros 77.35 308 eLQ 01 58 48.6
PVAQ eLR LR 02 03 42.1
comp=Z,17µm,22.0s
PMAFR Mafra 77.37 310 *e*P **P** **01 33 57.0 +0.6**
comp=Z,740nm,1.8s,mb6.5
PMAFR eS S 01 43 48.4 +0.5
PMAFR Mafra 77.37 310 eLQ 02 01 58.6
PMAFR eLR LR 02 05 08.5
comp=Z,15µm,16.0s
PLML Palmela 77.39 309 *e*P **P** **01 33 57.9 +1.4**
MESJ Messejana 77.40 308 *e*P **P** **01 33 56.7 +0.1**
MESJ *e*PP PP 01 36 50.8 +0.3
MESJ eS S 01 43 47.0 -1.3
MESJ eS S 01 43 47.1 -1.1
MESJ AMS AMS 02 11 32.6
comp=Z,22µm,15.6s,MS6.6
MESJ Messejana 77.40 308 *e*P **P** **01 33 56.7 +0.1**
MESJ eS S 01 43 47.0 -1.2
PCVE Castro Verde 77.42 308 *e*P **P** **01 33 56.9 +0.2**
comp=Z,290nm,1.7s,mb6.1
PCVE Castro Verde 77.42 308 PP PP 01 36 50.3 -0.3
PCVE eS S 01 43 49.8 +1.4
PCVE Castro Verde 77.42 308 eLQ 01 58 52.1
PCVE eLR LR 02 06 24.9
comp=Z,16µm,22.0s
PNCL Nicolau / Gran 77.43 308 *e*P **P** **01 33 56.9 +0.1**
comp=Z,415nm,1.8s,mb6.3
PNCL eS S 01 43 47.3 -1.2
PNCL Nicolau / Gran 77.43 308 eLQ 01 58 03.5
PNCL eLR LR 02 06 31.6
comp=Z,18µm,18.0s
LIS Lisbon 77.44 309 *e*P **P** **01 33 57.0 +0.2**
LIS eS S 01 43 47.4 -1.2
LIS eS S 01 43 47.5 -1.0
LIS AMS AMS 02 12 56.1
comp=Z,16µm,20.1s,MS6.3
LIS Lisbon 77.44 309 *e*P **P** **01 33 56.9 +0.1**
LIS eS S 01 43 47.3 -1.3
PBDV Barranco-do-Ve 77.59 307 *e*P **P** **01 33 57.3 -0.4**
comp=Z,454nm,1.8s,mb6.3
PBDV eS S 01 43 51.0 +0.8
PBDV Barranco-do-Ve 77.59 307 eLQ 01 58 33.7
PBDV eLR LR 02 06 50.6
comp=Z,17µm,20.0s
WRAK Wrangell Islan 77.80 25 *e*P **P** **01 33 59.3 +0.8**
comp=Z,1µm,1.8s,mb6.8
WRAK LR LR
comp=Z,25µm,19.0s,MS6.6
PTEO Sao Teotonio 77.90 308 *e*P **P** **01 33 59.3 -0.1**
comp=Z,490nm,1.8s,mb6.3
MORF Marmelete 78.00 308 *e*P **P** **01 34 00.0 0.0**
MORF *e* 01 36 56.0
MORF eS S 01 43 53.3 -1.4
MORF eSS SS 01 48 55.1 +0.3
MORF Marmelete 78.00 308 *e*P **P** **01 34 00.3 +0.3**
comp=Z,527nm,1.7s,mb6.4
MORF Marmelete 78.00 308 eLQ 02 00 02.9
MORF eLR LR 02 06 36.8
comp=Z,14µm,18.0s
PFVI Vila Bisbo 78.22 308 P **P** **01 34 03.2 +2.0**
comp=Z,88nm,0.9s,mb5.9
PFVI Vila Bisbo 78.22 308 *e*P **P** **01 34 01.7 +0.5**
comp=Z,540nm,1.9s,mb6.3
PFVI Vila Bisbo 78.22 308 PP PP 01 37 00.2 +2.9
PFVI eS S 01 43 55.3 -1.8
PFVI Vila Bisbo 78.22 308 eLQ 01 59 12.2
PFVI eLR LR 02 06 25.5
comp=Z,18µm,16.0s
RTC Rabat Centre 78.89 304 PFAKE 01 34 20.0 +15
RTC LR LR
comp=Z,7µm,22.0s,MS6.0
TARA Tarawa 78.91 97 PFAKE 01 34 20.0 +15
TARA LR LR
comp=Z,2µm,21.0s,MS5.4
STKA Stephens Creek 81.24 142 P **P** **01 34 16.0 -1.4**
comp=Z,43nm,0.5s,mb5.7,baz=326,slow=6.3,SNR=94
STKA S S 01 44 22.5 -6.3
comp=Z,1.2nm,0.8s,baz=301,slow=5.9,SNR=1.9
STKA PKKP PKKPbc 01 52 49.2 -4.3
comp=Z,1.2nm,0.8s,baz=109,slow=3.5,SNR=1.9
STKA PKPPKP 02 00 55.9
comp=Z,1.9nm,1.0s,baz=112,slow=5.4,SNR=2.3
STKA LR LR 02 13 45.9
comp=Z,9µm,21.4s,MS6.1,baz=320,slow=38
STKA Stephens Creek 81.24 142 *e*P **P** **01 34 15.9 -1.5**
comp=Z,70nm,0.7s,mb5.8
STKA eS S 01 44 22.7 -6.0
STKA Stephens Creek 81.24 142 *e*P **P** **01 34 15.8 -1.6**
comp=Z,22nm,0.8s,mb5.2
STKA Stephens Creek 81.24 142 *e*P **P** **01 34 15.8 -1.6**
STKA pmax pmax
comp=Z,22nm,0.8s
EIDS Eidsvold 81.31 131 *e*P **P** **01 34 17.5 -0.5**
comp=Z,493nm,1.7s,mb6.3
LSZ Lusaka 82.43 244 *e*P **P** **01 34 23.4 -0.6**
comp=Z,41nm,0.8s,mb5.6
LSZ LR LR
comp=Z,15µm,20.0s,MS6.3
LSZ Lusaka 82.43 244 *e*P **P** **01 34 23.4 -0.6**
LSZ pmax pmax
comp=Z,41nm,0.8s,mb5.6
LSZ MLR MLR
comp=Z,15µm,20.0s,MS6.3
LSZ Lusaka 82.43 244 P **P** **01 34 23.9 -0.1**
SNR=18
BBB Bella Bella 82.69 26 P **P** **01 34 24.0 -0.9**
comp=Z,25nm,0.8s,mb5.5,baz=355,slow=1.1,SNR=7.4
BBB S S 01 44 38.1 -5.3
comp=Z,13nm,1.2s,baz=337,slow=15,SNR=2.0
BBB Bella Bella 82.69 26 P **P** **01 34 24.0 -0.9**
BBB S S 01 44 38.1 -5.3
JOHN Johnston Islan 83.51 74 PFAKE 01 34 40.0 +10
JOHN LR LR
comp=Z,13µm,20.0s,MS6.3
FCC Fort Churchill 83.62 5 *e*P **P** **01 34 29.6 0.0**
comp=Z,14nm,1.4s,mb5.0
FCC Fort Churchill 83.62 5 *e*P **P** **01 34 29.6 0.0**
TORD Torodi Ar. Bea 85.36 283 P **P** **01 34 38.2 -1.0**
comp=Z,35nm,0.9s,mb5.6,baz=40,slow=3.3,SNR=86
TORD S S 01 45 04.2 -7.3
comp=Z,2.0nm,1.1s,baz=48,slow=2.1,SNR=3.6
TORD PKKP PKKPbc 01 52 39.7 -2.4
comp=Z,0.4nm,0.5s,baz=236,slow=0.5,SNR=5.2
TORD PKPPKP 02 00 48.8
comp=Z,1.4nm,1.1s,baz=214,slow=1.9,SNR=5.3
TORD LR LR 02 18 07.5
comp=Z,7µm,19.5s,MS6.1,baz=25,slow=39
TORD Torodi Ar. Bea 85.36 283 P **P** **01 34 38.2 -1.0**
TORD S S 01 45 04.2 -7.3
TORD PKKP PKKPbc 01 52 39.7 -2.4
TORD P'P' 02 00 48.8
TORD LR LR 02 18 07.5
ARMA Armidale 85.42 134 *e*P **P** **01 34 38.8 -0.2**
ARMA *e*PP PP 01 37 51.4 -6.1
ARMA eS S 01 45 07.6 -3.5
ARMA Armidale 85.42 134 *e*P **P** **01 34 38.7 -0.3**
comp=Z,90nm,0.8s,mb6.0
PMPS Porto Santo 85.54 309 *e*P **P** **01 34 39.9 +0.1**
comp=Z,693nm,2.0s,mb6.4
PMPS Porto Santo 85.54 309 PP PP 01 37 54.5 -3.2

PMAR Madeira 86.12 309 *e*P **P** **01 34 42.8 +0.1**
comp=Z,1µm,1.6s,mb6.7
PMAR Madeira 86.12 309 PP PP 01 38 03.2 +0.8
FUL Funchal 86.17 309 *e*P **P** **01 34 42.3 -0.7**
comp=Z,345nm,1.5s,mb6.3
FUL Funchal 86.17 309 PP PP 01 38 02.2 -0.6
PMOZ Porto Moniz, M 86.23 309 *e*P **P** **01 34 43.8 +0.6**
comp=Z,566nm,1.4s,mb6.5
PMOZ Porto Moniz, M 86.23 309 PP PP 01 38 09.2 +5.9
PMOZ Porto Moniz, M 86.23 309 eLQ 02 01 34.7
PMOZ eLR LR 02 08 33.5
comp=Z,7µm,20.0s
EFAM Famara 86.36 304 P **P** **01 34 47.1 +3.1**
comp=Z,2µm,2.8s,mb6.8
SCHQ Schefferville 86.73 350 P **P** **01 34 44.1 -1.2**
comp=Z,56nm,0.7s,mb5.9,baz=25,slow=5.3,SNR=25
SCHQ LR LR 02 16 25.9
comp=Z,16µm,19.6s,MS6.4,baz=12,slow=38
SCHQ Schefferville 86.73 350 P **P** **01 34 44.1 -1.2**
SCHQ LR LR 02 16 25.9
FFC Flin Flon 86.75 10 *e*P **P** **01 34 44.0 -1.3**
comp=Z,505nm,1.8s,mb6.5
FFC LR LR
comp=Z,25µm,20.0s,MS6.6
FFC Flin Flon 86.75 10 *e*P **P** **01 34 44.0 -1.4**
FFC pmax pmax
comp=Z,505nm,1.8s,mb6.5
FFC MLR MLR
comp=Z,25µm,20.0s,MS6.6
CFTV Fuerteventura 87.20 304 P **P** **01 34 48.0 -0.1**
comp=Z,685nm,1.8s,mb6.6
PGC Sidney 87.27 25 *e*P **P** **01 34 48.4 +0.4**
comp=Z,73nm,2.1s,mb5.5
BART Pico Bartolome 87.35 317 *e*P **P** **01 34 50.2 +1.6**
comp=Z,143nm,0.9s,mb6.2
A05A Maple Falls 87.41 24⇑P **P** **01 34 48.2 -0.5**
baz=87
PDA Ponta Delgada 87.64 317 *e*P **P** **01 34 53.5 +3.5**
comp=Z,287nm,1.6s,mb6.3
CAN Canberra 87.71 139 *e*P **P** **01 34 49.3 -0.8**
comp=Z,194nm,1.4s,mb6.2
CAN LR LR
comp=Z,7µm,20.0s,MS6.1
CAN Canberra 87.71 139 *e*P **P** **01 34 49.3 -0.8**
CAN pmax pmax
comp=Z,194nm,1.4s,mb6.2
CAN MLR MLR
comp=Z,7µm,20.0s,MS6.1
TOO Toolangi 87.72 143 *e*P **P** **01 34 49.0 -1.1**
RIV Riverview 87.72 137 *e*P **P** **01 34 54.4 +4.2**
CNB Canberra Magne 87.90 139 *e*P **P** **01 34 49.4 -1.6**
PSMA Santa Maria 87.90 317 *e*P **P** **01 34 50.9 -0.4**
comp=Z,412nm,1.4s,mb6.6
B06A Marblemount 88.03 24⇑P **P** **01 34 50.9 -0.7**
baz=88
RPW Rockport 88.08 24 *e*P **P** **01 34 52.3 +0.4**
comp=Z,1µm,2.2s,mb6.9
JCW Jim Creek 88.17 24 *e*P **P** **01 34 52.7 +0.4**
comp=Z,3µm,2.2s,mb7.2
NLWA Neilton Lookou 88.21 26 *e*P **P** **01 34 53.5 +1.0**
comp=Z,2µm,2.0s,mb7.1
NLWA LR LR
comp=Z,16µm,21.0s,MS6.4
EBAJ Bajamar 88.59 305 P **P** **01 34 56.5 +1.8**
comp=Z,2µm,2.8s,mb6.8
WRW Wenatchee Ridg 88.80 24 P **P** **01 34 55.5 +0.2**
B08A Colville Reser 88.84 23⇑P **P** **01 34 55.5 0.0**
baz=88
RMW Rattlesnake Mo 88.85 25 P **P** **01 34 56.5 +1.0**
RMW Rattlesnake Mo 88.85 25 P **P** **01 34 56.5 +0.9**
NOUC Port Laguerre 88.89 119 *e*P **P** **01 34 55.9 -0.1**
DZM Mont Dzumac 88.96 119 *e*P **P** **01 34 55.9 -0.5**
DZM Mont Dzumac 88.96 119 *e*P **P** **01 34 56.6 +0.2**
comp=Z,240nm,1.4s,mb6.2
CCAN Las Canadas 88.97 305 P **P** **01 34 58.4 +1.9**
comp=Z,2µm,2.6s,mb6.8
D05A Enumclaw 89.03 25⇓P **P** **01 34 56.9 +0.5**
baz=89
E03A Lebam 89.05 26⇑P **P** **01 34 57.1 +0.6**
baz=89
KIP Kipapa 89.11 64 PFAKE 01 35 10.0 +13
KIP LR LR
comp=Z,9µm,22.0s,MS6.1
ETW Entiat 89.20 24 P **P** **01 34 57.4 +0.2**
FMW Mount Fremont 89.36 25 P **P** **01 34 58.6 +0.6**
A12A Yaak River Ran 89.39 20⇑P **P** **01 34 58.3 +0.2**
baz=89
EGOM La Gomera 89.41 306 P **P** **01 34 59.3 +0.7**
comp=Z,2µm,2.5s,mb6.8
LON Longmire 89.47 25 *e*P **P** **01 34 58.7 +0.2**
comp=Z,64nm,0.8s,mb5.9
LON Longmire 89.47 25 *e*P **P** **01 34 58.7 +0.2**
LON pmax pmax
comp=Z,64nm,0.8s,mb5.9
TBM Table Mountain 89.50 24 P **P** **01 34 59.1 +0.5**
PAF Port-aux-Franc 89.53 196 PFAKE 01 35 10.0 +12
PAF LR LR
comp=Z,14µm,19.0s,MS6.4
F03A Seaside 89.58 26⇓P **P** **01 34 59.3 +0.2**
baz=89
NEW Newport 89.58 21⇑P **P** **01 34 59.6 +0.6**
baz=89
NEW Newport 89.58 21 *e*P **P** **01 34 59.4 +0.4**
comp=Z,317nm,1.3s,mb6.4
NEW LR LR
comp=Z,43µm,19.0s,MS6.9
NEW Newport 89.58 21 *e*P **P** **01 34 59.4 +0.4**
NEW pmax pmax
comp=Z,317nm,1.3s
NEW MLR MLR
comp=Z,43µm,19.0s
C09A Chrisman Ranch 89.66 22⇑P **P** **01 34 59.4 +0.1**
baz=89
A13A Flathead Natio 89.72 19⇑P **P** **01 34 59.5 -0.2**
baz=89
WALA Waterton Lakes 89.74 19 *e*P **P** **01 34 59.2 -0.5**
comp=Z,35nm,2.1s,mb5.2
B12A Libby 89.83 20⇓P **P** **01 35 00.2 +0.1**
baz=90
FUNA Funafuti 89.89 101 PFAKE 01 35 10.0 +9.1
FUNA LR LR
comp=Z,9µm,19.0s,MS6.2
OD2 Odessa Site #2 89.89 23 *e*P **P** **01 35 00.6 +0.1**
comp=Z,2µm,2.0s,mb6.9
A14A Double T Ranch 89.95 19⇓P **P** **01 35 00.2 -0.4**
baz=90
MTMW Mount Mitchell 89.97 25 P **P** **01 35 01.8 +1.0**
ASR Mount Adams--S 90.07 25 P **P** **01 35 02.1 +0.8**
A15A Johnson Ranch, 90.12 18⇑P **P** **01 35 00.6 -0.8**
baz=90
D08A Wollman Farm, 90.13 23⇓P **P** **01 35 01.0 -0.5**
baz=90
C11A Tepee Creek (N 90.22 21⇑P **P** **01 35 02.0 +0.1**
baz=90
B13A Whitefish 90.22 20⇑P **P** **01 35 02.2 +0.2**
baz=90
E07A Sunnyside 90.28 24⇑P **P** **01 35 02.5 +0.2**
baz=90
A16A West Butte Ran 90.42 18⇓P **P** **01 35 01.9 -0.9**
baz=90
A16A ⇑SKSac SKSac 01 45 32.1 -3.3
baz=90
RSW Rattlesnake Hi 90.51 24 *e*P **P** **01 35 04.2 +0.9**
comp=Z,2µm,2.1s,mb7.0
HAWA Hanford 90.53 24 *e*P **P** **01 35 04.0 +0.5**
comp=Z,583nm,1.8s,mb6.6
HAWA LR LR
comp=Z,24µm,20.0s,MS6.6
B14A Marquette Ranc 90.55 19⇓P **P** **01 35 03.3 -0.2**
baz=90
C12B Naegeli Ranch, 90.56 21⇑P **P** **01 35 03.7 +0.2**
baz=90
G04A Mulino 90.59 26⇑P **P** **01 35 03.3 -0.4**
baz=90,SNR=24
E08A Dider Farm, El 90.59 23⇑P **P** **01 35 04.2 +0.4**
baz=90
BSMT Bassoo Peak 90.61 20 *e*P **P** **01 35 04.5 +0.7**
comp=Z,2µm,2.0s,mb7.1
A17A Triple J Farms 90.64 17⇑P **P** **01 35 03.2 -0.7**
baz=90
LBTB Lobatse 90.72 239 *e*P **P** **01 35 03.7 -0.8**
comp=Z,134nm,1.5s,mb6.0
LBTB LR LR
comp=Z,7µm,22.0s,MS6.1
LBTB Lobatse 90.72 239 *e*P **P** **01 35 03.7 -0.8**
LBTB pmax pmax
comp=Z,133nm,1.5s,mb6.0

LBTB MLR MLR
comp=Z,7µm,22.0s,MS6.1
HOOD Mount Hood Mea 90.77 25 *eP* **P 01 35 05.4 +0.8**
comp=Z,822nm,1.2s,mb6.9
B15A Bradely Ranch, 90.77 19 ⇑P **P 01 35 04.1 -0.5**
baz=90
YBMT Yellow Bay 90.81 20 *eP* **P 01 35 05.2 +0.4**
comp=Z,258nm,1.1s,mb6.5
C13A Hot Springs 90.83 20 ⇓P **P 01 35 05.4 +0.5**
baz=90
COR Corvallis 90.83 27 *eP* **P 01 35 06.8 +1.9**
comp=Z,582nm,1.3s,mb6.8
COR Corvallis 90.83 27 *eP* **P 01 35 06.8 +1.9**
VFP Flag Point 90.84 25 P **P 01 35 05.7 +0.8**
F07A Phinny Hill Vi 90.84 24 ⇑P **P 01 35 04.1 -0.8**
baz=90
JTMT Jette 90.85 20 *eP* **P 01 35 05.3 +0.4**
comp=Z,288nm,1.2s,mb6.5
E09A Wood Farm, Sta 90.85 23 ⇓P **P 01 35 04.9 -0.1**
baz=91
A18A Metzger Ranch, 90.86 17 ⇓P **P 01 35 04.7 -0.2**
baz=90
B16A M & M Farms, S 90.89 18 ⇓P **P 01 35 04.3 -0.8**
baz=91
C14A Swan Lake 90.97 19 ⇑P **P 01 35 05.5 0.0**
baz=91
A19A Klindworth Far 91.10 16 ⇑P **P 01 35 05.7 -0.3**
baz=91
SWMT Swartz Lake 91.14 20 *eP* **P 01 35 06.4 +0.1**
comp=Z,194nm,1.1s,mb6.3
H04A Detroit Lake 91.14 26 ⇑P **P 01 35 06.4 +0.1**
baz=91,SNR=5.9
D12A Red Ives Fores 91.19 21 ⇑P **P 01 35 06.0 -0.5**
baz=91
G06A Carlson Farm, 91.19 25 ⇓P **P 01 35 07.2 +0.7**
baz=91,SNR=16
B17A L&G Farms, Che 91.23 17 ⇑P **P 01 35 06.4 -0.2**
baz=91
C15A Salmond Ranch, 91.26 19 ⇓P **P 01 35 06.5 -0.3**
baz=91
A20A Cobblestone Ra 91.32 15 ⇑P **P 01 35 06.5 -0.6**
baz=91,SNR=39
B18A Beardsley Farm 91.37 17 ⇓P **P 01 35 06.7 -0.6**
baz=91
LNOR Lincton Mounta 91.39 23 *eP* **P 01 35 08.4 +1.0**
comp=Z,664nm,2.4s,mb6.5
LNOR Lincton Mounta 91.39 23 *eP* **P 01 35 08.4 +1.0**
LNOR pmax pmax
comp=Z,665nm,2.4s,mb6.5
D13A Huson 91.40 20 ⇑P **P 01 35 07.1 -0.3**
baz=91
A21A Bergtoll Ranch 91.42 15 ⇑P **P 01 35 06.5 -1.0**
baz=91,SNR=32
C16A Fuhringer Ranc 91.45 18 ⇑P **P 01 35 06.7 -1.0**
baz=91
B19A Brinkman Farms 91.50 16 ⇓P **P 01 35 07.0 -0.9**
baz=91,SNR=35
SLMT Seeley Lake 91.52 20 *eP* **P 01 35 08.2 +0.2**
comp=Z,407nm,1.5s,mb6.5
F10A Beach Ranch, E 91.62 22 ⇑P **P 01 35 08.7 +0.2**
baz=91,SNR=56
A22A Carney Farms, 91.62 14 ⇑P **P 01 35 07.8 -0.6**
baz=91,SNR=23
D14A Greenough 91.67 20 ⇓P **P 01 35 08.2 -0.5**
baz=91
G08A Pilot Rock 91.69 24 ⇓P **P 01 35 09.4 +0.5**
baz=91,SNR=10
E12A Beaver Dam Sad 91.71 21 ⇑P **P 01 35 08.3 -0.6**
baz=91
B20A Solberg Farm, 91.72 16 ⇑P **P 01 35 07.9 -1.0**
baz=91,SNR=9.3
EGMT Eagleton 91.72 17 ⇑P **P 01 35 08.3 -0.6**
baz=91,SNR=34
EGMT Eagleton 91.72 17 *eP* **P 01 35 08.4 -0.5**
comp=Z,408nm,1.4s,mb6.6
EGMT LR LR
comp=Z,17µm,19.0s,MS6.5
MSO Missoula 91.78 20 ⇑P **P 01 35 08.5 -0.7**
baz=92
MSO Missoula 91.78 20 *eP* **P 01 35 09.1 -0.2**
comp=Z,132nm,1.3s,mb6.1
MSO LR LR
comp=Z,25µm,20.0s,MS6.7
A23A Redstone 91.85 14 ⇑P **P 01 35 09.0 -0.5**
baz=92
C17A Wharram Farm, 91.85 18 ⇓P **P 01 35 08.7 -0.9**
baz=92,SNR=38
CHMT Chamberlain Mo 91.89 20 *eP* **P 01 35 09.4 -0.4**
comp=Z,71nm,1.2s,mb5.9
ULM Lac du Bonnet 91.89 8 P **P 01 35 07.8 -1.9**
comp=Z,22nm,0.8s,mb5.5,baz=351,slow=4.2,SNR=16
ULM LR LR 02 18 23.6
comp=Z,24µm,19.4s,MS6.7,baz=348,slow=37
ULM Lac du Bonnet 91.89 8 P **P 01 35 07.8 -1.9**
ULM LR LR 02 18 23.6
ULM Lac du Bonnet 91.89 8 P **P 01 35 07.8 -1.9**
B21A Ellsworth Farm 91.94 15 ⇓P **P 01 35 08.8 -1.1**
baz=92
POHA Pohakuloa 91.95 63 PFAKE 01 35 20.0 +9.5
POHA LR LR
comp=Z,9µm,22.0s,MS6.2
D15A Lincoln 91.96 19 ⇑P **P 01 35 09.7 -0.4**
baz=92,SNR=44
A24A Westby 92.04 13 ⇓P **P 01 35 10.1 -0.3**
baz=92,SNR=19
E13A Victor 92.07 20 ⇓P **P 01 35 10.1 -0.5**
baz=92,SNR=64
C19A Slack Wire Ran 92.16 17 ⇓P **P 01 35 10.6 -0.4**
baz=92,SNR=20
D16A Dana Ranch, Ca 92.22 18 ⇑P **P 01 35 10.9 -0.4**
baz=92,SNR=23
B22A Reddig Ranch S 92.27 14 ⇑P **P 01 35 11.1 -0.4**
baz=92,SNR=6.9
E14A Clinton 92.28 20 ⇑P **P 01 35 11.3 -0.2**
baz=92,SNR=39
B23A Brockton 92.30 14 ⇑P **P 01 35 11.2 -0.4**
baz=92,SNR=18
D17A Six Diamond Ra 92.32 18 ⇑P **P 01 35 11.0 -0.7**
baz=92,SNR=38
MOO Moorlands 92.36 145 *eP* **P 01 35 12.3 +0.6**
DGMT Dagmar 92.44 13 ⇑P **P 01 35 11.9 -0.4**
baz=92,SNR=18
DGMT Dagmar 92.44 13 *eP* **P 01 35 12.3 +0.1**
comp=Z,488nm,1.4s,mb6.6
DGMT LR LR
comp=Z,19µm,20.0s,MS6.5
HRY Holter Researc 92.45 19 *eP* **P 01 35 12.2 -0.1**
comp=Z,643nm,1.5s,mb6.7
D18A Linhart Farms, 92.49 17 ⇓P **P 01 35 12.1 -0.4**
baz=92,SNR=17
C21A Desert Coulee 92.49 15 ⇓P **P 01 35 11.6 -0.9**
baz=92,SNR=14
E15A Deer Lodge 92.50 19 ⇑P **P 01 35 12.3 -0.2**
baz=92,SNR=62
I07A Izee 92.59 25 ⇓P **P 01 35 13.2 +0.1**
baz=92,SNR=23
BMO Blue Mountains 92.60 23 *eP* **P 01 35 12.4 -0.6**
comp=Z,40nm,1.0s,mb5.8
BMO LR LR
comp=Z,16µm,21.0s,MS6.5
BMO Blue Mountains 92.60 23 *eP* **P 01 35 12.4 -0.7**
BMO pmax pmax
comp=Z,41nm,1.0s,mb5.8
BMO MLR MLR
comp=Z,16µm,21.0s,MS6.5
F13A Darby 92.63 21 ⇑P **P 01 35 12.8 -0.4**
baz=92,SNR=54
E16A East Helena 92.65 19 ⇑P **P 01 35 13.0 -0.3**
baz=92,SNR=46
TSUM Tsumeb 92.67 248 *eP* **P 01 35 13.4 -0.2**
comp=Z,154nm,1.9s,mb6.1
TSUM LR LR
comp=Z,14µm,21.0s,MS6.4
HUMO Hull Mountain 92.67 28 *eP* **P 01 35 14.8 +1.3**
comp=Z,2µm,2.6s,mb7.2
D19A Cripps Ranch, 92.73 17 ⇓P **P 01 35 13.0 -0.6**
baz=92,SNR=30
TAU Tasmania Unive 92.79 145 PFAKE 01 35 20.0 +6.4
TAU LR LR
comp=Z,5µm,21.0s,MS5.9
C22A Vida 92.82 15 ⇓P **P 01 35 13.4 -0.7**
baz=92,SNR=19
F14A Wisdom 92.87 20 ⇓P **P 01 35 14.3 0.0**
baz=93,SNR=37
C23A Lambert 92.90 14 ⇑P **P 01 35 14.2 -0.2**
baz=93,SNR=44
E17A Martinsdale 92.92 18 ⇓P **P 01 35 14.6 +0.1**
baz=93,SNR=29
G12A Big Creek, Yel 92.95 22 ⇓P **P 01 35 14.7 0.0**
baz=93
D20A Manuel Ranch, 92.97 16 ⇑P **P 01 35 13.8 -0.9**
baz=93,SNR=21
E18A Harlowton 93.05 18 ⇓P **P 01 35 14.9 -0.3**
baz=93,SNR=23
F15A Butte 93.08 19 ⇑P **P 01 35 14.8 -0.5**
baz=93,SNR=28
LRM Limekiln Ridge 93.11 19 *eP* **P 01 35 15.1 -0.3**
comp=Z,5µm,2.1s,mb7.6
D21A La Casta Ranch 93.24 15 ⇓P **P 01 35 14.8 -1.2**
baz=93,SNR=16
G13A Cobalt 93.30 21 ⇑P **P 01 35 15.4 -0.9**
baz=93,SNR=18
C24A Savage 93.31 14 ⇓P **P 01 35 15.7 -0.5**
baz=93,SNR=13
K05A Summer Lake 93.31 26 ⇓P **P 01 35 17.1 +0.8**
baz=93,SNR=9.9
D22A Cohagen 93.33 15 ⇑P **P 01 35 16.0 -0.4**
baz=93,SNR=34
F16A Kennard Place, 93.36 19 ⇓P **P 01 35 16.2 -0.4**
baz=93,SNR=26
G14A Jackson 93.37 20 ⇓P **P 01 35 16.7 +0.1**
baz=93,SNR=32
E19A Rath Farm, Rou 93.42 17 ⇑P **P 01 35 16.5 -0.3**
baz=93,SNR=22
BOZ Bozeman (W) 93.49 19 ⇑P **P 01 35 17.0 -0.2**
baz=93,SNR=38
BOZ Bozeman (W) 93.49 19 *eP* **P 01 35 17.0 -0.1**
comp=Z,395nm,2.0s,mb6.5
BOZ LR LR
comp=Z,33µm,20.0s,MS6.8
BOZ Bozeman (W) 93.49 19 *eP* **P 01 35 17.0 -0.1**
BOZ pmax pmax
comp=Z,395nm,2.0s,mb6.5
BOZ MLR MLR
comp=Z,33µm,20.0s,MS6.8
F17A Fitzpatrick Pl 93.49 18 ⇓P **P 01 35 17.0 -0.2**
baz=93,SNR=41
DLMT Dillon 93.50 20 *eP* **P 01 35 16.9 -0.3**
comp=Z,684nm,2.1s,mb6.7
D23A Lindsay 93.50 14 ⇑P **P 01 35 17.1 -0.1**
baz=93,SNR=22
YBH Yreka Blue Hor 93.52 28 *eP* **P 01 35 20.0 +2.6**
comp=Z,240nm,2.2s,mb6.1
YBH Yreka Blue Hor 93.52 28 *eP* **P 01 35 20.0 +2.6**
YBH pmax pmax
comp=Z,240nm,2.2s
E20A Meyer Farm, Mu 93.53 16 ⇓P **P 01 35 16.8 -0.5**
baz=93,SNR=27
J08A Circle Bar Ran 93.57 24 ⇑P **P 01 35 17.8 +0.2**
baz=93,SNR=42
H12A Diamond D Ranc 93.61 21 ⇑P **P 01 35 17.2 -0.5**
baz=93,SNR=19
G15A Dillon 93.71 20 ⇑P **P 01 35 17.8 -0.4**
baz=93,SNR=34
E21A Keefer Ranch, 93.72 16 ⇓P **P 01 35 17.5 -0.7**
baz=93
F18A Big Timber 93.72 18 ⇓P **P 01 35 18.2 0.0**
baz=93,SNR=40
D24A Glendive 93.72 14 ⇓P **P 01 35 17.6 -0.6**
baz=93,SNR=15
LAO LASA Array 93.76 15 ⇓P **P 01 35 18.1 -0.3**
baz=93,SNR=13
LAO LASA Array 93.76 15 *eP* **P 01 35 18.6 +0.2**
comp=Z,1µm,2.1s,mb6.8
LAO LR LR
comp=Z,35µm,20.0s,MS6.8
H13A Challis 93.77 21 ⇑P **P 01 35 17.6 -0.9**
baz=94,SNR=13
MDND Maddock 93.80 10 ⇑P **P 01 35 17.8 -0.7**
baz=94
AGMN Agassiz Nation 93.82 8 *eP* **P 01 35 17.2 -1.4**
comp=Z,418nm,1.9s,mb6.4
AGMN LR LR
comp=Z,24µm,22.0s,MS6.6
G16A Moss Hill, Enn 93.83 19 ⇑P **P 01 35 18.3 -0.4**
baz=94,SNR=27
GCMT Greycliff 93.84 18 *eP* **P 01 35 19.0 +0.3**
comp=Z,87nm,1.2s,mb6.0
MCMT McKenzie Canyo 93.92 20 *eP* **P 01 35 19.2 0.0**
comp=Z,82nm,1.6s,mb5.8
MCMT *e*PP PP 01 39 09.0 +5.2
F19A Roth Farm, Mol 93.95 17 ⇓P **P 01 35 18.8 -0.4**
baz=94,SNR=39
H14A Leadore 93.98 20 ⇓P **P 01 35 19.0 -0.4**
baz=94
G17A Pierce Place, 94.02 18 ⇓P **P 01 35 19.8 +0.2**
baz=94,SNR=27
E22A Miles City 94.06 15 ⇓P **P 01 35 19.0 -0.7**
baz=94,SNR=11
E23A Ismay 94.13 14 ⇓P **P 01 35 19.7 -0.3**
baz=94,SNR=15
H15A Lima 94.17 20 ⇑P **P 01 35 20.3 -0.1**
baz=94,SNR=19
F20A Billings 94.19 17 ⇑P **P 01 35 19.8 -0.6**
baz=94,SNR=9.3
I12A Atlanta 94.22 22 ⇑P **P 01 35 20.1 -0.4**
baz=94,SNR=131
MOD Modoc 94.24 26 *eP* **P 01 35 21.3 +0.6**
comp=Z,130nm,1.2s,mb6.1
QLMT Earthquake Lak 94.30 19 *eP* **P 01 35 21.1 +0.2**
comp=Z,9.1nm,1.3s,mb5.0
G18A Lazy EL Ranch, 94.31 18 ⇑P **P 01 35 20.2 -0.7**
baz=94
WVOR Wild Horse Val 94.34 25 *eP* **P 01 35 21.5 +0.3**
comp=Z,100nm,1.0s,mb6.1
WVOR LR LR
comp=Z,17µm,19.0s,MS6.5
WVOR Wild Horse Val 94.34 25 *eP* **P 01 35 21.5 +0.4**
WVOR pmax pmax
comp=Z,100nm,1.0s,mb6.1
WVOR MLR MLR
comp=Z,17µm,19.0s,MS6.5
MFID Camas Ranch 94.36 23 ⇑P **P 01 35 21.0 -0.2**
baz=94,SNR=15
MFID Camas Ranch 94.36 23 *eP* **P 01 35 21.4 +0.2**
comp=Z,244nm,2.0s,mb6.2
F21A Absaloka Mine, 94.39 16 ⇓P **P 01 35 20.2 -1.1**
baz=94
DBIC Dimbokro 94.41 282 P **P 01 35 20.7 -1.2**
comp=Z,25nm,0.6s,mb5.7,baz=36,slow=5.5,SNR=33
DBIC LR LR 02 24 46.5
comp=Z,9µm,18.4s,MS6.3,baz=31,slow=40
DBIC Dimbokro 94.41 282 *eP* **P 01 35 20.6 -1.4**
comp=Z,171nm,1.5s,mb6.2
DBIC LR LR
comp=Z,8µm,19.0s,MS6.2
DBIC Dimbokro 94.41 282 *eP* **P 01 35 20.6 -1.3**
DBIC pmax pmax
comp=Z,171nm,1.5s
DBIC MLR MLR
comp=Z,8µm,19.0s
I13A Wildhorse Cree 94.41 21 ⇑P **P 01 35 21.1 -0.3**
baz=94,SNR=20
H16A Russell Place, 94.46 19 ⇑P **P 01 35 21.3 -0.3**
baz=94,SNR=24
EYMN Ely 94.56 5 *eP* **P 01 35 22.0 0.0**
comp=Z,297nm,1.8s,mb6.4
EYMN LR LR
comp=Z,30µm,20.0s,MS6.8
RLMT Red Lodge 94.57 18 ⇑P **P 01 35 21.7 -0.5**
baz=94,SNR=21
RLMT Red Lodge 94.57 18 *eP* **P 01 35 21.9 -0.2**
comp=Z,157nm,2.8s,mb6.0
RLMT LR LR
comp=Z,19µm,20.0s,MS6.5
YMR Madison River 94.57 19 *eP* **P 01 35 22.9 +0.8**
comp=Z,111nm,1.5s,mb6.1
I14A Mackay 94.58 21 ⇑P **P 01 35 21.8 -0.4**
baz=94,SNR=13
WDC Whiskeytown Da 94.59 28 *eP* **P 01 35 23.7 +1.4**
comp=Z,456nm,2.3s,mb6.5
WDC Whiskeytown Da 94.59 28 *eP* **P 01 35 23.7 +1.4**
WDC pmax pmax
comp=Z,456nm,2.3s,mb6.5
YNR Norris Junctio 94.60 19 *eP* **P 01 35 24.6 +2.3**
comp=Z,35nm,1.1s,mb5.7
MSVF Nonsavu 94.64 109 *eP* **P 01 35 22.9 +0.1**
comp=Z,27nm,0.9s,mb5.7
MSVF LR LR
comp=Z,5µm,20.0s,MS5.9
MSVF Nonsavu 94.64 109 *eP* **P 01 35 22.9 +0.1**
MSVF pmax pmax
comp=Z,27nm,0.9s,mb5.7
MSVF MLR MLR
comp=Z,5µm,20.0s,MS5.9
HLID Hailey 94.64 22 ⇑P **P 01 35 22.1 -0.4**
baz=94,SNR=32
HLID Hailey 94.64 22 *eP* **P 01 35 22.8 +0.3**
comp=Z,398nm,2.1s,mb6.5
HLID LR LR
comp=Z,19µm,20.0s,MS6.5
G20A Bridger 94.72 17 ⇑P **P 01 35 21.4 -1.5**
baz=94,SNR=46
I15A Monteview 94.79 20 ⇓P **P 01 35 23.0 -0.2**
baz=94,SNR=21
YFT Old Faithful 94.81 19 *eP* **P 01 35 25.4 +2.2**
comp=Z,234nm,1.4s,mb6.4
LKWY Lake 94.81 19 *eP* **P 01 35 24.7 +1.5**
comp=Z,76nm,0.8s,mb6.2
LKWY LR LR
comp=Z,53µm,20.0s,MS7.0
LKWY Lake 94.81 19 *eP* **P 01 35 24.7 +1.5**
LKWY pmax pmax
comp=Z,76nm,0.8s,mb6.2
LKWY MLR MLR
comp=Z,53µm,20.0s,MS7.0
LIC Lamto 94.82 282 *eP* **P 01 35 22.5 -1.3**
comp=Z,305nm,1.6s,mb6.2
LIC *e*R
comp=Z,20µm,21.0s
LIC Lamto 94.82 282 *eP* **P 01 35 22.5 -1.3**
comp=Z,152nm,1.6s,mb6.2
LIC LR LR
comp=Z,10µm,21.0s,MS6.2
J13A Cove Ranch, Pi 94.87 21 ⇑P **P 01 35 23.4 -0.1**
baz=95,SNR=57
H18A Shoshone NF, C 94.89 18 ⇓P **P 01 35 23.0 -0.6**
baz=95,SNR=19
H17A Grant Village 94.92 19 ⇑P **P 01 35 23.4 -0.3**
baz=95,SNR=37
G21A Lodge Grass 94.94 16 ⇑P **P 01 35 23.4 -0.5**
baz=95
H19A Powell 95.06 18 ⇑P **P 01 35 24.3 -0.1**
baz=95,SNR=8.5
J14A Carey 95.12 21 ⇓P **P 01 35 24.5 -0.2**
baz=95,SNR=12
I16A Newdale 95.17 20 ⇓P **P 01 35 24.6 -0.3**
baz=95,SNR=27
FLWY Flagg Ranch 95.19 19 *eP* **P 01 35 25.7 +0.7**
comp=Z,126nm,1.2s,mb6.2
IMW Indian Meadow 95.30 19 *eP* **P 01 35 26.2 +0.7**
comp=Z,136nm,1.2s,mb6.2
J15A Blackfoot 95.36 20 ⇓P **P 01 35 25.3 -0.5**
baz=95,SNR=27
I17A Pilgrim Ck. 95.37 19 ⇑P **P 01 35 26.6 +0.8**
baz=95,SNR=30
H20A Greybull 95.46 17 ⇑P **P 01 35 25.7 -0.5**
baz=95,SNR=7.8
MOOW Moose Ponds 95.48 19 *eP* **P 01 35 26.6 +0.2**
comp=Z,134nm,1.6s,mb6.1
DCID1 Drake Creek 95.51 19 *eP* **P 01 35 26.8 +0.3**
comp=Z,46nm,1.0s,mb6.0
H21A Big Horn, Sher 95.55 16 ⇑P **P 01 35 26.5 -0.1**
baz=95,SNR=19
LOHW Long Hollow 95.65 19 *eP* **P 01 35 27.8 +0.7**
comp=Z,52nm,1.4s,mb5.9
I19A Meeteetse 95.65 18 ⇓P **P 01 35 26.5 -0.6**
baz=95,SNR=22
TPAW Teton Pass 95.67 19 *eP* **P 01 35 28.0 +0.8**
comp=Z,178nm,1.9s,mb6.3
TPAW *e*PP PP 01 39 20.8 +3.4
RRI2 Red Ridge 95.71 20 *eP* **P 01 35 27.5 +0.1**
comp=Z,40nm,1.1s,mb5.9
H22A Clearmont 95.73 16 ⇓P **P 01 35 27.1 -0.4**
baz=95
SNOW Snow King Moun 95.75 19 *eP* **P 01 35 29.6 +2.0**
comp=Z,58nm,1.5s,mb5.9
I18A Diamond G Ranc 95.77 18 ⇓P **P 01 35 27.3 -0.4**
baz=95,SNR=8.1
REDW Red Top Meadow 95.82 19 *eP* **P 01 35 27.5 -0.4**
comp=Z,188nm,2.2s,mb6.2
J17A Brown Place, J 95.85 19 ⇑P **P 01 35 27.5 -0.5**
baz=96,SNR=11
K14A Jones Ranch, D 95.94 21 ⇓P **P 01 35 28.2 -0.2**
baz=96,SNR=9.4
I20A Worland 95.94 17 ⇑P **P 01 35 27.9 -0.5**
baz=96,SNR=14
H24A Dirks Ranch, A 95.96 14 ⇓P **P 01 35 28.2 -0.3**
baz=96
H23A Clabaugh Cattl 95.96 15 ⇑P **P 01 35 27.4 -1.1**
baz=96
K15A Arbon 95.99 21 ⇑P **P 01 35 28.1 -0.6**
baz=96,SNR=12
K16A Soda Springs 96.11 20 ⇓P **P 01 35 29.2 0.0**
baz=96,SNR=14
J18A Kendall Valley 96.17 19 ⇑P **P 01 35 29.2 -0.3**
baz=96,SNR=29
I21A Big Trails, Te 96.27 17 ⇑P **P 01 35 29.5 -0.4**
baz=96
AHID Auburn Hatcher 96.31 20 *eP* **P 01 35 31.4 +1.2**
comp=Z,66nm,1.3s,mb6.0
AHID LR LR
comp=Z,14µm,19.0s,MS6.5
J19A Crowheart 96.37 18 ⇑P **P 01 35 30.1 -0.3**
baz=96
I22A 9 Mile Ranch, 96.37 16 ⇑P **P 01 35 30.2 -0.2**
baz=96
K17A Gardner Place, 96.37 20 ⇓P **P 01 35 30.1 -0.3**
baz=96,SNR=7.4
L14A Malta 96.39 21 ⇑P **P 01 35 30.7 +0.2**
baz=96,SNR=9.5
PKME Peaks-Kenny Pk 96.42 350 *eP* **P 01 35 30.4 -0.1**
comp=Z,196nm,1.5s,mb6.4
PKME LR LR
comp=Z,26µm,20.0s,MS6.7
PAHR Pah Rah Range 96.51 27 *eP* **P 01 35 31.8 +0.7**
comp=Z,242nm,1.9s,mb6.5
J20A Shoshoni 96.52 17 ⇑P **P 01 35 30.8 -0.3**
baz=96
I23A Meade Ranch, G 96.53 15 ⇓P **P 01 35 30.8 -0.3**
baz=96
BMN Battle Mountai 96.61 25 *eP* **P 01 35 32.1 +0.6**
comp=Z,299nm,2.2s,mb6.5
BMN LR LR
comp=Z,15µm,19.0s,MS6.5
BMN Battle Mountai 96.61 25 *eP* **P 01 35 32.1 +0.6**
BMN pmax pmax
comp=Z,299nm,2.2s,mb6.5
BMN MLR MLR
comp=Z,15µm,19.0s,MS6.5
RSSD Black Hills 96.66 14 *eP* **P 01 35 31.4 -0.3**
comp=Z,135nm,1.4s,mb6.4
RSSD Black Hills 96.66 14 *eP* **P 01 35 31.4 -0.3**
RSSD pmax pmax
comp=Z,135nm,1.4s,mb6.4
L15A Malad City 96.66 21 ⇓P **P 01 35 31.3 -0.4**
baz=96
J21A Lysite 96.67 17 ⇓P **P 01 35 31.5 -0.3**
baz=96
PD01 Pinedale Array 96.69 19 *eP* **P 01 35 30.8 -1.1**
PD02 Pinedale Array 96.69 19 *eP* **P 01 35 30.9 -1.0**
K18A Toltan Ranch, 96.71 19 ⇑P **P 01 35 32.0 +0.1**
baz=96,SNR=11
BW06 Boulder Array 96.71 19 ⇑P **P 01 35 31.6 -0.3**
baz=96
BW06 Boulder Array 96.71 19 PFAKE 01 35 40.0 +8.1
BW06 LR LR
comp=Z,28µm,20.0s,MS6.7
PDAR Pinedale Array 96.71 19 P **P 01 35 31.3 -0.6**
comp=Z,4.8nm,0.7s,mb5.2,baz=24,slow=2.7,SNR=32
PDAR PP PP 01 39 29.1 +3.7
comp=Z,4.4nm,0.9s,baz=329,slow=4.0,SNR=4.4
PDAR PKKPbc PKKPbc 01 52 13.1 -1.1
comp=Z,2.0nm,0.8s,baz=191,slow=3.7,SNR=7.8
PDAR PKPPKP 02 00 28.0
comp=Z,0.7nm,0.9s,baz=193,slow=3.7,SNR=4.7
PDAR LR LR 02 23 22.0
comp=Z,24µm,19.6s,MS6.7,baz=344,slow=38
PDAR Pinedale Array 96.71 19 P **P 01 35 31.3 -0.6**
PDAR PP PP 01 39 29.1 +3.7
PDAR PKKPbc PKKPbc 01 52 13.1 -1.1
PDAR P'P' 02 00 28.0
PDAR LR LR 02 23 22.0
WCN Washoe City 96.73 27 ⇑P **P 01 35 31.8 -0.4**
baz=96
WCN Washoe City 96.73 27 *eP* **P 01 35 32.2 +0.1**
comp=Z,323nm,2.2s,mb6.6
WCN Washoe City 96.73 27 *eP* **P 01 35 32.2 +0.1**
WCN pmax pmax
comp=Z,323nm,2.2s,mb6.6
HVU Hansel Valley 96.76 21 *eP* **P 01 35 33.1 +1.0**
comp=Z,228nm,2.3s,mb6.4
HVU Hansel Valley 96.76 21 *eP* **P 01 35 33.1 +0.9**
HVU pmax pmax

comp=Z,227nm,2.3s,mb6.4
I24A Kuemmerle Ranc 96.79 15 ⇓P **P 01 35 31.5 -0.8**
baz=96
J22A Midwest 96.83 16 ⇑P **P 01 35 31.4 -1.0**
baz=96
K19A Absolon Red Bu 96.83 18 ⇓P **P 01 35 31.8 -0.7**
baz=96
L16A Fish Haven 96.92 20 ⇑P **P 01 35 32.7 -0.2**
baz=97
L17A Cokeville 96.99 20 ⇑P **P 01 35 32.7 -0.5**
baz=97
J23A Dilts Ranch, B 97.04 16 ⇓P **P 01 35 32.7 -0.7**
baz=97
K20A Yellowstone Ra 97.11 18 ⇑P **P 01 35 33.1 -0.7**
baz=97
M15A Larsen Ranch, 97.14 21 ⇑P **P 01 35 33.5 -0.4**
baz=97
SPMN St. Paul 97.16 6 ⇑P **P 01 35 33.6 -0.4**
baz=97
BRSD Miller 97.22 11 ⇓P **P 01 35 33.6 -0.6**
baz=97
HWUT Hardware Ranch 97.26 20 *e*P **P 01 35 34.5 0.0**
comp=Z,355nm,2.1s,mb6.6
HWUT LR LR
comp=Z,19µm,19.0s,MS6.6
SPUT South Promonto 97.29 21 *e*P **P 01 35 34.9 +0.3**
comp=Z,158nm,2.0s,mb6.3
J24A Dixon Ranch, L 97.29 15 ⇑P **P 01 35 34.0 -0.6**
baz=97
L18A Fontenelle, Gr 97.38 19 ⇓P **P 01 35 34.8 -0.2**
baz=97
L19A Farson 97.38 19 ⇑P **P 01 35 34.4 -0.6**
baz=97
K21A Alcova 97.39 17 ⇓P **P 01 35 34.3 -0.7**
baz=97
BGU Big Grassy Mou 97.47 22 *e*P **P 01 35 35.7 +0.3**
comp=Z,228nm,2.2s,mb6.4
M16A Huntsville 97.51 21 ⇑P **P 01 35 35.9 +0.3**
baz=97
K22A Casper 97.54 16 ⇓P **P 01 35 34.9 -0.8**
baz=97
WAKR Walker 97.56 27 *e*P **P 01 35 36.7 +0.9**
comp=Z,190nm,1.9s,mb6.5
CMB Columbia Colle 97.62 28 *e*P **P 01 35 36.8 +0.6**
comp=Z,12nm,0.5s,mb5.9
CMB Columbia Colle 97.62 28 *e*P **P 01 35 36.8 +0.7**
CMB pmax pmax
comp=Z,12nm,0.5s,mb5.9
M17A Scullys Gap (B 97.63 20 ⇓P **P 01 35 36.2 +0.1**
baz=97
N15A Stansbury Isla 97.65 21 ⇓P **P 01 35 35.5 -0.7**
baz=97
LONY Lake Ozonia 97.69 353 *e*P **P 01 35 35.6 -0.7**
comp=Z,616nm,2.2s,mb7.0
LONY LR LR
comp=Z,18µm,19.0s,MS6.6
L20A Wamsutter 97.73 18 ⇓P **P 01 35 36.0 -0.6**
baz=97
LBNH Lisbon 97.78 351 *e*P **P 01 35 38.6 +1.9**
comp=Z,638nm,2.4s,mb6.9
LBNH LR LR
comp=Z,16µm,19.0s,MS6.5
LBNH Lisbon 97.78 351 *e*P **P 01 35 38.6 +1.9**
LBNH pmax pmax
comp=Z,638nm,2.4s,mb6.9
LBNH MLR MLR
comp=Z,16µm,19.0s,MS6.5
M18A Lyman 97.83 19 ⇓P **P 01 35 36.7 -0.3**
baz=98
K24A Anderson Ranch 97.85 15 ⇑P **P 01 35 36.5 -0.6**
baz=98
GLMI Grayling 97.93 0 PFAKE 01 35 50.0 +13
GLMI LR LR
comp=Z,27µm,19.0s,MS6.8
N16A Rees Ranch, Co 97.96 21 ⇓P **P 01 35 37.5 -0.1**
baz=98
M19A Rock Springs 98.00 19 ⇑P **P 01 35 37.4 -0.3**
baz=98
L21A Rawlins 98.00 17 ⇑P **P 01 35 37.3 -0.5**
baz=98
NVAR Mina Array Bea 98.03 26 P **P 01 35 38.8 +0.9**
comp=Z,5.5nm,0.6s,mb5.4,baz=310,slow=3.5,SNR=26
NVAR PP PP 01 39 37.2 +1.5
comp=Z,4.9nm,1.0s,baz=330,slow=4.5,SNR=3.7
NVAR PKKPbc PKKPbc 01 52 08.7 -1.8
comp=Z,0.9nm,0.8s,baz=134,slow=3.9,SNR=3.9
NVAR PKPPKP 02 00 25.5
comp=Z,0.8nm,0.8s,baz=126,slow=2.3,SNR=4.7
NVAR LR LR 02 21 14.1
comp=Z,21µm,20.4s,MS6.6,baz=32,slow=36
NVAR Mina Array Bea 98.03 26 P **P 01 35 38.8 +0.9**
NVAR PP PP 01 39 37.2 +1.5
NVAR PKKPbc PKKPbc 01 52 08.7 -1.8
NVAR P'P' 02 00 25.5
NVAR LR LR 02 21 14.1
N17A Moffit Pass 98.08 20 ⇓P **P 01 35 37.8 -0.3**
baz=98
L22A Ellis Ranch, M 98.15 17 ⇑P **P 01 35 37.8 -0.6**
baz=98
MDV Middlebury 98.16 352 *e*P **P 01 35 39.9 +1.5**
comp=Z,22µm,1.4s
DUG Dugway 98.21 22 ⇑P **P 01 35 38.4 -0.3**
baz=98
DUG Dugway 98.21 22 *e*P **P 01 35 39.4 +0.6**
comp=Z,461nm,2.3s,mb6.8
DUG LR LR
comp=Z,15µm,19.0s,MS6.5
DUG Dugway 98.21 22 *e*P **P 01 35 39.4 +0.7**
DUG pmax pmax
comp=Z,461nm,2.3s,mb6.8
DUG MLR MLR
comp=Z,15µm,19.0s,MS6.5
ECSD EROS Data Cent 98.23 9 *e*P **P 01 35 38.1 -0.7**
comp=Z,100nm,1.4s,mb6.3
ECSD LR LR
comp=Z,30µm,20.0s,MS6.8
L23A Garrett 98.24 16 ⇓P **P 01 35 38.3 -0.5**
baz=98
M20A Sweetwater, Wa 98.25 18 ⇓P **P 01 35 38.3 -0.6**
baz=98
NCB Newcomb 98.30 353 PFAKE 01 35 50.0 +11
NCB LR LR
comp=Z,14µm,19.0s,MS6.5
RWWY Rawlins 98.30 17 *e*P **P 01 35 40.1 +1.0**
comp=Z,170nm,1.9s,mb6.5
M21A Separation Pea 98.34 17 ⇓P **P 01 35 38.7 -0.6**
baz=98
N18A Larsen Ranch, 98.36 19 ⇓P **P 01 35 38.9 -0.5**
baz=98
L24A Wheatland 98.47 16 ⇑P **P 01 35 39.0 -0.9**
baz=98
MLAC Mammoth Lakes 98.55 27 ⇑P **P 01 35 40.3 -0.1**
baz=98
N19A John Jarvie Ra 98.56 19 ⇑P **P 01 35 40.1 -0.2**
baz=98
SUR Sutherland 98.68 236 PFAKE 01 35 50.0 +9.2
SUR LR LR
comp=Z,13µm,22.0s,MS6.4
P14A Drum Mountains 98.69 22 ⇓Pdiff **P 01 35 40.4 -0.5**
baz=98
M22A Cedar Creek Ra 98.71 17 ⇑Pdiff **P 01 35 40.6 -0.4**
baz=98
TPH Tonopah 98.72 26 PFAKE 01 35 50.0 +8.9
TPH LR LR
comp=Z,26µm,21.0s,MS6.7
O17A Robinson Place 98.80 20 ⇓Pdiff **P 01 35 40.9 -0.5**
baz=98
ACCN Adirondack Com 98.82 352 *e*P **P 01 35 42.2 +0.8**
comp=Z,44nm,1.2s,mb6.1
M23A Laramie 98.85 16 ⇑Pdiff **P 01 35 41.3 -0.3**
baz=98
N20A Spence Gulch, 98.85 18 ⇓Pdiff **P 01 35 41.8 +0.2**
baz=98
N20A ⇑SKSac SKSac 01 46 20.3 -0.8
baz=98
O18A Roosevelt 98.93 20 ⇓Pdiff **P 01 35 41.7 -0.3**
baz=99
P15A Leamington 98.94 22 ⇓Pdiff **P 01 35 41.4 -0.6**
baz=99
R11A Troy Canyon, C 99.03 25 ⇓Pdiff **P 01 35 42.0 -0.5**
baz=99
M24A Cheyenne 99.05 16 ⇓Pdiff **P 01 35 41.6 -0.9**
baz=99
P16A Fountain Green 99.09 21 ⇑Pdiff **P 01 35 42.3 -0.4**
baz=99
N21A Black Mountain 99.11 18 ⇑Pdiff **P 01 35 42.6 -0.2**
baz=99
O19A Miners Draw (B 99.14 19 ⇑Pdiff **P 01 35 42.6 -0.3**
baz=99
Q14A Sevier Lake (B 99.18 23 ⇑Pdiff **P 01 35 42.9 -0.3**
baz=99
TIN Tinemaha 99.28 27 ⇑Pdiff **P 01 35 42.5 -1.1**
baz=99
N22A Wattenberg Ran 99.32 17 ⇓Pdiff **P 01 35 43.8 +0.1**
baz=99
N23A Red Feather La 99.35 17 ⇓Pdiff **P 01 35 43.0 -0.8**
baz=99
Q15A Fillmore 99.44 22 ⇑Pdiff **P 01 35 44.0 -0.3**
baz=99
TRY Troy 99.46 352 *e*P **P 01 35 45.0 +0.7**
comp=Z,2µm,2.1s,mb7.4
P18A Preston Nutter 99.47 20 ⇓Pdiff **P 01 35 44.0 -0.4**
baz=99
P17A Butcher Ranch, 99.47 21 ⇑Pdiff **P 01 35 43.8 -0.6**
baz=99
TMUT Trail Mountain 99.51 21 *e*P **P 01 35 45.9 +1.3**
comp=Z,236nm,2.0s,mb6.5
O20A White River Ci 99.52 19 ⇑Pdiff **P 01 35 43.9 -0.7**
baz=99
O21A Pagoda 99.63 18 ⇓Pdiff **P 01 35 44.8 -0.3**
baz=99
GRAC Grapevine Rang 99.64 26 ⇑Pdiff **P 01 35 44.7 -0.5**
baz=99
N24A Carr 99.65 16 ⇓Pdiff Pdif 01 35 44.2 -0.9
baz=99
JFWS Jewell Farm 99.65 5 PFAKE 01 36 00.0 +15
JFWS LR LR
comp=Z,28µm,20.0s,MS6.8
R13A O'Grain Ranch, 99.71 23 ⇓Pdiff Pdif 01 35 45.0 -0.5
baz=99
P19A Cripple Cowboy 99.80 19 ⇓Pdiff Pdif 01 35 45.2 -0.7
baz=100
Q16A Castle Valley 99.87 21 ⇑Pdiff Pdif 01 35 45.6 -0.5
baz=100
SRU San Rafael 99.87 21 ⇓Pdiff Pdif 01 35 45.5 -0.6
baz=100
O22A Kremmling 99.91 17 ⇓Pdiff Pdif 01 35 45.9 -0.4
baz=100
MVU Marysvale 99.95 22 PFAKE 01 36 00.0 +13
MVU LR LR
comp=Z,13µm,19.0s,MS6.5
Q18A Rafter H Ranch 99.99 20 ⇓Pdiff Pdif 01 35 46.3 -0.4
baz=100
O23A Lake Granby, G 100.00 17 ⇑Pdiff Pdif 01 35 46.2 -0.6
baz=100
VES Vestal, Richgr 100.04 28 ⇓Pdiff Pdif 01 35 46.7 -0.3
baz=100
P20A De Beque 100.08 19 ⇓Pdiff Pdif 01 35 47.0 0.0
baz=100
OGNE Ogallala 100.11 14 ⇑Pdiff Pdif 01 35 46.6 -0.6
baz=100
OGNE Ogallala 100.11 14 PFAKE 01 36 00.0 +13
OGNE LR LR
comp=Z,14µm,22.0s,MS6.4
R15A Junction 100.20 22 ⇓Pdiff Pdif 01 35 47.8 +0.1
baz=100
DAC Darwin (Calif) 100.20 27 PFAKE 01 36 00.0 +12
DAC LR LR
comp=Z,19µm,20.0s,MS6.6
BINY Binghamton 100.21 354 PFAKE 01 36 00.0 +12
BINY LR LR
comp=Z,19µm,19.0s,MS6.6
FURC Furnace Creek, 100.29 26 ⇓Pdiff Pdif 01 35 47.7 -0.3
baz=100
P21A Newcastle 100.29 18 ⇓Pdiff Pdif 01 35 47.7 -0.3
baz=100
BGNE Belgrade 100.31 11 ⇑Pdiff Pdif 01 35 47.6 -0.5
baz=100
Q19A Hogan Spring (100.36 20 ⇑Pdiff Pdif 01 35 47.9 -0.4
baz=100
R16A Teasdale 100.37 22 ⇓Pdiff Pdif 01 35 47.6 -0.8
baz=100
P22A Eagle 100.39 18 ⇑Pdiff Pdif 01 35 48.6 +0.1
baz=100
SCIA State Center 100.42 7 PFAKE 01 36 00.0 +11
SCIA LR LR
comp=Z,21µm,20.0s,MS6.6
ISA Isabella 100.43 28 ⇓Pdiff Pdif 01 35 49.2 +0.6
baz=100
MPMC Manual Prospec 100.43 27 ⇓Pdiff Pdif 01 35 48.6 0.0
baz=100
AAM Ann Arbor 100.46 360 PFAKE 01 36 00.0 +11
AAM LR LR
comp=Z,15µm,22.0s,MS6.5
R17A Hanksville Air 100.46 21 ⇑Pdiff Pdif 01 35 48.7 -0.1
baz=100
ISCO Idaho Springs 100.47 17 ⇓Pdiff Pdif 01 35 47.6 -1.2
baz=100
ISCO Idaho Springs 100.47 17 PFAKE 01 36 00.0 +11
ISCO LR LR
comp=Z,17µm,22.0s,MS6.5
O25A Wiggins 100.50 15 ⇑Pdiff Pdif 01 35 49.1 +0.2
baz=100
ERPA Erie 100.55 357 PFAKE 01 36 00.0 +11
ERPA LR LR
comp=Z,40µm,20.0s,MS6.9
PKM Peak Mountain 100.60 29 ⇓Pdiff Pdif 01 35 48.8 -0.6
baz=100
R18A Canyonlands Na 100.72 20 ⇓Pdiff Pdif 01 35 49.9 0.0
baz=100
P23A Jefferson 100.82 17 ⇑Pdiff Pdif 01 35 50.4 +0.1
baz=100
S16A Weppner Ranch, 100.85 22 ⇑Pdiff Pdif 01 35 50.7 +0.1
baz=100
LRMC Laurel Mountai 100.88 27 ⇑Pdiff Pdif 01 35 50.5 -0.2
baz=101
P24A Kohler Place, 100.90 16 ⇑Pdiff Pdif 01 35 50.8 0.0
baz=101
Q21A Lamborn Mesa, 100.91 18 ⇑Pdiff Pdif 01 35 50.6 -0.2
baz=101
R19A Cuiley Farm, L 100.98 20 ⇑Pdiff Pdif 01 35 51.3 +0.2
baz=101
SHOC Shoshone 101.01 26 ⇓Pdiff Pdif 01 35 50.7 -0.5
baz=101
Q22A Crested Butte, 101.05 18 ⇑Pdiff Pdif 01 35 52.0 +0.6
baz=101
S17A Black Ridge (B 101.17 21 ⇑Pdiff Pdif 01 35 52.3 +0.4
baz=101
T15A Red Dirt Ranch 101.27 23 ⇑Pdiff Pdif 01 35 52.8 +0.4
baz=101
EDW2 Edwards Air Fo 101.30 28 ⇑Pdiff Pdif 01 35 52.4 -0.2
baz=101
R20A Redvale 101.32 19 ⇓Pdiff Pdif 01 35 52.3 -0.3
baz=101
S18A Hurst Farm, Bl 101.34 21 ⇑Pdiff Pdif 01 35 52.5 -0.3
baz=101
GSC Goldstone 101.36 27 ⇓Pdiff Pdif 01 35 52.9 +0.1
baz=101
R21A Cimarron 101.36 19 ⇓Pdiff Pdif 01 35 52.6 -0.2
baz=101
Q24A Divide 101.37 17 ⇑Pdiff Pdif 01 35 53.4 +0.5
baz=101
TUQ Turquoise Moun 101.55 26 ⇓Pdiff Pdif 01 35 54.1 +0.4
baz=101
T16A Glen Canyon Da 101.56 22 ⇑Pdiff Pdif 01 35 53.8 +0.1
baz=101
U14A Mt Trumbull 101.57 24 ⇓Pdiff Pdif 01 35 54.1 +0.4
baz=101
Q25A Bedland, Calha 101.62 16 ⇓Pdiff Pdif 01 35 53.6 -0.3
baz=101
S20A Disappointment 101.66 19 ⇓Pdiff Pdif 01 35 54.7 +0.6
baz=101
R22A Saguache, Gunn 101.69 18 ⇓Pdiff Pdif 01 35 54.9 +0.7
baz=101
T17A Navajo Res., N 101.76 22 ⇓Pdiff Pdif 01 35 53.8 -0.8
baz=102
U15A North Rim 101.84 23 ⇑Pdiff Pdif 01 35 55.1 +0.1
baz=102
XMAS Kiritimati 101.89 78 PFAKE 01 36 10.0 +15
XMAS LR LR
comp=Z,19µm,22.0s,MS6.6
T18A Mexican Hat 101.90 21 ⇓Pdiff Pdif 01 35 55.3 +0.1
baz=102
S21A Coal Bank Pass 101.97 19 ⇑Pdiff Pdif 01 35 54.7 -0.8
baz=102
R24A Sanders Place, 102.08 17 ⇑Pdiff Pdif 01 35 55.5 -0.4
baz=102
S22A 4UR Ranch, Cre 102.13 18 ⇑Pdiff Pdif 01 35 56.3 +0.1
baz=102
MVCO Mesa Verde 102.20 20 ⇑Pdiff Pdif 01 35 56.8 +0.2
baz=102
MVCO Mesa Verde 102.20 20 PFAKE 01 36 10.0 +13
MVCO LR LR
comp=Z,19µm,19.0s,MS6.6
GMRC Granite Mounta 102.23 26 ⇑Pdiff Pdif 01 35 57.0 +0.3
baz=102
S23A Nye Farm, Mont 102.37 18 ⇑Pdiff Pdif 01 35 56.8 -0.4
baz=102
T19A Beclabito 102.42 20 ⇑Pdiff Pdif 01 35 57.2 -0.3
baz=102
V15A Kaibab Nationa 102.44 23 ⇓Pdiff Pdif 01 35 58.0 +0.4
baz=102
SDCO Great Sand Dun 102.45 17 ⇓Pdiff Pdif 01 35 58.1 +0.4
baz=102
SDCO Great Sand Dun 102.45 17 PFAKE 01 36 10.0 +12
SDCO LR LR
comp=Z,18µm,20.0s,MS6.6
U16A Tuba City 102.46 22 ⇑Pdiff Pdif 01 35 58.2 +0.5
baz=102
ACSO Alum Creek Sta 102.52 359 PFAKE 01 36 10.0 +12
ACSO LR LR
comp=Z,15µm,19.0s,MS6.5
U18A Rough Rock, Ch 102.57 21 ⇑Pdiff Pdif 01 35 58.8 +0.6
baz=102
CBKS Cedar Bluff 102.59 12 PFAKE 01 36 10.0 +12
CBKS LR LR
comp=Z,29µm,22.0s,MS6.8
S24A Houchin Ranch, 102.62 17 ⇓Pdiff Pdif 01 35 58.3 -0.1
baz=102
T21A Navajo Lake 102.67 19 ⇑Pdiff Pdif 01 35 58.8 +0.2
baz=102
MURC Murrieta 102.74 28 ⇓Pdiff Pdif 01 35 59.4 +0.5
baz=102
S25A Robeta Cordova 102.78 16 ⇑Pdiff Pdif 01 35 59.4 +0.3
baz=102
KSU1 Kansas State U 102.79 10 PFAKE 01 36 10.0 +11
KSU1 LR LR
comp=Z,24µm,20.0s,MS6.7
T22A Edith 102.81 19 ⇑Pdiff Pdif 01 35 59.5 +0.3
baz=102
WUAZ Wupatki 102.96 23 ⇑Pdiff Pdif 01 36 00.9 +1.0
baz=103
WUAZ Wupatki 102.96 23 PFAKE 01 36 10.0 +10
WUAZ LR LR
comp=Z,12µm,22.0s,MS6.4
IRM Iron Mountain 102.97 26 ⇓Pdiff Pdif 01 36 00.8 +0.8
baz=103
U20A Newcomb 102.98 20 ⇑Pdiff Pdif 01 36 00.3 +0.3
baz=103
MCWV Mont Chateau 103.00 357 PFAKE 01 36 10.0 +10
MCWV LR LR
comp=Z,41µm,19.0s,MS7.0
T23A Casias Ranch, 103.00 18 ⇑Pdiff Pdif 01 36 00.8 +0.7
baz=103
PFO Pinyon Flat Ob 103.00 27 ⇑Pdiff Pdif 01 36 01.2 +1.1
baz=103
PFO Pinyon Flat Ob 103.00 27 PFAKE 01 36 10.0 +10
PFO LR LR
comp=Z,23µm,20.0s,MS6.7
V17A Tonalea, Kykot 103.04 22 ⇓Pdiff Pdif 01 36 00.9 +0.6
baz=103
U21A Nageezi 103.17 19 ⇓Pdiff Pdif 01 36 01.1 +0.3
baz=103
PDMCI Parker Dam,Lak 103.19 25 ⇑Pdiff Pdif 01 36 02.0 +1.0
baz=103
T24A Torres, Weston 103.20 17 ⇓Pdiff Pdif 01 36 01.8 +0.8
baz=103
V18A Ganado 103.21 21 ⇓Pdiff Pdif 01 36 02.2 +1.2
baz=103
T25A Trinidad 103.28 17 ⇑Pdiff Pdif 01 36 02.8 +1.4
baz=103
W16A Flagstaff 103.30 23 ⇑Pdiff Pdif 01 36 03.3 +1.9
baz=103
V20A Brimhall 103.54 20 ⇑Pdiff Pdif 01 36 03.8 +1.3
baz=103
W17A Winslow 103.57 22 ⇑Pdiff Pdif 01 36 04.0 +1.4
baz=103
U23A El Rito 103.63 18 ⇑Pdiff Pdif 01 36 04.0 +1.1
baz=103
W18A Petrified Fore 103.82 21 ⇓Pdiff Pdif 01 36 04.7 +1.0
baz=104
V22A San Miguel Ran 103.84 19 ⇑Pdiff Pdif 01 36 04.7 +0.8
baz=104
MIR Mirnyy 103.87 181 *e*P Pdif 01 36 07.0 +3.1
MIR *e* 01 40 25.0
MIR *e* 01 46 42.0
MIR *e*S SKKSac 01 47 39.0 +13
MIR *e*PS PS 01 49 32.0 +1.2
MIR *e*SS SS 01 55 08.0 -0.4
MIR pmax pmax
comp=Z,16nm,1.0s
MIR pmax pmax
comp=Z,303nm,3.0s
MIR smax
comp=E,776nm,12.0s
MIR MLR MLR
comp=N,5µm,20.0s,MS6.1
MIR MLR MLR
comp=E,2µm,20.0s,MS6.1
MIR MLR MLR
comp=Z,9µm,20.0s,MS6.3
Y14A Wickenburg 103.90 24 ⇑Pdiff Pdif 01 36 04.7 +0.7
baz=104
U25A Circle Dot Ran 103.99 17 ⇑Pdiff Pdif 01 36 05.4 +0.9
baz=104
Y15A Casa Rosa Ranc 104.10 24 ⇑Pdiff Pdif 01 36 05.6 +0.7
baz=104
U26A Atchley Ranch, 104.14 16 ⇑Pdiff Pdif 01 36 05.8 +0.7
baz=104
W20A Ramah 104.16 20 ⇓Pdiff Pdif 01 36 06.6 +1.3
baz=104
CASY Casey 104.19 174 PFAKE 01 36 20.0 +15
CASY LR LR
comp=Z,5µm,20.0s,MS6.1
V23A Ortiz Mt. (NFS 104.19 18 ⇓Pdiff Pdif 01 36 06.7 +1.3
baz=104
X17A Forest Lakes 104.23 23 ⇑Pdiff Pdif 01 36 06.9 +1.4
baz=104
CBN Corbin 104.29 355 PFAKE 01 36 20.0 +14
CBN LR LR
comp=Z,21µm,22.0s,MS6.6
Z13A Yuma Proving G 104.36 25 ⇑Pdiff Pdif 01 36 07.5 +1.4
baz=104
W21A San Fidel 104.40 20 ⇓Pdiff Pdif 01 36 07.9 +1.6
baz=104
V24A Rampart Ranch, 104.43 18 ⇓Pdiff Pdif 01 36 08.2 +1.8
baz=104
Y16A Circle Bar Ran 104.44 23 ⇓Pdiff Pdif 01 36 07.3 +0.8
baz=104
RAO Raoul Island 104.45 116 PFAKE 01 36 20.0 +13
RAO LR LR
comp=Z,4µm,20.0s,MS5.9
V25A Rancho No Teng 104.48 17 ⇓Pdiff Pdif 01 36 08.5 +1.8
baz=104
X19A St. Johns 104.59 21 ⇑Pdiff Pdif 01 36 08.0 +0.9
baz=104
W22A Albuquerque 104.65 19 ⇑Pdiff Pdif 01 36 08.1 +0.7
baz=104
V26A Tequesquite Ra 104.71 16 ⇑Pdiff Pdif 01 36 08.7 +1.0
baz=104
X20A Quemado 104.71 21 ⇓Pdiff Pdif 01 36 09.2 +1.5
baz=104
W23A Werner Place, 104.75 19 ⇑Pdiff Pdif 01 36 08.9 +1.1
baz=104
ANMO Albuquerque 104.87 19 PKKPbc PKKPbc 01 51 50.0 -0.8
comp=Z,1.3nm,0.8s,baz=100,slow=6.1,SNR=3.9
ANMO Albuquerque 104.87 19 PFAKE 01 36 20.0 +12
ANMO LR LR
comp=Z,17µm,19.0s,MS6.6
W24A Lazy 6 Ranch, 104.89 18 ⇑Pdiff Pdif 01 36 10.3 +1.8
baz=105
X21A Alamocita Cree 105.00 20 ⇓Pdiff Pdif 01 36 10.9 +2.0
baz=105
W25A X Bar L Ranch, 105.11 17 ⇓Pdiff Pdif 01 36 11.4 +1.9
baz=105
BLA Blacksburg 105.46 357 PFAKE 01 40 40.0 +15
BLA LR LR
comp=Z,40µm,19.0s,MS7.0
Z18A Geronimo 105.62 22 ⇓Pdiff PKiKP 01 40 26.7 +1.6
baz=105
214A Organ Pipe Nat 105.78 25 ⇑Pdiff PKiKP 01 40 26.8 +1.4
baz=106
117A Oracle 105.89 23 ⇑Pdiff PKiKP 01 40 27.1 +1.6
baz=106
X27A F and S Farms, 105.97 16 ⇓Pdiff PKiKP 01 40 27.1 +1.5
baz=106
AMTX Amarillo 106.04 15 ⇑Pdiff PKiKP 01 40 26.9 +1.1
baz=106
AMTX Amarillo 106.04 15 PFAKE 01 40 40.0 +14
AMTX LR LR
comp=Z,21µm,22.0s,MS6.6
TUL1 Tulsa 106.04 10 ⇑Pdiff PKiKP 01 40 27.5 +1.7
baz=106

118A	**Homack Ranch,** baz=106	**106.06**	**23**	⇑Pdiff		PKiKP	01 40 27.3	+1.4
Z21A	**St. Cloud Mine** baz=106	**106.10**	**20**	⇓Pdiff		PKiKP	01 40 27.9	+1.9
TUC	**Tucson**	**106.11**	**23**	PFAKE			01 40 40.0	+14
TUC				LR	LR			
	comp=Z,8μm,19.0s,MS6.3							
TZTN	**Tazewell**	**106.21**	**360**	PKPdf		PKiKP	01 40 24.4	-1.6
Y25A	**Mesa, Roswell** baz=106	**106.29**	**18**	⇓Pdiff		PKiKP	01 40 27.5	+1.2
SNZO	**South Karori**	**106.48**	**130**	PFAKE			01 40 40.0	+14
SNZO				LR	LR			
	comp=Z,4μm,20.0s,MS6.0							
Z24A	**Sheeppen Canyo** baz=106	**106.69**	**18**	⇓Pdiff		PKiKP	01 40 26.9	-0.2
WMOK	**Wichita Mounta**	**106.73**	**13**	PFAKE			01 40 40.0	+13
WMOK				LR	LR			
	comp=Z,29μm,19.0s,MS6.8							
Z27A	**Tatum** baz=107	**107.22**	**17**	⇑Pdiff		PKiKP	01 40 28.7	+0.7
CNNC	**Cliffs of the**	**107.28**	**355**	PFAKE			01 40 40.0	+12
CNNC				LR	LR			
	comp=Z,31μm,22.0s,MS6.8							
MIAR	**Mount Ida**	**107.67**	**8**	PFAKE			01 40 40.0	+11
MIAR				LR	LR			
	comp=Z,23μm,21.0s,MS6.7							
PLAL	**Pickwick Lake**	**107.67**	**3**	PFAKE			01 40 40.0	+11
PLAL				LR	LR			
	comp=Z,20μm,21.0s,MS6.7							
MAW	**Mawson**	**107.83**	**193**	Pdiff	Pdif		01 36 21.1	-0.5
	comp=Z,1.1nm,0.9s,baz=324,slow=3.7,SNR=1.9							
MAW				PKiKP	PKiKP		01 40 27.2	-0.7
	comp=Z,6.6nm,0.7s,baz=338,slow=3.9,SNR=11							
MAW				PKKPbc	PKKPbc		01 51 40.9	-1.9
	comp=Z,2.6nm,0.8s,baz=232,slow=6.6,SNR=6.1							
MAW	**Mawson**	**107.83**	**193**	*e*P	PKiKP		01 40 27.2	-0.7
	comp=Z,5.2nm,0.6s							
MAW				*e*SKS	SKSac		01 47 01.6	+0.6
MAW	**Mawson**	**107.83**	**193**	Pdif	Pdif		01 36 21.1	-0.5
MAW				*e*PKPdf	PKiKP		01 40 27.4	-0.4
MAW				LR	LR			
	comp=Z,13μm,20.0s,MS6.5							
MAW	**Mawson**	**107.83**	**193**	P	Pdif		01 36 21.1	-0.5
MAW				pmax	pmax			
	comp=Z,1.0nm,0.9s							
BBSR	**BB Station**	**108.05**	**343**	PFAKE			01 40 40.0	+10
BBSR				LR	LR			
	comp=Z,12μm,21.0s,MS6.4							
OXF	**Oxford**	**108.07**	**5**	PFAKE			01 40 40.0	+10
OXF				LR	LR			
	comp=Z,24μm,20.0s,MS6.8							
324A	**Moseley Ranch,** baz=108	**108.45**	**19**	⇓Pdiff		PKiKP	01 40 32.1	+1.8
SHEL	**Horse Pasture**	**108.67**	**264**	PFAKE			01 40 40.0	+9.0
SHEL				LR	LR			
	comp=Z,4μm,20.0s,MS6.0							
DRV	**Dumont d'Urvil**	**109.30**	**163**	Pdif	Pdif		01 36 30.0	+1.9
DRV	**Dumont d'Urvil**	**109.30**	**163**	PP	PP		01 41 05.0	+4.4
DRV				SP	SS		01 56 22.0	-0.2
DRV				R			02 15 00.0	
GOGA	**Godfrey**	**109.33**	**359**	PFAKE			01 40 40.0	+8.0
GOGA				LR	LR			
	comp=Z,17μm,19.0s,MS6.6							
427A	**Hayter Ranch,** baz=109	**109.54**	**18**	⇑Pdiff		PKiKP	01 40 32.3	-0.1
NHSC	**New Hope**	**109.54**	**356**	PFAKE			01 40 40.0	+7.6
NHSC				LR	LR			
	comp=Z,48μm,20.0s,MS7.1							
428A	**Kincaid Ranch,** baz=110	**109.83**	**17**	⇓Pdiff		PKiKP	01 40 33.0	0.0
527A	**Woodward Ranch** baz=110	**110.16**	**18**	⇓Pdiff		PKiKP	01 40 34.5	+0.9
VBMS	**Vicksburg**	**110.27**	**6**	PFAKE			01 40 40.0	+6.2
VBMS				LR	LR			
	comp=Z,28μm,20.0s,MS6.8							
NATX	**Nacogdoches**	**110.28**	**10**	PFAKE			01 40 50.0	+16
NATX				LR	LR			
	comp=Z,20μm,21.0s,MS6.7							
626A	**Big Bend Ranch** baz=110	**110.60**	**19**	⇓Pdiff		PKiKP	01 40 34.8	+0.4
JCT	**Junction City** baz=110	**110.68**	**14**	⇑Pdiff		PKiKP	01 40 34.8	+0.2
JCT	**Junction City**	**110.68**	**14**	*e*PKPdf		PKiKP	01 40 34.7	+0.1
JCT				LR	LR			
	comp=Z,30μm,22.0s,MS6.8							
JCT	**Junction City**	**110.68**	**14**	*e*PKiKP		PKiKP	01 40 34.7	+0.1
JCT				MLR	MLR			
	comp=Z,30μm,22.0s,MS6.8							
627A	**Terlingua Ranc** baz=111	**110.88**	**18**	⇑Pdiff		PKiKP	01 40 35.0	0.0
TXAR	**Lajitas Array**	**110.92**	**18**	Pdiff	Pdif		01 36 37.3	+2.0
	comp=Z,0.5nm,0.8s,baz=304,slow=0.9,SNR=6.0							
TXAR				PKiKP	PKiKP		01 40 34.8	-0.3
	comp=Z,2.9nm,0.9s,baz=176,slow=0.2,SNR=7.5							
TXAR				PKKPbc	PKKPbc		01 51 30.0	-1.8
	comp=Z,1.5nm,1.1s,baz=176,slow=5.3,SNR=3.8							
TXAR				PKPPKP			02 00 00.1	
	comp=Z,0.8nm,1.0s,baz=169,slow=5.3,SNR=5.1							
TXAR	**Lajitas Array**	**110.92**	**18**	Pdif	Pdif		01 36 37.3	+2.0
TXAR				PKPdf	PKiKP		01 40 34.8	-0.3
TXAR				PKKPbc	PKKPbc		01 51 30.0	-1.8
TXAR				P'P'			02 00 00.1	
TXAR	**Lajitas Array**	**110.92**	**18**	P	Pdif		01 36 37.3	+2.0
TXAR				*i*			01 40 34.8	
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
TXAR				pmax	pmax			
	comp=Z,3.0nm,0.9s							
BRAL	**Brewton**	**111.67**	**3**	PFAKE			01 40 50.0	+14
BRAL				LR	LR			
	comp=Z,17μm,21.0s,MS6.6							
RAR	**Rarotonga**	**113.71**	**99**	PFAKE			01 40 50.0	+10
RAR				LR	LR			
	comp=Z,5μm,21.0s,MS6.1							
KVTX	**Kingsville**	**113.90**	**13**	PFAKE			01 40 50.0	+9.2
KVTX				LR	LR			
	comp=Z,21μm,19.0s,MS6.8							
SYO	**Syowa Base**	**114.09**	**199**	‖*e*X		PKiKP	01 40 36.6	-3.1
PMOR	**Pomariorio Ree**	**119.69**	**86**	*e*PKiKP		PKiKP	01 40 53.6	+1.5
	comp=Z,124nm,1.2s							
PPT	**Papeete**	**119.80**	**90**	*e*Pdif	Pdif		01 37 20.4	+5.6
	comp=Z,191nm,25.5s							
PPT	**Papeete**	**119.80**	**90**	*e*PKiKP	PKiKP		01 40 53.9	+1.6
	comp=Z,58nm,1.2s							
PPT	**Papeete**	**119.80**	**90**	*e*PP	PP		01 42 06.9	-8.8
	comp=Z,1μm,26.0s							
PPT				*e*Sdif	Sdif		01 50 06.5	-1.2
	comp=Z,312nm,25.4s							
PPT	**Papeete**	**119.80**	**90**	*e*PS	PS		01 52 07.6	+2.8
	comp=Z,2μm,23.8s							
PPT				*e*SS	SS		01 58 42.4	+0.3
	comp=Z,3μm,26.8s							
PPT				*e*LR	LR		02 17 28.3	
	comp=Z,13μm,25.0s							
PPT	**Papeete**	**119.80**	**90**	PKP	PKPdf		01 40 51.9	-0.3
	comp=Z,11nm,0.3s,baz=54,slow=21,SNR=3.6							
PPT	**Papeete**	**119.80**	**90**	PKP	PKPdf		01 40 51.9	-0.3
PPT	**Papeete**	**119.80**	**90**	PKIKP	PKPdf		01 40 51.9	-0.3
PPT				pmax	pmax			
	comp=Z,11nm,0.3s							
PAE	**Paea**	**119.85**	**90**	*e*PKiKP	PKiKP		01 40 54.1	+1.7
	comp=Z,8.7nm,1.0s							
TIAR	**Tiarei**	**119.97**	**90**	*e*PKiKP	PKiKP		01 40 53.8	+1.2
	comp=Z,40nm,0.8s							
ANWB	**Willy Bob**	**121.13**	**335**	PFAKE			01 41 10.0	+15
ANWB				LR	LR			
	comp=Z,6μm,21.0s,MS6.2							
MEH	**Mehetia**	**121.17**	**89**	*e*PKiKP	PKiKP		01 40 55.8	+0.8
	comp=Z,53nm,0.9s							
VNDA	**Vanda**	**121.53**	**167**	PKP	PKPdf		01 40 51.1	-2.7
	comp=Z,9.1nm,0.9s,baz=288,slow=3.1,SNR=16							
VNDA				PKKPab	PKKPab		01 50 52.3	+0.3
	comp=Z,1.4nm,0.8s,baz=131,slow=3.8,SNR=3.8							
VNDA				SKKPbc			01 54 45.9	
	comp=Z,4.1nm,1.2s,baz=73,slow=1.5,SNR=3.1							
VNDA	**Vanda**	**121.53**	**167**	*e*PKPdf	PKPdf		01 40 51.8	-2.0
VNDA				LR	LR			
	comp=Z,6μm,20.0s,MS6.2							
VNDA	**Vanda**	**121.53**	**167**	PKIKP	PKPdf		01 40 51.2	-2.6
VNDA				pmax	pmax			
	comp=Z,9.0nm,0.9s							
CBYP	**Canovanas**	**121.81**	**339**	*e*PKPdf	PKPdf		01 40 55.2	-1.0
SJG	**San Juan**	**122.05**	**340**	PFAKE			01 41 10.0	+13
SJG				LR	LR			
	comp=Z,6μm,20.0s,MS6.2							
TAOE	**Nuku Hiva Isla**	**122.10**	**75**	*e*Pdif	Pdif		01 37 19.0	-6.0
	comp=Z,297nm,26.3s							
TAOE	**Nuku Hiva Isla**	**122.10**	**75**	*e*PKiKP	PKiKP		01 40 58.6	+1.6
	comp=Z,345nm,1.4s							
TAOE	**Nuku Hiva Isla**	**122.10**	**75**	*e*PP	PP		01 42 23.1	-8.2
	comp=Z,1μm,25.8s							
TAOE				*e*SP	SP		01 52 25.2	-0.6
	comp=Z,2μm,25.9s							
TAOE				*e*LR	LR		02 18 36.1	
	comp=Z,17μm,26.0s,baz=314							
GTBY	**Guantanamo Bay**	**122.14**	**350**	PFAKE			01 41 10.0	+13
GTBY				LR	LR			
	comp=Z,9μm,19.0s,MS6.4							
CELP	**Cerrillos**	**122.20**	**340**	*e*PKPdf	PKPdf		01 40 54.4	-2.5
OBIP	**Obispado Ponce**	**122.23**	**340**	*e*PKPdf	PKPdf		01 40 56.8	-0.2
TEIG	**Tepich**	**122.33**	**5**	PFAKE			01 41 10.0	+13
TEIG				LR	LR			
	comp=Z,11μm,20.0s,MS6.5							
SDDR	**Presa de Saban**	**122.42**	**346**	PFAKE			01 41 10.0	+13
SDDR				LR	LR			
	comp=Z,20μm,21.0s,MS6.8							
SBA	**Scott Base**	**122.61**	**166**	*e*PKPdf	PKPdf		01 40 55.4	-0.5
SBA				LR	LR			
	comp=Z,3μm,19.0s,MS6.0							
SBA	**Scott Base**	**122.61**	**166**	*e*PKIKP	PKPdf		01 40 55.4	-0.5
SBA				MLR	MLR			
	comp=Z,3μm,19.0s,MS6.0							
TBI	**Tubuai**	**122.95**	**95**	*e*Pdif	Pdif		01 37 25.5	-3.3
	comp=Z,155nm,28.8s							
TBI	**Tubuai**	**122.95**	**95**	*e*PKiKP	PKiKP		01 41 00.3	+2.0
	comp=Z,400nm,1.3s							
TBI	**Tubuai**	**122.95**	**95**	*e*PP	PP		01 42 33.1	-4.1
	comp=Z,972nm,28.0s							
TBI				*e*Sdif	Sdif		01 50 29.3	-4.7
	comp=Z,400nm,26.5s							
TBI				*e*SP	SP		01 52 34.1	+0.9
	comp=Z,765nm,26.0s							
TBI				*e*SS	SS		01 59 25.2	+2.6
	comp=Z,1μm,32.0s							
TBI				*e*LR	LR		02 19 08.0	
	comp=Z,11μm,27.8s,baz=300							
NVL	**N'lazarevskaya**	**123.11**	**203**	⇑*i*PKIKP	PKPdf		01 40 56.4	-0.6
NVL				*e**PP			01 41 06.8	
NVL				*e**SP			01 41 11.3	
NVL				*e*PS	PS		01 52 32.2	-0.7
NVL				*e*			01 59 11.0	
NVL				pmax	pmax			
	comp=Z,49nm,0.7s							
MAIT	**Maitri**	**123.14**	**203**	*e*P	PKPdf		01 40 56.3	-0.7
FDF	**Fort de France**	**123.63**	**333**	*e*PKPdf	PKPdf		01 41 02.1	+2.4
FDF				LR	LR			
	comp=Z,9μm,20.0s,MS6.4							
FDF	**Fort de France**	**123.63**	**333**	*e*PKIKP	PKPdf		01 41 02.1	+2.4
FDF				MLR	MLR			
	comp=Z,9μm,20.0s,MS6.4							
MTDJ	**Mount Denham**	**124.11**	**352**	PFAKE			01 41 10.0	+9.4
MTDJ				LR	LR			
	comp=Z,19μm,19.0s,MS6.8							
TRIS	**Tristan da Cun**	**124.28**	**247**	PFAKE			01 41 10.0	+10
TRIS				LR	LR			
	comp=Z,5μm,20.0s,MS6.2							
BBGH	**Gun Hill**	**124.49**	**331**	PFAKE			01 41 10.0	+8.6
BBGH				LR	LR			
	comp=Z,12μm,21.0s,MS6.5							
RCBR	**Riachuelo**	**126.00**	**294**	PFAKE			01 41 20.0	+16
RCBR				LR	LR			
	comp=Z,4μm,20.0s,MS6.1							
GRGR	**Grenville**	**126.21**	**332**	*e*PKPdf	PKPdf		01 41 05.7	+0.9
GRGR				LR	LR			
	comp=Z,6μm,22.0s,MS6.2							
QSPA	**South Pole Qui**	**127.39**	**180**	*e*PKPdf	PKPdf		01 41 03.6	-1.3
QSPA				LR	LR			
	comp=Z,7μm,20.0s,MS6.3							
SNAA	**Sanae** baz=14,slow=1.8	**127.93**	**203**	PKP	PKPdf		01 41 05.5	-0.7
SNAA	**Sanae**	**127.93**	**203**	*e*PKPdf	PKPdf		01 41 05.1	-1.1
SNAA	**Sanae**	**127.93**	**203**	*e*PKIKP	PKPdf		01 41 05.1	-1.1
TGUH	**Tegucigalpa,Un**	**128.51**	**4**	*e*PKPdf	PKPdf		01 41 08.8	-0.3
TGUH				LR	LR			
	comp=Z,8μm,22.0s,MS6.4							
VNA2	**Neumayer--Watz** baz=55,slow=1.1	**129.35**	**204**	*e*		PKPdf	01 41 05.7	-3.2
VNA2				*e*			01 44 27.4	
VNA2				*e*			01 44 44.8	
VNA1	**Neumayer--Stat**	**129.63**	**205**	*e*		PKPdf	01 41 06.6	-2.8
VNA1				*e*			01 44 28.8	
VNA1				*e*			01 41 46.6	
VNA3	**Neumayer Olymp**	**130.09**	**204**	*e*		PKPdf	01 41 06.8	-3.5
VNA3				*e*			01 44 29.9	
VNA3				*e*			01 44 47.6	
SDV	**Santo Domingo**	**132.05**	**342**	*e*PKPdf	PKPdf		01 41 14.2	-1.6
SDV				LR	LR			
	comp=Z,3μm,21.0s,MS5.9							
JTS	**JuntasAbangare**	**132.34**	**1**	PFAKE			01 41 30.0	+14
JTS				LR	LR			
	comp=Z,13μm,19.0s,MS6.7							
BCIP	**Isla Barro Col**	**133.29**	**354**	*e*PKPdf	PKPdf		01 41 18.9	+0.7
BCIP				LR	LR			
	comp=Z,8μm,20.0s,MS6.4							
RKT	**Rikitea**	**134.33**	**87**	*e*PKIKP	PKPdf		01 41 19.7	-0.1
	comp=Z,96nm,1.1s							
RKT	**Rikitea**	**134.33**	**87**	*e*PP	PP		01 43 46.9	-4.9
	comp=Z,1μm,27.8s							
RKT				*e*SS	SS		02 01 51.3	+8.0
	comp=Z,3μm,27.8s							
RKT				*e*LR	LR		02 24 25.2	
	comp=Z,5μm,31.0s,baz=302							
ROSC	**El Rosal**	**136.77**	**346**	PKhKP	PKPpre		01 41 14.0	
	comp=Z,8.2nm,0.6s,baz=302,slow=3.8,SNR=6.2							
ROSC				PKP	PKPdf		01 41 24.8	+0.1
	comp=Z,14nm,0.8s,baz=34,slow=0.8,SNR=7.5							
ROSC	**El Rosal**	**136.77**	**346**	PKP	PKPpre		01 41 14.0	
ROSC				PKP	PKPdf		01 41 24.8	+0.1
OTAV	**Otavalo**	**141.97**	**351**	*e*PKPdf	PKPdf		01 41 34.8	+0.6
OTAV				LR	LR			
	comp=Z,9μm,21.0s,MS6.5							
PAYG	**Puerto Ayora**	**142.80**	**10**	PFAKE			01 41 50.0	+14
PAYG				LR	LR			
	comp=Z,6μm,21.0s,MS6.3							
PMSA	**Palmer Station**	**150.32**	**197**	PKPbc	PKPbc		01 41 49.0	-2.8
	comp=Z,76nm,1.1s,baz=248,slow=5.4,SNR=7.1							
PMSA	**Palmer Station**	**150.32**	**197**	*e*PKPbc	PKPbc		01 41 52.7	+0.9
PMSA				LR	LR			
	comp=Z,5μm,20.0s,MS6.3							
NNA	**Nana**	**153.66**	**344**	*e*PKPdf	PKPdf		01 41 52.9	-0.3
NNA	**Nana**	**153.66**	**344**	*e*PKIKP	PKPdf		01 41 52.9	-0.3
LPAZ	**La Paz**	**154.49**	**322**	PKP	PKPdf		01 41 53.9	-0.4
	comp=Z,14nm,1.0s,baz=22,slow=4.0,SNR=17							
LPAZ				PKPbc	PKPbc		01 42 01.8	-0.9
	comp=Z,21nm,1.0s,baz=16,slow=3.6,SNR=13							
LPAZ				PKPab	PKPab		01 42 17.6	+0.6
	comp=Z,12nm,0.7s,baz=28,slow=24,SNR=7.5							
LPAZ	**La Paz**	**154.49**	**322**	*e*PKPdf	PKPdf		01 41 53.9	-0.4
LPAZ				LR	LR			
	comp=Z,9μm,19.0s,MS6.6							
LPAZ	**La Paz**	**154.49**	**322**	PKIKP	PKPdf		01 41 53.9	-0.4
LPAZ							01 42 01.8	
LPAZ				pmax	pmax			
	comp=Z,14nm,1.0s							
CPUP	**Villa Florida**	**154.73**	**289**	PKP	PKPdf		01 41 53.3	-1.1
	comp=Z,17nm,1.0s,baz=26,slow=2.2,SNR=17							
CPUP				PKPbc	PKPbc		01 42 02.4	-0.6
	comp=Z,24nm,0.8s,baz=34,slow=3.7,SNR=26							
CPUP				PKPab	PKPab		01 42 18.0	+0.1
	comp=Z,11nm,0.6s,baz=44,slow=4.3,SNR=4.6							
CPUP	**Villa Florida**	**154.73**	**289**	PKP	PKPdf		01 41 53.3	-1.1
CPUP				PKPbc	PKPbc		01 42 02.4	-0.6
CPUP				PKPab	PKPab		01 42 18.0	+0.1
CPUP				LR	LR			
	comp=Z,871nm,19.0s,MS5.6							
CPUP	**Villa Florida**	**154.73**	**289**	PKIKP	PKPdf		01 41 53.3	-1.1
CPUP							01 42 02.4	
CPUP				pmax	pmax			
	comp=Z,17nm,1.0s							
RPN	**Rapa Nui**	**156.34**	**71**	PFAKE			01 42 10.0	+13
RPN				LR	LR			
	comp=Z,6μm,22.0s,MS6.4							
EFI	**East Falkland**	**156.90**	**224**	PFAKE			01 42 10.0	+14
EFI				LR	LR			
	comp=Z,6μm,20.0s,MS6.4							
LPA	**La Plata**	**158.74**	**269**	*de*PKP	PKPab		01 42 39.0	+4.1
LPA				PP	PP		01 46 20.0	+4.0
USHA	**Ushuaia**	**159.73**	**207**	PKP	PKPdf		01 42 00.2	+0.4
	comp=Z,14nm,0.9s,baz=14,slow=14,SNR=3.2							
USHA				PKPab	PKPab		01 42 38.7	+0.1
	comp=Z,14nm,0.9s,baz=184,slow=3.8,SNR=2.7							
USHA	**Ushuaia**	**159.73**	**207**	PKP	PKPdf		01 42 00.2	+0.4
USHA				PKPab	PKPab		01 42 38.7	+0.1
TRQA	**Tornquist**	**162.51**	**262**	PFAKE			01 42 10.0	+6.7
TRQA				LR	LR			
	comp=Z,8μm,22.0s							
CFAA	**Coronel Fontan**	**165.62**	**290**	PKP	PKPdf		01 42 05.7	-0.6
	comp=Z,3.0nm,1.1s,baz=287,slow=0.3,SNR=3.6							
CFAA				PKPab	PKPab		01 43 04.6	-0.5
	comp=Z,5.1nm,1.2s,baz=42,slow=4.7,SNR=3.6							
CFAA				PP	PP		01 46 52.0	-0.5
	comp=Z,2.5nm,1.2s,baz=98,slow=4.6,SNR=3.4							
CFAA	**Coronel Fontan**	**165.62**	**290**	PKP	PKPdf		01 42 05.7	-0.6
CFAA				PKPab	PKPab		01 43 04.6	-0.5
CFAA				PP	PP		01 46 52.0	-0.5
LCO	**Las Campanas**	**165.89**	**304**	*e*PKPdf	PKPdf		01 42 07.2	+0.5
LCO				LR	LR			
	comp=Z,8μm,22.0s							
TLL	**Tololo Astrono**	**166.69**	**300**	‖*i*P		PKPdf	01 42 16.6	+9.4
TLL	**Tololo Astrono**	**166.69**	**300**	‖*i*PKIKP		PKPdf	01 42 16.6	+9.4
TLL	**Tololo Astrono**	**166.69**	**300**	‖*i*P		PKPdf	01 42 16.6	+9.4
FCH	**Farellones**	**167.95**	**287**	*e*P		PKPdf	01 42 16.6	+8.6
PLCA	**Paso Flores**	**169.02**	**249**	PKP	PKPdf		01 42 07.7	-0.8
	comp=Z,20nm,1.0s,baz=141,slow=1.0,SNR=12							
PLCA				PKPab	PKPab		01 43 20.3	+0.4
	comp=Z,8.1nm,0.9s,baz=127,slow=5.1,SNR=3.5							
PLCA				PP	PP		01 47 07.5	-2.4
	comp=Z,5.1nm,1.1s,baz=97,slow=4.3,SNR=3.1							
PLCA	**Paso Flores**	**169.02**	**249**	*e*PKPdf	PKPdf		01 42 07.9	-0.6
PLCA				LR	LR			
	comp=Z,7μm,20.0s							
PLCA	**Paso Flores**	**169.02**	**249**	PKIKP	PKPdf		01 42 07.7	-0.8
PLCA							01 47 07.6	
PLCA				pmax	pmax			
	comp=Z,20nm,1.0s							
PLCA				pmax	pmax			
	comp=Z,5.0nm,1.1s							
PLCA	**Paso Flores**	**169.02**	**249**	*e*PKIKP	PKPdf		01 42 07.9	-0.6
PLCA				MLR	MLR			
	comp=Z,7μm,20.0s							

IDC ***10*** *01:30:49.5±1.8, 33.82N×135.73E, h0km, mb3.9/1, mb1 4.1/3, mb1mx3.7/27, mbtmp3.9/3, ML3.7/2, Error ellipse: s-maj=42.0km s-min=25.0km az=117.0*

ISCJB ***10*** *01:30:53.9±0.6, 34.20N±0.05×135.66E±0.04, h67km±5km, Error ellipse: s-maj=7.7km s-min=5.2km az=168.1*

JMA ***10*** *01:30:55.0±0.1, 34.18N×135.67E, h59km±1km, M3.9 Broadband fault plane solution: P waves. NP1: ϕ=46.00000°, δ50.00000°, λ173.00000°. NP2: ϕ=140.00000°, δ85.00000°, λ40.00000°. Principal axes: T Plg31.0000°, Azm11.0000°; N Plg50.0000°, Azm146.0000°; P Plg23.0000°, Azm266.0000°;*

JMA Felt III J1.

ISC 10 01:30:55.0±0.6, 34°19N±0°04×135°67E±0°04, h58km±6km, n15, σ0°51/27, 3C-8D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JWY	**Kouya**	**0.07**	**295**	⇑P			**Pn**	**01 31 04.0**	**+0.3**
JWY				S			**Sn**	**01 31 10.2**	**+0.2**
JWM	**Minabe**	**0.43**	**218**	⇑P			**Pn**	**01 31 05.8**	**-0.2**
JWM				S			**Sn**	**01 31 13.5**	**-0.5**
JHE	**Heguri**	**0.47**	**1**	⇓P			**Pn**	**01 31 06.4**	**0.0**
JHE				S			**Sn**	**01 31 14.5**	**-0.2**
JKN2	**Miekihoku**	**0.50**	**84**	⇓P			**Pn**	**01 31 06.8**	**0.0**
JKN2				S			**Sn**	**01 31 15.7**	**+0.3**
JWZ	**Kozaga**	**0.66**	**177**	⇑P			**Pn**	**01 31 08.6**	**0.0**
JAJ2	**Tsuna**	**0.69**	**290**	⇓P			**Pn**	**01 31 09.2**	**+0.2**
JAJ2				S			**Sn**	**01 31 19.6**	**+0.3**
TSUJ	**Tsu 2**	**0.81**	**50**	⇓P			**Pn**	**01 31 10.3**	**-0.2**
TSUJ				S			**Sn**	**01 31 21.2**	**-0.6**
JIE	**Ise**	**0.88**	**76**	⇓P			**Pn**	**01 31 11.5**	**+0.1**
JIE				*e*S			**Sn**	**01 31 23.6**	**+0.2**
JKS	**Kasai**	**1.05**	**319**	⇓P			**Pn**	**01 31 13.6**	**0.0**
JKS				S			**Sn**	**01 31 26.8**	**-0.5**
TTO1	**TONANKAI O.B.S**	**1.08**	**121**	⇓P			**Pn**	**01 31 14.0**	**0.0**
JAI	**Aioi**	**1.09**	**249**	⇓P			**Pn**	**01 31 14.3**	**+0.2**
JAI				*e*S			**Sn**	**01 31 27.9**	**-0.4**
MAT	**Matsushiro**	**3.13**	**41**	P			**Pn**	**01 31 41.8**	**-0.1**
MAT				S			**Sn**	**01 32 17.6**	**-0.4**
MJAR	**Matsushiro Arr**	**3.13**	**41**	Pn			**Pn**	**01 31 43.0**	**+1.1**
	4.6nm,0.3s,baz=228,slow=14,SNR=17								
MJAR				Pg			**Pn**	**01 31 52.0**	**+10**
	8.8nm,0.3s,baz=234,slow=17,SNR=17								
KSRS	**Korea Array**	**7.09**	**300**	Pn			**Pn**	**01 32 38.1**	**+2.1**
	1.9nm,0.3s,baz=119,slow=14,SNR=11								
KSRS				Sn			**Sn**	**01 33 54.6**	**-0.5**
	0.6nm,0.3s,baz=122,slow=23,SNR=5.2								
WRA	**Warramunga Arr**	**53.84**	**182**	P			**P**	**01 40 11.5**	**-0.5**
	1.9nm,1.0s,baz=355,slow=7.8,S

IDC 10 01:53:06.7±1.5, 37°52'N×95°76'E, h0km, mb4.0/4, mb1 4.0/7, mb1mx3.7/28, mbtmp3.9/7, ML3.7/2, Error ellipse: s-maj=36.4km s-min=24.3km az=40.0 Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**12.93**	**34**	Pn	Pn	01 56 13.0	+1.5
	0.5nm,0.3s,baz=216,slow=15,SNR=10						
MKAR	**Makanchi Array**	**13.61**	**317**	Pn	Pn	01 56 21.2	+0.4
	0.3nm,0.3s,baz=132,slow=12,SNR=3.0						
MKAR				Sn	Sn	01 58 46.4	-6.2
	0.2nm,0.3s,baz=130,slow=25,SNR=2.0						
ZALV	**Zalesovo Beam**	**18.08**	**339**	Pn	Pn	01 57 18.1	-1.0
	0.2nm,0.3s,baz=152,slow=13,SNR=4.0						
CMAR	**Chiang Mai Arr**	**19.20**	**171**	P	Pn	01 57 32.2	-0.7
	baz=341,slow=10.0,SNR=4.0						
BVAR	**Borovoye Array**	**23.46**	**319**	P	P	01 58 17.5	-0.3
	1.0nm,0.6s,baz=119,slow=9.2,SNR=4.6						
KSRS	**Korea Array**	**25.46**	**80**	P	P	01 58 35.8	-0.5
	3.1nm,0.7s,baz=275,slow=9.9,SNR=6.0						
AKTO	**Aktyubinsk**	**29.73**	**308**	P	P	01 59 15.1	+0.6
	0.5nm,0.5s,baz=101,slow=10,SNR=3.1						
ARCES	**ARCESS Array B**	**48.53**	**334**	P	P	02 01 50.7	-0.3
	6.7nm,1.1s,baz=97,slow=7.4,SNR=3.4						

*ISCJB **10** 01:59:45.9±5.0, 37°59N×95°8E±0°.1, h11km±33km, mb3.8/10, Error ellipse: s-maj=17.7km s-min=12.5km az=37.7*
*IDC **10** 01:59:45.8±0.9, 37°.61N×95°.87E, h0km, mb3.8/10, mb1 4.0/14, mb1mx3.9/29, mbtmp3.9/14, ML3.5/3, Error ellipse: s-maj=28.7km s-min=17.7km az=39.0*
*NEIC **10** 01:59:47.8±0.6, 37°.58N×95°.70E, h10km, Error ellipse: s-maj=13.9km s-min=9.6km az=55.0*

ISC 10 01:59:48.5±4.9, 37°57'N±0°.09×95°.8E±0°.1, h16km±31km, n32, σ0°88/35, mb3.8/10, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**12.88**	**34**	Pn	**Pn**	**02 02 52.5**	**+1.7**
	1.3nm,0.3s,baz=217,slow=15,SNR=34						
SONM	**Songino Array**	**12.88**	**34**	Pn	**Pn**	**02 02 52.5**	**+1.7**
MK31	**Makanchi Array**	**13.57**	**317**	*e*Pn	**Pn**	**02 02 59.5**	**-0.7**
MK31				*e*S	**Sn**	**02 05 23.8**	**-6.8**
MKAR	**Makanchi Array**	**13.57**	**317**	Pn	**Pn**	**02 02 58.6**	**-1.6**
	0.6nm,0.3s,baz=122,slow=15,SNR=10						
MKAR				Sn	**Sn**	**02 05 25.0**	**-5.6**
	0.2nm,0.3s,baz=121,slow=26,SNR=4.1						
MKAR	**Makanchi Array**	**13.57**	**317**	Pn	**Pn**	**02 02 58.6**	**-1.6**
MKAR				Sn	**Sn**	**02 05 25.0**	**-5.6**
AAK	**Ala-Archa**	**17.03**	**294**	Pn	**Pn**	**02 03 46.9**	**+1.1**
	0.0nm,0.3s,baz=110,slow=10,SNR=7.3						
AAK	**Ala-Archa**	**17.03**	**294**	Pn	**Pn**	**02 03 46.9**	**+1.1**
KURK	**Kurchatov**	**17.94**	**323**	P	**Pn**	**02 03 56.4**	**-0.6**
	0.1nm,0.3s,baz=134,slow=11,SNR=13						
KURK	**Kurchatov**	**17.94**	**323**	P	**Pn**	**02 03 56.4**	**-0.6**
ZALV	**Zalesovo Beam**	**18.03**	**339**	P	**Pn**	**02 03 57.7**	**-0.5**
	0.2nm,0.3s,baz=139,slow=12,SNR=5.6						
ZALV	**Zalesovo Beam**	**18.03**	**339**	P	**Pn**	**02 03 57.7**	**-0.5**
CMAR	**Chiang Mai Arr**	**19.25**	**171**	P	**Pn**	**02 04 13.1**	**0.0**
	baz=342,slow=11,SNR=4.3						
CMAR	**Chiang Mai Arr**	**19.25**	**171**	P	**Pn**	**02 04 13.1**	**0.0**
BVAR	**Borovoye Array**	**23.43**	**319**	P	**P**	**02 04 57.2**	**+0.3**
	2.5nm,0.7s,mb3.8,baz=120,slow=9.7,SNR=11						
BVAR	**Borovoye Array**	**23.43**	**319**	P	**P**	**02 04 57.2**	**+0.4**
KSRS	**Korea Array**	**25.45**	**80**	P	**P**	**02 05 14.4**	**-1.1**
	1.2nm,0.6s,mb3.6,baz=277,slow=9.5,SNR=5.8						
AKTK	**Aktyubinsk**	**29.71**	**308**	P	**P**	**02 05 54.5**	**+0.9**
AKTO	**Aktyubinsk**	**29.71**	**308**	P	**P**	**02 05 54.5**	**+0.9**
	1.1nm,0.6s,mb3.8,baz=100,slow=12,SNR=3.6						
BRTR	**Keskin Array B**	**47.70**	**293**	P	**P**	**02 08 25.2**	**+1.0**
	1.1nm,0.7s,mb4.0,baz=101,slow=7.8,SNR=6.7						
BRTR	**Keskin Array B**	**47.70**	**293**	P	**P**	**02 08 25.2**	**+1.0**
ARCES	**ARCESS Array B**	**48.49**	**334**	P	**P**	**02 08 30.3**	**+0.4**
	3.0nm,1.0s,mb4.3,baz=86,slow=5.2,SNR=3.9						
ARCES	**ARCESS Array B**	**48.49**	**334**	P	**P**	**02 08 30.3**	**+0.4**
NOA	**NORSAR Array B**	**55.45**	**324**	P	**P**	**02 09 21.5**	**-0.4**
	2.7nm,1.1s,mb4.2,baz=71,slow=8.3,SNR=2.8						
NOA	**NORSAR Array B**	**55.45**	**324**	P	**P**	**02 09 21.5**	**-0.4**
ILAR	**Eielson Array**	**66.91**	**24**	P	**P**	**02 10 39.0**	**-0.5**
	0.7nm,0.7s,mb3.8,baz=299,slow=4.7,SNR=10.0						
ILAR	**Eielson Array**	**66.91**	**24**	P	**P**	**02 10 39.0**	**-0.5**
ASAR	**Alice Springs**	**70.69**	**143**	P	**P**	**02 11 03.7**	**+0.2**
	0.2nm,0.5s,mb3.3,baz=324,slow=5.7,SNR=4.5						
ASAR	**Alice Springs**	**70.69**	**143**	P	**P**	**02 11 03.7**	**+0.2**
ESDC	**Sonseca Array**	**73.59**	**308**	P	**P**	**02 11 20.7**	**-0.1**
	0.4nm,0.6s,mb3.5,baz=53,slow=6.2,SNR=5.6						
ESDC	**Sonseca Array**	**73.59**	**308**	P	**P**	**02 11 20.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**85.28**	**283**	P	**P**	**02 12 23.5**	**-1.3**
	0.4nm,1.0s,mb3.5,baz=54,slow=4.8,SNR=5.9						
TORD	**Torodi Ar. Bea**	**85.28**	**283**	P	**P**	**02 12 23.5**	**-1.3**

*ISCJB **10** 02:02:53.4±1.1, 39°.06N×0°.08×74°.28E±0°.07, h10km, mb3.7/3, Error ellipse: s-maj=11.4km s-min=7.6km az=175.9*
*IDC **10** 02:02:53.9±5.9, 39°.26N×74°.39E, h0km, mb3.8/3, mb1 3.8/5, mb1mx3.4/26, mbtmp3.7/5, ML2.8/1, MS4.8/1, Ms1 4.8/1, ms1mx3.7/43, Error ellipse: s-maj=136.7km s-min=23.4km az=110.0*

ISC 10 02:02:55.1±1.2, 39°06'N±0°.08×74°31'E±0°.07, h10km, n18, σ1°18/21, mb3.7/3, 6C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.37**	**70**	Pg	**Pg**	**02 03 21.4**	**+0.1**
KSH				Sg	**Sg**	**02 03 38.1**	**-1.0**
KSH				smax			
	comp=N,120nm,0.3s						
KSH				smax			
	comp=E,180nm,0.4s						
KZA	**Kyzart**	**3.10**	**13**	P	**Pn**	**02 03 47.4**	**+3.4**
	SNR=15						
AML	**Almayashu**	**3.10**	**352**	P	**Pn**	**02 03 43.1**	**-0.9**
	SNR=25						
UCH	**Uchtor**	**3.17**	**3**	P	**Pn**	**02 03 45.7**	**+0.8**
	SNR=14						
AAK	**Ala-Archa**	**3.57**	**2**	P	**Pn**	**02 03 51.5**	**+1.0**
	SNR=17						
AAK	**Ala-Archa**	**3.57**	**2**	Pn	**Pn**	**02 03 51.5**	**+1.0**
	comp=E,0.1nm,0.3s,baz=182,slow=15,SNR=54						
AAK				Sn	**Sn**	**02 04 32.5**	**-0.2**
	comp=E,0.0nm,0.3s,baz=66,slow=19,SNR=4.3						
EKS2	**Erkin-Say**	**3.62**	**354**	P	**Pn**	**02 03 50.8**	**-0.4**
	SNR=17						
KBK	**Karagaybulak**	**3.62**	**7**	P	**Pn**	**02 03 53.1**	**+1.9**
	SNR=11						
CHMS	**Chumysh**	**3.95**	**5**	P	**Pn**	**02 03 56.8**	**+1.2**
	SNR=6.1						
TKM2	**Tokmak 2**	**3.98**	**14**	⇑Pn	**Pn**	**02 03 57.3**	**+1.2**
	comp=E,6.1nm,0.6s						
TKM2				⇑Sn	**Sn**	**02 04 42.8**	**0.0**
	comp=E,33nm,0.9s						
USP	**Ospenovka**	**4.21**	**2**	P	**Pb**	**02 04 06.1**	**-2.9**
	SNR=7.6						
KK31	**Karatay Array**	**4.96**	**326**	⇑Pn	**Pn**	**02 04 07.3**	**-2.2**
	comp=E,1.9nm,0.6s,baz=131,slow=12,SNR=33						
KK31				⇑Pg	**Pb**	**02 04 16.8**	**-5.0**
	comp=E,2.3nm,0.4s,baz=142,slow=15,SNR=5.5						
KK31				⇑Sn	**Sn**	**02 04 58.4**	**-8.4**
	comp=E,16nm,0.6s,baz=140,slow=25,SNR=7.1						
KK31				⇑Lg		02 05 17.1	
	comp=E,8.7nm,0.5s,baz=140,slow=25,SNR=7.1						
KURK	**Kurchatov**	**12.05**	**13**	Lg		02 09 04.4	
	comp=E,0.0nm,0.3s,baz=195,slow=29,SNR=3.8						
BVAR	**Borovoye Array**	**14.23**	**350**	Pn	**Pn**	**02 06 12.0**	**-4.4**
	baz=129,slow=15,SNR=2.6						
AKTO	**Aktyubinsk**	**16.18**	**320**	LR	LR	02 12 45.5	
	comp=E,3μm,18.6s,baz=265,slow=37						
FINES	**FINESS Array B**	**36.91**	**323**	P	**P**	**02 10 02.5**	**-1.1**
	comp=E,0.6nm,0.4s,mb3.8,baz=106,slow=10,SNR=4.9						
ARCES	**ARCESS Array B**	**39.84**	**336**	P	**P**	**02 10 28.4**	**+0.2**
	comp=E,2.1nm,0.8s,mb3.9,baz=112,slow=8.8,SNR=3.9						
TORD	**Torodi Ar. Bea**	**68.38**	**270**	P	**P**	**02 13 57.4**	**+0.4**
	comp=E,0.2nm,0.6s,mb3.3,baz=56,slow=5.6,SNR=3.2						

MEX 10 02:08:26.9±0.9, 14°.35N×93°.25W, h24km±37km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.10**	**60**	*i* P	Pn	02 08 43.2	-3.7
THIG				*i* S	Sb	02 08 57.7	-3.5
PCIG		**1.35**	**1**	*i* P	Pn	02 08 48.2	-2.0
PCIG				*i* S	Sn	02 09 02.6	-4.8
CCIG	**Comitan**	**2.20**	**29**	*i* P	Pn	02 09 00.3	-1.7
CCIG				*i* S	Sn	02 09 26.7	-1.8
SCX	**San Cristobal**	**2.45**	**14**	*e*P	Pn	02 09 03.7	-1.7
SCX				*i* S	Sn	02 09 31.8	-2.8
HUIG	**Huatulco**	**3.10**	**297**	*e*P	Pn	02 09 12.5	-1.9
HUIG				*i* S	Sn	02 09 47.2	-3.5
CMIG	**Matias Romero**	**3.15**	**330**	*i* P	Pn	02 09 12.7	-2.3
CMIG				*i* S	Sn	02 09 48.5	-3.4
VHO	**Vista Hermosa**	**4.31**	**309**	*i* P	Pn	02 09 30.6	-0.4
VHO				*i* S	Sn	02 10 18.4	-2.3
PNIG	**Pinotepa**	**5.13**	**294**	*e*P	Pn	02 09 41.6	-0.6
PNIG				*i* S	Sn	02 10 37.8	-3.0
UTMO	**Huajuapan**	**5.58**	**309**	*e*P	Pn	02 09 47.2	-1.3
UTMO				*i* S	Sn	02 10 49.9	-2.1
TEIG	**Tepich**	**7.53**	**38**	*i* P	Pn	02 10 14.5	-0.8

*IDC **10** 02:22:39.5±0.7, 37°.60N×95°.97E, h0km, mb3.9/14, mb1 4.0/18, mb1mx3.9/30, mbtmp3.9/18, ML3.8/4, Error ellipse: s-maj=26.3km s-min=15.1km az=41.0*
*ISCJB **10** 02:22:40.8±2.7, 37°.66N±0°.06×95°.86E±0°.09, h18km±21km, mb3.9/15, Error ellipse: s-maj=12.9km s-min=8.8km az=140.9*
*NEIC **10** 02:22:41.7±0.5, 37°.65N×95°.83E, h10km, mb3.9/3, Error ellipse: s-maj=10.4km s-min=8.1km az=62.0*

ISC 10 02:22:41.4±3.6, 37°.68N±0°.07×95°.93E±0°.10, h10km±23km, n44, σ0°82/47, mb3.9/15, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**8.89**	**208**	*e*Pn	**Pn**	**02 24 51.8**	**+1.8**
	7.8nm,0.7s						
SONM	**Songino Array**	**12.72**	**34**	Pn	**Pn**	**02 25 46.0**	**+3.7**
	1.1nm,0.3s,baz=218,slow=15,SNR=28						
SONM				Lg		02 29 18.8	
	0.2nm,0.3s,baz=225,slow=28,SNR=3.1						
SONM	**Songino Array**	**12.72**	**34**	Pn	**Pn**	**02 25 46.0**	**+3.7**
SONM				Lg		02 29 18.8	
MK31	**Makanchi Array**	**13.59**	**316**	*e*Pn	**Pn**	**02 25 53.3**	**-0.8**
MK31				*e*S	**Sn**	**02 28 24.4**	**-0.7**
MKAR	**Makanchi Array**	**13.59**	**316**	Pn	**Pn**	**02 25 53.0**	**-1.1**
	0.7nm,0.3s,baz=125,slow=14,SNR=23						
MKAR				Sn	**Sn**	**02 28 18.7**	**-6.4**
	0.3nm,0.3s,baz=125,slow=25,SNR=2.6						
MKAR				Lg		02 29 52.2	
	0.2nm,0.3s,baz=129,slow=32,SNR=2.6						
MKAR	**Makanchi Array**	**13.59**	**316**	Pn	**Pn**	**02 25 53.0**	**-1.1**
MKAR				Sn	**Sn**	**02 28 18.7**	**-6.4**
MKAR				Lg		02 29 52.2	
TKM2	**Tokmak 2**	**16.36**	**295**	*e*Pn	**Pn**	**02 26 29.8**	**-1.3**
	7.6nm,0.6s						
AAK	**Ala-Archa**	**17.11**	**294**	P	**Pn**	**02 26 40.2**	**-0.4**
	0.0nm,0.3s,baz=107,slow=4.9,SNR=6.1						
AAK	**Ala-Archa**	**17.11**	**294**	P	**Pn**	**02 26 40.2**	**-0.4**
KURK	**Kurchatov**	**17.94**	**322**	P	**Pn**	**02 26 50.2**	**-0.6**
	0.1nm,0.3s,baz=132,slow=11,SNR=13						
KURK	**Kurchatov**	**17.94**	**322**	P	**Pn**	**02 26 50.2**	**-0.6**
ZALV	**Zalesovo Beam**	**17.98**	**338**	P	**Pn**	**02 26 51.5**	**+0.2**
	0.3nm,0.3s,baz=146,slow=11,SNR=11						
ZALV	**Zalesovo Beam**	**17.98**	**338**	P	**Pn**	**02 26 51.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**19.33**	**171**	P	**Pn**	**02 27 07.0**	**-0.9**
	0.4nm,0.3s,baz=341,slow=9.9,SNR=14						
CMAR	**Chiang Mai Arr**	**19.33**	**171**	P	**Pn**	**02 27 07.0**	**-0.9**
KKAR	**Karatay Array**	**20.07**	**294**	*e*P	**P**	**02 27 15.6**	**+0.8**
	1.5nm,0.6s						
KBL	**Kabul**	**21.92**	**270**	*e*P	**P**	**02 27 34.7**	**-0.1**
	3.6nm,0.4s,mb4.2						
BVAR	**Borovoye Array**	**23.44**	**319**	P	**P**	**02 27 51.2**	**+0.5**
	1.4nm,0.5s,mb3.7,baz=114,slow=10,SNR=8.7						
BVAR	**Borovoye Array**	**23.44**	**319**	P	**P**	**02 27 51.2**	**+0.5**
KSRS	**Korea Array**	**25.30**	**81**	P	**P**	**02 28 07.5**	**-0.5**
	3.6nm,0.7s,mb4.0,baz=274,slow=10.0,SNR=9.2						
AKTK	**Aktyubinsk**	**29.75**	**308**	P	**P**	**02 28 48.8**	**+1.1**
AKTO	**Aktyubinsk**	**29.75**	**308**	P	**P**	**02 28 48.8**	**+1.0**
	1.6nm,0.7s,mb3.9,baz=99,slow=12,SNR=7.3						
BRTR	**Keskin Array B**	**47.78**	**293**	P	**P**	**02 31 19.1**	**+0.4**
	0.8nm,0.7s,mb3.9,baz=123,slow=9.0,SNR=5.3						
BRTR	**Keskin Array B**	**47.78**	**293**	P	**P**	**02 31 19.1**	**+0.4**
FINES	**FINESS Array B**	**48.31**	**323**	P	**P**	**02 31 23.3**	**+0.8**
	5.0nm,1.0s,mb4.5,baz=92,slow=12,SNR=2.9						
FINES	**FINESS Array B**	**48.31**	**323**	P	**P**	**02 31 23.4**	**+0.8**
ARCES	**ARCESS Array B**	**48.45**	**334**	P	**P**	**02 31 23.9**	**+0.3**
	3.4nm,1.1s,mb4.3,baz=81,slow=7.9,SNR=4.3						
ARCES				PcP	PcP	02 32 48.9	-0.7
	3.0nm,1.0s,baz=79,slow=4.8,SNR=2.7						
ARCES	**ARCESS Array B**	**48.45**	**334**	P	**P**	**02 31 23.9**	**+0.3**
ARCES				PcP	PcP	02 32 48.9	-0.7
NOA	**NORSAR Array B**	**55.44**	**324**	P	**P**	**02 32 15.8**	**+0.1**
	1.5nm,0.8s,mb4.0,baz=71,slow=7.0,SNR=2.5						
NOA	**NORSAR Array B**	**55.44**	**324**	P	**P**	**02 32 15.8**	**+0.1**
GERES	**GERESS Array B**	**58.15**	**310**	P	**P**	**02 32 35.8**	**+0.7**
	0.3nm,0.6s,mb3.5,baz=51,slow=6.4,SNR=2.3						
GERES	**GERESS Array B**	**58.15**	**310**	P	**P**	**02 32 35.8**	**+0.7**
ILAR	**Eielson Array**	**66.76**	**25**	P	**P**	**02 33 32.8**	**+0.3**
	0.5nm,0.7s,mb3.7,baz=302,slow=5.2,SNR=4.3						
ILAR	**Eielson Array**	**66.76**	**25**	P	**P**	**02 33 32.8**	**+0.3**
WRA	**Warramunga Arr**	**67.75**	**141**	P	**P**	**02 33 38.2**	**-1.1**
	0.7nm,0.3s,mb3.8,baz=336,slow=5.5,SNR=4.2						
WRA	**Warramunga Arr**	**67.75**	**141**	P	**P**	**02 33 38.2**	**-1.1**
KDAK	**Kodiak Island**	**69.01**	**32**	P	**P**	**02 33 47.0**	**+0.2**
	3.1nm,0.4s,mb4.6,baz=325,slow=12,SNR=3.7						
KDAK	**Kodiak Island**	**69.01**	**32**	P	**P**	**02 33 47.0**	**+0.2**
ESDC	**Sonseca Array**	**73.63**	**308**	P	**P**	**02 34 15.6**	**+0.5**
	0.2nm,0.5s,mb3.3,baz=44,slow=5.7,SNR=3.7						
ESDC	**Sonseca Array**	**73.63**	**308**	P	**P**	**02 34 15.6**	**+0.5**
STKA	**Stephens Creek**	**81.26**	**142**	P	**P**	**02 34 56.5**	**-1.0**
	1.5nm,0.6s,mb4.1,baz=341,slow=8.7,SNR=6.1						
STKA	**Stephens Creek**	**81.26**	**142**	P	**P**	**02 34 56.5**	**-1.0**
TORD	**Torodi Ar. Bea**	**85.39**	**283**	P	**P**	**02 35 18.6**	**-0.8**
	0.2nm,0.4s,mb3.2,baz=50,slow=4.9,SNR=5.6						
TORD	**Torodi Ar. Bea**	**85.39**	**283**	P	**P**	**02 35 18.6**	**-0.8**

*DDA **10** 02:23:15.8, 37°.00N×29°.17E, h7km±5km, Md3.1*
*ISK **10** 02:23:15.4, 37°.00N×29°.13E, h3km, MD2.8*
*ISCJB **10** 02:23:16.0±0.5, 37°.01N±0°.02×29°.12E±0°.03, h1km±5km, Error ellipse: s-maj=3.8km s-min=3.2km az=42.1*
*CSEM **10** 02:23:16.1±0.1, 37°.01N×29°.14E, h2km, MD2.8, Error ellipse: s-maj=3.3km s-min=3.0km az=2.0*
*ATH **10** 02:23:18.9, 37°.08N×28°.91E, h17km±3km, MD2.7/4*

ISC 10 02:23:16.7±0.4, 37°.02N±0°.02×29°.14E±0°.03, h4km±4km, n60, σ0°93/91, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLHS	**Glhisar (BURDU**	**0.32**	**64**	*e*PG	**Pg**	**02 23 22.2**	**-0.6**
GLHS				*e*SG	**Sg**	**02 23 27.8**	**+0.8**
GLHS	**Glhisar (BURDU**	**0.32**	**64**	*e*Pg	**Pg**	**02 23 22.2**	**-0.6**
GLHS				*e*Sg	**Sg**	**02 23 27.8**	**+0.9**
FETY	**Fethiye**	**0.39**	**187**	*e*PG	**Pg**	**02 23 22.5**	**-1.6**
FETY				*e*SG	**Sg**	**02 23 29.0**	**-0.1**
FETY	**Fethiye**	**0.39**	**187**	*e*Pg	**Pg**	**02 23 22.5**	**-1.6**
FETY				*e*Sg	**Sg**	**02 23 29.0**	**-0.1**
GOLH	**Golhisar**	**0.40**	**57**	*i* P	**Pg**	**02 23 22.8**	**-1.6**
GOLH				*i* S	**Sg**	**02 23 29.2**	**-0.4**
GOLH	**Golhisar**	**0.40**	**57**	*i* P	**Pg**	**02 23 22.8**	**-1.6**
GOLH				*i* S	**Sg**	**02 23 29.2**	**-0.4**
TURN	**Turunc**	**0.46**	**251**	*i* P	**Pg**	**02 23 30.5**	**+5.1**
TURN				*i* S	**Sg**	**02 23 42.4**	**+11**
ELL	**Elmali**	**0.67**	**113**	*e*PG	**Pg**	**02 23 29.1**	**-0.4**
ELL				*e*SG	**Sg**	**02 23 39.5**	**+1.2**
ELL	**Elmali**	**0.67**	**113**	*e*Pg	**Pg**	**02 23 29.2**	**-0.4**
ELL				*e*Sg	**Sg**	**02 23 39.5**	**+1.2**
DNZL	**Cakiroluk**	**0.67**	**354**	*i* P	**Pg**	**02 23 28.9**	**-0.7**
DNZL				*i* S	**Sg**	**02 23 40.6**	**+2.2**
DNZL	**Cakiroluk**	**0.67**	**354**	*i* P	**Pg**	**02 23 29.0**	**-0.6**
DNZL				*i* S	**Sg**	**02 23 40.6**	**+2.2**
YER	**Yerkesik**	**0.70**	**280**	*e*PG	**Pg**	**02 23 29.6**	**-0.4**
YER	**Yerkesik**	**0.70**	**280**	*e*Pg	**Pg**	**02 23 29.7**	**-0.3**
DENT	**Denizli**	**0.74**	**353**	*e*PG	**Pg**	**02 23 30.8**	**-0.1**
AKAS	**Kas**	**0.87**	**154**	*i* P	**Pg**	**02 23 31.4**	**-2.0**
AKAS				*i* S	**Sg**	**02 23 45.6**	**+1.1**
AKAS	**Kas**	**0.87**	**154**	*i* P	**Pg**	**02 23 31.4**	**-1.9**
AKAS				*i* S	**Sg**	**02 23 45.6**	**+1.0**
KORT	**Korkueli**	**0.97**	**91**	*i* P	**Pg**	**02 23 34.8**	**-0.5**
KORT				*i* S	**Sg**	**02 23 51.2**	**+3.3**
KORT	**Korkueli**	**0.97**	**91**	*i* P	**Pg**	**02 23 34.8**	**-0.5**
KORT				*i* S	**Sg**	**02 23 51.2**	**+3.4**
MLSB	**Milas**	**1.12**	**285**	*e*PN	**Pg**	**02 23 37.9**	**-0.3**
MLSB	**Milas**	**1.12**	**285**	*e*Pn	**Pg**	**02 23 37.9**	**-0.3**
ARG	**Arkhangelos**	**1.14**	**226**	*e*PB	**Pg**	**02 23 38.5**	**-0.1**
ARG				*e*SN	**Sg**	**02 23 54.5**	**+1.1**
ARG	**Arkhangelos**	**1.14**	**226**	*e*Pb	**Pg**	**02 23 38.5**	**-0.1**
ARG				*e*Sn	**Sg**	**02 23 54.5**	**+1.1**
AYDN	**Tasoluk**	**1.19**	**303**	*i* P	**Pg**	**02 23 39.5**	**0.0**
AYDN				*i* S	**Sg**	**02 23 56.5**	**+1.5**
AYDN	**Tasoluk**	**1.19**	**303**	*i* P	**Pg**	**02 23 39.5**	**0.0**
AYDN				*i* S	**Sg**	**02 23 56.5**	**+1.5**
ANTB	**Antalya**	**1.22**	**95**	*e*PN	**Pn**	**02 23 40.0**	**-0.5**
ANTB	**Antalya**	**1.22**	**95**	*e*Pn	**Pn**	**02 23 40.0**	**-0.5**
BCK	**Bucak**	**1.24**	**69**	*e*PN	**Pn**	**02 23 40.3**	**-0.5**
BCK	**Bucak**	**1.24**	**69**	*e*Pn	**Pn**	**02 23 40.3**	**-0.5**
DAT	**Datca**	**1.29**	**257**	*e*PN	**Pn**	**02 23 40.3**	**-1.1**
DAT	**Datca**	**1.29**	**257**	*e*Pn	**Pn**	**02 23 40.3**	**-1.1**
KHAL	**Karahalli**	**1.38**	**12**	*i* P	**Pn**	**02 23 42.5**	**-0.2**
KHAL				*i* S	**Sb**	**02 24 01.6**	**+0.6**
KHAL	**Karahalli**	**1.38**	**12**	*i* P	**Pn**	**02 23 42.5**	**-0.2**
KHAL				*i* S	**Sb**	**02 24 01.6**	**+0.6**
BODT	**Bodrum**	**1.47**	**272**	*e*PN	**Pn**	**02 23 43.3**	**-0.6**
BODT	**Bodrum**	**1.47**	**272**	*e*Pn	**Pn**	**02 23 43.3**	**-0.6**
MANT	**Manisa**	**1.54**	**343**	*i* P	**Pn**	**02 23 43.7**	**-1.3**
MANT				*i* S	**Sn**	**02 24 04.9**	**-0.5**
MANT	**Manisa**	**1.54**	**343**	*i* P	**Pn**	**02 23 43.7**	**-1.2**
MANT				*i* S	**Sn**	**02 24 04.9**	**-0.5**
KULA	**Kula-Manisa**	**1.54**	**346**	*e*PN	**Pn**	**02 23 44.8**	**-0.1**
KULA	**Kula-Manisa**	**1.54**	**346**	*e*Pn	**Pn**	**02 23 44.8**	**-0.1**
SUTC	**Sutluce-Ispart**	**1.55**	**72**	*e*PN	**Pn**	**02 23 45.3**	**+0.2**
SUTC	**Sutluce-Ispart**	**1.55**	**72**	*e*Pn	**Pn**	**02 23 45.3**	**+0.2**
SHUT	**Suhut-Afyon**	**1.90**	**36**	*e*PN	**Pn**	**02 23 50.1**	**+0.3**
SHUT	**Suhut-Afyon**	**1.90**	**36**	*e*Pn	**Pn**	**02 23 50.1**	**+0.3**
SMG	**Samos**	**1.96**	**291**	*e*PN	**Pn**	**02 23 51.1**	**+0.4**
SMG				*e*SN	**Sn**	**02 24 13.0**	**-1.8**
SMG	**Samos**	**1.96**	**291**	*e*Pn	**Pn**	**02 23 51.1**	**+0.4**
SMG				*e*Sn	**Sn**	**02 24 13.9**	**-1.8**
IZM	**Izmir**	**2.03**	**313**	*e*PN	**Pn**	**02 23 51.7**	**+0.1**
IZM	**Izmir**	**2.03**	**313**	*e*Pn	**Pn**	**02 23 51.7**	**+0.1**
DEMI	**Demirci**	**2.05**	**351**	*i* P	**Pn**	**02 23 51.4**	**-0.5**
DEMI				*i* S	**Sn**	**02 24 18.6**	**+0.7**
DEMI	**Demirci**	**2.05**	**351**	*i* P	**Pn**	**02 23 51.4**	**-0.5**
DEMI				*i* S	**Sn**	**02 24 18.6**	**+0.7**
AKHS	**Akhisar**	**2.13**	**331**	*i* P	**Pn**	**02 23 52.5**	**-0.5**
AKHS				*i* S	**Sn**	**02 24 20.1**	**+0.1**
AKHS	**Akhisar**	**2.13**	**331**	*i* P	**Pn**	**02 23 52.5**	**-0.6**
AKHS				*i* S	**Sn**	**02 24 20.1**	**+0.1**
BLCB	**Balcova**	**2.15**	**310**	*e*PN	**Pn**	**02 23 53.3**	**-0.1**
BLCB	**Balcova**	**2.15**	**310**	*e*Pn	**Pn**	**02 23 53.3**	**0.0**
KARP	**Karpathos**	**2.17**	**228**	*e*PN	**Pn**	**02 23 55.3**	**+1.7**
KARP				*e*SN	**Sn**	**02 24 22.0**	**+1.1**

4.4nm,1.2s
ODAN Odare 16.70 119 *e*P P **02 39 07.8 +0.1**
7.8nm,0.4s
ODAN Odare 16.70 119 *e*P P **02 39 07.8 +0.1**
7.8nm,0.4s
BVAR Borovoye Array 16.95 359 P P **02 39 10.2 -0.3**
0.4nm,0.3s,baz=153,slow=13,SNR=8.0
BVAR Borovoye Array 16.95 359 P P **02 39 10.2 -0.3**
AKTK Aktyubinsk 17.16 331 P P **02 39 12.9 -0.1**
AKTK S **S** **02 42 10.1 -14**
AKTO Aktyubinsk 17.16 331 ⇑P P **02 39 13.4 +0.4**
1.3nm,0.7s
AKTO Aktyubinsk 17.16 331 P P **02 39 12.9 -0.1**
0.7nm,0.3s,baz=143,slow=12,SNR=35
AKTO S **S** **02 42 10.1 -14**
0.2nm,0.3s,baz=313,slow=19,SNR=5.3
ZALV Zalesovo Beam 20.30 24 P P **02 39 48.0 +1.0**
2.7nm,0.4s,baz=210,slow=10,SNR=14
ZALV Zalesovo Beam 20.30 24 P P **02 39 48.0 +1.0**
BRTR Keskin Array B 29.58 288 P P **02 41 15.3 +0.8**
0.8nm,0.7s,mb3.5,baz=105,slow=7.7,SNR=6.1
BRTR Keskin Array B 29.58 288 P P **02 41 15.3 +0.8**
AKASG Malin Array Be 33.22 309 P P **02 41 46.5 +0.1**
0.4nm,0.3s,mb3.7,baz=76,slow=8.4,SNR=4.8
AKASG Malin Array Be 33.22 309 P P **02 41 46.5 +0.1**
FINES FINESS Array B 37.84 326 P P **02 42 26.5 +0.8**
3.3nm,0.7s,mb4.3,baz=98,slow=7.9,SNR=6.2
FINES FINESS Array B 37.84 326 P P **02 42 26.5 +0.8**
ARCES ARCESS Array B 41.54 338 P P **02 42 57.5 +1.3**
0.9nm,0.6s,mb3.7,baz=108,slow=7.6,SNR=8.0
ARCES ARCESS Array B 41.54 338 P P **02 42 57.5 +1.3**
NB2 NORSAR Subarra 44.73 323 P P **02 43 22.1 +0.2**
comp=Z,1.4nm,0.6s,mb3.9,baz=97,slow=7.9
NOA NORSAR Array B 44.73 323 P P **02 43 22.1 +0.2**
comp=Z,2.3nm,0.7s,mb4.0,baz=98,slow=7.9,SNR=5.5
NOA NORSAR Array B 44.73 323 P P **02 43 22.1 +0.2**
KEST Kesra 49.18 289 P P **02 43 57.9 +0.9**
comp=Z,0.5nm,0.8s,mb3.5,baz=202,slow=16,SNR=6.0
KEST Kesra 49.18 289 P P **02 43 57.9 +0.9**
ESDC Sonseca Array 57.67 298 P P **02 44 58.7 -0.2**
comp=Z,0.1nm,0.3s,mb3.3,baz=58,slow=7.2,SNR=6.4
ESDC Sonseca Array 57.67 298 P P **02 44 58.7 -0.2**
TORD Torodi Ar. Bea 65.72 269 P P **02 45 51.1 -2.1**
comp=Z,0.5nm,0.4s,mb3.7,baz=50,slow=6.2,SNR=15
TORD Torodi Ar. Bea 65.72 269 P P **02 45 51.1 -2.1**
YKA Yellowknife Ar 81.67 3 P P **02 47 26.9 +1.3**
comp=Z,0.6nm,0.5s,mb3.7,baz=346,slow=5.8,SNR=3.2
YKA Yellowknife Ar 81.67 3 P P **02 47 26.9 +1.3**
WRA Warramunga Arr 81.75 122 P P **02 47 27.5 +0.8**
comp=Z,0.5nm,0.4s,mb3.7,baz=325,slow=4.9,SNR=12
WRA Warramunga Arr 81.75 122 P P **02 47 27.5 +0.8**
ASAR Alice Springs 84.00 125 P P **02 47 39.3 +1.1**
comp=Z,0.4nm,0.5s,mb3.5,baz=298,slow=4.1,SNR=4.2
ASAR Alice Springs 84.00 125 P P **02 47 39.3 +1.1**

IDC 10 03:00:13.8±1.0, 3°24N×128°33E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.7/22, mbtmp3.7/6, MS3.6/1, Ms1 3.6/1, ms1mx3.1/34, Error ellipse: s-maj=72.9km s-min=19.7km az=71.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**4.69**	**324**	LR	LR	03 02 59.9	
	comp=Z,670nm,19.1s,baz=29,slow=35						
WRA	**Warramunga Arr**	**23.78**	**166**	P	P	03 05 28.4	+0.1
	0.7nm,0.4s,baz=346,slow=10,SNR=9.2						
ASAR	**Alice Springs**	**27.29**	**169**	P	P	03 06 00.3	+0.2
	0.2nm,0.3s,baz=349,slow=8.5,SNR=3.0						
STKA	**Stephens Creek**	**37.13**	**161**	P	P	03 07 26.1	-0.1
	0.9nm,0.4s,baz=331,slow=12.3,SNR=4.9						
MKAR	**Makanchi Array**	**58.87**	**325**	P	P	03 10 15.0	+0.6
	0.6nm,0.6s,baz=122,slow=7.4,SNR=3.4						
KURK	**Kurchatov**	**63.01**	**327**	P	P	03 10 42.4	-0.1
	1.1nm,0.7s,baz=125,slow=6.1,SNR=9.9						
ILAR	**Eielson Array**	**84.86**	**25**	P	P	03 12 50.2	+0.1
	0.2nm,0.5s,baz=240,slow=5.5,SNR=6.2						
TORD	**Torodi Ar. Bea**	**124.59**	**288**	PKP	PKPdf	03 19 15.5	-0.8
	0.4nm,0.9s,baz=60,slow=1.5,SNR=4.0						

*CSEM **10** 03:08:40.9, 37°98N×26°37W, h6km, ML2.8, After PDA*
PDA 10 03:08:40.9±0.9, 37°98N×26°37W, h6km±6km, MD3.6, ML2.8, Error ellipse: s-maj=6.3km s-min=3.7km az=37.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSET	**Sete Cidades**	**0.54**	**107**	*e*P	Pg	03 08 49.9	-1.3
PSET				*e*S	Sg	03 08 57.1	-1.0
PSET				A		03 08 58.7	
	100nm,0.2s						
PSET	**Sete Cidades**	**0.54**	**107**	*e*P	Pg	03 08 49.9	-1.3
PSET				*e*S	Sg	03 08 57.1	-1.0
PDA	**Ponta Delgada**	**0.60**	**112**	*e*P	Pg	03 08 51.0	-1.5
PDA				*e*S	Sg	03 08 58.9	-1.5
PDA				A		03 09 00.2	
	208nm,0.2s						
PDA	**Ponta Delgada**	**0.60**	**112**	*e*P	Pg	03 08 51.0	-1.5
PDA				*e*S	Sg	03 08 58.9	-1.5
ADH	**Angra Heroismo**	**0.96**	**315**	*e*P	Pg	03 08 55.8	-3.5
ADH				*e*S	Sg	03 09 07.4	-4.4
ADH				A		03 09 09.0	
	87nm,0.2s						
ADH	**Angra Heroismo**	**0.96**	**315**	*e*P	Pg	03 08 55.8	-3.5
ADH				*e*S	Sg	03 09 07.4	-4.4
PSMA	**Santa Maria**	**1.39**	**135**	*e*P	Pn	03 09 01.6	-5.2
PSMA				*e*S	Sb	03 09 17.9	-7.4
PSMA				A		03 09 19.6	
	25nm,0.1s						
PSMN	**Pico do Norte,**	**1.42**	**133**	*e*S	Sb	03 09 18.8	-7.4
PSMN	**Pico do Norte,**	**1.42**	**133**	*e*S	Sb	03 09 18.8	-7.4
PMAN	**Manadas**	**1.50**	**296**	*e*P	Pn	03 09 04.1	-4.3
PMAN				*e*S	Sn	03 09 20.1	-8.2
PMAN				A		03 09 22.1	
	33nm,0.1s						
PMAN	**Manadas**	**1.50**	**296**	*e*P	Pn	03 09 04.1	-4.3
PMAN				*e*S	Sn	03 09 20.1	-8.2
ROSA	**Rosais**	**1.65**	**297**	*e*P	Pn	03 09 05.8	-4.6
ROSA				*e*S	Sn	03 09 24.3	-7.6
ROSA	**Rosais**	**1.65**	**297**	*e*P	Pn	03 09 05.8	-4.6
ROSA				*e*S	Sn	03 09 24.3	-7.6
PICO	**Pico**	**1.70**	**288**	*e*P	Pn	03 09 06.7	-4.4
PICO				*e*S	Sn	03 09 25.6	-7.6
PICO	**Pico**	**1.70**	**288**	*e*P	Pn	03 09 06.7	-4.4
PICO				*e*S	Sn	03 09 25.6	-7.6
PCAN	**Candelaria**	**1.74**	**287**	*e*S	Sn	03 09 26.3	-7.8
PCAN				A		03 09 27.9	
	51nm,0.1s						
PCAN	**Candelaria**	**1.74**	**287**	*e*S	Sn	03 09 26.3	-7.8
CALA	**Caldeira**	**1.93**	**289**	*e*P	Pn	03 09 09.8	-4.5
CALA				*e*S	Sn	03 09 31.4	-7.5
CALA	**Caldeira**	**1.93**	**289**	*e*P	Pn	03 09 09.8	-4.5
CALA				*e*S	Sn	03 09 31.4	-7.5

*IDC **10** 03:12:20.5±0.7, 30°41N×67°67E, h0km, mb4.1/20, mb1 4.3/22, mb1mx4.2/33, mbtmp4.2/22, ML3.9/2, MS4.2/2, Ms1 4.2/2, ms1mx3.5/42, Error ellipse: s-maj=19.0km s-min=14.5km az=23.0*
*NEIC **10** 03:12:22.3±0.3, 30°43N×67°76E, h10km, mb4.6/12, Error ellipse: s-maj=8.0km s-min=4.1km az=202.0*
*NNC **10** 03:12:22.0±2.4, 30°53N×67°82E, h0km, mb4.2, Error ellipse: s-maj=33.2km s-min=22.1km az=147.0*
*ISCJB **10** 03:12:23.7±1.7, 30°46N±0°04×67°81E±0°03, h32km±12km, mb4.3/39, MS4.3/2, Error ellipse: s-maj=6.5km s-min=4.5km az=28.7*
*MOS **10** 03:12:24.4±0.9, 30°50N×67°80E, h33km, mb4.6/27, Error ellipse: s-maj=9.3km s-min=6.0km az=101.4*
ISC 10 03:12:24.6±1.5, 30°39N±0°03×67°77E±0°03, h27km±11km, n172, σ1s19/186, mb4.3/39, MS4.3/2, 13C-6D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THW	**Thamme Wali**	**4.15**	**54**	P	**Pn**	**03 13 28.0**	**+1.8**
KBL	**Kabul**	**4.28**	**14**	*e*Pn	**Pn**	**03 13 30.9**	**+2.9**
KBL	**Kabul**	**4.28**	**14**	*e*P	**Pn**	**03 13 30.9**	**+3.0**
CEP	**Cherat**	**4.90**	**45**	P	**Pn**	**03 13 39.0**	**+2.4**
CEP				S	**Sn**	**03 14 37.0**	**+4.6**
AJM	**Ajmer**	**7.20**	**121**	*ex*	**Pn**	**03 14 08.0**	**-0.1**
AJM				*e*S	**Sn**	**03 15 30.0**	**+1.0**
BHJ	**Bhuj**	**7.31**	**166**	*e*S	**Sn**	**03 15 30.3**	**-1.4**
KHET	**Khetri**	**7.39**	**106**	*e*S	**Sn**	**03 15 32.3**	**-1.5**
BHK	**Bhakra**	**7.50**	**80**	*e*PKP	**Pn**	**03 14 15.0**	**+2.7**
KUDL	**Kundal**	**7.94**	**104**	*e*S	**Sn**	**03 15 44.6**	**-2.6**
SDNR	**Sundarnagar**	**7.98**	**80**	*e*PKP	**Pn**	**03 14 21.0**	**+2.2**
SDNR				*ex*	**Sn**	**03 15 49.0**	**+0.8**
SMLA	**Simla**	**8.12**	**82**	*i* P	**Pn**	**03 14 23.2**	**+2.5**
SMLA				*i* S	**Sn**	**03 15 51.0**	**-0.7**
SMLA				⇓AML	AML	03 15 57.6	
	comp=N,2μm,0.5s						
SMLA				AML	AML	03 15 58.5	
	comp=E,2μm,0.5s						
AYAN	**Aya Nagar**	**8.38**	**101**	*e*S	**Sn**	**03 15 55.4**	**-2.6**
NDI	**New Delhi**	**8.40**	**99**	*e*PKP	**Pn**	**03 14 29.0**	**+4.3**
NDI				*e*S	**Sn**	**03 15 56.5**	**-2.2**
DDI	**Dehra Dun**	**8.89**	**88**	*ex*	**Pn**	**03 14 36.0**	**+4.7**
DDI				*ex*	**Sn**	**03 16 13.0**	**+2.4**
BHPL	**Bhopal**	**11.18**	**127**	*e*PKP	**Pn**	**03 15 03.2**	**+0.5**
BHPL				*e*S	**Sn**	**03 17 01.2**	**-5.6**
BHPL				AML	AML	03 17 08.5	
	comp=E,40nm,0.6s						
BHPL				AML	AML	03 17 08.6	
	comp=N,47nm,0.6s						
AML	**Almayashu**	**12.65**	**21**	P	**Pn**	**03 15 22.8**	**0.0**
	SNR=30						
KK31	**Karatay Array**	**12.88**	**9**	⇑P	**Pn**	**03 15 26.6**	**+0.8**
	comp=N,3.5nm,0.6s						
KK31				⇑S	**Sn**	**03 17 47.7**	**-0.5**
	comp=N,7.4nm,0.8s,baz=193,slow=24,SNR=4.4						
KK31	**Karatay Array**	**12.88**	**9**	*ce*P	**Pn**	**03 15 26.7**	**+0.9**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.3s						
EKS2	**Erkin-Say**	**13.16**	**20**	P	**Pn**	**03 15 29.0**	**-0.7**
	SNR=12						
EKS2	**Erkin-Say**	**13.16**	**20**	*e*Pn	**Pn**	**03 15 28.8**	**-0.8**
EKS2				*e*Sn	**Sn**	**03 17 55.6**	**+0.5**
EKS2	**Erkin-Say**	**13.16**	**20**	*e*P	**Pn**	**03 15 28.8**	**-0.9**
EKS2				*e*		03 17 55.6	
AAK	**Ala-Archa**	**13.35**	**22**	P	**Pn**	**03 15 32.4**	**+0.1**
	SNR=13						
AAK	**Ala-Archa**	**13.35**	**22**	Pn	**Pn**	**03 15 32.4**	**0.0**
	comp=Z,0.0nm,0.3s,baz=186,slow=5.2,SNR=19						
AAK				Sn	**Sn**	**03 17 57.1**	**-2.8**
	comp=Z,0.0nm,0.3s,baz=324,slow=18,SNR=4.4						
AAK				LR	LR	03 21 34.4	
	comp=Z,381nm,20.6s,baz=19,slow=41						
AAK	**Ala-Archa**	**13.35**	**22**	*e*Pn	**Pn**	**03 15 31.4**	**-0.9**
AAK				*e*S	**Sn**	**03 17 48.6**	**-11**
AAK				LR	LR	03 21 34.4	
AAK	**Ala-Archa**	**13.35**	**22**	*d* iP	**Pn**	**03 15 32.0**	**-0.3**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.4s						
CHMS	**Chumysh**	**13.77**	**22**	P	**Pn**	**03 15 37.0**	**-0.9**
	SNR=6.2						
TKM2	**Tokmak 2**	**13.98**	**24**	P	**Pn**	**03 15 39.8**	**-1.2**
	SNR=17						
TKM2	**Tokmak 2**	**13.98**	**24**	⇑P	**Pn**	**03 15 40.1**	**-0.8**
	comp=Z,32nm,1.6s						
TKM2				⇑S	**Sn**	**03 18 15.3**	**+0.1**
	comp=Z,6.6nm,0.9s						
TKM2	**Tokmak 2**	**13.98**	**24**	*e*Pn	**Pn**	**03 15 40.3**	**-0.6**
TKM2	**Tokmak 2**	**13.98**	**24**	*e*P	**Pn**	**03 15 40.3**	**-0.6**
KOLN	**Koldanda**	**14.09**	**97**	*e*P	**Pn**	**03 15 43.2**	**+0.7**
	comp=Z,55nm,0.6s						
KOLN	**Koldanda**	**14.09**	**97**	*e*P	**Pn**	**03 15 43.2**	**+0.7**
	comp=Z,55nm,0.6s						
DANN	**Dangsing**	**14.09**	**94**	*e*P	**Pn**	**03 15 42.7**	**+0.2**
	comp=Z,119nm,0.7s						
DANN	**Dangsing**	**14.09**	**94**	*e*P	**Pn**	**03 15 42.7**	**+0.2**
	comp=Z,119nm,0.7s						
GKN	**Gorkha**	**14.93**	**95**	*e*P	**Pn**	**03 15 52.9**	**-0.9**
	comp=Z,28nm,0.6s						
GKN	**Gorkha**	**14.93**	**95**	*e*P	**Pn**	**03 15 52.9**	**-0.9**
	comp=Z,28nm,0.6s						
DMN	**Daman**	**15.42**	**96**	*e*P	**Pn**	**03 16 00.1**	**-0.3**
	comp=Z,41nm,0.9s						
DMN	**Daman**	**15.42**	**96**	*e*P	**Pn**	**03 16 00.1**	**-0.3**
	comp=Z,41nm,0.9s						
KKN	**Kakani**	**15.53**	**95**	*e*P	**Pn**	**03 16 00.9**	**-0.8**
	comp=Z,36nm,0.5s						
KKN	**Kakani**	**15.53**	**95**	*e*P	**Pn**	**03 16 00.9**	**-0.8**
	comp=Z,36nm,0.5s						
KKN	**Kakani**	**15.53**	**95**	*e*P	**Pn**	**03 16 00.9**	**-0.8**
KKN				pmax	pmax		
	comp=Z,36nm,0.5s						
PKIN	**Phulchoki**	**15.68**	**96**	*e*P	**Pn**	**03 16 03.3**	**-0.4**
	comp=Z,24nm,0.5s						
PKIN				*e*S	**Sn**	**03 18 49.6**	**-7.1**
PKI	**Pulchoki**	**15.69**	**96**	*e*P	**Pn**	**03 16 03.3**	**-0.6**
	comp=Z,36nm,0.5s						
PKI	**Pulchoki**	**15.69**	**96**	*e*P	**Pn**	**03 16 03.3**	**-0.6**
	comp=Z,24nm,0.5s						
PKI	**Pulchoki**	**15.69**	**96**	*e*P	**Pn**	**03 16 03.3**	**-0.6**
PKI				pmax	pmax		
	comp=Z,24nm,0.5s						
GUN	**Gumba**	**16.02**	**94**	*e*P	**Pn**	**03 16 07.1**	**-1.0**
	comp=Z,67nm,0.4s						
GUN	**Gumba**	**16.02**	**94**	*e*P	**Pn**	**03 16 07.1**	**-1.0**
	comp=Z,67nm,0.4s						
HYB	**Hyderabad**	**16.23**	**140**	*i* P	**Pn**	**03 16 16.0**	**+5.1**
ODAN	**Odare**	**17.58**	**97**	*e*P	**Pn**	**03 16 28.2**	**+0.4**
	comp=Z,61nm,0.7s						
ODAN	**Odare**	**17.58**	**97**	*e*P	**Pn**	**03 16 28.2**	**+0.4**
	comp=Z,61nm,0.7s						
TAPN	**Taplejung**	**17.73**	**95**	*e*P	**Pn**	**03 16 29.6**	**0.0**
	comp=Z,63nm,0.9s						
TAPN	**Taplejung**	**17.73**	**95**	*e*P	**Pn**	**03 16 29.6**	**0.0**
	comp=Z,63nm,0.9s						
AB31	**Akbulak array**	**19.75**	**345**	P	**Pn**	**03 16 52.6**	**-1.3**
	comp=Z,4.9nm,0.5s,baz=153,slow=12,SNR=141						
AB31	**Akbulak array**	**19.75**	**345**	*ce*P	**Pn**	**03 16 52.6**	**-1.3**
AB31				pmax	pmax		
	comp=Z,5.0nm,0.4s						
ABKAR	**Akbulak array**	**19.75**	**345**	*e*P	**Pn**	**03 16 52.3**	**-1.7**
	comp=Z,4.6nm,0.4s						
MK31	**Makanchi Array**	**19.87**	**30**	⇑P	**Pn**	**03 16 53.6**	**-1.7**
	comp=Z,8.0nm,0.8s,baz=214,slow=11,SNR=21						
MK31	**Makanchi Array**	**19.87**	**30**	*e*P	**Pn**	**03 16 53.9**	**-1.4**
MK31	**Makanchi Array**	**19.87**	**30**	*ce*P	**Pn**	**03 16 53.9**	**-1.4**
MK31				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MKAR	**Makanchi Array**	**19.87**	**30**	P	**Pn**	**03 16 53.0**	**-2.4**
	comp=Z,1.0nm,0.3s,baz=212,slow=9.7,SNR=18						
MKAR	**Makanchi Array**	**19.87**	**30**	P	**Pn**	**03 16 53.0**	**-2.4**
MKAR	**Makanchi Array**	**19.87**	**30**	P	**Pn**	**03 16 53.0**	**-2.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LSA	**Lhasa**	**20.25**	**86**	*e*P	**P**	**03 17 02.1**	**+4.2**
	comp=Z,19nm,0.9s						
LSA	**Lhasa**	**20.25**	**86**	*e*P	**P**	**03 17 02.1**	**+4.2**
LSA				pmax	pmax		
	comp=Z,19nm,0.9s						
AKTK	**Aktyubinsk**	**21.32**	**343**	P	**P**	**03 17 09.1**	**-0.1**
AKTO	**Aktyubinsk**	**21.32**	**343**	⇓P	**P**	**03 17 09.1**	**-0.2**
	comp=Z,4.1nm,1.4s,mb3.6						
AKTO	**Aktyubinsk**	**21.32**	**343**	P	**P**	**03 17 09.1**	**-0.1**
	comp=Z,5.6nm,0.5s,mb4.2,baz=146,slow=12,SNR=19						
AKTO	**Aktyubinsk**	**21.32**	**343**	P	**P**	**03 17 09.1**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.2						
SHL	**Shillong**	**21.82**	**97**	*e*PKP	**P**	**03 17 18.5**	**+3.7**
SHL				*ex*	x	03 21 19.5	
KURK	**Kurchatov**	**21.87**	**19**	⇑P	**P**	**03 17 14.0**	**-1.1**
	comp=Z,26nm,1.1s,mb4.6						
KURK	**Kurchatov**	**21.87**	**19**	P	**P**	**03 17 12.8**	**-2.3**
	comp=Z,17nm,0.9s,mb4.5,baz=209,slow=10,SNR=53						
KURK	**Kurchatov**	**21.87**	**19**	*e*P	**P**	**03 17 14.2**	**-0.9**
	comp=Z,23nm,1.0s,mb4.6						
KURK	**Kurchatov**	**21.87**	**19**	*ce*P	**P**	**03 17 14.0**	**-1.1**
KURK				pmax	pmax		
	comp=Z,33nm,1.2s,mb4.6						
VOSK	**Vostochnaya**	**22.44**	**5**	⇑P	**P**	**03 17 20.0**	**-1.2**
	comp=Z,14nm,1.0s,mb4.3						
BVA0	**Borovoye Array**	**22.70**	**4**	⇓P	**P**	**03 17 23.5**	**-0.4**
	comp=Z,4.1nm,1.2s,mb3.7,baz=158,slow=4.9,SNR=54						
BVA0	**Borovoye Array**	**22.70**	**4**	*i* P	**P**	**03 17 23.5**	**-0.4**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
BVAR	**Borovoye Array**	**22.70**	**4**	P	**P**	**03 17 23.4**	**-0.5**
	comp=Z,5.1nm,0.7s,mb4.1,baz=166,slow=6.9,SNR=28						
BVAR	**Borovoye Array**	**22.70**	**4**	P	**P**	**03 17 23.4**	**-0.5**
BVAR	**Borovoye Array**	**22.70**	**4**	P	**P**	**03 17 23.4**	**-0.5**
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
ZEI	**Tsey**	**22.72**	**310**	*e*P	**P**	**03 17 23.5**	**-0.8**
ZEI				pmax	pmax		
	comp=Z,20nm,1.8s,mb4.2						
BRVK	**Borovoye**	**22.72**	**4**	*e*P	**P**	**03 17 22.7**	**-1.5**
	comp=Z,41nm,1.4s,mb4.7						
BRVK	**Borovoye**	**22.72**	**4**	*d* iP	**P**	**03 17 24.1**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,32nm,1.2s,mb4.6						
KIV	**Kislovodsk**	**24.02**	**311**	*e*P	**P**	**03 17 38.0**	**+0.7**
	comp=Z,42nm,1.6s,mb4.6						
KIV	**Kislovodsk**	**24.02**	**311**	*e*P	**P**	**03 17 37.1**	**-0.1**
KIV				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.3						
KIV				MLR	MLR		
	comp=Z,363nm,14.0s,MS4.0						
ZALV	**Zalesovo Beam**	**26.58**	**23**	P	**P**	**03 18 00.5**	**+0.2**
	comp=Z,11nm,0.8s,mb4.5,baz=229,slow=9.8,SNR=39						
ZALV	**Zalesovo Beam**	**26.58**	**23**	P	**P**	**03 18 00.5**	**+0.2**
ZALV	**Zalesovo Beam**	**26.58**	**23**	P	**P**	**03 18 00.5**	**+0.2**
ZALV				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.4						
ARU	**Arti**	**26.82**	**349**	*e*P	**P**	**03 18 03.5**	**+1.0**
	comp=Z,20nm,1.4s,mb4.5						
ARU	**Arti**	**26.82**	**349**	*c* iP	**P**	**03 18 04.0**	**+1.5**
ARU				*e*		03 18 42.7	
ARU				S	**S**	**03 22 38.7**	**+1.8**
ARU				SS		03 23 43.5	
ARU				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.5						
NVS	**Novosibirsk**	**26.83**	**20**	*e*P	**P**	**03 18 03.9**	**+1.3**
NVS				pmax	pmax		
	comp=N,8.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.3s						
NVS				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.4						
ANN	**Anapa**	**27.82**	**310**	*e*P	**P**	**03 18 05.9**	**-5.6**
ANN				*e*S	**S**	**03 22 43.9**	**-9.0**
ANN				pmax	pmax		
	comp=Z,82nm,1.2s,mb5.2						
CHTO	**Chiang Mai**	**30.50**	**105**	*e*P	**P**	**03 18 37.6**	**+2.0**
	comp=Z,8.3nm,0.9s,mb4.6						
CHTO	**Chiang Mai**	**30.50**	**105**	*e*P	**P**	**03 18 37.6**	**+2.0**
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
CMAR	**Chiang Mai Arr**	**30.67**	**106**	P	**P**	**03 18 39.0**	**+1.9**
	comp=Z,1.3nm,0.3s,mb4.2,baz=301,slow=9.4,SNR=6.8						
CMAR	**Chiang Mai Arr**	**30.67**	**106**	P	**P**	**03 18 39.0**	**+1.9**
CMAR	**Chiang Mai Arr**	**30.67**	**106**	P	**P**	**03 18 39.0**	**+1.9**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MOS	**Moscow**	**33.10**	**329**	*e*P	**P**	**03 18 56.7**	**-1.3**
MOS				pmax	pmax		
	comp=Z,42nm,1.3s,mb5.2						
OBN	**Obninsk**	**33.21**	**327**	⇑*e*P	**P**	**03 18 59.6**	**+0.6**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
AKASG	**Malin Array Be**	**35.09**	**316**	P	**P**	**03 19 15.2**	**-0.2**
	comp=Z,1.4nm,0.7s,mb4.0,baz=106,slow=7.2,SNR=9.8						
AKASG	**Malin Array Be**	**35.09**	**316**	P	**P**	**03 19 15.2**	**-0.2**
AKASG	**Malin Array Be**	**35.09**	**316**	P	**P**	**03 19 15.2**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KLMR	**Klimovskoe**	**35.75**	**337**	*e*P	**P**	**03 19 18.0**	**-2.9**
KLMR				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.9						
MLR	**Muntele Rosu**	**35.83**	**307**	P	**P**	**03 19 23.8**	**+2.0**
	comp=Z,1.5nm,0.9s,mb3.9,baz=104,slow=7.1,SNR=6.3						
MLR	**Muntele Rosu**	**35.83**	**307**	P	**P**	**03 19 23.8**	**+2.0**
MLR	**Muntele Rosu**	**35.83**	**307**	P	**P**	**03 19 23.8**	**+2.0**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CRVS	**Cervenica-Dubn**	**39.46**	**311**	*e*P	**P**	**03 19 53.2**	**+0.8**
CRVS	**Cervenica-Dubn**	**39.46**	**311**	*e*P	**P**	**03 19 53.2**	**+0.8**
PSI	**Prapat**	**40.27**	**127**	LR	LR	03 38 23.4	
	comp=Z,824nm,20.8s,MS4.6,baz=184,slow=39						
PSZ	**Piszkesteto**	**40.33**	**310**	*e*P	**P**	**03 20 00.3**	**+0.6**
	comp=Z,20nm,1.4s,mb4.7						
PSZ	**Piszkesteto**	**40.33**	**310**	*e*P	**P**	**03 20 00.3**	**+0.6**
PSZ				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.7						
VYHS	**Vyhne**	**41.11**	**310**	*e*P	**P**	**03 20 07.8**	**+1.7**
VYHS	**Vyhne**	**41.11**	**310**	*e*P	**P**	**03 20 07.8**	**+1.7**
FINES	**FINESS Array B**	**41.28**	**331**	P	**P**	**03 20 07.0**	**-0.4**
	comp=Z,2.8nm,0.8s,mb4.0,baz=131,slow=8.6,SNR=6.4						
FINES	**FINESS Array B**	**41.28**	**331**	P	**P**	**03 20 07.0**	**-0.4**
FINES	**FINESS Array B**	**41.28**	**331**	P	**P**	**03 20 07.0**	**-0.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GERES	**GERESS Array B**	**44.53**	**310**	P	**P**	**03 20 33.9**	**+0.1**
	comp=Z,0.5nm,0.7s,mb3.5,baz=98,slow=8.6,SNR=6.2						
GERES	**GERESS Array B**	**44.53**	**310**	P	**P**	**03 20 33.9**	**+0.1**
GERES	**GERESS Array B**	**44.53**	**310**	P	**P**	**03 20 33.9**	**+0.1**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**45.88**	**341**	P	**P**	**03 20

BILL *PP pP 03 23 14.0 +2.0
BILL pmax pmax
comp=Z,8.0nm,1.7s,mb4.5
WRA Warramunga Arr 81.22 119 P **P 03 24 39.0 +0.6**
comp=Z,1.3nm,0.9s,mb3.9,baz=321,slow=4.9,SNR=11
WRA Warramunga Arr 81.22 119 P **P 03 24 39.0 +0.6**
WRA Warramunga Arr 81.22 119 P **P 03 24 39.0 +0.6**
WRA pmax pmax
comp=Z,1.0nm,0.9s
ILAR Eielson Array 81.36 14 P **P 03 24 37.5 -0.9**
comp=Z,1.9nm,1.2s,mb3.9,baz=310,slow=4.8,SNR=7.8
ILAR Eielson Array 81.36 14 P **P 03 24 37.5 -0.9**
ILAR Eielson Array 81.36 14 P **P 03 24 37.5 -0.9**
ILAR pmax pmax
comp=Z,2.0nm,1.2s
ASAR Alice Springs 83.13 122 P **P 03 24 49.0 +0.7**
comp=Z,1.6nm,0.8s,mb4.1,baz=315,slow=5.6,SNR=11
ASAR Alice Springs 83.13 122 P **P 03 24 49.0 +0.7**
ASAR Alice Springs 83.13 122 P **P 03 24 49.0 +0.7**
ASAR pmax pmax
comp=Z,2.0nm,0.8s
DAWY Dawson 83.45 12 P **P 03 24 50.1 +0.8**
YKA Yellowknife Ar 87.42 1 P **P 03 25 09.7 +0.5**
comp=Z,2.7nm,0.8s,mb4.5,baz=350,slow=5.0,SNR=5.1
YKA Yellowknife Ar 87.42 1 P **P 03 25 09.7 +0.5**
YKA Yellowknife Ar 87.42 1 P **P 03 25 09.7 +0.5**
YKA pmax pmax
comp=Z,3.0nm,0.8s

IDC 10 03:20:44.1±3.3, 30°23N×67°73E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.3/28, mbtmp3.5/5, Error ellipse: s-maj=85.8km s-min=27.4km az=138.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MKAR	**Makanchi Array**	**20.03**	**30**	P		P	03 25 17.8	-0.7
	0.6nm,0.6s,baz=207,slow=11,SNR=3.3							
AKTO	**Aktyubinsk**	**21.46**	**343**	P		P	03 25 34.2	+0.2
	0.5nm,0.4s,baz=138,slow=15,SNR=3.3							
KURK	**Kurchatov**	**22.03**	**19**	P		P	03 25 38.3	-1.8
	1.2nm,0.7s,baz=208,slow=10,SNR=9.1							
ZALV	**Zalesovo Beam**	**26.74**	**23**	P		P	03 26 26.3	+1.1
	1.5nm,0.6s,baz=231,slow=11,SNR=4.9							
TORD	**Torodi Ar. Bea**	**62.89**	**270**	P		P	03 31 12.4	-0.1
	0.3nm,0.6s,baz=52,slow=5.8,SNR=2.4							

IDC 10 03:37:11.4±1.0, 37°59N×96°10E, h0km, mb3.6/5, mb1 3.7/9, mb1mx3.5/28, mbtmp3.6/9, ML3.6/4, Error ellipse: s-maj=44.2km s-min=18.1km az=50.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SONM	**Songino Array**	**12.72**	**33**	Pn		Pn	03 40 18.3	+4.8
	0.2nm,0.3s,baz=214,slow=18,SNR=2.0							
MKAR	**Makanchi Array**	**13.74**	**316**	Pn		Pn	03 40 24.8	-2.7
	0.2nm,0.3s,baz=134,slow=13,SNR=5.3							
MKAR				Sn		Sn	03 42 53.9	-6.9
	0.2nm,0.3s,baz=126,slow=26,SNR=2.8							
MKAR				Lg			03 44 29.0	
	0.1nm,0.3s,baz=110,slow=29,SNR=3.0							
KURK	**Kurchatov**	**18.09**	**322**	P		Pn	03 41 22.2	-1.8
	0.0nm,0.3s,baz=138,slow=10,SNR=5.4							
ZALV	**Zalesovo Beam**	**18.11**	**338**	P		Pn	03 41 22.4	-1.8
	0.2nm,0.3s,baz=152,slow=9.4,SNR=3.6							
CMAR	**Chiang Mai Arr**	**19.23**	**172**	P		Pn	03 41 37.6	-0.4
	0.1nm,0.3s,baz=346,slow=10.0,SNR=4.3							
BVAR	**Borovoye Array**	**23.59**	**319**	P		P	03 42 23.0	-0.9
	0.4nm,0.4s,baz=134,slow=4.2,SNR=3.4							
KSRS	**Korea Array**	**25.18**	**80**	P		P	03 42 39.2	+0.8
	0.7nm,0.4s,baz=279,slow=9.0,SNR=2.9							
AKTO	**Aktyubinsk**	**29.91**	**308**	P		P	03 43 22.6	+1.9
	0.8nm,0.6s,baz=72,slow=6.4,SNR=2.3							
ILAR	**Eielson Array**	**66.78**	**25**	P		P	03 48 08.3	+4.0
	0.7nm,1.1s,baz=286,slow=4.4,SNR=4.5							
WRA	**Warramunga Arr**	**67.60**	**141**	P		P	03 48 09.8	-0.2
	0.5nm,1.0s,baz=332,slow=5.7,SNR=3.8							
ASAR	**Alice Springs**	**70.55**	**143**	P		P	03 48 27.8	-0.4
	0.1nm,0.3s,baz=331,slow=6.4,SNR=5.1							

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*SZGRF **10** 03:47:13.0, 37°55N×99°54E, h33km, mb5.5, Qinghai, China*

*IDC **10** 03:47:20.8±0.4, 37°56N×95°91E, h0km, mb4.6/25, mb1 4.7/30, mb1mx4.7/31, mbtmp4.6/30, ML4.5/3, MS4.2/6, Ms1 4.2/6, ms1mx3.8/33, Error ellipse: s-maj=17.8km s-min=8.6km az=44.0*

*BJI **10** 03:47:21.3, 37°72N×95°82E, h8km, mB5.0/30, mb4.7/40, ML4.8/11, Ms4.6/43, Ms7 4.5/39*

*ISCJB **10** 03:47:22.0±0.1, 37°53N±0°02×95°73E±0°02, h13km, mb4.8/172, MS4.3/11, Error ellipse: s-maj=3.6km s-min=2.6km az=176.3*

*NEIC **10** 03:47:23.0±0.1, 37°56N×95°76E, h10km, mb5.0/113, Error ellipse: s-maj=3.2km s-min=3.0km az=156.0*

*MOS **10** 03:47:24.5±0.8, 37°54N×95°80E, h33km, mb5.1/83, MS4.2/8, Error ellipse: s-maj=6.8km s-min=4.0km az=122.7*

*DJA **10** 03:47:28, 37°65N×95°56E, h56km, Mw4.9/38*

*NNC **10** 03:47:35.8±2.9, 37°89N×94°34E, h26km±23km, mb4.7, Error ellipse: s-maj=19.7km s-min=10.8km az=24.0*

ISC 10 03:47:22.5±1.2, 37°55N±0°03×95°80E±0°02, h7km±7km, h14km±1.1km: pP-P, n591, σ0°76/611, mb4.8/172, MS4.3/11, 167C-63D, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
GTA	**Gaotai**	**3.66**	**58**	⇑Pn		**Pn**	**03 48 21.9**	**+2.4**
GTA				Pg		**Pb**	**03 48 27.3**	**-0.2**
GTA				Sn		**Sn**	**03 49 00.0**	**-2.9**
GTA				Sg		**Sb**	**03 49 07.7**	**-4.3**
GTA				smax				
	comp=N,550nm,1.6s							
GTA				smax				
	comp=E,410nm,1.7s							
GTA				LR	LR			
	comp=N,12μm,10.0s							
GTA				LR	LR			
	comp=E,9μm,9.2s							
GTA				LR	LR			
	comp=Z,10μm,9.2s							
LZH	**Lanzhou**	**6.62**	**100**	Pn		**Pn**	**03 49 01.5**	**+1.3**
LZH				*e*Sn		**Sn**	**03 50 16.1**	**+0.2**
LZH				smax				
	comp=N,690nm,1.1s							
LZH				smax				
	comp=E,620nm,1.0s							
LZH				LR	LR			
	comp=N,3μm,10.5s							
LZH				LR	LR			
	comp=E,4μm,7.7s							
LZH				LR	LR			
	comp=Z,4μm,8.0s							
LSA	**Lhasa**	**8.74**	**208**	*e*Pn		**Pn**	**03 49 32.6**	**+3.3**
	comp=Z,56nm,0.8s							
LSA	**Lhasa**	**8.74**	**208**	*e*P		**Pn**	**03 49 32.7**	**+3.4**
LSA				pmax	pmax			
	comp=Z,56nm,0.8s							
WMQ	**Urumqi**	**8.78**	**318**	P		**Pn**	**03 49 30.6**	**+0.8**
WMQ				pP			03 49 33.8	
WMQ				sP			03 49 36.6	
WMQ				S		**Sn**	**03 51 08.6**	**-0.4**
WMQ				pmax	pmax			
	comp=Z,91nm,0.5s							
WMQ				pmax	pmax			
	comp=Z,100nm,9.2s							
WMQ				smax				
	comp=N,400nm,0.7s							
WMQ				smax				
	comp=E,500nm,0.7s							
WMQ				LR	LR			
	comp=N,4μm,9.9s							
WMQ				LR	LR			
	comp=E,4μm,8.2s							
WMQ				LR	LR			
	comp=Z,1μm,14.7s							
CD2	**Chengdu**	**9.34**	**133**	P		**Pn**	**03 49 43.3**	**+5.7**
CD2				pP			03 49 46.5	
CD2				sP			03 49 49.3	
CD2				S		**Sn**	**03 51 31.8**	**+8.8**
CD2				sS			03 51 34.8	
CD2				pmax	pmax			
	comp=Z,30nm,0.5s							
CD2				pmax	pmax			
	comp=Z,250nm,4.8s							
CD2				LR	LR			
	comp=N,4μm,8.3s							
CD2				LR	LR			
	comp=Z,3μm,12.8s							
BTO	**Baotou**	**11.47**	**70**	*e*P		**Pn**	**03 50 05.8**	**-0.9**
SHL	**Shillong**	**12.40**	**197**	*e*PKP		**Pn**	**03 50 19.0**	**-0.6**
HHC	**Hu-ho-hao-te**	**12.66**	**70**	*e*P		**Pn**	**03 50 22.4**	**-0.7**
HHC				sP			03 50 28.9	
HHC				PP			03 50 32.7	
HHC				S		**Sn**	**03 52 44.3**	**0.0**
HHC				sS			03 52 49.4	
HHC				PcP	PcP		03 55 59.8	-0.8
HHC				pmax	pmax			
	comp=Z,12nm,0.8s							
HHC				pmax	pmax			
	comp=Z,280nm,5.1s							
HHC				LR	LR			
	comp=N,710nm,11.2s							
HHC				LR	LR			
	comp=E,800nm,13.3s							
HHC				LR	LR			
	comp=Z,830nm,11.3s							
GUN	**Gumba**	**12.72**	**224**	*e*P		**Pn**	**03 50 24.7**	**+0.8**
	comp=Z,132nm,1.0s							
GUN	**Gumba**	**12.72**	**224**	*e*P		**Pn**	**03 50 24.7**	**+0.8**
	comp=Z,132nm,1.0s							
SONM	**Songino Array**	**12.88**	**34**	Pn		**Pn**	**03 50 27.8**	**+1.8**
	comp=Z,5.0nm,0.3s,baz=220,slow=14,SNR=13							
SONM				Lg			03 54 05.6	
	comp=Z,0.7nm,0.3s,baz=235,slow=30,SNR=3.3							
SONM				LR	LR		03 55 36.7	
	comp=Z,2μm,18.9s,baz=205,slow=39							
SONM	**Songino Array**	**12.88**	**34**	Pn		**Pn**	**03 50 27.8**	**+1.8**
SONM				Lg			03 54 05.6	
SONM				LR	LR		03 55 36.7	
SONM	**Songino Array**	**12.88**	**34**	P		**Pn**	**03 50 27.8**	**+1.8**
SONM				pmax	pmax			
	comp=Z,5.0nm,0.3s							
SONM				MLR	MLR			
	comp=Z,2μm,18.9s							
KKN	**Kakani**	**13.15**	**225**	*e*P		**Pn**	**03 50 29.9**	**+0.1**
	comp=Z,50nm,0.9s							
KKN	**Kakani**	**13.15**	**225**	*e*P		**Pn**	**03 50 29.9**	**+0.1**
	comp=Z,50nm,0.9s							
KKN	**Kakani**	**13.15**	**225**	*e*P		**Pn**	**03 50 29.9**	**+0.1**
KKN				pmax	pmax			
	comp=Z,50nm,0.9s							
ULN	**Ulaanbaatar**	**13.20**	**35**	*e*Pn		**Pn**	**03 50 31.9**	**+1.6**
ULN	**Ulaanbaatar**	**13.20**	**35**	*e*P		**Pn**	**03 50 31.9**	**+1.6**
PKI	**Pulchoki**	**13.25**	**224**	*e*P		**Pn**	**03 50 30.9**	**-0.2**
	comp=Z,95nm,0.8s							
PKI	**Pulchoki**	**13.25**	**224**	*e*P		**Pn**	**03 50 30.9**	**-0.2**
	comp=Z,95nm,0.8s							
PKI	**Pulchoki**	**13.25**	**224**	*e*P		**Pn**	**03 50 30.9**	**-0.2**
PKI				pmax	pmax			
	comp=Z,95nm,0.8s							
PKIN	**Phulchoki**	**13.25**	**224**	*e*P		**Pn**	**03 50 30.3**	**-0.8**
	comp=Z,60nm,0.7s							
GKN	**Gorkha**	**13.36**	**228**	*e*P		**Pn**	**03 50 32.2**	**-0.5**
	comp=Z,53nm,0.9s							
GKN	**Gorkha**	**13.36**	**228**	*e*P		**Pn**	**03 50 32.2**	**-0.5**
	comp=Z,53nm,0.9s							
DMN	**Daman**	**13.39**	**225**	*e*P		**Pn**	**03 50 33.1**	**+0.1**
	comp=Z,77nm,1.0s							
DMN	**Daman**	**13.39**	**225**	*e*P		**Pn**	**03 50 33.1**	**+0.1**
	comp=Z,77nm,1.0s							
ENH	**Enshi**	**13.48**	**119**	*e*Pn		**Pn**	**03 50 34.0**	**-0.2**
	comp=Z,104nm,1.0s							
ENH				*e*S		**Sn**	**03 53 00.2**	**-4.2**
MK31	**Makanchi Array**	**13.61**	**317**	P		**Pn**	**03 50 32.1**	**-3.8**
	comp=Z,14nm,0.5s,baz=122,slow=16,SNR=156							
MK31				⇑S		**Sn**	**03 52 54.4**	**-13**
	comp=Z,21nm,0.7s,baz=122,slow=25,SNR=4.2							
MK31				⇑Lg			03 54 14.2	
	comp=Z,52nm,1.1s							
MK31	**Makanchi Array**	**13.61**	**317**	*e*Pn		**Pn**	**03 50 33.9**	**-2.0**
MK31				*e*S		**Sn**	**03 52 54.9**	**-12**
MK31	**Makanchi Array**	**13.61**	**317**	*e*P		**Pn**	**03 50 33.9**	**-2.0**
MKAR	**Makanchi Array**	**13.61**	**317**	Pn		**Pn**	**03 50 33.7**	**-2.2**
	comp=Z,4.1nm,0.3s,baz=126,slow=14,SNR=78							
MKAR				Sn		**Sn**	**03 53 00.3**	**-6.9**
	comp=Z,3.0nm,0.3s,baz=132,slow=28,SNR=5.2							
MKAR				Lg			03 54 37.2	
	baz=128,slow=28,SNR=3.1							
MKAR				LR	LR		03 56 06.8	
	comp=Z,421nm,19.8s,baz=302,slow=38							
MKAR	**Makanchi Array**	**13.61**	**317**	Pn		**Pn**	**03 50 33.7**	**-2.2**
MKAR				Sn		**Sn**	**03 53 00.3**	**-6.9**
MKAR				Lg			03 54 37.2	
MKAR				LR	LR		03 56 06.8	
MKAR	**Makanchi Array**	**13.61**	**317**	P		**Pn**	**03 50 33.7**	**-2.2**
MKAR				pmax	pmax			
	comp=Z,4.0nm,0.3s							
MKAR				MLR	MLR			
	comp=Z,421nm,19.8s							
DANN	**Dangsing**	**13.64**	**231**	*e*P		**Pn**	**03 50 35.2**	**-1.2**
DANN	**Dangsing**	**13.64**	**231**	*e*P		**Pn**	**03 50 35.2**	**-1.2**
KMI	**Kunming**	**13.73**	**153**	P		**Pn**	**03 50 42.2**	**+4.5**
KMI				S		**Sn**	**03 53 17.8**	**+7.3**
KMI				pmax	pmax			
	comp=Z,13nm,1.3s							
KMI				pmax	pmax			
	comp=Z,280nm,5.2s							
KMI				LR	LR			
	comp=N,1μm,8.8s							
KMI				LR	LR			
	comp=E,1μm,9.9s							
KMI				LR	LR			
	comp=Z,1μm,9.9s							
ZAK	**Zakamensk**	**13.90**	**20**	*e*P		**Pn**	**03 50 43.5**	**+3.7**
ZAK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ZAK				pmax	pmax			
	comp=Z,44nm,1.0s							
KOLN	**Koldanda**	**14.15**	**230**	*e*P		**Pn**	**03 50 41.8**	**-1.7**
KOLN	**Koldanda**	**14.15**	**230**	*e*P		**Pn**	**03 50 41.8**	**-1.7**
GYA	**Guiyang**	**14.39**	**137**	⇑*i*P		**Pn**	**03 50 46.0**	**-0.6**
GYA				S		**Sn**	**03 53 33.9**	**+7.4**
GYA				pmax	pmax			
	comp=Z,40nm,1.0s							
GYA				pmax	pmax			
	comp=Z,140nm,4.2s							
GYA				LR	LR			
	comp=N,1μm,14.9s							
GYA				LR	LR			
	comp=E,2μm,12.7s							
GYA				LR	LR			
	comp=Z,1μm,12.0s							
MOY	**Mondy**	**14.58**	**13**	*e*P		**Pn**	**03 50 58.4**	**+9.3**
MOY				pmax	pmax			
	comp=Z,132nm,2.3s							
TLY	**Talaya**	**15.18**	**19**	*e*Pn		**Pn**	**03 50 57.7**	**+0.5**
TLY	**Talaya**	**15.18**	**19**	*e*P		**Pn**	**03 51 03.6**	**+6.4**
TLY				pmax	pmax			
	comp=Z,23nm,1.1s							
TLY				MLR	MLR			
	comp=Z,871nm,11.0s							
KSH	**Kashi**	**15.64**	**283**	⇑*i*P		**Pn**	**03 51 04.6**	**+1.3**
KSH				pP	pP		03 51 08.2	-1.2
KSH				sP	sP		03 51 11.6	+1.3
KSH				PP			03 51 17.4	
KSH				S		**Sn**	**03 53 57.8**	**+0.9**
KSH				PcP	PcP		03 56 06.9	+2.4
KSH				pmax	pmax			
	comp=Z,13nm,1.3s							
KSH				pmax	pmax			
	comp=Z,240nm,5.5s							
KSH				LR	LR			
	comp=N,1μm,10.9s							
KSH				LR	LR			
	comp=E,890nm,7.9s							
KSH				LR	LR			
	comp=Z,2μm,15.3s							
IRK	**Irkutsk**	**15.85**	**19**	*e*P		**Pn**	**03 51 11.4**	**+5.4**
IRK				pmax	pmax			
	comp=Z,207nm,2.0s							
BJT	**Baijiatuau**	**16.07**	**75**	*e*Pn		**Pn**	**03 51 10.5**	**+1.5**
	comp=Z,96nm,1.0s							
BJT	**Baijiatuau**	**16.07**	**75**	*e*P		**Pn**	**03 51 10.5**	**+1.5**
BJT				pmax	pmax			
	comp=Z,96nm,1.0s							
BJI	**Beijing**	**16.08**	**75**	P		**Pn**	**03 51 10.7**	**+1.7**
BJI				S		**Sn**	**03 54 05.2**	**-2.3**
BJI				pmax	pmax			
	comp=Z,14nm,0.5s							
BJI				pmax	pmax			
	comp=Z,310nm,5.6s							
BJI				LR	LR			
	comp=N,1μm,10.2s							
BJI				LR	LR			
	comp=E,1μm,12.1s							
BJI				LR	LR			
	comp=Z,560nm,19.1s							
TKM2	**Tokmak 2**	**16.32**	**295**	P		**Pn**	**03 51 11.0**	**-1.1**
	SNR=31							
TKM2	**Tokmak 2**	**16.32**	**295**	⇓P		**Pn**	**03 51 10.3**	**-1.8**
	comp=Z,51nm,0.8s							
TKM2				⇓S		**Sn**	**03 53 55.9**	**-17**
	comp=Z,14nm,0.9s							
TKM2				⇓Lg			03 55 36.2	
	comp=Z,69nm,2.0s							
TKM2	**Tokmak 2**	**16.32**	**295**	*e*Pn		**Pn**	**03 51 10.7**	**-1.4**
	comp=Z,52nm,0.8s							
TKM2	**Tokmak 2**	**16.32**	**295**	*i* P		**Pn**	**03 51 10.8**	**-1.3**
TKM2				pmax	pmax			
	comp=Z,38nm,0.7s							
KBK	**Karagaybulak**	**16.73**	**294**	P		**Pn**	**03 51 17.0**	**-0.4**
	SNR=13							
WHN	**Wuhan**	**16.88**	**109**	⇓P		**Pn**	**03 51 22.3**	**+3.0**
AAK	**Ala-Archa**	**17.06**	**294**	P		**Pn**	**03 51 22.3**	**+0.8**
	SNR=13							
AAK	**Ala-Archa**	**17.06**	**294**	P		**Pn**	**03 51 21.6**	**+0.1**
	comp=Z,0.0nm,0.3s,baz=86,slow=6.0,SNR=17							
AAK				LR	LR		03 58 42.2	
	comp=Z,1μm,19.7s,baz=49,slow=40							
AAK	**Ala-Archa**	**17.06**	**294**	P		**Pn**	**03 51 21.6**	**+0.1**
AAK				LR	LR		03 58 42.2	
AAK	**Ala-Archa**	**17.06**	**294**	⇑*e*P		**Pn**	**03 51 20.9**	**-0.6**
AAK				pmax	pmax			
	comp=Z,12nm,1.1s							
AAK	**Ala-Archa**	**17.06**	**294**	Pn		**Pn**	**03 51 22.6**	**+1.1**
	comp=Z,160nm,0.7s,SNR=9.3							
AAK	**Ala-Archa**	**17.06**	**294**	P		**Pn**	**03 51 22.2**	**+0.7**
	comp=Z,30nm,1.0s							
USP	**Ospenovka**	**17.18**	**296**	P		**Pn**	**03 51 21.4**	**-1.6**
	SNR=8.3							
KKR	**Kurukshetra**	**17.49**	**250**	*e*PKP		**Pn**	**03 51 28.3**	**+1.4**
KKR				AMb		AMB	03 51 29.1	
	comp=Z,166nm,0.3s							
EKS2	**Erkin-Say**	**17.59**	**294**	P		**Pn**	**03 51 29.0**	**+1.0**
	SNR=5.9							
EKS2	**Erkin-Say**	**17.59**	**294**	*e*Pn		**Pn**	**03 51 28.6**	**+0.6**
	comp=Z,14nm,0.8s							
EKS2	**Erkin-Say**	**17.59**	**294**	*e*P		**Pn**	**03 51 28.6**	**+0.6**
EKS2				pmax	pmax			
	comp=Z,14nm,0.8s							
NDI	**New Delhi**	**17.88**	**246**	*e*PKP		**Pn**	**03 51 30.0**	**-1.8**
KURK	**Kurchatov**	**17.97**	**323**	⇑P		**Pn**	**03 51 32.6**	**-0.1**
KURK				⇓S		**Sn**	**03 54 41.2**	**-12**
	comp=Z,20nm,0.9s							
KURK				⇑Lg			03 56 31.4	
	comp=Z,72nm,1.5s							
KURK	**Kurchatov**	**17.97**	**323**	P		**Pn**	**03 51 30.5**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=136,slow=11,SNR=40							
KURK				S		**Sn**	**03 54 54.3**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=126,slow=17,SNR=3.3							
KURK				Lg			03 56 52.2	
	baz=110,slow=30,SNR=2.8							
KURK	**Kurchatov**	**17.97**	**323**	*e*Pn		**Pn**	**03 51 32.2**	**-0.5**
KURK				*e*S		**Sn**	**03 54 48.2**	**-5.1**
KURK				Lg			03 56 52.2	
KURK	**Kurchatov**	**17.97**	**323**	*e*P		**Pn**	**03 51 32.2**	**-0.6**
KURK				*e*S		**Sn**	**03 54 48.2**	**-5.1**
AYAN	**Aya Nagar**	**18.06**	**245**	*ex*		**Pn**	**03 51 29.4**	**-4.6**
AYAN				AMb		AMB	03 51 35.0	
	comp=Z,13nm,0.8s							
ZALV	**Zalesovo Beam**	**18.06**	**339**	P		**Pn**	**03 51 32.3**	**-1.5**
	comp=Z,1.8nm,0.3s,baz=144,slow=11,SNR=20							
ZALV				S		**Sn**	**03 55 03.2**	**+7.9**
	comp=Z,0.2nm,0.3s,baz=142,slow=16,SNR=2.4							
ZALV				Lg			03 56 49.2	
	comp=Z,0.1nm,0.3s,baz=142,slow=24,SNR=3.3							
ZALV	**Zalesovo Beam**	**18.06**	**339**	P		**Pn**	**03 51 32.3**	**-1.5**
ZALV				S		**Sn**	**03 55 03.2**	**+7.9**
ZALV				Lg			03 56 49.2	
ZALV	**Zalesovo Beam**	**18.06**	**339**	P		**Pn**	**03 51 32.3**	**-1.5**
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.3s							
BHGR	**Bahadurgarh**	**18.08**	**246**	*e*PKP		**Pn**	**03 51 33.1**	**-1.1**
KUDL	**Kundal**	**18.71**	**246**	*e*PKP		**Pn**	**03 51 41.3**	**-0.6**
KUDL				AMb		AMB	03 51 47.9	
	comp=Z,40nm,1.2s							
CHTO	**Chiang Mai**	**18.87**	**171**	*e*P		**Pn**	**03 51 44.8**	**+0.8**
	comp=Z,10nm,0.7s							
CHTO	**Chiang Mai**	**18.87**	**171**	*e*P		**Pn**	**03 51 44.8**	**+0.8**
CHTO				pmax	pmax			
	comp=Z,11nm,0.7s							
CHTO	**Chiang Mai**	**18.87**	**171**	P		**Pn**	**03 51 47.2**	**+3.2**
	comp=Z,22nm,1.4s							
CIT	**Chita**	**19.11**	**35**	*e*P		**Pn**	**03 51 46.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**19.22**	**171**	P		**Pn**	**03 51 48.0**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=344,slow=9.9,SNR=37							
CMAR				PcP	PcP		03 56 10.4	-0.2
CMAR				LR	LR		03 59 54.8	
	comp=Z,315nm,19.5s,baz=355,slow=39							
CMAR	**Chiang Mai Arr**	**19.22**	**171**	P		**Pn**	**03 51 48.0**	**-0.2**
CMAR				PcP	PcP		03 56 10.4	-0.2
CMAR				LR	LR		03 59 54.8	
CMAR	**Chiang Mai Arr**	**19.22**	**171**	P		**Pn**	**03 51 48.0**	**-0.2**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
CMAR				MLR	MLR			
	comp=Z,315nm,19.5s							
KHET	**Khetri**	**19.25**	**246**	*e*PKP		**Pn**	**03 51 46.5**	**-2.0**
KHET				AMb		AMB	03 51 53.4	
	comp=Z,47nm,1.0s							
NVS	**Novosibirsk**	**19.30**	**338**	⇑*i*P		**Pn**	**03 51 46.4**	**-2.5**
NVS				*e*S		**Sn**	**03 55 16.5**	**-8.8**
NVS				pmax	pmax			
	comp=N,31nm,1.3s							
NVS				pmax	pmax			
	comp=E,27nm,1.3s							
NVS				pmax	pmax			
	comp=Z,48nm,1.3s							
NVS				smax				
	comp=N,26nm,1.8s							
NVS				smax				
	comp=E,7.0nm,2.3s							
NJ2	**Nanjing**	**19.69**	**99**	*e*P		**Pn**	**03 51 55.2**	**+1.4**
NJ2				pmax	pmax			
	comp=Z,20nm,0.5s							
KK31	**Karatay Array**	**20.02**	**294**	P		**P**	**03 51 53.9**	**-2.0**
	comp=Z,19nm,0.9s,baz=91,slow=11,SNR=72							
KK31				⇓S		**S**	**03 55 24.7**	**-16**
	comp=Z,1.4nm,0.6s,baz=326,slow=67,SNR=4.5							
KK31				⇓Lg			03 57 33.9	
	comp=Z,5.1nm,0.9s,baz=315,slow=43,SNR=2.8							
KK31	**Karatay Array**	**20.02**	**294**	*ce*P		**P**	**03 51 56.3**	**+0.4**
KK31				pmax	pmax			
	comp=Z,12nm,0.7s							
KKAR	**Karatay Array**	**20.02**	**294**	*e*P		**P**	**03 51 56.4**	**+0.5**
KKAR				*e*S		**S**	**03 55 23.6**	**-18**
KKAR	**Karatay Array**	**20.02**	**294**	*e*P		**P**	**03 51 56.4**	**+0.5**
DL2	**Dalian**	**20.32**	**78**	P		**P**	**03 52 00.1**	**+1.0**
DL2				S		**S**	**03 55 49.6**	**+2.5**
DL2				pmax	pmax			
	comp=Z,50nm,0.9s							
DL2

SNY LR LR
comp=Z,1µm,17.7s,MS4.4
KBL Kabul 21.82 270 *e*P **P** **03 52 16.3 +1.0**
comp=Z,84nm,1.3s,mb5.0
KBL Kabul 21.82 270 *e*P **P** **03 52 16.3 +1.0**
KBL pmax pmax
comp=Z,84nm,1.3s,mb5.0
QIZ Qiongzhong 22.17 143 P **P** **03 52 22.0 +2.8**
QIZ S **S** **03 56 28.4 +4.7**
QIZ pmax pmax
comp=Z,390nm,4.3s
QIZ LR LR
comp=Z,720nm,5.0s
VOSK Vostochnaya 23.00 319 ⇑P **P** **03 52 27.1 -0.6**
comp=Z,31nm,1.1s,mb4.7
CN2 Changchun 23.26 65 *e*P **P** **03 52 30.8 +0.2**
CN2 *es*P sP 03 52 37.0 +3.7
CN2 *e*PP 03 52 58.1
CN2 *e*S **S** **03 56 38.0 -4.9**
CN2 pmax pmax
comp=Z,30nm,1.0s,mb4.7
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,1µm,11.0s,MS4.6
CN2 LR LR
comp=E,500nm,11.0s,MS4.6
CN2 LR LR
comp=Z,1µm,12.0s,MS4.6
AKL Akola 23.40 229 *e*PKP **P** **03 52 32.3 0.0**
AKL AMb AMB 03 52 33.8
comp=Z,81nm,0.9s,mb5.2
BVA0 Borovoye Array 23.46 319 *i* P **P** **03 52 32.9 +0.3**
BVA0 pmax pmax
comp=Z,3.0nm,0.7s,mb3.8
BVAR Borovoye Array 23.46 319 P **P** **03 52 32.2 -0.4**
comp=Z,11nm,0.6s,mb4.5,baz=116,slow=9.7,SNR=50
BVAR S **S** **03 56 50.2 +4.2**
comp=Z,1.3nm,0.7s,baz=121,slow=22,SNR=3.9
BVAR LR LR 04 02 09.0
comp=Z,904nm,18.7s,MS4.3,baz=113,slow=38
BVAR Borovoye Array 23.46 319 P **P** **03 52 32.2 -0.4**
BVAR S **S** **03 56 50.2 +4.2**
BVAR LR LR 04 02 08.9
BVAR Borovoye Array 23.46 319 P **P** **03 52 32.2 -0.4**
BVAR pmax pmax
comp=Z,11nm,0.6s
BVAR MLR MLR
comp=Z,904nm,18.7s
BRVK Borovoye 23.53 319 ⇓P **P** **03 52 33.8 +0.4**
comp=Z,47nm,0.9s,mb4.9
BRVK Borovoye 23.53 319 *e*P **P** **03 52 32.2 -1.1**
comp=Z,26nm,0.9s,mb4.7
BRVK Borovoye 23.53 319⇓*e*P **P** **03 52 33.4 0.0**
BRVK pmax pmax
comp=Z,18nm,0.7s,mb4.6
HYB Hyderabad 25.15 222 *i* P **P** **03 52 49.0 +0.6**
KSRS Korea Array 25.42 80 P **P** **03 52 49.0 -1.8**
comp=Z,33nm,0.7s,mb5.0,baz=276,slow=9.4,SNR=51
KSRS Korea Array 25.42 80 P **P** **03 52 49.0 -1.8**
KSRS pmax pmax
comp=Z,33nm,0.7s,mb5.0
MDJ Mudanjiang 26.30 64 P **P** **03 52 59.2 +0.6**
MDJ pmax pmax
comp=Z,10.0nm,2.1s,mb4.0
MDJ LR LR
comp=N,250nm,26.1s,MS3.8
MDJ LR LR
comp=E,250nm,31.0s,MS3.8
MDJ LR LR
comp=Z,260nm,22.8s
POO Poona 26.98 231 *e*PKP **P** **03 53 05.0 -0.1**
POO AMb AMB 03 53 10.7
comp=Z,53nm,1.3s,mb4.9
AB31 Akbulak array 28.29 306 ⇑P **P** **03 53 16.8 +0.4**
comp=Z,7.7nm,0.9s,mb4.3,baz=100,slow=8.7,SNR=38
AB31 Akbulak array 28.29 306*ce*P **P** **03 53 16.8 +0.3**
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
ABKAR Akbulak array 28.29 306 *e*P **P** **03 53 16.7 +0.3**
comp=Z,4.5nm,0.7s,mb4.2
KLR Kul'dur 28.35 54 *e*P **P** **03 53 13.2 -3.8**
AKTK Aktyubinsk 29.74 308 P **P** **03 53 29.8 +0.4**
AKTK PcP PcP 03 56 33.1 +0.1
AKTO Aktyubinsk 29.74 308 ⇑P **P** **03 53 29.7 +0.4**
comp=Z,2.6nm,0.9s,mb4.0
AKTO Aktyubinsk 29.74 308 P **P** **03 53 29.8 +0.5**
comp=Z,10nm,0.7s,mb4.7,baz=94,slow=9.5,SNR=46
AKTO PcP PcP 03 56 33.1 +0.1
comp=Z,3.0nm,0.7s,baz=90,slow=3.0,SNR=3.2
AKTO Aktyubinsk 29.74 308 P **P** **03 53 29.8 +0.5**
AKTO 03 56 33.2
AKTO pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
AKTO pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
SVE Sverdlovsk 30.21 321⇓*e*P **P** **03 53 33.3 -0.1**
SVE pmax pmax
comp=Z,19nm,0.9s,mb4.8
ARU Arti 31.11 319 *e*P **P** **03 53 41.3 -0.1**
comp=Z,22nm,0.8s,mb5.0
ARU Arti 31.11 319 *e*P **P** **03 53 41.3 -0.1**
ARU pmax pmax
comp=Z,22nm,0.8s,mb5.0
MJAR Matsushiro Arr 33.66 79 P **P** **03 54 01.9 -2.0**
comp=Z,1.3nm,0.6s,mb4.0,baz=283,slow=9.0,SNR=3.8
MJAR PcP PcP 03 56 43.5 -0.4
comp=Z,2.5nm,0.9s,baz=263,slow=4.0,SNR=4.9
MJAR Matsushiro Arr 33.66 79 P **P** **03 54 01.9 -2.0**
MJAR PcP PcP 03 56 43.5 -0.4
MJAR Matsushiro Arr 33.66 79 P **P** **03 54 01.9 -2.0**
MJAR 03 56 43.5
MJAR pmax pmax
comp=Z,1.0nm,0.6s
MJAR pmax pmax
comp=Z,3.0nm,0.9s
ASAJ Asahikawa 35.62 64 *e*P **P** **03 54 20.5 -0.3**
KKM Kota Kinabalu 36.46 144 *e*P **P** **03 54 27.5 -0.8**
comp=Z,26nm,0.9s,mb5.2
MAK Makhachkala 36.84 294 *e*P **P** **03 54 34.4 +3.1**
MAK MLR MLR
comp=Z,585nm,16.0s,MS4.5
KSM Kuching 38.31 156 *e*P **P** **03 54 44.3 +0.4**
comp=Z,5.8nm,0.3s,mb4.8
ZEI Tsey 39.49 294 *e*P **P** **03 54 53.8 +0.2**
ZEI pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
VRHR Novokhopersk 40.15 308 *e*P **P** **03 54 58.0 -1.0**
VRHR pmax pmax
comp=Z,20nm,0.7s,mb5.0
VRHR pmax pmax
comp=N,10.0nm,1.7s
VRHR pmax pmax
comp=E,20nm,1.0s
KIV Kislovodsk 40.15 296 *e*P **P** **03 54 57.9 -1.2**
KIV pmax pmax
comp=Z,11nm,0.9s,mb4.6
KIV MLR MLR
comp=Z,231nm,15.0s,MS4.2
VSR Storozhevoye 41.69 308 *e*P **P** **03 55 11.1 -0.5**
VSR pmax pmax
comp=Z,20nm,0.8s,mb4.8
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,20nm,0.8s
KLMR Klimovskoe 41.82 322 *e*P **P** **03 55 11.4 -1.2**
KLMR pmax pmax
comp=Z,22nm,0.9s,mb4.8
SEY Seymchan 42.28 35⇓*e*P **P** **03 55 15.7 -0.6**
MOS Moscow 42.48 315 *e*P **P** **03 55 17.0 -1.0**
MOS pmax pmax
comp=Z,80nm,0.9s,mb5.3
OBN Obninsk 43.08 314 *e*P **P** **03 55 22.6 -0.4**
comp=Z,9.2nm,0.3s,mb5.0
OBN Obninsk 43.08 314⇓*i*P **P** **03 55 23.0 0.0**
OBN *e* 03 55 31.7
OBN 03 57 04.0
OBN pmax pmax
comp=Z,27nm,1.0s,mb4.9
OBN MLR MLR
comp=Z,500nm,20.0s,MS4.4
PETK Petropavlovsk- 44.77 49 P **P** **03 55 36.3 -0.2**
comp=Z,11nm,0.9s,mb4.7,baz=247,slow=7.7,SNR=6.8
PETK PcP PcP 03 57 17.5 -1.0
comp=Z,3.3nm,0.8s,baz=3.8,slow=2.2,SNR=3.6
PETK Petropavlovsk- 44.77 49 P **P** **03 55 36.3 -0.2**
PETK PcP PcP 03 57 17.5 -1.0
PETK Petropavlovsk- 44.77 49 P **P** **03 55 36.3 -0.3**
PETK 03 57 17.5
PETK pmax pmax
comp=Z,11nm,0.9s,mb4.7
PETK pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
LVZ Lovozero 45.02 332 *e*P **P** **03 55 38.0 -0.3**
comp=Z,16nm,0.9s,mb4.9
LVZ Lovozero 45.02 332 *e*P **P** **03 55 38.0 -0.3**
LVZ pmax pmax
comp=Z,16nm,0.9s,mb4.8
JOF Joensuu 45.87 325 *e*P **P** **03 55 44.4 -0.7**
JOF pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
BR131 Keskin Array S 47.73 293 *e*P **P** **03 56 00.5 +0.5**
comp=Z,4.6nm,0.6s,mb4.7
BRTR Keskin Array B 47.73 293 P **P** **03 56 00.6 +0.5**
comp=Z,6.7nm,0.8s,mb4.8,baz=97,slow=7.7,SNR=42
BRTR Keskin Array B 47.73 293 P **P** **03 56 00.6 +0.5**
BRTR Keskin Array B 47.73 293 P **P** **03 56 00.6 +0.6**
BRTR pmax pmax
comp=Z,7.0nm,0.8s
AKASG Malin Array Be 47.98 308 P **P** **03 56 01.5 -0.3**
comp=Z,6.6nm,0.7s,mb4.8,baz=68,slow=7.2,SNR=16
AKASG PcP PcP 03 57 28.8 -1.1
comp=Z,2.1nm,0.7s,baz=68,slow=3.8,SNR=4.8
AKASG Malin Array Be 47.98 308 P **P** **03 56 01.5 -0.3**
AKASG PcP PcP 03 57 28.8 -1.1
AKASG Malin Array Be 47.98 308 P **P** **03 56 01.5 -0.3**
AKASG 03 57 28.8
AKASG pmax pmax
comp=Z,7.0nm,0.7s
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 47.98 308 *e*P **P** **03 56 01.4 -0.5**
AKBB Malin Array Si 47.98 308 *e*P **P** **03 56 01.4 -0.4**
KIEV Kiev 48.00 308 *e*P **P** **03 56 01.4 -0.5**
comp=Z,14nm,1.1s,mb4.9
KIEV Kiev 48.00 308 *e*P **P** **03 56 01.4 -0.5**
KIEV pmax pmax
comp=Z,14nm,1.1s,mb4.9
KEV Kevo 48.01 334 *e*P **P** **03 56 02.0 +0.3**
comp=Z,14nm,1.0s,mb4.9
KEV Kevo 48.01 334 *e*P **P** **03 56 01.3 -0.4**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
KAF Kangasniemi 48.20 324 *e*P **P** **03 56 02.4 -0.9**
KAF pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
FINES FINESS Array B 48.35 323 P **P** **03 56 04.1 -0.3**
comp=Z,9.3nm,0.7s,mb4.9,baz=92,slow=9.3,SNR=19
FINES PcP PcP 03 57 30.2 -0.8
comp=Z,4.5nm,0.7s,baz=100,slow=4.8,SNR=3.5
FINES FINESS Array B 48.35 323 P **P** **03 56 04.1 -0.3**
FINES PcP PcP 03 57 30.2 -0.8
FINES FINESS Array B 48.35 323 P **P** **03 56 04.1 -0.4**
FINES 03 57 30.2
FINES pmax pmax
comp=Z,9.0nm,0.7s
FINES pmax pmax
comp=Z,5.0nm,0.7s
ARCES ARCESS Array B 48.52 334 P **P** **03 56 05.6 -0.1**
comp=Z,3.0nm,0.6s,mb4.5,baz=94,slow=8.5,SNR=27
ARCES PcP PcP 03 57 30.7 -0.8
comp=Z,3.0nm,0.6s,baz=101,slow=5.1,SNR=7.9
ARCES ARCESS Array B 48.52 334 P **P** **03 56 05.6 -0.1**
ARCES PcP PcP 03 57 30.7 -0.8
ARCES ARCESS Array B 48.52 334 P **P** **03 56 05.6 -0.1**
ARCES 03 57 30.7
ARCES pmax pmax
comp=Z,3.0nm,0.6s
ARCES pmax pmax
comp=Z,3.0nm,0.6s
BILL Bilibino 48.53 28 *e*P **P** **03 56 05.5 -0.3**
comp=Z,6.6nm,0.6s,mb4.8
BILL Bilibino 48.53 28⇑*e*P **P** **03 56 05.9 +0.1**
BILL *e* 03 56 13.8
BILL pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
BILL MLR MLR
comp=Z,300nm,15.0s,MS4.4
IDID Didziasalis 48.67 315 *e*P **P** **03 56 07.5 +0.4**
IIGN Ignalina 48.96 315 *e*P **P** **03 56 09.8 +0.5**
IIGN AMB AMB 03 56 11.1
comp=Z,8.2nm,0.7s,mb4.9
ISAL Salakas 48.98 315 *e*P **P** **03 56 09.8 +0.4**
ISAL AMB AMB 03 56 10.6
comp=Z,6.2nm,0.9s,mb4.6
VRI Vrincioaia 50.76 303 ⇑P **P** **03 56 26.4 +3.3**
PLOR Plostina 50.82 303 ⇑P **P** **03 56 24.6 +1.1**
BUR08 Bucovina Ar. S 51.27 305 *e*P **P** **03 56 27.1 +0.2**
MLR Muntele Rosu 51.40 302 ⇑P **P** **03 56 29.0 +1.1**
LVV L'vov 51.43 308 *e*P **P** **03 56 28.4 +0.3**
VOIR 52.01 302 ⇓P **P** **03 56 33.0 +0.5**
KWP Kalwaria Pacla 52.31 308 *e*P **P** **03 56 35.2 +0.6**
comp=Z,38nm,0.8s,mb5.4
KWP Kalwaria Pacla 52.31 308 ⇑P **P** **03 56 35.3 +0.7**
DRGR 53.14 305 ⇓P **P** **03 56 41.9 +1.0**
NIE Niedzica 53.86 308 *e*P **P** **03 56 47.5 +1.4**
OJC Ojcow 53.94 310 *e*P **P** **03 56 46.8 +0.2**
BZS Buzias 54.24 304 ⇑P **P** **03 56 49.5 +0.6**
MORC Moravsky Berou 55.46 310 *e*P **P** **03 56 58.0 +0.3**
comp=Z,4.8nm,0.8s,mb4.6
MORC Moravsky Berou 55.46 310 ⇓P **P** **03 56 58.6 +0.9**
NB2 NORSAR Subarra 55.48 324 P **P** **03 56 56.9 -0.7**
comp=Z,8.0nm,0.7s,mb4.9,baz=75,slow=7.9
NOA NORSAR Array B 55.48 324 P **P** **03 56 57.0 -0.6**
comp=Z,7.7nm,0.7s,mb4.9,baz=74,slow=7.3,SNR=23
NOA LR LR 04 21 59.2
comp=Z,182nm,18.5s,MS4.2,baz=45,slow=37
NOA NORSAR Array B 55.48 324 P **P** **03 56 57.0 -0.6**
NOA LR LR 04 21 59.2
NOA NORSAR Array B 55.48 324 P **P** **03 56 57.0 -0.6**
NOA pmax pmax
comp=Z,8.0nm,0.7s
NOA MLR MLR
comp=Z,182nm,18.5s
DPC Dobruska-Polom 56.01 311 *e*P **P** **03 57 02.6 +1.0**
DPC Dobruska-Polom 56.01 311 *e*P **P** **03 57 02.6 +1.0**
DPC *ep*P pP 03 57 05.9 +2.2
UPC Upice 56.15 311 *e*P **P** **03 57 03.3 +0.7**
UPC Upice 56.15 311 *e*P **P** **03 57 03.3 +0.7**
UPC *ep*P pP 03 57 07.0 +2.3
VRAC Vranov 56.20 309 ⇑P **P** **03 57 04.0 +1.0**
PVCC Panska Ves 57.01 311 *e*P **P** **03 57 09.6 +0.9**
PVCC Panska Ves 57.01 311 *e*P **P** **03 57 09.6 +0.9**
PVCC *ep*P pP 03 57 14.3 +3.5
CONA Conrad Observa 57.14 308⇓*i*P **P** **03 57 10.6 +0.8**
comp=Z,6.0nm,0.7s,mb4.7,SNR=6.1
PRU Pruhonice 57.21 311 *e*P **P** **03 57 11.5 +1.3**
PRU Pruhonice 57.21 311 *e*P **P** **03 57 11.5 +1.3**
PRU *ep*P pP 03 57 15.3 +3.0
BRG Berggiesshubel 57.26 312 *e*P **P** **03 57 10.9 +0.4**
BRG pmax pmax
comp=Z,12nm,1.0s,mb4.9
CLL Collm 57.66 313 *e*P **P** **03 57 13.0 -0.3**
CLL pmax pmax
comp=Z,1µm,1.1s
CLL MLR MLR
comp=Z,300nm,20.2s,MS4.4
KHC Kasperske Hory 58.11 310 *e*P **P** **03 57 17.0 +0.5**
KHC *e* 03 57 22.2
KHC Kasperske Hory 58.11 310 *e*P **P** **03 57 17.0 +0.5**
KHC *ep*P pP 03 57 22.2 +3.6
SOKA Soboth 58.13 307⇑*i*P **P** **03 57 17.1 +0.4**
comp=Z,7.5nm,0.7s,mb4.8
GERES GERESS Array B 58.14 310 P **P** **03 57 17.2 +0.4**
comp=Z,2.9nm,0.8s,mb4.4,baz=64,slow=6.1,SNR=26
GERES GERESS Array B 58.14 310 P **P** **03 57 17.2 +0.4**
GERES GERESS Array B 58.14 310 P **P** **03 57 17.2 +0.5**
GERES pmax pmax
comp=Z,3.0nm,0.8s
GRF Grafenberg Arr 59.32 311 *e*P **P** **03 57 25.7 +0.8**
comp=Z,24nm,0.8s,mb5.3
GRF Grafenberg Arr 59.32 311 *e*P **P** **03 57 25.7 +0.8**
GRF pmax pmax
comp=Z,24nm,0.8s,mb5.3
WTTA Wattenberg 60.04 309 *i* pP **P** **03 57 30.3 +0.4**
comp=Z,14nm,0.7s,mb5.1,SNR=8.8
WATA Walderalm 60.04 309⇑*i*pP **P** **03 57 30.2 +0.2**
comp=Z,11nm,0.8s,mb4.9
MOTA Moosalm 60.33 309⇑*i*P **P** **03 57 31.9 0.0**
comp=Z,12nm,0.8s,mb5.0,SNR=11
CUC Castrocucco 60.35 299 *e*P **P** **03 57 32.8 +0.6**
comp=Z,8.1nm,0.8s,mb4.8
FETA Feichten 60.70 309⇑*i*P **P** **03 57 34.6 +0.1**
comp=Z,10nm,0.9s,mb4.9,SNR=12
CEL Celeste 61.06 298 *e*P **P** **03 57 36.8 -0.2**
comp=Z,12nm,0.8s,mb5.1
BFO Black Forest 61.61 311 *e*P **P** **03 57 41.0 +0.4**
comp=Z,12nm,1.3s,mb4.9
BFO Black Forest 61.61 311 *e*P **P** **03 57 41.0 +0.4**
BFO pmax pmax
comp=Z,12nm,1.3s,mb4.9
TUE Stuetta 61.80 308 *e*P **P** **03 57 41.7 -0.2**
comp=Z,9.8nm,0.7s,mb5.0
FITZ Fitzroy Crossi 62.08 148 *e*P **P** **03 57 44.0 0.0**
comp=Z,6.4nm,1.0s,mb4.7
CDF Champ du Feu 62.21 311⇑*i*P **P** **03 57 44.6 0.0**
comp=Z,14nm,0.8s,mb4.8
CDF Champ du Feu 62.21 311⇑*i*P **P** **03 57 44.6 0.0**
comp=Z,6.8nm,0.8s,mb4.8
CDF Champ du Feu 62.21 311⇑*i*P **P** **03 57 44.6 0.0**
CDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
HINF Hinteralfeld 62.73 311⇑*i*P **P** **03 57 47.9 -0.2**
HINF Hinteralfeld 62.73 311⇑*i*P **P** **03 57 47.9 -0.2**
HINF Hinteralfeld 62.73 311⇑*i*P **P** **03 57 47.9 -0.2**
GIVF Givet 62.90 314 *e*P **P** **03 57 49.4 +0.2**
GIVF Givet 62.90 314 *e*P **P** **03 57 49.4 +0.2**
GIVF Givet 62.90 314 *e*P **P** **03 57 49.4 +0.2**
HAU Haudompre 62.95 311⇑*i*P **P** **03 57 49.4 -0.2**
comp=Z,15nm,0.8s,mb4.8
HAU Haudompre 62.95 311⇑*i*P **P** **03 57 49.4 -0.2**
comp=Z,7.4nm,0.8s,mb4.9
HAU Haudompre 62.95 311⇑*i*P **P** **03 57 49.4 -0.2**
HAU pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
PAGF Fort de Pagny 63.07 312⇑*i*P **P** **03 57 50.9 +0.5**
BAIF Baives 63.27 314⇑*i*P **P** **03 57 52.0 +0.3**
comp=Z,31nm,1.1s,mb5.0
BAIF Baives 63.27 314⇑*i*P **P** **03 57 52.0 +0.3**
comp=Z,15nm,1.1s,mb5.0
BAIF Baives 63.27 314⇑*i*P **P** **03 57 52.0 +0.3**
BAIF pmax pmax
comp=Z,15nm,1.1s,mb5.0
MEZF Maizieres J'vi 63.49 312 *e*P **P** **03 57 53.5 +0.3**
comp=Z,40nm,1.0s,mb5.2
MEZF Maizieres J'vi 63.49 312 *e*P **P** **03 57 53.5 +0.3**
comp=Z,40nm,1.0s,mb5.5
SFTF Sexfontaines 63.64 312⇑*i*P **P** **03 57 54.0 -0.1**
SFTF Sexfontaines 63.64 312⇑*i*P **P** **03 57 54.0 -0.1**
CABF La Chapelle 63.74 310 *e*P **P** **03 57 54.7 -0.2**
CABF La Chapelle 63.74 310 *e*P **P** **03 57 54.7 -0.2**
CABF La Chapelle 63.74 310 *e*P **P** **03 57 54.7 -0.2**
PGF Pioggiola 63.79 305⇑*i*P **P** **03 57 55.6 +0.4**
comp=Z,24nm,0.8s,mb5.0
PGF Pioggiola 63.79 305⇑*i*P **P** **03 57 55.6 +0.4**
comp=Z,12nm,0.8s,mb5.0
PGF Pioggiola 63.79 305⇑*i*P **P** **03 57 55.6 +0.4**
PGF pmax pmax
comp=Z,12nm,0.8s,mb5.0
LPG La Plagne 63.85 308⇑*i*P **P** **03 57 56.5 +0.9**
comp=Z,29nm,0.7s,mb5.1
LPG La Plagne 63.85 308⇑*i*P **P** **03 57 56.5 +0.9**
comp=Z,14nm,0.7s,mb5.1
LPG La Plagne 63.85 308⇑*i*P **P** **03 57 56.5 +0.9**
LPG pmax pmax
comp=Z,14nm,0.7s,mb5.1
LPL La Plagne 63.85 308⇑*i*P **P** **03 57 56.3 +0.7**
comp=Z,23nm,0.7s,mb5.0
LPL La Plagne 63.85 308⇑*i*P **P** **03 57 56.3 +0.7**
comp=Z,12nm,0.7s,mb5.0
LPL La Plagne 63.85 308⇑*i*P **P** **03 57 56.3 +0.7**
LPL pmax pmax
comp=Z,12nm,0.7s,mb5.0
SBF Sospel 64.18 307⇑*i*P **P** **03 57 57.9 +0.1**
comp=Z,52nm,0.8s,mb5.3
SBF Sospel 64.18 307⇑*i*P **P** **03 57 57.9 +0.1**
comp=Z,26nm,0.8s,mb5.3
SBF Sospel 64.18 307⇑*i*P **P** **03 57 57.9 +0.1**
SBF pmax pmax
comp=Z,26nm,0.8s,mb5.3
MBDF Montbardon 64.20 308⇑*i*P **P** **03 57 57.3 -0.6**
comp=Z,21nm,1.1s,mb4.8
MBDF Montbardon 64.20 308⇑*i*P **P** **03 57 57.3 -0.6**
comp=Z,10nm,1.1s,mb4.8
MBDF Montbardon 64.20 308⇑*i*P **P** **03 57 57.3 -0.6**
MBDF pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
COLD Coldfoot 64.33 23 *e*P **P** **03 57 59.1 +0.7**
comp=Z,28nm,0.9s,mb5.3
ORIF Oris-en-Rattie 64.67 308⇑*i*P **P** **03 58 00.9 0.0**
comp=Z,30nm,0.8s,mb5.1
ORIF Oris-en-Rattie 64.67 308⇑*i*P **P** **03 58 00.9 0.0**
comp=Z,15nm,0.8s,mb5.1
ORIF Oris-en-Rattie 64.67 308⇑*i*P **P** **03 58 00.9 0.0**
ORIF pmax pmax
comp=Z,15nm,0.8s,mb5.1
LOR Lormes 64.78 311⇑*i*P **P** **03 58 01.0 -0.6**
comp=Z,14nm,0.9s,mb4.7
LOR Lormes 64.78 311⇑*i*P **P** **03 58 01.0 -0.6**
comp=Z,7.0nm,0.9s,mb4.7
LOR Lormes 64.78 311⇑*i*P **P** **03 58 01.0 -0.6**
LOR pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
FRF La Foret Royal 64.83 307⇑*i*P **P** **03 58 01.7 -0.3**
comp=Z,8.2nm,0.7s,mb4.6
FRF La Foret Royal 64.83 307⇑*i*P **P** **03 58 01.7 -0.3**
comp=Z,4.1nm,0.7s,mb4.6
FRF La Foret Royal 64.83 307⇑*i*P **P** **03 58 01.7 -0.3**
FRF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
LMR La Mourre 65.03 306⇑*i*P **P** **03 58 03.2 -0.1**
comp=Z,24nm,1.2s,mb4.8
LMR La Mourre 65.03 306⇑*i*P **P** **03 58 03.2 -0.1**
comp=Z,12nm,1.2s,mb4.8
LMR La Mourre 65.03 306⇑*i*P **P** **03 58 03.2 -0.1**
LMR pmax pmax
comp=Z,12nm,1.2s,mb4.8
SMF Signal de Mont 65.09 311 *e*P **P** **03 58 03.4 -0.3**
comp=Z,46nm,0.8s,mb5.2
SMF Signal de Mont 65.09 311 *e*P **P** **03 58 03.4 -0.3**
comp=Z,23nm,0.8s,mb5.2
SMF Signal de Mont 65.09 311 *e*P **P** **03 58 03.4 -0.3**
SMF pmax pmax
comp=Z,23nm,0.8s,mb5.3
SSF Saint Saulge 65.09 311⇑*i*P **P** **03 58 03.1 -0.6**
comp=Z,17nm,1.0s,mb4.7
SSF Saint Saulge 65.09 311⇑*i*P **P** **03 58 03.1 -0.6**
comp=Z,8.6nm,1.0s,mb4.7
SSF Saint Saulge 65.09 311⇑*i*P **P** **03 58 03.1 -0.6**
SSF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
SMRF Simiane la Rot 65.31 307 *e*P **P** **03 58 05.3 +0.1**
SMRF Simiane la Rot 65.31 307 *e*P **P** **03 58 05.3 +0.1**
AVF Avril sur Loir 65.31 311⇑*i*P **P** **03 58 04.7 -0.4**
comp=Z,19nm,0.8s,mb4.9
AVF Avril sur Loir 65.31 311⇑*i*P **P** **03 58 04.7 -0.4**
comp=Z,9.7nm,0.8s,mb4.9
AVF Avril sur Loir 65.31 311⇑*i*P **P** **03 58 04.7 -0.4**
AVF pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
VIVF Saint-Julien-l 65.45 309 *e*P **P** **03 58 06.0 0.0**
comp=Z,28nm,1.2s,mb4.9
VIVF Saint-Julien-l 65.45 309 *e*P **P** **03 58 06.0 0.0**
comp=Z,14nm,1.2s,mb4.9
VIVF Saint-Julien-l 65.45 309 *e*P **P** **03 58 06.0 0.0**
VIVF pmax pmax
comp=Z,14nm,1.2s,mb4.9
SUMG Summit 65.69 346 *e*P **P** **03 58 06.6 -0.6**
comp=Z,5.6nm,0.6s,mb4.8
SUMG Summit 65.69 346 *e*P **P** **03 58 06.6 -0.6**
SUMG pmax pmax
comp=Z,6.0nm,0.6s
BGF Bois d'Agland 65.73 311 *e*P **P** **03 58 07.5 -0.3**
comp=Z,26nm,0.8s,mb5.0
BGF Bois d'Agland 65.73 311 *e*P **P** **03 58 07.5 -0.3**
comp=Z,13nm,0.8s,mb5.0
BGF Bois d'Agland 65.73 311 *e*P **P** **03 58 07.5 -0.3**
BGF pmax pmax
comp=Z,13nm,0.8s,mb5.0
PPLA Purkeypile 66.23 28 *e*P **P** **03 58 11.3 +0.5**
comp=Z,66nm,1.2s,mb5.5
TCF Toulx Ste Croi 66.25 311⇑*i*P **P** **03 58 11.2 0.0**
comp=Z,35nm,0.9s,mb5.1
TCF Toulx Ste Croi 66.25 311⇑*i*P **P** **03 58 11.2 0.0**
comp=Z,18nm,0.9s,mb5.1
TCF Toulx Ste Croi 66.25 311⇑*i*P **P** **03 58 11.2 0.0**

TCF pmax pmax
comp=Z,18nm,0.9s,mb5.1
LASF Ste Croix 66.34 308⇑*i*P P 03 58 12.1 +0.3
comp=Z,19nm,0.8s,mb4.9
LASF Ste Croix 66.34 308⇑ *i*P P 03 58 12.1 +0.3
LDF La Druitiere 66.46 314⇑*i*P P 03 58 12.0 -0.5
comp=Z,9.8nm,0.6s,mb4.7
LDF La Druitiere 66.46 314⇑*i*P P 03 58 12.0 -0.5
comp=Z,4.9nm,0.6s,mb4.7
LDF La Druitiere 66.46 314⇑*i*P P 03 58 12.0 -0.5
LDF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
COLA College 66.53 25 *e*P P 03 58 12.4 -0.3
comp=Z,23nm,0.8s,mb5.2
COLA College 66.53 25 *e*P P 03 58 12.4 -0.3
COLA pmax pmax
comp=Z,23nm,0.8s,mb5.3
FLN La Foliniere 66.58 314 *e*P P 03 58 12.9 -0.3
FLN La Foliniere 66.58 314 *e*P P 03 58 12.9 -0.3
FLN La Foliniere 66.58 314 *e*P P 03 58 12.9 -0.3
TRF Thorofare Moun 66.58 27 *e*P P 03 58 13.0 0.0
comp=Z,44nm,1.5s,mb5.3
KEST Kesra 66.87 298 P P 03 58 14.0 -1.3
comp=Z,2.3nm,0.9s,mb4.2,baz=90,slow=3.0,SNR=4.6
KEST Kesra 66.87 298 P P 03 58 14.0 -1.3
MCK McKinley 66.89 26 *e*P P 03 58 15.1 +0.2
comp=Z,5.9nm,0.6s,mb4.8
MCK McKinley 66.89 26 *e*P P 03 58 15.1 +0.2
MCK pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
ILAR Eielson Array 66.92 24 P P 03 58 14.3 -0.8
comp=Z,9.6nm,0.7s,mb4.9,baz=298,slow=5.1,SNR=119
ILAR Eielson Array 66.92 24 P P 03 58 14.3 -0.8
ILAR Eielson Array 66.92 24 P P 03 58 14.4 -0.7
ILAR pmax pmax
comp=Z,10.0nm,0.7s
GRR Gorron 66.98 314⇑*i*P P 03 58 15.5 -0.3
comp=Z,31nm,0.7s,mb5.1
GRR Gorron 66.98 314⇑ *i*P P 03 58 15.5 -0.3
comp=Z,15nm,0.7s,mb5.1
GRR Gorron 66.98 314⇑*i*P P 03 58 15.5 -0.3
GRR pmax pmax
comp=Z,15nm,0.7s,mb5.1
CAF Calviac 67.02 310⇑*i*P P 03 58 16.6 +0.5
comp=Z,15nm,0.8s,mb4.8
CAF Calviac 67.02 310⇑ *i*P P 03 58 16.6 +0.5
comp=Z,7.5nm,0.8s,mb4.8
CAF Calviac 67.02 310⇑*i*P P 03 58 16.6 +0.5
CAF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
RJF Les Rejaudoux 67.16 310⇑*i*P P 03 58 17.5 +0.5
RJF Les Rejaudoux 67.16 310⇑*i*P P 03 58 17.5 +0.5
RJF Les Rejaudoux 67.16 310⇑*i*P P 03 58 17.5 +0.5
MFF Saint Martin d 67.49 312 *e*P P 03 58 18.9 -0.2
comp=Z,31nm,0.9s,mb5.0
MFF Saint Martin d 67.49 312 *e*P P 03 58 18.9 -0.2
comp=Z,15nm,0.9s,mb5.0
MFF Saint Martin d 67.49 312 *e*P P 03 58 18.9 -0.2
MFF pmax pmax
comp=Z,15nm,0.9s,mb5.0
WRAB Tennant Creek 67.72 141 *e*P P 03 58 20.6 -0.2
comp=Z,6.4nm,0.9s,mb4.7
WRAB Tennant Creek 67.72 141 *e*P P 03 58 20.6 -0.2
WRAB pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
WRA Warramunga Arr 67.73 141 P P 03 58 19.8 -0.9
comp=Z,5.7nm,0.9s,mb4.6,baz=340,slow=6.4,SNR=25
WRA Warramunga Arr 67.73 141 P P 03 58 19.8 -0.9
WRA Warramunga Arr 67.73 141 P P 03 58 19.8 -1.0
WRA pmax pmax
comp=Z,6.0nm,0.9s
MTLF Montolieu 67.74 308⇑*i*P P 03 58 20.8 +0.1
comp=Z,28nm,1.1s,mb4.9
MTLF Montolieu 67.74 308⇑*i*P P 03 58 20.8 +0.1
comp=Z,14nm,1.1s,mb4.9
MTLF Montolieu 67.74 308⇑*i*P P 03 58 20.8 +0.1
MTLF pmax pmax
comp=Z,14nm,1.1s,mb4.9
RES Resolute Bay 67.82 3 *e*P P 03 58 20.7 0.0
comp=Z,6.9nm,0.9s,mb4.7
RES Resolute Bay 67.82 3 *e*P P 03 58 20.7 0.0
RES pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
LFF La Frestale 67.82 310⇑*i*P P 03 58 21.6 +0.4
comp=Z,18nm,0.6s,mb5.0
LFF La Frestale 67.82 310⇑*i*P P 03 58 21.6 +0.4
comp=Z,9.0nm,0.6s,mb5.0
LFF La Frestale 67.82 310⇑*i*P P 03 58 21.6 +0.4
LFF pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
SGMF Saint Gilles 68.02 315 *e*P P 03 58 22.6 +0.2
SGMF Saint Gilles 68.02 315 *e*P P 03 58 22.6 +0.2
SGMF Saint Gilles 68.02 315 *e*P P 03 58 22.6 +0.2
INK Inuvik 68.23 18 *e*P P 03 58 23.1 -0.3
comp=Z,19nm,0.8s,mb5.2
INK Inuvik 68.23 18 *e*P P 03 58 23.1 -0.3
INK pmax pmax
comp=Z,19nm,0.8s
SML Sawmill 68.32 27 *e*P P 03 58 24.1 +0.1
comp=Z,12nm,0.8s,mb5.0
SML Sawmill 68.32 27 *e*P P 03 58 24.1 +0.1
SML pmax pmax
comp=Z,12nm,0.8s,mb5.0
CLLI Llivia 68.34 307 P P 03 58 24.1 -0.4
comp=Z,6.4nm,0.7s,mb4.8
ROSF Rostrenen 68.38 315 *e*P P 03 58 24.8 +0.2
ROSF Rostrenen 68.38 315 *e*P P 03 58 24.8 +0.2
ROSF Rostrenen 68.38 315 *e*P P 03 58 24.8 +0.2
CFON Fontmartina 68.42 307 P P 03 58 24.9 -0.1
comp=Z,9.2nm,0.8s,mb4.9
QUIF Quistinic 68.55 314 *e*P P 03 58 25.7 0.0
comp=Z,233nm,1.5s,mb5.6
QUIF Quistinic 68.55 314 *e*P P 03 58 25.7 0.0
comp=Z,117nm,1.5s,mb5.6
QUIF Quistinic 68.55 314 *e*P P 03 58 25.7 0.0
QUIF pmax pmax
comp=Z,117nm,1.5s,mb5.6
EGAK Eagle 68.73 23 *e*P P 03 58 26.4 -0.2
comp=Z,26nm,1.0s,mb5.1
EMIR Miracle 68.92 307 P P 03 58 28.7 +0.6
comp=Z,10nm,0.6s,mb4.9
CSOR Sort 68.92 308 P P 03 58 27.9 -0.2
comp=Z,4.9nm,0.7s,mb4.5
EPF Esparros 69.07 309⇑*i*P P 03 58 28.5 -0.5
comp=Z,17nm,1.0s,mb4.6
EPF Esparros 69.07 309⇑*i*P P 03 58 28.5 -0.5
comp=Z,8.6nm,1.0s,mb4.6
EPF Esparros 69.07 309⇑*i*P P 03 58 28.5 -0.5
EPF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
KDAK Kodiak Island 69.17 32 *i*P P 03 58 28.7 -0.7
ETOS Mallorca 69.22 305 P P 03 58 30.3 +0.3
comp=Z,9.6nm,0.8s,mb4.8
EBIE Bielsa 69.38 308 P P 03 58 31.8 +0.8
comp=Z,4.9nm,0.6s,mb4.6
ETSF Etsaut 69.70 309⇑*i*P P 03 58 34.2 +1.3
comp=Z,35nm,1.0s,mb4.9
ETSF Etsaut 69.70 309⇑*i*P P 03 58 34.2 +1.3
comp=Z,18nm,1.0s,mb5.0
ETSF Etsaut 69.70 309⇑*i*P P 03 58 34.2 +1.3
ETSF pmax pmax
comp=Z,18nm,1.0s,mb5.0
DAWY Dawson 69.78 23 *e*P P 03 58 33.1 0.0
SJPF Ste Jean 69.99 309⇑*i*P P 03 58 35.5 +0.8
comp=Z,27nm,1.0s,mb4.8
SJPF Ste Jean 69.99 309⇑*i*P P 03 58 35.5 +0.8
comp=Z,14nm,1.0s,mb4.8
SJPF Ste Jean 69.99 309⇑*i*P P 03 58 35.5 +0.8
SJPF pmax pmax
comp=Z,14nm,1.0s,mb4.8
ERTA Horta de San J 70.19 307 P P 03 58 35.8 -0.2
comp=Z,12nm,0.7s,mb4.9
BMRM Bremner River 70.22 27 *e*P P 03 58 36.3 +0.4
comp=Z,28nm,1.0s,mb5.1
ASAR Alice Springs 70.66 143 P P 03 58 38.4 -0.6
comp=Z,4.1nm,0.8s,mb4.4,baz=330,slow=5.9,SNR=34
ASAR Alice Springs 70.66 143 P P 03 58 38.4 -0.6
ASAR Alice Springs 70.66 143 P P 03 58 38.4 -0.5
ASAR pmax pmax
comp=Z,4.0nm,0.8s
EMOS Mosqueruela 71.02 307 P P 03 58 42.0 +0.9
comp=Z,12nm,0.7s,mb4.9
EMHD Djebel Mahouad 71.04 301 P P 03 58 42.5 +1.3
ELAN Lanestosa 71.28 310 P P 03 58 44.1 +1.5
comp=Z,17nm,0.8s,mb5.0
ECHE Chera 71.77 306 P P 03 58 47.5 +1.9
comp=Z,7.3nm,0.7s,mb4.7
ECHE Chera 71.77 306 P P 03 58 47.5 +1.9
ECHE pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
ETOR Torete 71.77 308 P P 03 58 45.0 -0.6
comp=Z,6.4nm,0.7s,mb4.7
ETOR Torete 71.77 308 P P 03 58 45.0 -0.6
ETOR pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
EBNR Beni Rached 71.95 302 P P 03 58 47.0 +0.3
ECHA Ech Chlef 72.14 302 P P 03 58 48.5 +0.6
EANR 'Ain N'Sour 72.43 302 P P 03 58 50.0 +0.4
ETRT Tiaret 72.60 301 P P 03 58 52.0 +1.3
ETOB Tobarra 72.67 306 P P 03 58 51.4 +0.3
comp=Z,8.9nm,0.8s,mb4.8
NWAO Narrogin (SRO) 72.91 161 P P 03 58 51.7 -0.5
comp=Z,8.0nm,0.8s,mb4.7,baz=353,slow=7.6,SNR=5.1
NWAO Narrogin (SRO) 72.91 161 P P 03 58 51.7 -0.5
NWAO Narrogin (SRO) 72.91 161 P P 03 58 51.7 -0.5
NWAO pmax pmax
comp=Z,8.0nm,0.8s
EMUR La Murta 72.92 305 P P 03 58 52.5 0.0
comp=Z,9.2nm,0.6s,mb4.9
GUD Guadarrama 73.19 308 P P 03 58 54.2 +0.2
comp=Z,8.7nm,0.7s,mb4.8
GUD Guadarrama 73.19 308 P P 03 58 54.2 +0.2
GUD pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
EVIA Vianos 73.29 306 P P 03 58 55.6 +0.9
comp=Z,8.5nm,0.7s,mb4.8
EVIA Vianos 73.29 306 P P 03 58 55.6 +0.9
EVIA pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
ESDC Sonseca Array 73.62 308 P P 03 58 56.7 +0.1
comp=Z,6.9nm,0.7s,mb4.7,baz=45,slow=6.0,SNR=61
ESDC Sonseca Array 73.62 308 P P 03 58 57.2 +0.5
comp=Z,6.4nm,0.7s,mb4.7
ESLA Sonseca Array 73.62 308 *e*P P 03 58 57.0 +0.3
comp=Z,1.4nm,0.8s,mb3.9
EHUE Huescar 73.82 305 P P 03 58 58.0 +0.1
comp=Z,4.2nm,0.7s,mb4.5
EHUE Huescar 73.82 305 P P 03 58 58.0 +0.2
EHUE pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
PBRG Braganca 74.09 311 *e*P P 03 58 57.0 -2.4
comp=Z,27nm,2.0s,mb4.8
EQES Quesada 74.14 306 P P 03 59 00.1 +0.5
comp=Z,9.9nm,0.7s,mb4.8
SKAG Skagway 74.51 24 *e*P P 03 59 02.4 +1.0
comp=Z,26nm,1.0s,mb5.1
MVO Moncorvo 74.65 310 P P 03 59 02.2 -0.4
comp=Z,8.5nm,0.7s,mb4.8
MVO Moncorvo 74.65 310 *e*P P 03 59 02.7 +0.1
comp=Z,42nm,2.1s,mb5.0
EPLA Plasencia 74.72 309 P P 03 59 02.4 -0.7
comp=Z,5.1nm,0.7s,mb4.6
EPLA Plasencia 74.72 309 P P 03 59 02.4 -0.6
EPLA pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ECOG Cogollos-Vega 74.76 305 P P 03 59 03.1 -0.2
comp=Z,7.7nm,0.8s,mb4.7
ECOG Cogollos-Vega 74.76 305 P P 03 59 03.1 -0.2
ECOG pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
ELOB Lobios 74.85 311 P P 03 59 04.2 +0.5
comp=Z,6.9nm,0.7s,mb4.7
EADA Adamuz 74.89 307 P P 03 59 03.4 -0.7
comp=Z,2.8nm,0.8s,mb4.2
PCAB Cabril 74.92 311 *e*P P 03 59 05.2 +1.0
comp=Z,62nm,1.6s,mb5.3
EGUA Guajares 75.02 305 P P 03 59 04.5 -0.3
comp=Z,50nm,1.4s,mb5.2
EGUA Guajares 75.02 305 P P 03 59 04.5 -0.3
EGUA pmax pmax
comp=Z,50nm,1.4s,mb5.2
ELUQ Luque 75.05 306 P P 03 59 04.9 -0.1
comp=Z,19nm,0.7s,mb5.1
ELUQ Luque 75.05 306 P P 03 59 04.9 -0.1
ELUQ pmax pmax
comp=Z,19nm,0.7s,mb5.1
ERON Agron 75.07 305 P P 03 59 05.0 -0.1
comp=Z,10nm,0.7s,mb4.9
ELOJ Sierra Loja 75.22 306 P P 03 59 05.7 -0.3
comp=Z,5.8nm,0.8s,mb4.6
ELOJ Sierra Loja 75.22 306 P P 03 59 05.7 -0.2
ELOJ pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MTE Manteigas 75.42 310 *e*P P 03 59 08.3 +1.2
comp=Z,41nm,1.6s,mb5.1
PCBR Castelo Branco 75.71 309 *e*P P 03 59 07.8 -1.0
comp=Z,15nm,1.6s,mb4.7
PMRV Marv??o 75.91 309 *e*P P 03 59 10.3 +0.4
comp=Z,26nm,1.5s,mb4.9
EBAD Badajoz 76.08 308 P P 03 59 10.0 -0.8
comp=Z,5.0nm,0.7s,mb4.5
PESTR Estremoz 76.37 309 *e*P P 03 59 11.8 -0.7
comp=Z,32nm,1.6s,mb5.0
PBAR Barcos 76.44 308 *e*P P 03 59 13.3 +0.3
comp=Z,34nm,1.5s,mb5.0
EMIN Mina Concepcio 76.46 307 P P 03 59 12.9 -0.1
comp=Z,8.0nm,0.7s,mb4.8
ESPR Espera 76.48 306 P P 03 59 12.0 -1.1
comp=Z,3.9nm,0.7s,mb4.5
PMTG Montargil 76.64 309 *e*P P 03 59 14.3 +0.2
comp=Z,27nm,1.8s,mb4.9
TAM Tamanrasset 76.69 289 *e*P P 03 59 14.9 +0.3
comp=Z,3.9nm,0.8s,mb4.4
TAM Tamanrasset 76.69 289 *e*P P 03 59 14.9 +0.3
TAM pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
EVO Evora 76.84 309⇑*i*P P 03 59 15.9 +0.7
comp=Z,23nm,1.0s,mb4.8
EVO Evora 76.84 309 *e*P P 03 59 15.4 +0.2
comp=Z,18nm,1.8s,mb4.7
EVOP Sao Brissos 76.91 309⇑*i*P P 03 59 15.9 +0.3
comp=Z,23nm,1.0s,mb5.1
EVOP Sao Brissos 76.91 309⇑*i*P P 03 59 15.9 +0.3
EVOP pmax pmax
comp=Z,23nm,1.0s,mb5.1
PBEJ Beja 77.05 308 *e*P P 03 59 17.0 +0.6
comp=Z,16nm,1.6s,mb4.7
PBEJ Beja 77.05 308 PP PP 04 02 05.5 -3.8
YKA Yellowknife Ar 77.33 14 P P 03 59 16.9 -0.6
comp=Z,3.4nm,0.7s,mb4.4,baz=334,slow=5.5,SNR=7.2
YKA Yellowknife Ar 77.33 14 P P 03 59 16.9 -0.6
YKA Yellowknife Ar 77.33 14 P P 03 59 16.9 -0.6
YKA pmax pmax
comp=Z,3.0nm,0.7s
PCVE Castro Verde 77.40 308 *e*P P 03 59 18.9 +0.5
comp=Z,20nm,1.4s,mb4.8
PNCL Nicolau / Gran 77.42 308 *e*P P 03 59 19.0 +0.6
comp=Z,20nm,1.8s,mb4.8
STKA Stephens Creek 81.23 142 P P 03 59 38.1 -1.0
comp=Z,6.9nm,0.8s,mb4.6,baz=336,slow=7.3,SNR=17
STKA Stephens Creek 81.23 142 P P 03 59 38.1 -0.9
STKA Stephens Creek 81.23 142 P P 03 59 38.1 -1.0
LSZ Lusaka 82.34 244 *e*P P 03 59 45.8 +0.5
comp=Z,3.6nm,0.7s,mb4.4
LSZ Lusaka 82.34 244 *e*P P 03 59 45.8 +0.5
LSZ pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
TORD Torodi Ar. Bea 85.31 283 P P 04 00 00.1 -0.6
comp=Z,3.4nm,0.8s,mb4.5,baz=47,slow=3.7,SNR=27
TORD Torodi Ar. Bea 85.31 283 P P 04 00 00.1 -0.6
SCHQ Schefferville 86.78 350 P P 04 00 05.7 -1.6
comp=Z,9.5nm,0.7s,mb5.2,baz=9.3,slow=4.2,SNR=10
SCHQ Schefferville 86.78 350 P P 04 00 05.7 -1.6
FFC Flin Flon 86.83 10 *i*P P 04 00 07.3 -0.2
JCW Jim Creek 88.26 24 *e*P P 04 00 14.5 0.0
comp=Z,36nm,1.4s,mb5.4
B08A Colville Reser 88.93 23 ⇓P P 04 00 17.7 0.0
baz=88,SNR=6.7
D05A Enumclaw 89.11 25 ⇑P P 04 00 19.3 +0.8
baz=89
A12A Yaak River Ran 89.48 20 ⇑P P 04 00 20.7 +0.5
baz=89
LON Longmire 89.56 25 *e*P P 04 00 21.0 +0.4
comp=Z,7.9nm,0.7s,mb5.2
LON Longmire 89.56 25 *e*P P 04 00 21.0 +0.4
LON pmax pmax
comp=Z,8.0nm,0.7s,mb5.2
NEW Newport 89.67 21 ⇓P P 04 00 21.5 +0.3
baz=89,SNR=9.3
NEW Newport 89.67 21 *e*P P 04 00 21.7 +0.6
comp=Z,8.0nm,0.8s,mb5.1
NEW Newport 89.67 21 *e*P P 04 00 21.7 +0.6
NEW pmax pmax
comp=Z,8.0nm,0.8s
C09A Chrisman Ranch 89.75 22 ⇑P P 04 00 21.9 +0.5
baz=89,SNR=8.4
A13A Flathead Natio 89.81 19 ⇑P P 04 00 21.7 0.0
baz=89
B12A Libby 89.92 20 ⇓P P 04 00 22.9 +0.6
baz=90
A14A Double T Ranch 90.03 19 ⇓P P 04 00 22.3 -0.5
baz=90
A15A Johnson Ranch, 90.20 18 ⇓P P 04 00 23.0 -0.6
baz=90,SNR=8.3
D08A Wollman Farm, 90.22 23 ⇓P P 04 00 24.1 +0.4
baz=90
C11A Tepee Creek (N 90.30 21 ⇑P P 04 00 24.7 +0.6
baz=90
B13A Whitefish 90.31 20 ⇓P P 04 00 24.3 +0.2
baz=90
E07A Sunnyside 90.36 24 ⇓P P 04 00 24.9 +0.5
baz=90,SNR=5.2
A16A West Butte Ran 90.51 18 ⇓P P 04 00 24.1 -0.9
baz=90,SNR=7.7
C12B Naegeli Ranch, 90.64 21 ⇓P P 04 00 25.8 +0.1
baz=90,SNR=9.1
E08A Dider Farm, El 90.68 23 ⇑P P 04 00 26.7 +0.9
baz=90
G04A Mulino 90.68 26 ⇓P P 04 00 27.2 +1.3
baz=90
BSMT Bassoo Peak 90.70 20 *e*P P 04 00 26.7 +0.7
comp=Z,5.9nm,0.8s,mb5.0
A17A Triple J Farms 90.72 17 ⇑P P 04 00 25.2 -0.8
baz=90,SNR=8.1
B15A Bradely Ranch, 90.86 18 ⇑P P 04 00 25.8 -0.8
baz=90,SNR=5.6
YBMT Yellow Bay 90.90 20 *e*P P 04 00 27.6 +0.7
comp=Z,15nm,0.7s,mb5.4
C13A Hot Springs 90.92 20 ⇓P P 04 00 27.4 +0.5
baz=90
JTMT Jette 90.93 20 *e*P P 04 00 27.9 +0.8
comp=Z,14nm,0.7s,mb5.4
E09A Wood Farm, Sta 90.94 23 ⇓P P 04 00 27.4 +0.4
baz=90
A18A Metzger Ranch, 90.94 17 ⇓P P 04 00 26.2 -0.9
baz=90,SNR=8.2
C14A Swan Lake 91.06 19 ⇑P P 04 00 27.6 0.0
baz=91,SNR=11
A19A Klindworth Far 91.18 16 ⇑P P 04 00 27.8 -0.3
baz=91
SWMT Swartz Lake 91.23 20 *e*P P 04 00 28.8 +0.4
comp=Z,7.1nm,0.9s,mb5.0
D12A Red Ives Fores 91.27 21 ⇓P P 04 00 28.2 -0.4
baz=91
B17A L&G Farms, Che 91.31 17 ⇑P P 04 00 28.1 -0.6
baz=91,SNR=7.7
C15A Salmond Ranch, 91.35 19 ⇑P P 04 00 28.5 -0.4
baz=91,SNR=11
A20A Cobblestone Ra 91.40 15 ⇓P P 04 00 28.4 -0.7
baz=91
B18A Beardsley Farm 91.45 17 ⇓P P 04 00 29.1 -0.3
baz=91
D13A Huson 91.48 20 ⇑P P 04 00 29.2 -0.3
baz=91,SNR=6.5
A21A Bergtoll Ranch 91.50 15 ⇓P P 04 00 29.1 -0.5
baz=91
C16A Fuhringer Ranc 91.54 18 ⇑P P 04 00 29.4 -0.4
baz=91
B19A Brinkman Farms 91.58 16 ⇑P P 04 00 29.4 -0.6
baz=91
SLMT Seeley Lake 91.61 19 *e*P P 04 00 30.9 +0.7
comp=Z,4.4nm,0.6s,mb5.0
A22A Carney Farms, 91.70 14 ⇑P P 04 00 29.8 -0.7
baz=91
F10A Beach Ranch, E 91.70 22 ⇓P P 04 00 30.7 0.0
baz=91,SNR=7.1
D14A Greenough 91.75 20 ⇑P P 04 00 30.6 -0.2
baz=91,SNR=9.9
EGMT Eagleton 91.81 17 ⇓P P 04 00 30.2 -0.8
baz=91
MSO Missoula 91.87 20 ⇓P P 04 00 31.2 -0.2
baz=91,SNR=5.0
C17A Wharram Farm, 91.94 18 ⇑P P 04 00 30.8 -0.8
baz=92
ULM Lac du Bonnet 91.97 7 P P 04 00 30.1 -1.6
comp=Z,3.3nm,0.9s,mb4.7,baz=5.2,slow=11,SNR=3.2
ULM Lac du Bonnet 91.97 7 P P 04 00 30.1 -1.6
ULM Lac du Bonnet 91.97 7 P P 04 00 30.2 -1.6
CHMT Chamberlain Mo 91.97 19 *e*P P 04 00 32.1 +0.2
comp=Z,2.7nm,0.8s,mb4.6
D15A Lincoln 92.05 19 ⇑P P 04 00 31.8 -0.4
baz=92,SNR=6.0
A24A Westby 92.12 13 ⇓P P 04 00 32.2 -0.3
baz=92
E13A Victor 92.16 20 ⇑P P 04 00 32.5 -0.2
baz=92,SNR=6.4
C19A Slack Wire Ran 92.24 16 ⇑P P 04 00 32.7 -0.4
baz=92
D16A Dana Ranch, Ca 92.30 18 ⇑P P 04 00 33.2 -0.2
baz=92
B22A Reddig Ranch S 92.35 14 ⇑P P 04 00 33.2 -0.4
baz=92,SNR=5.1
E14A Clinton 92.37 20 ⇑P P 04 00 33.2 -0.4
baz=92
D17A Six Diamond Ra 92.40 18 ⇑P P 04 00 33.2 -0.6
baz=92
DGMT Dagmar 92.53 13 ⇓P P 04 00 34.2 -0.2
baz=92
HRY Holter Researc 92.53 19 *e*P P 04 00 34.7 +0.2
comp=Z,8.7nm,0.7s,mb5.3
D18A Linhart Farms, 92.57 17 ⇑P P 04 00 34.1 -0.5
baz=92
C21A Desert Coulee 92.58 15 ⇑P P 04 00 33.6 -1.0
baz=92
E15A Deer Lodge 92.59 19 ⇑P P 04 00 34.7 0.0
baz=92,SNR=9.1
I07A Izee 92.68 25 ⇑P P 04 00 35.4 +0.2
baz=92
F13A Darby 92.72 21 ⇓P P 04 00 35.4 +0.1
baz=92
E16A East Helena 92.73 19 ⇑P P 04 00 35.0 -0.3
baz=92
D19A Cripps Ranch, 92.81 17 ⇑P P 04 00 35.4 -0.4
baz=92
C22A Vida 92.90 14 ⇓P P 04 00 36.0 -0.1
baz=92
F14A Wisdom 92.96 20 ⇓P P 04 00 36.2 -0.2
baz=92
C23A Lambert 92.98 14 ⇓P P 04 00 36.3 -0.2
baz=92
E17A Martinsdale 93.01 18 ⇑P P 04 00 36.6 0.0
baz=93
G12A Big Creek, Yel 93.04 21 ⇑P P 04 00 36.0 -0.8
baz=93
D20A Manuel Ranch, 93.05 16 ⇑P P 04 00 35.9 -0.9
baz=93
E18A Harlowton 93.14 17 ⇓P P 04 00 37.0 -0.2
baz=93
D21A La Casta Ranch 93.32 15 ⇓P P 04 00 36.9 -1.1
baz=93
D22A Cohagen 93.41 15 ⇓P P 04 00 38.4 0.0
baz=93
F16A Kennard Place, 93.44 19 ⇑P P 04 00 38.8 +0.1
baz=93
G14A Jackson 93.46 20 ⇑P P 04 00 38.8 0.0
baz=93
E19A Rath Farm, Rou 93.50 17 ⇓P P 04 00 38.6 -0.3
baz=93
BOZ Bozeman (W) 93.57 19 ⇓P P 04 00 39.3 0.0
baz=93
F17A Fitzpatrick Pl 93.58 18 ⇑P P 04 00 39.3 0.0
baz=93,SNR=5.8
D23A Lindsay 93.58 14 ⇑P P 04 00 39.0 -0.3
baz=93
E20A Meyer Farm, Mu 93.61 16 ⇑P P 04 00 38.9 -0.5
baz=93
J08A Circle Bar Ran 93.66 24 ⇑P P 04 00 40.5 +0.7
baz=93
H12A Diamond D Ranc 93.70 21 ⇑P P 04 00 39.2 -0.7
baz=93
G15A Dillon 93.79 20 ⇑P P 04 00 40.0 -0.2
baz=93
F18A Big Timber 93.81 18 ⇓P P 04 00 40.2 -0.1
baz=93
H13A Challis 93.86 21 ⇑P P 04 00 40.0 -0.6
baz=93
G16A Moss Hill, Enn 93.92 19 ⇓P P 04 00 40.7 -0.1
baz=94
F19A Roth Farm, Mol 94.04 17 ⇓P P 04 00 41.1 -0.3
baz=94
H14A Leadore 94.06 20 ⇑P P 04 00 41.4 -0.1

	baz=94							
G17A	Pierce Place,	94.10	18	⇓P		P	04 00 41.6	-0.1
	baz=94							
E22A	Miles City	94.14	15	⇓P		P	04 00 41.5	-0.3
	baz=94							
E23A	Ismay	94.21	14	⇑P		P	04 00 42.2	+0.1
	baz=94							
F20A	Billings	94.27	17	⇑P		P	04 00 41.9	-0.5
	baz=94							
I12A	Atlanta	94.31	22	⇓P		P	04 00 43.1	+0.4
	baz=94							
DBIC	Dimbokro	94.36	282	P		P	04 00 42.3	-1.1
	comp=Z,3.9nm,1.0s,mb4.8,baz=209,slow=0.1,SNR=5.0							
DBIC	Dimbokro	94.36	282	P		P	04 00 42.3	-1.1
DBIC	Dimbokro	94.36	282	P		P	04 00 42.3	-1.1
DBIC				pmax	pmax			
	comp=Z,4.0nm,1.0s							
MFID	Camas Ranch	94.44	23	⇑P		P	04 00 43.5	+0.1
	baz=94							
I13A	Wildhorse Cree	94.50	21	⇓P		P	04 00 43.7	+0.1
	baz=94							
H16A	Russell Place,	94.55	19	⇑P		P	04 00 44.1	+0.4
	baz=94							
RLMT	Red Lodge	94.65	18	⇓P		P	04 00 43.7	-0.5
	baz=94							
I14A	Mackay	94.67	21	⇓P		P	04 00 44.2	-0.1
	baz=94							
HLID	Hailey	94.73	22	⇓P		P	04 00 45.0	+0.4
	baz=94							
G20A	Bridger	94.80	17	⇓P		P	04 00 44.3	-0.6
	baz=94							
LKWY	Lake	94.89	18	*e*P		P	04 00 47.0	+1.7
	comp=Z,6.6nm,0.7s,mb5.2							
LKWY	Lake	94.89	18	*e*P		P	04 00 47.0	+1.7
LKWY				pmax	pmax			
	comp=Z,7.0nm,0.7s,mb5.2							
J13A	Cove Ranch, Pi	94.95	21	⇑P		P	04 00 45.5	-0.1
	baz=94							
H18A	Shoshone NF, C	94.97	18	⇓P		P	04 00 45.5	-0.2
	baz=94							
H17A	Grant Village	95.01	19	⇑P		P	04 00 46.8	+1.0
	baz=95							
G21A	Lodge Grass	95.03	16	⇑P		P	04 00 45.6	-0.3
	baz=95							
J14A	Carey	95.21	21	⇑P		P	04 00 46.9	+0.1
	baz=95							
I16A	Newdale	95.26	19	⇓P		P	04 00 47.7	+0.7
	baz=95							
FLWY	Flagg Ranch	95.27	19	*e*P		P	04 00 48.1	+1.0
	comp=Z,3.9nm,0.7s,mb5.0							
IMW	Indian Meadow	95.38	19	*e*P		P	04 00 48.7	+1.1
	comp=Z,4.2nm,0.7s,mb5.0							
J15A	Blackfoot	95.44	20	⇑P		P	04 00 48.5	+0.6
	baz=95							
H20A	Greybull	95.55	17	⇑P		P	04 00 47.8	-0.6
	baz=95							
H21A	Big Horn, Sher	95.63	16	⇑P		P	04 00 48.6	-0.1
	baz=95							
I19A	Meeteetse	95.74	18	⇓P		P	04 00 49.1	-0.1
	baz=95							
J18A	Kendall Valley	96.26	19	⇑P		P	04 00 51.5	-0.1
	baz=96							
I21A	Big Trails, Te	96.35	17	⇑P		P	04 00 51.3	-0.7
	baz=96							
J19A	Crowheart	96.45	18	⇓P		P	04 00 52.2	-0.2
	baz=96							
PDAR	Pinedale Array	96.79	19	P		P	04 00 53.5	-0.5
	comp=Z,0.7nm,0.7s,mb4.2,baz=27,slow=3.6,SNR=6.8							
PDAR	Pinedale Array	96.79	19	P		P	04 00 53.5	-0.5
J22A	Midwest	96.91	16	⇑P		P	04 00 53.8	-0.8
	baz=96							
NVAR	Mina Array Bea	98.12	26	P		P	04 01 01.0	+0.9
	comp=Z,1.1nm,0.6s,mb4.5,baz=324,slow=4.3,SNR=8.6							
NVAR				PKiKP	PKiKP		04 05 32.3	-0.7
	comp=Z,0.5nm,0.7s,baz=320,slow=2.4,SNR=2.8							
NVAR	Mina Array Bea	98.12	26	P		P	04 01 01.0	+0.9
TXAR	Lajitas Array	111.01	18	PKiKP	PKiKP		04 05 56.1	-0.8
	comp=Z,0.5nm,0.9s,baz=281,slow=2.4,SNR=4.1							
TXAR	Lajitas Array	111.01	18	PKPdf	PKiKP		04 05 56.1	-0.8
TXAR	Lajitas Array	111.01	18	*i* PKIKP	PKiKP		04 05 56.1	-0.8
TXAR				pmax	pmax			
	comp=Z,1.0nm,1.0s							
SDV	Santo Domingo	132.09	342	*e*PKPdf	PKPdf		04 06 36.3	-1.4
ROSC	El Rosal	136.82	346	PKP	PKPdf		04 06 47.2	+0.7
	comp=Z,5.3nm,0.8s,baz=78,slow=20,SNR=4.9							
ROSC	El Rosal	136.82	346	PKP	PKPdf		04 06 47.2	+0.7
LPAZ	La Paz	154.50	322	PKP	PKPdf		04 07 15.7	-0.3
	comp=Z,0.9nm,0.8s,baz=2.8,slow=7.1,SNR=4.0							
LPAZ				PKPbc	PKPbc		04 07 23.7	-0.7
	comp=Z,1.3nm,0.8s,baz=65,slow=5.4,SNR=5.8							
LPAZ				PKPab	PKPab		04 07 37.9	-0.8
	comp=Z,1.0nm,0.7s,baz=16,slow=8.0,SNR=4.6							
LPAZ	La Paz	154.50	322	PKP	PKPdf		04 07 15.7	-0.3
LPAZ				PKPbc	PKPbc		04 07 23.7	-0.7
LPAZ				PKPab	PKPab		04 07 37.9	-0.8
LPAZ	La Paz	154.50	322	PKIKP	PKPdf		04 07 15.7	-0.3
LPAZ							04 07 23.7	
LPAZ							04 07 37.9	
LPAZ				pmax	pmax			
	comp=Z,1.0nm,0.8s							
LPAZ				pmax	pmax			
	comp=Z,1.0nm,0.8s							
LPAZ				pmax	pmax			
	comp=Z,1.0nm,0.7s							
CPUP	Villa Florida	154.69	288	PKPbc	PKPbc		04 07 23.1	-1.4
	comp=Z,1.6nm,0.7s,baz=45,slow=2.1,SNR=6.2							
CPUP	Villa Florida	154.69	288	PKPbc	PKPbc		04 07 23.1	-1.4

NEIC ***10*** *04:07:21.0, 18°.27N×68°.26W, h142km, MD3.8(RSPR), After RSPR.*

RSPR 10 04:07:21.0, 18°.27N×68°.26W, h142km±3km, MD3.7/7, 13C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
AGPR	Aguadilla, PR	1.11	79	*e*P		Pn	04 07 46.0	0.0
AGPR	Aguadilla, PR	1.11	79	*e*P		Pn	04 07 46.0	0.0
CRPR	Cabo Rojo, PR	1.12	103	*e*P		Pn	04 07 46.0	-0.2
CRPR	Cabo Rojo, PR	1.12	103	*e*P		Pn	04 07 46.0	-0.2
CRPR				eS		Sn	04 08 05.2	0.0
ICM	Isla Caja Muer	1.69	102	*e*P		Pn	04 07 51.9	-0.2
ICM	Isla Caja Muer	1.69	102	*e*P		Pn	04 07 51.9	-0.2
SJG	San Juan	2.01	94	*e*P		Pn	04 07 55.9	+0.1
SJG	San Juan	2.01	94	*e*P		Pn	04 07 55.8	0.0
SJG				eS		Sn	04 08 22.4	-0.1
SJG	San Juan	2.01	94	*e*P		Pn	04 07 55.9	+0.1
SJG				eS		Sn	04 08 22.3	-0.1
CBYP	Canovanas	2.28	90	*e*P		Pn	04 07 58.8	-0.3
CBYP	Canovanas	2.28	90	*e*Pn		Pn	04 07 58.8	-0.2
CBYP				eS		Sn	04 08 28.3	+0.1
HUMP	Col San Antoni	2.29	93	*e*P		Pn	04 07 58.9	-0.2
HUMP	Col San Antoni	2.29	93	*e*P		Pn	04 07 58.9	-0.2
HUMP				eS		Sn	04 08 29.2	+0.7
MTP	Monte Pirata	2.58	93	*e*P		Pn	04 08 02.7	0.0
MTP	Monte Pirata	2.58	93	*e*P		Pn	04 08 02.7	0.0
MTP				eS		Sn	04 08 35.9	+1.1
STVI	Saint Thomas	3.14	88	*e*P		Pn	04 08 10.4	+0.5
STVI	Saint Thomas	3.14	88	*e*P		Pn	04 08 10.4	+0.5

IDC ***10*** *04:30:33.9±0.7, 14°.90S×173°.74W, h0km, mb3.8/9, mb1 4.1/9, mb1mx4.0/19, mbtmp3.8/9, MS4.0/5, Ms1 4.0/5, ms1mx3.5/37, Error ellipse: s-maj=36.9km s-min=18.6km az=131.0*

ISCJB ***10*** *04:30:37.2±0.6, 14°.9S±0°.1×173°.8W±0°.2, h33km, mb3.9/11, MS4.0/5, Error ellipse: s-maj=26.6km s-min=15.5km az=40.2*

NEIC ***10*** *04:30:39.2±0.6, 14°.95S×173°.72W, h35km, mb4.3/2, Error ellipse: s-maj=26.5km s-min=15.6km az=129.0*

ISC 10 04:30:39.2±0.6, 14°.9S±0°.1×173°.8W±0°.2, h35km, n26, σ 9°90/20, mb3.9/11, MS4.0/5, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
URZ	Urewera	24.62	197	P		P	04 35 55.2	-1.0
	2.0nm,0.3s,mb4.1,baz=4.1,slow=14,SNR=3.1							
URZ	Urewera	24.62	197	P		P	04 35 55.2	-1.0
CTA	Charters Tower	38.42	256	LR		LR	04 52 16.9	
	comp=Z,163nm,18.7s,MS3.9,baz=221,slow=34							
WRAB	Tennant Creek	49.62	256	*e*P		P	04 39 28.7	+1.2
	2.6nm,1.0s,mb4.2							
WRA	Warramunga Arr	49.63	256	P		P	04 39 26.8	-0.8
	0.6nm,0.6s,mb3.8,baz=89,slow=7.1,SNR=9.5							
WRA	Warramunga Arr	49.63	256	P		P	04 39 26.8	-0.8
GUMO	Guam	49.79	303	LR		LR	04 56 09.7	
	comp=Z,148nm,20.8s,MS4.0,baz=99,slow=31							
ASAR	Alice Springs	49.94	252	P		P	04 39 30.2	+0.3
	5.0nm,0.7s,mb4.6,baz=85,slow=8.2,SNR=40							
ASAR	Alice Springs	49.94	252	P		P	04 39 30.2	+0.3
VNDA	Vanda	63.82	186	P		P	04 41 08.0	+0.4
	0.9nm,0.8s,mb3.9,baz=17,slow=8.3,SNR=4.0							
VNDA	Vanda	63.82	186	P		P	04 41 08.0	+0.4
MJAR	Matsushiro Arr	68.35	320	LR		LR	05 03 55.5	
	comp=Z,105nm,21.5s,MS4.0,baz=90,slow=29							
NVAR	Mina Array Bea	74.20	42	P		P	04 42 12.0	-0.5
	0.1nm,0.3s,mb3.2,baz=234,slow=7.7,SNR=2.6							
NVAR	Mina Array Bea	74.20	42	P		P	04 42 12.0	-0.5
QSPA	South Pole Qui	75.13	180	*e*P		P	04 42 17.1	-0.1
	2.8nm,0.8s,mb4.2							
TXAR	Lajitas Array	80.62	56	P		P	04 42 50.8	+2.1
	0.4nm,1.0s,mb3.3,baz=252,slow=7.9,SNR=3.6							
TXAR	Lajitas Array	80.62	56	P		P	04 42 50.8	+2.1
ILAR	Eielson Array	82.03	11	P		P	04 42 54.4	-0.9
	0.6nm,1.0s,mb3.5,baz=231,slow=5.7,SNR=3.7							
ILAR	Eielson Array	82.03	11	P		P	04 42 54.4	-0.9
PDAR	Pinedale Array	82.13	42	P		P	04 42 55.6	-0.7
	0.5nm,0.9s,mb3.4,baz=232,slow=4.4,SNR=2.6							
PDAR	Pinedale Array	82.13	42	P		P	04 42 55.6	-0.7
MAW	Mawson	88.14	199	P		P	04 43 26.4	+0.4
	1.0nm,0.7s,mb4.2,baz=165,slow=3.7,SNR=3.6							
MAW				LR		LR	05 19 07.0	
	comp=Z,93nm,20.2s,MS4.2,baz=154,slow=33							
MAW	Mawson	88.14	199	P		P	04 43 26.4	+0.4
PLCA	Paso Flores	90.09	132	LR		LR	05 16 37.9	
	comp=Z,82nm,18.1s,MS4.2,baz=92,slow=31							
BRTR	Keskin Array B	145.57	321	PKPbc		PKPbc	04 50 16.2	+2.0
	4.7nm,0.8s,baz=98,slow=2.2,SNR=11							
BRTR	Keskin Array B	145.57	321	PKPbc		PKPbc	04 50 16.2	+2.0

ISCJB ***10*** *04:39:47.5±0.5, 37°.62N±0°.06×95°.83E±0°.04, h10km, mb4.1/16, Error ellipse: s-maj=8.3km s-min=4.5km az=14.0*

IDC ***10*** *04:39:47.5±0.6, 37°.59N×95°.92E, h0km, mb4.1/15, mb1 4.2/19, mb1mx4.1/31, mbtmp4.1/19, ML3.6/4, Error ellipse: s-maj=24.6km s-min=13.3km az=48.0*

BJI ***10*** *04:39:49.4, 37°.66N×95°.86E, h8km, mb4.5/6, ML4.1/9, Ms3.8/4, Ms7 3.6/3*

NEIC ***10*** *04:39:49.1±0.4, 37°.52N×95°.75E, h10km, mb4.3/6, Error ellipse: s-maj=11.8km s-min=7.3km az=49.0*

ISC 10 04:39:48.9±0.5, 37°.59N±0°.06×95°.94E±0°.04, h10km, n50, σ 1°05/58, mb4.1/16, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
GTA	Gaotai	3.54	58	Pg		Pg	04 40 55.0	-1.8
GTA				Sn		Sn	04 41 27.1	+1.3
GTA				Sg		Sb	04 41 34.2	-0.5
GTA				smax				
	comp=N,140nm,0.7s							
GTA				smax				
	comp=E,170nm,0.5s							
GTA				LR	LR			
	comp=N,1μm,9.3s							
GTA				LR	LR			
	comp=E,850nm,8.3s							
GTA				LR	LR			
	comp=Z,690nm,8.3s							
LZH	Lanzhou	6.51	101	Pn		Pn	04 41 28.9	+4.1
LZH				Pg		Pg	04 41 49.8	-3.8
LZH				Sn		Sn	04 42 44.2	+5.1
LZH				Sg		Sg	04 43 15.2	-2.8
LZH				smax				
	comp=N,100nm,1.1s							
LZH				smax				
	comp=E,100nm,1.1s							
LZH				LR	LR			
	comp=N,500nm,6.2s							
LZH				LR	LR			
	comp=E,400nm,7.0s							
LZH				LR	LR			
	comp=Z,410nm,8.7s							
WMQ	Urumqi	8.83	317	P		Pn	04 41 57.5	+1.0
SONM	Songino Array	12.79	34	Pn		Pn	04 42 54.2	+3.5
	comp=Z,1.9nm,0.3s,baz=218,slow=15,SNR=9.6							
SONM	Songino Array	12.79	34	Pn		Pn	04 42 54.2	+3.5
MK31	Makanchi Array	13.66	317	*e*Pn		Pn	04 43 02.1	-0.4
MK31				eSn		Sn	04 45 34.8	+0.6
MKAR	Makanchi Array	13.66	317	Pn		Pn	04 43 01.2	-1.3
	comp=Z,1.2nm,0.3s,baz=122,slow=14,SNR=18							
MKAR				Sn		Sn	04 45 33.8	-0.5
	comp=Z,0.3nm,0.3s,baz=127,slow=26,SNR=5.4							
MKAR	Makanchi Array	13.66	317	Pn		Pn	04 43 01.2	-1.3
MKAR				Sn		Sn	04 45 33.8	-0.5
TKM2	Tokmak 2	16.41	295	*e*Pn		Pn	04 43 38.3	-0.9
	comp=Z,4.9nm,0.6s							
AAK	Ala-Archa	17.15	294	P		Pn	04 43 48.5	0.0
	comp=Z,0.0nm,0.3s,baz=113,slow=9.9,SNR=2.6							
AAK	Ala-Archa	17.15	294	*e*Pn		Pn	04 43 52.5	+3.9
	comp=Z,2.8nm,0.7s							
KURK	Kurchatov	18.01	322	P		Pn	04 43 58.5	-0.7
	comp=Z,0.1nm,0.3s,baz=123,slow=10,SNR=6.9							
KURK	Kurchatov	18.01	322	*e*Pn		Pn	04 43 58.7	-0.5
ZALV	Zalesovo Beam	18.07	338	P		Pn	04 43 59.3	-0.6
	comp=Z,0.1nm,0.3s,baz=147,slow=12,SNR=7.2							
ZALV	Zalesovo Beam	18.07	338	P		Pn	04 43 59.3	-0.6
CMAR	Chiang Mai Arr	19.24	171	P		Pn	04 44 11.9	-2.4
	comp=Z,0.2nm,0.3s,baz=342,slow=11,SNR=2.4							
CMAR	Chiang Mai Arr	19.24	171	P		Pn	04 44 11.9	-2.4
KKAR	Karatay Array	20.11	294	*e*P		P	04 44 22.6	-0.1
	comp=Z,2.4nm,0.8s							
BVAR	Borovoye Array	23.51	319	P		P	04 44 57.2	-1.8
	comp=Z,2.4nm,0.6s,mb3.8,baz=118,slow=11,SNR=10							
BVAR	Borovoye Array	23.51	319	P		P	04 44 57.2	-1.8
KSRS	Korea Array	25.31	80	P		P	04 45 14.9	-0.6
	comp=Z,6.3nm,0.6s,mb4.3,baz=275,slow=9.7,SNR=14							
AKTK	Aktyubinsk	29.81	308	P		P	04 45 55.0	-0.8
AKTO	Aktyubinsk	29.81	308	P		P	04 45 55.0	-0.8
	comp=Z,1.1nm,0.3s,mb4.0,baz=84,slow=7.7,SNR=4.4							
FINES	FINESS Array B	48.39	323	P		P	04 48 31.1	+0.5
	comp=Z,4.7nm,0.9s,mb4.5,baz=98,slow=10,SNR=4.6							
FINES	FINESS Array B	48.39	323	P		P	04 48 31.1	+0.5
ARCES	ARCESS Array B	48.53	334	P		P	04 48 32.3	+0.7
	comp=Z,1.9nm,0.7s,mb4.2,baz=93,slow=8.7,SNR=7.7							
ARCES				PcP	PcP		04 49 57.4	+0.1
	comp=Z,1.9nm,0.8s,baz=90,slow=2.7,SNR=3.7							
ARCES	ARCESS Array B	48.53	334	P		P	04 48 32.3	+0.7
ARCES				PcP	PcP		04 49 57.4	+0.1
HFS	Hagfors	54.58	323	P		P	04 49 17.7	+0.7
	comp=Z,1.9nm,0.7s,mb4.2,baz=86,slow=6.4,SNR=5.3							
HFS	Hagfors	54.58	323	P		P	04 49 17.7	+0.7
NB2	NORSAR Subarra	55.52	324	P		P	04 49 24.0	+0.2
	comp=Z,1.3nm,0.8s,mb4.0,baz=75,slow=7.9							
NOA	NORSAR Array B	55.52	324	P		P	04 49 22.7	-1.1
	comp=Z,0.8nm,0.6s,mb3.9,baz=74,slow=7.8,SNR=3.9							
NOA	NORSAR Array B	55.52	324	P		P	04 49 22.7	-1.1
LPL	La Plagne	63.92	308	*e*P		P	04 50 23.2	+1.3
	comp=Z,3.2nm,0.8s,mb4.4							
ORIF	Oris-en-Rattie	64.73	308	*e*P		P	04 50 27.9	+0.7
ILAR	Eielson Array	66.84	25	P		P	04 50 41.1	+0.6
	comp=Z,1.1nm,0.9s,mb3.9,baz=291,slow=4.6,SNR=7.2							
ILAR	Eielson Array	66.84	25	P		P	04 50 41.1	+0.6
WRA	Warramunga Arr	67.68	141	P		P	04 50 46.6	+0.2
	comp=Z,1.3nm,0.9s,mb3.9,baz=339,slow=7.9,SNR=7.1							
WRA	Warramunga Arr	67.68	141	P		P	04 50 46.6	+0.3
KDAK	Kodiak Island	69.08	32	P		P	04 50 55.0	+0.3
	comp=Z,10nm,0.8s,mb4.8,baz=342,slow=3.2,SNR=3.7							
KDAK	Kodiak Island	69.08	32	P		P	04 50 55.0	+0.3
ASAR	Alice Springs	70.62	143	P		P	04 51 05.5	+1.0
	comp=Z,1.2nm,0.6s,mb4.0,baz=329,slow=5.8,SNR=17							
ASAR	Alice Springs	70.62	143	P		P	04 51 05.5	+1.0
ESDC	Sonseca Array	73.69	308	P		P	04 51 23.8	+0.9
	comp=Z,1.4nm,0.8s,mb3.9,baz=51,slow=5.9,SNR=4.1							
ESDC	Sonseca Array	73.69	308	P		P	04 51 23.8	+0.9
YKA	Yellowknife Ar	77.27	14	P		P	04 51 43.6	+0.6
	comp=Z,0.7nm,0.5s,mb3.8,baz=338,slow=5.9,SNR=3.3							
YKA	Yellowknife Ar	77.27	14	P		P	04 51 43.6	+0.6
STKA	Stephens Creek	81.19	142	P		P	04 52 05.0	+0.4
	comp=Z,1.4nm,0.6s,mb4.1,baz=336,slow=5.1,SNR=6.9							
STKA	Stephens Creek	81.19	142	P		P	04 52 05.0	+0.4
TORD	Torodi Ar. Bea	85.41	283	P		P	04 52 28.3	+1.3
	comp=Z,0.4nm,0.4s,mb3.9,baz=44,slow=5.6,SNR=4.7							
TORD	Torodi Ar. Bea	85.41	283	P		P	04 52 28.3	+1.3

IDC ***10*** *04:45:22.6±0.7, 34°.85N×23°.37E, h0km, mb4.3/16, mb1 4.3/21, mb1mx4.2/30, mbtmp4.2/21, ML4.1/5, Error ellipse: s-maj=16.8km s-min=14.6km az=164.0*

MOS ***10*** *04:45:25.5±1.6, 34°.69N×23°.48E, h33km, mb4.5/25, Error ellipse: s-maj=7.9km s-min=4.6km az=93.7*

ISCJB ***10*** *04:45:26.4±0.3, 34°.73N±0°.02×23°.42E±0°.03, h46km±4km, mb4.3/29, Error ellipse: s-maj=4.2km s-min=2.6km az=44.9*

SGS ***10*** *04:45:26.8, 34°.47N×23°.33E, h28km*

CSEM ***10*** *04:45:27.9±0.1, 34°.69N×23°.29E, h44km±2km, mb4.5/6, Error ellipse: s-maj=4.3km s-min=2.7km az=47.0*

ATH ***10*** *04:45:28.9, 34°.91N×23°.36E, h84km±1km, ML3.8*

NEIC ***10*** *04:45:28.9, 34°.91N×23°.36E, h84km, mb4.2/7, MD3.8(ATH), After ATH.*

VIE ***10*** *04:45:29.9, 34°.73N×23°.43E, h51km, mb4.1, ML3.7*

HLW ***10*** *04:45:31.5, 34°.55N×23°.76E, h32km±32km, Md3.7, Ml3.8*

THE ***10*** *04:45:33.0, 35°.04N×23°.46E, h45km±2km, ML3.7/5, Error ellipse: s-maj=2.4km s-min=0.4km az=50.0*

ISC 10 04:45:28.4±0.3, 34°.75N±0°.02×23°.37E±0°.02, h44km±3km, n398, σ 1°17/447, mb4.3/29, 4C-5D, Crete

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KARN	Karanos	0.79	34	*e*P		Pn	04 45 44.5	+1.3
KARN				eS		Sn	04 45 57.0	+3.1
KARN	Karanos	0.79	34	P		Pn	04 45 43.5	+0.3
KARN				S		Sn	04 45 52.6	-1.3
KARN	Karanos	0.79	34	*e*P		Pn	04 45 44.5	+1.3
KARN				eS		Sn	04 45 57.0	+3.1
VAM	Vamos	0.95	46	*e*P		Pn	04 45 46.7	+1.5
VAM				eS		Sn	04 46 01.2	+3.6
VAM	Vamos	0.95	46	P		Pn	04 45 46.0	+0.8
VAM				S		Sn	04 45 56.5	-1.1
VAM	Vamos	0.95	46	*e*P		Pn	04 45 46.7	+1.5
VAM				eS		Sn	04 46 01.2	+3.6
SIVA	Sivas	1.22	77	*e*P		Pn	04 45 51.2	+2.3
SIVA				eS		Sn	04 46 08.6	+4.5
SIVA	Sivas	1.22	77	P		Pn	04 45 51.6	+2.7
SIVA				S		Sn	04 46 06.2	+2.0
SIVA	Sivas	1.22	77	*e*P		Pn	04 45 51.2	+2.3
SIVA				S		Sn	04 46 06.2	+2.0
KYTH	Kithira	1.55	350	*e*P		Pn	04 45 54.7	+1.2
KYTH	Kithira	1.55	350	P		Pn	04 45 54.3	+0.8
KYTH	Kithira	1.55	350	P		Pn	04 45 54.3	+0.8
LAST	Lasithi	1.78	76	*e*P		Pn	04 45 59.5	+2.8
LAST	Lasithi	1.78	76	P		Pn	04 45 59.7	+3.0
LAST				S		Sn	04 46 19.8	+1.7
LAST	Lasithi	1.78	76	*e*P		Pn	04 45 59.5	+2.8
LAST				S		Sn	04 46 19.8	+1.7
NPS	Neapolis	1.91	74	*e*P		Pn	04 46 00.4	+1.9
NPS	Neapolis	1.91	74	P		Pn	04 46 01.3	+2.8
NPS				S		Sn	04 46 22.8	+1.5
NPS	Neapolis	1.91	74	*e*P		Pn	04 46 00.4	+1.9
NPS				S		Sn	04 46 22.8	+1.5
VLI	Veliai	2.00	350	*e*P		Pn	04 46 00.8	+1.2
VLI				eS		Sn	04 46 23.5	+0.1
VLI	Veliai	2.00	350	P		Pn	04 46 00.4	+0.8
VLI				S		Sn	04 46 21.7	-1.7
VLI	Veliai	2.00	350	P		Pn	04 46 00.4	+0.8
VLI				eS		Sn	04 46 23.5	+0.1
THR3	Thira Island,	2.34	44	P		Pn	04 46 05.3	+0.9
THR3	Thira Island,	2.34	44	P		Pn	04 46 05.3	+0.9
THR1	Thera Island	2.35	46	P		Pn	04 46 05.4	+0.9
THR1	Thera Island	2.35	46	P		Pn	04 46 05.4	+0.9
THR2	Thira island,	2.39	44	P		Pn	04 46 05.8	+0.8
THR2	Thira island,	2.39	44	P		Pn	04 46 05.8	+0.8
PYL	PYLOS	2.52	329	*e*P		Pn	04 46 07.0	+0.2
PYL	PYLOS	2.52	329	*e*P		Pn	04 46 07.0	+0.2
ITM	Ithomi	2.69	335	*e*P		Pn	04 46 09.7	+0.5
ITM	Ithomi	2.69	335	*e*P		Pn	04 46 09.7	+0.5
LTBQ	Tobruq	2.72	170	*i* P		Pn	04 46 11.3	+1.7
	SNR=76							
VLX	Vlachokerasia	2.74	343	*e*P		Pn	04 46 10.9	+1.1
VLX				eS		Sn	04 46 39.9	-1.7
VLX	Vlachokerasia	2.74	343	P		Pn	04 46 10.8	+1.0
VLX				S		Sn	04 46 40.5	-1.1
VLX	Vlachokerasia	2.74	343	P		Pn	04 46 10.8	+1.0
VLX				S		Sn	04 46 40.5	-1.1
DID	Didima	2.75	358	*e*P		Pn	04 46 10.7	+0.7
DID	Didima	2.75	358	P		Pn	04 46 10.8	+0.8
DID	Didima	2.75	358	P		Pn	04 46 10.8	+0.8
APE	Apeiranthos	2.91	37	*e*P		Pn	04 46 11.7	-0.4
APE	Apeiranthos	2.91	37	*e*P		Pn	04 46 12.8	+0.2
AP

TURN Turunc 4.75 62 *i* P Pn 04 46 34.2 -3.3
HMAT Matruh 4.81 138 P Pn 04 46 36.9 -1.3
baz=139
HMAT AMP 04 47 00.0
comp=N,110µm,0.3s,logA/T=5.6,baz=139
HMAT Matruh 4.81 138 P Pn 04 46 36.9 -1.3
FETY Fethiye 5.02 66 *eP* Pn 04 46 41.2 +0.1
FETY Fethiye 5.02 66 *eP* Pn 04 46 41.2 +0.1
PRK Paraskevi 5.05 27 *eP* Pn 04 46 41.3 -0.3
PRK Paraskevi 5.05 27 *eP* Pn 04 46 41.3 -0.3
KSL Kastellorizon 5.26 73 *eP* Pn 04 46 45.7 +1.2
JAN Janina 5.30 338 *eP* Pn 04 46 45.0 +0.1
JAN Janina 5.30 338 *eP* Pn 04 46 45.0 +0.1
AKAS Kas 5.30 72 *i* P Pn 04 46 45.0 +0.1
AKAS Kas 5.30 72 *i* P Pn 04 46 45.0 0.0
DNZL Cakiroluk 5.45 56 *i* P Pn 04 46 48.3 +1.3
DNZL Cakiroluk 5.45 56 *i* P Pn 04 46 48.3 +1.3
DENT Denizli 5.47 55 *eP* Pn 04 46 46.8 -0.5
DENT Denizli 5.47 55 *eP* Pn 04 46 46.8 -0.5
GLHS Glhisar (BURDU 5.52 62 *eP* Pn 04 46 47.8 -0.3
GLHS *eS* Sn 04 47 49.2 -1.0
EZN Ezine 5.59 24 *eP* Pn 04 46 47.9 -1.1
GOLH Golhisar 5.60 62 *i* P Pn 04 46 48.5 -0.6
PLG Polygyros 5.62 1 *eP* Pn 04 46 49.0 -0.3
PLG Polygyros 5.62 1 *eP* Pn 04 46 49.0 -0.3
KULA Kula-Manisa 5.68 47 *eP* Pn 04 46 49.5 -0.7
ELL Elmali 5.68 68 *eP* Pn 04 46 50.5 +0.3
KZN Kozani 5.69 348 *eP* Pn 04 46 50.1 -0.2
KZN *eS* Sn 04 47 50.2 -4.2
KZN Kozani 5.69 348 *eP* Pn 04 46 50.1 -0.2
KEK Kerkira 5.72 331 *eP* Pn 04 46 50.5 -0.2
KEK Kerkira 5.72 331 *eP* Pn 04 46 50.5 -0.2
SWA2 5.77 162 P Pn 04 46 51.5 +0.1
baz=164
SWA2 S Sn 04 47 50.4 -5.9
baz=164
SWA2 5.77 162 P Pn 04 46 51.5 +0.1
KORT Korkueli 6.10 66 *i* P Pn 04 46 57.9 +2.0
GELI Tayfur-Gelibol 6.16 23 *eP* Pn 04 46 55.0 -1.6
ANTB Antalya 6.30 68 *eP* Pn 04 46 58.0 -0.7
GONE Gonen-Balikesi 6.31 32 *eP* Pn 04 46 58.0 -0.8
ENEZ Enez 6.37 19 *eP* Pn 04 46 58.5 -1.2
DST Dursunbey 6.41 39 *eP* Pn 04 46 58.8 -1.4
ERIK Erikli-Kesan 6.42 22 *eP* Pn 04 46 58.0 -2.3
BCK Bucak 6.44 63 *eP* Pn 04 47 00.1 -0.5
BIA Bitola 6.47 346 *e*Pn Pn 04 47 00.3 -0.7
BIA *e*Sg Sn 04 48 07.5 -5.9
BIA Bitola 6.47 346 *e*Pn Pn 04 47 00.2 -0.8
BIA *e*Sg Sn 04 48 07.5 -5.9
VAY Valandovo 6.59 355 *e*Pn Pn 04 47 03.0 +0.3
VAY Valandovo 6.59 355 *e*Pn Pn 04 47 02.9 +0.2
NVR Nevrokopi 6.60 3 *eP* Pn 04 47 02.5 -0.3
NVR Nevrokopi 6.60 3 *eP* Pn 04 47 02.5 -0.3
RDO Rodhopi 6.61 14 *eP* Pn 04 47 02.6 -0.4
RDO Rodhopi 6.61 14 *eP* Pn 04 47 02.6 -0.4
SUTC Sutluce-Ispart 6.75 64 *eP* Pn 04 47 04.6 -0.2
KRUS Krusevo 6.82 346 *e*Pn Pn 04 47 04.5 -1.3
KRUS *e*Sg Sn 04 48 19.8 -2.3
KRUS Krusevo 6.82 346 *e*Pn Pn 04 47 04.5 -1.3
KRUS *e*Sg Sn 04 48 19.7 -2.4
MMB Musomiste 6.84 2 P Pn 04 47 05.5 -0.5
ALT Altintas 6.90 50 *eP* Pn 04 47 06.2 -0.7
CEL Celeste 6.96 302 *e*Pn Pn 04 47 06.9 -0.9
comp=N,11nm,0.6s
CEL *e*S Sn 04 48 19.9 -5.8
CEL Celeste 6.96 302 *e*Pn Pn 04 47 06.9 -0.9
comp=N,11nm,0.6s
RZN Rozhen 7.01 8 P Pn 04 47 08.8 +0.4
KKB Krupnik 7.11 358 P Pn 04 47 10.3 +0.5
TIR Tirane 7.14 338 *e*Pn Pn 04 47 09.2 -1.0
comp=N,14nm,0.6s
TIR Tirane 7.14 338 *eP* Pn 04 47 09.2 -1.1
TIR pmax pmax
comp=Z,14nm,0.6s
TIR Tirane 7.14 338 *eP* Pn 04 47 09.2 -1.1
comp=Z,14nm,0.6s
PLD Plovdiv 7.42 8 P Pn 04 47 14.9 +0.9
GAZI Gazipasa 7.45 76 *i* P Pn 04 47 14.3 -0.1
DIM Dimitrovgrad 7.49 12 P Pn 04 47 14.1 -0.8
TAR1 Taranto 7.52 322 *e*Pn Pn 04 47 13.2 -2.2
PE1 Pezze di Greco 7.66 324 *e*Pn Pn 04 47 15.5 -1.9
HDMB Hadim 7.73 71 *eP* Pn 04 47 17.9 -0.4
VTS Vitosha 7.83 359 P Pn 04 47 20.1 +0.4
KONT Konya--Tatoy 7.92 64 *eP* Pn 04 47 20.6 -0.4
AWBH 7.96 142 P Pn 04 47 20.8 -0.7
baz=143
AWBH S Sn 04 48 42.4 -7.8
baz=143
AWBH 7.96 142 P Pn 04 47 21.4 -0.1
CUC Castrocucco 7.97 313 *e*Pn Pn 04 47 21.3 -0.3
comp=Z,12nm,0.6s
CUC Castrocucco 7.97 313 *e*Pn Pn 04 47 21.3 -0.3
comp=Z,12nm,0.6s
KIZT Kizilcal 7.97 56 *eP* Pn 04 47 20.6 -1.1
HNAT Natroun 7.98 128 P Pn 04 47 21.1 -0.7
baz=128
SG1 Sgolgore (BA) 8.06 321 *e*Pn Pn 04 47 23.2 +0.4
CSS Prodhromos 8.19 86 *e*Pn Pn 04 47 25.7 +1.1
CSS Prodhromos 8.19 86 *e*Pn Pn 04 47 25.7 +1.0
AYT Al 'Ayyat 8.29 125 P Pn 04 47 25.5 -0.5
baz=125
AYT Al 'Ayyat 8.29 125 P Pn 04 47 25.5 -0.5
CDT Castel del Mon 8.45 321 *e*Pn Pn 04 47 26.1 -2.0
HSAF As Saff 8.62 124 P Pn 04 47 29.9 -0.5
baz=124
HSAF As Saff 8.62 124 P Pn 04 47 29.9 -0.6
KOT Kottamia 8.62 122 P Pn 04 47 30.1 -0.4
baz=121
KOT Kottamia 8.62 122 P Pn 04 47 29.5 -1.0
HFRF Wahat Farafira 8.68 149 P Pn 04 47 30.9 -0.5
baz=150
HFRF Wahat Farafira 8.68 149 P Pn 04 47 30.6 -0.8
GLL Jalalah 8.75 124 P Pn 04 47 31.3 -1.0
baz=124
GLL Jalalah 8.75 124 P Pn 04 47 31.3 -1.0
HHAG Hagoal 8.79 121 P Pn 04 47 32.1 -0.8
baz=120
STON Ston 9.24 333 *e*Pn Pn 04 47 33.7 -5.3
STON Sn Sn 04 49 09.8 -12
SUZ 9.38 119 P Pn 04 47 41.1 +0.1
baz=118
SUZ S Sn 04 49 17.8 -7.3
baz=118
BR131 Keskin Array S 9.57 56 *e*Pn Pn 04 47 45.1 +1.5
comp=Z,5.5nm,0.8s
BR131 Keskin Array S 9.57 56 *e*Pn Pn 04 47 45.1 +1.5
comp=Z,5.5nm,0.8s
BRTR Keskin Array B 9.57 56 Pn Pn 04 47 44.6 +1.1
comp=Z,0.2nm,0.3s,baz=223,slow=15,SNR=9.4
BRTR Keskin Array B 9.57 56 Pn Pn 04 47 44.6 +1.1
BRTR Keskin Array B 9.57 56 P Pn 04 47 44.6 +1.0
BRTR Keskin Array B 9.57 56 P Pn 04 47 44.6 +1.0
MMAI Mount Meron Ar 10.15 96 Pn Pn 04 47 49.2 -2.3
comp=Z,5.2nm,0.3s,baz=299,slow=12,SNR=8.8
MMAI Sn Sn 04 49 38.4 -5.6
comp=Z,3.3nm,0.3s,baz=261,slow=28,SNR=3.5
HNKL Nakhl 10.18 115 P Pn 04 47 51.5 -0.3
baz=115
GRB Gharib 10.31 126 P Pn 04 47 53.1 -0.6
baz=126
HDK1 Dakhla 10.55 149 P Pn 04 47 57.4 +0.3
baz=150
HDK1 Dakhla 10.55 149 P Pn 04 47 57.4 +0.4
MLR Muntele Rosu 10.91 10 Pn Pn 04 48 02.3 +0.6
comp=Z,0.1nm,0.3s,baz=48,slow=5.1,SNR=4.8
MLR Muntele Rosu 10.91 10 Pn Pn 04 48 02.3 +0.6
MLR Muntele Rosu 10.91 10 P Pn 04 48 02.3 +0.5
MLR Muntele Rosu 10.91 10 P Pn 04 48 02.3 +0.5
EIL Elat 11.04 114 Pn Pn 04 48 02.5 -1.2
comp=Z,1.2nm,0.3s,baz=55,slow=16,SNR=15
EIL Sn Sn 04 49 52.6 -13
comp=Z,1.2nm,0.3s,baz=345,slow=17,SNR=3.2
EIL Elat 11.04 114 Pn Pn 04 48 02.5 -1.2
EIL Sn Sn 04 49 52.6 -13
EIL Elat 11.04 114 Pn Pn 04 48 02.5 -1.1
TR1 11.26 124 P Pn 04 48 06.7 0.0
baz=124
HQLS 11.31 115 P Pn 04 48 05.6 -1.7
HQLS 11.31 115 P Pn 04 48 05.6 -1.8
KEST Kesra 11.51 279 Pn Pn 04 48 12.6 +2.5
comp=Z,0.1nm,0.3s,baz=68,slow=18,SNR=4.3
KEST Sn Sn 04 50 08.3 -8.9
comp=Z,0.0nm,0.3s,baz=331,slow=19,SNR=2.2

KEST Kesra 11.51 279 Pn Pn 04 48 12.6 +2.6
KEST Sn Sn 04 50 08.3 -8.9
ASF Jabal al Asfar 11.59 99 Pn Pn 04 48 09.4 -1.7
comp=Z,0.6nm,0.3s,baz=172,slow=4.7,SNR=5.5
ASF Sn Sn 04 50 09.1 -10
comp=Z,0.3nm,0.3s,baz=138,slow=15,SNR=2.7
ASF Jabal al Asfar 11.59 99 Pn Pn 04 48 09.4 -1.7
ASF Sn Sn 04 50 09.1 -10
ASF Jabal al Asfar 11.59 99 P Pn 04 48 09.4 -1.7
ASF 04 50 09.1
ASF pmax pmax
comp=Z,1.0nm,0.3s
NVLJ Novalja 11.78 329 *i* Pn Pn 04 48 11.8 -1.9
NVLJ Novalja 11.78 329 *i* Pn Pn 04 48 11.8 -1.9
BDAS Al Bad' 11.81 119 P Pn 04 48 12.3 -1.9
BDAS Al Bad' 11.81 119 P Pn 04 48 12.3 -2.0
JLOS 11.93 117 P Pn 04 48 13.3 -2.5
SOKA Soboth 13.48 335 *i*Pn Pn 04 48 33.1 -3.8
comp=Z,6.4nm,0.7s
ANN Anapa 14.73 43 *eP* Pn 04 48 52.1 -1.7
ANN pmax pmax
comp=Z,54nm,1.3s
MOA Molln 14.75 335 P Pn 04 49 00.5 +6.4
comp=Z,26nm,0.7s
MOA Molln 14.75 335 P Pn 04 49 00.5 +6.4
comp=Z,26nm,0.7s
VRAC Vranov 15.38 343 Pn Pn 04 49 04.0 +1.7
comp=Z,1.5nm,0.3s,baz=158,slow=9.6,SNR=16
VRAC Vranov 15.38 343 Pn Pn 04 49 04.0 +1.7
VRAC Vranov 15.38 343 P Pn 04 49 04.0 +1.7
VRAC pmax pmax
comp=Z,2.0nm,0.3s
VRAC Vranov 15.38 343 Pn Pn 04 49 04.0 +1.7
VRAC Vranov 15.38 343 *eP* Pn 04 49 06.4 +4.1
OKC Ostrava-Krasne 15.56 347 *i* P Pn 04 49 08.7 +4.1
OKC Ostrava-Krasne 15.56 347 *i* P Pn 04 49 08.7 +4.1
OKC Ostrava-Krasne 15.56 347 *i* P Pn 04 49 08.7 +4.1
MORC Moravsky Berou 15.62 346 *eP* Pn 04 49 09.2 +3.9
TREC Trest 15.66 341 *i* P Pn 04 49 09.8 +4.0
TREC Trest 15.66 341 *i* P Pn 04 49 09.8 +4.0
TREC Trest 15.66 341 *i* P Pn 04 49 09.8 +4.0
DAVOX Davos/Dischmat 15.75 324 Pn Pn 04 49 10.1 +3.1
comp=Z,0.3nm,0.3s,baz=148,slow=17,SNR=6.9
DAVOX Davos/Dischmat 15.75 324 Pn Pn 04 49 10.1 +3.1
DAVOX Davos/Dischmat 15.75 324 P Pn 04 49 10.1 +3.1
DAVOX Davos/Dischmat 15.75 324 P Pn 04 49 10.1 +3.1
GERES GERESS Array B 15.80 336 Pn Pn 04 49 05.5 -2.2
comp=Z,0.2nm,0.3s,baz=158,slow=14,SNR=7.2
GERES GERESS Array B 15.80 336 Pn Pn 04 49 05.5 -2.2
GERES GERESS Array B 15.80 336 P Pn 04 49 05.5 -2.2
KHC Kasperske Hory 16.09 336 *i* P Pn 04 49 15.1 +3.7
KHC Kasperske Hory 16.09 336 *i* P Pn 04 49 15.1 +3.7
KHC Kasperske Hory 16.09 336 *i* P Pn 04 49 15.1 +3.7
DAVA Damuels 16.11 325 *i*P Pn 04 49 13.4 +1.8
comp=Z,9.6nm,0.8s
DAVA Damuels 16.11 325 P Pn 04 49 13.4 +1.8
comp=Z,9.6nm,0.8s
DPC Dobruska-Polom 16.42 344 *i* P Pn 04 49 18.5 +3.0
DPC Dobruska-Polom 16.42 344 *i* P Pn 04 49 18.5 +3.0
DPC Dobruska-Polom 16.42 344 *i* P Pn 04 49 18.5 +3.0
AKASG Malin Array Be 16.50 13 Pn Pn 04 49 13.4 -3.2
comp=Z,1.4nm,0.3s,baz=205,slow=9.3,SNR=8.8
AKASG Malin Array Be 16.50 13 Pn Pn 04 49 13.4 -3.2
AKASG Malin Array Be 16.50 13 P Pn 04 49 13.4 -3.2
AKASG pmax pmax
comp=Z,1.0nm,0.3s
PRU Pruhonice 16.55 340 *i* P Pn 04 49 20.0 +2.9
PRU Pruhonice 16.55 340 *i* P Pn 04 49 20.0 +2.9
PRU AMS AMS 04 49 30.0
PRU Pruhonice 16.55 340 *i* P Pn 04 49 20.0 +2.9
UPC Upice 16.64 343 *i* P Pn 04 49 21.0 +2.7
UPC Upice 16.64 343 *i* P Pn 04 49 21.0 +2.7
UPC Upice 16.64 343 *i* P Pn 04 49 21.0 +2.7
KSP Ksiaz 16.89 344 *eP* Pn 04 49 24.0 +2.6
KSP Ksiaz 16.89 344 *eP* Pn 04 49 24.0 +2.6
PVCC Panska Ves 17.03 341 *i* P Pn 04 49 24.9 +1.8
PVCC Panska Ves 17.03 341 *i* P Pn 04 49 24.9 +1.8
PVCC Panska Ves 17.03 341 *i* P Pn 04 49 24.9 +1.8
NKC Novy Kostel 17.41 336 *i* P Pn 04 49 29.2 +1.3
NKC Novy Kostel 17.41 336 *i* P Pn 04 49 29.2 +1.3
NKC Novy Kostel 17.41 336 *i* P Pn 04 49 29.2 +1.3
KIV Kislovodsk 17.51 53 *eP* Pn 04 49 29.9 +0.7
KIV pmax pmax
comp=Z,25nm,1.1s
KIV MLR MLR
comp=Z,121nm,13.0s
KIV Kislovodsk 17.51 53 *eP* Pn 04 49 29.9 +0.7
comp=Z,121nm,13.0s
BRG Berggiesshubel 17.51 340 *eP* Pn 04 49 30.2 +1.0
comp=Z,8.1nm,1.0s
BRG Berggiesshubel 17.51 340 *eP* Pn 04 49 30.2 +1.1
BRG pmax pmax
comp=Z,8.0nm,1.0s
BRG Berggiesshubel 17.51 340 *eP* Pn 04 49 30.2 +1.1
comp=Z,8.0nm,1.0s
ZEI Tsey 17.87 57 *eP* Pn 04 49 34.2 +0.6
ZEI pmax pmax
comp=Z,7.0nm,1.1s
ZEI Tsey 17.87 57 *eP* Pn 04 49 34.2 +0.6
comp=Z,7.0nm,1.1s
HINF Hinteralfeld 17.96 322 *eP* Pn 04 49 35.8 +1.1
comp=Z,7.8nm,0.7s
HINF Hinteralfeld 17.96 322 *eP* Pn 04 49 35.8 +1.1
comp=Z,3.9nm,0.7s
HINF Hinteralfeld 17.96 322 *eP* Pn 04 49 35.8 +1.1
HINF pmax pmax
comp=Z,4.0nm,0.7s
HINF Hinteralfeld 17.96 322 *eP* Pn 04 49 35.8 +1.1
comp=Z,3.9nm,0.7s
CDF Champ du Feu 18.15 324 *eP* Pn 04 49 37.5 +0.5
comp=Z,12nm,1.0s
CDF Champ du Feu 18.15 324 *eP* Pn 04 49 37.5 +0.5
comp=Z,5.8nm,1.0s
CDF Champ du Feu 18.15 324 *eP* Pn 04 49 37.5 +0.5
CDF pmax pmax
comp=Z,6.0nm,1.0s
CDF Champ du Feu 18.15 324 *eP* Pn 04 49 37.5 +0.5
comp=Z,5.8nm,1.0s
CLL Collm 18.17 339 *i* P Pn 04 49 37.2 0.0
CLL pmax pmax
comp=Z,13nm,0.8s
CLL Collm 18.17 339 *i* P Pn 04 49 37.2 0.0
comp=Z,13nm,0.8s
CLL Collm 18.17 339 *i* P Pn 04 49 37.2 0.0
comp=Z,13nm,0.8s
HAU Haudompre 18.35 321 *eP* Pn 04 49 38.2 -1.2
HAU Haudompre 18.35 321 *eP* Pn 04 49 38.2 -1.2
HAU Haudompre 18.35 321 *eP* Pn 04 49 38.2 -1.2
HAU Haudompre 18.35 321 *eP* Pn 04 49 38.2 -1.2
PAGF Fort de Pagny 19.02 322 *eP* Pn 04 49 49.2 +1.7
comp=Z,9.8nm,0.9s
SFTF Sexfontaines 19.16 320 *eP* Pn 04 49 50.9 +1.8
comp=Z,30nm,1.0s
SFTF Sexfontaines 19.16 320 *eP* Pn 04 49 50.9 +1.8
comp=Z,30nm,1.0s
LOR Lormes 19.25 316 *eP* Pn 04 49 48.8 -1.5
LOR Lormes 19.25 316 *eP* Pn 04 49 48.8 -1.5
LOR Lormes 19.25 316 *eP* Pn 04 49 48.8 -1.5
LOR Lormes 19.25 316 *eP* Pn 04 49 48.8 -1.5
SUW Suwalki 19.26 360 *eP* Pn 04 49 48.1 -2.2
SUW Suwalki 19.26 360 *eP* Pn 04 49 48.1 -2.2
SUW Suwalki 19.26 360 *eP* Pn 04 49 48.1 -2.2
MEZF Maizieres J'vi 19.33 321 *eP* Pn 04 49 52.0 +0.8
comp=Z,38nm,1.0s
MEZF Maizieres J'vi 19.33 321 *eP* Pn 04 49 52.0 +0.8
comp=Z,38nm,1.0s
MEZF Maizieres J'vi 19.33 321 *eP* Pn 04 49 52.0 +0.8
comp=Z,19nm,1.0s
SSF Saint Saulge 19.34 315 *eP* Pn 04 49 49.0 -2.4
comp=Z,7.8nm,0.8s
SSF Saint Saulge 19.34 315 *eP* Pn 04 49 49.0 -2.4
comp=Z,3.9nm,0.8s
SSF Saint Saulge 19.34 315 *eP* Pn 04 49 49.0 -2.4
SSF pmax pmax
comp=Z,4.0nm,0.8s
SSF Saint Saulge 19.34 315 *eP* Pn 04 49 49.0 -2.4
comp=Z,3.9nm,0.8s
VSR Storozhevoye 20.04 30 *eP* P 04 49 56.4 -1.1
VSR pmax pmax
comp=Z,7.0nm,0.6s
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,0.9s

VSR Storozhevoye 20.04 30 *eP* P 04 49 56.4 -1.1
comp=E,10.0nm,1.0s
NACGM Naroch 20.29 6 *e* P 04 49 55.0 -5.2
GIVF Givet 20.48 324 *eP* P 04 50 06.6 +4.3
comp=E,20nm,0.7s
GIVF Givet 20.48 324 *eP* P 04 50 06.6 +4.3
comp=E,9.9nm,0.7s
GIVF Givet 20.48 324 *eP* P 04 50 06.6 +4.3
GIVF pmax pmax
comp=Z,10.0nm,0.7s
BAIF Baives 20.75 323 *eP* P 04 50 09.1 +3.9
comp=Z,21nm,0.7s
BAIF Baives 20.75 323 *eP* P 04 50 09.1 +3.9
comp=Z,11nm,0.7s
BAIF Baives 20.75 323 *eP* P 04 50 09.1 +3.9
BAIF pmax pmax
comp=Z,11nm,0.7s
MIB Mutribah 20.84 97 *eP* P 04 50 07.2 +0.8
MIB AMb AMB 04 50 07.7
comp=Z,100nm,0.5s
MIB Mutribah 20.84 97 *eP* P 04 50 07.2 +0.8
comp=Z,100nm,0.5s
NAY Al-Naaiem 20.96 99 *eP* P 04 50 08.4 +0.8
NAY AMb AMB 04 50 08.9
comp=Z,28nm,0.7s
NAY Al-Naaiem 20.96 99 *eP* P 04 50 08.4 +0.8
comp=Z,28nm,0.6s
VRHR Novokhopersk 21.02 33 *eP* P 04 50 07.5 -0.6
VRHR pmax pmax
comp=Z,40nm,1.6s,mb4.5
VRHR pmax pmax
comp=N,20nm,1.0s
VRHR pmax pmax
comp=E,20nm,1.2s
VRHR Novokhopersk 21.02 33 *eP* P 04 50 07.5 -0.6
comp=E,20nm,1.0s,mb4.4
UMR Umm Al-Rimmam 21.23 97 *eP* P 04 50 11.7 +1.0
UMR AMb AMB 04 50 12.2
comp=Z,218nm,0.4s
UMR Umm Al-Rimmam 21.23 97 *eP* P 04 50 11.7 +1.1
comp=Z,218nm,0.4s
LDF La Druitiere 22.23 316 *eP* P 04 50 20.8 -0.3
comp=Z,18nm,0.7s,mb4.3
LDF La Druitiere 22.23 316 *eP* P 04 50 20.8 -0.3
comp=Z,8.8nm,0.7s,mb4.3
LDF La Druitiere 22.23 316 *eP* P 04 50 20.8 -0.3
LDF pmax pmax
comp=Z,9.0nm,0.7s,mb4.3
LDF La Druitiere 22.23 316 *eP* P 04 50 20.8 -0.3
comp=Z,8.8nm,0.7s,mb4.3
ESDC Sonseca Array 22.28 291 P P 04 50 21.6 -0.1
comp=Z,0.4nm,0.6s,baz=90,slow=8.8,SNR=4.4
ESDC Sonseca Array 22.28 291 P P 04 50 21.6 -0.1
OBN Obninsk 22.33 20 *eP* P 04 50 21.7 -0.4
OBN *e* 04 50 30.1
OBN 04 50 48.0
OBN *e* 04 50 56.5
OBN pmax pmax
comp=Z,37nm,1.7s,mb4.5
OBN Obninsk 22.33 20 *eP* P 04 50 21.7 -0.4
comp=Z,37nm,1.7s,mb4.5
FLN La Foliniere 22.52 316 *eP* P 04 50 23.6 -0.6
comp=Z,56nm,0.9s,mb4.7
FLN La Foliniere 22.52 316 *eP* P 04 50 23.6 -0.6
comp=Z,28nm,0.9s,mb4.7
FLN La Foliniere 22.52 316 *eP* P 04 50 23.6 -0.6
FLN pmax pmax
comp=Z,28nm,0.9s,mb4.7
FLN La Foliniere 22.52 316 *eP* P 04 50 23.6 -0.6
comp=Z,28nm,0.9s,mb4.7
PUL Pulkovo 25.44 8 *eP* P 04 50 52.7 +0.9
PUL pmax pmax
comp=Z,90nm,0.5s
HFS Hagfors 26.17 349 P P 04 50 57.6 -0.8
comp=Z,8.4nm,0.5s,mb4.5,baz=154,slow=11,SNR=38
HFS Hagfors 26.17 349 P P 04 50 57.6 -0.8
HFS Hagfors 26.17 349 P P 04 50 57.6 -0.8
HFS pmax pmax
comp=Z,8.0nm,0.5s
FINES FINESS Array B 26.77 3 P P 04 51 02.1 -1.6
comp=Z,1.9nm,0.6s,mb3.8,baz=165,slow=12,SNR=4.9
FINES FINESS Array B 26.77 3 P P 04 51 02.1 -1.6
FINES FINESS Array B 26.77 3 P P 04 51 02.2 -1.6
FINES pmax pmax
comp=Z,2.0nm,0.6s
NB2 NORSAR Subarra 27.45 347 P P 04 51 09.3 -0.6
comp=Z,2.3nm,0.7s,mb3.8,baz=156,slow=9.3
NB2 NORSAR Subarra 27.45 347 P P 04 51 09.3 -0.6
comp=Z,2.3nm,0.7s,mb3.8,SNR=8.5
NOA NORSAR Array B 27.45 347 P P 04 51 09.1 -0.8
comp=Z,3.5nm,0.7s,mb4.0,baz=152,slow=11,SNR=38
NOA NORSAR Array B 27.45 347 P P 04 51 09.1 -0.8
NOA NORSAR Array B 27.45 347 P P 04 51 09.1 -0.8
NOA pmax pmax
comp=Z,4.0nm,0.7s
TORD Torodi Ar. Bea 29.11 228 P P 04 51 26.1 +1.0
comp=Z,1.0nm,0.5s,mb3.8,baz=32,slow=8.0,SNR=23
TORD PcP PcP 04 54 33.5 +1.3
comp=Z,0.2nm,0.8s,baz=51,slow=4.2,SNR=2.6
TORD Torodi Ar. Bea 29.11 228 P P 04 51 26.1 +1.0
TORD PcP PcP 04 54 33.5 +1.3
AKTK Aktyubinsk 29.61 47 P P 04 51 28.4 -0.8
AKTO Aktyubinsk 29.61 47 P P 04 51 28.4 -0.8
comp=Z,2.9nm,0.6s,mb4.2,baz=256,slow=8.4,SNR=11
AKTO Aktyubinsk 29.61 47 P P 04 51 28.7 -0.5
AB31 Akbulak array 30.47 50 *i* P P 04 51 36.4 -0.4
ARU Arti 32.26 37 *d* *i*P P 04 51 51.7 -0.8
ARU *e* 04 52 54.1
ARU S S 04 57 06.2 +3.5
ARU SS SS 04 58 54.3 -28
ARU pmax pmax
comp=Z,8.0nm,1.7s,mb4.3
ARCES ARCESS Array B 34.86 1 P P 04 52 13.3 -1.7
comp=Z,1.2nm,0.5s,mb4.1,baz=179,slow=8.2,SNR=16
ARCES ARCESS Array B 34.86 1 P P 04 52 13.3 -1.7
ARCES ARCESS Array B 34.86 1 P P 04 52 13.3 -1.7
ARCES pmax pmax
comp=Z,1.0nm,0.5s
KK31 Karatay Array 37.20 63 P P 04 52 36.1 +0.8
KK31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
BRVK Borovoye 37.64 46 *eP* P 04 52 39.0 +0.1
BRVK pmax pmax
comp=Z,10.0nm,1.7s,mb4.3
BVA0 Borovoye Array 37.70 46 *i* P P 04 52 38.0 -1.4
BVA0 pmax pmax
comp=Z,1.0nm,1.5s,mb3.3
BVAR Borovoye Array 37.70 46 P P 04 52 39.1 -0.3
comp=Z,1.6nm,0.6s,mb3.9,baz=250,slow=7.7,SNR=7.3
BVAR Borovoye Array 37.70 46 P P 04 52 39.1 -0.3
BVAR Borovoye Array 37.70 46 P P 04 52 39.1 -0.3
BVAR pmax pmax
comp=Z,2.0nm,0.6s
DBIC Dimbokro 38.17 229 P P 04 52 43.1 -0.7
comp=Z,1.7nm,0.6s,mb4.0,baz=9.8,slow=12,SNR=3.2
DBIC Dimbokro 38.17 229 P P 04 52 43.1 -0.7
DBIC Dimbokro 38.17 229 P P 04 52 43.1 -0.7
DBIC pmax pmax
comp=Z,2.0nm,0.6s
AAK Ala-Archa 40.16 63 *c* *i*P P 04 53 01.5 +1.4
AAK pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
TKM2 Tokmak 2 40.93 62 P P 04 53 07.6 +1.1
TKM2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
KURK Kurchatov 42.58 51 P P 04 53 19.2 -0.6
comp=Z,11nm,0.6s,mb4.8,baz=275,slow=8.6,SNR=90
KURK Kurchatov 42.58 51 P P 04 53 19.2 -0.6
KURK Kurchatov 42.58 51 *c* *i*P P 04 53 19.5 -0.3
KURK pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
MK31 Makanchi Array 45.23 56 *i* P P 04 53 41.6 +0.5
MK31 pmax pmax
comp=Z,2.0nm,0.3s,mb4.4
MKAR Makanchi Array 45.23 56 PcP PcP 04 55 21.4 +0.8
comp=Z,0.6nm,0.4s,baz=245,slow=4.6,SNR=2.9
NVS Novosibirsk 45.42 45 *eP* P 04 53 40.5 -2.0
NVS pmax pmax
comp=Z,14nm,0.5s,mb5.0
NVS pmax pmax
comp=N,2.0nm,0.5s
NVS pmax pmax
comp=E,7.0nm,0.7s
ZALV Zalesovo Beam 46.35 46 P P 04 53 49.4 -0.5
comp=E,8.3nm,0.5s,mb5.0,baz=267,slow=9.1,SNR=19
ZALV Zalesovo Beam 46.35 46 P P 04 53 49.4 -0.5

ZALV	**Zalesovo Beam**	**46.35**	**46**	P	**P**	**04 53 49.4**	**-0.5**
ZALV				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.9						
ZAK	**Zakamensk**	**58.12**	**48**	*e*P	**P**	**04 55 17.7**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
SONM	**Songino Array**	**60.88**	**50**	P	**P**	**04 55 37.1**	**+0.7**
	comp=Z,3.3nm,0.5s,mb4.7,baz=272,slow=6.5,SNR=3.0						
SONM	**Songino Array**	**60.88**	**50**	P	**P**	**04 55 37.1**	**+0.8**
SONM	**Songino Array**	**60.88**	**50**	P	**P**	**04 55 37.1**	**+0.7**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SCHQ	**Schefferville**	**62.54**	**319**	P	**P**	**04 55 47.9**	**+0.4**
	comp=Z,4.6nm,0.7s,mb4.7,baz=8.3,slow=1.4,SNR=4.0						
SCHQ	**Schefferville**	**62.54**	**319**	P	**P**	**04 55 47.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**68.08**	**82**	P	**P**	**04 56 24.3**	**+0.4**
	comp=Z,1.9nm,0.5s,mb4.4,baz=301,slow=8.0,SNR=7.3						
CMAR	**Chiang Mai Arr**	**68.08**	**82**	P	**P**	**04 56 24.3**	**+0.4**
CMAR	**Chiang Mai Arr**	**68.08**	**82**	P	**P**	**04 56 24.3**	**+0.4**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YKA	**Yellowknife Ar**	**77.38**	**341**	P	**P**	**04 57 19.0**	**+0.7**
	comp=Z,1.2nm,0.6s,mb4.0,baz=32,slow=5.5,SNR=2.6						
YKA	**Yellowknife Ar**	**77.38**	**341**	P	**P**	**04 57 19.0**	**+0.7**
YKA	**Yellowknife Ar**	**77.38**	**341**	P	**P**	**04 57 19.0**	**+0.7**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KSRS	**Korea Array**	**79.69**	**52**	P	**P**	**04 57 32.1**	**+0.6**
	comp=Z,2.4nm,0.5s,mb4.4,baz=314,slow=4.5,SNR=7.0						
KSRS	**Korea Array**	**79.69**	**52**	P	**P**	**04 57 32.1**	**+0.6**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
ILAR	**Eielson Array**	**80.52**	**356**	P	**P**	**04 57 36.0**	**+0.5**
	comp=Z,0.8nm,0.8s,mb3.7,baz=0.6,slow=3.6,SNR=11						
ILAR	**Eielson Array**	**80.52**	**356**	P	**P**	**04 57 36.0**	**+0.5**
ILAR	**Eielson Array**	**80.52**	**356**	P	**P**	**04 57 36.0**	**+0.6**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**118.01**	**96**	PKP	PKPdf	05 04 10.9	+0.2
	comp=Z,0.2nm,0.5s,baz=318,slow=2.0,SNR=6.0						
WRA	**Warramunga Arr**	**118.01**	**96**	PKP	PKPdf	05 04 10.9	+0.2
WRA	**Warramunga Arr**	**118.01**	**96**	PKIKP	PKPdf	05 04 10.9	+0.2

NEIC ***10*** *05:02:37.0, 19°.23N×64°.79W, h96km, MD3.5(RSPR), After RSPR.*

RSPR 10 05:02:37.0, 19°.23N×64°.79W, h96km±13km, MD3.5/4, 6C-6D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**0.89**	**190**	*e*P	Pn	05 02 55.7	-0.3
STVI	**Saint Thomas**	**0.89**	**190**	*e*P	Pn	05 02 55.7	-0.3
STVI				*e*S	Sn	05 03 09.7	-0.5
STVI	**Saint Thomas**	**0.89**	**190**	*e*P	Pn	05 02 55.7	-0.3
STVI				*e*S	Sn	05 03 09.7	-0.5
MTP	**Monte Pirata**	**1.34**	**213**	*e*P	Pn	05 03 01.2	+0.1
MTP	**Monte Pirata**	**1.34**	**213**	*e*P	Pn	05 03 01.2	+0.1
MTP				*e*S	Sn	05 03 19.2	-0.1
MTP	**Monte Pirata**	**1.34**	**213**	*e*P	Pn	05 03 01.2	+0.1
MTP				*e*S	Sn	05 03 19.2	-0.1
CBYP	**Canovanas**	**1.39**	**227**	*e*P	Pn	05 03 01.2	-0.5
CBYP	**Canovanas**	**1.39**	**227**	*e*P	Pn	05 03 01.2	-0.5
CBYP				*e*S	Sn	05 03 20.5	+0.2
CBYP	**Canovanas**	**1.39**	**227**	*e*P	Pn	05 03 01.2	-0.5
CBYP				*e*S	Sn	05 03 20.5	+0.2
HUMP	**Col San Antoni**	**1.48**	**223**	*e*P	Pn	05 03 01.6	-1.2
HUMP	**Col San Antoni**	**1.48**	**223**	*e*P	Pn	05 03 01.6	-1.2
HUMP				*e*S	Sn	05 03 21.7	-0.6
HUMP	**Col San Antoni**	**1.48**	**223**	*e*P	Pn	05 03 01.6	-1.2
HUMP				*e*S	Sn	05 03 21.7	-0.6

IDC 10 05:19:47.3±4.1, 33°.43N×140°.14E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/23, mbtmp3.8/3, MS2.9/1, Ms1 2.9/1, ms1mx2.5/38, Error ellipse: s-maj=285.2km s-min=31.4km az=81.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAJ	**Asahikawa**	**10.84**	**9**	LR	LR	05 26 56.8	
	comp=Z,72nm,21.5s,baz=53,slow=40						
WRA	**Warramunga Arr**	**52.36**	**187**	P	P	05 29 08.2	-0.3
	0.4nm,0.3s,baz=5.4,slow=7.6,SNR=17						
ASAR	**Alice Springs**	**57.09**	**187**	P	P	05 29 35.7	+0.4
	0.3nm,0.4s,baz=354,slow=6.9,SNR=5.1						
FINES	**FINESS Array B**	**71.51**	**332**	P	P	05 31 09.6	0.0
	2.7nm,0.9s,baz=53,slow=7.3,SNR=4.6						

ISCJB ***10*** *05:40:14.2±0.5, 37°.57N±0°.06×95°.91E±0°.05, h10km, mb3.7/7, Error ellipse: s-maj=8.1km s-min=5.2km az=11.8*
IDC ***10*** *05:40:14.5±0.8, 37°.52N×95°.99E, h0km, mb3.8/7, mb1 3.9/13, mb1mx3.8/30, mbtmp3.8/13, ML3.9/4, MS3.1/3, Ms1 3.1/3, ms1mx2.7/38, Error ellipse: s-maj=27.6km s-min=16.2km az=53.0*
BJI ***10*** *05:40:15.8, 37°.68N×95°.93E, h10km, mb4.3/5, ML4.1/8, Ms3.8/4, Ms7 3.5/4*
NEIC ***10*** *05:40:16.1±0.6, 37°.52N×95°.87E, h10km, mb3.8/1, Error ellipse: s-maj=15.5km s-min=9.1km az=51.0*

ISC 10 05:40:16.1±0.5, 37°.57N±0°.06×95°.94E±0°.04, h10km, n30, σ1§08/39, mb3.7/7, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**3.56**	**58**	Pn	**Pn**	**05 41 15.1**	**+3.8**
GTA				Pg	**Pg**	**05 41 20.7**	**-3.5**
GTA				Sn	**Sn**	**05 41 53.4**	**0.0**
GTA				Sg	**Sb**	**05 42 00.4**	**-1.9**
GTA				smax			
	comp=N,180nm,0.7s						
GTA				smax			
	comp=E,180nm,0.6s						
GTA				LR	LR		
	comp=N,380nm,8.5s						
GTA				LR	LR		
	comp=E,920nm,11.1s						
GTA				LR	LR		
	comp=Z,660nm,10.4s						
LZH	**Lanzhou**	**6.51**	**101**	Pn	**Pn**	**05 41 51.1**	**-0.9**
LZH				Pg	**Pb**	**05 42 14.2**	**+4.7**
LZH				Sn	**Sn**	**05 43 10.7**	**+4.4**
LZH				Sg	**Sg**	**05 43 46.8**	**+1.7**
LZH				smax			
	comp=N,100nm,1.0s						
LZH				smax			
	comp=E,140nm,1.1s						
LZH				LR	LR		
	comp=N,460nm,5.3s						
LZH				LR	LR		
	comp=E,390nm,6.0s						
LZH				LR	LR		
	comp=Z,470nm,9.7s						
WMQ	**Urumqi**	**8.84**	**318**	P	**Pn**	**05 42 24.0**	**+0.1**
SONM	**Songino Array**	**12.81**	**33**	Pn	**Pn**	**05 43 20.2**	**+2.0**
	comp=Z,1.5nm,0.3s,baz=214,slow=15,SNR=7.3						
SONM	**Songino Array**	**12.81**	**33**	Pn	**Pn**	**05 43 20.2**	**+2.0**
MK31	**Makanchi Array**	**13.67**	**317**	*e*Pn	**Pn**	**05 43 31.5**	**+1.5**
MK31				*e*Sn	**Sn**	**05 46 02.1**	**+0.3**
MKAR	**Makanchi Array**	**13.67**	**317**	Pn	**Pn**	**05 43 28.1**	**-1.8**
	comp=Z,0.6nm,0.3s,baz=124,slow=14,SNR=9.0						
MKAR				Sn	**Sn**	**05 45 56.6**	**-5.2**
	comp=Z,0.4nm,0.3s,baz=127,slow=24,SNR=3.7						
MKAR	**Makanchi Array**	**13.67**	**317**	Pn	**Pn**	**05 43 28.1**	**-1.8**
MKAR				Sn	**Sn**	**05 45 56.6**	**-5.2**
TKM2	**Tokmak 2**	**16.41**	**295**	*e*Pn	**Pn**	**05 44 05.4**	**-1.1**
	comp=Z,5.2nm,0.6s						
AAK	**Ala-Archa**	**17.15**	**294**	P	**Pn**	**05 44 16.9**	**+1.1**
	baz=89,slow=8.1						
AAK				LR	LR	05 51 33.8	
	comp=Z,64nm,20.3s,baz=183,slow=40						
AAK	**Ala-Archa**	**17.15**	**294**	P	**Pn**	**05 44 16.9**	**+1.1**
AAK				LR	LR	05 51 33.8	
KURK	**Kurchatov**	**18.03**	**322**	P	**Pn**	**05 44 26.4**	**-0.2**
	comp=Z,0.0nm,0.3s,baz=136,slow=11,SNR=4.8						
KURK	**Kurchatov**	**18.03**	**322**	*e*Pn	**Pn**	**05 44 26.8**	**+0.2**
ZALV	**Zalesovo Beam**	**18.09**	**338**	P	**Pn**	**05 44 27.1**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=146,slow=9,SNR=4.8						
ZALV				LR	LR	05 52 02.5	
	comp=Z,22nm,19.9s,baz=310,slow=39						
ZALV	**Zalesovo Beam**	**18.09**	**338**	P	**Pn**	**05 44 27.1**	**-0.2**
ZALV				LR	LR	05 52 02.5	
CMAR	**Chiang Mai Arr**	**19.22**	**171**	P	**Pn**	**05 44 41.5**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=341,slow=10,SNR=13						
CMAR	**Chiang Mai Arr**	**19.22**	**171**	P	**Pn**	**05 44 41.5**	**+0.3**
BVAR	**Borovoye Array**	**23.52**	**319**	P	**P**	**05 45 27.5**	**+1.1**
	comp=Z,1.1nm,0.5s,mb3.5,baz=105,slow=11,SNR=7.4						
BVAR				LR	LR	05 55 11.7	
	comp=Z,106nm,19.4s,baz=12,slow=38						
BVAR	**Borovoye Array**	**23.52**	**319**	P	**P**	**05 45 27.5**	**+1.1**
BVAR				LR	LR	05 55 11.7	
KSRS	**Korea Array**	**25.31**	**80**	P	**P**	**05 45 42.2**	**-0.7**
	comp=Z,2.0nm,0.7s,mb3.8,baz=276,slow=8.3,SNR=5.0						
ILAR	**Eielson Array**	**66.86**	**24**	P	**P**	**05 51 07.8**	**+0.1**
	comp=Z,0.6nm,0.9s,mb3.6,baz=292,slow=4.8,SNR=6.4						
ILAR	**Eielson Array**	**66.86**	**24**	P	**P**	**05 51 07.8**	**+0.1**
WRA	**Warramunga Arr**	**67.67**	**141**	P	**P**	**05 51 12.8**	**-0.6**
	comp=Z,0.5nm,0.8s,mb3.6,baz=328,slow=5.8,SNR=5.9						
WRA	**Warramunga Arr**	**67.67**	**141**	P	**P**	**05 51 12.8**	**-0.7**
ASAR	**Alice Springs**	**70.61**	**143**	P	**P**	**05 51 31.6**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=319,slow=5.4,SNR=9.6						
ASAR	**Alice Springs**	**70.61**	**143**	P	**P**	**05 51 31.6**	**+0.1**
STKA	**Stephens Creek**	**81.17**	**142**	P	**P**	**05 52 31.0**	**-0.8**
	comp=Z,1.4nm,0.6s,mb4.1,baz=328,slow=6.0,SNR=5.5						
STKA	**Stephens Creek**	**81.17**	**142**	P	**P**	**05 52 31.0**	**-0.8**
TORD	**Torodi Ar. Bea**	**85.41**	**283**	P	**P**	**05 52 53.6**	**-0.6**
	comp=Z,0.2nm,0.5s,mb3.5,baz=50,slow=5.0,SNR=2.5						
TORD	**Torodi Ar. Bea**	**85.41**	**283**	P	**P**	**05 52 53.6**	**-0.6**

IDC 10 05:40:37.8±1.4, 13°.28N×120°.48E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/23, mbtmp3.4/3, Error ellipse: s-maj=37.0km s-min=17.2km az=98.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.93**	**28**	Pg	Pg	05 40 55.6	-0.1
	54nm,0.3s,baz=263,slow=16,SNR=2.3						
WRA	**Warramunga Arr**	**35.71**	**157**	P	P	05 47 38.2	0.0
	0.4nm,0.7s,baz=335,slow=9.5,SNR=4.9						
ASAR	**Alice Springs**	**38.99**	**160**	P	P	05 48 06.0	0.0
	0.2nm,0.5s,baz=338,slow=6.7,SNR=5.6						
MKAR	**Makanchi Array**	**46.25**	**324**	P	P	05 49 04.8	0.0
	0.3nm,0.2s,baz=108,slow=8.2,SNR=1.9						

ISCJB ***10*** *05:41:11.4±0.4, 42°.05N±0°.02×6°.93W±0°.02, h12km±2km, Error ellipse: s-maj=3.5km s-min=2.0km az=40.0*
CSEM ***10*** *05:41:12.5±0.1, 42°.12N×7°.05W, h12km, ML3.1/24, Error ellipse: s-maj=2.9km s-min=2.0km az=131.0*
INMG ***10*** *05:41:13.9±1.3, 42°.19N×7°.09W, h20km±2km, MD2.6, ML2.7, Error ellipse: s-maj=1.7km s-min=1.5km az=99.0*
LDG ***10*** *05:41:13.7±0.1, 42°.16N×7°.12W, h10km, Ml2.9/9, Error ellipse: s-maj=2.6km s-min=2.5km az=118.0*
MDD ***10*** *05:41:13.9±0.3, 42°.16N×7°.14W, h18km±3km, mbLg2.4/20, Error ellipse: s-maj=3.0km s-min=2.6km az=60.0, PRIMO*
IGIL ***10*** *05:41:14.4, 42°.17N×7°.11W, h16km, ML4.0*
NEIC ***10*** *05:41:14.1, 42°.17N×7°.11W, h16km, MN2.5(MDD), After MDD.*

ISC 10 05:41:12.9±0.3, 42°.11N±0°.01×7°.03W±0°.02, h17km±2km, n193, σ1§18/348, 3D, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECAL	**Calabor**	**0.28**	**128**	§Pg	**Pg**	**05 41 21.3**	**+2.3**
ECAL				Lg		05 41 26.4	
ECAL	**Calabor**	**0.28**	**128**	§Pg	**Pg**	**05 41 21.3**	**+2.3**
	188nm,0.4s,SNR=18						
ECAL				Lg		05 41 26.4	
	786nm,0.2s,SNR=5.0						
ECAL	**Calabor**	**0.28**	**128**	Pg	**Pg**	**05 41 21.3**	**+2.3**
	188nm,0.4s,SNR=18						
ECAL				Lg		05 41 26.4	
	786nm,0.2s,SNR=5.0						
ERUA	**La Rua**	**0.29**	**343**	Pg	**Pg**	**05 41 18.8**	**-0.4**
ERUA				Lg		05 41 22.4	
ERUA	**La Rua**	**0.29**	**343**	Pg	**Pg**	**05 41 18.8**	**-0.4**
	82nm,0.1s,SNR=7.9						
ERUA				Lg		05 41 22.4	
	101nm,0.1s,SNR=7.9						
ERUA	**La Rua**	**0.29**	**343**	Pg	**Pg**	**05 41 18.8**	**-0.4**
	82nm,0.1s,SNR=7.9						
ERUA				Lg		05 41 22.4	
	101nm,0.1s,SNR=7.9						
PBRG	**Braganca**	**0.38**	**145**	§*e*Pg	**Pg**	**05 41 22.9**	**+2.2**
PBRG				*e*Sg	**Sg**	**05 41 29.1**	**+3.2**
PBRG				A		05 41 29.4	
	661nm,0.2s						
ELOB	**Lobios**	**0.81**	**253**	Pg	**Pg**	**05 41 28.7**	**+0.1**
ELOB				Lg		05 41 39.7	
ELOB	**Lobios**	**0.81**	**253**	Pg	**Pg**	**05 41 28.6**	**0.0**
	23nm,0.3s,SNR=516						
ELOB				Lg		05 41 38.5	
	88nm,0.2s,SNR=5.0						
ELOB	**Lobios**	**0.81**	**253**	Pg	**Pg**	**05 41 28.7**	**+0.1**
	23nm,0.3s,SNR=516						
ELOB				Lg		05 41 39.7	
	88nm,0.2s,SNR=5.0						
PCAB	**Cabril**	**0.85**	**242**	*e*P	**Pb**	**05 41 29.4**	**+0.3**
PCAB				*e*S	**Sb**	**05 41 40.8**	**+0.6**
	330nm,0.3s						
PCAB	**Cabril**	**0.85**	**242**	*e*P	**Pb**	**05 41 29.4**	**+0.3**
PCAB				*e*S	**Sb**	**05 41 40.8**	**+0.6**
PCAB				A		05 41 42.9	
	330nm,0.3s						
POLO	**Lamas de Olo**	**0.93**	**218**	*e*P	**Pb**	**05 41 31.0**	**+0.4**
POLO				*e*S	**Sb**	**05 41 44.4**	**+1.7**
	110nm,0.3s						
POLO	**Lamas de Olo**	**0.93**	**218**	*e*P	**Pb**	**05 41 31.0**	**+0.4**
POLO				*e*S	**Sb**	**05 41 44.4**	**+1.7**
POLO				A		05 41 45.6	
	110nm,0.3s						
PGAV	**Gavieira, Arco**	**0.94**	**261**	*e*P	**Pb**	**05 41 30.3**	**-0.4**
PGAV				*e*S	**Sb**	**05 41 42.6**	**-0.2**
	96nm,0.2s						
PGAV	**Gavieira, Arco**	**0.94**	**261**	*e*P	**Pb**	**05 41 30.3**	**-0.4**
PGAV				*e*S	**Sb**	**05 41 42.6**	**-0.2**
PGAV				A		05 41 45.1	
	96nm,0.2s						
MVO	**Moncorvo**	**0.95**	**180**	Pg	**Pg**	**05 41 32.0**	**+0.8**
MVO				Lg		05 41 45.4	
MVO	**Moncorvo**	**0.95**	**180**	Pg	**Pg**	**05 41 32.0**	**+0.7**
	88nm,0.3s,SNR=715						
MVO				Lg		05 41 45.4	
	64nm,0.3s,SNR=13						
MVO	**Moncorvo**	**0.95**	**180**	Pg	**Pg**	**05 41 32.0**	**+0.7**
	88nm,0.3s,SNR=715						
MVO				Lg		05 41 45.4	
	64nm,0.3s,SNR=13						
MVO				*e*S	**Sb**	**05 41 45.5**	**+2.4**
	210nm,0.4s						
MVO	**Moncorvo**	**0.95**	**180**	*e*P	**Pg**	**05 41 32.0**	**+0.7**
MVO				*e*S	**Sb**	**05 41 45.5**	**+2.4**
MVO				A		05 41 52.6	
	210nm,0.4s						
PVRL	**Vila Real**	**0.98**	**212**	*e*P	**Pb**	**05 41 31.9**	**+0.5**
PVRL				*e*S	**Sb**	**05 41 46.2**	**+2.1**
	480nm,0.1s						
PVRL	**Vila Real**	**0.98**	**212**	*e*P	**Pb**	**05 41 31.9**	**+0.5**
PVRL				*e*S	**Sb**	**05 41 46.2**	**+2.1**
PVRL				A		05 41 47.8	
	480nm,0.1s						
EPON	**Pontenova**	**1.22**	**356**	Pg	**Pg**	**05 41 33.8**	**-2.6**
EPON				Lg		05 41 49.0	
EPON	**Pontenova**	**1.22**	**356**	Pg	**Pg**	**05 41 33.8**	**-2.6**
	30nm,0.3s,SNR=133						
EPON				Lg		05 41 49.9	
	71nm,0.2s,SNR=5.0						
EPON	**Pontenova**	**1.22**	**356**	Pg	**Pg**	**05 41 33.8**	**-2.6**
	30nm,0.3s,SNR=133						
EPON				Lg		05 41 49.0	
	71nm,0.2s,SNR=5.0						
EZAM	**Zamans**	**1.24**	**272**	Pg	**Pg**	**05 41 35.8**	**-1.0**
EZAM				Lg		05 41 51.4	
EZAM	**Zamans**	**1.24**	**272**	Pg	**Pg**	**05 41 34.3**	**-2.5**
	32nm,0.4s,SNR=7.9						
EZAM				Lg		05 41 50.5	
	146nm,0.3s,SNR=7.9						
EZAM	**Zamans**	**1.24**	**272**	Pg	**Pg**	**05 41 35.8**	**-1.0**
	32nm,0.4s,SNR=7.9						
EZAM				Lg		05 41 51.4	
	146nm,0.3s,SNR=7.9						
STS	**Santiago**	**1.36**	**305**	Pg	**Pg**	**05 41 37.5**	**-1.7**
STS				Lg		05 41 53.7	
STS	**Santiago**	**1.36**	**305**	Pg	**Pg**	**05 41 37.5**	**-1.7**
	11nm,0.2s,SNR=9.9						
STS				Lg		05 41 53.7	
	65nm,0.2s,SNR=26						
STS	**Santiago**	**1.36**	**305**	Pg	**Pg**	**05 41 37.5**	**-1.7**
	11nm,0.2s,SNR=9.9						
STS				Lg		05 41 53.7	
	65nm,0.2s,SNR=26						
PTO	**Porto**	**1.53**	**231**	*e*Pg	**Pg**	**05 41 41.9**	**-0.4**
PTO				*e*Sg	**Sg**	**05 42 01.9**	**-0.3**
	117nm,0.1s						
PTO	**Porto**	**1.53**	**231**	*e*Pg	**Pg**	**05 41 41.9**	**-0.4**
PTO				*e*Sg	**Sg**	**05 42 01.9**	**-0.3**
PTO				A		05 42 03.9	
	117nm,0.1s						
PVIS	**Viseu**	**1.54**	**205**	*e*Pn	**Pn**	**05 41 39.6**	**0.0**
PVIS	**Viseu**	**1.54**	**205**	*e*Pg	**Pg**	**05 41 42.1**	**-0.4**
PVIS				*e*Sg	**Sg**	**05 42 03.1**	**+0.5**
	136nm,0.1s						
PVIS	**Viseu**	**1.54**	**205**	*e*Pn	**Pn**	**05 41 39.6**	**0.0**
PVIS	**Viseu**	**1.54**	**205**	*e*Pg	**Pg**	**05 41 42.1**	**-0.4**
PVIS				*e*Sg	**Sg**	**05 42 03.1**	**+0.5**
PVIS				A		05 42 04.9	
	136nm,0.1s						
EMAZ	**Mazaricos**	**1.66**	**301**	Pg	**Pg**	**05 41 43.6**	**-1.3**
EMAZ				Lg		05 42 03.0	
EMAZ	**Mazaricos**	**1.66**	**301**	Pn	**Pn**	**05 41 39.6**	**-1.6**
	2.2nm,0.1s,SNR=7.9						
EMAZ				Pg	**Pg**	**05 41 41.4**	**-3.5**
	7.6nm,0.3s,SNR=10						
EMAZ				Lg		05 42 03.0	
	45nm,0.3s,SNR=23						
EMAZ	**Mazaricos**	**1.66**	**301**	Pg	**Pg**	**05 41 43.6**	**-1.3**
	7.6nm,0.3s,SNR=10						
EMAZ				Lg		05 42 03.0	
	45nm,0.3s,SNR=23						
MTE	**Manteigas**	**1.75**	**193**	*e*Pn	**Pn**	**05 41 42.9**	**+0.4**
MTE				*e*Sg	**Sg**	**05 42 11.4**	**+2.0**
MTE	**Manteigas**	**1.75**	**193**	*e*Pn	**Pn**	**05 41 43.0**	**+0.5**
MTE	**Manteigas**	**1.75**	**193**	*e*Pg	**Pg**	**05 41 47.4**	**+0.8**
MTE				*e*Sg	**Sg**	**05 42 10.7**	**+1.3**
	44nm,0.1s						
MTE	**Manteigas**	**1.75**	**193**	*e*Pn	**Pn**	**05 41 43.0**	**+0.5**
MTE	**Manteigas**	**1.75**	**193**	*e*Pg	**Pg**	**05 41 47.4**	**+0.8**
MTE				*e*Sg	**Sg**	**05 42 10.7**	**+1.3**
MTE				A		05 42 13.4	
	44nm,0.1s						
EARI	**Arriondas**	**1.79**	**48**	Pg	**Pg**	**05 41 43.6**	**-3.7**
EARI				Lg		05 42 09.4	
EARI	**Arriondas**	**1.79**	**48**	Pn	**Pn**	**05 41 43.6**	**+0.6**
	6.3nm,0.3s,SNR=43						
EARI				Sn	**Sn**	**05 42 04.8**	**-0.6**
	19nm,1.3s,SNR=7.9						
EARI				Lg		05 42 09.4	
	18nm,0.3s,SNR=5.0						
EARI	**Arriondas**	**1.79**	**48**	Pg	**Pg**	**05 41 43.6**	**-3.7**
	6.3nm,0.3s,SNR=43						
EARI				Lg		05 42 09.4	
	18nm,0.3s,SNR=5.0						
EPLA	**Plasencia**	**2.17**	**160**	Pn	**Pn**	**05 41 48.4**	**+0.2**
EPLA				Pg	**Pg**	**05 41 54.5**	**0.0**
EPLA				Sn	**Sn**	**05 42 14.5**	**-0.1**
EPLA				Lg		05 42 21.9	
EPLA	**Plasencia**	**2.17**	**160**	Pn	**Pn**	**05 41 48.4**	**+0.2**
	2.1nm,0.2s,SNR=68						
EPLA				Pg	**Pg**	**05 41 54.5**	**0.0**
	6.6nm,0.3s,SNR=21						
EPLA				Sn	**Sn**	**05 42 14.9**	**+0.3**
	5.5nm,0.3s,SNR=6.5						
EPLA				Lg		05 42 22.6	
	14nm,0.3s,SNR=10						
EPLA	**Plasencia**	**2.17**	**160**	Pn	**Pn**	**05 41 48.4**	**+0.2**
	2.1nm,0.2s,SNR=68						
EPLA	**Plasencia**	**2.17**	**160**	Pg	**Pg**	**05 41 54.5**	**0.0**
	6.6nm,0.3s,SNR=21						
EPLA				Sn	**Sn**	**05 42 14.5**	**-0.2**
	5.5nm,0.3s,SNR=6.5						
EPLA				Lg		05 42 21.9	
	14nm,0.3s,SNR=10						
PCBR	**Castelo Branco**	**2.29**	**189**	*e*Pn	**Pn**	**05 41 50.5**	**+0.6**
PCBR	**Castelo Branco**	**2.29**	**189**	*e*Pg	**Pg**	**05 41 57.3**	**+0.4**
PCBR				*e*Sn	**Sn**	**05 42 18.0**	**+0.2**
PCBR				*e*Sg	**Sg**	**05 42 26.9**	**+0.2**
	20nm,0.5s						
PCBR	**Castelo Branco**	**2.29**	**189**	*e*Pn	**Pn**	**05 41 50.5**	**+0.6**
PCBR	**Castelo Branco**	**2.29**	**189**	*e*Pg	**Pg**	**05 41 57.3**	**+0.4**
PCBR				*e*Sn	**Sn**	**05 42 18.0**	**+0.2**
PCBR				*e*Sg	**Sg**	**05 42 26.9**	**+0.2**
PCBR				A		05 42 30.4	
	20nm,0.5s						
GUD	**Guadarrama**	**2.62**	**123**	Pn	**Pn**	**05 41 56.4**	**+2.1**
GUD				Pg	**Pg**	**05 42 02.2**	**-0.8**
GUD				Sn	**Sn**	**05 42 27.3**	**+1.6**
GUD				Lg		05 42 35.4	
GUD	**Guadarrama**	**2.62**	**123**	Pn	**Pn**	**05 41 56.4**	**+2.1**
	1.7nm,0.3s,SNR=7.9						
GUD				Pg	**Pg**	**05 42 02.2**	**-0.8**
	6.6nm,0.2s,SNR=7.9						
GUD				Sn	**Sn**	**05 42 27.3**	**+1.6**
	6.4nm,0.2s,SNR=7.9						
GUD				Lg		05 42 35.4	
	35nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**2.62**	**123**	Pn	**Pn**	**05 41 56.4**	**+2.1**
	1.7nm,0.3s,SNR=7.9						
PMRV	**Marv??o**	**2.70**	**186**	*e*Pn	**Pn**	**05 41 56.1**	**+0.6**
PMRV	**Marv??o**	**2.70**	**186**	*e*Pg	**Pg**	**05 42 04.8**	**+0.2**

EBAD	**Badajoz**	**3.35**	**180**	Pn	**Pn**	**05 42 05.2**	**+0.7**
	1.1nm,0.5s,SNR=21						
EBAD				Pg	**Pg**	**05 42 14.2**	**-3.0**
	1.6nm,0.3s,SNR=9.6						
EBAD				Sn	**Sn**	**05 42 42.7**	**-1.2**
	3.5nm,0.3s,SNR=7.9						
EBAD				Lg		05 42 59.4	
	2.3nm,0.8s,SNR=9.3						
EBAD	**Badajoz**	**3.35**	**180**	Pn	**Pn**	**05 42 05.2**	**+0.7**
	1.1nm,0.5s,SNR=21						
EBAD	**Badajoz**	**3.35**	**180**	Pg	**Pg**	**05 42 14.9**	**-2.3**
	1.6nm,0.3s,SNR=9.6						
EBAD				Sn	**Sn**	**05 42 44.6**	**+0.7**
	3.5nm,0.3s,SNR=7.9						
EBAD				Lg		05 42 59.4	
	2.3nm,0.8s,SNR=9.3						
ESDC	**Sonseca Array**	**3.37**	**135**	Pn	**Pn**	**05 42 07.3**	**+2.7**
ESDC				Pg	**Pg**	**05 42 15.3**	**-2.1**
ESDC				Sn	**Sn**	**05 42 44.7**	**+0.4**
ESDC				Lg		05 43 00.3	
ESDC	**Sonseca Array**	**3.37**	**135**	Pn	**Pn**	**05 42 07.0**	**+2.3**
	0.4nm,0.2s,baz=307,slow=17,SNR=9.6						
ESDC				Pg	**Pg**	**05 42 15.3**	**-2.1**
	0.5nm,0.2s,baz=316,slow=17,SNR=21						
ESDC				Sn	**Sn**	**05 42 44.7**	**+0.4**
	0.5nm,0.3s,baz=316,slow=17,SNR=4.3						
ESDC				Lg		05 43 00.3	
	0.4nm,0.2s,baz=317,slow=17,SNR=4.5						
ESDC	**Sonseca Array**	**3.37**	**135**	Pn	**Pn**	**05 42 07.3**	**+2.6**
	0.4nm,0.2s,SNR=9.6						
ESDC	**Sonseca Array**	**3.37**	**135**	Pg	**Pg**	**05 42 15.3**	**-2.1**
	0.5nm,0.2s,SNR=21						
ESDC				Sn	**Sn**	**05 42 44.7**	**+0.5**
	0.5nm,0.3s,SNR=4.3						
ESDC				Lg		05 43 00.3	
	0.4nm,0.2s,SNR=4.5						
PMAFR	**Mafra**	**3.59**	**209**	Pn	**Pn**	**05 42 08.3**	**+0.5**
	4.1nm,0.2s,SNR=7.9						
PMAFR				Sn	**Sn**	**05 42 47.9**	**-1.8**
	3.9nm,0.3s,SNR=7.9						
PMAFR				Lg		05 43 04.5	
	40nm,0.5s,SNR=7.9						
PMAFR	**Mafra**	**3.59**	**209**	*e*Pn	**Pn**	**05 42 08.3**	**+0.5**
PMAFR				*e*Sn	**Sn**	**05 42 49.1**	**-0.6**
	3.9nm,0.3s,SNR=7.9						
PMAFR				Lg		05 43 07.0	
	40nm,0.5s,SNR=7.9						
PMAFR	**Mafra**	**3.59**	**209**	*e*Pn	**Pn**	**05 42 08.3**	**+0.5**
PMAFR				*e*Sn	**Sn**	**05 42 49.0**	**-0.7**
PMAFR				A		05 43 11.1	
	9.2nm,0.4s						
EVO	**Evora**	**3.66**	**192**	*e*Pn	**Pn**	**05 42 08.9**	**+0.3**
EVO				*e*Sn	**Sn**	**05 42 51.1**	**-0.2**
EVO				*e*Sg	**Sg**	**05 43 09.3**	**-1.0**
	16nm,0.4s						
EVO	**Evora**	**3.66**	**192**	*e*Pn	**Pn**	**05 42 09.3**	**+0.7**
EVO				*e*Sn	**Sn**	**05 42 50.7**	**-0.6**
EVO				*e*Sg	**Sg**	**05 43 10.6**	**+0.3**
	9.3nm,0.8s						
EVO	**Evora**	**3.66**	**192**	*e*Pn	**Pn**	**05 42 09.3**	**+0.7**
EVO				*e*Sn	**Sn**	**05 42 50.7**	**-0.6**
EVO				*e*Sg	**Sg**	**05 43 10.6**	**+0.3**
EVO				A		05 43 14.0	
	9.3nm,0.8s						
EVOP	**Sao Brissos**	**3.68**	**194**	*e*Pn	**Pn**	**05 42 08.9**	**0.0**
EVOP				*e*Sn	**Sn**	**05 42 51.1**	**-0.8**
EVOP				*e*Sg	**Sg**	**05 43 09.3**	**-1.7**
	8.2nm,0.4s						
EVOP	**Sao Brissos**	**3.68**	**194**	*e*Pn	**Pn**	**05 42 08.9**	**0.0**
EVOP				*e*Sn	**Sn**	**05 42 51.1**	**-0.8**
EVOP				*e*Sg	**Sg**	**05 43 09.3**	**-1.7**
	8.8nm,0.3s						
MOE	**Montemor**	**3.73**	**196**	*e*Sg	**Sg**	**05 43 11.1**	**-1.4**
MOE	**Montemor**	**3.73**	**196**	*e*Sg	**Sg**	**05 43 11.1**	**-1.4**
PBAR	**Barrancos**	**3.93**	**180**	*e*Pn	**Pn**	**05 42 13.3**	**+0.8**
PBAR				*e*Sn	**Sn**	**05 42 58.3**	**+0.1**
PBAR				*e*Sg	**Sg**	**05 43 19.2**	**0.0**
	8.8nm,0.3s						
PBAR	**Barrancos**	**3.93**	**180**	*e*Pn	**Pn**	**05 42 13.3**	**+0.8**
PBAR				*e*Sn	**Sn**	**05 42 58.3**	**+0.1**
PBAR				*e*Sg	**Sg**	**05 43 19.2**	**0.0**
PBAR				A		05 43 23.3	
	8.8nm,0.3s						
ETOR	**Torete**	**3.96**	**107**	Pn	**Pn**	**05 42 12.9**	**+0.2**
ETOR				Pg	**Pg**	**05 42 24.5**	**-4.2**
ETOR				Lg		05 43 17.5	
ETOR	**Torete**	**3.96**	**107**	Pn	**Pn**	**05 42 12.9**	**+0.2**
	2.1nm,0.2s,SNR=14						
ETOR				Pg	**Pg**	**05 42 24.5**	**-4.2**
	7.5nm,0.3s,SNR=8.0						
ETOR				Lg		05 43 17.5	
	2.6nm,0.5s,SNR=14						
ETOR	**Torete**	**3.96**	**107**	Pn	**Pn**	**05 42 12.9**	**+0.1**
	2.1nm,0.2s,SNR=14						
PBEJ	**Beja**	**4.13**	**189**	*e*Pn	**Pn**	**05 42 15.9**	**+0.7**
PBEJ				*e*Sn	**Sn**	**05 43 02.6**	**-0.5**
PBEJ				*e*Sg	**Sg**	**05 43 25.0**	**-0.5**
	4.7nm,0.3s						
PBEJ	**Beja**	**4.13**	**189**	*e*Pn	**Pn**	**05 42 15.9**	**+0.7**
PBEJ				*e*Sn	**Sn**	**05 43 02.6**	**-0.5**
PBEJ				*e*Sg	**Sg**	**05 43 25.0**	**-0.5**
PBEJ				A		05 43 28.8	
	4.7nm,0.3s						
PNCL	**Nicolau / Gran**	**4.16**	**197**	*e*Pn	**Pn**	**05 42 16.4**	**+0.8**
PNCL				*e*Sn	**Sn**	**05 43 03.2**	**-0.5**
PNCL				*e*Sg	**Sg**	**05 43 25.0**	**-1.4**
	7.1nm,0.8s						
PNCL	**Nicolau / Gran**	**4.16**	**197**	*e*Pn	**Pn**	**05 42 16.4**	**+0.8**
PNCL				*e*Sn	**Sn**	**05 43 03.2**	**-0.5**
PNCL				*e*Sg	**Sg**	**05 43 25.0**	**-1.4**
PNCL				A		05 43 31.7	
	7.1nm,0.8s						
EALK	**Alkurruntz**	**4.22**	**73**	Pn	**Pn**	**05 42 17.2**	**+0.9**
	5.7nm,1.9s,SNR=7.9						
EORO	**Oroz-Betelu**	**4.30**	**78**	Pn	**Pn**	**05 42 18.9**	**+1.4**
	1.9nm,0.3s,SNR=6.1						
EORO				Sn	**Sn**	**05 43 06.7**	**-0.5**
	4.2nm,0.4s,SNR=5.0						
EORO	**Oroz-Betelu**	**4.30**	**78**	Pn	**Pn**	**05 42 18.9**	**+1.4**
	1.9nm,0.3s,SNR=6.1						
EORO				Sn	**Sn**	**05 43 06.7**	**-0.5**
	4.2nm,0.4s,SNR=5.0						
IEPA	**Eparoz**	**4.32**	**79**	Pn	**Pn**	**05 42 19.6**	**+1.9**
	1.3nm,0.2s,SNR=7.9						
IEPA				Sn	**Sn**	**05 43 07.5**	**-0.1**
	1.1nm,0.2s,SNR=7.9						
IEPA	**Eparoz**	**4.32**	**79**	Pn	**Pn**	**05 42 19.6**	**+1.9**
	1.3nm,0.2s,SNR=7.9						
IEPA				Sn	**Sn**	**05 43 08.0**	**+0.4**
	SNR=7.9						
IELO	**Elcoad**	**4.35**	**78**	Pn	**Pn**	**05 42 19.7**	**+1.5**
	2.8nm,0.3s,SNR=7.9						
IELO				Sn	**Sn**	**05 43 07.7**	**-0.7**
	2.8nm,0.2s,SNR=7.9						
IELO	**Elcoad**	**4.35**	**78**	Pn	**Pn**	**05 42 19.7**	**+1.6**
	SNR=7.9						
IELO				Sn	**Sn**	**05 43 07.7**	**-0.7**
	SNR=7.9						
EMIN	**Mina Concepcio**	**4.35**	**176**	Pn	**Pn**	**05 42 19.1**	**+0.9**
EMIN				Sn	**Sn**	**05 43 07.6**	**-0.9**
EMIN	**Mina Concepcio**	**4.35**	**176**	Pn	**Pn**	**05 42 19.0**	**+0.9**
	0.4nm,0.1s,SNR=9.4						
EMIN				Sn	**Sn**	**05 43 07.6**	**-0.9**
	0.1nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.35**	**176**	Pn	**Pn**	**05 42 19.0**	**+0.8**
	0.4nm,0.1s,SNR=9.4						
EMIN				Sn	**Sn**	**05 43 07.6**	**-0.8**
	0.1nm,0.4s,SNR=7.9						
MESJ	**Messejana**	**4.36**	**192**	*e*	**Pn**	**05 42 11.2**	**-7.2**
	baz=55,slow=16						
MESJ				*e*P		05 42 19.0	
EADA	**Adamuz**	**4.37**	**154**	Pn	**Pn**	**05 42 19.3**	**+0.9**
EADA				Sn	**Sn**	**05 43 07.7**	**-1.2**
EADA				Lg		05 43 30.6	
EADA	**Adamuz**	**4.37**	**154**	Pn	**Pn**	**05 42 19.3**	**+0.9**
	1.3nm,0.2s,SNR=7.9						
EADA				Sn	**Sn**	**05 43 07.7**	**-1.2**
	8.3nm,0.5s,SNR=7.9						
EADA				Lg		05 43 30.6	
	3.0nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.37**	**154**	Pn	**Pn**	**05 42 19.3**	**+0.9**
	1.3nm,0.2s,SNR=7.9						
EADA				Sn	**Sn**	**05 43 07.7**	**-1.2**
	8.3nm,0.5s,SNR=7.9						
EADA				Lg		05 43 30.6	
	3.0nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**4.40**	**75**	*e*Pn	**Pn**	**05 42 19.6**	**+0.7**
SJPF				*e*Sn	**Sn**	**05 43 07.7**	**-2.0**
	1.4nm,0.2s						
SJPF	**Ste Jean**	**4.40**	**75**	*e*Pn	**Pn**	**05 42 19.6**	**+0.7**
SJPF				*e*Sn	**Sn**	**05 43 07.7**	**-2.0**
SJPF	**Ste Jean**	**4.40**	**75**	Pn	**Pn**	**05 42 19.6**	**+0.7**
SJPF				Sn	**Sn**	**05 43 07.7**	**-2.0**
	0.7nm,0.2s						
SJPF	**Ste Jean**	**4.40**	**75**	*e*Pn	**Pn**	**05 42 19.6**	**+0.7**
SJPF				*e*Sn	**Sn**	**05 43 07.7**	**-2.0**
	0.7nm,0.2s						
PCVE	**Castro Verde**	**4.54**	**190**	*e*Pn	**Pn**	**05 42 21.3**	**+0.5**
PCVE				*e*Sn	**Sn**	**05 43 12.3**	**-0.9**
PCVE				*e*Sg	**Sg**	**05 43 34.8**	**-3.9**
	3.9nm,0.4s						
PCVE	**Castro Verde**	**4.54**	**190**	*e*Pn	**Pn**	**05 42 21.3**	**+0.5**
PCVE				*e*Sn	**Sn**	**05 43 12.3**	**-0.9**
PCVE				*e*Sg	**Sg**	**05 43 34.8**	**-3.9**
PCVE				A		05 43 43.9	
	3.9nm,0.4s						
EGRO	**El Granado**	**4.59**	**185**	Pn	**Pn**	**05 42 22.1**	**+0.6**
EGRO	**El Granado**	**4.59**	**185**	Pn	**Pn**	**05 42 22.1**	**+0.6**
	0.2nm,0.1s,SNR=7.9						
EGRO				Sn	**Sn**	**05 43 11.1**	**-3.3**
	0.5nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**4.59**	**185**	Pn	**Pn**	**05 42 22.1**	**+0.7**
	0.2nm,0.1s,SNR=7.9						
PVAQ	**Vaqueiros**	**4.73**	**187**	*e*Pn	**Pn**	**05 42 24.0**	**+0.5**
PVAQ				*e*Sn	**Sn**	**05 43 17.2**	**-0.7**
PVAQ				*e*Sg	**Sg**	**05 43 42.9**	**-1.9**
	6.4nm,0.6s						
PVAQ	**Vaqueiros**	**4.73**	**187**	*e*Pn	**Pn**	**05 42 24.0**	**+0.5**
PVAQ				*e*Sn	**Sn**	**05 43 17.2**	**-0.7**
PVAQ				*e*Sg	**Sg**	**05 43 42.9**	**-1.9**
PVAQ				A		05 43 47.8	
	6.4nm,0.6s						
PTEO	**Sao Teotonio**	**4.74**	**197**	*e*Pn	**Pn**	**05 42 24.6**	**+1.0**
PTEO				*e*Sn	**Sn**	**05 43 17.7**	**-0.5**
	9.7nm,0.5s						
PTEO	**Sao Teotonio**	**4.74**	**197**	*e*Pn	**Pn**	**05 42 24.6**	**+1.0**
PTEO				*e*Sn	**Sn**	**05 43 17.7**	**-0.5**
PTEO				A		05 43 48.2	
	9.7nm,0.5s						
ETSF	**Etsaut**	**4.85**	**79**	*e*Pn	**Pn**	**05 42 26.1**	**+1.1**
ETSF				*e*Sn	**Sn**	**05 43 19.3**	**-1.4**
	2.5nm,0.3s						
ETSF	**Etsaut**	**4.85**	**79**	*e*Pn	**Pn**	**05 42 26.1**	**+1.1**
ETSF				*e*Sn	**Sn**	**05 43 19.3**	**-1.4**
ETSF	**Etsaut**	**4.85**	**79**	Pn	**Pn**	**05 42 26.1**	**+1.1**
ETSF				Sn	**Sn**	**05 43 19.3**	**-1.4**
	1.2nm,0.3s						
ETSF	**Etsaut**	**4.85**	**79**	*e*Pn	**Pn**	**05 42 26.1**	**+1.1**
ETSF				*e*Sn	**Sn**	**05 43 19.3**	**-1.4**
	1.2nm,0.3s						
EVIA	**Vianos**	**4.90**	**134**	Sn	**Sn**	**05 43 20.6**	**-1.4**
	0.5nm,0.3s,SNR=7.9						
EVIA				Lg		05 43 46.4	
	1.4nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**4.91**	**92**	Pn	**Pn**	**05 42 27.2**	**+1.3**
ESAC				Sn	**Sn**	**05 43 21.2**	**-1.1**
ESAC	**San Caprasio**	**4.91**	**92**	Pn	**Pn**	**05 42 27.2**	**+1.3**
	2.1nm,0.1s,SNR=7.9						
ESAC				Sn	**Sn**	**05 43 21.2**	**-1.1**
	7.8nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**4.91**	**92**	Pn	**Pn**	**05 42 27.2**	**+1.3**
	2.1nm,0.1s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**4.91**	**188**	*e*Pn	**Pn**	**05 42 26.9**	**+1.0**
PBDV				*e*Sg	**Sg**	**05 43 46.7**	**-3.9**
	6.7nm,0.5s						
PBDV	**Barranco-do-Ve**	**4.91**	**188**	*e*Pn	**Pn**	**05 42 26.9**	**+1.0**
PBDV				*e*Sg	**Sg**	**05 43 46.7**	**-3.9**
PBDV				A		05 43 58.1	
	6.7nm,0.5s						
MORF	**Marmelete**	**4.96**	**195**	*e*Pn	**Pn**	**05 42 27.1**	**+0.5**
	2.7nm,0.4s						
MORF	**Marmelete**	**4.96**	**195**	*e*Pn	**Pn**	**05 42 27.1**	**+0.5**
MORF				A		05 43 57.7	
	2.7nm,0.4s						
PFVI	**Vila Bisbo**	**5.16**	**196**	Pn	**Pn**	**05 42 29.5**	**+0.1**
PFVI				Sn	**Sn**	**05 43 27.2**	**-1.4**
PFVI	**Vila Bisbo**	**5.16**	**196**	Pn	**Pn**	**05 42 29.5**	**+0.1**
	0.5nm,0.2s,SNR=7.9						
PFVI				Sn	**Sn**	**05 43 25.0**	**-3.6**
	0.5nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.16**	**196**	*e*Pn	**Pn**	**05 42 29.7**	**+0.3**
PFVI				*e*Sn	**Sn**	**05 43 27.6**	**-0.9**
	3.1nm,0.7s						
PFVI	**Vila Bisbo**	**5.16**	**196**	*e*Pn	**Pn**	**05 42 29.7**	**+0.3**
PFVI				*e*Sn	**Sn**	**05 43 27.6**	**-0.9**
PFVI				A		05 43 30.5	
	3.1nm,0.7s						
EMOS	**Mosqueruela**	**5.24**	**107**	Pn	**Pn**	**05 42 32.2**	**+1.8**
EMOS				Sn	**Sn**	**05 43 29.8**	**-0.7**
EMOS	**Mosqueruela**	**5.24**	**107**	Pn	**Pn**	**05 42 32.2**	**+1.8**
	0.8nm,0.3s,SNR=7.9						
EMOS				Sn	**Sn**	**05 43 29.8**	**-0.7**
	1.4nm,0.5s,SNR=7.9						
EMOS	**Mosqueruela**	**5.24**	**107**	Pn	**Pn**	**05 42 32.2**	**+1.7**
	0.8nm,0.3s,SNR=7.9						
EMOS				Sn	**Sn**	**05 43 29.8**	**-0.7**
	1.4nm,0.5s,SNR=7.9						
ESPR	**Espera**	**5.32**	**170**	Sn	**Sn**	**05 43 31.5**	**-0.7**
ESPR	**Espera**	**5.32**	**170**	Sn	**Sn**	**05 43 31.5**	**-0.7**
	0.7nm,0.2s,SNR=7.9						
ESPR	**Espera**	**5.32**	**170**	Sn	**Sn**	**05 43 31.5**	**-0.8**
	0.7nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**5.34**	**81**	Pn	**Pn**	**05 42 33.0**	**+1.2**
EBIE				Sn	**Sn**	**05 43 31.0**	**-1.9**
EBIE	**Bielsa**	**5.34**	**81**	Pn	**Pn**	**05 42 33.0**	**+1.2**
	3.1nm,0.2s,SNR=7.9						
EBIE				Sn	**Sn**	**05 43 31.0**	**-1.9**
	0.6nm,0.4s,SNR=7.9						
EBIE	**Bielsa**	**5.34**	**81**	Pn	**Pn**	**05 42 33.0**	**+1.2**
	3.1nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.43**	**128**	Pn	**Pn**	**05 42 35.1**	**+2.0**
ETOB				Sn	**Sn**	**05 43 34.0**	**-1.1**
ETOB	**Tobarra**	**5.43**	**128**	Pn	**Pn**	**05 42 35.1**	**+2.0**
	0.2nm,0.3s,SNR=7.9						
ETOB				Sn	**Sn**	**05 43 34.0**	**-1.1**
	0.5nm,0.3s,SNR=7.9						
ETOB				Lg		05 44 02.9	
	2.9nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.43**	**128**	Pn	**Pn**	**05 42 35.1**	**+2.0**
	0.2nm,0.3s,SNR=7.9						
ETOB				Sn	**Sn**	**05 43 34.0**	**-1.2**
	0.5nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**5.48**	**140**	Lg		05 44 04.4	
	0.2nm,0.4s,SNR=7.9						
EPF	**Esparros**	**5.52**	**78**	*e*Pn	**Pn**	**05 42 35.7**	**+1.5**
EPF				*e*Sn	**Sn**	**05 43 35.5**	**-1.8**
	1.5nm,0.2s						
EPF	**Esparros**	**5.52**	**78**	*e*Pn	**Pn**	**05 42 35.7**	**+1.5**
EPF				*e*Sn	**Sn**	**05 43 35.5**	**-1.8**
EPF	**Esparros**	**5.52**	**78**	Pn	**Pn**	**05 42 35.7**	**+1.5**
EPF				Sn	**Sn**	**05 43 35.5**	**-1.8**
	0.8nm,0.2s						
EPF	**Esparros**	**5.52**	**78**	*e*Pn	**Pn**	**05 42 35.7**	**+1.5**
	0.2nm,0.1s,SNR=7.9						
EPF				Sn	**Sn**	**05 43 35.5**	**-1.8**
	0.3nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**5.63**	**149**	Sn	**Sn**	**05 43 37.6**	**-2.4**
	3.1nm,2.0s,SNR=7.9						
EQUE				Lg		05 44 10.3	
	0.5nm,1.9s,SNR=7.9						
ERTA	**Horta de San J**	**5.64**	**99**	Pn	**Pn**	**05 42 37.2**	**+1.2**
ERTA				Sn	**Sn**	**05 43 37.8**	**-2.6**
ERTA	**Horta de San J**	**5.64**	**99**	Pn	**Pn**	**05 42 37.2**	**+1.2**
	0.2nm,0.1s,SNR=7.9						
ERTA				Sn	**Sn**	**05 43 37.8**	**-2.6**
	0.3nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**5.64**	**99**	Pn	**Pn**	**05 42 37.2**	**+1.2**
	0.2nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**5.81**	**162**	Pn	**Pn**	**05 42 39.5**	**+1.2**
	0.7nm,1.3s,SNR=7.9						
EMIJ				Sn	**Sn**	**05 43 41.9**	**-2.6**
	0.5nm,0.6s,SNR=7.9						
CSOR	**Sort**	**6.07**	**85**	Pn	**Pn**	**05 42 42.1**	**+0.4**
CSOR	**Sort**	**6.07**	**85**	Pn	**Pn**	**05 42 42.1**	**+0.4**
	0.7nm,0.3s,SNR=7.9						
CSOR	**Sort**	**6.07**	**85**	Pn	**Pn**	**05 42 42.1**	**+0.4**
	0.7nm,0.3s,SNR=7.9						
LFF	**La Frestale**	**6.32**	**61**	*e*Pn	**Pn**	**05 42 44.5**	**-0.7**
LFF				*e*Sn	**Sn**	**05 43 53.4**	**-3.5**
	2.0nm,0.5s						
LFF	**La Frestale**	**6.32**	**61**	*e*Pn	**Pn**	**05 42 44.5**	**-0.7**
LFF				*e*Sn	**Sn**	**05 43 53.4**	**-3.5**
LFF	**La Frestale**	**6.32**	**61**	Pn	**Pn**	**05 42 44.5**	**-0.7**
LFF				Sn	**Sn**	**05 43 53.4**	**-3.5**
	1.0nm,0.5s						
LFF	**La Frestale**	**6.32**	**61**	*e*Pn	**Pn**	**05 42 44.5**	**-0.7**
MFF	**Saint Martin d**	**6.67**	**45**	*e*Pn	**Pn**	**05 42 49.3**	**-0.7**
MFF				*e*Sn	**Sn**	**05 44 01.7**	**-3.9**
	1.2nm,0.4s						
MFF	**Saint Martin d**	**6.67**	**45**	*e*Pn	**Pn**	**05 42 49.3**	**-0.7**
MFF				*e*Sn	**Sn**	**05 44 01.7**	**-3.9**
MFF	**Saint Martin d**	**6.67**	**45**	Pn	**Pn**	**05 42 49.3**	**-0.7**
MFF				Sn	**Sn**	**05 44 01.7**	**-3.9**
	0.6nm,0.4s						
MFF	**Saint Martin d**	**6.67**	**45**	*e*Pn	**Pn**	**05 42 49.3**	**-0.7**
CLLI	**Llivia**	**6.69**	**84**	Pn	**Pn**	**05 42 52.0**	**+1.7**
CLLI	**Llivia**	**6.69**	**84**	Pn	**Pn**	**05 42 52.0**	**+1.7**
	0.3nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**6.69**	**84**	Pn	**Pn**	**05 42 52.0**	**+1.7**
	SNR=7.9						
RJF	**Les Rejaudoux**	**6.97**	**60**	*e*Pn	**Pn**	**05 42 53.9**	**-0.2**
RJF				*e*Sn	**Sn**	**05 44 09.3**	**-3.6**
	1.8nm,0.3s						
RJF	**Les Rejaudoux**	**6.97**	**60**	*e*Pn	**Pn**	**05 42 53.9**	**-0.2**
RJF				*e*Sn	**Sn**	**05 44 09.3**	**-3.6**
RJF	**Les Rejaudoux**	**6.97**	**60**	Pn	**Pn**	**05 42 53.9**	**-0.2**
RJF				Sn	**Sn**	**05 44 09.3**	**-3.6**
	0.9nm,0.3s						
RJF	**Les Rejaudoux**	**6.97**	**60**	*e*Pn	**Pn**	**05 42 53.9**	**-0.2**
CFON	**Fontmartina**	**7.07**	**90**	Pn	**Pn**	**05 42 56.7**	**+1.2**
	1.8nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**7.08**	**113**	Pn	**Pn**	**05 42 57.4**	**+1.7**
EIBI	**Ibiza**	**7.08**	**113**	Pn	**Pn**	**05 42 57.3**	**+1.7**
	SNR=7.9						
EIBI	**Ibiza**	**7.08**	**113**	Pn	**Pn**	**05 42 57.3**	**+1.6**
	SNR=7.9						
CAF	**Calviac**	**7.18**	**64**	*e*Pn	**Pn**	**05 42 56.3**	**-0.8**
CAF				*e*Sn	**Sn**	**05 44 14.5**	**-3.7**
	2.8nm,0.4s						
CAF	**Calviac**	**7.18**	**64**	*e*Pn	**Pn**	**05 42 56.3**	**-0.8**
CAF				*e*Sn	**Sn**	**05 44 14.5**	**-3.7**
CAF	**Calviac**	**7.18**	**64**	Pn	**Pn**	**05 42 56.3**	**-0.8**
CAF				Sn	**Sn**	**05 44 14.5**	**-3.7**
	1.4nm,0.4s						
CAF	**Calviac**	**7.18**	**64**	*e*Pn	**Pn**	**05 42 56.3**	**-0.8**

IDC ***10*** *05:58:32.1±2.6, 4.56S×100.77E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.7/24, mbtmp3.8/9, Error ellipse: s-maj=109.6km s-min=16.4km az=53.0*
NEIC ***10*** *05:58:37.4±1.4, 4.52S×100.84E, h35km, mb4.1/1, Error ellipse: s-maj=57.5km s-min=8.1km az=54.0*
ISCJB ***10*** *05:58:39.2±4.3, 4.2S±0.2×101.2E±0.3, h57km±32km, mb3.9/10, Error ellipse: s-maj=53.9km s-min=12.6km az=142.1*
DJA ***10*** *05:59:04, 3.17S×103.90E, h33km, MLv3.2/7*

ISC 10 05:58:40.8±4.2, 4.2S±0.2×101.3E±0.3, h51km±32km, n28, σ0.96/27, mb3.9/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.68**	**96**	P	**Sn**	**05 59 29.1**	**+0.9**
MNAI				S	Sx	05 59 48.3	
LHSI	**Lahat**	**2.27**	**81**	P	**Pn**	**05 59 19.3**	**+3.4**
LWLI	**Liwa**	**2.89**	**107**	P	**Pn**	**05 59 33.8**	**+9.4**
LWLI				S	**Sn**	**05 59 56.4**	**-1.5**
MDSI	**Maura Dua**	**2.91**	**96**	P	**Pn**	**05 59 25.2**	**+0.6**
MDSI				S	Px	05 59 43.8	
JMBI	**JAMBI**	**3.47**	**43**	P	**Pn**	**05 59 29.6**	**-2.8**
KLSI		**3.48**	**98**	P	**Pn**	**05 59 32.7**	**+0.2**
KLSI				S	Px	05 59 55.0	
CMAR	**Chiang Mai Arr**	**22.63**	**354**	P	**P**	**06 03 38.1**	**+0.6**
	1.4nm,0.7s,mb3.5,baz=186,slow=8.7,SNR=10						
CMAR	**Chiang Mai Arr**	**22.63**	**354**	P	**P**	**06 03 38.1**	**+0.6**
FITZ	**Fitzroy Crossi**	**27.55**	**122**	P	**P**	**06 04 22.9**	**-0.2**
	1.3nm,0.8s,mb3.6,baz=328,slow=9.5,SNR=2.8						
FITZ	**Fitzroy Crossi**	**27.55**	**122**	P	**P**	**06 04 22.9**	**-0.2**
WRA	**Warramunga Arr**	**35.80**	**119**	P	**P**	**06 05 35.4**	**-0.2**
	0.3nm,0.4s,mb3.6,baz=299,slow=10.0,SNR=11						
WRA	**Warramunga Arr**	**35.80**	**119**	P	**P**	**06 05 35.4**	**-0.2**
WRAB	**Tennant Creek**	**35.81**	**119**	*e*P	**P**	**06 05 35.9**	**+0.2**
	2

MECH				*i* S		Sn	06 18 05.3	+0.1
MECH				AML		AML	06 18 14.1	
	comp=N,662nm,0.4s							
ANCH	**Antofagasta**	**2.60**	**227**	*e*P		**Pn**	**06 17 41.0**	**+0.4**
ANCH	**Antofagasta**	**2.60**	**227**	*e*P		**Pn**	**06 17 41.0**	**+0.4**
LPAZ	**La Paz**	**5.61**	**2**	P		**Pn**	**06 18 21.0**	**+0.5**
	comp=N,1.1nm,0.3s,baz=186,slow=4.2,SNR=22							
LPAZ				S		**Sn**	**06 19 12.0**	**-12**
	comp=N,0.1nm,0.3s,baz=156,slow=9.5,SNR=2.2							
LPAZ	**La Paz**	**5.61**	**2**	P		**Pn**	**06 18 21.0**	**+0.5**
LPAZ				S		**Sn**	**06 19 12.0**	**-12**
CFAA	**Coronel Fontan**	**9.65**	**180**	P		**Pn**	**06 19 15.2**	**+0.1**
	comp=N,0.0nm,0.3s,baz=355,slow=11,SNR=3.5							
CFAA				S		**Sn**	**06 20 56.7**	**-4.8**
	comp=N,0.0nm,0.3s,baz=232,slow=16,SNR=2.3							
CFAA	**Coronel Fontan**	**9.65**	**180**	P		**Pn**	**06 19 15.2**	**+0.1**
CFAA				S		**Sn**	**06 20 56.7**	**-4.8**
CPUP	**Villa Florida**	**10.96**	**116**	P		**Pn**	**06 19 32.5**	**-0.1**
	comp=N,0.3nm,0.3s,baz=233,slow=11,SNR=3.2							
CPUP	**Villa Florida**	**10.96**	**116**	P		**Pn**	**06 19 32.5**	**-0.1**
TXAR	**Lajitas Array**	**61.28**	**325**	P		**P**	**06 27 01.0**	**-0.8**
	comp=N,0.2nm,0.7s,mb3.3,baz=184,slow=8.0,SNR=2.9							
TXAR	**Lajitas Array**	**61.28**	**325**	P		**P**	**06 27 01.0**	**-0.8**
NVAR	**Mina Array Bea**	**76.16**	**322**	P		**P**	**06 28 34.7**	**+0.9**
	comp=N,0.2nm,0.6s,mb3.1,baz=142,slow=4.5,SNR=2.5							
NVAR	**Mina Array Bea**	**76.16**	**322**	P		**P**	**06 28 34.7**	**+0.9**
TORD	**Torodi Ar. Bea**	**76.98**	**70**	P		**P**	**06 28 38.5**	**-0.5**
	comp=N,0.6nm,0.5s,mb3.6,baz=250,slow=5.6,SNR=19							
TORD	**Torodi Ar. Bea**	**76.98**	**70**	P		**P**	**06 28 38.5**	**-0.5**
ASAR	**Alice Springs**	**129.79**	**207**	PKP		PKPdf	06 35 54.8	0.0
	comp=N,0.2nm,0.4s,baz=118,slow=1.6,SNR=3.6							
ASAR	**Alice Springs**	**129.79**	**207**	PKP		PKPdf	06 35 54.8	0.0
WRA	**Warramunga Arr**	**132.87**	**210**	PKP		PKPdf	06 36 00.4	-0.3
	comp=N,0.3nm,0.6s,baz=166,slow=2.0,SNR=4.5							
WRA	**Warramunga Arr**	**132.87**	**210**	PKP		PKPdf	06 36 00.4	-0.3
MKAR	**Makanchi Array**	**145.65**	**37**	PKPbc		PKPbc	06 36 23.8	+0.2
	comp=N,0.3nm,0.6s,baz=310,slow=5.4,SNR=3.5							
MKAR	**Makanchi Array**	**145.65**	**37**	PKPbc		PKPbc	06 36 23.8	+0.2

IDC ***10*** *06:20:22.2±1.7, 30.°00S×177.°00W, h0km, mb3.9/4, mb1 4.2/5, mb1mx3.9/18, mbtmp3.9/5, ML3.8/1, Error ellipse: s-maj=63.7km s-min=28.3km az=148.0*
ISCJB ***10*** *06:20:25.7±1.4, 30.°34S±0.°08×177.°1W±0.°2, h33km, mb4.0/5, Error ellipse: s-maj=27.2km s-min=10.8km az=12.5*
NEIC ***10*** *06:20:25.6±4.5, 30.°10S×176.°95W, h24km±30km, mb4.2/1, Error ellipse: s-maj=23.0km s-min=14.6km az=92.0*

ISC 10 06:20:27.6±1.4, 30.°22S±0.°08×177.°1W±0.°2, h35km, n16, σ1s04/14, mb4.0/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.21**	**323**	*e*Pn	**Pn**	**06 20 46.9**	**-1.2**
URZ	**Urewera**	**9.35**	**209**	Pn	**Pn**	**06 22 40.9**	**+1.0**
	0.9nm,0.3s,baz=84,slow=9.2,SNR=3.9						
URZ				Sn	**Sn**	**06 24 22.2**	**-1.5**
	1.8nm,0.3s,baz=175,slow=21,SNR=7.7						
URZ	**Urewera**	**9.35**	**209**	Pn	**Pn**	**06 22 40.9**	**+1.0**
URZ				Sn	**Sn**	**06 24 22.2**	**-1.5**
STKA	**Stephens Creek**	**35.30**	**256**	P	**P**	**06 27 21.0**	**+1.6**
	1.2nm,0.6s,mb4.0,baz=108,slow=10,SNR=5.2						
STKA	**Stephens Creek**	**35.30**	**256**	P	**P**	**06 27 21.0**	**+1.6**
ASAR	**Alice Springs**	**43.92**	**266**	P	**P**	**06 28 31.6**	**+0.4**
	1.2nm,0.8s,mb3.7,baz=104,slow=7.3,SNR=12						
ASAR	**Alice Springs**	**43.92**	**266**	P	**P**	**06 28 31.6**	**+0.4**
WRAB	**Tennant Creek**	**44.88**	**271**	*e*P	**P**	**06 28 39.7**	**+0.8**
	2.4nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**44.89**	**271**	P	**P**	**06 28 38.5**	**-0.5**
	1.0nm,0.4s,mb4.0,baz=111,slow=8.0,SNR=16						
WRA	**Warramunga Arr**	**44.89**	**271**	P	**P**	**06 28 38.5**	**-0.5**
NVAR	**Mina Array Bea**	**87.56**	**42**	P	**P**	**06 33 11.3**	**-0.6**
	1.0nm,0.9s,mb4.0,baz=232,slow=11,SNR=4.2						
NVAR	**Mina Array Bea**	**87.56**	**42**	P	**P**	**06 33 11.3**	**-0.6**
FINES	**FINESS Array B**	**145.25**	**341**	PKPbc	PKPbc	06 39 60.0	-0.6
	3.7nm,0.8s,baz=90,slow=3.8,SNR=5.1						
FINES	**FINESS Array B**	**145.25**	**341**	PKPbc	PKPbc	06 39 60.0	-0.6
AKASG	**Malin Array Be**	**151.63**	**324**	PKPbc	PKPbc	06 40 17.3	-0.5
	0.3nm,0.3s,baz=47,slow=2.9,SNR=4.5						
AKASG	**Malin Array Be**	**151.63**	**324**	PKPbc	PKPbc	06 40 17.3	-0.5

IDC ***10*** *06:29:24.0±0.9, 4.°86S×102.°88E, h0km, mb4.2/13, mb1 4.3/13, mb1mx4.2/21, mbtmp4.2/13, MS2.7/1, Ms1 2.7/1, ms1mx2.5/22, Error ellipse: s-maj=44.5km s-min=13.9km az=53.0*
NEIC ***10*** *06:29:29.6±0.7, 4.°74S×103.°08E, h35km, mb4.5/3, Error ellipse: s-maj=36.1km s-min=7.6km az=49.0*
ISCJB ***10*** *06:29:31.1±0.9, 4.°94S±0.°08×102.°96E±0.°07, h71km±7km, mb4.2/16, Error ellipse: s-maj=16.6km s-min=6.0km az=40.5*
DJA ***10*** *06:29:32, 5.°04S×103.°05E, h25km, MLv4.2/9*

ISC 10 06:29:32.3±0.9, 4.°95S±0.°08×102.°97E±0.°07, h63km±7km, n42, σ0s56/47, mb4.3/16, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**0.58**	**359**	P	**Pn**	**06 29 45.4**	**0.0**
MNAI				S	**Sn**	**06 29 55.2**	**+0.3**
LWLI	**Liwa**	**1.09**	**94**	P	**Pn**	**06 29 51.0**	**-0.6**
LWLI				S	**Sn**	**06 30 04.4**	**-1.6**
MDSI	**Maura Dua**	**1.29**	**69**	P	**Pn**	**06 29 54.3**	**+0.1**
MDSI				S	**Sn**	**06 30 10.8**	**+0.1**
KLSI		**1.77**	**82**	P	**Pn**	**06 30 01.1**	**+0.4**
KLSI				S	**Sn**	**06 30 23.1**	**+0.8**
KLI	**Kotabumi**	**1.89**	**88**	P	**Pn**	**06 30 02.5**	**+0.3**
KLI				S	**Sn**	**06 30 25.7**	**+0.7**
BLSI	**Bandar Lampung**	**2.31**	**101**	P	**Pn**	**06 30 08.3**	**+0.3**
BLSI				S	**Sn**	**06 30 34.6**	**-0.7**
RBSI	**Rajabasa**	**2.90**	**108**	P	**Pn**	**06 30 16.7**	**+0.6**
RBSI				S	**Sn**	**06 30 49.8**	**-0.1**
CGJI	**Cibinong**	**3.18**	**122**	P	**Pn**	**06 30 20.0**	**+0.1**
CGJI				S	**Sn**	**06 30 55.6**	**-1.0**
SBJI	**Serang**	**3.36**	**110**	P	**Pn**	**06 30 22.7**	**+0.4**
PSI	**Prapat**	**8.69**	**332**	LR	LR	06 34 22.7	
	comp=Z,54nm,21.3s,baz=184,slow=35						
CMAR	**Chiang Mai Arr**	**23.59**	**350**	P	**P**	**06 34 33.7**	**-3.8**
	1.3nm,0.3s,mb3.8,baz=184,slow=8.4,SNR=8.6						
CMAR	**Chiang Mai Arr**	**23.59**	**350**	P	**P**	**06 34 33.7**	**-3.8**
FITZ	**Fitzroy Crossi**	**25.73**	**122**	P	**P**	**06 34 57.4**	**+0.3**
	2.5nm,0.4s,mb4.1,baz=322,slow=7.9,SNR=26						
FITZ	**Fitzroy Crossi**	**25.73**	**122**	P	**P**	**06 34 57.4**	**+0.3**
WRA	**Warramunga Arr**	**33.97**	**119**	P	**P**	**06 36 09.9**	**-0.1**
	2.0nm,0.4s,mb4.4,baz=305,slow=8.9,SNR=38						
WRA				PcP	PcP	06 38 47.4	+0.2
	0.2nm,0.5s,baz=302,slow=2.0,SNR=5.2						
WRA	**Warramunga Arr**	**33.97**	**119**	P	**P**	**06 36 09.9**	**-0.1**
WRA				PcP	PcP	06 38 47.4	+0.2
WRAB	**Tennant Creek**	**33.98**	**119**	*e*P	**P**	**06 36 10.2**	**+0.1**
	3.2nm,0.6s,mb4.4						
WB2	**Warramunga Arr**	**33.98**	**119**	*e*P	**P**	**06 36 10.0**	**-0.2**
ASAR	**Alice Springs**	**35.14**	**125**	P	**P**	**06 36 20.7**	**+0.6**
	1.8nm,0.3s,mb4.4,baz=300,slow=7.6,SNR=38						
ASAR				PcP	PcP	06 38 51.5	+0.9
	0.8nm,0.6s,baz=304,slow=2.4,SNR=7.4						
ASAR	**Alice Springs**	**35.14**	**125**	P	**P**	**06 36 20.7**	**+0.6**
ASAR				PcP	PcP	06 38 51.5	+0.9
STKA	**Stephens Creek**	**44.99**	**131**	P	**P**	**06 37 42.9**	**+1.3**
	2.4nm,0.4s,mb4.3,baz=304,slow=7.1,SNR=17						
STKA	**Stephens Creek**	**44.99**	**131**	*e*P	**P**	**06 37 42.6**	**+1.0**
KSRS	**Korea Array**	**48.16**	**27**	P	**P**	**06 38 05.9**	**-0.4**
	0.9nm,0.5s,mb4.1,baz=236,slow=12,SNR=2.8						
SONM	**Songino Array**	**52.64**	**3**	P	**P**	**06 38 39.6**	**-0.3**
	1.8nm,0.5s,mb4.3,baz=174,slow=6.0,SNR=4.7						
SONM	**Songino Array**	**52.64**	**3**	P	**P**	**06 38 39.6**	**-0.3**
TKM2	**Tokmak 2**	**53.71**	**335**	*e*P	**P**	**06 38 48.2**	**+0.4**
	6.8nm,0.5s,mb4.8						
MK31	**Makanchi Array**	**54.67**	**343**	*e*P	**P**	**06 38 54.6**	**-0.2**
MKAR	**Makanchi Array**	**54.67**	**343**	P	**P**	**06 38 54.4**	**-0.4**
	2.0nm,0.6s,mb4.3,baz=156,slow=7.8,SNR=26						
MKAR	**Makanchi Array**	**54.67**	**343**	P	**P**	**06 38 54.4**	**-0.4**
ZALV	**Zalesovo Beam**	**60.62**	**348**	P	**P**	**06 39 36.0**	**-0.4**
	2.8nm,0.4s,mb4.8,baz=160,slow=4.7,SNR=6.2						
ZALV	**Zalesovo Beam**	**60.62**	**348**	P	**P**	**06 39 36.0**	**-0.5**
ABKAR	**Akbulak array**	**65.64**	**331**	*e*P	**P**	**06 40 09.2**	**-0.5**
	3.0nm,0.8s,mb4.4						
BRTR	**Keskin Array B**	**77.48**	**312**	P	**P**	**06 41 20.6**	**-0.6**
	0.5nm,0.4s,mb3.8,baz=153,slow=8.3,SNR=3.7						
BRTR	**Keskin Array B**	**77.48**	**312**	P	**P**	**06 41 20.6**	**-0.6**
AKASG	**Malin Array Be**	**83.61**	**322**	P	**P**	**06 41 53.8**	**0.0**
	0.6nm,0.6s,mb3.9,baz=84,slow=5.2,SNR=3.8						
AKASG	**Malin Array Be**	**83.61**	**322**	P	**P**	**06 41 53.8**	**0.0**

FINES	**FINESS Array B**	**88.08**	**332**	P		**P**	**06 42 16.2**	**+0.5**
	1.8nm,0.6s,mb4.5,baz=85,slow=4.0,SNR=4.3							
FINES	**FINESS Array B**	**88.08**	**332**	P		**P**	**06 42 16.2**	**+0.5**
ARCES	**ARCESS Array B**	**90.24**	**340**	P		**P**	**06 42 25.8**	**+0.2**
	0.9nm,0.5s,mb4.4,baz=109,slow=5.7,SNR=8.3							
ARCES	**ARCESS Array B**	**90.24**	**340**	P		**P**	**06 42 25.8**	**+0.2**
TXAR	**Lajitas Array**	**145.03**	**43**	PKPbc	PKPbc		06 49 03.3	+0.7
	1.1nm,0.4s,baz=260,slow=0.9,SNR=35							
TXAR	**Lajitas Array**	**145.03**	**43**	PKPbc	PKPbc		06 49 03.3	+0.7

WEL 10 06:33:43.6±0.2, 37.°15S×176.°45E, h199km±2km, ML3.8/6, Error ellipse: s-maj=3.9km s-min=3.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.23**	**155**	PN	Pn	06 34 15.1	+0.2
URZ				SN	Sn	06 34 39.1	-0.2
MWZ	**Matawai**	**1.46**	**145**	PN	Pn	06 34 16.9	+0.1
MWZ				SN	Sn	06 34 42.7	0.0
MXZ	**Matakaoa Point**	**1.54**	**106**	PN	Pn	06 34 17.8	+0.3
MXZ				SN	Sn	06 34 44.1	+0.3
PUZ	**Puketiti**	**1.71**	**123**	PN	Pn	06 34 18.9	-0.2
PUZ				SN	Sn	06 34 45.4	-1.3
RAHZ	**Arahi**	**1.84**	**164**	PN	Pn	06 34 20.7	+0.3
RAHZ				SN	Sn	06 34 49.1	0.0
CNGZ	**Carnagh Statio**	**1.93**	**134**	PN	Pn	06 34 21.5	+0.2
CNGZ				SN	Sn	06 34 51.0	+0.4
NMHZ	**Naumai**	**1.97**	**172**	PN	Pn	06 34 22.1	+0.5
NMHZ				SN	Sn	06 34 51.8	+0.4
BKZ	**Black Stump Fm**	**2.02**	**179**	PN	Pn	06 34 21.7	-0.5
BKZ				SN	Sn	06 34 51.2	-1.2
TWVZ	**Taurewa**	**2.08**	**202**	PN	Pn	06 34 23.7	+0.9
PRGZ	**Paritu Road**	**2.10**	**148**	PN	Pn	06 34 23.0	0.0
KNZ	**Kokohu**	**2.10**	**153**	PN	Pn	06 34 22.4	-0.7
OTVZ	**Oturere**	**2.11**	**197**	PN	Pn	06 34 23.9	+0.9
NGZ	**Ngauruhoe**	**2.13**	**198**	PN	Pn	06 34 24.3	+1.0
TUVZ	**Tukino**	**2.21**	**196**	PN	Pn	06 34 24.6	+0.4
FWVZ	**Far West T-bar**	**2.22**	**198**	PN	Pn	06 34 25.0	+0.7
WNVZ	**Wahianoa**	**2.28**	**197**	PN	Pn	06 34 25.1	+0.2
MHGZ	**Mahia Peninsul**	**2.31**	**151**	PN	Pn	06 34 24.0	-1.2
MOVZ	**Moawhango**	**2.32**	**193**	PN	Pn	06 34 25.2	-0.2
BHHZ	**Black Hill Sta**	**2.36**	**187**	PN	Pn	06 34 25.1	-0.6
MTVZ	**Mangateitei**	**2.37**	**199**	PN	Pn	06 34 26.3	+0.5
CKHZ	**Cape Kidnapper**	**2.56**	**169**	PN	Pn	06 34 27.3	-0.7
KAHZ	**Kahuranaki**	**2.67**	**173**	PN	Pn	06 34 28.2	-1.0
PNHZ	**Pukenui**	**2.77**	**184**	PN	Pn	06 34 29.1	-1.3
WAZ	**Wanganui**	**2.85**	**203**	PN	Pn	06 34 31.7	+0.3
TSZ	**Takapari Road**	**2.93**	**187**	PN	Pn	06 34 30.9	-1.4
DVHZ	**Dannevirke**	**3.16**	**184**	PN	Pn	06 34 32.8	-2.1
MRZ	**Mangatainoka R**	**3.58**	**191**	PN	Pn	06 34 37.3	-2.7
OGWZ	**Otaki Gorge**	**3.80**	**195**	PN	Pn	06 34 40.2	-2.5
HOWZ	**Holdsworth Sta**	**3.82**	**191**	PN	Pn	06 34 40.1	-2.9
KIW	**Kapiti Island**	**3.90**	**197**	PN	Pn	06 34 41.2	-2.8
MTW	**Mount Morrison**	**4.07**	**190**	PN	Pn	06 34 43.1	-3.0
CAW	**Cannon Point**	**4.10**	**195**	PN	Pn	06 34 43.4	-3.1
DUWZ	**D'Urville Isla**	**4.15**	**208**	PN	Pn	06 34 44.8	-2.3
TRWZ	**Traveller**	**4.29**	**188**	PN	Pn	06 34 45.9	-2.9
MSWZ	**Moikau Station**	**4.36**	**192**	PN	Pn	06 34 46.3	-3.5
MSWZ				SN	Sn	06 35 35.5	-6.5
TCW	**Tory Channel**	**4.40**	**202**	PN	Pn	06 34 47.3	-3.0
PLWZ	**Palliser**	**4.51**	**191**	PN	Pn	06 34 47.9	-3.8
TUWZ	**Tuamarina**	**4.70**	**204**	PN	Pn	06 34 50.7	-3.3
NNZ	**Nelson**	**4.71**	**209**	PN	Pn	06 34 51.7	-2.5
BSWZ	**Blackbirch Sta**	**4.98**	**203**	PN	Pn	06 34 54.7	-2.9
THZ	**Tophouse**	**5.37**	**210**	PN	Pn	06 35 00.3	-2.2
KHZ	**Kahutara**	**5.72**	**202**	PN	Pn	06 35 03.5	-3.6
LTZ	**Lake Taylor**	**6.48**	**208**	PN	Pn	06 35 12.8	-4.2

IDC ***10*** *07:12:34.1±1.5, 6.°78N×72.°92W, h155km±15km, mb3.7/9, mb1 3.9/12, mb1mx3.7/25, mbtmp3.7/12, Error ellipse: s-maj=21.3km s-min=13.6km az=79.0*
ISCJB ***10*** *07:12:35.0±0.5, 6.°80N±0.°04×72.°88W±0.°05, h175km±4km, mb4.2/27, Error ellipse: s-maj=8.0km s-min=6.2km az=33.0*
FUNV ***10*** *07:12:35.0, 6.°74N×73.°11W, h175km, MW4.2*
NEIC ***10*** *07:12:35.7±0.5, 6.°70N×72.°89W, h171km±5km, mb4.4/21, Error ellipse: s-maj=9.0km s-min=5.8km az=111.0*

ISC 10 07:12:35.7±0.4, 6.°79N±0.°04×72.°92W±0.°04, h163km±4km, n74, σ1s05/86, mb4.2/27, 10C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.22**	**29**	*i*P	**Pn**	**07 13 04.6**	**+0.9**
CAPV				*e*S	**Sn**	**07 13 26.4**	**+1.3**
ROSC	**El Rosal**	**2.38**	**216**	P	**Pn**	**07 13 16.2**	**+0.1**
	209nm,0.3s,baz=290,slow=7.4,SNR=1098						
ROSC				S	**Sn**	**07 13 45.2**	**-2.1**
	298nm,0.3s,baz=93,slow=17,SNR=11						
ROSC	**El Rosal**	**2.38**	**216**	P	**Pn**	**07 13 16.2**	**+0.1**
ROSC				S	**Sn**	**07 13 45.2**	**-2.1**
SOCV	**Socops**	**2.52**	**54**	*i*P	**Pn**	**07 13 19.2**	**+1.1**
SOCV				*e*S	**Sn**	**07 13 51.3**	**+1.1**
VIGV	**El Vigia**	**2.55**	**37**	*i*P	**Pn**	**07 13 19.0**	**+0.9**
VIGV				*e*S	**Sn**	**07 13 52.0**	**+1.1**
SDV	**Santo Domingo**	**3.07**	**47**	*e*Pn	**Pn**	**07 13 25.8**	**+1.3**
SDV				*e*Sn	**Sn**	**07 14 04.8**	**+2.4**
ELOV	**Elorza**	**3.41**	**86**	*i*P	**Pn**	**07 13 30.6**	**+1.8**
VIRV	**Villa del Rosa**	**3.72**	**8**	*i*P	**Pn**	**07 13 31.3**	**-1.4**
VIRV				*e*S	**Sn**	**07 14 14.4**	**-2.8**
QARV	**Quebrada Arrib**	**4.13**	**35**	*i*P	**Pn**	**07 13 38.9**	**+0.8**
QARV				*e*S	**Sn**	**07 14 25.9**	**-0.8**
SANV	**Sanarito**	**4.29**	**51**	*e*P	**Pn**	**07 13 40.7**	**+0.6**
SANV				*e*S	**Sn**	**07 14 28.7**	**-1.7**
CURV	**Curarigua**	**4.33**	**42**	*i*P	**Pn**	**07 13 41.2**	**+0.5**
DABV	**Dabajuro**	**4.68**	**29**	*e*P	**Pn**	**07 13 45.6**	**+0.4**
DABV				*e*S	**Sn**	**07 14 36.9**	**-2.6**
TEPV	**Terepaima**	**4.85**	**49**	*e*P	**Pn**	**07 13 48.0**	**+0.6**
SIQV	**Siquisique**	**4.91**	**38**	*i*P	**Pn**	**07 13 48.2**	**+0.1**
SIQV				*e*S	**Sn**	**07 14 41.9**	**-3.0**
BAUV	**El Baul**	**5.28**	**66**	*i*P	**Pn**	**07 13 52.5**	**-0.5**
MAPV	**Macapo**	**5.34**	**55**	*i*P	**Pn**	**07 13 54.4**	**+0.5**
JACV	**Jacura**	**5.87**	**43**	*e*P	**Pn**	**07 14 01.2**	**+0.4**
JACV				*e*S	**Sn**	**07 15 04.9**	**-2.7**
IMOV	**Isla Los Monje**	**5.88**	**20**	*e*P	**Pn**	**07 13 59.7**	**-1.2**
MONV	**Montecano**	**5.89**	**29**	*e*P	**Pn**	**07 14 00.3**	**-0.9**
TURV	**Turiamo**	**6.20**	**54**	*e*P	**Pn**	**07 14 04.9**	**-0.2**
TURV				*e*S	**Sn**	**07 15 11.0**	**-4.3**
MERV	**Las Mercedes**	**6.99**	**69**	*e*P	**Pn**	**07 14 15.5**	**-0.3**
CUPV	**Cepira**	**7.76**	**65**	*e*P	**Pn**	**07 14 25.3**	**-0.6**
OTAV	**Otavalo**	**8.54**	**221**	*e*Pn	**Pn**	**07 14 35.1**	**-1.1**
PCRV	**Puerto La Cruz**	**8.85**	**67**	*e*P	**Pn**	**07 14 40.8**	**+0.5**
IBAV	**Isla La Blanqu**	**9.63**	**58**	*e*P	**Pn**	**07 14 49.0**	**-1.6**
RIOV	**Rio Grande**	**11.08**	**83**	*e*P	**Pn**	**07 15 08.3**	**-1.4**
SDDR	**Presa de Saban**	**12.22**	**7**	*e*Pn	**Pn**	**07 15 26.5**	**+2.0**
MTDJ	**Mount Denham**	**12.22**	**339**	*e*Pn	**Pn**	**07 15 26.0**	**+1.5**
MTDJ				*e*Sn	**Sn**	**07 15 39.0**	**-0.9**
CRPR	**Cabo Rojo, PR**	**12.50**	**26**	*e*Pn	**Pn**	**07 15 29.7**	**+1.6**
SJG	**San Juan**	**13.04**	**30**	P	**Pn**	**07 15 33.2**	**-1.8**
	1.8nm,0.3s,baz=217,slow=10,SNR=3.7						
SJG				S	**Sn**	**07 17 51.1**	**-8.5**
	0.8nm,0.3s,baz=27,slow=18,SNR=2.1						
SJG	**San Juan**	**13.04**	**30**	P	**Pn**	**07 15 33.2**	**-1.8**
SJG				S	**Sn**	**07 17 51.1**	**-8.5**
ATAH	**Atahualpa**	**14.88**	**202**	P	**Pn**	**07 15 57.2**	**-0.9**
	0.3nm,0.3s,baz=18,slow=16,SNR=2.3						
TEIG	**Tepich**	**20.01**	**313**	P	**P**	**07 16 55.6**	**-0.3**
	14nm,0.4s,baz=158,slow=3.0,SNR=21						
TEIG	**Tepich**	**20.01**	**313**	*e*P	**P**	**07 16 55.8**	**-0.1**
	26nm,1.0s						
LPAZ	**La Paz**	**23.42**	**168**	P	**P**	**07 17 30.9**	**+0.7**
	1.1nm,0.4s,mb3.6,baz=340,slow=12,SNR=8.3						
LPAZ	**La Paz**	**23.42**	**168**	*e*P	**P**	**07 17 30.6**	**+0.5**
	5.0nm,0.8s,mb4.0						
LHS	**Liberty Hill**	**28.50**	**346**	*e*P	**P**	**07 18 16.3**	**+0.6**
LHS				*e*pP	pP	07 18 54.5	+4.8
PLAL	**Pickwick Lake**	**31.34**	**336**	*e*P	**P**	**07 18 41.3**	**+0.5**
	7.0nm,0.8s,mb4.4						
WVT	**Waverly**	**32.24**	**337**	*e*P	**P**	**07 18 48.8**	**+0.2**
	6.4nm,0.6s,mb4.5						
SIUC	**Southern Illin**	**34.16**	**337**	*e*P	**P**	**07 19 05.6**	**+0.4**
	15nm,0.6s,mb4.9						
BLO	**Bloomington**	**34.49**	**341**	*e*P	**P**	**07 19 08.9**	**+0.8**
	16nm,0.7s,mb4.9						
CCM	**Cathedral Cave**	**35.28**	**335**	*e*P	**P**	**07 19 14.9**	**0.0**
	16nm,0.7s,mb4.8						
TXAR	**Lajitas Array**	**36.63**	**312**	P	**P**	**07 19 26.1**	**-0.4**
	0.9nm,0.4s,mb3.7,baz=126,slow=9.0,SNR=22						
TXAR	**Lajitas Array**	**36.63**	**312**	P	**P**	**07 19 26.1**	**-0.4**

ANMO	**Albuquerque**	**41.68**	**317**	*e*P		**P**	**07 20 09.4**	**+1.0**
	53nm,2.8s,mb4.7							
ECSD	**EROS Data Cent**	**42.26**	**334**	*e*P		**P**	**07 20 11.8**	**-1.1**
	64nm,2.8s,mb4.8							
WUAZ	**Wupatki**	**45.38**	**315**	*e*P		**P**	**07 20 38.6**	**+0.6**
	6.6nm,1.0s,mb4.2							
SRU	**San Rafael**	**46.70**	**319**	*e*P		**P**	**07 20 49.0**	**+0.8**
	3.3nm,0.9s,mb4.0							
ULM	**Lac du Bonnet**	**47.38**	**340**	P		**P**	**07 20 52.2**	**-1.0**
	5.1nm,0.4s,mb4.5,baz=139,slow=7.4,SNR=28							
ULM	**Lac du Bonnet**	**47.38**	**340**	P		**P**	**07 20 52.2**	**-1.0**
SCHQ	**Schefferville**	**48.15**	**5**	P		**P**	**07 20 58.8**	**-0.3**
	2.3nm,0.4s,mb4.1,baz=196,slow=16,SNR=8.3							
SCHQ	**Schefferville**	**48.15**	**5**	P		**P**	**07 20 58.8**	**-0.3**
PDAR	**Pinedale Array**	**48.22**	**324**	P		**P**	**07 20 59.4**	**-0.5**
	1.3nm,0.6s,mb3.8,baz=128,slow=9.3,SNR=15							
PDAR	**Pinedale Array**	**48.22**	**324**	P		**P**	**07 20 59.4**	**-0.5**
DGMT	**Dagmar**	**49.27**	**333**	*e*P		**P**	**07 21 08.2**	**+0.5**
	20nm,0.6s,mb4.9							
REDW	**Red Top Meadow**	**49.34**	**324**	*e*P		**P**	**07 21 08.7**	**+0.3**
	4.2nm,0.6s,mb4.2							
SNOW	**Snow King Moun**	**49.34**	**324**	*e*P		**P**	**07 21 08.8**	**+0.4**
	4.3nm,1.0s,mb4.0							
LOHW	**Long Hollow**	**49.34**	**324**	*e*P		**P**	**07 21 08.9**	**+0.6**
	2.8nm,0.6s,mb4.1							
TPAW	**Teton Pass**	**49.47**	**324**	*e*P		**P**	**07 21 09.7**	**+0.3**
	22nm,2.0s,mb4.4							
MOOW	**Moose Ponds**	**49.50**	**324**	*e*P		**P**	**07 21 09.5**	**-0.1**
	35nm,2.8s,mb4.5							
RRI2	**Red Ridge**	**49.60**	**323**	*e*P		**P**	**07 21 10.8**	**+0.4**
	4.8nm,0.6s,mb4.3							
IMW	**Indian Meadow**	**49.70**	**324**	*e*P		**P**	**07 21 11.2**	**0.0**
	8.1nm,1.4s,mb4.2							
GCMT	**Greycliff**	**50.16**	**327**	*e*P		**P**	**07 21 14.8**	**+0.3**
	1.8nm,0.6s,mb3.9							
MFID	**Camas Ranch**	**52.38**	**321**	*e*P		**P**	**07 21

mb4.7/57,136C-135D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.10**	**273**	⇓*i*P	**P**	**07 53 10.1**	**-0.6**
MSVF	**Nonsavu**	**3.10**	**273**	P	**P**	**07 53 10.0**	**-0.6**
	1μm,0.7s,SNR=34						
FUNA	**Funafuti**	**9.57**	**347**	*e*P	**P**	**07 54 02.2**	**-3.4**
DZM	**Mont Dzumac**	**14.55**	**251**	*e*P	**P**	**07 54 55.6**	**+0.3**
	41nm,0.6s						
NOUC	**Port Laguerre**	**14.69**	**251**	*e*P	**P**	**07 54 56.0**	**-0.6**
OUZ	**Omahuta**	**18.53**	**200**	*e*P	**P**	**07 55 33.8**	**+2.2**
	42nm,0.9s						
URZ	**Urewera**	**20.58**	**189**	P	**P**	**07 55 46.4**	**-3.6**
	16nm,0.7s,baz=1.6,slow=5.1,SNR=14						
URZ				S	**S**	**07 58 55.6**	**-7.2**
	8.8nm,0.8s,baz=203,slow=20,SNR=4.3						
URZ	**Urewera**	**20.58**	**189**	*e*P	**P**	**07 55 46.5**	**-3.5**
	23nm,0.8s						
TARA	**Tarawa**	**20.86**	**336**	*e*P	**P**	**07 55 57.4**	**+4.5**
	144nm,0.6s						
EIDS	**Eidsvold**	**29.00**	**250**	*e*P	**P**	**07 57 04.3**	**-0.1**
EIDS	**Eidsvold**	**29.00**	**250**	*e*P	**P**	**07 57 04.4**	**0.0**
ARMA	**Armidale**	**29.69**	**240**	*e*P	**P**	**07 57 11.2**	**+0.9**
ARMA	**Armidale**	**29.69**	**240**	*e*P	**P**	**07 57 11.4**	**+1.1**
	50nm,0.7s,mb5.2						
CTA	**Charters Tower**	**33.17**	**261**	⇓*i*P	**P**	**07 57 40.1**	**+0.1**
	28nm,0.6s,mb5.1						
CTAO	**Charters Tower**	**33.17**	**261**	*e*P	**P**	**07 57 40.2**	**+0.2**
	41nm,0.7s,mb5.2						
CNB	**Canberra Magne**	**33.19**	**232**	*e*P	**P**	**07 57 41.0**	**+1.0**
CAN	**Canberra**	**33.47**	**232**	*e*P	**P**	**07 57 43.0**	**+0.7**
	58nm,1.1s,mb5.1						
YNG	**Young**	**33.55**	**234**	*e*P	**P**	**07 57 44.0**	**+1.0**
	15nm,1.0s,mb4.6						
PMG	**Port Moresby**	**34.19**	**280**	*e*P	**P**	**07 57 49.8**	**+1.2**
	123nm,0.9s,mb5.5						
COEN	**Coen**	**36.83**	**271**	*e*P	**P**	**07 58 11.3**	**+0.9**
TOO	**Toolangi**	**36.94**	**231**	*e*P	**P**	**07 58 11.4**	**+0.4**
STKA	**Stephens Creek**	**38.37**	**241**	P	**P**	**07 58 23.7**	**+1.0**
	73nm,0.5s,mb5.4,baz=92,slow=9.5,SNR=412						
STKA	**Stephens Creek**	**38.37**	**241**	⇓*i*P	**P**	**07 58 23.7**	**+1.0**
	55nm,0.6s,mb5.3						
STKA	**Stephens Creek**	**38.37**	**241**	*e*P	**P**	**07 58 23.8**	**+1.0**
WB2	**Warramunga Arr**	**44.34**	**260**	*e*P	**P**	**07 59 09.2**	**-0.7**
WRAB	**Tennant Creek**	**44.34**	**260**	*e*P	**P**	**07 59 09.3**	**-0.6**
	48nm,0.6s,mb5.2						
WRAB	**Tennant Creek**	**44.34**	**260**	P	**P**	**07 59 09.0**	**-0.9**
	556nm,0.6s						
WRA	**Warramunga Arr**	**44.35**	**260**	P	**P**	**07 59 09.2**	**-0.7**
	40nm,0.5s,mb5.2,baz=95,slow=7.2,SNR=564						
WRA				PcP	PcP	08 00 40.8	+0.2
	5.3nm,0.4s,baz=92,slow=3.5,SNR=7.3						
WRA				S	**S**	**08 05 00.6**	**-1.5**
	1.1nm,0.8s,baz=99,slow=13,SNR=5.0						
WRA	**Warramunga Arr**	**44.35**	**260**	P	**P**	**07 59 09.2**	**-0.7**
WRA				PcP	PcP	08 00 40.8	+0.2
WRA				S	**S**	**08 05 00.6**	**-1.5**
ASAR	**Alice Springs**	**44.52**	**254**	P	**P**	**07 59 11.4**	**+0.3**
	353nm,0.6s,baz=88,slow=8.4,SNR=4036						
ASAR				PcP	PcP	08 00 41.0	-0.2
	10nm,0.6s,baz=110,slow=3.7,SNR=4.5						
ASAR				S	**S**	**08 05 04.8**	**+0.4**
	2.5nm,1.0s,baz=84,slow=17,SNR=10.0						
ASAR	**Alice Springs**	**44.52**	**254**	P	**P**	**07 59 11.4**	**+0.3**
ASAR				PcP	PcP	08 00 41.0	-0.2
ASAR				S	**S**	**08 05 04.8**	**+0.4**
GUMO	**Guam**	**47.67**	**309**	P	**P**	**07 59 35.0**	**0.0**
	43nm,0.3s,mb5.4,baz=180,slow=14,SNR=4.7						
GUMO	**Guam**	**47.67**	**309**	P	**P**	**07 59 35.0**	**0.0**
FORT	**Forrest**	**49.74**	**245**	*e*P	**P**	**07 59 49.6**	**-0.6**
	103nm,0.6s,mb5.4						
FORT	**Forrest**	**49.74**	**245**	*e*P	**P**	**07 59 49.7**	**-0.5**
	90nm,0.6s,mb5.4						
FITZ	**Fitzroy Crossi**	**52.75**	**261**	*e*P	**P**	**08 00 11.9**	**-0.1**
	23nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**52.75**	**261**	*e*P	**P**	**08 00 12.2**	**+0.2**
	12nm,0.6s,mb4.4						
KMBL	**Kambalda**	**55.05**	**244**	*e*P	**P**	**08 00 27.2**	**-0.8**
	75nm,0.5s,mb5.3						
MBWA	**Marble Bar**	**57.80**	**256**	*e*P	**P**	**08 00 46.7**	**-0.2**
	40nm,0.6s,mb4.7						
KLBR	**Kellerberrin**	**58.57**	**244**	*e*P	**P**	**08 00 51.4**	**-0.6**
	50nm,0.5s,mb4.9						
BBSI	**Bau Bau**	**58.60**	**275**	P	Px	08 01 07.7	
NWAO	**Narrogin (SRO)**	**58.95**	**242**	*e*P	**P**	**08 00 54.4**	**-0.1**
	7.8nm,0.5s,mb4.1						
LUWI	**Luwuk**	**59.83**	**279**	P	PcP	08 01 35.5	-4.1
	88nm,0.8s,0.3nm						
MORW	**Morawa**	**60.22**	**246**	*e*P	**P**	**08 01 02.4**	**-0.6**
VNDA	**Vanda**	**60.40**	**185**	P	**P**	**08 01 02.8**	**-0.5**
	1.9nm,0.9s,baz=1.5,slow=7.8,SNR=7.0						
VNDA	**Vanda**	**60.40**	**185**	P	**P**	**08 01 02.8**	**-0.5**
APSI	**Ampana**	**60.93**	**279**	P	Px	08 01 35.3	
BKSI	**Bulukumba**	**60.97**	**274**	P	**P**	**08 01 07.5**	**-0.7**
BNSI	**Bone**	**61.26**	**275**	P	**P**	**08 01 10.5**	**+0.4**
BMNI	**Bima**	**61.42**	**270**	P	**P**	**08 01 10.2**	**-0.9**
SPSI	**Sidrap Palu**	**61.72**	**275**	P	**P**	**08 01 12.1**	**-0.9**
TTSI	**Tana Toraja**	**61.96**	**276**	P	**P**	**08 01 19.4**	**+4.8**
MJSI	**Majene**	**62.59**	**275**	P	**P**	**08 01 19.0**	**+0.3**
IGBI	**Denpasar**	**64.72**	**269**	P	**P**	**08 01 32.2**	**0.0**
	0.8nm232nm,0.8s,mb5.7						
KBKI	**Kotabaru**	**65.34**	**275**	P	**P**	**08 01 34.8**	**-1.3**
	0.3nm4μm35nm,1.2s,mb4.7						
NBBI	**Negara**	**65.34**	**269**	P	**P**	**08 01 36.0**	**-0.1**
	1.6nm125nm,1.2s,mb5.2						
JAGI	**Jajag, Banyuwa**	**65.76**	**269**	P	**P**	**08 01 37.7**	**-1.0**
	0.4nm995nm126nm,0.9s,mb5.3						
ABJI	**Asem Bagus**	**65.87**	**269**	P	**P**	**08 01 39.1**	**-0.2**
	4.1nm726nm,0.8s						
KMMI	**Kalianget**	**66.33**	**270**	P	**P**	**08 01 41.2**	**-1.0**
	0.2nm2μm52nm,0.9s,mb5.0						
GMJI	**Gumukmas**	**66.49**	**269**	P	**P**	**08 01 42.5**	**-0.7**
BLJI	**Banyuglugur**	**66.49**	**269**	P	**P**	**08 01 43.0**	**-0.2**
	1.2nm119nm,0.8s,mb5.4						
BBKI	**Banjar Baru**	**66.55**	**274**	P	**P**	**08 01 41.8**	**-1.8**
	0.5nm67nm,1.2s,mb5.0						
KRKI	**Karangkates**	**67.46**	**268**	P	**P**	**08 01 54.3**	**+5.1**
	168nm,0.6s,mb5.6						
MJAR	**Matsushiro Arr**	**67.76**	**324**	P	**P**	**08 01 49.8**	**-0.6**
	8.3nm,0.5s,mb4.4,baz=156,slow=6.0,SNR=20						
MJAR	**Matsushiro Arr**	**67.76**	**324**	P	**P**	**08 01 49.8**	**-0.6**
MAT	**Matsushiro**	**67.76**	**324**	P	**P**	**08 01 49.8**	**-0.6**
PWJI	**Pagerwojo**	**68.12**	**268**	P	**P**	**08 01 54.9**	**+1.8**
SJI	**Sawahan**	**68.23**	**269**	P	**P**	**08 01 55.8**	**+2.0**
PCJI	**Pacitan**	**68.67**	**268**	P	**P**	**08 01 56.7**	**+0.3**
UGM	**Wanagama**	**69.37**	**268**	P	**P**	**08 02 00.5**	**-0.1**
QSPA	**South Pole Qui**	**72.12**	**180**	*e*P	**P**	**08 02 15.9**	**+0.3**
	20nm,1.1s,mb4.6						
KSM	**Kuching**	**72.41**	**277**	*e*P	**P**	**08 02 19.3**	**+0.8**
	84nm,0.9s,mb5.3						
PETK	**Petropavlovsk-**	**73.63**	**345**	P	**P**	**08 02 24.1**	**-0.4**
	2.8nm,0.6s,mb4.0,baz=140,slow=7.3,SNR=3.0						
PETK	**Petropavlovsk-**	**73.63**	**345**	P	**P**	**08 02 24.1**	**-0.4**
KSRS	**Korea Array**	**74.53**	**318**	P	**P**	**08 02 31.0**	**+1.0**
	2.7nm,0.6s,mb3.9,baz=138,slow=6.7,SNR=9.1						
ARVC	**Arvin**	**77.50**	**47**	⇓P	**P**	**08 02 45.9**	**-0.4**
	baz=78						
VES	**Vestal, Richgr**	**77.71**	**46**	⇓P	**P**	**08 02 46.9**	**-0.5**
	baz=78						
NJ2	**Nanjing**	**77.74**	**310**	*e*P	**P**	**08 02 46.0**	**-1.7**
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.5						
BFSC	**Mount Baldy Ra**	**77.85**	**48**	⇓P	**P**	**08 02 47.5**	**-0.7**
	baz=78						
EDW2	**Edwards Air Fo**	**77.95**	**47**	⇓P	**P**	**08 02 48.6**	**-0.2**
	baz=78						
ISA	**Isabella**	**78.03**	**46**	⇑P	**P**	**08 02 49.1**	**0.0**
	baz=78						
MDJ	**Mudanjiang**	**78.04**	**325**	P	**P**	**08 02 49.8**	**+0.8**
MDJ				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.5						
MDJ				pmax	pmax		
	comp=Z,140nm,7.2s						
MDJ	**Mudanjiang**	**78.04**	**325**	*e*P	**P**	**08 02 50.0**	**+1.0**
	comp=Z,7.3nm,0.6s,mb4.3						
MONP	**Monument Peak**	**78.04**	**50**	⇑P	**P**	**08 02 49.1**	**-0.1**
	baz=78						
LRMC	**Laurel Mountai**	**78.48**	**47**	⇓P	**P**	**08 02 51.3**	**-0.3**
	baz=78						
CWC	**Cottonwood Cre**	**78.72**	**46**	⇓P	**P**	**08 02 52.9**	**+0.1**
	baz=79						
BELC	**Belle Mtn. Jos**	**78.91**	**49**	⇓P	**P**	**08 02 53.8**	**-0.1**
	baz=79						
MPMC	**Manual Prospec**	**78.92**	**46**	⇑P	**P**	**08 02 54.0**	**+0.1**
	baz=79						
TIN	**Tinemaha**	**78.94**	**45**	⇑P	**P**	**08 02 53.8**	**-0.1**
	baz=79						
HEC	**Hector,Ludlow**	**79.09**	**48**	⇓P	**P**	**08 02 54.7**	**-0.1**
	baz=79						
BC3	**Big Chuckawall**	**79.13**	**49**	⇓P	**P**	**08 02 55.4**	**+0.4**
	baz=79						
WCN	**Washoe City**	**79.16**	**43**	⇓P	**P**	**08 02 55.4**	**+0.3**
	baz=79						
QIZ	**Qiongzhong**	**79.20**	**294**	P	**P**	**08 02 55.9**	**+0.2**
QIZ				S	S	08 12 10.2	+2.2
QIZ				pmax	pmax		
	comp=Z,26nm,1.6s,mb4.3						
GRAC	**Grapevine Rang**	**79.50**	**46**	⇑P	**P**	**08 02 56.6**	**-0.3**
	baz=80						
FURC	**Furnace Creek,**	**79.57**	**46**	⇑P	**P**	**08 02 57.2**	**-0.1**
	baz=80						
IRM	**Iron Mountain**	**79.60**	**49**	⇑P	**P**	**08 02 57.6**	**+0.1**
	baz=80						
NVAR	**Mina Array Bea**	**79.63**	**44**	P	**P**	**08 02 57.3**	**-0.3**
	comp=Z,4.8nm,0.7s,mb3.9,baz=225,slow=8.8,SNR=30						
NVAR	**Mina Array Bea**	**79.63**	**44**	P	**P**	**08 02 57.3**	**-0.3**
SHOC	**Shoshone**	**79.68**	**47**	⇓P	**P**	**08 02 57.9**	**+0.1**
	baz=80						
TUQ	**Turquoise Moun**	**79.69**	**48**	⇓P	**P**	**08 02 58.1**	**+0.2**
	baz=80						
Y12C	**Blythe**	**79.85**	**50**	⇓P	**P**	**08 02 58.9**	**+0.1**
	baz=80						
CN2	**Changchun**	**79.87**	**323**	*e*P	**P**	**08 02 58.9**	**+0.3**
CN2				epP	pP	08 05 02.0	-2.0
CN2				eS	S	08 12 15.3	+1.5
CN2				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.4						
CN2				pmax	pmax		
	comp=Z,200nm,6.0s						
Z13A	**Yuma Proving G**	**80.21**	**50**	⇑P	**P**	**08 03 00.9**	**+0.2**
	baz=80						
K05A	**Summer Lake**	**80.39**	**39**	⇑P	**P**	**08 03 01.4**	**0.0**
	baz=80						
114A	**Black Gap (USA**	**80.57**	**51**	⇓P	**P**	**08 03 02.8**	**+0.2**
	baz=81						
H04A	**Detroit Lake**	**80.78**	**37**	⇑P	**P**	**08 03 03.1**	**-0.3**
	baz=81						
Z14A	**Wintersburg**	**80.81**	**51**	⇑P	**P**	**08 03 03.9**	**+0.1**
	baz=81						
G04A	**Mulino**	**80.92**	**37**	⇑P	**P**	**08 03 04.7**	**+0.6**
	baz=81						
Y14A	**Wickenburg**	**81.04**	**50**	⇓P	**P**	**08 03 04.9**	**-0.1**
	baz=81						
216A	**Three Points,**	**81.29**	**52**	⇓P	**P**	**08 03 06.6**	**+0.3**
	baz=81						
116A	**Eloy**	**81.36**	**52**	⇓P	**P**	**08 03 06.9**	**+0.3**
	baz=81						
R11A	**Troy Canyon, C**	**81.41**	**45**	⇓P	**P**	**08 03 06.3**	**-0.4**
	baz=82						
Y15A	**Casa Rosa Ranc**	**81.54**	**50**	⇓P	**P**	**08 03 07.6**	**+0.1**
	baz=82						
U13A	**Pakoon Wash**	**81.55**	**48**	⇑P	**P**	**08 03 07.7**	**+0.2**
	baz=82,SNR=6.5						
WVOR	**Wild Horse Val**	**81.61**	**40**	*e*P	**P**	**08 03 07.6**	**0.0**
	comp=Z,8.6nm,0.9s,mb4.3						
217A	**Green Valley**	**81.67**	**53**	⇓P	**P**	**08 03 08.6**	**+0.4**
	baz=82						
Z16A	**Peralta Trail,**	**81.92**	**51**	⇑P	**P**	**08 03 09.5**	**+0.1**
	baz=82						
G06A	**Carlson Farm,**	**81.99**	**37**	⇑P	**P**	**08 03 09.1**	**-0.4**
	baz=82						
I07A	**Izee**	**82.00**	**39**	⇓P	**P**	**08 03 09.6**	**0.0**
	baz=82						
U14A	**Mt Trumbull**	**82.11**	**48**	⇓P	**P**	**08 03 10.7**	**+0.4**
	baz=82,SNR=11						
Y16A	**Circle Bar Ran**	**82.14**	**51**	⇑P	**P**	**08 03 11.2**	**+0.7**
	baz=82						
IPM	**Ipoh**	**82.15**	**277**	*e*P	**P**	**08 03 11.7**	**+0.6**
	comp=Z,47nm,1.1s,mb4.9						
318A	**Bisbee**	**82.15**	**54**	⇓P	**P**	**08 03 11.1**	**+0.5**
	baz=82						
J08A	**Circle Bar Ran**	**82.21**	**40**	⇓P	**P**	**08 03 10.7**	**-0.1**
	baz=82						
218A	**Dragoon**	**82.34**	**53**	⇑P	**P**	**08 03 12.4**	**+0.7**
	baz=82						
X16A	**Lo Mia Camp, P**	**82.41**	**50**	⇑P	**P**	**08 03 12.3**	**+0.4**
	baz=82,SNR=6.2						
R13A	**O'Grain Ranch,**	**82.42**	**46**	⇓P	**P**	**08 03 11.7**	**-0.2**
	baz=82						
Y17A	**Roosevelt**	**82.52**	**51**	⇑P	**P**	**08 03 12.3**	**-0.2**
	baz=83						
V15A	**Kaibab Nationa**	**82.54**	**49**	⇑P	**P**	**08 03 12.9**	**+0.3**
	baz=83,SNR=5.0						
W16A	**Flagstaff**	**82.66**	**50**	⇑P	**P**	**08 03 13.5**	**+0.3**
	baz=83						
319A	**Douglas**	**82.66**	**54**	⇓P	**P**	**08 03 13.9**	**+0.6**
	baz=83						
118A	**Homack Ranch,**	**82.70**	**52**	⇑P	**P**	**08 03 14.0**	**+0.6**
	baz=83						
U15A	**North Rim**	**82.74**	**48**	⇓P	**P**	**08 03 14.2**	**+0.7**
	baz=83,SNR=12						
F07A	**Phinny Hill Vi**	**82.78**	**37**	⇓P	**P**	**08 03 13.3**	**-0.2**
	baz=83						
X17A	**Forest Lakes**	**82.84**	**51**	⇓P	**P**	**08 03 14.8**	**+0.7**
	baz=83						
T15A	**Red Dirt Ranch**	**82.96**	**48**	⇓P	**P**	**08 03 14.8**	**+0.2**
	baz=83,SNR=6.3						
WUAZ	**Wupatki**	**82.97**	**49**	⇓P	**P**	**08 03 14.9**	**+0.2**
	baz=83						
G08A	**Pilot Rock**	**83.00**	**38**	⇓P	**P**	**08 03 14.6**	**0.0**
	baz=83						
Y18A	**Canyon Day Jun**	**83.16**	**51**	⇓P	**P**	**08 03 15.7**	**0.0**
	baz=83						
E07A	**Sunnyside**	**83.20**	**36**	⇓P	**P**	**08 03 15.5**	**0.0**
	baz=83						
320A	**Kipp Ranch, An**	**83.23**	**54**	⇓P	**P**	**08 03 16.9**	**+0.8**
	baz=83						
S15A	**Panguitch**	**83.29**	**47**	⇓P	**P**	**08 03 16.7**	**+0.5**
	baz=83						
Q14A	**Sevier Lake (B**	**83.29**	**46**	⇓P	**P**	**08 03 16.4**	**+0.2**
	baz=83,SNR=10						
U16A	**Tuba City**	**83.44**	**49**	⇓P	**P**	**08 03 17.3**	**+0.4**
	baz=84						
V17A	**Tonalea, Kykot**	**83.44**	**49**	⇑P	**P**	**08 03 17.3**	**+0.3**
	baz=84,SNR=8.4						
220A	**Playas Peak, P**	**83.47**	**54**	⇑P	**P**	**08 03 17.8**	**+0.5**
	baz=84						
X18A	**Snowflake**	**83.56**	**51**	⇑P	**P**	**08 03 18.3**	**+0.7**
	baz=84						
T16A	**Glen Canyon Da**	**83.56**	**48**	⇓P	**P**	**08 03 17.8**	**+0.3**
	baz=84						
R15A	**Junction**	**83.60**	**47**	⇓P	**P**	**08 03 18.2**	**+0.4**
	baz=84						
BJI	**Beijing**	**83.60**	**316**	P	**P**	**08 03 18.5**	**+0.8**
BJI				pP	pP	08 05 19.9	-4.8
BJI				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.4						
BJI				pmax	pmax		
	comp=Z,210nm,5.5s						
P14A	**Drum Mountains**	**83.73**	**45**	⇓P	**P**	**08 03 19.3**	**+1.0**
	baz=84						
MAW	**Mawson**	**83.75**	**200**	P	**P**	**08 03 18.0**	**0.0**
	comp=Z,9.7nm,0.7s,mb4.4,baz=124,slow=6.7,SNR=40						
MAW	**Mawson**	**83.75**	**200**	*e*P	**P**	**08 03 17.8**	**-0.2**
	comp=Z,5.1nm,0.5s,mb4.3						
MAW	**Mawson**	**83.75**	**200**	P	**P**	**08 03 18.0**	**0.0**
MAW				*e*P		08 03 18.2	
Y19A	**Nutrioso**	**83.82**	**52**	⇓P	**P**	**08 03 19.2**	**+0.3**
	baz=84						
MFID	**Camas Ranch**	**83.87**	**41**	⇑P	**P**	**08 03 19.0**	**+0.1**
	baz=84						
Q15A	**Fillmore**	**83.91**	**46**	⇑P	**P**	**08 03 19.2**	**-0.1**
	baz=84						
X19A	**St. Johns**	**84.00**	**51**	⇑P	**P**	**08 03 20.5**	**+0.7**
	baz=84						
D08A	**Wollman Farm,**	**84.01**	**36**	⇓P	**P**	**08 03 19.3**	**-0.3**
	baz=84						
ENH	**Enshi**	**84.05**	**304**	*e*P	**P**	**08 03 21.2**	**+1.0**
	comp=Z,22nm,0.6s,mb4.9						
T17A	**Navajo Res., N**	**84.06**	**48**	⇑P	**P**	**08 03 20.3**	**+0.2**
	baz=84						
TRF	**Thorofare Moun**	**84.09**	**12**	*e*P	**P**	**08 03 18.0**	**-1.5**
	comp=Z,14nm,0.8s,mb4.5						
V18A	**Ganado**	**84.10**	**50**	⇓P	**P**	**08 03 20.4**	**+0.1**
	baz=84						
E09A	**Wood Farm, Sta**	**84.15**	**37**	⇓P	**P**	**08 03 19.8**	**-0.4**
	baz=84						
R16A	**Teasdale**	**84.19**	**47**	⇑P	**P**	**08 03 21.0**	**+0.3**
	baz=84						
121A	**Cookes Peak, D**	**84.31**	**53**	⇑P	**P**	**08 03 21.9**	**+0.5**
	baz=84						
OD2	**Odessa Site #2**	**84.32**	**36**	*e*P	**P**	**08 03 20.6**	**-0.5**
	comp=Z,3.5nm,0.7s,mb4.0						
S17A	**Black Ridge (B**	**84.36**	**48**	⇓P	**P**	**08 03 21.8**	**+0.3**
	baz=84						
F10A	**Beach Ranch, E**	**84.39**	**38**	⇑P	**P**	**08 03 21.0**	**-0.5**
	baz=84,SNR=7.1						
U18A	**Rough Rock, Ch**	**84.47**	**49**	⇑P	**P**	**08 03 21.4**	**-0.6**
	baz=84						
I12A	**Atlanta**	**84.50**	**41**	⇓P	**P**	**08 03 22.1**	**+0.1**
	baz=85,SNR=5.5						
B08A	**Colville Reser**	**84.52**	**35**	⇑P	**P**	**08 03 21.1**	**-0.9**
	baz=85						
X20A	**Quemado**	**84.64**	**51**	⇑P	**P**	**08 03 23.0**	**+0.1**
	baz=85						
Q16A	**Castle Valley**	**84.70**	**46**	⇑P	**P**	**08 03 24.4**	**+1.3**
	baz=85						
T18A	**Mexican Hat**	**84.79**	**48**	⇓P	**P**	**08 03 23.6**	**0.0**
	baz=85,SNR=7.7						
C09A	**Chrisman Ranch**	**84.79**	**36**	⇓P	**P**	**08 03 22.8**	**-0.5**
	baz=85						
GYA	**Guiyang**	**84.80**	**300**	P	**P**	**08 03 24.0**	**+0.1**
GYA				pP	pP	08 05 30.8	-0.5
GYA				sP	sP	08 06 28.4	-3.0
GYA				PP	PP	08 06 53.2	+1.3
GYA				SKS		08 12 51.0	
GYA				sS	sS	08 16 46.4	-4.1
GYA				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.7						
GYA				pmax	pmax		
	comp=Z,150nm,5.4s						
L14A	**Malta**	**84.81**	**43**	⇓P	**P**	**08 03 23.4**	**-0.2**
	baz=85						
HLID	**Hailey**	**84.83**	**41**	⇓P	**P**	**08 03 23.9**	**+0.3**
	baz=85,SNR=7.2						
U19A	**Dine' College,**	**84.89**	**49**	⇑P	**P**	**08 03 23.8**	**-0.3**
	baz=85						
W20A	**Ramah**	**84.89**	**51**	⇑P	**P**	**08 03 24.4**	**+0.3**
	baz=85						
J13A	**Cove Ranch, Pi**	**84.90**	**41**	⇓P	**P**	**08 03 24.0**	**0.0**
	baz=85,SNR=6.2						
Y21A	**Point of Rocks**	**85.02**	**52**	⇓P	**P**	**08 03 25.3**	**+0.5**
	baz=85						
H12A	**Diamond D Ranc**	**85.06**	**40**	⇓P	**P**	**08 03 24.6**	**-0.1**
	baz=85,SNR=6.1						
G12A	**Big Creek, Yel**	**85.07**	**39**	⇓P	**P**	**08 03 24.7**	**0.0**
	baz=85,SNR=7.5						
K14A	**Jones Ranch, D**	**85.11**	**42**	⇑P	**P**	**08 03 25.0**	**0.0**
	baz=85						
X21A	**Alamocita Cree**	**85.13**	**52**	⇑P	**P**	**08 03 26.4**	**+1.1**
	baz=85						
SRU	**San Rafael**	**85.23**	**46**	⇑P	**P**	**08 03 25.5**	**-0.2**
	baz=85						
J14A	**Carey**	**85.27**	**42**	⇓P	**P**	**08 03 26.2**	**+0.5**
	baz=85,SNR=5.5						
R18A	**Canyonlands Na**	**85.34**	**47**	⇑P	**P**	**08 03 25.9**	**-0.4**
	baz=85						
L15A	**Malad City**	**85.35**	**43**	⇓P	**P**	**08 03 25.8**	**-0.4**
	baz=85						
H13A	**Challis**	**85.44**	**40**	⇑P	**P**	**08 03 26.5**	**-0.1**
	baz=86						
Q18A	**Rafter H Ranch**	**85.50**	**47**	⇑P	**P**	**08 03 26.7**	**-0.2**
	baz=86						
M16A	**Huntsville**	**85.52**	**44**	⇓P	**P**	**08 03 27.5**	**+0.5**
	baz=86						
Y22A	**Socorro**	**85.53**	**52**	⇑P	**P**	**08 03 27.3**	**+0.1**
	baz=86						
K15A	**Arbon**	**85.59**	**43**	⇓P	**P**	**08 03 27.2**	**-0.1**
	baz=86						
O17A	**Robinson Place**	**85.59**	**45**	⇑P	**P**	**08 03 27.5**	**+0.2**
	baz=86,SNR=7.0						
E12A	**Beaver Dam Sad**	**85.60**	**38**	⇓P	**P**	**08 03 27.4**	**+0.1**
	baz=86						
I14A	**Mackay**	**85.62**	**41**	⇓P	**P**	**08 03 28.1**	**+0.7**
	baz=86,SNR=6.3						
324A	**Moseley Ranch,**	**85.64**	**55**	⇓P	**P**	**08 03 27.6**	**-0.2**
	baz=86						
P18A	**Preston Nutter**	**85.66**	**46**	⇓P	**P**	**08 03 26.8**	**-1.0**
	baz=86						
NEW	**Newport**	**85.69**	**36**	⇑P	**P**	**08 03 26.8**	**-0.8**
	baz=86						
G13A	**Cobalt**	**85.72**	**40**	⇑P	**P**	**08 03 27.6**	**-0.3**
	baz=86						
R19A	**Curley Farm, L**	**85.74**	**48**	⇓P	**P**	**08 03 27.8**	**-0.4**
	baz=86						
425A	**Indio Mountain**	**85.76**	**56**	⇑P	**P**	**08 03 29.4**	**+1.0**
	baz=86						
224A	**Cornudas Mount**	**85.86**	**55**	⇓P	**P**	**08 03 29.0**	**+0.2**
	baz=86						
N17A	**Moffit Pass**	**85.87**	**45**	⇓P	**P**	**08 03 28.9**	**+0.2**
	baz=86						
626A	**Big Bend Ranch**	**85.95**	**57**	⇑P

baz=87
A12A Yaak River Ran 86.88 36 ⇑P P 08 03 33.4 +0.2
baz=87
R21A Cimarron 86.98 48 ⇑P P 08 03 34.3 +0.3
baz=87
427A Hayter Ranch, 87.04 56 ⇓P P 08 03 34.6 +0.1
baz=87
J17A Brown Place, J 87.08 43 ⇑P P 08 03 34.5 +0.2
baz=87,SNR=7.0
HHC Hu-ho-hao-te 87.09 315 *e*P P 08 03 35.5 +1.1
HHC pP pP 08 05 42.1 -0.7
HHC sP sP 08 06 39.3 -3.3
HHC SKS 08 13 07.2
HHC S S 08 13 21.8 -2.6
HHC pmax pmax
comp=Z,16nm,0.6s,mb4.9
HHC pmax pmax
comp=Z,67nm,6.5s
D14A Greenough 87.16 38 ⇓P P 08 03 33.8 -0.8
baz=87
K18A Toltan Ranch, 87.18 43 ⇓P P 08 03 34.9 +0.1
baz=87
IMW Indian Meadow 87.19 42 *e*P P 08 03 35.0 +0.2
comp=Z,24nm,1.6s,mb4.7
W24A Lazy 6 Ranch, 87.22 52 ⇑P P 08 03 34.9 -0.3
baz=87
S22A 4UR Ranch, Cre 87.23 49 ⇑P P 08 03 35.1 -0.1
baz=87
Y25A Mesa, Roswell 87.24 53 ⇓P P 08 03 34.7 -0.7
baz=87
M19A Rock Springs 87.25 45 ⇑P P 08 03 35.0 -0.2
baz=87
528A Cox Ranch, San 87.27 57 ⇑P P 08 03 35.4 -0.2
baz=87
O20A White River Ci 87.27 46 ⇑P P 08 03 35.0 -0.2
baz=87
G16A Moss Hill, Enn 87.28 41 ⇑P P 08 03 35.0 -0.2
baz=87
E15A Deer Lodge 87.35 39 ⇓P P 08 03 35.2 -0.3
baz=87
C14A Swan Lake 87.36 38 ⇑P P 08 03 35.5 0.0
baz=87
H16A Russell Place, 87.38 41 ⇑P P 08 03 36.4 +0.7
baz=87,SNR=7.7
L19A Farson 87.39 44 ⇑P P 08 03 35.9 +0.1
baz=87
FLWY Flagg Ranch 87.43 42 *e*P P 08 03 36.4 +0.5
comp=Z,16nm,1.5s,mb4.5
I17A Pilgrim Ck. 87.43 42 ⇓P P 08 03 36.3 +0.4
baz=88
J18A Kendall Valley 87.46 43 ⇑P P 08 03 36.2 +0.1
baz=88,SNR=14
Z26A Caprock 87.53 54 ⇑P P 08 03 36.4 -0.3
baz=88
BW06 Boulder Array 87.56 44 ⇓P P 08 03 36.2 -0.4
baz=88
PD02 Pinedale Array 87.56 44 *e*P P 08 03 36.2 -0.4
PDAR Pinedale Array 87.56 44 P P 08 03 36.1 -0.5
comp=Z,2.4nm,0.6s,mb4.1,baz=219,slow=3.4,SNR=25
PDAR PP PP 08 07 08.7 -4.8
comp=Z,0.9nm,0.9s,baz=243,slow=6.5,SNR=6.0
PDAR Pinedale Array 87.56 44 P P 08 03 36.1 -0.5
PDAR PP PP 08 07 08.7 -4.8
N20A Spence Gulch, 87.56 46 ⇓P P 08 03 36.5 -0.1
baz=88
BOZ Bozeman (W) 87.59 40 ⇓P P 08 03 37.1 +0.4
baz=88
KMI Kunming 87.59 297 P P 08 03 38.2 +1.0
KMI pmax pmax
comp=Z,12nm,0.9s,mb4.6
Q22A Crested Butte, 87.65 48 ⇑P P 08 03 37.1 0.0
baz=88
H17A Grant Village 87.65 42 ⇓P P 08 03 37.5 +0.5
baz=88
F16A Kennard Place, 87.66 40 ⇑P P 08 03 37.1 +0.2
baz=88
328A Wristen Ranch, 87.71 56 ⇑P P 08 03 37.5 -0.1
baz=88
D15A Lincoln 87.72 39 ⇓P P 08 03 37.7 +0.5
baz=88
M20A Sweetwater, Wa 87.90 45 ⇓P P 08 03 38.1 -0.1
baz=88
B14A Marquette Ranc 87.94 37 ⇑P P 08 03 37.6 -0.6
baz=88
G17A Pierce Place, 87.98 41 ⇓P P 08 03 38.8 +0.3
baz=88
L20A Wamsutter 88.03 45 ⇑P P 08 03 38.8 +0.1
baz=88
C15A Salmond Ranch, 88.03 38 ⇑P P 08 03 38.3 -0.4
baz=88
N21A Black Mountain 88.04 46 ⇓P P 08 03 39.0 +0.1
baz=88
K19A Absolon Red Bu 88.05 44 ⇑P P 08 03 38.1 -0.8
baz=88
J19A Crowheart 88.11 43 ⇑P P 08 03 39.2 +0.1
baz=88
A14A Double T Ranch 88.16 37 ⇓P P 08 03 39.0 -0.2
baz=88
SDCO Great Sand Dun 88.19 49 ⇓P P 08 03 39.4 -0.2
baz=88
K20A Yellowstone Ra 88.31 44 ⇓P P 08 03 39.9 -0.2
baz=88
B15A Bradely Ranch, 88.32 38 ⇓P P 08 03 39.1 -0.9
baz=88
S24A Houchin Ranch, 88.36 50 ⇓P P 08 03 39.8 -0.6
baz=88
Y27A Causey 88.40 54 ⇓P P 08 03 40.5 -0.2
baz=88
O22A Kremmling 88.45 47 ⇓P P 08 03 41.3 +0.5
baz=88
I19A Meeteetse 88.50 43 ⇓P P 08 03 40.5 -0.4
baz=88
M21A Separation Pea 88.51 45 ⇑P P 08 03 40.8 -0.2
baz=88
A15A Johnson Ranch, 88.55 37 ⇓P P 08 03 40.5 -0.6
baz=89
C16A Fuhringer Ranc 88.55 38 ⇓P P 08 03 40.7 -0.4
baz=89
CMAR Chiang Mai Arr 88.63 290 P P 08 03 43.6 +1.5
comp=Z,8.5nm,0.9s,mb4.6,baz=112,slow=2.8,SNR=35
CMAR Chiang Mai Arr 88.63 290 P P 08 03 43.6 +1.5
MSTX Muleshoe 88.73 54 ⇑P P 08 03 41.7 -0.6
baz=89
T25A Trinidad 88.74 50 ⇑P P 08 03 42.0 -0.2
baz=89
CHTO Chiang Mai 88.74 290 *e*P P 08 03 43.9 +1.2
comp=Z,6.8nm,0.8s,mb4.5
N22A Wattenberg Ran 88.79 46 ⇓P P 08 03 42.6 +0.2
baz=89
J20A Shoshoni 88.79 43 ⇓P P 08 03 42.5 +0.2
baz=89
H19A Powell 88.79 42 ⇓P P 08 03 42.8 +0.5
baz=89
RLMT Red Lodge 88.82 42 ⇑P P 08 03 42.7 +0.4
baz=89
CD2 Chengdu 88.84 303 P P 08 03 42.2 -0.7
CD2 pP pP 08 05 52.6 +0.8
CD2 sP sP 08 06 51.4 0.0
CD2 PP PP 08 07 26.3 +2.5
CD2 SKS 08 13 14.7
CD2 S S 08 13 39.3 -1.7
CD2 pmax pmax
comp=Z,20nm,0.9s,mb5.0
CD2 pmax pmax
comp=Z,210nm,5.3s
B16A M & M Farms, S 88.87 38 ⇑P P 08 03 41.6 -0.9
baz=89
D17A Six Diamond Ra 88.88 39 ⇑P P 08 03 42.4 -0.2
baz=89
F18A Big Timber 88.89 41 ⇑P P 08 03 42.8 +0.1
baz=89
M22A Cedar Creek Ra 88.94 46 ⇓P P 08 03 42.3 -0.7
baz=89
I20A Worland 89.02 43 ⇑P P 08 03 42.9 -0.4
baz=89
K21A Alcova 89.03 44 ⇑P P 08 03 43.0 -0.5
baz=89
C17A Wharram Farm, 89.06 39 ⇓P P 08 03 43.2 -0.2
baz=89
SYO Syowa Base 89.07 193⇑*e*X 08 03 40.6
N23A Red Feather La 89.18 46 ⇓P P 08 03 44.3 +0.1
baz=89
A16A West Butte Ran 89.19 37 ⇓P P 08 03 43.9 -0.1
baz=89
J21A Lysite 89.20 44 ⇑P P 08 03 44.3 +0.1
baz=89
L22A Ellis Ranch, M 89.32 45 ⇑P P 08 03 45.2 +0.4
baz=89
F19A Roth Farm, Mol 89.35 41 ⇑P P 08 03 44.5 -0.4
baz=89
I21A Big Trails, Te 89.51 43 ⇓P P 08 03 45.4 -0.2
baz=90
K22A Casper 89.52 45 ⇑P P 08 03 45.5 -0.2
baz=90
A17A Triple J Farms 89.71 38 ⇓P P 08 03 45.9 -0.5
baz=90
L23A Garrett 89.85 45 ⇑P P 08 03 47.0 -0.2
baz=90
J22A Midwest 89.87 44 ⇓P P 08 03 46.6 -0.7
baz=90
D19A Cripps Ranch, 89.98 40 ⇑P P 08 03 47.7 0.0
baz=90
B18A Beardsley Farm 90.00 38 ⇑P P 08 03 47.9 +0.2
baz=90
I22A 9 Mile Ranch, 90.07 44 ⇑P P 08 03 48.4 +0.2
baz=90
C19A Slack Wire Ran 90.13 39 ⇑P P 08 03 48.8 +0.4
baz=90
M24A Cheyenne 90.18 46 ⇑P P 08 03 48.6 -0.1
baz=90
A18A Metzger Ranch, 90.20 38 ⇑P P 08 03 48.4 -0.3
baz=90
D20A Manuel Ranch, 90.40 40 ⇑P P 08 03 49.9 +0.3
baz=90
SNAA Sanae 90.58 179 *e*P P 08 03 49.2 -1.0
comp=Z,1.8nm,0.4s,mb4.3
LZH Lanzhou 90.68 308 ⇑P P 08 03 52.6 +1.4
LZH pP pP 08 06 00.7 +0.1
LZH sP sP 08 06 58.2 -1.8
LZH PP PP 08 07 41.5 +3.5
LZH SKS 08 13 28.1
LZH S S 08 13 56.5 -0.8
LZH sS sS 08 17 46.0 -2.6
LZH pmax pmax
comp=Z,42nm,1.3s,mb5.2
LZH pmax pmax
comp=Z,200nm,6.0s
VNA3 Neumayer Olymp 90.74 176 *e* P 08 03 47.6 -3.3
A19A Klindworth Far 90.85 38 ⇑P P 08 03 51.6 -0.1
baz=91
D21A La Casta Ranch 91.09 40 ⇑P P 08 03 53.2 +0.4
baz=91
VNA2 Neumayer--Watz 91.17 177 *e* P 08 03 49.6 -3.3
baz=184,slow=3.6
A20A Cobblestone Ra 91.31 39 ⇓P P 08 03 53.7 -0.1
baz=91
VNA1 Neumayer--Stat 91.40 177 *e* P 08 03 51.4 -2.5
E22A Miles City 91.48 41 ⇓P P 08 03 54.5 -0.2
baz=92
D22A Cohagen 91.63 41 ⇓P P 08 03 55.4 +0.1
baz=92
H24A Dirks Ranch, A 91.68 43 ⇑P P 08 03 55.3 -0.3
baz=92
A21A Bergtoll Ranch 91.96 39 ⇑P P 08 03 56.7 -0.1
baz=92
B22A Reddig Ranch S 92.22 40 ⇑P P 08 03 58.0 0.0
baz=92
C23A Lambert 92.52 40 ⇓P P 08 03 59.3 0.0
baz=92
C24A Savage 92.88 41 ⇑P P 08 04 01.6 +0.5
baz=93
B23A Brockton 92.90 40 ⇓P P 08 04 01.3 +0.2
baz=93
SONM Songino Array 93.38 319 P P 08 04 02.6 -0.7
comp=Z,1.0nm,0.6s,mb4.0,baz=136,slow=4.9,SNR=4.2
SONM Songino Array 93.38 319 P P 08 04 02.6 -0.7
DGMT Dagmar 93.39 40 ⇓P P 08 04 03.5 +0.2
baz=93
TUL1 Tulsa 94.78 54 ⇓P P 08 04 09.1 -0.8
baz=95
ZALV Zalesovo Beam 108.08 322 PKiKP PKiKP 08 09 09.9 -1.7
comp=Z,1.2nm,0.5s,baz=175,slow=0.7,SNR=7.9
ZALV Zalesovo Beam 108.08 322 PKPdf PKiKP 08 09 09.9 -1.7
MKAR Makanchi Array 108.95 314 PKiKP PKiKP 08 09 12.2 -1.4
comp=Z,2.0nm,0.5s,baz=200,slow=0.6,SNR=14
MKAR Makanchi Array 108.95 314 PKPdf PKiKP 08 09 12.2 -1.4
ARU Arti 122.71 326 *e*PKPdf PKPdf 08 09 38.8 -0.7
ABKAR Akbulak array 123.76 318 *e*PKPdf PKPdf 08 09 40.9 -1.0
ARCES ARCESS Array B 126.29 350 PKP PKPdf 08 09 45.1 -1.0
comp=Z,2.9nm,0.6s,baz=349,slow=0.4,SNR=14
ARCES ARCESS Array B 126.29 350 PKP PKPdf 08 09 45.1 -1.0
BOSA Boshof 128.25 207 PKP PKPdf 08 09 51.3 +0.2
comp=Z,3.0nm,0.9s,baz=57,slow=13,SNR=3.6
BOSA Boshof 128.25 207 PKP PKPdf 08 09 51.3 +0.2
FINES FINESS Array B 133.13 344 PKP PKPdf 08 09 57.9 -1.4
comp=Z,1.6nm,0.6s,baz=124,slow=0.7,SNR=3.6
FINES FINESS Array B 133.13 344 PKP PKPdf 08 09 57.9 -1.4
AKASG Malin Array Be 140.45 332 PKhKP PKPpre 08 10 03.5
comp=Z,1.7nm,0.5s,baz=45,slow=4.1,SNR=4.3
AKASG PKP PKPdf 08 10 13.7 +0.6
comp=Z,2.3nm,0.4s,baz=41,slow=3.2,SNR=8.3
AKASG Malin Array Be 140.45 332 PKP PKPpre 08 10 03.5
AKASG PKP PKPdf 08 10 13.7 +0.6
KIS Kishinev 143.22 328 ⇓*i*P PKPdf 08 10 23.6 +5.5
KWP Kalwaria Pacla 143.98 336 ⇓*i*P PKPdf 08 10 18.6 -0.7
TLCR 144.43 326 ⇑*i*P PKPdf 08 10 20.5 +0.2
BURAR Bucovina Array 144.50 332 ⇓*i*P PKPdf 08 10 21.3 +1.0
OJC Ojcow 144.53 339 *e*PKP PKPdf 08 10 20.2 -0.1
BR131 Keskin Array S 144.60 315 *e*PKPdf PKPdf 08 10 20.9 +0.2
BRTR Keskin Array B 144.60 315 PKP PKPdf 08 10 20.8 +0.1
BRTR Keskin Array B 144.60 315 PKP PKPdf 08 10 20.8 +0.1
TESR 144.63 329 ⇑*i*P PKPdf 08 10 20.5 -0.1
CFR Carcaliu 144.80 326 ⇓*i*P PKPdf 08 10 21.7 +0.8
NIE Niedzica 145.04 338 *e*PKP PKPdf 08 10 22.4 +1.2
KSP Ksiaz 145.05 343 *e*PKP PKPdf 08 10 22.1 +1.0
VRI Vrincioaia 145.05 328 ⇑*i*P PKPdf 08 10 22.0 +0.7
PLOR Plostina 145.10 328 ⇓*i*P PKPdf 08 10 21.9 +0.5
TRPA Tarpa 145.25 335 ⇓*i*P PKPdf 08 10 22.5 +0.9
OKC Ostrava-Krasne 145.40 341 *e*PKP PKPbc 08 10 22.9 -0.2
CLL Collm 145.42 347 *e*PKP PKPbc 08 10 22.7 -0.5
CLL Collm 145.42 347 ⇓*i*PKPbc PKPbc 08 10 22.7 -0.5
comp=Z,28nm,1.1s
CLL *e* 08 10 33.0
UPC Upice 145.43 343 *e*PKP PKPbc 08 10 22.9 -0.3
DPC Dobruska-Polom 145.49 343 *e*PKP PKPbc 08 10 23.5 +0.1
BRG Berggiesshubel 145.62 346 *e*P PKPdf 08 10 22.9 +0.8
comp=Z,16nm,1.2s
DOPR Dopca 145.63 330 ⇑*i*P PKPbc 08 10 24.7 +0.8
MORC Moravsky Berou 145.64 341 ⇑*i*P PKPbc 08 10 23.6 -0.2
MLR Muntele Rosu 145.71 329 ⇑*i*P PKPbc 08 10 23.9 -0.3
FBE Freiberg 145.71 346 *e*PKP PKPbc 08 10 24.1 +0.1
PVCC Panska Ves 145.79 345 *e*PKP PKPbc 08 10 24.1 -0.1
VOIR 146.18 329 ⇑*i*P PKPbc 08 10 24.9 -0.6
DRGR 146.23 333 ⇓*i*P PKPbc 08 10 25.5 -0.1
PRU Pruhonice 146.29 345 *e*PKP PKPbc 08 10 26.2 +0.6
VRAC Vranov 146.34 342 ⇑*i*P PKPbc 08 10 25.4 -0.4
WERD Werda 146.38 347 *e*PKP PKPbc 08 10 25.6 -0.3
PSZ Piszkesteto 146.45 337 ⇓*i*P PKPbc 08 10 26.0 -0.1
GUNZ Gunzen 146.46 347 *e*PKP PKPbc 08 10 25.9 -0.2
WERN Wernitzgruen 146.52 347 *e*PKP PKPbc 08 10 26.0 -0.2
NKC Novy Kostel 146.56 347 *e*PKP PKPbc 08 10 26.2 -0.1
TREC Trest 146.68 343 *e*PKP PKPbc 08 10 26.3 -0.4
ROTZ Rotzenmuhle 147.05 347 *e*PKP PKPbc 08 10 27.6 -0.1
MEM Membach 147.18 354 PKPbc PKPbc 08 10 27.4 -0.6
TNS Taunus Mts 147.28 351 *e*PKP PKPbc 08 10 28.0 -0.2
KHC Kasperske Hory 147.33 345 *e*PKPbc PKPbc 08 10 28.2 -0.2
KHC Kasperske Hory 147.33 345 *e*PKP PKPbc 08 10 28.2 -0.2
KHC *ex* x 08 10 31.4
GEC2 GERESS Array S 147.56 345 *e*PKP PKPbc 08 10 28.8 -0.2
GERES GERESS Array B 147.56 345 PKPbc PKPbc 08 10 28.8 -0.3
comp=Z,11nm,0.6s,baz=24,slow=3.0,SNR=50
GERES GERESS Array B 147.56 345 PKPbc PKPbc 08 10 28.8 -0.3
BZS Buzias 147.63 333 ⇑*i*P PKPbc 08 10 28.8 -0.5
GIVF Givet 147.78 356 *e*PKP1 PKPbc 08 10 28.8 -0.7
comp=Z,18nm,0.5s
GIVF Givet 147.78 356 *e*PKP PKPbc 08 10 28.8 -0.7
CONA Conrad Observa 147.80 341 ⇑*i*PKPbc PKPbc 08 10 29.4 -0.3
comp=Z,11nm,0.6s
DOU Dourbes 147.80 356 PKPbc PKPbc 08 10 29.2 -0.4
WLF Walferdange 148.10 354 PKPbc PKPbc 08 10 30.5 +0.2
WLF Walferdange 148.10 354 *e*PKP PKPbc 08 10 30.7 +0.3
PKSM Moragy 148.35 337 ⇑*i*P PKPdf 08 10 25.8 -1.0
RJOB Jochberg 148.81 345 *e*PKP PKPbc 08 10 31.7 -0.5
BFO Black Forest 149.14 351 *e*PKP PKPbc 08 10 32.5 -0.4
VTS Vitosha 149.16 327 ⇑*i*P PKPbc 08 10 33.2 0.0
SOKA Soboth 149.17 341 ⇑*i*PKPbc PKPbc 08 10 32.2 -0.9
comp=Z,12nm,1.1s
PERS Pernice 149.18 341 *i* PKPbc PKPbc 08 10 32.1 -1.0
CDF Champ du Feu 149.21 352 *e*PKP1 PKPbc 08 10 32.4 -0.7
comp=Z,13nm,0.6s
CDF Champ du Feu 149.21 352 *e*PKP PKPbc 08 10 32.4 -0.7
FLN La Foliniere 149.21 2 *e*PKP1 PKPbc 08 10 32.0 -1.1
comp=Z,15nm,0.5s
FLN La Foliniere 149.21 2 *e*PKP PKPbc 08 10 32.0 -1.1
PAGF Fort de Pagny 149.24 354 *e*PKP1 PKPbc 08 10 32.8 -0.4
comp=Z,5.7nm,0.6s
KBA Koelnbreinsper 149.28 344⇑*i*PKPbc PKPbc 08 10 32.1 -1.2
comp=Z,6.8nm,0.5s
MEZF Maizieres J'vi 149.35 355 *e*PKP1 PKPbc 08 10 32.9 -0.5
comp=Z,10nm,0.4s
MEZF Maizieres J'vi 149.35 355 *e*PKP PKPbc 08 10 32.9 -0.5
LDF La Druitiere 149.39 2 *e*PKP1 PKPbc 08 10 32.3 -1.2
comp=Z,13nm,0.4s
LDF La Druitiere 149.39 2 *e*PKP PKPbc 08 10 32.3 -1.2
WTTA Wattenberg 149.53 346⇑*i*PKiKP PKPbc 08 10 33.6 -0.4
comp=Z,24nm,0.6s
GRR Gorron 149.57 3 *e*PKP1 PKPbc 08 10 33.0 -1.0
comp=Z,19nm,0.5s
GRR Gorron 149.57 3 *e*PKP PKPbc 08 10 33.0 -1.0
SGMF Saint Gilles 149.59 5 *e*PKP1 PKPbc 08 10 32.7 -1.3
SGMF Saint Gilles 149.59 5 *e*PKP PKPbc 08 10 32.7 -1.3
SFTF Sexfontaines 149.65 355 *e*PKP1 PKPbc 08 10 33.7 -0.5
comp=Z,27nm,0.6s
SFTF Sexfontaines 149.65 355 *e*PKP PKPbc 08 10 33.7 -0.5
HAU Haudompre 149.72 353 *e*PKP1 PKPbc 08 10 33.5 -0.8
comp=Z,11nm,0.5s
HAU Haudompre 149.72 353 *e*PKP PKPbc 08 10 33.5 -0.8
ABTA Abfaltersbach 149.81 345⇓*i*PKPbc PKPbc 08 10 33.5 -1.1
comp=Z,18nm,0.6s
HINF Hinteralfeld 149.85 353 *e*PKP1 PKPbc 08 10 33.7 -0.9
comp=Z,19nm,0.8s
HINF Hinteralfeld 149.85 353 *e*PKP PKPbc 08 10 33.7 -0.9
FETA Feichten 149.97 347⇓*i*PKiKP PKPbc 08 10 34.6 -0.3
comp=Z,9.6nm,0.7s
VISS Visnje 150.01 341 *i* PKPbc PKPbc 08 10 34.6 -0.5
VOY Vojsko 150.09 342 *e*PKPbc PKPbc 08 10 34.3 -1.0
BOJS Bojanci 150.15 340 *i* PKPbc PKPbc 08 10 35.1 -0.3
JAVS Javornik 150.16 342 *i* PKPbc PKPbc 08 10 34.5 -0.9
VAY Valandovo 150.40 326 *e*PKP PKPbc 08 10 34.5 -1.7
SKO Skopje 150.50 329 *e*PKP PKPbc 08 10 35.1 -1.3
LOR Lormes 150.67 356 *e*PKP1 PKPbc 08 10 35.8 -0.8
comp=Z,19nm,0.5s
LOR Lormes 150.67 356 *e*PKP PKPbc 08 10 35.8 -0.8
SSF Saint Saulge 150.89 357 *e*PKP1 PKPbc 08 10 36.4 -0.7
comp=Z,21nm,0.7s
SSF Saint Saulge 150.89 357 *e*PKP PKPbc 08 10 36.4 -0.7
KRUS Krusevo 151.05 328 *e*PKP PKPbc 08 10 36.1 -1.6
CABF La Chapelle 151.13 353 *e*PKP1 PKPbc 08 10 37.5 -0.1
comp=Z,34nm,1.0s
CABF La Chapelle 151.13 353 *e*PKP PKPbc 08 10 37.5 -0.1
AVF Avril sur Loir 151.17 357 *e*PKP1 PKPbc 08 10 36.5 -1.2
comp=Z,6.9nm,0.6s
AVF Avril sur Loir 151.17 357 *e*PKP PKPbc 08 10 36.5 -1.2
BIA Bitola 151.27 327 *e*PKP PKPbc 08 10 36.6 -1.5
MFF Saint Martin d 151.38 2 *e*PKP1 PKPbc 08 10 37.1 -1.1
comp=Z,15nm,0.7s
MFF Saint Martin d 151.38 2 *e*PKP PKPbc 08 10 37.1 -1.1
LPL La Plagne 152.12 352 *e*PKP1 PKPbc 08 10 40.5 +0.6
LPL La Plagne 152.12 352 *e*PKP PKPbc 08 10 40.5 +0.6
LPG La Plagne 152.14 352 *e*PKP1 PKPbc 08 10 40.0 +0.1
LPG La Plagne 152.14 352 *e*PKP PKPbc 08 10 40.0 +0.1
RJF Les Rejaudoux 152.71 360 *e*PKP1 PKPbc 08 10 40.9 -0.2
comp=Z,12nm,0.8s
RJF Les Rejaudoux 152.71 360 *e*PKP PKPbc 08 10 40.9 -0.2
ORIF Oris-en-Rattie 152.82 353 *e*PKP1 PKPbc 08 10 40.6 -0.8
comp=Z,8.4nm,0.8s
ORIF Oris-en-Rattie 152.82 353 *e*PKP PKPbc 08 10 40.6 -0.8
MBDF Montbardon 152.89 351 *e*PKP1 PKPbc 08 10 41.7 +0.1
comp=Z,12nm,0.7s
MBDF Montbardon 152.89 351 *e*PKP PKPbc 08 10 41.7 +0.1
CAF Calviac 153.08 359 *e*PKP1 PKPbc 08 10 41.2 -0.8
comp=Z,5.9nm,0.7s
CAF Calviac 153.08 359 *e*PKP PKPbc 08 10 41.2 -0.8
DBIC Dimbokro 167.30 151 PKP PKPdf 08 10 47.9 -2.5
comp=Z,3.9nm,1.0s,baz=61,slow=3.5,SNR=3.7
DBIC Dimbokro 167.30 151 PKP PKPdf 08 10 47.9 -2.5
TORD Torodi Ar. Bea 175.23 185 PKP PKPdf 08 10 52.1 -2.0
comp=Z,1.7nm,0.8s,baz=32,slow=1.0,SNR=11
TORD PKPab PKPab 08 12 33.5 -0.9
comp=Z,0.8nm,0.7s,baz=178,slow=4.5,SNR=4.6
TORD PP PP 08 16 30.4 +4.4
comp=Z,0.8nm,1.0s,baz=114,slow=3.7,SNR=3.9
TORD Torodi Ar. Bea 175.23 185 PKP PKPdf 08 10 52.1 -2.0
TORD PKPab PKPab 08 12 33.5 -0.9
TORD PP PP 08 16 30.4 +4.4

IDC ***10*** *08:33:52.9±1.2, 34.87N×23.31E, h0km, mb4.2/9, mb1 4.1/14, mb1mx4.0/30, mbtmp4.1/14, ML4.0/5, MS3.5/5, Ms1 3.5/5, ms1mx2.8/52, Error ellipse: s-maj=23.7km s-min=20.7km az=27.0*
HLW ***10*** *08:33:55.1, 34.98N×23.50E, h20km±21km, Md3.6, Ml3.3*
ISCJB ***10*** *08:33:57.4±0.4, 34.77N±0.02×23.35E±0.05, h64km±5km, mb4.1/9, Error ellipse: s-maj=7.0km s-min=3.0km az=153.7*
CSEM ***10*** *08:33:59.2±0.2, 34.77N×23.38E, h53km±2km, ML3.6, Error ellipse: s-maj=7.0km s-min=3.3km az=59.0*
NEIC ***10*** *08:34:00.5, 35.01N×23.44E, h72km±6km, MD3.6(ATH), After ATH.*
ATH ***10*** *08:34:00.5, 35.01N×23.44E, h72km±6km, ML3.6*
THE ***10*** *08:34:02.6, 34.99N×23.41E, h46km±3km, ML3.4/9, Error ellipse: s-maj=3.3km s-min=0.4km az=77.0*

ISC 10 08:33:58.9±0.4, 34.77N±0.02×23.37E±0.04, h50km±6km, n165, σ1§20/203, mb4.1/9, MS3.5/5, 1C, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARN	**Karanos**	**0.78**	**35**	*e*P	**Pn**	**08 34 14.4**	**+0.7**
KARN	**Karanos**	**0.78**	**35**	P	**Pn**	**08 34 13.9**	**+0.2**
KARN	**Karanos**	**0.78**	**35**	*e*P	**Pn**	**08 34 14.4**	**+0.7**
VAM	**Vamos**	**0.94**	**47**	*e*P	**Pn**	**08 34 16.0**	**+0.2**
VAM	**Vamos**	**0.94**	**47**	P	**Pn**	**08 34 16.6**	**+0.8**
VAM				S	**Sn**	**08 34 27.8**	**-0.3**
VAM	**Vamos**	**0.94**	**47**	*e*P	**Pn**	**08 34 16.0**	**+0.2**
VAM				S	**Sn**	**08 34 27.8**	**-0.3**
SIVA	**Sivas**	**1.21**	**78**	*e*P	**Pn**	**08 34 21.5**	**+2.0**
SIVA				*e*S	**Sn**	**08 34 37.2**	**+2.4**
SIVA	**Sivas**	**1.21**	**78**	P	**Pn**	**08 34 21.7**	**+2.2**
SIVA				S	**Sn**	**08 34 37.0**	**+2.2**
SIVA	**Sivas**	**1.21**	**78**	*e*P	**Pn**	**08 34 21.5**	**+2.0**
SIVA				S	**Sn**	**08 34 37.0**	**+2.2**
KYTH	**Kithira**	**1.54**	**350**	*e*P	**Pn**	**08 34 24.9**	**+1.0**
KYTH	**Kithira**	**1.54**	**350**	P	**Pn**	**08 34 24.6**	**+0.7**
KYTH	**Kithira**	**1.54**	**350**	*e*P	**Pn**	**08 34 24.9**	**+1.0**
LAST	**Lasithi**	**1.78**	**77**	*e*P	**Pn**	**08 34 29.6**	**+2.4**
LAST	**Lasithi**	**1.78**	**77**	P	**Pn**	**08 34 29.7**	**+2.5**
LAST	**Lasithi**	**1.78**	**77**	P	**Pn**	**08 34 29.7**	**+2.5**
NPS	**Neapolis**	**1.91**	**74**	*e*P	**Pn**	**08 34 31.4**	**+2.4**
NPS	**Neapolis**	**1.91**	**74**	P	**Pn**	**08 34 31.4**	**+2.4**
NPS	**Neapolis**	**1.91**	**74**	P	**Pn**	**08 34 31.4**	**+2.4**
XRY	**Khrisi**	**1.92**	**86**	*e*P	**Pn**	**08 34 31.2**	**+2.1**
VLI	**Veliai**	**1.98**	**350**	*e*P	**Pn**	**08 34 31.0**	**+1.1**
VLI	**Veliai**	**1.98**	**350**	P	**Pn**	**08 34 30.8**	**+0.9**
VLI				S	**Sn**	**08 34 52.5**	**-1.0**
VLI	**Veliai**	**1.98**	**350**	P	**Pn**	**08 34 30.8**	**+0.9**
VLI				S	**Sn**	**08 34 52.5**	**-1.0**
THR6	**Thira Island,**	**2.29**	**46**	P	**Pn**	**08 34 35.5**	**+1.3**
THR6	**Thira Island,**	**2.29**	**46**	P	**Pn**	**08 34 35.5**	**+1.3**
THR3	**Thira Island,**	**2.33**	**45**	P	**Pn**	**08 34 35.6**	**+0.8**
THR3	**Thira Island,**	**2.33**	**45**	P	**Pn**	**08 34 35.6**	**+0.8**
PYL	**PYLOS**	**2.50**	**329**	*e*P	**Pn**	**08 34 36.9**	**-0.2**
PYL	**PYLOS**	**2.50**	**329**	*e*P	**Pn**	**08 34 36.9**	**-0.2**
ITM	**Ithomi**	**2.68**	**335**	*e*P	**Pn**	**08 34 39.7**	**+0.2**
ITM				*e*S	**Sn**	**08 35 10.0**	**-0.7**
ITM	**Ithomi**	**2.68**	**335**	*e*P	**Pn**	**08 34 39.7**	**+0.2**
ITM				*e*S	**Sn**	**08 35 10.0**	**-0.7**
VLX	**Vlachokerasia**	**2.72**	**343**	P	**Pn**	**08 34 40.9**	**+0.8**
VLX	**Vlachokerasia**	**2.72**	**343**	P	**Pn**	**08 34 40.9**	**+0.8**
DID	**Didima**	**2.74**	**358**	*e*P	**Pn**	**08 34 41.2**	**+0.9**
DID	**Didima**	**2.74**	**358**	P	**Pn**	**08 34 41.1**	**+0.8**
DID				S	**Sn**	**08 35 11.0**	**-1.2**
DID	**Didima**	**2.74**	**358**	P	**Pn**	**08 34 41.1**	**+0.8**
DID				S	**Sn**	**08 35 11.0**	**-1.2**
LTBQ	**Tobruq**	**2.74**	**170**	*i* P	**Pn**	**08 34 41.0**	**+0.6**
	SNR=46						
APE	**Apeiranthos**	**2.89**	**37**	*e*P	**Pn**	**08 34 42.1**	**-0.4**
APE	**Apeiranthos**	**2.89**	**37**	*e*P	**Pn**	**08 34 42.1**	**-0.4**
VLY	**Voula,Athens**	**3.10**	**6**	*e*P	**Pn**	**08 34 45.6**	**+0.3**
VLY	**Voula,Athens**	**3.10**	**6**	P	**Pn**	**08 34 45.9**	**+0.6**
VLY				S	**Sn**	**08 35 19.7**	**-1.4**
VLY	**Voula,Athens**	**3.10**	**6**	*e*P	**Pn**	**08 34 45.6**	**+0.3**
VLY				S	**Sn**	**08 35 19.7**	**-1.4**

KARP	**Karpathos**	**3.21**	**75**	*eP*		**Pn**	**08 34 47.9**	**+1.2**
KARP	**Karpathos**	**3.21**	**75**	*eP*		**Pn**	**08 34 47.9**	**+1.2**
ATH	**Athens Observa**	**3.21**	**5**	*eP*		**Pn**	**08 34 46.3**	**-0.5**
ATH	**Athens Observa**	**3.21**	**5**	*eP*		**Pn**	**08 34 46.3**	**-0.5**
LTK	**Loutraki**	**3.27**	**354**	*eP*		**Pn**	**08 34 48.3**	**+0.7**
LTK	**Loutraki**	**3.27**	**354**	P		**Pn**	**08 34 48.5**	**+0.9**
LTK				S		**Sn**	**08 35 23.8**	**-1.4**
LTK	**Loutraki**	**3.27**	**354**	*eP*		**Pn**	**08 34 48.3**	**+0.7**
LTK				S		**Sn**	**08 35 23.8**	**-1.4**
GUR	**Goura**	**3.27**	**346**	*eP*		**Pn**	**08 34 49.0**	**+1.4**
GUR	**Goura**	**3.27**	**346**	P		**Pn**	**08 34 48.7**	**+1.1**
GUR				S		**Sn**	**08 35 24.4**	**-0.9**
GUR	**Goura**	**3.27**	**346**	P		**Pn**	**08 34 48.7**	**+1.1**
GUR				S		**Sn**	**08 35 24.4**	**-0.9**
PTL	**Penteli**	**3.30**	**7**	P		**Pn**	**08 34 48.6**	**+0.6**
PTL				S		**Sn**	**08 35 24.5**	**-1.5**
PTL	**Penteli**	**3.30**	**7**	P		**Pn**	**08 34 48.6**	**+0.6**
PTL				S		**Sn**	**08 35 24.5**	**-1.5**
SLUM	baz=157	**3.61**	**154**	P		**Pn**	**08 34 52.1**	**-0.2**
SLUM	baz=157			S		**Sn**	**08 35 34.4**	**+0.6**
SLUM		**3.61**	**154**	P		**Pn**	**08 34 52.6**	**+0.3**
RLS	**Riolos of Patr**	**3.63**	**336**	*eP*		**Pn**	**08 34 53.4**	**+0.9**
RLS	**Riolos of Patr**	**3.63**	**336**	*eP*		**Pn**	**08 34 53.4**	**+0.9**
LAKA	**Lakka**	**3.64**	**343**	P		**Pn**	**08 34 53.9**	**+1.2**
LAKA				S		**Sn**	**08 35 33.9**	**-0.5**
LAKA	**Lakka**	**3.64**	**343**	P		**Pn**	**08 34 53.9**	**+1.2**
LAKA				S		**Sn**	**08 35 33.9**	**-0.5**
DSF	**Desfina**	**3.70**	**350**	P		**Pn**	**08 34 54.4**	**+0.9**
DSF				S		**Sn**	**08 35 35.0**	**-0.8**
DSF	**Desfina**	**3.70**	**350**	P		**Pn**	**08 34 54.4**	**+0.9**
DSF				S		**Sn**	**08 35 35.0**	**-0.8**
KALE	**Kalithea**	**3.75**	**345**	P		**Pn**	**08 34 54.9**	**+0.7**
KALE				S		**Sn**	**08 35 36.3**	**-0.8**
KALE	**Kalithea**	**3.75**	**345**	P		**Pn**	**08 34 54.9**	**+0.7**
KALE				S		**Sn**	**08 35 36.3**	**-0.8**
EFP	**Efpalio**	**3.84**	**343**	*eP*		**Pn**	**08 34 56.1**	**+0.7**
EFP	**Efpalio**	**3.84**	**343**	P		**Pn**	**08 34 56.6**	**+1.2**
EFP				S		**Sn**	**08 35 38.6**	**-0.6**
EFP	**Efpalio**	**3.84**	**343**	*eP*		**Pn**	**08 34 56.1**	**+0.7**
EFP				S		**Sn**	**08 35 38.6**	**-0.6**
LKR	**Lokris**	**3.89**	**356**	*eP*		**Pn**	**08 34 56.3**	**+0.2**
LKR	**Lokris**	**3.89**	**356**	P		**Pn**	**08 34 57.0**	**+0.9**
LKR	**Lokris**	**3.89**	**356**	P		**Pn**	**08 34 57.0**	**+0.9**
ATAL	**Atalanti**	**3.93**	**356**	P		**Pn**	**08 34 57.5**	**+0.8**
ATAL				S		**Sn**	**08 35 40.6**	**-0.9**
ATAL	**Atalanti**	**3.93**	**356**	P		**Pn**	**08 34 57.5**	**+0.8**
ATAL				S		**Sn**	**08 35 40.6**	**-0.9**
SMG	**Samos**	**4.06**	**43**	*eP*		**Pn**	**08 34 58.4**	**-0.1**
SMG	**Samos**	**4.06**	**43**	*eP*		**Pn**	**08 34 58.4**	**-0.1**
AGG	**Agios Georgios**	**4.33**	**349**	*eP*		**Pn**	**08 35 02.5**	**+0.4**
AGG	**Agios Georgios**	**4.33**	**349**	P		**Pn**	**08 35 03.1**	**+1.0**
AGG				S		**Sn**	**08 35 50.4**	**-0.9**
AGG	**Agios Georgios**	**4.33**	**349**	P		**Pn**	**08 35 03.1**	**+1.0**
AGG				S		**Sn**	**08 35 50.4**	**-0.9**
NEO	**Neokhori**	**4.54**	**359**	*eP*		**Pn**	**08 35 05.2**	**+0.2**
NEO	**Neokhori**	**4.54**	**359**	P		**Pn**	**08 35 05.8**	**+0.8**
NEO	**Neokhori**	**4.54**	**359**	P		**Pn**	**08 35 05.8**	**+0.8**
LJBD	**Adjabya** SNR=45	**4.67**	**216**	*i* P		**Pn**	**08 35 04.9**	**-2.0**
HMAT	**Matruh** baz=141	**4.82**	**138**	P		**Pn**	**08 35 07.2**	**-1.7**
HMAT	comp=N,30µm,0.7s,logA/T=4.6,baz=141			AMP			08 36 00.0	
HMAT	baz=141			S		**Sn**	**08 36 02.4**	**-1.0**
HMAT	**Matruh**	**4.82**	**138**	S		**Sn**	**08 36 02.5**	**-0.9**
THL	**Klokotos Trika**	**4.91**	**348**	P		**Pn**	**08 35 11.3**	**+1.2**
THL				S		**Sn**	**08 36 05.2**	**-0.4**
THL	**Klokotos Trika**	**4.91**	**348**	P		**Pn**	**08 35 11.3**	**+1.2**
THL				S		**Sn**	**08 36 05.2**	**-0.4**
SWA2	baz=163	**5.78**	**162**	P		**Pn**	**08 35 22.5**	**+0.3**
SWA2		**5.78**	**162**	P		**Pn**	**08 35 22.5**	**+0.4**
BIA	**Bitola**	**6.45**	**346**	*e*Pn		**Pn**	**08 35 27.0**	**-4.2**
VAY	**Valandovo**	**6.58**	**355**	*e*Pn		**Pn**	**08 35 32.0**	**-0.9**
VAY	**Valandovo**	**6.58**	**355**	*e*Pn		**Pn**	**08 35 32.0**	**-0.9**
KRUS	**Krusevo**	**6.80**	**346**	*e*Pn		**Pn**	**08 35 33.3**	**-2.7**
CUC	**Castrocucco** comp=N,8.9nm,0.6s	**7.96**	**313**	*e*Pn		**Pn**	**08 35 51.8**	**-0.1**
CUC	**Castrocucco** comp=N,8.9nm,0.6s	**7.96**	**313**	*e*Pn		**Pn**	**08 35 51.8**	**-0.1**
AWBH	baz=143	**7.97**	**142**	P		**Pn**	**08 35 52.2**	**0.0**
AWBH		**7.97**	**142**	P		**Pn**	**08 35 52.2**	**+0.1**
BARS	**Barje**	**8.13**	**352**	*i*Pn		**Pn**	**08 35 52.5**	**-1.7**
HSAF	**As Saff** baz=125	**8.63**	**124**	P		**Pn**	**08 36 00.7**	**-0.5**
HSAF	**As Saff**	**8.63**	**124**	P		**Pn**	**08 36 00.6**	**-0.5**
KOT	**Kottamia** baz=123	**8.63**	**122**	P		**Pn**	**08 36 00.1**	**-1.1**
KOT	baz=123			S		**Sn**	**08 37 34.5**	**-2.6**
KOT	**Kottamia**	**8.63**	**122**	P		**Pn**	**08 36 00.1**	**-1.0**
HFRF	**Wahat Farafira**	**8.70**	**149**	P		**Pn**	**08 36 01.4**	**-0.7**
GLL	**Jalalah** baz=125	**8.76**	**124**	P		**Pn**	**08 36 02.2**	**-0.7**
GLL	baz=125			S		**Sn**	**08 37 36.9**	**-3.3**
GLL	**Jalalah**	**8.76**	**124**	P		**Pn**	**08 36 02.2**	**-0.7**
STON	**Ston**	**9.22**	**333**	*e*Pn		**Pn**	**08 36 03.7**	**-5.5**
STON						**Sn**	**08 37 39.4**	**-12**
AMAG	**Maghara** baz=115	**9.26**	**114**	P		**Pn**	**08 36 08.2**	**-1.5**
AMAG	**Maghara**	**9.26**	**114**	P		**Pn**	**08 36 08.2**	**-1.5**
BRTR	**Keskin Array B** comp=N,0.2nm,0.3s,baz=220,slow=15,SNR=3.7	**9.57**	**56**	Pn		**Pn**	**08 36 13.6**	**-0.3**
BRTR	**Keskin Array B**	**9.57**	**56**	Pn		**Pn**	**08 36 13.6**	**-0.3**
BRTR	**Keskin Array B**	**9.57**	**56**	Pn		**Pn**	**08 36 13.6**	**-0.3**
MMAI	**Mount Meron Ar** comp=N,2.3nm,0.3s,baz=316,slow=12,SNR=4.3	**10.16**	**96**	Pn		**Pn**	**08 36 21.0**	**-1.0**
MMAI	comp=N,1.4nm,0.3s,baz=282,slow=20,SNR=2.7			Sn		**Sn**	**08 38 05.6**	**-8.9**
EIL	**Elat** comp=N,0.6nm,0.3s,baz=147,slow=4.5,SNR=5.0	**11.05**	**114**	Pn		**Pn**	**08 36 32.0**	**-2.2**
EIL	comp=N,1.6nm,0.3s,baz=92,slow=20,SNR=5.0			Sn		**Sn**	**08 38 32.6**	**-3.6**
EIL	**Elat**	**11.05**	**114**	Pn		**Pn**	**08 36 32.0**	**-2.2**
EIL				Sn		**Sn**	**08 38 32.6**	**-3.6**
EIL	**Elat**	**11.05**	**114**	Pn		**Pn**	**08 36 32.0**	**-2.2**
VRAC	**Vranov** comp=N,1.3nm,0.3s,baz=168,slow=8.9,SNR=5.5	**15.37**	**343**	Pn		**Pn**	**08 37 34.3**	**+2.0**
VRAC	**Vranov**	**15.37**	**343**	Pn		**Pn**	**08 37 34.3**	**+2.0**
VRAC	**Vranov**	**15.37**	**343**	Pn		**Pn**	**08 37 34.3**	**+2.0**
OKC	**Ostrava-Krasne**	**15.54**	**347**	*e*P		**Pn**	**08 37 39.1**	**+4.5**
OKC	**Ostrava-Krasne**	**15.54**	**347**	*e*P		**Pn**	**08 37 39.1**	**+4.5**
GERES	**GERESS Array B** comp=N,0.3nm,0.3s,baz=154,slow=13,SNR=4.2	**15.79**	**336**	Pn		**Pn**	**08 37 35.9**	**-1.8**
GERES	**GERESS Array B**	**15.79**	**336**	Pn		**Pn**	**08 37 35.9**	**-1.8**
KHC	**Kasperske Hory** comp=N,13nm,0.8s	**16.07**	**336**	*e*Pn		**Pn**	**08 37 38.4**	**-3.0**
KHC	**Kasperske Hory**	**16.07**	**336**	*e*P		**Pn**	**08 37 45.2**	**+3.9**
KHC	**Kasperske Hory**	**16.07**	**336**	P		**Pn**	**08 37 45.2**	**+3.9**
DPC	**Dobruska-Polom**	**16.40**	**344**	*e*P		**Pn**	**08 37 48.2**	**+2.7**
DPC	**Dobruska-Polom**	**16.40**	**344**	P		**Pn**	**08 37 48.2**	**+2.7**
AKASG	**Malin Array Be** comp=N,2.9nm,0.3s,baz=208,slow=9.8,SNR=8.3	**16.49**	**13**	Pn		**Pn**	**08 37 43.9**	**-2.7**
AKASG	**Malin Array Be**	**16.49**	**13**	Pn		**Pn**	**08 37 43.9**	**-2.7**
AKASG	**Malin Array Be**	**16.49**	**13**	Pn		**Pn**	**08 37 43.9**	**-2.7**
PRU	**Pruhonice**	**16.53**	**340**	*e*P		**Pn**	**08 37 50.5**	**+3.4**
PRU	**Pruhonice**	**16.53**	**340**	P		**Pn**	**08 37 50.5**	**+3.4**
UPC	**Upice**	**16.62**	**343**	*e*P		**Pn**	**08 37 51.1**	**+2.9**
UPC	**Upice**	**16.62**	**343**	P		**Pn**	**08 37 51.1**	**+2.9**
MDT	**Midelt** comp=N,68nm,19.2s,MS3.1,baz=102,slow=41	**23.31**	**273**	LR		LR	08 49 39.6	
HFS	**Hagfors** comp=N,7.4nm,0.5s,mb4.5,baz=155,slow=11,SNR=30	**26.15**	**349**	P		**P**	**08 39 27.6**	**-0.6**
HFS	**Hagfors**	**26.15**	**349**	P		**P**	**08 39 27.6**	**-0.6**
HFS	**Hagfors**	**26.15**	**349**	P		**P**	**08 39 27.6**	**-0.5**
FINES	**FINESS Array B** comp=N,2.8nm,0.8s,mb3.8,baz=169,slow=12,SNR=4.7	**26.75**	**3**	P		**P**	**08 39 32.9**	**-0.7**
FINES	comp=N,111nm,21.9s,MS3.4,baz=141,slow=37			LR		LR	08 50 27.9	
FINES	**FINESS Array B**	**26.75**	**3**	P		**P**	**08 39 32.9**	**-0.7**
FINES				LR		LR	08 50 27.9	
FINES	**FINESS Array B**	**26.75**	**3**	P		**P**	**08 39 32.9**	**-0.6**
NB2	**NORSAR Subarra** comp=Z,3.7nm,1.0s,mb3.9,baz=156,slow=9.3	**27.43**	**347**	P		**P**	**08 39 39.2**	**-0.4**
NB2	**NORSAR Subarra** comp=Z,3.7nm,1.0s,mb3.9,baz=156,slow=9.0,SNR=5.3	**27.43**	**347**	P		**P**	**08 39 39.2**	**-0.4**
NOA	**NORSAR Array B** comp=Z,1.6nm,0.5s,mb3.8,baz=152,slow=10,SNR=11	**27.43**	**347**	P		**P**	**08 39 39.4**	**-0.2**
NOA	**NORSAR Array B**	**27.43**	**347**	P		**P**	**08 39 39.4**	**-0.2**
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.4s,mb3.4,baz=36,slow=8.1,SNR=4.6	**29.12**	**228**	P		**P**	**08 39 56.2**	**+1.1**
TORD	**Torodi Ar. Bea**	**29.12**	**228**	P		**P**	**08 39 56.2**	**+1.1**
TORD	**Torodi Ar. Bea**	**29.12**	**228**	P		**P**	**08 39 56.2**	**+1.1**
ARCES	**ARCESS Array B** comp=Z,1.1nm,0.5s,mb4.1,baz=184,slow=8.0,SNR=18	**34.84**	**1**	P		**P**	**08 40 43.7**	**-1.0**
ARCES				LR		LR	08 55 52.5	
ARCES	**ARCESS Array B** comp=Z,78nm,19.4s,MS3.5,baz=187,slow=38	**34.84**	**1**	P		**P**	**08 40 43.7**	**-1.0**
ARCES				LR		LR	08 55 52.5	
ARCES	**ARCESS Array B**	**34.84**	**1**	P		**P**	**08 40 43.7**	**-1.0**
MK31	**Makanchi Array**	**45.22**	**56**	*e*P		**P**	**08 42 11.7**	**+0.7**
MK31	**Makanchi Array**	**45.22**	**56**	*e*P		**P**	**08 42 11.7**	**+0.7**
MKAR	**Makanchi Array** comp=Z,2.3nm,0.4s,mb4.4,baz=279,slow=6.6,SNR=19	**45.22**	**56**	P		**P**	**08 42 11.7**	**+0.7**
MKAR	**Makanchi Array**	**45.22**	**56**	P		**P**	**08 42 11.7**	**+0.7**
MKAR	**Makanchi Array**	**45.22**	**56**	P		**P**	**08 42 11.7**	**+0.7**
ZALV	**Zalesovo Beam** comp=Z,4.6nm,0.4s,mb4.8,baz=266,slow=8.9,SNR=15	**46.34**	**46**	P		**P**	**08 42 19.4**	**-0.2**
ZALV	**Zalesovo Beam**	**46.34**	**46**	P		**P**	**08 42 19.4**	**-0.2**
ZALV	**Zalesovo Beam**	**46.34**	**46**	P		**P**	**08 42 19.4**	**-0.3**
SONM	**Songino Array** comp=Z,1.3nm,0.4s,mb4.4,baz=282,slow=6.5,SNR=6.5	**60.87**	**50**	P		**P**	**08 44 07.4**	**+1.3**
SONM	**Songino Array**	**60.87**	**50**	P		**P**	**08 44 07.4**	**+1.3**
SONM	**Songino Array**	**60.87**	**50**	P		**P**	**08 44 07.4**	**+1.3**
BOSA	**Boshof** comp=Z,35nm,18.2s,MS3.6,baz=157,slow=36	**63.06**	**178**	LR		LR	09 11 39.2	
YKA	**Yellowknife Ar** comp=Z,1.0nm,0.8s,mb3.8,baz=32,slow=5.1,SNR=4.4	**77.36**	**341**	P		**P**	**08 45 48.8**	**+0.8**
YKA	**Yellowknife Ar**	**77.36**	**341**	P		**P**	**08 45 48.9**	**+0.9**
YKA	**Yellowknife Ar**	**77.36**	**341**	P		**P**	**08 45 48.8**	**+0.8**
TGY	**Tagaytay City** comp=Z,50nm,20.4s,MS3.9,baz=274,slow=38	**88.16**	**74**	LR		LR	09 29 34.5	

NNC 10 08:34:18.7±2.1, 40.42N×63.09E, h9km±9km, mb3.6, mpv3.4, 8C-3D, Error ellipse: s-maj=16.3km s-min=6.8km az=37.0, Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array** 0.5nm,0.3s,baz=292,slow=5.1,SNR=15	**6.16**	**62**	⇓Pn	Pn	08 35 49.7	-0.1
KK31	2.6nm,0.4s,baz=246,slow=18,SNR=9.3			⇑Pg	Pg	08 36 10.3	-6.3
KK31	23nm,0.6s,baz=247,slow=31,SNR=4.5			⇓Lg		08 37 35.9	
AB31	**Akbulak array** 0.2nm,0.2s,baz=153,slow=15,SNR=26	**9.11**	**347**	⇑Pn	Pn	08 36 30.0	-0.2
AB31	1.6nm,0.6s,baz=340,slow=25,SNR=4.0			Sn	Sn	08 38 13.1	+0.3
AB31	4.2nm,0.6s,baz=159,slow=12,SNR=4.2			⇑Lg		08 39 08.2	
TKM2	**Tokmak 2** 1.5nm,0.8s	**9.69**	**71**	⇓Pn	Pn	08 36 38.4	+0.3
TKM2	5.0nm,0.7s			⇑Lg		08 39 28.2	
AKTO	**Aktyubinsk** 0.4nm,0.7s	**10.63**	**342**	⇑Pn	Pn	08 36 51.6	+0.7
AKTO	0.4nm,1.1s			⇑Sn	Sn	08 38 52.1	+2.1
AKTO	1.6nm,1.1s			⇑Lg		08 39 55.8	
VOSK	**Vostochnaya** 2.7nm,1.1s	**13.44**	**21**	⇑Pn	Pn	08 37 29.5	+0.2

*IDC **10** 08:36:27.8±1.3, 2.34S×139.16E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.8/16, mbtmp3.8/6, ML4.0/1, MS3.2/3, Ms1 3.2/3, ms1mx2.8/34, Error ellipse: s-maj=54.2km s-min=21.5km az=97.0*
*DJA **10** 08:36:28.7±1.1, 2°S±10'×13°9E±5', h30km±8km, mb5.1/8, mB5.8/2, MLv4.9/3, Mw(mB)5.5/2*
*ISCJB **10** 08:36:31.1±0.8, 2.41S±0.08×139.09E±0.05, h34km±12km, mb3.7/4, Error ellipse: s-maj=12.9km s-min=8.1km az=11.4*
*NEIC **10** 08:36:33.1±0.8, 2.40S×139.16E, h35km, mb3.6/1, Error ellipse: s-maj=32.6km s-min=11.5km az=98.0*

ISC 10 08:36:32.0±1.3, 2.37S±0.08×139.16E±0.05, h29km±12km, n25, σ0.95/26, mb3.7/4, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.59**	**310**	P	**Pb**	**08 36 42.1**	**-1.7**
SMPI				S	**Sb**	**08 36 53.3**	**+1.5**
JAY	**Jayapura**	**1.55**	**95**	P	**Pn**	**08 36 58.2**	**+0.4**
JAY				S	**Sn**	**08 37 16.6**	**-0.4**
MMPI	**Merauke** 5.8nm711nm,0.4s	**6.17**	**169**	P	**Pn**	**08 38 09.9**	**+8.5**
SWI	**Sorong**	**8.03**	**281**	P	**Pn**	**08 38 22.6**	**-4.3**
BNDI	**Bandanaira** 5µm196nm,0.6s	**9.48**	**257**	P	**Pn**	**08 38 48.1**	**+1.4**
MSAI	**Masohi** 9.4nm,0.8s	**10.26**	**264**	P	**Pn**	**08 38 58.3**	**+0.8**
AAI	**Ambon** 47nm,0.5s	**11.02**	**263**	P	**Pn**	**08 39 06.4**	**-1.5**
LBMI	**Labuha** 1µm48nm,0.8s	**11.78**	**278**	P	**Pn**	**08 39 14.4**	**-3.9**
NLAI	**Namlea**	**12.07**	**266**	P	**Pn**	**08 39 21.0**	**-1.3**
TNTI	**Ternate** 57nm,0.9s	**12.19**	**285**	P	**Pn**	**08 39 19.1**	**-4.9**
GUMO	**Guam** comp=Z,56nm,20.9s,baz=8.9,slow=32	**16.84**	**20**	LR	LR	08 45 24.9	
WRAB	**Tennant Creek** 2.2nm,0.4s	**18.07**	**195**	*e*P	**Pn**	**08 40 41.8**	**+0.6**
WB2	**Warramunga Arr**	**18.08**	**195**	*e*P	**Pn**	**08 40 41.9**	**+0.6**
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=15,slow=11,SNR=28	**18.09**	**195**	P	**Pn**	**08 40 40.7**	**-0.6**
WRA	comp=Z,72nm,19.4s,baz=60,slow=39			LR	LR	08 48 17.3	
WRA	**Warramunga Arr**	**18.09**	**195**	P	**Pn**	**08 40 40.7**	**-0.6**
WRA				LR	LR	08 48 17.3	
FITZ	**Fitzroy Crossi** 1.5nm,0.9s,baz=27,slow=11,SNR=3.2	**20.50**	**219**	P	**P**	**08 41 08.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**20.50**	**219**	P	**P**	**08 41 08.3**	**+0.4**
ASAR	**Alice Springs** 1.5nm,0.6s,mb3.6,baz=22,slow=11,SNR=16	**21.77**	**193**	P	**P**	**08 41 21.3**	**-0.3**
ASAR	**Alice Springs**	**21.77**	**193**	P	**P**	**08 41 21.3**	**-0.3**
STKA	**Stephens Creek** 0.8nm,0.6s,mb3.6,baz=345,slow=4.8,SNR=3.1	**29.44**	**176**	P	**P**	**08 42 33.5**	**+0.1**
STKA	comp=Z,91nm,19.5s,baz=205,slow=39			LR	LR	08 55 37.4	
STKA	**Stephens Creek**	**29.44**	**176**	P	**P**	**08 42 33.5**	**+0.1**
STKA				LR	LR	08 55 37.4	
MKAR	**Makanchi Array** 0.4nm,0.3s,mb3.8,baz=111,slow=7.7,SNR=7.0	**69.80**	**322**	P	**P**	**08 47 40.0**	**+0.2**
MKAR	**Makanchi Array**	**69.80**	**322**	P	**P**	**08 47 40.0**	**+0.2**
ILAR	**Eielson Array** 0.5nm,0.9s,mb3.6,baz=282,slow=4.5,SNR=3.6	**85.34**	**24**	P	**P**	**08 49 06.6**	**+0.4**
ILAR	**Eielson Array**	**85.34**	**24**	P	**P**	**08 49 06.6**	**+0.4**

*ISCJB **10** 08:46:17.4±0.8, 13.8N±0.2×120.9E±0.3, h128km±7km, mb3.8/9, Error ellipse: s-maj=45.4km s-min=16.9km az=152.5*
*NEIC **10** 08:46:18.6±0.8, 13.72N×120.85E, h122km±7km, Error ellipse: s-maj=27.4km s-min=11.0km az=62.0*
*IDC **10** 08:46:18.0±0.8, 13.75N×120.88E, h116km±7km, mb3.5/8, mb1 3.6/8, mb1mx3.4/24, mbtmp3.5/8, MS3.4/1, Ms1 3.4/1, ms1mx2.6/31, Error ellipse: s-maj=43.2km s-min=15.6km az=63.0*

ISC 10 08:46:18.5±0.8, 13.7N±0.1×120.9E±0.2, h121km±7km, n20, σ0.42/21, mb4.0/9, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City** 404nm,0.3s,baz=225,slow=2.7,SNR=9.8	**0.39**	**13**	P	**Pn**	**08 46 36.3**	**+0.3**
TGY	2µm,0.3s,baz=162,slow=20,SNR=97			S	**Sn**	**08 46 48.9**	**-0.2**
TGY	**Tagaytay City**	**0.39**	**13**	P	**Pn**	**08 46 36.3**	**+0.3**
TGY				S	**Sn**	**08 46 48.9**	**-0.3**
CMAR	**Chiang Mai Arr** 1.8nm,0.8s,mb3.5,baz=88,slow=7.5,SNR=8.1	**21.56**	**286**	P	**P**	**08 50 58.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**21.56**	**286**	P	**P**	**08 50 58.3**	**-0.1**
JHJ	**Hachijo jima 2** comp=Z,87nm,19.6s,baz=199,slow=34	**25.89**	**39**	LR	LR	09 01 04.8	
WRA	**Warramunga Arr** 0.2nm,0.6s,mb3.2,baz=332,slow=10,SNR=3.4	**35.99**	**158**	P	**P**	**08 53 07.7**	**-0.1**
WRA	**Warramunga Arr**	**35.99**	**158**	P	**P**	**08 53 07.8**	**-0.1**
SONM	**Songino Array**	**36.08**	**343**	P	**P**	**08 53 08.3**	**0.0**
SONM	**Songino Array** 1.6nm,0.6s,mb4.1,baz=162,slow=9.1,SNR=4.4	**36.08**	**343**	P	**P**	**08 53 08.3**	**0.0**
ASAR	**Alice Springs** 0.2nm,0.5s,mb3.2,baz=342,slow=6.5,SNR=4.3	**39.29**	**161**	P	**P**	**08 53 35.8**	**+0.2**
ASAR	**Alice Springs**	**39.29**	**161**	P	**P**	**08 53 35.8**	**+0.2**
MKAR	**Makanchi Array** 2.4nm,0.7s,mb4.0,baz=129,slow=9.1,SNR=17	**46.10**	**324**	P	**P**	**08 54 31.3**	**+0.9**
MKAR	**Makanchi Array**	**46.10**	**324**	P	**P**	**08 54 31.3**	**+1.0**
ZALV	**Zalesovo Beam** 1.8nm,0.4s,mb4.4,baz=119,slow=7.2,SNR=4.8	**49.10**	**333**	P	**P**	**08 54 53.0**	**-0.4**
ZALV	**Zalesovo Beam**	**49.10**	**333**	P	**P**	**08 54 53.0**	**-0.4**
KURK	**Kurchatov** 12nm,0.8s,mb4.9	**50.25**	**326**	*e*P	**P**	**08 55 02.8**	**+0.6**
AKTK	**Aktyubinsk**	**62.29**	**320**	P	**P**	**08 56 27.2**	**-0.5**
AKTO	**Aktyubinsk** 1.0nm,0.4s,mb4.2,baz=91,slow=11,SNR=5.3	**62.29**	**320**	P	**P**	**08 56 27.2**	**-0.5**
ARCES	**ARCESS Array B** 2.2nm,0.7s,mb4.1,baz=81,slow=7.5,SNR=9.4	**79.12**	**339**	P	**P**	**08 58 09.1**	**-0.1**
ARCES	**ARCESS Array B**	**79.12**	**339**	P	**P**	**08 58 09.1**	**-0.1**

*ISCJB **10** 08:51:02.8±0.6, 52.14N±0.05×159.21E±0.07, h62km±5km, mb4.1/25, Error ellipse: s-maj=9.9km s-min=4.8km az=137.0*
*MOS **10** 08:51:02.0±1.1, 52.17N×159.18E, h55km, mb4.2/17, Error ellipse: s-maj=14.4km s-min=6.9km az=79.5*
*KRSC **10** 08:51:03.1±0.6, 52.17N×159.30E, h35km±35km, ML4.5*
*NEIC **10** 08:51:04.0±1.0, 52.21N×159.14E, h57km±8km, Error ellipse: s-maj=12.5km s-min=8.7km az=172.0*
*IDC **10** 08:51:07.2±1.3, 52.25N×158.97E, h83km±10km, mb3.8/24, mb1 3.9/25, mb1mx3.9/32, mbtmp3.8/25, MS3.3/2, Ms1 3.3/2, ms1mx2.5/47, Error ellipse: s-maj=15.2km s-min=10.8km az=141.0*

ISC 10 08:51:03.8±0.6, 52.16N±0.04×159.19E±0.07, h54km±5km, n114, σ1.21/129, mb4.1/25, MS3.2/2, 2D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.50**	**304**	*e*P	**Pn**	**08 51 14.1**	**-1.2**
RUS				*e*S	**Sn**	**08 51 21.5**	**-2.1**
RUS	**Russkaya**	**0.50**	**304**	PN	**Pn**	**08 51 14.1**	**-1.2**
RUS				S	**Sn**	**08 51 21.5**	**-2.1**
GRL	**Gorelyy**	**0.79**	**300**	*e*P	**Pn**	**08 51 19.1**	**+0.2**
GRL				*e*S	**Sn**	**08 51 31.5**	**+1.6**
PET	**Petropavlovsk**	**0.93**	**340**	*e*P	**Pn**	**08 51 20.0**	**-0.7**
PET				*e*S	**Sn**	**08 51 32.4**	**-0.6**
PET	**Petropavlovsk**	**0.93**	**340**	*e*Pn	**Pn**	**08 51 19.5**	**-1.2**
PET				*e*Sn	**Sn**	**08 51 33.1**	**+0.1**
PET	**Petropavlovsk**	**0.93**	**340**	*e*PN	**Pn**	**08 51 19.4**	**-1.3**
PET				*e*S	**Sn**	**08 51 32.4**	**-0.6**
PET	comp=Z,957nm,0.5s			pmax	pmax		
PET	comp=N,3µm,0.3s			smax			
PET	comp=E,2µm,0.5s			smax			
NLC	**Nalytchevo**	**1.02**	**5**	*e*P	**Pn**	**08 51 20.3**	**-1.6**
NLC				*e*S	**Sn**	**08 51 33.6**	**-1.6**
NLC	**Nalytchevo**	**1.02**	**5**	PN	**Pn**	**08 51 20.3**	**-1.6**
NLC				S	**Sn**	**08 51 33.6**	**-1.6**
SPN	**Mys Shipunski**	**1.07**	**28**	*e*P	**Pn**	**08 51 22.2**	**-0.4**
SPN				*e*S	**Sn**	**08 51 37.0**	**+0.6**
SPN	**Mys Shipunski**	**1.07**	**28**	PN	**Pn**	**08 51 22.2**	**-0.4**
SPN				S	**Sn**	**08 51 37.0**	**+0.6**
AVH	**Avacha**	**1.14**	**346**	*e*P	**Pn**	**08 51 23.3**	**-0.2**
AVH				*e*S	**Sn**	**08 51 37.9**	**-0.3**
PEA0B	**Petropavlovsk-**	**1.32**	**317**	*i*Pn	**Pn**	**08 51 26.5**	**+0.6**
PEA0B				*e*Sn	**Sn**	**08 51 47.4**	**+5.1**
PETK	**Petropavlovsk-** comp=E,505nm,0.3s,baz=118,slow=19,SNR=6405	**1.32**	**317**	P	**Pn**	**08 51 26.3**	**+0.5**
PETK	comp=E,182nm,0.3s,baz=123,slow=10,SNR=9.7			S	**Sn**	**08 51 44.6**	**+2.3**
PETK	**Petropavlovsk-**	**1.32**	**317**	P	**Pn**	**08 51 26.3**	**+0.5**
PETK				S	**Sn**	**08 51 44.6**	**

	comp=Z,1.0nm,0.8s								
RES	**Resolute Bay**	**44.40**	**21**	P	**P**		**08 59 08.6**	**+0.2**	
	comp=Z,1.0nm,0.7s,mb3.6,baz=228,slow=12,SNR=5.3								
RES	**Resolute Bay**	**44.40**	**21**	P	**P**		**08 59 08.6**	**+0.2**	
RES	**Resolute Bay**	**44.40**	**21**	P	**P**		**08 59 08.6**	**+0.2**	
RES				pmax	pmax				
	comp=Z,1.0nm,0.7s,mb3.6								
KURK	**Kurchatov**	**47.76**	**302**	P	**P**		**08 59 32.9**	**-2.2**	
	comp=Z,0.6nm,0.3s,mb4.1,baz=56,slow=8.5,SNR=6.5								
KURK	**Kurchatov**	**47.76**	**302**	P	**P**		**08 59 32.9**	**-2.2**	
KURK				*e*P			08 59 34.0		
KURK	**Kurchatov**	**47.76**	**302**	P	**P**		**08 59 32.9**	**-2.2**	
KURK				pmax	pmax				
	comp=Z,1.0nm,0.3s,mb4.3								
SPITS	**Spitsbergen Ar**	**47.97**	**350**	P	**P**		**08 59 36.1**	**-0.2**	
	comp=Z,3.5nm,0.4s,mb4.7,baz=52,slow=13,SNR=8.5								
SPITS	**Spitsbergen Ar**	**47.97**	**350**	P	**P**		**08 59 36.1**	**-0.2**	
SPITS	**Spitsbergen Ar**	**47.97**	**350**	P	**P**		**08 59 36.1**	**-0.3**	
SPITS				pmax	pmax				
	comp=Z,4.0nm,0.4s								
MKAR	**Makanchi Array**	**48.07**	**296**	P	**P**		**08 59 35.2**	**-2.3**	
	comp=Z,0.4nm,0.3s,mb4.0,baz=52,slow=6.5,SNR=3.0								
MKAR	**Makanchi Array**	**48.07**	**296**	P	**P**		**08 59 35.2**	**-2.3**	
MKAR	**Makanchi Array**	**48.07**	**296**	P	**P**		**08 59 35.2**	**-2.3**	
BVAR	**Borovoye Array**	**50.54**	**309**	P	**P**		**08 59 54.7**	**-1.5**	
	comp=Z,0.9nm,0.4s,mb4.1,baz=37,slow=7.8,SNR=4.8								
BVAR	**Borovoye Array**	**50.54**	**309**	P	**P**		**08 59 54.7**	**-1.5**	
BVAR	**Borovoye Array**	**50.54**	**309**	P	**P**		**08 59 54.7**	**-1.6**	
BVAR				pmax	pmax				
	comp=Z,1.0nm,0.4s								
ARCES	**ARCESS Array B**	**54.01**	**342**	P	**P**		**09 00 20.7**	**-1.1**	
	comp=Z,1.8nm,0.8s,mb4.1,baz=28,slow=8.7,SNR=8.4								
ARCES	**ARCESS Array B**	**54.01**	**342**	P	**P**		**09 00 20.7**	**-1.1**	
ARCES	**ARCESS Array B**	**54.01**	**342**	P	**P**		**09 00 20.7**	**-1.0**	
ARCES				pmax	pmax				
	comp=Z,2.0nm,0.8s								
NVAR	**Mina Array Bea**	**56.59**	**69**	P	**P**		**09 00 42.4**	**+1.6**	
	comp=Z,0.8nm,0.8s,mb3.8,baz=279,slow=7.0,SNR=4.3								
NVAR	**Mina Array Bea**	**56.59**	**69**	P	**P**		**09 00 42.4**	**+1.6**	
CMAR	**Chiang Mai Arr**	**57.45**	**258**	P	**P**		**09 00 48.0**	**+0.9**	
	comp=Z,2.1nm,0.6s,mb4.3,baz=26,slow=7.3,SNR=7.8								
CMAR	**Chiang Mai Arr**	**57.45**	**258**	P	**P**		**09 00 48.0**	**+0.9**	
CMAR	**Chiang Mai Arr**	**57.45**	**258**	P	**P**		**09 00 48.0**	**+0.9**	
CMAR				pmax	pmax				
	comp=Z,2.0nm,0.6s								
PDAR	**Pinedale Array**	**58.47**	**60**	P	**P**		**09 00 55.6**	**+1.7**	
	comp=Z,0.9nm,0.7s,mb3.9,baz=292,slow=2.5,SNR=8.3								
PDAR	**Pinedale Array**	**58.47**	**60**	P	**P**		**09 00 55.6**	**+1.7**	
ULM	**Lac du Bonnet**	**59.87**	**46**	P	**P**		**09 01 02.6**	**-0.8**	
	comp=Z,3.3nm,0.9s,mb4.3,baz=330,slow=8.1,SNR=2.8								
ULM	**Lac du Bonnet**	**59.87**	**46**	P	**P**		**09 01 02.6**	**-0.8**	
ULM	**Lac du Bonnet**	**59.87**	**46**	P	**P**		**09 01 02.6**	**-0.9**	
FINES	**FINESS Array B**	**60.76**	**336**	P	**P**		**09 01 08.8**	**-0.6**	
	comp=Z,1.1nm,0.5s,mb4.2,baz=39,slow=7.3,SNR=7.3								
FINES	**FINESS Array B**	**60.76**	**336**	P	**P**		**09 01 08.8**	**-0.6**	
FINES	**FINESS Array B**	**60.76**	**336**	P	**P**		**09 01 08.8**	**-0.6**	
FINES				pmax	pmax				
	comp=Z,1.0nm,0.5s								
NB2	**NORSAR Subarra**	**64.29**	**343**	P	**P**		**09 01 32.4**	**-0.5**	
	comp=Z,4.8nm,0.5s,mb4.8,baz=24,slow=6.9								
NOA	**NORSAR Array B**	**64.29**	**343**	P	**P**		**09 01 32.6**	**-0.3**	
	comp=Z,6.4nm,0.5s,mb4.9,baz=22,slow=6.7,SNR=28								
NOA	**NORSAR Array B**	**64.29**	**343**	P	**P**		**09 01 32.6**	**-0.3**	
NOA	**NORSAR Array B**	**64.29**	**343**	P	**P**		**09 01 32.6**	**-0.3**	
NOA				pmax	pmax				
	comp=Z,6.0nm,0.5s								
HFS	**Hagfors**	**64.67**	**342**	P	**P**		**09 01 34.9**	**-0.5**	
	comp=Z,7.9nm,0.4s,mb5.0,baz=45,slow=4.8,SNR=30								
HFS	**Hagfors**	**64.67**	**342**	P	**P**		**09 01 34.9**	**-0.5**	
HFS	**Hagfors**	**64.67**	**342**	P	**P**		**09 01 34.9**	**-0.5**	
HFS				pmax	pmax				
	comp=Z,8.0nm,0.4s								
AKASG	**Malin Array Be**	**69.13**	**329**	P	**P**		**09 02 02.6**	**-1.3**	
	comp=Z,0.5nm,0.3s,mb3.9,baz=33,slow=6.7,SNR=3.7								
AKASG	**Malin Array Be**	**69.13**	**329**	P	**P**		**09 02 02.6**	**-1.3**	
AKASG	**Malin Array Be**	**69.13**	**329**	P	**P**		**09 02 02.6**	**-1.3**	
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.3s								
TXAR	**Lajitas Array**	**71.52**	**66**	P	**P**		**09 02 20.0**	**+1.2**	
	comp=Z,1.0nm,0.6s,mb3.9,baz=298,slow=5.0,SNR=22								
TXAR	**Lajitas Array**	**71.52**	**66**	P	**P**		**09 02 20.0**	**+1.2**	
TXAR	**Lajitas Array**	**71.52**	**66**	P	**P**		**09 02 20.0**	**+1.2**	
TXAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
CLL	**Collm**	**73.03**	**339**	*i* P	**P**		**09 02 27.0**	**-0.5**	
CLL				pmax	pmax				
	comp=Z,6.0nm,0.9s,mb4.5								
WRA	**Warramunga Arr**	**75.00**	**204**	P	**P**		**09 02 38.6**	**-0.5**	
	comp=Z,0.9nm,0.7s,mb3.8,baz=21,slow=6.3,SNR=11								
WRA	**Warramunga Arr**	**75.00**	**204**	P	**P**		**09 02 38.6**	**-0.5**	
WRA	**Warramunga Arr**	**75.00**	**204**	P	**P**		**09 02 38.7**	**-0.5**	
WRA				pmax	pmax				
	comp=Z,1.0nm,0.7s								
GERES	**GERESS Array B**	**75.17**	**337**	P	**P**		**09 02 40.0**	**+0.1**	
	comp=Z,1.5nm,0.5s,mb4.2,baz=30,slow=5.9,SNR=10								
GERES	**GERESS Array B**	**75.17**	**337**	P	**P**		**09 02 40.0**	**+0.1**	
GERES	**GERESS Array B**	**75.17**	**337**	P	**P**		**09 02 40.1**	**+0.1**	
GERES				pmax	pmax				
	comp=Z,2.0nm,0.5s								
BRTR	**Keskin Array B**	**76.99**	**320**	P	**P**		**09 02 50.5**	**0.0**	
	comp=Z,0.7nm,0.6s,mb3.8,baz=201,slow=35,SNR=2.8								
BRTR	**Keskin Array B**	**76.99**	**320**	P	**P**		**09 02 50.5**	**0.0**	
BRTR	**Keskin Array B**	**76.99**	**320**	P	**P**		**09 02 50.5**	**0.0**	
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
ASAR	**Alice Springs**	**78.68**	**204**	P	**P**		**09 03 00.7**	**+0.9**	
	comp=Z,0.9nm,0.6s,mb3.9,baz=16,slow=5.4,SNR=17								
ASAR	**Alice Springs**	**78.68**	**204**	P	**P**		**09 03 00.7**	**+0.9**	
ASAR	**Alice Springs**	**78.68**	**204**	P	**P**		**09 03 00.7**	**+0.9**	
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
PLCA	**Paso Flores**	**144.54**	**91**	PKP	PKPdf		09 10 32.7	-0.7	
	comp=Z,0.9nm,0.6s,baz=146,slow=0.6,SNR=3.3								
PLCA	**Paso Flores**	**144.54**	**91**	PKP	PKPdf		09 10 32.7	-0.7	
PLCA	**Paso Flores**	**144.54**	**91**	PKIKP	PKPdf		09 10 32.7	-0.7	
PLCA				pmax	pmax				
	comp=Z,1.0nm,0.6s								

SZGRF ***10*** *08:58:23.8, 3.˚57S× 101.˚28E, h33km, mb5.7, Southern Sumatera, Indonesia*
BJI ***10*** *08:58:35.4, 0.˚81S× 100.˚17E, h39km, mB5.2/30, mb5.3/44, Ms4.8/29, Ms7 4.5/25*
TEH ***10*** *08:58:41.0, 0.˚25S× 100.˚01E, h35km*
MOS ***10*** *08:58:49.3± 1.0, 0.˚11S× 100.˚17E, h125km, mb5.5/63, Error ellipse: s-maj=9.5km s-min=4.3km az=117.4*
ISCJB ***10*** *08:58:49.1± 0.3, 0.˚28S± 0.˚02× 100.˚01E± 0.˚03, h127km± 2km, mb5.3/185, Error ellipse: s-maj=5.1km s-min=2.7km az=136.8*
DJA ***10*** *08:58:49.7± 0.2, 0˚S± 3˚× 10˚0E± ˚, h106km± 3km, mB5.7/39, mb5.5/47, MLv5.5/19, Mw(mB)5.4/39*
IDC ***10*** *08:58:50.4± 1.1, 0.˚26S× 100.˚13E, h126km± 9km, mb4.9/34, mb1 4.9/36, mb1mx4.9/37, mbtmp4.9/36, MS3.7/6, Ms1 3.7/6, ms1mx3.3/34, Error ellipse: s-maj=12.2km s-min=6.6km az=62.0*
NEIC ***10*** *08:58:50.5± 0.7, 0.˚26S× 100.˚14E, h126km± 6km, mb5.3/59, Error ellipse: s-maj=6.9km s-min=4.0km az=48.0*
NEIC Felt [III] at Padang and [II] at Padangpanjang.
GCMT ***10*** *08:58:51.4± 0.3, 0.˚28S× 100.˚23E, h128km± 2km, MW5.1, Moment Tensor Solution. s33,c40; s62,c94; Moment tensor: Scale 10^16^Nm; Mrr 2.39±.19; Mθθ -3.20±.23; Mφφ 0.82±.27; Mrθ 2.09±.15; Mθφ -4.89±.21; Mφr 0.22±.18; Best double couple: M0 5.70000× 10^16^ NP1:φs 192.00000°, δ62.00000°, λ12.00000°. NP2:φs 97.00000°, δ79.00000°, λ152.00000°. Principal axes: T 4.6100, Plg27.0000°, Azm51.0000°; N 2.2600, Plg60.0000°, Azm258.0000°; P -6.8500, Plg11.0000°, Azm147.0000°; Data Used: II IU IC G CN.*

ISC 10 08:58:50.1± 0.3, 0.˚33S± 0.˚02× 99.˚97E± 0.˚02, h121km± 2km, h33km± 1.3km: pP-P, n1183, σ0 99/705, mb5.4/184, 294C-202D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
PDSI	**Padang**	**0.76**	**140**	P	**Pn**	**08 59 10.4**	**+0.3**
PDSI				S	**Sn**	**08 59 24.8**	**-0.3**
PDSI	**Padang**	**0.76**	**140**	P	**Pn**	**08 59 09.5**	**-0.6**
MNSI	**Mandailing Nat**	**1.18**	**341**	P	**Pn**	**08 59 14.2**	**+0.1**
MNSI				S	**Sn**	**08 59 32.3**	**+5.1**
BKNI	**Bangkinang**	**1.25**	**59**	P	**Pn**	**08 59 14.9**	**+0.1**
BKNI	**Bangkinang**	**1.25**	**59**	P	**Pn**	**08 59 15.0**	**+0.2**
SISI	**Saibi**	**1.32**	**222**	P	**Pn**	**08 59 16.0**	**+0.4**
SISI	**Saibi**	**1.32**	**222**	P	**Pn**	**08 59 15.3**	**-0.3**
SDSI	**Sungai Dareh**	**1.58**	**112**	P	**Pn**	**08 59 19.1**	**+0.6**
SDSI				S	**Sn**	**08 59 40.1**	**+3.4**
SDSI	**Sungai Dareh**	**1.58**	**112**	P	**Pn**	**08 59 18.9**	**+0.4**
KRJI	**Kerinci**	**2.30**	**140**	P	**Pn**	**08 59 28.9**	**+1.5**
KRJI				S	**Sn**	**09 00 00.2**	**+5.9**
KRJI	**Kerinci**	**2.30**	**140**	P	**Pn**	**08 59 28.5**	**+1.1**
RGRI	**Rengat**	**2.37**	**90**	P	**Pn**	**08 59 29.1**	**+0.9**
RGRI				S	**Sn**	**08 59 58.5**	**+2.7**
RGRI	**Rengat**	**2.37**	**90**	P	**Pn**	**08 59 21.4**	**-6.8**
PSI	**Prapat**	**3.28**	**341**	P	**Pn**	**08 59 39.0**	**-1.2**
	392nm,0.3s,baz=172,slow=4.9,SNR=692						
PSI				S	**Sn**	**09 00 17.7**	**-0.3**
	31nm,0.3s,baz=299,slow=20,SNR=6.2						
PSI	**Prapat**	**3.28**	**341**	P	**Pn**	**08 59 39.0**	**-1.2**
PSI				S	**Sn**	**09 00 17.7**	**-0.3**
PSI	**Prapat**	**3.28**	**341**	P	**Pn**	**08 59 39.0**	**-1.2**
PSI				S	**Sn**	**09 00 17.7**	**-0.3**
FRIM	**Kepong**	**3.91**	**25**	P	**Pn**	**08 59 49.1**	**+0.6**
TSI	**Tuntungan**	**4.05**	**340**	P	**Pn**	**08 59 50.3**	**-0.1**
TSI	**Tuntungan**	**4.05**	**340**	P	**Pn**	**08 59 50.3**	**-0.1**
KGM	**Kluang**	**4.08**	**55**	P	**Pn**	**08 59 51.9**	**+1.1**
MYKOM	**Kota Tinggi**	**4.42**	**62**	P	**Pn**	**08 59 56.3**	**+1.0**
MYKOM	**Kota Tinggi**	**4.42**	**62**	P	**Pn**	**08 59 56.4**	**+1.1**
TPTI		**4.53**	**322**	P	**Pn**	**08 59 55.1**	**-1.6**
TPTI				S	**Sn**	**09 00 47.9**	**-0.3**
TPTI		**4.53**	**322**	P	**Pn**	**08 59 55.1**	**-1.6**
IPM	**Ipoh**	**4.89**	**12**	P	**Pn**	**09 00 03.2**	**+1.5**
IPM	**Ipoh**	**4.89**	**12**	P	**Pn**	**09 00 03.2**	**+1.6**
IPM	**Ipoh**	**4.89**	**12**	⇓*i* P	**Pn**	**09 00 02.8**	**+1.2**
IPM				*e*S	**Sn**	**09 00 59.7**	**+2.6**
MNAI	**Manna**	**4.99**	**143**	P	**Pn**	**09 00 02.2**	**-0.8**
	14nm4μm,0.7s						
MNAI				S	**Sn**	**09 00 58.4**	**-1.2**
	14nm4μm,0.7s						
MNAI	**Manna**	**4.99**	**143**	P	**Pn**	**09 00 02.0**	**-1.0**
	14nm4μm,0.7s						
PMBI	**Palembang**	**5.45**	**118**	P	**Pn**	**09 00 10.0**	**+0.8**
	6.3nm2μm,1.1s						
KULM	**Kulim**	**5.62**	**7**	P	**Pn**	**09 00 11.7**	**+0.2**
KULM	**Kulim**	**5.62**	**7**	⇓*i* Pn	**Pn**	**09 00 11.3**	**-0.2**
KULM	**Kulim**	**5.62**	**7**	P	**Pn**	**09 00 11.1**	**-0.4**
	1.7nm5μm510nm,0.9s						
MDSI	**Maura Dua**	**5.89**	**135**	P	**Pn**	**09 00 15.0**	**-0.2**
	4.3nm1μm,0.9s						
MDSI				S	**Sn**	**09 01 21.7**	**+0.3**
	4.3nm1μm,0.9s						
MDSI	**Maura Dua**	**5.89**	**135**	P	**Pn**	**09 00 14.5**	**-0.7**
	4.3nm1μm,0.9s						
LWLI	**Liwa**	**6.19**	**139**	P	**Pn**	**09 00 18.1**	**-1.1**
	8.0nm2μm,0.8s						
LWLI	**Liwa**	**6.19**	**139**	P	**Pn**	**09 00 18.1**	**-1.1**
	8.0nm2μm,0.8s						
PPBI	**Pangkal Pinang**	**6.43**	**106**	P	**Pn**	**09 00 24.2**	**+1.8**
	0.8nm7μm244nm,1.0s						
PPBI	**Pangkal Pinang**	**6.43**	**106**	P	**Pn**	**09 00 24.1**	**+1.7**
	0.8nm7μm244nm,1.0s						
KLSI		**6.43**	**132**	P	**Pn**	**09 00 22.6**	**+0.1**
KLI	**Kotabumi**	**6.64**	**133**	P	**Pn**	**09 00 25.2**	**-0.1**
	4.0nm1μm,0.9s						
KLI	**Kotabumi**	**6.64**	**133**	P	**Pn**	**09 00 24.8**	**-0.5**
	4.0nm1μm,0.9s						
BLSI	**Bandar Lampung**	**7.27**	**134**	P	**Pn**	**09 00 34.1**	**+0.4**
	2.0nm7μm576nm,0.6s						
BLSI	**Bandar Lampung**	**7.27**	**134**	P	**Pn**	**09 00 33.1**	**-0.6**
	2.0nm7μm576nm,0.6s						
RBSI	**Rajabasa**	**7.95**	**134**	P	**Pn**	**09 00 42.1**	**-0.9**
	0.9nm2μm333nm,0.8s						
RBSI	**Rajabasa**	**7.95**	**134**	P	**Pn**	**09 00 42.3**	**-0.7**
	0.9nm2μm333nm,0.8s						
SBJI	**Serang**	**8.42**	**133**	P	**Pn**	**09 00 47.8**	**-1.6**
	455nm,1.0s						
SBJI	**Serang**	**8.42**	**133**	P	**Pn**	**09 00 47.9**	**-1.5**
	1.4nm454nm,1.0s						
CGJI	**Cibinong**	**8.46**	**138**	P	**Pn**	**09 00 45.0**	**-4.9**
	6μm221nm,1.0s						
CGJI	**Cibinong**	**8.46**	**138**	P	**Pn**	**09 00 45.3**	**-4.6**
	1.1nm221nm,1.0s						
DBJI	**Dramaga**	**9.16**	**133**	P	**Pn**	**09 00 57.1**	**-2.4**
	8μm668nm,1.0s						
DBJI	**Dramaga**	**9.16**	**133**	P	**Pn**	**09 00 57.4**	**-2.1**
	8μm668nm,1.0s						
SKJI	**Sukabumi**	**9.34**	**135**	P	**Pn**	**09 00 59.1**	**-2.6**
	6μm393nm,0.7s						
JCJI	**Jatiwangi**	**10.30**	**127**	P	**Pn**	**09 01 16.2**	**+1.5**
	9μm888nm,0.9s						
JCJI	**Jatiwangi**	**10.30**	**127**	P	**Pn**	**09 01 16.3**	**+1.6**
	9μm888nm,0.9s						
KSM	**Kuching**	**10.49**	**80**	*e*Pn	**Pn**	**09 01 14.6**	**-2.7**
KSM				*e*Sn	**Sn**	**09 03 02.1**	**-11**
CISI	**Cisompet, Garu**	**10.62**	**133**	P	**Pn**	**09 01 14.1**	**-4.8**
	4μm334nm,1.1s						
CISI	**Cisompet, Garu**	**10.62**	**133**	P	**Pn**	**09 01 14.3**	**-4.6**
	4μm334nm,1.1s						
XMIS	**Christmas Isla**	**11.56**	**151**	*e*P	**Pn**	**09 01 22.9**	**-8.6**
XMIS				*e*S	**Sn**	**09 03 21.1**	**-18**
XMIS	**Christmas Isla**	**11.56**	**151**	*e*Pn	**Pn**	**09 01 23.2**	**-8.3**
PBKI	**Pangkalan Bun**	**11.93**	**102**	P	Px	09 01 47.4	
SMRI	**Semarang**	**12.39**	**123**	P	**Pn**	**09 01 42.4**	**-0.1**
	5μm355nm,0.9s						
SMRI	**Semarang**	**12.39**	**123**	P	**Pn**	**09 01 42.8**	**+0.3**
	5μm355nm,0.9s						
SBUM	**Sibu**	**12.55**	**77**	P	**Pn**	**09 01 47.2**	**+2.6**
SBUM	**Sibu**	**12.55**	**77**	P	**Pn**	**09 01 46.7**	**+2.1**
	701nm48nm,1.9s						
YOGI	**Yogyakarta**	**12.70**	**126**	P	**Pn**	**09 01 43.6**	**-2.9**
	681nm,0.9s						
UGM	**Wanagama**	**12.94**	**126**	*e*Pn	**Pn**	**09 01 46.1**	**-3.5**
UGM	**Wanagama**	**12.94**	**126**	P	**Pn**	**09 01 46.2**	**-3.4**
	354nm,1.6s						
UGM	**Wanagama**	**12.94**	**126**	P	**Pn**	**09 01 46.8**	**-2.8**
	355nm,1.6s						
PCJI	**Pacitan**	**13.63**	**125**	P	**Pn**	**09 01 54.4**	**-4.2**
	182nm,1.2s						
PCJI	**Pacitan**	**13.63**	**125**	P	**Pn**	**09 01 55.8**	**-2.8**
	183nm,1.2s						
SJI	**Sawahan**	**13.87**	**122**	P	**Pn**	**09 02 00.7**	**-1.0**
	3μm183nm,0.7s						
SJI	**Sawahan**	**13.87**	**122**	P	**Pn**	**09 02 00.8**	**-0.9**
	3μm183nm,0.7s						
PWJI	**Pagerwojo**	**14.05**	**123**	P	**Pn**	**09 02 01.4**	**-2.6**
	139nm,1.2s						
PWJI	**Pagerwojo**	**14.05**	**123**	P	**Pn**	**09 02 01.9**	**-2.1**
	139nm,1.3s						
PLKI	**Palangkaraya**	**14.10**	**98**	P	**Pn**	**09 02 09.4**	**+4.8**
PLKI	**Palangkaraya**	**14.10**	**98**	P	**Pn**	**09 02 11.3**	**+6.7**
	6nm,0.3s						
BBKI	**Banjar Baru**	**15.19**	**102**	P	**Pn**	**09 02 20.2**	**+1.9**
	4μm278nm,1.1s						
BBKI	**Banjar Baru**	**15.19**	**102**	P	**Pn**	**09 02 19.9**	**+1.6**
	4μm278nm,1.1s						
BLJI	**Banyuglugur**	**15.45**	**119**	P	**Pn**	**09 02 20.9**	**-0.7**
	3μm127nm,1.2s						
BLJI	**Banyuglugur**	**15.45**	**119**	P	**Pn**	**09 02 22.2**	**+0.6**
	3μm127nm,1.2s						
KMMI	**Kalianget**	**15.47**	**116**	P	**Pn**	**09 02 22.3**	**+0.4**
	3μm368nm,0.9s						
KMMI	**Kalianget**	**15.47**	**116**	P	**Pn**	**09 02 22.2**	**+0.3**
	3μm368nm,0.9s						
GMJI	**Gumukmas**	**15.57**	**121**	P	**Pn**	**09 02 23.9**	**+0.8**
	79nm,1.4s						
GMJI	**Gumukmas**	**15.57**	**121**	P	**Pn**	**09 02 32.3**	**+9.2**
JAGI	**Jajag, Banyuwa**	**16.28**	**120**	P	**Pn**	**09 02 31.1**	**-0.8**
	2μm107nm,1.2s						
JAGI	**Jajag, Banyuwa**	**16.28**	**120**	P	Px	09 02 44.7	
KBKI	**Kotabaru**	**16.45**	**101**	P	**Pn**	**09 02 34.6**	**+0.6**
	3μm58nm,1.4s						
KBKI	**Kotabaru**	**16.45**	**101**	P	**Pn**	**09 02 35.1**	**+1.1**
	3μm58nm,1.4s						
NBBI	**Negara**	**16.64**	**119**	P	**Pn**	**09 02 36.6**	**+0.3**
	191nm,1.2s						
SRBI	**Singaraja**	**17.03**	**117**	P	**Pn**	**09 02 40.9**	**-0.2**
	1μm146nm,0.8s						
SRBI	**Singaraja**	**17.03**	**117**	P	**Pn**	**09 02 42.3**	**+1.2**
	1μm146nm,0.8s						
KKM	**Kota Kinabalu**	**17.41**	**68**	P	**Pn**	**09 02 47.2**	**+1.5**
KKM	**Kota Kinabalu**	**17.41**	**68**	*e*P	**Pn**	**09 02 43.2**	**-2.4**
KKM				*e*S	**S**	**09 06 02.9**	**+3.2**
BDT	**Bhumibol Dam**	**17.49**	**357**	P	**Pn**	**09 02 46.0**	**-0.5**
	20nm,1.0s						
MTNI	**Mataram**	**18.13**	**118**	P	**P**	**09 02 54.3**	**+1.3**
	8μm92nm,1.2s						
MTNI	**Mataram**	**18.13**	**118**	P	**P**	**09 02 57.0**	**+4.0**
	8μm92nm,1.2s						
SDKM	**Sandakan**	**18.19**	**71**	P	**P**	**09 02 55.6**	**+1.9**
KDM	**Kudat**	**18.30**	**67**	P	**P**	**09 02 56.8**	**+1.9**
TSM	**Tawau**	**18.47**	**75**	P	**P**	**09 02 58.8**	**+2.0**
CMAR	**Chiang Mai Arr**	**18.70**	**357**	P	**P**	**09 02 56.5**	**-2.6**
	1.7nm,0.3s,baz=187,slow=11,SNR=75						
CMAR				S	**S**	**09 06 27.4**	**+1.6**
	0.4nm,0.3s,baz=187,slow=18,SNR=2.6						
CMAR				PcP	PcP	09 07 23.2	+0.8
	0.3nm,0.3s,baz=216,slow=2.4,SNR=12						
CMAR				LR	LR	09 09 58.2	
	comp=Z,222nm,18.2s,baz=176,slow=36						
CMAR				ScP	ScP	09 10 45.6	-1.5
	0.4nm,0.3s,baz=212,slow=3.2,SNR=7.3						
CMAR	**Chiang Mai Arr**	**18.70**	**357**	P	**P**	**09 02 56.5**	**-2.6**
CMAR				S	**S**	**09 06 27.4**	**+1.6**
CMAR				PcP	PcP	09 07 23.2	+0.8
CMAR				LR	LR	09 09 58.1	
CMAR				ScP	ScP	09 10 45.6	-1.5
CMAR	**Chiang Mai Arr**	**18.70**	**357**	P	**P**	**09 02 56.5**	**-2.6**
CHG	**Chiang Mai**	**19.05**	**357**	⇑P	**P**	**09 03 02.8**	**-0.2**
	31nm,0.8s						
CHTO	**Chiang Mai**	**19.05**	**357**	*e*P	**P**	**09 03 02.7**	**-0.2**
	36nm,0.6s						
CHTO	**Chiang Mai**	**19.05**	**357**	*e*P	**P**	**09 03 02.7**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,37nm,0.6s						
CHTO	**Chiang Mai**	**19.05**	**357**	P	**P**	**09 03 03.3**	**+0.3**
	comp=Z,1μmcomp=Z,86nm,0.8s						
CHTO	**Chiang Mai**	**19.05**	**357**	P	**P**	**09 03 03.7**	**+0.7**
	SNR=6.6						
MJSI	**Majene**	**19.27**	**100**	P	**P**	**09 03 07.9**	**+2.5**
	comp=Z,3μmcomp=Z,431nm,0.9s						
MJSI	**Majene**	**19.27**	**100**	P	**P**	**09 03 08.4**	**+3.0**
	comp=Z,3μmcomp=Z,431nm,0.9s						
MYLDM	**Lahad Datu**	**19.30**	**73**	P	**P**	**09 03 08.4**	**+2.6**
TTSI	**Tana Toraja**	**20.02**	**98**	P	**P**	**09 03 15.4**	**+1.8**
	comp=Z,778nmcomp=Z,61nm,1.0s						
TTSI	**Tana Toraja**	**20.02**	**98**	P	**P**	**09 03 16.3**	**+2.7**
	comp=Z,779nmcomp=Z,92nm,1.0s						
CHRT	**Chiangrai**	**20.08**	**359**	⇓P	**P**	**09 03 10.5**	**-3.6**
	comp=Z,1μm,1.0s						
SPSI	**Sidrap Palu**	**20.11**	**101**	P	**P**	**09 03 17.1**	**+2.5**
	comp=Z,816nmcomp=Z,48nm,0.8s						
SPSI	**Sidrap Palu**	**20.11**	**101**	P	**P**	**09 03 18.5**	**+3.9**
	comp=Z,811nmcomp=Z,48nm,0.8s						
KAPI	**Kappang**	**20.30**	**104**	*e*P	**P**	**09 03 16.1**	**-0.5**
	comp=Z,99nm,0.8s						
KAPI	**Kappang**	**20.30**	**104**	P	**P**	**09 03 20.4**	**+3.8**
	comp=Z,2μmcomp=Z,181nm,1.0s						
KAPI	**Kappang**	**20.30**	**104**	P	**P**	**09 03 20.8**	**+4.3**
	SNR=8.1						
BMNI	**Bima**	**20.36**	**114**	P	**P**	**09 03 17.2**	**0.0**
	comp=Z,1μmcomp=Z,58nm,0.9s						
BMNI	**Bima**	**20.36**	**114**	P	**P**	**09 03 17.5**	**+0.3**
	comp=Z,1μmcomp=Z,58nm,0.9s						
MSSI	**Masamba**	**20.47**	**96**	P	**P**	**09 03 21.6**	**+3.2**
	comp=Z,114nm,1.0s						
BNSI	**Bone**	**20.52**	**102**	P	**P**	**09 03 21.5**	**+2.5**
	comp=Z,1μmcomp=Z,154nm,1.0s						
BNSI	**Bone**	**20.52**	**102**	P	**P**	**09 03 21.6**	**+2.6**

comp=Z,83nm,0.6s,mb5.6
PKIN Phulchoki 31.08 334 *e*P P **09 04 57.1 +0.2**
comp=Z,73nm,0.5s,mb5.6
GUN Gumba 31.16 335 *e*P P **09 04 58.7 +1.0**
comp=Z,512nm,0.5s,mb6.5
GUN Gumba 31.16 335 *e*P P **09 04 58.7 +1.0**
comp=Z,512nm,0.5s,mb6.5
DMN Daman 31.23 334 *e*P P **09 04 58.8 +0.5**
comp=Z,72nm,0.7s,mb5.5
DMN Daman 31.23 334 *e*P P **09 04 58.8 +0.5**
comp=Z,72nm,0.6s,mb5.6
CD2 Chengdu 31.27 6 P P **09 04 58.0 -0.6**
CD2 pP pP 09 05 07.6 -17
CD2 sP sP 09 05 11.5 -28
CD2 PP PP 09 06 02.2 -9.4
CD2 S **S** **09 10 02.3 +5.9**
CD2 sS sS 09 10 18.5 -24
CD2 SS SS 09 11 50.7 -25
CD2 pmax pmax
comp=Z,40nm,0.8s,mb5.2
CD2 pmax pmax
comp=Z,560nm,5.3s
CD2 LR LR
comp=N,630nm,5.4s
CD2 LR LR
comp=Z,730nm,5.7s
KKN Kakani 31.31 334 *e*P P **09 04 59.6 +0.6**
comp=Z,225nm,0.6s,mb6.1
KKN Kakani 31.31 334 *e*P P **09 04 59.6 +0.6**
comp=Z,225nm,0.6s,mb6.1
KKN Kakani 31.31 334 *e*P P **09 04 59.6 +0.6**
KKN pmax pmax
comp=Z,225nm,0.6s,mb6.1
ENH Enshi 31.75 16 *e*P P **09 05 00.6 -2.2**
comp=Z,80nm,0.6s,mb5.6
POO Poona 31.78 308 *e*PKP P **09 05 02.0 -1.2**
GKN Gorkha 31.78 334 *e*P P **09 05 03.6 +0.5**
comp=Z,174nm,0.7s,mb5.9
GKN Gorkha 31.78 334 *e*P P **09 05 03.6 +0.5**
comp=Z,174nm,0.7s,mb5.9
KOLN Koldanda 32.05 332 *e*P P **09 05 06.2 +0.7**
comp=Z,414nm,0.7s,mb6.3
KOLN Koldanda 32.05 332 *e*P P **09 05 06.2 +0.7**
comp=Z,414nm,0.7s,mb6.3
BHPL Bhopal 32.08 318 *e*PKP P **09 05 06.8 +1.0**
BHPL AMb AMB 09 05 07.4
comp=Z,50nm,0.6s,mb5.4
DANN Dangsing 32.47 333 *e*P P **09 05 09.8 +0.7**
comp=Z,430nm,0.7s,mb6.3
DANN Dangsing 32.47 333 *e*P P **09 05 09.8 +0.7**
comp=Z,430nm,0.7s,mb6.3
KLBR Kellerberrin 35.36 153 *e*P P **09 05 34.8 +0.8**
comp=Z,41nm,1.2s,mb5.1
SONA Sohna 35.90 324 *e*PKP P **09 05 38.8 +0.1**
SONA AMb AMB 09 05 39.2
comp=Z,82nm,0.9s,mb5.6
BISR Bishrakh 35.93 325 *e*PKP P **09 05 37.6 -1.4**
AYAN Aya Nagar 36.05 324 *e*PKP P **09 05 39.9 0.0**
AYAN AMb AMB 09 05 40.5
comp=Z,59nm,0.7s,mb5.6
KUDL Kundal 36.17 323 *e*PKP P **09 05 41.0 -0.1**
KUDL AMb AMB 09 05 42.3
comp=Z,39nm,0.9s,mb5.3
NWAO Narrogin (SRO) 36.27 155 P P **09 05 42.8 +1.0**
comp=Z,19nm,0.6s,mb5.2,baz=325,slow=8.9,SNR=24
NWAO PcP PcP 09 08 04.1 -0.3
comp=Z,8.0nm,0.7s,baz=280,slow=6.9,SNR=3.1
NWAO Narrogin (SRO) 36.27 155 P P **09 05 42.8 +1.0**
NWAO PcP PcP 09 08 04.1 -0.3
NWAO Narrogin (SRO) 36.27 155 P P **09 05 42.8 +1.0**
NWAO 09 08 04.1
LZH Lanzhou 36.41 5 ⇑P P **09 05 41.9 -1.0**
LZH pP pP 09 05 52.0 -18
LZH sP sP 09 05 56.1 -28
LZH PP PP 09 07 06.2 -2.1
LZH PcP PcP 09 08 05.5 +0.8
LZH pmax pmax
comp=Z,45nm,1.3s,mb5.2
LZH pmax pmax
comp=Z,160nm,6.5s
KHET Khetri 36.53 323 *e*PKP P **09 05 44.2 +0.1**
RTK Rohtak 36.87 324 *e*PKP P **09 05 46.7 -0.3**
DDI Dehra Dun 36.94 328 *ex* P **09 05 47.0 -0.5**
KKR Kurukshetra 37.34 326 *e*PKP P **09 05 51.6 +0.7**
BHJ Bhuj 37.65 311 *e*PKP P **09 05 54.1 +0.4**
WRA Warramunga Arr 38.88 122 P P **09 06 02.3 -1.7**
comp=Z,17nm,0.6s,mb5.1,baz=302,slow=9.0,SNR=245
WRA PcP PcP 09 08 12.1 -0.6
comp=Z,6.3nm,0.7s,baz=314,slow=2.5,SNR=6.8
WRA S **S** **09 11 45.1 -8.3**
comp=Z,8.1nm,0.8s,baz=291,slow=15,SNR=21
WRA LR LR 09 25 34.9
comp=Z,56nm,20.2s,baz=275,slow=41
WRA P3KPbc 09 36 05.6
comp=Z,0.9nm,0.7s,baz=108,slow=4.2,SNR=14
WRA Warramunga Arr 38.88 122 P P **09 06 02.3 -1.7**
WRA PcP PcP 09 08 12.1 -0.6
WRA S **S** **09 11 45.1 -8.3**
WRA LR LR 09 25 34.9
WRA *e* 09 36 05.6
WRA Warramunga Arr 38.88 122 P P **09 06 02.3 -1.7**
WRA 09 08 12.1
WRA S **S** **09 11 45.1 -8.3**
WRAB Tennant Creek 38.89 122 *e*P P **09 06 02.0 -2.0**
WRAB Tennant Creek 38.89 122 *e*P P **09 06 02.0 -2.1**
WRAB Tennant Creek 38.89 122 P P **09 06 02.0 -2.1**
comp=Z,232nm,0.7s,mb6.1,SNR=26
WB2 Warramunga Arr 38.89 122 *e*P P **09 06 01.8 -2.3**
GTA Gaotai 39.55 360 P P **09 06 08.4 -0.8**
GTA pP pP 09 06 18.2 -18
GTA sP sP 09 06 22.2 -28
GTA PcP PcP 09 08 14.5 +0.1
GTA S **S** **09 12 10.0 +7.2**
GTA sS sS 09 12 26.8 -23
GTA pmax pmax
comp=Z,41nm,0.8s,mb5.3
GTA pmax pmax
comp=Z,200nm,4.8s
GTA LR LR
comp=N,160nm,14.0s
GTA LR LR
comp=E,210nm,14.2s
GTA LR LR
comp=Z,140nm,15.7s
ASAR Alice Springs 40.27 128 P P **09 06 13.8 -1.7**
comp=Z,11nm,0.6s,mb4.8,baz=299,slow=7.7,SNR=151
ASAR PcP PcP 09 08 17.1 +0.1
comp=Z,8.8nm,0.8s,baz=304,slow=3.3,SNR=11
ASAR ScP ScP 09 11 53.2 -2.1
comp=Z,8.5nm,0.8s,baz=303,slow=3.6,SNR=23
ASAR S **S** **09 12 07.7 -6.4**
comp=Z,10nm,0.9s,baz=297,slow=16,SNR=22
ASAR Alice Springs 40.27 128 P P **09 06 13.8 -1.7**
ASAR PcP PcP 09 08 17.1 +0.1
ASAR ScP ScP 09 11 53.2 -2.1
ASAR S **S** **09 12 07.7 -6.4**
ASAR Alice Springs 40.27 128 P P **09 06 13.8 -1.7**
ASAR 09 08 17.2
ASAR S **S** **09 12 07.7 -6.4**
FORT Forrest 40.34 141 *e*P P **09 06 16.5 +0.5**
comp=Z,148nm,0.6s,mb6.0
FORT Forrest 40.34 141 *e*P P **09 06 16.6 +0.6**
comp=Z,138nm,0.6s,mb6.0
HHC Hu-ho-hao-te 42.32 13 *e*P P **09 06 31.8 -0.1**
HHC pP pP 09 06 41.6 -18
HHC sP sP 09 06 45.5 -28
HHC PP PP 09 08 13.2 +0.7
HHC PcP PcP 09 08 25.4 +2.0
HHC S **S** **09 12 50.9 +7.0**
HHC sS sS 09 13 06.9 -25
HHC pmax pmax
comp=Z,21nm,0.7s,mb5.0
HHC pmax pmax
comp=Z,220nm,7.7s
HHC LR LR
comp=N,200nm,12.0s
HHC LR LR
comp=E,240nm,14.0s
HHC LR LR
comp=Z,210nm,15.6s
BJT Baijiatuau 42.79 18 *e*P P **09 06 35.0 -0.8**
comp=Z,35nm,0.6s,mb5.3
BJT Baijiatuau 42.79 18 *e*P P **09 06 35.0 -0.8**
BJT pmax pmax
comp=Z,35nm,0.6s
BJI Beijing 42.82 18 P P **09 06 34.3 -1.7**
BJI pmax pmax
comp=Z,68nm,0.6s,mb5.5
JNU Nakatsue 44.20 38 *e*P P **09 06 47.2 0.0**
comp=Z,90nm,0.8s,mb5.5
KBL Kabul 45.18 323 *e*P P **09 06 54.9 0.0**
comp=Z,16nm,0.6s,mb4.9
KBL Kabul 45.18 323 *e*P P **09 06 54.9 0.0**
KBL pmax pmax
comp=Z,16nm,0.6s,mb4.9
WMQ Urumqi 45.30 347 P P **09 06 56.6 +0.8**
WMQ pP pP 09 07 06.5 -17
WMQ sP sP 09 07 10.4 -27
WMQ LR LR
comp=N,91nm,25.0s
WMQ LR LR
comp=E,59nm,17.7s
KSH Kashi 45.33 334 ⇑*i*P P **09 06 55.0 -1.0**
KSH pP pP 09 07 04.9 -19
KSH sP sP 09 07 08.8 -29
KSH PcP PcP 09 08 35.4 +1.7
KSH PP PP 09 08 41.5 -3.0
KSH PcS PcS 09 12 27.8 +0.1
KSH S **S** **09 13 30.8 +3.2**
KSH ScS ScS 09 16 46.7 +6.3
KSH pmax pmax
comp=Z,58nm,0.6s,mb5.5
KSH pmax pmax
comp=Z,140nm,5.5s
KSH LR LR
comp=N,200nm,7.5s
KSH LR LR
comp=E,180nm,5.3s
KSH LR LR
comp=Z,140nm,5.9s
KSRS Korea Array 45.61 31 P P **09 06 57.5 -0.8**
comp=Z,48nm,0.6s,mb5.4,baz=222,slow=8.0,SNR=134
KSRS PcP PcP 09 08 33.6 -1.1
comp=Z,6.9nm,0.9s,baz=228,slow=3.0,SNR=7.6
WBK Wadi Bani Khal 45.96 303 P P **09 07 02.7 +1.5**
SNR=18
JMDO Jabal Madar 46.59 302 P P **09 07 07.2 +1.0**
SNR=13
SMDO Samad 46.91 303 P P **09 07 10.1 +1.3**
SNR=12
ULHL Ulahol 47.47 336 P P **09 07 13.6 +0.9**
SNR=10
BSY Bisya 47.51 302 P P **09 07 14.6 +1.2**
SNR=12
HOQ Hoqain 47.74 303 P P **09 07 16.5 +1.3**
SNR=13
KZA Kyzart 47.74 335 P P **09 07 14.3 -0.5**
SNR=6.2
PMG Port Moresby 47.82 102 P P **09 07 15.5 -0.4**
comp=Z,15nm,0.9s,mb4.8,baz=278,slow=14,SNR=3.4
PMG ScP ScP 09 12 24.0 -2.4
comp=Z,18nm,0.9s,baz=227,slow=3.4,SNR=3.6
PMG Port Moresby 47.82 102 P P **09 07 15.5 -0.4**
PMG ScP ScP 09 12 24.0 -2.4
PMG Port Moresby 47.82 102 P P **09 07 15.5 -0.4**
UCH Uchtor 48.18 335 P P **09 07 19.6 +1.5**
SNR=9.1
SONM Songino Array 48.30 6 P P **09 07 18.5 -0.5**
comp=Z,55nm,0.7s,mb5.5,baz=186,slow=8.9,SNR=144
SONM PcP PcP 09 08 43.8 -0.2
comp=Z,30nm,0.6s,baz=187,slow=3.7,SNR=22
SONM ScP ScP 09 12 25.1 -2.5
comp=Z,3.7nm,0.7s,baz=190,slow=3.7,SNR=8.8
SONM Songino Array 48.30 6 P P **09 07 18.5 -0.5**
SONM PcP PcP 09 08 43.8 -0.2
SONM ScP ScP 09 12 25.1 -2.5
SONM Songino Array 48.30 6 P P **09 07 18.5 -0.5**
SONM 09 08 43.8
TKM2 Tokmak 2 48.30 336 P P **09 07 19.9 +0.8**
SNR=124
TKM2 Tokmak 2 48.30 336 *e*P P **09 07 19.9 +0.8**
comp=Z,78nm,0.5s,mb5.8
TKM2 Tokmak 2 48.30 336 P P **09 07 20.0 +0.9**
TKM2 pmax pmax
comp=Z,75nm,0.6s,mb5.7
ARQ Araqi 48.31 302 P P **09 07 20.6 +1.1**
SNR=7.9
KBK Karagaybulak 48.35 335 P P **09 07 20.9 +1.4**
SNR=45
RBK Rabkut 48.40 294 P P **09 07 21.7 +1.5**
SNR=7.3
ULN Ulaanbaatar 48.40 6 *e*P P **09 07 20.1 +0.3**
comp=Z,27nm,0.5s,mb5.3
ULN Ulaanbaatar 48.40 6 *e*P P **09 07 20.1 +0.4**
ULN pmax pmax
comp=Z,27nm,0.5s,mb5.3
ULN Ulaanbaatar 48.40 6 P P **09 07 20.2 +0.5**
SNR=9.2
AML Almayashu 48.46 334 P P **09 07 21.5 +1.2**
SNR=103
AAK Ala-Archa 48.52 335 P P **09 07 21.8 +1.0**
SNR=32
AAK Ala-Archa 48.52 335 P P **09 07 21.9 +1.1**
comp=Z,23nm,0.5s,mb5.3,baz=140,slow=5.9,SNR=71
AAK PcP PcP 09 08 45.9 +1.0
comp=Z,12nm,0.7s,baz=132,slow=4.7,SNR=4.1
AAK Ala-Archa 48.52 335 *e*P P **09 07 21.8 +1.0**
comp=Z,26nm,0.6s,mb5.3
AAK Ala-Archa 48.52 335 *e*P P **09 07 21.8 +1.0**
AAK pmax pmax
comp=Z,26nm,0.6s,mb5.3
AAK Ala-Archa 48.52 335 P P **09 07 21.5 +0.7**
comp=Z,293nm,0.5s,mb6.5,SNR=23
AAK Ala-Archa 48.52 335 P P **09 07 21.8 +1.0**
comp=Z,555nmcomp=Z,49nm,0.7s,mb5.5
AAK Ala-Archa 48.52 335 P P **09 07 22.3 +1.5**
SNR=11
FRU Bishkek 48.63 335 ⇑*i*P P **09 07 21.8 +0.2**
FRU pmax pmax
comp=Z,124nm,1.6s,mb5.6
CHMS Chumysh 48.71 335 P P **09 07 22.6 +0.4**
SNR=31
EKS2 Erkin-Say 48.85 334 P P **09 07 24.5 +1.2**
SNR=36
EKS2 Erkin-Say 48.85 334 *e*P P **09 07 24.5 +1.2**
comp=Z,118nm,0.5s,mb6.1
EKS2 Erkin-Say 48.85 334 *e*P P **09 07 24.5 +1.2**
EKS2 pmax pmax
comp=Z,118nm,0.5s,mb6.1
USP Ospenovka 49.04 335 P P **09 07 25.1 +0.4**
SNR=102
ABTO Aybut 49.19 293 P P **09 07 27.5 +1.2**
SNR=7.0
HATD Hatta, Dubai 49.23 304 P P **09 07 27.9 +1.4**
SNR=6.0
CTA Charters Tower 49.35 116 P P **09 07 26.6 -0.9**
comp=Z,7.2nm,1.0s,mb4.5,baz=310,slow=10,SNR=3.8
CTA PcP PcP 09 08 48.2 -0.2
comp=Z,3.9nm,0.5s,baz=227,slow=2.9,SNR=3.8
CTA Charters Tower 49.35 116 P P **09 07 26.6 -0.9**
CTA PcP PcP 09 08 48.2 -0.2
CTA Charters Tower 49.35 116 P P **09 07 26.6 -0.9**
CTA 09 08 48.2
MK31 Makanchi Array 49.42 344 *e*P P **09 07 27.7 +0.1**
MK31 Makanchi Array 49.42 344 *ce*P P **09 07 27.5 -0.1**
MK31 pmax pmax
comp=Z,103nm,0.5s,mb6.0
MKAR Makanchi Array 49.42 344 P P **09 07 27.5 -0.1**
comp=Z,129nm,0.5s,mb6.1,baz=150,slow=8.1,SNR=1174
MKAR Makanchi Array 49.42 344 P P **09 07 27.5 -0.1**
MKAR Makanchi Array 49.42 344 P P **09 07 27.5 -0.1**
CN2 Changchun 49.48 24 *e*P P **09 07 30.5 +2.4**
CN2 PcP PcP 09 08 47.9 -0.5
CN2 *e*S S **09 14 35.2 +8.9**
CN2 pmax pmax
comp=Z,60nm,0.9s,mb5.5
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,14.0s
CN2 LR LR
comp=E,500nm,14.0s
CN2 LR LR
comp=Z,600nm,16.0s
ASUD Al Ashush, Dub 49.82 303 P P **09 07 32.2 +1.2**
SNR=6.8
QLP Quilpie 49.92 125 *e*P P **09 07 31.2 -0.6**
IDAH Dahanechah 50.09 315 *e*P P **09 07 33.3 +0.4**
STKA Stephens Creek 50.29 133 P P **09 07 34.0 -0.4**
comp=Z,20nm,0.7s,mb5.1,baz=306,slow=7.0,SNR=52
STKA ScP ScP 09 12 34.2 -2.3
comp=Z,1.5nm,0.6s,baz=10,slow=6.8,SNR=3.7
STKA LR LR 09 28 14.1
comp=Z,117nm,19.6s,baz=276,slow=35
STKA Stephens Creek 50.29 133 *e*P P **09 07 33.8 -0.6**
comp=Z,15nm,0.7s,mb5.0
STKA Stephens Creek 50.29 133 *e*P P **09 07 33.9 -0.5**
comp=Z,3.5nm,0.7s,mb4.4
STKA Stephens Creek 50.29 133 *e*P P **09 07 33.9 -0.5**
STKA pmax pmax
comp=Z,4.0nm,0.7s
ZAK Zakamensk 50.60 3 *e*P P **09 07 36.0 -0.4**
ZAK pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
KK31 Karatay Array 50.67 332 *ce*P P **09 07 36.8 -0.3**
KK31 pmax pmax
comp=Z,9.0nm,0.4s,mb5.2
KKAR Karatay Array 50.67 332 *e*P P **09 07 36.9 -0.2**
comp=Z,6.8nm,0.4s,mb5.0
KKAR Karatay Array 50.67 332 *e*P P **09 07 36.9 -0.2**
KKAR pmax pmax
comp=Z,7.0nm,0.4s,mb5.0
MAJO Matsushiro 51.01 40 *e*P P **09 07 38.6 -1.2**
comp=Z,15nm,0.5s,mb5.3
MAJO Matsushiro 51.01 40 *e*P P **09 07 38.6 -1.2**
MAJO pmax pmax
comp=Z,15nm,0.5s,mb5.3
MAT Matsushiro 51.01 40 P P **09 07 38.1 -1.7**
MJAR Matsushiro Arr 51.01 40 P P **09 07 38.6 -1.2**
comp=Z,25nm,0.9s,mb5.3,baz=225,slow=8.2,SNR=41
MJAR PcP PcP 09 08 53.5 -0.8
comp=Z,6.1nm,1.0s,baz=235,slow=4.7,SNR=5.7
MJAR Matsushiro Arr 51.01 40 P P **09 07 38.6 -1.2**
MJAR PcP PcP 09 08 53.5 -0.8
MJAR Matsushiro Arr 51.01 40 P P **09 07 38.6 -1.2**
MJAR 09 08 53.5
TLY Talaya 51.91 3 *e*P P **09 07 46.5 +0.3**
comp=Z,26nm,0.7s,mb5.4
TLY Talaya 51.91 3 *e*P P **09 07 45.3 -0.9**
TLY *e*S S **09 14 54.3 -5.4**
TLY pmax pmax
comp=Z,26nm,0.7s,mb5.4
TLY MLR MLR
comp=Z,66nm,21.0s
TLY Talaya 51.91 3 P P **09 07 46.2 0.0**
comp=Z,260nm,0.7s,mb6.4,SNR=6.0
MDJ Mudanjiang 51.91 27 P P **09 07 45.6 -0.7**
MDJ pP pP 09 07 54.3 -21
MDJ sP sP 09 07 58.0 -30
MDJ S **S** **09 15 10.3 +10**
MDJ SS SS 09 18 42.9 +4.4
MDJ pmax pmax
comp=Z,21nm,1.0s,mb5.1
MDJ pmax pmax
comp=Z,110nm,5.7s
MDJ LR LR
comp=N,95nm,28.5s
MDJ LR LR
comp=E,83nm,26.7s
HIA Hailar 52.26 16 *e*P P **09 07 47.7 -1.1**
comp=E,6.6nm,0.4s,mb5.0
HIA Hailar 52.26 16 *e*P P **09 07 47.7 -1.1**
HIA pmax pmax
comp=Z,7.0nm,0.4s
IAKL Akhelmad 52.99 318 *e*P P **09 07 53.5 -0.9**
CMSA Cobar Meteorol 53.20 130 *e*P P **09 07 55.7 -0.4**
IEMG Emamgholi 53.52 319 *e*P P **09 07 58.0 -0.3**
ISRV Sarvestan 53.55 308 *e*P P **09 07 59.4 +0.7**
IPAR Pars 53.80 308 *e*P P **09 08 00.7 +0.2**
KURK Kurchatov 54.01 343 P P **09 08 00.9 -0.6**
comp=Z,89nm,0.6s,mb6.0,baz=162,slow=7.1,SNR=352
KURK PcP PcP 09 09 05.1 -0.1
comp=Z,13nm,0.6s,baz=158,slow=2.9,SNR=5.2
KURK Kurchatov 54.01 343 *e*P P **09 08 01.4 -0.2**
comp=Z,103nm,0.6s,mb6.0
KURK Kurchatov 54.01 343 *d*P P **09 08 01.3 -0.3**
KURK pmax pmax
comp=Z,93nm,0.6s,mb6.0
KURK Kurchatov 54.01 343 P P **09 08 01.7 +0.1**
comp=Z,981nm,0.7s,SNR=64
KURK Kurchatov 54.01 343 P P **09 08 01.7 +0.2**
SNR=33
ABKT Ailbek 54.16 319 P P **09 08 02.1 -0.8**
comp=Z,286nm,1.0s,mb6.3,SNR=9.1
ZALV Zalesovo Beam 55.53 349 P P **09 08 11.8 -0.8**
comp=Z,140nm,0.8s,mb6.1,baz=171,slow=5.7,SNR=368
ZALV Zalesovo Beam 55.53 349 P P **09 08 11.8 -0.8**
ZALV Zalesovo Beam 55.53 349 P P **09 08 11.8 -0.7**
ILAS Lasjerd 56.37 314 *e*P P **09 08 18.2 -0.6**
KLR Kul'dur 56.43 24 *e*P P **09 08 14.3 -4.7**
KLR pmax pmax
comp=E,52nm,1.0s
KLR pmax pmax
comp=Z,120nm,1.0s,mb5.9
YNG Young 56.46 132 *e*P P **09 08 19.3 -0.2**
comp=Z,7.5nm,0.9s,mb4.7
IPIR Pirpir 56.68 310 *e*P P **09 08 21.6 +0.5**
NVS Novosibirsk 56.68 349 ⇑*i*P P **09 08 18.1 -2.6**
NVS *e* 09 09 12.6
NVS *e*S S **09 15 58.8 -4.8**
NVS pmax pmax
comp=N,50nm,1.1s
NVS pmax pmax
comp=E,37nm,1.1s
NVS pmax pmax
comp=Z,96nm,1.1s,mb5.7
NVS smax
comp=N,19nm,1.7s
NVS smax
comp=E,24nm,1.7s
ERM Erimo 57.35 37 *e*P P **09 08 24.4 -1.2**
ERM pmax pmax
comp=Z,26nm,1.1s,mb5.2
ERM Erimo 57.35 37 P P **09 08 25.4 -0.2**
comp=Z,167nm,0.7s,mb6.2,SNR=5.3
KBD Kabd 57.84 305 *e*P P **09 08 29.2 -0.1**
KBD AMb AMB 09 08 30.5
comp=Z,94nm,1.1s,mb5.7
RDF Al-Radifah 57.87 305 *e*P P **09 08 29.4 -0.1**
RDF AMb AMB 09 08 30.7
comp=Z,172nm,1.2s,mb6.0
UMR Umm Al-Rimmam 57.95 306 *e*P P **09 08 30.0 -0.1**
UMR AMb AMB 09 08 30.8
comp=Z,124nm,0.9s,mb6.0
NAY Al-Naaiem 58.23 305 *e*P P **09 08 31.7 -0.4**
NAY AMb AMB 09 08 32.5
comp=Z,63nm,0.9s,mb5.7
ASAJ Asahikawa 58.27 35 P P **09 08 31.4 -0.6**
comp=Z,22nm,0.5s,mb5.5,baz=248,slow=8.7,SNR=33
ASAJ Asahikawa 58.27 35 *e*P P **09 08 31.7 -0.3**
comp=Z,9.6nm,0.7s,mb4.9
BVA0 Borovoye Array 58.62 340 *i* P P **09 08 33.4 -0.8**
BVA0 pmax pmax
comp=Z,15nm,0.6s,mb5.2
BVAR Borovoye Array 58.62 340 P P **09 08 33.4 -0.9**
comp=Z,89nm,0.6s,mb6.0,baz=144,slow=8.7,SNR=406
BVAR PcP PcP 09 09 22.5 -0.6
comp=Z,12nm,0.6s,baz=101,slow=7.5,SNR=2.6
BVAR Borovoye Array 58.62 340 P P **09 08 33.4 -0.9**
BVAR PcP PcP 09 09 22.5 -0.6
BVAR Borovoye Array 58.62 340 P P **09 08 33.4 -0.8**
BVAR 09 09 22.5
BRVK Borovoye 58.68 340 *e*P P **09 08 33.9 -0.8**
comp=Z,62nm,0.5s,mb5.9
BRVK Borovoye 58.68 340 *e*P P **09 08 33.9 -0.8**
BRVK pmax pmax
comp=Z,62nm,0.5s,mb5.9
BRVK Borovoye 58.68 340 P P **09 08 33.9 -0.8**
comp=Z,775nm,0.8s,SNR=48
BRVK Borovoye 58.68 340 P P **09 08 34.3 -0.4**
SNR=27
BOD Bodaibo 59.05 9 *e*P P **09 08 35.9 -1.2**
BOD pmax pmax
comp=Z,59nm,1.0s,mb5.6
YSS Yuzh-Sakhalins 60.09 32 *e*P P **09 08 44.1 -0.5**
comp=Z,130nm,0.8s,mb6.0
YSS Yuzh-Sakhalins 60.09 32 *e*P P **09 08 44.1 -0.4**
YSS pmax pmax
comp=Z,130nm,0.8s,mb6.0
AB31 Akbulak array 60.17 331 *ce*P P **09 08 44.3 -0.7**
AB31 pmax pmax
comp=Z,149nm,0.9s,mb6.0
ABKAR Akbulak array 60.17 331 *e*P P **09 08 44.2 -0.9**
comp=Z,65nm,0.6s,mb5.8
CLNS Chul'man 60.42 15 *e*P P **09 08 45.7 -0.8**
CLNS pmax pmax
comp=Z,35nm,0.8s,mb5.4

CLNS pmax pmax
comp=N,18nm,0.9s
CLNS pmax pmax
comp=E,17nm,0.9s
AKTK Aktyubinsk 61.89 331 P **P** 09 08 55.5 -1.1
AKTK PcP PcP 09 09 36.2 -0.1
AKTO Aktyubinsk 61.89 331 P **P** 09 08 55.5 -1.1
comp=E,22nm,0.5s,mb5.4,baz=119,slow=8.0,SNR=86
AKTO PcP PcP 09 09 36.2 -0.1
comp=E,11nm,0.6s,baz=135,slow=3.7,SNR=5.0
AKTO Aktyubinsk 61.89 331 P **P** 09 08 55.5 -1.1
AKTO 09 09 36.3
KMBO Kilima Mbogo 62.72 269 *e*P **P** 09 09 04.7 +1.8
comp=E,14nm,0.8s,mb4.9
KMBO Kilima Mbogo 62.72 269 *e*P **P** 09 09 04.7 +1.9
KMBO pmax pmax
comp=Z,14nm,0.8s
KMBO Kilima Mbogo 62.72 269 P **P** 09 09 04.8 +1.9
SNR=10
GNI Garni 64.31 316 *e*P **P** 09 09 13.1 +0.3
GNI pmax pmax
comp=Z,33nm,1.2s
DGRG David-gareji 64.42 317 P **P** 09 09 13.4 -0.1
TBLG Delisi 64.97 317 *e*P **P** 09 09 17.5 +0.4
TBLG Delisi 64.97 317 P **P** 09 09 17.6 +0.5
SVE Sverdlovsk 65.14 337*d* *i*P **P** 09 09 17.5 -0.3
SVE pmax pmax
comp=Z,234nm,1.0s,mb6.0
GOR Gori 65.51 317 P **P** 09 09 19.2 -1.4
ARU Arti 65.67 336 *e*P **P** 09 09 20.2 -1.1
comp=Z,34nm,0.6s,mb5.4
ARU Arti 65.67 336*d* *i*P **P** 09 09 20.3 -1.0
ARU *e* pP 09 09 50.2 -0.8
ARU *e* 09 11 49.7
ARU SS SS 09 22 17.9 +3.9
ARU pmax pmax
comp=Z,145nm,1.2s,mb5.7
ARU Arti 65.67 336 P **P** 09 09 20.0 -1.3
comp=Z,557nm,1.2s,mb6.3,SNR=26
AKH Akhalkalaki 65.69 317 P **P** 09 09 18.2 -3.5
ZEI Tsey 65.97 318 *e*P **P** 09 09 24.2 +0.7
ZEI pmax pmax
comp=Z,53nm,0.8s,mb5.4
YAK Yakutsk 66.14 15 *e*P **P** 09 09 22.2 -2.0
comp=Z,36nm,0.6s,mb5.4
YAK Yakutsk 66.14 15 *e*P **P** 09 09 22.2 -2.0
YAK pmax pmax
comp=Z,36nm,0.6s,mb5.4
ONI Oni 66.20 318 P **P** 09 09 25.3 +0.3
DAGI Agillar 66.66 316 *i*P **P** 09 09 28.0 +0.1
DDEM Demirkent 66.70 315 *i*P **P** 09 09 28.5 +0.3
DBAD Bademkaya 66.79 316 *i*P **P** 09 09 29.1 +0.3
KIV Kislovodsk 67.27 319 *e*P **P** 09 09 32.0 +0.3
comp=Z,29nm,0.8s,mb5.2
KIV Kislovodsk 67.27 319*c* *i*P **P** 09 09 31.6 -0.1
KIV pmax pmax
comp=Z,50nm,1.0s,mb5.3
KIV Kislovodsk 67.27 319 P **P** 09 09 31.7 0.0
comp=Z,261nm,0.9s,mb6.1,SNR=6.2
KIV Kislovodsk 67.27 319 P **P** 09 09 32.0 +0.3
SNR=7.5
SOKR Solikamsk 68.51 338*c* *i*P **P** 09 09 39.0 -0.2
SOKR pmax pmax
comp=Z,250nm,1.0s,mb6.0
AKCD Akcadag 68.57 312 *i*P **P** 09 09 40.8 +0.8
SOC Sochi 69.11 318*c* *i*P **P** 09 09 42.5 -0.7
SOC *e* 09 12 15.9
SOC *e*S S 09 18 45.8 +6.8
SOC pmax pmax
comp=Z,148nm,0.6s,mb6.0
VRHR Novokhopersk 70.94 325 *e*P **P** 09 09 53.2 -1.1
VRHR pmax pmax
comp=Z,220nm,0.6s,mb6.2
VRHR pmax pmax
comp=N,100nm,1.2s
VRHR pmax pmax
comp=E,70nm,0.7s
AVNT Avonos 71.01 311 *i*P **P** 09 09 54.7 -0.3
ANN Anapa 71.08 318 *e*P **P** 09 09 51.4 -3.8
ANN pmax pmax
comp=Z,70nm,1.5s,mb5.3
CSS Prodhromos 71.19 307 *e*P **P** 09 09 56.6 +0.5
PETK Petropavlovsk- 71.50 33 P **P** 09 09 56.5 -1.1
comp=Z,10nm,0.6s,mb4.8,baz=230,slow=3.3,SNR=16
PETK Petropavlovsk- 71.50 33 P **P** 09 09 56.5 -1.1
PETK Petropavlovsk- 71.50 33 P **P** 09 09 56.5 -1.1
CTKT Corum 71.59 313 *i*P **P** 09 09 57.4 -1.0
MAW Mawson 71.89 194 P **P** 09 10 00.4 +0.8
comp=Z,2.0nm,0.8s,baz=23,slow=10,SNR=5.6
MAW LR LR 09 35 51.5
comp=Z,82nm,19.8s,baz=233,slow=31
MAW Mawson 71.89 194 *e*P **P** 09 10 01.5 +1.9
comp=Z,3.0nm,1.1s
MAW LR LR 09 35 51.5
PET Petropavlovsk 71.98 33 *e*P **P** 09 09 59.5 -0.9
comp=Z,30nm,0.5s,mb5.4
PET Petropavlovsk 71.98 33 *e*P **P** 09 09 59.5 -0.9
PET pmax pmax
comp=Z,30nm,0.5s,mb5.4
BR131 Keskin Array S 72.18 312 *e*P **P** 09 10 01.2 -0.7
comp=Z,38nm,0.9s,mb5.2
BRTR Keskin Array B 72.18 312 P **P** 09 10 01.1 -0.8
comp=Z,23nm,0.7s,mb5.1,baz=131,slow=7.2,SNR=82
BRTR Keskin Array B 72.18 312 P **P** 09 10 01.1 -0.8
BRTR Keskin Array B 72.18 312 P **P** 09 10 01.2 -0.7
LSZ Lusaka 72.35 254 *e*P **P** 09 10 04.3 +0.9
comp=Z,4.7nm,0.7s,mb4.4
VSR Storozhevoye 72.40 325 *e*P **P** 09 10 01.6 -1.4
VSR pmax pmax
comp=N,20nm,0.6s
VSR pmax pmax
comp=Z,100nm,0.6s,mb5.8
VSR pmax pmax
comp=E,70nm,0.8s
VSR MLR MLR
comp=Z,590nm,11.0s
VSR MLR MLR
comp=N,590nm,14.0s
VSR MLR MLR
comp=E,920nm,20.0s
BALT Daday 72.87 314 *i*P **P** 09 10 05.0 -0.9
TARA Tarawa 72.97 88 *e*P **P** 09 10 09.2 +2.0
BOLV Bolvadin 73.95 311 *i*P **P** 09 10 11.8 -0.6
SEY Seymchan 74.10 22 *e*P **P** 09 10 11.6 -1.1
MOS Moscow 75.06 329 *e*P **P** 09 10 16.9 -1.5
MOS *e* 09 13 07.4
MOS *e* 09 19 43.5
MOS pmax pmax
comp=Z,122nm,0.9s,mb5.6
MOS pmax pmax
comp=Z,200nm,1.0s,mb5.8
OBN Obninsk 75.37 328 *e*P **P** 09 10 18.5 -1.7
comp=Z,46nm,0.5s,mb5.5
OBN Obninsk 75.37 328*a* *i*P **P** 09 10 19.7 -0.5
OBN 09 10 31.0
OBN *e* pP 09 10 50.9 +0.3
OBN 09 13 12.0
OBN S S 09 19 52.0 +2.0
OBN pmax pmax
comp=Z,141nm,1.2s,mb5.6
OBN MLR MLR
comp=Z,100nm,19.0s
LBTB Lobatse 75.71 244 *e*P **P** 09 10 24.1 +1.3
RPZ Rata Peaks 76.17 135 P **P** 09 10 24.5 -0.5
comp=Z,5.9nm,0.6s,mb4.5,baz=29,slow=1.7,SNR=5.9
RPZ Rata Peaks 76.17 135 P **P** 09 10 24.5 -0.5
KLMR Klimovskoe 76.32 334*c* *i*P **P** 09 10 25.0 -0.5
KLMR pmax pmax
comp=Z,125nm,1.4s,mb5.5
BOSA Boshof 76.44 241 P **P** 09 10 27.9 +1.1
comp=Z,12nm,0.4s,mb5.0,baz=89,slow=4.9,SNR=33
BOSA LR LR 09 42 24.0
comp=Z,51nm,18.3s,baz=341,slow=34
BOSA Boshof 76.44 241 P **P** 09 10 27.9 +1.1
BOSA LR LR 09 42 24.0
TLCR 77.03 317 ⇓P **P** 09 10 30.3 +0.5
TLCR 77.03 317 ⇓*i*P **P** 09 10 30.3 +0.5
TIRR Tirgusor 77.14 316 *e*P **P** 09 10 30.3 -0.1
TIRR Tirgusor 77.14 316 ⇑P **P** 09 10 30.0 -0.4
TIRR Tirgusor 77.14 316 ⇑*i*P **P** 09 10 30.0 -0.4
TIRR Tirgusor 77.14 316 S S 09 19 38.4 -31
KIS Kishinev 77.47 318 *e*P **P** 09 10 31.0 -1.2
KIS Kishinev 77.47 318 *e*P **P** 09 10 31.0 -1.2
CFR Carcaliu 77.50 316 ⇓P **P** 09 10 32.3 -0.1
CFR Carcaliu 77.50 316 ⇓*i*P **P** 09 10 32.3 -0.1
CFR Carcaliu 77.50 316 S S 09 19 52.2 -21
PRD Provadia 77.58 314 P **P** 09 10 32.6 -0.3
PRD Provadia 77.58 314 P **P** 09 10 32.6 -0.3
AKASG Malin Array Be 78.15 322 P **P** 09 10 34.9 -1.1
comp=Z,9.5nm,0.5s,mb4.8,baz=89,slow=4.8,SNR=40
AKASG PP PP 09 13 31.9 -2.2
comp=Z,2.3nm,0.9s,baz=79,slow=7.5,SNR=4.4
AKASG Malin Array Be 78.15 322 P **P** 09 10 34.9 -1.1
AKASG PP PP 09 13 31.9 -2.2
AKASG Malin Array Be 78.15 322 P **P** 09 10 34.9 -1.0
AKASG 09 13 31.9
AKBB Malin Array Si 78.15 322 *e*P **P** 09 10 34.8 -1.1
AKBB Malin Array Si 78.15 322 *e*P **P** 09 10 34.8 -1.1
KIEV Kiev 78.16 322 *e*P **P** 09 10 34.9 -1.1
KIEV Kiev 78.16 322 *e*P **P** 09 10 34.9 -1.1
VRI Vrincioaia 78.62 317 ⇑P **P** 09 10 39.2 +0.6
VRI Vrincioaia 78.62 317 ⇑*i*P **P** 09 10 39.2 +0.6
SZH Strazhica 78.64 314 P **P** 09 10 37.7 -1.1
SZH Strazhica 78.64 314 P **P** 09 10 37.7 -1.1
PLOR Plostina 78.67 317 ⇑P **P** 09 10 39.3 +0.4
PLOR Plostina 78.67 317 ⇑*i*P **P** 09 10 39.3 +0.4
DIM Dimitrovgrad 78.69 313 P **P** 09 10 38.7 -0.4
DIM Dimitrovgrad 78.69 313 P **P** 09 10 38.7 -0.4
TESR 78.81 318 ⇓*i*P **P** 09 10 39.8 +0.2
PVL Pavlikeni 79.06 314 P **P** 09 10 41.5 +0.4
PVL Pavlikeni 79.06 314 P **P** 09 10 41.5 +0.4
MLR Muntele Rosu 79.07 316 ⇓P **P** 09 10 41.4 +0.3
MLR Muntele Rosu 79.07 316 ⇓*i*P **P** 09 10 41.4 +0.3
MLR Muntele Rosu 79.07 316 S S 09 20 03.0 -28
RZN Rozhen 79.23 312 P **P** 09 10 41.6 -0.4
RZN Rozhen 79.23 312 P **P** 09 10 41.6 -0.4
PLD Plovdiv 79.31 313 P **P** 09 10 41.7 -0.8
PLD Plovdiv 79.31 313 P **P** 09 10 41.7 -0.8
SYO Syowa Base 79.43 199 ‖*e*P **P** 09 10 42.4 -0.1
SYO Syowa Base 79.43 199 ‖*e*PcP PcP 09 10 51.3 +1.1
VOIR 79.68 316 ⇓P **P** 09 10 43.9 -0.5
VOIR 79.68 316 ⇓*i*P **P** 09 10 43.9 -0.5
VOIR 79.68 316 S S 09 20 08.9 -28
URZ Urewera 79.70 129 P **P** 09 10 42.9 -1.8
comp=Z,4.0nm,0.5s,mb4.5,baz=272,slow=5.4,SNR=7.0
URZ Urewera 79.70 129 P **P** 09 10 42.9 -1.8
PGB Panagyurishte 79.78 313 P **P** 09 10 44.2 -0.8
PGB Panagyurishte 79.78 313 P **P** 09 10 44.2 -0.8
MMB Musomiste 79.94 312 P **P** 09 10 44.9 -1.0
MMB Musomiste 79.94 312 P **P** 09 10 44.9 -1.0
BURAR Bucovina Array 80.00 318 ⇑P **P** 09 10 47.0 +1.0
BURAR Bucovina Array 80.00 318 ⇑*i*P **P** 09 10 47.0 +1.0
BUR08 Bucovina Ar. S 80.01 319 *e*P **P** 09 10 47.0 +0.8
PUL Pulkovo 80.15 331 *e*P **P** 09 10 46.7 +0.1
PUL pmax pmax
comp=Z,147nm,0.4s,mb6.2
FX1 Attu Island--F 80.17 36 P **P** 09 10 45.0 -1.9
comp=Z,26nm,0.8s,mb5.1,baz=324,slow=4.6,SNR=5.3
FX1 Attu Island--F 80.17 36 P **P** 09 10 45.0 -1.9
FX1 Attu Island--F 80.17 36 P **P** 09 10 45.0 -1.9
KKB Krupnik 80.46 312 P **P** 09 10 47.8 -0.9
KKB Krupnik 80.46 312 P **P** 09 10 47.8 -0.9
VTS Vitosha 80.49 313 ⇑P **P** 09 10 48.7 -0.1
VTS Vitosha 80.49 313 ⇑*i*P **P** 09 10 48.7 -0.1
VTS Vitosha 80.49 313 S S 09 20 08.3 -37
VTS Vitosha 80.49 313 P **P** 09 10 48.3 -0.5
VTS Vitosha 80.49 313 P **P** 09 10 48.3 -0.5
NACGM Naroch 80.65 326 *e* **P** 09 10 45.0 -4.4
JOF Joensuu 80.71 334 *e*P **P** 09 10 48.0 -1.5
JOF pmax pmax
comp=Z,37nm,0.6s,mb5.4
JOF Joensuu 80.71 334 *e*p **P** 09 10 48.0 -1.5
comp=Z,37nm,0.6s,mb5.4
VAY Valandovo 80.76 312 *e*P **P** 09 10 49.1 -1.1
IIGN Ignalina 81.07 326 *e*P **P** 09 10 51.9 +0.3
IIGN AMB AMB 09 10 52.5
comp=Z,31nm,0.8s,mb5.2
IIGN *e*PP PP 09 13 58.1 -0.1
IZAR Zarasai 81.16 327 *e*P **P** 09 10 52.2 +0.2
IZAR AMB AMB 09 10 52.7
comp=Z,21nm,0.8s,mb5.0
IZAR *e*PP PP 09 13 58.9 0.0
ISAL Salakas 81.18 326 *e*P **P** 09 10 52.4 +0.2
ISAL AMB AMB 09 10 52.9
comp=Z,22nm,0.8s,mb5.0
ISAL *e*PP PP 09 13 59.0 -0.1
LVV L'vov 81.20 321 *e*P **P** 09 10 51.9 -0.5
LVZ Lovozero 81.21 340 *e*P **P** 09 10 51.4 -0.7
LVZ Lovozero 81.21 340*c* *i*P **P** 09 10 51.2 -0.9
LVZ pmax pmax
comp=Z,162nm,2.5s,mb5.4
LVZ Lovozero 81.21 340 P **P** 09 10 51.9 -0.2
comp=Z,607nm,0.6s,mb6.6,SNR=21
DRGR 81.52 317 ⇑P **P** 09 10 54.6 +0.4
DRGR 81.52 317 ⇑*i*P **P** 09 10 54.6 +0.4
APA Apatity 81.53 339 ‖*i*P **P** 09 10 53.0 -0.8
APA pmax pmax
comp=Z,44nm,0.9s,mb5.3
APA MLR MLR
comp=Z,600nm,17.0s
VSU Vasula 81.56 329 *e*P **P** 09 10 53.8 -0.3
VSU pmax pmax
comp=Z,49nm,0.9s,mb5.3
BILL Bilibino 81.61 20 P **P** 09 10 55.0 +0.8
BILL pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
BIA Bitola 81.65 311 *e*P **P** 09 10 53.8 -1.2
SKO Skopje 81.69 312 *e*P **P** 09 10 54.0 -1.2
KRUS Krusevo 81.75 312 *e*P **P** 09 10 54.0 -1.5
TRPA Tarpa 81.86 319 ⇑*i*P **P** 09 10 56.0 +0.1
KWP Kalwaria Pacla 82.01 320 *e*P **P** 09 10 56.6 -0.1
KWP Kalwaria Pacla 82.01 320 ⇑P **P** 09 10 56.9 +0.2
KWP Kalwaria Pacla 82.01 320 ⇑*i*P **P** 09 10 56.9 +0.2
BZS Buzias 82.09 316 ⇑P **P** 09 10 57.2 0.0
BZS Buzias 82.09 316 ⇑*i*P **P** 09 10 57.2 0.0
UZH Uzhgorod 82.11 319 *e*P **P** 09 10 57.4 +0.2
KOLS Kolonicke sedl 82.17 319 *e*P **P** 09 10 58.2 +0.7
KOLS pmax pmax
comp=Z,40nm,0.9s,mb5.2
KOLS Kolonicke sedl 82.17 319 *e*P **P** 09 10 58.2 +0.7
SUW Suwalki 82.51 325 *e*P **P** 09 10 58.8 -0.4
comp=Z,63nm,0.5s,mb5.7
SUW Suwalki 82.51 325 *e*P **P** 09 10 58.8 -0.4
SUW pmax pmax
comp=Z,63nm,0.5s,mb5.7
FINES FINESS Array B 82.63 332 P **P** 09 10 59.5 -0.2
comp=Z,44nm,0.5s,mb5.5,baz=104,slow=5.4,SNR=254
FINES FINESS Array B 82.63 332 P **P** 09 10 59.5 -0.2
FINES FINESS Array B 82.63 332 P **P** 09 10 59.5 -0.1
KAF Kangasniemi 82.69 333 *e*P **P** 09 10 58.5 -1.4
KAF pmax pmax
comp=Z,100nm,0.6s,mb5.8
KAF Kangasniemi 82.69 333 *e*p **P** 09 10 58.5 -1.4
comp=Z,100nm,0.6s,mb5.8
CRVS Cervenica-Dubn 82.69 319 *e*P **P** 09 11 00.3 0.0
CRVS pmax pmax
comp=Z,138nm,3.6s
CRVS Cervenica-Dubn 82.69 319 *e*P **P** 09 11 00.3 0.0
TSUM Tsumeb 82.70 251 *e*P **P** 09 11 02.6 +1.6
comp=Z,13nm,0.9s,mb4.8
PSZ Piszkesteto 83.58 318 *e*P **P** 09 11 04.9 +0.1
PSZ Piszkesteto 83.58 318 *e*P **P** 09 11 04.9 0.0
PSZ Piszkesteto 83.58 318‖*e*P **P** 09 11 04.8 -0.1
PSZ Piszkesteto 83.58 318 ⇑*i*P **P** 09 11 04.9 0.0
VNDA Vanda 83.80 169 P **P** 09 11 06.5 +1.1
comp=Z,2.7nm,0.7s,mb4.2,baz=303,slow=6.5,SNR=10
VNDA Vanda 83.80 169 P **P** 09 11 06.5 +1.1
VNDA Vanda 83.80 169 P **P** 09 11 06.5 +1.1
OJC Ojcow 83.96 320 *e*P **P** 09 11 06.6 -0.1
OJC Ojcow 83.96 320 *e*P **P** 09 11 06.6 -0.1
BUD Budapest 84.11 318 ⇑P **P** 09 11 08.0 +0.4
PKSM Moragy 84.23 316 ⇑P **P** 09 11 07.9 -0.3
PKSM Moragy 84.23 316 ⇑*i*P **P** 09 11 07.9 -0.3
VYHS Vyhne 84.36 319 *e*P **P** 09 11 08.8 0.0
VYHS pmax pmax
comp=Z,18nm,1.6s,mb4.7
VYHS Vyhne 84.36 319 *e*P **P** 09 11 08.8 0.0
KEV Kevo 84.45 340 *e*P **P** 09 11 08.4 -0.5
KEV Kevo 84.45 340 *e*P **P** 09 11 08.4 -0.4
KEV Kevo 84.45 340 *e*p **P** 09 11 06.8 -2.0
comp=Z,28nm,0.7s,mb5.2
KOLL Kolacno 84.66 319 *e*P **P** 09 11 09.9 -0.4
KOLL Kolacno 84.66 319 *e*P **P** 09 11 09.9 -0.4
SBA Scott Base 84.89 169 *e*P **P** 09 11 13.1 +2.2
SBA Scott Base 84.89 169 *e*P **P** 09 11 13.1 +2.2
ARCES ARCESS Array B 84.90 340 P **P** 09 11 10.5 -0.6
comp=Z,38nm,0.4s,mb5.7,baz=108,slow=5.3,SNR=519
ARCES ARCESS Array B 84.90 340 P **P** 09 11 10.5 -0.6
ARCES ARCESS Array S 84.90 340 P **P** 09 11 10.5 -0.6
ARE0 ARCESS Array S 84.90 340 *e*P **P** 09 11 10.7 -0.3
ARE0 ARCESS Array S 84.90 340 *e*P **P** 09 11 10.8 -0.2
OKC Ostrava-Krasne 84.97 320 *e*P **P** 09 11 12.2 +0.4
OKC Ostrava-Krasne 84.97 320⇑*e*P **P** 09 11 12.2 +0.4
MORC Moravsky Berou 85.35 320 *e*P **P** 09 11 13.8 +0.1
comp=Z,9.7nm,0.8s,mb4.8
MORC Moravsky Berou 85.35 320 ⇑P **P** 09 11 14.1 +0.4
MORC Moravsky Berou 85.35 320 ⇑*i*P **P** 09 11 14.1 +0.4
ZST Bratislava 85.48 318 *e*P **P** 09 11 15.0 +0.6
ZST Bratislava 85.48 318 *e*P **P** 09 11 15.0 +0.6
CEL Celeste 85.54 308 *e*P **P** 09 11 15.9 +1.0
KTK1 Kautokeino 85.56 339 ⇑*i*P **P** 09 11 13.8 -0.6
KTK1 AMB AMB 09 11 14.7
comp=Z,129nm,0.7s,mb6.0
CUC Castrocucco 85.72 310 *e*P **P** 09 11 15.7 -0.1
DPC Dobruska-Polom 86.19 320 *e*P **P** 09 11 18.7 +0.9
DPC Dobruska-Polom 86.19 320 *e*P **P** 09 11 18.7 +0.9
DPC Dobruska-Polom 86.19 320 ⇑*i*P **P** 09 11 18.7 +0.9
KSP Ksiaz 86.25 321 *e*P **P** 09 11 18.7 +0.6
MSKU Masuku 86.35 268 P **P** 09 11 20.3 +0.8
comp=Z,16nm,0.5s,mb5.2,baz=15,slow=5.2,SNR=5.6
MSKU Masuku 86.35 268 P **P** 09 11 20.3 +0.8
UPC Upice 86.40 320 ⇑P **P** 09 11 19.7 +0.8
UPC Upice 86.40 320 ⇑*i*P **P** 09 11 19.7 +0.8
ARSA Arzberg 86.46 317 ⇑*i*P **P** 09 11 18.3 -0.9
comp=Z,18nm,1.1s,mb4.9
BOJS Bojanci 86.52 315 *i*P **P** 09 11 19.7 +0.2
TREC Trest 86.64 319 ⇑P **P** 09 11 20.4 +0.3
TREC Trest 86.64 319 ⇑*i*P **P** 09 11 20.4 +0.3
PERS Pernice 86.69 317 *i*P **P** 09 11 20.6 +0.2
SOKA Soboth 86.75 317 ⇑*i*P **P** 09 11 21.0 +0.3
comp=Z,22nm,0.9s,mb5.1
VISS Visnje 86.83 316 *i*P **P** 09 11 21.2 +0.1
LJU Ljubljana 87.06 316 *e*P **P** 09 11 22.5 +0.3
OBKA Obir 87.08 316 ⇑*i*P **P** 09 11 22.6 +0.4
comp=Z,7.4nm,0.7s,mb4.7
TRO Tromso 87.18 340 *e*P **P** 09 11 21.5 -0.7
TRO AMB AMB 09 11 22.2
comp=Z,44nm,1.9s,mb5.1
PRU Pruhonice 87.30 320 *e*P **P** 09 11 24.2 +0.9
PRU Pruhonice 87.30 320‖*e*P **P** 09 11 24.2 +0.9
PRU *ex* x 09 11 31.4
PVCC Panska Ves 87.32 320 *e*P **P** 09 11 23.9 +0.6
PVCC Panska Ves 87.32 320‖*e*P **P** 09 11 23.9 +0.6
JAVS Javornik 87.38 316 *i*P **P** 09 11 23.3 -0.4
BSD Bornholm Skovb 87.43 325 *i*P **P** 09 11 23.5 -0.2
BSD pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
VOY Vojsko 87.50 316 *e*P **P** 09 11 24.1 -0.2
VOY *e* 09 11 30.6
AQU L'Aquila 87.68 312 *e*P **P** 09 11 25.9 +0.7
comp=Z,71nm,1.1s,mb5.6
AQU L'Aquila 87.68 312 *e*P **P** 09 11 25.9 +0.7
AQU pmax pmax
comp=Z,71nm,1.1s,mb5.6
BRG Berggiesshubel 87.74 321 *e*P **P** 09 11 25.8 +0.5
comp=Z,54nm,1.4s,mb5.4
BRG Berggiesshubel 87.74 321 *e*P **P** 09 11 25.8 +0.5
BRG pmax pmax
comp=Z,54nm,1.4s,mb5.4
GEC2 GERESS Array S 87.78 319 *e*P **P** 09 11 26.1 +0.5
comp=Z,60nm,1.6s,mb5.4
GEC2 GERESS Array S 87.78 319 *e*P **P** 09 11 26.1 +0.5
GEC2 pmax pmax
comp=Z,60nm,1.6s,mb5.4
GERES GERESS Array B 87.78 319 P **P** 09 11 25.9 +0.4
comp=Z,8.1nm,0.7s,mb4.9,baz=86,slow=4.1,SNR=41
GERES GERESS Array B 87.78 319 P **P** 09 11 25.9 +0.4
GERES GERESS Array B 87.78 319 P **P** 09 11 25.9 +0.3
KHC Kasperske Hory 87.88 319 *e*P **P** 09 11 26.2 +0.2
comp=Z,6.3nm,0.6s,mb4.8
KHC Kasperske Hory 87.88 319 *e*P **P** 09 11 26.2 +0.2
KHC pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
KHC Kasperske Hory 87.88 319 ⇑*i*P **P** 09 11 26.2 +0.2
RUE Ruedersdorf 87.93 322 *e*P **P** 09 11 26.9 +0.7
comp=Z,155nm,1.1s,mb6.0
RUE Ruedersdorf 87.93 322 *e*P **P** 09 11 26.8 +0.7
comp=Z,143nm,1.0s,mb6.0
KBA Koelnbreinsper 87.93 317 ⇑*i*P **P** 09 11 26.0 -0.4
comp=Z,4.4nm,0.5s,mb4.7
FBE Freiberg 88.11 321 *e*P **P** 09 11 27.8 +0.7
comp=Z,38nm,0.9s,mb5.4
STEI Steigen 88.31 338 *e*P **P** 09 11 27.3 -0.3
STEI AMB AMB 09 11 28.2
comp=Z,109nm,0.8s,mb6.0
RJOB Jochberg 88.33 318 *e*P **P** 09 11 27.8 -0.4
WET Wettzell 88.34 319 *e*P **P** 09 11 28.8 +0.6
comp=Z,38nm,1.3s,mb5.3
WET Wettzell 88.34 319 *e*P **P** 09 11 28.8 +0.6
WET pmax pmax
comp=Z,38nm,1.3s,mb5.3
CLL Collm 88.35 321 *e*P **P** 09 11 28.4 +0.2
comp=Z,42nm,1.2s,mb5.3
CLL Collm 88.35 321 ⇑*i*P **P** 09 11 28.3 +0.1
CLL pmax pmax
comp=Z,42nm,1.2s,mb5.3
CLL Collm 88.35 321 ⇑*i*P **P** 09 11 28.3 +0.1
comp=Z,42nm,1.2s,mb5.3
CLL *e*(pP) pP 09 12 05.0 +5.5
TANN Tannenbergstha 88.66 320 *e*P **P** 09 11 30.1 +0.4
comp=Z,25nm,1.3s,mb5.1
NKC Novy Kostel 88.66 320 *e*P **P** 09 11 30.4 +0.7
NKC Novy Kostel 88.66 320⇑*e*P **P** 09 11 30.4 +0.7
WERN Wernitzgruen 88.71 320 *e*P **P** 09 11 30.4 +0.5
comp=Z,17nm,1.0s,mb5.0
GUNZ Gunzen 88.74 320 *e*P **P** 09 11 30.8 +0.8
comp=Z,33nm,1.2s,mb5.2
WERD Werda 88.76 320 *e*P **P** 09 11 30.7 +0.6
comp=Z,23nm,1.0s,mb5.2
ROTZ Rotzenmuhle 88.80 320 *e*P **P** 09 11 31.2 +0.9
comp=Z,20nm,1.0s,mb5.1
LLD Lille Linde 88.98 325 *i*P **P** 09 11 23.5 -7.6
comp=Z,4.5nm,0.5s,mb4.8
SPA0 Spitsbergen Ar 89.00 348 *e*P **P** 09 11 29.4 -1.4
SPITS Spitsbergen Ar 89.00 348 P **P** 09 11 29.6 -1.1
comp=Z,31nm,0.5s,mb5.6,baz=63,slow=5.7,SNR=109
SPITS Spitsbergen Ar 89.00 348 P **P** 09 11 29.6 -1.1
SPITS Spitsbergen Ar 89.00 348 P **P** 09 11 29.7 -1.1
STOK Stokkvaagen 89.07 336 *e*P **P** 09 11 31.2 0.0
WTTA Wettenberg 89.10 317 ⇓*i*P **P** 09 11 31.6 -0.3
comp=Z,34nm,1.0s,mb5.3
MAIT Maitri 89.11 199 *e*P **P** 09 11 34.2 +2.8
NEUB Neuenburg 89.12 321 *e*P **P** 09 11 32.5 +0.7
comp=Z,83nm,1.0s,mb5.7
WATA Walderalm 89.15 317 ⇑*i*P **P** 09 11 31.6 -0.5
comp=Z,9.8nm,0.5s,mb5.1
MOX Moxa 89.20 320 *e*P **P** 09 11 32.8 +0.6
comp=Z,60nm,1.6s,mb5.4
MOX Moxa 89.20 320 *e*P **P** 09 11 32.8 +0.6
MOX pmax pmax
comp=Z,60nm,1.6s,mb5.4
FUR Furstenfeldbru 89.37 318 *e*P **P** 09 11 33.3 +0.2
FUR Furstenfeldbru 89.37 318 *e*P **P** 09 11 33.3 +0.2
GRF Grafenberg Arr 89.44 320 *e*P **P** 09 11 34.3 +1.0
comp=Z,51nm,1.0s,mb5.5
GRF Grafenberg Arr 89.44 320 *e*P **P** 09 11 34.3 +1.0
GRF pmax pmax
comp=Z,51nm,1.0s,mb5.5
MOTA Moosalm 89.47 317 ⇑*i*P **P** 09 11 33.2 -0.3
comp=Z,18nm,0.7s,mb5.2
QSPA South Pole Qui 89.62 180 *e*P **P** 09 11 35.3 +1.7
comp=Z,9.1nm,1.1s,mb4.8
NB2 NORSAR Subarra 89.68 331 P **P** 09 11 33.3 -0.9
comp=Z,2.9nm,0.7s,mb4.5,baz=90,slow=4.8
NOA NORSAR Array B 89.68 331 P **P** 09 11 33.6 -0.6
comp=Z,3.8nm,0.8s,mb4.6,baz=97,slow=4.9,SNR=11
NOA NORSAR Array B 89.68 331 P **P** 09 11 33.6 -0.6
NOA NORSAR Array B 89.68 331 P **P** 09 11 33.7 -0.5
RETA Reutte 89.70 317 ⇑*i*P **P** 09 11 34.7 +0.1
comp=Z,27nm,0.7s,mb5.5
FETA Feichten 89.72 317 ⇑*i*P **P** 09 11 35.0 +0.3
comp=Z,15nm,0.8s,mb5.2
KBS Kingsbay 89.94 349 *e*P **P** 09 11 35.2 +0.1
KBS pmax pmax
comp=Z,91nm,1.7s,mb5.6
CLZ Clausthal 90.01 322 *e*P **P** 09 11 36.7 +0.8
comp=Z,58nm,1.4s,mb5.5
CLZ Clausthal 90.01 322 *e*P **P** 09 11 36.7 +0.8
CLZ pmax pmax
comp=Z,58nm,1.4s,mb5.5
NRDL Niedersach Rie 90.17 322 *e*P **P** 09 11 37.3 +0.6
comp=Z,39nm,1.2s,mb5.4

DAVA **Damuels** 90.30 317⇑ *i*PcP PcP 09 11 37.9 -0.6
comp=Z,54nm,1.1s
VSL **Villasalto** 90.66 309 *e*P **P** 09 11 39.6 +0.3
comp=Z,28nm,1.0s,mb5.3
TUE **Stuetta** 90.67 316 *e*P **P** 09 11 39.3 +0.2
KEST **Kesra** 90.70 306 P **P** 09 11 41.1 +1.5
comp=Z,20nm,0.9s,mb5.2,baz=111,slow=0.8,SNR=43
KEST **Kesra** 90.70 306 P **P** 09 11 41.1 +1.5
MUD **Monsted U'grnd** 90.71 326 *i* P **P** 09 11 35.8 -3.3
MUD pmax pmax
comp=Z,12nm,0.4s,mb5.4
MUD **Monsted U'grnd** 90.71 326 *i* P **P** 09 11 35.8 -3.3
comp=Z,12nm,0.4s,mb5.4
STU **Stuttgart** 90.76 319 *e*P **P** 09 11 39.8 +0.3
PGF **Pioggiola** 90.94 312⇑ *i*P **P** 09 11 40.8 +0.3
comp=Z,26nm,0.9s,mb5.1
PGF **Pioggiola** 90.94 312⇑ *i*P **P** 09 11 40.8 +0.3
comp=Z,13nm,0.9s,mb5.1
PGF **Pioggiola** 90.94 312⇑ *i*P **P** 09 11 40.8 +0.3
PGF pmax pmax
comp=Z,13nm,0.9s,mb5.1
TNS **Taunus Mts** 91.23 320 *e*P **P** 09 11 42.2 +0.5
comp=Z,28nm,1.1s,mb5.3
TNS **Taunus Mts** 91.23 320 *e*P **P** 09 11 42.2 +0.5
TNS pmax pmax
comp=Z,28nm,1.1s,mb5.3
BFO **Black Forest** 91.34 318 *e*P **P** 09 11 42.1 -0.1
comp=Z,20nm,1.1s,mb5.2
BFO **Black Forest** 91.34 318 *e*P **P** 09 11 42.1 -0.1
BFO pmax pmax
comp=Z,20nm,1.1s,mb5.2
MOL **Molde** 91.41 332 *e*P **P** 09 11 41.9 -0.3
IBBN **Ibbenburen** 91.62 322 *e*P **P** 09 11 43.8 +0.4
comp=Z,19nm,0.6s,mb5.5
CDF **Champ du Feu** 92.04 318⇑ *i*P **P** 09 11 45.3 -0.2
comp=Z,21nm,0.9s,mb5.1
CDF **Champ du Feu** 92.04 318⇑ *i*P **P** 09 11 45.3 -0.2
comp=Z,11nm,0.9s,mb5.1
CDF **Champ du Feu** 92.04 318⇑ *i*P **P** 09 11 45.3 -0.2
CDF pmax pmax
comp=Z,11nm,0.9s,mb5.1
SBF **Sospel** 92.06 314⇑ *i*P **P** 09 11 45.7 0.0
comp=Z,32nm,0.8s,mb5.3
SBF **Sospel** 92.06 314⇑ *i*P **P** 09 11 45.7 0.0
comp=Z,16nm,0.8s,mb5.3
SBF **Sospel** 92.06 314⇑ *i*P **P** 09 11 45.7 0.0
SBF pmax pmax
comp=Z,16nm,0.8s,mb5.3
LPG **La Plagne** 92.50 315⇑ *i*P **P** 09 11 48.0 +0.4
comp=Z,43nm,1.0s,mb5.3
LPG **La Plagne** 92.50 315⇑ *i*P **P** 09 11 48.0 +0.4
comp=Z,22nm,1.0s,mb5.3
LPG **La Plagne** 92.50 315⇑ *i*P **P** 09 11 48.0 +0.4
LPG pmax pmax
comp=Z,22nm,1.0s,mb5.3
LPL **La Plagne** 92.51 315⇑ *i*P **P** 09 11 48.0 +0.3
comp=Z,55nm,1.0s,mb5.5
LPL **La Plagne** 92.51 315⇑ *i*P **P** 09 11 48.0 +0.3
comp=Z,27nm,1.0s,mb5.5
LPL **La Plagne** 92.51 315⇑ *i*P **P** 09 11 48.0 +0.3
LPL pmax pmax
comp=Z,27nm,1.0s,mb5.5
FRF **La Foret Royal** 92.64 313 *e*P **P** 09 11 48.4 0.0
comp=Z,18nm,0.7s,mb5.2
FRF **La Foret Royal** 92.64 313 *e*P **P** 09 11 48.4 0.0
comp=Z,8.8nm,0.7s,mb5.2
FRF **La Foret Royal** 92.64 313 *e*P **P** 09 11 48.4 0.0
FRF pmax pmax
comp=Z,9.0nm,0.7s,mb5.2
HAU **Haudompre** 92.67 318⇑ *i*P **P** 09 11 48.2 -0.2
comp=Z,48nm,1.0s,mb5.5
HAU **Haudompre** 92.67 318⇑ *i*P **P** 09 11 48.2 -0.2
comp=Z,24nm,1.0s,mb5.5
HAU **Haudompre** 92.67 318⇑ *i*P **P** 09 11 48.2 -0.2
HAU pmax pmax
comp=Z,24nm,1.0s,mb5.5
CABF **La Chapelle** 92.91 316⇑ *i*P **P** 09 11 49.8 +0.3
comp=Z,24nm,0.8s,mb5.3
CABF **La Chapelle** 92.91 316⇑ *i*P **P** 09 11 49.8 +0.3
comp=Z,12nm,0.8s,mb5.3
CABF **La Chapelle** 92.91 316⇑ *i*P **P** 09 11 49.8 +0.3
CABF pmax pmax
comp=Z,12nm,0.8s,mb5.3
ORIF **Oris-en-Rattie** 93.13 315 *e*P **P** 09 11 50.9 +0.3
comp=Z,12nm,0.6s,mb5.1
ORIF **Oris-en-Rattie** 93.13 315 *e*P **P** 09 11 50.9 +0.3
comp=Z,6.1nm,0.6s,mb5.1
ORIF **Oris-en-Rattie** 93.13 315 *e*P **P** 09 11 50.9 +0.3
ORIF pmax pmax
comp=Z,6.0nm,0.6s,mb5.1
SMRF **Simiane la Rot** 93.40 314 *e*P **P** 09 11 52.4 +0.6
SMRF **Simiane la Rot** 93.40 314 *e*P **P** 09 11 52.4 +0.6
SFTF **Sexfontaines** 93.54 318⇑ *i*P **P** 09 11 52.3 -0.1
comp=Z,73nm,1.0s,mb5.7
SFTF **Sexfontaines** 93.54 318⇑ *i*P **P** 09 11 52.3 -0.1
comp=Z,73nm,1.0s,mb6.0
BAIF **Baives** 93.96 320 *e*P **P** 09 11 54.4 +0.1
BAIF **Baives** 93.96 320 *e*P **P** 09 11 54.4 +0.1
BAIF **Baives** 93.96 320 *e*P **P** 09 11 54.4 +0.1
VIVF **Saint-Julien-l** 94.00 315 *e*P **P** 09 11 54.5 -0.1
VIVF **Saint-Julien-l** 94.00 315 *e*P **P** 09 11 54.5 -0.1
VIVF **Saint-Julien-l** 94.00 315 *e*P **P** 09 11 54.5 -0.1
TAM **Tamanrasset** 94.23 293 *e*P **P** 09 11 57.8 +1.7
comp=Z,2.5nm,0.8s,mb4.6
TAM **Tamanrasset** 94.23 293 *e*P **P** 09 11 57.8 +1.7
TAM pmax pmax
comp=Z,2.0nm,0.8s,mb4.5
LOR **Lormes** 94.40 317⇑ *i*P **P** 09 11 56.1 -0.2
comp=Z,41nm,1.1s,mb5.4
LOR **Lormes** 94.40 317⇑ *i*P **P** 09 11 56.1 -0.2
comp=Z,21nm,1.1s,mb5.4
LOR **Lormes** 94.40 317⇑ *i*P **P** 09 11 56.1 -0.2
LOR pmax pmax
comp=Z,21nm,1.1s,mb5.4
SMF **Signal de Mont** 94.45 317⇑ *i*P **P** 09 11 56.4 -0.2
comp=Z,23nm,0.7s,mb5.3
SMF **Signal de Mont** 94.45 317⇑ *i*P **P** 09 11 56.4 -0.2
comp=Z,11nm,0.7s,mb5.3
SMF **Signal de Mont** 94.45 317⇑ *i*P **P** 09 11 56.4 -0.2
SMF pmax pmax
comp=Z,11nm,0.7s,mb5.3
AVF **Avril sur Loir** 94.78 317 *e*P **P** 09 11 57.9 -0.2
comp=Z,8.5nm,0.8s,mb4.9
AVF **Avril sur Loir** 94.78 317 *e*P **P** 09 11 57.9 -0.2
comp=Z,4.3nm,0.8s,mb4.9
AVF **Avril sur Loir** 94.78 317 *e*P **P** 09 11 57.9 -0.2
AVF pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
DAG **Danmarks Havn** 96.66 348⇑ *i*P **P** 09 12 04.1 -1.9
DAG **Danmarks Havn** 96.66 348⇑ *i*P **P** 09 12 04.1 -1.9
comp=Z,1.9nm,0.4s,mb4.9
LDF **La Druitiere** 96.93 319⇑ *i*P **P** 09 12 07.3 -0.5
comp=Z,6.5nm,0.6s,mb5.0
LDF **La Druitiere** 96.93 319⇑ *i*P **P** 09 12 07.3 -0.5
comp=Z,3.3nm,0.6s,mb4.9
LDF **La Druitiere** 96.93 319⇑ *i*P **P** 09 12 07.3 -0.5
LDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.9
COLD **Coldfoot** 97.89 22 *e*P **P** 09 12 11.4 -0.3
comp=Z,6.2nm,0.9s,mb5.1
TORD **Torodi Ar. Bea** 98.13 283 P **P** 09 12 14.2 +0.2
comp=Z,3.0nm,0.9s,mb4.8,baz=84,slow=5.5,SNR=18
TORD PP PP 09 16 15.2 +0.3
comp=Z,0.3nm,0.7s,baz=114,slow=6.6,SNR=4.0
TORD LR LR 09 51 09.3
comp=Z,33nm,21.0s,baz=355,slow=32
TORD **Torodi Ar. Bea** 98.13 283 P **P** 09 12 14.2 +0.2
TORD PP PP 09 16 15.2 +0.3
TORD LR LR 09 51 09.3
ILAR **Eielson Array** 100.00 24 P Pdif 09 12 19.5 -1.9
comp=Z,1.3nm,0.6s,baz=283,slow=4.2,SNR=25
ILAR PP PP 09 16 20.6 -6.9
comp=Z,1.3nm,0.9s,baz=288,slow=6.9,SNR=8.2
ILAR PKKPbc PKKPbc 09 28 39.8 -2.8
comp=Z,1.2nm,0.8s,baz=146,slow=1.9,SNR=16
ILAR **Eielson Array** 100.00 24 P Pdif 09 12 19.5 -1.9
ILAR PP PP 09 16 20.6 -6.9
ILAR PKKPbc PKKPbc 09 28 39.8 -2.8
ILAR **Eielson Array** 100.00 24 P Pdif 09 12 19.5 -1.9
RES **Resolute Bay** 105.21 4 PKiKP PKiKP 09 16 56.9 -0.9
comp=Z,2.0nm,0.8s,baz=328,slow=17,SNR=4.3
RES **Resolute Bay** 105.21 4 PKPdf PKiKP 09 16 56.9 -0.9
YKA **Yellowknife Ar** 112.79 17 PKiKP PKiKP 09 17 10.6 -1.7
comp=Z,2.2nm,0.7s,baz=319,slow=0.9,SNR=7.0
YKA **Yellowknife Ar** 112.79 17 PKPdf PKiKP 09 17 10.6 -1.7
YKA **Yellowknife Ar** 112.79 17 PKIKP PKiKP 09 17 10.6 -1.7

A05A **Maple Falls** 119.56 30 ⇓PKPdf PKPdf 09 17 24.9 -0.8
baz=119
B06A **Marblemount** 120.17 31 ⇓PKPdf PKPdf 09 17 26.1 -0.8
baz=120
E03A **Lebam** 120.30 33 ⇑PKPdf PKPdf 09 17 27.1 0.0
baz=120
F03A **Seaside** 120.67 34 ⇑PKPdf PKPdf 09 17 27.5 -0.4
baz=120
D05A **Emmclaw** 120.75 32 ⇑PKPdf PKPdf 09 17 28.0 0.0
baz=120
B08A **Colville Reser** 121.36 30 ⇓PKPdf PKPdf 09 17 28.5 -0.7
baz=121
G04A **Mulino** 121.72 34 ⇑PKPdf PKPdf 09 17 29.9 -0.1
baz=122
H04A **Detroit Lake** 122.20 34 ⇑PKPdf PKPdf 09 17 30.6 -0.3
baz=122
C09A **Chrisman Ranch** 122.26 30 ⇓PKPdf PKPdf 09 17 30.4 -0.5
baz=122
E07A **Sunnyside** 122.28 32 ⇓PKPdf PKPdf 09 17 30.4 -0.6
baz=122
D08A **Wollman Farm,** 122.44 31 ⇑PKPdf PKPdf 09 17 31.0 -0.3
baz=122
NEW **Newport** 122.50 29 ⇓PKPdf PKPdf 09 17 30.9 -0.4
baz=122
NEW **Newport** 122.50 29 *e*PKPdf PKPdf 09 17 30.6 -0.8
NEW **Newport** 122.50 29 *e*PKIKP PKPdf 09 17 30.6 -0.7
HAWA **Hanford** 122.56 31 *e*PKPdf PKPdf 09 17 31.5 0.0
A12A **Yaak River Ran** 122.71 27 ⇓PKPdf PKPdf 09 17 31.8 0.0
baz=122
G06A **Carlson Farm,** 122.72 33 ⇑PKPdf PKPdf 09 17 31.8 -0.1
baz=122
E08A **Dider Farm, El** 122.74 31 ⇑PKPdf PKPdf 09 17 32.0 +0.1
baz=122
FFC **Flin Flon** 122.87 15 *e*PKPdf PKPdf 09 17 30.8 -1.0
FFC **Flin Flon** 122.87 15 *i* PKIKP PKPdf 09 17 31.2 -0.7
HUMO **Hull Mountain** 122.99 37 *e*PKPdf PKPdf 09 17 32.6 +0.2
E09A **Wood Farm, Sta** 123.19 31 ⇑PKPdf PKPdf 09 17 32.4 -0.4
baz=123
C11A **Tepee Creek (N** 123.21 28 ⇑PKPdf PKPdf 09 17 32.2 -0.6
baz=123
A13A **Flathead Natio** 123.27 26 ⇓PKPdf PKPdf 09 17 32.9 +0.1
baz=123
LNOR **Lincton Mounta** 123.56 31 *e*PKPdf PKPdf 09 17 32.8 -0.6
LNOR **Lincton Mounta** 123.56 31 *e*PKIKP PKPdf 09 17 32.8 -0.7
G08A **Pilot Rock** 123.59 32 ⇓PKPdf PKPdf 09 17 33.5 0.0
baz=123
B13A **Whitefish** 123.65 27 ⇓PKPdf PKPdf 09 17 33.1 -0.5
baz=123
A14A **Double T Ranch** 123.67 26 ⇑PKPdf PKPdf 09 17 32.7 -0.9
baz=123
BSMT **Bassoo Peak** 123.89 28 *e*PKPdf PKPdf 09 17 33.6 -0.5
A15A **Johnson Ranch,** 123.97 25 ⇑PKPdf PKPdf 09 17 33.2 -0.9
baz=124
F10A **Beach Ranch, E** 124.03 31 ⇑PKPdf PKPdf 09 17 34.1 -0.3
baz=124
I07A **Izee** 124.07 34 ⇓PKPdf PKPdf 09 17 34.8 +0.3
baz=124
C13A **Hot Springs** 124.11 28 ⇑PKPdf PKPdf 09 17 33.6 -0.9
baz=124
K05A **Summer Lake** 124.14 36 ⇑PKPdf PKPdf 09 17 34.4 -0.3
baz=124
B14A **Marquette Ranc** 124.20 26 ⇑PKPdf PKPdf 09 17 33.8 -0.8
baz=124
D12A **Red Ives Fores** 124.20 29 ⇓PKPdf PKPdf 09 17 33.6 -1.1
baz=124
C14A **Swan Lake** 124.43 27 ⇑PKPdf PKPdf 09 17 34.2 -0.8
baz=124
A16A **West Butte Ran** 124.47 25 ⇓PKPdf PKPdf 09 17 34.3 -0.8
baz=124
SWMT **Swartz Lake** 124.50 27 *e*PKPdf PKPdf 09 17 34.9 -0.3
B15A **Bradely Ranch,** 124.55 26 ⇑PKPdf PKPdf 09 17 34.5 -0.8
baz=124
E12A **Beaver Dam Sad** 124.55 29 ⇑PKPdf PKPdf 09 17 34.7 -0.6
baz=124
D13A **Huson** 124.59 28 ⇓PKPdf PKPdf 09 17 34.7 -0.8
baz=124
SCHQ **Schefferville** 124.61 351 PKP PKPdf 09 17 34.7 -0.5
comp=Z,8.5nm,0.6s,baz=3,3,slow=2.8,SNR=13
SCHQ **Schefferville** 124.61 351 PKP PKPdf 09 17 34.7 -0.5
B16A **M & M Farms, S** 124.84 25 ⇓PKPdf PKPdf 09 17 35.3 -0.6
baz=125
A17A **Triple J Farms** 124.85 24 ⇓PKPdf PKPdf 09 17 35.5 -0.4
baz=125
C15A **Salmond Ranch,** 124.93 26 ⇓PKPdf PKPdf 09 17 35.6 -0.4
baz=125
MOD **Modoc** 124.99 36 *e*PKPdf PKPdf 09 17 36.5 +0.2
MSO **Missoula** 125.03 28 ⇑PKPdf PKPdf 09 17 35.4 -0.8
baz=125
MSO **Missoula** 125.03 28 *e*PKPdf PKPdf 09 17 35.5 -0.8
D14A **Greenough** 125.05 27 ⇓PKPdf PKPdf 09 17 35.3 -1.0
baz=125
J08A **Circle Bar Ran** 125.11 34 ⇓PKPdf PKPdf 09 17 36.6 +0.1
baz=125
E13A **Victor** 125.19 28 ⇓PKPdf PKPdf 09 17 35.9 -0.7
baz=125
A18A **Metzger Ranch,** 125.21 24 ⇓PKPdf PKPdf 09 17 35.9 -0.7
baz=125
CHMT **Chamberlain Mo** 125.29 27 *e*PKPdf PKPdf 09 17 36.0 -0.8
C16A **Fuhringer Ranc** 125.29 26 ⇓PKPdf PKPdf 09 17 36.0 -0.8
baz=125
B17A **L&G Farms, Che** 125.31 25 ⇑PKPdf PKPdf 09 17 36.2 -0.6
baz=125
D15A **Lincoln** 125.52 27 ⇓PKPdf PKPdf 09 17 36.6 -0.6
baz=125
E14A **Clinton** 125.54 28 ⇑PKPdf PKPdf 09 17 36.9 -0.4
baz=125
G12A **Big Creek, Yel** 125.58 30 ⇓PKPdf PKPdf 09 17 36.4 -0.9
baz=125
F13A **Darby** 125.60 29 ⇓PKPdf PKPdf 09 17 36.4 -0.9
baz=125
WVOR **Wild Horse Val** 125.62 35 *e*PKPdf PKPdf 09 17 37.9 +0.4
WVOR **Wild Horse Val** 125.62 35 *e*PKIKP PKPdf 09 17 37.9 +0.4
A19A **Klindworth Far** 125.64 23 ⇓PKPdf PKPdf 09 17 36.7 -0.6
baz=125
B18A **Beardsley Farm** 125.66 24 ⇓PKPdf PKPdf 09 17 36.9 -0.5
baz=125
C17A **Wharram Farm,** 125.84 25 ⇑PKPdf PKPdf 09 17 37.2 -0.5
baz=126
E15A **Deer Lodge** 125.93 27 ⇓PKPdf PKPdf 09 17 37.7 -0.3
baz=126
B19A **Brinkman Farms** 125.94 23 ⇑PKPdf PKPdf 09 17 37.7 -0.3
baz=126
EGMT **Eagleton** 125.96 24 ⇑PKPdf PKPdf 09 17 37.5 -0.5
baz=126
EGMT **Eagleton** 125.96 24 *e*PKPdf PKPdf 09 17 36.7 -1.3
D16A **Dana Ranch, Ca** 125.97 26 ⇓PKPdf PKPdf 09 17 37.9 -0.1
baz=126
A20A **Cobblestone Ra** 126.00 22 ⇓PKPdf PKPdf 09 17 37.5 -0.6
baz=126
F14A **Wisdom** 126.04 28 ⇓PKPdf PKPdf 09 17 37.8 -0.5
baz=126
HRY **Holter Researc** 126.08 27 *e*PKPdf PKPdf 09 17 38.2 -0.1
G13A **Cobalt** 126.15 30 ⇓PKPdf PKPdf 09 17 37.8 -0.7
baz=126
H12A **Diamond D Ranc** 126.22 30 ⇓PKPdf PKPdf 09 17 38.5 -0.1
baz=126
D17A **Six Diamond Ra** 126.25 26 ⇑PKPdf PKPdf 09 17 38.2 -0.3
baz=126
A21A **Bergtoll Ranch** 126.28 22 ⇑PKPdf PKPdf 09 17 38.4 -0.2
baz=126
E16A **East Helena** 126.29 27 ⇓PKPdf PKPdf 09 17 38.6 -0.1
baz=126
B20A **Solberg Farm,** 126.32 23 ⇓PKPdf PKPdf 09 17 38.1 -0.5
baz=126
G14A **Jackson** 126.42 29 ⇓PKPdf PKPdf 09 17 39.0 +0.1
baz=126
F15A **Butte** 126.44 28 ⇑PKPdf PKPdf 09 17 38.8 -0.2
baz=126
C19A **Slack Wire Ran** 126.48 24 ⇑PKPdf PKPdf 09 17 39.2 +0.2
baz=126
MFID **Camas Ranch** 126.51 32 ⇑PKPdf PKPdf 09 17 39.5 +0.3
baz=126
MFID **Camas Ranch** 126.51 32 *e*PKPdf PKPdf 09 17 39.3 +0.1
H13A **Challis** 126.52 30 ⇓PKPdf PKPdf 09 17 39.3 +0.1
baz=126
D18A **Linhart Farms,** 126.59 25 ⇓PKPdf PKPdf 09 17 39.3 +0.1
baz=126
I12A **Atlanta** 126.61 31 ⇑PKPdf PKPdf 09 17 39.8 +0.5
baz=126
A22A **Carney Farms,** 126.65 21 ⇓PKPdf PKPdf 09 17 39.4 +0.1
baz=126
E17A **Martinsdale** 126.71 26 ⇓PKPdf PKPdf 09 17 39.5 0.0
baz=126
B21A **Ellsworth Farm** 126.71 22 ⇓PKPdf PKPdf 09 17 39.4 0.0
baz=126
DLMT **Dillon** 126.74 28 *e*PKPdf PKPdf 09 17 39.9 +0.3
F16A **Kennard Place,** 126.88 27 ⇑PKPdf PKPdf 09 17 39.9 +0.1
baz=127
WCN **Washoe City** 126.90 38 ⇑PKPdf PKPdf 09 17 40.5 +0.5
baz=127
H14A **Leadore** 126.92 29 ⇑PKPdf PKPdf 09 17 40.2 +0.3
baz=127
G15A **Dillon** 126.94 28 ⇓PKPdf PKPdf 09 17 40.5 +0.6
baz=127
BOZ **Bozeman (W)** 126.98 27 ⇑PKPdf PKPdf 09 17 40.3 +0.3
baz=127
BOZ **Bozeman (W)** 126.98 27 *e*PKPdf PKPdf 09 17 40.2 +0.2
BOZ **Bozeman (W)** 126.98 27 *e*PKIKP PKPdf 09 17 40.3 +0.3
D19A **Cripps Ranch,** 127.00 24 ⇓PKPdf PKPdf 09 17 39.7 -0.3
baz=127
MCMT **McKenzie Canyo** 127.02 29 *e*PKPdf PKPdf 09 17 40.4 +0.3
E18A **Harlowton** 127.04 26 ⇑PKPdf PKPdf 09 17 40.0 -0.1
baz=127
HLID **Hailey** 127.15 31 ⇓PKPdf PKPdf 09 17 40.9 +0.4
baz=127
HLID **Hailey** 127.15 31 *e*PKPdf PKPdf 09 17 40.7 +0.3
C21A **Desert Coulee** 127.18 23 ⇑PKPdf PKPdf 09 17 40.1 -0.3
baz=127
B22A **Reddig Ranch S** 127.20 22 ⇓PKPdf PKPdf 09 17 40.1 -0.2
baz=127
G16A **Moss Hill, Enn** 127.21 28 ⇑PKPdf PKPdf 09 17 40.6 +0.2
baz=127
F17A **Fitzpatrick Pl** 127.22 27 ⇑PKPdf PKPdf 09 17 40.6 +0.1
baz=127
H15A **Lima** 127.27 29 ⇑PKPdf PKPdf 09 17 40.8 +0.2
baz=127
D20A **Manuel Ranch,** 127.36 24 ⇑PKPdf PKPdf 09 17 40.3 -0.4
baz=127
A24A **Westby** 127.37 20 ⇑PKPdf PKPdf 09 17 40.6 0.0
baz=127
I14A **Mackay** 127.37 30 ⇑PKPdf PKPdf 09 17 41.1 +0.2
baz=127
J13A **Cove Ranch, Pi** 127.39 31 ⇓PKPdf PKPdf 09 17 41.1 +0.2
baz=127
B23A **Brockton** 127.42 21 ⇑PKPdf PKPdf 09 17 40.6 -0.2
baz=127
WAKR **Walker** 127.57 39 *e*PKPdf PKPdf 09 17 42.5 +1.1
E19A **Rath Farm, Rou** 127.60 25 ⇑PKPdf PKPdf 09 17 41.1 -0.1
baz=127
G17A **Pierce Place,** 127.64 27 ⇑PKPdf PKPdf 09 17 42.0 +0.7
baz=127
F18A **Big Timber** 127.64 26 ⇑PKPdf PKPdf 09 17 41.5 +0.2
baz=127
QLMT **Earthquake Lak** 127.69 28 *e*PKPdf PKPdf 09 17 42.7 +1.3
DGMT **Dagmar** 127.69 20 ⇓PKPdf PKPdf 09 17 41.4 +0.1
baz=127
C22A **Vida** 127.70 22 ⇑PKPdf PKPdf 09 17 41.1 -0.3
baz=128
J14A **Carey** 127.78 31 ⇑PKPdf PKPdf 09 17 41.8 +0.1
baz=128
I15A **Monteview** 127.80 29 ⇓PKPdf PKPdf 09 17 41.9 +0.3
baz=128
E20A **Meyer Farm, Mu** 127.84 24 ⇓PKPdf PKPdf 09 17 41.9 +0.3
baz=128
D21A **La Casta Ranch** 127.84 23 ⇓PKPdf PKPdf 09 17 41.7 +0.1
baz=128
H16A **Russell Place,** 127.87 28 ⇑PKPdf PKPdf 09 17 42.2 +0.4
baz=128
C23A **Lambert** 127.91 21 ⇓PKPdf PKPdf 09 17 42.0 +0.2
baz=128
F19A **Roth Farm, Mol** 128.01 25 ⇓PKPdf PKPdf 09 17 41.6 -0.4
baz=128
YMR **Madison River** 128.03 28 *e*PKPdf PKPdf 09 17 43.6 +1.6
D22A **Cohagen** 128.09 22 ⇑PKPdf PKPdf 09 17 42.5 +0.4
baz=128
J15A **Blackfoot** 128.26 30 ⇑PKPdf PKPdf 09 17 43.0 +0.5
baz=128
LKWY **Lake** 128.37 27 *e*PKPdf PKPdf 09 17 44.5 +1.8
LKWY **Lake** 128.37 27 *e*PKIKP PKPdf 09 17 44.5 +1.8
I16A **Newdale** 128.38 29 ⇑PKPdf PKPdf 09 17 43.2 +0.4
baz=128
F20A **Billings** 128.40 25 ⇓PKPdf PKPdf 09 17 42.5 -0.2
baz=128
C24A **Savage** 128.42 21 ⇓PKPdf PKPdf 09 17 43.1 +0.4
baz=128
H17A **Grant Village** 128.42 28 ⇑PKPdf PKPdf 09 17 44.2 +1.4
baz=128
D23A **Lindsay** 128.43 22 ⇓PKPdf PKPdf 09 17 43.3 +0.6
baz=128
RLMT **Red Lodge** 128.45 26 ⇓PKPdf PKPdf 09 17 43.0 +0.2
baz=128
RLMT **Red Lodge** 128.45 26 *e*PKPdf PKPdf 09 17 43.1 +0.2
LAO **LASA Array** 128.45 23 ⇑PKPdf PKPdf 09 17 43.3 +0.5
baz=128
LAO **LASA Array** 128.45 23 *e*PKPdf PKPdf 09 17 42.9 +0.1
ULM **Lac du Bonnet** 128.46 13 PKP PKPdf 09 17 41.9 -0.8
comp=Z,14nm,0.5s,baz=3.1,slow=1.9,SNR=28
ULM **Lac du Bonnet** 128.46 13 PKP PKPdf 09 17 41.9 -0.8
ULM **Lac du Bonnet** 128.46 13 PKIKP PKPdf 09 17 41.9 -0.8
K14A **Jones Ranch, D** 128.51 31 ⇓PKPdf PKPdf 09 17 43.9 +0.9
baz=128
H18A **Shoshone NF, C** 128.62 27 ⇓PKPdf PKPdf 09 17 43.9 +0.7
baz=128
K15A **Arbon** 128.74 31 ⇑PKPdf PKPdf 09 17 44.0 +0.5
baz=128
E22A **Miles City** 128.76 23 ⇑PKPdf PKPdf 09 17 43.9 +0.5
baz=128
I17A **Pilgrim Ck.** 128.78 28 ⇓PKPdf PKPdf 09 17 44.1 +0.6
baz=128
F21A **Absaloka Mine,** 128.80 24 ⇓PKPdf PKPdf 09 17 43.9 +0.4
baz=129
D24A **Glendive** 128.80 21 ⇑PKPdf PKPdf 09 17 43.8 +0.4
baz=129
G20A **Bridger** 128.83 25 ⇓PKPdf PKPdf 09 17 43.8 +0.2
baz=129
L14A **Malta** 128.84 32 ⇓PKPdf PKPdf 09 17 44.3 +0.6
baz=129
RRI2 **Red Ridge** 128.85 29 *e*PKPdf PKPdf 09 17 42.7 -1.0
TPAW **Teton Pass** 128.92 29 *e*PKPdf PKPdf 09 17 44.4 +0.6
H19A **Powell** 128.93 26 ⇑PKPdf PKPdf 09 17 44.4 +0.7
baz=129
E23A **Ismay** 128.96 22 ⇑PKPdf PKPdf 09 17 44.1 +0.3
baz=129
RCTC **Rector, Farmer** 128.99 41 ⇓PKPdf PKPdf 09 17 44.2 +0.1
baz=129
LOHW **Long Hollow** 129.00 28 *e*PKPdf PKPdf 09 17 44.0 +0.1
SNOW **Snow King Moun** 129.04 29 *e*PKPdf PKPdf 09 17 44.3 +0.3
REDW **Red Top Meadow** 129.07 29 *e*PKPdf PKPdf 09 17 44.2 +0.1
K16A **Soda Springs** 129.10 30 ⇑PKPdf PKPdf 09 17 44.6 +0.4
baz=129
J17A **Brown Place, J** 129.13 29 ⇑PKPdf PKPdf 09 17 44.5 +0.3
baz=129
G21A **Lodge Grass** 129.25 25 ⇓PKPdf PKPdf 09 17 44.6 +0.2
baz=129
HVU **Hansel Valley** 129.26 32 *e*PKPdf PKPdf 09 17 45.1 +0.7
HVU **Hansel Valley** 129.26 32 *e*PKIKP PKPdf 09 17 45.2 +0.7
I18A **Diamond G Ranc** 129.30 28 ⇑PKPdf PKPdf 09 17 44.4 -0.1
baz=129
L15A **Malad City** 129.30 31 ⇓PKPdf PKPdf 09 17 44.2 -0.4
baz=129
VES **Vestal, Richgr** 129.37 41 ⇑PKPdf PKPdf 09 17 44.2 -0.7
baz=129
I19A **Meeteetse** 129.42 27 ⇑PKPdf PKPdf 09 17 44.7 0.0
baz=129
K17A **Gardner Place,** 129.49 29 ⇓PKPdf PKPdf 09 17 44.4 -0.5
baz=129
H20A **Greybull** 129.51 26 ⇓PKPdf PKPdf 09 17 44.7 -0.2
baz=129
J18A **Kendall Valley** 129.58 28 ⇑PKPdf PKPdf 09 17 44.7 -0.4
baz=129
M15A **Larsen Ranch,** 129.66 32 ⇓PKPdf PKPdf 09 17 45.4 +0.2
baz=129
CWC **Cottonwood Cre** 129.67 40 ⇑PKPdf PKPdf 09 17 45.3 -0.1
baz=130
MDND **Maddock** 129.71 17 ⇓PKPdf PKPdf 09 17 44.5 -0.7
baz=129
SBC **Santa Barbara** 129.74 43 ⇑PKPdf PKPdf 09 17 45.6 0.0
baz=130
L16A **Fish Haven** 129.78 30 ⇑PKPdf PKPdf 09 17 45.1 -0.4
baz=130
GRAC **Grapevine Rang** 129.79 39 ⇓PKPdf PKPdf 09 17 45.3 -0.3
baz=130
H21A **Big Horn, Sher** 129.80 25 ⇓PKPdf PKPdf 09 17 45.1 -0.4
baz=130
I20A **Worland** 129.87 26 ⇓PKPdf PKPdf 09 17 45.4 -0.2
baz=130
ISA **Isabella** 129.87 41 ⇑PKPdf PKPdf 09 17 46.0 +0.2
baz=130
ARVC **Arvin** 129.95 42 ⇑PKPdf PKPdf 09 17 45.7 -0.4
baz=130
J19A **Crowheart** 129.99 28 ⇑PKPdf PKPdf 09 17 45.6 -0.2
baz=130
L17A **Cokeville** 130.00 30 ⇓PKPdf PKPdf 09 17 45.6 -0.3
baz=130

K18A	Toltan Ranch, baz=130	130.00	29	⇑PKPdf	PKPdf	09 17 45.6	-0.2
HWUT	Hardware Ranch	130.01	31	ePKPdf	PKPdf	09 17 45.3	-0.7
N15A	Stansbury Isla baz=130	130.03	32	⇑PKPdf	PKPdf	09 17 45.6	-0.4
R11A	Troy Canyon, C baz=130	130.03	37	⇓PKPdf	PKPdf	09 17 46.7	+0.6
PD01	Pinedale Array	130.12	28	ePKPdf	PKPdf	09 17 46.4	+0.3
PD02	Pinedale Array	130.12	28	ePKPdf	PKPdf	09 17 46.3	+0.2
BW06	Boulder Array baz=130	130.14	28	⇓PKPdf	PKPdf	09 17 46.1	0.0
PDAR	Pinedale Array comp=Z,3.5nm,0.6s,baz=122,slow=2.7,SNR=23	130.14	28	PKP	PKPdf	09 17 45.5	-0.6
PDAR	comp=Z,1.2nm,1.0s,baz=336,slow=3.3,SNR=4.1			PP	PP	09 19 57.6	-1.8
PDAR	Pinedale Array	130.14	28	PKP	PKPdf	09 17 45.5	-0.6
PDAR				PP	PP	09 19 57.6	-1.8
M16A	Huntsville baz=130	130.19	31	⇑PKPdf	PKPdf	09 17 46.2	-0.1
MPMC	Manual Prospec baz=130	130.28	40	⇓PKPdf	PKPdf	09 17 46.6	0.0
I21A	Big Trails, Te baz=130	130.35	26	⇑PKPdf	PKPdf	09 17 46.6	+0.1
J20A	Shoshoni baz=130	130.36	27	⇑PKPdf	PKPdf	09 17 46.6	0.0
DUG	Dugway baz=130	130.37	33	⇑PKPdf	PKPdf	09 17 46.9	+0.3
DUG	Dugway	130.37	33	ePKPdf	PKPdf	09 17 47.0	+0.4
DUG	Dugway	130.37	33	ePKIKP	PKPdf	09 17 47.1	+0.5
K19A	Absolon Red Bu baz=130	130.43	28	⇓PKPdf	PKPdf	09 17 46.1	-0.6
FURC	Furnace Creek, baz=130	130.44	39	⇓PKPdf	PKPdf	09 17 46.8	-0.1
LRMC	Laurel Mountai baz=130	130.50	41	⇓PKPdf	PKPdf	09 17 47.2	+0.1
L18A	Fontenelle, Gr baz=130	130.54	29	⇓PKPdf	PKPdf	09 17 46.9	-0.1
M17A	Scullys Gap (B baz=130	130.57	30	⇓PKPdf	PKPdf	09 17 46.6	-0.4
N16A	Rees Ranch, Co baz=130	130.60	31	⇓PKPdf	PKPdf	09 17 46.9	-0.2
I22A	9 Mile Ranch, baz=130	130.63	25	⇓PKPdf	PKPdf	09 17 46.7	-0.3
P14A	Drum Mountains baz=130	130.65	34	⇑PKPdf	PKPdf	09 17 47.4	+0.2
EDW2	Edwards Air Fo baz=130	130.65	42	⇑PKPdf	PKPdf	09 17 47.1	-0.2
J21A	Lysite baz=130	130.66	26	⇑PKPdf	PKPdf	09 17 46.9	-0.2
H24A	Dirks Ranch, A baz=130	130.72	23	⇓PKPdf	PKPdf	09 17 47.0	-0.2
L19A	Farson baz=130	130.74	29	⇓PKPdf	PKPdf	09 17 47.3	0.0
K20A	Yellowstone Ra baz=130	130.79	28	⇑PKPdf	PKPdf	09 17 47.1	-0.3
N17A	Moffit Pass baz=131	130.88	31	⇓PKPdf	PKPdf	09 17 47.5	-0.1
M18A	Lyman baz=131	130.90	30	⇑PKPdf	PKPdf	09 17 47.7	0.0
Q14A	Sevier Lake (B baz=131	130.95	34	⇑PKPdf	PKPdf	09 17 48.0	+0.2
J22A	Midwest baz=131	131.02	25	⇑PKPdf	PKPdf	09 17 47.2	-0.6
DAU	Daniels Canyon	131.04	32	ePKPdf	PKPdf	09 17 48.5	+0.6
DAU	Daniels Canyon	131.04	32	ePKIKP	PKPdf	09 17 48.5	+0.6
P15A	Leamington baz=131	131.10	33	⇓PKPdf	PKPdf	09 17 48.4	+0.3
R13A	O'Grain Ranch, baz=131	131.10	36	⇑PKPdf	PKPdf	09 17 48.7	+0.6
FMP	Fort Macarthur baz=131	131.12	43	⇑PKPdf	PKPdf	09 17 48.7	+0.4
SHOC	Shoshone baz=131	131.16	40	⇓PKPdf	PKPdf	09 17 48.8	+0.6
GSC	Goldstone baz=131	131.18	41	⇓PKPdf	PKPdf	09 17 49.2	+0.9
CIS	Catalina Islan baz=131	131.22	44	⇑PKPdf	PKPdf	09 17 49.0	+0.6
M19A	Rock Springs baz=131	131.29	29	⇑PKPdf	PKPdf	09 17 48.3	-0.1
L20A	Wamsutter baz=131	131.30	28	⇓PKPdf	PKPdf	09 17 48.1	-0.3
K21A	Alcova baz=131	131.31	27	⇑PKPdf	PKPdf	09 17 48.0	-0.4
SCI	San Clemente I baz=131	131.36	44	⇓PKPdf	PKPdf	09 17 48.2	-0.5
I24A	Kuemmerle Ranc baz=131	131.43	24	⇓PKPdf	PKPdf	09 17 47.8	-0.7
N18A	Larsen Ranch, baz=131	131.44	30	⇓PKPdf	PKPdf	09 17 48.5	-0.2
Q15A	Fillmore baz=131	131.44	34	⇓PKPdf	PKPdf	09 17 48.9	+0.2
RSSD	Black Hills	131.44	23	ePKPdf	PKPdf	09 17 44.4	-4.2
RSSD	Black Hills	131.44	23	ePKIKP	PKPdf	09 17 44.4	-4.2
O17A	Robinson Place baz=131	131.47	31	⇓PKPdf	PKPdf	09 17 49.1	+0.3
K22A	Casper baz=131	131.62	26	⇓PKPdf	PKPdf	09 17 48.1	-0.8
TUQ	Turquoise Moun baz=132	131.67	40	⇓PKPdf	PKPdf	09 17 49.3	0.0
N19A	John Jarvie Ra baz=132	131.75	30	⇓PKPdf	PKPdf	09 17 49.0	-0.2
M20A	Sweetwater, Wa baz=132	131.77	28	⇑PKPdf	PKPdf	09 17 49.3	0.0
L21A	Rawlins baz=132	131.78	27	⇓PKPdf	PKPdf	09 17 49.2	-0.1
O18A	Roosevelt baz=132	131.80	31	⇑PKPdf	PKPdf	09 17 49.4	+0.1
J24A	Dixon Ranch, L baz=132	131.85	24	⇓PKPdf	PKPdf	09 17 49.4	0.0
TMUT	Trail Mountain	131.87	33	ePKPdf	PKPdf	09 17 50.1	+0.5
MSU	Marysvale	131.90	34	ePKPdf	PKPdf	09 17 50.3	+0.7
MSU	Marysvale	131.90	34	ePKIKP	PKPdf	09 17 50.3	+0.7
MURC	Murrieta baz=132	131.93	43	⇓PKPdf	PKPdf	09 17 50.0	+0.2
P17A	Butcher Ranch, baz=132	132.00	32	⇑PKPdf	PKPdf	09 17 49.5	-0.3
R15A	Junction baz=132	132.05	34	⇓PKPdf	PKPdf	09 17 49.9	0.0
M21A	Separation Pea baz=132	132.07	28	⇑PKPdf	PKPdf	09 17 49.5	-0.4
RWWY	Rawlins	132.07	27	ePKPdf	PKPdf	09 17 49.4	-0.4
P18A	Preston Nutter baz=132	132.15	32	⇑PKPdf	PKPdf	09 17 50.3	+0.2
L22A	Ellis Ranch, M baz=132	132.15	27	⇑PKPdf	PKPdf	09 17 49.8	-0.2
Q16A	Castle Valley baz=132	132.16	33	⇑PKPdf	PKPdf	09 17 50.2	+0.1
O19A	Miners Draw (B baz=132	132.22	30	⇑PKPdf	PKPdf	09 17 49.7	-0.5
N20A	Spence Gulch, baz=132	132.24	29	⇑PKPdf	PKPdf	09 17 50.3	+0.1
GMRC	Granite Mounta baz=132	132.24	40	⇓PKPdf	PKPdf	09 17 50.9	+0.5
U13A	Pakoon Wash baz=132	132.27	37	⇓PKPdf	PKPdf	09 17 50.2	-0.1
S15A	Panguitch baz=132	132.37	35	⇑PKPdf	PKPdf	09 17 50.5	0.0
SRU	San Rafael baz=132	132.38	32	⇑PKPdf	PKPdf	09 17 50.8	+0.3
SRU	San Rafael	132.38	32	ePKPdf	PKPdf	09 17 50.4	-0.1
SRU	San Rafael	132.38	32	ePKIKP	PKPdf	09 17 50.4	-0.1
109C	Camp Elliot, M baz=132	132.41	43	⇑PKPdf	PKPdf	09 17 50.7	-0.1
L23A	Garrett baz=132	132.41	26	⇓PKPdf	PKPdf	09 17 50.0	-0.5
PFO	Pinyon Flat Ob baz=132	132.43	42	⇓PKPdf	PKPdf	09 17 51.2	+0.5
R16A	Teasdale baz=132	132.44	34	⇓PKPdf	PKPdf	09 17 50.6	-0.1
BELC	Belle Mtn. Jos baz=132	132.50	41	⇑PKPdf	PKPdf	09 17 51.8	+0.9
M22A	Cedar Creek Ra baz=132	132.58	27	⇓PKPdf	PKPdf	09 17 50.8	0.0
Q18A	Rafter H Ranch baz=132	132.59	32	⇑PKPdf	PKPdf	09 17 50.9	0.0
N21A	Black Mountain baz=132	132.65	28	⇓PKPdf	PKPdf	09 17 50.9	-0.1
R17A	Hanksville Air baz=132	132.77	33	⇑PKPdf	PKPdf	09 17 51.5	+0.2
S16A	Weppner Ranch, baz=133	132.78	34	⇑PKPdf	PKPdf	09 17 51.4	+0.1
O20A	White River Ci baz=132	132.79	30	⇓PKPdf	PKPdf	09 17 51.4	+0.2
P19A	Cripple Cowboy baz=133	132.79	31	⇑PKPdf	PKPdf	09 17 51.7	+0.5
L24A	Wheatland baz=133	132.80	25	⇑PKPdf	PKPdf	09 17 51.4	+0.2
T15A	Red Dirt Ranch baz=133	132.81	36	⇑PKPdf	PKPdf	09 17 51.6	+0.2
MONP	Monument Peak baz=133	132.87	43	⇑PKPdf	PKPdf	09 17 51.6	0.0
M23A	Laramie baz=133	132.92	26	⇓PKPdf	PKPdf	09 17 51.3	-0.1
IRM	Iron Mountain baz=133	132.96	41	⇑PKPdf	PKPdf	09 17 52.3	+0.6
BRSD	Miller baz=133	132.97	19	⇓PKPdf	PKPdf	09 17 51.1	-0.4
BC3	Big Chuckawall baz=133	133.07	41	⇑PKPdf	PKPdf	09 17 52.4	+0.4
O21A	Pagoda baz=133	133.10	29	⇑PKPdf	PKPdf	09 17 52.1	+0.3
N22A	Wattenberg Ran baz=133	133.12	28	⇑PKPdf	PKPdf	09 17 52.1	+0.3
Q19A	Hogan Spring (baz=133	133.16	31	⇑PKPdf	PKPdf	09 17 52.1	+0.1
PHWY	Pilot Hill	133.17	26	ePKPdf	PKPdf	09 17 51.4	-0.5
P20A	De Beque baz=133	133.19	30	⇑PKPdf	PKPdf	09 17 52.1	+0.1
R18A	Canyonlands Na baz=133	133.24	32	⇑PKPdf	PKPdf	09 17 52.2	+0.1
U15A	North Rim baz=133	133.26	36	⇓PKPdf	PKPdf	09 17 52.7	+0.4
N23A	Red Feather La baz=133	133.28	27	⇑PKPdf	PKPdf	09 17 51.9	-0.2
S17A	Black Ridge (B baz=133	133.28	34	⇓PKPdf	PKPdf	09 17 52.4	+0.1
M24A	Cheyenne baz=133	133.32	26	⇓PKPdf	PKPdf	09 17 51.9	-0.3
T16A	Glen Canyon Da baz=133	133.34	35	⇓PKPdf	PKPdf	09 17 52.4	0.0
PDMCI	Parker Dam,Lak baz=133	133.52	40	⇓PKPdf	PKPdf	09 17 52.9	+0.1
O22A	Kremmling baz=133	133.58	28	⇓PKPdf	PKPdf	09 17 52.5	-0.2
Y12C	Blythe baz=133	133.62	41	⇓PKPdf	PKPdf	09 17 53.2	+0.2
R19A	Curley Farm, L baz=133	133.65	32	⇓PKPdf	PKPdf	09 17 53.1	+0.2
Q20A	Ridgley Place, baz=133	133.66	31	⇑PKPdf	PKPdf	09 17 53.5	+0.6
S18A	Hurst Farm, Bl baz=134	133.69	33	⇓PKPdf	PKPdf	09 17 53.2	+0.2
T17A	Navajo Res., N baz=134	133.73	35	⇑PKPdf	PKPdf	09 17 53.2	+0.1
V15A	Kaibab Nationa baz=134	133.75	37	⇑PKPdf	PKPdf	09 17 53.1	-0.1
PV04	Paradox Valley	133.76	32	ePKPdf	PKPdf	09 17 54.5	+1.3
O23A	Lake Granby, G baz=134	133.84	28	⇑PKPdf	PKPdf	09 17 53.4	+0.2
GLA	Glamis baz=134	133.85	42	⇑PKPdf	PKPdf	09 17 54.1	+0.7
SPMN	St. Paul baz=134	133.89	13	⇑PKPdf	PKPdf	09 17 53.7	+0.5
P22A	Eagle baz=134	133.93	29	⇓PKPdf	PKPdf	09 17 53.9	+0.5
Q21A	Lamborn Mesa, baz=134	134.11	30	⇑PKPdf	PKPdf	09 17 55.4	+1.7
S19A	Harvey Farm, M baz=134	134.12	32	⇑PKPdf	PKPdf	09 17 54.0	+0.2
PV01	Paradox Valley	134.13	32	ePKPdf	PKPdf	09 17 53.9	+0.1
U16A	Tuba City baz=134	134.14	36	⇓PKPdf	PKPdf	09 17 54.2	+0.3
T18A	Mexican Hat baz=134	134.16	34	⇓PKPdf	PKPdf	09 17 54.0	+0.1
R20A	Redvale baz=134	134.19	31	⇓PKPdf	PKPdf	09 17 53.5	-0.4
O24A	Longmont baz=134	134.30	27	⇓PKPdf	PKPdf	09 17 54.1	0.0
ISCO	Idaho Springs baz=134	134.31	28	⇓PKPdf	PKPdf	09 17 53.7	-0.4
ECSD	ECSD Data Cent	134.32	17	ePKPdf	PKPdf	09 17 53.3	-0.7
Q22A	Crested Butte, baz=134	134.42	30	⇓PKPdf	PKPdf	09 17 54.2	-0.1
WUAZ	Wupatki baz=134	134.43	36	⇓PKPdf	PKPdf	09 17 54.2	-0.2
WUAZ	Wupatki	134.43	36	ePKPdf	PKPdf	09 17 55.3	+0.8
S20A	Disappointment baz=134	134.47	32	⇑PKPdf	PKPdf	09 17 54.4	0.0
Y14A	Wickenburg baz=134	134.48	39	⇑PKPdf	PKPdf	09 17 54.2	-0.4
R21A	Cimarron baz=134	134.48	31	⇑PKPdf	PKPdf	09 17 54.3	-0.2
Z13A	Yuma Proving G baz=134	134.53	41	⇑PKPdf	PKPdf	09 17 54.8	+0.1
P23A	Jefferson baz=134	134.54	28	⇑PKPdf	PKPdf	09 17 54.5	0.0
W16A	Flagstaff baz=134	134.62	37	⇑PKPdf	PKPdf	09 17 55.0	+0.2
U18A	Rough Rock, Ch baz=134	134.67	34	⇑PKPdf	PKPdf	09 17 54.8	-0.1
V17A	Tonalea, Kykot baz=134	134.70	36	⇑PKPdf	PKPdf	09 17 54.5	-0.5
T19A	Beclabito baz=135	134.84	33	⇓PKPdf	PKPdf	09 17 54.9	-0.3
MVCO	Mesa Verde baz=135	134.85	32	⇑PKPdf	PKPdf	09 17 55.0	-0.2
MVCO	Mesa Verde	134.85	32	ePKPdf	PKPdf	09 17 55.5	+0.3
P24A	Kohler Place, baz=135	134.86	27	⇓PKPdf	PKPdf	09 17 55.4	+0.2
Z14A	Wintersburg baz=135	134.88	40	⇑PKPdf	PKPdf	09 17 56.3	+0.9
S21A	Coal Bank Pass baz=135	134.89	31	⇓PKPdf	PKPdf	09 17 56.0	+0.7
Y15A	Casa Rosa Ranc baz=135	134.89	39	⇑PKPdf	PKPdf	09 17 55.9	+0.5
Q23A	Hartsel baz=135	134.91	29	⇑PKPdf	PKPdf	09 17 55.0	-0.3
OGNE	Ogallala baz=135	134.92	24	⇓PKPdf	PKPdf	09 17 55.5	+0.3
R22A	Saguache, Gunn baz=135	134.99	30	⇓PKPdf	PKPdf	09 17 56.3	+0.9
U19A	Dine' College, baz=135	135.13	34	⇓PKPdf	PKPdf	09 17 56.4	+0.7
X16A	Lo Mia Camp, P baz=135	135.13	38	⇑PKPdf	PKPdf	09 17 56.9	+1.0
V18A	Ganado baz=135	135.14	35	⇑PKPdf	PKPdf	09 17 56.6	+0.8
P25A	Willow Gulch B baz=135	135.20	27	⇑PKPdf	PKPdf	09 17 55.7	0.0
114A	Black Gap (USA baz=135	135.31	41	⇑PKPdf	PKPdf	09 17 56.6	+0.4
S22A	4UR Ranch, Cre baz=135	135.32	31	⇓PKPdf	PKPdf	09 17 55.9	-0.2
U20A	Newcomb baz=135	135.45	33	⇓PKPdf	PKPdf	09 17 56.9	+0.6
T21A	Navajo Lake baz=135	135.53	32	⇓PKPdf	PKPdf	09 17 56.8	+0.3
X17A	Forest Lakes baz=135	135.57	37	⇓PKPdf	PKPdf	09 17 57.1	+0.5
Q25A	Bedland, Calha baz=135	135.65	27	⇓PKPdf	PKPdf	09 17 56.8	+0.2
W18A	Petrified Fore baz=135	135.67	36	⇑PKPdf	PKPdf	09 17 58.1	+1.3
S23A	Nye Farm, Mont baz=136	135.77	30	⇓PKPdf	PKPdf	09 17 58.2	+1.3
115A	Sonoran Desert baz=136	135.77	40	⇑PKPdf	PKPdf	09 17 58.7	+1.6
R24A	Sanders Place, baz=136	135.79	29	⇓PKPdf	PKPdf	09 17 58.1	+1.2
T22A	Edith baz=136	135.84	31	⇓PKPdf	PKPdf	09 17 58.4	+1.3
Z16A	Peralta Trail, baz=136	135.86	39	⇑PKPdf	PKPdf	09 17 58.5	+1.3
W19A	Sanders baz=136	135.88	35	⇑PKPdf	PKPdf	09 17 58.1	+0.9
U21A	Chegeezi baz=136	135.88	32	⇑PKPdf	PKPdf	09 17 58.1	+0.9
V20A	Brimhall baz=136	135.90	34	⇑PKPdf	PKPdf	09 17 57.9	+0.7
BGNE	Belgrade baz=136	135.94	20	⇑PKPdf	PKPdf	09 17 57.7	+0.6
X18A	Snowflake baz=136	135.96	36	⇑PKPdf	PKPdf	09 17 58.4	+1.0
SDCO	Great Sand Dun baz=136	135.99	29	⇑PKPdf	PKPdf	09 17 58.0	+0.7
Y17A	Roosevelt baz=136	135.99	38	⇓PKPdf	PKPdf	09 17 58.0	+0.6
116A	Eloy baz=136	136.20	40	⇑PKPdf	PKPdf	09 17 58.2	+0.3
S24A	Houchin Ranch, baz=136	136.21	29	⇑PKPdf	PKPdf	09 17 56.7	-1.0
T23A	Casias Ranch, baz=136	136.27	31	⇓PKPdf	PKPdf	09 17 59.0	+1.2
U22A	Llaves baz=136	136.35	32	⇓PKPdf	PKPdf	09 17 58.5	+0.5
W20A	Ramah baz=136	136.37	34	⇑PKPdf	PKPdf	09 17 58.6	+0.5
X19A	St. Johns baz=136	136.41	36	⇓PKPdf	PKPdf	09 17 59.5	+1.3
Y18A	Canyon Day Jun baz=136	136.42	37	⇓PKPdf	PKPdf	09 17 59.9	+1.6
Z17A	San Carlos Hig baz=136	136.48	38	⇓PKPdf	PKPdf	09 17 59.9	+1.5
S25A	Robets Cordova baz=136	136.57	28	⇓PKPdf	PKPdf	09 17 59.7	+1.3
V22A	San Miguel Ran baz=136	136.67	32	⇓PKPdf	PKPdf	09 18 00.0	+1.4
216A	Three Points, baz=136	136.72	40	⇑PKPdf	PKPdf	09 18 00.6	+1.7
T24A	Torres, Weston baz=136	136.73	30	⇓PKPdf	PKPdf	09 18 00.3	+1.6
U23A	El Rito baz=136	136.73	31	⇓PKPdf	PKPdf	09 17 59.9	+1.2
Y19A	Nutrioso baz=137	136.77	36	⇓PKPdf	PKPdf	09 18 00.9	+2.0
X20A	Quemado baz=137	136.79	35	⇓PKPdf	PKPdf	09 18 00.8	+1.9
117A	Oracle baz=137	136.80	39	⇑PKPdf	PKPdf	09 18 00.7	+1.7
W21A	San Fidel baz=137	136.86	34	⇑PKPdf	PKPdf	09 18 00.8	+1.8
T25A	Trinidad baz=137	137.00	29	⇓PKPdf	PKPdf	09 18 00.9	+1.7
U24A	Moreno Valley baz=137	137.14	30	⇑PKPdf	PKPdf	09 18 00.9	+1.4
V23A	Ortiz Mt. (NFS baz=137	137.18	32	⇓PKPdf	PKPdf	09 18 01.0	+1.4
Z19A	T-Link Ranch, baz=137	137.22	37	⇓PKPdf	PKPdf	09 18 01.9	+2.1
118A	Homack Ranch, baz=137	137.24	38	⇓PKPdf	PKPdf	09 18 00.7	+1.0
X21A	Alamocita Cree baz=137	137.27	35	⇓PKPdf	PKPdf	09 18 00.6	+0.9
217A	Green Valley baz=137	137.28	40	⇓PKPdf	PKPdf	09 18 00.3	+0.4
Y20A	Horse Springs, baz=137	137.32	36	⇓PKPdf	PKPdf	09 18 00.5	+0.6
W22A	Albuquerque baz=137	137.32	33	⇑PKPdf	PKPdf	09 18 01.5	+1.6
U25A	Circle Dot Ran baz=137	137.58	30	⇑PKPdf	PKPdf	09 18 01.0	+0.8
ANMO	Albuquerque	137.63	33	ePKPdf	PKPdf	09 18 01.0	+0.5
ANMO	Albuquerque	137.63	33	ePKIKP	PKPdf	09 18 01.0	+0.6
218A	Dragoon baz=137	137.64	39	⇑PKPdf	PKPdf	09 18 00.6	0.0
W23A	Werner Place, baz=137	137.64	32	⇑PKPdf	PKPdf	09 18 00.7	+0.2
Y21A	Point of Rocks baz=137	137.65	35	⇑PKPdf	PKPdf	09 18 01.1	+0.6
X22A	Bernardo baz=137	137.66	34	⇓PKPdf	PKPdf	09 18 00.4	-0.1
LAZ	Ladron	137.67	34	ePKPdf	PKPdf	09 18 01.1	+0.6
V24A	Rampart Ranch, baz=137	137.67	31	⇑PKPdf	PKPdf	09 18 01.1	+0.6
Z20A	Nine Sixteen R baz=138	137.75	37	⇑PKPdf	PKPdf	09 18 01.8	+1.1
U26A	Atchley Ranch, baz=138	137.91	29	⇓PKPdf	PKPdf	09 18 01.8	+0.9
V25A	Rancho No Teng baz=138	137.92	30	⇑PKPdf	PKPdf	09 18 01.4	+0.5
W24A	Lazy 6 Ranch, baz=138	138.00	32	⇑PKPdf	PKPdf	09 18 01.0	0.0
LPM	Los Pinos Moun	138.01	34	ePKPdf	PKPdf	09 18 01.6	+0.4
Y22D	IRIS PASSCAL I baz=138	138.03	34	⇑PKPdf	PKPdf	09 18 01.1	-0.1
318A	Bisbee baz=138	138.03	40	⇑PKPdf	PKPdf	09 18 01.2	-0.1
X23A	Hourglass Bar baz=138	138.06	33	⇑PKPdf	PKPdf	09 18 01.0	-0.2
Y22A	Socorro baz=138	138.10	34	⇑PKPdf	PKPdf	09 18 01.4	+0.1
219A	White Tail Can baz=138	138.12	38	⇓PKPdf	PKPdf	09 18 01.9	+0.5
120A	U Bar Ranch, L baz=138	138.12	37	⇑PKPdf	PKPdf	09 18 02.0	+0.6
BNM	Barren Site	138.14	34	ePKPdf	PKPdf	09 18 01.8	+0.4
Z21A	St. Cloud Mine baz=138	138.16	36	⇑PKPdf	PKPdf	09 18 01.6	+0.2
V26A	Tequesquite Ra baz=138	138.37	30	⇓PKPdf	PKPdf	09 18 01.8	+0.1
X24A	Lazy VL Ranch, baz=138	138.48	32	⇑PKPdf	PKPdf	09 18 01.9	-0.1
W25A	X Bar L Ranch, baz=138	138.48	31	⇑PKPdf	PKPdf	09 18 02.1	+0.1
319A	Douglas baz=138	138.52	39	⇓PKPdf	PKPdf	09 18 02.3	+0.1
Y23A	Lovelace Mesa, baz=138	138.62	33	⇑PKPdf	PKPdf	09 18 02.7	+0.4
220A	Playas Peak, P baz=138	138.63	38	⇑PKPdf	PKPdf	09 18 02.6	+0.3
121A	Cookes Peak, D baz=138	138.64	37	⇑PKPdf	PKPdf	09 18 03.1	+0.8
X25A	Clemmons Ranch baz=139	138.91	32	⇑PKPdf	PKPdf	09 18 03.2	+0.4
W26A	Owens Ranch, T baz=139	138.94	30	⇓PKPdf	PKPdf	09 18 02.7	-0.1
Y24A	Capitan baz=139	138.96	33	⇑PKPdf	PKPdf	09 18 03.7	+0.8
122A	Conniff Cattle baz=139	138.98	36	⇑PKPdf	PKPdf	09 18 03.6	+0.7
Z23A	Rita Site, Whi baz=139	139.01	34	⇑PKPdf	PKPdf	09 18 03.4	+0.4
320A	Kipp Ranch, An baz=139	139.02	39	⇓PKPdf	PKPdf	09 18 03.9	+0.8
W27A	Bowe Ranch, En baz=139	139.31	29	⇓PKPdf	PKPdf	09 18 03.7	+0.2
X26A	CR and CF Fran baz=139	139.34	31	⇑PKPdf	PKPdf	09 18 03.5	-0.1
222A	Williams Famil baz=139	139.35	36	⇓PKiKP	PKiKP	09 18 05.5	-0.5
Y25A	Mesa, Roswell baz=139	139.36	32	⇓PKPdf	PKPdf	09 18 04.2	+0.5
Z24A	Sheeppen Canyo baz=139	139.45	33	⇓PKiKP	PKiKP	09 18 05.8	-0.4
SFIN	Scholer Farm baz=139	139.62	8	⇑PKPdf	PKPdf	09 18 03.9	0.0
Y26A	Elida baz=140	139.82	31	⇑PKPdf	PKPdf	09 18 04.7	+0.3
Z25A	Roswell baz=140	139.84	33	⇑PKPdf	PKPdf	09 18 04.1	-0.4
124A	Stringfield Ra baz=140	139.87	34	⇓PKPdf	PKPdf	09 18 04.6	0.0
Y27A	Causey baz=140	140.19	31	⇓PKPdf	PKPdf	09 18 05.0	-0.1
ACSO	Alum Creek Sta	140.19	4	ePKPdf	PKPpre	09 17 59.0	
Z26A	Caprock baz=140	140.24	32	⇓PKPdf	PKPdf	09 18 05.2	0.0
224A	Cornudas Mount baz=140	140.29	35	⇑PKPdf	PKPdf	09 18 05.6	+0.2
MSTX	Muleshoe baz=140	140.32	30	⇑PKPdf	PKPdf	09 18 05.4	0.0
125A	Gardner Draw, baz=140	140.34	33	⇑PKPdf	PKPdf	09 18 05.2	-0.3
Z27A	Tatum baz=140	140.61	31	⇓PKPdf	PKPdf	09 18 05.8	-0.1
225A	Deer Hill, Car baz=140	140.66	34	⇑PKiKP	PKiKP	09 18 07.8	-0.9
126A	Clayton Basin, baz=140	140.70	33	⇑PKPdf	PKPdf	09 18 05.8	-0.3
324A	Moseley Ranch, baz=141	140.78	36	⇓PKPdf	PKPdf	09 18 05.8	-0.4
127A	Arkansas Junct baz=141	141.03	32	⇑PKPdf	PKPdf	09 18 06.1	-0.6
CCM	Cathedral Cave	141.06	14	ePKPdf	PKPpre	09 17 58.7	
CCM	Cathedral Cave	141.06	14	ePKHKP	PKPpre	09 17 58.7	
OLIL	Olney	141.07	10	ePKPdf	PKPpre	09 17 58.9	
226A	Malaga, Loving baz=141	141.10	33	⇓PKPdf	PKPdf	09 18 06.5	-0.3
325A	Bean Ranch, Si baz=141	141.13	35	⇑PKPdf	PKPdf	09 18 06.6	-0.3
WMOK	Wichita Mounta	141.54	25	ePKPdf	PKPpre	09 18 00.5	
WMOK	Wichita Mounta	141.54	25	ePKHKP	PKPpre	09 18 00.5	
425A	Indio Mountain baz=141	141.55	36	⇓PKiKP	PKiKP	09 18 10.3	-0.2
227A	Bennet, Jal baz=141	141.58	33

427A	**Hayter Ranch,** baz=142	**142.41**	**34**	⇓PKiKP	PKiKP	09 18 12.1	-0.2
526A	**Mary Lane Ranc** baz=142	**142.61**	**36**	⇓PKiKP	PKiKP	09 18 12.4	-0.3
428A	**Kincaid Ranch,** baz=143	**142.90**	**33**	⇑PKiKP	PKiKP	09 18 13.2	-0.1
626A	**Big Bend Ranch** baz=143	**142.95**	**36**	⇑PKiKP	PKiKP	09 18 12.8	-0.6
GNAR	**Gosnell**	**143.35**	**14**	*e*PKPdf	PKPdf	09 18 06.4	-4.3
TXAR	**Lajitas Array** comp=Z,18nm,0.7s,baz=273,slow=1.6,SNR=256	**143.39**	**36**	PKP	PKPdf	09 18 07.6	-3.4
TXAR	**Lajitas Array**	**143.39**	**36**	PKiKP	PKPdf	09 18 07.6	-3.4
HBAR	**Harrisburg**	**143.58**	**15**	*e*PKPdf	PKPdf	09 18 09.9	-1.2
WVT	**Waverly**	**143.65**	**11**	*e*PKPdf	PKPdf	09 18 06.9	-4.3
WVT	**Waverly**	**143.65**	**11**	*e*PKiKP	PKPdf	09 18 06.9	-4.3
MIAR	**Mount Ida**	**143.68**	**19**	*e*PKPdf	PKPdf	09 18 07.8	-3.5
MIAR	**Mount Ida**	**143.68**	**19**	*e*PKiKP	PKPdf	09 18 07.9	-3.4
TZTN	**Tazewell**	**143.82**	**5**	*e*PKPdf	PKPdf	09 18 07.9	-3.6
UALR	**University of**	**143.85**	**17**	*e*PKPdf	PKPdf	09 18 08.6	-3.1
RFTA	**Plano**	**143.91**	**24**	*e*PKPdf	PKPdf	09 18 08.3	-3.5
JCT	**Junction City** baz=144	**144.62**	**30**	⇑PKiKP	PKiKP	09 18 16.7	-0.1
JCT	**Junction City**	**144.62**	**30**	*e*PKPdf	PKPdf	09 18 10.5	-2.6
JCT	**Junction City**	**144.62**	**30**	*e*PKiKP	PKPdf	09 18 10.5	-2.6
PLAL	**Pickwick Lake**	**144.72**	**11**	*e*PKPdf	PKPdf	09 18 10.3	-2.9
SWET	**Sewanee**	**144.86**	**8**	*e*PKPdf	PKPdf	09 18 10.9	-2.4
OXF	**Oxford**	**144.88**	**14**	*e*PKPdf	PKPdf	09 18 11.2	-2.2
OXF	**Oxford**	**144.88**	**14**	*e*PKiKP	PKPdf	09 18 11.2	-2.2
BBSR	**BB Station**	**145.00**	**337**	*e*PKPbc	PKPdf	09 18 13.2	-0.5
CNNC	**Cliffs of the**	**145.21**	**357**	*e*PKPbc	PKPbc	09 18 13.1	-0.7
CPUP	**Villa Florida** comp=Z,49nm,0.6s,baz=100,slow=1.8,SNR=155	**145.63**	**218**	PKPbc	PKPbc	09 18 16.0	+0.6
CPUP	**Villa Florida**	**145.63**	**218**	PKPbc	PKPbc	09 18 16.0	+0.6
CPUP	**Villa Florida**	**145.63**	**218**	PKP2	PKPab	09 18 16.0	+0.2
NATX	**Nacogdoches**	**145.81**	**23**	*e*PKPdf	PKPdf	09 18 15.0	-0.1
JSC	**Jenkinsville**	**146.21**	**2**	*e*PKPdf	PKPdf	09 18 15.1	-0.6
VBMS	**Vicksburg**	**146.77**	**16**	*e*PKPdf	PKPdf	09 18 16.7	0.0
VBMS				*e*PKPbc	PKPbc	09 18 18.0	-0.6
VBMS				*e*PKPab	PKPab	09 18 19.4	-0.6
GOGA	**Godfrey**	**146.94**	**5**	*e*PKPdf	PKPdf	09 18 16.8	-0.2
GOGA				*e*PKPbc	PKPbc	09 18 18.1	-0.9
GOGA	**Godfrey**	**146.94**	**5**	*e*PKiKP	PKPdf	09 18 16.8	-0.2
GOGA				*e*		09 18 18.1	
COW	**Cow Castle Cre**	**147.12**	**1**	*e*PKPdf	PKPdf	09 18 16.6	-0.6
COW				*e*PKPbc	PKPbc	09 18 18.9	-0.6
NHSC	**New Hope**	**147.40**	**0**	*e*PKPdf	PKPdf	09 18 18.3	+0.5
NHSC				*e*PKPbc	PKPbc	09 18 19.6	-0.7
NHSC				*e*PKPab	PKPab	09 18 22.1	-0.3
KVTX	**Kingsville**	**147.97**	**31**	*e*PKPbc	PKPbc	09 18 23.3	+1.3
TLL	**Tololo Astrono**	**148.43**	**195**	*i* P	PKPbc	09 18 23.1	0.0
TLL	**Tololo Astrono**	**148.43**	**195**	*i* PKP2	PKPbc	09 18 23.1	0.0
TLL	**Tololo Astrono**	**148.43**	**195**	*i* P	PKPbc	09 18 23.1	0.0
LCO	**Las Campanas**	**149.49**	**196**	*e*P	PKPbc	09 18 25.9	0.0
LCO	**Las Campanas**	**149.49**	**196**	*e*P	PKPbc	09 18 25.9	0.0
LPAZ	**La Paz** comp=Z,8.2nm,0.8s,baz=61,slow=1.0,SNR=31	**159.74**	**215**	PKP	PKPdf	09 18 36.8	+1.2
LPAZ				PKPab	PKPab	09 19 16.6	+1.8
	comp=Z,5.2nm,0.9s,baz=252,slow=25,SNR=4.5						
LPAZ	**La Paz**	**159.74**	**215**	PKP	PKPdf	09 18 36.8	+1.2
LPAZ				PKPab	PKPab	09 19 16.6	+1.8
LPAZ	**La Paz**	**159.74**	**215**	PKiKP	PKPdf	09 18 36.8	+1.1
LPAZ						09 19 16.6	

IDC ***10*** *09:50:11.5±1.3,37.°57N×95.°87E,h0km,mb3.9/6, mb1 3.9/11,mb1mx3.8/31,mbtmp3.8/11,ML3.9/5,MS3.2/1, Ms1 3.2/1,ms1mx2.5/35,Error ellipse: s-maj=33.0km s-min=19.9km az=32.0*

ISCJB ***10*** *09:50:12.9±1.8,37.°60N±0.°08×95.°76E±0.°08,h24km±15km, mb3.8/6,Error ellipse: s-maj=13.1km s-min=10.3km az=154.9*

NEIC ***10*** *09:50:13.2±0.9,37.°62N×95.°75E,h10km,Error ellipse: s-maj=19.4km s-min=11.2km az=86.0*

BJI ***10*** *09:50:17.2,37.°67N×95.°87E,h22km,mb4.0/2,ML3.9/7, Ms3.6/2,Ms7 3.4/2*

ISC 10 09:50:12.3±1.8,37.°60N±0.°07×95.°86E±0.°06,h5km±13km, n22,σ1°03°27,mb3.8/6,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.59**	**59**	Pn	**Pn**	**09 51 12.3**	**+3.8**
GTA				Pg	**Pb**	**09 51 17.3**	**+1.1**
GTA				Sn	**Sn**	**09 51 50.2**	**-1.1**
GTA	comp=N,65nm,0.7s			smax			
GTA	comp=E,45nm,0.5s			smax			
LZH	**Lanzhou**	**6.58**	**101**	*e*Pg	**Pg**	**09 52 17.7**	**-0.6**
LZH				Sg	**Sg**	**09 53 43.6**	**+0.1**
LZH	comp=N,63nm,1.0s			smax			
LZH	comp=E,79nm,1.0s			smax			
LZH	comp=N,250nm,8.2s			LR	LR		
LZH	comp=E,270nm,7.4s			LR	LR		
LZH	comp=Z,280nm,8.5s			LR	LR		
LSA	**Lhasa**	**8.80**	**208**	*e*Pn	**Pn**	**09 52 21.0**	**+0.9**
SONM	**Songino Array** comp=Z,1.0nm,0.3s,baz=218,slow=16,SNR=8.9	**12.82**	**34**	Pn	**Pn**	**09 53 16.4**	**+1.5**
SONM	**Songino Array**	**12.82**	**34**	Pn	**Pn**	**09 53 16.4**	**+1.5**
MKAR	**Makanchi Array** comp=Z,0.6nm,0.3s,baz=117,slow=14,SNR=8.1	**13.60**	**317**	Pn	**Pn**	**09 53 23.6**	**-2.1**
MKAR	comp=Z,0.2nm,0.3s,baz=126,slow=24,SNR=3.9			Sn	**Sn**	**09 55 49.6**	**-7.6**
MKAR	**Makanchi Array**	**13.60**	**317**	Pn	**Pn**	**09 53 23.6**	**-2.2**
MKAR				Sn	**Sn**	**09 55 49.6**	**-7.6**
KURK	**Kurchatov** comp=Z,0.1nm,0.3s,baz=135,slow=11,SNR=3.9	**17.96**	**322**	P	**Pn**	**09 54 21.7**	**-0.8**
KURK	**Kurchatov**	**17.96**	**322**	P	**Pn**	**09 54 21.7**	**-0.8**
ZALV	**Zalesovo Beam** comp=Z,0.2nm,0.3s,baz=137,slow=13,SNR=2.6	**18.03**	**339**	P	**Pn**	**09 54 22.1**	**-1.3**
ZALV	**Zalesovo Beam**	**18.03**	**339**	P	**Pn**	**09 54 22.1**	**-1.3**
CMAR	**Chiang Mai Arr** comp=Z,0.1nm,0.3s,baz=335,slow=9.3,SNR=4.2	**19.26**	**171**	P	**Pn**	**09 54 37.2**	**-1.3**
CMAR	**Chiang Mai Arr**	**19.26**	**171**	P	**Pn**	**09 54 37.2**	**-1.3**
BVAR	**Borovoye Array** comp=Z,1.2nm,0.6s,mb3.5,baz=118,slow=9.5,SNR=4.7	**23.46**	**319**	P	**P**	**09 55 23.8**	**+1.3**
BVAR	comp=Z,58nm,19.2s,baz=253,slow=38			LR	LR	10 05 10.0	
BVAR	**Borovoye Array**	**23.46**	**319**	P	**P**	**09 55 23.8**	**+1.3**
BVAR				LR	LR	10 05 09.9	
KSRS	**Korea Array** comp=Z,3.1nm,0.7s,mb4.0,baz=278,slow=8.3,SNR=12	**25.37**	**80**	P	**P**	**09 55 40.4**	**+0.1**
AKTK	**Aktyubinsk**	**29.75**	**308**	P	**P**	**09 56 20.2**	**+0.9**
AKTO	**Aktyubinsk** comp=Z,0.7nm,0.3s,mb3.9,baz=319,slow=6.1,SNR=3.7	**29.75**	**308**	P	**P**	**09 56 20.2**	**+0.9**
NOA	**NORSAR Array B** comp=Z,1.0nm,0.7s,mb4.0,baz=72,slow=7.0,SNR=2.8	**55.47**	**324**	P	**P**	**09 59 47.2**	**-0.3**
NOA	**NORSAR Array B**	**55.47**	**324**	P	**P**	**09 59 47.2**	**-0.3**
ILAR	**Eielson Array** comp=Z,0.6nm,0.7s,mb3.8,baz=293,slow=5.2,SNR=10	**66.86**	**24**	P	**P**	**10 01 04.8**	**+0.2**
YKA	**Yellowknife Ar** comp=Z,1.0nm,0.8s,mb3.8,baz=333,slow=5.3,SNR=4.0	**77.28**	**14**	P	**P**	**10 02 07.3**	**+0.2**

BJI ***10*** *09:51:59.1,31.°13S×178.°36W,h107km,mB5.5/19, mb5.3/25*

ISCJB ***10*** *09:52:00.0±0.5,32.°06S±0.°03×179.°37W±0.°04, h113km±4km,mb5.0/62,Error ellipse: s-maj=6.6km s-min=4.0km az=34.3*

DJA ***10*** *09:52:00,32.°43S×178.°40W,h153km,mb5.0/19*

NEIC ***10*** *09:52:02.5±0.8,31.°98S×179.°30W,h130km±7km,mb5.2/25, Error ellipse: s-maj=9.5km s-min=6.4km az=142.0*

MOS ***10*** *09:52:03.1±1.0,31.°74S×179.°38W,h139km,mb5.3/11, Error ellipse: s-maj=13.2km s-min=10.7km az=68.9*

GCMT ***10*** *09:52:07.5±0.3,31.°61S×179.°21W,h151km±2km,MW5.1, Moment Tensor Solution. s35,c39; s69,c116; Moment tensor: Scale 10^16Nm; Mrr-2.75±.17; Mθθ-2.07±.20; Mϕϕ4.82±.17; Mrθ-2.99±.15; Mrϕ2.53±.17; Mθϕ1.03±.15; Best double couple: Mo5.80000×10^16 NP1:ϕs54.00000°, δ60.00000°,λ-34.00000°. NP2:ϕs163.00000°,δ61.00000°, λ-145.00000°. Principal axes: T 5.6500, Plg0.0000°, Azm288.0000°; N 0.3400, Plg46.0000°, Azm198.0000°; P -5.9900, Plg44.0000°, Azm18.0000°; Data Used: II IU G IC.*

IDC ***10*** *09:52:07.1±0.9,31.°68S×179.°41W,h166km±7km,mb4.4/19, mb1 4.5/19,mb1mx4.5/21,mbtmp4.4/19,MS3.8/6, Ms1 3.8/6,ms1mx3.5/26 Error ellipse: s-maj=12.1km s-min=10.0km az=7.0*

ISC 10 09:52:01.4±0.4,32.°06S±0.°03×179.°31W±0.°04, h113km±4km,h113km±1.1km;pP-P,n613,σ1s01/435, mb5.0/61,106C-94D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.04**	**24**	*e*Pn	**Pn**	**09 52 47.2**	**-0.8**
RAO				*e*Sn	**Sn**	**09 53 23.4**	**-0.6**
RAO	**Raoul Island**	**3.04**	**24**	*e*P	**Pn**	**09 52 47.3**	**-0.8**
RAO				*e*		09 53 23.5	
MXZ	**Matakaoa Point**	**5.83**	**199**	PN	**Pn**	**09 53 27.5**	**+2.0**
MXZ				SN	**Sn**	**09 54 35.6**	**+4.6**
MXZ				T		09 57 27.8	
MXZ				T(MAX)		09 59 32.1	
KUZ	**Kuaotunu**	**6.22**	**220**	PN	**Pn**	**09 53 38.3**	**+7.5**
PUZ	**Puketiti**	**6.33**	**198**	PN	**Pn**	**09 53 33.9**	**+1.8**
PUZ				SN	**Sn**	**09 54 45.9**	**+3.0**
MYRZ	**Mayor Island**	**6.37**	**214**	PN	**Pn**	**09 53 39.2**	**+6.4**
WCZ	**Waipu Caves**	**6.54**	**232**	PN	**Pn**	**09 53 43.6**	**+8.6**
OPRZ	**Ohinepanea**	**6.70**	**209**	PN	**Pn**	**09 53 40.8**	**+3.6**
OUZ	**Omahuta**	**6.70**	**240**	*e*Pn	**Pn**	**09 53 46.2**	**+8.9**
TGRZ	**Tauranga**	**6.73**	**212**	PN	**Pn**	**09 53 41.6**	**+4.0**
MWZ	**Matawai**	**6.78**	**202**	PN	**Pn**	**09 53 40.1**	**+1.8**
MKAZ	**Moumakai**	**6.79**	**221**	PN	**Pn**	**09 53 46.2**	**+7.7**
URZ	**Urewera** 24nm,0.3s,baz=349,slow=2.7,SNR=137	**6.85**	**204**	P	**Pn**	**09 53 41.0**	**+1.8**
URZ	381nm,0.3s,baz=109,slow=20,SNR=19			S	**Sn**	**09 55 01.9**	**+6.3**
URZ	**Urewera**	**6.85**	**204**	*e*Pn	**Pn**	**09 53 41.4**	**+2.2**
URZ				*e*Sn	**Sn**	**09 55 01.8**	**+6.2**
URZ	**Urewera**	**6.85**	**204**	PN	**Pn**	**09 53 40.8**	**+1.6**
EDRZ	**Edgecumbe**	**6.85**	**207**	PN	**Pn**	**09 53 41.9**	**+2.7**
TARZ	**Mount Tarawera**	**7.05**	**208**	*e*PN	**Pn**	**09 53 45.5**	**+3.5**
PRGZ	**Paritu Road**	**7.22**	**198**	*e*PN	**Pn**	**09 53 44.8**	**+0.6**
HRRZ	**Handcock Road**	**7.28**	**208**	PN	**Pn**	**09 53 47.8**	**+2.8**
PRRZ	**Plateau Road**	**7.32**	**207**	PN	**Pn**	**09 53 47.5**	**+1.9**
KNZ	**Kokohu**	**7.37**	**199**	PN	**Pn**	**09 53 46.2**	**-0.1**
ALRZ	**Allen Road**	**7.40**	**207**	*e*PN	**Pn**	**09 53 48.2**	**+1.6**
MHGZ	**Mahia Peninsul**	**7.43**	**197**	PN	**Pn**	**09 53 47.7**	**+0.6**
RAHZ	**Arahi**	**7.45**	**202**	PN	**Pn**	**09 53 47.9**	**+0.6**
NMHZ	**Naumai**	**7.71**	**203**	PN	**Pn**	**09 53 51.5**	**+0.7**
WATZ	**Wairara**	**7.77**	**210**	*e*PN	**Pn**	**09 53 53.8**	**+2.0**
BKZ	**Black Stump Fm**	**7.87**	**205**	PN	**Pn**	**09 53 52.9**	**-0.2**
RATZ	**Rangitukua**	**7.89**	**209**	PN	**Pn**	**09 53 55.3**	**+1.9**
HIZ	**Hauiti**	**8.01**	**215**	PN	**Pn**	**09 53 59.5**	**+4.5**
KATZ	**Kakaramea**	**8.01**	**209**	PN	**Pn**	**09 53 56.8**	**+1.8**
MCHZ	**McNeill Hill**	**8.05**	**203**	*e*PN	**Pn**	**09 53 55.1**	**-0.5**
CKHZ	**Cape Kidnapper**	**8.13**	**200**	PN	**Pn**	**09 53 56.0**	**-0.6**
CKHZ				SN	**Sn**	**09 55 27.0**	**+0.3**
KRVZ	**Karewarewa**	**8.14**	**209**	PN	**Pn**	**09 53 57.6**	**+0.9**
WTVZ	**West Tongariro**	**8.18**	**209**	PN	**Pn**	**09 53 58.1**	**+0.9**
OTVZ	**Oturere**	**8.19**	**209**	PN	**Pn**	**09 53 58.1**	**+0.8**
TWVZ	**Taurewa**	**8.20**	**210**	PN	**Pn**	**09 53 58.8**	**+1.3**
NGZ	**Ngauruhoe**	**8.22**	**209**	PN	**Pn**	**09 53 58.6**	**+0.8**
WPVZ	**Whakapapa**	**8.27**	**209**	PN	**Pn**	**09 53 59.3**	**+0.8**
TUVZ	**Tukino**	**8.28**	**208**	PN	**Pn**	**09 53 59.6**	**+1.0**
FWVZ	**Far West T-bar**	**8.31**	**209**	PN	**Pn**	**09 53 59.4**	**+0.4**
BHHZ	**Black Hill Sta**	**8.31**	**206**	PN	**Pn**	**09 53 58.7**	**-0.4**
KAHZ	**Kahuranaki**	**8.32**	**201**	PN	**Pn**	**09 53 58.5**	**-0.7**
TRVZ	**Turoa**	**8.35**	**209**	PN	**Pn**	**09 54 00.0**	**+0.5**
WNVZ	**Wahianoa**	**8.35**	**208**	*e*PN	**Pn**	**09 54 00.3**	**+0.7**
MOVZ	**Moawhango**	**8.36**	**207**	PN	**Pn**	**09 53 58.9**	**-0.8**
PKVZ	**Pokaka**	**8.42**	**210**	*e*PN	**Pn**	**09 54 01.0**	**+0.4**
MTVZ	**Mangateitei**	**8.45**	**209**	PN	**Pn**	**09 54 01.3**	**+0.4**
PXZ	**Pawanui**	**8.54**	**200**	PN	**Pn**	**09 54 00.0**	**-2.1**
VRZ	**Vera Road**	**8.55**	**213**	*e*PN	**Pn**	**09 54 04.4**	**+2.2**
PNHZ	**Pukenui**	**8.64**	**204**	*e*PN	**Pn**	**09 54 01.7**	**-1.9**
PNHZ				SN	**Sn**	**09 55 39.9**	**+0.7**
WPHZ	**Waipukurau**	**8.70**	**202**	PN	**Pn**	**09 54 02.7**	**-1.6**
PRHZ	**Porangahau**	**8.82**	**201**	PN	**Pn**	**09 54 03.8**	**-2.2**
TSZ	**Takapari Road**	**8.86**	**204**	PN	**Pn**	**09 54 04.1**	**-2.3**
WAZ	**Wanganui**	**8.97**	**209**	*e*PN	**Pn**	**09 54 07.0**	**-0.9**
NEZ	**North Egmont**	**8.97**	**215**	PN	**Pn**	**09 54 11.6**	**+3.5**
DVHZ	**Dannevirke**	**9.00**	**203**	*e*PN	**Pn**	**09 54 06.3**	**-2.1**
ANWZ	**Angora Road**	**9.05**	**201**	*e*PN	**Pn**	**09 54 06.6**	**-2.4**
POWZ	**Post Office Ro**	**9.22**	**204**	PN	**Pn**	**09 54 09.0**	**-2.3**
MRZ	**Mangatainoka R**	**9.52**	**204**	*e*PN	**Pn**	**09 54 11.7**	**-3.7**
HOWZ	**Holdsworth Sta**	**9.76**	**204**	*e*PN	**Pn**	**09 54 14.8**	**-3.8**
OGWZ	**Otaki Gorge**	**9.81**	**205**	*e*PN	**Pn**	**09 54 16.2**	**-3.1**
TMWZ	**Te Maipa**	**9.82**	**202**	PN	**Pn**	**09 54 16.1**	**-3.4**
KIW	**Kapiti Island**	**9.94**	**206**	*e*PN	**Pn**	**09 54 17.7**	**-3.4**
MTW	**Mount Morrison**	**9.99**	**203**	*e*PN	**Pn**	**09 54 18.1**	**-3.8**
CAW	**Cannon Point**	**10.10**	**205**	*e*PN	**Pn**	**09 54 19.4**	**-3.9**
TRWZ	**Traveller**	**10.15**	**202**	*e*PN	**Pn**	**09 54 20.4**	**-3.5**
DUWZ	**D'Urville Isla**	**10.29**	**210**	*e*PN	**Pn**	**09 54 23.3**	**-2.5**
MSWZ	**Moikau Station**	**10.31**	**203**	*e*PN	**Pn**	**09 54 22.8**	**-3.3**
WEL	**Wellington**	**10.36**	**206**	*e*PN	**Pn**	**09 54 23.3**	**-3.5**
SNZO	**South Karori**	**10.41**	**206**	*e*PN	**Pn**	**09 54 23.1**	**-4.3**
PLWZ	**Palliser**	**10.44**	**203**	*e*PN	**Pn**	**09 54 23.7**	**-4.2**
TCW	**Tory Channel**	**10.49**	**208**	*e*PN	**Pn**	**09 54 24.6**	**-3.9**
NNZ	**Nelson**	**10.86**	**211**	PN	**Pn**	**09 54 30.3**	**-3.2**
QRZ	**Quartz Range**	**10.94**	**215**	*e*PN	**Pn**	**09 54 32.3**	**-2.2**
CMWZ	**Cape Campbell**	**10.97**	**206**	SN	**Sn**	**09 56 33.1**	**-2.5**
BSWZ	**Blackbirch Sta**	**11.07**	**208**	*e*PN	**Pn**	**09 54 32.7**	**-3.5**
THZ	**Tophouse**	**11.51**	**211**	*e*PN	**Pn**	**09 54 38.6**	**-3.5**
KHZ	**Kahutara**	**11.80**	**207**	*e*Pn	**Pn**	**09 54 42.5**	**-3.5**
KHZ	**Kahutara**	**11.80**	**207**	PN	**Pn**	**09 54 41.0**	**-5.0**
CTZ	**Chatham Island**	**11.85**	**170**	PN	**Pn**	**09 54 51.2**	**+4.6**
CTZ				SN	**Sn**	**09 56 56.2**	**-0.7**
DSZ	**Denniston Nort**	**12.00**	**214**	*e*PN	**Pn**	**09 54 45.5**	**-3.0**
LTZ	**Lake Taylor**	**12.62**	**210**	*e*PN	**Pn**	**09 54 52.0**	**-4.7**
CRLZ	**Canterbury Las**	**13.14**	**207**	*e*PN	**Pn**	**09 54 57.2**	**-6.3**
MQZ	**McQueen's Vall**	**13.24**	**206**	PN	**Pn**	**09 54 59.4**	**-5.5**
WVZ	**Waitaha Valley**	**13.53**	**213**	PN	**Pn**	**09 55 05.0**	**-3.6**
RPZ	**Rata Peaks** 3.8nm,0.3s,baz=63,slow=3.4,SNR=16	**13.89**	**210**	P	**Pn**	**09 55 09.0**	**-4.3**
RPZ	12nm,0.3s,baz=17,slow=20,SNR=12			S	**Sn**	**09 57 36.8**	**-9.5**
RPZ	**Rata Peaks**	**13.89**	**210**	*e*Pn	**Pn**	**09 55 12.6**	**-0.7**
RPZ				S	**Sn**	**09 57 36.8**	**-9.5**
RPZ	**Rata Peaks**	**13.89**	**210**	PN	**Pn**	**09 55 08.5**	**-4.8**
FOZ	**Fox Glacier**	**14.39**	**214**	*e*PN	**Pn**	**09 55 14.3**	**-5.3**
MSVF	**Nonsavu**	**14.46**	**350**	*e*Pn	**Pn**	**09 55 19.8**	**-0.9**
MSVF	**Nonsavu**	**14.46**	**350**	*e*P	**Pn**	**09 55 19.8**	**-0.9**
MSVF	**Nonsavu** 918nm,0.9s,SNR=50	**14.46**	**350**	Pn	**Pn**	**09 55 19.7**	**-1.0**
LBZ	**Lake Benmore**	**14.80**	**211**	SN	**Sn**	**09 57 56.0**	**-12**
ODZ	**Otahua Downs** 1μm,2.4s	**15.15**	**208**	*e*P	**Pn**	**09 55 28.8**	**-0.5**
ODZ	**Otahua Downs**	**15.15**	**208**	*e*PN	**Pn**	**09 55 24.8**	**-4.4**
JCZ	**Jackson Bay**	**15.22**	**215**	PN	**Pn**	**09 55 26.8**	**-3.3**
JCZ				SN	**Sn**	**09 58 05.5**	**-13**
WKZ	**Wanaka**	**15.67**	**212**	PN	**Pn**	**09 55 31.1**	**-4.6**
EAZ	**Earnscleugh**	**15.86**	**211**	SN	**Sn**	**09 58 21.3**	**-12**
DZM	**Mont Dzumac** 196nm,1.2s	**16.11**	**305**	*e*P	**Pn**	**09 55 44.4**	**+3.1**
DZM	**Mont Dzumac** 150nm,1.3s	**16.11**	**305**	*e*Pn	**Pn**	**09 55 43.1**	**+1.7**
NOUC	**Port Laguerre**	**16.18**	**304**	*e*P	**Pn**	**09 55 44.6**	**+2.2**
TUZ	**Tuapeka**	**16.30**	**208**	*e*PN	**Pn**	**09 55 40.6**	**-2.9**
WHZ	**Wether Hill Ro**	**16.97**	**212**	*e*PN	**Pn**	**09 55 50.3**	**-1.5**
WHZ				SN	**Sn**	**09 58 47.2**	**-13**
RAR	**Rarotonga** 29nm,0.9s,baz=222,slow=6.1,SNR=4.5	**20.50**	**63**	P	**P**	**09 56 31.3**	**+0.8**
RAR	**Rarotonga**	**20.50**	**63**	P	**P**	**09 56 31.4**	**+0.8**
RAR	**Rarotonga**	**20.50**	**63**	P	**P**	**09 56 31.4**	**+0.8**
TBI	**Tubuai** 293nm,41.0s	**27.75**	**79**	*e*LR	LR	10 04 26.3	
CMSA	**Cobar Meteorol**	**29.67**	**262**	*e*P	**P**	**09 57 58.7**	**+2.2**
PAE	**Paea** 9.3nm,1.0s,mb4.4	**30.42**	**69**	*e*P	**P**	**09 58 02.5**	**-0.7**
PPT	**Papeete** 203nm,27.5s	**30.48**	**69**	*e*LR	LR	10 05 56.8	
PPT	**Papeete** comp=Z,148nm,19.3s,baz=25,slow=29	**30.48**	**69**	LR	LR	10 06 58.5	
TIAR	**Tiarei** 125nm,0.8s,mb5.7	**30.67**	**69**	*e*P	**P**	**09 58 05.0**	**-0.4**
ARPS	**Mount Arapiles** 34nm,1.2s,mb5.0	**32.24**	**251**	*e*P	**P**	**09 58 21.4**	**+2.4**
ARPS				*e*		09 58 54.3	
CTA	**Charters Tower** 30nm,0.7s,mb5.2,baz=161,slow=9.3,SNR=5.9	**33.01**	**283**	P	**P**	**09 58 27.1**	**+1.2**
CTA	**Charters Tower** 30nm,0.9s,mb5.1	**33.01**	**283**	*e*P	**P**	**09 58 27.3**	**+1.4**
CTA	**Charters Tower**	**33.01**	**283**	P	**P**	**09 58 27.1**	**+1.2**
CTA	**Charters Tower**	**33.01**	**283**	P	**P**	**09 58 27.1**	**+1.2**
CTAO	**Charters Tower**	**33.01**	**283**	*e*P	**P**	**09 58 27.0**	**+1.1**
	43nm,0.9s,mb5.3						
CTAO	**Charters Tower**	**33.01**	**283**	*e*P	**P**	**09 58 27.0**	**+1.1**
CTAO	comp=Z,43nm,0.9s,mb5.3			pmax	pmax		
CTAO	**Charters Tower** comp=Z,56nm,1.0s,mb5.3	**33.01**	**283**	P	**P**	**09 58 29.8**	**+3.9**
STKA	**Stephens Creek** comp=Z,4.1nm,0.4s,mb4.7,baz=98,slow=9.5,SNR=20	**33.04**	**260**	P	**P**	**09 58 27.6**	**+1.5**
STKA	comp=Z,190nm,20.2s,baz=106,slow=31			LR	LR	10 09 14.3	
STKA	**Stephens Creek**	**33.04**	**260**	*e*P	**P**	**09 58 28.1**	**+2.0**
	comp=Z,8.5nm,0.9s,mb4.6						
STKA	**Stephens Creek** comp=Z,3.3nm,1.1s,mb4.1	**33.04**	**260**	*e*P	**P**	**09 58 28.2**	**+2.1**
STKA	**Stephens Creek** comp=Z,3.0nm,1.1s	**33.04**	**260**	*e*P	**P**	**09 58 28.2**	**+2.1**
STKA				pmax	pmax		
PMOR	**Pomariorio Ree** comp=Z,118nm,1.2s,mb5.6	**33.27**	**67**	*e*P	**P**	**09 58 27.5**	**-0.7**
TARA	**Tarawa** comp=Z,133nm,0.6s,mb5.9	**34.03**	**346**	*e*P	**P**	**09 58 30.2**	**-4.6**
COEN	**Coen** comp=Z,80nm,0.8s,mb5.6	**38.69**	**289**	*e*P	**P**	**09 59 14.8**	**+0.3**
COEN	**Coen** comp=Z,27nm,1.2s,mb4.9	**38.69**	**289**	P	**P**	**09 59 16.7**	**+2.3**
RKT	**Rikitea** comp=Z,213nm,41.2s	**40.06**	**89**	*e*LR	LR	10 10 24.2	
ASAR	**Alice Springs** comp=Z,13nm,0.6s,mb4.9,baz=106,slow=7.6,SNR=230	**41.93**	**269**	P	**P**	**09 59 41.4**	**+0.3**
ASAR	comp=Z,7.9nm,0.9s,baz=113,slow=9.2,SNR=2.1			pP	pP	10 00 16.4	+10
ASAR	comp=Z,1.8nm,1.0s,baz=102,slow=14,SNR=5.6			S	**S**	**10 05 45.4**	**-5.9**
ASAR	**Alice Springs**	**41.93**	**269**	P	**P**	**09 59 41.4**	**+0.3**
ASAR				pP	pP	10 00 16.4	+10
ASAR				S	**S**	**10 05 45.4**	**-5.8**
ASAR	**Alice Springs**	**41.93**	**269**	P	**P**	**09 59 41.4**	**+0.3**
ASAR				*PP	pP	10 00 16.4	+10
ASAR				S	**S**	**10 05 45.4**	**-5.8**
WB2	**Warramunga Arr**	**43.06**	**275**	*e*P	**P**	**09 59 50.0**	**-0.3**
WRAB	**Tennant Creek** comp=Z,20nm,0.6s,mb5.0	**43.07**	**275**	*e*P	**P**	**09 59 50.0**	**-0.3**
WRAB	**Tennant Creek** comp=Z,20nm,0.6s,mb5.0	**43.07**	**275**	*e*P	**P**	**09 59 50.1**	**-0.2**
WRAB	comp=Z,199nm,0.6s,mb6.0,SNR=26			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,51nm,1.0s,mb5.2	**43.07**	**275**	P	**P**	**09 59 49.7**	**-0.6**
WRA	**Warramunga Arr** comp=Z,16nm,0.4s,mb5.1,baz=111,slow=8.0,SNR=294	**43.07**	**275**	P	**P**	**09 59 50.2**	**-0.1**
WRA	comp=Z,9.6nm,0.7s,baz=113,slow=7.9,SNR=2.2			pP	pP	10 00 25.7	+9.5
WRA	comp=Z,5.6nm,1.1s,baz=108,slow=14,SNR=7.1			S	**S**	**10

comp=Z,65nm,20.4s,baz=351,slow=33
PETK Petropavlovsk- 87.14 346 P **P** **10 04 31.6 -2.6**
PETK LR LR 10 39 22.0
PETK Petropavlovsk- 87.14 346 P **P** **10 04 31.6 -2.6**
MURC Murrieta 87.67 48 ⇓P **P** **10 04 37.6 +0.3**
baz=88
ARVC Arvin 87.69 46 ⇓P **P** **10 04 37.0 -0.2**
baz=88,SNR=5.0
MONP Monument Peak 87.70 49 ⇑P **P** **10 04 37.5 +0.2**
baz=88
BFSC Mount Baldy Ra 87.81 47 ⇓P **P** **10 04 37.7 -0.1**
baz=88
VES Vestal, Richgr 88.01 45 ⇓P **P** **10 04 38.4 -0.4**
baz=88,SNR=7.9
EDW2 Edwards Air Fo 88.03 46 ⇑P **P** **10 04 39.0 +0.1**
baz=88,SNR=10.0
SWSC Sam W. Stewart 88.13 49 ⇑P **P** **10 04 39.4 0.0**
baz=88
PFO Pinyon Flat Ob 88.15 48 ⇓P **P** **10 04 40.0 +0.6**
baz=88
RCTC Rector, Farmer 88.23 44 ⇓P **P** **10 04 39.4 -0.4**
baz=88
ISA Isabella 88.26 45 ⇑P **P** **10 04 40.0 +0.1**
baz=88,SNR=14
ISA Isabella 88.26 45 *e*P **P** **10 04 39.7 -0.2**
comp=Z,34nm,1.0s,mb5.3
ISA Isabella 88.26 45 *e*P **P** **10 04 39.7 -0.2**
ISA pmax pmax
comp=Z,34nm,1.0s,mb5.3
LRMC Laurel Mountai 88.61 46 ⇓P **P** **10 04 41.2 -0.4**
baz=89,SNR=15
BELC Belle Mtn. Jos 88.69 48 ⇑P **P** **10 04 42.6 +0.6**
baz=89,SNR=7.8
CMB Columbia Colle 88.74 43 *e*P **P** **10 04 41.2 -0.9**
comp=Z,35nm,1.4s,mb5.2
CMB Columbia Colle 88.74 43 *e*P **P** **10 04 41.2 -0.9**
CMB pmax pmax
comp=Z,35nm,1.4s,mb5.2
BC3 Big Chuckawall 88.81 48 ⇓P **P** **10 04 43.1 +0.5**
baz=89,SNR=6.4
GLA Glamis 88.83 49 ⇑P **P** **10 04 43.2 +0.5**
baz=89,SNR=9.5
GLA Glamis 88.83 49 *e*P **P** **10 04 42.4 -0.2**
comp=Z,30nm,0.8s,mb5.4
GLA Glamis 88.83 49 *e*P **P** **10 04 42.4 -0.3**
GLA pmax pmax
comp=Z,30nm,0.8s,mb5.4
CWC Cottonwood Cre 89.02 45 ⇑P **P** **10 04 43.6 +0.1**
baz=89
HEC Hector,Ludlow 89.02 47 ⇓P **P** **10 04 43.6 +0.1**
baz=89,SNR=7.8
GSC Goldstone 89.04 47 ⇓P **P** **10 04 43.6 0.0**
baz=89,SNR=8.8
GSC Goldstone 89.04 47 *e*P **P** **10 04 43.3 -0.3**
comp=Z,47nm,1.4s,mb5.3
GSC Goldstone 89.04 47 *e*P **P** **10 04 43.3 -0.3**
GSC pmax pmax
comp=Z,47nm,1.4s,mb5.3
MPMC Manual Prospec 89.12 46 ⇓P **P** **10 04 44.1 +0.2**
baz=89,SNR=6.4
WDC Whiskeytown Da 89.30 40 *e*P **P** **10 04 43.6 -1.1**
comp=Z,27nm,1.2s,mb5.2
WDC Whiskeytown Da 89.30 40 *e*P **P** **10 04 43.6 -1.1**
WDC pmax pmax
comp=Z,27nm,1.2s,mb5.2
IRM Iron Mountain 89.33 48 ⇓P **P** **10 04 45.4 +0.4**
baz=90,SNR=14
113A Mohawk Valley, 89.33 50 ⇑P **P** **10 04 45.5 +0.5**
baz=90,SNR=7.4
MDJ Mudanjiang 89.36 326 P **P** **10 04 43.1 -1.8**
MDJ pP pP 10 05 12.1 -2.1
MDJ sP sP 10 05 23.8 -2.3
MDJ S S 10 15 23.4 -1.8
MDJ sS sS 10 16 11.8 -3.8
MDJ pmax pmax
comp=Z,20nm,1.5s,mb4.9
MDJ pmax pmax
comp=Z,150nm,6.0s
GMRC Granite Mounta 89.41 48 ⇓P **P** **10 04 45.7 +0.3**
baz=90,SNR=5.4
214A Organ Pipe Nat 89.45 51 ⇑P **P** **10 04 45.9 +0.3**
baz=90
Y12C Blythe 89.47 49 ⇑P **P** **10 04 45.9 +0.3**
baz=90,SNR=9.2
WAKR Walker 89.60 43 *e*P **P** **10 04 45.8 -0.4**
comp=Z,39nm,1.3s,mb5.4
TUQ Turquoise Moun 89.67 47 ⇑P **P** **10 04 46.9 +0.4**
baz=90,SNR=6.6
Z13A Yuma Proving G 89.68 50 ⇓P **P** **10 04 47.1 +0.5**
baz=90,SNR=13
SHOC Shoshone 89.75 46 ⇓P **P** **10 04 47.6 +0.6**
baz=90
FURC Furnace Creek, 89.77 46 ⇑P **P** **10 04 47.4 +0.4**
baz=90
GRAC Grapevine Rang 89.81 45 ⇑P **P** **10 04 47.2 0.0**
baz=90
114A Black Gap (USA 89.90 51 ⇑P **P** **10 04 47.8 +0.1**
baz=90
LDFC Landfair 89.95 48 *e*P **P** **10 04 48.3 +0.4**
comp=Z,67nm,1.1s,mb5.7
WCN Washoe City 89.96 42 ⇓P **P** **10 04 48.5 +0.7**
baz=90
WCN Washoe City 89.96 42 *e*P **P** **10 04 46.9 -1.0**
comp=Z,14nm,1.1s,mb5.0
WCN Washoe City 89.96 42 *e*P **P** **10 04 46.9 -0.9**
WCN pmax pmax
comp=Z,14nm,1.1s,mb5.0
NEE2 Needles Airpor 90.06 48 ⇓P **P** **10 04 48.9 +0.6**
baz=90
PDMCI Parker Dam,Lak 90.06 49 ⇓P **P** **10 04 48.6 +0.2**
baz=90,SNR=6.2
LBCM Butte Creek Ri 90.13 40 P **P** **10 04 48.3 -0.3**
NVAR Mina Array Bea 90.21 43 P **P** **10 04 48.6 -0.4**
comp=Z,14nm,1.0s,mb5.0,baz=219,slow=7.6,SNR=50
NVAR Mina Array Bea 90.21 43 P **P** **10 04 48.6 -0.4**
Z14A Wintersburg 90.24 50 ⇑P **P** **10 04 49.8 +0.5**
baz=90,SNR=7.3
115A Sonoran Desert 90.30 51 ⇓P **P** **10 04 50.1 +0.5**
baz=90
216A Three Points, 90.38 52 ⇑P **P** **10 04 50.3 +0.4**
baz=90
HUMO Hull Mountain 90.51 38 *e*P **P** **10 04 49.6 -0.7**
comp=Z,38nm,1.4s,mb5.3
116A Eloy 90.56 51 ⇓P **P** **10 04 51.6 +0.8**
baz=91,SNR=5.4
Y14A Wickenburg 90.56 50 ⇓P **P** **10 04 51.0 +0.2**
baz=91,SNR=8.9
217A Green Valley 90.67 52 ⇑P **P** **10 04 52.0 +0.7**
baz=91,SNR=9.1
Z15A Gila River Ind 90.71 51 ⇑P **P** **10 04 51.9 +0.4**
baz=91
CN2 Changchun 90.79 323 *e*P **P** **10 04 49.5 -2.1**
CN2 *es*P sP 10 05 30.6 -2.2
CN2 *e*S S 10 15 35.5 -2.8
CN2 pmax pmax
comp=Z,30nm,1.2s,mb5.3
CN2 pmax pmax
comp=Z,200nm,5.0s
SHPR Sheep Range 90.83 46 *e*P **P** **10 04 51.8 -0.2**
comp=Z,13nm,1.4s,mb4.9
Y15A Casa Rosa Ranc 91.01 50 ⇑P **P** **10 04 53.6 +0.7**
baz=91,SNR=6.8
TUC Tucson 91.02 52 *e*P **P** **10 04 52.8 -0.1**
comp=Z,39nm,1.5s,mb5.3
TUC Tucson 91.02 52 *e*P **P** **10 04 52.8 -0.1**
TUC pmax pmax
comp=Z,39nm,1.5s,mb5.3
318A Bisbee 91.02 53 ⇑P **P** **10 04 53.7 +0.7**
baz=91,SNR=8.3
117A Oracle 91.21 52 ⇑P **P** **10 04 54.5 +0.8**
baz=91,SNR=6.4
Z16A Peralta Trail, 91.22 51 ⇑P **P** **10 04 54.4 +0.5**
baz=91
218A Dragoon 91.31 53 ⇓P **P** **10 04 55.1 +0.8**
baz=92,SNR=13
GYA Guiyang 91.41 300 P **P** **10 04 56.0 +1.1**
GYA pP pP 10 05 26.4 +2.2
GYA sP sP 10 05 37.8 +1.7
GYA PP PP 10 08 38.0 +3.6
GYA SKS 10 15 16.7
GYA S S 10 15 44.0 -0.8
GYA SS SS 10 21 58.5 +4.9
GYA pmax pmax
comp=Z,20nm,1.0s,mb5.2
GYA pmax pmax
comp=Z,120nm,5.8s
GYA LR LR
comp=N,460nm,20.2s
GYA LR LR
comp=E,540nm,21.7s
GYA LR LR
comp=Z,400nm,22.0s
MOD Modoc 91.44 40 *e*P **P** **10 04 53.6 -1.0**
comp=Z,20nm,1.1s,mb5.2
319A Douglas 91.47 54 ⇑P **P** **10 04 55.5 +0.4**
baz=92
U13A Pakoon Wash 91.52 47 ⇑P **P** **10 04 55.5 +0.3**
baz=92
Y16A Circle Bar Ran 91.52 50 ⇓P **P** **10 04 55.8 +0.6**
baz=92,SNR=11
ENH Enshi 91.62 305 *e*P **P** **10 04 55.1 -0.6**
comp=Z,5.8nm,0.5s,mb5.1
118A Homack Ranch, 91.76 52 ⇓P **P** **10 04 57.1 +0.7**
baz=92,SNR=10
R11A Troy Canyon, C 91.77 45 ⇑P **P** **10 04 55.8 -0.4**
baz=92
Y17A Roosevelt 91.82 51 ⇓P **P** **10 04 57.0 +0.4**
baz=92,SNR=6.3
Z17A San Carlos Hig 91.83 51 ⇑P **P** **10 04 57.4 +0.8**
baz=92
219A White Tail Can 91.86 53 ⇑P **P** **10 04 57.3 +0.4**
baz=92
X16A Lo Mia Camp, P 91.88 50 ⇓P **P** **10 04 57.4 +0.6**
baz=92,SNR=6.9
KLR Kul'dur 91.90 330 *e*P **P** **10 04 52.0 -4.6**
BROR Big Rock Looko 91.94 37 P **P** **10 04 56.4 -0.5**
320A Kipp Ranch, An 91.96 54 ⇓P **P** **10 04 58.3 +1.0**
baz=92
U14A Mt Trumbull 92.01 48 ⇑P **P** **10 04 58.0 +0.6**
baz=92
W16A Flagstaff 92.23 49 ⇓P **P** **10 04 59.2 +0.7**
baz=92
X17A Forest Lakes 92.24 50 ⇓P **P** **10 04 59.6 +1.1**
baz=92
V15A Kaibab Nationa 92.27 49 ⇑P **P** **10 04 59.3 +0.7**
baz=92,SNR=6.4
220A Playas Peak, P 92.30 53 ⇓P **P** **10 04 59.9 +1.0**
baz=92
H04A Detroit Lake 92.37 37 ⇓P **P** **10 04 58.4 -0.5**
baz=93
Y18A Canyon Day Jun 92.41 51 ⇑P **P** **10 05 00.1 +0.8**
baz=93,SNR=8.2
U15A North Rim 92.57 48 ⇓P **P** **10 05 00.8 +0.8**
baz=93,SNR=13
G04A Mulino 92.59 36 ⇑P **P** **10 05 00.4 +0.6**
baz=93
WUAZ Wupatki 92.59 49 ⇑P **P** **10 05 01.1 +1.0**
baz=93
WUAZ Wupatki 92.59 49 *e*P **P** **10 05 00.3 +0.2**
comp=Z,7.8nm,0.9s,mb5.0
120A U Bar Ranch, L 92.61 53 ⇑P **P** **10 05 00.8 +0.6**
baz=93
R13A O'Grain Ranch, 92.63 46 ⇑P **P** **10 05 00.4 +0.1**
baz=93
WVOR Wild Horse Val 92.70 40 *e*P **P** **10 04 59.4 -1.0**
comp=Z,14nm,1.1s,mb5.2
WVOR Wild Horse Val 92.70 40 *e*P **P** **10 04 59.4 -1.1**
WVOR pmax pmax
comp=Z,14nm,1.1s,mb5.2
ARUT Antelope Range 92.71 46 *e*P **P** **10 04 59.0 -1.6**
comp=Z,4.2nm,1.1s,mb4.7
ARUT Antelope Range 92.71 46 *e*P **P** **10 04 59.0 -1.6**
ARUT pmax pmax
comp=Z,4.0nm,1.1s,mb4.7
T15A Red Dirt Ranch 92.88 48 ⇑P **P** **10 05 01.9 +0.4**
baz=93
CMAR Chiang Mai Arr 92.89 290 P **P** **10 05 02.0 0.0**
comp=Z,0.7nm,0.3s,mb4.5,baz=145,slow=3.3,SNR=2.9
CMAR Chiang Mai Arr 92.89 290 P **P** **10 05 02.0 0.0**
CMAR Chiang Mai Arr 92.89 290 P **P** **10 05 02.0 +0.1**
X18A Snowflake 92.92 51 ⇓P **P** **10 05 02.1 +0.4**
baz=93
Z20A Nine Sixteen R 92.97 52 ⇑P **P** **10 05 02.8 +0.8**
baz=93
V17A Tonalea, Kykot 93.03 49 ⇑P **P** **10 05 02.1 0.0**
baz=93,SNR=5.3
Y19A Nutrioso 93.03 51 ⇓P **P** **10 05 03.1 +0.9**
baz=93
VIPM Ingram Point 93.05 38 P **P** **10 05 01.9 -0.1**
VIPM Ingram Point 93.05 38 P **P** **10 05 01.9 -0.1**
U16A Tuba City 93.14 49 ⇓P **P** **10 05 02.9 +0.3**
baz=93,SNR=8.8
S15A Panguitch 93.31 47 ⇓P **P** **10 05 04.3 +1.0**
baz=94
BJI Beijing 93.32 316 P **P** **10 05 02.9 -0.5**
BJI pP pP 10 05 31.3 -1.4
BJI sP sP 10 05 45.5 +0.9
BJI PP PP 10 08 51.9 +2.7
BJI S S 10 16 03.6 +2.4
BJI pmax pmax
comp=Z,12nm,1.1s,mb5.1
I07A Izee 93.35 39 ⇓P **P** **10 05 03.3 0.0**
baz=94
J08A Circle Bar Ran 93.41 40 ⇓P **P** **10 05 03.2 -0.5**
baz=94
T16A Glen Canyon Da 93.41 48 ⇓P **P** **10 05 04.2 +0.3**
baz=94,SNR=6.3
G06A Carlson Farm, 93.55 37 ⇓P **P** **10 05 03.9 -0.4**
baz=94
Q14A Sevier Lake (B 93.56 46 ⇑P **P** **10 05 04.8 +0.3**
baz=94,SNR=9.3
KMI Kunming 93.57 297 P **P** **10 05 06.7 +1.8**
KMI pP pP 10 05 36.8 +2.6
KMI S S 10 16 04.5 +0.4
KMI pmax pmax
comp=Z,9.0nm,1.3s,mb4.9
KMI pmax pmax
comp=Z,180nm,3.4s
KMI LR LR
comp=Z,52nm,33.2s
Y20A Horse Springs, 93.59 52 ⇑P **P** **10 05 05.1 +0.4**
baz=94
V18A Ganado 93.64 50 ⇑P **P** **10 05 05.7 +0.7**
baz=94
R15A Junction 93.69 47 ⇑P **P** **10 05 06.1 +1.0**
baz=94
Z21A St. Cloud Mine 93.71 53 ⇓P **P** **10 05 06.2 +0.8**
baz=94
S16A Weppner Ranch, 93.81 47 ⇓P **P** **10 05 06.2 +0.6**
baz=94
T17A Navajo Res., N 93.86 48 ⇓P **P** **10 05 06.3 +0.4**
baz=94
X20A Quado 93.89 51 ⇓P **P** **10 05 06.9 +0.7**
baz=94
626A Big Bend Ranch 94.01 58 ⇑P **P** **10 05 07.3 +0.5**
baz=94
P14A Drum Mountains 94.07 45 ⇓P **P** **10 05 07.2 +0.4**
baz=94
U18A Rough Rock, Ch 94.11 49 ⇓P **P** **10 05 07.0 -0.2**
baz=94
Q15A Fillmore 94.12 46 ⇓P **P** **10 05 07.6 +0.5**
baz=94
Y21A Point of Rocks 94.12 52 ⇓P **P** **10 05 07.5 +0.3**
baz=94
D05A Enumclaw 94.22 35 ⇓P **P** **10 05 07.8 +0.5**
baz=94
TXAR Lajitas Array 94.22 58 P **P** **10 05 07.9 +0.1**
comp=Z,2.8nm,1.0s,mb4.5,baz=214,slow=6.0,SNR=13
TXAR Lajitas Array 94.22 58 P **P** **10 05 07.9 +0.1**
TXAR Lajitas Array 94.22 58 P **P** **10 05 07.9 +0.1**
W20A Ramah 94.23 51 ⇓P **P** **10 05 08.1 +0.4**
baz=94,SNR=8.4
X21A Alamocita Cree 94.30 52 ⇑P **P** **10 05 08.6 +0.6**
baz=94
526A Mary Lane Ranc 94.33 57 ⇑P **P** **10 05 08.4 +0.1**
baz=94
G08A Pilot Rock 94.45 38 ⇑P **P** **10 05 07.8 -0.7**
baz=95,SNR=12
U19A Dine' College, 94.46 50 ⇓P **P** **10 05 08.8 +0.1**
baz=95
627A Terlingua Ranc 94.49 58 ⇑P **P** **10 05 08.4 -0.6**
baz=95
P15A Leamington 94.53 46 ⇓P **P** **10 05 09.6 +0.6**
baz=95
T18A Mexican Hat 94.54 49 ⇑P **P** **10 05 09.0 0.0**
baz=95,SNR=5.2
Y22A Socorro 94.56 53 ⇑P **P** **10 05 09.4 +0.2**
baz=95
DUG Dugway 94.60 45 ⇓P **P** **10 05 09.3 0.0**
baz=95
E07A Sunnyside 94.85 37 ⇑P **P** **10 05 10.0 -0.2**
baz=95
MFID Camas Ranch 94.90 41 ⇑P **P** **10 05 10.2 -0.3**
baz=95,SNR=12
MFID Camas Ranch 94.90 41 *e*P **P** **10 05 09.9 -0.7**
comp=Z,13nm,1.1s,mb5.3
N15A Stansbury Isla 95.20 44 ⇑P **P** **10 05 12.3 +0.3**
baz=95
E08A Dider Farm, El 95.21 37 ⇓P **P** **10 05 11.9 +0.1**
baz=95
427A Hayter Ranch, 95.26 57 ⇑P **P** **10 05 12.5 0.0**
baz=95
R18A Canyonlands Na 95.28 48 ⇓P **P** **10 05 11.7 -0.7**
baz=96,SNR=5.6
528A Cox Ranch, San 95.32 58 ⇓P **P** **10 05 11.8 -0.9**
baz=95
ETW Entiat 95.32 36 P **P** **10 05 11.5 -0.8**
SRU San Rafael 95.33 47 ⇓P **P** **10 05 12.0 -0.6**
baz=96,SNR=5.5
P17A Butcher Ranch, 95.41 46 ⇓P **P** **10 05 13.2 +0.2**
baz=96
L14A Malta 95.50 43 ⇓P **P** **10 05 12.6 -0.7**
baz=96,SNR=6.5
I12A Atlanta 95.53 41 ⇓P **P** **10 05 13.1 -0.3**
baz=96,SNR=8.9
U21A Nageezi 95.55 50 ⇑P **P** **10 05 13.6 -0.1**
baz=96
Q18A Rafter H Ranch 95.56 47 ⇓P **P** **10 05 13.2 -0.5**
baz=96
M15A Larsen Ranch, 95.60 44 ⇓P **P** **10 05 14.1 +0.3**
baz=96
R19A Curley Farm, L 95.62 48 ⇓P **P** **10 05 14.0 0.0**
baz=96
D08A Wollman Farm, 95.66 37 ⇓P **P** **10 05 13.1 -0.8**
baz=96,SNR=9.4
E09A Wood Farm, Sta 95.69 37 ⇑P **P** **10 05 13.4 -0.7**
baz=96
HLID Hailey 95.79 41 ⇑P **P** **10 05 14.1 -0.5**
baz=96,SNR=8.9
P18A Preston Nutter 95.81 46 ⇑P **P** **10 05 14.5 -0.3**
baz=96
F10A Beach Ranch, E 95.81 38 ⇑P **P** **10 05 13.7 -1.0**
baz=96,SNR=5.2
J13A Cove Ranch, Pi 95.82 42 ⇑P **P** **10 05 14.6 -0.1**
baz=96,SNR=12
O17A Robinson Place 95.85 46 ⇓P **P** **10 05 14.8 -0.2**
baz=96,SNR=7.1
K14A Jones Ranch, D 95.85 43 ⇓P **P** **10 05 14.7 -0.2**
baz=96
L15A Malad City 95.97 44 ⇑P **P** **10 05 15.1 -0.3**
baz=96,SNR=7.7
Q19A Hogan Spring (96.02 47 ⇑P **P** **10 05 15.7 0.0**
baz=96
CD2 Chengdu 96.02 303 P **P** **10 05 18.0 +2.0**
CD2 pP pP 10 05 47.1 +1.7
CD2 sP sP 10 05 59.0 +1.7
CD2 PP PP 10 09 15.5 +5.1
CD2 SKS 10 15 43.0
CD2 S S 10 16 24.8 -0.3
CD2 sS sS 10 17 15.8 -0.3
CD2 SS SS 10 23 03.0 +3.6
CD2 pmax pmax
comp=Z,10.0nm,0.5s,mb5.5
CD2 pmax pmax
comp=Z,330nm,6.3s
CD2 LR LR
comp=N,690nm,6.5s
CD2 LR LR
comp=Z,520nm,5.8s
J14A Carey 96.14 42 ⇓P **P** **10 05 16.4 +0.2**
baz=96,SNR=12
H12A Diamond D Ranc 96.17 40 ⇓P **P** **10 05 15.7 -0.6**
baz=96,SNR=8.0
N17A Moffit Pass 96.25 45 ⇑P **P** **10 05 16.3 -0.4**
baz=96
G12A Big Creek, Yel 96.28 40 ⇑P **P** **10 05 16.4 -0.4**
baz=96
K15A Arbon 96.31 43 ⇓P **P** **10 05 16.5 -0.4**
baz=96,SNR=5.9
B08A Colville Reser 96.33 36 ⇑P **P** **10 05 15.9 -1.0**
baz=97
H13A Challis 96.51 41 ⇑P **P** **10 05 17.6 -0.2**
baz=97
I14A Mackay 96.56 42 ⇑P **P** **10 05 18.4 +0.4**
baz=97,SNR=5.9
HHC Hu-ho-hao-te 96.58 314 *e*P **P** **10 05 19.9 +1.6**
HHC pP pP 10 05 49.0 +1.4
HHC sP sP 10 06 00.9 +1.4
HHC PP PP 10 09 19.0 +4.5
HHC SKS 10 15 45.0
HHC S S 10 16 28.9 -0.6
HHC sS sS 10 17 20.2 -0.3
HHC pmax pmax
comp=Z,8.0nm,0.6s,mb5.3
HHC pmax pmax
comp=Z,110nm,5.7s
HHC LR LR
comp=N,200nm,10.9s
HHC LR LR
comp=E,260nm,10.1s
HHC LR LR
comp=Z,250nm,13.5s
Q20A Ridgley Place, 96.62 48 ⇑P **P** **10 05 18.6 +0.1**
baz=97
R21A Cimarron 96.75 49 ⇑P **P** **10 05 18.9 -0.2**
baz=97
J15A Blackfoot 96.81 42 ⇑P **P** **10 05 19.2 -0.1**
baz=97,SNR=8.4
S22A 4UR Ranch, Cre 96.86 50 ⇑P **P** **10 05 20.1 +0.5**
baz=97
G13A Cobalt 96.86 40 ⇑P **P** **10 05 18.9 -0.5**
baz=97,SNR=5.2
P20A De Beque 96.88 47 ⇑P **P** **10 05 19.1 -0.5**
baz=97
O19A Miners Draw (B 96.90 46 ⇑P **P** **10 05 19.4 -0.4**
baz=97
K16A Soda Springs 96.95 43 ⇑P **P** **10 05 19.8 -0.1**
baz=97
N18A Larsen Ranch, 96.97 46 ⇑P **P** **10 05 19.8 -0.2**
baz=97
E12A Beaver Dam Sad 96.97 39 ⇓P **P** **10 05 19.8 0.0**
baz=97
W25A X Bar L Ranch, 96.98 53 ⇑P **P** **10 05 19.8 -0.4**
baz=97
H14A Leadore 97.04 41 ⇑P **P** **10 05 20.1 -0.1**
baz=97
I15A Monteview 97.15 42 ⇑P **P** **10 05 21.2 +0.4**
baz=97
N19A John Jarvie Ra 97.22 46 ⇓P **P** **10 05 20.7 -0.5**
baz=97
V25A Rancho No Teng 97.22 52 ⇑P **P** **10 05 20.7 -0.6**
baz=97
F13A Darby 97.24 40 ⇑P **P** **10 05 20.5 -0.6**
baz=98
K17A Gardner Place, 97.29 44 ⇑P **P** **10 05 21.0 -0.4**
baz=98,SNR=7.0
SEY Seymchan 97.33 347 *j* P **P** **10 05 17.9 -3.2**
G14A Jackson 97.38 41 ⇑P **P** **10 05 22.1 +0.4**
baz=98
H15A Lima 97.44 41 ⇑P **P** **10 05 22.2 +0.2**
baz=98
D12A Red Ives Fores 97.50 38 ⇑P **P** **10 05 21.9 -0.3**
baz=98
C11A Tepee Creek (N 97.53 37 ⇑P **P** **10 05 22.0 -0.4**
baz=98
I16A Newdale 97.64 43 ⇓P **P** **10 05 22.9 -0.1**
baz=98,SNR=5.0
E13A Victor 97.73 39 ⇓P **P** **10 05 23.4 +0.2**
baz=98
K18A Toltan Ranch, 97.74 44 ⇓P **P** **10 05 23.1 -0.3**
baz=98
N20A Spence Gulch, 97.75 46 ⇑P **P** **10 05 23.0 -0.5**
baz=98
J17A Brown Place, J 97.78 43 ⇓P **P** **10 05 23.3 -0.3**
baz=98
G15A Dillon 97.87 41 ⇓Pdiff **P** **10 05 23.6 -0.3**
baz=98
J18A Kendall Valley 98.09 44 ⇑Pdiff **P** **10 05 24.6 -0.4**
baz=98
PDAR Pinedale Array 98.10 44 P **P** **10 05 24.0 -1.1**
comp=Z,1.2nm,0.9s,mb4.4,baz=242,slow=3.2,SNR=7.7
PDAR PP PP 10 09 20.9 -5.2
comp=Z,1.0nm,1.0s,baz=205,slow=6.6,SNR=4.5
PDAR Pinedale Array 98.10 44 P **P** **10 05 24.0 -1.1**
PDAR PP PP 10 09 20.9 -5.2
PD02 Pinedale Array 98.10 44 P **P** **10 05 23.5 -1.6**
N21A Black Mountain 98.16 47 ⇑Pdiff **P** **10 05 25.3 -0.1**
baz=98
I17A Pilgrim Ck. 98.19 43 ⇑Pdiff **P** **10 05 25.4 0.0**
baz=98
F15A Butte 98.28 40 ⇓Pdiff **P** **10 05 26.0 +0.2**

baz=98
H16A Russell Place, 98.28 42 ⇑Pdiff **P 10 05 25.7 -0.1**
baz=98
G16A Moss Hill, Enn 98.29 41 ⇓Pdiff **P 10 05 25.7 -0.1**
baz=98
C13A Hot Springs 98.31 38 ⇑Pdiff **P 10 05 26.4 +0.5**
baz=98
L20A Wamsutter 98.39 45 ⇓Pdiff **P 10 05 26.2 -0.1**
baz=99
P23A Jefferson 98.42 49 ⇑Pdiff **P 10 05 26.2 -0.4**
baz=99
O22A Kremmling 98.42 48 ⇑Pdiff **P 10 05 26.5 -0.1**
baz=99
BOZ Bozeman (W) 98.64 41 ⇑Pdiff **P 10 05 27.6 +0.2**
baz=99
J19A Crowheart 98.70 44 ⇓Pdiff **P 10 05 27.1 -0.6**
baz=99
F16A Kennard Place, 98.72 41 ⇓Pdiff **P 10 05 27.4 -0.3**
baz=99
M21A Separation Pea 98.75 46 ⇑Pdiff **P 10 05 27.8 -0.2**
baz=99
LZH Lanzhou 98.81 307 *e*P **P 10 05 31.3 +2.9**
LZH pP pP 10 06 00.5 +2.6
LZH sP sP 10 06 12.3 +2.6
LZH PP PP 10 09 36.5 +4.8
LZH SKS 10 15 58.3
LZH S S 10 16 47.5 -1.2
LZH sS sS 10 17 39.8 0.0
LZH pmax pmax
comp=Z,19nm,1.3s,mb5.5
LZH pmax pmax
comp=Z,200nm,9.7s
I19A Meeteetse 99.18 43 ⇓Pdiff **P 10 05 29.7 -0.2**
baz=99
K21A Alcova 99.41 45 ⇓Pdiff Pdif 10 05 31.0 -0.1
baz=100
B14A Marquette Ranc 99.41 38 ⇓Pdiff Pdif 10 05 30.9 -0.2
baz=100
G18A Lazy EL Ranch, 99.61 42 ⇑Pdiff Pdif 10 05 31.7 -0.3
baz=100
RLMT Red Lodge 99.66 42 ⇓Pdiff Pdif 10 05 32.1 -0.2
baz=100
A14A Double T Ranch 99.71 38 ⇓Pdiff Pdif 10 05 32.8 +0.3
baz=100
ILAR Eielson Array 99.79 13 P Pdif 10 05 31.1 -1.8
comp=Z,1.7nm,0.9s,baz=224,slow=4.7,SNR=10
ILAR LR LR 10 45 31.7
comp=Z,54nm,19.4s,baz=271,slow=32
ILAR Eielson Array 99.79 13 P Pdif 10 05 31.1 -1.8
ILAR LR LR 10 45 31.8
ILAR Eielson Array 99.79 13 P Pdif 10 05 31.1 -1.7
I21A Big Trails, Te 100.06 44 ⇓Pdiff Pdif 10 05 33.8 -0.2
baz=100
J22A Midwest 100.31 45 ⇑Pdiff Pdif 10 05 34.4 -0.7
baz=100
A17A Triple J Farms 101.13 39 ⇓Pdiff Pdif 10 05 39.1 +0.4
baz=101
H24A Dirks Ranch, A 102.21 45 ⇑Pdiff Pdif 10 05 42.9 -0.6
baz=102
WMQ Urumqi 113.36 308 PKP PKiKP 10 10 27.5 +1.8
MK31 Makanchi Array 117.97 310 *e*PKPdf PKPdf 10 10 32.3 -2.1
MK31 Makanchi Array 117.97 310 PKIKP PKPdf 10 10 32.9 -1.5
MK31 pmax pmax
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 117.97 310 PKP PKPdf 10 10 32.3 -2.1
comp=Z,6.1nm,0.9s,baz=69,slow=1.1,SNR=19
MKAR Makanchi Array 117.97 310 PKP PKPdf 10 10 32.3 -2.1
MKAR Makanchi Array 117.97 310 PKIKP PKPdf 10 10 32.3 -2.1
KURK Kurchatov 121.37 313 PKP PKPdf 10 10 38.6 -2.2
comp=Z,11nm,0.8s,baz=121,slow=2.2,SNR=33
KURK Kurchatov 121.37 313 PKP PKPdf 10 10 38.6 -2.2
KURK Kurchatov 121.37 313 PKIKP PKPdf 10 10 38.6 -2.2
TKM2 Tokmak 2 121.39 304 P PKPdf 10 10 39.3 -1.8
SNR=8.9
TKM2 Tokmak 2 121.39 304 *e*PKPdf PKPdf 10 10 39.1 -2.0
TKM2 Tokmak 2 121.39 304 *e*PKIKP PKPdf 10 10 39.1 -2.0
KBK Karagaybulak 121.77 303 P PKPdf 10 10 41.3 -0.6
SNR=5.3
CHMS Chumysh 122.00 304 P PKPdf 10 10 41.6 -0.7
SNR=5.7
AAK Ala-Archa 122.09 303 P PKPdf 10 10 42.0 -0.5
SNR=5.7
AAK Ala-Archa 122.09 303 PKP PKPdf 10 10 41.1 -1.3
comp=Z,2.5nm,0.6s,baz=189,slow=4.4,SNR=8.5
AAK Ala-Archa 122.09 303 PKP PKPdf 10 10 41.1 -1.3
AAK Ala-Archa 122.09 303 *i* PKIKP PKPdf 10 10 38.7 -3.8
USP Ospenovka 122.25 304 P PKPdf 10 10 38.7 -4.1
SNR=7.1
AML Almayashu 122.52 302 P PKPdf 10 10 42.4 -0.9
SNR=12
EKS2 Erkin-Say 122.60 303 P PKPdf 10 10 42.2 -1.3
SNR=6.8
EKS2 Erkin-Say 122.60 303 *e*PKPdf PKPdf 10 10 42.0 -1.5
EKS2 Erkin-Say 122.60 303 *e*PKIKP PKPdf 10 10 42.0 -1.5
KBL Kabul 123.83 293 *e*PKPdf PKPdf 10 10 44.6 -1.4
KBL Kabul 123.83 293 *e*PKIKP PKPdf 10 10 44.6 -1.5
KK31 Karatay Array 125.04 303 *i* PKIKP PKPdf 10 10 45.3 -2.8
KK31 pmax pmax
comp=Z,2.0nm,0.4s
KKAR Karatay Array 125.04 303 *e*PKPdf PKPdf 10 10 46.3 -1.8
KKAR Karatay Array 125.04 303 *e*PKIKP PKPdf 10 10 46.3 -1.8
PKME Peaks-Kenny Pk 125.40 54 *e*PKPdf PKPdf 10 10 47.6 -1.1
BVAR Borovoye Array 126.79 315 PKP PKPdf 10 10 49.6 -1.6
comp=Z,12nm,0.8s,baz=101,slow=3.0,SNR=40
BVAR Borovoye Array 126.79 315 PKP PKPdf 10 10 49.6 -1.5
BVAR Borovoye Array 126.79 315 PKIKP PKPdf 10 10 49.6 -1.5
BRVK Borovoye 126.86 315 *e*PKPdf PKPdf 10 10 49.1 -2.1
BRVK Borovoye 126.86 315 *i* PKIKP PKPdf 10 10 48.7 -2.6
SCHQ Schefferville 128.22 43 PKP PKPdf 10 10 51.0 -2.8
comp=Z,17nm,1.0s,baz=280,slow=3.0,SNR=5.2
SCHQ Schefferville 128.22 43 PKP PKPdf 10 10 51.0 -2.8
AB31 Akbulak array 133.11 310 PKIKP PKPdf 10 11 01.5 -1.8
ABKAR Akbulak array 133.11 310 *e*PKPdf PKPdf 10 11 02.2 -1.1
ARU Arti 133.63 319 *e*PKPdf PKPdf 10 11 02.3 -1.8
ARU Arti 133.63 319 *i* PKIKP PKPdf 10 11 02.8 -1.2
ARU 10 13 30.8
ARU SS SS 10 31 08.6 -2.8
SOKR Solikamsk 134.08 324 *e*PKIKP PKPdf 10 11 02.0 -2.8
SOKR pmax pmax
comp=Z,10.0nm,0.9s
AKTK Aktyubinsk 134.36 311 PKP PKPdf 10 11 04.4 -1.1
AKTO Aktyubinsk 134.36 311 PKP PKPdf 10 11 04.4 -1.1
comp=Z,8.3nm,0.9s,baz=103,slow=2.0,SNR=21
AKTO Aktyubinsk 134.36 311 PKIKP PKPdf 10 11 04.4 -1.2
KEV Kevo 139.47 346 *e*PKIKP PKPdf 10 11 11.8 -2.7
KEV Kevo 139.47 346 *e*pkp PKPdf 10 11 11.8 -2.7
ARCES ARCESS Array B 139.95 347 PKhKP PKPpre 10 11 05.3
comp=Z,3.0nm,0.8s,baz=66,slow=3.1,SNR=13
ARCES ARCESS Array B 139.95 347 PKP PKPpre 10 11 05.3
ARCES ARCESS Array B 139.95 347 PKHKP PKPpre 10 11 05.4
KLMR Klimovskoe 141.66 330 *e*PKHKP PKPpre 10 11 10.2
KLMR pmax pmax
comp=Z,20nm,1.1s
DGRG David-gareji 143.34 298 P PKPdf 10 11 14.9 -7.4
JOF Joensuu 143.52 337 *e*PKHKP PKPpre 10 11 16.1
JOF Joensuu 143.52 337 *e*pkp PKPdf 10 11 16.1 -5.8
MTA Mtatsminda 143.77 298 P PKPdf 10 11 20.2 -2.8
TBLG Delisi 143.81 298 *e*PKIKP PKPdf 10 11 20.7 -2.4
TBLG Delisi 143.81 298 P PKPdf 10 11 20.8 -2.3
GOR Gori 144.28 299 P PKPdf 10 11 22.6 -1.2
ZEI Tsey 144.40 300 *i* PKIKP PKPdf 10 11 19.9 -4.2
ZEI pmax pmax
comp=Z,40nm,1.4s
VRHR Novokhopersk 144.53 315 *e*PKHKP PKPpre 10 11 19.6
VRHR pmax pmax
comp=Z,10.0nm,1.0s
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,30nm,1.4s
AKH Akhalkalaki 144.75 298 P PKPdf 10 11 23.5 -1.2
MOS Moscow 145.03 324 *e*PKHKP PKPpre 10 11 19.1
MOS pmax pmax
comp=Z,90nm,1.1s
KIV Kislovodsk 145.19 302 *e*PKPbc PKPbc 10 11 24.4 -0.9
KIV Kislovodsk 145.19 302 *e*PKIKP PKPbc 10 11 24.5 -0.8
KIV pmax pmax
comp=Z,33nm,0.9s
KAF Kangasniemi 145.71 339 *e*PKIKP PKPdf 10 11 21.9 -3.8
KAF Kangasniemi 145.71 339 *e*pkp PKPdf 10 11 21.9 -3.8
OBN Obninsk 145.85 323 *e*PKPdf PKPdf 10 11 24.4 -1.7
OBN Obninsk 145.85 323 *i* PKP2 PKPdf 10 11 24.8 -1.4
OBN pmax pmax
comp=Z,219nm,1.5s
VSR Storozhevoye 145.97 316 *e*PKP2 PKPdf 10 11 25.4 -1.1
VSR pmax pmax
comp=N,30nm,0.8s
VSR pmax pmax
comp=Z,130nm,0.8s
VSR pmax pmax
comp=E,90nm,0.9s
PUL Pulkovo 146.00 333 *i* PKP2 PKPdf 10 11 25.8 -0.5
FINES FINESS Array B 146.29 338 PKPbc PKPbc 10 11 25.4 -2.7
comp=E,92nm,1.0s,baz=64,slow=4.4,SNR=45
FINES FINESS Array B 146.29 338 PKPbc PKPbc 10 11 25.4 -2.7
FINES FINESS Array B 146.29 338 PKIKP PKPbc 10 11 25.4 -2.7
SOC Sochi 147.37 302 *c i* PKP2 PKPbc 10 11 30.7 -1.0
SOC *e* 10 14 52.2
SOC pmax pmax
comp=Z,23nm,0.8s
VSU Vasula 148.25 334 ⇑ *i* PKP2 PKPdf 10 11 31.9 +1.8
ANN Anapa 148.80 305 *i* PKP2 PKPbc 10 11 33.9 -1.5
ANN pmax pmax
comp=Z,59nm,0.9s
NB2 NORSAR Subarra 150.19 350 PKP PKPdf 10 11 35.7 +2.6
comp=Z,26nm,1.1s,baz=17,slow=2.6
NOA NORSAR Array B 150.19 350 PKPbc PKPbc 10 11 34.2 -4.1
comp=Z,13nm,0.8s,baz=15,slow=4.2,SNR=16
NOA NORSAR Array B 150.19 350 PKPbc PKPbc 10 11 34.2 -4.1
NOA NORSAR Array B 150.19 350 PKIKP PKPdf 10 11 34.2 +1.1
IZAR Zarasai 150.32 330 *e*P PKPbc 10 11 36.8 -2.0
IZAR AMB AMB 10 11 39.2
comp=Z,24nm,1.1s
NAO01 NORSAR Array S 150.43 350 *e*PKPbc PKPbc 10 11 34.9 -3.9
ISAL Salakas 150.49 330 *e*P PKPbc 10 11 37.6 -1.6
ISAL AMB AMB 10 11 39.6
comp=Z,22nm,1.3s
IIGN Ignalina 150.59 330 *e*P PKPbc 10 11 37.8 -1.6
IIGN AMB AMB 10 11 41.1
comp=Z,34nm,1.2s
NACGM Naroch 150.65 329 *e* PKPdf 10 11 34.0 0.0
SIM Simferopol' 151.06 306 *e*PKIKP PKPbc 10 11 40.0 -0.9
SIM *e* 10 11 48.0
SIM pmax pmax
comp=Z,20nm,0.9s
AKASG Malin Array Be 151.89 320 PKPbc PKPbc 10 11 40.2 -2.4
comp=Z,37nm,0.9s,baz=56,slow=2.7,SNR=9.6
AKASG Malin Array Be 151.89 320 PKPbc PKPbc 10 11 40.2 -2.4
AKASG Malin Array Be 151.89 320 PKIKP PKPbc 10 11 40.2 -2.4
AKBB Malin Array Si 151.89 320 *e*PKPbc PKPbc 10 11 40.7 -1.9
AKBB Malin Array Si 151.89 320 *e*PKIKP PKPbc 10 11 40.7 -1.9
KIEV Kiev 151.90 320 *e*PKPbc PKPbc 10 11 40.9 -1.8
KIEV Kiev 151.90 320 *e*PKIKP PKPbc 10 11 40.9 -1.7
BR131 Keskin Array S 152.34 295 *e*PKPbc PKPbc 10 11 42.7 -1.3
BRTR Keskin Array B 152.34 295 PKP PKPdf 10 11 35.6 -1.5
comp=Z,9.7nm,0.9s,baz=169,slow=7.2,SNR=3.6
BRTR PKPbc PKPbc 10 11 42.8 -1.2
comp=Z,9.6nm,0.8s,baz=139,slow=3.8,SNR=26
BRTR PKPab PKPab 10 11 52.3 -2.2
comp=Z,7.5nm,0.8s,baz=123,slow=4.6,SNR=11
BRTR Keskin Array B 152.34 295 PKP PKPdf 10 11 35.6 -1.5
BRTR PKPbc PKPbc 10 11 42.8 -1.2
BRTR PKPab PKPab 10 11 52.3 -2.2
BRTR Keskin Array B 152.34 295 PKIKP PKPdf 10 11 35.6 -1.5
BRTR 10 11 52.3
SUW Suwalki 152.80 330 *e*PKP PKPbc 10 11 43.2 -1.3
SUW Suwalki 152.80 330 *e*PKPbc PKPbc 10 11 42.7 -1.8
SUW Suwalki 152.80 330 *e*PKIKP PKPbc 10 11 43.2 -1.3
DBIC Dimbokro 154.22 167 PKPbc PKPbc 10 11 48.6 -0.3
comp=Z,3.1nm,0.7s,baz=185,slow=3.3,SNR=5.4
DBIC PKPab PKPab 10 12 01.1 -1.7
comp=Z,8.7nm,1.0s,baz=158,slow=3.2,SNR=5.1
DBIC Dimbokro 154.22 167 PKPbc PKPbc 10 11 48.6 -0.3
DBIC PKPab PKPab 10 12 01.1 -1.7
DBIC Dimbokro 154.22 167 PKIKP PKPbc 10 11 48.6 -0.3
DBIC 10 12 01.2
BUR08 Bucovina Ar. S 155.72 317 *e*PKPdf PKPdf 10 11 40.4 -1.2
OJC Ojcow 156.96 328 *e*PKP PKPab 10 12 12.2 -1.5
OJC Ojcow 156.96 328 *e*PKP2 PKPab 10 12 12.2 -1.5
NIE Niedzica 157.27 325 *e*PKP PKPab 10 12 14.4 -0.7
NIE Niedzica 157.27 325 *e*PKP2 PKPab 10 12 14.4 -0.7
KSP Ksiaz 157.97 333 *e*PKP PKPab 10 12 16.9 -1.2
UPC Upice 158.34 333 *e*PKP2 PKPab 10 12 18.8 -0.9
UPC Upice 158.34 333 *e*PKPAB PKPab 10 12 18.8 -0.9
UPC *ep*PKP pPKPab 10 12 55.0 +5.8
DPC Dobruska-Polom 158.34 332 *e*PKP2 PKPab 10 12 17.7 -2.0
DPC Dobruska-Polom 158.34 332 *e*PKPAB PKPab 10 12 17.7 -2.0
DPC *ex* x 10 12 59.1
CLL Collm 158.73 338 *e*PKPab PKPab 10 12 19.1 -2.3
CLL Collm 158.73 338 *i* PKP2 PKPab 10 12 19.0 -2.4
CLL pmax pmax
comp=Z,27nm,1.0s
CLL Collm 158.73 338 *i* PKPab PKPab 10 12 19.0 -2.4
comp=Z,27nm,1.0s
BRG Berggiesshubel 158.80 336 *e*PKP PKPab 10 12 20.2 -1.4
comp=Z,18nm,0.9s
BRG Berggiesshubel 158.80 336 *e*PKP2 PKPab 10 12 20.2 -1.5
BRG pmax pmax
comp=Z,18nm,0.9s
PVCC Panska Ves 158.87 335 *e*PKP2 PKPab 10 12 20.8 -1.2
PVCC Panska Ves 158.87 335 *e*PKPAB PKPab 10 12 20.8 -1.2
FBE Freiberg 158.95 337 *e*PKPab PKPab 10 12 20.7 -1.6
IBBN Ibbenbueren 159.12 348 *e*PKPab PKPab 10 12 21.0 -2.0
PRU Pruhonice 159.32 334 *e*PKP2 PKPab 10 12 23.7 -0.3
PRU Pruhonice 159.32 334 *e*PKPAB PKPab 10 12 23.7 -0.3
PRU *ex* x 10 13 04.3
WERD Werda 159.70 338 *e*PKPab PKPab 10 12 23.7 -1.9
MOX Moxa 159.74 340 *e*PKPab PKPab 10 12 23.6 -2.1
MOX Moxa 159.74 340 *e*PKP2 PKPab 10 12 23.6 -2.1
GUNZ Gunzen 159.77 338 *e*PKPab PKPab 10 12 24.1 -1.8
WERN Wernitzgruen 159.82 338 *e*PKPab PKPab 10 12 24.4 -1.7
NKC Novy Kostel 159.84 338 *e*PKP2 PKPab 10 12 25.2 -1.0
NKC Novy Kostel 159.84 338 *e*PKPAB PKPab 10 12 25.2 -1.0
ROTZ Rotzenmuhle 160.32 337 *e*PKPab PKPab 10 12 26.8 -1.5
KHC Kasperske Hory 160.38 334 *e*PKP2 PKPab 10 12 27.3 -1.3
KHC Kasperske Hory 160.38 334 *e*PKPAB PKPab 10 12 27.3 -1.3
KHC *ex* x 10 13 07.0
CONA Conrad Observa 160.40 328 ⇑ *i* PKPab PKPab 10 12 27.3 -1.4
comp=Z,18nm,1.3s
GEC2 GERESS Array S 160.57 333 *e*PKPab PKPab 10 12 27.4 -2.1
GEC2 GERESS Array S 160.57 333 *e*PKP2 PKPab 10 12 27.4 -2.1
GERES GERESS Array B 160.57 333 PKP PKPdf 10 11 46.6 -0.8
comp=Z,0.6nm,0.6s,baz=70,slow=1.6,SNR=6.2
GERES PKPab PKPab 10 12 27.8 -1.6
comp=Z,3.6nm,0.8s,baz=38,slow=5.0,SNR=15
GERES GERESS Array B 160.57 333 PKP PKPdf 10 11 46.6 -0.8
GERES PKPab PKPab 10 12 27.8 -1.6
GERES GERESS Array B 160.57 333 PKIKP PKPdf 10 11 46.6 -0.8
GERES 10 12 27.8
GRF Grafenberg Arr 160.70 339 *e*PKPab PKPab 10 12 28.3 -1.7
GRF Grafenberg Arr 160.70 339 *e*PKP2 PKPab 10 12 28.3 -1.7
ARSA Arzberg 161.06 327 ⇑ *i* PKPab PKPab 10 12 30.4 -1.2
comp=Z,11nm,1.5s
TORD Torodi Ar. Bea 161.16 183 PKP PKPdf 10 11 48.1 -1.0
comp=Z,3.6nm,1.1s,baz=255,slow=0.7,SNR=12
TORD PKPab PKPab 10 12 33.0 +0.3
comp=Z,8.3nm,0.9s,baz=187,slow=2.9,SNR=20
TORD Torodi Ar. Bea 161.16 183 PKP PKPdf 10 11 48.1 -1.0
TORD PKPab PKPab 10 12 33.0 +0.3
GIVF Givet 161.71 351 *e*PKP2 PKPab 10 12 31.5 -2.8
BAIF Baives 161.82 353 *e*PKP2 PKPab 10 12 32.4 -2.4
comp=Z,72nm,1.5s
RJOB Jochberg 161.83 333 *e*PKPab PKPab 10 12 33.5 -1.5
FUR Furstenfeldbru 162.02 337 *e*PKPab PKPab 10 12 34.4 -1.4
FUR Furstenfeldbru 162.02 337 *e*PKP2 PKPab 10 12 34.4 -1.4
ABTA Abfaltersbach 162.75 332 ⇑ *i* PKPab PKPab 10 12 37.3 -1.7
comp=Z,11nm,1.0s
CDF Champ du Feu 162.92 345 *e*PKP2 PKPab 10 12 37.2 -2.5
PAGF Fort de Pagny 163.09 348 *e*PKP2 PKPab 10 12 38.1 -2.3
comp=Z,25nm,1.3s
FETA Feichten 163.19 336 ⇑ *i* PKPab PKPab 10 12 39.1 -1.9
comp=Z,15nm,1.1s
DAVA Damuels 163.24 338 ⇑ *i* PKPab PKPab 10 12 39.2 -1.9
comp=Z,25nm,1.1s
HAU Haudompre 163.50 347 *e*PKP2 PKPab 10 12 39.6 -2.7
SFTF Sexfontaines 163.54 350 *e*PKP2 PKPab 10 12 39.9 -2.5
comp=Z,34nm,1.1s
HINF Hinteralfeld 163.57 345 *e*PKP2 PKPab 10 12 39.9 -2.7
LOR Lormes 164.62 352 *e*PKP2 PKPab 10 12 44.6 -2.6
SSF Saint Saulge 164.86 353 *e*PKP2 PKPab 10 12 45.7 -2.5
comp=Z,21nm,0.8s
CABF La Chapelle 164.88 346 *e*PKP2 PKPab 10 12 46.1 -2.3
AVF Avril sur Loir 165.14 353 *e*PKP2 PKPab 10 12 46.9 -2.6
comp=Z,17nm,0.9s
SMF Signal de Mont 165.23 351 *e*PKP2 PKPab 10 12 47.4 -2.5
comp=Z,50nm,1.0s
BGF Bois d'Agland 165.42 354 *e*PKP2 PKPab 10 12 48.2 -2.5
comp=Z,12nm,0.8s
TCF Toulx Ste Croi 165.74 356 *e*PKP2 PKPab 10 12 49.6 -2.5
comp=Z,88nm,1.5s
LPL La Plagne 165.76 342 *e*PKP2 PKPab 10 12 50.7 -1.6
comp=Z,30nm,1.0s
LPG La Plagne 165.78 342 *e*PKP2 PKPab 10 12 50.9 -1.5
comp=Z,76nm,1.3s
MBDF Montbardon 166.49 341 *e*PKP2 PKPab 10 12 53.3 -2.2
comp=Z,18nm,1.0s
ORIF Oris-en-Rattie 166.53 344 *e*PKP2 PKPab 10 12 53.8 -1.9
comp=Z,26nm,0.9s
VIVF Saint-Julien-l 166.85 347 *e*PKP2 PKPab 10 12 54.9 -2.2
SBF Sospel 167.07 338 *e*PKP2 PKPab 10 12 55.3 -2.8
comp=Z,45nm,1.1s
SMRF Simiane la Rot 167.50 343 *e*PKP2 PKPab 10 12 58.2 -1.8
comp=Z,73nm,1.5s
FRF La Foret Royal 167.59 339 *e*PKP2 PKPab 10 12 57.7 -2.7
comp=Z,59nm,1.6s
PGF Pioggiola 167.62 330 *e*PKP2 PKPab 10 12 57.8 -2.8
comp=Z,11nm,1.0s
LASF Ste Croix 167.75 349 *e*PKP2 PKPab 10 12 58.8 -2.3
LMR La Mourre 167.84 339 *e*PKP2 PKPab 10 12 59.1 -2.4
comp=Z,42nm,1.1s
MTLF Montolieu 168.67 354 *e*PKP2 PKPab 10 13 03.0 -2.2
comp=Z,13nm,1.1s
EVO Evora 170.40 45 *e*PKP2 PKPab 10 13 10.1 -3.0
comp=Z,13nm,0.9s
ESDC Sonseca Array 171.51 25 PKP PKPdf 10 11 55.8 -0.6
comp=Z,0.3nm,0.4s,baz=354,slow=3.4,SNR=6.0
ESDC PKPab PKPab 10 13 16.0 -1.9
comp=Z,3.6nm,0.9s,baz=324,slow=4.5,SNR=9.0
ESDC Sonseca Array 171.51 25 PKP PKPdf 10 11 55.8 -0.6
ESDC PKPab PKPab 10 13 16.0 -1.9

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*ISCJB **10** 10:27:19.0± 1.0, 23.81S± 0.06× 179.84E± 0.07, h536km± 12km, mb4.4/42, Error ellipse: s-maj=11.1km s-min=7.4km az=44.7*
*IDC **10** 10:27:18.7± 1.3, 23.72S× 179.93E, h526km± 13km, mb3.9/15, mb1 4.1/15, mb1mx3.9/21, mbtmp3.9/15, Error ellipse: s-maj=13.9km s-min=10.5km az=174.0*
*NEIC **10** 10:27:19.6± 0.8, 23.79S× 179.88E, h536km± 9km, mb4.5/27, Error ellipse: s-maj=9.2km s-min=6.1km az=138.0*
ISC 10 10:27:19.1± 1.0, 23.86S± 0.06× 179.93E± 0.07, h527km± 11km, **n99,** σ **0°90/84, mb4.4**/42**, 2D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.35**	**344**	*e*P	**P**	**10 28 59.2**	**-0.9**
URZ	**Urewera**	**14.55**	**189**	P	**P**	**10 30 22.4**	**-1.7**
	2.2nm,0.3s,baz=48,slow=4.1,SNR=15						
URZ				S	**S**	**10 32 55.2**	**-1.2**
	1.3nm,0.3s,baz=248,slow=22,SNR=12						
URZ	**Urewera**	**14.55**	**189**	*e*P	**P**	**10 30 23.8**	**-0.3**
RPZ	**Rata Peaks**	**21.10**	**198**	P	**P**	**10 31 27.2**	**+1.1**
	3.0nm,0.5s,mb4.2,baz=75,slow=20,SNR=4.6						
RPZ	**Rata Peaks**	**21.10**	**198**	P	**P**	**10 31 27.2**	**+1.1**
ARMA	**Armidale**	**25.97**	**249**	*e*P	**P**	**10 32 11.3**	**+1.6**
EIDS	**Eidsvold**	**26.25**	**261**	*e*P	**P**	**10 32 13.0**	**+0.8**
	24nm,0.6s,mb5.0						
CNB	**Canberra Magne**	**28.81**	**240**	*e*P	**P**	**10 32 35.8**	**+1.3**
YNG	**Young**	**29.34**	**242**	*e*P	**P**	**10 32 40.1**	**+0.9**
	6.5nm,0.6s,mb4.4						
CTA	**Charters Tower**	**31.41**	**270**	P	**P**	**10 32 57.9**	**+0.7**
	60nm,0.5s,mb5.4,baz=96,slow=10,SNR=91						
CTA	**Charters Tower**	**31.41**	**270**	*e*P	**P**	**10 32 57.7**	**+0.6**
	43nm,0.4s,mb5.3						
CTA	**Charters Tower**	**31.41**	**270**	P	**P**	**10 32 57.9**	**+0.7**
CTAO	**Charters Tower**	**31.41**	**270**	*e*P	**P**	**10 32 57.8**	**+0.6**
	59nm,0.5s,mb5.4						
TOO	**Toolangi**	**32.41**	**237**	*e*P	**P**	**10 33 06.2**	**+0.7**
PMG	**Port Moresby**	**34.42**	**289**	P	**P**	**10 33 22.8**	**+0.1**
	50nm,0.8s,mb5.1,baz=90,slow=5.3,SNR=11						
PMG	**Port Moresby**	**34.42**	**289**	P	**P**	**10 33 22.8**	**+0.1**
STKA	**Stephens Creek**	**34.67**	**248**	P	**P**	**10 33 25.2**	**+0.6**
	4.4nm,0.4s,mb4.3,baz=90,slow=9.7,SNR=18						
STKA	**Stephens Creek**	**34.67**	**248**	⇓ *i*P	**P**	**10 33 25.2**	**+0.6**
	3.7nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**34.67**	**248**	P	**P**	**10 33 25.2**	**+0.6**
ASAR	**Alice Springs**	**41.97**	**261**	P	**P**	**10 34 24.1**	**0.0**
	22nm,0.8s,mb4.8,baz=96,slow=7.6,SNR=353						
ASAR				ScP	ScP	10 39 08.3	+0.9
	6.8nm,0.7s,baz=108,slow=4.2,SNR=27						
ASAR				S	**S**	**10 40 03.8**	**-0.9**
	1.0nm,0.7s,baz=90,slow=14,SNR=6.9						
ASAR	**Alice Springs**	**41.97**	**261**	P	**P**	**10 34 24.1**	**0.0**
ASAR				ScP	ScP	10 39 08.3	+0.9
ASAR				S	**S**	**10 40 03.8**	**-0.9**
WB2	**Warramunga Arr**	**42.33**	**266**	*e*P	**P**	**10 34 26.3**	**-0.7**
WRAB	**Tennant Creek**	**42.33**	**266**	*e*P	**P**	**10 34 26.3**	**-0.6**
	26nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**42.34**	**266**	P	**P**	**10 34 26.2**	**-0.8**
	19nm,0.4s,mb5.0,baz=95,slow=8.5,SNR=386						
WRA				ScP	ScP	10 39 10.5	+1.6
	5.6nm,0.9s,baz=99,slow=4.1,SNR=19						
WRA				S	**S**	**10 40 08.9**	**-1.2**
	1.5nm,0.9s,baz=117,slow=17,SNR=4.7						
WRA	**Warramunga Arr**	**42.34**	**266**	P	**P**	**10 34 26.2**	**-0.8**
WRA				ScP	ScP	10 39 10.5	+1.6
WRA				S	**S**	**10 40 08.9**	**-1.2**
FORT	**Forrest**	**46.26**	**250**	*e*P	**P**	**10 34 56.4**	**-0.7**
	66nm,0.6s,mb5.3						
FORT	**Forrest**	**46.26**	**250**	*e*P	**P**	**10 34 56.4**	**-0.8**
	66nm,0.6s,mb5.3						
FITZ	**Fitzroy Crossi**	**50.76**	**266**	*e*P	**P**	**10 35 30.7**	**-0.1**
	18nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**50.76**	**266**	*e*P	**P**	**10 35 30.7**	**-0.1**
	13nm,0.7s,mb4.4						
SBA	**Scott Base**	**54.41**	**183**	*e*P	**P**	**10 35 57.5**	**+1.6**
	10.0nm,0.9s,mb4.2						
VNDA	**Vanda**	**54.41**	**185**	P	**P**	**10 35 56.6**	**+0.7**
	1.5nm,0.7s,mb3.4,baz=6.9,slow=7.3,SNR=8.4						
VNDA	**Vanda**	**54.41**	**185**	P	**P**	**10 35 56.6**	**+0.7**
MBWA	**Marble Bar**	**55.31**	**260**	*e*P	**P**	**10 36 02.4**	**-0.8**
MBWA	**Marble Bar**	**55.31**	**260**	*e*P	**P**	**10 36 02.6**	**-0.6**
	11nm,0.7s,mb4.2						
MORW	**Morawa**	**56.82**	**250**	*e*P	**P**	**10 36 12.9**	**-0.6**
QSPA	**South Pole Qui**	**66.22**	**180**	P	**P**	**10 37 15.2**	**+1.1**
	12nm,0.6s,mb4.6,baz=28,slow=1.5,SNR=37						
QSPA	**South Pole Qui**	**66.22**	**180**	*e*P	**P**	**10 37 15.0**	**+1.0**
QSPA				P		10 37 15.2	
JNU	**Nakatsue**	**73.45**	**319**	*e*P	**P**	**10 38 00.8**	**+3.0**
MAW	**Mawson**	**77.76**	**200**	P	**P**	**10 38 21.6**	**+0.4**
	2.2nm,0.6s,mb4.0,baz=137,slow=7.2,SNR=27						
MAW	**Mawson**	**77.76**	**200**	P	**P**	**10 38 21.6**	**+0.4**
SYO	**Syowa Base**	**83.03**	**193**	⇓ *e*P	**P**	**10 38 46.2**	**-2.5**
ISA	**Isabella**	**83.05**	**46**	*e*P	**P**	**10 38 49.2**	**0.0**
	8.8nm,0.8s,mb4.3						
CMB	**Columbia Colle**	**83.22**	**43**	*e*P	**P**	**10 38 50.0**	**0.0**
GLA	**Glamis**	**84.06**	**50**	*e*P	**P**	**10 38 55.2**	**+0.9**
	16nm,1.0s,mb4.5						
WAKR	**Walker**	**84.10**	**43**	*e*P	**P**	**10 38 54.2**	**-0.2**
	12nm,1.4s,mb4.2						
SNAA	**Sanae**	**84.70**	**179**	*e*P	**P**	**10 38 55.5**	**-1.4**
	1.6nm,0.4s,mb3.9						
NVAR	**Mina Array Bea**	**84.77**	**44**	P	**P**	**10 38 57.7**	**0.0**
	2.5nm,0.7s,mb3.9,baz=225,slow=7.6,SNR=13						
NVAR	**Mina Array Bea**	**84.77**	**44**	P	**P**	**10 38 57.7**	**0.0**
VNA3	**Neumayer Olymp**	**84.92**	**177**	*e*	**P**	**10 38 54.1**	**-3.8**
VNA3				*e*	pP	10 40 53.3	+0.5
LDFC	**Landfair**	**84.97**	**48**	*e*P	**P**	**10 38 59.2**	**+0.5**
	22nm,0.8s,mb4.7						
VNA2	**Neumayer--Watz**	**85.33**	**178**	*e*	**P**	**10 38 56.5**	**-3.5**
	baz=189,slow=3.8						

3.4nm,0.8s,mb4.2
HVU Hansel Valley 90.16 44 *e*P **P 10 39 23.2 +0.2**
6.1nm,0.7s,mb4.5
SRU San Rafael 90.22 47 *e*P **P 10 39 23.3 0.0**
9.3nm,0.8s,mb4.7
TXAR Lajitas Array 90.47 58 P **P 10 39 24.4 -0.3**
3.7nm,0.7s,mb4.3,baz=214,slow=6.4,SNR=57
TXAR Lajitas Array 90.47 58 P **P 10 39 24.4 -0.3**
ANMO Albuquerque 90.99 52 P **P 10 39 26.1 -0.9**
2.1nm,0.9s,mb4.1,baz=205,slow=6.4,SNR=8.1
ANMO Albuquerque 90.99 52 P **P 10 39 26.1 -0.9**
MCMT McKenzie Canyo 91.74 41 *e*P **P 10 39 30.1 -0.1**
0.5nm,0.7s,mb3.6
RRI2 Red Ridge 91.90 43 *e*P **P 10 39 31.3 +0.3**
7.3nm,1.3s,mb4.5
ILAR Eielson Array 92.01 14 P **P 10 39 29.1 -1.9**
0.7nm,0.8s,mb3.7,baz=210,slow=6.6,SNR=8.1
ILAR Eielson Array 92.01 14 P **P 10 39 29.1 -1.9**
REDW Red Top Meadow 92.20 43 *e*P **P 10 39 32.4 +0.1**
10nm,1.5s,mb4.6
SMCO Snowmass 92.65 48 *e*P **P 10 39 34.6 +0.1**
3.1nm,0.9s,mb4.3
PDAR Pinedale Array 92.71 44 P **P 10 39 34.0 -0.7**
1.9nm,0.7s,mb4.2,baz=206,slow=3.6,SNR=15
PDAR Pinedale Array 92.71 44 P **P 10 39 34.0 -0.7**
SDCO Great Sand Dun 92.99 50 *e*P **P 10 39 36.0 -0.1**
2.3nm,0.8s,mb4.3
EGAK Eagle 93.34 16 P **P 10 39 36.5 -0.5**
MKAR Makanchi Array 112.08 313 PKiKP PKiKP 10 44 52.5 -1.9
0.4nm,0.2s,baz=90,slow=1.4,SNR=3.3
MKAR Makanchi Array 112.08 313 PKPdf PKiKP 10 44 52.5 -1.9
KURK Kurchatov 115.13 316 PKP PKPdf 10 44 58.3 -1.8
1.2nm,0.6s,baz=95,slow=2.0,SNR=4.6
KURK Kurchatov 115.13 316 PKP PKPdf 10 44 58.3 -1.8
ARCES ARCESS Array B 131.84 348 PKP PKPdf 10 45 30.2 -1.3
3.3nm,0.8s,baz=75,slow=1.4,SNR=14
ARCES ARCESS Array B 131.84 348 PKP PKPdf 10 45 30.2 -1.3
FINES FINESS Array B 138.39 341 PKP PKPdf 10 45 43.6 -0.4
1.5nm,0.4s,baz=157,slow=1.5,SNR=6.2
FINES SKPbc SKPbc 10 48 28.3 -0.5
3.1nm,0.9s,baz=146,slow=3.7,SNR=4.6
FINES FINESS Array B 138.39 341 PKP PKPdf 10 45 43.6 -0.4
FINES SKPbc SKPbc 10 48 28.3 -0.5
NOA NORSAR Array B 142.04 351 PKhKP PKPpre 10 45 45.5
1.2nm,0.7s,baz=19,slow=2.6,SNR=5.0
NOA NORSAR Array B 142.04 351 PKP PKPdf 10 45 45.5 -5.1
AKASG Malin Array Be 144.91 327 PKP PKPdf 10 45 55.0 -0.8
5.3nm,0.7s,baz=42,slow=4.3,SNR=14
AKASG SKPbc SKPbc 10 48 45.9 +0.4
2.4nm,0.6s,baz=46,slow=3.2,SNR=10.0
AKASG Malin Array Be 144.91 327 PKP PKPdf 10 45 55.0 -0.8
AKASG SKPbc SKPbc 10 48 45.9 +0.4
BRTR Keskin Array B 147.50 307 PKPbc PKPbc 10 46 02.6 -1.4
1.3nm,0.6s,baz=155,slow=6.0,SNR=5.4
BRTR Keskin Array B 147.50 307 PKPbc PKPbc 10 46 02.6 -1.4
CLL Collm 150.80 343 *i* PKPbc PKPbc 10 46 10.8 -0.8
comp=Z,14nm,0.9s
BRG Berggiesshubel 150.93 342 *i* PKP PKPdf 10 46 11.4 +5.7
comp=Z,9.3nm,0.5s
DBIC Dimbokro 162.30 164 PKP PKPdf 10 46 19.5 -1.7
comp=Z,2.3nm,0.7s,baz=217,slow=6.2,SNR=3.6
DBIC Dimbokro 162.30 164 PKP PKPdf 10 46 19.5 -1.7
TORD Torodi Ar. Bea 169.21 189 PKP PKPdf 10 46 24.8 -1.8
comp=Z,1.5nm,1.0s,baz=297,slow=1.3,SNR=7.6
TORD PKPab PKPab 10 47 41.6 -0.6
comp=Z,1.9nm,0.8s,baz=170,slow=2.8,SNR=14
TORD Torodi Ar. Bea 169.21 189 PKP PKPdf 10 46 24.8 -1.8
TORD PKPab PKPab 10 47 41.6 -0.5

DJA 10 10:48:08.0±0.72S×123°30.E,h20km,MLv4.0/13,
Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.62**	**239**	P	Pb	10 48 18.3	-1.8
KMSI	**Cibinong**	**1.46**	**28**	P	Pn	10 48 34.1	+0.9
MRSI	**Marisa**	**1.81**	**311**	P	Pn	10 48 36.7	-1.3
MSSI	**Masamba**	**3.49**	**238**	P	Pn	10 49 01.2	0.0
TTSI	**Tana Toraja**	**4.18**	**236**	P	Pn	10 49 09.7	-0.9
LBMI	**Labuha**	**4.20**	**89**	P	Pn	10 49 12.8	+1.8
NLAI	**Namlea**	**4.55**	**123**	P	Pn	10 49 14.3	-1.4
SPSI	**Sidrap Palu**	**4.78**	**228**	P	Pn	10 49 19.7	+0.8
BBSI	**Bau Bau**	**4.79**	**189**	P	Pn	10 49 19.4	+0.3
BNSI	**Bone**	**4.85**	**221**	P	Pn	10 49 20.3	+0.4
MJSI	**Majene**	**5.15**	**237**	P	Pn	10 49 25.4	+1.4
	0.3nm65nm,1.0s						
KAPI	**Kappang**	**5.54**	**220**	P	Pn	10 49 31.8	+2.3
	22nm,1.2s						
BKSI	**Bulukumba**	**5.56**	**215**	P	Pn	10 49 31.9	+2.2
	0.1nm12nm,0.6s						
AAI	**Ambon**	**5.71**	**121**	P	Pn	10 49 31.2	-0.5
	0.2nm2µm36nm,0.6s						

*ISCJB **10** 10:56:13.5±0.9,24°.19S±0°.06×66°.6W±0°.1,h180km±12km, mb3.7/5, Error ellipse: s-maj=19.1km s-min=9.1km az=177.4*
*IDC **10** 10:56:13.5±1.6,24°.17S×66°.52W,h169km±15km,mb3.5/4, mb1 3.5/8,mb1mx3.3/21,mbtmp3.4/8, Error ellipse: s-maj=27.2km s-min=13.0km az=94.0*
*NEIC **10** 10:56:14.5±0.9,24°.21S×66°.60W,h169km±27km,mb3.8/1, Error ellipse: s-maj=16.6km s-min=11.9km az=101.0*
ISC 10 10:56:14.3±0.8,24°.17S±0°.06×66°.6W±0°.1,h173km±11km,
n19,σ0°81/19,mb3.7/5,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**6.08**	**217**	*e*Pn	**Pn**	**10 57 41.6**	**-0.6**
CFAA	**Coronel Fontan**	**7.55**	**191**	P	**Pn**	**10 58 01.9**	**+0.4**
	0.9nm,0.3s,baz=355,slow=12,SNR=72						
CFAA				S	**Sn**	**10 59 21.6**	**-4.7**
	1.0nm,0.3s,baz=257,slow=12,SNR=8.5						
CFAA	**Coronel Fontan**	**7.55**	**191**	P	**Pn**	**10 58 01.9**	**+0.4**
CFAA				S	**Sn**	**10 59 21.6**	**-4.7**
LPAZ	**La Paz**	**7.98**	**349**	P	**Pn**	**10 58 08.5**	**+1.2**
	2.6nm,0.3s,baz=173,slow=8.7,SNR=66						
LPAZ				S	**Sn**	**10 59 36.0**	**-0.7**
	0.5nm,0.3s,baz=330,slow=11,SNR=3.2						
LPAZ	**La Paz**	**7.98**	**349**	P	**Pn**	**10 58 08.5**	**+1.2**
LPAZ				S	**Sn**	**10 59 36.0**	**-0.7**
CPUP	**Villa Florida**	**8.63**	**106**	P	**Pn**	**10 58 16.5**	**+0.7**
	0.3nm,0.3s,baz=272,slow=11,SNR=3.8						
CPUP	**Villa Florida**	**8.63**	**106**	P	**Pn**	**10 58 16.5**	**+0.7**
TRQA	**Tornquist**	**14.38**	**165**	*e*Pn	**Pn**	**10 59 29.4**	**-0.5**
	2.8nm,0.6s						
PLCA	**Paso Flores**	**16.85**	**191**	P	**Pn**	**10 59 59.6**	**-0.3**
	0.2nm,0.3s,baz=42,slow=5.8,SNR=2.8						
PLCA	**Paso Flores**	**16.85**	**191**	P	**Pn**	**10 59 59.6**	**-0.3**
SNAA	**Sanae**	**59.06**	**161**	P	**P**	**11 05 54.7**	**-1.0**
	0.3nm,0.9s,mb3.1,baz=304,slow=11,SNR=4.3						
QSPA	**South Pole Qui**	**66.03**	**180**	P	**P**	**11 06 42.7**	**+1.0**
	1.3nm,0.6s,mb3.9,baz=166,slow=1.9,SNR=17						
TORD	**Torodi Ar. Bea**	**76.29**	**69**	P	**P**	**11 07 42.9**	**-1.3**
	1.3nm,0.7s,mb3.7,baz=258,slow=5.6,SNR=9.5						
MAW	**Mawson**	**81.15**	**163**	P	**P**	**11 08 10.3**	**+0.3**
	0.2nm,0.3s,mb3.2,baz=205,slow=6.5,SNR=4.8						
URZ	**Urewera**	**93.89**	**225**	P	**P**	**11 09 13.3**	**+1.0**
	3.3nm,0.8s,mb4.5,baz=205,slow=7.8,SNR=3.0						
ASAR	**Alice Springs**	**128.47**	**204**	PKP	PKPdf	11 15 00.1	-1.1
	0.2nm,0.6s,baz=131,slow=2.4,SNR=5.1						
WRA	**Warramunga Arr**	**131.65**	**207**	PKP	PKPdf	11 15 06.1	-1.2
	0.2nm,0.3s,baz=157,slow=1.7,SNR=11						
ZALV	**Zalesovo Beam**	**143.36**	**28**	PKP	PKPdf	11 15 25.1	-2.4
	1.7nm,0.6s,baz=313,slow=2.5,SNR=4.0						
MKAR	**Makanchi Array**	**146.40**	**40**	PKPbc	PKPbc	11 15 33.2	-1.5
	1.5nm,0.6s,baz=289,slow=3.7,SNR=4.4						

IDC 10 11:04:30.5±7.4,30°.74S×179°.00E,h532km±375km,
mb2.6/3,mb1 2.8/4,mb1mx2.7/16,mbtmp2.7/4,Error ellipse: s-maj=486.3km s-min=99.4km az=117.0,
Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.66**	**191**	P	P	11 06 24.7	+0.6
	0.7nm,0.3s,baz=342,slow=16,SNR=8.2						
URZ				S	S	11 07 56.6	-0.7
	0.4nm,0.3s,baz=238,slow=22,SNR=7.4						
STKA	**Stephens Creek**	**31.88**	**258**	P	P	11 10 12.7	+0.6
	0.5nm,0.4s,baz=114,slow=18,SNR=3.2						
ASAR	**Alice Springs**	**40.51**	**269**	P	P	11 11 23.2	-0.2
	0.2nm,0.3s,baz=106,slow=7.4,SNR=9.2						
WRA	**Warramunga Arr**	**41.53**	**274**	P	P	11 11 31.2	-0.4

0.5nm,0.3s,baz=111,slow=8.0,SNR=20

*NIED **10** 11:05:00,44°.90N×145°.50E,h260km,Mw4.5 Best double couple: M0 6.06000×10^15 NP1:φ1=43.00000°, δ86.00000°,λ-119.00000°. NP2:φ2=305.00000°, δ30.00000°,λ-8.00000°.*
*MOS **10** 11:05:05.1±0.8,45°.48N×145°.21E,h203km,mb4.6/54, Error ellipse: s-maj=9.9km s-min=5.7km az=115.8*
*ISCJB **10** 11:05:07.6±0.2,45°.14N±0°.04×145°.39E±0°.04, h244km±2km,mb4.5/99, Error ellipse: s-maj=6.0km s-min=4.7km az=150.8*
*BJI **10** 11:05:07.9,45°.25N×145°.25E,h241km,mB4.8/21, mb4.8/47*
*NEIC **10** 11:05:08.8±0.4,45°.19N×145°.34E,h241km±4km,mb4.7/48, MW4.5(NIED),Error ellipse: s-maj=6.3km s-min=4.6km az=141.0*
*IDC **10** 11:05:09.0±0.5,45°.18N×145°.27E,h244km±4km,mb4.0/23, mb1 4.1/30,mb1mx4.1/33,mbtmp4.0/30,Error ellipse: s-maj=9.6km s-min=7.3km az=143.0*
*SKHL **10** 11:05:09.4±0.6,45°.09N×145°.21E,h206km±5km,mb6.4/2, mbh6.3/1,msh6.3/1*
*JMA **10** 11:05:09.1±0.3,44°.88N×145°.46E,h246km±3km,M4.5*
ISC 10 11:05:08.4±0.2,45°.14N±0°.03×145°.42E±0°.04,h239km±2km,
h242km±2.6km:pP-P,n357,σ0°87/380,mb4.5/99,30C-10D,
Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.15**	**164**	*d* iPN	**Pn**	**11 05 43.2**	**0.0**
YUK				*i* S	**S**	**11 06 10.3**	**0.0**
YUK				pmax	pmax		
	comp=Z,3µm,0.9s						
YUK				pmax	pmax		
	comp=N,298nm,0.4s						
YUK				pmax	pmax		
	comp=E,410nm,0.4s						
YUK				pmax	pmax		
	comp=Z,5µm,1.1s						
YUK				smax			
	comp=N,5µm,1.1s						
YUK				smax			
	comp=E,6µm,1.1s						
YUK				smax			
	comp=N,2µm,0.7s						
YUK				smax			
	comp=E,2µm,0.7s						
YUK	**Yuzh-Kuril'sk**	**1.15**	**164**	⇓ *i* P	**Pn**	**11 05 43.2**	**0.0**
YUK				AMB	AMB	11 05 43.4	
	comp=E,579nm,0.5s						
YUK				AMB	AMB	11 05 43.4	
	comp=E,753nm,0.5s						
YUK				AMB	AMB	11 05 43.4	
	comp=E,5µm,0.5s						
YUK				AMB	AMB	11 05 48.0	
	comp=E,5µm,1.0s						
YUK				AMB	AMB	11 05 48.0	
	comp=E,8µm,1.0s						
YUK				*i* S	**S**	**11 06 10.3**	**0.0**
YUK				A		11 06 11.0	
	comp=E,8µm,1.0s						
YUK				A		11 06 11.0	
	comp=E,10µm,1.0s						
YUK				A		11 06 11.3	
	comp=E,4µm,0.8s						
YUK				A		11 06 11.3	
	comp=E,4µm,0.8s						
JRA	**Rausu**	**1.22**	**190**	P	**Pn**	**11 05 43.7**	**+0.1**
JTKR	**Abashiri--Toko**	**1.59**	**223**	P	**Pn**	**11 05 46.8**	**+0.4**
JTKR				*e*S	**S**	**11 06 15.7**	**-0.4**
JNK	**Nakash**	**1.63**	**198**	P	**Pn**	**11 05 46.6**	**-0.1**
KUR	**Kuril'sk**	**1.73**	**86**	*e*PN	**Pn**	**11 05 48.0**	**+0.5**
KUR				*e*S	**S**	**11 06 18.0**	**-0.2**
KUR				pmax	pmax		
	comp=Z,1µm,0.6s						
KUR				pmax	pmax		
	comp=E,240nm,0.8s						
KUR				pmax	pmax		
	comp=Z,4µm,1.0s						
KUR				smax			
	comp=N,1µm,1.0s						
KUR	**Kuril'sk**	**1.73**	**86**	⇓ *i* P	**Pn**	**11 05 48.0**	**+0.5**
KUR				AMB	AMB	11 05 48.5	
	comp=N,480nm,0.6s						
KUR				AMB	AMB	11 05 48.5	
	comp=N,1µm,0.6s						
KUR				AMB	AMB	11 05 48.5	
	comp=N,570nm,0.9s						
KUR				AMB	AMB	11 05 49.0	
	comp=N,5µm,1.2s						
KUR				*e*S	**S**	**11 06 18.0**	**-0.2**
KUR				A		11 06 19.0	
	comp=N,170nm,0.9s						
KUR				A		11 06 19.0	
	comp=N,1µm,1.0s						
NEM2	**Nemuro 2**	**1.79**	**172**	P	**Pn**	**11 05 46.3**	**-1.8**
NEM2				*e*S	**S**	**11 06 15.2**	**-4.0**
JMP	**Maruseppu**	**1.86**	**233**	P	**Pn**	**11 05 49.0**	**+0.4**
JMP				*e*S	**S**	**11 06 19.9**	**-0.2**
JSE	**Soyaes**	**2.02**	**266**	P	**Pn**	**11 05 50.8**	**+0.8**
JSE				*e*S	**S**	**11 06 23.2**	**+0.5**
JAR	**Ashorobuto**	**2.19**	**213**	P	**Pn**	**11 05 51.9**	**+0.2**
JAK	**Akkeshi**	**2.21**	**194**	P	**Pn**	**11 05 50.6**	**-1.3**
JAK				*e*S	**S**	**11 06 22.2**	**-3.9**
ASAJ	**Asahikawa**	**2.26**	**244**	P	**Pn**	**11 05 53.4**	**+1.0**
	comp=N,104nm,0.3s,baz=71,slow=9.8,SNR=930						
ASAJ				S	**S**	**11 06 27.2**	**+0.3**
	comp=N,8.7nm,0.3s,baz=181,slow=32,SNR=18						
ASAJ	**Asahikawa**	**2.26**	**244**	*e*Pn	**Pn**	**11 05 53.1**	**+0.7**
ASAJ				*e*S	**S**	**11 06 27.6**	**+0.6**
ASAJ	**Asahikawa**	**2.26**	**244**	PN	**Pn**	**11 05 53.4**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,104nm,0.3s						
ASAJ	**Asahikawa**	**2.26**	**244**	P	**Pn**	**11 05 53.3**	**+0.9**
ASAJ				*e*S	**S**	**11 06 27.8**	**+0.9**
JKK2	**Kamakawa 2**	**2.29**	**237**	P	**Pn**	**11 05 53.3**	**+0.6**
JKK2				*e*S	**S**	**11 06 27.7**	**+0.2**
JWK2	**Keihoku**	**2.49**	**275**	P	**Pn**	**11 05 56.4**	**+1.7**
YSS	**Yuzh-Sakhalins**	**2.59**	**315**	⇑ *i* Pn	**Pn**	**11 05 56.8**	**+1.1**
YSS	**Yuzh-Sakhalins**	**2.59**	**315**	⇑ *i* PN	**Pn**	**11 05 56.2**	**+0.5**
YSS				pmax	pmax		
	comp=Z,930nm,0.5s						
YSS				pmax	pmax		
	comp=N,290nm,0.3s						
YSS				pmax	pmax		
	comp=E,280nm,0.5s						
YSS	**Yuzh-Sakhalins**	**2.59**	**315**	⇑ *i* P	**Pn**	**11 05 56.2**	**+0.5**
YSS				AMB	AMB	11 05 57.5	
	comp=E,280nm,0.5s						
YSS				AMB	AMB	11 05 57.5	
	comp=E,930nm,0.5s						
YSS				AMB	AMB	11 05 57.5	
	comp=E,290nm,0.3s						
YSS				*e*S	**S**	**11 06 32.5**	**-0.6**
YSS				A		11 06 38.0	
	comp=E,290nm,1.1s						
YSS				A		11 06 38.0	
	comp=E,80nm,1.1s						
JFR	**Furan**	**2.83**	**227**	P	**Pn**	**11 05 59.2**	**+0.8**
JCH	**Churui**	**2.93**	**211**	P	**Pn**	**11 05 58.1**	**-1.3**
JCH				*e*S	**S**	**11 06 35.4**	**-4.2**
JYG	**Yagishiri**	**2.93**	**257**	P	**Pn**	**11 06 00.0**	**+0.6**
JHR	**Hokuryu**	**2.99**	**243**	P	**Pn**	**11 06 01.0**	**+0.9**
JNBK	**Urakawa-nobuka**	**3.45**	**215**	P	**Pn**	**11 06 03.5**	**-1.8**
JNBK				*e*S	**S**	**11 06 44.0**	**-6.2**
ERM	**Erimo**	**3.53**	**209**	*e*Pn	**Pn**	**11 06 05.7**	**-0.5**
ERM	**Erimo**	**3.53**	**209**	*d* iPN	**Pn**	**11 06 05.5**	**-0.7**
ERM	**Erimo**	**3.53**	**209**	*e*P	**Pn**	**11 06 05.5**	**-0.7**
JSK	**Shakotan**	**3.97**	**245**	P	**Pn**	**11 06 11.6**	**+0.2**
JKB	**Kayabe**	**4.55**	**226**	P	**Pn**	**11 06 16.7**	**-1.6**
JKB				*e*S	**S**	**11 07 07.4**	**-6.5**
UGL	**Uglegorsk**	**4.55**	**331**	*e*P	**Pn**	**11 06 18.7**	**+0.5**
UGL				AMB	AMB	11 06 19.5	
	comp=E,65nm,0.5s						
VLA	**Vladivostok**	**9.93**	**263**	*e*PN	**Pn**	**11 07 25.8**	**-0.4**
VLA	**Vladivostok**	**9.93**	**263**	*e*P	**Pn**	**11 07 25.8**	**-0.4**
KLR	**Kul'dur**	**10.16**	**299**	*e*PN	**Pn**	**11 07 25.3**	**-3.7**
KLR				pmax	pmax		
	comp=E,50nm,1.8s						
KLR				pmax	pmax		
	comp=Z,64nm,1.8s						
MAJO	**Matsushiro**	**10.17**	**215**	*e*Pn	**Pn**	**11 07 30.1**	**+0.8**
MAJO	**Matsushiro**	**10.17**	**215**	*e*PN	**Pn**	**11 07 30.1**	**+0.8**
MAT	**Matsushiro**	**10.17**	**215**	P	**Pn**	**11 07 28.9**	**-0.4**
MJAR	**Matsushiro Arr**	**10.17**	**215**	P	**Pn**	**11 07 28.9**	**-0.4**
	comp=Z,1.1nm,0.3s,baz=24,slow=11,SNR=13						
MJAR	**Matsushiro Arr**	**10.17**	**215**	P	**Pn**	**11 07 28.9**	**-0.4**
MJAR	**Matsushiro Arr**	**10.17**	**215**	PN	**Pn**	**11 07 28.9**	**-0.4**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MDJ	**Mudanjiang**	**11.24**	**273**	P	**Pn**	**11 07 42.5**	**-0.2**
MDJ				sP		11 08 33.7	
MDJ				S	**S**	**11 09 48.9**	**+0.5**
MDJ				pmax	pmax		
	comp=Z,43nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,130nm,6.0s						
MDJ	**Mudanjiang**	**11.24**	**273**	*e*Pn	**Pn**	**11 07 42.6**	**-0.1**
PETK	**Petropavlovsk-**	**11.32**	**41**	P	**Pn**	**11 07 43.5**	**0.0**
	comp=Z,0.4nm,0.3s,baz=219,slow=11,SNR=8.8						
PETK	**Petropavlovsk-**	**11.32**	**41**	P	**Pn**	**11 07 43.5**	**0.0**
PETK	**Petropavlovsk-**	**11.32**	**41**	PN	**Pn**	**11 07 43.5**	**0.0**
JHJ	**Hachijo jima 2**	**12.77**	**202**	P	**Pn**	**11 08 01.7**	**-0.1**
	comp=Z,5.1nm,0.3s,baz=78,slow=12,SNR=3.8						
CN2	**Changchun**	**14.32**	**272**	*e*P	**Pn**	**11 08 19.8**	**-0.9**
CN2				*es*P		11 09 22.3	
CN2				*e*S	**S**	**11 10 51.6**	**-7.6**
CN2				pmax	pmax		
	comp=Z,40nm,0.7s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,10.0s						
CN2				LR	LR		
	comp=E,200nm,10.0s						
CN2				LR	LR		
	comp=Z,200nm,11.0s						
ZEA	**Zeya**	**14.58**	**313**	*e*P	**Pn**	**11 08 20.7**	**-3.1**
ZEA				AMB	AMB	11 08 22.2	
	comp=Z,59nm,1.0s						
ZEA				AMB	AMB	11 08 22.2	
	comp=Z,81nm,1.0s						
KSRS	**Korea Array**	**15.21**	**246**	P	**Pn**	**11 08 30.9**	**-0.6**
	comp=Z,1.6nm,0.3s,baz=55,slow=11,SNR=60						
KSRS	**Korea Array**	**15.21**	**246**	P	**Pn**	**11 08 30.9**	**-0.6**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.3s						
CLNS	**Chul'man**	**17.35**	**320**	*e*P	**P**	**11 08 55.0**	**+0.6**
CLNS				pmax	pmax		
	comp=Z,18nm,0.9s						
CLNS				pmax	pmax		
	comp=N,8.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.9s						
HIA	**Hailar**	**17.89**	**293**	*e*P	**P**	**11 08 58.5**	**-1.8**
	comp=E,42nm,0.5s						
HIA	**Hailar**	**17.89**	**293**	*e*P	**P**	**11 08 58.6**	**-1.7**
HIA				pmax	pmax		
	comp=Z,42nm,0.5s						
CBIJ	**Chichi jima**	**18.19**	**189**	P	**P**	**11 09 03.4**	**-0.4**
	comp=Z,9.6nm,0.3s,baz=316,slow=20,SNR=6.0						
SEY	**Seymchan**	**18.27**	**10**	*e*P	**P**	**11 09 05.5**	**+1.2**
DL2	**Dalian**	**18.71**	**259**	P	**P**	**11 09 09.5**	**+0.3**
DL2				pmax	pmax		
	comp=Z,30nm,0.6s						
YAK	**Yakutsk**	**19.23**	**337**	*e*P	**P**	**11 09 11.9**	**-2.7**
	comp=Z,98nm,0.6s						
YAK	**Yakutsk**	**19.23**	**337**	*e*P	**P**	**11 09 11.9**	**-2.7**
YAK				pmax	pmax		
	comp=Z,99nm,0.6s						
FX1	**Attu Island--F**	**19.69**	**57**	P	**P**	**11 09 21.5**	**+2.0**
	comp=Z,2.3nm,0.3s,baz=0.0,slow=1.0,SNR=5.2						
FX1	**Attu Island--F**	**19.69**	**57**	P	**P**	**11 09 21.5**	**+2.0**
FX1	**Attu Island--F**	**19.69**	**57**	P	**P**	**11 09 21.5**	**+1.9**
FX1				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BJI	**Beijing**	**22.06**	**267**	P	**P**	**11 09 43.6**	**-0.1**
BJI				sP	sP	11 10 52.5	-1.6
BJI				pmax	pmax		
	comp=Z,32nm,0.9s,mb4.8						
BJT	**Baijiatuau**	**22.07**	**267**	*e*P	**P**	**11 09 43.0**	**-0.8**
	comp=Z,32nm,1.0s,mb4.8						
BJT	**Baijiatuau**	**22.07**	**267**	*e*P	**P**	**11 09 43.0**	**-0.8**
BJT				pmax	pmax		
	comp=Z,32nm,1.0s						
HHC	**Hu-ho-hao-te**	**25.02**	**272**	*e*P	**P**	**11 10 11.1**	**+0.5**
HHC				pP	pP	11 10 56.2	+0.3
HHC				sP	sP	11 11 25.1	+0.2
HHC				PcP	PcP	11 13 41.3	+2.9
HHC				S	**S**	**11 14 13.2**	**-3.2**
HHC				PcS	PcS	11 17 20.1	+1.3
HHC				ScS	ScS	11 20 43.4	+0.4
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.6						
HHC				pmax	pmax		
	comp=Z,230nm,3.7s						
HHC				LR	LR		
	comp=N,180nm,6.0s						
HHC				LR	LR		
	comp=E,250nm,5.6s						
HHC				LR	LR		
	comp=Z,170nm,6.2s						
ULN	**Ulaanbaatar**	**26.37**	**290**	*e*P	**P**	**11 10 22.7**	**+0.2**
	comp=Z,14nm,0.6s,mb4.8						
ULN	**Ulaanbaatar**	**26.37**	**290**	*e*P	**P**	**11 10 22.7**	**+0.1**
ULN				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.8						
SONM	**Songino Array**	**26.81**	**290**	P	**P**	**11 10 26.2**	**-0.3**
	comp=Z,14nm,0.5s,mb4.8,baz=79,slow=8.6,SNR=59						
SONM	**Songino Array**	**26.81**	**290**	P	**P**	**11 10 26.2**	**-0.3**
SONM	**Songino Array**	**26.81**	**290**	P	**P**	**11 10 26.2**	**-0.3**
SONM				pmax	pmax		
	comp=Z,14nm,0.5s						
TLY	**Talaya**	**28.18**	**299**	*e*P	**P**	**11 10 36.8**	**-1.8**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.3						
ZAK	**Zakamensk**	**28.51**	**296**	*e*P	**P**	**11 10 40.4**	**-1.2**
ZAK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
LZH	**Lanzhou**	**32.52**	**269**	⇓ P	**P**	**11 11 17.6**	**+0.7**
LZH				pP	pP	11 12 07.5	+2.8
LZH				sP	sP	11 12 36.5	+4.4
LZH				PP	PP	11 12 38.0	+2.4
LZH				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.5						
LZH				pmax	pmax		
	comp=Z,75nm,4.5s						
GTA	**Gaotai**	**33.87**	**277**	P	**P**	**11 11 29.6**	**+1.1**
GTA				pP	pP	11 12 18.5	+2.0
GTA				sP	sP	11 12 46.6	+2.7
GTA				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.5						
CD2	**Chengdu**	**35.35**	**261**	P	**P**	**11 11 41.2**	**-0.1**
CD2				pP	pP	11 12 30.1	+0.5
CD2				sP	sP	11 12 58.2	+1.3
CD2				S	**S**	**11 16 56.3**	**-1.2**
CD2				sS	sS

ZALV pmax pmax
comp=N,3.0nm,0.8s
KMI Kunming 39.65 254 P **P** **11 12 18.3 +1.1**
KMI pmax pmax
comp=Z,16nm,1.0s,mb4.4
NVS Novosibirsk 39.89 307 *eP* **P** **11 12 16.6 -2.2**
NVS pmax pmax
comp=Z,10.0nm,1.2s,mb4.1
NVS pmax pmax
comp=N,2.0nm,0.5s
NVS pmax pmax
comp=E,10.0nm,0.9s
WMQ Urumqi 40.45 289 P **P** **11 12 24.3 +0.8**
WMQ pP pP 11 13 11.5 -1.4
WMQ pmax pmax
comp=Z,33nm,0.9s,mb4.8
ILAR Eielson Array 41.12 37 P **P** **11 12 28.4 -0.3**
comp=Z,2.8nm,0.5s,mb4.0,baz=261,slow=5.3,SNR=52
ILAR Eielson Array 41.12 37 P **P** **11 12 28.4 -0.3**
ILAR Eielson Array 41.12 37 P **P** **11 12 28.4 -0.3**
ILAR pmax pmax
comp=Z,3.0nm,0.5s
RAGM Ragged Mountai 42.78 43 *eP* **P** **11 12 37.4 -4.8**
comp=Z,391nm,1.6s,mb5.6
MK31 Makanchi Array 42.85 296 *eP* **P** **11 12 42.8 -0.1**
MK31 Makanchi Array 42.85 296 *ceP* **P** **11 12 43.2 +0.2**
MK31 pmax pmax
comp=Z,13nm,0.4s,mb4.7
MKAR Makanchi Array 42.85 296 P **P** **11 12 42.9 -0.1**
comp=Z,22nm,0.7s,mb4.7,baz=78,slow=8.6,SNR=149
MKAR PcP PcP 11 14 29.3 +0.1
comp=Z,0.7nm,0.4s,baz=68,slow=5.4,SNR=2.5
MKAR ScP ScP 11 17 56.6 -0.4
comp=Z,0.4nm,0.2s,baz=67,slow=2.5,SNR=3.4
MKAR Makanchi Array 42.85 296 P **P** **11 12 42.9 -0.1**
MKAR PcP PcP 11 14 29.3 +0.1
MKAR ScP ScP 11 17 56.6 -0.4
MKAR Makanchi Array 42.85 296 P **P** **11 12 42.9 -0.1**
MKAR 11 14 29.3
MKAR pmax pmax
comp=Z,22nm,0.7s
MKAR pmax pmax
comp=Z,1.0nm,0.4s
EGAK Eagle 43.55 37 *eP* **P** **11 12 48.9 +0.7**
comp=Z,4.4nm,0.6s,mb4.0
KURK Kurchatov 43.73 302 P **P** **11 12 49.5 -0.4**
comp=Z,17nm,0.4s,mb4.7,baz=76,slow=8.5,SNR=11
KURK PcP PcP 11 14 32.6 +0.5
comp=Z,2.1nm,0.6s,baz=82,slow=3.4,SNR=4.3
KURK ScP ScP 11 18 00.5 0.0
comp=Z,0.7nm,0.5s,baz=64,slow=3.4,SNR=4.1
KURK Kurchatov 43.73 302 *eP* **P** **11 12 49.0 -0.9**
comp=Z,18nm,0.5s,mb4.7
KURK Kurchatov 43.73 302 P **P** **11 12 49.5 -0.4**
KURK 11 14 32.6
KURK pmax pmax
comp=Z,17nm,0.4s,mb4.7
KURK pmax pmax
comp=Z,2.0nm,0.6s,mb3.6
KURK pmax pmax
comp=N,1.0nm,0.5s
LSA Lhasa 44.94 269 *eP* **P** **11 13 01.5 +1.7**
comp=N,29nm,1.5s,mb4.4
LSA Lhasa 44.94 269 *eP* **P** **11 13 01.5 +1.8**
LSA pmax pmax
comp=Z,29nm,1.5s,mb4.4
CHTO Chiang Mai 46.52 251 *eP* **P** **11 13 12.4 +0.3**
comp=Z,6.7nm,0.7s,mb4.1
CHTO Chiang Mai 46.52 251 *eP* **P** **11 13 12.4 +0.3**
CHTO pmax pmax
comp=Z,7.0nm,0.7s,mb4.1
CMAR Chiang Mai Arr 46.77 251 P **P** **11 13 15.1 +1.0**
comp=Z,1.6nm,0.4s,mb3.7,baz=50,slow=5.3,SNR=10
CMAR ScP ScP 11 18 14.5 +0.9
comp=Z,0.8nm,0.3s,baz=12,slow=3.5,SNR=5.4
CMAR Chiang Mai Arr 46.77 251 P **P** **11 13 15.1 +1.0**
CMAR ScP ScP 11 18 14.5 +0.9
CMAR Chiang Mai Arr 46.77 251 P **P** **11 13 15.1 +1.0**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CMAR pmax pmax
comp=N,1.0nm,0.3s
BVA0 Borovoye Array 47.67 308 P **P** **11 13 19.8 -0.7**
BVA0 pmax pmax
comp=Z,1.0nm,0.5s,mb3.4
BVAR Borovoye Array 47.67 308 P **P** **11 13 19.9 -0.6**
comp=Z,2.7nm,0.3s,mb4.0,baz=69,slow=9.8,SNR=21
BVAR PcP PcP 11 14 46.2 +0.3
comp=Z,2.8nm,0.4s,baz=64,slow=3.4,SNR=5.4
BVAR ScP ScP 11 18 15.8 -1.1
comp=Z,0.6nm,0.5s,baz=64,slow=3.4,SNR=4.9
BVAR Borovoye Array 47.67 308 P **P** **11 13 19.9 -0.6**
BVAR PcP PcP 11 14 46.2 +0.3
BVAR ScP ScP 11 18 15.8 -1.1
BVAR Borovoye Array 47.67 308 P **P** **11 13 19.9 -0.6**
BVAR 11 14 46.2
BVAR pmax pmax
comp=Z,3.0nm,0.3s
BVAR pmax pmax
comp=Z,3.0nm,0.4s
BVAR pmax pmax
comp=N,1.0nm,0.5s
BRVK Borovoye 47.71 308 *eP* **P** **11 13 20.4 -0.5**
comp=N,4.8nm,0.7s,mb3.9
BRVK Borovoye 47.71 308⇑ *iP* **P** **11 13 20.0 -0.9**
BRVK pmax pmax
comp=Z,7.0nm,1.0s,mb4.0
ULHL Ulahol 48.70 293 P **P** **11 13 29.6 +1.0**
SNR=16
TKM2 Tokmak 2 48.80 294 P **P** **11 13 30.3 +1.0**
SNR=23
TKM2 Tokmak 2 48.80 294 *i P* **P** **11 13 30.1 +0.8**
TKM2 pmax pmax
comp=Z,24nm,1.1s,mb4.4
KBK Karagaybulak 49.35 294 P **P** **11 13 34.4 +0.9**
SNR=12
USP Ospenovka 49.35 295 P **P** **11 13 34.0 +0.6**
SNR=11
KZA Kyzart 49.43 293 P **P** **11 13 36.0 +1.9**
SNR=15
AAK Ala-Archa 49.65 294 P **P** **11 13 36.4 +0.7**
SNR=6.1
AAK Ala-Archa 49.65 294 P **P** **11 13 36.2 +0.4**
comp=Z,9.1nm,0.5s,mb4.4,baz=111,slow=6.1,SNR=10
AAK Ala-Archa 49.65 294 *eP* **P** **11 13 35.8 0.0**
comp=Z,11nm,0.5s,mb4.4
AAK Ala-Archa 49.65 294 *i P* **P** **11 13 36.4 +0.6**
AAK pmax pmax
comp=Z,5.0nm,1.2s,mb3.7
GUN Gumba 49.72 271 *eP* **P** **11 13 37.2 +0.7**
comp=Z,58nm,0.4s,mb5.3
GUN Gumba 49.72 271 *eP* **P** **11 13 37.2 +0.7**
comp=Z,58nm,0.4s,mb5.3
TARA Tarawa 49.90 143 *eP* **P** **11 13 30.4 -7.5**
comp=Z,122nm,0.6s,mb5.4
EKS2 Erkin-Say 50.10 294 P **P** **11 13 39.9 +0.7**
SNR=30
EKS2 Erkin-Say 50.10 294 *eP* **P** **11 13 39.8 +0.7**
comp=Z,15nm,0.5s,mb4.6
EKS2 Erkin-Say 50.10 294 *eP* **P** **11 13 39.8 +0.7**
EKS2 pmax pmax
comp=Z,15nm,0.5s,mb4.6
KSH Kashi 50.21 290 *eP* **P** **11 13 44.3 +4.3**
KSH pP pP 11 14 39.5 +7.9
KSH PcP PcP 11 14 57.7 +2.3
KSH sP sP 11 15 07.6 +10
KSH PP PP 11 15 44.6 +7.0
KSH ScP ScP 11 18 27.8 -0.2
KSH PcS PcS 11 18 54.0 +1.2
KSH S **S** **11 20 37.2 +3.9**
KSH sS sS 11 22 16.1 +12
KSH ScS ScS 11 23 05.2 -0.4
KSH SS SS 11 24 16.1 +6.7
KSH pmax pmax
comp=Z,12nm,1.0s,mb4.2
KSH pmax pmax
comp=Z,120nm,4.3s
KSH LR LR
comp=N,96nm,5.3s
KSH LR LR
comp=E,120nm,6.8s
KSH LR LR
comp=Z,140nm,6.7s
KKN Kakani 50.22 271 *eP* **P** **11 13 40.9 +0.7**
KKN Kakani 50.22 271 *eP* **P** **11 13 40.9 +0.7**
KKN Kakani 50.22 271 *eP* **P** **11 13 40.9 +0.7**

PKI Pulchoki 50.26 271 *eP* **P** **11 13 41.1 +0.6**
comp=Z,25nm,0.5s,mb4.8
PKI Pulchoki 50.26 271 *eP* **P** **11 13 41.1 +0.6**
comp=Z,25nm,0.5s,mb4.8
PKI Pulchoki 50.26 271 *eP* **P** **11 13 41.1 +0.6**
PKI pmax pmax
comp=Z,25nm,0.5s,mb4.8
PKIN Phulchoki 50.26 271 *eP* **P** **11 13 41.0 +0.4**
comp=Z,26nm,0.5s,mb4.8
AML Almayashu 50.41 294 P **P** **11 13 42.6 +1.1**
SNR=6.8
DMN Daman 50.45 271 *eP* **P** **11 13 42.8 +0.8**
comp=Z,48nm,0.6s,mb5.0
DMN Daman 50.45 271 *eP* **P** **11 13 42.8 +0.8**
comp=Z,48nm,0.6s,mb5.0
GKN Gorkha 50.55 272 *eP* **P** **11 13 43.1 +0.4**
comp=Z,46nm,0.3s,mb5.4
GKN Gorkha 50.55 272 *eP* **P** **11 13 43.1 +0.4**
comp=Z,46nm,0.3s,mb5.4
DANN Dangsing 50.96 273 *eP* **P** **11 13 46.9 +1.1**
DANN Dangsing 50.96 273 *eP* **P** **11 13 46.9 +1.1**
KOLN Koldanda 51.42 272 *eP* **P** **11 13 49.9 +0.7**
comp=Z,33nm,0.4s,mb5.1
KOLN Koldanda 51.42 272 *eP* **P** **11 13 49.9 +0.7**
comp=Z,33nm,0.4s,mb5.1
KK31 Karatay Array 51.98 296 *ceP* **P** **11 13 53.0 -0.1**
KK31 pmax pmax
comp=Z,6.0nm,0.4s,mb4.4
KKAR Karatay Array 51.98 296 *eP* **P** **11 13 53.1 0.0**
comp=Z,5.9nm,0.4s,mb4.4
KKAR Karatay Array 51.98 296 *eP* **P** **11 13 53.1 0.0**
KKAR pmax pmax
comp=Z,6.0nm,0.4s,mb4.4
ARU Arti 52.48 316 *eP* **P** **11 13 55.8 -0.8**
comp=Z,15nm,0.5s,mb4.7
ARU Arti 52.48 316 *c iP* **P** **11 13 55.6 -1.0**
ARU PPP 11 17 05.0
ARU S **S** **11 21 02.7 -1.1**
ARU SS SS 11 24 37.4 -7.2
ARU pmax pmax
comp=Z,12nm,0.7s,mb4.4
RES Resolute Bay 53.99 17 *eP* **P** **11 14 06.1 -1.2**
comp=Z,13nm,0.6s,mb4.6
RES Resolute Bay 53.99 17 *eP* **P** **11 14 06.1 -1.2**
RES pmax pmax
comp=Z,13nm,0.6s,mb4.6
NIL Nilore 55.22 285 *eP* **P** **11 14 17.4 +0.7**
comp=Z,23nm,0.9s,mb4.7
NIL Nilore 55.22 285 *eP* **P** **11 14 17.4 +0.7**
NIL pmax pmax
comp=Z,23nm,0.9s,mb4.7
AB31 Akbulak array 55.23 307 *ceP* **P** **11 14 16.2 -0.3**
AB31 pmax pmax
comp=Z,12nm,0.3s,mb4.9
ABKAR Akbulak array 55.23 307 *eP* **P** **11 14 16.1 -0.4**
comp=Z,12nm,0.3s,mb4.9
YKA Yellowknife Ar 55.34 34 P **P** **11 14 17.2 +0.1**
comp=Z,2.3nm,0.6s,mb3.9,baz=300,slow=7.8,SNR=9.4
YKA Yellowknife Ar 55.34 34 P **P** **11 14 17.2 +0.1**
YKA Yellowknife Ar 55.34 34 P **P** **11 14 17.2 +0.1**
YKA pmax pmax
comp=Z,2.0nm,0.6s
KEV Kevo 56.97 339 *eP* **P** **11 14 24.3 -4.2**
KEV pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
KEV Kevo 56.97 339 *ep* **P** **11 14 24.3 -4.2**
comp=Z,6.9nm,0.6s,mb4.5
ARCES ARCESS Array B 57.51 339 P **P** **11 14 31.3 -0.9**
comp=Z,2.1nm,0.3s,mb4.2,baz=42,slow=6.9,SNR=35
ARCES ARCESS Array B 57.51 339 P **P** **11 14 31.3 -0.9**
ARCES ARCESS Array B 57.51 339 P **P** **11 14 31.3 -0.9**
ARCES pmax pmax
comp=Z,2.0nm,0.3s
KTK1 Kautokeino 58.45 339 *eP* **P** **11 14 38.0 -0.8**
KTK1 AMB AMB 11 14 57.0
comp=Z,95nm,2.2s,mb5.0
TRO Tromso 59.04 341 *eP* **P** **11 14 40.7 -2.1**
JOF Joensuu 60.28 331 *eP* **P** **11 14 49.4 -1.9**
JOF pmax pmax
comp=Z,10.0nm,0.4s,mb4.8
JOF Joensuu 60.28 331 *ep* **P** **11 14 49.4 -1.9**
comp=Z,10nm,0.4s,mb4.8
STEI Steigen 61.22 341 *eP* **P** **11 14 56.4 -1.1**
KAF Kangasniemi 62.51 332 *eP* **P** **11 15 04.1 -2.1**
KAF pmax pmax
comp=Z,5.0nm,0.4s,mb4.5
KAF Kangasniemi 62.51 332 *ep* **P** **11 15 04.1 -2.1**
comp=Z,4.6nm,0.4s,mb4.5
SUMG Summit 62.56 1 *eP* **P** **11 15 06.7 +0.3**
comp=Z,10nm,0.5s,mb4.7
SUMG Summit 62.56 1 *eP* **P** **11 15 06.7 +0.3**
SUMG pmax pmax
comp=Z,10.0nm,0.5s
FINES FINESS Array B 63.07 332 P **P** **11 15 08.6 -1.3**
comp=Z,12nm,0.4s,mb4.8,baz=44,slow=7.6,SNR=51
FINES FINESS Array B 63.07 332 P **P** **11 15 08.6 -1.3**
FINES FINESS Array B 63.07 332 P **P** **11 15 08.6 -1.3**
FINES pmax pmax
comp=Z,12nm,0.4s
OBN Obninsk 63.46 323⇓ *eP* **P** **11 15 12.2 -0.4**
OBN *e* 11 15 56.1
OBN S **S** **11 23 33.0 +7.2**
OBN pmax pmax
comp=Z,11nm,1.2s,mb4.4
WRAB Tennant Creek 65.54 191 *eP* **P** **11 15 26.0 -0.3**
comp=Z,10nm,0.8s,mb4.5
WRAB Tennant Creek 65.54 191 *eP* **P** **11 15 26.0 -0.3**
WRAB pmax pmax
comp=Z,11nm,0.8s,mb4.5
WRA Warramunga Arr 65.55 191 P **P** **11 15 25.6 -0.7**
comp=Z,5.2nm,0.8s,mb4.2,baz=10,slow=6.7,SNR=41
WRA Warramunga Arr 65.55 191 P **P** **11 15 25.6 -0.7**
WRA Warramunga Arr 65.55 191 P **P** **11 15 25.7 -0.7**
WRA pmax pmax
comp=Z,5.0nm,0.8s
NB2 NORSAR Subarra 67.85 338 P **P** **11 15 39.5 -1.0**
comp=Z,8.0nm,0.5s,mb4.6,baz=32,slow=6.5
NOA NORSAR Array B 67.85 338 P **P** **11 15 39.0 -1.4**
comp=Z,9.6nm,0.6s,mb4.6,baz=34,slow=6.3,SNR=35
NOA NORSAR Array B 67.85 338 P **P** **11 15 39.0 -1.4**
NOA NORSAR Array B 67.85 338 P **P** **11 15 39.1 -1.4**
NOA pmax pmax
comp=Z,10.0nm,0.6s
NVAR Mina Array Bea 67.89 57 P **P** **11 15 42.8 +1.8**
comp=Z,0.9nm,0.6s,mb3.6,baz=294,slow=6.9,SNR=7.9
NVAR pP pP 11 16 38.9 +3.0
comp=Z,2.1nm,0.9s,baz=284,slow=6.6,SNR=7.1
NVAR Mina Array Bea 67.89 57 P **P** **11 15 42.8 +1.8**
NVAR pP pP 11 16 38.9 +3.0
KIV Kislovodsk 67.92 311 *eP* **P** **11 15 41.6 +0.5**
comp=Z,26nm,1.0s,mb4.8
KIV Kislovodsk 67.92 311 *eP* **P** **11 15 42.3 +1.1**
KIV pmax pmax
comp=Z,25nm,1.1s,mb4.8
ZEI Tsey 68.04 309 *eP* **P** **11 15 41.1 -0.9**
ZEI pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
RRI2 Red Ridge 68.61 50 *eP* **P** **11 15 48.0 +2.5**
comp=Z,34nm,2.3s,mb4.6
ASAR Alice Springs 69.27 191 P **P** **11 15 50.0 +0.3**
comp=Z,2.6nm,0.7s,mb4.0,baz=9.1,slow=5.3,SNR=45
ASAR pP pP 11 16 45.1 +0.4
comp=Z,0.6nm,0.7s,baz=17,slow=6.1,SNR=2.6
ASAR Alice Springs 69.27 191 P **P** **11 15 50.0 +0.3**
ASAR pP pP 11 16 45.1 +0.4
ASAR Alice Springs 69.27 191 P **P** **11 15 50.0 +0.4**
ASAR pmax pmax
comp=Z,3.0nm,0.7s
ASAR pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 69.72 323 P **P** **11 15 51.6 -0.6**
comp=Z,14nm,0.5s,mb4.8,baz=38,slow=6.0,SNR=72
AKASG Malin Array Be 69.72 323 P **P** **11 15 51.6 -0.6**
AKASG Malin Array Be 69.72 323 P **P** **11 15 51.6 -0.6**
AKASG pmax pmax
comp=Z,14nm,0.5s
KIEV Kiev 69.74 323 *eP* **P** **11 15 51.3 -0.9**
comp=Z,19nm,0.5s,mb5.0
KIEV Kiev 69.74 323 *eP* **P** **11 15 51.3 -0.9**
KIEV pmax pmax
comp=Z,19nm,0.5s,mb5.0
PDAR Pinedale Array 69.95 49 P **P** **11 15 54.5 +0.9**
comp=Z,1.2nm,0.6s,mb3.7,baz=329,slow=0.8,SNR=12
PDAR Pinedale Array 69.95 49 P **P** **11 15 54.5 +0.9**
KWP Kalwaria Pacla 73.26 325 P **P** **11 16 13.3 +0.1**
comp=Z,23nm,0.6s,mb5.0

KWP Kalwaria Pacla 73.26 325⇑ *P* **P** **11 16 11.6 -1.7**
KWP Kalwaria Pacla 73.26 325⇑ *iP* **P** **11 16 11.6 -1.7**
BUR08 Bucovina Ar. S 73.77 323 *eP* **P** **11 16 16.3 +0.1**
BURAR Bucovina Array 73.78 322⇑ *P* **P** **11 16 16.8 +0.5**
BURAR Bucovina Array 73.78 322⇑ *iP* **P** **11 16 16.8 +0.5**
OJC Ojcow 73.94 327 *eP* **P** **11 16 17.6 +0.4**
OJC Ojcow 73.94 327 *eP* **P** **11 16 17.6 +0.4**
comp=Z,24nm,0.9s,mb4.8
OJC Ojcow 73.94 327 *eP* **P** **11 16 17.6 +0.4**
KOLS Kolonicke sedl 73.98 325 *eP* **P** **11 16 17.7 +0.2**
KOLS pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
KOLS Kolonicke sedl 73.98 325 *eP* **P** **11 16 17.7 +0.2**
TESR 74.00 321⇑ *iP* **P** **11 16 17.6 0.0**
STHS Stebnicka Huta 74.02 326 *eP* **P** **11 16 18.5 +0.9**
STHS Stebnicka Huta 74.02 326 *eP* **P** **11 16 18.5 +0.9**
CRVS Cervenica-Dubn 74.34 325 *eP* **P** **11 16 18.3 -1.2**
CRVS pmax pmax
comp=Z,66nm,2.9s,mb4.8
CRVS Cervenica-Dubn 74.34 325 *eP* **P** **11 16 18.3 -1.2**
CFR Carcaliu 74.34 319⇑ *P* **P** **11 16 20.2 +0.6**
CFR Carcaliu 74.34 319⇑ *iP* **P** **11 16 20.2 +0.6**
NIE Niedzica 74.38 326 *eP* **P** **11 16 20.9 +1.1**
NIE Niedzica 74.38 326 *eP* **P** **11 16 20.9 +1.1**
VRI Vrincioaia 74.46 320⇑ *P* **P** **11 16 20.7 +0.5**
VRI Vrincioaia 74.46 320⇑ *iP* **P** **11 16 20.7 +0.5**
TRPA Tarpa 74.51 324⇑ *iP* **P** **11 16 21.7 +1.2**
KSP Ksiaz 74.74 329 *eP* **P** **11 16 22.4 +0.6**
MLR Muntele Rosu 75.10 321⇑ *P* **P** **11 16 25.2 +1.3**
MLR Muntele Rosu 75.10 321⇑ *iP* **P** **11 16 25.2 +1.3**
UPC Upice 75.12 329 *eP* **P** **11 16 24.5 +0.6**
UPC Upice 75.12 329 *eP* **P** **11 16 24.5 +0.6**
DPC Dobruska-Polom 75.14 329 *eP* **P** **11 16 24.8 +0.8**
comp=Z,16nm,1.1s,mb4.6
DPC Dobruska-Polom 75.14 329 *eP* **P** **11 16 24.8 +0.8**
DPC pmax pmax
comp=Z,16nm,1.1s,mb4.6
DPC Dobruska-Polom 75.14 329 *eP* **P** **11 16 24.7 +0.7**
MORC Moravsky Berou 75.16 328 *eP* **P** **11 16 24.6 +0.5**
comp=Z,12nm,0.9s,mb4.5
MORC Moravsky Berou 75.16 328⇑ *P* **P** **11 16 25.0 +0.8**
MORC Moravsky Berou 75.16 328⇑ *iP* **P** **11 16 25.0 +0.8**
DRGR 75.49 323⇑ *P* **P** **11 16 26.9 +0.8**
DRGR 75.49 323⇑ *iP* **P** **11 16 26.9 +0.8**
CLL Collm 75.51 331⇓ *iP* **P** **11 16 25.8 -0.3**
CLL pmax pmax
comp=Z,19nm,0.6s,mb4.9
CLL Collm 75.51 331⇓ *iP* **P** **11 16 25.8 -0.3**
comp=Z,19nm,0.6s,mb4.9
VOIR 75.54 321⇑ *P* **P** **11 16 27.6 +1.2**
VOIR 75.54 321⇑ *iP* **P** **11 16 27.5 +1.1**
BRG Berggiesshubel 75.55 331 *eP* **P** **11 16 26.2 -0.1**
comp=Z,5.8nm,0.6s,mb4.4
BRG Berggiesshubel 75.55 331 *eP* **P** **11 16 26.2 -0.2**
BRG pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
BRTR Keskin Array B 75.69 312 P **P** **11 16 26.7 -0.7**
comp=Z,1.7nm,0.5s,mb3.9,baz=73,slow=3.0,SNR=7.2
BRTR Keskin Array B 75.69 312 P **P** **11 16 26.7 -0.7**
BRTR Keskin Array B 75.69 312 P **P** **11 16 26.7 -0.7**
BRTR pmax pmax
comp=Z,2.0nm,0.5s
VYHS Vyhne 75.71 327 *eP* **P** **11 16 27.4 +0.1**
VYHS Vyhne 75.71 327 *eP* **P** **11 16 27.4 +0.1**
PSZ Piszkesteto 75.75 326 *eP* **P** **11 16 28.6 +1.1**
comp=Z,7.4nm,0.9s,mb4.3
PSZ Piszkesteto 75.75 326⇑ *P* **P** **11 16 28.7 +1.1**
PSZ Piszkesteto 75.75 326⇑ *iP* **P** **11 16 28.7 +1.1**
PRU Pruhonice 76.08 330 *eP* **P** **11 16 30.5 +1.1**
PRU Pruhonice 76.08 330 *eP* **P** **11 16 30.5 +1.1**
SCHQ Schefferville 76.71 18 P **P** **11 16 31.9 -1.0**
comp=Z,4.6nm,0.5s,mb4.4,baz=354,slow=5.6,SNR=21
SCHQ Schefferville 76.71 18 P **P** **11 16 31.9 -0.9**
STKA Stephens Creek 76.73 183 P **P** **11 16 32.4 -0.7**
comp=Z,2.0nm,0.5s,mb4.0,baz=357,slow=6.2,SNR=14
STKA Stephens Creek 76.73 183 P **P** **11 16 32.4 -0.7**
STKA Stephens Creek 76.73 183 P **P** **11 16 32.4 -0.7**
KHC Kasperske Hory 77.14 330 *eP* **P** **11 16 35.6 +0.3**
comp=Z,8.8nm,0.8s,mb4.4
KHC Kasperske Hory 77.14 330 *eP* **P** **11 16 35.6 +0.3**
KHC pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
KHC Kasperske Hory 77.14 330 *eP* **P** **11 16 35.5 +0.2**
GERES GERESS Array B 77.34 330 P **P** **11 16 35.9 -0.5**
comp=Z,1.3nm,0.5s,mb3.9,baz=28,slow=6.0,SNR=14
GERES GERESS Array B 77.34 330 P **P** **11 16 35.9 -0.5**
GERES GERESS Array B 77.34 330 P **P** **11 16 35.9 -0.5**
GERES pmax pmax
comp=Z,1.0nm,0.5s
SOKA Soboth 78.66 328⇑ *iP* **P** **11 16 43.7 0.0**
comp=Z,3.6nm,0.6s,mb4.2
PERS Pernice 78.67 328 *i P* **P** **11 16 44.2 +0.5**
KBA Koelnbreinsper 78.95 329⇓ *iP* **P** **11 16 46.0 +0.7**
comp=Z,5.2nm,0.5s,mb4.4
BAIF Baives 79.36 336 *eP* **P** **11 16 47.4 -0.1**
BAIF Baives 79.36 336 *eP* **P** **11 16 47.4 -0.1**
BAIF Baives 79.36 336 *eP* **P** **11 16 47.4 -0.1**
WTTA Wattenberg 79.41 330⇑ *iP* **P** **11 16 47.3 -0.5**
comp=Z,3.2nm,0.5s,mb4.2
VISS Visnje 79.47 327 *i P* **P** **11 16 47.7 -0.4**
MOTA Moosalm 79.53 330⇓ *iP* **P** **11 16 48.7 +0.3**
comp=Z,5.7nm,0.8s,mb4.3
BOJS Bojanci 79.56 327 *i P* **P** **11 16 48.4 -0.3**
JAVS Javornik 79.69 328 *i P* **P** **11 16 50.1 +0.8**
CDF Champ du Feu 79.89 333 *eP* **P** **11 16 50.5 +0.2**
comp=Z,4.7nm,0.5s,mb4.0
CDF Champ du Feu 79.89 333 *eP* **P** **11 16 50.5 +0.2**
comp=Z,2.3nm,0.5s,mb4.1
CDF Champ du Feu 79.89 333 *eP* **P** **11 16 50.5 +0.2**
CDF pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
PAGF Fort de Pagny 80.25 334 *eP* **P** **11 16 52.1 -0.1**
HAU Haudompre 80.54 334 *eP* **P** **11 16 53.8 0.0**
comp=Z,8.3nm,0.6s,mb4.3
HAU Haudompre 80.54 334 *eP* **P** **11 16 53.8 0.0**
comp=Z,4.2nm,0.6s,mb4.2
HAU Haudompre 80.54 334 *eP* **P** **11 16 53.8 0.0**
HAU pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
HINF Hinteralfeld 80.55 333 *eP* **P** **11 16 53.7 -0.1**
comp=Z,5.0nm,0.5s,mb4.1
HINF Hinteralfeld 80.55 333 *eP* **P** **11 16 53.7 -0.1**
comp=Z,2.5nm,0.5s,mb4.1
HINF Hinteralfeld 80.55 333 *eP* **P** **11 16 53.7 -0.1**
HINF pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
SFTF Sexfontaines 80.77 334 *eP* **P** **11 16 55.4 +0.4**
comp=Z,10.0nm,0.5s,mb4.4
SFTF Sexfontaines 80.77 334 *eP* **P** **11 16 55.4 +0.4**
comp=Z,10.0nm,0.5s,mb4.7
FLN La Foliniere 81.84 338 *eP* **P** **11 17 00.3 -0.3**
comp=Z,14nm,0.6s,mb4.5
FLN La Foliniere 81.84 338 *eP* **P** **11 17 00.3 -0.3**
comp=Z,7.2nm,0.6s,mb4.5
FLN La Foliniere 81.84 338 *eP* **P** **11 17 00.3 -0.3**
FLN pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
LDF La Druitiere 81.90 338 *eP* **P** **11 17 00.6 -0.3**
comp=Z,5.0nm,0.4s,mb4.2
LDF La Druitiere 81.90 338 *eP* **P** **11 17 00.6 -0.3**
comp=Z,2.5nm,0.4s,mb4.2
LDF La Druitiere 81.90 338 *eP* **P** **11 17 00.6 -0.3**
LDF pmax pmax
comp=Z,3.0nm,0.4s,mb4.3
LOR Lormes 81.97 335 *eP* **P** **11 17 01.1 -0.2**
LOR Lormes 81.97 335 *eP* **P** **11 17 01.1 -0.2**
LOR Lormes 81.97 335 *eP* **P** **11 17 01.1 -0.2**
SSF Saint Saulge 82.26 335 *eP* **P** **11 17 02.7 -0.1**
SSF Saint Saulge 82.26 335 *eP* **P** **11 17 02.7 -0.1**
SSF Saint Saulge 82.26 335 *eP* **P** **11 17 02.7 -0.1**
GRR Gorron 82.29 338 *eP* **P** **11 17 02.6 -0.3**
GRR Gorron 82.29 338 *eP* **P** **11 17 02.6 -0.3**
GRR Gorron 82.29 338 *eP* **P** **11 17 02.6 -0.3**
SMF Signal de Mont 82.53 334 *eP* **P** **11 17 03.8 -0.4**
comp=Z,6.2nm,0.4s,mb4.4
SMF Signal de Mont 82.53 334 *eP* **P** **11 17 03.8 -0.4**
comp=Z,3.1nm,0.4s,mb4.4
SMF Signal de Mont 82.53 334 *eP* **P** **11 17 03.8 -0.4**
SMF pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
AVF Avril sur Loir 82.55 335 *eP* **P** **11 17 04.0 -0.3**
comp=Z,7.1nm,0.6s,mb4.3
AVF Avril sur Loir 82.55 335 *eP* **P** **11 17 04.0 -0.3**
comp=Z,3.5nm,0.6s,mb4.3

AVF	**Avril sur Loir**	**82.55**	**335**	*eP*		**P**	**11 17 04.0**	**-0.3**
AVF					pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.3								
LPL	**La Plagne**	**82.61**	**332**	*eP*		**P**	**11 17 04.9**	**+0.2**
	comp=Z,9.9nm,0.8s,mb4.3								
LPL	**La Plagne**	**82.61**	**332**	*eP*		**P**	**11 17 04.9**	**+0.2**
	comp=Z,4.9nm,0.8s,mb4.3								
LPL	**La Plagne**	**82.61**	**332**	*eP*		**P**	**11 17 04.9**	**+0.2**
LPL					pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.3								
LPG	**La Plagne**	**82.62**	**332**	*eP*		**P**	**11 17 05.1**	**+0.4**
	comp=Z,5.7nm,0.6s,mb4.2								
LPG	**La Plagne**	**82.62**	**332**	*eP*		**P**	**11 17 05.1**	**+0.4**
	comp=Z,2.8nm,0.6s,mb4.2								
LPG	**La Plagne**	**82.62**	**332**	*eP*		**P**	**11 17 05.1**	**+0.4**
LPG					pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.2								
TXAR	**Lajitas Array**	**82.90**	**55**	P		**P**	**11 17 07.6**	**+1.2**
	comp=Z,1.2nm,0.8s,mb3.7,baz=301,slow=4.4,SNR=13								
TXAR					pP	pP	11 18 06.6	+3.1	
	comp=Z,1.4nm,0.7s,baz=297,slow=4.2,SNR=7.8								
TXAR	**Lajitas Array**	**82.90**	**55**	P		**P**	**11 17 07.6**	**+1.2**
TXAR					pP	pP	11 18 06.6	+3.1	
TXAR	**Lajitas Array**	**82.90**	**55**	P		**P**	**11 17 07.6**	**+1.2**
TXAR					pmax	pmax			
	comp=Z,1.0nm,0.8s								
TXAR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
ROSF	**Rostrenen**	**82.95**	**340**	*eP*		**P**	**11 17 06.0**	**-0.4**
ROSF	**Rostrenen**	**82.95**	**340**	*eP*		**P**	**11 17 06.0**	**-0.4**
ROSF	**Rostrenen**	**82.95**	**340**	*eP*		**P**	**11 17 06.0**	**-0.4**
MBDF	**Montbardon**	**83.30**	**332**	*eP*		**P**	**11 17 07.4**	**-0.8**
	comp=Z,8.1nm,0.6s,mb4.3								
MBDF	**Montbardon**	**83.30**	**332**	*eP*		**P**	**11 17 07.4**	**-0.8**
	comp=Z,4.1nm,0.6s,mb4.3								
MBDF	**Montbardon**	**83.30**	**332**	*eP*		**P**	**11 17 07.4**	**-0.8**
MBDF					pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.3								
TCF	**Toulx Ste Croi**	**83.34**	**335**	*eP*		**P**	**11 17 07.3**	**-1.1**
TCF	**Toulx Ste Croi**	**83.34**	**335**	*eP*		**P**	**11 17 07.3**	**-1.1**
TCF	**Toulx Ste Croi**	**83.34**	**335**	*eP*		**P**	**11 17 07.3**	**-1.1**
ORIF	**Oris-en-Rattie**	**83.42**	**332**	*eP*		**P**	**11 17 08.3**	**-0.5**
ORIF	**Oris-en-Rattie**	**83.42**	**332**	*eP*		**P**	**11 17 08.3**	**-0.5**
ORIF	**Oris-en-Rattie**	**83.42**	**332**	*eP*		**P**	**11 17 08.3**	**-0.5**
SBF	**Sospel**	**83.83**	**331**	*eP*		**P**	**11 17 10.6**	**-0.3**
SBF	**Sospel**	**83.83**	**331**	*eP*		**P**	**11 17 10.6**	**-0.3**
SBF	**Sospel**	**83.83**	**331**	*eP*		**P**	**11 17 10.6**	**-0.3**
SMRF	**Simiane la Rot**	**84.36**	**332**	*eP*		**P**	**11 17 13.7**	**+0.1**
SMRF	**Simiane la Rot**	**84.36**	**332**	*eP*		**P**	**11 17 13.7**	**+0.1**
FRF	**La Foret Royal**	**84.37**	**331**	*eP*		**P**	**11 17 13.6**	**0.0**
FRF	**La Foret Royal**	**84.37**	**331**	*eP*		**P**	**11 17 13.6**	**0.0**
FRF	**La Foret Royal**	**84.37**	**331**	*eP*		**P**	**11 17 13.6**	**0.0**
PGF	**Pioggiola**	**84.43**	**329**	*eP*		**P**	**11 17 13.6**	**-0.4**
PGF	**Pioggiola**	**84.43**	**329**	*eP*		**P**	**11 17 13.6**	**-0.4**
PGF	**Pioggiola**	**84.43**	**329**	*eP*		**P**	**11 17 13.6**	**-0.4**
RJF	**Les Rejaudoux**	**84.44**	**335**	*eP*		**P**	**11 17 13.6**	**-0.3**
RJF	**Les Rejaudoux**	**84.44**	**335**	*eP*		**P**	**11 17 13.6**	**-0.3**
RJF	**Les Rejaudoux**	**84.44**	**335**	*eP*		**P**	**11 17 13.6**	**-0.3**
LMR	**La Mourre**	**84.61**	**331**	*eP*		**P**	**11 17 14.6**	**-0.3**
LMR	**La Mourre**	**84.61**	**331**	*eP*		**P**	**11 17 14.6**	**-0.3**
LMR	**La Mourre**	**84.61**	**331**	*eP*		**P**	**11 17 14.6**	**-0.3**
CAF	**Calviac**	**84.62**	**335**	*eP*		**P**	**11 17 14.9**	**+0.1**
	comp=Z,16nm,0.9s,mb4.5								
CAF	**Calviac**	**84.62**	**335**	*eP*		**P**	**11 17 14.9**	**+0.1**
	comp=Z,7.8nm,0.9s,mb4.4								
CAF	**Calviac**	**84.62**	**335**	*eP*		**P**	**11 17 14.9**	**+0.1**
CAF					pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.5								
LFF	**La Frestale**	**85.00**	**336**	*eP*		**P**	**11 17 16.2**	**-0.5**
	comp=Z,13nm,0.6s,mb4.5								
LFF	**La Frestale**	**85.00**	**336**	*eP*		**P**	**11 17 16.2**	**-0.5**
	comp=Z,6.7nm,0.6s,mb4.5								
LFF	**La Frestale**	**85.00**	**336**	*eP*		**P**	**11 17 16.2**	**-0.5**
LFF					pmax	pmax			
	comp=Z,7.0nm,0.6s,mb4.6								
ETSF	**Etsaut**	**87.24**	**336**	*eP*		**P**	**11 17 26.8**	**-0.9**
	comp=Z,7.3nm,0.6s,mb4.3								
ETSF	**Etsaut**	**87.24**	**336**	*eP*		**P**	**11 17 26.8**	**-0.9**
	comp=Z,3.7nm,0.6s,mb4.3								
ETSF	**Etsaut**	**87.24**	**336**	*eP*		**P**	**11 17 26.8**	**-0.9**
ETSF					pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.3								
ESDC	**Sonseca Array**	**91.20**	**337**	P		**P**	**11 17 46.1**	**-0.2**
	comp=Z,0.5nm,0.4s,mb3.8,baz=9.2,slow=3.9,SNR=3.2								
ESDC	**Sonseca Array**	**91.20**	**337**	P		**P**	**11 17 46.1**	**-0.2**
VNA2	**Neumayer--Watz**	**150.94**	**198**	*e*		PKPdf	11 24 28.9	+3.5	
VNA2				*e*			11 25 32.2		
VNA3	**Neumayer Olymp**	**151.18**	**196**	*e*		PKPdf	11 24 29.1	+3.4	

DJA 10 11:29:47,1°95S×122°94E, h128km, MLv3.6/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.92**	**349**	P	Pn	11 30 09.5	+0.5
LUWI				S	Sn	11 30 27.5	+1.8
APSI	**Ampana**	**1.65**	**309**	P	Pn	11 30 17.5	+0.8
APSI				S	Sn	11 30 40.8	+1.4
MRSI	**Marisa**	**2.61**	**337**	P	Pn	11 30 29.2	+0.6
KMSI	**Cibinong**	**2.71**	**23**	P	Pn	11 30 30.1	+0.2

*ISCJB **10** 11:43:16.3±1.5, 8°.20S±0°.04×117°.88E±0°.03, h20km±13km, mb4.0/11, MS3.3/4, Error ellipse: s-maj=6.8km s-min=4.5km az=164.9*
*IDC **10** 11:43:16.0±0.8, 8°.34S×117°.68E, h0km, mb3.9/10, mb1 4.0/12, mb1mx4.0/23, mbtmp3.9/12, ML3.4/2, MS3.3/6, Ms1 3.3/6, ms1mx3.0/33, Error ellipse: s-maj=39.2km s-min=14.6km az=61.0*
*DJA **10** 11:43:19, 8°.15S×117°.83E, h41km, mb4.4/39*
*NEIC **10** 11:43:21.3±0.5, 8°.11S×118°.03E, h35km, mb3.9/1, Error ellipse: s-maj=19.0km s-min=7.9km az=59.0*

ISC 10 11:43:18.2±1.2, 8°.19S±0°.04×117°.85E±0°.03, h20km±10km, n59, σ1°14/66, mb4.0/11, MS3.3/4, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BMNI	**Bima**	**0.90**	**113**	P	**Pb**	**11 43 36.5**	**+1.3**
BMNI				S	**Sb**	**11 43 50.5**	**+3.7**
MTNI	**Mataram**	**1.72**	**255**	P	**Pn**	**11 43 48.1**	**+1.1**
SRBI	**Singaraja**	**2.61**	**272**	P	**Pn**	**11 43 59.7**	**+0.4**
SRBI				S	**Sn**	**11 44 29.6**	**-0.9**
DNP	**Denpasar**	**2.66**	**259**	P	**Pn**	**11 43 58.5**	**-1.4**
IGBI	**Denpasar**	**2.75**	**257**	P	**Pn**	**11 44 00.8**	**-0.3**
NBBI	**Negara**	**3.20**	**267**	P	**Pn**	**11 44 06.8**	**-0.6**
BKSI	**Bulukumba**	**3.64**	**38**	P	**Pn**	**11 44 12.8**	**-0.6**
BKSI				S	**Sn**	**11 44 55.1**	**-0.6**
JAGI	**Jajag, Banyuwa**	**3.67**	**265**	P	**Pn**	**11 44 12.9**	**-0.9**
JAGI				S	**Sn**	**11 44 56.0**	**-0.6**
KAPI	**Kappang**	**3.68**	**31**	*e*Pn	**Pn**	**11 44 12.3**	**-1.6**
KAPI	**Kappang**	**3.68**	**31**	P	**Pn**	**11 44 12.0**	**-2.0**
KMMI	**Kalianget**	**4.01**	**286**	P	**Pn**	**11 44 19.4**	**+0.8**
BLJI	**Banyuglugur**	**4.24**	**276**	P	**Pn**	**11 44 22.6**	**+0.9**
GMJI	**Gumukmas**	**4.36**	**269**	P	**Pn**	**11 44 23.2**	**-0.2**
MMRI	**Maumere**	**4.36**	**96**	P	**Pn**	**11 44 22.3**	**-1.1**
BNSI	**Bone**	**4.38**	**31**	P	**Pn**	**11 44 23.8**	**+0.1**
MJSI	**Majene**	**4.75**	**14**	P	**Pn**	**11 44 28.3**	**-0.4**
KBKI	**Kotabaru**	**5.14**	**341**	P	**Pn**	**11 44 33.8**	**-0.3**
	0.7nm2μm158nm,1.3s						
BBSI	**Bau Bau**	**5.40**	**60**	P	**Pn**	**11 44 37.1**	**-0.6**
	0.2nm1μm36nm,0.7s						
BBSI				S	**Sn**	**11 45 38.6**	**-0.7**
	0.2nm1μm36nm,0.7s						
TTSI	**Tana Toraja**	**5.47**	**21**	P	**Pn**	**11 44 39.6**	**+0.9**
	0.5nm2μm96nm,0.8s						
UGM	**Wanagama**	**7.26**	**272**	P	**Pn**	**11 45 01.3**	**-1.9**
	1.0nm129nm,1.4s						
LUWI	**Luwuk**	**8.63**	**35**	P	**Pn**	**11 45 21.6**	**-0.4**
	901nm20nm,1.0s						
FITZ	**Fitzroy Crossi**	**12.43**	**143**	Pn	**Pn**	**11 46 14.2**	**+0.1**
	0.1nm,0.3s,baz=315,slow=19,SNR=2.7						
FITZ				Sn	**Sn**	**11 48 30.4**	**-1.6**
	0.4nm,0.3s,baz=164,slow=12,SNR=3.5						
FITZ				LR	LR	11 52 06.7	
	comp=Z,96nm,18.5s,baz=321,slow=43						
FITZ	**Fitzroy Crossi**	**12.43**	**143**	*e*P	**Pn**	**11 46 17.7**	**+3.7**
	7.9nm,0.7s						
FITZ				*e*S	**Sn**	**11 48 25.6**	**-6.4**
FITZ	**Fitzroy Crossi**	**12.43**	**143**	Pn	**Pn**	**11 46 14.2**	**+0.1**
FITZ				Sn	**Sn**	**11 48 30.4**	**-1.6**
FITZ				LR	LR	11 52 06.7	
FITZ	**Fitzroy Crossi**	**12.43**	**143**	P	**Pn**	**11 46 13.0**	**-1.0**
	11nm,0.9s						
MBWA	**Marble Bar**	**13.02**	**172**	*e*P	**Pn**	**11 46 23.8**	**+1.7**
MBWA				*e*S	**Sn**	**11 48 36.5**	**-10**
MBWA	**Marble Bar**	**13.02**	**172**	P	**Pn**	**11 46 20.8**	**-1.3**
	13nm,3.4s						
SWI	**Sorong**	**15.21**	**62**	P	**Pn**	**11 46 53.3**	**+1.3**
	46nm,1.1s						
DAV	**Davao City (W)**	**17.01**	**27**	LR	LR	11 54 55.4	
	comp=Z,80nm,18.5s,baz=321,slow=41						
MEEK	**Meekatharra**	**18.36**	**178**	*e*P	**Pn**	**11 47 34.6**	**+2.9**
MEEK				*e*S	**Sn**	**11 50 41.1**	**-15**
WRA	**Warramunga Arr**	**19.78**	**128**	P	**Pn**	**11 47 47.8**	**-1.1**
	0.2nm,0.3s,baz=303,slow=13,SNR=18						
WRA	**Warramunga Arr**	**19.78**	**128**	P	**Pn**	**11 47 47.8**	**-1.1**
WRAB	**Tennant Creek**	**19.79**	**128**	*e*P	**Pn**	**11 47 48.3**	**-0.7**
	5.5nm,0.8s						
WRAB	**Tennant Creek**	**19.79**	**128**	P	**Pn**	**11 47 43.3**	**-5.6**
	17nm,0.9s						
WB2	**Warramunga Arr**	**19.79**	**128**	*e*P	**Pn**	**11 47 48.8**	**-0.2**
ASAR	**Alice Springs**	**21.76**	**137**	P	**P**	**11 48 09.9**	**+1.2**
	5.2nm,1.0s,mb3.9,baz=325,slow=12,SNR=32						
ASAR	**Alice Springs**	**21.76**	**137**	P	**P**	**11 48 09.9**	**+1.2**
KULM	**Kulim**	**21.76**	**307**	P	**P**	**11 48 08.3**	**-0.5**
	13nm,1.3s,mb4.2						
COEN	**Coen**	**25.49**	**105**	P	**P**	**11 48 42.6**	**-2.8**
CTA	**Charters Tower**	**29.91**	**116**	LR	LR	12 03 07.6	
	comp=Z,119nm,19.2s,MS3.5,baz=50,slow=40						
STKA	**Stephens Creek**	**32.30**	**140**	P	**P**	**11 49 46.9**	**+1.1**
	2.6nm,0.8s,mb4.1,baz=323,slow=8.1,SNR=6.5						
STKA				LR	LR	12 02 58.0	
	comp=Z,88nm,21.9s,MS3.4,baz=32,slow=37						
STKA	**Stephens Creek**	**32.30**	**140**	*e*P	**P**	**11 49 46.3**	**+0.5**
	2.0nm,0.7s,mb4.1						
STKA	**Stephens Creek**	**32.30**	**140**	P	**P**		
STKA					LR	11 49 46.9	+1.1
CMAR	**Chiang Mai Arr**	**32.39**	**325**	P	**P**	12 02 58.0	
	0.4nm,0.3s,mb3.7,baz=153,slow=7.0,SNR=5.1					**11 49 49.8**	**+3.0**
CMAR	**Chiang Mai Arr**	**32.39**	**325**	P	**P**		
KSRS	**Korea Array**	**46.37**	**11**	P	**P**	**11 49 49.8**	**+3.0**
	3.1nm,0.8s,mb4.3,baz=189,slow=8.6,SNR=7.1					**11 51 46.5**	**+3.4**
KSRS				LR	LR		
	comp=Z,15nm,19.5s,MS3.0,baz=120,slow=39					12 13 22.3	
MJAR	**Matsushiro Arr**	**48.43**	**22**	LR	LR		
	comp=Z,35nm,18.2s,MS3.4,baz=310,slow=38					12 13 53.8	
SONM	**Songino Array**	**56.70**	**351**	P	**P**		
	1.9nm,0.8s,mb4.2,baz=159,slow=4.5,SNR=5.5					**11 53 01.2**	**+1.0**
SONM	**Songino Array**	**56.70**	**351**	P	**P**		
MKAR	**Makanchi Array**	**63.23**	**333**	P	**P**	**11 53 01.2**	**+1.0**
	2.0nm,0.7s,mb4.4,baz=140,slow=6.4,SNR=8.0					**11 53 45.3**	**+0.2**
MKAR	**Makanchi Array**	**63.23**	**333**	P	**P**		
AAK	**Ala-Archa**	**64.17**	**326**	P	**P**	**11 53 45.3**	**+0.2**
	0.6nm,0.5s,mb3.9,baz=139,slow=9.3,SNR=2.7					**11 53 0.0**	**+1.5**
AAK	**Ala-Archa**	**64.17**	**326**	P	**P**		
KURK	**Kurchatov**	**67.78**	**334**	P	**P**	**11 53 0.0**	**+1.5**
	0.2nm,0.3s,mb3.7,baz=145,slow=5.5,SNR=2.8					**11 53 1.5**	**+1.2**
KURK	**Kurchatov**	**67.78**	**334**	P	**P**		
ZALV	**Zalesovo Beam**	**67.89**	**340**	P	**P**	**11 53 1.5**	**+1.2**
	0.5nm,0.4s,mb3.9,baz=134,slow=4.2,SNR=3.8					**11 54 15.7**	**+1.2**
ZALV	**Zalesovo Beam**	**67.89**	**340**	P	**P**		
MAW	**Mawson**	**69.61**	**200**	P	**P**	**11 54 15.7**	**+1.2**
	1.1nm,0.6s,mb3.9,baz=51,slow=6.5,SNR=5.9					**11 54 16.6**	**+1.5**
MAW	**Mawson**	**69.61**	**200**	P	**P**		
						11 54 25.8	**+0.1**

IDC 10 11:43:47.6±1.2, 16°.24S×178°.45W, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.9/19, mbtmp4.0/6, Error ellipse: s-maj=45.5km s-min=23.1km az=135.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**22.28**	**189**	P	P	11 48 46.3	-0.1
	2.3nm,0.3s,baz=11,slow=10,SNR=6.9						
STKA	**Stephens Creek**	**39.42**	**239**	P	P	11 51 19.9	+0.5
	1.5nm,0.6s,baz=77,slow=8.3,SNR=3.1						
WRA	**Warramunga Arr**	**44.92**	**258**	P	P	11 52 04.1	-0.4
	0.3nm,0.4s,baz=97,slow=7.2,SNR=6.5						
ASAR	**Alice Springs**	**45.22**	**253**	P	P	11 52 07.0	+0.1
	3.9nm,0.5s,baz=89,slow=7.8,SNR=47						
NVAR	**Mina Array Bea**	**78.26**	**44**	P	P	11 55 50.6	+1.1
	0.9nm,0.8s,baz=222,slow=9.2,SNR=5.8						
ILAR	**Eielson Array**	**84.28**	**13**	P	P	11 56 20.0	-0.8
	0.3nm,0.4s,baz=225,slow=5.0,SNR=9.1						

CASC 10 12:02:01.4±2.4, 9°.11N×82°.73W, h7km±16km, MD3.8, 1D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRU2	**Volcan**	**0.32**	**173**	*e*P	Pg	12 02 09.0	+1.4
BRU2				*e*S	Sg	12 02 14.1	+2.4
ACR	**Cerro Adams**	**0.63**	**224**	*i*P	Pg	12 02 14.3	+0.8
ACR				*e*S	Sg	12 02 24.0	+2.3
BUS	**Buena Vista**	**1.11**	**294**	*e*P	Pg	12 02 21.6	-1.1
URSC	**Urasca**	**1.26**	**305**	*e*P	Pn	12 02 24.8	-0.8
URSC				*e*S	Sg	12 02 41.2	-0.8
QCR	**Quepos**	**1.45**	**283**	*e*P	Pn	12 02 27.3	-0.8
QCR				*e*S	Sn	12 02 46.2	-1.2
SJS	**Escuela Geolog**	**1.55**	**302**	*e*P	Pn	12 02 29.5	+0.1
SJS				*e*S	Sn	12 02 49.9	+0.1
PRS1	**Puriscal**	**1.79**	**299**	*e*P	Pn	12 02 33.4	+0.6
CGA2	**Cerro Gallo 2**	**1.94**	**298**	*e*P	Pn	12 02 36.1	+1.3
CGA2				*e*S	Sn	12 03 01.7	+2.3

*NEIC **10** 12:03:47.4±4.2, 29°.82N×68°.36E, h10km, Error ellipse: s-maj=60.3km s-min=51.3km az=94.0*
*IDC **10** 12:03:54.8±4.0, 30°.70N×68°.40E, h0km, mb3.2/4, mb1 3.4/6, mb1mx3.3/30, mbtmp3.4/6, ML3.4/1, Error ellipse: s-maj=126.1km s-min=30.7km az=84.0*

ISC 10 12:03:54.2±2.5, 30°.6N±0°.1×67°.8E±0°.6, h10km, n14, σ1°24/14, mb3.2/4, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**4.12**	**15**	*e*Pn	**Pn**	**12 04 59.9**	**+2.8**
EKS2	**Erkin-Say**	**13.01**	**20**	Pn	**Pn**	**12 06 59.2**	**+0.2**
AAK	**Ala-Archa**	**13.20**	**22**	Pn	**Pn**	**12 07 01.8**	**+0.2**
	baz=195,slow=9.7						
AAK	**Ala-Archa**	**13.20**	**22**	Pn	**Pn**	**12 07 01.8**	**+0.2**
TKM2	**Tokmak 2**	**13.84**	**25**	*e*Pn	**Pn**	**12 07 10.6**	**+0.3**
	2.3nm,0.8s						
MKAR	**Makanchi Array**	**19.73**	**31**	P	**Pn**	**12 08 21.2**	**-4.1**
	0.1nm,0.3s,baz=217,slow=9.8,SNR=2.7						
MKAR	**Makanchi Array**	**19.73**	**31**	P	**Pn**	**12 08 21.2**	**-4.0**
KURK	**Kurchatov**	**21.71**	**19**	P	**P**	**12 08 42.6**	**-2.6**
	0.2nm,0.5s,mb2.9,baz=211,slow=11,SNR=3.2						
KURK	**Kurchatov**	**21.71**	**19**	P	**P**	**12 08 42.6**	**-2.6**
BVAR	**Borovoye Array**	**22.54**	**4**	P	**P**	**12 08 54.3**	**+0.3**
	0.6nm,0.6s,mb3.2,baz=193,slow=5.6,SNR=3.1						
BVAR	**Borovoye Array**	**22.54**	**4**	P	**P**	**12 08 54.3**	**+0.3**
ZALV	**Zalesovo Beam**	**26.43**	**23**	P	**P**	**12 09 29.8**	**-1.1**
	0.9nm,0.6s,mb3.5,baz=224,slow=10,SNR=4.7						
ZALV	**Zalesovo Beam**	**26.43**	**23**	P	**P**	**12 09 29.8**	**-1.1**
ASAR	**Alice Springs**	**83.20**	**122**	P	**P**	**12 16 21.5**	**+0.7**
	0.2nm,0.6s,mb3.3,baz=315,slow=5.6,SNR=5.1						

MEX 10 12:31:34.0±0.7, 17°.11N×101°.47W, h13km±12km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.50**	**0**	*i*P	Pg	12 31 42.5	-1.3
ZIIG				*i*S	Sg	12 31 49.6	-0.9
CAIG	**El Cayaco**	**1.15**	**93**	*i*P	Pb	12 31 52.2	-3.6
CAIG				*i*S	Sb	12 32 06.6	-4.0
ACX	**Acapulco**	**1.56**	**98**	*e*P	Pn	12 31 57.1	-4.3
ACX				*i*S	Sn	12 32 14.3	-7.2
MMIG	**Aquila**	**2.14**	**304**	*e*P	Pn	12 32 07.7	-1.7
MMIG				*i*S	Sn	12 32 30.8	-5.0
MZVM		**2.97**	**45**	*i*P	Pn	12 32 14.3	-6.5
PNIG	**Pinotepa**	**3.28**	**102**	*e*P	Pn	12 32 22.8	-2.3
PNIG				*i*S	Sn	12 32 59.5	-4.5
UTMO	**Huajuapan**	**3.57**	**78**	*i*P	Pn	12 32 26.0	-3.1
UTMO				*i*S	Sn	12 33 06.1	-5.1

*ISCJB **10** 12:40:46.5±0.7, 51°.48N±0°.06×178°.45W±0°.03, h58km±6km, mb4.6/75, MS3.4/7, Error ellipse: s-maj=10.4km s-min=3.5km az=177.6*
*NEIC **10** 12:40:47.6±0.6, 51°.46N×178°.45W, h54km±5km, mb4.6/56, Error ellipse: s-maj=8.7km s-min=3.2km az=174.0*
*IDC **10** 12:40:48.0±2.2, 51°.51N×178°.41W, h61km±18km, mb4.0/26, mb1 4.2/28, mb1mx4.1/33, mbtmp4.0/28, MS3.6/7, Ms1 3.6/7, ms1mx3.2/41, Error ellipse: s-maj=17.3km s-min=9.4km az=164.0*

ISC 10 12:40:47.9±0.7, 51°.53N±0°.06×178°.47W±0°.04, h54km±6km, n459, σ6°63/452, mb4.6/74, MS3.4/7, 166C-129D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AMKA	**Amchitka**	**1.41**	**265**	*e*P	**Pn**	**12 41 09.1**	**-2.0**
GSTR	**Great Sitkin T**	**1.60**	**68**	*e*Pn	**Pn**	**12 41 14.1**	**+0.3**
ATKA	**Atka Island**	**2.73**	**74**	P	**Pn**	**12 41 27.7**	**-1.6**
ATKA				S	**Sn**	**12 42 00.8**	**-0.3**
SMY	**Shemya**	**4.74**	**288**	P	**Pn**	**12 41 56.9**	**+0.2**
FX1	**Attu Island--F**	**5.32**	**288**	P	**Pn**	**12 42 05.3**	**+0.6**
	12nm,0.3s,baz=80,slow=2.9,SNR=46						
FX1				S	**Sn**	**12 43 09.4**	**+4.8**
	15nm,0.3s,baz=209,slow=19,SNR=3.3						
FX1				LR	LR	12 44 09.0	
	comp=Z,391nm,22.0s,baz=132,slow=38						
FX1	**Attu Island--F**	**5.32**	**288**	P	**Pn**	**12 42 05.2**	**+0.5**
NIKO	**Nikolski**	**6.08**	**72**	*e*Pn	**Pn**	**12 42 16.4**	**+1.3**
PETK	**Petropavlovsk-**	**14.65**	**286**	P	**Pn**	**12 44 12.2**	**+0.4**
	0.1nm,0.3s,baz=100,slow=16,SNR=3.2						
PETK	**Petropavlovsk-**	**14.65**	**286**	P	**Pn**	**12 44 12.2**	**+0.4**
OHAK	**Old Harbor**	**15.69**	**59**	*e*Pn	**Pn**	**12 44 22.8**	**-2.3**
	113nm,1.4s						
KDAK	**Kodiak Island**	**16.17**	**57**	P	**Pn**	**12 44 27.6**	**-3.6**
	3.5nm,0.3s,baz=264,slow=5.9,SNR=40						
KDAK	**Kodiak Island**	**16.17**	**57**	P	**Pn**	**12 44 27.6**	**-3.6**
RSO	**Redoubt South**	**16.83**	**48**	*e*P	**Pn**	**12 44 43.5**	**+3.9**
SLKM	**Skilak Lake**	**18.03**	**49**	*e*P	**Pn**	**12 44 55.3**	**+1.0**
PPLA	**Purkeydpie**	**18.07**	**41**	*e*P	**Pn**	**12 45 00.8**	**+6.1**
	96nm,1.8s						
BILL	**Bilibino**	**18.16**	**341**	*e*P	**Pn**	**12 44 57.6**	**+1.9**
	5.5nm,0.6s						
SEW	**Seward**	**18.29**	**51**	*e*P	**Pn**	**12 44 56.8**	**-0.6**
TRF	**Thorofare Moun**	**19.08**	**40**	*e*P	**Pn**	**12 45 07.3**	**+0.4**
	19nm,1.0s						
MCK	**McKinley**	**19.75**	**40**	*e*P	**Pn**	**12 45 14.1**	**-0.8**
	238nm,2.8s						
DIV	**Divide**	**20.30**	**49**	*e*P	**P**	**12 45 21.0**	**+2.0**
COLA	**College**	**20.66**	**38**	*e*P	**P**	**12 45 23.8**	**+1.0**
	9.8nm,0.8s						
RAGM	**Ragged Mountai**	**20.67**	**51**	*e*P	**P**	**12 45 17.9**	**-5.0**
	234nm,0.5s						
PAX	**Paxson**	**20.93**	**44**	*e*P	**P**	**12 45 26.2**	**+0.4**
	197nm,2.6s						
ILAR	**Eielson Array**	**21.00**	**39**	P	**P**	**12 45 24.3**	**-2.1**
	1.4nm,0.4s,baz=240,slow=9.9,SNR=31						
ILAR				PcP	PcP	12 49 30.2	-1.1
	1.2nm,0.4s,baz=283,slow=3.5,SNR=15						
ILAR				ScP	ScP	12 53 03.6	+0.3
	0.5nm,0.6s,baz=277,slow=3.6,SNR=10						
ILAR	**Eielson Array**	**21.00**	**39**	P	**P**	**12 45 24.3**	**-2.1**
ILAR				PcP	PcP	12 49 30.2	-1.1
ILAR				ScP	ScP	12 53 03.6	+0.3
COLD	**Coldfoot**	**21.02**	**31**	*e*P	**P**	**12 45 27.6**	**+1.0**
	56nm,2.3s,mb4.5						
PNL	**Peninsula**	**23.22**	**54**	P	**P**	**12 45 50.1**	**0.0**
EGAK	**Eagle**	**23.30**	**41**	*e*P	**P**	**12 45 50.3**	**-0.4**
	52nm,1.9s,mb4.6						
DAWY	**D

baz=41,SNR=5.4
MSO Missoula 41.22 70 eP P 12 48 26.7 -0.4
6.4nm,1.1s,mb4.2
B15A Bradely Ranch, 41.27 68 ⇑P P 12 48 27.1 -0.4
baz=41
E13A Victor 41.27 71 ⇑P P 12 48 27.7 +0.1
baz=41
G12A Big Creek, Yel 41.29 73 ⇑P P 12 48 27.9 +0.1
baz=41
D14A Greenough 41.34 70 ⇓P P 12 48 27.5 -0.7
baz=41,SNR=6.4
A16A West Butte Ran 41.50 66 ⇓P P 12 48 28.8 -0.6
baz=41
C15A Salmond Ranch, 41.51 68 ⇑P P 12 48 29.5 0.0
baz=41,SNR=11
F13A Darby 41.53 72 ⇓P P 12 48 29.7 -0.1
baz=41
CHMT Chamberlain Mo 41.58 70 eP P 12 48 29.4 -0.7
4.2nm,1.2s,mb3.9
E14A Clinton 41.70 70 ⇑P P 12 48 31.1 +0.1
baz=42
B16A M & M Farms, S 41.71 67 ⇓P P 12 48 30.6 -0.5
baz=42
H12A Diamond D Ranc 41.89 74 ⇑P P 12 48 32.5 -0.1
baz=42
D15A Lincoln 41.94 69 ⇑P P 12 48 32.4 -0.7
baz=42,SNR=6.5
G13A Cobalt 41.97 73 ⇑P P 12 48 33.5 +0.3
baz=42
C16A Fuhringer Ranc 42.00 68 ⇓P P 12 48 33.1 -0.4
baz=42,SNR=6.9
A17A Triple J Farms 42.02 66 ⇓P P 12 48 33.0 -0.6
baz=42
F14A Wisdom 42.09 71 ⇓P P 12 48 33.6 -0.7
baz=42
I12A Atlanta 42.14 75 ⇑P P 12 48 34.7 0.0
baz=42,SNR=6.3
E15A Deer Lodge 42.19 70 ⇑P P 12 48 34.7 -0.4
baz=42,SNR=6.1
H13A Challis 42.24 73 ⇓P P 12 48 35.5 0.0
baz=42
B17A L&G Farms, Che 42.29 67 ⇑P P 12 48 35.6 -0.3
baz=42
G14A Jackson 42.34 72 ⇓P P 12 48 36.2 -0.1
baz=42
D16A Dana Ranch, Ca 42.51 69 ⇑P P 12 48 37.4 -0.3
baz=42
HRY Holter Researc 42.52 69 eP P 12 48 37.6 -0.1
F15A Butte 42.59 71 ⇑P P 12 48 37.8 -0.6
baz=42
C17A Wharram Farm, 42.65 67 ⇓P P 12 48 38.3 -0.5
baz=43
I13A Wildhorse Cree 42.68 74 ⇑P P 12 48 39.5 +0.4
baz=43
HLID Hailey 42.70 75 ⇓P P 12 48 39.6 +0.4
baz=43
HLID Hailey 42.70 75 eP P 12 48 39.7 +0.5
63nm,2.8s,mb4.8
E16A East Helena 42.70 69 ⇑P P 12 48 38.8 -0.4
baz=43
H14A Leadore 42.74 73 ⇓P P 12 48 39.6 0.0
baz=43
B18A Beardsley Farm 42.82 66 ⇓P P 12 48 41.3 +1.1
baz=43
MCMT McKenzie Canyo 42.93 72 eP P 12 48 41.0 -0.1
2.0nm,0.5s,mb4.1
J13A Cove Ranch, Pi 42.94 75 ⇑P P 12 48 41.8 +0.6
baz=43
G15A Dillon 42.96 71 ⇓P P 12 48 41.5 +0.1
baz=43
EGMT Eagleton 43.03 66 ⇑P P 12 48 42.3 +0.5
baz=43
I14A Mackay 43.07 74 ⇓P P 12 48 42.4 +0.1
baz=43,SNR=8.3
A19A Klindworth Far 43.13 65 ⇑P P 12 48 42.7 0.0
baz=43
F16A Kennard Place, 43.13 70 ⇑P P 12 48 43.0 +0.3
baz=43
H15A Lima 43.17 72 ⇓P P 12 48 43.1 0.0
baz=43
BOZ Bozeman (W) 43.21 70 ⇑P P 12 48 43.2 -0.1
baz=43,SNR=13
BOZ Bozeman (W) 43.21 70 eP P 12 48 43.3 0.0
6.6nm,0.7s,mb4.5
E17A Martinsdale 43.22 69 ⇑P P 12 48 43.5 +0.1
baz=43,SNR=5.0
NVAR Mina Array Bea 43.33 83 P P 12 48 44.8 +0.4
1.1nm,0.7s,mb3.7,baz=293,slow=9.6,SNR=7.8
NVAR LR LR 13 03 36.8
comp=Z,128nm,21.4s,MS3.8,baz=317,slow=32
NVAR Mina Array Bea 43.33 83 P P 12 48 44.8 +0.4
NVAR LR LR 13 03 36.8
G16A Moss Hill, Enn 43.33 71 ⇑P P 12 48 44.1 -0.2
baz=43,SNR=8.3
J14A Carey 43.37 74 ⇑P P 12 48 45.2 +0.5
baz=43
D18A Linhart Farms, 43.44 67 ⇑P P 12 48 45.9 +0.7
baz=43
C19A Slack Wire Ran 43.58 66 ⇑P P 12 48 46.2 -0.2
baz=44,SNR=8.4
A20A Cobblestone Ra 43.62 64 ⇑P P 12 48 45.9 -0.7
baz=44,SNR=7.5
F17A Fitzpatrick Pl 43.63 70 ⇑P P 12 48 46.7 -0.1
baz=44
B20A Solberg Farm, 43.80 65 ⇑P P 12 48 48.2 +0.1
baz=44
G17A Pierce Place, 43.91 70 ⇓P P 12 48 49.1 +0.2
baz=44
H16A Russell Place, 43.95 71 ⇑P P 12 48 49.2 -0.1
baz=44,SNR=6.7
J15A Blackfoot 43.98 74 ⇑P P 12 48 49.6 0.0
baz=44
D19A Cripps Ranch, 43.98 67 ⇑P P 12 48 50.0 +0.5
baz=44
A21A Bergtoll Ranch 44.12 64 ⇓P P 12 48 50.7 0.0
baz=44
YMR Madison River 44.14 71 eP P 12 48 50.9 0.0
9.6nm,1.0s,mb4.5
F18A Big Timber 44.19 69 ⇑P P 12 48 51.5 +0.3
baz=44
I16A Newdale 44.28 72 ⇑P P 12 48 52.2 +0.2
baz=44
L14A Malta 44.28 76 ⇑P P 12 48 52.7 +0.7
baz=44,SNR=5.9
K15A Arbon 44.33 74 ⇑P P 12 48 53.4 +1.0
baz=44
E19A Rath Farm, Rou 44.42 68 ⇑P P 12 48 53.4 +0.3
baz=44
D20A Manuel Ranch, 44.45 67 ⇑P P 12 48 53.8 +0.5
baz=44
VES Vestal, Richgr 44.46 87 ⇑P P 12 48 54.1 +0.6
baz=44
H17A Grant Village 44.52 71 ⇑P P 12 48 55.3 +1.4
baz=44,SNR=5.7
LKWY Lake 44.53 71 eP P 12 48 55.1 +1.2
7.4nm,1.0s,mb4.5
IMW Indian Meadow 44.59 72 eP P 12 48 55.3 +0.9
4.1nm,0.9s,mb4.3
G18A Lazy EL Ranch, 44.60 70 ⇓P P 12 48 54.3 -0.2
baz=44
FLWY Flagg Ranch 44.63 72 eP P 12 48 55.8 +1.1
5.3nm,0.9s,mb4.4
C21A Desert Coulee 44.65 65 ⇑P P 12 48 55.0 +0.1
baz=45
F19A Roth Farm, Mol 44.66 69 ⇓P P 12 48 55.2 +0.2
baz=45
RRI2 Red Ridge 44.68 73 eP P 12 48 56.6 +1.5
22nm,1.8s,mb4.7
A22A Carney Farms, 44.69 63 ⇑P P 12 48 54.9 -0.2
baz=45
E20A Meyer Farm, Mu 44.78 67 ⇑P P 12 48 56.0 +0.1
baz=45
GRAC Grapevine Rang 44.79 84 ⇑P P 12 48 56.6 +0.4
baz=45
K16A Soda Springs 44.81 74 ⇓P P 12 48 57.7 +1.5
baz=45,SNR=7.1
L15A Malad City 44.81 75 ⇓P P 12 48 57.1 +0.8
baz=45
RLMT Red Lodge 44.88 70 ⇑P P 12 48 57.0 +0.3
baz=45,SNR=12
RLMT Red Lodge 44.88 70 eP P 12 48 57.3 +0.5
11nm,0.9s,mb4.7
H18A Shoshone NF, C 44.90 70 ⇑P P 12 48 56.9 0.0
baz=45
LOHW Long Hollow 44.95 72 eP P 12 48 58.7 +1.4
41nm,2.6s,mb4.8
B22A Reddig Ranch S 45.01 64 ⇓P P 12 48 57.5 -0.3
baz=45

J17A Brown Place, J 45.03 73 ⇑P P 12 48 58.4 +0.5
baz=45
R11A Troy Canyon, C 45.06 81 ⇑P P 12 48 58.3 0.0
baz=45
M15A Larsen Ranch, 45.10 76 ⇓P P 12 48 58.6 +0.1
baz=45
D21A La Casta Ranch 45.12 66 ⇑P P 12 48 58.8 +0.2
baz=45
H19A Powell 45.30 70 ⇑P P 12 49 00.2 +0.1
baz=45,SNR=8.1
BSC Santa Cruz Isl 45.32 89 ⇓P P 12 49 00.8 +0.4
baz=45
I18A Diamond G Ranc 45.37 72 ⇓P P 12 49 01.5 +0.9
baz=45
C22A Vida 45.38 65 ⇑P P 12 49 00.3 -0.4
baz=45
L16A Fish Haven 45.38 75 ⇑P P 12 49 01.5 +0.7
baz=45
N15A Stansbury Isla 45.39 77 ⇓P P 12 49 01.8 +0.9
baz=45
G20A Bridger 45.44 69 ⇓P P 12 49 00.9 -0.3
baz=45,SNR=10
B23A Brockton 45.49 63 ⇑P P 12 49 01.1 -0.4
baz=45
J18A Kendall Valley 45.53 72 ⇑P P 12 49 02.2 +0.2
baz=45
D22A Cohagen 45.54 66 ⇑P P 12 49 02.1 +0.2
baz=45,SNR=5.0
DUG Dugway 45.63 77 ⇑P P 12 49 02.9 +0.2
baz=46,SNR=10
DUG Dugway 45.63 77 eP P 12 49 03.2 +0.4
9.7nm,1.2s,mb4.6
I19A Meeteetse 45.66 71 ⇑P P 12 49 02.6 -0.4
baz=46
L17A Cokeville 45.67 74 ⇑P P 12 49 02.5 -0.5
baz=46
M16A Huntsville 45.68 75 ⇑P P 12 49 03.2 +0.1
baz=46,SNR=6.3
F21A Absaloka Mine, 45.74 68 ⇑P P 12 49 03.6 +0.1
baz=46
C23A Lambert 45.74 64 ⇑P P 12 49 03.4 -0.1
baz=46,SNR=6.0
LAO LASA Array 45.77 66 ⇑P P 12 49 03.6 -0.2
baz=46
LAO LASA Array 45.77 66 eP P 12 49 03.8 0.0
4.0nm,0.7s,mb4.5
A24A Westby 45.79 62 ⇓P P 12 49 03.6 -0.2
baz=46
O15A The Old Anders 45.79 77 ⇑P P 12 49 04.2 +0.2
baz=46
P14A Drum Mountains 45.84 78 ⇑P P 12 49 04.6 +0.2
baz=46,SNR=8.0
K18A Toltan Ranch, 45.85 73 ⇑P P 12 49 04.9 +0.5
baz=46
G21A Lodge Grass 46.03 68 ⇑P P 12 49 05.2 -0.6
baz=46
N16A Rees Ranch, Co 46.05 76 ⇓P P 12 49 06.5 +0.4
baz=46
BW06 Boulder Array 46.06 73 ⇑P P 12 49 06.1 0.0
baz=46,SNR=11
BW06 Boulder Array 46.06 73 eP P 12 49 05.9 -0.2
5.5nm,0.7s,mb4.6
PDAR Pinedale Array 46.06 73 P P 12 49 06.0 -0.1
5.9nm,0.6s,mb4.7,baz=331,slow=3.1,SNR=53
PDAR Pinedale Array 46.06 73 P P 12 49 06.0 -0.1
E22A Miles City 46.07 66 ⇓P P 12 49 06.2 +0.1
baz=46
J19A Crowheart 46.07 72 ⇓P P 12 49 06.6 +0.4
baz=46
D23A Lindsay 46.08 65 ⇓P P 12 49 06.4 +0.2
baz=46
Q14A Sevier Lake (B 46.09 79 ⇓P P 12 49 06.6 +0.3
baz=6,SNR=7.0
R13A O'Grain Ranch, 46.16 80 ⇑P P 12 49 07.5 +0.5
baz=46
M17A Scullys Gap (B 46.17 75 ⇓P P 12 49 07.0 +0.1
baz=46
I20A Worland 46.22 70 ⇓P P 12 49 07.5 +0.1
baz=46
GSC Goldstone 46.23 86 ⇓P P 12 49 07.9 +0.4
baz=46
L18A Fontenelle, Gr 46.28 74 ⇑P P 12 49 08.3 +0.5
baz=46
C24A Savage 46.32 64 ⇓P P 12 49 08.2 +0.1
baz=46
P15A Leamington 46.34 78 ⇓P P 12 49 08.6 +0.3
baz=46
N17A Moffit Pass 46.38 75 ⇓P P 12 49 09.1 +0.4
baz=46
E23A Ismay 46.40 66 ⇓P P 12 49 08.7 -0.1
baz=46
DAU Daniels Canyon 46.45 76 eP P 12 49 10.1 +0.9
K19A Absolon Red Bu 46.45 72 ⇑P P 12 49 08.6 -0.6
baz=46,SNR=9.9
MPU Maple Canyon 46.46 77 eP P 12 49 10.1 +0.8
3.6nm,0.6s,mb4.5
H21A Big Horn, Sher 46.47 69 ⇓P P 12 49 08.7 -0.6
baz=46,SNR=5.8
M18A Lyman 46.55 74 ⇑P P 12 49 09.8 -0.2
baz=46
L19A Farson 46.58 73 ⇑P P 12 49 09.8 -0.4
baz=46
J20A Shoshoni 46.59 71 ⇓P P 12 49 10.8 +0.5
baz=46
D24A Glendive 46.61 65 ⇑P P 12 49 10.0 -0.3
baz=46
Q15A Fillmore 46.63 79 ⇑P P 12 49 11.1 +0.5
baz=46
ARUT Antelope Range 46.73 81 eP P 12 49 11.1 -0.4
2.0nm,0.6s,mb4.2
SONM Songino Array 46.77 297 P P 12 49 12.1 +0.5
1.4nm,0.5s,mb4.2,baz=61,slow=7.0,SNR=9.6
SONM PcP PcP 12 50 43.9 -0.1
1.1nm,0.4s,baz=56,slow=3.1,SNR=5.6
SONM LR LR 13 08 53.9
comp=Z,90nm,19.1s,MS3.8,baz=137,slow=36
SONM Songino Array 46.77 297 P P 12 49 12.1 +0.5
SONM PcP PcP 12 50 43.9 -0.1
SONM LR LR 13 08 53.9
I21A Big Trails, Te 46.79 70 ⇑P P 12 49 11.3 -0.5
baz=47,SNR=5.2
HEC Hector,Ludlow 46.83 86 ⇑P P 12 49 11.0 -1.3
baz=47
K20A Yellowstone Ra 46.85 72 ⇓P P 12 49 12.0 -0.3
baz=47
H22A Clearmont 46.89 69 ⇓P P 12 49 12.1 -0.5
baz=47
CCUT Cedar City 46.93 81 eP P 12 49 13.5 +0.5
14nm,1.7s,mb4.6
J21A Lysite 46.98 71 ⇑P P 12 49 12.5 -0.7
baz=47
MSU Marysvale 47.05 79 eP P 12 49 14.3 +0.4
N18A Larsen Ranch, 47.06 75 ⇓P P 12 49 13.4 -0.5
baz=47
TMUT Trail Mountain 47.16 77 eP P 12 49 15.8 +1.1
7.1nm,0.9s,mb4.6
R15A Junction 47.18 79 ⇓P P 12 49 15.2 +0.3
baz=47
I22A 9 Mile Ranch, 47.22 70 ⇑P P 12 49 14.9 -0.2
baz=47,SNR=7.2
U13A Pakoon Wash 47.28 82 ⇓P P 12 49 15.8 +0.1
baz=47
GMRC Granite Mounta 47.28 85 ⇑P P 12 49 15.7 0.0
baz=47
P17A Butcher Ranch, 47.34 77 ⇑P P 12 49 16.3 +0.2
baz=47
N19A John Jarvie Ra 47.41 74 ⇓P P 12 49 16.8 +0.1
baz=47
Q16A Castle Valley 47.42 78 ⇓P P 12 49 17.1 +0.3
baz=47,SNR=6.4
S15A Panguitch 47.47 80 ⇓P P 12 49 16.9 -0.2
baz=47
J22A Midwest 47.51 70 ⇓P P 12 49 17.3 -0.1
baz=47,SNR=11
K21A Alcova 47.51 71 ⇑P P 12 49 16.6 -0.9
baz=47,SNR=5.8
P18A Preston Nutter 47.54 76 ⇑P P 12 49 18.0 +0.3
baz=47
R16A Teasdale 47.62 79 ⇑P P 12 49 19.0 +0.7
baz=48,SNR=9.3
M20A Sweetwater, Wa 47.64 73 ⇑P P 12 49 18.9 +0.5
baz=48
SRU San Rafael 47.69 77 ⇑P P 12 49 18.9 +0.1
baz=48,SNR=8.9
SRU San Rafael 47.69 77 eP P 12 49 19.2 +0.4
7.1nm,1.0s,mb4.7
U14A Mt Trumbull 47.76 82 ⇑P P 12 49 19.5 0.0
baz=48

O19A Miners Draw (B 47.81 75 ⇑P P 12 49 19.8 +0.1
baz=48,SNR=12
H24A Dirks Ranch, A 47.84 67 ⇓P P 12 49 19.1 -0.8
baz=48
L21A Rawlins 47.84 72 ⇓P P 12 49 19.8 -0.3
baz=48,SNR=7.8
T15A Red Dirt Ranch 47.87 81 ⇑P P 12 49 20.6 +0.3
baz=48,SNR=6.8
S16A Weppner Ranch, 47.91 79 ⇓P P 12 49 21.0 +0.4
baz=48,SNR=5.3
K22A Casper 47.93 71 ⇓P P 12 49 20.3 -0.4
baz=48
Q18A Rafter H Ranch 47.94 77 ⇓P P 12 49 20.5 -0.3
baz=48,SNR=7.3
N20A Spence Gulch, 48.00 74 ⇓P P 12 49 21.4 +0.2
baz=48
R17A Hanksville Air 48.01 78 ⇓P P 12 49 21.3 -0.1
baz=48,SNR=7.5
M21A Separation Pea 48.06 73 ⇑P P 12 49 21.7 0.0
baz=48
U15A North Rim 48.30 81 ⇑P P 12 49 23.7 0.0
baz=48,SNR=5.7
P19A Cripple Cowboy 48.30 76 ⇑P P 12 49 23.7 +0.1
baz=48,SNR=11
L22A Ellis Ranch, M 48.36 71 ⇓P P 12 49 24.1 +0.1
baz=48
O20A White River Ci 48.44 75 ⇓P P 12 49 24.2 -0.4
baz=48,SNR=6.7
S17A Black Ridge (B 48.45 79 ⇑P P 12 49 24.4 -0.3
baz=48,SNR=5.1
N21A Black Mountain 48.49 74 ⇑P P 12 49 24.7 -0.3
baz=48
RSSD Black Hills 48.51 68 eP P 12 49 24.2 -0.9
2.7nm,0.7s,mb4.4
R18A Canyonlands Na 48.53 78 ⇑P P 12 49 24.5 -0.8
baz=48
Q19A Hogan Spring (48.56 77 ⇑P P 12 49 24.9 -0.7
baz=48,SNR=8.7
J24A Dixon Ranch, L 48.62 69 ⇑P P 12 49 25.5 -0.5
baz=48
M22A Cedar Creek Ra 48.65 72 ⇓P P 12 49 26.1 -0.1
baz=48
L23A Garrett 48.74 71 ⇑P P 12 49 26.2 -0.7
baz=49,SNR=8.8
P20A De Beque 48.74 75 ⇓P P 12 49 26.6 -0.4
baz=49
V15A Kaibab Nationa 48.77 82 ⇑P P 12 49 27.1 -0.1
baz=49
MDND Maddock 48.82 61 ⇑P P 12 49 26.9 -0.5
baz=49
O21A Pagoda 48.85 74 ⇓P P 12 49 27.7 -0.2
baz=49
T17A Navajo Res., N 48.85 80 ⇑P P 12 49 27.5 -0.3
baz=49
S18A Hurst Farm, Bl 48.91 78 ⇓P P 12 49 27.8 -0.4
baz=49
R19A Curley Farm, L 48.98 77 ⇑P P 12 49 28.1 -0.7
baz=49,SNR=5.8
N22A Wattenberg Ran 49.10 73 ⇓P P 12 49 28.3 -1.4
baz=49
PV04 Paradox Valley 49.13 77 eP P 12 49 30.0 0.0
Q20A Ridgley Place, 49.14 76 ⇑P P 12 49 29.6 -0.4
baz=49
P21A Newcastle 49.30 75 ⇑P P 12 49 31.2 0.0
baz=49
T18A Mexican Hat 49.34 79 ⇑P P 12 49 30.7 -0.8
baz=49,SNR=5.8
N23A Red Feather La 49.35 72 ⇑P P 12 49 31.4 -0.1
baz=49
S19A Harvey Farm, M 49.40 78 ⇓P P 12 49 31.7 -0.3
baz=49,SNR=11
ULM Lac du Bonnet 49.43 57 P P 12 49 30.6 -1.4
3.5nm,0.8s,mb4.5,baz=106,slow=8.3,SNR=5.5
ULM Lac du Bonnet 49.43 57 P P 12 49 30.6 -1.4
WUAZ Wupatki 49.46 81 ⇑P P 12 49 32.5 0.0
baz=49
WUAZ Wupatki 49.46 81 eP P 12 49 32.9 +0.4
4.7nm,1.0s,mb4.5
PV01 Paradox Valley 49.49 77 eP P 12 49 32.1 -0.7
646nm,0.7s
R20A Redvale 49.58 77 ⇓P P 12 49 32.9 -0.4
baz=49,SNR=5.6
Q21A Lamborn Mesa, 49.66 76 ⇓P P 12 49 34.0 +0.1
baz=50,SNR=5.1
P22A Eagle 49.67 74 ⇓P P 12 49 34.6 +0.6
baz=50
V17A Tonalea, Kykot 49.75 81 ⇓P P 12 49 35.2 +0.5
baz=50
O23A Lake Granby, G 49.79 73 ⇑P P 12 49 35.0 +0.1
baz=50
U18A Rough Rock, Ch 49.80 79 ⇓P P 12 49 35.5 +0.4
baz=50
SMCO Snowmass 49.80 75 eP P 12 49 35.1 +0.1
2.5nm,0.8s,mb4.3
S20A Disappointment 49.82 77 ⇓P P 12 49 35.0 -0.2
baz=50,SNR=10
R21A Cimarron 49.97 76 ⇑P P 12 49 36.3 0.0
baz=50
Q22A Crested Butte, 50.04 75 ⇑P P 12 49 37.0 +0.1
baz=50,SNR=5.1
T19A Beclabito 50.05 79 ⇑P P 12 49 36.7 -0.3
baz=50,SNR=12
MVCO Mesa Verde 50.13 78 ⇓P P 12 49 37.8 +0.2
baz=50
MVCO Mesa Verde 50.13 78 eP P 12 49 37.5 0.0
48nm,2.2s,mb5.1
V18A Ganado 50.22 80 ⇑P P 12 49 38.2 -0.1
baz=50
ISCO Idaho Springs 50.23 73 ⇓P P 12 49 38.7 +0.5
baz=50
S21A Coal Bank Pass 50.27 77 ⇓P P 12 49 38.7 +0.1
baz=50,SNR=6.9
U19A Dine' College, 50.29 79 ⇑P P 12 49 38.8 +0.1
baz=50
P23A Jefferson 50.36 74 ⇑P P 12 49 39.1 -0.1
baz=50
R22A Saguache, Gunn 50.54 76 ⇑P P 12 49 41.3 +0.7
baz=50
U20A Newcomb 50.66 79 ⇑P P 12 49 42.0 +0.4
baz=50
Q23A Hartsel 50.66 74 ⇑P P 12 49 42.5 +1.0
baz=50
S22A 4UR Ranch, Cre 50.80 76 ⇓P P 12 49 43.1 +0.5
baz=51
Y17A Roosevelt 50.99 83 ⇓P P 12 49 44.1 0.0
baz=51
Q24A Divide 51.03 74 ⇑P P 12 49 44.6 +0.2
baz=51
V20A Brimhall 51.06 79 ⇑P P 12 49 44.5 -0.2
baz=51
U21A Nageezi 51.15 78 ⇓P P 12 49 45.5 +0.2
baz=51,SNR=7.6
BRSD Miller 51.22 65 ⇓P P 12 49 45.5 -0.2
baz=51
T22A Edith 51.23 77 ⇑P P 12 49 46.5 +0.7
baz=51
P25A Willow Gulch B 51.27 73 ⇓P P 12 49 46.7 +0.6
baz=51
S23A Nye Farm, Mont 51.33 76 ⇑P P 12 49 47.2 +0.6
baz=51
Y18A Canyon Day Jun 51.44 82 ⇓P P 12 49 47.6 +0.2
baz=51
X19A St. Johns 51.46 81 ⇓P P 12 49 47.9 +0.3
baz=51
W20A Ramah 51.49 80 ⇑P P 12 49 47.7 -0.1
baz=51
R24A Sanders Place, 51.53 75 ⇓P P 12 49 48.9 +0.8
baz=51
SDCO Great Sand Dun 51.60 75 ⇑P P 12 49 48.9 +0.2
baz=52,SNR=5.2
SDCO Great Sand Dun 51.60 75 eP P 12 49 49.1 +0.5
2.4nm,0.8s,mb4.2
OGNE Ogallala 51.63 70 ⇑P P 12 49 49.3 +0.5
baz=52
U22A Llaves 51.67 77 ⇑P P 12 49 49.4 +0.2
baz=52
T23A Casias Ranch, 51.74 76 ⇑P P 12 49 50.3 +0.6
baz=52
117A Oracle 51.81 84 ⇑P P 12 49 50.9 +0.7
baz=52
S24A Houchin Ranch, 51.85 75 ⇑P P 12 49 51.2 +0.7
baz=52
X20A Quemado 51.88 80 ⇓P P 12 49 51.0 +0.3
baz=52,SNR=6.1
R25A Fountain Ranch 52.08 74 ⇓P P 12 49 52.5 +0.4
baz=52
U23A El Rito 52.11 77 ⇓P P 12 49 52.7 +0.3
baz=52,SNR=6.6

118A Homack Ranch, 52.24 83 ⇓P P **12 49 53.9 +0.4**
baz=52

S25A Robets Cordova 52.30 75 ⇓P P **12 49 54.6 +0.7**
baz=52

T24A Torres, Weston 52.31 76 ⇑P P **12 49 54.6 +0.7**
baz=52,SNR=6.4

X21A Alamocita Cree 52.38 80 ⇑P P **12 49 55.0 +0.6**
baz=52

V23A Ortiz Mt. (NFS 52.50 78 ⇑P P **12 49 55.9 +0.6**
baz=52

T25A Trinidad 52.66 75 ⇓P P **12 49 56.8 +0.3**
baz=52,SNR=6.7

X22A Bernardo 52.81 79 ⇑P P **12 49 58.7 +1.1**
baz=53

ANMO Albuquerque 52.85 79 LR LR 13 11 49.4
comp=Z,44nm,18.6s,MS3.5,baz=306,slow=35

ECSD EROS Data Cent 52.98 64 *eP* P **12 49 57.4 -1.3**

V24A Rampart Ranch, 53.07 77 ⇓P P **12 50 00.3 +0.8**
baz=53

120A U Bar Ranch, L 53.13 82 ⇓P P **12 50 00.1 +0.1**
baz=53

U25A Circle Dot Ran 53.15 76 ⇑P P **12 50 00.0 0.0**
baz=53,SNR=6.5

Z21A St. Cloud Mine 53.21 81 ⇓P P **12 50 00.8 +0.2**
baz=53

Y22A Socorro 53.22 80 ⇑P P **12 50 01.2 +0.6**
baz=53

X23A Hourglass Bar 53.27 79 ⇓P P **12 50 01.2 +0.2**
baz=53

W24A Lazy 6 Ranch, 53.33 78 ⇑P P **12 50 02.0 +0.6**
baz=53

V25A Rancho No Teng 53.39 76 ⇑P P **12 50 02.1 +0.2**
baz=53

U26A Atchley Ranch, 53.55 75 ⇓P P **12 50 02.9 -0.1**
baz=53,SNR=7.4

BGNE Belgrade 53.59 67 ⇓P P **12 50 02.7 -0.6**
baz=54

220A Playas Peak, P 53.63 83 ⇑P P **12 50 04.0 +0.3**
baz=54

121A Cookes Peak, D 53.67 82 ⇓P P **12 50 04.0 +0.1**
baz=54

Z22A Elephant Butte 53.68 80 ⇑P P **12 50 04.6 +0.6**
baz=54

X24A Lazy VL Ranch, 53.74 78 ⇓P P **12 50 04.7 +0.2**
baz=54

Y23A Lovelace Mesa, 53.78 79 ⇑P P **12 50 04.8 0.0**
baz=54,SNR=8.4

W25A X Bar L Ranch, 53.90 77 ⇑P P **12 50 05.3 -0.3**
baz=54,SNR=5.7

V26A Tequesquite Ra 53.92 76 ⇑P P **12 50 05.4 -0.4**
baz=54,SNR=7.3

ZALV Zalesovo Beam 54.08 314 PcP PcP 12 51 10.9 +0.1
3.0nm,0.6s,baz=42,slow=3.7,SNR=12

Y24A Capitan 54.17 79 ⇓P P **12 50 07.8 +0.2**
baz=54,SNR=6.9

CBKS Cedar Bluff 54.35 71 ⇑P P **12 50 08.7 -0.1**
baz=54

W26A Owens Ranch, T 54.41 77 ⇓P P **12 50 09.3 0.0**
baz=54

Y25A Mesa, Roswell 54.62 78 ⇓P P **12 50 10.4 -0.5**
baz=54

X26A CR and CF Fran 54.74 77 ⇓P P **12 50 11.2 -0.5**
baz=55

Z25A Roswell 55.05 79 ⇓P P **12 50 14.2 +0.2**
baz=55

224A Cornudas Mount 55.37 81 ⇓P P **12 50 15.9 -0.4**
baz=55

Z26A Caprock 55.50 78 ⇓P P **12 50 17.0 -0.3**
baz=55

125A Gardner Draw, 55.51 79 ⇓P P **12 50 17.1 -0.1**
baz=55

Y27A Causey 55.59 77 ⇑P P **12 50 17.6 -0.3**
baz=55

MSTX Muleshoe 55.77 77 ⇑P P **12 50 18.7 -0.4**
baz=56

225A Deer Hill, Car 55.78 80 ⇑P P **12 50 19.0 -0.3**
baz=56

AMTX Amarillo 55.81 75 ⇑P P **12 50 18.8 -0.6**
baz=56

Z27A Tatum 55.94 78 ⇓P P **12 50 19.6 -0.7**
baz=56

KSU1 Kansas State U 55.99 68 *eP* P **12 50 19.8 -0.8**
15nm,0.8s,mb5.1

325A Bean Ranch, Si 56.20 81 ⇓P P **12 50 21.9 -0.4**
baz=56

127A Arkansas Junct 56.29 78 ⇓P P **12 50 23.5 +0.6**
baz=56

425A Indio Mountain 56.59 81 ⇑P P **12 50 25.0 -0.1**
baz=56

227A Bennet, Jal 56.79 79 ⇑P P **12 50 26.1 -0.4**
baz=57

326A Caldwell Ranch 56.85 80 ⇓P P **12 50 26.5 -0.4**
baz=57

426A McDonald Obser 57.27 81 ⇓P P **12 50 29.5 -0.4**
baz=57

328A Wristen Ranch, 57.52 79 ⇓P P **12 50 31.1 -0.5**
baz=57

526A Mary Lane Ranc 57.65 81 ⇑P P **12 50 32.2 -0.3**
baz=58

527A Woodward Ranch 57.89 81 ⇑P P **12 50 33.7 -0.5**
baz=58

ARCES ARCESS Array B 57.98 350 P P **12 50 33.4 -0.9**
2.4nm,0.6s,mb4.4,baz=19,slow=7.6,SNR=32

ARCES ARCESS Array B 57.98 350 P P **12 50 33.4 -0.9**

626A Big Bend Ranch 57.98 82 ⇑P P **12 50 34.3 -0.6**
baz=58

428A Kincaid Ranch, 58.05 80 ⇓P P **12 50 34.9 -0.5**
baz=58

528A Cox Ranch, San 58.39 80 ⇓P P **12 50 37.1 -0.6**
baz=58

TXAR Lajitas Array 58.42 82 P P **12 50 37.3 -0.6**
1.2nm,0.6s,mb4.1,baz=301,slow=5.1,SNR=16

TXAR Lajitas Array 58.42 82 P P **12 50 37.3 -0.6**

627A Terlingua Ranc 58.51 81 ⇓P P **12 50 38.1 -0.5**
baz=58

TUL1 Tulsa 58.62 71 ⇑P P **12 50 38.5 -0.8**
baz=58

KURK Kurchatov 59.07 314 P P **12 50 41.8 -0.3**
1.8nm,0.5s,mb4.4,baz=42,slow=6.6,SNR=14

KURK PcP PcP 12 51 30.2 -0.1
1.1nm,0.5s,baz=42,slow=3.9,SNR=6.3

KURK Kurchatov 59.07 314 P P **12 50 41.8 -0.3**

KURK PcP PcP 12 51 30.2 -0.1

JCT Junction City 59.99 78 ⇑P P **12 50 48.2 -0.6**
baz=60

MKAR Makanchi Array 60.10 309 P P **12 50 47.2 -2.1**
1.5nm,0.4s,mb4.4,baz=45,slow=6.6,SNR=27

MKAR PcP PcP 12 51 33.1 -1.4
0.6nm,0.5s,baz=55,slow=4.2,SNR=5.0

MKAR Makanchi Array 60.10 309 P P **12 50 47.2 -2.1**

MKAR PcP PcP 12 51 33.1 -1.4

SFIN Scholer Farm 60.49 61 ⇓P P **12 50 51.6 -0.5**
baz=60

MIAR Mount Ida 60.88 70 *eP* P **12 50 54.1 -0.7**
56nm,2.1s,mb5.3

OLIL Olney 61.09 63 *eP* P **12 50 55.6 -0.5**
20nm,0.8s,mb5.3

WCI Wyandotte Cave 62.45 63 *eP* P **12 51 04.8 -0.4**
12nm,0.8s,mb5.1

WVT Waverly 63.08 65 *eP* P **12 51 08.6 -0.9**

OXF Oxford 63.33 68 *eP* P **12 51 09.9 -1.2**
22nm,0.9s,mb5.3

PLAL Pickwick Lake 63.76 66 *eP* P **12 51 12.8 -1.2**
14nm,0.8s,mb5.0

SWET Sewanee 64.81 65 *eP* P **12 51 20.1 -0.8**

FINES FINESS Array B 65.68 347 P P **12 51 24.9 -1.2**
2.0nm,0.6s,mb4.3,baz=22,slow=7.8,SNR=6.0

FINES FINESS Array B 65.68 347 P P **12 51 24.9 -1.2**

AAK Ala-Archa 66.93 310 *eP* P **12 51 34.8 +0.4**
2.2nm,0.6s,mb4.4

EKS2 Erkin-Say 67.25 310 *eP* P **12 51 37.4 +0.9**
5.6nm,1.2s,mb4.5

KMSC Kings Mountain 67.43 62 ⇑P P **12 51 37.3 -0.3**
baz=67

NOA NORSAR Array B 67.52 355 P P **12 51 37.3 -0.5**
1.8nm,0.8s,mb4.1,baz=5.0,slow=6.3,SNR=5.1

NOA NORSAR Array B 67.52 355 P P **12 51 37.3 -0.5**

GOGA Godfrey 67.52 64 *eP* P **12 51 37.5 -0.8**
12nm,0.8s,mb5.0

LSA Lhasa 67.59 290 P P **12 51 40.6 +1.9**
30nm,0.7s,mb5.4

ABKAR Akbulak array 67.94 323 *eP* P **12 51 39.8 -0.9**

LHS Liberty Hill 68.21 62 *eP* P **12 51 44.5 +1.9**

CMAR Chiang Mai Arr 71.20 276 P P **12 52 00.5 -0.7**
3.0nm,0.8s,mb4.3,baz=25,slow=6.7,SNR=16

CMAR Chiang Mai Arr 71.20 276 P P **12 52 00.5 -0.7**

TAPN Taplejung 71.35 290 *eP* P **12 52 03.2 +1.2**
108nm,0.8s

TAPN Taplejung 71.35 290 *eP* P **12 52 03.2 +1.2**
108nm,0.8s

ODAN Odare 71.91 290 *eP* P **12 52 06.3 +1.0**
28nm,0.7s,mb5.3

ODAN Odare 71.91 290 *eP* P **12 52 06.3 +1.0**
28nm,0.7s,mb5.3

GUN Gumba 71.99 292 *eP* P **12 52 07.0 +1.1**
238nm,0.5s

GUN Gumba 71.99 292 *eP* P **12 52 07.0 +1.1**
238nm,0.5s

KKN Kakani 72.43 293 *eP* P **12 52 09.5 +1.0**
73nm,0.6s

KKN Kakani 72.43 293 *eP* P **12 52 09.5 +1.0**
73nm,0.6s

PKI Pulchoki 72.52 292 *eP* P **12 52 09.9 +0.9**
57nm,0.6s,mb5.7

PKI Pulchoki 72.52 292 *eP* P **12 52 09.9 +0.9**
57nm,0.6s,mb5.7

PKIN Phulchoki 72.52 292 *eP* P **12 52 09.8 +0.8**
46nm,0.6s,mb5.6

GKN Gorkha 72.64 293 *eP* P **12 52 10.4 +0.7**
71nm,0.6s

GKN Gorkha 72.64 293 *eP* P **12 52 10.4 +0.7**
71nm,0.6s

DMN Daman 72.67 293 *eP* P **12 52 10.9 +1.0**

DMN Daman 72.67 293 *eP* P **12 52 10.9 +1.0**

DANN Dangsing 72.88 294 *eP* P **12 52 12.1 +1.0**
92nm,0.9s,mb5.7

DANN Dangsing 72.88 294 *eP* P **12 52 12.1 +1.0**
92nm,0.9s,mb5.7

KOLN Koldanda 73.41 294 *eP* P **12 52 15.1 +0.8**
34nm,0.9s,mb5.3

KOLN Koldanda 73.41 294 *eP* P **12 52 15.1 +0.8**
34nm,0.9s,mb5.3

AKASG Malin Array Be 75.47 342 P P **12 52 25.1 -0.8**
1.2nm,0.3s,mb4.3,baz=20,slow=6.3,SNR=5.1

AKASG Malin Array Be 75.47 342 P P **12 52 25.1 -0.7**

GERES GERESS Array B 79.47 352 P P **12 52 47.5 -0.6**
0.3nm,0.4s,mb3.6,baz=12,slow=5.1,SNR=3.7

GERES GERESS Array B 79.47 352 P P **12 52 47.5 -0.6**

WRA Warramunga Arr 82.27 224 P P **12 53 01.0 -2.3**
1.2nm,0.7s,mb3.9,baz=32,slow=5.9,SNR=4.5

WRA Warramunga Ar 82.27 224 P P **12 53 01.0 -2.3**

PSI Prapat 83.21 266 P P **12 53 07.7 -0.9**
8.4nm,0.5s,mb5.0,baz=42,slow=2.5,SNR=9.3

PSI Prapat 83.21 266 P P **12 53 07.7 -0.9**

PSI Prapat 83.21 266 P P **12 53 07.7 -0.8**

PSI pmax pmax
comp=Z,8.0nm,0.5s,mb5.0

FITZ Fitzroy Crossi 84.72 232 P P **12 53 14.8 -1.2**
comp=Z,4.8nm,0.8s,mb4.7,baz=51,slow=2.4,SNR=5.5

FITZ Fitzroy Crossi 84.72 232 P P **12 53 14.8 -1.2**

BRTR Keskin Array B 84.89 336 P P **12 53 15.7 -1.1**
comp=Z,3.3nm,0.8s,mb4.5,baz=38,slow=2.8,SNR=7.8

BRTR Keskin Array B 84.89 336 P P **12 53 15.7 -1.1**

ASAR Alice Springs 85.74 223 P P **12 53 20.0 -0.9**
comp=Z,2.1nm,0.7s,mb4.5,baz=24,slow=5.7,SNR=9.5

ASAR Alice Springs 85.74 223 P P **12 53 20.0 -0.9**

POO Poona 86.18 295 *ex* P **12 53 21.0 -2.4**

STKA Stephens Creek 90.17 213 P P **12 53 41.5 -0.4**
comp=Z,3.6nm,0.7s,mb4.8,baz=337,slow=6.5,SNR=4.7

STKA LR LR 13 33 18.6
comp=Z,58nm,19.9s,MS4.0,baz=24,slow=35

STKA Stephens Creek 90.17 213 P P **12 53 41.5 -0.4**

STKA LR LR 13 33 18.6

TORD Torodi Ar. Bea 115.60 360 PKP PKPdf 12 59 22.4 -1.7
comp=Z,0.5nm,0.3s,baz=349,slow=2.3,SNR=12

DBIC Dimbokro 121.77 7 PKP PKPdf 12 59 34.9 -1.1
comp=Z,2.4nm,0.4s,baz=7.8,slow=3.4,SNR=14

TSUM Tsumeb 145.35 333 *eP* PKPbc 13 00 19.1 -0.4

MAW Mawson 146.73 218 PKPbc PKPbc 13 00 21.5 -0.8
comp=Z,7.2nm,0.9s,baz=94,slow=4.3,SNR=15

LBTB Lobatse 147.77 316 PKPbc PKPbc 13 00 26.7 +0.3
comp=Z,27nm,0.6s,baz=20,slow=1.5,SNR=59

BOSA Boshof 151.03 313 PKPbc PKPbc 13 00 34.4 0.0
comp=Z,10nm,0.7s,baz=28,slow=2.2,SNR=29

*ISCJB **10** 12:44:39.4±2.0, 3.°32N±0.°05×145.°58E±0.°06, h7km±12km, mb4.7/57, MS3.8/20, Error ellipse: s-maj=10.6km s-min=7.9km az=1.0*

*BJI **10** 12:44:39.1, 3.°33N×145.°64E, h8km, mB5.2/23, mb4.8/27, Ms4.9/16, Ms7 4.6/17*

*IDC **10** 12:44:39.5±0.5, 3.°33N×145.°75E, h0km, mb4.5/19, mb1 4.7/19, mb1mx4.6/23, mbtmp4.5/19, MS3.7/17, Ms1 3.7/17, ms1mx3.5/30, Error ellipse: s-maj=22.6km s-min=12.0km az=94.0*

*NEIC **10** 12:44:41.3±0.2, 3.°33N×145.°52E, h10km, mb5.0/19, Error ellipse: s-maj=8.6km s-min=6.0km az=90.0*

*MOS **10** 12:44:43.1±1.2, 3.°35N×145.°51E, h33km, mb5.0/18, Error ellipse: s-maj=14.0km s-min=8.1km az=107.5*

*DJA **10** 12:45:01, 1.°66N×145.°08E, h26km, mb4.8/12*

ISC 10 12:44:43.8±2.2, 3.°30N±0.°05×145.°62E±0.°06, h25km±15km, h25km±1.9km; pP-P, n143, σ0.97/126, mb4.7/57, MS3.8/20, 1C-3D, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAY	**Jayapura**	**7.58**	**220**	P		**Pn**	**12 46 24.8**	**-8.0**
	0.8nm5µm91nm,0.9s							
SMPI	**Sarmi**	**8.68**	**233**	P		**Pn**	**12 46 49.1**	**+1.3**
	0.3nm90nm,0.8s							
GUMO	**Guam**	**10.25**	**356**	LR		LR	12 50 20.8	
	comp=Z,270nm,19.1s,baz=75,slow=33							
TNTI	**Ternate**	**18.41**	**263**	P		sP	12 49 08.8	+1.4
	40nm,1.3s							
LBMI	**Labuha**	**18.53**	**258**	P		Px	12 49 19.2	
HNR	**Honiara**	**19.07**	**132**	*eP*		**Pn**	**12 49 04.3**	**-1.2**
	78nm,0.7s							
HNR	**Honiara**	**19.07**	**132**	*eP*		**Pn**	**12 49 04.3**	**-1.2**
HNR				pmax		pmax		
	comp=Z,78nm,0.7s							
DAV	**Davao City (W)**	**20.30**	**281**	LR		LR	12 57 09.1	
	comp=Z,110nm,18.9s,MS3.2,baz=145,slow=37							
KMSI	**Cibinong**	**21.79**	**263**	P		**P**	**12 49 42.1**	**+7.9**
	comp=Z,4µmcomp=Z,179nm,1.0s,mb5.5							
LUWI	**Luwuk**	**23.24**	**260**	P		**P**	**12 49 55.4**	**+5.8**
	comp=Z,857nmcomp=Z,107nm,0.9s,mb5.3							
CTA	**Charters Tower**	**23.25**	**178**	P		**P**	**12 49 49.5**	**0.0**
	comp=Z,38nm,1.0s,mb4.8,baz=349,slow=9.6,SNR=15							
CTA				LR		LR	12 57 31.3	
	comp=Z,184nm,21.5s,MS3.5,baz=36,slow=33							
CTA	**Charters Tower**	**23.25**	**178**	*eP*		**P**	**12 49 50.3**	**+0.8**
	comp=Z,20nm,0.9s,mb4.6							
CTA	**Charters Tower**	**23.25**	**178**	P		**P**	**12 49 49.5**	**0.0**
CTA				LR		LR	12 57 31.3	
CTA	**Charters Tower**	**23.25**	**178**	P		**P**	**12 49 49.5**	**0.0**
CTAO	**Charters Tower**	**23.25**	**178**	*eP*		**P**	**12 49 50.0**	**+0.5**
	comp=Z,33nm,0.9s,mb4.8							
CTAO	**Charters Tower**	**23.25**	**178**	*eP*		**P**	**12 49 50.0**	**+0.5**
CTAO				pmax		pmax		
	comp=Z,33nm,0.9s,mb4.8							
CTAO	**Charters Tower**	**23.25**	**178**	P		**P**	**12 49 51.7**	**+2.2**
	comp=Z,42nm,1.2s,mb4.7							
MRSI	**Marisa**	**23.83**	**264**	P		**P**	**12 50 03.6**	**+8.3**
	comp=Z,16nm,0.8s,mb4.5							
CBIJ	**Chichi jima**	**23.89**	**352**	LR		LR	12 58 21.0	
	comp=Z,147nm,18.2s,MS3.5,baz=140,slow=34							
WRAB	**Tennant Creek**	**25.60**	**205**	*eP*		**P**	**12 50 11.1**	**-0.2**
	comp=Z,26nm,0.7s,mb4.9							
WRAB	**Tennant Creek**	**25.60**	**205**	*eP*		**P**	**12 50 11.1**	**-0.2**
WRAB				pmax		pmax		
	comp=Z,26nm,0.7s,mb4.9							
WRAB	**Tennant Creek**	**25.60**	**205**	P		**P**	**12 50 11.2**	**-0.1**
	comp=Z,65nm,0.8s,mb5.2							
WRA	**Warramunga Arr**	**25.61**	**205**	P		**P**	**12 50 11.2**	**-0.2**
	comp=Z,22nm,0.7s,mb4.8,baz=31,slow=10,SNR=53							
WRA				PcP		PcP	12 53 42.6	+0.5
	comp=Z,2.7nm,1.0s,baz=20,slow=2.9,SNR=6.0							
WRA				LR		LR	13 00 03.7	
	comp=Z,181nm,18.8s,MS3.6,baz=80,slow=36							
WRA	**Warramunga Ar**	**25.61**	**205**	P		**P**	**12 50 11.2**	**-0.2**
WRA				PcP		PcP	12 53 42.6	+0.5
WRA				LR		LR	13 00 03.7	
WRA	**Warramunga Arr**	**25.61**	**205**	P		P	**12 50 11.2**	**-0.2**
WRA							12 53 42.6	
BKSI	**Bulukumba**	**26.87**	**252**	P		**P**	**12 50 32.0**	**+9.1**
	comp=Z,16nm,0.8s,mb4.6							
KAPI	**Kappang**	**27.13**	**252**	*eP*		**P**	**12 50 22.8**	**-2.5**
	comp=Z,12nm,0.9s,mb4.4							
FITZ	**Fitzroy Crossi**	**28.98**	**222**	P		**P**	**12 50 41.7**	**+0.1**
	comp=Z,5.5nm,0.9s,mb4.3,baz=43,slow=11,SNR=10							
FITZ				LR		LR	13 02 26.1	
	comp=Z,137nm,20.4s,MS3.6,baz=60,slow=37							

FITZ Fitzroy Crossi 28.98 222 *eP* P **12 50 42.2 +0.5**
comp=Z,13nm,0.8s,mb4.7

FITZ Fitzroy Crossi 28.98 222 P P **12 50 41.7 0.0**

FITZ LR LR 13 02 26.1

FITZ Fitzroy Crossi 28.98 222 P P **12 50 48.3 +6.6**
comp=Z,11nm,0.9s,mb4.6

ASAR Alice Springs 29.13 202 P P **12 50 42.8 -0.1**
comp=Z,2.1nm,0.8s,mb3.9,baz=24,slow=7.8,SNR=35

ASAR PcP PcP 12 53 51.2 +0.8
comp=Z,2.9nm,0.9s,baz=50,slow=1.5,SNR=7.3

ASAR Alice Springs 29.13 202 P P **12 50 42.8 -0.1**

ASAR PcP PcP 12 53 51.2 +0.8

ASAR Alice Springs 29.13 202 P P **12 50 42.8 -0.1**

ASAR LR 12 53 51.3

QLP Quilpie 29.73 183 *eP* P **12 50 48.4 +0.2**

MJAR Matsushiro Arr 33.78 349 LR LR 13 03 54.0
comp=Z,35nm,19.1s,MS3.1,baz=170,slow=34

STKA Stephens Creek 35.19 186 P P **12 51 35.9 -0.1**
comp=Z,6.9nm,0.7s,mb4.7,baz=345,slow=8.1,SNR=22

STKA LR LR 13 06 23.7
comp=Z,170nm,20.0s,MS3.8,baz=24,slow=37

STKA Stephens Creek 35.19 186 *eP* P **12 51 35.4 -0.5**
comp=Z,5.8nm,0.7s,mb4.6

STKA Stephens Creek 35.19 186 P P **12 51 35.9 -0.1**

STKA LR LR 13 06 23.7

STKA Stephens Creek 35.19 186 P P **12 51 35.9 0.0**

KSRS Korea Array 37.67 337 P P **12 51 56.8 -0.3**
comp=Z,2.9nm,0.9s,mb4.0,baz=163,slow=9.1,SNR=6.0

MSVF Nonsavu 38.20 124 *eP* P **12 52 04.1 +2.3**
comp=Z,40nm,0.9s,mb5.2

MSVF *e* pP 12 52 11.6 +2.2

MSVF Nonsavu 38.20 124 *eP* P **12 52 04.1 +2.3**

MSVF *e* pP 12 52 11.6 +2.3

MSVF pmax pmax
comp=Z,40nm,0.9s,mb5.2

QIZ Qiongzhong 38.30 297 P P **12 52 01.1 -1.6**

QIZ S **S** **12 57 55.4 -0.3**

QIZ pmax pmax
comp=Z,750nm,6.5s

QIZ LR LR
comp=Z,1µm,5.4s

ARPS Mount Arapiles 40.02 185 *eP* P **12 52 17.1 +0.4**
comp=Z,41nm,0.8s,mb5.2

ASAJ Asahikawa 40.74 357 LR LR 13 06 36.1
comp=Z,77nm,20.9s,MS3.5,baz=175,slow=32

MORW Morawa 42.91 219 *eP* P **12 52 40.6 0.0**

MDJ Mudanjiang 43.51 343 P P **12 52 46.0 +0.8**

MDJ pmax pmax
comp=Z,6.0nm,0.9s,mb4.3

MDJ pmax pmax
comp=Z,110nm,6.4s

KLBR Kellerberrin 43.66 215 *eP* P **12 52 46.1 -0.5**
comp=Z,7.1nm,0.5s,mb4.7

GYA Guiyang 43.84 306 P P **12 52 49.0 +0.8**

GYA PP PP 12 54 31.7 +1.2

GYA ScP ScP 12 58 26.4 +1.6

GYA S **S** **12 59 18.0 +0.1**

GYA SS SS 13 02 26.8 -7.9

GYA pmax pmax
comp=Z,20nm,0.8s,mb4.9

GYA pmax pmax
comp=Z,120nm,4.7s

GYA LR LR
comp=N,560nm,17.2s,MS4.6

GYA LR LR
comp=E,440nm,17.7s,MS4.6

GYA LR LR
comp=Z,600nm,16.0s,MS4.6

CN2 Changchun 44.12 339 *eP* P **12 52 51.4 +1.3**

CN2 *es*P sP 12 52 58.4 -2.3

KULM Kulim 44.88 274 *eP* P **12 52 56.0 -0.7**
comp=Z,18nm,1.3s,mb4.8

NWAO Narrogin (SRO) 44.94 214 LR LR 13 11 26.8
comp=Z,149nm,19.3s,MS3.9,baz=356,slow=36

KMI Kunming 46.58 302 P P **12 53 11.4 +1.4**

KMI pmax pmax
comp=Z,6.0nm,0.7s,mb4.6

KLR Kul'dur 47.27 348 *eP* P **12 53 10.3 -4.6**

CD2 Chengdu 48.07 310 P P **12 53 22.2 +0.7**

CD2 pP pP 12 53 26.7 -2.4

CD2 sP sP 12 53 29.2 -3.0

CD2 PP PP 12 55 13.6 -0.2

CD2 S **S** **13 00 19.3 +0.7**

CD2 sS sS 13 00 26.5 -4.8

CD2 SS SS 13 03 42.4 -5.6

CD2 pmax pmax
comp=Z,20nm,0.5s,mb5.4

CD2 pmax pmax
comp=Z,180nm,4.8s

CD2 LR LR
comp=N,560nm,7.7s

CD2 LR LR
comp=Z,460nm,6.5s

CMAR Chiang Mai Arr 48.08 292 P P **12 53 23.1 +1.4**
comp=Z,2.5nm,0.9s,mb4.2,baz=114,slow=5.3,SNR=11

CMAR PcP PcP 12 54 50.6 +1.3
comp=Z,2.0nm,0.8s,baz=91,slow=1.8,SNR=5.3

CMAR Chiang Mai Arr 48.08 292 P P **12 53 23.1 +1.4**

CMAR PcP PcP 12 54 50.6 +1.3

CMAR Chiang Mai Arr 48.08 292 P P **12 53 23.1 +1.4**

CMAR 12 54 50.7

HHC Hu-ho-hao-te 48.34 325 *eP* P **12 53 24.0 +0.6**

HHC sP sP 12 53 30.8 -3.3

HHC PcP PcP 12 54 51.0 +1.1

HHC PP PP 12 55 16.0 -0.1

HHC ScP ScP 12 58 44.0 +0.8

HHC S **S** **13 00 23.3 +1.1**

HHC sS sS 13 00 30.0 -4.8

HHC pmax pmax
comp=Z,22nm,0.6s,mb5.4

HHC pmax pmax
comp=Z,220nm,5.3s

HHC LR LR
comp=N,120nm,11.5s,MS4.4

HHC LR LR
comp=E,210nm,12.1s,MS4.4

HHC LR LR
comp=Z,190nm,12.3s,MS4.3

LZH Lanzhou 50.46 316 *eP* P **12 53 40.1 +0.4**

LZH pP pP 12 53 43.4 -4.0

LZH sP sP 12 53 44.8 -5.6

LZH PP PP 12 55 36.2 +0.6

LZH pmax pmax
comp=Z,21nm,1.3s,mb5.0

LZH pmax pmax
comp=Z,67nm,6.7s

LZH LR LR
comp=E,460nm,15.0s

LZH LR LR
comp=Z,540nm,17.8s,MS4.6

PETK Petropavlovsk- 50.64 9 P P **12 53 40.3 -0.4**
comp=Z,7.4nm,0.9s,mb4.6,baz=186,slow=4.5,SNR=6.2

PETK LR LR 13 12 49.6
comp=Z,65nm,18.4s,MS3.7,baz=7.9,slow=33

PETK Petropavlovsk- 50.64 9 P P **12 53 40.3 -0.4**

PETK LR LR 13 12 49.6

PETK Petropavlovsk- 50.64 9 P P **12 53 40.3 -0.4**

FX1 Attu Island--F 54.41 20 LR LR 13 13 20.7
comp=Z,141nm,19.5s,MS4.0,baz=55,slow=32

GTA Gaotai 54.88 317 *eP* P **12 54 13.3 +1.0**

GTA pP pP 12 54 16.9 -3.2

GTA sP sP 12 54 19.7 -3.4

GTA pmax pmax
comp=Z,5.0nm,1.1s,mb4.5

ULN Ulaanbaatar 55.40 329 *eP* P **12 54 15.3 -0.6**
comp=Z,13nm,1.4s,mb4.8

ULN *e* pP 12 54 23.7 0.0

ULN Ulaanbaatar 55.40 329 *eP* P **12 54 15.3 -0.6**

ULN *e* pP 12 54 23.7 0.0

ULN pmax pmax
comp=Z,13nm,1.4s,mb4.8

ULN Ulaanbaatar 55.40 329 P P **12 54 18.5 +2.6**

SONM Songino Array 55.72 329 P P **12 54 18.9 +0.7**
comp=Z,2.1nm,0.8s,mb4.2,baz=138,slow=6.8,SNR=8.4

SONM Songino Array 55.72 329 P P **12 54 18.9 +0.7**

SONM Songino Array 55.72 329 P P **12 54 18.9 +0.7**

ZAK Zakamensk 58.91 330 *eP* P **12 54 39.1 -1.6**

ZAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5

TLY Talaya 59.55 331 *eP* P **12 54 47.0 +1.9**

TLY pmax pmax
comp=Z,6.0nm,1.0s,mb4.6

SEY Seymchan 59.71 4 *i* P P **12 54 45.1 -0.9**

YAK Yakutsk 59.80 351 *eP* P **12 54 45.6 -1.0**
comp=Z,12nm,0.6s,mb5.1

YAK	**Yakutsk**	**59.80**	**351**	*e*P		**P**	**12 54 45.4**	**-1.2**
YAK				pmax	pmax				
	comp=Z,13nm,0.8s,mb5.0								
WMQ	**Urumqi**	**64.97**	**317**	P		**P**	**12 55 22.2**	**+0.6**
WMQ				LR	LR				
	comp=Z,56nm,18.2s,MS3.8								
BILL	**Bilibino**	**66.15**	**8**	*e*P		**P**	**12 55 28.8**	**+0.1**
BILL				*e*			12 55 40.1		
BILL				pmax	pmax				
	comp=Z,9.0nm,1.3s,mb4.6								
MK31	**Makanchi Array**	**69.55**	**319**	*i* P		**P**	**12 55 50.6**	**0.0**
MK31				pmax	pmax				
	comp=Z,3.0nm,0.7s,mb4.3								
MKAR	**Makanchi Array**	**69.55**	**319**	P		**P**	**12 55 50.7**	**+0.1**
	comp=Z,2.0nm,0.7s,mb4.2,baz=94,slow=7.3,SNR=16								
MKAR	**Makanchi Array**	**69.55**	**319**	P		**P**	**12 55 50.7**	**+0.1**
MKAR	**Makanchi Array**	**69.55**	**319**	P		**P**	**12 55 50.7**	**+0.1**
ZALV	**Zalesovo Beam**	**70.49**	**327**	P		**P**	**12 55 55.4**	**-0.8**
	comp=Z,1.6nm,0.6s,mb4.2,baz=117,slow=5.2,SNR=7.2								
ZALV	**Zalesovo Beam**	**70.49**	**327**	P		**P**	**12 55 55.4**	**-0.8**
ZALV	**Zalesovo Beam**	**70.49**	**327**	P		**P**	**12 55 55.4**	**-0.8**
NVS	**Novosibirsk**	**71.68**	**327**	*e*P		**P**	**12 56 00.1**	**-3.3**
KURK	**Kurchatov**	**73.02**	**322**	P		**P**	**12 56 10.3**	**-1.1**
	comp=Z,2.1nm,0.2s,mb4.7,baz=108,slow=5.4,SNR=17								
KURK	**Kurchatov**	**73.02**	**322**	*e*P		**P**	**12 56 10.8**	**-0.7**
	comp=Z,16nm,1.1s,mb4.8								
KURK				*e*		pP	12 56 19.1	-0.4	
KURK	**Kurchatov**	**73.02**	**322**	⇓*i* P		**P**	**12 56 10.8**	**-0.7**
KURK				pmax	pmax				
	comp=Z,18nm,1.2s,mb4.9								
TKM2	**Tokmak 2**	**73.18**	**314**	*e*P		**P**	**12 56 13.2**	**+0.6**
	comp=Z,6.0nm,1.3s,mb4.4								
TKM2	**Tokmak 2**	**73.18**	**314**	*e*P		**P**	**12 56 13.2**	**+0.6**
TKM2				pmax	pmax				
	comp=Z,6.0nm,1.3s,mb4.4								
AAK	**Ala-Archa**	**73.93**	**313**	⇓*e*P		**P**	**12 56 15.0**	**-2.0**
AAK				pmax	pmax				
	comp=Z,1.0nm,1.1s,mb3.7								
MCK	**McKinley**	**76.36**	**25**	*e*P		**P**	**12 56 30.7**	**+0.1**
	comp=Z,17nm,1.1s,mb4.9								
MCK	**McKinley**	**76.36**	**25**	*e*P		**P**	**12 56 30.7**	**+0.1**
MCK				pmax	pmax				
	comp=Z,17nm,1.1s,mb4.9								
KK31	**Karatay Array**	**76.89**	**313**	*i* P		**P**	**12 56 33.1**	**-0.9**
KK31				pmax	pmax				
	comp=Z,1.0nm,0.3s,mb4.2								
KKAR	**Karatay Array**	**76.89**	**313**	*e*P		**P**	**12 56 33.1**	**-0.9**
KKAR	**Karatay Array**	**76.89**	**313**	*e*P		**P**	**12 56 33.1**	**-0.9**
COLD	**Coldfoot**	**77.18**	**21**	*e*P		**P**	**12 56 36.4**	**+1.2**
	comp=Z,12nm,1.2s,mb4.7								
ILAR	**Eielson Array**	**77.56**	**24**	P		**P**	**12 56 35.9**	**-1.4**
	comp=Z,4.3nm,0.8s,mb4.4,baz=250,slow=5.7,SNR=53								
ILAR	**Eielson Array**	**77.56**	**24**	P		**P**	**12 56 35.9**	**-1.4**
ILAR	**Eielson Array**	**77.56**	**24**	P		**P**	**12 56 35.9**	**-1.4**
BVA0	**Borovoye Array**	**78.51**	**323**	*i* P		**P**	**12 56 42.4**	**-0.4**
BVA0				pmax	pmax				
	comp=Z,2.0nm,0.8s,mb4.1								
BRVK	**Borovoye**	**78.58**	**323**	*e*P		**P**	**12 56 43.1**	**0.0**
	comp=Z,8.0nm,0.9s,mb4.7								
BRVK				*e*		pP	12 56 50.9	-0.3	
BRVK	**Borovoye**	**78.58**	**323**	*e*P		**P**	**12 56 43.2**	**0.0**
BRVK				*e*		pP	12 56 50.9	-0.3	
BRVK				pmax	pmax				
	comp=Z,8.0nm,0.9s,mb4.7								
EGAK	**Eagle**	**79.92**	**25**	*e*P		**P**	**12 56 50.5**	**+0.2**
	comp=Z,60nm,1.8s,mb5.2								
EGAK				*e*		pP	12 56 59.7	+1.4	
DAWY	**Dawson**	**80.50**	**26**	*e*P		**P**	**12 56 53.8**	**+0.4**
DAWY				*e*		pP	12 57 02.1	+0.6	
VNDA	**Vanda**	**81.21**	**176**	P		**P**	**12 56 56.6**	**-0.4**
	comp=Z,4.0nm,0.8s,mb4.4,baz=322,slow=5.8,SNR=15								
VNDA				LR	LR		13 30 29.3		
	comp=Z,57nm,20.6s,MS3.9,baz=340,slow=34								
VNDA	**Vanda**	**81.21**	**176**	P		**P**	**12 56 56.6**	**-0.4**
VNDA				LR	LR		13 30 29.3		
VNDA	**Vanda**	**81.21**	**176**	P		**P**	**12 56 56.6**	**-0.4**
INK	**Inuvik**	**83.57**	**22**	P		**P**	**12 57 09.1**	**-0.4**
	comp=Z,7.4nm,1.0s,mb4.8,baz=229,slow=4.9,SNR=14								
INK				LR	LR		13 30 58.6		
	comp=Z,40nm,20.4s,MS3.8,baz=287,slow=33								
INK	**Inuvik**	**83.57**	**22**	*e*P		**P**	**12 57 09.0**	**-0.5**
	comp=Z,7.4nm,1.0s,mb4.8								
INK				*e*		pP	12 57 17.2	-0.4	
INK	**Inuvik**	**83.57**	**22**	*e*P		**P**	**12 57 09.0**	**-0.5**
INK				*e*		pP	12 57 17.2	-0.4	
INK				pmax	pmax				
	comp=Z,7.0nm,1.0s								
DLBC	**Dease Lake**	**84.25**	**32**	P		**P**	**12 57 12.7**	**-0.4**
	comp=Z,5.9nm,0.9s,mb4.7,baz=276,slow=1.8,SNR=7.7								
DLBC	**Dease Lake**	**84.25**	**32**	P		**P**	**12 57 12.7**	**-0.4**
SVE	**Sverdlovsk**	**84.51**	**327**	*e*P		**P**	**12 57 15.0**	**+0.5**
SVE				pmax	pmax				
	comp=Z,25nm,1.4s,mb5.2								
AB31	**Akbulak array**	**84.69**	**319**	*i* P		**P**	**12 57 14.5**	**-1.1**
AB31				pmax	pmax				
	comp=Z,4.0nm,0.6s,mb4.7								
ABKAR	**Akbulak array**	**84.69**	**319**	*e*P		**P**	**12 57 14.8**	**-0.8**
	comp=Z,2.9nm,0.5s,mb4.7								
ABKAR				*e*		pP	12 57 22.8	-0.9	
ARU	**Arti**	**85.64**	**326**	*e*P		**P**	**12 57 18.8**	**-1.4**
	comp=Z,11nm,1.0s,mb5.0								
ARU				*e*		pP	12 57 27.4	-0.9	
ARU	**Arti**	**85.64**	**326**	*e*P		**P**	**12 57 18.8**	**-1.4**
ARU				*e*		pP	12 57 27.5	-0.8	
ARU				pmax	pmax				
	comp=Z,11nm,1.0s,mb5.0								
MAW	**Mawson**	**90.26**	**202**	P		**P**	**12 57 41.9**	**-0.1**
	comp=Z,2.5nm,0.9s,mb4.5,baz=109,slow=6.7,SNR=5.5								
MAW				LR	LR		13 33 44.0		
	comp=Z,54nm,20.2s,MS4.0,baz=354,slow=33								
MAW	**Mawson**	**90.26**	**202**	P		**P**	**12 57 41.9**	**-0.1**
MAW				LR	LR		13 33 44.0		
YKA	**Yellowknife Ar**	**91.61**	**27**	P		**P**	**12 57 48.3**	**-0.1**
	comp=Z,1.8nm,0.8s,mb4.5,baz=282,slow=4.7,SNR=3.8								
YKA	**Yellowknife Ar**	**91.61**	**27**	P		**P**	**12 57 48.3**	**-0.1**
YKA	**Yellowknife Ar**	**91.61**	**27**	P		**P**	**12 57 48.3**	**-0.1**
NVAR	**Mina Array Bea**	**92.73**	**51**	P		**P**	**12 57 54.7**	**+0.5**
	comp=Z,2.2nm,0.8s,mb4.6,baz=270,slow=5.5,SNR=13								
NVAR	**Mina Array Bea**	**92.73**	**51**	P		**P**	**12 57 54.7**	**+0.5**
QSPA	**South Pole Qui**	**93.20**	**180**	*e*P		**P**	**12 57 56.1**	**+0.7**
	comp=Z,12nm,1.1s,mb5.2								
APA	**Apatity**	**95.28**	**339**	⇑*e*P		**P**	**12 58 08.2**	**+2.9**
APA				pmax	pmax				
	comp=Z,9.0nm,0.6s,mb5.4								
APA				MLR	MLR				
	comp=Z,600nm,19.0s								
DUG	**Dugway**	**96.70**	**49**	*e*P		**P**	**12 58 13.4**	**+1.1**
	comp=Z,12nm,1.8s,mb5.0								
DUG	**Dugway**	**96.70**	**49**	*e*P		**P**	**12 58 13.4**	**+1.1**
DUG				pmax	pmax				
	comp=Z,13nm,1.8s,mb5.1								
ARCES	**ARCESS Array B**	**97.05**	**342**	LR		LR	13 43 21.8		
	comp=Z,58nm,19.9s,MS4.1,baz=228,slow=36								
PDAR	**Pinedale Array**	**98.59**	**46**	LR		LR	13 33 57.8		
	comp=Z,58nm,21.3s,MS4.0,baz=74,slow=30								
GERES	**GERESS Array B**	**113.44**	**328**	PKiKP		PKiKP	13 03 19.7	0.0	
	comp=Z,0.3nm,0.2s,baz=76,slow=1.7,SNR=3.8								
GERES	**GERESS Array B**	**113.44**	**328**	PKPdf		PKiKP	13 03 19.7	0.0	
GERES	**GERESS Array B**	**113.44**	**328**	PKiKP		PKiKP	13 03 19.7	-0.1	
TORD	**Torodi Ar. Bea**	**140.64**	**295**	PKhKP		PKPpre	13 04 05.2		
	comp=Z,0.3nm,0.6s,baz=22,slow=3.5,SNR=3.7								
TORD				PKP		PKPdf	13 04 11.8	-0.5	
	comp=Z,0.9nm,0.8s,baz=54,slow=1.8,SNR=6.8								
TORD	**Torodi Ar. Bea**	**140.64**	**295**	PKP		PKPdf	13 04 11.8	-0.5	
LPAZ	**La Paz**	**144.40**	**114**	PKP		PKPdf	13 04 19.7	+0.8	
	comp=Z,16nm,0.6s,baz=279,slow=2.3,SNR=57								
LPAZ	**La Paz**	**144.40**	**114**	PKP		PKPdf	13 04 19.7	+0.8	
LPAZ	**La Paz**	**144.40**	**114**	PKiKP		PKPdf	13 04 19.7	+0.8	
CPUP	**Villa Florida**	**148.24**	**138**	PKPbc		PKPbc	13 04 26.2	-2.3	
	comp=Z,5.6nm,0.8s,baz=223,slow=2.0,SNR=11								
DBIC	**Dimbokro**	**148.91**	**289**	PKPbc		PKPbc	13 04 30.6	0.0	
	comp=Z,9.3nm,0.8s,baz=77,slow=2.6,SNR=9.9								

*ISCJB **10** 12:55:08.6±0.6,36°.98N±0°.03×29°.10E±0°.06,h5km±7km, Error ellipse: s-maj=8.0km s-min=4.8km az=14.4*
*CSEM **10** 12:55:08.4,36°.96N×29°.09E,h7km,MD3.2, After DDA*
*DDA **10** 12:55:08.4,36°.96N×29°.09E,h7km±5km, Md3.2*
ISC 10 12:55:09.4±0.6, 37°.00N±0°.03×29°.12E±0°.05, h8km±6km, n26,σ1º00/44, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
GOLH	**Golhisar**	**0.42**	**55**	*i* P		**Pg**	**12 55 16.1**	**-1.5**
GOLH				*i* S		**Sg**	**12 55 24.0**	**+0.8**
TURN	**Turunc**	**0.43**	**254**	*i* P		**Pg**	**12 55 21.7**	**+3.9**
TURN				*i* S		**Sg**	**12 55 33.0**	**+9.4**
TURN	**Turunc**	**0.43**	**254**	*i* P		**Pg**	**12 55 21.7**	**+3.9**
TURN				*i* S		**Sg**	**12 55 33.0**	**+9.5**
DNZL	**Cakiroluk**	**0.69**	**355**	*i* P		**Pg**	**12 55 21.9**	**-0.8**
DNZL				*i* S		**Sg**	**12 55 33.8**	**+2.0**
DNZL	**Cakiroluk**	**0.69**	**355**	*i* P		**Pg**	**12 55 21.9**	**-0.8**
DNZL				*i* S		**Sg**	**12 55 33.8**	**+2.0**
AKAS	**Kas**	**0.85**	**153**	*i* P		**Pg**	**12 55 24.8**	**-1.0**
AKAS				*i* S		**Sg**	**12 55 41.8**	**+4.9**
AKAS	**Kas**	**0.85**	**153**	*i* P		**Pg**	**12 55 24.8**	**-1.0**
AKAS				*i* S		**Sg**	**12 55 41.8**	**+4.9**
KSL	**Kastellorizon**	**0.92**	**156**	*e*PB		**Pg**	**12 55 27.0**	**-0.1**
KORT	**Korkueli**	**0.98**	**89**	*i* P		**Pg**	**12 55 28.4**	**+0.1**
KORT				*i* S		**Sg**	**12 55 45.1**	**+4.2**
KORT	**Korkueli**	**0.98**	**89**	*i* P		**Pg**	**12 55 28.4**	**+0.2**
KORT				*i* S		**Sg**	**12 55 45.1**	**+4.1**
ARG	**Arkhangelos**	**1.12**	**226**	*e*PB		**Pg**	**12 55 29.3**	**-1.5**
AYDN	**Tasoluk**	**1.19**	**304**	*i* P		**Pb**	**12 55 31.3**	**-0.9**
AYDN				*i* S		**Sb**	**12 55 47.6**	**-0.1**
AYDN	**Tasoluk**	**1.19**	**304**	*i* P		**Pb**	**12 55 31.3**	**-0.9**
AYDN				*i* S		**Sb**	**12 55 47.6**	**-0.2**
KHAL	**Karahalli**	**1.40**	**12**	*i* P		**Pn**	**12 55 35.3**	**+0.1**
KHAL				*i* S		**Sn**	**12 55 53.9**	**0.0**
KHAL	**Karahalli**	**1.40**	**12**	*i* P		**Pn**	**12 55 35.3**	**+0.1**
KHAL				*i* S		**Sn**	**12 55 53.8**	**0.0**
MANT	**Manisa**	**1.56**	**343**	*i* P		**Pn**	**12 55 36.8**	**-0.5**
MANT				*i* S		**Sn**	**12 55 57.0**	**-0.7**
MANT	**Manisa**	**1.56**	**343**	*i* P		**Pn**	**12 55 36.8**	**-0.5**
MANT				*i* S		**Sn**	**12 55 57.0**	**-0.7**
GCAM	**G?zelcaml?**	**1.66**	**296**	*i* P		**Pn**	**12 55 38.1**	**-0.6**
GCAM				*i* S		**Sn**	**12 55 59.5**	**-0.8**
GCAM	**G?zelcaml?**	**1.66**	**296**	*i* P		**Pn**	**12 55 38.1**	**-0.6**
GCAM				*i* S		**Sn**	**12 55 59.5**	**-0.7**
SMG	**Samos**	**1.96**	**292**	*e*PN		**Pn**	**12 55 42.8**	**0.0**
KARP	**Karpathos**	**2.15**	**228**	*e*PN		**Pn**	**12 55 46.7**	**+1.3**
NPS	**Neapolis**	**3.33**	**240**	*e*PN		**Pn**	**12 56 01.3**	**-0.4**
LAST	**Lasithi**	**3.48**	**239**	*e*PN		**Pn**	**12 56 05.3**	**+1.6**
SIVA	**Sivas**	**4.02**	**242**	*e*PN		**Pn**	**12 56 11.3**	**+0.2**
KARN	**Karanos**	**4.50**	**251**	*e*PN		**Pn**	**12 56 19.8**	**+2.0**

*IDC **10** 13:04:29.9±2.0,51°.13N×175°.60W,h0km,mb3.2/3, mb1 3.9/5,mb1mx3.5/28,mbtmp3.6/5,ML3.2/2,MS3.6/1, Ms1 3.6/1,ms1mx2.7/17,Error ellipse: s-maj=58.0km s-min=12.7km az=5.0*
*NEIC **10** 13:04:34.5±2.5,51°.32N×175°.80W,h38km±28km, ML3.3(AEIC),Error ellipse: s-maj=40.6km s-min=13.3km az=161.0*
ISC 10 13:04:30.7±2.8, 51°.2N±0°.1×175°.68W±0°.08, h5km±15km, n15,σ0º86/18, mb3.9/3, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
GSTR	**Great Sitkin T**	**0.92**	**345**	*e*P		**Pg**	**13 04 48.4**	**+0.1**
ATKA	**Atka Island**	**1.36**	**42**	P		**Pn**	**13 04 56.9**	**+0.7**
ATKA				S		**Sb**	**13 05 13.5**	**-0.7**
AMKA	**Amchitka**	**3.15**	**275**	*e*P		**Pn**	**13 05 21.0**	**+0.1**
FX1	**Attu Island--F**	**7.08**	**288**	Pn		**Pn**	**13 06 13.7**	**-1.1**
	1.3nm,0.3s,baz=90,slow=20,SNR=7.6							
FX1				Sn		**Sn**	**13 07 35.9**	**+0.3**
	1.7nm,0.3s,baz=96,slow=19,SNR=3.2							
FX1	**Attu Island--F**	**7.08**	**288**	Pn		**Pn**	**13 06 13.7**	**-1.1**
FX1				Sn		**Sn**	**13 07 35.9**	**+0.3**
KDAK	**Kodiak Island**	**14.90**	**55**	Pn		**Pn**	**13 08 02.1**	**+0.4**
	0.1nm,0.3s,baz=239,slow=6.0,SNR=5.0							
KDAK	**Kodiak Island**	**14.90**	**55**	Pn		**Pn**	**13 08 02.1**	**+0.4**
ILAR	**Eielson Array**	**20.18**	**37**	P		**P**	**13 09 06.7**	**+1.0**
	0.5nm,0.3s,baz=229,slow=11,SNR=19							
ILAR	**Eielson Array**	**20.18**	**37**	P		**P**	**13 09 06.7**	**+1.0**
BBB	**Bella Bella**	**29.09**	**69**	P		**P**	**13 10 28.9**	**-2.9**
	32nm,1.1s,mb5.0,baz=301,slow=12,SNR=4.8							
BBB	**Bella Bella**	**29.09**	**69**	P		**P**	**13 10 28.9**	**-2.9**
PDAR	**Pinedale Array**	**44.49**	**74**	P		**P**	**13 12 42.5**	**-0.1**
	0.4nm,0.6s,mb3.3,baz=313,slow=4.2,SNR=3.9							
PDAR	**Pinedale Array**	**44.49**	**74**	P		**P**	**13 12 42.5**	**-0.1**
TXAR	**Lajitas Array**	**56.74**	**83**	P		**P**	**13 14 15.8**	**+0.5**
	0.3nm,0.6s,mb3.5,baz=304,slow=5.9,SNR=5.9							
TXAR				LR		LR	13 35 48.5	
	comp=Z,58nm,20.1s,baz=5.0,slow=33							
TXAR	**Lajitas Array**	**56.74**	**83**	P		**P**	**13 14 15.8**	**+0.5**
TXAR				LR		LR	13 35 48.5	

*CSEM **10** 13:12:35.6±0.1,45°.23N×21°.56E,h2km,ML1.9,Error ellipse: s-maj=4.6km s-min=2.3km az=108.0*
*BEO **10** 13:12:35.0±0.3,45°.24N×21°.61E,h4km±4km,ML1.9/7*
*BUC **10** 13:12:35.3±0.1,45°.26N×21°.54E,h9km,MD2.5/2,Error ellipse: s-maj=1.4km s-min=0.6km az=71.0*
ISC 10 13:12:35.4±0.6, 45°.24N±0°.02×21°.59E±0°.05, h0km±7km, n26,σ0º63/45, 5C-6D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
BZS	**Buzias**	**0.38**	**3**	⇑*i*Pg		**Pg**	**13 12 42.6**	**-0.1**
BZS				*e*Sg		**Sg**	**13 12 48.2**	**+0.5**
BZS	**Buzias**	**0.38**	**3**	⇑*i*P		**Pg**	**13 12 42.9**	**+0.2**
BZS				S		**Sg**	**13 12 48.4**	**+0.7**
BZS	**Buzias**	**0.38**	**3**	⇑*i*P		**Pg**	**13 12 42.9**	**+0.2**
BZS				*i* S		**Sg**	**13 12 48.4**	**+0.7**
BZS	**Buzias**	**0.38**	**3**	⇑*i*Pg		**Pg**	**13 12 42.6**	**-0.1**
BZS	**Buzias**	**0.38**	**3**	⇑*i*P		**Pg**	**13 12 42.9**	**+0.2**
BZS				*e*Sg		**Sg**	**13 12 48.2**	**+0.5**
BZS				S		**Sg**	**13 12 48.4**	**+0.7**
DJES	**Djerdap**	**0.87**	**130**	*e*Sg		**Sg**	**13 13 04.2**	**+0.9**
SVIS	**Svilajnac**	**1.00**	**196**	*e*Pg		**Pg**	**13 12 54.5**	**-0.1**
SVIS				*e*Sg		**Sg**	**13 13 07.8**	**+0.2**
TRUS	**Trudelj**	**1.32**	**220**	*e*Pg		**Pg**	**13 13 00.0**	**-0.6**
TRUS				*e*Sg		**Sg**	**13 13 18.1**	**+0.5**
TRUS	**Trudelj**	**1.32**	**220**	*e*Pg		**Pg**	**13 13 00.0**	**-0.6**
TRUS				*e*Sg		**Sg**	**13 13 18.1**	**+0.5**
BOLS	**Boljevac**	**1.43**	**169**	*e*Pg		**Pg**	**13 13 01.6**	**-1.1**
BOLS				*e*Sg		**Sg**	**13 13 22.1**	**+0.8**
GRUS	**Gruza**	**1.48**	**205**	*e*Pg		**Pg**	**13 13 03.4**	**-0.4**
GRUS				*e*Sg		**Sg**	**13 13 23.1**	**+0.1**
GRUS	**Gruza**	**1.48**	**205**	*e*Pg		**Pg**	**13 13 03.4**	**-0.4**
GRUS				*e*Sg		**Sg**	**13 13 23.1**	**+0.1**
LOT	**Lotru**	**1.55**	**81**	⇓*i*P		**Pg**	**13 13 04.6**	**-0.5**
LOT	**Lotru**	**1.55**	**81**	S		**Sg**	**13 13 25.9**	**+0.7**
LOT	**Lotru**	**1.55**	**81**	⇓*i*P		**Pg**	**13 13 04.6**	**-0.5**
LOT				*i* S		**Sg**	**13 13 25.9**	**+0.7**
LOT	**Lotru**	**1.55**	**81**	⇓*i*P		**Pg**	**13 13 04.6**	**-0.5**
LOT				S		**Sg**	**13 13 25.9**	**+0.7**
DIVS	**Divibare**	**1.61**	**226**	*e*Pg		**Pg**	**13 13 05.5**	**-0.7**
DIVS				*e*Sg		**Sg**	**13 13 27.9**	**+0.9**
DIVS	**Divibare**	**1.61**	**226**	*e*Pg		**Pg**	**13 13 05.5**	**-0.7**
DIVS				*e*Sg		**Sg**	**13 13 27.9**	**+0.9**
DRGR		**1.74**	**26**	⇓*i*P		**Pg**	**13 13 08.1**	**-0.7**
DRGR		**1.74**	**26**	S		**Sn**	**13 13 29.6**	**-0.1**
DRGR		**1.74**	**26**	⇓*i*P		**Pg**	**13 13 08.1**	**-0.7**
DRGR				*i* S		**Sn**	**13 13 29.6**	**-0.1**
DRGR		**1.74**	**26**	⇓*i*P		**Pg**	**13 13 08.1**	**-0.7**
DRGR				S		**Sn**	**13 13 29.6**	**-0.1**
IVAS	**Ivanjica**	**1.95**	**212**	*e*Pn		**Pn**	**13 13 10.9**	**+1.2**
IVAS	**Ivanjica**	**1.95**	**212**	*e*Pn		**Pn**	**13 13 10.9**	**+1.2**
ZAPS	**Zavoj**	**2.10**	**159**	*e*Pn		**Pn**	**13 13 11.3**	**-0.4**
ZAPS				*e*Sg		**Sg**	**13 13 42.3**	**-0.5**
BARS	**Barje**	**2.42**	**176**	*e*Pn		**Pn**	**13 13 15.5**	**-0.6**
BARS				*e*Sg		**Sg**	**13 13 52.9**	**-0.3**

IDC 10 13:15:45.9±2.7, 6°.95S×128°.31E, h0km, mb3.7/1, mb1 3.6/3,mb1mx3.4/17,mbtmp3.5/3,ML3.5/2,Error ellipse: s-maj=311.2km s-min=30.9km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
WRA	**Warramunga Arr**	**14.18**	**156**	Pn		Pn	13 19 07.0	-1.2
	0.2nm,0.3s,baz=333,slow=13,SNR=14							
WRA				Sn		Sn	13 21 33.4	-13
	0.3nm,0.3s,baz=333,slow=22,SNR=6.4							
ASAR	**Alice Springs**	**17.47**	**163**	P		Pn	13 19 52.1	+1.0
	0.2nm,0.3s,baz=344,slow=9.3,SNR=28							
ASAR				S		Sn	13 22 55.4	-11
	0.0nm,0.3s,baz=348,slow=23,SNR=3.0							
MKAR	**Makanchi Array**	**67.27**	**328**	P		P	13 26 42.4	+0.1
	0.2nm,0.4s,baz=133,slow=6.3,SNR=2.7							

*CSEM **10** 13:33:16.9±0.3,43°.30N×46°.26E,h5km,mb4.0,Error ellipse: s-maj=11.0km s-min=3.8km az=24.0*
*MOS **10** 13:33:16.4±0.8,43°.27N×46°.49E,h25km,mb4.0/1,Error ellipse: s-maj=17.2km s-min=9.9km az=3.1*
ISC 10 13:33:17.8±0.6, 43°.22N±0°.04×46°.16E±0°.03, h2km±6km, n47,σ1º21/64, 5C-3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
GRO	**Groznyy**	**0.32**	**289**	*e*Pg		**Pg**	**13 33 23.9**	**0.0**
GRO	**Groznyy**	**0.32**	**289**	*e*Pg		**Pg**	**13 33 23.9**	**0.0**
DLMR	**Dylym**	**0.37**	**113**	PG		**Pg**	**13 33 20.3**	**-4.6**
DLMR				S		**Sg**	**13 33 30.0**	**+0.3**
DLMR	**Dylym**	**0.37**	**113**	Sg		**Sg**	**13 33 30.0**	**+0.3**
DBC	**Dubki**	**0.53**	**112**	*e*PG		**Pg**	**13 33 25.5**	**-2.4**
DBC				*i* S		**Sg**	**13 33 36.5**	**+1.8**
DBC	**Dubki**	**0.53**	**112**	*e*Pg		**Pg**	**13 33 25.5**	**-2.4**
KRNR	**Karanay**	**0.67**	**125**	*e*PG		**Pg**	**13 33 28.2**	**-2.4**
KRNR				*i* S		**Sg**	**13 33 39.0**	**-0.3**
KRNR				pmax	pmax			
	comp=Z,74nm,0.2s							
KRNR	**Karanay**	**0.67**	**125**	*e*Pg		**Pg**	**13 33 28.2**	**-2.4**
	comp=Z,74nm,0.2s							
KRNR				*i* Sg		**Sg**	**13 33 39.0**	**-0.3**
UNCR	**Uncukul**	**0.69**	**137**	*e*S		**Sg**	**13 33 39.0**	**-0.8**
UNCR				pmax	pmax			
	comp=Z,27nm,0.2s							
UNCR	**Uncukul**	**0.69**	**137**	*e*Sg		**Sg**	**13 33 39.0**	**-0.8**
BUJR	**Buynaksk**	**0.80**	**119**	*e*PG		**Pg**	**13 33 34.5**	**+1.5**
BUJR				*i* S		**Sg**	**13 33 44.8**	**+1.4**
BUJR				pmax	pmax			
	comp=Z,68nm,0.3s							
BUJR	**Buynaksk**	**0.80**	**119**	*e*Pg		**Pg**	**13 33 34.5**	**+1.5**
	comp=Z,68nm,0.3s							
BUJR				*i* Sg		**Sg**	**13 33 44.8**	**+1.4**
SNJR	**Sundja**	**1.00**	**262**	*e*PG		**Pg**	**13 33 37.1**	**+0.2**
SNJR	**Sundja**	**1.00**	**262**	*e*Pg		**Pg**	**13 33 37.1**	**+0.2**
MAK	**Makhachkala**	**1.02**	**104**	*d*PG		**Pg**	**13 33 41.0**	**+3.8**
MAK				pmax	pmax			
	comp=Z,129nm,0.4s							
VLKR	**Vladikavkaz**	**1.10**	**262**	⇑*i*PG		**Pg**	**13 33 38.9**	**0.0**
VLKR	**Vladikavkaz**	**1.10**	**262**	*i* Pg		**Pg**	**13 33 38.9**	**0.0**
TRKR	**Terskaya**	**1.16**	**296**	⇑*i*PG		**Pg**	**13 33 40.2**	**+0.2**
TRKR				*e*S		**Sg**	**13 33 56.8**	**+1.8**
TRKR	**Terskaya**	**1.16**	**296**	*i* Pg		**Pg**	**13 33 40.2**	**+0.2**
TRKR				*e*Sg		**Sg**	**13 33 56.8**	**+1.8**
BTKR	**Batakoyurt**	**1.19**	**278**	*e*PG		**Pg**	**13 33 41.0**	**+0.4**
BTKR	**Batakoyurt**	**1.19**	**278**	*e*Pg		**Pg**	**13 33 41.0**	**+0.4**
KMKR	**Kumukh**	**1.29**	**147**	PG		**Pg**	**13 33 50.0**	**+7.6**
KMKR				*e*S		**S

QSPA	**South Pole Qui**	**29.95**	**180**	P	**P**	**13 52 53.9**	**+1.1**
	0.9nm,0.4s,mb3.8,baz=102,slow=4.4,SNR=4.2						
QSPA	**South Pole Qui**	**29.95**	**180**	P	**P**	**13 52 54.7**	**+1.9**
	3.1nm,0.6s,mb4.2						
CPUP	**Villa Florida**	**33.95**	**359**	P	**P**	**13 53 27.1**	**-1.3**
	0.7nm,0.5s,mb3.9,baz=166,slow=12,SNR=3.9						
CPUP	**Villa Florida**	**33.95**	**359**	P	**P**	**13 53 27.1**	**-1.3**
LPAZ	**La Paz**	**44.70**	**345**	LR	LR	14 12 37.6	
	comp=Z,52nm,18.5s,MS3.5,baz=87,slow=35						
MAW	**Mawson**	**45.07**	**152**	P	**P**	**13 55 01.4**	**+0.9**
	0.6nm,0.8s,mb3.5,baz=186,slow=10,SNR=2.9						
MAW				LR	LR	14 14 03.1	
	comp=Z,67nm,18.2s,MS3.6,baz=313,slow=36						
MAW	**Mawson**	**45.07**	**152**	P	**P**	**13 55 01.4**	**+0.9**
MAW				LR	LR	14 14 03.1	
SUR	**Sutherland**	**56.49**	**97**	LR	LR	14 16 39.9	
	comp=Z,40nm,18.1s,MS3.5,baz=196,slow=32						
RAO	**Raoul Island**	**78.64**	**230**	*e*P	**P**	**13 58 46.9**	**-0.1**
TORD	**Torodi Ar. Bea**	**86.72**	**56**	P	**P**	**13 59 28.8**	**-0.3**
	0.3nm,0.7s,mb3.6,baz=209,slow=6.0,SNR=2.3						
TORD	**Torodi Ar. Bea**	**86.72**	**56**	P	**P**	**13 59 28.8**	**-0.3**
ASAR	**Alice Springs**	**95.89**	**190**	P	**P**	**14 00 13.1**	**+1.2**
	0.2nm,0.5s,mb3.8,baz=166,slow=4.8,SNR=3.3						
ASAR	**Alice Springs**	**95.89**	**190**	P	**P**	**14 00 13.1**	**+1.2**
WRA	**Warramunga Arr**	**99.54**	**191**	P	**P**	**14 00 28.8**	**+0.4**
	0.2nm,0.6s,mb3.7,baz=178,slow=4.0,SNR=5.3						
WRA	**Warramunga Arr**	**99.54**	**191**	P	**P**	**14 00 28.8**	**+0.4**
BVAR	**Borovoye Array**	**150.83**	**81**	PKPbc	PKPbc	14 06 35.8	-0.6
	0.3nm,0.4s,baz=90,slow=0.1,SNR=4.7						
BVAR	**Borovoye Array**	**150.83**	**81**	PKPbc	PKPbc	14 06 35.8	-0.6
MKAR	**Makanchi Array**	**152.74**	**101**	PKP	PKPdf	14 06 35.8	+2.0
	0.7nm,0.9s,baz=294,slow=1.4,SNR=3.3						
MKAR				PKPbc	PKPbc	14 06 40.8	-0.2
	0.4nm,0.7s,baz=270,slow=1.2,SNR=4.0						
MKAR	**Makanchi Array**	**152.74**	**101**	PKP	PKPdf	14 06 35.8	+2.0
MKAR				PKPbc	PKPbc	14 06 40.8	-0.2

IDC 10 14:06:35.9±53.0, 12.86S×169.54E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.6/18, mbtmp3.7/3, Error ellipse: s-maj=913.0km s-min=119.4km az=65.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.63**	**197**	*e*P	Pn	14 09 00.9	+5.2
DZM				*e*S	Sn	14 10 22.3	-22
STKA	**Stephens Creek**	**31.88**	**229**	P	P	14 13 03.0	+0.1
	0.9nm,0.6s,baz=84,slow=9.2,SNR=5.6						
WRA	**Warramunga Arr**	**34.45**	**253**	P	P	14 13 25.7	+0.2
	0.3nm,0.5s,baz=84,slow=8.7,SNR=8.7						
ASAR	**Alice Springs**	**35.41**	**247**	P	P	14 13 33.6	-0.2
	0.4nm,0.3s,baz=80,slow=9.2,SNR=27						

*TEH **10** 14:26:35.8, 32°.33N×47°.33E, h4km*
*ISCJB **10** 14:26:35.0±1.2, 32°.39N±0°.03×47°.45E±0°.05, h6km±8km, mb3.6/5, Error ellipse: s-maj=7.9km s-min=4.8km az=161.4*
*THR **10** 14:26:35.2±0.3, 32°.47N×47°.24E, h41km±2km, ML3.5*
*CSEM **10** 14:26:36.4±0.2, 32°.39N×47°.39E, h10km, ML3.5, Error ellipse: s-maj=4.9km s-min=3.9km az=69.0*
*NEIC **10** 14:26:37.9±3.9, 32°.33N×47°.36E, h32km±33km, ML3.5(THR), Error ellipse: s-maj=19.0km s-min=12.0km az=166.0*
*IDC **10** 14:26:39.2±7.5, 32°.49N×47°.15E, h35km±64km, mb3.5/5, mb1 3.7/7, mb1mx3.4/26, mbtmp3.6/7, ML4.0/2, Error ellipse: s-maj=61.0km s-min=22.4km az=148.0*
ISC 10 14:26:36.1±1.2, 32°.39N±0°.03×47°.41E±0°.05, h6km±8km, n54, σ1§00/66, mb3.6/5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**1.21**	**103**	*e*Pg	**Pg**	**14 27 00.0**	**+0.6**
SHGR				*e*Sg	**Sg**	**14 27 19.0**	**+3.9**
SHGR	**Shooshtar-Gavs**	**1.21**	**103**	*e*Pg	**Pg**	**14 27 00.5**	**+1.1**
SHGR				*e*Sg	**Sg**	**14 27 19.0**	**+3.9**
SHGR				AML	AML	14 27 22.5	
	comp=E,589nm,0.7s						
SHGR				AML	AML	14 27 26.4	
	comp=N,1μm,0.6s						
SHGR	**Shooshtar-Gavs**	**1.21**	**103**	*e*Pg	**Pg**	**14 27 00.5**	**+1.1**
SHGR				*e*Sg	**Sg**	**14 27 19.0**	**+3.9**
IKOM	**Komasi**	**1.78**	**3**	*e*Sg	**Sg**	**14 27 34.0**	**+0.6**
IKOM				*e*Pn	**Pn**	**14 27 08.2**	**+0.7**
IKOM				*e*		14 27 42.8	
	comp=Z,7μm,0.4s						
IGHG	**Ghaleghazi**	**2.06**	**340**	*e*Pn	**Pn**	**14 27 11.6**	**+0.3**
IGHG				*e*Sn	**Sn**	**14 27 38.0**	**+0.8**
IGHG				*e*		14 28 00.8	
	comp=Z,6μm,0.4s						
IGHG	**Ghaleghazi**	**2.06**	**340**	*e*Pn	**Pn**	**14 27 11.6**	**+0.3**
IGHG				*e*Sn	**Sn**	**14 27 38.0**	**+0.8**
IVIS	**Veis**	**2.18**	**348**	*e*Pn	**Pn**	**14 27 13.4**	**+0.4**
IVIS				*e*Sg	**Sg**	**14 27 44.6**	**-1.6**
IVIS				*e*		14 27 54.3	
	comp=Z,3μm,0.4s						
IVIS	**Veis**	**2.18**	**348**	*e*Pn	**Pn**	**14 27 13.4**	**+0.4**
IVIS				*e*Sg	**Sg**	**14 27 44.6**	**-1.6**
IDHR	**Dehrash**	**2.46**	**340**	*e*Pn	**Pn**	**14 27 17.4**	**+0.7**
IDHR				*e*Sn	**Sn**	**14 27 47.4**	**+0.3**
IDHR				*e*		14 28 02.0	
	comp=Z,5μm,0.2s						
IDHR	**Dehrash**	**2.46**	**340**	*e*Pn	**Pn**	**14 27 17.4**	**+0.7**
IDHR				*e*Sn	**Sn**	**14 27 47.4**	**+0.3**
ILIN	**Lien**	**2.55**	**352**	*e*Pn	**Pn**	**14 27 18.6**	**+0.6**
ILIN				*e*		14 28 11.8	
	comp=Z,1μm,0.3s						
ILIN	**Lien**	**2.55**	**352**	*e*Pn	**Pn**	**14 27 18.6**	**+0.6**
MIB	**Mutribah**	**2.58**	**181**	*e*P	**Pn**	**14 27 18.3**	**-0.1**
MIB				*e*S	**Sn**	**14 27 50.7**	**+0.5**
MIB				AML	AML	14 27 56.7	
	comp=Z,101nm,0.6s						
MIB	**Mutribah**	**2.58**	**181**	*e*P	**Pn**	**14 27 18.3**	**-0.2**
MIB				*e*S	**Sn**	**14 27 50.7**	**+0.5**
SNGE	**Sanandaj**	**2.69**	**359**	*e*Pg	**Pg**	**14 27 21.0**	**-6.8**
SNGE	**Sanandaj**	**2.69**	**359**	*e*Pg	**Pg**	**14 27 21.7**	**-6.1**
SNGE				AML	AML	14 28 14.2	
	comp=E,161nm,0.7s						
BHD	**Baghdad**	**2.70**	**290**	*ex*	x	14 27 20.0	
BHD				*ex*	x	14 27 55.0	
BHD				*ex*	x	14 28 10.0	
BHD	**Baghdad**	**2.70**	**290**	*e*Pn	**Pn**	**14 27 20.0**	**0.0**
BHD				*e*Sn	**Sn**	**14 27 55.0**	**+2.0**
NAY	**Al-Naaiem**	**3.13**	**183**	*e*P	**Pn**	**14 27 25.6**	**-0.4**
NAY	**Al-Naaiem**	**3.13**	**183**	*e*P	**Pn**	**14 27 25.6**	**-0.5**
IKLH	**Kolahrood**	**3.63**	**74**	*e*Pn	**Pn**	**14 27 33.0**	**+0.1**
IKLH				*e*		14 28 50.7	
	comp=Z,689nm,0.3s						
IKLH	**Kolahrood**	**3.63**	**74**	*e*Pn	**Pn**	**14 27 33.0**	**+0.1**
QRN	**Al-Qurain**	**3.66**	**173**	*e*P	**Pn**	**14 27 32.9**	**-0.4**
IRAZ	**Razeghan**	**3.66**	**34**	*e*Pn	**Pn**	**14 27 33.9**	**+0.5**
IRAZ				*e*		14 28 53.8	
	comp=Z,874nm,0.4s						
IRAZ	**Razeghan**	**3.66**	**34**	*e*Pn	**Pn**	**14 27 33.9**	**+0.5**
IZEF	**Zefreh**	**4.18**	**82**	*e*Pn	**Pn**	**14 27 41.0**	**+0.5**
IZEF				*e*		14 29 07.7	
	comp=Z,334nm,0.4s						
IZEF	**Zefreh**	**4.18**	**82**	*e*Pn	**Pn**	**14 27 41.0**	**+0.5**
IVRN	**Varamin**	**4.44**	**53**	*e*Pn	**Pn**	**14 27 44.6**	**+0.6**
IVRN				*e*		14 27 57.1	
	comp=Z,302nm,0.2s						
IVRN	**Varamin**	**4.44**	**53**	*e*Pn	**Pn**	**14 27 44.6**	**+0.6**
NASN	**Na'in**	**4.58**	**83**	*e*Pn	**Pn**	**14 27 45.0**	**-0.9**
NASN	**Na'in**	**4.58**	**83**	*e*Pn	**Pn**	**14 27 45.8**	**-0.1**
NASN	**Na'in**	**4.58**	**83**	*e*Pn	**Pn**	**14 27 45.8**	**-0.1**
DAMV	**Damavand**	**4.98**	**48**	*e*Pn	**Pn**	**14 27 50.0**	**-1.4**
DAMV	**Damavand**	**4.98**	**48**	*e*Pn	**Pn**	**14 27 50.3**	**-1.2**
DAMV	**Damavand**	**4.98**	**48**	*e*Pn	**Pn**	**14 27 50.3**	**-1.1**
EIL	**Elat**	**11.03**	**259**	Pn	**Pn**	**14 29 13.7**	**-0.8**
	comp=Z,3.7nm,0.3s,baz=14,slow=11,SNR=8.1						
EIL				Lg		14 32 25.6	
	comp=Z,0.2nm,0.3s,baz=349,slow=18,SNR=1.8						
EIL	**Elat**	**11.03**	**259**	Pn	**Pn**	**14 29 13.7**	**-0.8**
EIL				Lg		14 32 25.6	
EIL	**Elat**	**11.03**	**259**	Pn	**Pn**	**14 29 13.6**	**-0.8**
AKTK	**Aktyubinsk**	**19.67**	**20**	P	**Pn**	**14 31 04.0**	**-3.0**
AKTK	**Aktyubinsk**	**19.67**	**20**	P	**Pn**	**14 31 04.0**	**-3.1**
AKTO	**Aktyubinsk**	**19.67**	**20**	P	**Pn**	**14 31 04.0**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=217,slow=9.7,SNR=3.3						
BVAR	**Borovoye Array**	**26.45**	**32**	P	**P**	**14 32 13.0**	**-0.6**
	comp=Z,0.8nm,0.7s,mb3.4,baz=212,slow=10,SNR=5.5						
BVAR	**Borovoye Array**	**26.45**	**32**	P	**P**	**14 32 13.0**	**-0.6**
BVAR	**Borovoye Array**	**26.45**	**32**	P	**P**	**14 32 13.0**	**-0.6**
MKAR	**Makanchi Array**	**30.21**	**51**	P	**P**	**14 32 47.6**	**+0.3**
	comp=Z,0.3nm,0.2s,mb3.6,baz=246,slow=7.6,SNR=4.4						
MKAR	**Makanchi Array**	**30.21**	**51**	P	**P**	**14 32 47.6**	**+0.3**
MKAR	**Makanchi Array**	**30.21**	**51**	P	**P**	**14 32 47.6**	**+0.3**
ZALV	**Zalesovo Beam**	**34.18**	**40**	P	**P**	**14 33 22.0**	**-0.1**
	comp=Z,0.5nm,0.3s,mb3.9,baz=253,slow=7.6,SNR=4.1						
ZALV	**Zalesovo Beam**	**34.18**	**40**	P	**P**	**14 33 22.0**	**-0.1**
ZALV	**Zalesovo Beam**	**34.18**	**40**	P	**P**	**14 33 22.0**	**-0.1**
ARCES	**ARCESS Array B**	**39.18**	**348**	P	**P**	**14 34 02.0**	**-2.5**
	comp=Z,1.3nm,0.8s,mb3.7,baz=170,slow=11,SNR=3.8						
ARCES	**ARCESS Array B**	**39.18**	**348**	P	**P**	**14 34 02.0**	**-2.5**
TORD	**Torodi Ar. Bea**	**45.90**	**256**	P	**P**	**14 34 55.9**	**-3.8**
	comp=Z,0.5nm,0.8s,mb3.5,baz=41,slow=6.4,SNR=3.8						
TORD	**Torodi Ar. Bea**	**45.90**	**256**	P	**P**	**14 34 55.9**	**-3.8**

*ISCJB **10** 14:28:56.4±0.5, 38°.84N±0°.02×27°.18E±0°.03, h1km±5km, Error ellipse: s-maj=4.1km s-min=3.9km az=42.7*
*CSEM **10** 14:28:56.4±0.2, 38°.83N×27°.15E, h10km, MD3.1, Error ellipse: s-maj=3.9km s-min=3.6km az=155.0*
*DDA **10** 14:28:56.1, 38°.85N×27°.18E, h18km±1km, Ml3.3*
*ATH **10** 14:28:56.4, 38°.83N×27°.23E, h21km±5km, MD3.1/4*
ISC 10 14:28:57.1±0.4, 38°.84N±0°.02×27°.20E±0°.03, h7km±5km, n26, σ1§01/52, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKHS	**Akhisar**	**0.48**	**85**	*i* P	**Pg**	**14 29 06.6**	**+0.2**
AKHS				*i* S	**Sg**	**14 29 14.0**	**+1.2**
AKHS	**Akhisar**	**0.48**	**85**	*i* P	**Pg**	**14 29 06.6**	**+0.2**
AKHS				*i* S	**Sg**	**14 29 14.0**	**+1.2**
AYVA	**Ayvalik**	**0.61**	**320**	*i* P	**Pg**	**14 29 08.2**	**-0.7**
AYVA				*i* S	**Sg**	**14 29 16.7**	**-0.2**
AYVA	**Ayvalik**	**0.61**	**320**	*i* P	**Pg**	**14 29 08.2**	**-0.7**
AYVA				*i* S	**Sg**	**14 29 16.7**	**-0.2**
URLA	**Izmir**	**0.67**	**225**	*i* P	**Pg**	**14 29 08.8**	**-1.2**
URLA				*i* S	**Sg**	**14 29 21.6**	**+2.8**
URLA	**Izmir**	**0.67**	**225**	*i* P	**Pg**	**14 29 08.8**	**-1.2**
URLA				*i* S	**Sg**	**14 29 21.6**	**+2.8**
PRK	**Paraskevi**	**0.83**	**300**	*e*PN	**Pg**	**14 29 12.8**	**-0.2**
PRK				*e*SN	**Sg**	**14 29 25.7**	**+1.9**
PRK	**Paraskevi**	**0.83**	**300**	*e*Pn	**Pg**	**14 29 12.8**	**-0.2**
PRK				*e*Sn	**Sg**	**14 29 25.7**	**+1.9**
BALY	**Balya**	**0.96**	**20**	*i* P	**Pg**	**14 29 15.0**	**-0.5**
BALY				*i* S	**Sg**	**14 29 28.3**	**+0.3**
BALY	**Balya**	**0.96**	**20**	*i* P	**Pg**	**14 29 15.0**	**-0.5**
BALY				*i* S	**Sg**	**14 29 28.3**	**+0.3**
CHOS	**Chios island**	**1.00**	**244**	*e*PN	**Pg**	**14 29 15.5**	**-0.8**
CHOS				*e*SN	**Sg**	**14 29 29.8**	**+0.4**
CHOS	**Chios island**	**1.00**	**244**	*e*Pn	**Pg**	**14 29 15.5**	**-0.8**
CHOS				*e*Sn	**Sg**	**14 29 29.8**	**+0.4**
MANT	**Manisa**	**1.12**	**108**	*i* P	**Pg**	**14 29 18.0**	**-0.6**
MANT				*i* S	**Sg**	**14 29 33.8**	**+0.6**
MANT	**Manisa**	**1.12**	**108**	*i* P	**Pg**	**14 29 18.0**	**-0.6**
MANT				*i* S	**Sg**	**14 29 33.8**	**+0.7**
GCAM	**G?zelcaml?**	**1.14**	**179**	*i* P	**Pg**	**14 29 18.1**	**-0.8**
GCAM				*i* S	**Sg**	**14 29 33.8**	**+0.1**
GCAM	**G?zelcaml?**	**1.14**	**179**	*i* P	**Pg**	**14 29 18.1**	**-0.8**
GCAM				*i* S	**Sg**	**14 29 33.8**	**+0.1**
SMG	**Samos**	**1.16**	**194**	*e*PN	**Pn**	**14 29 18.5**	**-1.2**
SMG				*e*SB	**Sb**	**14 29 35.3**	**+0.5**
SMG	**Samos**	**1.16**	**194**	*e*Pn	**Pn**	**14 29 18.5**	**-1.2**
SMG				*e*Sb	**Sb**	**14 29 35.3**	**+0.5**
DEMI	**Demirci**	**1.20**	**80**	*i* P	**Pb**	**14 29 19.3**	**-0.9**
DEMI				*i* S	**Sg**	**14 29 35.4**	**-0.3**
DEMI	**Demirci**	**1.20**	**80**	*i* P	**Pb**	**14 29 19.3**	**-0.9**
DEMI				*i* S	**Sg**	**14 29 35.4**	**-0.4**
DURS	**Dursunbey**	**1.25**	**52**	*i* P	**Pn**	**14 29 19.5**	**-1.5**
DURS				*i* S	**Sb**	**14 29 36.9**	**-0.4**
DURS	**Dursunbey**	**1.25**	**52**	*i* P	**Pn**	**14 29 19.5**	**-1.4**
DURS				*i* S	**Sb**	**14 29 36.8**	**-0.5**
GDZ	**Gediz**	**1.80**	**81**	*i* P	**Pn**	**14 29 30.0**	**+1.5**
GDZ				*i* S	**Sn**	**14 29 54.5**	**+3.0**
GDZ	**Gediz**	**1.80**	**81**	*i* P	**Pn**	**14 29 30.0**	**+1.5**
GDZ				*i* S	**Sn**	**14 29 54.5**	**+3.0**
ALN	**Alexandroupoli**	**2.24**	**337**	*e*PN	**Pn**	**14 29 33.9**	**-0.6**
ALN				*e*SN	**Sn**	**14 30 03.1**	**+0.7**
ALN	**Alexandroupoli**	**2.24**	**337**	*e*Pn	**Pn**	**14 29 33.9**	**-0.6**
ALN				*e*Sn	**Sn**	**14 30 03.1**	**+0.7**

*IDC **10** 14:28:53.4±1.2, 23°.37S×171°.58E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.9/16, mbtmp3.9/5, MS3.3/1, Ms1 3.3/1, ms1mx2.8/27, Error ellipse: s-maj=52.4km s-min=27.9km az=157.0*
*NOU **10** 14:28:56.2±0.3, 20°.13S×171°.35E, h10km, MD3.2, ML3.8*
*ISCJB **10** 14:28:58.9±3.4, 23°.3S±0°.3×171°.3E±0°.2, h45km±27km, mb3.8/6, Error ellipse: s-maj=43.7km s-min=23.6km az=0.8*
*NEIC **10** 14:28:58.8±0.9, 23°.25S×171°.50E, h35km, mb3.5/2, Error ellipse: s-maj=29.5km s-min=16.5km az=176.0*
ISC 10 14:29:00.5±3.2, 23°.2S±0°.3×171°.4E±0°.2, h43km±27km, n19, σ1§01/17, mb3.8/6, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LASL	**Noumea**	**4.56**	**281**	*e*P	**Pn**	**14 30 07.4**	**+0.6**
DZM	**Mont Dzumac**	**4.68**	**283**	*e*P	**Pn**	**14 30 07.9**	**-0.7**
DZM				AMP		14 31 06.5	
	comp=Z,295nm,2.5s						
DZM	**Mont Dzumac**	**4.68**	**283**	*e*P	**Pn**	**14 30 08.8**	**+0.2**
DZM				*e*S	**Sn**	**14 30 59.1**	**-2.5**
NOUC	**Port Laguerre**	**4.80**	**282**	*e*S	**Sn**	**14 31 05.9**	**+1.3**
CTA	**Charters Tower**	**23.53**	**273**	LR	LR	14 40 58.3	
	comp=Z,65nm,19.2s,baz=230,slow=30						
STKA	**Stephens Creek**	**27.70**	**245**	P	**P**	**14 34 45.7**	**+1.1**
	comp=Z,1.5nm,0.7s,mb3.7,baz=106,slow=9.8,SNR=7.3						
STKA	**Stephens Creek**	**27.70**	**245**	*e*P	**P**	**14 34 46.2**	**+1.5**
	comp=Z,0.2nm,0.6s,mb2.9						
ASAR	**Alice Springs**	**34.31**	**262**	P	**P**	**14 35 43.2**	**+0.3**
	comp=Z,0.5nm,0.6s,mb3.7,baz=90,slow=8.7,SNR=25						
ASAR				PcP	PcP	14 38 18.6	+0.1
	comp=Z,0.4nm,0.6s,baz=102,slow=3.7,SNR=5.5						
ASAR	**Alice Springs**	**34.31**	**262**	P	**P**	**14 35 43.2**	**+0.3**
ASAR				PcP	PcP	14 38 18.6	+0.1
WB2	**Warramunga Arr**	**34.51**	**268**	*e*P	**P**	**14 35 45.0**	**+0.2**
WRAB	**Tennant Creek**	**34.52**	**268**	*e*P	**P**	**14 35 44.8**	**0.0**
	comp=Z,0.8nm,0.4s,mb4.0						
WRA	**Warramunga Arr**	**34.52**	**268**	P	**P**	**14 35 44.7**	**-0.1**
	comp=Z,0.8nm,0.3s,mb4.1,baz=96,slow=8.6,SNR=60						
WRA				PcP	PcP	14 38 19.6	+0.4
	comp=Z,0.4nm,0.9s,baz=98,slow=3.5,SNR=3.3						
WRA	**Warramunga Arr**	**34.52**	**268**	P	**P**	**14 35 44.7**	**-0.1**
WRA				PcP	PcP	14 38 19.6	+0.4
MAW	**Mawson**	**75.52**	**202**	P	**P**	**14 40 38.3**	**-1.6**
	comp=Z,1.1nm,0.6s,mb3.9,baz=156,slow=8.5,SNR=6.5						
MAW	**Mawson**	**75.52**	**202**	P	**P**	**14 40 38.3**	**-1.6**
NVAR	**Mina Array Bea**	**89.96**	**48**	P	**P**	**14 41 55.3**	**+0.1**
	comp=Z,0.3nm,0.6s,mb3.8,baz=221,slow=8.0,SNR=3.1						
NVAR	**Mina Array Bea**	**89.96**	**48**	P	**P**	**14 41 55.3**	**+0.1**
GERES	**GERESS Array B**	**148.90**	**331**	PKPbc	PKPbc	14 48 42.5	-0.7
	comp=Z,0.6nm,0.6s,baz=29,slow=3.0,SNR=4.9						
GERES	**GERESS Array B**	**148.90**	**331**	PKPbc	PKPbc	14 48 42.5	-0.7

*PGC **10** 14:39:10.2±3.0, 58°.55N×137°.10W, h1km, ML3.0/3, 124km Wsw of Haines, Ak Southeastern Alaska*
NEIC 10 14:39:09.9, 58°.57N×137°.19W, h6km, ML3.0(PGC), **ML2.6**(AEIC), **1D, After AEIC., Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLBC	**Pleasant Camp**	**0.98**	**25**	⇑P	Pg	14 39 27.2	-1.6
PLBC				⇑S	Sg	14 39 41.4	-0.2
BESE	**Bessie Mountai**	**1.23**	**89**	P	Pg	14 39 31.1	-2.3
BESE				S	Sg	14 39 48.2	-1.1
SKAG	**Skagway**	**1.31**	**46**	P	Pn	14 39 33.0	-1.8
SKAG				S	Sb	14 39 51.4	-0.6
PNL	**Peninsula**	**1.58**	**315**	P	Pn	14 39 36.1	-2.3
PNL				S	Sn	14 39 58.0	-1.2
SIT	**Sitka**	**1.82**	**146**	P	Pn	14 39 40.4	-1.3
SIT				S	Sn	14 40 02.8	-2.2
WHY	**Whitehorse**	**2.40**	**28**	P	Pn	14 39 49.1	-0.6
WHY	**Whitehorse**	**2.40**	**28**	Pn	Pn	14 39 50.5	+0.8
WHY				⇑Pg	Pg	14 39 52.9	-3.0
WHY				⇑Sg	Sg	14 40 25.7	-1.3
DLBC	**Dease Lake**	**3.76**	**89**	Pn	Pn	14 40 08.2	-0.2
DLBC				⇑Sg	Sg	14 41 04.2	-6.4
DAWY	**Dawson**	**5.61**	**350**	⇓Pn	Pn	14 40 34.4	+0.6

MAN 10 14:44:41, 10°.62N×126°.05E, h91km, mb4.4, ML3.3, MS3.1, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**1.00**	**213**	⇑*i*P	Pn	14 45 01.6	+0.8
SCPH				*e*S	Sn	14 45 16.1	+0.5
PLP	**Palo**	**1.18**	**297**	⇓*e*P	Pn	14 45 03.5	+0.6
PLP				*e*S	Sn	14 45 20.7	+1.4
MSLP	**Maasin**	**1.27**	**247**	*e*P	Pn	14 45 06.5	+2.6
MSLP				*e*S	Sn	14 45 21.9	+0.8
PVCP	**Virac**	**3.49**	**328**	*e*P	Pn	14 45 33.7	+0.6
PVCP				*e*S	Sn	14 46 05.5	-7.9

*ISCJB **10** 15:04:32.1±0.3, 38°.91N±0°.02×35°.54E±0°.02, h10km, Error ellipse: s-maj=2.9km s-min=2.5km az=21.3*
*ISK **10** 15:04:32.3, 38°.88N×35°.64E, h5km, MD3.3*
*CSEM **10** 15:04:33.8±0.2, 38°.86N×35°.60E, h2km, MD3.5, Error ellipse: s-maj=4.6km s-min=4.0km az=30.0*
*DDA **10** 15:04:33.1, 38°.88N×35°.53E, h12km±2km, Md3.5*
ISC 10 15:04:32.7±0.4, 38°.90N±0°.02×35°.53E±0°.02, h4km±5km, n63, σ1§18/91, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AVNT	**Avonos**	**0.54**	**257**	*i* P	**Pg**	**15 04 43.7**	**+0.6**
AVNT				*i* S	**Sg**	**15 04 51.6**	**+1.5**
AVNT	**Avonos**	**0.54**	**257**	*i* P	**Pg**	**15 04 43.7**	**+0.6**
AVNT				*i* S	**Sg**	**15 04 51.6**	**+1.5**
PINB	**Pinarbasi**	**0.72**	**108**	*i* P	**Pg**	**15 04 46.5**	**0.0**
PINB				*i* S	**Sg**	**15 04 56.4**	**+0.6**
PINB	**Pinarbasi**	**0.72**	**108**	*i* P	**Pg**	**15 04 46.5**	**0.0**
PINB				*i* S	**Sg**	**15 04 56.4**	**+0.6**
YOZ	**Yozgat**	**0.76**	**348**	*e*PG	**Pg**	**15 04 48.8**	**+1.5**
YOZ				*e*SG	**Sg**	**15 05 00.5**	**+3.4**
YOZ	**Yozgat**	**0.76**	**348**	*e*Pg	**Pg**	**15 04 48.8**	**+1.5**
YOZ				*e*Sg	**Sg**	**15 05 00.5**	**+3.4**
SARI	**SarD1z-Kayseri**	**0.94**	**103**	*e*PG	**Pg**	**15 04 47.9**	**-2.9**
SARI				*e*SG	**Sg**	**15 05 00.0**	**-2.9**
SARI	**SarD1z-Kayseri**	**0.94**	**103**	*e*Pg	**Pg**	**15 04 47.9**	**-2.8**
SARI				*e*Sg	**Sg**	**15 05 00.0**	**-2.9**
CDAG	**Cicekdag**	**1.15**	**309**	*i* P	**Pg**	**15 04 55.8**	**+1.0**
CDAG				*i* S	**Sg**	**15 05 10.5**	**+0.7**
CDAG	**Cicekdag**	**1.15**	**309**	*i* P	**Pg**	**15 04 55.8**	**+1.0**
KOZT	**Kozan**	**1.44**	**171**	*e*PN	**Pn**	**15 04 59.9**	**+0.3**
ANDN	**Andirin**	**1.47**	**154**	*i* P	**Pg**	**15 05 01.4**	**+0.6**
ANDN				*i* S	**Sg**	**15 05 20.8**	**+1.0**
ANDN	**Andirin**	**1.47**	**154**	*i* P	**Pg**	**15 05 01.4**	**+0.6**
ANDN				*i* S	**Sg**	**15 05 20.8**	**+1.0**
TOKA	**Tokat**	**1.60**	**27**	*i* P	**Pg**	**15 05 03.3**	**-0.1**
TOKA				*i* S	**Sg**	**15 05 26.7**	**+2.6**
TOKA	**Tokat**	**1.60**	**27**	*i* P	**Pg**	**15 05 03.3**	**-0.1**
TOKA				*i* S	**Sg**	**15 05 26.7**	**+2.6**
TOKT	**Tokat**	**1.62**	**29**	*e*PN	**Pn**	**15 05 03.0**	**+0.9**
TOKT	**Tokat**	**1.62**	**29**	*e*Pn	**Pn**	**15 05 03.0**	**+0.9**
KARA	**Karaisali**	**1.68**	**193**	*e*PN	**Pn**	**15 05 03.7**	**+0.8**
KARA	**Karaisali**	**1.68**	**193**	*e*Pn	**Pn**	**15 05 03.7**	**+0.8**
GULE	**Gulek**	**1.72**	**200**	*i* P	**Pg**	**15 05 04.9**	**-0.8**

TUTA				*i* S	**Sg**	**15 07 32.3 +1.3**
TUTA	**Tutak**	**1.53**	**89**	*i* P	**Pn**	**15 07 08.9 -0.8**
TUTA				*i* S	**Sg**	**15 07 32.3 +1.3**
SVRC	**Sivrice-ELAZIG**	**1.56**	**231**	*e*PN	**Pn**	**15 07 10.6 +0.4**
SVRC	**Sivrice-ELAZIG**	**1.56**	**231**	*e*Pn	**Pn**	**15 07 10.6 +0.4**
DDEM	**Demirkent**	**1.66**	**24**	*i* P	**Pg**	**15 07 12.3 -1.5**
DDEM				*i* S	**Sg**	**15 07 36.8 +1.5**
DDEM	**Demirkent**	**1.66**	**24**	*i* P	**Pg**	**15 07 12.3 -1.5**
DDEM				*i* S	**Sg**	**15 07 36.8 +1.5**
AGRB	**Hanur-Agry**	**1.67**	**83**	*e*PN	**Pn**	**15 07 11.5 -0.2**
AGRB	**Hanur-Agry**	**1.67**	**83**	*e*Pn	**Pn**	**15 07 11.5 -0.2**
DAGI	**Agillar**	**1.88**	**25**	*i* P	**Pn**	**15 07 15.1 +0.4**
DAGI				*i* S	**Sg**	**15 07 41.3 -1.1**
MARD	**Mardin**	**2.07**	**181**	*e*P	**Pg**	**15 07 18.4 -3.1**
CLDR	**Caldiran**	**2.40**	**95**	*e*PN	**Pn**	**15 07 22.1 +0.4**
CLDR	**Caldiran**	**2.40**	**95**	*e*Pn	**Pn**	**15 07 22.1 +0.4**
URFA	**Urfa**	**2.51**	**220**	*e*PN	**Pn**	**15 07 24.1 +0.9**
URFA	**Urfa**	**2.51**	**220**	*e*Pn	**Pn**	**15 07 24.1 +0.9**
CUKT	**Cukurca**	**3.04**	**134**	*e*PN	**Pn**	**15 07 31.5 +0.9**
CUKT	**Cukurca**	**3.04**	**134**	*e*Pn	**Pn**	**15 07 31.5 +0.9**
GNI	**Garni**	**3.10**	**74**	*e*PN	**Pn**	**15 07 32.5 +1.1**
GNI	**Garni**	**3.10**	**74**	*e*Pn	**Pn**	**15 07 32.5 +1.1**
SARI	**SarD1z-Kayseri**	**3.31**	**259**	*e*PN	**Pg**	**15 07 39.5 -5.7**

*LDG **10** 15:10:53.3±0.4, 12°.68S×167°.96E, h10km, Mb4.6/2, Error ellipse: s-maj=62.1km s-min=11.9km az=91.0*
*IDC **10** 15:11:10.7±2.6, 14°.19S×167°.40E, h172km±20km, mb4.0/16, mb1 4.2/16, mb1mx4.1/20, mbtmp4.0/16, Error ellipse: s-maj=21.9km s-min=13.4km az=116.0*
*ISCJB **10** 15:11:15.8±1.3, 14°.19S±0°.06×167°.26E±0°.10, h232km±12km, mb4.2/22, Error ellipse: s-maj=15.4km s-min=10.1km az=0.3*
*NEIC **10** 15:11:16.3±1.3, 14°.20S×167°.25E, h218km±11km, mb4.3/4, Error ellipse: s-maj=11.9km s-min=9.0km az=92.0*

ISC 10 15:11:16.3±1.3, 14°.20S±0°.06×167°.27E±0°.10, h222km±11km, n127, σ0s89/54, mb4.2/22, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.87**	**186**		*e*P	**Pn**		**15 13 08.3**	**+0.5**
DZM					*e*S	**S**		**15 14 35.9**	**-1.3**
DZM	**Mont Dzumac**	**7.87**	**186**		*e*P	**Pn**		**15 13 08.2**	**+0.4**
HNR	**Honiara**	**8.59**	**303**		*e*P	**Pn**		**15 13 17.1**	**-0.2**
EIDS	**Eidsvold**	**18.83**	**231**		*e*P	**P**		**15 15 21.1**	**+1.4**
EIDS	**Eidsvold**	**18.83**	**231**		*e*P	**P**		**15 15 21.0**	**+1.3**
CTA	**Charters Tower**	**20.91**	**251**	P		**P**		**15 15 43.0**	**+1.1**
	17nm,0.9s,baz=80,slow=9.8,SNR=9.8								
CTA	**Charters Tower**	**20.91**	**251**		*e*P	**P**		**15 15 43.3**	**+1.4**
	9.9nm,0.8s								
CTA	**Charters Tower**	**20.91**	**251**	P		**P**		**15 15 43.0**	**+1.1**
CTAO	**Charters Tower**	**20.91**	**251**		*e*P	**P**		**15 15 43.0**	**+1.1**
	12nm,0.7s								
RMQ	**Roma**	**21.20**	**232**		*e*P	**P**		**15 15 45.9**	**+1.0**
	29nm,0.6s,mb5.0								
ARMA	**Armidale**	**21.64**	**219**		*e*P	**P**		**15 15 50.1**	**+0.8**
COEN	**Coen**	**23.37**	**268**		*e*P	**P**		**15 16 05.8**	**+0.5**
YNG	**Young**	**26.30**	**217**		*e*P	**P**		**15 16 32.3**	**+0.7**
	2.9nm,0.4s,mb4.3								
STKA	**Stephens Creek**	**29.34**	**229**	P		**P**		**15 16 59.4**	**+0.8**
	9.0nm,0.5s,mb4.7,baz=48,slow=8.1,SNR=55								
STKA				PcP		PcP		15 19 58.6	-0.5
	1.4nm,0.6s,baz=50,slow=3.9,SNR=3.8								
STKA	**Stephens Creek**	**29.34**	**229**		*e*P	**P**		**15 16 59.1**	**+0.6**
	7.4nm,0.5s,mb4.6								
STKA	**Stephens Creek**	**29.34**	**229**	P		**P**		**15 16 59.4**	**+0.8**
STKA				PcP		PcP		15 19 58.6	-0.5
TOO	**Toolangi**	**30.28**	**216**		*e*P	**P**		**15 17 06.9**	**+0.2**
WRAB	**Tennant Creek**	**31.95**	**255**		*e*P	**P**		**15 17 20.0**	**-1.6**
	4.2nm,0.5s,mb4.2								
WRA	**Warramunga Arr**	**31.96**	**255**	P		**P**		**15 17 20.5**	**-1.2**
	7.2nm,0.6s,mb4.4,baz=86,slow=9.5,SNR=126								
WRA				PcP		PcP		15 20 06.8	+0.5
	1.0nm,0.7s,baz=85,slow=3.1,SNR=6.8								
WRA	**Warramunga Arr**	**31.96**	**255**	P		**P**		**15 17 20.5**	**-1.2**
WRA				PcP		PcP		15 20 06.8	+0.5
ASAR	**Alice Springs**	**32.87**	**248**	P		**P**		**15 17 28.5**	**-1.0**
	6.0nm,0.4s,mb4.4,baz=76,slow=9.5,SNR=313								
ASAR				PcP		PcP		15 20 08.7	-0.2
	0.7nm,0.6s,baz=74,slow=2.2,SNR=6.3								
ASAR				S		**S**		**15 22 29.1**	**-1.3**
	1.3nm,1.1s,baz=67,slow=19,SNR=6.1								
ASAR	**Alice Springs**	**32.87**	**248**	P		**P**		**15 17 28.5**	**-1.0**
ASAR				PcP		PcP		15 20 08.7	-0.2
ASAR				S		**S**		**15 22 29.1**	**-1.3**
FORT	**Forrest**	**39.57**	**239**		*e*P	**P**		**15 18 25.8**	**-0.3**
	19nm,0.5s,mb4.8								
FITZ	**Fitzroy Crossi**	**40.12**	**259**	P		**P**		**15 18 30.4**	**-0.4**
	4.0nm,0.7s,mb4.0,baz=85,slow=6.7,SNR=13								
FITZ	**Fitzroy Crossi**	**40.12**	**259**		*e*P	**P**		**15 18 30.2**	**-0.6**
	8.0nm,0.9s,mb4.2								
FITZ	**Fitzroy Crossi**	**40.12**	**259**	P		**P**		**15 18 30.4**	**-0.4**
KLBR	**Kellerberrin**	**48.36**	**240**		*e*P	**P**		**15 19 34.6**	**-1.3**
	32nm,1.5s,mb4.4								
MJAR	**Matsushiro Arr**	**57.44**	**332**	P		**P**		**15 20 41.5**	**-0.5**
	3.5nm,0.7s,mb4.1,baz=178,slow=8.6,SNR=7.6								
MJAR	**Matsushiro Arr**	**57.44**	**332**	P		**P**		**15 20 41.5**	**-0.5**
MAT	**Matsushiro**	**57.44**	**332**	PKP		**P**		**15 20 40.1**	**-1.9**
KSRS	**Korea Array**	**63.31**	**326**	P		**P**		**15 21 21.6**	**0.0**
	2.5nm,0.8s,mb3.9,baz=140,slow=7.2,SNR=6.5								
VNDA	**Vanda**	**63.39**	**181**	P		**P**		**15 21 21.6**	**+0.1**
	0.9nm,0.9s,mb3.4,baz=0.0,slow=4.0,SNR=4.0								
VNDA	**Vanda**	**63.39**	**181**	P		**P**		**15 21 21.6**	**+0.1**
PETK	**Petropavlovsk-**	**67.54**	**354**	P		**P**		**15 21 49.2**	**+0.9**
	6.9nm,0.8s,mb4.3,baz=153,slow=7.8,SNR=10								
PETK	**Petropavlovsk-**	**67.54**	**354**	P		**P**		**15 21 49.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**74.74**	**294**	P		**P**		**15 22 33.5**	**+1.2**
	2.0nm,0.7s,mb3.9,baz=127,slow=4.4,SNR=9.8								
CMAR	**Chiang Mai Arr**	**74.74**	**294**	P		**P**		**15 22 33.5**	**+1.2**
QSPA	**South Pole Qui**	**75.82**	**180**		*e*P	**P**		**15 22 37.4**	**-0.1**
	1.6nm,0.7s,mb3.8								
ULN	**Ulaanbaatar**	**81.71**	**324**		*e*P	**P**		**15 23 10.7**	**+0.8**
	8.6nm,1.3s,mb4.2								
SONM	**Songino Array**	**82.08**	**324**	P		**P**		**15 23 12.6**	**+0.9**
	1.3nm,0.4s,mb3.9,baz=140,slow=5.6,SNR=20								
SONM	**Songino Array**	**82.08**	**324**	P		**P**		**15 23 12.6**	**+0.9**
MAW	**Mawson**	**82.37**	**202**	P		**P**		**15 23 13.4**	**+0.4**
	2.1nm,0.6s,mb3.9,baz=92,slow=6.6,SNR=14								
MAW	**Mawson**	**82.37**	**202**	P		**P**		**15 23 13.4**	**+0.4**
ILAR	**Eielson Array**	**86.03**	**18**	P		**P**		**15 23 30.1**	**-1.1**
	1.3nm,0.7s,mb3.8,baz=238,slow=5.0,SNR=19								
ILAR	**Eielson Array**	**86.03**	**18**	P		**P**		**15 23 30.1**	**-1.1**
NVAR	**Mina Array Bea**	**86.93**	**49**	P		**P**		**15 23 36.2**	**-0.1**
	0.3nm,0.2s,mb3.6,baz=257,slow=8.2,SNR=6.5								
NVAR	**Mina Array Bea**	**86.93**	**49**	P		**P**		**15 23 36.2**	**-0.1**
MKAR	**Makanchi Array**	**96.83**	**316**	P		**P**		**15 24 22.6**	**+0.7**
	2.4nm,0.6s,mb4.6,baz=96,slow=6.0,SNR=25								
MKAR	**Makanchi Array**	**96.83**	**316**	P		**P**		**15 24 22.6**	**+0.7**
ZALV	**Zalesovo Beam**	**96.97**	**324**	P		**P**		**15 24 21.9**	**-0.5**
	2.3nm,0.7s,mb4.5,baz=104,slow=4.7,SNR=8.9								
ZALV	**Zalesovo Beam**	**96.97**	**324**	P		**P**		**15 24 21.9**	**-0.5**
ARCES	**ARCESS Array B**	**119.74**	**345**	PKP		PKPdf		15 29 39.2	0.0
	2.3nm,0.6s,baz=61,slow=1.9,SNR=25								
ARCES	**ARCESS Array B**	**119.74**	**345**	PKP		PKPdf		15 29 39.2	0.0
FINES	**FINESS Array B**	**125.24**	**338**	PKP		PKPdf		15 29 50.6	+0.6
	4.5nm,0.9s,baz=40,slow=3.2,SNR=4.8								
FINES	**FINESS Array B**	**125.24**	**338**	PKP		PKPdf		15 29 50.6	+0.6
NOA	**NORSAR Array B**	**130.12**	**345**	PKP		PKPdf		15 29 59.3	0.0
	0.7nm,0.7s,baz=-39,slow=2.6,SNR=3.4								
NOA	**NORSAR Array B**	**130.12**	**345**	PKP		PKPdf		15 29 59.3	0.0
AKASG	**Malin Array Be**	**130.30**	**326**	PKP		PKPdf		15 30 00.3	+0.3
	0.4nm,0.3s,baz=48,slow=3.1,SNR=4.3								
AKASG	**Malin Array Be**	**130.30**	**326**	PKP		PKPdf		15 30 00.3	+0.3
BRTR	**Keskin Array B**	**132.17**	**311**	PKP		PKPdf		15 30 05.0	+1.1
	0.4nm,0.6s,baz=327,slow=2.1,SNR=3.7								
BRTR	**Keskin Array B**	**132.17**	**311**	PKP		PKPdf		15 30 05.0	+1.1
GERES	**GERESS Array B**	**139.18**	**333**	PKP		PKPdf		15 30 18.5	+1.9
	1.2nm,0.7s,baz=70,slow=2.0,SNR=6.1								
GERES				SKP				15 33 35.3	
	0.2nm,0.3s,baz=28,slow=3.2,SNR=5.1								
GERES	**GERESS Array B**	**139.18**	**333**	PKP		PKPdf		15 30 18.5	+1.9
GERES				SKP				15 33 35.3	
LDF	**La Druitiere**	**144.16**	**346**	*e*PKP1		PKPdf		15 30 25.5	0.0
	5.3nm,0.5s								
LDF	**La Druitiere**	**144.16**	**346**	*e*PKP		PKPdf		15 30 25.5	0.0
LOR	**Lormes**	**144.24**	**341**	*e*PKP1		PKPdf		15 30 25.2	-0.5
LOR	**Lormes**	**144.24**	**341**	*e*PKP		PKPdf		15 30 25.2	-0.5
GRR	**Gorron**	**144.53**	**346**	*e*PKP1		PKPdf		15 30 25.8	-0.4
	25nm,0.7s								
GRR	**Gorron**	**144.53**	**346**	*e*PKP		PKPdf		15 30 25.8	-0.4
SSF	**Saint Saulge**	**144.54**	**341**	*e*PKP1		PKPdf		15 30 26.3	+0.1
	41nm,0.9s								
SSF	**Saint Saulge**	**144.54**	**341**	*e*PKP		PKPdf		15 30 26.3	+0.1
LPL	**La Plagne**	**144.71**	**336**	*e*PKP1		PKPdf		15 30 27.4	+0.8
	19nm,0.7s								
LPL	**La Plagne**	**144.71**	**336**	*e*PKP		PKPdf		15 30 27.4	+0.8
LPG	**La Plagne**	**144.72**	**336**	*e*PKP1		PKPdf		15 30 27.5	+0.9
	24nm,0.7s								
LPG	**La Plagne**	**144.72**	**336**	*e*PKP		PKPdf		15 30 27.5	+0.9
SMF	**Signal de Mont**	**144.80**	**340**	*e*PKP		PKPdf		15 30 26.9	+0.2
	23nm,0.8s								
SMF	**Signal de Mont**	**144.80**	**340**	*e*PKP1		PKPdf		15 30 26.9	+0.2
AVF	**Avril sur Loir**	**144.83**	**341**	*e*PKP1		PKPdf		15 30 26.9	+0.1
	19nm,0.8s								
AVF	**Avril sur Loir**	**144.83**	**341**	*e*PKP		PKPdf		15 30 26.9	+0.1
SGMF	**Saint Gilles**	**145.02**	**348**	*e*PKP1		PKPbc		15 30 27.3	+0.4
	26nm,0.6s								
SGMF	**Saint Gilles**	**145.02**	**348**	*e*PKP		PKPdf		15 30 27.3	+0.3
ROSF	**Rostrenen**	**145.07**	**349**	*e*PKP1		PKPbc		15 30 28.7	+1.6
ROSF	**Rostrenen**	**145.07**	**349**	*e*PKP		PKPbc		15 30 28.7	+1.6
BGF	**Bois d'Agland**	**145.19**	**341**	*e*PKP1		PKPbc		15 30 28.3	+0.8
	30nm,0.8s								
BGF	**Bois d'Agland**	**145.19**	**341**	*e*PKP		PKPdf		15 30 28.3	+0.9
MBDF	**Montbardon**	**145.35**	**335**	*e*PKP1		PKPbc		15 30 28.8	+0.8
	19nm,0.7s								
MBDF	**Montbardon**	**145.35**	**335**	*e*PKP		PKPbc		15 30 28.8	+0.8
QUIF	**Quistinic**	**145.46**	**349**	*e*PKP1		PKPbc		15 30 29.2	+0.9
QUIF	**Quistinic**	**145.46**	**349**	*e*PKP		PKPbc		15 30 29.2	+0.9
ORIF	**Oris-en-Rattie**	**145.55**	**336**	*e*PKP1		PKPbc		15 30 29.8	+1.2
	31nm,0.6s								
ORIF	**Oris-en-Rattie**	**145.55**	**336**	*e*PKP		PKPbc		15 30 29.8	+1.2
TCF	**Toulx Ste Croi**	**145.63**	**342**	*e*PKP1		PKPbc		15 30 29.6	+0.8
	12nm,0.7s								
TCF	**Toulx Ste Croi**	**145.63**	**342**	*e*PKP		PKPbc		15 30 29.6	+0.8
SBF	**Sospel**	**145.78**	**334**	*e*PKP1		PKPbc		15 30 29.8	+0.4
	36nm,0.7s								
SBF	**Sospel**	**145.78**	**334**	*e*PKP		PKPbc		15 30 29.8	+0.4
MFF	**Saint Martin d**	**146.02**	**344**	*e*PKP1		PKPbc		15 30 30.6	+0.6
	13nm,0.5s								
MFF	**Saint Martin d**	**146.02**	**344**	*e*PKP		PKPbc		15 30 30.6	+0.6
VIVF	**Saint-Julien-l**	**146.06**	**338**	*e*PKP1		PKPbc		15 30 31.1	+0.9
	16nm,0.9s								
VIVF	**Saint-Julien-l**	**146.06**	**338**	*e*PKP		PKPbc		15 30 31.1	+0.9
PGF	**Pioggiola**	**146.10**	**331**	*e*PKP1		PKPbc		15 30 31.1	+0.7
	38nm,0.8s								
PGF	**Pioggiola**	**146.10**	**331**	*e*PKP		PKPbc		15 30 31.1	+0.7
FRF	**La Foret Royal**	**146.36**	**334**	*e*PKP1		PKPbc		15 30 31.6	+0.5
	31nm,0.7s								
FRF	**La Foret Royal**	**146.36**	**334**	*e*PKP		PKPbc		15 30 31.6	+0.5
SMRF	**Simiane la Rot**	**146.45**	**336**	*e*PKP1		PKPbc		15 30 32.5	+1.2
	20nm,0.7s								
SMRF	**Simiane la Rot**	**146.45**	**336**	*e*PKP		PKPbc		15 30 32.5	+1.2
LMR	**La Mourre**	**146.60**	**334**	*e*PKP1		PKPbc		15 30 32.3	+0.5
	19nm,0.6s								
LMR	**La Mourre**	**146.60**	**334**	*e*PKP		PKPbc		15 30 32.3	+0.5
RJF	**Les Rejaudoux**	**146.73**	**342**	*e*PKP1		PKPbc		15 30 32.9	+0.8
	9.9nm,0.6s								
RJF	**Les Rejaudoux**	**146.73**	**342**	*e*PKP		PKPbc		15 30 32.9	+0.8
CAF	**Calviac**	**146.90**	**341**	*e*PKP1		PKPbc		15 30 33.6	+1.0
CAF	**Calviac**	**146.90**	**341**	*e*PKP		PKPbc		15 30 33.6	+1.0
LASF	**Ste Croix**	**147.03**	**338**	*e*PKP1		PKPbc		15 30 33.9	+1.0
	15nm,0.7s								
LASF	**Ste Croix**	**147.03**	**338**	*e*PKP		PKPbc		15 30 33.9	+1.0
LFF	**La Frestale**	**147.30**	**342**	*e*PKP1		PKPbc		15 30 34.5	+0.8
	21nm,0.6s								
LFF	**La Frestale**	**147.30**	**342**	*e*PKP		PKPbc		15 30 34.5	+0.8
MTLF	**Montolieu**	**148.25**	**339**	*e*PKP1		PKPbc		15 30 37.2	+1.0
	19nm,0.7s								
MTLF	**Montolieu**	**148.25**	**339**	*e*PKP		PKPbc		15 30 37.2	+1.0
SJPF	**Ste Jean**	**149.54**	**343**	*e*PKP1		PKPbc		15 30 40.6	+1.1
SJPF	**Ste Jean**	**149.54**	**343**	*e*PKP		PKPbc		15 30 40.6	+1.1
ETSF	**Etsaut**	**149.54**	**342**	*e*PKP1		PKPbc		15 30 40.9	+1.4
	12nm,0.7s								
ETSF	**Etsaut**	**149.54**	**342**	*e*PKP		PKPbc		15 30 40.9	+1.4
KEST	**Kesra**	**150.81**	**321**	PKPbc		PKPbc		15 30 43.9	+1.1
	5.2nm,0.8s,baz=312,slow=1.4,SNR=8.0								
KEST	**Kesra**	**150.81**	**321**	PKPbc		PKPbc		15 30 43.9	+1.2
ESDC	**Sonseca Array**	**153.48**	**345**	PKPab		PKPab		15 31 01.1	-0.6
	0.4nm,0.3s,baz=2.6,slow=3.1,SNR=4.1								
ESDC	**Sonseca Array**	**153.48**	**345**	PKPab		PKPab		15 31 01.1	-0.6
TORD	**Torodi Ar. Bea**	**165.94**	**267**	PKP		PKPdf		15 30 55.8	+0.3
	0.2nm,0.6s,baz=90,slow=1.6,SNR=2.5								
TORD				PKPab		PKPab		15 31 56.9	+0.1
	0.6nm,0.8s,baz=104,slow=5.0,SNR=4.4								
TORD	**Torodi Ar. Bea**	**165.94**	**267**	PKP		PKPdf		15 30 55.8	+0.3
TORD				PKPab		PKPab		15 31 56.9	+0.1

*IDC **10** 15:26:09.8±1.1, 35°.08N×74°.56E, h0km, mb3.7/6, mb1 3.9/10, mb1mx3.6/29, mbtmp3.7/10, ML3.4/4, Error ellipse: s-maj=31.6km s-min=19.8km az=63.0*
*ISCJB **10** 15:26:14.4±1.4, 35°.25N±0°.07×74°.6E±0°.1, h46km±16km, mb3.6/5, Error ellipse: s-maj=20.3km s-min=7.7km az=151.8*
*NEIC **10** 15:26:15.7±2.8, 35°.18N×74°.54E, h42km±24km, mb3.4/3, Error ellipse: s-maj=23.6km s-min=15.6km az=212.0*
*NNC **10** 15:26:19.5±2.6, 35°.38N×74°.23E, h38km±25km, mb3.4, mpv3.9, Error ellipse: s-maj=34.0km s-min=16.1km az=69.0*

ISC 10 15:26:17.2±1.1, 35°.26N±0°.07×74°.5E±0°.1, h56km±13km, n30, σ0s92/32, mb3.6/5, 3C-3D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DDI	**Dehra Dun**	**5.76**	**148**	*e*PKP		**Pn**		**15 27 35.5**	**-4.6**
DDI					*e*S	**Sn**		**15 28 45.0**	**+0.1**
KK31	**Karatay Array**	**8.42**	**340**	⇑P		**Pn**		**15 28 16.3**	**-0.1**
	4.9nm,0.8s,baz=151,slow=12,SNR=42								
KK31				⇑S		**Sn**		**15 29 48.9**	**-1.1**
	1.4nm,0.6s,baz=165,slow=19,SNR=4.5								
KKAR	**Karatay Array**	**8.42**	**340**	*e*P		**Pn**		**15 28 16.2**	**-0.2**
	5.9nm,0.8s								
MKAR	**Makanchi Array**	**12.92**	**25**	Pn		**Pn**		**15 29 18.5**	**+0.6**
	0.0nm,0.3s,baz=191,slow=7.0,SNR=2.2								
MKAR	**Makanchi Array**	**12.92**	**25**	Pn		**Pn**		**15 29 18.5**	**+0.6**
KURK	**Kurchatov**	**15.73**	**10**	Pn		**Pn**		**15 29 52.1**	**-2.9**
	0.0nm,0.3s,baz=198,slow=9.9,SNR=4.8								
KURK	**Kurchatov**	**15.73**	**10**	*e*P		**Pn**		**15 29 54.5**	**-0.6**
	4.3nm,0.7s								
AB31	**Akbulak array**	**17.61**	**327**	⇓P		**Pn**		**15 30 19.3**	**+0.8**
	4.7nm,1.1s,baz=141,slow=10,SNR=4.0								
ABKAR	**Akbulak array**	**17.61**	**327**	*e*P		**Pn**		**15 30 17.1**	**-1.4**
	1.8nm,0.7s								
BVA0	**Borovoye Array**	**18.00**	**352**	⇓P		**Pn**		**15 30 24.8**	**+1.6**
	0.6nm,1.1s,baz=158,slow=9.7,SNR=9.3								
BVAR	**Borovoye Array**	**18.00**	**352**	P		**Pn**		**15 30 24.0**	**+0.8**
	0.3nm,0.3s,baz=159,slow=9.0,SNR=11								
BVAR	**Borovoye Array**	**18.00**	**352**	P		**Pn**		**15 30 24.0**	**+0.8**
BRVK	**Borovoye**	**18.04**	**352**	⇑P		**Pn**		**15 30 25.4**	**+1.7**
	3.3nm,1.0s								
BRVK	**Borovoye**	**18.04**	**352**	P		**Pn**		**15 30 24.8**	**+1.1**
	2.0nm,0.7s								
AKTK	**Aktyubinsk**	**19.32**	**327**	P		**Pn**		**15 30 39.2**	**0.0**
AKTO	**Aktyubinsk**	**19.32**	**327**	⇓P		**Pn**		**15 30 38.8**	**-0.3**
	0.5nm,0.7s								
AKTO	**Aktyubinsk**	**19.32**	**327**	P		**Pn**		**15 30 39.2**	**0.0**
	0.4nm,0.3s,baz=114,slow=11,SNR=11								
ZAA0	**Zalesovo Array**	**20.03**	**18**	*e*P		**P**		**15 30 44.5**	**-0.9**
ZALV	**Zalesovo Beam**	**20.03**	**18**	P		**P**		**15 30 45.0**	**-0.3**
	2.9nm,0.5s,baz=214,slow=11,SNR=15								
ZALV	**Zalesovo Beam**	**20.03**	**18**	P		**P**		**15 30 45.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**27.37**	**121**	P		**P**		**15 31 57.1**	**-0.2**
	2.2nm,0.9s,mb3.7,baz=315,slow=11,SNR=10								
CMAR	**Chiang Mai Arr**	**27.37**	**121**	P		**P**		**15 31 57.1**	**-0.2**
ARCES	**ARCESS Array B**	**43.38**	**337**	P		**P**		**15 34 16.7**	**+3.1**
	1.6nm,0.8s,mb3.8,baz=121,slow=9.2,SNR=4.0								
ARCES	**ARCESS Array B**	**43.38**	**337**	P		**P**		**15 34 16.7**	**+3.1**
TORD	**Torodi Ar. Bea**	**68.56**	**271**	P		**P**		**15 37 14.2**	**-0.1**
	0.2nm,0.5s,mb3.3,baz=56,slow=5.0,SNR=1.6								
TORD	**Torodi Ar. Bea**	**68.56**	**271**	P		**P**		**15 37 14.2**	**-0.1**
ILAR	**Eielson Array**	**75.16**	**17**	P		**P**		**15 37 52.9**	**-0.2**
	0.9nm,1.1s,mb3.6,baz=184,slow=11,SNR=5.2								
ILAR	**Eielson Array**	**75.16**	**17**	P		**P**		**15 37 52.9**	**-0.2**
WRA	**Warramunga Arr**	**78.93**	**124**	P		**P**		**15 38 14.1**	**-0.8**
	0.3nm,0.6s,mb3.4,baz=320,slow=5.6,SNR=6.4								
WRA	**Warramunga Arr**	**78.93**	**124**	P		**P**		**15 38 14.1**	**-0.8**

*NNC **10** 15:33:55.2±3.1, 39°.64N×73°.78E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=27.0km s-min=17.3km az=2.0*

ISC 10 15:33:48.9±2.8, 39°.0N±0°.2×73°.6E±0°.1, h10km, n12, σ1s20/15, 4C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.94**	**73**			Pg	**Pn**	**15 34 19.4**	**-2.4**
KSH						Sg	**Sn**	**15 34 38.7**	**-7.5**
KSH							smax		
	comp=N,110nm,0.4s								
KSH							smax		
	comp=E,120nm,0.6s								
AML	**Almayashu**	**3.15**	**2**	P		**Pn**		**15 34 38.9**	**+0.4**
	SNR=55								
UCH	**Uchtor**	**3.33**	**12**	P		**Pn**		**15 34 42.0**	**+1.1**
	SNR=7.9								
KZA	**Kyzart**	**3.35**	**22**	P		**Pn**		**15 34 42.1**	**+0.9**
	SNR=15								
EKS2	**Erkin-Say**	**3.69**	**2**	P		**Pn**		**15 34 46.8**	**+0.9**
	SNR=11								
AAK	**Ala-Archa**	**3.72**	**10**	P		**Pn**		**15 34 45.7**	**-0.6**
	SNR=21								
KBK	**Karagaybulak**	**3.82**	**15**	P		**Pn**		**15 34 48.6**	**+0.9**
	SNR=8.2								
CHMS	**Chumysh**	**4.12**	**12**	P		**Pn**		**15 34 55.5**	**+3.8**
	SNR=6.3								
TKM2	**Tokmak 2**	**4.23**	**21**	⇓Pn		**Pn**		**15 34 52.2**	**-1.1**
	comp=E,5.4nm,0.5s								
TKM2				⇓Lg				15 35 47.4	
	comp=E,12nm,0.5s								
USP	**Ospenovka**	**4.34**	**9**	P		**Pn**		**15 35 00.2**	**+5.4**
	SNR=18								
KK31	**Karatay Array**	**4.73**	**332**	Pn		**Pn**		**15 35 01.8**	**+1.5**
	comp=E,0.9nm,0.3s,baz=137,slow=13

GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
GYA pmax pmax
comp=Z,90nm,5.3s
GYA LR LR
comp=N,460nm,18.2s
GYA LR LR
comp=E,340nm,19.7s
GYA LR LR
comp=Z,400nm,17.0s
BJI Beijing 56.09 327 P **P** **15 48 25.3 +0.8**
BJI S **S** **15 56 10.0 +1.3**
BJI pmax pmax
comp=Z,14nm,0.5s,mb5.2
BJI LR LR
comp=Z,140nm,20.6s
KMI Kunming 56.70 305 P **P** **15 48 30.9 +1.7**
KMI pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
CMAR Chiang Mai Arr 57.41 296 P **P** **15 48 34.3 0.0**
comp=Z,2.7nm,0.7s,mb4.4,baz=120,slow=5.8,SNR=21
CMAR LR LR 16 13 19.8
comp=Z,105nm,18.6s,baz=15,slow=36
CMAR Chiang Mai Arr 57.41 296 P **P** **15 48 34.3 0.0**
CMAR LR LR 16 13 19.8
PPT Papeete 58.35 107 *e*LR LR 16 05 45.3
comp=Z,57nm,22.5s
CD2 Chengdu 58.59 311 P **P** **15 48 43.0 +0.7**
CD2 pP pP 15 48 59.0 +0.1
CD2 sP sP 15 49 06.0 +0.1
CD2 PP PP 15 50 55.1 +2.4
CD2 S **S** **15 56 41.0 -1.0**
CD2 sS sS 15 57 08.3 -1.7
CD2 SS SS 16 00 35.7 -0.1
CD2 pmax pmax
comp=Z,30nm,0.5s,mb5.6
CD2 pmax pmax
comp=Z,460nm,6.1s
CD2 LR LR
comp=N,430nm,7.1s
CD2 LR LR
comp=Z,320nm,7.1s
PETK Petropavlovsk- 58.72 4 P **P** **15 48 42.2 -0.6**
comp=Z,4.0nm,1.1s,mb4.4,baz=152,slow=6.7,SNR=5.1
PETK LR LR 16 08 51.6
comp=Z,90nm,20.4s,baz=16,slow=31
PETK Petropavlovsk- 58.72 4 P **P** **15 48 42.2 -0.6**
PETK LR LR 16 08 51.6
TBI Tubuai 59.05 114 *e*LR LR 16 06 03.5
comp=Z,96nm,33.2s
HHC Hu-ho-hao-te 59.20 325 *e*P **P** **15 48 47.0 +0.7**
HHC pP pP 15 49 03.0 +0.1
HHC sP sP 15 49 10.1 +0.2
HHC PcP PcP 15 49 34.6 +0.4
HHC PP PP 15 51 00.1 +2.3
HHC S **S** **15 56 49.2 -0.2**
HHC sS sS 15 57 16.5 -0.9
HHC pmax pmax
comp=Z,14nm,0.7s,mb5.1
HHC pmax pmax
comp=Z,130nm,5.1s
HHC LR LR
comp=N,160nm,12.6s
HHC LR LR
comp=E,200nm,13.1s
HHC LR LR
comp=Z,240nm,15.1s
LZH Lanzhou 61.20 317 *e*P **P** **15 49 01.0 +0.9**
LZH pP pP 15 49 17.1 +0.4
LZH sP sP 15 49 24.3 +0.5
LZH PP PP 15 51 18.5 +2.9
LZH pmax pmax
comp=Z,19nm,1.2s,mb5.1
LZH pmax pmax
comp=Z,56nm,6.2s
LZH LR LR
comp=E,400nm,15.6s
LZH LR LR
comp=Z,500nm,18.3s
GTA Gaotai 65.65 318 *e*P **P** **15 49 29.4 -0.1**
GTA pmax pmax
comp=Z,4.0nm,1.2s,mb4.3
ULN Ulaanbaatar 66.22 329 *e*P **P** **15 49 33.0 +0.1**
comp=Z,9.4nm,0.9s,mb4.8
SONM Songino Array 66.54 328 P **P** **15 49 34.9 -0.1**
comp=Z,6.2nm,0.7s,mb4.8,baz=145,slow=5.0,SNR=44
SONM LR LR 16 16 54.2
comp=Z,124nm,19.5s,baz=165,slow=34
SONM Songino Array 66.54 328 P **P** **15 49 34.9 -0.1**
SONM LR LR 16 16 54.2
LSA Lhasa 67.96 305 P **P** **15 49 44.6 +0.2**
LSA Lhasa 67.96 305 *e*P **P** **15 49 44.5 +0.1**
comp=Z,9.6nm,1.2s,mb4.7
BILL Bilibino 74.20 6 *e*P **P** **15 50 21.2 0.0**
comp=Z,8.5nm,1.1s,mb4.6
WMQ Urumqi 75.74 318 P **P** **15 50 30.6 -0.1**
MK31 Makanchi Array 80.35 319 *e*P **P** **15 50 55.9 -0.3**
MKAR Makanchi Array 80.35 319 P **P** **15 50 56.0 -0.2**
comp=Z,3.5nm,0.7s,mb4.4,baz=101,slow=6.3,SNR=26
MKAR Makanchi Array 80.35 319 P **P** **15 50 56.0 -0.2**
ZALV Zalesovo Beam 81.34 327 P **P** **15 50 59.6 -1.6**
comp=Z,3.0nm,0.5s,mb4.4,baz=115,slow=5.8,SNR=13
ZALV Zalesovo Beam 81.34 327 P **P** **15 50 59.6 -1.6**
ILAR Eielson Array 83.27 22 P **P** **15 51 09.8 -1.3**
comp=Z,2.1nm,0.6s,mb4.4,baz=246,slow=5.2,SNR=51
ILAR Eielson Array 83.27 22 P **P** **15 51 09.8 -1.3**
TKM2 Tokmak 2 83.85 314 *e*P **P** **15 51 15.0 +0.4**
KURK Kurchatov 83.86 322 *e*P **P** **15 51 13.1 -1.3**
comp=Z,18nm,1.1s,mb5.1
QSPA South Pole Qui 84.33 180 *e*P **P** **15 51 16.6 +0.2**
comp=Z,5.2nm,0.9s,mb4.7
MAW Mawson 84.46 203 P **P** **15 51 17.4 +0.1**
comp=Z,2.3nm,1.0s,mb4.3,baz=89,slow=4.9,SNR=5.3
MAW LR LR 16 25 46.8
comp=Z,95nm,19.2s,baz=274,slow=33
MAW Mawson 84.46 203 P **P** **15 51 17.4 +0.1**
MAW LR LR 16 25 46.8
AAK Ala-Archa 84.58 314 *e*P **P** **15 51 18.6 +0.4**
comp=Z,6.1nm,0.9s,mb4.7
EKS2 Erkin-Say 85.10 314 *e*P **P** **15 51 21.1 +0.2**
comp=Z,21nm,1.1s,mb5.2
KKAR Karatay Array 87.54 314 *e*P **P** **15 51 32.6 -0.3**
comp=Z,9.9nm,1.4s,mb4.8
BVAR Borovoye Array 89.36 323 P **P** **15 51 39.4 -1.8**
comp=Z,5.6nm,0.8s,mb5.0,baz=108,slow=4.8,SNR=28
BVAR Borovoye Array 89.36 323 P **P** **15 51 39.4 -1.8**
BRVK Borovoye 89.43 323 P **P** **15 51 38.1 -3.4**
comp=Z,9.0nm,1.1s,mb5.0
MOD Modoc 92.09 48 *e*P **P** **15 51 54.5 +0.3**
comp=Z,4.2nm,1.1s,mb4.7
NVAR Mina Array Bea 93.31 52 P **P** **15 52 01.5 +1.6**
comp=Z,3.4nm,1.0s,mb4.7,baz=258,slow=5.7,SNR=12
NVAR Mina Array Bea 93.31 52 P **P** **15 52 01.5 +1.6**
ABKAR Akbulak array 95.49 319 *e*P **P** **15 52 06.3 -3.4**
comp=Z,0.8nm,0.7s,mb4.3
YKA Yellowknife Ar 96.58 28 P **P** **15 52 13.8 -0.5**
comp=Z,1.9nm,0.8s,mb4.6,baz=264,slow=4.6,SNR=4.2
YKA LR LR 16 32 17.0
comp=Z,8.2nm,18.9s,baz=330,slow=33
YKA Yellowknife Ar 96.58 28 P **P** **15 52 13.8 -0.5**
YKA LR LR 16 32 17.0
PDAR Pinedale Array 100.08 48 P Pdif 15 52 30.6 +0.4
comp=Z,1.2nm,1.0s,baz=249,slow=2.5,SNR=6.5
PDAR Pinedale Array 100.08 48 P Pdif 15 52 30.6 +0.4
GERES GERESS Array B 124.28 328 PKP PKPdf 15 57 43.3 -0.1
comp=Z,1.0nm,0.5s,baz=204,slow=2.9,SNR=10
GERES GERESS Array B 124.28 328 PKP PKPdf 15 57 43.3 -0.1
LPAZ La Paz 134.82 119 PKP PKPdf 15 58 06.0 +1.6
comp=Z,1.2nm,0.7s,baz=236,slow=4.1,SNR=5.5
LPAZ La Paz 134.82 119 PKP PKPdf 15 58 06.0 +1.6
CPUP Villa Florida 137.44 140 PKP PKPdf 15 58 10.2 +1.1
comp=Z,0.5nm,0.5s,baz=252,slow=6.4,SNR=2.9
CPUP Villa Florida 137.44 140 PKP PKPdf 15 58 10.2 +1.1
SDV Santo Domingo 137.72 83 *e*PKPdf PKPdf 15 58 10.7 +0.8
ESLA Sonseca Array 139.72 331 *e*PKPdf PKPdf 15 58 13.6 +0.7
TORD Torodi Ar. Bea 149.68 286 PKPbc PKPbc 15 58 35.2 -0.2
comp=Z,25nm,0.8s,baz=73,slow=2.6,SNR=138
TORD Torodi Ar. Bea 149.68 286 PKPbc PKPbc 15 58 35.2 -0.2

*ISCJB **10** 15:47:04.0±1.0, 19.°61S±0.°06×68.°8W±0.°1, h149km±11km, mb3.8/9, Error ellipse: s-maj=20.6km s-min=9.4km az=165.5*
*IDC **10** 15:47:04.5±1.6, 19.°59S×68.°91W, h134km±15km, mb3.4/7, mb1 3.6/10, mb1mx3.5/20, mbtmp3.4/10, MS3.7/2, Ms1 3.7/2, ms1mx2.7/24, Error ellipse: s-maj=25.5km s-min=12.5km az=80.0*
*NEIC **10** 15:47:05.3±1.0, 19.°52S×68.°75W, h142km±10km, mb4.6/1, Error ellipse: s-maj=18.5km s-min=9.0km az=75.0*
ISC 10 15:47:04.9±0.9, 19.°62S±0.°06×68.°9W±0.°1, h139km±10km, n36, σ0°66/29, mb3.8/9, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.38**	**12**	P	**Pn**	**15 47 57.1**	**+0.3**
	7.8nm,0.3s,baz=198,slow=7.5,SNR=210						
LPAZ				S	**Sn**	**15 48 37.5**	**+0.5**
	1.4nm,0.3s,baz=58,slow=19,SNR=2.2						
LPAZ	**La Paz**	**3.38**	**12**	*e*P	**Pn**	**15 47 57.0**	**+0.1**
LPAZ				S	**Sn**	**15 48 37.5**	**+0.5**
LCO	**Las Campanas**	**9.50**	**190**	P	**Pn**	**15 49 23.7**	**+5.3**
NNA	**Nana**	**10.79**	**314**	P	**Pn**	**15 49 35.3**	**-0.2**
	0.8nm,0.3s,baz=213,slow=10,SNR=2.0						
NNA	**Nana**	**10.79**	**314**	P	**Pn**	**15 49 35.4**	**-0.2**
CFAA	**Coronel Fontan**	**11.95**	**177**	P	**Pn**	**15 49 50.5**	**-0.2**
	0.1nm,0.3s,baz=349,slow=14,SNR=3.1						
CFAA	**Coronel Fontan**	**11.95**	**177**	P	**Pn**	**15 49 50.5**	**-0.2**
CPUP	**Villa Florida**	**12.55**	**124**	P	**Pn**	**15 49 57.4**	**-1.2**
	0.5nm,0.3s,baz=297,slow=11,SNR=5.4						
CPUP	**Villa Florida**	**12.55**	**124**	P	**Pn**	**15 49 57.4**	**-1.2**
TRQA	**Tornquist**	**19.33**	**163**	P	**P**	**15 51 19.6**	**+0.3**
PLCA	**Paso Flores**	**21.09**	**184**	P	**P**	**15 51 38.6**	**+0.4**
	0.8nm,0.5s,mb3.3,baz=335,slow=17,SNR=2.5						
PLCA	**Paso Flores**	**21.09**	**184**	P	**P**	**15 51 38.6**	**+0.4**
RCBR	**Riachuelo**	**34.86**	**71**	LR	LR	16 08 09.4	
	comp=Z,43nm,19.3s,baz=138,slow=36						
TXAR	**Lajitas Array**	**59.12**	**325**	P	**P**	**15 56 50.2**	**-0.7**
	0.2nm,0.6s,mb3.1,baz=162,slow=13,SNR=2.0						
TXAR	**Lajitas Array**	**59.12**	**325**	P	**P**	**15 56 50.2**	**-0.7**
SNAA	**Sanae**	**64.04**	**161**	P	**P**	**15 57 24.6**	**+1.3**
	0.2nm,0.7s,mb3.1,baz=288,slow=6.4,SNR=2.9						
SNAA	**Sanae**	**64.04**	**161**	P	**P**	**15 57 24.6**	**+1.3**
DBIC	**Dimbokro**	**68.17**	**74**	P	**P**	**15 57 50.8**	**+0.2**
	3.6nm,0.7s,mb4.2,baz=217,slow=8.1,SNR=5.2						
DBIC	**Dimbokro**	**68.17**	**74**	P	**P**	**15 57 50.8**	**+0.2**
PDAR	**Pinedale Array**	**72.51**	**330**	P	**P**	**15 58 15.4**	**-0.9**
	0.5nm,0.8s,mb3.3,baz=138,slow=6.9,SNR=3.8						
PDAR				LR	LR	16 34 52.1	
	comp=Z,108nm,18.0s,baz=258,slow=40						
PDAR	**Pinedale Array**	**72.51**	**330**	P	**P**	**15 58 15.4**	**-0.9**
PDAR				LR	LR	16 34 52.1	
ULM	**Lac du Bonnet**	**73.54**	**342**	P	**P**	**15 58 21.4**	**-0.8**
	2.1nm,0.6s,mb4.0,baz=131,slow=11,SNR=3.3						
ULM	**Lac du Bonnet**	**73.54**	**342**	P	**P**	**15 58 21.4**	**-0.8**
NVAR	**Mina Array Bea**	**74.05**	**322**	P	**P**	**15 58 26.3**	**+0.8**
	1.3nm,0.8s,mb3.7,baz=161,slow=6.5,SNR=7.4						
NVAR	**Mina Array Bea**	**74.05**	**322**	P	**P**	**15 58 26.3**	**+0.8**
HLID	**Hailey**	**75.48**	**328**	*e*P	**P**	**15 58 33.9**	**+0.3**
	24nm,2.0s,mb4.5						
YKA	**Yellowknife Ar**	**89.43**	**341**	P	**P**	**15 59 45.5**	**+0.1**
	5.4nm,0.8s,mb4.5,baz=132,slow=4.6,SNR=11						
YKA	**Yellowknife Ar**	**89.43**	**341**	P	**P**	**15 59 45.5**	**+0.1**
ASAR	**Alice Springs**	**131.59**	**208**	PKP	PKPdf	16 06 01.6	-0.2
	0.2nm,0.5s,baz=135,slow=1.6,SNR=9.3						
ASAR	**Alice Springs**	**131.59**	**208**	PKP	PKPdf	16 06 01.6	-0.2
WRA	**Warramunga Arr**	**134.58**	**211**	PKP	PKPdf	16 06 09.1	+1.6
	0.4nm,0.7s,baz=150,slow=1.6,SNR=6.6						
WRA	**Warramunga Arr**	**134.58**	**211**	PKP	PKPdf	16 06 09.1	+1.6
MKAR	**Makanchi Array**	**144.08**	**34**	PKP	PKPdf	16 06 23.4	-0.5
	0.2nm,0.6s,baz=319,slow=3.5,SNR=1.8						
MKAR	**Makanchi Array**	**144.08**	**34**	PKP	PKPdf	16 06 23.4	-0.5
SONM	**Songino Array**	**151.59**	**7**	PKPbc	PKPbc	16 06 43.8	+1.3
	1.6nm,0.7s,baz=301,slow=1.5,SNR=13						
SONM	**Songino Array**	**151.59**	**7**	PKPbc	PKPbc	16 06 43.8	+1.3

*NEIC **10** 15:52:58.2, 32.°55S×71.°62W, h14km±4km, MD3.6, ML2.6, 12C-2D, Near coast of central Chile*
GUC 10 15:52:58.2±0.7, 32.°55S×71.°62W, h14km±4km, MD3.6, ML2.6, 12C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.66**	**130**	*e*P	Pg	15 53 10.9	-0.2
ROCH				*i* S	Sg	15 53 20.6	+0.7
ROCH				AML	AML	15 53 27.0	
	comp=E,319nm,0.4s						
CHNG	**Los Chungos**	**0.67**	**8**	*i* P	Pg	15 53 10.8	-0.5
CHNG				*i* S	Sg	15 53 20.1	0.0
CHNG				AML	AML	15 53 21.2	
	comp=E,218nm,0.5s						
JACH	**Jahuel**	**0.87**	**99**	*i* P	Pb	15 53 14.3	-0.8
JACH				*i* S	Sg	15 53 26.2	-0.4
JACH	**Jahuel**	**0.87**	**99**	*i* P	Pb	15 53 14.3	-0.8
JACH				*i* S	Sg	15 53 26.2	-0.4
PEL	**Peldehue**	**0.98**	**127**	*i* P	Pb	15 53 16.1	-0.9
PEL				*i* S	Sb	15 53 29.4	-0.4
PEL				AML	AML	15 53 33.4	
	comp=E,611nm,0.3s						
RCDM	**Rinconada Maip**	**1.16**	**144**	*i* P	Pn	15 53 18.8	-1.2
RCDM				*i* S	Sb	15 53 33.8	-1.1
RCDM	**Rinconada Maip**	**1.16**	**144**	*i* P	Pn	15 53 18.8	-1.2
RCDM				*i* S	Sb	15 53 33.8	-1.1
RCDM				AML	AML	15 53 35.5	
	comp=N,195nm,0.4s						
CLCH	**Cerro Calan**	**1.24**	**133**	*i* P	Pn	15 53 20.0	-1.1
CLCH				*i* S	Sb	15 53 36.6	-0.6
CLCH				AML	AML	15 53 45.1	
	comp=E,210nm,0.7s						
FCH	**Farellones**	**1.36**	**125**	*i* P	Pn	15 53 22.3	-0.4
FCH				*i* S	Sn	15 53 40.5	0.0
FCH				AML	AML	15 53 42.0	
	comp=E,211nm,0.3s						
PCH	**Pirque**	**1.42**	**139**	*i* P	Pn	15 53 22.7	-0.7
PCH	**Pirque**	**1.42**	**139**	*i* P	Pn	15 53 22.7	-0.7
CMCH	**Combarbala**	**1.47**	**21**	*e*P	Pn	15 53 23.0	-1.2
CMCH				*i* S	Sn	15 53 42.7	-0.4
CMCH	**Combarbala**	**1.47**	**21**	*e*P	Pn	15 53 23.0	-1.2
CMCH				*i* S	Sn	15 53 42.7	-0.4
CMCH				AML	AML	15 53 46.0	
	comp=N,875nm,0.7s						
CHCH	**Chadas Angostu**	**1.60**	**150**	*e*P	Pn	15 53 25.6	-0.4
CHCH				*e*S	Sn	15 53 46.3	-0.2
CHCH	**Chadas Angostu**	**1.60**	**150**	*e*P	Pn	15 53 25.6	-0.4
CHCH				*e*S	Sn	15 53 46.3	-0.2
LMEL	**Las Melosas**	**1.76**	**138**	*i* P	Pn	15 53 28.1	0.0
LMEL				*i* S	Sn	15 53 51.4	+1.0
LMEL	**Las Melosas**	**1.76**	**138**	*i* P	Pn	15 53 28.1	0.0
LMEL				*i* S	Sn	15 53 51.4	+1.0
LMEL				AML	AML	15 54 01.0	
	comp=N,134nm,0.3s						
CACH	**El Canelo**	**1.78**	**152**	*i* P	Pn	15 53 28.9	+0.3
CACH				*i* S	Sn	15 53 53.1	+2.1
CACH	**El Canelo**	**1.78**	**152**	*i* P	Pn	15 53 28.9	+0.3
CACH				*i* S	Sn	15 53 53.1	+2.1

*ISCJB **10** 16:00:26.3±1.8, 8.°75S±0.°05×79.°2W±0.°1, h48km±15km, mb4.4/19, MS4.2/5, Error ellipse: s-maj=22.0km s-min=6.8km az=166.9*
*NEIC **10** 16:00:29.8±0.3, 8.°81S×79.°19W, mb4.6/10, Error ellipse: s-maj=12.9km s-min=5.5km az=67.0*
NEIC Felt [III] at Chimbote and Salaverry and [II] at Casma and Trujillo.
*IDC **10** 16:00:29.7±0.7, 8.°77S×79.°12W, h61km±5km, mb3.9/11, mb1 4.2/12, mb1mx4.0/20, mbtmp3.9/12, MS3.3/5, Ms1 3.4/5, ms1mx3.1/28, Error ellipse: s-maj=25.2km s-min=9.6km az=59.0*
*BJI **10** 16:00:30.1, 8.°80S×79.°20W, h67km, mB5.2/2, Ms5.4/3, Ms7 4.9/3*
ISC 10 16:00:28.7±1.5, 8.°73S±0.°05×79.°1W±0.°1, h52km±14km, h64km±1.2km: pP-P, n69, σ0°89/50, mb4.4/19, MS4.2/5, 1D, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**1.73**	**23**	P	**Pn**	**16 01 01.9**	**+5.6**
	128nm,0.3s,baz=204,slow=4.9,SNR=1151						
ATAH				S	**Sn**	**16 01 16.1**	**-1.1**
	335nm,0.3s,baz=238,slow=6.1,SNR=20						
ATAH				LR	LR	16 01 55.6	
	comp=Z,804nm,21.4s,baz=252,slow=48						
NNA	**Nana**	**3.92**	**146**	P	**Pn**	**16 01 27.0**	**+0.7**
	159nm,0.3s,baz=316,slow=12,SNR=148						
NNA				S	**Sn**	**16 02 10.6**	**-0.5**
	243nm,0.3s,baz=229,slow=22,SNR=8.5						
NNA	**Nana**	**3.92**	**146**	*e*Pn	**Pn**	**16 01 26.8**	**+0.4**
NNA				*e*Sn	**Sn**	**16 02 10.0**	**-1.2**
OTAV	**Otavalo**	**8.93**	**4**	*e*Pn	**Pn**	**16 02 39.8**	**+4.6**
	16nm,0.8s						
LPAZ	**La Paz**	**13.06**	**126**	P	**Pn**	**16 03 33.2**	**+1.6**
	0.1nm,0.3s,baz=285,slow=10,SNR=3.4						
LPAZ				LR	LR	16 08 14.5	
	comp=Z,67nm,19.1s,baz=81,slow=36						
LPAZ	**La Paz**	**13.06**	**126**	*e*P	**Pn**	**16 03 32.6**	**+1.0**
	1.1nm,0.3s						
SDV	**Santo Domingo**	**19.42**	**26**	*e*P	**Pn**	**16 04 52.5**	**+0.1**
	16nm,0.8s						
CFAA	**Coronel Fontan**	**24.90**	**158**	P	**P**	**16 05 48.0**	**+1.3**
	0.3nm,0.6s,baz=331,slow=5.9,SNR=5.2						
CFAA				LR	LR	16 14 01.6	
	comp=Z,10nm,20.7s,baz=53,slow=33						
CFAA	**Coronel Fontan**	**24.90**	**158**	P	**P**	**16 05 48.0**	**+1.3**
CFAA				LR	LR	16 14 01.6	
CPUP	**Villa Florida**	**27.06**	**133**	LR	LR	16 17 30.5	
	comp=Z,70nm,18.7s,MS3.2,baz=107,slow=38						
PLCA	**Paso Flores**	**32.76**	**168**	P	**P**	**16 06 57.8**	**+1.1**
	2.5nm,0.9s,mb4.1,baz=345,slow=12,SNR=3.3						
PLCA				PcP	PcP	16 09 41.8	+0.7
	0.6nm,0.7s,baz=350,slow=9.9,SNR=2.9						
PLCA	**Paso Flores**	**32.76**	**168**	P	**P**	**16 06 55.8**	**-0.9**
	5.8nm,1.2s,mb4.4						
TRQA	**Tornquist**	**33.03**	**155**	P	**P**	**16 06 59.5**	**+0.5**
TXAR	**Lajitas Array**	**44.64**	**329**	P	**P**	**16 08 35.8**	**-0.5**
	0.4nm,0.7s,mb3.3,baz=159,slow=7.6,SNR=5.2						
TXAR				PcP	PcP	16 10 18.5	+0.2
	0.3nm,0.5s,baz=166,slow=7.4,SNR=4.4						
TXAR	**Lajitas Array**	**44.64**	**329**	P	**P**	**16 08 35.8**	**-0.5**
TXAR				PcP	PcP	16 10 18.5	+0.2
CCM	**Cathedral Cave**	**47.91**	**347**	*e*P	**P**	**16 09 02.1**	**+0.4**
	8.7nm,0.6s,mb5.0						
ANMO	**Albuquerque**	**50.57**	**331**	*e*P	**P**	**16 09 22.7**	**+0.5**
ECSD	**EROS Data Cent**	**54.59**	**344**	*e*P	**P**	**16 09 50.9**	**-0.8**
	3.7nm,0.6s,mb4.6						
HWUT	**Hardware Ranch**	**58.29**	**332**	*e*P	**P**	**16 10 18.6**	**+0.5**
	3.4nm,0.8s,mb4.4						
BW06	**Boulder Array**	**58.30**	**334**	*e*P	**P**	**16 10 17.6**	**-0.6**
	1.5nm,1.0s,mb4.0						
PDAR	**Pinedale Array**	**58.30**	**334**	P	**P**	**16 10 18.2**	**0.0**
	0.8nm,0.9s,mb3.8,baz=120,slow=5.8,SNR=5.8						
PDAR				pP	pP	16 10 35.2	+2.7
	0.9nm,0.9s,baz=150,slow=6.3,SNR=3.9						
PDAR				PcP	PcP	16 11 08.1	-0.8
	1.0nm,0.6s,baz=124,slow=7.5,SNR=6.3						
PDAR	**Pinedale Array**	**58.30**	**334**	P	**P**	**16 10 18.2**	**0.0**
PDAR				pP	pP	16 10 35.2	+2.7
PDAR				PcP	PcP	16 11 08.1	-0.8
NVAR	**Mina Array Bea**	**59.45**	**325**	P	**P**	**16 10 27.3**	**+1.0**
	1.5nm,0.7s,mb4.1,baz=130,slow=6.5,SNR=12						
NVAR				pP	pP	16 10 43.8	+3.2
	0.6nm,0.7s,baz=137,slow=8.4,SNR=3.3						
NVAR	**Mina Array Bea**	**59.45**	**325**	P	**P**	**16 10 27.3**	**+1.0**
NVAR				pP	pP	16 10 43.8	+3.2
RRI2	**Red Ridge**	**59.54**	**333**	*e*P	**P**	**16 10 27.4**	**+0.7**
	1.8nm,0.7s,mb4.2						
ULM	**Lac du Bonnet**	**60.53**	**348**	P	**P**	**16 10 32.9**	**-0.5**
	2.9nm,0.5s,mb4.7,baz=140,slow=12,SNR=7.1						
ULM				LR	LR	16 35 35.6	
	comp=Z,67nm,20.1s,MS3.8,baz=306,slow=35						
ULM	**Lac du Bonnet**	**60.53**	**348**	P	**P**	**16 10 32.9**	**-0.5**
ULM				LR	LR	16 35 35.6	
HRY	**Holter Researc**	**62.44**	**335**	*e*P	**P**	**16 10 46.6**	**+0.3**
VNA3	**Neumayer Olymp**	**75.22**	**162**	*e*	**P**	**16 12 03.5**	**-2.0**
VNA1	**Neumayer--Stat**	**75.50**	**161**	*e*	**P**	**16 12 05.3**	**-1.8**
DBIC	**Dimbokro**	**75.55**	**81**	P	**P**	**16 12 09.3**	**+0.9**
	9.5nm,0.8s,mb4.8,baz=248,slow=4.6,SNR=12						
DBIC				pP	pP	16 12 26.2	+2.9
	2.7nm,0.6s,baz=260,slow=9.3,SNR=2.3						
DBIC	**Dimbokro**	**75.55**	**81**	*e*P	**P**	**16 12 09.0**	**+0.5**
	11nm,0.8s,mb4.8						
VNA2	**Neumayer--Watz**	**75.85**	**161**	*e*	**P**	**16 12 06.8**	**-2.3**
	baz=300,slow=5.4						
YKA	**Yellowknife Ar**	**76.11**	**344**	P	**P**	**16 12 10.5**	**0.0**
	0.8nm,0.6s,mb3.9,baz=171,slow=30,SNR=3.4						
YKA	**Yellowknife Ar**	**76.11**	**344**	P	**P**	**16 12 10.5**	**0.0**
SNAA	**Sanae**	**77.44**	**162**	*e*P	**P**	**16 12 18.2**	**+0.2**
	15nm,1.1s,mb4.8						
QSPA	**South Pole Qui**	**81.38**	**180**	*e*P	**P**	**16 12 40.2**	**+0.9**
	20nm,1.1s,mb5.0						
TORD	**Torodi Ar. Bea**	**83.09**	**76**	P	**P**	**16 12 49.9**	**+0.3**
	10nm,0.9s,mb4.8,baz=274,slow=4.8,SNR=42						
TORD	**Torodi Ar. Bea**	**83.09**	**76**	P	**P**	**16 12 49.9**	**+0.3**
ESDC	**Sonseca Array**	**84.26**	**49**	P	**P**	**16 12 56.2**	**+1.2**
	1.9nm,0.6s,mb4.4,baz=256,slow=4.6,SNR=9.2						
ESDC	**Sonseca Array**	**84.26**	**49**	P	**P**	**16 12 56.2**	**+1.2**
SUMG	**Summit**	**85.28**	**11**	*i* P	**P**	**16 13 00.1**	**+0.7**
	8.8nm,0.8s,mb4.9						
VNDA	**Vanda**	**87.55**	**191**	P	**P**	**16 13 10.8**	**+0.2**
	1.0nm,0.9s,mb4.0,baz=101,slow=3.8,SNR=3.5						
VNDA				LR	LR	16 43 45.3	
	comp=Z,80nm,20.7s,MS4.1,baz=275,slow=30						
VNDA	**Vanda**	**87.55**	**191**	P	**P**	**16 13 10.8**	**+0.2**
VNDA				LR	LR	16 43 45.3	
ILAR	**Eielson Array**	**88.63**	**337**	P	**P**	**16 13 15.2**	**-0.6**
	1.8nm,0.9s,mb4.4,baz=151,slow=3.8,SNR=14						
ILAR	**Eielson Array**	**88.63**	**337**	P	**P**	**16 13 15.2**	**-0.6**
PPLA	**Purkeypile**	**90.14**	**334**	*e*P	**P**	**16 13 22.6**	**-0.3**
SYO	**Syowa Base**	**91.74**	**162**	*e*P	**P**	**16 13 29.2**	**-1.1**
STKA	**Stephens Creek**	**123.96**	**222**	PKP	PKPdf	16 19 20.7	-1.0
	1.8nm,0.6s,baz=125,slow=1.9,SNR=7.5						
STKA	**Stephens Creek**	**123.96**	**222**	PKP	PKPdf	16 19 20.7	-1.0
ZALV	**Zalesovo Beam**	**133.08**	**13**	PKP	PKPdf	16 19 38.0	-0.4
	0.8nm,0.3s,baz=273,slow=2.8,SNR=6.8						
ZALV				pPKP	pPKPdf	16 19 55.9	+1.8
	0.5nm,0.3s,baz=236,slow=1.6,SNR=1.7						
ZALV	**Zalesovo Beam**	**133.08**	**13**	PKP	PKPdf	16 19 38.0	-0.4
ZALV				pPKP	pPKPdf	16 19 55.9	+1.8
ASAR	**Alice Springs**	**134.44**	**224**	PKhKP	PKPpre	16 19 36.1	
	0.9nm,0.8s,baz=124,slow=2.9,SNR=1.1						
ASAR				PKP	PKPdf	16 19 41.0	-0.9
	1.9nm,0.7s,baz=118,slow=1.8,SNR=21						
ASAR				pPKP	pPKPdf	16 19 58.1	+0.6
	0.9nm,0.8s,baz=120,slow=2.4,SNR=4.0						
ASAR	**Alice Springs**	**134.44**	**224**	PKP	PKPpre	16 19 36.1	
ASAR				PKP	PKPdf	16 19 41.0	-0.9
ASAR				pPKP	pPKPdf	16 19 58.1	+0.6
WRA	**Warramunga Arr**	**136.48**	**229**	PKP	PKPdf	16 19 45.1	-0.6
	3.6nm,0.7s,baz=122,slow=1.9

KMI	Kunming	163.60	354	PKP	PKPdf	16 20 24.6	-2.0
CMAR	Chiang Mai Arr	170.14	11	PKP	PKPdf	16 20 31.2	-0.4
	comp=Z,1.4nm,0.8s,baz=282,slow=1.5,SNR=7.2						
CMAR				PKPab	PKPab	16 21 46.4	-0.7
	comp=Z,1.1nm,0.7s,baz=334,slow=5.0,SNR=5.5						
CMAR	Chiang Mai Arr	170.14	11	PKP	PKPdf	16 20 31.2	-0.4
CMAR				PKPab	PKPab	16 21 46.4	-0.7

WEL 10 16:40:14.8±0.3, 38°72'S×175°66'E, h150km±2km, ML3.7/12, 1C, Error ellipse: s-maj=2.5km s-min=2.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	Rangitukua	0.18	151	PN	Pn	16 40 34.6	-0.3
KATZ	Kakaramea	0.26	174	PN	Pn	16 40 35.1	-0.1
KRVZ	Karewarewa	0.38	182	PN	Pn	16 40 35.6	+0.1
TWVZ	Taurewa	0.40	206	PN	Pn	16 40 35.6	0.0
WTVZ	West Tongariro	0.41	188	PN	Pn	16 40 35.8	+0.2
OTVZ	Oturere	0.45	180	PN	Pn	16 40 36.0	+0.2
NGZ	Ngauruhoe	0.46	186	PN	Pn	16 40 36.0	+0.1
WPVZ	Whakapapa	0.50	190	PN	Pn	16 40 36.3	+0.3
FWVZ	Far West T-bar	0.55	189	PN	Pn	16 40 36.6	+0.3
TUVZ	Tukino	0.55	181	PN	Pn	16 40 36.7	+0.4
TUVZ				SN	Sn	16 40 53.1	+0.2
TRVZ	Turoa	0.59	189	PN	Pn	16 40 37.0	+0.5
WNVZ	Wahianoa	0.61	185	PN	Pn	16 40 37.1	+0.4
PKVZ	Pokaka	0.62	203	PN	Pn	16 40 36.9	+0.1
PKVZ				SN	Sn	16 40 54.1	+0.5
HIZ	Hauiti	0.66	287	PN	Pn	16 40 36.6	-0.4
MTVZ	Mangateitei	0.69	192	PN	Pn	16 40 37.4	+0.2
MOVZ	Moawhango	0.70	174	PN	Pn	16 40 37.1	-0.1
MOVZ				SN	Sn	16 40 53.4	-1.0
BKZ	Black Stump Fm	0.79	125	PN	Pn	16 40 37.4	-0.4
VRZ	Vera Road	0.81	239	PN	Pn	16 40 38.0	0.0
BHHZ	Black Hill Sta	0.83	158	PN	Pn	16 40 38.0	-0.1
NMHZ	Naumai	0.97	114	PN	Pn	16 40 39.7	+0.4
NMHZ				SN	Sn	16 40 59.0	+1.0
MCHZ	McNeill Hill	1.09	132	PN	Pn	16 40 40.9	+0.7
RAHZ	Arahi	1.13	101	PN	Pn	16 40 40.6	0.0
WAZ	Wanganui	1.17	207	PN	Pn	16 40 41.1	+0.1
URZ	Urewera	1.23	69	PN	Pn	16 40 39.8	-1.7
URZ				SN	Sn	16 40 58.2	-3.7
PNHZ	Pukenui	1.27	161	PN	Pn	16 40 41.9	0.0
TSZ	Takapari Road	1.36	170	PN	Pn	16 40 42.9	0.0
KAHZ	Kahuranaki	1.43	139	PN	Pn	16 40 43.8	+0.2
CKHZ	Cape Kidnapper	1.45	131	PN	Pn	16 40 44.0	+0.2
MWZ	Matawai	1.51	76	PN	Pn	16 40 43.5	-0.9
KNZ	Kokohu	1.60	102	PN	Pn	16 40 44.7	-0.6
PXZ	Pawanui	1.61	145	PN	Pn	16 40 45.2	-0.2
DVHZ	Dannevirke	1.63	166	PN	Pn	16 40 45.2	-0.4
POWZ	Post Office Ro	1.68	177	PN	Pn	16 40 45.7	-0.4
PRHZ	Porangahau	1.72	154	⇑PN	Pn	16 40 46.5	-0.2
MHGZ	Mahia Peninsul	1.81	105	PN	Pn	16 40 47.2	-0.4
MRZ	Mangatainoka R	1.95	182	PN	Pn	16 40 48.4	-0.8
TIWZ	Tintock	2.07	175	PN	Pn	16 40 50.0	-0.6
OGWZ	Otaki Gorge	2.13	190	PN	Pn	16 40 50.7	-0.7
HOWZ	Holdsworth Sta	2.18	183	PN	Pn	16 40 50.9	-1.1
KIW	Kapiti Island	2.22	195	PN	Pn	16 40 51.3	-1.2
MXZ	Matakaoa Point	2.38	62	PN	Pn	16 40 52.7	-1.7
TMWZ	Te Maipa	2.40	176	PN	Pn	16 40 53.3	-1.2
CAW	Cannon Point	2.43	191	PN	Pn	16 40 53.7	-1.3
MTW	Mount Morrison	2.44	183	PN	Pn	16 40 53.6	-1.5
DUWZ	D'Urville Isla	2.48	212	PN	Pn	16 40 54.1	-1.4
WEL	Wellington	2.66	195	PN	Pn	16 40 56.1	-1.7
TRWZ	Traveller	2.68	180	PN	Pn	16 40 56.8	-1.2
TCW	Tory Channel	2.71	203	PN	Pn	16 40 56.9	-1.5
MSWZ	Moikau Station	2.72	187	PN	Pn	16 40 56.7	-1.8
PLWZ	Palliser	2.87	186	PN	Pn	16 40 58.3	-2.0
TUWZ	Tuamarina	3.02	205	PN	Pn	16 41 00.4	-1.8
NNZ	Nelson	3.05	214	PN	Pn	16 41 00.7	-2.0
NNZ				SN	Sn	16 41 37.6	-2.3
QRZ	Quartz Range	3.21	228	PN	Pn	16 41 02.1	-2.5
BSWZ	Blackbirch Sta	3.29	204	PN	Pn	16 41 04.0	-1.8
THZ	Tophouse	3.71	214	ePN	Pn	16 41 08.3	-2.8
KHZ	Kahutara	4.04	203	PN	Pn	16 41 13.0	-2.4
DSZ	Denniston Nort	4.23	223	PN	Pn	16 41 14.8	-3.1
LTZ	Lake Taylor	4.81	211	PN	Pn	16 41 22.3	-3.2
MQZ	McQueen's Vall	5.48	203	PN	Pn	16 41 30.1	-4.4
ODZ	Otahua Downs	7.35	209	PN	Pn	16 41 55.3	-4.0

IDC 10 16:44:34.8±54.0, 18°87S×176°56W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/18, mbtmp4.0/3, Error ellipse: s-maj=1004.0km s-min=162.8km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.73	243	P	P	16 52 09.5	+0.3
	0.7nm,0.4s,baz=68,slow=11,SNR=5.6						
WRA	Warramunga Arr	46.19	260	P	P	16 53 01.6	-0.1
	1.3nm,0.4s,baz=97,slow=8.2,SNR=70						
ASAR	Alice Springs	46.23	255	P	P	16 53 01.6	-0.3
	2.0nm,0.7s,baz=88,slow=8.3,SNR=57						

*NEIC **10** 17:08:53.0, 65°.86N×140°.00W, h5km, ML3.0(PGC), ML2.7(AEIC), After PGC.*

PGC 10 17:08:53.7±45.0, 65°.86N×140°.01W, h5km, ML3.0/2, 6D, 202km Nnw of Dawson, Yt Northern Yukon Territory, Canada, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGAK	Eagle	1.19	205	P	Pg	17 09 14.3	-2.1
EGAK				S	Sg	17 09 29.5	-2.3
DAWY	Dawson	1.82	171	P	Pn	17 09 25.1	-0.4
DAWY				S	Sn	17 09 50.4	+1.5
DAWY	Dawson	1.82	171	⇓Pn	Pn	17 09 25.4	-0.2
DAWY				⇓Sg	Sg	17 09 50.2	-1.8
BM3	Burnt Mountain	2.41	313	P	Pn	17 09 30.0	-3.7
IL1	Eielson Array	3.09	252	P	Pn	17 09 37.7	-5.3
IL1				S	Sn	17 10 15.4	-4.7
DDM	Donnelly Dome	3.25	233	P	Pn	17 09 42.2	-3.0
COLA	College	3.43	257	P	Pn	17 09 44.1	-3.5
INK	Inuvik	3.53	43	⇓Pn	Pn	17 09 48.4	-0.7
INK	Inuvik	3.53	43	⇓Pn	Pn	17 09 48.4	-0.7
INK				⇓Sn	Sn	17 10 28.7	-2.4
MDM	Murphy Dome	3.56	259	P	Pn	17 09 44.0	-5.3
COLD	Coldfoot	4.30	293	P	Pn	17 09 55.0	-4.6
COLD				S	Sn	17 10 41.8	-8.2
IM3	Indian Mountai	5.63	278	P	Pn	17 10 12.1	-5.7
GALN	Gameti Lake	9.75	90	⇓Pn	Pn	17 11 12.7	-1.5
CTLN	Castor Lake	10.18	87	⇑Pn	Pn	17 11 17.6	-2.6

*IDC **10** 17:15:06.6±2.9, 6°.53S×130°.33E, h42km±27km, mb4.2/16, mb1 4.4/19, mb1mx4.3/23, mbtmp4.3/19, ML4.9/3, MS3.3/2, Ms1 3.3/2, ms1mx2.7/28, Error ellipse: s-maj=22.2km s-min=12.2km az=77.0*

*NEIC **10** 17:15:10.3±1.6, 6°.61S×130°.23E, h78km±15km, mb4.9/16, Error ellipse: s-maj=9.2km s-min=5.8km az=61.0*

*ISCJB **10** 17:15:11.7±0.5, 6°.69S±0°.03×130°.52E±0°.04, h114km±5km, mb4.6/42, Error ellipse: s-maj=6.5km s-min=4.9km az=140.6*

*DJA **10** 17:15:14.3±0.3, 7°S±4°×13°1E±°, h82km±10km, mb5.0/21, mb5.4/10, MLv4.9/7, Mw(mB)5.2/10*

*BJI **10** 17:15:15.3, 6°.70S×130°.30E, h127km, mB5.1/16, mb4.7/24*

ISC 10 17:15:13.1±0.5, 6°.68S±0°.04×130°.51E±0°.04, h110km±4km, h127km±4km: pP-P, n136, σ1s20/139, mb4.6/42, 1C-2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	Bandanaira	2.23	344	P	Pn	17 15 47.1	-1.9
TLE	Tual	2.44	65	P	Pn	17 15 53.3	+1.5
MSAI	Masohi	3.67	334	P	Pn	17 16 07.2	-0.8
AAI	Ambon	3.76	322	P	Pn	17 16 07.9	-1.4
NLAI	Namlea	4.82	315	P	Pn	17 16 23.6	+0.1
BBSI	Bau Bau	7.98	278	P	Pn	17 17 07.9	+1.5
	0.5nm1μm150nm,1.1s						
TNTI	Ternate	8.04	337	P	Pn	17 17 06.7	-0.5
	39nm,0.8s						
MMRI	Maumere	8.43	256	P	Pn	17 17 12.5	+0.1
	1μm106nm,1.1s						
SMPI	Sarmi	9.41	61	P	Pn	17 17 25.6	-0.2
	1μm100nm,1.0s						
KMSI	Cibinong	9.71	318	P	Pn	17 17 31.1	+1.1
	88nm,0.7s						
MMPI	Merauke	9.95	101	P	Pn	17 17 33.7	+0.6
	6μm478nm,0.7s						
BKSI	Bulukumba	10.42	277	P	Pn	17 17 39.5	0.0
	438nm28nm,1.1s						
KAPI	Kappang	10.83	278	eP	Pn	17 17 44.2	-0.8
	15nm,0.7s						
KAPI	Kappang	10.83	278	P	Pn	17 17 46.9	+1.9
	25nm,1.1s						
JAY	Jayapura	10.97	68	P	Pn	17 17 46.7	-0.2
	68nm,0.9s						
SPSI	Sidrap Palu	11.03	284	P	Pn	17 17 51.3	+3.6
	43nm,0.7s						
MRSI	Marisa	11.12	309	P	Pn	17 17 48.7	-0.2
	489nm49nm,0.9s						
FITZ	Fitzroy Crossi	12.31	202	P	Pn	17 17 59.5	-5.1
	16nm,0.3s,baz=36,slow=10,SNR=104						
FITZ				S	Sn	17 20 06.8	-13
	17nm,0.3s,baz=65,slow=14,SNR=8.5						
FITZ				LR	LR	17 23 01.9	
	comp=Z,100nm,19.8s,baz=176,slow=38						
FITZ	Fitzroy Crossi	12.31	202	eP	Pn	17 17 59.5	-5.1
	63nm,0.3s						
FITZ				eS	Sn	17 20 05.2	-15
FITZ	Fitzroy Crossi	12.31	202	eP	Pn	17 17 59.3	-5.3
	35nm,0.3s						
FITZ				eS	Sn	17 20 04.5	-16
WRAB	Tennant Creek	13.69	165	eP	Pn	17 18 18.6	-4.1
	24nm,0.6s						
WRAB				eS	Sn	17 20 42.8	-11
WRA	Warramunga Arr	13.70	165	P	Pn	17 18 19.0	-3.8
	3.6nm,0.3s,baz=344,slow=13,SNR=135						
WRA				S	Sn	17 20 45.1	-8.6
	8.1nm,0.3s,baz=345,slow=22,SNR=25						
WRA	Warramunga Arr	13.70	165	P	Pn	17 18 19.0	-3.8
WRA				S	Sn	17 20 45.1	-8.6
WB2	Warramunga Arr	13.70	165	eP	Pn	17 18 18.4	-4.4
WB2				eS	Sn	17 20 43.0	-11
COEN	Coen	14.40	121	eP	Pn	17 18 29.6	-2.3
	459nm,0.8s						
COEN	Coen	14.40	121	P	Pn	17 18 33.5	+1.7
	94nm,0.8s						
KBKI	Kotabaru	14.68	283	P	Pn	17 18 37.9	+2.5
	35nm,1.1s						
BBKI	Banjar Baru	15.93	281	P	Pn	17 18 52.2	+1.1
	3μm336nm,1.2s						
KMMI	Kalianget	16.43	268	P	Pn	17 18 59.3	+2.0
	84nm,0.7s						
PMG	Port Moresby	16.70	100	P	Pn	17 19 01.6	+0.9
	4.0nm,0.3s,baz=287,slow=5.2,SNR=25						
PMG				S	S	17 21 58.2	-9.1
	1.4nm,0.3s,baz=192,slow=17,SNR=5.6						
PMG	Port Moresby	16.70	100	eP	Pn	17 19 03.7	+3.1
	41nm,0.6s						
PMG	Port Moresby	16.70	100	P	Pn	17 19 03.5	+2.8
	973nm80nm,1.5s						
MYLDM	Lahad Datu	16.81	314	P	Pn	17 19 04.6	+2.7
	16nm,1.0s						
BLJI	Banyuglugur	16.82	265	P	Pn	17 19 01.7	-0.3
	77nm,0.9s						
ASAR	Alice Springs	17.20	169	P	Pn	17 19 05.5	-1.2
	3.6nm,0.3s,baz=350,slow=11,SNR=191						
ASAR				S	S	17 22 11.1	-7.5
	2.9nm,0.3s,baz=349,slow=26,SNR=8.6						
ASAR	Alice Springs	17.20	169	P	Pn	17 19 05.5	-1.2
ASAR				S	S	17 22 11.1	-7.5
MBWA	Marble Bar	17.78	215	eP	Pn	17 19 11.7	-1.9
MBWA				eS	S	17 22 14.2	-18
MBWA	Marble Bar	17.78	215	eP	Pn	17 19 11.6	-2.0
	46nm,0.6s						
SJI	Sawahan	18.62	266	P	P	17 19 22.0	-0.3
	46nm,0.7s						
PBKI	Pangkalan Bun	19.18	281	P	P	17 19 29.2	+0.8
CTA	Charters Tower	20.27	133	P	P	17 19 43.6	+3.5
	14nm,0.7s,baz=309,slow=12,SNR=11						
CTA	Charters Tower	20.27	133	⇓iP	P	17 19 43.6	+3.5
	9.7nm,0.8s						
CTA				eS	S	17 23 33.9	+12
CTA	Charters Tower	20.27	133	P	P	17 19 43.6	+3.5
CTAO	Charters Tower	20.27	133	eP	P	17 19 43.5	+3.4
	11nm,0.8s						
FORT	Forrest	24.08	185	eP	P	17 20 19.2	+0.8
	54nm,0.5s,mb5.1						
FORT	Forrest	24.08	185	eP	P	17 20 17.5	-0.9
	65nm,0.6s,mb5.1						
KMBL	Kambalda	25.85	197	eP	P	17 20 35.4	+1.0
	111nm,0.4s,mb5.6						
STKA	Stephens Creek	27.12	159	P	P	17 20 47.8	+2.0
	4.4nm,0.4s,mb4.4,baz=333,slow=8.0,SNR=30						
STKA				LR	LR	17 31 28.2	
	comp=Z,91nm,20.9s,baz=202,slow=36						
STKA	Stephens Creek	27.12	159	⇑iP	P	17 20 47.7	+1.9
	3.7nm,0.3s,mb4.4						
STKA				eS	sS	17 26 00.1	+1.8
STKA	Stephens Creek	27.12	159	eP	P	17 20 47.3	+1.5
	2.1nm,0.9s,mb3.7						
KLBR	Kellerberrin	27.50	204	eP	P	17 20 49.9	+0.6
	17nm,0.5s,mb4.8						
NWAO	Narrogin (SRO)	28.89	204	P	P	17 21 02.6	+1.1
	11nm,0.5s,mb4.7,baz=28,slow=9.2,SNR=20						
NWAO	Narrogin (SRO)	28.89	204	eP	P	17 21 01.2	-0.3
YNG	Young	32.07	151	eP	P	17 21 32.8	+3.2
	9.2nm,0.8s,mb4.6						
QIZ	Qiongzhong	32.67	322	P	P	17 21 35.4	+0.4
QIZ				S	S	17 26 43.3	-0.1
QIZ				pmax	pmax		
	comp=Z,400nm,4.9s						
QIZ				LR	LR		
	comp=Z,1μm,6.0s						
PSI	Prapat	32.91	286	P	P	17 21 34.6	-2.6
	comp=Z,11nm,0.7s,mb4.8,baz=107,slow=6.2,SNR=6.8						
PSI	Prapat	32.91	286	P	P	17 21 34.6	-2.6
CAN	Canberra	33.19	152	eP	P	17 21 42.2	+2.9
TPTI		34.71	286	P	P	17 22 02.3	+10
CMAR	Chiang Mai Arr	39.92	309	P	P	17 22 35.7	-1.0
	comp=Z,6.3nm,0.7s,mb4.6,baz=138,slow=7.4,SNR=55						
CMAR	Chiang Mai Arr	39.92	309	P	P	17 22 35.7	-1.0
CHTO	Chiang Mai	40.13	310	eP	P	17 22 37.1	-1.3
	comp=Z,13nm,0.8s,mb4.8						
GYA	Guiyang	40.25	326	eP	P	17 22 40.4	+1.1
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6						
KMI	Kunming	41.59	320	P	P	17 22 50.8	+0.5
KMI				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.2						
MJAR	Matsushiro Arr	43.59	9	P	P	17 23 05.3	-1.1
	comp=Z,3.4nm,0.9s,mb4.1,baz=190,slow=10.0,SNR=6.1						
MJAR	Matsushiro Arr	43.59	9	P	P	17 23 05.3	-1.1
KSRS	Korea Array	43.97	357	P	P	17 23 09.1	-0.3
	comp=Z,17nm,0.9s,mb3.8,baz=125,slow=32,SNR=2.9						
CD2	Chengdu	45.31	327	P	P	17 23 22.7	+2.6
CD2				pP	pP	17 23 51.4	+5.8
CD2				sP	sP	17 24 05.9	+7.9
CD2				PcP	PcP	17 25 00.3	+2.2
CD2				PP	PP	17 25 11.7	+3.4
CD2				S	S	17 29 53.5	+0.9
CD2				sS	sS	17 30 43.8	+7.2
CD2				SS	SS	17 33 11.6	-6.2
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.8						
CD2				pmax	pmax		
	comp=Z,290nm,5.9s						
CD2				LR	LR		
	comp=E,730nm,5.9s						
CD2				LR	LR		
	comp=Z,390nm,6.5s						
LZH	Lanzhou	49.36	331	eP	P	17 23 55.0	+3.5
LZH				pP	pP	17 24 24.5	+7.1
LZH				sP	sP	17 24 39.1	+9.5
LZH				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.9						
LZH				pmax	pmax		
	comp=Z,53nm,5.6s						
HHC	Hu-ho-hao-te	50.40	341	eP	P	17 24 02.0	+2.8
HHC				pP	pP	17 24 31.3	+6.1
HHC				sP	sP	17 24 45.4	+7.9
HHC				PP	PP	17 26 00.9	+4.9
HHC				S	S	17 31 04.5	+0.3
HHC				sS	sS	17 31 55.7	+6.8
HHC				SS	SS	17 34 37.4	-2.2
HHC				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0						
HHC				pmax	pmax		
	comp=Z,130nm,4.8s						
HHC				LR	LR		
	comp=N,150nm,13.4s						
HHC				LR	LR		
	comp=E,230nm,12.6s						
HHC				LR	LR		
	comp=Z,99nm,17.5s						
CN2	Changchun	50.45	355	eP	P	17 24 03.5	+4.0
MDJ	Mudanjiang	51.06	359	P	P	17 24 06.6	+2.5
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb4.4						
MDJ				pmax	pmax		
	comp=Z,77nm,5.6s						
LSA	Lhasa	52.32	316	P	P	17 24 13.9	+0.1
LSA				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.3						
LSA	Lhasa	52.32	316	eP	P	17 24 14.0	+0.2
	comp=Z,11nm,0.7s,mb5.0						
ODAN	Odare	53.43	311	eP	P	17 24 21.1	-0.9
	comp=Z,44nm,0.6s,mb5.7						
ODAN	Odare	53.43	311	eP	P	17 24 21.1	-0.9
	comp=Z,44nm,0.6s,mb5.7						
TAPN	Taplejung	53.45	311	eP	P	17 24 21.4	-0.7
	comp=Z,49nm,0.4s						
GTA	Gaotai	53.94	331	eP	P	17 24 25.2	-0.2
GTA				pP	pP	17 24 54.7	+3.0
GTA				sP	sP	17 25 09.0	+5.1
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
GUN	Gumba	55.13	311	eP	P	17 24 33.7	-0.6
	comp=Z,92nm,0.5s						
GUN	Gumba	55.13	311	eP	P	17 24 33.7	-0.6
	comp=Z,92nm,0.5s						
PKI	Pulchoki	55.30	310	eP	P	17 24 34.5	-1.1
	comp=Z,27nm,0.5s,mb5.5						
PKI	Pulchoki	55.30	310	eP	P	17 24 34.5	-1.1
	comp=Z,27nm,0.5s,mb5.5						
PKIN	Phulchoki	55.32	310	eP	P	17 24 34.5	-1.1
	comp=Z,21nm,0.6s,mb5.4						
KKN	Kakani	55.52	310	eP	P	17 24 36.2	-0.9
	comp=Z,33nm,0.6s,mb5.6						
KKN	Kakani	55.52	310	eP	P	17 24 36.2	-0.9
	comp=Z,33nm,0.6s,mb5.5						
DMN	Daman	55.55	310	eP	P	17 24 36.6	-0.7
	comp=Z,30nm,0.5s,mb5.6						
DMN	Daman	55.55	310	eP	P	17 24 36.6	-0.7
	comp=Z,30nm,0.5s,mb5.6						
GKN	Gorkha	56.11	310	eP	P	17 24 40.5	-0.8
	comp=Z,87nm,0.5s						
GKN	Gorkha	56.11	310	eP	P	17 24 40.5	-0.8
	comp=Z,87nm,0.5s						
KOLN	Koldanda	56.79	309	eP	P	17 24 45.5	-0.6
KOLN	Koldanda	56.79	309	eP	P	17 24 45.5	-0.6
DANN	Dangsing	56.96	310	eP	P	17 24 46.5	-0.8
	comp=Z,23nm,0.6s,mb5.4						
DANN	Dangsing	56.96	310	eP	P	17 24 46.5	-0.8
	comp=Z,23nm,0.6s,mb5.4						
ULN	Ulaanbaatar	58.12	342	eP	P	17 24 55.4	+0.4
	comp=Z,3.8nm,0.8s,mb4.5						
SONM	Songino Array	58.30	341	P	P	17 24 56.8	+0.5
	comp=Z,1.0nm,0.4s,mb4.2,baz=160,slow=6.7,SNR=11						
SONM	Songino Array	58.30	341	P	P	17 24 56.8	+0.5
WMQ	Urumqi	63.41	327	P	P	17 25 31.4	+0.4
WMQ				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.9						
PETK	Petropavlovsk-	63.86	18	P	P	17 25 34.5	+0.7
	comp=Z,4.5nm,0.7s,mb4.4,baz=182,slow=6.2,SNR=7.6						
PETK	Petropavlovsk-	63.86	18	P	P	17 25 34.5	+0.7
KSH	Kashi	68.13	317	eP	P	17 26 01.0	-0.4
KSH				PcP	PcP	17 26 26.7	+0.1
KSH				pP	pP	17 26 31.8	+3.0
KSH				sP	sP	17 26 45.7	+5.0
KSH				PP	PP	17 28 34.0	+0.8
KSH				ScP		17 30 17.1	
KSH				PcS		17 30 30.2	
KSH				S	S	17 34 44.3	-8.4
KSH				ScS	ScS	17 35 43.9	-6.7
KSH				SS	SS	17 39 12.7	-5.0
KSH				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.7						
KSH				pmax	pmax		
	comp=Z,170nm,5.8s						
MKAR	Makanchi Array	68.24	327	P	P	17 26 02.1	+0.2
	comp=Z,6.5nm,0.6s,mb4.7,baz=123,slow=7.6,SNR=37						
MKAR	Makanchi Array	68.24	327	P	P	17 26 02.1	+0.2
AAK	Ala-Archa	70.62	320	P	P	17 26 16.5	-0.2
	comp=Z,2.3nm,0.4s,mb4.4,baz=125,slow=4.0,SNR=13						
AAK	Ala-Archa	70.62	320	P	P	17 26 16.5	-0.2
KBL	Kabul	70.95	310	eP	P	17 26 18.2	-0.6
	comp=Z,2.2nm,0.4s,mb4.3						
ZALV	Zalesovo Beam	71.52	334	P	P	17 26 20.8	-1.0
	comp=Z,1.6nm,0.5s,mb4.1,baz=122,slow=5.8,SNR=5.9						
ZALV	Zalesovo Beam	71.52	334	P	P	17 26 20.8	-1.0
KURK	Kurchatov	72.51	328	P	P	17 26 27.1	-0.7
	comp=Z,4.0nm,0.8s,mb4.3,baz=132,slow=5.1,SNR=24						
KURK	Kurchatov	72.51	328	eP	P	17 26 27.1	-0.7
	comp=Z,10nm,1.1s,mb4.6						
VNDA	Vanda	72.70	173	P	P	17 26 30.5	+1.9
	comp=Z,1.4nm,0.6s,mb4.0,baz=310,slow=12,SNR=5.7						
VNDA	Vanda	72.70	173	P	P	17 26 30.5	+1.9
KKAR	Karatay Array	73.44	319	eP	P	17 26 33.4	0.0
	comp=Z,5.5nm,0.9s,mb4.4						
MAW	Mawson	75.43	201	P	P	17 26 46.5	+1.9
	comp=Z,8.1nm,0.6s,mb4.7,baz=75,slow=5.9,SNR=58						
MAW	Mawson	75.43	201	P	P	17 26 46.5	+1.9
BVAR	Borovoye Array	78.06	328	P	P	17 26 59.3	-0.3
	comp=Z,0.5nm,0.4s,mb3.6,baz=118,slow=7.7,SNR=7.5						
BVAR	Borovoye Array	78.06	328	P	P	17 26 59.3	-0.3
BRVK	Borovoye	78.14	328	eP	P	17 26 59.1	-0.9
ABKAR	Akbulak array	82.57	321	eP	P	17 27 22.9	-1.0
	comp=Z,0.7nm,0.4s,mb3.8						
QSPA	South Pole Qui	83.30	180	eP	P	17 27 28.5	+1.4
	comp=Z,4.0nm,0.7s,mb4.4						
SYO	Syowa Base	84.14	201	⇓eP	P	17 27 31.6	0.0

WEL 10 17:20:54.9±0.1, 41°.74S × 174°.39E, h56km±1km, ML4.0/19, 8C-11D, Error ellipse: s-maj=0.9km s-min=0.8km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.13**	**266**	PN	Pn	17 21 03.8	+0.3
CMWZ				SN	Sn	17 21 11.0	+1.3
BSWZ	**Blackbirch Sta**	**0.39**	**274**	⇓PN	Pn	17 21 05.2	-0.1
BSWZ				SN	Sn	17 21 12.3	-0.5
TUWZ	**Tuamarina**	**0.46**	**312**	⇑PN	Pn	17 21 05.6	-0.5
BHW	**Baring Head**	**0.49**	**48**	PN	Pn	17 21 06.2	-0.1
BHW				SN	Sn	17 21 14.4	-0.3
SNZO	**South Karori**	**0.49**	**29**	PN	Pn	17 21 06.1	-0.3
SNZO				SN	Sn	17 21 14.2	-0.5
TCW	**Tory Channel**	**0.53**	**351**	⇑PN	Pn	17 21 06.6	-0.3
WEL	**Wellington**	**0.54**	**32**	⇑PN	Pn	17 21 06.9	0.0
PLWZ	**Palliser**	**0.67**	**76**	⇓PN	Pn	17 21 08.1	-0.3
MSWZ	**Moikau Station**	**0.72**	**64**	⇓PN	Pn	17 21 08.7	-0.4
CAW	**Cannon Point**	**0.81**	**39**	⇑PN	Pn	17 21 09.9	-0.3
CAW				SN	Sn	17 21 20.8	-0.7
NNZ	**Nelson**	**0.92**	**304**	⇓PN	Pn	17 21 11.0	-0.7
KHZ	**Kahutara**	**0.93**	**223**	⇓PN	Pn	17 21 11.5	-0.2
KIW	**Kapiti Island**	**0.96**	**24**	⇑PN	Pn	17 21 12.1	-0.1
DUWZ	**D'Urville Isla**	**1.00**	**339**	PN	Pn	17 21 12.5	-0.3
MTW	**Mount Morrison**	**1.02**	**56**	⇓PN	Pn	17 21 12.1	-0.8
TRWZ	**Traveller**	**1.03**	**71**	⇓PN	Pn	17 21 12.4	-0.8
OGWZ	**Otaki Gorge**	**1.09**	**33**	⇑PN	Pn	17 21 13.6	-0.3
THZ	**Tophouse**	**1.11**	**268**	PN	Pn	17 21 13.5	-0.7
HOWZ	**Holdsworth Sta**	**1.19**	**46**	PN	Pn	17 21 14.4	-0.9
TMWZ	**Te Maipa**	**1.29**	**61**	⇓PN	Pn	17 21 15.6	-1.0
MRZ	**Mangatainoka R**	**1.40**	**40**	⇑PN	Pn	17 21 17.4	-0.7
TIWZ	**Tintock**	**1.48**	**50**	PN	Pn	17 21 18.0	-1.2
QRZ	**Quartz Range**	**1.67**	**302**	⇓PN	Pn	17 21 21.5	-0.3
POWZ	**Post Office Ro**	**1.70**	**38**	⇑PN	Pn	17 21 21.2	-1.0
LTZ	**Lake Taylor**	**1.89**	**236**	⇓PN	Pn	17 21 24.0	-0.8
DSZ	**Denniston Nort**	**1.94**	**269**	⇓PN	Pn	17 21 25.0	-0.4
DVHZ	**Dannevirke**	**1.97**	**44**	PN	Pn	17 21 24.1	-1.7
WAZ	**Wanganui**	**2.03**	**13**	PN	Pn	17 21 27.7	+1.0
TSZ	**Takapari Road**	**2.06**	**36**	PN	Pn	17 21 25.9	-1.1
PRHZ	**Porangahau**	**2.25**	**50**	PN	Pn	17 21 27.5	-2.1
PNHZ	**Pukenui**	**2.28**	**38**	PN	Pn	17 21 28.8	-1.3
WPHZ	**Waipukurau**	**2.28**	**44**	PN	Pn	17 21 28.6	-1.5
MQZ	**McQueen's Vall**	**2.35**	**213**	PN	Pn	17 21 28.8	-2.2
DFE	**Dawson Falls**	**2.42**	**355**	PN	Pn	17 21 33.3	+1.3
RAEZ	**Rainy Point**	**2.45**	**0**	PN	Pn	17 21 33.8	+1.4
NEZ	**North Egmont**	**2.48**	**355**	PN	Pn	17 21 33.7	+0.9
MTVZ	**Mangateitei**	**2.49**	**20**	PN	Pn	17 21 32.7	-0.3
NWEZ	**Newall Road**	**2.50**	**351**	PN	Pn	17 21 33.9	+0.9
PXZ	**Pawanui**	**2.53**	**48**	PN	Pn	17 21 31.0	-2.5
MOVZ	**Moawhango**	**2.55**	**24**	PN	Pn	17 21 33.1	-0.7
DREZ	**Durham Road**	**2.55**	**357**	PN	Pn	17 21 34.7	+0.9
PKVZ	**Pokaka**	**2.55**	**17**	PN	Pn	17 21 33.7	-0.1
PKE	**Pukeiti**	**2.56**	**353**	PN	Pn	17 21 35.5	+1.5
WNVZ	**Wahianoa**	**2.58**	**21**	PN	Pn	17 21 34.1	-0.1
BHHZ	**Black Hill Sta**	**2.58**	**30**	PN	Pn	17 21 33.4	-0.8
TRVZ	**Turoa**	**2.59**	**20**	PN	Pn	17 21 34.7	+0.4
VRZ	**Vera Road**	**2.63**	**6**	PN	Pn	17 21 35.7	+0.9
FWVZ	**Far West T-bar**	**2.63**	**20**	PN	Pn	17 21 35.1	+0.2
TUVZ	**Tukino**	**2.65**	**22**	PN	Pn	17 21 35.3	+0.2
WPVZ	**Whakapapa**	**2.68**	**20**	PN	Pn	17 21 35.8	+0.2
KAHZ	**Kahuranaki**	**2.71**	**45**	PN	Pn	17 21 33.6	-2.3
NGZ	**Ngauruhoe**	**2.72**	**20**	PN	Pn	17 21 36.4	+0.3
OTVZ	**Oturere**	**2.75**	**21**	PN	Pn	17 21 36.5	0.0
MCHZ	**McNeill Hill**	**2.89**	**38**	PN	Pn	17 21 36.5	-1.9
WVZ	**Waitaha Valley**	**3.02**	**243**	PN	Pn	17 21 38.6	-1.5
BKZ	**Black Stump Fm**	**3.03**	**33**	PN	Pn	17 21 38.3	-2.0
RPZ	**Rata Peaks**	**3.15**	**230**	PN	Pn	17 21 40.2	-1.8
NMHZ	**Naumai**	**3.22**	**36**	PN	Pn	17 21 41.5	-1.4
HIZ	**Hauiti**	**3.24**	**6**	PN	Pn	17 21 43.7	+0.5
FOZ	**Fox Glacier**	**3.92**	**241**	PN	Pn	17 21 49.4	-3.1
URZ	**Urewera**	**4.05**	**32**	PN	Pn	17 21 50.6	-3.8
LBZ	**Lake Benmore**	**4.06**	**228**	PN	Pn	17 21 52.5	-1.9
MWZ	**Matawai**	**4.17**	**36**	PN	Pn	17 21 52.3	-3.6
ODZ	**Otahua Downs**	**4.29**	**218**	PN	Pn	17 21 55.3	-2.1
MKAZ	**Moumakai**	**4.66**	**8**	PN	Pn	17 22 02.7	0.0
WKZ	**Wanaka**	**4.99**	**230**	PN	Pn	17 22 04.3	-2.9
EAZ	**Earnscleugh**	**5.08**	**225**	PN	Pn	17 22 05.9	-2.5
TUZ	**Tuapeka**	**5.44**	**218**	PN	Pn	17 22 11.0	-2.3
SYZ	**Scrubby Hill**	**6.11**	**216**	*e*PN	Pn	17 22 20.7	-1.7
CTZ	**Chatham Island**	**6.91**	**110**	PN	Pn	17 22 30.4	-3.1

IDC 10 17:23:58.9±36.0, 6°.14N × 122°.20E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.4/23, mbtmp3.8/3, Error ellipse: s-maj=623.7km s-min=346.0km az=145.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.54**	**156**	P	P	17 29 57.2	+0.8
	0.5nm,0.3s,baz=337,slow=9.5,SNR=5.2						
ASAR	**Alice Springs**	**31.75**	**159**	P	P	17 30 23.9	-0.9
	0.4nm,0.7s,baz=328,slow=8.1,SNR=3.2						
STKA	**Stephens Creek**	**42.09**	**155**	P	P	17 31 52.9	+0.2
	1.5nm,0.4s,baz=348,slow=7.4,SNR=7.7						

MEX 10 18:05:21.0±0.5, 16°.48N × 100°.16W, h9km±4km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.48**	**37**	*i* P	Pg	18 05 29.2	-1.3
ACX				*i* S	Sg	18 05 36.2	-0.7
CAIG	**El Cayaco**	**0.57**	**350**	*i* P	Pg	18 05 31.0	-1.1
CAIG				*i* S	Sg	18 05 39.1	-0.6
MEIG	**Mezcala**	**1.53**	**20**	*e*P	Pn	18 05 45.4	-3.1
MEIG				*i* S	Sn	18 06 03.7	-4.8
ZIIG	**Zihuatanejo**	**1.68**	**312**	*i* P	Pn	18 05 47.6	-2.9
ZIIG				*i* S	Sn	18 06 07.9	-4.3
PNIG	**Pinotepa**	**1.96**	**92**	*i* P	Pn	18 05 51.0	-3.4
PNIG				*i* S	Sn	18 06 14.6	-4.5
UTMO	**Huajuapan**	**2.62**	**59**	*e*P	Pn	18 06 01.0	-2.6
UTMO				*i* S	Sn	18 06 32.1	-3.5
MMIG	**Aquila**	**3.53**	**301**	*e*P	Pn	18 06 14.6	-1.5

*DDA **10** 18:17:29.2, 38°.88N × 35°.54E, h5km ± 1km, Md3.6*
*ISK **10** 18:17:29.2, 38°.89N × 35°.56E, h5km, ML3.8*
*ISCJB **10** 18:17:31.1±0.2, 38°.88N±0°.02 × 35°.52E±0°.02, h10km, Error ellipse: s-maj=3.0km s-min=2.5km az=27.0*
*CSEM **10** 18:17:31.1±0.1, 38°.87N × 35°.53E, h2km, MD3.6, Error ellipse: s-maj=3.7km s-min=3.2km az=22.0*

ISC 10 18:17:32.0±0.2, 38°.88N±0°.02 × 35°.52E±0°.02, h10km, n114, σ1.06/124, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVNT	**Avonos**	**0.53**	**259**	*i* P	**Pg**	**18 17 40.4**	**-1.9**
AVNT	**Avonos**	**0.53**	**259**	*i* P	**Pg**	**18 17 40.4**	**-1.9**
PINB	**Pinarbasi**	**0.72**	**106**	*i* P	**Pg**	**18 17 42.1**	**-3.6**
PINB				*i* S	**Sg**	**18 17 55.0**	**-0.2**
PINB	**Pinarbasi**	**0.72**	**106**	*i* S	**Sg**	**18 17 55.0**	**-0.2**
YOZ	**Yozgat**	**0.78**	**348**	PG	**Pg**	**18 17 45.0**	**-1.9**
YOZ				*e*SG	**Sg**	**18 17 57.0**	**-0.1**
YOZ	**Yozgat**	**0.78**	**348**	*i* Pg	**Pg**	**18 17 45.0**	**-1.9**
YOZ				*e*Sg	**Sg**	**18 17 57.0**	**0.0**
SARI	**SarD1z-Kayseri**	**0.94**	**102**	PG	**Pg**	**18 17 44.5**	**-5.5**
SARI	**SarD1z-Kayseri**	**0.94**	**102**	*i* Pg	**Pg**	**18 17 44.5**	**-5.5**
CDAG	**Cicekdag**	**1.16**	**310**	*i* P	**Pb**	**18 17 52.0**	**-2.1**
CDAG	**Cicekdag**	**1.16**	**310**	*i* P	**Pb**	**18 17 52.0**	**-2.1**
KOZT	**Kozan**	**1.42**	**170**	PN	**Pn**	**18 17 56.3**	**-1.5**
ANDN	**Andirin**	**1.45**	**153**	*i* P	**Pg**	**18 17 58.1**	**-1.7**
ANDN	**Andirin**	**1.45**	**153**	*i* P	**Pg**	**18 17 58.1**	**-1.7**
SCER	**sogukcermik**	**1.58**	**51**	*i* P	**Pn**	**18 17 58.4**	**-1.6**
SCER	**sogukcermik**	**1.58**	**51**	*i* P	**Pn**	**18 17 58.4**	**-1.7**
TOKA	**Tokat**	**1.62**	**27**	*i* P	**Pn**	**18 17 59.9**	**-0.6**
TOKA				*i* P		18 18 01.2	
TOKA	**Tokat**	**1.62**	**27**	*i* P	**Pn**	**18 18 01.2**	**+0.7**
TOKT	**Tokat**	**1.64**	**28**	*e*PN	**Pn**	**18 18 00.1**	**-0.8**
TOKT	**Tokat**	**1.64**	**28**	*e*Pn	**Pn**	**18 18 00.0**	**-0.8**
KARA	**Karaisali**	**1.66**	**193**	*e*PN	**Pn**	**18 18 00.6**	**-0.5**
KARA	**Karaisali**	**1.66**	**193**	*e*Pn	**Pn**	**18 18 00.6**	**-0.5**
GULE	**Gulek**	**1.70**	**201**	*i* P	**Pn**	**18 18 01.0**	**-0.6**
GULE				*i* S	**Sg**	**18 18 27.5**	**+0.9**
GULE	**Gulek**	**1.70**	**201**	*i* P	**Pn**	**18 18 01.0**	**-0.6**
SULT	**Sultanhani-AKS**	**1.71**	**247**	*e*PN	**Pn**	**18 18 01.9**	**+0.1**
SULT				*e*SN	**Sg**	**18 18 25.8**	**-1.3**
SULT	**Sultanhani-AKS**	**1.71**	**247**	*e*Pn	**Pn**	**18 18 01.9**	**0.0**
SULT				*e*Sn	**Sg**	**18 18 25.8**	**-1.3**
KMRS	**Kahramanmaras**	**1.75**	**141**	*e*PN	**Pb**	**18 18 01.9**	**-2.2**
KMRS	**Kahramanmaras**	**1.75**	**141**	*e*Pn	**Pb**	**18 18 01.9**	**-2.2**
DARE	**Darende-Malaty**	**1.78**	**87**	*e*PN	**Pn**	**18 17 58.6**	**-4.2**
DARE	**Darende-Malaty**	**1.78**	**87**	*e*Pn	**Pn**	**18 17 58.6**	**-4.2**
CTKT	**Corum**	**1.83**	**342**	*i* P	**Pn**	**18 18 04.2**	**+0.7**
CTKT	**Corum**	**1.83**	**342**	*i* P	**Pn**	**18 18 04.2**	**+0.8**
CEYT	**Ceyhan**	**1.88**	**174**	*e*PN	**Pn**	**18 18 04.3**	**+0.3**
CEYT	**Ceyhan**	**1.88**	**174**	*e*Pn	**Pn**	**18 18 04.3**	**+0.2**
AKCD	**Akcadag**	**1.97**	**107**	*i* P	**Pn**	**18 18 06.6**	**+1.2**
AKCD				*i* S	**Sg**	**18 18 34.7**	**-0.5**
AKCD	**Akcadag**	**1.97**	**107**	*i* P	**Pn**	**18 18 06.6**	**+1.3**
BBAL	**Bala**	**1.98**	**290**	*i* P	**Pn**	**18 18 05.8**	**+0.3**
BBAL				*i* S	**Sg**	**18 18 35.1**	**-0.4**
BBAL	**Bala**	**1.98**	**290**	*i* P	**Pn**	**18 18 05.8**	**+0.3**
ERBA	**Erbaa**	**2.03**	**27**	*i* P	**Pg**	**18 18 08.1**	**-2.8**
ERBA				*i* S	**Sg**	**18 18 37.9**	**+0.6**
ERBA	**Erbaa**	**2.03**	**27**	*i* P	**Pg**	**18 18 08.1**	**-2.8**
RSDY	**Resadiye-TOKAT**	**2.06**	**42**	*e*PN	**Pn**	**18 18 05.6**	**-1.0**
RSDY	**Resadiye-TOKAT**	**2.06**	**42**	*e*Pn	**Pn**	**18 18 05.6**	**-1.0**
GAZ	**Gaziantep**	**2.16**	**141**	*e*PN	**Pn**	**18 18 07.4**	**-0.7**
GAZ	**Gaziantep**	**2.16**	**141**	*e*Pn	**Pn**	**18 18 07.4**	**-0.6**
GZT	**Gaziantep**	**2.22**	**133**	*i* P	**Pn**	**18 18 06.7**	**-2.0**
KVT	**Kavak**	**2.23**	**10**	*e*PN	**Pn**	**18 18 08.8**	**-0.2**
KVT	**Kavak**	**2.23**	**10**	*e*Pn	**Pn**	**18 18 08.8**	**-0.2**
CANT	**Cankiri**	**2.26**	**320**	*e*PN	**Pn**	**18 18 09.5**	**+0.1**
ELDT	**Eldivan**	**2.28**	**315**	*i* P	**Pb**	**18 18 12.4**	**-0.7**
ELDT				*i* S	**Sg**	**18 18 45.2**	**0.0**
ELDT	**Eldivan**	**2.28**	**315**	*i* P	**Pb**	**18 18 12.4**	**-0.8**
KRTS	**Karatas**	**2.31**	**183**	*e*PN	**Pn**	**18 18 10.1**	**+0.1**
KRTS	**Karatas**	**2.31**	**183**	*e*Pn	**Pn**	**18 18 10.1**	**+0.1**
MYA	**Malataya**	**2.34**	**103**	*e*PN	**Pn**	**18 18 10.3**	**-0.1**
MYA	**Malataya**	**2.34**	**103**	*e*Pn	**Pn**	**18 18 10.3**	**-0.1**
KEMA	**Kemaliye**	**2.34**	**80**	*i* P	**Pn**	**18 18 10.4**	**-0.1**
KEMA	**Kemaliye**	**2.34**	**80**	*i* P	**Pn**	**18 18 10.4**	**-0.1**
LOD	**Lodumlu**	**2.36**	**296**	*e*PN	**Pn**	**18 18 10.6**	**-0.2**
LOD	**Lodumlu**	**2.36**	**296**	*e*Pn	**Pn**	**18 18 10.6**	**-0.2**
COBT	**Iskenderun**	**2.43**	**166**	*i* P	**Pn**	**18 18 12.4**	**+0.8**
COBT	**Iskenderun**	**2.43**	**166**	*i* P	**Pn**	**18 18 12.4**	**+0.8**
KUZU	**Kuzuini**	**2.44**	**149**	*i* P	**Pn**	**18 18 13.6**	**+1.9**
KUZU	**Kuzuini**	**2.44**	**149**	*i* P	**Pn**	**18 18 13.6**	**+1.8**
TOS	**Tosya**	**2.44**	**332**	*e*PN	**Pn**	**18 18 12.3**	**+0.5**
TOS	**Tosya**	**2.44**	**332**	*e*Pn	**Pn**	**18 18 12.3**	**+0.4**
ATAB	**Bozova**	**2.60**	**122**	*i* P	**Pn**	**18 18 17.2**	**+3.2**
KONT	**Konya--Tatoy**	**2.65**	**250**	*e*PN	**Pn**	**18 18 14.7**	**-0.1**
KONT	**Konya--Tatoy**	**2.65**	**250**	*e*Pn	**Pn**	**18 18 14.7**	**-0.1**
KDHN	**Kadinhani**	**2.69**	**263**	*i* P	**Pn**	**18 18 15.6**	**+0.3**
KDHN	**Kadinhani**	**2.69**	**263**	*i* P	**Pn**	**18 18 15.6**	**+0.3**
HTY	**Hatay**	**2.80**	**170**	*e*PN	**Pn**	**18 18 17.1**	**+0.3**
HTY	**Hatay**	**2.80**	**170**	*e*Pn	**Pn**	**18 18 17.1**	**+0.4**
KIZT	**Kizilcal**	**2.84**	**271**	*e*PN	**Pn**	**18 18 18.0**	**+0.6**
KIZT	**Kizilcal**	**2.84**	**271**	*e*Pn	**Pn**	**18 18 18.0**	**+0.6**
YAYL	**Yayladag**	**2.88**	**171**	*i* P	**Pn**	**18 18 21.1**	**+3.2**
GRSN	**GIRESUNGRSN**	**2.94**	**45**	*i* P	**Pn**	**18 18 21.1**	**+2.5**
GRSN	**GIRESUNGRSN**	**2.94**	**45**	*i* P	**Pn**	**18 18 21.1**	**+2.4**
URFA	**Urfa**	**2.97**	**118**	*e*PN	**Pn**	**18 18 19.1**	**0.0**
URFA	**Urfa**	**2.97**	**118**	*e*Pn	**Pn**	**18 18 19.2**	**+0.1**
SVRC	**Sivrice-ELAZID**	**3.00**	**98**	*e*PN	**Pn**	**18 18 20.2**	**+0.6**
SVRC	**Sivrice-ELAZID**	**3.00**	**98**	*e*Pn	**Pn**	**18 18 20.2**	**+0.6**
PTK	**Pertek**	**3.02**	**89**	*e*PN	**Pn**	**18 18 19.9**	**+0.1**
PTK	**Pertek**	**3.02**	**89**	*e*Pn	**Pn**	**18 18 19.9**	**+0.1**
HDMB	**Hadim**	**3.07**	**232**	*e*PN	**Pn**	**18 18 21.5**	**+1.0**
HDMB	**Hadim**	**3.07**	**232**	*e*Pn	**Pn**	**18 18 21.5**	**+1.0**
EZC	**Erzincan**	**3.10**	**72**	*e*PN	**Pn**	**18 18 21.2**	**+0.4**
EZC	**Erzincan**	**3.10**	**72**	*e*Pn	**Pn**	**18 18 21.2**	**+0.4**
BALT	**Daday**	**3.12**	**329**	*i* P	**Pn**	**18 18 21.9**	**+0.8**
BALT	**Daday**	**3.12**	**329**	*i* P	**Pn**	**18 18 22.0**	**+0.9**
SVRH	**Sivrihisar-ESK**	**3.16**	**282**	*e*PN	**Pn**	**18 18 22.2**	**+0.5**
SVRH	**Sivrihisar-ESK**	**3.16**	**282**	*e*Pn	**Pn**	**18 18 22.2**	**+0.5**
ESPY	**Espiye-Giresun**	**3.19**	**49**	*e*PN	**Pn**	**18 18 22.3**	**+0.1**
ESPY	**Espiye-Giresun**	**3.19**	**49**	*e*Pn	**Pn**	**18 18 22.3**	**+0.1**
SAFT	**Safranbolu**	**3.21**	**318**	*e*PN	**Pn**	**18 18 23.3**	**+0.9**
SAFT	**Safranbolu**	**3.21**	**318**	*e*Pn	**Pn**	**18 18 23.3**	**+0.9**
BZK	**Bozkurt**	**3.29**	**340**	*e*PN	**Pn**	**18 18 24.1**	**+0.6**
BZK	**Bozkurt**	**3.29**	**340**	*e*Pn	**Pn**	**18 18 24.1**	**+0.6**
GUMT	**Gumushane**	**3.44**	**61**	*e*PN	**Pn**	**18 18 25.8**	**+0.2**
GUMT	**Gumushane**	**3.44**	**61**	*e*Pn	**Pn**	**18 18 25.8**	**+0.3**
MDU	**Mudurnu**	**3.68**	**297**	*e*PN	**Pn**	**18 18 29.7**	**+0.8**
MDU	**Mudurnu**	**3.68**	**297**	*e*Pn	**Pn**	**18 18 29.7**	**+0.8**
ESKT	**Eskisehir**	**3.69**	**281**	*e*PN	**Pn**	**18 18 29.9**	**+0.9**
ESKT	**Eskisehir**	**3.69**	**281**	*e*Pn	**Pn**	**18 18 29.9**	**+0.9**
SUTC	**Sutluce-Ispart**	**3.83**	**250**	*e*PN	**Pn**	**18 18 31.9**	**+1.0**
SUTC	**Sutluce-Ispart**	**3.83**	**250**	*e*Pn	**Pn**	**18 18 31.9**	**+1.0**
BAYT	**Ayd¨¨-ntepe-Bay**	**3.87**	**66**	*e*PN	**Pn**	**18 18 32.2**	**+0.7**
BAYT	**Ayd¨¨-ntepe-Bay**	**3.87**	**66**	*e*Pn	**Pn**	**18 18 32.2**	**+0.7**
BINT	**Bingol**	**3.88**	**89**	*e*PN	**Pn**	**18 18 32.3**	**+0.7**
BINT	**Bingol**	**3.88**	**89**	*e*Pn	**Pn**	**18 18 32.3**	**+0.7**
KTUT	**Trabzon**	**3.88**	**56**	*e*PN	**Pn**	**18 18 32.1**	**+0.5**
KTUT	**Trabzon**	**3.88**	**56**	*e*Pn	**Pn**	**18 18 32.1**	**+0.5**
BORA	**Eskisehir**	**4.05**	**286**	*i* P	**Pg**	**18 18 47.0**	**-2.6**
GULT	**Gulveren**	**4.17**	**293**	*e*PN	**Pn**	**18 18 36.6**	**+1.1**
GULT	**Gulveren**	**4.17**	**293**	*e*Pn	**Pn**	**18 18 36.6**	**+1.1**
ALT	**Altintas**	**4.22**	**274**	*e*PN	**Pn**	**18 18 37.5**	**+1.2**
ALT	**Altintas**	**4.22**	**274**	*e*Pn	**Pn**	**18 18 37.6**	**+1.3**

*BJI **10** 18:47:08.0, 1°.36N × 127°.65E, h122km, mB5.1/26, mb4.9/44*
*IDC **10** 18:47:12.3±1.6, 1°.74N × 127°.22E, h112km±13km, mb4.3/18, mb1 4.4/20, mb1mx4.3/25, mbtmp4.3/20, MS3.3/3, Ms1 3.3/3, ms1mx2.9/31, Error ellipse: s-maj=19.3km s-min=8.5km az=77.0*
*MOS **10** 18:47:12.9±0.9, 1°.77N × 127°.23E, h133km, mb4.8/20, Error ellipse: s-maj=15.6km s-min=7.4km az=112.8*
*ISCJB **10** 18:47:12.3±0.5, 1°.81N±0°.03 × 127°.27E±0°.04, h125km±4km, mb4.8/68, Error ellipse: s-maj=7.5km s-min=4.0km az=168.4*
*NEIC **10** 18:47:12.2±0.8, 1°.76N × 127°.32E, h112km±7km, mb5.0/29, Error ellipse: s-maj=7.7km s-min=4.0km az=75.0*
*DJA **10** 18:47:12, 2°.00N × 127°.43E, h109km, mb4.7/24*
*MAN **10** 18:47:45, 4°.14N × 125°.90E, h15km, mb5.0, ML3.9, MS4.0*

ISC 10 18:47:12.9±0.4, 1.79N±0°.02 × 127°.31E±0°.04, h115km±3km, h97km±.7km: pP-P, n184, σ1.07/199, mb4.8/68, 5C-6D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.01**	**177**	P	**Pn**	**18 47 36.1**	**+1.4**
SGSI	**Sangihe**	**2.59**	**317**	P	**Pn**	**18 47 52.7**	**-1.1**
SGSI				S	**Sn**	**18 48 22.7**	**-4.2**
KMSI	**Cibinong**	**3.54**	**250**	P	**Pn**	**18 48 06.2**	**-0.1**
NLAI	**Namlea**	**5.00**	**182**	P	**Pn**	**18 48 26.4**	**+0.5**
	5.9nm195nm,0.5s						
NLAI				S	**Sn**	**18 49 19.4**	**-3.2**
	5.9nm195nm,0.5s						
MATI	**Mati**	**5.23**	**348**	*e*P	**Pn**	**18 48 30.4**	**+1.5**
LUWI	**Luwuk**	**5.34**	**238**	P	**Pn**	**18 48 34.5**	**+4.0**
	2.2nm7μm150nm,0.7s						
LUWI				S	**Sn**	**18 49 31.7**	**+0.8**
	2.2nm7μm150nm,0.7s						
MSAI	**Masohi**	**5.35**	**162**	P	**Pn**	**18 48 34.5**	**+3.9**
	0.1nm511nm28nm,0.6s						
AAI	**Ambon**	**5.51**	**171**	P	**Pn**	**18 48 34.3**	**+1.5**
	0.6nm3μm150nm,0.5s						
AAI				S	**Sn**	**18 49 33.4**	**-1.6**
	0.6nm3μm150nm,0.5s						
DAV	**Davao City (W)**	**5.52**	**342**	P	**Pn**	**18 48 32.6**	**-0.3**
	60nm,0.3s,baz=114,slow=9.0,SNR=4.4						
DAV				S	**Sn**	**18 49 35.2**	**0.0**
	127nm,0.3s,baz=67,slow=15,SNR=6.7						
DAV	**Davao City (W)**	**5.52**	**342**	P	**Pn**	**18 48 32.6**	**-0.3**
DAV				S	**Sn**	**18 49 35.2**	**0.0**
MRSI	**Marisa**	**5.53**	**256**	P	**Pn**	**18 48 32.9**	**-0.1**
	1μm91nm,0.7s						
DMPH	**Davao City--Mi**	**5.56**	**341**	*e*P	**Pn**	**18 48 33.4**	**0.0**
BUKP	**Musuan**	**6.45**	**340**	*e*P	**Pn**	**18 48 45.4**	**-0.1**
BNDI	**Bandanaira**	**6.78**	**158**	P	**Pn**	**18 48 53.2**	**+3.2**
	0.6nm2μm128nm,1.1s						
CGP	**Cagayan de Oro**	**7.12**	**339**	*e*P	**Pn**	**18 48 51.1**	**-3.4**
PAGZ	**Pagadian**	**7.18**	**327**	*e*P	**Pn**	**18 48 54.8**	**-0.6**
IPIL	**Ipil**	**7.60**	**322**	*e*P	**Pn**	**18 49 00.4**	**-0.7**
MSLP	**Maasin**	**8.64**	**344**	*e*P	**Pn**	**18 49 16.0**	**+0.8**
BBSI	**Bau Bau**	**8.64**	**213**	P	**Pn**	**18 49 20.0**	**+4.8**
	58nm,1.0s						
TTSI	**Tana Toraja**	**8.90**	**237**	P	**Pn**	**18 49 17.6**	**-1.1**
	550nm44nm,1.0s						
TLE	**Tual**	**9.15**	**144**	P	**Pn**	**18 49 25.3**	**+3.2**
	60nm,1.6s						
MYLDM	**Lahad Datu**	**9.42**	**291**	P	**Pn**	**18 49 27.0**	**+1.2**
	76nm,1.1s						
SPSI	**Sidrap Palu**	**9.46**	**233**	P	**Pn**	**18 49 26.2**	**-0.2**
	838nm67nm,0.8s						
BKSI	**Bulukumba**	**10.07**	**225**	P	**Pn**	**18 49 36.7**	**+2.1**
	389nm26nm,0.8s						
KAPI	**Kappang**	**10.14**	**228**	*e*P	**Pn**	**18 49 34.2**	**-1.3**
	13nm,0.4s						
KAPI	**Kappang**	**10.14**	**228**	P	**Pn**	**18 49 34.1**	**-1.4**
	29nm,0.6s						
MMRI	**Maumere**	**11.53**	**206**	P	Px	18 50 06.9	
SBUM	**Sibu**	**15.10**	**273**	P	**Pn**	**18 50 43.4**	**+3.1**
	46nm,1.3s						
MTNI	**Mataram**	**15.19**	**227**	P	**Pn**	**18 50 45.8**	**+4.4**
	1μm119nm,1.2s						
SRBI	**Singaraja**	**15.55**	**231**	P	**Pn**	**18 50 50.8**	**+4.8**
	30nm,1.2s						
KMMI	**Kalianget**	**15.95**	**236**	P	**Pn**	**18 50 55.5**	**+4.5**
	52nm,0.8s						
KSM	**Kuching**	**17.00**	**269**	*e*P	**Pn**	**18 51 04.7**	**+0.8**
	14nm,0.6s						
KSM	**Kuching**	**17.00**	**269**	P	**Pn**	**18 51 04.3**	**+0.4**
	18nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.83**	**185**	P	**P**	**18 51 32.4**	**-2.4**
	3.4nm,0.3s,baz=17,slow=0.6,SNR=150						
FITZ	**Fitzroy Crossi**	**19.83**	**185**	*e*P	**P**	**18 51 33.6**	**-1.2**
	20nm,0.4s						
FITZ	**Fitzroy Crossi**	**19.83**	**185**	*e*P	**P**	**18 51 33.5**	**-1.3**
	11nm,0.5s						
FITZ	**Fitzroy Crossi**	**19.83**	**185**	P	**P**	**18 51 34.2**	**-0.6**
	28nm,2.5s						
GUMO	**Guam**	**20.95**	**55**	LR	LR	18 59 25.5	
	comp=Z,32nm,20

comp=Z,49nm,1.4s,mb5.1
LZH pmax pmax
comp=Z,160nm,4.5s
VLA Vladivostok 41.35 5|| *e*P P 18 54 47.5 0.0
VLA pmax pmax
comp=Z,28nm,1.4s,mb4.9
HHC Hu-ho-hao-te 41.41 342 *e*P P 18 54 49.2 +1.2
HHC pP pP 18 55 12.0 -2.2
HHC PP PP 18 56 30.1 +4.1
HHC S S **19 00 57.9 +3.5**
HHC pmax pmax
comp=Z,23nm,0.5s,mb5.3
HHC pmax pmax
comp=Z,130nm,5.2s
HHC LR LR
comp=N,230nm,11.4s
HHC LR LR
comp=E,170nm,11.2s
HHC LR LR
comp=Z,110nm,13.0s
CN2 Changchun 41.86 358 *e*P P 18 54 51.0 -0.6
CN2 *e*S S **19 01 00.0 -1.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
CN2 pmax pmax
comp=Z,200nm,3.0s
CNB Canberra Magne 42.29 153 *e*P P 18 54 56.5 +1.3
TOO Toolangi 42.63 159 *e*P P 18 54 59.9 +1.9
MDJ Mudanjiang 42.69 2 P P 18 54 58.9 +0.6
MDJ pmax pmax
comp=Z,21nm,1.1s,mb4.8
MDJ pmax pmax
comp=Z,47nm,5.4s
MDJ Mudanjiang 42.69 2 *e*P P 18 54 58.8 +0.5
comp=Z,21nm,1.0s,mb4.8
LSA Lhasa 44.16 313 P P 18 55 11.9 +1.5
LSA Lhasa 44.16 313 *e*P P 18 55 11.6 +1.2
comp=Z,11nm,0.6s,mb4.8
LSA Lhasa 44.16 313 *e*P P 18 55 11.6 +1.2
LSA pmax pmax
comp=Z,11nm,0.6s,mb4.8
ASAJ Asahikawa 44.28 16 P P 18 55 11.7 +0.6
comp=Z,7.3nm,0.7s,mb4.5,baz=230,slow=17,SNR=10
GTA Gaotai 45.05 330 P P 18 55 18.3 +1.0
GTA pP pP 18 55 41.0 -2.9
GTA PcP PcP 18 56 57.7 +1.4
GTA S S **19 01 50.0 +2.4**
GTA pmax pmax
comp=Z,21nm,1.0s,mb4.8
GTA pmax pmax
comp=Z,180nm,5.9s
GTA LR LR
comp=N,130nm,15.2s
GTA LR LR
comp=E,130nm,14.0s
GTA LR LR
comp=Z,160nm,15.4s
TAPN Taplejung 45.64 308 *e*P P 18 55 22.5 +0.3
comp=Z,36nm,1.0s,mb5.1
TAPN Taplejung 45.64 308 *e*P P 18 55 22.5 +0.3
comp=Z,36nm,1.0s,mb5.1
ODAN Odare 45.68 307 *e*P P 18 55 22.6 +0.1
comp=Z,43nm,0.8s,mb5.2
ODAN Odare 45.68 307 *e*P P 18 55 22.6 +0.1
comp=Z,43nm,0.8s,mb5.2
GUN Gumba 47.34 307 *e*P P 18 55 35.9 +0.4
comp=Z,49nm,0.7s,mb5.3
GUN Gumba 47.34 307 *e*P P 18 55 35.9 +0.4
comp=Z,49nm,0.7s,mb5.3
KLR Kul'dur 47.41 4 *e*P P 18 55 31.1 -4.5
PKI Pulchoki 47.57 307 *e*P P 18 55 37.1 -0.2
PKI Pulchoki 47.57 307 *e*P P 18 55 37.1 -0.2
PKI Pulchoki 47.57 307 *e*P P 18 55 37.1 -0.2
PKIN Phulchoki 47.59 307 *e*P P 18 55 36.9 -0.5
KKN Kakani 47.77 307 *e*P P 18 55 38.6 -0.2
comp=Z,24nm,0.9s,mb5.0
KKN Kakani 47.77 307 *e*P P 18 55 38.6 -0.2
comp=Z,24nm,0.9s,mb5.0
KKN Kakani 47.77 307 *e*P P 18 55 38.6 -0.2
KKN pmax pmax
comp=Z,24nm,0.9s,mb5.0
DMN Daman 47.83 306 *e*P P 18 55 39.3 0.0
comp=Z,35nm,0.9s,mb5.2
DMN Daman 47.83 306 *e*P P 18 55 39.3 0.0
comp=Z,35nm,0.9s,mb5.2
GKN Gorkha 48.38 307 *e*P P 18 55 43.0 -0.4
comp=Z,29nm,0.9s,mb5.1
GKN Gorkha 48.38 307 *e*P P 18 55 43.0 -0.4
comp=Z,29nm,0.9s,mb5.1
KOLN Koldanda 49.11 306 *e*P P 18 55 49.4 +0.3
comp=Z,45nm,0.7s,mb5.5
KOLN Koldanda 49.11 306 *e*P P 18 55 49.4 +0.3
comp=Z,45nm,0.7s,mb5.5
ULN Ulaanbaatar 49.13 342 *e*P P 18 55 49.0 +0.2
comp=Z,19nm,0.9s,mb5.0
ULN Ulaanbaatar 49.13 342 *e*P P 18 55 49.0 +0.2
ULN pmax pmax
comp=Z,19nm,0.9s,mb5.0
ULN Ulaanbaatar 49.13 342 P P 18 55 50.0 +1.2
DANN Dangsing 49.22 307 *e*P P 18 55 50.1 +0.2
comp=Z,59nm,0.8s,mb5.6
DANN Dangsing 49.22 307 *e*P P 18 55 50.1 +0.2
comp=Z,59nm,0.8s,mb5.6
SONM Songino Array 49.31 342 P P 18 55 51.0 +0.8
comp=Z,7.2nm,0.8s,mb4.7,baz=154,slow=8.9,SNR=65
SONM PcP PcP 18 57 11.7 +0.4
comp=Z,1.6nm,0.8s,baz=163,slow=5.1,SNR=3.8
SONM Songino Array 49.31 342 P P 18 55 51.0 +0.8
SONM PcP PcP 18 57 11.7 +0.4
SONM Songino Array 49.31 342 P P 18 55 51.0 +0.8
SONM 18 57 11.7
HYB Hyderabad 50.34 291 *i* P P 18 55 58.0 -0.5
WMQ Urumqi 54.64 326 P P 18 56 31.0 +1.2
WMQ pP pP 18 56 54.7 -2.6
WMQ PP PP 18 58 36.4 +2.9
WMQ pmax pmax
comp=Z,36nm,0.9s,mb5.4
WMQ pmax pmax
comp=Z,270nm,7.2s
WMQ LR LR
comp=Z,23nm,18.6s
BOD Bodaibo 56.86 352 *e*P P 18 56 37.8 -7.5
BOD pmax pmax
comp=Z,12nm,1.0s,mb4.9
PETK Petropavlovsk- 57.00 21 P P 18 56 46.3 -0.1
comp=Z,6.1nm,0.9s,mb4.6,baz=216,slow=7.1,SNR=3.8
PETK Petropavlovsk- 57.00 21 P P 18 56 46.3 -0.1
PETK Petropavlovsk- 57.00 21 P P 18 56 46.3 -0.2
MK31 Makanchi Array 59.47 326 *ce*P P 18 57 04.1 +0.3
MK31 pmax pmax
comp=Z,6.0nm,0.4s,mb5.0
MKAR Makanchi Array 59.47 326 P P 18 57 04.3 +0.5
comp=Z,16nm,0.7s,mb5.2,baz=114,slow=7.5,SNR=196
MKAR Makanchi Array 59.47 326 P P 18 57 04.3 +0.5
MKAR Makanchi Array 59.47 326 P P 18 57 04.3 +0.5
KSH Kashi 59.83 316 P P 18 57 07.6 +1.2
KSH PcP PcP 18 57 52.4 +0.6
KSH PP PP 18 59 22.9 +3.2
KSH ScP ScP 19 01 43.0 +0.7
KSH PcS PcS 19 01 53.3 -0.8
KSH S S **19 05 09.0 0.0**
KSH ScS ScS 19 06 44.9 -1.0
KSH SS SS 19 09 09.9 +2.7
KSH pmax pmax
comp=Z,11nm,1.1s,mb4.8
KSH pmax pmax
comp=Z,83nm,3.4s
KSH LR LR
comp=N,77nm,3.2s
KSH LR LR
comp=E,110nm,4.1s
KSH LR LR
comp=Z,130nm,3.6s
YAK Yakutsk 60.12 1 *e*P P 18 57 07.9 0.0
comp=Z,39nm,0.8s,mb5.5
YAK Yakutsk 60.12 1 *e*P P 18 57 07.2 -0.7
YAK pmax pmax
comp=Z,32nm,0.9s,mb5.3
YAK pmax pmax
comp=N,11nm,0.9s
ZALV Zalesovo Beam 62.57 333 P P 18 57 23.4 -1.2
comp=N,4.5nm,0.7s,mb4.5,baz=113,slow=6.8,SNR=13
ZALV Zalesovo Beam 62.57 333 P P 18 57 23.4 -1.2
ZALV Zalesovo Beam 62.57 333 P P 18 57 23.4 -1.2
KBL Kabul 63.16 308 *e*P P 18 57 28.7 -0.2
comp=N,7.7nm,0.6s,mb4.8
KBL Kabul 63.16 308 *e*P P 18 57 28.7 -0.2
KBL pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
FX1 Attu Island--F 63.47 29 P P 18 57 31.7 +1.1
comp=Z,4.5nm,0.5s,mb4.7,baz=264,slow=17,SNR=5.9
FX1 Attu Island--F 63.47 29 P P 18 57 31.7 +1.1
FX1 Attu Island--F 63.47 29 P P 18 57 31.7 +1.1
KURK Kurchatov 63.68 328 P P 18 57 32.0 0.0
comp=Z,34nm,0.8s,mb5.3,baz=126,slow=6.1,SNR=117
KURK Kurchatov 63.68 328 *eP* P 18 57 32.0 +0.1
comp=Z,54nm,0.8s,mb5.4
KURK Kurchatov 63.68 328 *d i*P P 18 57 32.0 0.0
KURK pmax pmax
comp=Z,51nm,0.7s,mb5.5
SEY Seymchan 63.78 12 *ce*P P 18 57 33.1 +0.7
NVS Novosibirsk 63.85 333 *i* P P 18 57 30.8 -2.2
NVS *e*S S 19 05 46.6 -13
NVS pmax pmax
comp=Z,16nm,0.8s,mb4.9
NVS pmax pmax
comp=N,6.0nm,0.7s
NVS smax
comp=E,49nm,2.3s
KK31 Karatay Array 65.04 317 *ce*P P 18 57 41.1 +0.1
KK31 pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
KKAR Karatay Array 65.04 317 *eP* P 18 57 41.2 +0.2
comp=Z,10nm,0.8s,mb4.7
KKAR Karatay Array 65.04 317 *eP* P 18 57 41.2 +0.2
KKAR pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
BVA0 Borovoye Array 69.25 327 *i* P P 18 58 06.6 -0.8
BVA0 pmax pmax
comp=Z,4.0nm,1.2s,mb4.1
BRVK Borovoye 69.33 327 *eP* P 18 58 07.3 -0.5
comp=Z,17nm,1.0s,mb4.8
BRVK Borovoye 69.33 327⇑ *i*P P 18 58 07.2 -0.7
BRVK pmax pmax
comp=Z,20nm,1.2s,mb4.8
ABKT Ailbek 72.56 309 P P 18 58 28.4 +0.6
comp=Z,50nm,0.8s,mb5.4,SNR=5.0
ABKAR Akbulak array 74.01 321 *eP* P 18 58 35.4 -0.6
comp=Z,8.2nm,1.0s,mb4.4
SVE Sverdlovsk 75.91 329|| *i*P P 18 58 46.6 -0.2
SVE pmax pmax
comp=Z,22nm,0.9s,mb4.9
ARU Arti 76.88 328 *eP* P 18 58 51.0 -1.2
comp=Z,11nm,0.8s,mb4.6
ARU Arti 76.88 328 *d i*P P 18 58 51.1 -1.1
ARU *e* 19 01 45.0
ARU S S 19 08 30.3 -0.3
ARU SS SS 19 13 22.5 -6.8
ARU pmax pmax
comp=Z,14nm,1.0s,mb4.7
ARU Arti 76.88 328 P P 18 58 51.0 -1.2
comp=Z,86nm,0.7s,mb5.6,SNR=6.0
SOKR Solikamsk 78.68 331 *eP* P 18 59 01.4 -0.8
SOKR pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
VNDA Vanda 81.44 173 P P 18 59 16.3 -0.4
comp=Z,1.5nm,0.6s,mb4.0,baz=310,slow=8.5,SNR=6.0
VNDA LR LR 19 31 21.1
comp=Z,41nm,19.3s,baz=126,slow=32
VNDA Vanda 81.44 173 P P 18 59 16.3 -0.4
VNDA LR LR 19 31 21.1
VNDA Vanda 81.44 173 P P 18 59 16.3 -0.4
MAW Mawson 82.15 200 P P 18 59 20.3 -0.2
comp=Z,2.2nm,0.6s,mb4.1,baz=63,slow=5.3,SNR=10
MAW Mawson 82.15 200 P P 18 59 20.3 -0.2
MAW Mawson 82.15 200 P P 18 59 20.3 -0.3
ZEI Tsey 83.95 313 *eP* P 18 59 29.2 -1.2
ZEI pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
KLMR Klimovskoe 87.37 331 *eP* P 18 59 44.2 -2.7
KLMR pmax pmax
comp=Z,19nm,1.4s,mb4.8
OBN Obninsk 88.97 325 P P 18 59 54.0 -0.6
OBN pmax pmax
comp=Z,21nm,1.7s,mb4.9
APA Apatity 89.86 337⇑ *eP* P 19 00 08.4 +10
APA MLR MLR
comp=Z,500nm,18.0s
BRTR Keskin Array B 91.70 310 P P 19 00 06.6 -1.0
comp=Z,0.6nm,0.8s,mb3.9,baz=136,slow=7.3,SNR=4.0
BRTR Keskin Array B 91.70 310 P P 19 00 06.6 -1.0
BRTR Keskin Array B 91.70 310 P P 19 00 06.6 -1.1
ARCES ARCESS Array B 92.46 340 P P 19 00 09.3 -1.2
comp=Z,4.4nm,0.8s,mb4.8,baz=80,slow=4.8,SNR=11
ARCES ARCESS Array B 92.46 340 P P 19 00 09.3 -1.2
ARCES ARCESS Array B 92.46 340 P P 19 00 09.3 -1.2
TORD Torodi Ar. Bea 124.06 287 PKP PKPdf 19 05 58.5 -0.4
comp=Z,0.3nm,0.3s,baz=86,slow=1.6,SNR=11
TORD PP PP 19 07 44.5 +0.1
comp=Z,1.1nm,0.9s,baz=94,slow=4.1,SNR=5.5
TORD Torodi Ar. Bea 124.06 287 PKP PKPdf 19 05 58.5 -0.4
TORD PP PP 19 07 44.5 +0.1
LPAZ La Paz 159.05 134 PKPab PKPab 19 07 35.5 0.0
comp=Z,0.9nm,0.5s,baz=189,slow=5.7,SNR=6.0

*KRSC **10** 18:53:30.9±1.3, 50.°60N×150.°39E, h581km±41km, ML4.7*
*ISCJB **10** 18:53:33.9±0.5, 50.°9N±0.°1×150.°1E±0.°1, h525km±9km, mb3.7/22, Error ellipse: s-maj=19.4km s-min=8.5km az=144.9*
*MOS **10** 18:53:33.8±0.7, 50.°74N×150.°42E, h548km, mb3.8/13, Error ellipse: s-maj=17.4km s-min=13.9km az=66.7*
*NEIC **10** 18:53:34.5±0.5, 50.°72N×150.°09E, h521km±7km, mb4.3/6, Error ellipse: s-maj=12.6km s-min=6.1km az=154.0*
*IDC **10** 18:53:35.1±1.6, 50.°75N×150.°09E, h527km±22km, mb3.1/15, mb1 3.3/17, mb1mx3.2/27, mbtmp3.1/17, Error ellipse: s-maj=20.1km s-min=10.9km az=158.0*
ISC 10 18:53:34.8±0.5, 50.°7N±0.°1×150.°2E±0.°1, h526km±9km, n84, σ0s73/88, mb3.8/22, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**5.25**	**60**	P		P	P	**18 55 05.5**	**+0.4**
	0.9nm,0.3s,baz=225,slow=7.0,SNR=25								
PETK	**Petropavlovsk-**	**5.25**	**60**	P		P	P	**18 55 05.5**	**+0.4**
PETK	**Petropavlovsk-**	**5.25**	**60**	P		P	P	**18 55 05.5**	**+0.4**
PETK				P		pmax	pmax		
	comp=Z,1.0nm,0.3s								
RUS	**Russkaya**	**5.49**	**69**	*eP*		P	P	**18 55 07.5**	**+0.2**
RUS	**Russkaya**	**5.49**	**69**	P		P	P	**18 55 07.5**	**+0.2**
GNL	**Ganaly**	**5.64**	**55**	*eP*		P	P	**18 55 09.3**	**+0.7**
PET	**Petropavlovsk**	**5.75**	**63**	*eP*		P	P	**18 55 09.0**	**-0.6**
PET	**Petropavlovsk**	**5.75**	**63**	*eP*		P	P	**18 55 09.0**	**-0.7**
AVH	**Avacha**	**5.88**	**61**	*eP*		P	P	**18 55 12.7**	**+1.8**
YSS	**Yuzh-Sakhalins**	**6.17**	**235**	*eP*		P	P	**18 55 14.7**	**+0.9**
SPN	**Mys Shipunski**	**6.55**	**65**	*eP*		P	P	**18 55 16.7**	**-0.6**
SPN	**Mys Shipunski**	**6.55**	**65**	P		P	P	**18 55 16.7**	**-0.6**
MKZ	**Mys Kozlova**	**8.02**	**57**	*eP*		P	P	**18 55 30.5**	**-1.2**
MKZ				*i*		S	S	**18 57 00.0**	**-7.8**
MKZ	**Mys Kozlova**	**8.02**	**57**	P		P	P	**18 55 30.5**	**-1.2**
MKZ				S		S	S	**18 57 00.0**	**-7.8**
KBTR	**Krutoberegovo**	**9.33**	**49**	*eP*		P	P	**18 55 43.3**	**-1.8**
KBTR				*eS*		S	S	**18 57 23.0**	**-9.4**
KBTR	**Krutoberegovo**	**9.33**	**49**	P		P	P	**18 55 43.3**	**-1.8**
KBTR				S		S	S	**18 57 23.0**	**-9.4**
MAT	**Matsushiro**	**16.57**	**216**	P		P	P	**18 56 59.1**	**-1.6**
MJAR	**Matsushiro Arr**	**16.57**	**216**	P		P	P	**18 56 59.5**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=10,slow=9.0,SNR=8.4								
MJAR	**Matsushiro Arr**	**16.57**	**216**	P		P	P	**18 56 59.5**	**-1.2**
MJAR	**Matsushiro Arr**	**16.57**	**216**	P		P	P	**18 56 59.5**	**-1.2**
MJAR				P		pmax	pmax		
	comp=Z,1.0nm,0.3s								
KSRS	**Korea Array**	**20.66**	**239**	P		P	P	**18 57 38.2**	**+0.3**
	comp=Z,2.2nm,0.4s,baz=41,slow=9.3,SNR=11								
KSRS	**Korea Array**	**20.66**	**239**	P		P	P	**18 57 38.2**	**+0.3**
KSRS				P		pmax	pmax		
	comp=Z,2.0nm,0.4s								
SONM	**Songino Array**	**28.38**	**281**	P		P	P	**18 58 46.4**	**+0.2**
	comp=Z,0.5nm,0.3s,mb3.6,baz=74,slow=7.7,SNR=10								
SONM	**Songino Array**	**28.38**	**281**	P		P	P	**18 58 46.4**	**+0.2**
SONM	**Songino Array**	**28.38**	**281**	P		P	P	**18 58 46.4**	**+0.2**
SONM				P		pmax	pmax		
	comp=Z,1.0nm,0.3s								
ILAR	**Eielson Array**	**34.78**	**42**	P		P	P	**18 59 41.4**	**+0.8**
	comp=Z,0.8nm,0.5s,mb3.5,baz=278,slow=6.3,SNR=7.6								
ILAR	**Eielson Array**	**34.78**	**42**	P		P	P	**18 59 41.4**	**+0.8**
ZALV	**Zalesovo Beam**	**38.78**	**301**	P		P	P	**19 00 13.2**	**-0.4**
	comp=Z,1.4nm,0.6s,mb3.7,baz=78,slow=6.4,SNR=4.1								
ZALV	**Zalesovo Beam**	**38.78**	**301**	P		P	P	**19 00 13.2**	**-0.4**
ZALV	**Zalesovo Beam**	**38.78**	**301**	P		P	P	**19 00 13.3**	**-0.3**
ZALV				P		pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.5								
MKAR	**Makanchi Array**	**43.48**	**292**	P		P	P	**19 00 51.1**	**0.0**
	comp=Z,4.2nm,0.7s,mb4.1,baz=64,slow=8.0,SNR=21								
MKAR	**Makanchi Array**	**43.48**	**292**	P		P	P	**19 00 51.1**	**0.0**
MKAR	**Makanchi Array**	**43.48**	**292**	P		P	P	**19 00 51.1**	**0.0**
MKAR				P		pmax	pmax		
	comp=Z,4.0nm,0.7s								
KURK	**Kurchatov**	**43.62**	**299**	P		P	P	**19 00 52.7**	**+0.7**
	comp=Z,6.9nm,0.7s,mb4.3,baz=66,slow=8.4,SNR=23								
KURK	**Kurchatov**	**43.62**	**299**	*eP*		P	P	**19 00 51.6**	**-0.4**
	comp=Z,8.4nm,0.8s,mb4.3								
KURK	**Kurchatov**	**43.62**	**299**	P		P	P	**19 00 52.7**	**+0.7**
KURK				P		pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.3								
CMAR	**Chiang Mai Arr**	**51.62**	**251**	P		P	P	**19 01 52.8**	**+0.3**
	comp=Z,1.6nm,0.7s,mb3.5,baz=27,slow=6.7,SNR=11								
CMAR	**Chiang Mai Arr**	**51.62**	**251**	P		P	P	**19 01 52.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**51.62**	**251**	P		P	P	**19 01 52.8**	**+0.4**
CMAR				P		pmax	pmax		
	comp=Z,2.0nm,0.7s								
GUN	**Gumba**	**52.87**	**270**	*eP*		P	P	**19 02 01.5**	**+0.2**
	comp=Z,7.4nm,0.3s,mb4.5								
GUN	**Gumba**	**52.87**	**270**	*eP*		P	P	**19 02 01.5**	**+0.2**
	comp=Z,7.4nm,0.3s,mb4.5								
KEV	**Kevo**	**52.93**	**339**	*eP*		P	P	**19 02 00.4**	**-0.7**
KEV	**Kevo**	**52.93**	**339**	*ep*		P	P	**19 02 00.4**	**-0.7**
KKN	**Kakani**	**53.33**	**270**	*eP*		P	P	**19 02 04.9**	**+0.3**
	comp=Z,6.4nm,0.3s,mb4.4								
KKN	**Kakani**	**53.33**	**270**	*eP*		P	P	**19 02 04.9**	**+0.3**
	comp=Z,6.4nm,0.3s,mb4.4								
KKN	**Kakani**	**53.33**	**270**	*eP*		P	P	**19 02 04.9**	**+0.3**
KKN				P		pmax	pmax		
	comp=Z,6.0nm,0.3s,mb4.4								
PKI	**Pulchoki**	**53.40**	**270**	*eP*		P	P	**19 02 05.1**	**0.0**
	comp=Z,2.2nm,0.3s,mb4.0								
PKI	**Pulchoki**	**53.40**	**270**	*eP*		P	P	**19 02 05.1**	**0.0**
PKI				P		pmax	pmax		
	comp=Z,2.0nm,0.3s,mb3.9								
PKIN	**Phulchoki**	**53.40**	**270**	*eP*		P	P	**19 02 05.1**	**0.0**
	comp=Z,2.2nm,0.3s,mb3.9								
ARCES	**ARCESS Array B**	**53.44**	**339**	P		P	P	**19 02 05.2**	**+0.5**
	comp=Z,1.2nm,0.6s,mb3.4,baz=20,slow=7.4,SNR=10								
ARCES	**ARCESS Array B**	**53.44**	**339**	P		P	P	**19 02 05.2**	**+0.5**
ARCES	**ARCESS Array B**	**53.44**	**339**	P		P	P	**19 02 05.2**	**+0.5**
ARCES				P		pmax	pmax		
	comp=Z,1.0nm,0.6s								
DMN	**Daman**	**53.57**	**270**	*eP*		P	P	**19 02 06.7**	**+0.4**
DMN	**Daman**	**53.57**	**270**	*eP*		P	P	**19 02 06.7**	**+0.4**
GKN	**Gorkha**	**53.59**	**271**	*eP*		P	P	**19 02 06.7**	**+0.2**
	comp=Z,9.2nm,0.3s,mb4.6								
GKN	**Gorkha**	**53.59**	**271**	*eP*		P	P	**19 02 06.7**	**+0.2**
	comp=Z,9.2nm,0.3s,mb4.6								
DANN	**Dangsing**	**53.91**	**272**	*eP*		P	P	**19 02 09.3**	**+0.6**
DANN	**Dangsing**	**53.91**	**272**	*eP*		P	P	**19 02 09.3**	**+0.6**
KOLN	**Koldanda**	**54.41**	**272**	*eP*		P	P	**19 02 12.5**	**+0.3**
KOLN	**Koldanda**	**54.41**	**272**	*eP*		P	P	**19 02 12.5**	**+0.3**
ABKAR	**Akbulak array**	**54.42**	**306**	*eP*		P	P	**19 02 11.7**	**-0.3**
	comp=Z,4.8nm,0.5s,mb4.1								
JOF	**Joensuu**	**56.90**	**331**	*eP*		P	P	**19 02 28.0**	**-0.9**
JOF				pmax	pmax				
	comp=Z,3.0nm,0.6s,mb3.7								
JOF	**Joensuu**	**56.90**	**331**	*ep*		P	P	**19 02 28.0**	**-0.9**
	comp=Z,2.6nm,0.6s,mb3.6								
KAF	**Kangasniemi**	**59.00**	**333**	*eP*		P	P	**19 02 34.1**	**-9.1**
KAF				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb3.7								
KAF	**Kangasniemi**	**59.00**	**333**	*ep*		P	P	**19 02 34.1**	**-9.1**
	comp=Z,3.5nm,0.8s,mb3.6								
FINES	**FINESS Array B**	**59.60**	**333**	P		P	P	**19 02 46.9**	**-0.3**
	comp=Z,3.3nm,0.4s,mb4.0,baz=37,slow=7.7,SNR=18								
FINES	**FINESS Array B**	**59.60**	**333**	P		P	P	**19 02 46.9**	**-0.3**
FINES	**FINESS Array B**	**59.60**	**333**	P		P	P	**19 02 46.9**	**-0.3**
FINES				P		pmax	pmax		
	comp=Z,3.0nm,0.4s								
NVAR	**Mina Array Bea**	**62.33**	**62**	P		P	P	**19 03 06.2**	**+0.7**
	comp=Z,0.5nm,0.6s,mb3.2,baz=302,slow=6.8,SNR=4.4								
NVAR	**Mina Array Bea**	**62.33**	**62**	P		P	P	**19 03 06.2**	**+0.7**
NOA	**NORSAR Array B**	**63.82**	**339**	P		P	P	**19 03 14.5**	**-0.2**
	comp=Z,0.5nm,0.6s,mb3.2,baz=26,slow=6.4,SNR=3.2								
NOA	**NORSAR Array B**	**63.82**	**339**	P		P	P	**19 03 14.5**	**-0.2**
NOA	**NORSAR Array B**	**63.82**	**339**	P		P	P	**19 03 14.5**	**-0.2**
NOA				P		pmax	pmax		
	comp=Z,1.0nm,0.6s								
PDAR	**Pinedale Array**	**63.98**	**54**	P		P	P	**19 03 16.9**	**+0.8**
	comp=Z,0.5nm,0.5s,mb3.2,baz=346,slow=2.3,SNR=6.0								
PDAR	**Pinedale Array**	**63.98**	**54**	P		P	P	**19 03 16.9**	**+0.8**
AKASG	**Malin Array Be**	**67.16**	**324**	P		P	P	**19 03 34.8**	**-1.0**
	comp=Z,1.3nm,0.5s,mb3.8,baz=33,slow=6.3,SNR=4.0								
AKASG	**Malin Array Be**	**67.16**	**324**	P		P	P	**19 03 34.8**	**-1.0**
AKASG	**Malin Array Be**	**67.16**	**324**	P		P	P	**19 03 34.8**	**-1.0**
AKASG				P		pmax	pmax		
	comp=Z,1.0nm,0.5s								
BRTR	**Keskin Array B**	**74.17**	**314**	P		P	P	**19 04 17.7**	**+0.3**
	comp=Z,1.2nm,0.9s,mb3.3,baz=36,slow=5.0,SNR=4.0								
BRTR	**Keskin Array B**	**74.17**	**314**	P		P	P	**19 04 17.7**	**+0.3**
BRTR	**Keskin Array B**	**74.17**	**314**	P		P	P	**19 04 17.7**	**+0.3**
BRTR				P		pmax	pmax		
	comp=Z,1.0nm,0.9s								
TXAR	**Lajitas Array**	**77.20**	**59**	P		P	P	**19 04 34.7**	**+0.3**
	comp=Z,0.5nm,0.6s,mb3.1,baz=300,slow=2.7,SNR=3.8								
TXAR	**Lajitas Array**	**77.20**	**59**	P		P	P	**19 04 34.7**	**+0.3**
TXAR	**Lajitas Array**	**77.20**	**59**	P		P	P	**19 04 34.7**	**+0.4**
TXAR				P		pmax	pmax		
	comp=Z,1.0nm,0.6s								

*NEIC **10** 18:58:26.3±1.6, 6.°14S×130.°35E, h64km±15km, mb4.3/4, Error ellipse: s-maj=17.4km s-min=8.0km az=62.0*
*IDC **10** 18:58:27.9±4.7, 6.°21S×130.°24E, h74km±42km, mb4.0/8, mb1 4.2/11, mb1mx3.9/19, mbtmp4.1/11, ML4.6/3, Error ellipse: s-maj=48.4km s-min=16.1km az=71.0*
*ISCJB **10** 18:58:32.5±0.6, 6.°40S±0.°05×130.°14E±0.°09, h141km±7km, mb4.4/16, Error ellipse: s-maj=15.0km s-min=6.2km az=161.1*
*DJA **10** 18:58:34, 6.°42S×130.°13E, h104km, mb4.6/7*
ISC 10 18:58:33.3±0.6, 6.°44S±0.°05×130.°13E±0.°09, h130km±7km, n62, σ1s08/64, mb4.4/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.91**	**353**	P		P	**Pn**	**18 59 06.3**	**0.0**
TLE	**Tual**	**2.71**	**73**	P		P	**Pn**	**18 59 16.9**	**+0.7**
MSAI	**Masohi**	**3.29**	**339**	P		P	**Pn**	**18 59 24.3**	**+0.5**
AAI	**Ambon**	**3.34**	**325**	P		P	**Pn**	**18 59 24.9**	**+0.4**
TNTI	**Ternate**	**7.67**	**339**	P		P	**Pn**	**19 00 21.2**	**-1.3**
	44nm,0.7s								
MRSI	**Marisa**	**10.68**	**310**	P		P	**Pn**	**19 01 04.7**	**+1.9**
	22nm,1.0s								
FITZ	**Fitzroy Crossi**	**12.40**	**200**	P		P	**Pn**	**19 01 24.0**	**-1.4**
	3.9nm,0.3s,baz=36,slow=11,SNR=116								
FITZ				S		S	**Sn**	**19 03 35.3**	**-6.8**
	2.2nm,0.3s,baz=63,slow=18,SNR=3.4								
FITZ	**Fitzroy Crossi**	**12.40**	**200**	P		P	**Pn**	**19 01 24.0**	**-1.3**
FITZ				S		S	**Sn**	**19 03 35.3**	**-6.8**
FITZ	**Fitzroy Crossi**	**12.40**	**200**	P		P	**Pn**	**19 01 25.8**	**+0.4**
	18nm,1.8s								
WRAB	**Tennant Creek**	**14.03**	**163**	*eP*		P	**Pn**	**19 01 44.9**	**-1.6**
	9.5nm,0.5s								
WRAB	**Tennant Creek**	**14.03**	**163**	P		P	**Pn**	**19 01 47.8**	**+1.4**
	28nm,1.8s								
WRA	**Warramunga Arr**	**14.03**	**163**	P		P	**Pn**	**19 01 44.2**	**-2.3**
	2.2nm,0.3s,baz=334,slow=13,SNR=69								
WRA				S		S	**Sn**	**19 04 14.3**	**-7.3**
	7.8nm,0.3s,baz=341,slow=23,SNR=12								
WRA	**Warramunga Arr**	**14.03**	**163**	P		P	**Pn**	**19 01 44.2**	**-2.3**
WRA				S		S	**Sn**	**19 04 14.3**	**-7.3**
WB2	**Warramunga Arr**	**14.04**	**163**	*eP*		P	**Pn**	**19 01 45.0**	**-1.6**
SRBI	**Singaraja**	**14.89**	**263**	P		P	**Pn**	**19 01 55.5**	**-1.9**
	58nm,1.2s								
BBKI	**Banjar Baru**	**15.52**	**280**	P		P	**Pn**	**19 02 09.9**	**+4.7**
**AS

13nm,1.1s,mb4.6,baz=196,slow=8.3,SNR=2.5
NWAO Narrogin (SRO) 28.96 203 P **P** 19 04 23.1 **+2.6**
CMAR Chiang Mai Arr 39.47 309 P **P** 19 05 51.1 **-0.2**
1.1nm,0.5s,mb3.7,baz=134,slow=6.8,SNR=8.7
CMAR Chiang Mai Arr 39.47 309 P **P** 19 05 51.1 **-0.2**
ENH Enshi 41.52 333 *eP* **P** 19 06 07.2 **-0.8**
LSA Lhasa 51.88 316 *eP* **P** 19 07 29.3 **+0.6**
5.1nm,0.6s,mb4.3
ODAN Odare 52.99 311 *eP* **P** 19 07 36.9 **0.0**
15nm,0.6s,mb4.9
ODAN Odare 52.99 311 *eP* **P** 19 07 36.9 **0.0**
15nm,0.6s,mb4.9
TAPN Taplejung 53.01 311 *eP* **P** 19 07 37.2 **+0.2**
15nm,0.5s,mb4.9
TAPN Taplejung 53.01 311 *eP* **P** 19 07 37.2 **+0.2**
15nm,0.5s,mb5.0
GUN Gumba 54.68 311 *eP* **P** 19 07 49.3 **+0.1**
36nm,0.6s,mb5.3
GUN Gumba 54.68 311 *eP* **P** 19 07 49.3 **+0.1**
36nm,0.6s,mb5.3
PKI Pulchoki 54.86 310 *eP* **P** 19 07 50.4 **-0.1**
PKI Pulchoki 54.86 310 *eP* **P** 19 07 50.4 **-0.1**
PKIN Phulchoki 54.87 310 *eP* **P** 19 07 50.3 **-0.3**
KKN Kakani 55.07 310 *eP* **P** 19 07 51.8 **-0.2**
16nm,0.5s,mb5.0
KKN Kakani 55.07 310 *eP* **P** 19 07 51.8 **-0.2**
16nm,0.5s,mb5.0
DMN Daman 55.11 310 *eP* **P** 19 07 52.4 **+0.1**
15nm,0.6s,mb4.9
DMN Daman 55.11 310 *eP* **P** 19 07 52.4 **+0.1**
15nm,0.6s,mb4.9
GKN Gorkha 55.67 310 *eP* **P** 19 07 56.3 **0.0**
35nm,0.6s,mb5.4
GKN Gorkha 55.67 310 *eP* **P** 19 07 56.3 **0.0**
35nm,0.6s,mb5.4
KOLN Koldanda 56.34 309 *eP* **P** 19 08 01.3 **+0.2**
KOLN Koldanda 56.34 309 *eP* **P** 19 08 01.3 **+0.2**
DANN Dangsing 56.51 310 *eP* **P** 19 08 02.2 **0.0**
DANN Dangsing 56.51 310 *eP* **P** 19 08 02.2 **0.0**
SONM Songino Array 57.95 341 P **P** 19 08 12.1 **+0.2**
0.5nm,0.5s,mb3.6,baz=141,slow=6.1,SNR=8.3
SONM Songino Array 57.95 341 P **P** 19 08 12.1 **+0.2**
MK31 Makanchi Array 67.83 327 *eP* **P** 19 09 17.2 **-0.2**
MKAR Makanchi Array 67.83 327 P **P** 19 09 17.6 **+0.2**
6.2nm,0.6s,mb4.5,baz=115,slow=7.9,SNR=90
MKAR Makanchi Array 67.83 327 P **P** 19 09 17.6 **+0.2**
ZALV Zalesovo Beam 71.14 334 P **P** 19 09 36.6 **-0.9**
1.7nm,0.5s,mb4.1,baz=119,slow=5.4,SNR=6.3
ZALV Zalesovo Beam 71.14 334 P **P** 19 09 36.6 **-0.9**
KURK Kurchatov 72.11 328 P **P** 19 09 43.2 **-0.2**
3.2nm,0.6s,mb4.3,baz=124,slow=5.0,SNR=27
KURK Kurchatov 72.11 328 *eP* **P** 19 09 43.2 **-0.2**
7.4nm,1.4s,mb4.2
MAW Mawson 75.52 201 P **P** 19 10 05.5 **+2.4**
1.9nm,1.0s,mb3.7,baz=45,slow=8.6,SNR=4.7
MAW Mawson 75.52 201 P **P** 19 10 05.5 **+2.4**
ABKAR Akbulak array 82.15 322 *eP* **P** 19 10 37.9 **-1.7**
1.6nm,0.8s,mb3.7
TORD Torodi Ar. Bea 128.83 282 PKP PKPdf 19 17 26.9 +0.5
0.1nm,0.3s,baz=84,slow=2.9,SNR=6.5
TORD Torodi Ar. Bea 128.83 281 PKP PKPdf 19 17 26.9 +0.5
LPAZ La Paz 151.08 142 PKPbc PKPbc 19 18 14.2 +2.2
1.0nm,0.4s,baz=288,slow=3.2,SNR=5.2
LPAZ La Paz 151.08 142 PKPbc PKPbc 19 18 14.2 +2.2

IDC 10 19:12:35.8±22.0, 15°83S×176°41W, h298km±213km, mb3.4/4, mb1 3.6/4, mb1mx3.2/18, mbtmp3.4/4, Error ellipse: s-maj=132.4km s-min=53.3km az=131.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**41.31**	**240**	P		P	19 19 53.0	-0.1
	1.2nm,0.4s,baz=95,slow=13,SNR=7.9							
WRA	**Warramunga Arr**	**46.92**	**257**	P		P	19 20 37.3	-0.1
	0.6nm,0.5s,baz=91,slow=7.1,SNR=16							
ASAR	**Alice Springs**	**47.22**	**252**	P		P	19 20 39.7	0.0
	3.0nm,0.3s,baz=89,slow=7.7,SNR=204							
ILAR	**Eielson Array**	**83.45**	**12**	P		P	19 24 29.8	+0.1
	0.5nm,0.4s,baz=216,slow=5.3,SNR=15							
BRTR	**Keskin Array B**	**144.60**	**318**	PKP		PKPdf	19 31 37.0	-0.3
	0.9nm,0.7s,baz=42,slow=4.5,SNR=4.3							

JMA 10 19:23:28.9±0.5, 32°58N×142°11E, h0km, M3.7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**2.27**	**336**	P		Pn	19 24 08.3	+0.6
BSO1				*eS*		Sn	19 24 38.2	+1.8
BSO3	**Boso 3**	**2.59**	**329**	P		Pn	19 24 13.4	+1.4
BSO3				*eS*		Sn	19 24 47.0	+2.9
JOD2	**Odawara 2**	**3.67**	**318**	P		Pn	19 24 28.5	+1.6
JOD2				*eS*		Sn	19 25 12.4	+1.5
JHU	**Hanno**	**4.02**	**325**	P		Pn	19 24 33.8	+2.1
JHU				*eS*		Sn	19 25 22.4	+3.0
JYN	**Shimob**	**4.15**	**315**	*eS*		Sn	19 25 26.8	+4.1
JHO	**Hitachi**	**4.22**	**343**	P		Pn	19 24 35.3	+0.9
JHO				S		Sn	19 25 23.1	-1.3
JRY	**Ryogami san**	**4.34**	**323**	P		Pn	19 24 38.4	+2.3
JRY				*eS*		Sn	19 25 28.6	+1.3
JAG	**Ashikaga**	**4.42**	**331**	P		Pn	19 24 39.3	+2.1
JAG				*eS*		Sn	19 25 28.7	-0.6
JFK	**Kawauchi**	**4.88**	**348**	*eS*		Sn	19 25 38.9	-1.9
JMM	**Marumori**	**5.38**	**349**	P		Pn	19 24 51.7	+1.3
JMM				*eS*		Sn	19 25 50.8	-2.3
JMK	**Ichinoseki**	**6.40**	**354**	P		Pn	19 25 05.1	+0.7
JMK				*eS*		Sn	19 26 14.8	-3.3

*NEIC **10** 19:35:19.0±2.0, 25°.49N×141°.37E, h156km±18km, mb4.0/1, Error ellipse: s-maj=21.6km s-min=13.5km az=91.0*
*ISCJB **10** 19:35:19.3±0.9, 25°.58N±0°.07×141°.3E±0°.2, h171km±9km, mb3.6/13, Error ellipse: s-maj=24.1km s-min=11.3km az=166.6*
*IDC **10** 19:35:20.2±1.3, 25°.55N×141°.33E, h165km±11km, mb3.4/12, mb1 3.6/13, mb1mx3.4/25, mbtmp3.4/13, Error ellipse: s-maj=24.6km s-min=17.1km az=95.0*
*JMA **10** 19:35:22.0±0.2, 25°.61N×140°.70E, h82km, M4.5*

ISC 10 19:35:20.2±1.0, 25°.56N±0°.08×141°.3E±0°.2, h165km±9km, n40, σ0s99/44, mb3.6/13, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**1.32**	**36**	P		**Pn**	**19 35 50.0**	**+0.9**
JHHJ				S		**Sn**	**19 36 10.9**	**-0.6**
CBIJ	**Chichi jima**	**1.72**	**27**	P		**Pn**	**19 35 54.5**	**+1.4**
	52nm,0.3s,baz=275,slow=21,SNR=40							
CBIJ				S		**Sn**	**19 36 18.8**	**+0.2**
	157nm,0.3s,baz=296,slow=23,SNR=51							
CBIJ	**Chichi jima**	**1.72**	**27**	P		**Pn**	**19 35 54.4**	**+1.2**
CBIJ				S		**Sn**	**19 36 18.7**	**+0.1**
JKO	**Kozu shima**	**8.80**	**348**	*eS*		**Sn**	**19 39 05.5**	**+3.4**
BSO1	**Boso 1**	**9.07**	**358**	P		**Pn**	**19 37 27.5**	**-0.1**
BSO3	**Boso 3**	**9.24**	**356**	P		**Pn**	**19 37 29.4**	**-0.4**
JOD2	**Odawara 2**	**9.86**	**349**	P		**Pn**	**19 37 39.1**	**+1.1**
JHU	**Hanno**	**10.41**	**351**	P		**Pn**	**19 37 43.4**	**-1.8**
JRY	**Ryogami san**	**10.63**	**349**	P		**Pn**	**19 37 48.0**	**-0.1**
JAG	**Ashikaga**	**10.95**	**352**	P		**Pn**	**19 37 51.1**	**-1.2**
JAG				*eS*		**Sn**	**19 39 50.0**	**-3.6**
JHO	**Hitachi**	**11.04**	**357**	P		**Pn**	**19 37 52.2**	**-1.2**
MJAR	**Matsushiro Arr**	**11.27**	**347**	P		**Pn**	**19 37 55.0**	**-1.4**
	0.3nm,0.3s,baz=156,slow=11,SNR=3.5							
MJAR	**Matsushiro Arr**	**11.27**	**347**	P		**Pn**	**19 37 55.0**	**-1.4**
MAJO	**Matsushiro**	**11.27**	**347**	*eP*		**Pn**	**19 37 57.8**	**+1.3**
CMAR	**Chiang Mai Arr**	**39.78**	**269**	P		**P**	**19 42 37.4**	**+0.1**
	0.5nm,0.6s,mb3.4,baz=68,slow=6.5,SNR=6.1							
CMAR	**Chiang Mai Arr**	**39.78**	**269**	P		**P**	**19 42 37.4**	**+0.1**
WRAB	**Tennant Creek**	**45.72**	**189**	*eP*		**P**	**19 43 23.7**	**-1.2**
	3.5nm,0.8s,mb4.0							
WRA	**Warramunga Arr**	**45.73**	**189**	P		**P**	**19 43 24.7**	**-0.2**
	1.3nm,0.5s,mb3.8,baz=11,slow=8.8,SNR=27							
WRA	**Warramunga Arr**	**45.73**	**189**	P		**P**	**19 43 24.7**	**-0.2**
ZALV	**Zalesovo Beam**	**50.15**	**320**	P		**P**	**19 43 59.1**	**+0.6**
	0.6nm,0.3s,mb3.7,baz=96,slow=7.2,SNR=2.5							
ZALV	**Zalesovo Beam**	**50.15**	**320**	P		**P**	**19 43 59.1**	**+0.6**
MKAR	**Makanchi Array**	**50.86**	**311**	P		**P**	**19 44 05.7**	**+1.7**
	0.4nm,0.8s,mb3.1,baz=106,slow=5.2,SNR=3.0							
MKAR	**Makanchi Array**	**50.86**	**311**	P		**P**	**19 44 05.7**	**+1.7**
KURK	**Kurchatov**	**53.51**	**315**	P		**P**	**19 44 23.4**	**-0.1**
	0.4nm,0.5s,mb3.5,baz=92,slow=8.2,SNR=7.8							
KURK	**Kurchatov**	**53.51**	**315**	P		**P**	**19 44 23.4**	**-0.1**
BVAR	**Borovoye Array**	**58.65**	**318**	P		**P**	**19 45 00.3**	**+0.4**
	0.3nm,0.4s,mb3.5,baz=101,slow=7.4,SNR=4.9							
BVAR	**Borovoye Array**	**58.65**	**318**	P		**P**	**19 45 00.3**	**+0.4**
ILAR	**Eielson Array**	**59.43**	**28**	P		**P**	**19 45 05.8**	**+0.8**
	0.5nm,1.0s,mb3.3,baz=239,slow=8.5,SNR=4.1							
ILAR	**Eielson Array**	**59.43**	**28**	P		**P**	**19 45 05.8**	**+0.8**
ARCES	**ARCESS Array B**	**74.73**	**341**	P		**P**	**19 46 42.4**	**+1.0**
	2.0nm,0.9s,mb3.7,baz=65,slow=8.6,SNR=4.1							
ARCES	**ARCESS Array B**	**74.73**	**341**	P		**P**	**19 46 42.4**	**+1.0**
FINES	**FINESS Array B**	**78.98**	**334**	P		**P**	**19 47 05.5**	**+0.2**
	2.1nm,0.3s,mb4.2,baz=69,slow=5.1,SNR=20							
FINES	**FINESS Array B**	**78.98**	**334**	P		**P**	**19 47 05.5**	**+0.2**
AKASG	**Malin Array Be**	**83.39**	**324**	P		**P**	**19 47 27.6**	**-1.2**
	1.2nm,0.5s,mb3.9,baz=53,slow=4.8,SNR=4.8							
AKASG	**Malin Array Be**	**83.39**	**324**	P		**P**	**19 47 27.6**	**-1.2**
NB2	**NORSAR Subarra**	**84.74**	**338**	P		**P**	**19 47 35.1**	**-0.3**
	comp=Z,0.5nm,0.3s,mb3.7,baz=42,slow=4.8							
NOA	**NORSAR Array B**	**84.74**	**338**	P		**P**	**19 47 35.2**	**-0.2**
	comp=Z,1.4nm,0.6s,mb3.9,baz=46,slow=4.8,SNR=6.7							
NOA	**NORSAR Array B**	**84.74**	**338**	P		**P**	**19 47 35.2**	**-0.2**
PDAR	**Pinedale Array**	**85.86**	**44**	P		**P**	**19 47 41.2**	**-0.1**
	comp=Z,0.3nm,0.7s,mb3.1,baz=297,slow=4.0,SNR=2.8							
PDAR	**Pinedale Array**	**85.86**	**44**	P		**P**	**19 47 41.2**	**-0.1**

*IDC **10** 19:56:22.7±3.6, 23°.38S×179°.71W, h523km±38km, mb3.6/12, mb1 3.8/13, mb1mx3.7/20, mbtmp3.6/13, Error ellipse: s-maj=22.8km s-min=15.0km az=61.0*
*ISCJB **10** 19:56:24.2±1.1, 23°.53S±0°.07×179°.8W±0°.1, h554km±13km, mb4.3/17, Error ellipse: s-maj=14.4km s-min=10.2km az=179.5*
*NEIC **10** 19:56:25.4±0.9, 23°.42S×179°.84W, h555km±10km, mb4.6/6, Error ellipse: s-maj=13.0km s-min=9.9km az=110.0*

ISC 10 19:56:25.2±1.1, 23°.47S±0°.08×179°.8W±0°.1, h551km±13km, n62, σ1s03/52, mb4.3/17, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**6.05**	**340**	*eP*		**P**	**19 58 04.4**	**-0.1**
	7.8nm,0.6s							
URZ	**Urewera**	**14.98**	**189**	P		**P**	**19 59 31.1**	**-3.2**
	3.4nm,0.3s,baz=349,slow=1.4,SNR=11							
URZ				S		**S**	**20 02 03.0**	**-6.9**
	0.8nm,0.3s,baz=66,slow=20,SNR=5.6							
URZ	**Urewera**	**14.98**	**189**	P		**P**	**19 59 31.1**	**-3.2**
URZ				S		**S**	**20 02 03.0**	**-6.9**
KHZ	**Kahutara**	**19.70**	**195**	*eP*		**P**	**20 00 17.9**	**-0.4**
	23nm,0.4s							
RPZ	**Rata Peaks**	**21.56**	**198**	P		**P**	**20 00 34.5**	**-0.6**
	30nm,0.5s,mb5.2,baz=23,slow=2.5,SNR=33							
RPZ				S		**S**	**20 03 56.5**	**-0.3**
	2.9nm,0.7s,baz=12,slow=20,SNR=1.5							
RPZ	**Rata Peaks**	**21.56**	**198**	P		**P**	**20 00 34.5**	**-0.6**
RPZ				S		**S**	**20 03 56.5**	**-0.3**
ARMA	**Armidale**	**26.35**	**249**	*eP*		**P**	**20 01 19.7**	**+1.9**
CNB	**Canberra Magne**	**29.23**	**239**	*eP*		**P**	**20 01 44.6**	**+1.7**
CTA	**Charters Tower**	**31.66**	**269**	*eP*		**P**	**20 02 04.8**	**+0.8**
	27nm,0.3s,mb5.2							
TOO	**Toolangi**	**32.84**	**237**	*eP*		**P**	**20 02 14.9**	**+1.1**
PMG	**Port Moresby**	**34.53**	**288**	P		**P**	**20 02 27.9**	**-0.4**
	16nm,0.6s,mb4.7,baz=54,slow=4.0,SNR=7.2							
PMG	**Port Moresby**	**34.53**	**288**	P		**P**	**20 02 27.9**	**-0.4**
STKA	**Stephens Creek**	**35.06**	**248**	P		**P**	**20 02 33.0**	**+0.5**
	9.9nm,0.6s,mb4.5,baz=90,slow=9.8,SNR=41							
STKA	**Stephens Creek**	**35.06**	**248**	*eP*		**P**	**20 02 33.1**	**+0.6**
	9.0nm,0.6s,mb4.5							
STKA	**Stephens Creek**	**35.06**	**248**	P		**P**	**20 02 33.0**	**+0.5**
ASAR	**Alice Springs**	**42.29**	**260**	P		**P**	**20 03 31.1**	**0.0**
	11nm,0.5s,mb4.6,baz=100,slow=7.0,SNR=111							
ASAR				S		**S**	**20 09 10.8**	**-1.6**
	0.5nm,0.6s,baz=96,slow=15,SNR=4.9							
ASAR	**Alice Springs**	**42.29**	**260**	P		**P**	**20 03 31.1**	**0.0**
ASAR				S		**S**	**20 09 10.8**	**-1.6**
WB2	**Warramunga Arr**	**42.61**	**266**	*eP*		**P**	**20 03 32.8**	**-0.8**
WRAB	**Tennant Creek**	**42.62**	**266**	*eP*		**P**	**20 03 32.8**	**-0.9**
	16nm,0.7s,mb4.7							
WRA	**Warramunga Arr**	**42.62**	**266**	P		**P**	**20 03 33.1**	**-0.6**
	10nm,0.4s,mb4.7,baz=92,slow=8.5,SNR=268							
WRA				S		**S**	**20 09 13.6**	**-3.7**
	0.5nm,0.7s,baz=97,slow=14,SNR=4.2							
WRA	**Warramunga Arr**	**42.62**	**266**	P		**P**	**20 03 33.1**	**-0.6**
WRA				S		**S**	**20 09 13.6**	**-3.7**
FORT	**Forrest**	**46.64**	**249**	*eP*		**P**	**20 04 03.9**	**-0.5**
	59nm,0.6s,mb5.3							
FORT	**Forrest**	**46.64**	**249**	*eP*		**P**	**20 04 03.7**	**-0.7**
	68nm,0.6s,mb5.3							
FITZ	**Fitzroy Crossi**	**51.05**	**265**	*eP*		**P**	**20 04 37.2**	**0.0**
	17nm,0.6s,mb4.5							
FITZ	**Fitzroy Crossi**	**51.05**	**265**	*eP*		**P**	**20 04 36.9**	**-0.3**
	10nm,0.7s,mb4.3							
VNDA	**Vanda**	**54.82**	**185**	P		**P**	**20 05 04.2**	**+1.0**
	1.5nm,0.5s,mb3.5,baz=354,slow=7.9,SNR=8.6							
VNDA				PcP		PcP	20 05 56.9	0.0
	1.2nm,0.6s,baz=23,slow=4.4,SNR=3.5							
VNDA	**Vanda**	**54.82**	**185**	P		**P**	**20 05 04.2**	**+1.0**
VNDA				PcP		PcP	20 05 56.9	0.0
KLBR	**Kellerberrin**	**55.33**	**247**	*eP*		**P**	**20 05 07.1**	**-0.3**
	17nm,0.5s,mb4.5							
QSPA	**South Pole Qui**	**66.61**	**180**	*eP*		**P**	**20 06 22.0**	**+1.4**
	13nm,1.2s,mb4.3							
MJAR	**Matsushiro Arr**	**71.65**	**325**	P		**P**	**20 06 51.3**	**-0.2**
	0.3nm,0.3s,mb3.2,baz=148,slow=9.4,SNR=3.1							
MJAR	**Matsushiro Arr**	**71.65**	**325**	P		**P**	**20 06 51.3**	**-0.2**
MAW	**Mawson**	**78.22**	**200**	P		**P**	**20 07 28.7**	**+0.9**
	3.1nm,0.7s,mb3.8,baz=123,slow=6.3,SNR=18							
MAW	**Mawson**	**78.22**	**200**	*eP*		**P**	**20 07 28.3**	**+0.6**
	2.1nm,0.6s,mb3.6							
MAW	**Mawson**	**78.22**	**200**	P		**P**	**20 07 28.7**	**+0.9**
NVAR	**Mina Array Bea**	**84.31**	**44**	P		**P**	**20 07 59.4**	**0.0**
	0.5nm,0.8s,baz=214,slow=6.4,SNR=3.4							
NVAR	**Mina Array Bea**	**84.31**	**44**	P		**P**	**20 07 59.4**	**0.0**
VNA3	**Neumayer Olymp**	**85.30**	**177**	*e*		**P**	**20 08 00.3**	**-3.4**
VNA2	**Neumayer--Watz**	**85.72**	**178**	*e*		**P**	**20 08 02.6**	**-3.1**
	baz=198,slow=4.4							
CMAR	**Chiang Mai Arr**	**89.55**	**290**	P		**P**	**20 08 25.6**	**+1.0**
	1.8nm,0.9s,mb3.9,baz=138,slow=3.4,SNR=8.2							
CMAR	**Chiang Mai Arr**	**89.55**	**290**	P		**P**	**20 08 25.6**	**+1.0**
TXAR	**Lajitas Array**	**90.04**	**58**	P		**P**	**20 08 27.5**	**+0.8**
	0.9nm,0.8s,mb3.6,baz=212,slow=8.5,SNR=7.1							
TXAR	**Lajitas Array**	**90.04**	**58**	P		**P**	**20 08 27.5**	**+0.8**
ILAR	**Eielson Array**	**91.57**	**13**	P		**P**	**20 08 31.9**	**-0.9**
	0.4nm,0.9s,mb3.5,baz=238,slow=5.0,SNR=3.6							
ILAR	**Eielson Array**	**91.57**	**13**	P		**P**	**20 08 31.9**	**-0.9**
PLAL	**Pickwick Lake**	**104.40**	**58**	*eP*		Pdif	20 09 32.6	+1.6
	14nm,0.8s							
MKAR	**Makanchi Array**	**112.00**	**313**	PKiKP		PKiKP	20 13 56.6	-1.3
	0.2nm,0.4s,baz=230,slow=1.7,SNR=5.6							
MKAR	**Makanchi Array**	**112.00**	**313**	PKPdf		PKiKP	20 13 56.6	-1.3
ARCES	**ARCESS Array B**	**131.50**	**348**	PKP		PKPdf	20 14 33.5	-1.1
	0.8nm,0.5s,baz=68,slow=3.2,SNR=13							
ARCES	**ARCESS Array B**	**131.50**	**348**	PKP		PKPdf	20 14 33.5	-1.1
FINES	**FINESS Array B**	**138.10**	**342**	PKP		PKPdf	20 14 47.9	+0.8
	5.1nm,1.0s,baz=75,slow=1.6,SNR=4.0							
FINES	**FINESS Array B**	**138.10**	**342**	PKP		PKPdf	20 14 47.9	+0.8
NOA	**NORSAR Array B**	**141.69**	**351**	PKhKP		PKPpre	20 14 48.1	
	1.7nm,1.0s,baz=33,slow=4.6,SNR=3.0							
NOA	**NORSAR Array B**	**141.69**	**351**	PKP		PKPpre	20 14 48.1	
AKASG	**Malin Array Be**	**144.71**	**328**	PKP		PKPdf	20 14 58.5	-0.7
	1.6nm,0.3s,baz=47,slow=4.6,SNR=15							
AKASG	**Malin Array Be**	**144.71**	**328**	PKP		PKPdf	20 14 58.5	-0.7
BRTR	**Keskin Array B**	**147.46**	**308**	PKPbc		PKPbc	20 15 07.0	-0.6
	0.9nm,0.4s,baz=144,slow=5.5,SNR=6.6							
BRTR	**Keskin Array B**	**147.46**	**308**	PKPbc		PKPbc	20 15 07.0	-0.6
CLL	**Collm**	**150.50**	**344**	*e*PKPbc		PKPbc	20 15 14.0	-0.6
GERES	**GERESS Array B**	**152.51**	**340**	PKPbc		PKPbc	20 15 18.7	-0.5
	0.1nm,0.3s,baz=45,slow=1.9,SNR=3.7							
GERES	**GERESS Array B**	**152.51**	**340**	PKPbc		PKPbc	20 15 18.7	-0.5
TORD	**Torodi Ar. Bea**	**169.64**	**188**	PKP		PKPdf	20 15 29.0	-1.5
	0.4nm,0.7s,baz=77,slow=3.9,SNR=5.1							
TORD				PKPab		PKPab	20 16 47.5	-0.5
	0.8nm,0.6s,baz=163,slow=4.8,SNR=9.6							
TORD	**Torodi Ar. Bea**	**169.64**	**188**	PKP		PKPdf	20 15 29.0	-1.5
TORD				PKPab		PKPab	20 16 47.5	-0.5

*ISCJB **10** 20:04:58.7±0.6, 51°.44N±0°.03×16°.09E±0°.03, h0km, Error ellipse: s-maj=4.6km s-min=2.5km az=12.8*
*CSEM **10** 20:04:59.8±0.3, 51°.48N×16°.09E, h2km, ML3.3/8, Error ellipse: s-maj=5.0km s-min=2.9km az=18.0*
*WAR **10** 20:05:00.6, 51°.51N×16°.06E, ML2.7, Mining Induced*
*IPEC **10** 20:05:00.3±0.3, 51°.51N×16°.15E, h8km±1km, ML2.3/3, Error ellipse: s-maj=1.8km s-min=0.7km az=34.0*
*VIE **10** 20:05:01.1±0.7, 51°.38N×16°.13E, h0km, mb2.3/3, ML2.8/4, Error ellipse: s-maj=5.4km s-min=4.2km az=70.0 69 km WNW of Wroclaw Suspected Mining induced.*
*PRU **10** 20:05:01.3, 51°.44N×16°.10E, h0km*

ISC 10 20:04:59.5±0.6, 51°.50N±0°.03×16°.09E±0°.03, h0km, n40, σ0s90/75, 1C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.67**	**169**	*e*Pg		**Pg**	**20 05 13.1**	**+0.8**
KSP				*e*Sg		**Sg**	**20 05 22.2**	**+1.3**
KSP	**Ksiaz**	**0.67**	**169**	*e*Pg		**Pg**	**20 05 13.1**	**+0.8**
KSP				*e*Sg		**Sg**	**20 05 22.2**	**+1.3**
KSP	**Ksiaz**	**0.67**	**169**	*e*Pg		**Pg**	**20 05 13.0**	**+0.7**
	baz=353							
KSP				*e*Sg		**Sg**	**20 05 21.8**	**+0.9**
	baz=353							
UPC	**Upice**	**0.99**	**183**	*e*PG		**Pg**	**20 05 18.8**	**+0.3**
UPC	**Upice**	**0.99**	**183**	Pg		**Pg**	**20 05 18.8**	**+0.3**
UPC				*e*Sg		**Sg**	**20 05 33.5**	**+2.1**
	baz=5.0							
DPC	**Dobruska-Polom**	**1.16**	**173**	*e*PG		**Pg**	**20 05 21.8**	**+0.1**
DPC				*e*SG		**Sg**	**20 05 37.4**	**+0.7**
	comp=Z,37nm,0.3s							
DPC	**Dobruska-Polom**	**1.16**	**173**	Pg		**Pg**	**20 05 21.8**	**+0.1**
DPC				*e*Sg		**Sg**	**20 05 36.9**	**+0.2**
	baz=355							
PVCC	**Panska Ves**	**1.37**	**225**	*e*PG		**Pg**	**20 05 25.5**	**-0.2**
PVCC				*e*SG		**Sg**	**20 05 43.8**	**+0.4**
	comp=Z,104nm,0.3s							
PVCC	**Panska Ves**	**1.37**	**225**	*e*Pn		**Pn**	**20 05 25.7**	**-0.1**
	baz=45							
PVCC				Sg		**Sg**	**20 05 43.8**	**+0.4**
	comp=Z,104nm,0.3s							
BRG	**Berggiesshubel**	**1.49**	**246**	PN		**Pn**	**20 05 27.6**	**+0.1**
BRG				PG		**Pg**	**20 05 28.1**	**+0.1**
BRG				SG		**Sg**	**20 05 47.6**	**+0.3**
	comp=Z,60nm,0.4s							
PRU	**Pruhonice**	**1.81**	**214**	*e*PN		**Pn**	**20 05 31.9**	**+0.1**
PRU				*e*PG		**Pg**	**20 05 33.4**	**-0.7**
PRU				*e*SG		**Sg**	**20 05 57.5**	**+0.1**
	comp=Z,20nm,0.4s							
PRU	**Pruhonice**	**1.81**	**214**	Pn		**Pn**	**20 05 31.9**	**+0.1**
CLL	**Collm**	**1.94**	**266**	*e*Pg		**Pg**	**20 05 36.0**	**-0.7**
CLL				*e*			20 05 40.0	
CLL				*i* Sg		**Sg**	**20 06 01.6**	**-0.3**
	comp=Z,27nm,0.6s							
CLL	**Collm**	**1.94**	**266**	*e*Pn		**Pn**	**20 05 35.7**	**+2.0**
	baz=83							
CLL				*e*Sg		**Sg**	**20 06 01.3**	**-0.6**
	baz=83							
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn		**Pn**	**20 05 33.7**	**-0.2**
	baz=334							
MORC				*e*Sg		**Sg**	**20 06 01.3**	**-1.0**
	comp=Z,24nm,0.3s,baz=334							
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*PG		**Pg**	**20 05 38.4**	**-1.6**
OKC				*e*SG		**Sg**	**20 06 06.1**	**-1.3**
OKC	**Ostrava-Krasne**	**2.12**	**141**	Pg		**Pg**	**20 05 38.4**	**-1.6**
OKC				Sg		**Sg**	**20 06 06.1**	**-1.3**
VRAC	**Vranov**	**2.22**	**171**	*e*Pn		**Pn**	**20 05 37.3**	**-0.2**
	baz=353							
VRAC				*e*Sg		**Sg**	**20 06 10.1**	**-0.6**
	comp=Z,18nm,0.3s,baz=353							
TREC	**Trest**	**2.24**	**190**	*e*PN		**Pn**	**20 05 38.5**	**+0.7**
TREC				*e*PG		**Pg**	**20 05 41.6**	**-0.8**
TREC	**Trest**	**2.24**	**190**	*e*Pn		**Pn**	**20 05 38.5**	**+0.7**
	baz=11							
TREC	**Trest**

MORC	**Moravsky Berou**	**0.60**	**266**	⇓*i*P	**Pg**	**20 26 04.5**	**+0.8**
MORC				S	**Sg**	**20 26 13.1**	**+1.6**
MORC	**Moravsky Berou**	**0.60**	**266**	⇓*i*P	**Pg**	**20 26 04.5**	**+0.8**
MORC				*e*Sg	**Sg**	**20 26 12.3**	**+0.8**
	comp=Z,16nm,0.4s,baz=85						
MORC				S	**Sg**	**20 26 13.1**	**+1.6**
OJC	**Ojcow**	**0.94**	**64**	*e*Pg	**Pg**	**20 26 09.9**	**-0.3**
OJC				*e*Sg	**Sg**	**20 26 23.0**	**+0.6**
OJC	**Ojcow**	**0.94**	**64**	*e*Pg	**Pg**	**20 26 09.8**	**-0.4**
	baz=245						
OJC				*e*Sg	**Sg**	**20 26 23.0**	**+0.6**
JAVC	**Velka Javorina**	**1.09**	**209**	*e*Pn	**Pn**	**20 26 14.8**	**+0.1**
	baz=30						
KOLL	**Kolacno**	**1.24**	**182**	*e*PG	**Pg**	**20 26 16.2**	**+0.3**
KOLL				*e*SG	**Sg**	**20 26 33.5**	**+1.6**
KOLL	**Kolacno**	**1.24**	**182**	*e*Pg	**Pg**	**20 26 16.2**	**+0.3**
KOLL				*e*Sg	**Sg**	**20 26 33.5**	**+1.6**
NIE	**Niedzica**	**1.26**	**108**	*e*Pg	**Pg**	**20 26 16.2**	**-0.1**
NIE				*e*Sg	**Sg**	**20 26 34.5**	**+1.9**
NIE	**Niedzica**	**1.26**	**108**	*e*Pg	**Pg**	**20 26 16.2**	**-0.1**
NIE				*e*Sg	**Sg**	**20 26 34.5**	**+1.9**
VRAC	**Vranov**	**1.33**	**248**	⇑*i*P	**Pg**	**20 26 17.6**	**+0.1**
VRAC	**Vranov**	**1.33**	**248**	S	**Sg**	**20 26 35.8**	**+1.1**
VRAC	**Vranov**	**1.33**	**248**	*e*Pn	**Pn**	**20 26 17.1**	**-0.7**
	baz=67						
VRAC	**Vranov**	**1.33**	**248**	⇑*i*P	**Pg**	**20 26 17.6**	**+0.1**
VRAC				*e*Sg	**Sg**	**20 26 35.6**	**+0.9**
	comp=Z,20nm,0.5s,baz=67						
VYHS	**Vyhne**	**1.35**	**170**	*e*PG	**Pg**	**20 26 17.2**	**-0.7**
VYHS				*e*SG	**Sg**	**20 26 35.0**	**-0.3**
VYHS	**Vyhne**	**1.35**	**170**	*e*Pg	**Pg**	**20 26 17.3**	**-0.6**
VYHS				*e*Sg	**Sg**	**20 26 35.1**	**-0.2**
	baz=352						
SMOL	**Smolenice**	**1.48**	**208**	*e*PG	**Pg**	**20 26 19.4**	**-1.0**
SMOL				*e*SG	**Sg**	**20 26 40.3**	**+0.9**
SMOL	**Smolenice**	**1.48**	**208**	*e*Pg	**Pg**	**20 26 19.4**	**-1.0**
SMOL				*e*Sg	**Sg**	**20 26 40.3**	**+0.9**
DPC	**Dobruska-Polom**	**1.48**	**292**	*e*PG	**Pg**	**20 26 20.1**	**-0.5**
DPC				*e*SG	**Sg**	**20 26 40.9**	**+1.1**
	comp=Z,11nm,0.4s						
DPC	**Dobruska-Polom**	**1.48**	**292**	*e*Pn	**Pn**	**20 26 19.9**	**-0.1**
	baz=109						
DPC				Sg	**Sg**	**20 26 40.9**	**+1.1**
	comp=Z,11nm,0.4s						
KRUC	**Moravsky**	**1.55**	**242**	*e*Pn	**Pn**	**20 26 20.7**	**-0.3**
	baz=60						
KRUC				*e*Sg	**Sg**	**20 26 41.8**	**-0.2**
	comp=Z,11nm,0.4s,baz=60						
UPC	**Upice**	**1.73**	**294**	*e*PG	**Pg**	**20 26 24.3**	**-0.9**
UPC				*e*SG	**Sg**	**20 26 48.5**	**+0.9**
UPC	**Upice**	**1.73**	**294**	Pg	**Pg**	**20 26 24.3**	**-0.9**
UPC				Sg	**Sg**	**20 26 48.5**	**+0.9**
KSP	**Ksiaz**	**1.73**	**307**	*e*Pg	**Pg**	**20 26 26.2**	**+0.9**
KSP				*e*Sg	**Sg**	**20 26 48.0**	**+0.2**
PSZ	**Piszkesteto**	**2.12**	**153**	⇓*i*P	**Pn**	**20 26 28.8**	**0.0**
PSZ	**Piszkesteto**	**2.12**	**153**	⇓*i*P	**Pn**	**20 26 28.8**	**0.0**
CRVS	**Cervenica-Dubn**	**2.16**	**114**	*e*PN	**Pn**	**20 26 28.8**	**-0.5**
CRVS				*e*PG	**Pg**	**20 26 32.2**	**-1.2**
CRVS	**Cervenica-Dubn**	**2.16**	**114**	*e*Pn	**Pn**	**20 26 28.8**	**-0.5**
PRU	**Pruhonice**	**2.55**	**275**	*e*PG	**Pg**	**20 26 39.5**	**-1.4**
PRU				*e*SG	**Sg**	**20 27 13.2**	**-0.7**
	comp=Z,4.9nm,0.5s						
PRU	**Pruhonice**	**2.55**	**275**	Pg	**Pg**	**20 26 39.5**	**-1.4**
PRU				Sg	**Sg**	**20 27 13.2**	**-0.7**
	comp=Z,4.9nm,0.5s						
CONA	**Conrad Observa**	**2.56**	**223**	⇑*i*Pn	**Pn**	**20 26 34.3**	**-0.5**
CONA				⇓*i*Sn	**Sn**	**20 27 05.6**	**-1.0**
CONA	**Conrad Observa**	**2.56**	**223**	Pn	**Pn**	**20 26 34.3**	**-0.5**
CONA				Sn	**Sn**	**20 27 05.6**	**-1.0**
PVCC	**Panska Ves**	**2.61**	**287**	*e*SG	**Sg**	**20 27 16.1**	**+0.2**
	comp=Z,12nm,0.6s						
PVCC	**Panska Ves**	**2.61**	**287**	Sg	**Sg**	**20 27 16.1**	**+0.2**
	comp=Z,12nm,0.6s						
BRG	**Berggiesshubel**	**3.09**	**292**	PG	**Pg**	**20 26 49.1**	**-2.2**
BRG				SG	**Sg**	**20 27 30.4**	**-0.9**
	comp=Z,2.8nm,0.5s						
KHC	**Kasperske Hory**	**3.27**	**260**	*e*PG	**Pg**	**20 26 51.5**	**-3.2**
KHC				*e*SG	**Sg**	**20 27 35.4**	**-1.6**
MOA	**Molln**	**3.41**	**236**	⇑*i*Sg	**Sg**	**20 27 41.7**	**+0.2**
	comp=Z,4.7nm,0.5s						
MOA	**Molln**	**3.41**	**236**	Sg	**Sg**	**20 27 41.7**	**+0.2**
	comp=Z,4.7nm,0.5s						
CLL	**Collm**	**3.79**	**295**	*e*Sg	**Sg**	**20 27 54.0**	**+0.1**
DRGR		**4.14**	**135**	⇑*i*P	**Pn**	**20 26 56.5**	**-0.1**
DRGR		**4.14**	**135**	⇑*i*P	**Pn**	**20 26 56.5**	**-0.1**
DRGR				S	**Sn**	**20 27 44.8**	**-0.9**
BZS	**Buzias**	**4.71**	**152**	⇓*i*P	**Pn**	**20 27 04.6**	**+0.3**
BZS	**Buzias**	**4.71**	**152**	⇓*i*P	**Pn**	**20 27 04.6**	**+0.3**
BURAR	**Bucovina Array**	**4.98**	**114**	⇑*i*P	**Pn**	**20 27 09.2**	**+1.2**
BURAR	**Bucovina Array**	**4.98**	**114**	⇑*i*P	**Pn**	**20 27 09.2**	**+1.2**

IDC ***10*** *20:44:48.0±0.7,32.°58S×71.°56W,h0km,mb4.3/8, mb1 4.4/11,mb1mx4.3/16,mbtmp4.2/11,ML4.3/3,MS3.5/4, Ms1 3.5/4,ms1mx3.1/28,Error ellipse: s-maj=18.1km s-min=15.7km az=161.0*

ISCJB ***10*** *20:44:52.5±0.6,32.°56S±0.°03×71.°73W±0.°06,h43km±5km, mb4.2/8,MS3.8/2,Error ellipse: s-maj=9.4km s-min=4.3km az=166.2*

NEIC ***10*** *20:44:52.7,32.°56S×71.°65W,h29km,ML4.1(GUC),After GUC.*

NEIC Felt [III] at Papudo, Puchuncavi and Valparaiso; [II] at Petorca, Quillota, San Felipe and Santiago.

GUC ***10*** *20:44:52.7±0.7,32.°56S×71.°65W,h29km±4km,ML4.1*

ISC 10 20:44:52.5±0.6,32.°56S±0.°03×71.°72W±0.°05,h27km±4km, n76,σ0°84/88,mb4.2/8,MS3.8/2,17C-8D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.24**	**85**	*e*P		**Pb**	**20 44 59.2**	**+0.4**
PACH	**Papudo**	**0.24**	**85**	*e*P		**Pb**	**20 44 59.2**	**+0.4**
IHA	**Instituto Hidr**	**0.47**	**172**	⇑*i*P		**Pb**	**20 45 02.0**	**-0.2**
IHA				*i* S		**Sb**	**20 45 09.3**	**+0.4**
IHA	**Instituto Hidr**	**0.47**	**172**	⇑*i*P		**Pb**	**20 45 02.0**	**-0.2**
IHA				*i* S		**Sb**	**20 45 09.3**	**+0.4**
CHNG	**Los Chungos**	**0.70**	**16**	⇓*i*P		**Pb**	**20 45 05.7**	**-0.4**
CHNG				*i* S		**Sb**	**20 45 15.1**	**-0.2**
CHNG				AML		AML	20 45 16.4	
	comp=E,17μm,0.3s							
ROCH	**El Roble**	**0.73**	**125**	⇑*i*P		**Pb**	**20 45 06.0**	**-0.6**
ROCH	**El Roble**	**0.73**	**125**	⇓*i*P		**Pb**	**20 45 05.9**	**-0.7**
ROCH				⇑*i*P			20 45 06.0	
ROCH				*e*S		**Sb**	**20 45 15.9**	**-0.2**
LCCH	**Las Cruces**	**0.92**	**172**	*e*P		**Pn**	**20 45 09.2**	**-0.5**
LCCH	**Las Cruces**	**0.92**	**172**	*e*P		**Pn**	**20 45 09.2**	**-0.5**
JACH	**Jahuel**	**0.96**	**98**	⇑*i*P		**Pn**	**20 45 09.4**	**-0.8**
JACH	**Jahuel**	**0.96**	**98**	⇑*i*P		**Pn**	**20 45 09.4**	**-0.8**
PEL	**Peldehue**	**1.05**	**124**	⇑*i*P		**Pn**	**20 45 11.0**	**-0.4**
PEL				*i* S		**Sn**	**20 45 24.3**	**-0.9**
PEL				AML		AML	20 45 25.9	
	comp=E,16μm,0.4s							
RCDM	**Rinconada Maip**	**1.21**	**141**	⇑*i*P		**Pn**	**20 45 13.3**	**-0.3**
RCDM				*i* S		**Sn**	**20 45 28.9**	**-0.2**
RCDM	**Rinconada Maip**	**1.21**	**141**	⇑*i*P		**Pn**	**20 45 13.3**	**-0.3**
RCDM				*i* S		**Sn**	**20 45 28.9**	**-0.2**
RCDM				AML		AML	20 45 30.2	
	comp=E,5μm,0.6s							
SAN	**Santiago**	**1.26**	**135**	⇑*i*P		**Pn**	**20 45 14.3**	**-0.1**
SAN				*i* S		**Sn**	**20 45 30.1**	**-0.3**
SAN	**Santiago**	**1.26**	**135**	⇑*i*P		**Pn**	**20 45 14.3**	**-0.1**
SAN				*i* S		**Sn**	**20 45 30.1**	**-0.3**
SAN				AML		AML	20 45 35.5	
	comp=N,6μm,0.6s							
TACH	**Talagante**	**1.27**	**149**	*e*P		**Pn**	**20 45 14.7**	**+0.1**
TACH	**Talagante**	**1.27**	**149**	*e*P		**Pn**	**20 45 14.7**	**+0.1**
CLCH	**Cerro Calan**	**1.30**	**130**	⇓*i*P		**Pn**	**20 45 14.8**	**-0.1**
CLCH				*i* S		**Sn**	**20 45 31.6**	**+0.2**
CLCH				AML		AML	20 45 42.5	
	comp=N,8μm,0.7s							
FSR	**Penalolen**	**1.36**	**133**	*e*P		**Pn**	**20 45 15.9**	**+0.2**
FSR				*i* S		**Sn**	**20 45 33.1**	**+0.2**
FSR	**Penalolen**	**1.36**	**133**	*e*P		**Pn**	**20 45 15.9**	**+0.2**
FSR				*i* S		**Sn**	**20 45 33.1**	**+0.2**
ANTU	**Antumapu**	**1.36**	**138**	⇑*i*P		**Pn**	**20 45 16.0**	**+0.3**
ANTU				*i* S		**Sn**	**20 45 33.3**	**+0.4**
ANTU	**Antumapu**	**1.36**	**138**	⇑*i*P		**Pn**	**20 45 16.0**	**+0.3**
ANTU				*i* S		**Sn**	**20 45 33.3**	**+0.4**
ANTU				AML		AML	20 45 38.5	
	comp=E,7μm,0.7s							
FCH	**Farellones**	**1.43**	**123**	⇓*i*P		**Pn**	**20 45 16.9**	**+0.3**
FCH				*i* S		**Sn**	**20 45 35.5**	**+1.0**
FCH				AML		AML	20 45 37.9	
	comp=N,3μm,1.0s							
PCH	**Pirque**	**1.47**	**137**	⇑*i*P		**Pn**	**20 45 17.4**	**+0.2**
PCH	**Pirque**	**1.47**	**137**	⇑*i*P		**Pn**	**20 45 17.4**	**+0.2**
CMCH	**Combarbala**	**1.51**	**24**	⇓*i*P		**Pn**	**20 45 18.3**	**+0.5**
CMCH				*i* S		**Sn**	**20 45 37.6**	**+1.0**
CMCH	**Combarbala**	**1.51**	**24**	⇓*i*P		**Pn**	**20 45 18.3**	**+0.5**
CMCH				*i* S		**Sn**	**20 45 37.6**	**+1.0**
LMEL	**Las Melosas**	**1.81**	**136**	⇓*i*P		**Pn**	**20 45 22.8**	**+0.9**
LMEL				*i* S		**Sn**	**20 45 46.4**	**+2.4**
LMEL	**Las Melosas**	**1.81**	**136**	⇓*i*P		**Pn**	**20 45 22.8**	**+0.9**
LMEL				*i* S		**Sn**	**20 45 46.4**	**+2.4**
LMEL				AML		AML	20 45 52.0	
	comp=N,3μm,0.4s							
CACH	**El Canelo**	**1.82**	**149**	⇑*i*P		**Pn**	**20 45 23.7**	**+1.7**
CACH	**El Canelo**	**1.82**	**149**	⇑*i*P		**Pn**	**20 45 23.7**	**+1.7**
OVCH	**Ovalle**	**2.00**	**13**	*e*P		**Pn**	**20 45 25.6**	**+1.2**
OVCH	**Ovalle**	**2.00**	**13**	*e*P		**Pn**	**20 45 25.6**	**+1.2**
OVCH				AML		AML	20 45 57.3	
	comp=N,12μm,0.8s							
CFAA	**Coronel Fontan**	**3.11**	**73**	Pn		**Pn**	**20 45 34.6**	**-5.1**
	comp=N,0.0nm,0.3s,baz=246,slow=18,SNR=1.9							
CFAA				Pg		**Pn**	**20 45 42.3**	**+2.6**
	comp=N,11nm,0.3s,baz=250,slow=11,SNR=111							
CFAA				Lg			20 46 23.1	
	comp=N,13nm,0.3s,baz=316,slow=13,SNR=6.7							
CFAA	**Coronel Fontan**	**3.11**	**73**	Pn		**Pn**	**20 45 34.6**	**-5.1**
CFAA				Pg		**Pn**	**20 45 42.3**	**+2.6**
CFAA				Lg			20 46 23.1	
LCO	**Las Campanas**	**3.64**	**14**	*e*P		**Pn**	**20 45 47.4**	**+0.3**
PLCA	**Paso Flores**	**8.21**	**174**	Pn		**Pn**	**20 46 48.7**	**-1.1**
	comp=N,0.9nm,0.3s,baz=337,slow=13,SNR=15							
PLCA				Lg			20 49 05.3	
	comp=N,0.1nm,0.3s,baz=72,slow=19,SNR=2.2							
PLCA				LR		LR	20 50 42.3	
	comp=N,108nm,18.3s,baz=126,slow=43							
PLCA	**Paso Flores**	**8.21**	**174**	Pn		**Pn**	**20 46 48.7**	**-1.1**
PLCA				Lg			20 49 05.3	
PLCA				LR		LR	20 50 42.3	
TRQA	**Tornquist**	**9.67**	**127**	*e*P		**Pn**	**20 47 10.6**	**+0.8**
CPUP	**Villa Florida**	**13.99**	**67**	Pn		**Pn**	**20 48 07.3**	**-1.6**
	comp=N,0.4nm,0.3s,baz=252,slow=20,SNR=4.6							
CPUP				Sn		**Sn**	**20 50 42.3**	**-1.1**
	comp=N,0.6nm,0.3s,baz=180,slow=19,SNR=2.1							
CPUP				LR		LR	20 54 12.4	
	comp=N,178nm,18.3s,baz=224,slow=41							
CPUP	**Villa Florida**	**13.99**	**67**	Pn		**Pn**	**20 48 07.3**	**-1.6**
CPUP				Sn		**Sn**	**20 50 42.3**	**-1.1**
CPUP				LR		LR	20 54 12.4	
LPAZ	**La Paz**	**16.52**	**12**	Pn		**Pn**	**20 48 41.9**	**-0.5**
	comp=N,0.4nm,0.3s,baz=195,slow=6.7,SNR=16							
LPAZ	**La Paz**	**16.52**	**12**	Pn		**Pn**	**20 48 41.9**	**-0.5**
VNA3	**Neumayer Olymp**	**50.59**	**158**	*e*		**P**	**20 53 46.0**	**-2.5**
VNA1	**Neumayer--Stat**	**50.90**	**157**	*e*		**P**	**20 53 49.3**	**-1.4**
VNA2	**Neumayer--Watz**	**51.24**	**158**	*e*		**P**	**20 53 48.7**	**-4.6**
	baz=289,slow=9.0							
SNAA	**Sanae**	**52.82**	**158**	*e*P		**P**	**20 54 04.7**	**-0.3**
TXAR	**Lajitas Array**	**68.61**	**330**	P		**P**	**20 55 53.5**	**+0.5**
	comp=N,0.8nm,0.6s,mb3.8,baz=152,slow=7.6,SNR=11							
TXAR	**Lajitas Array**	**68.61**	**330**	P		**P**	**20 55 53.5**	**+0.5**
BLO	**Bloomington**	**72.68**	**348**	*e*P		**P**	**20 56 18.6**	**+1.0**
DBIC	**Dimbokro**	**74.47**	**71**	P		**P**	**20 56 27.9**	**-0.9**
	comp=N,5.2nm,0.6s,mb4.6,baz=220,slow=5.2,SNR=9.8							
DBIC	**Dimbokro**	**74.47**	**71**	P		**P**	**20 56 27.9**	**-0.9**
MAW	**Mawson**	**74.48**	**164**	P		**P**	**20 56 28.0**	**0.0**
	comp=N,3.1nm,0.8s,mb4.3,baz=214,slow=7.2,SNR=12							
MAW				LR		LR	21 26 48.5	
	comp=N,65nm,21.3s,MS3.9,baz=340,slow=34							
MAW	**Mawson**	**74.48**	**164**	P		**P**	**20 56 28.0**	**0.0**
MAW				LR		LR	21 26 48.5	
ANMO	**Albuquerque**	**74.65**	**331**	LR		LR	21 26 40.9	
	comp=N,46nm,18.7s,MS3.8,baz=300,slow=34							
BOSA	**Boshof**	**80.51**	**118**	P		**P**	**20 57 02.1**	**-0.3**
	comp=N,6.0nm,0.8s,mb4.6,baz=209,slow=5.9,SNR=9.5							
BOSA	**Boshof**	**80.51**	**118**	P		**P**	**20 57 02.1**	**-0.3**
PDAR	**Pinedale Array**	**82.60**	**333**	P		**P**	**20 57 13.5**	**+0.6**
	comp=N,0.3nm,0.6s,mb3.5,baz=158,slow=9.7,SNR=3.1							
PDAR	**Pinedale Array**	**82.60**	**333**	P		**P**	**20 57 13.5**	**+0.6**
NVAR	**Mina Array Bea**	**82.86**	**325**	P		**P**	**20 57 15.4**	**+1.1**
	comp=N,0.6nm,0.7s,mb3.7,baz=150,slow=6.1,SNR=4.4							
NVAR	**Mina Array Bea**	**82.86**	**325**	P		**P**	**20 57 15.4**	**+1.1**
TORD	**Torodi Ar. Bea**	**83.47**	**70**	P		**P**	**20 57 17.0**	**-1.0**
	comp=N,5.8nm,0.7s,mb4.8,baz=262,slow=4.6,SNR=46							
TORD	**Torodi Ar. Bea**	**83.47**	**70**	P		**P**	**20 57 17.0**	**-1.0**
ULM	**Lac du Bonnet**	**85.18**	**345**	P		**P**	**20 57 25.4**	**-0.5**
	comp=N,2.6nm,0.7s,mb4.5,baz=188,slow=7.1,SNR=3.3							
ULM	**Lac du Bonnet**	**85.18**	**345**	P		**P**	**20 57 25.4**	**-0.5**
WRA	**Warramunga Arr**	**122.15**	**209**	PKP	PKPdf		21 03 44.0	-1.3
	comp=N,0.2nm,0.5s,baz=173,slow=1.5,SNR=4.9							
WRA	**Warramunga Arr**	**122.15**	**209**	PKP	PKPdf		21 03 44.0	-1.3
BVAR	**Borovoye Array**	**146.04**	**42**	PKPbc	PKPbc		21 04 29.1	-0.2
	comp=N,1.4nm,0.5s,baz=276,slow=2.8,SNR=4.3							
BVAR	**Borovoye Array**	**146.04**	**42**	PKPbc	PKPbc		21 04 29.1	-0.2
KURK	**Kurchatov**	**151.64**	**41**	PKPbc	PKPbc		21 04 43.2	-0.6
	comp=N,5.5nm,0.7s,baz=296,slow=2.7,SNR=12							
KURK	**Kurchatov**	**151.64**	**41**	PKPbc	PKPbc		21 04 43.2	-0.6
ZALV	**Zalesovo Beam**	**152.86**	**31**	PKPbc	PKPbc		21 04 46.0	-0.6
	comp=N,6.0nm,0.7s,baz=290,slow=3.1,SNR=7.7							
ZALV	**Zalesovo Beam**	**152.86**	**31**	PKPbc	PKPbc		21 04 46.0	-0.6
MKAR	**Makanchi Array**	**155.60**	**47**	PKPab	PKPab		21 05 08.9	-0.7
	comp=N,1.4nm,0.7s,baz=287,slow=5.1,SNR=3.9							
MKAR	**Makanchi Array**	**155.60**	**47**	PKPab	PKPab		21 05 08.9	-0.7

ISCJB ***10*** *20:49:49.7±0.3,54.°45N±0.°05×158.°77E±0.°09, h213km±3km,mb3.2/13,Error ellipse: s-maj=9.6km s-min=6.0km az=37.1*

MOS ***10*** *20:49:49.0±1.0,54.°69N×158.°66E,h205km,mb3.6/5,Error ellipse: s-maj=24.3km s-min=15.1km az=80.6*

KRSC ***10*** *20:49:49.4±0.1,54.°36N×159.°24E,h215km±25km,ML4.0*

IDC ***10*** *20:49:50.1±0.8,54.°62N×158.°60E,h199km±9km,mb3.1/13, mb1 3.4/15,mb1mx3.2/30,mbtmp3.2/15,Error ellipse: s-maj=17.8km s-min=11.0km az=167.0*

NEIC ***10*** *20:49:50.1±0.6,54.°65N×158.°58E,h198km±7km,mb4.2/2, Error ellipse: s-maj=13.4km s-min=8.4km az=162.0*

ISC 10 20:49:50.8±0.3,54.°44N±0.°05×158.°83E±0.°09,h208km±3km, n65,σ1°08/81,mb3.2/13,Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.54**	**138**	*e*P		**Pn**	**20 50 19.1**	**+0.2**
GNL	**Ganaly**	**0.91**	**216**	*e*P		**Pn**	**20 50 21.3**	**+0.6**
GNL				*e*S		**Sn**	**20 50 45.1**	**+1.2**
TUMR	**Tumrok**	**1.14**	**41**	*e*P		**Pn**	**20 50 22.8**	**+0.6**
TUMR				*e*S		**Sn**	**20 50 47.5**	**+0.8**
AVH	**Avacha**	**1.18**	**183**	*e*P		**Pn**	**20 50 23.3**	**+0.8**
AVH				*e*S		**Sn**	**20 50 47.4**	**+0.2**
NLC	**Nalytchevo**	**1.30**	**166**	*e*P		**Pn**	**20 50 22.9**	**-0.6**
NLC				*e*S		**Sn**	**20 50 48.3**	**-0.6**
PET	**Petropavlovsk**	**1.42**	**184**	*e*P		**Pn**	**20 50 24.6**	**+0.1**
PET				*e*S		**Sn**	**20 50 51.0**	**+0.4**
PET	**Petropavlovsk**	**1.42**	**184**	*e*P		**Pn**	**20 50 24.3**	**-0.2**
PET	**Petropavlovsk**	**1.42**	**184**	*e*PN		**Pn**	**20 50 24.6**	**+0.1**
PET				*e*S		**Sn**	**20 50 50.7**	**+0.1**
PET				pmax	pmax			
	comp=Z,242nm,0.4s							
PET				smax				
	comp=N,69nm,0.8s							
PET				smax				
	comp=E,107nm,0.7s							
PETK	**Petropavlovsk-**	**1.49**	**207**	P		**Pn**	**20 50 25.5**	**+0.4**
	comp=E,5.1nm,0.3s,baz=66,slow=10,SNR=46							
PETK				S		**Sn**	**20 50 51.4**	**-0.3**
	comp=E,3.4nm,0.3s,baz=79,slow=14,SNR=12							
PETK	**Petropavlovsk-**	**1.49**	**207**	P		**Pn**	**20 50 25.5**	**+0.4**
PETK				S		**Sn**	**20 50 51.4**	**-0.3**
PETK	**Petropavlovsk-**	**1.49**	**207**	PN		**Pn**	**20 50 25.5**	**+0.4**
PETK				S		**Sn**	**20 50 51.4**	**-0.3**
PETK				pmax	pmax			
	comp=Z,5.0nm,0.3s							
PETK				smax				
	comp=N,3.0nm,0.3s							
SPN	**Mys Shipunski**	**1.52**	**152**	*e*P		**Pn**	**20 50 23.9**	**-1.4**
SPN				*e*S		**Sn**	**20 50 48.5**	**-3.6**
KMNR	**Kamenistaya**	**1.55**	**31**	*e*P		**Pn**	**20 50 26.2**	**+0.8**
MKZ	**Mys Kozlova**	**1.69**	**85**	*e*P		**Pn**	**20 50 25.4**	**-1.4**
MKZ				*e*S		**Sn**	**20 50 50.7**	**-4.2**
KOZ	**Kozyrevsk**	**1.73**	**20**	*e*P		**Pn**	**20 50 27.3**	**+0.2**
GRL	**Gorelyy**	**1.94**	**194**	*e*P		**Pn**	**20 50 30.2**	**+0.9**
SRDR	**Sredinnyy**	**1.95**	**15**	*e*P		**Pn**	**20 50 29.4**	**+0.2**
RUS	**Russkaya**	**2.02**	**186**	*e*P		**Pn**	**20 50 29.4**	**-0.6**
RUS				*e*S		**Sn**	**20 50 58.7**	**-1.8**
BDR	**Baidarnaya**	**2.53**	**31**	*e*P		**Pn**	**20 50 36.2**	**+0.9**
SRKR	**Sorokina**	**2.59**	**30**	*e*P		**Pn**	**20 50 36.6**	**+0.6**
KBTR	**Krutoberegovo**	**2.89**	**50**	*e*P		**Pn**	**20 50 38.0**	**-1.4**
KBTR				*e*S		**Sn**	**20 51 13.7**	**-3.8**
BKI	**Bering**	**4.20**	**77**	*e*S		**Sn**	**20 51 40.8**	**-5.1**
FX1	**Attu Island--F**	**8.66**	**95**	P		**Pn**	**20 51 53.2**	**+0.9**
	comp=N,1.2nm,0.3s,baz=252,slow=16,SNR=7.3							
FX1				S		**Sn**	**20 53 29.0**	**-0.6**
	comp=N,1.2nm,0.3s,baz=256,slow=19,SNR=4.3							
FX1	**Attu Island--F**	**8.66**	**95**	P		**Pn**	**20 51 53.2**	**+0.9**
FX1				S		**Sn**	**20 53 29.0**	**-0.6**
FX1	**Attu Island--F**	**8.66**	**95**	PN		**Pn**	**20 51 53.3**	**+1.0**
FX1				S		**Sn**	**20 53 29.0**	**-0.6**
FX1				pmax	pmax			
	comp=Z,1.0nm,0.3s							
FX1				smax				
	comp=N,1.0nm,0.3s							
ASAJ	**Asahikawa**	**14.76**	**232**	P		**Pn**	**20 53 10.9**	**+1.4**
	comp=N,0.9nm,0.3s,baz=182,slow=3.9,SNR=7.1							
ASAJ	**Asahikawa**	**14.76**	**232**	P		**Pn**	**20 53 11.0**	**+1.5**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MJAR	**Matsushiro Arr**	**22.86**	**227**	P		**P**	**20 54 37.6**	**+1.7**
	comp=Z,0.7nm,0.4s,mb3.6,baz=16,slow=8.3,SNR=3.9							
MJAR	**Matsushiro Arr**	**22.86**	**227**	P		**P**	**20 54 37.6**	**+1.7**
MJAR	**Matsushiro Arr**	**22.86**	**227**	P		**P**	**20 54 37.6**	**+1.7**
MJAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ILAR	**Eielson Array**	**28.42**	**47**	P		**P**	**20 55 25.1**	**-0.4**
	comp=Z,0.2nm,0.5s,mb3.0,baz=261,slow=7.5,SNR=6.3							
ILAR	**Eielson Array**	**28.42**	**47**	P		**P**	**20 55 25.1**	**-0.4**
ILAR	**Eielson Array**	**28.42**	**47**	P		**P**	**20 55 25.2**	**-0.3**
SONM	**Songino Array**	**32.89**	**280**	P		**P**	**20 56 04.0**	**-0.9**
	comp=Z,0.3nm,0.3s,mb3.3,baz=61,slow=7.9,SNR=5.0							
SONM	**Songino Array**	**32.89**	**280**	P		**P**	**20 56 04.0**	**-0.9**
SONM	**Songino Array**	**32.89**	**280**	P		**P**	**20 56 04.0**	**-0.9**
SPITS	**Spitsbergen Ar**	**45.68**	**350**	P		**P**	**20 57 48.8**	**-1.3**
	comp=Z,7.4nm,1.0s,mb4.0,baz=54,slow=8.5,SNR=5.8							
SPITS	**Spitsbergen Ar**	**45.68**	**350**	P		**P**	**20 57 48.8**	**-1.3**
SPITS	**Spitsbergen Ar**	**45.68**	**350**	P		**P**	**20 57 48.8**	**-1.3**
SPITS				pmax	pmax			
	comp=Z,7.0nm,1.0s							
KURK	**Kurchatov**	**46.40**	**300**	P		**P**	**20 57 55.2**	**-0.8**
	comp=Z,0.

GUN Gumba 9.09 304 *e*Pn **Pn** **20 57 11.2 -2.4**
GUN *e*Sn **Sn** **20 58 49.3 -4.8**
comp=Z,1μm,0.5s
GUN Gumba 9.09 304 *e*Pn **Pn** **20 57 11.2 -2.4**
GUN *e*Sn **Sn** **20 58 49.3 -4.8**
NST Nakhon Sawan 9.10 142 P **Pn** **20 57 10.0 -3.7**
PKI Pulchoki 9.29 301 *e*Pn **Pn** **20 57 13.8 -2.5**
PKI *e*Sn **Sn** **20 58 52.4 -6.6**
comp=Z,216nm,0.3s
PKI Pulchoki 9.29 301 *e*Pn **Pn** **20 57 14.0 -2.3**
PKI *e*Sn **Sn** **20 58 54.2 -4.8**
PKI Pulchoki 9.29 301 *e*P **Pn** **20 57 14.0 -2.3**
PKI *e* 20 58 54.2
PKIN Phulchoki 9.30 301 *e*Pn **Pn** **20 57 14.0 -2.5**
PKIN *e*Sn **Sn** **20 58 54.2 -5.1**
KKN Kakani 9.50 302 *e*Pn **Pn** **20 57 16.8 -2.2**
KKN *e*Sn **Sn** **20 58 58.9 -5.0**
KKN Kakani 9.50 302 *e*Pn **Pn** **20 57 16.8 -2.2**
KKN *e*Sn **Sn** **20 58 58.9 -5.0**
KKN Kakani 9.50 302 *e*P **Pn** **20 57 16.8 -2.2**
KKN *e* 20 58 58.9
DMN Daman 9.55 301 *e*Pn **Pn** **20 57 17.0 -2.8**
DMN *e*Sn **Sn** **20 58 59.0 -6.2**
DMN Daman 9.55 301 *e*Pn **Pn** **20 57 17.0 -2.8**
DMN *e*Sn **Sn** **20 58 59.0 -6.2**
GKN Gorkha 10.10 302 *e*Pn **Pn** **20 57 24.2 -3.0**
GKN *e*Sn **Sn** **20 59 11.5 -7.0**
comp=Z,577nm,0.3s
GKN Gorkha 10.10 302 *e*Pn **Pn** **20 57 24.2 -3.0**
GKN *e*Sn **Sn** **20 59 11.5 -7.0**
KOLN Koldanda 10.83 298 *e*Pn **Pn** **20 57 33.9 -3.1**
KOLN *e*Sn **Sn** **20 59 29.0 -7.2**
comp=Z,684nm,0.5s
KOLN Koldanda 10.83 298 *e*Pn **Pn** **20 57 33.9 -3.1**
KOLN *e*Sn **Sn** **20 59 29.0 -7.2**
DANN Dangsing 10.95 301 *e*Pn **Pn** **20 57 35.7 -2.9**
DANN *e*Sn **Sn** **20 59 31.8 -7.3**
comp=Z,302nm,0.4s
DANN Dangsing 10.95 301 *e*Pn **Pn** **20 57 35.7 -2.9**
DANN *e*Sn **Sn** **20 59 31.8 -7.3**
GYA Guiyang 11.70 70⇑*i*P **Pn** **20 57 49.1 +0.4**
GYA pmax pmax
comp=Z,400nm,0.7s
ENH Enshi 15.33 59 *e*P **Pn** **20 58 33.4 -2.3**
comp=Z,499nm,0.8s
LZH Lanzhou 15.42 30⇑P **Pn** **20 58 39.4 +2.7**
LZH pmax pmax
comp=Z,51nm,1.3s
LZH pmax pmax
comp=Z,150nm,5.4s
AGRA Agra 15.46 289 *e*PKP **Pn** **20 58 27.8 -9.4**
AGRA AMb AMB 20 58 30.0
comp=Z,53nm,0.2s
AGRA *e*S S 21 01 13.4 -23
AGRA *e*S S 21 01 17.3 -19
BHPL Bhopal 15.59 274 *e*PKP **Pn** **20 58 38.0 -1.0**
BHPL AMb AMB 20 58 41.7
comp=Z,36nm,0.8s
BHPL *ex* x 21 01 20.6
HYB Hyderabad 15.84 252 *i* P **Pn** **20 58 41.0 -1.1**
HYB *e* 20 58 46.0
HYB *e* 20 59 09.0
HYB *e* 21 01 28.5
HYB *e*S **S** **21 01 37.0 -7.5**
BISR Bishrakh 16.22 294 *e*PKP **Pn** **20 58 46.0 -0.7**
DDI Dehra Dun 16.29 300 *ex* **Pn** **20 58 48.0 +0.4**
DDI *ex* x 21 01 36.0
NDI New Delhi 16.43 294 *ex* **Pn** **20 58 45.5 -3.9**
AYAN Aya Nagar 16.46 293 *e*PKP **Pn** **20 58 48.6 -1.1**
AYAN AMb AMB 20 58 51.2
comp=Z,24nm,0.8s
XAN Xi'an 16.85 46 P **Pn** **20 58 50.6 -3.9**
XAN pmax pmax
comp=Z,9.0nm,1.2s
KUDL Kundal 16.92 291 *e*PKP **Pn** **20 58 52.8 -2.5**
KUDL *ex* x 21 01 40.6
GTA Gaotai 17.01 15 *e*P **Pn** **20 58 55.7 -0.6**
GTA pP pP 20 59 05.4 -11
GTA sP sP 20 59 09.2 -21
KKR Kurukshetra 17.16 298 *e*PKP **Pn** **20 58 57.5 -0.7**
SMLA Simla 17.31 302 *i* P **Pn** **20 58 57.5 -2.6**
KHET Khetri 17.49 291 *e*PKP **Pn** **20 59 00.8 -1.5**
KHET AMb AMB 20 59 04.9
comp=Z,26nm,0.3s
KHET *ex* x 21 01 57.7
SDNR Sundarnagar 17.62 302 *ex* **Pn** **20 59 07.4 +3.7**
SDNR *ex* x 21 02 07.0
AJM Ajmer 18.24 285 *e*PKP **P** **20 59 08.0 -2.1**
KULM Kulim 18.62 160 P **P** **20 59 14.7 +0.4**
WHN Wuhan 19.35 63 P **P** **20 59 20.6 -1.5**
IPM Ipoh 19.50 160 *e*P **P** **20 59 22.5 -1.4**
comp=Z,43nm,0.8s
IPM Ipoh 19.50 160 P **P** **20 59 22.6 -1.3**
comp=Z,54nm,0.7s
POO Poona 19.69 261 *e*PKP **P** **20 59 28.0 +2.1**
POO *ex* x 21 02 55.4
KAD Karad 19.76 257 *e*PKP **P** **20 59 28.6 +1.8**
KAD AMb AMB 20 59 33.5
comp=Z,32nm,1.4s
KAD *ex* x 21 02 58.1
TSI Tuntungan 19.80 168 P **P** **20 59 28.2 +1.0**
comp=Z,3μmcomp=Z,179nm,1.1s
PSI Prapat 20.56 167 P **P** **20 59 35.5 +0.2**
comp=Z,47nm,0.8s,baz=315,slow=7.5,SNR=32
PSI LR LR 21 08 46.8
comp=Z,60nm,18.3s,baz=11,slow=40
PSI Prapat 20.56 167 P **P** **20 59 35.5 +0.2**
PSI LR LR 21 08 46.8
PSI Prapat 20.56 167 P **P** **20 59 35.5 +0.2**
PSI Prapat 20.56 167 P **P** **20 59 35.8 +0.5**
comp=Z,550nmcomp=Z,65nm,0.9s
FRIM Kepong 20.86 159 P **P** **20 59 38.9 +0.3**
KGM Kluang 22.59 156 P **P** **20 59 56.5 -0.4**
MNSI Mandailing Nat 22.64 166 P **P** **20 59 55.4 -2.0**
comp=Z,994nmcomp=Z,92nm,0.6s,mb5.3
MYKOM Kota Tinggi 23.00 155 P **P** **21 00 00.6 -0.2**
MYKOM Kota Tinggi 23.00 155 P **P** **21 00 00.3 -0.5**
comp=Z,686nmcomp=Z,43nm,1.3s,mb4.6
RGRI Rengat 24.47 160 P **P** **21 00 16.2 +2.0**
comp=Z,110nm,1.2s,mb5.1
PDSI Padang 24.50 165 P **P** **21 00 12.1 -2.3**
comp=Z,1μmcomp=Z,57nm,1.0s,mb4.9
SISI Saibi 24.61 169 P **P** **21 00 15.3 -0.2**
comp=Z,148nm,1.0s,mb5.4
KBL Kabul 24.93 303 *e*P **P** **21 00 19.5 +1.3**
comp=Z,24nm,0.8s,mb4.7
KBL Kabul 24.93 303 *e*P **P** **21 00 19.5 +1.3**
KBL pmax pmax
comp=Z,24nm,0.8s,mb4.7
BJI Beijing 25.08 42 P **P** **21 00 19.6 +0.1**
BJI S **S** **21 04 37.6 +1.7**
BJI pmax pmax
comp=Z,11nm,0.7s,mb4.4
TKM2 Tokmak 2 25.25 326 *e*P **P** **21 00 22.2 +1.3**
comp=Z,54nm,1.0s,mb4.9
TKM2 Tokmak 2 25.25 326 *e*P **P** **21 00 22.2 +1.2**
TKM2 pmax pmax
comp=Z,54nm,1.0s,mb4.9
MK31 Makanchi Array 25.66 341 *e*P **P** **21 00 25.3 +0.6**
MK31 Makanchi Array 25.66 341 *e*P **P** **21 00 25.3 +0.6**
MKAR Makanchi Array 25.66 341 P **P** **21 00 25.4 +0.7**
comp=Z,22nm,0.7s,mb4.7,baz=146,slow=10,SNR=166
MKAR pP pP 21 00 50.1 +1.5
comp=Z,36nm,0.6s,baz=147,slow=11,SNR=13
MKAR PcP PcP 21 03 52.4 0.0
comp=Z,2.5nm,0.6s,baz=160,slow=1.7,SNR=6.6
MKAR LR LR 21 11 44.8
comp=Z,63nm,20.2s,baz=260,slow=39
MKAR Makanchi Array 25.66 341 P **P** **21 00 25.4 +0.7**
MKAR pP pP 21 00 50.1 +1.5
MKAR PcP PcP 21 03 52.4 0.0
MKAR LR LR 21 11 44.8
MKAR Makanchi Array 25.66 341 P **P** **21 00 25.4 +0.7**
MKAR *PP pP 21 00 50.1 +1.5
MKAR 21 03 52.4
EKS2 Erkin-Say 26.03 324 *e*P **P** **21 00 29.8 +1.8**
comp=Z,7.4nm,0.8s,mb4.2
EKS2 *e* pP 21 00 54.4 +2.4
EKS2 Erkin-Say 26.03 324 *e*P **P** **21 00 29.8 +1.8**
EKS2 *e* pP 21 00 54.4 +2.4
EKS2 pmax pmax
comp=Z,7.0nm,0.8s,mb4.1
KSM Kuching 26.41 142 P **P** **21 00 32.1 +0.4**
KSM Kuching 26.41 142 *e*P **P** **21 00 31.2 -0.5**
comp=Z,12nm,0.6s,mb4.5
KSM Kuching 26.41 142 P **P** **21 00 31.2 -0.5**
comp=Z,25nm,1.0s,mb4.6
SONM Songino Array 26.59 18 P **P** **21 00 32.9 -0.1**
comp=Z,2.2nm,0.7s,mb3.8,baz=201,slow=10,SNR=11
SONM pP pP 21 00 56.3 -0.7
comp=Z,5.2nm,0.9s,baz=194,slow=9.7,SNR=7.9
SONM PcP PcP 21 03 53.9 -0.5
comp=Z,1.1nm,0.4s,baz=196,slow=4.3,SNR=8.3
SONM ScP ScP 21 07 23.8 -0.7
comp=Z,1.6nm,0.6s,baz=202,slow=2.9,SNR=9.4
SONM Songino Array 26.59 18 P **P** **21 00 32.9 -0.1**
SONM pP pP 21 00 56.3 -0.7
SONM PcP PcP 21 03 53.9 -0.5
SONM ScP ScP 21 07 23.8 -0.7
SONM Songino Array 26.59 18 P **P** **21 00 32.9 -0.1**
SONM *PP pP 21 00 56.3 -0.7
SONM 21 03 53.9
SBUM Sibu 26.78 137 P **P** **21 00 35.3 +0.2**
SBUM Sibu 26.78 137 P **P** **21 00 35.1 +0.1**
comp=Z,27nm,1.2s,mb4.6
ULN Ulaanbaatar 26.81 19 *e*P **P** **21 00 36.1 +1.1**
comp=Z,3.0nm,0.9s,mb3.8
ULN *ep*P pP 21 00 59.6 +0.6
ULN Ulaanbaatar 26.81 19 *e*P **P** **21 00 36.1 +1.1**
ULN *e*PP pP 21 00 59.6 +0.6
ULN pmax pmax
comp=Z,3.0nm,0.9s,mb3.8
KKAR Karatay Array 28.15 321 *e*P **P** **21 00 47.4 +0.4**
comp=Z,2.6nm,0.6s,mb3.9
KKAR Karatay Array 28.15 321 *e*P **P** **21 00 47.4 +0.4**
KKAR pmax pmax
comp=Z,3.0nm,0.6s,mb4.0
STKI Sintang 28.22 142 P **P** **21 00 48.1 +0.1**
comp=Z,4μmcomp=Z,40nm,0.8s,mb5.0
MDSI Maura Dua 28.95 159 P **P** **21 00 51.6 -2.8**
comp=Z,23nm,0.9s,mb4.8
MYLDM Lahad Datu 29.27 124 P **P** **21 00 58.3 +1.1**
comp=Z,14nm,1.3s,mb4.4
KLSI 29.32 159 P **P** **21 00 56.1 -1.6**
comp=Z,27nm,0.9s,mb4.9
TSM Tawau 29.36 126 P **P** **21 00 57.9 -0.2**
LWLI Liwa 29.41 160 P **P** **21 00 56.1 -2.4**
comp=Z,62nm,0.8s,mb5.3
KURK Kurchatov 30.27 340 P **P** **21 01 05.8 +0.1**
comp=Z,7.9nm,0.6s,mb4.5,baz=150,slow=8.8,SNR=53
KURK pP pP 21 01 29.2 -0.7
comp=Z,10nm,0.6s,baz=153,slow=8.3,SNR=8.5
KURK PcP PcP 21 04 03.1 -0.4
comp=Z,13nm,0.8s,baz=168,slow=2.3,SNR=24
KURK pPcP 21 04 30.2
comp=Z,4.6nm,0.7s,baz=163,slow=2.5,SNR=6.4
KURK ScP ScP 21 07 34.8 -1.1
comp=Z,4.5nm,0.8s,baz=157,slow=2.6,SNR=20
KURK Kurchatov 30.27 340 P **P** **21 01 05.8 +0.1**
KURK pP pP 21 01 29.2 -0.7
KURK PcP PcP 21 04 03.1 -0.4
KURK pPcP 21 04 30.2
KURK ScP ScP 21 07 34.8 -1.1
KURK Kurchatov 30.27 340 P **P** **21 01 05.8 +0.2**
KURK *PP pP 21 01 29.3 -0.6
KURK 21 04 03.2
ZALV Zalesovo Beam 31.74 349 P **P** **21 01 18.8 +0.2**
comp=Z,3.2nm,0.3s,mb4.5,baz=169,slow=8.9,SNR=17
ZALV pP pP 21 01 43.1 +0.2
comp=Z,3.0nm,0.5s,baz=176,slow=9.0,SNR=3.1
ZALV PcP PcP 21 04 06.6 -0.8
comp=Z,3.3nm,0.4s,baz=165,slow=4.3,SNR=6.0
ZALV S **S** **21 06 20.5 +0.3**
comp=Z,1.4nm,0.5s,baz=158,slow=16,SNR=3.5
ZALV Zalesovo Beam 31.74 349 P **P** **21 01 18.8 +0.2**
ZALV pP pP 21 01 43.1 +0.2
ZALV PcP PcP 21 04 06.6 -0.8
ZALV S **S** **21 06 20.5 +0.3**
ZALV Zalesovo Beam 31.74 349 P **P** **21 01 18.8 +0.3**
ZALV *PP pP 21 01 43.1 +0.2
ZALV 21 04 06.6
ZALV S **S** **21 06 20.5 +0.4**
KSRS Korea Array 32.19 56 P **P** **21 01 22.0 -0.8**
comp=Z,0.6nm,0.4s,mb3.7,baz=252,slow=5.9,SNR=3.3
KSRS PcP PcP 21 04 08.0 -1.0
comp=Z,0.4nm,0.3s,baz=263,slow=2.9,SNR=4.5
NVS Novosibirsk 32.87 348 *e*P **P** **21 01 26.3 -2.2**
NVS *e*S **S** **21 06 35.8 -2.0**
NVS pmax pmax
comp=Z,26nm,1.4s,mb4.9
NVS pmax pmax
comp=N,3.0nm,0.5s
NVS smax
comp=E,47nm,2.0s
NVS smax
comp=N,27nm,1.3s
BBKI Banjar Baru 33.03 140 P **P** **21 01 30.9 +0.6**
comp=N,1μmcomp=N,160nm,0.8s,mb5.9
KBKI Kotabaru 33.70 138 P **P** **21 01 36.2 +0.1**
comp=N,68nm,0.8s,mb5.6
SMRI Semarang 33.75 150 P **P** **21 01 37.6 +1.1**
comp=N,103nm,0.7s,mb5.8
MRSI Marisa 34.92 126 P **P** **21 01 47.3 +0.6**
comp=N,582nmcomp=N,25nm,0.7s,mb5.1
SJI Sawahan 34.97 149 P **P** **21 01 47.6 +0.6**
comp=N,44nm,0.8s,mb5.3
BVAR Borovoye Array 35.10 335 P **P** **21 01 47.9 +0.2**
comp=N,2.8nm,0.6s,mb4.3,baz=141,slow=11,SNR=29
BVAR pP pP 21 02 12.8 +0.5
comp=N,3.4nm,0.6s,baz=143,slow=10,SNR=5.9
BVAR PcP PcP 21 04 17.0 0.0
comp=N,2.3nm,0.4s,baz=157,slow=3.5,SNR=9.7
BVAR pPcP 21 04 40.8
comp=N,3.4nm,0.7s,baz=166,slow=3.1,SNR=5.5
BVAR S **S** **21 07 12.6 +0.5**
comp=N,0.7nm,0.7s,baz=144,slow=14,SNR=3.7
BVAR ScP ScP 21 07 51.9 -0.7
comp=N,0.6nm,0.7s,baz=141,slow=3.1,SNR=3.5
BVAR LR LR 21 17 36.2
comp=N,106nm,19.3s,baz=251,slow=38
BVAR Borovoye Array 35.10 335 P **P** **21 01 47.9 +0.2**
BVAR pP pP 21 02 12.8 +0.5
BVAR PcP PcP 21 04 17.0 0.0
BVAR pPcP 21 04 40.8
BVAR S **S** **21 07 12.6 +0.5**
BVAR ScP ScP 21 07 51.9 -0.7
BVAR LR LR 21 17 36.2
BVAR Borovoye Array 35.10 335 P **P** **21 01 47.9 +0.2**
BVAR *PP pP 21 02 12.8 +0.5
BVAR 21 04 17.0
BVAR S **S** **21 07 12.6 +0.5**
BVAR 21 07 51.9
BRVK Borovoye 35.16 335 *e*P **P** **21 01 46.8 -1.5**
comp=N,4.6nm,0.6s,mb4.5
BRVK *ep*P pP 21 02 08.5 -4.4
BRVK Borovoye 35.16 335 *e*P **P** **21 01 46.8 -1.5**
BRVK *e*PP pP 21 02 08.5 -4.4
BRVK pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
KMMI Kalianget 35.49 145 P **P** **21 01 52.9 +1.4**
comp=Z,137nm,0.9s,mb5.8
LUWI Luwuk 36.55 127 P **P** **21 02 00.6 0.0**
comp=Z,47nm,0.9s,mb5.4
SRBI Singaraja 37.02 144 P **P** **21 02 05.4 +0.8**
comp=Z,40nm,1.4s,mb5.2
KAPI Kappang 37.29 135 *e*P **P** **21 02 05.1 -1.8**
comp=Z,10.0nm,0.9s,mb4.8
ABKAR Akbulak array 37.67 323 *e*P **P** **21 02 10.2 +0.5**
comp=Z,13nm,0.8s,mb4.8
BKSI Bulukumba 37.76 135 P **P** **21 02 09.9 -0.9**
comp=Z,18nm,1.0s,mb4.9
AKTK Aktyubinsk 39.35 323 P **P** **21 02 24.3 +0.6**
AKTK PcP PcP 21 04 28.9 -1.1
AKTK ScP ScP 21 08 08.6 +0.1
AKTO Aktyubinsk 39.35 323 P **P** **21 02 24.3 +0.6**
comp=Z,6.2nm,0.7s,mb4.5,baz=122,slow=8.5,SNR=29
AKTO PcP PcP 21 04 28.9 -1.1
comp=Z,2.6nm,0.7s,baz=141,slow=6.5,SNR=3.3
AKTO ScP ScP 21 08 08.6 0.0
comp=Z,2.6nm,0.7s,baz=114,slow=5.6,SNR=8.4
MAT Matsushiro 40.05 60 P **P** **21 02 26.7 -3.0**
MJAR Matsushiro Arr 40.05 60 P **P** **21 02 27.5 -2.2**
comp=Z,6.9nm,0.8s,mb4.5,baz=269,slow=11,SNR=18
MJAR pP pP 21 02 51.1 -3.7
comp=Z,4.8nm,1.0s,baz=264,slow=10.0,SNR=4.6
MJAR LR LR 21 19 35.6
comp=Z,36nm,21.3s,baz=295,slow=37
MJAR Matsushiro Arr 40.05 60 P **P** **21 02 27.5 -2.2**
MJAR pP pP 21 02 51.1 -3.7
MJAR LR LR 21 19 35.5
MJAR Matsushiro Arr 40.05 60 P **P** **21 02 27.5 -2.2**
MJAR *PP pP 21 02 51.1 -3.6
NLAI Namlea 41.23 125 P **P** **21 02 40.7 +1.1**
comp=Z,2μmcomp=Z,35nm,1.0s,mb5.2
SVE Sverdlovsk 41.77 333‖*e*P **P** **21 02 44.3 +0.8**
SVE pmax pmax
comp=Z,41nm,0.9s,mb5.2
UMR Umm Al-Rimmam 42.12 289 *e*P **P** **21 02 47.6 +0.9**
UMR AMb AMB 21 02 48.5
comp=Z,50nm,0.8s,mb5.3
RDF Al-Radifah 42.29 288 *e*P **P** **21 02 49.4 +1.2**
RDF AMb AMB 21 02 50.5
comp=Z,76nm,0.6s,mb5.6
AAI Ambon 42.35 124 P **P** **21 02 49.0 +0.2**
comp=Z,88nm,0.7s,mb5.6
ARU Arti 42.42 331 *e*P **P** **21 02 48.6 -0.2**
comp=Z,7.5nm,0.6s,mb4.6
ARU Arti 42.42 331 *c i*P **P** **21 02 49.0 +0.2**
ARU *e* 21 04 27.1
ARU *e* 21 04 40.1
ARU S **S** **21 09 09.4 +7.4**
ARU SS SS 21 12 05.8 -9.3
ARU pmax pmax
comp=Z,13nm,1.0s,mb4.6
MIB Mutribah 42.43 290 *e*P **P** **21 02 50.5 +1.2**
MIB AMb AMB 21 02 51.7
comp=Z,66nm,0.8s,mb5.4
NAY Al-Naaiem 42.54 289 *e*P **P** **21 02 51.3 +1.1**
NAY AMb AMB 21 02 52.4
comp=Z,62nm,0.8s,mb5.4
MSAI Masohi 42.69 123 P **P** **21 02 51.9 +0.4**
comp=Z,23nm,0.7s,mb5.0
BNDI Bandanaira 44.19 124 P **P** **21 03 02.1 -1.4**
comp=Z,147nm,0.7s,mb5.8
DGRG David-gareji 44.71 306 P **P** **21 03 08.9 +1.6**
SOKR Solikamsk 45.08 334*d i*P **P** **21 03 11.1 +1.1**
SOKR *e* pP 21 03 37.6 +2.1
SOKR pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
MTA Mtatsminda 45.17 307 P **P** **21 03 12.2 +1.1**
TBLG Delisi 45.22 307 *e*P **P** **21 03 11.0 -0.4**
TBLG Delisi 45.22 307 P **P** **21 03 11.0 -0.4**
GOR Gori 45.72 307 P **P** **21 03 18.1 +2.7**
ZEI Tsey 45.99 308 *e*P **P** **21 03 18.8 +1.3**
ZEI *e* pP 21 03 46.9 +3.8
ZEI pmax pmax
comp=Z,32nm,0.8s,mb5.1
AKH Akhalkalaki 46.10 306 P **P** **21 03 21.5 +3.2**
ONI Oni 46.29 308 P **P** **21 03 23.3 +3.4**
KIV Kislovodsk 47.05 309 *e*P **P** **21 03 27.1 +1.4**
comp=Z,14nm,0.6s,mb4.9
KIV Kislovodsk 47.05 309 *e*P **P** **21 03 27.1 +1.4**
KIV pmax pmax
comp=Z,14nm,0.6s,mb4.9
TLE Tual 47.08 122 P **P** **21 03 26.5 +0.2**
comp=Z,2μmcomp=Z,264nm,0.9s,mb6.0
VRHR Novokhopersk 49.21 318 *e*P **P** **21 03 41.9 -0.3**
VRHR pmax pmax
comp=Z,20nm,0.8s,mb5.1
VRHR pmax pmax
comp=N,10.0nm,1.1s
VRHR pmax pmax
comp=E,20nm,0.8s
ATD Arta Tunnel 50.27 266 LR LR 21 25 46.9
comp=E,45nm,18.5s,baz=93,slow=36
VSR Storozhevoye 50.74 318 *e*P **P** **21 03 53.0 -0.8**
VSR pmax pmax
comp=Z,20nm,1.7s,mb4.9
VSR pmax pmax
comp=N,9.0nm,1.5s
VSR pmax pmax
comp=E,10.0nm,1.0s
FITZ Fitzroy Crossi 51.02 141 *e*P **P** **21 03 55.2 -1.0**
comp=E,31nm,0.9s,mb5.3
FITZ Fitzroy Crossi 51.02 141 P **P** **21 03 55.5 -0.7**
comp=E,29nm,1.0s,mb5.3
ASF Jabal al Asfar 51.23 294 P **P** **21 03 59.7 +1.9**
comp=E,7.3nm,0.7s,mb4.8,baz=324,slow=4.7,SNR=19
ASF Jabal al Asfar 51.23 294 P **P** **21 03 59.7 +1.9**
ASF Jabal al Asfar 51.23 294 P **P** **21 03 59.7 +1.9**
MMAI Mount Meron Ar 52.42 295 P **P** **21 04 08.0 +1.4**
comp=E,4.9nm,0.8s,mb4.6,baz=90,slow=8.6,SNR=12
OBN Obninsk 53.12 323‖*i*P **P** **21 04 11.4 0.0**
OBN *e* pP 21 04 39.2 +1.6
OBN pmax pmax
comp=Z,24nm,1.2s,mb5.1
EIL Elat 53.17 291 P **P** **21 04 13.3 +1.1**
comp=Z,14nm,0.7s,mb5.1,baz=43,slow=3.9,SNR=16
EIL pP pP 21 04 39.1 +0.7
comp=Z,9.9nm,0.8s,baz=51,slow=4.5,SNR=4.7
EIL LR LR 21 29 15.0
comp=Z,22nm,18.6s,baz=73,slow=38
EIL Elat 53.17 291 P **P** **21 04 13.3 +1.1**
EIL pP pP 21 04 39.1 +0.7
EIL LR LR 21 29 15.1
KLMR Klimovskoe 53.24 330 *e*P **P** **21 04 11.1 -1.0**
KLMR pmax pmax
comp=Z,44nm,1.7s,mb5.2
BRTR Keskin Array B 53.50 303 P **P** **21 04 15.2 +0.8**
comp=Z,4.2nm,0.7s,mb4.6,baz=94,slow=6.8,SNR=22
BRTR ScP ScP 21 09 07.6 -0.1
comp=Z,1.2nm,0.9s,baz=64,slow=5.6,SNR=4.2
BRTR Keskin Array B 53.50 303 P **P** **21 04 15.2 +0.8**
BRTR ScP ScP 21 09 07.6 -0.1
BRTR Keskin Array B 53.50 303 P **P** **21 04 15.3 +0.9**
MEEK Meekatharra 54.64 153 *e*P **P** **21 04 22.3 -0.4**
MORW Morawa 55.81 157 *e*P **P** **21 04 31.1 0.0**
AKASG Malin Array Be 56.90 316 P **P** **21 04 38.0 -0.6**
comp=Z,13nm,0.7s,mb5.1,baz=83,slow=6.4,SNR=52
AKASG pP pP 21 05 03.3 -1.8
comp=Z,6.4nm,0.7s,baz=84,slow=6.2,SNR=5.0
AKASG Malin Array Be 56.90 316 P **P** **21 04 38.0 -0.6**
AKASG pP pP 21 05 03.3 -1.8
AKASG Malin Array Be 56.90 316 P **P** **21 04 38.0 -0.6**
AKASG *PP pP 21 05 03.3 -1.8
AKBB Malin Array Si 56.90 316 *e*P **P** **21 04 37.7 -0.9**
AKBB Malin Array Si 56.90 316 *e*P **P** **21 04 37.7 -0.9**
KIEV Kiev 56.91 316 *e*P **P** **21 04 37.9 -0.8**
KIEV Kiev 56.91 316 *e*P **P** **21 04 37.9 -0.8**
TLCR 57.02 310⇑P **P** **21 04 39.9 +0.3**
TLCR 57.02 310⇑*i*P **P** **21 04 39.9 +0.3**
JOF Joensuu 57.55 331 *e*P **P** **21 04 41.2 -1.8**
JOF pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
JOF Joensuu 57.55 331 *ep* **P** **21 04 41.2 -1.8**
comp=Z,9.3nm,0.5s,mb5.1
LVZ Lovozero 57.63 337 *e*P **P** **21 04 43.4 0.0**
LVZ Lovozero 57.63 337 *e*P **P** **21 04 43.4 0.0**
WRA Warramunga Arr 57.82 134 P **P** **21 04 44.7 -0.7**
comp=Z,24nm,0.5s,mb5.5,baz=322,slow=7.5,SNR=230
WRA PKP2bc 21 34 41.6
comp=Z,0.3nm,0.5s,baz=136,slow=2.2,SNR=5.2
WRA Warramunga Arr 57.82 134 P **P** **21 04 44.7 -0.7**
WRA ⇑*e* 21 34 41.6
WRA Warramunga Arr 57.82 134 P **P** **21 04 44.7 -0.8**
WRAB Tennant Creek 57.82 134 *e*P **P** **21 04 44.6 -0.8**
comp=Z,26nm,0.6s,mb5.4
WRAB Tennant Creek 57.82 134 *e*P **P** **21 04 44.7 -0.8**
WRAB pmax pmax
comp=Z,26nm,0.6s,mb5.4
WRAB Tennant Creek 57.82 134 P **P** **21 04 44.7 -0.8**
comp=Z,76nm,0.9s,mb5.8
VRI Vrincioaia 58.47 311⇑P **P** **21 04 51.3 +1.6**
VRI Vrincioaia 58.47 311⇑*i*P **P** **21 04 51.3 +1.6**
TESR 58.52 311⇑*i*P **P** **21 04 50.3 +0.3**
PLOR Plostina 58.53 311⇑P **P** **21 04 51.5 +1.4**
PLOR Plostina 58.53 311⇑*i*P **P** **21 04 51.5 +1.4**
ISR Istrita 58.62 310⇑P **P** **21 04 52.8 +2.0**
ISR Istrita 58.62 310⇑*i*P **P** **21 04 52.8 +2.0**
KLBR Kellerberrin 58.72 157 *e*P **P** **21 04 50.6 -0.9**
comp=Z,24nm,0.8s,mb5.3
MLR Muntele Rosu 59.03 310 P **P** **21 04 55.1 +1.5**
comp=Z,7.5nm,0.8s,mb4.8,baz=70,slow=4.7
MLR pP pP 21 05 20.5 +0.2
comp=Z,6.6nm,1.1s,baz=94,slow=3.8,SNR=5.6
MLR Muntele Rosu 59.03 310 P **P** **21 04 55.1 +1.5**
MLR pP pP 21 05 20.5 +0.2
MLR Muntele Rosu 59.03 310 P **P** **21 04 55.1 +1.5**
MLR *PP pP 21 05 20.5 +0.2
MLR Muntele Rosu 59.03 310‖*i*P **P** **21 04 55.2 +1.6**
BURAR Bucovina Array 59.47 313⇑P **P** **21 04 57.0 +0.4**
BURAR Bucovina Array 59.47 313⇑*i*P **P** **21 04 57.0 +0.4**

VOIR 59.67 310 ⇑P P 21 04 58.0 0.0
VOIR 59.67 310 ⇑*i*P P 21 04 58.0 0.0
KAF **Kangasniemi** 59.69 330 *e*P P 21 04 56.6 -1.2
KAF pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
KAF **Kangasniemi** 59.69 330 *e*p P 21 04 56.6 -1.2
comp=Z,3.8nm,0.5s,mb4.7
FINES **FINESS Array B** 59.70 329 P P 21 04 57.7 -0.2
comp=Z,9.5nm,0.5s,mb5.0,baz=100,slow=6.7,SNR=31
FINES **FINESS Array B** 59.70 329 P P 21 04 57.7 -0.2
FINES **FINESS Array B** 59.70 329 P P 21 04 57.7 -0.2
ASAR **Alice Springs** 60.23 138 P P 21 05 01.8 -0.3
comp=Z,16nm,0.5s,mb5.3,baz=320,slow=6.9,SNR=314
ASAR pP pP 21 05 27.9 -0.9
comp=Z,3.0nm,0.6s,baz=318,slow=7.0,SNR=2.4
ASAR **Alice Springs** 60.23 138 P P 21 05 01.8 -0.3
ASAR pP pP 21 05 27.9 -0.9
ASAR **Alice Springs** 60.23 138 P P 21 05 01.8 -0.3
ASAR *PP pP 21 05 28.0 -0.9
KMBO **Kilima Mbogo** 60.48 255 *e*P P 21 05 05.4 +1.4
comp=Z,4.3nm,1.0s,mb4.4
KMBO pmax pmax
comp=Z,4.0nm,1.0s
KEV **Kevo** 60.81 338 *e*P P 21 05 04.5 -0.9
KEV pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
KEV **Kevo** 60.81 338 *e*p P 21 05 04.5 -0.9
comp=Z,6.5nm,0.7s,mb4.8
KWP **Kalwaria Pacla** 61.07 315 *e*P P 21 05 07.8 +0.4
KWP **Kalwaria Pacla** 61.07 315 ⇑P P 21 05 08.1 +0.6
KWP **Kalwaria Pacla** 61.07 315 ⇑*i*P P 21 05 08.1 +0.6
VTS **Vitosha** 61.20 307 ⇑P P 21 05 09.1 +0.6
VTS **Vitosha** 61.20 307 ⇑*i*P P 21 05 09.1 +0.6
DRGR 61.21 312 ⇓P P 21 05 08.9 +0.4
DRGR 61.21 312 ⇓*i*P P 21 05 08.9 +0.4
ARCES **ARCESS Array B** 61.28 338 P P 21 05 08.7 +0.1
comp=Z,8.3nm,0.7s,mb4.9,baz=92,slow=8.1,SNR=38
ARCES pP pP 21 05 35.7 +0.3
comp=Z,7.7nm,0.7s,baz=98,slow=7.5,SNR=7.4
ARCES **ARCESS Array B** 61.28 338 P P 21 05 08.7 +0.1
ARCES pP pP 21 05 35.7 +0.3
ARCES **ARCESS Array B** 61.28 338 P P 21 05 08.7 +0.2
ARCES *PP pP 21 05 35.7 +0.3
ARE0 **ARCESS Array S** 61.28 338 *e*P P 21 05 08.9 +0.4
ARE0 epP pP 21 05 36.0 +0.6
ARE0 **ARCESS Array S** 61.28 338 *e*P P 21 05 08.5 0.0
KOLS **Kolonicke sedl** 61.39 314 *e*P P 21 05 09.3 -0.3
KOLS **Kolonicke sedl** 61.39 314 *e*P P 21 05 09.3 -0.3
CRVS **Cervenica-Dubn** 61.92 314 *e*P P 21 05 14.3 +1.1
CRVS pmax pmax
comp=Z,9.0nm,1.5s,mb4.6
CRVS **Cervenica-Dubn** 61.92 314 *e*P P 21 05 14.3 +1.1
KTK1 **Kautokeino** 61.98 337 *e*P P 21 05 13.2 0.0
BEL **Belsk** 62.20 318 *e*P P 21 05 15.7 +0.7
BEL **Belsk** 62.20 318 *e*P P 21 05 15.7 +0.7
AGG **Agios Georgios** 62.29 303 *e*PG P 21 05 14.2 -1.6
THL **Klokotos Trika** 62.46 304 *e*PB P 21 05 15.5 -1.4
NIE **Niedzica** 62.64 315 *e*P P 21 05 19.1 +1.1
NIE **Niedzica** 62.64 315 *e*P P 21 05 19.1 +1.1
EVR **Evrytania** 62.71 303 *e*PB P 21 05 17.7 -0.9
OJC **Ojcow** 62.92 316 *e*P P 21 05 20.2 +0.4
OJC **Ojcow** 62.92 316 *e*P P 21 05 20.2 +0.4
TRO **Tromso** 63.58 338 *e*P P 21 05 23.5 -0.3
VYHS **Vyhne** 63.69 314 *e*P P 21 05 23.7 -1.2
VYHS pmax pmax
comp=Z,185nm,4.8s
VYHS **Vyhne** 63.69 314 *e*P P 21 05 23.7 -1.2
OKC **Ostrava-Krasne** 64.01 316 *e*P P 21 05 27.2 +0.2
OKC *e* pP 21 05 53.0 -1.1
OKC **Ostrava-Krasne** 64.01 316 *e*P P 21 05 27.2 +0.2
OKC epP pP 21 05 53.0 -1.1
PKSM **Moragy** 64.06 312 ⇓P P 21 05 27.6 +0.2
PKSM **Moragy** 64.06 312 ⇓*i*P P 21 05 27.6 +0.2
MORC **Moravsky Berou** 64.41 316 ⇑P P 21 05 29.8 +0.2
MORC **Moravsky Berou** 64.41 316 ⇑*i*P P 21 05 29.8 +0.2
STEI **Steigen** 64.83 336 *e*P P 21 05 31.9 -0.1
VRAC **Vranov** 65.07 315 P P 21 05 34.7 +0.7
comp=Z,7.7nm,0.7s,mb4.7,baz=100,slow=6.5,SNR=13
VRAC pP pP 21 06 00.9 -0.1
comp=Z,12nm,0.9s,baz=79,slow=7.3,SNR=6.0
VRAC **Vranov** 65.07 315 P P 21 05 34.7 +0.8
VRAC pP pP 21 06 00.9 -0.1
VRAC **Vranov** 65.07 315 P P 21 05 34.7 +0.8
VRAC *PP pP 21 06 00.9 -0.2
VRAC **Vranov** 65.07 315 ⇑*i*P P 21 05 34.7 +0.8
KSP **Ksiaz** 65.09 317 *e*P P 21 05 34.5 +0.5
DPC **Dobruska-Polom** 65.13 316 *e*P P 21 05 35.2 +0.9
DPC *e* pP 21 06 01.3 -0.1
DPC **Dobruska-Polom** 65.13 316 *e*P P 21 05 35.2 +0.9
DPC epP pP 21 06 01.3 -0.1
MOR8 **Moi Rana** 65.14 334 ⇑*i*P P 21 05 32.9 -1.2
SPITS **Spitsbergen Ar** 65.19 347 P P 21 05 33.9 -0.3
comp=Z,2.4nm,0.5s,mb4.3,baz=98,slow=10,SNR=10.0
SPITS **Spitsbergen Ar** 65.19 347 P P 21 05 34.0 -0.3
SPITS **Spitsbergen Ar** 65.19 347 P P 21 05 34.0 -0.2
FX1 **Attu Island--F** 65.33 41 LR LR 21 33 03.6
comp=Z,35nm,19.6s,baz=286,slow=35
HFS **Hagfors** 65.73 327 P P 21 05 37.7 -0.2
comp=Z,18nm,0.5s,mb5.2,baz=104,slow=6.3,SNR=92
HFS pP pP 21 06 05.5 +0.4
comp=Z,17nm,0.6s,baz=102,slow=6.2,SNR=6.7
HFS **Hagfors** 65.73 327 P P 21 05 37.7 -0.2
HFS pP pP 21 06 05.5 +0.4
HFS **Hagfors** 65.73 327 P P 21 05 37.7 -0.2
HFS *PP pP 21 05 06.6 +0.5
CONA **Conrad Observa** 65.73 314 ⇑*i*P P 21 05 38.3 +0.1
comp=Z,16nm,1.5s,mb4.6
PVCC **Panska Ves** 66.22 317 *e*P P 21 05 41.5 +0.2
PVCC **Panska Ves** 66.22 317 *e*P P 21 05 41.5 +0.2
CTA **Charters Tower** 66.30 126 *e*P P 21 05 41.7 -0.5
comp=Z,11nm,0.9s,mb4.7
CTAO **Charters Tower** 66.30 126 *e*P P 21 05 41.5 -0.7
comp=Z,15nm,1.1s,mb4.7
CTAO **Charters Tower** 66.30 126 *e*P P 21 05 41.5 -0.7
CTAO pmax pmax
comp=Z,15nm,1.1s,mb4.7
PRU **Pruhonice** 66.31 316 *e*P P 21 05 42.7 +0.9
PRU *e* pP 21 06 09.8 +0.7
PRU **Pruhonice** 66.31 316 *e*P P 21 05 42.7 +0.9
PRU epP pP 21 06 09.8 +0.7
PERS **Pernice** 66.42 312 *i*P P 21 05 42.7 +0.1
PERS *i* pP 21 06 11.0 +1.2
SOKA **Soboth** 66.47 312 ⇑*i*P P 21 05 43.3 +0.3
comp=Z,6.7nm,1.1s,mb4.4
BOJS **Bojanci** 66.51 311 *i*P P 21 05 43.8 +0.6
BOJS *i* pP 21 06 10.1 -0.3
BRG **Berggiesshubel** 66.56 317 *e*P P 21 05 43.8 +0.3
comp=Z,11nm,0.9s,mb4.7
BRG *e* 21 05 43.6
comp=Z,11nm,0.9s
BRG *e* pP 21 06 11.4 +0.7
comp=Z,6.9nm,0.8s
BRG **Berggiesshubel** 66.56 317 *e*P P 21 05 43.8 +0.3
BRG *e* pP 21 06 11.4 +0.7
BRG pmax pmax
comp=Z,11nm,0.9s,mb4.7
BRG pmax pmax
comp=Z,11nm,0.9s,mb4.7
BRG pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
NC602 **NORSAR Array S** 66.74 328 *e*P P 21 05 44.0 -0.4
NC602 epP pP 21 06 11.6 0.0
VISS **Visnje** 66.75 312 *i*P P 21 05 45.6 +0.8
VISS *i* pP 21 06 11.5 -0.5
MOA **Molln** 66.81 314 ⇑*i*P P 21 05 45.0 -0.1
comp=Z,13nm,1.4s,mb4.6
NB2 **NORSAR Subarra** 66.87 328 P P 21 05 44.3 -0.9
comp=Z,12nm,0.7s,mb4.8,baz=84,slow=6.5
NOA **NORSAR Array B** 66.87 328 P P 21 05 44.6 -0.6
comp=Z,14nm,0.8s,mb4.8,baz=85,slow=6.5,SNR=30
NOA pP pP 21 06 12.4 0.0
comp=Z,11nm,0.7s,baz=85,slow=6.3,SNR=8.6
NOA **NORSAR Array B** 66.87 328 P P 21 05 44.6 -0.6
NOA pP pP 21 06 12.4 0.0
NOA **NORSAR Array B** 66.87 328 P P 21 05 44.6 -0.6
NOA *PP pP 21 06 12.5 0.0
GERES **GERESS Array B** 67.02 315 P P 21 05 46.8 +0.4
comp=Z,6.7nm,0.7s,mb4.6,baz=76,slow=6.1,SNR=51
GERES pP pP 21 06 12.9 -0.8
comp=Z,2.2nm,0.5s,baz=77,slow=5.8,SNR=4.8
GERES **GERESS Array B** 67.02 315 P P 21 05 46.8 +0.4
GERES pP pP 21 06 12.9 -0.8
GERES **GERESS Array B** 67.02 315 P P 21 05 46.8 +0.4
GERES *PP pP 21 06 12.9 -0.8
KHC **Kasperske Hory** 67.06 315 *e*P P 21 05 47.0 +0.4
KHC *e* pP 21 06 12.9 -1.0
KHC **Kasperske Hory** 67.06 315 *e*P P 21 05 47.0 +0.4
KHC epP pP 21 06 12.9 -1.0
CLL **Collm** 67.09 318 *e*P P 21 05 47.0 +0.2
CLL pmax pmax
comp=Z,12nm,1.4s,mb4.5
CLL **Collm** 67.09 318 *e*P P 21 05 47.0 +0.2
comp=Z,12nm,1.4s,mb4.5
JAVS **Javornik** 67.27 312 *i*P P 21 05 48.2 +0.2
JAVS *i* pP 21 06 14.6 -0.7
KBA **Koelnbreinsper** 67.55 313 ⇑*i*P P 21 05 49.4 -0.4
comp=Z,9.1nm,1.4s,mb4.4
NKC **Novy Kostel** 67.61 317 *e*P P 21 05 50.2 +0.2
NKC *e* pP 21 06 18.6 +1.2
NKC **Novy Kostel** 67.61 317 *e*P P 21 05 50.2 +0.2
NKC epP pP 21 06 18.6 +1.2
MOL **Molde** 68.41 330 *e*P P 21 05 54.3 -0.5
MOL epP pP 21 06 22.0 -0.2
GRF **Grafenberg Arr** 68.48 316 *e*P P 21 05 56.2 +0.7
comp=Z,70nm,1.8s,mb5.2
GRF epP pP 21 06 23.8 +0.9
GRF **Grafenberg Arr** 68.48 316 *e*P P 21 05 56.2 +0.7
GRF *e**PP pP 21 06 23.8 +0.9
GRF pmax pmax
comp=Z,70nm,1.8s,mb5.2
QLP **Quilpie** 68.97 133 *e*P P 21 05 58.6 -0.2
MOTA **Moosalm** 69.00 314 ⇑*i*P P 21 05 58.1 -0.7
comp=Z,8.2nm,0.8s,mb4.6
FETA **Feichten** 69.32 313 ⇑*i*P P 21 06 00.2 -0.5
comp=Z,9.1nm,1.5s,mb4.4
DAVA **Damuels** 69.83 314 ⇑*i*P P 21 06 04.5 +0.6
comp=Z,12nm,1.0s,mb4.7
DAVOX **Davos/Dischmat** 69.94 313 P P 21 06 04.6 0.0
comp=Z,3.7nm,0.5s,mb4.5,baz=85,slow=5.0,SNR=7.5
DAVOX LR LR 21 38 38.6
comp=Z,107nm,18.8s,baz=169,slow=37
DAVOX **Davos/Dischmat** 69.94 313 P P 21 06 04.6 0.0
DAVOX LR LR 21 38 38.6
DAVOX **Davos/Dischmat** 69.94 313 P P 21 06 04.6 0.0
STKA **Stephens Creek** 70.84 139 P P 21 06 09.4 -0.8
comp=Z,10nm,0.9s,mb4.6,baz=325,slow=7.2,SNR=13
STKA **Stephens Creek** 70.84 139 *e*P P 21 06 09.4 -0.8
comp=Z,8.6nm,1.0s,mb4.5
STKA **Stephens Creek** 70.84 139 P P 21 06 09.4 -0.8
STKA **Stephens Creek** 70.84 139 P P 21 06 09.4 -0.8
CDF **Champ du Feu** 71.28 315 *e*P P 21 06 12.6 -0.1
comp=Z,16nm,0.9s,mb4.5
CDF epP pP 21 06 40.4 +0.1
CDF **Champ du Feu** 71.28 315 *e*P P 21 06 12.6 -0.1
comp=Z,7.8nm,0.9s,mb4.5
CDF epP pP 21 06 40.4 +0.1
CDF **Champ du Feu** 71.28 315 *e*P P 21 06 12.6 -0.1
CDF *e**PP pP 21 06 40.4 +0.1
CDF pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
PGF **Pioggiola** 71.53 309 ⇑*i*P P 21 06 14.5 +0.2
comp=Z,10nm,0.7s,mb4.5
PGF epP pP 21 06 42.5 +0.6
PGF **Pioggiola** 71.53 309 ⇑*i*P P 21 06 14.5 +0.2
comp=Z,5.1nm,0.7s,mb4.5
PGF epP pP 21 06 42.5 +0.6
PGF **Pioggiola** 71.53 309 ⇑*i*P P 21 06 14.5 +0.2
PGF *e**PP pP 21 06 42.5 +0.6
PGF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
HINF **Hinteralfeld** 71.70 315 *e*P P 21 06 15.2 -0.1
comp=Z,8.3nm,0.8s,mb4.3
HINF **Hinteralfeld** 71.70 315 *e*P P 21 06 15.2 -0.1
comp=Z,4.2nm,0.8s,mb4.3
HINF **Hinteralfeld** 71.70 315 *e*P P 21 06 15.2 -0.1
HINF pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
HAU **Haudompre** 71.98 315 *e*P P 21 06 16.8 -0.1
HAU **Haudompre** 71.98 315 *e*P P 21 06 16.8 -0.1
HAU **Haudompre** 71.98 315 *e*P P 21 06 16.8 -0.1
VSL **Villasalto** 72.04 306 *e*P P 21 06 17.5 +0.1
comp=Z,13nm,1.0s,mb4.7
PAGF **Fort de Pagny** 72.25 316 *e*P P 21 06 18.8 +0.3
comp=Z,5.3nm,0.7s,mb4.2
SBF **Sospel** 72.30 311 *e*P P 21 06 18.9 0.0
SBF **Sospel** 72.30 311 *e*P P 21 06 18.9 0.0
SBF **Sospel** 72.30 311 *e*P P 21 06 18.9 0.0
LPG **La Plagne** 72.35 312 ⇑*i*P P 21 06 19.8 +0.6
comp=Z,23nm,0.8s,mb4.7
LPG epP pP 21 06 47.7 +0.9
LPG **La Plagne** 72.35 312 ⇑*i*P P 21 06 19.8 +0.6
comp=Z,12nm,0.8s,mb4.8
LPG epP pP 21 06 47.7 +0.9
LPG **La Plagne** 72.35 312 ⇑*i*P P 21 06 19.8 +0.6
LPG *e**PP pP 21 06 47.7 +0.9
LPG pmax pmax
comp=Z,12nm,0.8s,mb4.8
LPL **La Plagne** 72.36 313 ⇑*i*P P 21 06 19.8 +0.6
comp=Z,11nm,0.5s,mb4.7
LPL epP pP 21 06 47.7 +0.8
LPL **La Plagne** 72.36 313 ⇑*i*P P 21 06 19.8 +0.6
comp=Z,5.7nm,0.5s,mb4.7
LPL epP pP 21 06 47.7 +0.8
LPL **La Plagne** 72.36 313 ⇑*i*P P 21 06 19.8 +0.6
LPL *e**PP pP 21 06 47.7 +0.8
LPL pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
GIVF **Givet** 72.42 318 *e*P P 21 06 19.6 +0.1
GIVF **Givet** 72.42 318 *e*P P 21 06 19.6 +0.1
GIVF **Givet** 72.42 318 *e*P P 21 06 19.6 +0.1
CABF **La Chapelle** 72.51 314 *e*P P 21 06 20.3 +0.2
comp=Z,26nm,1.0s,mb4.7
CABF **La Chapelle** 72.51 314 *e*P P 21 06 20.3 +0.2
comp=Z,13nm,1.0s,mb4.7
CABF **La Chapelle** 72.51 314 *e*P P 21 06 20.3 +0.2
CABF pmax pmax
comp=Z,13nm,1.0s,mb4.7
MBDF **Montbardon** 72.54 312 *e*P P 21 06 19.7 -0.6
comp=Z,8.4nm,0.6s,mb4.4
MBDF epP pP 21 06 47.7 -0.2
MBDF **Montbardon** 72.54 312 *e*P P 21 06 19.7 -0.6
comp=Z,4.2nm,0.6s,mb4.5
MBDF epP pP 21 06 47.7 -0.2
MBDF **Montbardon** 72.54 312 *e*P P 21 06 19.7 -0.6
MBDF *e**PP pP 21 06 47.7 -0.2
MBDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
MEZF **Maizieres J'vi** 72.69 316 *e*P P 21 06 21.3 +0.1
comp=Z,24nm,0.7s,mb4.8
MEZF epP pP 21 06 49.1 +0.3
MEZF **Maizieres J'vi** 72.69 316 *e*P P 21 06 21.3 +0.1
comp=Z,24nm,0.7s,mb5.1
MEZF epP pP 21 06 49.1 +0.3
SFTF **Sexfontaines** 72.78 316 *e*P P 21 06 21.5 -0.2
comp=Z,14nm,0.6s,mb4.7
SFTF epP pP 21 06 49.4 +0.1
SFTF **Sexfontaines** 72.78 316 *e*P P 21 06 21.5 -0.2
comp=Z,14nm,0.6s,mb5.0
SFTF epP pP 21 06 49.4 +0.1
BAIF **Baives** 72.82 318 *e*P P 21 06 21.6 -0.2
BAIF **Baives** 72.82 318 *e*P P 21 06 21.6 -0.2
BAIF **Baives** 72.82 318 *e*P P 21 06 21.6 -0.2
DAG **Danmarks Havn** 72.84 347 *i*P P 21 06 20.2 -1.3
DAG **Danmarks Havn** 72.84 347 *i*P P 21 06 20.2 -1.3
comp=Z,8.8nm,1.0s,mb4.5
FRF **La Foret Royal** 72.94 311 ⇑*i*P P 21 06 22.6 -0.1
comp=Z,46nm,1.2s,mb4.9
FRF **La Foret Royal** 72.94 311 ⇑*i*P P 21 06 22.6 -0.1
comp=Z,23nm,1.2s,mb4.9
FRF **La Foret Royal** 72.94 311 ⇑*i*P P 21 06 22.6 -0.1
FRF pmax pmax
comp=Z,23nm,1.2s,mb4.9
KEST **Kesra** 73.08 302 P P 21 06 24.6 +0.9
comp=Z,6.4nm,0.9s,mb4.4,baz=101,slow=1.5,SNR=12
KEST pP pP 21 06 51.1 -0.3
comp=Z,7.7nm,1.1s,baz=161,slow=0.8,SNR=5.8
KEST LR LR 21 44 15.0
comp=Z,35nm,19.9s,baz=273,slow=40
KEST **Kesra** 73.08 302 *e*P P 21 06 24.2 +0.5
KEST pP pP 21 06 51.1 -0.2
KEST LR LR 21 44 15.0
LMR **La Mourre** 73.09 310 ⇑*i*P P 21 06 23.7 +0.1
comp=Z,30nm,1.0s,mb4.8
LMR **La Mourre** 73.09 310 ⇑*i*P P 21 06 23.7 +0.1
comp=Z,15nm,1.0s,mb4.8
LMR **La Mourre** 73.09 310 ⇑*i*P P 21 06 23.7 +0.1
LMR pmax pmax
comp=Z,15nm,1.0s,mb4.8
ORIF **Oris-en-Rattie** 73.10 312 *e*P P 21 06 24.0 +0.4
comp=Z,6.8nm,0.7s,mb4.3
ORIF **Oris-en-Rattie** 73.10 312 *e*P P 21 06 24.0 +0.4
comp=Z,3.4nm,0.7s,mb4.3
ORIF **Oris-en-Rattie** 73.10 312 *e*P P 21 06 24.0 +0.4
ORIF pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
CMSA **Cobar Meteorol** 73.17 136 *e*P P 21 06 23.9 -0.2
SMRF **Simiane la Rot** 73.57 311 *e*P P 21 06 26.7 +0.3
comp=Z,27nm,1.1s,mb4.6
SMRF **Simiane la Rot** 73.57 311 *e*P P 21 06 26.7 +0.3
comp=Z,27nm,1.1s,mb4.9
LOR **Lormes** 73.80 315 *e*P P 21 06 27.4 -0.3
LOR epP pP 21 06 55.1 -0.3
LOR **Lormes** 73.80 315 *e*P P 21 06 27.4 -0.3
LOR epP pP 21 06 55.1 -0.3
LOR **Lormes** 73.80 315 *e*P P 21 06 27.4 -0.3
LOR *e**PP pP 21 06 55.1 -0.3
VIVF **Saint-Julien-l** 73.94 312 ⇑*i*P P 21 06 28.6 +0.1
VIVF **Saint-Julien-l** 73.94 312 ⇑*i*P P 21 06 28.6 +0.1
VIVF **Saint-Julien-l** 73.94 312 ⇑*i*P P 21 06 28.6 +0.1
SMF **Signal de Mont** 73.99 314 ⇑*i*P P 21 06 28.6 -0.2
comp=Z,71nm,1.1s,mb5.0
SMF epP pP 21 06 56.5 0.0
SMF **Signal de Mont** 73.99 314 ⇑*i*P P 21 06 28.6 -0.2
comp=Z,36nm,1.1s,mb5.0
SMF epP pP 21 06 56.5 0.0
SMF **Signal de Mont** 73.99 314 ⇑*i*P P 21 06 28.6 -0.2
SMF *e**PP pP 21 06 56.5 0.0
SMF pmax pmax
comp=Z,36nm,1.1s,mb5.0
SSF **Saint Saulge** 74.09 315 ⇑*i*P P 21 06 29.3 -0.1
comp=Z,24nm,1.0s,mb4.6
SSF epP pP 21 06 57.1 0.0
SSF **Saint Saulge** 74.09 315 ⇑*i*P P 21 06 29.3 -0.1
comp=Z,12nm,1.0s,mb4.6
SSF epP pP 21 06 57.1 0.0
SSF **Saint Saulge** 74.09 315 ⇑*i*P P 21 06 29.3 -0.1
SSF *e**PP pP 21 06 57.1 0.0
SSF pmax pmax
comp=Z,12nm,1.0s,mb4.6
AVF **Avril sur Loir** 74.27 314 ⇑*i*P P 21 06 30.3 -0.1
comp=Z,28nm,1.1s,mb4.6
AVF epP pP 21 06 58.2 0.0
AVF **Avril sur Loir** 74.27 314 ⇑*i*P P 21 06 30.3 -0.1
comp=Z,14nm,1.1s,mb4.6
AVF epP pP 21 06 58.2 0.0
AVF **Avril sur Loir** 74.27 314 ⇑*i*P P 21 06 30.3 -0.1
AVF *e**PP pP 21 06 58.2 0.0
AVF pmax pmax
comp=Z,14nm,1.1s,mb4.6
CMAH **Djebel Manchou** 74.32 303 P P 21 06 29.5 -1.4
ABSA **Djebel Ababsia** 74.38 303 P P 21 06 29.3 -2.0
HYF **Humbligny** 74.60 315 *e*P P 21 06 32.9 +0.6
HYF **Humbligny** 74.60 315 *e*P P 21 06 32.9 +0.6
BGF **Bois d'Agland** 74.67 314 *e*P P 21 06 33.0 +0.2
BGF **Bois d'Agland** 74.67 314 *e*P P 21 06 33.0 +0.2
BGF **Bois d'Agland** 74.67 314 *e*P P 21 06 33.0 +0.2
LASF **Ste Croix** 74.73 312 *e*P P 21 06 33.5 +0.4
comp=Z,63nm,1.3s,mb4.9
LASF **Ste Croix** 74.73 312 *e*P P 21 06 33.5 +0.4
CKFL **Kef-Lekhel** 74.92 303 P P 21 06 33.2 -1.2
LSZ **Lusaka** 75.08 246 *e*P P 21 06 36.5 +1.0
comp=Z,22nm,0.6s,mb5.1
LSZ **Lusaka** 75.08 246 *e*P P 21 06 36.5 +1.0
LSZ pmax pmax
comp=Z,22nm,0.6s,mb5.1
CASM **Ain Smara** 75.14 303 P P 21 06 33.5 -2.2
TCF **Toulx Ste Croi** 75.17 314 ⇑*i*P P 21 06 36.0 +0.4
comp=Z,38nm,1.2s,mb4.7
TCF epP pP 21 07 03.9 +0.5
TCF **Toulx Ste Croi** 75.17 314 ⇑*i*P P 21 06 36.0 +0.4
comp=Z,19nm,1.2s,mb4.7
TCF epP pP 21 07 03.9 +0.5
TCF **Toulx Ste Croi** 75.17 314 ⇑*i*P P 21 06 36.0 +0.4
TCF *e**PP pP 21 07 03.9 +0.5
TCF pmax pmax
comp=Z,19nm,1.2s,mb4.7
DFRA **Djebel Bou Aff** 75.53 304 P P 21 06 33.9 -4.0
CAF **Calviac** 75.69 313 ⇑*i*P P 21 06 39.2 +0.6
comp=Z,16nm,0.7s,mb4.6
CAF epP pP 21 07 07.1 +0.6
CAF **Calviac** 75.69 313 ⇑*i*P P 21 06 39.2 +0.6
comp=Z,7.9nm,0.7s,mb4.5
CAF epP pP 21 07 07.1 +0.6
CAF **Calviac** 75.69 313 ⇑*i*P P 21 06 39.2 +0.6
CAF *e**PP pP 21 07 07.1 +0.6
CAF pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
RJF **Les Rejaudoux** 75.94 313 ⇑*i*P P 21 06 40.7 +0.7
comp=Z,63nm,1.1s,mb4.9
RJF **Les Rejaudoux** 75.94 313 ⇑*i*P P 21 06 40.7 +0.7
comp=Z,32nm,1.1s,mb5.0
RJF **Les Rejaudoux** 75.94 313 ⇑*i*P P 21 06 40.7 +0.7
RJF pmax pmax
comp=Z,32nm,1.1s,mb5.0
LDF **La Druitiere** 75.96 317 ⇑*i*P P 21 06 39.9 -0.2
comp=Z,8.8nm,0.6s,mb4.3
LDF **La Druitiere** 75.96 317 ⇑*i*P P 21 06 39.9 -0.2
comp=Z,4.4nm,0.6s,mb4.4
LDF **La Druitiere** 75.96 317 ⇑*i*P P 21 06 39.9 -0.2
LDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
SET **Setif** 76.00 304 P P 21 06 42.0 +1.4
MTLF **Montolieu** 76.08 311 ⇑*i*P P 21 06 41.1 +0.2
comp=Z,13nm,0.7s,mb4.5
MTLF **Montolieu** 76.08 311 ⇑*i*P P 21 06 41.1 +0.2
comp=Z,6.6nm,0.7s,mb4.5
MTLF **Montolieu** 76.08 311 ⇑*i*P P 21 06 41.1 +0.2
MTLF pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
LFF **La Frestale** 76.58 313 ⇑*i*P P 21 06 44.1 +0.4
comp=Z,34nm,0.8s,mb4.8
LFF **La Frestale** 76.58 313 ⇑*i*P P 21 06 44.1 +0.4
comp=Z,17nm,0.8s,mb4.8
LFF **La Frestale** 76.58 313 ⇑*i*P P 21 06 44.1 +0.4
LFF pmax pmax
comp=Z,17nm,0.8s,mb4.8
MFF **Saint Martin d** 76.62 315 *e*P P 21 06 43.7 -0.1
MFF **Saint Martin d** 76.62 315 *e*P P 21 06 43.7 -0.1
MFF **Saint Martin d** 76.62 315 *e*P P 21 06 43.7 -0.1
SGMF **Saint Gilles** 77.60 317 *e*P P 21 06 49.3 +0.3
SGMF **Saint Gilles** 77.60 317 *e*P P 21 06 49.6 +0.3
SGMF **Saint Gilles** 77.60 317 *e*P P 21 06 49.6 +0.3
ROSF **Rostrenen** 78.02 317 *e*P P 21 06 51.7 +0.1
comp=Z,46nm,0.8s,mb5.0
ROSF **Rostrenen** 78.02 317 *e*P P 21 06 51.7 +0.1
comp=Z,23nm,0.8s,mb5.0
ROSF **Rostrenen** 78.02 317 *e*P P 21 06 51.7 +0.1
ROSF pmax pmax
comp=Z,23nm,0.8s,mb5.0
ETSF **Etsaut** 78.15 312 ⇑*i*P P 21 06 53.1 +0.6
comp=Z,11nm,0.6s,mb4.5
ETSF **Etsaut** 78.15 312 ⇑*i*P P 21 06 53.1 +0.6
comp=Z,5.4nm,0.6s,mb4.5
ETSF **Etsaut** 78.15 312 ⇑*i*P P 21 06 53.1 +0.6
ETSF pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
SJPF **Ste Jean** 78.53 312 *e*P P 21 06 55.2 +0.6
SJPF **Ste Jean** 78.53 312 *e*P P 21 06 55.2 +0.6
SJPF **Ste Jean** 78.53 312 *e*P P 21 06 55.2 +0.6
SUMG **Summit** 79.53 347 *e*P P 21 06 59.4 -0.1
comp=Z,14nm,0.9s,mb4.8
SUMG epP pP 21 07 26.1 -1.4
SUMG **Summit** 79.53 347 *e*P P 21 06 59.4 0.0
SUMG *e**PP pP 21 07 26.1 -1.4
SUMG pmax pmax
comp=Z,14nm,0.9s
SUMG **Summit** 79.53 347 *i*P P 21 06 59.4 0.0
comp=Z,9.5nm,1.0s,mb4.6
TAM **Tamanrasset** 80.39 291 *e*P P 21 07 06.5 +1.5
comp=Z,7.8nm,1.1s,mb4.5
TAM **Tamanrasset** 80.39 291 *e*P P 21 07 06.5 +1.5
TAM pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
ILAR **Eielson Array** 80.73 22 P P 21 07 04.1 -1.9
comp=Z,0.6nm,0.8s,baz=298,slow=4.9,SNR=7.0
ILAR **Eielson Array** 80.73 22 P P 21 07 04.1 -1.9
ILAR **Eielson Array** 80.73 22 P P 21 07 04.1 -1.9
ESDC **Sonseca Array** 81.72 309 P P 21 07 12.2 +0.5
comp=Z,1.9nm,0.5s,mb4.2,baz=44,slow=4.2,SNR=16
ESDC pP pP 21 07 39.2 -0.8
comp=Z,2.9nm,0.8s,baz=43,slow=5.0,SNR=4.0

ESDC	**Sonseca Array**	**81.72**	**309**	P		**P**	**21 07 12.2**	**+0.5**
ESDC				pP		pP	21 07 39.2	-0.8
LBTB	**Lobatse**	**81.98**	**239**	*e*P		**P**	**21 07 14.0**	**+0.7**
	comp=Z,14nm,0.6s,mb5.0							
LBTB	**Lobatse**	**81.98**	**239**	*e*P		**P**	**21 07 14.0**	**+0.7**
LBTB				pmax		pmax		
	comp=Z,13nm,0.6s,mb4.9							
INK	**Inuvik**	**82.48**	**16**	*e*P		**P**	**21 07 13.1**	**-2.0**
	comp=Z,3.9nm,0.7s,mb4.3							
INK				*e*pP		pP	21 07 41.6	-1.8
INK	**Inuvik**	**82.48**	**16**	*e*P		**P**	**21 07 13.1**	**-2.1**
INK				*e**P		pP	21 07 41.7	-1.7
INK				pmax		pmax		
	comp=Z,4.0nm,0.7s							
MVO	**Moncorvo**	**83.26**	**312**	*e*P		**P**	**21 07 20.2**	**+0.5**
	comp=Z,33nm,1.8s,mb4.9							
MTE	**Manteigas**	**83.94**	**311**	*e*P		**P**	**21 07 24.3**	**+1.1**
	comp=Z,62nm,1.6s,mb5.2							
BOSA	**Boshof**	**84.04**	**236**	P		**P**	**21 07 24.8**	**+1.0**
	comp=Z,18nm,0.5s,mb5.2,baz=52,slow=4.1,SNR=60							
BOSA	**Boshof**	**84.04**	**236**	P		**P**	**21 07 24.8**	**+1.0**
BOSA	**Boshof**	**84.04**	**236**	P		**P**	**21 07 24.8**	**+1.0**
PCBR	**Castelo Branco**	**84.13**	**311**	*e*P		**P**	**21 07 24.9**	**+0.7**
	comp=Z,31nm,1.8s,mb4.8							
PMRV	**Marv??o**	**84.24**	**310**	*e*P		**P**	**21 07 25.3**	**+0.5**
	comp=Z,39nm,1.7s,mb5.0							
PMRV				*i* P		pP	21 07 52.6	-0.5
PBAR	**Barrancos**	**84.52**	**309**	*e*P		**P**	**21 07 26.8**	**+0.6**
	comp=Z,27nm,1.4s,mb5.0							
PBAR				*i* P		pP	21 07 54.8	+0.2
PTOM	**Tomar**	**84.87**	**311**	*e*P		**P**	**21 07 28.8**	**+0.9**
	comp=Z,31nm,1.9s,mb4.9							
EVO	**Evora**	**85.06**	**310⇑**	*i*P		**P**	**21 07 29.8**	**+0.9**
	comp=Z,27nm,1.0s,mb4.8							
EVO	**Evora**	**85.06**	**310**	*e*P		**P**	**21 07 29.4**	**+0.5**
	comp=Z,32nm,1.3s,mb5.1							
EVO				*i* P		pP	21 07 57.3	0.0
EVOP	**Sao Brissos**	**85.14**	**310⇑**	*i*P		**P**	**21 07 29.8**	**+0.5**
	comp=Z,27nm,1.0s,mb5.1							
EVOP	**Sao Brissos**	**85.14**	**310⇑**	*i*P		**P**	**21 07 29.8**	**+0.5**
EVOP				pmax		pmax		
	comp=Z,27nm,1.0s,mb5.1							
PBEJ	**Beja**	**85.17**	**309**	*e*P		**P**	**21 07 30.2**	**+0.7**
	comp=Z,19nm,1.3s,mb4.9							
PVAQ	**Vaqueiros**	**85.33**	**309**	*e*P		**P**	**21 07 31.1**	**+0.8**
	comp=Z,37nm,1.7s,mb5.0							
PVAQ				*i* P		pP	21 07 59.2	+0.5
PCVE	**Castro Verde**	**85.47**	**309**	*e*P		**P**	**21 07 31.7**	**+0.8**
	comp=Z,24nm,1.6s,mb4.9							
PBDV	**Barranco-do-Ve**	**85.55**	**309**	*e*P		**P**	**21 07 32.3**	**+0.9**
	comp=Z,42nm,1.7s,mb5.1							
PBDV				*i* P		pP	21 08 00.8	+1.0
PNCL	**Nicolau / Gran**	**85.61**	**310**	*e*P		**P**	**21 07 32.3**	**+0.7**
	comp=Z,23nm,1.5s,mb4.9							
PNCL				*i* P		pP	21 08 00.5	+0.4
PTEO	**Sao Teotonio**	**85.99**	**309**	*e*P		**P**	**21 07 34.6**	**+1.0**
	comp=Z,41nm,2.4s,mb4.9							
PTEO				*i* P		pP	21 08 00.6	-1.4
MORF	**Marmelete**	**86.04**	**309**	*e*P		**P**	**21 07 35.3**	**+1.5**
	comp=Z,44nm,1.9s,mb5.1							
PFVI	**Vila Bisbo**	**86.25**	**309**	*e*P		**P**	**21 07 35.9**	**+1.1**
	comp=Z,56nm,2.4s,mb5.1							
TORD	**Torodi Ar. Bea**	**87.36**	**283**	P		**P**	**21 07 41.6**	**+1.0**
	comp=Z,9.8nm,0.9s,mb4.8,baz=64,slow=4.2,SNR=72							
TORD				PP		PP	21 11 02.4	-4.0
	comp=Z,1.5nm,1.2s,baz=71,slow=7.3,SNR=3.6							
TORD	**Torodi Ar. Bea**	**87.36**	**283**	P		**P**	**21 07 41.6**	**+1.0**
TORD				PP		PP	21 11 02.4	-4.0
MAW	**Mawson**	**93.31**	**192**	P		**P**	**21 08 07.1**	**0.0**
	comp=Z,5.0nm,1.1s,mb4.8,baz=12,slow=5.5,SNR=8.5							
MAW	**Mawson**	**93.31**	**192**	P		**P**	**21 08 07.1**	**0.0**
MAW	**Mawson**	**93.31**	**192**	P		**P**	**21 08 07.1**	**+0.1**
DBIC	**Dimbokro**	**95.84**	**280**	P		**P**	**21 08 20.4**	**+0.4**
	comp=Z,3.6nm,0.5s,mb5.1,baz=43,slow=4.2,SNR=14							
DBIC	**Dimbokro**	**95.84**	**280**	P		**P**	**21 08 20.4**	**+0.4**
DBIC	**Dimbokro**	**95.84**	**280**	P		**P**	**21 08 20.4**	**+0.4**
ECSD	**EROS Data Cent**	**112.84**	**9**	*e*P		PKiKP	21 13 26.3	-3.0
MSU	**Marysvale**	**113.94**	**23**	*e*P		PKiKP	21 13 31.1	-0.4
MSU	**Marysvale**	**113.94**	**23**	*e*PKiKP		PKiKP	21 13 31.1	-0.5
ANMO	**Albuquerque**	**119.08**	**20**	PKP		PKPdf	21 13 39.8	-1.7
	comp=Z,2.3nm,0.9s,baz=346,slow=4.2,SNR=3.0							
ANMO	**Albuquerque**	**119.08**	**20**	PKP		PKPdf	21 13 39.8	-1.7
ANMO	**Albuquerque**	**119.08**	**20**	PKIKP		PKPdf	21 13 39.8	-1.7
TKL	**Tuckaleechee C**	**121.64**	**358**	PKP		PKPdf	21 13 45.2	-1.2
	comp=Z,3.6nm,0.6s,baz=10.0,slow=4.2,SNR=4.9							
TKL	**Tuckaleechee C**	**121.64**	**358**	PKP		PKPdf	21 13 45.2	-1.2
TKL	**Tuckaleechee C**	**121.64**	**358**	PKIKP		PKPdf	21 13 45.3	-1.1
TXAR	**Lajitas Array**	**125.15**	**19**	PKP		PKPdf	21 13 52.8	-0.6
	comp=Z,2.1nm,0.8s,baz=286,slow=0.3,SNR=11							
TXAR				pPKP		pPKPdf	21 14 20.1	-3.1
	comp=Z,0.8nm,0.8s,baz=97,slow=2.1,SNR=3.0							
TXAR	**Lajitas Array**	**125.15**	**19**	PKP		PKPdf	21 13 52.8	-0.6
TXAR				pPKP		pPKPdf	21 14 20.1	-3.1
TXAR	**Lajitas Array**	**125.15**	**19**	PKIKP		PKPdf	21 13 52.8	-0.6
TXAR							21 14 20.1	
SDV	**Santo Domingo**	**145.07**	**333**	*e*P		PKPbc	21 14 29.5	-0.7
ROSC	**El Rosal**	**150.19**	**337**	PKP		PKPdf	21 14 37.8	-1.3
	comp=Z,10nm,0.6s,baz=90,slow=20,SNR=5.5							
ROSC				PKPbc		PKPbc	21 14 44.3	+0.1
	comp=Z,72nm,0.8s,baz=83,slow=3.7,SNR=29							
ROSC	**El Rosal**	**150.19**	**337**	PKP		PKPdf	21 14 37.8	-1.2
ROSC				PKPbc		PKPbc	21 14 44.3	+0.1
CPUP	**Villa Florida**	**154.08**	**257**	PKP		PKPdf	21 14 43.0	-1.5
	comp=Z,5.9nm,0.8s,baz=21,slow=2.1,SNR=12							
CPUP				PKPbc		PKPbc	21 14 52.2	-0.4
	comp=Z,5.9nm,0.5s,baz=74,slow=3.6,SNR=24							
CPUP	**Villa Florida**	**154.08**	**257**	PKP		PKPdf	21 14 43.0	-1.5
CPUP				PKPbc		PKPbc	21 14 52.2	-0.4
CPUP	**Villa Florida**	**154.08**	**257**	PKIKP		PKPdf	21 14 43.0	-1.5
PLCA	**Paso Flores**	**158.22**	**212**	PKP		PKPdf	21 14 49.6	+0.2
	comp=Z,2.0nm,0.7s,baz=114,slow=12,SNR=2.5							
PLCA				PKPab		PKPab	21 15 22.4	-1.4
	comp=Z,2.6nm,0.8s,baz=207,slow=9.8,SNR=3.3							
PLCA	**Paso Flores**	**158.22**	**212**	PKP		PKPdf	21 14 49.6	+0.2
PLCA				PKPab		PKPab	21 15 22.4	-1.4
PLCA	**Paso Flores**	**158.22**	**212**	PKIKP		PKPdf	21 14 49.6	+0.2
PLCA							21 15 22.4	
LPAZ	**La Paz**	**162.22**	**289**	PKP		PKPdf	21 14 55.2	+0.7
	comp=Z,4.0nm,0.9s,baz=46,slow=3.2,SNR=7.0							
LPAZ				PKPab		PKPab	21 15 42.4	+0.3
	comp=Z,2.4nm,0.8s,baz=37,slow=5.2,SNR=4.3							
LPAZ	**La Paz**	**162.22**	**289**	PKP		PKPdf	21 14 55.2	+0.7
LPAZ				PKPab		PKPab	21 15 42.4	+0.3
LPAZ	**La Paz**	**162.22**	**289**	PKIKP		PKPdf	21 14 55.3	+0.7
LPAZ							21 15 42.4	

*ISCJB **10** 21:13:19.7±1.3,28°.80N±0°.08×82°.08E±0°.05,h3^{km}±8^{km}, mb3.6/8,Error ellipse: s-maj=13.7km s-min=7.7km az=5.1*
*IDC **10** 21:13:20.6±1.0,28°.79N×82°.06E,h0^{km},mb3.7/8, mb1 3.8/10,mb1mx3.5/28,mbtmp3.6/10,ML3.6/2,Error ellipse: s-maj=35.3km s-min=18.0km az=61.0*
*NDI **10** 21:13:37.6±7.5,30°.20N×82°.15E,h10^{km},ML3.2*
ISC 10 21:13:22.0±1.4,28°.87N±0°.08×82°.13E±0°.05,h4^{km}±9^{km}, n18,σ1°21/25,mb3.6/8,Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DDI	**Dehra Dun**	**3.83**	**293**	*e*PKP		**Pg**	**21 14 40.0**	**+4.5**
DDI				*e*S		**Sg**	**21 15 23.0**	**-2.2**
NDI	**New Delhi**	**4.32**	**269**	*e*PKP		**Pg**	**21 14 46.0**	**+1.2**
NDI				*ex*		**Sg**	**21 15 48.0**	**+7.3**
SONA	**Sohna**	**4.48**	**263**	*e*PKP		**Pg**	**21 14 50.0**	**+2.1**
SONA				*e*S		**Sg**	**21 15 44.9**	**-1.1**
SONA				AML		AML	21 15 59.0	
	comp=N,59nm,0.3s							
SONA				AML		AML	21 15 59.7	
	comp=E,47nm,0.4s							
SMLA	**Simla**	**4.86**	**299**	*i* x		**Pn**	**21 14 37.5**	**+1.6**
SMLA				*i* S		**Sn**	**21 15 32.7**	**+0.2**
SMLA				*i* S		**Sn**	**21 15 32.7**	**+0.2**
SMLA				AML		AML	21 15 35.8	
SMLA				AML		AML	21 15 35.8	
	comp=N,249nm,0.2s							
KUDL	**Kundal**	**5.02**	**263**	*e*PKP		**Pg**	**21 14 56.8**	**-1.4**
KUDL				*e*S		**Sg**	**21 15 56.8**	**-6.4**
KUDL				AML		AML	21 16 15.9	
	comp=E,23nm,0.5s							
KUDL				AML		AML	21 16 17.7	
	comp=N,31nm,0.5s							
KHET	**Khetri**	**5.62**	**263**	*e*PKP		**Pn**	**21 14 52.2**	**+5.9**
KHET				*e*S		**Sn**	**21 15 51.6**	**+0.2**
KHET				AML		AML	21 16 27.7	
	comp=N,18nm,0.4s							
KHET				AML		AML	21 16 30.1	
	comp=E,17nm,0.7s							
THW	**Thamme Wali**	**9.75**	**296**	P		**Pn**	**21 15 43.9**	**+0.9**
CEP	**Cherat**	**10.04**	**302**	P		**Pn**	**21 15 47.8**	**+0.9**
MKAR	**Makanchi Array**	**17.89**	**0**	P		**Pn**	**21 17 31.1**	**-0.6**
	comp=E,0.1nm,0.3s,baz=177,slow=10,SNR=4.4							
CMAR	**Chiang Mai Arr**	**18.54**	**120**	P		**Pn**	**21 17 40.0**	**+0.2**
	comp=E,0.1nm,0.3s,baz=310,slow=10,SNR=6.3							
KURK	**Kurchatov**	**21.98**	**354**	P		**P**	**21 18 14.7**	**-2.1**
	comp=E,0.4nm,0.3s,mb3.3,baz=180,slow=9.7,SNR=5.7							
ZALV	**Zalesovo Beam**	**25.14**	**4**	P		**P**	**21 18 48.6**	**+0.7**
	comp=E,1.3nm,0.5s,mb3.7,baz=194,slow=12,SNR=6.4							
BVAR	**Borovoye Array**	**25.64**	**343**	P		**P**	**21 18 53.1**	**+0.6**
	comp=E,0.4nm,0.6s,mb3.1,baz=141,slow=9.5,SNR=3.4							
SONM	**Songino Array**	**26.66**	**38**	P		**P**	**21 19 03.1**	**+1.3**
	comp=E,0.3nm,0.6s,mb3.0,baz=252,slow=8.9,SNR=2.5							
FINES	**FINESS Array B**	**48.96**	**328**	P		**P**	**21 22 07.3**	**-1.8**
	comp=E,8.0nm,1.1s,mb4.7,baz=127,slow=9.2,SNR=3.0							
WRA	**Warramunga Arr**	**59.95**	**128**	P		**P**	**21 24 33.4**	**-1.3**
	comp=E,0.7nm,0.6s,mb3.8,baz=322,slow=6.2,SNR=12							
ASAR	**Alice Springs**	**72.19**	**131**	P		**P**	**21 24 47.5**	**-0.7**
	comp=E,0.8nm,0.8s,mb3.7,baz=312,slow=5.5,SNR=8.2							
TORD	**Torodi Ar. Bea**	**75.49**	**277**	P		**P**	**21 25 08.0**	**+0.1**
	comp=E,0.4nm,0.7s,mb3.5,baz=69,slow=4.1,SNR=4.0							

*ISCJB **10** 21:47:29.9±1.0,30°.3N±0°.1×67°.7E±0°.2,h10^{km},mb3.6/5, Error ellipse: s-maj=20.8km s-min=17.0km az=28.8*
*IDC **10** 21:47:29.9±1.2,30°.16N×67°.70E,h0^{km},mb3.6/6, mb1 3.7/6,mb1mx3.4/27,mbtmp3.6/6,Error ellipse: s-maj=35.8km s-min=29.4km az=134.0*
*NEIC **10** 21:47:31.5±0.7,30°.21N×67°.69E,h10^{km},mb3.6/1,Error ellipse: s-maj=13.8km s-min=11.1km az=120.0*
ISC 10 21:47:31.7±1.0,30°.2N±0°.1×67°.7E±0°.2,h10^{km},n18, σ0^{s}33/18,mb3.6/5,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EKS2	**Erkin-Say**	**13.35**	**20**	*e*Pn		**Pn**	**21 50 41.5**	**+0.4**
TKM2	**Tokmak 2**	**14.17**	**24**	Pn		**Pn**	**21 50 51.9**	**-0.5**
MK31	**Makanchi Array**	**20.06**	**30**	*e*P		**P**	**21 52 04.9**	**-0.1**
MKAR	**Makanchi Array**	**20.06**	**30**	P		**P**	**21 52 05.0**	**0.0**
	0.9nm,0.6s,baz=212,slow=10,SNR=15							
MKAR	**Makanchi Array**	**20.06**	**30**	P		**P**	**21 52 05.0**	**0.0**
LSA	**Lhasa**	**20.34**	**86**	*e*P		**P**	**21 52 08.4**	**+0.3**
	2.4nm,0.8s							
KURK	**Kurchatov**	**22.05**	**19**	*e*P		**P**	**21 52 26.3**	**-0.2**
ZALV	**Zalesovo Beam**	**26.77**	**23**	P		**P**	**21 53 11.3**	**-0.2**
	1.2nm,0.4s,mb3.8,baz=227,slow=11,SNR=4.4							
ZALV	**Zalesovo Beam**	**26.77**	**23**	P		**P**	**21 53 11.3**	**-0.2**
TLY	**Talaya**	**34.10**	**41**	*e*P		**P**	**21 54 16.1**	**-0.2**
ARCES	**ARCESS Array B**	**46.02**	**341**	P		**P**	**21 55 55.2**	**+0.2**
	1.0nm,0.8s,mb3.8,baz=116,slow=8.2,SNR=4.0							
ARCES	**ARCESS Array B**	**46.02**	**341**	P		**P**	**21 55 55.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**62.85**	**270**	P		**P**	**21 57 58.0**	**-0.2**
	0.6nm,0.8s,mb3.8,baz=61,slow=5.2,SNR=2.7							
TORD	**Torodi Ar. Bea**	**62.85**	**270**	P		**P**	**21 57 58.0**	**-0.2**
ILAR	**Eielson Array**	**81.55**	**14**	P		**P**	**21 59 49.9**	**+0.7**
	0.2nm,0.6s,mb3.2,baz=307,slow=5.4,SNR=3.6							
ILAR	**Eielson Array**	**81.55**	**14**	P		**P**	**21 59 49.9**	**+0.7**
ASAR	**Alice Springs**	**83.10**	**122**	P		**P**	**21 59 57.6**	**-0.3**
	0.2nm,0.7s,mb3.3,baz=299,slow=5.0,SNR=3.6							
ASAR	**Alice Springs**	**83.10**	**122**	P		**P**	**21 59 57.6**	**-0.3**

CASC 10 21:58:49.4±2.1,12°.71N×91°.15W,h0^{km}±13^{km},MD3.6,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IXG	**Ixpaco**	**1.60**	**25**	*e*P		Pn	21 59 18.9	-0.1
IXG				*e*S		Sn	21 59 40.8	+0.3
JAT	**Jato**	**1.67**	**344**	*e*P		Pn	21 59 19.6	-0.2
FUG	**Fuego 3**	**1.75**	**10**	*e*P		Pn	21 59 20.7	-0.4
FG6		**1.86**	**8**	*e*P		Pn	21 59 22.2	-0.3
SBLS	**San Blas**	**1.86**	**53**	*e*P		Pn	21 59 22.4	-0.2
RTR	**El Retiro**	**1.88**	**51**	*e*P		Pn	21 59 22.8	0.0
SNJE	**San Jose**	**1.89**	**52**	*e*P		Pn	21 59 23.0	0.0
RBDL	**Robledal**	**1.99**	**45**	*e*P		Pn	21 59 24.3	-0.1
RBDL				*e*S		Sn	21 59 50.9	+0.9
NBG	**Las Nubes**	**2.02**	**23**	*e*P		Pn	21 59 26.0	+1.2
NBG				*e*S		Sn	21 59 55.8	+5.0
BOQS	**Boqueron**	**2.09**	**61**	*e*P		Pn	21 59 26.3	+0.7
LFRS	**El Faro**	**2.23**	**66**	*e*P		Pn	21 59 27.3	-0.3
LFRS				*e*S		Sn	21 59 56.7	+0.9
SNVI	**San Vicente**	**2.42**	**68**	*e*P		Pn	21 59 31.0	+0.7
SNVI				*e*S		Sn	22 00 02.5	+1.9
CAHU	**Cacacuatique**	**3.05**	**69**	*e*P		Pn	21 59 39.2	+0.3
CNCH	**Conchagua**	**3.28**	**80**	*e*P		Pn	21 59 42.2	+0.2

MEX 10 22:13:29.1±0.8,17°.44N×100°.21W,h18^{km}±30^{km},MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CAIG	**El Cayaco**	**0.40**	**189**	*i* P		Pg	22 13 36.3	-1.0
CAIG				*i* S		Sg	22 13 40.9	-1.8
ACX	**Acapulco**	**0.66**	**150**	*i* P		Pg	22 13 39.4	-2.7
ACX				*i* S		Sg	22 13 48.0	-2.9
PNIG	**Pinotepa**	**2.25**	**117**	*i* P		Pn	22 14 03.1	-2.4
PNIG				*i* S		Sn	22 14 27.5	-5.3
UTMO	**Huajuapan**	**2.32**	**80**	*e*P		Pn	22 14 02.6	-3.9
UTMO				*i* S		Sn	22 14 29.6	-5.0

*BUC **10** 22:16:09.0±0.7,44°.10N×24°.90E,h5^{km},MD2.5/2,Error ellipse: s-maj=9.2km s-min=3.4km az=70.0*
*CSEM **10** 22:16:09.9±0.1,44°.13N×24°.90E,h2^{km},ML1.9,Error ellipse: s-maj=2.8km s-min=2.4km az=129.0*
*ISCJB **10** 22:16:10.6±0.4,44°.11N±0°.02×24°.92E±0°.04,h10^{km}, Error ellipse: s-maj=4.2km s-min=3.5km az=19.9*
*BEO **10** 22:16:10.0±0.6,44°.10N×24°.84E,h0^{km},ML1.9/6*
ISC 10 22:16:10.7±0.4,44°.12N±0°.03×24°.86E±0°.03,h10^{km},n40, σ0^{s}99/63,12C-8D,Romania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZIMR		**0.59**	**142**	*i*P		**Pg**	**22 16 20.9**	**-1.2**
ZIMR				*i* S		**Sg**	**22 16 29.4**	**-0.4**
ZIMR		**0.59**	**142**	*i*P		**Pg**	**22 16 20.9**	**-1.2**
ZIMR				*i* S		**Sg**	**22 16 29.4**	**-0.4**
SULR		**1.15**	**60**	S		**Sg**	**22 16 46.0**	**-1.6**
SULR		**1.15**	**60**	*i* S		**Sg**	**22 16 46.0**	**-1.6**
SULR		**1.15**	**60**	S		**Sg**	**22 16 46.0**	**-1.6**
VOIR		**1.32**	**6**	*i*P		**Pn**	**22 16 34.9**	**-0.4**
VOIR		**1.32**	**6**	S		**Sb**	**22 16 53.1**	**+0.4**
VOIR		**1.32**	**6**	*i*P		**Pn**	**22 16 34.9**	**-0.4**
VOIR				*i* S		**Sb**	**22 16 53.1**	**+0.4**
VOIR		**1.32**	**6**	*i*P		**Pn**	**22 16 34.9**	**-0.4**
VOIR				S		**Sb**	**22 16 53.1**	**+0.4**
LOT	**Lotru**	**1.54**	**330**	*i*P		**Pn**	**22 16 38.3**	**+0.1**
LOT	**Lotru**	**1.54**	**330**	S		**Sn**	**22 16 59.2**	**+0.9**
LOT	**Lotru**	**1.54**	**330**	*i*P		**Pn**	**22 16 38.3**	**+0.1**
LOT				*i* S		**Sn**	**22 16 59.2**	**+0.9**
LOT	**Lotru**	**1.54**	**330**	*i*P		**Pn**	**22 16 38.3**	**+0.1**
LOT				S		**Sn**	**22 16 59.2**	**+0.9**
ISR	**Istrita**	**1.56**	**50**	*i*P		**Pn**	**22 16 38.4**	**-0.1**
ISR	**Istrita**	**1.56**	**50**	S		**Sn**	**22 16 59.5**	**+0.7**
ISR	**Istrita**	**1.56**	**50**	*i*P		**Pn**	**22 16 38.4**	**-0.1**
ISR				*i* S		**Sn**	**22 16 59.5**	**+0.7**
ISR	**Istrita**	**1.56**	**50**	*i*P		**Pn**	**22 16 38.4**	**-0.1**
ISR				S		**Sn**	**22 16 59.5**	**+0.7**
MLR	**Muntele Rosu**	**1.57**	**29**	*i*P		**Pn**	**22 16 38.5**	**-0.2**
MLR	**Muntele Rosu**	**1.57**	**29**	S		**Sn**	**22 16 59.3**	**+0.2**
MLR	**Muntele Rosu**	**1.57**	**29**	*i*P		**Pn**	**22 16 38.5**	**-0.2**
MLR				*i* S		**Sn**	**22 16 59.3**	**+0.2**
MLR	**Muntele Rosu**	**1.57**	**29**	*i*P		**Pn**	**22 16 38.5**	**-0.2**
MLR				S		**Sn**	**22 16 59.3**	**+0.2**
ZAPS	**Zavoj**	**1.82**	**243**	*e*Pn		**Pn**	**22 16 43.1**	**+1.0**
ZAPS				*e*Sg		**Sg**	**22 17 08.0**	**-1.3**
ZAPS	**Zavoj**	**1.82**	**243**	*e*Pn		**Pn**	**22 16 43.1**	**+1.0**
ZAPS				*e*Sg		**Sg**	**22 17 08.0**	**-1.3**
VTS	**Vitosha**	**1.95**	**219**	*e*Pn		**Pn**	**22 16 44.8**	**+1.0**
VTS				*e*Sn		**Sn**	**22 17 09.7**	**+1.4**
VTS	**Vitosha**	**1.95**	**219**	*e*Pn		**Pn**	**22 16 44.8**	**+1.0**
VTS				*e*Sn		**Sn**	**22 17 09.7**	**+1.4**
PLD	**Plovdiv**	**2.02**	**183**	*e*Pn		**Pn**	**22 16 45.1**	**+0.3**
PLD				*e*Sn		**Sn**	**22 17 10.6**	**+0.6**
PLD	**Plovdiv**	**2.02**	**183**	*e*Pn		**Pn**	**22 16 45.1**	**+0.3**
PLD				*e*Sn		**Sn**	**22 17 10.6**	**+0.6**
VRI	**Vrincioaia**	**2.19**	**36⇑**	*i*P		**Pn**	**22 16 46.6**	**-0.6**
VRI	**Vrincioaia**	**2.19**	**36⇑**	*i*P		**Pn**	**22 16 46.6**	**-0.6**
BARS	**Barje**	**2.57**	**241**	*e*Pn		**Pn**	**22 16 53.9**	**+1.5**
BARS				*e*Sg		**Sg**	**22 17 30.5**	**-2.8**
BARS	**Barje**	**2.57**	**241**	*e*Pn		**Pn**	**22 16 53.9**	**+1.5**
TIRR	**Tirgusor**	**2.57**	**81⇑**	*i*P		**Pn**	**22 16 52.2**	**-0.2**
TIRR	**Tirgusor**	**2.57**	**81**	S		**Sn**	**22 17 24.0**	**+0.3**
TIRR	**Tirgusor**	**2.57**	**81⇑**	*i*P		**Pn**	**22 16 52.2**	**-0.2**
TIRR				*i* S		**Sn**	**22 17 24.0**	**+0.3**
TIRR	**Tirgusor**	**2.57**	**81⇑**	*i*P		**Pn**	**22 16 52.2**	**-0.2**
TIRR				S		**Sn**	**22 17 24.0**	**+0.3**
BZS	**Buzias**	**2.75**	**304**	*e*Pn		**Pn**	**22 16 55.4**	**+0.5**
BZS				*e*Sn		**Sn**	**22 17 29.5**	**+1.4**
BZS				*e*Sg		**Sg**	**22 17 37.3**	**-1.8**
BZS	**Buzias**	**2.75**	**304**	*e*Pn		**Pn**	**22 16 55.4**	**+0.5**
BZS				*e*Sn		**Sn**	**22 17 29.5**	**+1.4**
BZS				*e*Sg		**Sg**	**22 17 37.3**	**-1.8**
GRUS	**Gruza**	**3.00**	**267**	*e*Sg		**Sg**	**22 17 45.9**	**-1.2**
GRUS	**Gruza**	**3.00**	**267**	*e*Sg		**Sg**	**22 17 45.9**	**-1.2**

*BJI **10** 22:22:17.2,18°.76N×145°.62E,h241^{km},mB4.7/13, mb4.4/15*
*ISCJB **10** 22:22:18.7±0.7,19°.05N±0°.03×145°.32E±0°.04, h224^{km}±6^{km},mb4.3/66,Error ellipse: s-maj=6.5km s-min=5.1km az=158.3*
*IDC **10** 22:22:19.2±1.1,19°.05N×145°.46E,h224^{km}±9^{km},mb3.8/18, mb1 4.0/22,mb1mx3.9/31,mbtmp3.9/22,Error ellipse: s-maj=13.1km s-min=6.5km az=90.0*
*MOS **10** 22:22:20.4±0.7,19°.03N×145°.18E,h248^{km},mb4.7/15, Error ellipse: s-maj=16.3km s-min=8.6km az=84.6*
*NEIC **10** 22:22:21.2±0.9,19°.02N×145°.36E,h238^{km}±9^{km},mb4.5/38, Error ellipse: s-maj=6.8km s-min=5.6km az=85.0*
ISC 10 22:22:19.9±0.7,19°.07N±0°.03×145°.35E±0°.04,h223^{km}±7^{km}, h242^{km}±2.4^{km}:pP-P,n353,σ0^{s}59/371,mb4.3/66,95C-103D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**5.47**	**185**	P		**Pn**	**22 23 39.9**	**-1.1**
	20nm,0.3s,baz=123,slow=2.5,SNR=11							
GUMO				S		**S**	**22 24 41.5**	**-3.7**
	48nm,0.3s,baz=13,slow=19,SNR=4.0							
GUMO	**Guam**	**5.47**	**185**	*e*Pn		**Pn**	**22 23 41.9**	**+1.0**
GUMO				*e*S		**S**	**22 24 44.3**	**-0.9**
GUMO	**Guam**	**5.47**	**185**	*e*P		**Pn**	**22 23 41.9**	**+1.0**
GUMO				*e*S		**S**	**22 24 44.3**	**-1.0**
CBIJ	**Chichi jima**	**8.50**	**341**

SONM ScP ScP 22 35 10.5 -1.0
SONM Songino Array 42.65 321 P **P** **22 29 55.1 +0.7**
CMAR Chiang Mai Arr 43.84 277 P **P** **22 30 06.2 +1.8**
comp=Z,2.2nm,0.7s,mb3.6,baz=68,slow=6.6,SNR=14
CMAR Chiang Mai Arr 43.84 277 P **P** **22 30 06.2 +1.8**
CMAR Chiang Mai Arr 43.84 277 P **P** **22 30 06.3 +1.9**
ASAR Alice Springs 43.92 195 P **P** **22 30 04.3 -0.5**
comp=Z,3.2nm,0.6s,mb3.8,baz=14,slow=6.4,SNR=36
ASAR PcP PcP 22 31 44.3 -2.4
comp=Z,1.5nm,0.8s,baz=17,slow=4.7,SNR=6.1
ASAR ScP ScP 22 35 15.0 -2.0
comp=Z,1.6nm,1.0s,baz=12,slow=4.1,SNR=6.0
ASAR S **S** **22 36 18.4 -0.8**
comp=Z,2.2nm,0.9s,baz=23,slow=20,SNR=11
ASAR Alice Springs 43.92 195 P **P** **22 30 04.3 -0.5**
ASAR PcP PcP 22 31 44.3 -2.4
ASAR ScP ScP 22 35 15.0 -2.0
ASAR S **S** **22 36 18.4 -0.8**
ASAR Alice Springs 43.92 195 P **P** **22 30 04.3 -0.5**
ASAR 22 31 44.3
ASAR S **S** **22 36 18.4 -0.8**
MBWA Marble Bar 47.20 213 *eP* **P** **22 30 30.0 -0.5**
comp=Z,6.7nm,0.7s,mb4.1
BILL Bilibino 50.71 10 *eP* **P** **22 30 57.0 +0.5**
comp=Z,11nm,1.1s,mb4.2
BILL Bilibino 50.71 10⇓ *eP* **P** **22 30 57.1 +0.6**
BILL 22 32 11.0
BILL pmax pmax
comp=Z,12nm,0.8s,mb4.4
STKA Stephens Creek 50.78 184 P **P** **22 30 55.8 -1.7**
comp=Z,1.8nm,0.6s,mb3.6,baz=23,slow=8.4,SNR=7.0
STKA Stephens Creek 50.78 184 P **P** **22 30 55.8 -1.7**
STKA Stephens Creek 50.78 184 P **P** **22 30 55.8 -1.7**
WMQ Urumqi 53.82 311 P **P** **22 31 19.4 -0.3**
MKAR Makanchi Array 57.97 314 P **P** **22 31 49.3 +0.2**
comp=Z,0.6nm,0.5s,mb3.5,baz=79,slow=7.0,SNR=7.5
MKAR ScP ScP 22 36 15.6 -1.6
comp=Z,0.6nm,0.8s,baz=91,slow=3.3,SNR=3.8
MKAR Makanchi Array 57.97 314 P **P** **22 31 49.3 +0.2**
MKAR ScP ScP 22 36 15.6 -1.6
MKAR Makanchi Array 57.97 314 P **P** **22 31 49.3 +0.2**
KDAK Kodiak Island 59.23 33 P **P** **22 31 57.0 -0.6**
comp=Z,2.4nm,0.3s,mb4.3,baz=321,slow=22,SNR=7.9
KDAK Kodiak Island 59.23 33 P **P** **22 31 57.0 -0.6**
KDAK Kodiak Island 59.23 33 *i* P **P** **22 31 57.5 -0.1**
KURK Kurchatov 60.77 318 P **P** **22 32 08.1 -0.1**
comp=Z,2.6nm,0.8s,mb3.9,baz=92,slow=7.4,SNR=13
KURK Kurchatov 60.77 318 P **P** **22 32 08.1 -0.1**
KURK Kurchatov 60.77 318 P **P** **22 32 08.1 -0.1**
COLD Coldfoot 62.75 23 *eP* **P** **22 32 21.3 +0.3**
comp=Z,7.5nm,1.1s,mb4.2
ILAR Eielson Array 63.46 26 P **P** **22 32 24.1 -1.6**
comp=Z,6.7nm,0.8s,mb4.3,baz=258,slow=5.1,SNR=47
ILAR Eielson Array 63.46 26 P **P** **22 32 24.1 -1.6**
ILAR Eielson Array 63.46 26 P **P** **22 32 24.2 -1.6**
DOT Dot Lake 64.47 28 *eP* **P** **22 32 30.2 -2.1**
comp=Z,26nm,0.8s,mb4.9
BVAR Borovoye Array 65.98 320 P **P** **22 32 41.8 -0.4**
comp=Z,1.8nm,0.4s,mb4.0,baz=94,slow=7.3,SNR=20
BVAR Borovoye Array 65.98 320 P **P** **22 32 41.8 -0.4**
BVAR Borovoye Array 65.98 320 P **P** **22 32 41.8 -0.4**
BRVK Borovoye 66.04 320 *eP* **P** **22 32 41.5 -1.1**
BRVK pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
INK Inuvik 69.16 23 *eP* **P** **22 33 01.3 -0.5**
comp=Z,9.1nm,0.9s,mb4.4
INK *e*PP PP 22 35 37.5 +0.1
INK Inuvik 69.16 23 *eP* **P** **22 33 01.3 -0.5**
INK *e* 22 35 37.5
INK pmax pmax
comp=Z,9.0nm,0.9s
ABKAR Akbulak array 72.84 317 *eP* **P** **22 33 24.2 -0.1**
GNW Green Mountain 77.38 44 *eP* **P** **22 33 50.8 +0.7**
comp=Z,10nm,1.0s,mb4.4
JCW Jim Creek 77.80 43 P **P** **22 33 53.2 +0.7**
YKA Yellowknife Ar 77.82 28 P **P** **22 33 51.4 -0.9**
comp=Z,3.8nm,0.7s,mb4.1,baz=289,slow=5.2,SNR=6.9
YKA Yellowknife Ar 77.82 28 P **P** **22 33 51.4 -0.9**
YKA Yellowknife Ar 77.82 28 P **P** **22 33 51.4 -0.9**
D05A Enumclaw 78.02 44 ⇓P **P** **22 33 54.4 +0.7**
baz=78
TDL Tradedollar La 78.09 45 P **P** **22 33 54.9 +0.8**
G04A Mulino 78.21 46 ⇑P **P** **22 33 55.3 +0.5**
baz=78
H04A Detroit Lake 78.55 47 ⇓P **P** **22 33 56.7 0.0**
baz=78
GULW Guler Mountain 78.62 45 P **P** **22 33 57.6 +0.6**
YBH Yreka Blue Hor 78.97 50 *eP* **P** **22 33 59.7 +0.7**
comp=Z,9.9nm,1.1s,mb4.3
YBH Yreka Blue Hor 78.97 50 *eP* **P** **22 33 59.7 +0.7**
YBH pmax pmax
comp=Z,10.0nm,1.1s
ETW Entiat 79.00 43 P **P** **22 33 59.2 +0.1**
B08A Colville Reser 79.43 42 ⇓P **P** **22 34 00.8 -0.5**
baz=79
G06A Carlson Farm, 79.46 46 ⇓P **P** **22 34 01.6 0.0**
baz=79
E07A Sunnyside 79.60 44 ⇑P **P** **22 34 02.7 +0.4**
baz=80
VIPM Ingram Point 79.67 47 P **P** **22 34 03.0 +0.3**
VIPM Ingram Point 79.67 47 P **P** **22 34 03.1 +0.3**
LASM Arnica Sink 79.82 50 P **P** **22 34 04.1 +0.5**
HAWA Hanford 79.86 44 *eP* **P** **22 34 03.7 -0.1**
comp=Z,9.8nm,0.8s,mb4.5
K05A Summer Lake 79.99 48 ⇑P **P** **22 34 04.4 -0.1**
baz=80
D08A Wollman Farm, 80.07 44 ⇑P **P** **22 34 05.1 +0.2**
baz=80
C09A Chrisman Ranch 80.27 43 ⇓P **P** **22 34 05.6 -0.2**
baz=80
I07A Izee 80.56 47 ⇓P **P** **22 34 07.7 +0.2**
baz=80
G08A Pilot Rock 80.57 45 ⇓P **P** **22 34 07.8 +0.2**
baz=80
MOD Modoc 80.65 49 *eP* **P** **22 34 07.9 -0.1**
comp=Z,8.2nm,0.9s,mb4.4
E09A Wood Farm, Sta 80.74 44 ⇓P **P** **22 34 08.2 -0.2**
baz=81
NEW Newport 80.86 42 ⇑P **P** **22 34 08.9 -0.2**
baz=81
NEW Newport 80.86 42 *eP* **P** **22 34 08.9 -0.1**
comp=Z,10.0nm,0.9s,mb4.5
NEW Newport 80.86 42 *eP* **P** **22 34 08.9 -0.1**
NEW pmax pmax
comp=Z,10.0nm,0.9s
KEV Kevo 81.48 342 *eP* **P** **22 34 10.5 -1.4**
KEV Kevo 81.48 342 *ep* **P** **22 34 10.5 -1.4**
J08A Circle Bar Ran 81.49 47 ⇑P **P** **22 34 12.5 0.0**
baz=81
F10A Beach Ranch, E 81.52 44 ⇓P **P** **22 34 12.5 -0.1**
baz=81
WVOR Wild Horse Val 81.67 48 *eP* **P** **22 34 12.7 -0.7**
comp=Z,4.6nm,0.7s,mb4.2
WVOR Wild Horse Val 81.67 48 *eP* **P** **22 34 12.7 -0.7**
WVOR pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
CMB Columbia Colle 81.74 53 *eP* **P** **22 34 13.8 -0.1**
comp=Z,13nm,0.9s,mb4.6
CMB Columbia Colle 81.74 53 *eP* **P** **22 34 13.8 -0.1**
CMB pmax pmax
comp=Z,13nm,0.9s,mb4.6
BMO Blue Mountains 81.82 45 *eP* **P** **22 34 14.2 0.0**
comp=Z,8.0nm,0.9s,mb4.3
BMO Blue Mountains 81.82 45 *eP* **P** **22 34 14.2 +0.1**
BMO pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
PAHR Pah Rah Range 81.97 51 *eP* **P** **22 34 14.6 -0.4**
comp=Z,12nm,1.0s,mb4.5
ARCES ARCESS Array B 82.04 342 P **P** **22 34 14.4 -0.4**
comp=Z,5.1nm,1.0s,mb4.1,baz=46,slow=6.4,SNR=14
ARCES ARCESS Array B 82.04 342 P **P** **22 34 14.4 -0.4**
ARCES ARCESS Array B 82.04 342 P **P** **22 34 14.4 -0.4**
WAKR Walker 82.31 52 *eP* **P** **22 34 16.7 -0.1**
A13A Flathead Natio 82.34 41 ⇑P **P** **22 34 16.9 +0.1**
baz=82
BSMT Bassoo Peak 82.48 42 *eP* **P** **22 34 17.9 +0.5**
B13A Whitefish 82.50 41 ⇑P **P** **22 34 17.8 +0.2**
baz=82
WALA Waterton Lakes 82.61 41 *eP* **P** **22 34 18.0 -0.1**
comp=Z,0.7nm,1.5s,mb3.2
C13A Hot Springs 82.67 42 ⇓P **P** **22 34 18.5 +0.1**
baz=83
JTMT Jette 82.83 42 *eP* **P** **22 34 19.5 +0.2**
comp=Z,1.5nm,0.7s,mb3.8
F12A Elk City 82.89 44 ⇓P **P** **22 34 19.6 0.0**
baz=83,SNR=5.6
A14A Double T Ranch 82.94 41 ⇑P **P** **22 34 19.8 -0.1**
baz=83
D13A Huson 82.95 43 ⇑P **P** **22 34 19.8 -0.1**
baz=83
YBMT Yellow Bay 82.96 42 *eP* **P** **22 34 20.1 +0.1**
PKM Peak Mountain 83.14 56 ⇓P **P** **22 34 20.8 -0.3**
baz=83
NVAR Mina Array Bea 83.17 52 P **P** **22 34 21.3 +0.1**
comp=Z,15nm,0.8s,mb4.8,baz=264,slow=6.2,SNR=68
NVAR Mina Array Bea 83.17 52 P **P** **22 34 21.3 +0.1**
B14A Marquette Ranc 83.25 41 ⇓P **P** **22 34 21.7 +0.3**
baz=83
MFID Camas Ranch 83.30 46 ⇑P **P** **22 34 21.6 -0.2**
baz=83,SNR=8.1
MFID Camas Ranch 83.30 46 *eP* **P** **22 34 21.8 0.0**
comp=Z,11nm,0.9s,mb4.6
E13A Victor 83.35 43 ⇓P **P** **22 34 21.9 -0.1**
baz=83
A15A Johnson Ranch, 83.36 40 ⇑P **P** **22 34 21.4 -0.6**
baz=83,SNR=5.8
MSO Missoula 83.37 43 ⇑P **P** **22 34 22.0 -0.1**
baz=83
F13A Darby 83.49 44 ⇑P **P** **22 34 21.9 -0.8**
baz=83,SNR=6.1
JOF Joensuu 83.54 335 *eP* **P** **22 34 20.5 -2.1**
JOF pmax pmax
comp=Z,3.0nm,0.3s,mb4.5
JOF Joensuu 83.54 335 *ep* **P** **22 34 20.5 -2.1**
comp=Z,2.8nm,0.3s,mb4.5
H12A Diamond D Ranc 83.57 45 ⇑P **P** **22 34 23.1 0.0**
baz=84
I12A Atlanta 83.64 46 ⇑P **P** **22 34 23.1 -0.4**
baz=84,SNR=6.4
B15A Bradely Ranch, 83.71 41 ⇓P **P** **22 34 23.3 -0.4**
baz=84,SNR=8.5
G13A Colt 83.80 44 ⇑P **P** **22 34 23.7 -0.5**
baz=84,SNR=22
C15A Salmond Ranch, 83.88 42 ⇓P **P** **22 34 24.3 -0.4**
baz=84,SNR=5.6
ISA Isabella 83.94 55 ⇑P **P** **22 34 24.4 -0.8**
baz=84
H13A Challis 83.97 45 ⇓P **P** **22 34 24.8 -0.3**
baz=84,SNR=10
CWC Cottonwood Cre 83.99 54 ⇓P **P** **22 34 25.1 -0.4**
baz=84
F14A Wisdom 84.11 44 ⇓P **P** **22 34 25.4 -0.4**
baz=84
B16A M & M Farms, S 84.20 41 ⇓P **P** **22 34 25.8 -0.5**
baz=84,SNR=6.5
D15A Lincoln 84.20 42 ⇓P **P** **22 34 25.8 -0.5**
baz=84
HLID Hailey 84.21 46 ⇓P **P** **22 34 26.2 -0.2**
baz=84,SNR=6.1
HLID Hailey 84.21 46 *eP* **P** **22 34 26.4 0.0**
comp=Z,7.6nm,1.2s,mb4.3
G14A Jackson 84.25 44 ⇑P **P** **22 34 26.3 -0.3**
baz=84
I13A Wildhorse Cree 84.29 46 ⇓P **P** **22 34 26.6 -0.2**
baz=84,SNR=7.7
GRAC Grapevine Rang 84.34 53 ⇓P **P** **22 34 26.8 -0.4**
baz=84
E15A Deer Lodge 84.36 43 ⇓P **P** **22 34 26.7 -0.4**
baz=84,SNR=12
C16A Fuhringer Ranc 84.41 41 ⇓P **P** **22 34 26.7 -0.6**
baz=84,SNR=5.7
H14A Leadore 84.54 45 ⇑P **P** **22 34 27.9 -0.2**
baz=84,SNR=8.7
MPMC Manual Prospec 84.56 54 ⇓P **P** **22 34 28.0 -0.4**
baz=84,SNR=6.4
EDW2 Edwards Air Fo 84.57 55 ⇓P **P** **22 34 28.2 -0.2**
baz=84
LRMC Laurel Mountai 84.60 54 ⇓P **P** **22 34 28.5 0.0**
baz=84
A17A Triple J Farms 84.62 40 ⇑P **P** **22 34 28.3 0.0**
baz=84
F15A Butte 84.67 43 ⇑P **P** **22 34 28.2 -0.4**
baz=85,SNR=13
LRM Limekiln Ridge 84.70 43 *eP* **P** **22 34 28.7 -0.1**
CIS Catalina Islan 84.73 57 ⇓P **P** **22 34 28.2 -1.1**
baz=85
I14A Mackay 84.73 45 ⇑P **P** **22 34 29.2 +0.2**
baz=85,SNR=6.6
HRY Hoter Researc 84.77 42 *eP* **P** **22 34 29.3 +0.2**
B17A L&G Farms, Che 84.81 41 ⇑P **P** **22 34 28.8 -0.5**
baz=85,SNR=14
D16A Dana Ranch, Ca 84.82 42 ⇓P **P** **22 34 29.2 -0.2**
baz=85,SNR=7.6
FURC Furnace Creek, 84.90 53 ⇓P **P** **22 34 29.6 -0.4**
baz=85
J14A Carey 84.91 46 ⇑P **P** **22 34 30.0 +0.1**
baz=85,SNR=19
G15A Dillon 84.92 44 ⇑P **P** **22 34 29.7 -0.2**
baz=85
E16A East Helena 84.93 42 ⇓P **P** **22 34 30.0 +0.1**
baz=85
H15A Lima 85.02 45 ⇑P **P** **22 34 30.3 -0.1**
baz=85
C17A Wharram Farm, 85.09 41 ⇑P **P** **22 34 30.2 -0.5**
baz=85
A18A Metzger Ranch, 85.14 40 ⇑P **P** **22 34 30.5 -0.5**
baz=85,SNR=8.9
R11A Troy Canyon, C 85.21 51 ⇑P **P** **22 34 31.2 -0.3**
baz=85,SNR=6.6
F16A Kennard Place, 85.25 43 ⇓P **P** **22 34 31.1 -0.4**
baz=85,SNR=9.1
BOZ Bozeman (W) 85.30 43 ⇑P **P** **22 34 31.3 -0.4**
baz=85,SNR=6.0
BOZ Bozeman (W) 85.30 43 *eP* **P** **22 34 31.5 -0.3**
comp=Z,4.3nm,0.8s,mb4.2
BOZ Bozeman (W) 85.30 43 *eP* **P** **22 34 31.5 -0.3**
BOZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
D17A Six Diamond Ra 85.32 42 ⇑P **P** **22 34 31.5 -0.3**
baz=85,SNR=13
GSC Goldstone 85.34 54 ⇑P **P** **22 34 31.6 -0.7**
baz=85
GSC Goldstone 85.34 54 *eP* **P** **22 34 32.1 -0.1**
comp=Z,7.9nm,1.0s,mb4.4
GSC Goldstone 85.34 54 *eP* **P** **22 34 32.1 -0.1**
GSC pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
G16A Moss Hill, Enn 85.34 44 ⇓P **P** **22 34 31.9 -0.1**
baz=85,SNR=12
B18A Beardsley Farm 85.39 40 ⇑P **P** **22 34 31.8 -0.4**
baz=85
E17A Martinsdale 85.48 42 ⇑P **P** **22 34 32.6 0.0**
baz=85
EGMT Eagleton 85.56 41 ⇓P **P** **22 34 32.5 -0.5**
baz=85
L14A Malta 85.57 47 ⇑P **P** **22 34 33.3 +0.1**
baz=86,SNR=9.1
J15A Blackfoot 85.62 46 ⇓P **P** **22 34 33.8 +0.4**
baz=86,SNR=12
QLMT Earthquake Lak 85.74 44 *eP* **P** **22 34 34.2 +0.2**
A19A Klindworth Far 85.81 39 ⇓P **P** **22 34 34.0 -0.2**
baz=86,SNR=6.5
K15A Arbon 85.82 46 ⇓P **P** **22 34 34.6 +0.2**
baz=86,SNR=5.9
F17A Fitzpatrick Pl 85.83 43 ⇓P **P** **22 34 34.6 +0.2**
baz=86
D18A Linhart Farms, 85.86 41 ⇓P **P** **22 34 34.6 +0.1**
baz=86
HEC Hector,Ludlow 85.87 55 ⇓P **P** **22 34 34.5 -0.3**
baz=86
B19A Brinkman Farms 85.88 40 ⇓P **P** **22 34 34.1 -0.4**
baz=86,SNR=6.2
H16A Russell Place, 85.91 44 ⇓P **P** **22 34 35.1 +0.3**
baz=86,SNR=8.9
KAF Kangasniemi 85.94 336 *eP* **P** **22 34 32.4 -2.2**
KAF Kangasniemi 85.94 336 *ep* **P** **22 34 32.4 -2.2**
TUQ Turquoise Moun 85.97 54 ⇑P **P** **22 34 35.0 -0.3**
baz=86
G17A Pierce Place, 86.00 43 ⇓P **P** **22 34 35.4 +0.2**
baz=86
E18A Harlowton 86.04 42 ⇓P **P** **22 34 35.7 +0.3**
baz=86
I16A Newdale 86.07 45 ⇓P **P** **22 34 36.3 +0.7**
baz=86
C19A Slack Wire Ran 86.11 41 ⇑P **P** **22 34 35.7 0.0**
baz=86
L15A Malad City 86.17 47 ⇓P **P** **22 34 35.8 -0.3**
baz=86,SNR=5.6
SHPR Sheep Range 86.18 53 *eP* **P** **22 34 36.1 -0.2**
PFO Pinyon Flat Ob 86.19 56 ⇓P **P** **22 34 36.1 -0.3**
baz=86
YNR Norris Junctio 86.28 44 *eP* **P** **22 34 39.1 +2.5**
comp=Z,14nm,1.0s,mb4.7
M15A Larsen Ranch, 86.33 47 ⇑P **P** **22 34 36.6 -0.4**
baz=86,SNR=7.3
RRI2 Red Ridge 86.39 45 *eP* **P** **22 34 37.3 +0.1**
comp=Z,5.6nm,0.8s,mb4.3
GMRC Granite Mounta 86.40 55 ⇓P **P** **22 34 37.5 0.0**
baz=86
FINES FINESS Array B 86.41 335 P **P** **22 34 35.0 -1.8**
comp=Z,2.0nm,0.4s,mb4.2,baz=70,slow=4.6,SNR=25
FINES FINESS Array B 86.41 335 P **P** **22 34 35.0 -1.8**
FINES FINESS Array B 86.41 335 P **P** **22 34 35.1 -1.8**
BELC Belle Mtn. Jos 86.42 55 ⇓P **P** **22 34 36.8 -0.7**
baz=86
IMW Indian Meadow 86.43 45 *eP* **P** **22 34 37.5 +0.1**
comp=Z,4.2nm,0.7s,mb4.3
F18A Big Timber 86.43 43 ⇑P **P** **22 34 37.3 -0.1**
baz=86
B20A Solberg Farm, 86.44 40 ⇓P **P** **22 34 36.9 -0.4**
baz=86,SNR=5.2
D19A Cripps Ranch, 86.45 41 ⇓P **P** **22 34 37.1 -0.2**
baz=86,SNR=5.9
R13A O'Grain Ranch, 86.46 51 ⇓P **P** **22 34 37.6 -0.1**
baz=86,SNR=6.3
N15A Stansbury Isla 86.50 48 ⇓P **P** **22 34 37.8 0.0**
baz=86
FLWY Flagg Ranch 86.52 44 *eP* **P** **22 34 38.5 +0.8**
comp=Z,6.2nm,0.8s,mb4.4
DUG Dugway 86.55 49 ⇓P **P** **22 34 37.7 -0.3**
baz=86,SNR=8.1
DUG Dugway 86.55 49 *eP* **P** **22 34 37.9 -0.1**
comp=Z,7.5nm,0.8s,mb4.5
DUG Dugway 86.55 49 *eP* **P** **22 34 37.9 -0.1**
DUG pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
TPAW Teton Pass 86.58 45 *eP* **P** **22 34 38.8 +0.7**
comp=Z,18nm,1.6s,mb4.5
P14A Drum Mountains 86.59 49 ⇓P **P** **22 34 37.9 -0.3**
baz=86,SNR=11
MOOW Moose Ponds 86.62 45 *eP* **P** **22 34 38.3 0.0**
comp=Z,49nm,2.8s,mb4.7
I17A Pilgrim Ck. 86.66 45 ⇑P **P** **22 34 39.1 +0.6**
baz=86
Q14A Sevier Lake (B 86.67 50 ⇓P **P** **22 34 38.4 -0.2**
baz=87,SNR=12
LOHW Long Hollow 86.76 45 *eP* **P** **22 34 39.3 +0.3**
comp=Z,38nm,2.8s,mb4.6
L16A Fish Haven 86.83 47 ⇓P **P** **22 34 39.0 -0.3**
baz=87,SNR=5.5
HWUT Hardware Ranch 86.89 47 *eP* **P** **22 34 39.4 -0.2**
comp=Z,7.5nm,0.8s,mb4.5
D20A Manuel Ranch, 86.94 41 ⇑P **P** **22 34 39.7 -0.1**
baz=87,SNR=5.6
FFC Flin Flon 86.96 32 *eP* **P** **22 34 39.0 -0.7**
comp=Z,10nm,0.9s,mb4.5
FFC Flin Flon 86.96 32 *i* P **P** **22 34 39.9 +0.2**
BC3 Big Chuckawall 86.96 56 ⇑P **P** **22 34 39.6 -0.6**
baz=87
ARUT Antelope Range 86.99 51 *eP* **P** **22 34 40.6 +0.4**
comp=Z,3.7nm,0.4s,mb4.5
ARUT Antelope Range 86.99 51 *eP* **P** **22 34 40.6 +0.4**
ARUT pmax pmax
comp=Z,4.0nm,0.4s,mb4.5
IRM Iron Mountain 87.02 55 ⇓P **P** **22 34 40.3 -0.1**
baz=87
RLMT Red Lodge 87.04 43 *eP* **P** **22 34 41.1 +0.9**
comp=Z,3.7nm,0.7s,mb4.2
U13A Pakoon Wash 87.11 53 ⇓P **P** **22 34 40.6 -0.2**
baz=87,SNR=16
CCUT Cedar City 87.14 51 *eP* **P** **22 34 41.5 +0.6**
comp=Z,5.7nm,1.0s,mb4.3
C21A Desert Coulee 87.27 40 ⇑P **P** **22 34 40.7 -0.6**
baz=87
J18A Kendall Valley 87.31 45 ⇓P **P** **22 34 41.3 -0.3**
baz=87,SNR=6.6
M17A Scullys Gap (B 87.56 47 ⇓P **P** **22 34 42.2 -0.7**
baz=88
MSU Marysvale 87.64 50 *eP* **P** **22 34 44.0 +0.6**
MSU Marysvale 87.64 50 *eP* **P** **22 34 44.0 +0.7**
Y12C Blythe 87.65 55 ⇓P **P** **22 34 43.4 0.0**
baz=88
GLA Glamis 87.67 56 ⇑P **P** **22 34 43.1 -0.4**
baz=88
GLA Glamis 87.67 56 *eP* **P** **22 34 43.3 -0.2**
comp=Z,6.5nm,0.8s,mb4.5
GLA Glamis 87.67 56 *eP* **P** **22 34 43.3 -0.2**
GLA pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
G20A Bridger 87.67 43 ⇓P **P** **22 34 43.1 -0.2**
baz=88
U14A Mt Trumbull 87.69 52 ⇓P **P** **22 34 44.0 +0.4**
baz=88
PDMCI Parker Dam,Lak 87.75 55 ⇑P **P** **22 34 43.9 0.0**
baz=88
PDAR Pinedale Array 87.80 45 P **P** **22 34 43.1 -0.8**
comp=Z,0.6nm,0.3s,mb4.0,baz=215,slow=1.5,SNR=8.3
PDAR Pinedale Array 87.80 45 P **P** **22 34 43.1 -0.8**
J19A Crowheart 87.94 45 ⇑P **P** **22 34 44.5 -0.1**
baz=88
M18A Lyman 88.00 47 ⇑P **P** **22 34 44.5 -0.4**
baz=88
O17A Robinson Place 88.02 48 ⇓P **P** **22 34 45.3 +0.3**
baz=88
T15A Red Dirt Ranch 88.06 51 ⇓P **P** **22 34 45.6 +0.3**
baz=88
Q16A Castle Valley 88.21 49 ⇑P **P** **22 34 46.1 +0.2**
baz=88
R16A Teasdale 88.24 50 ⇑P **P** **22 34 46.2 +0.1**
baz=88
K19A Absolon Red Bu 88.26 45 ⇓P **P** **22 34 45.4 -0.7**
baz=88
LAO LASA Array 88.30 41 ⇓P **P** **22 34 45.9 -0.2**
baz=88
U15A North Rim 88.36 52 ⇓P **P** **22 34 46.9 +0.2**
baz=88
C23A Lambert 88.43 39 ⇑P **P** **22 34 46.7 -0.1**
baz=88
Z13A Yuma Proving G 88.53 55 ⇑P **P** **22 34 47.4 -0.2**
baz=88,SNR=5.9
113A Mohawk Valley, 88.60 56 ⇑P **P** **22 34 47.9 0.0**
baz=88
SRU San Rafael 88.60 49 ⇓P **P** **22 34 48.0 +0.2**
baz=88
SRU San Rafael 88.60 49 *eP* **P** **22 34 47.5 -0.2**
comp=Z,11nm,1.3s,mb4.5
SRU San Rafael 88.60 49 *eP* **P** **22 34 47.6 -0.2**
SRU pmax pmax
comp=Z,11nm,1.3s,mb4.5
V15A Kaibab Nationa 88.68 53 ⇓P **P** **22 34 48.4 +0.1**
baz=89,SNR=9.0
R17A Hanksville Air 88.74 50 ⇑P **P** **22 34 48.5 +0.1**
baz=89
Y14A Wickenburg 88.75 55 ⇓P **P** **22 34 48.6 0.0**
baz=89,SNR=7.7
Z14A Wintersburg 89.02 55 ⇑P **P** **22 34 50.2 +0.3**
baz=89
T17A Navajo Res., N 89.23 51 ⇓P **P** **22 34 50.8 0.0**
baz=89
Y15A Casa Rosa Ranc 89.27 54 ⇑P **P** **22 34 50.8 -0.2**
baz=89,SNR=12
114A Black Gap (USA 89.30 56 ⇑P **P** **22 34 51.0 -0.2**
baz=89
U16A Tuba City 89.33 52 ⇑P **P** **22 34 51.9 +0.6**
baz=89
R18A Canyonlands Na 89.34 49 ⇑P **P** **22 34 50.8 -0.5**
baz=89,SNR=5.8
WUAZ Wupatki 89.39 53 ⇓P **P** **22 34 52.3 +0.7**
baz=89
WUAZ Wupatki 89.39 53 *eP* **P** **22 34 52.0 +0.4**
comp=Z,11nm,1.0s,mb4.7
K21A Alcova 89.40 45 ⇑P **P** **22 34 51.2 -0.3**
baz=89
W16A Flagstaff 89.44 53 ⇑P **P** **22 34 52.4 +0.6**
baz=89
P19A Cripple Cowboy 89.48 48 ⇑P **P** **22 34 51.7 -0.2**
baz=89,SNR=7.2
N20A Spence Gulch, 89.48 47 ⇑P **P** **22 34 52.2 +0.3**
baz=89
S18A Hurst Farm, Bl 89.55 50 ⇑P **P** **22 34 51.9 -0.4**
baz=89
214A Organ Pipe Nat 89.65 56 ⇑P **P** **22 34 52.7 -0.2**
baz=90,SNR=6.5
X16A Lo Mia Camp, P 89.77 54 ⇑P **P** **22 34 53.8 +0.5**
baz=90
V17A Tonalea, Kykot 89.79 52 ⇑P **P** **22 34 53.2 -0.2**
baz=90,SNR=8.0
115A Sonoran Desert 89.83 55 ⇓P **P** **22 34 54.4 +0.7**
baz=90
R19A Curley Farm, L 89.84 49 ⇑P **P** **22 34 53.7 +0.1**
baz=90

T18A	**Mexican Hat** baz=90	**89.86**	**51**	⇑P	**P**	**22 34 53.6**	**-0.1**
Y16A	**Circle Bar Ran** baz=90,SNR=6.6	**89.95**	**54**	⇓P	**P**	**22 34 54.5**	**+0.3**
N21A	**Black Mountain** baz=90	**90.03**	**47**	⇓P	**P**	**22 34 54.9**	**+0.5**
Q20A	**Ridgley Place,** baz=90,SNR=6.1	**90.25**	**48**	⇑P	**P**	**22 34 55.6**	**+0.1**
V18A	**Ganado** baz=90,SNR=5.7	**90.39**	**52**	⇓P	**P**	**22 34 56.6**	**+0.3**
Y17A	**Roosevelt** baz=90	**90.51**	**54**	⇑P	**P**	**22 34 56.5**	**-0.3**
R20A	**Redvale** baz=90	**90.51**	**49**	⇑P	**P**	**22 34 56.7**	**0.0**
I24A	**Kuemmerle Ranc** baz=90	**90.58**	**43**	⇑P	**P**	**22 34 56.5**	**-0.4**
T19A	**Beclabito** baz=90	**90.61**	**51**	⇑P	**P**	**22 34 57.3**	**+0.1**
L23A	**Garrett** baz=90	**90.66**	**45**	⇓P	**P**	**22 34 57.0**	**-0.3**
S20A	**Disappointment** baz=91	**90.67**	**49**	⇓P	**P**	**22 34 57.2**	**-0.3**
216A	**Three Points,** baz=91	**90.70**	**56**	⇑P	**P**	**22 34 58.0**	**+0.3**
MVCO	**Mesa Verde** baz=91	**90.83**	**50**	⇑P	**P**	**22 34 58.2**	**0.0**
O22A	**Kremmling** baz=91	**90.95**	**47**	⇓P	**P**	**22 34 59.0**	**+0.2**
R21A	**Cimarron** baz=91,SNR=6.7	**91.03**	**49**	⇓P	**P**	**22 34 59.4**	**+0.3**
117A	**Oracle** baz=91	**91.03**	**55**	⇑P	**P**	**22 34 59.4**	**+0.2**
N23A	**Red Feather La** baz=91,SNR=6.0	**91.04**	**46**	⇑P	**P**	**22 34 59.5**	**+0.4**
W19A	**Sanders** baz=91	**91.04**	**52**	⇓P	**P**	**22 34 59.9**	**+0.7**
SMCO	**Snowmass** comp=Z,9.6nm,1.4s,mb4.5	**91.08**	**48**	*e*P	**P**	**22 34 59.8**	**+0.4**
Y18A	**Canyon Day Jun** baz=91	**91.09**	**54**	⇑P	**P**	**22 35 00.3**	**+0.8**
S21A	**Coal Bank Pass** baz=91	**91.15**	**49**	⇓P	**P**	**22 35 00.2**	**+0.5**
PHWY	**Pilot Hill**	**91.19**	**45**	*e*P	**P**	**22 34 59.4**	**-0.4**
Q22A	**Crested Butte,** baz=91	**91.27**	**48**	⇓P	**P**	**22 35 00.7**	**+0.5**
217A	**Green Valley** baz=91,SNR=7.7	**91.29**	**56**	⇑P	**P**	**22 35 00.9**	**+0.5**
X19A	**St. Johns** baz=91	**91.40**	**53**	⇓P	**P**	**22 35 01.2**	**+0.3**
V20A	**Brimhall** baz=91	**91.44**	**51**	⇑P	**P**	**22 35 00.9**	**-0.2**
118A	**Homack Ranch,** baz=92	**91.60**	**55**	⇑P	**P**	**22 35 02.2**	**+0.3**
W20A	**Ramah** baz=92	**91.70**	**52**	⇓P	**P**	**22 35 02.2**	**-0.1**
ISCO	**Idaho Springs** baz=92	**91.76**	**47**	⇓P	**P**	**22 35 03.0**	**+0.6**
U21A	**Nageezi** baz=92,SNR=5.2	**91.77**	**51**	⇑P	**P**	**22 35 02.7**	**+0.1**
S22A	**4UR Ranch, Cre** baz=92	**91.81**	**49**	⇓P	**P**	**22 35 03.2**	**+0.4**
218A	**Dragoon** baz=92	**91.81**	**55**	⇑P	**P**	**22 35 03.8**	**+0.9**
X20A	**Quemado** baz=92,SNR=5.4	**91.94**	**52**	⇓P	**P**	**22 35 03.8**	**+0.4**
V21A	**Milan** baz=92	**92.05**	**51**	⇓P	**P**	**22 35 04.2**	**+0.3**
119A	**Ashpeak Ranch,** baz=92	**92.06**	**54**	⇑P	**P**	**22 35 04.3**	**+0.3**
318A	**Bisbee** baz=92	**92.07**	**56**	⇓P	**P**	**22 35 04.6**	**+0.5**
T22A	**Edith** baz=92	**92.07**	**50**	⇑P	**P**	**22 35 03.9**	**-0.1**
Y20A	**Horse Springs,** baz=92,SNR=5.5	**92.30**	**53**	⇑P	**P**	**22 35 05.3**	**+0.2**
W21A	**San Fidel** baz=92	**92.34**	**52**	⇑P	**P**	**22 35 05.9**	**+0.7**
219A	**White Tail Can** baz=92	**92.41**	**55**	⇑P	**P**	**22 35 05.8**	**+0.1**
Q24A	**Divide** baz=92	**92.45**	**47**	⇑P	**P**	**22 35 06.7**	**+1.1**
Z20A	**Nine Sixteen R** baz=92	**92.47**	**54**	⇓P	**P**	**22 35 06.2**	**+0.3**
X21A	**Alamocita Cree** baz=92	**92.52**	**52**	⇓P	**P**	**22 35 06.6**	**+0.5**
120A	**U Bar Ranch, L** baz=93	**92.67**	**54**	⇓P	**P**	**22 35 07.6**	**+0.8**
SDCO	**Great Sand Dun** baz=93	**92.75**	**49**	⇓P	**P**	**22 35 07.9**	**+0.8**
Y21A	**Point of Rocks** baz=93	**92.79**	**53**	⇓P	**P**	**22 35 08.2**	**+0.9**
R24A	**Sanders Place,** baz=93	**92.81**	**48**	⇓P	**P**	**22 35 08.1**	**+0.8**
S24A	**Houchin Ranch,** baz=93	**93.00**	**49**	⇑P	**P**	**22 35 08.8**	**+0.5**
220A	**Playas Peak, P** baz=93	**93.02**	**55**	⇓P	**P**	**22 35 09.1**	**+0.7**
Z21A	**St. Cloud Mine** baz=93	**93.08**	**53**	⇓P	**P**	**22 35 09.3**	**+0.6**
ANMO	**Albuquerque**	**93.29**	**51**	*e*P	**P**	**22 35 09.5**	**-0.1**
ANMO	**Albuquerque**	**93.29**	**51**	*e*P	**P**	**22 35 09.5**	**-0.1**
121A	**Cookes Peak, D** baz=93	**93.33**	**54**	⇑P	**P**	**22 35 10.5**	**+0.6**
U25A	**Circle Dot Ran** baz=94	**94.14**	**49**	⇑P	**P**	**22 35 13.8**	**+0.4**
224A	**Cornudas Mount** baz=95	**95.25**	**54**	⇑P	**P**	**22 35 18.7**	**0.0**
TXAR	**Lajitas Array** comp=Z,0.1nm,0.4s,mb3.5,baz=250,slow=1.8,SNR=2.9	**97.90**	**55**	P	**P**	**22 35 30.8**	**+0.1**
TXAR	**Lajitas Array**	**97.90**	**55**	P	**P**	**22 35 30.8**	**+0.1**
TXAR	**Lajitas Array**	**97.90**	**55**	P	**P**	**22 35 30.8**	**+0.1**
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,0.6s,baz=34,slow=3.0,SNR=8.6	**131.96**	**309**	SKPbc	SKPbc	22 44 08.9	-3.8
LPAZ	**La Paz** comp=Z,6.6nm,1.0s,baz=319,slow=2.8,SNR=16	**148.01**	**90**	PKPbc	PKPbc	22 41 40.0	+0.2
LPAZ	**La Paz**	**148.01**	**90**	PKPbc	PKPbc	22 41 40.0	+0.2
CPUP	**Villa Florida** comp=Z,1.0nm,0.5s,baz=229,slow=3.9,SNR=6.1	**157.89**	**113**	PKPab	PKPab	22 42 23.7	-0.9

*NEIC **10** 22:52:53.6, 20.75N×68.75W, h25km, MD3.5(RSPR), After RSPR.*

RSPR 10 22:52:53.6, 20.75N×68.75W, h25km±10km, 12C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**2.75**	**146**	⇑*e*P	Pn	22 53 34.4	-1.8
AGPR	**Aguadilla, PR**	**2.75**	**146**	⇑*e*P	Pn	22 53 34.4	-1.8
AGPR				*e*S	Sn	22 54 06.5	-2.2
LSP	**Las Mesas**	**3.01**	**148**	⇑*e*P	Pn	22 53 38.1	-1.6
LSP	**Las Mesas**	**3.01**	**148**	⇑*e*P	Pn	22 53 38.1	-1.6
LRS	**Lares**	**3.04**	**143**	⇑*e*P	Pn	22 53 38.8	-1.4
LRS	**Lares**	**3.04**	**143**	⇑*e*P	Pn	22 53 38.8	-1.4
AOPR	**Arecibo Observ**	**3.05**	**141**	⇑*e*P	Pn	22 53 38.6	-1.7
AOPR	**Arecibo Observ**	**3.05**	**141**	⇑*e*P	Pn	22 53 38.6	-1.7
AOPR				*e*S	Sn	22 54 13.9	-2.1
CBYP	**Canovanas**	**3.68**	**132**	⇑*e*P	Pn	22 53 47.7	-1.3
CBYP	**Canovanas**	**3.68**	**132**	⇑*e*P	Pn	22 53 47.7	-1.3
CBYP				*e*S	Sn	22 54 29.6	-2.1
MTP	**Monte Pirata**	**4.01**	**131**	⇑*e*P	Pn	22 53 52.3	-1.3
MTP	**Monte Pirata**	**4.01**	**131**	⇑*e*P	Pn	22 53 52.3	-1.3
MTP				*e*S	Sn	22 54 38.0	-1.8

*ISK **10** 23:19:47.0, 38.87N×35.59E, h5km, MD3.2*
*ISCJB **10** 23:19:48.7±0.4, 38.89N±0.03×35.58E±0.03, h10km, Error ellipse: s-maj=4.1km s-min=3.2km az=136.3*
*DDA **10** 23:19:48.1, 38.89N×35.53E, h5km±1km, Md3.1*
*CSEM **10** 23:19:48.8±0.2, 38.84N×35.52E, h2km, MD3.1, Error ellipse: s-maj=5.6km s-min=4.4km az=50.0*

ISC 10 23:19:48.5±0.6, 38.85N±0.03×35.58E±0.03, h1km±6km, n45, σ0.94/56, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AVNT	**Avonos**	**0.57**	**263**	*i* P	**Pg**	**23 19 59.0**	**-0.4**
AVNT	**Avonos**	**0.57**	**263**	*i* P	**Pg**	**23 19 59.0**	**-0.4**
PINB	**Pinarbasi**	**0.67**	**105**	*i* P	**Pg**	**23 20 01.6**	**+0.5**
PINB				*i* S	**Sg**	**23 20 13.2**	**+3.4**
PINB	**Pinarbasi**	**0.67**	**105**	*i* P	**Pg**	**23 20 01.6**	**+0.4**
YOZ	**Yozgat**	**0.81**	**346**	*e*Pg	**Pg**	**23 20 03.3**	**-0.8**
YOZ	**Yozgat**	**0.81**	**346**	*e*Pg	**Pg**	**23 20 03.3**	**-0.8**
SARI	**SarD1z-Kayseri**	**0.89**	**101**	*e*PG	**Pg**	**23 20 02.9**	**-2.5**
SARI				*e*SG	**Sg**	**23 20 15.4**	**-1.6**
SARI	**SarD1z-Kayseri**	**0.89**	**101**	*e*Pg	**Pg**	**23 20 02.9**	**-2.6**
SARI				*e*Sg	**Sg**	**23 20 15.4**	**-1.6**
CDAG	**Cicekdag**	**1.22**	**310**	*i* P	**Pg**	**23 20 12.0**	**+0.2**
CDAG				*i* S	**Sg**	**23 20 28.5**	**+0.9**
CDAG	**Cicekdag**	**1.22**	**310**	*i* P	**Pg**	**23 20 12.0**	**+0.2**
CDAG				*i* S	**Sg**	**23 20 28.5**	**+0.9**
KOZT	**Kozan**	**1.38**	**172**	*e*PN	**Pn**	**23 20 14.4**	**-0.4**
ANDN	**Andirin**	**1.40**	**154**	*i* P	**Pn**	**23 20 16.3**	**+1.1**
ANDN				*i* S	**Sg**	**23 20 37.5**	**+4.0**
ANDN	**Andirin**	**1.40**	**154**	*i* P	**Pn**	**23 20 16.3**	**+1.1**
TOKA	**Tokat**	**1.63**	**25**	*i* P	**Pg**	**23 20 19.4**	**-0.2**
TOKA				*i* S	**Sg**	**23 20 41.9**	**+1.2**
TOKA	**Tokat**	**1.63**	**25**	*i* P	**Pg**	**23 20 19.4**	**-0.3**
TOKA				*i* S	**Sg**	**23 20 41.9**	**+1.2**
KARA	**Karaisali**	**1.64**	**195**	*e*PN	**Pn**	**23 20 18.4**	**0.0**
KARA	**Karaisali**	**1.64**	**195**	*e*Pn	**Pn**	**23 20 18.4**	**0.0**
KMRS	**Kahramanmaras**	**1.70**	**142**	*e*PN	**Pn**	**23 20 19.2**	**0.0**
KMRS	**Kahramanmaras**	**1.70**	**142**	*e*Pn	**Pn**	**23 20 19.3**	**+0.1**
DARE	**Darende-Malaty**	**1.74**	**86**	*e*PN	**Pn**	**23 20 16.5**	**-3.3**
DARE	**Darende-Malaty**	**1.74**	**86**	*e*Pn	**Pn**	**23 20 16.5**	**-3.3**
SULT	**Sultanhani-AKS**	**1.75**	**249**	*e*PN	**Pn**	**23 20 19.8**	**-0.1**
SULT	**Sultanhani-AKS**	**1.75**	**249**	*e*Pn	**Pn**	**23 20 19.8**	**-0.1**
CEYT	**Ceyhan**	**1.84**	**176**	*e*PN	**Pn**	**23 20 21.4**	**+0.2**
CEYT	**Ceyhan**	**1.84**	**176**	*e*Pn	**Pn**	**23 20 21.4**	**+0.2**
CTKT	**Corum**	**1.87**	**341**	*i* P	**Pn**	**23 20 21.9**	**+0.2**
CTKT	**Corum**	**1.87**	**341**	*i* P	**Pn**	**23 20 21.9**	**+0.2**
AKCD	**Akcadag**	**1.92**	**106**	*i* P	**Pg**	**23 20 24.5**	**-0.7**
AKCD				*i* S	**Sg**	**23 20 54.9**	**+4.8**
AKCD	**Akcadag**	**1.92**	**106**	*i* P	**Pg**	**23 20 24.5**	**-0.7**
BBAL	**Bala**	**2.03**	**291**	*i* P	**Pn**	**23 20 24.0**	**+0.2**
BBAL				*i* S	**Sg**	**23 20 53.3**	**-0.4**
BBAL	**Bala**	**2.03**	**291**	*i* P	**Pn**	**23 20 24.0**	**+0.2**
ERBA	**Erbaa**	**2.04**	**26**	*i* P	**Pg**	**23 20 25.7**	**-1.9**
ERBA				*i* S	**Sg**	**23 20 55.5**	**+1.5**
ERBA	**Erbaa**	**2.04**	**26**	*i* P	**Pg**	**23 20 25.7**	**-1.9**
RSDY	**Resadiye-TOKAT**	**2.05**	**41**	*e*PN	**Pn**	**23 20 23.8**	**-0.3**
RSDY	**Resadiye-TOKAT**	**2.05**	**41**	*e*Pn	**Pn**	**23 20 23.8**	**-0.3**
GAZ	**Gaziantep**	**2.11**	**142**	*e*PN	**Pn**	**23 20 25.2**	**+0.3**
GAZ	**Gaziantep**	**2.11**	**142**	*e*Pn	**Pn**	**23 20 25.2**	**+0.3**
GZT	**Gaziantep**	**2.16**	**133**	*i* P	**Pg**	**23 20 30.6**	**+0.7**
KVT	**Kavak**	**2.26**	**9**	*e*PN	**Pn**	**23 20 26.6**	**-0.3**
KVT	**Kavak**	**2.26**	**9**	*e*Pn	**Pn**	**23 20 26.7**	**-0.2**
KEMA	**Kemaliye**	**2.31**	**79**	*i* P	**Pb**	**23 20 30.2**	**-0.6**
KEMA	**Kemaliye**	**2.31**	**79**	*i* P	**Pb**	**23 20 30.2**	**-0.6**
CANT	**Cankiri**	**2.32**	**320**	*e*PN	**Pn**	**23 20 27.7**	**-0.1**
PTK	**Pertek**	**2.98**	**88**	*e*PN	**Pn**	**23 20 37.2**	**+0.4**
PTK	**Pertek**	**2.98**	**88**	*e*Pn	**Pn**	**23 20 37.2**	**+0.4**

*ISK **10** 23:47:41.8, 39.02N×29.96E, h24km, MD2.3*
*ISCJB **10** 23:47:43.1±0.5, 38.96N±0.03×29.92E±0.03, h10km, Error ellipse: s-maj=4.7km s-min=3.3km az=161.8*
*CSEM **10** 23:47:43.0±0.2, 38.97N×29.91E, h10km, MD2.3, Error ellipse: s-maj=4.7km s-min=3.3km az=160.0*
*DDA **10** 23:47:43.0, 38.98N×29.89E, h7km±4km, Md2.8*

ISC 10 23:47:43.6±0.5, 38.97N±0.03×29.90E±0.03, h3km±9km, n20, σ0.60/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALT	**Altintas**	**0.19**	**63**	*e*PG	**Pg**	**23 47 47.2**	**0.0**
ALT				*e*SG	**Sg**	**23 47 50.1**	**+0.5**
ALT	**Altintas**	**0.19**	**63**	*e*Pg	**Pg**	**23 47 47.2**	**0.0**
ALT				*e*Sg	**Sg**	**23 47 50.1**	**+0.5**
GDZ	**Gediz**	**0.34**	**290**	*i* P	**Pg**	**23 47 49.4**	**-0.8**
GDZ				*i* S	**Sg**	**23 47 54.6**	**0.0**
GDZ	**Gediz**	**0.34**	**290**	*i* P	**Pg**	**23 47 49.4**	**-0.8**
GDZ				*i* S	**Sg**	**23 47 54.7**	**0.0**
SHUT	**Suhut-Afyon**	**0.66**	**129**	*e*PG	**Pg**	**23 47 55.9**	**-0.3**
SHUT				*e*SG	**Sg**	**23 48 05.1**	**+0.3**
SHUT	**Suhut-Afyon**	**0.66**	**129**	*e*Pg	**Pg**	**23 47 55.9**	**-0.3**
SHUT				*e*Sg	**Sg**	**23 48 05.1**	**+0.4**
KHAL	**Karahalli**	**0.68**	**208**	*i* P	**Pg**	**23 47 56.5**	**0.0**
KHAL				*i* S	**Sg**	**23 48 06.2**	**+0.9**
KHAL	**Karahalli**	**0.68**	**208**	*i* P	**Pg**	**23 47 56.5**	**0.0**
KHAL				*i* S	**Sg**	**23 48 06.2**	**+0.9**
ESKT	**Eskisehir**	**0.92**	**53**	*i* P	**Pg**	**23 48 00.1**	**-1.1**
SEYT	**Eskypehyr**	**0.92**	**53**	*i* P	**Pg**	**23 48 00.1**	**-1.1**
DEMI	**Demirci**	**0.92**	**275**	*i* P	**Pg**	**23 48 01.0**	**-0.2**
DEMI				*i* S	**Sg**	**23 48 14.0**	**+0.8**
DEMI	**Demirci**	**0.92**	**275**	*i* P	**Pg**	**23 48 01.0**	**-0.2**
DEMI				*i* S	**Sg**	**23 48 14.0**	**+0.8**
BORA	**Eskisehir**	**1.01**	**25**	*i* P	**Pg**	**23 48 02.2**	**-0.6**
BORA				*i* S	**Sg**	**23 48 16.7**	**+0.8**
BORA	**Eskisehir**	**1.01**	**25**	*i* P	**Pg**	**23 48 02.2**	**-0.6**
BORA				*i* S	**Sg**	**23 48 16.7**	**+0.8**
KULA	**Kula-Manisa**	**1.07**	**245**	*e*PN	**Pg**	**23 48 03.0**	**-1.0**
KULA				*e*SN	**Sg**	**23 48 17.5**	**-0.3**
KULA	**Kula-Manisa**	**1.07**	**245**	*e*Pn	**Pg**	**23 48 03.1**	**-0.9**
KULA				*e*Sn	**Sg**	**23 48 17.5**	**-0.4**
MANT	**Manisa**	**1.15**	**246**	*i* P	**Pg**	**23 48 05.4**	**-0.2**
MANT				*i* S	**Sg**	**23 48 20.6**	**+0.1**
MANT	**Manisa**	**1.15**	**246**	*i* P	**Pg**	**23 48 05.4**	**-0.2**
MANT				*i* S	**Sg**	**23 48 20.6**	**+0.1**
DURS	**Dursunbey**	**1.27**	**300**	*i* P	**Pn**	**23 48 07.9**	**-0.3**
DURS				*i* S	**Sb**	**23 48 25.8**	**+0.9**
DURS	**Dursunbey**	**1.27**	**300**	*i* P	**Pn**	**23 48 07.9**	**-0.3**
DURS				*i* S	**Sb**	**23 48 25.8**	**+0.9**

MEX 11 00:08:15.1±1.2, 16.05N×98.53W, h20km±21km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.52**	**48**	*i* P	Pb	00 08 23.1	-2.4
PNIG				*i* S	Sb	00 08 31.2	-1.3
ACX	**Acapulco**	**1.52**	**303**	*i* P	Pn	00 08 39.4	-1.7
ACX				*i* S	Sn	00 08 56.5	-3.8
UTMO	**Huajuapan**	**1.90**	**21**	*i* P	Pn	00 08 44.0	-2.5
UTMO				*i* S	Sn	00 09 06.7	-3.1
CAIG	**El Cayaco**	**1.94**	**301**	*i* P	Pn	00 08 44.9	-2.1
CAIG				*i* S	Sn	00 09 07.1	-3.7
OXX	**Oaxaca**	**2.01**	**59**	*e*P	Pn	00 08 45.9	-2.1
OXX				*i* S	Sn	00 09 08.8	-3.8
MEIG	**Mezcala**	**2.14**	**331**	*e*P	Pn	00 08 47.0	-2.7
MEIG				*i* S	Sn	00 09 10.6	-5.1
PLIG	**Platanillo**	**2.51**	**338**	*e*P	Pn	00 08 51.9	-2.9
PLIG				*i* S	Sn	00 09 20.4	-4.4
MMIG	**Aquila**	**5.12**	**297**	*e*P	Pn	00 09 21.1	-10

*PGC **11** 00:14:37.4±3.8, 66.60N×135.78W, h1km, ML2.8/2, 110km Wsw of Fort McPherson, Nt Northern Yukon Territory, Canada*

NEIC 11 00:14:37.4, 66.60N×135.78W, h1km, ML2.8(PGC), **ML2.6**(AEIC), **2C-8D, After PGC., Northern Yukon Territory**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**1.93**	**26**	*e*Pn	Pn	00 15 10.7	-0.5
INK				*e*Sn	Sn	00 15 34.0	-2.0
INK	**Inuvik**	**1.93**	**26**	⇓Pn	Pn	00 15 10.7	-0.5
INK				⇓Sn	Sn	00 15 37.8	+1.8
EGAK	**Eagle**	**2.88**	**233**	P	Pn	00 15 25.7	+1.4
EGAK				S	Sn	00 16 01.3	+1.8
DAWY	**Dawson**	**2.96**	**212**	P	Pn	00 15 28.1	+2.7
DAWY				S	Sn	00 16 04.5	+3.0
DAWY	**Dawson**	**2.96**	**212**	⇓Pn	Pn	00 15 28.1	+2.7
BM3	**Burnt Mountain**	**3.56**	**287**	P	Pn	00 15 34.6	+1.0
BCA3	**Beaver Creek A**	**4.37**	**219**	P	Pn	00 15 47.8	+3.0
GALN	**Gameti Lake**	**8.10**	**99**	⇑Pn	Pn	00 16 35.0	-0.8
GALN				Sn	Sn	00 18 00.2	-7.7
GALN	**Gameti Lake**	**8.10**	**99**	⇑Pn	Pn	00 16 35.0	-0.8
GALN				⇓Sn	Sn	00 18 00.2	-7.7
CTLN	**Castor Lake**	**8.48**	**96**	⇑Pn	Pn	00 16 40.4	-0.7
CTLN				Sn	Sn	00 18 10.0	-7.3
CTLN	**Castor Lake**	**8.48**	**96**	⇑Pn	Pn	00 16 40.4	-0.7
CTLN				⇑Sn	Sn	00 18 10.0	-7.3
JERN	**Jeri Cho Mine,**	**9.78**	**82**	⇓Pn	Pn	00 16 57.6	-1.2
JERN				⇓Sn	Sn	00 18 39.6	-10
YKW3	**Yellowknife Ar**	**9.93**	**104**	⇓Pn	Pn	00 16 60.0	-1.0
YKW3				Sn	Sn	00 18 44.6	-8.4
YKW3	**Yellowknife Ar**	**9.93**	**104**	⇓Pn	Pn	00 16 60.0	-1.0
YKW3				⇑Sn	Sn	00 18 44.6	-8.4

*ISK **11** 00:43:46.8, 36.94N×29.22E, h13km, MD2.2*
*ISCJB **11** 00:43:48.5±0.6, 36.90N±0.03×29.32E±0.05, h10km, Error ellipse: s-maj=6.2km s-min=4.4km az=11.4*
*CSEM **11** 00:43:48.6±0.3, 36.91N×29.30E, h2km, MD2.6, Error ellipse: s-maj=7.4km s-min=6.1km az=95.0*
*DDA **11** 00:43:49.0, 36.89N×29.26E, h7km±5km, Md2.6*

ISC 11 00:43:48.9±0.6, 36.91N±0.03×29.31E±0.05, h10km, n16, σ1.09/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLHS	**Glhisar (BURDU**	**0.29**	**31**	*e*PG	**Pg**	**00 43 53.6**	**-1.1**
GLHS				*e*SG	**Sg**	**00 43 58.6**	**0.0**
GLHS	**Glhisar (BURDU**	**0.29**	**31**	*e*Pg	**Pg**	**00 43 53.7**	**-1.0**
GLHS				*e*Sg	**Sg**	**00 43 58.6**	**-0.1**
FETY	**Fethiye**	**0.33**	**214**	*e*PG	**Pg**	**00 43 53.7**	**-1.7**
FETY				*e*SG	**Sg**	**00 43 58.8**	**-0.9**
FETY	**Fethiye**	**0.33**	**214**	*e*Pg	**Pg**	**00 43 53.7**	**-1.7**
FETY				*e*Sg	**Sg**	**00 43 58.8**	**-1.0**
GOLH	**Golhisar**	**0.39**	**31**	*i* P	**Pg**	**00 43 54.8**	**-1.7**
GOLH	**Golhisar**	**0.39**	**31**	*i* P	**Pg**	**00 43 54.8**	**-1.7**
ELL	**Elmali**	**0.51**	**108**	*e*PG	**Pg**	**00 43 58.7**	**-0.1**
ELL	**Elmali**	**0.51**	**108**	*e*Pg	**Pg**	**00 43 58.7**	**0.0**
AKAS	**Kas**	**0.71**	**160**	*i* P	**Pg**	**00 44 02.8**	**+0.2**
AKAS				*i* S	**Sg**	**00 44 13.6**	**+1.6**
AKAS	**Kas**	**0.71**	**160**	*i* P	**Pg**	**00 44 02.8**	**+0.1**
AKAS				*i* S	**Sg**	**00 44 13.6**	**+1.6**
DNZL	**Cakiroluk**	**0.81**	**345**	*i* P	**Pg**	**00 44 05.3**	**+0.7**
DNZL	**Cakiroluk**	**0.81**	**345**	*i* P	**Pg**	**00 44 05.3**	**+0.8**
KORT	**Korkueli**	**0.84**	**83**	*i* P	**Pg**	**00 44 06.1**	**+1.1**
KORT				*i* S	**Sg**	**00 44 23.3**	**+7.4**
KORT	**Korkueli**	**0.84**	**83**	*i* P	**Pg**	**00 44 06.1**	**+1.0**
AYDN	**Tasoluk**	**1.37**	**304**	*i* P	**Pn**	**00 44 14.3**	**+0.3**
AYDN				*i* S	**Sb**	**00 44 33.7**	**+1.6**
AYDN	**Tasoluk**	**1.37**	**304**	*i* P	**Pn**	**00 44 14.3**	**+0.3**
AYDN				*i* S	**Sb**	**00 44 33.7**	**+1.6**

*NEIC **11** 00:51:28.5, 19.16N×64.71W, h56km, MD3.2(RSPR), After RSPR.*

RSPR 11 00:51:28.5, 19.16N×64.71W, h56km±29km, MD3.2/4, 6C-6D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STVI	**Saint Thomas**	**0.84**	**196**	⇑*e*P	Pn	00 51 43.4	-0.8
STVI	**Saint Thomas**	**0.84**	**196**	⇑*e*P	Pn	00 51 43.4	-0.8
STVI				*e*S	Sn	00 51 54.7	-1.1
STVI	**Saint Thomas**	**0.84**	**196**	⇑*e*P	Pn	00 51 43.4	-0.8
STVI				*e*S	Sn	00 51 54.7	-1.1
MTP	**Monte Pirata**	**1.33**	**217**	⇓*e*P	Pn	00 51 50.7	0.0
MTP	**Monte Pirata**	**1.33**	**217**	⇓*e*P	Pn	00 51 50.7	0.0
MTP				*e*S	Sn	00 52 07.3	0.0
MTP	**Monte Pirata**	**1.33**	**217**	⇓*e*P	Pn	00 51 50.7	0.0
MTP				*e*S	Sn	00 52 07.3	0.0
CBYP	**Canovanas**	**1.40**	**231**	⇑*e*P	Pn	00 51 50.6	-1.2
CBYP	**Canovanas**	**1.40**	**231**	⇑*e*P	Pn	00 51 50.6	-1.2
CBYP	**Canovanas**	**1.40**	**231**	⇑*e*P	Pn	00 51 50.6	-1.2
HUMP	**Col San Antoni**	**1.48**	**227**	⇓*e*P	Pn	00 51 51.5	-1.3
HUMP	**Col San Antoni**	**1.48**	**227**	⇓*e*P	Pn	00 51 51.5	-1.3
HUMP				*e*S	Sn	00 52 09.8	-1.3
HUMP	**Col San Antoni**	**1.48**	**227**	⇓*e*P	Pn	00 51 51.5	-1.3
HUMP				*e*S	Sn	00 52 09.8	-1.3

*IDC **11** 00:57:22.0±1.2, 36.60N×70.08E, h0km, mb4.0/7, mb1 4.1/12, mb1mx3.8/30, mbtmp4.0/12, ML3.8/5, MS2.8/1, Ms1 2.8/1, ms1mx2.2/35, Error ellipse: s-maj=23.9km s-min=17.0km az=133.0*
*NNC **11** 00:57:23.3±3.9, 36.88N×69.43E, h0km, mb4.3, mpv4.2, Error ellipse: s-maj=36.9km s-min=31.5km az=64.0*
*ISCJB **11** 00:57:41.9±2.0, 37.19N±0.17×70.20E±0.10, h129km±14km, mb3.8/7, Error ellipse: s-maj=22.3km s-min=10.7km az=18.8*
*MOS **11** 00:57:45.3±1.0, 38.16N×70.05E, h144km, mb4.2/5, Error ellipse: s-maj=19.8km s-min=7.7km az=79.1*
*NEIC **11** 00:57:46.4±0.8, 38.18N×70.10E, h125km±10km, mb4.3/5, Error ellipse: s-maj=14.4km s-min=9.9km az=121.0*

ISC 11 00:57:43.6±2.2, 37.9N±0.1×70.13E±0.09, h123km±14km, n66, σ1.10/73, mb3.9/7, 6C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**3.49**	**195**	*e*Pn	**Pn**	**00 58 42.8**	**+6.4**
KBL	**Kabul**	**3.49**	**195**	*e*PN	**Pn**	**00 58 42.8**	**+6.4**
AML	**Almayashu** SNR=30	**5.02**	**32**	P	**Pn**	**00 58 57.3**	**+0.6**
KK31	**Karatay Array** 6.1nm,0.5s,baz=197,slow=14,SNR=78	**5.18**	**3**

comp=Z,1.0nm,0.3s
BRVK Borovoye 15.14 0 ⇑Pn **Pn 01 01 11.0 +0.3**
comp=Z,11nm,0.7s
BRVK Borovoye 15.14 0 *e*Pn **Pn 01 01 09.5 -1.2**
comp=Z,7.0nm,0.6s
BRVK Sn **Sn 01 04 15.1 +17**
BRVK Borovoye 15.14 0 *e*P **Pn 01 01 09.5 -1.2**
BRVK pmax pmax
comp=Z,7.0nm,0.6s
AKTK Aktyubinsk 15.20 329 Pn **Pn 01 01 10.1 -1.5**
AKTO Aktyubinsk 15.20 329 ⇓Pn **Pn 01 01 09.3 -2.2**
comp=Z,4.0nm,1.1s
AKTO Aktyubinsk 15.20 329 Pn **Pn 01 01 10.1 -1.5**
comp=Z,0.7nm,0.3s,baz=146,slow=8.9,SNR=6.1
AKTO Aktyubinsk 15.20 329 P **Pn 01 01 10.1 -1.5**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
ZAA0 Zalesovo Array 18.94 28 *e*P **P 01 01 55.8 +1.0**
ZALV Zalesovo Beam 18.94 28 P **P 01 01 56.7 +1.8**
comp=Z,9.5nm,0.6s,baz=216,slow=10,SNR=33
ZALV Zalesovo Beam 18.94 28 P **P 01 01 56.7 +1.8**
ZALV Zalesovo Beam 18.94 28 P **P 01 01 56.7 +1.9**
ZALV pmax pmax
comp=Z,10.0nm,0.6s
NVS Novosibirsk 19.13 24 *e*P **P 01 01 56.6 -0.2**
NVS pmax pmax
comp=Z,13nm,1.5s
ARU Arti 20.06 341 *e*P **P 01 02 07.2 +0.2**
ARU Arti 20.06 341 *e*P **P 01 02 07.2 +0.3**
ULN Ulaanbaatar 28.58 58 *e*P **P 01 03 28.6 +0.8**
comp=Z,1.9nm,0.3s,mb4.2
ULN Ulaanbaatar 28.58 58 *e*P **P 01 03 28.6 +0.8**
ULN pmax pmax
comp=Z,2.0nm,0.3s,mb4.2
AKASG Malin Array Be 31.52 307 P **P 01 03 52.3 -1.5**
comp=Z,0.7nm,0.3s,mb3.9,baz=82,slow=7.1,SNR=6.7
AKASG Malin Array Be 31.52 307 P **P 01 03 52.3 -1.5**
AKASG Malin Array Be 31.52 307 P **P 01 03 52.3 -1.4**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
FINES FINESS Array B 35.92 325 P **P 01 04 32.4 +0.7**
comp=Z,5.5nm,0.9s,mb4.5,baz=129,slow=15,SNR=5.6
FINES FINESS Array B 35.92 325 P **P 01 04 32.4 +0.7**
FINES FINESS Array B 35.92 325 P **P 01 04 32.4 +0.8**
FINES pmax pmax
comp=Z,6.0nm,0.9s
ARCES ARCESS Array B 39.56 337 P **P 01 05 04.5 +2.3**
comp=Z,2.3nm,0.8s,mb4.1,baz=113,slow=9.3,SNR=7.8
ARCES ARCESS Array B 39.56 337 P **P 01 05 04.5 +2.3**
ARCES ARCESS Array B 39.56 337 P **P 01 05 04.5 +2.3**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
NB2 NORSAR Subarra 42.83 322 P **P 01 05 29.0 0.0**
comp=Z,5.2nm,1.0s,mb4.2,baz=98,slow=7.9
NOA NORSAR Array B 42.83 322 P **P 01 05 29.0 0.0**
comp=Z,2.3nm,0.8s,mb3.9,baz=96,slow=8.0,SNR=4.1
NOA NORSAR Array B 42.83 322 P **P 01 05 29.0 0.0**
NOA NORSAR Array B 42.83 322 P **P 01 05 29.0 0.0**
NOA pmax pmax
comp=Z,2.0nm,0.8s
TORD Torodi Ar. Bea 65.07 267 P **P 01 08 04.3 -6.8**
comp=Z,0.3nm,0.5s,mb3.4,baz=52,slow=6.1,SNR=8.0
WRA Warramunga Arr 83.33 121 P **P 01 09 47.7 -9.2**
comp=Z,0.2nm,0.5s,mb3.2,baz=326,slow=4.9,SNR=3.2
WRA Warramunga Arr 83.33 121 P **P 01 09 47.7 -9.2**

MEX 11 01:27:05.6±1.0, **16.17N**×**98.83W**, **h16**km±14km, **MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.71**	**71**	*i* P		Pg	01 27 17.4	-2.1
PNIG				*i* S		Sg	01 27 25.2	-3.8
ACX	**Acapulco**	**1.21**	**305**	*i* P		Pn	01 27 24.5	-3.4
ACX				*i* S		Sb	01 27 39.3	-4.3
CAIG	**El Cayaco**	**1.64**	**303**	*i* P		Pn	01 27 30.6	-3.1
CAIG				*i* S		Sn	01 27 50.0	-4.4
MEIG	**Mezcala**	**1.91**	**337**	*e*P		Pn	01 27 34.5	-3.0
MEIG				*i* S		Sn	01 27 55.2	-6.0
UTMO	**Huajuapan**	**1.93**	**31**	*e*P		Pn	01 27 35.0	-2.7
UTMO				*i* S		Sn	01 27 57.9	-3.7
VHO	**Vista Hermosa**	**2.20**	**66**	*e*P		Pn	01 27 37.2	-4.3
VHO				*i* S		Sn	01 28 04.9	-3.5
PLIG	**Platanillo**	**2.31**	**344**	*i* P		Pn	01 27 41.7	-1.3
PLIG				*i* S		Sn	01 28 07.3	-3.7
ZIIG	**Zihuatanejo**	**2.90**	**300**	*e*P		Pn	01 27 48.4	-2.7
ZIIG				*i* S		Sn	01 28 22.2	-3.5
MOIG	**Morelia**	**4.15**	**328**	*i* S		Sn	01 28 56.5	-0.1
MMIG	**Aquila**	**4.80**	**297**	*e*P		Pn	01 28 17.2	-0.2
MMIG				*i* S		Sn	01 29 11.2	-1.5

*ATH **11** 01:30:00.9, 39.45N×25.93E, h23km, MD3.1/6*
*CSEM **11** 01:30:00.8±0.1, 39.46N×25.83E, h5km, ML2.4/5, Error ellipse: s-maj=2.6km s-min=2.4km az=45.0*
*ISCJB **11** 01:30:00.6±0.4, 39.46N±0.02×25.83E±0.03, h7km±3km, Error ellipse: s-maj=3.7km s-min=2.9km az=169.3*
*THE **11** 01:30:01.8, 39.42N×25.86E, h15km±1km, ML2.4/5, Error ellipse: s-maj=2.2km s-min=0.9km az=111.0*
*ISK **11** 01:30:01.6, 39.56N×25.96E, h5km, MD3.1*
*DDA **11** 01:30:01.5, 39.46N×25.93E, h7km±2km, Md3.0*
ISC 11 01:30:01.2±0.4, **39.46N**±0.02×**25.84E**±0.03, **h8**km±3km, **n71**, σ0**84**/109, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SIGR	**SIGRI**	**0.24**	**177**	P		**Pg**	**01 30 06.1**	**0.0**
SIGR				S		**Sg**	**01 30 10.1**	**+0.7**
SIGR	**SIGRI**	**0.24**	**177**	P		**Pg**	**01 30 06.1**	**0.0**
SIGR				S		**Sg**	**01 30 10.1**	**+0.7**
PRK	**Paraskevi**	**0.39**	**122**	*e*PB		**Pg**	**01 30 08.6**	**-0.3**
PRK				*e*SB		**Sg**	**01 30 13.9**	**-0.2**
PRK	**Paraskevi**	**0.39**	**122**	P		**Pg**	**01 30 08.5**	**-0.4**
PRK				S		**Sg**	**01 30 13.8**	**-0.3**
PRK	**Paraskevi**	**0.39**	**122**	*e*Pb		**Pg**	**01 30 08.6**	**-0.3**
PRK				*e*Sb		**Sg**	**01 30 13.9**	**-0.2**
BOZC	**Bozcaada**	**0.42**	**23**	*i* P		**Pg**	**01 30 09.4**	**0.0**
BOZC				*i* S		**Sg**	**01 30 16.3**	**+1.4**
EZN	**Ezine**	**0.53**	**45**	*e*PG		**Pg**	**01 30 10.4**	**-1.0**
EZN				*e*SG		**Sg**	**01 30 17.2**	**-1.1**
EZN	**Ezine**	**0.53**	**45**	*e*Pg		**Pg**	**01 30 10.4**	**-1.0**
EZN				*e*Sg		**Sg**	**01 30 17.2**	**-1.1**
LIA	**Limnos Island**	**0.67**	**311**	*e*PN		**Pg**	**01 30 15.1**	**+0.9**
LIA				*e*SN		**Sg**	**01 30 25.4**	**+2.4**
LIA	**Limnos Island**	**0.67**	**311**	P		**Pg**	**01 30 15.2**	**+1.0**
LIA				S		**Sg**	**01 30 25.6**	**+2.6**
LIA	**Limnos Island**	**0.67**	**311**	*e*Pn		**Pg**	**01 30 15.1**	**+0.9**
AYVA	**Ayvalik**	**0.68**	**102**	*i* P		**Pg**	**01 30 13.4**	**-0.8**
AYVA				*i* S		**Sg**	**01 30 22.8**	**-0.2**
AYVA	**Ayvalik**	**0.68**	**102**	*i* P		**Pg**	**01 30 13.4**	**-0.8**
AYVA				*i* S		**Sg**	**01 30 22.8**	**-0.2**
GADA	**Gvkgeada**	**0.74**	**3**	*e*PG		**Pg**	**01 30 14.9**	**-0.5**
GADA				*e*SG		**Sg**	**01 30 24.7**	**-0.3**
GADA	**Gvkgeada**	**0.74**	**3**	*e*Pg		**Pg**	**01 30 14.9**	**-0.5**
GADA				*e*Sg		**Sg**	**01 30 24.7**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.06**	**27**	*e*PG		**Pg**	**01 30 20.6**	**-1.0**
GELI	**Tayfur-Gelibol**	**1.06**	**27**	*e*Pg		**Pg**	**01 30 20.6**	**-1.0**
CHOS	**Chios island**	**1.08**	**171**	*e*PN		**Pg**	**01 30 21.4**	**-0.5**
CHOS				*e*SN		**Sg**	**01 30 36.2**	**+0.2**
CHOS	**Chios island**	**1.08**	**171**	P		**Pg**	**01 30 21.4**	**-0.5**
CHOS				S		**Sg**	**01 30 35.8**	**-0.2**
CHOS	**Chios island**	**1.08**	**171**	P		**Pg**	**01 30 21.4**	**-0.5**
CHOS				S		**Sg**	**01 30 35.8**	**-0.2**
CHOS				*e*Sn		**Sg**	**01 30 36.2**	**+0.2**
LPK	**Lapseki**	**1.16**	**37**	*e*PG		**Pg**	**01 30 21.8**	**-1.6**
LPK	**Lapseki**	**1.16**	**37**	*e*Pg		**Pg**	**01 30 21.8**	**-1.6**
ENEZ	**Enez**	**1.30**	**11**	*e*PN		**Pn**	**01 30 25.6**	**-0.1**
ENEZ	**Enez**	**1.30**	**11**	*e*Pn		**Pn**	**01 30 25.6**	**0.0**
ERIK	**Erikli-Kesan**	**1.32**	**23**	*e*PN		**Pn**	**01 30 25.5**	**-0.4**
ERIK	**Erikli-Kesan**	**1.32**	**23**	*e*Pn		**Pn**	**01 30 25.5**	**-0.4**
BALY	**Balya**	**1.40**	**78**	*i* P		**Pn**	**01 30 27.1**	**+0.1**
BALY				*i* S		**Sb**	**01 30 45.2**	**-0.4**
BALY	**Balya**	**1.40**	**78**	*i* P		**Pn**	**01 30 27.1**	**+0.1**
BALY				*i* S		**Sb**	**01 30 45.2**	**-0.4**
BLCB	**Balcova**	**1.42**	**138**	*e*PN		**Pn**	**01 30 30.2**	**+2.9**
BLCB	**Balcova**	**1.42**	**138**	*e*Pn		**Pn**	**01 30 30.2**	**+2.9**
ALN	**Alexandroupoli**	**1.45**	**6**	*e*PN		**Pn**	**01 30 27.3**	**-0.3**
ALN				*e*SN		**Sn**	**01 30 46.9**	**+0.1**
ALN	**Alexandroupoli**	**1.45**	**6**	P		**Pn**	**01 30 27.3**	**-0.3**
ALN				S		**Sn**	**01 30 46.4**	**-0.4**
ALN	**Alexandroupoli**	**1.45**	**6**	P		**Pn**	**01 30 27.3**	**-0.3**
ALN				S		**Sn**	**01 30 46.4**	**-0.4**
ALN				*e*Sn		**Sn**	**01 30 46.9**	**+0.1**
KRBG	**Karabiga-Canak**	**1.46**	**50**	*e*PN		**Pn**	**01 30 27.6**	**-0.2**
KRBG	**Karabiga-Canak**	**1.46**	**50**	*e*Pn		**Pn**	**01 30 27.6**	**-0.2**
GONE	**Gonen-Balikesi**	**1.54**	**67**	*e*PN		**Pn**	**01 30 29.2**	**+0.4**
GONE	**Gonen-Balikesi**	**1.54**	**67**	*e*Pn		**Pn**	**01 30 29.3**	**+0.4**
AOS	**Alonnisos**	**1.55**	**260**	P		**Pn**	**01 30 28.4**	**-0.6**
AOS				S		**Sn**	**01 30 48.0**	**-1.2**
AOS	**Alonnisos**	**1.55**	**260**	P		**Pn**	**01 30 28.4**	**-0.6**
AOS				S		**Sn**	**01 30 48.0**	**-1.2**
BALB	**Balikesir**	**1.59**	**83**	*e*PN		**Pn**	**01 30 30.4**	**+0.9**
BALB	**Balikesir**	**1.59**	**83**	*e*Pn		**Pn**	**01 30 30.4**	**+0.9**
RKY	**Sarkoy-Tekirda**	**1.60**	**39**	*e*PN		**Pn**	**01 30 30.1**	**+0.4**
RKY	**Sarkoy-Tekirda**	**1.60**	**39**	*e*Pn		**Pn**	**01 30 30.1**	**+0.3**
OUR	**Ouranopolis**	**1.68**	**302**	P		**Pn**	**01 30 32.2**	**+1.4**
OUR	**Ouranopolis**	**1.68**	**302**	P		**Pn**	**01 30 32.2**	**+1.4**
RDO	**Rodhopi**	**1.71**	**352**	*e*PN		**Pn**	**01 30 31.6**	**+0.4**
RDO	**Rodhopi**	**1.71**	**352**	P		**Pn**	**01 30 31.3**	**+0.1**
RDO				S		**Sn**	**01 30 53.6**	**+0.5**
RDO	**Rodhopi**	**1.71**	**352**	P		**Pn**	**01 30 31.3**	**+0.1**
RDO	**Rodhopi**	**1.71**	**352**	*e*Pn		**Pn**	**01 30 31.6**	**+0.4**
RDO				S		**Sn**	**01 30 53.6**	**+0.5**
MFT	**Murefte**	**1.73**	**39**	*e*PN		**Pn**	**01 30 32.4**	**+0.9**
MFT	**Murefte**	**1.73**	**39**	*e*Pn		**Pn**	**01 30 32.4**	**+0.9**
KAVA	**Kavala**	**1.84**	**327**	P		**Pn**	**01 30 33.0**	**-0.1**
KAVA				S		**Sn**	**01 30 55.2**	**-1.4**
KAVA	**Kavala**	**1.84**	**327**	P		**Pn**	**01 30 33.0**	**-0.1**
KAVA				S		**Sn**	**01 30 55.2**	**-1.4**
SMG	**Samos**	**1.91**	**156**	*e*PB		**Pn**	**01 30 33.3**	**-0.7**
SMG				*e*SN		**Sn**	**01 30 58.4**	**+0.2**
SMG	**Samos**	**1.91**	**156**	*e*Pb		**Pn**	**01 30 33.3**	**-0.7**
SMG				*e*Sn		**Sn**	**01 30 58.4**	**+0.2**
DURS	**Dursunbey**	**2.04**	**85**	*i* P		**Pn**	**01 30 36.0**	**+0.2**
DURS	**Dursunbey**	**2.04**	**85**	*i* P		**Pn**	**01 30 36.0**	**+0.2**
DST	**Dursunbey**	**2.15**	**85**	*e*PN		**Pn**	**01 30 38.6**	**+1.3**
DST	**Dursunbey**	**2.15**	**85**	*e*Pn		**Pn**	**01 30 38.6**	**+1.3**
CRLT	**Corlu**	**2.21**	**40**	*e*PN		**Pn**	**01 30 38.9**	**+0.8**
CRLT	**Corlu**	**2.21**	**40**	*e*Pn		**Pn**	**01 30 38.9**	**+0.8**
SRS	**Serrai**	**2.39**	**315**	P		**Pn**	**01 30 40.1**	**-0.5**
SRS	**Serrai**	**2.39**	**315**	P		**Pn**	**01 30 40.1**	**-0.5**
NVR	**Nevrokopi**	**2.42**	**322**	P		**Pn**	**01 30 41.4**	**+0.4**
NVR				S		**Sn**	**01 31 09.9**	**-0.9**
NVR	**Nevrokopi**	**2.42**	**322**	P		**Pn**	**01 30 41.4**	**+0.4**
NVR				S		**Sn**	**01 31 09.9**	**-0.9**
ARMT	**Armutlu**	**2.57**	**63**	*e*PN		**Pn**	**01 30 44.1**	**+1.0**
ARMT	**Armutlu**	**2.57**	**63**	*e*Pn		**Pn**	**01 30 44.1**	**+1.0**
KNT	**Kendrikon**	**2.82**	**308**	P		**Pn**	**01 30 47.5**	**+1.0**
KNT				S		**Sn**	**01 31 20.5**	**-0.2**
KNT	**Kendrikon**	**2.82**	**308**	P		**Pn**	**01 30 47.5**	**+1.0**
KNT				S		**Sn**	**01 31 20.5**	**-0.2**
GUR	**Goura**	**3.13**	**242**	P		**Pn**	**01 30 50.8**	**+0.1**
GUR				S		**Sn**	**01 31 26.9**	**-1.4**
GUR	**Goura**	**3.13**	**242**	P		**Pn**	**01 30 50.8**	**+0.1**
GUR				S		**Sn**	**01 31 26.9**	**-1.4**

*MOS **11** 01:46:08.0±1.1, 4.07S×102.28E, h40km, mb5.1/36, Error ellipse: s-maj=10.8km s-min=5.5km az=113.8*
*BJI **11** 01:46:11.9, 4.20S×102.20E, h79km, mB5.1/27, mb4.9/42, Ms4.7/24, Ms7 4.5/23*
*ISCJB **11** 01:46:11.2±0.2, 4.23S±0.03×102.07E±0.02, h66km, mb4.8/95, Error ellipse: s-maj=4.6km s-min=2.9km az=31.8*
*IDC **11** 01:46:12.5±0.4, 4.03S×102.32E, h68km±3km, mb4.4/25, mb1 4.5/26, mb1mx4.4/29, mbtmp4.4/26, MS3.6/15, Ms1 3.6/15, ms1mx3.4/33, Error ellipse: s-maj=13.9km s-min=6.7km az=58.0*
*NEIC **11** 01:46:12.5±0.2, 4.15S×102.19E, mb5.0/34, Error ellipse: s-maj=6.2km s-min=4.1km az=58.0*
NEIC Felt [III] at Bengkulu and Kapahiang and [II] at Mukomuko.
*DJA **11** 01:46:13.8±0.3, 4°S±3'×10'2E±', h60km±3km, mB5.7/30, mb5.2/50, MLv5.4/26, Mw(mB)5.4/30*
ISC 11 01:46:13.1±0.2, **4.23S**±0.03×**102.10E**±0.02, **h68**km, **h68**km±1.1km**:pP-P, n351**, σ1°**19**/346, **mb4.8**/95, **13C-15D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MNAI	**Manna**	**0.86**	**98**	P		**Pn**	**01 46 28.7**	**-1.1**
LHSI	**Lahat**	**1.48**	**74**	P		**Sn**	**01 46 58.0**	**+1.7**
MDSI	**Maura Dua**	**2.09**	**97**	P		**Pn**	**01 46 45.4**	**-0.5**
LWLI	**Liwa**	**2.10**	**112**	P		**Pn**	**01 46 45.6**	**-0.5**
KRJI	**Kerinci**	**2.22**	**343**	P		**Pn**	**01 46 51.0**	**+3.2**
KLI	**Kotabumi**	**2.82**	**103**	P		**Pn**	**01 46 58.6**	**+2.8**
PMBI	**Palembang**	**2.97**	**64**	P		**Pn**	**01 46 57.1**	**-0.8**
BLSI	**Bandar Lampung**	**3.33**	**110**	P		**Pn**	**01 47 07.1**	**+4.3**
SDSI	**Sungai Dareh**	**3.35**	**348**	P		**Pn**	**01 47 03.8**	**+0.7**
PDSI	**Padang**	**3.68**	**334**	P		**Pn**	**01 47 07.3**	**-0.4**
RGRI	**Rengat**	**3.87**	**3**	P		**Pn**	**01 47 12.1**	**+1.9**
RBSI	**Rajabasa**	**3.96**	**114**	P		**Pn**	**01 47 15.0**	**+3.5**
CGJI	**Cibinong**	**4.29**	**124**	P		**Pn**	**01 47 14.2**	**-1.7**
SBJI	**Serang**	**4.43**	**115**	P		**Pn**	**01 47 25.4**	**+7.5**
PPBI	**Pangkal Pinang**	**4.53**	**63**	P		**Pn**	**01 47 18.9**	**-0.3**
BKNI	**Bangkinang**	**4.65**	**347**	P		**Pn**	**01 47 21.0**	**+0.1**
DBJI	**Dramaga** 1.8nm6µm356nm,0.9s	**5.17**	**117**	P		**Pn**	**01 47 30.1**	**+2.1**
SKJI	**Sukabumi** 3.3nm344nm,1.0s	**5.22**	**122**	P		**Pn**	**01 47 34.1**	**+5.4**
MNSI	**Mandailing Nat** 3.3nm728nm,0.6s	**5.59**	**333**	P		**Pn**	**01 47 32.8**	**-1.0**
MYKOM	**Kota Tinggi**	**6.23**	**16**	P		**Pn**	**01 47 43.4**	**+0.9**
MYKOM	**Kota Tinggi** 0.6nm2µm198nm,0.6s	**6.23**	**16**	P		**Pn**	**01 47 44.2**	**+1.6**
KGM	**Kluang**	**6.33**	**11**	P		**Pn**	**01 47 44.7**	**+0.8**
CISI	**Cisompet, Garu** 2.4nm8µm208nm,0.6s	**6.57**	**120**	P		**Pn**	**01 47 45.4**	**-1.8**
XMIS	**Christmas Isla**	**7.14**	**151**	*e*Pn		**Pn**	**01 47 47.5**	**-7.4**
FRIM	**Kepong**	**7.44**	**356**	P		**Pn**	**01 47 59.6**	**+0.6**
PSI	**Prapat** 11nm,0.3s,baz=160,slow=9.8,SNR=34	**7.67**	**336**	P		**Pn**	**01 47 58.7**	**-3.6**
PSI	2.8nm,0.3s,baz=331,slow=10,SNR=2.7			S		**Sn**	**01 49 23.3**	**-4.5**
PSI	comp=Z,218nm,19.1s,baz=340,slow=47			LR		LR	01 52 01.9	
PSI	**Prapat**	**7.67**	**336**	P		**Pn**	**01 47 58.7**	**-3.6**
PSI				S		**Sn**	**01 49 23.3**	**-4.5**
PSI				LR		LR	01 52 01.9	
PSI	**Prapat**	**7.67**	**336**	P		**Pn**	**01 47 58.7**	**-3.6**
PSI				S		**Sn**	**01 49 23.3**	**-4.5**
PSI	**Prapat** 0.3nm729nm81nm,1.1s	**7.67**	**336**	P		**Pn**	**01 47 59.6**	**-2.7**
IPM	**Ipoh**	**8.72**	**353**	P		**Pn**	**01 48 18.0**	**+1.4**
IPM	**Ipoh**	**8.72**	**353**	*e*Pn		**Pn**	**01 48 16.9**	**+0.3**
IPM	**Ipoh** 0.2nm630nm56nm,0.7s	**8.72**	**353**	P		**Pn**	**01 48 20.8**	**+4.2**
SMRI	**Semarang** 0.6nm184nm,0.7s	**8.76**	**109**	P		**Pn**	**01 48 19.4**	**+2.3**
TPTI	1.1nm175nm,0.6s	**8.92**	**326**	P		**Pn**	**01 48 18.9**	**-0.4**
UGM	**Wanagama**	**9.14**	**114**	*e*Pn		**Pn**	**01 48 21.4**	**-0.9**
COCO	**West Island**	**9.47**	**213**	*e*Pn		**Pn**	**01 48 25.4**	**-1.4**
COCO				*e*S		**Sn**	**01 50 03.6**	**-8.0**
COCO	**West Island**	**9.47**	**213**	*e*P		**Pn**	**01 48 25.4**	**-1.4**
COCO	**West Island** 10µm,0.5s,SNR=35	**9.47**	**213**	Pn		**Pn**	**01 48 26.3**	**-0.5**
COCO	**West Island** 2µm,0.8s	**9.47**	**213**	P		**Pn**	**01 48 25.7**	**-1.1**
COCO	**West Island** SNR=7.8	**9.47**	**213**	P		**Pn**	**01 48 26.2**	**-0.5**
KTGM	**Kuala Trenggan**	**9.55**	**6**	P		**Pn**	**01 48 28.0**	**+0.1**
KULM	**Kulim**	**9.57**	**351**	P		**Pn**	**01 48 27.8**	**-0.4**
KULM	**Kulim**	**9.57**	**351**	*e*Pn		**Pn**	**01 48 27.3**	**-0.9**
KULM	**Kulim** 57nm,1.0s	**9.57**	**351**	P		**Pn**	**01 48 29.1**	**+0.9**
PCJI	**Pacitan**	**9.84**	**114**	P		Px	01 48 46.5	
KSM	**Kuching**	**9.97**	**56**	*e*Pn		**Pn**	**01 48 33.2**	**-0.5**
KSM	**Kuching** 32nm,0.8s	**9.97**	**56**	P		**Pn**	**01 48 34.8**	**+1.1**
SJI	**Sawahan** 5µm198nm,0.6s	**10.22**	**110**	P		**Pn**	**01 48 37.1**	**0.0**
STKI	**Sintang** 99nm,0.8s	**10.30**	**66**	P		**Pn**	**01 48 43.3**	**+5.2**
PWJI	**Pagerwojo** 97nm,0.7s	**10.36**	**112**	P		**Pn**	**01 48 38.0**	**-0.9**
KRKI	**Karangkates**	**11.01**	**111**	P		Px	01 48 58.4	
SBUM	**Sibu**	**12.10**	**57**	P		**Pn**	**01 49 06.2**	**+3.5**
SBUM	**Sibu** 873nm74nm,1.2s	**12.10**	**57**	P		**Pn**	**01 49 05.9**	**+3.2**
KMMI	**Kalianget** 91nm,1.2s	**12.14**	**104**	P		**Pn**	**01 49 03.9**	**+0.7**
JAGI	**Jajag, Banyuwa** 2µm88nm,0.8s	**12.69**	**110**	P		**Pn**	**01 49 09.5**	**-1.3**
BBKI	**Banjar Baru** 138nm,0.9s	**12.74**	**87**	P		**Pn**	**01 49 16.4**	**+5.0**
SRBI	**Singaraja**	**13.59**	**107**	P		Px	01 49 36.3	
KBKI	**Kotabaru** 2µm66nm,0.9s	**14.07**	**87**	P		**Pn**	**01 49 30.1**	**+0.9**
MTNI	**Mataram**	**14.65**	**108**	P		**Pn**	**01 49 44.9**	**+8.1**
MJSI	**Majene** 3µm280nm,1.1s	**16.86**	**88**	P		**Pn**	**01 50 06.0**	**+1.2**
BMNI	**Bima** 1µm41nm,0.7s	**17.03**	**105**	P		**Pn**	**01 50 07.5**	**+0.5**
KKM	**Kota Kinabalu**	**17.40**	**54**	P		**Pn**	**01 50 12.2**	**+0.6**
KKM	**Kota Kinabalu** 51nm,0.8s	**17.40**	**54**	*e*Pn		**Pn**	**01 50 10.3**	**-1.2**
KKM	**Kota Kinabalu** 75nm,1.1s	**17.40**	**54**	P		**Pn**	**01 50 12.6**	**+1.1**
KAPI	**Kappang** 57nm,0.8s	**17.61**	**93**	*e*Pn		**Pn**	**01 50 12.0**	**-2.1**
KAPI	**Kappang** 794nm82nm,1.0s	**17.61**	**93**	P		**Pn**	**01 50 12.0**	**-2.1**
KAPI	**Kappang** SNR=17	**17.61**	**93**	P		**Pn**	**01 50 12.4**	**-1.7**
SPSI	**Sidrap Palu** 1µm135nm,0.9s	**17.63**	**90**	P		**Pn**	**01 50 13.1**	**-1.2**
TTSI	**Tana Toraja** 1µm94nm,0.8s	**17.72**	**87**	P		**Pn**	**01 50 15.7**	**+0.3**
TSM	**Tawau**	**17.89**	**62**	P		**Pn**	**01 50 18.7**	**+1.2**
SDKM	**Sandakan**	**17.99**	**57**	P		**Pn**	**01 50 19.3**	**+0.7**
BKSI	**Bulukumba** 1µm163nm,0.7s	**17.99**	**94**	P		**Pn**	**01 50 17.9**	**-0.8**
MSSI	**Masamba** 148nm,0.8s	**18.27**	**85**	P		**Pn**	**01 50 26.3**	**+4.2**
KDM	**Kudat**	**18.41**	**53**	P		**Pn**	**01 50 23.5**	**-0.3**
MYLDM	**Lahad Datu**	**18.86**	**60**	P		**Pn**	**01 50 29.9**	**+0.7**
MYLDM	**Lahad Datu** 142nm,1.0s	**18.86**	**60**	P		**Pn**	**01 50 29.9**	**+0.7**
MRSI	**Marisa** 2µm208nm,0.8s	**20.37**	**77**	P		**P**	**01 50 44.0**	**-0.4**
BBSI	**Bau Bau** 689nm61nm,0.8s	**20.43**	**94**	P		**P**	**01 50 48.9**	**+3.8**
MMRI	**Maumere** 77nm,0.6s	**20.48**	**103**	P		**P**	**01 50 49.0**	**+3.5**
LUWI	**Luwuk** 3µm419nm,1.0s	**20.89**	**82**	P		**P**	**01 50 50.3**	**+0.3**
CMAR	**Chiang Mai Arr** 35nm,0.8s,mb4.8,baz=182,slow=9.1,SNR=28	**22.76**	**352**	P		**P**	**01 51 08.1**	**-1.7**
CMAR	0.6nm,0.4s,baz=181,slow=3.6,SNR=4.1			ScP		ScP	01 58 30.4	-1.1
CMAR	comp=Z,74nm,19.4s,baz=71,slow=38			LR		LR	02 00 26.2	
CMAR	**Chiang Mai Arr**	**22.76**	**352**	P		**P**	**01 51 08.1**	**-1.7**
CMAR				ScP		ScP	01 58 30.4	-1.1
CMAR				LR		LR	02 00 26.1	
CMAR	**Chiang Mai Arr**	**22.76**	**352**	P		**P**	**01 51 08.1**	**-1.7**
CHTO	**Chiang Mai** 15nm,0.9s,mb4.3	**23.11**	**352**	*e*P		**P**	**01 51 11.3**	**-2.1**
CHTO	**Chiang Mai**	**23.11**	**352**	*e*P		**P**	**01 51 11.3**	**-2.2**
CHTO	comp=Z,15nm,0.9s,mb4.3			pmax		pmax		
CHTO	**Chiang Mai** comp=Z,24nm,1.0s,mb4.5	**23.11**	**352**	P		**P**	**01 51 13.5**	**0.0**
MBWA	**Marble Bar** comp=Z,36nm,0.9s,mb4.7	**24.01**	**136**	*e*P		**P**	**01 51 21.9**	**+0.2**
MBWA				*e*			01 51 36.2	
MBWA	**Marble Bar**	**24.01**	**136**	P		pP	01 51 37.3	-0.5
QIZ	**Qiongzhong**	**24.34**	**18**	P		**P**	**01 51 20.9**	**-3.8**
QIZ				S		**S**	**01 55 38.7**	**-0.6**
QIZ	comp=N,1µm,6.7s			LR		LR		
QIZ	comp=Z,1µm,6.2s			LR		LR		
QIZ	**Qiongzhong** comp=Z,82nm,1.3s,mb4.9	**24.34**	**18**	P		**P**	**01 51 23.2**	**-1.5**
NLAI	**Namlea** comp=Z,2µmcomp=Z,30nm,0.8s,mb4.8	**24.97**	**89**	P		**P**	**01 51 33.9**	**+3.4**
LBMI	**Labuha** comp=Z,1µmcomp=Z,135nm,0.9s,mb5.4	**25.62**	**83**	P		**P**	**01 51 39.0**	**+2.5**
DAV	**Davao City (W)** comp=Z,187nm,21.9s,baz=229,slow=35	**25.98**	**64**	LR		LR	02 01 07.1	
FITZ	**Fitzroy Crossi** comp=Z,22nm,0.8s,mb4.7,baz=299,slow=5.3,SNR=45	**26.84**	**123**	P		**P**	**01 51 46.3**	**-1.1**
FITZ	comp=Z,150nm,21.7s,baz=322,slow=33			LR		LR	02 00 55.8	
FITZ	**Fitzroy Cr

LSA Lhasa 35.34 343 *e*P **P** **01 53 02.1 +0.1**
LSA pmax pmax
comp=Z,21nm,0.9s,mb5.0
PKI Pulchoki 35.49 334 *e*P **P** **01 53 03.3 0.0**
comp=Z,18nm,0.6s,mb5.1
PKI Pulchoki 35.49 334 *e*P **P** **01 53 03.3 0.0**
comp=Z,18nm,0.6s,mb5.1
PKI Pulchoki 35.49 334 *e*P **P** **01 53 03.3 0.0**
PKI pmax pmax
comp=Z,18nm,0.6s,mb5.1
PKIN Phulchoki 35.50 334 *e*P **P** **01 53 03.3 -0.1**
comp=Z,28nm,0.6s,mb5.3
GUN Gumba 35.58 335 *e*P **P** **01 53 04.6 +0.5**
comp=Z,121nm,0.6s
GUN Gumba 35.58 335 *e*P **P** **01 53 04.6 +0.5**
comp=Z,121nm,0.6s
DMN Daman 35.65 334 *e*P **P** **01 53 04.8 +0.1**
comp=Z,42nm,0.8s,mb5.4
DMN Daman 35.65 334 *e*P **P** **01 53 04.8 +0.1**
comp=Z,42nm,0.8s,mb5.4
KKN Kakani 35.73 334 *e*P **P** **01 53 05.5 +0.1**
comp=Z,49nm,0.7s,mb5.6
KKN Kakani 35.73 334 *e*P **P** **01 53 05.5 +0.1**
comp=Z,49nm,0.7s,mb5.5
KKN Kakani 35.73 334 *e*P **P** **01 53 05.5 +0.1**
KKN pmax pmax
comp=Z,49nm,0.7s,mb5.5
POO Poona 35.87 310 *e*PKP **P** **01 53 06.1 -0.6**
POO AMb AMB 01 53 09.3
comp=Z,32nm,1.1s,mb5.2
FORT Forrest 35.99 140 *e*P **P** **01 53 10.4 +2.8**
comp=Z,20nm,0.6s,mb5.2
FORT Forrest 35.99 140 *e*P **P** **01 53 08.6 +1.0**
comp=Z,28nm,0.7s,mb5.3
GKN Gorkha 36.20 333 *e*P **P** **01 53 09.5 +0.1**
comp=Z,63nm,0.4s,mb5.8
GKN Gorkha 36.20 333 *e*P **P** **01 53 09.5 +0.1**
comp=Z,63nm,0.4s,mb5.9
ASAR Alice Springs 36.26 125 P **P** **01 53 09.2 -0.7**
comp=Z,9.9nm,0.8s,mb4.8,baz=301,slow=8.1,SNR=88
ASAR S **S** **01 58 43.4 -2.3**
comp=Z,4.9nm,1.0s,baz=297,slow=16,SNR=15
ASAR Alice Springs 36.26 125 P **P** **01 53 09.2 -0.7**
ASAR S **S** **01 58 43.4 -2.3**
ASAR Alice Springs 36.26 125 P **P** **01 53 09.3 -0.7**
ASAR S **S** **01 58 43.4 -2.3**
BHPL Bhopal 36.41 320 *e*PKP **P** **01 53 10.8 -0.4**
BHPL AMb AMB 01 53 12.5
comp=Z,23nm,0.7s,mb5.2
KOLN Koldanda 36.48 332 *e*P **P** **01 53 12.1 +0.3**
comp=Z,90nm,0.7s,mb5.8
KOLN Koldanda 36.48 332 *e*P **P** **01 53 12.1 +0.3**
comp=Z,90nm,0.7s,mb5.8
WHN Wuhan 36.51 18 P **P** **01 53 11.8 -0.2**
DANN Dangsing 36.90 332 *e*P **P** **01 53 15.7 +0.4**
comp=Z,144nm,0.4s
DANN Dangsing 36.90 332 *e*P **P** **01 53 15.7 +0.4**
comp=Z,144nm,0.4s
JAY Jayapura 38.57 89 P **P** **01 53 34.0 +4.3**
comp=Z,6µmcomp=Z,26nm,0.8s,mb5.1
XAN Xi'an 38.61 9 P **P** **01 53 29.0 -0.6**
XAN pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
XAN pmax pmax
comp=Z,29nm,4.8s
LZH Lanzhou 40.14 2 *e*P **P** **01 53 44.5 +2.1**
LZH pP pP 01 54 00.5 +1.2
LZH sP sP 01 54 07.8 +0.6
LZH PP PP 01 55 21.6 +5.6
LZH pmax pmax
comp=Z,24nm,1.3s,mb4.9
LZH pmax pmax
comp=Z,87nm,5.7s
LZH LR LR
comp=N,490nm,13.4s
LZH LR LR
comp=E,460nm,14.0s
LZH LR LR
comp=Z,570nm,17.6s
NDI New Delhi 40.54 325 *e*PKP **P** **01 53 46.0 +0.1**
NDI *ex* x 01 59 44.0
GTA Gaotai 43.48 357 *e*P **P** **01 54 10.8 +1.2**
GTA pP pP 01 54 26.5 -0.2
GTA sP sP 01 54 36.8 +2.3
GTA ScP ScP 01 59 40.6 -1.7
GTA S **S** **02 00 37.2 +4.0**
GTA sS sS 02 01 03.7 +1.4
GTA pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
GTA pmax pmax
comp=Z,110nm,4.5s
GTA LR LR
comp=N,130nm,15.7s
GTA LR LR
comp=E,150nm,14.7s
GTA LR LR
comp=Z,150nm,17.8s
HHC Hu-ho-hao-te 45.69 10 *e*P **P** **01 54 26.9 -0.3**
CTA Charters Tower 45.77 114 P **P** **01 54 27.9 -0.3**
comp=Z,23nm,1.0s,mb4.9,baz=298,slow=5.8,SNR=9.6
CTA pP pP 01 54 43.4 -2.0
comp=Z,20nm,0.8s,baz=285,slow=13,SNR=7.5
CTA Charters Tower 45.77 114 *e*P **P** **01 54 27.6 -0.6**
comp=Z,18nm,1.0s,mb4.8
CTA *e* pP 01 54 42.9 -2.5
CTA Charters Tower 45.77 114 P **P** **01 54 27.9 -0.3**
CTA pP pP 01 54 43.4 -2.0
CTA Charters Tower 45.77 114 P **P** **01 54 27.9 -0.3**
CTA *PP pP 01 54 43.4 -2.0
CTAO Charters Tower 45.77 114 *e*P **P** **01 54 27.8 -0.4**
comp=Z,24nm,0.9s,mb4.9
CTAO *e*pP pP 01 54 43.0 -2.4
CTAO Charters Tower 45.77 114 *e*P **P** **01 54 27.8 -0.4**
CTAO *e**PP pP 01 54 43.0 -2.4
CTAO pmax pmax
comp=Z,24nm,0.9s,mb4.9
CTAO Charters Tower 45.77 114 P **P** **01 54 28.4 +0.2**
comp=Z,31nm,1.0s,mb5.0
STKA Stephens Creek 46.11 131 P **P** **01 54 30.9 +0.3**
comp=Z,23nm,0.5s,mb5.1,baz=305,slow=7.7,SNR=88
STKA pP pP 01 54 46.0 -1.9
comp=Z,27nm,0.7s,baz=296,slow=7.3,SNR=10
STKA LR LR 02 13 15.1
comp=Z,134nm,18.0s,baz=270,slow=35
STKA Stephens Creek 46.11 131 *e*P **P** **01 54 30.7 0.0**
comp=Z,21nm,0.6s,mb5.0
STKA *e* pP 01 54 46.0 -1.9
STKA Stephens Creek 46.11 131 *e*P **P** **01 54 30.8 +0.1**
comp=Z,6.1nm,0.6s,mb4.5
STKA *e*pP pP 01 54 46.1 -1.9
STKA Stephens Creek 46.11 131 *e*P **P** **01 54 30.8 +0.1**
STKA *e**PP pP 01 54 46.1 -1.8
STKA pmax pmax
comp=Z,6.0nm,0.6s
KSRS Korea Array 47.93 28 P **P** **01 54 43.3 -1.5**
comp=Z,4.6nm,0.9s,mb4.3,baz=214,slow=8.8,SNR=10.0
KSRS pP pP 01 54 59.8 -2.3
comp=Z,3.7nm,0.8s,baz=218,slow=8.1,SNR=4.2
KSRS LR LR 02 17 31.7
comp=Z,35nm,18.2s,baz=202,slow=40
WMQ Urumqi 49.56 346 P **P** **01 54 57.0 -0.1**
WMQ pP pP 01 55 12.6 -2.0
WMQ PP PP 01 56 52.5 +0.3
WMQ pmax pmax
comp=Z,58nm,0.7s,mb5.6
WMQ LR LR
comp=Z,52nm,17.8s
KSH Kashi 49.75 333 P **P** **01 54 57.0 -1.6**
KSH pP pP 01 55 12.5 -3.5
KSH PcP PcP 01 56 18.8 +0.1
KSH PP PP 01 56 52.1 -1.8
KSH ScP ScP 02 00 07.4 -1.1
KSH PcS PcS 02 00 14.0 -1.5
KSH S **S** **02 01 56.9 -5.9**
KSH ScS ScS 02 04 40.0 -3.9
KSH SS SS 02 05 26.4 -10
KSH pmax pmax
comp=Z,15nm,0.9s,mb4.9
KSH LR LR
comp=N,96nm,5.9s
KSH LR LR
comp=E,120nm,4.5s
KSH LR LR
comp=Z,170nm,4.7s
WBK Wadi Bani Khal 49.87 304 P **P** **01 55 01.8 +2.0**
SNR=5.5

SMDO Samad 50.83 304 P **P** **01 55 08.9 +1.8**
SNR=7.3
BSY Bisya 51.39 304 P **P** **01 55 13.1 +1.7**
SNR=6.8
HOQ Hoqain 51.67 305 P **P** **01 55 15.1 +1.7**
SNR=8.3
SONM Songino Array 51.98 4 P **P** **01 55 15.0 -0.3**
comp=Z,16nm,0.7s,mb5.2,baz=183,slow=9.1,SNR=52
SONM ScP ScP 02 00 15.3 -2.7
comp=Z,0.7nm,0.6s,baz=183,slow=2.8,SNR=4.3
SONM Songino Array 51.98 4 P **P** **01 55 15.0 -0.3**
SONM ScP ScP 02 00 15.3 -2.7
SONM Songino Array 51.98 4 P **P** **01 55 15.0 -0.3**
ULN Ulaanbaatar 52.06 4 *e*P **P** **01 55 16.3 +0.5**
comp=Z,19nm,1.2s,mb5.0
ULN Ulaanbaatar 52.06 4 *e*P **P** **01 55 16.3 +0.5**
ULN pmax pmax
comp=Z,19nm,1.2s,mb5.0
ULN Ulaanbaatar 52.06 4 P **P** **01 55 16.9 +1.1**
comp=Z,15nm,1.1s,mb4.9
ARQ Araqi 52.21 304 P **P** **01 55 18.9 +1.4**
SNR=6.7
CN2 Changchun 52.24 21 *e*P **P** **01 55 19.2 +2.0**
CN2 *e*pP pP 01 55 37.2 +2.4
CN2 *e*S **S** **02 02 39.0 +2.0**
CN2 pmax pmax
comp=Z,20nm,0.7s,mb5.3
CN2 pmax pmax
comp=Z,300nm,4.0s
CN2 LR LR
comp=N,300nm,15.0s
CN2 LR LR
comp=E,200nm,15.0s
CN2 LR LR
comp=Z,400nm,17.0s
TKM2 Tokmak 2 52.71 336 *e*P **P** **01 55 20.7 0.0**
comp=Z,408nm,2.6s
TKM2 Tokmak 2 52.71 336 *e*P **P** **01 55 20.7 0.0**
TKM2 pmax pmax
comp=Z,408nm,2.6s
MJAR Matsushiro Arr 52.74 37 P **P** **01 55 18.2 -2.9**
comp=Z,3.5nm,0.7s,mb4.5,baz=224,slow=8.6,SNR=7.4
MJAR LR LR 02 17 47.9
comp=Z,29nm,21.3s,baz=65,slow=36
MJAR Matsushiro Arr 52.74 37 P **P** **01 55 18.2 -2.9**
MJAR LR LR 02 17 47.9
MJAR Matsushiro Arr 52.74 37 P **P** **01 55 18.2 -2.9**
AAK Ala-Archa 52.94 335 P **P** **01 55 21.6 -0.8**
comp=Z,2.8nm,0.6s,mb4.5,baz=150,slow=4.4,SNR=9.3
AAK LR LR 02 21 43.2
comp=Z,38nm,19.0s,baz=8.0,slow=40
AAK Ala-Archa 52.94 335 *e*P **P** **01 55 21.1 -1.3**
comp=Z,6.0nm,0.7s,mb4.7
AAK Ala-Archa 52.94 335 *e*P **P** **01 55 21.1 -1.3**
AAK pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
CAN Canberra 53.17 132 *e*P **P** **01 55 23.4 -0.9**
comp=Z,17nm,1.0s,mb5.0
CAN *e* pP 01 55 40.6 -1.3
CAN Canberra 53.17 132 *e*P **P** **01 55 23.4 -0.9**
CAN *e* pP 01 55 40.6 -1.3
CAN pmax pmax
comp=Z,17nm,1.0s,mb5.0
ASHO Ashiyiah 53.18 305 P **P** **01 55 26.3 +1.7**
SNR=5.2
HATD Hatta, Dubai 53.18 305 P **P** **01 55 25.9 +1.3**
SNR=5.6
EKS2 Erkin-Say 53.27 334 *e*P **P** **01 55 24.9 0.0**
comp=Z,29nm,1.0s,mb5.3
EKS2 Erkin-Say 53.27 334 *e*P **P** **01 55 24.9 0.0**
EKS2 pmax pmax
comp=Z,29nm,1.0s,mb5.3
ARMA Armidale 53.41 125 *e*P **P** **01 55 27.3 +1.1**
MK31 Makanchi Array 53.74 343 *e*P **P** **01 55 27.4 -0.9**
MK31 Makanchi Array 53.74 343 P **P** **01 55 27.0 -1.3**
MK31 01 56 33.3
MK31 pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
MKAR Makanchi Array 53.74 343 P **P** **01 55 27.3 -0.9**
comp=Z,17nm,0.7s,mb5.2,baz=144,slow=8.0,SNR=173
MKAR pP pP 01 55 43.1 -2.8
comp=Z,5.0nm,0.4s,baz=146,slow=8.7,SNR=4.3
MKAR S **S** **02 02 54.2 -3.2**
comp=Z,1.0nm,1.0s,baz=161,slow=15,SNR=3.0
MKAR LR LR 02 21 16.2
comp=Z,60nm,18.3s,baz=250,slow=39
MKAR Makanchi Array 53.74 343 P **P** **01 55 27.3 -0.9**
MKAR pP pP 01 55 43.1 -2.8
MKAR S **S** **02 02 54.2 -3.2**
MKAR LR LR 02 21 16.2
MKAR Makanchi Array 53.74 343 P **P** **01 55 27.3 -1.0**
MKAR *PP pP 01 55 43.1 -2.8
MKAR S **S** **02 02 54.2 -3.2**
ZAK Zakamensk 54.41 1 *e*P **P** **01 55 31.2 -1.8**
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
KK31 Karatay Array 55.09 332 *i* P **P** **01 55 37.2 -0.9**
KK31 pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
KKAR Karatay Array 55.09 332 *e*P **P** **01 55 37.5 -0.6**
KKAR Karatay Array 55.09 332 *e*P **P** **01 55 37.6 -0.5**
ABPO Ambohimpanom 55.48 250 P **P** **01 55 43.2 +1.8**
ABPO Ambohimpanom 55.48 250 P **P** **01 55 43.2 +1.8**
TLY Talaya 55.71 1 *e*P **P** **01 55 43.5 +1.1**
TLY *e*S **S** **02 03 20.1 -3.6**
TLY pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
TLY MLR MLR
comp=Z,45nm,15.0s
KURK Kurchatov 58.34 343 P **P** **01 55 59.5 -1.4**
comp=Z,9.3nm,0.7s,mb4.9,baz=160,slow=6.8,SNR=28
KURK pP pP 01 56 16.8 -2.0
comp=Z,5.1nm,0.6s,baz=163,slow=6.7,SNR=4.0
KURK LR LR 02 26 34.6
comp=Z,25nm,18.3s,baz=50,slow=42
KURK Kurchatov 58.34 343 *e*P **P** **01 55 60.0 -1.0**
comp=Z,21nm,1.0s,mb5.1
KURK Kurchatov 58.34 343 *e*P **P** **01 56 00.0 -1.0**
KURK pmax pmax
comp=Z,21nm,1.0s,mb5.1
KURK Kurchatov 58.34 343 P **P** **01 56 00.7 -0.3**
SNR=5.9
ZAA0 Zalesovo Array 59.75 348 *e*P **P** **01 56 09.2 -1.4**
ZALV Zalesovo Beam 59.75 348 P **P** **01 56 09.4 -1.3**
comp=Z,15nm,0.4s,mb5.3,baz=160,slow=4.7,SNR=78
ZALV pP pP 01 56 26.8 -1.7
comp=Z,7.1nm,0.4s,baz=150,slow=6.3,SNR=4.0
ZALV S **S** **02 04 12.2 -4.2**
comp=Z,2.2nm,0.8s,baz=182,slow=8.2,SNR=4.2
ZALV LR LR 02 25 01.5
comp=Z,45nm,18.5s,baz=51,slow=39
ZALV Zalesovo Beam 59.75 348 P **P** **01 56 09.4 -1.3**
ZALV pP pP 01 56 26.8 -1.7
ZALV S **S** **02 04 12.2 -4.2**
ZALV LR LR 02 25 01.5
ZALV Zalesovo Beam 59.75 348 P **P** **01 56 09.4 -1.3**
ZALV *PP pP 01 56 26.8 -1.8
ZALV S **S** **02 04 12.2 -4.2**
NVS Novosibirsk 60.92 348 *e*P **P** **01 56 15.9 -2.7**
NVS *e* pP 01 56 36.1 -0.5
NVS *e*S **S** **02 04 25.9 -5.4**
NVS pmax pmax
comp=N,6.0nm,1.2s
NVS pmax pmax
comp=Z,14nm,1.2s,mb4.9
NVS pmax pmax
comp=E,8.0nm,1.3s
NVS smax
comp=E,30nm,1.5s
RDF Al-Radifah 61.85 306 *e*P **P** **01 56 25.8 +0.3**
RDF AMb AMB 01 56 27.1
comp=Z,168nm,0.9s
UMR Umm Al-Rimmam 61.96 307 *e*P **P** **01 56 26.5 +0.3**
UMR AMb AMB 01 56 27.4
comp=Z,165nm,0.7s
NAY Al-Naaiem 62.22 306 *e*P **P** **01 56 28.0 0.0**
NAY AMb AMB 01 56 29.3
comp=Z,66nm,0.9s,mb5.7
YSS Yuzh-Sakhalins 62.30 30 *e*P **P** **01 56 25.5 -2.6**
YSS *e* pP 01 56 43.5 -2.6
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
MIB Mutribah 62.36 307 *e*P **P** **01 56 29.1 +0.2**
MIB AMb AMB 01 56 30.5
comp=Z,129nm,1.1s,mb5.9

VOSK Vostochnaya 62.54 339 P **P** **01 56 27.6 -2.0**
VOSK pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
BOD Bodaibo 62.59 7 *e*P **P** **01 56 28.4 -1.4**
BOD pmax pmax
comp=Z,11nm,1.1s,mb4.7
BVA0 Borovoye Array 63.00 339 *i* P **P** **01 56 31.0 -1.6**
BVA0 pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
BVAR Borovoye Array 63.00 339 P **P** **01 56 31.0 -1.6**
comp=Z,8.7nm,0.6s,mb4.8,baz=147,slow=8.5,SNR=28
BVAR pP pP 01 56 48.0 -2.7
comp=Z,6.8nm,0.6s,baz=141,slow=8.7,SNR=6.2
BVAR Borovoye Array 63.00 339 P **P** **01 56 31.0 -1.6**
BVAR pP pP 01 56 48.0 -2.7
BVAR Borovoye Array 63.00 339 P **P** **01 56 31.0 -1.6**
BVAR *PP pP 01 56 48.0 -2.6
BRVK Borovoye 63.06 339 *e*P **P** **01 56 31.5 -1.5**
comp=Z,13nm,1.1s,mb4.8
BRVK Borovoye 63.06 339 *e*P **P** **01 56 31.5 -1.5**
BRVK pmax pmax
comp=Z,13nm,1.1s,mb4.8
ABKAR Akbulak array 64.59 331 *e*P **P** **01 56 42.1 -1.2**
comp=Z,20nm,0.7s,mb5.1
KMBO Kilima Mbogo 64.83 271 *e*P **P** **01 56 47.4 +1.9**
comp=Z,4.4nm,0.8s,mb4.3
KMBO Kilima Mbogo 64.83 271 *e*P **P** **01 56 47.4 +1.9**
KMBO pmax pmax
comp=Z,4.0nm,0.8s
AKTO Aktyubinsk 66.31 331 P **P** **01 56 52.1 -2.2**
AKTO pmax pmax
comp=Z,2.0nm,1.1s,mb3.9
MAW Mawson 68.67 195 P **P** **01 57 09.3 +0.5**
comp=Z,1.9nm,0.8s,mb4.0,baz=37,slow=12,SNR=4.1
MAW pP pP 01 57 29.2 +2.1
comp=Z,3.7nm,0.9s,baz=36,slow=8.3,SNR=4.8
MAW LR LR 02 20 50.8
comp=Z,93nm,18.4s,baz=211,slow=30
MAW Mawson 68.67 195 *e*P **P** **01 57 09.6 +0.7**
comp=Z,1.5nm,0.8s,mb3.9
MAW Mawson 68.67 195 P **P** **01 57 09.3 +0.5**
MAW pP pP 01 57 29.2 +2.1
MAW LR LR 02 20 50.8
MAW Mawson 68.67 195 P **P** **01 57 09.3 +0.4**
MAW *PP pP 01 57 29.2 +2.1
YAK Yakutsk 69.39 13 *e*P **P** **01 57 10.3 -3.0**
YAK pmax pmax
comp=Z,27nm,1.0s,mb5.0
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.2s
SVE Sverdlovsk 69.54 337 *i* P **P** **01 57 14.1 -0.3**
SVE pmax pmax
comp=Z,24nm,1.1s,mb4.9
ARU Arti 70.08 336 *e*P **P** **01 57 16.7 -1.1**
comp=Z,20nm,1.1s,mb4.8
ARU Arti 70.08 336 *d i*P **P** **01 57 16.6 -1.1**
ARU *e*PPP 02 01 37.4
ARU S S 02 06 27.1 +3.9
ARU SS SS 02 10 50.3 -3.9
ARU pmax pmax
comp=Z,19nm,1.0s,mb4.9
ARU Arti 70.08 336 P **P** **01 57 16.3 -1.4**
comp=Z,94nm,1.2s,mb5.5,SNR=8.3
ZEI Tsey 70.28 318 *e*P **P** **01 57 19.1 -0.2**
ZEI *e* pP 01 57 37.3 -0.3
ZEI pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
KIV Kislovodsk 71.59 319 *e*P **P** **01 57 27.0 -0.2**
comp=Z,28nm,1.5s,mb4.9
KIV Kislovodsk 71.59 319 *e*P **P** **01 57 27.1 -0.1**
KIV pmax pmax
comp=Z,12nm,1.1s,mb4.6
KIV MLR MLR
comp=Z,31nm,18.0s
LSZ Lusaka 73.39 255 *e*P **P** **01 57 39.0 +0.6**
comp=Z,14nm,1.1s,mb4.7
LSZ Lusaka 73.39 255 *e*P **P** **01 57 39.0 +0.6**
LSZ pmax pmax
comp=Z,14nm,1.1s,mb4.7
PETK Petropavlovsk- 73.67 31 P **P** **01 57 37.7 -1.6**
comp=Z,2.7nm,0.6s,mb4.2,baz=225,slow=5.9,SNR=3.4
PETK Petropavlovsk- 73.67 31 P **P** **01 57 37.7 -1.6**
PETK Petropavlovsk- 73.67 31 P **P** **01 57 37.7 -1.6**
CSS Prodhromos 75.24 308 *e*P **P** **01 57 49.3 +0.5**
comp=Z,32nm,1.0s,mb5.0
VRHR Novokhopersk 75.34 325 *e*P **P** **01 57 47.7 -1.4**
VRHR pmax pmax
comp=Z,20nm,0.6s,mb5.0
VRHR pmax pmax
comp=N,6.0nm,0.8s
VRHR pmax pmax
comp=E,20nm,1.1s
ANN Anapa 75.39 318 *e*P **P** **01 57 45.8 -3.7**
ANN pmax pmax
comp=Z,38nm,1.5s,mb4.9
LBTB Lobatse 75.99 245 *e*P **P** **01 57 54.4 +1.0**
comp=Z,13nm,0.9s,mb4.7
LBTB Lobatse 75.99 245 *e*P **P** **01 57 54.4 +1.0**
LBTB pmax pmax
comp=Z,13nm,0.9s,mb4.7
BRTR Keskin Array B 76.37 312 P **P** **01 57 54.5 -0.7**
comp=Z,6.6nm,0.7s,mb4.5,baz=128,slow=6.9,SNR=38
BRTR pP pP 01 58 12.0 -1.7
comp=Z,2.8nm,0.6s,baz=143,slow=6.8,SNR=4.4
BRTR LR LR 02 31 36.9
comp=Z,24nm,18.3s,baz=220,slow=36
BRTR Keskin Array B 76.37 312 P **P** **01 57 54.5 -0.7**
BRTR pP pP 01 58 12.0 -1.7
BRTR LR LR 02 31 36.9
BRTR Keskin Array B 76.37 312 P **P** **01 57 54.5 -0.7**
BRTR *PP pP 01 58 12.0 -1.7
BOSA Boshof 76.44 242 P **P** **01 57 57.1 +1.3**
comp=Z,14nm,0.8s,mb4.7,baz=118,slow=7.2,SNR=21
BOSA pP pP 01 58 15.8 +1.4
comp=Z,3.6nm,0.8s,baz=47,slow=12,SNR=2.3
BOSA LR LR 02 25 24.5
comp=Z,84nm,18.3s,baz=260,slow=31
BOSA Boshof 76.44 242 P **P** **01 57 57.1 +1.3**
BOSA pP pP 01 58 15.8 +1.4
BOSA LR LR 02 25 24.5
BOSA Boshof 76.44 242 P **P** **01 57 57.2 +1.4**
BOSA *PP pP 01 58 15.8 +1.4
VSR Storozhevoye 76.80 325 *e*P **P** **01 57 55.9 -1.4**
VSR pmax pmax
comp=N,6.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
VSR pmax pmax
comp=E,10.0nm,0.8s
SEY Seymchan 76.92 21 ⇓ *i*P **P** **01 57 56.2 -1.6**
VNDA Vanda 79.58 169 P **P** **01 58 12.6 +0.3**
comp=E,1.4nm,0.9s,mb3.8,baz=304,slow=5.3,SNR=4.8
VNDA pP pP 01 58 30.4 -0.6
comp=E,4.7nm,0.7s,baz=312,slow=5.2,SNR=12
VNDA Vanda 79.58 169 P **P** **01 58 12.6 +0.3**
VNDA pP pP 01 58 30.4 -0.6
VNDA Vanda 79.58 169 P **P** **01 58 12.6 +0.3**
VNDA *PP pP 01 58 30.4 -0.6
OBN Obninsk 79.79 328 ⇑ *i*P **P** **01 58 13.6 -0.1**
OBN *e* 01 58 20.8
OBN *i* pP 01 58 34.3 +1.9
OBN *i* 02 01 14.2
OBN pmax pmax
comp=Z,42nm,1.6s,mb5.0
SBA Scott Base 80.67 169 P **P** **01 58 19.6 +1.5**
comp=Z,5.9nm,0.8s,mb4.5
SBA *e* pP 01 58 38.1 +1.2
SBA Scott Base 80.67 169 P **P** **01 58 19.6 +1.4**
SBA *e* pP 01 58 38.1 +1.2
SBA pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
KLMR Klimovskoe 80.74 334 *e*P **P** **01 58 17.1 -1.7**
KLMR pmax pmax
comp=Z,34nm,1.5s,mb5.0
LEOM Leova 82.03 318 ⇑ P **P** **01 58 26.1 +0.2**
LEOM Leova 82.03 318 ⇑ *i*P **P** **01 58 26.1 +0.2**
AKASG Malin Array Be 82.52 322 P **P** **01 58 27.2 -1.1**
comp=Z,1.9nm,0.5s,mb4.2,baz=84,slow=5.4,SNR=11
AKASG pP pP 01 58 46.5 -0.7
comp=Z,3.3nm,0.8s,baz=92,slow=4.9,SNR=3.4
AKASG Malin Array Be 82.52 322 P **P** **01 58 27.2 -1.1**
AKASG pP pP 01 58 46.5 -0.7
AKASG Malin Array Be 82.52 322 P **P** **01 58 27.2 -1.2**

AKASG				*PP	pP	01 58 46.5	-0.6		
VRI	**Vrincioaia**	**82.90**	**317**	⇑P	**P**	**01 58 30.9**	**+0.4**		
VRI	**Vrincioaia**	**82.90**	**317**	⇑*i*P	**P**	**01 58 30.9**	**+0.4**		
PLOR	**Plostina**	**82.95**	**317**	⇑P	**P**	**01 58 31.4**	**+0.7**		
PLOR	**Plostina**	**82.95**	**317**	⇑*i*P	**P**	**01 58 31.4**	**+0.7**		
TESR		**83.11**	**318**	⇑*i*P	**P**	**01 58 32.0**	**+0.5**		
MLR	**Muntele Rosu**	**83.35**	**317**	⇓P	**P**	**01 58 33.2**	**+0.4**		
MLR	**Muntele Rosu**	**83.35**	**317**	⇓*i*P	**P**	**01 58 33.2**	**+0.4**		
BURAR	**Bucovina Array**	**84.31**	**319**	⇓P	**P**	**01 58 38.5**	**+0.9**		
BURAR	**Bucovina Array**	**84.31**	**319**	⇓*i*P	**P**	**01 58 38.5**	**+0.9**		
BUR08	**Bucovina Ar. S**	**84.33**	**319**	*e*P	**P**	**01 58 38.3**	**+0.6**		
VTS	**Vitosha**	**84.70**	**313**	⇓P	**P**	**01 58 39.8**	**+0.1**		
VTS	**Vitosha**	**84.70**	**313**	⇓*i*P	**P**	**01 58 39.8**	**+0.1**		
JOF	**Joensuu**	**85.12**	**334**	*e*P	**P**	**01 58 36.2**	**-5.2**		
JOF				pmax	pmax				
	comp=Z,4.0nm,0.7s,mb4.5								
JOF	**Joensuu**	**85.12**	**334**	*ep*	**P**	**01 58 36.2**	**-5.2**		
	comp=Z,3.8nm,0.7s,mb4.4								
QSPA	**South Pole Qui**	**85.74**	**180**	P	**P**	**01 58 44.3**	**+0.1**		
	comp=Z,2.6nm,0.9s,mb4.2,baz=258,slow=2.6,SNR=5.4								
QSPA				pP	pP	01 59 04.2	+1.1		
	comp=Z,1.6nm,0.4s,baz=90,slow=1.7,SNR=3.1								
QSPA	**South Pole Qui**	**85.74**	**180**	P	**P**	**01 58 44.3**	**+0.1**		
QSPA				pP	pP	01 59 04.2	+1.1		
DRGR		**85.82**	**317**	⇑P	**P**	**01 58 45.8**	**+0.6**		
DRGR		**85.82**	**317**	⇑*i*P	**P**	**01 58 45.8**	**+0.6**		
KWP	**Kalwaria Pacla**	**86.35**	**320**	⇓P	**P**	**01 58 49.0**	**+1.3**		
KWP	**Kalwaria Pacla**	**86.35**	**320**	⇓*i*P	**P**	**01 58 49.0**	**+1.3**		
BZS	**Buzias**	**86.36**	**316**	⇓P	**P**	**01 58 47.9**	**0.0**		
BZS	**Buzias**	**86.36**	**316**	⇓*i*P	**P**	**01 58 47.9**	**0.0**		
SUW	**Suwalki**	**86.91**	**325**	*e*P	**P**	**01 58 49.9**	**-0.4**		
SUW	**Suwalki**	**86.91**	**325**	*e*P	**P**	**01 58 49.9**	**-0.5**		
CRVS	**Cervenica-Dubn**	**87.02**	**319**	*e*P	**P**	**01 58 52.5**	**+1.5**		
CRVS				pmax	pmax				
	comp=Z,2.0nm,1.1s,mb4.0								
CRVS	**Cervenica-Dubn**	**87.02**	**319**	*e*P	**P**	**01 58 52.5**	**+1.5**		
FINES	**FINESS Array B**	**87.05**	**332**	P	**P**	**01 58 49.9**	**-1.0**		
	comp=Z,7.0nm,1.0s,mb4.5,baz=123,slow=7.0,SNR=4.7								
FINES				pP	pP	01 59 09.2	-0.6		
	comp=Z,2.6nm,0.5s,baz=104,slow=5.5,SNR=2.4								
FINES	**FINESS Array B**	**87.05**	**332**	P	**P**	**01 58 49.9**	**-1.0**		
FINES				pP	pP	01 59 09.2	-0.6		
FINES	**FINESS Array B**	**87.05**	**332**	P	**P**	**01 58 49.9**	**-1.0**		
FINES				*PP	pP	01 59 09.3	-0.5		
KAF	**Kangasniemi**	**87.11**	**333**	*e*P	**P**	**01 58 49.8**	**-1.4**		
KAF				pmax	pmax				
	comp=Z,7.0nm,0.8s,mb4.6								
KAF	**Kangasniemi**	**87.11**	**333**	*ep*	**P**	**01 58 49.8**	**-1.4**		
	comp=Z,6.5nm,0.8s,mb4.6								
PKSM	**Moragy**	**88.50**	**316**	⇑P	**P**	**01 58 58.5**	**+0.3**		
PKSM	**Moragy**	**88.50**	**316**	⇑*i*P	**P**	**01 58 58.5**	**+0.3**		
VYHS	**Vyhne**	**88.68**	**319**	*e*P	**P**	**01 58 59.2**	**+0.3**		
VYHS				pmax	pmax				
	comp=Z,4.0nm,1.6s,mb4.2								
VYHS	**Vyhne**	**88.68**	**319**	*e*P	**P**	**01 58 59.2**	**+0.3**		
KEV	**Kevo**	**88.82**	**340**	*e*P	**P**	**01 58 56.0**	**-3.2**		
KEV				pmax	pmax				
	comp=Z,5.0nm,0.7s,mb4.7								
KEV	**Kevo**	**88.82**	**340**	*ep*	**P**	**01 58 56.0**	**-3.2**		
	comp=Z,4.5nm,0.7s,mb4.6								
KOLL	**Kolacno**	**88.98**	**319**	*e*P	**P**	**01 59 01.8**	**+1.5**		
KOLL	**Kolacno**	**88.98**	**319**	*e*P	**P**	**01 59 01.8**	**+1.5**		
ARCES	**ARCESS Array B**	**89.27**	**340**	P	**P**	**01 59 00.6**	**-0.7**		
	comp=Z,5.1nm,0.8s,mb4.6,baz=94,slow=6.7,SNR=11								
ARCES				pP	pP	01 59 19.6	-0.7		
	comp=Z,6.2nm,0.8s,baz=73,slow=4.1,SNR=6.0								
ARCES	**ARCESS Array B**	**89.27**	**340**	P	**P**	**01 59 00.6**	**-0.7**		
ARCES				pP	pP	01 59 19.6	-0.7		
ARCES	**ARCESS Array B**	**89.27**	**340**	P	**P**	**01 59 00.6**	**-0.7**		
ARCES				*PP	pP	01 59 19.6	-0.7		
MORC	**Moravsky Berou**	**89.69**	**320**	*e*P	**P**	**01 59 03.9**	**+0.3**		
	comp=Z,73nm,2.8s,mb5.3								
MORC	**Moravsky Berou**	**89.69**	**320**	*e*P	**P**	**01 59 03.9**	**+0.3**		
MORC				pmax	pmax				
	comp=Z,73nm,2.8s,mb5.3								
MORC	**Moravsky Berou**	**89.69**	**320**	⇓*i*P	**P**	**01 59 04.1**	**+0.5**		
ZST	**Bratislava**	**89.79**	**318**	*e*P	**P**	**01 59 04.6**	**+0.4**		
ZST				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.6								
ZST	**Bratislava**	**89.79**	**318**	*e*P	**P**	**01 59 04.6**	**+0.4**		
KOGS	**Kog**	**90.18**	**316**	*i* P	**P**	**01 59 06.3**	**+0.3**		
DPC	**Dobruska-Polom**	**90.53**	**320**	*e*P	**P**	**01 59 08.1**	**+0.5**		
DPC	**Dobruska-Polom**	**90.53**	**320**	*e*P	**P**	**01 59 08.1**	**+0.5**		
SNAA	**Sanae**	**90.67**	**198**	P	**P**	**01 59 09.8**	**+1.9**		
	comp=Z,1.6nm,1.0s,mb4.1,baz=117,slow=6.2,SNR=11								
SNAA				pP	pP	01 59 28.4	+1.5		
	comp=Z,1.6nm,1.1s,baz=105,slow=5.8,SNR=5.1								
SNAA	**Sanae**	**90.67**	**198**	*e*P	**P**	**01 59 09.8**	**+2.0**		
	comp=Z,4.3nm,1.0s,mb4.5								
SNAA				*e*	pP	01 59 29.1	+2.3		
SNAA	**Sanae**	**90.67**	**198**	*e*P	**P**	**01 59 09.9**	**+2.1**		
SNAA				*e*	pP	01 59 29.1	+2.3		
SNAA				pmax	pmax				
	comp=Z,4.0nm,1.0s								
GROS	**Grobnik**	**90.69**	**316**	*i* P	**P**	**01 59 08.8**	**+0.4**		
GROS				*i* pP	pP	01 59 27.8	+0.4		
UPC	**Upice**	**90.74**	**320**	*e*P	**P**	**01 59 09.3**	**+0.7**		
UPC	**Upice**	**90.74**	**320**	*e*P	**P**	**01 59 09.3**	**+0.7**		
BOJS	**Bojanci**	**90.78**	**315**	*i* P	**P**	**01 59 09.3**	**+0.4**		
BOJS				*i* pP	pP	01 59 28.2	+0.3		
SOKA	**Soboth**	**91.03**	**317**	⇓*i*PcP	**P**	**01 59 10.4**	**+0.4**		
	comp=Z,6.8nm,1.0s,mb4.8								
LJU	**Ljubljana**	**91.33**	**316**	*i* P	**P**	**01 59 11.9**	**+0.5**		
LJU				*ep*P	pP	01 59 31.1	+0.8		
GERES	**GERESS Array B**	**92.10**	**319**	P	**P**	**01 59 15.2**	**+0.3**		
	comp=Z,0.8nm,0.7s,mb4.0,baz=95,slow=6.7,SNR=7.7								
GERES				pP	pP	01 59 34.4	+0.5		
	comp=Z,1.0nm,0.7s,baz=92,slow=4.0,SNR=4.3								
GERES	**GERESS Array B**	**92.10**	**319**	P	**P**	**01 59 15.2**	**+0.3**		
GERES				pP	pP	01 59 34.4	+0.5		
GERES	**GERESS Array B**	**92.10**	**319**	P	**P**	**01 59 15.2**	**+0.3**		
GERES				*PP	pP	01 59 34.4	+0.5		
HRY	**Holter Researc**	**128.51**	**29**	*e*PKPdf	PKPdf	02 05 16.6	+4.3		
NVAR	**Mina Array Bea**	**129.93**	**42**	PKP	PKPdf	02 05 15.1	-0.2		
	comp=Z,0.4nm,0.5s,baz=281,slow=2.7,SNR=5.1								
NVAR	**Mina Array Bea**	**129.93**	**42**	PKP	PKPdf	02 05 15.1	-0.2		
PDAR	**Pinedale Array**	**132.44**	**32**	PKP	PKPdf	02 05 19.7	-0.3		
	comp=Z,0.2nm,0.4s,baz=70,slow=4.9,SNR=4.9								
PDAR				pPKP	pPKPdf	02 05 38.2	-1.5		
	comp=Z,0.5nm,0.8s,baz=217,slow=0.5,SNR=3.3								
PDAR	**Pinedale Array**	**132.44**	**32**	PKP	PKPdf	02 05 19.7	-0.3		
PDAR				pPKP	pPKPdf	02 05 38.2	-1.5		
CPUP	**Villa Florida**	**143.67**	**212**	PKP	PKPdf	02 05 39.4	-1.7		
	comp=Z,1.0nm,0.4s,baz=121,slow=4.7,SNR=8.3								
CPUP	**Villa Florida**	**143.67**	**212**	PKP	PKPdf	02 05 39.4	-1.7		
CPUP	**Villa Florida**	**143.67**	**212**	PKIKP	PKPdf	02 05 39.4	-1.7		
WMOK	**Wichita Mounta**	**144.00**	**30**	*e*PKPdf	PKPdf	02 05 38.3	-3.0		
WMOK	**Wichita Mounta**	**144.00**	**30**	*e*PKIKP	PKPdf	02 05 38.3	-3.1		
TXAR	**Lajitas Array**	**145.08**	**42**	PKP	PKPdf	02 05 42.7	-0.7		
	comp=Z,11nm,0.5s,baz=273,slow=0.7,SNR=289								
TXAR				pPKP	pPKPdf	02 06 00.1	-3.0		
	comp=Z,6.5nm,0.6s,baz=283,slow=1.3,SNR=8.4								
TXAR	**Lajitas Array**	**145.08**	**42**	PKP	PKPdf	02 05 42.7	-0.7		
TXAR				pPKP	pPKPdf	02 06 00.1	-3.0		
TXAR	**Lajitas Array**	**145.08**	**42**	PKIKP	PKPdf	02 05 42.7	-0.7		
TXAR						02 06 00.2			
SIUC	**Southern Illin**	**145.11**	**16**	*e*PKPbc	PKPbc	02 05 41.8	-1.0		
WCI	**Wyandotte Cave**	**145.31**	**12**	*e*PKPdf	PKPdf	02 05 42.7	-0.9		
WCI				*e*		02 05 59.7			
WCI	**Wyandotte Cave**	**145.31**	**12**	*e*PKIKP	PKPdf	02 05 42.7	-0.8		
WCI				*e*		02 05 59.7			
MIAR	**Mount Ida**	**146.51**	**24**	*e*PKPbc	PKPbc	02 05 47.8	+0.6		
JCT	**Junction City**	**146.70**	**36**	*e*PKPdf	PKPdf	02 05 46.9	+0.8		
WVT	**Waverly**	**146.97**	**15**	*e*PKPbc	PKPbc	02 05 47.6	-0.8		
TZTN	**Tazewell**	**147.43**	**8**	*e*PKPbc	PKPbc	02 05 48.6	-1.1		
PLAL	**Pickwick Lake**	**147.98**	**16**	*e*PKPbc	PKPbc	02 05 51.8	+0.5		
TKL	**Tuckaleechee C**	**148.26**	**9**	*e*PKPbc	PKPbc	02 05 50.8	-1.1		
SWET	**Sewanee**	**148.29**	**13**	*e*PKPbc	PKPbc	02 05 51.0	-1.1		
CPCT	**Cooper Cave**	**148.34**	**10**	*e*PKPdf	PKPdf	02 05 49.2	+0.5		
LHS	**Liberty Hill**	**149.79**	**5**	*e*PKPdf	PKPdf	02 05 51.2	+0.1		

IDC 11 01:57:39.2±1.8, 7.38S×124.30E, h0km, mb3.5/1, mb1 3.7/4, mb1mx3.5/20, mbtmp3.5/4, ML3.6/2, Error ellipse: s-maj=116.9km s-min=26.8km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
FITZ	**Fitzroy Crossi**	**10.73**	**173**	Pn	Pn	02 00 14.3		0.0
	0.3nm,0.3s,baz=350,slow=12,SNR=13							
FITZ				Sn	Sn	02 02 01.7		-14
	1.8nm,0.3s,baz=131,slow=17,SNR=12							
WRA	**Warramunga Arr**	**15.83**	**143**	Pn	Pn	02 01 24.6		+1.0
	0.3nm,0.3s,baz=317,slow=13,SNR=14							
WRA				Sn	Sn	02 04 08.4		-11
	0.3nm,0.3s,baz=174,slow=36,SNR=4.4							
ASAR	**Alice Springs**	**18.63**	**151**	P	Pn	02 01 58.0		-0.7
	0.1nm,0.3s,baz=326,slow=12,SNR=4.7							
MKAR	**Makanchi Array**	**65.57**	**330**	P	P	02 08 24.8		+0.1
	0.2nm,0.4s,baz=139,slow=7.6,SNR=5.2							

IDC 11 01:58:33.8±2.1, 1.29N×127.51E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.5/4, Error ellipse: s-maj=164.9km s-min=26.6km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
WRA	**Warramunga Arr**	**22.14**	**163**	P	P	02 03 31.4		+0.2
	0.5nm,0.6s,baz=343,slow=10.0,SNR=3.0							
ASAR	**Alice Springs**	**25.58**	**166**	P	P	02 04 04.1		-0.6
	0.6nm,0.6s,baz=342,slow=9.6,SNR=5.0							
STKA	**Stephens Creek**	**35.59**	**159**	P	P	02 05 33.8		+0.6
	0.8nm,0.6s,baz=0.0,slow=8.1,SNR=2.9							
MKAR	**Makanchi Array**	**59.99**	**326**	P	P	02 08 42.3		+0.1
	0.3nm,0.5s,baz=120,slow=8.5,SNR=3.7							

IDC 11 02:18:40.0±1.0, 19.13N×95.10E, h0km, mb3.9/14, mb1 4.0/14, mb1mx3.8/28, mbtmp3.9/14, Error ellipse: s-maj=58.4km s-min=17.0km az=54.0
ISCJB 11 02:18:45.4±1.1, 19.2N±0.1×95.1E±0.1, h54km±10km, mb3.9/15, Error ellipse: s-maj=28.9km s-min=7.8km az=32.4
NEIC 11 02:18:45.8±0.8, 19.32N×95.22E, h35km, mb4.1/2, Error ellipse: s-maj=27.9km s-min=9.3km az=220.0
ISC 11 02:18:47.6±0.9, 19.3N±0.1×95.2E±0.1, h53km±7km, n49, σ0s95/45, mb3.9/15, 1D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
CHTO	**Chiang Mai**	**3.62**	**96**	*e*Pn	**Pn**	**02 19 37.7**		**-3.4**
CHTO	**Chiang Mai**	**3.62**	**96**	P	**Pn**	**02 19 42.5**		**+1.4**
CMAR	**Chiang Mai Arr**	**3.68**	**102**	Pn	**Pn**	**02 19 41.3**		**-0.6**
	18nm,0.3s,baz=279,slow=19,SNR=47							
CMAR				Lg		02 20 40.4		
	12nm,0.3s,baz=265,slow=18,SNR=6.0							
CMAR	**Chiang Mai Arr**	**3.68**	**102**	Pn	**Pn**	**02 19 41.3**		**-0.6**
CMAR				Lg		02 20 40.4		
BDT	**Bhumibol Dam**	**4.17**	**118**	PN	**Pn**	**02 19 50.0**		**+1.3**
CHRT	**Chiangrai**	**4.41**	**81**	⇓PN	**Pn**	**02 19 52.0**		**0.0**
LSA	**Lhasa**	**11.02**	**341**	Pn	**Pn**	**02 21 18.4**		**-4.1**
GUN	**Gumba**	**12.10**	**317**	*e*P	**Pn**	**02 21 38.0**		**+0.7**
	16nm,0.4s							
PKI	**Pulchoki**	**12.18**	**315**	*e*P	**Pn**	**02 21 38.9**		**+0.5**
	13nm,0.5s							
PKIN	**Phulchoki**	**12.20**	**315**	*e*P	**Pn**	**02 21 38.9**		**+0.3**
	8.0nm,0.5s							
DMN	**Daman**	**12.41**	**314**	*e*P	**Pn**	**02 21 41.1**		**-0.4**
KKN	**Kakani**	**12.41**	**315**	*e*P	**Pn**	**02 21 40.2**		**-1.3**
	4.5nm,0.2s							
GKN	**Gorkha**	**12.98**	**314**	*e*P	**Pn**	**02 21 47.7**		**-1.6**
KOLN	**Koldanda**	**13.56**	**311**	*e*P	**Pn**	**02 21 57.9**		**+0.7**
	21nm,0.5s							
RGRI	**Rengat**	**20.71**	**159**	P	pP	02 23 37.6		+1.9
SISI	**Saibi**	**20.81**	**169**	P	pP	02 23 40.8		+4.1
AAK	**Ala-Archa**	**29.13**	**328**	P	**P**	**02 24 45.2**		**+1.9**
	1.0nm,0.5s,mb3.8,baz=159,slow=4.4,SNR=5.5							
AAK	**Ala-Archa**	**29.13**	**328**	P	**P**	**02 24 45.2**		**+1.9**
MK31	**Makanchi Array**	**29.43**	**342**	*e*P	**P**	**02 24 45.7**		**-0.2**
MKAR	**Makanchi Array**	**29.43**	**342**	P	**P**	**02 24 46.0**		**0.0**
	1.4nm,0.6s,mb3.9,baz=153,slow=9.2,SNR=14							
MKAR	**Makanchi Array**	**29.43**	**342**	P	**P**	**02 24 46.0**		**0.0**
KURK	**Kurchatov**	**34.03**	**341**	P	**P**	**02 25 25.6**		**-0.8**
	2.0nm,0.6s,mb4.2,baz=151,slow=8.4,SNR=17							
KURK	**Kurchatov**	**34.03**	**341**	*e*P	**P**	**02 25 25.7**		**-0.6**
	2.2nm,0.7s,mb4.2							
ZALV	**Zalesovo Beam**	**35.54**	**349**	P	**P**	**02 25 38.8**		**-0.4**
	0.9nm,0.4s,mb4.1,baz=178,slow=10,SNR=5.5							
ZALV	**Zalesovo Beam**	**35.54**	**349**	P	**P**	**02 25 38.8**		**-0.4**
BVAR	**Borovoye Array**	**38.80**	**336**	P	**P**	**02 26 06.4**		**-0.5**
	0.3nm,0.5s,mb3.3,baz=134,slow=10,SNR=2.9							
BVAR	**Borovoye Array**	**38.80**	**336**	P	**P**	**02 26 06.4**		**-0.5**
ABKAR	**Akbulak array**	**41.12**	**325**	*e*P	**P**	**02 26 26.8**		**+0.6**
	1.6nm,0.6s,mb3.8							
AKTK	**Aktyubinsk**	**42.81**	**325**	P	**P**	**02 26 40.8**		**+0.8**
AKTO	**Aktyubinsk**	**42.81**	**325**	P	**P**	**02 26 40.8**		**+0.8**
	0.9nm,0.3s,mb3.9,baz=115,slow=6.5,SNR=9.5							
WRA	**Warramunga Arr**	**54.70**	**133**	P	**P**	**02 28 10.3**		**-1.4**
	0.4nm,0.6s,mb3.6,baz=322,slow=7.3,SNR=5.7							
WRA	**Warramunga Arr**	**54.70**	**133**	P	**P**	**02 28 10.3**		**-1.4**
ASAR	**Alice Springs**	**56.99**	**137**	P	**P**	**02 28 27.6**		**-0.4**
	0.3nm,0.3s,mb3.6,baz=317,slow=7.0,SNR=6.7							
ASAR	**Alice Springs**	**56.99**	**137**	P	**P**	**02 28 27.6**		**-0.4**
AKASG	**Malin Array Be**	**60.13**	**318**	P	**P**	**02 28 49.0**		**-0.4**
FINES	**FINESS Array B**	**63.29**	**330**	P	**P**	**02 29 10.4**		**-0.1**
	5.5nm,0.9s,mb4.7,baz=104,slow=8.0,SNR=7.1							
FINES	**FINESS Array B**	**63.29**	**330**	P	**P**	**02 29 10.4**		**-0.1**
ARCES	**ARCESS Array B**	**65.02**	**339**	P	**P**	**02 29 21.5**		**-0.2**
	1.1nm,0.6s,mb4.0,baz=94,slow=14,SNR=5.6							
ARCES	**ARCESS Array B**	**65.02**	**339**	P	**P**	**02 29 21.5**		**-0.2**
GERES	**GERESS Array B**	**70.19**	**316**	P	**P**	**02 29 55.4**		**+0.6**
	1.2nm,0.7s,mb4.0,baz=76,slow=5.6,SNR=12							
GERES	**GERESS Array B**	**70.19**	**316**	P	**P**	**02 29 55.4**		**+0.6**
NOA	**NORSAR Array B**	**70.44**	**329**	P	**P**	**02 29 56.4**		**+0.4**
	1.0nm,0.7s,mb3.9,baz=86,slow=5.8,SNR=3.5							
NOA	**NORSAR Array B**	**70.44**	**329**	P	**P**	**02 29 56.4**		**+0.4**
ILAR	**Eielson Array**	**83.91**	**22**	P	**P**	**02 31 13.2**		**+1.8**
	0.3nm,0.7s,mb3.5,baz=293,slow=4.8,SNR=2.9							
ILAR	**Eielson Array**	**83.91**	**22**	P	**P**	**02 31 13.2**		**+1.8**
INK	**Inuvik**	**85.86**	**16**	*e*P	**P**	**02 31 19.0**		**-2.2**
TXAR	**Lajitas Array**	**128.40**	**21**	PKP	PKPdf	02 37 50.1		+1.2
	0.1nm,0.5s,baz=291,slow=0.8,SNR=4.0							
TXAR	**Lajitas Array**	**128.40**	**21**	PKP	PKPdf	02 37 50.1		+1.2

DJA 11 02:19:06, 18.90N×96.52E, h10km, mb5.1/6
IDC 11 02:19:07.7±0.5, 19.27N×95.39E, h0km, mb4.3/22, mb1 4.4/22, mb1mx4.3/29, mbtmp4.3/22, Error ellipse: s-maj=27.7km s-min=11.7km az=56.0
BJI 11 02:19:08.8, 19.00N×95.18E, h35km, mB5.0/21, mb4.6/29, ML5.4/1, Ms4.5/24, Ms7 4.3/20
SZGRF 11 02:19:11.2, 19.17N×95.86E, h33km, mb5.4, Myanmar
MOS 11 02:19:14.2±0.7, 19.61N×95.32E, h42km, mb5.0/25, Error ellipse: s-maj=13.6km s-min=5.2km az=126.0
ISCJB 11 02:19:14.9±0.7, 19.33N±0.04×95.26E±0.03, h59km±6km, mb4.6/61, MS3.8/5, Error ellipse: s-maj=6.7km s-min=5.2km az=2.6
NEIC 11 02:19:18.4±0.9, 19.37N×95.51E, h83km±9km, mb4.7/23, Error ellipse: s-maj=9.4km s-min=5.2km az=65.0
ISC 11 02:19:17.1±0.6, 19.34N±0.04×95.31E±0.03, h63km±5km, h37km±1.9km: pP-P, n249, σ0s94/259, mb4.6/61, 11C-18D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
CHG	**Chiang Mai**	**3.48**	**98**	PG	**Pn**	**02 20 11.5**		**+2.8**
CHG				SG	**Sn**	**02 20 49.1**		**+0.4**
CHTO	**Chiang Mai**	**3.48**	**98**	*e*Pn	**Pn**	**02 20 09.7**		**+1.0**
CHTO				*e*S	**Sn**	**02 20 49.1**		**+0.5**
CHTO	**Chiang Mai**	**3.48**	**98**	*e*P	**Pn**	**02 20 09.7**		**+1.0**
CHTO				*e*S	**Sn**	**02 20 49.1**		**+0.4**
CMAR	**Chiang Mai Arr**	**3.55**	**104**	Pn	**Pn**	**02 20 07.3**		**-2.4**
	4.9nm,0.3s,baz=279,slow=17,SNR=6.6							
CMAR				Lg		02 20 49.6		
	30nm,0.3s,baz=80,slow=16,SNR=7.7							
CMAR	**Chiang Mai Arr**	**3.55**	**104**	Pn	**Pn**	**02 20 07.3**		**-2.4**
CMAR				Lg		02 20 49.6		
CMAR	**Chiang Mai Arr**	**3.55**	**104**	P	**Pn**	**02 20 07.4**		**-2.3**
CMAR						02 20 49.6		
BDT	**Bhumibol Dam**	**4.08**	**120**	PG	**Pn**	**02 20 18.0**		**+1.0**
BDT				SG	**Sn**	**02 21 16.0**		**+12**
CHRT	**Chiangrai**	**4.25**	**82**	PG	**Pn**	**02 20 24.5**		**+5.2**
CHRT				SG	**Sn**	**02 21 17.0**		**+9.4**
NST	**Nakhon Sawan**	**5.87**	**128**	PG	**Pn**	**02 20 47.0**		**+5.5**
NST				SG	Sn	02 22 11.0		+24
SHL	**Shillong**	**6.96**	**334**	*e*PKP	**Pn**	**02 20 56.0**		**-0.4**
SHL				*ex*	x	02 22 17.0		
CAL	**Calcutta**	**7.26**	**297**	*ex*	**Pn**	**02 20 56.5**		**-4.0**
CAL				*eS*	**Sn**	**02 22 20.4**		**-1.1**
KKTK	**Khon Kaen**	**7.75**	**111**	P	**Sn**	**02 22 46.0**		**+12**
KMI	**Kunming**	**8.97**	**49**	Pn	Px	02 21 56.8		
KMI				Sn	**Sn**	**02 23 09.6**		**+6.2**
KMI				smax				
	comp=N,96nm,1.4s							
KMI				smax				
	comp=E,91nm,1.3s							
KMI				LR	LR			
	comp=N,2μm,9.0s							
KMI				LR	LR			
	comp=E,1μm,9.3s							
KMI				LR	LR			
	comp=Z,640nm,14.3s							
KMI	**Kunming**	**8.97**	**49**	P	**Pn**	**02 21 27.7**		**+3.8**
KMI				pP		02 21 34.1		
KMI				sP		02 21 40.3		
KMI				S	**Sn**	**02 23 09.5**		**+6.1**
KMI				pmax	pmax			
	comp=Z,9.0nm,1.6s							
KMI				LR	LR			
	comp=N,2μm,9.2s							
KMI				LR	LR			
	comp=E,1μm,9.0s							
KMI				LR	LR			
	comp=Z,630nm,7.7s							
ODAN	**Odare**	**10.44**	**317**	*e*P	**Pn**	**02 21 42.9**		**-1.1**
TAPN	**Taplejung**	**10.59**	**320**	*e*P	**Pn**	**02 21 44.8**		**-1.3**
LSA	**Lhasa**	**10.98**	**341**	*e*Pn	**Pn**	**02 21 46.0**		**-5.4**
	comp=Z,13nm,0.6s							
LSA				*e*S	**Sn**	**02 23 57.8**		**+5.1**
LSA	**Lhasa**	**10.98**	**341**	*e*P	**Pn**	**02 21 46.0**		**-5.4**
LSA				*e*S	**Sn**	**02 23 57.8**		**+5.1**
LSA				pmax	pmax			
	comp=Z,13nm,0.6s							
VIS	**Vishakhapatnam**	**11.48**	**264**	*e*PKP	**Pn**	**02 21 58.2**		**0.0**
VIS				AMb	AMB	02 22 10.8		
	comp=Z,34nm,0.8s							
CD2	**Chengdu**	**13.82**	**32**	P	**Pn**	**02 22 29.8**		**-0.1**
CD2				pP		02 22 37.2		
CD2				PP		02 22 41.8		
CD2				S	**Sn**	**02 25 03.7**		**+1.9**
CD2				sS		02 25 15.5		
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,570nm,5.3s							
CD2				LR	LR			
	comp=N,2μm,8.9s							
CD2				LR	LR			
	comp=Z,920nm,7.1s							
KULM	**Kulim**	**14.90**	**159**	*e*P	**Pn**	**02 22 46.4**		**+2.2**
IPM	**Ipoh**	**15.79**	**159**	*e*Pn	**Pn**	**02 22 52.7**		**-2.9**
	comp=Z,31nm,0.8s							
IPM	**Ipoh**	**15.79**	**159**	P	**Pn**	**02 22 54.3**		**-1.3**
ENH	**Enshi**	**16.84**	**47**

comp=Z,19nm,0.9s,mb4.8
EKS2 Erkin-Say 29.52 327 *e*P **P** **02 25 16.3 +0.9**
EKS2 pmax pmax
comp=Z,19nm,0.9s,mb4.8
SONM Songino Array 29.82 15 P **P** **02 25 17.6 -0.4**
comp=Z,2.4nm,0.9s,mb3.9,baz=200,slow=10,SNR=7.8
SONM Songino Array 29.82 15 P **P** **02 25 17.6 -0.4**
SONM Songino Array 29.82 15 P **P** **02 25 17.6 -0.4**
ULN Ulaanbaatar 30.01 16 *e*P **P** **02 25 19.0 -0.7**
comp=Z,2.1nm,0.7s,mb4.0
ULN Ulaanbaatar 30.01 16 *e*P **P** **02 25 19.0 -0.7**
ULN pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
KURK Kurchatov 33.99 341 P **P** **02 25 53.2 -1.3**
comp=Z,8.3nm,0.7s,mb4.8,baz=152,slow=8.4,SNR=37
KURK PcP PcP 02 28 31.1 -0.1
comp=Z,0.7nm,0.4s,baz=158,slow=2.4,SNR=5.7
KURK Kurchatov 33.99 341 *e*P **P** **02 25 53.5 -1.0**
comp=Z,9.4nm,0.8s,mb4.8
KURK Kurchatov 33.99 341 *c i*P **P** **02 25 53.6 -0.9**
KURK pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
KAPI Kappang 34.12 133 *e*P **P** **02 25 53.0 -3.1**
comp=Z,9.3nm,0.9s,mb4.7
KAPI Kappang 34.12 133 P **P** **02 25 53.9 -2.2**
CN2 Changchun 35.08 39 *e*P **P** **02 26 04.4 +0.4**
CN2 *es*P sP 02 26 19.0 -8.1
CN2 *e*S **S** **02 31 34.7 +2.7**
CN2 pmax pmax
comp=Z,20nm,0.8s,mb5.1
CN2 pmax pmax
comp=Z,400nm,5.0s
CN2 LR LR
comp=N,200nm,13.0s
CN2 LR LR
comp=E,300nm,13.0s
CN2 LR LR
comp=Z,600nm,14.0s
ZAA0 Zalesovo Array 35.48 349 *e*P **P** **02 26 06.4 -0.8**
ZALV Zalesovo Beam 35.48 349 P **P** **02 26 06.5 -0.7**
comp=Z,8.3nm,0.9s,mb4.7,baz=176,slow=9.1,SNR=18
ZALV Zalesovo Beam 35.48 349 P **P** **02 26 06.5 -0.7**
ZALV Zalesovo Beam 35.48 349 P **P** **02 26 06.6 -0.7**
NVS Novosibirsk 36.62 348 *e*P **P** **02 26 14.7 -2.3**
NVS *e*S **S** **02 31 53.7 -1.5**
NVS pmax pmax
comp=N,7.0nm,1.3s
NVS pmax pmax
comp=Z,15nm,1.3s,mb4.7
NVS smax
comp=E,20nm,1.8s
BVAR Borovoye Array 38.77 336 P **P** **02 26 33.8 -1.5**
comp=E,1.2nm,0.6s,mb3.8,baz=140,slow=7.7,SNR=7.7
BVAR PcP PcP 02 28 45.7 +0.1
comp=E,1.4nm,0.7s,baz=178,slow=4.5,SNR=5.4
BVAR Borovoye Array 38.77 336 P **P** **02 26 33.8 -1.5**
BVAR PcP PcP 02 28 45.7 +0.1
BVAR Borovoye Array 38.77 336 P **P** **02 26 33.8 -1.4**
BVAR 02 28 45.7
BRVK Borovoye 38.84 336 *e*P **P** **02 26 35.2 -0.6**
comp=E,1.9nm,0.7s,mb3.9
BRVK Borovoye 38.84 336 *e*P **P** **02 26 35.2 -0.6**
BRVK pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
ABKAR Akbulak array 41.13 325 *e*P **P** **02 26 54.9 +0.1**
comp=Z,5.5nm,0.6s,mb4.4
AKTK Aktyubinsk 42.82 325 P **P** **02 27 08.7 0.0**
AKTO Aktyubinsk 42.82 325 P **P** **02 27 08.7 0.0**
comp=Z,8.1nm,0.8s,mb4.5,baz=122,slow=8.2,SNR=26
AKTO Aktyubinsk 42.82 325 P **P** **02 27 08.7 +0.1**
AKTO pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
SVE Sverdlovsk 45.42 334⇑ *i*P **P** **02 27 29.2 -0.1**
SVE pmax pmax
comp=Z,18nm,0.9s,mb4.9
ARU Arti 46.05 333 *e*P **P** **02 27 33.4 -0.8**
comp=Z,8.1nm,1.0s,mb4.6
ARU Arti 46.05 333 *d i*P **P** **02 27 33.0 -1.2**
ARU *e* 02 29 20.0
ARU S **S** **02 34 17.8 +2.9**
ARU pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
FITZ Fitzroy Crossi 47.66 139 P **P** **02 27 44.7 -2.6**
comp=Z,1.1nm,0.8s,mb4.2,baz=2.1,slow=8.2,SNR=5.9
FITZ Fitzroy Crossi 47.66 139 P **P** **02 27 44.7 -2.6**
SOKR Solikamsk 48.74 335 *d i*P **P** **02 27 55.2 +0.1**
SOKR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
ZEI Tsey 48.97 310 *e*P **P** **02 27 56.9 -0.3**
ZEI pmax pmax
comp=Z,17nm,1.3s,mb4.9
KIV Kislovodsk 50.08 312 *e*P **P** **02 28 07.0 +1.4**
comp=Z,29nm,1.3s,mb5.2
KIV Kislovodsk 50.08 312 *e*P **P** **02 28 06.8 +1.2**
KIV pmax pmax
comp=Z,19nm,1.1s,mb5.0
KIV MLR MLR
comp=Z,32nm,15.0s
WRA Warramunga Arr 54.66 133 P **P** **02 28 37.7 -2.0**
comp=Z,2.0nm,0.7s,mb4.3,baz=322,slow=7.4,SNR=14
WRA PcP PcP 02 29 41.6 -0.4
comp=Z,0.4nm,0.6s,baz=326,slow=3.6,SNR=5.2
WRA Warramunga Arr 54.66 133 P **P** **02 28 37.7 -2.0**
WRA PcP PcP 02 29 41.6 -0.4
WRA Warramunga Arr 54.66 133 P **P** **02 28 37.7 -2.0**
WRA 02 29 41.6
BRTR Keskin Array B 56.28 305 P **P** **02 28 51.0 -0.2**
comp=Z,1.4nm,0.9s,mb4.0,baz=123,slow=8.0,SNR=5.6
BRTR Keskin Array B 56.28 305 P **P** **02 28 51.0 -0.2**
BRTR Keskin Array B 56.28 305 P **P** **02 28 51.1 -0.1**
OBN Obninsk 56.57 324⇑ *i*P **P** **02 28 52.8 -0.2**
OBN pmax pmax
comp=Z,12nm,1.2s,mb4.8
ASAR Alice Springs 56.96 137 P **P** **02 28 54.8 -1.3**
comp=Z,1.7nm,0.7s,mb4.2,baz=320,slow=7.2,SNR=19
ASAR Alice Springs 56.96 137 P **P** **02 28 54.8 -1.3**
ASAR Alice Springs 56.96 137 P **P** **02 28 54.8 -1.3**
AKASG Malin Array Be 60.17 318 P **P** **02 29 17.1 -1.1**
comp=Z,3.3nm,0.6s,mb4.6,baz=86,slow=6.1,SNR=18
AKASG Malin Array Be 60.17 318 P **P** **02 29 17.1 -1.1**
AKASG Malin Array Be 60.17 318 P **P** **02 29 17.1 -1.1**
AKBB Malin Array Si 60.17 318 *e*P **P** **02 29 17.1 -1.1**
AKBB Malin Array Si 60.17 318 *e*P **P** **02 29 17.1 -1.1**
KIEV Kiev 60.18 318 *e*P **P** **02 29 17.2 -1.0**
comp=Z,7.6nm,0.8s,mb4.8
KIEV Kiev 60.18 318 *e*P **P** **02 29 17.2 -1.0**
KIEV pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
VRI Vrincioaia 61.55 312⇓ *i*P **P** **02 29 28.7 +1.1**
VRI Vrincioaia 61.55 312⇓ *i*P **P** **02 29 28.7 +1.1**
PLOR Plostina 61.60 312⇓ *i*P **P** **02 29 29.2 +1.2**
PLOR Plostina 61.60 312⇓ *i*P **P** **02 29 29.2 +1.2**
TESR 61.62 313⇑ *i*P **P** **02 29 28.1 0.0**
MLR Muntele Rosu 62.09 312⇓ P **P** **02 29 32.3 +1.0**
MLR Muntele Rosu 62.09 312⇓ *i*P **P** **02 29 32.3 +1.0**
BURAR Bucovina Array 62.62 314⇓ P **P** **02 29 35.2 +0.5**
BURAR Bucovina Array 62.62 314⇓ *i*P **P** **02 29 35.2 +0.5**
BUR08 Bucovina Ar. S 62.63 314 *e*P **P** **02 29 34.9 +0.1**
FINES FINESS Array B 63.28 330 P **P** **02 29 38.0 -0.9**
comp=Z,4.3nm,0.7s,mb4.7,baz=98,slow=6.3,SNR=10
FINES FINESS Array B 63.28 330 P **P** **02 29 38.0 -0.9**
FINES FINESS Array B 63.28 330 P **P** **02 29 38.0 -0.9**
LVV L'vov 63.44 317 *e*P **P** **02 29 40.4 +0.2**
SUW Suwalki 64.10 321 *e*P **P** **02 29 44.0 -0.4**
SUW Suwalki 64.10 321 *e*P **P** **02 29 44.0 -0.4**
VTS Vitosha 64.13 309⇓ P **P** **02 29 45.5 +0.6**
VTS Vitosha 64.13 309⇓ *i*P **P** **02 29 45.5 +0.6**
KWP Kalwaria Pacla 64.30 316 *e*P **P** **02 29 45.9 +0.1**
KWP Kalwaria Pacla 64.30 316 *e*P **P** **02 29 45.6 -0.2**
comp=Z,18nm,0.8s,mb5.2
KWP Kalwaria Pacla 64.30 316 *e*P **P** **02 29 45.9 +0.1**
KWP Kalwaria Pacla 64.30 316⇑ *i*P **P** **02 29 45.9 +0.1**
DRGR 64.33 313⇓ P **P** **02 29 46.8 +0.7**
DRGR 64.33 313⇓ *i*P **P** **02 29 46.8 +0.7**
UZH Uzhgorod 64.58 315 *e*P **P** **02 29 47.7 +0.1**
ARCES ARCESS Array B 64.99 339 P **P** **02 29 49.8 -0.1**
comp=Z,2.5nm,0.8s,mb4.3,baz=82,slow=8.7,SNR=7.7
ARCES ARCESS Array B 64.99 339 P **P** **02 29 49.8 -0.1**
ARCES ARCESS Array B 64.99 339 P **P** **02 29 49.8 -0.1**
CRVS Cervenica-Dubn 65.12 316 *e*P **P** **02 29 52.1 +0.9**
CRVS pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
CRVS Cervenica-Dubn 65.12 316 *e*P **P** **02 29 52.1 +0.9**
BEL Belsk 65.51 319 *e*P **P** **02 29 53.5 -0.1**
BEL Belsk 65.51 319 *e*P **P** **02 29 53.5 -0.1**
NIE Niedzica 65.86 316 *e*P **P** **02 29 57.0 +1.1**
NIE Niedzica 65.86 316 *e*P **P** **02 29 57.0 +1.1**
OJC Ojcow 66.17 317 *e*P **P** **02 29 58.1 +0.2**
OJC Ojcow 66.17 317 *e*P **P** **02 29 58.1 +0.2**
comp=Z,7.1nm,0.9s,mb4.7
OJC Ojcow 66.17 317 *e*P **P** **02 29 58.1 +0.2**
OJC pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
VYHS Vyhne 66.88 315 *e*P **P** **02 30 02.7 +0.2**
VYHS pmax pmax
comp=Z,3.0nm,1.3s,mb4.2
VYHS Vyhne 66.88 315 *e*P **P** **02 30 02.7 +0.2**
PKSM Moragy 67.17 313⇑⇑ P **P** **02 30 04.3 0.0**
PKSM Moragy 67.17 313⇑ *i*P **P** **02 30 04.3 0.0**
OKC Ostrava-Krasne 67.25 317 *e*P **P** **02 30 05.4 +0.6**
OKC Ostrava-Krasne 67.25 317 *e*P **P** **02 30 05.4 +0.6**
STKA Stephens Creek 67.53 138 P **P** **02 30 05.7 -1.0**
comp=Z,3.3nm,0.8s,mb4.4,baz=309,slow=7.6,SNR=7.3
STKA Stephens Creek 67.53 138 P **P** **02 30 05.7 -1.0**
STKA Stephens Creek 67.53 138 P **P** **02 30 05.7 -1.1**
MORC Moravsky Berou 67.64 317⇑⇑ P **P** **02 30 07.6 +0.3**
MORC Moravsky Berou 67.64 317⇑ *i*P **P** **02 30 07.6 +0.3**
ZST Bratislava 68.05 315 *e*P **P** **02 30 11.9 +2.0**
ZST pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ZST Bratislava 68.05 315 *e*P **P** **02 30 11.9 +2.0**
DPC Dobruska-Polom 68.39 317 *e*P **P** **02 30 13.0 +1.1**
DPC Dobruska-Polom 68.39 317 *e*P **P** **02 30 13.0 +1.1**
KOGS Kog 68.79 313 *i*P **P** **02 30 14.8 +0.3**
CRES Cresnjev 69.41 313 *i*P **P** **02 30 18.8 +0.4**
PVCC Panska Ves 69.49 318 *e*P **P** **02 30 18.6 -0.2**
PVCC Panska Ves 69.49 318 *e*P **P** **02 30 18.6 -0.2**
PRU Pruhonice 69.56 317 *e*P **P** **02 30 19.9 +0.7**
PRU Pruhonice 69.56 317 *e*P **P** **02 30 19.9 +0.7**
BRG Berggiesshubel 69.85 318 *e*P **P** **02 30 20.5 -0.5**
comp=Z,8.7nm,1.0s,mb4.6
MOA Molln 69.98 315⇑ *i*P **P** **02 30 21.8 0.0**
comp=Z,5.5nm,0.8s,mb4.5
GERES GERESS Array B 70.23 316 P **P** **02 30 23.8 +0.4**
comp=Z,5.1nm,0.7s,mb4.5,baz=77,slow=5.9,SNR=30
GERES GERESS Array B 70.23 316 P **P** **02 30 23.8 +0.4**
GERES GERESS Array B 70.23 316 P **P** **02 30 23.8 +0.4**
KHC Kasperske Hory 70.28 316 *e*P **P** **02 30 23.9 +0.2**
KHC Kasperske Hory 70.28 316 *e*P **P** **02 30 23.9 +0.2**
CLL Collm 70.39 319 *e*P **P** **02 30 25.0 +0.7**
CLL Collm 70.39 319 *e*P **P** **02 30 25.0 +0.7**
NB2 NORSAR Subarra 70.44 329 P **P** **02 30 23.4 -1.0**
comp=Z,1.6nm,0.6s,mb4.1,baz=84,slow=6.5
NOA NORSAR Array B 70.44 329 P **P** **02 30 23.6 -0.7**
comp=Z,2.9nm,0.8s,mb4.3,baz=86,slow=5.9,SNR=7.1
NOA NORSAR Array B 70.44 329 P **P** **02 30 23.6 -0.7**
NOA NORSAR Array B 70.44 329 P **P** **02 30 23.6 -0.8**
GRF Grafenberg Arr 71.73 317 *e*P **P** **02 30 32.6 +0.2**
comp=Z,50nm,1.6s,mb5.2
GRF Grafenberg Arr 71.73 317 *e*P **P** **02 30 32.6 +0.2**
GRF pmax pmax
comp=Z,50nm,1.6s,mb5.2
MOTA Moosalm 72.17 315⇓ *i*P **P** **02 30 34.6 -0.5**
comp=Z,8.3nm,0.8s,mb4.7
FETA Fetchten 72.48 314⇓ *i*P **P** **02 30 36.0 -1.0**
comp=Z,6.8nm,1.1s,mb4.5
DAVA Damuels 73.00 315⇓ *i*P **P** **02 30 40.1 0.0**
comp=Z,10nm,0.9s,mb4.8
CDF Champ du Feu 74.51 316 *e*P **P** **02 30 48.7 -0.2**
comp=Z,15nm,1.1s,mb4.5
CDF Champ du Feu 74.51 316 *e*P **P** **02 30 48.7 -0.2**
comp=Z,7.6nm,1.1s,mb4.5
CDF Champ du Feu 74.51 316 *e*P **P** **02 30 48.7 -0.2**
CDF pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
PGF Pioggiola 74.53 310 *e*P **P** **02 30 49.3 +0.2**
PGF Pioggiola 74.53 310 *e*P **P** **02 30 49.3 +0.2**
PGF Pioggiola 74.53 310 *e*P **P** **02 30 49.3 +0.2**
HAU Haudompre 75.20 316 *e*P **P** **02 30 52.8 -0.1**
HAU Haudompre 75.20 316 *e*P **P** **02 30 52.8 -0.1**
HAU Haudompre 75.20 316 *e*P **P** **02 30 52.8 -0.1**
SBF Sospel 75.37 312 *e*P **P** **02 30 54.0 +0.1**
SBF Sospel 75.37 312 *e*P **P** **02 30 54.0 +0.1**
SBF Sospel 75.37 312 *e*P **P** **02 30 54.0 +0.1**
LPG La Plagne 75.48 313 *e*P **P** **02 30 55.1 +0.6**
comp=Z,10.0nm,0.8s,mb4.5
LPG La Plagne 75.48 313 *e*P **P** **02 30 55.1 +0.6**
comp=Z,5.0nm,0.8s,mb4.5
LPG La Plagne 75.48 313 *e*P **P** **02 30 55.1 +0.6**
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
PAGF Fort de Pagny 75.49 317 *e*P **P** **02 30 54.6 +0.1**
LPL La Plagne 75.49 313 *e*P **P** **02 30 55.1 +0.5**
comp=Z,19nm,1.1s,mb4.6
LPL La Plagne 75.49 313 *e*P **P** **02 30 55.1 +0.5**
comp=Z,9.6nm,1.1s,mb4.6
LPL La Plagne 75.49 313 *e*P **P** **02 30 55.1 +0.5**
LPL pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
MBDF Montbardon 75.64 313 *e*P **P** **02 30 56.1 +0.7**
MBDF Montbardon 75.64 313 *e*P **P** **02 30 56.1 +0.7**
MBDF Montbardon 75.64 313 *e*P **P** **02 30 56.1 +0.7**
CABF La Chapelle 75.68 315 *e*P **P** **02 30 56.0 +0.4**
CABF La Chapelle 75.68 315 *e*P **P** **02 30 56.0 +0.4**
CABF La Chapelle 75.68 315 *e*P **P** **02 30 56.0 +0.4**
KEST Kesra 75.79 303 P **P** **02 30 56.0 -0.5**
comp=Z,1.2nm,0.8s,mb3.9,baz=208,slow=9.2,SNR=3.5
KEST Kesra 75.79 303 P **P** **02 30 56.0 -0.5**
FRF La Foret Royal 75.99 311 *e*P **P** **02 30 57.5 0.0**
comp=Z,42nm,1.3s,mb4.9
FRF La Foret Royal 75.99 311 *e*P **P** **02 30 57.5 0.0**
comp=Z,21nm,1.3s,mb4.9
FRF La Foret Royal 75.99 311 *e*P **P** **02 30 57.5 0.0**
FRF pmax pmax
comp=Z,21nm,1.3s,mb4.9
BAIF Baives 76.11 318 *e*P **P** **02 30 58.2 +0.2**
BAIF Baives 76.11 318 *e*P **P** **02 30 58.2 +0.2**
BAIF Baives 76.11 318 *e*P **P** **02 30 58.2 +0.2**
LMR La Mourre 76.14 311 *e*P **P** **02 30 58.4 +0.1**
comp=Z,17nm,1.1s,mb4.6
LMR La Mourre 76.14 311 *e*P **P** **02 30 58.4 +0.1**
comp=Z,8.4nm,1.1s,mb4.6
LMR La Mourre 76.14 311 *e*P **P** **02 30 58.4 +0.1**
LMR pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
LOR Lormes 77.01 316 *e*P **P** **02 31 02.9 -0.3**
LOR Lormes 77.01 316 *e*P **P** **02 31 02.9 -0.3**
LOR Lormes 77.01 316 *e*P **P** **02 31 02.9 -0.3**
SMF Signal de Mont 77.18 315 *e*P **P** **02 31 03.9 -0.2**
comp=Z,85nm,1.6s,mb5.1
SMF Signal de Mont 77.18 315 *e*P **P** **02 31 03.9 -0.2**
comp=Z,42nm,1.5s,mb5.2
SMF Signal de Mont 77.18 315 *e*P **P** **02 31 03.9 -0.2**
SMF pmax pmax
comp=Z,42nm,1.5s,mb5.2
SSF Saint Saulge 77.30 316 *e*P **P** **02 31 04.7 -0.1**
comp=Z,20nm,1.0s,mb4.7
SSF Saint Saulge 77.30 316 *e*P **P** **02 31 04.7 -0.1**
comp=Z,9.8nm,1.0s,mb4.7
SSF Saint Saulge 77.30 316 *e*P **P** **02 31 04.7 -0.1**
SSF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
AVF Avril sur Loir 77.47 315 *e*P **P** **02 31 06.4 +0.7**
comp=Z,22nm,1.1s,mb4.7
AVF Avril sur Loir 77.47 315 *e*P **P** **02 31 06.4 +0.7**
comp=Z,11nm,1.1s,mb4.7
AVF Avril sur Loir 77.47 315 *e*P **P** **02 31 06.4 +0.7**
AVF pmax pmax
comp=Z,11nm,1.1s,mb4.7
TCF Toulx Ste Croi 78.36 315 *e*P **P** **02 31 11.0 +0.3**
comp=Z,22nm,0.9s,mb4.8
TCF Toulx Ste Croi 78.36 315 *e*P **P** **02 31 11.0 +0.3**
comp=Z,11nm,0.9s,mb4.8
TCF Toulx Ste Croi 78.36 315 *e*P **P** **02 31 11.0 +0.3**
TCF pmax pmax
comp=Z,11nm,0.9s,mb4.8
LDF La Druitiere 79.23 318 *e*P **P** **02 31 15.2 -0.2**
LDF La Druitiere 79.23 318 *e*P **P** **02 31 15.2 -0.2**
LDF La Druitiere 79.23 318 *e*P **P** **02 31 15.2 -0.2**
BOSA Boshof 82.74 236 P **P** **02 31 35.3 +1.0**
comp=Z,2.5nm,0.7s,mb4.4,baz=67,slow=15,SNR=5.4
BOSA Boshof 82.74 236 P **P** **02 31 35.3 +0.9**
BOSA Boshof 82.74 236 P **P** **02 31 35.3 +0.9**
ILAR Eielson Array 83.76 22 P **P** **02 31 38.4 -0.7**
comp=Z,1.1nm,1.0s,mb4.0,baz=294,slow=5.4,SNR=6.7
ILAR Eielson Array 83.76 22 P **P** **02 31 38.4 -0.7**
ILAR Eielson Array 83.76 22 P **P** **02 31 38.4 -0.6**
ESDC Sonseca Array 84.73 310 P **P** **02 31 44.8 +0.4**
comp=Z,1.4nm,0.7s,mb4.2,baz=66,slow=4.0,SNR=7.3
ESDC Sonseca Array 84.73 310 P **P** **02 31 44.8 +0.4**
INK Inuvik 85.73 16 *e*P **P** **02 31 47.9 -1.0**
INK Inuvik 85.73 16 *e*P **P** **02 31 47.9 -0.9**
TORD Torodi Ar. Bea 89.06 284 P **P** **02 32 05.8 -0.1**
comp=Z,1.1nm,0.9s,mb4.2,baz=75,slow=4.2,SNR=6.4
TORD Torodi Ar. Bea 89.06 284 P **P** **02 32 05.8 -0.1**
TXAR Lajitas Array 128.26 21 PKP PKPdf 02 38 16.1 -0.8
comp=Z,0.3nm,0.5s,baz=171,slow=1.2,SNR=12
TXAR Lajitas Array 128.26 21 PKP PKPdf 02 38 16.1 -0.8
TXAR Lajitas Array 128.26 21 PKIKP PKPdf 02 38 16.1 -0.8
TGUH Tegucigalpa,Un 146.72 5 PKPdf PKPdf 02 38 50.1 -0.8
SDV Santo Domingo 148.72 332 *e*PKPbc PKPbc 02 38 57.3 -0.9
CPUP Villa Florida 153.88 250 PKPbc PKPbc 02 39 08.3 -1.5
comp=Z,1.0nm,0.5s,baz=70,slow=3.5,SNR=5.0
CPUP Villa Florida 153.88 250 PKPbc PKPbc 02 39 08.3 -1.5

IDC 11 02:22:02.2±2.9, 10.37S×161.85E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/19, mbtmp3.7/5, Error ellipse: s-maj=115.5km s-min=29.1km az=136.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.17**	**247**	P	P	02 27 56.4	-0.2
	0.4nm,0.4s,baz=77,slow=9.0,SNR=11						
ASAR	**Alice Springs**	**29.74**	**240**	P	P	02 28 10.4	-0.1
	0.2nm,0.3s,baz=63,slow=9.7,SNR=4.3						
FITZ	**Fitzroy Crossi**	**35.88**	**253**	P	P	02 29 04.7	+0.4
	0.3nm,0.4s,baz=90,slow=8.1,SNR=6.0						
ILAR	**Eielson Array**	**84.13**	**20**	P	P	02 34 35.0	+0.2
	0.3nm,0.6s,baz=244,slow=5.2,SNR=5.6						
MKAR	**Makanchi Array**	**90.43**	**317**	P	P	02 35 05.5	-0.2
	0.1nm,0.4s,baz=125,slow=5.0,SNR=3.2						

ISCJB ***11*** *02:35:14.2±1.4, 33.31N±0.05×35.39E±0.07, h3km±7km, Error ellipse: s-maj=11.2km s-min=6.6km az=137.0*
CSEM ***11*** *02:35:14.6±0.3, 33.31N×35.39E, h2km, ML3.0, Error ellipse: s-maj=6.3km s-min=3.8km az=47.0*
GRAL ***11*** *02:35:15.6±0.3, 33.32N×35.42E, h0km±4km, MD3.0*
NSSC ***11*** *02:35:16, 33.30N×35.48E, h12km±3km*

ISC 11 02:35:13.8±1.4, 33.28N±0.05×35.35E±0.07, h1km±8km, n24, σ0°57/36, 12D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATL	**Matarih**	**0.21**	**355**	*e*P	**Pg**	**02 35 19.1**	**+1.2**
MATL	**Matarih**	**0.21**	**355**	*e*P	**Pg**	**02 35 19.1**	**+1.2**
RCY	**Rachaya**	**0.44**	**62**	*e*P	**Pg**	**02 35 22.6**	**+0.3**
RCY				*e*S	**Sg**	**02 35 27.8**	**-0.3**
RCY	**Rachaya**	**0.44**	**62**	*e*P	**Pg**	**02 35 22.5**	**+0.2**
RCY				*e*S	**Sg**	**02 35 27.8**	**-0.2**
BRBR	**Barbar**	**0.52**	**75**	⇓P	**Pg**	**02 35 24.0**	**+0.2**
BRBR				⇑S	**Sg**	**02 35 31.0**	**+0.5**
BRBR	**Barbar**	**0.52**	**75**	⇓ *i*P	**Pg**	**02 35 24.0**	**+0.2**
BRBR				⇑ *i*S	**Sg**	**02 35 31.2**	**+0.7**
BHL	**Bhannes**	**0.67**	**22**	*e*P	**Pg**	**02 35 26.6**	**-0.1**
BHL				*e*S	**Sg**	**02 35 34.8**	**-0.7**
BHL	**Bhannes**	**0.67**	**22**	*e*P	**Pg**	**02 35 26.6**	**-0.1**
BHL				*e*S	**Sg**	**02 35 34.8**	**-0.7**
QASN	**Qassioun**	**0.81**	**72**	⇑P	**Pg**	**02 35 30.0**	**+0.6**
QASN				⇓S	**Sg**	**02 35 40.0**	**0.0**
QASN	**Qassioun**	**0.81**	**72**	⇑ *i*P	**Pg**	**02 35 30.0**	**+0.6**
QASN				⇓ *i*S	**Sg**	**02 35 40.1**	**+0.1**
TOTH	**TOTAH**	**0.91**	**84**	⇑P	**Pg**	**02 35 31.0**	**-0.2**
TOTH	**TOTAH**	**0.91**	**84**	⇑ *i*P	**Pg**	**02 35 31.6**	**+0.4**
HWQ	**Hawqa**	**1.11**	**26**	*e*P	**Pg**	**02 35 34.5**	**-0.6**
HWQ	**Hawqa**	**1.11**	**26**	*e*P	**Pg**	**02 35 34.5**	**-0.7**
SALA	**Sala**	**1.29**	**116**	⇑P	**Pg**	**02 35 38.0**	**-0.6**
SALA				⇑S	**Sg**	**02 35 55.0**	**-0.3**
SALA	**Sala**	**1.29**	**116**	⇑ *i*P	**Pg**	**02 35 38.7**	**+0.1**
SALA				⇑ *i*S	**Sg**	**02 35 55.0**	**-0.3**
FKH	**Fakeheh**	**1.29**	**42**	*e*P	**Pg**	**02 35 37.8**	**-0.9**
FKH	**Fakeheh**	**1.29**	**42**	*e*P	**Pg**	**02 35 37.8**	**-0.9**
HAWK	**Haweek**	**1.52**	**35**	⇓P	**Pn**	**02 35 41.0**	**-1.2**
HAWK	**Haweek**	**1.52**	**35**	⇓ *i*P	**Pn**	**02 35 41.9**	**-0.3**
BIDA	**Albida**	**1.91**	**25**	⇓P	**Pn**	**02 35 47.0**	**-0.5**
BIDA				⇓S	**Sn**	**02 36 13.0**	**+0.8**
BIDA	**Albida**	**1.91**	**25**	⇓ *i*P	**Pn**	**02 35 47.5**	**0.0**
BIDA				⇓S	**Sn**	**02 36 13.1**	**+0.9**
WRDH	**Warideh**	**2.39**	**21**	⇓P	**Pn**	**02 35 54.0**	**-0.2**
WRDH	**Warideh**	**2.39**	**21**	⇓ *i*P	**Pn**	**02 35 54.4**	**+0.2**

ISCJB ***11*** *02:39:56.2±1.3, 39.14N±0.09×73.66E±0.09, h10km, mb3.8/3, Error ellipse: s-maj=12.8km s-min=9.4km az=157.7*
IDC ***11*** *02:40:00.2±1.8, 39.60N×73.81E, h0km, mb3.8/3, mb1 3.6/8, mb1mx3.4/30, mbtmp3.6/8, ML3.1/5, Error ellipse: s-maj=29.3km s-min=15.3km az=131.0*
NNC ***11*** *02:40:06.7±11.0, 39.84N×73.82E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=89.5km s-min=41.7km az=166.0*
NEIC ***11*** *02:40:06.1±2.0, 39.70N×73.58E, h35km, Error ellipse: s-maj=28.0km s-min=15.7km az=157.0*

ISC 11 02:39:57.5±1.3, 39.15N±0.09×73.70E±0.09, h10km, n32, σ1°24/39, mb3.8/3, 4C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**2.98**	**360**	P	**Pn**	**02 40 46.8**	**+2.0**
	SNR=53						
UCH	**Uchtor**	**3.14**	**11**	P	**Pn**	**02 40 46.8**	**-0.1**
	SNR=6.4						
KZA	**Kyzart**	**3.16**	**22**	P	**Pn**	**02 40 46.4**	**-0.8**
	SNR=10						
EKS2	**Erkin-Say**	**3.51**	**1**	P	**Pn**	**02 40 56.3**	**+4.3**
	SNR=9.0						
EKS2	**Erkin-Say**	**3.51**	**1**	*e*Pn	**Pn**	**02 40 52.3**	**+0.2**
EKS2				*e*S	**Sn**	**02 41 34.0**	**+0.4**
AAK	**Ala-Archa**	**3.53**	**10**	P	**Pn**	**02 40 53.1**	**+0.7**
	SNR=9.7						
AAK	**Ala-Archa**	**3.53**	**10**	Pn	**Pn**	**02 40 52.9**	**+0.5**
	0.1nm,0.3s,baz=162,slow=5.7,SNR=20						
AAK				Lg		02 41 36.1	
	0.3nm,0.3s,baz=7.5,slow=13,SNR=13						
AAK	**Ala-Archa**	**3.53**	**10**	*e*Pn	**Pn**	**02 40 52.1**	**-0.3**
AAK				Lg		02 41 36.1	
AAK				*e*S	**Sn**	**02 41 36.1**	**+1.9**
KBK	**Karagaybulak**	**3.63**	**15**	P	**Pn**	**02 40 56.2**	**+2.5**
	SNR=14						
ULHL	**Ulahol**	**3.65**	**31**	P	**Pn**	**02 40 54.7**	**+0.7**
	SNR=11						
TKM2	**Tokmak 2**	**4.03**	**20**	P	**Pn**	**02 41 00.6**	**+1.3**
	SNR=12						
TKM2	**Tokmak 2**	**4.03**	**20**	⇑Pn	**Pn**	**02 40 59.9**	**+0.6**
	2.0nm,0.3s						
TKM2				⇑Pg	**Pb**	**02 41 07.7**	**-0.9**
	27nm,1.1s						
TKM2				⇓Sn	**Sn**	**02 41 44.8**	**-1.7**
	20nm,0.6s						
TKM2				⇑Lg		02 41 55.5	
	29nm,0.6s						
TKM2	**Tokmak 2**	**4.03**	**20**	*e*Pn	**Pn**	**02 40 60.0**	**+0.7**
USP	**Ospenovka**	**4.16**	**8**	P	**Pb**	**02 41 09.1**	**-1.7**
	SNR=6.3						
KK31	**Karatay Array**	**4.62**	**330**	Pn	**Pn**	**02 41 08.1**	**+0.7**
	1.3nm,0.2s,baz=129,slow=12,SNR=50						
KK31				Pg	**Pb**	**02 41 17.2**	**-1.4**
	2.3nm,0.2s,baz=135,slow=16,SNR=15						
KK31				⇓Sn	**Sn**	**02 42 01.5**	**+0.4**
	6.4nm,0.4s				

BVAR				Lg			02 47 15.7		
	0.1nm,0.3s,baz=159,slow=25,SNR=3.1								
BVAR	**Borovoye Array**	**14.06**	**352**	Pn		**Pn**	**02 43 13.3**	**-3.3**
BVAR				Lg			02 47 15.7		
ABKAR	**Akbulak array**	**14.10**	**320**	*e*Pn		**Pn**	**02 43 14.8**	**-2.3**
	0.9nm,0.4s								
AKTK	**Aktyubinsk**	**15.81**	**321**	Pn		**Pn**	**02 43 39.7**	**-0.4**
AKTO	**Aktyubinsk**	**15.81**	**321**	⇑Pn		**Pn**	**02 43 43.1**	**+3.1**
	0.7nm,1.1s								
AKTO	**Aktyubinsk**	**15.81**	**321**	Pn		**Pn**	**02 43 39.7**	**-0.4**
	0.2nm,0.3s,baz=124,slow=17,SNR=4.7								
FINES	**FINESS Array B**	**36.55**	**323**	P		**P**	**02 47 03.4**	**+0.4**
	0.8nm,0.4s,mb3.9,baz=105,slow=9.1,SNR=4.8								
FINES	**FINESS Array B**	**36.55**	**323**	P		**P**	**02 47 03.4**	**+0.4**
ARCES	**ARCESS Array B**	**39.56**	**336**	P		**P**	**02 47 28.4**	**+0.2**
	1.8nm,0.7s,mb3.9,baz=111,slow=8.6,SNR=12								
ARCES	**ARCESS Array B**	**39.56**	**336**	P		**P**	**02 47 28.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**67.90**	**269**	P		**P**	**02 51 02.0**	**+5.4**
	0.3nm,0.5s,mb3.6,baz=48,slow=5.7,SNR=5.4								
TORD	**Torodi Ar. Bea**	**67.90**	**269**	P		**P**	**02 51 02.0**	**+5.4**

IDC 11 02:47:31.1±1.8, 5.51°S×152.14°E, h0km, mb3.9/5, mb1 4.2/6, mb1mx3.9/19, mbtmp4.0/6, ML3.1/1, MS3.3/3, Ms1 3.3/3, ms1mx2.9/25, Error ellipse: s-maj=67.1km s-min=20.8km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.28**	**232**	Pn		Pn		02 49 06.1	+1.0
	2.4nm,0.3s,baz=27,slow=13,SNR=5.9								
PMG				Sn		Sn		02 50 19.5	+2.0
	1.6nm,0.3s,baz=285,slow=20,SNR=2.9								
CTA	**Charters Tower**	**15.58**	**201**	LR		LR		02 54 54.9	
	comp=Z,47nm,21.5s,baz=50,slow=28								
WRA	**Warramunga Arr**	**22.49**	**229**	P		P		02 52 32.3	0.0
	3.8nm,0.8s,baz=53,slow=10,SNR=21								
ASAR	**Alice Springs**	**25.19**	**222**	P		P		02 52 58.5	0.0
	6.0nm,0.8s,baz=57,slow=8.8,SNR=43								
FITZ	**Fitzroy Crossi**	**28.75**	**242**	P		P		02 53 30.0	-0.6
	1.0nm,0.5s,baz=48,slow=9.4,SNR=8.1								
DAV	**Davao City (W)**	**29.30**	**295**	LR		LR		03 04 49.3	
	comp=Z,62nm,18.4s,baz=167,slow=35								
RPZ	**Rata Peaks**	**41.54**	**159**	LR		LR		03 10 30.1	
	comp=Z,86nm,19.5s,baz=336,slow=33								
SONM	**Songino Array**	**66.57**	**328**	P		P		02 58 23.8	+0.7
	0.6nm,0.5s,baz=134,slow=6.2,SNR=3.3								
ILAR	**Eielson Array**	**83.06**	**22**	P		P		02 59 57.9	-0.3
	0.4nm,0.6s,baz=242,slow=4.8,SNR=5.0								
TORD	**Torodi Ar. Bea**	**149.89**	**287**	PKPbc		PKPbc		03 07 24.3	-0.2
	0.5nm,0.7s,baz=90,slow=2.3,SNR=9.6								

IDC 11 03:35:43.7±1.1, 60.25°N×146.42°W, h0km, mb3.8/4, mb1 4.0/8, mb1mx3.7/27, mbtmp3.8/8, ML3.5/3, Error ellipse: s-maj=18.1km s-min=11.3km az=67.0
ISCJB 11 03:35:45.7±0.4, 60.23°N±0.03°×146.58°W±0.05, h47km±7km, mb3.7/4, Error ellipse: s-maj=5.4km s-min=3.6km az=165.7
NEIC 11 03:35:47.4, 60.27°N×146.60°W, h26km, ML3.6(AEIC), After AEIC.
NEIC Felt at Cordova and Valdez.

ISC 11 03:35:46.6±0.7, 60.25°N±0.03°×146.62°W±0.04, h28km±6km, n56, σ0°91°/79, mb3.7/4, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EYAK	**Cordova Ski Ar**	**0.53**	**55**	P		P	**Pb**	**03 35 56.9**	**-0.4**
EYAK				S		S	**Sb**	**03 36 04.5**	**-0.1**
MID	**Middleton Isla**	**0.84**	**170**	P		**Pn**	**03 36 03.6**	**+1.2**
MID				S		**Sn**	**03 36 15.1**	**+1.3**
DIV	**Divide**	**0.97**	**25**	*e*Pg		**Pn**	**03 36 03.6**	**-0.7**
DIV				*e*S		**Sn**	**03 36 16.3**	**-0.9**
RAGM	**Ragged Mountai**	**0.98**	**81**	P		**Pn**	**03 36 04.0**	**-0.3**
RAGM				S		**Sn**	**03 36 16.5**	**-0.7**
BMRM	**Bremner River**	**1.23**	**53**	*e*Pn		**Pn**	**03 36 06.9**	**-0.9**
BMRM				*e*S		**Sn**	**03 36 23.1**	**-0.3**
KLU	**Klutina**	**1.29**	**15**	P		**Pn**	**03 36 08.3**	**-0.4**
SEW	**Seward**	**1.42**	**265**	*e*Pn		**Pn**	**03 36 10.2**	**-0.3**
SEW				*e*S		**Sn**	**03 36 27.3**	**-0.9**
KNK	**Knik Glacier**	**1.47**	**323**	P		**Pn**	**03 36 11.6**	**+0.5**
SCM	**Sheep Creek Mo**	**1.62**	**348**	P		**Pn**	**03 36 13.3**	**+0.1**
SML	**Sawmill**	**1.77**	**333**	*e*Pn		**Pn**	**03 36 16.1**	**+0.8**
SML				*e*S		**Sn**	**03 36 39.4**	**+2.6**
SLKM	**Skilak Lake**	**1.81**	**280**	*e*Pn		**Pn**	**03 36 15.7**	**0.0**
SLKM				*e*S		**Sn**	**03 36 37.7**	**0.0**
PMR	**Palmer**	**1.82**	**319**	*e*Pn		**Pn**	**03 36 16.3**	**+0.4**
PMR				*e*S		**Sn**	**03 36 40.5**	**+2.5**
BRLK	**Bradley Lake**	**2.20**	**259**	P		**Pn**	**03 36 21.6**	**+0.5**
BRLK				S		**Sn**	**03 36 46.9**	**-0.4**
SUA	**Susitna One**	**2.36**	**303**	P		**Pn**	**03 36 23.1**	**-0.2**
PAX	**Paxson**	**2.78**	**11**	*e*Pn		**Pn**	**03 36 29.4**	**+0.3**
PAX				*e*S		**Sn**	**03 37 01.8**	**+0.1**
SKT	**Skwentna**	**2.95**	**308**	P		**Pn**	**03 36 30.9**	**-0.5**
MENT	**Mentasta**	**3.03**	**26**	*e*Pn		**Pn**	**03 36 32.8**	**+0.2**
MENT				*e*S		**Sn**	**03 37 15.6**	**+7.8**
RSO	**Redoubt South**	**3.06**	**277**	*e*Pn		**Pn**	**03 36 32.7**	**-0.2**
RND	**Reindeer**	**3.34**	**342**	P		**Pn**	**03 36 38.0**	**+1.2**
DDM	**Donnelly Dome**	**3.57**	**5**	P		**Pn**	**03 36 40.7**	**+0.8**
DOT	**Dot Lake**	**3.62**	**18**	P		**Pn**	**03 36 41.2**	**+0.6**
BCA3	**Beaver Creek A**	**3.64**	**37**	P		**Pn**	**03 36 41.3**	**+0.3**
TRF	**Thorofare Moun**	**3.65**	**333**	*e*Pn		**Pn**	**03 36 43.0**	**+1.9**
TRF				*e*S		**Sb**	**03 37 35.4**	**+1.3**
MCK	**McKinley**	**3.66**	**344**	*e*Pn		**Pn**	**03 36 42.0**	**+0.8**
MCK				*e*S		**Sb**	**03 37 33.0**	**-1.3**
PNL	**Peninsula**	**3.68**	**96**	*e*Pn		**Pn**	**03 36 41.2**	**-0.3**
PPLA	**Purkeypile**	**3.76**	**317**	*e*Pn		**Pn**	**03 36 42.1**	**-0.5**
PPLA				*e*S		**Sb**	**03 37 36.9**	**-0.2**
KDAK	**Kodiak Island**	**3.96**	**234**	Pn		**Pn**	**03 36 45.8**	**+0.6**
	17nm,0.3s,baz=43,slow=10,SNR=211								
KDAK				Sn		**Sn**	**03 37 28.5**	**-2.1**
	13nm,0.3s,baz=117,slow=24,SNR=20								
KDAK	**Kodiak Island**	**3.96**	**234**	*e*Pn		**Pn**	**03 36 46.3**	**+1.0**
KDAK				*e*S		**Sn**	**03 37 27.6**	**-3.0**
BPAW	**Bear Paw Mtn.**	**4.37**	**334**	P		**Pn**	**03 36 51.7**	**+0.8**
IL1	**Eielson Array**	**4.54**	**359**	P		**Pn**	**03 36 52.3**	**-0.9**
ILAR	**Eielson Array**	**4.54**	**359**	Pn		**Pn**	**03 36 52.4**	**-0.9**
	1.6nm,0.3s,baz=178,slow=13,SNR=131								
ILAR				Pg		**Pn**	**03 36 59.9**	**+6.6**
	4.8nm,0.3s,baz=185,slow=13,SNR=59								
ILAR				Sn		**Sn**	**03 37 41.9**	**-3.1**
	3.9nm,0.3s,baz=188,slow=20,SNR=5.2								
ILAR	**Eielson Array**	**4.54**	**359**	Pn		**Pn**	**03 36 52.4**	**-0.9**
ILAR				Sn		**Sn**	**03 37 41.9**	**-3.1**
OHAK	**Old Harbor**	**4.62**	**232**	P		**Pn**	**03 36 54.0**	**-0.3**
COLA	**College**	**4.67**	**354**	*e*Pn		**Pn**	**03 36 54.7**	**-0.4**
COLA				*e*S		**Sb**	**03 37 59.8**	**-3.6**
MDM	**Murphy Dome**	**4.78**	**352**	P		**Pn**	**03 36 56.2**	**-0.3**
DAWY	**Dawson**	**5.11**	**38**	P		**Pn**	**03 37 01.6**	**+0.5**
EGAK	**Eagle**	**5.20**	**27**	*e*Pn		**Pn**	**03 37 02.8**	**+0.5**
	46nm,0.6s								
EGAK				*e*S		**Sb**	**03 38 29.4**	**+11**
TT01	**Tatalina**	**5.22**	**305**	P		**Pn**	**03 37 01.1**	**-1.6**
SKAG	**Skagway**	**5.75**	**93**	*e*Pn		**Pn**	**03 37 10.1**	**+0.2**
WHY	**Whitehorse**	**5.82**	**81**	P		**Pn**	**03 37 11.1**	**+0.2**
SIT	**Sitka**	**6.70**	**114**	*e*Pn		**Pn**	**03 37 22.9**	**-0.1**
COLD	**Coldfoot**	**7.18**	**349**	P		**Pn**	**03 37 29.3**	**-0.1**
BM3	**Burnt Mountain**	**7.25**	**6**	P		**Pn**	**03 37 30.6**	**+0.1**
CHGN	**Chignik**	**7.37**	**243**	*e*Pn		**Pn**	**03 37 32.8**	**+0.7**
CHGN				*e*S		**Sn**	**03 38 52.5**	**-2.2**
DLBC	**Dease Lake**	**8.67**	**95**	Pn		**Pn**	**03 37 49.0**	**-0.9**
	0.6nm,0.3s,baz=256,slow=9.2,SNR=9.1								
DLBC	**Dease Lake**	**8.67**	**95**	Pn		**Pn**	**03 37 49.0**	**-0.9**
YKA	**Yellowknife Ar**	**15.42**	**68**	Pn		**Pn**	**03 39 21.0**	**-0.6**
	0.1nm,0.3s,baz=278,slow=13,SNR=3.0								
YKA	**Yellowknife Ar**	**15.42**	**68**	Pn		**Pn**	**03 39 21.1**	**-0.6**
PDAR	**Pinedale Array**	**28.42**	**111**	P		**P**	**03 41 40.2**	**+1.9**
	0.4nm,0.5s,mb3.3,baz=335,slow=4.8,SNR=8.5								
PDAR	**Pinedale Array**	**28.42**	**111**	P		**P**	**03 41 40.2**	**+1.9**
TXAR	**Lajitas Array**	**42.17**	**118**	P		**P**	**03 43 36.5**	**+0.2**
	0.1nm,0.7s,mb2.6,baz=337,slow=8.8,SNR=2.8								
TXAR	**Lajitas Array**	**42.17**	**118**	P		**P**	**03 43 36.5**	**+0.2**
ARCES	**ARCESS Array B**	**50.38**	**4**	P		**P**	**03 44 39.9**	**-0.5**
	1.8nm,0.9s,mb4.1,baz=1.3,slow=8.1,SNR=4.6								
ARCES	**ARCESS Array B**	**50.38**	**4**	P		**P**	**03 44 39.9**	**-0.5**
FINES	**FINESS Array B**	**58.50**	**4**	P		**P**	**03 45 39.1**	**-0.4**
	12nm,1.2s,mb4.8,baz=358,slow=8.3,SNR=5.2								
FINES	**FINESS Array B**	**58.50**	**4**	P		**P**	**03 45 39.1**	**-0.4**

NEIC 11 04:07:33.6, 17.96°N×68.73°W, h42km, MD2.9(RSPR), After RSPR.

RSPR 11 04:07:33.6, 17.96°N×68.73°W, h42km±7km, 6C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.54**	**88**	⇑*e*P		Pn		04 07 57.7	-0.9
CRPR	**Cabo Rojo, PR**	**1.54**	**88**	⇑*e*P		Pn		04 07 57.7	-0.9
CRPR				*e*S		Sn		04 08 16.1	-1.2
AGPR	**Aguadilla, PR**	**1.61**	**72**	⇑*e*P		Pn		04 07 58.8	-0.9
AGPR	**Aguadilla, PR**	**1.61**	**72**	⇑*e*P		Pn		04 07 58.8	-0.9
AGPR				*e*S		Sn		04 08 18.1	-1.2
SDDR	**Presa de Saban**	**2.64**	**293**	*e*Pn		Pn		04 08 13.5	-0.2
SDDR				*e*S		Sn		04 08 48.2	+3.8
HUMP	**Col San Antoni**	**2.74**	**86**	*e*S		Sn		04 08 46.2	-0.8
CBYP	**Canovanas**	**2.75**	**83**	*e*Pn		Pn		04 08 12.8	-2.4
MTP	**Monte Pirata**	**3.02**	**87**	⇑*e*P		Pn		04 08 18.1	-0.8
MTP	**Monte Pirata**	**3.02**	**87**	⇑*e*P		Pn		04 08 18.1	-0.8
MTP				*e*S		Sn		04 08 53.5	-0.5

ISCJB 11 04:16:28.1±2.3, 18.4°S±0.2°×169.0°E±0.1, h217km±22km, mb4.1/13, Error ellipse: s-maj=28.8km s-min=20.0km az=171.8
NEIC 11 04:16:28.8±2.0, 18.42°S×169.05°E, h216km±19km, mb4.1/3, Error ellipse: s-maj=22.3km s-min=14.8km az=178.0
IDC 11 04:16:31.2±7.3, 18.46°S×169.04°E, h238km±73km, mb3.7/11, mb1 3.9/11, mb1mx3.7/19, mbtmp3.7/11, Error ellipse: s-maj=34.8km s-min=17.5km az=11.0

ISC 11 04:16:28.5±2.2, 18.4°S±0.2°×169.0°E±0.1, h209km±21km, n34, σ0°74°/27, mb4.1/13, 2C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.39**	**213**	*e*P		**Pn**		**04 17 34.5**	**-0.9**
DZM	**Mont Dzumac**	**4.39**	**213**	*e*Pn		**Pn**		**04 17 35.6**	**+0.2**
DZM				*e*S		**Sn**		**04 18 28.6**	**+0.3**
URZ	**Urewera**	**21.02**	**162**	P		**P**		**04 20 56.3**	**+0.3**
	5.8nm,0.5s,mb4.3,baz=344,slow=7.1,SNR=7.6								
URZ	**Urewera**	**21.02**	**162**	P		**P**		**04 20 56.3**	**+0.3**
CTA	**Charters Tower**	**21.56**	**262**	P		**P**		**04 21 02.8**	**+0.8**
	3.3nm,0.4s,mb4.2,baz=94,slow=14,SNR=4.7								
CTA	**Charters Tower**	**21.56**	**262**	P		**P**		**04 21 02.8**	**+0.8**
STKA	**Stephens Creek**	**28.13**	**236**	P		**P**		**04 22 01.8**	**+0.5**
	0.9nm,0.5s,mb3.7,baz=44,slow=8.3,SNR=7.0								
STKA	**Stephens Creek**	**28.13**	**236**	*e*P		**P**		**04 22 01.1**	**-0.2**
	0.8nm,1.1s,mb3.3								
WRAB	**Tennant Creek**	**32.76**	**262**	*e*P		**P**		**04 22 41.1**	**-1.0**
	5.5nm,0.8s,mb4.1								
WRA	**Warramunga Arr**	**32.77**	**262**	P		**P**		**04 22 41.1**	**-1.1**
	2.6nm,0.3s,mb4.2,baz=86,slow=8.5,SNR=120								
WRA	**Warramunga Arr**	**32.77**	**262**	P		**P**		**04 22 41.1**	**-1.1**
ASAR	**Alice Springs**	**33.14**	**255**	P		**P**		**04 22 45.1**	**-0.3**
	15nm,0.4s,mb4.9,baz=82,slow=8.8,SNR=257								
ASAR	**Alice Springs**	**33.14**	**255**	P		**P**		**04 22 45.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**41.13**	**263**	P		**P**		**04 23 52.7**	**+0.1**
	8.2nm,0.6s,mb4.4,baz=105,slow=7.4,SNR=24								
FITZ	**Fitzroy Crossi**	**41.13**	**263**	P		**P**		**04 23 52.7**	**+0.1**
MBWA	**Marble Bar**	**46.32**	**258**	*e*P		**P**		**04 24 33.8**	**-0.1**
	7.2nm,0.4s,mb4.4								
PETK	**Petropavlovsk-**	**71.87**	**353**	P		**P**		**04 27 28.8**	**+0.4**
	2.8nm,0.7s,mb4.0,baz=160,slow=5.4,SNR=2.9								
PETK	**Petropavlovsk-**	**71.87**	**353**	P		**P**		**04 27 28.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**77.97**	**294**	P		**P**		**04 28 05.2**	**+1.1**
	1.5nm,0.6s,mb3.8,baz=131,slow=5.4,SNR=4.6								
CMAR	**Chiang Mai Arr**	**77.97**	**294**	P		**P**		**04 28 05.2**	**+1.1**
SONM	**Songino Array**	**86.42**	**323**	P		**P**		**04 28 48.3**	**+1.0**
	1.1nm,0.4s,mb3.9,baz=150,slow=6.8,SNR=9.3								
SONM	**Songino Array**	**86.42**	**323**	P		**P**		**04 28 48.3**	**+1.0**
NVAR	**Mina Array Bea**	**88.39**	**49**	P		**P**		**04 28 57.1**	**+0.1**
	0.4nm,0.6s,mb3.4,baz=233,slow=9.7,SNR=3.7								
NVAR	**Mina Array Bea**	**88.39**	**49**	P		**P**		**04 28 57.1**	**+0.1**
ILAR	**Eielson Array**	**89.48**	**17**	P		**P**		**04 28 59.9**	**-1.5**
	0.7nm,0.7s,mb3.6,baz=238,slow=4.8,SNR=14								
ILAR	**Eielson Array**	**89.48**	**17**	P		**P**		**04 28 59.9**	**-1.5**
MKAR	**Makanchi Array**	**100.99**	**316**	P		Pdif		04 29 54.7	+0.5
	0.4nm,0.6s,baz=99,slow=4.5,SNR=3.7								
MKAR	**Makanchi Array**	**100.99**	**316**	P		Pdif		04 29 54.7	+0.5
ARCES	**ARCESS Array B**	**124.20**	**345**	PKP		PKPdf		04 35 00.6	-1.0
	0.6nm,0.4s,baz=68,slow=2.0,SNR=23								
ARCES	**ARCESS Array B**	**124.20**	**345**	PKP		PKPdf		04 35 00.6	-1.0
GERES	**GERESS Array B**	**143.65**	**332**	PKP		PKPdf		04 35 36.3	-2.1
	1.3nm,1.0s,baz=35,slow=4.9,SNR=5.8								
GERES	**GERESS Array B**	**143.65**	**332**	PKP		PKPdf		04 35 36.3	-2.1
MOA	**Molln**	**144.12**	**331**	⇑*i*PKPdf		PKPdf		04 35 37.8	-1.5
	3.2nm,0.6s								
SOKA	**Soboth**	**144.59**	**329**	⇑*i*PKPdf		PKPdf		04 35 39.2	-1.0
	4.2nm,0.5s								

ISCJB 11 04:17:52.7±0.4, 5.62°S±0.08°×108.04°E±0.06, h399km±6km, mb3.4/7, Error ellipse: s-maj=14.7km s-min=5.9km az=29.1
DJA 11 04:17:53, 5.77°S×108.00°E, h400km, MLv4.2/14
IDC 11 04:17:55.9±5.6, 5.76°S×107.74°E, h431km±66km, mb3.1/7, mb1 3.2/7, mb1mx3.0/21, mbtmp3.1/7, Error ellipse: s-maj=96.4km s-min=13.0km az=56.0

ISC 11 04:17:53.9±0.4, 5.63°S±0.08°×108.06°E±0.06, h390km±5km, n28, σ1°03°/34, mb3.4/7, Java Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBJI	**Citeko**	**1.44**	**237**	P		P	**S**	**04 19 28.6**	**+1.1**
CISI	**Cisompet, Garu**	**1.93**	**187**	P		P	**Pn**	**04 18 49.2**	**+0.7**
CISI				S		S	**S**	**04 19 22.3**	**-10**
CGJI	**Cibinong**	**2.55**	**247**	P		P	**Pn**	**04 18 53.3**	**+0.6**
SMRI	**Semarang**	**2.75**	**121**	P		P	**Pn**	**04 18 55.6**	**+1.3**
UGM	**Wanagama**	**3.33**	**133**	P		P	**Pn**	**04 18 58.8**	**-0.4**
UGM				S		S	**S**	**04 19 51.6**	**-0.4**
KLSI		**3.45**	**286**	P		P	**Pn**	**04 19 01.1**	**+0.9**
KLSI				S		S	**S**	**04 19 52.0**	**-1.8**
KASI	**Kota Agung**	**3.55**	**272**	P		P	**Pn**	**04 19 02.2**	**+1.1**
KASI				S		S	**S**	**04 19 51.5**	**-4.0**
PCJI	**Pacitan**	**4.01**	**130**	P		P	**Pn**	**04 19 05.3**	**-0.1**
PCJI				S		S	**S**	**04 20 00.7**	**-2.6**
LWLI	**Liwa**	**4.03**	**278**	P		P	**Pn**	**04 19 03.9**	**-1.8**
MDSI	**Maura Dua**	**4.03**	**286**	P		P	**Pn**	**04 19 07.0**	**+1.3**
SJI	**Sawahan**	**4.23**	**126**	P		P	**Pn**	**04 19 07.4**	**-0.2**
PWJI	**Pagerwojo**	**4.41**	**123**	P		P	**Pn**	**04 19 08.4**	**-1.0**
MNAI	**Manna**	**5.24**	**284**	P		P	**Pn**	**04 19 18.3**	**+0.3**
	2.3nm511nm,0.5s								
MNAI				S		S	**S**	**04 20 21.0**	**-5.3**
	2.3nm511nm,0.5s								
KMMI	**Kalianget**	**6.04**	**104**	P		P	**Pn**	**04 19 27.3**	**+0.8**
	0.2nm40nm,0.7s								
STKI	**Sintang**	**6.61**	**31**	P		P	**Pn**	**04 19 37.1**	**+4.2**
KSM	**Kuching**	**7.40**	**18**	P		P	**Pn**	**04 19 42.3**	**+0.4**
	0.2nm57nm,0.8s								
RGRI	**Rengat**	**7.76**	**312**	P		P	**Pn**	**04 19 46.7**	**+0.7**
PDSI	**Padang**	**8.92**	**301**	P		P	**Pn**	**04 19 58.2**	**-1.1**
SBUM	**Sibu**	**9.04**	**27**	P		P	**Pn**	**04 20 01.7**	**+1.0**
BMNI	**Bima**	**10.94**	**106**	P		P	**Pn**	**04 20 21.1**	**-1.8**
BKSI	**Bulukumba**	**12.01**	**89**	P		P	**P**	**04 20 34.1**	**0.0**
FITZ	**Fitzroy Crossi**	**21.17**	**127**	P		P	**P**	**04 22 10.4**	**+0.6**
	2.5nm,0.8s,mb3.7,baz=334,slow=3.8,SNR=7.8								
CMAR	**Chiang Mai Arr**	**25.57**	**340**	P		P	**P**	**04 22 49.0**	**-0.4**
	4.0nm,0.6s,mb4.0,baz=179,slow=7.5,SNR=12								
WRA	**Warramunga Arr**	**29.24**	**122**	P		P	**P**	**04 23 23.0**	**+1.2**
	0.2nm,0.4s,mb2.8,baz=297,slow=9.4,SNR=2.4								
ASAR	**Alice Springs**	**30.66**	**128**	P		P	**P**	**04 23 34.6**	**+0.4**
	0.3nm,0.3s,mb3.1,baz=296,slow=7.5,SNR=2.7								
STKA	**Stephens Creek**	**40.80**	**134**	P		P	**P**	**04 24 59.5**	**+0.3**
	0.6nm,0.3s,mb3.4,baz=298,slow=4.4,SNR=7.5								
SONM	**Songino Array**	**53.26**	**359**	P		P	**P**	**04 26 33.4**	**-0.4**
	1.2nm,0.5s,mb3.4,baz=175,slow=7.9,SNR=11								
SONM				PcP		PcP		04 27 34.1	-1.6
	0.1nm,0.6s,baz=176,slow=4.8,SNR=4.5								
MKAR	**Makanchi Array**	**56.98**	**339**	P		P	**P**	**04 26 58.4**	**-1.7**
	1.3nm,0.4s,mb3.6,baz=152,slow=7.9,SNR=28								

IDC 11 04:36:15.1±6.8, 21.30°S×178.46°W, h487km±79km, mb2.9/4, mb1 3.2/5, mb1mx3.0/18, mbtmp3.0/5, Error ellipse: s-maj=61.3km s-min=29.1km az=177.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.33**	**192**	P		P	P	04 39 49.5	-0.1
	0.5nm,0.3s,baz=36,slow=5.2,SNR=3.6								
URZ				S		S	S	04 42 58.8	+14
	0.3nm,0.3s,baz=252,slow=20,SNR=3.8								
ASAR	**Alice Springs**	**43.92**	**258**	P		P	P	04 43 37.8	-0.2
	0.6nm,0.7s,baz=103,slow=8.0,SNR=5.9								
WRA	**Warramunga Arr**	**44.07**	**263**	P		P	P	04 43 39.2	0.0
	0.5nm,0.5s,baz=95,slow=5.2,SNR=10								
ILAR	**Eielson Array**	**89.19**	**13**	P		P	P	04 48 17.1	-0.5
	0.3nm,0.5s,baz=217,slow=5.2,SNR=8.3								
PDAR	**Pinedale Array**	**89.84**	**43**	P		P	P	04 48 21.8	+0.6
	0.5nm,0.8s,baz=242,slow=1.9,SNR=4.8								
BVAR	**Borovoye Array**	**119.41**	**320**	PKP		PKPdf		04 54 08.1	-0.2
	1.1nm,0.4s,baz=145,slow=5.4,SNR=5.5								
ARCES	**ARCESS Array B**	**129.63**	**349**	PKP		PKPdf		04 54 27.1	-0.3
	1.1nm,0.7s,baz=38,slow=2.2,SNR=7.6								
HFS	**Hagfors**	**140.26**	**351**	PKhKP		PKPpre		04 54 41.4	
	0.9nm,0.6s,baz=83,slow=4.6,SNR=6.2								
AKASG	**Malin Array Be**	**143.50**	**330**	PKP		PKPdf		04 54 51.4	-2.1
	0.6nm,0.4s,baz=44,slow=3.5,SNR=7.0								
BRTR	**Keskin Array B**	**147.05**	**311**	PKPbc		PKPbc		04 55 01.9	-0.9
	0.7nm,0.6s,baz=157,slow=3.6,SNR=3.9								
MLR	**Mumtele Rosu**	**148.65**	**326**	PKPbc		PKPbc		04 55 07.4	+0.7
	baz=69,slow=14								
GERES	**GERESS Array B**	**150.85**	**343**	PKPbc		PKPbc		04 55 12.0	+0.2
	0.7nm,0.6s,baz=30,slow=3.2,SNR=8.5								

MEX 11 04:53:56.1±1.0, 16.42°N×97.36°W, h20km±28km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.74**	**268**	*i* P		Pb		04 54 07.5	-2.8
PNIG				*i* S		Sb		04 54 18.1	-1.8
HUIG	**Huatulco**	**1.37**	**118**	*e*P		Pn		04 54 16.4	-3.7
HUIG				*i* S		Sn		04 54 33.9	-3.6
UTMO	**Huajuapan**	**1.46**	**343**	*i* P		Pn		04 54 18.3	-3.1
UTMO				*i* S		Sn		04 54 36.5	-3.5
ACX	**Acapulco**	**2.44**	**281**	*e*P		Pn		04 54 32.4	-2.4
ACX				*i* S		Sn		04 55 01.8	-2.2
MEIG	**Mezcala**	**2.63**	**305**	*e*P		Pn		04 54 34.7	-2.7
MEIG				*i* S		Sn		04 55 07.2	-1.5
CAIG	**El Cayaco**	**2.85**	**283**	*e*P		Pn		04 54 37.1	-3.4
CAIG				*i* S		Sn		04 55 11.6	-2.7

ISCJB 11 05:00:04.4±0.5, 35.17°N±0.05°×139.43°E±0.08, h124km±3km, mb3.6/5, Error ellipse: s-maj=11.5km s-min=6.1km az=152.7
*JMA 11 05:00:05.5±0.2, 35.20°N×139.46°E, h115km±2km, M3.4

	0.9nm,0.6s,baz=340,slow=9.2,SNR=6.0							
WRA				PcP	PcP	05 35 41.1	+0.4	
	0.5nm,0.5s,baz=340,slow=3.0,SNR=5.3							
ASAR	**Alice Springs**	**42.80**	**162**	P	P	05 34 00.1	+0.1	
	0.9nm,0.6s,baz=340,slow=6.8,SNR=7.6							
MKAR	**Makanchi Array**	**42.99**	**322**	P	P	05 34 01.6	+0.1	
	0.6nm,0.8s,baz=120,slow=8.7,SNR=4.5							
ZALV	**Zalesovo Beam**	**45.75**	**331**	P	P	05 34 23.6	+0.2	
	0.3nm,0.3s,baz=141,slow=9.3,SNR=1.9							
KURK	**Kurchatov**	**47.06**	**325**	P	P	05 34 33.0	-0.7	
	1.7nm,0.7s,baz=122,slow=8.2,SNR=8.6							
STKA	**Stephens Creek**	**52.95**	**157**	P	P	05 35 18.3	-0.3	
	1.3nm,0.7s,baz=332,slow=11,SNR=3.2							

*ISCJB **11** 05:56:20.4±0.7, 46.74N×03×20.93E±0.04, h11km±5km, Error ellipse: s-maj=4.8km s-min=3.5km az=37.0*
*CSEM **11** 05:56:21.3±0.2, 46.77N×20.99E, h12km, ML2.7/2, Error ellipse: s-maj=5.3km s-min=4.5km az=45.0*
*BEO **11** 05:56:23.0±0.9, 46.60N×20.79E, h22km±5km, ML2.5/6*

ISC 11 05:56:21.3±0.7, 46.74N±0.03×20.94E±0.04, h13km±5km, n41, σ1§27/63, 14C-5D, Hungary

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PKSN	**Nyarlorinc**	**0.75**	**282**	*e*Pg	**Pg**	**05 56 36.4**	**+0.6**
PKSN				*e*Sg	**Sg**	**05 56 47.9**	**+2.2**
BZS	**Buzias**	**1.22**	**157**	⇑*i*Pg	**Pg**	**05 56 45.1**	**+0.3**
BZS				*i* Sg	**Sg**	**05 57 00.4**	**-0.2**
BZS	**Buzias**	**1.22**	**157**	⇓*i*P	**Pn**	**05 56 44.9**	**+0.9**
BZS	**Buzias**	**1.22**	**157**	⇑*i*Pg	**Pg**	**05 56 45.1**	**+0.3**
BZS				*i* Sg	**Sg**	**05 57 00.4**	**-0.2**
BZS				S	**Sb**	**05 57 00.9**	**+1.1**
DRGR		**1.22**	**87**	⇑*i*P	**Pn**	**05 56 44.3**	**+0.3**
DRGR		**1.22**	**87**	⇑*i*P	**Pn**	**05 56 44.3**	**+0.3**
DRGR				S	**Sb**	**05 56 59.6**	**-0.2**
PSZ	**Piszkesteto**	**1.37**	**329**	⇑*e*PB	**Pn**	**05 56 45.3**	**-0.8**
PSZ				*e*SB	**Sn**	**05 57 02.1**	**-2.0**
PSZ	**Piszkesteto**	**1.37**	**329**	⇑*i*P	**Pn**	**05 56 45.3**	**-0.8**
PSZ	**Piszkesteto**	**1.37**	**329**	⇑*i*P	**Pn**	**05 56 45.3**	**-0.8**
PSZ				⇑*e*Sn	**Sn**	**05 57 02.1**	**-2.0**
PSZ				S	**Sn**	**05 57 02.4**	**-1.7**
BUD	**Budapest**	**1.50**	**300**	*e*Pn	**Pn**	**05 56 46.7**	**-1.1**
BUD				*e*Sg	**Sg**	**05 57 10.4**	**+0.8**
BUD	**Budapest**	**1.50**	**300**	*e*Pn	**Pn**	**05 56 46.7**	**-1.1**
BUD				*e*Sn	**Sg**	**05 57 10.4**	**+0.8**
PKSM	**Moragy**	**1.67**	**252**	*e*Pg	**Pg**	**05 56 51.4**	**-2.0**
PKSM				*e*Sg	**Sg**	**05 57 13.4**	**-1.7**
PKSM	**Moragy**	**1.67**	**252**	⇓*i*P	**Pn**	**05 56 51.3**	**+1.1**
PKSM	**Moragy**	**1.67**	**252**	⇓*i*P	**Pn**	**05 56 51.3**	**+1.1**
PKSM				S	**Sn**	**05 57 13.1**	**+1.6**
PKSM				*e*Sg	**Sg**	**05 57 13.4**	**-1.7**
TRPA	**Tarpa**	**1.76**	**37**	⇑*i*P	**Pn**	**05 56 50.9**	**-0.5**
TRPA	**Tarpa**	**1.76**	**37**	⇑*i*P	**Pn**	**05 56 50.9**	**-0.5**
TRPA				*e*Sn	**Sn**	**05 57 12.4**	**-1.3**
TRPA				S	**Sn**	**05 57 12.7**	**-1.0**
FRGS	**Fruska Gora**	**1.77**	**207**	*e*Pg	**Pg**	**05 56 52.4**	**-2.8**
FRGS				*e*Sg	**Sg**	**05 57 14.4**	**-3.7**
FGSL	**Fruska Gora**	**1.77**	**207**	*e*Pg	**Pg**	**05 56 52.4**	**-2.8**
PKS9	**Tamasi**	**1.84**	**266**	*e*Pn	**Pn**	**05 56 55.2**	**+2.8**
PKS9				*e*Sn	**Sn**	**05 57 15.2**	**-0.3**
PKSG		**1.86**	**291**	*e*Sn	**Sn**	**05 57 21.3**	**+5.3**
RHK3	**Tenkes**	**2.05**	**246**	*e*Pn	**Pn**	**05 56 58.2**	**+2.9**
RHK3				*e*Sn	**Sn**	**05 57 24.9**	**+4.2**
CRVS	**Cervenica-Dubn**	**2.19**	**9**	*e*PN	**Pn**	**05 56 57.6**	**+0.3**
CRVS				*e*		05 57 08.6	
CRVS	**Cervenica-Dubn**	**2.19**	**9**	*e*Pn	**Pn**	**05 56 57.7**	**+0.4**
VYHS	**Vyhne**	**2.26**	**322**	*e*PN	**Pn**	**05 56 58.2**	**0.0**
VYHS				*e*SN	**Sn**	**05 57 24.0**	**-1.9**
VYHS	**Vyhne**	**2.26**	**322**	*e*Pn	**Pn**	**05 56 58.2**	**0.0**
VYHS				*e*Sn	**Sn**	**05 57 24.0**	**-1.9**
LOT	**Lotru**	**2.36**	**122**	⇑*i*P	**Pn**	**05 56 59.9**	**+0.3**
LOT	**Lotru**	**2.36**	**122**	⇑*i*P	**Pn**	**05 56 59.9**	**+0.3**
DIVS	**Divibare**	**2.73**	**194**	*e*Pn	**Pn**	**05 57 03.8**	**-0.9**
DIVS	**Divibare**	**2.73**	**194**	*e*Pn	**Pn**	**05 57 03.8**	**-0.9**
GRUS	**Gruza**	**2.86**	**183**	*e*Pn	**Pn**	**05 57 07.0**	**+0.5**
GRUS	**Gruza**	**2.86**	**183**	*e*Pn	**Pn**	**05 57 07.0**	**+0.5**
BURAR	**Bucovina Array**	**3.05**	**72**	⇓*i*P	**Pn**	**05 57 09.9**	**+0.8**
BURAR	**Bucovina Array**	**3.05**	**72**	⇓*i*P	**Pn**	**05 57 09.9**	**+0.8**
BURAR				S	**Sn**	**05 57 46.6**	**+1.2**
SOP	**Sopron**	**3.13**	**289**	*e*Pg	**Pg**	**05 57 24.1**	**+2.9**
IVAS	**Ivanjica**	**3.21**	**190**	*e*Pn	**Pn**	**05 57 11.3**	**-0.1**
IVAS	**Ivanjica**	**3.21**	**190**	*e*Pn	**Pn**	**05 57 11.3**	**-0.1**
SJES	**Sjenica**	**3.55**	**191**	*e*Pn	**Pn**	**05 57 15.3**	**-0.7**
SJES	**Sjenica**	**3.55**	**191**	*e*Pn	**Pn**	**05 57 15.3**	**-0.7**
ZAPS	**Zavoj**	**3.67**	**160**	*e*Pn	**Pn**	**05 57 17.9**	**+0.2**
ZAPS				*e*Sn	**Sn**	**05 57 59.5**	**-1.3**
MORC	**Moravsky Berou**	**3.79**	**324**	⇑*i*P	**Pn**	**05 57 19.6**	**+0.3**
MORC	**Moravsky Berou**	**3.79**	**324**	⇑*i*P	**Pn**	**05 57 19.6**	**+0.3**

RSPR 11 05:57:58.0, 18.95N×65.37W, h44km±4km, 6C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**0.71**	**146**	⇑*e*P	Pn	05 58 10.8	-0.9
STVI	**Saint Thomas**	**0.71**	**146**	⇑*e*P	Pn	05 58 10.7	-0.9
STVI				*e*S	Sn	05 58 20.7	-0.9
CBYP	**Canovanas**	**0.81**	**214**	⇑*e*P	Pn	05 58 12.1	-1.1
CBYP	**Canovanas**	**0.81**	**214**	⇑*e*P	Pn	05 58 12.5	-0.6
CBYP				*e*S	Sn	05 58 23.8	-0.2
MTP	**Monte Pirata**	**0.86**	**191**	⇑*e*P	Pn	05 58 12.8	-1.0
MTP	**Monte Pirata**	**0.86**	**191**	⇑*e*P	Pn	05 58 12.8	-1.0
MTP				*e*S	Sn	05 58 24.2	-1.0
HUMP	**Col San Antoni**	**0.92**	**210**	*e*S	Sn	05 58 25.6	-1.0
HUMP	**Col San Antoni**	**0.92**	**210**	*e*S	Sn	05 58 25.6	-1.0

*NNC **11** 06:02:40.5±8.8, 36.60N×69.64E, h0km, mb3.9, mpv3.8, Error ellipse: s-maj=83.2km s-min=73.0km az=61.0*
*NEIC **11** 06:02:41.8±2.2, 36.18N×70.12E, h206km±17km, mb4.0/6, Error ellipse: s-maj=21.8km s-min=14.7km az=198.0*
*IDC **11** 06:02:42.2±4.0, 36.29N×70.03E, h210km±36km, mb3.0/6, mb1 3.2/11, mb1mx3.0/30, mbtmp3.1/11, Error ellipse: s-maj=30.3km s-min=21.9km az=175.0*
*ISCJB **11** 06:02:44.9±0.6, 36.51N±0.04×70.2E±0.1, h237km±7km, mb3.3/6, Error ellipse: s-maj=15.0km s-min=6.7km az=172.4*

ISC 11 06:02:46.3±0.6, 36.52N±0.05×70.3E±0.1, h230km±7km, n35, σ1§16/38, mb3.2/6, 2C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.00**	**153**	⇓P	**Pn**	**06 03 37.8**	**+0.2**
CEP				S	**S**	**06 04 18.0**	**0.0**
CHCP	**Chirah Chowk**	**3.76**	**139**	P	**Pn**	**06 03 47.9**	**+1.6**
THW	**Thamme Wali**	**3.91**	**162**	⇓P	**Pn**	**06 03 47.3**	**-0.8**
KK31	**Karatay Array**	**6.58**	**1**	Pn	**Pn**	**06 04 19.9**	**-1.3**
	1.1nm,0.3s,baz=188,slow=13,SNR=36						
KK31				⇑Sn	**S**	**06 05 33.9**	**-3.1**
	3.1nm,0.6s,baz=187,slow=19						
KKAR	**Karatay Array**	**6.58**	**1**	*e*Pn	**Pn**	**06 04 20.1**	**-1.1**
	2.7nm,0.4s						
EKS2	**Erkin-Say**	**6.70**	**23**	*e*Pn	**Pn**	**06 04 22.8**	**+0.1**
	14nm,0.6s						
AAK	**Ala-Archa**	**6.92**	**27**	P	**Pn**	**06 04 26.2**	**+0.7**
	0.1nm,0.3s,baz=186,slow=5.2,SNR=40						
AAK				S	**S**	**06 05 44.4**	**-0.5**
	0.0nm,0.3s,baz=300,slow=20,SNR=4.7						
AAK	**Ala-Archa**	**6.92**	**27**	*e*Pn	**Pn**	**06 04 25.8**	**+0.3**
AAK				S	**S**	**06 05 44.4**	**-0.5**
TKM2	**Tokmak 2**	**7.59**	**31**	⇓Pn	**Pn**	**06 04 33.9**	**-0.2**
	13nm,1.2s						
TKM2	**Tokmak 2**	**7.59**	**31**	*e*Pn	**Pn**	**06 04 34.1**	**0.0**
	9.4nm,0.9s						
MKAR	**Makanchi Array**	**13.62**	**37**	P	**Pn**	**06 05 51.5**	**+1.2**
	0.2nm,0.3s,baz=221,slow=13,SNR=8.5						
MKAR	**Makanchi Array**	**13.62**	**37**	P	**Pn**	**06 05 51.5**	**+1.2**
AB31	**Akbulak array**	**14.79**	**333**	⇑Pn	**Pn**	**06 06 05.5**	**+0.9**
	0.5nm,0.5s,baz=156,slow=11,SNR=2.9						
ABKAR	**Akbulak array**	**14.79**	**333**	*e*Pn	**Pn**	**06 06 05.1**	**+0.6**
	27nm,1.2s						
KURK	**Kurchatov**	**15.40**	**20**	P	**Pn**	**06 06 10.0**	**-1.9**
	0.1nm,0.3s,baz=210,slow=11,SNR=1.8						
KURK	**Kurchatov**	**15.40**	**20**	P	**Pn**	**06 06 10.0**	**-1.9**
AKTK	**Aktyubinsk**	**16.48**	**331**	P	**P**	**06 06 23.6**	**+0.2**
AKTO	**Aktyubinsk**	**16.48**	**331**	P	**P**	**06 06 23.6**	**+0.2**
	0.4nm,0.3s,baz=141,slow=7.3,SNR=4.4						
BVAR	**Borovoye Array**	**16.50**	**0**	P	**P**	**06 06 25.3**	**+1.8**
	0.3nm,0.3s,baz=186,slow=12,SNR=7.0						
BVAR	**Borovoye Array**	**16.50**	**0**	P	**P**	**06 06 25.3**	**+1.8**
BRVK	**Borovoye**	**16.54**	**360**	*e*P	**P**	**06 06 25.3**	**+1.4**
	2.5nm,0.5s						
ZALV	**Zalesovo Beam**	**20.14**	**26**	P	**P**	**06 07 03.3**	**+0.5**
	1.5nm,0.5s,baz=215,slow=11,SNR=6.8						
ZALV	**Zalesovo Beam**	**20.14**	**26**	P	**P**	**06 07 03.3**	**+0.5**
SONM	**Songino Array**	**28.80**	**56**	P	**P**	**06 08 24.6**	**+1.9**
	0.8nm,0.8s,mb3.4,baz=256,slow=10,SNR=4.2						
SONM	**Songino Array**	**28.80**	**56**	P	**P**	**06 08 24.6**	**+1.9**
TORD	**Torodi Ar. Bea**	**65.14**	**268**	P	**P**	**06 12 59.3**	**-3.7**
	0.4nm,0.7s,mb3.1,baz=59,slow=6.3,SNR=2.7						
TORD	**Torodi Ar. Bea**	**65.14**	**268**	P	**P**	**06 12 59.3**	**-3.7**
INK	**Inuvik**	**73.98**	**9**	*e*P	**P**	**06 13 56.4**	**+0.4**
	0.9nm,0.7s,mb3.5						
ILAR	**Eielson Array**	**74.92**	**16**	P	**P**	**06 14 00.6**	**-0.9**
	0.3nm,0.9s,mb2.9,baz=303,slow=4.2,SNR=3.8						
ILAR	**Eielson Array**	**74.92**	**16**	P	**P**	**06 14 00.6**	**-0.9**
WRA	**Warramunga Arr**	**82.49**	**121**	P	**P**	**06 14 41.5**	**-1.8**
	0.4nm,0.7s,mb3.2,baz=325,slow=4.8,SNR=5.2						
WRA	**Warramunga Arr**	**82.49**	**121**	P	**P**	**06 14 41.5**	**-1.8**
ASAR	**Alice Springs**	**84.74**	**124**	P	**P**	**06 14 53.0**	**-1.6**
	0.2nm,0.3s,mb3.4,baz=320,slow=5.4,SNR=4.4						
ASAR	**Alice Springs**	**84.74**	**124**	P	**P**	**06 14 53.0**	**-1.6**
OTAV	**Otavalo**	**133.32**	**314**	*e*PKPdf	PKPdf	06 21 34.4	-1.0

*NEIC **11** 06:04:49.8, 36.11N×21.85E, h2km, mb3.9/3, After ATH.*
*ATH **11** 06:04:49.9, 36.11N×21.85E, h2km±1km, ML3.9*
*IDC **11** 06:04:49.1±0.7, 36.06N×22.13E, h0km, mb3.9/16, mb1 4.0/20, mb1mx3.9/33, mbtmp3.8/20, ML3.4/4, MS3.0/4, Ms1 3.0/4, ms1mx2.5/38, Error ellipse: s-maj=19.1km s-min=13.9km az=141.0*
*ISCJB **11** 06:04:50.7±0.3, 36.08N±0.02×21.82E±0.03, h10km, mb4.0/19, MS2.9/4, Error ellipse: s-maj=3.1km s-min=2.5km az=152.6*
*CSEM **11** 06:04:50.9±0.2, 36.10N×21.85E, h2km, mb4.0/9, Error ellipse: s-maj=4.2km s-min=3.4km az=52.0*
*THE **11** 06:04:52.8, 36.20N×21.97E, h0km±1km, ML3.8/25, Error ellipse: s-maj=2.6km s-min=0.9km az=213.0*
*MOS **11** 06:04:53.3±2.8, 36.06N×22.05E, h29km, mb4.3/15, Error ellipse: s-maj=9.2km s-min=5.7km az=88.7*

ISC 11 06:04:52.3±0.3, 36.10N±0.02×21.87E±0.03, h10km, n309, σ1§29/390, mb4.0/19, MS2.9/4, 3C-3D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.80**	**353**	*e*PG	**Pg**	**06 05 04.9**	**-2.9**
PYL				*e*SG	**Sg**	**06 05 15.6**	**-2.6**
PYL	**PYLOS**	**0.80**	**353**	P	**Pg**	**06 05 04.7**	**-3.1**
PYL				S	**Sg**	**06 05 18.1**	**-0.1**
PYL	**PYLOS**	**0.80**	**353**	*e*Pg	**Pg**	**06 05 04.9**	**-2.9**
PYL				*e*Sg	**Sg**	**06 05 15.6**	**-2.6**
PYL				S	**Sg**	**06 05 18.1**	**-0.1**
KYTH	**Kithira**	**0.96**	**79**	*e*PG	**Pg**	**06 05 09.1**	**-1.8**
KYTH	**Kithira**	**0.96**	**79**	P	**Pg**	**06 05 09.1**	**-1.8**
KYTH	**Kithira**	**0.96**	**79**	P	**Pg**	**06 05 09.1**	**-1.8**
VLI	**Veliai**	**1.06**	**54**	*e*PG	**Pg**	**06 05 10.7**	**-2.0**
VLI				*e*SG	**Sg**	**06 05 24.5**	**-2.0**
VLI	**Veliai**	**1.06**	**54**	P	**Pg**	**06 05 10.0**	**-2.7**
VLI				S	**Sg**	**06 05 24.6**	**-1.9**
VLI	**Veliai**	**1.06**	**54**	P	**Pg**	**06 05 10.0**	**-2.7**
VLI	**Veliai**	**1.06**	**54**	*e*Pg	**Pg**	**06 05 10.7**	**-2.0**
VLI				S	**Sg**	**06 05 24.6**	**-1.9**
ITM	**Ithomi**	**1.08**	**3**	*e*PG	**Pg**	**06 05 10.5**	**-2.6**
ITM				*e*SG	**Sg**	**06 05 25.0**	**-2.1**
ITM	**Ithomi**	**1.08**	**3**	P	**Pg**	**06 05 10.4**	**-2.7**
ITM				S	**Sg**	**06 05 25.4**	**-1.7**
ITM	**Ithomi**	**1.08**	**3**	*e*Pg	**Pg**	**06 05 10.5**	**-2.6**
ITM				*e*Sg	**Sg**	**06 05 25.0**	**-2.1**
ITM				S	**Sg**	**06 05 25.4**	**-1.7**
VLX	**Vlachokerasia**	**1.33**	**18**	*e*PG	**Pg**	**06 05 14.6**	**-2.4**
VLX				*e*SB	**Sb**	**06 05 34.0**	**-0.6**
VLX	**Vlachokerasia**	**1.33**	**18**	P	**Pn**	**06 05 14.1**	**-2.9**
VLX				S	**Sb**	**06 05 34.0**	**-0.6**
VLX	**Vlachokerasia**	**1.33**	**18**	P	**Pn**	**06 05 14.1**	**-2.9**
VLX	**Vlachokerasia**	**1.33**	**18**	*e*Pg	**Pn**	**06 05 14.6**	**-2.4**
VLX				S	**Sb**	**06 05 34.0**	**-0.6**
DID	**Didima**	**1.78**	**38**	*e*PG	**Pn**	**06 05 23.1**	**-0.1**
DID				*e*SB	**Sb**	**06 05 47.5**	**0.0**
DID	**Didima**	**1.78**	**38**	P	**Pn**	**06 05 22.9**	**-0.3**
DID				S	**Sn**	**06 05 46.0**	**+0.1**
DID	**Didima**	**1.78**	**38**	P	**Pn**	**06 05 22.9**	**-0.3**
DID				S	**Sn**	**06 05 46.0**	**+0.1**
DID				*e*Sb	**Sb**	**06 05 47.5**	**0.0**
KARN	**Karanos**	**1.81**	**112**	*e*PB	**Pn**	**06 05 24.1**	**+0.6**
KARN	**Karanos**	**1.81**	**112**	P	**Pn**	**06 05 23.9**	**+0.4**
KARN	**Karanos**	**1.81**	**112**	*e*Pb	**Pn**	**06 05 24.1**	**+0.6**
GUR	**Goura**	**1.87**	**12**	*e*PB	**Pn**	**06 05 24.7**	**+0.3**
GUR				*e*SB	**Sb**	**06 05 50.5**	**+0.4**
GUR	**Goura**	**1.87**	**12**	P	**Pn**	**06 05 23.6**	**-0.8**
GUR				S	**Sn**	**06 05 49.3**	**+1.2**
GUR	**Goura**	**1.87**	**12**	P	**Pn**	**06 05 23.6**	**-0.8**
GUR	**Goura**	**1.87**	**12**	*e*Pb	**Pn**	**06 05 24.7**	**+0.3**
GUR				S	**Sn**	**06 05 49.3**	**+1.2**
VAM	**Vamos**	**2.02**	**109**	*e*PN	**Pn**	**06 05 26.6**	**+0.2**
VAM				*e*SN	**Sn**	**06 05 55.8**	**+4.1**
VAM	**Vamos**	**2.02**	**109**	P	**Pn**	**06 05 26.3**	**-0.1**
VAM	**Vamos**	**2.02**	**109**	P	**Pn**	**06 05 26.3**	**-0.1**
VAM	**Vamos**	**2.02**	**109**	*e*Pn	**Pn**	**06 05 26.6**	**+0.2**
VAM				*e*Sn	**Sn**	**06 05 55.8**	**+4.1**
NAIG	**Nisos Aigina**	**2.11**	**38**	*e*PN	**Pn**	**06 05 28.4**	**+0.8**
NAIG	**Nisos Aigina**	**2.11**	**38**	*e*Pn	**Pn**	**06 05 28.4**	**+0.8**
LTK	**Loutraki**	**2.11**	**24**	*e*PG	**Pn**	**06 05 28.8**	**+1.1**
LTK	**Loutraki**	**2.11**	**24**	P	**Pn**	**06 05 28.6**	**+0.9**
LTK				S	**Sn**	**06 05 54.2**	**+0.2**
LTK	**Loutraki**	**2.11**	**24**	P	**Pn**	**06 05 28.6**	**+0.9**
LTK				S	**Sn**	**06 05 54.2**	**+0.2**
LAKA	**Lakka**	**2.14**	**2**	P	**Pn**	**06 05 28.6**	**+0.6**
LAKA				S	**Sn**	**06 05 55.4**	**+0.8**
LAKA	**Lakka**	**2.14**	**2**	P	**Pn**	**06 05 28.6**	**+0.6**
LAKA				S	**Sn**	**06 05 55.4**	**+0.8**
KFL	**Anninata**	**2.18**	**337**	P	**Pn**	**06 05 29.5**	**+0.8**
KFL	**Anninata**	**2.18**	**337**	P	**Pn**	**06 05 29.5**	**+0.8**
KALE	**Kalithea**	**2.30**	**5**	P	**Pn**	**06 05 30.4**	**+0.2**
KALE				S	**Sn**	**06 05 58.8**	**+0.2**
KALE	**Kalithea**	**2.30**	**5**	P	**Pn**	**06 05 30.4**	**+0.2**
KALE				S	**Sn**	**06 05 58.8**	**+0.2**
VLS	**Valsamata**	**2.31**	**334**	*e*PN	**Pn**	**06 05 30.7**	**+0.3**
VLS	**Valsamata**	**2.31**	**334**	P	**Pn**	**06 05 30.0**	**-0.4**
VLS				S	**Sn**	**06 06 00.2**	**+1.3**
VLS	**Valsamata**	**2.31**	**334**	P	**Pn**	**06 05 30.0**	**-0.4**
VLS	**Valsamata**	**2.31**	**334**	*e*Pn	**Pn**	**06 05 30.7**	**+0.3**
VLS				S	**Sn**	**06 06 00.2**	**+1.3**
EFP	**Efpalio**	**2.32**	**1**	*e*PG	**Pn**	**06 05 32.4**	**+1.8**
EFP	**Efpalio**	**2.32**	**1**	P	**Pn**	**06 05 31.5**	**+0.9**
EFP				S	**Sn**	**06 05 59.6**	**+0.4**
EFP	**Efpalio**	**2.32**	**1**	P	**Pn**	**06 05 31.5**	**+0.9**
EFP	**Efpalio**	**2.32**	**1**	*e*Pg	**Pn**	**06 05 32.4**	**+1.8**
EFP				S	**Sn**	**06 05 59.6**	**+0.4**
VLY	**Voula,Athens**	**2.33**	**41**	*e*PN	**Pn**	**06 05 31.9**	**+1.2**
VLY				*e*SN	**Sn**	**06 06 02.3**	**+2.9**
VLY	**Voula,Athens**	**2.33**	**41**	P	**Pn**	**06 05 30.1**	**-0.6**
VLY				S	**Sn**	**06 05 59.7**	**+0.3**
VLY	**Voula,Athens**	**2.33**	**41**	P	**Pn**	**06 05 30.1**	**-0.6**
VLY	**Voula,Athens**	**2.33**	**41**	*e*Pn	**Pn**	**06 05 31.9**	**+1.2**
VLY				S	**Sn**	**06 05 59.7**	**+0.3**
VLY				*e*Sn	**Sn**	**06 06 02.3**	**+2.9**
DSF	**Desfina**	**2.37**	**13**	P	**Pn**	**06 05 30.8**	**-0.4**
DSF				S	**Sn**	**06 05 59.8**	**-0.5**
DSF	**Desfina**	**2.37**	**13**	P	**Pn**	**06 05 30.8**	**-0.4**
DSF				S	**Sn**	**06 05 59.8**	**-0.5**
ATH	**Athens Observa**	**2.38**	**38**	*e*PN	**Pn**	**06 05 32.6**	**+1.2**
ATH				*e*SN	**Sn**	**06 06 02.4**	**+1.7**
ATH	**Athens Observa**	**2.38**	**38**	P	**Pn**	**06 05 30.7**	**-0.7**
ATH				S	**Sn**	**06 06 01.3**	**+0.6**
ATH	**Athens Observa**	**2.38**	**38**	P	**Pn**	**06 05 30.7**	**-0.7**
ATH	**Athens Observa**	**2.38**	**38**	*e*Pn	**Pn**	**06 05 32.6**	**+1.2**
ATH				S	**Sn**	**06 06 01.3**	**+0.6**
ATH				*e*Sn	**Sn**	**06 06 02.4**	**+1.7**
PTL	**Penteli**	**2.52**	**39**	*e*PN	**Pn**	**06 05 34.0**	**+0.7**
PTL				*e*SN	**Sn**	**06 06 05.9**	**+1.9**
PTL	**Penteli**	**2.52**	**39**	P	**Pn**	**06 05 31.9**	**-1.4**
PTL				S	**Sn**	**06 06 03.3**	**-0.7**
PTL	**Penteli**	**2.52**	**39**	P	**Pn**	**06 05 31.9**	**-1.4**
PTL	**Penteli**	**2.52**	**39**	*e*Pn	**Pn**	**06 05 34.0**	**+0.7**
PTL				S	**Sn**	**06 06 03.3**	**-0.7**
PTL				*e*Sn	**Sn**	**06 06 05.9**	**+1.9**
SIVA	**Sivas**	**2.63**	**113**	P	**Pn**	**06 05 36.9**	**+2.1**
LKR	**Lokris**	**2.70**	**19**	*e*PB	**Pn**	**06 05 36.0**	**+0.2**
LKR				*e*SN	**Sn**	**06 06 10.2**	**+1.7**
LKR	**Lokris**	**2.70**	**19**	P	**Pn**	**06 05 34.7**	**-1.1**
LKR				S	**Sn**	**06 06 07.8**	**-0.7**
LKR	**Lokris**	**2.70**	**19**	P	**Pn**	**06 05 34.7**	**-1.1**
LKR	**Lokris**	**2.70**	**19**	*e*Pb	**Pn**	**06 05 36.0**	**+0.2**
LKR				S	**Sn**	**06 06 07.8**	**-0.7**
LKR				*e*Sn	**Sn**	**06 06 10.2**	**+1.7**
ATAL	**Atalanti**	**2.75**	**19**	P	**Pn**	**06 05 35.7**	**-0.7**
ATAL	**Atalanti**	**2.75**	**19**	P	**Pn**	**06 05 35.7**	**-0.7**
EVR	**Evrytania**	**2.81**	**359**	*e*PB	**Pn**	**06 05 39.2**	**+1.9**
EVR	**Evrytania**	**2.81**	**359**	P	**Pn**	**06 05 39.0**	**+1.7**
EVR				S	**Sn**	**06 06 12.0**	**+0.7**
EVR	**Evrytania**	**2.81**	**359**	P	**Pn**	**06 05 39.0**	**+1.7**
EVR	**Evrytania**	**2.81**	**359**	*e*Pg	**Pn**	**06 05 41.2**	**+3.9**
EVR				S	**Sn**	**06 06 12.0**	**+0.7**
LKD2	**Lefkada island**	**2.85**	**341**	P	**Pn**	**06 05 38.3**	**+0.5**
LKD2				S	**Sn**	**06 06 13.1**	**+0.9**
LKD2	**Lefkada island**	**2.85**	**341**	P	**Pn**	**06 05 38.3**	**+0.5**
LKD2				S	**Sn**	**06 06 13.1**	**+0.9**
THR6	**Thira Island,**	**2.87**	**84**	P	**Pn**	**06 05 37.3**	**-0.7**
THR6	**Thira Island,**	**2.87**	**84**	P	**Pn**	**06 05 37.3**	**-0.7**
THR3	**Thira Island,**	**2.87**	**83**	P	**Pn**	**06 05 38.0**	**-0.1**
THR3	**Thira Island,**	**2.87**	**83**	P	**Pn**	**06 05 38.0**	**-0.1**
AGG	**Agios Georgios**	**2.94**	**7**	*e*PB	**Pn**	**06 05 40.5**	**+1.3**
AGG	**Agios Georgios**	**2.94**	**7**	P	**Pn**	**06 05 40.5**	**+1.4**
AGG				S	**Sn**	**06 06 15.0**	**+0.6**
AGG	**Agios Georgios**	**2.94**	**7**	P	**Pn**	**06 05 40.5**	**+1.4**
AGG				S	**Sn**	**06 06 15.0**	**+0.6**
LAST	**Lasithi**	**3.09**	**107**	*e*PN	**Pn**	**06 05 42.0**	**+0.9**
LAST	**Lasithi**	**3.09**	**107**	P	**Pn**	**06 05 41.5**	**+0.4**
LAST	**Lasithi**	**3.09**	**107**	P	**Pn**	**06 05 41.5**	**+0.4**
LAST	**Lasithi**	**3.09**	**107**	*e*Pn	**Pn**	**06 05 42.0**	**+0.9**
APE	**Apeiranthos**	**3.10**	**71**	*e*PN	**Pn**	**06 05 42.3**	**+1.0**
APE	**Apeiranthos**	**3.10**	**71**	P	**Pn**	**06 05 40.7**	**-0.6**
APE				S	**Sn**	**06 06 18.6**	**+0.1**
APE	**Apeiranthos**	**3.10**	**71**	P	**Pn**	**06 05 40.7**	**-0.6**
APE	**Apeiranthos**	**3.10**	**71**	*e*Pn	**Pn**	**06 05 42.3**	**+1.0**
APE				S	**Sn**	**06 06 18.6**	**+0.1**
NPS	**Neapolis**	**3.16**	**104**	P	**Pn**	**06 05 42.7**	**+0.6**
NPS	**Neapolis**	**3.16**	**104**	P	**Pn**	**06 05 42.7**	**+0.6**
XRY	**Khrisi**	**3

comp=Z,0.1nm,0.3s,baz=240,slow=16,SNR=2.4
BRTR Keskin Array B 9.98 65 Pn **Pn** 06 07 12.7 -3.1
BRTR Keskin Array B 9.98 65 P **Pn** 06 07 12.7 -3.0
BRTR Keskin Array B 9.98 65 P **Pn** 06 07 12.7 -3.0
KEST Kesra 10.16 272 Pn **Pn** 06 07 25.2 +7.0
comp=Z,0.0nm,0.3s,baz=216,slow=19,SNR=2.4
KEST Kesra 10.16 272 Pn **Pn** 06 07 25.2 +7.0
SOKA Soboth 11.74 336⇑*i* Pn **Pn** 06 07 37.9 -1.9
SOKA Soboth 11.74 336 Sn **Sn** 06 09 39.6 -11
SOKA Soboth 11.74 336 Pn **Pn** 06 07 37.9 -1.9
OBKA Obir 11.76 334 Pn **Pn** 06 07 36.8 -3.2
OBKA Sn **Sn** 06 09 41.4 -10
PSZ Piszkesteto 11.90 354 *e*Pn **Pn** 06 07 40.7 -1.3
comp=Z,17nm,0.9s
PSZ Piszkesteto 11.90 354 *e*P **Pn** 06 07 40.7 -1.2
PSZ pmax pmax
comp=Z,17nm,0.9s
PSZ Piszkesteto 11.90 354 *e*P **Pn** 06 07 40.7 -1.2
comp=Z,17nm,0.9s
KBA Koelnbreinsper 12.68 333⇑*i* Pn **Pn** 06 07 51.0 -1.6
KBA Koelnbreinsper 12.68 333 Pn **Pn** 06 07 51.0 -1.6
DAVOX Davos/Dischmat 13.94 324 Pn **Pn** 06 08 12.7 +3.0
comp=Z,0.2nm,0.3s,baz=151,slow=17,SNR=2.9
DAVOX Sn **Sn** 06 10 37.0 -7.4
comp=Z,0.3nm,0.3s,baz=338,slow=19,SNR=2.3
DAVOX Davos/Dischmat 13.94 324 Pn **Pn** 06 08 12.7 +3.0
DAVOX Sn **Sn** 06 10 37.0 -7.5
DAVOX Davos/Dischmat 13.94 324 P **Pn** 06 08 12.7 +3.0
GERES GERESS Array B 14.08 337 Pn **Pn** 06 08 09.9 -1.7
comp=Z,0.2nm,0.3s,baz=156,slow=15,SNR=3.2
GERES GERESS Array B 14.08 337 Pn **Pn** 06 08 09.9 -1.7
GERES GERESS Array B 14.08 337 P **Pn** 06 08 09.9 -1.8
GERES GERESS Array B 14.08 337 Pn **Pn** 06 08 09.9 -1.8
MBDF Montbardon 14.35 312 *e*P **Pn** 06 08 17.6 +2.2
comp=Z,12nm,0.9s
MBDF Montbardon 14.35 312 *e*P **Pn** 06 08 17.6 +2.2
comp=Z,6.2nm,0.9s
MBDF Montbardon 14.35 312 *e*P **Pn** 06 08 17.6 +2.2
MBDF pmax pmax
comp=Z,6.0nm,0.9s
LPL La Plagne 14.80 314 *e*P **Pn** 06 08 24.8 +3.2
LPL La Plagne 14.80 314 *e*P **Pn** 06 08 24.8 +3.2
LPL La Plagne 14.80 314 *e*P **Pn** 06 08 24.8 +3.2
ORIF Oris-en-Rattie 14.99 311 *e*P **Pn** 06 08 29.3 +5.1
ORIF Oris-en-Rattie 14.99 311 *e*P **Pn** 06 08 29.3 +5.1
ORIF Oris-en-Rattie 14.99 311 *e*P **Pn** 06 08 29.3 +5.1
ORIF Oris-en-Rattie 14.99 311 *e*P **Pn** 06 08 29.3 +5.1
KIEV Kiev 15.52 18 *e*P **Pn** 06 08 32.4 +1.4
comp=Z,3.8nm,0.8s
KIEV Kiev 15.52 18 *e*P **Pn** 06 08 32.4 +1.3
KIEV pmax pmax
comp=Z,4.0nm,0.8s
AKASG Malin Array Be 15.53 18 Pn **Pn** 06 08 27.7 -3.5
comp=Z,0.3nm,0.3s,baz=208,slow=12,SNR=3.8
AKASG Malin Array Be 15.53 18 Pn **Pn** 06 08 27.7 -3.5
AKASG Malin Array Be 15.53 18 P **Pn** 06 08 27.7 -3.5
BEL Belsk 15.75 358 *e*P Px 06 08 44.2
BEL Belsk 15.75 358 *e*P Px 06 08 44.2
HINF Hinteralfeld 16.14 321 *e*P **Pn** 06 08 44.6 +5.4
HINF Hinteralfeld 16.14 321 *e*P **Pn** 06 08 44.6 +5.4
HINF Hinteralfeld 16.14 321 *e*P **Pn** 06 08 44.6 +5.4
HINF Hinteralfeld 16.14 321 *e*P **Pn** 06 08 44.6 +5.4
CDF Champ du Feu 16.34 323 *e*P **Pn** 06 08 48.3 +6.7
comp=Z,13nm,0.9s
CDF Champ du Feu 16.34 323 *e*P **Pn** 06 08 48.3 +6.7
comp=Z,6.7nm,0.9s
CDF Champ du Feu 16.34 323 *e*P **Pn** 06 08 48.3 +6.7
CDF pmax pmax
comp=Z,7.0nm,0.9s
CLL Collm 16.48 340 *e*P **Pn** 06 08 52.0 +8.6
CLL Collm 16.48 340 *e*PP 06 08 52.0
CLL *e* 06 09 15.0
MEZF Maizieres J'vi 17.51 320 *e*P **Pn** 06 09 00.8 +4.4
MEZF Maizieres J'vi 17.51 320 *e*P **Pn** 06 09 00.8 +4.4
KIV Kislovodsk 17.74 57 *e*P **Pn** 06 09 02.3 +3.0
KIV pmax pmax
comp=Z,13nm,0.9s
KIV Kislovodsk 17.74 57 *e*P **Pn** 06 09 02.3 +3.0
comp=Z,13nm,0.9s
ZEI Tsey 18.25 62 *e*P **Pn** 06 09 07.0 +1.4
ZEI pmax pmax
comp=Z,3.0nm,0.6s
ZEI Tsey 18.25 62 *e*P **Pn** 06 09 07.0 +1.4
comp=Z,3.0nm,0.6s
GNI Garni 18.43 70*ce*P **Pn** 06 09 09.0 +1.2
GNI pmax pmax
comp=Z,33nm,1.8s
GNI MLR MLR
comp=Z,17nm,14.0s
GNI Garni 18.43 70 *e*P **Pn** 06 09 09.0 +1.2
comp=Z,17nm,14.0s
GIVF Givet 18.66 324 *e*P **Pn** 06 09 16.7 +6.1
comp=Z,56nm,1.1s
GIVF Givet 18.66 324 *e*P **Pn** 06 09 16.7 +6.1
comp=Z,28nm,1.1s
GIVF Givet 18.66 324 *e*P **Pn** 06 09 16.7 +6.1
GIVF pmax pmax
comp=Z,28nm,1.1s
VSR Storozhevoye 19.55 34 *e*P **Pn** 06 09 21.3 +0.1
VSR pmax pmax
comp=Z,4.0nm,2.0s
VSR pmax pmax
comp=N,8.0nm,1.2s
VSR pmax pmax
comp=E,6.0nm,0.5s
VSR Storozhevoye 19.55 34 *e*P **Pn** 06 09 21.3 +0.1
comp=E,8.0nm,1.2s
LDF La Druitiere 20.41 315 *e*P **P** 06 09 29.1 -0.2
LDF La Druitiere 20.41 315 *e*P **P** 06 09 29.1 -0.2
LDF La Druitiere 20.41 315 *e*P **P** 06 09 29.1 -0.2
LDF La Druitiere 20.41 315 *e*P **P** 06 09 29.1 -0.2
VRHR Novokhopersk 20.63 37 *e*P **P** 06 09 36.6 +5.0
VRHR pmax pmax
comp=Z,10.0nm,0.9s
VRHR pmax pmax
comp=N,30nm,1.4s
VRHR pmax pmax
comp=E,10.0nm,0.5s
ESDC Sonseca Array 20.67 288 P **P** 06 09 34.5 +2.3
comp=E,0.9nm,0.5s,baz=84,slow=9.4,SNR=6.8
ESDC Sonseca Array 20.67 288 P **P** 06 09 34.5 +2.3
OBN Obninsk 21.54 23 *i* P **P** 06 09 46.4 +5.0
OBN *i* 06 10 07.6
OBN pmax pmax
comp=Z,9.0nm,0.8s,mb4.2
MDT Midelt 22.05 269 P **P** 06 09 46.9 -0.3
comp=Z,1.5nm,0.9s,mb3.4,baz=65,slow=15,SNR=4.0
MDT Midelt 22.05 269 P **P** 06 09 46.9 -0.3
MDT Midelt 22.05 269 P **P** 06 09 46.9 -0.3
VSU Vasula 22.60 7⇓⇓*e*P **P** 06 09 55.2 +2.4
HFS Hagfors 24.62 350 P **P** 06 10 11.0 -1.5
comp=Z,1.8nm,0.5s,mb3.9,baz=162,slow=10,SNR=6.0
HFS Hagfors 24.62 350 P **P** 06 10 11.0 -1.5
HFS Hagfors 24.62 350 P **P** 06 10 11.0 -1.5
HFS pmax pmax
comp=Z,2.0nm,0.5s
HFS Hagfors 24.62 350 P **P** 06 10 11.0 -1.5
comp=Z,2.0nm,0.5s,mb3.9
FINES FINESS Array B 25.51 5 P **P** 06 10 18.5 -2.0
comp=Z,6.7nm,0.9s,mb4.2,baz=165,slow=7.9,SNR=5.7
FINES LR LR 06 20 25.9
comp=Z,49nm,19.5s,MS3.0,baz=96,slow=37
FINES FINESS Array B 25.51 5 P **P** 06 10 18.5 -2.0
FINES LR LR 06 20 25.9
FINES FINESS Array B 25.51 5 P **P** 06 10 18.5 -2.0
FINES pmax pmax
comp=Z,7.0nm,0.9s
FINES MLR MLR
comp=Z,49nm,19.5s
FINES FINESS Array B 25.51 5 P **P** 06 10 18.5 -2.0
comp=Z,49nm,19.5s
NB2 NORSAR Subarra 25.87 348 P **P** 06 10 23.0 -0.8
comp=Z,3.9nm,1.0s,mb3.9,baz=153,slow=9.3
NB2 NORSAR Subarra 25.87 348 P **P** 06 10 23.0 -0.8
comp=Z,3.9nm,1.0s,mb3.9,SNR=5.6
NOA NORSAR Array B 25.87 348 P **P** 06 10 24.5 +0.7
comp=Z,0.8nm,0.7s,mb3.4,baz=154,slow=7.5,SNR=3.6
NOA LR LR 06 20 10.0
comp=Z,26nm,19.4s,MS2.8,baz=175,slow=36
NOA NORSAR Array B 25.87 348 P **P** 06 10 24.5 +0.7
NOA LR LR 06 20 10.0
NOA NORSAR Array B 25.87 348 P **P** 06 10 24.5 +0.7
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA MLR MLR
comp=Z,26nm,19.4s
NOA NORSAR Array B 25.87 348 P **P** 06 10 24.5 +0.7
comp=Z,26nm,19.4s
TORD Torodi Ar. Bea 29.18 224 P **P** 06 10 53.6 -0.3
comp=Z,3.2nm,0.7s,mb4.1,baz=33,slow=9.0,SNR=31
TORD LR LR 06 24 51.3
comp=Z,37nm,19.7s,MS3.0,baz=200,slow=41
TORD Torodi Ar. Bea 29.18 224 P **P** 06 10 53.6 -0.3
TORD LR LR 06 24 51.3
TORD Torodi Ar. Bea 29.18 224 P **P** 06 10 53.6 -0.3
AKTO Aktyubinsk 29.64 50 LR LR 06 27 41.6
comp=Z,18nm,18.9s,MS2.7,baz=86,slow=46
ARU Arti 31.95 39*d* *i*P **P** 06 11 20.4 +2.4
ARU *e* 06 12 25.4
ARU S **S** 06 16 34.3 +5.3
ARU SS SS 06 18 18.0 -28
ARU pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
ARCES ARCESS Array B 33.55 2 P **P** 06 11 30.1 -1.7
comp=Z,1.2nm,0.5s,mb4.1,baz=179,slow=8.5,SNR=16
ARCES ARCESS Array B 33.55 2 P **P** 06 11 30.1 -1.7
ARCES ARCESS Array B 33.55 2 P **P** 06 11 30.2 -1.7
ARCES pmax pmax
comp=Z,1.0nm,0.5s
ARCES ARCESS Array B 33.55 2 P **P** 06 11 30.2 -1.7
comp=Z,1.0nm,0.5s,mb4.0
BRVK Borovoye 37.62 48⇓⇓*e*P **P** 06 12 10.6 +3.6
BRVK pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
BVAR Borovoye Array 37.67 48 P **P** 06 12 05.2 -2.3
comp=Z,0.9nm,0.6s,mb3.7,baz=298,slow=3.1,SNR=5.2
BVAR Borovoye Array 37.67 48 P **P** 06 12 05.2 -2.3
BVAR Borovoye Array 37.67 48 P **P** 06 12 05.2 -2.3
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR Borovoye Array 37.67 48 P **P** 06 12 05.2 -2.3
comp=Z,1.0nm,0.6s,mb3.7
DBIC Dimbokro 38.16 226 P **P** 06 12 11.1 -1.0
comp=Z,6.9nm,1.0s,mb4.3,baz=49,slow=4.9,SNR=3.6
DBIC Dimbokro 38.16 226 P **P** 06 12 11.1 -1.0
DBIC Dimbokro 38.16 226 P **P** 06 12 11.1 -0.9
DBIC pmax pmax
comp=Z,7.0nm,1.0s
DBIC Dimbokro 38.16 226 P **P** 06 12 11.1 -0.9
comp=Z,7.0nm,1.0s,mb4.3
KURK Kurchatov 42.69 52 P **P** 06 12 45.6 -3.4
comp=Z,0.9nm,0.6s,mb3.6,baz=282,slow=8.8,SNR=4.3
KURK Kurchatov 42.69 52 P **P** 06 12 45.6 -3.4
KURK Kurchatov 42.69 52 P **P** 06 12 45.6 -3.5
KURK pmax pmax
comp=Z,1.0nm,0.6s,mb3.7
MKAR Makanchi Array 45.51 57 P **P** 06 13 08.7 -3.0
comp=Z,1.2nm,0.5s,mb4.1,baz=272,slow=7.5,SNR=16
MKAR Makanchi Array 45.51 57 P **P** 06 13 08.7 -3.0
MKAR pmax pmax
comp=Z,1.0nm,0.5s
ZAA0 Zalesovo Array 46.30 47 *e*P **P** 06 13 15.7 -2.2
ZAA0 Zalesovo Array 46.30 47 *e*P **P** 06 13 15.7 -2.2
ZALV Zalesovo Beam 46.30 47 P **P** 06 13 13.6 -4.4
comp=Z,1.5nm,0.4s,mb4.3,baz=267,slow=8.7,SNR=7.1
ZALV Zalesovo Beam 46.30 47 P **P** 06 13 13.6 -4.4
ZALV Zalesovo Beam 46.30 47 P **P** 06 13 13.6 -4.3
ZALV pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
SONM Songino Array 60.96 50 P **P** 06 15 02.7 -2.7
comp=Z,0.7nm,0.7s,mb3.9,baz=278,slow=9.0,SNR=4.6
SONM Songino Array 60.96 50 P **P** 06 15 02.7 -2.7
SONM Songino Array 60.96 50 P **P** 06 15 02.7 -2.7
SONM pmax pmax
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr 69.11 82 P **P** 06 15 56.2 -2.7
comp=Z,1.0nm,0.3s,mb4.2,baz=303,slow=7.7,SNR=4.9
CMAR Chiang Mai Arr 69.11 82 P **P** 06 15 56.2 -2.7
CMAR Chiang Mai Arr 69.11 82 P **P** 06 15 56.2 -2.7
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 69.11 82 P **P** 06 15 56.2 -2.7
comp=Z,1.0nm,0.3s,mb4.2
BILL Bilibino 72.80 13 *e*P **P** 06 16 26.1 +5.6
BILL pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
ILAR Eielson Array 79.07 355 P **P** 06 16 55.1 -1.2
comp=Z,0.3nm,0.9s,mb3.2,baz=352,slow=3.8,SNR=2.9
ILAR Eielson Array 79.07 355 P **P** 06 16 55.1 -1.2
ILAR Eielson Array 79.07 355 P **P** 06 16 55.2 -1.1
ILAR Eielson Array 79.07 355 P **P** 06 16 55.2 -1.1
KSRS Korea Array 79.81 51 P **P** 06 16 59.2 -1.7
comp=Z,0.9nm,0.5s,mb3.9,baz=323,slow=3.8,SNR=3.3
KSRS Korea Array 79.81 51 P **P** 06 16 59.2 -1.7
KSRS pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
KSRS Korea Array 79.81 51 P **P** 06 16 59.2 -1.7
comp=Z,1.0nm,0.5s,mb4.0
WRA Warramunga Arr 119.35 94 PKP PKPdf 06 23 39.8 -2.5
comp=Z,0.3nm,0.6s,baz=321,slow=2.4,SNR=6.6
WRA Warramunga Arr 119.35 94 PKP PKPdf 06 23 39.8 -2.4
WRA Warramunga Arr 119.35 94 PKIKP PKPdf 06 23 39.8 -2.4
ASAR Alice Springs 120.85 98 PKP PKPdf 06 23 43.1 -1.9
comp=Z,0.1nm,0.3s,baz=316,slow=1.7,SNR=5.3
ASAR Alice Springs 120.85 98 PKP PKPdf 06 23 43.1 -1.9
ASAR Alice Springs 120.85 98 PKIKP PKPdf 06 23 43.1 -1.9

CSEM ***11*** *06:23:56.0, 43.24N×46.29E, h9km, mb3.9, After OBN*
MOS ***11*** *06:23:56.3±0.8, 43.24N×46.29E, h9km, mb3.9/1, Error ellipse: s-maj=10.1km s-min=6.2km az=36.1*
ISC 11 06:23:57.2±0.5,**43.23N**±0.03×**46.24E**±0.03,**h4**km±4km,
n48,σ**0.91**/91,**4C-2D**,**Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DLMR	**Dylym**	**0.33**	**119**	*e*PG	**Pg**	**06 24 03.0**	**-0.4**
DLMR				*e*S	**Sg**	**06 24 09.0**	**+1.3**
DLMR	**Dylym**	**0.33**	**119**	*e*Pg	**Pg**	**06 24 03.0**	**-0.4**
DLMR				*e*Sg	**Sg**	**06 24 09.0**	**+1.3**
GRO	**Groznyy**	**0.37**	**284**	*e*PG	**Pg**	**06 24 04.9**	**+0.6**
GRO				*i* S	**Sg**	**06 24 10.5**	**+1.4**
GRO	**Groznyy**	**0.37**	**284**	*e*Pg	**Pg**	**06 24 04.9**	**+0.6**
GRO				*i* Sg	**Sg**	**06 24 10.5**	**+1.4**
DBC	**Dubki**	**0.48**	**116**	*i* PG	**Pg**	**06 24 05.3**	**-1.1**
DBC				*i* S	**Sg**	**06 24 12.3**	**-0.3**
DBC				pmax	pmax		
	comp=Z,78nm,0.2s						
DBC	**Dubki**	**0.48**	**116**	*i* Pg	**Pg**	**06 24 05.3**	**-1.1**
	comp=Z,78nm,0.2s						
DBC				*i* Sg	**Sg**	**06 24 12.3**	**-0.3**
KRNR	**Karanay**	**0.63**	**129**	*e*PG	**Pg**	**06 24 08.5**	**-0.8**
KRNR				*i* S	**Sg**	**06 24 17.0**	**-0.5**
KRNR				pmax	pmax		
	comp=Z,40nm,0.2s						
KRNR	**Karanay**	**0.63**	**129**	*e*Pg	**Pg**	**06 24 08.5**	**-0.8**
	comp=Z,40nm,0.2s						
KRNR				*i* Sg	**Sg**	**06 24 17.0**	**-0.5**
UNCR	**Uncukul**	**0.66**	**142**	*e*PG	**Pg**	**06 24 09.0**	**-0.7**
UNCR				*e*S	**Sg**	**06 24 19.0**	**+0.7**
UNCR				pmax	pmax		
	comp=Z,54nm,0.2s						
UNCR	**Uncukul**	**0.66**	**142**	*e*Pg	**Pg**	**06 24 09.0**	**-0.7**
	comp=Z,54nm,0.2s						
UNCR				*e*Sg	**Sg**	**06 24 19.0**	**+0.7**
BUJR	**Buynaksk**	**0.75**	**122**	*e*PG	**Pg**	**06 24 12.5**	**+0.9**
BUJR				*e*S	**Sg**	**06 24 23.0**	**+1.6**
BUJR	**Buynaksk**	**0.75**	**122**	*e*Pg	**Pg**	**06 24 12.5**	**+0.9**
BUJR				*e*Sg	**Sg**	**06 24 23.0**	**+1.6**
XNZR	**Khunzakh**	**0.77**	**154**	*e*PG	**Pg**	**06 24 11.5**	**-0.4**
XNZR				*e*S	**Sg**	**06 24 22.5**	**+0.7**
XNZR				pmax	pmax		
	comp=Z,77nm,0.2s						
XNZR	**Khunzakh**	**0.77**	**154**	*e*Pg	**Pg**	**06 24 11.5**	**-0.4**
	comp=Z,77nm,0.2s						
XNZR				*e*Sg	**Sg**	**06 24 22.5**	**+0.7**
ARKR	**Arakani**	**0.84**	**138**	*e*PG	**Pg**	**06 24 12.4**	**-0.8**
ARKR				S	**Sg**	**06 24 21.9**	**-2.1**
ARKR				pmax	pmax		
	comp=Z,42nm,0.4s						
ARKR	**Arakani**	**0.84**	**138**	*e*Pg	**Pg**	**06 24 12.4**	**-0.8**
	comp=Z,42nm,0.4s						
ARKR				Sg	**Sg**	**06 24 21.9**	**-2.1**
SNJR	**Sundja**	**1.06**	**262**	*e*PG	**Pg**	**06 24 16.9**	**-0.6**
SNJR				*e*S	**Sg**	**06 24 31.3**	**+0.1**
SNJR	**Sundja**	**1.06**	**262**	*e*Pg	**Pg**	**06 24 16.9**	**-0.6**
SNJR				*e*Sg	**Sg**	**06 24 31.3**	**+0.1**
VLKR	**Vladikavkaz**	**1.16**	**261**	*e*PG	**Pg**	**06 24 18.6**	**-0.8**
VLKR				*e*S	**Sg**	**06 24 34.8**	**+0.4**
VLKR	**Vladikavkaz**	**1.16**	**261**	*e*Pg	**Pg**	**06 24 18.6**	**-0.8**
VLKR				*e*Sg	**Sg**	**06 24 34.8**	**+0.4**
TRKR	**Terskaya**	**1.21**	**295**⇑⇑	*i*PG	**Pg**	**06 24 20.2**	**-0.1**
TRKR				*i* S	**Sg**	**06 24 37.5**	**+1.6**
TRKR	**Terskaya**	**1.21**	**295**	*i* Pg	**Pg**	**06 24 20.2**	**-0.1**
TRKR				*i* Sg	**Sg**	**06 24 37.5**	**+1.6**
BTKR	**Batakoyurt**	**1.25**	**277**⇑⇑	*i*PG	**Pg**	**06 24 20.5**	**-0.6**
BTKR				*e*S	**Sg**	**06 24 38.2**	**+0.9**
BTKR	**Batakoyurt**	**1.25**	**277**	*i* Pg	**Pg**	**06 24 20.5**	**-0.6**
BTKR				*e*Sg	**Sg**	**06 24 38.2**	**+0.9**
KMKR	**Kumukh**	**1.27**	**150**	*e*PG	**Pg**	**06 24 20.5**	**-0.9**
KMKR				*e*S	**Sg**	**06 24 38.5**	**+0.6**
KMKR				pmax	pmax		
	comp=Z,56nm,0.2s						
KMKR	**Kumukh**	**1.27**	**150**	*e*Pg	**Pg**	**06 24 20.5**	**-0.9**
	comp=Z,56nm,0.2s						
KMKR				*e*Sg	**Sg**	**06 24 38.5**	**+0.6**
ARNR	**Ardon**	**1.44**	**269**	*e*PG	**Pn**	**06 24 23.0**	**-1.0**
ARNR				*e*S	**Sn**	**06 24 42.7**	**-0.6**
ARNR	**Ardon**	**1.44**	**269**	*e*Pg	**Pn**	**06 24 23.0**	**-1.0**
ARNR				*e*Sg	**Sn**	**06 24 42.7**	**-0.6**
URKR	**Urkarakh**	**1.48**	**136**⇓⇓	*i*PG	**Pg**	**06 24 24.2**	**-1.3**
URKR				S	**Sg**	**06 24 47.0**	**+2.4**
URKR				pmax	pmax		
	comp=Z,67nm,0.2s						
URKR	**Urkarakh**	**1.48**	**136**	*i* Pg	**Pg**	**06 24 24.2**	**-1.3**
	comp=Z,67nm,0.2s						
URKR				Sg	**Sg**	**06 24 47.0**	**+2.4**
PRTR	**Priterechnaya**	**1.52**	**291**	*e*PG	**Pn**	**06 24 25.0**	**-0.1**
PRTR				*i* S	**Sg**	**06 24 46.2**	**+0.3**
PRTR	**Priterechnaya**	**1.52**	**291**	*e*Pg	**Pn**	**06 24 25.0**	**-0.1**
PRTR				*i* Sg	**Sg**	**06 24 46.2**	**+0.3**
KORR	**Kora**	**1.60**	**266**	*e*PN	**Pn**	**06 24 26.0**	**-0.2**
KORR				*e*S	**Sg**	**06 24 47.8**	**-0.7**
KORR	**Kora**	**1.60**	**266**	*e*Pn	**Pn**	**06 24 26.0**	**-0.2**
KORR				*e*Sg	**Sg**	**06 24 47.8**	**-0.7**
LSNR	**Lesken**	**1.77**	**272**	*e*PN	**Pn**	**06 24 28.5**	**-0.1**
LSNR				*e*S	**Sn**	**06 24 52.4**	**+0.8**
LSNR	**Lesken**	**1.77**	**272**	*e*Pn	**Pn**	**06 24 28.5**	**-0.1**
LSNR				*e*Sg	**Sn**	**06 24 52.4**	**+0.8**
ZEI	**Tsey**	**1.78**	**256**⇓⇓	*i*PN	**Pn**	**06 24 27.9**	**-0.8**
ZEI				*i* S	**Sn**	**06 24 52.0**	**+0.2**
ZEI	**Tsey**	**1.78**	**256**	*i* Pn	**Pn**	**06 24 27.9**	**-0.8**
ZEI				*i* Sg	**Sn**	**06 24 52.0**	**+0.2**
TBLG	**Delisi**	**1.87**	**217**	*e*PN	**Pn**	**06 24 30.5**	**+0.6**
TBLG				*e*S	**Sg**	**06 24 57.3**	**+0.2**
TBLG	**Delisi**	**1.87**	**217**	P	**Pn**	**06 24 30.5**	**+0.6**
TBLG				S	**Sg**	**06 24 57.3**	**+0.2**
TBLG	**Delisi**	**1.87**	**217**	*e*Pn	**Pn**	**06 24 30.5**	**+0.6**
TBLG				*e*Sg	**Sg**	**06 24 57.3**	**+0.2**
MTA	**Mtatsminda**	**1.87**	**215**	P	**Pn**	**06 24 30.4**	**+0.4**
MTA				S	**Sg**	**06 24 57.5**	**+0.2**
DGRG	**David-gareji**	**1.89**	**200**	P	**Pn**	**06 24 31.3**	**+1.1**
DGRG				S	**Sg**	**06 24 59.1**	**+1.2**
DIGR	**Digorskoe uzhe**	**1.98**	**261**⇑	*i*PN	**Pn**	**06 24 31.2**	**-0.2**
DIGR	**Digorskoe uzhe**	**1.98**	**261**	*i* Pn	**Pn**	**06 24 31.2**	**-0.2**
GOR	**Gori**	**2.01**	**232**	P	**Sg**	**06 25 00.1**	**-1.5**
ONI	**Oni**	**2.15**	**254**	P	**Sg**	**06 25 04.5**	**-1.6**
AKH	**Akhalkalaki**	**2.73**	**229**	P	**Sn**	**06 25 19.9**	**+4.6**

WEL 11 06:27:00.2±0.2,**44.96S**×**167.50E**,**h134**km±1km,**ML3.7**/9,
Error ellipse: s-maj=1.9km s-min=1.3km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.42**	**47**	PN	Pn	06 27 19.3	+0.1
MSZ				SN	Sn	06 27 33.1	-0.5
DCZ	**Deep Cove**	**0.57**	**205**	PN	Pn	06 27 19.6	-0.4
DCZ				SN	Sn	06 27 34.4	-0.8
MLZ	**Mavora Lakes**	**0.61**	**129**	PN	Pn	06 27 20.2	-0.1
MLZ				SN	Sn	06 27 35.2	-0.4
WHZ	**Wether Hill Ro**	**0.98**	**161**	PN	Pn	06 27 23.2	0.0
WHZ				SN	Sn	06 27 40.3	-0.4
WKZ	**Wanaka**	**1.09**	**83**	PN	Pn	06 27 24.3	+0.1
WKZ				SN	Sn	06 27 41.6	-0.8
JCZ	**Jackson Bay**	**1.27**	**46**	PN	Pn	06 27 25.5	-0.5
JCZ				SN	Sn	06 27 44.2	-1.4
EAZ	**Earnscleugh**	**1.31**	**103**	PN	Pn	06 27 26.2	-0.3
PYZ	**Puysegur Point**	**1.33**	**205**	PN	Pn	06 27 26.7	0.0
TUZ	**Tuapeka**	**1.80**	**124**	PN	Pn	06 27 31.6	-0.3
APZ	**The Paps**	**1.90**	**170**	PN	Pn	06 27 32.6	-0.5
SYZ	**Scrubby Hill**	**1.95**	**144**	PN	Pn	06 27 33.3	-0.4
LBZ	**Lake Benmore**	**2.00**	**74**	PN	Pn	06 27 32.5	-1.8
FOZ	**Fox Glacier**	**2.10**	**49**	PN	Pn	06 27 34.5	-1.1
ODZ	**Otahua Downs**	**2.23**	**93**	PN	Pn	06 27 35.8	-1.3
RPZ	**Rata Peaks**	**2.84**	**65**	PN	Pn	06 27 42.4	-2.4
MQZ	**McQueen's Vall**	**3.90**	**73**	PN	Pn	06 27 56.8	-1.9
MQZ				SN	Sn	06 28 38.7	-5.4
LTZ	**Lake Taylor**	**4.08**	**59**	PN	Pn	06 27 58.0	-3.0
LTZ				SN	Sn	06 28 43.1	-5.1
DSZ	**Denniston Nort**	**4.49**	**46**	PN	Pn	06 28 03.9	-2.7
DSZ				SN	Sn	06 28 50.6	-7.4
THZ	**Tophouse**	**5.07**	**53**	PN	Pn	06 28 11.3	-3.0
QRZ	**Quartz Range**	**5.54**	**44**	PN	Pn	06 28 18.4	-2.2
NNZ	**Nelson**	**5.70**	**51**	PN	Pn	06 28 19.9	-2.8

ISC 11 06:29:48.0±3.0,**43.9N**±0.2×**74.6E**±0.1,**h10**km,**n8**,σ**0.50**/9,
2C-1D,**Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
USP	**Ospenovka**	**0.63**	**184**	P	**Pg**	**06 29 59.5**	**-0.8**
	SNR=19						
TKM2	**Tokmak 2**	**1.23**	**142**	P	**Pn**	**06 30 11.1**	**-0.2**
	SNR=12						
TKM2	**Tokmak 2**	**1.23**	**142**	⇓⇓P	**Pn**	**06 30 10.9**	**-0.4**
	0.5nm,0.5s						
TKM2				⇑⇑S	**Sb**	**06 30 28.3**	**+0.9**
	0.7nm,0.4s						
AAK	**Ala-Archa**	**1.26**	**182**	P	**Pn**	**06 30 11.6**	**-0.1**
	SNR=7.1						
KBK	**Karagaybulak**	**1.27**	**167**	P	**Pn**	**06 30 12.1**	**+0.3**
	SNR=8.9						
EKS2	**Erkin-Say**	**1.36**	**205**	P	**Pn**	**06 30 13.2**	**+0.1**
	SNR=11						
ULHL	**Ulahol**	**2.06**	**143**	P	**Pg**	**06 30 27.0**	**-0.6**
	SNR=5.8						
KK31	**Karatay Array**	**3.05**	**256**	Pg	**Pg**	**06 30 46.8**	**+0.4**
	0.2nm,0.3s,baz=75,slow=16,SNR=6.9						
KK31				⇑⇑Lg		06 31 23.7	
	0.3nm,0.3s,baz=75,slow=27,SNR=3.5						

IDC ***11*** *06:31:32.9±4.2, 6.52S×130.05E, h113km±37km, mb3.9/12, mb1 4.1/15, mb1mx3.9/23, mbtmp3.9/15, Error ellipse: s-maj=38.8km s-min=13.1km az=68.0*
NEIC ***11*** *06:31:34.3±2.1, 6.61S×129.89E, h126km±20km, mb4.5/5, Error ellipse: s-maj=16.9km s-min=11.9km az=59.0*
ISCJB ***11*** *06:31:37.2±0.5, 6.73S±0.04×129.98E±0.05, h169km±6km, mb4.0/14, Error ellipse: s-maj=8.5km s-min=6.6km az=160.2*
DJA ***11*** *06:31:38, 6.60S×130.09E, h161km, mb4.7/11*
ISC 11 06:31:38.1±0.5,**6.71S**±0.04×**130.01E**±0.05,**h162**km±6km,
n63,σ**1.27**/70,**mb4.0**/14,**1D**,**Banda Sea**

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

	31nm,0.4s							
WRAB				*e*Sn		**Sn**	06 37 09.0	**-11**
WRAB	**Tennant Creek**	**13.80**	**163**	P		**Pn**	06 34 45.4	**-1.7**
	64nm,0.4s							
WRA	**Warramunga Arr**	**13.81**	**163**	P		**Pn**	06 34 44.6	**-2.6**
	1.1nm,0.3s,baz=339,slow=14,SNR=56							
WRA				S		**Sn**	06 37 12.7	**-7.8**
	4.0nm,0.3s,baz=348,slow=23,SNR=7.9							
WRA	**Warramunga Arr**	**13.81**	**163**	P		**Pn**	06 34 44.6	**-2.6**
WRA				S		**Sn**	06 37 12.7	**-7.8**
COEN	**Coen**	**14.81**	**120**	*e*P		**Pn**	06 34 59.9	**+0.2**
COEN				*e*S		**Sn**	06 37 33.9	**-11**
COEN	**Coen**	**14.81**	**120**	*e*Pn		**Pn**	06 35 00.8	**+1.1**
	277nm,0.8s							
COEN				*e*Sn		**Sn**	06 37 35.3	**-9.3**
COEN	**Coen**	**14.81**	**120**	P		**Pn**	06 35 01.0	**+1.3**
	54nm,0.8s							
JAGI	**Jajag, Banyuwa**	**15.82**	**263**	P		**Pn**	06 35 09.9	**-2.3**
	35nm,1.4s							
KMMI	**Kalianget**	**15.94**	**268**	P		**Pn**	06 35 14.9	**+1.3**
	32nm,1.5s							
BLJI	**Banyuglugur**	**16.32**	**265**	P		**Pn**	06 35 19.2	**+0.9**
	3μm86nm,0.7s							
GMJI	**Gumukmas**	**16.50**	**264**	P		**Pn**	06 35 19.6	**-0.9**
	25nm,1.3s							
ASAR	**Alice Springs**	**17.27**	**168**	P		**Pn**	06 35 30.4	**+0.7**
	2.5nm,0.3s,baz=356,slow=12,SNR=106							
ASAR				S		**S**	06 38 39.4	**-0.7**
	1.5nm,0.3s,baz=353,slow=23,SNR=14							
ASAR	**Alice Springs**	**17.27**	**168**	P		**Pn**	06 35 30.4	**+0.7**
ASAR				S		**S**	06 38 39.4	**-0.7**
MBWA	**Marble Bar**	**17.48**	**214**	*e*P		**Pn**	06 35 31.3	**-0.8**
	18nm,0.6s							
MBWA				*e*S		**S**	06 38 36.6	**-7.7**
MBWA	**Marble Bar**	**17.48**	**214**	P		**Pn**	06 35 32.0	**-0.1**
MTSU	**Mount Surprise**	**17.98**	**130**	*e*P		**Pn**	06 35 37.9	**-0.2**
	29nm,0.8s							
CTA	**Charters Tower**	**20.62**	**132**	P		**P**	06 36 06.9	**+2.0**
	8.8nm,0.7s,baz=327,slow=11,SNR=6.3							
CTA	**Charters Tower**	**20.62**	**132**	P		**P**	06 36 06.9	**+2.0**
STKA	**Stephens Creek**	**27.28**	**158**	P		**P**	06 37 08.4	**+1.0**
	3.5nm,0.5s,mb4.3,baz=336,slow=9.2,SNR=15							
STKA	**Stephens Creek**	**27.28**	**158**	⇓*i*P		**P**	06 37 08.2	**+0.8**
	6.2nm,1.9s,mb3.9							
STKA	**Stephens Creek**	**27.28**	**158**	*e*P		**P**	06 37 08.2	**+0.8**
	0.6nm,0.5s,mb3.5							
CMSA	**Cobar Meteorol**	**28.73**	**151**	*e*P		**P**	06 37 21.7	**+1.4**
YNG	**Young**	**32.28**	**151**	*e*P		**P**	06 37 53.3	**+1.7**
	10nm,0.7s,mb4.7							
RPZ	**Rata Peaks**	**51.46**	**143**	P		**P**	06 40 28.5	**+1.7**
	5.0nm,0.5s,mb4.4,baz=329,slow=5.9,SNR=4.2							
RPZ	**Rata Peaks**	**51.46**	**143**	P		**P**	06 40 28.5	**+1.7**
SONM	**Songino Array**	**58.17**	**341**	P		**P**	06 41 14.6	**-0.3**
	0.3nm,0.4s,mb3.5,baz=148,slow=8.5,SNR=3.3							
SONM	**Songino Array**	**58.17**	**341**	P		**P**	06 41 14.6	**-0.3**
MK31	**Makanchi Array**	**67.99**	**327**	*e*P		**P**	06 42 19.4	**-0.2**
MKAR	**Makanchi Array**	**67.99**	**327**	P		**P**	06 42 19.6	**0.0**
	4.0nm,0.6s,mb4.3,baz=122,slow=7.9,SNR=42							
MKAR	**Makanchi Array**	**67.99**	**327**	P		**P**	06 42 19.6	**0.0**
AAK	**Ala-Archa**	**70.33**	**320**	P		**P**	06 42 33.9	**-0.3**
	0.9nm,0.3s,mb4.0,baz=180,slow=6.1,SNR=2.9							
AAK	**Ala-Archa**	**70.33**	**320**	*e*P		**P**	06 42 34.4	**+0.3**
	38nm,2.3s,mb4.7							
ZALV	**Zalesovo Beam**	**71.33**	**334**	P		**P**	06 42 38.8	**-1.1**
	1.5nm,0.8s,mb3.8,baz=114,slow=7.2,SNR=3.8							
ZALV	**Zalesovo Beam**	**71.33**	**334**	P		**P**	06 42 38.8	**-1.1**
KURK	**Kurchatov**	**72.28**	**329**	P		**P**	06 42 45.3	**-0.4**
	1.5nm,0.6s,mb3.9,baz=129,slow=5.1,SNR=14							
KURK	**Kurchatov**	**72.28**	**329**	P		**P**	06 42 45.3	**-0.4**
VNDA	**Vanda**	**72.73**	**173**	P		**P**	06 42 49.0	**+0.9**
	0.6nm,0.5s,mb3.6,baz=309,slow=5.0,SNR=5.2							
VNDA	**Vanda**	**72.73**	**173**	P		**P**	06 42 49.0	**+0.9**
MAW	**Mawson**	**75.23**	**201**	P		**P**	06 43 04.0	**+1.4**
	2.8nm,0.7s,mb4.0,baz=67,slow=6.9,SNR=15							
MAW	**Mawson**	**75.23**	**201**	*e*P		**P**	06 43 03.6	**+1.0**
	0.5nm,0.6s,mb3.3							
BVAR	**Borovoye Array**	**77.82**	**328**	P		**P**	06 43 16.9	**-0.6**
	0.8nm,0.7s,mb3.5,baz=119,slow=12,SNR=3.7							
BVAR	**Borovoye Array**	**77.82**	**328**	P		**P**	06 43 16.9	**-0.6**
QSPA	**South Pole Qui**	**83.27**	**180**	*e*P		**P**	06 43 46.2	**+0.2**
	1.7nm,0.6s,mb4.0							
AKTK	**Aktyubinsk**	**83.85**	**322**	P		**P**	06 43 48.9	**-0.5**
AKTO	**Aktyubinsk**	**83.85**	**322**	P		**P**	06 43 48.9	**-0.5**
	1.1nm,0.5s,mb3.9,baz=207,slow=2.3,SNR=4.4							
ILAR	**Eielson Array**	**93.08**	**25**	P		**P**	06 44 31.0	**-2.1**
	0.7nm,0.7s,mb3.9,baz=268,slow=4.5,SNR=11							
ILAR	**Eielson Array**	**93.08**	**25**	P		**P**	06 44 31.0	**-2.1**
TORD	**Torodi Ar. Bea**	**128.77**	**281**	PKP		PKPdf	06 50 26.7	-0.6
	0.4nm,0.4s,baz=74,slow=2.2,SNR=8.3							
TORD	**Torodi Ar. Bea**	**128.77**	**281**	PKP		PKPdf	06 50 26.7	-0.6
CPUP	**Villa Florida**	**146.40**	**168**	PKPbc		PKPbc	06 51 01.5	+0.8
	2.1nm,0.5s,baz=164,slow=2.2,SNR=9.8							
CPUP	**Villa Florida**	**146.40**	**168**	PKPbc		PKPbc	06 51 01.5	+0.8
LPAZ	**La Paz**	**150.94**	**142**	PKPbc		PKPbc	06 51 14.2	+1.5
	1.5nm,0.4s,baz=108,slow=2.0,SNR=13							
LPAZ	**La Paz**	**150.94**	**142**	*e*PKPbc		PKPbc	06 51 14.2	+1.6

*ISCJB **11** 07:06:08.6±0.5,0.°68N±0.°03×121.°92E±0.°04,h111km±6km, mb3.8/9, Error ellipse: s-maj=6.7km s-min=5.2km az=34.0*
*DJA **11** 07:06:09,0.°70N×121.°90E,h75km,mb4.4/9*
*NEIC **11** 07:06:10.2±1.9,0.°53N×121.°72E,h107km±19km,mb4.0/5, Error ellipse: s-maj=36.7km s-min=8.2km az=69.0*
*IDC **11** 07:06:11.8±6.8,0.°46N×121.°67E,h118km±64km,mb3.6/5, mb1 3.8/6,mb1mx3.4/22,mbtmp3.6/6,Error ellipse: s-maj=90.2km s-min=17.3km az=65.0*

ISC 11 07:06:10.0±0.5,0.°67N±0.°03×121.°94E±0.°04,h105km±6km, n39,σ1°08/45,mb3.8/9,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MRSI	**Marisa**	**0.19**	**179**	P		**Pn**	**07 06 20.6**	**-4.3**
MRSI				S		**Sn**	**07 06 28.9**	**-7.0**
APSI	**Ampana**	**1.60**	**190**	P		**Pn**	**07 06 37.1**	**-0.7**
APSI				S		**Sn**	**07 06 59.4**	**+0.6**
LUWI	**Luwuk**	**1.89**	**154**	P		**Pn**	**07 06 41.3**	**-0.2**
LUWI				S		**Sn**	**07 07 09.2**	**+3.7**
KMSI	**Cibinong**	**2.04**	**93**	P		**Pn**	**07 06 44.5**	**+1.1**
KMSI				S		**Sn**	**07 07 11.0**	**+2.1**
MSSI	**Masamba**	**3.59**	**207**	P		**Pn**	**07 07 04.3**	**+0.5**
MSSI				S		**Sn**	**07 07 43.9**	**-1.4**
TTSI	**Tana Toraja**	**4.25**	**210**	P		**Pn**	**07 07 12.5**	**-0.3**
TTSI				S		**Sn**	**07 08 01.7**	**+0.2**
SGSI	**Sangihe**	**4.67**	**50**	S		**Sn**	**07 08 10.8**	**-0.8**
SPSI	**Sidrap Palu**	**5.09**	**205**	P		**Pn**	**07 07 23.7**	**-0.3**
	47nm,0.5s							
SPSI				S		**Sn**	**07 08 21.4**	**-0.2**
	47nm,0.5s							
BNSI	**Bone**	**5.36**	**200**	S		**Sn**	**07 08 29.6**	**+1.4**
MYLDM	**Lahad Datu**	**5.64**	**323**	P		**Pn**	**07 07 31.0**	**-0.6**
	0.7nm2μm156nm,0.9s							
LBMI	**Labuha**	**5.71**	**103**	P		**Pn**	**07 07 32.4**	**-0.1**
	72nm,0.6s							
LBMI				S		**Sn**	**07 08 35.4**	**-1.4**
	72nm,0.6s							
KAPI	**Kappang**	**6.05**	**201**	*e*Pn		**Pn**	**07 07 35.1**	**-2.0**
	12nm,0.6s							
KAPI	**Kappang**	**6.05**	**201**	P		**Pn**	**07 07 35.6**	**-1.5**
	0.1nm19nm,1.0s							
KAPI				S		**Sn**	**07 08 45.6**	**+0.5**
	0.1nm19nm,1.0s							
BKSI	**Bulukumba**	**6.22**	**197**	P		**Pn**	**07 07 41.1**	**+1.7**
	21nm,0.5s							
KKM	**Kota Kinabalu**	**7.82**	**313**	*e*Pn		**Pn**	**07 07 60.0**	**-1.2**
	44nm,0.4s							
KKM	**Kota Kinabalu**	**7.82**	**313**	P		**Pn**	**07 07 59.9**	**-1.2**
	0.2nm56nm,0.9s							
KKM				S		**Sn**	**07 09 27.9**	**-0.1**
	0.2nm56nm,0.9s							
FITZ	**Fitzroy Crossi**	**19.01**	**169**	P		**P**	**07 10 24.0**	**+0.4**
	1.0nm,0.3s,baz=8.7,slow=8.6,SNR=31							
FITZ	**Fitzroy Crossi**	**19.01**	**169**	*e*P		**P**	**07 10 23.5**	**-0.1**
	2.5nm,0.4s							
FITZ	**Fitzroy Crossi**	**19.01**	**169**	P		**P**	**07 10 24.0**	**+0.4**
	7.3nm,1.0s							
KULM	**Kulim**	**21.74**	**283**	P		**P**	**07 10 55.5**	**+2.3**
	12nm,2.3s,mb3.8							
MBWA	**Marble Bar**	**21.80**	**186**	*e*P		**P**	**07 10 51.7**	**-2.0**
	7.8nm,1.0s,mb4.0							
WRAB	**Tennant Creek**	**23.82**	**150**	*e*P		**P**	**07 11 13.0**	**-0.5**
	5.9nm,0.8s,mb4.0							
WRAB	**Tennant Creek**	**23.82**	**150**	P		**P**	**07 11 13.5**	**+0.1**
WRA	**Warramunga Arr**	**23.82**	**150**	P		**P**	**07 11 12.7**	**-0.7**
	2.2nm,0.4s,mb3.8,baz=332,slow=8.4,SNR=72							
WRA	**Warramunga Arr**	**23.82**	**150**	P		**P**	**07 11 12.7**	**-0.7**
ASAR	**Alice Springs**	**26.84**	**155**	P		**P**	**07 11 40.5**	**-0.3**
	1.4nm,0.5s,mb3.7,baz=344,slow=14,SNR=33							
ASAR				PcP	PcP		07 15 00.8	-0.2
	0.5nm,0.3s,baz=354,slow=2.3,SNR=5.1							
ASAR	**Alice Springs**	**26.84**	**155**	P		**P**	**07 11 40.5**	**-0.3**
ASAR				PcP	PcP		07 15 00.8	-0.2
STKA	**Stephens Creek**	**37.34**	**152**	P		**P**	**07 13 12.8**	**+0.4**
	2.3nm,0.4s,mb4.5,baz=324,slow=8.4,SNR=12							
STKA	**Stephens Creek**	**37.34**	**152**	*e*P		**P**	**07 13 12.2**	**-0.2**
	0.6nm,0.5s,mb3.8							
SONM	**Songino Array**	**48.88**	**346**	P		**P**	**07 14 46.9**	**+1.9**
	0.4nm,0.6s,mb3.5,baz=172,slow=11,SNR=2.7							
SONM	**Songino Array**	**48.88**	**346**	P		**P**	**07 14 46.9**	**+1.9**
MKAR	**Makanchi Array**	**57.49**	**329**	P		**P**	**07 15 48.4**	**+0.2**
	0.6nm,0.5s,mb3.9,baz=125,slow=8.8,SNR=8.5							
MKAR	**Makanchi Array**	**57.49**	**329**	P		**P**	**07 15 48.4**	**+0.2**
KURK	**Kurchatov**	**61.87**	**330**	P		**P**	**07 16 22.3**	**+4.1**
	0.3nm,0.4s,mb3.7,baz=114,slow=5.7,SNR=3.0							
KURK	**Kurchatov**	**61.87**	**330**	P		**P**	**07 16 22.3**	**+4.1**
TORD	**Torodi Ar. Bea**	**119.21**	**285**	PKP	PKPdf		07 24 47.1	-0.7
	0.3nm,0.5s,baz=79,slow=2.0,SNR=3.6							
TORD	**Torodi Ar. Bea**	**119.21**	**285**	PKP	PKPdf		07 24 47.1	-0.7
TXAR	**Lajitas Array**	**127.24**	**52**	PKP	PKPdf		07 25 04.2	+1.3
	0.1nm,0.4s,baz=351,slow=0.9,SNR=4.5							
TXAR	**Lajitas Array**	**127.24**	**52**	PKP	PKPdf		07 25 04.2	+1.3

MAN 11 07:24:11,7.°33N×124.°32E,h22km,mb4.0,ML2.8,MS2.5, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.13**	**215**	⇑*i*P		Pb	07 24 16.5	+1.0
CTBH				*i* S		Sb	07 24 24.7	+6.1
BUKP	**Musuan**	**0.92**	**53**	*e*P		Pb	07 24 30.0	+1.7
BUKP				*e*S		Sb	07 24 41.3	+1.2
PAGZ	**Pagadian**	**1.06**	**299**	*e*P		Pn	07 24 32.5	+1.9
PAGZ				*e*S		Sb	07 24 45.6	+1.3

*ISCJB **11** 07:24:25.2±1.0,29.°59S±0.°09×178.°5W±0.°1,h162km±9km, mb3.7/9, Error ellipse: s-maj=21.4km s-min=14.0km az=20.7*
*NEIC **11** 07:24:26.1±1.0,29.°05S×178.°41W,h164km±9km,mb3.8/5, Error ellipse: s-maj=21.8km s-min=19.9km az=185.0*
*IDC **11** 07:24:29.1±11.0,29.°23S×178.°54W,h186km±96km, mb3.5/7,mb1 3.6/7,mb1mx3.5/18,mbtmp3.5/7,Error ellipse: s-maj=39.6km s-min=20.5km az=59.0*

ISC 11 07:24:26.0±1.0,29.°63S±0.°09×178.°4W±0.°1,h158km±8km, n31,σ0°97/22,mb3.7/9,1C,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**0.56**	**48**	*e*Pg		**Pn**	**07 24 48.7**	**+0.2**
URZ	**Urewera**	**9.38**	**202**	*S*		**Sn**	**07 28 21.4**	**-0.4**
	1.7nm,0.3s,baz=144,slow=23,SNR=7.9							
STKA	**Stephens Creek**	**34.33**	**256**	P		**P**	**07 30 58.4**	**+0.8**
	0.7nm,0.5s,mb3.7,baz=94,slow=15,SNR=3.6							
STKA	**Stephens Creek**	**34.33**	**256**	*e*P		**P**	**07 30 59.0**	**+1.4**
	0.2nm,0.5s,mb3.1							
ASAR	**Alice Springs**	**42.82**	**266**	P		**P**	**07 32 07.8**	**-0.6**
	0.8nm,0.5s,mb3.6,baz=98,slow=6.0,SNR=13							
ASAR				PcP	PcP		07 33 56.2	-0.5
	0.3nm,0.5s,baz=124,slow=3.7,SNR=5.0							
ASAR	**Alice Springs**	**42.82**	**266**	P		**P**	**07 32 07.8**	**-0.6**
ASAR				PcP	PcP		07 33 56.2	-0.5
WRAB	**Tennant Creek**	**43.73**	**272**	*e*P		**P**	**07 32 16.2**	**+0.5**
	1.3nm,0.4s,mb3.9							
WRA	**Warramunga Arr**	**43.73**	**272**	P		**P**	**07 32 14.7**	**-1.1**
	1.2nm,0.4s,mb3.9,baz=109,slow=7.8,SNR=15							
WRA				PcP	PcP		07 33 59.0	-0.9
	0.9nm,0.8s,baz=106,slow=3.6,SNR=4.6							
WRA	**Warramunga Arr**	**43.73**	**272**	P		**P**	**07 32 14.7**	**-1.1**
WRA				PcP	PcP		07 33 59.0	-0.9
SBA	**Scott Base**	**48.78**	**184**	*e*P		**P**	**07 33 00.1**	**+5.7**
	5.6nm,1.1s,mb4.1							
QSPA	**South Pole Qui**	**60.48**	**180**	P		**P**	**07 34 22.5**	**+4.0**
	1.2nm,0.3s,mb4.2,baz=94,slow=2.3,SNR=6.5							
QSPA	**South Pole Qui**	**60.48**	**180**	*e*P		**P**	**07 34 22.5**	**+4.0**
	2.2nm,0.6s,mb4.2							
MAW	**Mawson**	**72.91**	**201**	P		**P**	**07 35 39.1**	**+1.7**
	2.4nm,0.7s,mb4.1,baz=140,slow=5.9,SNR=7.4							
MAW	**Mawson**	**72.91**	**201**	*e*P		**P**	**07 35 38.8**	**+1.4**
	0.5nm,0.7s,mb3.4							
SYO	**Syowa Base**	**77.79**	**193**	⇑*e*P		**P**	**07 36 05.0**	**-0.2**
SNAA	**Sanae**	**78.94**	**179**	P		**P**	**07 36 13.4**	**+1.9**
	0.5nm,0.8s,mb3.2,baz=186,slow=5.6,SNR=5.9							
SNAA	**Sanae**	**78.94**	**179**	P		**P**	**07 36 13.4**	**+1.9**
VNA3	**Neumayer Olymp**	**79.10**	**176**	*e*		**P**	**07 36 11.1**	**-1.3**
VNA2	**Neumayer--Watz**	**79.53**	**177**	*e*		**P**	**07 36 13.8**	**-0.9**
	baz=190,slow=6.5							
VNA1	**Neumayer--Stat**	**79.76**	**177**	*e*		**P**	**07 36 15.6**	**-0.3**
NVAR	**Mina Array Bea**	**87.90**	**43**	P		**P**	**07 36 57.1**	**-0.5**
	0.5nm,0.7s,mb3.4,baz=225,slow=6.1,SNR=5.0							
NVAR	**Mina Array Bea**	**87.90**	**43**	P		**P**	**07 36 57.1**	**-0.5**
FINES	**FINESS Array B**	**144.31**	**340**	PKP	PKPdf		07 43 39.0	-3.4
	3.4nm,0.6s,baz=65,slow=3.5,SNR=10							
FINES	**FINESS Array B**	**144.31**	**340**	PKP	PKPdf		07 43 39.0	-3.4
NOA	**NORSAR Array B**	**147.94**	**351**	PKPbc	PKPbc		07 43 49.6	-2.2
	1.0nm,0.8s,baz=17,slow=3.0,SNR=3.2							
NOA	**NORSAR Array B**	**147.94**	**351**	PKPbc	PKPbc		07 43 49.6	-2.2
AKASG	**Malin Array Be**	**150.48**	**323**	PKPbc	PKPbc		07 43 57.2	-1.3
	2.7nm,0.6s,baz=47,slow=2.7,SNR=7.8							
AKASG	**Malin Array Be**	**150.48**	**323**	PKPbc	PKPbc		07 43 57.2	-1.3
BRTR	**Keskin Array B**	**151.93**	**300**	PKPbc	PKPbc		07 44 01.4	-0.8
	0.4nm,0.5s,baz=108,slow=4.7,SNR=3.7							
BRTR				PKPab	PKPab		07 44 11.3	-0.8
	0.6nm,0.7s,baz=116,slow=3.4,SNR=2.9							
BRTR	**Keskin Array B**	**151.93**	**300**	PKPbc	PKPbc		07 44 01.4	-0.8
BRTR				PKPab	PKPab		07 44 11.3	-0.8
TORD	**Torodi Ar. Bea**	**163.60**	**180**	PKPab	PKPab		07 45 03.9	+1.1
	0.5nm,0.6s,baz=171,slow=3.5,SNR=7.0							

IDC 11 07:26:37.2±2.0,6.°57S×129.°63E,h0km,mb3.3/1, mb1 3.7/4,mb1mx3.4/18,mbtmp3.5/4,ML3.7/3,Error ellipse: s-maj=80.0km s-min=27.7km az=77.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.10**	**198**	Pn		Pn	07 29 31.6	+0.6
	0.2nm,0.3s,baz=317,slow=4.2,SNR=12							
FITZ				Sn		Sn	07 31 31.6	-15
	0.3nm,0.3s,baz=180,slow=15,SNR=4.9							
WRA	**Warramunga Arr**	**14.05**	**161**	Pn		Pn	07 29 57.1	-0.6
	0.5nm,0.3s,baz=340,slow=14,SNR=30							
ASAR	**Alice Springs**	**17.48**	**167**	P		Pn	07 30 42.6	+0.1
	0.2nm,0.3s,baz=345,slow=8.5,SNR=6.3							
MKAR	**Makanchi Array**	**67.67**	**327**	P		P	07 37 36.3	+0.1
	0.1nm,0.4s,baz=111,slow=7.9,SNR=2.8							

IDC 11 07:35:58.0±2.5,4.°85N×123.°55E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.4/23,mbtmp3.5/3,MS2.5/1,Ms1 2.5/1, ms1mx2.3/23,Error ellipse: s-maj=337.6km s-min=26.4km az=63.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TGY	**Tagaytay City**	**9.55**	**345**	LR		LR	07 42 56.6	
	comp=Z,28nm,21.0s,baz=240,slow=44							
WRA	**Warramunga Arr**	**26.82**	**157**	P		P	07 41 40.5	+0.2
	0.4nm,0.3s,baz=336,slow=10.0,SNR=13							
ASAR	**Alice Springs**	**30.09**	**161**	P		P	07 42 09.3	-0.1
	0.2nm,0.3s,baz=339,slow=6.7,SNR=5.8							
MKAR	**Makanchi Array**	**54.85**	**326**	P		P	07 45 30.1	0.0
	0.2nm,0.3s,baz=131,slow=7.2,SNR=5.3							

JMA 11 07:44:19.5,35.°82N×137.°73E,h5km±1km,M0.4,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JNY	**Yasuok**	**0.47**	**167**	P		Pg	07 44 29.2	+0.6
JNY				*e*S		Sg	07 44 35.3	+0.6

*IDC **11** 07:46:15.9±2.9,44.°95N×148.°92E,h0km,mb3.6/5, mb1 4.0/5,mb1mx3.7/23,mbtmp3.6/5,Error ellipse: s-maj=188.4km s-min=26.6km az=121.0*
*ISCJB **11** 07:46:26.3±1.5,45.°0N±0.°1×148.°9E±0.°3,h93km±16km, mb3.4/5,Error ellipse: s-maj=35.3km s-min=11.2km az=33.9*
*MOS **11** 07:46:26.0±1.4,45.°07N×148.°91E,h92km,mb4.2/1,Error ellipse: s-maj=39.8km s-min=32.0km az=136.4*

ISC 11 07:46:27.3±1.8,45.°1N±0.°1×149.°0E±0.°3,h84km±21km,n21, σ0°99/24,mb3.4/5,2C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KUR	**Kuril'sk**	**0.80**	**284**	⇑*i*PN		**Pn**	**07 46 44.0**	**-0.3**
KUR				S		**Sn**	**07 46 56.5**	**-0.5**
KUR				pmax	pmax			
	comp=Z,540nm,0.7s							
KUR				pmax	pmax			
	comp=N,410nm,0.4s							
KUR				pmax	pmax			
	comp=E,270nm,0.3s							
KUR				smax				
	comp=N,11μm,1.2s							
KUR				smax				
	comp=E,10μm,1.0s							
KUR				smax				
	comp=N,2μm,0.5s							
KUR				smax				
	comp=E,4μm,0.3s							
NEM2	**Nemuro 2**	**2.86**	**235**	P		**Pn**	**07 47 10.4**	**-0.4**
NEM2				*e*S		**Sn**	**07 47 41.6**	**-2.7**
JNK	**Nakash**	**3.38**	**246**	P		**Pn**	**07 47 18.8**	**+1.0**
JAK	**Akkeshi**	**3.70**	**238**	P		**Pn**	**07 47 21.7**	**-0.4**
JAR	**Ashorobuto**	**4.13**	**247**	P		**Pn**	**07 47 29.4**	**+1.5**
JOB	**Onbets**	**4.28**	**242**	P		**Pn**	**07 47 30.7**	**+0.7**
JKK2	**Kamakawa 2**	**4.60**	**257**	P		**Pn**	**07 47 36.4**	**+2.0**
JCH	**Churui**	**4.73**	**241**	P		**Pn**	**07 47 36.0**	**-0.1**
YSS	**Yuzh-Sakhalins**	**4.73**	**296**	*i* PN		**Pn**	**07 47 35.5**	**-0.6**
ERM	**Erimo**	**5.20**	**236**	⇑*e*PN		**Pn**	**07 47 43.9**	**+1.4**
JEM	**Erimo**	**5.20**	**236**	P		**Pn**	**07 47 43.3**	**+0.8**
JNBK	**Urakawa-nobuka**	**5.29**	**241**	P		**Pn**	**07 47 42.9**	**-0.8**
JKB	**Kayabe**	**6.58**	**244**	P		**Pn**	**07 48 00.6**	**-0.7**
JKB				*e*S		**Sn**	**07 49 09.3**	**-5.5**
ILAR	**Eielson Array**	**39.67**	**37**	P		**P**	**07 53 49.9**	**-0.7**
	comp=E,0.9nm,0.8s,mb3.6,baz=276,slow=8.3,SNR=9.7							
ILAR	**Eielson Array**	**39.67**	**37**	P		**P**	**07 53 49.9**	**-0.6**
NVAR	**Mina Array Bea**	**65.79**	**59**	P		**P**	**07 57 02.8**	**-0.5**
	comp=E,0.2nm,0.5s,mb3.2,baz=301,slow=7.0,SNR=3.6							
WRA	**Warramunga Arr**	**66.04**	**195**	P		**P**	**07 57 03.6**	**-1.2**
	comp=E,0.4nm,0.8s,mb3.3,baz=15,slow=6.9,SNR=3.2							
WRA	**Warramunga Arr**	**66.04**	**195**	P		**P**	**07 57 03.6**	**-1.3**
PDAR	**Pinedale Array**	**68.08**	**51**	P		**P**	**07 57 18.4**	**+0.6**
	comp=E,0.5nm,0.7s,mb3.5,baz=284,slow=6.0,SNR=4.9							
TXAR	**Lajitas Array**	**80.85**	**58**	P		**P**	**07 58 32.5**	**+0.6**
	comp=E,0.5nm,0.5s,mb3.6,baz=295,slow=5.0,SNR=12							
TXAR	**Lajitas Array**	**80.85**	**58**	P		**P**	**07 58 32.5**	**+0.5**

*NEIC **11** 08:14:51.9,32.°50S×72.°00W,h16km,ML3.1(GUC),After GUC.*

GUC 11 08:14:51.9±1.0,32.°50S×72.°00W,h16km±10km,MD3.6, ML3.1,6C-6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.60**	**150**	⇓*i*P		Pg	08 15 03.2	-0.6
IHA				*i* S		Sg	08 15 11.1	-0.7
IHA	**Instituto Hidr**	**0.60**	**150**

ISCJB ***11*** *08:58:53.2±1.0, 51°.45N±0°.05×16°.23E±0°.05, h0km, Error ellipse: s-maj=7.1km s-min=3.6km az=18.6*
CSEM ***11*** *08:58:55.0±0.9, 51°.44N×16°.21E, h2km, ML3.1/4, Error ellipse: s-maj=15.3km s-min=6.7km az=30.0*
WAR ***11*** *08:58:56.3, 51°.44N×16°.20E, ML2.4, Mining Induced*
PRU ***11*** *08:58:57.1, 51°.38N×16°.24E, h0km*

ISC 11 08:58:55.2±1.0, 51°.43N±0°.05×16°.21E±0°.04, h0km, n22, σ0s92/38, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.59**	**175**	*e*Pg	**Pg**	**08 59 07.3**	**+0.8**
KSP				*e*Sg	**Sg**	**08 59 15.3**	**+1.0**
KSP	**Ksiaz**	**0.59**	**175**	*e*Pg	**Pg**	**08 59 07.3**	**+0.7**
KSP				*e*Sg	**Sg**	**08 59 15.2**	**+0.9**
KSP	**Ksiaz**	**0.59**	**175**	*e*Pg	**Pg**	**08 59 07.3**	**+0.7**
KSP				*e*Sg	**Sg**	**08 59 15.2**	**+0.9**
UPC	**Upice**	**0.94**	**188**	*e*PG	**Pg**	**08 59 13.5**	**+0.4**
UPC	**Upice**	**0.94**	**188**	Pg	**Pg**	**08 59 13.5**	**+0.4**
DPC	**Dobruska-Polom**	**1.09**	**176**	*e*PG	**Pg**	**08 59 16.2**	**+0.2**
DPC				*e*SG	**Sg**	**08 59 30.2**	**+0.1**
	comp=Z,12nm,0.3s						
DPC	**Dobruska-Polom**	**1.09**	**176**	Pg	**Pg**	**08 59 16.2**	**+0.2**
DPC				Sg	**Sg**	**08 59 30.2**	**+0.1**
	comp=Z,12nm,0.3s						
PVCC	**Panska Ves**	**1.38**	**230**	*e*PG	**Pg**	**08 59 21.8**	**+0.2**
PVCC				*e*SG	**Sg**	**08 59 40.8**	**+1.4**
	comp=Z,80nm,0.3s						
PVCC	**Panska Ves**	**1.38**	**230**	Pg	**Pg**	**08 59 21.8**	**+0.2**
PVCC				Sg	**Sg**	**08 59 40.8**	**+1.4**
	comp=Z,80nm,0.3s						
PRU	**Pruhonice**	**1.79**	**217**	*e*PG	**Pg**	**08 59 29.1**	**-0.5**
PRU				*e*SG	**Sg**	**08 59 53.2**	**+0.4**
	comp=Z,7.0nm,0.2s						
PRU	**Pruhonice**	**1.79**	**217**	Pg	**Pg**	**08 59 29.1**	**-0.5**
PRU				Sg	**Sg**	**08 59 53.2**	**+0.4**
	comp=Z,7.0nm,0.2s						
MORC	**Moravsky Berou**	**1.86**	**152**	*e*Sg	**Sg**	**08 59 55.1**	**+0.1**
CLL	**Collm**	**2.01**	**268**	*i* Pg	**Pg**	**08 59 32.9**	**-0.9**
CLL				*e*Sg	**Sg**	**09 00 00.0**	**+0.1**
OKC	**Ostrava-Krasne**	**2.02**	**142**	*e*SG	**Sg**	**08 59 58.7**	**-1.3**
OKC	**Ostrava-Krasne**	**2.02**	**142**	Sg	**Sg**	**08 59 58.7**	**-1.3**
VRAC	**Vranov**	**2.14**	**173**	*e*Sg	**Sg**	**09 00 03.3**	**-0.7**
OJC	**Ojcow**	**2.58**	**117**	*e*Pg	**Pg**	**08 59 45.1**	**+0.5**
OJC				*e*Sg	**Sg**	**09 00 18.6**	**+0.5**
NKC	**Novy Kostel**	**2.67**	**245**	*e*PN	**Pn**	**08 59 39.5**	**0.0**
NKC				*e*PG	**Pg**	**08 59 45.4**	**-1.0**
NKC				*e*SG	**Sg**	**09 00 22.4**	**+1.4**
	comp=Z,10.0nm,0.3s						
NKC	**Novy Kostel**	**2.67**	**245**	Pn	**Pn**	**08 59 39.5**	**0.0**
NKC	**Novy Kostel**	**2.67**	**245**	Pg	**Pg**	**08 59 45.4**	**-1.0**
NKC				Sg	**Sg**	**09 00 22.4**	**+1.4**
	comp=Z,10.0nm,0.3s						
KHC	**Kasperske Hory**	**2.86**	**217**	*e*PN	**Pn**	**08 59 43.1**	**+1.1**
KHC				*e*PG	**Pg**	**08 59 48.1**	**-1.9**
KHC				*e*SG	**Sg**	**09 00 24.8**	**-2.2**
	comp=Z,4.5nm,0.5s						
KHC	**Kasperske Hory**	**2.86**	**217**	Pn	**Pn**	**08 59 43.1**	**+1.1**

ISCJB ***11*** *09:14:31.9±0.5, 36°.47N±0°.03×71°.01E±0°.08, h165km±7km, mb3.5/7, Error ellipse: s-maj=10.3km s-min=4.8km az=165.7*
NEIC ***11*** *09:14:31.7±1.3, 36°.37N×70°.96E, h149km±13km, mb4.0/4, Error ellipse: s-maj=16.8km s-min=5.7km az=56.0*
IDC ***11*** *09:14:31.5±10.0, 36°.28N×71°.07E, h150km±91km, mb3.3/7, mb1 3.5/11, mb1mx3.2/29, mbtmp3.4/11, Error ellipse: s-maj=54.0km s-min=19.5km az=23.0*
NNC ***11*** *09:14:39.4±5.5, 37°.06N×70°.91E, h225km±59km, mb2.9, mpv4.0, Error ellipse: s-maj=52.1km s-min=29.5km az=19.0*

ISC 11 09:14:32.9±0.5, 36°.46N±0°.03×71°.04E±0°.08, h160km±7km, n58, σ1s09/69, mb3.5/7, 6C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.73**	**165**	⇓P	**Pn**	**09 15 18.1**	**+0.8**
CEP				S	**Sn**	**09 15 52.0**	**+0.4**
CHCP	**Chirah Chowk**	**3.34**	**146**	P	**Pn**	**09 15 52.9**	**+1.0**
THW	**Thamme Wali**	**3.70**	**171**	⇓P	**Pn**	**09 15 30.1**	**+0.5**
EKS2	**Erkin-Say**	**6.54**	**18**	*e*Pn	**Pn**	**09 16 07.1**	**+0.4**
	7.0nm,0.6s						
EKS2				*e*Sn	**Sn**	**09 17 21.6**	**+1.1**
KK31	**Karatay Array**	**6.65**	**357**	⇑P	**Pn**	**09 16 07.2**	**-0.9**
	4.2nm,0.3s,baz=177,slow=12,SNR=172						
KK31				⇑S	**Sn**	**09 17 18.0**	**-4.9**
	9.4nm,0.5s,baz=182,slow=22,SNR=8.0						
KKAR	**Karatay Array**	**6.65**	**357**	*e*Pn	**Pn**	**09 16 07.2**	**-0.9**
	14nm,0.3s						
KKAR				*e*Sn	**Sn**	**09 17 19.1**	**-3.9**
TKM2	**Tokmak 2**	**7.35**	**27**	⇑P	**Pn**	**09 16 18.2**	**+0.8**
	8.6nm,0.6s						
TKM2				⇓S	**Sn**	**09 17 38.5**	**-1.2**
	13nm,0.8s						
TKM2	**Tokmak 2**	**7.35**	**27**	*e*Pn	**Pn**	**09 16 18.2**	**+0.8**
	10nm,0.5s						
SMLA	**Simla**	**7.37**	**134**	*i* P	**Pn**	**09 16 16.2**	**-1.6**
SMLA				*i* S	**Sn**	**09 17 35.1**	**-5.2**
SMLA				⇓AML	AML	09 17 38.1	
	comp=N,1μm,0.3s						
SMLA				⇓AML	AML	09 17 38.9	
	comp=E,1μm,0.3s						
KHET	**Khetri**	**9.28**	**153**	*ex*	**Pn**	**09 16 41.0**	**-2.3**
KHET				*e*S	**Sn**	**09 18 18.1**	**-8.3**
KHET				AML	AML	09 18 21.8	
	comp=N,23nm,0.5s						
KHET				AML	AML	09 18 22.0	
	comp=E,25nm,0.7s						
NDI	**New Delhi**	**9.34**	**144**	*e*S	**Sn**	**09 18 20.0**	**-7.8**
AYAN	**Aya Nagar**	**9.47**	**145**	*e*PKP	**Pn**	**09 16 46.6**	**+0.9**
AYAN				*e*S	**Sn**	**09 18 22.1**	**-8.8**
KUDL	**Kundal**	**9.49**	**149**	*ex*	**Pn**	**09 16 45.2**	**-0.7**
KUDL				*e*S	**Sn**	**09 18 22.8**	**-8.5**
KUDL				*e*S	**Sn**	**09 18 23.5**	**-7.8**
SONA	**Sohna**	**9.65**	**146**	*e*PKP	**Pn**	**09 16 48.8**	**+0.7**
SONA				*e*S	**Sn**	**09 18 25.8**	**-9.4**
SONA				AML	AML	09 18 33.2	
	comp=N,18nm,0.3s						
SONA				AML	AML	09 18 33.7	
	comp=E,37nm,0.3s						
MK31	**Makanchi Array**	**13.30**	**36**	⇑P	**Pn**	**09 17 31.9**	**-3.5**
	comp=E,3.2nm,0.8s,baz=204,slow=10,SNR=13						
MKAR	**Makanchi Array**	**13.30**	**36**	P	**Pn**	**09 17 36.0**	**+0.6**
	comp=E,0.1nm,0.3s,baz=230,slow=14,SNR=4.9						
MKAR	**Makanchi Array**	**13.30**	**36**	P	**Pn**	**09 17 36.0**	**+0.6**
DANN	**Dangsing**	**13.44**	**123**	*e*P	**Pn**	**09 17 35.6**	**-1.7**
DANN	**Dangsing**	**13.44**	**123**	*e*P	**Pn**	**09 17 35.6**	**-1.7**
KOLN	**Koldanda**	**13.72**	**126**	*e*P	**Pn**	**09 17 39.1**	**-1.7**
KOLN	**Koldanda**	**13.72**	**126**	*e*P	**Pn**	**09 17 39.1**	**-1.7**
GKN	**Gorkha**	**14.26**	**122**	*e*P	**Pn**	**09 17 46.8**	**-0.8**
	comp=E,72nm,0.5s						
GKN	**Gorkha**	**14.26**	**122**	*e*P	**Pn**	**09 17 46.8**	**-0.8**
	comp=E,72nm,0.5s						
DMN	**Daman**	**14.83**	**123**	*e*P	**Pn**	**09 17 55.2**	**+0.5**
DMN	**Daman**	**14.83**	**123**	*e*P	**Pn**	**09 17 55.2**	**+0.5**
KKN	**Kakani**	**14.83**	**122**	*e*P	**Pn**	**09 17 55.4**	**+0.7**
	comp=E,43nm,0.6s						
KKN	**Kakani**	**14.83**	**122**	*e*P	**Pn**	**09 17 55.4**	**+0.7**
	comp=E,43nm,0.6s						
PKIN	**Phulchoki**	**15.05**	**122**	*e*P	**Pn**	**09 17 58.3**	**+0.9**
PKI	**Pulchoki**	**15.06**	**122**	*e*P	**Pn**	**09 17 58.9**	**+1.4**
PKI	**Pulchoki**	**15.06**	**122**	*e*P	**Pn**	**09 17 58.9**	**+1.4**
AB31	**Akbulak array**	**15.13**	**331**	P	**Pn**	**09 17 56.2**	**-2.1**
	comp=E,2.2nm,0.6s,baz=144,slow=12,SNR=29						
AB31				⇑S	**S**	**09 20 34.6**	**-12**
	comp=E,1.5nm,0.7s,baz=148,slow=23,SNR=8.8						
ABKAR	**Akbulak array**	**15.13**	**331**	*e*Pn	**Pn**	**09 17 56.7**	**-1.5**
	comp=E,3.1nm,0.6s						
GUN	**Gumba**	**15.17**	**120**	*e*P	**Pn**	**09 17 59.2**	**+0.3**
	comp=E,25nm,0.5s						
GUN	**Gumba**	**15.17**	**120**	*e*P	**Pn**	**09 17 59.2**	**+0.3**
	comp=E,25nm,0.5s						
KURK	**Kurchatov**	**15.26**	**19**	P	**Pn**	**09 18 00.8**	**+1.1**
	comp=E,0.1nm,0.3s,baz=205,slow=11,SNR=8.7						
KURK	**Kurchatov**	**15.26**	**19**	P	**Pn**	**09 18 00.8**	**+1.1**
BVAR	**Borovoye Array**	**16.57**	**359**	P	**Pn**	**09 18 17.0**	**+1.3**
	comp=E,0.3nm,0.3s,baz=172,slow=12,SNR=6.9						
BVAR	**Borovoye Array**	**16.57**	**359**	P	**Pn**	**09 18 17.0**	**+1.3**
AKTK	**Aktyubinsk**	**16.83**	**330**	P	**Pn**	**09 18 19.6**	**+0.7**
AKTO	**Aktyubinsk**	**16.83**	**330**	⇑P	**Pn**	**09 18 17.4**	**-1.5**
	comp=E,1.5nm,0.8s						
AKTO	**Aktyubinsk**	**16.83**	**330**	P	**Pn**	**09 18 19.6**	**+0.7**
	comp=E,0.4nm,0.3s,baz=133,slow=9.3,SNR=31						
ZALV	**Zalesovo Beam**	**19.94**	**24**	P	**P**	**09 18 52.7**	**+0.6**
	comp=E,3.1nm,0.5s,baz=225,slow=12,SNR=14						
ZALV	**Zalesovo Beam**	**19.94**	**24**	P	**P**	**09 18 52.7**	**+0.6**
AKASG	**Malin Array Be**	**32.99**	**309**	P	**P**	**09 20 53.3**	**+1.0**
	comp=E,34.2nm,0.2s,baz=76,slow=8.0,SNR=4.6						
AKASG	**Malin Array Be**	**32.99**	**309**	P	**P**	**09 20 53.3**	**+1.0**
ARCES	**ARCESS Array B**	**41.19**	**338**	P	**P**	**09 22 02.6**	**+1.4**
	comp=E,1.1nm,0.7s,mb3.6,baz=116,slow=8.2,SNR=5.5						
ARCES	**ARCESS Array B**	**41.19**	**338**	P	**P**	**09 22 02.6**	**+1.4**
NB2	**NORSAR Subarra**	**44.43**	**323**	P	**P**	**09 22 27.9**	**+0.6**
	comp=Z,1.6nm,0.9s,mb3.6,baz=100,slow=7.4						
NOA	**NORSAR Array B**	**44.43**	**323**	P	**P**	**09 22 27.9**	**+0.5**
	comp=Z,1.3nm,0.7s,mb3.7,baz=97,slow=7.7,SNR=3.7						
NOA	**NORSAR Array B**	**44.43**	**323**	P	**P**	**09 22 27.9**	**+0.5**
TORD	**Torodi Ar. Bea**	**65.75**	**269**	P	**P**	**09 25 00.6**	**-0.2**
	comp=Z,0.2nm,0.5s,mb3.2,baz=52,slow=5.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**65.75**	**269**	P	**P**	**09 25 00.6**	**-0.2**
SML	**Sawmill**	**77.01**	**18**	*e*P	**P**	**09 26 07.2**	**-0.3**
	comp=Z,0.7nm,0.4s,mb3.6						
WRA	**Warramunga Arr**	**81.94**	**122**	P	**P**	**09 26 33.5**	**-1.3**
	comp=Z,0.5nm,0.5s,mb3.4,baz=324,slow=4.9,SNR=13						
WRA	**Warramunga Arr**	**81.94**	**122**	P	**P**	**09 26 33.5**	**-1.3**
ASAR	**Alice Springs**	**84.21**	**125**	P	**P**	**09 26 46.4**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.5,baz=307,slow=4.8,SNR=12						
ASAR	**Alice Springs**	**84.21**	**125**	P	**P**	**09 26 46.4**	**+0.1**
WMOK	**Wichita Mounta**	**108.53**	**351**	*e*Pdif	Pdif	09 28 40.4	+2.7
	comp=Z,3.9nm,0.8s						

MEX 11 09:33:11.5±0.4, 15°.25N×92°.45W, h95km±4km, MD4.0, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.39**	**153**	*i* P	Pn	09 33 24.7	-1.3
THIG				*i* S	Sn	09 33 35.0	-1.9
PCIG		**0.87**	**301**	*i* P	Pn	09 33 28.8	-1.3
PCIG				*i* S	Sn	09 33 42.6	-1.5
SCX	**San Cristobal**	**1.48**	**353**	*i* P	Pn	09 33 36.5	-0.8
SCX				*i* S	Sn	09 33 55.6	-1.3
TGIG		**1.65**	**337**	*i* P	Pn	09 33 38.7	-0.7
TGIG				*i* S	Sn	09 33 58.6	-1.9
CMIG	**Matias Romero**	**2.97**	**308**	*i* P	Pn	09 33 55.7	-1.0
CMIG				*i* S	Sn	09 34 29.6	-1.9
HUIG	**Huatulco**	**3.56**	**279**	*e*P	Pn	09 34 03.3	-1.4
HUIG				*i* S	Sn	09 34 44.0	-1.9
PNIG	**Pinotepa**	**5.58**	**282**	*e*P	Pn	09 34 31.4	-0.7
UTMO	**Huajuapan**	**5.74**	**297**	*i* P	Pn	09 34 33.1	-1.1
UTMO				*i* S	Sn	09 35 37.8	-0.9
TEIG	**Tepich**	**6.34**	**38**	*e*P	Pn	09 34 42.5	0.0
TEIG				*i* S	Sn	09 35 52.4	-1.1

ISCJB ***11*** *09:34:15.0±2.5, 5°.75S±0°.2×149°.4E±0°.3, h154km±23km, mb3.8/5, Error ellipse: s-maj=62.0km s-min=22.5km az=28.4*
NEIC ***11*** *09:34:15.3±2.5, 5°.69S×149°.45E, h140km±22km, Error ellipse: s-maj=53.7km s-min=19.7km az=119.0*
IDC ***11*** *09:34:16.5±2.9, 5°.68S×149°.35E, h150km±27km, mb3.6/6, mb1 3.7/7, mb1mx3.4/18, mbtmp3.6/7, MS3.4/1, Ms1 3.4/1, ms1mx2.5/21, Error ellipse: s-maj=53.3km s-min=20.5km az=120.0*

ISC 11 09:34:16.3±2.4, 5.7S±0°.2×149°.4E±0°.3, h149km±21km, n14, σ0s85/17, mb3.8/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.30**	**211**	P	**Pn**	**09 35 21.9**	**+1.4**
	3.3nm,0.3s,baz=21,slow=3.4,SNR=9.7						
PMG				S	**Sn**	**09 36 10.1**	**-0.4**
	10nm,0.3s,baz=196,slow=22,SNR=12						
PMG				LR	LR	09 37 12.9	
	comp=Z,393nm,18.3s,baz=3.0,slow=41						
PMG	**Port Moresby**	**4.30**	**211**	*e*Pn	**Pn**	**09 35 19.6**	**-1.0**
PMG				P		09 35 21.9	
PMG				S	**Sn**	**09 36 10.1**	**-0.4**
PMG				*e*Sn	**Sn**	**09 36 10.4**	**-0.1**
WRA	**Warramunga Arr**	**20.38**	**225**	P	**P**	**09 38 41.4**	**-0.1**
	3.2nm,0.5s,baz=49,slow=11,SNR=52						
WRA	**Warramunga Arr**	**20.38**	**225**	P	**P**	**09 38 41.4**	**-0.1**
ASAR	**Alice Springs**	**23.28**	**218**	P	**P**	**09 39 11.2**	**+0.4**
	2.6nm,0.5s,mb4.0,baz=49,slow=8.7,SNR=59						
ASAR	**Alice Springs**	**23.28**	**218**	P	**P**	**09 39 11.2**	**+0.4**
FITZ	**Fitzroy Crossi**	**26.28**	**240**	P	**P**	**09 39 37.7**	**-0.4**
	3.4nm,0.7s,mb4.1,baz=75,slow=7.9,SNR=13						
FITZ	**Fitzroy Crossi**	**26.28**	**240**	P	**P**	**09 39 37.7**	**-0.4**
STKA	**Stephens Creek**	**27.05**	**195**	P	**P**	**09 39 45.1**	**+0.4**
	1.4nm,0.9s,mb3.6,baz=25,slow=23,SNR=3.3						
STKA	**Stephens Creek**	**27.05**	**195**	P	**P**	**09 39 45.1**	**+0.4**
PETK	**Petropavlovsk-**	**59.01**	**6**	P	**P**	**09 44 01.3**	**+1.2**
	2.7nm,0.7s,mb4.2,baz=174,slow=7.4,SNR=5.5						
PETK	**Petropavlovsk-**	**59.01**	**6**	P	**P**	**09 44 01.3**	**+1.2**
ILAR	**Eielson Array**	**84.27**	**23**	P	**P**	**09 46 29.4**	**-1.6**
	0.4nm,0.8s,mb3.2,baz=251,slow=5.1,SNR=7.5						
ILAR	**Eielson Array**	**84.27**	**23**	P	**P**	**09 46 29.4**	**-1.6**

NEIC ***11*** *09:39:23.7, 19°.07N×68°.87W, h7km, MD3.9(RSPR), After RSPR.*

RSPR 11 09:39:23.7, 19°.07N×68°.87W, h7km±7km, 3C-6D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**1.77**	**110**	*e*Pn	Pn	09 39 53.3	-1.4
CRPR	**Cabo Rojo, PR**	**1.98**	**122**	*e*P	Pn	09 39 54.5	-3.0
CRPR	**Cabo Rojo, PR**	**1.98**	**122**	*e*P	Pn	09 39 54.5	-3.0
CRPR	**Cabo Rojo, PR**	**1.98**	**122**	*e*P	Pn	09 39 54.5	-3.0
CBYP	**Canovanas**	**2.96**	**105**	⇑*e*P	Pn	09 40 08.4	-2.7
CBYP	**Canovanas**	**2.96**	**105**	⇑*e*P	Pn	09 40 08.4	-2.7
CBYP				*e*S	Sn	09 40 43.4	-3.5
CBYP	**Canovanas**	**2.96**	**105**	⇑*e*P	Pn	09 40 08.4	-2.7
CBYP				*e*S	Sn	09 40 43.4	-3.5
HUMP	**Col San Antoni**	**3.01**	**107**	*e*S	Sn	09 40 44.6	-3.3
HUMP	**Col San Antoni**	**3.01**	**107**	*e*S	Sn	09 40 44.6	-3.3
MTP	**Monte Pirata**	**3.29**	**107**	⇓*e*P	Pn	09 40 13.2	-2.4
MTP	**Monte Pirata**	**3.29**	**107**	⇓*e*P	Pn	09 40 13.2	-2.4
MTP				*e*S	Sn	09 40 51.6	-3.4
MTP	**Monte Pirata**	**3.29**	**107**	⇓*e*P	Pn	09 40 13.2	-2.4
MTP				*e*S	Sn	09 40 51.6	-3.4

IDC 11 09:48:59.3±3.3, 23°.09N×94°.75E, h183km±32km, mb3.1/5, mb1 3.2/6, mb1mx2.9/24, mbtmp3.0/6, Error ellipse: s-maj=50.7km s-min=18.5km az=61.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**3.59**	**314**	*e*PN	Pn	09 49 43.5	-12
SHL				*e*SN	Sn	09 50 20.0	-19
CMAR	**Chiang Mai Arr**	**6.05**	**139**	P	Pn	09 50 27.1	+0.1
	0.5nm,0.3s,baz=300,slow=13,SNR=3.6						
MKAR	**Makanchi Array**	**25.70**	**340**	P	P	09 54 12.5	0.0
	0.2nm,0.3s,baz=145,slow=10,SNR=2.5						
PETK	**Petropavlovsk-**	**55.70**	**41**	P	P	09 58 16.6	0.0
	2.1nm,0.6s,baz=297,slow=7.4,SNR=3.6						
WRA	**Warramunga Arr**	**57.63**	**135**	P	P	09 58 30.4	-0.2
	0.3nm,0.6s,baz=320,slow=7.5,SNR=6.1						
ASAR	**Alice Springs**	**60.06**	**138**	P	P	09 58 47.6	+0.3
	0.1nm,0.4s,baz=327,slow=6.6,SNR=1.5						
ARCES	**ARCESS Array B**	**61.33**	**338**	P	P	09 58 55.2	+0.1
	1.3nm,0.8s,baz=96,slow=8.3,SNR=3.3						
NOA	**NORSAR Array B**	**66.98**	**328**	pP	pP	10 00 16.4	+1.3
	1.4nm,0.9s,baz=75,slow=8.1,SNR=3.2						

IDC ***11*** *10:11:02.3±2.2, 7°.44S×118°.48E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.3/21, mbtmp3.4/4, ML3.1/2, Error ellipse: s-maj=204.4km s-min=23.6km az=54.0*
NEIC ***11*** *10:11:07.7±1.4, 7°.29S×118°.71E, h35km, mb3.4/1, Error ellipse: s-maj=92.3km s-min=16.2km az=55.0*

ISC 11 10:11:10.6±2.8, 7°.8S×118°.5E±0°.5, h73km±36km, n9, σ0s92/13, mb3.4/2, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.45**	**146**	Pn	**Pn**	**10 14 06.3**	**+1.5**
	0.0nm,0.3s,baz=333,slow=9.0,SNR=2.0						
FITZ				Sn	**Sn**	**10 16 20.5**	**-1.2**
	0.3nm,0.3s,baz=178,slow=18,SNR=7.0						
FITZ	**Fitzroy Crossi**	**12.45**	**146**	Pn	**Pn**	**10 14 06.3**	**+1.5**
FITZ				Sn	**Sn**	**10 16 20.5**	**-1.2**
WRA	**Warramunga Arr**	**19.60**	**130**	P	**Pn**	**10 15 34.2**	**-0.9**
	0.1nm,0.3s,baz=301,slow=12,SNR=11						
WRA				S	**S**	**10 19 11.1**	**+0.5**
	0.1nm,0.3s,baz=299,slow=26,SNR=4.0						
WRA	**Warramunga Arr**	**19.60**	**130**	P	**Pn**	**10 15 34.2**	**-0.9**
WRA				S	**Sn**	**10 19 11.1**	**+0.5**
WRAB	**Tennant Creek**	**19.60**	**130**	*e*P	**Pn**	**10 15 34.8**	**-0.3**
	1.7nm,0.7s						
ASAR	**Alice Springs**	**21.69**	**139**	P	**P**	**10 15 56.5**	**+1.0**
	0.6nm,0.3s,mb3.4,baz=314,slow=9.0,SNR=28						
ASAR	**Alice Springs**	**21.69**	**139**	P	**P**	**10 15 56.5**	**+1.0**
MKAR	**Makanchi Array**	**63.10**	**333**	P	**P**	**10 21 29.9**	**-0.5**
	0.2nm,0.4s,mb3.4,baz=144,slow=7.1,SNR=3.3						
MKAR	**Makanchi Array**	**63.10**	**333**	P	**P**	**10 21 29.9**	**-0.5**

ISCJB ***11*** *10:33:46.8±0.7, 39°.02N±0°.05×73°.01E±0°.08, h10km, mb3.5/7, Error ellipse: s-maj=8.6km s-min=7.5km az=167.6*
IDC ***11*** *10:33:46.9±1.1, 39°.12N×73°.28E, h0km, mb3.6/7, mb1 3.7/12, mb1mx3.5/30, mbtmp3.5/12, ML3.4/5, Error ellipse: s-maj=21.5km s-min=19.5km az=78.0*
NNC ***11*** *10:33:48.3±4.0, 39°.18N×73°.06E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=31.2km s-min=16.7km az=173.0*
NEIC ***11*** *10:33:52.1±1.0, 39°.20N×73°.06E, h35km, Error ellipse: s-maj=16.1km s-min=14.3km az=215.0*

ISC 11 10:33:48.1±0.7, 39°.01N±0°.05×73°.03E±0°.07, h10km, n38, σ1s13/45, mb3.5/7, 4C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**3.16**	**9**	P	**Pn**	**10 34 37.9**	**+0.1**
	SNR=34						
KZA	**Kyzart**	**3.50**	**28**	P	**Pn**	**10 34 43.6**	**+1.1**
	SNR=5.9						
EKS2	**Erkin-Say**	**3.69**	**9**	P	**Pn**	**10 34 46.5**	**+1.4**
	SNR=13						
EKS2	**Erkin-Say**	**3.69**	**9**	*e*Pn	**Pn**	**10 34 46.0**	**+0.9**
EKS2				*e*Sn	**Sn**	**10 35 28.0**	**-0.6**
AAK	**Ala-Archa**	**3.78**	**17**	P	**Pn**	**10 34 47.5**	**+1.1**
	SNR=38						
KBK	**Karagaybulak**	**3.92**	**21**	P	**Pn**	**10 34 49.8**	**+1.5**
	SNR=9.4						
CHMS	**Chumysh**	**4.19**	**18**	P	**Pn**	**10 34 52.7**	**+0.8**
	SNR=18						
TKM2	**Tokmak 2**	**4.36**	**26**	⇓Pn	**Pn**	**10 34 54.8**	**+0.5**
	8.6nm,0.6s						
TKM2				⇑Pg	**Pb**	**10 35 03.4**	**-1.3**
	9.3nm,0.5s						
TKM2				⇑Sn	**Sn**	**10 35 45.0**	**-0.1**
	11nm,0.7s						
TKM2				⇓Lg		10 35 58.1	
	49nm,0.9s						
TKM2	**Tokmak 2**	**4.36**	**26**	*e*Pn	**Pn**	**10 34 55.0**	**+0.6**
USP	**Ospenovka**	**4.39**	**14**	P	**Pn**	**10 34 55.2**	**+0.5**
	SNR=10						
KK31	**Karatay Array**	**4.51**	**336**	Pn	**Pn**	**10 34 56.8**	**+0.4**
	9.3nm,0.5s,baz=155,slow=14,SNR=116						
KK31				⇓Pg	**Pb**	**10 35 05.7**	**-1.5**
	7.6nm,0.5s,baz=152,slow=15,SNR=5.0						
KK31				⇑Sn	**Sn**	**10 35 49.8**	**+1.1**
	11nm,0.4s,baz=154,slow=25,SNR=6.9						
KK31				⇑Lg		10 36 04.5	
	11nm,0.4s						
KKAR	**Karatay Array**	**4.51**	**336**	*e*Pn	**Pn**	**10 34 56.6**	**+0.3**
KKAR				*e*Sn	**Sn**	**10 35 50.1**	**+1.4**
MKAR	**Makanchi Array**	**10.32**	**38**	Pn	**Pn**	**10 36 13.8**	**-2.3**
	0.1nm,0.3s,baz=239,slow=16,SNR=1.4						
MKAR	**Makanchi Array**	**10.32**	**38**	Pn	**Pn**	**10 36 13.8**	**-2.3**
KURK	**Kurchatov**	**12.35**	**17**	Pn	**Pn**	**10 36 38.9**	**-4.9**
	0.0nm,0.3s,baz=139,slow=22,SNR=1.8						
KURK	**Kurchatov**	**12.35**	**17**	Pn	**Pn**	**10 36 38.9**	**-4.9**
AB31	**Akbulak array**	**13.88**	**322**	Pn	**Pn**	**10 37 01.3**	**-3.4**

TXAR	Lajitas Array	12.79	346	Pn		Pn	10 47 19.4	+2.1
JCT	Junction City	13.49	1	ePn		Pn	10 47 31.6	+4.7
NATX	Nacogdoches	15.55	17	eP		Pn	10 47 58.4	+3.7
	63nm,1.1s							
CLNB	Carlsbad	15.66	348	ePn		Pn	10 47 57.6	+1.4
	12nm,1.3s							
CPRX	Cap Rock	16.40	349	ePn		Pn	10 48 06.0	+0.3
	19nm,1.1s							
WMOK	Wichita Mounta	17.77	3	ePn		Pn	10 48 22.6	-0.2
	33nm,1.8s							
AMTX	Amarillo	17.94	356	ePn		Pn	10 48 23.4	-1.6
	36nm,1.4s							
BNM	Barren Site	18.14	342	ePn		Pn	10 48 26.9	-0.6
	16nm,1.3s							
TUC	Tucson	18.14	330	ePn		Pn	10 48 28.6	+1.1
	9.2nm,1.1s							
LPM	Los Pinos Moun	18.29	342	eP		Pn	10 48 31.5	+2.2
	12nm,1.2s							
MIAR	Mount Ida	18.47	17	eP		Pn	10 48 29.3	-2.2
	25nm,1.3s							
LAZ	Ladron	18.53	341	eP		Pn	10 48 32.8	+0.6
	13nm,1.4s							
ANMO	Albuquerque	18.84	343	P		Pn	10 48 36.0	0.0
	0.1nm,0.3s,baz=154,slow=13,SNR=8.3							
ANMO				LR		LR	10 56 24.8	
	comp=Z,399nm,18.5s,baz=11,slow=39							
ANMO	Albuquerque	18.84	343	eP		Pn	10 48 35.9	-0.1
	9.5nm,1.1s							
GLA	Glamis	20.88	323	eP		P	10 48 59.1	+1.4
	27nm,1.1s							
PLAL	Pickwick Lake	20.91	28	eP		P	10 48 57.0	-1.0
	11nm,0.9s							
WUAZ	Wupatki	21.09	334	eP		P	10 49 01.3	+1.3
	25nm,1.3s,mb4.4							
SDCO	Great Sand Dun	21.29	348	eP		P	10 49 01.8	-0.3
	16nm,1.1s,mb4.3							
MVCO	Mesa Verde	21.54	341	eP		P	10 49 04.9	+0.1
	27nm,1.5s,mb4.5							
WVT	Waverly	21.98	27	eP		P	10 49 07.2	-2.3
	13nm,1.1s,mb4.3							
SWET	Sewanee	22.13	32	eP		P	10 49 12.9	+1.7
GOGA	Godfrey	22.17	39	eP		P	10 49 12.1	+0.4
	24nm,1.1s,mb4.5							
KSU1	Kansas State U	22.29	7	eP		P	10 49 14.0	+1.3
	12nm,0.8s,mb4.4							
PV01	Paradox Valley	22.41	342	eP		P	10 49 17.6	+3.5
	687nm,1.2s							
CCM	Cathedral Cave	22.42	18	eP		P	10 49 12.1	-2.1
	6.1nm,1.0s,mb4.0							
SIUC	Southern Illin	22.79	23	eP		P	10 49 17.2	-0.9
	34nm,1.4s,mb4.6							
SMCO	Snowmass	22.98	346	eP		P	10 49 19.1	-1.0
	6.8nm,1.1s,mb4.0							
CPCT	Cooper Cave	23.05	34	eP		P	10 49 20.0	-0.9
ISCO	Idaho Springs	23.30	349	eP		P	10 49 22.7	-0.7
	5.5nm,0.9s,mb4.0							
TKL	Tuckaleechee C	23.61	35	eP		P	10 49 25.7	-1.0
GSC	Goldstone	23.63	324	eP		P	10 49 27.7	+0.8
	82nm,2.5s,mb4.7							
SHPR	Sheep Range	23.66	328	eP		P	10 49 27.8	+0.6
CCUT	Cedar City	23.66	333	eP		P	10 49 28.4	+1.3
	9.9nm,1.5s,mb4.0							
ARUT	Antelope Range	23.89	333	eP		P	10 49 30.2	+1.0
	21nm,1.2s,mb4.4							
SRU	San Rafael	23.92	340	eP		P	10 49 29.5	0.0
	4.6nm,0.9s,mb3.9							
MSU	Marysvale	23.99	336	eP		P	10 49 30.9	+0.8
NHSC	New Hope	24.08	44	eP		P	10 49 31.1	+0.1
	90nm,1.1s,mb5.1							
JSC	Jenkinsville	24.12	41	eP		P	10 49 30.1	-1.2
WCI	Wyandotte Cave	24.40	27	eP		P	10 49 32.9	-1.0
	10nm,0.9s,mb4.3							
PHWY	Pilot Hill	24.73	350	eP		P	10 49 36.9	0.0
	13nm,1.1s,mb4.4							
MPU	Maple Canyon	25.11	339	eP		P	10 49 41.1	+0.7
	3.9nm,0.9s,mb3.9							
DAU	Daniels Canyon	25.34	340	eP		P	10 49 42.5	+0.1
RWWY	Rawlins	25.43	347	eP		P	10 49 45.0	+1.8
	160nm,2.4s,mb5.1							
DUG	Dugway	25.70	337	eP		P	10 49 46.3	+0.7
	9.3nm,1.1s,mb4.2							
HWUT	Hardware Ranch	26.52	340	eP		P	10 49 53.4	+0.3
	7.1nm,1.0s,mb4.2							
BLA	Blacksburg	26.60	37	eP		P	10 49 52.5	-1.3
	5.2nm,0.7s,mb4.2							
NVAR	Mina Array Bea	26.74	327	P		P	10 49 56.3	+1.2
	3.7nm,0.8s,mb3.9,baz=153,slow=9.1,SNR=25							
NVAR	Mina Array Bea	26.74	327	P		P	10 49 56.3	+1.2
ECSD	EROS Data Cent	26.87	5	eP		P	10 49 56.2	0.0
	33nm,1.8s,mb4.6							
BW06	Boulder Array	27.00	344	eP		P	10 49 56.9	-0.5
	19nm,1.8s,mb4.3							
PDAR	Pinedale Array	27.00	344	P		P	10 49 57.2	-0.2
	1.9nm,0.8s,mb3.6,baz=145,slow=10,SNR=16							
PDAR				LR		LR	11 01 50.0	
	comp=Z,396nm,20.1s,MS4.0,baz=180,slow=39							
PDAR	Pinedale Array	27.00	344	P		P	10 49 57.2	-0.2
PDAR				LR		LR	11 01 50.0	
PD02	Pinedale Array	27.02	344	eP		P	10 49 57.9	+0.4
PD01	Pinedale Array	27.02	344	eP		P	10 49 57.1	-0.4
SNOW	Snow King Moun	27.97	343	eP		P	10 50 06.5	+0.4
	12nm,1.5s,mb4.3							
TPAW	Teton Pass	28.05	343	eP		P	10 50 07.4	+0.6
	6.8nm,1.0s,mb4.2							
LOHW	Long Hollow	28.07	344	eP		P	10 50 06.9	0.0
	3.4nm,0.9s,mb4.0							
HLID	Hailey	29.22	338	eP		P	10 50 17.6	+0.5
	58nm,2.8s,mb4.8							
MFID	Camas Ranch	29.61	336	eP		P	10 50 21.8	+1.1
	11nm,1.3s,mb4.4							
WVOR	Wild Horse Val	29.98	332	eP		P	10 50 24.8	+0.8
	11nm,1.5s,mb4.4							
MOD	Modoc	30.36	329	eP		P	10 50 28.0	+0.7
	3.5nm,0.8s,mb4.1							
BMO	Blue Mountains	31.40	336	eP		P	10 50 42.9	+6.5
	4.2nm,1.1s,mb4.2							
ATAH	Atahualpa	32.09	136	LR		LR	11 01 19.5	
	comp=Z,116nm,20.3s,MS3.6,baz=190,slow=32							
SWMT	Swartz Lake	32.59	342	eP		P	10 50 46.6	-0.3
ETW	Entiat	34.85	336	eP		P	10 51 07.1	+0.5
SCHQ	Schefferville	45.61	26	P		P	10 52 33.8	-1.8
	3.9nm,1.0s,mb4.3,baz=224,slow=6.7,SNR=5.7							
SCHQ	Schefferville	45.61	26	P		P	10 52 33.8	-1.8
YKA	Yellowknife Ar	46.65	351	P		P	10 52 41.7	-1.9
	3.6nm,0.9s,mb4.3,baz=162,slow=7.5,SNR=8.9							
YKA				LR		LR	11 16 01.8	
	comp=Z,18nm,18.6s,MS3.0,baz=335,slow=41							
YKA	Yellowknife Ar	46.65	351	P		P	10 52 41.7	-1.9
YKA				LR		LR	11 16 01.8	
DLBC	Dease Lake	46.98	339	LR		LR	11 14 24.2	
	comp=Z,238nm,19.6s,MS4.2,baz=350,slow=38							
INK	Inuvik	55.56	346	P		P	10 53 49.6	-1.0
	2.9nm,0.9s,mb4.3,baz=128,slow=9.3,SNR=11							
INK				LR		LR	11 20 24.8	
	comp=Z,298nm,18.0s,MS4.4,baz=110,slow=39							
INK	Inuvik	55.56	346	P		P	10 53 49.6	-1.0
INK				LR		LR	11 20 24.8	
CFAA	Coronel Fontan	57.10	148	LR		LR	11 12 37.6	
	comp=Z,17nm,20.9s,MS3.1,baz=129,slow=30							
ILAR	Eielson Array	57.18	338	P		P	10 54 01.6	-0.5
	3.0nm,1.0s,mb4.3,baz=141,slow=5.2,SNR=21							
ILAR	Eielson Array	57.18	338	P		P	10 54 01.6	-0.5
TRF	Thorofare Moun	57.75	336	eP		P	10 54 06.1	-0.1
	11nm,0.8s,mb5.0							
WRA	Warramunga Arr	128.51	258	PKP		PKPdf	11 03 21.4	-1.9
	0.4nm,0.7s,baz=79,slow=1.2,SNR=7.1							
WRA	Warramunga Arr	128.51	258	PKP		PKPdf	11 03 21.4	-1.9

*NEIC **11** 10:46:31.8±1.3, 16°.59N×99°.89W, h10km, mb4.2/17, MD4.0(MEX), Error ellipse: s-maj=21.8km s-min=11.2km az=191.0*

*ISCJB **11** 10:46:33.6±0.9, 16°.82N±0°.06×100°.10W±0°.04, h19km±4km, mb4.2/20, Error ellipse: s-maj=10.5km s-min=5.6km az=22.4*

*MEX **11** 10:46:34.5±0.6, 16°.78N×100°.17W, h6km±3km, MD4.0*

*IDC **11** 10:46:44.6±11.0, 17°.11N×99°.92W, h93km±85km, mb3.8/7, mb1 4.0/9, mb1mx3.7/25, mbtmp3.7/9, ML3.1/2, MS3.7/1, Ms1 3.7/1, ms1mx3.0/35, Error ellipse: s-maj=70.0km s-min=40.2km az=175.0*

ISC 11 10:46:34.8±0.7, 16°.88N±0°.06×100°.05W±0°.04, h14km±3km, n48, σ1§08/51, mb4.2/19, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.19	94	*i* P		Pg	10 46 39.3	+0.1
ACX				*e*S		Sg	10 46 43.0	+0.9
CAIG	El Cayaco	0.26	309	*i* P		Pg	10 46 39.6	-0.8
CAIG				*e*S		Sg	10 46 43.9	-0.3
MEIG	Mezcala	1.12	22	*e*P		Pb	10 46 54.5	-1.5
MEIG				*i* S		Sb	10 47 10.2	-0.1
PLIG	Platanillo	1.59	19	*i* P		Pn	10 47 02.1	-0.5
PLIG				*i* S		Sn	10 47 23.5	+0.5
PNIG	Pinotepa	1.91	105	*i* P		Pn	10 47 06.2	-0.9
PNIG				*i* S		Sn	10 47 30.3	-0.6
UTMO	Huajuapan	2.34	66	*e*P		Pn	10 47 12.8	-0.3
UTMO				*i* S		Sn	10 47 43.3	+1.6
HUIG	Huatulco	3.95	106	*i* P		Pn	10 47 36.4	+1.4
CMIG	Matias Romero	4.95	87	LR		LR	10 49 57.0	
	comp=Z,782nm,18.6s,baz=283,slow=40							
TEIG	Tepich	11.65	72	*e*Pn		Pn	10 49 17.1	-3.7
TXAR	Lajitas Array	12.83	346	P		Pn	10 49 40.9	+4.0
	0.0nm,0.3s,baz=172,slow=9.7,SNR=2.0							
TXAR	Lajitas Array	12.83	346	P		Pn	10 49 40.9	+4.0
CPRX	Cap Rock	16.44	349	*e*Pn		Pn	10 50 27.7	+2.4
	9.9nm,1.0s							
LPM	Los Pinos Moun	18.33	342	P		Pn	10 50 52.0	+3.3
	2.3nm,0.8s							
LAZ	Ladron	18.57	341	*e*P		Pn	10 50 53.5	+1.9
	7.2nm,1.4s							
ANMO	Albuquerque	18.88	344	P		Pn	10 50 55.2	-0.3
	0.1nm,0.3s,baz=129,slow=11,SNR=3.3							
ANMO	Albuquerque	18.88	344	P		Pn	10 50 55.2	-0.3
ANMO				*e*P			10 50 55.6	
GLA	Glamis	20.90	323	*e*P		P	10 51 18.5	+1.6
	14nm,1.0s							
PLAL	Pickwick Lake	20.96	28	*e*P		P	10 51 16.7	-0.9
	8.2nm,0.8s							
SDCO	Great Sand Dun	21.33	348	*e*P		P	10 51 21.4	-0.1
	5.9nm,1.0s,mb3.9							
WVT	Waverly	22.03	27	*e*P		P	10 51 27.2	-1.9
	7.6nm,0.8s,mb4.2							
GOGA	Godfrey	22.23	39	*e*P		P	10 51 31.3	+0.2
	13nm,0.9s,mb4.3							
ISCO	Idaho Springs	23.34	349	*e*P		P	10 51 42.3	-0.6
	3.4nm,0.8s,mb3.8							
TKL	Tuckaleechee C	23.66	35	P		P	10 51 46.5	+0.4
	3.0nm,0.8s,mb3.8,baz=232,slow=4.6,SNR=2.4							
TKL	Tuckaleechee C	23.66	35	P		P	10 51 46.5	+0.4
ARUT	Antelope Range	23.93	333	*e*Pn		P	10 51 49.8	+1.3
NHSC	New Hope	24.12	44	*e*P		P	10 51 50.3	-0.1
	64nm,1.1s,mb5.0							
WCI	Wyandotte Cave	24.46	27	*e*P		P	10 51 52.4	-0.9
	7.4nm,0.8s,mb4.2							
PHWY	Pilot Hill	24.78	350	*e*P		P	10 51 56.1	-0.1
	6.6nm,0.8s,mb4.2							
RWWY	Rawlins	25.48	347	P		P	10 52 03.1	+0.5
	7.5nm,1.0s,mb4.2							
DUG	Dugway	25.73	337	*e*P		P	10 52 05.6	+0.7
	3.8nm,1.0s,mb3.9							
NVAR	Mina Array Bea	26.77	327	P		P	10 52 15.9	+1.6
	2.7nm,0.8s,mb3.8,baz=150,slow=12,SNR=7.0							
NVAR	Mina Array Bea	26.77	327	P		P	10 52 15.9	+1.6
PDAR	Pinedale Array	27.04	344	P		P	10 52 16.5	-0.2
	1.9nm,0.9s,mb3.6,baz=147,slow=9.8,SNR=5.3							
PDAR	Pinedale Array	27.04	344	P		P	10 52 16.5	-0.2
BMO	Blue Mountains	31.43	336	*e*P		P	10 52 55.2	-0.5
	35nm,2.5s,mb4.7							
ETW	Entiat	34.89	336	*e*P		P	10 53 26.5	+0.7
	8.7nm,0.8s,mb4.7							
SCHQ	Schefferville	45.67	26	P		P	10 54 53.2	-1.7
	4.2nm,0.9s,mb4.3,baz=235,slow=10,SNR=2.3							
SCHQ	Schefferville	45.67	26	P		P	10 54 53.2	-1.7
YKA	Yellowknife Ar	46.69	351	P		P	10 55 01.4	-1.5
	3.3nm,0.8s,mb4.3,baz=160,slow=7.2,SNR=7.2							
YKA	Yellowknife Ar	46.69	351	P		P	10 55 01.4	-1.6
MENT	Mentasta	55.01	337	*e*P		P	10 56 02.3	-3.3
INK	Inuvik	55.60	346	P		P	10 56 08.8	-1.0
	3.2nm,0.9s,mb4.4,baz=115,slow=10,SNR=6.5							
INK	Inuvik	55.60	346	P		P	10 56 08.8	-1.0
ILAR	Eielson Array	57.21	338	P		P	10 56 20.9	-0.4
	2.1nm,0.9s,mb4.2,baz=151,slow=5.7,SNR=7.8							
ILAR	Eielson Array	57.21	338	P		P	10 56 20.9	-0.4
TRF	Thorofare Moun	57.79	336	*e*P		P	10 56 25.7	+0.3
	8.8nm,0.8s,mb4.8							
WRA	Warramunga Arr	128.48	258	PKP		PKPdf	11 05 41.2	-1.0
	0.3nm,0.6s,baz=86,slow=2.6,SNR=4.6							
WRA	Warramunga Arr	128.48	258	PKP		PKPdf	11 05 41.1	-1.0

*MEX **11** 11:02:06.9±0.5, 16°.58N×100°.52W, h4km±4km, MD4.6*

*ISCJB **11** 11:02:13.9±0.5, 16°.97N±0°.05×99°.87W±0°.04, h10km, mb4.5/54, MS4.1/22, Error ellipse: s-maj=7.9km s-min=3.9km az=25.5*

*NEIC **11** 11:02:16.2±0.7, 17°.05N×99°.78W, h10km, mb4.5/59, MD4.7(MEX), Error ellipse: s-maj=11.6km s-min=5.4km az=198.0*

*IDC **11** 11:02:20.0±4.9, 17°.11N×99°.85W, h68km±32km, mb4.0/9, mb1 4.2/12, mb1mx3.9/26, mbtmp3.9/12, ML3.5/3, MS4.1/24, Ms1 4.1/24, ms1mx4.0/35, Error ellipse: s-maj=69.6km s-min=26.6km az=21.0*

*GCMT **11** 11:02:22.5±0.4, 16°.94N×99°.81W, h28km±1km, MW4.9, Moment Tensor Solution. s31,c35; s58,c79; Moment tensor: Scale 10¹⁶Nm; Mrr2.31±.19; Mθθ-2.02±.11; Mφφ-0.30±.13; Mrθ2.14±.18; Mrφ1.02±.09; Mθφ-0.55±.22; Best double couple: M₀3.30000×10¹⁶ NP1:φs303.00000°, δ24.00000°, λ104.00000°. NP2:φs108.00000°, δ66.00000°, λ84.00000°. Principal axes: T 3.1900, Plg68.0000°, Azm6.0000°; N 0.1400, Plg6.0000°, Azm110.0000°; P -3.3400, Plg21.0000°, Azm202.0000°; Data Used: ll lU G IC CN.*

ISC 11 11:02:13.8±0.8, 16°.91N±0°.05×99°.89W±0°.04, h0km±5km, n134, σ1§13/124, mb4.6/54, MS4.1/22, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.05	143	*i* P		Pg	11 02 16.9	+2.1
ACX				*i* S		Sg	11 02 27.9	+12
CAIG	El Cayaco	0.38	291	*i* P		Pg	11 02 16.8	-4.4
CAIG				*e*S		Sg	11 02 24.5	-1.7
MEIG	Mezcala	1.04	14	*i* P		Pg	11 02 32.1	-1.7
MEIG				*i* S		Sg	11 02 52.5	+5.2
PLIG	Platanillo	1.52	14	*e*P		Pn	11 02 39.2	-3.0
PLIG				*i* S		Sn	11 03 03.9	+1.2
PNIG	Pinotepa	1.77	107	*i* P		Pn	11 02 42.1	-3.6
PNIG				*i* S		Sn	11 03 10.3	+1.5
UTMO	Huajuapan	2.19	65	*e*P		Pn	11 02 50.6	-0.9
UTMO				*i* S		Sn	11 03 25.0	+5.6
UNM	Universidad Na	2.50	16	*i* P		Pn	11 02 55.3	-0.4
UNM				*e*S		Sn	11 03 29.1	+2.2
TPIG	Tehuac#an	2.84	58	*e*P		Pn	11 02 59.0	-1.4
TPIG				*i* S		Sn	11 03 38.6	+3.3
MOIG	Morelia	3.01	336	*e*P		Pn	11 03 00.7	-2.2
OXX	Oaxaca	3.04	86	*e*P		Pn	11 03 00.4	-2.7
HUIG	Huatulco	3.81	107	*i* P		Pn	11 03 12.5	-1.2
HUIG				*i* S		Sn	11 04 00.5	+1.3
CMIG	Matias Romero	4.79	87	P		Pn	11 03 28.7	+1.4
	2.0nm,0.3s,baz=256,slow=12,SNR=19							
CMIG	Matias Romero	4.79	87	P		Pn	11 03 28.7	+1.4
SCX	San Cristobal	6.95	90	*e*P		Pn	11 04 04.5	+7.5
TEIG	Tepich	11.50	72	P		Pn	11 04 59.8	+0.5
	0.6nm,0.3s,baz=213,slow=17,SNR=2.2							
TEIG				LR		LR	11 10 40.9	
	comp=Z,2μm,18.1s,baz=278,slow=44							
TEIG	Tepich	11.50	72	P		Pn	11 04 59.8	+0.5
TEIG				*e*Pn		Pn	11 05 00.4	+1.1
TEIG				LR		LR	11 10 40.9	
TXAR	Lajitas Array	12.84	345	P		Pn	11 05 18.8	+1.1
	0.1nm,0.3s,baz=162,slow=14,SNR=11							
TXAR				LR		LR	11 10 56.5	
	comp=Z,1μm,18.1s,baz=95,slow=41							
TXAR	Lajitas Array	12.84	345	P		Pn	11 05 18.8	+1.1
TXAR				LR		LR	11 10 56.5	
JCT	Junction City	13.51	0	Pn		Pn	11 05 25.9	-0.8
NATX	Nacogdoches	15.53	17	*e*Pn		Pn	11 05 53.9	-0.2
CLNB	Carlsbad	15.71	347	*e*Pn		Pn	11 05 57.8	+1.4
	8.4nm,1.2s							
JTS	JuntasAbangare	15.94	112	*e*Pn		Pn	11 05 59.7	+0.1
	25nm,1.0s							
CPRX	Cap Rock	16.45	348	*e*Pn		Pn	11 06 07.8	+1.9
	22nm,1.1s							
WMOK	Wichita Mounta	17.78	3	*e*Pn		Pn	11 06 20.7	-2.0
	55nm,2.0s							
AMTX	Amarillo	17.97	355	*e*Pn		Pn	11 06 24.5	-0.6
	19nm,1.0s							
BNM	Barren Site	18.20	342	*e*Pn		Pn	11 06 28.6	+0.6
	11nm,1.1s							
TUC	Tucson	18.23	329	*e*Pn		Pn	11 06 28.8	+0.5
	7.2nm,1.0s							
LENM	Lemitar	18.32	341	*e*Pn		Pn	11 06 25.8	-3.6
LPM	Los Pinos Moun	18.35	342	*e*Pn		Pn	11 06 29.9	+0.1
	45nm,1.9s							
MIAR	Mount Ida	18.45	17	*e*Pn		Pn	11 06 27.5	-3.5
	19nm,1.0s							
LAZ	Ladron	18.59	341	*e*P		Pn	11 06 33.5	+0.8
	35nm,1.8s							
ANMO	Albuquerque	18.90	343	P		Pn	11 06 36.7	+0.2
	0.1nm,0.3s,baz=150,slow=10,SNR=12							
ANMO	Albuquerque	18.90	343	*e*P		Pn	11 06 36.4	-0.1
	41nm,2.0s							
UALR	University of	19.03	19	*e*P		Pn	11 06 36.8	-1.2
	16nm,1.0s							
PLAL	Pickwick Lake	20.86	28	P		P	11 06 55.5	-1.9
	20nm,0.8s							
GLA	Glamis	20.97	323	*e*P		P	11 06 59.1	+0.5
	29nm,1.1s							
WUAZ	Wupatki	21.17	333	*e*P		P	11 07 02.1	+1.4
	24nm,1.4s,mb4.3							
SDCO	Great Sand Dun	21.33	348	*e*P		P	11 07 02.3	-0.1
	21nm,1.3s,mb4.3							
MVCO	Mesa Verde	21.60	341	*e*P		P	11 07 05.0	-0.3
	13nm,0.9s,mb4.4							
UTMT	University of	21.69	25	*e*P		P	11 07 05.9	-0.3
	26nm,0.3s,mb5.2							
WVT	Waverly	21.93	27	*e*P		P	11 07 07.9	-1.0
	8.2nm,0.8s,mb4.2							
SWET	Sewanee	22.08	32	*e*P		P	11 07 09.1	-1.3
	5.3nm,0.6s,mb4.2							
GOGA	Godfrey	22.11	39	*e*P		P	11 07 08.9	-1.8
	23nm,0.8s,mb4.7							
KSU1	Kansas State U	22.29	7	*e*P		P	11 07 14.7	+2.0
	11nm,0.8s,mb4.3							
CCM	Cathedral Cave	22.39	18	*e*P		P	11 07 12.0	-1.7
	5.6nm,0.9s,mb4.0							
PV01	Paradox Valley	22.48	342	*e*P		P	11 07 14.8	+0.2
	597nm,1.1s							
CPCT	Cooper Cave	22.99	34	*e*P		P	11 07 19.0	-1.2
SMCO	Snowmass	23.03	346	*e*P		P	11 07 20.6	+0.1
	16nm,1.5s,mb4.3							
ISCO	Idaho Springs	23.34	349	*e*P		P	11 07 23.2	-0.6
	5.5nm,0.8s,mb4.1							
TKL	Tuckaleechee C	23.55	34	P		P	11 07 22.7	-3.3
	4.1nm,0.6s,mb4.1,baz=195,slow=11,SNR=7.4							
TKL	Tuckaleechee C	23.55	34	P		P	11 07 22.7	-3.3
GSC	Goldstone	23.73	324	*e*P		P	11 07 28.0	+0.3
	86nm,2.4s,mb4.9							
CCUT	Cedar City	23.74	333	*e*P		P	11 07 28.6	+0.8
	57nm,2.6s,mb4.6							
SHPR	Sheep Range	23.75	328	*e*P		P	11 07 28.2	+0.3
COW	Cow Castle Cre	23.82	43	*e*P		P	11 07 28.9	+0.3
ARUT	Antelope Range	23.97	333	*e*P		P	11 07 30.8	+0.9
	40nm,1.6s,mb4.7							
SRU	San Rafael	23.99	339	*e*P		P	11 07 30.3	+0.3
	136nm,3.0s							
NHSC	New Hope	24.00	44	*e*P		P	11 07 31.4	+1.2
	124nm,1.1s,mb5.3							
JSC	Jenkinsville	24.04	40	*e*P		P	11 07 30.8	+0.1
MSU	Marysvale	24.06	336	*e*P		P	11 07 31.2	+0.5
TZTN	Tazewell	24.33	33	*e*P		P	11 07 33.0	-0.2
	124nm,2.1s,mb5.1							
WCI	Wyandotte Cave	24.36	27	*e*P		P	11 07 33.4	0.0
	20nm,0.8s,mb4.7							
TMUT	Trail Mountain	24.39	338	*e*P		P	11 07 34.8	+1.1
	144nm,2.6s,mb5.0							
PHWY	Pilot Hill	24.77	350	*e*P		P	11 07 36.8	-0.4
	23nm,1.4s,mb4.7							
ISA	Isabella	24.95	322	*e*P		P	11 07 41.1	+2.2
	6.0nm,1.0s,mb4.3							
BLO	Bloomington	25.06	25	*e*P		P	11 07 39.4	-0.5
	14nm,0.8s,mb4.7							
HDIL	Hopedale	25.28	19	*e*P		P	11 07 40.8	-1.0
	19nm,0.8s,mb4.9							
DAU	Daniels Canyon	25.40	339	*e*P		P	11 07 43.8	+0.8
RWWY	Rawlins	25.48	347	*e*P		P	11 07 45.5	+1.9
	22nm,1.3s,mb4.7							
DUG	Dugway	25.77	337	*e*P		P	11 07 46.7	+0.5
	6.2nm,0.9s,mb4.2							
ELN	Prospectdale	26.36	36	*e*P		P	11 07 51.5	-0.1
BLA	Blacksburg	26.54	37	*e*P		P	11 07 53.0	-0.2
	14nm,0.7s,mb4.8							
HWUT	Hardware Ranch	26.58	340	*e*P		P	11 07 54.1	+0.5
	72nm,2.4s,mb5.0							
NVAR	Mina Array Bea	26.83	327	P		P	11 07 53.2	-2.7
	4.3nm,0.8s,mb4.2,baz=154,slow=9.4,SNR=21							
NV

DOT	**Dot Lake**	**55.59**	**338**	*e*P	**P**	**11 11 51.2**	**+0.4**
	92nm,1.4s,mb5.6						
INK	**Inuvik**	**55.62**	**346**	P	**P**	**11 11 46.6**	**-4.4**
	5.0nm,0.8s,mb4.6,baz=137,slow=6.6,SNR=19						
INK	**Inuvik**	**55.62**	**346**	P	**P**	**11 11 46.6**	**-4.4**
INK	**Inuvik**	**55.62**	**346**	*e*P	**P**	**11 11 50.2**	**-0.8**
	5.1nm,0.8s						
ILAR	**Eielson Array**	**57.24**	**338**	P	**P**	**11 11 58.5**	**-4.2**
	4.3nm,1.0s,mb4.4,baz=151,slow=6.9,SNR=19						
ILAR				LR	LR	11 38 56.8	
	comp=Z,273nm,19.8s,MS4.4,baz=111,slow=38						
ILAR	**Eielson Array**	**57.24**	**338**	P	**P**	**11 11 58.5**	**-4.2**
ILAR				LR	LR	11 38 56.8	
TRF	**Thorofare Moun**	**57.82**	**336**	*e*P	**P**	**11 12 06.6**	**-0.2**
	13nm,0.7s,mb5.1						
PPT	**Papeete**	**59.73**	**237**	*e*LR	LR	11 11 54.1	
	106nm,22.5s						
PPT	**Papeete**	**59.73**	**237**	*e*S	**S**	**11 20 41.2**	**+8.2**
	104nm,29.8s						
PPT				*e*LQ		11 27 24.6	
	314nm,27.5s						
PPT				*e*LR	LR	11 29 39.9	
	289nm,24.5s,baz=54						
PPT	**Papeete**	**59.73**	**237**	LR	LR	11 31 40.1	
	comp=Z,187nm,18.4s,MS4.3,baz=317,slow=29						
TBI	**Tubuai**	**62.83**	**232**	*e*LR	LR	11 13 28.8	
	114nm,25.2s						
PLCA	**Paso Flores**	**63.50**	**155**	LR	LR	11 34 38.6	
	comp=Z,141nm,19.4s,MS4.2,baz=89,slow=30						
SPITS	**Spitsbergen Ar**	**78.72**	**11**	LR	LR	11 52 17.8	
	comp=Z,222nm,18.1s,MS4.5,baz=90,slow=38						
PETK	**Petropavlovsk-**	**83.88**	**324**	LR	LR	11 49 14.8	
	comp=Z,61nm,18.6s,MS4.0,baz=182,slow=34						
NOA	**NORSAR Array B**	**85.14**	**27**	LR	LR	11 56 18.9	
	comp=Z,51nm,18.4s,MS4.0,baz=75,slow=38						
ARCES	**ARCESS Array B**	**85.66**	**17**	P	**P**	**11 14 51.4**	**-2.7**
	2.4nm,0.8s,mb4.4,baz=289,slow=6.6,SNR=5.7						
ARCES				LR	LR	11 53 19.2	
	comp=Z,92nm,18.6s,MS4.2,baz=347,slow=36						
ARCES	**ARCESS Array B**	**85.66**	**17**	P	**P**	**11 14 51.4**	**-2.7**
ARCES				LR	LR	11 53 19.2	
HFS	**Hagfors**	**86.64**	**27**	LR	LR	11 51 55.0	
	comp=Z,88nm,20.4s,MS4.2,baz=259,slow=34						
FINES	**FINESS Array B**	**90.95**	**23**	LR	LR	11 56 54.6	
	comp=Z,130nm,18.7s,MS4.4,baz=310,slow=36						
GERES	**GERESS Array B**	**92.07**	**37**	LR	LR	11 57 41.8	
	comp=Z,130nm,20.5s,MS4.4,baz=120,slow=36						
DBIC	**Dimbokro**	**92.87**	**82**	LR	LR	11 51 19.8	
	comp=Z,73nm,20.5s,MS4.1,baz=299,slow=32						
TORD	**Torodi Ar. Bea**	**97.00**	**74**	LR	LR	11 59 21.7	
	comp=Z,71nm,18.3s,MS4.2,baz=45,slow=35						
AKASG	**Malin Array Be**	**99.26**	**30**	LR	LR	12 03 19.8	
	comp=Z,71nm,19.4s,MS4.2,baz=290,slow=37						
DZM	**Mont Dzumac**	**99.48**	**250**	*e*LR	LR	11 48 19.8	
	148nm,23.2s						

*IDC **11** 11:05:53.4±2.3,5°.49S×131°.41E,h0km,mb4.0/2, mb1 3.8/5,mb1mx3.6/17,mbtmp3.7/5,ML3.7/3,Error ellipse: s-maj=115.9km s-min=26.1km az=80.0*
*ISCJB **11** 11:05:58.5±1.2,5°.63S±0°.07×131°.4E±0°.1,h62km±16km, mb4.0/2,Error ellipse: s-maj=24.0km s-min=8.6km az=156.7*
*NEIC **11** 11:05:58.5±1.1,5°.61S×131°.22E,h35km,Error ellipse: s-maj=40.7km s-min=12.3km az=76.0*
*DJA **11** 11:06:00,5°.29S×131°.32E,h124km,MLv4.0/4*

ISC 11 11:05:59.8±1.1,5°.65S±0°.07×131°.4E±0°.1,h52km±15km, n18,σ1s11/28,mb4.0/2,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.84**	**307**	P	**Pn**	**11 06 29.7**	**+0.6**
BNDI				S	**Sn**	**11 06 51.8**	**+0.5**
MSAI	**Masohi**	**3.35**	**313**	P	**Pn**	**11 06 51.4**	**+1.7**
MSAI				S	**Sn**	**11 07 25.9**	**-2.3**
AAI	**Ambon**	**3.72**	**301**	P	**Pn**	**11 06 55.2**	**+0.3**
SWI	**Sorong**	**4.76**	**359**	P	**Pn**	**11 07 08.1**	**-0.9**
SWI				S	**Sn**	**11 07 55.9**	**-7.0**
NLAI	**Namlea**	**4.89**	**299**	P	**Pn**	**11 07 15.7**	**+4.8**
LBMI	**Labuha**	**6.30**	**322**	P	**Pn**	**11 07 30.8**	**+0.5**
LBMI				S	**Sn**	**11 08 34.7**	**-6.3**
FITZ	**Fitzroy Crossi**	**13.59**	**204**	Pn	**Pn**	**11 09 08.7**	**-1.2**
	0.6nm,0.3s,baz=38,slow=12,SNR=18						
FITZ				Sn	**Sn**	**11 11 29.4**	**-10**
	0.3nm,0.3s,baz=169,slow=14,SNR=5.0						
FITZ	**Fitzroy Crossi**	**13.59**	**204**	*e*Pn	**Pn**	**11 09 08.3**	**-1.6**
FITZ				Sn	**Sn**	**11 11 29.4**	**-10**
WRAB	**Tennant Creek**	**14.49**	**169**	*e*Pn	**Pn**	**11 09 22.6**	**+0.6**
WRA	**Warramunga Arr**	**14.50**	**169**	Pn	**Pn**	**11 09 21.0**	**-1.1**
	0.2nm,0.3s,baz=351,slow=14,SNR=19						
WRA				Sn	**Sn**	**11 11 51.9**	**-10**
	0.6nm,0.3s,baz=342,slow=21,SNR=6.5						
WRA	**Warramunga Arr**	**14.50**	**169**	Pn	**Pn**	**11 09 21.0**	**-1.1**
WRA				Sn	**Sn**	**11 11 51.9**	**-10**
WB2	**Warramunga Arr**	**14.50**	**169**	*e*Pn	**Pn**	**11 09 21.9**	**-0.3**
ASAR	**Alice Springs**	**18.08**	**173**	P	**Pn**	**11 10 09.1**	**+1.7**
	0.2nm,0.3s,baz=343,slow=8.7,SNR=7.8						
ASAR				S	**S**	**11 13 16.2**	**-16**
	0.1nm,0.3s,baz=359,slow=26,SNR=3.9						
ASAR	**Alice Springs**	**18.08**	**173**	P	**Pn**	**11 10 09.1**	**+1.7**
ASAR				S	**S**	**11 13 16.2**	**-16**
MKAR	**Makanchi Array**	**67.87**	**326**	P	**P**	**11 16 53.6**	**+0.8**
	0.9nm,0.4s,mb4.2,baz=118,slow=8.1,SNR=11						
MKAR	**Makanchi Array**	**67.87**	**326**	P	**P**	**11 16 53.6**	**+0.8**
ZALV	**Zalesovo Beam**	**71.00**	**333**	P	**P**	**11 17 11.0**	**-1.0**
	0.6nm,0.6s,mb3.7,baz=124,slow=7.9,SNR=3.7						
ZALV	**Zalesovo Beam**	**71.00**	**333**	P	**P**	**11 17 11.0**	**-1.0**

NEIC 11 11:07:31.9,54°.63N×163°.55W,h4km,mb3.8/1, ML3.5(AEIC),After AEIC.,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FALS	**False Pass**	**0.24**	**19**	P	Pg	11 07 36.7	+0.2
FALS				S	Sg	11 07 40.8	+1.1
AKUT	**Akutan**	**1.39**	**250**	P	Pn	11 07 56.2	-1.8
SDPT	**Sand Point**	**1.91**	**67**	P	Pn	11 08 04.5	-0.7
CHGN	**Chignik**	**3.37**	**58**	*e*Pn	Pn	11 08 25.2	0.0
CHGN				*e*Sn	Sn	11 09 06.3	+0.7

MEX 11 11:11:56.1±1.0,16°.81N×100°.17W,h14km±5km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.26**	**338**	*i* P	Pg	11 12 00.8	-0.7
CAIG				*i* S	Sg	11 12 05.1	-0.1
ACX	**Acapulco**	**0.30**	**79**	*i* P	Pg	11 12 01.0	-1.3
ACX				*i* S	Sg	11 12 04.5	-2.0
MEIG	**Mezcala**	**1.23**	**25**	*i* P	Pn	11 12 16.6	-2.3
MEIG				*i* S	Sb	11 12 29.1	-5.7
PNIG	**Pinotepa**	**2.00**	**102**	*e*P	Pn	11 12 25.5	-4.0
PNIG				*i* S	Sn	11 12 49.5	-4.9
UTMO	**Huajuapan**	**2.47**	**65**	*e*P	Pn	11 12 33.6	-2.4
UTMO				*i* S	Sn	11 13 03.4	-2.7
MOIG	**Morelia**	**3.01**	**341**	*e*P	Sn	11 12 39.9	-3.5
MOIG				*i* S	Sn	11 13 16.5	-2.9

MEX 11 11:15:06.0±0.3,16°.82N×100°.16W,h18km±15km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.25**	**336**	*i* P	Pg	11 15 10.9	-0.9
CAIG				*i* S	Sg	11 15 14.7	-1.0
ACX	**Acapulco**	**0.29**	**80**	*i* P	Pg	11 15 10.7	-1.7
ACX				*i* S	Sg	11 15 14.2	-2.6
PLIG	**Platanillo**	**1.69**	**22**	*e*P	Pn	11 15 31.1	-3.4
PLIG				*i* S	Sn	11 15 51.6	-4.1
PNIG	**Pinotepa**	**2.00**	**102**	*i* P	Pn	11 15 35.7	-3.1
PNIG				*i* S	Sn	11 15 59.4	-3.9
UTMO	**Huajuapan**	**2.47**	**66**	*e*P	Pn	11 15 43.5	-1.8
UTMO				*i* S	Sn	11 16 12.0	-2.9

*IDC **11** 11:18:01.4±2.1,6°.97S×129°.03E,h0km,mb3.6/1, mb1 3.7/4,mb1mx3.4/18,mbtmp3.5/4,ML3.6/3,Error ellipse: s-maj=88.0km s-min=27.5km az=75.0*
*ISCJB **11** 11:18:04.6±1.4,7°.44S±0°.10×128°.3E±0°.2,h33km,Error ellipse: s-maj=25.7km s-min=13.7km az=0.0*

*NEIC **11** 11:18:06.4±1.3,7°.02S×129°.11E,h35km,Error ellipse: s-maj=35.3km s-min=14.7km az=67.0*

ISC 11 11:18:07.3±1.4,7°.4S±0°.1×128°.4E±0°.2,h35km,n10, σ1s05/14,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.01**	**194**	Pn	**Pn**	**11 20 46.4**	**+4.0**
	0.5nm,0.3s,baz=22,slow=10,SNR=20						
FITZ				Sn	**Sn**	**11 22 43.3**	**-1.1**
	0.3nm,0.3s,baz=77,slow=22,SNR=5.9						
FITZ	**Fitzroy Crossi**	**11.01**	**194**	*e*Pn	**Pn**	**11 20 48.4**	**+6.0**
FITZ				Sn	**Sn**	**11 22 43.3**	**-1.1**
WRAB	**Tennant Creek**	**13.76**	**156**	*e*Pn	**Pn**	**11 21 19.8**	**-0.2**
WRA	**Warramunga Arr**	**13.76**	**156**	Pn	**Pn**	**11 21 19.4**	**-0.7**
	0.3nm,0.3s,baz=343,slow=14,SNR=16						
WRA				Sn	**Sn**	**11 23 39.1**	**-13**
	0.5nm,0.3s,baz=337,slow=22,SNR=9.6						
WRA	**Warramunga Arr**	**13.76**	**156**	Pn	**Pn**	**11 21 19.4**	**-0.7**
WRA				Sn	**Sn**	**11 23 39.1**	**-13**
WB2	**Warramunga Arr**	**13.77**	**156**	*e*Pn	**Pn**	**11 21 19.5**	**-0.7**
ASAR	**Alice Springs**	**17.05**	**163**	P	**Pn**	**11 22 05.2**	**+2.2**
	0.1nm,0.3s,baz=337,slow=9.8,SNR=8.6						
ASAR	**Alice Springs**	**17.05**	**163**	P	**Pn**	**11 22 05.2**	**+2.2**
MKAR	**Makanchi Array**	**67.67**	**328**	P	**P**	**11 29 00.5**	**-0.4**
	0.2nm,0.4s,baz=116,slow=6.6,SNR=3.0						
MKAR	**Makanchi Array**	**67.67**	**328**	P	**P**	**11 29 00.5**	**-0.4**

MEX 11 11:19:50.7±1.0,16°.85N×100°.15W,h5km±7km,MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.22**	**330**	*i* P	Pg	11 19 54.4	-0.7
CAIG				*i* S	Sg	11 19 59.0	+0.9
ACX	**Acapulco**	**0.28**	**87**	*i* P	Pg	11 19 54.6	-1.6
ACX				*i* S	Sg	11 19 58.5	-1.4
MEIG	**Mezcala**	**1.18**	**25**	*i* P	Pg	11 20 09.9	-3.5
MEIG				*i* S	Sg	11 20 24.7	-4.0
PLIG	**Platanillo**	**1.65**	**22**	*e*P	Pn	11 20 16.6	-3.7
PLIG				*i* S	Sn	11 20 37.1	-4.7
PNIG	**Pinotepa**	**1.99**	**103**	*i* P	Pn	11 20 23.2	-1.8
PNIG				*i* S	Sn	11 20 47.6	-2.7
UTMO	**Huajuapan**	**2.44**	**66**	*e*P	Pn	11 20 28.5	-2.8
UTMO				*i* S	Sn	11 20 57.0	-4.5

IDC 11 11:24:46.2±11.0,25°.26S×178°.26W,h412km±123km, mb3.2/5,mb1 3.4/6,mb1mx3.1/19,mbtmp3.3/6,Error ellipse: s-maj=141.0km s-min=43.4km az=66.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**13.54**	**196**	P	P	11 27 42.3	0.0
	3.6nm,0.3s,baz=333,slow=2.1,SNR=32						
URZ				S	S	11 30 06.8	-1.0
	1.1nm,0.3s,baz=160,slow=24,SNR=11						
RPZ	**Rata Peaks**	**20.37**	**203**	P	P	11 28 53.2	+0.2
	2.3nm,0.5s,baz=174,slow=1.6,SNR=3.4						
CTA	**Charters Tower**	**33.08**	**272**	P	P	11 30 46.4	+0.6
	2.4nm,0.5s,baz=114,slow=13,SNR=1.6						
STKA	**Stephens Creek**	**35.72**	**250**	P	P	11 31 07.7	-0.3
	0.7nm,0.6s,baz=109,slow=9.7,SNR=4.4						
ASAR	**Alice Springs**	**43.39**	**262**	P	P	11 32 10.6	+0.1
	1.0nm,0.4s,baz=94,slow=7.4,SNR=21						
WRA	**Warramunga Arr**	**43.91**	**267**	P	P	11 32 14.3	-0.3
	1.0nm,0.6s,baz=103,slow=8.2,SNR=9.8						

*ISCJB **11** 11:34:56.4±0.6,39°.40N±0°.02×43°.89E±0°.05,h0km±6km, Error ellipse: s-maj=6.0km s-min=4.1km az=10.1*
*DDA **11** 11:34:56.7,39°.39N×43°.84E,h2km±1km,Md3.4*
*CSEM **11** 11:34:57.2±0.3,39°.39N×43°.83E,h5km,MD3.4, Error ellipse: s-maj=6.7km s-min=4.7km az=91.0*
*ISK **11** 11:34:57.5,39°.39N×43°.83E,h11km,MD3.2*

ISC 11 11:34:57.5±0.6,39°.40N±0°.03×43°.86E±0°.04,h3km±6km, n29,σ0s97/45,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DYDN	**Diyadin**	**0.19**	**317**	*i* P	**Pg**	**11 35 01.2**	**+0.1**
DYDN				*i* S	**Sg**	**11 35 09.6**	**+5.9**
DYDN	**Diyadin**	**0.19**	**317**	*i* P	**Pg**	**11 35 01.2**	**0.0**
AGRB	**Hanur-Agry**	**0.69**	**285**	*e*PG	**Pg**	**11 35 10.7**	**0.0**
AGRB				*e*SG	**Sg**	**11 35 20.9**	**+1.2**
AGRB	**Hanur-Agry**	**0.69**	**285**	*e*Pg	**Pg**	**11 35 10.7**	**0.0**
AGRB				*e*Sg	**Sg**	**11 35 20.9**	**+1.2**
TUTA	**Tutak**	**0.81**	**270**	*i* P	**Pg**	**11 35 11.9**	**-1.0**
TUTA				*i* S	**Sg**	**11 35 23.8**	**+0.4**
TUTA	**Tutak**	**0.81**	**270**	*i* P	**Pg**	**11 35 11.9**	**-1.1**
TUTA				*i* S	**Sg**	**11 35 23.8**	**+0.4**
TVAN	**Van**	**0.94**	**202**	*i* P	**Pg**	**11 35 13.8**	**-1.7**
TVAN				*i* S	**Sg**	**11 35 28.4**	**+0.8**
TVAN	**Van**	**0.94**	**202**	*i* P	**Pg**	**11 35 13.8**	**-1.7**
TVAN				*i* S	**Sg**	**11 35 28.4**	**+0.7**
GNI	**Garni**	**1.01**	**42**	*e*PG	**Pg**	**11 35 18.1**	**+1.3**
GNI	**Garni**	**1.01**	**42**	*e*Pg	**Pg**	**11 35 18.1**	**+1.3**
DIGO	**Kars**	**1.08**	**340**	*i* P	**Pg**	**11 35 18.2**	**+0.1**
DIGO				*i* S	**Sg**	**11 35 33.3**	**+1.2**
DIGO	**Kars**	**1.08**	**340**	*i* P	**Pg**	**11 35 18.2**	**+0.1**
DIGO				*i* S	**Sg**	**11 35 33.3**	**+1.2**
VANT	**Van**	**1.08**	**205**	*e*PG	**Pg**	**11 35 17.7**	**-0.5**
VANT				*e*SG	**Sg**	**11 35 33.9**	**+1.6**
VANT	**Van**	**1.08**	**205**	*e*Pg	**Pg**	**11 35 17.7**	**-0.5**
VANT				*e*Sg	**Sg**	**11 35 33.9**	**+1.6**
TATV	**Tatvan**	**1.53**	**235**	*e*P	**Pn**	**11 35 25.7**	**+0.1**
TATV				*i* S	**Sn**	**11 35 46.3**	**+0.3**
TATV	**Tatvan**	**1.53**	**235**	*e*P	**Pn**	**11 35 25.7**	**+0.1**
TATV				*i* S	**Sn**	**11 35 46.3**	**+0.3**
HKR	**Hakkari**	**1.82**	**183**	*e*PN	**Pn**	**11 35 29.4**	**-0.3**
HKR	**Hakkari**	**1.82**	**183**	*e*Pn	**Pn**	**11 35 29.4**	**-0.3**
HAKT	**HAKKARI**	**1.85**	**184**	*i* P	**Pn**	**11 35 29.7**	**-0.3**
HAKT				*i* S	**Sg**	**11 35 57.8**	**+1.0**
HAKT	**HAKKARI**	**1.85**	**184**	*i* P	**Pn**	**11 35 29.7**	**-0.3**
EZM	**Erzurum**	**1.99**	**285**	*e*PN	**Pn**	**11 35 31.6**	**-0.4**
BNGL	**BINGOL**	**2.15**	**259**	*i* P	**Pn**	**11 35 35.2**	**+1.0**
BNGL				*e*S	**Sg**	**11 36 05.3**	**-1.3**
CUKT	**Cukurca**	**2.16**	**185**	*e*PN	**Pn**	**11 35 34.2**	**-0.1**
CUKT	**Cukurca**	**2.16**	**185**	*e*Pn	**Pn**	**11 35 34.2**	**-0.1**
DGRG	**David-gareji**	**2.35**	**29**	P	**Pg**	**11 35 43.0**	**+0.5**
MTA	**Mtatsminda**	**2.40**	**17**	P	**Pg**	**11 35 42.2**	**-1.2**
TBLG	**Delisi**	**2.42**	**16**	P	**Pg**	**11 35 42.7**	**-1.2**
BEST	**Besiri**	**2.53**	**234**	*e*P	**Pg**	**11 35 43.0**	**-2.8**
BEST				*e*S	**Sn**	**11 36 10.4**	**-0.2**
ONI	**Oni**	**3.20**	**355**	P	**Pg**	**11 36 02.7**	**+4.0**

*ISCJB **11** 11:51:17.8±0.3,37°.40N±0°.02×7°.93W±0°.02,h13km±2km, Error ellipse: s-maj=3.4km s-min=2.9km az=140.1*
*CSEM **11** 11:51:18.5±0.1,37°.37N×7°.95W,h10km,ML3.4/24,Error ellipse: s-maj=2.8km s-min=2.1km az=40.0*
*LDG **11** 11:51:18.7±0.1,37°.32N×8°.02W,h2km,Ml3.2/4,Error ellipse: s-maj=2.8km s-min=2.2km az=25.0*
*NEIC **11** 11:51:19.4,37°.37N×7°.99W,h7km,MN2.8(MDD),After MDD.*
*IGIL **11** 11:51:19.5,37°.34N×7°.99W,h2km,ML3.1*
*SFS **11** 11:51:19.0,37°.67N×7°.99W,h0km,ML2.8*
*INMG **11** 11:51:19.2±1.2,37°.35N×7°.98W,h0km,ML2.7,Error ellipse: s-maj=1.6km s-min=1.4km az=79.0*
*MDD **11** 11:51:19.4±0.5,37°.35N×7°.99W,h11km,mbLg2.8/14, Error ellipse: s-maj=5.5km s-min=3.4km az=172.0,PRIMO*

ISC 11 11:51:18.6±0.3,37°.37N±0°.02×7°.96W±0°.02,h12km±2km, n110,σ0s97/208,9C-3D,Portugal

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PBDV	**Barranco-do-Ve**	**0.13**	**171**	*i*↓Pg	**Pg**	**11 51 21.3**	**-0.5**
PBDV				*e*Sg	**Sg**	**11 51 22.8**	**-1.3**
PBDV				A		11 51 23.8	
	1μm,0.2s						
PCVE	**Castro Verde**	**0.27**	**346**	*i*↓Pg	**Pg**	**11 51 25.1**	**+0.9**
PCVE				*e*Sg	**Sg**	**11 51 29.0**	**+1.1**
PCVE				A		11 51 29.5	
	484nm,0.2s						
EGRO	**El Granado**	**0.41**	**66**	↑Pg	**Pg**	**11 51 27.6**	**+0.9**
EGRO				Lg		11 51 33.5	
EGRO	**El Granado**	**0.41**	**66**	↑Pg	**Pg**	**11 51 27.6**	**+0.9**
	38nm,0.0s,SNR=18						
EGRO				Lg		11 51 33.5	
	138nm,0.1s,SNR=5.0						
EGRO	**El Granado**	**0.41**	**66**	Pg	**Pg**	**11 51 27.6**	**+0.9**
	38nm,0.0s,SNR=18						
EGRO				Lg		11 51 33.5	
	138nm,0.1s,SNR=5.0						
MESJ	**Messejana**	**0.51**	**336**	*e*P	**Pg**	**11 51 29.2**	**+0.5**
MESJ				*e*		11 51 29.3	
	baz=149,slow=11						
MESJ				*e*S	**Sg**	**11 51 35.8**	**+0.3**
MORF	**Marmelete**	**0.56**	**264**	↑*e*Pg	**Pg**	**11 51 29.0**	**-0.4**
MORF				*e*Sg	**Sg**	**11 51 36.1**	**-0.7**
MORF				A		11 51 38.4	
	381nm,0.2s						
PTEO	**Sao Teotonio**	**0.64**	**286**	*e*P	**Pg**	**11 51 30.3**	**-0.6**
PTEO				*e*S	**Sg**	**11 51 39.4**	**+0.1**
	147nm,0.2s						
PTEO	**Sao Teotonio**	**0.64**	**286**	*e*P	**Pg**	**11 51 30.3**	**-0.6**
PTEO				*e*S	**Sg**	**11 51 39.4**	**+0.1**
PTEO				A		11 51 44.3	
	147nm,0.2s						
PBEJ	**Beja**	**0.66**	**6**	*e*P	**Pg**	**11 51 32.4**	**+1.0**
PBEJ				*e*S	**Sg**	**11 51 40.8**	**+0.7**
	204nm,0.2s						
PBEJ	**Beja**	**0.66**	**6**	*e*P	**Pg**	**11 51 32.4**	**+1.0**
PBEJ				*e*S	**Sg**	**11 51 40.8**	**+0.7**
PBEJ				A		11 51 45.4	
	204nm,0.2s						
PFVI	**Vila Bisbo**	**0.73**	**251**	↑Pg	**Pg**	**11 51 32.0**	**-0.8**
PFVI				Lg		11 51 42.2	
PFVI	**Vila Bisbo**	**0.73**	**251**	↑Pg	**Pg**	**11 51 32.0**	**-0.8**
	14nm,0.0s,SNR=18						
PFVI				Lg		11 51 42.2	
	310nm,0.1s,SNR=30						
PFVI	**Vila Bisbo**	**0.73**	**251**	Pg	**Pg**	**11 51 32.0**	**-0.8**
	14nm,0.0s,SNR=18						
PFVI				*e*S	**Sg**	**11 51 41.2**	**-1.2**
	216nm,0.1s						
PFVI				Lg		11 51 42.2	
	310nm,0.1s,SNR=30						
PFVI	**Vila Bisbo**	**0.73**	**251**	↑*e*P	**Pg**	**11 51 32.0**	**-0.8**
PFVI				*e*S	**Sg**	**11 51 41.2**	**-1.2**
PFVI				A		11 51 44.9	
	216nm,0.1s						
PNCL	**Nicolau / Gran**	**0.87**	**329**	↓*e*P	**Pg**	**11 51 34.9**	**-0.4**
PNCL				*e*S	**Sg**	**11 51 47.6**	**+0.9**
PNCL				A		11 51 50.4	
	177nm,0.1s						
PBAR	**Barrancos**	**1.08**	**42**	↑*e*P	**Pb**	**11 51 39.7**	**+0.5**
PBAR				*e*S	**Sb**	**11 51 55.1**	**+1.8**
PBAR				A		11 51 56.6	
	72nm,0.2s						
EMIN	**Mina Concepcio**	**1.09**	**68**	↑Pg	**Pg**	**11 51 39.5**	**-0.1**
EMIN				Lg		11 51 55.2	
EMIN	**Mina Concepcio**	**1.09**	**68**	↑Pg	**Pg**	**11 51 39.5**	**-0.1**
	18nm,0.1s,SNR=18						
EMIN				Lg		11 51 55.2	
	34nm,0.1s,SNR=5.0						
EMIN	**Mina Concepcio**	**1.09**	**68**	Pg	**Pg**	**11 51 39.5**	**-0.1**
	18nm,0.1s,SNR=18						
EMIN				Lg		11 51 55.2	
	34nm,0.1s,SNR=5.0						
EVO	**Evora**	**1.16**	**358**	*e*Pg	**Pg**	**11 51 40.8**	**-0.1**
EVO				*e*Sg	**Sg**	**11 51 56.8**	**+0.8**
	91nm,0.2s						
EVO	**Evora**	**1.16**	**358**	*e*P	**Pb**	**11 51 41.0**	**+0.5**
EVO				*e*S	**Sb**	**11 51 56.6**	**+1.1**
	184nm,0.1s						
EVO	**Evora**	**1.16**	**358**	*e*P	**Pb**	**11 51 41.0**	**+0.5**
EVO				*e*S	**Sb**	**11 51 56.6**	**+1.1**
EVO				A		11 51 58.4	
	184nm,0.1s						
EVOP	**Sao Brissos**	**1.16**	**354**	*e*Pg	**Pg**	**11 51 40.8**	**-0.2**
EVOP				*e*Sg	**Sg**	**11 51 56.8**	**+0.7**
EVOP	**Sao Brissos**	**1.16**	**354**	*e*Pg	**Pg**	**11 51 40.8**	**-0.2**
EVOP				*e*Sg	**Sg**	**11 51 56.8**	**+0.7**
	45nm,0.2s						
MOE	**Montemor**	**1.19**	**345**	*e*P	**Pn**	**11 51 42.4**	**+1.4**
MOE				*e*S	**Sb**	**11 51 58.3**	**+1.9**
MOE	**Montemor**	**1.19**	**345**	*e*P	**Pn**	**11 51 42.4**	**+1.4**
MOE				*e*S	**Sb**	**11 51 58.3**	**+1.9**
PLML	**Palmela**	**1.40**	**328**	*e*Pn	**Pn**	**11 51 46.1**	**+2.2**
PLML	**Palmela**	**1.40**	**328**	*e*Pn	**Pn**	**11 51 46.1**	**+2.2**
PLML				*e*Sn	**Sn**	**11 52 06.7**	**+4.5**
PESTR	**Estremoz**	**1.52**	**11**	*e*Pn	**Pn**	**11 51 48.5**	**+2.9**
PESTR				*e*Sn	**Sn**	**11 52 07.5**	**+2.2**
PESTR				A		11 52 12.6	
	59nm,0.5s						
EBAD	**Badajoz**	**1.57**	**28**	Pg	**Pg**	**11 51 48.8**	**0.0**
EBAD				Lg		11 52 08.8	
EBAD	**Badajoz**	**1.57**	**28**	Pg	**Pg**	**11 51 48.8**	**0.0**
	25nm,0.1s,SNR=65						
EBAD				Lg		11 52 09.1	
	212nm,0.3s,SNR=5.0						
EBAD	**Badajoz**	**1.57**	**28**	Pg	**Pg**	**11 51 48.8**	**+0.1**
	25nm,0.1s,SNR=65						
EBAD				Lg		11 52 08.8	
	212nm,0.3s,SNR=5.0						
ESPR

EMIJ	**Mijas**	**2.67**	**107**	Pn		**Pn**	**11 52 02.4**	**+1.0**
EMIJ				Pg		**Pg**	**11 52 09.5**	**-0.3**
EMIJ	**Mijas**	**2.67**	**107**	Pn		**Pn**	**11 52 02.4**	**+1.0**
	0.6nm,0.1s,SNR=7.9							
EMIJ				Pg		**Pg**	**11 52 06.9**	**-2.9**
	1.5nm,0.1s,SNR=4.6							
EMIJ	**Mijas**	**2.67**	**107**	Pn		**Pn**	**11 52 02.4**	**+1.0**
	0.6nm,0.1s,SNR=7.9							
EMIJ	**Mijas**	**2.67**	**107**	Pg		**Pg**	**11 52 09.5**	**-0.3**
	1.5nm,0.1s,SNR=4.6							
EADA	**Adamuz**	**2.79**	**72**	Pn		**Pn**	**11 52 03.3**	**+0.2**
EADA				Pg		**Pg**	**11 52 10.5**	**-1.6**
EADA				Sn		**Sn**	**11 52 37.8**	**+1.1**
EADA				Lg			11 52 46.2	
EADA	**Adamuz**	**2.79**	**72**	Pn		**Pn**	**11 52 03.3**	**+0.2**
	1.3nm,0.1s,SNR=5.3							
EADA				Pg		**Pg**	**11 52 10.5**	**-1.6**
	1.3nm,0.1s,SNR=5.4							
EADA				Sn		**Sn**	**11 52 35.9**	**-0.7**
	3.4nm,0.1s,SNR=5.8							
EADA				Lg			11 52 46.2	
	13nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**2.79**	**72**	Pn		**Pn**	**11 52 03.3**	**+0.3**
	1.3nm,0.1s,SNR=5.3							
EADA	**Adamuz**	**2.79**	**72**	Pg		**Pg**	**11 52 10.5**	**-1.6**
	1.3nm,0.1s,SNR=5.4							
EADA				Sn		**Sn**	**11 52 37.8**	**+1.2**
	3.4nm,0.1s,SNR=5.8							
EADA				Lg			11 52 46.2	
	13nm,0.2s,SNR=7.9							
MTE	**Manteigas**	**3.04**	**6**	*e*Pn		**Pn**	**11 52 06.9**	**+0.5**
MTE				*e*Sn		**Sn**	**11 52 42.3**	**-0.5**
MTE				*e*Sg		**Sg**	**11 52 56.5**	**+0.2**
	45nm,0.5s							
MTE	**Manteigas**	**3.04**	**6**	*e*Pn		**Pn**	**11 52 06.9**	**+0.5**
MTE				*e*Sn		**Sn**	**11 52 42.3**	**-0.5**
MTE				*e*Sg		**Sg**	**11 52 56.5**	**+0.2**
MTE				A			11 52 57.8	
	45nm,0.5s							
EPLA	**Plasencia**	**3.06**	**28**	Pn		**Pn**	**11 52 06.3**	**-0.4**
EPLA				Sn		**Sn**	**11 52 43.0**	**-0.3**
EPLA				Lg			11 52 55.3	
EPLA	**Plasencia**	**3.06**	**28**	Pn		**Pn**	**11 52 06.3**	**-0.4**
	0.6nm,0.0s,SNR=5.8							
EPLA				Sn		**Sn**	**11 52 43.0**	**-0.3**
	7.5nm,0.1s,SNR=6.4							
EPLA				Lg			11 52 58.1	
	5.4nm,0.1s,SNR=9.0							
EPLA	**Plasencia**	**3.06**	**28**	Pn		**Pn**	**11 52 06.3**	**-0.5**
	0.6nm,0.0s,SNR=5.8							
EPLA				Sn		**Sn**	**11 52 43.0**	**-0.3**
	7.5nm,0.1s,SNR=6.4							
EPLA				Lg			11 52 55.3	
	5.4nm,0.1s,SNR=9.0							
PVIS	**Viseu**	**3.34**	**1**	*e*Pn		**Pn**	**11 52 11.0**	**+0.4**
PVIS				*e*Sn		**Sn**	**11 52 50.2**	**+0.1**
PVIS				*e*Sg		**Sg**	**11 53 05.3**	**-0.6**
	12nm,0.5s							
PVIS	**Viseu**	**3.34**	**1**	*e*Pn		**Pn**	**11 52 11.0**	**+0.4**
PVIS				*e*Sn		**Sn**	**11 52 50.2**	**+0.1**
PVIS				*e*Sg		**Sg**	**11 53 05.3**	**-0.6**
PVIS				A			11 53 08.8	
	12nm,0.5s							
PTO	**Porto**	**3.80**	**353**	*e*Sn		**Sn**	**11 52 58.9**	**-2.5**
PTO				A			11 53 00.9	
	48nm,0.1s							
MVO	**Moncorvo**	**3.86**	**10**	Pn		**Pn**	**11 52 18.0**	**+0.4**
MVO				Sn		**Sn**	**11 53 01.0**	**-1.9**
MVO				Lg			11 53 20.2	
MVO	**Moncorvo**	**3.86**	**10**	Pn		**Pn**	**11 52 18.0**	**+0.4**
	0.4nm,0.1s,SNR=5.7							
MVO				Sn		**Sn**	**11 53 01.0**	**-1.9**
	5.6nm,0.1s,SNR=7.9							
MVO				Lg			11 53 21.7	
	2.3nm,0.1s,SNR=7.5							
MVO	**Moncorvo**	**3.86**	**10**	Pn		**Pn**	**11 52 18.0**	**+0.4**
	0.4nm,0.1s,SNR=5.7							
MVO				*e*Sn		**Sn**	**11 53 01.7**	**-1.1**
	8.7nm,0.3s							
MVO				Lg			11 53 20.2	
	2.3nm,0.1s,SNR=7.5							
MVO	**Moncorvo**	**3.86**	**10**	*e*Pn		**Pn**	**11 52 18.0**	**+0.4**
MVO				*e*Sn		**Sn**	**11 53 01.7**	**-1.1**
MVO				A			11 53 04.1	
	8.7nm,0.3s							
MVO				*e*Sg		**Sg**	**11 53 20.4**	**-2.0**
MVO				A			11 53 23.2	
	13nm,0.6s							
ESDC	**Sonseca Array**	**3.89**	**52**	Pn		**Pn**	**11 52 18.3**	**+0.2**
ESDC				Sn		**Sn**	**11 53 02.9**	**-0.7**
ESDC				Lg			11 53 22.7	
ESDC	**Sonseca Array**	**3.89**	**52**	Pn		**Pn**	**11 52 18.3**	**+0.2**
	4.8nm,0.2s,baz=236,slow=13,SNR=4.4							
ESDC				Sn		**Sn**	**11 53 02.9**	**-0.7**
	3.4nm,0.2s,baz=238,slow=24,SNR=5.3							
ESDC				Lg			11 53 22.7	
	14nm,0.7s,baz=230,slow=29,SNR=6.9							
ESDC	**Sonseca Array**	**3.89**	**52**	Pn		**Pn**	**11 52 18.3**	**+0.3**
	4.8nm,0.2s,baz=236,SNR=4.4							
ESDC				Sn		**Sn**	**11 53 02.9**	**-0.7**
	3.4nm,0.2s,SNR=5.3							
ESDC				Lg			11 53 22.7	
	14nm,0.7s,slow=29,SNR=6.9							
EQES	**Quesada**	**3.91**	**82**	Pn		**Pn**	**11 52 18.4**	**+0.1**
EQES				Sn		**Sn**	**11 53 03.8**	**-0.2**
EQES				Lg			11 53 23.8	
EQES	**Quesada**	**3.91**	**82**	Pn		**Pn**	**11 52 18.4**	**+0.1**
	0.9nm,0.1s,SNR=7.9							
EQES				Sn		**Sn**	**11 53 03.5**	**-0.5**
	0.8nm,0.1s,SNR=7.9							
EQES				Lg			11 53 23.8	
	1.2nm,0.1s,SNR=7.9							
EQES	**Quesada**	**3.91**	**82**	Pn		**Pn**	**11 52 18.4**	**+0.1**
	0.9nm,0.1s,SNR=7.9							
EQES				Sn		**Sn**	**11 53 03.8**	**-0.2**
	0.8nm,0.1s,SNR=7.9							
EQES				Lg			11 53 23.8	
	1.2nm,0.1s,SNR=7.9							
PVRL	**Vila Real**	**3.91**	**3**	*e*Sn		**Sn**	**11 53 02.9**	**-1.1**
	26nm,0.1s							
PVRL	**Vila Real**	**3.91**	**3**	*e*Sn		**Sn**	**11 53 02.9**	**-1.1**
PVRL				A			11 53 04.4	
	26nm,0.1s							
POLO	**Lamas de Olo**	**4.00**	**2**	*e*Pn		**Pn**	**11 52 20.1**	**+0.5**
POLO				*e*Sn		**Sn**	**11 53 05.8**	**-0.6**
	5.5nm,0.5s							
POLO	**Lamas de Olo**	**4.00**	**2**	*e*Pn		**Pn**	**11 52 20.1**	**+0.5**
POLO				*e*Sn		**Sn**	**11 53 05.8**	**-0.6**
POLO				A			11 53 06.4	
	2.3nm,0.3s							
POLO				A			11 53 33.0	
	5.5nm,0.5s							
PCAB	**Cabril**	**4.33**	**359**	*e*Pn		**Pn**	**11 52 24.6**	**+0.4**
PCAB				*e*Sn		**Sn**	**11 53 12.9**	**-1.7**
PCAB				*e*Sg		**Sg**	**11 53 37.2**	**-0.5**
	11nm,0.7s							
PCAB	**Cabril**	**4.33**	**359**	*e*Pn		**Pn**	**11 52 24.6**	**+0.4**
PCAB				*e*Sn		**Sn**	**11 53 12.9**	**-1.7**
PCAB				*e*Sg		**Sg**	**11 53 37.2**	**-0.5**
PCAB				A			11 53 39.7	
	11nm,0.7s							
GUD	**Guadarrama**	**4.41**	**41**	Pn		**Pn**	**11 52 26.0**	**+0.8**
GUD				Sn		**Sn**	**11 53 15.1**	**-1.5**
GUD				Lg			11 53 38.5	
GUD	**Guadarrama**	**4.41**	**41**	Pn		**Pn**	**11 52 26.0**	**+0.8**
	0.7nm,0.2s,SNR=7.9							
GUD				Sn		**Sn**	**11 53 15.0**	**-1.5**
	1.6nm,0.2s,SNR=7.9							
GUD				Lg			11 53 40.1	
	3.9nm,0.3s,SNR=7.9							
GUD	**Guadarrama**	**4.41**	**41**	Pn		**Pn**	**11 52 26.0**	**+0.7**
	0.7nm,0.2s,SNR=7.9							
GUD				Sn		**Sn**	**11 53 15.1**	**-1.4**
GUD				Lg			11 53 38.5	
	3.9nm,0.3s,SNR=7.9							
EVIA	**Vianos**	**4.49**	**72**	Pn		**Pn**	**11 52 26.8**	**+0.5**
EVIA				Lg			11 53 42.6	
EVIA	**Vianos**	**4.49**	**72**	Pn		**Pn**	**11 52 26.8**	**+0.5**
	0.9nm,0.1s,SNR=7.9							
EVIA				Lg			11 53 42.6	
	2.3nm,0.2s,SNR=7.9							
EVIA	**Vianos**	**4.49**	**72**	Pn		**Pn**	**11 52 26.8**	**+0.4**
	0.9nm,0.1s,SNR=7.9							
EVIA				Lg			11 53 42.6	
	2.3nm,0.2s,SNR=7.9							
ELOB	**Lobios**	**4.49**	**359**	Pn		**Pn**	**11 52 26.9**	**+0.5**
ELOB				Sn		**Sn**	**11 53 16.6**	**-2.0**
ELOB				Lg			11 53 42.9	
ELOB	**Lobios**	**4.49**	**359**	Pn		**Pn**	**11 52 26.9**	**+0.5**
	1.8nm,0.1s,SNR=7.5							
ELOB				Sn		**Sn**	**11 53 16.5**	**-2.0**
	5.3nm,0.1s,SNR=7.9							
ELOB				Lg			11 53 42.9	
	0.6nm,0.1s,SNR=5.0							
ELOB	**Lobios**	**4.49**	**359**	Pn		**Pn**	**11 52 26.9**	**+0.5**
	1.8nm,0.1s,SNR=7.5							
ELOB				Sn		**Sn**	**11 53 16.5**	**-2.0**
	5.3nm,0.1s,SNR=7.9							
ELOB				Lg			11 53 42.9	
	0.6nm,0.1s,SNR=5.0							
PBRG	**Braganca**	**4.53**	**12**	*e*Pn		**Pn**	**11 52 27.3**	**+0.4**
PBRG				*e*Sn		**Sn**	**11 53 18.0**	**-1.4**
PBRG				*e*Sg		**Sg**	**11 53 42.9**	**-1.0**
	6.7nm,0.5s							
PBRG	**Braganca**	**4.53**	**12**	*e*Pn		**Pn**	**11 52 27.3**	**+0.4**
PBRG				*e*Sn		**Sn**	**11 53 18.0**	**-1.4**
PBRG				*e*Sg		**Sg**	**11 53 42.9**	**-1.0**
PBRG				A			11 53 47.7	
	6.7nm,0.5s							
PGAV	**Gavieira, Arco**	**4.60**	**357**	*e*Pn		**Pn**	**11 52 28.3**	**+0.5**
PGAV				*e*Sn		**Sn**	**11 53 19.5**	**-1.6**
	7.9nm,0.8s							
PGAV	**Gavieira, Arco**	**4.60**	**357**	*e*Pn		**Pn**	**11 52 28.3**	**+0.5**
PGAV				*e*Sn		**Sn**	**11 53 19.5**	**-1.6**
PGAV				A			11 53 56.0	
	7.9nm,0.8s							
ECAL	**Calabor**	**4.66**	**11**	Pn		**Pn**	**11 52 27.8**	**-0.9**
ECAL				Sn		**Sn**	**11 53 21.3**	**-1.4**
ECAL				Lg			11 53 47.6	
ECAL	**Calabor**	**4.66**	**11**	Pn		**Pn**	**11 52 29.2**	**+0.5**
	0.5nm,0.1s,SNR=7.9							
ECAL				Sn		**Sn**	**11 53 21.3**	**-1.4**
	7.5nm,0.2s,SNR=7.9							
ECAL				Lg			11 53 47.6	
	10nm,0.4s,SNR=6.1							
ECAL	**Calabor**	**4.66**	**11**	Pn		**Pn**	**11 52 27.8**	**-0.9**
	SNR=7.9							
ECAL				Sn		**Sn**	**11 53 21.3**	**-1.4**
	7.5nm,0.2s,SNR=7.9							
ECAL				Lg			11 53 47.6	
	10nm,0.4s,SNR=6.1							
SJPF	**Ste Jean**	**7.71**	**40**	*e*Pn		**Pn**	**11 53 10.1**	**-0.4**
SJPF				*e*Sn		**Sn**	**11 54 33.9**	**-3.7**
	0.8nm,0.3s							
SJPF	**Ste Jean**	**7.71**	**40**	*e*Pn		**Pn**	**11 53 10.1**	**-0.4**
SJPF				*e*Sn		**Sn**	**11 54 33.9**	**-3.7**
SJPF	**Ste Jean**	**7.71**	**40**	Pn		**Pn**	**11 53 10.1**	**-0.4**
SJPF				Sn		**Sn**	**11 54 33.9**	**-3.7**
	0.4nm,0.3s							
SJPF	**Ste Jean**	**7.71**	**40**	*e*Pn		**Pn**	**11 53 10.1**	**-0.4**
ETSF	**Etsaut**	**7.91**	**43**	*e*Pn		**Pn**	**11 53 13.2**	**-0.1**
ETSF				*e*Sn		**Sn**	**11 54 39.0**	**-3.7**
	1.7nm,0.4s							
ETSF	**Etsaut**	**7.91**	**43**	*e*Pn		**Pn**	**11 53 13.2**	**-0.1**
ETSF				*e*Sn		**Sn**	**11 54 39.0**	**-3.7**
ETSF	**Etsaut**	**7.91**	**43**	Pn		**Pn**	**11 53 13.2**	**-0.1**
ETSF				Sn		**Sn**	**11 54 39.0**	**-3.7**
	0.9nm,0.4s							
ETSF	**Etsaut**	**7.91**	**43**	*e*Pn		**Pn**	**11 53 13.2**	**-0.1**
EPF	**Esparros**	**8.50**	**46**	*e*Pn		**Pn**	**11 53 21.3**	**-0.1**
EPF				*e*Sn		**Sn**	**11 54 52.8**	**-4.3**
	2.4nm,0.5s							
EPF	**Esparros**	**8.50**	**46**	*e*Pn		**Pn**	**11 53 21.3**	**-0.1**
EPF				*e*Sn		**Sn**	**11 54 52.8**	**-4.3**
EPF	**Esparros**	**8.50**	**46**	Pn		**Pn**	**11 53 21.3**	**-0.1**
EPF				Sn		**Sn**	**11 54 52.8**	**-4.3**
	1.2nm,0.5s							
EPF	**Esparros**	**8.50**	**46**	*e*Pn		**Pn**	**11 53 21.3**	**-0.1**

*ISCJB **11** 12:03:53.5±1.3,5.˚70S±0.˚06×150.˚66E±0.˚07, h96km±12km, mb4.5/27, Error ellipse: s-maj=12.1km s-min=9.1km az=21.5*
*IDC **11** 12:03:54.1±1.4,5.˚65S×150.˚61E, h86km±12km, mb4.2/17, mb1 4.4/21, mb1mx4.3/23, mbtmp4.3/21, MS3.5/8, Ms1 3.5/8, ms1mx3.3/29, Error ellipse: s-maj=17.6km s-min=8.2km az=118.0*
*NEIC **11** 12:03:55.0±1.3,5.˚72S×150.˚67E, h94km±13km, mb4.8/8, Error ellipse: s-maj=11.5km s-min=9.2km az=119.0*
*DJA **11** 12:04:06,5.˚11S×148.˚42E, h61km, mb4.6/9*

ISC 11 12:03:54.8±0.9,5.˚69S±0.˚05×150.˚66E±0.˚07,h92km±9km, n80,σ1§05/75,mb4.5/27,1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.07**	**223**	P		**Pn**	**12 05 08.7**	**+0.3**
	42nm,0.3s,baz=43,slow=7.2,SNR=118							
PMG				S		**Sn**	**12 06 06.3**	**+0.6**
	197nm,0.3s,baz=168,slow=20,SNR=13							
PMG	**Port Moresby**	**5.07**	**223**	P		**Pn**	**12 05 08.7**	**+0.3**
PMG				S		**Sn**	**12 06 06.3**	**+0.6**
PMG	**Port Moresby**	**5.07**	**223**	P		**Pn**	**12 05 08.8**	**+0.4**
PMG				S		**Sn**	**12 06 04.7**	**-1.0**
HNR	**Honiara**	**9.93**	**113**	P		**Pn**	**12 06 15.0**	**+0.4**
	1.8nm,0.3s,baz=283,slow=17,SNR=2.1							
HNR				LR		LR	12 09 20.2	
	comp=Z,211nm,20.8s,baz=117,slow=33							
HNR	**Honiara**	**9.93**	**113**	P		**Pn**	**12 06 15.0**	**+0.4**
HNR				LR		LR	12 09 20.2	
JAY	**Jayapura**	**10.42**	**287**	P		**Pn**	**12 06 21.7**	**+0.4**
COEN	**Coen**	**11.04**	**221**	*e*P		**Pn**	**12 06 28.8**	**-0.9**
COEN				*e*S		**Sn**	**12 08 19.8**	**-11**
COEN	**Coen**	**11.04**	**221**	P		**Pn**	**12 06 29.3**	**-0.4**
	16nm,1.5s							
COEN				S		**Sn**	**12 08 24.7**	**-6.5**
	16nm,1.5s							
CTA	**Charters Tower**	**14.94**	**196**	P		**Pn**	**12 07 21.2**	**0.0**
	0.8nm,0.3s,baz=18,slow=13,SNR=3.1							
CTA				LR		LR	12 12 21.3	
	comp=Z,149nm,22.0s,baz=25,slow=34							
CTA	**Charters Tower**	**14.94**	**196**	P		**Pn**	**12 07 21.2**	**0.0**
CTA				LR		LR	12 12 21.3	
GUMO	**Guam**	**20.00**	**343**	P		**Pn**	**12 08 20.0**	**-2.7**
	4.8nm,0.3s,baz=163,slow=22,SNR=5.4							
GUMO				LR		LR	12 14 35.9	
	comp=Z,65nm,19.3s,baz=90,slow=32							
GUMO	**Guam**	**20.00**	**343**	P		**Pn**	**12 08 20.1**	**-2.7**
GUMO				LR		LR	12 14 35.9	
WRAB	**Tennant Creek**	**21.26**	**227**	⇓*i*P		**P**	**12 08 33.5**	**-0.2**
	22nm,0.5s,mb4.7							
WRAB	**Tennant Creek**	**21.26**	**227**	P		**P**	**12 08 33.4**	**-0.3**
	72nm,0.8s,mb5.0							
WB2	**Warramunga Arr**	**21.26**	**227**	*e*P		**P**	**12 08 33.7**	**-0.1**
WRA	**Warramunga Arr**	**21.27**	**227**	P		**P**	**12 08 33.6**	**-0.2**
	21nm,0.5s,mb4.7,baz=49,slow=10,SNR=132							
WRA				S		**S**	**12 12 24.4**	**-0.8**
	5.9nm,1.1s,baz=53,slow=17,SNR=7.0							
WRA				ScP		ScP	12 16 05.5	+1.3
	5.2nm,0.9s,baz=52,slow=2.8,SNR=12							
WRA				LR		LR	12 18 00.4	
	comp=Z,122nm,18.2s,baz=95,slow=40							
WRA	**Warramunga Arr**	**21.27**	**227**	P		**P**	**12 08 33.6**	**-0.2**
WRA				S		**S**	**12 12 24.4**	**-0.8**
WRA				ScP		ScP	12 16 05.5	+1.3
WRA				LR		LR	12 18 00.4	
QLP	**Quilpie**	**21.66**	**196**	*e*P		**P**	**12 08 38.9**	**+1.0**
ASAR	**Alice Springs**	**24.08**	**220**	P		**P**	**12 09 02.5**	**+0.7**
	12nm,0.6s,mb4.4,baz=53,slow=8.3,SNR=167							
ASAR				S		**S**	**12 13 13.6**	**+0.8**
	2.7nm,0.9s,baz=53,slow=12,SNR=4.2							
ASAR				ScP		ScP	12 16 13.4	+2.0
	3.0nm,1.0s,baz=66,slow=2.6,SNR=9.4							
ASAR	**Alice Springs**	**24.08**	**220**	P		**P**	**12 09 02.5**	**+0.7**
ASAR				S		**S**	**12 13 13.6**	**+0.8**
ASAR				ScP		ScP	12 16 13.4	+2.0
ARMA	**Armidale**	**24.61**	**178**	*e*P		**P**	**12 09 18.3**	**+12**
FITZ	**Fitzroy Crossi**	**27.37**	**241**	P		**P**	**12 09 31.2**	**-0.4**
	16nm,0.7s,mb4.7,baz=79,slow=7.9,SNR=36							
FITZ				LR		LR	12 20 49.1	
	comp=Z,59nm,21.4s,baz=70,slow=37							
FITZ	**Fitzroy Crossi**	**27.37**	**241**	*e*P		**P**	**12 09 31.1**	**-0.5**
	26nm,0.6s,mb4.9							
FITZ	**Fitzroy Crossi**	**27.37**	**241**	P		**P**	**12 09 31.2**	**-0.4**
FITZ				LR		LR	12 20 49.1	
FITZ	**Fitzroy Crossi**	**27.37**	**241**	P		**P**	**12 09 31.3**	**-0.3**
	26nm,0.9s,mb4.8							
STKA	**Stephens Creek**	**27.40**	**197**	P		**P**	**12 09 32.1**	**+0.5**
	2.7nm,0.7s,mb3.9,baz=5.6,slow=7.1,SNR=7.5							
STKA				ScP		ScP	12 16 22.9	+1.9
	2.8nm,0.8s,baz=3.4,slow=2.4,SNR=6.2							
STKA				LR		LR	12 18 55.8	
	comp=Z,146nm,21.6s,baz=25,slow=33							
STKA	**Stephens Creek**	**27.40**	**197**	*e*P		**P**	**12 09 31.9**	**+0.2**
	6.2nm,0.8s,mb4.2							
STKA	**Stephens Creek**	**27.40**	**197**	P		**P**	**12 09 32.1**	**+0.5**
STKA				ScP		ScP	12 16 22.9	+1.9
STKA				LR		LR	12 18 55.8	
FORT	**Forrest**	**32.77**	**218**	*e*P		**P**	**12 10 19.5**	**+0.3**
	34nm,0.7s,mb5.3							
CBIJ	**Chichi jima**	**33.61**	**346**	LR		LR	12 21 47.2	
	comp=Z,153nm,20.7s,baz=360,slow=32							
MBWA	**Marble Bar**	**33.68**	**240**	*e*P		**P**	**12 10 26.9**	**-0.3**
MBWA	**Marble Bar**	**33.68**	**240**	*e*P		**P**	**12 10 26.9**	**-0.3**
	9.4nm,0.6s,mb4.8							
MEEK	**Meekatharra**	**36.97**	**232**	*e*P		**P**	**12 10 55.3**	**-0.1**
KLBR	**Kellerberrin**	**40.15**	**226**	*e*P		**P**	**12 11 20.9**	**-1.1**
	12nm,0.6s,mb4.9							
URZ	**Urewera**	**40.34**	**147**	*e*P		**P**	**12 11 20.4**	**-3.0**
	3.1nm,0.4s,mb4.5							
NWAO	**Narrogin (SRO)**	**41.25**	**225**	P		**P**	**12 11 30.5**	**-0.5**
	5.6nm,0.7s,mb4.5,baz=63,slow=7.3,SNR=5.1							
NWAO				LR		LR	12 28 42.8	
	comp=Z,148nm,18.4s,baz=35,slow=36							
NWAO	**Narrogin (SRO)**	**41.25**	**225**	P		**P**	**12 11 30.5**	**-0.5**
NWAO				LR		LR	12 28 42.8	
JNU	**Nakatsue**	**42.93**	**335**	*e*P		**P**	**12 11 46.4**	**+1.9**
	19nm,0.8s,mb4.9							
MJAR	**Matsushiro Arr**	**43.60**	**345**	P		**P**	**12 11 49.0**	**-0.9**
	3.9nm,0.9s,mb4.1,baz=174,slow=8.5,SNR=7.1							
MJAR	**Matsushiro Arr**	**43.60**	**345**	P		**P**	**12 11 49.0**	**-0.9**
KSRS	**Korea Array**	**47.88**	**335**	P		**P**	**12 12 24.4**	**+0.9**
	6.5nm,0.6s,mb4.6,baz=154,slow=8.6,SNR=24							
CMAR	**Chiang Mai Arr**	**56.34**	**296**	P		**P**	**12 13 26.6**	**-0.1**
	0.3nm,0.3s,mb3.8,baz=55,slow=26,SNR=3.1							
CMAR	**Chiang Mai Arr**	**56.34**	**296**	P		**P**	**12 13 26.6**	**-0.1**
PETK	**Petropavlovsk-**	**58.88**	**5**	P		**P**	**12 13 42.8**	**-1.0**
	14nm,0.7s,mb5.1,baz=185,slow=7.1,SNR=37							
PETK	**Petropavlovsk-**	**58.88**	**5**	P		**P**	**12 13 42.8**	**-1.0**
HIA	**Hailar**	**61.00**	**337**	*e*P		**P**	**12 14 00.7**	**+2.3**
	12nm,0.9s,mb4.9							
ULN	**Ulaanbatar**	**65.65**	**329**	*e*P		**P**	**12 14 30.4**	**+1.3**
	3.3nm,0.8s,mb4.2							
ULN	**Ulaanbaatar**	**65.65**	**329**	P		**P**	**12 14 30.4**	**+1.3**
	3.8nm,1.0s,mb4.2							
SONM	**Songino Array**	**65.96**	**329**	P		**P**	**12 14 32.2**	**+1.1**
	2.5nm,0.5s,mb4.3,baz=145,slow=5.4,SNR=21							
SONM	**Songino Array**	**65.96**	**329**	P		**P**	**12 14 32.2**	**+1.1**
VNDA	**Vanda**	**72.03**	**177**	P		**P**	**12 15 08.5**	**+0.2**
	0.9nm,0.7s,mb3.7,baz=312,slow=7.4,SNR=5.6							
VNDA	**Vanda**	**72.03**	**177**	P		**P**	**12 15 08.5**	**+0.2**
MK31	**Makanchi Array**	**79.61**	**320**	*e*P		**P**	**12 15 53.4**	**+1.5**
MKAR	**Makanchi Array**	**79.61**	**320**	P		**P**	**12 15 51.7**	**-0.2**
	1.3nm,0.5s,mb4.0,baz=106,slow=6.8,SNR=10							
MKAR	**Makanchi Array**	**79.61**	**320**	P		**P**	**12 15 51.7**	**-0.2**
ZALV	**Zalesovo Beam**	**80.72**	**327**	P		**P**	**12 15 56.1**	**-1.6**
	2.6nm,0.5s,mb4.3,baz=112,slow=5.3,SNR=14							
ZALV	**Zalesovo Beam**	**80.72**	**327**	P		**P**	**12 15 56.1**	**-1.6**
MCK	**McKinley**	**82.50**	**23**	*e*P		**P**	**12 16 06.6**	**-0.3**
	15nm,0.9s,mb4.8							
ILAR	**Eielson Array**	**83.79**	**22**	P		**P**	**12 16 11.5**	**-2.0**
	4.8nm,0.7s,mb4.4,baz=251,slow=4.3,SNR=48							
ILAR	**Eielson Array**	**83.79**	**22**	P		**P**	**12 16 11.5**	**-2.0**
BVAR	**Borovoye Array**	**88.68**	**323**	P		**P**	**12 16 36.5**	**-1.3**
	0.8nm,0.4s,mb4.1							
BVAR	**Borovoye Array**	**88.68**	**323**	P		**P**	**12 16 36.5**	**-1.3**
HUMO	**Hull Mountain**	**91.15**	**47**	*e*P		**P**	**12 16 52.2**	**+2.6**
	4.5nm,0.6s,mb4.8							
NVAR	**Mina Array Bea**	**94.31**	**52**	P		**P**	**12 17 04.8**	**+0.6**
	2.0nm,0.6s,mb4.6,baz=250,slow=6.6,SNR=20							
NVAR	**Mina Array Bea**	**94.31**	**52**	P		**P**	**12 17 04.8**	**+0.6**
YKA	**Yellowknife Ar**	**97.20**	**28**	P		**P**	**12 17 16.0**	**-0.8**
	1.0nm,0.5s,mb4.5,baz=271,slow=4.9,SNR=10							
YKA	**Yellowknife Ar**	**97.20**	**28**	P		**P**	**12 17 16.0**	**-0.8**
PDAR	**Pinedale Array**	**101.02**	**48**	P		Pdif	12 17 33.1	-0.9
	1.0nm,0.5s

0.5nm,0.3s,mb3.7,baz=111,slow=8.1,SNR=30
WRA Warramunga Arr 44.01 270 P **P** **12 19 56.6 +1.2**
WCN Washoe City 86.29 41 *e*P **P** **12 24 32.4 +3.2**
2.5nm,0.3s,mb4.9
MDJ Mudanjiang 86.70 325 *e*P **P** **12 24 28.6 -2.5**
14nm,0.6s,mb5.4
DOT Dot Lake 95.29 15 *e*P **P** **12 25 09.3 -1.3**
32nm,1.2s
FINES FINESS Array B 142.96 341 PKP PKPdf 12 31 21.8 +1.5
0.8nm,0.4s,baz=46,slow=4.0,SNR=3.7
FINES FINESS Array B 142.96 341 PKP PKPdf 12 31 21.8 +1.5

BJI ***11*** *12:18:05.5,0.°95N×66.°32E,h10km,mB5.4/34,mb4.9/46, Ms4.9/42,Ms7 4.8/42*
ISCJB ***11*** *12:18:10.1±1.2,1.°62N±0.°04×66.°64E±0.°03,h5km±7km, mb4.9/108,MS4.5/48,Error ellipse: s-maj=7.0km s-min=5.4km az=12.3*
MOS ***11*** *12:18:10.9±1.0,1.°67N×66.°70E,h10km,mb5.2/31, MS4.5/11,Error ellipse: s-maj=9.7km s-min=5.9km az=111.7*
IDC ***11*** *12:18:11.3±0.4,1.°57N×66.°80E,h0km,mb4.5/26, mb1 4.6/26,mb1mx4.5/30,mbtmp4.5/26,MS4.4/23, Ms1 4.4/23,ms1mx4.2/39,Error ellipse: s-maj=14.2km s-min=12.4km az=29.0*
NEIC ***11*** *12:18:12.8±0.3,1.°59N×66.°70E,h10km,mb5.1/28,Error ellipse: s-maj=9.1km s-min=7.4km az=12.0*
GCMT ***11*** *12:18:15.0±0.2,1.°51N×66.°78E,h12km,MW5.2,Moment Tensor Solution. s47,c71; s99,c182; Moment tensor: Scale 10^{16}Nm; M_{rr}=7.87±.14; $M_{\theta\theta}$6.11±.13; $M_{\phi\phi}$1.76±.14; $M_{r\theta}$1.88±.40; $M_{\theta\phi}$-3.02±.11; $M_{\phi r}$-1.66±.47; Best double couple: M_o8.20000×10¹⁶ NP1:ϕ_s113.00000°,δ36.00000°, λ-97.00000°. NP2:ϕ_s301.00000°,δ54.00000°, λ-85.00000°. Principal axes: T 8.0300, Plg9.0000°, Azm28.0000°; N 0.2600, Plg4.0000°, Azm118.0000°; P -8.2900, Plg80.0000°, Azm233.0000°; Data Used: IU II IC G CN. Surface waves from 101 sta.*
DJA ***11*** *12:18:18,1.°33N×65.°95E,h81km,mb5.0/32*
ISC 11 12:18:13.8±1.3,1.°60N±0.°04×66.°68E±0.°03,h15km±8km, h18km±1.6km:pP-P,n425,σ1º15/301,mb4.9/108,MS4.5/48, 67C-57D,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMDM	**Hanimaadhoo**	**8.27**	**51**	P	**Pn**	**12 20 09.9**	**-3.4**
TRD	**Trivandrum**	**12.32**	**56**	*ex*	x	12 23 00.4	
MSEY	**Mahe Island**	**12.81**	**241**	Pn	**Pn**	**12 21 17.3**	**+1.8**
	272nm,0.4s,SNR=9.0						
KAD	**Karad**	**17.27**	**25**	*e*PKP	**Pn**	**12 22 14.3**	**-0.2**
KAD				AMb	AMB	12 22 22.5	
	comp=Z,98nm,1.3s						
MDRS	**Chennai**	**17.61**	**49**	*ex*	**Pn**	**12 22 26.2**	**+7.4**
MDRS				*ex*	x	12 27 07.2	
MDRS				*ex*	x	12 30 44.2	
MDRS				*ex*	x	12 36 35.2	
MDRS				*ex*	x	12 40 02.2	
POO	**Poona**	**18.23**	**22**	*e*PKP	**Pn**	**12 22 24.1**	**-2.3**
POO				AMb	AMB	12 22 37.5	
	comp=Z,128nm,1.3s						
HYB	**Hyderabad**	**19.58**	**36**	*i* P	**Pn**	**12 22 42.5**	**-0.2**
HYB				*e*		12 26 28.0	
HYB				*e*S	**Sn**	**12 26 40.0**	**+18**
HYB				LR	LR	12 28 50.0	
	comp=Z,4.8nm,18.0s						
RBK	**Rabkut**	**20.00**	**323**	P	**P**	**12 22 50.4**	**+4.4**
	SNR=11						
ABTO	**Aybut**	**20.45**	**321**	P	**P**	**12 22 55.4**	**+4.5**
	SNR=11						
AKL	**Akola**	**21.50**	**27**	*e*PKP	**P**	**12 23 02.2**	**0.0**
AKL				AMP		12 23 14.1	
	comp=Z,283nm,1.8s						
AKL				*ex*	x	12 27 14.0	
BHJ	**Bhuj**	**21.72**	**7**	*e*PKP	**P**	**12 23 04.7**	**+0.2**
BHJ				AMb	AMB	12 23 10.9	
	comp=Z,78nm,1.5s,mb4.9						
JMDO	**Jabal Madar**	**22.27**	**339**	P	**P**	**12 23 13.7**	**+3.4**
	SNR=7.8						
SMDO	**Samad**	**22.92**	**339**	P	**P**	**12 23 21.2**	**+3.9**
	SNR=6.2						
BSY	**Bisya**	**22.95**	**337**	P	**P**	**12 23 21.8**	**+4.1**
	SNR=8.8						
HOQ	**Hoqain**	**23.66**	**338**	P	**P**	**12 23 28.7**	**+3.8**
	SNR=8.4						
BHPL	**Bhopal**	**23.91**	**25**	*e*PKP	**P**	**12 23 27.7**	**+0.5**
BHPL				AMb	AMB	12 23 37.9	
	comp=Z,83nm,1.6s,mb4.9						
ASHO	**Ashiyiah**	**25.14**	**337**	P	**P**	**12 23 41.5**	**+3.1**
	SNR=7.1						
HATD	**Hatta, Dubai**	**25.24**	**337**	P	**P**	**12 23 46.5**	**+7.2**
	SNR=6.0						
ATD	**Arta Tunnel**	**25.62**	**294**	P	**P**	**12 23 45.6**	**+2.7**
	comp=Z,26nm,1.0s,mb4.7,baz=161,slow=12,SNR=5.7						
ATD				LR	LR	12 31 38.6	
	comp=Z,273nm,20.3s,MS3.8,baz=84,slow=31						
ATD	**Arta Tunnel**	**25.62**	**294**	P	**P**	**12 23 45.6**	**+2.7**
ATD				LR	LR	12 31 38.6	
KMBO	**Kilima Mbogo**	**29.55**	**265**	*e*P	**P**	**12 24 20.6**	**+2.4**
	comp=Z,32nm,2.3s,mb4.6						
KMBO	**Kilima Mbogo**	**29.55**	**265**	*e*P	**P**	**12 24 20.6**	**+2.4**
KMBO				pmax	pmax		
	comp=Z,32nm,2.3s						
PSI	**Prapat**	**32.24**	**87**	P	**P**	**12 24 42.0**	**+0.1**
	comp=Z,1.8nm,0.2s,mb4.5,baz=221,slow=7.6,SNR=3.9						
PSI	**Prapat**	**32.24**	**87**	P	**P**	**12 24 42.0**	**+0.1**
PSI	**Prapat**	**32.24**	**87**	P	**P**	**12 24 42.0**	**0.0**
PSI	**Prapat**	**32.24**	**87**	P	**P**	**12 24 50.0**	**+8.0**
	comp=Z,13nm,1.6s,mb4.5						
MNSI	**Mandailing Nat**	**32.90**	**91**	P	**P**	**12 24 49.6**	**+1.9**
	comp=Z,24nm,1.3s,mb5.0						
PPI	**Padang Panjang**	**33.77**	**93**	P	**P**	**12 24 59.8**	**+4.4**
	comp=Z,18nm,1.2s,mb4.9						
SHL	**Shillong**	**34.02**	**43**	*e*PKP	**P**	**12 25 01.0**	**+3.7**
SHL				*e*S	**S**	**12 30 30.0**	**+7.6**
BKNI	**Bangkinang**	**34.38**	**92**	P	**P**	**12 25 02.6**	**+2.0**
	comp=Z,186nm,0.5s,comp=Z,5μm						
CMAR	**Chiang Mai Arr**	**35.80**	**60**	P	**P**	**12 25 13.3**	**+0.5**
	comp=Z,4.1nm,0.9s,mb4.3,baz=244,slow=11,SNR=12						
CMAR				PcP	PcP	12 27 40.8	+0.3
	comp=Z,2.9nm,0.9s,baz=245,slow=4.4,SNR=7.8						
CMAR				LR	LR	12 39 10.0	
	comp=Z,428nm,18.2s,MS4.2,baz=247,slow=35						
CMAR	**Chiang Mai Arr**	**35.80**	**60**	P	**P**	**12 25 13.3**	**+0.5**
CMAR				PcP	PcP	12 27 40.8	+0.3
CMAR				LR	LR	12 39 10.0	
CMAR	**Chiang Mai Arr**	**35.80**	**60**	P	**P**	**12 25 13.3**	**+0.5**
CMAR						12 27 40.8	
CHTO	**Chiang Mai**	**35.95**	**59**	*e*P	**P**	**12 25 14.9**	**+0.9**
	comp=Z,76nm,1.4s,mb5.4						
CHTO	**Chiang Mai**	**35.95**	**59**	*e*P	**P**	**12 25 14.9**	**+0.9**
CHTO				pmax	pmax		
	comp=Z,76nm,1.4s,mb5.4						
CHTO	**Chiang Mai**	**35.95**	**59**	P	**P**	**12 25 15.0**	**+1.0**
	comp=Z,44nm,1.6s,mb5.2						
CHTO	**Chiang Mai**	**35.95**	**59**	P	**P**	**12 25 17.7**	**+3.7**
	SNR=10						
LSA	**Lhasa**	**36.36**	**37**	*e*P	**P**	**12 25 18.3**	**+0.8**
LSA	**Lhasa**	**36.36**	**37**	*e*P	**P**	**12 25 19.9**	**+2.4**
	comp=Z,116nm,1.4s,mb5.6						
LSA	**Lhasa**	**36.36**	**37**	*e*P	**P**	**12 25 19.9**	**+2.4**
LSA				pmax	pmax		
	comp=Z,116nm,1.4s,mb5.6						
MDSI	**Maura Dua**	**37.95**	**99**	P	**P**	**12 25 31.5**	**+0.3**
	comp=Z,33nm,0.9s,mb5.0						
KLSI		**38.53**	**100**	P	**P**	**12 25 36.5**	**+0.4**
	comp=Z,50nm,1.4s,mb5.0						
KSH	**Kashi**	**38.68**	**12**	P	**P**	**12 25 34.5**	**-2.4**
KSH				pP	pP	12 25 39.0	-2.7
KSH				sP	sP	12 25 41.6	-2.0
KSH				PP	PP	12 27 05.2	-0.4
KSH				PcP	PcP	12 27 49.4	+0.6
KSH				S	**S**	**12 31 27.4**	**-5.8**
KSH				ScP	ScP	12 31 35.4	-1.2
KSH				PcS	PcS	12 31 37.2	-0.9
KSH				ScS	ScS	12 35 43.6	-3.5
KSH				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.8						
KSH				pmax	pmax		
	comp=Z,220nm,4.2s						
KSH				LR	LR		
	comp=N,2μm,22.3s						
KSH				LR	LR		
	comp=E,570nm,14.8s						
KSH				LR	LR		
	comp=Z,2μm,19.0s,MS4.9						
PPBI	**Pangkal Pinang 39.62 95**			P	**P**	**12 25 52.2**	**+6.9**
	comp=Z,14nm,1.8s,mb4.4						
EKS2	**Erkin-Say 41.37 8**			*e*P	**P**	**12 26 01.1**	**+1.8**
	comp=Z,110nm,1.5s,mb5.3						
EKS2	**Erkin-Say 41.37 8**			*e*P	**P**	**12 26 01.1**	**+1.9**
EKS2				pmax	pmax		
	comp=Z,110nm,1.5s,mb5.3						
LSZ	**Lusaka 41.60 245**			P	**P**	**12 25 51.6**	**-10**
	SNR=14						
FRU	**Bishkek 41.66 9**			*e*P	**P**	**12 26 02.0**	**+0.4**
FRU				pmax	pmax		
	comp=Z,80nm,1.6s,mb5.1						
LEM	**Lembang 41.70 102**			P	**P**	**12 26 04.4**	**+2.0**
	comp=Z,62nm,1.1s,mb5.2						
KMI	**Kunming 41.91 53**			P	**P**	**12 26 05.0**	**+1.1**
KMI				pP	pP	12 26 11.0	+2.3
KMI				sP	sP	12 26 13.3	+2.7
KMI				PP	PP	12 27 46.2	+5.2
KMI				S	**S**	**12 32 23.6**	**+1.7**
KMI				sS	sS	12 32 33.6	+3.9
KMI				SS	SS	12 35 25.2	-3.5
KMI				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
KMI				pmax	pmax		
	comp=Z,250nm,4.4s						
KMI				LR	LR		
	comp=N,520nm,19.5s,MS4.7						
KMI				LR	LR		
	comp=E,800nm,18.7s,MS4.7						
KMI				LR	LR		
	comp=Z,950nm,19.5s,MS4.7						
GNI	**Garni 43.24 335**			*e*P	**P**	**12 26 17.2**	**+2.7**
	comp=Z,168nm,1.6s,mb5.5						
GNI	**Garni 43.24 335**			*e*P	**P**	**12 26 17.2**	**+2.7**
GNI				pmax	pmax		
	comp=Z,168nm,1.6s						
MAK	**Makhachkala 44.61 340**			*e*P	**P**	**12 26 23.8**	**-1.6**
MAK				*i*		12 28 07.6	
MAK				*e*S	**S**	**12 33 01.4**	**+0.5**
MAK				*e*SS	SS	12 36 24.9	+3.8
MAK				pmax	pmax		
	comp=Z,48nm,0.4s,mb5.7						
MAK				MLR	MLR		
	comp=Z,338nm,21.0s,MS4.2						
GYA	**Guiyang 45.66 54**↑			*i*P	**P**	**12 26 35.0**	**+0.9**
GYA				PP	PP	12 28 21.7	+0.5
GYA				S	**S**	**12 33 16.9**	**+0.2**
GYA				SS	SS	12 36 32.4	-8.8
GYA				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
GYA				pmax	pmax		
	comp=Z,140nm,5.2s						
GYA				LR	LR		
	comp=N,780nm,18.8s,MS4.8						
GYA				LR	LR		
	comp=E,640nm,19.4s,MS4.8						
GYA				LR	LR		
	comp=Z,810nm,17.6s,MS4.7						
QIZ	**Qiongzhong 45.67 65**			P	**P**	**12 26 33.9**	**-0.4**
QIZ				pP	pP	12 26 42.5	+3.4
QIZ				sP	sP	12 26 47.2	+6.2
QIZ				S	**S**	**12 33 14.9**	**-2.1**
QIZ				LR	LR		
	comp=N,620nm,5.2s						
QIZ				LR	LR		
	comp=E,140nm,4.5s						
QIZ				LR	LR		
	comp=Z,750nm,7.2s						
ZEI	**Tsey 45.78 337**			*e*P	**P**	**12 26 35.9**	**+1.1**
ZEI				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.7						
WMQ	**Urumqi 46.01 21**			P	**P**	**12 26 37.9**	**+1.3**
WMQ				pP	pP	12 26 42.4	+1.0
WMQ				sP	sP	12 26 44.9	+1.6
WMQ				PP	PP	12 28 26.0	+1.4
WMQ				S	**S**	**12 33 21.8**	**+0.7**
WMQ				ScS	ScS	12 36 30.6	-1.3
WMQ				pmax	pmax		
	comp=Z,21nm,1.7s,mb4.8						
WMQ				pmax	pmax		
	comp=Z,410nm,3.7s						
WMQ				LR	LR		
	comp=N,800nm,14.7s						
WMQ				LR	LR		
	comp=E,520nm,22.0s						
WMQ				LR	LR		
	comp=Z,730nm,32.6s						
MK31	**Makanchi Array 47.03 15**			*e*P	**P**	**12 26 44.6**	**+0.1**
MK31	**Makanchi Array 47.03 15**			*ce*P	**P**	**12 26 44.4**	**-0.1**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
MKAR	**Makanchi Array 47.03 15**			P	**P**	**12 26 44.6**	**+0.1**
	comp=Z,3.0nm,0.8s,mb4.3,baz=209,slow=9.2,SNR=19						
MKAR				PcP	PcP	12 28 16.9	+0.3
	comp=Z,0.4nm,0.5s,baz=210,slow=3.6,SNR=3.1						
MKAR				LR	LR	12 47 46.1	
	comp=Z,625nm,20.4s,MS4.6,baz=215,slow=38						
MKAR	**Makanchi Array 47.03 15**			P	**P**	**12 26 44.6**	**+0.1**
MKAR				PcP	PcP	12 28 16.9	+0.3
MKAR				LR	LR	12 47 46.1	
MKAR	**Makanchi Array 47.03 15**			P	**P**	**12 26 44.6**	**+0.1**
MKAR						12 28 16.9	
KIV	**Kislovodsk 47.26 336**			*e*P	**P**	**12 26 48.0**	**+1.7**
KIV				*e*S	**S**	**12 33 42.6**	**+3.6**
KIV				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
KIV				MLR	MLR		
	comp=Z,132nm,15.0s,MS4.0						
LBTB	**Lobatse 47.78 234**			P	**P**	**12 26 52.2**	**+1.4**
	comp=Z,9.5nm,0.9s,mb4.8,baz=99,slow=8.3,SNR=6.3						
LBTB	**Lobatse 47.78 234**			P	**P**	**12 26 52.2**	**+1.4**
LBTB	**Lobatse 47.78 234**			P	**P**	**12 26 52.2**	**+1.4**
AB31	**Akbulak array 47.83 354**			*ce*P	**P**	**12 26 50.9**	**+0.2**
AB31				pmax	pmax		
	comp=Z,37nm,1.2s,mb5.3						
ABKAR	**Akbulak array 47.83 354**			*e*P	**P**	**12 26 51.3**	**+0.7**
	comp=Z,22nm,1.2s,mb5.1						
KMMI	**Kalianget 47.96 101**			P	**P**	**12 26 53.3**	**+1.0**
	comp=Z,2μmcomp=Z,34nm,1.9s,mb5.0						
GTA	**Gaotai 48.24 35**			P	**P**	**12 26 54.4**	**+0.3**
GTA				pP	pP	12 26 58.0	-0.9
GTA				sP	sP	12 27 00.5	-0.3
GTA				S	**S**	**12 33 54.5**	**+1.4**
GTA				SS	SS	12 37 19.7	-3.0
GTA				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.6						
GTA				pmax	pmax		
	comp=Z,250nm,4.5s						
GTA				LR	LR		
	comp=N,660nm,16.8s,MS4.9						
GTA				LR	LR		
	comp=E,860nm,16.4s,MS4.9						
GTA				LR	LR		
	comp=Z,1μm,18.0s,MS4.8						
BRTR	**Keskin Array B 48.40 326**			P	**P**	**12 26 56.6**	**+1.3**
	comp=Z,3.6nm,0.8s,mb4.5,baz=140,slow=9.7,SNR=6.5						
BRTR				LR	LR	12 47 49.8	
	comp=Z,363nm,19.9s,MS4.4,baz=7.9,slow=37						
BRTR	**Keskin Array B 48.40 326**			P	**P**	**12 26 56.6**	**+1.3**
BRTR				LR	LR	12 47 49.8	
BRTR	**Keskin Array B 48.40 326**			P	**P**	**12 26 56.7**	**+1.4**
LZH	**Lanzhou 48.59 41**			*e*P	**P**	**12 26 58.8**	**+2.0**
LZH				pP	pP	12 27 02.1	+0.5
LZH				sP	sP	12 27 03.5	0.0
LZH				PP	PP	12 28 52.1	+2.3
LZH				*e*S	**S**	**12 33 58.2**	**+0.1**
LZH				pmax	pmax		
	comp=Z,35nm,1.4s,mb5.2						
LZH				pmax	pmax		
	comp=Z,170nm,6.2s						
LZH				LR	LR		
	comp=N,680nm,15.0s,MS4.9						
LZH				LR	LR		
	comp=E,830nm,16.7s,MS4.9						
LZH				LR	LR		
	comp=Z,1μm,17.0s,MS4.9						
SRBI	**Singaraja 49.34 102**			P	**P**	**12 27 04.6**	**+1.6**
	comp=Z,53nm,1.5s,mb5.4						
ENH	**Enshi 49.58 51**			*e*P	**P**	**12 27 03.9**	**-0.6**
	comp=Z,12nm,0.9s,mb4.9						
BOSA	**Boshof 49.77 230**			P	**P**	**12 27 07.0**	**+1.0**
	comp=Z,9.2nm,0.8s,mb4.9,baz=64,slow=7.0,SNR=12						
BOSA				LR	LR	12 45 37.1	
	comp=Z,1μm,19.8s,MS5.0,baz=72,slow=33						
BOSA	**Boshof 49.77 230**			*e*P	**P**	**12 27 06.9**	**+0.9**
	comp=Z,70nm,1.8s,mb5.4						
BOSA	**Boshof 49.77 230**			*e*P	**P**	**12 27 06.9**	**+0.9**
BOSA				pmax	pmax		
	comp=Z,70nm,1.8s,mb5.4						
KURK	**Kurchatov 49.97 10**			P	**P**	**12 27 05.8**	**-1.4**
	comp=Z,4.8nm,0.8s,mb4.6,baz=207,slow=7.9,SNR=6.5						
KURK				LR	LR	12 47 44.7	
	comp=Z,785nm,21.1s,MS4.7,baz=205,slow=36						
KURK	**Kurchatov 49.97 10**			P	**P**	**12 27 05.8**	**-1.4**
KURK				LR	LR	12 47 44.6	
KURK	**Kurchatov 49.97 10**			P	**P**	**12 27 05.8**	**-1.3**
ANN	**Anapa 50.18 333**			*e*P	**P**	**12 27 08.3**	**-0.5**
ANN				*e**PP	pP	12 27 12.2	-1.5
ANN				*e*S	**S**	**12 34 23.2**	**+3.0**
ANN				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.3						
XAN	**Xi'an 50.95 46**			P	**P**	**12 27 14.0**	**-0.9**
XAN				pP	pP	12 27 20.5	+0.8
XAN				sP	sP	12 27 23.6	+2.0
XAN				S	**S**	**12 34 27.6**	**-3.7**
XAN				pmax	pmax		
	comp=Z,18nm,1.5s,mb4.8						
XAN				LR	LR		
	comp=N,300nm,25.9s,MS4.2						
XAN				LR	LR		
	comp=E,140nm,26.3s,MS4.2						
XAN				LR	LR		
	comp=Z,220nm,25.0s,MS4.1						
MYLDM	**Lahad Datu 51.84 85**			P	**P**	**12 27 29.6**	**+7.7**
	comp=Z,21nm,1.5s,mb4.8						
TSUM	**Tsumeb 52.45 244**			*e*P	**P**	**12 27 27.6**	**+1.3**
	comp=Z,53nm,1.9s,mb5.2						
BMNI	**Bima 52.81 102**			P	**P**	**12 27 32.6**	**+3.5**
	comp=Z,1μmcomp=Z,33nm,1.7s,mb5.0						
TTSI	**Tana Toraja 53.32 95**			P	**P**	**12 27 39.5**	**+6.7**
	comp=Z,17nm,1.7s,mb4.7						
SPSI	**Sidrap Palu 53.34 96**			P	Px	12 27 44.0	
WHN	**Wuhan 53.50 53**			⇑P	**P**	**12 27 31.3**	**-2.6**
BKSI	**Bulukumba 53.82 98**			P	**P**	**12 27 34.1**	**-2.4**
	comp=Z,608nmcomp=Z,61nm,0.9s,mb5.5						
ZAA0	**Zalesovo Array 54.28 13**			*e*P	**P**	**12 27 38.6**	**-0.5**
ZALV	**Zalesovo Beam 54.28 13**			P	**P**	**12 27 38.7**	**-0.4**
	comp=Z,14nm,0.7s,mb5.0,baz=211,slow=7.3,SNR=64						
ZALV	**Zalesovo Beam 54.28 13**			P	**P**	**12 27 38.7**	**-0.4**
ZALV	**Zalesovo Beam 54.28 13**			P	**P**	**12 27 38.7**	**-0.4**
VSR	**Storozhevoye 54.61 339**			*e*P	**P**	**12 27 40.9**	**-0.7**
VSR				pmax	pmax		
	comp=N,20nm,1.4s						
VSR				pmax	pmax		
	comp=E,20nm,1.4s						
VSR				pmax	pmax		
	comp=Z,20nm,1.4s,mb5.0						
VSR				MLR	MLR		
	comp=Z,2μm,21.0s,MS5.2						
VSR				MLR	MLR		
	comp=N,2μm,25.0s,MS5.1						
VSR				MLR	MLR		
	comp=E,1μm,24.0s,MS5.1						
NVS	**Novosibirsk 54.77 12**			*i* P	**P**	**12 27 41.2**	**-1.5**
RZN	**Rozhen 54.90 322**			P	**P**	**12 27 45.1**	**+1.3**
ARU	**Arti 55.05 355**			*d* iP	**P**	**12 27 44.5**	**-0.2**
ARU				*e*		12 29 42.1	
ARU				S	**S**	**12 35 28.5**	**+2.1**
ARU				SS	SS	12 39 04.2	-6.2
ARU				pmax	pmax		
	comp=Z,17nm,1.2s,mb5.0						
ARU				MLR	MLR		
	comp=Z,481nm,19.0s,MS4.6						
SZH	**Strazhica 55.10 324**			P	**P**	**12 27 44.3**	**-1.0**
MRSI	**Marisa 55.26 91**			P	**P**	**12 27 45.1**	**-1.9**
	comp=Z,2μmcomp=Z,48nm,1.4s,mb5.3						
SVE	**Sverdlovsk 55.27 356**			*e*P	**P**	**12 27 46.1**	**-0.2**
SVE				*e*S	**S**	**12 35 22.3**	**-7.1**
SVE				pmax	pmax		
	comp=Z,24nm,1.6s,mb5.0						
SVE				MLR	MLR		
	comp=Z,735nm,24.0s,MS4.7						
MMB	**Musomiste 55.45 322**			P	**P**	**12 27 49.2**	**+1.4**
PGB	**Panagyurishte 55.73 323**			P	**P**	**12 27 50.4**	**+0.6**
KIS	**Kishinev 55.92 330**			*e*UNK	**P**	**12 27 51.0**	**-0.1**
KIS				*e*L		12 49 28.0	
KIS	**Kishinev 55.92 330**			*e*P	**P**	**12 27 51.0**	**-0.1**
KIS				*e*		12 27 53.0	
KKB	**Krupnik 56.00 322**			P	**P**	**12 27 51.9**	**+0.1**
HHC	**Hu-ho-hao-te 56.27 40**			*e*P	**P**	**12 27 54.5**	**+0.8**
HHC				sP	sP	12 27 59.7	-0.8
HHC				PcP	PcP	12 28 51.6	+0.4
HHC				PP	PP	12 30 01.6	+2.4
HHC				ScP	ScP	12 32 49.1	-1.1
HHC				PcS	PcS	12 32 50.6	-1.0
HHC				S	**S**	**12 35 42.5**	**-0.7**
HHC				ScS	ScS	12 37 39.7	-3.0
HHC				SS	SS	12 39 30.4	+0.3
HHC				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.1						
HHC				pmax	pmax		
	comp=Z,250nm,6.6s						
HHC				LR	LR		
	comp=N,370nm,16.4s,MS4.7						
HHC				LR	LR		
	comp=E,350nm,16.4s,MS4.7						
HHC				LR	LR		
	comp=Z,510nm,16.1s,MS4.7						
VTS	**Vitosha 56.33 322**			P	**P**	**12 27 56.1**	**+2.0**
SONM	**Songino Array 57.41 31**			P	**P**	**12 28 02.7**	**+1.0**
	comp=Z,5.3nm,1.0s,mb4.5,baz=229,slow=7.2,SNR=29						
SONM				LR	LR	12 52 47.6	
	comp=Z,2μm,21.9s,MS5.1,baz=219,slow=36						
SONM	**Songino Array 57.41 31**			P	**P**	**12 28 02.7**	**+1.0**
SONM				LR	LR	12 52 47.6	
SONM	**Songino Array 57.41 31**			P	**P**	**12 28 02.7**	**+1.0**
NJ2	**Nanjing 57.64 53**			*e*P	**P**	**12 28 05.1**	**+1.4**
NJ2				pP	pP	12 28 10.0	+1.4
NJ2				sP	sP	12 28 12.4	+2.0
NJ2				S	**S**	**12 36 02.0**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.3						
NJ2				pmax	pmax		
	comp=Z,430nm,4.4s						
NJ2				LR	LR		
	comp=N,530nm,19.7s,MS4.8						
NJ2				LR	LR		
	comp=E,610nm,21.5s,MS4.8						
NJ2				LR	LR		
	comp=Z,710nm,18.7s,MS4.8						
ZAK	**Zakamensk 57.65 27**			*e*P	**P**	**12 28 03.2**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb4.0						
ULN	**Ulaanbaatar 57.77 31**			*e*P	**P**	**12 28 04.8**	**+0.6**
	comp=Z,28nm,1.4s,mb5.1						
ULN	**Ulaanbaatar 57.77 31**			*e*P	**P**	**12 28 04.8**	**+0.6**
ULN				pmax	pmax		
	comp=Z,28nm,1.4s,mb5.1						
ULN	**Ulaanbaatar 57.77 31**			P	**P**	**12 28 07.4**	**+3.2**
	comp=Z,311nmcomp=Z,15nm,1.4s,mb4.8						
ULN	**Ulaanbaatar 57.77 31**			P	**P**	**12 28 05.5**	**+1.2**
	SNR=11						
AKASG	**Malin Array Be 58.26 333**			P	**P**	**12 28 06.6**	**-1.1**
	comp=Z,1.3nm,0.5s,mb4.2,baz=135,slow

TLY *e* 12 36 31.1
TLY pmax pmax
comp=Z,16nm,1.1s,mb5.0
TLY MLR MLR
comp=Z,916nm,22.0s,MS4.9
MOS Moscow 58.86 341 *e*P **P 12 28 10.5 -1.2**
MOS pmax pmax
comp=Z,69nm,0.9s,mb5.7
BJI Beijing 58.92 43 P **P 12 28 11.5 -0.9**
BJI S **S 12 36 26.4 +8.3**
BJI pmax pmax
comp=Z,14nm,0.7s,mb5.1
BJI LR LR
comp=N,590nm,17.1s,MS4.8
BJI LR LR
comp=E,370nm,20.0s,MS4.8
BJI LR LR
comp=Z,430nm,32.7s
IRK Irkutsk 59.41 26 *e*P **P 12 28 19.0 +3.4**
IRK *e* 12 29 04.7
IRK pmax pmax
comp=Z,42nm,1.1s,mb5.4
UZH Uzhgorod 60.35 328 *e*P **P 12 28 21.3 -0.8**
UZH *e* 12 28 59.7
NLAI Namlea 60.59 95 P **P 12 28 24.4 0.0**
comp=Z,30nm,0.8s,mb5.5
TNTI Ternate 60.68 90 P **P 12 28 25.1 +0.1**
comp=Z,1µmcomp=Z,60nm,1.9s,mb5.4
LBMI Labuha 60.85 92 P **P 12 28 26.5 +0.3**
comp=Z,1µmcomp=Z,88nm,1.5s,mb5.7
CRVS Cervenica-Dubn 60.96 328 *e*P **P 12 28 26.7 +0.4**
CRVS pmax pmax
comp=Z,10.0nm,1.2s,mb4.8
CRVS Cervenica-Dubn 60.96 328 *e*P **P 12 28 26.7 +0.4**
FITZ Fitzroy Crossi 61.20 112 P **P 12 28 27.3 -1.2**
comp=Z,4.5nm,0.8s,mb4.6,baz=4.5,slow=2.9,SNR=6.3
FITZ Fitzroy Crossi 61.20 112 P **P 12 28 27.3 -1.2**
FITZ Fitzroy Crossi 61.20 112 P sP 12 28 39.2 +3.9
BUD Budapest 61.51 325 *e*P **P 12 28 29.4 -0.6**
VYHS Vyhne 62.16 326 *e*P **P 12 28 34.6 +0.2**
VYHS pmax pmax
comp=Z,16nm,1.9s,mb4.8
VYHS Vyhne 62.16 326 *e*P **P 12 28 34.6 +0.2**
KLMR Klimovskoe 62.64 345 *e*P **P 12 28 35.3 -2.1**
KLMR pmax pmax
comp=Z,76nm,1.3s,mb5.7
KLMR pmax pmax
comp=Z,120nm,5.0s
KLMR MLR MLR
comp=Z,731nm,20.0s,MS4.8
BOJS Bojanci 62.74 322 *e*P **P 12 28 37.7 -0.7**
TAM Tamanrasset 62.89 295 *e*P **P 12 28 41.5 +1.7**
comp=Z,3.2nm,0.9s,mb4.5
TAM Tamanrasset 62.89 295 *e*P **P 12 28 41.5 +1.7**
TAM pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
KEST Kesra 62.93 310 LR LR 12 55 20.9
comp=Z,18nm,21.2s,baz=333,slow=35
SOP Sopron 63.03 324⇓ *e*P **P 12 28 38.3 -1.9**
LJU Ljubljana 63.44 322 *e*P **P 12 28 42.3 -0.7**
SKDS Skadanscina 63.53 321 *e*P **P 12 28 42.3 -1.2**
CONA Conrad Observa 63.56 324⇓ *i*P **P 12 28 43.4 -0.3**
comp=Z,13nm,1.1s,mb4.9
VRAC Vranov 63.85 326 LR LR 12 58 08.0
comp=Z,153nm,20.6s,MS4.2,baz=108,slow=38
MOA Molln 64.46 324⇓ *i*P **P 12 28 49.1 -0.6**
comp=Z,14nm,1.0s,mb4.9
DPC Dobruska-Polom 64.54 327 *e*P **P 12 28 49.7 -0.4**
DPC *e* pP 12 28 56.2 +1.1
DPC Dobruska-Polom 64.54 327 *e*P **P 12 28 49.7 -0.4**
DPC *e*pP pP 12 28 56.2 +1.1
VSU Vasula 64.76 338 *i*P **P 12 28 52.0 +0.6**
VSU pmax pmax
comp=Z,47nm,1.4s,mb5.3
UPC Upice 64.79 327 *e*P **P 12 28 52.1 +0.3**
UPC *e* pP 12 28 58.4 +1.7
UPC Upice 64.79 327 *e*P **P 12 28 52.1 +0.3**
UPC *e*pP pP 12 28 58.4 +1.7
GERES GERESS Array B 65.27 324 LR LR 12 54 23.4
comp=Z,127nm,20.9s,MS4.1,baz=293,slow=33
TORD Torodi Ar. Bea 65.29 284 P **P 12 28 56.2 +0.6**
comp=Z,1.6nm,0.8s,mb4.1,baz=93,slow=6.5,SNR=9.3
TORD LR LR 12 57 33.0
comp=Z,292nm,18.4s,MS4.5,baz=95,slow=36
TORD Torodi Ar. Bea 65.29 284 P **P 12 28 56.2 +0.6**
TORD LR LR 12 57 33.0
KHC Kasperske Hory 65.47 325 *e*P **P 12 28 55.0 -1.2**
KHC Kasperske Hory 65.47 325 *e*P **P 12 28 55.0 -1.2**
PGF Pioggiola 65.57 317 *e*P **P 12 28 55.4 -1.6**
comp=Z,23nm,1.2s,mb4.8
PGF Pioggiola 65.57 317 *e*P **P 12 28 55.4 -1.6**
comp=Z,12nm,1.2s,mb4.8
PGF Pioggiola 65.57 317 *e*P **P 12 28 55.4 -1.6**
PGF pmax pmax
comp=Z,12nm,1.2s,mb4.8
FETA Feichten 66.22 322⇓ *i*P **P 12 29 00.8 -0.3**
comp=Z,5.0nm,0.9s,mb4.5
KSRS Korea Array 66.45 50 P **P 12 29 01.8 -1.0**
comp=Z,1.9nm,0.8s,mb4.2,baz=255,slow=7.4,SNR=5.7
KSRS LR LR 13 01 13.0
comp=Z,287nm,19.1s,MS4.5,baz=249,slow=39
NKC Novy Kostel 66.64 325 *e*P **P 12 29 03.3 -0.4**
NKC *e* pP 12 29 09.6 +0.9
NKC Novy Kostel 66.64 325 *e*P **P 12 29 03.3 -0.4**
NKC *e*pP pP 12 29 09.6 +0.9
DAVOX Davos/Dischmat 66.65 321 LR LR 12 56 10.1
comp=Z,186nm,19.1s,MS4.3,baz=84,slow=34
CN2 Changchun 66.77 42 *e*P **P 12 29 05.8 +1.1**
CN2 *e*sP sP 12 29 12.0 +0.5
CN2 *e*S S 12 37 56.2 -0.2
CN2 pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,400nm,17.0s,MS4.8
CN2 LR LR
comp=E,200nm,17.0s,MS4.8
CN2 LR LR
comp=Z,600nm,19.0s,MS4.8
CLL Collm 66.84 327 *i*P **P 12 29 05.4 +0.4**
CLL Collm 66.84 327 *i*P **P 12 29 05.4 +0.4**
DAVA Damuels 66.86 322⇓ *i*P **P 12 29 04.9 -0.3**
comp=Z,12nm,0.9s,mb4.9
TUE Stuetta 66.86 321 *e*P **P 12 29 05.2 +0.1**
comp=Z,54nm,2.1s,mb5.2
FINES FINESS Array B 67.11 340 P **P 12 29 06.6 +0.2**
comp=Z,6.3nm,0.8s,mb4.7,baz=161,slow=13,SNR=5.6
FINES LR LR 13 00 36.0
comp=Z,174nm,21.2s,MS4.2,baz=355,slow=38
FINES FINESS Array B 67.11 340 P **P 12 29 06.6 +0.2**
FINES LR LR 13 00 36.0
FINES FINESS Array B 67.11 340 P **P 12 29 06.6 +0.2**
SBF Sospel 67.11 318 *e*P **P 12 29 05.7 -1.2**
SBF Sospel 67.11 318 *e*P **P 12 29 05.7 -1.2**
SBF Sospel 67.11 318 *e*P **P 12 29 05.7 -1.2**
BOD Bodaibo 67.29 25 *e*P **P 12 29 06.7 -1.0**
BOD pmax pmax
comp=Z,7.0nm,2.1s,mb4.3
FRF La Foret Royal 67.54 317 *e*P **P 12 29 09.2 -0.4**
comp=Z,25nm,1.2s,mb4.8
FRF La Foret Royal 67.54 317 *e*P **P 12 29 09.2 -0.4**
comp=Z,13nm,1.2s,mb4.8
FRF La Foret Royal 67.54 317 *e*P **P 12 29 09.2 -0.4**
FRF pmax pmax
comp=Z,13nm,1.2s,mb4.8
LMR La Mourre 67.56 317 *e*P **P 12 29 08.3 -1.4**
comp=Z,22nm,1.2s,mb4.8
LMR La Mourre 67.56 317 *e*P **P 12 29 08.3 -1.4**
comp=Z,11nm,1.2s,mb4.8
LMR La Mourre 67.56 317 *e*P **P 12 29 08.3 -1.4**
LMR pmax pmax
comp=Z,11nm,1.2s,mb4.8
SENIN Lac Senin/Sane 68.12 320 *e*P **P 12 29 12.9 -0.2**
comp=Z,14nm,0.8s,mb5.0
LPG La Plagne 68.16 319 *e*P **P 12 29 12.7 -0.7**
comp=Z,33nm,1.3s,mb4.9
LPG La Plagne 68.16 319 *e*P **P 12 29 12.7 -0.7**
comp=Z,16nm,1.3s,mb4.9
LPG La Plagne 68.16 319 *e*P **P 12 29 12.7 -0.7**
LPG pmax pmax
comp=Z,16nm,1.3s,mb4.9
LPL La Plagne 68.18 319 *e*P **P 12 29 12.8 -0.8**
comp=Z,76nm,1.6s,mb5.2
LPL La Plagne 68.18 319 *e*P **P 12 29 12.8 -0.8**
comp=Z,39nm,1.6s,mb5.2
LPL pmax pmax
comp=Z,39nm,1.6s,mb5.2
BFO Black Forest 68.24 322 *e*P **P 12 29 13.6 -0.3**
comp=Z,58nm,1.7s,mb5.3
BFO Black Forest 68.24 322 *e*P **P 12 29 13.6 -0.3**
BFO pmax pmax
comp=Z,58nm,1.7s,mb5.3
SMRF Simiane la Rot 68.41 317 *e*P **P 12 29 14.3 -0.7**
comp=Z,77nm,1.6s,mb5.2
SMRF Simiane la Rot 68.41 317 *e*P **P 12 29 14.3 -0.7**
comp=Z,77nm,1.6s,mb5.5
ORIF Oris-en-Rattie 68.53 318 *e*P **P 12 29 15.6 -0.2**
comp=Z,29nm,1.3s,mb4.8
ORIF *e*R
comp=Z,144nm,18.8s
ORIF Oris-en-Rattie 68.53 318 *e*P **P 12 29 15.6 -0.2**
comp=Z,15nm,1.3s,mb4.8
ORIF Oris-en-Rattie 68.53 318 *e*P **P 12 29 15.6 -0.2**
ORIF pmax pmax
comp=Z,15nm,1.3s,mb4.8
CDF Champ du Feu 68.92 322 *e*P **P 12 29 17.5 -0.6**
comp=Z,40nm,1.3s,mb4.9
CDF Champ du Feu 68.92 322 *e*P **P 12 29 17.5 -0.6**
comp=Z,20nm,1.3s,mb4.9
CDF Champ du Feu 68.92 322 *e*P **P 12 29 17.5 -0.6**
CDF pmax pmax
comp=Z,20nm,1.3s,mb4.9
HINF Hinteralfeld 68.95 321 *e*P **P 12 29 17.2 -1.1**
HINF Hinteralfeld 68.95 321 *e*P **P 12 29 17.2 -1.1**
HINF Hinteralfeld 68.95 321 *e*P **P 12 29 17.2 -1.1**
CABF La Chapelle 69.00 320 *e*P **P 12 29 18.3 -0.3**
CABF La Chapelle 69.00 320 *e*P **P 12 29 18.3 -0.3**
CABF La Chapelle 69.00 320 *e*P **P 12 29 18.3 -0.3**
MAW Mawson 69.11 182 P **P 12 29 18.9 +0.1**
comp=Z,2.3nm,0.8s,mb4.2,baz=5.2,slow=8.7,SNR=7.6
MAW LR LR 12 53 55.1
comp=Z,656nm,18.3s,MS4.9,baz=0.8,slow=31
MAW Mawson 69.11 182 *e*P **P 12 29 19.0 +0.1**
comp=Z,2.5nm,0.9s,mb4.1
MAW Mawson 69.11 182 *e*P **P 12 29 19.4 +0.6**
MAW LR LR 12 53 55.1
MAW Mawson 69.11 182 *e*P **P 12 29 19.4 +0.5**
HAU Haudompre 69.34 321 *e*P **P 12 29 19.7 -1.0**
HAU *e*R
comp=Z,154nm,18.8s
HAU Haudompre 69.34 321 *e*P **P 12 29 19.7 -1.0**
HAU LR LR
comp=Z,150nm,18.8s,MS4.3
HAU Haudompre 69.34 321 *e*P **P 12 29 19.7 -1.0**
HAU MLR MLR
comp=Z,150nm,18.8s,MS4.3
LASF Ste Croix 69.62 317 *e*P **P 12 29 21.8 -0.7**
LASF Ste Croix 69.62 317 *e*P **P 12 29 21.8 -0.7**
WRA Warramunga Arr 69.63 112 P **P 12 29 22.0 -1.1**
comp=Z,9.7nm,0.8s,mb4.8,baz=287,slow=5.9,SNR=56
WRA Warramunga Arr 69.63 112 P **P 12 29 22.0 -1.1**
WRA Warramunga Arr 69.63 112 P **P 12 29 22.0 -1.1**
WRAB Tennant Creek 69.64 112 P **P 12 29 22.0 -1.1**
comp=Z,87nm,0.8s,mb5.7,SNR=7.2
WB2 Warramunga Ar 69.64 112 *e*P **P 12 29 22.0 -1.2**
APA Apatity 69.74 347⇓ *e*P **P 12 29 29.8 +7.0**
APA MLR MLR
comp=Z,700nm,17.0s,MS5.0
MDJ Mudanjiang 69.85 43 P **P 12 29 25.7 +1.8**
MDJ pP pP 12 29 28.8 -0.2
MDJ sP sP 12 29 30.5 -0.3
MDJ S S 12 38 36.2 +3.1
MDJ sS sS 12 38 43.0 +1.6
MDJ pmax pmax
comp=Z,11nm,1.2s,mb4.7
MDJ pmax pmax
comp=Z,160nm,4.8s
MDJ LR LR
comp=N,230nm,13.4s,MS4.7
MDJ LR LR
comp=E,110nm,12.5s,MS4.7
MDJ LR LR
comp=Z,210nm,13.4s,MS4.6
MDJ Mudanjiang 69.85 43 *e*P **P 12 29 26.0 +2.1**
comp=Z,6.7nm,0.4s,mb4.9
ASAR Alice Springs 69.89 116 P **P 12 29 23.3 -1.3**
comp=Z,5.0nm,0.9s,mb4.4,baz=284,slow=6.0,SNR=28
ASAR Alice Springs 69.89 116 P **P 12 29 23.3 -1.3**
ASAR Alice Springs 69.89 116 P **P 12 29 23.3 -1.3**
PAGF Fort de Pagny 69.93 322 *e*P **P 12 29 23.8 -0.6**
SFTF Sexfontaines 70.23 321 *e*P **P 12 29 25.6 -0.6**
SFTF Sexfontaines 70.23 321 *e*P **P 12 29 25.6 -0.6**
MEZF Maizieres J'vi 70.33 322 *e*P **P 12 29 26.3 -0.5**
MEZF Maizieres J'vi 70.33 322 *e*P **P 12 29 26.3 -0.5**
SMF Signal de Mont 70.46 319 *e*P **P 12 29 26.6 -1.0**
comp=Z,20nm,1.1s,mb4.7
SMF Signal de Mont 70.46 319 *e*P **P 12 29 26.6 -1.0**
comp=Z,10nm,1.1s,mb4.7
SMF Signal de Mont 70.46 319 *e*P **P 12 29 26.6 -1.0**
SMF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
LOR Lormes 70.66 320 *e*P **P 12 29 28.1 -0.7**
LOR *e*R
comp=Z,122nm,21.5s
LOR Lormes 70.66 320 *e*P **P 12 29 28.1 -0.7**
LOR LR LR
comp=Z,120nm,21.5s,MS4.1
LOR Lormes 70.66 320 *e*P **P 12 29 28.1 -0.7**
LOR MLR MLR
comp=Z,120nm,21.5s,MS4.1
SSF Saint Saulge 70.81 320 *e*P **P 12 29 29.2 -0.6**
comp=Z,7.9nm,0.7s,mb4.4
SSF Saint Saulge 70.81 320 *e*P **P 12 29 29.2 -0.6**
comp=Z,4.0nm,0.7s,mb4.5
SSF Saint Saulge 70.81 320 *e*P **P 12 29 29.2 -0.6**
SSF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
AVF Avril sur Loir 70.83 319 *e*P **P 12 29 29.2 -0.7**
AVF Avril sur Loir 70.83 319 *e*P **P 12 29 29.2 -0.7**
AVF Avril sur Loir 70.83 319 *e*P **P 12 29 29.2 -0.7**
GIVF Givet 71.04 323 *e*P **P 12 29 30.1 -1.0**
GIVF Givet 71.04 323 *e*P **P 12 29 30.1 -1.0**
GIVF Givet 71.04 323 *e*P **P 12 29 30.1 -1.0**
BGF Bois d'Agland 71.08 319 *e*P **P 12 29 31.2 -0.2**
comp=Z,33nm,1.0s,mb4.9
BGF Bois d'Agland 71.08 319 *e*P **P 12 29 31.2 -0.2**
comp=Z,16nm,1.0s,mb4.9
BGF Bois d'Agland 71.08 319 *e*P **P 12 29 31.2 -0.2**
BGF pmax pmax
comp=Z,17nm,1.0s,mb4.9
TCF Toulx Ste Croi 71.41 319 *e*P **P 12 29 32.9 -0.6**
TCF Toulx Ste Croi 71.41 319 *e*P **P 12 29 32.9 -0.6**
TCF Toulx Ste Croi 71.41 319 *e*P **P 12 29 32.9 -0.6**
DBIC Dimbokro 71.48 276 P **P 12 29 35.5 +1.0**
comp=Z,10nm,0.9s,mb4.8,baz=49,slow=7.0,SNR=9.4
DBIC LR LR 12 59 24.6
comp=Z,123nm,18.9s,MS4.2,baz=76,slow=34
DBIC Dimbokro 71.48 276 P **P 12 29 35.5 +1.0**
DBIC LR LR 12 59 24.6
DBIC Dimbokro 71.48 276 P **P 12 29 35.5 +1.0**
LIC Lamto 71.64 276 *e*P **P 12 29 36.5 +1.0**
comp=Z,25nm,0.9s,mb4.8
LIC *e*R
comp=Z,217nm,22.0s
LIC Lamto 71.64 276 *e*P **P 12 29 36.5 +1.0**
comp=Z,13nm,0.9s,mb4.8
LIC LR LR
comp=Z,110nm,22.0s,MS4.1
NOA NORSAR Array B 72.54 335 P **P 12 29 39.2 -0.6**
comp=Z,3.0nm,0.9s,mb4.2,baz=112,slow=6.4,SNR=3.3
NOA NORSAR Array B 72.54 335 P **P 12 29 39.2 -0.6**
NOA NORSAR Array B 72.54 335 P **P 12 29 39.3 -0.6**
ARCES ARCESS Array B 73.11 346 P **P 12 29 43.4 +0.2**
comp=Z,4.1nm,0.7s,mb4.4,baz=140,slow=7.8,SNR=13
ARCES LR LR 13 01 47.7
comp=Z,170nm,20.3s,MS4.3,baz=145,slow=36
ARCES ARCESS Array B 73.11 346 P **P 12 29 43.4 +0.2**
ARCES LR LR 13 01 47.7
ARCES ARCESS Array B 73.11 346 P **P 12 29 43.4 +0.3**
MDT Midelt 73.45 304 LR LR 13 04 03.4
comp=Z,143nm,18.9s,MS4.3,baz=265,slow=37
JAY Jayapura 74.12 93 P **P 12 29 47.2 -3.0**
ESDC Sonseca Array 74.14 311 P **P 12 29 50.2 +0.4**
comp=Z,7.7nm,0.8s,mb4.7,baz=84,slow=5.4,SNR=18
ESDC Sonseca Array 74.14 311 P **P 12 29 50.2 +0.4**
MJAR Matsushiro Arr 74.25 53 P **P 12 29 50.5 0.0**
comp=Z,2.1nm,1.0s,mb4.0,baz=258,slow=8.7,SNR=4.1
MJAR LR LR 13 04 56.2
comp=Z,234nm,18.4s,MS4.5,baz=245,slow=38
MJAR Matsushiro Arr 74.25 53 P **P 12 29 50.5 0.0**
MJAR LR LR 13 04 56.2
MJAR Matsushiro Arr 74.25 53 P **P 12 29 50.5 0.0**
CBIJ Chichi jima 76.37 63 LR LR 13 03 05.3
comp=Z,195nm,18.2s,MS4.5,baz=284,slow=35
STKA Stephens Creek 78.07 123 P **P 12 30 11.2 -1.1**
comp=Z,2.2nm,0.9s,mb4.1,baz=253,slow=7.8,SNR=4.9
STKA LR LR 12 59 43.4
comp=Z,224nm,20.9s,MS4.5,baz=206,slow=32
STKA Stephens Creek 78.07 123 P **P 12 30 11.2 -1.1**
STKA LR LR 12 59 43.4
STKA Stephens Creek 78.07 123 P **P 12 30 11.2 -1.1**
NVL N'lazarevskaya 80.53 196 *e*P **P 12 30 26.3 +1.4**
MAIT Maitri 80.56 196 *e*P **P 12 30 26.3 +1.2**
BBTS Babate 83.03 284 LR LR 13 08 04.6
comp=Z,228nm,18.2s,MS4.6,baz=91,slow=36
VNA2 Neumayer--Watz 86.33 198 *e* **P 12 30 52.8 -2.0**
SEY Seymchan 86.62 27⇑ *e*P **P 12 30 55.9 -0.5**
VNA3 Neumayer Olymp 87.13 198 *e* **P 12 30 56.2 -2.5**
PETK Petropavlovsk- 89.35 37 LR LR 13 14 18.5
comp=Z,349nm,18.4s,MS4.8,baz=272,slow=38
BILL Bilibino 92.12 22 *e*P **P 12 31 21.8 -0.4**
BILL *i*PS PS 12 43 28.5 -7.3
BILL *i*SS SS 12 48 46.0 +13
BILL pmax pmax
comp=Z,9.0nm,1.6s,mb4.8
BILL MLR MLR
comp=Z,300nm,18.0s,MS4.8
VNDA Vanda 92.67 167 P **P 12 31 24.3 -0.3**
comp=Z,0.7nm,0.8s,mb4.1,baz=278,slow=7.2,SNR=4.4
VNDA LR LR 13 06 52.5
comp=Z,512nm,21.8s,MS4.9,baz=266,slow=32
VNDA Vanda 92.67 167 P **P 12 31 24.3 -0.3**
VNDA LR LR 13 06 52.5
VNDA Vanda 92.67 167 P **P 12 31 24.3 -0.3**
PDAR Pinedale Array 135.71 356 PKP PKPdf 12 37 33.9 -0.1
comp=Z,1.0nm,0.7s,baz=76,slow=3.0,SNR=8.1
PDAR Pinedale Array 135.71 356 PKP PKPdf 12 37 33.9 -0.1
NVAR Mina Array Bea 139.91 6 PKP PKPdf 12 37 42.8 +0.9
comp=Z,0.8nm,0.7s,baz=313,slow=1.9,SNR=8.2
NVAR Mina Array Bea 139.91 6 PKP PKPdf 12 37 42.8 +0.9
R17A Hanksville Air 140.11 357⇑P PKPdf 12 37 38.5 -3.8
baz=140
R16A Teasdale 140.28 358⇑P PKPdf 12 37 39.5 -3.1
baz=140
S22A 4UR Ranch, Cre 140.39 352⇓P PKPdf 12 37 40.0 -2.8
baz=140
S20A Disappointment 140.50 354⇓P PKPdf 12 37 39.1 -3.9
baz=140
S21A Coal Bank Pass 140.60 353⇓P PKPdf 12 37 40.3 -2.9
baz=140
S17A Black Ridge (B 140.89 357⇑P PKPdf 12 37 41.0 -2.7
baz=141
T22A Edith 141.12 352⇑P PKPdf 12 37 41.7 -2.5
baz=141
U25A Circle Dot Ran 141.29 348⇑P PKPdf 12 37 41.6 -2.8
baz=141
T18A Mexican Hat 141.33 356⇓P PKPdf 12 37 41.2 -3.3
baz=141
U23A El Rito 141.69 351⇓P PKPdf 12 37 42.5 -2.7
baz=142
U21A Nageezi 141.80 353⇑P PKPdf 12 37 42.9 -2.5
baz=142
V25A Rancho No Teng 141.88 349⇑P PKPdf 12 37 42.9 -2.6
baz=142
U18A Rough Rock, Ch 142.04 355⇑P PKPdf 12 37 43.8 -2.0
baz=142
V24A Rampart Ranch, 142.12 349⇑P PKPdf 12 37 43.8 -2.1
baz=142
U15A North Rim 142.16 359⇓P PKPdf 12 37 43.8 -2.3
baz=142
U13A Pakoon Wash 142.18 1⇓P PKPdf 12 37 44.4 -1.7
baz=142
U14A Mt Trumbull 142.18 360⇓P PKPdf 12 37 43.8 -2.3
baz=142
V22A San Miguel Ran 142.20 351⇑P PKPdf 12 37 44.2 -1.9
baz=142
V23A Ortiz Mt. (NFS 142.26 350⇓P PKPdf 12 37 44.6 -1.6
baz=142
V20A Brimhall 142.52 354⇑P PKPdf 12 37 44.5 -2.2
baz=142
W24A Lazy 6 Ranch, 142.64 349⇓P PKPdf 12 37 45.6 -1.3
baz=142
V15A Kaibab Nationa 142.76 358⇑P PKPdf 12 37 45.2 -1.9
baz=143
W23A Werner Place, 142.82 350⇑P PKPdf 12 37 45.7 -1.5
baz=143
V17A Tonalea, Kykot 142.90 357⇑P PKPdf 12 37 45.8 -1.6
baz=143
X26A CR and CF Fran 142.95 347⇑P PKPdf 12 37 45.6 -1.9
baz=143
WUAZ Wupatki 143.03 357⇑P PKPdf 12 37 45.9 -1.7
baz=143
ANMO Albuquerque 143.08 351 *e*PKPdf PKPdf 12 37 45.8 -1.9
ANMO Albuquerque 143.08 351 *e*PKIKP PKPdf 12 37 45.8 -1.9
W21A San Fidel 143.09 352⇓P PKPdf 12 37 46.7 -1.1
baz=143
X25A Clemmons Ranch 143.16 348⇑P PKPdf 12 37 46.4 -1.4
baz=143
MSTX Muleshoe 143.25 345⇓P PKPdf 12 37 47.1 -0.9
baz=143
X24A Lazy VL Ranch, 143.27 349⇓P PKPdf 12 37 47.0 -1.1
baz=143
W19A Sanders 143.30 355⇓P PKPdf 12 37 47.0 -1.1
baz=143
W18A Petrified Fore 143.32 355⇓P PKPdf 12 37 46.8 -1.3
baz=143
W17A Winslow 143.43 356⇑P PKPdf 12 37 47.2 -1.1
baz=143
Y27A Causey 143.43 346⇑P PKPdf 12 37 46.1 -2.3
baz=143,SNR=7.7
W16A Flagstaff 143.46 358⇑P PKPdf 12 37 47.4 -1.0
baz=143
Y26A Elida 143.55 347⇑P PKPdf 12 37 47.3 -1.3
baz=143
LAZ Ladron 143.72 351 *e*PKPdf PKPdf 12 37 48.1 -0.8
LPM Los Pinos Moun 143.73 351 *e*PKPdf PKPdf 12 37 47.7 -1.2
Y25A Mesa, Roswell 143.75 348⇓P PKPdf 12 37 46.8 -2.1
baz=144,SNR=14
X20A Quemado 143.77 353⇑P PKPdf 12 37 48.2 -0.7
baz=144,SNR=13
X21A Alamocita Cree 143.77 352⇓P PKPdf 12 37 47.4 -1.6
baz=144,SNR=15
BNM Barren Site 143.89 351 *e*PKPdf PKPdf 12 37 48.5 -0.7
Y24A Capitan 143.89 349⇓P PKPdf 12 37 47.5 -1.7
baz=144,SNR=13
X18A Snowflake 143.92 355⇑P PKPdf 12 37 47.5 -1.7
baz=144,SNR=7.3
X19A St. Johns 143.97 354⇑P PKPdf 12 37 48.7 -0.6
baz=144
Z27A Tatum 143.99 346⇓P PKPdf 12 37 47.8 -1.6
baz=144,SNR=21
Y23A Lovelace Mesa, 144.00 350⇓P PKPdf 12 37 48.3 -1.1
baz=144,SNR=14
X16A Lo Mia Camp, P 144.13 357⇑P PKPdf 12 37 48.8 -0.8
baz=144,SNR=17
Y22A Socorro 144.15 351⇑P PKPdf 12 37 49.0 -0.6
baz=144,SNR=7.5
X17A Forest Lakes 144.18 356⇑P PKPdf 12 37 49.2 -0.5
baz=144,SNR=13
Y21A Point of Rocks 144.19 352⇑P PKPdf 12 37 49.1 -0.6
baz=144,SNR=6.9
Z26A Caprock 144.21 347⇑P PKPdf 12 37 49.4 -0.4
baz=144,SNR=23
PDMCI Parker Dam,Lak 144.28 1⇑P PKPdf 12 37 49.4 -0.4
baz=144
Z25A Roswell 144.37 348⇑P PKPdf 12 37 49.4 -0.6
baz=144,SNR=20
Y20A Horse Springs, 144.38 353⇓P PKPdf 12 37 49.8 -0.3
baz=144,SNR=9.0
IRM Iron Mountain 144.39 3⇓P PKPdf 12 37 49.8 -0.3
baz=144,SNR=10
CPRX Cap Rock 144.42 346 *e*PKPdf PKPdf 12 37 49.2 -0.9
Y19A Nutrioso 144.43 354⇑P PKPdf 12 37 50.5 +0.4
baz=144,SNR=9.8
Z24A Sheeppen Canyo 144.46 349⇓P PKPdf 12 37 50.3 +0.1
baz=144
BELC Belle Mtn. Jos 144.50 4⇓P PKPdf 12 37 50.8 +0.6
baz=144
Y15A Casa Rosa Ranc 144.62 359⇓P PKPdf 12 37 50.9 +0.5
baz=144,SNR=8.5
Y14A Wickenburg 144.65 360⇑P PKPdf 12 37 50.2 -0.3
baz=144,SNR=9.6
Y16A Circle Bar Ran 144.67 357⇑P PKPdf 12 37 50.7 +0.2
baz=144,SNR=11
Y18A Canyon Day Jun 144.68 355⇑P PKPdf 12 37 50.9 +0.3

baz=144,SNR=17
Z23A Rita Site, Whi 144.69 350 ⇑P PKPdf 12 37 50.7 +0.1
baz=144,SNR=7.2
MURC Murrieta 144.80 6 ⇓P PKPdf 12 37 50.4 -0.4
baz=145
Y17A Roosevelt 144.82 356 ⇓P PKPdf 12 37 50.5 -0.3
baz=145,SNR=9.3
Z22A Elephant Butte 144.82 351 ⇑P PKPdf 12 37 50.6 -0.2
baz=145,SNR=6.8
Y12C Blythe 144.82 2 ⇓P PKPdf 12 37 50.7 -0.1
baz=145,SNR=7.5
126A Clayton Basin, 144.82 346 ⇑P PKPdf 12 37 51.2 +0.4
baz=145
PFO Pinyon Flat Ob 144.86 5 ⇑P PKPdf 12 37 51.4 +0.6
baz=145,SNR=5.0
Z21A St. Cloud Mine 144.87 352 ⇑P PKPdf 12 37 52.2 +1.3
baz=145
BC3 Big Chuckawall 144.88 3 ⇑P PKPdf 12 37 50.9 0.0
baz=145,SNR=7.9
125A Gardner Draw, 144.96 347 ⇓P PKPdf 12 37 52.4 +1.4
baz=145,SNR=6.3
OTAV Otavalo 145.09 273 *e*PKPbc PKPbc 12 37 52.8 +1.6
CLNB Carlsbad 145.15 346 *e*PKPbc PKPbc 12 37 52.7 +1.9
Z20A Nine Sixteen R 145.19 353 ⇑P PKPbc 12 37 52.5 +1.6
baz=145,SNR=13
Z17A San Carlos Hig 145.19 356 ⇑P PKPbc 12 37 53.6 +2.7
baz=145
Z16A Peralta Trail, 145.20 357 ⇓P PKPbc 12 37 53.5 +2.5
baz=145
Z14A Wintersburg 145.22 359 ⇑P PKPbc 12 37 53.6 +2.5
baz=145
123A Bell Site, Whi 145.30 350 ⇓P PKPbc 12 37 53.9 +2.6
baz=145
Z18A Geronimo 145.36 355 ⇑P PKPbc 12 37 53.8 +2.3
baz=145
Z13A Yuma Proving G 145.39 0 ⇓P PKPbc 12 37 53.0 +1.4
baz=145,SNR=6.2
GLA Glamis 145.51 2 ⇓P PKPdf 12 37 53.1 +1.1
baz=145
GLA Glamis 145.51 2 *e*PKPab PKPab 12 37 53.4 +1.2
GLA Glamis 145.51 2 *e*PKIKP PKPdf 12 37 53.4 +1.4
225A Deer Hill, Car 145.52 347 ⇑P PKPdf 12 37 53.4 +1.4
baz=145
SWSC Sam W. Stewart 145.57 4 ⇓P PKPdf 12 37 53.6 +1.4
baz=145
MONP Monument Peak 145.57 5 ⇓P PKPdf 12 37 53.6 +1.4
baz=145
JCT Junction City 145.60 339 ⇑P PKPdf 12 37 53.6 +1.4
baz=146
JCT Junction City 145.60 339 *e*PKPbc PKPbc 12 37 53.0 +0.6
JCT Junction City 145.60 339 *e*PKIKP PKPdf 12 37 53.0 +0.8
119A Ashpeak Ranch, 145.61 354 ⇑P PKPdf 12 37 53.1 +0.9
baz=146,SNR=6.0
121A Cookes Peak, D 145.65 352 ⇑P PKPdf 12 37 53.4 +1.1
baz=146,SNR=7.1
328A Wristen Ranch, 145.71 344 ⇑P PKPdf 12 37 53.6 +1.2
baz=146
120A U Bar Ranch, L 145.75 353 ⇑P PKPdf 12 37 54.2 +1.8
baz=146
BAR Barrett 145.76 5 *e*PKPdf PKPdf 12 37 53.9 +1.4
118A Homack Ranch, 145.80 355 ⇓P PKPdf 12 37 54.1 +1.5
baz=146,SNR=10
113A Mohawk Valley, 145.82 1 ⇓P PKPdf 12 37 54.1 +1.5
baz=146,SNR=5.9
DVTC Desert V Tower 145.83 4 ⇓P PKPdf 12 37 55.1 +2.5
baz=146
115A Sonoran Desert 145.87 358 ⇓P PKPdf 12 37 55.0 +2.4
baz=146
117A Oracle 145.93 356 ⇑P PKPdf 12 37 54.4 +1.7
baz=146,SNR=8.5
222A Williams Famil 145.97 351 ⇓P PKPdf 12 37 54.1 +1.3
baz=146,SNR=9.1
116A Eloy 145.99 358 ⇓P PKPdf 12 37 55.0 +2.1
baz=146
326A Caldwell Ranch 146.08 346 ⇓P PKPdf 12 37 55.1 +2.0
baz=146
221A Mesquite Ranch 146.16 352 ⇑P PKPdf 12 37 55.6 +2.4
baz=146
TUC Tucson 146.19 356 *e*PKPdf PKPdf 12 37 55.2 +2.0
TUC Tucson 146.19 356 *e*PKP2 PKPab 12 37 55.2 +0.4
325A Bean Ranch, Si 146.26 347 ⇑P PKPdf 12 37 55.4 +2.0
baz=146
428A Kincaid Ranch, 146.30 343 ⇑P PKPdf 12 37 55.8 +2.4
baz=146
324A Moseley Ranch, 146.31 348 ⇓P PKPdf 12 37 55.8 +2.4
baz=146
219A White Tail Can 146.37 354 ⇑P PKPdf 12 37 55.4 +1.9
baz=146,SNR=7.5
220A Playas Peak, P 146.37 353 ⇓P PKPdf 12 37 55.6 +2.1
baz=146,SNR=5.3
427A Hayter Ranch, 146.38 344 ⇑P PKPdf 12 37 56.1 +2.5
baz=146
218A Dragoon 146.47 355 ⇓P PKPdf 12 37 56.2 +2.5
baz=146
216A Three Points, 146.54 357 ⇑P PKPdf 12 37 56.0 +2.3
baz=146
214A Organ Pipe Nat 146.63 359 ⇓P PKPdf 12 37 56.0 +2.1
baz=146,SNR=5.7
426A McDonald Obser 146.71 345 ⇓P PKPdf 12 37 57.1 +3.0
baz=147
217A Green Valley 146.72 356 ⇑P PKPdf 12 37 56.6 +2.5
baz=147,SNR=12
425A Indio Mountain 146.83 347 ⇑P PKPdf 12 37 56.6 +2.3
baz=147
320A Kipp Ranch, An 146.93 352 ⇓P PKPdf 12 37 57.5 +3.0
baz=147
319A Douglas 146.98 354 ⇑P PKPdf 12 37 57.9 +3.4
baz=147
318A Bisbee 146.99 355 ⇑P PKPdf 12 37 57.4 +2.9
baz=147
526A Mary Lane Ranc 147.31 345 ⇓P PKPdf 12 37 58.5 +3.4
baz=147
TXAR Lajitas Array 147.88 344 PKP PKPdf 12 37 55.0 -1.1
comp=Z,15nm,1.0s,baz=53,slow=2.2,SNR=103
TXAR PKPbc PKPbc 12 38 00.0 +1.0
comp=Z,16nm,1.0s,baz=59,slow=2.6,SNR=103
TXAR Lajitas Array 147.88 344 PKP PKPdf 12 37 55.0 -1.1
TXAR PKPbc PKPbc 12 38 00.0 +1.0
TXAR Lajitas Array 147.88 344 PKIKP PKPdf 12 37 55.0 -1.1
TXAR 12 38 00.0

*ISCJB **11** 12:21:25.8±0.6, 38°.88N×0°.03×35°.85E±0°.04, h2km±4km, Error ellipse: s-maj=6.6km s-min=4.8km az=43.4*
*CSEM **11** 12:21:25.6±0.3, 38°.83N×35°.84E, h2km, MD2.8, Error ellipse: s-maj=8.5km s-min=5.8km az=42.0*
*DDA **11** 12:21:25.5, 38°.84N×35°.79E, h10km±2km, Md3.0, Ml2.8*
*ISK **11** 12:21:25.2, 38°.82N×35°.83E, h5km, MD2.8*

ISC 11 12:21:26.3±0.5, 38°.86N±0°.04×35°.85E±0°.04, h4km±4km, n24, σ1°28/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNN	**Bunyan**	**0.01**	**195**	*e*PG	**Pg**	**12 21 26.5**	**-0.6**
BNN				*e*SG	**Sg**	**12 21 27.8**	**+0.2**
BNN	**Bunyan**	**0.01**	**195**	*e*Pg	**Pg**	**12 21 26.5**	**-0.6**
BNN				*e*Sg	**Sg**	**12 21 27.8**	**+0.2**
PINB	**Pinarbasi**	**0.47**	**113**	*i* P	**Pg**	**12 21 35.7**	**+0.3**
PINB				*i* S	**Sg**	**12 21 43.2**	**+1.7**
PINB	**Pinarbasi**	**0.47**	**113**	*i* P	**Pg**	**12 21 35.7**	**+0.3**
PINB				*i* S	**Sg**	**12 21 43.2**	**+1.7**
SARI	**SarD1z-Kayseri**	**0.69**	**105**	*e*PG	**Pg**	**12 21 37.5**	**-2.1**
SARI				*e*SG	**Sg**	**12 21 47.1**	**-1.3**
SARI	**SarD1z-Kayseri**	**0.69**	**105**	*e*Pg	**Pg**	**12 21 37.5**	**-2.0**
SARI				*e*Sg	**Sg**	**12 21 47.1**	**-1.3**
AVNT	**Avonos**	**0.78**	**264**	*i* P	**Pg**	**12 21 40.3**	**-1.1**
YOZ	**Yozgat**	**0.88**	**332**	*e*PG	**Pg**	**12 21 43.2**	**-0.1**
YOZ	**Yozgat**	**0.88**	**332**	*e*Pg	**Pg**	**12 21 43.2**	**0.0**
ANDN	**Andirin**	**1.34**	**163**	*i* P	**Pn**	**12 21 53.4**	**+1.6**
ANDN				*i* S	**Sg**	**12 22 10.8**	**+1.4**
CDAG	**Cicekdag**	**1.38**	**304**	*i* P	**Pn**	**12 21 50.7**	**-1.6**
CDAG				*i* S	**Sg**	**12 22 12.3**	**+1.7**
CDAG	**Cicekdag**	**1.38**	**304**	*i* P	**Pn**	**12 21 50.7**	**-1.6**
CDAG				*i* S	**Sg**	**12 22 12.3**	**+1.7**
KOZT	**Kozan**	**1.38**	**181**	*e*PN	**Pn**	**12 21 51.2**	**-1.1**
DARE	**Darende-Malaty**	**1.53**	**86**	*e*PN	**Pn**	**12 21 50.7**	**-3.7**
DARE				*e*SN	**Sn**	**12 22 09.8**	**-4.9**
KMRS	**Kahramanmaras**	**1.59**	**148**	*e*PN	**Pn**	**12 21 54.2**	**-1.0**
KMRS	**Kahramanmaras**	**1.59**	**148**	*e*Pn	**Pn**	**12 21 54.2**	**-1.0**
KARA	**Karaisali**	**1.72**	**202**	*e*PN	**Pn**	**12 21 56.1**	**-0.8**
KARA	**Karaisali**	**1.72**	**202**	*e*Pn	**Pn**	**12 21 56.2**	**-0.8**
GULE	**Gulek**	**1.79**	**209**	*i* P	**Pn**	**12 21 57.5**	**-0.4**
GULE				*i* S	**Sn**	**12 22 21.7**	**+0.6**
GULE	**Gulek**	**1.79**	**209**	*i* P	**Pn**	**12 21 57.5**	**-0.5**
GULE				*i* S	**Sn**	**12 22 21.7**	**+0.6**
CTKT	**Corum**	**1.94**	**335**	*i* P	**Pn**	**12 22 01.7**	**+1.6**
CTKT				*i* S	**Sn**	**12 22 24.5**	**-0.4**
CTKT	**Corum**	**1.94**	**335**	*i* P	**Pn**	**12 22 01.7**	**+1.6**
CTKT				*i* S	**Sn**	**12 22 24.5**	**-0.3**
KEMA	**Kemaliye**	**2.10**	**78**	*i* P	**Pn**	**12 22 04.9**	**+2.6**
KEMA				*i* S	**Sn**	**12 22 33.3**	**+4.5**
KEMA	**Kemaliye**	**2.10**	**78**	*i* P	**Pn**	**12 22 04.9**	**+2.7**
KEMA				*i* S	**Sn**	**12 22 33.3**	**+4.6**

*IDC **11** 12:41:13.1±2.5, 17°.54S×168°.44E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.7/17, mbtmp3.6/4, Error ellipse: s-maj=115.5km s-min=33.9km az=152.0*
*NOU **11** 12:41:23.4±0.6, 18°.31S×168°.62E, h30km, MD3.2, ML3.6*
*NEIC **11** 12:41:24.7±2.8, 18°.54S×168°.71E, h112km±24km, mb4.2/1, Error ellipse: s-maj=30.7km s-min=24.5km az=180.0*
*ISCJB **11** 12:41:25.5±2.4, 18°.7S×0°.2×168°.6E±0°.2, h132km±22km, mb3.5/5, Error ellipse: s-maj=34.4km s-min=25.2km az=42.8*

ISC 11 12:41:25.6±2.3, 18°.6S±0°.2×168°.7E±0°.2, h118km±20km, n14, σ0°31/18, mb3.6/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.89**	**205**	*e*P	**Pn**	**12 42 23.3**	**-0.3**
BAYA				*e*S	**Sn**	**12 43 08.4**	**-0.1**
BAYA				AMP		12 43 13.6	
	comp=Z,11nm,8.5s						
DZM	**Mont Dzumac**	**4.01**	**211**	*e*P	**Pn**	**12 42 25.3**	**0.0**
DZM				*e*S	**Sn**	**12 43 11.2**	**-0.3**
DZM				AMP		12 43 14.8	
	comp=Z,1μm,0.0s						
DZM	**Mont Dzumac**	**4.01**	**211**	*e*Pn	**Pn**	**12 42 25.6**	**+0.3**
DZM				*e*Sn	**Sn**	**12 43 12.0**	**+0.4**
LASL	**Noumea**	**4.10**	**209**	*e*P	**Pn**	**12 42 27.0**	**+0.5**
NOUC	**Port Laguerre**	**4.11**	**212**	*e*P	**Pn**	**12 42 26.8**	**+0.2**
NOUC				*e*S	**Sn**	**12 43 13.4**	**-0.4**
NOUC				AMP		12 43 16.6	
	comp=Z,47nm,0.8s						
WRA	**Warramunga Arr**	**32.41**	**262**	P	**P**	**12 47 44.3**	**-0.2**
	comp=Z,0.2nm,0.5s,mb3.1,baz=85,slow=8.2,SNR=2.1						
WRA	**Warramunga Arr**	**32.41**	**262**	P	**P**	**12 47 44.3**	**-0.2**
ASAR	**Alice Springs**	**32.76**	**255**	P	**P**	**12 47 48.0**	**+0.4**
	comp=Z,0.9nm,0.4s,mb4.0,baz=83,slow=8.4,SNR=17						
ASAR	**Alice Springs**	**32.76**	**255**	P	**P**	**12 47 48.0**	**+0.4**
VNDA	**Vanda**	**59.02**	**182**	*e*P	**P**	**12 51 12.9**	**+0.3**
	comp=Z,1.2nm,0.5s,mb4.2						
SONM	**Songino Array**	**86.42**	**323**	P	**P**	**12 53 54.5**	**-0.2**
	comp=Z,0.2nm,0.5s,mb3.4,baz=134,slow=8.3,SNR=2.7						
SONM	**Songino Array**	**86.42**	**323**	P	**P**	**12 53 54.5**	**-0.2**
NVAR	**Mina Array Bea**	**88.80**	**49**	P	**P**	**12 54 06.0**	**-0.3**
	comp=Z,0.5nm,0.8s,mb3.6,baz=218,slow=8.4,SNR=3.7						
NVAR	**Mina Array Bea**	**88.80**	**49**	P	**P**	**12 54 06.0**	**-0.3**

MEX 11 12:41:38.9±0.9, 16°.88N×100°.12W, h9km±4km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.22**	**319**	*i* P	Pg	12 41 42.9	-0.6
CAIG				*i* S	Sg	12 41 46.1	-0.4
ACX	**Acapulco**	**0.25**	**92**	*i* P	Pg	12 41 42.2	-1.7
ACX				*i* S	Sg	12 41 45.7	-1.5
MEIG	**Mezcala**	**1.14**	**24**	*i* P	Pb	12 41 58.1	-2.8
MEIG				*i* S	Sg	12 42 11.0	-4.7
PLIG	**Platanillo**	**1.61**	**21**	*i* P	Pn	12 42 04.1	-3.6
PLIG				*i* S	Sn	12 42 23.8	-4.8
PNIG	**Pinotepa**	**1.97**	**104**	*i* P	Pn	12 42 09.6	-2.9
PNIG				*i* S	Sn	12 42 30.9	-6.4
UTMO	**Huajuapan**	**2.40**	**66**	*e*P	Pn	12 42 16.6	-1.8
UTMO				*i* S	Sn	12 42 44.2	-3.8
MOIG	**Morelia**	**2.97**	**340**	*i* P	Pn	12 42 24.5	-1.7
MOIG				*i* S	Sn	12 42 58.6	-3.3
OXX	**Oaxaca**	**3.25**	**86**	*e*P	Pn	12 42 28.6	-1.5
OXX				*i* S	Sn	12 43 05.2	-3.8
MMIG	**Aquila**	**3.39**	**295**	*i* P	Pn	12 42 30.1	-1.9
MMIG				*i* S	Sn	12 43 08.5	-3.8

*NEIC **11** 12:46:20.6±5.0, 22°.11S×179°.52W, h465km±63km, mb4.1/3, Error ellipse: s-maj=37.5km s-min=14.2km az=186.0*
*ISCJB **11** 12:46:22.7±0.6, 22°.2S±0°.1×179°.6W±0°.1, h500km, mb3.8/12, Error ellipse: s-maj=19.1km s-min=11.4km az=143.4*
*IDC **11** 12:46:27.4±2.9, 22°.24S×179°.65W, h546km±34km, mb3.3/10, mb1 3.6/10, mb1mx3.3/19, mbtmp3.3/10, Error ellipse: s-maj=31.0km s-min=18.3km az=154.0*

ISC 11 12:46:23.5±0.6, 22°.2S±0°.1×179°.6W±0°.1, h500km, n29, σ0°63/29, mb3.8/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**16.22**	**189**	*e*P	**P**	**12 49 45.2**	**-1.1**
	4.0nm,0.4s						
RPZ	**Rata Peaks**	**22.79**	**198**	P	**P**	**12 50 48.2**	**+1.1**
	2.9nm,0.4s,mb4.0,baz=7.1,slow=16,SNR=4.1						
RPZ	**Rata Peaks**	**22.79**	**198**	P	**P**	**12 50 48.2**	**+1.1**
CTA	**Charters Tower**	**31.91**	**267**	P	**P**	**12 52 08.7**	**+1.3**
	11nm,0.6s,mb4.5,baz=97,slow=10.0,SNR=17						
CTA	**Charters Tower**	**31.91**	**267**	*e*P	**P**	**12 52 08.5**	**+1.0**
	8.9nm,0.6s,mb4.4						
CTA	**Charters Tower**	**31.91**	**267**	P	**P**	**12 52 08.7**	**+1.3**
QLP	**Quilpie**	**33.18**	**255**	*e*P	**P**	**12 52 18.4**	**+0.2**
TOO	**Toolangi**	**33.71**	**235**	*e*P	**P**	**12 52 22.5**	**0.0**
STKA	**Stephens Creek**	**35.74**	**246**	P	**P**	**12 52 39.9**	**+0.3**
	3.7nm,0.5s,mb4.1,baz=93,slow=10,SNR=13						
STKA	**Stephens Creek**	**35.74**	**246**	*e*P	**P**	**12 52 39.8**	**+0.2**
	2.8nm,0.5s,mb4.0						
STKA	**Stephens Creek**	**35.74**	**246**	*e*P	**P**	**12 52 39.7**	**+0.1**
	0.7nm,0.6s,mb3.3						
STKA				P		12 52 39.9	
ASAR	**Alice Springs**	**42.73**	**259**	P	**P**	**12 53 36.0**	**-0.2**
	6.1nm,0.5s,mb4.1,baz=99,slow=7.5,SNR=66						
ASAR	**Alice Springs**	**42.73**	**259**	P	**P**	**12 53 36.0**	**-0.2**
WB2	**Warramunga Arr**	**42.94**	**264**	*e*P	**P**	**12 53 37.3**	**-0.6**
WRAB	**Tennant Creek**	**42.94**	**264**	P	**P**	**12 53 38.2**	**+0.3**
WRA	**Warramunga Arr**	**42.95**	**264**	P	**P**	**12 53 37.3**	**-0.7**
	1.9nm,0.3s,mb4.0,baz=90,slow=5.9,SNR=247						
WRA				ScP	ScP	12 58 15.7	-5.1
	1.6nm,1.2s,baz=98,slow=4.2,SNR=5.0						
WRA	**Warramunga Arr**	**42.95**	**264**	P	**P**	**12 53 37.3**	**-0.7**
WRA				ScP	ScP	12 58 15.7	-5.1
FITZ	**Fitzroy Crossi**	**51.38**	**264**	*e*P	**P**	**12 54 41.3**	**-0.4**
	4.6nm,0.7s,mb3.9						
PETK	**Petropavlovsk-**	**77.59**	**346**	P	**P**	**12 57 27.3**	**+0.1**
	1.4nm,0.6s,mb3.5,baz=165,slow=12,SNR=2.6						
PETK	**Petropavlovsk-**	**77.59**	**346**	P	**P**	**12 57 27.3**	**+0.1**
NVAR	**Mina Array Bea**	**83.28**	**44**	P	**P**	**12 57 57.1**	**-0.1**
	0.6nm,0.8s,mb3.2,baz=224,slow=10,SNR=5.6						
NVAR	**Mina Array Bea**	**83.28**	**44**	P	**P**	**12 57 57.1**	**-0.1**
SRU	**San Rafael**	**88.77**	**47**	*e*P	**P**	**12 58 23.5**	**0.0**
	2.0nm,0.3s,mb4.4						
TXAR	**Lajitas Array**	**89.21**	**58**	P	**P**	**12 58 26.3**	**+0.5**
	0.6nm,0.9s,mb3.4,baz=216,slow=6.2,SNR=5.3						
TXAR	**Lajitas Array**	**89.21**	**58**	P	**P**	**12 58 26.3**	**+0.5**
ILAR	**Eielson Array**	**90.33**	**13**	P	**P**	**12 58 29.0**	**-1.1**
	0.6nm,1.0s,mb3.4,baz=228,slow=5.0,SNR=5.0						
ILAR	**Eielson Array**	**90.33**	**13**	P	**P**	**12 58 29.0**	**-1.1**
PDAR	**Pinedale Array**	**91.22**	**44**	P	**P**	**12 58 35.3**	**+0.5**
	0.5nm,0.9s,mb3.4,baz=254,slow=6.5,SNR=3.3						
PDAR	**Pinedale Array**	**91.22**	**44**	P	**P**	**12 58 35.3**	**+0.5**

MEX 11 12:48:32.3±0.6, 16°.80N×100°.16W, h13km±3km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.26**	**338**	*i* P	Pg	12 48 37.1	-0.7
CAIG				*i* S	Sg	12 48 41.3	-0.3
ACX	**Acapulco**	**0.30**	**77**	*i* P	Pg	12 48 37.2	-1.3
ACX				*i* S	Sg	12 48 40.5	-2.1
MEIG	**Mezcala**	**1.23**	**25**	*e*P	Pn	12 48 52.2	-3.0
MEIG				*i* S	Sb	12 49 06.1	-5.1
PNIG	**Pinotepa**	**2.00**	**102**	*e*P	Pn	12 49 02.4	-3.3
PNIG				*i* S	Sn	12 49 24.4	-6.2
UTMO	**Huajuapan**	**2.48**	**65**	*e*P	Pn	12 49 09.6	-2.8
UTMO				*i* S	Sn	12 49 38.7	-3.7
MZVM		**2.53**	**20**	*e*P	Pn	12 49 10.0	-3.2
MZVM				*i* S	Sn	12 49 40.3	-3.6
SZVM	**Salazar**	**2.61**	**16**	*e*P	Pn	12 49 12.1	-2.2
SZVM				*i* S	Sn	12 49 42.4	-3.5
IIO	**Organos**	**3.09**	**26**	*e*P	Pn	12 49 18.1	-2.7
IIO				*i* S	Sn	12 49 55.5	-2.2
HUIG	**Huatulco**	**4.03**	**104**	*e*P	Pn	12 49 27.7	-6.0
HUIG				*i* S	Sn	12 50 21.5	+0.8

*SKO **11** 13:02:29.6, 42°.61N×24°.15E, h0km, M2.0, ML2.3*

BEO 11 13:02:26.0±0.7, 42°.52N×24°.21E, h15km±7km, ML1.9/4, Bulgaria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLD	**Plovdiv**	**0.55**	**138**	*e*Pg	Pg	13 02 36.4	-0.5
PLD	**Plovdiv**	**0.55**	**138**	*e*Pg	Pg	13 02 36.4	-0.5
VTS	**Vitosha**	**0.74**	**276**	*e*Pg	Pg	13 02 40.1	-0.4
VTS				*e*Sg	Sg	13 02 51.1	+0.8
VTS	**Vitosha**	**0.74**	**276**	*e*Pg	Pg	13 02 40.1	-0.4
VTS				*e*Sg	Sg	13 02 51.1	+0.8
ZAPS	**Zavoj**	**1.38**	**304**	*e*Pg	Pg	13 02 51.4	-1.2
ZAPS				*e*Sg	Sg	13 03 10.0	-0.6
VAY	**Valandovo**	**1.71**	**226**	*e*Pn	Pn	13 03 01.3	+6.0
VAY				*e*Sg	Sg	13 03 24.8	+3.7
VAY				*e*Lg		13 03 26.3	
	comp=E,29nm,0.6s						
VAY				eLg		13 03 25.2	
	comp=N,29nm,0.6s						
VAY	**Valandovo**	**1.71**	**226**	*e*Pn	Pn	13 03 01.3	+6.0
VAY				*e*Sg	Sg	13 03 24.8	+3.7
VAY				*e*Lg		13 03 26.3	
	comp=E,29nm,0.6s						
BARS	**Barje**	**1.79**	**280**	*e*Pn	Pn	13 02 56.8	+0.4
BARS				*e*Sg	Sg	13 03 23.1	-0.5

*ISCJB **11** 13:02:28.4±2.2, 0°.23N±0°.05×97°.04E±0°.07, h7km±14km, mb3.9/8, Error ellipse: s-maj=12.8km s-min=6.8km az=151.6*
*IDC **11** 13:02:29.2±1.6, 0°.18N×97°.07E, h0km, mb3.9/8, mb1 4.0/10, mb1mx3.7/25, mbtmp3.8/10, ML3.7/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/36, Error ellipse: s-maj=49.5km s-min=18.2km az=65.0*
*NEIC **11** 13:02:34.6±0.5, 0°.26N×97°.18E, h31km, Error ellipse: s-maj=12.0km s-min=7.3km az=73.0*
*DJA **11** 13:02:34, 0°.36N×97°.18E, h31km, MLv4.1/6*

ISC 11 13:02:30.0±2.7, 0°.24N±0°.05×97°.08E±0°.07, h5km±17km, n35, σ0°88/35, mb3.9/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SISI	**Saibi**	**2.54**	**128**	P	**Pn**	**13 03 09.5**	**-2.5**
SISI				S	**Sn**	**13 03 44.6**	**+1.2**
MNSI	**Mandailing Nat**	**2.56**	**78**	P	**Pn**	**13 03 12.0**	**-0.2**
MNSI				S	**Sn**	**13 03 43.2**	**-0.5**
TPTI		**3.00**	**2**	P	**Pn**	**13 03 17.9**	**-0.4**
TPTI				S	**Sn**	**13 03 54.5**	**-0.1**
PSI	**Prapat**	**3.14**	**36**	Pn	**Pn**	**13 03 19.1**	**-1.1**
	2.0nm,0.3s,baz=178,slow=7.6,SNR=6.1						
PSI	**Prapat**	**3.14**	**36**	Pn	**Pn**	**13 03 19.1**	**-1.1**
PSI	**Prapat**	**3.14**	**36**	P	**Pn**	**13 03 18.7**	**-1.5**
PPI	**Padang Panjang**	**3.39**	**102**	P	**Pn**	**13 03 24.9**	**+1.3**
PDSI	**Padang**	**3.57**	**109**	P	**Pn**	**13 03 26.5**	**+0.4**
IPM	**Ipoh**	**5.76**	**43**	*e*P	**Pn**	**13 03 57.8**	**+1.5**
	18nm,0.8s						
KULM	**Kulim**	**6.15**	**35**	*e*P	**Pn**	**13 04 01.3**	**-0.3**
KSI	**Kapahiang**	**6.73**	**125**	P	**Pn**	**13 04 13.1**	**+3.5**
MDSI	**Maura Dua**	**8.50**	**124**	P	**Pn**	**13 04 34.1**	**+0.1**
CMAR	**Chiang Mai Arr**	**18.19**	**6**	P	**Pn**	**13 06 44.9**	**+1.3**
	0.3nm,0.3s,baz=195,slow=11,SNR=14						
CMAR	**Chiang Mai Arr**	**18.19**	**6**	P	**Pn**	**13 06 44.9**	**+1.3**
KKM	**Kota Kinabalu**	**19.95**	**73**	*e*P	**Pn**	**13 07 04.0**	**-0.8**
FITZ	**Fitzroy Crossi**	**33.48**	**124**	P	**P**	**13 09 09.9**	**-0.7**
	1.1nm,0.9s,mb3.8,baz=297,slow=6.8,SNR=2.7						
FITZ	**Fitzroy Crossi**	**33.48**	**124**	P	**P**	**13 09 09.9**	**-0.7**
WRA	**Warramunga Arr**	**41.64**	**121**	P	**P**	**13 10 19.2**	**-0.5**
	2.7nm,0.8s,mb3.9,baz=301,slow=9.0,SNR=14						
WRA	**Warramunga Arr**	**41.64**	**121**	P	**P**	**13 10 19.2**	**-0.5**
WB2	**Warramunga Arr**	**41.65**	**121**	*e*P	**P**	**13 10 19.0**	**-0.7**
ASAR	**Alice Springs**	**42.92**	**126**	P	**P**	**13 10 30.1**	**0.0**
	0.4nm,0.6s,mb3.3,baz=298,slow=7.9,SNR=7.2						
ASAR	**Alice Springs**	**42.92**	**126**	P	**P**	**13 10 30.1**	**0.0**
KSRS	**Korea Array**	**46.70**	**34**	P	**P**	**13 11 00.1**	**+0.1**
	0.8nm,0.5s,mb3.9,baz=222,slow=10.0,SNR=3.5						
SONM	**Songino Array**	**48.09**	**8**	P	**P**	**13 11 10.7**	**+0.1**
	0.6nm,0.8s,mb3.7,baz=199,slow=8.4,SNR=4.5						
SONM	**Songino Array**	**48.09**	**8**	P	**P**	**13 11 10.7**	**+0.1**
MK31	**Makanchi Array**	**48.14**	**346**	*e*P	**P**	**13 11 11.3**	**+0.3**
STKA	**Stephens Creek**	**52.81**	**132**	P	**P**	**13 11 46.6**	**-0.1**
	0.9nm,0.3s,mb4.2,baz=336,slow=10.0,SNR=3.6						
STKA	**Stephens Creek**	**52.81**	**132**	P	**P**	**13 11 46.6**	**-0.1**
ZALV	**Zalesovo Beam**	**54.48**	**351**	P	**P**	**13 11 59.4**	**+0.9**
	1.9nm,0.5s,mb4.3,baz=175,slow=6.4,SNR=7.6						
ZALV	**Zalesovo Beam**	**54.48**	**351**	P	**P**	**13 11 59.4**	**+0.9**
ATD	**Arta Tunnel**	**54.99**	**284**	LR	LR	13 32 58.7	
	comp=Z,32nm,18.9as,baz=59,slow=33						
ARCES	**ARCESS Array B**	**83.39**	**340**	P	**P**	**13 14 57.4**	**-0.6**
	0.9nm,0.8s,mb3.9,baz=90,slow=7.2,SNR=3.6						
ARCES	**ARCESS Array B**	**83.39**	**340**	P	**P**	**13 14 57.4**	**-0.6**
TXAR	**Lajitas Array**	**144.54**	**32**	PKP	PKPdf	13 22 08.1	-0.4
	0.6nm,0.8s,baz=164,slow=0.7,SNR=7.0						
TXAR	**Lajitas Array**	**144.54**	**32**	PKP	PKPdf	13 22 08.1	-0.4

*DDA **11** 13:03:21.3, 35°.73N×27°.61E, h25km±4km, Md3.7*
*ISCJB **11** 13:03:22.6±0.5, 35°.71N±0°.02×27°.65E±0°.02, h32km±4km, mb3.8/15, Error ellipse: s-maj=3.0km s-min=2.6km az=18.5*
*ATH **11** 13:03:22.1, 35°.87N×27°.54E, h19km±1km, ML3.8*
*

MLSB	**Milas**	**1.52**	**4**	*e*Pn		**Pn**	**13 03 48.6**	**-0.7**
MLSB				*e*Sn		**Sn**	**13 04 07.1**	**-1.4**
KSL	**Kastellorizon**	**1.62**	**76**	*e*PN		**Pn**	**13 03 52.4**	**+1.8**
AKAS	**Kas**	**1.65**	**73**	*i* P		**Pn**	**13 03 51.5**	**+0.3**
AKAS	**Kas**	**1.65**	**73**	*i* P		**Pn**	**13 03 51.5**	**+0.4**
NPS	**Neapolis**	**1.73**	**253**	*e*PN		**Pn**	**13 03 52.4**	**+0.2**
NPS				*e*SN		**Sn**	**13 04 13.9**	**+0.1**
NPS	**Neapolis**	**1.73**	**253**	P		**Pn**	**13 03 51.8**	**-0.4**
NPS				S		**Sn**	**13 04 12.6**	**-1.2**
NPS	**Neapolis**	**1.73**	**253**	P		**Pn**	**13 03 51.8**	**-0.4**
NPS				S		**Sn**	**13 04 12.6**	**-1.2**
NPS				*e*Sn		**Sn**	**13 04 13.9**	**+0.1**
XRV	**Khrisi**	**1.83**	**241**	*e*PN		**Pn**	**13 03 55.5**	**+1.9**
LAST	**Lasithi**	**1.87**	**251**	*e*PN		**Pn**	**13 03 54.2**	**+0.1**
LAST				*e*SN		**Sn**	**13 04 18.6**	**+1.4**
AYDN	**Tasoluk**	**1.89**	**6**	*i* P		**Pn**	**13 03 54.7**	**+0.4**
AYDN	**Tasoluk**	**1.89**	**6**	*i* P		**Pn**	**13 03 54.7**	**+0.4**
THR3	**Thira Island,**	**1.92**	**290**	P		**Pn**	**13 03 54.8**	**0.0**
THR3	**Thira Island,**	**1.92**	**290**	P		**Pn**	**13 03 54.8**	**0.0**
GCAM	**G?zelcaml?**	**1.95**	**350**	*i* P		**Pn**	**13 03 56.3**	**+1.2**
GCAM	**G?zelcaml?**	**1.95**	**350**	*i* P		**Pn**	**13 03 56.3**	**+1.2**
GLHS	**Glhisar (BURDU**	**2.03**	**47**	*e*PN		**Pn**	**13 03 57.1**	**+0.8**
GLHS	**Glhisar (BURDU**	**2.03**	**47**	*e*Pn		**Pn**	**13 03 57.1**	**+0.8**
SMG	**Samos**	**2.03**	**342**	*e*PN		**Pn**	**13 03 55.7**	**-0.6**
SMG	**Samos**	**2.03**	**342**	*e*Pn		**Pn**	**13 03 55.7**	**-0.6**
ELL	**Elmali**	**2.07**	**61**	*e*PN		**Pn**	**13 03 57.9**	**+1.1**
ELL	**Elmali**	**2.07**	**61**	*e*Pn		**Pn**	**13 03 57.9**	**+1.1**
GOLH	**Golhisar**	**2.12**	**46**	*i* P		**Pn**	**13 03 59.7**	**+2.1**
GOLH				*i* S		**Sg**	**13 04 28.7**	**-2.8**
GOLH	**Golhisar**	**2.12**	**46**	*i* P		**Pn**	**13 03 59.7**	**+2.1**
GOLH				*i* S		**Sg**	**13 04 28.7**	**-2.8**
APE	**Apeiranthos**	**2.14**	**308**	*e*PN		**Pn**	**13 03 56.7**	**-1.1**
APE	**Apeiranthos**	**2.14**	**308**	*e*PN		**Pn**	**13 03 57.1**	**-0.7**
APE				*e*SN		**Sn**	**13 04 22.7**	**-1.0**
APE	**Apeiranthos**	**2.14**	**308**	P		**Pn**	**13 03 57.0**	**-0.8**
APE				S		**Sn**	**13 04 22.6**	**-1.1**
APE	**Apeiranthos**	**2.14**	**308**	*i* P		**Pn**	**13 03 57.0**	**-0.8**
APE	**Apeiranthos**	**2.14**	**308**	*e*Pn		**Pn**	**13 03 57.1**	**-0.7**
APE				*e*Sn		**Sn**	**13 04 22.7**	**-1.0**
DNZL	**Cakiroluk**	**2.21**	**30**	*i* P		**Pn**	**13 04 01.5**	**+2.6**
DNZL				*i* S		**Sg**	**13 04 34.0**	**-0.5**
DNZL	**Cakiroluk**	**2.21**	**30**	*i* P		**Pn**	**13 04 01.5**	**+2.7**
DENT	**Denizli**	**2.27**	**29**	*e*PN		**Pn**	**13 04 00.0**	**+0.5**
DENT	**Denizli**	**2.27**	**29**	*e*Pn		**Pn**	**13 04 00.0**	**+0.5**
SIVA	**Sivas**	**2.44**	**253**	*e*PB		**Pn**	**13 04 02.9**	**+1.0**
SIVA	**Sivas**	**2.44**	**253**	*e*Pb		**Pn**	**13 04 02.9**	**+1.0**
KORT	**Korkueli**	**2.50**	**60**	*i* P		**Pn**	**13 04 06.2**	**+3.5**
KORT				*i* S		**Sn**	**13 04 37.4**	**+4.7**
KORT	**Korkueli**	**2.50**	**60**	*i* P		**Pn**	**13 04 06.2**	**+3.4**
KORT				*i* S		**Sn**	**13 04 37.4**	**+4.7**
IZM	**Izmir**	**2.63**	**353**	*e*PN		**Pn**	**13 04 03.7**	**-0.8**
IZM	**Izmir**	**2.63**	**353**	*e*Pn		**Pn**	**13 04 03.7**	**-0.9**
VAM	**Vamos**	**2.83**	**263**	*e*PN		**Pn**	**13 04 07.8**	**+0.5**
VAM	**Vamos**	**2.83**	**263**	P		**Pn**	**13 04 06.8**	**-0.5**
VAM				S		**Sn**	**13 04 40.4**	**-0.5**
VAM	**Vamos**	**2.83**	**263**	P		**Pn**	**13 04 06.8**	**-0.5**
VAM	**Vamos**	**2.83**	**263**	*e*Pn		**Pn**	**13 04 07.8**	**+0.5**
VAM				S		**Sn**	**13 04 40.4**	**-0.5**
KULA	**Kula-Manisa**	**2.85**	**16**	*e*PN		**Pn**	**13 04 07.7**	**+0.2**
KULA	**Kula-Manisa**	**2.85**	**16**	*e*Pn		**Pn**	**13 04 07.7**	**+0.1**
KHAL	**Karahalli**	**2.98**	**29**	*i* P		**Pn**	**13 04 11.1**	**+1.8**
KHAL				*i* S		**Sn**	**13 04 49.0**	**+4.5**
KHAL	**Karahalli**	**2.98**	**29**	*i* P		**Pn**	**13 04 11.1**	**+1.8**
KHAL				*i* S		**Sn**	**13 04 49.0**	**+4.5**
KARN	**Karanos**	**3.06**	**264**	*e*PN		**Pn**	**13 04 10.3**	**-0.2**
KARN	**Karanos**	**3.06**	**264**	*e*Pn		**Pn**	**13 04 10.3**	**-0.2**
AKHS	**Akhisar**	**3.10**	**2**	*i* P		**Pn**	**13 04 11.1**	**+0.1**
AKHS	**Akhisar**	**3.10**	**2**	*i* P		**Pn**	**13 04 11.1**	**+0.1**
SUTC	**Sutluce-Ispart**	**3.19**	**57**	*e*PN		**Pn**	**13 04 13.8**	**+1.6**
SUTC	**Sutluce-Ispart**	**3.19**	**57**	*e*Pn		**Pn**	**13 04 13.8**	**+1.6**
DEMI	**Demirci**	**3.37**	**14**	*i* P		**Pn**	**13 04 15.5**	**+0.8**
DEMI				*i* S		**Sn**	**13 04 52.1**	**-2.0**
DEMI	**Demirci**	**3.37**	**14**	*i* P		**Pn**	**13 04 15.5**	**+0.8**
DEMI				*i* S		**Sn**	**13 04 52.1**	**-2.0**
VLY	**Voula,Athens**	**3.72**	**305**	*e*PN		**Pn**	**13 04 19.9**	**+0.4**
VLY				*e*SN		**Sn**	**13 05 01.5**	**-1.2**
KYTH	**Kithira**	**3.77**	**279**	*e*PN		**Pn**	**13 04 20.4**	**+0.2**
KYTH	**Kithira**	**3.77**	**279**	P		**Pn**	**13 04 20.4**	**+0.2**
KYTH	**Kithira**	**3.77**	**279**	P		**Pn**	**13 04 20.4**	**+0.2**
GAZI	**Gazipasa**	**3.81**	**82**	*i* P		**Pn**	**13 04 22.3**	**+1.5**
GAZI				*i* S		**Sn**	**13 05 05.4**	**+0.2**
GAZI	**Gazipasa**	**3.81**	**82**	*i* P		**Pn**	**13 04 22.3**	**+1.5**
GAZI				*i* S		**Sn**	**13 05 05.4**	**+0.3**
ATH	**Athens Observa**	**3.83**	**306**	*e*PN		**Pn**	**13 04 20.9**	**-0.2**
DURS	**Dursunbey**	**3.87**	**10**	*i* P		**Pn**	**13 04 21.9**	**+0.3**
DURS	**Dursunbey**	**3.87**	**10**	*i* P		**Pn**	**13 04 21.9**	**+0.3**
NAIG	**Nisos Aigina**	**3.88**	**302**	*e*PN		**Pn**	**13 04 20.9**	**-0.8**
VLI	**Veliai**	**3.92**	**285**	*e*PN		**Pn**	**13 04 23.0**	**+0.7**
VLI				*e*SN		**Sn**	**13 05 06.2**	**-1.5**
VLI	**Veliai**	**3.92**	**285**	P		**Pn**	**13 04 22.6**	**+0.3**
VLI				S		**Sn**	**13 05 06.7**	**-1.0**
VLI	**Veliai**	**3.92**	**285**	P		**Pn**	**13 04 22.6**	**+0.3**
VLI				*e*Sn		**Sn**	**13 05 06.2**	**-1.5**
VLI				S		**Sn**	**13 05 06.7**	**-1.0**
DID	**Didima**	**3.94**	**297**	*e*PN		**Pn**	**13 04 23.2**	**+0.6**
DID	**Didima**	**3.94**	**297**	P		**Pn**	**13 04 23.2**	**+0.6**
DID				S		**Sn**	**13 05 07.7**	**-0.5**
DID	**Didima**	**3.94**	**297**	P		**Pn**	**13 04 23.2**	**+0.6**
DID				S		**Sn**	**13 05 07.7**	**-0.5**
HDMB	**Hadim**	**4.08**	**72**	*e*PN		**Pn**	**13 04 27.0**	**+2.5**
HDMB	**Hadim**	**4.08**	**72**	*e*Pn		**Pn**	**13 04 27.0**	**+2.5**
LTK	**Loutraki**	**4.37**	**302**	*e*PN		**Pn**	**13 04 28.3**	**-0.1**
LTK	**Loutraki**	**4.37**	**302**	*e*Pn		**Pn**	**13 04 28.3**	**-0.1**
VLX	**Vlachokerasia**	**4.53**	**292**	*e*PN		**Pn**	**13 04 31.5**	**+0.9**
VLX	**Vlachokerasia**	**4.53**	**292**	P		**Pn**	**13 04 31.4**	**+0.8**
VLX				S		**Sn**	**13 05 23.4**	**+0.8**
VLX	**Vlachokerasia**	**4.53**	**292**	P		**Pn**	**13 04 31.4**	**+0.8**
VLX				S		**Sn**	**13 05 23.4**	**+0.8**
LKR	**Lokris**	**4.69**	**309**	*e*PN		**Pn**	**13 04 33.3**	**+0.5**
LKR	**Lokris**	**4.69**	**309**	*e*Pn		**Pn**	**13 04 33.3**	**+0.5**
HMAT	**Matruh** baz=188	**4.69**	**186**	P		**Pn**	**13 04 33.6**	**+0.7**
HMAT	comp=N,30μm,0.4s,logA/T=4.8,baz=188			AMP			13 05 00.0	
HMAT	baz=188			S		**Sn**	**13 05 26.1**	**-0.8**
HMAT	**Matruh**	**4.69**	**186**	P		**Pn**	**13 04 34.3**	**+1.4**
HMAT				S		**Sn**	**13 05 26.1**	**-0.7**
CSS	**Prodhromos**	**4.72**	**98**	*e*P		**Pn**	**13 04 33.3**	**+0.1**
CSS	**Prodhromos**	**4.72**	**98**	P		**Pn**	**13 04 33.7**	**+0.5**
CSS				S		**Sn**	**13 05 27.4**	**0.0**
CSS	**Prodhromos**	**4.72**	**98**	P		**Pn**	**13 04 33.7**	**+0.5**
SLUM	baz=207	**4.73**	**206**	P		**Pn**	**13 04 34.7**	**+1.2**
SLUM		**4.73**	**206**	P		**Pn**	**13 04 34.7**	**+1.3**
GUR	**Goura**	**4.77**	**298**	*e*PN		**Pn**	**13 04 34.4**	**+0.5**
GUR				*e*SN		**Sn**	**13 05 27.3**	**-1.3**
GUR	**Goura**	**4.77**	**298**	P		**Pn**	**13 04 36.5**	**+2.6**
GUR	**Goura**	**4.77**	**298**	*e*Pn		**Pn**	**13 04 34.4**	**+0.5**
GUR				*e*Sn		**Sn**	**13 05 27.3**	**-1.3**
ITM	**Ithomi**	**4.81**	**289**	*e*PN		**Pn**	**13 04 36.6**	**+2.0**
ITM	**Ithomi**	**4.81**	**289**	*e*Pn		**Pn**	**13 04 36.6**	**+2.0**
PYL	**PYLOS**	**4.89**	**285**	*e*PN		**Pn**	**13 04 36.8**	**+1.1**
PYL	**PYLOS**	**4.89**	**285**	*e*Pn		**Pn**	**13 04 36.8**	**+1.1**
EFP	**Efpalio**	**5.29**	**302**	*e*PN		**Pn**	**13 04 41.8**	**+0.7**
EFP	**Efpalio**	**5.29**	**302**	*e*Pn		**Pn**	**13 04 41.8**	**+0.7**
AGG	**Agios Georgios**	**5.33**	**309**	*e*PN		**Pn**	**13 04 42.9**	**+1.3**
AGG	**Agios Georgios**	**5.33**	**309**	*e*Pn		**Pn**	**13 04 42.9**	**+1.3**
BR131	**Keskin Array S** comp=N,2.1nm,0.4s	**6.17**	**49**	*e*P		**Pn**	**13 04 55.4**	**+2.3**
BR131	**Keskin Array S** comp=N,2.1nm,0.4s	**6.17**	**49**	*e*P		**Pn**	**13 04 55.4**	**+2.2**
BRTR	**Keskin Array B** comp=N,0.4nm,0.3s,baz=211,slow=15,SNR=9.8	**6.17**	**49**	Pn		**Pn**	**13 04 54.8**	**+1.6**
BRTR	comp=N,0.3nm,0.3s,baz=215,slow=21,SNR=3.4			Sn		**Sn**	**13 06 08.0**	**+4.9**
BRTR	**Keskin Array B**	**6.17**	**49**	Pn		**Pn**	**13 04 54.8**	**+1.6**
BRTR				Sn		**Sn**	**13 06 08.0**	**+4.9**
BRTR	**Keskin Array B**	**6.17**	**49**	P		**Pn**	**13 04 54.8**	**+1.6**
BRTR							13 06 08.0	
BRTR	**Keskin Array B**	**6.17**	**49**	P		**Pn**	**13 04 54.8**	**+1.6**
HNAT	**Natroun** baz=158	**6.62**	**157**	P		**Pn**	**13 04 59.3**	**-0.1**
SWA2	baz=198	**6.77**	**196**	P		**Pn**	**13 05 02.5**	**+1.0**
SWA2	baz=198			S		**Sn**	**13 06 16.9**	**-1.2**
SWA2		**6.77**	**196**	P		**Pn**	**13 05 02.0**	**+0.5**
AMAG	**Maghara** baz=137	**6.92**	**136**	P		**Pn**	**13 05 02.8**	**-0.8**
AMAG	**Maghara**	**6.92**	**136**	P		**Pn**	**13 05 02.8**	**-0.8**
HSAF	**As Saff** baz=152	**6.97**	**151**	P		**Pn**	**13 05 04.9**	**+0.7**
HSAF	baz=152			S		**Sn**	**13 06 19.8**	**-3.1**
MMAI	**Mount Meron Ar** comp=N,4.1nm,0.3s,baz=321,slow=12,SNR=8.1	**6.98**	**111**	Pn		**Pn**	**13 05 03.1**	**-1.2**
MMAI	comp=N,7.0nm,0.3s,baz=312,slow=29,SNR=5.2			Sn		**Sn**	**13 06 22.6**	**-0.6**
GLL	**Jalalah** baz=151	**7.07**	**150**	P		**Pn**	**13 05 05.5**	**0.0**
SUZ	baz=143	**7.36**	**142**	P		**Pn**	**13 05 08.6**	**-0.9**
SUZ		**7.36**	**142**	P		**Pn**	**13 05 08.6**	**-0.9**
HNKL	**Nakhl** baz=137	**7.90**	**136**	P		**Pn**	**13 05 16.4**	**-0.6**
HNKL	baz=137			S		**Sn**	**13 06 41.4**	**-4.4**
HNKL	**Nakhl**	**7.90**	**136**	P		**Pn**	**13 05 15.5**	**-1.5**
ASF	**Jabal al Asfar** comp=N,0.2nm,0.3s,baz=342,slow=20,SNR=2.7	**8.48**	**112**	Pn		**Pn**	**13 05 24.8**	**-0.2**
ASF	**Jabal al Asfar**	**8.48**	**112**	Pn		**Pn**	**13 05 24.8**	**-0.2**
ASF	**Jabal al Asfar**	**8.48**	**112**	P		**Pn**	**13 05 24.8**	**-0.2**
HFRF	**Wahat Farafira** baz=176	**8.62**	**176**	P		**Pn**	**13 05 27.7**	**+0.8**
HFRF	**Wahat Farafira**	**8.62**	**176**	P		**Pn**	**13 05 28.4**	**+1.5**
EIL	**Elat** comp=N,0.9nm,0.3s,baz=2.4,slow=14,SNR=7.6	**8.66**	**133**	Pn		**Pn**	**13 05 26.1**	**-1.2**
EIL	comp=N,1.5nm,0.3s,baz=272,slow=3.9			Sn		**Sn**	**13 06 58.0**	**-6.4**
EIL	comp=N,40nm,19.0s,baz=68,slow=49			LR		LR	13 10 26.0	
EIL	**Elat**	**8.66**	**133**	Pn		**Pn**	**13 05 26.1**	**-1.2**
EIL				Sn		**Sn**	**13 06 58.0**	**-6.4**
EIL				LR		LR	13 10 26.0	
HBST	**Basata** baz=136	**8.87**	**136**	P		**Pn**	**13 05 29.4**	**-0.8**
HBST	**Basata**	**8.87**	**136**	P		**Pn**	**13 05 29.4**	**-0.8**
HQLS		**8.99**	**134**	P		**Pn**	**13 05 30.3**	**-1.6**
HQLS		**8.99**	**134**	P		**Pn**	**13 05 30.3**	**-1.7**
HKAT	**Jabal Katrina** baz=142	**9.01**	**142**	P		**Pn**	**13 05 31.6**	**-0.6**
HKAT	**Jabal Katrina**	**9.01**	**142**	P		**Pn**	**13 05 31.6**	**-0.6**
HAQS	**Haql**	**9.10**	**135**	P		**Pn**	**13 05 29.5**	**-3.9**
HAQS	**Haql**	**9.10**	**135**	P		**Pn**	**13 05 29.5**	**-3.9**
HDHB	**Dhahab** baz=139	**9.18**	**138**	P		**Pn**	**13 05 34.6**	**0.0**
RSHS		**9.61**	**139**	P		**Pn**	**13 05 34.7**	**-5.7**
RSHS		**9.61**	**139**	P		**Pn**	**13 05 34.7**	**-5.7**
JLOS		**9.66**	**134**	P		**Pn**	**13 05 38.9**	**-2.2**
JLOS		**9.66**	**134**	P		**Pn**	**13 05 38.9**	**-2.3**
MLR	**Muntele Rosu** comp=N,0.1nm,0.3s,baz=250,slow=4.2,SNR=3.4	**9.79**	**353**	Pn		**Pn**	**13 05 46.4**	**+3.6**
MLR	**Muntele Rosu**	**9.79**	**353**	Pn		**Pn**	**13 05 46.4**	**+3.6**
MLR	**Muntele Rosu**	**9.79**	**353**	P		**Pn**	**13 05 46.4**	**+3.6**
CUC	**Castrocucco** comp=N,6.6nm,0.6s	**10.25**	**298**	*e*P		**Pn**	**13 05 50.5**	**+1.3**
CUC	**Castrocucco** comp=N,6.6nm,0.6s	**10.25**	**298**	*e*P		**Pn**	**13 05 50.5**	**+1.4**
KIV	**Kislovodsk**	**14.13**	**50**	*i* P		**Pn**	**13 06 46.9**	**+4.7**
KIV	**Kislovodsk**	**14.13**	**50**	*i* P		**Pn**	**13 06 46.9**	**+4.7**
GERES	**GERESS Array B** comp=N,0.3nm,0.3s,baz=161,slow=6.2,SNR=3.4	**16.60**	**326**	Pn		**Pn**	**13 07 17.3**	**+2.7**
GERES	**GERESS Array B**	**16.60**	**326**	Pn		**Pn**	**13 07 17.3**	**+2.7**
GERES	**GERESS Array B**	**16.60**	**326**	P		**Pn**	**13 07 17.3**	**+2.6**
GERES	**GERESS Array B**	**16.60**	**326**	P		**Pn**	**13 07 17.3**	**+2.6**
OBN	**Obninsk**	**20.29**	**15**	*i* P		**P**	**13 07 56.3**	**-1.2**
OBN				*i*			13 08 10.5	
OBN	comp=Z,20nm,1.2s			pmax	pmax			
OBN	**Obninsk** comp=Z,20nm,1.2s	**20.29**	**15**	*i* P		**P**	**13 07 56.3**	**-1.2**
ESDC	**Sonseca Array** comp=Z,0.6nm,0.6s,mb3.3,baz=86,slow=9.6,SNR=4.6	**25.23**	**288**	P		**P**	**13 08 49.0**	**+1.2**
ESDC	**Sonseca Array**	**25.23**	**288**	P		**P**	**13 08 49.0**	**+1.2**
FINES	**FINESS Array B** comp=Z,3.0nm,0.8s,mb3.9,baz=169,slow=11,SNR=2.5	**25.70**	**358**	P		**P**	**13 08 50.2**	**-1.6**
FINES	**FINESS Array B**	**25.70**	**358**	P		**P**	**13 08 50.2**	**-1.6**
FINES	**FINESS Array B**	**25.70**	**358**	P		**P**	**13 08 50.2**	**-1.6**
FINES	comp=Z,3.0nm,0.8s			pmax	pmax			
HFS	**Hagfors** comp=Z,4.1nm,0.9s,mb3.9,baz=251,slow=9.0,SNR=2.8	**25.99**	**344**	P		**P**	**13 08 54.1**	**-0.2**
HFS	**Hagfors**	**25.99**	**344**	P		**P**	**13 08 54.1**	**-0.2**
HFS	**Hagfors**	**25.99**	**344**	P		**P**	**13 08 54.1**	**-0.3**
HFS	comp=Z,4.0nm,0.9s			pmax	pmax			
AKTK	**Aktyubinsk**	**26.35**	**47**	P		**P**	**13 08 57.3**	**-0.4**
AKTO	**Aktyubinsk** comp=Z,4.8nm,0.6s,mb4.2,baz=248,slow=8.2,SNR=19	**26.35**	**47**	P		**P**	**13 08 57.3**	**-0.4**
AKTO	**Aktyubinsk**	**26.35**	**47**	P		**P**	**13 08 57.3**	**-0.4**
AKTO	comp=Z,5.0nm,0.6s,mb4.2			pmax	pmax			
ABKAR	**Akbulak array** comp=Z,0.4nm,0.4s,mb3.3	**27.12**	**50**	*e*P		**P**	**13 09 05.0**	**+0.3**
TORD	**Torodi Ar. Bea** comp=Z,1.5nm,0.4s,mb4.2,baz=37,slow=8.7,SNR=21	**32.46**	**233**	P		**P**	**13 09 52.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**32.46**	**233**	P		**P**	**13 09 52.2**	**-0.1**
ARCES	**ARCESS Array B** comp=Z,1.8nm,0.9s,mb4.0,baz=176,slow=8.6,SNR=6.5	**33.83**	**359**	P		**P**	**13 10 02.0**	**-1.8**
ARCES	**ARCESS Array B**	**33.83**	**359**	P		**P**	**13 10 02.0**	**-1.8**
ARCES	**ARCESS Array B**	**33.83**	**359**	P		**P**	**13 10 02.0**	**-1.8**
ARCES	comp=Z,2.0nm,0.9s			pmax	pmax			
BVAR	**Borovoye Array** comp=Z,1.1nm,0.5s,mb4.1	**34.45**	**46**	P		**P**	**13 10 09.7**	**+0.3**
BVAR	**Borovoye Array**	**34.45**	**46**	P		**P**	**13 10 09.7**	**+0.3**
BVAR	**Borovoye Array**	**34.45**	**46**	P		**P**	**13 10 09.7**	**+0.4**
BVAR	comp=Z,1.0nm,0.5s			pmax	pmax			
DBIC	**Dimbokro** comp=Z,2.4nm,0.7s,mb3.9,baz=54,slow=9.9,SNR=3.6	**41.55**	**234**	P		**P**	**13 11 08.8**	**-0.7**
DBIC	**Dimbokro** comp=Z,8.5nm,1.1s,mb4.3	**41.55**	**234**	*e*P		**P**	**13 11 08.9**	**-0.7**
DBIC	**Dimbokro** comp=Z,2.0nm,0.7s	**41.55**	**234**	P		**P**	**13 11 08.9**	**-0.7**
DBIC				pmax	pmax			
MKAR	**Makanchi Array** comp=Z,1.6nm,0.6s,mb3.8,baz=268,slow=8.1,SNR=15	**41.74**	**57**	P		**P**	**13 11 11.2**	**+0.4**
MKAR	**Makanchi Array**	**41.74**	**57**	P		**P**	**13 11 11.2**	**+0.4**
MKAR	**Makanchi Array**	**41.74**	**57**	P		**P**	**13 11 11.2**	**+0.4**
MKAR	comp=Z,2.0nm,0.6s			pmax	pmax			
ZALV	**Zalesovo Beam** comp=Z,2.0nm,0.6s,mb4.1,baz=265,slow=8.6,SNR=8.8	**43.11**	**47**	P		**P**	**13 11 21.6**	**-0.2**
ZALV	**Zalesovo Beam**	**43.11**	**47**	P		**P**	**13 11 21.6**	**-0.2**
ZALV	**Zalesovo Beam**	**43.11**	**47**	P		**P**	**13 11 21.6**	**-0.3**
ZALV	comp=Z,2.0nm,0.6s,mb4.0			pmax	pmax			
SONM	**Songino Array** comp=Z,0.3nm,0.5s,mb3.6,baz=292,slow=8.2,SNR=4.0	**57.52**	**52**	P		**P**	**13 13 11.8**	**+0.8**
SONM	**Songino Array**	**57.52**	**52**	P		**P**	**13 13 11.8**	**+0.8**
SONM	**Songino Array**	**57.52**	**52**	P		**P**	**13 13 11.8**	**+0.8**
CMAR	**Chiang Mai Arr** comp=Z,0.7nm,0.7s,mb3.8,baz=307,slow=9.1,SNR=4.1	**64.49**	**85**	P		**P**	**13 13 59.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**64.49**	**85**	P		**P**	**13 13 59.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**64.49**	**85**	P		**P**	**13 13 59.3**	**+0.5**
CMAR	comp=Z,1.0nm,0.7s			pmax	pmax			
KSRS	**Korea Array** comp=Z,1.1nm,0.7s,mb3.9,baz=302,slow=5.0,SNR=4.2	**76.29**	**54**	P		**P**	**13 15 10.5**	**-0.2**
KSRS	**Korea Array**	**76.29**	**54**	P		**P**	**13 15 10.5**	**-0.2**
KSRS	comp=Z,1.0nm,0.7s,mb3.9			pmax	pmax			
ILAR	**Eielson Array** comp=Z,0.2nm,0.6s,mb3.2,baz=328,slow=3.6,SNR=4.3	**79.69**	**358**	P		**P**	**13 15 27.6**	**-1.4**
ILAR	**Eielson Array**	**79.69**	**358**	P		**P**	**13 15 27.6**	**-1.4**
ILAR	**Eielson Array**	**79.69**	**358**	P		**P**	**13 15 27.7**	**-1.3**

CASC 11 13:04:34.7±3.2, 8°54'N×82°64'W, h12km±11km, MD3.5, 1C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.26**	**348**	*i* P		Pg	13 04 41.5	+1.3
BRU2				*e*S		Sg	13 04 47.5	+3.6
CTCR	**Cotoan**	**0.38**	**341**	*i* P		Pg	13 04 43.4	+1.1
CTCR				*e*S		Sg	13 04 47.9	+0.5
ACR	**Cerro Adams**	**0.54**	**282**	*e*P		Pg	13 04 44.5	-0.8
ACR				*e*S		Sg	13 04 53.9	+1.4
URSC	**Urasca**	**1.71**	**319**	*e*P		Pn	13 05 04.0	-0.4
URSC				*e*S		Sn	13 05 26.8	+0.7
PRS1	**Puriscal**	**2.19**	**311**	*e*P		Pn	13 05 11.9	+1.0

IDC 11 13:09:51.1±9.2, 16°28S×174°90W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/18, mbtmp3.5/3, Error ellipse: s-maj=409.1km s-min=35.5km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.4s,baz=93,slow=6.9,SNR=7.4	**48.24**	**258**	P		P	13 18 33.7	-0.4
ASAR	**Alice Springs** 0.6nm,0.3s,baz=89,slow=7.8,SNR=21	**48.47**	**253**	P		P	13 18 36.0	+0.2
ILAR	**Eielson Array** 0.2nm,0.5s,baz=218,slow=5.7,SNR=7.8	**83.59**	**12**	P		P	13 22 20.9	+0.1

MEX 11 13:12:05.5±0.6, 16°80N×100°18W, h7km±3km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.27**	**341**	*i* P		Pg	13 12 10.2	-0.5
CAIG				*i* S		Sg	13 12 14.5	+0.3
ACX	**Acapulco**	**0.31**	**77**	*i* P		Pg	13 12 10.3	-1.4
ACX				*i* S		Sg	13 12 14.2	-1.6
MEIG	**Mezcala**	**1.24**	**25**	*e*P		Pb	13 12 25.6	-3.7
MEIG				*i* S		Sg	13 12 41.0	-4.6
PLIG	**Platanillo**	**1.71**	**22**	*i* P		Pn	13 12 32.9	-2.9
PLIG				*i* S		Sn	13 12 53.0	-5.0
PNIG	**Pinotepa**	**2.01**	**101**	*i* P		Pn	13 12 36.8	-3.1
PNIG				*i* S		Sn	13 13 01.8	-3.4
UTMO	**Huajuapan**	**2.49**	**65**	*i* P		Pn	13 12 43.1	-3.3
UTMO				*i* S		Sn	13 13 13.1	-4.0
MOIG	**Morelia**	**3.02**	**342**	*e*P		Pn	13 12 52.2	-1.6
MOIG				*i* S		Sn	13 13 28.4	-1.9
MMIG	**Aquila**	**3.37**	**297**	*i* P		Pn	13 12 55.2	-3.4
MMIG				*i* S		Sn	13 13 38.1	-0.7

IDC 11 13:16:36.5±3.3, 6°23S×150°32E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/18, mbtmp3.5/5, ML2.3/1, Error ellipse: s-maj=105.2km s-min=30.6km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 1.2nm,0.3s,baz=20,slow=15,SNR=5.1	**4.45**	**225**	Pn		Pn	13 17 46.1	+0.9
PMG	2.0nm,0.3s,baz=159,slow=16,SNR=7.6			Sn		Sn	13 18 34.1	-3.6
WRA	**Warramunga Arr** 0.7nm,0.5s,baz=53,slow=11,SNR=12	**20.66**	**227**	P		P	13 21 17.4	-0.6
ASAR	**Alice Springs** 0.3nm,0.6s,baz=55,slow=9.2,SNR=8.1	**23.45**	**221**	P		P	13 21 46.8	-1.0
FITZ	**Fitzroy Crossi** 3.6nm,1.1s,baz=42,slow=7.4,SNR=3.9	**26.81**	**242**	P		P	13 22 19.3	+0.6
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=129,

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.30**	**292**	*i* P	Pb	13 31 53.2	0.0
CHNG				*i* S	Sb	13 31 58.4	+0.2
CHNG				AML	AML	13 31 59.5	
	comp=E,4μm,0.2s						
CMCH	**Combarbala**	**0.83**	**10**	*i* P	Pn	13 32 01.4	-0.2
CMCH				*i* S	Sb	13 32 13.0	+0.3
CMCH	**Combarbala**	**0.83**	**10**	*i* P	Pn	13 32 01.4	-0.2
CMCH				*i* S	Sb	13 32 13.0	+0.3
CMCH				AML	AML	13 32 15.6	
	comp=E,3μm,0.3s						
ROCH	**El Roble**	**0.98**	**172**	*i* P	Pn	13 32 03.5	-0.1
ROCH				*i* S	Sn	13 32 17.1	+0.6
ROCH				AML	AML	13 32 18.6	
	comp=N,1μm,0.4s						
PEL	**Peldehue**	**1.21**	**160**	*e*P	Pn	13 32 07.2	+0.5
PEL				*i* S	Sn	13 32 23.2	+1.0
PEL				AML	AML	13 32 25.6	
	comp=N,480nm,0.3s						
OVCH	**Ovalle**	**1.39**	**359**	*i* P	Pn	13 32 09.5	+0.3
OVCH				*i* S	Sn	13 32 27.7	+1.2
OVCH	**Ovalle**	**1.39**	**359**	*i* P	Pn	13 32 09.5	+0.3
OVCH				*i* S	Sn	13 32 27.7	+1.2
OVCH				AML	AML	13 32 31.8	
	comp=N,592nm,0.5s						
CLCH	**Cerro Calan**	**1.49**	**159**	*i* S	Sn	13 32 31.0	+1.9
CLCH				AML	AML	13 32 32.7	
	comp=E,307nm,0.5s						
RCDM	**Rinconada Maip**	**1.52**	**169**	*i* P	Pn	13 32 11.2	+0.3
RCDM				*i* S	Sn	13 32 31.1	+1.4
RCDM	**Rinconada Maip**	**1.52**	**169**	*i* P	Pn	13 32 11.2	+0.3
RCDM				*i* S	Sn	13 32 31.1	+1.4
RCDM				AML	AML	13 32 38.3	
	comp=E,517nm,0.2s						
FCH	**Farellones**	**1.52**	**151**	*i* P	Pn	13 32 12.5	+1.5
FCH				*i* S	Sn	13 32 32.8	+3.0
FCH				AML	AML	13 32 33.1	
	comp=E,389nm,0.2s						
TLL	**Tololo Astrono**	**1.85**	**10**	*i* P	Pn	13 32 17.1	+1.5
TLL				*i* S	Sn	13 32 41.7	+3.7
TLL	**Tololo Astrono**	**1.85**	**10**	*i* P	Pn	13 32 17.1	+1.5
TLL				*i* S	Sn	13 32 41.7	+3.7
TLL				AML	AML	13 32 45.8	
	comp=N,214nm,0.4s						
LMEL	**Las Melosas**	**2.01**	**157**	*i* P	Pn	13 32 19.5	+1.7
LMEL				*i* S	Sn	13 32 45.3	+3.3
LMEL	**Las Melosas**	**2.01**	**157**	*i* P	Pn	13 32 19.5	+1.7
LMEL				*i* S	Sn	13 32 45.3	+3.3
LMEL				AML	AML	13 32 51.8	
	comp=N,365nm,0.2s						

IDC 11 13:39:01.5±3.3, 36°28S×53°13E, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.5/21, mbtmp3.8/3, MS3.6/4, Ms1 3.6/4, ms1mx3.1/31, Error ellipse: s-maj=106.6km s-min=53.6km az=54.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBTB	**Lobatse**	**26.13**	**288**	LR	LR	13 53 29.2	
	comp=Z,46nm,18.6s,baz=274,slow=33						
MAW	**Mawson**	**31.86**	**173**	LR	LR	13 55 24.9	
	comp=Z,159nm,18.9s,baz=1.5,slow=31						
ASAR	**Alice Springs**	**69.27**	**105**	P	P	13 50 11.1	+0.4
	0.8nm,1.0s,baz=231,slow=5.8,SNR=4.5						
CMAR	**Chiang Mai Arr**	**69.56**	**47**	P	P	13 50 12.3	0.0
	0.3nm,0.3s,baz=231,slow=5.7,SNR=3.3						
CMAR				LR	LR	14 14 24.7	
	comp=Z,62nm,18.3s,baz=42,slow=30						
WRA	**Warramunga Arr**	**71.58**	**102**	P	P	13 50 24.7	-0.1
	1.4nm,1.1s,baz=232,slow=4.8,SNR=6.2						
BRTR	**Keskin Array B**	**77.73**	**345**	LR	LR	14 26 13.6	
	comp=Z,22nm,19.0s,baz=357,slow=36						
ILAR	**Eielson Array**	**149.06**	**17**	PKPbc	PKPbc	13 58 50.2	-0.4
	1.4nm,1.0s,baz=320,slow=2.9,SNR=11						

*ISCJB **11** 13:51:01.8±0.2, 27°.59N±0°.02×52°.52E±0°.03, h10km, mb4.3/47, MS3.0/3, Error ellipse: s-maj=3.7km s-min=2.9km az=137.9*
*IDC **11** 13:51:01.6±0.6, 27°.62N×52°.61E, h0km, mb4.2/23, mb1 4.3/27, mb1mx4.2/34, mbtmp4.2/27, ML3.9/3, MS3.1/3, Ms1 3.1/3, ms1mx2.6/32, Error ellipse: s-maj=16.5km s-min=13.1km az=4.0*
*THR **11** 13:51:01.1±0.7, 27°.53N×52°.35E, h15km, ML4.1*
*NEIC **11** 13:51:03.0, 27°.63N×52°.49E, h15km, mb4.4/16, ML4.0(THR), After THR.*
*BJI **11** 13:51:03.2, 27°.60N×52°.40E, h10km, mB4.8/4, mb4.4/7*
*TEH **11** 13:51:04.3, 27°.57N×52°.35E, h12km*
*CSEM **11** 13:51:06.5±0.1, 27°.64N×52°.53E, h30km, mb4.4/32, Error ellipse: s-maj=4.2km s-min=3.2km az=49.0*
*MOS **11** 13:51:07.1±0.9, 27°.61N×52°.52E, h55km, mb4.6/29, Error ellipse: s-maj=9.0km s-min=5.7km az=117.4*
*OMAN **11** 13:51:08.9±1.0, 27°.32N×52°.54E, h30km, Error ellipse: s-maj=16.9km s-min=6.5km az=24.0*

ISC 11 13:51:03.8±0.2, 27.59N±0°.02×52.49E±0°.03, h10km, n322, σ1°.93/336, mb4.3/47, MS3.0/3, 8C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISRV	**Sarvestan**	**1.87**	**17**	*e*Pn	**Pn**	**13 51 37.1**	**+1.2**
ISRV				*e*Sg	**Sg**	**13 52 04.3**	**+0.4**
ISRV				*e*		13 52 17.9	
	comp=Z,74μm,0.7s						
ISRV	**Sarvestan**	**1.87**	**17**	*e*Pn	**Pn**	**13 51 37.1**	**+1.2**
ISRV				*e*Sg	**Sg**	**13 52 04.3**	**+0.4**
IPAR	**Pars**	**2.30**	**12**	*e*Pn	**Pn**	**13 51 43.0**	**+1.2**
IPAR				*e*Sg	**Sg**	**13 52 17.8**	**+0.1**
IPAR				*e*		13 52 34.2	
	comp=Z,13μm,0.5s						
IPAR	**Pars**	**2.30**	**12**	*e*Pn	**Pn**	**13 51 43.0**	**+1.2**
IPAR				*e*Sg	**Sg**	**13 52 17.8**	**+0.1**
BNDS	**Bandar-Abbas**	**3.28**	**92**	*e*Pn	**Pn**	**13 51 56.0**	**+0.8**
BNDS	**Bandar-Abbas**	**3.28**	**92**	*e*Pn	**Pn**	**13 51 55.6**	**+0.4**
BNDS				AML	AML	13 53 03.3	
	comp=N,362nm,0.5s						
BNDS				AML	AML	13 53 07.6	
	comp=E,376nm,0.7s						
BNDS	**Bandar-Abbas**	**3.28**	**92**	*e*Pn	**Pn**	**13 51 56.0**	**+0.8**
IBND	**Bandar-abas**	**3.60**	**91**	*e*Pn	**Pn**	**13 52 00.8**	**+1.2**
IBND				*e*Sg	**Sg**	**13 53 00.5**	**+1.1**
IBND				*e*		13 53 37.7	
	comp=Z,8μm,0.3s						
IBND	**Bandar-abas**	**3.60**	**91**	*e*Pn	**Pn**	**13 52 00.8**	**+1.2**
NAZ	**Nazwa, Dubai**	**3.85**	**132**	P	**Pn**	**13 52 04.9**	**+1.8**
	SNR=7.6						
NAZ				⇑S	**Sn**	**13 52 46.6**	**-1.7**
NAZ	**Nazwa, Dubai**	**3.85**	**132**	P	**Pn**	**13 52 04.9**	**+1.8**
	SNR=7.6						
NAZ				S	**Sn**	**13 52 46.6**	**-1.7**
ASUD	**Al Ashush, Dub**	**3.90**	**138**	P	**Pn**	**13 52 06.0**	**+2.2**
	SNR=33						
ASUD	**Al Ashush, Dub**	**3.90**	**138**	P	**Pn**	**13 52 06.0**	**+2.2**
	SNR=33						
IMEH	**Mehriz**	**4.22**	**26**	*e*Pn	**Pn**	**13 52 09.5**	**+1.4**
IMEH				*e*		13 53 03.0	
	comp=Z,2μm,0.3s						
IMEH	**Mehriz**	**4.22**	**26**	*e*Pn	**Pn**	**13 52 09.5**	**+1.4**
HATD	**Hatta, Dubai**	**4.27**	**129**	P	**Pn**	**13 52 09.9**	**+1.0**
	SNR=15						
HATD				⇓S	**Sn**	**13 52 54.8**	**-4.1**
HATD	**Hatta, Dubai**	**4.27**	**129**	P	**Pn**	**13 52 09.9**	**+1.0**
	SNR=15						
HATD				S	**Sn**	**13 52 54.8**	**-4.1**
ASHO	**Ashiyiah**	**4.32**	**131**	P	**Pn**	**13 52 10.3**	**+0.8**
	SNR=20						
ASHO				P		13 52 10.5	
	SNR=25						
ASHO				⇑S	**Sn**	**13 52 57.7**	**-2.3**
ASHO	**Ashiyiah**	**4.32**	**131**	P	**Pn**	**13 52 10.5**	**+1.0**
	SNR=25						
ASHO				S	**Sn**	**13 52 57.7**	**-2.2**
ISAD	**Sadrabad**	**4.43**	**13**	*e*Pn	**Pn**	**13 52 12.6**	**+1.5**
ISAD				*e*Sn	**Sn**	**13 53 01.7**	**-1.1**
ISAD				*e*		13 53 30.6	
	comp=Z,2μm,0.4s						
ISAD	**Sadrabad**	**4.43**	**13**	*e*Pn	**Pn**	**13 52 12.6**	**+1.5**
ISAD				*e*Sn	**Sn**	**13 53 01.7**	**-1.1**
KRBR	**Kerman**	**4.44**	**57**	*e*PN5	**Pn**	**13 52 12.8**	**+1.6**
KRBR				AML	AML	13 53 08.6	
	comp=E,161nm,0.5s						
RDF	**Al-Radifah**	**4.56**	**288**	*e*P	**Pn**	**13 52 13.8**	**+1.0**
RDF				AML	AML	13 53 33.8	
	comp=Z,43nm,0.5s						
RDF	**Al-Radifah**	**4.56**	**288**	*e*P	**Pn**	**13 52 13.8**	**+1.0**
IBAF	**Bafgh**	**4.80**	**33**	*e*Pn	**Pn**	**13 52 17.1**	**+0.9**
IBAF				*e*		13 53 14.1	
	comp=Z,2μm,0.2s						
IBAF	**Bafgh**	**4.80**	**33**	*e*Pn	**Pn**	**13 52 17.1**	**+0.9**
NAY	**Al-Naaiem**	**4.91**	**291**	*e*P	**Pn**	**13 52 18.7**	**+1.1**
NAY				AML	AML	13 53 51.2	
	comp=Z,23nm,0.6s						
NAY	**Al-Naaiem**	**4.91**	**291**	*e*P	**Pn**	**13 52 18.7**	**+1.1**
ICHK	**Chekchek**	**4.93**	**19**	*e*Pn	**Pn**	**13 52 18.6**	**+0.7**
ICHK				*e*		13 52 23.1	
	comp=Z,2μm,0.2s						
ICHK	**Chekchek**	**4.93**	**19**	*e*Pn	**Pn**	**13 52 18.6**	**+0.7**
MIB	**Mutribah**	**5.03**	**297**	*e*P	**Pn**	**13 52 19.9**	**+0.5**
MIB				AML	AML	13 53 42.1	
	comp=Z,51nm,0.5s						
MIB	**Mutribah**	**5.03**	**297**	*e*P	**Pn**	**13 52 19.9**	**+0.5**
NASN	**Na'in**	**5.20**	**3**	*e*Pn	**Pn**	**13 52 22.0**	**+0.3**
NASN	**Na'in**	**5.20**	**3**	*e*Pn	**Pn**	**13 52 21.6**	**0.0**
NASN	**Na'in**	**5.20**	**3**	*e*Pn	**Pn**	**13 52 22.0**	**+0.3**
IZEF	**Zefreh**	**5.29**	**359**	*e*Pn	**Pn**	**13 52 22.8**	**-0.1**
IZEF				*e*		13 53 03.3	
	comp=Z,486nm,0.3s						
IZEF	**Zefreh**	**5.29**	**359**	*e*Pn	**Pn**	**13 52 22.8**	**-0.1**
ARQ	**Araqi**	**5.58**	**138**	P	**Pn**	**13 52 28.0**	**+1.0**
	SNR=10						
ARQ				P		13 52 28.1	
	SNR=8.8						
ARQ	**Araqi**	**5.58**	**138**	P	**Pn**	**13 52 28.0**	**+1.1**
	SNR=10						
IKLH	**Kolahrood**	**5.77**	**352**	*e*Pn	**Pn**	**13 52 29.3**	**-0.1**
IKLH				*e*		13 53 25.2	
	comp=Z,444nm,0.3s						
IKLH	**Kolahrood**	**5.77**	**352**	*e*Pn	**Pn**	**13 52 29.3**	**-0.1**
HOQ	**Hoqain**	**5.90**	**131**	P	**Pn**	**13 52 32.4**	**+1.1**
	SNR=10						
HOQ	**Hoqain**	**5.90**	**131**	P	**Pn**	**13 52 32.4**	**+1.1**
	SNR=10						
TABS	**Tabas**	**7.24**	**32**	*e*Pn	**Pn**	**13 52 49.6**	**0.0**
TABS	**Tabas**	**7.24**	**32**	*e*Pn	**Pn**	**13 52 50.0**	**+0.4**
ASAO	**Ashtian**	**7.25**	**344**	*e*Pn	**Pn**	**13 52 50.0**	**+0.2**
ASAO	**Ashtian**	**7.25**	**344**	*e*Pn	**Pn**	**13 52 49.4**	**-0.4**
ASAO	**Ashtian**	**7.25**	**344**	*e*Pn	**Pn**	**13 52 50.0**	**+0.2**
JMDO	**Jabal Madar**	**7.27**	**134**	P	**Pn**	**13 52 50.1**	**-0.1**
	SNR=19						
JMDO	**Jabal Madar**	**7.27**	**134**	P	**Pn**	**13 52 50.1**	**0.0**
	SNR=19						
IVRN	**Varamin**	**7.41**	**355**	*e*Pn	**Pn**	**13 52 51.5**	**-0.5**
IVRN				*e*Pn	**Pn**	**13 52 51.6**	**-0.4**
IVRN				*e*		13 52 53.5	
	comp=Z,228nm,0.1s						
IVRN	**Varamin**	**7.41**	**355**	*e*Pn	**Pn**	**13 52 51.6**	**-0.4**
IKOO	**Kooshah**	**7.42**	**48**	*e*Pn	**Pn**	**13 52 53.1**	**+0.9**
IKOO				*e*		13 53 31.0	
	comp=Z,197nm,0.4s						
IKOO	**Kooshah**	**7.42**	**48**	*e*Pn	**Pn**	**13 52 53.1**	**+0.9**
WBK	**Wadi Bani Khal**	**7.68**	**129**	P	**Pn**	**13 52 55.6**	**-0.2**
	SNR=8.1						
WBK				P		13 52 55.7	
	SNR=7.2						
WBK	**Wadi Bani Khal**	**7.68**	**129**	P	**Pn**	**13 52 55.7**	**-0.1**
	SNR=7.2						
IANJ	**Anjilo**	**7.95**	**8**	*e*Pn	**Pn**	**13 52 59.5**	**+0.1**
IANJ				*e*		13 53 00.7	
	comp=Z,130nm,0.2s						
IANJ	**Anjilo**	**7.95**	**8**	*e*Pn	**Pn**	**13 52 59.5**	**+0.1**
IDMV	**Damavand**	**7.97**	**357**	*e*Pn	**Pn**	**13 52 59.2**	**-0.5**
IDMV				*e*		13 53 49.9	
	comp=Z,125nm,0.3s						
IDMV	**Damavand**	**7.97**	**357**	*e*Pn	**Pn**	**13 52 59.2**	**-0.5**
IRAZ	**Razeghan**	**8.09**	**345**	*e*Pn	**Pn**	**13 53 00.1**	**-1.3**
IRAZ				*e*		13 54 40.9	
	comp=Z,220nm,0.4s						
IRAZ	**Razeghan**	**8.09**	**345**	*e*Pn	**Pn**	**13 53 00.1**	**-1.3**
IDAH	**Dahanechah**	**8.19**	**49**	*e*	**Pb**	**13 53 29.2**	**+3.5**
	comp=Z,126nm,0.2s						
IDAH				*e*Pn	**Pn**	**13 53 03.5**	**+0.8**
ISHM	**Shahmirzad**	**8.22**	**5**	*e*	**Pn**	**13 53 06.0**	**+2.8**
	comp=Z,192nm,0.2s						
ISHM				*e*Pn	**Pn**	**13 53 03.1**	**0.0**
SNGE	**Sanandaj**	**8.68**	**331**	*e*Pn	**Pn**	**13 53 10.0**	**+0.6**
SNGE	**Sanandaj**	**8.68**	**331**	*e*Pn	**Pn**	**13 53 09.2**	**-0.2**
SNGE	**Sanandaj**	**8.68**	**331**	*e*Pn	**Pn**	**13 53 10.0**	**+0.6**
BHD	**Baghdad**	**9.00**	**311**	*ex*	x	13 53 03.0	
BHD				*ex*	x	13 53 43.0	
BHD				*ex*	x	13 54 48.0	
BHD				*ex*	x	13 55 47.0	
RBK	**Rabkut**	**10.16**	**171**	P	**Pn**	**13 53 29.4**	**-0.4**
	SNR=6.8						
RBK	**Rabkut**	**10.16**	**171**	P	**Pn**	**13 53 29.4**	**-0.4**
	SNR=6.8						
ABTO	**Aybut**	**10.21**	**176**	⇑P	**Pn**	**13 53 31.1**	**+0.6**
ABTO	**Aybut**	**10.21**	**176**	P	**Pn**	**13 53 31.1**	**+0.6**
GNI	**Garni**	**14.08**	**335**	Pn	**Pn**	**13 54 31.0**	**+7.8**
	comp=Z,1.3nm,0.3s,baz=180,slow=5.1,SNR=3.0						
GNI	**Garni**	**14.08**	**335**	Pn	**Pn**	**13 54 31.1**	**+7.8**
GNI	**Garni**	**14.08**	**335**	P	**Pn**	**13 54 31.0**	**+7.8**
GNI				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GNI	**Garni**	**14.08**	**335**	P	**Pn**	**13 54 31.0**	**+7.8**
	comp=Z,1.0nm,0.3s						
ASF	**Jabal al Asfar**	**14.28**	**292**	Pn	**Pn**	**13 54 27.1**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=14,slow=4.2,SNR=2.4						
ASF	**Jabal al Asfar**	**14.28**	**292**	Pn	**Pn**	**13 54 27.1**	**+1.1**
ASF	**Jabal al Asfar**	**14.28**	**292**	P	**Pn**	**13 54 27.1**	**+1.1**
EIL	**Elat**	**15.54**	**282**	Pn	**Pn**	**13 54 44.6**	**+1.6**
	comp=Z,0.6nm,0.3s,baz=148,slow=13,SNR=2.2						
EIL	**Elat**	**15.54**	**282**	Pn	**Pn**	**13 54 44.6**	**+1.6**
EIL	**Elat**	**15.54**	**282**	Pn	**Pn**	**13 54 44.6**	**+1.6**
MMAI	**Mount Meron Ar**	**15.71**	**294**	Pn	**Pn**	**13 54 47.2**	**+2.0**
	baz=101,slow=13,SNR=2.0						
ZEI	**Tsey**	**16.68**	**337**	*e*P	**Pn**	**13 54 58.3**	**+0.7**
ZEI				pmax	pmax		
	comp=Z,33nm,1.0s						
ZEI	**Tsey**	**16.68**	**337**	*e*P	**Pn**	**13 54 58.3**	**+0.7**
	comp=Z,33nm,1.0s						
KIV	**Kislovodsk**	**18.14**	**337**	*e*P	**Pn**	**13 55 17.6**	**+1.8**
KIV				pmax	pmax		
	comp=Z,16nm,1.0s						
KIV	**Kislovodsk**	**18.14**	**337**	*e*P	**Pn**	**13 55 17.6**	**+1.8**
	comp=Z,16nm,1.0s						
BR131	**Keskin Array S**	**19.77**	**313**	*e*P	**Pn**	**13 55 35.1**	**-0.4**
	comp=Z,2.3nm,0.6s						
BR131	**Keskin Array S**	**19.77**	**313**	*e*P	**Pn**	**13 55 35.1**	**-0.4**
	comp=Z,2.3nm,0.6s						
BRTR	**Keskin Array B**	**19.77**	**313**	P	**Pn**	**13 55 35.0**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=134,slow=13,SNR=28						
BRTR	**Keskin Array B**	**19.77**	**313**	P	**Pn**	**13 55 35.0**	**-0.5**
BRTR	**Keskin Array B**	**19.77**	**313**	P	**Pn**	**13 55 35.0**	**-0.5**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BRTR	**Keskin Array B**	**19.77**	**313**	P	**Pn**	**13 55 35.0**	**-0.5**
KKAR	**Karatay Array**	**21.28**	**39**	*e*P	**P**	**13 55 49.3**	**-1.0**
	comp=Z,12nm,0.9s,mb4.2						
KKAR	**Karatay Array**	**21.28**	**39**	*e*P	**P**	**13 55 49.3**	**-1.0**
KKAR				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.2						
KKAR	**Karatay Array**	**21.28**	**39**	*e*P	**P**	**13 55 49.3**	**-1.0**
	comp=Z,12nm,0.9s,mb4.2						
ABKAR	**Akbulak array**	**22.39**	**13**	*e*P	**P**	**13 56 00.9**	**-1.2**
	comp=Z,2.6nm,0.6s,mb3.8						
ABKAR	**Akbulak array**	**22.39**	**13**	*e*P	**P**	**13 56 00.9**	**-1.2**
	comp=Z,2.6nm,0.6s,mb3.8						
KSH	**Kashi**	**22.83**	**53**	P	**P**	**13 56 01.2**	**-5.7**
KSH				pP		13 56 14.5	
KSH				pmax	pmax		
	comp=Z,110nm,4.5s						
EKS2	**Erkin-Say**	**22.92**	**43**	*e*P	**P**	**13 56 08.1**	**+0.3**
	comp=Z,8.4nm,0.6s,mb4.3						
EKS2	**Erkin-Say**	**22.92**	**43**	*e*P	**P**	**13 56 08.1**	**+0.3**
EKS2				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.3						
EKS2	**Erkin-Say**	**22.92**	**43**	*e*P	**P**	**13 56 08.1**	**+0.3**
	comp=Z,8.4nm,0.6s,mb4.3						
AKTK	**Aktyubinsk**	**23.20**	**9**	P	**P**	**13 56 10.6**	**-0.2**
AKTK				LR	LR	14 06 40.8	
AKTK	**Aktyubinsk**	**23.20**	**9**	P	**P**	**13 56 10.6**	**-0.1**
AKTO	**Aktyubinsk**	**23.20**	**9**	P	**P**	**13 56 10.6**	**-0.2**
	comp=Z,3.8nm,0.6s,mb4.0,baz=188,slow=13,SNR=14						
AKTO				LR	LR	14 06 40.8	
	comp=Z,32nm,19.0s,MS2.8,baz=357,slow=41						
AKTO	**Aktyubinsk**	**23.20**	**9**	P	**P**	**13 56 10.6**	**-0.1**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
AKTO				MLR	MLR		
	comp=Z,32nm,19.0s,MS2.8						
VRHR	**Novokhopersk**	**24.88**	**344**	*e*P	**P**	**13 56 27.1**	**+0.6**
VRHR				pmax	pmax		
	comp=Z,40nm,0.7s,mb5.1						
VRHR				pmax	pmax		
	comp=N,70nm,1.0s						
VRHR				pmax	pmax		
	comp=E,30nm,1.5s						
VRHR	**Novokhopersk**	**24.88**	**344**	*e*P	**P**	**13 56 27.1**	**+0.6**
	comp=E,70nm,1.0s,mb5.2						
TIRR	**Tirgusor**	**25.60**	**317**	⇑*i* P	**P**	**13 56 34.0**	**+0.9**
TIRR	**Tirgusor**	**25.60**	**317**	⇑*i* P	**P**	**13 56 34.0**	**+0.9**
VSR	**Storozhevoye**	**25.66**	**340**	*e*P	**P**	**13 56 33.1**	**-0.5**
VSR				pmax	pmax		
	comp=Z,20nm,1.1s,mb4.6						
VSR				pmax	pmax		
	comp=N,10.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,9.0nm,0.5s						
VSR	**Storozhevoye**	**25.66**	**340**	*e*P	**P**	**13 56 33.1**	**-0.5**
	comp=E,10.0nm,0.6s,mb4.5						
MLR	**Muntele Rosu**	**27.63**	**317**	P	**P**	**13 56 51.4**	**0.0**
	comp=E,0.9nm,0.7s,mb3.5,baz=177,slow=8.3,SNR=4.2						
MLR	**Muntele Rosu**	**27.63**	**317**	P	**P**	**13 56 51.4**	**0.0**
MLR	**Muntele Rosu**	**27.63**	**317**	P	**P**	**13 56 51.4**	**0.0**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MLR	**Muntele Rosu**	**27.63**	**317**	⇑*i* P	**P**	**13 56 55.8**	**+4.4**
MLR	**Muntele Rosu**	**27.63**	**317**	P	**P**	**13 56 51.4**	**0.0**
BVAR	**Borovoye Array**	**28.68**	**23**	P	**P**	**13 56 58.5**	**-2.2**
	comp=Z,2.3nm,0.7s,mb4.0						
BVAR				PcP	PcP	14 00 11.0	-0.1
BVAR	**Borovoye Array**	**28.68**	**23**	P	**P**	**13 56 58.5**	**-2.2**
BVAR				PcP	PcP	14 00 11.0	-0.1
BVAR	**Borovoye Array**	**28.68**	**23**	P	**P**	**13 56 58.5**	**-2.2**
BVAR						14 00 11.0	
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BVAR	**Borovoye Array**	**28.68**	**23**	P	**P**	**13 56 58.5**	**-2.2**
AKASG	**Malin Array Be**	**29.07**	**329**	P	**P**	**13 57 03.9**	**-0.3**
	comp=Z,3.4nm,0.6s,mb4.3,baz=134,slow=7.8,SNR=13						
AKASG	**Malin Array Be**	**29.07**	**329**	P	**P**	**13 57 03.9**	**-0.3**
AKASG	**Malin Array Be**	**29.07**	**329**	P	**P**	**13 57 03.9**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKASG	**Malin Array Be**	**29.07**	**329**	P	**P**	**13 57 03.9**	**-0.3**
ARU	**Arti**	**29.15**	**7**	P	**P**	**13 57 06.0**	**+1.2**
ARU	**Arti**	**29.15**	**7**	P	**P**	**13 57 06.0**	**+1.2**
BURAR	**Bucovina Array**	**29.19**	**321**	⇑*i* P	**P**	**13 57 07.1**	**+1.8**
BURAR	**Bucovina Array**	**29.19**	**321**	⇑*i* P	**P**	**13 57 07.1**	**+1.8**
OBN	**Obninsk**	**29.84**	**342**	*i* P	**P**	**13 57 11.1**	**+0.1**
OBN				pmax	pmax		
	comp=Z,28nm,2.1s,mb4.6						
OBN	**Obninsk**	**29.84**	**342**	*i* P	**P**	**13 57 11.1**	**+0.1**
	comp=Z,28nm,2.1s,mb4.6						
MK31	**Makanchi Array**	**30.24**	**43**	*e*P	**P**	**13 57 14.0**	**-0.7**
MK31	**Makanchi Array**	**30.24**	**43**	*e*P	**P**	**13 57 14.0**	**-0.6**
MK31	**Makanchi Array**	**30.24**	**43**	*e*P	**P**	**13 57 14.0**	**-0.6**
MKAR	**Makanchi Array**	**30.24**	**43**	P	**P**	**13 57 14.6**	**-0.1**
	comp=Z,1.3nm,0.6s,mb3.8,baz=239,slow=8.7,SNR=11						
MKAR				LR	LR	14 11 12.0	
	comp=Z,32nm,18.5s,MS3.0,baz=83,slow=40						
MKAR	**Makanchi Array**	**30.24**	**43**	P	**P**	**13 57 14.6**	**-0.1**
MKAR				LR	LR	14 11 12.0	
MKAR	**Makanchi Array**	**30.24**	**43**	P	**P**	**13 57 14.6**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,32nm,18.5s						
MKAR	**Makanchi Array**	**30.24**	**43**	P	**P**	**13 57 14.6**	**0.0**
OJC	**Ojcow**	**33.60**	**321**	*e*P	**P**	**13 57 44.7**	**+0.6**
OJC	**Ojcow**	**33.60**	**321**	*e*P	**P**	**13 57 44.7**	**+0.6**
OJC	**Ojcow**	**33.60**	**321**	*e*P	**P**	**13 57 44.7**	**+0.6**
KLMR	**Klimovskoe**	**34.40**	**349**	*e*P	**P**	**13 57 43.7**	**-7.2**
KLMR				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
ZAA0	**Zalesovo Array**	**35.42**	**33**	*e*P	**P**	**13 57 59.1**	**-0.7**
ZAA0	**Zalesovo Array**	**35.42**	**33**	*e*P	**P**	**13 57 59.1**	**-0.7**
ZALV	**Zalesovo Beam**	**35.42**	**33**	P	**P**	**13 57 59.2**	**-0.6**
	comp=Z,10nm,0.6s,mb4.9,baz=240,slow=9.4,SNR=60						
ZALV				LR	LR	14 14 26.3	
	comp=Z,39nm,19.4s,MS3.2,baz=248,slow=40						

CDF	Champ du Feu	40.53	313	eP		P		13 58 42.1	-0.9
CDF	Champ du Feu	40.53	313	eP		P		13 58 42.1	-0.9
CDF	Champ du Feu	40.53	313	eP		P		13 58 42.1	-0.9
HINF	Hinteralfeld	40.66	312	eP		P		13 58 43.4	-0.7
	comp=Z,4.5nm,0.6s,mb4.0								
HINF	Hinteralfeld	40.66	312	eP		P		13 58 43.4	-0.7
	comp=Z,2.3nm,0.6s,mb4.0								
HINF	Hinteralfeld	40.66	312	eP		P		13 58 43.4	-0.7
HINF					pmax	pmax			
	comp=Z,2.0nm,0.6s,mb3.9								
HINF	Hinteralfeld	40.66	312	eP		P		13 58 43.4	-0.7
	comp=Z,2.2nm,0.6s,mb4.0								
GTA	Gaotai	40.77	61	P		P		13 58 45.6	+0.5
GTA					pP	pP		13 58 48.7	+0.5
GTA					sP	sP		13 58 50.9	+1.5
GTA					pmax	pmax			
	comp=Z,7.0nm,1.1s,mb4.2								
CABF	La Chapelle	40.92	310	eP		P		13 58 46.0	-0.2
CABF	La Chapelle	40.92	310	eP		P		13 58 46.0	-0.2
CABF	La Chapelle	40.92	310	eP		P		13 58 46.0	-0.2
CABF	La Chapelle	40.92	310	eP		P		13 58 46.0	-0.2
HAU	Haudompre	41.03	312	eP		P		13 58 46.3	-0.9
HAU	Haudompre	41.03	312	eP		P		13 58 46.3	-0.9
HAU	Haudompre	41.03	312	eP		P		13 58 46.3	-0.9
HAU	Haudompre	41.03	312	eP		P		13 58 46.3	-0.9
VIVF	Saint-Julien-l	41.61	307	eP		P		13 58 49.2	-2.7
VIVF	Saint-Julien-l	41.61	307	eP		P		13 58 49.2	-2.7
VIVF	Saint-Julien-l	41.61	307	eP		P		13 58 49.2	-2.7
MEZF	Maizieres J'vi	41.99	313	eP		P		13 58 55.0	0.0
MEZF	Maizieres J'vi	41.99	313	eP		P		13 58 55.0	0.0
MEZF	Maizieres J'vi	41.99	313	eP		P		13 58 55.0	0.0
SMF	Signal de Mont	42.45	310	eP		P		13 58 58.1	-0.7
	comp=Z,16nm,0.9s,mb4.3								
SMF	Signal de Mont	42.45	310	eP		P		13 58 58.1	-0.7
	comp=Z,8.1nm,0.9s,mb4.3								
SMF	Signal de Mont	42.45	310	eP		P		13 58 58.1	-0.7
SMF					pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.3								
SMF	Signal de Mont	42.45	310	eP		P		13 58 58.1	-0.7
	comp=Z,8.1nm,0.9s,mb4.3								
LOR	Lormes	42.54	311	eP		P		13 58 59.3	-0.2
LOR	Lormes	42.54	311	eP		P		13 58 59.3	-0.2
LOR	Lormes	42.54	311	eP		P		13 58 59.3	-0.2
LOR	Lormes	42.54	311	eP		P		13 58 59.3	-0.2
TAM	Tamanrasset	42.57	274	eP		P		13 59 01.2	+1.1
	comp=Z,4.9nm,0.9s,mb4.2								
TAM	Tamanrasset	42.57	274	eP		P		13 59 01.2	+1.1
TAM					pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.2								
TAM	Tamanrasset	42.57	274	eP		P		13 59 01.2	+1.1
	comp=Z,5.0nm,0.9s,mb4.2								
SSF	Saint Saulge	42.74	311	eP		P		13 59 00.7	-0.4
SSF	Saint Saulge	42.74	311	eP		P		13 59 00.7	-0.4
SSF	Saint Saulge	42.74	311	eP		P		13 59 00.7	-0.4
SSF	Saint Saulge	42.74	311	eP		P		13 59 00.7	-0.4
NB2	NORSAR Subarra	43.36	332	P		P		13 59 05.0	-0.9
	comp=Z,3.3nm,0.7s,mb4.2,baz=122,slow=7.9								
NB2	NORSAR Subarra	43.36	332	P		P		13 59 05.0	-0.9
	comp=Z,3.3nm,0.7s,mb4.2,SNR=3.5								
NOA	NORSAR Array B	43.36	332	P		P		13 59 05.1	-0.8
	comp=Z,3.7nm,0.7s,mb4.2,baz=121,slow=8.1,SNR=14								
NOA	NORSAR Array B	43.36	332	P		P		13 59 05.1	-0.8
NOA	NORSAR Array B	43.36	332	P		P		13 59 05.1	-0.8
NOA					pmax	pmax			
	comp=Z,4.0nm,0.7s								
NOA	NORSAR Array B	43.36	332	P		P		13 59 05.1	-0.8
	comp=Z,4.0nm,0.7s,mb4.3								
CAF	Calviac	43.45	307	eP		P		13 59 07.2	+0.3
CAF	Calviac	43.45	307	eP		P		13 59 07.2	+0.3
CAF	Calviac	43.45	307	eP		P		13 59 07.2	+0.3
CAF	Calviac	43.45	307	eP		P		13 59 07.2	+0.3
CMAR	Chiang Mai Arr	43.50	92	P		P		13 59 07.2	-0.4
	comp=Z,1.3nm,0.9s,mb3.7,baz=309,slow=9.0,SNR=6.4								
CMAR					PcP	PcP		14 00 55.2	-0.5
	comp=Z,0.5nm,0.6s,baz=288,slow=5.1,SNR=4.3								
CMAR	Chiang Mai Arr	43.50	92	P		P		13 59 07.2	-0.4
CMAR					PcP	PcP		14 00 55.2	-0.5
CMAR	Chiang Mai Arr	43.50	92	P		P		13 59 07.3	-0.3
CMAR								14 00 55.2	
CMAR					pmax	pmax			
	comp=Z,1.0nm,0.9s								
CMAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
CMAR	Chiang Mai Arr	43.50	92	P		P		13 59 07.2	-0.4
CMAR	Chiang Mai Arr	43.50	92	PcP		PcP		14 00 55.2	-0.5
RJF	Les Rejaudoux	43.88	308	eP		P		13 59 10.7	+0.3
	comp=Z,16nm,1.0s,mb4.4								
RJF	Les Rejaudoux	43.88	308	eP		P		13 59 10.7	+0.3
	comp=Z,7.9nm,1.0s,mb4.4								
RJF	Les Rejaudoux	43.88	308	eP		P		13 59 10.7	+0.3
RJF					pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.4								
RJF	Les Rejaudoux	43.88	308	eP		P		13 59 10.7	+0.3
	comp=Z,7.9nm,1.0s,mb4.4								
LFF	La Frestale	44.39	307	eP		P		13 59 14.9	+0.4
	comp=Z,32nm,1.0s,mb4.7								
LFF	La Frestale	44.39	307	eP		P		13 59 14.9	+0.4
	comp=Z,16nm,1.0s,mb4.7								
LFF	La Frestale	44.39	307	eP		P		13 59 14.9	+0.4
LFF					pmax	pmax			
	comp=Z,16nm,1.0s,mb4.7								
LFF	La Frestale	44.39	307	eP		P		13 59 14.9	+0.4
	comp=Z,16nm,1.0s,mb4.7								
ZAK	Zakamensk	44.51	45	eP		P		13 59 15.4	0.0
ZAK					pmax	pmax			
	comp=Z,1.0nm,0.7s,mb3.8								
ZAK	Zakamensk	44.51	45	eP		P		13 59 15.4	0.0
	comp=Z,1.0nm,0.7s,mb3.8								
KEV	Kevo	44.70	348	eP		P		13 59 15.6	-1.0
KEV					pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.6								
KEV	Kevo	44.70	348	ep		P		13 59 15.6	-1.0
	comp=Z,7.8nm,0.8s,mb4.6								
KEV	Kevo	44.70	348	eP		P		13 59 15.6	-1.0
	comp=Z,7.8nm,0.8s,mb4.6								
ARCES	ARCESS Array B	44.81	347	P		P		13 59 17.3	-0.2
	comp=Z,5.1nm,0.9s,mb4.3,baz=152,slow=6.1,SNR=9.7								
ARCES	ARCESS Array B	44.81	347	P		P		13 59 17.3	-0.2
ARCES	ARCESS Array B	44.81	347	P		P		13 59 17.3	-0.2
ARCES					pmax	pmax			
	comp=Z,5.0nm,0.9s								
ARCES	ARCESS Array B	44.81	347	P		P		13 59 17.3	-0.2
	comp=Z,5.0nm,0.9s,mb4.3								
LDF	La Druitiere	45.39	312	eP		P		13 59 20.1	-2.3
LDF	La Druitiere	45.39	312	eP		P		13 59 20.1	-2.3
LDF	La Druitiere	45.39	312	eP		P		13 59 20.1	-2.3
LDF	La Druitiere	45.39	312	eP		P		13 59 20.1	-2.3
SJPF	Ste Jean	45.70	304	eP		P		13 59 25.8	+0.9
	comp=Z,78nm,1.2s,mb5.2								
SJPF	Ste Jean	45.70	304	eP		P		13 59 25.8	+0.9
	comp=Z,39nm,1.2s,mb5.2								
SJPF	Ste Jean	45.70	304	eP		P		13 59 25.8	+0.9
SJPF					pmax	pmax			
	comp=Z,39nm,1.2s,mb5.2								
SJPF	Ste Jean	45.70	304	eP		P		13 59 25.8	+0.9
	comp=Z,39nm,1.2s,mb5.2								
GRR	Gorron	45.85	312	eP		P		13 59 26.0	0.0
GRR	Gorron	45.85	312	eP		P		13 59 26.0	0.0
GRR	Gorron	45.85	312	eP		P		13 59 26.0	0.0
GRR	Gorron	45.85	312	eP		P		13 59 26.0	0.0
SONM	Songino Array	46.16	49	P		P		13 59 28.1	-0.3
	comp=Z,1.7nm,0.7s,mb4.1,baz=266,slow=8.5,SNR=15								
SONM	Songino Array	46.16	49	P		P		13 59 28.1	-0.3
SONM	Songino Array	46.16	49	P		P		13 59 28.1	-0.3
SONM					pmax	pmax			
	comp=Z,2.0nm,0.7s								
SONM	Songino Array	46.16	49	P		P		13 59 28.1	-0.3
	comp=Z,2.0nm,0.7s,mb4.2								
ULN	Ulaanbaatar	46.60	49	eP		P		13 59 31.3	-0.6
	comp=Z,3.2nm,0.8s,mb4.3								
ULN	Ulaanbaatar	46.60	49	eP		P		13 59 31.3	-0.6
ULN					pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3								
ULN	Ulaanbaatar	46.60	49	eP		P		13 59 31.3	-0.6
	comp=Z,3.0nm,0.8s,mb4.3								
TORD	Torodi Ar. Bea	49.41	264	P		P		13 59 54.2	+0.1
	comp=Z,4.7nm,0.7s,mb4.6,baz=58,slow=7.0,SNR=50								
TORD	Torodi Ar. Bea	49.41	264	P		P		13 59 54.2	+0.1
TORD	Torodi Ar. Bea	49.41	264	P		P		13 59 54.2	+0.1
BOD	Bodaibo	52.00	37	eP		P		14 00 11.8	-1.2
BOD					pmax	pmax			
	comp=Z,4.0nm,1.5s,mb4.1								
BOD	Bodaibo	52.00	37	eP		P		14 00 11.8	-1.2
	comp=Z,4.0nm,1.5s,mb4.1								
DBIC	Dimbokro	58.07	260	P		P		14 00 58.2	+0.6
	comp=Z,12nm,0.7s,mb5.0,baz=41,slow=7.4,SNR=19								
DBIC	Dimbokro	58.07	260	eP		P		14 00 57.6	0.0
	comp=Z,9.9nm,0.7s,mb5.0								
DBIC	Dimbokro	58.07	260	eP		P		14 00 57.6	0.0
DBIC					pmax	pmax			
	comp=Z,10.0nm,0.7s								
DBIC	Dimbokro	58.07	260	eP		P		14 00 57.6	0.0
	comp=Z,10.0nm,0.7s,mb5.0								
LBTB	Lobatse	58.37	209	P		P		14 00 59.9	+0.6
	comp=Z,4.2nm,0.7s,mb4.6,baz=19,slow=8.1,SNR=4.8								
LBTB	Lobatse	58.37	209	P		P		14 00 59.9	+0.6
LBTB	Lobatse	58.37	209	P		P		14 00 59.9	+0.6
LBTB					pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.6								
LBTB	Lobatse	58.37	209	P		P		14 00 59.9	+0.6
	comp=Z,4.0nm,0.7s,mb4.6								
LIC	Lamto	58.43	260	eP		P		14 01 00.5	+0.4
	comp=Z,28nm,0.8s,mb5.1								
LIC	Lamto	58.43	260	eP		P		14 01 00.5	+0.4
	comp=Z,14nm,0.8s,mb5.0								
LIC	Lamto	58.43	260	eP		P		14 01 00.5	+0.4
	comp=Z,14nm,0.8s,mb5.1								
KSRS	Korea Array	62.83	60	P		P		14 01 27.1	-2.7
	comp=Z,1.6nm,0.6s,mb4.3,baz=280,slow=6.4,SNR=8.7								
KSRS	Korea Array	62.83	60	P		P		14 01 27.1	-2.7
KSRS					pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.4								
KSRS	Korea Array	62.83	60	P		P		14 01 27.1	-2.7
	comp=Z,2.0nm,0.6s,mb4.4								
SEY	Seymchan	70.13	29	*i* P		P		14 02 15.9	-0.2
SEY	Seymchan	70.13	29	*i* P		P		14 02 15.9	-0.2
MJAR	Matsushiro Arr	70.95	58	P		P		14 02 19.6	-1.9
	comp=Z,1.2nm,0.6s,mb4.0,baz=302,slow=8.2,SNR=4.1								
MJAR	Matsushiro Arr	70.95	58	P		P		14 02 19.6	-1.9
MJAR	Matsushiro Arr	70.95	58	P		P		14 02 19.6	-2.0
MJAR					pmax	pmax			
	comp=Z,1.0nm,0.6s								
MJAR	Matsushiro Arr	70.95	58	P		P		14 02 19.6	-2.0
	comp=Z,1.0nm,0.6s,mb3.9								
SCHQ	Schefferville	82.86	329	P		P		14 03 27.9	-0.5
	comp=Z,2.0nm,0.5s,mb4.4,baz=45,slow=4.3,SNR=6.7								
SCHQ	Schefferville	82.86	329	P		P		14 03 27.9	-0.5
SCHQ	Schefferville	82.86	329	P		P		14 03 27.9	-0.5
FITZ	Fitzroy Crossi	84.12	114	P		P		14 03 34.4	-1.0
	comp=Z,1.4nm,0.7s,mb4.2,baz=333,slow=6.4,SNR=3.7								
FITZ	Fitzroy Crossi	84.12	114	P		P		14 03 34.4	-1.0
FITZ	Fitzroy Crossi	84.12	114	P		P		14 03 34.4	-1.0
ILAR	Eielson Array	86.71	8	P		P		14 03 45.1	-2.5
	comp=Z,0.4nm,0.9s,mb3.7,baz=322,slow=3.8,SNR=5.2								
ILAR	Eielson Array	86.71	8	P		P		14 03 45.1	-2.4
ILAR	Eielson Array	86.71	8	P		P		14 03 45.1	-2.5
ILAR	Eielson Array	86.71	8	P		P		14 03 45.1	-2.5
YKA	Yellowknife Ar	89.64	354	P		P		14 04 00.3	-1.2
	comp=Z,1.3nm,0.7s,mb4.4,baz=8.8,slow=5.4,SNR=5.3								
YKA	Yellowknife Ar	89.64	354	P		P		14 04 00.3	-1.2
YKA	Yellowknife Ar	89.64	354	P		P		14 04 00.3	-1.2
YKA					pmax	pmax			
	comp=Z,1.0nm,0.7s								
YKA	Yellowknife Ar	89.64	354	P		P		14 04 00.3	-1.2
	comp=Z,1.0nm,0.7s,mb4.2								
WRA	Warramunga Arr	92.17	111	P		P		14 04 12.5	-1.5
	comp=Z,0.3nm,0.7s,mb3.7,baz=314,slow=4.0,SNR=6.4								
WRA	Warramunga Arr	92.17	111	P		P		14 04 12.5	-1.5
WRA	Warramunga Arr	92.17	111	P		P		14 04 12.5	-1.5
WRA	Warramunga Arr	92.17	111	P		P		14 04 12.5	-1.5
ASAR	Alice Springs	93.58	115	P		P		14 04 18.6	-1.9
	comp=Z,0.3nm,0.6s,mb3.9,baz=303,slow=4.1,SNR=6.6								
ASAR	Alice Springs	93.58	115	P		P		14 04 18.6	-1.9
ASAR	Alice Springs	93.58	115	P		P		14 04 18.6	-1.8
ASAR	Alice Springs	93.58	115	P		P		14 04 18.5	-1.9

*TRN **11** 14:31:00.2, 8.41N×58.51W, h3km, MD5.3*
*ISCJB **11** 14:31:01.1±1.1, 8.27N±0.03×59.12W±0.03, h3km±7km, mb4.3/23, MS3.7/8, Error ellipse: s-maj=5.0km s-min=4.6km az=26.7*
*IDC **11** 14:31:02.7±0.5, 8.23N×58.96W, h0km, mb4.3/22, mb1 4.5/24, mb1mx4.4/29, mbtmp4.4/24, MS3.7/9, Ms1 3.7/9, ms1mx3.3/47, Error ellipse: s-maj=15.0km s-min=12.7km az=116.0*
*NEIC **11** 14:31:03.9±0.3, 8.20N×59.09W, h10km, mb4.6/4, MW4.6(CAR), Error ellipse: s-maj=6.3km s-min=4.6km az=185.0*
NEIC Felt at Georgetown.
*FUNV **11** 14:31:03.8, 8.14N×58.83W, h15km, MW4.8*
ISC 11 14:31:04.0±1.2, **8.25N**±0.03×**59.09W**±0.03, **h10**km±8km, **n142**, σ**1**§**18**/150, **mb4.3**/23, **MS3.7**/8, **11C-14D, Guyana**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h	m	s	Res ISC
RIOV	Rio Grande	2.70	266	eP			Pn	14 31	48.9	+1.3	
RIOV				eS			Sn	14 32	22.4	+2.0	
RIOV	Rio Grande	2.70	266	eP			Pn	14 31	48.9	+1.3	
RIOV				eS			Sn	14 32	22.4	+2.0	
TBH	Brigand Hill	2.95	319	‖eP			Pn	14 31	53.5	+2.4	
TRN	Trinidad (W)	3.30	316	‖eP			Pn	14 31	57.0	+1.2	
TOSP	Speyside	3.34	335	‖eP			Pn	14 31	57.2	+0.8	
TOSP				eS			Sn	14 32	37.5	+1.2	
LUEV	Luepa	3.35	225	eP			Pn	14 31	55.2	-1.4	
LUEV				eS			Sn	14 32	35.5	-1.0	
LUEV	Luepa	3.35	225	‖eP			Pn	14 31	55.4	-1.2	
LUEV				eS			Sn	14 32	35.5	-1.0	
TPR	Prospect	3.36	330	eP			Pn	14 31	57.5	+0.9	
GUIV	Guiria	3.90	308	eP			Pn	14 32	05.6	+1.5	
GUIV				eS			Sn	14 32	51.0	+1.0	
GUIV	Guiria	3.90	308	‖eP			Pn	14 32	05.5	+1.4	
GUIV				eS			Sn	14 32	51.0	+1.0	
GURV	El Guri	3.98	263	‖eP			Pn	14 32	06.5	+1.2	
GURV				eS			Sn	14 32	53.5	+1.5	
GURV	El Guri	3.98	263	‖eP			Pn	14 32	06.5	+1.2	
GURV				eS			Sn	14 32	53.5	+1.5	
GUNV	Guanoco	4.25	297	eP			Pn	14 32	11.1	+2.2	
GUNV				eS			Sn	14 33	00.1	+1.5	
GUNV	Guanoco	4.25	297	eP			Pn	14 32	11.1	+2.2	
GUNV				eS			Sn	14 33	00.1	+1.5	
ORIV	Oritupano	4.34	281	eP			Pn	14 32	11.8	+1.6	
ORIV				eS			Sn	14 33	02.8	+1.8	
ORIV	Oritupano	4.34	281	eP			Pn	14 32	11.8	+1.6	
ORIV				eS			Sn	14 33	02.8	+1.8	
GRGR	Grenville	4.61	327	ePn			Pn	14 32	13.5	-0.3	
GRGR				eS			Sn	14 33	04.0	-3.5	
GRW	Mount Saint Ca	4.63	327	eP			Pn	14 32	14.7	+0.5	
CRUV	Carupano	4.74	301	eP			Pn	14 32	16.0	+0.3	
CRUV	Carupano	4.74	301	‖eP			Pn	14 32	16.1	+0.4	
CRUV				eS			Sn	14 33	09.1	-1.7	
SVB	Belmont	5.42	337	eP			Pn	14 32	24.3	-0.7	
SVB				eS			Sn	14 33	27.2	-0.3	
PRGV	PARIAGUAN	5.51	276	eP			Pn	14 32	27.3	+1.0	
MCLT	Moule a Chique	5.72	342	eP			Pn	14 32	28.2	-1.0	
MCLT				eS			Sn	14 33	31.9	-3.0	
PCRV	Puerto La Cruz	5.80	290	eP			Pn	14 32	30.9	+0.7	
PCRV	Puerto La Cruz	5.80	290	eP			Pn	14 32	30.9	+0.7	
PCRV				eS			Sn	14 33	34.5	-2.3	
IBAV	Isla La Blanqu	6.46	304	eP			Pn	14 32	40.8	+1.4	
IBAV	Isla La Blanqu	6.46	304	eP			Pn	14 32	40.8	+1.4	
IBAV				eS			Sn	14 33	51.0	-2.2	
MVM	Montagne Vaucl	6.51	344	eP			Pn	14 32	38.7	-1.3	
BIM	Bigot	6.52	343	eP			Pn	14 32	39.0	-1.1	
FDF	Fort de France	6.75	343	ePn			Pn	14 32	41.9	-1.4	
	180nm,0.4s										
FDF				eSn			Sn	14 33	50.1	-10	
FDF	Fort de France	6.75	343	eP			Pn	14 32	42.4	-0.9	
FDF				eS			Sn	14 33	56.2	-4.1	
CUPV	Cœpira	6.85	286	eP			Pn	14 32	45.0	+0.4	
CUPV	Cœpira	6.85	286	eP			Pn	14 32	45.0	+0.4	
CUPV				eS			Sn	14 34	00.3	-2.5	
MERV	Las Mercedes	7.19	278	‖eP			Pn	14 32	49.8	+0.4	
MERV	Las Mercedes	7.19	278	‖eP			Pn	14 32	49.8	+0.4	
MERV				eS			Sn	14 34	08.3	-2.9	
BIRV	Birongo	7.42	288	eP			Pn	14 32	52.9	+0.4	
BIRV	Birongo	7.42	288	‖eP			Pn	14 32	52.8	+0.3	
ORCV	Isla La Orchil	7.84	297	eP			Pn	14 32	59.3	+1.1	
TBG	Guadaloupe-3	7.96	342	eP			Pn	14 32	59.3	-0.5	
PHG	Guadaloupe-2	8.11	342	eP			Pn	14 32	59.6	-2.4	
BAUV	El Baul	8.88	275	eP			Pn	14 33	11.5	-1.0	
BAUV	El Baul	8.88	275	‖eP			Pn	14 33	11.7	-0.9	
TURV	Turiamo	8.90	285	‖eP			Pn	14 33	13.5	+0.6	
TURV	Turiamo	8.90	285	‖eP			Pn	14 33	13.5	+0.6	
PAVV	Puerto Ayacuch	8.96	252	‖eP			Pn	14 33	13.4	-0.2	
MAPV	Macapo	9.38	280	‖eP			Pn	14 33	19.0	-0.4	
JACV	Jacura	10.00	287	eP			Pn	14 33	26.8	-1.2	
TEPV	Terepaima	10.12	280	eP			Pn	14 33	28.7	-0.8	
TEPV	Terepaima	10.12	280	eP			Pn	14 33	29.0	-0.6	
ELOV	Elorza	10.37	264	eP			Pn	14 33	32.1	-0.9	
ELOV	Elorza	10.37	264	‖eP			Pn	14 33	32.0	-1.0	
SANV	Sanarito	10.39	278	eP			Pn	14 33	33.0	-0.3	
SANV	Sanarito	10.39	278	‖eP			Pn	14 33	32.9	-0.4	
SIQV	Siquisique	10.84	284	‖*i*P			Pn	14 33	38.3	-1.1	
SIQV	Siquisique	10.84	284	‖*i*P			Pn	14 33	38.3	-1.1	
CURV	Curarigua	10.87	280	‖*i*P			Pn	14 33	38.7	-1.2	
CURV	Curarigua	10.87	280	‖*i*P			Pn	14 33	38.7	-1.2	
MONV	Montecano	11.32	290	eP			Pn	14 33	44.6	-1.4	
MONV	Montecano	11.32	290	‖eP			Pn	14 33	44.6	-1.4	
SDV	Santo Domingo	11.43	274	ePn			Pn	14 33	45.3	-2.2	
	30nm,0.6s										
QARV	Quebrada Arrib	11.45	281	eP			Pn	14 33	47.5	-0.2	
STVI	Saint Thomas	11.54	331	ePn			Pn	14 33	49.2	+0.2	
	72nm,0.7s										
MTP	Monte Pirata	11.63	328	ePn			Pn	14 33	49.5	-0.8	
	46nm,0.8s										
SOCV	Socops	11.64	271	eP			Pn	14 33	48.8	-1.7	
SOCV	Socops	11.64	271	‖*i*P			Pn	14 33	48.8	-1.7	
DABV	Dabajuro	11.69	284	eP			Pn	14 33	50.4	-0.6	
CBYP	Canovanas	11.94	327	ePn			Pn	14 33	54.7	+0.3	
	63nm,0.8s										
SJG	San Juan	11.97	326	Pn			Pn	14 33	55.5	+0.7	
	2.9nm,0.3s,baz=132,slow=16,SNR=3.4										
SJG	San Juan	11.97	326	Pn			Pn	14 33	55.5	+0.7	
VIGV	El Vigia	12.15	274	‖eP			Pn	14 33	56.4	-1.0	
IMOV	Isla Los Monje	12.31	290	eP			Pn	14 33	58.2	-1.4	
LRS	Lares	12.51	324	eP			Pn	14 34	03.6	+1.4	
CAPV	Capacho	13.10	269	eP			Pn	14 34	08.9	-1.5	
CAPV	Capacho	13.10	269	eP			Pn	14 34	08.9	-1.5	
ROSC	El Rosal	15.51	258	Pn			Pn	14 34	44.5	+1.4	
	2.4nm,0.3s,baz=99,slow=23,SNR=8.4										
ROSC					LR		LR	14 41	06.8		
	comp=Z,406nm,20.1s,baz=26,slow=39										
ROSC	El Rosal	15.51	258	eP			Pn	14 34	43.2	+0.2	
SDDR	Presa de Saban	15.93	313	eP			Pn	14 34	49.9	+1.4	
	37nm,0.8s										
OTAV	Otavalo	20.87	249	eP			P	14 35	47.2	+0.7	
	13nm,1.0s										
ATAH	Atahualpa	24.57	232	P			P	14 36	24.9	+0.4	
	18nm,0.7s,mb4.7,baz=71,slow=6.0,SNR=13										
ATAH					LR		LR	14 46	08.5		
	comp=Z,172nm,20.3s,MS3.5,baz=251,slow=37										
LPAZ	La Paz	25.97	200	P			P	14 36	37.5	+0.4	
	9.2nm,0.8s,mb4.4,baz=15,slow=9.3,SNR=28										
LPAZ					LR		LR	14 47	27.0

ML1.9(NAO)
*ISCJB **11** 14:45:02.0±0.7,58°.36N±0°.05×11°.7E±0°.1,h10km,Error ellipse: s-maj=8.4km s-min=6.0km az=37.0*
*CSEM **11** 14:45:02.5±0.2,58°.38N×11°.40E,h2km,ML1.8,Error ellipse: s-maj=5.0km s-min=3.3km az=124.0*
*IDC **11** 14:45:03.6±2.0,58°.49N×11°.23E,h0km,mb1 3.5/3, mb1mx3.1/26,mbtmp3.4/3,ML2.5/4,Error ellipse: s-maj=14.9km s-min=14.1km az=75.0*
*NAO **11** 14:45:03.2±2.6,58°.40N×11°.14E,ML1.9*

ISC 11 14:45:03.7±0.7,58°.38N±0°.05×11°.47E±0°.10,h10km,n17, σ1°30/30,Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KONO	**Kongsberg**	**1.60**	**324**		*eP*		**Pn**	**14 45 31.1**	**-0.8**
KONO					*eS*		**Sn**	**14 45 54.1**	**+1.5**
KONO	comp=Z,18nm,0.3s			AML			AML	14 46 04.3	
KONO	**Kongsberg** SNR=50	**1.60**	**324**		*eP*		**Pn**	**14 45 31.1**	**-0.8**
KONO	comp=Z,18nm,0.3s,SNR=50				*eS*		**Sn**	**14 45 54.1**	**+1.5**
HFS	**Hagfors** baz=216,slow=16	**2.10**	**32**	Pn			**Pn**	**14 45 39.1**	**+0.3**
HFS	baz=206,slow=28			Sn			**Sn**	**14 46 06.8**	**+1.9**
HFS	baz=217,slow=22			Lg				14 46 11.4	
HFS	**Hagfors** comp=Z,2.2nm,0.3s,baz=205,slow=14,SNR=78	**2.10**	**32**	Pn			**Pn**	**14 45 37.5**	**-1.3**
HFS	comp=Z,2.2nm,0.3s,baz=198,slow=14,SNR=80			Pg			**Pg**	**14 45 39.1**	**-4.8**
HFS	comp=Z,5.3nm,0.3s,baz=211,slow=25,SNR=16			Lg				14 46 09.0	
HFS	**Hagfors** baz=216,slow=14,SNR=50	**2.10**	**32**	Pn			**Pn**	**14 45 39.1**	**+0.3**
HFS	baz=206,slow=25,SNR=50			Sn			**Sn**	**14 46 06.8**	**+1.9**
HFS	baz=217,slow=22,SNR=4.2			Lg				14 46 11.4	
SNART	**Snartemo**	**2.24**	**271**		*eP*		**Pn**	**14 45 36.7**	**-4.0**
SNART					*eS*		**Sn**	**14 46 03.8**	**-4.7**
SNART	comp=Z,10nm,0.5s			AML			AML	14 46 11.7	
SNART	**Snartemo** SNR=49	**2.24**	**271**		*i* P		**Pn**	**14 45 36.8**	**-4.0**
SNART	SNR=49				*eS*		**Sn**	**14 46 07.4**	**-1.1**
MUD	**Monsted U'grnd**	**2.29**	**214**		*i* P		**Pn**	**14 45 40.9**	**-0.6**
MUD					*eS*		**Sn**	**14 46 11.2**	**+1.5**
MUD	**Monsted U'grnd** SNR=49	**2.29**	**214**		*i* P		**Pn**	**14 45 41.0**	**-0.5**
MUD					*eS*		**Sn**	**14 46 11.2**	**+1.5**
NB2	**NORSAR Subarra** baz=181,slow=16	**2.67**	**357**	Pn			**Pn**	**14 45 45.8**	**-0.9**
NB2				Sn			**Sn**	**14 46 20.5**	**+1.5**
NB2	baz=174,slow=37			Lg				14 46 28.4	
NB2	**NORSAR Subarra** baz=181,slow=14,SNR=50	**2.67**	**357**	Pn			**Pn**	**14 45 45.8**	**-0.9**
NB2	SNR=50			Sn			**Sn**	**14 46 20.5**	**+1.5**
NB2	baz=174,slow=32,SNR=5.0			Lg				14 46 28.4	
NOA	**NORSAR Array B** comp=Z,0.4nm,0.3s,baz=186,slow=12,SNR=5.8	**2.67**	**357**	Pn			**Pn**	**14 45 45.6**	**-1.1**
NOA	comp=Z,0.8nm,0.3s,baz=177,slow=14,SNR=9.1			Pg			**Pg**	**14 45 52.0**	**-2.8**
NOA	comp=Z,1.7nm,0.3s,baz=57,slow=3.2,SNR=8.2			Lg				14 46 24.5	
LLD	**Lille Linde**	**3.08**	**172**		*i* P		**Pg**	**14 46 08.0**	**+5.4**
FIA0	**FINESS Array S** baz=252,slow=12	**7.96**	**61**	Pn			**Pn**	**14 46 59.4**	**+0.3**
FIA0	**FINESS Array S** baz=252,slow=12,SNR=50	**7.96**	**61**	Pn			**Pn**	**14 46 59.4**	**+0.2**
FINES	**FINESS Array B** comp=Z,0.2nm,0.3s,baz=251,slow=13,SNR=3.9	**7.96**	**61**	Pn			**Pn**	**14 46 59.5**	**+0.3**
FINES	comp=Z,0.2nm,0.3s,baz=251,slow=20,SNR=2.7			Sn			**Sn**	**14 48 28.5**	**-0.6**
FINES	comp=Z,0.3nm,0.3s,baz=252,slow=27,SNR=3.6			Lg				14 49 14.6	
ARCES	**ARCESS Array B** comp=Z,0.1nm,0.3s,baz=211,slow=14,SNR=2.7	**12.73**	**23**	Pn			**Pn**	**14 47 60.0**	**-4.5**

*TAP **11** 14:50:04.2,24°.00N×122°.39E,h24km,ML3.0,C*
*JMA **11** 14:50:05.8±0.3,24°.99N×122°.54E,h17km*

ISC 11 14:50:04.0±0.6,23°.96N±0°.03×122°.37E±0°.02,h13km±4km, n30,σ0°94/53,1C-1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HWA	**Hwalien** baz=254	**0.70**	**272**		*eP*		**Pg**	**14 50 18.2**	**+0.5**
HWA	baz=254				*eS*		**Sg**	**14 50 28.3**	**+1.4**
TWD	**Chiawan** baz=275	**0.72**	**280**		*i* P		**Pg**	**14 50 18.1**	**+0.1**
TWD	baz=275				S		**Sg**	**14 50 28.3**	**+0.9**
ENA	**Nanau** baz=313	**0.74**	**309**	⇑	*i* P		**Pg**	**14 50 18.1**	**-0.3**
ENA	baz=313				*eS*		**Sg**	**14 50 28.9**	**+0.7**
YOJ	**Yonaguni jima**	**0.77**	**49**		P		**Pg**	**14 50 18.6**	**-0.4**
YOJ					S		**Sg**	**14 50 27.7**	**-1.4**
TWC	**Suao** baz=321	**0.80**	**324**		*i* P		**Pg**	**14 50 18.8**	**-0.9**
TWC	baz=321				*eS*		**Sg**	**14 50 29.2**	**-1.0**
ESL	**Shilin** baz=244	**0.87**	**261**		*eP*		**Pg**	**14 50 20.3**	**-0.5**
ESL	baz=244				*eS*		**Sg**	**14 50 31.8**	**-0.4**
TWE	**Neicheng** baz=317	**0.99**	**320**		*i* P		**Pb**	**14 50 22.7**	**-0.4**
TWE	baz=317				*eS*		**Sb**	**14 50 36.0**	**-0.2**
ENTT	**Nioudou** baz=317	**1.00**	**313**	⇓	*i* P		**Pb**	**14 50 22.8**	**-0.5**
ENTT	baz=317				*eS*		**Sb**	**14 50 36.1**	**-0.2**
WHF	**Hehuan Shan** baz=277	**1.03**	**281**		P		**Pb**	**14 50 23.2**	**-0.4**
WHF	baz=277				*eS*		**Sb**	**14 50 36.9**	**-0.1**
NNS	**Nan Shan** baz=283	**1.03**	**298**		P		**Pb**	**14 50 23.3**	**-0.4**
NNS	baz=283				*eS*		**Sb**	**14 50 37.3**	**+0.1**
TWF1	**Yuli** baz=236	**1.15**	**239**		P		**Pb**	**14 50 25.0**	**-0.9**
TWF1	baz=236				*eS*		**Sb**	**14 50 40.1**	**-0.6**
NSK	**Sanguang** baz=288	**1.17**	**308**		P		**Pb**	**14 50 25.4**	**-0.7**
NSK	baz=288				*eS*		**Sb**	**14 50 40.7**	**-0.5**
NWF	**Wu-fen Shan** baz=331	**1.23**	**334**		*eP*		**Pn**	**14 50 26.1**	**-0.9**
TWA	**Mucha** baz=333	**1.24**	**325**		*eP*		**Pn**	**14 50 27.6**	**+0.5**
TWA	baz=333				*eS*		**Sb**	**14 50 44.1**	**+0.7**
CHKT	**Chengkung** baz=213	**1.26**	**227**		*eP*		**Pn**	**14 50 26.7**	**-0.6**
CHKT	baz=213				*eS*		**Sb**	**14 50 40.8**	**-3.0**
IRIF	**Iriomote-Funau**	**1.30**	**73**		P		**Pn**	**14 50 28.9**	**+1.0**
IRIF					S		**Sb**	**14 50 45.2**	**+0.3**
YUS	**Yu-Shan** baz=248	**1.38**	**251**		*eP*		**Pn**	**14 50 29.4**	**+0.3**
YUS	baz=248				*eS*		**Sn**	**14 50 46.5**	**-0.7**
TYC	**Yuchr** baz=265	**1.39**	**268**		*eP*		**Pn**	**14 50 29.8**	**+0.7**
TYC	baz=265				*eS*		**Sn**	**14 50 46.1**	**-1.1**
NSTT	**Nanjuang** baz=296	**1.42**	**298**		*eP*		**Pn**	**14 50 30.5**	**+1.0**
ELDTW	**Lidau** baz=236	**1.46**	**239**		*eP*		**Pn**	**14 50 29.6**	**-0.5**
ELDTW	baz=236				*eS*		**Sn**	**14 50 46.4**	**-2.7**
ALS	**Alishan** baz=250	**1.50**	**253**		*eP*		**Pn**	**14 50 31.4**	**+0.7**
ALS	baz=250				*eS*		**Sn**	**14 50 50.7**	**+0.5**
TWQ1	**Liyutan** baz=270	**1.51**	**285**		*eP*		**Pn**	**14 50 31.8**	**+1.0**
JKRS	**Kuro-shima**	**1.52**	**79**		P		**Pn**	**14 50 32.7**	**+1.7**
JKRS					*eS*		**Sn**	**14 50 51.4**	**+0.7**
CHN5	**Tsauling** baz=243	**1.59**	**257**		*eP*		**Pn**	**14 50 33.5**	**+1.6**
CHN5	baz=243				*eS*		**Sn**	**14 50 53.3**	**+1.0**
TWG	**Pinlang** baz=236	**1.64**	**227**		*eP*		**Pn**	**14 50 32.4**	**-0.3**
TWG	baz=236				*eS*		**Sn**	**14 50 51.9**	**-1.7**
JIJ	**Ishigaki jima**	**1.67**	**76**		P		**Pn**	**14 50 33.2**	**+0.2**
JIJ					*eS*		**Sn**	**14 50 52.7**	**-1.6**
STYT	**Tauyuan** baz=229	**1.68**	**242**		*eP*		**Pn**	**14 50 33.2**	**+0.1**
WTP	**Ta-pu** baz=245	**1.76**	**247**		*eP*		**Pn**	**14 50 35.3**	**+1.1**
CHN1	**Nanshi** baz=244	**1.86**	**246**		*eP*		**Pn**	**14 50 37.3**	**+1.7**
SSD	**Sandimen** baz=224	**2.00**	**233**		*eP*		**Pn**	**14 50 39.3**	**+1.8**

*IDC **11** 14:53:53.9±0.9,9°.63N×58°.12E,h0km,mb3.8/8,mb1 3.9/8, mb1mx3.5/25,mbtmp3.8/8,MS3.5/3,Ms1 3.5/3, ms1mx2.7/46,Error ellipse: s-maj=26.8km s-min=20.9km az=1.0*
*ISCJB **11** 14:53:54.1±0.7,9°.7N±0°.1×58°.1E±0°.1,h10km,mb3.7/10, MS3.5/3,Error ellipse: s-maj=18.6km s-min=13.8km az=140.3*
*NEIC **11** 14:53:55.5±0.7,9°.66N×58°.11E,h10km,mb4.1/2,Error ellipse: s-maj=17.9km s-min=12.9km az=145.0*

ISC 11 14:53:55.6±0.7,9°.7N±0°.1×58°.1E±0°.1,h10km,n25, σ0°89/22,mb3.7/10,MS3.5/3,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo** 1.9nm,0.9s,mb3.5	**23.38**	**244**		*eP*		**P**	**14 59 05.0**	**+0.2**
KMBO					*e*			14 59 10.8	
GNI	**Garni**	**32.60**	**341**	LR			LR	15 15 23.2	
	comp=Z,32nm,18.4s,MS3.0,baz=90,slow=40								
KKAR	**Karatay Array**	**35.02**	**16**		*eP*		**P**	**15 00 49.5**	**+1.2**
BRTR	**Keskin Array B** 0.7nm,0.5s,mb3.7,baz=133,slow=6.3,SNR=4.6	**37.03**	**328**	P			**P**	**15 01 05.2**	**-0.4**
BRTR	**Keskin Array B**	**37.03**	**328**	P			**P**	**15 01 05.2**	**-0.4**
ABKAR	**Akbulak array** 4.6nm,1.1s,mb4.1	**39.48**	**2**		*eP*		**P**	**15 01 26.3**	**+0.1**
CMAR	**Chiang Mai Arr** 1.1nm,0.9s,mb3.6,baz=262,slow=8.6,SNR=7.0	**40.48**	**73**	P			**P**	**15 01 36.4**	**+1.5**
CMAR	**Chiang Mai Arr**	**40.48**	**73**	P			**P**	**15 01 36.4**	**+1.5**
AKTK	**Aktyubinsk**	**40.64**	**360**	P			**P**	**15 01 35.0**	**-0.8**
AKTO	**Aktyubinsk** 1.3nm,0.7s,mb3.6,baz=204,slow=5.6,SNR=5.7	**40.64**	**360**	P			**P**	**15 01 35.0**	**-0.8**
MK31	**Makanchi Array**	**42.33**	**25**		*eP*		**P**	**15 01 49.7**	**0.0**
KURK	**Kurchatov** 1.7nm,1.1s,mb3.7,baz=219,slow=8.0,SNR=5.0	**44.28**	**19**	P			**P**	**15 02 05.5**	**+0.1**
KURK	**Kurchatov**	**44.28**	**19**	P			**P**	**15 02 05.5**	**+0.1**
MSKU	**Masuku** 12nm,0.6s,baz=91,slow=8.3,SNR=2.5	**45.72**	**258**	P			**P**	**15 02 19.2**	**+1.8**
MSKU	**Masuku**	**45.72**	**258**	P			**P**	**15 02 19.2**	**+1.8**
ZALV	**Zalesovo Beam** 1.9nm,0.9s,mb4.1,baz=238,slow=8.5,SNR=7.8	**49.06**	**21**	P			**P**	**15 02 43.0**	**+0.2**
ZALV	**Zalesovo Beam**	**49.06**	**21**	P			**P**	**15 02 43.0**	**+0.2**
BOSA	**Boshof** comp=Z,71nm,18.5s,MS3.7,baz=355,slow=32	**49.56**	**219**	LR			LR	15 20 42.9	
SUR	**Sutherland** comp=Z,58nm,18.8s,MS3.7,baz=350,slow=33	**54.92**	**219**	LR			LR	15 24 13.0	
TORD	**Torodi Ar. Bea** 1.4nm,1.0s,mb4.0,baz=94,slow=3.6,SNR=8.8	**55.32**	**279**	P			**P**	**15 03 29.0**	**-1.0**
TORD	**Torodi Ar. Bea**	**55.32**	**279**	P			**P**	**15 03 29.0**	**-1.0**
WRA	**Warramunga Arr** 0.4nm,1.0s,mb3.3,baz=356,slow=27,SNR=5.2	**80.55**	**112**	P			**P**	**15 06 07.2**	**-1.5**
WRA	**Warramunga Arr**	**80.55**	**112**	P			**P**	**15 06 07.2**	**-1.5**
ASAR	**Alice Springs** 0.6nm,0.9s,mb3.5,baz=205,slow=22,SNR=4.1	**81.07**	**116**	P			**P**	**15 06 11.1**	**-0.4**
ASAR	**Alice Springs**	**81.07**	**116**	P			**P**	**15 06 11.1**	**-0.4**

*CASC **11** 15:05:54.8±2.8,13°.94N×91°.05W,h77km±20km,MD4.6, ML5.1,mb4.9(NEIC)*
*NEIC **11** 15:05:55.7±0.3,14°.03N×90°.60W,mb4.9/96, MD5.4(SNET),Error ellipse: s-maj=6.6km s-min=4.7km az=221.0*
NEIC Felt [III] at Guatemala. Also felt at Antigua Guatemala and Panajachel. Felt [III] at San Salvador, El Salvador.
*IDC **11** 15:05:55.2±0.5,14°.29N×90°.42W,h81km±4km,mb4.2/25, mb1 4.4/26,mb1mx4.3/30,mbtmp4.2/26,MS3.9/19, Ms1 3.9/19,ms1mx3.8/34,Error ellipse: s-maj=19.1km s-min=8.8km az=61.0*
*MEX **11** 15:05:55.7±3.2,13°.74N×91°.12W,h88km±21km,MD4.9*
*BJI **11** 15:05:56.8,14°.10N×90°.70W,h92km,mB5.2/8*
*ISCJB **11** 15:05:56.2±0.2,14°.14N±0°.03×90°.80W±0°.02,h93km±2km, mb4.8/109,Error ellipse: s-maj=5.6km s-min=2.3km az=33.9*
*GCMT **11** 15:05:56.5±0.2,14°.03N×90°.90W,h99km±2km,MW5.1, Moment Tensor Solution. s61,c80; s80,c117; Moment tensor: Scale 10^{16}Nm; M_{rr}3.86±.18; $M_{\theta\theta}$-4.23±.22; $M_{\phi\phi}$0.37±.23; $M_{r\theta}$3.94±.11; $M_{r\phi}$1.35±.21; $M_{\theta\phi}$-1.67±.14; Best double couple: $M_0$6.00000×10^{16} NP1:δ≈277.00000°, δ23.00000°,λ77.00000°. NP2:δ≈111.00000°,δ68.00000°, λ95.00000°. Principal axes: T 5.6800, Plg67.0000°, Azm31.0000°; N 0.6900, Plg5.0000°, Azm289.0000°; P -6.3600, Plg23.0000°, Azm197.0000°; Data Used: IU II IC G CN.*
*MOS **11** 15:05:59.0±1.2,14°.24N×90°.61W,h127km,mb5.0/29 Error ellipse: s-maj=11.5km s-min=5.5km az=107.1*
*SZGRF **11** 15:06:17.5,14°.80N×93°.02W,h33km,mb5.3,Near coast of Chiapas, Mexico*

ISC 11 15:05:57.3±0.2,14°.17N±0°.03×90°.79W±0°.02,h83km±2km, h88km±2.4km:pP-P,n713,σ0°91/628,mb4.8/109, 156C-151D,Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSG	**Pto de San Jos**	**0.23**	**179**	⇑	*eP*		**Pn**	**15 06 07.3**	**-2.2**
FUG	**Fuego 3**	**0.28**	**350**	⇓	*iP*		**Pn**	**15 06 09.3**	**-0.5**
PCG	**Pacaya**	**0.28**	**40**		*eP*		**Pn**	**15 06 09.9**	**+0.1**
FG6		**0.39**	**347**	⇓	*eP*		**Pn**	**15 06 10.5**	**-0.1**
GCG	**Guatemala City**	**0.48**	**32**	⇑	*eP*		**Pn**	**15 06 11.4**	**+0.3**
GCG					*eS*		**Sn**	**15 06 25.3**	**+3.8**
NBG	**Las Nubes**	**0.60**	**46**	⇓	*eP*		**Pn**	**15 06 13.9**	**+1.8**
JAT	**Jato**	**0.83**	**280**	⇑	*eP*		**Pn**	**15 06 11.9**	**-2.6**
RBDL	**Robledal**	**1.08**	**93**	⇓	*iP*		**Pn**	**15 06 17.3**	**-0.1**
RTR	**El Retiro**	**1.15**	**104**	⇓	*iP*		**Pn**	**15 06 18.2**	**-0.1**
SBLS	**San Blas**	**1.18**	**106**		*eP*		**Pn**	**15 06 18.4**	**-0.4**
SNJE	**San Jose**	**1.19**	**105**	⇓	*eP*		**Pn**	**15 06 18.4**	**-0.4**
BQQS	**Boqueron**	**1.53**	**106**	⇑	*eP*		**Pn**	**15 06 22.9**	**-0.3**
SNET	**Serv Nac Est T**	**1.59**	**108**		*eP*		**Pn**	**15 06 23.9**	**0.0**
SNET					*eS*		**Sn**	**15 06 46.8**	**+2.7**
SNET	comp=Z,38μm,0.8s			AML			AML	15 06 56.1	
THIG		**1.60**	**297**		*eP*		**Pn**	**15 06 21.8**	**-2.2**
THIG					*i* S		**Sn**	**15 06 42.1**	**-2.2**
LBRS	**Las Brisas**	**1.75**	**104**	⇓	*iP*		**Pn**	**15 06 25.9**	**-0.1**
LFRS	**El Faro**	**1.77**	**108**		*eP*		**Pn**	**15 06 25.7**	**-0.5**
CAHU	**Cacaocatique**	**2.54**	**99**		*eP*		**Pn**	**15 06 36.7**	**+0.2**
CAHU	comp=Z,5μm,0.6s			AML			AML	15 07 28.5	
VSM	**San Miguel**	**2.56**	**107**		*eP*		**Pn**	**15 06 37.2**	**+0.5**
PCIG		**2.79**	**303**		*eP*		**Pn**	**15 06 38.1**	**-1.8**
PCIG					*i* S		**Sn**	**15 07 09.9**	**-2.8**
CNCH	**Conchagua**	**3.01**	**107**		*eP*		**Sn**	**15 06 43.2**	**+0.4**
CNCH					*eS*		**Sn**	**15 07 25.1**	**+7.1**
SCX	**San Cristobal**	**3.10**	**325**		*eP*		**Pn**	**15 06 44.7**	**+0.6**
SCX					*i* S		**Sn**	**15 07 24.2**	**+4.0**
TGUH	**Tegucigalpa,Un**	**3.42**	**92**		*eP*		**Pn**	**15 06 48.3**	**0.0**
TGUH	**Tegucigalpa,Un**	**3.42**	**92**	⇓	*iP*		**Pn**	**15 06 48.6**	**+0.3**
TGIG		**3.43**	**319**		*eP*		**Pn**	**15 06 47.4**	**-1.1**
TGIG					*i* S		**Sn**	**15 07 29.6**	**+1.6**
CRIN	**San Cristobal**	**3.93**	**111**		*eP*		**Pn**	**15 06 56.0**	**+0.7**
CRIN					*eS*		**Sn**	**15 07 47.5**	**+7.3**
CNGN	**Cerro Negro**	**4.32**	**112**		*eP*		**Pn**	**15 07 00.3**	**-0.3**
CNGN					*eS*		**Sn**	**15 07 53.7**	**+3.9**
MIRN	**Miramar**	**4.33**	**113**		*eP*		**Pn**	**15 07 01.2**	**+0.5**
MOMN	**Momotombo**	**4.50**	**112**		*eP*		**Pn**	**15 07 04.1**	**+1.0**
MOMN					*eS*		**Sn**	**15 07 57.7**	**+3.5**
COPN	**Copaltepe**	**4.55**	**115**		*eP*		**Pn**	**15 07 03.3**	**-0.4**
COPN					*eS*		**Sn**	**15 07 56.4**	**+1.1**
APYN	**Apoyeque**	**4.74**	**114**		*eP*		**Pn**	**15 07 06.6**	**+0.3**
APYN					*eS*		**Sn**	**15 08 02.3**	**+2.3**
XAVN	**Gruta Xavier**	**4.79**	**114**		*eP*		**Pn**	**15 07 08.0**	**+1.0**
TISN	**Laguna Tiscapa**	**4.85**	**114**		*eP*		**Pn**	**15 07 09.2**	**+1.4**
HUEN		**4.86**	**112**		*eP*		**Pn**	**15 07 08.3**	**+0.4**
HUEN					*eS*		**Sn**	**15 08 07.9**	**+5.0**
MGAN	**Managua**	**4.87**	**114**		*eP*		**Pn**	**15 07 08.0**	**0.0**
CRUN	**El Crucero**	**4.89**	**116**		*eP*		**Pn**	**15 07 09.4**	**+1.0**
CMIG	**Matias Romero** comp=Z,99nm,0.3s,baz=134,slow=10,SNR=446	**4.89**	**307**	P			**Pn**	**15 07 06.1**	**-2.3**
CMIG	comp=Z,125nm,0.3s,baz=79,slow=14,SNR=10			S			**Sn**	**15 08 02.7**	**-1.1**
CMIG	**Matias Romero**	**4.89**	**307**	P			**Pn**	**15 07 06.1**	**-2.3**
CMIG				S			**Sn**	**15 08 02.7**	**-1.1**
CMIG	**Matias Romero**	**4.89**	**307**		*eP*		**Pn**	**15 07 06.0**	**-2.3**
CMIG					*i* S		**Sn**	**15 08 02.5**	**-1.3**
TICN	**Ticuantepe**	**4.93**	**115**		*eP*		**Pn**	**15 07 09.2**	**+0.3**
APON	**Apoyo**	**5.12**	**115**		*eP*		**Pn**	**15 07 12.9**	**+1.4**
HUIG	**Huatulco**	**5.38**	**288**		*i* P		**Pn**	**15 07 11.4**	**-3.6**
HUIG					*i* S		**Sn**	**15 08 09.7**	**-5.9**
CONN	**Concepcion**	**5.67**	**117**		*eP*		**Pn**	**15 07 19.9**	**+1.0**
OXX	**Oaxaca**	**6.40**	**298**		*eP*		**Pn**	**15 07 32.8**	**+3.8**
OXX					*i* S		**Sn**	**15 08 37.2**	**-3.4**
VCR	**Vista de Mar**	**6.45**	**128**		*eP*		**Pn**	**15 07 29.3**	**-0.4**
VCR					*eS*		**Sn**	**15 08 41.5**	**-0.4**
TEIG	**Tepich**	**6.48**	**21**		P		**Pn**	**15 07 31.4**	**+1.3**
TEIG	comp=Z,388nm,0.3s,baz=201,slow=4.9,SNR=708			S			**Sn**	**15 08 44.4**	**+1.8**
TEIG	**Tepich** baz=337,slow=14,SNR=2.1	**6.48**	**21**		*eP*		**Pn**	**15 07 31.0**	**+0.9**
JCR	**Jicaral** comp=Z,3μm,0.6s	**7.03**	**127**	⇓	*eP*		**Pn**	**15 07 37.6**	**+0.1**
JCR					*eS*		**Sn**	**15 08 53.3**	**-2.7**
PNIG	**Pinotepa**	**7.41**	**288**		*eP*		**Pn**	**15 07 39.2**	**-3.5**
PNIG					*i* S		**Sn**	**15 08 59.3**	**-6.0**
CGA2	**Cerro Gallo 2**	**7.44**	**123**		*eP*		**Pn**	**15 07 44.5**	**+1.3**
PRS1	**Puriscal**	**7.58**	**123**		*eP*		**Pn**	**15 07 46.0**	**+0.9**
TPIG	**Tehuac#an**	**7.59**	**305**		*eP*		**Pn**	**15 07 43.6**	**-1.6**
TPIG					*i* S		**Sn**	**15 09 06.5**	**-3.1**
UTMO	**Huajuapan**	**7.66**	**299**		*eP*		**Pn**	**15 07 44.6**	**-1.5**
UTMO					*i* S		**Sn**	**15 09 04.6**	**-6.8**
LVIG	**Laguna Verde**	**7.71**	**316**		*eP*		**Pn**	**15 07 41.9**	**-4.9**
LVIG					*i* S		**Sn**	**15 09 06.2**	**-6.4**
SJS	**Escuela Geolog**	**7.82**	**122**		*eP*		**Pn**	**15 07 52.3**	**+3.9**
ICR	**Volcan Irazu**	**7.98**	**121**	⇑	*eP*		**Pn**	**15 07 52.8**	**+2.2**
QCR	**Quepos**	**8.02**	**125**		*eP*		**Pn**	**15 07 49.2**	**-1.9**
URSC	**Urasca**	**8.11**	**121**	⇑	*eP*		**Pn**	**15 07 52.5**	**+0.2**
URSC					*eS*		**Sn**	**15 09 26.9**	**+4.5**
BUS	**Buena Vista**	**8.28**	**123**		*eP*		**Pn**	**15 07 56.0**	**+1.4**
LIO	**Limon**	**8.64**	**118**		*eP*		**Pn**	**15 08 00.2**	**+0.6**
MEIG	**Mezcala**	**9.27**	**295**		*eP*		**Pn**	**15 08 07.7**	**-0.4**
ACR	**Cerro Adams**	**9.27**	**125**	‖	*eP*		**Pn**	**15 08 07.3**	**-0.9**
ACR					*eS*		**Sn**	**15 09 49.7**	**-1.1**
PLIG	**Platanillo**	**9.35**	**298**		*i* P		**Pn**	**15 08 09.6**	**+0.3**
MZVM		**9.50**	**303**		*i* P		**Pn**	**15 08 12.6**	**+1.3**
CAIG	**El Cayaco**	**9.56**	**289**		*i* P		**Pn**	**15 08 10.2**	**-1.9**
BRU2	**Volcan**	**9.57**	**123**		*eP*		**Pn**	**15 08 13.1**	**+0.8**
DEIG	**Demacu**	**9.95**	**309**		*i* P		**Pn**	**15 08 16.4**	**-1.0**
MTDJ	**Mount Denham** comp=Z,78nm,0.7s	**13.36**	**71**		*eP*		**Pn**	**15 09 02.3**	**-1.1**
LNIG	**Linares**	**13.43**	**324**		*i* P		**Pn**	**15 09 06.0**	**+1.6**
R15V		**13.58**	**293**		*eP*		**Pn**	**15 09 06.5**	**+0.1**
ZAIG	**Zacatecas**	**14.06**	**309**		*i* P		**Pn**	**15 09 13.7**	**+1.1**
PAYG	**Puerto Ayora** comp=Z,149nm,0.8s	**14.76**	**178**		*eP*		**Pn**	**15 09 20.5**	**-1.3**
GTBY	**Guantanamo Bay** comp=Z,64nm,0.8s	**16.05**	**67**		*eP*		**Pn**	**15 09 38.8**	**+0.8**
BRAL	**Brewton** comp=Z,268nm,1.2s	**17.11**	**11**		*eP*		**Pn**	**15 09 54.3**	**+3.2**
NATX	**Nacogdoches** comp=Z,56nm,0.9s	**17.86**	**349**		*eP*		**Pn**	**15 10 00.7**	**+0.4**
VBMS	**Vicksburg** comp=Z,279nm,0.8s	**17.96**	**1**		*eP*		**Pn**	**15 10 01.7**	**+0.2**
JCT	**Junction City** baz=18	**18.23**	**334**	⇓	P		**Pn**	**15 10 03.7**	**-1.0**
JCT	**Junction City** comp=Z,73nm,1.1s	**18.23**	**334**		*eP*		**Pn**	**15 10 04.8**	**+0.1**
JCT	**Junction City**	**18.23**	**334**		*eP*		**Pn**	**15 10 04.8**	**+0.1**
JCT	comp=Z,73nm,1.1s				pmax		pmax		
OTAV	**Otavalo** comp=Z,22nm,1.1s	**18.46**	**138**		*eP*		**Pn**	**15 10 06.0**	**-1.7**
ROSC	**El Rosal** comp=Z,2.2nm,0.3s,baz=83,slow=20,SNR=9.3	**18.68**	**118**	P			**Pn**	**15 10 10.3**	**+0.1**
ROSC	**El Rosal**	**18.68**	**118**	P			**Pn**	**15 10 10.3**	**+0.1**
TXAR	**Lajitas Array** comp=Z,1.9nm,0.3s,baz=148,slow=9.7,SNR=81	**19.22**	**324**	P			**Pn**	**15 10 15.1**	**-1.5**
TXAR	comp=Z,0.7nm,0.3s,baz=152,slow=3.3,SNR=17			PcP			PcP	15 14 33.8	-1.2
TXAR	comp=Z,0.0nm,0.3s,baz=137,slow=4.7,SNR=14			ScP			ScP	15 18 03.0	-0.6
TXAR	**Lajitas Array**	**19.22**	**324**	P			**Pn**	**15 10 15.1**	**-1.5**
TXAR				PcP			PcP	15 14 33.8	-1.2
TXAR				ScP			ScP	15 18 03.0	-0.6
TXAR	**Lajitas Array**	**19.22**	**324**	P			**Pn**	**15 10 15.1**	**-1.5**
SDDR	**Presa de Saban** comp=Z,40nm,1.0s	**19.29**	**73**		*eP*		**Pn**	**15 10 16.3**	**-1.2**
626A	**Big Bend Ranch** baz=20	**19.66**	**323**	⇓	P		**Pn**	**15 10 19.8**

WVT **Waverly** 22.02 6 *eP* P 15 10 44.1 -0.8
WVT pmax pmax
comp=Z,37nm,0.8s,mb4.8
TUL1 **Tulsa** 22.11 349 ⇓P P 15 10 43.9 -1.9
baz=22
Z27A **Tatum** 22.15 331 ⇓P P 15 10 44.5 -1.7
baz=22
TKL **Tuckaleechee C** 22.30 15 P P 15 10 47.3 -0.5
comp=Z,87nm,1.0s,mb5.0,baz=188,slow=10,SNR=49
TKL LR LR 15 20 21.5
comp=Z,636nm,21.6s,baz=241,slow=39
TKL **Tuckaleechee C** 22.30 15 P P 15 10 47.3 -0.5
TKL LR LR 15 20 21.5
TKL **Tuckaleechee C** 22.30 15 P P 15 10 47.3 -0.5
125A **Gardner Draw,** 22.33 328 ⇑P P 15 10 48.4 +0.2
baz=22,SNR=16
Z26A **Caprock** 22.48 330 ⇓P P 15 10 50.4 +0.6
baz=23,SNR=9.5
MSTX **Muleshoe** 22.50 333 ⇓P P 15 10 49.9 0.0
baz=23
KMSC **Kings Mountain** 22.55 21 ⇑P P 15 10 49.7 -0.8
baz=23,SNR=21
Y27A **Causey** 22.60 332 ⇑P P 15 10 51.2 +0.2
baz=23
AMTX **Amarillo** 22.84 336 ⇓P P 15 10 52.6 -0.9
baz=23
AMTX **Amarillo** 22.84 336 *eP* P 15 10 50.8 -2.8
comp=Z,109nm,0.9s,mb5.2
Z25A **Roswell** 22.85 329 ⇓P P 15 10 53.1 -0.5
baz=23
Y26A **Elida** 22.94 331 ⇑P P 15 10 54.4 -0.1
baz=23
123A **Bell Site, Whi** 23.17 325 ⇓P P 15 10 55.9 -0.7
baz=23
TZTN **Tazewell** 23.20 15 *eP* P 15 10 56.4 -0.5
comp=Z,63nm,0.8s,mb5.0
X27A **F and S Farms,** 23.22 334 ⇓P P 15 10 57.0 -0.1
baz=23
Z24A **Sheeppen Canyo** 23.22 328 ⇑P P 15 10 56.4 -0.7
baz=23,SNR=32
222A **Williams Famil** 23.25 323 ⇓P P 15 10 56.8 -0.7
baz=23,SNR=19
Y25A **Mesa, Roswell** 23.35 330 ⇑P P 15 10 57.2 -1.1
baz=24,SNR=39
X26A **CR and CF Fran** 23.45 332 ⇓P P 15 10 59.0 -0.2
baz=24
SIUC **Southern Illin** 23.49 3 *eP* P 15 10 58.7 -0.8
comp=Z,86nm,0.8s,mb5.1
W27A **Bowe Ranch, En** 23.56 334 ⇓P P 15 10 59.6 -0.6
baz=24,SNR=8.7
221A **Mesquite Ranch** 23.59 322 ⇓P P 15 11 00.3 -0.2
baz=24,SNR=21
Z23A **Rita Site, Whi** 23.63 326 ⇓P P 15 11 01.4 +0.5
baz=24,SNR=9.4
122A **Conniff Cattle** 23.63 324 ⇑P P 15 11 00.8 -0.1
baz=24
Y24A **Capitan** 23.73 329 ⇓P P 15 11 01.5 -0.2
baz=24,SNR=5.9
CCM **Cathedral Cave** 23.79 359 *eP* P 15 11 00.2 -2.1
comp=Z,76nm,1.1s,mb4.9
CCM *eP* P 15 11 00.2 -2.1
CCM pmax pmax
comp=Z,76nm,1.1s,mb4.9
X25A **Clemmons Ranch** 23.83 331 ⇓P P 15 11 01.9 -0.7
baz=24
USIN **University of** 23.86 6 *eP* P 15 11 01.0 -1.9
comp=Z,63nm,0.9s,mb5.0
121A **Cookes Peak, D** 23.96 323 ⇑P P 15 11 04.3 +0.4
baz=24,SNR=49
220A **Playas Peak, P** 23.97 320 ⇑P P 15 11 04.3 +0.3
baz=24,SNR=58
SJG **San Juan** 23.99 77 P P 15 11 03.4 -0.9
comp=Z,4.8nm,0.3s,mb4.3,baz=243,slow=4.5,SNR=4.2
SJG LR LR 15 20 41.9
comp=Z,264nm,19.0s,baz=271,slow=38
SJG **San Juan** 23.99 77 P P 15 11 03.4 -0.9
SJG LR LR 15 20 41.9
SJG **San Juan** 23.99 77 P P 15 11 03.4 -0.9
Z22A **Elephant Butte** 24.02 325 ⇓P P 15 11 04.2 -0.2
baz=24,SNR=35
Y23A **Lovelace Mesa,** 24.05 328 ⇓P P 15 11 04.6 -0.1
baz=24,SNR=21
319A **Douglas** 24.09 318 ⇑P P 15 11 05.0 -0.1
baz=24,SNR=7.1
X24A **Lazy VL Ranch,** 24.23 329 ⇑P P 15 11 06.1 -0.2
baz=24
WCI **Wyandotte Cave** 24.29 9 *eP* P 15 11 05.8 -1.0
comp=Z,169nm,1.2s,mb5.2
WCI **Wyandotte Cave** 24.29 9 *eP* P 15 11 05.8 -1.0
WCI pmax pmax
comp=Z,169nm,1.2s,mb5.2
W25A **X Bar L Ranch,** 24.30 332 ⇓P P 15 11 06.5 -0.5
baz=24
Z21A **St. Cloud Mine** 24.46 324 ⇑P P 15 11 09.0 +0.5
baz=25,SNR=11
120A **U Bar Ranch, L** 24.48 321 ⇑P P 15 11 09.0 +0.4
baz=25,SNR=19
ATAH **Atahualpa** 24.49 149 P P 15 11 08.2 -0.7
comp=Z,50nm,0.8s,mb4.9,baz=348,slow=4.4,SNR=26
219A **White Tail Can** 24.49 320 ⇑P P 15 11 08.8 0.0
baz=25,SNR=69
BNM **Barren Site** 24.52 327 *eP* P 15 11 09.3 +0.4
comp=Z,37nm,1.1s,mb4.7
BNM *epP* 15 11 29.3
Y22A **Socorro** 24.54 326 ⇑P P 15 11 09.4 +0.3
baz=25,SNR=29
MTP **Monte Pirata** 24.55 77 *eP* P 15 11 05.1 -4.4
OLIL **Olney** 24.58 5 *eP* P 15 11 08.1 -1.4
comp=Z,83nm,1.0s,mb5.1
318A **Bisbee** 24.60 318 ⇓P P 15 11 09.7 0.0
baz=25,SNR=59
ELN **Prospectdale** 24.64 19 *eP* P 15 11 09.3 -0.7
ELN *epP* 15 11 30.2
LPM **Los Pinos Moun** 24.64 327 *eP* P 15 11 10.7 +0.6
comp=Z,15nm,1.0s,mb4.4
LPM *epP* 15 11 30.5
LENM **Lemitar** 24.71 326 *eP* P 15 11 11.6 +0.8
comp=Z,27nm,1.1s,mb4.6
BLA **Blacksburg** 24.74 20 *eP* P 15 11 10.3 -0.7
comp=Z,46nm,0.8s,mb5.0
BLA *epP* 15 11 30.1
BLA **Blacksburg** 24.74 20 *eP* P 15 11 10.3 -0.6
BLA pmax pmax
comp=Z,47nm,0.8s,mb5.0
W24A **Lazy 6 Ranch,** 24.74 330 ⇑P P 15 11 10.5 -0.5
baz=25,SNR=8.7
Z20A **Nine Sixteen R** 24.85 322 ⇑P P 15 11 12.4 +0.4
baz=25,SNR=46
V25A **Rancho No Teng** 24.89 333 ⇑P P 15 11 12.3 0.0
baz=25,SNR=7.0
VWCC **Virginia Weste** 24.92 21 *eP* P 15 11 12.0 -0.6
VWCC *epP* 15 11 32.9
Y21A **Point of Rocks** 24.98 325 ⇓P P 15 11 13.5 +0.4
baz=25,SNR=57
218A **Dragoon** 24.98 318 ⇑P P 15 11 13.4 +0.2
baz=25,SNR=41
LAZ **Ladron** 24.98 327 *eP* P 15 11 14.6 +1.4
comp=Z,5.9nm,0.9s,mb4.0
U26A **Atchley Ranch,** 24.98 335 ⇑P P 15 11 13.1 0.0
baz=25
119A **Ashpeak Ranch,** 25.04 321 ⇑P P 15 11 14.2 +0.5
baz=25,SNR=39
ANMO **Albuquerque** 25.05 328 P P 15 11 14.3 +0.5
comp=Z,3.8nm,0.9s,mb3.8,baz=150,slow=13,SNR=8.3
ANMO PcP PcP 15 14 45.4 -1.2
comp=Z,4.7nm,0.8s,baz=160,slow=5.8,SNR=4.2
ANMO **Albuquerque** 25.05 328 *eP* P 15 11 13.6 -0.2
comp=Z,6.6nm,1.2s,mb3.9
ANMO *epP* pP 15 11 32.9 +0.1
ANMO **Albuquerque** 25.05 328 *eP* P 15 11 13.6 -0.2
ANMO pmax pmax
comp=Z,7.0nm,1.2s
W23A **Werner Place,** 25.06 329 ⇓P P 15 11 14.0 +0.1
baz=25,SNR=8.3
V24A **Rampart Ranch,** 25.09 331 ⇑P P 15 11 14.3 +0.1
baz=25
U25A **Circle Dot Ran** 25.27 334 ⇓P P 15 11 15.4 -0.4
baz=25
Y20A **Horse Springs,** 25.30 324 ⇓P P 15 11 16.7 +0.6
baz=26,SNR=68
217A **Green Valley** 25.35 317 ⇑P P 15 11 16.7 +0.1
baz=26,SNR=43
KSU1 **Kansas State U** 25.35 349 *eP* P 15 11 15.4 -1.1
comp=Z,31nm,0.7s,mb4.8
W22A **Albuquerque** 25.36 328 ⇓P P 15 11 16.7 +0.1
baz=26
X21A **Alamocita Cree** 25.36 326 ⇓P P 15 11 17.0 +0.4
baz=26,SNR=67
118A **Homack Ranch,** 25.37 320 ⇓P P 15 11 16.8 +0.1
baz=26,SNR=49
Z19A **T-Link Ranch,** 25.38 322 ⇑P P 15 11 17.2 +0.4
baz=26
V23A **Ortiz Mt. (NFS** 25.54 330 ⇑P P 15 11 18.3 0.0
baz=26
TUC **Tucson** 25.67 318 *eP* P 15 11 19.2 -0.3
comp=Z,17nm,1.0s,mb4.4
TUC **Tucson** 25.67 318 *eP* P 15 11 19.2 -0.3
TUC pmax pmax
comp=Z,17nm,1.0s,mb4.4
Z18A **Geronimo** 25.71 320 ⇑P P 15 11 19.9 +0.1
baz=26,SNR=8.4
W21A **San Fidel** 25.80 327 ⇑P P 15 11 21.3 +0.7
baz=26,SNR=5.8
117A **Oracle** 25.81 319 ⇓P P 15 11 21.3 +0.6
baz=26,SNR=13
X20A **Quemado** 25.83 325 ⇓P P 15 11 22.1 +1.2
baz=26,SNR=18
Y19A **Nutrioso** 25.84 323 ⇑P P 15 11 21.8 +0.8
baz=26,SNR=26
216A **Three Points,** 25.92 317 ⇓P P 15 11 22.2 +0.5
baz=26,SNR=12
U23A **El Rito** 26.02 331 ⇑P P 15 11 22.9 +0.3
baz=26
V22A **San Miguel Ran** 26.04 329 ⇓P P 15 11 23.4 +0.7
baz=26,SNR=7.7
T24A **Torres, Weston** 26.11 333 ⇑P P 15 11 24.5 +1.1
baz=26,SNR=6.1
Z17A **San Carlos Hig** 26.12 320 ⇓P P 15 11 23.7 +0.2
baz=26,SNR=8.9
Y18A **Canyon Day Jun** 26.18 322 ⇑P P 15 11 24.9 +0.8
baz=26,SNR=42
X19A **St. Johns** 26.20 324 ⇑P P 15 11 25.3 +1.1
baz=26,SNR=22
W20A **Ramah** 26.26 326 ⇑P P 15 11 26.0 +1.2
baz=26,SNR=18
SFIN **Scholer Farm** 26.31 6 ⇓P P 15 11 23.8 -1.3
baz=26
V21A **Milan** 26.32 328 ⇓P P 15 11 26.4 +1.1
baz=26
S25A **Robets Cordova** 26.35 335 ⇑P P 15 11 25.8 +0.3
baz=26
U22A **Llaves** 26.38 330 ⇓P P 15 11 26.6 +0.8
baz=26,SNR=9.9
116A **Eloy** 26.43 317 ⇓P P 15 11 25.7 -0.7
baz=27
Y17A **Roosevelt** 26.62 320 ⇓P P 15 11 28.3 +0.3
baz=27
X18A **Snowflake** 26.65 323 ⇑P P 15 11 29.1 +0.8
baz=27,SNR=8.3
W19A **Sanders** 26.75 324 ⇑P P 15 11 30.2 +1.1
baz=27,SNR=16
V20A **Brimhall** 26.75 327 ⇑P P 15 11 29.8 +0.7
baz=27,SNR=7.3
Z16A **Peralta Trail,** 26.75 319 ⇓P P 15 11 29.1 -0.1
baz=27
214A **Organ Pipe Nat** 26.81 315 ⇑P P 15 11 30.0 +0.3
baz=27,SNR=17
U21A **Nageezi** 26.81 329 ⇑P P 15 11 30.9 +1.2
baz=27,SNR=9.6
ACSO **Alum Creek Sta** 26.85 13 *eP* P 15 11 29.1 -0.9
comp=Z,58nm,0.6s,mb5.3
ACSO *epP* pP 15 11 50.0 +1.0
115A **Sonoran Desert** 26.86 317 ⇑P P 15 11 30.4 +0.2
baz=27
SDCO **Great Sand Dun** 26.87 334 ⇑P P 15 11 31.6 +1.4
baz=27,SNR=7.4
SDCO **Great Sand Dun** 26.87 334 *eP* P 15 11 30.4 +0.2
comp=Z,6.2nm,0.9s,mb4.1
SDCO *epP* pP 15 11 51.7 +2.5
T22A **Edith** 26.91 331 ⇑P P 15 11 30.2 -0.3
baz=27
W18A **Petrified Fore** 26.95 324 ⇑P P 15 11 31.7 +0.8
baz=27,SNR=12
V19A **Window Rock** 27.00 326 ⇑P P 15 11 31.2 -0.2
baz=27
X17A **Forest Lakes** 27.03 321 ⇑P P 15 11 32.6 +0.9
baz=27,SNR=16
S23A **Nye Farm, Mont** 27.06 333 ⇑P P 15 11 32.3 +0.4
baz=27
Y16A **Circle Bar Ran** 27.14 320 ⇑P P 15 11 33.1 +0.4
baz=27,SNR=13
MCWV **Mont Chateau** 27.15 19 *eP* P 15 11 32.1 -0.6
comp=Z,12nm,0.5s,mb4.7
T21A **Navajo Lake** 27.19 330 ⇑P P 15 11 33.8 +0.7
baz=27
U20A **Newcomb** 27.21 327 ⇓P P 15 11 34.2 +0.9
baz=27,SNR=6.2
114A **Black Gap (USA** 27.33 316 ⇓P P 15 11 35.1 +0.6
baz=28,SNR=10
S22A **4UR Ranch, Cre** 27.46 332 ⇓P P 15 11 36.6 +1.0
baz=28,SNR=8.1
X16A **Lo Mia Camp, P** 27.47 321 ⇓P P 15 11 35.9 +0.3
baz=28,SNR=17
W17A **Winslow** 27.48 323 ⇑P P 15 11 36.0 +0.3
baz=28
V18A **Ganado** 27.48 325 ⇑P P 15 11 36.2 +0.4
baz=28,SNR=10
U19A **Dine' College,** 27.52 326 ⇓P P 15 11 36.3 +0.3
baz=28,SNR=10
Y15A **Casa Rosa Ranc** 27.72 319 ⇑P P 15 11 38.0 +0.2
baz=28,SNR=9.1
Z14A **Wintersburg** 27.75 317 ⇓P P 15 11 38.3 +0.1
baz=28,SNR=7.2
T19A **Beclabito** 27.82 327 ⇑P P 15 11 38.8 +0.1
baz=28
MVCO **Mesa Verde** 27.84 329 ⇓P P 15 11 39.7 +0.8
baz=28,SNR=12
MVCO **Mesa Verde** 27.84 329 *eP* P 15 11 39.3 +0.3
comp=Z,38nm,1.4s,mb4.7
MVCO *epP* pP 15 12 01.0 +3.0
S21A **Coal Bank Pass** 27.85 330 ⇑P P 15 11 39.6 +0.7
baz=28
V17A **Tonalea, Kykot** 27.91 323 ⇑P P 15 11 40.0 +0.4
baz=28,SNR=32
113A **Mohawk Valley,** 27.94 315 ⇑P P 15 11 39.8 0.0
baz=28,SNR=23
U18A **Rough Rock, Ch** 27.97 326 ⇓P P 15 11 40.2 +0.2
baz=28,SNR=9.3
SDMD **Soldier's Deli** 27.98 23 *eP* P 15 11 39.2 -0.8
comp=Z,24nm,0.7s,mb4.8
W16A **Flagstaff** 27.98 322 ⇓P P 15 11 40.8 +0.7
baz=28,SNR=8.0
Z13A **Yuma Proving G** 28.12 316 ⇓P P 15 11 41.8 +0.4
baz=28,SNR=17
Y14A **Wickenburg** 28.14 318 ⇓P P 15 11 41.8 +0.1
baz=28,SNR=8.7
WUAZ **Wupatki** 28.18 323 ⇑P P 15 11 42.6 +0.7
baz=28,SNR=19
WUAZ **Wupatki** 28.18 323 *eP* P 15 11 42.2 +0.3
comp=Z,23nm,0.9s,mb4.7
U16A **Tuba City** 28.47 324 ⇑P P 15 11 45.2 +0.7
baz=29,SNR=21
T18A **Mexican Hat** 28.50 327 ⇑P P 15 11 45.5 +0.8
baz=29,SNR=13
R20A **Redvale** 28.55 330 ⇓P P 15 11 45.5 +0.3
baz=29
S19A **Harvey Farm, M** 28.58 329 ⇓P P 15 11 46.1 +0.7
baz=29
PV01 **Paradox Valley** 28.60 330 *eP* P 15 11 47.2 +1.6
comp=Z,412nm,0.8s
SSPA **Standing Stone** 28.68 21 *eP* P 15 11 44.9 -1.4
comp=Z,8.8nm,0.5s,mb4.7
GLA **Glamis** 28.83 315 ⇑P P 15 11 48.3 +0.6
baz=29,SNR=8.0
GLA **Glamis** 28.83 315 *eP* P 15 11 47.6 -0.2
comp=Z,68nm,1.3s,mb5.1
GLA **Glamis** 28.83 315 *eP* P 15 11 47.6 -0.1
GLA pmax pmax
comp=Z,67nm,1.3s,mb5.1
V15A **Kaibab Nationa** 28.86 322 ⇓P P 15 11 48.8 +0.9
baz=29,SNR=21
T17A **Navajo Res., N** 28.90 325 ⇑P P 15 11 48.8 +0.5
baz=29,SNR=25
PV04 **Paradox Valley** 28.97 330 *eP* P 15 11 50.1 +1.2
S18A **Hurst Farm, Bl** 28.98 327 ⇑P P 15 11 49.4 +0.4
baz=29,SNR=23
Y12C **Blythe** 29.03 316 ⇓P P 15 11 49.4 -0.1
baz=29
R19A **Curley Farm, L** 29.06 329 ⇓P P 15 11 50.3 +0.5
baz=29,SNR=7.0
PDMCI **Parker Dam,Lak** 29.11 318 ⇓P P 15 11 50.6 +0.4
baz=29,SNR=15
T16A **Glen Canyon Da** 29.28 325 ⇓P P 15 11 52.1 +0.4
baz=29
U15A **North Rim** 29.34 323 ⇓P P 15 11 53.3 +1.0
baz=30,SNR=28
S17A **Black Ridge (B** 29.36 326 ⇑P P 15 11 53.0 +0.5
baz=30,SNR=14
SWSC **Sam W. Stewart** 29.44 314 ⇓P P 15 11 53.5 +0.3
baz=30,SNR=6.4
NNA **Nana** 29.44 151 LR LR 15 20 33.6
comp=Z,140nm,21.1s,baz=320,slow=30
R18A **Canyonlands Na** 29.45 328 ⇑P P 15 11 53.2 0.0
baz=30,SNR=7.7
Q19A **Hogan Spring (** 29.58 330 ⇓P P 15 11 54.8 +0.5
baz=30,SNR=5.0
BC3 **Big Chuckawall** 29.60 315 ⇑P P 15 11 55.1 +0.5
baz=30,SNR=38
IRM **Iron Mountain** 29.69 316 ⇑P P 15 11 56.0 +0.7
baz=30,SNR=19
T15A **Red Dirt Ranch** 29.80 324 ⇑P P 15 11 57.1 +0.8
baz=30,SNR=16
MONP **Monument Peak** 29.85 313 ⇓P P 15 11 57.3 +0.5
baz=30
S16A **Weppner Ranch,** 29.86 326 ⇓P P 15 11 57.6 +0.8
baz=30,SNR=16
U14A **Mt Trumbull** 29.86 322 ⇓P P 15 11 57.7 +0.9
baz=30,SNR=23
ECSD **EROS Data Cent** 29.88 352 *eP* P 15 11 54.1 -2.8
comp=Z,56nm,1.6s,mb5.0
ECSD *epP* pP 15 12 15.9 -0.2
R17A **Hanksville Air** 29.90 328 ⇑P P 15 11 58.0 +0.9
baz=30,SNR=6.1
Q18A **Rafter H Ranch** 30.12 329 ⇓P P 15 11 60.0 +0.9
baz=30,SNR=8.1
BELC **Belle Mtn. Jos** 30.17 315 ⇓P P 15 12 00.1 +0.4
baz=30,SNR=9.4
R16A **Teasdale** 30.21 326 ⇑P P 15 12 00.7 +0.9
baz=30,SNR=27
LDFC **Landfair** 30.21 318 *eP* P 15 12 01.2 +1.2
comp=Z,91nm,1.2s,mb5.3
S15A **Panguitch** 30.25 325 ⇑P P 15 12 01.3 +1.0
baz=30,SNR=15
PFO **Pinyon Flat Ob** 30.27 314 ⇓P P 15 12 00.9 +0.5
baz=30,SNR=6.5
SRU **San Rafael** 30.32 329 ⇓P P 15 12 01.5 +0.6
baz=30,SNR=9.2
SRU **San Rafael** 30.32 329 *eP* P 15 12 01.4 +0.5
comp=Z,31nm,1.6s,mb4.7
SRU **San Rafael** 30.32 329 *eP* P 15 12 01.4 +0.5
SRU pmax pmax
comp=Z,31nm,1.6s,mb4.7
U13A **Pakoon Wash** 30.33 321 ⇓P P 15 12 02.1 +1.1
baz=30,SNR=24
GMRC **Granite Mounta** 30.40 317 ⇑P P 15 12 01.9 +0.3
baz=31,SNR=17
Q16A **Castle Valley** 30.51 328 ⇓P P 15 12 03.2 +0.6
baz=31,SNR=8.3
P18A **Preston Nutter** 30.58 330 ⇓P P 15 12 03.9 +0.7
baz=31,SNR=8.9
R15A **Junction** 30.58 325 ⇑P P 15 12 03.6 +0.4
baz=31
N20A **Spence Gulch,** 30.62 333 ⇓P P 15 12 03.6 +0.1
baz=31
P17A **Butcher Ranch,** 30.71 329 ⇓P P 15 12 05.0 +0.7
baz=31,SNR=6.3
BINY **Binghamton** 30.73 22 *eP* P 15 12 03.6 -0.8
comp=Z,23nm,0.5s,mb5.2
CCUT **Cedar City** 30.73 323 *eP* P 15 12 05.6 +1.1
comp=Z,36nm,1.2s,mb5.0
MSU **Marysvale** 30.75 326 *eP* P 15 12 05.6 +1.0
comp=Z,8.7nm,0.7s,mb4.6
MSU **Marysvale** 30.75 326 *eP* P 15 12 05.6 +1.0
MSU pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
MURC **Murrieta** 30.78 314 ⇑P P 15 12 05.0 0.0
baz=31,SNR=5.2
HEC **Hectate Ludlow** 30.87 316 ⇑P P 15 12 06.5 +0.7
baz=31,SNR=15
ARUT **Antelope Range** 30.94 324 *eP* P 15 12 07.4 +1.1
comp=Z,66nm,1.3s,mb5.2
ARUT **Antelope Range** 30.94 324 *eP* P 15 12 07.4 +1.0
ARUT pmax pmax
comp=Z,67nm,1.3s,mb5.2
BBRC **Big Bear Solar** 30.95 315 ⇓P P 15 12 07.3 +0.8
baz=31
TUQ **Turquoise Moun** 30.96 318 ⇓P P 15 12 07.1 +0.6
baz=31,SNR=16
SHPR **Sheep Range** 31.13 320 *eP* P 15 12 08.1 +0.1
comp=Z,30nm,1.3s,mb4.9
Q15A **Fillmore** 31.21 326 ⇓P P 15 12 09.4 +0.7
baz=31,SNR=16
O17A **Robinson Place** 31.26 330 ⇑P P 15 12 10.2 +1.1
baz=31,SNR=5.7
N18A **Larsen Ranch,** 31.37 332 ⇓P P 15 12 10.7 +0.6
baz=32
BFSC **Mount Baldy Ra** 31.45 314 ⇓P P 15 12 11.1 +0.3
baz=32,SNR=6.8
GSC **Goldstone** 31.46 317 ⇑P P 15 12 11.4 +0.4
baz=32,SNR=6.9
SHOC **Shoshone** 31.47 318 ⇑P P 15 12 11.4 +0.4
baz=32,SNR=5.8
R13A **O'Grain Ranch,** 31.52 324 ⇑P P 15 12 12.6 +1.2
baz=32,SNR=26
CIS **Catalina Islan** 31.54 312 ⇑P P 15 12 11.8 +0.2
baz=32
MPU **Maple Canyon** 31.57 329 *eP* P 15 12 12.0 +0.2
comp=Z,11nm,0.9s,mb4.6
P15A **Leamington** 31.57 327 ⇑P P 15 12 12.3 +0.5
baz=32,SNR=6.3
DAU **Daniels Canyon** 31.68 329 *eP* P 15 12 14.3 +1.5
comp=Z,49nm,1.5s,mb5.0
DAU **Daniels Canyon** 31.68 329 *eP* P 15 12 14.3 +1.5
DAU pmax pmax
comp=Z,49nm,1.5s,mb5.0
Q14A **Sevier Lake (B** 31.69 325 ⇑P P 15 12 13.8 +0.9
baz=32,SNR=22
MWC **Mount Wilson** 31.72 314 *eP* P 15 12 13.5 +0.2
comp=Z,49nm,1.3s,mb5.1
MWC **Mount Wilson** 31.72 314 *eP* P 15 12 13.5 +0.2
MWC pmax pmax
comp=Z,49nm,1.3s,mb5.1
N17A **Moffit Pass** 31.88 331 ⇑P P 15 12 15.8 +1.2
baz=32
P14A **Drum Mountains** 32.00 326 ⇑P P 15 12 16.4 +0.7
baz=32,SNR=26
EDW2 **Edwards Air Fo** 32.03 315 ⇓P P 15 12 16.3 +0.4
baz=32,SNR=8.5
N16A **Rees Ranch, Co** 32.13 330 ⇑P P 15 12 18.1 +1.3
baz=32
LRMC **Laurel Mountai** 32.16 316 ⇑P P 15 12 17.4 +0.3
baz=32,SNR=17
FURC **Furnace Creek,** 32.19 318 ⇓P P 15 12 17.5 +0.1
baz=32,SNR=8.1
M17A **Scullys Gap (B** 32.22 331 ⇓P P 15 12 18.1 +0.6
baz=32
QUA2 **Belchertown** 32.23 26 *eP* P 15 12 16.5 -1.0
comp=Z,17nm,0.6s,mb4.9
L18A **Fontenelle, Gr** 32.29 333 ⇑P P 15 12 19.1 +0.9
baz=32
DUG **Dugway** 32.31 327 ⇓P P 15 12 18.9 +0.6
baz=32,SNR=7.3
DUG **Dugway** 32.31 327 *eP* P 15 12 18.6 +0.3
comp=Z,5.3nm,0.9s,mb4.3
DUG **Dugway** 32.31 327 *eP* P 15 12 18.7 +0.4
DUG pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
MPMC **Manual Prospec** 32.35 317 ⇑P P 15 12 19.3 +0.5
baz=32,SNR=29
BLG **Laguna Peak** 32.37 313 ⇓P P 15 12 19.9 +1.0
baz=32
OSI **Osito Adit** 32.39 314 ⇓P P 15 12 20.0 +0.8
baz=32
OSI **Osito Adit** 32.39 314 *eP* P 15 12 19.2 +0.1
comp=Z,18nm,0.9s,mb4.8
M16A **Huntsville** 32.55 330 ⇓P P 15 12 21.2 +0.8
baz=33
R11A **Troy Canyon, C** 32.57 322 ⇓P P 15 12 21.6 +0.9
baz=33,SNR=34
ACCN **Adirondack Com** 32.61 23 *eP* P 15 12 19.6 -1.4
comp=Z,9.2nm,0.6s,mb4.8
N15A **Stansbury Isla** 32.67 329 ⇓P P 15 12 21.8 +0.3
baz=33
ARVC **Arvin** 32.74 315 ⇑P P 15 12 22.5 +0.3
baz=33
HWUT **Hardware Ranch** 32.75 331 *eP* P 15 12 22.6 +0.5
comp=Z,16nm,1.1s,mb4.8
PDAR **Pinedale Array** 32.76 334 P P 15 12 21.9 -0.4
comp=Z,0.9nm,0.5s,mb3.9,baz=128,slow=9.6,SNR=7.3
PDAR PcP PcP 15 15 03.4 -2.4
comp=Z,1.6nm,0.5s,baz=119,slow=5.9,SNR=7.7
PDAR ScP ScP 15 18 41.2 -1.3
comp=Z,2.8nm,1.1s,baz=126,slow=3.8,SNR=6.8

PDAR Pinedale Array 32.76 334 P P 15 12 21.9 -0.4
PDAR PcP PcP 15 15 03.4 -2.4
PDAR ScP ScP 15 18 41.2 -1.3
ISA Isabella 32.79 316 ⇑P P 15 12 23.1 +0.5
baz=33,SNR=15
ISA Isabella 32.79 316 *e*P P 15 12 22.8 +0.2
comp=Z,109nm,1.9s,mb5.4
ISA Isabella 32.79 316 *e*P P 15 12 22.8 +0.2
ISA pmax pmax
comp=Z,109nm,1.9s,mb5.4
GRAC Grapevine Rang 32.83 319 ⇓P P 15 12 23.4 +0.4
baz=33
NCB Newcomb 32.90 22 *e*P P 15 12 22.1 -1.4
comp=Z,13nm,0.6s,mb4.9
BGU Big Grassy Mou 32.96 328 *e*P P 15 12 24.3 +0.3
comp=Z,31nm,1.5s,mb4.9
CWC Cottonwood Cre 32.96 317 ⇓P P 15 12 24.3 +0.2
baz=33,SNR=7.1
M15A Larsen Ranch, 33.06 329 ⇓P P 15 12 25.3 +0.4
baz=33,SNR=12
H22A Clearmont 33.09 339 ⇑P P 15 12 25.7 +0.6
baz=33
I20A Worland 33.17 337 ⇑P P 15 12 25.4 -0.4
baz=33,SNR=5.2
VES Vestal, Richgr 33.30 315 ⇑P P 15 12 27.9 +0.8
baz=33,SNR=21
PKM Peak Mountain 33.31 313 ⇑P P 15 12 27.7 +0.6
baz=33,SNR=7.4
MDV Middlebury 33.32 23 *e*P P 15 12 25.8 -1.4
comp=Z,2um,0.6s
J18A Kendall Valley 33.32 334 ⇑P P 15 12 26.8 -0.4
baz=34,SNR=7.9
LONY Lake Ozonia 33.34 21 *e*P P 15 12 25.7 -1.5
comp=Z,37nm,1.2s,mb5.1
K17A Gardner Place, 33.34 333 ⇓P P 15 12 27.7 +0.4
baz=34
H21A Big Horn, Sher 33.36 339 ⇑P P 15 12 27.6 +0.2
baz=34
L15A Malad City 33.44 330 ⇑P P 15 12 28.3 +0.1
baz=34,SNR=12
HVU Hansel Valley 33.46 329 *e*P P 15 12 29.1 +0.7
comp=Z,57nm,1.4s,mb5.2
HVU Hansel Valley 33.46 329 *e*P P 15 12 29.1 +0.7
HVU pmax pmax
comp=Z,57nm,1.4s,mb5.2
I19A Meeteetse 33.58 336 ⇓P P 15 12 29.9 +0.5
baz=34
SMMC Simmler 33.65 314 ⇓P P 15 12 30.7 +0.6
baz=34,SNR=8.2
EYMN Ely 33.68 359 *e*P P 15 12 27.4 -2.7
comp=Z,8.2nm,0.6s,mb4.7
REDW Red Top Meadow 33.80 333 *e*P P 15 12 31.3 0.0
comp=Z,19nm,1.0s,mb4.9
FRNY Flat Rock 33.88 22 *e*P P 15 12 30.5 -1.4
comp=Z,6.5nm,0.4s,mb4.8
L14A Malta 33.88 329 ⇓P P 15 12 32.1 +0.1
baz=34,SNR=25
LOHW Long Hollow 33.90 334 *e*P P 15 12 32.1 0.0
comp=Z,7.9nm,0.9s,mb4.5
TPAW Teton Pass 33.95 333 *e*P P 15 12 32.7 +0.2
comp=Z,15nm,1.0s,mb4.8
TPAW *e*pP pP 15 12 55.2 +3.3
K15A Arbon 34.03 331 ⇓P P 15 12 33.5 +0.2
baz=34,SNR=6.6
MOOW Moose Ponds 34.06 334 *e*P P 15 12 33.2 -0.4
comp=Z,6.4nm,0.9s,mb4.5
H19A Powell 34.11 337 ⇓P P 15 12 33.7 -0.3
baz=34
MLAC Mammoth Lakes 34.15 318 ⇑P P 15 12 35.1 +0.8
baz=34
K14A Jones Ranch, D 34.24 330 ⇑P P 15 12 35.2 +0.1
baz=34,SNR=8.6
IMW Indian Meadow 34.27 334 *e*P P 15 12 36.3 +0.9
comp=Z,3.2nm,0.5s,mb4.4
AGMN Agassiz Nation 34.28 354 *e*P P 15 12 32.9 -2.5
comp=Z,10nm,0.6s,mb4.8
NVAR Mina Array Bea 34.28 320 P P 15 12 36.4 +0.8
comp=Z,39nm,1.0s,mb5.2,baz=135,slow=8.0,SNR=182
NVAR PcP PcP 15 15 09.8 -0.4
comp=Z,3.2nm,0.5s,baz=111,slow=2.0,SNR=28
NVAR ScP ScP 15 18 46.8 -1.3
comp=Z,2.7nm,0.8s,baz=129,slow=4.3,SNR=10
NVAR LR LR 15 27 34.9
comp=Z,158nm,19.4s,baz=242,slow=38
NVAR Mina Array Bea 34.28 320 P P 15 12 36.4 +0.8
NVAR PcP PcP 15 15 09.8 -0.4
NVAR ScP ScP 15 18 46.8 -1.3
NVAR LR LR 15 27 34.9
G20A Bridger 34.29 338 ⇑P P 15 12 35.7 +0.2
baz=34
FLWY Flagg Ranch 34.32 334 *e*P P 15 12 35.2 -0.5
comp=Z,9.2nm,1.0s,mb4.6
MDND Maddock 34.36 349 ⇓P P 15 12 36.1 0.0
baz=34
H18A Shoshone NF, C 34.38 336 ⇑P P 15 12 36.1 -0.2
baz=35,SNR=21
J15A Blackfoot 34.54 332 ⇓P P 15 12 37.0 -0.7
baz=35
RLMT Red Lodge 34.60 337 ⇓P P 15 12 38.1 -0.1
baz=35
D24A Glendive 34.73 344 ⇑P P 15 12 39.2 -0.1
baz=35
F20A Billings 34.76 339 ⇓P P 15 12 39.5 -0.1
baz=35
G18A Lazy EL Ranch, 34.88 337 ⇓P P 15 12 40.1 -0.4
baz=35,SNR=5.4
BMN Battle Mountai 34.90 324 *e*P P 15 12 41.2 +0.5
comp=Z,39nm,1.3s,mb5.1
BMN Battle Mountai 34.90 324 *e*P P 15 12 41.3 +0.5
BMN pmax pmax
comp=Z,39nm,1.3s,mb5.1
LAO LASA Array 34.90 341 ⇑P P 15 12 40.8 0.0
baz=35
J14A Carey 34.99 331 ⇓P P 15 12 42.4 +0.8
baz=35,SNR=6.3
D23A Lindsay 35.03 343 ⇑P P 15 12 42.4 +0.5
baz=35
WAKR Walker 35.04 319 *e*P P 15 12 42.7 +0.6
comp=Z,67nm,1.6s,mb5.2
D22A Cohagen 35.30 342 ⇑P P 15 12 44.2 0.0
baz=36
G17A Pierce Place, 35.34 335 ⇓P P 15 12 44.7 +0.2
baz=36
J13A Cove Ranch, Pi 35.36 330 ⇑P P 15 12 44.8 0.0
baz=36
E20A Meyer Farm, Mu 35.36 339 ⇑P P 15 12 44.8 0.0
baz=36
CMB Columbia Colle 35.38 318 *e*P P 15 12 44.9 -0.2
comp=Z,19nm,1.1s,mb4.8
CMB Columbia Colle 35.38 318 *e*P P 15 12 44.9 -0.1
CMB pmax pmax
comp=Z,19nm,1.1s,mb4.8
I14A Mackay 35.42 331 ⇓P P 15 12 46.1 +0.9
baz=36,SNR=6.7
D21A La Casta Ranch 35.48 341 ⇓P P 15 12 46.1 +0.4
baz=36
E19A Rath Farm, Rou 35.56 338 ⇑P P 15 12 46.5 +0.2
baz=36
HLID Hailey 35.60 330 ⇑P P 15 12 47.1 +0.3
baz=36,SNR=12
HLID Hailey 35.60 330 *e*P P 15 12 46.6 -0.2
comp=Z,37nm,1.6s,mb5.1
C23A Lambert 35.60 343 ⇑P P 15 12 47.0 +0.2
baz=36
G16A Moss Hill, Enn 35.71 334 ⇑P P 15 12 48.3 +0.7
baz=36
WCN Washoe City 35.71 320 ⇓P P 15 12 49.2 +1.3
baz=36,SNR=6.5
WCN Washoe City 35.71 320 *e*P P 15 12 47.9 0.0
comp=Z,30nm,1.5s,mb5.0
WCN Washoe City 35.71 320 *e*P P 15 12 47.9 +0.1
WCN pmax pmax
comp=Z,30nm,1.5s,mb5.0
I13A Wildhorse Cree 35.72 331 ⇑P P 15 12 48.6 +0.8
baz=36,SNR=15
PAHR Pah Rah Range 35.72 321 *e*P P 15 12 48.1 +0.2
comp=Z,45nm,1.5s,mb5.2
C22A Vida 35.75 342 ⇑P P 15 12 48.7 +0.7
baz=36
F17A Fitzpatrick Pl 35.79 336 ⇑P P 15 12 49.0 +0.6
baz=36
MCMT McKenzie Canyo 35.84 333 *e*P P 15 12 49.1 +0.3
comp=Z,4.0nm,0.7s,mb4.5
H14A Leadore 35.91 332 ⇑P P 15 12 50.5 +1.1
baz=36,SNR=8.4
G15A Dillon 35.95 334 ⇓P P 15 12 50.0 +0.3
baz=36
BOZ Bozeman (W) 35.97 335 ⇓P P 15 12 50.6 +0.6
baz=36
I12A Atlanta 36.12 330 ⇓P P 15 12 51.8 +0.5
baz=36,SNR=28
DLMT Dillon 36.15 334 *e*P P 15 12 48.9 -2.6
comp=Z,7.5nm,1.2s,mb4.5
MFID Camas Ranch 36.19 329 ⇑P P 15 12 52.2 +0.4
baz=36,SNR=8.5
MFID Camas Ranch 36.19 329 *e*P P 15 12 51.9 0.0
comp=Z,19nm,1.2s,mb4.9
D19A Cripps Ranch, 36.19 339 ⇑P P 15 12 51.8 0.0
baz=36
ULM Lac du Bonnet 36.22 354 P P 15 12 48.8 -3.1
comp=Z,18nm,0.8s,mb5.0,baz=175,slow=8.5,SNR=20
ULM LR LR 15 30 57.7
comp=Z,160nm,19.5s,baz=111,slow=42
ULM Lac du Bonnet 36.22 354 P P 15 12 48.8 -3.1
ULM LR LR 15 30 57.7
ULM Lac du Bonnet 36.22 354 P P 15 12 48.8 -3.1
H13A Challis 36.28 331 ⇑P P 15 12 52.9 +0.4
baz=36,SNR=17
G14A Jackson 36.44 333 ⇓P P 15 12 54.1 +0.2
baz=37
LRM Limekiln Ridge 36.45 334 *e*P P 15 12 54.3 +0.3
comp=Z,52nm,0.9s,mb5.5
F15A Butte 36.49 334 ⇑P P 15 12 54.2 -0.1
baz=37
H12A Diamond D Ranc 36.55 331 ⇓P P 15 12 55.4 +0.5
baz=37,SNR=18
A23A Redstone 36.58 344 ⇑P P 15 12 54.9 -0.2
baz=37
G13A Cobalt 36.67 332 ⇓P P 15 12 55.6 -0.3
baz=37
E16A East Helena 36.71 336 ⇓P P 15 12 55.7 -0.5
baz=37
C19A Slack Wire Ran 36.74 339 ⇑P P 15 12 56.3 -0.1
baz=37
D17A Six Diamond Ra 36.84 337 ⇓P P 15 12 57.3 0.0
baz=37
HRY Holter Researc 36.92 336 *e*P P 15 12 57.7 -0.3
comp=Z,2.7nm,0.5s,mb4.4
WVOR Wild Horse Val 37.01 325 *e*P P 15 12 58.5 -0.3
comp=Z,49nm,1.4s,mb5.2
WVOR Wild Horse Val 37.01 325 *e*P P 15 12 58.5 -0.3
WVOR pmax pmax
comp=Z,49nm,1.4s,mb5.2
A21A Bergtoll Ranch 37.17 342 ⇑P P 15 13 00.5 +0.4
baz=37
G12A Big Creek, Yel 37.20 331 ⇓P P 15 13 00.1 -0.3
baz=37
EGMT Eagleton 37.24 339 ⇑P P 15 13 00.7 +0.1
baz=37,SNR=7.1
EGMT Eagleton 37.24 339 *e*P P 15 12 60.0 -0.7
comp=Z,23nm,1.2s,mb5.0
F13A Darby 37.25 333 ⇓P P 15 13 00.7 0.0
baz=37,SNR=7.6
E14A Clinton 37.37 334 ⇑P P 15 13 01.6 -0.2
baz=38,SNR=5.2
A20A Cobblestone Ra 37.38 341 ⇓P P 15 13 01.6 -0.2
baz=38,SNR=6.1
D15A Lincoln 37.46 335 ⇑P P 15 13 02.4 -0.2
baz=38
J08A Circle Bar Ran 37.54 326 ⇑P P 15 13 03.2 -0.1
baz=38,SNR=9.8
MOD Modoc 37.62 323 *e*P P 15 13 02.9 -1.1
comp=Z,59nm,1.6s,mb5.2
LPAZ La Paz 37.65 143 P P 15 13 03.6 -0.8
comp=Z,4.8nm,0.8s,mb4.4,baz=330,slow=7.4,SNR=21
LPAZ LR LR 15 27 20.8
comp=Z,164nm,21.3s,baz=213,slow=34
LPAZ La Paz 37.65 143 P P 15 13 03.6 -0.8
LPAZ LR LR 15 27 20.8
LPAZ La Paz 37.65 143 P P 15 13 03.7 -0.8
A19A Klindworth Far 37.68 341 ⇑P P 15 13 04.2 -0.2
baz=38
E13A Victor 37.69 333 ⇑P P 15 13 04.2 -0.3
baz=38,SNR=9.3
C16A Fuhringer Ranc 37.78 337 ⇓P P 15 13 04.8 -0.4
baz=38,SNR=6.7
MSO Missoula 37.88 334 ⇓P P 15 13 06.1 -0.1
baz=38
LTIM Timbered Crate 37.89 321 P P 15 13 06.5 +0.2
D14A Greenough 37.90 335 ⇑P P 15 13 05.6 -0.7
baz=38
A18A Metzger Ranch, 38.03 340 ⇓P P 15 13 06.9 -0.5
baz=38
B16A M & M Farms, S 38.27 337 ⇑P P 15 13 08.9 -0.5
baz=38
E12A Beaver Dam Sad 38.28 332 ⇓P P 15 13 08.8 -0.7
baz=38
D13A Huson 38.31 334 ⇑P P 15 13 09.0 -0.7
baz=38,SNR=5.6
A17A Triple J Farms 38.35 339 ⇑P P 15 13 09.6 -0.5
baz=38,SNR=11
KIPM Iron Peak 38.37 318 *e*P P 15 13 10.8 +0.4
comp=Z,83nm,1.3s,mb5.4
K05A Summer Lake 38.48 324 ⇑P P 15 13 11.1 -0.1
baz=39
I07A Izee 38.58 326 ⇓P P 15 13 12.0 0.0
baz=39,SNR=14
D12A Red Ives Fores 38.67 333 ⇓P P 15 13 12.0 -0.7
baz=39
F10A Beach Ranch, E 38.73 330 ⇑P P 15 13 12.8 -0.5
baz=39,SNR=12
C13A Hot Springs 38.82 334 ⇓P P 15 13 13.1 -0.8
baz=39
G08A Pilot Rock 39.11 328 ⇑P P 15 13 16.2 -0.3
baz=39
KHMM Horse Mountain 39.11 319 *e*P P 15 13 16.3 -0.2
comp=Z,104nm,1.4s,mb5.5
A15A Johnson Ranch, 39.12 337 ⇓P P 15 13 16.1 -0.4
baz=39
C12B Naegeli Ranch, 39.22 334 ⇑P P 15 13 17.2 -0.1
baz=39
B13A Whitefish 39.32 335 ⇓P P 15 13 17.5 -0.6
baz=40
A14A Double T Ranch 39.38 336 ⇑P P 15 13 18.4 -0.2
baz=40,SNR=9.1
VIPM Ingram Point 39.46 326 P P 15 13 18.8 -0.5
VIPM Ingram Point 39.46 326 P P 15 13 18.8 -0.6
C11A Tepee Creek (N 39.66 333 ⇑P P 15 13 20.8 -0.3
baz=40,SNR=6.1
A13A Flathead Natio 39.74 336 ⇓P P 15 13 21.8 +0.2
baz=40
G06A Carlson Farm, 39.95 327 ⇑P P 15 13 23.6 +0.2
baz=40
D08A Wollman Farm, 40.32 330 ⇑P P 15 13 26.2 -0.3
baz=40
BROR Big Rock Looko 40.32 324 P P 15 13 25.9 -0.7
E07A Sunnyside 40.43 329 ⇑P P 15 13 27.5 +0.1
baz=41
H04A Detroit Lake 40.43 325 ⇓P P 15 13 27.1 -0.3
baz=41,SNR=10
OD2 Odessa Site #2 40.46 331 P P 15 13 27.6 0.0
HOOD Mount Hood Mea 40.55 326 P P 15 13 29.1 +0.7
C09A Chrisman Ranch 40.55 331 ⇑P P 15 13 28.0 -0.3
baz=41,SNR=5.1
KEBM Edson Butte 40.60 321 *e*P P 15 13 29.3 +0.4
comp=Z,339nm,1.2s,mb6.0
RNO Roman Nose 40.85 323 P P 15 13 30.9 0.0
G04A Mulino 40.92 325 ⇓P P 15 13 31.3 -0.1
baz=41
ASR Mount Adams--S 41.05 327 P P 15 13 33.2 +0.7
B08A Colville Reser 41.44 331 ⇓P P 15 13 35.6 -0.1
baz=42
D05A Enumclaw 41.94 328 ⇓P P 15 13 39.6 -0.1
baz=42
F03A Seaside 41.97 326 ⇑P P 15 13 40.0 0.0
baz=42
E03A Lebam 42.35 326 ⇑P P 15 13 43.1 0.0
baz=42
A05A Maple Falls 43.20 330 ⇓P P 15 13 49.4 -0.6
baz=43
SCHQ Schefferville 44.66 20 P P 15 13 59.5 -2.0
comp=Z,50nm,0.8s,mb5.3,baz=217,slow=6.4,SNR=97
SCHQ LR LR 15 33 43.4
comp=Z,464nm,19.4s,baz=30,slow=38
SCHQ Schefferville 44.66 20 *e*P P 15 13 59.2 -2.3
comp=Z,51nm,0.8s,mb5.3
YKA Yellowknife Ar 51.13 346 P P 15 14 49.0 -2.3
comp=Z,2.3nm,0.6s,mb4.4,baz=144,slow=7.9,SNR=18
YKA pP pP 15 15 09.0 -2.8
comp=Z,7.4nm,0.8s,baz=146,slow=7.7,SNR=10
YKA PcP PcP 15 16 02.8 -3.0
comp=Z,2.0nm,0.5s,baz=154,slow=3.6,SNR=12
YKA ScP ScP 15 19 53.6 -1.3
comp=Z,2.5nm,0.9s,baz=145,slow=4.7,SNR=4.2
YKA LR LR 15 37 29.5
comp=Z,19nm,21.4s,baz=355,slow=37
YKA Yellowknife Ar 51.13 346 pP pP 15 14 49.0 -2.8
YKA pP pP 15 15 09.0 -2.8
YKA PcP PcP 15 16 02.8 -3.0
YKA ScP ScP 15 19 53.6 -1.3
YKA LR LR 15 37 29.4
YKA Yellowknife Ar 51.13 346 P P 15 14 49.0 -2.3
YKA 15 16 02.8
CPUP Villa Florida 51.77 141 P P 15 14 53.5 -3.1
comp=Z,1.1nm,0.4s,mb4.3,baz=312,slow=6.5,SNR=11
CPUP pP pP 15 15 13.9 -3.3
comp=Z,5.2nm,0.9s,baz=322,slow=7.9,SNR=3.3
CPUP PcP PcP 15 16 06.3 -2.6
comp=Z,1.4nm,0.5s,baz=321,slow=6.5,SNR=3.1
CPUP LR LR 15 36 15.1
comp=Z,172nm,20.0s,baz=303,slow=35
CPUP Villa Florida 51.77 141 P P 15 14 53.5 -3.2
CPUP pP pP 15 15 13.9 -3.3
CPUP PcP PcP 15 16 06.3 -2.5
CPUP LR LR 15 36 15.1
CPUP Villa Florida 51.77 141 P P 15 14 53.5 -3.1
CPUP 15 16 06.3
DLBC Dease Lake 52.98 335 P P 15 15 04.4 -0.7
comp=Z,5.0nm,0.6s,mb4.7,baz=170,slow=15,SNR=13
DLBC Dease Lake 52.98 335 P P 15 15 04.4 -0.7
TAOE Nuku Hiva Isla 54.04 248 *e*LR LR 15 30 29.2
comp=Z,457nm,29.9s
RKT Rikitea 56.95 230 *e*T 16 16 11.6
comp=Z,17nm,0.3s
PLCA Paso Flores 57.76 162 P P 15 15 37.0 -2.6
comp=Z,8.4nm,0.9s,mb4.8,baz=342,slow=9.0,SNR=15
PLCA LR LR 15 34 23.0
comp=Z,246nm,20.4s,baz=157,slow=30
PLCA Paso Flores 57.76 162 P P 15 15 37.0 -2.6
PLCA LR LR 15 34 23.0
PLCA Paso Flores 57.76 162 P P 15 15 37.0 -2.6
RCBR Riachuelo 57.96 106 P P 15 15 37.4 -4.3
comp=Z,6.9nm,0.8s,mb4.8,baz=223,slow=22,SNR=7.0
RCBR Riachuelo 57.96 106 P P 15 15 37.4 -4.3
RES Resolute Bay 60.55 359 P P 15 15 55.5 -3.0
comp=Z,8.6nm,0.7s,mb4.9,baz=186,slow=10,SNR=37
RES LR LR 15 41 29.5
comp=Z,142nm,21.7s,baz=220,slow=35
RES Resolute Bay 60.55 359 *e*P P 15 15 54.9 -3.6
comp=Z,11nm,0.8s,mb4.9
RES Resolute Bay 60.55 359 *e*P P 15 15 54.9 -3.6
RES pmax pmax
comp=Z,11nm,0.8s,mb4.9
INK Inuvik 60.61 343 P P 15 15 56.7 -2.2
comp=Z,6.0nm,0.7s,mb4.7,baz=125,slow=7.4,SNR=32
INK Inuvik 60.61 343 *e*P P 15 15 55.8 -3.1
comp=Z,12nm,1.0s,mb4.9
INK Inuvik 60.61 343 *e*P P 15 15 55.8 -3.1
INK pmax pmax
comp=Z,12nm,1.0s
ILAR Eielson Array 63.15 337 P P 15 16 13.6 -2.4
comp=Z,3.2nm,0.6s,mb4.4,baz=164,slow=4.3,SNR=26
ILAR pP pP 15 16 33.9 -3.4
comp=Z,6.2nm,1.1s,baz=128,slow=5.5,SNR=4.9
ILAR LR LR 15 47 22.4
comp=Z,65nm,18.3s,baz=119,slow=39
ILAR Eielson Array 63.15 337 P P 15 16 13.6 -2.4
ILAR pP pP 15 16 33.9 -3.4
ILAR LR LR 15 47 22.4
ILAR Eielson Array 63.15 337 P P 15 16 13.6 -2.4
KDAK Kodiak Island 63.19 328 P P 15 16 14.6 -1.8
comp=Z,8.6nm,0.6s,mb4.9,baz=159,slow=6.8,SNR=14
KDAK Kodiak Island 63.19 328 P P 15 16 14.6 -1.8
KDAK Kodiak Island 63.19 328 P P 15 16 14.6 -1.8
PMOR Pomariorio Ree 63.48 245 *e*T 16 24 05.6
comp=Z,4.1nm,0.2s
TRF Thorofare Moun 63.98 334 *e*P P 15 16 19.8 -1.8
comp=Z,42nm,1.5s,mb5.0
RSO Redoubt South 64.07 331 *e*P P 15 16 20.8 -1.3
comp=Z,60nm,0.5s,mb5.7
PPLA Purkeypile 64.59 334 *e*P P 15 16 23.2 -2.3
MEH Mehetia 64.84 242 *e*T 16 25 50.0
comp=Z,34nm,0.2s
SUMG Summit 65.76 15 *e*P P 15 16 30.1 -2.9
comp=Z,8.2nm,0.8s,mb4.6
SUMG *e* pP 15 16 52.3 -2.0
SUMG Summit 65.76 15 *e*P P 15 16 30.1 -2.8
SUMG pmax pmax
comp=Z,8.0nm,0.8s
SUMG Summit 65.76 15 *i*P P 15 16 30.7 -2.2
comp=Z,7.9nm,0.7s,mb4.7
SUMG *i* pP 15 16 52.6 -1.7
PPT Papeete 66.01 243 *e*LR LR 15 36 03.5
comp=Z,529nm,29.5s
PPT Papeete 66.01 243 *e*LR LR 15 36 27.5
comp=Z,129nm,19.4s,baz=315,slow=28
TBI Tubuai 68.43 238 *e*LR LR 15 37 12.4
comp=Z,354nm,31.8s
BBTS Babate 71.59 79 LR LR 15 43 20.2
comp=Z,117nm,19.2s,baz=302,slow=32
ESDC Sonseca Array 78.69 52 P P 15 17 45.5 -5.1
comp=Z,0.7nm,0.4s,mb3.8,baz=293,slow=4.8,SNR=4.5
ESDC LR LR 15 47 53.7
comp=Z,121nm,19.8s,baz=215,slow=32
ESDC Sonseca Array 78.69 52 P P 15 17 45.5 -5.1
ESDC LR LR 15 47 53.7
MDT Midelt 79.30 59 LR LR 15 50 38.6
comp=Z,88nm,20.0s,baz=331,slow=34
GRR Gorron 79.51 43 *e*P P 15 17 50.6 -4.3
comp=Z,110nm,1.4s,mb5.2
GRR Gorron 79.51 43 *e*P P 15 17 50.6 -4.3
comp=Z,55nm,1.4s,mb5.2
GRR Gorron 79.51 43 *e*P P 15 17 50.6 -4.3
GRR pmax pmax
comp=Z,55nm,1.4s,mb5.2
SPITS Spitsbergen Ar 79.69 12 P P 15 17 52.8 -2.6
comp=Z,2.2nm,0.5s,mb4.3,baz=288,slow=0.8,SNR=10
SPITS Spitsbergen Ar 79.69 12 P P 15 17 52.8 -2.6
SPITS Spitsbergen Ar 79.69 12 P P 15 17 52.8 -2.5
LDF La Druitiere 79.96 42 *e*P P 15 17 53.5 -3.8
LDF La Druitiere 79.96 42 *e*P P 15 17 53.5 -3.8
LDF La Druitiere 79.96 42 *e*P P 15 17 53.5 -3.8
SJPF Ste Jean 80.15 48 *e*P P 15 17 53.8 -4.7
comp=Z,104nm,1.6s,mb5.1
SJPF Ste Jean 80.15 48 *e*P P 15 17 53.8 -4.7
comp=Z,52nm,1.6s,mb5.1
SJPF Ste Jean 80.15 48 *e*P P 15 17 53.8 -4.7
SJPF pmax pmax
comp=Z,52nm,1.6s,mb5.1
MFF Saint Martin d 80.29 44 *e*P P 15 17 54.7 -4.5
MFF Saint Martin d 80.29 44 *e*P P 15 17 54.7 -4.5
MFF Saint Martin d 80.29 44 *e*P P 15 17 54.7 -4.5
BILL Bilibino 81.73 338 *e*P P 15 18 03.6 -2.8
comp=Z,9.3nm,0.5s,mb4.9
BILL Bilibino 81.73 338 *c i*P P 15 18 04.4 -2.0
BILL pmax pmax
comp=Z,20nm,1.2s,mb4.8
FX1 Attu Island--F 82.43 323 P P 15 18 08.8 -1.6
comp=Z,16nm,0.7s,mb5.0,baz=260,slow=23,SNR=5.0
FX1 Attu Island--F 82.43 323 P P 15 18 08.8 -1.6
FX1 Attu Island--F 82.43 323 P P 15 18 08.8 -1.6
FX1 pmax pmax
comp=Z,16nm,0.7s
LOR Lormes 82.84 43 *e*P P 15 18 07.6 -5.0
comp=Z,31nm,1.3s,mb4.7
LOR Lormes 82.84 43 *e*P P 15 18 07.6 -5.0
comp=Z,16nm,1.3s,mb4.7
LOR Lormes 82.84 43 *e*P P 15 18 07.6 -5.0
LOR pmax pmax
comp=Z,16nm,1.3s,mb4.7
SFTF Sexfontaines 83.40 42 *e*P P 15 18 10.6 -4.9
SFTF Sexfontaines 83.40 42 *e*P P 15 18 10.6 -4.9
NB2 NORSAR Subarra 83.44 29 P P 15 18 12.6 -2.8
comp=Z,9.3nm,1.1s,mb4.5,baz=291,slow=5.1
NOA NORSAR Array B 83.44 29 P P 15 18 11.7 -3.7
comp=Z,1.3nm,0.9s,mb3.8,baz=291,slow=5.3,SNR=2.8
NOA pP pP 15 18 35.0 -2.5
comp=Z,3.6nm,0.8s,baz=289,slow=5.0,SNR=7.0
NOA LR LR 15 51 32.7
comp=Z,67nm,22.0s,baz=90,slow=33
NOA NORSAR Array B 83.44 29 P P 15 18 11.7 -3.7
NOA pP pP 15 18 35.0 -2.6
NOA LR LR 15 51 32.7
NOA NORSAR Array B 83.44 29 P P 15 18 11.7 -3.7
HAU Haudompre 84.30 42 *e*P P 15 18 15.5 -4.6
comp=Z,9.1nm,0.7s,mb4.4
HAU Haudompre 84.30 42 *e*P P 15 18 15.5 -4.6
comp=Z,4.6nm,0.7s,mb4.4
HAU Haudompre 84.30 42 *e*P P 15 18 15.5 -4.6
HAU pmax pmax
comp=Z,5.0nm,0.7s,mb4.5

LIC	**Lamto**	**84.41**	**85**	*e*P	**P**	**15 18 16.9**	**-4.4**	
LIC	**Lamto**	**84.41**	**85**	*e*P	**P**	**15 18 16.9**	**-4.4**	
DBIC	**Dimbokro**	**84.47**	**85**	P	**P**	**15 18 17.6**	**-4.1**	
	comp=Z,4.2nm,0.6s,mb4.5,baz=270,slow=4.2,SNR=11							
DBIC				LR	LR	15 54 00.2		
	comp=Z,28nm,18.7s,baz=233,slow=34							
DBIC	**Dimbokro**	**84.47**	**85**	P	**P**	**15 18 17.6**	**-4.1**	
DBIC				LR	LR	15 54 00.2		
DBIC	**Dimbokro**	**84.47**	**85**	P	**P**	**15 18 17.6**	**-4.0**	
BSEG	**Bad Segeberg**	**85.08**	**36**	*e*P	sP	15 18 53.7	-1.4	
	comp=Z,63nm,1.3s							
NRDL	**Niedersach Rie**	**85.39**	**37**	*e*P	sP	15 18 55.1	-1.5	
	comp=Z,20nm,1.3s							
ARCES	**ARCESS Array B**	**85.61**	**18**	P	**P**	**15 18 23.1**	**-3.1**	
	comp=Z,2.2nm,0.6s,mb4.3,baz=271,slow=4.4,SNR=26							
ARCES	**ARCESS Array B**	**85.61**	**18**	P	**P**	**15 18 23.1**	**-3.1**	
ARCES	**ARCESS Array B**	**85.61**	**18**	P	**P**	**15 18 23.1**	**-3.1**	
FRF	**La Foret Royal**	**85.65**	**46**	*e*P	**P**	**15 18 23.8**	**-3.1**	
	comp=Z,40nm,1.3s,mb4.9							
FRF	**La Foret Royal**	**85.65**	**46**	*e*P	**P**	**15 18 23.8**	**-3.1**	
	comp=Z,20nm,1.3s,mb4.9							
FRF	**La Foret Royal**	**85.65**	**46**	*e*P	**P**	**15 18 23.8**	**-3.1**	
FRF				pmax	pmax			
	comp=Z,20nm,1.3s,mb4.9							
CLZ	**Clausthal**	**85.74**	**38**	*e*P	sP	15 18 57.0	-1.4	
	comp=Z,20nm,1.1s							
UBBA	**Unterbreizbach**	**85.82**	**39**	*e*P	sP	15 18 57.0	-1.8	
	comp=Z,27nm,1.7s							
MOX	**Moxa**	**86.85**	**39**	*e*P	sP	15 19 02.3	-1.6	
	comp=Z,13nm,1.2s							
GRF	**Grafenberg Arr**	**86.91**	**40**	*e*P	sP	15 19 03.0	-1.2	
	comp=Z,17nm,0.9s							
DAVOX	**Davos/Dischmat**	**86.94**	**43**	P	**P**	**15 18 31.6**	**-1.6**	
	comp=Z,1.9nm,0.7s,mb4.1,baz=314,slow=14,SNR=4.0							
DAVOX	**Davos/Dischmat**	**86.94**	**43**	P	**P**	**15 18 31.6**	**-1.6**	
DAVOX	**Davos/Dischmat**	**86.94**	**43**	P	**P**	**15 18 31.6**	**-1.6**	
GRA3	**Grafenberg Arr**	**86.95**	**39**	*e*P	sP	15 19 03.1	-1.3	
	comp=Z,19nm,1.1s							
GRB4	**Grafenberg Arr**	**87.19**	**40**	*e*P	sP	15 19 04.2	-1.4	
	comp=Z,31nm,1.0s							
GRB1	**Grafenberg Arr**	**87.27**	**40**	*e*P	sP	15 19 04.8	-1.2	
	comp=Z,27nm,1.2s							
GRC4	**Grafenberg Arr**	**87.29**	**40**	*e*P	sP	15 19 04.8	-1.3	
	comp=Z,39nm,1.4s							
GRC1	**Grafenberg Arr**	**87.32**	**40**	*e*P	sP	15 19 05.1	-1.1	
	comp=Z,22nm,1.5s							
GRB2	**Grafenberg Arr**	**87.32**	**40**	*e*P	sP	15 19 04.9	-1.3	
	comp=Z,32nm,1.0s							
WERD	**Werda**	**87.33**	**39**	*e*P	sP	15 19 04.5	-1.8	
	comp=Z,21nm,1.3s							
GUNZ	**Gunzen**	**87.38**	**39**	*e*P	sP	15 19 05.0	-1.5	
	comp=Z,36nm,1.5s							
GRB5	**Grafenberg Arr**	**87.38**	**40**	*e*P	sP	15 19 05.0	-1.5	
	comp=Z,21nm,1.1s							
GRB3	**Grafenberg Arr**	**87.38**	**40**	*e*P	sP	15 19 05.4	-1.1	
	comp=Z,23nm,1.2s							
WERN	**Wernitzgruen**	**87.43**	**39**	*e*P	sP	15 19 05.3	-1.4	
	comp=Z,15nm,1.1s							
TANN	**Tannenbergstha**	**87.44**	**39**	*e*P	sP	15 19 05.2	-1.6	
	comp=Z,14nm,1.1s							
CLL	**Collm**	**87.47**	**38**	*e*P	sP	15 19 04.9	-2.0	
	comp=Z,14nm,1.0s							
CLL	**Collm**	**87.47**	**38**	*e*P	**P**	**15 18 34.0**	**-1.6**	
CLL				*i* *SP	sP	15 19 04.6	-2.3	
CLL	**Collm**	**87.47**	**38**	*e*P	**P**	**15 18 34.0**	**-1.6**	
CLL				*e*pP	pP	15 18 56.0	-1.9	
CLL				*i* sP	sP	15 19 04.6	-2.3	
	comp=Z,14nm,1.0s							
ROTZ	**Rotzenmuhle**	**87.49**	**39**	*e*P	sP	15 19 05.7	-1.4	
	comp=Z,16nm,1.3s							
FBE	**Freiberg**	**87.80**	**38**	*e*P	sP	15 19 07.0	-1.5	
	comp=Z,25nm,1.4s							
WET	**Wettzell**	**88.11**	**40**	*e*P	sP	15 19 08.7	-1.3	
	comp=Z,24nm,1.4s							
BRG	**Berggiesshubel**	**88.17**	**38**	*e*P	sP	15 19 08.2	-2.0	
	comp=Z,13nm,1.3s							
GEC2	**GERESS Array S**	**88.72**	**40**	*e*P	sP	15 19 11.3	-1.6	
	comp=Z,7.0nm,1.0s							
GERES	**GERESS Array B**	**88.72**	**40**	P	**P**	**15 18 39.6**	**-2.0**	
	comp=Z,0.3nm,0.3s,mb3.8,baz=316,slow=3.7,SNR=3.7							
GERES				pP	pP	15 19 01.1	-3.0	
	comp=Z,1.3nm,0.8s,baz=316,slow=3.7,SNR=3.5							
GERES	**GERESS Array B**	**88.72**	**40**	P	**P**	**15 18 39.6**	**-2.0**	
GERES				pP	pP	15 19 01.1	-3.0	
GERES	**GERESS Array B**	**88.72**	**40**	P	**P**	**15 18 39.6**	**-2.0**	
SEY	**Seymchan**	**89.08**	**336**	⇓*e*P	**P**	**15 18 41.3**	**-1.7**	
TORD	**Torodi Ar. Bea**	**89.20**	**77**	P	**P**	**15 18 39.0**	**-5.6**	
	comp=Z,0.6nm,0.5s,mb3.9,baz=291,slow=5.0,SNR=14							
TORD				LR	LR	15 54 55.0		
	comp=Z,72nm,21.5s,baz=310,slow=33							
TORD	**Torodi Ar. Bea**	**89.20**	**77**	P	**P**	**15 18 39.0**	**-5.6**	
TORD				LR	LR	15 54 55.0		
PETK	**Petropavlovsk-**	**91.16**	**326**	P	**P**	**15 18 52.2**	**-0.7**	
	comp=Z,4.0nm,0.7s,mb4.7,baz=96,slow=9.4,SNR=5.3							
PETK	**Petropavlovsk-**	**91.16**	**326**	P	**P**	**15 18 52.2**	**-0.7**	
PETK	**Petropavlovsk-**	**91.16**	**326**	P	**P**	**15 18 52.2**	**-0.7**	
DZM	**Mont Dzumac**	**106.84**	**251**	*e*LR	LR	15 54 55.9		
	comp=Z,142nm,28.8s							
KURK	**Kurchatov**	**114.73**	**7**	PKP	PKiKP	15 24 25.1	-3.0	
	comp=Z,1.3nm,0.5s,baz=346,slow=2.1,SNR=20							
KURK	**Kurchatov**	**114.73**	**7**	PKP	PKiKP	15 24 25.1	-3.0	
KURK	**Kurchatov**	**114.73**	**7**	PKIKP	PKiKP	15 24 25.1	-3.0	
SONM	**Songino Array**	**116.39**	**347**	PKP	PKPdf	15 24 28.6	-2.9	
	comp=Z,0.9nm,0.6s,baz=262,slow=0.6,SNR=12							
SONM				PKKPbc	PKKPbc	15 34 58.6	-3.1	
	comp=Z,0.7nm,0.9s,baz=225,slow=4.7,SNR=4.2							
SONM	**Songino Array**	**116.39**	**347**	PKP	PKPdf	15 24 28.6	-2.9	
SONM				PKKPbc	PKKPbc	15 34 58.6	-3.1	
SONM	**Songino Array**	**116.39**	**347**	PKIKP	PKPdf	15 24 28.6	-2.8	
SONM						15 34 58.6		
KSRS	**Korea Array**	**117.06**	**326**	PKP	PKPdf	15 24 30.9	-2.1	
	comp=Z,4.6nm,0.6s,baz=8.2,slow=1.8,SNR=23							
KSRS	**Korea Array**	**117.06**	**326**	PKIKP	PKPdf	15 24 31.0	-2.0	
KSRS				pmax	pmax			
	comp=Z,5.0nm,0.6s							
MKAR	**Makanchi Array**	**119.00**	**5**	PKP	PKPdf	15 24 32.6	-3.8	
	comp=Z,0.9nm,0.4s,baz=350,slow=2.2,SNR=10							
MKAR	**Makanchi Array**	**119.00**	**5**	PKP	PKPdf	15 24 32.6	-3.8	
MKAR	**Makanchi Array**	**119.00**	**5**	PKIKP	PKPdf	15 24 32.7	-3.8	
BOSA	**Boshof**	**119.37**	**115**	PKP	PKPdf	15 24 34.9	-2.7	
	comp=Z,5.9nm,0.7s,baz=175,slow=2.8,SNR=8.3							
BOSA	**Boshof**	**119.37**	**115**	PKP	PKPdf	15 24 34.9	-2.7	
BOSA	**Boshof**	**119.37**	**115**	PKIKP	PKPdf	15 24 34.9	-2.7	
LBTB	**Lobatse**	**119.57**	**111**	PKP	PKPdf	15 24 35.6	-2.5	
	comp=Z,3.7nm,0.6s,baz=312,slow=5.4,SNR=4.4							
LBTB	**Lobatse**	**119.57**	**111**	PKP	PKPdf	15 24 35.6	-2.5	
LBTB	**Lobatse**	**119.57**	**111**	PKIKP	PKPdf	15 24 35.6	-2.5	
HHC	**Hu-ho-hao-te**	**121.46**	**340**	*e*PKP	PKPdf	15 24 36.3	-5.1	
HHC				sPKP		15 25 12.0		
HHC				PP	PP	15 26 13.3	+0.6	
HHC				PKS		15 28 11.9		
HHC				SKS	SKSdf	15 31 36.8	-9.4	
HHC				SKKS	SKKSac	15 32 54.2	-11	
HHC				AMB	AMB			
	comp=Z,70nm,9.2s							
HHC				LR	LR			
	comp=N,150nm,20.6s							
HHC				LR	LR			
	comp=E,160nm,19.8s							
HHC				LR	LR			
	comp=Z,110nm,19.8s							
WMQ	**Urumqi**	**122.27**	**1**	PKP	PKPdf	15 24 39.8	-3.1	
WMQ				PP	PP	15 26 20.8	+2.9	
WMQ				LR	LR			
	comp=N,51nm,13.5s							
WMQ				LR	LR			
	comp=E,210nm,13.0s							
WMQ				LR	LR			
	comp=Z,530nm,29.4s							
MAW	**Mawson**	**123.91**	**168**	PKP	PKPdf	15 24 42.9	-2.3	
	comp=Z,2.0nm,0.7s,baz=267,slow=2.4,SNR=10							
MAW				pP		15 25 05.3		
	comp=Z,3.0nm,0.8s,baz=333,slow=1.9,SNR=4.2							
MAW	**Mawson**	**123.91**	**168**	*e*P	PKPdf	15 24 42.9	-2.3	
	comp=Z,2.2nm,1.0s							
MAW				*e*pP		15 25 06.0		
MAW	**Mawson**	**123.91**	**168**	PKP	PKPdf	15 24 42.9	-2.3	
MAW				pP		15 25 05.3		
MAW	**Mawson**	**123.91**	**168**	PKIKP	PKPdf	15 24 42.9	-2.3	
TOO	**Toolangi**	**125.14**	**234**	*e*P	PKPdf	15 24 46.5	-1.9	
TOO				*e*pP		15 25 09.7		
CMSA	**Cobar Meteorol**	**125.73**	**241**	*e*P	PKPdf	15 24 47.1	-2.7	
CMSA				*e*pP		15 25 10.4		
GTA	**Gaotai**	**125.78**	**350**	*e*PKP	PKPdf	15 24 48.2	-1.5	
GTA				sPKP		15 25 25.9		
LZH	**Lanzhou**	**128.13**	**345**	*e*PKP	PKPdf	15 24 49.5	-4.8	
LZH				sPKP		15 25 27.0		
XAN	**Xi'an**	**128.51**	**339**	PKP	PKPdf	15 24 52.8	-2.3	
STKA	**Stephens Creek**	**129.16**	**240**	PKP	PKPdf	15 24 54.3	-2.0	
	comp=Z,6.4nm,1.0s,baz=25,slow=3.6,SNR=8.4							
STKA	**Stephens Creek**	**129.16**	**240**	*e*P	PKPdf	15 24 54.5	-1.8	
	comp=Z,4.6nm,1.0s							
STKA				*e*pP		15 25 17.5		
STKA	**Stephens Creek**	**129.16**	**240**	PKP	PKPdf	15 24 54.3	-2.0	
STKA	**Stephens Creek**	**129.16**	**240**	PKIKP	PKPdf	15 24 54.3	-2.0	
CD2	**Chengdu**	**133.04**	**343**	PKP	PKPdf	15 25 00.1	-3.7	
CD2				sPKP		15 25 37.7		
CD2				PKS		15 28 35.2		
CD2				SKS	SKSdf	15 32 00.0	-8.0	
CD2				SKKS	SKKSac	15 34 11.1	-7.6	
CD2				SS	SS	15 45 03.0	-1.4	
CD2				AMB	AMB			
	comp=Z,280nm,5.4s							
CD2				LR	LR			
	comp=N,470nm,6.0s							
CD2				LR	LR			
	comp=Z,260nm,5.9s							
GYA	**Guiyang**	**136.19**	**337**	*e*Pdif	Pdif	15 22 11.0	-3.0	
GYA				PKP	PKPdf	15 25 07.6	-2.2	
GYA				sPKP		15 25 42.3		
GYA				PP	PP	15 27 50.4	+1.3	
GYA				AMB	AMB			
	comp=Z,120nm,7.8s							
WRA	**Warramunga Arr**	**136.57**	**256**	PKhKP	PKPpre	15 24 59.0		
	comp=Z,0.6nm,0.7s,baz=86,slow=3.2,SNR=10							
WRA				PKP	PKPdf	15 25 08.2	-2.3	
	comp=Z,4.3nm,0.7s,baz=87,slow=2.5,SNR=29							
WRA				pP		15 25 31.9		
	comp=Z,6.8nm,0.8s,baz=84,slow=1.4,SNR=8.8							
WRA	**Warramunga Arr**	**136.57**	**256**	PKP	PKPpre	15 24 59.0		
WRA				PKP	PKPdf	15 25 08.2	-2.3	
WRA				pP		15 25 31.9		
WRA	**Warramunga Arr**	**136.57**	**256**	PKHKP	PKPpre	15 24 59.0		
WRA						15 25 08.3		
ASAR	**Alice Springs**	**136.83**	**250**	PKhKP	PKPpre	15 24 58.9		
	comp=Z,0.7nm,0.9s,baz=114,slow=3.8,SNR=12							
ASAR				PKP	PKPdf	15 25 09.8	-1.1	
	comp=Z,2.8nm,0.8s,baz=94,slow=2.9,SNR=19							
ASAR				pPKP	pPKPdf	15 25 32.5	-1.8	
	comp=Z,3.0nm,0.8s,baz=107,slow=2.4,SNR=6.1							
ASAR	**Alice Springs**	**136.83**	**250**	PKP	PKPpre	15 24 58.9		
ASAR				PKP	PKPdf	15 25 09.8	-1.1	
ASAR				pPKP	pPKPdf	15 25 32.5	-1.8	
ASAR	**Alice Springs**	**136.83**	**250**	PKHKP	PKPpre	15 24 58.9		
ASAR						15 25 09.9		
DANN	**Dangsing**	**137.40**	**7**	*e*P	PKPdf	15 25 10.1	-1.9	
	comp=Z,27nm,0.6s							
DANN	**Dangsing**	**137.40**	**7**	*e*P	PKPdf	15 25 10.1	-1.9	
GKN	**Gorkha**	**137.84**	**6**	*e*P	PKPdf	15 25 10.7	-2.1	
GKN	**Gorkha**	**137.84**	**6**	*e*P	PKPdf	15 25 10.7	-2.1	
KOLN	**Koldanda**	**137.95**	**7**	*e*P	PKPdf	15 25 10.5	-2.5	
KOLN	**Koldanda**	**137.95**	**7**	*e*P	PKPdf	15 25 10.5	-2.5	
GUN	**Gumba**	**138.04**	**4**	*e*P	PKPdf	15 25 09.8	-3.4	
	comp=Z,10nm,0.4s							
GUN	**Gumba**	**138.04**	**4**	*e*P	PKPdf	15 25 09.8	-3.4	
KKN	**Kakani**	**138.11**	**5**	*e*P	PKPdf	15 25 10.8	-2.5	
	comp=Z,17nm,0.8s							
KKN	**Kakani**	**138.11**	**5**	*e*P	PKPdf	15 25 10.8	-2.5	
KKN	**Kakani**	**138.11**	**5**	*e*PKIKP	PKPdf	15 25 10.8	-2.5	
DMN	**Daman**	**138.28**	**5**	*e*P	PKPdf	15 25 11.5	-2.1	
DMN	**Daman**	**138.28**	**5**	*e*P	PKPdf	15 25 11.5	-2.1	
PKI	**Pulchoki**	**138.34**	**5**	*e*P	PKPdf	15 25 11.3	-2.4	
	comp=Z,15nm,0.6s							
PKI	**Pulchoki**	**138.34**	**5**	*e*P	PKPdf	15 25 11.3	-2.4	
PKI	**Pulchoki**	**138.34**	**5**	*e*PKIKP	PKPdf	15 25 11.3	-2.4	
TAPN	**Taplejung**	**138.70**	**2**	*e*P	PKPdf	15 25 09.0	-5.4	
TAPN	**Taplejung**	**138.70**	**2**	*e*P	PKPdf	15 25 09.0	-5.4	
KMI	**Kunming**	**138.77**	**341**	PKP	PKPdf	15 25 10.6	-4.0	
KMI				LR	LR			
	comp=Z,120nm,25.4s							
ODAN	**Odare**	**139.18**	**2**	*e*P	PKPdf	15 25 13.0	-2.3	
	comp=Z,20nm,1.0s							
ODAN	**Odare**	**139.18**	**2**	*e*P	PKPdf	15 25 13.0	-2.3	
FITZ	**Fitzroy Crossi**	**144.82**	**259**	PKPbc	PKPdf	15 25 23.1	-2.4	
	baz=79,slow=2.0							
FITZ	**Fitzroy Crossi**	**144.82**	**259**	*e*P	PKPdf	15 25 22.6	-2.9	
	comp=Z,37nm,1.0s							
FITZ				*e*pP		15 25 45.6		
FITZ	**Fitzroy Crossi**	**144.82**	**259**	*e*PKPdf	PKPdf	15 25 22.6	-2.9	
KMBL	**Kambalda**	**145.53**	**235**	*e*P	PKPdf	15 25 25.0	-1.4	
	comp=Z,93nm,1.1s							
KMBL				*e*pP		15 25 46.4		
CHG	**Chiang Mai**	**145.85**	**343**	⇓P	PKPdf	15 25 24.9	-2.4	
	comp=Z,24nm,0.6s							
CHTO	**Chiang Mai**	**145.85**	**343**	*e*PKPdf	PKPdf	15 25 23.9	-3.4	
CHTO	**Chiang Mai**	**145.85**	**343**	*e*PKIKP	PKPdf	15 25 23.9	-3.4	
CMAR	**Chiang Mai Arr**	**146.19**	**343**	PKPbc	PKPbc	15 25 26.0	-2.9	
	comp=Z,11nm,0.5s,baz=336,slow=3.2,SNR=75							
CMAR	**Chiang Mai Arr**	**146.19**	**343**	PKPbc	PKPbc	15 25 26.0	-2.9	
CMAR	**Chiang Mai Arr**	**146.19**	**343**	PKP2	PKPab	15 25 27.0	-3.6	
HYB	**Hyderabad**	**146.90**	**19**	*i* PKP	PKPdf	15 25 27.0	-2.1	
BDT	**Bhumibol Dam**	**147.32**	**342**	P	PKPdf	15 25 30.0	+0.2	
	comp=Z,20nm,0.9s							
MBWA	**Marble Bar**	**150.13**	**252**	*e*P	PKPdf	15 25 36.4	+2.2	
MBWA				*e*pP		15 25 59.6		
PSI	**Prapat**	**160.58**	**330**	PKP	PKPdf	15 25 46.5	-2.0	
	comp=Z,4.1nm,0.8s,baz=247,slow=9.6,SNR=5.2							
PSI	**Prapat**	**160.58**	**330**	PKP	PKPdf	15 25 46.5	-2.0	
PSI	**Prapat**	**160.58**	**330**	PKIKP	PKPdf	15 25 46.5	-2.0	

*ISCJB **11** 15:33:48.1±0.2, 45.76N±0.01×6.94E±0.02, h13km±2km, Error ellipse: s-maj=2.5km s-min=1.9km az=173.6*
*GEN **11** 15:33:49.9, 45.79N×7.06E, h3km, ML2.1*
*CSEM **11** 15:33:49.1±0.1, 45.76N×6.99E, h12km, ML2.7/30, Error ellipse: s-maj=1.9km s-min=1.4km az=89.0*
*ROM **11** 15:33:49.5±0.1, 45.81N×7.07E, h7km±2km, Md2.3/9, Ml2.4/5, Error ellipse: s-maj=3.5km s-min=1.7km az=110.0*
*LDG **11** 15:33:49.6±0.1, 45.75N×7.06E, h5km, Md2.6/3, Ml2.7/29, Error ellipse: s-maj=1.1km s-min=0.6km az=102.0*
*ZUR **11** 15:33:50.3, 45.80N×7.05E, h1km±1km, ML2.0/6*
*STR **11** 15:33:51.0±0.4, 45.78N×6.91E, h5km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NEIC **11** 15:33:51.0, 45.78N×6.91E, h5km, ML2.7(LDG), ML2.5(STR), After STR.*

ISC 11 15:33:49.1±0.2, 45.75N±0.01×7.00E±0.02, h15km±1km, n142, s084/283, 5C, France

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRGE	**Morge**	**0.05**	**71**			Pg	**Pg**	**15 33 51.3**	**-0.5**
MRGE						Sg	**Sg**	**15 33 52.0**	**-1.6**
	13µm,0.1s								
MRGE	**Morge**	**0.05**	**71**			Pg	**Pg**	**15 33 51.3**	**-0.5**
MRGE						Sg	**Sg**	**15 33 52.0**	**-1.6**
	13µm,0.1s								
RSL	**Roselend**	**0.27**	**256**			Pg	**Pg**	**15 33 55.4**	**+0.6**
RSL						Sg	**Sg**	**15 33 59.3**	**+0.7**
RSL	**Roselend**	**0.27**	**256**			Pg	**Pg**	**15 33 55.4**	**+0.6**
RSL						Sg	**Sg**	**15 33 59.3**	**+0.7**
RSL	**Roselend**	**0.27**	**256**			Pg	**Pg**	**15 33 55.4**	**+0.6**
RSL						Sg	**Sg**	**15 33 59.3**	**+0.7**
LPL	**La Plagne**	**0.30**	**218**	*e*Pg		**Pg**	**Pg**	**15 33 56.9**	**+1.6**
LPL				*e*Sg		**Sg**	**Sg**	**15 34 00.4**	**+0.8**
	59nm,0.2s								
LPL	**La Plagne**	**0.30**	**218**	*e*Pg		**Pg**	**Pg**	**15 33 56.9**	**+1.6**
LPL				*e*Sg		**Sg**	**Sg**	**15 34 00.4**	**+0.8**
LPL	**La Plagne**	**0.30**	**218**	*e*Pg		**Pg**	**Pg**	**15 33 56.9**	**+1.6**
LPL				*e*Sg		**Sg**	**Sg**	**15 34 00.4**	**+0.8**
	30nm,0.2s								
LPG	**La Plagne**	**0.31**	**214**	*e*Pg		**Pg**	**Pg**	**15 33 57.1**	**+1.6**
LPG				*e*Sg		**Sg**	**Sg**	**15 34 00.7**	**+0.9**
	106nm,0.2s								
LPG	**La Plagne**	**0.31**	**214**	*e*Pg		**Pg**	**Pg**	**15 33 57.1**	**+1.6**
LPG				*e*Sg		**Sg**	**Sg**	**15 34 00.7**	**+0.9**
LPG	**La Plagne**	**0.31**	**214**	*e*Pg		**Pg**	**Pg**	**15 33 57.1**	**+1.6**
LPG				*e*Sg		**Sg**	**Sg**	**15 34 00.7**	**+0.9**
	53nm,0.2s								
EMV	**Vieux Emosson**	**0.32**	**348**	⇑*i*Pg		**Pg**	**Pg**	**15 33 56.1**	**+0.4**
	593nm,0.1s								
EMV				*i* Sg		**Sg**	**Sg**	**15 34 00.0**	**-0.1**
	593nm,0.1s								
EMV	**Vieux Emosson**	**0.32**	**348**	Pg		**Pg**	**Pg**	**15 33 56.0**	**+0.3**
EMV				Sg		**Sg**	**Sg**	**15 34 00.1**	**0.0**
EMV	**Vieux Emosson**	**0.32**	**348**	Pg		**Pg**	**Pg**	**15 33 56.0**	**+0.3**
EMV				*i* Sg		**Sg**	**Sg**	**15 34 00.0**	**-0.1**
	593nm,0.1s								

SALAN	**Lac Salanfe**	**0.39**	**358**	⇑*i*Pg		**Pg**	**15 33 57.3**	**+0.3**
	67nm,0.3s							
SALAN				*i* Sg		**Sg**	**15 34 02.0**	**-0.3**
	67nm,0.3s							
SALAN	**Lac Salanfe**	**0.39**	**358**	⇑*i*Pg		**Pg**	**15 33 57.3**	**+0.3**
	67nm,0.3s							
SALAN				*i* Sg		**Sg**	**15 34 02.0**	**-0.3**
	67nm,0.3s							
DIX	**Grande Dixence**	**0.44**	**41**	*e*Pg		**Pg**	**15 33 57.7**	**-0.1**
	281nm,0.2s							
DIX	**Grande Dixence**	**0.44**	**41**	Pg		**Pg**	**15 33 57.8**	**0.0**
DIX				Sg		**Sg**	**15 34 03.1**	**-0.6**
DIX	**Grande Dixence**	**0.44**	**41**	Pg		**Pg**	**15 33 57.8**	**0.0**
DIX				Sg		**Sg**	**15 34 03.1**	**-0.6**
GRYON	**Gryon**	**0.50**	**9**	⇑*i*Pg		**Pg**	**15 33 59.2**	**+0.2**
	107nm,0.1s							
GRYON				*e*Sg		**Sg**	**15 34 05.3**	**-0.5**
	107nm,0.1s							
GRYON	**Gryon**	**0.50**	**9**	⇑*i*Pg		**Pg**	**15 33 59.2**	**+0.2**
	107nm,0.1s							
GRYON				*e*Sg		**Sg**	**15 34 05.3**	**-0.5**
	107nm,0.1s							
TRAV	**Traversella**	**0.58**	**114**	Pg		**Pg**	**15 34 00.9**	**+0.5**
TRAV				Sg		**Sg**	**15 34 08.8**	**+0.6**
	237nm,0.2s							
TRAV	**Traversella**	**0.58**	**114**	Pg		**Pg**	**15 34 00.9**	**+0.5**
TRAV				Sg		**Sg**	**15 34 08.8**	**+0.6**
	237nm,0.2s							
AIGLE	**Aigle**	**0.59**	**357**	*e*Pg		**Pg**	**15 34 00.9**	**+0.3**
	165nm,0.3s							
AIGLE	**Aigle**	**0.59**	**357**	*e*Pg		**Pg**	**15 34 00.9**	**+0.3**
	165nm,0.3s							
OG01	**Vacheresse**	**0.62**	**339**	Pg		**Pg**	**15 34 01.9**	**+0.8**
OG01				Sg		**Sg**	**15 34 09.8**	**+0.5**
OG01	**Vacheresse**	**0.62**	**339**	Pg		**Pg**	**15 34 01.9**	**+0.8**
OG01				Sg		**Sg**	**15 34 09.8**	**+0.5**
OG01	**Vacheresse**	**0.62**	**339**	Pg		**Pg**	**15 34 01.9**	**+0.8**
OG01				Sg		**Sg**	**15 34 09.8**	**+0.5**
RSP	**Reno Superiore**	**0.64**	**162**	Pg		**Pg**	**15 34 02.5**	**+1.0**
	63nm,0.1s							
RSP	**Reno Superiore**	**0.64**	**162**	P		**Pg**	**15 34 02.5**	**+1.0**
RSP				S		**Sg**	**15 34 11.1**	**+1.2**
SENIN	**Lac Senin/Sane**	**0.65**	**19**	*e*Pg		**Pg**	**15 34 01.7**	**0.0**
	89nm,0.2s							
SENIN	**Lac Senin/Sane**	**0.65**	**19**	*e*Pg		**Pg**	**15 34 01.7**	**0.0**
	89nm,0.2s							
ORO	**Oropa**	**0.70**	**100**	Pg		**Pg**	**15 34 03.1**	**+0.3**
ORO				Sg		**Sg**	**15 34 12.2**	**+0.2**
	71nm,0.3s							
ORO	**Oropa**	**0.70**	**100**	Pg		**Pg**	**15 34 03.1**	**+0.3**
ORO				Sg		**Sg**	**15 34 12.2**	**+0.2**
	71nm,0.3s							
MMK	**Mattmark**	**0.74**	**66**	Pg		**Pg**	**15 34 03.5**	**+0.1**
MMK	**Mattmark**	**0.74**	**66**	Pg		**Pg**	**15 34 03.5**	**+0.1**
MBDF	**Montbardon**	**1.04**	**189**	*e*Pg		**Pg**	**15 34 09.7**	**+0.6**
MBDF				*e*Sg		**Sg**	**15 34 22.6**	**-0.1**
	29nm,0.3s							
MBDF	**

*IDC **11** 15:35:22.7±0.8,34°.33N×25°.06E,h0km,mb4.1/15, mb1 4.2/21,mb1mx4.1/32,mbtmp4.1/21,ML4.2/6,Error ellipse: s-maj=19.4km s-min=13.5km az=5.0*
*MOS **11** 15:35:25.8±1.4,34°.31N×25°.05E,h33km,mb4.3/20,Error ellipse: s-maj=9.0km s-min=6.3km az=99.5*
*ISCJB **11** 15:35:25.3±0.3,34°.19N±0°.02×25°.12E±0°.03,h39km±4km, mb4.1/24,Error ellipse: s-maj=4.2km s-min=2.8km az=151.0*
*ATH **11** 15:35:26.1,34°.35N×24°.97E,h29km±1km,ML3.6*
*NEIC **11** 15:35:26.9±2.3,34°.33N×25°.13E,h29km±17km,mb4.3/13, Error ellipse: s-maj=9.5km s-min=5.6km az=195.0*
*HLW **11** 15:35:27.7,34°.24N×25°.37E,h33km±29km,Md4.0,Ml4.2*
*CSEM **11** 15:35:28.5±0.2,34°.30N×25°.03E,h46km±2km,mb4.2/20, Error ellipse: s-maj=5.3km s-min=4.3km az=172.0*
*THE **11** 15:35:30.4,34°.56N×24°.98E,h7km±3km,ML3.4/2,Error ellipse: s-maj=4.3km s-min=1.4km az=190.0*

ISC 11 15:35:26.3±0.7,34°23N±0°02×25°07E±0°03,h28km±6km, n257,σ1§17/293,mb4.1/24,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
					Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.81**	**345**	*e*PN	**Pn**		**15 35 40.1**	**-1.9**
SIVA	**Sivas**	**0.81**	**345**	*e*Pn	**Pn**		**15 35 40.1**	**-1.9**
LAST	**Lasithi**	**0.99**	**20**	*e*PB	**Pb**		**15 35 43.1**	**-1.7**
LAST				*e*SN	**Sn**		**15 35 57.7**	**+0.3**
NPS	**Neapolis**	**1.12**	**23**	*e*PB	**Pb**		**15 35 45.4**	**-1.7**
NPS	**Neapolis**	**1.12**	**23**	P	**Pn**		**15 35 45.5**	**-0.7**
NPS				S	**Sn**		**15 36 00.2**	**-0.5**
NPS	**Neapolis**	**1.12**	**23**	P	**Pn**		**15 35 45.5**	**-0.7**
NPS				S	**Sn**		**15 36 00.2**	**-0.5**
VAM	**Vamos**	**1.38**	**329**	*e*PN	**Pn**		**15 35 49.3**	**-0.4**
VAM				*e*SN	**Sn**		**15 36 05.7**	**-1.3**
VAM	**Vamos**	**1.38**	**329**	P	**Pn**		**15 35 49.5**	**-0.2**
VAM				S	**Sn**		**15 36 06.0**	**-1.0**
VAM	**Vamos**	**1.38**	**329**	P	**Pn**		**15 35 49.5**	**-0.2**
VAM				*e*Sn	**Sn**		**15 36 05.7**	**-1.3**
VAM				S	**Sn**		**15 36 06.0**	**-1.0**
KARN	**Karanos**	**1.50**	**321**	*e*PN	**Pn**		**15 35 51.5**	**0.0**
KARN	**Karanos**	**1.50**	**321**	*e*Pn	**Pn**		**15 35 51.5**	**0.0**
THR1	**Thera Island**	**2.16**	**8**	P	**Pn**		**15 36 01.7**	**+1.2**
THR1	**Thera Island**	**2.16**	**8**	P	**Pn**		**15 36 01.7**	**+1.2**
KARP	**Karpathos**	**2.16**	**52**	*e*PB	**Pb**		**15 36 03.2**	**-1.6**
KARP	**Karpathos**	**2.16**	**52**	P	**Pn**		**15 36 03.5**	**+3.0**
KARP				S	**Sn**		**15 36 30.4**	**+4.0**
KARP	**Karpathos**	**2.16**	**52**	P	**Pn**		**15 36 03.5**	**+3.0**
KARP				S	**Sn**		**15 36 30.4**	**+4.0**
THR3	**Thira Island,**	**2.19**	**7**	P	**Pn**		**15 36 02.3**	**+1.4**
THR3	**Thira Island,**	**2.19**	**7**	P	**Pn**		**15 36 02.3**	**+1.4**
THR2	**Thira island,**	**2.23**	**8**	P	**Pn**		**15 36 02.4**	**+0.9**
THR2	**Thira island,**	**2.23**	**8**	P	**Pn**		**15 36 02.4**	**+0.9**
LTBQ	**Tobruk**	**2.38**	**204**	*i* P	**Pn**		**15 36 05.0**	**+1.6**
	110nm,1.6s,SNR=24							
LTBQ				*e*S	**Sn**		**15 36 30.6**	**-1.0**
	SNR=24							
KYTH	**Kithira**	**2.64**	**321**	P	**Pn**		**15 36 08.9**	**+1.9**
KYTH	**Kithira**	**2.64**	**321**	P	**Pn**		**15 36 08.9**	**+1.9**
SLUM		**2.73**	**177**	P	**Pn**		**15 36 09.2**	**+0.8**
	baz=183							
SLUM				S	**Sn**		**15 36 41.1**	**+0.6**
	baz=183							
APE	**Apeiranthos**	**2.86**	**7**	*e*PN	**Pn**		**15 36 10.1**	**0.0**
APE	**Apeiranthos**	**2.86**	**7**	P	**Pn**		**15 36 10.7**	**+0.6**
APE	**Apeiranthos**	**2.86**	**7**	*e*Pn	**Pn**		**15 36 10.1**	**0.0**
APE	**Apeiranthos**	**2.86**	**7**	P	**Pn**		**15 36 10.7**	**+0.6**
NIS1	**Nisyros Isl.**	**2.92**	**35**	P	**Pn**		**15 36 13.4**	**+2.4**
NIS1	**Nisyros Isl.**	**2.92**	**35**	P	**Pn**		**15 36 13.4**	**+2.4**
VLI	**Velíai**	**3.03**	**326**	*e*PN	**Pn**		**15 36 12.9**	**+0.4**
VLI				*e*SN	**Sn**		**15 36 46.3**	**-1.6**
VLI	**Veliai**	**3.03**	**326**	P	**Pn**		**15 36 13.1**	**+0.6**
VLI	**Veliai**	**3.03**	**326**	*e*Pn	**Pn**		**15 36 12.9**	**+0.4**
VLI				*e*Sn	**Sn**		**15 36 46.3**	**-1.6**
ARG	**Arkhangelos**	**3.19**	**51**	*e*PN	**Pn**		**15 36 17.0**	**+2.4**
ARG	**Arkhangelos**	**3.19**	**51**	P	**Pn**		**15 36 17.6**	**+3.0**
ARG				S	**Sn**		**15 36 55.0**	**+3.3**
ARG	**Arkhangelos**	**3.19**	**51**	*e*Pn	**Pn**		**15 36 17.0**	**+2.4**
ARG	**Arkhangelos**	**3.19**	**51**	P	**Pn**		**15 36 17.6**	**+3.0**
ARG				S	**Sn**		**15 36 55.0**	**+3.3**
HMAT	**Matruh**	**3.56**	**151**	P	**Pn**		**15 36 19.4**	**-0.4**
	baz=154							
HMAT				S	**Sn**		**15 36 57.9**	**-3.1**
	baz=154							
DID	**Didima**	**3.59**	**336**	*e*PN	**Pn**		**15 36 20.0**	**-0.2**
DID	**Didima**	**3.59**	**336**	P	**Pn**		**15 36 20.1**	**-0.1**
DID				S	**Sn**		**15 36 59.5**	**-2.2**
DID	**Didima**	**3.59**	**336**	P	**Pn**		**15 36 20.1**	**-0.1**
DID				S	**Sn**		**15 36 59.5**	**-2.2**
NAIG	**Nisos Aigina**	**3.75**	**340**	*e*PN	**Pn**		**15 36 23.3**	**+1.0**
NAIG	**Nisos Aigina**	**3.75**	**340**	*e*Pn	**Pn**		**15 36 23.3**	**+1.0**
SMG	**Samos**	**3.75**	**22**	*e*PN	**Pn**		**15 36 23.3**	**+0.9**
SMG				*e*SN	**Sn**		**15 37 05.8**	**+0.1**
SMG	**Samos**	**3.75**	**22**	*e*Pn	**Pn**		**15 36 23.3**	**+0.9**
SMG				*e*Sn	**Sn**		**15 37 05.8**	**+0.1**
VLY	**Voula,Athens**	**3.76**	**344**	*e*PN	**Pn**		**15 36 23.1**	**+0.6**
VLY	**Voula,Athens**	**3.76**	**344**	*e*Pn	**Pn**		**15 36 23.1**	**+0.6**
PYL	**PYLOS**	**3.80**	**315**	*e*PN	**Pn**		**15 36 24.4**	**+1.4**
PYL	**PYLOS**	**3.80**	**315**	P	**Pn**		**15 36 25.6**	**+2.6**
PYL	**PYLOS**	**3.80**	**315**	*e*Pn	**Pn**		**15 36 24.4**	**+1.4**
PYL	**PYLOS**	**3.80**	**315**	P	**Pn**		**15 36 25.6**	**+2.6**
VLX	**Vlachokerasia**	**3.82**	**326**	*e*PN	**Pn**		**15 36 24.3**	**+1.0**
VLX	**Vlachokerasia**	**3.82**	**326**	P	**Pn**		**15 36 24.2**	**+0.9**
VLX				S	**Sn**		**15 37 05.6**	**-1.7**
VLX	**Vlachokerasia**	**3.82**	**326**	P	**Pn**		**15 36 24.2**	**+0.9**
VLX				S	**Sn**		**15 37 05.6**	**-1.7**
ATH	**Athens Observa**	**3.89**	**344**	*e*PN	**Pn**		**15 36 24.5**	**+0.2**
ATH	**Athens Observa**	**3.89**	**344**	*e*Pn	**Pn**		**15 36 24.5**	**+0.2**
ITM	**Ithomi**	**3.90**	**320**	*e*PN	**Pn**		**15 36 25.1**	**+0.7**
ITM	**Ithomi**	**3.90**	**320**	*e*Pn	**Pn**		**15 36 25.1**	**+0.7**
LTK	**Loutraki**	**4.15**	**336**	*e*PN	**Pn**		**15 36 28.3**	**+0.5**
LTK	**Loutraki**	**4.15**	**336**	*e*Pn	**Pn**		**15 36 28.3**	**+0.5**
KSL	**Kastellorizon**	**4.16**	**61**	*e*PN	**Pn**		**15 36 30.3**	**+2.3**
KSL	**Kastellorizon**	**4.16**	**61**	*e*Pn	**Pn**		**15 36 30.3**	**+2.3**
AKAS	**Kas**	**4.21**	**60**	*i* P	**Pn**		**15 36 27.0**	**-1.7**
AKAS				*i* S	**Sn**		**15 37 13.2**	**-3.8**
AKAS	**Kas**	**4.21**	**60**	*i* P	**Pn**		**15 36 27.0**	**-1.7**
AKAS				*i* S	**Sn**		**15 37 13.2**	**-3.8**
CHOS	**Chios island**	**4.22**	**11**	*e*PN	**Pn**		**15 36 29.2**	**+0.4**
CHOS	**Chios island**	**4.22**	**11**	*e*Pn	**Pn**		**15 36 29.2**	**+0.4**
GUR	**Goura**	**4.31**	**330**	*e*PN	**Pn**		**15 36 31.4**	**+1.4**
GUR				*e*SN	**Sn**		**15 37 17.6**	**-1.7**
GUR	**Goura**	**4.31**	**330**	*e*Pn	**Pn**		**15 36 31.4**	**+1.4**
GUR				*e*Sn	**Sn**		**15 37 17.6**	**-1.7**
LKR	**Lokris**	**4.72**	**340**	*e*PN	**Pn**		**15 36 36.5**	**+0.9**
LKR	**Lokris**	**4.72**	**340**	*e*Pn	**Pn**		**15 36 36.5**	**+0.9**
RLS	**Riolos of Patr**	**4.80**	**324**	*e*PN	**Pn**		**15 36 37.3**	**+0.5**
RLS				*e*SN	**Sn**		**15 37 29.6**	**-2.0**
RLS	**Riolos of Patr**	**4.80**	**324**	*e*Pn	**Pn**		**15 36 37.3**	**+0.5**
RLS				*e*Sn	**Sn**		**15 37 29.6**	**-2.0**
EFP	**Efpalio**	**4.91**	**330**	*e*PN	**Pn**		**15 36 39.6**	**+1.4**
EFP	**Efpalio**	**4.91**	**330**	*e*Pn	**Pn**		**15 36 39.6**	**+1.4**
SWA2		**4.98**	**176**	P	**Pn**		**15 36 39.8**	**+0.5**
	baz=179							
SWA2				AMP			15 37 00.0	
	comp=E,330μm,0.5s,logA/T=5.8,baz=179							
SWA2				S	**Sn**		**15 37 35.2**	**-0.8**
	baz=179							
AGG	**Agios Georgios**	**5.26**	**336**	*e*PN	**Pn**		**15 36 44.1**	**+0.9**
AGG	**Agios Georgios**	**5.26**	**336**	*e*Pn	**Pn**		**15 36 44.1**	**+0.9**
LJBD	**Adjabya**	**5.28**	**233**	*i* P	**Pn**		**15 36 44.0**	**+0.6**
	SNR=23							
VLS	**Valsamata**	**5.35**	**319**	*e*PN	**Pn**		**15 36 45.5**	**+1.2**
VLS				*e*SN	**Sn**		**15 37 42.8**	**-2.2**
VLS	**Valsamata**	**5.35**	**319**	*e*Pn	**Pn**		**15 36 45.5**	**+1.2**
LUJL	**Ujela**	**6.02**	**213**	*i* P	**Pn**		**15 36 53.5**	**-0.1**
	SNR=23							
AWBH		**6.74**	**150**	P	**Pn**		**15 37 03.2**	**-0.3**
	baz=151							
CSS	**Prodhromos**	**6.85**	**82**	*e*P	**Pn**		**15 37 04.1**	**-0.9**
	comp=E,23nm,0.6s							
KOT	**Kottamia**	**7.16**	**125**	P	**Pn**		**15 37 07.9**	**-1.3**
	baz=126							
HSAF	**As Saff**	**7.17**	**128**	P	**Pn**		**15 37 07.9**	**-1.6**
	baz=129							
GLL	**Jalalah**	**7.30**	**128**	P	**Pn**		**15 37 10.6**	**-0.5**
	baz=129							
AMAG	**Maghara**	**7.75**	**115**	P	**Pn**		**15 37 16.5**	**-0.9**
	baz=116							
SUZ		**7.91**	**121**	P	**Pn**		**15 37 18.6**	**-0.8**
	baz=122							
ZAF		**8.05**	**126**	P	**Pn**		**15 37 20.7**	**-0.7**
	baz=127							
HNKL	**Nakhl**	**8.69**	**117**	P	**Pn**		**15 37 29.3**	**-0.9**
	baz=118							
HNKL				S	**Sn**		**15 39 00.2**	**-7.0**
	baz=118							
MMAI	**Mount Meron Ar**	**8.70**	**95**	Pn	**Pn**		**15 37 30.9**	**+0.5**
	comp=E,3.7nm,0.3s,baz=292,slow=12,SNR=8.6							
MMAI				Sn	**Sn**		**15 39 08.8**	**+1.2**
	comp=E,6.6nm,0.3s,baz=262,slow=23,SNR=6.6							
BR131	**Keskin Array S**	**8.78**	**49**	P	**Pn**		**15 37 35.4**	**+4.0**
	comp=E,2.9nm,0.7s							
BRTR	**Keskin Array B**	**8.78**	**49**	Pn	**Pn**		**15 37 36.5**	**+5.2**
	comp=E,0.3nm,0.3s,baz=228,slow=13,SNR=17							
BRTR	**Keskin Array B**	**8.78**	**49**	Pn	**Pn**		**15 37 36.5**	**+5.2**
BRTR	**Keskin Array B**	**8.78**	**49**	P	**Pn**		**15 37 36.6**	**+5.3**
CUC	**Castrocucco**	**9.36**	**311**	*e*P	**Pn**		**15 37 39.4**	**0.0**
	comp=E,5.5nm,0.6s							
CUC	**Castrocucco**	**9.36**	**311**	*e*P	**Pn**		**15 37 39.4**	**0.0**
	comp=E,5.5nm,0.6s							
TR2		**9.42**	**126**	P	**Pn**		**15 37 40.0**	**-0.2**
	baz=127							
HKAT	**Jabal Katrina**	**9.51**	**124**	P	**Pn**		**15 37 41.0**	**-0.5**
	baz=125							
EIL	**Elat**	**9.54**	**116**	Pn	**Pn**		**15 37 41.4**	**-0.6**
	comp=E,1.7nm,0.3s,baz=269,slow=6,SNR=24							
EIL				Sn	**Sn**		**15 39 24.6**	**-3.7**
	comp=E,1.7nm,0.3s,baz=335,slow=15,SNR=6.4							
EIL	**Elat**	**9.54**	**116**	Pn	**Pn**		**15 37 41.4**	**-0.6**
EIL				Sn	**Sn**		**15 39 24.6**	**-3.7**
HBST	**Basata**	**9.62**	**119**	P	**Pn**		**15 37 42.5**	**-0.5**
	baz=119							
TR1		**9.82**	**127**	P	**Pn**		**15 37 45.6**	**-0.1**
	baz=128							
HDHB	**Dhahab**	**9.83**	**121**	P	**Pn**		**15 37 46.0**	**+0.2**
	baz=122							
ASF	**Jabal al Asfar**	**10.12**	**98**	Pn	**Pn**		**15 37 50.0**	**+0.2**
	comp=E,0.3nm,0.3s,baz=142,slow=8.9,SNR=2.9							
ASF				Sn	**Sn**		**15 39 35.7**	**-6.7**
	comp=E,0.5nm,0.3s,baz=282,slow=21,SNR=3.8							
ASF	**Jabal al Asfar**	**10.12**	**98**	Pn	**Pn**		**15 37 50.0**	**+0.2**
ASF				Sn	**Sn**		**15 39 35.7**	**-6.7**
ASF	**Jabal al Asfar**	**10.12**	**98**	P	**Pn**		**15 37 50.0**	**+0.2**
PGF	**Pioggiola**	**15.08**	**308**	*e*P	**Pn**		**15 38 56.0**	**-1.3**
	comp=E,34nm,1.0s							
PGF	**Pioggiola**	**15.08**	**308**	*e*P	**Pn**		**15 38 56.0**	**-1.3**
	comp=E,17nm,1.0s							
PGF	**Pioggiola**	**15.08**	**308**	*e*P	**Pn**		**15 38 56.0**	**-1.3**
PGF				pmax	pmax			
	comp=Z,17nm,1.0s							
VRAC	**Vranov**	**16.32**	**340**	Pn	**Pn**		**15 39 14.9**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=70,slow=7.2,SNR=4.8							
VRAC	**Vranov**	**16.32**	**340**	Pn	**Pn**		**15 39 14.9**	**+1.5**
VRAC	**Vranov**	**16.32**	**340**	P	**Pn**		**15 39 14.9**	**+1.5**
VRAC	**Vranov**	**16.32**	**340**	P	**Pn**		**15 39 14.9**	**+1.5**
KIEV	**Kiev**	**16.73**	**9**	*e*P	**Pn**		**15 39 15.8**	**-2.7**
	comp=Z,7.5nm,0.6s							
KIEV	**Kiev**	**16.73**	**9**	*e*P	**Pn**		**15 39 15.9**	**-2.7**
KIEV				pmax	pmax			
	comp=Z,7.0nm,0.6s							
AKASG	**Malin Array Be**	**16.74**	**9**	Pn	**Pn**		**15 39 18.8**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=199,slow=11,SNR=13							
AKASG	**Malin Array Be**	**16.74**	**9**	Pn	**Pn**		**15 39 18.8**	**+0.1**
AKASG	**Malin Array Be**	**16.74**	**9**	P	**Pn**		**15 39 18.8**	**+0.1**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.3s							
AKASG	**Malin Array Be**	**16.74**	**9**	P	**Pn**		**15 39 18.8**	**+0.1**
	comp=Z,1.0nm,0.3s							
AKBB	**Malin Array Si**	**16.74**	**9**	*e*P	**Pn**		**15 39 17.5**	**-1.2**
AKBB	**Malin Array Si**	**16.74**	**9**	*e*P	**Pn**		**15 39 17.5**	**-1.2**
KIV	**Kislovodsk**	**16.74**	**49**	*e*P	**Pn**		**15 39 21.8**	**+3.0**
KIV				pmax	pmax			
	comp=Z,18nm,1.1s							
KIV	**Kislovodsk**	**16.74**	**49**	*e*P	**Pn**		**15 39 21.8**	**+3.0**
	comp=Z,18nm,1.1s							
GERES	**GERESS Array B**	**16.87**	**333**	Pn	**Pn**		**15 39 22.2**	**+1.8**
	comp=Z,0.7nm,0.3s,baz=149,slow=12,SNR=47							
GERES	**GERESS Array B**	**16.87**	**333**	Pn	**Pn**		**15 39 22.2**	**+1.8**
GERES	**GERESS Array B**	**16.87**	**333**	P	**Pn**		**15 39 22.2**	**+1.8**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.3s							
GERES	**GERESS Array B**	**16.87**	**333**	P	**Pn**		**15 39 22.2**	**+1.8**
	comp=Z,1.0nm,0.3s							
ZEI	**Tsey**	**17.00**	**54**	*e*P	**Pn**		**15 39 24.3**	**+2.3**
ZEI				pmax	pmax			
	comp=Z,14nm,1.1s							
ZEI	**Tsey**	**17.00**	**54**	*e*P	**Pn**		**15 39 24.3**	**+2.3**
	comp=Z,14nm,1.1s							
KHC	**Kasperske Hory**	**17.15**	**334**	*e*P	**Pn**		**15 39 25.9**	**+2.0**
	comp=Z,3.8nm,0.8s							
KHC	**Kasperske Hory**	**17.15**	**334**	*e*P	**Pn**		**15 39 25.9**	**+2.0**
KHC				pmax	pmax			
	comp=Z,4.0nm,0.8s							
KHC	**Kasperske Hory**	**17.15**	**334**	*e*P	**Pn**		**15 39 25.9**	**+2.0**
	comp=Z,3.8nm,0.8s							
MBDF	**Montbardon**	**17.55**	**312**	*e*P	**Pn**		**15 39 29.6**	**+0.7**
	comp=Z,9.7nm,0.8s							
MBDF	**Montbardon**	**17.55**	**312**	*e*P	**Pn**		**15 39 29.6**	**+0.7**
	comp=Z,4.8nm,0.8s							
MBDF	**Montbardon**	**17.55**	**312**	*e*P	**Pn**		**15 39 29.6**	**+0.7**
MBDF				pmax	pmax			
	comp=Z,5.0nm,0.8s							
MBDF	**Montbardon**	**17.55**	**312**	*e*P	**Pn**		**15 39 29.6**	**+0.7**
	comp=Z,4.8nm,0.8s							
CABF	**La Chapelle**	**18.96**	**316**	*e*P	**Pn**		**15 39 45.5**	**-0.6**
CABF	**La Chapelle**	**18.96**	**316**	*e*P	**Pn**		**15 39 45.5**	**-0.6**
CABF	**La Chapelle**	**18.96**	**316**	*e*P	**Pn**		**15 39 45.5**	**-0.6**
CABF	**La Chapelle**	**18.96**	**316**	*e*P	**Pn**		**15 39 45.5**	**-0.6**
CLL	**Collm**	**19.18**	**336**	*e*P	**Pn**		**15 39 47.0**	**-1.7**
CLL				*ep*P	*p*P		15 39 52.0	-3.1
CDF	**Champ du Feu**	**19.41**	**322**	*e*P	**Pn**		**15 39 50.8**	**-0.6**
CDF	**Champ du Feu**	**19.41**	**322**	*e*P	**Pn**		**15 39 50.8**	**-0.6**
CDF	**Champ du Feu**	**19.41**	**322**	*e*P	**Pn**		**15 39 50.8**	**-0.6**
CDF	**Champ du Feu**	**19.41**	**322**	*e*P	**Pn**		**15 39 50.8**	**-0.6**
SUW	**Suwalki**	**19.82**	**357**	*e*P	**Pn**		**15 39 53.3**	**-3.0**
	comp=Z,25nm,0.8s							
SUW	**Suwalki**	**19.82**	**357**	*e*P	**Pn**		**15 39 53.3**	**-3.0**
SUW				pmax	pmax			
	comp=Z,25nm,0.8s							
SUW	**Suwalki**	**19.82**	**357**	*e*P	**Pn**		**15 39 53.3**	**-3.0**
	comp=Z,25nm,0.8s							
SMF	**Signal de Mont**	**20.29**	**314**	*e*P	**P**		**15 39 58.3**	**-1.5**
SMF	**Signal de Mont**	**20.29**	**314**	*e*P	**P**		**15 39 58.3**	**-1.5**
SMF	**Signal de Mont**	**20.29**	**314**	*e*P	**P**		**15 39 58.3**	**-1.5**
SMF	**Signal de Mont**	**20.29**	**314**	*e*P	**P**		**15 39 58.3**	**-1.5**
PAGF	**Fort de Pagny**	**20.30**	**321**	*e*P	**P**		**15 40 00.3**	**+0.4**
PAGF	**Fort de Pagny**	**20.30**	**321**	*e*P	**P**		**15 40 00.3**	**+0.4**
TAM	**Tamanrasset**	**20.58**	**241**	*e*P	**P**		**15 40 06.2**	**+3.2**
TAM	**Tamanrasset**	**20.58**	**241**	*e*P	**P**		**15 40 06.2**	**+3.1**
TAM	**Tamanrasset**	**20.58**	**241**	*e*P	**P**		**15 40 06.2**	**+3.1**
MEZF	**Maizieres J'vi**	**20.63**	**320**	*e*P	**P**		**15 40 04.2**	**+0.8**
	comp=Z,31nm,1.0s							
MEZF	**Maizieres J'vi**	**20.63**	**320**	*e*P	**P**		**15 40 04.2**	**+0.8**
	comp=Z,31nm,1.0s							
MEZF	**Maizieres J'vi**	**20.63**	**320**	*e*P	**P**		**15 40 04.2**	**+0.8**
	comp=Z,31nm,1.0s							
SSF	**Saint Saulge**	**20.70**	**315**	*e*P	**P**		**15 40 03.9**	**-0.3**
	comp=Z,40nm,1.4s							
SSF	**Saint Saulge**	**20.70**	**315**	*e*P	**P**		**15 40 03.9**	**-0.3**
	comp=Z,20nm,1.4s							
SSF	**Saint Saulge**	**20.70**	**315**	*e*P	**P**		**15 40 03.9**	**-0.3**
SSF				pmax	pmax			
	comp=Z,20nm,1.4s							
SSF	**Saint Saulge**	**20.70**	**315**	*e*P	**P**		**15 40 03.9**	**-0.3**
	comp=Z,20nm,1.4s							
BGF	**Bois d'Agland**	**20.85**	**313**	*e*P	**P**		**15 40 06.3**	**+0.5**
	comp=Z,17nm,0.7s							
BGF	**Bois d'Agland**	**20.85**	**313**	*e*P	**P**		**15 40 06.3**	**+0.5**
	comp=Z,8.4nm,0.7s							
BGF	**Bois d'Agland**	**20.85**	**313**	*e*P	**P**		**15 40 06.3**	**+0.5**
BGF				pmax	pmax			
	comp=Z,8.0nm,0.7s							
BGF	**Bois d'Agland**	**20.85**	**313**	*e*P	**P**		**15 40 06.3**	**+0.5**
	comp=Z,8.4nm,0.7s							
TCF	**Toulx Ste Croi**	**21.12**	**312**	*e*P	**P**		**15 40 09.5**	**+0.8**
TCF	**Toulx Ste Croi**	**21.12**	**312**	*e*P	**P**		**15 40 09.5**	**+0.8**
TCF	**Toulx Ste Croi**	**21.12**	**312**	*e*P	**P**		**15 40 09.5**	**+0.8**
TCF	**Toulx Ste Croi**	**21.12**	**312**	*e*P	**P**		**15 40 09.5**	**+0.8**
LDF	**La Druitiere**	**23.58**	**315**	*e*P	**P**		**15 40 33.5**	**-1.2**
	comp=Z,11nm,0.6s,mb4.1							
LDF	**La Druitiere**	**23.58**	**315**	*e*P	**P**		**15 40 33.5**	**-1.2**
	comp=Z,5.5nm,0.6s,mb4.2							
LDF	**La Druitiere**	**23.58**	**315**	*e*P	**P**		**15 40 33.5**	**-1.2**
LDF				pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.2							
LDF	**La Druitiere**	**23.58**	**315**	*e*P	**P**		**15 40 33.5**	**-1.2**
	comp=Z,5.5nm,0.6s,mb4.2							

ESDC	**Sonseca Array**	**23.77**	**292**	P		**P**	**15 40 36.5**	**-0.1**
	comp=Z,0.4nm,0.3s,mb3.3,baz=86,slow=9.1,SNR=5.9							
ESDC	**Sonseca Array**	**23.77**	**292**	P		**P**	**15 40 36.5**	**-0.1**
ESDC	**Sonseca Array**	**23.77**	**292**	P		**P**	**15 40 36.5**	**-0.1**
MDT	**Midelt**	**24.75**	**275**	P		**P**	**15 40 47.1**	**+1.6**
	comp=Z,1.0nm,0.6s,mb3.5,baz=82,slow=15,SNR=2.2							
MDT	**Midelt**	**24.75**	**275**	P		**P**	**15 40 47.1**	**+1.6**
MDT	**Midelt**	**24.75**	**275**	P		**P**	**15 40 47.1**	**+1.6**
QUIF	**Quistinic**	**25.13**	**311**	*e*P		**P**	**15 40 49.4**	**+0.6**
	comp=Z,5nm,0.7s,mb4.5							
QUIF	**Quistinic**	**25.13**	**311**	*e*P		**P**	**15 40 49.4**	**+0.6**
	comp=Z,12nm,0.7s,mb4.5							
QUIF				pmax		pmax		
	comp=Z,12nm,0.7s,mb4.5							
QUIF	**Quistinic**	**25.13**	**311**	*e*P		**P**	**15 40 49.4**	**+0.6**
	comp=Z,12nm,0.7s,mb4.5							
HFS	**Hagfors**	**26.96**	**347**	P		**P**	**15 41 03.9**	**-1.3**
	comp=Z,1.8nm,0.5s,mb3.8,baz=154,slow=8.2,SNR=6.5							
HFS	**Hagfors**	**26.96**	**347**	P		**P**	**15 41 03.9**	**-1.3**
HFS	**Hagfors**	**26.96**	**347**	P		**P**	**15 41 03.9**	**-1.4**
HFS				pmax		pmax		
	comp=Z,2.0nm,0.5s							
HFS	**Hagfors**	**26.96**	**347**	P		**P**	**15 41 03.9**	**-1.4**
	comp=Z,2.0nm,0.5s,mb3.9							
FINES	**FINESS Array B**	**27.24**	**1**	P		**P**	**15 41 05.8**	**-1.9**
	comp=Z,1.9nm,0.7s,mb3.7,baz=159,slow=12,SNR=7.1							
FINES	**FINESS Array B**	**27.24**	**1**	P		**P**	**15 41 05.8**	**-1.9**
FINES	**FINESS Array B**	**27.24**	**1**	P		**P**	**15 41 05.8**	**-1.9**
FINES				pmax		pmax		
	comp=Z,2.0nm,0.7s							
FINES	**FINESS Array B**	**27.24**	**1**	P		**P**	**15 41 05.8**	**-1.9**
	comp=Z,2.0nm,0.7s,mb3.8							
NB2	**NORSAR Subarra**	**28.28**	**346**	P		**P**	**15 41 15.8**	**-1.2**
	comp=Z,1.8nm,0.8s,mb3.8,baz=156,slow=9.3							
NB2	**NORSAR Subarra**	**28.28**	**346**	P		**P**	**15 41 15.8**	**-1.2**
	comp=Z,1.8nm,0.8s,mb3.8,baz=156,slow=9.0,SNR=4.2							
NOA	**NORSAR Array B**	**28.28**	**346**	P		**P**	**15 41 15.9**	**-1.1**
	comp=Z,1.3nm,0.7s,mb3.7,baz=158,slow=10.0,SNR=5.5							
NOA	**NORSAR Array B**	**28.28**	**346**	P		**P**	**15 41 15.9**	**-1.1**
NOA	**NORSAR Array B**	**28.28**	**346**	P		**P**	**15 41 15.9**	**-1.1**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
NOA	**NORSAR Array B**	**28.28**	**346**	P		**P**	**15 41 15.9**	**-1.1**
	comp=Z,1.0nm,0.7s,mb3.5							
AKTK	**Aktyubinsk**	**28.94**	**46**	P		**P**	**15 41 22.8**	**-0.3**
AKTK	**Aktyubinsk**	**28.94**	**46**	P		**P**	**15 41 22.8**	**-0.2**
	comp=Z,1.0nm,0.4s,mb3.9							
AKTO	**Aktyubinsk**	**28.94**	**46**	P		**P**	**15 41 22.8**	**-0.3**
	comp=Z,0.6nm,0.4s,mb3.7,baz=249,slow=8.6,SNR=3.9							
AKTO	**Aktyubinsk**	**28.94**	**46**	P		**P**	**15 41 22.8**	**-0.2**
AKTO				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb3.9							
TORD	**Torodi Ar. Bea**	**29.84**	**231**	P		**P**	**15 41 32.0**	**+0.7**
	comp=Z,3.3nm,0.5s,mb4.3,baz=36,slow=9.1,SNR=39							
TORD	**Torodi Ar. Bea**	**29.84**	**231**	P		**P**	**15 41 32.0**	**+0.7**
TORD	**Torodi Ar. Bea**	**29.84**	**231**	P		**P**	**15 41 32.0**	**+0.7**
ARCES	**ARCESS Array B**	**35.36**	**0**	P		**P**	**15 42 17.3**	**-1.7**
	comp=Z,0.7nm,0.5s,mb3.8,baz=186,slow=9.6,SNR=7.3							
ARCES	**ARCESS Array B**	**35.36**	**0**	P		**P**	**15 42 17.3**	**-1.7**
ARCES	**ARCESS Array B**	**35.36**	**0**	P		**P**	**15 42 17.3**	**-1.7**
ARCES				pmax		pmax		
	comp=Z,1.0nm,0.5s							
ARCES	**ARCESS Array B**	**35.36**	**0**	P		**P**	**15 42 17.3**	**-1.7**
	comp=Z,1.0nm,0.5s,mb4.0							
KKAR	**Karatay Array**	**36.19**	**62**	*e*P		**P**	**15 42 27.2**	**+0.7**
	comp=Z,1.7nm,0.4s,mb4.3							
KKAR	**Karatay Array**	**36.19**	**62**	*e*P		**P**	**15 42 27.2**	**+0.7**
KKAR				pmax		pmax		
	comp=Z,2.0nm,0.4s,mb4.4							
KKAR	**Karatay Array**	**36.19**	**62**	*e*P		**P**	**15 42 27.2**	**+0.7**
	comp=Z,1.7nm,0.4s,mb4.3							
EKS2	**Erkin-Say**	**38.61**	**63**	*e*P		**P**	**15 42 47.8**	**+0.8**
	comp=Z,2.7nm,0.8s,mb4.0							
EKS2	**Erkin-Say**	**38.61**	**63**	*e*P		**P**	**15 42 47.8**	**+0.8**
EKS2				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.1							
EKS2	**Erkin-Say**	**38.61**	**63**	*e*P		**P**	**15 42 47.8**	**+0.8**
	comp=Z,2.7nm,0.8s,mb4.0							
KURK	**Kurchatov**	**41.83**	**50**	P		**P**	**15 43 13.4**	**-0.1**
	comp=Z,4.0nm,0.6s,mb4.2,baz=275,slow=8.7,SNR=39							
KURK	**Kurchatov**	**41.83**	**50**	P		**P**	**15 43 13.4**	**-0.1**
KURK	**Kurchatov**	**41.83**	**50**	P		**P**	**15 43 13.4**	**-0.1**
KURK				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.2							
KURK	**Kurchatov**	**41.83**	**50**	P		**P**	**15 43 13.4**	**-0.1**
	comp=Z,4.0nm,0.6s,mb4.2							
MK31	**Makanchi Array**	**44.35**	**56**	*e*P		**P**	**15 43 33.3**	**-0.7**
MK31	**Makanchi Array**	**44.35**	**56**	*e*P		**P**	**15 43 34.0**	**0.0**
MK31				pmax		pmax		
	comp=Z,2.0nm,0.4s,mb4.2							
MK31	**Makanchi Array**	**44.35**	**56**	*e*P		**P**	**15 43 34.0**	**0.0**
	comp=Z,2.0nm,0.4s,mb4.2							
MKAR	**Makanchi Array**	**44.35**	**56**	P		**P**	**15 43 34.7**	**+0.7**
	comp=Z,4.2nm,0.7s,mb4.3,baz=278,slow=6.4,SNR=28							
MKAR	**Makanchi Array**	**44.35**	**56**	P		**P**	**15 43 34.7**	**+0.7**
MKAR	**Makanchi Array**	**44.35**	**56**	P		**P**	**15 43 34.7**	**+0.7**
MKAR				pmax		pmax		
	comp=Z,4.0nm,0.7s							
MKAR	**Makanchi Array**	**44.35**	**56**	P		**P**	**15 43 34.7**	**+0.7**
	comp=Z,4.0nm,0.7s,mb4.3							
ZAA0	**Zalesovo Array**	**45.70**	**46**	*e*P		**P**	**15 43 44.1**	**-0.5**
ZAA0	**Zalesovo Array**	**45.70**	**46**	*e*P		**P**	**15 43 44.1**	**-0.5**
ZALV	**Zalesovo Beam**	**45.70**	**46**	P		**P**	**15 43 44.3**	**-0.3**
	comp=Z,5.3nm,0.4s,mb4.9,baz=269,slow=8.5,SNR=36							
ZALV	**Zalesovo Beam**	**45.70**	**46**	P		**P**	**15 43 44.3**	**-0.3**
ZALV	**Zalesovo Beam**	**45.70**	**46**	P		**P**	**15 43 44.3**	**-0.3**
ZALV				pmax		pmax		
	comp=Z,5.0nm,0.4s,mb4.8							
ZALV	**Zalesovo Beam**	**45.70**	**46**	P		**P**	**15 43 44.3**	**-0.3**
	comp=Z,5.0nm,0.4s,mb4.8							
HYB	**Hyderabad**	**50.41**	**95**	*i* P		**P**	**15 44 22.0**	**+0.5**
ZAK	**Zakamensk**	**57.42**	**48**	*e*P		**P**	**15 45 12.9**	**+0.6**
ZAK				pmax		pmax		
	comp=Z,1.0nm,0.7s,mb4.0							
ZAK	**Zakamensk**	**57.42**	**48**	*e*P		**P**	**15 45 12.9**	**+0.6**
	comp=Z,1.0nm,0.7s,mb4.0							
SONM	**Songino Array**	**60.13**	**50**	P		**P**	**15 45 32.4**	**+1.2**
	comp=Z,2.2nm,0.7s,mb4.3,baz=287,slow=7.4,SNR=23							
SONM	**Songino Array**	**60.13**	**50**	P		**P**	**15 45 32.4**	**+1.2**
SONM	**Songino Array**	**60.13**	**50**	P		**P**	**15 45 32.4**	**+1.2**
SONM				pmax		pmax		
	comp=Z,2.0nm,0.7s							
SONM	**Songino Array**	**60.13**	**50**	P		**P**	**15 45 32.4**	**+1.2**
	comp=Z,2.0nm,0.7s,mb4.3							
ULN	**Ulaanbaatar**	**60.54**	**50**	*e*P		**P**	**15 45 34.7**	**+0.7**
	comp=Z,5.3nm,1.1s,mb4.6							
ULN	**Ulaanbaatar**	**60.54**	**50**	*e*P		**P**	**15 45 34.7**	**+0.7**
ULN				pmax		pmax		
	comp=Z,5.0nm,1.1s,mb4.6							
ULN	**Ulaanbaatar**	**60.54**	**50**	*e*P		**P**	**15 45 34.7**	**+0.7**
	comp=Z,5.2nm,1.1s,mb4.6							
BOD	**Bodaibo**	**61.23**	**38**	*e*P		**P**	**15 45 37.9**	**-0.6**
BOD				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.5							
BOD	**Bodaibo**	**61.23**	**38**	*e*P		**P**	**15 45 37.9**	**-0.6**
	comp=Z,3.0nm,0.8s,mb4.5							
SCHQ	**Schefferville**	**63.85**	**320**	P		**P**	**15 45 55.8**	**-0.2**
	comp=Z,3.1nm,0.9s,mb4.4,baz=55,slow=10.0,SNR=3.9							
SCHQ	**Schefferville**	**63.85**	**320**	P		**P**	**15 45 55.8**	**-0.2**
SCHQ	**Schefferville**	**63.85**	**320**	P		**P**	**15 45 55.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**66.75**	**83**	P		**P**	**15 46 15.8**	**+0.4**
	comp=Z,0.5nm,0.4s,mb3.9,baz=300,slow=7.2,SNR=4.9							
CMAR	**Chiang Mai Arr**	**66.75**	**83**	P		**P**	**15 46 15.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**66.75**	**83**	P		**P**	**15 46 15.8**	**+0.4**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.4s							
CMAR	**Chiang Mai Arr**	**66.75**	**83**	P		**P**	**15 46 15.8**	**+0.4**
	comp=Z,1.0nm,0.4s,mb4.2							
KSRS	**Korea Array**	**78.91**	**52**	P		**P**	**15 47 27.8**	**+0.5**
	comp=Z,2.0nm,0.6s,mb4.2,baz=310,slow=4.6,SNR=6.9							
KSRS	**Korea Array**	**78.91**	**52**	P		**P**	**15 47 27.8**	**+0.5**
KSRS				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.2							
KSRS	**Korea Array**	**78.91**	**52**	P		**P**	**15 47 27.8**	**+0.5**
	comp=Z,2.0nm,0.6s,mb4.2							

*IDC **11** 15:38:04.8₀2.8,30.°44S×177.°22W,h0km,mb4.1/4, mb1 4.1/5,mb1mx3.9/19,mbtmp4.0/5,ML3.1/1,Error ellipse: s-maj=61.6km s-min=35.0km az=117.0*
*NEIC **11** 15:38:10.6₀3.5,29.°99S×177.°34W,h36km±17km,mb3.4/1, Error ellipse: s-maj=48.1km s-min=16.1km az=110.0*
ISC 11 15:38:10.3₀3.7,30.°00S±0.°08×177.°3W±0.°5,h35km,n15, σ0°53/16,mb4.0/4,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.92**	**324**	*e*P		**Pn**	**15 38 26.5**	**-0.1**
RAO				*e*S		**Sn**	**15 38 38.4**	**-0.2**
OUZ	**Omahuta**	**9.28**	**233**	P		**Pn**	**15 40 21.6**	**+0.1**
URZ	**Urewera**	**9.45**	**208**	Pn		**Pn**	**15 40 16.4**	**-7.5**
	0.2nm,0.3s,baz=67,slow=20,SNR=2.7							
URZ				Sn		**Sn**	**15 42 03.6**	**-5.2**
	1.0nm,0.3s,baz=174,slow=22,SNR=9.0							
URZ	**Urewera**	**9.45**	**208**	Pn		**Pn**	**15 40 16.4**	**-7.5**
URZ				Sn		**Sn**	**15 42 03.6**	**-5.2**
CTA	**Charters Tower**	**34.34**	**278**	P		**P**	**15 44 55.1**	**+1.3**
	2.5nm,0.5s,mb4.4,baz=106,slow=11,SNR=5.8							
CTA	**Charters Tower**	**34.34**	**278**	P		**P**	**15 44 55.1**	**+1.3**
STKA	**Stephens Creek**	**35.16**	**256**	P		**P**	**15 45 00.3**	**-0.4**
	1.9nm,0.7s,mb4.2,baz=99,slow=13,SNR=4.5							
STKA	**Stephens Creek**	**35.16**	**256**	*e*P		**P**	**15 45 00.1**	**-0.6**
	0.4nm,0.8s,mb3.4							
ASAR	**Alice Springs**	**43.74**	**266**	P		**P**	**15 46 12.3**	**0.0**
	0.5nm,0.7s,mb3.4,baz=107,slow=7.5,SNR=14							
ASAR	**Alice Springs**	**43.74**	**266**	P		**P**	**15 46 12.3**	**0.0**
WB2	**Warramunga Arr**	**44.68**	**271**	*e*P		**P**	**15 46 19.6**	**-0.4**
WRA	**Warramunga Arr**	**44.69**	**271**	P		**P**	**15 46 19.9**	**-0.1**
	1.6nm,0.3s,mb4.3,baz=110,slow=8.1,SNR=84							
WRA	**Warramunga Arr**	**44.69**	**271**	P		**P**	**15 46 19.9**	**-0.1**
FINES	**FINESS Array B**	**144.97**	**341**	PKPbc		PKPdf	15 57 43.3	+0.3
	3.3nm,0.6s,baz=66,slow=4.9,SNR=13							
FINES	**FINESS Array B**	**144.97**	**341**	PKPbc		PKPdf	15 57 43.3	+0.3

*BJI **11** 15:38:51.5,26.°64N×54.°50E,h14km,mB5.0/25,mb4.9/41, Ms4.7/29,Ms7 4.3/29*
*ISCJB **11** 15:38:54.9₀0.2,26.°58N±0.°02×54.°94E±0.°02,h10km, mb4.7/126,MS4.2/33,Error ellipse: s-maj=3.0km s-min=2.4km az=14.2*
*IDC **11** 15:38:54.8₀0.5,26.°55N×55.°06E,h0km,mb4.5/31, mb1 4.6/35,mb1mx4.5/39,mbtmp4.5/35,ML4.2/4,MS4.0/15, Ms1 4.0/15,ms1mx3.7/39,Error ellipse: s-maj=10.9km s-min=8.1km az=165.0*
*NEIC **11** 15:38:56.7,26.°68N×54.°87E,h14km,mb4.9/46,MS4.1/4, ML4.6(THR),After THR.*
*THR **11** 15:38:57.2₀0.4,26.°71N×54.°90E,h14km±5km, ML4.6*
*MOS **11** 15:38:57.9₀0.9,26.°57N×54.°95E,h33km,mb5.0/71, MS4.0/22,Error ellipse: s-maj=6.4km s-min=3.8km az=118.1*
*CSEM **11** 15:38:58.1±0.1,26.°59N×54.°96E,h20km,mb4.8/90,Ms4.0, Error ellipse: s-maj=3.5km s-min=3.1km az=47.0*
*TEH **11** 15:38:58.9,26.°60N×54.°97E,h6km*
*OMAN **11** 15:39:01.0₀3.5,26.°56N×55.°09E,h30km,Error ellipse: s-maj=4.3km s-min=2.7km az=284.0*
ISC 11 15:38:56.7±0.2,26.°56N±0.°02×54.°96E±0.°02,h10km, (h17km±2.0km:pP-P),n684,σ1s08/711,mb4.7/127, MS4.1/34,21C-17D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.36**	**52**	*e*Pg		**Pn**	**15 39 21.0**	**-0.8**
BNDS	**Bandar-Abbas**	**1.36**	**52**	*e*Pg		**Pn**	**15 39 21.9**	**+0.1**
BNDS				AML		AML	15 39 43.1	
	comp=E,19μm,0.0s							
BNDS	**Bandar-Abbas**	**1.36**	**52**	*e*Pg		**Pn**	**15 39 22.1**	**+0.3**
BNDS				*e*Sg		**Sg**	**15 39 41.2**	**+0.6**
IBND	**Bandar-abas**	**1.66**	**57**	*e*Pn		**Pn**	**15 39 25.6**	**-0.3**
IBND				*e*Sg		**Sg**	**15 39 49.8**	**-0.4**
IBND				*e*			15 40 07.0	
	comp=Z,25μm,0.4s							
NAZ	**Nazwa, Dubai**	**1.69**	**158**	P		**Pn**	**15 39 28.5**	**+2.2**
	SNR=64							
NAZ				P			15 39 28.6	
	SNR=165							
NAZ				P			15 39 29.3	
	SNR=12							
NAZ	**Nazwa, Dubai**	**1.69**	**158**	P		**Pn**	**15 39 28.5**	**+2.2**
	SNR=64							
ASUD	**Al Ashush, Dub**	**1.95**	**170**	P		**Pn**	**15 39 32.5**	**+2.5**
	SNR=171							
ASUD				P			15 39 32.8	
	SNR=55							
ASUD				P			15 39 33.0	
	SNR=62							
ASUD	**Al Ashush, Dub**	**1.95**	**170**	P		**Pn**	**15 39 32.5**	**+2.6**
	SNR=171							
HATD	**Hatta, Dubai**	**2.02**	**148**	P		**Pn**	**15 39 32.3**	**+1.4**
	SNR=87							
HATD				P			15 39 32.4	
	SNR=89							
HATD				P			15 39 33.5	
	SNR=19							
HATD	**Hatta, Dubai**	**2.02**	**148**	P		**Pn**	**15 39 32.3**	**+1.4**
	SNR=87							
ASHO	**Ashiyiah**	**2.11**	**152**	P		**Pn**	**15 39 33.4**	**+1.3**
	SNR=250							
ASHO				P			15 39 33.5	
	SNR=224							
ASHO				P			15 39 33.9	
	SNR=128							
ASHO	**Ashiyiah**	**2.11**	**152**	P		**Pn**	**15 39 33.5**	**+1.4**
	SNR=224							
ISRV	**Sarvestan**	**3.25**	**330**	*e*Pn		**Pn**	**15 39 49.8**	**+2.0**
ISRV				*e*			15 41 06.6	
	comp=Z,45μm,0.8s							
ISRV	**Sarvestan**	**3.25**	**330**	*e*Pn		**Pn**	**15 39 49.8**	**+2.0**
ARQ	**Araqi**	**3.51**	**156**	P		**Pn**	**15 39 52.7**	**+1.4**
	SNR=19							
ARQ				P			15 39 52.9	
	SNR=73							
ARQ				P			15 39 53.2	
	SNR=27							
ARQ	**Araqi**	**3.51**	**156**	P		**Pn**	**15 39 52.7**	**+1.4**
	SNR=19							
HOQ	**Hoqain**	**3.65**	**144**	P		**Pn**	**15 39 52.8**	**-0.5**
	SNR=18							
HOQ				P			15 39 53.6	
	SNR=25							
HOQ	**Hoqain**	**3.65**	**144**	P		**Pn**	**15 39 53.6**	**+0.3**
	SNR=25							
IPAR	**Pars**	**3.68**	**333**	*e*Pn		**Pn**	**15 39 55.6**	**+1.9**
IPAR				*e*			15 41 23.8	
	comp=Z,8μm,0.5s							
IPAR	**Pars**	**3.68**	**333**	*e*Pn		**Pn**	**15 39 55.6**	**+1.9**
KRBR	**Kerman**	**3.76**	**25**	*e*Pn		**Pn**	**15 39 55.0**	**+0.2**
KRBR	**Kerman**	**3.76**	**25**	*e*Pn		**Pn**	**15 39 55.9**	**+1.1**
KRBR				AML		AML	15 40 43.3	
	comp=E,801nm,0.6s							
KRBR				AML		AML	15 40 43.5	
	comp=N,914nm,0.5s							
KRBR	**Kerman**	**3.76**	**25**	*e*Pn		**Pn**	**15 39 55.0**	**+0.2**
BSY	**Bisya**	**4.31**	**151**	P		**Pn**	**15 40 03.7**	**+1.4**
	SNR=29							
BSY				P			15 40 04.1	
	SNR=27							
BSYO	**Bisya**	**4.34**	**151**	P		**Pn**	**15 40 04.1**	**+1.4**
	SNR=27							
SMDO	**Samad**	**4.47**	**141**	P		**Pn**	**15 40 05.7**	**+1.1**
	SNR=178							
SMDO				P			15 40 05.7	
	SNR=47							
SMDO				P			15 40 06.1	
	SNR=50							
SMDO	**Samad**	**4.47**	**141**	P		**Pn**	**15 40 06.1**	**+1.5**
	SNR=50							
IMEH	**Mehriz**	**4.82**	**356**	*e*Pn		**Pn**	**15 40 11.0**	**+1.6**
IMEH				*e*			15 41 51.9	
	comp=Z,5μm,0.5s							
IMEH	**Mehriz**	**4.82**	**356**	*e*Pn		**Pn**	**15 40 11.0**	**+1.6**
IBAF	**Bafgh**	**5.04**	**6**	*e*Pn		**Pn**	**15 40 13.2**	**+0.8**
IBAF				*e*			15 40 16.2	
	comp=Z,4μm,0.2s							
IBAF	**Bafgh**	**5.04**	**6**	*e*Pn		**Pn**	**15 40 13.2**	**+0.8**
JMDO	**Jabal Madar**	**5.06**	**145**	P		**Pn**	**15 40 13.7**	**+1.1**
	SNR=16							
JMDO				P			15 40 14.2	
	SNR=36							
JMDO				P			15 40 14.5	
	SNR=15							
JMDO	**Jabal Madar**	**5.06**	**145**	P		**Pn**	**15 40 13.7**	**+1.1**
	SNR=16							
WBK	**Wadi Bani Khal**	**5.36**	**136**	P		**Pn**	**15 40 17.1**	**+0.2**
	SNR=46							
WBK				P			15 40 17.2	
	SNR=11							
WBK	**Wadi Bani Khal**	**5.36**	**136**	P		**Pn**	**15 40 17.2**	**+0.4**
	SNR=11							

ISAD	**Sadrabad**	**5.45**	**348**	*e*Pn		**Pn**	**15 40 19.6**	**+1.6**
ISAD				*e*			15 42 28.3	
	comp=Z,4μm,0.6s							
ISAD	**Sadrabad**	**5.45**	**348**	*e*Pn		**Pn**	**15 40 19.6**	**+1.6**
ICHK	**Chekchek**	**5.69**	**355**	*e*Pn		**Pn**	**15 40 22.3**	**+1.1**
ICHK				*e*			15 42 17.1	
	comp=Z,4μm,0.5s							
ICHK	**Chekchek**	**5.69**	**355**	*e*Pn		**Pn**	**15 40 22.3**	**+1.1**
ZHSF	**Zahedan**	**5.96**	**58**	*e*Pn		**Pn**	**15 40 27.0**	**+1.9**
ZHSF	**Zahedan**	**5.96**	**58**	*e*Pn		**Pn**	**15 40 27.3**	**+2.2**
ZHSF	**Zahedan**	**5.96**	**58**	*e*Pn		**Pn**	**15 40 27.0**	**+1.9**
IGAR	**Gharneh**	**6.36**	**337**	*e*Pn		**Pn**	**15 40 32.2**	**+1.7**
IGAR				*e*			15 41 48.7	
	comp=Z,1μm,0.3s							
NASN	**Na'in**	**6.49**	**344**	*e*Pn		**Pn**	**15 40 32.0**	**-0.4**
NASN	**Na'in**	**6.49**	**344**	*e*Pn		**Pn**	**15 40 32.7**	**+0.4**
NASN	**Na'in**	**6.49**	**344**	*e*Pn		**Pn**	**15 40 33.4**	**+1.0**
QRN	**Al-Qurain**	**6.62**	**291**	*e*P		**Pn**	**15 40 35.1**	**+1.0**
QRN				AML		AML	15 41 48.7	
	comp=Z,135nm,0.3s							
IKOO	**Kooshah**	**6.82**	**30**	*e*Pn		**Pn**	**15 40 37.5**	**+0.6**
IKOO				*e*			15 43 21.7	
	comp=Z,3μm,0.5s							
IKOO	**Kooshah**	**6.82**	**30**	*e*Pn		**Pn**	**15 40 37.5**	**+0.6**
KBD	**Kabd**	**6.94**	**294**	*e*P		**Pn**	**15 40 39.8**	**+1.2**
KBD	**Kabd**	**6.94**	**294**	*e*P		**Pn**	**15 40 39.8**	**+1.3**
RDF	**Al-Radifah**	**6.98**	**291**	*e*P		**Pn**	**15 40 40.0**	**+1.0**
RDF				AML		AML	15 42 01.1	
	comp=Z,170nm,0.4s							
RDF	**Al-Radifah**	**6.98**	**291**	*e*P		**Pn**	**15 40 40.0**	**+1.0**
UMR	**Umm Al-Rimmam**	**7.06**	**297**	*e*P		**Pn**	**15 40 41.5**	**+1.3**
UMR	**Umm Al-Rimmam**	**7.06**	**297**	*e*P		**Pn**	**15 40 41.5**	**+1.3**
TABS	**Tabas**	**7.31**	**14**	*e*Pn		**Pn**	**15 40 44.1**	**+0.6**
TABS	**Tabas**	**7.31**	**14**	*e*Pn		**Pn**	**15 40 44.4**	**+0.9**
NAY	**Al-Naaiem**	**7.34**	**293**	*e*P		**Pn**	**15 40 45.1**	**+1.1**
NAY	**Al-Naaiem**	**7.34**	**293**	*e*P		**Pn**	**15 40 45.1**	**+1.1**
IKLH	**Kolahrood**	**7.35**	**337**	*e*Pn		**Pn**	**15 40 45.8**	**+1.7**
IKLH	**Kolahrood**	**7.35**	**337**	*e*Pn		**Pn**	**15 40 45.8**	**+1.7**
MIB	**Mutribah**	**7.46**	**297**	*e*P		**Pn**	**15 40 46.6**	**+0.9**
MIB				AML		AML	15 42 07.5	
	comp=Z,120nm,0.7s							
MIB	**Mutribah**	**7.46**	**297**	*e*P		**Pn**	**15 40 46.6**	**+0.9**
IDAH	**Dahanechah**	**7.49**	**34**	*e*Pn		**Pn**	**15 40 47.2**	**+1.2**
IDAH				*e*			15 43 14.6	
	comp=Z,3μm,0.8s							
IDAH	**Dahanechah**	**7.49**	**34**	*e*Pn		**Pn**	**15 40 47.2**	**+1.2**
IMON	**Monand**	**7.77**	**31**	*e*Pn		**Pn**	**15 40 50.9**	**+1.1**
IMON				*e*			15 43 39.1	
	comp=E,2μm,0.3s							
IMON	**Monand**	**7.77**	**31**	*e*Pn		**Pn**	**15 40 50.9**	**+1.1**
SHRT	**Shahrakht**	**8.43**	**32**	*e*Pn		**Pn**	**15 41 00.0**	**+1.0**
SHRT	**Shahrakht**	**8.43**	**32**	*e*Pn		**Pn**	**15 41 00.2**	**+1.2**
IVRN	**Varamin**	**8.86**	**342**	*e*		**Pn**	**15 41 10.8**	**+6.0**
	comp=Z,402nm,0.3s							
IVRN				*e*Pn		**Pn**	**15 41 05.2**	**+0.4**
IVRN				*e*Pn		**Pn**	**15 41 05.4**	**+0.6**
IANJ	**Anjilo**	**8.93**	**354**	*e*		Px	15 41 17.2	
	comp=Z,451nm,0.3s							
IANJ				*e*Pn		**Pn**	**15 41 06.5**	**+0.8**
ILAS	**Lasjerd**	**8.96**	**349**	*e*Pn		**Pn**	**15 41 07.4**	**+1.2**
ILAS	**Lasjerd**	**8.96**	**349**	*e*Pn		**Pn**	**15 41 07.4**	**+1.2**
ASAO	**Ashtian**	**9.03**	**333**	*e*PN5		**Pn**	**15 41 07.9**	**+0.8**
ASAO	**Ashtian**	**9.03**	**333**	*e*Pn		**Pn**	**15 41 07.9**	**+0.8**
RBK	**Rabkut**	**9.04**	**185**	P		**Pn**	**15 41 07.3**	**0.0**
	SNR=31							
RBK				P			15 41 08.6	
	SNR=11							
RBK				P			15 41 09.6	
	SNR=31							
RBK	**Rabkut**	**9.04**

GNI Sn **Sn** **15 45 41.1 +1.8**
comp=Z,0.3nm,0.3s,baz=175,slow=23,SNR=1.6
GNI Garni 16.00 330 *e*P **Pn** **15 42 43.3 +1.4**
comp=Z,47nm,0.8s
GNI Sn **Sn** **15 45 41.1 +1.8**
GNI Garni 16.00 330 *e*P **Pn** **15 42 43.3 +1.4**
GNI 15 45 41.2
GNI pmax pmax
comp=Z,47nm,0.8s
GNI Garni 16.00 330 *e*P **Pn** **15 42 43.3 +1.4**
comp=Z,47nm,0.8s
GNI S **Sn** **15 45 41.2 +1.9**
CEP Cherat 16.33 60 P **Pn** **15 42 44.3 -1.8**
ASF Jabal al Asfar 16.71 294 Pn **Pn** **15 42 51.6 +0.6**
comp=Z,0.6nm,0.3s,baz=352,slow=3.6,SNR=6.1
ASF Sn **Sn** **15 45 58.5 +1.9**
comp=Z,0.3nm,0.3s,baz=46,slow=4.6,SNR=3.2
ASF LR LR 15 49 54.2
comp=Z,161nm,18.0s,baz=342,slow=39
ASF Jabal al Asfar 16.71 294 Pn **Pn** **15 42 51.6 +0.6**
ASF Sn **Sn** **15 45 58.5 +1.9**
ASF LR LR 15 49 54.2
ASF Jabal al Asfar 16.71 294 P **Pn** **15 42 51.6 +0.7**
ASF 15 45 58.5
ASF pmax pmax
comp=Z,1.0nm,0.3s
ASF MLR MLR
comp=Z,161nm,18.0s
DGRG David-gareji 16.83 334 P **Pn** **15 42 52.6 +0.2**
MTA Mtatsminda 17.26 334 P **Pn** **15 42 59.4 +1.6**
TBLG Delisi 17.32 333 *e*P **Pn** **15 43 00.4 +1.9**
TBLG Delisi 17.32 333 P **Pn** **15 43 00.4 +1.9**
TBLG Delisi 17.32 333 *e*P **Pn** **15 43 00.4 +1.9**
MAK Makhachkala 17.46 341 *e*P **Pn** **15 42 57.2 -3.1**
MAK *i* S **Sn** **15 46 16.3 +1.7**
MAK pmax pmax
comp=Z,271nm,0.7s
MAK MLR MLR
comp=Z,788nm,20.0s
MAK Makhachkala 17.46 341 *e*P **Pn** **15 42 57.2 -3.1**
comp=Z,271nm,0.7s
MAK *i* S **Sn** **15 46 16.3 +1.7**
comp=Z,788nm,20.0s
AKH Akhalkalaki 17.58 330 P **Pn** **15 43 03.4 +1.6**
AKH S **Sn** **15 46 21.8 +4.3**
GOR Gori 17.79 333 P **Pn** **15 43 03.8 -0.6**
EIL Elat 17.92 285 P **Pn** **15 43 07.3 +1.2**
comp=Z,0.7nm,0.3s,baz=56,slow=5.3,SNR=7.6
EIL S **Sn** **15 46 30.0 +3.9**
comp=Z,0.6nm,0.3s,baz=236,slow=8.4,SNR=2.3
EIL LR LR 15 50 04.7
comp=Z,128nm,18.6s,baz=276,slow=37
EIL Elat 17.92 285 P **Pn** **15 43 07.3 +1.2**
EIL S **Sn** **15 46 30.0 +3.9**
EIL LR LR 15 50 04.7
EIL Elat 17.92 285 P **Pn** **15 43 07.3 +1.1**
EIL S **Sn** **15 46 30.0 +3.9**
HWQ Hawqa 18.10 300 *e*P **Pn** **15 43 08.0 -0.2**
MMAI Mount Meron Ar 18.14 295 P **Pn** **15 43 10.0 +1.1**
comp=Z,1.0nm,0.3s,baz=100,slow=14,SNR=14
BHL Bhannes 18.21 298 *e*P **Pn** **15 43 10.8 +1.2**
ZEI Tsey 18.53 334 *e*P **Pn** **15 43 14.0 +0.6**
ZEI pmax pmax
comp=Z,67nm,1.0s
ZEI Tsey 18.53 334 *e*P **Pn** **15 43 14.0 +0.6**
comp=Z,67nm,1.0s
ATD Arta Tunnel 18.81 220 P **Pn** **15 43 18.2 +1.2**
comp=Z,1.0nm,0.3s,baz=122,slow=23,SNR=2.5
ATD S **Sn** **15 46 49.8 +2.1**
comp=Z,1.4nm,0.3s,baz=127,slow=23,SNR=2.0
ATD LR LR 15 50 43.5
comp=Z,720nm,21.5s,baz=202,slow=38
ATD Arta Tunnel 18.81 220 P **Pn** **15 43 18.2 +1.2**
ATD S **Sn** **15 46 49.8 +2.1**
ATD LR LR 15 50 43.5
ATD Arta Tunnel 18.81 220 P **Pn** **15 43 18.2 +1.1**
ATD S **Sn** **15 46 49.8 +2.1**
POO Poona 19.17 111 *e*PKP **Pn** **15 43 22.6 +1.2**
POO AMb AMB 15 43 32.0
comp=Z,33nm,0.7s
SMLA Simla 19.97 72 *i* P **Pn** **15 43 29.2 -1.7**
SMLA AML AML 15 43 31.2
comp=Z,16nm,0.2s
SMLA *i* x x 15 47 00.3
KIV Kislovodsk 20.00 333 *e*P **P** **15 43 31.0 +1.6**
KIV *e*S **S** **15 47 16.1 +1.8**
KIV pmax pmax
comp=Z,146nm,1.0s
KIV MLR MLR
comp=Z,269nm,14.0s,MS3.7
KIV Kislovodsk 20.00 333 *e*P **P** **15 43 31.0 +1.6**
comp=Z,146nm,1.0s
KIV *e*S **S** **15 47 16.1 +1.8**
comp=Z,269nm,14.0s
KAD Karad 20.04 113 *e*PKP **P** **15 43 30.9 +0.9**
KAD AMb AMB 15 43 38.8
comp=Z,32nm,0.9s
BHPL Bhopal 20.64 94 *e*PKP **P** **15 43 35.0 -1.5**
BHPL AMb AMB 15 43 41.6
comp=Z,19nm,1.0s
DDI Dehra Dun 20.64 74 *e*PKP **P** **15 43 37.5 +1.0**
DDI *ex* x 15 47 49.8
KK31 Karatay Array 20.80 34 *ce*P **P** **15 43 37.1 -1.0**
KK31 pmax pmax
comp=Z,77nm,1.1s
KK31 Karatay Array 20.80 34 *e*P **P** **15 43 37.1 -1.0**
comp=Z,77nm,1.1s
KKAR Karatay Array 20.80 34 *e*P **P** **15 43 36.4 -1.8**
comp=Z,39nm,0.9s
KKAR Karatay Array 20.80 34 *e*P **P** **15 43 36.4 -1.7**
KKAR pmax pmax
comp=Z,39nm,0.9s
KKAR Karatay Array 20.80 34 *e*P **P** **15 43 36.4 -1.7**
comp=Z,39nm,0.9s
SOC Sochi 21.02 328 *e*P **P** **15 43 38.9 -1.5**
SOC *e**SP sP 15 43 47.1 +2.5
SOC *e* 15 43 57.1
SOC *e*S **S** **15 47 34.2 -0.2**
SOC *e*SS 15 48 04.4
SOC pmax pmax
comp=Z,30nm,0.9s,mb4.6
SOC MLR MLR
comp=Z,896nm,19.0s,MS4.2
SOC Sochi 21.02 328 *e*P **P** **15 43 38.9 -1.5**
comp=Z,30nm,0.9s,mb4.6
SOC *e*S **S** **15 47 34.2 -0.2**
KSH Kashi 21.78 48 ⇓*i*P **P** **15 43 41.9 -6.8**
KSH pP 15 43 45.9
KSH sP sP 15 43 48.8 -4.0
KSH PP 15 44 03.9
KSH S S 15 47 28.6 -21
KSH PcP PcP 15 47 50.6 +1.7
KSH ScP ScP 15 51 25.4 -0.8
KSH PcS PcS 15 51 27.2 0.0
KSH pmax pmax
comp=Z,120nm,1.1s,mb5.2
KSH LR LR
comp=N,730nm,9.7s
KSH LR LR
comp=E,420nm,9.6s
KSH LR LR
comp=Z,600nm,11.9s,MS4.2
AML Almayashu 21.84 40 P **P** **15 43 48.7 -0.6**
SNR=52
BR131 Keskin Array S 22.09 312 *e*P **P** **15 43 52.1 +0.1**
BR131 Keskin Array S 22.09 312 *e*P **P** **15 43 52.1 0.0**
BRTR Keskin Array B 22.09 312 P **P** **15 43 52.6 +0.6**
comp=Z,34nm,1.0s,mb4.8,baz=131,slow=12,SNR=46
BRTR Keskin Array B 22.09 312 P **P** **15 43 52.6 +0.6**
BRTR Keskin Array B 22.09 312 P **P** **15 43 52.7 +0.6**
BRTR pmax pmax
comp=Z,35nm,1.0s
BRTR Keskin Array B 22.09 312 P **P** **15 43 52.7 +0.6**
EKS2 Erkin-Say 22.23 39 P **P** **15 43 53.5 0.0**
SNR=31
EKS2 Erkin-Say 22.23 39 *e*P **P** **15 43 52.2 -1.2**
comp=Z,72nm,1.0s,mb5.1
EKS2 Erkin-Say 22.23 39 *e*P **P** **15 43 52.3 -1.2**
EKS2 pmax pmax
comp=Z,72nm,1.0s,mb5.1
EKS2 Erkin-Say 22.23 39 *e*P **P** **15 43 52.3 -1.2**
comp=Z,72nm,1.0s,mb5.1
AAK Ala-Archa 22.62 40 P **P** **15 43 57.8 +0.2**
SNR=50
AAK Ala-Archa 22.62 40 *i* P **P** **15 43 57.8 +0.2**
AAK Ala-Archa 22.62 40 *i* P **P** **15 43 57.8 +0.2**
KZA Kyzart 22.73 42 P **P** **15 43 59.7 +1.0**
SNR=57
FRU Bishkek 22.82 40 *e*P **P** **15 43 59.0 -0.7**
FRU *e* 15 44 16.0
FRU pmax pmax
comp=Z,120nm,1.6s,mb5.1
FRU Bishkek 22.82 40 *e*P **P** **15 43 59.0 -0.7**
comp=Z,120nm,1.6s,mb5.1
KBK Karagaybulak 22.90 40 P **P** **15 44 00.8 +0.2**
SNR=55
AB31 Akbulak array 22.99 8 *ce*P **P** **15 44 00.8 -0.6**
AB31 pmax pmax
comp=Z,16nm,0.5s,mb4.7
AB31 Akbulak array 22.99 8 *e*P **P** **15 44 00.8 -0.6**
comp=Z,16nm,0.5s,mb4.7
ABKAR Akbulak array 22.99 8 *e*P **P** **15 43 59.5 -1.9**
comp=Z,44nm,0.9s,mb4.9
ABKAR Akbulak array 22.99 8 *e*P **P** **15 43 59.5 -1.9**
comp=Z,44nm,0.9s,mb4.9
CHMS Chumysh 23.00 39 P **P** **15 44 02.4 +0.7**
SNR=26
ANN Anapa 23.02 327 *e*P **P** **15 44 02.4 +0.5**
ANN *e**PP 15 44 08.1
ANN *e*S **S** **15 48 16.4 +3.9**
ANN pmax pmax
comp=Z,47nm,1.3s,mb4.8
ANN MLR MLR
comp=N,769nm,18.0s,MS4.2
ANN MLR MLR
comp=E,300nm,18.0s,MS4.2
ANN MLR MLR
comp=Z,492nm,18.0s,MS4.0
ANN Anapa 23.02 327 *e*P **P** **15 44 02.4 +0.5**
comp=Z,47nm,1.3s,mb4.8
ANN *e*S **S** **15 48 16.4 +3.9**
USP Ospenovka 23.03 39 P **P** **15 44 02.7 +0.8**
SNR=32
TKM2 Tokmak 2 23.44 41 P **P** **15 44 05.7 -0.5**
SNR=21
TKM2 Tokmak 2 23.44 41 *e*P **P** **15 44 05.2 -1.0**
comp=Z,36nm,1.1s,mb4.7
TKM2 Tokmak 2 23.44 41 *e*P **P** **15 44 05.3 -0.9**
TKM2 pmax pmax
comp=Z,36nm,1.1s,mb4.7
TKM2 Tokmak 2 23.44 41 *e*P **P** **15 44 05.3 -0.9**
comp=Z,36nm,1.1s,mb4.7
AKTK Aktyubinsk 23.95 5 P **P** **15 44 10.8 -0.2**
AKTK LR LR 15 55 31.4
AKTK Aktyubinsk 23.95 5 P **P** **15 44 10.8 -0.2**
AKTO Aktyubinsk 23.95 5 P **P** **15 44 10.8 -0.2**
comp=Z,12nm,0.7s,mb4.4,baz=193,slow=9.2,SNR=43
AKTO LR LR 15 55 31.5
comp=Z,1μm,18.3s,MS4.4,baz=92,slow=42
AKTO Aktyubinsk 23.95 5 P **P** **15 44 10.8 -0.2**
AKTO pmax pmax
comp=Z,12nm,0.7s,mb4.4
AKTO MLR MLR
comp=Z,1μm,18.3s,MS4.4
SIM Simferopol' 24.84 323 P **P** **15 44 19.6 +0.5**
SIM pmax pmax
comp=Z,34nm,0.9s,mb4.9
SIM Simferopol' 24.84 323 P **P** **15 44 19.6 +0.5**
comp=Z,34nm,0.9s,mb4.9
VRHR Novokhopersk 26.53 341 *e*P **P** **15 44 37.8 +3.4**
VRHR pmax pmax
comp=Z,70nm,0.7s,mb5.3
VRHR pmax pmax
comp=N,160nm,1.1s
VRHR pmax pmax
comp=E,60nm,0.7s
VRHR Novokhopersk 26.53 341 *e*P **P** **15 44 37.8 +3.4**
comp=E,160nm,1.1s,mb5.5
VSR Storozhevoye 27.40 338 *e*P **P** **15 44 42.2 -0.1**
VSR pmax pmax
comp=Z,6.0nm,0.8s,mb4.2
VSR pmax pmax
comp=N,10.0nm,1.4s
VSR pmax pmax
comp=E,10.0nm,1.3s
VSR Storozhevoye 27.40 338 *e*P **P** **15 44 42.2 -0.1**
comp=E,10.0nm,1.4s,mb4.2
VIS Vishakhapatnam 27.66 103 *ex* **P** **15 44 40.7 -4.2**
TIRR Tirgusor 27.85 317 ⇑P **P** **15 44 46.3 -0.1**
TIRR Tirgusor 27.85 317 ⇑*i*P **P** **15 44 46.3 -0.1**
TIRR Tirgusor 27.85 317 ⇑*i*P **P** **15 44 46.3 -0.1**
BRVK Borovoye 28.84 19 *d i*P **P** **15 44 54.8 -0.2**
BRVK pmax pmax
comp=Z,23nm,1.2s,mb4.8
BRVK MLR MLR
comp=Z,940nm,26.0s,MS4.3
BRVK Borovoye 28.84 19 *i* P **P** **15 44 54.8 -0.2**
comp=Z,940nm,26.0s
BVA0 Borovoye Array 28.84 19 *i* P **P** **15 44 54.7 -0.4**
BVA0 pmax pmax
comp=Z,4.0nm,1.1s,mb4.1
BVA0 Borovoye Array 28.84 19 *i* P **P** **15 44 54.7 -0.4**
comp=Z,4.0nm,1.1s,mb4.1
MK31 Makanchi Array 29.56 40 *e*P **P** **15 45 01.0 -0.5**
MK31 Makanchi Array 29.56 40 *e*P **P** **15 45 01.0 -0.5**
MK31 Makanchi Array 29.56 40 *e*P **P** **15 45 01.0 -0.5**
MKAR Makanchi Array 29.56 40 P **P** **15 45 00.9 -0.7**
comp=Z,8.6nm,0.7s,mb4.6,baz=225,slow=8.9,SNR=24
MKAR LR LR 15 58 29.3
comp=Z,302nm,19.3s,MS3.9,baz=152,slow=40
MKAR Makanchi Array 29.56 40 P **P** **15 45 00.9 -0.7**
MKAR LR LR 15 58 29.3
MKAR Makanchi Array 29.56 40 P **P** **15 45 00.9 -0.6**
MKAR pmax pmax
comp=Z,9.0nm,0.7s
MKAR MLR MLR
comp=Z,302nm,19.3s
MKAR Makanchi Array 29.56 40 P **P** **15 45 00.9 -0.6**
PLOR Plostina 29.64 318 ⇓P **P** **15 45 03.6 +1.4**
PLOR Plostina 29.64 318 ⇓*i*P **P** **15 45 03.5 +1.3**
PLOR Plostina 29.64 318 P **P** **15 45 03.6 +1.4**
MLR Muntele Rosu 29.88 317 P **P** **15 45 05.7 +1.2**
comp=Z,0.7nm,0.7s,mb3.5,baz=126,slow=3.3,SNR=4.6
MLR Muntele Rosu 29.88 317 P **P** **15 45 05.7 +1.2**
MLR Muntele Rosu 29.88 317 P **P** **15 45 05.7 +1.3**
MLR pmax pmax
comp=Z,1.0nm,0.7s
MLR Muntele Rosu 29.88 317 ⇑*i*P **P** **15 45 06.0 +1.6**
MLR Muntele Rosu 29.88 317 P **P** **15 45 05.7 +1.3**
ARU Arti 29.96 4 *d i*P **P** **15 45 04.9 0.0**
ARU *e* 15 45 59.3
ARU *e*PPP 15 46 10.6
ARU 15 48 02.5
ARU S **S** **15 50 03.5 +1.1**
ARU SS SS 15 51 33.4 -36
ARU pmax pmax
comp=Z,14nm,1.2s,mb4.6
ARU MLR MLR
comp=Z,604nm,21.0s,MS4.2
ARU Arti 29.96 4 *i* P **P** **15 45 04.9 0.0**
comp=Z,14nm,1.2s,mb4.6
ARU S **S** **15 50 03.5 +1.1**
KURK Kurchatov 30.14 31 P **P** **15 45 05.0 -1.6**
comp=Z,15nm,0.8s,mb4.8,baz=230,slow=8.7,SNR=102
KURK Kurchatov 30.14 31 P **P** **15 45 05.0 -1.5**
KURK Kurchatov 30.14 31 P **P** **15 45 05.0 -1.6**
KURK pmax pmax
comp=Z,15nm,0.8s,mb4.8
KURK Kurchatov 30.14 31 P **P** **15 45 05.0 -1.6**
VOIR 30.41 316 ⇓P **P** **15 45 09.8 +0.7**
VOIR 30.41 316 ⇓*i*P **P** **15 45 09.8 +0.7**
VOIR 30.41 316 ⇓*i*P **P** **15 45 09.8 +0.7**
VTS Vitosha 30.43 310 ⇑P **P** **15 45 10.5 +1.2**
VTS Vitosha 30.43 310 ⇑*i*P **P** **15 45 10.4 +1.1**
VTS Vitosha 30.43 310 ⇑*i*P **P** **15 45 10.4 +1.1**
SVE Sverdlovsk 30.52 6 ⇓*e*P **P** **15 45 10.4 +0.5**
SVE pmax pmax
comp=Z,20nm,1.2s,mb4.8
SVE MLR MLR
comp=Z,844nm,13.0s,MS4.6
SVE Sverdlovsk 30.52 6 *e*P **P** **15 45 10.4 +0.5**
comp=Z,844nm,13.0s
AKASG Malin Array Be 31.10 328 P **P** **15 45 14.0 -1.1**
comp=Z,5.7nm,0.8s,mb4.5,baz=131,slow=8.0,SNR=19
AKASG PcP PcP 15 48 10.1 -0.3
comp=Z,0.5nm,0.4s,baz=146,slow=1.4,SNR=4.5
AKASG LR LR 15 58 15.9
comp=Z,134nm,19.4s,MS3.6,baz=100,slow=37
AKASG Malin Array Be 31.10 328 P **P** **15 45 14.0 -1.1**
AKASG PcP PcP 15 48 10.1 -0.3
AKASG LR LR 15 58 15.9
AKASG Malin Array Be 31.10 328 P **P** **15 45 14.0 -1.1**
AKASG 15 48 10.1
AKASG pmax pmax
comp=Z,6.0nm,0.8s
AKASG MLR MLR
comp=Z,134nm,19.4s
AKASG Malin Array Be 31.10 328 P **P** **15 45 14.0 -1.1**
AKASG Malin Array Be 31.10 328 PcP PcP 15 48 10.1 -0.2
AKBB Malin Array Si 31.10 328 *e*P **P** **15 45 14.4 -0.7**
AKBB Malin Array Si 31.10 328 *e*P **P** **15 45 14.4 -0.7**
AKBB Malin Array Si 31.10 328 *e*P **P** **15 45 14.4 -0.7**
KIEV Kiev 31.10 328 *e*P **P** **15 45 13.7 -1.4**
comp=Z,13nm,0.9s,mb4.8
KIEV Kiev 31.10 328 *e*P **P** **15 45 13.7 -1.4**
KIEV pmax pmax
comp=Z,13nm,0.9s,mb4.8
KIEV Kiev 31.10 328 *e*P **P** **15 45 13.7 -1.4**
comp=Z,13nm,0.9s,mb4.8
LOT Lotru 31.22 315 ⇑*i*P **P** **15 45 13.7 -2.5**
BURAR Bucovina Array 31.39 320 ⇓P **P** **15 45 18.0 +0.3**
BURAR Bucovina Array 31.39 320 ⇓*i*P **P** **15 45 18.0 +0.3**
BUR08 Bucovina Ar. S 31.42 320 *e*P **P** **15 45 17.4 -0.5**
BUR08 Bucovina Ar. S 31.42 320 *e*P **P** **15 45 17.4 -0.5**
OBN Obninsk 31.54 340 *e*P **P** **15 45 18.9 0.0**
OBN *i* 15 45 24.9
OBN *i* 15 45 32.5
OBN *i* 15 46 23.7
OBN *i* 15 48 08.2
OBN pmax pmax
comp=Z,44nm,1.6s,mb5.0
OBN MLR MLR
comp=Z,200nm,18.0s,MS3.8
OBN Obninsk 31.54 340 *e*P **P** **15 45 18.9 0.0**
comp=Z,44nm,1.6s,mb5.0
OBN Obninsk 31.54 340 *i* PcP PcP 15 48 08.2 -3.2
WMQ Urumqi 31.55 48 P **P** **15 45 19.8 +0.7**
WMQ pP pP 15 45 24.2 +2.0
WMQ sP sP 15 45 26.8 +3.4
WMQ PP PP 15 46 23.9 -6.4
WMQ S **S** **15 50 26.3 -1.3**
WMQ ScS ScS 15 55 50.4 -2.3
WMQ pmax pmax
comp=Z,23nm,1.0s,mb5.0
WMQ pmax pmax
comp=Z,170nm,3.8s
WMQ LR LR
comp=N,510nm,12.5s
WMQ LR LR
comp=E,340nm,18.5s
WMQ LR LR
comp=Z,530nm,30.5s
MOS Moscow 31.75 341 *e*P **P** **15 45 13.0 -7.8**
MOS Moscow 31.75 341 *e*P **P** **15 45 13.0 -7.8**
LSA Lhasa 31.98 76 *e*P **P** **15 45 25.5 +2.3**
comp=Z,8.6nm,0.8s,mb4.6
LSA Lhasa 31.98 76 *e*P **P** **15 45 25.5 +2.3**
LSA pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
LSA Lhasa 31.98 76 *e*P **P** **15 45 25.5 +2.3**
comp=Z,8.6nm,0.8s,mb4.6
KMBO Kilima Mbogo 32.40 215 *e*P **P** **15 45 28.6 +1.8**
comp=Z,2.6nm,0.9s,mb4.1
KMBO Kilima Mbogo 32.40 215 *e*P **P** **15 45 28.6 +1.7**
KMBO pmax pmax
comp=Z,3.0nm,0.9s
KMBO Kilima Mbogo 32.40 215 *e*P **P** **15 45 28.6 +1.7**
comp=Z,2.6nm,0.9s,mb4.1
SOKR Solikamsk 33.02 2 *d i*P **P** **15 45 32.7 +0.9**
SOKR pmax pmax
comp=Z,30nm,1.2s,mb5.1
SOKR MLR MLR
comp=Z,320nm,15.0s,MS4.2
SOKR Solikamsk 33.02 2 *i* P **P** **15 45 32.7 +0.9**
comp=Z,320nm,15.0s
UZH Uzhgorod 33.60 320 *e*P **P** **15 45 36.5 -0.5**
UZH *e* 15 45 43.3
UZH Uzhgorod 33.60 320 *e*P **P** **15 45 36.5 -0.5**
CRVS Cervenica-Dubn 34.21 320 *e*P **P** **15 45 42.5 +0.1**
CRVS pmax pmax
comp=Z,11nm,1.4s,mb4.6
CRVS Cervenica-Dubn 34.21 320 *e*P **P** **15 45 42.5 +0.1**
CRVS *ep*P pP 15 45 50.1 +4.7
CRVS Cervenica-Dubn 34.21 320 *e*P **P** **15 45 42.5 +0.1**
comp=Z,11nm,1.4s,mb4.6
NVS Novosibirsk 35.01 29 ⇑*i*P **P** **15 45 47.6 -1.6**
NVS *e*S **S** **15 51 17.7 -3.3**
NVS pmax pmax
comp=N,29nm,1.3s
NVS pmax pmax
comp=Z,59nm,1.3s,mb5.4
NVS pmax pmax
comp=E,13nm,1.1s
NVS smax
comp=N,32nm,1.9s
NVS smax
comp=E,24nm,2.0s
NVS Novosibirsk 35.01 29 *i* P **P** **15 45 47.6 -1.6**
NVS *e*S **S** **15 51 17.7 -3.3**
comp=E,32nm,1.9s
CUC Castrocucco 35.08 302 *e*P **P** **15 45 51.2 +1.2**
comp=E,8.0nm,0.6s,mb4.8
CUC Castrocucco 35.08 302 *e*P **P** **15 45 51.2 +1.2**
comp=E,8.0nm,0.6s,mb4.8
ZAA0 Zalesovo Array 35.13 31 *e*P **P** **15 45 49.0 -1.1**
ZAA0 Zalesovo Array 35.13 31 *e*P **P** **15 45 49.0 -1.2**
ZALV Zalesovo Beam 35.13 31 P **P** **15 45 49.4 -0.8**
comp=E,44nm,0.7s,mb5.5,baz=240,slow=9.1,SNR=128
ZALV Zalesovo Beam 35.13 31 P **P** **15 45 49.4 -0.8**
ZALV Zalesovo Beam 35.13 31 P **P** **15 45 49.4 -0.8**
ZALV pmax pmax
comp=Z,44nm,0.7s,mb5.5
ZALV Zalesovo Beam 35.13 31 P **P** **15 45 49.4 -0.8**
VYHS Vyhne 35.58 318 *e*P **P** **15 45 54.4 +0.2**
VYHS pmax pmax
comp=Z,52nm,3.4s
VYHS Vyhne 35.58 318 *e*P **P** **15 45 54.4 +0.2**
VYHS Vyhne 35.58 318 *e*P **P** **15 45 54.4 +0.2**
comp=Z,52nm,3.4s
OJC Ojcow 35.79 321 *e*P **P** **15 45 54.9 -1.0**
OJC Ojcow 35.79 321 *e*P **P** **15 45 54.9 -1.0**
OJC Ojcow 35.79 321 *e*P **P** **15 45 54.9 -1.0**
KLMR Klimovskoe 35.86 347 *e*P **P** **15 45 51.7 -4.7**
KLMR pmax pmax
comp=Z,43nm,1.6s,mb5.1
BOJS Bojanci 36.80 311 *e*P **P** **15 46 05.4 +0.7**
BOJS Bojanci 36.80 311 P **P** **15 46 05.4 +0.7**
LEGS Legarje 36.89 312 *e*P **P** **15 46 05.9 +0.5**
LEGS Legarje 36.89 312 *e*P **P** **15 46 05.9 +0.5**
MORC Moravsky Berou 36.89 319 ⇑P **P** **15 46 06.2 +0.8**
MORC Moravsky Berou 36.89 319 ⇑*i*P **P** **15 46 06.2 +0.8**
MORC Moravsky Berou 36.89 319 ⇑*i*P **P** **15 46 06.2 +0.8**
VRAC Vranov 37.27 318 P **P** **15 46 09.0 +0.4**
comp=Z,4.1nm,0.6s,mb4.5,baz=248,slow=5.1,SNR=3.9
VRAC Vranov 37.27 318 P **P** **15 46 09.0 +0.4**
VRAC Vranov 37.27 318 P **P** **15 46 09.0 +0.4**
VRAC pmax pmax
comp=Z,4.0nm,0.6s
VRAC Vranov 37.27 318 P **P** **15 46 09.0 +0.4**
LJU Ljubljana 37.45 312 *e*P **P** **15 46 10.4 +0.3**
LJU Ljubljana 37.45 312 *e*P **P** **15 46 10.4 +0.3**
DPC Dobruska-Polom 37.85 319 *e*P **P** **15 46 13.1 -0.4**
DPC *e* 15 46 22.3
DPC Dobruska-Polom 37.85 319 *e*P **P** **15 46 13.1 -0.4**
DPC *ex* x 15 46 22.3
DPC Dobruska-Polom 37.85 319 P **P** **15 46 13.1 -0.4**
UPC Upice 38.09 319 *e*P **P** **15 46 15.2 -0.3**
UPC Upice 38.09 319 *e*P **P** **15 46 15.2 -0.3**
UPC Upice 38.09 319 P **P** **15 46 15.2 -0.3**
KBA Koelnbreinsper 38.53 313 ⇓*i*pP **P** **15 46 19.5 +0.2**
comp=Z,10nm,1.0s,mb4.5
KBA Koelnbreinsper 38.53 313 P **P** **15 46 19.5 +0.2**
comp=Z,10nm,1.0s,mb4.5
PRU Pruhonice 38.76 318 *e*P **P** **15 46 21.7 +0.5**
PRU Pruhonice 38.76 318 *e*P **P** **15 46 21.7 +0.5**
PRU Pruhonice 38.76 318 P **P** **15 46 21.7 +0.5**
GERES GERESS Array B 38.86 316 P **P** **15 46 22.7 +0.7**
comp=Z,0.7nm,0.5s,mb3.6,baz=109,slow=7.2,SNR=6.0
GERES LR LR 16 05 56.3
comp=Z,205nm,19.1s,MS4.0,baz=105,slow=42
GERES GERESS Array B 38.86 316 P **P** **15 46 22.7 +0.7**
GERES LR LR 16 05 56.3
GERES GERESS Array B 38.86 316 P **P** **15 46 22.7 +0.6**
GERES pmax pmax

comp=Z,1.0nm,0.5s
GERES MLR MLR
comp=Z,205nm,19.1s
GERES GERESS Array B 38.86 316 P P 15 46 22.7 +0.6
PVCC Panska Ves 38.95 319 *eP* **P 15 46 23.0 +0.3**
PVCC Panska Ves 38.95 319 *eP* **P 15 46 23.0 +0.3**
PVCC Panska Ves 38.95 319 P **P 15 46 23.0 +0.3**
KHC Kasperske Hory 39.04 316 *eP* **P 15 46 22.6 -0.9**
comp=Z,13nm,1.3s,mb4.5
KHC Kasperske Hory 39.04 316 *eP* **P 15 46 22.6 -0.9**
KHC pmax pmax
comp=Z,13nm,1.3s,mb4.5
KHC Kasperske Hory 39.04 316 *eP* **P 15 46 23.5 0.0**
KHC Kasperske Hory 39.04 316 *eP* **P 15 46 22.6 -0.9**
comp=Z,13nm,1.3s,mb4.5
GTA Gaotai 39.36 59 P **P 15 46 26.2 -0.2**
GTA pP pP 15 46 30.7 +1.2
GTA sP sP 15 46 33.3 +2.6
GTA S **S 15 52 28.8 +1.1**
GTA sS sS 15 52 35.7 +2.9
GTA pmax pmax
comp=Z,13nm,1.3s,mb4.5
GTA pmax pmax
comp=Z,100nm,3.8s
GTA LR LR
comp=N,240nm,16.6s,MS4.2
GTA LR LR
comp=E,170nm,17.6s,MS4.2
GTA LR LR
comp=Z,210nm,16.6s,MS4.0
BRG Berggiesshubel 39.45 319 *eP* pP 15 46 38.2 +8.2
comp=Z,12nm,1.4s
BRG *e* 15 46 60.0
comp=Z,23nm,1.6s
JOF Joensuu 39.56 343 *eP* **P 15 46 27.1 -0.6**
JOF pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
JOF Joensuu 39.56 343 *ep* **P 15 46 27.1 -0.6**
comp=Z,8.3nm,0.7s,mb4.6
JOF Joensuu 39.56 343 *eP* **P 15 46 27.1 -0.6**
comp=Z,8.3nm,0.7s,mb4.6
WTTA Wattenberg 39.70 313⇑ *iP* **P 15 46 28.2 -0.9**
comp=Z,9.3nm,0.5s,mb4.7
WTTA Wattenberg 39.70 313 P **P 15 46 28.2 -0.9**
comp=Z,9.3nm,0.5s,mb4.7
KEST Kesra 39.80 295 P **P 15 46 32.3 +2.2**
comp=Z,4.3nm,0.9s,mb4.2,baz=306,slow=2.1,SNR=11
KEST Kesra 39.80 295 *eP* **P 15 46 29.9 -0.2**
KEST Kesra 39.80 295 *eP* **P 15 46 29.9 -0.2**
FINES FINESS Array B 39.93 339 P **P 15 46 30.1 -0.7**
comp=Z,3.5nm,0.3s,mb4.5,baz=139,slow=8.4,SNR=41
FINES LR LR 16 05 41.4
comp=Z,217nm,21.6s,MS4.0,baz=27,slow=40
FINES FINESS Array B 39.93 339 P **P 15 46 30.1 -0.7**
FINES LR LR 16 05 41.4
FINES FINESS Array B 39.93 339 P **P 15 46 30.1 -0.7**
FINES pmax pmax
comp=Z,4.0nm,0.3s
FINES MLR MLR
comp=Z,217nm,21.6s
FINES FINESS Array B 39.93 339 P **P 15 46 30.1 -0.7**
comp=Z,217nm,21.6s
VSL Villasalto 39.94 301 *eP* **P 15 46 31.7 +0.5**
comp=Z,30nm,1.0s,mb5.0
VSL Villasalto 39.94 301 *eP* **P 15 46 31.7 +0.5**
comp=Z,30nm,1.0s,mb5.0
MOTA Moosalm 40.07 313⇑ *iP* **P 15 46 31.4 -0.8**
comp=Z,11nm,1.1s,mb4.5
MOTA Moosalm 40.07 313 P **P 15 46 31.4 -0.8**
comp=Z,11nm,1.1s,mb4.5
CLL Collm 40.16 319 *eP* **P 15 46 32.0 -0.8**
CLL MLR MLR
comp=Z,200nm,20.9s,MS3.9
CLL Collm 40.16 319 *eP* **P 15 46 32.0 -0.8**
CLL Lm 16 05 00.0
comp=N,200nm,19.0s
CLL Lm 16 05 00.0
comp=E,200nm,19.9s
CLL Lm 16 05 00.0
comp=Z,200nm,20.9s
CLL Collm 40.16 319 *eP* **P 15 46 32.0 -0.8**
comp=Z,200nm,20.9s
FETA Feichten 40.23 312⇓ *iP* **P 15 46 33.0 -0.5**
comp=Z,19nm,0.8s,mb4.9
FETA Feichten 40.23 312 P **P 15 46 33.0 -0.5**
comp=Z,19nm,0.8s,mb4.9
RETA Reutte 40.33 313⇑ *iP* **P 15 46 32.6 -1.7**
comp=Z,4.7nm,0.6s,mb4.4
RETA Reutte 40.33 313 P **P 15 46 32.6 -1.7**
comp=Z,4.7nm,0.6s,mb4.4
KAF Kangasniemi 40.35 340 *eP* **P 15 46 33.0 -1.3**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
KAF Kangasniemi 40.35 340 *ep* **P 15 46 33.0 -1.3**
comp=Z,1.3nm,0.4s,mb4.0
KAF Kangasniemi 40.35 340 *eP* **P 15 46 33.0 -1.3**
comp=Z,1.3nm,0.4s,mb4.0
PGF Pioggiola 40.56 305 *eP* **P 15 46 34.6 -1.7**
comp=Z,20nm,0.9s,mb4.5
PGF Pioggiola 40.56 305 *eP* **P 15 46 34.6 -1.7**
comp=Z,10nm,0.9s,mb4.5
PGF Pioggiola 40.56 305 *eP* **P 15 46 34.6 -1.7**
PGF pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
PGF Pioggiola 40.56 305 *eP* **P 15 46 34.6 -1.7**
comp=Z,10nm,0.9s,mb4.5
DAVOX Davos/Dischmat 40.74 312 P **P 15 46 38.2 +0.4**
comp=Z,4.2nm,0.5s,mb4.4,baz=115,slow=11,SNR=6.0
DAVOX Davos/Dischmat 40.74 312 P **P 15 46 38.2 +0.4**
DAVOX Davos/Dischmat 40.74 312 P **P 15 46 38.2 +0.5**
DAVOX Davos/Dischmat 40.74 312 P **P 15 46 38.2 +0.5**
DAVA Damuels 40.86 313⇑ *iP* **P 15 46 37.4 -1.3**
comp=Z,17nm,0.5s,mb4.9
DAVA Damuels 40.86 313 P **P 15 46 37.4 -1.3**
comp=Z,17nm,0.5s,mb4.9
CHTO Chiang Mai 41.14 91 *eP* **P 15 46 41.4 0.0**
comp=Z,42nm,1.8s,mb4.8
CHTO Chiang Mai 41.14 91 *eP* **P 15 46 41.4 0.0**
CHTO pmax pmax
comp=Z,42nm,1.8s,mb4.8
CHTO Chiang Mai 41.14 91 P **P 15 46 42.7 +1.3**
SNR=6.3
CHTO Chiang Mai 41.14 91 *eP* **P 15 46 41.4 0.0**
comp=Z,42nm,1.8s,mb4.8
CMAR Chiang Mai Arr 41.26 92 P **P 15 46 43.0 +0.7**
comp=Z,1.4nm,0.7s,mb3.7,baz=288,slow=9.5,SNR=6.2
CMAR PcP PcP 15 48 41.4 +0.2
comp=Z,1.9nm,0.8s,baz=293,slow=4.8,SNR=6.3
CMAR Chiang Mai Arr 41.26 92 P **P 15 46 43.0 +0.7**
CMAR PcP PcP 15 48 41.4 +0.2
CMAR Chiang Mai Arr 41.26 92 P **P 15 46 43.0 +0.7**
CMAR 15 48 41.4
CMAR pmax pmax
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr 41.26 92 P **P 15 46 43.0 +0.7**
CMAR Chiang Mai Arr 41.26 92 PcP PcP 15 48 41.4 +0.2
SBF Sospel 41.88 307 *eP* **P 15 46 46.1 -1.0**
comp=Z,63nm,1.0s,mb4.9
SBF Sospel 41.88 307 *eP* **P 15 46 46.1 -1.0**
comp=Z,31nm,1.0s,mb4.9
SBF Sospel 41.88 307 *eP* **P 15 46 46.1 -1.0**
SBF pmax pmax
comp=Z,31nm,1.0s,mb4.9
SBF Sospel 41.88 307 *eP* **P 15 46 46.1 -1.0**
comp=Z,31nm,1.0s,mb4.9
FRF La Foret Royal 42.41 306 *eP* **P 15 46 50.1 -1.3**
FRF La Foret Royal 42.41 306 *eP* **P 15 46 50.1 -1.3**
FRF La Foret Royal 42.41 306 *eP* **P 15 46 50.1 -1.3**
FRF La Foret Royal 42.41 306 *eP* **P 15 46 50.1 -1.3**
LZH Lanzhou 42.45 65 *eP* **P 15 46 51.5 -0.4**
LZH pP pP 15 46 54.7 -0.3
LZH sP sP 15 46 56.2 0.0
LZH PP PP 15 48 32.6 +2.5
LZH *eS* **S 15 53 09.1 -4.6**
LZH pmax pmax
comp=Z,71nm,1.5s,mb5.1
LZH pmax pmax
comp=Z,150nm,5.6s
LZH LR LR
comp=N,330nm,15.6s,MS4.6
LZH LR LR
comp=E,560nm,16.0s,MS4.6
LZH LR LR
comp=Z,900nm,17.2s,MS4.7
LMR La Mourre 42.48 306 *eP* **P 15 46 50.7 -1.3**
comp=Z,11nm,0.9s,mb4.2
LMR La Mourre 42.48 306 *eP* **P 15 46 50.7 -1.3**
comp=Z,5.6nm,0.9s,mb4.2
LMR La Mourre 42.48 306 *eP* **P 15 46 50.7 -1.3**
LMR pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
LMR La Mourre 42.48 306 *eP* **P 15 46 50.7 -1.3**
comp=Z,5.6nm,0.9s,mb4.2
MBDF Montbardon 42.48 308 *eP* **P 15 46 50.5 -1.5**
comp=Z,18nm,0.9s,mb4.4
MBDF Montbardon 42.48 308 *eP* **P 15 46 50.5 -1.5**
comp=Z,8.8nm,0.9s,mb4.4
MBDF Montbardon 42.48 308 *eP* **P 15 46 50.5 -1.5**
MBDF pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
MBDF Montbardon 42.48 308 *eP* **P 15 46 50.5 -1.5**
comp=Z,8.8nm,0.9s,mb4.4
LPG La Plagne 42.62 309 *eP* **P 15 46 52.4 -0.7**
comp=Z,19nm,0.8s,mb4.6
LPG La Plagne 42.62 309 *eP* **P 15 46 52.4 -0.7**
comp=Z,9.6nm,0.8s,mb4.6
LPG La Plagne 42.62 309 *eP* **P 15 46 52.4 -0.7**
LPG pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
LPG La Plagne 42.62 309 *eP* **P 15 46 52.4 -0.7**
comp=Z,9.6nm,0.8s,mb4.6
LPL La Plagne 42.63 309 *eP* **P 15 46 52.4 -0.8**
comp=Z,25nm,1.0s,mb4.6
LPL La Plagne 42.63 309 *eP* **P 15 46 52.4 -0.8**
comp=Z,13nm,1.0s,mb4.6
LPL La Plagne 42.63 309 *eP* **P 15 46 52.4 -0.8**
LPL pmax pmax
comp=Z,13nm,1.0s,mb4.6
LPL La Plagne 42.63 309 *eP* **P 15 46 52.4 -0.8**
comp=Z,13nm,1.0s,mb4.6
MOY Mondy 42.67 41 *eP* **P 15 46 54.4 +0.9**
MOY pmax pmax
comp=Z,49nm,1.5s,mb5.0
MOY Mondy 42.67 41 *eP* **P 15 46 54.4 +0.9**
comp=Z,49nm,1.5s,mb5.0
CD2 Chengdu 42.74 72 P **P 15 46 54.0 -0.3**
CD2 pP pP 15 46 58.5 +1.1
CD2 sP sP 15 47 01.0 +2.3
CD2 PP PP 15 48 36.0 +2.6
CD2 S **S 15 53 16.7 -1.4**
CD2 sS sS 15 53 25.3 +2.0
CD2 SS SS 15 56 22.0 -6.7
CD2 pmax pmax
comp=Z,10.0nm,0.5s,mb4.8
CD2 pmax pmax
comp=Z,310nm,6.5s
CD2 LR LR
comp=N,420nm,7.7s
CD2 LR LR
comp=Z,380nm,7.1s
KMI Kunming 42.83 81 P **P 15 46 55.4 +0.3**
KMI pP pP 15 46 59.6 +1.4
KMI sP sP 15 47 01.0 +1.6
KMI PP PP 15 48 38.1 +3.7
KMI S **S 15 53 20.5 +0.9**
KMI SS SS 15 56 21.5 -9.1
KMI pmax pmax
comp=Z,13nm,1.2s,mb4.5
KMI pmax pmax
comp=Z,120nm,3.6s
KMI LR LR
comp=N,220nm,15.5s,MS4.3
KMI LR LR
comp=E,210nm,15.1s,MS4.3
KMI LR LR
comp=Z,150nm,12.3s,MS4.1
CDF Champ du Feu 42.83 314 *eP* **P 15 46 53.4 -1.4**
comp=Z,16nm,1.1s,mb4.4
CDF Champ du Feu 42.83 314 *eP* **P 15 46 53.4 -1.4**
comp=Z,8.1nm,1.1s,mb4.4
CDF Champ du Feu 42.83 314 *eP* **P 15 46 53.4 -1.4**
CDF pmax pmax
comp=Z,8.0nm,1.1s,mb4.4
CDF Champ du Feu 42.83 314 *eP* **P 15 46 53.4 -1.4**
comp=Z,8.1nm,1.1s,mb4.4
HINF Hinteralfeld 42.98 313 *eP* **P 15 46 54.3 -1.7**
HINF Hinteralfeld 42.98 313 *eP* **P 15 46 54.3 -1.7**
HINF Hinteralfeld 42.98 313 *eP* **P 15 46 54.3 -1.7**
HINF Hinteralfeld 42.98 313 *eP* **P 15 46 54.3 -1.7**
APA Apatity 43.08 348⇑ *iP* **P 15 46 56.8 +0.2**
APA *i* 15 48 40.0
APA *i* S **S 15 53 20.0 -2.2**
APA pmax pmax
comp=Z,15nm,0.8s,mb4.8
APA MLR MLR
comp=Z,800nm,15.0s,MS4.7
APA Apatity 43.08 348 *i* P **P 15 46 56.8 +0.2**
comp=Z,15nm,0.8s,mb4.8
APA *i* S **S 15 53 20.0 -2.2**
comp=Z,800nm,15.0s
ORIF Oris-en-Rattie 43.14 308 *eP* **P 15 46 56.4 -0.9**
ORIF *eR*
comp=Z,274nm,20.0s
ORIF Oris-en-Rattie 43.14 308 *eP* **P 15 46 56.4 -0.9**
ORIF Oris-en-Rattie 43.14 308 *eP* **P 15 46 56.4 -0.9**
ORIF Oris-en-Rattie 43.14 308 *eP* **P 15 46 56.4 -0.9**
SMRF Simiane la Rot 43.23 307 *eP* **P 15 46 57.0 -1.1**
SMRF Simiane la Rot 43.23 307 *eP* **P 15 46 57.0 -1.1**
SMRF Simiane la Rot 43.23 307 *eP* **P 15 46 57.0 -1.1**
CABF La Chapelle 43.26 311 *eP* **P 15 46 57.0 -1.3**
comp=Z,145nm,1.8s,mb5.1
CABF La Chapelle 43.26 311 *eP* **P 15 46 57.0 -1.3**
comp=Z,73nm,1.8s,mb5.1
CABF La Chapelle 43.26 311 *eP* **P 15 46 57.0 -1.3**
CABF pmax pmax
comp=Z,73nm,1.8s,mb5.1
CABF La Chapelle 43.26 311 *eP* **P 15 46 57.0 -1.3**
comp=Z,73nm,1.8s,mb5.1
HAU Haudompre 43.35 313 *eP* **P 15 46 57.9 -1.1**
comp=Z,19nm,1.1s,mb4.4
HAU *eR*
comp=Z,213nm,18.2s
HAU Haudompre 43.35 313 *eP* **P 15 46 57.9 -1.1**
comp=Z,9.4nm,1.1s,mb4.4
HAU LR LR
comp=Z,210nm,18.3s,MS4.1
HAU Haudompre 43.35 313 *eP* **P 15 46 57.9 -1.1**
HAU pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
HAU MLR MLR
comp=Z,210nm,18.3s,MS4.1
HAU Haudompre 43.35 313 *eP* **P 15 46 57.9 -1.1**
comp=Z,9.4nm,1.1s,mb4.4
ZAK Zakamensk 43.70 44 *eP* **P 15 47 02.2 +0.4**
ZAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
ZAK Zakamensk 43.70 44 *eP* **P 15 47 02.2 +0.4**
comp=Z,3.0nm,0.8s,mb4.1
HFS Hagfors 43.78 332 P **P 15 47 01.2 -1.1**
comp=Z,8.3nm,1.0s,mb4.4,baz=124,slow=7.4,SNR=7.2
HFS Hagfors 43.78 332 P **P 15 47 01.2 -1.1**
HFS Hagfors 43.78 332 P **P 15 47 01.2 -1.1**
HFS pmax pmax
comp=Z,8.0nm,1.0s
HFS Hagfors 43.78 332 P **P 15 47 01.2 -1.1**
PAGF Fort de Pagny 43.87 313 *eP* **P 15 47 01.3 -1.9**
PAGF Fort de Pagny 43.87 313 *eP* **P 15 47 01.3 -1.9**
VIVF Saint-Julien-l 43.98 308 *eP* **P 15 47 02.4 -1.7**
comp=Z,21nm,1.0s,mb4.5
VIVF Saint-Julien-l 43.98 308 *eP* **P 15 47 02.4 -1.7**
comp=Z,11nm,1.0s,mb4.5
VIVF Saint-Julien-l 43.98 308 *eP* **P 15 47 02.4 -1.7**
VIVF pmax pmax
comp=Z,11nm,1.0s,mb4.5
VIVF Saint-Julien-l 43.98 308 *eP* **P 15 47 02.4 -1.7**
comp=Z,11nm,1.0s,mb4.5
SFTF Sexfontaines 44.25 313 *eP* **P 15 47 04.2 -2.0**
SFTF Sexfontaines 44.25 313 *eP* **P 15 47 04.2 -2.0**
SFTF Sexfontaines 44.25 313 *eP* **P 15 47 04.2 -2.0**
TLY Talaya 44.26 42 *i* P **P 15 47 07.7 +1.5**
TLY pmax pmax
comp=Z,14nm,1.6s,mb4.4
TLY Talaya 44.26 42 *i* P **P 15 47 07.7 +1.5**
comp=Z,14nm,1.6s,mb4.4
MEZF Maizieres J'vi 44.30 313 *eP* **P 15 47 05.6 -1.0**
MEZF Maizieres J'vi 44.30 313 *eP* **P 15 47 05.6 -1.0**
MEZF Maizieres J'vi 44.30 313 *eP* **P 15 47 05.6 -1.0**
LASF Ste Croix 44.47 307 *eP* **P 15 47 06.9 -1.2**
comp=Z,20nm,0.8s,mb4.6
LASF Ste Croix 44.47 307 *eP* **P 15 47 06.9 -1.2**
LASF Ste Croix 44.47 307 *eP* **P 15 47 06.9 -1.2**
comp=Z,10nm,0.8s,mb4.6
SMF Signal de Mont 44.79 310 *eP* **P 15 47 09.1 -1.5**
comp=Z,39nm,1.1s,mb4.8
SMF Signal de Mont 44.79 310 *eP* **P 15 47 09.1 -1.5**
comp=Z,20nm,1.1s,mb4.8
SMF Signal de Mont 44.79 310 *eP* **P 15 47 09.1 -1.5**
SMF pmax pmax
comp=Z,20nm,1.1s,mb4.9
SMF Signal de Mont 44.79 310 *eP* **P 15 47 09.1 -1.5**
comp=Z,20nm,1.1s,mb4.8
TAM Tamanrasset 44.87 276 *eP* **P 15 47 12.4 +0.9**
comp=Z,16nm,1.3s,mb4.7
TAM Tamanrasset 44.87 276 *eP* **P 15 47 12.4 +0.9**
TAM pmax pmax
comp=Z,16nm,1.3s,mb4.7
TAM Tamanrasset 44.87 276 *eP* **P 15 47 12.4 +0.9**
comp=Z,16nm,1.3s,mb4.7
LOR Lormes 44.88 311 *eP* **P 15 47 09.6 -1.6**
comp=Z,28nm,1.2s,mb4.7
LOR *eR*
comp=Z,204nm,19.5s
LOR Lormes 44.88 311 *eP* **P 15 47 09.6 -1.6**
comp=Z,14nm,1.2s,mb4.7
LOR LR LR
comp=Z,200nm,19.5s,MS4.0
LOR Lormes 44.88 311 *eP* **P 15 47 09.6 -1.6**
LOR pmax pmax
comp=Z,14nm,1.2s,mb4.7
LOR MLR MLR
comp=Z,200nm,19.5s,MS4.0
LOR Lormes 44.88 311 *eP* **P 15 47 09.6 -1.6**
comp=Z,14nm,1.2s,mb4.7
DOU Dourbes 44.92 315 P **P 15 47 12.2 +0.6**
comp=Z,12nm,1.4s,mb4.5
DOU Dourbes 44.92 315 P **P 15 47 12.1 +0.6**
comp=Z,12nm,1.4s,mb4.5
SSF Saint Saulge 45.08 311 *eP* **P 15 47 12.1 -0.8**
comp=Z,50nm,1.2s,mb4.9
SSF Saint Saulge 45.08 311 *eP* **P 15 47 12.1 -0.8**
comp=Z,25nm,1.2s,mb4.9
SSF Saint Saulge 45.08 311 *eP* **P 15 47 12.1 -0.8**
SSF pmax pmax
comp=Z,25nm,1.2s,mb4.9
SSF Saint Saulge 45.08 311 *eP* **P 15 47 12.1 -0.8**
comp=Z,25nm,1.2s,mb4.9
AVF Avril sur Loir 45.15 311 *eP* **P 15 47 11.6 -1.8**
comp=Z,36nm,1.3s,mb4.7
AVF Avril sur Loir 45.15 311 *eP* **P 15 47 11.6 -1.8**
comp=Z,18nm,1.3s,mb4.7
AVF Avril sur Loir 45.15 311 *eP* **P 15 47 11.6 -1.8**
AVF pmax pmax
comp=Z,18nm,1.3s,mb4.7
AVF Avril sur Loir 45.15 311 *eP* **P 15 47 11.6 -1.8**
comp=Z,18nm,1.3s,mb4.7
BAIF Baives 45.15 315 *eP* **P 15 47 12.2 -1.2**
comp=Z,65nm,1.3s,mb5.0
BAIF Baives 45.15 315 *eP* **P 15 47 12.2 -1.2**
comp=Z,32nm,1.3s,mb5.0
BAIF Baives 45.15 315 *eP* **P 15 47 12.2 -1.2**
BAIF pmax pmax
comp=Z,32nm,1.3s,mb5.0
BAIF Baives 45.15 315 *eP* **P 15 47 12.2 -1.2**
comp=Z,32nm,1.3s,mb5.0
SONM Songino Array 45.18 48 P **P 15 47 14.3 +0.6**
comp=Z,16nm,0.9s,mb4.9,baz=259,slow=8.6,SNR=80
SONM LR LR 16 08 50.8
comp=Z,274nm,18.4s,MS4.2,baz=271,slow=40
SONM Songino Array 45.18 48 P **P 15 47 14.3 +0.6**
SONM LR LR 16 08 50.9
SONM Songino Array 45.18 48 P **P 15 47 14.3 +0.6**
SONM pmax pmax
comp=Z,16nm,0.9s
SONM MLR MLR
comp=Z,274nm,18.4s
SONM Songino Array 45.18 48 P **P 15 47 14.3 +0.6**
NB2 NORSAR Subarra 45.30 332 P **P 15 47 13.2 -1.2**
comp=Z,1.5nm,0.6s,mb4.0,baz=117,slow=8.6
NB2 NORSAR Subarra 45.30 332 P **P 15 47 13.2 -1.2**
comp=Z,1.5nm,0.6s,mb4.0,SNR=9.0
NOA NORSAR Array B 45.30 332 P **P 15 47 13.6 -0.9**
comp=Z,2.0nm,0.6s,mb4.1,baz=119,slow=8.0,SNR=9.1
NOA LR LR 16 08 47.3
comp=Z,115nm,18.1s,MS3.9,baz=105,slow=40
NOA NORSAR Array B 45.30 332 P **P 15 47 13.6 -0.9**
NOA LR LR 16 08 47.3
NOA NORSAR Array B 45.30 332 P **P 15 47 13.6 -0.8**
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA MLR MLR
comp=Z,115nm,18.1s
NOA NORSAR Array B 45.30 332 P **P 15 47 13.6 -0.8**
BGF Bois d'Agland 45.46 310 *eP* **P 15 47 14.6 -1.3**
comp=Z,42nm,1.2s,mb4.8
BGF Bois d'Agland 45.46 310 *eP* **P 15 47 14.6 -1.3**
comp=Z,21nm,1.2s,mb4.8
BGF Bois d'Agland 45.46 310 *eP* **P 15 47 14.6 -1.3**
BGF pmax pmax
comp=Z,21nm,1.2s,mb4.8
BGF Bois d'Agland 45.46 310 *eP* **P 15 47 14.6 -1.3**
comp=Z,21nm,1.2s,mb4.8
MTLF Montolieu 45.60 306 *eP* **P 15 47 16.8 -0.2**
comp=Z,37nm,1.0s,mb5.0
MTLF Montolieu 45.60 306 *eP* **P 15 47 16.8 -0.2**
comp=Z,18nm,1.0s,mb5.0
MTLF Montolieu 45.60 306 *eP* **P 15 47 16.8 -0.2**
MTLF pmax pmax
comp=Z,18nm,1.0s,mb5.0
MTLF Montolieu 45.60 306 *eP* **P 15 47 16.8 -0.2**
comp=Z,18nm,1.0s,mb5.0
ULN Ulaanbaatar 45.62 48 *eP* **P 15 47 17.0 -0.2**
comp=Z,19nm,0.9s,mb5.0
ULN Ulaanbaatar 45.62 48 *eP* **P 15 47 17.0 -0.2**
ULN pmax pmax
comp=Z,19nm,0.9s,mb5.0
ULN Ulaanbaatar 45.62 48 P **P 15 47 17.3 +0.1**
SNR=23
ULN Ulaanbaatar 45.62 48 *eP* **P 15 47 17.0 -0.2**
comp=Z,19nm,0.9s,mb5.0
CAF Calviac 45.83 308 *eP* **P 15 47 17.9 -0.9**
CAF Calviac 45.83 308 *eP* **P 15 47 17.9 -0.9**
CAF Calviac 45.83 308 *eP* **P 15 47 17.9 -0.9**
CAF Calviac 45.83 308 *eP* **P 15 47 17.9 -0.9**
TCF Toulx Ste Croi 45.87 310 *eP* **P 15 47 18.0 -1.1**
comp=Z,26nm,1.1s,mb4.8
TCF Toulx Ste Croi 45.87 310 *eP* **P 15 47 18.0 -1.1**
comp=Z,13nm,1.1s,mb4.8
TCF Toulx Ste Croi 45.87 310 *eP* **P 15 47 18.0 -1.1**
TCF pmax pmax
comp=Z,13nm,1.1s,mb4.8
TCF Toulx Ste Croi 45.87 310 *eP* **P 15 47 18.0 -1.1**
comp=Z,13nm,1.1s,mb4.8
GYA Guiyang 45.99 78 P **P 15 47 21.0 +0.6**
GYA PP PP 15 49 08.9 +0.7
GYA ScP ScP 15 52 50.4 0.0
GYA S **S 15 54 05.7 +0.1**
GYA SS SS 15 57 22.6 -7.9
GYA pmax pmax
comp=Z,20nm,0.8s,mb5.1
GYA pmax pmax
comp=Z,130nm,5.6s
GYA LR LR
comp=N,480nm,18.0s,MS4.6
GYA LR LR
comp=E,340nm,19.6s,MS4.6
GYA LR LR
comp=Z,410nm,17.9s,MS4.4
KEV Kevo 46.19 347 *eP* **P 15 47 20.6 -0.7**
comp=Z,42nm,1.4s,mb5.2
KEV Kevo 46.19 347 *eP* **P 15 47 20.6 -0.7**
KEV pmax pmax
comp=Z,42nm,1.4s,mb5.2
KEV Kevo 46.19 347 *ep* **P 15 47 20.1 -1.2**
comp=Z,11nm,0.7s,mb4.9
KEV Kevo 46.19 347 *eP* **P 15 47 20.6 -0.7**
comp=Z,42nm,1.4s,mb5.2
RJF Les Rejaudoux 46.25 308 *eP* **P 15 47 21.6 -0.6**
comp=Z,48nm,1.1s,mb5.0
RJF Les Rejaudoux 46.25 308 *eP* **P 15 47 21.6 -0.6**
comp=Z,24nm,1.1s,mb5.0
RJF Les Rejaudoux 46.25 308 *eP* **P 15 47 21.6 -0.6**
RJF pmax pmax
comp=Z,24nm,1.1s,mb5.0
RJF Les Rejaudoux 46.25 308 *eP* **P 15 47 21.6 -0.6**
comp=Z,24nm,1.1s,mb5.0
ARCES ARCESS Array B 46.32 346 P **P 15 47 22.2 -0.1**
comp=Z,4.5nm,0.7s,mb4.5,baz=159,slow=10.0,SNR=34
ARCES LR LR 16 10 26.6
comp=Z,271nm,18.3s,MS4.2,baz=157,slow=41

ARCES	**ARCES Array B**	**46.32 346**	P	**P**	**15 47 22.2**	**-0.1**
ARCES			LR	LR	16 10 26.6	
ARCES	**ARCES Array B**	**46.32 346**	P	**P**	**15 47 22.3**	**-0.1**
ARCES			pmax	pmax		
	comp=Z,5.0nm,0.7s					
ARCES			MLR	MLR		
	comp=Z,271nm,18.3s					
ARCES	**ARCES Array B**	**46.32 346**	P	**P**	**15 47 22.2**	**-0.2**
LFF	**La Frestale**	**46.77 308**	*e*P	**P**	**15 47 25.5**	**-0.7**
LFF	**La Frestale**	**46.77 308**	*e*P	**P**	**15 47 25.5**	**-0.7**
LFF	**La Frestale**	**46.77 308**	*e*P	**P**	**15 47 25.5**	**-0.7**
LFF	**La Frestale**	**46.77 308**	*e*P	**P**	**15 47 25.5**	**-0.7**
EPF	**Esparros**	**46.95 305**	*e*P	**P**	**15 47 27.0**	**-0.7**
EPF	**Esparros**	**46.95 305**	*e*P	**P**	**15 47 27.0**	**-0.7**
EPF	**Esparros**	**46.95 305**	*e*P	**P**	**15 47 27.0**	**-0.7**
EPF	**Esparros**	**46.95 305**	*e*P	**P**	**15 47 27.0**	**-0.7**
STOK	**Stokkvaagen**	**47.48 339**	*e*P	**P**	**15 47 31.1**	**-0.4**
MFF	**Saint Martin d**	**47.52 310**	*e*P	**P**	**15 47 31.7**	**-0.4**
	comp=Z,61nm,1.5s,mb5.1					
MFF	**Saint Martin d**	**47.52 310**	*e*P	**P**	**15 47 31.7**	**-0.4**
	comp=Z,30nm,1.5s,mb5.1					
MFF			pmax	pmax		
	comp=Z,30nm,1.5s,mb5.1					
MFF	**Saint Martin d**	**47.52 310**	*e*P	**P**	**15 47 31.7**	**-0.4**
	comp=Z,30nm,1.5s,mb5.1					
ETSF	**Etsaut**	**47.61 305**	*e*P	**P**	**15 47 32.8**	**0.0**
	comp=Z,28nm,0.8s,mb5.0					
ETSF	**Etsaut**	**47.61 305**	*e*P	**P**	**15 47 32.8**	**0.0**
	comp=Z,14nm,0.8s,mb5.0					
ETSF	**Etsaut**	**47.61 305**	*e*P	**P**	**15 47 32.8**	**0.0**
ETSF			pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0					
ETSF	**Etsaut**	**47.61 305**	*e*P	**P**	**15 47 32.8**	**0.0**
	comp=Z,14nm,0.8s,mb5.0					
LDF	**La Druitiere**	**47.71 313**	*e*P	**P**	**15 47 31.7**	**-1.8**
LDF	**La Druitiere**	**47.71 313**	*e*P	**P**	**15 47 31.7**	**-1.8**
LDF	**La Druitiere**	**47.71 313**	*e*P	**P**	**15 47 31.7**	**-1.8**
LDF	**La Druitiere**	**47.71 313**	*e*P	**P**	**15 47 31.7**	**-1.8**
STEI	**Steigen**	**47.77 341**	*e*P	**P**	**15 47 33.2**	**-0.5**
TRO	**Tromso**	**47.92 344**	*e*P	**P**	**15 47 34.1**	**-0.7**
TRO	**Tromso**	**47.92 344**	*e*P	**P**	**15 47 34.1**	**-0.7**
SNR=23						
FLN	**La Foliniere**	**47.97 313**	*e*P	**P**	**15 47 33.8**	**-1.7**
FLN			*e*R			
	comp=Z,194nm,20.0s					
FLN	**La Foliniere**	**47.97 313**	*e*P	**P**	**15 47 33.8**	**-1.7**
FLN			LR	LR		
	comp=Z,190nm,20.0s,MS4.1					
FLN	**La Foliniere**	**47.97 313**	*e*P	**P**	**15 47 33.8**	**-1.7**
FLN			MLR	MLR		
	comp=Z,190nm,20.0s,MS4.1					
FLN	**La Foliniere**	**47.97 313**	*e*P	**P**	**15 47 33.8**	**-1.7**
SJPF	**Ste Jean**	**48.10 305**	*e*P	**P**	**15 47 36.3**	**-0.3**
SJPF	**Ste Jean**	**48.10 305**	*e*P	**P**	**15 47 36.3**	**-0.3**
SJPF	**Ste Jean**	**48.10 305**	*e*P	**P**	**15 47 36.3**	**-0.3**
SJPF	**Ste Jean**	**48.10 305**	*e*P	**P**	**15 47 36.3**	**-0.3**
GRR	**Gorron**	**48.17 312**	*e*P	**P**	**15 47 35.4**	**-1.7**
	comp=Z,44nm,1.1s,mb5.1					
GRR	**Gorron**	**48.17 312**	*e*P	**P**	**15 47 35.4**	**-1.7**
	comp=Z,22nm,1.1s,mb5.1					
GRR	**Gorron**	**48.17 312**	*e*P	**P**	**15 47 35.4**	**-1.7**
GRR			pmax	pmax		
	comp=Z,22nm,1.1s,mb5.1					
GRR	**Gorron**	**48.17 312**	*e*P	**P**	**15 47 35.4**	**-1.7**
	comp=Z,22nm,1.1s,mb5.1					
HHC	**Hu-ho-hao-te**	**48.41 58**	*e*P	**P**	**15 47 37.7**	**-1.4**
HHC			sP	sP	15 47 44.4	+0.9
HHC			PcP	PcP	15 49 04.9	-0.5
HHC			PP	PP	15 49 30.3	-1.3
HHC			ScP	ScP	15 52 57.0	-3.3
HHC			PcS	PcS	15 52 58.8	-2.5
HHC			S	**S**	**15 54 37.0**	**-2.7**
HHC			ScS	ScS	15 57 26.8	-5.4
HHC			SS	SS	15 58 00.6	-8.6
HHC			pmax	pmax		
	comp=Z,23nm,0.6s,mb5.4					
HHC			pmax	pmax		
	comp=Z,100nm,6.6s					
HHC			LR	LR		
	comp=N,260nm,16.3s,MS4.4					
HHC			LR	LR		
	comp=E,190nm,16.6s,MS4.4					
HHC			LR	LR		
	comp=Z,240nm,16.3s,MS4.3					
SGMF	**Saint Gilles**	**49.29 312**	*e*P	**P**	**15 47 45.0**	**-0.7**
SGMF	**Saint Gilles**	**49.29 312**	*e*P	**P**	**15 47 45.0**	**-0.7**
SGMF	**Saint Gilles**	**49.29 312**	*e*P	**P**	**15 47 45.0**	**-0.7**
SGMF	**Saint Gilles**	**49.29 312**	*e*P	**P**	**15 47 45.0**	**-0.7**
ESDC	**Sonseca Array**	**50.24 301**	P	**P**	**15 47 53.0**	**-0.1**
	comp=Z,8.6nm,0.8s,mb4.8,baz=68,slow=7.6,SNR=27					
ESDC	**Sonseca Array**	**50.24 301**	P	**P**	**15 47 53.0**	**-0.1**
ESDC	**Sonseca Array**	**50.24 301**	P	**P**	**15 47 53.0**	**-0.1**
PAB	**San Pablo**	**50.55 301**	*e*P	**P**	**15 47 54.7**	**-0.7**
	comp=Z,16nm,0.8s,mb5.0					
PAB	**San Pablo**	**50.55 301**	*e*P	**P**	**15 47 54.7**	**-0.7**
PAB			pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0					
PAB	**San Pablo**	**50.55 301**	*e*P	**P**	**15 47 54.7**	**-0.7**
	comp=Z,16nm,0.8s,mb5.0					
TORD	**Torodi Ar. Bea**	**51.52 266**	P	**P**	**15 48 02.2**	**-0.7**
	comp=Z,12nm,0.8s,mb4.9,baz=60,slow=6.1,SNR=86					
TORD	**Torodi Ar. Bea**	**51.52 266**	P	**P**	**15 48 02.2**	**-0.7**
TORD	**Torodi Ar. Bea**	**51.52 266**	P	**P**	**15 48 02.2**	**-0.8**
BOD	**Bodaibo**	**51.52 36**	*e*P	**P**	**15 48 02.0**	**-0.4**
BOD			pmax	pmax		
	comp=Z,59nm,1.1s,mb5.4					
BOD	**Bodaibo**	**51.52 36**	*e*P	**P**	**15 48 02.0**	**-0.4**
	comp=Z,59nm,1.1s,mb5.4					
MDT	**Midelt**	**51.55 292**	P	**P**	**15 48 04.0**	**+0.9**
	comp=Z,15nm,0.8s,mb4.9,baz=83,slow=8.3,SNR=27					
MDT	**Midelt**	**51.55 292**	P	**P**	**15 48 04.0**	**+1.0**
MDT	**Midelt**	**51.55 292**	P	**P**	**15 48 04.0**	**+0.9**
PBRG	**Braganca**	**52.21 304**	*e*P	**P**	**15 48 07.8**	**0.0**
	comp=Z,40nm,2.1s,mb5.0					
PBRG	**Braganca**	**52.21 304**	*e*P	**P**	**15 48 07.8**	**0.0**
	comp=Z,40nm,2.1s,mb5.0					
MVO	**Moncorvo**	**52.47 303**	*e*P	**P**	**15 48 09.5**	**-0.3**
	comp=Z,33nm,0.8s,mb5.3					
MVO	**Moncorvo**	**52.47 303**	*e*P	**P**	**15 48 09.5**	**-0.3**
	comp=Z,33nm,0.8s,mb5.3					
MVO			*i* P		15 48 40.8	
PBAR	**Barrancos**	**52.77 299**	*e*P	**P**	**15 48 11.0**	**-1.0**
	comp=Z,24nm,1.8s,mb4.8					
PBAR	**Barrancos**	**52.77 299**	*e*P	**P**	**15 48 11.0**	**-1.0**
	comp=Z,24nm,1.8s,mb4.8					
PBAR			*i* P		15 48 42.4	
PMRV	**Marv??o**	**52.90 301**	*e*P	**P**	**15 48 11.9**	**-1.1**
	comp=Z,36nm,2.0s,mb5.0					
PMRV	**Marv??o**	**52.90 301**	*e*P	**P**	**15 48 11.9**	**-1.1**
	comp=Z,36nm,2.0s,mb5.0					
PMRV			*i* P		15 48 43.4	
PVRL	**Vila Real**	**52.98 303**	*e*P	**P**	**15 48 14.0**	**+0.5**
PVRL	**Vila Real**	**52.98 303**	*e*P	**P**	**15 48 14.0**	**+0.5**
PVRL			*i* P		15 48 44.7	
PVIS	**Viseu**	**53.16 302**	*e*P	**P**	**15 48 13.1**	**-1.8**
	comp=Z,39nm,2.0s,mb5.0					
PVIS	**Viseu**	**53.16 302**	*e*P	**P**	**15 48 13.1**	**-1.8**
	comp=Z,39nm,2.0s,mb5.0					
PVIS			*i* P		15 48 46.3	
PGAV	**Gavieira, Arco**	**53.34 304**	*e*P	**P**	**15 48 18.6**	**+2.4**
PVAQ	**Vaqueiros**	**53.39 298**	*e*P	**P**	**15 48 15.9**	**-0.8**
	comp=Z,25nm,3.1s					
PVAQ	**Vaqueiros**	**53.39 298**	*e*P	**P**	**15 48 15.9**	**-0.8**
	comp=Z,25nm,3.1s					
PVAQ			*i* P		15 48 48.3	
PBEJ	**Beja**	**53.43 299**	*e*P	**P**	**15 48 16.0**	**-0.9**
	comp=Z,21nm,2.1s,mb4.7					
PBEJ	**Beja**	**53.43 299**	*e*P	**P**	**15 48 16.0**	**-0.9**
	comp=Z,21nm,2.1s,mb4.7					
PBEJ			*i* P		15 48 46.4	
EVO	**Evora**	**53.48 300**	*e*P	**P**	**15 48 17.7**	**+0.4**
	comp=Z,22nm,0.8s,mb4.8					
EVO			*e*R			
	comp=Z,165nm,17.2s					
EVO	**Evora**	**53.48 300**	*e*P	**P**	**15 48 16.0**	**-1.3**
	comp=Z,22nm,2.3s,mb4.7					
EVO	**Evora**	**53.48 300**	*e*P	**P**	**15 48 16.0**	**-1.3**
	comp=Z,22nm,2.3s,mb4.7					
EVO			*i* P		15 48 48.0	
EVOP	**Sao Brissos**	**53.57 300**	*e*P	**P**	**15 48 17.7**	**-0.2**
	comp=Z,22nm,0.8s,mb5.1					
EVOP			LR	LR		
	comp=Z,165μm,17.3s					
EVOP	**Sao Brissos**	**53.57 300**	*e*P	**P**	**15 48 17.7**	**-0.2**
EVOP			pmax	pmax		
	comp=Z,22nm,0.8s,mb5.1					
EVOP	**Sao Brissos**	**53.57 300**	*e*P	**P**	**15 48 17.7**	**-0.2**
	comp=Z,11nm,0.8s,mb4.8					
PBDV	**Barranco-do-Ve**	**53.58 298**	*e*P	**P**	**15 48 15.6**	**-2.5**
PBDV	**Barranco-do-Ve**	**53.58 298**	*e*P	**P**	**15 48 15.6**	**-2.5**
PCVE	**Castro Verde**	**53.62 299**	*e*P	**P**	**15 48 17.0**	**-1.3**
	comp=Z,24nm,2.2s,mb4.7					
PCVE	**Castro Verde**	**53.62 299**	*e*P	**P**	**15 48 17.0**	**-1.3**
	comp=Z,24nm,2.2s,mb4.7					
PCVE			*i* P		15 48 48.5	
PTOM	**Tomar**	**53.67 301**	*e*P	**P**	**15 48 16.1**	**-2.5**
	comp=Z,62nm,1.4s,mb5.3					
PTOM	**Tomar**	**53.67 301**	*e*P	**P**	**15 48 16.1**	**-2.5**
	comp=Z,62nm,1.4s,mb5.3					
PTOM			*i* P		15 48 49.8	
PNCL	**Nicolau / Gran**	**53.94 299**	*e*P	**P**	**15 48 18.8**	**-1.8**
PNCL	**Nicolau / Gran**	**53.94 299**	*e*P	**P**	**15 48 18.8**	**-1.8**
PNCL			*i* P		15 48 50.5	
PFVI	**Vila Bisbo**	**54.31 298**	*e*P	**P**	**15 48 23.4**	**0.0**
	comp=Z,60nm,1.4s,mb5.3					
PFVI	**Vila Bisbo**	**54.31 298**	*e*P	**P**	**15 48 23.4**	**0.0**
	comp=Z,60nm,1.4s,mb5.3					
PFVI			*i* P		15 48 54.1	
CN2	**Changchun**	**58.44 53**	⇓P	**P**	**15 48 52.2**	**-0.5**
CN2			*e*sP	sP	15 48 59.0	+1.9
CN2			*e*S	**S**	**15 56 52.3**	**-3.6**
CN2			pmax	pmax		
	comp=Z,20nm,1.1s,mb5.1					
CN2			LR	LR		
	comp=N,400nm,18.0s,MS4.7					
CN2			LR	LR		
	comp=E,300nm,18.0s,MS4.7					
CN2			LR	LR		
	comp=Z,500nm,19.0s,MS4.7					
YAK	**Yakutsk**	**59.77 32**	*e*P	**P**	**15 49 00.6**	**-1.0**
YAK			pmax	pmax		
	comp=Z,42nm,1.9s,mb5.1					
YAK	**Yakutsk**	**59.77 32**	*e*P	**P**	**15 49 00.6**	**-1.0**
	comp=Z,42nm,1.9s,mb5.1					
DBIC	**Dimbokro**	**60.09 262**	P	**P**	**15 49 04.5**	**-0.1**
	comp=Z,6.1nm,0.3s,mb5.0,baz=46,slow=8.2,SNR=28					
DBIC	**Dimbokro**	**60.09 262**	*e*P	**P**	**15 49 03.9**	**-0.7**
	comp=Z,12nm,0.7s,mb5.0					
DBIC	**Dimbokro**	**60.09 262**	P	**P**	**15 49 04.5**	**-0.1**
DBIC			pmax	pmax		
	comp=Z,6.0nm,0.3s					
DBIC	**Dimbokro**	**60.09 262**	P	**P**	**15 49 04.5**	**-0.1**
	comp=Z,6.0nm,0.3s,mb5.1					
LIC	**Lamto**	**60.45 262**	*e*P	**P**	**15 49 07.5**	**+0.5**
	comp=Z,19nm,0.7s,mb5.0					
LIC			*e*R			
	comp=Z,99nm,18.0s					
LIC	**Lamto**	**60.45 262**	*e*P	**P**	**15 49 07.5**	**+0.5**
	comp=Z,9.6nm,0.7s,mb4.9					
LIC			LR	LR		
	comp=Z,50nm,18.0s,MS3.7					
LIC	**Lamto**	**60.45 262**	*e*P	**P**	**15 49 07.5**	**+0.5**
	comp=Z,9.6nm,0.7s,mb5.0					
KSRS	**Korea Array**	**61.43 60**	P	**P**	**15 49 12.2**	**-1.3**
	comp=Z,3.6nm,0.7s,mb4.6,baz=278,slow=6.9,SNR=14					
KSRS	**Korea Array**	**61.43 60**	P	**P**	**15 49 12.2**	**-1.2**
KSRS			pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.7					
KSRS	**Korea Array**	**61.43 60**	P	**P**	**15 49 12.2**	**-1.2**
	comp=Z,4.0nm,0.7s,mb4.7					
BOSA	**Boshof**	**61.83 210**	P	**P**	**15 49 15.6**	**-0.4**
	comp=Z,3.4nm,0.7s,mb4.6,baz=11,slow=5.2,SNR=4.0					
BOSA	**Boshof**	**61.83 210**	P	**P**	**15 49 15.6**	**-0.4**
BOSA	**Boshof**	**61.83 210**	P	**P**	**15 49 15.6**	**-0.4**
BOSA			pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5					
BOSA	**Boshof**	**61.83 210**	P	**P**	**15 49 15.6**	**-0.4**
KLR	**Kul'dur**	**61.96 46**	*e*P	**P**	**15 49 11.7**	**-5.1**
KLR			pmax	pmax		
	comp=Z,34nm,1.2s,mb5.3					
SUMG	**Summit**	**65.92 341**	*e*P	**P**	**15 49 43.9**	**+1.5**
	comp=Z,16nm,0.9s,mb5.0					
SUMG	**Summit**	**65.92 341**	*e*P	**P**	**15 49 43.9**	**+1.5**
SUMG			pmax	pmax		
	comp=Z,16nm,0.9s					
SUMG	**Summit**	**65.92 341**	*i* P	**P**	**15 49 44.0**	**+1.6**
	comp=Z,14nm,0.9s,mb5.0					
SUMG	**Summit**	**65.92 341**	*e*P	**P**	**15 49 43.9**	**+1.5**
	comp=Z,16nm,0.9s,mb5.0					
BBTS	**Babate**	**67.23 276**	P	**P**	**15 49 52.2**	**+0.4**
	comp=Z,9.0nm,0.4s,mb5.2,baz=69,slow=1.9,SNR=3.5					
BBTS	**Babate**	**67.23 276**	P	**P**	**15 49 52.2**	**+0.4**
BBTS	**Babate**	**67.23 276**	P	**P**	**15 49 52.2**	**+0.4**
MJAR	**Matsushiro Arr**	**69.61 59**	P	**P**	**15 50 05.5**	**-0.8**
	comp=Z,18nm,0.7s,mb4.1,baz=276,slow=12,SNR=5.4					
MJAR	**Matsushiro Arr**	**69.61 59**	P	**P**	**15 50 05.5**	**-0.8**
MJAR	**Matsushiro Arr**	**69.61 59**	P	**P**	**15 50 05.5**	**-0.8**
MJAR			pmax	pmax		
	comp=Z,2.0nm,0.7s					
MJAR	**Matsushiro Arr**	**69.61 59**	P	**P**	**15 50 05.5**	**-0.8**
	comp=Z,2.0nm,0.7s,mb4.2					
YSS	**Yuzh-Sakhalins**	**69.66 47**	⇓*e*P	**P**	**15 50 05.0**	**-1.4**
YSS			*e*		15 50 10.0	
YSS			pmax	pmax		
	comp=Z,60nm,1.0s,mb5.5					
YSS	**Yuzh-Sakhalins**	**69.66 47**	*e*P	**P**	**15 50 05.0**	**-1.4**
	comp=Z,60nm,1.0s,mb5.5					
SEY	**Seymchan**	**69.97 29**	⇓*e*P	**P**	**15 50 08.4**	**+0.4**
SEY	**Seymchan**	**69.97 29**	*e*P	**P**	**15 50 08.4**	**+0.4**
BILL	**Bilibino**	**73.16 21**	*e*P	**P**	**15 50 26.7**	**-0.5**
	comp=Z,18nm,1.4s,mb4.8					
BILL	**Bilibino**	**73.16 21**	*d*	*i*P	**P**	**15 50 27.3**	**+0.1**
BILL				*i*		15 50 40.0	
BILL			pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5					
BILL			MLR	MLR		
	comp=Z,100nm,16.0s,MS4.2					
BILL	**Bilibino**	**73.16 21**	*e*P	**P**	**15 50 26.7**	**-0.5**
	comp=Z,18nm,1.4s,mb4.8					
FITZ	**Fitzroy Crossi**	**81.69 115**	P	**P**	**15 51 16.2**	**+0.5**
	comp=Z,1.4nm,0.8s,mb3.9,baz=331,slow=10,SNR=3.0					
FITZ	**Fitzroy Crossi**	**81.69 115**	P	**P**	**15 51 16.2**	**+0.5**
FITZ	**Fitzroy Crossi**	**81.69 115**	P	**P**	**15 51 16.2**	**+0.5**
COLD	**Coldfoot**	**84.60 10**	*e*P	**P**	**15 51 30.6**	**+0.6**
	comp=Z,9.1nm,0.9s,mb4.9					
COLD	**Coldfoot**	**84.60 10**	*e*P	**P**	**15 51 30.5**	**+0.5**
	comp=Z,9.1nm,0.9s,mb4.9					
SCHQ	**Schefferville**	**84.86 330**	P	**P**	**15 51 31.3**	**-0.2**
	comp=Z,2.3nm,0.7s,mb4.4,baz=0.0,slow=6.1,SNR=3.7					
SCHQ			LR	LR	16 31 31.9	
	comp=Z,91nm,19.9s,MS4.2,baz=304,slow=37					
SCHQ	**Schefferville**	**84.86 330**	P	**P**	**15 51 31.3**	**-0.2**
SCHQ			LR	LR	16 31 31.9	
SCHQ	**Schefferville**	**84.86 330**	P	**P**	**15 51 31.3**	**-0.2**
ILAR	**Eielson Array**	**87.39 9**	P	**P**	**15 51 42.6**	**-1.2**
	comp=Z,1.8nm,0.7s,mb4.4,baz=321,slow=4.4,SNR=30					
ILAR			PP	PP	15 55 10.9	+3.5
	comp=Z,0.8nm,0.9s,baz=340,slow=6.4,SNR=5.6					
ILAR			LR	LR	16 34 49.6	
	comp=Z,118nm,18.2s,MS4.3,baz=330,slow=38					
ILAR	**Eielson Array**	**87.39 9**	P	**P**	**15 51 42.6**	**-1.2**
ILAR			PP	PP	15 55 10.9	+3.5
ILAR			LR	LR	16 34 49.6	
ILAR	**Eielson Array**	**87.39 9**	P	**P**	**15 51 42.7**	**-1.1**
ILAR					15 55 10.9	
ILAR			pmax	pmax		
	comp=Z,2.0nm,0.7s					
ILAR			pmax	pmax		
	comp=Z,1.0nm,0.9s					
ILAR			MLR	MLR		
	comp=Z,118nm,18.2s					
ILAR	**Eielson Array**	**87.39 9**	P	**P**	**15 51 42.7**	**-1.1**
MCK	**McKinley**	**88.06 10**	*e*P	**P**	**15 51 46.6**	**-0.4**
	comp=Z,7.8nm,1.3s,mb4.8					
MCK			pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.8					
MCK	**McKinley**	**88.06 10**	*e*P	**P**	**15 51 46.6**	**-0.4**
	comp=Z,7.8nm,1.3s,mb4.8					
EGAK	**Eagle**	**88.10 7**	*e*P	**P**	**15 51 45.6**	**-1.7**
	comp=Z,35nm,1.6s,mb5.3					
EGAK	**Eagle**	**88.10 7**	*e*P	**P**	**15 51 45.6**	**-1.6**
	comp=Z,35nm,1.6s,mb5.3					
DAWY	**Dawson**	**88.98 6**	*e*P	**P**	**15 51 51.0**	**-0.4**
DAWY	**Dawson**	**88.98 6**	*e*P	**P**	**15 51 51.0**	**-0.4**
WRA	**Warramunga Arr**	**89.74 112**	P	**P**	**15 51 54.2**	**-1.5**
	comp=Z,0.8nm,0.9s,mb4.0,baz=314,slow=4.0,SNR=8.1					
WRA	**Warramunga Arr**	**89.74 112**	P	**P**	**15 51 54.2**	**-1.5**
WRA	**Warramunga Arr**	**89.74 112**	P	**P**	**15 51 54.2**	**-1.5**
WRA			pmax	pmax		
	comp=Z,1.0nm,0.9s					
WRA	**Warramunga Arr**	**89.74 112**	P	**P**	**15 51 54.2**	**-1.5**
YKA	**Yellowknife Ar**	**90.87 355**	P	**P**	**15 51 59.4**	**-0.8**
	comp=Z,1.9nm,0.7s,mb4.6,baz=358,slow=4.9,SNR=9.4					
YKA			LR	LR	16 43 50.9	
	comp=Z,9.8nm,18.1s,MS3.3,baz=30,slow=43					
YKA	**Yellowknife Ar**	**90.87 355**	P	**P**	**15 51 59.4**	**-0.8**
YKA			LR	LR	16 43 50.9	
YKA	**Yellowknife Ar**	**90.87 355**	P	**P**	**15 51 59.4**	**-0.8**
YKA			pmax	pmax		
	comp=Z,2.0nm,0.7s					
YKA			MLR	MLR		
	comp=Z,10.0nm,18.1s					
YKA	**Yellowknife Ar**	**90.87 355**	P	**P**	**15 51 59.4**	**-0.8**
ASAR	**Alice Springs**	**91.14 116**	P	**P**	**15 52 00.2**	**-1.9**
	comp=Z,0.5nm,0.7s,mb4.0,baz=303,slow=4.6,SNR=8.2					
ASAR	**Alice Springs**	**91.14 116**	P	**P**	**15 52 00.2**	**-1.9**
ASAR	**Alice Springs**	**91.14 116**	P	**P**	**15 52 00.2**	**-1.9**
ASAR			pmax	pmax		
	comp=Z,1.0nm,0.7s					
ASAR	**Alice Springs**	**91.14 116**	P	**P**	**15 52 00.2**	**-1.9**
MAW	**Mawson**	**94.06 177**	LR	LR	16 29 20.6	
	comp=Z,91nm,18.1s,MS4.3,baz=306,slow=32					
NVAR	**Mina Array Bea**	**115.05 354**	PKP	PKiKP	15 57 39.0	+0.7
	comp=Z,0.2nm,0.3s,baz=45,slow=1.4,SNR=4.0					
NVAR	**Mina Array Bea**	**115.05 354**	PKP	PKiKP	15 57 39.0	+0.7
TXAR	**Lajitas Array**	**120.77 338**	PKP	PKPdf	15 57 48.5	-1.1
	comp=Z,0.4nm,0.8s,baz=318,slow=1.2,SNR=3.5					
TXAR	**Lajitas Array**	**120.77 338**	PKP	PKPdf	15 57 48.5	-1.0
TXAR	**Lajitas Array**	**120.77 338**	PKiKP	PKPdf	15 57 48.5	-1.1
TXAR	**Lajitas Array**	**120.77 338**	PKiKP	PKPdf	15 57 48.5	-1.1

IDC ***11*** *15:47:46.1±1.2,26.50N×55.07E,h0km,mb3.8/9, mb1 3.9/9,mb1mx3.6/25,mbtmp3.8/9,Error ellipse: s-maj=33.5km s-min=19.7km az=158.0*

ISCJB ***11*** *15:47:46.4±0.7,26.62N±0.06×54.99E±0.04,h10km, mb3.7/10,Error ellipse: s-maj=9.0km s-min=5.0km az=161.7*

TEH ***11*** *15:47:49.9,26.44N×55.13E,h29km*

KISR ***11*** *15:47:50.3±0.4,26.75N×54.38E,h34km,ML3.4*

CSEM ***11*** *15:47:50.8±0.5,26.84N×55.02E,h20km,ML3.4,Error ellipse: s-maj=18.2km s-min=6.7km az=169.0*

NEIC ***11*** *15:47:51.8±0.9,26.76N×55.02E,h35km,mb3.5/1, ML3.4(THR),Error ellipse: s-maj=18.0km s-min=12.4km az=159.0*

ISC 11 15:47:48.2±0.7,**26.60N**±0.06×**55.00E**±0.04,**h10**km,**n46, s19s35/57,mb3.7/10,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**1.31**	**53**	*e*Pg	**Pg**	**15 48 12.0**	**-1.4**
BNDS				*e*Sg	**Sg**	**15 48 30.0**	**-0.4**
BNDS	**Bandar-Abbas**	**1.31**	**53**	*e*Pg	**Pg**	**15 48 13.0**	**-0.4**
BNDS				*e*Sg	**Sg**	**15 48 30.0**	**-0.4**
IBND	**Bandar-abas**	**1.61**	**58**	*e*Pg	**Pg**	**15 48 18.9**	**-0.2**
IBND				*e*Sg	**Sg**	**15 48 41.3**	**+1.3**
IBND				*e*		15 48 55.5	
	comp=Z,9μm,0.1s						
ISRV	**Sarvestan**	**3.23**	**329**	*e*Pn	**Pn**	**15 48 41.3**	**+2.3**
ISRV				*e*		15 49 52.4	
	comp=Z,620nm,0.3s						
IPAR	**Pars**	**3.66**	**332**	*e*Pn	**Pn**	**15 48 47.2**	**+2.3**
IPAR				*e*		15 50 07.1	
	comp=Z,284nm,0.3s						
KRBR	**Kerman**	**3.71**	**24**	*e*Pn	**Pn**	**15 48 44.0**	**-1.5**
KRBR	**Kerman**	**3.71**	**24**	*e*Pn	**Pn**	**15 48 44.0**	**-1.5**
IMEH	**Mehriz**	**4.78**	**356**	*e*	**Pn**	**15 49 02.8**	**+2.5**
	comp=Z,195nm,0.3s						
IMEH				*e*Pn	**Pn**	**15 49 02.4**	**+2.1**
IMEH				*e*Sn	**Sn**	**15 49 55.4**	**-0.4**
IBAF	**Bafgh**	**4.99**	**6**	*e*	**Pn**	**15 49 07.9**	**+4.7**
	comp=Z,503nm,0.2s						
IBAF				*e*Pn	**Pn**	**15 49 04.3**	**+1.1**
IBAF				*e*Sn	**Sn**	**15 49 59.7**	**-1.3**
ISAD	**Sadrabad**	**5.41**	**348**	*e*Pn	**Pn**	**15 49 10.8**	**+1.8**
NASN	**Na'in**	**6.46**	**343**	*e*Pn	**Pn**	**15 49 21.0**	**-2.4**
NASN	**Na'in**	**6.46**	**343**	*e*Pn	**Pn**	**15 49 21.0**	**-2.4**
IKOO	**Kooshah**	**6.77**	**30**	*e*Pn	**Pn**	**15 49 27.9**	**+0.3**
IKLH	**Kolahrood**	**7.32**	**337**	*e*Pn	**Pn**	**15 49 36.8**	**+1.6**
NAY	**Al-Naaiem**	**7.35**	**293**	*e*P	**Pn**	**15 49 36.6**	**+0.9**
NAY				*e*S	**Sn**	**15 50 56.6**	**-2.6**
NAY				AML	AML	15 50 56.9	
	comp=Z,4.7nm,0.5s						
NAY	**Al-Naaiem**	**7.35**	**293**	*e*P	**Pn**	**15 49 36.6**	**+1.0**
NAY				*e*S	**Sn**	**15

PSI	**Prapat**	**4.04**	**106**	Pn	**Pn**	**15 51 41.2**	**-0.9**
PSI				Sn	**Sn**	**15 52 30.0**	**+1.3**
PSI				LR	LR	15 53 18.7	
PSI	**Prapat**	**4.04**	**106**	P	**Pn**	**15 51 40.6**	**-1.5**
MNSI	**Mandailing Nat**	**5.52**	**125**	P	**Pn**	**15 52 05.9**	**+3.6**
CMAR	**Chiang Mai Arr**	**14.90**	**15**	Pn	**Pn**	**15 54 10.6**	**-0.4**
	0.2nm,0.3s,baz=204,slow=11,SNR=6.8						
CMAR	**Chiang Mai Arr**	**14.90**	**15**	Pn	**Pn**	**15 54 10.6**	**-0.4**
KSM	**Kuching**	**15.45**	**99**	P	**Pn**	**15 54 16.8**	**-1.3**
MKAR	**Makanchi Array**	**44.08**	**347**	P	**P**	**15 58 48.0**	**+0.3**
	0.7nm,0.9s,mb3.4,baz=173,slow=5.3,SNR=2.4						
MKAR	**Makanchi Array**	**44.08**	**347**	P	**P**	**15 58 48.0**	**+0.3**
SONM	**Songino Array**	**44.79**	**11**	P	**P**	**15 58 51.9**	**-1.5**
	0.8nm,0.9s,mb3.6,baz=196,slow=7.9,SNR=6.6						
SONM	**Songino Array**	**44.79**	**11**	P	**P**	**15 58 51.9**	**-1.5**
WRA	**Warramunga Arr**	**45.33**	**123**	P	**P**	**15 58 57.4**	**-0.7**
	0.6nm,0.8s,mb3.5,baz=302,slow=9.3,SNR=5.5						
WRA	**Warramunga Arr**	**45.33**	**123**	P	**P**	**15 58 57.4**	**-0.7**
WB2	**Warramunga Arr**	**45.34**	**123**	*eP*	**P**	**15 58 57.0**	**-1.3**
ASAR	**Alice Springs**	**46.77**	**128**	P	**P**	**15 59 10.2**	**+0.7**
	1.7nm,0.7s,mb4.1,baz=299,slow=7.8,SNR=27						
ASAR	**Alice Springs**	**46.77**	**128**	P	**P**	**15 59 10.2**	**+0.7**
KURK	**Kurchatov**	**48.60**	**346**	P	**P**	**15 59 24.6**	**+1.4**
	0.2nm,0.5s,mb3.4,baz=161,slow=7.3,SNR=3.1						
KURK	**Kurchatov**	**48.60**	**346**	P	**P**	**15 59 24.6**	**+1.4**
ZALV	**Zalesovo Beam**	**50.53**	**352**	P	**P**	**15 59 38.6**	**+0.7**
	0.4nm,0.5s,mb3.6,baz=180,slow=4.4,SNR=3.9						
ZALV	**Zalesovo Beam**	**50.53**	**352**	P	**P**	**15 59 38.6**	**+0.7**
ASF	**Jabal al Asfar**	**61.12**	**305**	LR	LR	16 25 39.1	
	comp=Z,278nm,20.6s,MS4.4,baz=148,slow=34						
EIL	**Elat**	**62.18**	**301**	LR	LR	16 30 06.5	
	comp=Z,89nm,20.2s,MS3.9,baz=305,slow=38						

*IDC **11** 16:13:40.9±0.5,2°.68N×126°.94E,h0km,mb4.4/19, mb1 4.5/19,mb1mx4.4/25,mbtmp4.4/19,MS3.5/4, Ms1 3.5/4,ms1mx3.0/26,Error ellipse: s-maj=29.4km s-min=11.4km az=74.0*

*NEIC **11** 16:13:42.1±0.3,2°.71N×126°.97E,h10km,mb4.9/11,Error ellipse: s-maj=12.4km s-min=5.1km az=69.0*

*MOS **11** 16:13:43.9±1.2,2°.71N×126°.94E,h33km,mb5.0/10,Error ellipse: s-maj=21.1km s-min=8.6km az=114.1*

*ISCJB **11** 16:13:47.4±0.8,2°.73N±0°.05×127°.02E±0°.07,h67km±8km, mb4.5/42,Error ellipse: s-maj=12.0km s-min=6.1km az=151.6*

*DJA **11** 16:13:47,2°.77N×127°.04E,h20km,MLv4.4/6*

*BJI **11** 16:13:53.2,2°.68N×126°.89E,h126km,mB4.9/12,mb4.5/20*

ISC 11 16:13:49.1±0.8,2°.71N±0°.05×127°.00E±0°.07,h65km±7km, n126,σ0°.96/116,mb4.5/42,2D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.76**	**303**	P	**Pn**	**16 14 15.7**	**-1.7**
TNTI	**Ternate**	**1.96**	**169**	P	**Pn**	**16 14 19.5**	**-0.6**
MNI	**Manado**	**2.50**	**240**	P	**Pn**	**16 14 27.9**	**+0.5**
KMSI	**Cibinong**	**3.69**	**235**	P	**Pn**	**16 14 44.4**	**+0.7**
DAV	**Davao City (W)**	**4.55**	**342**	LR	LR	16 16 24.3	
	comp=Z,258nm,19.2s,baz=126,slow=36						
MRSI	**Marisa**	**5.52**	**246**	P	**Pn**	**16 15 10.1**	**+1.4**
	0.4nm1µm141nm,1.0s						
SWI	**Sorong**	**5.54**	**130**	P	**Pn**	**16 15 09.7**	**+0.6**
LUWI	**Luwuk**	**5.64**	**229**	P	**Pn**	**16 15 16.5**	**+6.2**
NLAI	**Namlea**	**5.91**	**179**	P	**Pn**	**16 15 13.9**	**-0.2**
	0.1nm504nm28nm,0.6s						
AAI	**Ambon**	**6.47**	**169**	P	**Pn**	**16 15 22.8**	**+1.1**
	854nm37nm,0.8s						
BNDI	**Bandanaira**	**7.75**	**158**	P	**Pn**	**16 15 39.6**	**+0.3**
GUMO	**Guam**	**20.71**	**58**	LR	LR	16 25 42.5	
	comp=Z,68nm,19.1s,baz=250,slow=35						
FITZ	**Fitzroy Crossi**	**20.73**	**184**	P	**P**	**16 18 23.5**	**-0.8**
	3.7nm,0.6s,baz=20,slow=9.9,SNR=9.9						
FITZ	**Fitzroy Crossi**	**20.73**	**184**	*eP*	**P**	**16 18 23.6**	**-0.7**
	9.9nm,0.9s						
FITZ	**Fitzroy Crossi**	**20.73**	**184**	*eP*	**P**	**16 18 23.4**	**-0.9**
TPUB	**Ta-pu**	**21.38**	**344**	*eP*	**P**	**16 18 28.6**	**-2.7**
WRA	**Warramunga Arr**	**23.64**	**163**	P	**P**	**16 18 52.8**	**-1.7**
	21nm,0.7s,mb4.6,baz=342,slow=10,SNR=140						
WRA				PcP	PcP	16 22 39.3	+1.5
	0.4nm,0.5s,baz=336,slow=2.3,SNR=5.8						
WRA	**Warramunga Arr**	**23.64**	**163**	P	**P**	**16 18 52.8**	**-1.7**
WRA				PcP	PcP	16 22 39.3	+1.5
WRA	**Warramunga Arr**	**23.64**	**163**	P	**P**	**16 18 52.8**	**-1.7**
WRA						16 22 39.3	
WB2	**Warramunga Arr**	**23.64**	**163**	*eP*	**P**	**16 18 52.8**	**-1.8**
MBWA	**Marble Bar**	**24.77**	**196**	*eP*	**P**	**16 19 05.2**	**+0.4**
MBWA	**Marble Bar**	**24.77**	**196**	*eP*	**P**	**16 19 05.0**	**+0.2**
ASAR	**Alice Springs**	**27.07**	**166**	P	**P**	**16 19 24.5**	**-1.1**
	1.3nm,0.6s,mb3.6,baz=344,slow=11,SNR=5.1						
ASAR				PcP	PcP	16 22 46.8	+1.3
	1.3nm,0.6s,baz=346,slow=1.9,SNR=8.2						
ASAR	**Alice Springs**	**27.07**	**166**	P	**P**	**16 19 24.5**	**-1.1**
ASAR				PcP	PcP	16 22 46.8	+1.3
ASAR	**Alice Springs**	**27.07**	**166**	P	**P**	**16 19 24.5**	**-1.1**
ASAR						16 22 46.8	
CMAR	**Chiang Mai Arr**	**31.62**	**302**	P	**P**	**16 20 06.2**	**+0.1**
	3.6nm,0.9s,mb4.1,baz=116,slow=7.1,SNR=18						
CMAR	**Chiang Mai Arr**	**31.62**	**302**	P	**P**	**16 20 06.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**31.62**	**302**	P	**P**	**16 20 06.2**	**+0.1**
CHTO	**Chiang Mai**	**31.78**	**302**	*eP*	**P**	**16 20 06.4**	**-1.1**
	5.8nm,0.9s,mb4.3						
CHTO	**Chiang Mai**	**31.78**	**302**	*eP*	**P**	**16 20 06.4**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
ENH	**Enshi**	**32.04**	**331**	*eP*	**P**	**16 20 08.7**	**-0.9**
	comp=Z,6.2nm,0.8s,mb4.4						
KMI	**Kunming**	**32.29**	**316**	P	**P**	**16 20 13.6**	**+1.8**
KMI				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
FORT	**Forrest**	**33.32**	**178**	*eP*	**P**	**16 20 20.3**	**-0.4**
	comp=Z,17nm,0.9s,mb4.9						
KMBL	**Kambalda**	**34.24**	**188**	*eP*	**P**	**16 20 28.2**	**-0.5**
	comp=Z,73nm,0.8s,mb5.6						
KSRS	**Korea Array**	**34.59**	**1**	P	**P**	**16 20 32.2**	**+0.6**
	comp=Z,1.6nm,0.6s,mb4.0,baz=176,slow=9.6,SNR=10						
KSRS				PcP	PcP	16 23 07.3	+2.2
	comp=Z,1.7nm,0.7s,baz=188,slow=2.8,SNR=6.1						
KSRS	**Korea Array**	**34.59**	**1**	P	**P**	**16 20 32.3**	**+0.7**
KSRS						16 23 07.3	
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
MJAR	**Matsushiro Arr**	**35.22**	**16**	P	**P**	**16 20 36.4**	**-0.8**
	comp=Z,3.3nm,0.8s,mb4.2,baz=185,slow=11,SNR=6.7						
MJAR	**Matsushiro Arr**	**35.22**	**16**	P	**P**	**16 20 36.4**	**-0.8**
MJAR	**Matsushiro Arr**	**35.22**	**16**	P	**P**	**16 20 36.4**	**-0.7**
XAN	**Xi'an**	**35.44**	**334**	P	**P**	**16 20 38.0**	**-1.1**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
XAN				pmax	pmax		
	comp=Z,29nm,5.7s						
STKA	**Stephens Creek**	**37.09**	**159**	P	**P**	**16 20 52.9**	**-0.3**
	comp=Z,16nm,0.7s,mb5.1,baz=335,slow=8.3,SNR=41						
STKA				PcP	PcP	16 23 14.1	+1.5
	comp=Z,2.5nm,0.5s,baz=325,slow=3.3,SNR=5.5						
STKA	**Stephens Creek**	**37.09**	**159**	*eP*	**P**	**16 20 52.6**	**-0.5**
	comp=Z,14nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**37.09**	**159**	P	**P**	**16 20 52.9**	**-0.3**
STKA				PcP	PcP	16 23 14.1	+1.5
STKA	**Stephens Creek**	**37.09**	**159**	P	**P**	**16 20 52.9**	**-0.2**
STKA						16 23 14.1	
CMSA	**Cobar Meteorol**	**38.42**	**154**	*eP*	**P**	**16 21 04.2**	**-0.2**
BJI	**Beijing**	**38.43**	**347**	P	**P**	**16 21 05.1**	**+0.7**
BJI				pmax	pmax		
	comp=Z,36nm,0.9s,mb5.2						
BJI				pmax	pmax		
	comp=Z,36nm,3.5s						
ARMA	**Armidale**	**40.47**	**146**	*eP*	**P**	**16 21 21.7**	**+0.2**
MDJ	**Mudanjiang**	**41.79**	**3**	P	**P**	**16 21 32.9**	**+0.8**
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
MDJ				pmax	pmax		
	comp=Z,75nm,5.8s						
LSA	**Lhasa**	**43.31**	**312**	*eP*	**P**	**16 21 45.7**	**+1.0**
	comp=Z,5.4nm,0.6s,mb4.5						
LSA	**Lhasa**	**43.31**	**312**	*eP*	**P**	**16 21 45.7**	**+1.0**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
GTA	**Gaotai**	**44.10**	**329**	*eP*	**P**	**16 21 51.3**	**+0.4**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0						
TAPN	**Taplejung**	**44.84**	**307**	*eP*	**P**	**16 21 57.1**	**+0.1**
TAPN	**Taplejung**	**44.84**	**307**	*eP*	**P**	**16 21 57.1**	**+0.1**
ODAN	**Odare**	**44.88**	**306**	*eP*	**P**	**16 21 57.2**	**-0.1**
	comp=Z,20nm,0.8s,mb4.9						
ODAN	**Odare**	**44.88**	**306**	*eP*	**P**	**16 21 57.2**	**-0.1**
	comp=Z,20nm,0.8s,mb4.9						
GUN	**Gumba**	**46.54**	**307**	*eP*	**P**	**16 22 10.3**	**-0.1**
	comp=Z,34nm,0.8s,mb5.2						
GUN	**Gumba**	**46.54**	**307**	*eP*	**P**	**16 22 10.3**	**-0.1**
	comp=Z,34nm,0.8s,mb5.1						
KKN	**Kakani**	**46.97**	**306**	*eP*	**P**	**16 22 12.8**	**-1.0**
KKN	**Kakani**	**46.97**	**306**	*eP*	**P**	**16 22 12.8**	**-1.0**
KKN	**Kakani**	**46.97**	**306**	*eP*	**P**	**16 22 12.8**	**-1.0**
DMN	**Daman**	**47.04**	**306**	*eP*	**P**	**16 22 13.9**	**-0.4**
	comp=Z,24nm,1.0s,mb4.9						
DMN	**Daman**	**47.04**	**306**	*eP*	**P**	**16 22 13.9**	**-0.4**
	comp=Z,24nm,1.0s,mb4.9						
GKN	**Gorkha**	**47.58**	**306**	*eP*	**P**	**16 22 17.8**	**-0.7**
GKN	**Gorkha**	**47.58**	**306**	*eP*	**P**	**16 22 17.8**	**-0.7**
ULN	**Ulaanbaatar**	**48.16**	**342**	*eP*	**P**	**16 22 24.2**	**+1.6**
	comp=Z,10nm,1.0s,mb4.6						
ULN	**Ulaanbaatar**	**48.16**	**342**	*eP*	**P**	**16 22 24.2**	**+1.5**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6						
KOLN	**Koldanda**	**48.33**	**305**	*eP*	**P**	**16 22 24.0**	**-0.3**
	comp=Z,24nm,0.7s,mb5.1						
KOLN	**Koldanda**	**48.33**	**305**	*eP*	**P**	**16 22 24.0**	**-0.3**
	comp=Z,24nm,0.7s,mb5.1						
SONM	**Songino Array**	**48.34**	**341**	P	**P**	**16 22 24.7**	**+0.7**
	comp=Z,2.8nm,0.8s,mb4.1,baz=159,slow=8.5,SNR=15						
SONM				PcP	PcP	16 23 51.5	+1.7
	comp=Z,1.8nm,0.8s,baz=156,slow=2.8,SNR=6.1						
SONM				LR	LR	16 43 03.6	
	comp=Z,94nm,21.8s,baz=359,slow=36						
SONM	**Songino Array**	**48.34**	**341**	P	**P**	**16 22 24.7**	**+0.7**
SONM				PcP	PcP	16 23 51.5	+1.7
SONM				LR	LR	16 43 03.6	
SONM	**Songino Array**	**48.34**	**341**	P	**P**	**16 22 24.7**	**+0.7**
SONM						16 23 51.5	
DANN	**Dangsing**	**48.43**	**306**	*eP*	**P**	**16 22 24.5**	**-0.5**
	comp=Z,37nm,0.7s,mb5.3						
DANN	**Dangsing**	**48.43**	**306**	*eP*	**P**	**16 22 24.5**	**-0.5**
	comp=Z,37nm,0.7s,mb5.3						
ZAK	**Zakamensk**	**51.57**	**341**	*eP*	**P**	**16 22 45.5**	**-2.9**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
TLY	**Talaya**	**52.57**	**342**	*i P*	**P**	**16 22 54.7**	**-1.2**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
PETK	**Petropavlovsk-**	**56.27**	**22**	P	**P**	**16 23 24.2**	**+1.5**
	comp=Z,4.6nm,0.9s,mb4.5,baz=186,slow=6.2,SNR=6.4						
PETK	**Petropavlovsk-**	**56.27**	**22**	P	**P**	**16 23 24.2**	**+1.5**
PETK	**Petropavlovsk-**	**56.27**	**22**	P	**P**	**16 23 24.2**	**+1.5**
MK31	**Makanchi Array**	**58.54**	**325**	*eP*	**P**	**16 23 38.6**	**-0.2**
MK31	**Makanchi Array**	**58.54**	**325**	*eP*	**P**	**16 23 38.6**	**-0.2**
MKAR	**Makanchi Array**	**58.54**	**325**	P	**P**	**16 23 39.0**	**+0.2**
	comp=Z,3.9nm,0.6s,mb4.6,baz=122,slow=8.3,SNR=36						
MKAR				PcP	PcP	16 24 29.0	+0.5
	comp=Z,2.4nm,0.8s,baz=121,slow=4.8,SNR=4.6						
MKAR	**Makanchi Array**	**58.54**	**325**	P	**P**	**16 23 39.0**	**+0.2**
MKAR				PcP	PcP	16 24 29.0	+0.5
MKAR	**Makanchi Array**	**58.54**	**325**	P	**P**	**16 23 39.0**	**+0.2**
MKAR						16 24 29.0	
YAK	**Yakutsk**	**59.21**	**1**	*eP*	**P**	**16 23 43.0**	**-0.2**
YAK				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.1						
YAK				pmax	pmax		
	comp=N,10.0nm,1.1s						
ZAA0	**Zalesovo Array**	**61.61**	**333**	*eP*	**P**	**16 23 58.7**	**-0.9**
ZALV	**Zalesovo Beam**	**61.61**	**333**	P	**P**	**16 23 59.4**	**-0.3**
	comp=N,1.4nm,0.7s,mb4.1,baz=116,slow=6.8,SNR=9.7						
ZALV	**Zalesovo Beam**	**61.61**	**333**	P	**P**	**16 23 59.4**	**-0.3**
ZALV	**Zalesovo Beam**	**61.61**	**333**	P	**P**	**16 23 59.4**	**-0.3**
KURK	**Kurchatov**	**62.74**	**328**	P	**P**	**16 24 07.5**	**+0.2**
	comp=N,7.2nm,0.8s,mb4.7,baz=127,slow=6.0,SNR=54						
KURK	**Kurchatov**	**62.74**	**328**	P	**P**	**16 24 07.5**	**+0.2**
KURK	**Kurchatov**	**62.74**	**328**	P	**P**	**16 24 07.5**	**+0.2**
NVS	**Novosibirsk**	**62.90**	**333**	*eP*	**P**	**16 24 06.7**	**-1.5**
SEY	**Seymchan**	**62.96**	**13**	*eP*	**P**	**16 24 10.6**	**+2.1**
BRVK	**Borovoye**	**68.39**	**327**	*i P*	**P**	**16 24 42.7**	**-1.0**
BRVK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.6						
ABKAR	**Akbulak array**	**73.10**	**321**	*eP*	**P**	**16 25 12.2**	**-0.2**
	comp=Z,2.4nm,0.6s,mb4.2						
AKTK	**Aktyubinsk**	**74.62**	**322**	P	**P**	**16 25 22.0**	**+0.7**
AKTO	**Aktyubinsk**	**74.62**	**322**	P	**P**	**16 25 22.0**	**+0.7**
	comp=Z,7.7nm,0.7s,mb4.5,baz=119,slow=9.0,SNR=6.9						
AKTO	**Aktyubinsk**	**74.62**	**322**	P	**P**	**16 25 22.0**	**+0.7**
AKTO				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.6						
SVE	**Sverdlovsk**	**74.96**	**329**	*eP*	**P**	**16 25 24.1**	**+1.0**
SVE				pmax	pmax		
	comp=Z,22nm,0.9s,mb4.9						
ARU	**Arti**	**75.94**	**328**	*d iP*	**P**	**16 25 28.4**	**-0.3**
ARU				S	S	16 35 08.8	+2.5
ARU				SS	SS	16 40 05.0	+5.1
ARU				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.7						
VNDA	**Vanda**	**82.39**	**173**	P	**P**	**16 26 03.8**	**+0.3**
	comp=Z,1.8nm,0.8s,mb4.0,baz=5.7,slow=5.5,SNR=8.5						
VNDA	**Vanda**	**82.39**	**173**	*eP*	**P**	**16 26 03.9**	**+0.4**
	comp=Z,1.6nm,0.8s,mb3.9						
VNDA	**Vanda**	**82.39**	**173**	*eP*	**P**	**16 26 03.9**	**+0.4**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MAW	**Mawson**	**82.90**	**200**	P	**P**	**16 26 06.7**	**+0.4**
	comp=Z,2.0nm,0.7s,mb4.0,baz=95,slow=7.5,SNR=6.7						
MAW	**Mawson**	**82.90**	**200**	P	**P**	**16 26 06.7**	**+0.4**
MAW	**Mawson**	**82.90**	**200**	P	**P**	**16 26 06.7**	**+0.4**
ZEI	**Tsey**	**83.10**	**313**	*eP*	**P**	**16 26 08.6**	**+0.7**
ZEI				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.5						
ASF	**Jabal al Asfar**	**88.66**	**302**	P	**P**	**16 26 37.5**	**+1.9**
	comp=Z,2.2nm,0.7s,mb4.3,baz=163,slow=2.7,SNR=3.9						
ASF	**Jabal al Asfar**	**88.66**	**302**	P	**P**	**16 26 37.5**	**+1.9**
ASF	**Jabal al Asfar**	**88.66**	**302**	P	**P**	**16 26 37.5**	**+1.9**
BRTR	**Keskin Array B**	**90.87**	**310**	P	**P**	**16 26 47.0**	**+1.3**
	comp=Z,2.0nm,1.0s,mb4.2,baz=50,slow=3.9,SNR=5.2						
BRTR	**Keskin Array B**	**90.87**	**310**	P	**P**	**16 26 47.0**	**+1.3**
BRTR	**Keskin Array B**	**90.87**	**310**	P	**P**	**16 26 47.1**	**+1.3**
ARCES	**ARCESS Array B**	**91.49**	**340**	P	**P**	**16 26 47.9**	**-0.1**
	comp=Z,3.9nm,0.8s,mb4.6,baz=53,slow=6.2,SNR=5.4						
ARCES	**ARCESS Array B**	**91.49**	**340**	P	**P**	**16 26 47.9**	**-0.1**
ARCES	**ARCESS Array B**	**91.49**	**340**	P	**P**	**16 26 47.9**	**-0.1**
QSPA	**South Pole Qui**	**92.62**	**180**	P	**P**	**16 26 54.8**	**+1.8**
	comp=Z,0.9nm,0.7s,mb4.2,baz=324,slow=3.4,SNR=8.6						
QSPA	**South Pole Qui**	**92.62**	**180**	*eP*	**P**	**16 26 54.2**	**+1.2**
NOA	**NORSAR Array B**	**99.81**	**334**	LR	LR	17 16 10.7	
	comp=Z,31nm,19.7s,baz=325,slow=38						
TXAR	**Lajitas Array**	**122.00**	**53**	PKP	PKPdf	16 32 38.2	+1.4
	comp=Z,0.3nm,0.8s,baz=205,slow=2.6,SNR=3.9						
TXAR	**Lajitas Array**	**122.00**	**53**	PKIKP	PKPdf	16 32 38.2	+1.4
TORD	**Torodi Ar. Bea**	**123.48**	**288**	PKP	PKPdf	16 32 40.9	+0.9
	comp=Z,0.7nm,0.7s,baz=80,slow=2.6,SNR=5.4						
TORD	**Torodi Ar. Bea**	**123.48**	**288**	PKP	PKPdf	16 32 40.9	+0.9
CFAA	**Coronel Fontan**	**147.87**	**155**	PKPbc	PKPbc	16 33 28.7	+1.3
	comp=Z,0.5nm,0.7s,baz=232,slow=4.7,SNR=10						
CFAA	**Coronel Fontan**	**147.87**	**155**	PKPbc	PKPbc	16 33 28.7	+1.3

*SZGRF **11** 16:16:35.7,32°.43N×26°.95E,h33km,mb4.7,Eastern Mediterranean Sea*

*DDA **11** 16:16:52.5,33°.97N×24°.67E,h26km,Md3.9*

*BJI **11** 16:16:53.5,34°.08N×24°.55E,h10km,mB4.9/11,mb4.9/23, Ms7 4.7/1*

*IDC **11** 16:16:57.3±0.5,34°.31N×25°.04E,h0km,mb4.4/23, mb1 4.5/32,mb1mx4.4/37,mbtmp4.4/32,ML4.7/6,MS3.8/11, Ms1 3.8/11,ms1mx3.4/36,Error ellipse: s-maj=12.8km s-min=11.5km az=164.0*

*ISCJB **11** 16:16:58.9±0.5,34°.17N±0°.01×25°.09E±0°.02,h25km±4km, mb4.6/95,MS3.8/16,Error ellipse: s-maj=2.5km s-min=1.8km az=36.8*

*HLW **11** 16:16:59.2,34°.45N×25°.18E,h33km±31km,Md4.3,MI4.2*

*MOS **11** 16:17:00.8±1.3,34°.30N×25°.06E,h33km,mb4.7/52, MS3.7/20,Error ellipse: s-maj=5.1km s-min=3.1km az=110.2*

*CSEM **11** 16:17:01.6±0.1,34°.21N×25°.07E,h30km,mb4.6/60,Ms3.5, Mw3.9,Error ellipse: s-maj=2.6km s-min=1.8km az=33.0*

*THE **11** 16:17:01.9,34°.33N×24°.97E,h2km±2km,ML4.1/5,Error ellipse: s-maj=3.7km s-min=1.2km az=185.0*

*SGS **11** 16:17:01.0,34°.58N×25°.54E,h11km*

*NEIC **11** 16:17:02.0±1.5,34°.27N×25°.10E,h30km±10km,mb4.5/56, Error ellipse: s-maj=6.2km s-min=3.1km az=187.0*

*NIC **11** 16:17:02.3±0.2,34°.23N×25°.10E,h30km,mb4.7,ML4.1, MW3.9*

*ATH **11** 16:17:03.8,34°.52N×25°.03E,h36km±1km,ML4.1*

ISC 11 16:17:01.7±0.6,34°.20N±0°.01×25°.07E±0°.01,h29km±4km, h19km±5.2km:pP-P,n942,σ1°.08/990,mb4.6/95,MS3.8/16, 21C-9D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.85**	**345**	*e*PN	**Pn**	**16 17 15.4**	**-2.2**
SIVA				*e*SN	**Sn**	**16 17 24.1**	**-5.0**
SIVA	**Sivas**	**0.85**	**345**	*e*Pn	**Pn**	**16 17 15.4**	**-2.2**
SIVA				*e*Sn	**Sn**	**16 17 24.1**	**-5.0**
LAST	**Lasithi**	**1.02**	**19**	*e*PN	**Pn**	**16 17 18.5**	**-1.5**
LAST				*e*SN	**Sn**	**16 17 29.8**	**-3.5**
LAST	**Lasithi**	**1.02**	**19**	*e*Pn	**Pn**	**16 17 18.5**	**-1.5**
LAST				*e*Sn	**Sn**	**16 17 29.8**	**-3.5**
NPS	**Neapolis**	**1.15**	**22**	*e*PN	**Pn**	**16 17 20.9**	**-0.9**
NPS				*e*SN	**Sn**	**16 17 32.1**	**-4.5**
NPS	**Neapolis**	**1.15**	**22**	P	**Pn**	**16 17 20.7**	**-1.1**
NPS				S	**Sn**	**16 17 38.4**	**+1.8**
NPS	**Neapolis**	**1.15**	**22**	*e*Pn	**Pn**	**16 17 20.9**	**-0.9**
NPS				*e*Sn	**Sn**	**16 17 32.1**	**-4.5**
NPS				S	**Sn**	**16 17 38.4**	**+1.8**
VAM	**Vamos**	**1.41**	**330**	*e*PB	**Pn**	**16 17 24.3**	**-1.0**
VAM				*e*SN	**Sn**	**16 17 40.8**	**-2.1**
VAM	**Vamos**	**1.41**	**330**	P	**Pn**	**16 17 24.3**	**-1.0**
VAM				S	**Sn**	**16 17 42.7**	**-0.2**
VAM	**Vamos**	**1.41**	**330**	*e*Pb	**Pn**	**16 17 24.3**	**-1.0**
VAM				*e*Sn	**Sn**	**16 17 40.8**	**-2.1**
VAM				S	**Sn**	**16 17 42.7**	**-0.2**
KARN	**Karanos**	**1.54**	**322**	*e*PN	**Pn**	**16 17 27.0**	**-0.1**
KARN	**Karanos**	**1.54**	**322**	*e*Pn	**Pn**	**16 17 27.0**	**-0.1**
KARP	**Karpathos**	**2.18**	**51**	*e*PB	**Pb**	**16 17 38.4**	**-2.1**
KARP	**Karpathos**	**2.18**	**51**	P	**Pn**	**16 17 38.7**	**+2.7**
KARP	**Karpathos**	**2.18**	**51**	P	**Pn**	**16 17 38.7**	**+2.7**
THR1	**Thera Island**	**2.19**	**8**	P	**Pn**	**16 17 36.1**	**0.0**
THR1	**Thera Island**	**2.19**	**8**	P	**Pn**	**16 17 36.1**	**0.0**
THR3	**Thira Island,**	**2.23**	**7**	P	**Pn**	**16 17 36.5**	**-0.1**
THR3	**Thira Island,**	**2.23**	**7**	P	**Pn**	**16 17 36.5**	**-0.1**
LTBQ	**Tobruq**	**2.34**	**205**	*i* P	**Pn**	**16 17 40.1**	**+1.9**
	686nm,0.9s,SNR=44						
LTBQ				*e*S	**Sn**	**16 18 05.4**	**-0.6**
	SNR=44						
KYTH	**Kithira**	**2.67**	**322**	P	**Pn**	**16 17 43.5**	**+0.9**
KYTH	**Kithira**	**2.67**	**322**	P	**Pn**	**16 17 43.5**	**+0.9**
SLUM		**2.70**	**177**	P	**Pn**	**16 17 43.8**	**+0.7**
	baz=179						
SLUM				S	**Sn**	**16 18 17.4**	**+2.6**
	baz=179						
SLUM		**2.70**	**177**	P	**Pn**	**16 17 44.3**	**+1.2**
APE	**Apeiranthos**	**2.89**	**7**	*e*PN	**Pn**	**16 17 44.8**	**-0.9**
APE	**Apeiranthos**	**2.89**	**7**	*e*PN	**Pn**	**16 17 44.8**	**-0.9**
APE	**Apeiranthos**	**2.89**	**7**	*e*PN	**Pn**	**16 17 45.6**	**-0.1**
APE	**Apeiranthos**	**2.89**	**7**	*e*Pn	**Pn**	**16 17 45.6**	**-0.1**
NIS1	**Nisyros Isl.**	**2.95**	**35**	P	**Pn**	**16 17 47.9**	**+1.3**
NIS1				S	**Sn**	**16 18 23.9**	**+2.9**
NIS1	**Nisy

LKR	Lokris	4.75	340	*e*PN	Pn	16 18 11.2	-0.1	ZAF		8.03	126	P	Pn	16 18 56.0	-0.3
LKR				*e*SN	Sn	16 19 00.6	-4.7	baz=127							
LKR	Lokris	4.75	340	P	Pn	16 18 10.7	-0.6	ZAF		8.03	126	P	Pn	16 18 56.2	-0.1
LKR	Lokris	4.75	340	P	Pn	16 18 10.7	-0.6	ZNM		8.19	124	P	Pn	16 18 57.9	-0.7
LKR	Lokris	4.75	340	*e*Pn	Pn	16 18 11.2	-0.1	VTS	Vitosha	8.51	351	⇑*i*P	Pn	16 19 04.8	+1.9
DENT	Denizli	4.79	41	*e*PN	Pn	16 18 12.6	+0.8	VTS	Vitosha	8.51	351	⇑*i*P	Pn	16 19 04.8	+1.9
DENT	Denizli	4.79	41	*e*PN	Pn	16 18 12.6	+0.8	VTS	Vitosha	8.51	351	P	Pn	16 19 05.0	+2.1
DENT	Denizli	4.79	41	*e*Pn	Pn	16 18 12.6	+0.8	VTS	Vitosha	8.51	351	P	Pn	16 19 04.8	+1.9
EFP	Efpalio	4.94	330	*e*PN	Pn	16 18 14.4	+0.6	LZLA	Zalla	8.53	231	*i* P	Pn	16 19 02.3	-0.9
EFP	Efpalio	4.94	330	P	Pn	16 18 14.1	+0.3	comp=E,158nm,1.0s,SNR=41							
EFP	Efpalio	4.94	330	P	Pn	16 18 14.1	+0.3	HNKL	Nakhl	8.67	117	P	Pn	16 19 03.8	-1.3
EFP	Efpalio	4.94	330	*e*Pn	Pn	16 18 14.4	+0.6	baz=118							
SWA2		4.95	176	P	Pn	16 18 14.6	+0.5	HNKL				S	Sn	16 20 37.5	-4.5
baz=177								baz=118							
SWA2				S	Sn	16 19 11.3	+1.1	HNKL	Nakhl	8.67	117	P	Pn	16 19 03.9	-1.2
baz=177								MMAI	Mount Meron Ar	8.70	95	Pn	Pn	16 19 03.8	-1.7
SWA2		4.95	176	P	Pn	16 18 14.7	+0.7	comp=E,14nm,0.3s,baz=281,slow=11,SNR=47							
SWA2				S	Sn	16 19 10.0	-0.2	MMAI				Sn	Sn	16 20 39.5	-3.0
AKS	Akhisar	5.17	24	*e*PN	Pn	16 18 17.9	+0.9	comp=E,17nm,0.3s,baz=270,slow=23,SNR=7.3							
AKS	Akhisar	5.17	24	*e*PN	Pn	16 18 17.9	+0.9	ASUT		8.78	139	P	Pn	16 19 06.8	+0.2
AKS	Akhisar	5.17	24	*e*Pn	Pn	16 18 17.9	+0.9	baz=140							
KULA	Kula-Manisa	5.19	33	*e*PN	Pn	16 18 18.4	+1.0	ASUT		8.78	139	P	Pn	16 19 07.1	+0.5
KULA	Kula-Manisa	5.19	33	*e*PN	Pn	16 18 18.4	+1.0	BHL	Bhannes	8.79	89	*e*P	Pn	16 19 06.6	-0.1
KULA	Kula-Manisa	5.19	33	*e*Pn	Pn	16 18 18.4	+1.1	BR131	Keskin Array S	8.80	49	*e*P	Pn	16 19 06.3	-0.5
KFL	Anninata	5.22	320	P	Pn	16 18 17.9	+0.2	comp=E,9.2nm,0.8s							
KFL	Anninata	5.22	320	P	Pn	16 18 17.9	+0.2	BR131	Keskin Array S	8.80	49	*e*P	Pn	16 19 06.3	-0.5
LJBD	Adjabya	5.26	233	*i* P	Pn	16 18 19.0	+0.7	comp=E,9.2nm,0.8s							
434nm,1.4s,SNR=43								BRTR	Keskin Array B	8.80	49	Pn	Pn	16 19 06.4	-0.4
ANTB	Antalya	5.29	58	*e*PN	Pn	16 18 19.2	+0.6	comp=E,0.6nm,0.3s,baz=225,slow=14,SNR=20							
ANTB	Antalya	5.29	58	*e*PN	Pn	16 18 19.2	+0.5	BRTR				Sn	Sn	16 20 40.0	-5.0
AGG	Agios Georgios	5.30	336	*e*PN	Pn	16 18 19.1	+0.3	baz=220,slow=15,SNR=2.4							
AGG	Agios Georgios	5.30	336	P	Pn	16 18 19.0	+0.2	BRTR				LR	LR	16 23 37.2	
AGG	Agios Georgios	5.30	336	P	Pn	16 18 19.0	+0.2	comp=E,544nm,18.1s,baz=333,slow=46							
VLS	Valsamata	5.38	319	*e*PN	Pn	16 18 20.4	+0.5	BRTR	Keskin Array B	8.80	49	Pn	Pn	16 19 06.4	-0.4
VLS				*e*SN	Sn	16 19 17.1	-3.7	BRTR				Sn	Sn	16 20 40.0	-5.0
VLS	Valsamata	5.38	319	P	Pn	16 18 20.1	+0.2	BRTR				LR	LR	16 23 37.2	
VLS	Valsamata	5.38	319	P	Pn	16 18 20.1	+0.2	BRTR	Keskin Array B	8.80	49	P	Pn	16 19 06.4	-0.4
VLS	Valsamata	5.38	319	*e*Pn	Pn	16 18 20.4	+0.5	BRTR						16 20 40.0	
BCK	Bucak	5.54	52	*e*PN	Pn	16 18 23.0	+0.9	BRTR				pmax	pmax		
BCK	Bucak	5.54	52	*e*PN	Pn	16 18 23.0	+0.9	comp=Z,1.0nm,0.3s							
BCK	Bucak	5.54	52	*e*Pn	Pn	16 18 23.0	+0.9	BRTR				MLR	MLR		
EZN	Ezine	5.71	10	*e*PN	Pn	16 18 24.8	+0.4	comp=Z,544nm,18.1s							
LKD2	Lefkada island	5.80	323	P	Pn	16 18 27.1	+1.4	BRTR	Keskin Array B	8.80	49	P	Pn	16 19 06.4	-0.4
LKD2	Lefkada island	5.80	323	P	Pn	16 18 27.1	+1.4	comp=Z,1.0nm,0.3s							
THL	Klokotos Trika	5.89	336	*e*PN	Pn	16 18 28.0	+1.0	GRB	Gharib	8.86	130	P	Pn	16 19 07.5	-0.1
THL	Klokotos Trika	5.89	336	*e*PN	Pn	16 18 28.0	+1.0	baz=131							
LUJL	Ujela	5.99	213	*i* P	Pn	16 18 28.6	+0.2	GRB	Gharib	8.86	130	P	Pn	16 19 07.6	-0.1
969nm,0.7s,SNR=43								PE1	Pezze di Greco	8.97	320	*e*Pn	Pn	16 19 09.1	0.0
GDZ	Gediz	6.03	35	*i* P	Pn	16 18 28.2	-0.7	RCY	Rachaya	8.98	91	*e*P	Pn	16 19 07.8	-1.6
GDZ				*i* S	Sx	16 20 12.8		HWQ	Hawqa	9.00	86	*e*P	Pn	16 19 08.5	-1.2
GDZ	Gediz	6.03	35	*i* P	Pn	16 18 28.2	-0.7	PVL	Pavlikeni	9.01	1	P	Pn	16 19 16.0	+6.3
PPCY	Paphos	6.04	81	P	Pn	16 18 28.1	-0.9	MPEP	Malo Peshtene	9.21	354	P	Pn	16 19 15.8	+3.4
PPCY	Paphos	6.04	81	P	Pn	16 18 28.1	-0.9	CUC	Castrocucco	9.39	311	*e*P	Pn	16 19 14.4	-0.5
SHUT	Suhut-Afyon	6.20	44	*e*PN	Pn	16 18 32.1	+0.9	comp=Z,31nm,0.8s							
GONE	Gonen-Balikesi	6.20	19	*e*PN	Pn	16 18 31.5	+0.3	CUC	Castrocucco	9.39	311	*e*P	Pn	16 19 14.4	-0.5
GONE	Gonen-Balikesi	6.20	19	*e*PN	Pn	16 18 31.5	+0.3	comp=Z,31nm,0.8s							
GONE	Gonen-Balikesi	6.20	19	*e*Pn	Pn	16 18 31.5	+0.3	FKH	Fakeheh	9.39	87	*e*P	Pn	16 19 14.0	-1.0
ALFC	Alevga	6.27	79	P	Pn	16 18 31.2	-1.0	TR2		9.39	126	P	Pn	16 19 14.9	-0.2
7.1nm,0.2s								baz=127							
ALFC				S	Sn	16 19 41.4	-1.5	TR2		9.39	126	P	Pn	16 19 14.1	-0.9
ALFC	Alevga	6.27	79	P	Pn	16 18 31.2	-1.0	SG1	Sgolgore (BA)	9.40	317	*e*Pn	Pn	16 19 16.3	+1.2
7.1nm,0.2s								EIL	Elat	9.53	116	Pn	Pn	16 19 16.5	-0.4
ALFC				S	Sn	16 19 41.4	-1.5	comp=Z,7.1nm,0.3s,baz=274,slow=6.4,SNR=34							
GELI	Tayfur-Gelibol	6.29	10	*e*PN	Pn	16 18 32.6	+0.2	EIL				Sn	Sn	16 20 58.5	-4.5
GELI	Tayfur-Gelibol	6.29	10	*e*PN	Pn	16 18 32.6	+0.2	comp=Z,6.9nm,0.3s,baz=290,slow=22,SNR=6.6							
GELI	Tayfur-Gelibol	6.29	10	*e*Pn	Pn	16 18 32.6	+0.2	EIL	Elat	9.53	116	Pn	Pn	16 19 16.5	-0.4
ALT	Altintas	6.32	38	*e*PN	Pn	16 18 33.7	+0.9	EIL				Sn	Sn	16 20 58.5	-4.5
ALT	Altintas	6.32	38	*e*PN	Pn	16 18 33.7	+0.9	EIL	Elat	9.53	116	Pn	Pn	16 19 16.5	-0.4
ALT	Altintas	6.32	38	*e*Pn	Pn	16 18 33.7	+0.9	HBST	Basata	9.61	118	P	Pn	16 19 17.1	-0.9
KRBG	Karabiga-Canak	6.44	15	*e*PN	Pn	16 18 34.7	+0.3	baz=120							
SZAC	Souni-Zanaja	6.47	83	P	Pn	16 18 34.2	-0.8	HBST	Basata	9.61	118	P	Pn	16 19 17.1	-0.8
SZAC	Souni-Zanaja	6.47	83	P	Pn	16 18 34.2	-0.8	CDT	Castel del Mon	9.79	317	*e*Pn	Pn	16 19 20.9	+0.5
LEF	Lefka	6.51	80	*e*PN	Pn	16 18 34.0	-1.4	TR1		9.79	127	P	Pn	16 19 20.4	-0.1
LEF	Lefka	6.51	80	*e*PN	Pn	16 18 34.0	-1.4	baz=128							
LEF	Lefka	6.51	80	*e*Pn	Pn	16 18 34.0	-1.4	TR1		9.79	127	P	Pn	16 19 20.2	-0.3
HMYD	Mayadein	6.55	130	P	Pn	16 18 35.5	-0.5	HQLS		9.80	117	P	Pn	16 19 19.3	-1.4
baz=132								HQLS		9.80	117	P	Pn	16 19 19.3	-1.3
HMYD	Mayadein	6.55	130	P	Pn	16 18 37.1	+1.1	HDHB	Dhahab	9.81	121	P	Pn	16 19 20.7	0.0
HNAT	Natroun	6.55	132	P	Pn	16 18 36.8	+0.8	baz=122							
ERIK	Erikli-Kesan	6.56	10	*e*PN	Pn	16 18 36.2	+0.1	HDHB	Dhahab	9.81	121	P	Pn	16 19 21.6	+0.9
ERIK	Erikli-Kesan	6.56	10	*e*PN	Pn	16 18 36.2	+0.1	HAQS	Haql	9.84	119	P	Pn	16 19 19.6	-1.5
ERIK	Erikli-Kesan	6.56	10	*e*Pn	Pn	16 18 36.3	+0.1	HAQS	Haql	9.84	119	P	Pn	16 19 19.6	-1.5
HDMB	Hadim	6.64	63	*e*PN	Pn	16 18 37.4	+0.2	ASF	Jabal al Asfar	10.11	98	Pn	Pn	16 19 23.8	-1.1
HDMB	Hadim	6.64	63	*e*PN	Pn	16 18 37.4	+0.2	comp=Z,1.6nm,0.3s,baz=147,slow=9.1,SNR=11							
HDMB	Hadim	6.64	63	*e*Pn	Pn	16 18 37.4	+0.2	ASF				Sn	Sn	16 21 11.2	-6.1
AWBH		6.71	150	P	Pn	16 18 38.2	0.0	comp=Z,1.1nm,0.3s,baz=292,slow=20,SNR=3.4							
baz=151								ASF	Jabal al Asfar	10.11	98	Pn	Pn	16 19 23.8	-1.1
AWBH		6.71	150	P	Pn	16 18 38.2	0.0	ASF				Sn	Sn	16 21 11.2	-6.1
FYM	Al Fayyum	6.77	130	P	Pn	16 18 38.3	-0.8	ASF	Jabal al Asfar	10.11	98	P	Pn	16 19 23.8	-1.1
baz=132								ASF						16 21 11.2	
MAMC	Mammari	6.78	79	P	Pn	16 18 38.6	-0.5	ASF				pmax	pmax		
MAMC	Mammari	6.78	79	P	Pn	16 18 38.6	-0.5	comp=Z,2.0nm,0.3s							
AYT	Al 'Ayyat	6.83	129	P	Pn	16 18 39.2	-0.8	ASF				smax			
baz=131								comp=N,1.0nm,0.3s							
AYT	Al 'Ayyat	6.83	129	P	Pn	16 18 40.8	+0.9	LKFR	Kufra	10.13	190	*i* P	Pn	16 19 25.3	+0.2
CSS	Prodhromos	6.85	81	P	Pn	16 18 39.5	-0.7	comp=N,60nm,1.6s,SNR=41							
3.8nm,0.3s								RSHS		10.18	123	P	Pn	16 19 25.3	-0.6
CSS				S	Sn	16 19 55.7	-1.5	RSHS		10.18	123	P	Pn	16 19 25.3	-0.6
CSS	Prodhromos	6.85	81	*e*PN	Pn	16 18 39.7	-0.5	BDAS	Al Bad'	10.32	121	P	Pn	16 19 26.6	-1.1
CSS	Prodhromos	6.85	81	*e*PN	Pn	16 18 39.7	-0.5	BDAS	Al Bad'	10.32	121	P	Pn	16 19 26.6	-1.1
CSS	Prodhromos	6.85	81	*e*P	Pn	16 18 38.4	-1.8	MS1	Monte Sant'Ang	10.40	319	*e*Pn	Pn	16 19 29.2	+0.5
67nm,0.6s								HDAB	Wahat Dakhilah	10.41	160	P	Pn	16 19 27.7	-0.8
CSS	Prodhromos	6.85	81	*e*Pn	Pn	16 18 39.7	-0.5	JLOS		10.43	119	P	Pn	16 19 27.7	-1.5
CSS				S	Sn	16 19 55.7	-1.5	JLOS		10.43	119	P	Pn	16 19 27.7	-1.5
KONT	Konya--Tatoy	6.99	56	*e*PN	Pn	16 18 42.5	+0.6	VOIR		11.23	360	⇑P	Pn	16 19 48.6	+8.5
KONT	Konya--Tatoy	6.99	56	*e*PN	Pn	16 18 42.5	+0.6	VOIR		11.23	360	⇑*i*P	Pn	16 19 48.6	+8.5
KONT	Konya--Tatoy	6.99	56	*e*Pn	Pn	16 18 42.5	+0.5	MLR	Muntele Rosu	11.30	3	Pn	Pn	16 19 39.1	-2.0
SRS	Serrai	7.01	351	P	Pn	16 18 43.1	+0.8	comp=N,0.0nm,0.3s,baz=186,slow=8.5,SNR=3.2							
SRS	Serrai	7.01	351	P	Pn	16 18 43.1	+0.8	MLR	Muntele Rosu	11.30	3	Pn	Pn	16 19 39.1	-2.0
ARMT	Armutlu	7.04	24	*e*PN	Pn	16 18 43.1	+0.5	MLR	Muntele Rosu	11.30	3	P	Pn	16 19 39.1	-2.0
GEMT	Gemlik	7.04	27	*e*PN	Pn	16 18 43.4	+0.7	MLR	Muntele Rosu	11.30	3	⇑*i*P	Px	16 19 51.8	
ESKT	Eskisehir	7.05	39	*e*PN	Pn	16 18 43.4	+0.6	MLR	Muntele Rosu	11.30	3	P	Pn	16 19 39.1	-2.0
ESKT	Eskisehir	7.05	39	*e*PN	Pn	16 18 43.4	+0.6	TBKS	Tabuk	11.48	118	P	Pn	16 19 42.9	-0.7
ESKT	Eskisehir	7.05	39	*e*Pn	Pn	16 18 43.4	+0.6	TBKS	Tabuk	11.48	118	P	Pn	16 19 42.9	-0.7
LFK	Lefkose	7.05	79	*e*PN	Pn	16 18 41.7	-1.2	DBAS	Duba	11.67	124	P	Pn	16 19 46.0	-0.3
LFK	Lefkose	7.05	79	*e*PN	Pn	16 18 41.7	-1.2	DBAS	Duba	11.67	124	P	Pn	16 19 46.0	-0.3
LFK	Lefkose	7.05	79	*e*Pn	Pn	16 18 41.7	-1.1	PLOR	Plostina	11.71	5	⇑P	Px	16 19 56.8	
CAVI	Cavuskoy	7.10	31	*e*PN	Pn	16 18 44.0	+0.5	PLOR	Plostina	11.71	5	⇑*i*P	Px	16 19 56.8	
KOT	Kottamia	7.14	125	P	Pn	16 18 43.5	-0.6	BZS	Buzias	11.71	348	⇓P	Pn	16 19 44.6	-2.1
baz=126								BZS	Buzias	11.71	348	⇓*i*P	Pn	16 19 44.6	-2.1
KOT				AMP		16 20 00.0		BZS	Buzias	11.71	348	P	Pn	16 19 44.6	-2.1
comp=E,150µm,0.4s,logA/T=5.6,baz=126								VRI	Vrincioaia	11.73	6	⇑*i*P	Px	16 20 02.9	
KOT	Kottamia	7.14	125	P	Pn	16 18 45.0	+0.9	HADB		12.10	134	P	Pn	16 19 52.6	+0.6
HSAF	As Saff	7.15	128	P	Pn	16 18 43.7	-0.6	WJHS		12.27	124	P	Pn	16 19 53.4	-1.0
baz=130								WJHS		12.27	124	P	Pn	16 19 53.4	-1.0
HSAF	As Saff	7.15	128	P	Pn	16 18 45.5	+1.2	AAHD	Abu Hadid	12.38	145	P	Pn	16 19 55.7	-0.3
KNT	Kendrikon	7.17	347	P	Pn	16 18 44.8	+0.4	SIM	Simferopol'	12.79	30	P	Pn	16 20 02.4	+0.9
KNT	Kendrikon	7.17	347	P	Pn	16 18 44.8	+0.4	SIM				pmax	pmax		
KIZT	Kizilcal	7.20	48	*e*PN	Pn	16 18 45.5	+0.6	comp=Z,5.0nm,0.7s							
KIZT	Kizilcal	7.20	48	*e*PN	Pn	16 18 45.5	+0.6	SIM				MLR	MLR		
KIZT	Kizilcal	7.20	48	*e*Pn	Pn	16 18 45.5	+0.6	comp=Z,660nm,16.0s							
GLL	Jalalah	7.28	127	P	Pn	16 18 45.8	-0.2	SIM	Simferopol'	12.79	30	P	Pn	16 20 02.4	+0.9
baz=129								comp=Z,660nm,16.0s							
GLL	Jalalah	7.28	127	P	Pn	16 18 46.5	+0.5	KEST	Kesra	12.99	281	Pn	Pn	16 20 04.7	+0.4
HHAG	Hagoal	7.31	123	P	Pn	16 18 46.4	0.0	comp=Z,0.1nm,0.3s,baz=129,slow=14,SNR=2.1							
baz=125								KEST				Sn	Sn	16 22 21.2	-6.6
HHAG	Hagoal	7.31	123	P	Pn	16 18 47.3	+0.9	comp=Z,0.1nm,0.3s,baz=238,slow=8.2,SNR=2.2							
SVRH	Sivrihisar-ESK	7.36	43	*e*PN	Pn	16 18 47.9	+0.7	KEST				LR	LR	16 26 59.7	
VAY	Valandovo	7.38	345	*e*Pn	Pn	16 18 54.7	+7.2	comp=Z,101nm,19.2s,baz=293,slow=46							
PHNC	Paralimni	7.43	81	P	Pn	16 18 47.7	-0.4	KEST	Kesra	12.99	281	Pn	Pn	16 20 04.7	+0.4
comp=E,4.0nm,0.5s								KEST				Sn	Sn	16 22 21.2	-6.6
PHNC				S	Sn	16 20 10.6	-0.8	KEST				LR	LR	16 26 59.7	
PHNC	Paralimni	7.43	81	P	Pn	16 18 47.7	-0.4	KEST	Kesra	12.99	281	Pn	Pn	16 20 04.7	+0.4
comp=E,4.0nm,0.5s								HAGS	Hagol	13.05	136	P	Pn	16 20 06.1	+1.0
PHNC				S	Sn	16 20 10.6	-0.8	KIS	Kishinev	13.10	11	*e*	Pn	16 20 08.0	+2.4
BIA	Bitola	7.43	338	*e*Pn	Pn	16 18 41.3	-6.8	KIS				LRM		16 25 46.0	
MMB	Musomiste	7.46	352	P	Pn	16 18 54.3	+5.9	comp=Z,1µm,12.0s							
RZN	Rozhen	7.49	358	P	Pn	16 18 53.2	+4.4	BURAR	Bucovina Array	13.41	0	⇑P	Pn	16 20 14.4	+4.6
HFRF	Wahat Farafira	7.56	158	P	Pn	16 18 50.6	+0.8	BURAR	Bucovina Array	13.41	0	⇑*i*P	Pn	16 20 14.4	+4.6
baz=158								ANN	Anapa	14.24	38	*e*P	Pn	16 20 22.1	+0.9
HFRF	Wahat Farafira	7.56	158	P	Pn	16 18 49.4	-0.4	ANN				*e*S	Sn	16 23 02.6	+4.6
GULT	Gulveren	7.58	33	*e*PN	Pn	16 18 50.9	+0.7	ANN				pmax	pmax		
GULT	Gulveren	7.58	33	*e*PN	Pn	16 18 50.9	+0.7	comp=Z,46nm,1.6s							
GULT	Gulveren	7.58	33	*e*Pn	Pn	16 18 50.9	+0.7	PSZ	Piszkesteto	14.25	346	*e*P	Pn	16 20 16.2	-5.1
AMAG	Maghara	7.74	115	P	Pn	16 18 50.6	-1.7	UZH	Uzhgorod	14.57	353	*e*P	Pn	16 20 27.3	+1.6
baz=117								UZH				*e*S	Sn	16 23 09.3	+3.2
AMAG	Maghara	7.74	115	P	Pn	16 18 50.6	-1.7	UZH				MLR	MLR		
EDRB	Edirne	7.75	9	*e*PN	Pn	16 18 52.1	-0.4	comp=N,700nm,13.0s							
KKB	Krupnik	7.82	349	P	Pn	16 18 58.2	+4.8	UZH				MLR	MLR		
SUZ		7.89	121	P	Pn	16 18 55.3	+0.9	comp=E,700nm,13.0s							
RSH		7.98	111	P	Pn	16 18 54.9	-0.7	UZH				MLR	MLR		
								comp=Z,700nm,13.0s							
								VOY	Vojsko	14.57	328	*e*P	Pn	16 20 26.0	+0.3
								VOY				*e*		16 20 31.7	
								VOY				*e*		16 20 35.0	
								VOY				*e*		16 21 00.3	
								ARSA	Arzberg	14.90	334	⇑*i*P	Pn	16 20 35.2	+5.1
								comp=Z,15nm,1.1s,SNR=5.9							
								ARSA	Arzberg	14.90	334	P	Pn	16 20 35.2	+5.1
								comp=Z,15nm,1.1s,SNR=5.9							
								SOP	Sopron	14.92	337	*e*P	Pn	16 20 35.4	+5.0
								SOP	Sopron	14.92	337	*e*P	Pn	16 20 35.4	+5.0
								CRVS	Cervenica-Dubn	14.94	351	*e*P	Pn	16 20 36.4	+5.8
								CRVS	Cervenica-Dubn	14.94	351	*e*P	Pn	16 20 36.4	+5.8
								CRVS	Cervenica-Dubn	14.94	351	*e*P	Pn	16 20 36.4	+5.8
								VYHS	Vyhne	15.03	344	*e*P	Pn	16 20 37.0	+5.2
								VYHS	Vyhne	15.03	344	*e*P	Pn	16 20 37.0	+5.2
								VYHS	Vyhne	15.03	344	*e*P	Pn	16 20 37.0	+5.2
								PGF	Pioggiola	15.10	308	*e*P	Pn	16 20 36.1	+3.3
								comp=Z,75nm,0.7s							
								PGF	Pioggiola	15.10	308	*e*P	Pn	16 20 36.1	+3.3
								comp=Z,38nm,0.7s							
								PGF	Pioggiola	15.10	308	*e*P	Pn	16 20 36.1	+3.3
								PGF				pmax	pmax		
								comp=Z,38nm,0.7s							
								PGF	Pioggiola	15.10	308	*e*P	Pn	16 20 36.1	+3.3
								comp=Z,38nm,0.7s							
								KWP	Kalwaria Pacla	15.52	354	⇑P	Pn	16 20 38.1	-0.2
								KWP	Kalwaria Pacla	15.52	354	⇑*i*P	Pn	16 20 38.1	-0.2
								KBA	Koelnbreinsper	15.62	329	⇑*i*P	Pn	16 20 43.6	+4.0
								comp=Z,16nm,1.0s,SNR=6.9							
								KBA	Koelnbreinsper	15.62	329	P	Pn	16 20 43.6	+4.0
								comp=Z,16nm,1.0s,SNR=6.9							
								LVV	L'vov	15.63	357	*e*P	Pn	16 20 46.8	+7.1
								ABTA	Abfaltersbach	15.74	327	⇑*i*P	Pn	16 20 44.9	+3.8
								comp=Z,40nm,0.8s,SNR=18							
								ABTA	Abfaltersbach	15.74	327	P	Pn	16 20 44.9	+3.8
								comp=Z,40nm,0.8s,SNR=18							
								MOA	Molln	15.87	332	*i* P	Pn	16 20 45.9	+3.1
								comp=Z,20nm,0.9s,SNR=7.8							
								MOA	Molln	15.87	332	P	Pn	16 20 45.9	+3.1
								comp=Z,20nm,0.9s,SNR=7.8							
								AKH	Akhalkalaki	16.23	58	P	Pn	16 20 49.1	+1.6
								VRAC	Vranov	16.36	340	Pn	Pn	16 20 49.3	+0.3
								comp=Z,1.4nm,0.3s,baz=164,slow=9.8,SNR=14							
								VRAC	Vranov	16.36	340	Pn	Pn	16 20 49.3	+0.3
								VRAC	Vranov	16.36	340	⇓P	Pn	16 20 50.9	+1.9
								VRAC	Vranov	16.36	340	⇓*i*P	Pn	16 20 50.9	+1.9
								VRAC	Vranov	16.36	340	Pn	Pn	16 20 49.3	+0.3
								VRAC	Vranov	16.36	340	P	Pn	16 20 50.9	+1.9
								RJOB	Jochberg	16.37	329	*e*P	Pn	16 20 52.3	+3.1
								comp=Z,33nm,1.7s							
								OKC	Ostrava-Krasne	16.44	344	*e*P	Pn	16 20 53.0	+2.9
								OKC	Ostrava-Krasne	16.44	344	*e*P	Pn	16 20 53.0	+2.9
								OKC	Ostrava-Krasne	16.44	344	*e*P	Pn	16 20 53.0	+2.9
								WTTA	Wattenberg	16.52	326	*i* P	Pn	16 20 54.8	+3.6
								comp=Z,38nm,1.0s,SNR=7.7							
								WTTA	Wattenberg	16.52	326	P	Pn	16 20 54.8	+3.6
								comp=Z,38nm,1.0s,SNR=7.7							
								MORC	Moravsky Berou	16.53	343	P	Pn	16 20 47.6	-3.6
								comp=Z,18nm,1.1s							
								MORC	Moravsky Berou	16.53	343	⇓P	Pn	16 20 51.6	+0.4
								MORC	Moravsky Berou	16.53	343	⇓*i*P	Pn	16 20 51.6	+0.4
								MORC	Moravsky Berou	16.53	343	P	Pn	16 20 51.6	+0.4
								ONI	Oni	16.65	54	P	Pn	16 20 53.7	+1.0
								TREC	Trest	16.68	338	*e*P	Pn	16 20 54.2	+1.2
								TREC				MLR	MLR		
								comp=Z,400nm,15.7s							

comp=Z,41nm,1.3s
KHC Kasperske Hory 17.19 334 eP Pn 16 21 00.1 +0.6
KHC MLR MLR
comp=Z,1µm,12.1s
KHC Kasperske Hory 17.19 334 eP Pn 16 21 00.1 +0.6
KHC epP pP 16 21 07.6 -1.0
KHC AMS AMS 16 28 30.0
comp=Z,1µm,12.1s
KHC Kasperske Hory 17.19 334 eP Pn 16 21 00.1 +0.6
comp=Z,1µm,12.1s
TBLG Delisi 17.21 58 eP Pn 16 21 00.7 +0.8
TBLG Delisi 17.21 58 P Pn 16 21 00.7 +0.9
TBLG Delisi 17.21 58 eP Pn 16 21 00.7 +0.8
MTA Mtatsminda 17.24 58 P Pn 16 21 00.9 +0.7
DPC Dobruska-Polom 17.37 341 eP Pn 16 21 00.6 -1.2
DPC MLR MLR
comp=Z,400nm,21.2s
DPC Dobruska-Polom 17.37 341 eP Pn 16 21 00.6 -1.2
DPC AMS AMS 16 28 50.0
comp=Z,400nm,21.2s
DPC Dobruska-Polom 17.37 341 eP Pn 16 21 00.6 -1.2
comp=Z,400nm,21.2s
DAVA Damuels 17.38 323 ⇓i Pn Pn 16 21 03.2 +1.4
comp=Z,14nm,0.8s
DAVA Damuels 17.38 323 P Pn 16 21 03.2 +1.3
comp=Z,14nm,0.8s
WET Wettzell 17.46 332 eP Pn 16 21 03.3 +0.4
comp=Z,49nm,1.2s
WET Wettzell 17.46 332 eP Pn 16 21 03.3 +0.4
WET pmax pmax
comp=Z,49nm,1.2s
WET Wettzell 17.46 332 eP Pn 16 21 03.3 +0.4
comp=Z,49nm,1.2s
DGRG David-gareji 17.58 60 P Pn 16 21 05.0 +0.6
MBDF Montbardon 17.58 312 eP Pn 16 21 04.8 +0.4
comp=Z,33nm,1.0s
MBDF Montbardon 17.58 312 eP Pn 16 21 04.8 +0.4
comp=Z,16nm,1.0s
MBDF Montbardon 17.58 312 eP Pn 16 21 04.8 +0.4
MBDF pmax pmax
comp=Z,17nm,1.0s
MBDF Montbardon 17.58 312 eP Pn 16 21 04.8 +0.4
comp=Z,16nm,1.0s
PRU Pruhonice 17.58 337 eP Pn 16 21 05.1 +0.8
PRU MLR MLR
comp=Z,400nm,8.7s
PRU Pruhonice 17.58 337 eP Pn 16 21 05.1 +0.8
PRU epP pP 16 21 12.0 -0.9
PRU AMS AMS 16 29 30.0
comp=Z,400nm,8.7s
PRU Pruhonice 17.58 337 eP Pn 16 21 05.1 +0.8
comp=Z,400nm,8.7s
UPC Upice 17.60 341 eP Pn 16 21 04.2 -0.4
UPC Upice 17.60 341 eP Pn 16 21 04.2 -0.4
UPC Upice 17.60 341 eP Pn 16 21 04.2 -0.4
KSP Ksiaz 17.83 342 eP Pn 16 21 07.2 -0.2
SMRF Simiane la Rot 17.98 309 eP Pn 16 21 08.6 -0.7
comp=Z,46nm,1.2s
SMRF Simiane la Rot 17.98 309 eP Pn 16 21 08.6 -0.7
comp=Z,46nm,1.2s
SMRF Simiane la Rot 17.98 309 eP Pn 16 21 08.6 -0.7
comp=Z,23nm,1.2s
LPG La Plagne 17.99 314 eP Pn 16 21 11.0 +1.5
LPG La Plagne 17.99 314 eP Pn 16 21 11.0 +1.5
LPG La Plagne 17.99 314 eP Pn 16 21 11.0 +1.5
LPG La Plagne 17.99 314 eP Pn 16 21 11.0 +1.5
LPL La Plagne 18.01 314 eP Pn 16 21 10.7 +1.0
LPL La Plagne 18.01 314 eP Pn 16 21 10.7 +1.0
LPL La Plagne 18.01 314 eP Pn 16 21 10.7 +1.0
LPL La Plagne 18.01 314 eP Pn 16 21 10.7 +1.0
RSL Roselend 18.17 315 eP Pn 16 21 12.5 +0.9
RSL Roselend 18.17 315 eP Pn 16 21 12.5 +0.9
RSL Roselend 18.17 315 eP Pn 16 21 12.5 +0.9
RSL Roselend 18.17 315 eP Pn 16 21 12.5 +0.9
ROTZ Rotzenmuhle 18.22 332 eP Pn 16 21 11.3 -0.9
comp=Z,34nm,1.6s
ORIF Oris-en-Rattie 18.22 312 eP Pn 16 21 11.7 -0.6
comp=Z,27nm,1.0s
ORIF eR
comp=Z,485nm,22.2s
ORIF Oris-en-Rattie 18.22 312 eP Pn 16 21 11.7 -0.6
comp=Z,13nm,1.0s
ORIF Oris-en-Rattie 18.22 312 eP Pn 16 21 11.7 -0.6
ORIF pmax pmax
comp=Z,13nm,1.0s
ORIF Oris-en-Rattie 18.22 312 eP Pn 16 21 11.7 -0.6
comp=Z,13nm,1.0s
NKC Novy Kostel 18.51 334 eP Pn 16 21 15.1 -0.6
NKC MLR MLR
comp=Z,900nm,10.6s
NKC Novy Kostel 18.51 334 eP Pn 16 21 15.1 -0.6
NKC AMS AMS 16 29 10.0
comp=Z,900nm,10.6s
NKC Novy Kostel 18.51 334 eP Pn 16 21 15.1 -0.6
comp=Z,900nm,10.6s
BRG Berggiesshubel 18.54 337 eP Pn 16 21 15.1 -1.0
comp=Z,12nm,1.2s
BRG e 16 30 56.5
comp=Z,5.6nm,1.1s
GRFO Grafenberg 18.55 331 eP Pn 16 21 15.0 -1.3
comp=Z,112nm,1.4s
GRFO Grafenberg 18.55 331 eP Pn 16 21 15.0 -1.2
GRFO pmax pmax
comp=Z,112nm,1.4s
GRFO Grafenberg 18.55 331 eP Pn 16 21 15.0 -1.2
comp=Z,112nm,1.4s
GRA1 Grafenberg Arr 18.55 331 eP Pn 16 21 15.2 -1.0
comp=Z,348nm,2.5s
GRF Grafenberg Arr 18.55 331 eP Pn 16 21 15.2 -1.0
comp=Z,348nm,2.5s
GRF Grafenberg Arr 18.55 331 eP Pn 16 21 15.2 -1.0
GRF pmax pmax
comp=Z,348nm,2.5s
TANN Tannenbergstha 18.66 334 eP Pn 16 21 16.4 -1.1
comp=Z,27nm,1.2s
GUNZ Gunzen 18.66 334 eP Pn 16 21 16.4 -1.2
comp=Z,16nm,1.1s
BBS Basel-Blauen 18.71 320 eP Pn 16 21 21.7 +3.5
BBS Basel-Blauen 18.71 320 eP Pn 16 21 21.7 +3.5
WERD Werda 18.74 334 eP Pn 16 21 17.1 -1.4
comp=Z,11nm,0.9s
VIVF Saint-Julien-l 18.95 310 eP Pn 16 21 21.6 +0.5
comp=Z,18nm,1.0s
VIVF Saint-Julien-l 18.95 310 eP Pn 16 21 21.6 +0.5
comp=Z,8.9nm,1.0s
VIVF Saint-Julien-l 18.95 310 eP Pn 16 21 21.6 +0.5
VIVF pmax pmax
comp=Z,9.0nm,1.0s
VIVF Saint-Julien-l 18.95 310 eP Pn 16 21 21.6 +0.5
comp=Z,8.9nm,1.0s
CABF La Chapelle 18.99 316 eP Pn 16 21 17.5 -4.1
comp=Z,46nm,1.1s
CABF La Chapelle 18.99 316 eP Pn 16 21 17.5 -4.1
comp=Z,23nm,1.1s
CABF La Chapelle 18.99 316 eP Pn 16 21 17.5 -4.1
CABF pmax pmax
comp=Z,23nm,1.1s
LASF Ste Croix 19.14 307 eP Pn 16 21 22.0 -1.4
LASF Ste Croix 19.14 307 eP Pn 16 21 22.0 -1.4
LASF Ste Croix 19.14 307 eP Pn 16 21 22.0 -1.4
MOF Molkenrain 19.16 321 eP Pn 16 21 25.0 +1.5
MOF Molkenrain 19.16 321 eP Pn 16 21 25.0 +1.5
MOF Molkenrain 19.16 321 eP Pn 16 21 25.0 +1.5
CLL Collm 19.22 336 eP Pn 16 21 21.8 -2.5
comp=Z,23nm,1.2s
CLL Collm 19.22 336 ⇓i P Pn 16 21 22.7 -1.6
CLL pmax pmax
comp=Z,22nm,1.2s
CLL MLR MLR
comp=Z,200nm,18.6s
CLL Collm 19.22 336 ⇓i P Pn 16 21 22.7 -1.6
comp=Z,22nm,1.2s
CLL *i* 16 21 26.8
CLL epP pP 16 21 31.0 0.0
CLL *i* sP sP 16 21 34.3 -0.4
CLL e(S) Sn **16 25 05.0 +6.3**
CLL LmV 16 29 00.0
comp=Z,200nm,18.6s
CLL Collm 19.22 336 *i* P Pn **16 21 22.7 -1.6**
comp=Z,200nm,18.6s
HINF Hinteralfeld 19.28 320 eP Pn 16 21 24.3 -0.7
comp=Z,41nm,1.1s
HINF Hinteralfeld 19.28 320 eP Pn 16 21 24.3 -0.7
comp=Z,20nm,1.1s
HINF Hinteralfeld 19.28 320 eP Pn 16 21 24.3 -0.7
HINF pmax pmax
comp=Z,20nm,1.1s
HINF Hinteralfeld 19.28 320 eP Pn 16 21 24.3 -0.7
comp=Z,18nm,1.1s
ECH Echery 19.37 322 eP Pn 16 21 24.9 -1.3
comp=Z,18nm,1.1s
ECH Echery 19.37 322 eP Pn 16 21 24.9 -1.2
ECH pmax pmax
comp=Z,18nm,1.1s
ECH Echery 19.37 322 eP Pn 16 21 24.9 -1.2
comp=Z,18nm,1.1s
MIB Mutribah 19.38 97 eP Pn 16 21 25.9 -0.4
MIB AMb AMB 16 21 30.9
comp=Z,67nm,1.7s
MIB Mutribah 19.38 97 eP Pn 16 21 25.9 -0.4
comp=Z,67nm,1.7s
CDF Champ du Feu 19.44 322 eP Pn 16 21 24.1 -2.8
comp=Z,33nm,1.0s
CDF Champ du Feu 19.44 322 eP Pn 16 21 24.1 -2.8
comp=Z,17nm,1.0s
CDF Champ du Feu 19.44 322 eP Pn 16 21 24.1 -2.8
CDF pmax pmax
comp=Z,17nm,1.0s
CDF Champ du Feu 19.44 322 eP Pn 16 21 24.1 -2.8
comp=Z,17nm,1.0s
NAY Al-Naaiem 19.48 99 eP Pn 16 21 27.7 +0.1
NAY AMb AMB 16 21 33.4
comp=Z,42nm,1.2s
NAY Al-Naaiem 19.48 99 eP Pn 16 21 27.7 +0.1
comp=Z,42nm,1.2s
LANF Langenberg 19.55 324 eP Pn 16 21 29.1 +0.8
LANF Langenberg 19.55 324 eP Pn 16 21 29.1 +0.8
LANF Langenberg 19.55 324 eP Pn 16 21 29.1 +0.8
LANF Langenberg 19.55 324 eP Pn 16 21 29.1 +0.8
MAK Makhachkala 19.56 57 eP Pn 16 21 25.1 -3.3
MAK MLR MLR
comp=Z,301nm,15.0s
MAK Makhachkala 19.56 57 eP Pn 16 21 25.1 -3.3
comp=Z,301nm,15.0s
HAU Haudompre 19.66 320 eP Pn 16 21 27.4 -2.2
HAU eR
comp=Z,236nm,17.5s
HAU Haudompre 19.66 320 eP Pn 16 21 27.4 -2.2
HAU Haudompre 19.66 320 eP Pn 16 21 27.4 -2.2
HAU Haudompre 19.66 320 eP Pn 16 21 27.4 -2.2
UMR Umm Al-Rimmam 19.77 97 eP Pn 16 21 30.3 -0.7
UMR AMb AMB 16 21 34.8
comp=Z,81nm,1.2s
UMR Umm Al-Rimmam 19.77 97 eP Pn 16 21 30.3 -0.7
comp=Z,81nm,1.2s
VSR Storozhevoye 19.86 27 eP Pn 16 21 31.0 -0.8
VSR pmax pmax
comp=Z,20nm,1.3s
VSR pmax pmax
comp=N,20nm,1.0s
VSR pmax pmax
comp=E,20nm,0.7s
VSR Storozhevoye 19.86 27 eP Pn 16 21 31.0 -0.8
comp=E,20nm,1.0s
SUW Suwalki 19.86 357 eP Pn 16 21 28.9 -2.9
SUW Suwalki 19.86 357 eP Pn 16 21 28.9 -3.0
SUW Suwalki 19.86 357 eP Pn 16 21 28.9 -3.0
MTLF Montolieu 19.98 304 eP Pn 16 21 31.5 -1.9
comp=E,17nm,0.9s
MTLF Montolieu 19.98 304 eP Pn 16 21 31.5 -1.9
comp=E,8.6nm,0.9s
MTLF Montolieu 19.98 304 eP Pn 16 21 31.5 -1.9
MTLF pmax pmax
comp=Z,9.0nm,0.9s
MTLF Montolieu 19.98 304 eP Pn 16 21 31.5 -1.9
comp=Z,8.6nm,0.9s
THEF They Montfort 19.99 320 eP Pn 16 21 31.2 -2.3
THEF They Montfort 19.99 320 eP Pn 16 21 31.2 -2.3
THEF They Montfort 19.99 320 eP Pn 16 21 31.2 -2.3
THEF They Montfort 19.99 320 eP Pn 16 21 31.2 -2.3
SMF Signal de Mont 20.32 314 eP P 16 21 33.8 -1.4
comp=Z,29nm,0.9s
SMF Signal de Mont 20.32 314 eP P 16 21 33.8 -1.4
comp=Z,14nm,0.9s
SMF Signal de Mont 20.32 314 eP P 16 21 33.8 -1.4
SMF pmax pmax
comp=Z,14nm,0.9s
SMF Signal de Mont 20.32 314 eP P 16 21 33.8 -1.4
comp=Z,14nm,0.9s
PAGF Fort de Pagny 20.33 321 eP P 16 21 37.3 +2.0
comp=Z,13nm,0.8s
PAGF Fort de Pagny 20.33 321 eP P 16 21 37.3 +2.0
comp=Z,6.7nm,0.8s
RUP Ruppelstein 20.40 325 eP P 16 21 35.5 -0.6
RUP Ruppelstein 20.40 325 eP P 16 21 35.5 -0.6
RUP Ruppelstein 20.40 325 eP P 16 21 35.5 -0.6
CSOR Sort 20.44 301 P P 16 21 36.8 +0.2
comp=Z,26nm,0.9s
CSOR Sort 20.44 301 P P 16 21 36.8 +0.2
comp=Z,26nm,0.9s
SFTF Sexfontaines 20.49 319 eP P 16 21 37.9 +0.9
SFTF Sexfontaines 20.49 319 eP P 16 21 37.9 +0.9
SFTF Sexfontaines 20.49 319 eP P 16 21 37.9 +0.9
TAM Tamanrasset 20.56 242 eP P 16 21 39.8 +1.7
comp=Z,13nm,0.8s
TAM Tamanrasset 20.56 242 eP P 16 21 39.8 +1.8
TAM pmax pmax
comp=Z,13nm,0.8s
TAM Tamanrasset 20.56 242 eP P 16 21 39.8 +1.8
comp=Z,13nm,0.8s
CLZ Clausthal 20.59 333 eP P 16 21 36.9 -1.1
comp=Z,50nm,1.6s
CLZ Clausthal 20.59 333 eP P 16 21 36.9 -1.1
CLZ pmax pmax
comp=Z,50nm,1.6s
CLZ Clausthal 20.59 333 eP P 16 21 36.9 -1.1
comp=Z,50nm,1.6s
LOR Lormes 20.63 316 eP P 16 21 36.9 -1.7
comp=Z,19nm,0.8s
LOR eR
comp=Z,268nm,18.0s
LOR Lormes 20.63 316 eP P 16 21 36.9 -1.7
comp=Z,9.4nm,0.8s
LOR LR LR
comp=Z,270nm,18.0s,MS3.7
LOR Lormes 20.63 316 eP P 16 21 36.9 -1.7
LOR pmax pmax
comp=Z,9.0nm,0.8s
LOR MLR MLR
comp=Z,270nm,18.0s,MS3.7
LOR Lormes 20.63 316 eP P 16 21 36.9 -1.7
comp=Z,9.4nm,0.8s
MEZF Maizieres J'vi 20.66 320 eP P 16 21 38.2 -0.6
comp=Z,79nm,1.0s
MEZF Maizieres J'vi 20.66 320 eP P 16 21 38.2 -0.6
comp=Z,79nm,1.0s
MEZF Maizieres J'vi 20.66 320 eP P 16 21 38.2 -0.6
comp=Z,40nm,1.0s
CAF Calviac 20.66 308 eP P 16 21 39.2 +0.3
comp=Z,24nm,1.0s
CAF Calviac 20.66 308 eP P 16 21 39.2 +0.3
comp=Z,12nm,1.0s
CAF Calviac 20.66 308 eP P 16 21 39.2 +0.3
CAF pmax pmax
comp=Z,12nm,1.0s
CAF Calviac 20.66 308 eP P 16 21 39.2 +0.3
comp=Z,12nm,1.0s
AVF Avril sur Loir 20.68 314 eP P 16 21 38.2 -1.0
comp=Z,22nm,0.9s
AVF Avril sur Loir 20.68 314 eP P 16 21 38.2 -1.0
comp=Z,11nm,0.9s
AVF Avril sur Loir 20.68 314 eP P 16 21 38.2 -1.0
AVF pmax pmax
comp=Z,11nm,0.9s
AVF Avril sur Loir 20.68 314 eP P 16 21 38.2 -1.0
comp=Z,11nm,0.9s
ERTA Horta de San J 20.70 296 P P 16 21 39.4 0.0
ERTA Horta de San J 20.70 296 P P 16 21 39.4 0.0
SSF Saint Saulge 20.73 315 eP P 16 21 38.7 -1.0
SSF Saint Saulge 20.73 315 eP P 16 21 38.7 -1.0
SSF Saint Saulge 20.73 315 eP P 16 21 38.7 -1.0
SSF Saint Saulge 20.73 315 eP P 16 21 38.7 -1.0
NACGM Naroch 20.74 3 *e* **P 16 21 33.0 -6.7**
VRHR Novokhopersk 20.74 30 eP P 16 21 39.8 +0.1
VRHR pmax pmax
comp=Z,20nm,0.6s
VRHR pmax pmax
comp=N,60nm,1.2s
VRHR pmax pmax
comp=E,20nm,0.7s
VRHR Novokhopersk 20.74 30 eP P 16 21 39.8 +0.1
comp=E,60nm,1.2s
WLF Walferdange 20.82 324 P P 16 21 40.9 +0.3
WLF Walferdange 20.82 324 P P 16 21 40.5 -0.1
comp=E,29nm,0.8s
WLF Walferdange 20.82 324 P P 16 21 40.5 -0.1
WLF pmax pmax
comp=Z,29nm,0.8s
WLF Walferdange 20.82 324 P P 16 21 40.5 -0.1
comp=Z,29nm,0.8s
EBEN Beniarda 20.82 290 P P 16 21 41.8 +1.1
EBEN Beniarda 20.82 290 P P 16 21 41.8 +1.1
BGF Bois d'Agland 20.88 313 eP P 16 21 40.6 -0.6
comp=Z,38nm,0.7s
BGF Bois d'Agland 20.88 313 eP P 16 21 40.6 -0.6
comp=Z,19nm,0.7s
BGF Bois d'Agland 20.88 313 eP P 16 21 40.6 -0.6
BGF pmax pmax
comp=Z,19nm,0.7s
BGF Bois d'Agland 20.88 313 eP P 16 21 40.6 -0.6
comp=Z,19nm,0.7s
TCF Toulx Ste Croi 21.14 312 eP P 16 21 43.7 -0.4
comp=Z,18nm,0.8s,mb4.2
TCF Toulx Ste Croi 21.14 312 eP P 16 21 43.7 -0.4
comp=Z,8.9nm,0.8s,mb4.2
TCF Toulx Ste Croi 21.14 312 eP P 16 21 43.7 -0.4
TCF pmax pmax
comp=Z,9.0nm,0.8s,mb4.2
TCF Toulx Ste Croi 21.14 312 eP P 16 21 43.7 -0.4
comp=Z,8.9nm,0.8s,mb4.2
RJF Les Rejaudoux 21.16 309 eP P 16 21 44.0 -0.4
RJF eR
comp=Z,405nm,17.8s
RJF Les Rejaudoux 21.16 309 eP P 16 21 44.0 -0.4
RJF LR LR
comp=Z,400nm,17.8s,MS3.9
RJF Les Rejaudoux 21.16 309 eP P 16 21 44.0 -0.4
RJF MLR MLR
comp=Z,400nm,17.8s,MS3.9
RJF Les Rejaudoux 21.16 309 eP P 16 21 44.0 -0.4
IIGN Ignalina 21.17 2 eP P 16 21 43.0 -1.3
IIGN AMB AMB 16 21 50.3
comp=Z,14nm,1.4s,mb4.1
EPF Esparros 21.19 302 eP P 16 21 44.0 -0.6
EPF Esparros 21.19 302 eP P 16 21 44.0 -0.6
EPF Esparros 21.19 302 eP P 16 21 44.0 -0.6
EPF Esparros 21.19 302 eP P 16 21 44.0 -0.6
EMOS Mosqueruela 21.20 294 P P 16 21 45.3 +0.5
EMOS Mosqueruela 21.20 294 P P 16 21 45.3 +0.5
NRDL Niedersach Rie 21.21 334 eP P 16 21 43.6 -1.2
comp=Z,65nm,1.7s,mb4.7
EBIE Bielsa 21.23 301 P P 16 21 45.3 +0.2
comp=Z,18nm,0.9s,mb4.4
EBIE Bielsa 21.23 301 P P 16 21 45.3 +0.2
comp=Z,18nm,0.9s,mb4.4
ISAL Salakas 21.39 2 eP P 16 21 45.2 -1.4
ISAL AMB AMB 16 21 52.1
comp=Z,7.8nm,0.8s,mb4.1
ECHE Chera 21.48 292 P P 16 21 48.5 +0.6
comp=Z,13nm,0.8s,mb4.3
ECHE Chera 21.48 292 P P 16 21 48.5 +0.7
ECHE pmax pmax
comp=Z,13nm,0.8s,mb4.3
ECHE Chera 21.48 292 P P 16 21 48.5 +0.7
comp=Z,13nm,0.8s,mb4.3
MEM Membach 21.52 325 P P 16 21 47.4 -0.7
MEM Membach 21.52 325 P P 16 21 47.4 -0.7
LFF La Frestale 21.53 307 eP P 16 21 49.3 +1.0
comp=Z,30nm,0.7s,mb4.5
LFF La Frestale 21.53 307 eP P 16 21 49.3 +1.0
comp=Z,15nm,0.7s,mb4.5
LFF La Frestale 21.53 307 eP P 16 21 49.3 +1.0
LFF pmax pmax
comp=Z,15nm,0.7s,mb4.5
LFF La Frestale 21.53 307 eP P 16 21 49.3 +1.0
comp=Z,15nm,0.7s,mb4.5
IZAR Zarasai 21.57 2 eP P 16 21 46.9 -1.7
IZAR AMB AMB 16 21 53.1
comp=Z,7.2nm,0.9s,mb4.1
HGN Heimansgroeve 21.66 326 eP P 16 21 49.2 -0.4
comp=Z,18nm,1.7s,mb4.2
HGN Heimansgroeve 21.66 326 eP P 16 21 49.2 -0.4
comp=Z,18nm,1.7s,mb4.2
BCLA Clavier 21.73 324 P P 16 21 50.6 +0.2
BCLA Clavier 21.73 324 P P 16 21 50.5 +0.2
GIVF Givet 21.76 323 eP P 16 21 50.0 -0.7
GIVF Givet 21.76 323 eP P 16 21 50.0 -0.7
GIVF Givet 21.76 323 eP P 16 21 50.0 -0.7
GIVF Givet 21.76 323 eP P 16 21 50.0 -0.7
ETSF Etsaut 21.79 301 eP P 16 21 51.0 -0.1
ETSF Etsaut 21.79 301 eP P 16 21 51.0 -0.1
ETSF Etsaut 21.79 301 eP P 16 21 51.0 -0.1
ETSF Etsaut 21.79 301 eP P 16 21 51.0 -0.1
DOU Dourbes 21.87 323 P P 16 21 51.7 -0.1
DOU Dourbes 21.87 323 P P 16 21 51.7 -0.2
BAIF Baives 22.04 322 eP P 16 21 53.3 -0.4
comp=Z,32nm,0.7s,mb4.5
BAIF Baives 22.04 322 eP P 16 21 53.3 -0.4
comp=Z,16nm,0.7s,mb4.6
BAIF Baives 22.04 322 eP P 16 21 53.3 -0.4
BAIF pmax pmax
comp=Z,16nm,0.7s,mb4.6
BAIF Baives 22.04 322 eP P 16 21 53.3 -0.4
comp=Z,16nm,0.7s,mb4.5
WTSB Winterswijk 22.11 329 eP P 16 21 54.6 +0.1
WTSB Winterswijk 22.11 329 eP P 16 21 54.6 +0.2
SJPF Ste Jean 22.31 301 eP P 16 21 56.1 -0.6
comp=Z,39nm,1.1s,mb4.5
SJPF Ste Jean 22.31 301 eP P 16 21 56.1 -0.6
comp=Z,20nm,1.1s,mb4.5
SJPF Ste Jean 22.31 301 eP P 16 21 56.1 -0.6
SJPF pmax pmax
comp=Z,20nm,1.1s,mb4.5
SJPF Ste Jean 22.31 301 eP P 16 21 56.1 -0.6
comp=Z,20nm,1.1s,mb4.5
BSEG Bad Segeberg 22.32 337 eP P 16 21 54.1 -2.5
comp=Z,112nm,1.4s,mb5.1
BSEG Bad Segeberg 22.32 337 eP P 16 21 54.1 -2.5
BSEG pmax pmax
comp=Z,112nm,1.4s,mb5.1
BSEG Bad Segeberg 22.32 337 eP P 16 21 54.1 -2.5
comp=Z,112nm,1.4s,mb5.1
ENIJ Nijar 22.33 285 P P 16 21 57.7 +0.8
ENIJ Nijar 22.33 285 P P 16 21 57.7 +0.7
ENIJ Nijar 22.33 285 P P 16 21 57.7 +0.7
OBN Obninsk 22.40 17 ⇑i P P 16 21 58.6 +1.1
OBN *i* 16 22 23.9
OBN pmax pmax
comp=Z,70nm,1.6s,mb4.8
OBN MLR MLR
comp=Z,400nm,17.0s,MS3.9
OBN Obninsk 22.40 17 *i* P P **16 21 58.6 +1.1**
comp=Z,70nm,1.6s,mb4.8
EVIA Vianos 22.59 289 P P 16 22 02.6 +2.9
comp=Z,12nm,0.6s,mb4.5
EVIA Vianos 22.59 289 P P 16 22 02.6 +2.9
EVIA pmax pmax
comp=Z,12nm,0.6s,mb4.5
EHUE Huescar 22.64 287 P P 16 22 01.6 +1.4
EHUE Huescar 22.64 287 P P 16 22 01.6 +1.4
EHUE Huescar 22.64 287 P P 16 22 01.6 +1.4
MFF Saint Martin d 22.75 311 eP P 16 22 00.6 -0.7
MFF Saint Martin d 22.75 311 eP P 16 22 00.6 -0.7
MFF Saint Martin d 22.75 311 eP P 16 22 00.6 -0.7
MFF Saint Martin d 22.75 311 eP P 16 22 00.6 -0.7
EQES Quesada 23.02 287 P P 16 22 05.3 +1.1
comp=Z,7.1nm,0.6s,mb4.3
EQES Quesada 23.02 287 P P 16 22 05.3 +1.1
comp=Z,7.1nm,0.6s,mb4.3
MOS Moscow 23.23 18 eP P 16 22 02.9 -3.3
ECOG Cogollos-Vega 23.41 286 P P 16 22 13.1 +4.8
comp=Z,8.8nm,0.5s,mb4.5
ECOG Cogollos-Vega 23.41 286 P P 16 22 13.1 +4.7
ECOG pmax pmax
comp=Z,9.0nm,0.5s,mb4.5
EGUA Guajares 23.43 285 P P 16 22 10.8 +2.3
EGUA Guajares 23.43 285 P P 16 22 10.9 +2.4
ERON Agron 23.61 285 P P 16 22 11.8 +1.6
ERON Agron 23.61 285 P P 16 22 11.8 +1.6
LDF La Druitiere 23.61 315 eP P 16 22 07.9 -2.2
comp=Z,16nm,0.5s,mb4.4
LDF La Druitiere 23.61 315 eP P 16 22 07.9 -2.2
comp=Z,8.1nm,0.5s,mb4.4
LDF La Druitiere 23.61 315 eP P 16 22 07.9 -2.2
LDF pmax pmax
comp=Z,8.0nm,0.5s,mb4.4

LDF **La Druitiere** 23.61 315 *e*P P 16 22 07.9 -2.2
comp=Z,8.1nm,0.5s,mb4.5
ESDC **Sonseca Array** 23.79 292 P P 16 22 10.1 -1.7
comp=Z,1.6nm,0.5s,mb3.8,baz=78,slow=9.7,SNR=12
ESDC **Sonseca Array** 23.79 292 P P 16 22 10.3 -1.5
comp=Z,5.0nm,0.9s,mb3.9
ESDC **Sonseca Array** 23.79 292 P P 16 22 10.3 -1.5
comp=Z,5.0nm,0.9s,mb3.9
ESLA **Sonseca Array** 23.79 292 *e*P P 16 22 10.6 -1.2
comp=Z,5.1nm,1.1s,mb3.9
ESLA **Sonseca Array** 23.79 292 *e*P P 16 22 10.6 -1.2
comp=Z,5.1nm,1.1s,mb3.9
FLN **La Foliniere** 23.90 315 *e*P P 16 22 11.6 -1.1
FLN *e*R
comp=Z,233nm,21.8s
FLN **La Foliniere** 23.90 315 *e*P P 16 22 11.6 -1.1
FLN LR LR
comp=Z,230nm,21.8s,MS3.6
FLN **La Foliniere** 23.90 315 *e*P P 16 22 11.6 -1.1
FLN MLR MLR
comp=Z,230nm,21.8s,MS3.6
FLN **La Foliniere** 23.90 315 *e*P P 16 22 11.6 -1.1
GRR **Gorron** 23.95 314 *e*P P 16 22 12.3 -0.9
GRR **Gorron** 23.95 314 *e*P P 16 22 12.3 -0.9
GRR **Gorron** 23.95 314 *e*P P 16 22 12.3 -0.9
GRR **Gorron** 23.95 314 *e*P P 16 22 12.3 -0.9
GUD **Guadarrama** 24.02 294 P P 16 22 13.2 -0.7
GUD **Guadarrama** 24.02 294 P P 16 22 13.2 -0.7
GUD **Guadarrama** 24.02 294 P P 16 22 13.2 -0.7
VSU **Vasula** 24.30 2 *i*P P 16 22 15.2 -1.1
VSU pmax pmax
comp=Z,38nm,1.5s,mb4.6
VSU MLR MLR
comp=Z,237nm,21.0s,MS3.6
VSU **Vasula** 24.30 2 *i*P P 16 22 15.2 -1.1
comp=Z,237nm,21.0s
EMIJ **Mijas** 24.41 284 P P 16 22 17.8 +0.3
comp=Z,18nm,0.7s,mb4.6
EMIJ **Mijas** 24.41 284 P P 16 22 17.8 +0.3
comp=Z,18nm,0.7s,mb4.6
MDT **Midelt** 24.76 275 P P 16 22 22.2 +1.5
comp=Z,4.3nm,0.7s,mb4.1,baz=90,slow=13,SNR=14
MDT **Midelt** 24.76 275 P P 16 22 22.2 +1.5
MDT **Midelt** 24.76 275 P P 16 22 22.2 +1.5
MUD **Monsted U'grnd** 24.79 339 *e*P P 16 22 20.3 -0.4
MUD pmax pmax
comp=Z,20nm,0.8s,mb4.7
MUD **Monsted U'grnd** 24.79 339 *i*P P 16 22 20.3 -0.4
comp=Z,20nm,0.8s,mb4.7
MUD **Monsted U'grnd** 24.79 339 *e*P P 16 22 20.3 -0.4
comp=Z,20nm,0.8s,mb4.7
LIJA **Lijar** 24.89 285 *e*P P 16 22 21.5 -0.4
SGMF **Saint Gilles** 24.92 313 *e*P P 16 22 21.9 -0.1
SGMF **Saint Gilles** 24.92 313 *e*P P 16 22 21.9 -0.1
SGMF **Saint Gilles** 24.92 313 *e*P P 16 22 21.9 -0.1
SGMF **Saint Gilles** 24.92 313 *e*P P 16 22 21.9 -0.1
EJIF **Jimena Fronter** 24.97 284 P P 16 22 21.9 -0.8
EJIF **Jimena Fronter** 24.97 284 P P 16 22 21.9 -0.8
EJIF **Jimena Fronter** 24.97 284 P P 16 22 21.9 -0.8
QUIF **Quistinic** 25.16 312 *e*P P 16 22 23.4 -0.8
comp=Z,40nm,0.6s,mb4.8
QUIF **Quistinic** 25.16 312 *e*P P 16 22 23.4 -0.8
comp=Z,20nm,0.6s,mb4.8
QUIF **Quistinic** 25.16 312 *e*P P 16 22 23.4 -0.8
QUIF pmax pmax
comp=Z,20nm,0.6s,mb4.8
QUIF **Quistinic** 25.16 312 *e*P P 16 22 23.4 -0.8
comp=Z,20nm,0.6s,mb4.8
ESPR **Espera** 25.26 285 P P 16 22 26.8 +1.6
comp=Z,4.4nm,0.5s,mb4.2
ESPR **Espera** 25.26 285 P P 16 22 26.8 +1.6
comp=Z,4.4nm,0.5s,mb4.2
ROSF **Rostrenen** 25.39 312 *e*P P 16 22 25.1 -1.2
ROSF **Rostrenen** 25.39 312 *e*P P 16 22 25.1 -1.2
ROSF **Rostrenen** 25.39 312 *e*P P 16 22 25.1 -1.2
ROSF **Rostrenen** 25.39 312 *e*P P 16 22 25.1 -1.2
EMIN **Mina Concepcio** 25.87 287 P P 16 22 29.9 -0.9
EMIN **Mina Concepcio** 25.87 287 P P 16 22 29.9 -0.9
PBRG **Braganca** 26.09 296 *e*P P 16 22 33.0 +0.3
comp=Z,45nm,1.4s,mb4.8
PBRG **Braganca** 26.09 296 *e*P P 16 22 33.0 +0.3
comp=Z,45nm,1.4s,mb4.8
ECAL **Calabor** 26.10 297 P P 16 22 32.1 -0.7
comp=Z,16nm,0.8s,mb4.6
ECAL **Calabor** 26.10 297 P P 16 22 32.1 -0.7
comp=Z,16nm,0.8s,mb4.6
EBAD **Badajoz** 26.12 289 P P 16 22 33.8 +0.8
comp=Z,5.5nm,0.5s,mb4.3
EBAD **Badajoz** 26.12 289 P P 16 22 33.8 +0.7
comp=Z,5.5nm,0.5s,mb4.3
PBAR **Barrancos** 26.15 288 *e*P P 16 22 32.4 -0.9
comp=Z,30nm,1.6s,mb4.6
PBAR **Barrancos** 26.15 288 *e*P P 16 22 32.4 -0.9
comp=Z,30nm,1.6s,mb4.6
MVO **Moncorvo** 26.24 295 P P 16 22 34.4 +0.3
MVO **Moncorvo** 26.24 295 P P 16 22 34.4 +0.3
MVO **Moncorvo** 26.24 295 *e*P P 16 22 32.5 -1.6
comp=Z,40nm,1.7s,mb4.7
PMRV **Marv??o** 26.43 291 *e*P P 16 22 36.6 +0.8
comp=Z,30nm,2.0s,mb4.5
PMRV **Marv??o** 26.43 291 *e*P P 16 22 36.6 +0.8
comp=Z,30nm,2.0s,mb4.5
EGRO **El Granado** 26.52 287 P P 16 22 37.8 +1.1
comp=Z,7.7nm,0.8s,mb4.3
EGRO **El Granado** 26.52 287 P P 16 22 37.8 +1.1
comp=Z,7.7nm,0.8s,mb4.3
PESTR **Estremoz** 26.57 290 *e*P P 16 22 36.7 -0.4
comp=Z,29nm,2.1s,mb4.4
PESTR **Estremoz** 26.57 290 *e*P P 16 22 36.7 -0.4
comp=Z,29nm,2.1s,mb4.4
MTE **Manteigas** 26.58 293 *e*P P 16 22 39.1 +2.0
comp=Z,38nm,1.8s,mb4.6
MTE **Manteigas** 26.58 293 *e*P P 16 22 39.1 +2.0
comp=Z,38nm,1.8s,mb4.6
PVAQ **Vaqueiros** 26.71 286 *e*P P 16 22 38.2 -0.2
comp=Z,45nm,2.0s,mb4.7
PVAQ **Vaqueiros** 26.71 286 *e*P P 16 22 38.2 -0.2
comp=Z,45nm,2.0s,mb4.7
POLO **Lamas de Olo** 26.83 295 *e*P P 16 22 37.6 -1.8
POLO **Lamas de Olo** 26.83 295 *e*P P 16 22 37.6 -1.8
PVIS **Viseu** 26.86 294 *e*P P 16 22 38.1 -1.6
PVIS **Viseu** 26.86 294 *e*P P 16 22 38.1 -1.6
PBDV **Barranco-do-Ve** 26.89 286 *e*P P 16 22 37.6 -2.4
comp=Z,62nm,1.6s,mb4.9
PBDV **Barranco-do-Ve** 26.89 286 *e*P P 16 22 37.6 -2.4
comp=Z,62nm,1.6s,mb4.9
EVO **Evora** 26.91 289 *e*P P 16 22 40.6 +0.5
comp=Z,20nm,1.0s,mb4.3
PCVE **Castro Verde** 26.96 287 *e*P P 16 22 41.5 +0.9
comp=Z,24nm,1.5s,mb4.5
PCVE **Castro Verde** 26.96 287 *e*P P 16 22 41.5 +0.9
comp=Z,24nm,1.5s,mb4.5
EVOP **Sao Brissos** 27.00 289 *e*P P 16 22 40.6 -0.3
comp=Z,20nm,1.0s,mb4.6
EVOP **Sao Brissos** 27.00 289 *e*P P 16 22 40.6 -0.3
EVOP pmax pmax
comp=Z,20nm,1.0s,mb4.6
EVOP **Sao Brissos** 27.00 289 *e*P P 16 22 40.6 -0.3
comp=Z,10nm,1.0s,mb4.3
HFS **Hagfors** 27.00 347 P P 16 22 39.1 -1.6
comp=Z,2.3nm,0.4s,mb4.1,baz=145,slow=9.0,SNR=14
HFS **Hagfors** 27.00 347 P P 16 22 39.1 -1.6
HFS **Hagfors** 27.00 347 P P 16 22 39.1 -1.6
HFS pmax pmax
comp=Z,2.0nm,0.4s
HFS **Hagfors** 27.00 347 P P 16 22 39.1 -1.6
comp=Z,2.0nm,0.4s,mb4.0
PCAB **Cabril** 27.04 296 *e*P P 16 22 39.4 -1.9
comp=Z,62nm,1.6s,mb4.9
PCAB **Cabril** 27.04 296 *e*P P 16 22 39.4 -1.9
comp=Z,62nm,1.6s,mb4.9
FINES **FINESS Array B** 27.27 1 P P 16 22 40.9 -2.3
comp=Z,1.5nm,0.3s,mb3.9,baz=154,slow=12,SNR=13
FINES PcP PcP 16 26 02.5 +0.4
comp=Z,1.4nm,0.5s,baz=298,slow=3.0,SNR=4.0
FINES LR LR 16 33 47.6
comp=Z,221nm,20.6s,MS3.7,baz=163,slow=37
FINES **FINESS Array B** 27.27 1 P P 16 22 40.9 -2.3
FINES PcP PcP 16 26 02.5 +0.4
FINES LR LR 16 33 47.6
FINES **FINESS Array B** 27.27 1 P P 16 22 40.9 -2.2
FINES 16 26 02.6
FINES pmax pmax
comp=Z,2.0nm,0.3s
FINES MLR MLR
comp=Z,221nm,20.6s
FINES **FINESS Array B** 27.27 1 P P 16 22 40.9 -2.2
comp=Z,2.0nm,0.3s,mb4.1
KAF **Kangasniemi** 27.95 1 *e*P P 16 22 45.2 -4.0
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
KAF **Kangasniemi** 27.95 1 *e*p P 16 22 45.2 -4.0
comp=Z,3.5nm,0.6s,mb4.2
NAO01 **NORSAR Array S** 28.20 345 *e*P P 16 22 50.0 -1.4
comp=Z,4.6nm,0.4s,mb4.5
NAO01 **NORSAR Array S** 28.20 345 *e*P P 16 22 50.0 -1.5
comp=Z,4.6nm,0.4s,mb4.5
NB2 **NORSAR Subarra** 28.31 346 P P 16 22 50.5 -1.9
comp=Z,12nm,1.1s,mb4.5,baz=156,slow=9.3
NB2 **NORSAR Subarra** 28.31 346 P P 16 22 50.5 -1.9
comp=Z,12nm,1.1s,mb4.5,baz=156,slow=9.0,SNR=2.5
NOA **NORSAR Array B** 28.31 346 P P 16 22 50.8 -1.7
comp=Z,1.2nm,0.5s,mb3.8,baz=147,slow=10.0,SNR=17
NOA **NORSAR Array B** 28.31 346 P P 16 22 50.8 -1.7
NOA **NORSAR Array B** 28.31 346 P P 16 22 50.8 -1.6
NOA pmax pmax
comp=Z,1.0nm,0.5s
NOA **NORSAR Array B** 28.31 346 P P 16 22 50.8 -1.6
comp=Z,1.0nm,0.5s,mb3.7
AKTK **Aktyubinsk** 28.96 46 P P 16 22 57.9 -0.5
AKTK **Aktyubinsk** 28.96 46 P P 16 22 57.9 -0.5
comp=Z,2.0nm,0.5s,mb4.1
AKTO **Aktyubinsk** 28.96 46 P P 16 22 57.9 -0.5
comp=Z,1.9nm,0.5s,mb4.1,baz=239,slow=6.8,SNR=9.1
AKTO **Aktyubinsk** 28.96 46 P P 16 22 57.9 -0.5
AKTO pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
JOF **Joensuu** 29.01 6 *e*P P 16 22 51.9 -6.7
JOF pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
JOF **Joensuu** 29.01 6 *e*p P 16 22 51.9 -6.7
comp=Z,4.2nm,0.5s,mb4.4
AB31 **Akbulak array** 29.75 49 *i*P P 16 23 05.3 0.0
AB31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.0
AB31 **Akbulak array** 29.75 49 *i*P P 16 23 05.3 0.0
comp=Z,1.0nm,0.3s,mb4.0
ABKAR **Akbulak array** 29.75 49 *e*P P 16 23 05.2 -0.1
comp=Z,3.9nm,0.7s,mb4.2
ABKAR **Akbulak array** 29.75 49 *e*P P 16 23 05.2 -0.1
comp=Z,3.9nm,0.7s,mb4.2
TORD **Torodi Ar. Bea** 29.82 231 P P 16 23 06.8 +0.5
comp=Z,18nm,0.7s,mb4.9,baz=37,slow=8.5,SNR=83
TORD LR LR 16 37 01.9
comp=Z,167nm,19.7s,MS3.7,baz=45,slow=40
TORD **Torodi Ar. Bea** 29.82 231 P P 16 23 06.8 +0.5
TORD LR LR 16 37 01.9
TORD **Torodi Ar. Bea** 29.82 231 P P 16 23 06.8 +0.5
ARU **Arti** 31.88 35 *c i*P P 16 23 22.8 -1.2
ARU *e* 16 24 23.3
ARU S S 16 28 33.3 +0.6
ARU SS SS 16 30 19.6 -30
ARU pmax pmax
comp=Z,30nm,1.7s,mb4.8
ARU **Arti** 31.88 35 *i*P P 16 23 22.8 -1.2
comp=Z,30nm,1.7s,mb4.8
SOKR **Solikamsk** 32.81 30 *e*P P 16 23 31.8 -0.4
SOKR pmax pmax
comp=Z,20nm,0.8s,mb5.1
SOKR **Solikamsk** 32.81 30 *e*P P 16 23 31.8 -0.4
comp=Z,20nm,0.8s,mb5.1
SVE **Sverdlovsk** 33.07 36 *e*P P 16 23 33.8 -0.7
SVE pmax pmax
comp=Z,28nm,0.6s,mb5.4
SVE **Sverdlovsk** 33.07 36 *e*P P 16 23 33.8 -0.7
comp=Z,28nm,0.6s,mb5.4
ARCES **ARCESS Array B** 35.39 0 P P 16 23 51.5 -2.9
comp=Z,2.4nm,0.6s,mb4.3,baz=170,slow=10,SNR=22
ARCES PcP PcP 16 26 23.9 +0.2
comp=Z,0.9nm,0.6s,baz=152,slow=4.1,SNR=3.4
ARCES **ARCESS Array B** 35.39 0 P P 16 23 51.5 -2.9
ARCES PcP PcP 16 26 23.9 +0.2
ARCES **ARCESS Array B** 35.39 0 P P 16 23 51.5 -2.9
ARCES 16 26 23.9
ARCES pmax pmax
comp=Z,2.0nm,0.6s
KEV **Kevo** 35.63 1 *e*P P 16 23 54.5 -2.0
KEV pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
KEV **Kevo** 35.63 1 *e*p P 16 23 54.5 -2.0
comp=Z,2.6nm,0.7s,mb4.3
KEV **Kevo** 35.63 1 *e*P P 16 23 54.5 -2.0
comp=Z,3.0nm,0.7s,mb4.3
KK31 **Karatay Array** 36.21 62 *i*P P 16 24 02.2 +0.4
KK31 pmax pmax
comp=Z,3.0nm,0.3s,mb4.7
KK31 **Karatay Array** 36.21 62 *i*P P 16 24 02.2 +0.4
comp=Z,3.0nm,0.3s,mb4.7
KKAR **Karatay Array** 36.21 62 *e*P P 16 24 02.1 +0.3
comp=Z,5.3nm,0.5s,mb4.7
KKAR **Karatay Array** 36.21 62 *e*P P 16 24 02.1 +0.3
KKAR pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
KKAR **Karatay Array** 36.21 62 *e*P P 16 24 02.1 +0.3
comp=Z,5.3nm,0.5s,mb4.7
BRVK **Borovoye** 37.01 45 *c i*P P 16 24 08.5 0.0
BRVK pmax pmax
comp=Z,20nm,2.5s,mb4.5
BRVK MLR MLR
comp=Z,140nm,19.0s,MS3.8
BRVK **Borovoye** 37.01 45 *i*P P 16 24 08.5 0.0
comp=Z,140nm,19.0s
EKS2 **Erkin-Say** 38.63 63 P P 16 24 23.8 +1.5
SNR=6.6
EKS2 **Erkin-Say** 38.63 63 *e*P P 16 24 23.4 +1.2
comp=Z,9.8nm,0.6s,mb4.7
EKS2 **Erkin-Say** 38.63 63 *e*P P 16 24 23.4 +1.1
EKS2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
EKS2 **Erkin-Say** 38.63 63 *e*P P 16 24 23.4 +1.1
comp=Z,9.8nm,0.6s,mb4.7
DBIC **Dimbokro** 38.91 232 P P 16 24 24.8 -0.2
comp=Z,8.0nm,0.8s,mb4.5,baz=23,slow=8.3,SNR=9.6
DBIC LR LR 16 41 09.2
comp=Z,130nm,21.0s,MS3.7,baz=120,slow=37
DBIC **Dimbokro** 38.91 232 *e*P P 16 24 24.3 -0.6
DBIC LR LR 16 41 09.2
DBIC **Dimbokro** 38.91 232 P P 16 24 24.8 -0.1
DBIC pmax pmax
comp=Z,8.0nm,0.8s
DBIC MLR MLR
comp=Z,130nm,21.0s
DBIC **Dimbokro** 38.91 232 *e*P P 16 24 24.3 -0.6
AAK **Ala-Archa** 39.16 63 P P 16 24 28.1 +1.5
SNR=8.3
AAK **Ala-Archa** 39.16 63 *i*P P 16 24 28.1 +1.4
AAK **Ala-Archa** 39.16 63 *i*P P 16 24 28.1 +1.4
FRU **Bishkek** 39.23 62 *e*P P 16 24 28.0 +0.7
FRU **Bishkek** 39.23 62 *e*P P 16 24 28.0 +0.7
CHMS **Chaumysh** 39.32 62 P P 16 24 29.5 +1.4
SNR=2
LIC **Lamto** 39.36 232 *e*P P 16 24 28.2 -0.5
comp=Z,27nm,0.8s,mb4.7
LIC *e*R
comp=Z,360nm,17.5s
LIC **Lamto** 39.36 232 *e*P P 16 24 28.2 -0.5
comp=Z,13nm,0.8s,mb4.7
LIC LR LR
comp=Z,180nm,17.5s,MS4.0
LIC **Lamto** 39.36 232 *e*P P 16 24 28.2 -0.5
comp=Z,13nm,0.8s,mb4.7
KBK **Karagaybulak** 39.49 62 P P 16 24 31.3 +1.8
SNR=6.6
TKM2 **Tokmak 2** 39.94 62 P P 16 24 34.1 +0.8
SNR=5.6
TKM2 **Tokmak 2** 39.94 62 *e*P P 16 24 33.8 +0.6
comp=Z,4.2nm,0.6s,mb4.3
TKM2 **Tokmak 2** 39.94 62 *e*P P 16 24 33.8 +0.6
TKM2 pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
TKM2 **Tokmak 2** 39.94 62 *e*P P 16 24 33.8 +0.6
comp=Z,4.2nm,0.6s,mb4.3
ULHL **Ulahol** 40.48 63 P P 16 24 39.6 +1.9
SNR=6.5
KSH **Kashi** 40.63 67 P P 16 24 38.2 -0.8
KSH pP pP 16 24 42.0 -5.7
KSH pmax pmax
comp=Z,60nm,4.9s
KURK **Kurchatov** 41.85 50 P P 16 24 48.5 -0.3
comp=Z,8.7nm,0.6s,mb4.6,baz=278,slow=8.8,SNR=25
KURK **Kurchatov** 41.85 50 P P 16 24 48.5 -0.3
KURK **Kurchatov** 41.85 50 P P 16 24 48.5 -0.3
KURK pmax pmax
comp=Z,9.0nm,0.6s,mb4.6
KURK **Kurchatov** 41.85 50 P P 16 24 48.5 -0.3
comp=Z,9.0nm,0.6s,mb4.6
SPITS **Spitsbergen Ar** 44.25 357 P P 16 25 06.8 -1.0
comp=Z,1.5nm,0.4s,mb4.1,baz=132,slow=11,SNR=14
SPITS **Spitsbergen Ar** 44.25 357 P P 16 25 06.8 -1.0
SPITS **Spitsbergen Ar** 44.25 357 P P 16 25 06.8 -1.1
SPITS pmax pmax
comp=Z,2.0nm,0.4s
SPITS **Spitsbergen Ar** 44.25 357 P P 16 25 06.8 -1.1
comp=Z,2.0nm,0.4s,mb4.2
MK31 **Makanchi Array** 44.37 56 *e*P P 16 25 09.8 +0.6
MK31 **Makanchi Array** 44.37 56 *i*P P 16 25 09.7 +0.4
MK31 pmax pmax
comp=Z,3.0nm,0.1s,mb5.0
MK31 **Makanchi Array** 44.37 56 *i*P P 16 25 09.7 +0.4
comp=Z,3.0nm,0.1s,mb5.0
MKAR **Makanchi Array** 44.37 56 P P 16 25 09.8 +0.6
comp=Z,10nm,0.7s,mb4.7,baz=274,slow=6.8,SNR=41
MKAR **Makanchi Array** 44.37 56 P P 16 25 09.8 +0.6
MKAR **Makanchi Array** 44.37 56 P P 16 25 09.9 +0.6
MKAR pmax pmax
comp=Z,11nm,0.7s
MKAR **Makanchi Array** 44.37 56 P P 16 25 09.9 +0.6
comp=Z,11nm,0.7s,mb4.7
NVS **Novosibirsk** 44.83 44⇑ *i*P P 16 25 11.9 -0.9
NVS pmax pmax
comp=N,9.0nm,1.1s
NVS pmax pmax
comp=E,13nm,1.1s
NVS pmax pmax
comp=Z,25nm,1.1s,mb5.0
NVS **Novosibirsk** 44.83 44 *i*P P 16 25 11.9 -0.9
ZALV **Zalesovo Beam** 45.73 45 P P 16 25 19.5 -0.4
comp=Z,13nm,0.4s,mb5.2,baz=269,slow=8.5,SNR=80
ZALV LR LR 16 48 47.2
comp=Z,54nm,19.3s,MS3.5,baz=15,slow=42
ZALV **Zalesovo Beam** 45.73 45 P P 16 25 19.5 -0.4
ZALV LR LR 16 48 47.2
ZALV **Zalesovo Beam** 45.73 45 P P 16 25 19.5 -0.4
ZALV pmax pmax
comp=Z,13nm,0.4s,mb5.2
ZALV MLR MLR
comp=Z,54nm,19.3s,MS3.5
ZALV **Zalesovo Beam** 45.73 45 P P 16 25 19.5 -0.4
comp=Z,54nm,19.3s
DAG **Danmarks Havn** 46.97 347 *i*P P 16 25 28.5 -0.9
DAG **Danmarks Havn** 46.97 347 *i*P P 16 25 28.5 -0.9
comp=Z,6.3nm,0.9s,mb4.5
WMQ **Urumqi** 48.56 59 P P 16 25 36.1 -6.0
WMQ pP pP 16 25 45.4 -5.6
WMQ sP sP 16 25 50.1 -4.3
WMQ pmax pmax
comp=Z,26nm,0.5s,mb5.5
WMQ LR LR
comp=N,100nm,24.8s,MS3.8
WMQ LR LR
comp=E,93nm,26.4s,MS3.8
WMQ LR LR
comp=Z,100nm,24.8s,MS3.7
SUMG **Summit** 49.85 339 *i*P P 16 25 58.5 +6.8
comp=Z,8.6nm,0.9s,mb4.8
DANN **Dangsing** 49.91 80 *e*P P 16 25 54.2 +1.5
comp=Z,126nm,1.0s
DANN **Dangsing** 49.91 80 *e*P P 16 25 54.2 +1.5
comp=Z,126nm,1.0s
DANN **Dangsing** 49.91 80 *e*P P 16 25 54.2 +1.5
comp=Z,126nm,1.0s
KOLN **Koldanda** 50.00 81 *e*P P 16 25 54.1 +0.7
comp=Z,12nm,0.7s,mb5.1
KOLN **Koldanda** 50.00 81 *e*P P 16 25 54.1 +0.7
comp=Z,12nm,0.7s,mb5.0
KOLN **Koldanda** 50.00 81 *e*P P 16 25 54.1 +0.7
comp=Z,12nm,0.7s,mb5.0
HYB **Hyderabad** 50.40 95 *i*P P 16 25 57.0 +0.4
GKN **Gorkha** 50.76 80 *e*P P 16 25 59.6 +0.4
GKN **Gorkha** 50.76 80 *e*P P 16 25 59.6 +0.4
GKN **Gorkha** 50.76 80 *e*P P 16 25 59.6 +0.4
DMN **Daman** 51.30 80 *e*P P 16 26 03.8 +0.6
comp=Z,83nm,1.1s,mb5.6
DMN **Daman** 51.30 80 *e*P P 16 26 03.8 +0.6
comp=Z,83nm,1.1s,mb5.6
DMN **Daman** 51.30 80 *e*P P 16 26 03.8 +0.6
comp=Z,83nm,1.1s,mb5.6
KKN **Kakani** 51.37 80 *e*P P 16 26 04.3 +0.6
comp=Z,23nm,0.7s,mb5.2
KKN **Kakani** 51.37 80 *e*P P 16 26 04.3 +0.6
comp=Z,23nm,0.7s,mb5.2
KKN **Kakani** 51.37 80 *e*P P 16 26 04.3 +0.6
KKN pmax pmax
comp=Z,23nm,0.7s,mb5.2
KKN **Kakani** 51.37 80 *e*P P 16 26 04.3 +0.6
comp=Z,23nm,0.7s,mb5.2
PKIN **Phulchoki** 51.55 80 *e*P P 16 26 05.7 +0.6
PKI **Pulchoki** 51.56 80 *e*P P 16 26 05.8 +0.6
comp=Z,80nm,1.1s,mb5.5
PKI **Pulchoki** 51.56 80 *e*P P 16 26 05.8 +0.6
comp=Z,80nm,1.1s,mb5.6
PKI **Pulchoki** 51.56 80 *e*P P 16 26 05.8 +0.6
PKI pmax pmax
comp=Z,80nm,1.1s,mb5.6
PKI **Pulchoki** 51.56 80 *e*P P 16 26 05.8 +0.6
comp=Z,80nm,1.1s,mb5.6
GUN **Gumba** 51.81 79 *e*P P 16 26 07.8 +0.8
GUN **Gumba** 51.81 79 *e*P P 16 26 07.8 +0.8
GUN **Gumba** 51.81 79 *e*P P 16 26 07.8 +0.8
ODAN **Odare** 53.46 80 *e*P P 16 26 19.6 +0.3
ODAN **Odare** 53.46 80 *e*P P 16 26 19.6 +0.3
ODAN **Odare** 53.46 80 *e*P P 16 26 19.6 +0.3
TAPN **Taplejung** 53.52 79 *e*P P 16 26 20.0 +0.3
TAPN **Taplejung** 53.52 79 *e*P P 16 26 20.0 +0.3
TAPN **Taplejung** 53.52 79 *e*P P 16 26 20.0 +0.3
LSA **Lhasa** 55.37 75 *e*P P 16 26 34.2 +1.0
comp=Z,8.6nm,1.0s,mb4.7
LSA **Lhasa** 55.37 75 *e*P P 16 26 34.2 +1.0
LSA pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
LSA **Lhasa** 55.37 75 *e*P P 16 26 34.2 +1.0
comp=Z,8.6nm,1.0s,mb4.7
TLY **Talaya** 57.31 46 *e*P P 16 26 47.9 +1.3
TLY pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
TLY **Talaya** 57.31 46 *e*P P 16 26 47.9 +1.3
comp=Z,10.0nm,1.2s,mb4.7
ZAK **Zakamensk** 57.44 48⇑ *e*P P 16 26 42.7 -4.8
ZAK *i* 16 26 48.6
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
GTA **Gaotai** 58.48 61 P P 16 26 55.9 +0.9
GTA pP pP 16 27 00.5 -3.5
GTA sP sP 16 27 02.9 -4.6
GTA pmax pmax
comp=Z,11nm,1.2s,mb4.8
SONM **Songino Array** 60.16 50 P P 16 27 07.2 +0.7
comp=Z,3.8nm,0.5s,mb4.7,baz=289,slow=7.0,SNR=45
SONM **Songino Array** 60.16 50 P P 16 27 07.2 +0.7
SONM **Songino Array** 60.16 50 P P 16 27 07.2 +0.8
SONM pmax pmax
comp=Z,4.0nm,0.5s
ULN **Ulaanbaatar** 60.56 50 *e*P P 16 27 09.3 +0.1
comp=Z,17nm,1.1s,mb5.1
ULN **Ulaanbaatar** 60.56 50 *e*P P 16 27 09.3 +0.1
ULN pmax pmax
comp=Z,17nm,1.1s,mb5.1
BOD **Bodaibo** 61.26 38 *e*P P 16 27 13.1 -0.7
BOD pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
BOSA **Boshof** 62.47 180 P P 16 27 22.8 +0.6
comp=Z,4.9nm,0.7s,mb4.8,baz=25,slow=7.2,SNR=5.5
BOSA **Boshof** 62.47 180 P P 16 27 22.8 +0.6
SCHQ **Schefferville** 63.88 320 P P 16 27 30.5 -0.8
comp=Z,3.7nm,0.4s,mb4.7,baz=103,slow=9.6,SNR=13
SCHQ **Schefferville** 63.88 320 P P 16 27 30.5 -0.8
CD2 **Chengdu** 64.80 69 P P 16 27 38.6 +0.8
CD2 pmax pmax
comp=Z,30nm,0.6s,mb5.5
CD2 pmax pmax
comp=Z,120nm,8.2s
YAK **Yakutsk** 66.75 30 *i*P P 16 27 49.1 -0.7
CMAR **Chiang Mai Arr** 66.76 83 P P 16 27 50.9 +0.4
comp=Z,2.4nm,0.9s,mb4.2,baz=294,slow=7.7,SNR=11
CMAR **Chiang Mai Arr** 66.76 83 P P 16 27 50.9 +0.4
CMAR **Chiang Mai Arr** 66.76 83 P P 16 27 50.9 +0.4
CMAR pmax pmax
comp=Z,2.0nm,0.9s

HIA	**Hailar**	**67.76**	**45**	*e*P	**P**	**16 27 57.2**	**+0.8**	
	comp=Z,4.8nm,0.5s,mb4.8							
HIA	**Hailar**	**67.76**	**45**	*e*P	**P**	**16 27 57.2**	**+0.8**	
HIA				pmax	pmax			
	comp=Z,5.0nm,0.5s							
WHN	**Wuhan**	**73.03**	**64**	P	**P**	**16 28 29.6**	**+0.6**	
SEY	**Seymchan**	**74.48**	**22**	*i* P	**P**	**16 28 36.9**	**+0.1**	
KLR	**Kul'dur**	**74.54**	**41**	*e*P	**P**	**16 28 32.2**	**-5.3**	
PSI	**Prapat**	**75.08**	**97**	P	**P**	**16 28 42.2**	**+1.1**	
	comp=Z,3.5nm,0.5s,mb4.6,baz=280,slow=7.8,SNR=3.8							
PSI	**Prapat**	**75.08**	**97**	P	**P**	**16 28 42.2**	**+1.0**	
PSI	**Prapat**	**75.08**	**97**	P	**P**	**16 28 42.2**	**+1.0**	
PSI				pmax	pmax			
	comp=Z,4.0nm,0.5s,mb4.6							
YKA	**Yellowknife Ar**	**78.34**	**342**	P	**P**	**16 28 59.2**	**+0.5**	
	comp=Z,0.7nm,0.7s,mb3.7,baz=34,slow=5.0,SNR=3.2							
YKA	**Yellowknife Ar**	**78.34**	**342**	P	**P**	**16 28 59.2**	**+0.5**	
YKA	**Yellowknife Ar**	**78.34**	**342**	P	**P**	**16 28 59.2**	**+0.4**	
YKA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
KSRS	**Korea Array**	**78.93**	**52**	P	**P**	**16 29 03.0**	**+0.5**	
	comp=Z,3.8nm,0.6s,mb4.5,baz=306,slow=4.6,SNR=18							
KSRS				LR	LR	17 06 18.0		
	comp=Z,58nm,18.1s,MS4.0,baz=148,slow=38							
KSRS	**Korea Array**	**78.93**	**52**	P	**P**	**16 29 03.0**	**+0.5**	
KSRS				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5							
KSRS				MLR	MLR			
	comp=Z,58nm,18.1s,MS4.0							
ULM	**Lac du Bonnet**	**81.07**	**326**	LR	LR	17 08 04.8		
	comp=Z,110nm,18.6s,MS4.2,baz=312,slow=38							
ILAR	**Eielson Array**	**81.16**	**357**	P	**P**	**16 29 14.6**	**+0.6**	
	comp=Z,1.0nm,0.9s,mb3.8,baz=354,slow=3.6,SNR=10							
ILAR	**Eielson Array**	**81.16**	**357**	P	**P**	**16 29 14.6**	**+0.6**	
ILAR	**Eielson Array**	**81.16**	**357**	P	**P**	**16 29 14.6**	**+0.6**	
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
PPLA	**Purkeypile**	**83.22**	**359**	*e*P	**P**	**16 29 25.2**	**+0.4**	
PETK	**Petropavlovsk-**	**83.81**	**27**	P	**P**	**16 29 27.4**	**-0.6**	
	comp=Z,0.7nm,0.6s,mb4.0,baz=281,slow=11,SNR=2.6							
PETK	**Petropavlovsk-**	**83.81**	**27**	P	**P**	**16 29 27.4**	**-0.6**	
PETK	**Petropavlovsk-**	**83.81**	**27**	P	**P**	**16 29 27.4**	**-0.6**	
PETK				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb4.1							
ECSD	**EROS Data Cent**	**86.00**	**322**	*e*P	**P**	**16 29 39.0**	**-0.2**	
	comp=Z,6.0nm,1.2s,mb4.7							
MJAR	**Matsushiro Arr**	**86.02**	**48**	P	**P**	**16 29 40.3**	**+0.8**	
	comp=Z,6.9nm,1.0s,mb4.8,baz=296,slow=5.6,SNR=11							
MJAR	**Matsushiro Arr**	**86.02**	**48**	P	**P**	**16 29 40.3**	**+0.8**	
MJAR	**Matsushiro Arr**	**86.02**	**48**	P	**P**	**16 29 40.3**	**+0.8**	
MJAR				pmax	pmax			
	comp=Z,7.0nm,1.0s							
PDAR	**Pinedale Array**	**92.89**	**328**	LR	LR	17 12 57.3		
	comp=Z,69nm,21.0s,MS4.1,baz=180,slow=36							
CPUP	**Villa Florida**	**98.54**	**244**	LR	LR	17 17 22.5		
	comp=Z,96nm,20.2s,MS4.3,baz=243,slow=37							
WRA	**Warramunga Arr**	**116.55**	**97**	PKP	PKPdf	16 35 42.9	-0.2	
	comp=Z,0.3nm,0.6s,baz=314,slow=1.7,SNR=8.7							
WRA	**Warramunga Arr**	**116.55**	**97**	PKP	PKPdf	16 35 42.9	-0.2	
WRA	**Warramunga Arr**	**116.55**	**97**	PKIKP	PKPdf	16 35 42.9	-0.2	
ASAR	**Alice Springs**	**117.94**	**101**	PKP	PKPdf	16 35 45.8	+0.1	
	comp=Z,0.3nm,0.6s,baz=322,slow=1.2,SNR=7.4							
ASAR	**Alice Springs**	**117.94**	**101**	PKP	PKPdf	16 35 45.8	+0.1	
ASAR	**Alice Springs**	**117.94**	**101**	PKIKP	PKPdf	16 35 45.8	+0.1	
QSPA	**South Pole Qui**	**124.05**	**180**	PKP	PKPdf	16 35 56.3	+0.4	
	comp=Z,0.7nm,0.7s,baz=243,slow=3.0,SNR=7.6							
QSPA	**South Pole Qui**	**124.05**	**180**	PKP	PKPdf	16 35 56.3	+0.4	

IDC 11 16:31:54.4±3.5, 29.47S×75.54E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/19, mbtmp3.7/6, Error ellipse: s-maj=125.0km s-min=28.6km az=35.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**52.06**	**98**	P	P	16 41 06.2	0.0
	0.5nm,0.7s,baz=245,slow=6.9,SNR=8.8						
WRA	**Warramunga Arr**	**53.77**	**94**	P	P	16 41 18.7	-0.2
	0.9nm,0.7s,baz=248,slow=7.3,SNR=6.6						
MKAR	**Makanchi Array**	**76.15**	**5**	P	P	16 43 43.6	-0.2
	1.1nm,0.8s,baz=193,slow=9.3,SNR=6.2						
BRTR	**Keskin Array B**	**79.11**	**328**	P	P	16 44 01.0	+0.4
	0.5nm,0.8s,baz=145,slow=8.0,SNR=3.1						
SONM	**Songino Array**	**81.80**	**20**	P	P	16 44 15.9	+1.1
	0.5nm,0.7s,baz=203,slow=5.5,SNR=4.8						
ZALV	**Zalesovo Beam**	**83.46**	**6**	P	P	16 44 23.0	-0.3
	0.2nm,0.3s,baz=217,slow=4.5,SNR=3.2						

IDC 11 17:03:19.6±1.5, 26.42S×70.27E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.4/21, mbtmp3.6/5, MS3.8/10, Ms1 3.8/10, ms1mx3.5/32, Error ellipse: s-maj=59.0km s-min=26.8km az=22.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**40.14**	**48**	LR	LR	17 23 18.2	
	comp=Z,175nm,18.8s,baz=138,slow=30						
NWAO	**Narrogin (SRO)**	**41.05**	**111**	LR	LR	17 23 37.8	
	comp=Z,105nm,20.2s,baz=294,slow=30						
MAW	**Mawson**	**41.45**	**184**	LR	LR	17 24 20.8	
	comp=Z,225nm,20.8s,baz=23,slow=30						
FITZ	**Fitzroy Crossi**	**51.58**	**93**	LR	LR	17 31 16.5	
	comp=Z,74nm,20.3s,baz=277,slow=32						
CMAR	**Chiang Mai Arr**	**52.59**	**35**	P	P	17 12 35.2	-0.1
	1.6nm,1.0s,baz=220,slow=6.3,SNR=5.7						
CMAR				LR	LR	17 30 17.0	
	comp=Z,117nm,20.3s,baz=209,slow=31						
ASAR	**Alice Springs**	**57.20**	**102**	P	P	17 13 09.2	+0.5
	0.3nm,0.6s,baz=254,slow=6.8,SNR=9.0						
WRA	**Warramunga Arr**	**58.74**	**98**	P	P	17 13 19.2	-0.4
	0.4nm,0.8s,baz=256,slow=6.5,SNR=3.3						
WRA				LR	LR	17 34 33.2	
	comp=Z,112nm,21.9s,baz=240,slow=32						
STKA	**Stephens Creek**	**61.52**	**114**	LR	LR	17 34 41.4	
	comp=Z,113nm,20.2s,baz=205,slow=31						
BRTR	**Keskin Array B**	**74.14**	**331**	P	P	17 14 58.3	+0.5
	0.6nm,0.9s,baz=151,slow=6.3,SNR=4.0						
BRTR				LR	LR	17 43 11.9	
	comp=Z,30nm,18.4s,baz=103,slow=32						
TORD	**Torodi Ar. Bea**	**77.35**	**292**	P	P	17 15 16.6	-0.1
	0.7nm,0.9s,baz=127,slow=4.7,SNR=4.8						
TORD				LR	LR	17 45 19.9	
	comp=Z,50nm,21.5s,baz=245,slow=33						
DBIC	**Dimbokro**	**79.77**	**283**	LR	LR	17 50 18.7	
	comp=Z,58nm,18.1s,baz=115,slow=35						

IDC 11 17:14:54.8±0.7, 12.98N×92.49E, h0km, mb4.0/17, mb1 4.1/18, mb1mx4.0/27, mbtmp4.0/18, ML4.1/1, MS3.5/4, Ms1 3.5/4, ms1mx3.0/34, Error ellipse: s-maj=26.8km s-min=13.3km az=54.0

ISCJB 11 17:14:59.3±0.9, 13.13N±0.05×92.63E±0.06, h45km±9km, mb4.2/23, MS3.5/4, Error ellipse: s-maj=10.4km s-min=6.4km az=142.8

NEIC 11 17:15:00.6±1.0, 13.13N×92.56E, h38km±9km, mb4.6/10, Error ellipse: s-maj=11.5km s-min=5.2km az=49.0

ISC 11 17:15:00.9±0.7, 13.12N±0.05×92.55E±0.05, h41km±7km, n88, σ0.88/87, mb4.2/23, MS3.5/4, 2C-3D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**1.47**	**173**	*e*PKP	**Pn**	**17 15 25.0**	**+0.1**
BDT	**Bhumibol Dam**	**7.46**	**56**	P	**Pn**	**17 16 48.0**	**+0.8**
	11nm,0.8s						
CM31	**Chiang Mai Arr**	**8.12**	**48**	*e*Pn	**Pn**	**17 16 56.1**	**-0.3**
	14nm,0.7s						
CM31				*e*Sn	**Sn**	**17 18 20.8**	**-6.1**
CMAR	**Chiang Mai Arr**	**8.12**	**48**	Pn	**Pn**	**17 16 56.2**	**-0.2**
	0.6nm,0.3s,baz=238,slow=15,SNR=10						
CMAR				Sn	**Sn**	**17 18 22.9**	**-4.0**
	1.4nm,0.3s,baz=236,slow=28,SNR=6.8						
CMAR	**Chiang Mai Arr**	**8.12**	**48**	Pn	**Pn**	**17 16 56.2**	**-0.2**
CMAR				Sn	**Sn**	**17 18 22.9**	**-4.0**
CHG	**Chiang Mai**	**8.36**	**47**	‖P	Px	17 17 18.1	
	30nm,0.7s						
CHTO	**Chiang Mai**	**8.36**	**47**	*e*Pn	**Pn**	**17 16 58.5**	**-1.1**
	15nm,0.9s						
CHTO				*e*Sn	**Sn**	**17 18 20.6**	**-12**
BWNR	**Bhubaneshwar**	**9.62**	**319**	*ex*	**Pn**	**17 17 08.0**	**-8.9**
BWNR				*e*S	**Sn**	**17 18 48.0**	**-16**
CHRT	**Chiangrai**	**9.65**	**45**	P	**Pn**	**17 17 23.0**	**+5.7**
KULM	**Kulim**	**11.15**	**133**	*e*Pn	**Pn**	**17 17 39.3**	**+1.4**
SHL	**Shillong**	**12.40**	**357**	*e*PKP	**Pn**	**17 17 57.0**	**+2.1**
SHL				*e*S	**Sn**	**17 20 06.5**	**-5.2**
HYB	**Hyderabad**	**14.16**	**289**	*i* P	**Pn**	**17 18 20.0**	**+1.0**
HYB				*e*S	**Sn**	**17 20 52.5**	**-2.4**
ODAN	**Odare**	**14.50**	**341**	*e*P	**Pn**	**17 18 23.1**	**-0.5**
ODAN	**Odare**	**14.50**	**341**	*e*P	**Pn**	**17 18 23.1**	**-0.5**
TAPN	**Taplejung**	**14.87**	**343**	*e*P	**Pn**	**17 18 27.9**	**-0.5**
	49nm,0.7s						
TAPN	**Taplejung**	**14.87**	**343**	*e*P	**Pn**	**17 18 27.9**	**-0.5**
	49nm,0.7s						
PKI	**Pulchoki**	**15.85**	**336**	*e*P	**Pn**	**17 18 40.3**	**-0.9**
	30nm,0.4s						
PKI	**Pulchoki**	**15.85**	**336**	*e*P	**Pn**	**17 18 40.9**	**-0.3**
	34nm,0.5s						
PKIN	**Phulchoki**	**15.86**	**336**	*e*P	**Pn**	**17 18 40.9**	**-0.4**
	34nm,0.5s						
GUN	**Gumba**	**15.98**	**338**	*e*P	**Pn**	**17 18 43.0**	**+0.2**
GUN	**Gumba**	**15.98**	**338**	*e*P	**Pn**	**17 18 43.0**	**+0.2**
DMN	**Daman**	**16.01**	**335**	*e*P	**Pn**	**17 18 41.9**	**-1.3**
	63nm,0.7s						
DMN	**Daman**	**16.01**	**335**	*e*P	**Pn**	**17 18 41.9**	**-1.3**
	63nm,0.7s						
KKN	**Kakani**	**16.10**	**336**	*e*P	**Pn**	**17 18 44.2**	**-0.1**
KKN	**Kakani**	**16.10**	**336**	*e*P	**Pn**	**17 18 44.2**	**-0.1**
GKN	**Gorkha**	**16.55**	**335**	*e*P	**Pn**	**17 18 49.6**	**-0.4**
GKN	**Gorkha**	**16.55**	**335**	*e*P	**Pn**	**17 18 49.6**	**-0.4**
LSA	**Lhasa**	**16.55**	**356**	*e*Pn	**Pn**	**17 18 51.7**	**+1.7**
	15nm,0.6s						
LSA				*e*Sn	**Sn**	**17 21 43.7**	**-9.1**
KOLN	**Koldanda**	**16.80**	**332**	*e*P	**Pn**	**17 18 53.1**	**-0.1**
KOLN	**Koldanda**	**16.80**	**332**	*e*P	**Pn**	**17 18 53.1**	**-0.1**
DANN	**Dangsing**	**17.23**	**333**	*e*P	**Pn**	**17 18 59.0**	**+0.5**
DANN	**Dangsing**	**17.23**	**333**	*e*P	**Pn**	**17 18 59.0**	**+0.5**
BHPL	**Bhopal**	**17.53**	**307**	*e*PKP	**Pn**	**17 18 56.8**	**-5.5**
BHPL				*ex*	x	17 22 04.7	
KAD	**Karad**	**18.20**	**286**	*e*PKP	**Pn**	**17 19 04.2**	**-6.5**
KAD				*ex*	x	17 22 14.1	
POO	**Poona**	**18.77**	**289**	*e*PKP	**Pn**	**17 19 12.0**	**-5.5**
POO				*i* x	x	17 22 33.0	
DDI	**Dehra Dun**	**21.74**	**324**	*ex*	**P**	**17 19 50.0**	**+1.2**
SMLA	**Simla**	**22.85**	**324**	*e*PKP	**P**	**17 20 00.0**	**-0.6**
ENH	**Enshi**	**23.16**	**40**	*e*P	**P**	**17 20 03.1**	**-0.9**
	39nm,1.0s,mb4.8						
KKM	**Kota Kinabalu**	**24.36**	**105**	*e*P	**P**	**17 20 11.6**	**-3.7**
	49nm,1.1s,mb4.8						
EKS2	**Erkin-Say**	**33.62**	**335**	*e*P	**P**	**17 21 37.6**	**+0.1**
	2.8nm,0.8s,mb4.2						
MK31	**Makanchi Array**	**34.66**	**348**	*e*P	**P**	**17 21 46.5**	**+0.1**
MKAR	**Makanchi Array**	**34.66**	**348**	P	**P**	**17 21 47.2**	**+0.8**
	3.3nm,0.8s,mb4.3,baz=162,slow=8.4,SNR=16						
MKAR				LR	LR	17 38 21.3	
	comp=Z,46nm,18.9s,MS3.2,baz=160,slow=40						
MKAR	**Makanchi Array**	**34.66**	**348**	P	**P**	**17 21 47.2**	**+0.8**
MKAR				LR	LR	17 38 21.3	
SONM	**Songino Array**	**36.49**	**16**	P	**P**	**17 22 03.5**	**+1.5**
	0.6nm,0.5s,mb3.8,baz=197,slow=7.1,SNR=6.7						
SONM				LR	LR	17 38 41.2	
	comp=Z,71nm,21.1s,MS3.4,baz=78,slow=39						
SONM	**Songino Array**	**36.49**	**16**	P	**P**	**17 22 03.5**	**+1.5**
SONM				LR	LR	17 38 41.2	
KURK	**Kurchatov**	**39.17**	**346**	P	**P**	**17 22 24.8**	**+0.1**
	3.0nm,0.9s,mb4.0,baz=162,slow=7.8,SNR=19						
KURK	**Kurchatov**	**39.17**	**346**	P	**P**	**17 22 24.8**	**+0.1**
KSRS	**Korea Array**	**39.76**	**46**	P	**P**	**17 22 30.1**	**+0.4**
	1.1nm,0.7s,mb3.7,baz=239,slow=8.3,SNR=5.9						
ZAA0	**Zalesovo Array**	**41.19**	**353**	*e*P	**P**	**17 22 40.9**	**-0.4**
ZALV	**Zalesovo Beam**	**41.19**	**353**	P	**P**	**17 22 41.5**	**+0.2**
	1.2nm,0.6s,mb3.7,baz=171,slow=10,SNR=9.5						
ZALV				LR	LR	17 41 49.7	
	comp=Z,38nm,18.9s,MS3.3,baz=193,slow=39						
ZALV	**Zalesovo Beam**	**41.19**	**353**	P	**P**	**17 22 41.5**	**+0.2**
ZALV				LR	LR	17 41 49.7	
ABKAR	**Akbulak array**	**44.92**	**330**	*e*P	**P**	**17 23 12.0**	**+0.5**
	2.5nm,0.7s,mb4.2						
FITZ	**Fitzroy Crossi**	**45.03**	**133**	P	**P**	**17 23 11.9**	**-1.0**
	6.8nm,0.7s,mb4.6,baz=326,slow=4.8,SNR=20						
FITZ	**Fitzroy Crossi**	**45.03**	**133**	P	**P**	**17 23 11.9**	**-1.0**
AKTK	**Aktyubinsk**	**46.64**	**330**	P	**P**	**17 23 25.4**	**+0.3**
AKTO	**Aktyubinsk**	**46.64**	**330**	P	**P**	**17 23 25.4**	**+0.3**
	0.4nm,0.3s,mb3.8,baz=105,slow=13,SNR=3.3						
ARU	**Arti**	**50.48**	**336**	P	**P**	**17 23 52.7**	**-1.9**
NWAO	**Narrogin (SRO)**	**51.50**	**153**	*e*P	**P**	**17 24 02.3**	**-0.2**
	26nm,1.2s,mb5.0						
KIV	**Kislovodsk**	**52.44**	**316**	*e*P	**P**	**17 24 07.7**	**-1.7**
WRA	**Warramunga Arr**	**52.63**	**128**	P	**P**	**17 24 10.6**	**-0.6**
	3.2nm,0.6s,mb4.4,baz=308,slow=8.3,SNR=47						
WRA	**Warramunga Arr**	**52.63**	**128**	P	**P**	**17 24 10.6**	**-0.6**
WRAB	**Tennant Creek**	**52.64**	**128**	*e*P	**P**	**17 24 10.7**	**-0.5**
	8.6nm,0.9s,mb4.7						
WRAB				*e*	pP	17 24 20.5	-2.6
ASAR	**Alice Springs**	**54.51**	**132**	P	**P**	**17 24 24.4**	**-0.5**
	1.6nm,0.5s,mb4.3,baz=310,slow=7.2,SNR=75						
ASAR	**Alice Springs**	**54.51**	**132**	P	**P**	**17 24 24.4**	**-0.5**
KMBO	**Kilima Mbogo**	**56.62**	**260**	P	**P**	**17 24 41.7**	**+1.4**
BRTR	**Keskin Array B**	**57.89**	**309**	P	**P**	**17 24 48.9**	**+0.1**
	0.8nm,0.7s,mb3.9,baz=111,slow=6.8,SNR=4.8						
BRTR	**Keskin Array B**	**57.89**	**309**	P	**P**	**17 24 48.9**	**+0.1**
PLOR	**Plostina**	**63.94**	**315**	‖ *i*P	pP	17 25 41.8	-0.2
MLR	**Muntele Rosu**	**64.38**	**314**	‖ *i*P	pP	17 25 45.0	+0.1
STKA	**Stephens Creek**	**64.86**	**135**	P	**P**	**17 25 35.9**	**-0.1**
	1.2nm,0.6s,mb4.1,baz=280,slow=11,SNR=4.5						
STKA	**Stephens Creek**	**64.86**	**135**	*e*P	**P**	**17 25 34.8**	**-1.2**
	0.7nm,1.0s,mb3.6						
VOIR		**65.00**	**314**	‖ *i*P	pP	17 25 48.7	-0.2
BURAR	**Bucovina Array**	**65.16**	**317**	‖ *i*P	pP	17 25 48.9	-1.0
FINES	**FINESS Array B**	**67.38**	**331**	P	**P**	**17 25 51.6**	**0.0**
	1.9nm,0.7s,mb4.2,baz=191,slow=5.8,SNR=4.3						
FINES	**FINESS Array B**	**67.38**	**331**	P	**P**	**17 25 51.6**	**0.0**
ARCES	**ARCESS Array B**	**69.83**	**340**	P	**P**	**17 26 07.9**	**+1.1**
	1.6nm,0.9s,mb4.0,baz=92,slow=9.2,SNR=6.1						
ARCES				LR	LR	18 00 47.6	
	comp=Z,56nm,18.8s,MS3.8,baz=174,slow=39						
ARCES	**ARCESS Array B**	**69.83**	**340**	P	**P**	**17 26 07.9**	**+1.1**
ARCES				LR	LR	18 00 47.6	
GERES	**GERESS Array B**	**72.92**	**317**	P	**P**	**17 26 26.3**	**+0.5**
	0.3nm,0.4s,mb3.6,baz=97,slow=5.0,SNR=5.0						
GERES	**GERESS Array B**	**72.92**	**317**	P	**P**	**17 26 26.3**	**+0.5**
NOA	**NORSAR Array B**	**74.43**	**330**	P	**P**	**17 26 35.1**	**+0.6**
	0.7nm,0.7s,mb3.7,baz=319,slow=24,SNR=2.8						
NOA	**NORSAR Array B**	**74.43**	**330**	P	**P**	**17 26 35.1**	**+0.6**
LPG	**La Plagne**	**77.85**	**314**	*e*P	pP	17 27 05.2	-1.5
	12nm,0.8s						
LPL	**La Plagne**	**77.86**	**314**	*e*P	pP	17 27 05.2	-1.6
	9.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**87.89**	**283**	P	**P**	**17 27 47.4**	**+0.5**
	0.8nm,0.7s,mb4.1,baz=86,slow=4.3,SNR=6.4						
TORD	**Torodi Ar. Bea**	**87.89**	**283**	P	**P**	**17 27 47.4**	**+0.5**
ILAR	**Eielson Array**	**90.49**	**22**	P	**P**	**17 27 58.0**	**-0.1**
	0.4nm,0.9s,mb3.7,baz=302,slow=4.3,SNR=4.4						
TXAR	**Lajitas Array**	**134.99**	**20**	PKP	PKPdf	17 34 18.4	+2.1
	0.1nm,0.4s,baz=77,slow=0.4,SNR=3.9						
TXAR	**Lajitas Array**	**134.99**	**20**	PKP	PKPdf	17 34 18.4	+2.1

KRSC 11 17:23:50.4±1.0, 51.01N×157.75E, h63km±62km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALID	**Alaid**	**1.40**	**265**	*e*P	Pn	17 24 13.8	+0.1
ALID				*e*S	Sn	17 24 30.5	-0.8
MIPR	**Malaya Ipel'ka**	**1.41**	**334**	*e*P	Pn	17 24 15.6	+1.7
MIPR				*e*S	Sn	17 24 34.0	+2.4
RUS	**Russkaya**	**1.50**	**18**	*e*P	Pn	17 24 16.1	+1.0
RUS				*e*S	Sn	17 24 34.6	+0.8
GRL	**Gorelyy**	**1.56**	**7**	*e*P	Pn	17 24 18.0	+2.1
GRL				*e*S	Sn	17 24 38.2	+3.1
PET	**Petropavlovsk**	**2.09**	**15**	*e*P	Pn	17 24 25.1	+2.0
PET				*e*S	Sn	17 24 50.2	+2.2
AVH	**Avacha**	**2.34**	**15**	*e*P	Pn	17 24 29.7	+3.3
NLC	**Nalytchevo**	**2.38**	**24**	*e*S	Sn	17 24 54.8	-0.2
SPN	**Mys Shipunski**	**2.52**	**33**	*e*S	Sn	17 25 02.8	+4.4
GNL	**Ganaly**	**2.69**	**2**	*e*P	Pn	17 24 34.5	+3.3
KII	**Karymskiy**	**3.20**	**18**	P	Pn	17 24 42.0	+3.8
MKZ	**Mys Kozlova**	**4.30**	**33**	*e*P	Pn	17 24 55.1	+2.0
MKZ				*e*S	Sn	17 25 42.6	+0.7
KBTR	**Krutoberegovo**	**6.02**	**28**	*e*P	Pn	17 25 19.5	+2.8

RSPR 11 17:31:34.7, 19.02N×65.06W, h34km±17km, MD2.8/3, 6C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**0.67**	**172**	‖ *e*P	Pn	17 31 46.4	-1.4
STVI				*e*S	Sn	17 31 55.5	-1.7
MTP	**Monte Pirata**	**1.03**	**207**	‖ *e*P	Pn	17 31 51.7	-1.1
MTP	**Monte Pirata**	**1.03**	**207**	‖ *e*P	Pn	17 31 51.7	-1.1
MTP				*e*S	Sn	17 32 04.9	-1.1
CBYP	**Canovanas**	**1.06**	**226**	‖ *e*P	Pn	17 31 51.9	-1.3
CBYP	**Canovanas**	**1.06**	**226**	‖ *e*P	Pn	17 31 51.9	-1.3
CBYP				*e*S	Sn	17 32 04.8	-2.0

NEIC 11 17:32:02.6±0.7, 16.46S×172.80W, h10km, mb4.5/4, Error ellipse: s-maj=23.9km s-min=16.9km az=120.0

IDC 11 17:32:02.1±2.0, 16.29S×173.02W, h0km, mb4.4/5, mb1 4.5/5, mb1mx4.0/21, mbtmp4.4/5, MS3.8/3, Ms1 3.8/3, ms1mx3.2/31, Error ellipse: s-maj=59.8km s-min=34.3km az=115.0

ISCJB 11 17:32:04.3±1.0, 16.45S±0.2×172.9W±0.2, h33km, mb4.4/7, MS3.8/3, Error ellipse: s-maj=27.6km s-min=22.4km az=142.5

ISC 11 17:32:06.6±1.0, 16.5S±0.2×172.8W±0.2, h35km, n22, σ0.89/14, mb4.4/7, MS3.8/3, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPT	**Papeete**	**22.27**	**96**	LR	LR	17 44 13.4	
	comp=Z,181nm,18.1s,MS3.5,baz=139,slow=33						
URZ	**Urewera**	**23.44**	**200**	P	**P**	**17 37 14.2**	**+1.4**
	4.7nm,0.5s,mb4.2,baz=31,slow=7.4,SNR=5.5						
URZ	**Urewera**	**23.44**	**200**	*e*P	**P**	**17 37 13.5**	**+0.7**
	9.8nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**43.98**	**241**	P	**P**	**17 40 10.9**	**+0.2**
	3.7nm,0.8s,mb4.2,baz=97,slow=8.6,SNR=7.4						
STKA	**Stephens Creek**	**43.98**	**241**	*e*P	**P**	**17 40 10.8**	**+0.2**
	1.5nm,1.1s,mb3.6						
WRAB	**Tennant Creek**	**50.12**	**258**	*e*P	**P**	**17 40 58.4**	**-0.4**
	10.0nm,1.3s,mb4.7						
WRA	**Warramunga Arr**	**50.13**	**258**	P	**P**	**17 40 58.0**	**-0.8**
	1.7nm,0.7s,mb4.2,baz=94,slow=7.0,SNR=14						
WRA	**Warramunga Arr**	**50.13**	**258**	P	**P**	**17 40 58.0**	**-0.8**
ASAR	**Alice Springs**	**50.30**	**253**	P	**P**	**17 40 59.5**	**-0.5**
	16nm,0.7s,mb5.1,baz=88,slow=8.2,SNR=153						
ASAR	**Alice Springs**	**50.30**	**253**	P	**P**	**17 40 59.5**	**-0.5**
VNDA	**Vanda**	**62.37**	**186**	P	**P**	**17 42 24.1**	**-1.1**
ISA	**Isabella**	**73.04**	**44**	*e*P	**P**	**17 43 32.7**	**-0.4**
	11nm,1.6s,mb4.5						
QSPA	**South Pole Qui**	**73.58**	**180**	P	**P**	**17 43 35.9**	**+0.3**
ILAR	**Eielson Array**	**83.39**	**11**	LR	LR	18 14 19.4	
	comp=Z,32nm,20.6s,MS3.7,baz=226,slow=30						
CMAR	**Chiang Mai Arr**	**93.46**	**288**	P	**P**	**17 45 21.0**	**+1.9**
	1.2nm,0.9s,mb4.3,baz=118,slow=1.9,SNR=6.0						
CMAR	**Chiang Mai Arr**	**93.46**	**288**	P	**P**	**17 45 21.0**	**+1.9**
ULM	**Lac du Bonnet**	**94.42**	**39**	LR	LR	18 23 08.6	
	comp=Z,79nm,19.4s,MS4.2,baz=3.2,slow=32						
GERES	**GERESS Array B**	**147.27**	**352**	PKPbc	PKPbc	17 51 45.7	-0.6
	0.2nm,0.5s,baz=5.7,slow=2.0,SNR=3.4						
GERES	**GERESS Array B**	**147.27**	**352**	PKPbc	PKPbc	17 51 45.7	-0.6
BR131	**Keskin Array S

	baz=240								
NSY	**Sanyi**	**1.57**	**285**	P		**Pn**	**17 44 20.2**	**+1.2**
	baz=284								
NSY				*e*S		**Sn**	**17 44 41.1**	**+2.2**
	baz=284								
WNT	**Mingjian**	**1.59**	**266**	P		**Pn**	**17 44 20.4**	**+1.0**
	baz=264								
WNT				*e*S		**Sn**	**17 44 39.7**	**+0.2**
	baz=264								
TCU	**Taichung**	**1.60**	**275**	*i* P		**Pn**	**17 44 20.4**	**+1.0**
	baz=274								
TCU				*e*S		**Sn**	**17 44 41.2**	**+1.6**
	baz=274								
JIJ	**Ishigaki jima**	**1.61**	**77**	P		**Pn**	**17 44 20.2**	**+0.6**
JIJ				*e*S		**Sn**	**17 44 39.8**	**-0.2**
CHN5	**Tsauling**	**1.65**	**256**	P		**Pn**	**17 44 20.5**	**+0.4**
	baz=245								
CHN5				*e*S		**Sn**	**17 44 41.6**	**+0.7**
	baz=245								
TWG	**Pinlang**	**1.71**	**227**	*e*Pn		**Pn**	**17 44 18.3**	**-2.7**
TWG	**Pinlang**	**1.71**	**227**	P		**Pn**	**17 44 19.4**	**-1.6**
	baz=236								
STYT	**Tauyuan**	**1.74**	**241**	P		**Pn**	**17 44 21.1**	**-0.3**
	baz=229								
TPUB	**Ta-pu**	**1.79**	**247**	*e*Pn		**Pn**	**17 44 22.6**	**+0.5**
WTP	**Ta-pu**	**1.82**	**246**	*e*P		**Pn**	**17 44 23.1**	**+0.6**
	baz=245								
WTP				*e*S		**Sn**	**17 44 45.9**	**+0.7**
	baz=245								
CHY	**Chiayi**	**1.90**	**255**	*e*P		**Pn**	**17 44 25.3**	**+1.8**
	baz=253								
CHN1	**Nanshi**	**1.92**	**245**	P		**Pn**	**17 44 25.0**	**+1.2**
	baz=244								
ECL	**Taimali**	**1.95**	**224**	*e*P		**Pn**	**17 44 22.4**	**-1.9**
	baz=232								
WSF	**Szhu**	**2.05**	**260**	*e*P		**Pn**	**17 44 26.0**	**+0.4**
	baz=258								
WSF				*e*S		**Sn**	**17 44 52.4**	**+1.7**
	baz=258								
SSD	**Sandimen**	**2.07**	**233**	*e*P		**Pn**	**17 44 26.7**	**+0.8**
	baz=224								
CHN3	**Shinhua**	**2.10**	**244**	*e*P		**Pn**	**17 44 29.5**	**+3.1**
	baz=243								
LAY	**Lan-yu**	**2.12**	**202**	*e*P		**Pn**	**17 44 25.2**	**-1.4**
	baz=201								
CHN8	**Yiju**	**2.13**	**252**	*e*P		**Pn**	**17 44 27.3**	**+0.6**
	baz=251								
CHN8				S		**Sn**	**17 44 53.7**	**+0.9**
	baz=251								
EAST	**Anshuo**	**2.17**	**222**	*e*P		**Pn**	**17 44 26.3**	**-1.0**
	baz=221								
JTJ	**Tarama**	**2.17**	**73**	*e*S		**Sn**	**17 44 52.9**	**-1.0**
TWM1	**Shoushan**	**2.18**	**238**	*e*P		**Pn**	**17 44 30.5**	**+3.1**
	baz=236								
SCLT	**Jiali**	**2.20**	**248**	*e*P		**Pn**	**17 44 29.0**	**+1.2**
	baz=247								
SCLT				*e*S		**Sn**	**17 44 55.8**	**+1.2**
	baz=247								
SCZT	**Fangliau**	**2.32**	**226**	*e*P		**Pn**	**17 44 31.3**	**+1.9**
	baz=225								
HEN	**Hengchun**	**2.53**	**218**	*e*P		**Pn**	**17 44 34.1**	**+1.9**
	baz=217								
TWK1	**Hengchun**	**2.54**	**216**	*e*P		**Pn**	**17 44 33.2**	**+0.8**
	baz=223								
PNG	**Penghu**	**2.66**	**261**	P		**Pn**	**17 44 33.9**	**-0.2**
	baz=259								
PNG				*e*S		**Sn**	**17 45 05.3**	**-0.6**
	baz=259								
QZH	**Quanzhou**	**3.61**	**286**	⇓*i* Pn		**Pn**	**17 44 44.3**	**-2.8**
QZH				Pg		**Pg**	**17 44 56.2**	**-4.9**
QZH				Sn		**Sn**	**17 45 23.4**	**-5.9**
QZH				Sg		**Sg**	**17 45 36.0**	**-12**
QZH				smax				
	comp=N,230nm,0.8s								
QZH				smax					
	comp=E,270nm,0.8s								
KSRS	**Korea Array**	**14.21**	**18**	Pn		**Pn**	**17 47 18.4**	**+6.1**
	comp=E,0.2nm,0.3s,baz=199,slow=10,SNR=5.3								
PAGZ	**Pagadian**	**16.10**	**177**	*e*P		**Pn**	**17 47 38.3**	**+0.7**
SONM	**Songino Array**	**26.98**	**336**	P		**P**	**17 49 31.4**	**-1.2**
	comp=E,1.3nm,0.8s,mb3.5,baz=148,slow=11,SNR=6.5								
SONM	**Songino Array**	**26.98**	**336**	P		**P**	**17 49 31.4**	**-1.2**
MKAR	**Makanchi Array**	**39.25**	**316**	P		**P**	**17 51 18.0**	**-1.5**
	comp=E,0.4nm,0.4s,mb3.5,baz=102,slow=9.7,SNR=8.7								
MKAR	**Makanchi Array**	**39.25**	**316**	P		**P**	**17 51 18.0**	**-1.5**
ZAA0	**Zalesovo Array**	**41.01**	**327**	*e*P		**P**	**17 51 30.8**	**-3.1**
ZALV	**Zalesovo Beam**	**41.01**	**327**	P		**P**	**17 51 31.4**	**-2.5**
	comp=E,1.4nm,0.7s,mb3.7,baz=106,slow=8.5,SNR=8.9								
ZALV	**Zalesovo Beam**	**41.01**	**327**	P		**P**	**17 51 31.4**	**-2.5**
TKM2	**Tokmak 2**	**42.76**	**308**	P		**P**	**17 51 48.0**	**-0.5**
KURK	**Kurchatov**	**42.95**	**320**	P		**P**	**17 51 48.0**	**-1.9**
	comp=E,0.1nm,0.2s,mb3.2,baz=81,slow=5.7,SNR=4.0								
KURK	**Kurchatov**	**42.95**	**320**	P		**P**	**17 51 47.9**	**-2.0**
	comp=E,1.6nm,0.8s,mb3.8								
EKS2	**Erkin-Say**	**44.03**	**307**	P		**P**	**17 51 57.7**	**-1.0**
	comp=E,2.4nm,1.1s,mb3.8								
BRVK	**Borovoye**	**48.59**	**321**	P		**P**	**17 52 31.8**	**-2.6**
	comp=E,1.5nm,0.7s,mb4.1								
ABKAR	**Akbulak array**	**54.37**	**314**	*e*P		**P**	**17 53 15.9**	**-1.8**
	comp=E,0.3nm,0.4s,mb3.6								
BRTR	**Keskin Array B**	**74.18**	**307**	P		**P**	**17 55 27.2**	**-0.6**
	comp=E,0.6nm,0.7s,mb3.6,baz=55,slow=6.2,SNR=2.9								
BRTR	**Keskin Array B**	**74.18**	**307**	P		**P**	**17 55 27.2**	**-0.6**

*ISCJB **11** 17:44:04.6±0.6,24.01N±0.02×122.48E±0.04,h47km±5km, mb4.0/17, Error ellipse: s-maj=7.1km s-min=3.5km az=15.4*

*TAP **11** 17:44:05.2,24.02N×122.32E,h23km±1km,ML4.3,C*

*IDC **11** 17:44:06.3±1.0,24.48N×121.44E,h0km,mb4.1/10, mb1 4.2/11,mb1mx3.9/25,mbtmp4.1/11,ML3.7/1, Error ellipse: s-maj=57.7km s-min=18.3km az=67.0*

*NEIC **11** 17:44:07.1±1.6,23.89N×121.96E,h46km±11km,mb4.2/6, Error ellipse: s-maj=27.5km s-min=9.5km az=83.0*

ISC 11 17:44:05.4±0.7,24.02N±0.02×122.48E±0.05,h39km±6km, n79,σt1.9s19/105,mb4.0/17,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.79**	**301**	*e*S	**Sn**	**17 44 28.5**	**-2.1**
	baz=316						
TWD	**Chiawan**	**0.81**	**274**	*e*S	**Sn**	**17 44 27.1**	**-4.0**
	baz=275						
TWC	**Suao**	**0.82**	**316**	*e*P	**Pn**	**17 44 18.8**	**-1.7**
	baz=324						
TWC				*e*S	**Sn**	**17 44 29.4**	**-2.0**
	baz=324						
EGS		**0.96**	**329**	*e*P	**Pn**	**17 44 22.3**	**-0.1**
	baz=337						
ESL	**Shilin**	**0.98**	**258**	*e*S	**Sn**	**17 44 32.0**	**-3.4**
	baz=244						
ILA	**Ilan**	**0.99**	**318**	*e*P	**Pn**	**17 44 23.1**	**+0.2**
	baz=324						
ILA				*e*S	**Sn**	**17 44 36.6**	**+0.8**
	baz=324						
TWE	**Neicheng**	**1.01**	**313**	*e*P	**Pn**	**17 44 22.7**	**-0.5**
	baz=328						
TWE				*e*S	**Sn**	**17 44 35.4**	**-0.8**
	baz=328						
ENTT	**Nioudou**	**1.03**	**307**	*e*P	**Pn**	**17 44 22.8**	**-0.7**
	baz=323						
ENTT				*e*S	**Sn**	**17 44 36.3**	**-0.4**
	baz=323						
TWB1	**Santiao Chiao**	**1.08**	**336**	*e*P	**Pn**	**17 44 24.4**	**+0.4**
	baz=341						
TWB1				*e*S	**Sn**	**17 44 38.6**	**+0.8**
	baz=341						
NNS	**Nan Shan**	**1.09**	**293**	*e*P	**Pn**	**17 44 23.2**	**-1.0**
	baz=284						
NNS				*e*S	**Sn**	**17 44 36.6**	**-1.5**
	baz=284						
WHF	**Hehuan Shan**	**1.12**	**276**	*e*P	**Pn**	**17 44 23.2**	**-1.4**
	baz=277						
WHF				*e*S	**Sn**	**17 44 36.5**	**-2.2**
	baz=277						
YHNB	**Yeheng**	**1.19**	**303**	*e*Pn	**Pn**	**17 44 25.2**	**-0.4**
NSK	**Sanguang**	**1.21**	**303**	*e*P	**Pn**	**17 44 25.3**	**-0.6**
	baz=306						
NWF	**Wu-fen Shan**	**1.22**	**329**	*e*P	**Pn**	**17 44 26.2**	**+0.2**
	baz=332						
NWF				*e*S	**Sn**	**17 44 42.9**	**+1.5**
	baz=332						
YULB	**Yu-li**	**1.25**	**240**	*e*Pn	**Pn**	**17 44 21.2**	**-5.2**
TWA	**Mucha**	**1.25**	**320**	*e*P	**Pn**	**17 44 27.4**	**+0.9**
	baz=323						
TWA				*e*S	**Sn**	**17 44 45.0**	**+2.9**
	baz=323						
TWF1	**Yuli**	**1.27**	**239**	*e*S	**Sn**	**17 44 40.4**	**-2.2**
	baz=235						
TATO	**Taipei**	**1.31**	**317**	*e*Pn	**Pn**	**17 44 27.1**	**-0.1**
TAP1	**Taipei**	**1.33**	**319**	*e*P	**Pn**	**17 44 28.4**	**+0.8**
	baz=306						
CHKT	**Chengkung**	**1.38**	**228**	*e*P	**Pn**	**17 44 25.5**	**-2.6**
	baz=212						
CHKT				*e*S	**Sn**	**17 44 41.1**	**-4.0**
	baz=212						
SSLB	**Suanglung**	**1.42**	**261**	*e*Pn	**Pn**	**17 44 28.8**	**+0.2**
NSTT	**Nanjuang**	**1.48**	**294**	*e*P	**Pn**	**17 44 29.6**	**0.0**
	baz=296						
NSTT				*e*S	**Sn**	**17 44 48.2**	**+0.6**
	baz=296						
TWQ1	**Liyutan**	**1.59**	**282**	P	**Pn**	**17 44 31.7**	**+0.6**
	baz=270						
TWQ1				*e*S	**Sn**	**17 44 50.9**	**+0.4**
	baz=270						
NSY	**Sanyi**	**1.62**	**284**	P	**Pn**	**17 44 32.1**	**+0.7**
	baz=284						
NSY				*e*S	**Sn**	**17 44 52.5**	**+1.4**
	baz=284						
WNT	**Mingjian**	**1.65**	**265**	*e*P	**Pn**	**17 44 32.6**	**+0.7**
	baz=264						
WNT				*e*S	**Sn**	**17 44 52.2**	**+0.3**
	baz=264						
TCU	**Taichung**	**1.65**	**275**	P	**Pn**	**17 44 32.4**	**+0.5**
	baz=274						
TCU				*e*S	**Sn**	**17 44 53.3**	**+1.3**
	baz=274						
CHN5	**Tsauling**	**1.70**	**256**	*e*P	**Pn**	**17 44 33.5**	**+0.8**
	baz=255						
CHN5				*e*S	**Sn**	**17 44 53.5**	**+0.3**
	baz=255						
TWG	**Pinlang**	**1.76**	**227**	*e*Pn	**Pn**	**17 44 29.1**	**-4.4**
TWG	**Pinlang**	**1.76**	**227**	*e*P	**Pn**	**17 44 32.1**	**-1.4**
	baz=236						
TWG				*e*S	**Sn**	**17 44 52.0**	**-2.6**
	baz=236						
STYT	**Tauyuan**	**1.80**	**242**	*e*P	**Pn**	**17 44 33.1**	**-0.9**
	baz=229						
STYT				*e*S	**Sn**	**17 44 54.1**	**-1.5**
	baz=229						
TPUB	**Ta-pu**	**1.84**	**247**	*e*Pn	**Pn**	**17 44 33.8**	**-0.8**
WTP	**Ta-pu**	**1.88**	**246**	*e*P	**Pn**	**17 44 35.8**	**+0.8**
	baz=244						
WTP				*e*S	**Sn**	**17 44 58.3**	**+0.8**
	baz=244						
CHN1	**Nanshi**	**1.98**	**245**	*e*P	**Pn**	**17 44 37.1**	**+0.8**
	baz=244						
CHN1				*e*S	**Sn**	**17 45 01.3**	**+1.4**
	baz=244						
ECL	**Taimali**	**2.00**	**225**	*e*S	**Sn**	**17 44 57.0**	**-3.4**
	baz=223						
WSF	**Szhu**	**2.10**	**260**	P	**Pn**	**17 44 38.6**	**+0.5**
	baz=259						
WSF				*e*S	**Sn**	**17 45 04.3**	**+1.3**
	baz=259						
SSD	**Sandimen**	**2.12**	**234**	*e*P	**Pn**	**17 44 39.9**	**+1.6**
	baz=223						
LAY	**Lan-yu**	**2.15**	**204**	*e*P	**Pn**	**17 44 37.2**	**-1.6**
	baz=211						
LAY				*e*S	**Sn**	**17 44 59.3**	**-5.0**
	baz=211						
CHN3	**Shinhua**	**2.16**	**244**	*e*P	**Pn**	**17 44 40.3**	**+1.4**
	baz=243						
CHN3				*e*S	**Sn**	**17 45 06.6**	**+2.2**
	baz=243						
CHN8	**Yiju**	**2.19**	**252**	P	**Pn**	**17 44 39.3**	**+0.1**
	baz=251						
CHN8				*e*S	**Sn**	**17 45 05.6**	**+0.5**
	baz=251						
TWM1	**Shoushan**	**2.23**	**238**	*e*P	**Pn**	**17 44 42.1**	**+2.2**
	baz=236						
TWM1				*e*S	**Sn**	**17 45 10.5**	**+4.2**
	baz=236						
SGLT	**Jiouru**	**2.24**	**235**	*e*P	**Pn**	**17 44 42.5**	**+2.5**
	baz=233						
SCLT	**Jiali**	**2.26**	**249**	*e*P	**Pn**	**17 44 40.6**	**+0.3**
	baz=247						
SCLT				*e*S	**Sn**	**17 45 07.9**	**+1.0**
	baz=247						
TAI1	**Yung-k'ang**	**2.29**	**245**	*e*S	**Sn**	**17 45 09.0**	**+1.4**
	baz=244						
SCZT	**Fangliau**	**2.37**	**227**	*e*S	**Sn**	**17 45 10.4**	**+0.7**
	baz=218						
TSEB	**Hengchuen, Pin**	**2.57**	**215**	*e*S	**Sn**	**17 45 14.1**	**-0.4**
	baz=215						
TWK1	**Hengchun**	**2.58**	**217**	*e*P	**Pn**	**17 44 44.5**	**-0.3**
	baz=216						
TWK1				*e*S	**Sn**	**17 45 13.2**	**-1.7**
	baz=216						
PNG	**Penghu**	**2.72**	**261**	P	**Pn**	**17 44 46.0**	**-0.5**
	baz=260						
PNG				*e*S	**Sn**	**17 45 17.3**	**-0.9**
	baz=260						
WHN	**Wuhan**	**9.72**	**314**	*e*P	**Pn**	**17 46 31.3**	**+8.6**
KSRS	**Korea Array**	**14.18**	**18**	Pn	**Pn**	**17 47 28.8**	**+5.2**
	0.4nm,0.3s,baz=197,slow=12,SNR=15						
ULN	**Ulaanbaatar**	**26.77**	**337**	*e*P	**P**	**17 49 40.9**	**-0.6**
	2.4nm,0.8s,mb3.8						
SONM	**Songino Array**	**26.99**	**336**	P	**P**	**17 49 43.1**	**-0.3**
	3.5nm,0.8s,mb4.0,baz=148,slow=9.3,SNR=17						
SONM	**Songino Array**	**26.99**	**336**	P	**P**	**17 49 43.1**	**-0.3**
MKAR	**Makanchi Array**	**39.28**	**316**	P	**P**	**17 51 30.2**	**-0.1**
	2.3nm,0.7s,mb4.0,baz=99,slow=9.9,SNR=17						
MKAR	**Makanchi Array**	**39.28**	**316**	P	**P**	**17 51 30.2**	**-0.1**
ZAA0	**Zalesovo Array**	**41.02**	**327**	*e*P	**P**	**17 51 42.7**	**-2.1**
ZALV	**Zalesovo Beam**	**41.02**	**327**	P	**P**	**17 51 43.4**	**-1.3**
	4.2nm,0.6s,mb4.2,baz=109,slow=8.1,SNR=21						
ZALV	**Zalesovo Beam**	**41.02**	**327**	P	**P**	**17 51 43.4**	**-1.3**
TKM2	**Tokmak 2**	**42.80**	**308**	*e*P	**P**	**17 51 59.8**	**+0.4**
	3.1nm,0.7s,mb4.2						
KURK	**Kurchatov**	**42.98**	**320**	P	**P**	**17 52 00.1**	**-0.6**
	0.8nm,0.5s,mb3.7,baz=108,slow=8.2,SNR=7.7						
KURK	**Kurchatov**	**42.98**	**320**	*e*P	**P**	**17 51 58.8**	**-1.9**
EKS2	**Erkin-Say**	**44.07**	**307**	*e*P	**P**	**17 52 09.7**	**+0.1**
	4.2nm,1.0s,mb4.1						
WRA	**Warramunga Arr**	**45.20**	**164**	P	**P**	**17 52 20.1**	**+1.3**
	0.9nm,0.7s,mb3.7,baz=345,slow=8.9,SNR=9.1						
WRA	**Warramunga Arr**	**45.20**	**164**	P	pP	17 52 30.5	+0.6
	1.5nm,0.8s,baz=346,slow=8.9,SNR=6.1						
WRA	**Warramunga Arr**	**45.20**	**164**	P	**P**	**17 52 20.1**	**+1.3**
BRVK	**Borovoye**	**48.62**	**321**	*e*P	**P**	**17 52 43.2**	**-2.0**
	3.7nm,0.9s,mb4.4						
ASAR	**Alice Springs**	**48.69**	**166**	P	**P**	**17 52 47.0**	**+1.1**
	0.4nm,0.6s,mb3.6,baz=353,slow=14,SNR=6.6						
ASAR	**Alice Springs**	**48.69**	**166**	P	pP	17 52 58.7	+1.6
	0.6nm,0.7s,baz=350,slow=13,SNR=5.1						
ASAR	**Alice Springs**	**48.69**	**166**	P	**P**	**17 52 47.0**	**+1.1**
ABKAR	**Akbulak array**	**54.40**	**314**	*e*P	**P**	**17 53 28.1**	**-0.4**
	3.0nm,0.9s,mb4.2						
ARU	**Arti**	**55.95**	**323**	*e*P	**P**	**17 53 37.9**	**-1.7**
	6.0nm,1.0s,mb4.6						
ARCES	**ARCESS Array B**	**70.13**	**338**	P	**P**	**17 55 15.2**	**+1.7**
	3.1nm,1.2s,mb4.1,baz=90,slow=6.3,SNR=2.7						
ARCES	**ARCESS Array B**	**70.13**	**338**	P	**P**	**17 55 15.2**	**+1.7**
FINES	**FINESS Array B**	**72.18**	**330**	P	**P**	**17 55 26.1**	**+0.2**
	5.0nm,1.1s,mb4.4,baz=58,slow=8.4,SNR=3.0						
FINES	**FINESS Array B**	**72.18**	**330**	P	**P**	**17 55 26.1**	**+0.2**
BRTR	**Keskin Array B**	**74.22**	**307**	P	**P**	**17 55 38.9**	**+0.4**
	1.6nm,0.8s,mb4.0,baz=102,slow=5.7,SNR=7.1						
BRTR	**Keskin Array B**	**74.22**	**307**	P	**P**	**17 55 38.9**	**+0.4**
GERES	**GERESS Array B**	**83.72**	**321**	P	**P**	**17 56 30.9**	**+0.7**
	0.2nm,0.3s,mb3.7,baz=30,slow=6.1,SNR=3.5						
GERES	**GERESS Array B**	**83.72**	**321**	P	**P**	**17 56 30.9**	**+0.7**
NVAR	**Mina Array Bea**	**95.74**	**44**	P	**P**	**17 57 29.2**	**+1.6**
	0.3nm,0.7s,mb3.9,baz=286,slow=5.5,SNR=3.5						

*NEIC **11** 17:45:20.0,19.25N×68.55W,h66km,MD3.2(RSPR), After RSPR.*

RSPR 11 17:45:20.0,19.25N×68.55W,h66km±15km,MD3.1/6,12C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**1.56**	**119**	⇑*e*P	Pn	17 45 45.0	-0.6
AGPR	**Aguadilla, PR**	**1.56**	**119**	⇑*e*P	Pn	17 45 45.0	-0.6
AGPR				*e*S	Sn	17 46 04.1	-0.9
LSP	**Las Mesas**	**1.75**	**127**	⇑*e*P	Pn	17 45 46.8	-1.3
LSP				*e*S	Sn	17 46 08.7	-0.7
LSP	**Las Mesas**	**1.75**	**127**	⇑*e*P	Pn	17 45 46.8	-1.3
LSP				*e*S	Sn	17 46 08.7	-0.7
CRPR	**Cabo Rojo, PR**	**1.84**	**132**	⇑*e*P	Pn	17 45 49.4	0.0
CRPR	**Cabo Rojo, PR**	**1.84**	**132**	⇑*e*P	Pn	17 45 49.4	0.0
CRPR				*e*S	Sn	17 46 10.8	-0.8
LRS	**Lares**	**1.87**	**120**	⇑*e*P	Pn	17 45 48.7	-1.1
LRS				*e*S	Sn	17 46 11.8	-0.6
LRS	**Lares**	**1.87**	**120**	⇑*e*P	Pn	17 45 48.7	-1.1
LRS				*e*S	Sn	17 46 11.8	-0.6
AOPR	**Arecibo Observ**	**1.92**	**117**	*e*S	Sn	17 46 13.3	-0.3
CELP	**Cerrillos**	**2.20**	**122**	⇑*e*P	Pn	17 45 53.1	-1.1
CELP				*e*S	Sn	17 46 20.2	-0.2
CELP	**Cerrillos**	**2.20**	**122**	⇑*e*P	Pn	17 45 53.1	-1.1
CELP				*e*S	Sn	17 46 20.2	-0.2
SDDR	**Presa de Saban**	**2.60**	**265**	Pn	Pn	17 46 02.5	+2.7
SDDR				*e*S	Sn	17 46 43.0	+13
MTP	**Monte Pirata**	**3.06**	**111**	⇑*e*P	Pn	17 46 06.2	+0.2
MTP	**Monte Pirata**	**3.06**	**111**	⇑*e*P	Pn	17 46 06.2	+0.2
MTP				*e*S	Sn	17 46 40.7	-0.7

MAN 11 17:46:53,6.53N×125.90E,h96km,mb4.7,ML3.6,MS3.6, 3C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.55**	**41**	*e*P	Pn	17 47 11.2	+2.4
MATI				*e*S	Sn	17 47 16.3	-4.1
DMPH	**Davao City--Mi**	**0.67**	**325**	⇑*i*P	Pn	17 47 12.0	+2.2
DMPH				*i* S	Sn	17 47 26.5	+4.2
KCP	**Kidapawan**	**0.93**	**301**	⇑*i*P	Pn	17 47 14.0	+1.7
KCP				*i* S	Sn	17 47 28.8	+1.9
BUKP	**Musuan**	**1.57**	**328**	*e*P	Pn	17 47 21.8	+1.9
BUKP				*e*S	Sn	17 47 38.0	-2.3
CTBH	**Cotabato--PC H**	**1.77**	**293**	⇑*i*P	Pn	17 47 23.7	+1.2
CGP	**Cagayan de Oro**	**2.25**	**328**	*e*P	Pn	17 47 29.4	+0.7
CGP				*i* S	Sn	17 47 57.3	+1.3

*BYKL **11** 17:51:27.1±0.2,53.29N×108.51E*

MOS 11 17:51:26.0±1.2,53.29N×108.49E,h10km,mb4.3/1, 11C-8D,Error ellipse: s-maj=27.4km s-min=14.6km az=57.7,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXMB	**Maximikha**	**0.16**	**100**	⇑*i*Pg	Pg	17 51 30.3	+0.9
MXMB				*e*Sg	Sg	17 51 32.1	+0.3
MXMB				*e*		17 51 32.9	
MXMB				Pmax			
	554nm,0.1s						
MXMB				max			
	14μm,0.5s						
OGRR	**Ongureny**	**0.64**	**304**	⇑*i*PG	Pg	17 51 39.3	+0.9
OGRR				*e*		17 51 47.7	
OGRR				pmax	pmax		
	comp=Z,261nm,0.3s						
OGRR				smax			
	comp=E,591nm,0.4s						
OGRR	**Ongureny**	**0.64**	**304**	⇑*i*Pg	Pg	17 51 39.3	+0.9
	comp=E,202nm,0.4s						
OGRR				⇓*i*Pg	Pg	17 51 39.3	+0.9
	comp=E,186nm,0.4s						
OGRR				⇑*i*Pg	Pg	17 51 39.3	+0.9
	comp=E,296nm,0.4s						
OGRR				*e*Sg	Sg	17 51 48.0	+1.2
OGRR				Pmax			
	comp=E,262nm,0.3s						
OGRR				Smax			
	comp=E,591nm,0.4s						
SYVR	**Suvo**	**0.97**	**67**	⇓*i*Pg	Pg	17 51 44.5	-0.2
	comp=E,25nm,0.4s						
SYVR				⇓*i*Pg	Pg	17 51 44.5	-0.2
	comp=E,44nm,0.4s						
SYVR				⇓*i*Pg	Pg	17 51 44.5	-0.2
	comp=E,66nm,0.4s						
SYVR				*e*Sg	Sg	17 51 57.9	+0.5
SYVR				*e*Sb	Sb	17 52 01.8	+4.0
SYVR				Pmax			
	comp=E,62nm,0.2s						
SYVR				max			
	comp=E,251nm,0.5s						
ZRHB	**Zarechye**	**1.09**	**228**	*e*Pg	Pg	17 51 47.5	+0.5
ZRHB				*e*Pb	Pb	17 51 48.6	+1.6
ZRHB				*e*Sg	Sg	17 52 02.5	+1.3
ZRHB				*e*Sb	Sb	17 52 05.1	+3.8
ZRHB				max			
	comp=E,188nm,0.3s						
ZRHB				max			
	comp=E,1μm,0.8s						
TRG	**Tyrgan**	**1.40**	**249**	*e*PG	Pg	17 51 52.0	-0.8
TRG				*e*		17 52 11.6	
TRG				pmax	pmax		
	comp=Z,56nm,0.3s						
TRG				smax			
	comp=N,480nm,0.4s						
TRG	**Tyrgan**	**1.40**	**249**	⇑*i*Pg	Pg	17 51 52.0	-0.8
TRG				*e*Pb	Pb	17 51 53.0	+0.8
TRG				*e*Sg	Sg	17 52 11.5	+0.6
TRG				max			
	comp=N,56nm,0.3s						
TRG				Smax			
	comp=N,471nm,0.4s						
UUDB	**Ulan-Yde**	**1.51**	**200**	⇓*i*Pg	Pg	17 51 54.3	-0.7
UUDB				*e*Pb	Pb	17 51 55.3	+1.2
UUDB				*e*Sg	Sg	17 52 14.5	-0.1
UUDB				*e*Sb	Sb	17 52 16.6	+3.3
UUDB				max			
	comp=N,105nm,0.5s						
UUDB				max			
	comp=N,498nm,0.4s						
FFNB	**Fofonovo**	**1.63**	**221**	*e*Pg	Pg	17 51 56.8	-0.4
FFNB				*e*Sg	Sg	17 52 19.1	+0.8
FFNB				Pmax			
	comp=N,48nm,0.3s						
FFNB				Smax			
	comp=N,385nm,0.6s						
KAB	**Kabansk**	**1.67**	**223**	*e*PN	Pn	17 51 57.7	+2.4
KAB	**Kabansk**	**1.67**	**223**	*e*Pg	Pg	17 51 57.4	-0.6
KAB				*e*Sg	Sg	17 52 20.8	+1.1
KAB			

IRK				Smax					
	comp=N,273nm,0.7s								
KMO	**Kumora**	**3.04**	**30**	*e*PN	Pn	17 52 15.2	+1.1		
KMO				*e*		17 52 20.7			
KMO				*e*S	Sn	17 52 50.3	-0.2		
KMO	**Kumora**	**3.04**	**30**	⇑*i*Pn	Pn	17 52 15.9	+1.8		
KMO				⇓*i*Pg	Pg	17 52 20.9	-3.4		
KMO				*e*Sg	Sg	17 53 01.0	-2.6		
KMO				*e*PgPg		17 53 24.4			
KMO				Pmax					
	comp=N,59nm,0.5s								
KMO				Smax					
	comp=N,164nm,1.0s								
TLY	**Talaya**	**3.37**	**243**	*e*PN	Pn	17 52 26.5	+7.9		
TLY				*e*S	Sn	17 53 10.8	+12		
TLY	**Talaya**	**3.37**	**243**	⇑*i*Pg	Pg	17 52 27.5	-3.1		
TLY				*e*Sg	Sg	17 53 13.4	-0.8		
TLY				Pmax					
	comp=N,6.0nm,0.4s								
TLY				Smax					
	comp=N,59nm,0.7s								
YOA	**Uoyan**	**3.41**	**32**	*e*PN	Pn	17 52 29.0	+10		
YOA				*e*		17 53 14.6			
YOA				pmax	pmax				
	comp=Z,58nm,0.4s								
YOA				smax					
	comp=E,283nm,1.1s								
YOA	**Uoyan**	**3.41**	**32**	*e*Pn	Pn	17 52 22.0	+2.8		
YOA				*e*Pg	Pg	17 52 27.5	-3.8		
YOA				*e*		17 53 02.3			
YOA				*e*Sg	Sg	17 53 13.5	-1.9		
YOA				Pmax					
	comp=E,30nm,0.2s								
YOA				Smax					
	comp=E,280nm,1.9s								
UKT	**Uakit**	**3.72**	**52**	*e*PN	Pn	17 52 25.4	+1.9		
UKT				*e*Pg	Pg	17 52 34.3	-3.0		
UKT				*e*Sg	Sg	17 53 22.8	-2.7		
UKT				Pmax					
	comp=E,16nm,1.0s								
UKT				Smax					
	comp=E,44nm,1.0s								
ARS	**Arshan**	**3.94**	**252**	*e*PN	Pn	17 52 36.4	+10		
ARS				*e*		17 53 25.7			
ARS				pmax	pmax				
	comp=Z,8.0nm,0.1s								
ARS				smax					
	comp=E,183nm,0.3s								
ARS	**Arshan**	**3.94**	**252**	*e*Pg	Pg	17 52 37.6	-3.9		
ARS				*e*Sg	Sg	17 53 29.2	-3.4		
ARS				Pmax					
	comp=E,10.0nm,0.3s								
ARS				Smax					
	comp=E,213nm,0.8s								
SVKR	**Severomuysk**	**4.08**	**44**	*e*Pn	Pn	17 52 20.0	-8.4		
SVKR				*e*Pg	Pg	17 52 40.7	-3.4		
SVKR				*e*Sg	Sg	17 53 35.3	-1.7		
SVKR				Pmax					
	comp=E,57nm,0.8s								
SVKR				Smax					
	comp=E,193nm,1.3s								
KPC	**Khapcheranga**	**4.33**	**144**	⇑*i*Pn	Pn	17 52 32.1	+0.2		
KPC				*e*Pg	Pg	17 52 44.6	-4.4		
KPC				*e*Sn	Sn	17 53 22.3	-0.1		
KPC				*e*Sg	Sg	17 53 40.8	-4.3		
KPC				Pmax					
	comp=E,14nm,0.6s								
KPC				Smax					
	comp=E,34nm,0.7s								
ZAK	**Zakamensk**	**4.35**	**230**	*e*Pg	Pg	17 52 44.3	-4.9		
ZAK				*e*Sg	Sg	17 53 42.4	-3.1		
ZAK				Pmax					
	comp=E,5.0nm,0.7s								
ZAK				Smax					
	comp=E,20nm,1.3s								
MOY	**Mondy**	**4.86**	**253**	*e*Sg	Sg	17 53 56.5	-5.5		
MOY				Smax					
	comp=E,50nm,1.0s								
NLYR	**Nelyaty**	**5.25**	**50**	*e*Pg	Pg	17 53 01.4	-5.1		
NLYR				*e*Sg	Sg	17 54 11.3	-3.2		
NLYR				Pmax					
	comp=E,22nm,0.7s								
NLYR				Smax					
	comp=E,51nm,1.3s								
ORL	**Orlik**	**5.31**	**265**	*e*PN	Pn	17 53 04.7	+19		
ORL				*e*		17 54 09.9			
ORL				pmax	pmax				
	comp=Z,7.0nm,0.6s								
ORL				smax					
	comp=N,73nm,1.1s								
ORL	**Orlik**	**5.31**	**265**	*e*Pn	Pn	17 52 48.5	+3.3		
ORL				*e*		17 52 56.7			
ORL				*e*		17 53 48.7			
ORL				*e*Sg	Sg	17 54 10.5	-5.7		
ORL				max					
	comp=N,6.0nm,0.8s								
ORL				Smax					
	comp=N,74nm,1.3s								
ULN	**Ulaanbaatar**	**5.51**	**190**	*e*Pg	Pg	17 53 05.5	-5.9		
ULN				*e*Sg	Sg	17 54 18.7	-4.0		
BOD	**Bodaibo**	**5.51**	**32**	*e*Sg	Sg	17 54 16.4	-6.4		
BOD				Smax					
	comp=N,41nm,1.6s								
CRS	**Chara**	**6.67**	**53**	*e*PG	Pg	17 53 28.4	-5.3		
CRS				*e*		17 54 54.8			
CRS				pmax	pmax				
	comp=Z,19nm,1.4s								
CRS				smax					
	comp=E,35nm,1.6s								
CRS	**Chara**	**6.67**	**53**	*e*Pg	Pg	17 53 27.6	-6.1		
CRS				*e*Sg	Sg	17 54 53.2	-6.9		
CRS				Pmax					
	comp=E,19nm,1.4s								
CRS				Smax					
	comp=E,33nm,1.6s								
TUP	**Tupik**	**6.88**	**76**	*e*PN	Pn	17 53 07.3	+0.5		
TUP				*e*		17 53 29.5			
TUP				*e*S	Sn	17 54 24.8	-0.2		
TUP				*e*		17 54 59.4			
TUP				pmax	pmax				
	comp=Z,3.0nm,0.4s								
TUP				smax					
	comp=N,59nm,1.0s								
TUP	**Tupik**	**6.88**	**76**	⇑*i*Pn	Pn	17 53 07.6	+0.8		
TUP				*e*Pg	Pg	17 53 30.3	-7.3		
TUP				*e*Sg	Sg	17 54 59.4	-7.1		
TUP				Pmax					
	comp=N,1.0nm,0.2s								
TUP				Smax					
	comp=N,81nm,1.6s								

IDC 11 18:09:50.9±4.9, 30°30'S×178°00'W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/16, mbtmp4.0/4, Error ellipse: s-maj=200.2km s-min=36.3km az=151.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**34.50**	**257**	P	P	18 16 40.9	+0.2
	0.3nm,0.3s,baz=85,slow=12,SNR=2.5						
ASAR	**Alice Springs**	**43.11**	**267**	P	P	18 17 52.5	-0.5
	1.0nm,0.4s,baz=106,slow=7.3,SNR=46						
WRA	**Warramunga Arr**	**44.09**	**272**	P	P	18 18 00.9	-0.1
	1.1nm,0.4s,baz=111,slow=8.1,SNR=40						
ILAR	**Eielson Array**	**97.83**	**13**	P	P	18 23 25.4	-2.1
	0.3nm,0.8s,baz=200,slow=7.7,SNR=4.8						
FINES	**FINESS Array B**	**145.05**	**340**	PKPbc	PKPbc	18 29 30.3	+1.5
	1.4nm,0.7s,baz=66,slow=4.9,SNR=4.9						

MAN 11 18:24:51.7±07.7N×126°32.E, h34km, mb4.6, ML3.5, MS3.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.13**	**206**	*e*P	Pb	18 24 58.8	+1.6
MATI				*e*S	Sb	18 25 03.2	+1.9
DMPH	**Davao City--Mi**	**0.80**	**271**	⇑*i*P	Pn	18 25 05.7	-0.2
DMPH				*i* S	Sn	18 25 18.0	+1.4
BUKP	**Musuan**	**1.48**	**303**	*e*P	Pn	18 25 15.8	+0.5
BUKP				*e*S	Sn	18 25 30.2	-3.3

DDA 11 18:27:54.1, 36°.78N×27°.45E, h7km±5km, Md2.9
ISCJB 11 18:27:55.4±0.6, 36°.81N±0°.02×27°.41E±0°.04, h6km±5km, Error ellipse: s-maj=5.1km s-min=4.1km az=161.8
ISK 11 18:27:55.0, 36°.83N×27°.42E, h7km, MD2.9
CSEM 11 18:27:55.7±0.1, 36°.82N×27°.43E, h8km, MD2.9, Error ellipse: s-maj=3.1km s-min=2.5km az=64.0
ATH 11 18:27:55.5, 36°.88N×27°.57E, h66km±7km
ISC 11 18:27:55.8±0.6, 36°.81N±0°.03×27°.41E±0°.04, h7km±4km, n45, σ0s73/60, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAT	**Datca**	**0.16**	**123**	P*g*	**Pg**	**18 27 59.0**	**-0.1**
DAT	**Datca**	**0.16**	**123**	*i* P*g*	**Pg**	**18 27 59.0**	**0.0**
BODT	**Bodrum**	**0.26**	**342**	P*g*	**Pg**	**18 28 00.5**	**-0.5**
BODT				e*Sg*	**Sg**	**18 28 04.6**	**+0.1**
BODT	**Bodrum**	**0.26**	**342**	*i* P*g*	**Pg**	**18 28 00.5**	**-0.5**
BODT				e*Sg*	**Sg**	**18 28 04.6**	**+0.1**
MLSB	**Milas**	**0.56**	**31**	e*Pg*	**Pg**	**18 28 06.2**	**-0.4**
MLSB	**Milas**	**0.56**	**31**	e*Pg*	**Pg**	**18 28 06.2**	**-0.5**
YER	**Yerkesik**	**0.77**	**65**	e*Pg*	**Pg**	**18 28 09.8**	**-0.7**
YER	**Yerkesik**	**0.77**	**65**	e*Pg*	**Pg**	**18 28 09.8**	**-0.7**
ARG	**Arkhangelos**	**0.83**	**136**	e*P*	**Pg**	**18 28 11.6**	**-0.1**
ARG				e*S*	**Sg**	**18 28 24.4**	**+1.9**
ARG	**Arkhangelos**	**0.83**	**136**	e*P*	**Pg**	**18 28 11.6**	**-0.1**
ARG				e*S*	**Sg**	**18 28 24.4**	**+1.9**
GCAM	**G?zelcaml?**	**0.90**	**351**	*i* P	**Pg**	**18 28 13.0**	**-0.1**
GCAM				*i* S	**Sg**	**18 28 26.5**	**+1.8**
GCAM	**G?zelcaml?**	**0.90**	**351**	*i* P	**Pg**	**18 28 13.0**	**0.0**
AYDN	**Tasoluk**	**0.92**	**24**	*i* P	**Pg**	**18 28 12.8**	**-0.7**
AYDN				*i* S	**Sg**	**18 28 25.1**	**-0.5**
AYDN	**Tasoluk**	**0.92**	**24**	*i* P	**Pg**	**18 28 12.8**	**-0.8**
AYDN				*i* S	**Sg**	**18 28 25.1**	**-0.5**
TURN	**Turunc**	**0.96**	**86**	*i* P	**Pg**	**18 28 07.0**	**-7.2**
TURN				*i* S	**Sg**	**18 28 16.4**	**-10**
SMG	**Samos**	**1.00**	**333**	e*P*	**Pg**	**18 28 15.1**	**0.0**
SMG				e*S*	**Sg**	**18 28 29.0**	**+0.8**
SMG	**Samos**	**1.00**	**333**	e*P*	**Pg**	**18 28 15.1**	**0.0**
SMG				e*S*	**Sg**	**18 28 29.0**	**+0.8**
KARP	**Karpathos**	**1.28**	**189**	e*P*	**Pn**	**18 28 19.7**	**-0.5**
KARP	**Karpathos**	**1.28**	**189**	e*P*	**Pn**	**18 28 19.7**	**-0.5**
FETY	**Fethiye**	**1.35**	**97**	e*PN*	**Pn**	**18 28 20.2**	**-0.9**
FETY	**Fethiye**	**1.35**	**97**	e*PN*	**Pn**	**18 28 20.2**	**-1.0**
APE	**Apeiranthos**	**1.53**	**280**	e*PN*	**Pn**	**18 28 23.3**	**-0.3**
APE	**Apeiranthos**	**1.53**	**280**	e*P*	**Pn**	**18 28 23.3**	**-0.3**
APE	**Apeiranthos**	**1.53**	**280**	e*P*	**Pn**	**18 28 23.3**	**-0.3**
DNZL	**Cakiroluk**	**1.57**	**56**	*i* P	**Pn**	**18 28 23.7**	**-0.4**
DNZL				*i* S	**Sn**	**18 28 46.1**	**+1.3**
DNZL	**Cakiroluk**	**1.57**	**56**	*i* P	**Pn**	**18 28 23.7**	**-0.4**
DNZL				*i* S	**Sn**	**18 28 46.1**	**+1.4**
IZM	**Izmir**	**1.59**	**356**	e*PN*	**Pn**	**18 28 24.1**	**-0.2**
IZM	**Izmir**	**1.59**	**356**	e*Pn*	**Pn**	**18 28 24.2**	**-0.2**
BLCB	**Balcova**	**1.60**	**349**	e*PN*	**Pn**	**18 28 24.1**	**-0.4**
BLCB	**Balcova**	**1.60**	**349**	e*Pn*	**Pn**	**18 28 24.1**	**-0.4**
DENT	**Denizli**	**1.60**	**54**	e*PN*	**Pn**	**18 28 24.2**	**-0.3**
DENT	**Denizli**	**1.60**	**54**	e*Pn*	**Pn**	**18 28 24.2**	**-0.3**
GLHS	**Glhisar (BURDU**	**1.70**	**78**	e*PN*	**Pn**	**18 28 26.1**	**+0.1**
GLHS	**Glhisar (BURDU**	**1.70**	**78**	e*Pn*	**Pn**	**18 28 26.1**	**+0.1**
GOLH	**Golhisar**	**1.77**	**76**	*i* P	**Pn**	**18 28 25.5**	**-1.4**
GOLH				*i* S	**Sn**	**18 28 50.8**	**+1.2**
GOLH	**Golhisar**	**1.77**	**76**	*i* P	**Pn**	**18 28 25.5**	**-1.4**
GOLH				*i* S	**Sn**	**18 28 50.8**	**+1.1**
KULA	**Kula-Manisa**	**1.96**	**30**	e*PN*	**Pn**	**18 28 29.4**	**-0.2**
KULA	**Kula-Manisa**	**1.96**	**30**	e*Pn*	**Pn**	**18 28 29.4**	**-0.2**
ELL	**Elmali**	**2.00**	**91**	e*PN*	**Pn**	**18 28 30.1**	**0.0**
ELL	**Elmali**	**2.00**	**91**	e*Pn*	**Pn**	**18 28 30.1**	**0.0**
AKS	**Akhisar**	**2.09**	**9**	e*PN*	**Pn**	**18 28 31.4**	**+0.1**
AKS	**Akhisar**	**2.09**	**9**	e*Pn*	**Pn**	**18 28 31.4**	**+0.2**
NPS	**Neapolis**	**2.13**	**224**	e*P*	**Pn**	**18 28 32.1**	**+0.3**
NPS	**Neapolis**	**2.13**	**224**	e*P*	**Pn**	**18 28 32.1**	**+0.3**
LAST	**Lasithi**	**2.28**	**224**	e*P*	**Pn**	**18 28 34.2**	**+0.3**
LAST				e*S*	**Sn**	**18 29 02.3**	**+0.1**

ISCJB 11 18:46:48.5±1.4, 37°.62S±0°.06×179°.50E±0°.07, h27km±8km, mb4.0/7, Error ellipse: s-maj=10.4km s-min=8.7km az=141.2
IDC 11 18:46:49.3±1.2, 37°.22S×179°.04E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/16, mbtmp3.9/4, MS3.6/1, Ms1 3.6/1, ms1mx2.6/21, Error ellipse: s-maj=31.0km s-min=26.0km az=165.0
WEL 11 18:46:50.4±0.4, 37°.53S×179°.35E, h12km, ML4.2/28, Error ellipse: s-maj=2.5km s-min=2.4km az=90.0
NEIC 11 18:46:54.8±3.2, 37°.91S×179°.00E, h43km±22km, mb4.1/5, Error ellipse: s-maj=36.4km s-min=15.9km az=72.0
ISC 11 18:46:48.4±1.8, 37°.67S±0°.05×179°.48E±0°.07, h13km±12km, n91, σ1s23/89, mb4.0/7, 2D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.94**	**276**	⇓P*	**Pb**	**18 47 06.0**	**-0.6**
MXZ				S*	**Sb**	**18 47 16.7**	**-2.3**
PUZ	**Puketiti**	**1.05**	**247**	⇓P*	**Pb**	**18 47 09.4**	**+0.9**
PUZ				S*	**Sb**	**18 47 23.3**	**+1.2**
CNGZ	**Carnagh Statio**	**1.29**	**231**	PN	**Pn**	**18 47 14.2**	**+2.0**
MWZ	**Matawai**	**1.68**	**246**	PN	**Pn**	**18 47 17.8**	**+0.2**
MWZ				SN	**Sn**	**18 47 38.2**	**-0.7**
PRGZ	**Paritu Road**	**1.78**	**225**	PN	**Pn**	**18 47 20.4**	**+1.5**
PRGZ				SN	**Sn**	**18 47 43.3**	**+2.0**
MHGZ	**Mahia Peninsul**	**1.93**	**219**	PN	**Pn**	**18 47 22.7**	**+1.7**
KNZ	**Kokohu**	**1.96**	**226**	PN	**Pn**	**18 47 22.2**	**+0.8**
URZ	**Urewera**	**1.96**	**252**	PN	**Pn**	**18 47 22.3**	**+0.8**
URZ	**Urewera**	**1.96**	**252**	Pn	**Pn**	**18 47 23.0**	**+1.5**
	164nm,0.3s,baz=62,slow=0.8,SNR=629						
URZ				Sn	**Sn**	**18 47 45.4**	**-0.6**
	59nm,0.3s,baz=334,slow=10.0,SNR=7.2						
URZ	**Urewera**	**1.96**	**252**	e*Pn*	**Pn**	**18 47 22.1**	**+0.7**
URZ				Sn	**Sn**	**18 47 45.4**	**-0.6**
MARZ	**Manawahe**	**2.25**	**261**	PN	**Pn**	**18 47 25.4**	**+0.1**
RAHZ	**Arahi**	**2.26**	**236**	PN	**Pn**	**18 47 26.9**	**+1.3**
OPRZ	**Ohinepanea**	**2.33**	**265**	PN	**Pn**	**18 47 28.6**	**-0.2**
TARZ	**Mount Tarawera**	**2.42**	**256**	PN	**Pn**	**18 47 28.5**	**+0.8**
RRRZ	**Republican Roa**	**2.44**	**253**	PN	**Pn**	**18 47 28.3**	**+0.4**
NMHZ	**Naumai**	**2.54**	**235**	PN	**Pn**	**18 47 30.5**	**+1.1**
KARZ	**Kaharoa**	**2.59**	**261**	PN	**Pn**	**18 47 30.1**	**0.0**
ALRZ	**Allen Road**	**2.63**	**249**	PN	**Pn**	**18 47 31.3**	**+0.6**
CKHZ	**Cape Kidnapper**	**2.74**	**223**	PN	**Pn**	**18 47 32.9**	**+0.8**
BKZ	**Black Stump Fm**	**2.78**	**237**	PN	**Pn**	**18 47 33.7**	**+1.0**
MCHZ	**McNeill Hill**	**2.81**	**230**	PN	**Pn**	**18 47 34.4**	**+1.2**
KAHZ	**Kahuranaki**	**2.94**	**223**	PN	**Pn**	**18 47 35.4**	**+0.5**
KUZ	**Kuaotunu**	**3.14**	**286**	PN	**Pn**	**18 47 36.8**	**-0.8**
BHHZ	**Black Hill Sta**	**3.24**	**235**	PN	**Pn**	**18 47 39.8**	**+0.9**
KRVZ	**Karewarewa**	**3.34**	**244**	PN	**Pn**	**18 47 40.8**	**+0.4**
OTVZ	**Oturere**	**3.35**	**242**	PN	**Pn**	**18 47 40.8**	**+0.3**
WPHZ	**Waipukurau**	**3.37**	**224**	PN	**Pn**	**18 47 40.8**	**0.0**
WTVZ	**West Tongariro**	**3.38**	**244**	PN	**Pn**	**18 47 41.8**	**+0.8**
NGZ	**Ngauruhoe**	**3.40**	**243**	PN	**Pn**	**18 47 41.6**	**+0.4**
MOVZ	**Moawhango**	**3.40**	**238**	PN	**Pn**	**18 47 41.5**	**+0.3**
TUVZ	**Tukino**	**3.40**	**241**	PN	**Pn**	**18 47 41.8**	**+0.6**
PNHZ	**Pukenui**	**3.41**	**228**	PN	**Pn**	**18 47 41.0**	**-0.2**
PRHZ	**Porangahau**	**3.41**	**220**	PN	**Pn**	**18 47 41.1**	**-0.3**
WPVZ	**Whakapapa**	**3.45**	**242**	PN	**Pn**	**18 47 42.5**	**+0.6**
FWVZ	**Far West T-bar**	**3.47**	**242**	PN	**Pn**	**18 47 42.7**	**+0.6**
WNVZ	**Wahianoa**	**3.47**	**240**	PN	**Pn**	**18 47 42.4**	**+0.3**
TWVZ	**Taurewa**	**3.47**	**245**	PN	**Pn**	**18 47 42.8**	**+0.5**
MKAZ	**Moumakai**	**3.48**	**278**	PN	**Pn**	**18 47 42.1**	**-0.2**
MTVZ	**Mangateitei**	**3.58**	**240**	PN	**Pn**	**18 47 44.5**	**+0.8**
TSZ	**Takapari Road**	**3.64**	**228**	PN	**Pn**	**18 47 44.0**	**-0.5**
DVHZ	**Dannevirke**	**3.69**	**223**	PN	**Pn**	**18 47 44.7**	**-0.4**
POWZ	**Post Office Ro**	**3.97**	**226**	PN	**Pn**	**18 47 49.0**	**0.0**
WAZ	**Wanganui**	**4.09**	**238**	PN	**Pn**	**18 47 51.3**	**+0.6**
TIWZ	**Tintock**	**4.17**	**221**	PN	**Pn**	**18 47 51.1**	**-0.7**
RAEZ	**Rainy Point**	**4.31**	**246**	PN	**Pn**	**18 47 55.4**	**+1.7**
TMWZ	**Te Maipa**	**4.42**	**218**	PN	**Pn**	**18 47 53.7**	**-1.5**
HOWZ	**Holdsworth Sta**	**4.46**	**222**	PN	**Pn**	**18 47 54.4**	**-1.3**
NEZ	**North Egmont**	**4.52**	**248**	PN	**Pn**	**18 47 58.7**	**+2.1**
DFE	**Dawson Falls**	**4.53**	**247**	PN	**Pn**	**18 47 58.8**	**+2.1**
OGWZ	**Otaki Gorge**	**4.59**	**225**	PN	**Pn**	**18 47 56.2**	**-1.3**
MTW	**Mount Morrison**	**4.65**	**220**	PN	**Pn**	**18 47 56.5**	**-1.9**
TRWZ	**Traveller**	**4.74**	**217**	PN	**Pn**	**18 47 57.4**	**-2.2**
KIW	**Kapiti Island**	**4.77**	**227**	PN	**Pn**	**18 47 58.5**	**-1.5**
CAW	**Cannon Point**	**4.85**	**223**	PN	**Pn**	**18 47 59.3**	**-1.8**
PLWZ	**Palliser**	**5.08**	**219**	PN	**Pn**	**18 48 02.0**	**-2.3**
BHW	**Baring Head**	**5.16**	**222**	PN	**Pn**	**18 48 03.3**	**-2.1**
SNZO	**South Karori**	**5.18**	**224**	e*Pn*	**Pn**	**18 48 03.3**	**-2.4**
SNZO				e*Sn*	**Sn**	**18 49 00.9**	**-4.5**
OUZ	**Omahuta**	**5.34**	**295**	e*Pn*	**Pn**	**18 48 08.2**	**+0.4**
	27nm,0.6s						
NNZ	**Nelson**	**5.91**	**231**	e*PN*	**Pn**	**18 48 13.2**	**-2.4**
QRZ	**Quartz Range**	**6.25**	**238**	PN	**Pn**	**18 48 17.8**	**-2.6**
THZ	**Tophouse**	**6.51**	**229**	PN	**Pn**	**18 48 21.7**	**-2.3**
CTZ	**Chatham Island**	**6.75**	**155**	PN	**Pn**	**18 48 31.2**	**+4.1**
LTZ	**Lake Taylor**	**7.52**	**225**	PN	**Pn**	**18 48 34.0**	**-3.7**
RPZ	**Rata Peaks**	**8.80**	**224**	Pn	**Pn**	**18 48 53.4**	**-1.9**
	1.2nm,0.3s,baz=47,slow=5.1,SNR=5.4						
RPZ				Sn	**Sn**	**18 50 24.7**	**-10**
	2.4nm,0.3s,baz=337,slow=23,SNR=14						
RPZ	**Rata Peaks**	**8.80**	**224**	Pn	**Pn**	**18 48 53.5**	**-1.9**
RPZ				Sn	**Sn**	**18 50 24.8**	**-10**
ODZ	**Otahua Downs**	**9.92**	**219**	e*PN*	**Pn**	**18 49 06.8**	**-3.8**
ODZ				e*Sn*	**Sn**	**18 50 45.4**	**-16**
STKA	**Stephens Creek**	**31.50**	**269**	P	**P**	**18 53 10.6**	**+0.5**
	0.9nm,0.5s,mb3.8,baz=118,slow=13,SNR=5.9						
STKA	**Stephens Creek**	**31.50**	**269**	e*P*	**P**	**18 53 10.5**	**+0.4**
	0.3nm,0.6s,mb3.3						
VNDA	**Vanda**	**40.67**	**186**	P	**P**	**18 54 29.1**	**+1.2**
	4.8nm,1.7s,mb3.9						
ASAR	**Alice Springs**	**41.22**	**276**	P	**P**	**18 54 32.4**	**-0.8**
	0.8nm,0.5s,mb3.6,baz=124,slow=8.1,SNR=21						
ASAR	**Alice Springs**	**41.22**	**276**	P	**P**	**18 54 32.4**	**-0.8**
WRAB	**Tennant Creek**	**42.87**	**281**	e*P*	**P**	**18 54 45.4**	**-1.2**
	3.0nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**42.87**	**281**	P	**P**	**18 54 45.7**	**-0.9**
	1.0nm,0.4s,mb3.9,baz=121,slow=7.8,SNR=32						
WRA	**Warramunga Arr**	**42.87**	**281**	P	**P**	**18 54 45.7**	**-0.9**
CASY	**Casey**	**47.79**	**211**	e*P*	**P**	**18 55 23.1**	**-1.9**
	9.2nm,0.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**50.71**	**277**	LR	LR	19 19 26.6	
	comp=Z,67nm,19.5s,baz=357,slow=39						
QSPA	**South Pole Qui**	**52.46**	**180**	P	**P**	**18 56 06.9**	**+6.6**
	0.7nm,0.5s,mb3.9,baz=87,slow=1.3,SNR=5.4						
QSPA	**South Pole Qui**	**52.46**	**180**	e*P*	**P**	**18 56 06.4**	**+6.1**
	2.0nm,0.8s,mb4.1						
VNA3	**Neumayer Olymp**	**71.19**	**177**	*e*	**P**	**18 58 07.9**	**+1.4**
VNA3				*e*		18 58 17.0	
VNA2	**Neumayer--Watz**	**71.60**	**178**	*e*	**P**	**18 58 10.7**	**+1.7**
VNA2				*e*		18 58 20.0	
ARCES	**ARCESS Array B**	**145.13**	**344**	PKP	PKPdf	19 06 25.9	+1.4
	5.9nm,0.6s,baz=60,slow=3.1,SNR=44						
ARCES	**ARCESS Array B**	**145.13**	**344**	PKP	PKPdf	19 06 25.9	+1.4
AREO	**ARCESS Array S**	**145.13**	**344**	e*PKP*	PKPdf	19 06 25.6	+1.1
JOF	**Joensuu**	**148.17**	**333**	e*pkp*	PKPbc	19 06 33.6	+0.5
DBIC	**Dimbokro**	**148.89**	**172**	PKPbc	PKPbc	19 06 40.0	+3.5
	4.0nm,0.9s,baz=158,slow=8.2,SNR=3.1						
DBIC	**Dimbokro**	**148.89**	**172**	PKPbc	PKPbc	19 06 40.0	+3.5
KAF	**Kangasniemi**	**150.46**	**335**	e*pkp*	PKPbc	19 06 39.4	+0.6
FINES	**FINESS Array B**	**151.00**	**334**	PKPbc	PKPbc	19 06 41.8	+1.6
	3.9nm,0.6s,baz=25,slow=4.7,SNR=15						
FINES	**FINESS Array B**	**151.00**	**334**	PKPbc	PKPbc	19 06 41.8	+1.6
BRTR	**Keskin Array B**	**153.35**	**285**	PKPbc	PKPbc	19 06 47.9	+1.7
	1.0nm,0.7s,baz=129,slow=4.0,SNR=6.0						
BRTR	**Keskin Array B**	**153.35**	**285**	PKPbc	PKPbc	19 06 47.9	+1.7

ISCJB 11 18:56:48.5±0.7, 34°.4N±0°.1×137°.5E±0°.1, h367km±9km, mb2.7/3, Error ellipse: s-maj=19.2km s-min=12.9km az=22.4
IDC 11 18:56:48.7±2.9, 34°.11N×137°.13E, h332km±87km, mb2.7/3, mb1 2.9/4, mb1mx2.6/26, mbtmp2.6/4, Error ellipse: s-maj=185.5km s-min=24.9km az=60.0
JMA 11 18:56:49.2±0.2, 34°.16N×137°.37E, h351km, M3.2
ISC 11 18:56:49.7±0.7, 34°.4N±0°.1×137°.5E±0°.1, h362km±9km, n16, σ0s89/21, mb2.7/3, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JGM	**Miyama**	**1.46**	**333**	P	**Pn**	**18 57 38.4**	**-0.3**
JWT	**Wachi**	**1.95**	**297**	P	**Pn**	**18 57 40.0**	**-1.7**
JRY	**Ryogami san**	**1.97**	**35**	e*S*	**S**	**18 58 25.0**	**+1.2**
JHU	**Hanno**	**2.05**	**44**	e*S*	**S**	**18 58 24.8**	**+0.1**
JKG	**Kaga**	**2.11**	**333**	P	**Pn**	**18 57 42.5**	**-0.3**
MAT	**Matsushiro**	**2.21**	**14**	P	**Pn**	**18 57 44.6**	**+1.1**
MAT				S	**S**	**18 58 27.3**	**+0.5**
MJAR	**Matsushiro Arr**	**2.21**	**15**	P	**

STKA				LR	LR	19 25 08.6		
WRA	**Warramunga Arr**	**31.21**	**252**	P	**P**	**19 13 14.5**	**-1.3**
	1.3nm,1.0s,mb3.7,baz=83,slow=8.6,SNR=5.9							
WRA	**Warramunga Arr**	**31.21**	**252**	P	**P**	**19 13 14.5**	**-1.3**
RPZ	**Rata Peaks**	**31.23**	**173**	P	**P**	**19 13 14.7**	**-0.9**
	12nm,0.8s,mb4.8,baz=352,slow=4.2,SNR=7.6							
RPZ	**Rata Peaks**	**31.23**	**173**	P	**P**	**19 13 14.7**	**-0.9**
ASAR	**Alice Springs**	**32.34**	**246**	P	**P**	**19 13 24.1**	**-1.5**
	1.1nm,0.8s,mb3.8,baz=69,slow=9.1,SNR=14							
ASAR				pP	pP	19 13 36.7	-1.7	
	4.7nm,0.8s,baz=76,slow=9.6,SNR=18							
ASAR	**Alice Springs**	**32.34**	**246**	P	**P**	**19 13 24.1**	**-1.5**
ASAR				pP	pP	19 13 36.7	-1.7	
FITZ	**Fitzroy Crossi**	**39.25**	**257**	P	**P**	**19 14 24.3**	**-0.6**
	9.5nm,1.2s,mb4.4,baz=114,slow=8.8,SNR=3.1							
FITZ	**Fitzroy Crossi**	**39.25**	**257**	P	**P**	**19 14 24.3**	**-0.6**
PPT	**Papeete**	**43.07**	**102**	*e*LR	LR	19 26 49.8		
	166nm,27.5s							
PPT	**Papeete**	**43.07**	**102**	LR	LR	19 29 41.1		
	comp=Z,125nm,18.6s,MS3.8,baz=231,slow=32							
MBWA	**Marble Bar**	**44.95**	**253**	P	**P**	**19 15 10.7**	**-0.6**
	21nm,1.2s,mb4.8							
TAOE	**Nuku Hiva Isla**	**52.95**	**92**	*e*LR	LR	19 31 27.1		
	140nm,25.7s							
VNDA	**Vanda**	**64.87**	**181**	*e*P	**P**	**19 17 35.5**	**+1.1**
	2.8nm,1.3s,mb4.1							
SBA	**Scott Base**	**65.17**	**180**	P	**P**	**19 17 37.6**	**+1.3**
	4.3nm,1.0s,mb4.4							
CMAR	**Chiang Mai Arr**	**73.01**	**294**	P	**P**	**19 18 28.4**	**+2.5**
	0.5nm,0.4s,mb3.8,baz=144,slow=5.1,SNR=4.8							
CMAR	**Chiang Mai Arr**	**73.01**	**294**	P	**P**	**19 18 28.4**	**+2.5**
CHTO	**Chiang Mai**	**73.13**	**294**	*e*P	**P**	**19 18 24.5**	**-2.2**
	4.0nm,1.3s,mb4.2							
QSPA	**South Pole Qui**	**77.33**	**180**	*e*P	**P**	**19 18 50.1**	**+0.4**
	17nm,1.1s,mb4.9							
YAK	**Yakutsk**	**79.73**	**344**	*e*P	**P**	**19 19 03.0**	**0.0**
	10nm,0.8s,mb4.8							
ULN	**Ulaanbaatar**	**79.78**	**324**	*e*P	**P**	**19 19 04.7**	**+1.0**
	7.8nm,1.1s,mb4.5							
SONM	**Songino Array**	**80.14**	**324**	P	**P**	**19 19 07.2**	**+1.6**
	2.8nm,1.1s,mb4.1,baz=129,slow=4.8,SNR=11							
SONM	**Songino Array**	**80.14**	**324**	P	**P**	**19 19 07.2**	**+1.6**
BILL	**Bilibino**	**80.50**	**0**	*e*P	**P**	**19 19 06.0**	**-1.1**
	9.6nm,0.9s,mb4.7							
MAW	**Mawson**	**83.32**	**202**	LR	LR	19 50 42.6		
	comp=Z,62nm,18.3s,MS4.0,baz=12,slow=32							
MAW	**Mawson**	**83.32**	**202**	*e*P	**P**	**19 19 22.7**	**+0.6**
ILAR	**Eielson Array**	**84.97**	**18**	P	**P**	**19 19 30.4**	**0.0**
	2.3nm,1.1s,mb4.2,baz=228,slow=5.5,SNR=6.5							
ILAR	**Eielson Array**	**84.97**	**18**	P	**P**	**19 19 30.4**	**0.0**
NVAR	**Mina Array Bea**	**86.87**	**50**	LR	LR	19 52 45.5		
	comp=Z,129nm,18.6s,MS4.4,baz=347,slow=32							
PDAR	**Pinedale Array**	**94.46**	**47**	LR	LR	19 57 51.7		
	comp=Z,51nm,18.6s,MS4.0,baz=78,slow=32							
MK31	**Makanchi Array**	**94.89**	**317**	*e*P	**P**	**19 20 18.1**	**+0.5**
MKAR	**Makanchi Array**	**94.89**	**317**	P	**P**	**19 20 18.1**	**+0.5**
	2.9nm,1.0s,mb4.7,baz=108,slow=5.9,SNR=13							
MKAR	**Makanchi Array**	**94.89**	**317**	P	**P**	**19 20 18.1**	**+0.5**
ZAA0	**Zalesovo Array**	**95.03**	**324**	*e*P	**P**	**19 20 18.0**	**-0.1**
ZALV	**Zalesovo Beam**	**95.03**	**324**	P	**P**	**19 20 17.0**	**-1.1**
	1.0nm,0.8s,mb4.3,baz=110,slow=6.8,SNR=5.7							
ZALV				pP	pP	19 20 28.7	-3.9	
	0.8nm,0.6s,baz=134,slow=4.3,SNR=3.5							
ZALV				LR	LR	20 03 05.1		
	comp=Z,28nm,18.3s,MS3.8,baz=235,slow=35							
ZALV	**Zalesovo Beam**	**95.03**	**324**	P	**P**	**19 20 17.0**	**-1.1**
ZALV				pP	pP	19 20 28.7	-3.8	
ZALV				LR	LR	20 03 05.1		
SNAA	**Sanae**	**95.51**	**184**	*e*P	**P**	**19 20 18.0**	**-2.1**
	2.1nm,0.9s,mb4.6							
YKA	**Yellowknife A**	**96.29**	**27**	LR	LR	20 04 59.7		
	comp=Z,6.0nm,18.2s,MS3.1,baz=190,slow=36							
ARCES	**ARCESS Array B**	**117.98**	**345**	PKP	PKPdf	19 25 41.3	-0.2	
	1.8nm,0.7s,baz=45,slow=1.9,SNR=7.2							
ARCES	**ARCESS Array B**	**117.98**	**345**	PKP	PKPdf	19 25 41.3	-0.2	
AKASG	**Malin Array Be**	**128.37**	**326**	PKhKP	PKPpre	19 25 58.6		
	0.4nm,0.3s,baz=62,slow=3.0,SNR=4.8							
AKASG	**Malin Array Be**	**128.37**	**326**	PKP	PKPpre	19 25 58.6		
BRTR	**Keskin Array B**	**130.25**	**312**	PKP	PKPdf	19 26 08.2	+2.4	
	0.6nm,0.8s,baz=2.9,slow=2.9,SNR=3.4							
BRTR				pPKP	pPKPdf	19 26 19.0	-1.8	
	0.6nm,0.7s,baz=148,slow=7.3,SNR=3.4							
BRTR	**Keskin Array B**	**130.25**	**312**	PKP	PKPdf	19 26 08.2	+2.4	
BRTR				pPKP	pPKPdf	19 26 19.0	-1.8	
GERES	**GERESS Array B**	**137.28**	**333**	PKP	PKPdf	19 26 19.4	+0.6	
	0.8nm,0.8s,baz=48,slow=2.0,SNR=5.2							
GERES				pPKP	pPKPdf	19 26 30.9	-2.9	
	0.9nm,0.8s,baz=48,slow=2.0,SNR=4.3							
GERES	**GERESS Array B**	**137.28**	**333**	PKP	PKPdf	19 26 19.4	+0.6	
GERES				pPKP	pPKPdf	19 26 30.9	-2.9	
MBDF	**Montbardon**	**143.47**	**335**	*e*PKP1	PKPdf	19 26 30.4	+0.3	
	11nm,0.9s							
MBDF	**Montbardon**	**143.47**	**335**	*e*PKP	PKPdf	19 26 30.4	+0.3	
ORIF	**Oris-en-Rattie**	**143.67**	**336**	*e*PKP1	PKPdf	19 26 29.1	-1.3	
	18nm,0.9s							
ORIF	**Oris-en-Rattie**	**143.67**	**336**	*e*PKP	PKPdf	19 26 29.1	-1.3	
VIVF	**Saint-Julien-l**	**144.19**	**337**	*e*PKP1	PKPdf	19 26 30.7	-0.7	
	33nm,1.1s							
VIVF	**Saint-Julien-l**	**144.19**	**337**	*e*PKP	PKPdf	19 26 30.7	-0.7	
FRF	**La Foret Royal**	**144.47**	**334**	*e*PKP1	PKPdf	19 26 31.2	-0.7	
	37nm,0.9s							
FRF	**La Foret Royal**	**144.47**	**334**	*e*PKP	PKPdf	19 26 31.2	-0.7	
SMRF	**Simiane la Rot**	**144.57**	**335**	*e*PKP1	PKPdf	19 26 32.1	+0.1	
	15nm,0.8s							
SMRF	**Simiane la Rot**	**144.57**	**335**	*e*PKP	PKPdf	19 26 32.1	+0.1	
LMR	**La Mourre**	**144.71**	**334**	*e*PKP1	PKPdf	19 26 32.1	-0.2	
	52nm,1.0s							
LMR	**La Mourre**	**144.71**	**334**	*e*PKP	PKPdf	19 26 32.1	-0.2	
RJF	**Les Rejaudoux**	**144.91**	**341**	*e*PKP1	PKPdf	19 26 32.0	-0.6	
	42nm,1.1s							
RJF	**Les Rejaudoux**	**144.91**	**341**	*e*PKP	PKPdf	19 26 32.0	-0.6	
CAF	**Calviac**	**145.06**	**340**	*e*PKP1	PKPdf	19 26 33.7	+0.8	
	29nm,1.1s							
CAF	**Calviac**	**145.06**	**340**	*e*PKP	PKPdf	19 26 33.7	+0.8	
LASF	**Ste Croix**	**145.16**	**337**	*e*PKP1	PKPdf	19 26 34.0	+0.9	
	42nm,1.2s							
LASF	**Ste Croix**	**145.16**	**337**	*e*PKP	PKPdf	19 26 34.0	+0.9	
MTLF	**Montolieu**	**146.40**	**338**	*e*PKP1	PKPbc	19 26 37.7	+1.2	
	43nm,1.1s							
MTLF	**Montolieu**	**146.40**	**338**	*e*PKP	PKPbc	19 26 37.7	+1.2	
KEST	**Kesra**	**148.87**	**321**	PKPbc	PKPbc	19 26 45.0	+1.5	
	2.2nm,0.8s,baz=27,slow=2.3,SNR=6.3							
KEST	**Kesra**	**148.87**	**321**	PKPbc	PKPbc	19 26 45.0	+1.5	
ESDC	**Sonseca Array**	**151.69**	**344**	PKPbc	PKPbc	19 26 50.3	+0.1	
	3.2nm,0.9s,baz=18,slow=2.4,SNR=12							
ESDC	**Sonseca Array**	**151.69**	**344**	PKPbc	PKPbc	19 26 50.3	+0.1	
TORD	**Torodi Ar. Bea**	**164.71**	**273**	PKPab	PKPab	19 27 57.1	+1.1	
	1.1nm,1.0s,baz=94,slow=7.1,SNR=5.4							

*ISCJB **11** 19:51:45.6±1.3,30.6°N±0.1°×82.8°E±0.2, h10km,mb3.3/6, Error ellipse: s-maj=30.0km s-min=10.8km az=146.6*
*IDC **11** 19:51:46.5±2.4,30.6°N×82.9°E, h0km, mb3.4/6, mb1 3.6/8,mb1mx3.4/28,mbtmp3.4/8, ML2.9/2,MS3.7/1, Ms1 3.7/1,ms1mx2.4/26, Error ellipse: s-maj=82.2km s-min=20.4km az=72.0*
*NEIC **11** 19:51:47.3±1.6,30.7°N×82.7°E, h10km,mb3.6/2, Error ellipse: s-maj=37.0km s-min=12.0km az=54.0*

ISC 11 19:51:47.3±1.3, 30.7N±0.1°×82.7E±0.2, h10km, n20, σ0.81/19, mb3.3/6, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**7.35**	**95**		*e*P	**Pn**	**19 53 34.6**	**-0.1**
	6.8nm,0.8s							
TKM2	**Tokmak 2**	**13.50**	**337**		Pn	**Pn**	**19 54 57.9**	**-0.9**
MK31	**Makanchi Array**	**16.11**	**359**		*e*Pn	**Pn**	**19 55 37.1**	**+3.3**
MKAR	**Makanchi Array**	**16.11**	**359**		Pn	**Pn**	**19 55 33.6**	**-0.3**
	0.0nm,0.3s,baz=179,slow=9.8,SNR=3.4							
MKAR	**Makanchi Array**	**16.11**	**359**		Pn	**Pn**	**19 55 33.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**19.07**	**126**		P	**Pn**	**19 56 11.0**	**+0.2**
	0.0nm,0.3s,baz=309,slow=11,SNR=4.5							
CMAR	**Chiang Mai Arr**	**19.07**	**126**		P	**Pn**	**19 56 11.0**	**+0.2**
KURK	**Kurchatov**	**20.27**	**352**		P	**P**	**19 56 23.5**	**+0.7**
	2.2nm,1.0s,baz=175,slow=9.6,SNR=8.4							
KURK	**Kurchatov**	**20.27**	**352**		P	**P**	**19 56 19.1**	**-3.7**
	4.8nm,1.1s							
ZALV	**Zalesovo Beam**	**23.32**	**3**		P	**P**	**19 56 55.4**	**-0.1**
	0.7nm,0.7s,mb3.2,baz=196,slow=10,SNR=4.7							
ZALV	**Zalesovo Beam**	**23.32**	**3**		P	**P**	**19 56 55.4**	**-0.1**
SONM	**Songino Array**	**24.94**	**40**		P	**P**	**19 57 10.1**	**-0.6**
	0.5nm,0.8s,mb3.1,baz=226,slow=10,SNR=5.0							
SONM	**Songino Array**	**24.94**	**40**		P	**P**	**19 57 10.1**	**-0.6**
ABKAR	**Akbulak array**	**25.33**	**324**		*e*Pn	**P**	**19 57 18.2**	**+4.1**
	0.6nm,0.6s,mb3.3							

VRAC	**Vranov**	**52.28**	**311**		LR	LR	20 29 12.2	
	comp=Z,68nm,19.7s,baz=200,slow=43							
WRA	**Warramunga Arr**	**70.64**	**129**		P	**P**	**20 03 02.8**	**-0.5**
	0.3nm,0.6s,mb3.4,baz=323,slow=6.4,SNR=6.2							
ASAR	**Alice Springs**	**72.97**	**132**		P	**P**	**20 03 17.3**	**+0.1**
	0.2nm,0.7s,mb3.2,baz=299,slow=6.1,SNR=3.2							
ASAR	**Alice Springs**	**72.97**	**132**		P	**P**	**20 03 17.3**	**+0.1**
ILAR	**Eielson Array**	**77.34**	**20**		P	**P**	**20 03 42.6**	**+0.7**
	1.0nm,1.1s,mb3.6,baz=317,slow=5.4,SNR=4.1							
ILAR	**Eielson Array**	**77.34**	**20**		P	**P**	**20 03 42.6**	**+0.7**

MEX 11 20:09:22.4±1.5, 18.16N×103.39W, h10km±9km, MD4.0, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.14**	**19**		*i*	P	Pg	20 09 24.4	-1.1
MMIG					*i*	S	Sg	20 09 27.7	-0.1
R15V		**1.15**	**331**		*i*	P	Pb	20 09 40.4	-4.0
R15V					*i*	S	Sb	20 09 55.2	-4.2
EZ5V		**1.33**	**351**		*i*	P	Pn	20 09 43.4	-3.6
EZ5V					*i*	S	Sb	20 09 59.6	-4.9
ZIIG	**Zihuatanejo**	**1.92**	**106**		*e*	P	Pn	20 09 52.1	-2.9
ZIIG					*i*	S	Sn	20 10 14.2	-5.0
SFJM	**Santa Fe**	**2.34**	**8**		*i*	P	Pn	20 10 00.5	-0.4
SFJM					*i*	S	Sn	20 10 24.5	-5.2
ANIG	**Ahuacatlan**	**3.07**	**340**		*e*	P	Pn	20 10 07.7	-3.3
ANIG					*i*	S	Sn	20 10 43.5	-4.3
CAIG	**El Cayaco**	**3.18**	**110**		*e*	P	Pn	20 10 10.2	-2.3
CAIG					*i*	S	Sn	20 10 46.4	-4.0
LPIG	**La Paz**	**8.75**	**314**		*e*	P	Pn	20 11 20.3	-8.8
LPIG					*i*	S	Sn	20 12 58.8	-9.1

*IDC **11** 20:11:41.5±1.3,25.08N×106.61W, h0km, mb4.0/3, mb1 4.1/5,mb1mx3.8/22,mbtmp3.8/5,ML3.7/2,MS3.3/1, Ms1 3.3/1,ms1mx2.6/29, Error ellipse: s-maj=34.7km s-min=17.1km az=110.0*
*NEIC **11** 20:11:42.8±1.1,25.11N×106.85W, h10km, mb4.2/5, Error ellipse: s-maj=15.3km s-min=13.9km az=224.0*
*MEX **11** 20:11:42.6±0.5,23.82N×108.47W, h8km±11km, MD4.7*
*ISCJB **11** 20:11:43.7±0.5,25.31N±0.03×106.55W±0.05, h10km, mb4.1/4, Error ellipse: s-maj=6.3km s-min=4.3km az=153.0*

ISC 11 20:11:46.5±0.5, 25.33N±0.03×106.60W±0.04, h10km, n70, σ1.14/89, mb4.1/4, 20C-22D, Northern Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MAIG	**Mazatlaan**	**2.14**	**176**		*i*	P	**Pn**	**20 12 12.8**	**-9.5**
MAIG					*i*	S	**Sn**	**20 12 36.7**	**-12**
ZAIG	**Zacatecas**	**4.48**	**124**		*e*	P	**Pg**	**20 13 03.6**	**-8.8**
ZAIG					*i*	S	**Sg**	**20 14 04.5**	**-6.0**
ANIG	**Ahuacatlan**	**4.67**	**155**		*i*	P	**Pn**	**20 12 50.5**	**-6.6**
ANIG					*i*	S	**Sn**	**20 13 43.5**	**-7.8**
626A	**Big Bend Ranch**	**4.74**	**27**	⇓	P		**Pn**	**20 12 58.0**	**-0.1**
	baz=5.3,SNR=30								
626A				⇑	Sb		**Sg**	**20 14 19.2**	**+0.3**
	baz=5.3								
TXAR	**Lajitas Array**	**4.77**	**33**		Pn		**Pn**	**20 12 57.5**	**-0.9**
	2.0nm,0.3s,baz=204,slow=15,SNR=73								
TXAR					Pg		**Pb**	**20 13 12.3**	**+2.2**
	5.3nm,0.3s,baz=211,slow=16,SNR=21								
TXAR					Lg			20 14 18.3	
	12nm,0.3s,baz=208,slow=15,SNR=7.4								
TXAR	**Lajitas Array**	**4.77**	**33**		Pn		**Pn**	**20 12 57.5**	**-0.9**
TXAR					Pg		**Pb**	**20 13 12.3**	**+2.2**
TXAR					Lg			20 14 18.3	
CGIG		**5.16**	**347**		*i*	P	**Pg**	**20 13 17.2**	**-8.2**
CGIG					*i*	S	**Sg**	**20 14 29.6**	**-2.7**
526A	**Mary Lane Ranc**	**5.21**	**25**	⇑	P		**Pn**	**20 13 04.4**	**-0.2**
	baz=5.8,SNR=22								
526A				⇓	Sb		**Sg**	**20 14 35.2**	**+1.3**
	baz=5.8								
HSIG		**5.34**	**314**		*i*	P	**Pn**	**20 13 04.5**	**-1.7**
HSIG					*i*	S	**Sn**	**20 14 09.6**	**+1.7**
425A	**Indio Mountain**	**5.62**	**14**	⇓	P		**Pn**	**20 13 09.9**	**-0.2**
	baz=6.2,SNR=24								
425A				⇑	Sb		**Sg**	**20 14 46.6**	**-0.3**
	baz=6.2								
426A	**McDonald Obser**	**5.78**	**23**	⇑	P		**Pn**	**20 13 12.4**	**0.0**
	baz=6.4,SNR=40								
426A				⇓	S		**Sn**	**20 14 24.9**	**+6.1**
	baz=6.4								
SFJM	**Santa Fe**	**5.83**	**145**		*i*	P	**Pb**	**20 13 22.0**	**-6.3**
324A	**Moseley Ranch,**	**6.17**	**9**	⇑	P		**Pn**	**20 13 18.3**	**+0.6**
	baz=6.8								
324A				⇓	Sb		**Sg**	**20 15 03.2**	**-1.4**
	baz=6.8								
427A	**Hayter Ranch,**	**6.18**	**26**	⇑	P		**Pn**	**20 13 17.6**	**-0.3**
	baz=6.7,SNR=11								
325A	**Bean Ranch, Si**	**6.19**	**13**	⇓	Sb		**Sg**	**20 15 03.1**	**-2.1**
	baz=6.8								
326A	**Caldwell Ranch**	**6.40**	**21**	⇓	P		**Pn**	**20 13 20.3**	**-0.5**
	baz=7.0,SNR=13								
326A				⇑	Sb		**Sg**	**20 15 08.3**	**-3.5**
	baz=7.0								
319A	**Douglas**	**6.47**	**339**	⇑	P		**Pn**	**20 13 22.1**	**+0.3**
	baz=7.0								
319A				⇑	Sb		**Sg**	**20 15 09.8**	**-4.4**
	baz=7.0								
LNIG	**Linares**	**6.48**	**92**		*i*	P	**Pb**	**20 13 38.9**	**-0.5**
LNIG					*i*	S	**Sg**	**20 15 10.4**	**-4.3**
221A	**Mesquite Ranch**	**6.74**	**351**		P		**Pn**	**20 13 25.4**	**-0.1**
	baz=7.3,SNR=46								
221A				⇓	Sb		**Sg**	**20 15 19.6**	**-3.1**
	baz=7.3								
220A	**Playas Peak, P**	**6.76**	**346**	⇑	P		**Pn**	**20 13 25.0**	**-0.9**
	baz=7.4,SNR=28								
220A				⇓	Sb		**Sg**	**20 15 19.0**	**-4.7**
	baz=7.4								
222A	**Williams Famil**	**6.76**	**356**	⇑	P		**Pn**	**20 13 25.8**	**0.0**
	baz=7.4,SNR=7.2								
222A				⇓	Sb		**Sg**	**20 15 19.2**	**-4.5**
	baz=7.4								
318A	**Bisbee**	**6.78**	**335**	⇓	P		**Pn**	**20 13 25.0**	**-1.0**
	baz=7.3,SNR=13								
318A				⇓	Sb		**Sb**	**20 15 16.9**	**+11**
	baz=7.3								
219A	**White Tail Can**	**7.04**	**341**	⇓	P		**Pn**	**20 13 28.9**	**-0.7**
	baz=7.6,SNR=9.4								
121A	**Cookes Peak, D**	**7.25**	**352**		P		**Pn**	**20 13 32.4**	**-0.2**
	baz=7.9,SNR=41								
120A	**U Bar Ranch, L**	**7.41**	**347**	⇑	P		**Pn**	**20 13 34.5**	**-0.2**
	baz=8.0								
118A	**Homack Ranch,**	**7.86**	**339**	⇓	P		**Pn**	**20 13 40.8**	**-0.1**
	baz=8.4,SNR=23								
TUC	**Tucson**	**7.86**	**333**		*e*Pn		**Pn**	**20 13 37.8**	**-3.1**
	3.5nm,0.6s								
TUC					*e*Sg		Sn	20 15 51.8	+42
JCT	**Junction City**	**7.90**	**48**		*e*Pn		**Pn**	**20 13 44.4**	**+2.9**
JCT					*e*Sg		Sn	20 15 54.9	+44
Z22A	**Elephant Butte**	**7.90**	**358**	⇑	P		**Pn**	**20 13 41.4**	**-0.1**
	baz=8.5,SNR=15								
Z23A	**Rita Site, Whi**	**7.91**	**2**	⇓	P		**Pn**	**20 13 42.8**	**+1.2**
	baz=8.5								
Z20A	**Nine Sixteen R**	**7.95**	**348**	⇓	P		**Pn**	**20 13 42.0**	**-0.1**
	baz=8.5,SNR=12								
Z24A	**Sheeppen Canyo**	**8.04**	**7**	⇑	P		**Pn**	**20 13 43.2**	**-0.2**
	baz=8.7,SNR=9.9								
117A	**Oracle**	**8.07**	**334**	⇓	P		**Pn**	**20 13 43.5**	**-0.4**
	baz=8.6,SNR=6.3								
Z25A	**Roswell**	**8.09**	**11**	⇓	P		**Pn**	**20 13 45.8**	**+1.8**
	baz=8.7								
116A	**Eloy**	**8.48**	**329**	⇑	P		**Pn**	**20 13 49.7**	**+0.3**
	baz=9.0								
Z27A	**Tatum**	**8.49**	**20**	⇓	P		**Pn**	**20 13 50.1**	**+0.6**
	baz=9.1,SNR=13								
Y22A	**Socorro**	**8.58**	**358**	⇑	P		**Pn**	**20 13 51.8**	**+1.0**
	baz=9.2								
Y23A	**Lovelace Mesa,**	**8.59**	**3**	⇑	P		**Pn**	**20 13 51.8**	**+1.0**
	baz=9.2,SNR=13								
Y24A	**Capitan**	**8.63**	**6**	⇓	P		**Pn**	**20 13 52.6**	**+1.2**
	baz=9.2,SNR=6.6								
Y20A	**Horse Springs,**	**8.69**	**350**	⇓	P		**Pn**	**20 13 53.2**	**+0.9**
	baz=9.3,SNR=12								
Y21A	**Point of Rocks**	**8.70**	**354**	⇓	P		**Pn**	**20 13 53.4**	**+1.0**
	baz=9.3,SNR=16								
BNM	**Barren Site**	**8.79**	**360**		*e*Pn		**Pn**	**20 13 55.3**	**+1.6**
BNM					*e*Sg		Sn	20 16 20.6	+48
Y19A	**Nutrioso**	**8.90**	**346**	⇑	P		**Pn**	**20 13 55.8**	**+0.6**
	baz=9.5,SNR=9.8								
ZIIG	**Zihuatanejo**	**9.05**	**147**		*e*	P	**Pn**	**20 13 51.5**	**-5.7**
ZIIG					*i*	S	**Sn**	**20 15 38.9**	**-0.4**

ANMO	**Albuquerque**	**9.59**	**1**		Pn		**Pn**	**20 14 04.6**	**0.0**
	0.1nm,0.3s,baz=192,slow=9.3,SNR=2.9								
ANMO					Lg			20 16 52.7	
	0.2nm,0.3s,baz=90,slow=20,SNR=4.2								
ANMO	**Albuquerque**	**9.59**	**1**		*e*Pn		**Pn**	**20 14 04.0**	**-0.6**
ANMO					*e*Sg		Sn	20 16 52.2	+60
PPM	**Popocatepetl**	**9.66**	**129**		*i*	P	**Pn**	**20 14 06.2**	**+0.6**
PPM					*i*	S	**Sn**	**20 16 02.2**	**+7.9**
X16A	**Lo Mia Camp, P**	**9.98**	**336**	⇑	P		**Pn**	**20 14 11.3**	**+1.3**
	baz=10,SNR=5.8								
CAIG	**El Cayaco**	**10.14**	**143**		*e*	P	**Pn**	**20 14 11.0**	**-1.2**
CAIG					*i*	S	**Sn**	**20 16 13.3**	**+7.3**
V25A	**Rancho No Teng**	**10.61**	**9**	⇑	P		**Pn**	**20 14 20.5**	**+1.9**
	baz=11,SNR=6.5								
WUAZ	**Wupatki**	**10.96**	**339**		*e*Pn		**Pn**	**20 14 26.1**	**+2.8**
WUAZ					*e*Sg		Sn	20 17 29.9	+64
WMOK	**Wichita Mounta**	**11.56**	**34**		*e*Pn		**Pn**	**20 14 31.3**	**-0.4**
WMOK					*e*S		Sn	20 17 45.4	+65
SDCO	**Great Sand Dun**	**12.41**	**4**		*e*Pn		**Pn**	**20 14 41.9**	**-1.3**
MIAR	**Mount Ida**	**14.54**	**48**		Pn		**Pn**	**20 15 18.1**	**+5.7**
	6.3nm,1.1s								
VBMS	**Vicksburg**	**15.68**	**60**		Pn		**Pn**	**20 15 27.6**	**+0.2**
KSU1	**Kansas State U**	**16.11**	**29**		*e*Pn		**Pn**	**20 15 33.8**	**+0.7**
	9.7nm,0.6s								
HWUT	**Hardware Ranch**	**16.75**	**347**		Pn		**Pn**	**20 15 34.7**	**-6.5**
	4.7nm,0.6s								
OXF	**Oxford**	**17.47**	**54**		Pn		**Pn**	**20 15 46.3**	**-4.0**
WVT	**Waverly**	**19.36**	**52**		*e*P		**Pn**	**20 16 11.1**	**-2.3**
	9.0nm,0.8s								
OLIL	**Olney**	**20.55**	**45**		*e*P		**P**	**20 16 25.6**	**+0.4**
	14nm,0.7s								
TKL	**Tuckaleechee C**	**22.15**	**57**		LR		LR	20 26 03.2	
	comp=Z,67nm,19.3s,baz=255,slow=39								
ACSO	**Alum Creek Sta**	**24.70**	**47**		*e*P		**P**	**20 17 06.9**	**-0.8**
	22nm,0.8s,mb4.7								
ULM	**Lac du Bonnet**	**26.23**	**16**		P		**P**	**20 17 20.5**	**-1.0**
	4.5nm,0.7s,mb4.1,baz=216,slow=6.4,SNR=5.3								
ULM	**Lac du Bonnet**	**26.23**	**16**		P		**P**	**20 17 20.5**	**-1.0**
ILAR	**Eielson Array**	**47.13**	**338**		P		**P**	**20 20 17.4**	**-1.2**
	0.6nm,0.8s,mb3.5,baz=156,slow=7.6,SNR=13								
ILAR	**Eielson Array**	**47.13**	**338**		P		**P**	**20 20 17.4**	**-1.2**
CPUP	**Villa Florida**	**69.99**	**134**		P		**P**	**20 22 54.5**	**-4.0**
	0.5nm,0.3s,mb3.9,baz=341,slow=10,SNR=3.7								
CPUP	**Villa Florida**	**69.99**	**134**		P		**P**	**

SIVA				S	Sg	20 29 39.8	-0.8	
SIVA				eSb	Sg	20 29 40.7	+0.1	
LAST	**Lasithi**	**0.65**	**38**	ePB	**Pg**	20 29 40.3	+0.2	
LAST				eSB	Sg	20 29 48.9	+0.3	
LAST	**Lasithi**	**0.65**	**38**	P	**Pg**	20 29 40.0	-0.1	
LAST				S	Sg	20 29 48.8	+0.2	
LAST	**Lasithi**	**0.65**	**38**	P	**Pg**	20 29 40.0	-0.1	
LAST	**Lasithi**	**0.65**	**38**	ePb	**Pg**	20 29 40.3	+0.2	
LAST				S	Sg	20 29 48.8	+0.2	
NPS	**Neapolis**	**0.80**	**39**	ePB	**Pg**	20 29 42.8	-0.1	
NPS				eSB	Sg	20 29 53.9	+0.6	
NPS	**Neapolis**	**0.80**	**39**	P	**Pg**	20 29 42.7	-0.2	
NPS				S	Sg	20 29 53.5	+0.2	
NPS	**Neapolis**	**0.80**	**39**	ePb	**Pg**	20 29 42.8	-0.1	
NPS				S	Sg	20 29 53.5	+0.2	
NPS				eSb	Sg	20 29 53.9	+0.6	
VAM	**Vamos**	**1.00**	**320**	ePG	**Pg**	20 29 46.3	-0.5	
VAM				eSB	Sg	20 30 01.0	+1.2	
VAM	**Vamos**	**1.00**	**320**	P	**Pg**	20 29 46.0	-0.8	
VAM				S	Sg	20 29 59.8	0.0	
VAM	**Vamos**	**1.00**	**320**	P	**Pg**	20 29 46.0	-0.8	
VAM	**Vamos**	**1.00**	**320**	ePg	**Pg**	20 29 46.3	-0.5	
VAM				S	Sg	20 29 59.8	0.0	
VAM				eSb	Sg	20 30 01.0	+1.2	
KARN	**Karanos**	**1.16**	**311**	ePN	**Pn**	20 29 49.3	-1.2	
KARN				eSB	Sb	20 30 05.1	-0.4	
KARN	**Karanos**	**1.16**	**311**	P	**Pg**	20 29 48.8	-1.1	
KARN				S	Sg	20 30 04.7	-0.3	
KARN	**Karanos**	**1.16**	**311**	P	**Pn**	20 29 48.8	-1.1	
KARN	**Karanos**	**1.16**	**311**	ePn	**Pn**	20 29 49.3	-1.2	
KARN				S	Sg	20 30 04.7	-0.3	
KARN				eSb	Sb	20 30 05.1	-0.4	
THR1	**Thera Island**	**1.76**	**12**	P	**Pn**	20 29 58.5	-0.3	
THR1				S	Sn	20 30 20.2	-1.4	
THR1	**Thera Island**	**1.76**	**12**	P	**Pn**	20 29 58.5	-0.3	
THR1				S	Sn	20 30 20.2	-1.4	
THR3	**Thira Island,**	**1.79**	**11**	P	**Pn**	20 29 59.1	-0.1	
THR3	**Thira Island,**	**1.79**	**11**	P	**Pn**	20 29 59.1	-0.1	
KARP	**Karpathos**	**1.99**	**63**	ePN	**Pn**	20 30 05.8	+3.9	
KARP	**Karpathos**	**1.99**	**63**	P	**Pn**	20 30 01.7	-0.2	
KARP				S	Sn	20 30 27.8	+0.5	
KARP	**Karpathos**	**1.99**	**63**	P	**Pn**	20 30 01.7	-0.2	
KARP	**Karpathos**	**1.99**	**63**	ePn	**Pn**	20 30 05.8	+3.9	
KARP				S	Sn	20 30 27.8	+0.5	
KYTH	**Kithira**	**2.28**	**316**	ePN	**Pn**	20 30 09.1	+3.2	
KYTH	**Kithira**	**2.28**	**316**	ePn	**Pn**	20 30 09.1	+3.2	
APE	**Apeiranthos**	**2.46**	**10**	P	**Pn**	20 30 07.5	-0.8	
APE	**Apeiranthos**	**2.46**	**10**	P	**Pn**	20 30 07.5	-0.8	
NIS1	**Nisyros Isl.**	**2.64**	**42**	P	**Pn**	20 30 11.6	+0.7	
NIS1	**Nisyros Isl.**	**2.64**	**42**	P	**Pn**	20 30 11.6	+0.7	
VLI	**Veliai**	**2.66**	**322**	ePN	**Pn**	20 30 13.7	+2.6	
VLI	**Veliai**	**2.66**	**322**	P	**Pn**	20 30 11.0	-0.1	
VLI	**Veliai**	**2.66**	**322**	P	**Pn**	20 30 11.0	-0.1	
VLI	**Veliai**	**2.66**	**322**	ePn	**Pn**	20 30 13.7	+2.6	
ARG	**Arkhangelos**	**3.00**	**58**	ePN	**Pn**	20 30 18.9	+3.1	
ARG	**Arkhangelos**	**3.00**	**58**	P	**Pn**	20 30 15.9	+0.1	
ARG				S	Sn	20 30 52.1	0.0	
ARG	**Arkhangelos**	**3.00**	**58**	P	**Pn**	20 30 15.9	+0.1	
ARG	**Arkhangelos**	**3.00**	**58**	ePn	**Pn**	20 30 18.9	+3.1	
ARG				S	Sn	20 30 52.1	0.0	
SLUM		**3.15**	**177**	P	**Pn**	20 30 19.0	+1.1	
	baz=178							
SLUM				S	Sn	20 30 56.2	+0.3	
	baz=178							
SLUM		**3.15**	**177**	P	**Pn**	20 30 19.3	+1.4	
SLUM				S	Sn	20 30 57.3	+1.4	
DID	**Didima**	**3.19**	**334**	ePB	**Pb**	20 30 20.5	-4.2	
DID	**Didima**	**3.19**	**334**	P	**Pn**	20 30 17.9	-0.5	
DID				S	Sn	20 30 58.6	+1.8	
DID	**Didima**	**3.19**	**334**	P	**Pn**	20 30 17.9	-0.5	
DID	**Didima**	**3.19**	**334**	ePb	**Pb**	20 30 20.5	-4.2	
TURN	**Turunc**	**3.68**	**52**	*i* P	**Pn**	20 30 22.9	-2.3	
TURN	**Turunc**	**3.68**	**52**	*i* P	**Pn**	20 30 22.9	-2.3	
AYDN	**Tasoluk**	**3.81**	**37**	*i* P	**Pn**	20 30 30.1	+3.2	
AYDN	**Tasoluk**	**3.81**	**37**	*i* P	**Pn**	20 30 30.1	+3.2	
HMAT	**Matruh**	**3.96**	**153**	P	**Pn**	20 30 29.3	+0.3	
	baz=155							
HMAT				S	Sn	20 31 14.6	-1.2	
	baz=155							
HMAT	**Matruh**	**3.96**	**153**	P	**Pn**	20 30 30.0	+1.0	
DNZL	**Cakiroluk**	**4.47**	**46**	*i* P	**Pn**	20 30 41.1	+5.1	
GOLH	**Golhisar**	**4.52**	**54**	*i* P	**Pn**	20 30 39.3	+2.6	
GOLH	**Golhisar**	**4.52**	**54**	*i* P	**Pn**	20 30 39.3	+2.6	
SWA2		**5.40**	**176**	P	**Pn**	20 30 49.9	+1.1	
	baz=176							
SWA2				AMP		20 31 00.0		
	comp=N,50μm,0.5s,logA/T=5.0,baz=176							
SWA2				S	Sn	20 31 50.5	-0.8	
	baz=176							
SWA2		**5.40**	**176**	P	**Pn**	20 30 49.9	+1.1	
SWA2				S	Sn	20 31 50.5	-0.9	
BRTR	**Keskin Array B**	**8.56**	**51**	Pn	**Pn**	20 31 31.9	-0.2	
	comp=N,0.1nm,0.3s,baz=285,slow=7.3,SNR=2.8							
BRTR	**Keskin Array B**	**8.56**	**51**	Pn	**Pn**	20 31 31.9	-0.2	
BRTR	**Keskin Array B**	**8.56**	**51**	Pn	**Pn**	20 31 32.0	-0.1	
MMAI	**Mount Meron Ar**	**8.81**	**98**	Pn	**Pn**	20 31 35.2	-0.4	
	comp=N,0.9nm,0.3s,baz=286,slow=10,SNR=8.4							
MMAI				Sn	Sn	20 33 10.3	-5.0	
	comp=N,1.0nm,0.3s,baz=295,slow=17,SNR=3.8							
HNKL	**Nakhl**	**8.94**	**119**	P	**Pn**	20 31 37.2	-0.3	
	baz=120							
HNKL	**Nakhl**	**8.94**	**119**	P	**Pn**	20 31 36.8	-0.6	
EIL	**Elat**	**9.79**	**118**	Pn	**Pn**	20 31 48.8	-0.2	
	comp=N,0.4nm,0.3s,baz=248,slow=5.4,SNR=3.9							
EIL				Sn	Sn	20 33 30.7	-8.6	
	comp=N,0.3nm,0.3s,baz=66,slow=18,SNR=2.7							
EIL	**Elat**	**9.79**	**118**	Pn	**Pn**	20 31 48.8	-0.2	
EIL				Sn	Sn	20 33 30.7	-8.6	
EIL	**Elat**	**9.79**	**118**	Pn	**Pn**	20 31 48.8	-0.2	
KIEV	**Kiev**	**16.33**	**10**	ePn	**Pn**	20 33 16.9	-0.6	
	comp=N,6.5nm,0.9s							
KIEV	**Kiev**	**16.33**	**10**	ePn	**Pn**	20 33 16.9	-0.6	
	comp=N,6.5nm,0.9s							
AKASG	**Malin Array Be**	**16.34**	**10**	Pn	**Pn**	20 33 18.2	+0.6	
	comp=N,0.6nm,0.3s,baz=199,slow=11,SNR=5.3							
AKASG	**Malin Array Be**	**16.34**	**10**	Pn	**Pn**	20 33 18.2	+0.6	
AKASG	**Malin Array Be**	**16.34**	**10**	Pn	**Pn**	20 33 18.2	+0.6	
GERES	**GERESS Array B**	**16.47**	**333**	Pn	**Pn**	20 33 22.0	+2.7	
	comp=N,0.1nm,0.3s,baz=143,slow=13,SNR=7.3							
GERES	**GERESS Array B**	**16.47**	**333**	Pn	**Pn**	20 33 22.0	+2.7	
TORD	**Torodi Ar. Bea**	**30.05**	**230**	P	**P**	20 35 37.5	-0.3	
	comp=N,0.6nm,0.5s,mb3.6,baz=38,slow=8.5,SNR=13							
TORD	**Torodi Ar. Bea**	**30.05**	**230**	P	**P**	20 35 37.5	-0.3	
TORD	**Torodi Ar. Bea**	**30.05**	**230**	P	**P**	20 35 37.5	-0.3	
MK31	**Makanchi Array**	**44.17**	**56**	eP	**P**	20 37 36.4	-0.8	
MK31	**Makanchi Array**	**44.17**	**56**	eP	**P**	20 37 36.4	-0.8	
MKAR	**Makanchi Array**	**44.17**	**56**	P	**P**	20 37 36.9	-0.4	
	comp=N,2.0nm,0.9s,mb3.9,baz=276,slow=6.7,SNR=12							
MKAR	**Makanchi Array**	**44.17**	**56**	P	**P**	20 37 36.9	-0.4	
MKAR	**Makanchi Array**	**44.17**	**56**	P	**P**	20 37 36.8	-0.4	
ZALV	**Zalesovo Beam**	**45.46**	**46**	P	**P**	20 37 46.2	-1.2	
	comp=N,0.6nm,0.6s,mb3.6,baz=262,slow=8.4,SNR=4.6							
ZALV	**Zalesovo Beam**	**45.46**	**46**	P	**P**	20 37 46.2	-1.2	
ZALV	**Zalesovo Beam**	**45.46**	**46**	P	**P**	20 37 46.2	-1.2	

*NEIC **11** 20:31:03.4±0.7, 1°.03N×97°.11E, h30km, mb4.1/4, Error ellipse: s-maj=15.2km s-min=12.4km az=64.0*
*IDC **11** 20:31:04.7±8.9, 1°.01N×97°.18E, h33km±57km, mb3.7/6, mb1 3.6/8, mb1mx3.4/25, mbtmp3.6/8, ML3.4/2, Error ellipse: s-maj=72.7km s-min=20.4km az=63.0*
*DJA **11** 20:31:04, 1°.24N×97°.18E, h11km, MLv3.8/9*
ISC 11 20:31:00.5±2.2, 1°.06N±0°.07×96°.98E±0°.07, h8km±12km, n31, σ0°90/35, mb3.9/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPTI		**2.19**	**5**	P	**Pn**	**20 31 37.0**	**-0.3**
TPTI				S	**Sn**	**20 32 04.4**	**-0.3**
PSI	**Prapat**	**2.60**	**48**	Pn	**Pn**	**20 31 41.9**	**-1.0**
	2.8nm,0.3s,baz=226,slow=7.7,SNR=9.4						
PSI				Pg	**Pg**	**20 31 49.8**	**-0.5**
	4.6nm,0.3s,baz=230,slow=6.6,SNR=11						
PSI	**Prapat**	**2.60**	**48**	Pn	**Pn**	**20 31 41.9**	**-1.0**
PSI				Pg	**Pg**	**20 31 49.8**	**-0.5**
PSI	**Prapat**	**2.60**	**48**	P	**Pn**	**20 31 42.3**	**-0.6**
MNSI	**Mandailing Nat**	**2.61**	**96**	P	**Pn**	**20 31 42.8**	**-0.2**
MNSI				S	**Sn**	**20 32 15.0**	**+0.1**
TSI	**Tuntungan**	**2.89**	**33**	P	**Pn**	**20 31 48.0**	**+1.0**
PPI	**Padang Panjang**	**3.73**	**114**	P	**Pn**	**20 32 00.5**	**+2.0**
PDSI	**Padang**	**3.99**	**119**	P	**Pn**	**20 32 06.2**	**+4.1**
IPM	**Ipoh**	**5.28**	**50**	P	**Pn**	**20 32 20.4**	**+0.7**
	0.1nm37nm,0.8s						
KULM	**Kulim**	**5.57**	**41**	*e*Pn	**Pn**	**20 32 22.9**	**-0.9**
	43nm,0.8s						
KULM	**Kulim**	**5.57**	**41**	P	**Pn**	**20 32 23.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**17.40**	**6**	P	**Pn**	**20 35 03.4**	**-0.4**
	0.1nm,0.3s,baz=194,slow=12,SNR=6.1						
CMAR	**Chiang Mai Arr**	**17.40**	**6**	P	**Pn**	**20 35 03.4**	**-0.4**
CHTO	**Chiang Mai**	**17.75**	**6**	*e*P	**Pn**	**20 35 09.1**	**+1.0**
	3.5nm,1.0s						
ASAR	**Alice Springs**	**43.48**	**127**	P	**P**	**20 39 04.0**	**-0.6**
	0.4nm,0.8s,mb3.2,baz=294,slow=8.2,SNR=3.6						
ASAR	**Alice Springs**	**43.48**	**127**	P	**P**	**20 39 04.0**	**-0.6**
KSRS	**Korea Array**	**46.08**	**35**	P	**P**	**20 39 24.8**	**-0.4**
	2.6nm,0.9s,mb4.2,baz=220,slow=8.7,SNR=6.8						
SONM	**Songino Array**	**47.30**	**9**	P	**P**	**20 39 34.3**	**-0.2**
	1.1nm,0.5s,mb4.0,baz=189,slow=9.5,SNR=12						
SONM				PcP	PcP	20 41 06.5	+0.9
	0.4nm,0.7s,baz=169,slow=2.8,SNR=2.7						
SONM	**Songino Array**	**47.30**	**9**	P	**P**	**20 39 34.3**	**-0.2**
SONM				PcP	PcP	20 41 06.5	+0.9
MK31	**Makanchi Array**	**47.33**	**346**	eP	**P**	**20 39 33.2**	**-1.5**
MKAR	**Makanchi Array**	**47.33**	**346**	P	**P**	**20 39 36.4**	**+1.6**
	1.1nm,0.7s,mb3.9,baz=159,slow=7.9,SNR=8.7						
MKAR	**Makanchi Array**	**47.33**	**346**	P	**P**	**20 39 36.4**	**+1.6**
ULN	**Ulaanbaatar**	**47.43**	**9**	eP	**P**	**20 39 36.0**	**+0.5**
STKA	**Stephens Creek**	**53.42**	**132**	P	**P**	**20 40 19.2**	**-2.0**
	0.9nm,0.6s,mb3.9,baz=346,slow=12,SNR=3.8						
STKA	**Stephens Creek**	**53.42**	**132**	P	**P**	**20 40 19.2**	**-2.0**
ZAAQ	**Zalesovo Array**	**53.66**	**351**	eP	**P**	**20 40 22.9**	**+0.4**
ZALV	**Zalesovo Beam**	**53.66**	**351**	P	**P**	**20 40 23.4**	**+0.9**
	2.3nm,0.8s,mb4.2,baz=176,slow=5.9,SNR=9.3						
ZALV	**Zalesovo Beam**	**53.66**	**351**	P	**P**	**20 40 23.4**	**+0.9**
BRVK	**Borovoye**	**56.37**	**341**	P	**P**	**20 40 42.0**	**-0.1**
	2.2nm,1.0s,mb4.1						
ABKAR	**Akbulak array**	**57.53**	**332**	*e*P	**P**	**20 40 51.0**	**+0.5**
	1.0nm,0.7s,mb4.0						
GNI	**Garni**	**61.24**	**316**	P	**P**	**20 41 15.7**	**-0.6**

*IDC **11** 20:34:31.3±0.6, 0°.59S×135°.72E, h0km, mb4.1/11, mb1 4.4/12, mb1mx4.2/22, mbtmp4.2/12, ML4.5/1, MS3.4/7, Ms1 3.4/7, ms1mx3.0/26, Error ellipse: s-maj=31.2km s-min=14.1km az=71.0*
*ISCJB **11** 20:34:35.4±0.8, 0°.61S±0°.06×135°.92E±0°.05, h52km±7km, mb4.1/17, MS3.4/5, Error ellipse: s-maj=11.0km s-min=6.9km az=33.2*
*NEIC **11** 20:34:37.0±1.6, 0°.64S×135°.65E, h42km±15km, mb4.3/10, Error ellipse: s-maj=13.9km s-min=7.4km az=65.0*
NEIC Felt [III] at Biak.
*DJA **11** 20:34:36, 0°.59S×136°.02E, h25km, mb4.8/9*
ISC 11 20:34:36.9±0.7, 0°.62S±0°.06×135°.96E±0°.05, h48km±7km, n63, σ1°10/56, mb4.1/17, MS3.4/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAKI	**Biak**	**0.59**	**165**	P	**Pn**	**20 34 48.1**	**-1.1**
BAKI				S	**Sn**	**20 34 57.6**	**-0.3**
SMPI	**Sarmi**	**3.07**	**116**	P	**Pn**	**20 35 23.4**	**+0.4**
SMPI				S	**Sn**	**20 35 58.4**	**-0.1**
SWI	**Sorong**	**4.70**	**267**	P	**Pn**	**20 35 45.0**	**-0.3**
JAY	**Jayapura**	**5.11**	**112**	P	**Pn**	**20 35 49.0**	**-1.9**
	1.5nm7μm36nm,0.3s						
TLE	**Tual**	**5.93**	**213**	P	**Pn**	**20 36 03.2**	**+1.0**
	0.3nm109nm,0.8s						
BNDI	**Bandanaira**	**7.18**	**237**	P	**Pn**	**20 36 20.5**	**+1.1**
	0.7nm2μm55nm,1.6s						
TNTI	**Ternate**	**8.70**	**279**	P	**Pn**	**20 36 41.5**	**+1.3**
	2μm121nm,0.8s						
MNI	**Manado**	**11.30**	**280**	P	**Pn**	**20 37 16.8**	**+0.9**
	1μm187nm,0.9s						
DAV	**Davao City (W)**	**12.87**	**307**	LR	LR	20 42 01.3	
	comp=Z,90nm,19.7s,baz=340,slow=36						
PMG	**Port Moresby**	**14.16**	**128**	*e*P	**Pn**	**20 37 57.8**	**+2.9**
	11nm,0.8s						
GUMO	**Guam**	**16.65**	**32**	LR	LR	20 43 25.4	
	comp=Z,108nm,19.8s,baz=267,slow=32						
WRAB	**Tennant Creek**	**19.26**	**185**	*e*P	**Pn**	**20 38 57.3**	**-1.6**
	12nm,0.7s						
WB2	**Warramunga Arr**	**19.27**	**185**	*e*P	**Pn**	**20 38 57.6**	**-1.4**
WRA	**Warramunga Arr**	**19.27**	**185**	P	**Pn**	**20 38 57.4**	**-1.6**
	1.6nm,0.3s,baz=2.6,slow=11,SNR=62						
WRA	**Warramunga Arr**	**19.27**	**185**	P	**Pn**	**20 38 57.4**	**-1.6**
FITZ	**Fitzroy Crossi**	**20.11**	**210**	P	**P**	**20 39 05.9**	**-1.0**
	6.5nm,0.9s,baz=47,slow=11,SNR=13						
FITZ				S	**S**	**20 42 41.7**	**-8.6**
	1.8nm,0.7s,baz=288,slow=19,SNR=2.5						
FITZ				LR	LR	20 47 45.3	
	comp=Z,68nm,19.6s,MS3.0,baz=170,slow=40						
FITZ	**Fitzroy Crossi**	**20.11**	**210**	*e*P	**P**	**20 39 05.7**	**-1.2**
	12nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.11**	**210**	P	**P**	**20 39 05.9**	**-1.0**
FITZ				S	**S**	**20 42 41.7**	**-8.6**
FITZ				LR	LR	20 47 45.2	
QIS	**Mount Isa**	**20.14**	**170**	*e*P	**P**	**20 39 07.9**	**+0.8**
CTA	**Charters Tower**	**21.82**	**153**	P	**P**	**20 39 28.0**	**+2.8**
	13nm,0.6s,mb4.5,baz=334,slow=12,SNR=16						
CTA				LR	LR	20 47 51.1	
	comp=Z,73nm,20.3s,MS3.1,baz=219,slow=36						
CTA	**Charters Tower**	**21.82**	**153**	*e*P	**P**	**20 39 27.3**	**+2.1**
	9.8nm,0.6s,mb4.4						
CTA	**Charters Tower**	**21.82**	**153**	P	**P**	**20 39 28.0**	**+2.8**
CTA				LR	LR	20 47 51.1	
CTAO	**Charters Tower**	**21.82**	**153**	*e*P	**P**	**20 39 27.8**	**+2.6**
	19nm,0.8s,mb4.6						
ASAR	**Alice Springs**	**23.00**	**185**	P	**P**	**20 39 38.0**	**+0.3**
	16nm,0.6s,mb4.7,baz=13,slow=12,SNR=128						
ASAR	**Alice Springs**	**23.00**	**185**	P	**P**	**20 39 38.0**	**+0.3**
QLP	**Quilpie**	**27.02**	**164**	*e*P	**P**	**20 40 15.6**	**+1.1**
STKA	**Stephens Creek**	**31.54**	**171**	P	**P**	**20 40 55.0**	**+0.3**
	16nm,0.6s,mb5.0,baz=346,slow=8.1,SNR=58						
STKA	**Stephens Creek**	**31.54**	**171**	*e*P	**P**	**20 40 54.7**	**0.0**
	9.3nm,0.4s,mb5.0						
STKA	**Stephens Creek**	**31.54**	**171**	*e*P	**P**	**20 40 54.5**	**-0.2**
	2.7nm,0.6s,mb4.2						
NWAO	**Narrogin (SRO)**	**36.65**	**207**	LR	LR	20 59 06.4	
	comp=Z,80nm,19.7s,MS3.5,baz=102,slow=40						
KSRS	**K Array**	**38.60**	**351**	LR	LR	20 58 21.8	
	comp=Z,40nm,18.4s,MS3.3,baz=160,slow=37						
CMAR	**Chiang Mai Arr**	**41.02**	**299**	P	**P**	**20 42 15.3**	**-0.4**
	0.5nm,0.8s,mb3.2,baz=106,slow=6.4,SNR=6.4						
CMAR	**Chiang Mai Arr**	**41.02**	**299**	P	**P**	**20 42 15.3**	**-0.4**
CHTO	**Chiang Mai**	**41.16**	**300**	P	**P**	**20 42 14.3**	**-2.6**
LSA	**Lhasa**	**52.27**	**309**	P	**P**	**20 43 43.6**	**0.0**
	1.7nm,0.6s,mb4.2						
URZ	**Urewera**	**53.18**	**140**	P	**P**	**20 43 52.2**	**+1.9**
	1.8nm,0.4s,mb4.4,baz=260,slow=16,SNR=3.6						
URZ	**Urewera**	**53.18**	**140**	P	**P**	**20 43 52.2**	**+1.9**
SONM	**Songino Array**	**54.68**	**336**	P	**P**	**20 44 01.4**	**+0.4**
	0.3nm,0.5s,mb3.6,baz=152,slow=7.2,SNR=4.4						
SONM				LR	LR	21 06 09.4	
	comp=Z,92nm,18.2s,MS3.9,baz=182,slow=35						
SONM	**Songino Array**	**54.68**	**336**	P	**P**	**20 44 01.4**	**+0.4**
SONM				LR	LR	21 06 09.4	
MK31	**Makanchi Array**	**66.47**	**323**	eP	**P**	**20 45 21.6**	**+0.2**
MKAR	**Makanchi Array**	**66.47**	**323**	P	**P**	**20 45 22.1**	**+0.7**
	1.8nm,0.6s,mb4.3,baz=106,slow=8.2,SNR=27						
MKAR	**Makanchi Array**	**66.47**	**323**	P	**P**	**20 45 22.1**	**+0.7**
ZAAQ	**Zalesovo Array**	**68.76**	**330**	eP	**P**	**20 45 36.2**	**+0.5**
ZALV	**Zalesovo Beam**	**68.76**	**330**	P	**P**	**20 45 35.4**	**-0.4**
	0.3nm,0.3s,mb3.7,baz=102,slow=6.4,SNR=4.4						
ZALV	**Zalesovo Beam**	**68.76**	**330**	P	**P**	**20 45 35.4**	**-0.4**
EKS2	**Erkin-Say**	**70.31**	**316**	*e*P	**P**	**20 45 44.6**	**-0.9**
	2.1nm,0.7s,mb4.2						
KURK	**Kurchatov**	**70.44**	**325**	*e*P	**P**	**20 45 46.1**	**0.0**
	4.9nm,0.8s,mb4.5						
KURK				*e*	pP	20 45 56.5	-3.4
BRVK	**Borovoye**	**76.11**	**325**	*e*P	**P**	**20 46 19.5**	**0.0**
	3.1nm,0.7s,mb4.3						
BRVK				*e*	pP	20 46 29.8	-3.6
VNDA	**Vanda**	**78.10**	**174**	P	**P**	**20 46 31.6**	**+1.3**
	1.9nm,0.7s,mb4.2,baz=328,slow=7.1,SNR=12						
VNDA	**Vanda**	**78.10**	**174**	*e*P	**P**	**20 46 31.3**	**+1.0**
	1.2nm,0.7s,mb3.9						
ABKAR	**Akbulak array**	**81.36**	**320**	*e*P	**P**	**20 46 47.6**	**-0.9**
	1.5nm,0.8s,mb4.0						
MAW	**Mawson**	**83.03**	**202**	*e*P	**P**	**20 46 55.3**	**-1.5**
	0.7nm,1.1s,mb3.6						
ARU	**Arti**	**83.55**	**327**	*e*P	**P**	**20 46 58.4**	**-1.4**
ILAR	**Eielson Array**	**85.09**	**25**	P	**P**	**20 47 07.8**	**+0.4**
	0.5nm,0.8s,mb3.7,baz=272,slow=4.7,SNR=6.8						
ILAR	**Eielson Array**	**85.09**	**25**	P	**P**	**20 47 07.8**	**+0.4**
QSPA	**South Pole Qui**	**89.31**	**180**	*e*P	**P**	**20 47 28.7**	**+1.1**
	7.6nm,1.1s,mb4.9						
TORD	**Torodi Ar. Bea**	**133.02**	**287**	PKP	PKPdf	20 53 48.7	+0.6
	0.4nm,0.8s,baz=54,slow=1.6,SNR=2.8						
TORD	**Torodi Ar. Bea**	**133.02**	**287**	PKP	PKPdf	20 53 48.7	+0.6
ATAH	**Atahualpa**	**144.88**	**103**	PKPbc	PKPdf	20 54 13.2	+3.4
	8.2nm,0.8s,baz=236,slow=6.6,SNR=5.0						
CPUP	**Villa Florida**	**150.30**	**155**	PKPbc	PKPbc	20 54 25.4	+1.7
	2.8nm,0.6s,baz=321,slow=1.8,SNR=9.3						
CPUP	**Villa Florida**	**150.30**	**155**	PKPbc	PKPbc	20 54 25.4	+1.7
LPAZ	**La Paz**	**150.89**	**126**	PKPbc	PKPbc	20 54 28.7	+3.4
	3.9nm,0.8s,baz=248,slow=1.1,SNR=14						
LPAZ	**La Paz**	**150.89**	**126**	PKPbc	PKPbc	20 54 28.7	+3.4

*ISCJB **11** 20:38:15.7±1.6, 26°.8N±0°.1×54°.91E±0°.07, h10km, Error ellipse: s-maj=17.6km s-min=8.2km az=169.4*
*KISR **11** 20:38:16.5±0.3, 26°.78N×54°.36E, h34km, ML2.9*
*TEH **11** 20:38:20.6, 26°.73N×55°.11E, h17km*
ISC 11 20:38:17.3±1.6, 26°.8N±0°.1×54°.96E±0°.07, h10km, n7, σ1°8/10, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBND	**Bandar-abas**	**1.56**	**64**	*e*Pn	**Pn**	**20 38 46.3**	**+1.1**
IBND				*e*Sg	**Sg**	**20 39 06.5**	**-1.1**
IBND				*e*		20 39 09.4	
	comp=Z,9μm,0.3s						
ISRV	**Sarvestan**	**3.08**	**328**	*e*Pn	**Pn**	**20 39 09.6**	**+3.6**
ISRV				*e*		20 40 23.8	
	comp=Z,398nm,0.5s						
IPAR	**Pars**	**3.50**	**332**	*e*Pn	**Pn**	**20 39 15.7**	**+3.9**
IPAR				*e*		20 40 36.3	
	comp=Z,200nm,0.5s						
IMEH	**Mehriz**	**4.62**	**356**	*e*Pn	**Pn**	**20 39 28.1**	**+0.9**
IBAF	**Bafgh**	**4.84**	**6**	*e*Pn	**Pn**	**20 39 30.6**	**+0.4**
IBAF				*e*		20 39 33.5	
	comp=Z,319nm,0.2s						
IBAF				*e*Sn	**Sn**	**20 40 26.0**	**-0.3**
NAY	**Al-Naaiem**	**7.26**	**292**	*e*P	**Pn**	**20 40 02.6**	**-0.9**
NAY				*e*S	**Sn**	**20 41 22.1**	**-3.9**
NAY				AML	AML	20 41 24.0	
	comp=Z,2.4nm,0.6s						
MIB	**Mutribah**	**7.37**	**296**	*e*P	**Pn**	**20 40 04.4**	**-0.7**

IDC 11 20:51:03.6±2.7, 2°.75S×137°.01E, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=87.5km s-min=27.0km az=86.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.28**	**188**	P	Pn	20 55 06.3	-0.2
	0.2nm,0.3s,baz=9.6,slow=12,SNR=22						
WRA				S	Sn	20 58 07.3	-12
	0.1nm,0.3s,baz=2.3,slow=23,SNR=4.5

BJI ***11*** *21:55:59.3, 37.˚68N×95.˚75E, h10km, mB5.1/30, mb5.0/49, ML5.4/8, Ms5.3/66, Ms7 5.1/59*

IDC ***11*** *21:55:59.8±0.4, 37.˚56N×95.˚98E, h0km, mb4.9/29, mb1 5.0/34, mb1mx5.0/37, mbtmp5.0/34, ML4.9/5, MS4.5/32, Ms1 4.5/32, ms1mx4.4/41, Error ellipse: s-maj=14.2km s-min=10.6km az=32.0*

ISCJB ***11*** *21:56:00.5±0.1, 37.˚54N±0.˚02×95.˚78E±0.˚02, h10km, mb5.2/267, MS4.8/77, Error ellipse: s-maj=2.6km s-min=1.9km az=10.6*

NEIC ***11*** *21:56:01.8±0.1, 37.˚54N×95.˚84E, h10km, mb5.4/121, MS4.8/4, Error ellipse: s-maj=3.0km s-min=2.8km az=220.0*

MOS ***11*** *21:56:03.2±0.8, 37.˚53N×95.˚89E, h32km, mb5.5/114, MS4.9/46, Error ellipse: s-maj=5.7km s-min=3.4km az=122.8*

GCMT ***11*** *21:56:04.6±0.2, 37.˚52N×95.˚82E, h24km±1km, MW5.1, Moment Tensor Solution. s37,c57; s86,c134; Moment tensor: Scale 10^{16}Nm; M_{rr}2.07±.17; $M_{\theta\theta}$-0.96±.11; $M_{\phi\phi}$-1.12±.12; $M_{r\theta}$3.33±.22; $M_{r\phi}$4.03±.10; $M_{\theta\phi}$-1.26±.16; Best double couple: $M_0$5.50000×10^{16} NP1:ϕ_s357.00000°, δ41.00000°, λ158.00000°. NP2:ϕ_s104.00000°, δ76.00000°, λ51.00000°. Principal axes: T 4.5700, Plg45.0000°, Azm335.0000°; N 1.7700, Plg37.0000°, Azm114.0000°; P -6.3500, Plg22.0000°, Azm222.0000°; Data Used: II IU IC G CN.*

SZGRF ***11*** *21:56:04.8, 37.˚26N×96.˚17E, h33km, mb5.3, MS5.0, Qinghai, China*

DJA ***11*** *21:56:05, 37.˚79N×95.˚53E, h10km, mb5.3/37*

NNC ***11*** *21:56:10.0±5.2, 38.˚02N×95.˚26E, h23km±36km, mb5.2, Error ellipse: s-maj=36.8km s-min=22.8km az=30.0*

ISC 11 21:56:00.7±0.8, 37.˚54N±0.˚02×95.˚86E±0.˚02, h1km±4km, **n1026, σ0.˚97/1030, mb5.2**/267, **MS4.8**/77, **219C-64D, Qinghai**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GTA	**Gaotai**	**3.62**	**58**	⇑Pn		**Pn**	**21 57 00.1**	**+2.2**
GTA				Pg		**Pb**	**21 57 06.9**	**+1.4**
GTA				Sn		**Sn**	**21 57 41.9**	**+0.7**
GTA				Sg		**Sb**	**21 57 51.3**	**+1.4**
GTA				smax				
	comp=N,2μm,1.3s							
GTA				smax				
	comp=E,2μm,1.4s							
GTA				LR	LR			
	comp=N,19μm,8.5s							
GTA				LR	LR			
	comp=E,48μm,8.5s							
GTA				LR	LR			
	comp=Z,45μm,9.0s							
LZH	**Lanzhou**	**6.57**	**100**	Pn		**Pn**	**21 57 39.4**	**+1.0**
LZH				Sn		**Sn**	**21 58 55.0**	**+1.1**
LZH				smax				
	comp=N,3μm,1.1s							
LZH				smax				
	comp=E,2μm,1.2s							
LZH				LR	LR			
	comp=N,26μm,10.1s							
LZH				LR	LR			
	comp=E,15μm,10.0s							
LZH				LR	LR			
	comp=Z,16μm,7.8s							
LSA	**Lhasa**	**8.75**	**208**	P		**Pn**	**21 58 12.2**	**+3.9**
LSA				LR	LR			
	comp=N,4μm,10.0s							
LSA				LR	LR			
	comp=E,8μm,10.0s							
LSA				LR	LR			
	comp=Z,14μm,11.0s							
LSA	**Lhasa**	**8.75**	**208**	*e*Pn		**Pn**	**21 58 11.7**	**+3.4**
	comp=Z,151nm,0.8s							
LSA	**Lhasa**	**8.75**	**208**	*e*P		**Pn**	**21 58 11.7**	**+3.4**
LSA				pmax	pmax			
	comp=Z,151nm,0.8s							
WMQ	**Urumqi**	**8.82**	**318**	P		**Pn**	**21 58 10.0**	**+0.8**
WMQ				pP			21 58 13.2	
WMQ				sP			21 58 16.0	
WMQ				S		**Sn**	**21 59 49.0**	**-0.1**
WMQ				sS			21 59 54.0	
WMQ				ScS	ScS		22 11 40.0	-2.6
WMQ				pmax	pmax			
	comp=Z,310nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,2μm,3.6s							
WMQ				smax				
	comp=N,970nm,0.6s							
WMQ				smax				
	comp=E,2μm,0.9s							
WMQ				LR	LR			
	comp=N,13μm,7.6s							
WMQ				LR	LR			
	comp=E,20μm,8.6s							
WMQ				LR	LR			
	comp=Z,6μm,13.7s							
CD2	**Chengdu**	**9.30**	**133**	P		**Pn**	**21 58 21.7**	**+5.8**
CD2				pP			21 58 24.9	
CD2				sP			21 58 27.7	
CD2				S		**Sn**	**22 00 09.0**	**+7.9**
CD2				sS			22 00 13.7	
CD2				pmax	pmax			
	comp=Z,60nm,1.1s							
CD2				pmax	pmax			
	comp=Z,140nm,4.5s							
CD2				LR	LR			
	comp=E,13μm,8.3s							
CD2				LR	LR			
	comp=Z,8μm,11.3s							
XAN	**Xi'an**	**11.17**	**104**	P		**Pn**	**21 58 38.7**	**-2.8**
XAN				pP			21 58 42.2	
XAN				S		**Sn**	**22 00 45.4**	**-1.5**
XAN				pmax	pmax			
	comp=Z,3.0nm,0.6s							
XAN				pmax	pmax			
	comp=Z,6.0nm,3.0s							
XAN				LR	LR			
	comp=N,8μm,14.0s							
XAN				LR	LR			
	comp=E,2μm,14.0s							
XAN				LR	LR			
	comp=Z,2μm,11.4s							
BTO	**Baotou**	**11.43**	**70**	*e*P		**Pn**	**21 58 44.4**	**-0.5**
BTO				LR	LR			
	comp=N,2μm,9.8s							
BTO				LR	LR			
	comp=E,2μm,10.8s							
TAPN	**Taplejung**	**12.27**	**216**	*e*P		**Pn**	**21 58 56.7**	**+0.2**
TAPN	**Taplejung**	**12.27**	**216**	*e*P		**Pn**	**21 58 56.7**	**+0.2**
SHL	**Shillong**	**12.41**	**197**	*e*PKP		**Pn**	**21 58 55.5**	**-3.0**
SHL				*ex*		x	22 01 13.5	
HHC	**Hu-ho-hao-te**	**12.62**	**70**	*e*P		**Pn**	**21 59 00.5**	**-0.8**
HHC				S		**Sn**	**22 01 19.0**	**-3.5**
HHC				LR	LR			
	comp=N,7μm,13.3s							
HHC	**Hu-ho-hao-te**	**12.62**	**70**	⇑P		**Pn**	**21 59 00.3**	**-1.0**
HHC				sP			21 59 05.8	
HHC				PP			21 59 10.7	
HHC				S		**Sn**	**22 01 20.5**	**-2.0**
HHC				SS			22 01 36.8	
HHC				PcS	PcS		22 08 10.7	-3.1
HHC				ScS	ScS		22 11 44.3	-5.5
HHC				pmax	pmax			
	comp=Z,44nm,1.3s							
HHC				pmax	pmax			
	comp=Z,210nm,4.8s							
HHC				LR	LR			
	comp=N,6μm,8.8s							
HHC				LR	LR			
	comp=E,5μm,9.7s							
HHC				LR	LR			
	comp=Z,4μm,9.5s							
GUN	**Gumba**	**12.75**	**224**	*e*P		**Pn**	**21 59 03.4**	**+0.3**
	comp=Z,361nm,1.1s							
GUN	**Gumba**	**12.75**	**224**	*e*P		**Pn**	**21 59 03.4**	**+0.3**
	comp=Z,361nm,1.1s							
ODAN	**Odare**	**12.83**	**216**	*e*P		**Pn**	**21 59 03.9**	**-0.3**
ODAN	**Odare**	**12.83**	**216**	*e*P		**Pn**	**21 59 03.9**	**-0.3**
SONM	**Songino Array**	**12.87**	**34**	Pn		**Pn**	**21 59 05.1**	**+0.5**
	comp=Z,16nm,0.3s,baz=218,slow=15,SNR=690							
SONM				Lg			22 02 40.5	
	comp=Z,0.7nm,0.3s,baz=214,slow=31,SNR=3.3							
SONM					LR	LR	22 04 25.8	
	comp=Z,8μm,19.9s,baz=217,slow=40							
SONM	**Songino Array**	**12.87**	**34**	Pn		**Pn**	**21 59 05.1**	**+0.5**
SONM				Lg			22 02 40.5	
SONM				LR	LR		22 04 25.8	
SONM	**Songino Array**	**12.87**	**34**	P		**Pn**	**21 59 05.1**	**+0.5**
SONM				pmax	pmax			
	comp=Z,16nm,0.3s							
SONM				MLR	MLR			
	comp=Z,8μm,19.9s							
TIY	**Taiyuan**	**13.14**	**84**	*e*P		**Pn**	**21 59 11.7**	**+3.3**
TIY				S		**Sn**	**22 01 33.1**	**-2.1**
TIY				LR	LR			
	comp=N,5μm,8.6s							
TIY				LR	LR			
	comp=E,5μm,8.5s							
TIY				LR	LR			
	comp=Z,7μm,11.8s							
KKN	**Kakani**	**13.18**	**226**	*e*P		**Pn**	**21 59 08.6**	**-0.4**
KKN	**Kakani**	**13.18**	**226**	*e*P		**Pn**	**21 59 08.6**	**-0.4**
KKN	**Kakani**	**13.18**	**226**	*e*P		**Pn**	**21 59 08.6**	**-0.4**
ULN	**Ulaanbaatar**	**13.18**	**35**	*e*Pn		**Pn**	**21 59 09.7**	**+0.8**
ULN				Sn		**Sn**	**22 01 35.4**	**-0.7**
ULN	**Ulaanbaatar**	**13.18**	**35**	*e*P		**Pn**	**21 59 09.7**	**+0.8**
ULN				P		**Pn**	22 01 35.4	
ULN	**Ulaanbaatar**	**13.18**	**35**	P		**Pn**	**21 59 09.7**	**+0.8**
	comp=Z,778nmcomp=Z,71nm,0.7s							
ULN				S		Sx	22 02 48.7	
	comp=Z,71nm,0.7s,comp=Z,778nm							
ULN	**Ulaanbaatar**	**13.18**	**35**	P		**Pn**	**21 59 10.1**	**+1.2**
	SNR=18							
PKI	**Pulchoki**	**13.28**	**225**	*e*P		**Pn**	**21 59 10.0**	**-0.3**
	comp=Z,294nm,0.9s							
PKI	**Pulchoki**	**13.28**	**225**	*e*P		**Pn**	**21 59 10.0**	**-0.3**
	comp=Z,294nm,0.9s							
PKI	**Pulchoki**	**13.28**	**225**	*e*P		**Pn**	**21 59 10.0**	**-0.3**
PKI				pmax	pmax			
	comp=Z,294nm,0.9s							
PKIN	**Phulchoki**	**13.28**	**225**	*e*P		**Pn**	**21 59 09.9**	**-0.4**
	comp=Z,186nm,0.9s							
GKN	**Gorkha**	**13.39**	**228**	*e*P		**Pn**	**21 59 10.9**	**-1.0**
	comp=Z,240nm,0.9s							
GKN	**Gorkha**	**13.39**	**228**	*e*P		**Pn**	**21 59 10.9**	**-1.0**
	comp=Z,240nm,0.9s							
DMN	**Daman**	**13.42**	**226**	*e*Pn		**Pn**	**21 59 11.7**	**-0.5**
DMN	**Daman**	**13.42**	**226**	*e*P		**Pn**	**21 59 11.7**	**-0.5**
ENH	**Enshi**	**13.43**	**119**	*e*Pn		**Pn**	**21 59 11.7**	**-0.7**
	comp=Z,155nm,1.0s							
MK31	**Makanchi Array**	**13.65**	**317**	⇑P		**Pn**	**21 59 13.1**	**-2.2**
	comp=Z,66nm,0.7s,baz=128,slow=12,SNR=1078							
MK31				⇓S		**Sn**	**22 01 40.5**	**-6.9**
	comp=Z,214nm,1.1s,baz=127,slow=25,SNR=7.7							
MK31				⇓Lg			22 02 58.1	
	comp=Z,176nm,0.9s,baz=131,slow=30,SNR=4.2							
MK31	**Makanchi Array**	**13.65**	**317**	*e*Pn		**Pn**	**21 59 13.4**	**-1.9**
MK31				*e*Sn		**Sn**	**22 01 43.9**	**-3.5**
MK31	**Makanchi Array**	**13.65**	**317**	*e*P		**Pn**	**21 59 13.4**	**-1.8**
MK31				*e*			22 01 43.9	
MKAR	**Makanchi Array**	**13.65**	**317**	Pn		**Pn**	**21 59 13.0**	**-2.2**
	comp=Z,7.6nm,0.3s,baz=121,slow=14,SNR=244							
MKAR				Sn		**Sn**	**22 01 43.9**	**-3.5**
	comp=Z,3.7nm,0.3s,baz=121,slow=26,SNR=5.3							
MKAR				Lg			22 03 14.3	
	baz=151,slow=21,SNR=2.4							
MKAR	**Makanchi Array**	**13.65**	**317**	Pn		**Pn**	**21 59 13.0**	**-2.2**
MKAR				Sn		**Sn**	**22 01 43.9**	**-3.5**
MKAR				Lg			22 03 14.3	
MKAR	**Makanchi Array**	**13.65**	**317**	P		**Pn**	**21 59 13.0**	**-2.2**
MKAR							22 01 43.9	
MKAR				pmax	pmax			
	comp=Z,8.0nm,0.3s							
MKAR				smax				
	comp=N,4.0nm,0.3s							
DANN	**Dangsing**	**13.67**	**231**	*e*P		**Pn**	**21 59 13.7**	**-2.0**
DANN	**Dangsing**	**13.67**	**231**	*e*P		**Pn**	**21 59 13.7**	**-2.0**
KMI	**Kunming**	**13.70**	**153**	P		**Pn**	**21 59 18.4**	**+2.3**
KMI				pP			21 59 27.9	
KMI				S		**Sn**	**22 01 54.4**	**+5.5**
KMI				SS			22 02 12.3	
KMI				pmax	pmax			
	comp=Z,12nm,1.0s							
KMI				pmax	pmax			
	comp=Z,210nm,4.2s							
KMI				LR	LR			
	comp=N,6μm,11.2s							
KMI				LR	LR			
	comp=E,4μm,14.5s							
KMI				LR	LR			
	comp=Z,7μm,12.2s							
ZAK	**Zakamensk**	**13.89**	**20**	*e*P		**Pn**	**21 59 20.5**	**+1.9**
ZAK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
KOLN	**Koldanda**	**14.19**	**230**	*e*P		**Pn**	**21 59 20.3**	**-2.4**
	comp=Z,87nm,0.8s							
KOLN	**Koldanda**	**14.19**	**230**	*e*P		**Pn**	**21 59 20.3**	**-2.4**
	comp=Z,87nm,0.8s							
GYA	**Guiyang**	**14.35**	**137**	⇑*i*P		**Pn**	**21 59 24.3**	**-0.6**
GYA				PP			21 59 37.6	
GYA				S		**Sn**	**22 02 08.9**	**+4.3**
GYA				SS			22 02 24.6	
GYA				pmax	pmax			
	comp=Z,30nm,0.8s							
GYA				pmax	pmax			
	comp=Z,180nm,4.6s							
GYA				LR	LR			
	comp=N,2μm,11.0s							
GYA				LR	LR			
	comp=E,4μm,11.4s							
GYA				LR	LR			
	comp=Z,5μm,12.6s							
MOY	**Mondy**	**14.58**	**13**	*e*P		**Pn**	**21 59 31.2**	**+3.2**
MOY				pmax	pmax			
	comp=Z,227nm,1.8s							
TLY	**Talaya**	**15.17**	**19**	*e*Pn		**Pn**	**21 59 36.5**	**+0.5**
	comp=Z,115nm,1.5s							
TLY	**Talaya**	**15.17**	**19**	*c i*P		**Pn**	**21 59 37.5**	**+1.5**
TLY				pmax	pmax			
	comp=Z,57nm,1.2s							
TLY				MLR	MLR			
	comp=Z,5μm,12.0s							
TLY	**Talaya**	**15.17**	**19**	P		**Pn**	**21 59 38.3**	**+2.3**
	comp=Z,242nm,1.7s,SNR=12							
TLY	**Talaya**	**15.17**	**19**	P		**Pn**	**21 59 38.8**	**+2.9**
	SNR=24							
KNDC	**Almaty**	**15.46**	**297**	⇑P		**Pn**	**21 59 38.7**	**-1.2**
KNDC					⇓S	**Sn**	**22 02 18.8**	**-13**
	comp=Z,324nm,1.1s							
AAA	**Alma-Ata**	**15.49**	**298**	*e*P		**Pn**	**21 59 39.0**	**-1.2**
AAA				*e*S		**Sn**	**22 02 25.1**	**-7.3**
AAA				pmax	pmax			
	comp=Z,1μm,1.5s							
KSH	**Kashi**	**15.69**	**283**	⇓*i*P		**Pn**	**21 59 44.1**	**+1.3**
KSH				pP		pP	21 59 47.6	+0.1
KSH				sP		sP	21 59 51.1	+3.4
KSH				PP			21 59 56.8	
KSH				S		**Sn**	**22 02 37.7**	**+0.5**
KSH				SS			22 02 55.5	
KSH				PcP		PcP	22 04 46.4	+2.7
KSH				ScP		ScP	22 08 18.8	-0.1
KSH				PcS		PcS	22 08 20.5	+1.4
KSH				ScS		ScS	22 11 56.0	-1.3
KSH				pmax	pmax			
	comp=Z,100nm,1.0s							
KSH				LR	LR			
	comp=N,3μm,9.1s							
KSH				LR	LR			
	comp=E,3μm,9.0s							
KSH				LR	LR			
	comp=Z,3μm,7.3s							
ULHL	**Ulahol**	**15.77**	**293**	P		**Pn**	**21 59 41.6**	**-2.2**
	SNR=9.9							
IRK	**Irkutsk**	**15.84**	**19**	*e*P		**Pn**	**21 59 46.9**	**+2.1**
IRK				pmax	pmax			
	comp=Z,420nm,2.1s							
BJT	**Baijiatuau**	**16.03**	**75**	*e*Pn		**Pn**	**21 59 47.9**	**+0.6**
	comp=Z,254nm,1.3s							
BJT				*e*PcP		PcP	22 04 44.8	+0.6
BJT	**Baijiatuau**	**16.03**	**75**	*e*P		**Pn**	**21 59 47.9**	**+0.6**
BJT				pmax	pmax			
	comp=Z,254nm,1.3s							
BJI	**Beijing**	**16.04**	**75**	P		**Pn**	**21 59 48.7**	**+1.4**
BJI				pmax	pmax			
	comp=Z,130nm,1.3s							
BJI				pmax	pmax			
	comp=Z,420nm,3.5s							
BJI				LR	LR			
	comp=N,9μm,12.2s							
BJI				LR	LR			
	comp=E,2μm,19.5s							
BJI				LR	LR			
	comp=Z,2μm,17.0s							
TKM2	**Tokmak 2**	**16.37**	**295**	P		**Pn**	**21 59 49.6**	**-1.9**
	SNR=208							
TKM2	**Tokmak 2**	**16.37**	**295**	⇑P		**Pn**	**21 59 49.8**	**-1.8**
	comp=Z,156nm,0.7s							
TKM2				⇓S		**Sn**	**22 02 44.2**	**-10**
	comp=Z,63nm,0.9s							
TKM2				⇓Lg			22 04 34.9	
	comp=Z,229nm,1.6s							
TKM2	**Tokmak 2**	**16.37**	**295**	*e*Pn		**Pn**	**21 59 50.3**	**-1.3**
	comp=Z,179nm,0.8s							
TKM2	**Tokmak 2**	**16.37**	**295**	*e*P		**Pn**	**21 59 50.3**	**-1.3**
TKM2				pmax	pmax			
	comp=Z,179nm,0.8s							
KZA	**Kyzart**	**16.46**	**292**	P		**Pn**	**21 59 52.1**	**-0.7**
	SNR=53							
SDNR	**Sundarnagar**	**16.68**	**254**	*ex*		**Sn**	**22 03 10.0**	**+8.5**
SMLA	**Simla**	**16.70**	**253**	*i* P		**Pn**	**21 59 55.2**	**-0.7**
SMLA				*i* x		x	22 02 43.1	
KBK	**Karagaybulak**	**16.78**	**294**	P		**Pn**	**21 59 55.2**	**-1.6**
	SNR=190							
WHN	**Wuhan**	**16.83**	**109**	⇑P		**Pn**	**22 00 00.1**	**+2.6**
WHN				S		**Sn**	**22 03 13.6**	**+8.6**
WHN				LR	LR			
	comp=N,8μm,15.3s							
WHN				LR	LR			
	comp=E,11μm,10.1s							
WHN				LR	LR			
	comp=Z,14μm,12.6s							
CHMS	**Chumysh**	**16.99**	**295**	P		**Pn**	**21 59 58.4**	**-1.1**
	SNR=27							
UCH	**Uchtor**	**17.03**	**293**	P		**Pn**	**21 59 59.8**	**-0.2**
	SNR=17							
FRU	**Bishkek**	**17.05**	**295**	⇓*e*P		**Pn**	**21 59 59.0**	**-1.3**
FRU				pmax	pmax			
	comp=Z,290nm,1.2s							
TIA	**Tai'an**	**17.07**	**88**	*e*P		**Pn**	**22 00 02.6**	**+2.1**
TIA				S		**Sn**	**22 03 16.8**	**+6.0**
TIA				LR	LR			
	comp=N,3μm,13.0s							
AAK	**Ala-Archa**	**17.11**	**294**	P		**Pn**	**21 59 60.0**	**-1.0**
	SNR=75							
BHK	**Bhakra**	**17.14**	**255**	*ex*		**Pn**	**22 00 03.0**	**+1.5**
USP	**Ospenovka**	**17.23**	**296**	P		**Pn**	**22 00 01.5**	**-0.9**
	SNR=60							
KKR	**Kurukshetra**	**17.53**	**250**	*e*PKP		**Pn**	**22 00 03.5**	**-2.8**
AML	**Almayashu**	**17.61**	**292**	P		**Pn**	**22 00 06.9**	**-0.4**
	SNR=69							
EKS2	**Erkin-Say**	**17.63**	**294**	P		**Pn**	**22 00 08.5**	**+1.0**
	SNR=48							
EKS2	**Erkin-Say**	**17.63**	**294**	*e*Pn		**Pn**	**22 00 07.5**	**0.0**
	comp=N,57nm,0.9s							
EKS2	**Erkin-Say**	**17.63**	**294**	*e*P		**Pn**	**22 00 07.5**	**0.0**
EKS2				pmax	pmax			
	comp=Z,57nm,0.9s							
BISR	**Bishrakh**	**17.82**	**245**	*ex*		**Pn**	**22 00 02.6**	**-7.3**
NDI	**New Delhi**	**17.92**	**246**	*ex*		**Pn**	**22 00 04.8**	**-6.4**
NDI				AMb		AMB	22 00 21.2	
	comp=Z,92nm,0.6s							
CHRT	**Chiangrai**	**17.94**	**168**	⇑P		**Pn**	**22 00 10.5**	**-0.9**
	comp=Z,145nm,1.0s							
KURK	**Kurchatov**	**18.01**	**322**	⇑P		**Pn**	**22 00 09.7**	**-2.4**
	comp=Z,186nm,1.1s							
KURK	**Kurchatov**	**18.01**	**322**	Pn		**Pn**	**22 00 09.1**	**-3.0**
	comp=Z,1.8nm,0.3s,baz=130,slow=12,SNR=85							
KURK				Lg			22 05 38.6	
	baz=136,slow=30,SNR=4.0							
KURK	**Kurchatov**	**18.01**	**322**	*e*Pn		**Pn**	**22 00 10.0**	**-2.1**
	comp=Z,162nm,1.0s							
KURK	**Kurchatov**	**18.01**	**322**	*e*P		**Pn**	**22 00 10.0**	**-2.1**
KURK				pmax	pmax			
	comp=Z,162nm,1.0s							
KURK	**Kurchatov**	**18.01**	**322**	P		**Pn**	**22 00 10.5**	**-1.6**
	SNR=69							
ZAA0	**Zalesovo Array**	**18.09**	**339**	*e*Pn		**Pn**	**22 00 11.8**	**-1.3**
ZALV	**Zalesovo Beam**	**18.09**	**339**	P		**Pn**	**22 00 11.8**	**-1.3**
	comp=Z,1.7nm,0.3s,baz=152,slow=11,SNR=159							
ZALV				Lg			22 05 23.3	
	comp=Z,0.1nm,0.3s,baz=176,slow=24,SNR=3.7							
ZALV				LR	LR		22 07 31.4	
	comp=Z,2μm,21.9s,baz=153,slow=38							
ZALV	**Zalesovo Beam**	**18.09**	**339**	P		**Pn**	**22 00 11.8**	**-1.3**
ZALV				Lg			22 05 23.3	
ZALV				LR	LR		22 07 31.4	
ZALV	**Zalesovo Beam**	**18.09**	**339**	P		**Pn**	**22 00 11.8**	**-1.2**
ZALV				pmax	pmax			
	comp=Z,2.0nm,0.3s							
ZALV				MLR	MLR			
	comp=Z,2μm,21.9s							
AYAN	**Aya Nagar**	**18.10**	**246**	*e*PKP		**Pn**	**22 00 08.9**	**-4.4**
BHGR	**Bahadurgarh**	**18.12**	**246**	*e*PKP		**Pn**	**22 00 10.1**	**-3.5**
SONA	**Sohna**	**18.26**	**245**	*e*PKP		**Pn**	**22 00 11.4**	**-4.0**
AGRA	**Agra**	**18.26**	**241**	*e*PKP		**Pn**	**22 00 11.0**	**-4.4**
RTK	**Rohtak**	**18.31**	**248**	*e*PKP		**Pn**	**22 00 11.7**	**-4.3**
KUDL	**Kundal**	**18.75**	**246**	*e*PKP		**Pn**	**22 00 17.1**	**-4.3**
CHG	**Chiang Mai**	**18.85**	**171**	⇓P		**Pn**	**22 00 23.3**	**+0.7**
	comp=Z,40nm,1.0s							
CHTO	**Chiang Mai**	**18.85**	**171**	*e*P		**Pn**	**22 00 22.9**	**+0.2**
	comp=Z,31nm,1.0s							
CHTO	**Chiang Mai**	**18.85**	**171**	*e*P		**Pn**	**22 00 22.9**	**+0.3**
CHTO				pmax	pmax			
	comp=Z,31nm,1.0s							
CHTO	**Chiang Mai**	**18.85**	**171**	P		**Pn**	**22 00 23.4**	**+0.8**
	comp=Z,932nmcomp=Z,45nm,1.6s							
CHTO	**Chiang Mai**	**18.85**	**171**	P		**Pn**	**22 00 23.4**	**+0.8**
	SNR=11							
CIT	**Chita**	**19.09**	**35**	*e*P		**Pn**	**22 00 17.1**	**-8.2**
CIT				pmax	pmax			
	comp=Z,552nm,2.3s							
CM31	**Chiang Mai Arr**	**19.21**	**171**	*e*P		**Pn**	**22 00 26.4**	**-0.4**
	comp=Z,18nm,0.7s							
CMAR	**Chiang Mai Arr**	**19.21**	**171**	P		**Pn**	**22 00 26.6**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=341,slow=10,SNR=68							
CMAR				PcP	PcP		22 04 49.5	-0.2
	comp=Z,0.1nm,0.3s,baz=295,slow=2.3,SNR=5.9							
CMAR				LR	LR		22 07 45.3	
	comp=Z,424nm,19.8s,baz=349,slow=37							
CMAR				ScP	ScP		22 08 25.3	-1.2
	comp=Z,0.1nm,0.3s,baz=337,slow=3.0,SNR=16							
CMAR	**Chiang Mai Arr**	**19.21**	**171**	P		**Pn**	**22 00 26.6**	**-0.3**
CMAR				PcP	PcP		22 04 49.5	-0.2
CMAR				LR	LR		22 07 45.3	
CMAR				ScP	ScP		22 08 25.3	-1.2
CMAR	**Chiang Mai Arr**	**19.21**	**171**	P		**Pn**	**22 00 26.6**	**-0.3**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KHET	**Khetri**	**19.29**	**247**	*e*PKP		**Pn**	**22 00 24.1**	**-3.8**
NVS	**Novosibirsk**	**19.33**	**338**	⇑*i*P		**Pn**	**22 00 25.5**	**-2.6**
NVS				*i* S		**Sn**	**22 04 04.4**	**-0.8**
NVS				pmax	pmax			
	comp=N,129nm,1.1s							
NVS				pmax	pmax			
	comp=Z,211nm,1.1s							
NVS				pmax	pmax			
	comp=E,110nm,1.3s							
NVS				smax				
	comp=N,46nm,1.6s							
NVS				smax				
	comp=E,57nm,1.6s							
NJ2	**Nanjing**	**19.64**	**99**	*e*P		**Pn**	**22 00 33.8**	**+1.7**
NJ2				pP		pP	22 00 37.9	+6.7
NJ2				sP		sP	22 00 40.7	+9.3
NJ2				S		**Sn**	**22 04 13.0**	**-0.1**
NJ2

DL2 pmax pmax
comp=Z,50nm,0.8s
DL2 pmax pmax
comp=Z,300nm,9.7s
DL2 LR LR
comp=N,2μm,14.1s,MS4.7
DL2 LR LR
comp=E,2μm,16.3s,MS4.7
DL2 LR LR
comp=Z,2μm,16.2s,MS4.7
GZH Guangzhou 20.82 129 P **P** **22 00 45.9 +2.3**
GZH S **S** **22 04 33.6 -2.9**
GZH LR LR
comp=N,2μm,8.6s
GZH LR LR
comp=E,4μm,8.8s
GZH LR LR
comp=Z,7μm,12.5s,MS5.2
HIA Hailar 20.84 48 *e*P **P** **22 00 42.8 -0.8**
comp=Z,56nm,1.0s
HIA Hailar 20.84 48 *e*P **P** **22 00 42.8 -0.8**
HIA pmax pmax
comp=Z,55nm,1.0s
AJM Ajmer 21.05 245 *e*PKP **P** **22 00 44.0 -2.1**
BHPL Bhopal 21.30 233 *e*PKP **P** **22 00 45.9 -2.8**
BHPL AMb AMB 22 00 49.1
comp=Z,289nm,0.4s,mb6.0
SNY Shenyang 21.71 70 ⇑P **P** **22 00 52.5 -0.6**
SNY S **S** **22 04 54.6 +0.6**
SNY pmax pmax
comp=Z,81nm,1.2s,mb5.0
SNY pmax pmax
comp=Z,440nm,3.5s
SNY LR LR
comp=N,7μm,15.3s
SNY LR LR
comp=Z,8μm,9.6s
SSE Sheshan 21.85 100 P **P** **22 00 50.3 -4.4**
SSE S **S** **22 04 55.6 -1.2**
SSE sS sS 22 05 00.5 +3.0
SSE pmax pmax
comp=Z,38nm,0.6s,mb5.0
SSE pmax pmax
comp=Z,570nm,4.2s
SSE LR LR
comp=N,2μm,16.2s,MS4.8
SSE LR LR
comp=E,2μm,16.2s,MS4.8
SSE LR LR
comp=Z,2μm,10.5s
NST Nakhon Sawan 22.11 169 P **P** **22 00 58.5 +1.0**
comp=Z,88nm,0.8s,mb5.2
QIZ Qiongzhong 22.13 143 P **P** **22 01 00.1 +2.4**
QIZ pP 22 01 04.2
QIZ sP sP 22 01 07.1 +8.8
QIZ S **S** **22 05 04.0 +1.6**
QIZ pmax pmax
comp=Z,340nm,7.8s
QIZ LR LR
comp=N,1μm,10.2s
QIZ LR LR
comp=E,400nm,6.8s
QIZ LR LR
comp=Z,2μm,11.9s,MS4.7
QIZ Qiongzhong 22.13 143 *e*P **P** **22 00 58.0 +0.3**
comp=Z,67nm,1.0s,mb5.0
VOSK Vostochnaya 23.04 319 ⇑P **P** **22 01 06.1 -1.0**
comp=Z,94nm,1.0s,mb5.2
QZH Quanzhou 23.07 116 *e*P **P** **22 01 07.9 +0.2**
QZH S **S** **22 05 17.1 -2.5**
QZH LR LR
comp=N,10μm,15.3s,MS5.5
QZH LR LR
comp=E,8μm,14.2s,MS5.5
QZH LR LR
comp=Z,5μm,9.7s
CN2 Changchun 23.22 65 ⇑P **P** **22 01 08.1 -1.0**
CN2 *es*P sP 22 01 15.5 +5.8
CN2 *e*S **S** **22 05 15.3 -6.4**
CN2 pmax pmax
comp=Z,50nm,1.4s,mb4.8
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,4μm,11.0s,MS5.3
CN2 LR LR
comp=E,5μm,11.0s,MS5.3
CN2 LR LR
comp=Z,6μm,12.0s,MS5.3
AKL Akola 23.43 229 *e*PKP **P** **22 01 09.5 -2.0**
AKL AMP 22 01 13.0
comp=Z,394nm,1.1s
AKL *i* x x 22 05 24.8
BVA0 Borovoye Array 23.50 319 ⇑P **P** **22 01 11.6 -0.4**
comp=Z,14nm,1.0s,mb4.4,baz=120,slow=10.0,SNR=373
BOD Bodaibo 23.54 25 *e*P **P** **22 01 12.3 0.0**
BOD pmax pmax
comp=Z,47nm,1.6s,mb4.7
BRVK Borovoye 23.57 319 ⇓P **P** **22 01 12.1 -0.7**
comp=Z,117nm,0.7s,mb5.4
BRVK Borovoye 23.57 319 *e*P **P** **22 01 12.4 -0.3**
comp=Z,86nm,0.7s,mb5.3
BRVK Borovoye 23.57 319*c i*P **P** **22 01 12.4 -0.3**
BRVK pmax pmax
comp=Z,92nm,0.8s,mb5.3
BRVK MLR MLR
comp=Z,4μm,16.0s,MS5.0
BRVK Borovoye 23.57 319 P **P** **22 01 12.8 +0.1**
SNR=59
UBT Ubonrachathani 23.65 157 P **P** **22 01 14.0 +0.3**
ZRNK Zerenda 24.19 318 ⇑P **P** **22 01 17.0 -1.4**
comp=Z,48nm,0.8s,mb5.0
INCN Inchon 24.36 81 *e*P **P** **22 01 19.3 -0.8**
comp=Z,58nm,0.7s,mb5.1
NNT Nongplab 25.09 171 P **P** **22 01 28.0 +1.2**
HYB Hyderabad 25.17 222 *i* P **P** **22 01 27.0 -0.6**
HYB *e*S **S** **22 05 52.0 -1.5**
KSRS Korea Array 25.38 80 P **P** **22 01 27.8 -1.6**
comp=Z,34nm,0.6s,mb5.0,baz=277,slow=9.6,SNR=96
KSRS ScP ScP 22 08 39.5 -2.6
comp=Z,0.8nm,0.4s,baz=311,slow=4.2,SNR=4.6
KSRS LR LR 22 13 30.4
comp=Z,367nm,18.1s,MS3.9,baz=280,slow=42
KSRS Korea Array 25.38 80 P **P** **22 01 27.8 -1.6**
KSRS pmax pmax
comp=Z,34nm,0.6s,mb5.0
KSRS MLR MLR
comp=Z,367nm,18.1s,MS3.9
LATR Latur 25.47 227 *e*PKP **P** **22 01 27.8 -2.5**
SSLB Suanglung 25.48 115 *e*P **P** **22 01 29.0 -1.3**
comp=Z,99nm,1.2s,mb5.2
NACB Ninganchiao 25.70 114 *e*P **P** **22 01 32.2 -0.2**
comp=Z,114nm,1.1s,mb5.3
YULB Yu-li 25.97 116 *e*P **P** **22 01 36.1 +1.3**
TWG Pinlang 26.17 117 *e*P **P** **22 01 35.5 -1.1**
MDJ Mudanjiang 26.26 64 P **P** **22 01 36.5 -0.8**
MDJ pP 22 01 39.3
MDJ sP sP 22 01 41.0 +3.1
MDJ S **S** **22 06 09.8 -0.6**
MDJ sS sS 22 06 14.6 +3.4
MDJ ScP ScP 22 08 42.8 -1.7
MDJ PcS PcS 22 08 44.1 -0.4
MDJ pmax pmax
comp=Z,14nm,1.7s,mb4.2
MDJ pmax pmax
comp=Z,240nm,7.5s
MDJ LR LR
comp=N,3μm,10.5s,MS5.1
MDJ LR LR
comp=E,2μm,12.6s,MS5.1
MDJ LR LR
comp=Z,3μm,12.4s,MS5.0
BHJ Bhuj 26.60 245 *e*PKP **P** **22 01 37.7 -2.9**
BHJ AMb AMB 22 01 45.1
comp=Z,99nm,1.0s,mb5.3
POO Poona 27.02 232 *e*PKP **P** **22 01 42.2 -2.1**
POO AMb AMB 22 01 47.6
comp=Z,164nm,1.9s,mb5.2
CLNS Chul'man 27.27 36 *e*P **P** **22 01 45.5 -0.7**
CLNS *e**PP 22 01 54.9
CLNS *e* 22 02 31.8
CLNS *e*PPP 22 02 41.7
CLNS *e* 22 04 59.5
CLNS *e*S **S** **22 06 28.0 +1.9**
CLNS pmax pmax
comp=Z,9.0nm,1.0s,mb4.2
CLNS pmax pmax
comp=E,9.0nm,1.0s
CLNS pmax pmax
comp=N,10.0nm,1.2s
CLNS pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
CLNS pmax pmax
comp=N,9.0nm,1.2s
CLNS pmax pmax
comp=E,7.0nm,0.8s
CLNS smax
comp=N,345nm,13.1s
CLNS smax
comp=E,518nm,13.5s
CLNS MLR MLR
comp=E,5μm,11.0s
CLNS MLR MLR
comp=N,2μm,9.0s
CLNS MLR MLR
comp=Z,5μm,10.0s,MS5.4
KAD Karad 27.74 229 *e*PKP **P** **22 01 48.3 -2.5**
KAD AMb AMB 22 01 56.2
comp=Z,82nm,1.5s,mb5.1
VLA Vladivostok 27.88 67⇓*e*P **P** **22 01 50.1 -1.8**
VLA S **S** **22 06 34.7 -1.4**
VLA pmax pmax
comp=Z,43nm,1.6s,mb4.8
KLR Kul'dur 28.32 54 *e*P **P** **22 01 58.0 +2.3**
KLR *e*S **S** **22 06 45.0 +2.2**
KLR *e*SSS 22 08 26.5
KLR MLR MLR
comp=Z,12μm,12.0s,MS5.7
AB31 Akbulak array 28.34 306 P **P** **22 01 55.9 0.0**
comp=Z,12nm,0.7s,mb4.6,baz=98,slow=8.1,SNR=172
ABKAR Akbulak array 28.34 306 *e*P **P** **22 01 56.3 +0.5**
JOW Kunigami 29.31 102 LR LR 22 14 09.7
comp=Z,614nm,19.1s,MS4.2,baz=318,slow=37
GOA Goa 29.37 228 *e*PKP **P** **22 02 04.0 -1.4**
ABKT Ailbek 29.72 282 P **P** **22 02 10.9 +2.6**
comp=Z,231nm,0.9s,mb5.9,SNR=22
AKTK Aktyubinsk 29.78 308 P **P** **22 02 09.3 +0.6**
AKTK LR LR 22 15 11.0
AKTO Aktyubinsk 29.78 308 ⇑P **P** **22 02 09.4 +0.7**
comp=Z,7.7nm,0.8s,mb4.5
AKTO Aktyubinsk 29.78 308 P **P** **22 02 09.3 +0.6**
comp=Z,49nm,0.9s,mb5.3,baz=94,slow=8.1,SNR=146
AKTO LR LR 22 15 11.0
comp=Z,486nm,21.4s,MS4.1,baz=306,slow=39
AKTO Aktyubinsk 29.78 308 P **P** **22 02 09.3 +0.6**
AKTO pmax pmax
comp=Z,49nm,0.9s,mb5.2
AKTO MLR MLR
comp=Z,486nm,21.4s,MS4.1
SVE Sverdlovsk 30.25 321 *i*P **P** **22 02 13.0 +0.2**
SVE *e*S **S** **22 07 08.1 -4.9**
SVE *e* 22 09 06.3
SVE *e* 22 12 53.8
SVE pmax pmax
comp=Z,68nm,1.0s,mb5.3
SVE MLR MLR
comp=Z,2μm,18.0s,MS4.8
ARU Arti 31.15 319 *e*P **P** **22 02 20.3 -0.4**
comp=Z,71nm,0.8s,mb5.5
ARU Arti 31.15 319*c i*P **P** **22 02 20.6 -0.1**
ARU *e* 22 03 21.8
ARU *e* 22 05 12.7
ARU S **S** **22 07 29.1 +2.0**
ARU SS SS 22 09 12.7 -27
ARU SSS 22 09 26.6
ARU pmax pmax
comp=Z,102nm,1.0s,mb5.6
ARU MLR MLR
comp=Z,3μm,19.0s,MS4.9
ARU Arti 31.15 319 P **P** **22 02 20.5 -0.2**
comp=Z,598nm,0.8s,mb6.5,SNR=5.2
YAK Yakutsk 32.17 30 *e*P **P** **22 02 27.2 -2.4**
YAK *e**PP 22 02 34.3
YAK *e*PPP 22 03 41.2
YAK *e* 22 05 20.5
YAK *e*S **S** **22 07 35.7 -7.3**
YAK pmax pmax
comp=Z,17nm,1.2s,mb4.8
YAK pmax pmax
comp=N,11nm,1.3s
YAK pmax pmax
comp=E,13nm,1.4s
YAK smax
comp=E,146nm,12.5s
YAK smax
comp=N,43nm,10.4s
YAK MLR MLR
comp=Z,4μm,12.0s,MS5.3
YAK MLR MLR
comp=N,2μm,11.0s,MS5.2
YAK MLR MLR
comp=E,2μm,10.0s,MS5.2
KULM Kulim 32.40 171 *e*P **P** **22 02 33.8 +1.8**
comp=E,78nm,1.8s,mb5.2
SOKR Solikamsk 33.23 324*c i*P **P** **22 02 39.1 +0.1**
SOKR pmax pmax
comp=Z,60nm,1.3s,mb5.4
SOKR MLR MLR
comp=Z,950nm,17.0s,MS4.6
MJAR Matsushiro Arr 33.61 79 P **P** **22 02 40.5 -2.0**
comp=Z,1.3nm,0.5s,mb4.2,baz=278,slow=10,SNR=5.1
MJAR PcP PcP 22 05 21.3 -1.5
comp=Z,2.1nm,0.7s,baz=276,slow=2.3,SNR=4.7
MJAR LR LR 22 16 52.1
comp=Z,601nm,18.3s,MS4.3,baz=265,slow=37
MJAR Matsushiro Arr 33.61 79 P **P** **22 02 40.5 -2.0**
MJAR PcP PcP 22 05 21.3 -1.5
MJAR LR LR 22 16 52.1
MJAR Matsushiro Arr 33.61 79 P **P** **22 02 40.5 -2.0**
MJAR 22 05 21.3
MJAR MLR MLR
comp=Z,601nm,18.3s
SMDO Samad 35.44 257 P **P** **22 03 00.5 +2.0**
SNR=9.1
YSS Yuzh-Sakhalins 35.50 59⇑*e*P **P** **22 02 58.0 -0.7**
YSS *e* 22 03 03.5
YSS MLR MLR
comp=N,1μm,12.0s,MS5.1
YSS MLR MLR
comp=Z,1μm,12.0s,MS4.9
YSS MLR MLR
comp=E,1μm,10.0s,MS5.1
ASAJ Asahikawa 35.58 64 P **P** **22 02 58.4 -1.1**
comp=E,11nm,0.5s,mb5.0,baz=269,slow=15,SNR=10
ASAJ Asahikawa 35.58 64 P **P** **22 02 58.4 -1.1**
ASAJ pmax pmax
comp=Z,11nm,0.5s
JMDO Jabal Madar 35.77 256 P **P** **22 03 03.2 +1.8**
SNR=6.5
ASHO Ashiyiah 36.15 261 P **P** **22 03 07.3 +2.8**
SNR=10
BSY Bisya 36.27 257 P **P** **22 03 07.7 +2.1**
SNR=9.9
KKM Kota Kinabalu 36.43 144 *e*P **P** **22 03 07.3 +0.4**
comp=Z,96nm,1.0s,mb5.7
KKM Kota Kinabalu 36.43 144 P **P** **22 03 13.2 +6.2**
comp=Z,94nm,1.0s,mb5.7
ARQ Araqi 36.48 259 P **P** **22 03 09.9 +2.5**
SNR=10
MAK Makhachkala 36.89 294 *e*P **P** **22 03 09.2 -1.5**
MAK *e* 22 04 30.2
MAK *e*S **S** **22 08 56.0 -0.2**
MAK pmax pmax
comp=Z,210nm,1.4s,mb5.8
MAK MLR MLR
comp=Z,1μm,15.0s,MS4.9
YUK Yuzh-Kuril'sk 37.93 64⇑*i*P **P** **22 03 17.7 -1.8**
YUK *i* 22 04 49.4
YUK pmax pmax
comp=Z,403nm,1.1s,mb6.1
YUK pmax pmax
comp=N,288nm,1.0s
YUK pmax pmax
comp=E,125nm,1.0s
YUK pmax pmax
comp=Z,358nm,1.0s,mb6.0
YUK MLR MLR
comp=N,498nm,20.2s,MS4.6
YUK MLR MLR
comp=E,823nm,20.2s,MS4.6
YUK MLR MLR
comp=Z,1μm,20.2s,MS4.8
SBUM Sibu 38.02 153 P **P** **22 03 27.6 +7.1**
comp=Z,38nm,1.5s,mb4.9
MYLDM Lahad Datu 38.27 142 P **P** **22 03 25.1 +2.5**
comp=Z,3μmcomp=Z,350nm,1.1s,mb6.0
PDSI Padang 38.50 173 P **P** **22 03 28.2 +3.7**
comp=Z,39nm,0.9s,mb5.1
DGRG David-gareji 38.71 292 P **P** **22 03 26.8 +0.7**
MTA Mtatsminda 39.09 292 P **P** **22 03 29.5 +0.3**
TBLG Delisi 39.12 293 *e*P **P** **22 03 30.1 +0.6**
TBLG Delisi 39.12 293 P **P** **22 03 30.1 +0.5**
GNI Garni 39.45 290 *e*P **P** **22 03 33.7 +1.4**
comp=Z,29nm,0.8s,mb5.1
GNI Garni 39.45 290 *e*P **P** **22 03 33.7 +1.4**
GNI pmax pmax
comp=Z,29nm,0.8s
GOR Gori 39.53 293 P **P** **22 03 34.7 +1.7**
ZEI Tsey 39.54 294 *e*P **P** **22 03 32.3 -0.7**
ZEI pmax pmax
comp=Z,30nm,1.4s,mb4.8
ONI Oni 39.89 294 P **P** **22 03 37.6 +1.7**
STKI Sintang 39.98 155 P **P** **22 03 43.8 +6.9**
comp=Z,36nm,1.4s,mb4.9
AKH Akhalkalaki 40.10 292 P **P** **22 03 40.2 +2.4**
VRHR Novokhopersk 40.19 308 *e*P **P** **22 03 37.4 -0.9**
VRHR *e**PP 22 03 44.4
VRHR pmax pmax
comp=Z,70nm,0.7s,mb5.5
VRHR pmax pmax
comp=N,40nm,1.4s
VRHR pmax pmax
comp=E,90nm,0.8s
KIV Kislovodsk 40.20 296 *e*P **P** **22 03 39.9 +1.4**
comp=E,51nm,0.8s,mb5.3
KIV Kislovodsk 40.20 296*c i*P **P** **22 03 39.3 +0.8**
KIV *e* 22 05 11.9
KIV *e*S **S** **22 09 45.4 -0.7**
KIV pmax pmax
comp=Z,45nm,3.7s
KIV pmax pmax
comp=Z,65nm,1.0s,mb5.3
KIV MLR MLR
comp=Z,813nm,16.0s,MS4.7
KIV Kislovodsk 40.20 296 P **P** **22 03 40.3 +1.8**
comp=Z,379nm,0.8s,mb6.2,SNR=10
KIV Kislovodsk 40.20 296 P **P** **22 03 40.3 +1.8**
SNR=10
UMR Umm Al-Rimmam 40.55 273 *e*P **P** **22 03 42.1 +0.6**
UMR AMb AMB 22 03 43.3
comp=Z,94nm,0.7s,mb5.5
DAV Davao City (W) 40.59 131 P **P** **22 03 43.5 +1.4**
MIB Mutribah 40.74 274 *e*P **P** **22 03 43.9 +0.7**
MIB AMb AMB 22 03 45.0
comp=Z,166nm,0.7s,mb5.8
NAY Al-Naaiem 41.05 273 *e*P **P** **22 03 46.3 +0.7**
NAY AMb AMB 22 03 47.4
comp=Z,103nm,0.7s,mb5.5
TUTA Tutak 41.08 290 *i* P **P** **22 03 47.9 +2.1**
DAGI Agillar 41.34 292 *i* P **P** **22 03 49.1 +1.2**
DDEM Demirkent 41.50 292 *i* P **P** **22 03 51.5 +2.2**
RBK Rabkut 41.57 253 P **P** **22 03 50.8 +0.7**
SNR=12
VSR Storozhevoye 41.73 308 *e*P **P** **22 03 50.6 -0.4**
VSR *e**PP 22 03 57.1
VSR pmax pmax
comp=E,140nm,0.9s
VSR pmax pmax
comp=Z,100nm,0.9s,mb5.5
VSR pmax pmax
comp=N,20nm,0.8s
BHD Baghdad 41.75 280 *i* x x 22 03 47.0
BHD *e*x x 22 10 08.5
KLMR Klimovskoe 41.86 322 *e*P **P** **22 03 49.5 -2.4**
KLMR pmax pmax
comp=Z,117nm,6.6s
KLMR MLR MLR
comp=Z,2μm,18.0s,MS4.9
SEY Seymchan 42.26 35⇓*e*P **P** **22 03 54.7 -0.5**
ABTO Aybut 42.35 254 P **P** **22 03 57.0 +0.5**
SNR=12
SOC Sochi 42.38 296 *e*P **P** **22 03 49.4 -7.1**
SOC *e* 22 05 30.9
SOC *e*S **S** **22 10 11.8 -6.8**
SOC *e*SSS 22 13 53.4
SOC pmax pmax
comp=Z,30nm,0.9s,mb4.9
SOC MLR MLR
comp=Z,843nm,14.0s,MS4.8
MOS Moscow 42.52 315 *e*P **P** **22 03 56.4 -1.0**
MOS *e*S **S** **22 10 18.5 -1.7**
MOS *e* 22 13 54.8
MOS pmax pmax
comp=Z,300nm,1.1s,mb5.9
MOS pmax pmax
comp=Z,192nm,1.0s,mb5.8
MOS MLR MLR
comp=Z,2μm,18.0s,MS5.0
MDSI Maura Dua 42.52 168 P **P** **22 04 03.7 +5.9**
comp=Z,12nm,1.7s,mb4.3
SMKI Samarinda 42.64 147 P **P** **22 04 06.2 +7.4**
comp=Z,2μmcomp=Z,91nm,1.2s,mb5.4
KOPT Kop Dagi 42.64 291 *i* P **P** **22 04 01.7 +3.1**
BEST Besiri 42.65 288 *i* P **P** **22 04 00.8 +2.1**
LWLI Liwa 43.02 168 P **P** **22 03 59.9 -2.0**
OBN Obninsk 43.13 314 *e*P **P** **22 04 00.6 -1.8**
comp=E,50nm,0.8s,mb5.3
OBN Obninsk 43.13 314⇑*i*P **P** **22 04 01.9 -0.4**
OBN *i* 22 05 38.5
OBN *i* 22 05 50.5
OBN *i* S **S** **22 10 30.7 +1.5**
OBN *i* SS SS 22 13 27.7 -13
OBN pmax pmax
comp=Z,95nm,1.3s,mb5.4
OBN MLR MLR
comp=Z,300nm,15.0s,MS4.3
OBN Obninsk 43.13 314 P **P** **22 04 02.8 +0.5**
comp=Z,370nm,0.8s,mb6.2,SNR=6.3
ANN Anapa 43.75 299 *e*P **P** **22 04 07.4 -0.1**
ANN *e*S **S** **22 10 39.8 +1.3**
ANN pmax pmax
comp=Z,92nm,1.0s,mb5.5
ANN MLR MLR
comp=N,511nm,14.0s,MS4.8
ANN MLR MLR
comp=E,704nm,14.0s,MS4.8
ANN MLR MLR
comp=Z,429nm,14.0s,MS4.5
MRSI Marisa 44.03 141 P **P** **22 04 16.1 +6.0**
comp=Z,718nmcomp=Z,32nm,1.3s,mb4.9
KEMA Kemaliye 44.34 291 *i* P **P** **22 04 14.1 +1.8**
PETK Petropavlovsk- 44.74 49 P **P** **22 04 14.6 -0.8**
comp=Z,5.9nm,0.6s,mb4.6,baz=234,slow=3.7,SNR=8.6
PETK LR LR 22 23 58.7
comp=Z,387nm,20.0s,MS4.3,baz=262,slow=38
PETK Petropavlovsk- 44.74 49 P **P** **22 04 14.6 -0.8**
PETK LR LR 22 23 58.7
PETK Petropavlovsk- 44.74 49 P **P** **22 04 14.6 -0.7**
PETK pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
PETK MLR MLR
comp=Z,387nm,20.0s,MS4.3
LVZ Lovozero 45.05 332 *e*P **P** **22 04 16.6 -1.0**
comp=Z,29nm,0.8s,mb5.2
LVZ Lovozero 45.05 332*d i*P **P** **22 04 17.5 -0.1**
LVZ pmax pmax
comp=Z,52nm,1.1s,mb5.3
LVZ MLR MLR
comp=Z,962nm,17.0s,MS4.8
AKCD Akcadag 45.05 290 *i* P **P** **22 04 19.6 +1.6**
ERBA Erbaa 45.22 293 *i* P **P** **22 04 20.8 +1.5**
APA Apatity 45.46 331⇑*i*P **P** **22 04 21.0 +0.2**
APA *i* 22 06 00.0
APA *e*S **S** **22 10 58.0 -4.9**
APA pmax pmax
comp=Z,15nm,0.6s,mb5.0
APA MLR MLR
comp=Z,2μm,12.0s,MS5.2
GZT Gaziantep 45.62 288 *i* P **P** **22 04 23.4 +0.9**
LUWI Luwuk 45.76 141 P **P** **22 04 29.3 +5.5**
comp=Z,604nmcomp=Z,41nm,1.1s,mb5.3
JOF Joensuu 45.91 325 *e*P **P** **22 04 23.5 -0.9**
JOF pmax pmax
comp=Z,23nm,0.5s,mb5.4
JOF Joensuu 45.91 325 *e*p **P** **22 04 23.5 -0.9**
comp=Z,23nm,0.5s,mb5.4
SIM Simferopol' 46.02 300*ce*P **P** **22 04 25.5 -0.1**

SIM *eS* **S** **22 11 10.0 -1.4**
SIM pmax pmax
comp=Z,23nm,0.9s,mb5.1
TTSI Tana Toraja 46.10 146 P **P** **22 04 32.2 +5.7**
comp=Z,2µmcomp=Z,38nm,0.9s,mb5.3
PUL Pulkovo 46.38 320 *i* P **P** **22 04 29.4 +1.2**
PUL pmax pmax
comp=Z,102nm,0.8s,mb5.8
PUL MLR MLR
comp=Z,1µm,18.0s,MS5.0
ANDN Andirin 46.46 289 *i* P **P** **22 04 31.1 +2.0**
BJII Banjamegara 46.48 161 P Px 22 04 39.6
CTKT Corum 46.67 294 *i* P **P** **22 04 31.0 +0.3**
TNTI Ternate 46.71 134 P **P** **22 04 36.7 +5.4**
comp=Z,2µmcomp=Z,122nm,1.3s,mb5.7
SPSI Sidrap Palu 46.90 146 P **P** **22 04 33.6 +0.8**
comp=Z,1µmcomp=Z,79nm,1.2s,mb5.5
AVNT Avonos 47.18 291 *i* P **P** **22 04 36.2 +1.4**
CDAG Cicekdag 47.27 293 *i* P **P** **22 04 36.2 +0.7**
ILGA Ilgaz 47.32 295 *i* P **P** **22 04 37.2 +1.4**
BALT Daday 47.42 295 *i* P **P** **22 04 37.1 +0.5**
SJI Sawahan 47.43 158 P **P** **22 04 43.4 +6.5**
comp=Z,48nm,1.6s,mb5.2
KMMI Kalianget 47.48 155 P **P** **22 04 45.0 +7.8**
comp=Z,63nm,1.2s,mb5.4
PWJI Pagerwojo 47.72 158 P **P** **22 04 45.0 +5.9**
comp=Z,39nm,0.9s,mb5.4
GULE Gulek 47.73 289 *i* P **P** **22 04 41.1 +2.0**
BR131 Keskin Array S 47.78 293 *eP* **P** **22 04 40.0 +0.6**
comp=Z,23nm,0.7s,mb5.3
BRTR Keskin Array B 47.78 293 P **P** **22 04 40.2 +0.8**
comp=Z,28nm,0.8s,mb5.3,baz=96,slow=6.8,SNR=107
BRTR LR LR 22 25 37.3
comp=Z,103nm,21.0s,MS3.8,baz=252,slow=37
BRTR Keskin Array B 47.78 293 P **P** **22 04 40.2 +0.8**
BRTR LR LR 22 25 37.3
BRTR Keskin Array B 47.78 293 P **P** **22 04 40.2 +0.8**
BRTR pmax pmax
comp=Z,28nm,0.9s
KAPI Kappang 47.83 147 *eP* **P** **22 04 39.5 -0.5**
comp=Z,7.5nm,0.8s,mb4.8
KAPI Kappang 47.83 147 P **P** **22 04 44.4 +4.4**
comp=Z,22nm,1.3s,mb5.0
HWQ Hawqa 47.92 285 *eP* **P** **22 04 41.9 +1.3**
AKASG Malin Array Be 48.03 308 P **P** **22 04 40.9 -0.3**
comp=Z,31nm,0.9s,mb5.3,baz=68,slow=7.2,SNR=63
AKASG PcP PcP 22 06 08.7 -0.5
comp=Z,3.2nm,0.8s,baz=66,slow=4.4,SNR=4.0
AKASG LR LR 22 26 57.1
comp=Z,391nm,18.9s,MS4.4,baz=70,slow=39
AKASG Malin Array Be 48.03 308 P **P** **22 04 40.9 -0.3**
AKASG PcP PcP 22 06 08.7 -0.5
AKASG LR LR 22 26 57.1
AKASG Malin Array Be 48.03 308 P **P** **22 04 40.9 -0.3**
AKASG 22 06 08.7
AKASG pmax pmax
comp=Z,31nm,0.9s
AKASG MLR MLR
comp=Z,391nm,18.9s
AKBB Malin Array Si 48.03 308 *eP* **P** **22 04 41.0 -0.2**
AKBB Malin Array Si 48.03 308 *eP* **P** **22 04 41.0 -0.2**
KEV Kevo 48.04 334 *eP* **P** **22 04 39.8 -1.2**
KEV pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
KEV Kevo 48.04 334 *ep* **P** **22 04 39.8 -1.2**
comp=Z,4.1nm,0.5s,mb4.7
KRKI Karangkates 48.04 158 P **P** **22 04 48.6 +7.0**
comp=Z,146nm,1.0s,mb6.0
KIEV Kiev 48.04 308 *eP* **P** **22 04 40.8 -0.5**
comp=Z,42nm,1.1s,mb5.4
KIEV Kiev 48.04 308 *eP* **P** **22 04 40.8 -0.5**
KIEV pmax pmax
comp=Z,42nm,1.1s,mb5.4
MICGM Minsk 48.19 313 *eP* **P** **22 04 42.0 -0.4**
KDI Kendari 48.20 143 P **P** **22 04 48.4 +5.5**
comp=Z,14nm,1.1s,mb4.9
MNK Minsk 48.21 313 *eP* **P** **22 04 42.0 -0.6**
BBAL Bala 48.22 293 *i* P **P** **22 04 44.5 +1.7**
KAF Kangasniemi 48.23 324 *eP* **P** **22 04 41.4 -1.2**
KAF pmax pmax
comp=Z,15nm,0.6s,mb5.2
KAF Kangasniemi 48.23 324 *ep* **P** **22 04 41.4 -1.2**
comp=Z,15nm,0.6s,mb5.2
BKSI Bulukumba 48.27 147 P **P** **22 04 52.3 +8.9**
comp=Z,408nmcomp=Z,15nm,1.1s,mb5.0
BHL Bhannes 48.29 285 *eP* **P** **22 04 44.7 +1.3**
RCY Rachaya 48.30 284 *eP* **P** **22 04 45.5 +1.9**
VSU Vasula 48.31 319*c* *iP* **P** **22 04 43.2 -0.1**
VSU pmax pmax
comp=Z,54nm,0.7s,mb5.7
VSU MLR MLR
comp=Z,2µm,19.0s,MS5.0
FINES FINESS Array B 48.38 323 P **P** **22 04 43.5 -0.2**
comp=Z,23nm,0.6s,mb5.4,baz=92,slow=8.6,SNR=78
FINES LR LR 22 28 59.3
comp=Z,262nm,20.0s,MS4.2,baz=114,slow=41
FINES FINESS Array B 48.38 323 P **P** **22 04 43.5 -0.2**
FINES LR LR 22 28 59.3
FINES FINESS Array B 48.38 323 P **P** **22 04 43.5 -0.3**
FINES pmax pmax
comp=Z,23nm,0.6s
FINES MLR MLR
comp=Z,262nm,20.0s
GMJI Gumukmas 48.45 156 P **P** **22 04 50.9 +6.1**
comp=Z,40nm,1.3s,mb5.3
BILL Bilibino 48.51 28 *eP* **P** **22 04 44.4 -0.3**
comp=Z,17nm,0.9s,mb5.1
BILL Bilibino 48.51 28⇑ *iP* **P** **22 04 44.5 -0.2**
BILL *i* 22 04 49.7
BILL *e* 22 06 07.2
BILL *e* 22 06 39.7
BILL pmax pmax
comp=Z,13nm,1.0s,mb4.9
BILL MLR MLR
comp=Z,2µm,15.0s,MS5.2
ARCES ARCESS Array B 48.55 334 P **P** **22 04 45.0 +0.1**
comp=Z,12nm,0.7s,mb5.1,baz=88,slow=8.1,SNR=59
ARCES PcP PcP 22 06 09.8 -0.8
comp=Z,3.8nm,0.6s,baz=94,slow=4.4,SNR=7.5
ARCES LR LR 22 27 10.2
comp=Z,712nm,18.1s,MS4.7,baz=92,slow=38
ARCES ARCESS Array B 48.55 334 P **P** **22 04 45.0 +0.1**
ARCES PcP PcP 22 06 09.8 -0.8
ARCES LR LR 22 27 10.2
ARCES ARCESS Array B 48.55 334 P **P** **22 04 45.1 +0.2**
ARCES 22 06 09.9
ARCES pmax pmax
comp=Z,12nm,0.7s
ARCES MLR MLR
comp=Z,712nm,18.1s
ARE0 ARCESS Array S 48.55 334 *eP* **P** **22 04 45.1 +0.2**
IDID Didziasalis 48.72 315 *eP* **P** **22 04 46.6 +0.2**
IDID AMB AMB 22 04 48.5
comp=Z,31nm,1.0s,mb5.3
JAGI Jajag, Banyuwa 48.87 156 P **P** **22 04 53.1 +5.1**
comp=Z,52nm,1.1s,mb5.5
IZAR Zarasai 48.93 315 *eP* **P** **22 04 48.3 +0.3**
IZAR AMB AMB 22 04 49.0
comp=Z,17nm,1.3s,mb4.9
IIGN Ignalina 49.00 315 *eP* **P** **22 04 48.9 +0.3**
IIGN AMB AMB 22 04 50.8
comp=Z,28nm,0.7s,mb5.4
ISAL Salakas 49.02 315 *eP* **P** **22 04 49.0 +0.3**
ISAL AMB AMB 22 04 50.9
comp=Z,22nm,0.9s,mb5.2
KIS Kishinev 49.11 304⇓ *iP* **P** **22 04 49.0 -0.6**
comp=Z,100nm,1.2s,mb5.7
KIS *eL* 22 24 50.0
KIS LRM 22 27 10.0
comp=Z,500nm,10.0s
KIS Kishinev 49.11 304⇓ *iP* **P** **22 04 49.0 -0.6**
KIS *i* 22 04 56.0
KIS *i* 22 05 03.0
KIS pmax pmax
comp=Z,140nm,1.2s,mb5.9
KIS MLR MLR
comp=Z,600nm,11.0s,MS4.8
KIS MLR MLR
comp=E,500nm,10.0s
KIS MLR MLR
comp=Z,600nm,11.0s
KHKI Kahang-Kahang 49.26 154 P **P** **22 04 58.2 +7.2**
comp=Z,30nm,1.2s,mb5.2
KDHN Kadinhani 49.29 292 *i* P **P** **22 04 51.3 +0.2**
KTK1 Kautokeino 49.34 333 *eP* **P** **22 04 50.3 -0.7**

TLCR 49.59 301⇑ *iP* **P** **22 04 53.4 +0.1**
TLCR 49.59 301⇑ *iP* **P** **22 04 53.4 +0.1**
CSS Prodhromos 49.66 287 *eP* **P** **22 04 54.2 +0.2**
comp=Z,22nm,0.8s,mb5.2
NLAI Namlea 49.87 137 P **P** **22 05 02.3 +6.6**
comp=Z,34nm,0.9s,mb5.3
ESKT Eskisehir 49.88 294 *i* P **P** **22 04 55.1 -0.5**
BORA Eskisehir 50.05 294 *i* P **P** **22 04 57.1 +0.2**
VRI Vrincioaia 50.81 303⇑ *iP* **P** **22 05 03.3 +0.8**
VRI Vrincioaia 50.81 303⇑ *iP* **P** **22 05 03.3 +0.8**
TRO Tromso 50.85 334 *eP* **P** **22 05 02.6 +0.1**
PLOR Plostina 50.87 303⇓ *iP* **P** **22 05 04.5 +1.6**
PLOR Plostina 50.87 303⇓ *iP* **P** **22 05 04.5 +1.6**
MSAI Masohi 50.96 135 P **P** **22 05 10.4 +6.4**
comp=Z,11nm,0.9s,mb4.8
SUW Suwalki 50.99 314 *eP* **P** **22 05 03.5 -0.2**
SUW Suwalki 50.99 314 *eP* **P** **22 05 03.7 0.0**
comp=Z,101nm,1.2s,mb5.6
SUW Suwalki 50.99 314 *eP* **P** **22 05 03.7 0.0**
SUW pmax pmax
comp=Z,101nm,1.2s,mb5.6
KHAL Karahalli 51.28 293 *i* P **P** **22 04 06.1 0.0**
BURAR Bucovina Array 51.31 305⇑ *iP* **P** **22 05 06.7 +0.4**
BURAR Bucovina Array 51.31 305⇑ *iP* **P** **22 05 06.7 +0.4**
BUR08 Bucovina Ar. S 51.32 305 *eP* **P** **22 05 05.9 -0.4**
SPA0 Spitsbergen Ar 51.42 345 *eP* **P** **22 05 07.3 +0.6**
MLR Muntele Rosu 51.44 302⇑ *iP* **P** **22 05 08.3 +1.0**
MLR Muntele Rosu 51.44 302⇑ *iP* **P** **22 05 08.3 +1.0**
SULR 51.48 301⇑ *iP* **P** **22 05 07.3 -0.2**
DURS Dursunbey 51.58 294 *i* P **P** **22 05 08.8 +0.4**
DEMI Demirci 51.60 294 *i* P **P** **22 05 08.7 +0.1**
GOLH Golhisar 51.64 291 *i* P **P** **22 05 07.9 -1.0**
DOPR Dopca 51.67 303⇑ *iP* **P** **22 05 10.6 +1.6**
VOIR 52.06 303⇓ *iP* **P** **22 05 12.5 +0.6**
VOIR 52.06 303⇓ *iP* **P** **22 05 12.5 +0.6**
BALY Balya 52.15 295 *i* P **P** **22 05 13.1 +0.4**
KWP Kalwaria Pacla 52.35 308 *eP* **P** **22 05 14.8 +0.8**
KWP Kalwaria Pacla 52.35 308 *eP* **P** **22 05 14.3 +0.3**
comp=Z,113nm,0.8s,mb5.8
KWP Kalwaria Pacla 52.35 308 *eP* **P** **22 05 14.3 +0.3**
KWP pmax pmax
comp=Z,113nm,0.8s,mb5.8
KWP Kalwaria Pacla 52.35 308⇓ *iP* **P** **22 05 14.8 +0.8**
STEI Steigen 52.36 332 *eP* **P** **22 05 14.1 +0.3**
HUMR Humele 52.39 301⇑ *iP* **P** **22 05 14.6 +0.3**
BMR Baia Mare 52.41 306⇓ *iP* **P** **22 05 15.3 +0.8**
BMR Baia Mare 52.41 306⇓ *iP* **P** **22 05 15.3 +0.8**
PVL Pavlikeni 52.57 300 P **P** **22 05 17.7 +2.0**
PVL Pavlikeni 52.57 300 P **P** **22 05 17.7 +2.0**
AYDN Tasoluk 52.72 292 *i* P **P** **22 05 17.3 +0.3**
TRPA Tarpa 52.89 306⇓ *iP* **P** **22 05 18.5 +0.5**
UZH Uzhgorod 52.90 307⇑ *iP* **P** **22 05 18.5 +0.4**
UZH *e* 22 05 24.1
UZH *eS* **S** **22 12 43.7 -4.1**
UZH MLR MLR
comp=N,400nm,17.0s,MS4.9
UZH MLR MLR
comp=E,800nm,17.0s,MS4.9
UZH MLR MLR
comp=Z,500nm,17.0s,MS4.6
LOT Lotru 52.91 303⇑ *iP* **P** **22 05 19.3 +1.1**
BEL Belsk 52.92 311 *eP* **P** **22 05 18.5 +0.4**
BEL Belsk 52.92 311 *eP* **P** **22 05 18.5 +0.4**
MOR8 Moi Rana 52.94 330 *eP* **P** **22 05 16.7 -1.4**
MOR8 AMB AMB 22 05 18.4
comp=Z,55nm,0.9s,mb5.5
GCAM G?zelcaml? 53.18 293 *i* P **P** **22 05 21.3 +1.0**
DRGR 53.19 305⇑ *iP* **P** **22 05 21.0 +0.8**
DRGR 53.19 305⇑ *iP* **P** **22 05 21.0 +0.8**
STHS Stebnicka Huta 53.33 308 *eP* **P** **22 05 22.1 +0.9**
STHS pmax pmax
comp=Z,12nm,1.0s,mb4.8
STHS Stebnicka Huta 53.33 308 *eP* **P** **22 05 22.1 +0.9**
CRVS Cervenica-Dubn 53.34 308 *eP* **P** **22 05 21.8 +0.5**
CRVS *e* 22 05 27.0
CRVS *e* 22 06 23.8
CRVS pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
CRVS Cervenica-Dubn 53.34 308 *eP* **P** **22 05 21.8 +0.5**
CRVS *ep*P 22 05 27.0
CRVS *e* 22 06 23.8
SMG Samos 53.47 293 *eP* **P** **22 05 22.9 +0.5**
STOK Stokkvaagen 53.48 330 *eP* **P** **22 05 22.3 +0.2**
RZN Rozhen 53.53 298 *i* P **P** **22 05 23.8 +1.0**
RZN Rozhen 53.53 298 *i* P **P** **22 05 23.8 +1.0**
PGB Panagyurishte 53.61 299 *i* P **P** **22 05 24.6 +1.2**
PGB Panagyurishte 53.61 299 *i* P **P** **22 05 24.6 +1.2**
MPEP Malo Peshtene 53.62 300 *i* P **P** **22 05 24.0 +0.5**
MPEP Malo Peshtene 53.62 300 *i* P **P** **22 05 24.0 +0.5**
NIE Niedzica 53.91 309 *eP* **P** **22 05 26.7 +1.2**
NIE Niedzica 53.91 309⇑ *eP* **P** **22 05 26.7 +1.2**
FX1 Attu Island--F 53.95 47 P **P** **22 05 24.2 -1.5**
comp=Z,23nm,0.5s,mb5.4,baz=196,slow=9.4,SNR=12
FX1 Attu Island--F 53.95 47 P **P** **22 05 24.2 -1.5**
FX1 Attu Island--F 53.95 47 P **P** **22 05 24.2 -1.5**
FX1 pmax pmax
comp=Z,23nm,0.5s
OJC Ojcow 53.98 310 *i* P **P** **22 05 26.3 +0.3**
OJC *es*P sP 22 05 31.8 +5.2
OJC Ojcow 53.98 310⇑ *iP* **P** **22 05 26.3 +0.3**
OJC *e**SP sP 22 05 31.8 +5.2
NVR Nevrokopi 54.25 298 *eP* **P** **22 05 28.4 +0.3**
NVR Nevrokopi 54.25 298 P **P** **22 05 28.3 +0.2**
MMB Musomiste 54.25 298 *i* P **P** **22 05 28.5 +0.4**
MMB Musomiste 54.25 298 *i* P **P** **22 05 28.5 +0.4**
VTS Vitosha 54.26 300 P **P** **22 05 29.0 +0.9**
VTS Vitosha 54.26 300 *i* P **P** **22 05 29.0 +0.9**
VTS Vitosha 54.26 300 *i* P **P** **22 05 29.0 +0.9**
BZS Buzias 54.29 304⇑ *iP* **P** **22 05 28.7 +0.4**
BZS Buzias 54.29 304⇑ *iP* **P** **22 05 28.7 +0.4**
NSS Namsos 54.29 328 *eP* **P** **22 05 26.3 -1.7**
GKP Gorka Klasztor 54.60 314 *eP* **P** **22 05 31.3 +0.9**
GKP Gorka Klasztor 54.60 314 *eP* **P** **22 05 31.3 +0.9**
KKB Krupnik 54.60 299 *i* P **P** **22 05 31.1 +0.5**
KKB Krupnik 54.60 299 *i* P **P** **22 05 31.1 +0.5**
PSZ Piszkesteto 54.65 307 *eP* **P** **22 05 31.5 +0.7**
comp=Z,44nm,1.3s,mb5.3
PSZ Piszkesteto 54.65 307 *eP* **P** **22 05 31.5 +0.7**
PSZ pmax pmax
comp=Z,44nm,1.3s,mb5.3
PSZ Piszkesteto 54.65 307⇑ *eP* **P** **22 05 31.5 +0.7**
PSZ Piszkesteto 54.65 307⇑ *iP* **P** **22 05 31.9 +1.1**
APE Apeiranthos 54.68 293 *eP* **P** **22 05 30.9 -0.3**
PLG Polygyros 54.90 297 *eP* **P** **22 05 32.5 -0.2**
PLG Polygyros 54.90 297 P **P** **22 05 32.8 0.0**
TLE Tual 55.00 133 P **P** **22 05 40.2 +6.4**
comp=Z,55nm,1.1s,mb5.5
OKC Ostrava-Krasne 55.11 310⇑ *iP* **P** **22 05 34.7 +0.5**
OKC *e**PP 22 05 39.9
OKC MLR MLR
comp=Z,1µm,14.4s,MS5.2
OKC Ostrava-Krasne 55.11 310⇑ *iP* **P** **22 05 34.7 +0.5**
OKC *ep*P 22 05 39.9
OKC AMS AMS 22 30 00.0
comp=Z,1µm,14.4s
VYHS Vyhne 55.12 308 *eP* **P** **22 05 35.1 +0.8**
VYHS pmax pmax
comp=Z,22nm,1.1s,mb5.1
VYHS Vyhne 55.12 308 *eP* **P** **22 05 35.1 +0.8**
VAY Valandovo 55.16 298 *eP* **P** **22 05 33.7 -1.0**
comp=Z,14nm,0.9s,mb5.0
BUD Budapest 55.34 307⇑ *eP* **P** **22 05 36.8 +0.9**
BSD Bornholm Skovb 55.35 316 *eP* **P** **22 05 35.6 -0.3**
BSD pmax pmax
comp=Z,38nm,0.9s,mb5.4
BSD MLR MLR
comp=Z,2µm,19.0s,MS5.2
KOLL Kolacno 55.37 308 *eP* **P** **22 05 37.0 +0.9**
KOLL Kolacno 55.37 308 *eP* **P** **22 05 37.0 +0.9**
GRG Griva 55.42 298 P **P** **22 05 36.6 +0.1**
NC602 NORSAR Array S 55.45 324 *eP* **P** **22 05 36.0 -0.5**
LAST Lasithi 55.49 291 P **P** **22 05 37.5 +0.3**
PTL Penteli 55.50 294 *eP* **P** **22 05 37.1 -0.1**
PTL Penteli 55.50 294 P **P** **22 05 37.1 -0.1**
MORC Moravsky Berou 55.51 310 *eP* **P** **22 05 37.5 +0.5**
comp=Z,27nm,0.9s,mb5.3
MORC Moravsky Berou 55.51 310 *eP* **P** **22 05 37.5 +0.5**
MORC pmax pmax
comp=Z,27nm,0.9s,mb5.3
MORC Moravsky Berou 55.51 310⇓ *iP* **P** **22 05 37.7 +0.7**
NB2 NORSAR Subarra 55.52 324 P **P** **22 05 36.2 -0.7**
comp=Z,25nm,0.7s,mb5.3,baz=74,slow=7.4

NOA NORSAR Array B 55.52 324 P **P** **22 05 36.2 -0.8**
comp=Z,20nm,0.7s,mb5.3,baz=74,slow=7.4,SNR=71
NOA LR LR 22 30 35.6
comp=Z,832nm,18.2s,MS4.8,baz=80,slow=37
NOA NORSAR Array B 55.52 324 P **P** **22 05 36.2 -0.8**
NOA LR LR 22 30 35.6
NOA NORSAR Array B 55.52 324 P **P** **22 05 36.2 -0.7**
NOA pmax pmax
comp=Z,20nm,0.7s
NOA MLR MLR
comp=Z,832nm,18.3s
VLY Voula,Athens 55.63 294 *eP* **P** **22 05 37.0 -1.1**
SKO Skopje 55.70 300 *eP* **P** **22 05 37.5 -1.1**
comp=Z,19nm,0.6s,mb5.3
NAO01 NORSAR Array S 55.73 324 *eP* **P** **22 05 37.7 -0.7**
comp=Z,18nm,0.7s,mb5.2
SMPI Sarmi 55.84 125 P **P** **22 05 41.2 +1.3**
comp=Z,2µmcomp=Z,78nm,1.2s,mb5.6
LKR Lokris 55.89 295 P **P** **22 05 40.1 +0.1**
DIVS Divibare 55.90 302 P **P** **22 05 40.1 +0.1**
KSP Ksiaz 55.91 311 *eP* **P** **22 05 40.4 +0.5**
SMOL Smolenice 56.00 308 *eP* **P** **22 05 42.3 +1.7**
SMOL *e* 22 05 49.3
SMOL Smolenice 56.00 308 *eP* **P** **22 05 42.3 +1.7**
SMOL *ep*P 22 05 49.3
PKSM Moragy 56.03 305⇑ *iP* **P** **22 05 41.0 +0.1**
PKSM Moragy 56.03 305⇑ *iP* **P** **22 05 41.0 +0.1**
SIVA Sivas 56.05 291 P **P** **22 05 40.5 -0.7**
DPC Dobruska-Polom 56.06 311 *eP* **P** **22 05 42.1 +1.1**
comp=Z,44nm,0.8s,mb5.5
DPC Dobruska-Polom 56.06 311⇑ *iP* **P** **22 05 42.0 +1.0**
DPC *e**PP 22 05 47.4
DPC MLR MLR
comp=Z,2µm,16.6s,MS5.3
DPC Dobruska-Polom 56.06 311⇑ *iP* **P** **22 05 42.0 +1.0**
DPC *ep*P 22 05 47.4
DPC AMS AMS 22 30 30.0
comp=Z,2µm,16.6s
KRUS Krusevo 56.06 299 *eP* **P** **22 05 40.1 -1.1**
OSL Oslo 56.07 323 *eP* **P** **22 05 40.5 -0.4**
BIA Bitola 56.15 299 *eP* **P** **22 05 40.8 -1.0**
LTK Loutraki 56.16 295 P **P** **22 05 40.4 -1.5**
UPC Upice 56.19 311⇑ *iP* **P** **22 05 42.5 +0.6**
UPC *e**PP 22 05 47.9
UPC Upice 56.19 311⇑ *iP* **P** **22 05 42.5 +0.6**
UPC *ep*P 22 05 47.9
FNA Florina 56.20 298 P **P** **22 05 41.6 -0.6**
AGG Agios Georgios 56.22 296 P **P** **22 05 41.5 -0.8**
THL Klokotos Trika 56.23 297 *eP* **P** **22 05 41.1 -1.3**
THL Klokotos Trika 56.23 297 P **P** **22 05 41.2 -1.2**
VRAC Vranov 56.24 309⇑ *iP* **P** **22 05 43.4 +1.1**
VRAC Vranov 56.24 309⇑ *iP* **P** **22 05 43.4 +1.1**
ZST Bratislava 56.31 308 *eP* **P** **22 05 43.9 +1.0**
ZST *e* 22 05 50.9
ZST pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ZST Bratislava 56.31 308 *eP* **P** **22 05 43.9 +1.0**
ZST *ep*P 22 05 50.9
DSF Desfina 56.32 295 P **P** **22 05 41.5 -1.6**
VAM Vamos 56.34 291 *eP* **P** **22 05 42.5 -0.7**
BCI Bajram Curri 56.50 301 *i* P **P** **22 05 44.8 +0.6**
KARN Karanos 56.55 291 P **P** **22 05 44.5 -0.2**
KALE Kalithea 56.61 295 P **P** **22 05 43.7 -1.4**
EVR Evrytania 56.63 296 *eP* **P** **22 05 45.0 -0.3**
EVR Evrytania 56.63 296 P **P** **22 05 44.8 -0.5**
GUR Goura 56.65 295 P **P** **22 05 43.9 -1.5**
KBN Korca 56.67 298 *i* P **P** **22 05 45.1 -0.4**
KONO Kongsberg 56.70 323 *eP* **P** **22 05 46.0 +0.5**
VLI Veliai 56.72 293 *eP* **P** **22 05 43.5 -2.4**
VLI Veliai 56.72 293 P **P** **22 05 43.6 -2.3**
MOL Molde 56.73 326 *eP* **P** **22 05 44.8 -0.8**
PUK Puka 56.74 300 *i* P **P** **22 05 43.3 -2.7**
EFP Efpalio 56.76 296 P **P** **22 05 44.9 -1.3**
LAKA Lakka 56.78 295 P **P** **22 05 45.3 -1.1**
RUE Ruedersdorf 56.84 314 *eP* **P** **22 05 46.9 +0.4**
comp=Z,45nm,0.8s,mb5.5
SOP Sopron 56.84 308⇑ *eP* **P** **22 05 47.1 +0.5**
TREC Trest 56.93 310 *eP* **P** **22 05 47.8 +0.6**
TREC MLR MLR
comp=Z,1µm,14.5s,MS5.1
TREC Trest 56.93 310⇑ *eP* **P** **22 05 47.8 +0.6**
TREC AMS AMS 22 31 00.0
comp=Z,1µm,14.5s
TIR Tirane 57.03 299 *i* P **P** **22 05 48.0 -0.1**
TIR Tirane 57.03 299 *eP* **P** **22 05 48.0 -0.1**
comp=Z,52nm,1.1s,mb5.5
TIR Tirane 57.03 299 *eP* **P** **22 05 48.0 -0.1**
TIR pmax pmax
comp=Z,52nm,1.1s,mb5.5
PVCC Panska Ves 57.05 311⇑ *iP* **P** **22 05 48.7 +0.7**
PVCC MLR MLR
comp=Z,2µm,16.6s,MS5.2
PVCC Panska Ves 57.05 311⇑ *iP* **P** **22 05 48.7 +0.7**
PVCC AMS AMS 22 31 20.0
comp=Z,2µm,16.6s
CONA Conrad Observa 57.19 308 *i* pP pP 22 05 50.0 +0.5
comp=Z,23nm,0.8s,SNR=17
RLS Riolos of Patr 57.23 295 *eP* **P** **22 05 48.5 -1.0**
PRU Pruhonice 57.26 311⇑ *iP* **P** **22 05 50.7 +1.2**
PRU *e**PP 22 05 56.8
PRU MLR MLR
comp=Z,2µm,13.2s,MS5.4
PRU Pruhonice 57.26 311⇑ *iP* **P** **22 05 50.7 +1.2**
PRU *ex* x 22 05 56.8
PRU AMS AMS 22 31 20.0
comp=Z,2µm,13.2s
ITM Ithomi 57.26 294 *eP* **P** **22 05 47.9 -1.9**
ITM Ithomi 57.26 294 P **P** **22 05 47.9 -1.9**
BRG Berggiesshubel 57.30 312 *i* P **P** **22 05 50.0 +0.2**
comp=Z,32nm,1.0s,mb5.3
BRG
comp=N,486nm,16.3s
BRG
comp=E,1µm,16.4s
BRG
comp=Z,2µm,17.0s
IGT Igoumenitsa 57.43 297 P **P** **22 05 49.6 -1.3**
KOGS Kog 57.49 306 *i* P **P** **22 05 51.1 -0.1**
LKD2 Lefkada island 57.51 296 P **P** **22 05 49.3 -2.2**
PYL PYLOS 57.51 294 P **P** **22 05 49.5 -2.1**
SRN Sarande 57.52 298 *i* P **P** **22 05 48.2 -3.4**
FBE Freiberg 57.63 312 *eP* **P** **22 05 52.8 +0.7**
comp=Z,38nm,1.0s,mb5.4
ARSA Arzberg 57.65 307 *i* pP pP 22 05 52.6 -0.2
comp=Z,22nm,1.1s,SNR=7.1
KFL Anninata 57.69 296 P **P** **22 05 51.2 -1.6**
CLL Collm 57.70 313 *eP* **P** **22 05 52.6 0.0**
comp=Z,35nm,0.9s,mb5.4
CLL Collm 57.70 313⇑ *iP* **P** **22 05 52.5 -0.1**
CLL *e* 22 05 58.0
CLL *eS* **S** **22 13 54.0 +2.1**
CLL pmax pmax
comp=Z,35nm,0.9s,mb5.4
CLL MLR MLR
comp=Z,1µm,17.5s,MS5.1
CLL Collm 57.70 313⇑ *iP* **P** **22 05 52.5 -0.1**
comp=Z,35nm,0.9s,mb5.4
CLL *e*(sP) sP 22 05 58.0 +4.7
CLL *eS* **S** **22 13 54.0 +2.1**
CLL *e* 22 14 46.0
CLL *e* 22 18 48.0
VLS Valsamata 57.81 296 *eP* **P** **22 05 51.8 -1.8**
VLS Valsamata 57.81 296 P **P** **22 05 51.8 -1.8**
MUD Monsted U'grnd 57.98 319 *eP* **P** **22 05 54.8 +0.3**
MUD pmax pmax
comp=Z,17nm,0.8s,mb5.1
MUD MLR MLR
comp=Z,2µm,15.0s,MS5.3
MUD Monsted U'grnd 57.98 319 *i* P **P** **22 05 54.8 +0.3**
comp=Z,17nm,0.8s,mb5.1
MUD
comp=Z,2µm,15.0s
PERS Pernice 58.14 307 *i* P **P** **22 05 56.2 +0.4**
KHC Kasperske Hory 58.15 310 *eP* **P** **22 05 56.0 +0.1**
comp=Z,6.0nm,0.7s,mb4.7
KHC Kasperske Hory 58.15 310⇑ *iP* **P** **22 05 56.2 +0.4**
KHC *e**PP 22 06 02.1
KHC MLR MLR
comp=Z,1µm,15.2s,MS5.2
KHC Kasperske Hory 58.15 310⇑ *iP* **P** **22 05 56.2 +0.4**
KHC *ep*P 22 06 02.1
KHC AMS AMS 22 31 50.0
comp=Z,1µm,15.2s

FOO Floro 58.16 326 *eP* **P 22 05 55.4 -0.3**
SOKA Soboth 58.18 307⇑ *ipP* pP 22 05 56.5 -0.1
comp=Z,36nm,1.0s
GEC2 GERESS Array S 58.19 310 *eP* **P 22 05 56.7 +0.6**
comp=Z,20nm,1.0s,mb5.1
GEC2 **GERESS Array S 58.19 310** *eP* **P 22 05 56.7 +0.6**
pmax pmax
comp=Z,20nm,1.0s,mb5.1
GERES GERESS Array B 58.19 310 P **P 22 05 56.4 +0.3**
comp=Z,9.9nm,0.8s,mb4.9,baz=69,slow=7.3,SNR=69
GERES LR LR 22 32 25.6
comp=Z,720nm,19.7s,MS4.8,baz=69,slow=38
GERES GERESS Array B 58.19 310 P **P 22 05 56.4 +0.3**
GERES LR LR 22 32 25.6
GERES GERESS Array B 58.19 310 P **P 22 05 56.4 +0.3**
GERES pmax pmax
comp=Z,10.0nm,0.9s
GERES MLR MLR
comp=Z,720nm,19.7s
MOA Mollin 58.21 308 *i* pP pP 22 05 56.8 +0.1
comp=Z,22nm,1.1s,SNR=11
BSEG Bad Segeberg 58.27 316 *eP* **P 22 05 57.1 +0.5**
comp=Z,64nm,0.9s,mb5.7
BSEG Bad Segeberg 58.27 316 *eP* **P 22 05 57.1 +0.5**
BSEG pmax pmax
comp=Z,64nm,0.9s,mb5.7
SNART Snartemo 58.31 322 *eP* **P 22 05 57.0 +0.2**
TANN Tannenbergstha 58.34 312⇑ *iP* **P 22 05 57.4 +0.2**
comp=Z,25nm,1.0s,mb5.2
NKC Novy Kostel 58.42 312⇑ *iP* **P 22 05 58.1 +0.4**
NKC *e**PP 22 06 04.1
NKC MLR MLR
comp=Z,2µm,15.6s,MS5.3
NKC Novy Kostel 58.42 312⇑ *iP* **P 22 05 58.1 +0.4**
NKC *e*pP 22 06 04.1
NKC AMS AMS 22 32 10.0
comp=Z,2µm,15.6s
WERD Werda 58.42 312 *eP* **P 22 05 58.1 +0.4**
comp=Z,22nm,1.0s,mb5.1
PDKS Podkum 58.44 306 *eP* **P 22 05 58.3 +0.4**
RUND Rundenannen 58.44 324 *eP* **P 22 05 56.8 -0.8**
GUNZ Gunzen 58.44 312 *eP* **P 22 05 58.2 +0.4**
comp=Z,28nm,0.9s,mb5.3
WERN Wernitzgruen 58.44 312 *eP* **P 22 05 58.5 +0.6**
comp=Z,22nm,1.0s,mb5.1
NEUB Neuenburg 58.45 313 *eP* **P 22 05 58.2 +0.3**
comp=Z,48nm,0.9s,mb5.5
BER Bergen 58.47 324 *eP* **P 22 05 57.0 -0.9**
BOJS Bojanci 58.49 306 *i* P **P 22 05 58.7 +0.4**
ASK Askoy 58.49 324 *eP* **P 22 05 57.0 -1.0**
OBKA Obir 58.55 307⇓ *ipP* pP 22 05 58.7 -0.4
comp=Z,21nm,1.0s,SNR=11
WET Wettzell 58.57 310 *eP* **P 22 05 59.4 +0.6**
comp=Z,21nm,1.0s,mb5.1
WET Wettzell 58.57 310 *eP* **P 22 05 59.4 +0.6**
WET pmax pmax
comp=Z,21nm,1.0s,mb5.1
FURI Furi 58.74 256 *eP* **P 22 06 03.0 +2.6**
comp=Z,24nm,0.8s,mb5.3
ROTZ Rotzenmuhle 58.74 311 *eP* **P 22 06 00.7 +0.8**
comp=Z,36nm,1.0s,mb5.4
LJU Ljubljana 58.75 306 *i* P **P 22 06 00.2 +0.2**
MOX Moxa 58.76 312 *eP* **P 22 06 00.4 +0.4**
comp=Z,30nm,1.1s,mb5.2
MOX Moxa 58.76 312 *eP* **P 22 06 00.4 +0.4**
MOX pmax pmax
comp=Z,30nm,1.1s,mb5.2
NRDL Niedersach Rie 58.93 315 *eP* **P 22 06 01.8 +0.6**
comp=Z,68nm,1.0s,mb5.6
CLZ Clausthal 59.02 314 *eP* **P 22 06 02.4 +0.5**
comp=Z,51nm,0.9s,mb5.5
CLZ Clausthal 59.02 314 *eP* **P 22 06 02.4 +0.5**
CLZ pmax pmax
comp=Z,51nm,0.9s,mb5.5
DAG Danmarks Havn 59.04 346 *i* P **P 22 06 00.2 -1.4**
DAG MLR MLR
comp=Z,720nm,19.0s,MS4.8
DAG Danmarks Havn 59.04 346 *i* P **P 22 06 00.2 -1.4**
comp=Z,7.3nm,0.8s,mb4.8
DAG
comp=Z,690nm,19.0s
MYKA Terra Mystica 59.08 307⇑ *iP* **P 22 06 02.1 -0.2**
comp=Z,9.7nm,1.0s,mb4.8
KBA Koelnbreinsper 59.09 308 *i* pP pP 22 06 02.8 -0.1
comp=Z,12nm,0.7s,SNR=10
RJOB Jochberg 59.17 309 *eP* **P 22 06 03.7 +0.7**
comp=Z,21nm,1.1s,mb5.1
CADS Cadrg 59.18 307 *i* P **P 22 06 02.5 -0.5**
GRF Grafenberg Arr 59.36 311 *eP* **P 22 06 05.3 +1.1**
comp=Z,71nm,0.9s,mb5.7
GRF *eL* 22 32 23.5
comp=Z,1µm,18.9s
GRF Grafenberg Arr 59.36 311 *eP* **P 22 06 05.3 +1.1**
GRF pmax pmax
comp=Z,71nm,0.9s,mb5.7
GRF MLR MLR
comp=Z,1µm,18.9s,MS5.0
GRFO Grafenberg 59.36 311 *eP* **P 22 06 03.7 -0.5**
comp=Z,46nm,0.9s,mb5.5
GRFO Grafenberg 59.36 311 *eP* **P 22 06 03.7 -0.5**
GRFO pmax pmax
comp=Z,46nm,0.9s,mb5.5
TRI Trieste 59.37 306 *eP* **P 22 06 04.1 -0.3**
comp=Z,24nm,0.9s,mb5.2
TRI Trieste 59.37 306 *eP* **P 22 06 04.1 -0.3**
TRI pmax pmax
comp=Z,24nm,0.9s,mb5.2
UBBA Unterbreizbach 59.64 313 *eP* **P 22 06 06.3 +0.2**
comp=Z,17nm,1.4s,mb4.9
ABTA Abfaltersbach 59.74 308⇑ *iP* **P 22 06 06.3 -0.7**
comp=Z,16nm,0.8s,mb5.1,SNR=14
FUR Furstenfeldbru 59.94 310 *eP* **P 22 06 09.3 +1.1**
comp=Z,79nm,0.9s,mb5.7
FUR Furstenfeldbru 59.94 310 *eP* **P 22 06 09.3 +1.1**
FUR pmax pmax
comp=Z,79nm,0.9s,mb5.7
WTTA Wattenberg 60.08 309 *i* pP pP 22 06 09.5 -0.2
comp=Z,69nm,1.0s,SNR=28
WATA Walderalm 60.09 309⇑ *ipP* pP 22 06 09.5 -0.3
comp=Z,50nm,1.1s,SNR=11
MOTA Moosalm 60.38 309 *i* P **P 22 06 11.3 0.0**
comp=Z,56nm,0.9s,mb5.6,SNR=35
CUC Castrocucco 60.40 300 *eP* **P 22 06 11.6 +0.1**
comp=Z,46nm,1.1s,mb5.4
RETA Reutte 60.53 309 *i* pP pP 22 06 12.5 -0.3
comp=Z,25nm,1.2s,SNR=15
FETA Feichten 60.74 309 *i* pP pP 22 06 13.9 -0.4
comp=Z,45nm,1.1s,SNR=26
TNS Taunus Mts 60.78 313 *eP* **P 22 06 14.5 +0.5**
comp=Z,17nm,1.0s,mb5.1
TNS Taunus Mts 60.78 313 *eP* **P 22 06 14.5 +0.5**
TNS pmax pmax
comp=Z,17nm,1.0s,mb5.1
TOD Tromm 60.83 312 *eP* **P 22 06 14.6 +0.3**
TOD Tromm 60.83 312 *eP* **P 22 06 14.6 +0.3**
STU Stuttgart 60.95 311 *eP* **P 22 06 15.4 +0.3**
comp=Z,38nm,0.9s,mb5.5
STU Stuttgart 60.95 311 *eP* **P 22 06 15.4 +0.2**
comp=Z,32nm,0.9s,mb5.5
STU Stuttgart 60.95 311 *eP* **P 22 06 15.4 +0.3**
STU pmax pmax
comp=Z,32nm,0.9s,mb5.5
BUG Bochum-Univer 60.96 314 *eP* **P 22 06 15.5 +0.3**
comp=Z,43nm,1.0s,mb5.5
WTSB Winterswijk 61.00 315 *eP* **P 22 06 16.0 +0.6**
comp=Z,54nm,3.0s
AQU L'Aquila 61.01 303 *eP* **P 22 06 16.3 +0.6**
comp=Z,54nm,1.1s,mb5.6
AQU L'Aquila 61.01 303 *eP* **P 22 06 16.3 +0.6**
AQU pmax pmax
comp=Z,54nm,1.1s,mb5.6
DAVA Damuels 61.16 309⇑ *iP* **P 22 06 16.5 -0.1**
comp=Z,22nm,0.9s,mb5.3
SPAK Spaichingen-Ko 61.48 310 *eP* **P 22 06 19.2 +0.5**
BFO Black Forest 61.66 311 *eP* **P 22 06 19.8 -0.1**
comp=Z,33nm,1.1s,mb5.4
BFO Black Forest 61.66 311 *eP* **P 22 06 19.4 -0.6**
comp=Z,28nm,1.0s,mb5.3
BFO Black Forest 61.66 311 *eP* **P 22 06 19.8 -0.1**
BFO pmax pmax
comp=Z,33nm,1.1s,mb5.4
BFO Black Forest 61.66 311 P **P 22 06 19.0 -0.9**
comp=Z,147nm,1.0s,mb6.1,SNR=6.6
LANF Langenberg 61.69 312 *eP* **P 22 06 20.4 +0.2**
LANF Langenberg 61.69 312 *eP* **P 22 06 20.4 +0.2**
LANF Langenberg 61.69 312 *eP* **P 22 06 20.4 +0.2**

TUE Stuetta 61.84 309 *eP* **P 22 06 20.9 -0.3**
comp=Z,32nm,0.9s,mb5.5
HGN Heimansgroeve 62.01 314 *eP* **P 22 06 19.9 -2.3**
comp=Z,61nm,4.3s
MEM Membach 62.03 314 P **P 22 06 22.6 +0.2**
FITZ Fitzroy Crossi 62.04 148 LR LR 22 35 34.3
comp=Z,219nm,19.2s,MS4.3,baz=1.0,slow=38
FITZ Fitzroy Crossi 62.04 148 *eP* **P 22 06 22.3 -0.5**
comp=Z,32nm,0.9s,mb5.5
FITZ Fitzroy Crossi 62.04 148 P **P 22 06 23.1 +0.3**
FELD Feldberg im Sc 62.05 310 *eP* **P 22 06 22.2 -0.4**
CDF Champ du Feu 62.25 311⇑ *iP* **P 22 06 23.9 -0.1**
comp=Z,52nm,1.0s,mb5.3
CDF Champ du Feu 62.25 311⇑ *iP* **P 22 06 23.9 -0.1**
comp=Z,26nm,1.0s,mb5.3
CDF Champ du Feu 62.25 311⇑ *iP* **P 22 06 23.9 -0.1**
CDF pmax pmax
comp=Z,26nm,1.0s,mb5.3
WLF Walferdange 62.36 313 P **P 22 06 25.2 +0.5**
WLF Walferdange 62.36 313 *eP* **P 22 06 25.6 +0.9**
comp=Z,75nm,1.2s,mb5.7
WLF Walferdange 62.36 313 *eP* **P 22 06 25.1 +0.4**
comp=Z,54nm,1.0s,mb5.6
WLF Walferdange 62.36 313 *eP* **P 22 06 25.1 +0.4**
WLF pmax pmax
comp=Z,54nm,1.0s,mb5.6
ECH Echery 62.41 311 *eP* **P 22 06 24.4 -0.6**
ECH Echery 62.41 311 *eP* **P 22 06 24.4 -0.6**
ECH Echery 62.41 311 *eP* **P 22 06 25.2 +0.2**
BCLA Clavier 62.52 314 P **P 22 06 25.8 +0.1**
MBWA Marble Bar 62.57 155 *eP* **P 22 06 31.7 +5.5**
MOF Molkenrain 62.59 311 *eP* **P 22 06 26.5 +0.3**
MOF Molkenrain 62.59 311 *eP* **P 22 06 26.5 +0.3**
MOF Molkenrain 62.59 311 *eP* **P 22 06 26.5 +0.3**
HINF Hinteralfeld 62.77 311⇑ *iP* **P 22 06 27.2 -0.2**
comp=Z,57nm,1.1s,mb5.3
HINF Hinteralfeld 62.77 311⇑ *iP* **P 22 06 27.2 -0.2**
comp=Z,29nm,1.1s,mb5.3
HINF Hinteralfeld 62.77 311⇑ *iP* **P 22 06 27.2 -0.2**
HINF pmax pmax
comp=Z,29nm,1.1s,mb5.3
GIVF Givet 62.94 314⇑ *iP* **P 22 06 28.7 +0.2**
comp=Z,92nm,1.0s,mb5.5
GIVF Givet 62.94 314⇑ *iP* **P 22 06 28.7 +0.2**
comp=Z,46nm,1.0s,mb5.6
GIVF Givet 62.94 314⇑ *iP* **P 22 06 28.7 +0.2**
GIVF pmax pmax
comp=Z,46nm,1.0s,mb5.6
HAU Haudompre 62.99 311⇑ *iP* **P 22 06 28.7 -0.2**
comp=Z,59nm,1.1s,mb5.3
HAU *eR*
comp=Z,752nm,21.5s
HAU Haudompre 62.99 311⇑ *iP* **P 22 06 28.7 -0.2**
comp=Z,29nm,1.1s,mb5.3
HAU LR LR
comp=Z,750nm,21.5s,MS4.8
HAU Haudompre 62.99 311⇑ *iP* **P 22 06 28.7 -0.2**
HAU pmax pmax
comp=Z,29nm,1.1s,mb5.3
HAU MLR MLR
comp=Z,750nm,21.5s,MS4.8
LOMF Lomont 63.00 310 *eP* **P 22 06 29.0 +0.1**
LOMF Lomont 63.00 310 *eP* **P 22 06 29.0 +0.1**
LOMF Lomont 63.00 310 *eP* **P 22 06 29.0 +0.1**
SNF Seneffe 63.06 314 P **P 22 06 29.6 +0.3**
DOU Dourbes 63.07 314 P **P 22 06 29.5 +0.1**
THEF They Montfort 63.11 311 *eP* **P 22 06 29.9 +0.3**
THEF They Montfort 63.11 311 *eP* **P 22 06 29.9 +0.3**
THEF They Montfort 63.11 311 *eP* **P 22 06 29.9 +0.3**
PAGF Fort de Pagny 63.11 312⇑ *iP* **P 22 06 30.2 +0.5**
comp=Z,23nm,1.0s,mb4.9
SENIN Lac Senin/Sane 63.16 309 *eP* **P 22 06 30.1 +0.1**
comp=Z,21nm,0.8s,mb5.3
BAIF Baives 63.31 314⇑ *iP* **P 22 06 31.3 +0.3**
comp=Z,52nm,1.0s,mb5.3
BAIF Baives 63.31 314⇑ *iP* **P 22 06 31.3 +0.3**
comp=Z,26nm,1.0s,mb5.3
BAIF Baives 63.31 314⇑ *iP* **P 22 06 31.3 +0.3**
BAIF pmax pmax
comp=Z,26nm,1.0s,mb5.3
SCO Scoresbysund 63.46 341 *eP* **P 22 06 31.9 +0.3**
SCO pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
MEZF Maizieres J'vi 63.53 312⇑ *iP* **P 22 06 32.7 +0.2**
comp=Z,30nm,0.7s,mb5.1
MEZF Maizieres J'vi 63.53 312⇑ *iP* **P 22 06 32.7 +0.2**
comp=Z,30nm,0.7s,mb5.4
OG01 Vacheresse 63.55 309 *eP* **P 22 06 32.8 +0.2**
OG01 Vacheresse 63.55 309 *eP* **P 22 06 32.8 +0.2**
SFTF Sexfontaines 63.68 312⇑ *iP* **P 22 06 33.3 -0.1**
comp=Z,48nm,1.0s,mb5.2
SFTF Sexfontaines 63.68 312⇑ *iP* **P 22 06 33.3 -0.1**
comp=Z,48nm,1.0s,mb5.5
CABF La Chapelle 63.79 310⇑ *iP* **P 22 06 33.9 -0.3**
comp=Z,43nm,1.2s,mb5.0
CABF La Chapelle 63.79 310⇑ *iP* **P 22 06 33.9 -0.3**
comp=Z,22nm,1.2s,mb5.0
CABF La Chapelle 63.79 310⇑ *iP* **P 22 06 33.9 -0.3**
CABF pmax pmax
comp=Z,22nm,1.2s,mb5.1
PGF Pioggiola 63.83 305⇑ *iP* **P 22 06 35.0 +0.4**
comp=Z,158nm,1.3s,mb5.6
PGF Pioggiola 63.83 305⇑ *iP* **P 22 06 35.0 +0.4**
comp=Z,79nm,1.3s,mb5.6
PGF Pioggiola 63.83 305⇑ *iP* **P 22 06 35.0 +0.4**
PGF pmax pmax
comp=Z,79nm,1.3s,mb5.6
RSL Roselend 63.88 309 *eP* **P 22 06 34.4 -0.4**
RSL Roselend 63.88 309 *eP* **P 22 06 34.4 -0.4**
RSL Roselend 63.88 309 *eP* **P 22 06 34.4 -0.4**
LPG La Plagne 63.89 308⇑ *iP* **P 22 06 35.8 +0.9**
comp=Z,81nm,0.8s,mb5.5
LPG La Plagne 63.89 308⇑ *iP* **P 22 06 35.8 +0.9**
comp=Z,41nm,0.8s,mb5.5
LPG La Plagne 63.89 308⇑ *iP* **P 22 06 35.8 +0.9**
LPG pmax pmax
comp=Z,41nm,0.8s,mb5.5
LPL La Plagne 63.90 308⇑ *iP* **P 22 06 35.6 +0.7**
comp=Z,59nm,0.7s,mb5.4
LPL La Plagne 63.90 308⇑ *iP* **P 22 06 35.6 +0.7**
comp=Z,30nm,0.7s,mb5.4
LPL La Plagne 63.90 308⇑ *iP* **P 22 06 35.6 +0.7**
LPL pmax pmax
comp=Z,30nm,0.7s,mb5.4
SAOF Saorge 64.09 307 *eP* **P 22 06 36.2 -0.1**
SAOF Saorge 64.09 307 *eP* **P 22 06 36.2 -0.1**
SAOF Saorge 64.09 307 *eP* **P 22 06 36.2 -0.1**
SBF Sospel 64.23 307⇑ *iP* **P 22 06 37.1 0.0**
comp=Z,140nm,0.9s,mb5.7
SBF Sospel 64.23 307⇑ *iP* **P 22 06 37.1 0.0**
comp=Z,70nm,0.9s,mb5.7
SBF Sospel 64.23 307⇑ *iP* **P 22 06 37.1 0.0**
SBF pmax pmax
comp=Z,70nm,0.9s,mb5.7
MBDF Montbardon 64.24 308⇑ *iP* **P 22 06 37.6 +0.4**
comp=Z,38nm,0.8s,mb5.2
MBDF Montbardon 64.24 308⇑ *iP* **P 22 06 37.6 +0.4**
comp=Z,19nm,0.8s,mb5.2
MBDF Montbardon 64.24 308⇑ *iP* **P 22 06 37.6 +0.4**
MBDF pmax pmax
comp=Z,19nm,0.8s,mb5.2
LUCF Luceram 64.27 307 *eP* **P 22 06 37.6 +0.2**
LUCF Luceram 64.27 307 *eP* **P 22 06 37.6 +0.2**
TOUF Mont Tournerai 64.28 307 *eP* **P 22 06 37.8 +0.3**
TOUF Mont Tournerai 64.28 307 *eP* **P 22 06 37.8 +0.3**
TOUF Mont Tournerai 64.28 307 *eP* **P 22 06 37.8 +0.3**
COLD Coldfoot 64.32 23 *eP* **P 22 06 38.0 +0.6**
comp=Z,40nm,1.0s,mb5.4
CALN Calern 64.63 307 *eP* **P 22 06 40.0 +0.2**
CALN Calern 64.63 307 *eP* **P 22 06 40.0 +0.2**
CALN Calern 64.63 307 *eP* **P 22 06 40.0 +0.2**
ORIF Oris-en-Rattie 64.71 308⇑ *iP* **P 22 06 40.3 0.0**
comp=Z,64nm,0.8s,mb5.4
ORIF *eR*
comp=Z,1µm,17.8s
ORIF Oris-en-Rattie 64.71 308⇑ *iP* **P 22 06 40.3 0.0**
comp=Z,32nm,0.8s,mb5.4
ORIF Oris-en-Rattie 64.71 308⇑ *iP* **P 22 06 40.3 0.0**
ORIF pmax pmax
comp=Z,32nm,0.8s,mb5.4
LOR Lormes 64.82 311 *eP* **P 22 06 40.2 -0.8**
comp=Z,63nm,1.2s,mb5.2
LOR *eR*
comp=Z,546nm,22.0s
LOR Lormes 64.82 311 *eP* **P 22 06 40.2 -0.8**
comp=Z,32nm,1.2s,mb5.2

LOR LR LR
comp=Z,550nm,22.0s,MS4.7
LOR Lormes 64.82 311 *eP* **P 22 06 40.2 -0.8**
LOR pmax pmax
comp=Z,32nm,1.2s,mb5.2
LOR MLR MLR
comp=Z,550nm,22.0s,MS4.7
FRF La Foret Royal 64.88 307⇑ *iP* **P 22 06 41.1 -0.3**
comp=Z,25nm,0.8s,mb5.0
FRF La Foret Royal 64.88 307⇑ *iP* **P 22 06 41.1 -0.3**
comp=Z,12nm,0.8s,mb5.0
FRF La Foret Royal 64.88 307⇑ *iP* **P 22 06 41.1 -0.3**
FRF pmax pmax
comp=Z,12nm,0.8s,mb5.0
VSL Villasalto 65.03 302 *eP* **P 22 06 41.9 -0.5**
comp=Z,21nm,1.0s,mb5.1
LMR La Mourre 65.07 306⇑ *iP* **P 22 06 42.6 -0.1**
comp=Z,46nm,1.1s,mb5.1
LMR La Mourre 65.07 306⇑ *iP* **P 22 06 42.6 -0.1**
comp=Z,23nm,1.1s,mb5.1
LMR La Mourre 65.07 306⇑ *iP* **P 22 06 42.6 -0.1**
LMR pmax pmax
comp=Z,23nm,1.1s,mb5.1
SMF Signal de Mont 65.13 311⇑ *iP* **P 22 06 42.7 -0.3**
comp=Z,116nm,1.0s,mb5.6
SMF Signal de Mont 65.13 311⇑ *iP* **P 22 06 42.7 -0.3**
comp=Z,58nm,1.0s,mb5.6
SMF Signal de Mont 65.13 311⇑ *iP* **P 22 06 42.7 -0.3**
SMF pmax pmax
comp=Z,58nm,1.0s,mb5.6
SSF Saint Saulge 65.13 311 *eP* **P 22 06 42.4 -0.6**
comp=Z,34nm,1.1s,mb5.0
SSF Saint Saulge 65.13 311 *eP* **P 22 06 42.4 -0.6**
comp=Z,17nm,1.1s,mb5.0
SSF Saint Saulge 65.13 311 *eP* **P 22 06 42.4 -0.6**
SSF pmax pmax
comp=Z,17nm,1.1s,mb5.0
SMRF Simiane la Rot 65.36 307⇑ *iP* **P 22 06 44.4 -0.1**
comp=Z,36nm,1.0s,mb5.0
SMRF Simiane la Rot 65.36 307⇑ *iP* **P 22 06 44.4 -0.1**
comp=Z,36nm,1.0s,mb5.3
AVF Avril sur Loir 65.36 311⇑ *iP* **P 22 06 44.0 -0.4**
comp=Z,81nm,1.1s,mb5.4
AVF Avril sur Loir 65.36 311⇑ *iP* **P 22 06 44.0 -0.4**
comp=Z,40nm,1.1s,mb5.4
AVF Avril sur Loir 65.36 311⇑ *iP* **P 22 06 44.0 -0.4**
AVF pmax pmax
comp=Z,41nm,1.1s,mb5.4
SSB Saint Sauveur 65.37 309 *eP* **P 22 06 43.8 -0.8**
comp=Z,6.5nm,0.7s,mb4.8
SSB Saint Sauveur 65.37 309 *eP* **P 22 06 43.8 -0.7**
SSB pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
VIVF Saint-Julien-l 65.49 309⇑ *iP* **P 22 06 45.2 -0.2**
comp=Z,73nm,1.1s,mb5.3
VIVF Saint-Julien-l 65.49 309⇑ *iP* **P 22 06 45.2 -0.2**
comp=Z,36nm,1.1s,mb5.3
VIVF Saint-Julien-l 65.49 309⇑ *iP* **P 22 06 45.2 -0.2**
VIVF pmax pmax
comp=Z,36nm,1.1s,mb5.3
HYF Humbligny 65.55 312 *eP* **P 22 06 45.7 0.0**
HYF Humbligny 65.55 312 *eP* **P 22 06 45.7 0.0**
PLDF La Plantade 65.59 310 *eP* **P 22 06 46.0 0.0**
PLDF La Plantade 65.59 310 *eP* **P 22 06 46.0 0.0**
PLDF La Plantade 65.59 310 *eP* **P 22 06 46.0 0.0**
SUMG Summit 65.72 346 *eP* **P 22 06 45.6 -0.8**
comp=Z,25nm,0.8s,mb5.3
SUMG Summit 65.72 346 *eP* **P 22 06 45.6 -0.7**
SUMG pmax pmax
comp=Z,25nm,0.8s
SUMG Summit 65.72 346 *i* P **P 22 06 45.9 -0.4**
comp=Z,19nm,0.8s,mb5.2
SUMG
comp=Z,1µm,18.0s
BGF Bois d'Agland 65.78 311⇑ *iP* **P 22 06 46.8 -0.4**
comp=Z,55nm,1.0s,mb5.2
BGF Bois d'Agland 65.78 311⇑ *iP* **P 22 06 46.8 -0.4**
comp=Z,28nm,1.0s,mb5.2
BGF Bois d'Agland 65.78 311⇑ *iP* **P 22 06 46.8 -0.4**
BGF pmax pmax
comp=Z,28nm,1.0s,mb5.2
AGO Saint Agoulin 65.85 310 *eP* **P 22 06 47.9 +0.2**
AGO Saint Agoulin 65.85 310 *eP* **P 22 06 47.9 +0.2**
BPAW Bear Paw Mtn. 65.93 26 *eP* **P 22 06 48.6 +0.7**
comp=Z,25nm,0.8s,mb5.3
SVW2 Sparrevohn 65.96 30 *eP* **P 22 06 48.8 +0.7**
comp=Z,52nm,1.6s,mb5.3
PYM Petit Puy Mans 66.08 310 *eP* **P 22 06 49.4 +0.3**
PYM Petit Puy Mans 66.08 310 *eP* **P 22 06 49.4 +0.3**
PYM Petit Puy Mans 66.08 310 *eP* **P 22 06 49.4 +0.3**
LBL Lubilhac 66.19 310 *eP* **P 22 06 50.0 +0.2**
LBL Lubilhac 66.19 310 *eP* **P 22 06 50.0 +0.2**
LBL Lubilhac 66.19 310 *eP* **P 22 06 50.0 +0.2**
PPLA Purkeypile 66.22 28 *eP* **P 22 06 50.1 +0.4**
comp=Z,237nm,1.7s,mb5.9
KMBO Kilima Mbogo 66.29 249 *eP* **P 22 06 51.1 +0.2**
comp=Z,18nm,1.0s,mb5.1
KMBO Kilima Mbogo 66.29 249 *eP* **P 22 06 51.1 +0.2**
KMBO pmax pmax
comp=Z,18nm,1.0s
KMBO Kilima Mbogo 66.29 249 P **P 22 06 52.2 +1.3**
SNR=12
TCF Toulx Ste Croi 66.29 311⇑ *iP* **P 22 06 50.5 0.0**
comp=Z,114nm,1.1s,mb5.5
TCF Toulx Ste Croi 66.29 311⇑ *iP* **P 22 06 50.5 0.0**
comp=Z,57nm,1.1s,mb5.5
TCF Toulx Ste Croi 66.29 311⇑ *iP* **P 22 06 50.5 0.0**
TCF pmax pmax
comp=Z,57nm,1.1s,mb5.5
LASF Ste Croix 66.39 308⇑ *iP* **P 22 06 51.3 +0.2**
comp=Z,52nm,0.9s,mb5.3
LASF Ste Croix 66.39 308⇑ *iP* **P 22 06 51.3 +0.2**
LDF La Druitiere 66.50 314 *eP* **P 22 06 51.2 -0.6**
comp=Z,21nm,0.5s,mb5.1
LDF La Druitiere 66.50 314 *eP* **P 22 06 51.2 -0.6**
comp=Z,10nm,0.5s,mb5.1
LDF La Druitiere 66.50 314 *eP* **P 22 06 51.2 -0.6**
LDF pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
COLA College 66.52 25 *eP* **P 22 06 51.4 -0.3**
COLA College 66.52 25 *eP* **P 22 06 51.4 -0.2**
FLN La Foliniere 66.62 314 *eP* **P 22 06 52.2 -0.3**
comp=Z,90nm,1.1s,mb5.4
FLN *eR*
comp=Z,2µm,19.0s
FLN La Foliniere 66.62 314 *eP* **P 22 06 52.2 -0.3**
comp=Z,45nm,1.1s,mb5.4
FLN LR LR
comp=Z,2µm,19.0s,MS5.3
FLN La Foliniere 66.62 314 *eP* **P 22 06 52.2 -0.3**
FLN pmax pmax
comp=Z,45nm,1.1s,mb5.4
FLN MLR MLR
comp=Z,2µm,19.0s,MS5.3
MCK McKinley 66.87 26 *eP* **P 22 06 53.8 -0.1**
comp=Z,215nm,2.7s,mb5.7
MCK McKinley 66.87 26 *eP* **P 22 06 53.8 -0.1**
MCK pmax pmax
comp=Z,215nm,2.7s,mb5.7
ILAR Eielson Array 66.91 24 P **P 22 06 52.8 -1.4**
comp=Z,7.4nm,0.7s,mb4.8,baz=294,slow=5.0,SNR=16
ILAR LR 22 39 47.2
comp=Z,852nm,18.0s,MS5.0,baz=157,slow=39
ILAR Eielson Array 66.91 24 P **P 22 06 52.8 -1.4**
ILAR LR LR 22 39 47.2
ILAR Eielson Array 66.91 24 P **P 22 06 52.8 -1.3**
ILAR pmax pmax
comp=Z,7.0nm,0.7s
ILAR MLR MLR
comp=Z,852nm,18.0s
KEST Kesra 66.91 298 P **P 22 06 55.0 +0.3**
comp=Z,4.6nm,0.9s,mb4.5,baz=313,slow=2.6,SNR=13
KEST LR LR 22 42 27.0
comp=Z,77nm,18.5s,MS4.0,baz=156,slow=42
KEST Kesra 66.91 298 *eP* **P 22 06 55.3 +0.7**
PMG Port Moresby 66.93 123 *i* P **P 22 06 55.2 +0.3**
PMG pmax pmax
comp=Z,24nm,1.0s
PMG MLR MLR
comp=Z,192nm,14.0s
GRR Gorron 67.03 314⇑ *iP* **P 22 06 54.8 -0.3**
comp=Z,109nm,0.9s,mb5.6
GRR Gorron 67.03 314⇑ *iP* **P 22 06 54.8 -0.3**
comp=Z,55nm,0.9s,mb5.6
GRR Gorron 67.03 314⇑ *iP* **P 22 06 54.8 -0.3**
GRR pmax pmax

comp=Z,55nm,0.9s,mb5.6
CAF Calvic 67.07 310 *e*P P **22 06 55.8 +0.3**
comp=Z,60nm,1.1s,mb5.2
CAF Calvic 67.07 310 *e*P P **22 06 55.8 +0.3**
comp=Z,30nm,1.1s,mb5.2
CAF Calvic 67.07 310 *e*P P **22 06 55.8 +0.3**
CAF pmax pmax
comp=Z,30nm,1.1s,mb5.2
RJF Les Rejaudoux 67.21 310⇑*i*P P **22 06 56.7 +0.4**
comp=Z,125nm,1.4s,mb5.5
RJF *e*R
comp=Z,290nm,17.8s
RJF Les Rejaudoux 67.21 310⇑*i*P P **22 06 56.7 +0.4**
comp=Z,63nm,1.4s,mb5.5
RJF LR LR
comp=Z,290nm,17.8s,MS4.5
RJF Les Rejaudoux 67.21 310⇑*i*P P **22 06 56.7 +0.4**
RJF pmax pmax
comp=Z,63nm,1.4s,mb5.5
RJF MLR MLR
comp=Z,290nm,17.8s,MS4.5
SPU Mount Spurr 67.30 29 *e*P P **22 06 57.5 +0.8**
MEEK Meekatharra 67.32 158 *e*P P **22 06 56.8 -0.3**
RSO Redoubt South 67.46 30 *e*P P **22 06 58.5 +0.8**
MFF Saint Martin d 67.53 312⇑*i*P P **22 06 58.2 -0.2**
comp=Z,77nm,1.1s,mb5.4
MFF Saint Martin d 67.53 312⇑*i*P P **22 06 58.2 -0.2**
comp=Z,38nm,1.1s,mb5.3
MFF Saint Martin d 67.53 312⇑*i*P P **22 06 58.2 -0.2**
MFF pmax pmax
comp=Z,39nm,1.1s,mb5.3
WRAB Tennant Creek 67.69 141 *e*P P **22 06 58.0 -1.5**
comp=Z,38nm,1.0s,mb5.4
WRAB Tennant Creek 67.69 141 *e*P P **22 06 58.1 -1.4**
WRAB pmax pmax
comp=Z,38nm,1.0s,mb5.4
WRAB Tennant Creek 67.69 141 P P **22 06 58.5 -1.0**
comp=Z,211nm,0.9s,mb6.2,SNR=6.6
WRAB Tennant Creek 67.69 141 P P **22 06 59.0 -0.5**
WRA Warramunga Arr 67.69 141 P P **22 06 58.9 -0.6**
comp=Z,12nm,1.0s,mb4.9,baz=340,slow=6.2,SNR=48
WRA Warramunga Arr 67.69 141 P P **22 06 58.9 -0.6**
WRA Warramunga Arr 67.69 141 P P **22 06 58.9 -0.7**
WRA pmax pmax
comp=Z,12nm,1.0s
MTLF Montolieu 67.78 308⇑*i*P P **22 07 00.1 +0.1**
comp=Z,29nm,1.0s,mb5.0
MTLF Montolieu 67.78 308⇑*i*P P **22 07 00.1 +0.1**
comp=Z,14nm,1.0s,mb5.0
MTLF Montolieu 67.78 308⇑*i*P P **22 07 00.1 +0.1**
MTLF pmax pmax
comp=Z,14nm,1.0s,mb5.0
COEN Coen 67.81 130 P P **22 07 05.5 +5.1**
comp=Z,33nm,1.2s,mb5.2
RES Resolute Bay 67.83 3 P P **22 06 59.1 -0.6**
comp=Z,6.1nm,0.9s,mb4.6,baz=11,slow=7.4,SNR=6.0
RES LR LR 22 37 12.8
comp=Z,655nm,19.7s,MS4.9,baz=343,slow=36
RES Resolute Bay 67.83 3 *e*P P **22 06 59.7 -0.1**
comp=Z,22nm,1.3s,mb5.0
RES Resolute Bay 67.83 3 P P **22 06 59.2 -0.6**
RES pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
RES MLR MLR
comp=Z,655nm,19.7s,MS4.9
LFF La Frestale 67.87 310⇑*i*P P **22 07 00.9 +0.4**
comp=Z,70nm,0.8s,mb5.5
LFF La Frestale 67.87 310⇑*i*P P **22 07 00.9 +0.4**
comp=Z,35nm,0.8s,mb5.5
LFF La Frestale 67.87 310⇑*i*P P **22 07 00.9 +0.4**
LFF pmax pmax
comp=Z,35nm,0.8s,mb5.4
MRIV Mauritius Mete 67.93 219 *e*P P **22 06 59.3 -1.8**
SGMF Saint Gilles 68.06 315⇑*i*P P **22 07 01.9 +0.2**
comp=Z,86nm,0.9s,mb5.5
SGMF Saint Gilles 68.06 315⇑*i*P P **22 07 01.9 +0.2**
comp=Z,43nm,0.9s,mb5.5
SGMF Saint Gilles 68.06 315⇑*i*P P **22 07 01.9 +0.2**
SGMF pmax pmax
comp=Z,43nm,0.9s,mb5.5
PMR Palmer 68.15 28 *e*P P **22 07 01.4 -0.6**
comp=Z,70nm,1.4s,mb5.5
PMR Palmer 68.15 28 *e*P P **22 07 01.4 -0.6**
PMR pmax pmax
comp=Z,70nm,1.4s,mb5.5
INK Inuvik 68.23 18 P P **22 07 01.8 -0.6**
comp=Z,26nm,1.0s,mb5.2,baz=319,slow=7.6,SNR=17
INK LR LR 22 37 36.5
comp=Z,224nm,20.6s,MS4.4,baz=144,slow=37
INK Inuvik 68.23 18 *e*P P **22 07 02.2 -0.2**
comp=Z,54nm,1.3s,mb5.4
INK Inuvik 68.23 18 P P **22 07 01.8 -0.6**
INK pmax pmax
comp=Z,26nm,1.0s
INK MLR MLR
comp=Z,224nm,20.6s
SML Sawmill 68.31 27 *e*P P **22 07 02.7 -0.3**
comp=Z,19nm,0.8s,mb5.2
SML Sawmill 68.31 27 *e*P P **22 07 02.7 -0.3**
SML pmax pmax
comp=Z,19nm,0.8s,mb5.2
VALF Valcebollere 68.39 307 *e*P P **22 07 04.3 +0.4**
VALF Valcebollere 68.39 307 *e*P P **22 07 04.3 +0.4**
ROSF Rostrenen 68.42 315⇑*i*P P **22 07 04.1 +0.2**
ROSF Rostrenen 68.42 315⇑*i*P P **22 07 04.1 +0.2**
ROSF Rostrenen 68.42 315⇑*i*P P **22 07 04.1 +0.2**
QUIF Quistinic 68.59 314⇑*i*P P **22 07 04.9 -0.1**
comp=Z,128nm,1.2s,mb5.4
QUIF Quistinic 68.59 314⇑*i*P P **22 07 04.9 -0.1**
comp=Z,64nm,1.2s,mb5.4
QUIF Quistinic 68.59 314⇑*i*P P **22 07 04.9 -0.1**
QUIF pmax pmax
comp=Z,64nm,1.2s,mb5.4
EPF Esparros 69.11 309 *e*P P **22 07 07.7 -0.7**
comp=Z,19nm,0.8s,mb4.8
EPF Esparros 69.11 309 *e*P P **22 07 07.7 -0.7**
comp=Z,9.6nm,0.8s,mb4.8
EPF Esparros 69.11 309 *e*P P **22 07 07.7 -0.7**
EPF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
KDAK Kodiak Island 69.15 32 P P **22 07 07.5 -0.8**
comp=Z,27nm,0.7s,mb5.3,baz=298,slow=4.2,SNR=9.8
KDAK LR LR 22 40 53.9
comp=Z,1µm,18.3s,MS5.2,baz=319,slow=39
KDAK Kodiak Island 69.15 32 P P **22 07 07.5 -0.8**
KDAK LR LR 22 40 53.9
KDAK Kodiak Island 69.15 32 P P **22 07 07.5 -0.8**
KDAK pmax pmax
comp=Z,27nm,0.7s,mb5.3
KDAK MLR MLR
comp=Z,1µm,18.3s,MS5.2
KDAK Kodiak Island 69.15 32 P P **22 07 07.0 -1.3**
comp=Z,357nm,0.9s,mb6.3,SNR=12
OHAK Old Harbor 69.19 33 *e*P P **22 07 07.9 -0.7**
comp=Z,74nm,1.2s,mb5.5
VIEF Viey 69.39 309 *e*P P **22 07 10.7 +0.6**
VIEF Viey 69.39 309 *e*P P **22 07 10.7 +0.6**
DIV Divide 69.68 27 *e*P P **22 07 11.8 +0.2**
comp=Z,107nm,1.5s,mb5.5
ETSF Etsaut 69.74 309⇑*i*P P **22 07 12.8 +0.6**
comp=Z,67nm,1.1s,mb5.2
ETSF Etsaut 69.74 309⇑*i*P P **22 07 12.8 +0.6**
comp=Z,34nm,1.1s,mb5.2
ETSF Etsaut 69.74 309⇑*i*P P **22 07 12.8 +0.6**
ETSF pmax pmax
comp=Z,34nm,1.1s,mb5.2
DAWY Dawson 69.77 23 *e*P P **22 07 11.9 -0.1**
SJPF Ste Jean 70.04 309⇑*i*P P **22 07 14.1 0.0**
comp=Z,45nm,1.0s,mb5.0
SJPF Ste Jean 70.04 309⇑*i*P P **22 07 14.1 0.0**
comp=Z,22nm,1.0s,mb5.0
SJPF Ste Jean 70.04 309⇑*i*P P **22 07 14.1 0.0**
SJPF pmax pmax
comp=Z,22nm,1.0s,mb5.0
BMRM Bremner River 70.21 27 *e*P P **22 07 15.5 +0.7**
comp=Z,40nm,1.0s,mb5.3
ASAR Alice Springs 70.62 143 P P **22 07 17.2 -0.5**
comp=Z,11nm,0.8s,mb4.8,baz=329,slow=6.1,SNR=78
ASAR Alice Springs 70.62 143 P P **22 07 17.2 -0.5**
ASAR Alice Springs 70.62 143 P P **22 07 17.2 -0.5**
ASAR pmax pmax
comp=Z,11nm,0.8s
EMHD Djebel Mahouad 71.08 301 P P **22 07 22.0 +1.4**
KLBR Kellerberrin 71.75 160 *e*P P **22 07 24.3 -0.1**
comp=Z,43nm,1.0s,mb5.3
EBNR Beni Rached 72.00 302 P P **22 07 27.0 +0.9**

EANR 'Ain N'Sour 72.47 302 P P **22 07 31.5 +2.6**
ABPO Ambohimpanom 72.51 228 *e*P P **22 07 29.2 0.0**
comp=Z,15nm,1.1s,mb4.8
ABPO Ambohimpanom 72.51 228 *e*P P **22 07 29.3 +0.1**
ABPO pmax pmax
comp=Z,15nm,1.1s,mb4.8
ETRT Tiaret 72.65 301 P P **22 07 30.0 0.0**
SFJD Kangerlussuaq 72.69 347 *e*P P **22 07 28.1 -1.6**
comp=Z,31nm,1.0s,mb5.2
SFJD Kangerlussuaq 72.69 347 *i*P P **22 07 27.5 -2.2**
SFJD pmax pmax
comp=Z,19nm,0.8s,mb5.1
SFJD MLR MLR
comp=Z,810nm,16.0s,MS5.1
SFJD Kangerlussuaq 72.69 347 *i*P P **22 07 27.5 -2.2**
comp=Z,19nm,0.9s,mb5.0
SFJD
comp=Z,800nm,16.0s
KMBL Kambalda 72.74 157 *e*P P **22 07 29.6 -0.7**
comp=Z,89nm,0.6s,mb5.9
NWAO Narrogin (SRO) 72.89 161 *e*P P **22 07 28.1 -3.0**
comp=Z,30nm,1.0s,mb5.2
NWAO Narrogin (SRO) 72.89 161 *e*P P **22 07 28.1 -3.0**
NWAO pmax pmax
comp=Z,30nm,1.0s
ESDC Sonseca Array 73.67 308 P P **22 07 36.1 +0.2**
comp=Z,5.1nm,0.5s,mb4.7,baz=48,slow=5.8,SNR=58
ESDC LR LR 22 45 24.3
comp=Z,199nm,19.8s,MS4.4,baz=40,slow=40
ESDC Sonseca Array 73.67 308 P P **22 07 36.1 +0.2**
ESDC LR LR 22 45 24.3
ESLA Sonseca Array 73.67 308 *e*P P **22 07 35.8 -0.2**
comp=Z,2.9nm,0.8s,mb4.3
PAB San Pablo 73.99 308 *e*P P **22 07 37.7 -0.1**
comp=Z,23nm,1.4s,mb4.9
PAB San Pablo 73.99 308 *e*P P **22 07 37.7 -0.1**
PAB pmax pmax
comp=Z,23nm,1.4s,mb4.9
PBRG Braganca 74.14 311 *e*P P **22 07 38.9 +0.2**
comp=Z,39nm,2.0s,mb5.0
FORT Forrest 74.34 152 *e*P P **22 07 39.9 +0.2**
comp=Z,54nm,0.9s,mb5.5
CTA Charters Tower 74.39 131 *e*P P **22 07 39.8 -0.5**
comp=Z,15nm,0.9s,mb4.9
SKAG Skagway 74.50 24 *e*P P **22 07 40.5 +0.1**
comp=Z,114nm,1.7s,mb5.5
MVO Moncorvo 74.69 310 *e*P P **22 07 42.2 +0.3**
comp=Z,36nm,0.9s,mb5.3
PGAV Gavieira, Arco 74.96 312 *e*P P **22 07 42.5 -0.9**
comp=Z,92nm,1.9s,mb5.4
PCAB Cabril 74.97 311 *e*P P **22 07 44.0 +0.5**
comp=Z,54nm,1.3s,mb5.3
MTE Manteigas 75.46 310 *e*P P **22 07 48.0 +1.6**
PVIS Viseu 75.49 310 *e*P P **22 07 46.7 +0.2**
comp=Z,50nm,1.5s,mb5.2
PTO Porto 75.66 311 *e*P P **22 07 46.0 -1.5**
comp=Z,90nm,1.4s,mb5.5
PCBR Castelo Branco 75.76 309 *e*P P **22 07 48.5 +0.4**
comp=Z,32nm,1.5s,mb5.0
PMRV Marv??o 75.95 309 *e*P P **22 07 49.7 +0.5**
comp=Z,55nm,1.4s,mb5.3
PESTR Estremoz 76.42 309 *e*P P **22 07 51.9 +0.1**
comp=Z,42nm,1.6s,mb5.1
PBAR Barrancos 76.49 308 *e*P P **22 07 52.3 0.0**
comp=Z,41nm,1.3s,mb5.2
TAM Tamanrasset 76.74 289 *e*P P **22 07 53.8 -0.2**
comp=Z,16nm,1.4s,mb4.8
TAM Tamanrasset 76.74 289 *e*P P **22 07 53.8 -0.1**
TAM pmax pmax
comp=Z,16nm,1.4s,mb4.8
EVO Evora 76.88 309⇑*i*P P **22 07 55.3 +0.8**
comp=Z,67nm,1.1s,mb5.2
EVO *e*R
comp=Z,276nm,18.8s
EVOP Sao Brissos 76.95 309⇑*i*P P **22 07 55.3 +0.4**
comp=Z,67nm,1.1s,mb5.5
EVOP LR LR
comp=Z,276µm,18.8s
EVOP Sao Brissos 76.95 309⇑*i*P P **22 07 55.3 +0.4**
EVOP pmax pmax
comp=Z,67nm,1.1s,mb5.5
DLBC Dease Lake 77.00 23 P P **22 07 53.6 -1.2**
comp=Z,4.0nm,0.6s,mb4.5,baz=353,slow=3.4,SNR=4.3
DLBC LR LR 22 45 56.5
comp=Z,679nm,19.2s,MS5.0,baz=296,slow=39
DLBC Dease Lake 77.00 23 *e*P P **22 07 55.8 +1.0**
PBEJ Beja 77.10 308 *e*P P **22 07 56.3 +0.6**
comp=Z,28nm,1.2s,mb5.1
YKA Yellowknife Ar 77.33 14 P P **22 07 55.3 -1.2**
comp=Z,4.8nm,0.8s,mb4.5,baz=334,slow=5.2,SNR=13
YKA LR LR 22 45 39.6
comp=Z,40nm,18.3s,MS3.8,baz=115,slow=39
YKA Yellowknife Ar 77.33 14 P P **22 07 55.4 -1.2**
YKA LR LR 22 45 39.5
YKA Yellowknife Ar 77.33 14 P P **22 07 55.3 -1.2**
YKA pmax pmax
comp=Z,5.0nm,0.8s
PVAQ Vaqueiros 77.38 308 *e*P P **22 07 58.4 +1.1**
comp=Z,50nm,1.4s,mb5.2
PCVE Castro Verde 77.45 308 *e*P P **22 07 58.1 +0.4**
PNCL Nicolau / Gran 77.46 308 *e*P P **22 07 58.3 +0.6**
comp=Z,62nm,1.4s,mb5.3
PBDV Barranco-do-Ve 77.62 307 *e*P P **22 07 59.9 +1.3**
comp=Z,60nm,1.4s,mb5.3
MORF Marmelete 78.03 308 *e*P P **22 08 02.0 +1.1**
comp=Z,64nm,1.3s,mb5.4
MORF Marmelete 78.03 308 *e*PcP PcP 22 08 09.3 -1.3
PFVI Vila Bisbo 78.25 308 *e*P P **22 07 58.6 -3.5**
comp=Z,113nm,2.1s,mb5.4
FRB Frobisher Bay 78.29 353 P P **22 08 00.7 -1.2**
comp=Z,13nm,0.8s,mb5.0,baz=20,slow=6.8,SNR=5.8
FRB LR LR 22 48 10.2
comp=Z,635nm,18.8s,MS5.0,baz=211,slow=40
FRB Frobisher Bay 78.29 353 P P **22 08 00.7 -1.2**
FRB LR LR 22 48 10.2
FRB Frobisher Bay 78.29 353 P P **22 08 00.7 -1.2**
FRB pmax pmax
comp=Z,13nm,0.8s
FRB MLR MLR
comp=Z,635nm,18.8s
STKA Stephens Creek 81.19 142 P P **22 08 17.4 -0.6**
comp=Z,18nm,0.8s,mb5.0,baz=337,slow=6.1,SNR=36
STKA LR LR 22 48 21.7
comp=Z,244nm,20.4s,MS4.5,baz=266,slow=39
STKA Stephens Creek 81.19 142 *e*P P **22 08 17.0 -0.9**
comp=Z,10nm,0.6s,mb4.9
STKA Stephens Creek 81.19 142 *e*P P **22 08 17.1 -0.8**
comp=Z,4.6nm,0.9s,mb4.4
STKA Stephens Creek 81.19 142 *e*P P **22 08 17.1 -0.8**
STKA pmax pmax
comp=Z,5.0nm,0.9s
EIDS Eidsvold 81.28 131 *e*P P **22 08 19.2 +0.7**
comp=Z,24nm,1.0s,mb5.1
LSZ Lusaka 82.38 244 *e*P P **22 08 24.9 +0.3**
comp=Z,14nm,0.8s,mb5.0
LSZ Lusaka 82.38 244 *e*P P **22 08 24.9 +0.3**
LSZ pmax pmax
comp=Z,14nm,0.8s,mb4.9
BBB Bella Bella 82.77 26 LR LR 22 47 31.3
comp=Z,498nm,18.3s,MS4.9,baz=265,slow=37
CMSA Cobar Meteorol 82.99 139 *e*P P **22 08 27.1 -0.3**
ARPS Mount Arapiles 85.30 145 *e*P P **22 08 38.7 -0.3**
comp=Z,45nm,0.8s,mb5.7
TORD Torodi Ar. Bea 85.36 283 P P **22 08 39.5 -0.5**
comp=Z,6.8nm,0.9s,mb4.8,baz=44,slow=4.6,SNR=43
TORD LR LR 22 52 16.2
comp=Z,160nm,18.3s,MS4.5,baz=70,slow=40
TORD Torodi Ar. Bea 85.36 283 P P **22 08 39.5 -0.5**
TORD LR LR 22 52 16.2
ARMA Armidale 85.38 134 *e*P P **22 08 39.9 +0.3**
ARMA Armidale 85.38 134 *e*P P **22 08 41.0 +1.4**
comp=Z,236nm,2.5s,mb5.9
SCHQ Schefferville 86.80 350 P P **22 08 44.9 -1.5**
comp=Z,14nm,0.7s,mb5.3,baz=21,slow=5.4,SNR=9.5
SCHQ LR LR 22 50 24.8
comp=Z,328nm,19.6s,MS4.7,baz=12,slow=38
SCHQ Schefferville 86.80 350 P P **22 08 44.9 -1.5**
SCHQ LR LR 22 50 24.8
B06A Marblemount baz=88 **88.11 24** ⇓P P **22 08 53.4 +0.6**
JCW Jim Creek 88.25 24 *e*P P **22 08 54.0 +0.5**
B08A Colville Reser baz=88 **88.92 23** ⇓P P **22 08 56.5 -0.2**
DZM Mont Dzumac 88.94 119 *e*LR LR 22 37 16.1
comp=Z,418nm,25.9s
D05A Enumclaw baz=89 **89.11 25** ⇑P P **22 08 58.9 +1.3**

ETW Entiat 89.28 24 *e*P P **22 08 58.8 +0.4**
LON Longmire 89.55 25 *e*P P **22 08 59.6 0.0**
comp=Z,8.4nm,0.7s,mb5.2
LON Longmire 89.55 25 *e*P P **22 08 59.6 0.0**
LON pmax pmax
comp=Z,8.0nm,0.7s,mb5.2
NEW Newport 89.66 21 ⇓P P **22 08 59.7 -0.4**
baz=89
NEW Newport 89.66 21 *e*P P **22 09 00.7 +0.5**
comp=Z,22nm,1.2s,mb5.4
NEW Newport 89.66 21 *e*P P **22 09 00.7 +0.6**
NEW pmax pmax
comp=Z,22nm,1.2s
C09A Chrisman Ranch baz=89 **89.74 22** ⇓P P **22 09 01.1 +0.6**
WALA Waterton Lakes comp=Z,0.6nm,1.2s,mb3.8 **89.82 19** *e*P P **22 09 01.4 +0.6**
OD2 Odessa Site #2 comp=Z,18nm,1.0s,mb5.3 **89.97 23** *e*P P **22 09 00.9 -0.7**
A14A Double T Ranch baz=90 **90.03 19** ⇓P P **22 09 02.4 +0.6**
A15A Johnson Ranch, baz=90,SNR=12 **90.20 18** ⇓P P **22 09 02.3 -0.3**
D08A Wollman Farm, baz=90 **90.21 23** ⇓P P **22 09 03.4 +0.7**
B13A Whitefish baz=90,SNR=9.0 **90.30 20** ⇑P P **22 09 03.4 +0.3**
E07A Sunnyside baz=90 **90.36 24** ⇑P P **22 09 04.2 +0.7**
A16A West Butte Ran baz=90 **90.50 18** ⇑P P **22 09 03.6 -0.5**
B14A Marquette Ranc baz=90 **90.63 19** ⇓P P **22 09 04.2 -0.4**
C12B Naegeli Ranch, baz=90 **90.63 21** ⇓P P **22 09 05.2 +0.5**
LBTB Lobatse 90.66 239 *e*P P **22 09 04.8 -0.2**
LBTB Lobatse 90.66 239 *e*P P **22 09 04.8 -0.2**
G04A Mulino baz=90 **90.67 26** ⇑P P **22 09 05.7 +0.8**
E08A Dider Farm, El baz=90 **90.67 23** ⇑P P **22 09 05.7 +0.8**
BSMT Bassoo Peak 90.69 20 *e*P P **22 09 05.8 +0.9**
A17A Triple J Farms baz=90 **90.72 17** ⇑P P **22 09 04.4 -0.7**
B15A Bradely Ranch, baz=90,SNR=6.9 **90.85 19** ⇑P P **22 09 05.0 -0.7**
YBMT Yellow Bay 90.89 20 *e*P P **22 09 06.5 +0.6**
C13A Hot Springs baz=90,SNR=5.7 **90.91 20** ⇑P P **22 09 06.2 +0.2**
JTMT Jette 90.93 20 *e*P P **22 09 06.7 +0.7**
E09A Wood Farm, Sta baz=90 **90.93 23** ⇑P P **22 09 05.9 -0.2**
A18A Metzger Ranch, baz=90 **90.94 17** ⇑P P **22 09 05.5 -0.5**
B16A M & M Farms, S baz=91 **90.97 18** ⇑P P **22 09 06.4 +0.1**
A19A Klindworth Far baz=91 **91.18 16** ⇓P P **22 09 07.0 -0.2**
SWMT Swartz Lake 91.22 20 *e*P P **22 09 07.3 -0.1**
D12A Red Ives Fores baz=91 **91.27 21** ⇓P P **22 09 07.1 -0.6**
G06A Carlson Farm, baz=91 **91.27 25** ⇓P P **22 09 08.6 +0.9**
C15A Salmond Ranch, baz=91,SNR=9.4 **91.34 19** ⇓P P **22 09 07.8 -0.2**
A20A Cobblestone Ra baz=91 **91.40 15** ⇓P P **22 09 07.7 -0.5**
B18A Beardsley Farm baz=91 **91.45 17** ⇑P P **22 09 08.0 -0.5**
D13A Huson baz=91,SNR=5.9 **91.48 20** ⇓P P **22 09 07.6 -1.1**
A21A Bergtoll Ranch baz=91 **91.50 15** ⇓P P **22 09 08.2 -0.4**
B19A Brinkman Farms baz=91 **91.58 16** ⇓P P **22 09 09.1 0.0**
SLMT Seeley Lake 91.60 20 *e*P P **22 09 09.2 0.0**
F10A Beach Ranch, E baz=91 **91.70 22** ⇑P P **22 09 09.8 +0.2**
A22A Carney Farms, baz=91 **91.70 14** ⇓P P **22 09 08.8 -0.8**
D14A Greenough baz=91 **91.75 20** ⇓P P **22 09 09.4 -0.5**
B20A Solberg Farm, baz=91 **91.80 16** ⇑P P **22 09 09.1 -1.0**
EGMT Eagleton baz=91 **91.80 17** ⇑P P **22 09 09.5 -0.6**
MSO Missoula baz=92,SNR=6.6 **91.86 20** ⇑P P **22 09 10.1 -0.3**
MSO Missoula comp=Z,7.8nm,1.1s,mb5.0 **91.86 20** *e*P P **22 09 10.0 -0.4**
CHMT Chamberlain Mo 91.97 19 *e*P P **22 09 10.1 -0.8**
ULM Lac du Bonnet comp=Z,569nm,20.3s,MS5.0,baz=340,slow=36 **91.97 8** LR LR 22 51 01.7
D15A Lincoln baz=92 **92.04 19** ⇓P P **22 09 11.0 -0.2**
A24A Westby baz=92 **92.12 13** ⇑P P **22 09 10.7 -0.9**
E13A Victor baz=92,SNR=5.8 **92.15 20** ⇑P P **22 09 10.9 -0.8**
C19A Slack Wire Ran baz=92 **92.24 17** ⇑P P **22 09 12.1 0.0**
D16A Dana Ranch, Ca baz=92 **92.30 18** ⇑P P **22 09 12.3 -0.2**
B22A Reddig Ranch S baz=92 **92.35 14** ⇑P P **22 09 11.6 -1.0**
E14A Clinton baz=92 **92.36 20** ⇓P P **22 09 12.5 -0.2**
D17A Six Diamond Ra baz=92 **92.40 18** ⇑P P **22 09 12.9 0.0**
DGMT Dagmar baz=92 **92.53 13** ⇑P P **22 09 12.9 -0.5**
DGMT Dagmar comp=Z,132nm,2.1s,mb6.0 **92.53 13** *e*P P **22 09 13.5 +0.1**
HRY Holter Researc 92.53 19 *e*P P **22 09 14.3 +0.8**
D18A Linhart Farms, baz=92 **92.57 17** ⇑P P **22 09 13.4 -0.3**
I07A Izee baz=92 **92.67 25** ⇑P P **22 09 14.9 +0.7**
F13A Darby baz=92,SNR=7.4 **92.71 21** ⇓P P **22 09 14.1 -0.3**
F14A Wisdom baz=92 **92.95 20** ⇓P P **22 09 15.6 +0.2**
C23A Lambert baz=93 **92.98 14** ⇑P P **22 09 15.3 -0.3**
E17A Martinsdale baz=93 **93.00 18** ⇑P P **22 09 15.7 0.0**
E18A Harlowton baz=93 **93.13 17** ⇑P P **22 09 15.7 -0.5**
F15A Butte baz=93 **93.16 19** ⇓P P **22 09 16.5 +0.1**
BOSA Boshof 93.27 236 P P **22 09 15.6 -1.5**
comp=Z,11nm,1.1s,mb5.2,baz=45,slow=8.6,SNR=4.6
BOSA Boshof 93.27 236 P P **22 09 15.6 -1.5**
BOSA Boshof 93.27 236 P P **22 09 15.6 -1.4**
BOSA pmax pmax
comp=Z,11nm,1.1s,mb5.2
D21A La Casta Ranch baz=93 **93.32 15** ⇑P P **22 09 16.7 -0.4**
G13A Cobalt baz=93 **93.38 21** ⇑P P **22 09 17.3 -0.1**
K05A Summer Lake baz=93 **93.39 26** ⇓P P **22 09 18.1 +0.6**
D22A Cohagen baz=93 **93.41 15** ⇓P P **22 09 16.7 -0.8**
F16A Kennard Place, baz=93 **93.44 19** ⇓P P **22 09 17.7 0.0**
E19A Rath Farm, Rou baz=93 **93.50 17** ⇑P P **22 09 17.6 -0.4**
BOZ Bozeman (W) baz=93 **93.57 19** ⇓P P **22 09 17.7 -0.6**
BOZ Bozeman (W) 93.57 19 *e*P P **22 09 18.1 -0.1**
BOZ Bozeman (W) 93.57 19 *e*P P **22 09 18.2 -0.1**
F17A Fitzpatrick Pl baz=93 **93.57 18** ⇓P P **22 09 17.7 -0.6**
E20A Meyer Farm, Mu baz=93 **93.61 16** ⇓P P **22 09 18.1 -0.3**
J08A Circle Bar Ran baz=93 **93.65 24** ⇓P P **22 09 19.2 +0.5**
H12A Diamond D Ranc baz=93 **93.69 21** ⇓P P **22 09 18.1 -0.8**
G15A Dillon baz=93 **93.79 20** ⇓P P **22 09 18.3 -1.0**
F18A Big Timber baz=93 **93.80 18** ⇑P P **22 09 19.2 -0.2**
H13A Challis baz=94 **93.85 21** ⇑P P **22 09 19.5 -0.1**
G16A Moss Hill, Enn baz=94 **93.91 19** ⇓P P **22 09 19.4 -0.5**

GCMT	Greycliff	93.92	18	*e*P		P		22 09 19.4	-0.5
	comp=Z,3.8nm,0.7s,mb4.9								
MCMT	McKenzie Canyo	94.00	20	*e*P		P		22 09 20.2	-0.1
	comp=Z,1.4nm,0.7s,mb4.5								
F19A	Roth Farm, Mol	94.03	17	⇑P		P		22 09 19.7	-0.7
	baz=94								
H14A	Leadore	94.06	20	⇓P		P		22 09 19.7	-0.9
	baz=94								
I12A	Atlanta	94.30	22	⇑P		P		22 09 21.9	+0.2
	baz=94,SNR=14								
DBIC	Dimbokro	94.40	282	P		P		22 09 21.6	-1.1
	comp=Z,5.3nm,0.8s,mb5.0,baz=48,slow=6.9,SNR=6.2								
DBIC	Dimbokro	94.40	282	P		P		22 09 21.6	-1.1
DBIC	Dimbokro	94.40	282	P		P		22 09 21.6	-1.1
DBIC				pmax	pmax				
	comp=Z,5.0nm,0.8s								
I13A	Wildhorse Cree	94.49	21	⇑P		P		22 09 22.4	-0.2
	baz=94								
H16A	Russell Place,	94.54	19	⇑P		P		22 09 22.6	-0.2
	baz=94								
I14A	Mackay	94.67	21	⇓P		P		22 09 23.5	+0.1
	baz=94								
HLID	Hailey	94.72	22	⇓P		P		22 09 24.0	+0.3
	baz=94								
HLID	Hailey	94.72	22	*e*P		P		22 09 24.7	+1.0
	comp=Z,5.2nm,1.1s,mb4.9								
G20A	Bridger	94.80	17	⇓P		P		22 09 23.4	-0.5
	baz=94								
LIC	Lamto	94.81	282	*e*P		P		22 09 21.9	-2.7
	comp=Z,24nm,1.1s,mb5.2								
LIC				*e*R					
	comp=Z,356nm,21.5s								
LIC	Lamto	94.81	282	*e*P		P		22 09 21.9	-2.7
	comp=Z,12nm,1.1s,mb5.2								
LIC				LR	LR				
	comp=Z,180nm,21.5s,MS4.5								
J13A	Cove Ranch, Pi	94.94	21	⇑P		P		22 09 24.9	+0.2
	baz=94								
J14A	Carey	95.20	21	⇑P		P		22 09 25.3	-0.6
	baz=95								
I16A	Newdale	95.25	19	⇑P		P		22 09 25.5	-0.6
	baz=95								
IMW	Indian Meadow	95.38	19	*e*P		P		22 09 26.6	0.0
	comp=Z,6.4nm,0.8s,mb5.1								
J15A	Blackfoot	95.44	20	⇓P		P		22 09 26.3	-0.6
	baz=95								
MOOW	Moose Ponds	95.56	19	*e*P		P		22 09 27.5	0.0
	comp=Z,7.7nm,1.5s,mb4.9								
PDAR	Pinedale Array	96.79	19	LR	LR			22 57 19.9	
	comp=Z,477nm,18.7s,MS5.0,baz=349,slow=38								
NVAR	Mina Array Bea	98.11	26	P		P		22 09 39.6	+0.5
	comp=Z,0.8nm,0.6s,mb4.5,baz=319,slow=5.5,SNR=5.7								
NVAR				LR	LR			22 55 30.8	
	comp=Z,395nm,20.3s,MS4.9,baz=134,slow=36								
NVAR	Mina Array Bea	98.11	26	P		P		22 09 39.6	+0.5
NVAR				LR	LR			22 55 30.8	
SUR	Sutherland	98.62	236	LR	LR			22 51 50.9	
	comp=Z,310nm,20.7s,MS4.8,baz=55,slow=34								
TXAR	Lajitas Array	111.00	18	PKiKP	PKiKP			22 14 34.2	-1.8
	comp=Z,0.1nm,0.4s,baz=108,slow=2.0,SNR=2.9								
TXAR	Lajitas Array	111.00	18	PKPdf	PKiKP			22 14 34.2	-1.8
TXAR	Lajitas Array	111.00	18	*i* PKIKP	PKiKP			22 14 34.2	-1.8
PPT	Papeete	119.82	90	*e*LR	LR			22 51 35.9	
	comp=Z,149nm,23.8s								
VNDA	Vanda	121.46	167	PKP	PKPdf			22 14 53.4	-1.1
	comp=Z,1.3nm,0.8s,baz=287,slow=5.3,SNR=5.8								
VNDA	Vanda	121.46	167	PKP	PKPdf			22 14 53.4	-1.1
VNDA	Vanda	121.46	167	PKIKP	PKPdf			22 14 53.4	-1.1
VNDA				pmax	pmax				
	comp=Z,1.0nm,0.9s								
TAOE	Nuku Hiva Isla	122.14	75	*e*LR	LR			22 52 36.9	
	comp=Z,225nm,26.6s								
TBI	Tubuai	122.97	95	*e*LR	LR			22 53 03.4	
	comp=Z,230nm,27.2s								
NVL	N'lazarevskaya	123.03	203	*e*P		Pdif		22 11 31.8	+1.9
MAIT	Maitri	123.06	203	*e*P		PKPdf		22 14 57.1	-0.6
QSPA	South Pole Qui	127.31	180	*e*PKPdf		PKPdf		22 15 04.7	-0.9
SNAA	Sanae	127.85	203	*e*PKPdf		PKPdf		22 15 06.8	0.0
SNAA	Sanae	127.85	203	*e*PKIKP		PKPdf		22 15 06.9	+0.1
VNA2	Neumayer--Watz	129.27	204	*e*		PKPdf		22 15 06.4	-3.1
	baz=52,slow=3.2								
VNA1	Neumayer--Stat	129.55	205	*e*		PKPdf		22 15 07.2	-2.9
VNA3	Neumayer Olymp	130.01	204	*e*		PKPdf		22 15 07.9	-3.0
SDV	Santo Domingo	132.12	342	*e*PKPdf		PKPdf		22 15 15.7	-1.1
OTAV	Otavalo	142.04	351	*e*PKPdf		PKPdf		22 15 35.7	+0.6
ATAH	Atahualpa	149.28	349	PKPbc		PKPbc		22 15 49.5	-2.2
	comp=Z,14nm,0.9s,baz=283,slow=2.0,SNR=6.9								
LPAZ	La Paz	154.54	322	PKP		PKPdf		22 15 55.0	-0.1
	comp=Z,1.3nm,0.9s,baz=315,slow=1.4,SNR=3.7								
LPAZ				PKPab		PKPab		22 16 17.7	-0.2
	comp=Z,1.5nm,0.6s,baz=177,slow=7.4,SNR=4.6								
LPAZ	La Paz	154.54	322	PKP		PKPdf		22 15 55.0	-0.1
LPAZ				PKPab		PKPab		22 16 17.7	-0.2
LPAZ	La Paz	154.54	322	PKIKP		PKPdf		22 15 55.0	-0.1
LPAZ				pmax		pmax			
	comp=Z,1.0nm,1.0s								
CPUP	Villa Florida	154.73	288	PKPbc		PKPbc		22 16 01.6	-2.2
	comp=Z,5.3nm,0.9s,baz=3.8,slow=3.7,SNR=9.2								
CPUP	Villa Florida	154.73	288	PKPbc		PKPbc		22 16 01.6	-2.2
TRQA	Tornquist	162.48	262	*e*PKPdf		PKPdf		22 16 03.8	-0.2
CFAA	Coronel Fontan	165.63	290	PKPab		PKPab		22 17 06.3	+0.4
	comp=Z,0.7nm,0.9s,baz=32,slow=6.3,SNR=4.9								

*ISCJB **11** 22:00:36.4±0.3, 60.03N±0.03×152.95W±0.07, h124km±4km, mb3.8/10, Error ellipse: s-maj=6.0km s-min=4.4km az=38.6*
*IDC **11** 22:00:36.7±1.0, 60.02N×152.84W, h111km±14km, mb3.6/9, mb1 3.8/14, mb1mx3.6/29, mbtmp3.7/14, Error ellipse: s-maj=16.8km s-min=9.8km az=115.0*
*NEIC **11** 22:00:38.9, 59.99N×152.92W, h120km, MG3.9(AEIC), After AEIC.*

ISC 11 22:00:37.6±0.3, 60.02N±0.03×152.96W±0.07, h117km±4km, n74, σ0.9 93/90, mb3.8/10, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSO	Redoubt South	0.46	13	*e*Pn	Pn	22 00 55.9	+1.0
BRLK	Bradley Lake	1.08	103	P	Pn	22 01 01.0	+1.0
BRLK				S	Sn	22 01 17.7	+0.6
SLKM	Skilak Lake	1.45	69	P	Pn	22 01 04.8	+0.7
SVW2	Sparrevohn	1.69	311	*e*P	Pn	22 01 07.3	+0.4
SEW	Seward	1.76	86	P	Pn	22 01 08.1	+0.2
SEW				S	Sn	22 01 30.1	-0.9
FIB	Fire Island	1.79	49	P	Pn	22 01 09.9	+1.7
SUA	Susitna One	1.81	36	P	Pn	22 01 09.6	+1.2
SUA				S	Sn	22 01 33.3	+1.2
SKT	Skwentna	2.09	19	P	Pn	22 01 12.6	+0.7
KDAK	Kodiak Island	2.25	175	P	Pn	22 01 13.4	-0.6
	190nm,0.3s,baz=18,slow=7.7,SNR=2171						
KDAK				S	Sn	22 01 40.8	-1.2
	160nm,0.3s,baz=311,slow=23,SNR=55						
KDAK	Kodiak Island	2.25	175	P	Pn	22 01 13.4	-0.6
KDAK				S	Sn	22 01 40.5	-1.4
KDAK	Kodiak Island	2.25	175	Pn	Pn	22 01 13.4	-0.6
	7µm,0.4s						
PMR	Palmer	2.45	48	*e*P	Pn	22 01 16.1	-0.4
PMR				S	Sn	22 01 44.7	-1.7
KNK	Knik Glacier	2.62	56	P	Pn	22 01 18.4	-0.3
GHO	Glory Hole Cre	2.64	47	P	Pn	22 01 18.8	-0.2
OHAK	Old Harbor	2.81	184	*e*P	Pn	22 01 20.0	-1.2
SML	Sawmill	2.88	50	P	Pn	22 01 21.9	-0.3
SML				S	Sn	22 01 54.6	-1.9
PPLA	Purkeypile	2.91	7	P	Pn	22 01 23.9	+1.4
TT01	Tatalina	3.25	334	P	Pn	22 01 27.1	+0.2
SCM	Sheep Creek Mo	3.30	54	P	Pn	22 01 27.3	-0.2
MID	Middleton Isla	3.41	97	P	Pn	22 01 29.3	+0.2
TRF	Thorofare Moun	3.67	19	P	Pn	22 01 32.8	+0.3
DIV	Divide	3.72	69	P	Pn	22 01 32.9	-0.3
KLU	Klutina	3.76	64	P	Pn	22 01 33.4	-0.3
RND	Reindeer	3.92	28	P	Pn	22 01 35.8	0.0
DHY	Denali Highway	4.07	39	P	Pn	22 01 37.9	+0.1
DHY				S	Sn	22 02 00.0	-1.5
MCK	McKinley	4.18	25	P	Pn	22 01 39.7	+0.3
BPAW	Bear Paw Mtn.	4.20	12	P	Pn	22 01 39.0	-0.5
BMRM	Bremner River	4.24	73	*e*Pn	Pn	22 01 40.9	+0.7
BMRM				*e*Sn	Sn	22 02 28.1	-0.6
PAX	Paxson	4.65	47	P	Pn	22 01 45.8	+0.2
CHGN	Chignik	4.72	220	*e*P	Pn	22 01 46.3	-0.3
DDM	Donnelly Dome	5.05	39	P	Pn	22 01 52.5	+1.5
HDA	Harding Lake	5.22	30	P	Pn	22 01 53.3	0.0
MENT	Mentasta	5.31	53	*e*Pn	Pn	22 01 54.4	-0.1
MENT				*e*Sn	Sn	22 02 56.0	+1.7
COLA	College	5.42	24	P	Pn	22 01 55.5	-0.3
MDM	Murphy Dome	5.42	22	P	Pn	22 01 55.1	-0.8
ILAR	Eielson Array	5.54	28	P	Pn	22 01 57.1	-0.5
	16nm,0.3s,baz=217,slow=14,SNR=1433						
ILAR				S	Sn	22 02 58.0	-1.9
	6.4nm,0.3s,baz=214,slow=24,SNR=9.2						
ILAR	Eielson Array	5.54	28	P	Pn	22 01 57.1	-0.5
ILAR				S	Sn	22 02 58.0	-1.9
IL1	Eielson Array	5.54	28	P	Pn	22 01 56.9	-0.7
DOT	Dot Lake	5.57	45	*e*Pn	Pn	22 01 58.0	0.0
DOT				*e*Sn	Sn	22 02 58.2	-2.4
GLM	Gilmore Dome	5.61	25	P	Pn	22 01 58.5	-0.1
IM3	Indian Mountai	6.00	357	P	Pn	22 02 03.9	+0.2
BCA3	Beaver Creek A	6.15	55	P	Pn	22 02 05.8	0.0
SDPT	Sand Point	6.18	224	P	Pn	22 02 05.1	-1.1
PNL	Peninsula	6.84	87	P	Pn	22 02 15.7	+0.4
EGAK	Eagle	7.26	44	*e*Pn	Pn	22 02 20.3	-0.5
EGAK				*e*Sn	Sn	22 03 42.9	+1.4
COLD	Coldfoot	7.34	8	P	Pn	22 02 22.0	+0.1
DAWY	Dawson	7.55	52	*e*Pn	Pn	22 02 25.3	+0.6
DAWY				*e*Sn	Sn	22 03 49.1	+0.5
BM3	Burnt Mountain	8.29	23	P	Pn	22 02 33.3	-1.4
INK	Inuvik	11.81	37	P	Pn	22 03 20.8	-1.1
	0.6nm,0.3s,baz=230,slow=17,SNR=18						
INK	Inuvik	11.81	37	P	Pn	22 03 20.8	-1.1
DLBC	Dease Lake	11.84	88	P	Pn	22 03 24.1	+1.8
	2.8nm,0.3s,baz=264,slow=9.1,SNR=36						
DLBC	Dease Lake	11.84	88	*e*Pn	Pn	22 03 24.0	+1.7
DLBC				*e*Sn	Sn	22 05 32.9	+0.5
YKA	Yellowknife Ar	18.43	66	P	P	22 04 44.3	+0.9
	0.9nm,0.3s,baz=276,slow=10,SNR=21						
YKA	Yellowknife Ar	18.43	66	P	P	22 04 44.3	+0.9
FX1	Attu Island--F	19.86	264	P	P	22 05 00.3	+1.3
	5.8nm,0.3s,baz=287,slow=15,SNR=13						
RES	Resolute Bay	25.28	32	P	P	22 05 52.5	+0.1
	0.4nm,0.3s,mb3.4,baz=110,slow=11,SNR=4.5						
RES	Resolute Bay	25.28	32	P	P	22 05 52.5	+0.1
PDAR	Pinedale Array	31.38	104	P	P	22 06 49.9	+3.0
	0.4nm,1.1s,mb3.1,baz=343,slow=8.8,SNR=2.1						
PDAR	Pinedale Array	31.38	104	P	P	22 06 49.9	+3.0
TXAR	Lajitas Array	44.97	111	P	P	22 08 40.3	-0.5
	0.1nm,0.5s,mb2.8,baz=286,slow=6.5,SNR=2.4						
TXAR	Lajitas Array	44.97	111	P	P	22 08 40.3	-0.5
MJAR	Matsushiro Arr	48.80	274	P	P	22 09 09.4	-1.1
	0.5nm,0.3s,mb3.9,baz=327,slow=2.0,SNR=3.5						
MJAR	Matsushiro Arr	48.80	274	P	P	22 09 09.4	-1.1
KSRS	Korea Array	53.20	283	P	P	22 09 44.2	+1.0
	4.4nm,0.8s,mb4.6,baz=36,slow=6.6,SNR=12						
SONM	Songino Array	54.80	306	P	P	22 09 56.2	+1.4
	5.0nm,0.7s,mb4.7,baz=59,slow=5.9,SNR=23						
SONM	Songino Array	54.80	306	P	P	22 09 56.2	+1.4
ZALV	Zalesovo Beam	57.37	324	P	P	22 10 13.2	+0.2
	3.5nm,0.5s,mb4.7,baz=35,slow=7.4,SNR=10						
ZALV	Zalesovo Beam	57.37	324	P	P	22 10 13.2	+0.2
MKAR	Makanchi Array	64.43	321	P	P	22 10 59.8	-1.0
	1.4nm,0.8s,mb3.8,baz=42,slow=7.0,SNR=6.4						
MKAR	Makanchi Array	64.43	321	P	P	22 10 59.8	-1.0
AKTK	Aktyubinsk	67.08	339	P	P	22 11 17.2	-0.5
AKTO	Aktyubinsk	67.08	339	P	P	22 11 17.2	-0.5
	3.3nm,0.5s,mb4.0,baz=5.2,slow=11,SNR=3.3						
ESDC	Sonseca Array	77.43	24	P	P	22 12 18.5	-0.9
	0.1nm,0.3s,mb3.0,baz=318,slow=26,SNR=4.2						
ESDC	Sonseca Array	77.43	24	P	P	22 12 18.5	-0.9

*IDC **11** 22:41:22.8±0.8, 19.79S×174.60W, h0km, mb4.3/11, mb1 4.5/12, mb1mx4.2/25, mbtmp4.3/12, ML4.4/1, MS3.7/1, Ms1 3.6/1, ms1mx3.0/21, Error ellipse: s-maj=35.1km s-min=15.7km az=142.0*
*ISCJB **11** 22:41:37.1±2.8, 20.4S±0.1×174.6W±0.1, h139km±24km, mb4.0/14, Error ellipse: s-maj=21.2km s-min=16.3km az=36.6*
*NEIC **11** 22:41:37.9±1.6, 20.32S×174.52W, h131km±13km, mb4.3/9, Error ellipse: s-maj=11.0km s-min=8.7km az=123.0*

ISC 11 22:41:38.2±2.6, 20.3S±0.1×174.5W±0.1, h134km±22km, n37, σ0.9 50/33, mb4.0/14, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	7.47	289	*e*Pn	Pn	22 43 24.7	+0.1
	32nm,0.9s						
URZ	Urewera	19.30	200	P	P	22 45 52.6	-0.1
	1.1nm,0.3s,baz=288,slow=2.2,SNR=4.9						
URZ	Urewera	19.30	200	*e*P	P	22 45 52.3	-0.4
	7.7nm,0.7s						
RPZ	Rata Peaks	26.27	204	P	P	22 47 05.3	+4.4
	15nm,0.6s,mb4.8,baz=286,slow=1.0,SNR=18						
RPZ	Rata Peaks	26.27	204	*e*P	P	22 47 01.3	+0.4
	14nm,0.6s,mb4.8						
ARMA	Armidale	32.09	245	*e*P	P	22 47 52.9	+0.2
	1.7nm,0.4s,mb4.1						
CTA	Charters Tower	36.74	263	P	P	22 48 33.0	+0.1
	6.4nm,0.4s,mb4.6,baz=84,slow=10,SNR=11						
CTA	Charters Tower	36.74	263	P	P	22 48 33.0	+0.1
CTAO	Charters Tower	36.74	263	*e*P	P	22 48 32.9	+0.1
	6.1nm,0.4s,mb4.6						
STKA	Stephens Creek	40.80	244	P	P	22 49 06.8	+0.2
	1.5nm,0.5s,mb3.9,baz=91,slow=9.9,SNR=5.4						
STKA				LR	LR	23 03 48.8	
	comp=Z,99nm,19.9s,baz=26,slow=33						
STKA	Stephens Creek	40.80	244	*e*P	P	22 49 06.5	-0.1
	0.9nm,0.9s,mb3.4						
STKA				LR	LR	23 03 48.8	
COEN	Coen	40.82	272	*e*P	P	22 49 07.0	+0.1
ASAR	Alice Springs	47.73	256	P	P	22 50 00.9	-0.9
	2.8nm,1.0s,mb3.9,baz=89,slow=7.9,SNR=16						
ASAR	Alice Springs	47.73	256	P	P	22 50 00.9	-0.9
WRAB	Tennant Creek	47.84	261	*e*P	P	22 50 02.4	-0.3
	1.8nm,0.6s,mb3.9						
WRA	Warramunga Arr	47.85	261	P	P	22 50 02.7	-0.1
	1.1nm,0.4s,mb3.9,baz=95,slow=5.1,SNR=25						
WRA	Warramunga Arr	47.85	261	P	P	22 50 02.7	-0.1
FITZ	Fitzroy Crossi	56.28	261	P	P	22 51 06.1	+1.0
	1.2nm,0.5s,mb4.0,baz=188,slow=18,SNR=6.2						
FITZ	Fitzroy Crossi	56.28	261	*e*P	P	22 51 05.7	+0.6
	1.0nm,0.5s,mb3.9						
SBA	Scott Base	58.30	185	*e*P	P	22 51 17.8	-0.7
MBWA	Marble Bar	61.07	256	*e*P	P	22 51 37.9	-0.4
QSPA	South Pole Qui	69.77	180	P	P	22 52 34.3	+1.0
	9.6nm,1.1s,mb4.4						
KKM	Kota Kinabalu	72.87	283	*e*P	P	22 52 53.5	+0.5
NVAR	Mina Array Bea	78.68	42	P	P	22 53 26.0	+0.5
	2.4nm,0.7s,mb3.9,baz=224,slow=9.4,SNR=18						
NVAR	Mina Array Bea	78.68	42	P	P	22 53 26.0	+0.5
TXAR	Lajitas Array	84.23	56	P	P	22 53 54.9	-0.1
	0.6nm,0.8s,mb3.4,baz=228,slow=9.4,SNR=7.4						
TXAR	Lajitas Array	84.23	56	P	P	22 53 54.9	-0.1
ANMO	Albuquerque	84.77	50	P	P	22 53 57.2	-0.3
	2.5nm,0.9s,mb3.9,baz=221,slow=4.6,SNR=4.8						
ANMO	Albuquerque	84.77	50	P	P	22 53 57.2	-0.3
ILAR	Eielson Array	87.44	11	P	P	22 54 09.1	-0.8
	1.5nm,0.9s,mb3.8,baz=222,slow=6.3,SNR=14						
ILAR	Eielson Array	87.44	11	P	P	22 54 09.1	-0.8
INK	Inuvik	93.26	14	P	P	22 54 37.4	+0.4
	0.7nm,0.8s,mb3.8,baz=202,slow=15,SNR=3.8						
INK	Inuvik	93.26	14	P	P	22 54 37.4	+0.4
BRTR	Keskin Array B	149.06	315	PKPbc	PKPbc	23 01 11.0	+0.3
	0.6nm,0.9s,baz=307,slow=2.6,SNR=4.0						
BRTR	Keskin Array B	149.06	315	PKPbc	PKPbc	23 01 11.0	+0.3
GERES	GERESS Array B	150.77	349	PKPbc	PKPbc	23 01 16.1	+1.6
	1.0nm,0.9s,baz=48,slow=2.0,SNR=6.8						
GERES	GERESS Array B	150.77	349	PKPbc	PKPbc	23 01 16.1	+1.6

*IDC **11** 22:45:33.7±1.1, 28.31N×56.04E, h0km, mb3.9/11, mb1 4.1/12, mb1mx3.8/28, mbtmp3.9/12, ML3.9/1, Error ellipse: s-maj=27.2km s-min=19.5km az=2.0*
*ISCJB **11** 22:45:34.8±0.3, 28.41N±0.03×55.96E±0.03, h10km, mb4.1/16, Error ellipse: s-maj=4.8km s-min=3.5km az=145.9*
*KISR **11** 22:45:34.1±0.7, 28.62N×55.69E, h34km±999km, ML3.5*
*THR **11** 22:45:36.5±0.3, 28.43N×56.25E, h15km, ML3.5*
*NEIC **11** 22:45:36.5, 28.40N×56.25E, h15km, ML3.5(THR), MN3.6(TEH), After THR.*
*CSEM **11** 22:45:37.5±0.2, 28.29N×56.06E, h20km, mb4.4/5, Error ellipse: s-maj=8.1km s-min=6.7km az=62.0*
*TEH **11** 22:45:40.0, 28.32N×56.05E, h22km*
*OMAN **11** 22:45:44.7±2.8, 27.93N×54.94E, h30km, Error ellipse: s-maj=50.4km s-min=13.4km az=112.0*

ISC 11 22:45:36.8±0.3, 28.36N±0.03×56.04E±0.03, h10km, n105, σ1.9 55/118, mb4.1/16, 3C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDS	Bandar-Abbas	0.97	173	*e*Pg	Pg	22 45 55.0	-0.4
BNDS	Bandar-Abbas	0.97	173	*e*Pg	Pg	22 45 55.9	+0.5
BNDS				AML	AML	22 46 16.1	
	comp=N,1µm,0.5s						
BNDS				AML	AML	22 46 17.0	
	comp=E,2µm,0.9s						
BNDS	Bandar-Abbas	0.97	173	*e*Pg	Pg	22 45 55.9	+0.5
IBND	Bandar-abas	1.01	154	*e*Pg	Pg	22 45 57.2	+0.9
IBND				*e*Sg	Sg	22 46 11.1	+1.6
IBND				*e*		22 46 18.9	
	comp=Z,25µm,0.2s						
IBND	Bandar-abas	1.01	154	*e*Pg	Pg	22 45 57.2	+0.9
KRBR	Kerman	1.73	21	*e*Pg	Pn	22 46 06.0	-1.0
KRBR	Kerman	1.73	21	*e*Pg	Pn	22 46 06.2	-0.8
KRBR				AML	AML	22 46 37.7	
	comp=N,421nm,0.4s						
KRBR				AML	AML	22 46 39.0	
	comp=E,710nm,0.1s						
KRBR	Kerman	1.73	21	*e*Pg	Pn	22 46 06.2	-0.8
ISRV	Sarvestan	2.76	292	Pn	Pn	22 46 23.3	+2.3
ISRV	Sarvestan	2.76	292	*e*Pn	Pn	22 46 23.4	+2.4
ISRV				*e*		22 47 29.6	
	comp=Z,3µm,0.5s						
ISRV	Sarvestan	2.76	292	*e*Pn	Pn	22 46 23.4	+2.4
IPAR	Pars	3.00	300	Pn	Pn	22 46 27.4	+3.0
IPAR	Pars	3.00	300	*e*Pn	Pn	22 46 26.8	+2.4
IPAR				*e*		22 47 33.3	
	comp=Z,2µm,0.5s						
IPAR	Pars	3.00	300	*e*Pn	Pn	22 46 26.8	+2.4
IBAF	Bafgh	3.24	353	Pn	Pn	22 46 29.7	+2.0
IBAF	Bafgh	3.24	353	*e*Pn	Pn	22 46 30.0	+2.3
IBAF				*e*		22 47 22.7	
	comp=Z,1µm,0.4s						
IBAF	Bafgh	3.24	353	*e*Pn	Pn	22 46 30.0	+2.3
IMEH	Mehriz	3.26	338	*e*Pn	Pn	22 46 30.4	+2.5
IMEH				*e*		22 46 43.6	
	comp=Z,824nm,0.2s						
IMEH	Mehriz	3.26	338	*e*Pn	Pn	22 46 30.4	+2.5
ASHO	Ashiyiah	3.67	180	P	Pn	22 46 34.9	+1.4
	SNR=28						
ASHO				ml		22 46 37.5	
	SNR=16						
ASHO				⇑S	Sn	22 47 18.8	+2.0
ASHO	Ashiyiah	3.67	180	P	Pn	22 46 34.9	+1.4
	SNR=28						
ASHO				S	Sn	22 47 18.8	+2.0
ASUD	Al Ashush, Dub	3.78	190	P	Pn	22 46 36.8	+1.7
	SNR=30						
ASUD				ml		22 46 42.9	
	SNR=3.1						
ASUD	Al Ashush, Dub	3.78	190	P	Pn	22 46 36.8	+1.7
	SNR=30						
ISAD	Sadrabad	4.08	331	Pn	Pn	22 46 41.4	+2.2
ISAD	Sadrabad	4.08	331	*e*Pn	Pn	22 46 41.6	+2.4
ISAD				*e*		22 48 10.8	
	comp=Z,1µm,0.5s						
ISAD	Sadrabad	4.08	331	*e*Pn	Pn	22 46 41.6	+2.4
ICHK	Chekchek	4.12	340	Pn	Pn	22 46 42.0	+2.3
ICHK				Sg	Sg	22 47 50.0	+1.0
ICHK	Chekchek	4.12	340	*e*Pn	Pn	22 46 42.0	+2.3
ICHK				*e*		22 47 04.6	
	comp=Z,645nm,0.3s						
ICHK				*e*Sg	Sg	22 47 50.0	+1.0
ICHK	Chekchek	4.12	340	*e*Pn	Pn	22 46 42.0	+2.3
ICHK				*e*Sg	Sg	22 47 50.0	+1.0
IKOO	Kooshah	4.79	32	*e*Pn	Pn	22 46 50.8	+1.8
IKOO				*e*		22 48 23.6	
	comp=Z,541nm,0.4s						
IKOO	Kooshah	4.79	32	*e*Pn	Pn	22 46 50.8	+1.8
NASN	Na'in	5.22	329	*e*Pn	Pn	22 46 57.0	+2.1
NASN	Na'in	5.22	329	*e*Pn	Pn	22 46 57.1	+2.2
NASN	Na'in	5.22	329	*e*Pn	Pn	22 46 57.0	+2.1
IGAR	Gharneh	5.30	320	*e*Pn	Pn	22 46 58.1	+2.1
IGAR				*e*		22 46 59.4	
	comp=Z,354nm,0.1s						
IDAH	Dahanechah	5.47	36	*e*Pn	Pn	22 47 00.3	+1.9
IDAH				*e*		22 47 29.7	

MKAR	**Makanchi Array**	**27.57**	**41**	P		**P**	**22 51 22.3**	**-1.6**
MKAR	**Makanchi Array**	**27.57**	**41**	P		**P**	**22 51 22.3**	**-1.6**
ZAA0	**Zalesovo Array**	**33.09**	**31**	*e*P		**P**	**22 52 11.1**	**-1.5**
ZAA0	**Zalesovo Array**	**33.09**	**31**	*e*P		**P**	**22 52 11.1**	**-1.5**
ZALV	**Zalesovo Beam**	**33.09**	**31**	P		**P**	**22 52 11.5**	**-1.1**
	comp=Z,1.9nm,0.5s,mb4.2,baz=242,slow=9.4,SNR=12							
ZALV	**Zalesovo Beam**	**33.09**	**31**	P		**P**	**22 52 11.5**	**-1.1**
ZALV	**Zalesovo Beam**	**33.09**	**31**	P		**P**	**22 52 11.5**	**-1.1**
GERES	**GERESS Array B**	**38.27**	**314**	P		**P**	**22 52 54.8**	**-2.3**
	comp=Z,0.4nm,0.6s,mb3.3,baz=131,slow=7.8,SNR=5.1							
GERES	**GERESS Array B**	**38.27**	**314**	P		**P**	**22 52 54.8**	**-2.3**
GERES	**GERESS Array B**	**38.27**	**314**	P		**P**	**22 52 54.8**	**-2.3**
FINES	**FINESS Array B**	**38.62**	**337**	P		**P**	**22 52 58.3**	**-1.5**
	comp=Z,12nm,1.2s,mb4.5,baz=174,slow=9.6,SNR=4.9							
FINES	**FINESS Array B**	**38.62**	**337**	P		**P**	**22 52 58.3**	**-1.5**
FINES	**FINESS Array B**	**38.62**	**337**	P		**P**	**22 52 58.3**	**-1.5**
TORD	**Torodi Ar. Bea**	**52.61**	**265**	P		**P**	**22 54 49.1**	**-2.0**
	comp=Z,2.2nm,0.6s,mb4.3,baz=60,slow=7.1,SNR=35							
TORD	**Torodi Ar. Bea**	**52.61**	**265**	P		**P**	**22 54 49.1**	**-2.0**
TORD	**Torodi Ar. Bea**	**52.61**	**265**	P		**P**	**22 54 49.1**	**-2.1**
KSRS	**Korea Array**	**59.72**	**61**	P		**P**	**22 55 39.7**	**-2.1**
	comp=Z,0.6nm,0.3s,mb4.2,baz=339,slow=42,SNR=2.7							
ILAR	**Eielson Array**	**85.46**	**10**	P		**P**	**22 58 13.1**	**-1.3**
	comp=Z,0.4nm,0.6s,mb3.7,baz=321,slow=4.5,SNR=8.5							
ILAR	**Eielson Array**	**85.46**	**10**	P		**P**	**22 58 13.1**	**-1.3**
WRA	**Warramunga Arr**	**89.55**	**113**	P		**P**	**22 58 34.2**	**-0.6**
	comp=Z,0.5nm,0.4s,mb4.2,baz=286,slow=5.8,SNR=2.1							
WRA	**Warramunga Arr**	**89.55**	**113**	P		**P**	**22 58 34.2**	**-0.6**
ASAR	**Alice Springs**	**91.08**	**116**	P		**P**	**22 58 40.7**	**-1.1**
	comp=Z,0.6nm,0.6s,mb4.1,baz=301,slow=4.9,SNR=2.6							
ASAR	**Alice Springs**	**91.08**	**116**	P		**P**	**22 58 40.7**	**-1.1**

BJI ***11*** *22:46:32.9,0.˝40S×66.˝80E,h10km,mB5.1/23,mb4.8/37, Ms4.9/27,Ms7 4.6/27*

ISCJB ***11*** *22:46:36.7±0.2,0.˝07N±0.˝04×66.˝99E±0.˝03,h10km, mb4.7/86,MS4.5/35,Error ellipse: s-maj=5.3km s-min=4.8km az=147.2*

MOS ***11*** *22:46:36.5±0.9,0.˝05N×67.˝06E,h10km,mb5.1/24, MS4.5/4,Error ellipse: s-maj=9.3km s-min=7.0km az=89.6*

IDC ***11*** *22:46:36.5±0.5,0.˝07S×67.˝09E,h0km,mb4.3/24, mb1 4.4/24,mb1mx4.3/29,mbtmp4.3/24,MS4.4/19, Ms1 4.4/19,ms1mx4.2/24,Error ellipse: s-maj=14.4km s-min=13.7km az=55.0*

NEIC ***11*** *22:46:38.4±0.2,0.˝02N×67.˝09E,h10km,mb5.0/21, MS4.5/6,Error ellipse: s-maj=6.5km s-min=5.5km az=122.0*

GCMT ***11*** *22:46:39.9±0.2,0.˝03S×67.˝06E,h12km,MW5.1,Moment Tensor Solution. s36,c53; s86,c139; Moment tensor: Scale 10^16 Nm; Mrr=4.84±.11; Mθθ=1.84±.10; Mϕϕ=3.00±.10; Mrθ=2.51±.35; Mθϕ=-2.34±.09; Mϕr=0.30±.32; Best double couple: M=5.40000×10^16 NP1:ϕ=160.00000°,δ=40.00000°, λ=-59.00000°. NP2:ϕ=302.00000°,δ=56.00000°, λ=-114.00000°. Principal axes: T 5.0200, Plg=8.0000°, Azm=48.0000°; N 0.7800, Plg=20.0000°, Azm=315.0000°; P =-5.8100, Plg=69.0000°, Azm=160.0000°; Data Used: IU II IC G CN.*

DJA ***11*** *22:46:43.0˝08N×67.˝18E,h30km,mb4.9/42*

ISC 11 22:46:38.7±0.2,0.˝07N±0.˝04×67.˝01E±0.˝03,h10km, (h18km±2.0km:pP-P),n370,σ1=00/212,mb4.7/86,MS4.5/35, 74C-79D,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HMDM	**Hanimaadhoo**	**9.07**	**43**	P			**Pn**	**22 48 48.0**	**-1.8**
	5μm363nm,1.2s								
HMDM	**Hanimaadhoo**	**9.07**	**43**	P			**Pn**	**22 48 49.6**	**-0.2**
	1.6nm5μm365nm,1.2s								
DGAR	**Diego Garcia**	**9.20**	**144**	*e*Pn			**Pn**	**22 48 51.3**	**-0.4**
	660nm,1.4s								
DGAR	**Diego Garcia**	**9.20**	**144**	*e*P			**Pn**	**22 48 51.3**	**-0.4**
DGAR					pmax		pmax		
	comp=Z,660nm,1.4s								
MSEY	**Mahe Island**	**12.44**	**248**	*e*Pn			**Pn**	**22 49 37.4**	**+1.3**
	comp=Z,81nm,1.1s								
MSEY	**Mahe Island**	**12.44**	**248**	*e*P			**Pn**	**22 49 37.4**	**+1.3**
MSEY					pmax		pmax		
	comp=Z,81nm,1.1s								
TRD	**Trivandrum**	**12.98**	**50**	*e*PKP			**Pn**	**22 49 43.3**	**-0.1**
MDRS	**Chennai**	**18.41**	**45**	*ex*			x	22 51 06.2	
MDRS				*ex*			x	22 54 38.2	
MDRS				*ex*			x	22 59 20.2	
MDRS				*ex*			x	23 03 48.2	
MDRS				*ex*			x	23 10 19.2	
KAD	**Karad**	**18.53**	**22**	*e*PKP			**Pn**	**22 50 56.4**	**+0.7**
KAD					AMb		AMB	22 51 05.2	
	comp=Z,44nm,1.4s								
POO	**Poona**	**19.54**	**20**	*e*PKP			**Pn**	**22 51 07.0**	**-0.9**
HYB	**Hyderabad**	**20.65**	**33**	*i* P			**P**	**22 51 18.5**	**-0.2**
HYB				*e*S			**S**	**22 55 18.0**	**+8.4**
MRIV	**Mauritius Mete**	**22.28**	**204**	*e*P			**P**	**22 51 36.9**	**+0.6**
AKL	**Akola**	**22.72**	**25**	*e*PKP			**P**	**22 51 40.0**	**-0.9**
AKL					AMb		AMB	22 51 51.7	
	comp=Z,141nm,1.3s,mb5.2								
AKL				*i* x			x	22 56 01.7	
BHJ	**Bhuj**	**23.19**	**6**	*e*PKP			**P**	**22 51 46.4**	**+0.6**
BHJ					AMb		AMB	22 51 52.6	
	comp=Z,66nm,0.9s,mb5.1								
BHPL	**Bhopal**	**25.16**	**23**	*e*PKP			**P**	**22 52 04.2**	**-0.2**
BHPL					AMb		AMB	22 52 17.5	
	comp=Z,50nm,1.3s,mb4.9								
ATD	**Arta Tunnel**	**26.56**	**296**	P			**P**	**22 52 18.8**	**+1.6**
	comp=Z,8.6nm,0.9s,mb4.3,baz=248,slow=12,SNR=5.5								
ATD					LR		LR	23 01 09.3	
	comp=Z,441nm,18.5s,MS4.0,baz=134,slow=33								
ATD	**Arta Tunnel**	**26.56**	**296**	P			**P**	**22 52 18.8**	**+1.6**
ATD					LR		LR	23 01 09.3	
ABPO	**Ambohimpanom**	**27.14**	**225**	*e*P			**P**	**22 52 23.1**	**+0.8**
	comp=Z,39nm,2.0s,mb4.6								
ABPO	**Ambohimpanom**	**27.14**	**225**	*e*P			**P**	**22 52 23.1**	**+0.7**
ABPO					pmax		pmax		
	comp=Z,39nm,2.0s,mb4.6								
FURI	**Furi**	**29.55**	**288**	*e*P			**P**	**22 52 48.4**	**+4.5**
	comp=Z,68nm,1.8s,mb5.1								
KMBO	**Kilima Mbogo**	**29.78**	**268**	*e*P			**P**	**22 52 46.8**	**+0.8**
	comp=Z,16nm,1.4s,mb4.6								
KMBO					LR		LR		
	comp=Z,998nm,19.0s,MS4.5								
KMBO	**Kilima Mbogo**	**29.78**	**268**	*e*P			**P**	**22 52 46.8**	**+0.8**
KMBO					pmax		pmax		
	comp=Z,16nm,1.4s								
KMBO					MLR		MLR		
	comp=Z,998nm,19.0s								
COCO	**West Island**	**32.01**	**113**	PFAKE				22 53 20.0	+14
COCO					LR		LR		
	comp=Z,462nm,21.0s,MS4.1								
MNSI	**Mandailing Nat**	**32.58**	**89**	P			**P**	**22 53 12.8**	**+2.1**
	comp=Z,18nm,1.7s,mb4.7								
MNSI	**Mandailing Nat**	**32.58**	**89**	P			**P**	**22 53 12.4**	**+1.7**
	comp=Z,18nm,1.7s,mb4.7								
PPI	**Padang Panjang**	**33.39**	**91**	P			**P**	**22 53 18.6**	**+0.8**
	comp=Z,20nm,1.6s,mb4.8								
PPI	**Padang Panjang**	**33.39**	**91**	P			**P**	**22 53 19.6**	**+1.8**
	comp=Z,20nm,1.6s,mb4.8								
CM31	**Chiang Mai Arr**	**36.30**	**58**	*e*P			**P**	**22 53 43.0**	**+0.1**
	comp=Z,40nm,1.4s,mb5.2								
CM31					LR		LR		
	comp=Z,893nm,20.0s,MS4.5								
CMAR	**Chiang Mai Arr**	**36.30**	**58**	P			**P**	**22 53 43.0**	**+0.2**
	comp=Z,4.9nm,1.0s,mb4.4,baz=248,slow=9.4,SNR=25								
CMAR					PcP		PcP	22 56 07.5	-0.3
	comp=Z,1.6nm,0.9s,baz=228,slow=5.1,SNR=5.3								
CMAR					LR		LR	23 07 36.3	
	comp=Z,779nm,18.8s,MS4.5,baz=239,slow=35								
CMAR	**Chiang Mai Arr**	**36.30**	**58**	P			**P**	**22 53 43.0**	**+0.2**
CMAR					PcP		PcP	22 56 07.5	-0.3
CMAR					LR		LR	23 07 36.3	
CMAR	**Chiang Mai Arr**	**36.30**	**58**	P			**P**	**22 53 43.1**	**+0.3**
CMAR								22 56 07.5	
CHTO	**Chiang Mai**	**36.46**	**57**	*e*P			**P**	**22 53 43.7**	**-0.5**
	comp=Z,97nm,1.5s,mb5.5								
CHTO	**Chiang Mai**	**36.46**	**57**	*e*P			**P**	**22 53 43.7**	**-0.5**
CHTO					pmax		pmax		
	comp=Z,97nm,1.5s,mb5.5								
CHTO	**Chiang Mai**	**36.46**	**57**	P			**P**	**22 53 44.2**	**0.0**
	comp=Z,719nmcomp=Z,46nm,1.7s,mb5.1								
CHTO	**Chiang Mai**	**36.46**	**57**	P			**P**	**22 53 45.1**	**+0.9**
	comp=Z,711nmcomp=Z,46nm,1.7s,mb5.1								
LSA	**Lhasa**	**37.39**	**36**	*e*P			**P**	**22 53 53.4**	**+1.5**
	comp=Z,104nm,1.8s,mb5.4								
LSA	**Lhasa**	**37.39**	**36**	*e*P			**P**	**22 53 53.4**	**+1.5**
LSA					pmax		pmax		
	comp=Z,104nm,1.8s,mb5.4								
MDSI	**Maura Dua**	**37.41**	**97**	P			**P**	**22 53 52.4**	**0.0**
	comp=Z,26nm,1.6s,mb4.8								
MDSI	**Maura Dua**	**37.41**	**97**	P			**P**	**22 53 53.0**	**+0.6**
	comp=Z,26nm,1.6s,mb4.8								
KLSI		**37.98**	**98**	P			**P**	**22 53 58.0**	**+0.8**
	comp=Z,58nm,1.5s,mb5.1								
KLSI		**37.98**	**98**	P			**P**	**22 53 58.1**	**+0.9**
	comp=Z,58nm,1.5s,mb5.1								
CGJI	**Cibinong**	**39.16**	**101**	P			**P**	**22 54 08.8**	**+1.6**
	comp=Z,3μmcomp=Z,26nm,1.2s,mb4.8								
CGJI	**Cibinong**	**39.16**	**101**	P			**P**	**22 54 13.5**	**+6.3**
	comp=Z,3μmcomp=Z,26nm,1.2s,mb4.8								
PPBI	**Pangkal Pinang**	**39.18**	**93**	P			**P**	**22 54 06.9**	**-0.4**
	comp=Z,24nm,1.6s,mb4.7								
PPBI	**Pangkal Pinang**	**39.18**	**93**	P			**P**	**22 54 07.6**	**+0.3**
	comp=Z,24nm,1.6s,mb4.7								
KSH	**Kashi**	**40.11**	**11**	*e*P			**P**	**22 54 12.5**	**-2.1**
KSH					pP		pP	22 54 17.0	-0.7
KSH					sP		sP	22 54 19.5	+0.5
KSH					PP		PP	22 55 48.4	+1.4
KSH					PcP		PcP	22 56 19.1	-0.1
KSH					ScP		ScP	23 00 06.2	-2.4
KSH					PcS		PcS	23 00 08.1	-1.3
KSH					S		**S**	**23 00 15.9**	**-5.0**
KSH					sS		sS	23 00 23.5	-2.5
KSH					SS		SS	23 03 05.2	-13
KSH					ScS		ScS	23 04 17.6	-4.3
KSH					pmax		pmax		
	comp=Z,8.0nm,1.1s,mb4.4								
KSH					pmax		pmax		
	comp=Z,92nm,4.7s								
KSH					LR		LR		
	comp=N,530nm,15.1s								
KSH					LR		LR		
	comp=E,210nm,6.0s								
KSH					LR		LR		
	comp=Z,700nm,14.3s,MS4.7								
LEM	**Lembang**	**41.09**	**100**	P			**P**	**22 54 24.2**	**+1.1**
	comp=Z,1μmcomp=Z,78nm,1.4s,mb5.2								
LEM	**Lembang**	**41.09**	**100**	P			**P**	**22 54 24.6**	**+1.5**
	comp=Z,1μmcomp=Z,78nm,1.4s,mb5.2								
LSZ	**Lusaka**	**41.27**	**247**	*e*P			**P**	**22 54 24.6**	**0.0**
	comp=Z,53nm,1.4s,mb5.0								
LSZ					*e*PcP		PcP	22 56 24.6	+1.2
LSZ	**Lusaka**	**41.27**	**247**	*e*P			**P**	**22 54 24.6**	**0.0**
LSZ				*e*				22 56 24.6	
LSZ					pmax		pmax		
	comp=Z,53nm,1.4s,mb5.0								
CISI	**Cisompet, Garu**	**41.39**	**101**	P			**P**	**22 54 28.6**	**+3.0**
	comp=Z,57nm,1.4s,mb5.0								
CISI	**Cisompet, Garu**	**41.39**	**101**	P			**P**	**22 54 33.5**	**+7.9**
	comp=Z,57nm,1.4s,mb5.0								
KMI	**Kunming**	**42.58**	**51**	P			**P**	**22 54 35.3**	**+0.1**
KMI					pP		pP	22 54 42.1	+3.8
KMI					sP		sP	22 54 44.4	+4.9
KMI					PP		PP	22 56 16.8	+2.8
KMI					S		**S**	**23 00 59.5**	**+1.4**
KMI					sS		sS	23 01 11.2	+8.0
KMI					SS		SS	23 04 04.9	-3.2
KMI					pmax		pmax		
	comp=Z,14nm,1.8s,mb4.4								
KMI					pmax		pmax		
	comp=Z,130nm,3.9s								
KMI					LR		LR		
	comp=N,510nm,15.8s								
KMI					LR		LR		
	comp=E,490nm,21.5s								
KMI					LR		LR		
	comp=Z,660nm,18.1s,MS4.6								
EKS2	**Erkin-Say**	**42.84**	**7**	*e*P			**P**	**22 54 38.0**	**+1.1**
	comp=Z,48nm,1.5s,mb5.0								
EKS2	**Erkin-Say**	**42.84**	**7**	*e*P			**P**	**22 54 38.0**	**+1.0**
EKS2					pmax		pmax		
	comp=Z,48nm,1.5s,mb5.0								
KKAR	**Karatay Array**	**42.96**	**4**	*e*P			**P**	**22 54 38.5**	**+0.5**
KKAR	**Karatay Array**	**42.96**	**4**	*e*P			**P**	**22 54 38.5**	**+0.6**
BJII	**Banjamegara**	**43.21**	**101**	P			**P**	**22 54 41.9**	**+1.4**
	comp=Z,32nm,1.3s,mb4.9								
TKM2	**Tokmak 2**	**43.35**	**9**	*e*P			**P**	**22 54 43.0**	**+1.9**
	comp=Z,16nm,1.4s,mb4.6								
TKM2	**Tokmak 2**	**43.35**	**9**	*e*P			**P**	**22 54 43.0**	**+1.9**
TKM2					pmax		pmax		
	comp=Z,16nm,1.4s,mb4.6								
SMRI	**Semarang**	**43.89**	**100**	P			**P**	**22 54 49.5**	**+3.5**
	comp=Z,85nm,1.1s,mb5.4								
SMRI	**Semarang**	**43.89**	**100**	P			**P**	**22 54 51.2**	**+5.2**
	comp=Z,86nm,1.1s,mb5.4								
STKI	**Sintang**	**44.47**	**90**	P			**P**	**22 54 52.0**	**+1.4**
	comp=Z,7μmcomp=Z,31nm,1.2s,mb4.9								
STKI	**Sintang**	**44.47**	**90**	P			**P**	**22 54 56.7**	**+6.1**
	comp=Z,7μmcomp=Z,31nm,1.2s,mb4.9								
GNI	**Garni**	**44.76**	**336**	P			**P**	**22 54 54.4**	**+1.9**
	comp=Z,1.4nm,0.5s,mb4.1,baz=157,slow=19,SNR=5.2								
GNI	**Garni**	**44.76**	**336**	*e*P			**P**	**22 54 54.7**	**+1.2**
GNI	**Garni**	**44.76**	**336**	*e*P			**P**	**22 54 54.7**	**+2.2**
GNI					pmax		pmax		
	comp=Z,55nm,1.8s								
GNI					MLR		MLR		
	comp=Z,158nm,17.0s								
QIZ	**Qiongzhong**	**46.04**	**63**	P			**P**	**22 54 59.5**	**-3.5**
QIZ					S		**S**	**23 01 44.3**	**-4.4**
QIZ					LR		LR		
	comp=E,340nm,28.6s								
QIZ					LR		LR		
	comp=Z,700nm,27.8s,MS4.5								
GYA	**Guiyang**	**46.31**	**52**	P			**P**	**22 55 06.0**	**+0.9**
GYA					PP		PP	22 56 54.8	+1.0
GYA					ScP		ScP	23 00 33.2	-0.9
GYA					S		**S**	**23 01 52.7**	**+0.3**
GYA					SS		SS	23 05 10.3	-7.8
GYA					pmax		pmax		
	comp=Z,20nm,0.8s,mb5.1								
GYA					pmax		pmax		
	comp=Z,130nm,5.3s								
GYA					LR		LR		
	comp=N,580nm,18.3s,MS4.7								
GYA					LR		LR		
	comp=E,460nm,19.0s,MS4.7								
GYA					LR		LR		
	comp=Z,510nm,17.5s,MS4.5								
CD2	**Chengdu**	**46.43**	**45**	P			**P**	**22 55 06.6**	**+0.7**
CD2					pP		pP	22 55 11.1	+2.1
CD2					sP		sP	22 55 13.8	+3.5
CD2					PP		PP	22 56 55.7	+0.7
CD2					S		**S**	**23 01 53.5**	**-0.4**
CD2					sS		sS	23 02 02.8	+3.7
CD2					SS		SS	23 05 12.8	-7.0
CD2					pmax		pmax		
	comp=Z,20nm,0.5s,mb5.3								
CD2					pmax		pmax		
	comp=Z,470nm,5.9s								
CD2					LR		LR		
	comp=E,530nm,6.5s								
CD2					LR		LR		
	comp=Z,540nm,10.7s,MS4.8								
LBTB	**Lobatse**	**47.16**	**235**	P			**P**	**22 55 11.3**	**-0.4**
	comp=Z,7.0nm,0.8s,mb4.6,baz=76,slow=4.5,SNR=7.5								
LBTB	**Lobatse**	**47.16**	**235**	P			**P**	**22 55 11.3**	**-0.4**
LBTB	**Lobatse**	**47.16**	**235**	P			**P**	**22 55 11.3**	**-0.4**
WMQ	**Urumqi**	**47.31**	**20**	P			**P**	**22 55 13.3**	**+0.7**
WMQ					pP		pP	22 55 17.8	+2.1
WMQ					sP		sP	22 55 20.3	+3.3
WMQ					PP		PP	22 57 03.8	0.0
WMQ					S		**S**	**23 02 05.4**	**-0.7**
WMQ					ScS		ScS	23 05 04.4	-2.5
WMQ					pmax		pmax		
	comp=Z,12nm,1.5s,mb4.6								
WMQ					pmax		pmax		
	comp=Z,310nm,5.4s								
WMQ					LR		LR		
	comp=N,690nm,18.6s								
WMQ					LR		LR		
	comp=E,260nm,11.8s								
WMQ					LR		LR		
	comp=Z,440nm,28.3s								
KMMI	**Kalianget**	**47.37**	**100**	P			**P**	**22 55 15.3**	**+1.8**
	comp=Z,3μmcomp=Z,39nm,1.5s,mb5.1								
BBKI	**Banjar Baru**	**47.93**	**95**	P			**P**	**22 55 18.8**	**+0.9**
	comp=Z,1μmcomp=Z,61nm,1.3s,mb5.5								
BBKI	**Banjar Baru**	**47.93**	**95**	P			**P**	**22 55 18.3**	**+0.4**
	comp=Z,1μmcomp=Z,61nm,1.3s,mb5.5								
MK31	**Makanchi Array**	**48.42**	**14**	*e*P			**P**	**22 55 20.6**	**-0.5**
MK31					*e*PcP		PcP	22 56 47.6	+0.2
MK31	**Makanchi Array**	**48.42**	**14**	*e*P			**P**	**22 55 20.6**	**-0.5**
MK31				*e*				22 56 47.6	
MKAR	**Makanchi Array**	**48.42**	**14**	P			**P**	**22 55 20.7**	**-0.4**
	comp=Z,1.2nm,0.8s,mb4.0,baz=193,slow=4.9,SNR=8.5								
MKAR					PcP		PcP	22 56 47.8	+0.4
	comp=Z,3.2nm,1.1s,baz=205,slow=5.4,SNR=6.8								
MKAR					LR		LR	23 16 55.7	
	comp=Z,281nm,18.9s,MS4.3,baz=198,slow=38								
MKAR	**Makanchi Array**	**48.42**	**14**	P			**P**	**22 55 20.7**	**-0.4**
MKAR					PcP		PcP	22 56 47.8	+0.4
MKAR					LR		LR	23 16 55.7	
MKAR	**Makanchi Array**	**48.42**	**14**	P			**P**	**22 55 20.7**	**-0.4**
MKAR								22 56 47.8	
KIV	**Kislovodsk**	**48.78**	**337**	PFAKE				22 55 40.0	+16
KIV					LR		LR		
	comp=Z,137nm,19.0s,MS4.0								
KIV	**Kislovodsk**	**48.78**	**337**	*e*P			**P**	**22 55 25.4**	**+1.5**
KIV					pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.7								
KIV					MLR		MLR		
	comp=Z,73nm,16.0s,MS3.8								
BOSA	**Boshof**	**49.05**	**231**	P			**P**	**22 55 25.9**	**-0.4**
	comp=Z,14nm,0.9s,mb5.0,baz=54,slow=6.1,SNR=8.6								
BOSA					LR		LR	23 13 08.5	
	comp=Z,967nm,20.3s,MS4.8,baz=62,slow=32								
BOSA	**Boshof**	**49.05**	**231**	*e*P			**P**	**22 55 27.1**	**+0.7**
	comp=Z,162nm,2.1s,mb5.7								
BOSA					LR		LR		
	comp=Z,1μm,21.0s,MS4.9								
BOSA	**Boshof**	**49.05**	**231**	*e*P			**P**	**22 55 27.1**	**+0.8**
BOSA					pmax		pmax		
	comp=Z,162nm,2.1s,mb5.7								
BOSA					MLR		MLR		
	comp=Z,1μm,21.0s,MS4.9								
GTA	**Gaotai**	**49.31**	**34**	P			**P**	**22 55 28.2**	**+0.1**
GTA					pP		pP	22 55 32.8	+1.5
GTA					sP		sP	22 55 35.2	+2.7
GTA					S		**S**	**23 02 33.8**	**-0.8**
GTA					pmax		pmax		
	comp=Z,4.0nm,1.4s,mb4.3								
GTA					pmax		pmax		
	comp=Z,130nm,5.2s								
GTA					LR		LR		
	comp=N,650nm,16.1s,MS4.8								
GTA					LR		LR		
	comp=E,550nm,16.6s,MS4.8								
GTA					LR		LR		
	comp=Z,750nm,18.0s,MS4.7								
ABKAR	**Akbulak array**	**49.37**	**354**	*e*P			**P**	**22 55 28.6**	**+0.2**
KKM	**Kota Kinabalu**	**49.47**	**82**	PFAKE				22 55 40.0	+10
KKM					LR		LR		
	comp=Z,639nm,19.0s,MS4.6								
LZH	**Lanzhou**	**49.53**	**40**	*e*P			**P**	**22 55 31.8**	**+1.9**
LZH					pP		pP	22 55 35.0	+2.0
LZH					sP		sP	22 55 36.5	+2.2
LZH					*e*PP		PP	22 57 26.7	+2.5
LZH					*e*S		**S**	**23 02 37.0**	**-0.8**
LZH					sS		sS	23 02 45.6	+2.6
LZH					*e*SS		SS	23 06 07.0	-3.0
LZH					pmax		pmax		
	comp=Z,25nm,1.3s,mb5.1								
LZH					pmax		pmax		
	comp=Z,160nm,5.2s								
LZH					LR		LR		
	comp=N,420nm,14.2s,MS4.7								
LZH					LR		LR		
	comp=E,450nm,15.4s,MS4.7								
LZH					LR		LR		
	comp=Z,810nm,17.2s,MS4.8								
BRTR	**Keskin Array B**	**49.84**	**326**	P			**P**	**22 55 32.1**	**0.0**
	comp=Z,2.8nm,1.0s,mb4.3,baz=143,slow=10,SNR=13								
BRTR	**Keskin Array B**	**49.84**	**326**	P			**P**	**22 55 32.1**	**0.0**
BRTR	**Keskin Array B**	**49.84**	**326**	P			**P**	**22 55 32.2**	**0.0**
ENH	**Enshi**	**50.31**	**49**	*e*P			**P**	**22 55 35.4**	**-0.5**
	comp=Z,56nm,1.5s,mb5.4								
AKTK	**Aktyubinsk**	**50.76**	**353**	P			**P**	**22 55 39.2**	**+0.3**
AKTO	**Aktyubinsk**	**50.76**	**353**	P			**P**	**22 55 39.2**	**+0.3**
	comp=Z,2.6nm,0.8s,mb4.2,baz=166,slow=6.5,SNR=8.3								
AKTO	**Aktyubinsk**	**50.76**	**353**	P			**P**	**22 55 39.2**	**+0.3**
KURK	**Kurchatov**	**51.42**	**9**	P			**P**	**22 55 43.2**	**-0.6**
	comp=Z,6.1nm,1.0s,mb4.5,baz=204,slow=7.9,SNR=24								
KURK					PcP		PcP	22 56 58.5	+0.2
	comp=Z,1.7nm,0.9s,baz=220,slow=2.7,SNR=4.3								
KURK	**Kurchatov**	**51.42**	**9**	*e*P			**P**	**22 55 44.1**	**+0.2**
	comp=Z,20nm,1.3s,mb4.9								
KURK	**Kurchatov**	**51.42**	**9**	*e*P			**P**	**22 55 44.1**	**+0.3**
KURK					pmax		pmax		
	comp=Z,20nm,1.3s,mb4.9								
ANN	**Anapa**	**51.68**	**333**	*e*P			**P**	**22 55 46.9**	**+1.0**
ANN					pmax		pmax		
	comp=Z,39nm,1.4s,mb5.1								
XAN	**

comp=E,430nm,17.5s,MS4.7
HHC LR LR
comp=Z,270nm,16.6s,MS4.4
KIS Kishinev 57.40 330 *e*UNK 22 56 27.0
NJ2 Nanjing 58.32 52 *e*P **P 22 56 35.2 +1.0**
NJ2 pP pP 22 56 39.7 +2.3
NJ2 sP sP 22 56 43.4 +4.8
NJ2 S **S 23 04 34.5 -2.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
NJ2 pmax pmax
comp=Z,290nm,5.7s
NJ2 LR LR
comp=N,380nm,13.7s
NJ2 LR LR
comp=E,620nm,20.6s
NJ2 LR LR
comp=Z,810nm,17.0s,MS4.9
SONM Songino Array 58.56 30 P **P 22 56 36.4 +0.8**
comp=Z,5.9nm,1.1s,mb4.5,baz=227,slow=4.5,SNR=31
SONM LR LR 23 21 54.7
comp=Z,2µm,19.3s,MS5.2,baz=192,slow=36
SONM Songino Array 58.56 30 P **P 22 56 36.4 +0.8**
SONM LR LR 23 21 54.7
SONM Songino Array 58.56 30 P **P 22 56 36.4 +0.8**
ZAK Zakamensk 58.86 26 *e*P **P 22 56 37.8 +0.2**
ZAK pmax pmax
comp=Z,1.0nm,1.3s,mb3.7
ULN Ulaanbaatar 58.91 30 *e*P **P 22 56 38.0 0.0**
ULN Ulaanbaatar 58.91 30 *e*P **P 22 56 38.0 0.0**
ULN Ulaanbaatar 58.91 30 P **P 22 56 38.0 0.0**
comp=Z,7.4nm,2.6s,mb4.2
ULN Ulaanbaatar 58.91 30 P **P 22 56 39.2 +1.2**
comp=Z,7.3nm,2.6s,mb4.2
AKASG Malin Array Be 59.77 333 P **P 22 56 43.6 -0.3**
comp=Z,0.2nm,0.3s,mb3.7,baz=130,slow=5.9,SNR=7.8
AKASG Malin Array Be 59.77 333 P **P 22 56 43.6 -0.3**
AKASG Malin Array Be 59.77 333 P **P 22 56 43.6 -0.3**
TLY Talaya 59.96 25 *e*P **P 22 56 45.1 -0.1**
TLY *e* 23 05 15.0
TLY pmax pmax
comp=Z,11nm,1.7s,mb4.6
TLY MLR MLR
comp=Z,440nm,18.0s,MS4.6
FITZ Fitzroy Crossi 60.35 111 *e*P **P 22 56 47.7 -0.8**
comp=Z,17nm,1.2s,mb5.0
FITZ *e*PcP PcP 22 57 33.2 -0.4
FITZ Fitzroy Crossi 60.35 111 P **P 22 56 46.7 -1.8**
comp=Z,16nm,1.6s,mb4.8
FITZ Fitzroy Crossi 60.35 111 P **P 22 56 48.4 -0.1**
comp=Z,16nm,1.6s,mb4.8
MOS Moscow 60.41 341 *e*P **P 22 56 47.9 -0.3**
MOS pmax pmax
comp=Z,41nm,1.2s,mb5.3
LBMI Labuha 60.49 91 P **P 22 56 50.4 +0.8**
comp=Z,2µmcomp=Z,74nm,1.9s,mb5.4
LBMI Labuha 60.49 91 P **P 22 56 50.3 +0.7**
comp=Z,2µmcomp=Z,74nm,1.9s,mb5.4
UZH Uzhgorod 61.81 328 *e*P **P 22 56 58.0 +0.1**
CRVS Cervenica-Dubn 62.42 328 *e*P **P 22 57 01.7 -0.2**
CRVS pmax pmax
comp=Z,14nm,1.9s,mb4.8
CRVS Cervenica-Dubn 62.42 328 *e*P **P 22 57 01.7 -0.2**
VYHS Vyhne 63.61 326 *e*P **P 22 57 08.5 -1.3**
VYHS pmax pmax
comp=Z,38nm,2.8s,mb4.9
VYHS Vyhne 63.61 326 *e*P **P 22 57 08.5 -1.3**
TAM Tamanrasset 63.83 295 *e*P **P 22 57 12.5 +0.7**
comp=Z,18nm,2.0s,mb4.8
TAM Tamanrasset 63.83 295 *e*P **P 22 57 12.5 +0.7**
TAM pmax pmax
comp=Z,18nm,2.0s,mb4.8
KOLL Kolacno 63.90 326 *e*P **P 22 57 12.1 +0.4**
KOLL Kolacno 63.90 326 *e*P **P 22 57 12.1 +0.4**
KOGS Kog 64.01 323 *e*P **P 22 57 12.1 -0.4**
BOJS Bojanci 64.14 322 *e*P **P 22 57 13.2 -0.2**
KEST Kesra 64.16 310 LR LR 23 23 04.3
comp=Z,43nm,18.9s,MS3.6,baz=332,slow=34
KLMR Klimovskoe 64.19 345 *e*P **P 22 57 11.5 -1.9**
KLMR pmax pmax
comp=Z,38nm,1.7s,mb5.2
DOBS Dobrina 64.33 323 *e*P **P 22 57 14.5 -0.1**
CONA Conrad Observa 64.99 325⇑ *i*P **P 22 57 18.7 -0.2**
comp=Z,10nm,1.3s,mb4.7
MORC Moravsky Berou 65.02 327 *e*P **P 22 57 19.0 -0.1**
comp=Z,16nm,1.4s,mb4.8
MORC Moravsky Berou 65.02 327 *e*P **P 22 57 19.0 -0.1**
MORC pmax pmax
comp=Z,16nm,1.4s,mb4.9
TLE Tual 65.86 96 P **P 22 57 25.6 +0.4**
comp=Z,38nm,1.3s,mb5.3
TLE Tual 65.86 96 P **P 22 57 26.5 +1.3**
comp=Z,38nm,1.6s,mb5.2
TORD Torodi Ar. Bea 65.98 284 P **P 22 57 25.3 -0.7**
comp=Z,1.6nm,1.2s,mb3.9,baz=117,slow=4.4,SNR=6.8
TORD LR LR 23 26 42.1
comp=Z,398nm,18.7s,MS4.7,baz=95,slow=36
TORD Torodi Ar. Bea 65.98 284 P **P 22 57 25.3 -0.7**
TORD LR LR 23 26 42.1
KSRS Korea Array 67.20 49 P **P 22 57 31.4 -1.9**
comp=Z,0.4nm,0.3s,mb3.9,baz=251,slow=7.3,SNR=4.7
KSRS LR LR 23 29 06.9
comp=Z,366nm,18.4s,MS4.6,baz=257,slow=38
MAW Mawson 67.60 182 P **P 22 57 33.7 -1.5**
comp=Z,6.3nm,1.2s,mb4.5,baz=10,slow=7.7,SNR=7.9
MAW LR LR 23 20 45.5
comp=Z,194nm,18.3s,MS4.4,baz=356,slow=30
MAW Mawson 67.60 182 *e*P **P 22 57 35.6 +0.4**
comp=Z,5.0nm,1.5s,mb4.3
MAW Mawson 67.60 182 *e*P **P 22 57 35.6 +0.3**
MAW pmax pmax
comp=Z,5.0nm,1.5s
DAVA Damuels 68.26 322⇑ *i*P **P 22 57 38.6 -1.3**
comp=Z,8.7nm,0.9s,mb4.8
CLL Collm 68.29 327 *i* P **P 22 57 40.7 +0.7**
CLL pmax pmax
comp=Z,29nm,1.7s,mb5.0
CLL Collm 68.29 327 *i* P **P 22 57 40.7 +0.7**
comp=Z,29nm,1.7s,mb5.0
CLL *e* 22 57 50.0
FINES FINESS Array B 68.65 340 P **P 22 57 41.7 -0.2**
comp=Z,3.2nm,1.0s,mb4.2,baz=144,slow=12,SNR=1.4
FINES LR LR 23 30 34.6
comp=Z,152nm,18.4s,MS4.3,baz=305,slow=38
FINES FINESS Array B 68.65 340 P **P 22 57 41.7 -0.2**
FINES LR LR 23 30 34.6
FINES FINESS Array B 68.65 340 P **P 22 57 41.7 -0.3**
WRA Warramunga Arr 68.77 111 P **P 22 57 41.7 -1.8**
comp=Z,11nm,0.8s,mb4.8,baz=292,slow=5.5,SNR=15
WRA LR LR 23 22 43.6
comp=Z,223nm,20.5s,MS4.4,baz=285,slow=32
WRA Warramunga Arr 68.77 111 P **P 22 57 41.7 -1.8**
WRA LR LR 23 22 43.6
WRA Warramunga Arr 68.77 111 P **P 22 57 41.7 -1.8**
WRAB Tennant Creek 68.78 111 *e*P **P 22 57 42.1 -1.5**
comp=Z,24nm,1.0s,mb5.1
WRAB Tennant Creek 68.78 111 *e*P **P 22 57 42.1 -1.5**
WRAB pmax pmax
comp=Z,24nm,1.0s,mb5.1
WRAB Tennant Creek 68.78 111 P **P 22 57 43.1 -0.5**
comp=Z,51nm,1.4s,mb5.3
WRAB Tennant Creek 68.78 111 P **P 22 57 42.8 -0.8**
comp=Z,51nm,1.4s,mb5.3
ASAR Alice Springs 68.94 115 P **P 22 57 42.8 -1.8**
comp=Z,3.4nm,0.8s,mb4.3,baz=284,slow=6.1,SNR=23
ASAR Alice Springs 68.94 115 P **P 22 57 42.8 -1.8**
ASAR Alice Springs 68.94 115 P **P 22 57 42.8 -1.8**
DBIC Dimbokro 71.98 277 P **P 22 58 03.1 -0.3**
comp=Z,4.5nm,0.9s,mb4.4,baz=86,slow=9.0,SNR=4.8
DBIC LR LR 23 26 48.0
comp=Z,234nm,21.7s,MS4.4,baz=73,slow=34
DBIC Dimbokro 71.98 277 P **P 22 58 03.1 -0.3**
DBIC LR LR 23 26 48.0
DBIC Dimbokro 71.98 277 P **P 22 58 03.1 -0.3**
KLR Kul'dur 73.70 38 *e*P **P 22 58 08.2 -4.6**
NOA NORSAR Array B 74.06 335 P **P 22 58 14.8 +0.1**
comp=Z,2.9nm,1.0s,mb4.2,baz=111,slow=6.0,SNR=2.8
NOA LR LR 23 34 30.1
comp=Z,93nm,18.0s,MS4.1,baz=100,slow=39
NOA NORSAR Array B 74.06 335 P **P 22 58 14.8 +0.1**
NOA LR LR 23 34 30.1
NOA NORSAR Array B 74.06 335 P **P 22 58 14.8 +0.1**
ARCES ARCESS Array B 74.66 346 LR LR 23 32 51.0
comp=Z,175nm,18.1s,MS4.4,baz=264,slow=37
MJAR Matsushiro Arr 74.92 52 P **P 22 58 19.5 -0.7**
comp=Z,0.9nm,0.5s,mb3.9,baz=268,slow=6.1,SNR=5.0
MJAR LR LR 23 34 02.9
comp=Z,252nm,18.4s,MS4.5,baz=245,slow=38
MJAR Matsushiro Arr 74.92 52 P **P 22 58 19.5 -0.7**
MJAR LR LR 23 34 02.9
MJAR Matsushiro Arr 74.92 52 P **P 22 58 19.5 -0.7**
ESDC Sonseca Array 75.38 311 P **P 22 58 22.0 -0.8**
comp=Z,3.0nm,1.1s,mb4.2,baz=91,slow=5.5,SNR=8.6
ESDC Sonseca Array 75.38 311 P **P 22 58 22.0 -0.8**
STKA Stephens Creek 76.97 123 P **P 22 58 30.6 -1.4**
comp=Z,3.9nm,0.9s,mb4.3,baz=281,slow=6.5,SNR=6.7
STKA LR LR 23 27 13.2
comp=Z,335nm,20.1s,MS4.7,baz=211,slow=32
STKA Stephens Creek 76.97 123 P **P 22 58 30.6 -1.4**
comp=Z,3.1nm,1.3s,mb4.1
STKA LR LR 23 27 13.2
STKA Stephens Creek 76.97 123 P **P 22 58 30.7 -1.3**
STKA pmax pmax
comp=Z,3.0nm,1.3s
MAIT Maitri 79.19 196 *e*P **P 22 58 43.0 -0.6**
MAIT *e* 22 58 49.7
SNAA Sanae 83.81 197 *e*P **P 22 59 08.1 +0.1**
comp=Z,13nm,1.4s,mb4.9
SNAA Sanae 83.81 197 *e*P **P 22 59 08.1 +0.1**
SNAA pmax pmax
comp=Z,13nm,1.4s
VNA2 Neumayer--Watz 84.99 199 *e* **P 22 59 12.4 -1.6**
VNA1 Neumayer--Stat 85.20 199 *e* **P 22 59 11.1 -4.0**
VNA3 Neumayer Olymp 85.79 198 *e* **P 22 59 15.1 -2.9**
SEY Seymchan 87.82 27 *i* P **P 22 59 28.0 -0.1**
QSPA South Pole Qui 90.05 180 *e*P **P 22 59 38.1 -0.2**
comp=Z,9.5nm,1.3s,mb5.0
PETK Petropavlovsk- 90.36 37 LR LR 23 43 09.5
comp=Z,238nm,18.5s,MS4.7,baz=270,slow=38
VNDA Vanda 91.12 167 P **P 22 59 42.3 -1.0**
comp=Z,1.6nm,0.9s,mb4.4,baz=276,slow=9.8,SNR=7.1
VNDA LR LR 23 35 52.4
comp=Z,213nm,19.1s,MS4.6,baz=332,slow=32
VNDA Vanda 91.12 167 P **P 22 59 42.3 -0.9**
VNDA LR LR 23 35 52.4
VNDA Vanda 91.12 167 P **P 22 59 42.3 -1.0**
FFC Flin Flon 124.64 352 *i* PKIKP PKPdf 23 05 44.3 +5.8
H24A Dirks Ranch, A 134.75 352 ⇓P PKPdf 23 05 58.3 +0.2
baz=135
G16A Moss Hill, Enn 134.88 359 ⇓P PKPdf 23 05 59.4 +1.1
baz=135
H18A Shoshone NF, C 135.35 357 ⇑P PKPdf 23 05 59.7 +0.6
baz=135
H14A Leadore 135.51 0 ⇓P PKPdf 23 06 00.4 +0.9
baz=135
H13A Challis 135.55 1 ⇓P PKPdf 23 05 59.9 +0.4
baz=135
I07A Izee 135.66 7 ⇓P PKPdf 23 06 00.3 +0.5
baz=136
I20A Worland 135.96 355 ⇑P PKPdf 23 06 00.6 +0.3
baz=136
I21A Big Trails, Te 136.02 354 ⇓P PKPdf 23 06 00.6 +0.2
baz=136
HLID Hailey 136.54 2 ⇓P PKPdf 23 06 01.9 +0.5
baz=136
J20A Shoshoni 136.55 355 ⇓P PKPdf 23 06 01.6 +0.1
baz=136
J13A Cove Ranch, Pi 136.71 1 ⇓P PKPdf 23 06 02.1 +0.3
baz=137
K21A Alcova 137.18 354 ⇓P PKPdf 23 06 03.1 +0.5
baz=137
BW06 Boulder Array 137.25 356 ⇓P PKPdf 23 06 03.0 +0.2
baz=137
PDAR Pinedale Array 137.25 356 PKP PKPdf 23 06 01.9 -0.9
comp=Z,3.1nm,1.1s,baz=0.0,slow=0.7,SNR=11
PDAR Pinedale Array 137.25 356 PKP PKPdf 23 06 01.9 -0.9
HWUT Hardware Ranch 138.50 358 *e*PKPdf PKPdf 23 06 04.6 -0.5
N23A Red Feather La 138.73 352 ⇓P PKPdf 23 06 05.7 +0.2
baz=139
N17A Moffit Pass 139.13 358 ⇓P PKPdf 23 06 06.5 +0.2
baz=139
DUG Dugway 139.93 360 ⇓P PKPdf 23 06 07.3 -0.4
baz=140
P18A Preston Nutter 140.41 357 ⇑P PKPdf 23 06 08.8 +0.2
baz=140
P14A Drum Mountains 140.53 0 ⇑P PKPdf 23 06 09.0 +0.2
baz=140
Q19A Hogan Spring (141.01 355 ⇑P PKPdf 23 06 09.7 -0.1
baz=141
Q14A Sevier Lake (B 141.13 0 ⇓P PKPdf 23 06 09.7 -0.2
baz=141
NVAR Mina Array Bea 141.38 7 PKP PKPdf 23 06 08.8 -1.6
comp=Z,1.5nm,0.9s,baz=274,slow=0.4,SNR=7.7
NVAR Mina Array Bea 141.38 7 PKP PKPdf 23 06 08.8 -1.6
R11A Troy Canyon, C 141.70 3 ⇓P PKPdf 23 06 08.9 -2.2
baz=142
SDCO Great Sand Dun 141.74 350 ⇓P PKPdf 23 06 09.6 -1.5
baz=142
S20A Disappointment 142.05 354 ⇓P PKPdf 23 06 10.9 -0.8
baz=142
S21A Coal Bank Pass 142.15 353 ⇓P PKPdf 23 06 11.0 -0.9
baz=142
T24A Torres, Weston 142.32 350 ⇓P PKPdf 23 06 10.8 -1.4
baz=142
S18A Hurst Farm, BI 142.33 356 ⇑P PKPdf 23 06 11.4 -0.8
baz=142
S17A Black Ridge (B 142.43 357 ⇓P PKPdf 23 06 10.6 -1.8
baz=142
U26A Atchley Ranch, 142.72 348 ⇓P PKPdf 23 06 12.1 -0.8
baz=143
U25A Circle Dot Ran 142.85 348 ⇑P PKPdf 23 06 12.3 -0.8
baz=143
T18A Mexican Hat 142.87 356 ⇓P PKPdf 23 06 12.2 -0.9
baz=143
U22A Llaves 143.29 352 ⇓P PKPdf 23 06 13.5 -0.4
baz=143
V26A Tequesquite Ra 143.30 347 ⇓P PKPdf 23 06 11.9 -2.0
baz=143
U21A Nageezi 143.35 353 ⇑P PKPdf 23 06 12.8 -1.2
baz=143
CWC Cottonwood Cre 143.37 7 ⇑P PKPdf 23 06 12.3 -1.8
baz=143
U17A Shonto 143.45 357 ⇑P PKPdf 23 06 13.1 -1.1
baz=143
U18A Rough Rock, Ch 143.58 356 ⇓P PKPdf 23 06 12.8 -1.6
baz=144,SNR=5.7
AMTX Amarillo 143.66 344 ⇑P PKPdf 23 06 13.7 -0.9
baz=144
V24A Rampart Ranch, 143.67 349 ⇓P PKPdf 23 06 13.1 -1.4
baz=144,SNR=5.9
U15A North Rim 143.68 359 ⇑P PKPdf 23 06 13.4 -1.2
baz=144
U13A Pakoon Wash 143.69 1 ⇓P PKPdf 23 06 13.4 -1.2
baz=144
U14A Mt Trumbull 143.70 0 ⇑P PKPdf 23 06 13.1 -1.5
baz=144,SNR=14
V22A San Miguel Ran 143.76 352 ⇓P PKPdf 23 06 13.5 -1.2
baz=144,SNR=11
V23A Ortiz Mt. (NFS 143.81 351 ⇓P PKPdf 23 06 14.3 -0.6
baz=144
MPMC Manual Prospec 143.81 6 ⇑P PKPdf 23 06 13.7 -1.1
baz=144
U16A Tuba City 143.93 357 ⇓P PKPdf 23 06 13.9 -1.1
baz=144
W26A Owens Ranch, T 143.98 347 ⇓P PKPdf 23 06 14.1 -1.1
baz=144
W25A X Bar L Ranch, 144.00 348 ⇓P PKPdf 23 06 14.1 -1.1
baz=144,SNR=12
V20A Brimhall 144.07 354 ⇑P PKPdf 23 06 13.8 -1.5
baz=144,SNR=10
ISA Isabella 144.09 8 ⇓P PKPdf 23 06 14.2 -1.2
baz=144
W24A Lazy 6 Ranch, 144.19 349 ⇑P PKPdf 23 06 14.2 -1.3
baz=144,SNR=16
V19A Window Rock 144.21 355 ⇑P PKPdf 23 06 14.4 -1.1
baz=144,SNR=7.3
V15A Kaibab Nationa 144.29 359 ⇓P PKPdf 23 06 14.3 -1.4
baz=144,SNR=9.1
V18A Ganado 144.29 356 ⇓P PKPdf 23 06 14.6 -1.1
baz=144,SNR=7.7
LRMC Laurel Mountai 144.37 7 ⇑P PKPdf 23 06 15.4 -0.4
baz=144
W23A Werner Place, 144.38 350 ⇑P PKPdf 23 06 15.5 -0.4
baz=144
V17A Tonalea, Kykot 144.43 357 ⇑P PKPdf 23 06 15.0 -0.9
baz=144
X26A CR and CF Fran 144.50 347 ⇓P PKPdf 23 06 15.5 -0.6
baz=144
WUAZ Wupatki 144.56 358 ⇑P PKPdf 23 06 16.1 0.0
baz=144
WUAZ Wupatki 144.56 358 *e*PKPdf PKPdf 23 06 15.4 -0.7
TUQ Turquoise Moun 144.57 4 ⇑P PKPdf 23 06 15.5 -0.7
baz=144,SNR=5.5
ANMO Albuquerque 144.63 351 *e*PKPdf PKPdf 23 06 15.0 -1.3
ANMO Albuquerque 144.63 351 *e*PKIKP PKPdf 23 06 15.0 -1.3
GSC Goldstone 144.63 5⇑P PKPdf 23 06 15.8 -0.4
baz=144,SNR=7.6
GSC Goldstone 144.63 5 *e*PKPdf PKPdf 23 06 14.0 -2.3
GSC Goldstone 144.63 5 *e*PKIKP PKPdf 23 06 14.0 -2.3
PKM Peak Mountain 144.63 10⇑P PKPdf 23 06 16.6 +0.3
baz=144
W21A San Fidel 144.64 352 ⇓P PKPdf 23 06 17.4 +1.1
baz=144
X25A Clemmons Ranch 144.71 348 ⇑P PKPdf 23 06 16.0 -0.4
baz=145,SNR=13
W20A Ramah 144.74 354 ⇓P PKPdf 23 06 15.4 -1.1
baz=145,SNR=10
MSTX Muleshoe 144.81 345⇑P PKPdf 23 06 16.3 -0.4
baz=145
X24A Lazy VL Ranch, 144.83 349⇑P PKPdf 23 06 16.4 -0.2
baz=145
W19A Sanders 144.84 355⇑P PKPdf 23 06 15.9 -0.8
baz=145,SNR=6.2
W18A Petrified Fore 144.86 355 ⇓P PKPdf 23 06 16.8 +0.1
baz=145,SNR=5.6
EDW2 Edwards Air Fo 144.92 7 ⇓P PKPdf 23 06 16.5 -0.3
baz=145,SNR=9.3
X23A Hourglass Bar 144.95 350⇑P PKPdf 23 06 17.5 +0.7
baz=145
W17A Winslow 144.97 357⇑P PKPdf 23 06 17.7 +0.8
baz=145
Y27A Causey 144.99 346⇑P PKPdf 23 06 16.6 -0.3
baz=145,SNR=11
W16A Flagstaff 144.99 358⇑P PKPdf 23 06 17.8 +0.9
baz=145
Y26A Elida 145.11 347 ⇓P PKPbc 23 06 17.5 +0.9
baz=145
HEC Hector,Ludlow 145.14 5⇑P PKPbc 23 06 17.4 +0.8
baz=145
GMRC Granite Mounta 145.24 4⇑P PKPbc 23 06 17.7 +0.8
baz=145,SNR=7.1
Y25A Mesa, Roswell 145.30 348 ⇓P PKPbc 23 06 17.6 +0.4
baz=145,SNR=12
X20A Quemado 145.31 353⇑P PKPbc 23 06 17.9 +0.8
baz=145,SNR=6.5
X21A Alamocita Cree 145.32 352⇑P PKPbc 23 06 18.0 +0.8
baz=145,SNR=17
Y24A Capitan 145.45 349⇑P PKPbc 23 06 17.8 +0.2
baz=145
X18A Snowflake 145.46 356⇑P PKPbc 23 06 18.2 +0.5
baz=145
X19A St. Johns 145.51 355⇑P PKPbc 23 06 18.7 +0.9
baz=145,SNR=5.9
BLG Laguna Peak 145.53 9 ⇓P PKPdf 23 06 18.8 +0.9
baz=145
Z27A Tatum 145.54 345⇑P PKPdf 23 06 18.7 +0.7
baz=146,SNR=17
Y23A Lovelace Mesa, 145.56 350⇑P PKPdf 23 06 18.6 +0.7
baz=146
BFSC Mount Baldy Ra 145.59 7⇑P PKPdf 23 06 18.5 +0.5
baz=145,SNR=6.4
X16A Lo Mia Camp, P 145.66 358⇑P PKPdf 23 06 19.3 +1.2
baz=146,SNR=6.1
Y22A Socorro 145.70 351⇑P PKPdf 23 06 19.6 +1.4
baz=146
X17A Forest Lakes 145.71 357⇑P PKPdf 23 06 19.4 +1.3
baz=146
Y21A Point of Rocks 145.74 352 ⇓P PKPdf 23 06 18.8 +0.6
baz=146
Z26A Caprock 145.77 347 ⇓P PKPdf 23 06 19.0 +0.7
baz=146,SNR=12
PDMCI Parker Dam,Lak 145.79 2 ⇓P PKPdf 23 06 18.8 +0.5
baz=146
IRM Iron Mountain 145.89 3⇑P PKPdf 23 06 19.9 +1.4
baz=146,SNR=14
Y20A Horse Springs, 145.93 353 ⇓P PKPdf 23 06 19.8 +1.3
baz=146,SNR=7.2
Z25A Roswell 145.93 348⇑P PKPdf 23 06 19.8 +1.2
baz=146
Y19A Nutrioso 145.97 354⇓P PKPdf 23 06 19.8 +1.2
baz=146,SNR=8.4
BELC Belle Mtn. Jos 145.99 4⇓P PKPdf 23 06 20.0 +1.4
baz=146,SNR=6.5
Z24A Sheeppen Canyo 146.01 349 ⇓P PKPdf 23 06 20.0 +1.3
baz=146,SNR=16
Y15A Casa Rosa Ranc 146.15 359 ⇓P PKPdf 23 06 20.6 +1.6
baz=146
Y14A Wickenburg 146.17 0⇑P PKPdf 23 06 19.9 +0.9
baz=146,SNR=5.2
Y16A Circle Bar Ran 146.20 358 ⇓P PKPdf 23 06 20.2 +1.1
baz=146,SNR=5.1
Z23A Rita Site, Whi 146.24 350 ⇓P PKPdf 23 06 20.5 +1.4
baz=146
CIS Catalina Islan 146.31 8 ⇓P PKPdf 23 06 20.3 +1.1
baz=146
Y12C Blythe 146.33 2 ⇓P PKPdf 23 06 20.5 +1.2
baz=146
PFO Pinyon Flat Ob 146.34 5⇑P PKPdf 23 06 20.9 +1.6
baz=146
Y17A Roosevelt 146.35 357⇑P PKPdf 23 06 20.6 +1.3
baz=146,SNR=8.9
Z22A Elephant Butte 146.37 351⇓P PKPdf 23 06 21.1 +1.8
baz=146
BC3 Big Chuckawall 146.37 4⇓P PKPdf 23 06 20.7 +1.4
baz=146,SNR=7.0
126A Clayton Basin, 146.38 346⇑P PKPdf 23 06 21.1 +1.8
baz=146
Z21A St. Cloud Mine 146.42 352⇑P PKPdf 23 06 21.2 +1.8
baz=146
125A Gardner Draw, 146.51 347⇑P PKPdf 23 06 21.7 +2.2
baz=146
Z17A San Carlos Hig 146.73 356⇑P PKPdf 23 06 22.2 +2.2
baz=147
Z20A Nine Sixteen R 146.74 353⇓P PKPdf 23 06 21.3 +1.4
baz=147,SNR=8.3
Z14A Wintersburg 146.75 360⇑P PKPdf 23 06 21.4 +1.5
baz=147,SNR=6.0
Z13A Yuma Proving G 146.90 1⇑P PKPdf 23 06 21.8 +1.6
baz=147,SNR=6.1
GLA Glamis 147.01 3⇓P PKPdf 23 06 21.6 +1.2
baz=147
MONP Monument Peak 147.06 5⇑P PKPdf 23 06 21.8 +1.3
baz=147,SNR=5.5
SWSC Sam W. Stewart 147.06 4⇑P PKPdf 23 06 22.7 +2.2
baz=147
JCT Junction City 147.13 339⇑P PKPdf 23 06 22.2 +1.5
baz=147
119A Ashpeak Ranch, 147.16 354 ⇓P PKPdf 23 06 22.5 +1.9
baz=147,SNR=5.3
121A Cookes Peak, D 147.20 352 ⇓P PKPdf 23 06 23.1 +2.4
baz=147,SNR=6.1
224A Cornudas Mount 147.26 348⇑P PKPdf 23 06 22.9 +2.0
baz=147
328A Wristen Ranch, 147.26 344⇑P PKPdf 23 06 23.3 +2.4
baz=147
120A U Bar Ranch, L 147.30 353⇓P PKPdf 23 06 22.6 +1.7
baz=147
DVTC Desert V Tower 147.31 5⇓P PKPdf 23 06 23.1 +2.2
baz=147
113A Mohawk Valley, 147.33 1⇑P PKPdf 23 06 23.8 +2.8
baz=147
118A Homack Ranch, 147.34 355⇑P PKPdf 23 06 22.2 +1.2
baz=147,SNR=11
114A Black Gap (USA 147.35 360 ⇓P PKPdf 23 06 23.8 +2.8
baz=147
115A Sonoran Desert 147.40 359⇑P PKPdf 23 06 22.5 +1.5
baz=147,SNR=8.0
117A Oracle 147.47 356⇑P PKPdf 23 06 23.1 +2.0
baz=147,SNR=9.1
222A Williams Famil 147.52 351⇑P PKPdf 23 06 24.3 +3.0
baz=147
116A Eloy 147.52 358 ⇓P PKPdf 23 06 24.0 +2.7
baz=147
326A Caldwell Ranch 147.64 345 ⇓P PKPdf 23 06 24.6 +3.1
baz=148
221A Mesquite Ranch 147.72 352 ⇓P PKPdf 23 06 24.7 +3.1
baz=148
325A Bean Ranch, Si 147.82 347 ⇓P PKPdf 23 06 24.8 +3.0
baz=148
428A Kincaid Ranch, 147.85 343 ⇓P PKPdf 23 06 25.5 +3.6
baz=148
324A Moseley Ranch, 147.86 348 ⇓P PKPdf 23 06 25.1 +3.2
baz=148
219A White Tail Can 147.91 354 ⇓P PKPdf 23 06 24.9 +2.9
baz=148,SNR=5.1
220A Playas Peak, P 147.92 353 ⇓P PKPdf 23 06 25.8 +3.8
baz=148
427A Hayter Ranch, 147.93 344 ⇓P PKPdf 23 06 25.4 +3.3
baz=148
218A Dragoon 148.01 355 ⇓P PKPdf 23 06 25.9 +3.8
baz=148

216A	**Three Points,** baz=148	**148.07**	**358**	⇓P		PKPdf	23 06 26.0	+3.8
214A	**Organ Pipe Nat** baz=148,SNR=6.1	**148.15**	**360**	⇓P		PKPdf	23 06 25.1	+2.8
217A	**Green Valley** baz=148,SNR=11	**148.26**	**356**	⇑P		PKPdf	23 06 25.7	+3.2
426A	**McDonald Obser** baz=148	**148.27**	**345**	⇑P		PKPdf	23 06 26.4	+3.8
425A	**Indio Mountain** baz=148	**148.39**	**347**	⇑P		PKPdf	23 06 26.4	+3.7
319A	**Douglas** baz=148	**148.53**	**354**	⇓P		PKPdf	23 06 27.4	+4.4
318A	**Bisbee** baz=148	**148.53**	**355**	⇑P		PKPdf	23 06 27.1	+4.2
526A	**Mary Lane Ranc** baz=149	**148.86**	**345**	⇑P		PKPdf	23 06 27.6	+4.1
TXAR	**Lajitas Array** comp=Z,1.5nm,0.9s,baz=231,slow=4.3,SNR=8.4	**149.44**	**344**	PKP		PKPdf	23 06 24.5	0.0
TXAR				PKPbc		PKPbc	23 06 29.2	+0.3
TXAR	comp=Z,6.5nm,1.0s,baz=77,slow=1.7,SNR=25			PKPab		PKPab	23 06 35.1	+1.6
TXAR	**Lajitas Array** comp=Z,4.5nm,0.8s,baz=56,slow=2.0,SNR=15	**149.44**	**344**	PKP		PKPdf	23 06 24.5	0.0
TXAR				PKPbc		PKPbc	23 06 29.2	+0.3
TXAR				PKPab		PKPab	23 06 35.1	+1.6

MEX 11 22:54:30.7±0.3, 23°93N×108°74W, h6km±19km, MD4.5, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ANIG	**Ahuacatlan**	**4.84**	**125**	*i* P	Pn	22 55 42.3	-1.8
ANIG				*i* S	Sn	22 56 37.9	-2.6
HSIG		**5.45**	**339**	*i* P	Pn	22 55 50.2	-2.3
HSIG				*i* S	Sn	22 56 52.6	-2.9
SFJM	**Santa Fe**	**6.29**	**122**	*e*P	Pn	22 56 02.4	-1.7
SFJM				*i* S	Sn	22 57 14.0	-2.4
CGIG		**6.45**	**6**	*i* P	Pn	22 55 44.0	-22
CGIG				*i* S	Sn	22 56 57.2	-23
MMIG	**Aquila**	**7.54**	**137**	*i* P	Pn	22 56 19.8	-1.5
MMIG				*i* S	Sn	22 57 45.1	-2.0
LNIG	**Linares**	**8.51**	**82**	*i* P	Pn	22 56 22.2	-12
LNIG				*i* S	Sn	22 57 51.2	-20
ZIIG	**Zihuatanejo**	**9.26**	**131**	*e*P	Pn	22 56 55.5	+11
CAIG	**El Cayaco**	**10.48**	**129**	*e*P	Pn	22 57 02.9	+1.3

*NEIC **11** 23:09:49.6, 19°19N×66°28W, h25km, MD3.2(RSPR), After RSPR.*

RSPR 11 23:09:51.3, 19°06N×66°25W, h25km±31km, MD3.4/3, 7C-11D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AOPR	**Arecibo Observ**	**0.85**	**214**	⇑*e*P	Pb	23 10 04.5	-3.0
AOPR	**Arecibo Observ**	**0.85**	**214**	*e*S	Sb	23 10 17.0	-1.4
AOPR	**Arecibo Observ**	**0.85**	**214**	⇓*e*P	Pb	23 10 04.3	-3.2
AOPR	**Arecibo Observ**	**0.85**	**214**	⇓*e*P	Pb	23 10 04.3	-3.2
AOPR				*e*S	Sb	23 10 17.0	-1.4
CBYP	**Canovanas**	**0.87**	**154**	⇑*e*P	Pb	23 10 06.5	-1.1
CBYP	**Canovanas**	**0.87**	**154**	⇑*e*P	Pb	23 10 06.5	-1.1
SJG	**San Juan**	**0.95**	**174**	⇓*e*P	Pn	23 10 07.9	-1.1
SJG	**San Juan**	**0.95**	**174**	⇓*e*P	Pn	23 10 07.9	-1.1
HUMP	**Col San Antoni**	**0.99**	**157**	⇑*e*P	Pn	23 10 07.5	-2.0
HUMP	**Col San Antoni**	**0.99**	**157**	⇓*e*P	Pn	23 10 07.5	-2.1
HUMP				*e*S	Sb	23 10 19.1	-3.2
HUMP	**Col San Antoni**	**0.99**	**157**	⇓*e*P	Pn	23 10 07.5	-2.1
HUMP				*e*S	Sb	23 10 19.1	-3.2
CELP	**Cerrillos**	**1.03**	**198**	⇑*e*P	Pn	23 10 09.3	-0.8
CELP	**Cerrillos**	**1.03**	**198**	⇑*e*P	Pn	23 10 09.3	-0.8
MTP	**Monte Pirata**	**1.16**	**145**	⇓*e*P	Pn	23 10 09.7	-2.2
MTP	**Monte Pirata**	**1.16**	**145**	⇓*e*P	Pn	23 10 09.7	-2.2
MTP	**Monte Pirata**	**1.16**	**145**	⇓*e*P	Pn	23 10 09.7	-2.2
CRPR	**Cabo Rojo, PR**	**1.32**	**218**	⇑*e*P	Pn	23 10 12.1	-2.1
CRPR	**Cabo Rojo, PR**	**1.32**	**218**	⇓*e*P	Pn	23 10 11.4	-2.8
CRPR	**Cabo Rojo, PR**	**1.32**	**218**	⇓*e*P	Pn	23 10 11.4	-2.8

MAN 11 23:11:06, 12°77N×123°62E, h53km, mb4.1, ML2.9, MS2.6, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**0.97**	**33**	*e*P	Pn	23 11 23.8	+0.3
PVCP				*e*S	Sn	23 11 39.2	+2.9
CNP	**Catarman**	**1.05**	**104**	*e*P	Pn	23 11 25.8	+1.2
AUQP	**San Andres**	**1.07**	**301**	*e*P	Pn	23 11 26.1	+1.4
RCP	**Roxas**	**1.47**	**215**	⇑*e*P	Pn	23 11 30.9	+0.7
RCP				*e*S	Sn	23 11 50.2	+1.8
GUIM	**Jordan**	**2.36**	**205**	*e*P	Pn	23 11 45.7	+3.4

*NNC **11** 23:20:21.0±4.2, 39°64N×73°81E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=32.2km s-min=15.5km az=170.0*

ISC 11 23:20:18.7±2.3, 39°4N±0°2×73°7E±0°1, h7km±24km, n12, σ0s99/17, 6C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu** SNR=21	**2.76**	**360**	P	**Pn**	**23 21 03.9**	**+0.5**
UCH	**Uchtor** SNR=12	**2.92**	**12**	P	**Sn**	**23 21 42.1**	**+1.2**
KZA	**Kyzart** SNR=14	**2.95**	**23**	P	**Pn**	**23 21 05.6**	**-0.4**
EKS2	**Erkin-Say** SNR=7.6	**3.29**	**1**	P	**Pn**	**23 21 11.6**	**+1.0**
AAK	**Ala-Archa** SNR=14	**3.32**	**10**	P	**Pn**	**23 21 11.1**	**+0.1**
KBK	**Karagaybulak** SNR=16	**3.42**	**16**	P	**Pn**	**23 21 12.4**	**+0.1**
ULHL	**Ulahol** SNR=7.1	**3.46**	**33**	P	**Pn**	**23 21 13.1**	**+0.1**
TKM2	**Tokmak 2** SNR=7.6	**3.83**	**21**	P	**Pn**	**23 21 18.4**	**+0.4**
TKM2	**Tokmak 2** 3.4nm,0.6s	**3.83**	**21**	⇓Pn	**Pn**	**23 21 18.0**	**-0.1**
TKM2				⇑Pg	**Pb**	**23 21 25.2**	**-1.3**
TKM2	3.7nm,0.5s			⇑Sn	**Sn**	**23 22 01.6**	**-1.6**
TKM2	6.1nm,0.5s			⇑Lg		23 22 10.3	
USP	12nm,0.6s **Ospenovka** SNR=5.9	**3.94**	**9**	P	**Pn**	**23 21 20.4**	**+0.9**
KK31	**Karatay Array** 0.6nm,0.3s,baz=132,slow=13,SNR=31	**4.44**	**328**	⇑Pn	**Pn**	**23 21 26.9**	**+0.5**
KK31	1.5nm,0.3s,baz=143,slow=18,SNR=14			⇓Pg	**Pb**	**23 21 37.1**	**+0.1**
KK31	4.7nm,0.3s,baz=141,slow=24,SNR=7.4			⇓Sn	**Sn**	**23 22 20.5**	**+2.2**
KK31	6.7nm,0.5s			⇑Lg		23 22 31.9	
AB31	**Akbulak array** 0.4nm,0.6s,baz=125,slow=13,SNR=8.5	**13.93**	**320**	Pn	**Pn**	**23 23 35.3**	**-1.1**
AB31	0.7nm,0.6s			⇑Sn	**Sn**	**23 26 07.6**	**-3.6**

IDC 11 23:38:14.8±3.3, 30°37N×67°22E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.3/29, mbtmp3.6/5, MS2.9/2, Ms1 2.9/2, ms1mx2.4/37, Error ellipse: s-maj=85.2km s-min=27.6km az=139.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array** 0.8nm,0.6s,baz=209,slow=9.8,SNR=11	**20.13**	**31**	P	P	23 42 48.7	-1.6
MKAR	comp=Z,49nm,18.5s,baz=310,slow=39			LR	LR	23 51 18.1	
AKTO	**Aktyubinsk** 0.8nm,0.6s,baz=172,slow=10,SNR=3.2	**21.20**	**344**	P	P	23 43 01.9	+0.1
KURK	**Kurchatov** 1.2nm,0.6s,baz=209,slow=11,SNR=11	**22.04**	**20**	P	P	23 43 09.0	-1.8
ZALV	**Zalesovo Beam** 1.8nm,0.7s,baz=226,slow=9.7,SNR=11	**26.78**	**23**	P	P	23 43 57.7	+1.5
ZALV	comp=Z,17nm,18.8s,baz=92,slow=36			LR	LR	23 54 08.4	
TORD	**Torodi Ar. Bea** 0.3nm,0.5s,baz=53,slow=5.4,SNR=6.2	**62.45**	**270**	P	P	23 48 40.1	-0.1

*IDC **11** 23:56:19.7±1.2, 34°35N×25°01E, h0km, mb4.0/5, mb1 4.0/7, mb1mx3.6/26, mbtmp3.9/7, ML3.7/2, Error ellipse: s-maj=29.6km s-min=23.5km az=148.0*

*ISCJB **11** 23:56:20.5±0.6, 34°17N±0°02×25°08E±0°04, h21km±5km, mb3.9/5, Error ellipse: s-maj=5.4km s-min=3.4km az=155.0*

*NEIC **11** 23:56:21.6, 34°24N×25°01E, h28km, MG3.4(ATH), After ATH.*

*ATH **11** 23:56:21.6, 34°24N×25°01E, h28km±1km, ML3.4*

*CSEM **11** 23:56:22.7±0.2, 34°21N×25°06E, h20km, ML2.9/1, Error ellipse: s-maj=5.6km s-min=3.4km az=62.0*

*HLW **11** 23:56:23.0, 34°29N×25°27E, h33km±29km, Md3.6, Ml3.5*

*THE **11** 23:56:24.9, 34°44N×24°99E, h0km±3km, ML2.9/1, Error ellipse: s-maj=7.0km s-min=2.0km az=194.0*

ISC 11 23:56:21.7±1.2, 34°22N±0°02×25°06E±0°04, h15km±8km, n113, σ1s14/140, mb3.9/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.82**	**346**	*e*PN	**Pb**	**23 56 37.0**	**-0.6**
SIVA				*e*SN	**Sn**	**23 56 48.8**	**-1.7**
SIVA	**Sivas**	**0.82**	**346**	P	**Pb**	**23 56 37.0**	**-0.6**
SIVA				S	**Sb**	**23 56 47.8**	**-0.7**
SIVA	**Sivas**	**0.82**	**346**	P	**Pb**	**23 56 37.0**	**-0.6**
SIVA				S	**Sb**	**23 56 47.8**	**-0.7**
SIVA				*e*Sn	**Sn**	**23 56 48.8**	**-1.7**
LAST	**Lasithi**	**1.00**	**20**	P	**Pb**	**23 56 40.1**	**-0.6**
LAST	**Lasithi**	**1.00**	**20**	P	**Pb**	**23 56 40.1**	**-0.6**
NPS	**Neapolis**	**1.13**	**24**	*e*PN	**Pn**	**23 56 42.5**	**-0.5**
NPS				*e*SN	**Sn**	**23 56 58.3**	**0.0**
NPS	**Neapolis**	**1.13**	**24**	P	**Pn**	**23 56 42.6**	**-0.4**
NPS				S	**Sb**	**23 56 57.1**	**-0.4**
NPS	**Neapolis**	**1.13**	**24**	P	**Pn**	**23 56 42.6**	**-0.4**
NPS				S	**Sb**	**23 56 57.1**	**-0.4**
NPS				*e*Sn	**Sn**	**23 56 58.3**	**0.0**
VAM	**Vamos**	**1.38**	**329**	*e*PN	**Pb**	**23 56 46.5**	**-0.6**
VAM	**Vamos**	**1.38**	**329**	P	**Pb**	**23 56 46.6**	**-0.5**
VAM				S	**Sb**	**23 57 03.2**	**-1.3**
VAM	**Vamos**	**1.38**	**329**	P	**Pb**	**23 56 46.6**	**-0.5**
VAM				S	**Sb**	**23 57 03.2**	**-1.3**
KARN	**Karanos**	**1.50**	**322**	P	**Pb**	**23 56 48.6**	**-0.7**
KARN	**Karanos**	**1.50**	**322**	P	**Pb**	**23 56 48.6**	**-0.7**
THR1	**Thera Island**	**2.17**	**9**	P	**Pb**	**23 56 58.1**	**-2.5**
THR1	**Thera Island**	**2.17**	**9**	P	**Pb**	**23 56 58.1**	**-2.5**
KARP	**Karpathos**	**2.18**	**52**	P	**Pb**	**23 57 00.5**	**-0.3**
KARP				S	**Sb**	**23 57 28.4**	**+0.8**
THR3	**Thira Island,**	**2.20**	**7**	P	**Pb**	**23 56 59.5**	**-1.7**
THR3	**Thira Island,**	**2.20**	**7**	P	**Pb**	**23 56 59.5**	**-1.7**
KYTH	**Kithira**	**2.64**	**322**	*e*PB	**Pn**	**23 57 04.9**	**+1.2**
KYTH	**Kithira**	**2.64**	**322**	P	**Pb**	**23 57 06.2**	**-2.4**
KYTH	**Kithira**	**2.64**	**322**	*e*Pb	**Pn**	**23 57 04.9**	**+1.2**
KYTH	**Kithira**	**2.64**	**322**	P	**Pb**	**23 57 06.2**	**-2.4**
SLUM	baz=181	**2.73**	**177**	P	**Pn**	**23 57 05.6**	**+0.7**
SLUM	baz=181			S	**Sn**	**23 57 36.9**	**-0.7**
SLUM		**2.73**	**177**	P	**Pn**	**23 57 05.6**	**+0.7**
SLUM				S	**Sn**	**23 57 38.0**	**+0.4**
APE	**Apeiranthos**	**2.87**	**8**	*e*PN	**Pn**	**23 57 07.4**	**+0.6**
APE	**Apeiranthos**	**2.87**	**8**	P	**Pn**	**23 57 07.6**	**+0.8**
APE				S	**Sn**	**23 57 41.7**	**+0.7**
APE	**Apeiranthos**	**2.87**	**8**	*e*Pn	**Pn**	**23 57 07.4**	**+0.6**
APE				S	**Sn**	**23 57 41.7**	**+0.7**
NIS1	**Nisyros Isl.**	**2.94**	**36**	P	**Pb**	**23 57 11.6**	**-2.2**
VLI	**Velíai**	**3.03**	**326**	*e*PN	**Pn**	**23 57 09.6**	**+0.5**
VLI	**Veliai**	**3.03**	**326**	*e*Pn	**Pn**	**23 57 09.6**	**+0.5**
ARG	**Arkhangelos**	**3.21**	**51**	*e*PN	**Pn**	**23 57 13.3**	**+1.8**
ARG	**Arkhangelos**	**3.21**	**51**	P	**Pn**	**23 57 13.9**	**+2.4**
ARG	**Arkhangelos**	**3.21**	**51**	*e*Pn	**Pn**	**23 57 13.3**	**+1.8**
ARG	**Arkhangelos**	**3.21**	**51**	P	**Pn**	**23 57 13.9**	**+2.4**
HMAT	**Matruh** baz=153	**3.56**	**151**	P	**Pn**	**23 57 16.6**	**+0.2**
HMAT	baz=153			S	**Sn**	**23 57 55.2**	**-3.0**
HMAT	**Matruh**	**3.56**	**151**	P	**Pn**	**23 57 16.8**	**+0.4**
DID	**Didima**	**3.59**	**336**	*e*PN	**Pn**	**23 57 17.2**	**+0.4**
DID				*e*SN	**Sn**	**23 57 58.0**	**-1.0**
DID	**Didima**	**3.59**	**336**	P	**Pn**	**23 57 17.4**	**+0.6**
DID				S	**Sn**	**23 57 58.9**	**-0.1**
DID	**Didima**	**3.59**	**336**	P	**Pn**	**23 57 17.4**	**+0.6**
DID				*e*Sn	**Sn**	**23 57 58.0**	**-1.0**
DID				S	**Sn**	**23 57 58.9**	**-0.1**
NAIG	**Nisos Aigina**	**3.75**	**341**	*e*PN	**Pn**	**23 57 20.3**	**+1.3**
NAIG	**Nisos Aigina**	**3.75**	**341**	*e*Pn	**Pn**	**23 57 20.3**	**+1.3**
VLY	**Voula,Athens**	**3.76**	**345**	*e*PN	**Pn**	**23 57 20.2**	**+1.0**
VLY	**Voula,Athens**	**3.76**	**345**	*e*Pn	**Pn**	**23 57 20.2**	**+1.0**
PYL	**PYLOS**	**3.80**	**316**	*e*PN	**Pn**	**23 57 20.5**	**+0.9**
PYL	**PYLOS**	**3.80**	**316**	*e*Pn	**Pn**	**23 57 20.5**	**+0.9**
VLX	**Vlachokerasia**	**3.82**	**326**	*e*PN	**Pn**	**23 57 21.2**	**+1.3**
VLX	**Vlachokerasia**	**3.82**	**326**	*e*Pn	**Pn**	**23 57 21.2**	**+1.3**
ATH	**Athens Observa**	**3.90**	**344**	*e*PN	**Pn**	**23 57 22.8**	**+1.8**
ATH	**Athens Observa**	**3.90**	**344**	*e*Pn	**Pn**	**23 57 22.8**	**+1.8**
ITM	**Ithomi**	**3.90**	**320**	*e*PN	**Pn**	**23 57 21.9**	**+0.9**
ITM	**Ithomi**	**3.90**	**320**	*e*Pn	**Pn**	**23 57 21.9**	**+0.9**
YER	**Yerkesik**	**3.92**	**41**	Pn	**Pn**	**23 57 21.1**	**-0.1**
YER	**Yerkesik**	**3.92**	**41**	Pn	**Pn**	**23 57 21.1**	**-0.2**
TURN	**Turunc**	**3.92**	**47**	*i* P	**Pn**	**23 57 18.6**	**-2.6**
TURN	**Turunc**	**3.92**	**47**	*i* P	**Pn**	**23 57 18.6**	**-2.7**
PTL	**Penteli**	**3.94**	**346**	*e*PN	**Pn**	**23 57 22.1**	**+0.5**
PTL	**Penteli**	**3.94**	**346**	*e*Pn	**Pn**	**23 57 22.1**	**+0.5**
AYDN	**Tasoluk**	**4.12**	**33**	*i* P	**Pn**	**23 57 26.4**	**+2.2**
AYDN	**Tasoluk**	**4.12**	**33**	*i* P	**Pn**	**23 57 26.4**	**+2.3**
LTK	**Loutraki**	**4.15**	**337**	*e*PN	**Pn**	**23 57 25.4**	**+0.9**
LTK	**Loutraki**	**4.15**	**337**	*e*Pn	**Pn**	**23 57 25.4**	**+0.9**
AKAS	**Kas**	**4.23**	**60**	*i* P	**Pn**	**23 57 24.6**	**-1.0**
AKAS	**Kas**	**4.23**	**60**	*i* P	**Pn**	**23 57 24.6**	**-1.0**
GUR	**Goura**	**4.31**	**330**	*e*PN	**Pn**	**23 57 27.5**	**+0.9**
GUR				*e*SN	**Sn**	**23 58 14.8**	**-1.8**
GUR	**Goura**	**4.31**	**330**	*e*Pn	**Pn**	**23 57 27.5**	**+0.9**
GUR				*e*Sn	**Sn**	**23 58 14.8**	**-1.8**
BLCB	**Balcova**	**4.45**	**21**	Pn	**Pn**	**23 57 24.9**	**-3.7**
BLCB	**Balcova**	**4.45**	**21**	Pn	**Pn**	**23 57 24.9**	**-3.7**
ELL	**Elmali**	**4.69**	**56**	Pn	**Pn**	**23 57 33.6**	**+1.7**
ELL	**Elmali**	**4.69**	**56**	Pn	**Pn**	**23 57 33.6**	**+1.7**
GOLH	**Golhisar**	**4.74**	**49**	*i* P	**Pn**	**23 57 33.5**	**+0.9**
GOLH	**Golhisar**	**4.74**	**49**	*i* P	**Pn**	**23 57 33.5**	**+0.9**
EFP	**Efpalio**	**4.91**	**330**	*e*PN	**Pn**	**23 57 37.0**	**+2.1**
EFP	**Efpalio**	**4.91**	**330**	*e*Pn	**Pn**	**23 57 37.0**	**+2.1**
SWA2	baz=178	**4.97**	**176**	P	**Pn**	**23 57 36.5**	**+0.7**
SWA2	comp=E,60μm,0.3s,logA/T=5.3,baz=178			AMP		23 58 00.0	
SWA2	baz=178			S	**Sn**	**23 58 31.6**	**-1.5**
SWA2		**4.97**	**176**	P	**Pn**	**23 57 36.6**	**+0.8**
SWA2				S	**Sn**	**23 58 31.3**	**-1.8**
KHAL	**Karahalli**	**5.47**	**40**	*i* P	**Pn**	**23 57 44.2**	**+1.5**
KHAL	**Karahalli**	**5.47**	**40**	*i* P	**Pn**	**23 57 44.2**	**+1.6**
LEF	**Lefka**	**6.52**	**80**	Pn	**Pn**	**23 57 57.6**	**+0.6**
LEF	**Lefka**	**6.52**	**80**	Pn	**Pn**	**23 57 57.6**	**+0.6**
HNAT	**Natroun**	**6.58**	**133**	P	**Pn**	**23 57 57.2**	**-0.6**
AWBH	baz=151	**6.74**	**150**	P	**Pn**	**23 57 59.8**	**-0.3**
AWBH		**6.74**	**150**	P	**Pn**	**23 58 00.1**	**0.0**
LFK	**Lefkose**	**7.06**	**79**	Pn	**Pn**	**23 58 05.5**	**+1.1**
LFK	**Lefkose**	**7.06**	**79**	Pn	**Pn**	**23 58 05.5**	**+1.1**
GLL	**Jalalah**	**7.31**	**128**	P	**Pn**	**23 58 07.8**	**-0.1**
HFRF	**Wahat Farafira** baz=159	**7.59**	**157**	P	**Pn**	**23 58 11.7**	**0.0**
HFRF	**Wahat Farafira**	**7.59**	**157**	P	**Pn**	**23 58 12.1**	**+0.4**
AMAG	**Maghara** baz=116	**7.76**	**115**	P	**Pn**	**23 58 12.6**	**-1.5**
HNKL	**Nakhl** baz=118	**8.70**	**117**	P	**Pn**	**23 58 25.6**	**-1.3**
HNKL	baz=118			S	**Sn**	**23 59 58.6**	**-6.1**
HNKL	**Nakhl**	**8.70**	**117**	P	**Pn**	**23 58 26.6**	**-0.3**
TR2	baz=126	**9.42**	**126**	P	**Pn**	**23 58 36.7**	**-0.2**
HKAT	**Jabal Katrina** baz=125	**9.52**	**124**	P	**Pn**	**23 58 37.7**	**-0.4**
EIL	**Elat** comp=E,0.4nm,0.3s,baz=180,slow=4.0,SNR=13	**9.55**	**116**	Pn	**Pn**	**23 58 38.5**	**-0.1**
EIL	comp=E,0.9nm,0.3s,baz=213,slow=19,SNR=4.7			Sn	**Sn**	**00 00 20.2**	**-5.5**
EIL	**Elat**	**9.55**	**116**	Pn	**Pn**	**23 58 38.5**	**-0.1**
EIL				Sn	**Sn**	**00 00 20.2**	**-5.5**
EIL	**Elat**	**9.55**	**116**	Pn	**Pn**	**23 58 38.5**	**-0.1**
GERES	**GERESS Array B** comp=E,0.2nm,0.3s,baz=149,slow=12,SNR=13	**16.87**	**333**	Pn	**Pn**	**00 00 16.2**	**-1.0**
GERES	**GERESS Array B**	**16.87**	**333**	Pn	**Pn**	**00 00 16.2**	**-1.0**
GERES	**GERESS Array B**	**16.87**	**333**	Pn	**Pn**	**00 00 16.2**	**-1.0**
HFS	**Hagfors** comp=E,4.0nm,1.1s,mb3.9,baz=156,slow=7.6,SNR=5.0	**26.97**	**347**	P	**P**	**00 02 01.4**	**-1.0**
HFS	**Hagfors**	**26.97**	**347**	P	**P**	**00 02 01.4**	**-1.0**
HFS	**Hagfors**	**26.97**	**347**	P	**P**	**00 02 01.4**	**-1.0**
TORD	**Torodi Ar. Bea** comp=E,0.8nm,0.5s,mb3.7,baz=34,slow=8.6,SNR=12	**29.83**	**231**	P	**P**	**00 02 29.1**	**+0.9**
TORD	**Torodi Ar. Bea**	**29.83**	**231**	P	**P**	**00 02 29.1**	**+0.9**
TORD	**Torodi Ar. Bea**	**29.83**	**231**	P	**P**	**00 02 29.1**	**+0.8**
MKAR	**Makanchi Array** comp=E,1.0nm,0.6s,mb3.7,baz=281,slow=6.5,SNR=14	**44.37**	**56**	P	**P**	**00 04 31.6**	**+0.4**
MKAR	**Makanchi Array**	**44.37**	**56**	P	**P**	**00 04 31.6**	**+0.4**
MKAR	**Makanchi Array**	**44.37**	**56**	P	**P**	**00 04 31.6**	**+0.3**
ZALV	**Zalesovo Beam** comp=E,1.9nm,0.3s,mb4.5,baz=269,slow=8.9,SNR=13	**45.72**	**46**	P	**P**	**00 04 41.4**	**-0.6**
ZALV	**Zalesovo Beam**	**45.72**	**46**	P	**P**	**00 04 41.4**	**-0.6**
ZALV	**Zalesovo Beam**	**45.72**	**46**	P	**P**	**00 04 41.3**	**-0.6**
SONM	**Songino Array** comp=E,0.5nm,0.6s,mb3.7,baz=291,slow=8.1,SNR=5.6	**60.15**	**50**	P	**P**	**00 06 29.3**	**+0.8**
SONM	**Songino Array**	**60.15**	**50**	P	**P**	**00 06 29.3**	**+0.8**
SONM	**Songino Array**	**60.15**	**50**	P	**P**	**00 06 29.3**	**+0.8**

GUC 11 23:59:54.8±1.4, 30°82S×71°73W, h6km±5km, MD4.0, ML3.9, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OVCH	**Ovalle**	**0.50**	**65**	⇓*i*P	Pg	00 00 05.7	+1.3
OVCH				*e*S	Sg	00 00 12.6	+1.7
CMCH	**Combarbala**	**0.72**	**120**	⇑*i*P	Pg	00 00 09.5	+1.0
CMCH				*e*S	Sg	00 00 19.9	+2.0
CMCH	comp=N,11μm,0.5s			AML	AML	00 00 20.4	
LSCH	**La Serena**	**1.00**	**25**	*e*P	Pg	00 00 12.8	-1.2
LSCH				*i* S	Sg	00 00 25.3	-1.6
TLL	**Tololo Astrono**	**1.03**	**51**	⇓*i*P	Pg	00 00 14.2	-0.3
TLL				*e*S	Sg	00 00 29.7	+1.9
CHNG	**Los Chungos**	**1.08**	**170**	⇑*i*P	Pg	00 00 14.7	-0.8
CHNG				*i* S	Sg	00 00 29.6	+0.1
LCO	**Las Campanas**	**2.01**	**27**	*e*P	Pn	00 00 28.0	-1.3
JACH	**Jahuel**	**2.09**	**153**	*e*P	Pn	00 00 31.4	+1.0
PEL	**Peldehue**	**2.48**	**159**	*e*P	Pn	00 00 36.2	+0.4
PEL				*e*S	Sn	00 01 09.0	+2.6
PEL	comp=E,820nm,0.3s			AML	AML	00 01 15.2	
FCH	**Farellones**	**2.78**	**154**	*e*P	Pn	00 00 41.1	+1.1
FCH				*i* S	Sn	00 01 17.3	+3.4
PCH	**Pirque**	**2.98**	**160**	*e*P	Pn	00 00 45.3	+2.7
LMEL	**Las Melosas**	**3.28**	**157**	*e*P	Pn	00 00 48.2	+1.3
LMEL				*e*S	Sn	00 01 28.2	+2.0
LMEL	comp=N,266nm,0.1s			AML	AML	00 01 38.3	

*ISCJB **12** 00:05:28.7±0.8, 51°49N±0°04×16°10E±0°04, h0km, Error ellipse: s-maj=5.9km s-min=3.0km az=15.2*

*CSEM **12** 00:05:29.9±0.4, 51°52N×16°11E, h2km, ML3.1/6, Error ellipse: s-maj=6.2km s-min=3.4km az=8.0*

*WAR **12** 00:05:30.9, 51°53N×16°10E, ML2.3, Mining Induced*

*PRU **12** 00:05:30.8, 51°51N×16°10E, h0km*

*VIE **12** 00:05:33.5±0.6, 51°25N×16°23E, h0km, mb2.1/3, ML2.4/4, Error ellipse: s-maj=4.6km s-min=3.9km az=97.0 57 km WNW of Wroclaw Suspected Mining induced.*

ISC 12 00:05:29.8±0.8, 51°53N±0°04×16°09E±0°04, h0km, n34, σ0s92/60, 3C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.70**	**169**	*e*Pg	**Pg**	**00 05 43.7**	**+0.6**
KSP				*e*Sg	**Sg**	**00 05 53.2**	**+1.0**
KSP	**Ksiaz**	**0.70**	**169**	*i* Pg	**Pg**	**00 05 43.7**	**+0.6**
KSP				*e*Sg	**Sg**	**00 05 53.1**	**+0.9**
UPC	**Upice**	**1.02**	**183**	*e*PG	**Pg**	**00 05 49.8**	**+0.4**
UPC	**Upice**	**1.02**	**183**	Pg	**Pg**	**00 05 49.8**	**+0.4**
DPC	**Dobruska-Polom**	**1.19**	**173**	*e*PG	**Pg**	**00 05 52.5**	**0.0**
DPC	comp=Z,8.7nm,0.2s			*e*SG	**Sg**	**00 06 07.8**	**-0.1**
DPC	**Dobruska-Polom**	**1.19**	**173**	Pg	**Pg**	**00 05 52.5**	**0.0**
DPC	comp=Z,8.7nm,0.2s			Sg	**Sg**	**00 06 07.8**	**-0.1**
PVCC	**Panska Ves**	**1.39**	**224**	*e*PG	**Pg**	**00 05 56.3**	**0.0**
PVCC	comp=Z,57nm,0.2s			*e*SG	**Sg**	**00 06 15.1**	**+0.8**
PVCC	**Panska Ves**	**1.39**	**224**	Pg	**Pg**	**00 05 56.3**	**0.0**
PVCC	comp=Z,57nm,0.2s			Sg	**Sg**	**00 06 15.1**	**+0.8**
PRU	**Pruhonice**	**1.83**	**213**	*e*PN	**Pn**	**00 06 02.7**	**+0.3**
PRU				*e*PG	**Pg**	**00 06 04.6**	**-0.2

CSEM **12** *00:14:19.3±0.1,40.˚14N×50.˚10E,h60km,mb3.9,Error ellipse: s-maj=3.5km s-min=3.0km az=36.0*
NNC **12** *00:14:19.7±14.0,40.˚65N×50.˚63E,h0km,mb3.8,Error ellipse: s-maj=239.0km s-min=79.8km az=92.0*
ISC 12 00:14:19.1±0.3,40.˚18N±0.˚02×50.˚14E±0.˚03,h62km±3km, n149,σ1≒16/173,mb3.7/11,9C-11D,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	**Gala**	**0.23**	**3**	P	**Pn**	**00 14 27.8**	**-1.1**
	SNR=4.5						
GALA				S	**Sn**	**00 14 37.9**	**+1.8**
GOBA	**Gobu**	**0.38**	**306**	P	**Pn**	**00 14 29.8**	**-0.2**
	SNR=28						
NDR	**Nardaran**	**0.42**	**344**	P	**Pn**	**00 14 29.8**	**-0.6**
NDR				S	**Sn**	**00 14 40.4**	**+1.8**
ALIB	**Äli-Bayra**	**0.90**	**256**	P	**Pn**	**00 14 37.0**	**+1.2**
	SNR=46						
PQL	**Pirkuli**	**1.33**	**298**	P	**Pn**	**00 14 41.8**	**+0.3**
	SNR=20						
PQL				S	**Sn**	**00 14 59.9**	**+1.7**
IML	**Ismayilli**	**1.61**	**293**	P	**Pn**	**00 14 44.9**	**-0.4**
	SNR=31						
IML				S	**Sn**	**00 15 05.7**	**+0.6**
GLBA	**Clilabad**	**1.64**	**236**	P	**Pn**	**00 14 44.0**	**-1.6**
	SNR=19						
GLBA				S	**Sn**	**00 15 04.5**	**-1.2**
QUBA	**Quba, Azerbaij**	**1.72**	**314**	P	**Pn**	**00 14 47.3**	**+0.6**
	SNR=6.5						
QUBA				S	**Sn**	**00 15 08.3**	**+0.7**
KSMR	**Kasumkent**	**2.08**	**314**	*e*P	**Pn**	**00 14 52.5**	**+0.8**
KSMR				*i* S	**Sn**	**00 15 17.0**	**+0.5**
KSMR				pmax	pmax		
	comp=Z,77nm,0.4s						
KSMR	**Kasumkent**	**2.08**	**314**	*e*P	**Pn**	**00 14 52.5**	**+0.8**
	comp=Z,77nm,0.4s						
KSMR				*i* S	**Sn**	**00 15 17.0**	**+0.5**
AKT	**Akhty**	**2.24**	**306**	⇑*i* P	**Pn**	**00 14 55.0**	**+1.2**
AKT				*e*S	**Sn**	**00 15 21.0**	**+0.6**
AKT				pmax	pmax		
	comp=Z,44nm,0.2s						
AKT	**Akhty**	**2.24**	**306**	*i* P	**Pn**	**00 14 55.0**	**+1.2**
	comp=Z,44nm,0.2s						
AKT				*e*S	**Sn**	**00 21.0**	**+0.6**
BRDA	**Brd**	**2.27**	**273**	P	**Pn**	**00 14 54.0**	**-0.1**
	SNR=22						
BRDA				S	**Sn**	**00 15 22.5**	**+1.5**
DRN	**Derbent**	**2.30**	**324**	P	**Pn**	**00 14 55.0**	**+0.4**
DRN				*i* S	**Sn**	**00 15 22.0**	**+0.2**
DRN				pmax	pmax		
	comp=Z,61nm,0.3s						
DRN	**Derbent**	**2.30**	**324**	P	**Pn**	**00 14 55.0**	**+0.4**
	comp=Z,61nm,0.3s						
DRN				*i* S	**Sn**	**00 15 22.0**	**+0.2**
SEKA	**Sheki**	**2.46**	**296**	P	**Pn**	**00 14 56.1**	**-0.7**
	SNR=6.9						
GANJ	**Ganja**	**2.95**	**280**	P	**Pn**	**00 15 01.9**	**-1.6**
	SNR=6.3						
IHRS	**Heris**	**3.04**	**233**	*e*	**Sn**	**00 15 40.0**	**+0.2**
	comp=Z,4μm,0.2s						
IHRS				*e*Pn	**Pn**	**00 15 04.4**	**-0.2**
ISRB	**Sarab**	**3.04**	**220**	*e*Pn	**Pn**	**00 15 04.7**	**0.0**
ISRB				*e*		00 15 42.8	
	comp=Z,2μm,0.2s						
ISRB	**Sarab**	**3.04**	**220**	*e*Pn	**Pn**	**00 15 04.7**	**0.0**
MAK	**Makhachkala**	**3.41**	**325**	*e*P	**Pn**	**00 15 11.1**	**+1.3**
MAK				*e*		00 15 40.7	
MAK				pmax	pmax		
	comp=Z,102nm,1.1s						
MAK	**Makhachkala**	**3.41**	**325**	*e*P	**Pn**	**00 15 11.1**	**+1.3**
	comp=Z,102nm,1.1s						
IBST	**Bostanabad**	**3.54**	**227**	*e*Pn	**Pn**	**00 15 11.3**	**-0.2**
IBST				*e*		00 15 46.5	
	comp=Z,424nm,0.2s						
IBST	**Bostanabad**	**3.54**	**227**	*e*Pn	**Pn**	**00 15 11.3**	**-0.2**
ITBZ	**Tabriz**	**3.66**	**239**	*e*Pn	**Pn**	**00 15 13.1**	**0.0**
ITBZ				*e*		00 15 49.9	
	comp=Z,457nm,0.2s						
ITBZ	**Tabriz**	**3.66**	**239**	*e*Pn	**Pn**	**00 15 13.1**	**0.0**
NAX	**Nakhchivan**	**3.72**	**256**	P	**Pn**	**00 15 13.8**	**-0.2**
	SNR=4.6						
IMRD	**Marand**	**3.73**	**248**	*e*Pn	**Pn**	**00 15 13.4**	**-0.7**
IMRD				*e*		00 16 28.3	
	comp=Z,1μm,0.2s						
IMRD	**Marand**	**3.73**	**248**	*e*Pn	**Pn**	**00 15 13.4**	**-0.7**
DGRG	**David-gareji**	**3.83**	**291**	P	**Pn**	**00 15 14.2**	**-1.3**
DGRG				S	**Sn**	**00 15 59.2**	**0.0**
ISHB	**Shabestar**	**3.99**	**243**	*e*Pn	**Pn**	**00 15 16.7**	**-0.9**
ISHB				*e*		00 16 14.4	
	comp=Z,500nm,0.3s						
ISHB	**Shabestar**	**3.99**	**243**	*e*Pn	**Pn**	**00 15 16.7**	**-0.9**
GNI	**Garni**	**4.13**	**271**	Pn	**Pn**	**00 15 20.2**	**+0.5**
	comp=Z,2.0nm,0.3s,baz=277,slow=1.7,SNR=17						
GNI	**Garni**	**4.13**	**271**	Pn	**Pn**	**00 15 20.2**	**+0.5**
GNI	**Garni**	**4.13**	**271**	*d* iP	**Pn**	**00 15 19.9**	**+0.2**
GNI	**Garni**	**4.13**	**271**	*i* P	**Pn**	**00 15 19.9**	**+0.2**
GNI	**Garni**	**4.13**	**271**	Pn	**Pn**	**00 15 20.2**	**+0.5**
MTA	**Mtatsminda**	**4.32**	**292**	P	**Pn**	**00 15 20.9**	**-1.3**
MTA				S	**Sn**	**00 16 11.0**	**-0.3**
TBLG	**Delisi**	**4.37**	**293**	*e*P	**Pn**	**00 15 20.6**	**-2.3**
TBLG				*e*S	**Sn**	**00 16 09.2**	**-3.3**
TBLG	**Delisi**	**4.37**	**293**	P	**Pn**	**00 15 20.6**	**-2.3**
TBLG				S	**Sn**	**00 16 09.2**	**-3.3**
TBLG	**Delisi**	**4.37**	**293**	*e*P	**Pn**	**00 15 20.6**	**-2.3**
TBLG				*e*S	**Sn**	**00 16 09.2**	**-3.3**
IMHD	**Mahdasht**	**4.50**	**174**	*e*Pn	**Pn**	**00 15 25.2**	**+0.5**
IMHD				*e*		00 16 19.2	
	comp=Z,1μm,0.1s						
IMHD	**Mahdasht**	**4.50**	**174**	*e*Pn	**Pn**	**00 15 25.2**	**+0.5**
IGLO	**Ghaloghah**	**4.68**	**140**	*e*Pn	**Pn**	**00 15 26.8**	**-0.3**
IGLO				*e*		00 16 20.6	
	comp=Z,3μm,0.1s						
IGLO	**Ghaloghah**	**4.68**	**140**	*e*Pn	**Pn**	**00 15 26.8**	**-0.3**
IRAZ	**Razeghan**	**4.77**	**182**	*e*Pn	**Pn**	**00 15 27.4**	**-0.9**
IRAZ				*e*		00 16 34.2	
	comp=Z,1μm,0.3s						
IRAZ	**Razeghan**	**4.77**	**182**	*e*Pn	**Pn**	**00 15 27.4**	**-0.9**
IFIR	**Firoozkooh**	**4.98**	**155**	*e*Pn	**Pn**	**00 15 31.9**	**+0.7**
IFIR				*e*		00 16 30.9	
	comp=Z,2μm,0.1s						
IFIR	**Firoozkooh**	**4.98**	**155**	*e*Pn	**Pn**	**00 15 31.9**	**+0.7**
ISHM	**Shahmirzad**	**5.02**	**149**	*e*Pn	**Pn**	**00 15 32.1**	**+0.2**
ISHM				*e*		00 16 29.6	
	comp=Z,5μm,0.1s						
ISHM	**Shahmirzad**	**5.02**	**149**	*e*Pn	**Pn**	**00 15 32.1**	**+0.2**
ILAS	**Lasjerd**	**5.28**	**154**	*e*Pn	**Pn**	**00 15 36.7**	**+1.3**
ILAS				*e*		00 16 40.1	
	comp=Z,920nm,0.1s						
ILAS	**Lasjerd**	**5.28**	**154**	*e*Pn	**Pn**	**00 15 36.7**	**+1.3**
ZEI	**Tsey**	**5.35**	**301**	*e*P	Px	00 15 49.6	
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.6s						
IANJ	**Anjilo**	**5.57**	**146**	*e*Pn	**Pn**	**00 15 39.4**	**0.0**
IANJ				*e*		00 16 50.5	
	comp=Z,675nm,0.2s						
IANJ	**Anjilo**	**5.57**	**146**	*e*Pn	**Pn**	**00 15 39.4**	**0.0**
ONI	**Oni**	**5.58**	**298**	P	**Pn**	**00 15 39.7**	**+0.3**
ISFB	**Sefidab**	**6.05**	**163**	*e*Pn	**Pn**	**00 15 46.3**	**+0.4**
ISFB				*e*		00 16 41.2	
	comp=Z,195nm,0.2s						
ISFB	**Sefidab**	**6.05**	**163**	*e*Pn	**Pn**	**00 15 46.3**	**+0.4**
KIV	**Kislovodsk**	**6.71**	**307**	*e*P	**Pn**	**00 15 55.0**	**+0.2**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KIV	**Kislovodsk**	**6.71**	**307**	*e*P	**Pn**	**00 15 55.0**	**+0.2**
	comp=Z,7.0nm,1.0s						
IKLH	**Kolahrood**	**6.94**	**170**	*e*Pn	**Pn**	**00 15 58.9**	**+0.8**
IKLH				*e*		00 16 20.3	
	comp=Z,105nm,0.3s						
IKLH	**Kolahrood**	**6.94**	**170**	*e*Pn	**Pn**	**00 15 58.9**	**+0.8**
AB31	**Akbulak array**	**11.44**	**34**	⇑P	**Pn**	**00 16 56.8**	**-2.7**
	comp=Z,0.8nm,0.5s,baz=232,slow=13,SNR=25						
AB31				⇑S	**Sn**	**00 18 59.0**	**-6.5**
	comp=Z,4.8nm,0.8s,baz=234,slow=27						
ABKAR	**Akbulak array**	**11.44**	**34**	*e*Pn	**Pn**	**00 16 56.8**	**-2.7**
	comp=Z,2.1nm,0.6s						
ABKAR				*e*Sn	**Sn**	**00 18 58.5**	**-7.0**
AKTK	**Aktyubinsk**	**11.65**	**26**	Pn	**Pn**	**00 17 00.2**	**-2.2**
AKTK				Sn	**Sn**	**00 19 02.1**	**-8.6**
AKTO	**Aktyubinsk**	**11.65**	**26**	⇑P	**Pn**	**00 16 59.8**	**-2.6**
	comp=Z,0.6nm,0.6s						
AKTO				⇑S	**Sn**	**00 19 02.9**	**-7.8**
	comp=Z,1.0nm,0.6s						
AKTO	**Aktyubinsk**	**11.65**	**26**	Pn	**Pn**	**00 17 00.2**	**-2.2**
	comp=Z,1.3nm,0.3s,baz=210,slow=11,SNR=19						
AKTO				Sn	**Sn**	**00 19 02.1**	**-8.6**
	comp=Z,0.7nm,0.3s,baz=294,slow=20,SNR=7.5						
AKTO	**Aktyubinsk**	**11.65**	**26**	P	**Pn**	**00 17 00.2**	**-2.2**
AKTO						00 19 02.1	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				smax			
	comp=N,1.0nm,0.3s						
KKAR	**Karatay Array**	**15.51**	**72**	*e*Pn	**Pn**	**00 17 53.5**	**-0.4**
	comp=N,4.0nm,0.4s						
KKAR	**Karatay Array**	**15.51**	**72**	*e*P	**Pn**	**00 17 53.5**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KKAR	**Karatay Array**	**15.51**	**72**	*e*Pn	**Pn**	**00 17 53.5**	**-0.3**
	comp=Z,4.0nm,0.4s						
ARU	**Arti**	**17.18**	**16**	*d* iP	**Pn**	**00 18 10.6**	**-4.0**
ARU				S	**S**	**00 21 11.8**	**-19**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.9s						
OBN	**Obninsk**	**17.47**	**333**	⇑*e*P	**Pn**	**00 18 15.7**	**-2.5**
OBN				pmax	pmax		
	comp=Z,10.0nm,1.5s						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s						
EKS2	**Erkin-Say**	**17.89**	**74**	*e*P	**Pn**	**00 18 24.1**	**+0.6**
	comp=Z,4.1nm,0.6s						
EKS2	**Erkin-Say**	**17.89**	**74**	*e*P	**Pn**	**00 18 24.1**	**+0.6**
EKS2				pmax	pmax		
	comp=Z,4.0nm,0.6s						
EKS2	**Erkin-Say**	**17.89**	**74**	*e*P	**Pn**	**00 18 24.1**	**+0.6**
	comp=Z,4.1nm,0.6s						
AKASG	**Malin Array Be**	**18.00**	**313**	P	**Pn**	**00 18 23.9**	**-0.7**
	comp=Z,1.4nm,0.3s,baz=121,slow=11,SNR=5.5						
AKASG	**Malin Array Be**	**18.00**	**313**	P	**Pn**	**00 18 23.9**	**-0.7**
AKASG	**Malin Array Be**	**18.00**	**313**	P	**Pn**	**00 18 24.0**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	**Malin Array Be**	**18.00**	**313**	P	**Pn**	**00 18 24.0**	**-0.7**
	comp=Z,1.0nm,0.3s						
BRVK	**Borovoye**	**18.82**	**40**	*e*P	**Pn**	**00 18 34.5**	**-0.1**
	comp=Z,5.1nm,0.6s						
BRVK	**Borovoye**	**18.82**	**40**	⇓*e*P	**Pn**	**00 18 34.9**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BRVK	**Borovoye**	**18.82**	**40**	*e*P	**Pn**	**00 18 34.5**	**-0.1**
	comp=Z,5.1nm,0.6s						
BVA0	**Borovoye Array**	**18.86**	**40**	P	**Pn**	**00 18 34.9**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=231,slow=7.7,SNR=41						
BVAR	**Borovoye Array**	**18.86**	**40**	P	**Pn**	**00 18 34.9**	**-0.1**
	comp=Z,1.2nm,0.7s,SNR=41						
VOSK	**Vostochnaya**	**18.98**	**42**	⇓P	**Pn**	**00 18 36.2**	**-0.4**
	comp=Z,5.9nm,0.8s						
VOSK	**Vostochnaya**	**18.98**	**42**	P	**Pn**	**00 18 36.2**	**-0.4**
	comp=Z,5.9nm,0.8s						
TKM2	**Tokmak 2**	**19.23**	**73**	⇓P	**Pn**	**00 18 40.4**	**+0.8**
	comp=Z,7.2nm,0.7s						
TKM2	**Tokmak 2**	**19.23**	**73**	*e*P	**Pn**	**00 18 38.8**	**-0.8**
	comp=Z,13nm,1.0s						
TKM2	**Tokmak 2**	**19.23**	**73**	*e*P	**Pn**	**00 18 38.8**	**-0.8**
TKM2				pmax	pmax		
	comp=Z,13nm,1.0s						
TKM2	**Tokmak 2**	**19.23**	**73**	*e*P	**Pn**	**00 18 38.8**	**-0.8**
	comp=Z,13nm,1.0s						
BURAR	**Bucovina Array**	**19.38**	**301**	⇓*i* P	**Pn**	**00 18 39.7**	**-1.6**
BURAR	**Bucovina Array**	**19.38**	**301**	⇓*i* P	**Pn**	**00 18 39.7**	**-1.6**
BUR08	**Bucovina Ar. S**	**19.40**	**301**	*e*P	**Pn**	**00 18 39.6**	**-2.0**
BUR08	**Bucovina Ar. S**	**19.40**	**301**	*e*P	**Pn**	**00 18 39.6**	**-1.9**
DRGR		**20.90**	**298**	⇑*i* P	**P**	**00 18 56.7**	**+0.5**
DRGR		**20.90**	**298**	⇑*i* P	**P**	**00 18 56.7**	**+0.5**
KWP	**Kalwaria Pacla**	**21.50**	**305**	⇑*i* P	**P**	**00 19 06.4**	**+3.9**
BZS	**Buzias**	**21.53**	**294**	⇓*i* P	**P**	**00 19 02.3**	**-0.6**
BZS	**Buzias**	**21.53**	**294**	⇓*i* P	**P**	**00 19 02.3**	**-0.6**
KLMR	**Klimovskoe**	**21.72**	**346**	*e*P	**P**	**00 19 02.9**	**-1.9**
KLMR				pmax	pmax		
	comp=Z,29nm,1.8s,mb4.4						
KURK	**Kurchatov**	**22.46**	**53**	⇓P	**P**	**00 19 14.5**	**+1.9**
	comp=Z,5.4nm,1.0s,mb3.9						
KURK	**Kurchatov**	**22.46**	**53**	P	**P**	**00 19 13.8**	**+1.1**
	comp=Z,3.0nm,0.8s,mb3.8,baz=257,slow=10,SNR=20						
KURK				LR	LR	00 29 54.3	
	comp=Z,33nm,18.6s,baz=150,slow=42						
KURK	**Kurchatov**	**22.46**	**53**	P	**P**	**00 19 13.8**	**+1.1**
KURK				LR	LR	00 29 54.3	
KURK	**Kurchatov**	**22.46**	**53**	*d* iP	**P**	**00 19 15.2**	**+2.5**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.9						
KURK	**Kurchatov**	**22.46**	**53**	P	**P**	**00 19 13.8**	**+1.1**
MK31	**Makanchi Array**	**24.13**	**63**	P	**P**	**00 19 31.2**	**+2.3**
	comp=Z,0.6nm,0.5s,mb3.3,baz=247,slow=14,SNR=22						
MK31	**Makanchi Array**	**24.13**	**63**	*e*P	**P**	**00 19 30.0**	**+1.0**
MK31	**Makanchi Array**	**24.13**	**63**	*e*P	**P**	**00 19 30.0**	**+1.0**
MK31	**Makanchi Array**	**24.13**	**63**	*e*P	**P**	**00 19 30.0**	**+1.0**
MKAR	**Makanchi Array**	**24.13**	**63**	P	**P**	**00 19 31.2**	**+2.3**
	comp=Z,1.1nm,0.5s,mb3.5,baz=260,slow=8.3,SNR=29						
MKAR	**Makanchi Array**	**24.13**	**63**	P	**P**	**00 19 31.2**	**+2.3**
MKAR	**Makanchi Array**	**24.13**	**63**	P	**P**	**00 19 31.3**	**+2.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**24.13**	**63**	P	**P**	**00 19 31.2**	**+2.2**
JOF	**Joensuu**	**25.41**	**340**	*e*P	**P**	**00 19 41.6**	**+1.2**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.7						
JOF	**Joensuu**	**25.41**	**340**	*e*p	**P**	**00 19 41.6**	**+1.2**
	comp=Z,1.4nm,0.4s,mb3.8						
JOF	**Joensuu**	**25.41**	**340**	*e*P	**P**	**00 19 41.6**	**+1.2**
	comp=Z,1.0nm,0.4s,mb3.7						
FINES	**FINESS Array B**	**25.88**	**333**	P	**P**	**00 19 46.7**	**+2.1**
	comp=Z,2.9nm,0.9s,mb3.8,baz=158,slow=6.2,SNR=5.5						
FINES	**FINESS Array B**	**25.88**	**333**	P	**P**	**00 19 46.7**	**+2.1**
FINES	**FINESS Array B**	**25.88**	**333**	P	**P**	**00 19 46.7**	**+2.1**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	**FINESS Array B**	**25.88**	**333**	P	**P**	**00 19 46.7**	**+2.1**
	comp=Z,3.0nm,0.9s,mb3.8						
KAF	**Kangasniemi**	**26.27**	**335**	*e*P	**P**	**00 19 43.3**	**-4.9**
KAF	**Kangasniemi**	**26.27**	**335**	*e*p	**P**	**00 19 43.3**	**-4.9**
ZALV	**Zalesovo Beam**	**27.03**	**48**	P	**P**	**00 19 57.2**	**+2.1**
	comp=Z,0.6nm,0.5s,mb3.4,baz=251,slow=9.2,SNR=4.5						
ZALV	**Zalesovo Beam**	**27.03**	**48**	P	**P**	**00 19 57.2**	**+2.1**
ZALV	**Zalesovo Beam**	**27.03**	**48**	*e*P	**P**	**00 20 00.4**	**+5.3**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.6						
ZALV	**Zalesovo Beam**	**27.03**	**48**	P	**P**	**00 19 57.2**	**+2.1**
GERES	**GERESS Array B**	**27.17**	**301**	P	**P**	**00 19 57.8**	**+1.3**
	comp=Z,0.3nm,0.6s,mb3.0,baz=110,slow=12,SNR=3.5						
GERES	**GERESS Array B**	**27.17**	**301**	P	**P**	**00 19 57.8**	**+1.3**
GERES	**GERESS Array B**	**27.17**	**301**	P	**P**	**00 19 57.8**	**+1.3**
GERES	**GERESS Array B**	**27.17**	**301**	P	**P**	**00 19 57.8**	**+1.3**
CLL	**Collm**	**27.91**	**306**	*e*P	**P**	**00 20 05.0**	**+1.9**
CLL	**Collm**	**27.91**	**306**	*e*P	**P**	**00 20 05.0**	**+1.9**
CLL	**Collm**	**27.91**	**306**	*e*P	**P**	**00 20 05.0**	**+1.9**
KEV	**Kevo**	**32.04**	**345**	P	**P**	**00 20 40.8**	**+1.5**
KEV	**Kevo**	**32.04**	**345**	P	**P**	**00 20 40.8**	**+1.5**
KEV	**Kevo**	**32.04**	**345**	P	**P**	**00 20 40.8**	**+1.5**
ARE0	**ARCESS Array S**	**32.17**	**344**	P	**P**	**00 20 37.8**	**-2.7**
ESDC	**Sonseca Array**	**40.94**	**287**	P	**P**	**00 21 55.8**	**+0.4**
	comp=Z,0.3nm,0.4s,mb3.3,baz=65,slow=8.3,SNR=5.5						
ESDC	**Sonseca Array**	**40.94**	**287**	P	**P**	**00 21 55.8**	**+0.4**
ESDC	**Sonseca Array**	**40.94**	**287**	P	**P**	**00 21 55.8**	**+0.4**
TORD	**Torodi Ar. Bea**	**50.18**	**252**	P	**P**	**00 23 08.8**	**+0.2**
	comp=Z,0.5nm,0.4s,mb3.9,baz=33,slow=7.6,SNR=18						
TORD	**Torodi Ar. Bea**	**50.18**	**252**	P	**P**	**00 23 08.8**	**+0.2**
TORD	**Torodi Ar. Bea**	**50.18**	**252**	P	**P**	**00 23 08.8**	**+0.2**
DBIC	**Dimbokro**	**59.28**	**251**	P	**P**	**00 24 15.3**	**+0.8**
	comp=Z,1.9nm,0.4s,mb4.5,baz=338,slow=6.7,SNR=15						
DBIC	**Dimbokro**	**59.28**	**251**	P	**P**	**00 24 15.3**	**+0.8**
DBIC	**Dimbokro**	**59.28**	**251**	P	**P**	**00 24 15.3**	**+0.8**
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.4s						
DBIC	**Dimbokro**	**59.28**	**251**	P	**P**	**00 24 15.3**	**+0.8**
	comp=Z,2.0nm,0.4s,mb4.5						

DDA **12** *00:16:12.8,39.˚12N×40.˚39E,h7km±6km,Md2.8*
ISCJB **12** *00:16:13.4±0.6,39.˚10N±0.˚03×40.˚38E±0.˚03,h4km±6km, Error ellipse: s-maj=5.8km s-min=4.1km az=13.3*
CSEM **12** *00:16:13.4±0.2,39.˚08N×40.˚38E,h2km,MD2.7,Error ellipse: s-maj=5.7km s-min=4.6km az=158.0*
ISK **12** *00:16:13.4,39.˚05N×40.˚35E,h12km,MD2.7*
ISC 12 00:16:13.7±0.5,39.˚09N±0.˚03×40.˚38E±0.˚03,h2km±8km, n15,σ0≒81/29,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.23**	**158**	*e*PG	**Pg**	**00 16 18.5**	**+0.4**
BINT				*e*SG	**Sg**	**00 16 21.6**	**+0.5**
BINT	**Bingol**	**0.23**	**158**	*e*Pg	**Pg**	**00 16 18.5**	**+0.4**
BINT				*e*Sg	**Sg**	**00 16 21.6**	**+0.5**
BNGL	**BINGOL**	**0.62**	**103**	*i* P	**Pg**	**00 16 24.7**	**-0.7**
BNGL				*i* S	**Sg**	**00 16 34.6**	**+1.1**
PTK	**Pertek**	**0.80**	**256**	*e*PG	**Pg**	**00 16 28.0**	**-0.9**
PTK				*e*SG	**Sg**	**00 16 39.8**	**+0.6**
PTK	**Pertek**	**0.80**	**256**	*e*Pg	**Pg**	**00 16 28.0**	**-0.9**
PTK				*e*Sg	**Sg**	**00 16 39.8**	**+0.6**
EZC	**Erzincan**	**1.03**	**310**	*e*PG	**Pg**	**00 16 34.0**	**+0.5**
EZC				*e*SG	**Sg**	**00 16 48.7**	**+1.9**
EZC	**Erzincan**	**1.03**	**310**	*e*Pg	**Pg**	**00 16 34.0**	**+0.5**
EZC				*e*Sg	**Sg**	**00 16 48.7**	**+1.8**
EZM	**Erzurum**	**1.11**	**43**	*e*PN	**Pn**	**00 16 36.1**	**-0.1**
ERZM	**Erzurum**	**1.11**	**43**	*i* P	**Pg**	**00 16 34.9**	**-0.1**
ERZM				*i* S	**Sg**	**00 16 48.1**	**-1.4**
ERZM	**Erzurum**	**1.11**	**43**	*i* P	**Pg**	**00 16 34.9**	**-0.1**
ERZM				*i* S	**Sg**	**00 16 48.1**	**-1.4**
ELZG	**Elazig**	**1.24**	**242**	*i* P	**Pg**	**00 16 36.6**	**-0.9**
ELZG				*i* S	**Sg**	**00 16 52.2**	**-1.3**
ELZG	**Elazig**	**1.24**	**242**	*i* P	**Pg**	**00 16 36.6**	**-0.8**
ELZG				*i* S	**Sg**	**00 16 52.2**	**-1.3**
BEST	**Besiri**	**1.39**	**149**	*i* P	**Pn**	**00 16 40.3**	**+0.4**
BEST				*i* S	**Sg**	**00 16 58.3**	**+0.1**
KEMA	**Kemaliye**	**1.48**	**277**	*i* P	**Pn**	**00 16 41.1**	**-0.1**
KEMA				*i* S	**Sb**	**00 17 01.1**	**+0.1**
KEMA	**Kemaliye**	**1.48**	**277**	*i* P	**Pn**	**00 16 41.1**	**-0.1**
KEMA				*i* S	**Sb**	**00 17 01.1**	**+0.1**

ISCJB **12** *00:22:03.4±0.2,7.˚54S±0.˚03×74.˚50W±0.˚04,h152km, mb4.7/125,Error ellipse: s-maj=5.6km s-min=4.3km az=142.6*
IDC **12** *00:22:04.0±0.6,7.˚60S×74.˚55W,h146km±5km,mb4.3/20, mb1 4.5/23,mb1mx4.4/27,mbtmp4.3/23,MS3.1/1, Ms1 3.2/1,ms1mx2.5/28,Error ellipse: s-maj=10.4km s-min=8.6km az=58.0*
NEIC **12** *00:22:05.0±0.2,7.˚55S×74.˚39W,mb4.9/102,Error ellipse: s-maj=5.8km s-min=3.8km az=70.0*
NEIC Felt at Pucallpa.
BJI **12** *00:22:05.4,6.˚91S×74.˚28W,h155km,mB5.0/7*
ISC 12 00:22:05.6±0.2,7.˚51S±0.˚03×74.˚37W±0.˚04,h154km, h154km±1.8km;pP-P,n606,σ0≒54/570,mb4.7/125, 204C-170D,Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**4.01**	**275**	P	**Pn**	**00 23 02.6**	**-3.5**
	115nm,0.3s,baz=98,slow=5.8,SNR=1437						
ATAH				S	**Sn**	**00 23 47.1**	**-6.1**
	106nm,0.3s,baz=218,slow=24,SNR=4.6						
NNA	**Nana**	**5.08**	**209**	P	**Pn**	**00 23 17.6**	**-2.5**
	31nm,0.3s,baz=18,slow=7.3,SNR=110						
NNA				S	**Sn**	**00 24 11.1**	**-7.2**
	158nm,0.3s,baz=195,slow=16,SNR=13						
NNA	**Nana**	**5.08**	**209**	P	**Pn**	**00 23 17.6**	**-2.4**
NNA				S	**Sn**	**00 24 11.1**	**-7.2**
OTAV	**Otavalo**	**8.70**	**332**	*e*Pn	**Pn**	**00 24 07.8**	**-0.6**
OTAV				Sn	Sn	00 25 22.4	-23
LPAZ	**La Paz**	**10.65**	**146**	P	**Pn**	**00 24 32.6**	**-1.4**
	2.1nm,0.3s,baz=325,slow=11,SNR=65						
LPAZ				LR	LR	00 29 03.5	
	comp=Z,98nm,19.1s,baz=319,slow=39						
LPAZ	**La Paz**	**10.65**	**146**	*e*Pn	**Pn**	**00 24 33.0**	**-1.1**
LPAZ				*e*Sn	**Sn**	**00 26 33.2**	**+1.3**
ROSC	**El Rosal**	**12.28**	**0**	*e*Pn	**Pn**	**00 24 56.2**	**+0.7**
ROSC		

MVL	Millersville 23nm,0.9s,mb4.8	47.30	358	eP	P	00 30 24.4	+0.9
426A	McDonald Obser baz=48,SNR=21	47.43	325	⇑P	P	00 30 24.7	0.0
327A	Balmorhea Ranc baz=48	47.65	326	⇓P	P	00 30 26.6	+0.3
TUL1	Tulsa baz=48,SNR=11	47.66	336	⇓P	P	00 30 25.7	-0.6
BLO	Bloomington 22nm,0.6s,mb5.0	47.79	347	eP	P	00 30 26.0	-1.3
326A	Caldwell Ranch baz=48	47.88	325	⇑P	P	00 30 28.1	-0.1
WMOK	Wichita Mounta 9.6nm,1.0s,mb4.4	47.94	333	eP	P	00 30 28.2	-0.3
CCM	Cathedral Cave 8.0nm,0.6s,mb4.5	47.98	342	eP	P	00 30 26.8	-2.0
SSPA	Standing Stone 32nm,1.2s,mb4.8	48.01	356	eP	P	00 30 29.4	+0.4
227A	Bennet, Jal baz=48,SNR=8.7	48.02	326	⇑P	P	00 30 29.3	0.0
425A	Indio Mountain baz=48,SNR=32	48.07	324	⇓P	P	00 30 29.3	-0.3
325A	Bean Ranch, Si baz=49,SNR=12	48.49	324	⇓P	P	00 30 32.4	-0.4
127A	Arkansas Junct baz=49,SNR=5.6	48.57	327	⇓P	P	00 30 33.0	-0.4
324A	Moseley Ranch, baz=49,SNR=22	48.84	324	⇑P	P	00 30 34.7	-0.8
126A	Clayton Basin, baz=49,SNR=14	48.91	326	⇓P	P	00 30 36.1	+0.1
Z27A	Tatum baz=49,SNR=17	48.98	328	⇑P	P	00 30 35.9	-0.6
SFIN	Scholer Farm baz=49,SNR=11	49.07	347	⇓P	P	00 30 35.1	-2.0
ALLY	Alegheny Colle 29nm,0.8s,mb5.0	49.20	354	eP	P	00 30 38.1	+0.1
MSTX	Muleshoe baz=49,SNR=9.5	49.26	329	⇓P	P	00 30 38.1	-0.5
125A	Gardner Draw, baz=49,SNR=26	49.27	326	⇑P	P	00 30 38.6	-0.1
224A	Cornudas Mount baz=49	49.32	325	⇑P	P	00 30 38.7	-0.5
Z26A	Caprock baz=50,SNR=30	49.36	327	⇓P	P	00 30 39.2	-0.2
Y27A	Causey baz=50,SNR=12	49.39	328	⇓P	P	00 30 39.1	-0.5
AMTX	Amarillo baz=50,SNR=6.8	49.43	330	⇑P	P	00 30 39.2	-0.7
AMTX	Amarillo 23nm,1.3s,mb4.7	49.43	330	eP	P	00 30 39.4	-0.5
BINY	Binghamton 46nm,0.8s,mb5.2	49.49	358	eP	P	00 30 41.1	+1.0
HDIL	Hopedale	49.76	345	eP	P	00 30 40.5	-1.8
Z25A	Roswell baz=50	49.77	326	⇓P	P	00 30 42.5	0.0
Y26A	Elida baz=50,SNR=7.4	49.77	328	⇓P	P	00 30 41.8	-0.7
X27A	F and S Farms, baz=50,SNR=8.9	49.95	329	⇓P	P	00 30 43.6	-0.2
123A	Bell Site, Whi baz=50	50.16	325	⇑P	P	00 30 45.2	-0.2
Z24A	Sheeppen Canyo baz=50,SNR=26	50.16	326	⇑P	P	00 30 45.5	0.0
Y25A	Mesa, Roswell baz=50,SNR=8.4	50.24	327	⇓P	P	00 30 45.6	-0.4
X26A	CR and CF Fran baz=50,SNR=14	50.25	328	⇓P	P	00 30 45.8	-0.3
W27A	Bowe Ranch, En baz=50,SNR=14	50.26	329	⇓P	P	00 30 45.9	-0.3
222A	Williams Famil baz=50,SNR=13	50.27	323	⇓P	P	00 30 46.6	+0.4
320A	Kipp Ranch, An baz=51,SNR=5.8	50.59	322	⇑P	P	00 30 49.0	+0.3
Z23A	Rita Site, Whi baz=51,SNR=11	50.60	325	⇑P	P	00 30 48.9	+0.2
Y24A	Capitan baz=51,SNR=15	50.65	326	⇑P	P	00 30 48.7	-0.3
KSU1	Kansas State U 23nm,0.8s,mb4.9	50.76	338	eP	P	00 30 48.8	-1.0
121A	Cookes Peak, D baz=51,SNR=15	50.98	323	⇓P	P	00 30 52.1	+0.6
220A	Playas Peak, P baz=51,SNR=21	50.98	322	⇑P	P	00 30 51.9	+0.2
Y23A	Lovelace Mesa, baz=51,SNR=20	50.99	326	⇑P	P	00 30 51.7	0.0
Z22A	Elephant Butte baz=51,SNR=14	51.01	324	⇑P	P	00 30 52.1	+0.2
319A	Douglas baz=51,SNR=9.0	51.08	321	⇓P	P	00 30 52.7	+0.3
W25A	X Bar L Ranch, baz=51,SNR=12	51.10	328	⇓P	P	00 30 52.1	-0.3
X24A	Lazy VL Ranch, baz=51,SNR=20	51.12	327	⇑P	P	00 30 52.5	-0.1
V26A	Tequesquite Ra baz=51,SNR=19	51.20	329	⇑P	P	00 30 53.0	-0.2
Z21A	St. Cloud Mine baz=52,SNR=17	51.46	324	⇑P	P	00 30 55.8	+0.6
120A	U Bar Ranch, L baz=52,SNR=10	51.49	323	⇑P	P	00 30 55.7	+0.3
219A	White Tail Can baz=52,SNR=18	51.49	322	⇓P	P	00 30 55.4	0.0
Y22A	Socorro baz=52,SNR=6.6	51.51	325	⇑P	P	00 30 55.5	0.0
X23A	Hourglass Bar baz=52,SNR=21	51.55	326	⇑P	P	00 30 55.8	0.0
318A	Bisbee baz=52,SNR=12	51.57	321	⇑P	P	00 30 56.0	0.0
LPM	Los Pinos Moun	51.60	326	eP	P	00 30 56.6	+0.4
W24A	Lazy 6 Ranch, baz=52,SNR=13	51.60	327	⇑P	P	00 30 56.0	-0.2
U26A	Atchley Ranch, baz=52,SNR=14	51.65	330	⇓P	P	00 30 56.3	-0.2
CBKS	Cedar Bluff baz=52	51.76	335	⇑P	P	00 30 57.3	0.0
CBKS	Cedar Bluff 32nm,1.1s,mb4.9	51.76	335	eP	P	00 30 57.5	+0.2
Z20A	Nine Sixteen R baz=52,SNR=18	51.87	323	⇑P	P	00 30 58.7	+0.6
LONY	Lake Ozonia 16nm,0.9s,mb4.7	51.88	360	eP	P	00 30 58.5	+0.4
V24A	Rampart Ranch, baz=52,SNR=26	51.92	328	⇓P	P	00 30 58.3	-0.2
W23A	Werner Place, baz=52,SNR=6.2	51.96	327	⇑P	P	00 30 59.0	+0.2
218A	Dragoon baz=52,SNR=12	51.97	321	⇓P	P	00 30 59.0	0.0
Y21A	Point of Rocks baz=52,SNR=19	51.97	325	⇑P	P	00 30 59.8	+0.8
ANMO	Albuquerque 17nm,1.0s,mb4.6	51.97	326	eP	P	00 30 59.0	0.0
U25A	Circle Dot Ran baz=52,SNR=12	51.99	329	⇑P	P	00 30 58.9	-0.1
119A	Ashpeak Ranch, baz=52,SNR=8.4	52.05	322	⇑P	P	00 30 59.4	-0.1
FRNY	Flat Rock 139nm,2.3s,mb5.2	52.10	1	eP	P	00 31 00.3	+0.6
SCIA	State Center 18nm,0.6s,mb4.9	52.11	342	eP	P	00 30 58.5	-1.3
JFWS	Jewell Farm 20nm,0.6s,mb4.9	52.22	345	eP	P	00 30 58.9	-1.8
W22A	Albuquerque baz=52	52.29	326	⇓P	P	00 31 01.4	+0.1
Y20A	Horse Springs, baz=52,SNR=19	52.30	324	⇑P	P	00 31 01.8	+0.4
217A	Green Valley baz=52,SNR=9.1	52.32	320	⇓P	P	00 31 01.4	-0.2
X21A	Alamocita Cree baz=52,SNR=30	52.34	325	⇑P	P	00 31 02.3	+0.6
118A	Homack Ranch, baz=52,SNR=16	52.37	322	⇑P	P	00 31 02.0	+0.1
Z19A	T-Link Ranch, baz=52	52.39	323	⇓P	P	00 31 02.4	+0.3
V23A	Ortiz Mt. (NFS baz=52,SNR=6.4	52.41	327	⇓P	P	00 31 02.7	+0.5
U24A	Moreno Valley baz=53	52.44	328	⇑P	P	00 31 02.7	+0.3
T25A	Trinidad baz=53,SNR=13	52.56	330	⇓P	P	00 31 03.4	+0.2
TUC	Tucson 6.4nm,0.7s,mb4.5	52.65	321	eP	P	00 31 03.7	-0.3
W21A	San Fidel baz=53,SNR=12	52.75	326	⇑P	P	00 31 05.2	+0.5
117A	Oracle baz=53	52.80	321	⇑P	P	00 31 05.1	0.0
X20A	Quemado baz=53,SNR=13	52.82	324	⇓P	P	00 31 05.6	+0.4
T24A	Torres, Weston baz=53,SNR=7.7	52.84	329	⇑P	P	00 31 05.8	+0.6
Y19A	Nutrioso baz=53,SNR=10	52.85	323	⇓P	P	00 31 06.1	+0.7
U23A	El Rito baz=53,SNR=7.9	52.86	328	⇑P	P	00 31 05.7	+0.2
216A	Three Points, baz=53,SNR=5.3	52.87	320	⇓P	P	00 31 05.4	-0.2
V22A	San Miguel Ran baz=53,SNR=24	52.93	327	⇑P	P	00 31 06.3	+0.3
S25A	Robets Cordova baz=53,SNR=15	52.98	330	⇑P	P	00 31 06.4	+0.1
Z17A	San Carlos Hig baz=53	53.13	322	⇑P	P	00 31 07.4	-0.1
Y18A	Canyon Day Jun baz=53,SNR=9.4	53.19	323	⇓P	P	00 31 07.9	-0.1
X19A	St. Johns baz=53	53.20	324	⇓P	P	00 31 08.4	+0.4
W20A	Ramah baz=53,SNR=5.9	53.24	325	⇑P	P	00 31 08.6	+0.4
U22A	Llaves baz=53,SNR=9.7	53.25	327	⇓P	P	00 31 08.7	+0.4
V21A	Milan baz=53,SNR=6.9	53.25	326	⇓P	P	00 31 08.9	+0.6
T23A	Casias Ranch, baz=53	53.31	328	⇓P	P	00 31 09.0	+0.3
BGNE	Belgrade baz=54,SNR=6.7	53.34	338	⇑P	P	00 31 07.9	-1.0
S24A	Houchin Ranch, baz=54,SNR=9.6	53.35	330	⇓P	P	00 31 09.7	+0.6
116A	Eloy baz=54,SNR=5.2	53.40	320	⇑P	P	00 31 09.0	-0.5
SDCO	Great Sand Dun baz=54,SNR=33	53.58	329	⇑P	P	00 31 11.0	+0.3
SDCO	Great Sand Dun 18nm,0.9s,mb4.8	53.58	329	eP	P	00 31 11.0	+0.3
SDCO				epP	pP	00 31 46.9	+0.6
Y17A	Roosevelt baz=54,SNR=7.0	53.63	322	⇓P	P	00 31 11.1	0.0
X18A	Snowflake baz=54,SNR=9.7	53.66	323	⇓P	P	00 31 11.6	+0.2
V20A	Brimhall baz=54	53.71	326	⇓P	P	00 31 11.5	-0.2
214A	Organ Pipe Nat baz=54,SNR=9.9	53.72	319	⇓P	P	00 31 11.7	-0.1
U21A	Nageezi baz=54,SNR=8.3	53.72	327	⇑P	P	00 31 11.9	+0.2
Z16A	Peralta Trail, baz=54	53.74	321	⇓P	P	00 31 12.0	0.0
T22A	Edith baz=54,SNR=6.3	53.75	328	⇑P	P	00 31 12.3	+0.3
S23A	Nye Farm, Mont baz=54	53.80	329	⇓P	P	00 31 12.8	+0.5
Q25A	Bedland, Calha baz=54	53.88	331	⇑P	P	00 31 12.6	-0.2
W18A	Petrified Fore baz=54	53.95	324	⇓P	P	00 31 13.8	+0.3
V19A	Window Rock baz=54	53.97	325	⇓P	P	00 31 13.8	+0.2
X17A	Forest Lakes baz=54,SNR=6.2	54.04	323	⇑P	P	00 31 14.7	+0.6
Y16A	Circle Bar Ran baz=54,SNR=18	54.14	322	⇑P	P	00 31 15.1	+0.3
U20A	Newcomb baz=54,SNR=6.5	54.16	326	⇑P	P	00 31 14.8	-0.1
Z15A	Gila River Ind baz=54	54.17	321	⇓P	P	00 31 14.5	-0.5
S22A	4UR Ranch, Cre baz=54,SNR=16	54.26	328	⇓P	P	00 31 15.8	+0.2
114A	Black Gap (USA baz=54,SNR=5.7	54.27	320	⇑P	P	00 31 15.6	-0.2
P25A	Willow Gulch B baz=54,SNR=9.0	54.31	332	⇓P	P	00 31 16.1	+0.1
Q24A	Divide baz=54,SNR=6.2	54.35	331	⇑P	P	00 31 16.2	0.0
U19A	Dine' College, baz=55	54.48	325	⇓P	P	00 31 16.9	-0.4
X16A	Lo Mia Camp, P baz=55,SNR=18	54.48	322	⇓P	P	00 31 17.5	+0.2
W17A	Winslow baz=55	54.49	323	⇓P	P	00 31 17.4	0.0
OGNE	Ogallala baz=55	54.51	334	⇑P	P	00 31 17.5	+0.2
R22A	Saguache, Gunn baz=55,SNR=13	54.59	329	⇑P	P	00 31 18.2	+0.2
Q23A	Hartsel baz=55	54.64	330	⇑P	P	00 31 18.8	+0.5
P24A	Kohler Place, baz=55	54.66	331	⇑P	P	00 31 18.9	+0.4
S21A	Coal Bank Pass baz=55,SNR=9.8	54.70	328	⇓P	P	00 31 18.7	-0.1
Y15A	Casa Rosa Ranc baz=55,SNR=9.5	54.72	321	⇑P	P	00 31 18.8	-0.2
MVCO	Mesa Verde baz=55,SNR=5.9	54.75	327	⇓P	P	00 31 19.3	+0.1
MVCO	Mesa Verde 6.2nm,0.6s,mb4.5	54.75	327	eP	P	00 31 19.1	-0.1
T19A	Beclabito baz=55,SNR=7.2	54.76	326	⇓P	P	00 31 18.9	-0.4
ECSD	EROS Data Cent 8.1nm,0.7s,mb4.6	54.84	340	eP	P	00 31 18.4	-1.3
V17A	Tonalea, Kykot baz=55,SNR=18	54.92	324	⇑P	P	00 31 20.6	+0.2
U18A	Rough Rock, Ch baz=55,SNR=5.7	54.94	325	⇓P	P	00 31 20.6	0.0
W16A	Flagstaff baz=55,SNR=6.2	54.99	323	⇓P	P	00 31 21.4	+0.4
P23A	Jefferson baz=55,SNR=7.4	55.01	330	⇓P	P	00 31 21.6	+0.7
SPMN	St. Paul baz=55,SNR=11	55.04	344	⇑P	P	00 31 19.3	-1.8
R21A	Cimarron baz=55,SNR=7.9	55.10	328	⇑P	P	00 31 21.9	+0.2
Y14A	Wickenburg baz=55	55.12	321	⇑P	P	00 31 21.6	-0.3
S20A	Disappointment baz=55,SNR=18	55.13	327	⇓P	P	00 31 22.4	+0.5
Q22A	Crested Butte, baz=55	55.15	329	⇓P	P	00 31 22.4	+0.4
WUAZ	Wupatki baz=55,SNR=24	55.19	323	⇓P	P	00 31 22.7	+0.3
WUAZ	Wupatki 26nm,0.8s,mb5.0	55.19	323	eP	P	00 31 22.8	+0.4
O24A	Longmont baz=55	55.22	332	⇑P	P	00 31 22.5	0.0
ISCO	Idaho Springs baz=55,SNR=6.6	55.23	331	⇑P	P	00 31 22.7	+0.1
ISCO	Idaho Springs 5.5nm,0.9s,mb4.3	55.23	331	eP	P	00 31 23.1	+0.5
R20A	Redvale baz=56,SNR=15	55.41	328	⇓P	P	00 31 24.3	+0.5
SMCO	Snowmass 7.9nm,0.8s,mb4.5	55.42	329	eP	P	00 31 24.2	+0.3
T18A	Mexican Hat baz=56,SNR=26	55.46	326	⇓P	P	00 31 23.8	-0.5
Q21A	Lamborn Mesa, baz=56	55.47	329	⇑P	P	00 31 24.4	+0.2
PV01	Paradox Valley 2um,0.9s	55.47	327	eP	P	00 31 24.5	+0.2
U16A	Tuni City baz=56	55.48	324	⇓P	P	00 31 24.4	0.0
S19A	Harvey Farm, M baz=56,SNR=22	55.49	327	⇓P	P	00 31 24.3	-0.1
U17A	Shonto baz=56	55.52	325	⇓P	P	00 31 24.9	+0.2
P22A	Eagle baz=56,SNR=9.9	55.63	330	⇑P	P	00 31 25.7	+0.3
O23A	Lake Granby, G baz=56,SNR=13	55.69	331	⇑P	P	00 31 26.3	+0.4
GLA	Glamis baz=56	55.73	319	⇓P	P	00 31 26.0	-0.3
PV04	Paradox Valley	55.84	327	eP	P	00 31 27.2	+0.3
V15A	Kaibab Nationa baz=56,SNR=10	55.87	323	⇑P	P	00 31 27.8	+0.6
T17A	Navajo Res., N baz=56,SNR=16	55.88	325	⇑P	P	00 31 27.6	+0.4
S18A	Hurst Farm, Bl baz=56,SNR=22	55.92	326	⇓P	P	00 31 27.4	-0.1
P21A	Newcastle baz=56,SNR=11	55.92	329	⇓P	P	00 31 28.0	+0.5
Q20A	Ridgley Place, baz=56	55.93	328	⇑P	P	00 31 27.6	+0.1
R19A	Curley Farm, L baz=56,SNR=5.9	55.95	327	⇑P	P	00 31 27.5	-0.3
O22A	Kremmling baz=56,SNR=12	55.96	330	⇑P	P	00 31 27.6	-0.2
Y12C	Blythe baz=56	55.97	320	⇓P	P	00 31 27.9	0.0
PDMCI	Parker Dam,Lak baz=56	56.08	320	⇓P	P	00 31 28.5	-0.2
M24A	Cheyenne baz=56	56.17	333	⇑P	P	00 31 29.6	+0.4
N23A	Red Feather La baz=56,SNR=5.1	56.24	331	⇑P	P	00 31 30.0	+0.3
BRSD	Miller baz=56	56.27	339	⇑P	P	00 31 28.9	-1.0
T16A	Glen Canyon Da baz=56	56.27	324	⇑P	P	00 31 30.2	+0.1
S17A	Black Ridge (B baz=56,SNR=6.5	56.33	325	⇓P	P	00 31 30.5	+0.1
U15A	North Rim baz=56,SNR=15	56.35	323	⇑P	P	00 31 31.0	+0.4
R18A	Canyonlands Na baz=56,SNR=8.9	56.36	327	⇑P	P	00 31 30.1	-0.5
P20A	De Beque baz=56	56.38	329	⇑P	P	00 31 30.8	0.0
N22A	Wattenberg Ran baz=57	56.41	331	⇓P	P	00 31 31.3	+0.4
Q19A	Hogan Spring (baz=57,SNR=25	56.44	328	⇑P	P	00 31 31.2	0.0
O21A	Pagoda baz=57	56.45	330	⇓P	P	00 31 31.5	+0.3
BC3	Big Chuckawall baz=57,SNR=11	56.51	319	⇓P	P	00 31 31.8	0.0
M23A	Laramie baz=57,SNR=15	56.58	332	⇓P	P	00 31 32.4	+0.3
IRM	Iron Mountain baz=57,SNR=26	56.63	320	⇑P	P	00 31 32.7	0.0
L24A	Wheatland baz=57	56.68	333	⇓P	P	00 31 33.2	+0.4
NEE2	Needles Airpor baz=57	56.68	320	⇑P	P	00 31 32.7	-0.3
O20A	White River Ci baz=57,SNR=6.8	56.78	329	⇓P	P	00 31 33.6	0.0
P19A	Cripple Cowboy baz=57,SNR=7.8	56.79	328	⇑P	P	00 31 33.7	+0.1
R17A	Hanksville Air baz=57,SNR=16	56.83	326	⇑P	P	00 31 34.0	0.0
S16A	Weppner Ranch, baz=57,SNR=12	56.84	325	⇓P	P	00 31 34.1	0.0
U14A	Mt Trumbull baz=57,SNR=18	56.87	323	⇓P	P	00 31 34.8	+0.5
N21A	Black Mountain baz=57,SNR=9.0	56.89	330	⇓P	P	00 31 34.9	+0.5
M22A	Cedar Creek Ra baz=57	56.94	331	⇑P	P	00 31 34.8	+0.1
Q18A	Rafter H Ranch baz=57,SNR=12	57.01	327	⇑P	P	00 31 35.3	0.0
BELC	Belle Mtn. Jos baz=57,SNR=8.2	57.08	319	⇓P	P	00 31 35.8	0.0
L23A	Garrett baz=57,SNR=11	57.08	333	⇓P	P	00 31 35.6	0.0
PFO	Pinyon Flat Ob baz=57,SNR=5.3	57.14	318	⇓P	P	00 31 36.4	+0.2
PFO	Pinyon Flat Ob 8.7nm,0.9s,mb4.6	57.14	318	eP	P	00 31 36.3	+0.1
K24A	Anderson Ranch baz=57	57.17	334	⇑P	P	00 31 36.7	+0.4
R16A	Teasdale baz=57,SNR=7.4	57.17	326	⇓P	P	00 31 36.5	+0.2
LDFC	Landfair 18nm,0.8s,mb5.0	57.19	320	eP	P	00 31 37.3	+0.7
SRU	San Rafael baz=57,SNR=12	57.23	327	⇓P	P	00 31 36.6	-0.1
SRU	San Rafael 14nm,0.8s,mb4.9	57.23	327	eP	P	00 31 37.0	+0.3
S15A	Panguitch baz=57	57.25	324	⇓P	P	00 31 36.8	-0.1
EYMN	Ely 17nm,0.8s,mb4.9	57.25	346	eP	P	00 31 35.3	-1.4
N20A	Spence Gulch, baz=58,SNR=13	57.32	330	⇑P	P	00 31 37.5	+0.2
U13A	Pakoon Wash baz=58,SNR=6.9	57.34	322	⇑P	P	00 31 37.9	+0.2
GMRC	Granite Mounta baz=58,SNR=17	57.35	320	⇓P	P	00 31 37.7	0.0
O19A	Miners Draw (B baz=58,SNR=11	57.35	329	⇓P	P	00 31 37.7	+0.1
L22A	Ellis Ranch, M baz=58	57.35	332	⇑P	P	00 31 37.8	+0.2
Q16A	Castle Valley baz=58	57.44	326	⇑P	P	00 31 38.3	0.0
P18A	Preston Nutter baz=58,SNR=7.8	57.45	328	⇓P	P	00 31 38.5	+0.2
M21A	Separation Pea baz=58,SNR=7.0	57.47	331	⇑P	P	00 31 38.6	+0.3
R15A	Junction baz=58	57.56	325	⇓P	P	00 31 39.2	0.0
J24A	Dixon Ranch, L baz=58	57.59	334	⇓P	P	00 31 39.5	+0.3
P17A	Butcher Ranch, baz=58,SNR=6.2	57.60	327	⇓P	P	00 31 39.3	-0.1
MURC	Murrieta baz=58	57.63	318	⇑P	P	00 31 39.5	-0.2
MSU	Marysvale	57.72	325	eP	P	00 31 40.6	+0.4
TMUT	Trail Mountain 8.2nm,0.6s,mb4.7	57.73	327	eP	P	00 31 40.7	+0.4
CCUT	Cedar City 5.4nm,0.8s,mb4.4	57.74	324	eP	P	00 31 41.5	+1.1
L21A	Rawlins baz=58,SNR=8.4	57.74	331	⇓P	P	00 31 40.2	-0.1
M20A	Sweetwater, Wa baz=58,SNR=8.8	57.78	330	⇓P	P	00 31 40.7	+0.2
O18A	Roosevelt baz=58	57.79	328	⇑P	P	00 31 40.7	+0.1
HEC	Hector,Ludlow baz=58	57.81	319	⇑P	P	00 31 41.1	+0.2
N19A	John Jarvie Ra baz=58,SNR=13	57.82	329	⇓P	P	00 31 40.5	-0.3
K22A	Casper baz=58,SNR=8.1	57.88	332	⇑P	P	00 31 41.1	-0.1
TUQ	Turquoise Moun baz=58,SNR=5.2	57.93	320	⇑P	P	00 31 41.6	-0.1
RSSD	Black Hills 12nm,0.8s,mb4.8	57.96	335	eP	P	00 31 41.8	+0.1
I24A	Kuemmerle Ranc baz=58	58.00	335	⇑P	P	00 31 42.2	+0.1
O17A	Robinson Place baz=58,SNR=12	58.12	328	⇓P	P	00 31 43.3	+0.4
SHPR	Sheep Range	58.13	322	eP	P	00 31 43.4	+0.3
N18A	Larsen Ranch, baz=58,SNR=9.7	58.14	329	⇓P	P	00 31 42.7	-0.4
Q15A	Fillmore baz=58	58.17	326	⇓P	P	00 31 43.5	+0.2
P16A	Fountain Green baz=58	58.20	327	⇓P	P	00 31 43.7	+0.2
K21A	Alcova baz=58,SNR=12	58.20	332	⇑P	P	00 31 43.6	+0.1
L20A	Wamsutter baz=58	58.24	331	⇓P	P	00 31 44.2	+0.4
M19A	Rock Springs baz=58	58.27	330	⇑P	P	00 31 44.3	+0.4
BFSC	Mount Baldy Ra baz=58	58.32	318	⇓P	P	00 31 44.5	0.0
GSC	Goldstone baz=58,SNR=7.1	58.41	320	⇓P	P	00 31 45.1	+0.1
GSC	Goldstone 13nm,1.0s,mb4.7	58.41	320	eP	P	00 31 45.6	+0.5
FMP	Fort Macarthur baz=58	58.43	317	⇓P	P	00 31 45.4	+0.1
SHOC	Shoshone baz=58	58.44	320	⇑P	P	00 31 45.4	+0.1
J22A	Midwest baz=59,SNR=16	58.45	333	⇑P	P	00 31 45.0	-0.3
MPU	Maple Canyon 12nm,0.8s,mb4.8	58.47	327	eP	P	00 31 45.8	+0.4
R13A	O'Grain Ranch, baz=59,SNR=15	58.52	324	⇑P	P	00 31 46.6	+0.8
DAU	Daniels Canyon	58.55	328	eP	P	00 31 46.4	+0.5
Q14A	Sevier Lake (B baz=59,SNR=20	58.67	325	⇑P	P	00 31 47.4	+0.6
M18A	Lyman baz=59,SNR=9.6	58.67	329	⇓P	P	00 31 46.3	-0.4
NLU	North Lily Min 10.0nm,1.1s,mb4.6	58.67	327	eP	P	00 31 47.3	+0.6
H24A	Dirks Ranch, A baz=59,SNR=18	58.69	335	⇓P	P	00 31 46.3	-0.5
AGMN	Agassiz Nation 18nm,0.7s,mb5.0	58.70	343	eP	P	00 31 45.6	-1.2
N17A	Moffit Pass baz=59,SNR=12	58.71	328	⇓P	P	00 31 47.4	+0.4
K20A	Yellowstone Ra baz=59,SNR=5.2	58.74	331	⇓P	P	00 31 46.9	-0.3
L19A	Farson baz=59,SNR=10	58.81	330	⇑P	P	00 31 47.7	0.0
I22A	9 Mile Ranch, baz=59,SNR=16	58.84	333	⇑P	P	00 31 47.5	-0.3
J21A	Lysite	58.84	332	⇑P	P	00 31 47.9	0.0

baz=59,SNR=13
H23A **Clabaugh Cattl** 58.90 335 ⇓P P 00 31 48.3 +0.1
baz=59
EDW2 **Edwards Air Fo** 58.92 319 ⇓P P 00 31 48.2 -0.5
baz=59,SNR=5.6
P14A **Drum Mountains** 58.96 326 ⇑P P 00 31 49.5 +0.6
baz=59,SNR=20
N16A **Rees Ranch, Co** 58.99 328 ⇑P P 00 31 49.2 +0.3
baz=59,SNR=7.8
M17A **Scullys Gap (B** 59.01 329 ⇓P P 00 31 48.5 -0.5
baz=59,SNR=14
L18A **Fontenelle, Gr** 59.02 329 ⇓P P 00 31 48.9 -0.3
baz=59,SNR=13
LRMC **Laurel Mountai** 59.08 319 ⇑P P 00 31 49.5 -0.2
baz=59,SNR=6.8
K19A **Absolon Red Bu** 59.11 331 ⇓P P 00 31 49.2 -0.6
baz=59,SNR=10
O15A **The Old Anders** 59.11 327 ⇑P P 00 31 50.2 +0.4
baz=59,SNR=6.7
I21A **Big Trails, Te** 59.14 333 ⇓P P 00 31 49.3 -0.6
baz=59,SNR=10
J20A **Shoshoni** 59.15 332 ⇓P P 00 31 50.2 +0.2
baz=59,SNR=7.6
FURC **Furnace Creek,** 59.17 321 ⇓P P 00 31 50.2 -0.1
baz=59,SNR=7.4
NOQ **North Oquirrh** 59.19 327 *eP* P 00 31 50.9 +0.6
22nm,0.6s,mb5.2
DUG **Dugway** 59.24 326 ⇑P P 00 31 51.0 +0.3
baz=59,SNR=37
DUG **Dugway** 59.24 326 *eP* P 00 31 51.0 +0.3
24nm,0.8s,mb5.1
MPMC **Manual Prospec** 59.31 320 ⇑P P 00 31 50.9 -0.4
baz=59,SNR=13
H22A **Clearmont** 59.33 334 ⇓P P 00 31 51.1 -0.1
baz=60
M16A **Huntsville** 59.40 328 ⇓P P 00 31 51.4 -0.4
baz=60,SNR=13
PDAR **Pinedale Array** 59.41 330 P P 00 31 51.1 -0.7
4.2nm,0.6s,mb4.4,baz=124,slow=8.2,SNR=31
PDAR PcP PcP 00 32 37.1 -0.8
2.6nm,0.5s,baz=125,slow=6.8,SNR=12
PDAR **Pinedale Array** 59.41 330 P P 00 31 51.1 -0.7
PDAR PcP PcP 00 32 37.1 -0.8
BW06 **Boulder Array** 59.41 330 ⇑P P 00 31 51.3 -0.5
baz=60,SNR=10
BW06 **Boulder Array** 59.41 330 *eP* P 00 31 51.2 -0.6
7.7nm,0.9s,mb4.5
MDND **Maddock** 59.45 341 ⇑P P 00 31 51.7 -0.3
baz=60,SNR=9.2
BSC **Santa Cruz Isl** 59.50 317 ⇓P P 00 31 51.9 -0.7
baz=60
J19A **Crowheart** 59.54 331 ⇑P P 00 31 52.4 -0.3
baz=60,SNR=6.5
K18A **Toltan Ranch,** 59.55 330 ⇑P P 00 31 53.0 +0.2
baz=60,SNR=9.4
N15A **Stansbury Isla** 59.57 327 ⇑P P 00 31 52.7 -0.2
baz=60,SNR=8.7
HWUT **Hardware Ranch** 59.57 328 *eP* P 00 31 52.6 -0.3
31nm,0.7s,mb5.2
L17A **Cokeville** 59.57 329 ⇓P P 00 31 52.6 -0.3
baz=60
R11A **Troy Canyon, C** 59.59 323 ⇑P P 00 31 53.5 +0.4
baz=60,SNR=17
I20A **Worland** 59.62 332 ⇓P P 00 31 52.9 -0.3
baz=60,SNR=18
H21A **Big Horn, Sher** 59.66 333 ⇑P P 00 31 53.0 -0.5
baz=60
ISA **Isabella** 59.70 319 ⇑P P 00 31 53.9 -0.1
baz=60,SNR=5.1
ISA **Isabella** 59.70 319 *eP* P 00 31 54.1 +0.1
5.8nm,0.8s,mb4.5
L16A **Fish Haven** 59.80 329 ⇓P P 00 31 53.8 -0.6
baz=60,SNR=12
GRAC **Grapevine Rang** 59.82 321 ⇑P P 00 31 54.9 +0.1
baz=60,SNR=9.4
SPUT **South Promonto** 59.83 327 *eP* P 00 31 54.3 -0.4
20nm,0.9s,mb4.9
SPUT pP pP 00 32 30.6 -0.4
SPUT *e*PcP PcP 00 32 39.0 -0.6
BGU **Big Grassy Mou** 59.87 327 *eP* P 00 31 54.6 -0.4
10nm,0.8s,mb4.7
BGU *e*pP pP 00 32 31.4 +0.2
BGU *e*PcP PcP 00 32 39.6 -0.2
CWC **Cottonwood Cre** 59.92 320 ⇑P P 00 31 55.5 +0.1
baz=60,SNR=10
M15A **Larsen Ranch,** 59.93 328 ⇑P P 00 31 54.8 -0.6
baz=60,SNR=11
J18A **Kendall Valley** 59.97 331 ⇑P P 00 31 55.1 -0.5
baz=60,SNR=28
H20A **Greybull** 59.98 333 ⇓P P 00 31 55.0 -0.7
baz=60,SNR=10
K17A **Gardner Place,** 60.07 330 ⇑P P 00 31 55.7 -0.7
baz=60,SNR=8.1
I19A **Meeteetse** 60.09 332 ⇑P P 00 31 56.1 -0.3
baz=60
PKM **Peak Mountain** 60.14 318 ⇓P P 00 31 56.4 -0.6
baz=60
AHID **Auburn Hatcher** 60.17 329 *eP* P 00 31 57.0 -0.1
14nm,0.8s,mb4.8
G21A **Lodge Grass** 60.20 334 ⇓P P 00 31 56.5 -0.7
baz=60,SNR=7.1
VES **Vestal, Richgr** 60.21 319 ⇑P P 00 31 57.2 -0.2
baz=60
I18A **Diamond G Ranc** 60.23 331 ⇑P P 00 31 57.2 -0.2
baz=60,SNR=12
L15A **Malad City** 60.28 328 ⇓P P 00 31 57.3 -0.5
baz=60,SNR=29
HVU **Hansel Valley** 60.33 328 *eP* P 00 31 58.1 -0.1
14nm,1.0s,mb4.8
TIN **Tinemaha** 60.39 320 ⇑P P 00 31 58.6 -0.1
baz=60
J17A **Brown Place, J** 60.42 330 ⇑P P 00 31 58.6 -0.1
baz=61,SNR=16
E23A **Ismay** 60.42 336 ⇓P P 00 31 58.2 -0.4
baz=61
K16A **Soda Springs** 60.47 329 ⇑P P 00 31 59.0 0.0
baz=61,SNR=11
ULM **Lac du Bonnet** 60.48 344 P P 00 31 57.7 -1.2
23nm,0.6s,mb5.2,baz=156,slow=6.9,SNR=36
ULM PcP PcP 00 32 40.9 -1.2
8.4nm,0.7s,baz=191,slow=1.2,SNR=5.5
ULM **Lac du Bonnet** 60.48 344 P P 00 31 57.7 -1.2
ULM PcP PcP 00 32 40.9 -1.2
REDW **Red Top Meadow** 60.48 330 *eP* P 00 31 58.9 -0.3
11nm,1.3s,mb4.5
SMMC **Simmler** 60.50 318 ⇑P P 00 31 59.3 -0.1
baz=61
LOHW **Long Hollow** 60.55 330 *eP* P 00 31 59.4 -0.1
8.4nm,0.6s,mb4.8
H19A **Powell** 60.57 332 ⇑P P 00 31 59.0 -0.7
baz=61
TPAW **Teton Pass** 60.63 330 *eP* P 00 32 00.0 -0.1
7.4nm,0.8s,mb4.6
E22A **Miles City** 60.63 335 ⇓P P 00 31 59.4 -0.6
baz=61,SNR=5.0
F21A **Absaloka Mine,** 60.64 334 ⇑P P 00 31 59.3 -0.8
baz=61
G20A **Bridger** 60.65 333 ⇓P P 00 31 59.3 -0.9
baz=61,SNR=17
RRI2 **Red Ridge** 60.71 330 *eP* P 00 32 00.8 +0.1
21nm,0.8s,mb5.0
MOOW **Moose Ponds** 60.72 330 *eP* P 00 32 00.5 -0.2
7.2nm,0.9s,mb4.5
L14A **Malta** 60.76 328 ⇑P P 00 32 00.3 -0.7
baz=61,SNR=26
I17A **Pilgrim Ck.** 60.76 331 ⇓P P 00 32 01.0 0.0
baz=61
MTUM **Tungsten Hills** 60.78 320 *eP* P 00 32 01.5 +0.2
K15A **Arbon** 60.84 329 ⇓P P 00 32 01.5 -0.1
baz=61,SNR=10
H18A **Shoshone NF, C** 60.89 332 ⇓P P 00 32 01.4 -0.4
baz=61,SNR=7.0
C24A **Savage** 60.91 337 ⇑P P 00 32 02.1 +0.2
baz=61,SNR=5.8
IMW **Indian Meadow** 60.92 330 *eP* P 00 32 02.4 +0.3
16nm,0.6s,mb5.0
D23A **Lindsay** 60.92 336 ⇑P P 00 32 02.2 +0.2
baz=61,SNR=9.8
FLWY **Flagg Ranch** 60.94 331 *eP* P 00 32 02.5 +0.3
23nm,0.8s,mb5.1
LAO **LASA Array** 60.95 335 ⇑P P 00 31 01.8 -0.4
baz=61,SNR=7.9
LAO **LASA Array** 60.95 335 *eP* P 00 32 01.6 -0.6
38nm,1.5s,mb5.0
RLMT **Red Lodge** 61.05 332 ⇓P P 00 32 02.7 -0.2
baz=61,SNR=9.2
RLMT **Red Lodge** 61.05 332 *eP* P 00 32 02.5 -0.4
11nm,0.9s,mb4.7

F20A **Billings** 61.06 334 ⇑P P 00 32 02.8 -0.2
baz=61
K14A **Jones Ranch, D** 61.08 328 ⇑P P 00 32 02.6 -0.6
baz=61,SNR=10.0
MLAC **Mammoth Lakes** 61.12 321 ⇑P P 00 32 03.7 +0.1
baz=61
I16A **Newdale** 61.17 330 ⇑P P 00 32 04.0 +0.2
baz=61,SNR=12
E21A **Keefer Ranch,** 61.18 335 ⇑P P 00 32 03.6 -0.2
baz=61
YFT **Old Faithful** 61.28 331 *eP* P 00 32 07.0 +2.5
12nm,0.9s,mb4.7
NVAR **Mina Array Bea** 61.28 322 P P 00 32 05.1 +0.5
5.0nm,0.6s,mb4.5,baz=121,slow=7.1,SNR=31
NVAR PcP PcP 00 32 45.5 -0.2
2.8nm,0.7s,baz=131,slow=4.4,SNR=7.9
NVAR **Mina Array Bea** 61.28 322 P P 00 32 05.1 +0.5
NVAR PcP PcP 00 32 45.5 -0.2
D22A **Cohagen** 61.30 336 ⇑P P 00 32 05.1 +0.6
baz=62,SNR=40
J15A **Blackfoot** 61.30 329 ⇑P P 00 32 04.8 +0.2
baz=61,SNR=25
G18A **Lazy EL Ranch,** 61.33 332 ⇑P P 00 32 04.7 -0.1
baz=62,SNR=5.6
C23A **Lambert** 61.43 337 ⇓P P 00 32 05.6 +0.2
baz=62,SNR=15
F19A **Roth Farm, Mol** 61.46 333 ⇑P P 00 32 05.5 -0.2
baz=62,SNR=21
YMR **Madison River** 61.50 331 *eP* P 00 32 06.7 +0.7
28nm,0.7s,mb5.2
D21A **La Casta Ranch** 61.56 335 ⇑P P 00 32 06.7 +0.4
baz=62,SNR=28
DGMT **Dagmar** 61.60 338 ⇓P P 00 32 06.9 +0.3
baz=62,SNR=7.8
DGMT **Dagmar** 61.60 338 *eP* P 00 32 07.2 +0.7
23nm,0.6s,mb5.2
E20A **Meyer Farm, Mu** 61.60 334 ⇓P P 00 32 06.8 +0.2
baz=62,SNR=20
C22A **Vida** 61.66 336 ⇑P P 00 32 07.1 +0.2
baz=62,SNR=12
H16A **Russell Place,** 61.67 331 ⇓P P 00 32 07.7 +0.6
baz=62,SNR=30
F18A **Big Timber** 61.85 333 ⇑P P 00 32 08.3 +0.1
baz=62,SNR=27
QLMT **Earthquake Lak** 61.85 331 *eP* P 00 32 09.5 +1.2
E19A **Rath Farm, Rou** 61.86 334 ⇑P P 00 32 08.2 -0.1
baz=62,SNR=17
G17A **Pierce Place,** 61.88 332 ⇓P P 00 32 08.8 +0.3
baz=62
A24A **Westby** 61.91 338 ⇓P P 00 32 09.2 +0.6
baz=62,SNR=16
WAKR **Walker** 62.03 321 *eP* P 00 32 10.2 +0.6
D20A **Manuel Ranch,** 62.07 335 ⇓P P 00 32 09.7 0.0
baz=62,SNR=14
B22A **Reddig Ranch S** 62.15 337 ⇓P P 00 32 10.5 +0.3
baz=62,SNR=9.2
I14A **Mackay** 62.20 329 ⇑P P 00 32 11.1 +0.4
baz=62,SNR=14
J13A **Cove Ranch, Pi** 62.20 328 ⇑P P 00 32 10.7 0.0
baz=62,SNR=12
C21A **Desert Coulee** 62.21 336 ⇓P P 00 32 10.7 0.0
baz=62,SNR=26
A23A **Redstone** 62.26 338 ⇑P P 00 32 11.3 +0.4
baz=62
F17A **Fitzpatrick Pl** 62.28 332 ⇑P P 00 32 11.5 +0.4
baz=62,SNR=9.2
H15A **Lima** 62.28 330 ⇑P P 00 32 11.9 +0.7
baz=62,SNR=11
G16A **Moss Hill, Enn** 62.32 331 ⇓P P 00 32 11.7 +0.3
baz=62,SNR=11
CMB **Columbia Colle** 62.35 320 *eP* P 00 32 12.1 +0.3
5.0nm,0.9s,mb4.3
SCHQ **Schefferville** 62.43 5 P P 00 32 11.7 -0.2
9.7nm,0.8s,mb4.7,baz=215,slow=5.7,SNR=13
SCHQ PcP PcP 00 32 49.5 -0.4
12nm,1.1s,baz=235,slow=7.0,SNR=3.7
SCHQ **Schefferville** 62.43 5 P P 00 32 11.7 -0.2
SCHQ PcP PcP 00 32 49.5 -0.4
E18A **Harlowton** 62.44 333 ⇑P P 00 32 12.3 +0.1
baz=63,SNR=13
HLID **Hailey** 62.44 328 ⇑P P 00 32 12.3 +0.1
baz=63,SNR=14
HLID **Hailey** 62.44 328 *eP* P 00 32 12.6 +0.3
10nm,1.0s,mb4.6
D19A **Cripps Ranch,** 62.44 334 ⇓P P 00 32 12.2 0.0
baz=63,SNR=11
I13A **Wildhorse Cree** 62.53 329 ⇓P P 00 32 13.0 +0.1
baz=63
MCMT **McKenzie Canyo** 62.54 330 *eP* P 00 32 12.7 -0.2
8.6nm,1.3s,mb4.4
MCMT *e*pP pP 00 32 52.4 +2.9
BOZ **Bozeman (W)** 62.54 331 ⇓P P 00 32 13.0 +0.1
baz=63
BOZ **Bozeman (W)** 62.54 331 *eP* P 00 32 09.2 -3.7
16nm,1.0s,mb4.8
G15A **Dillon** 62.60 331 ⇑P P 00 32 13.5 +0.2
baz=63,SNR=6.9
F16A **Kennard Place,** 62.64 332 ⇑P P 00 32 13.8 +0.3
baz=63
B21A **Ellsworth Farm** 62.66 336 ⇑P P 00 32 14.0 +0.4
baz=63,SNR=12
A22A **Carney Farms,** 62.68 337 ⇑P P 00 32 14.3 +0.5
baz=63,SNR=14
WCN **Washoe City** 62.71 322 *eP* P 00 32 15.1 +0.9
8.4nm,0.8s,mb4.6
PAHR **Pah Rah Range** 62.73 322 *eP* P 00 32 15.0 +0.7
12nm,0.9s,mb4.7
E17A **Martinsdale** 62.79 332 ⇓P P 00 32 14.6 +0.1
baz=63,SNR=16
DLMT **Dillon** 62.80 331 *eP* P 00 32 15.1 +0.5
8.4nm,0.8s,mb4.6
D18A **Linhart Farms,** 62.87 334 ⇑P P 00 32 15.2 +0.2
baz=63,SNR=16
C19A **Slack Wire Ran** 62.96 334 ⇑P P 00 32 15.7 +0.1
baz=63,SNR=28
I12A **Atlanta** 62.98 328 ⇓P P 00 32 16.0 +0.2
baz=63,SNR=13
H13A **Challis** 63.06 329 ⇓P P 00 32 16.6 +0.3
baz=63,SNR=7.8
LRM **Limekiln Ridge** 63.06 331 *eP* P 00 32 16.4 +0.1
A21A **Bergtoll Ranch** 63.07 337 ⇑P P 00 32 16.6 +0.3
baz=63,SNR=14
B20A **Solberg Farm,** 63.08 336 ⇑P P 00 32 16.3 0.0
baz=63,SNR=11
MFID **Camas Ranch** 63.09 327 ⇑P P 00 32 16.9 +0.4
baz=63,SNR=36
MFID **Camas Ranch** 63.09 327 *eP* P 00 32 16.9 +0.4
33nm,0.8s,mb5.2
F15A **Butte** 63.10 331 ⇑P P 00 32 16.4 -0.2
baz=63,SNR=5.4
G14A **Jackson** 63.14 330 ⇑P P 00 32 16.7 -0.1
baz=63
E16A **East Helena** 63.22 332 ⇓P P 00 32 17.4 0.0
baz=63,SNR=6.6
D17A **Six Diamond Ra** 63.23 333 ⇑P P 00 32 17.4 0.0
baz=63,SNR=14
H12A **Diamond D Ranc** 63.35 329 ⇑P P 00 32 18.5 +0.2
baz=64,SNR=17
A20A **Cobblestone Ra** 63.38 336 ⇓P P 00 32 18.4 0.0
baz=64,SNR=11
G13A **Cobalt** 63.42 329 ⇓P P 00 32 18.8 +0.1
baz=64,SNR=19
HRY **Holter Researc** 63.42 332 *eP* P 00 32 18.9 +0.2
B19A **Brinkman Farms** 63.47 335 ⇓P P 00 32 18.9 0.0
baz=64
EGMT **Eagleton** 63.48 334 ⇑P P 00 32 18.9 -0.1
baz=64,SNR=15
F14A **Wisdom** 63.50 331 ⇑P P 00 32 19.4 +0.2
baz=64,SNR=5.7
D16A **Dana Ranch, Ca** 63.53 332 ⇓P P 00 32 19.6 +0.2
baz=64,SNR=9.1
C17A **Wharram Farm,** 63.62 333 ⇑P P 00 32 20.0 0.0
baz=64,SNR=14
A19A **Klindworth Far** 63.76 335 ⇑P P 00 32 21.1 +0.2
baz=64,SNR=7.9
B18A **Beardsley Farm** 63.78 335 ⇑P P 00 32 21.0 +0.1
baz=64,SNR=26
OHCM **Honcut** 63.81 321 *eP* P 00 32 21.7 +0.3
F13A **Darby** 63.96 330 ⇓P P 00 32 22.4 +0.2
baz=64,SNR=13
D15A **Lincoln** 63.99 332 ⇑P P 00 32 22.5 +0.2
baz=64,SNR=5.5
E14A **Clinton** 63.99 331 ⇑P P 00 32 22.7 +0.3
baz=64,SNR=7.8
C16A **Fuhringer Ranc** 64.19 333 ⇑P P 00 32 23.7 +0.1
baz=64,SNR=8.8
A18A **Metzger Ranch,** 64.21 335 ⇑P P 00 32 23.5 -0.3
baz=64,SNR=22

CHMT **Chamberlain Mo** 64.24 331 *eP* P 00 32 23.5 -0.5
2.1nm,0.9s,mb4.0
E13A **Victor** 64.35 331 ⇑P P 00 32 24.9 +0.1
baz=64,SNR=12
D14A **Greenough** 64.48 331 ⇑P P 00 32 25.5 -0.1
baz=65,SNR=5.2
J08A **Circle Bar Ran** 64.50 326 ⇓P P 00 32 25.4 -0.4
baz=65
MSO **Missoula** 64.50 331 ⇓P P 00 32 26.1 +0.4
baz=65,SNR=25
MSO **Missoula** 64.50 331 *eP* P 00 32 26.1 +0.4
16nm,0.8s,mb4.9
C15A **Salmond Ranch,** 64.56 332 ⇑P P 00 32 26.6 +0.5
baz=65,SNR=12
SLMT **Seeley Lake** 64.59 332 *eP* P 00 32 26.6 +0.4
A17A **Triple J Farms** 64.59 334 ⇑P P 00 32 26.1 -0.1
baz=65,SNR=27
B16A **M & M Farms, S** 64.63 333 ⇑P P 00 32 26.1 -0.4
baz=65,SNR=10
MOD **Modoc** 64.63 324 *eP* P 00 32 26.6 -0.1
7.6nm,0.8s,mb4.6
BMO **Blue Mountains** 64.84 328 *eP* P 00 32 27.1 -0.8
27nm,2.3s,mb4.7
B15A **Bradely Ranch,** 64.94 333 ⇑P P 00 32 28.2 -0.3
baz=65,SNR=8.0
D13A **Huson** 64.94 331 ⇓P P 00 32 28.6 0.0
baz=65,SNR=11
A16A **West Butte Ran** 64.98 334 ⇑P P 00 32 28.7 -0.1
baz=65,SNR=19
SWMT **Swartz Lake** 65.02 332 *eP* P 00 32 29.7 +0.7
YBMT **Yellow Bay** 65.28 332 *eP* P 00 32 31.4 +0.6
B14A **Marquette Ranc** 65.30 333 ⇑P P 00 32 30.9 +0.1
baz=65,SNR=9.8
JTMT **Jette** 65.32 332 *eP* P 00 32 31.2 +0.2
D12A **Red Ives Fores** 65.35 330 ⇑P P 00 32 31.1 -0.1
baz=66
C13A **Hot Springs** 65.41 331 ⇑P P 00 32 31.9 +0.3
baz=66
A15A **Johnson Ranch,** 65.50 333 ⇓P P 00 32 31.8 -0.4
baz=66,SNR=5.0
I07A **Izee** 65.54 326 ⇑P P 00 32 32.7 +0.3
baz=66,SNR=15
F10A **Beach Ranch, E** 65.55 329 ⇓P P 00 32 33.0 +0.5
baz=66,SNR=9.2
BSMT **Bassoo Peak** 65.64 331 *eP* P 00 32 33.5 +0.5
A14A **Double T Ranch** 65.81 333 ⇓P P 00 32 34.2 +0.1
baz=66
B13A **Whitefish** 65.86 332 ⇑P P 00 32 34.5 +0.1
baz=66,SNR=6.1
C12B **Naegeli Ranch,** 65.87 331 ⇑P P 00 32 35.0 +0.5
baz=66,SNR=16
G08A **Pilot Rock** 66.01 327 ⇑P P 00 32 35.4 -0.1
baz=66,SNR=6.0
WALA **Waterton Lakes** 66.09 333 *eP* P 00 32 36.0 +0.1
0.7nm,0.7s,mb3.6
FFC **Flin Flon** 66.17 343 *eP* P 00 32 36.0 -0.3
15nm,0.8s,mb4.9
E09A **Wood Farm, Sta** 66.39 329 ⇓P P 00 32 38.1 +0.2
baz=66
B12A **Libby** 66.45 331 ⇓P P 00 32 38.6 +0.4
baz=67
A12A **Yaak River Ran** 66.81 332 ⇑P P 00 32 40.9 +0.4
baz=67,SNR=20
HAWA **Hanford** 67.03 328 *eP* P 00 32 41.8 -0.2
121nm,2.5s,mb5.3
NEW **Newport** 67.05 330 ⇓P P 00 32 41.8 -0.2
baz=67,SNR=13
NEW **Newport** 67.05 330 *eP* P 00 32 41.8 -0.2
17nm,0.8s,mb4.9
D08A **Wollman Farm,** 67.14 329 ⇓P P 00 32 42.8 +0.2
baz=67
OD2 **Odessa Site #2** 67.26 329 *eP* P 00 32 43.8 +0.5
C09A **Chrisman Ranch** 67.31 330 ⇓P P 00 32 44.4 +0.8
baz=67,SNR=6.9
E07A **Sunnyside** 67.31 328 ⇓P P 00 32 44.2 +0.5
baz=67,SNR=5.3
B08A **Colville Reser** 68.21 329 ⇓P P 00 32 49.0 -0.3
baz=68,SNR=11
ETW **Entiat** 68.23 328 *eP* P 00 32 50.3 +0.9
RPW **Rockport** 69.38 329 *eP* P 00 32 56.4 -0.1
B06A **Marblemount** 69.41 329 ⇑P P 00 32 56.4 -0.3
baz=70
A05A **Maple Falls** 70.02 329 ⇑P P 00 33 00.2 -0.3
baz=70,SNR=12
LIC **Lamo** 70.50 81 *eP* P 00 33 07.0 +2.9
7.3nm,0.3s,mb4.6,baz=261
DBIC **Dimbokro** 70.74 80 P P 00 33 07.8 +2.2
27nm,0.5s,mb5.2,baz=243,slow=5.7,SNR=31
DBIC pP pP 00 33 40.8 -2.2
7.2nm,0.6s,baz=245,slow=8.4,SNR=3.6
DBIC **Dimbokro** 70.74 80 *eP* P 00 33 05.2 -0.4
26nm,0.8s,mb5.0
VNA3 **Neumayer Olymp** 74.94 162 *e* P 00 33 36.1 +6.9
VNA3 *e* 00 34 05.0
VNA1 **Neumayer--Stat** 75.15 162 *e* pP 00 34 06.7 -1.6
VNA2 **Neumayer--Watz** 75.52 162 *e* P 00 33 30.0 -2.5
VNA2 *e* 00 33 39.7
VNA2 *e* pP 00 34 08.2 -2.2
SFJD **Kangerlussuaq** 76.27 9 *i* P pP 00 34 18.6 +4.0
8.4nm,0.7s
YKA **Yellowknife Ar** 76.32 342 P P 00 33 36.3 -0.8
6.8nm,0.4s,mb4.7,baz=141,slow=6.1,SNR=66
YKA **Yellowknife Ar** 76.32 342 P P 00 33 36.4 -0.8
EVO **Evora** 76.62 48 *eP* P 00 33 38.6 -0.7
45nm,1.4s,mb4.6
SNAA **Sanae** 77.14 162 *eP* P 00 33 42.1 +0.5
14nm,0.9s,mb4.6
SNAA *e*pP pP 00 34 17.5 -2.1
TORD **Torodi Ar. Bea** 78.27 75 P P 00 33 48.3 -0.7
5.9nm,0.6s,mb4.4,baz=268,slow=4.9,SNR=35
TORD pP pP 00 34 24.9 -2.2
1.8nm,0.6s,baz=269,slow=4.8,SNR=2.8
TORD **Torodi Ar. Bea** 78.27 75 P P 00 33 48.3 -0.7
TORD pP pP 00 34 24.9 -2.2
ESDC **Sonseca Array** 79.97 48 P P 00 33 57.9 +0.2
0.9nm,0.7s,mb3.5,baz=255,slow=7.2,SNR=6.5
ESDC **Sonseca Array** 79.97 48 P P 00 33 57.9 +0.2
QSPA **South Pole Qui** 82.60 180 *eP* P 00 34 11.8 +0.9
13nm,1.1s,mb4.6
QSPA *e*pP pP 00 34 50.8 +1.4
RES **Resolute Bay** 83.01 355 *eP* P 00 34 13.1 +0.1
7.7nm,0.9s,mb4.4
SUMG **Summit** 83.21 10 *eP* P 00 34 14.9 +0.8
32nm,0.8s,mb5.1
SUMG *e*pP pP 00 34 52.4 -0.2
SUMG **Summit** 83.21 10 *i* P P 00 34 14.5 +0.5
24nm,0.8s,mb5.0
TAM **Tamanrasset** 83.65 66 *eP* P 00 34 17.8 +0.4
2.6nm,0.8s,mb4.0
TAM *e*pP pP 00 34 55.7 -0.2
EPF **Esparros** 84.06 45 *eP* P 00 34 19.5 +0.5
4.7nm,0.8s,mb4.0
MFF **Saint Martin d** 84.73 42 *eP* P 00 34 22.5 +0.2
11nm,0.7s,mb4.4
LFF **La Frestale** 84.86 44 *eP* P 00 34 23.3 +0.3
40nm,0.9s,mb4.8
CAF **Calviac** 85.76 44 *eP* P 00 34 27.7 +0.3
8.3nm,0.7s,mb4.3
INK **Inuvik** 86.07 341 P P 00 34 27.9 -0.6
7.4nm,0.8s,mb4.5,baz=104,slow=5.9,SNR=30
INK **Inuvik** 86.07 341 *eP* P 00 34 27.9 -0.6
12nm,0.9s,mb4.6
EGAK **Eagle** 87.12 337 *eP* P 00 34 32.9 -0.8
PAX **Paxson** 88.21 334 *eP* P 00 34 38.5 -0.3
11nm,0.8s,mb4.8
ORIF **Oris-en-Rattie** 88.39 44 *eP* P 00 34 40.7 +0.6
8.8nm,0.6s,mb4.5
SML **Sawmill** 89.09 333 *eP* P 00 34 42.9 -0.1
7.8nm,0.6s,mb4.8
LPL **La Plagne** 89.11 44 *eP* P 00 34 44.2 +0.8
10nm,0.9s
LPG **La Plagne** 89.12 44 *eP* P 00 34 43.7 +0.2
8.3nm,0.8s
KEST **Kesra** 89.26 54 P P 00 34 44.4 -0.1
1.4nm,0.8s,mb4.0,baz=340,slow=1.7,SNR=5.8
KEST **Kesra** 89.26 54 P P 00 34 44.4 -0.1
ILAR **Eielson Array** 89.40 336 P P 00 34 43.5 -0.9
2.3nm,0.5s,mb4.4,baz=137,slow=3.7,SNR=55
ILAR pP pP 00 35 22.2 -1.1
1.2nm,0.8s,baz=133,slow=3.3,SNR=3.5
ILAR PP PP 00 38 15.2 -2.4
1.1nm,1.0s,baz=111,slow=8.6,SNR=7.1
ILAR **Eielson Array** 89.40 336 P P 00 34 43.5 -0.9
ILAR pP pP 00 35 22.2 -1.1
ILAR PP PP 00 38 15.2 -2.4
RC01 **Rabbit Creek A** 89.53 332 *eP* P 00 34 44.2 -0.8
VNDA **Vanda** 89.61 190 P P 00 34 45.5 +0.3

	0.9nm,0.8s,mb3.8,baz=154,slow=3.8,SNR=5.5								
VNDA					pP		pP	00 35 25.1	+0.9
	3.2nm,0.8s,baz=115,slow=4.0,SNR=12								
VNDA	**Vanda**	**89.61**	**190**		P		**P**	**00 34 45.5**	**+0.3**
VNDA					pP		pP	00 35 25.1	+0.9
VNDA					*ep*P		pP	00 35 25.7	+1.4
COLA	**College**	**89.83**	**336**	*e*P			**P**	**00 34 45.7**	**-0.6**
	4.9nm,0.8s,mb4.5								
COLA					*ep*P		pP	00 35 24.1	-1.3
DAG	**Danmarks Havn**	**89.86**	**11**	*i* P			**P**	**00 34 45.5**	**-0.8**
	7.0nm,0.9s,mb4.6								
PPLA	**Purkeypile**	**91.12**	**333**	*e*P			**P**	**00 34 52.2**	**-0.2**
PPLA					*ep*P		pP	00 35 31.8	+0.4
SYO	**Syowa Base**	**91.38**	**161**⇑	*e*P			pP	00 35 31.6	-1.0
NOA	**NORSAR Array B**	**94.37**	**29**	P			**P**	**00 35 07.7**	**+0.3**
	2.5nm,0.9s,mb4.3,baz=261,slow=4.8,SNR=3.6								
NOA	**NORSAR Array B**	**94.37**	**29**	P			**P**	**00 35 07.7**	**+0.3**
FINES	**FINESS Array B**	**101.55**	**29**	PKKPbc		PKKPbc		00 51 45.6	-3.9
	16nm,1.2s,baz=135,slow=0.8,SNR=4.6								
STKA	**Stephens Creek**	**127.92**	**219**	PKP		PKPdf		00 40 53.2	-0.4
	5.8nm,0.7s,baz=87,slow=2.6,SNR=15								
STKA	**Stephens Creek**	**127.92**	**219**	PKP		PKPdf		00 40 53.2	-0.4
ZAA0	**Zalesovo Array**	**130.73**	**16**	*e*PKPdf		PKPdf		00 40 57.8	-0.4
ZALV	**Zalesovo Beam**	**130.73**	**16**	PKP		PKPdf		00 40 58.3	+0.1
	3.4nm,0.4s,baz=318,slow=2.0,SNR=38								
ZALV					pPKP		pPKPdf	00 41 38.1	-1.0
	1.9nm,0.8s,baz=304,slow=2.7,SNR=3.1								
ZALV					SKPbc		SKPbc	00 44 07.6	-0.4
	1.3nm,0.8s,baz=345,slow=5.1,SNR=4.2								
ZALV	**Zalesovo Beam**	**130.73**	**16**	PKP		PKPdf		00 40 58.3	+0.1
ZALV					pPKP		pPKPdf	00 41 38.1	-1.0
ZALV					SKPbc		SKPbc	00 44 07.6	-0.4
KURK	**Kurchatov**	**131.43**	**23**	*e*PKPdf		PKPdf		00 41 00.3	+0.6
EKS2	**Erkin-Say**	**135.14**	**34**	*e*PKPdf		PKPdf		00 41 08.7	+1.7
MK31	**Makanchi Array**	**136.04**	**23**	*e*PKPdf		PKPdf		00 41 07.5	-0.9
MK31					*ep*PKPdf		pPKPdf	00 41 47.7	-1.6
MKAR	**Makanchi Array**	**136.04**	**23**	PKP		PKPdf		00 41 08.3	-0.2
	2.5nm,0.8s,baz=313,slow=1.9,SNR=21								
MKAR					pPKP		pPKPdf	00 41 48.0	-1.3
	0.7nm,0.7s,baz=296,slow=2.9,SNR=3.1								
MKAR	**Makanchi Array**	**136.04**	**23**	PKP		PKPdf		00 41 08.3	-0.2
MKAR					pPKP		pPKPdf	00 41 48.0	-1.3
KSH	**Kashi**	**138.48**	**35**	*e*PKP		PKPdf		00 41 14.0	+0.8
KSH					sPKP			00 42 13.2	
KSH					PKS			00 44 49.3	
KSH					SKS		SKSdf	00 48 08.2	-1.3
KSH					AMB		AMB		
	comp=Z,110nm,5.0s								
KSH					LR		LR		
	comp=Z,47nm,3.7s								
ASAR	**Alice Springs**	**138.50**	**221**	PKhKP		PKPpre		00 41 03.8	
	comp=Z,1.9nm,0.5s,baz=142,slow=2.2,SNR=28								
ASAR					PKP		PKPdf	00 41 12.8	-1.0
	comp=Z,3.8nm,0.7s,baz=122,slow=1.9,SNR=20								
ASAR	**Alice Springs**	**138.50**	**221**	PKP		PKPpre		00 41 03.8	
ASAR					PKP		PKPdf	00 41 12.8	-1.0
SONM	**Songino Array**	**139.81**	**359**	PKhKP		PKPpre		00 41 07.9	
	comp=Z,0.8nm,0.7s,baz=310,slow=2.8,SNR=5.7								
SONM					PP		PP	00 44 09.6	-2.1
	comp=Z,1.2nm,1.0s,baz=347,slow=6.1,SNR=5.4								
SONM	**Songino Array**	**139.81**	**359**	PKP		PKPpre		00 41 07.9	
SONM					PP		PP	00 44 09.6	-2.1
CN2	**Changchun**	**139.90**	**338**	*e*PKP		PKPdf		00 41 13.2	-2.4
CN2					PP		PP	00 44 14.5	+1.9
WMQ	**Urumqi**	**140.57**	**21**	PKP		PKPdf		00 41 16.2	-0.6
WRAB	**Tennant Creek**	**140.73**	**226**	*e*PKPdf		PKPpre		00 41 11.6	
WRA	**Warramunga Arr**	**140.73**	**226**	PKhKP		PKPpre		00 41 10.0	
	comp=Z,1.1nm,0.5s,baz=127,slow=2.7,SNR=25								
WRA					PKP		PKPdf	00 41 15.0	-2.9
	comp=Z,6.2nm,0.6s,baz=131,slow=1.7,SNR=25								
WRA					SKPbc		SKPbc	00 44 38.3	-1.9
	comp=Z,0.9nm,0.8s,baz=129,slow=2.5,SNR=4.8								
WRA	**Warramunga Arr**	**140.73**	**226**	PKP		PKPpre		00 41 10.0	
WRA					PKP		PKPdf	00 41 15.0	-2.9
WRA					SKPbc		SKPbc	00 44 38.3	-1.9
KSRS	**Korea Array**	**143.97**	**329**	PKP		PKPdf		00 41 20.1	-3.0
	comp=Z,4.7nm,0.5s,baz=46,slow=3.7,SNR=15								
BJI	**Beijing**	**146.26**	**345**	PKPbc		PKPdf		00 41 26.6	-0.4
HHC	**Hu-ho-hao-te**	**146.38**	**352**	*e*PKPbc		PKPdf		00 41 26.1	-1.0
HHC					pPKP		pPKPdf	00 42 08.1	0.0
HHC					sPKP			00 42 25.3	
HHC					PP		PP	00 44 53.2	+2.0
HHC					PKS			00 45 01.0	
HHC					SKS		SKSdf	00 48 17.9	-3.8
HHC					SKKS		SKKSac	00 51 26.2	-3.1
HHC					SS		SS	01 03 32.9	-2.0
HHC					AMB		AMB		
	comp=Z,53nm,5.3s								
FITZ	**Fitzroy Crossi**	**147.79**	**218**	*e*PKPdf		PKPdf		00 41 30.0	-0.1
GTA	**Gaotai**	**147.81**	**8**	*e*PKPbc		PKPdf		00 41 30.3	+0.7
GTA					pPKP		pPKPdf	00 42 12.7	+2.2
GTA					sPKP			00 42 29.5	
DANN	**Dangsing**	**150.73**	**42**	*e*P		PKPbc		00 41 41.1	+0.9
	comp=Z,81nm,0.7s								
KOLN	**Koldanda**	**151.00**	**43**	*e*P		PKPbc		00 41 40.9	0.0
	comp=Z,27nm,0.7s								
LZH	**Lanzhou**	**151.51**	**3**	*e*PKPbc		PKPdf		00 41 34.2	-1.3
LZH					pPKP		pPKPdf	00 42 16.8	+0.3
LZH					sPKP			00 42 33.5	
GKN	**Gorkha**	**151.54**	**42**	*e*P		PKPbc		00 41 42.4	+0.3
	comp=Z,44nm,0.6s								
KKN	**Kakani**	**152.10**	**41**	*e*P		PKPbc		00 41 43.2	-0.2
	comp=Z,20nm,0.7s								
DMN	**Daman**	**152.11**	**42**	*e*P		PKPbc		00 41 43.7	+0.3
	comp=Z,13nm,0.5s								
PKIN	**Phulchoki**	**152.32**	**41**	*e*P		PKPbc		00 41 43.7	-0.2
PKI	**Pulchoki**	**152.34**	**41**	*e*P		PKPbc		00 41 43.9	0.0
GUN	**Gumba**	**152.41**	**40**	*e*P		PKPbc		00 41 44.5	+0.4
	comp=Z,9.4nm,0.4s								
CD2	**Chengdu**	**156.65**	**4**	PKP		PKPdf		00 41 41.1	-1.8
GYA	**Guiyang**	**161.13**	**357**	*e*PKP		PKPdf		00 41 46.8	-1.5
GYA					pPKP		pPKPdf	00 42 28.0	-1.4
GYA					PKPab		PKPab	00 42 32.1	0.0
GYA					sPKP			00 42 44.0	
GYA					PKS			00 45 19.3	
GYA					PP		PP	00 46 16.5	+2.5
GYA					AMB		AMB		
	comp=Z,90nm,7.8s								
KMI	**Kunming**	**162.26**	**9**	PKP		PKPdf		00 41 48.0	-1.5
KMI					pPKP		pPKPdf	00 42 29.4	-1.2
KMI					sPKP			00 42 46.0	
KMI					LR		LR		
	comp=Z,22nm,31.8s								
CMAR	**Chiang Mai Arr**	**167.32**	**30**	PKPab		PKPab		00 42 59.9	+0.3
	comp=Z,3.2nm,0.7s,baz=318,slow=5.8,SNR=13								

ISCJB ***12*** *00:29:41.9±1.0, 41°.14N±0°.09×39°.83E±0°.07, h24km±9km, Error ellipse: s-maj=15.6km s-min=8.2km az=177.5*
DDA ***12*** *00:29:41.9, 41°.60N×40°.18E, h7km±3km, Md2.7*
CSEM ***12*** *00:29:42.4±0.1, 41°.06N×39°.78E, h26km±1km, MD2.8, Error ellipse: s-maj=4.6km s-min=2.9km az=175.0*
ISK ***12*** *00:29:42.4, 41°.05N×39°.76E, h26km, MD2.8*
ISC 12 00:29:42.2±0.9, 41°.13N±0°.09×39°.82E±0°.06, h24km±8km, n15, σ0s87/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KTUT	**Trabzon**	**0.14**	**195**	*e*PG		**Pb**	**00 29 47.1**	**+0.1**
KTUT				*e*SG		**Sb**	**00 29 50.6**	**+0.2**
KTUT	**Trabzon**	**0.14**	**195**	*e*Pg		**Pb**	**00 29 47.1**	**0.0**
KTUT				*e*Sg		**Sb**	**00 29 50.6**	**+0.2**
GUMT	**Gumushane**	**0.71**	**201**	*e*PG		**Pb**	**00 29 55.4**	**-0.5**
GUMT				*e*SG		**Sb**	**00 30 04.7**	**-0.6**
GUMT	**Gumushane**	**0.71**	**201**	*e*Pg		**Pb**	**00 29 55.4**	**-0.5**
GUMT				*e*Sg		**Sb**	**00 30 04.7**	**-0.6**
BAYT	**Ayd¯–ntepe-Bay**	**0.77**	**161**	*e*PG		**Pb**	**00 29 57.0**	**+0.1**
BAYT	**Ayd¯–ntepe-Bay**	**0.77**	**161**	*e*Pg		**Pb**	**00 29 57.0**	**0.0**
ESPY	**Espiye-Giresun**	**0.85**	**256**	*e*PG		**Pb**	**00 29 58.3**	**0.0**
ESPY				*e*SG		**Sb**	**00 30 09.8**	**+0.5**
ESPY	**Espiye-Giresun**	**0.85**	**256**	*e*Pg		**Pb**	**00 29 58.3**	**0.0**
ESPY				*e*Sg		**Sb**	**00 30 09.8**	**+0.5**
DBOC	**Borcka**	**1.41**	**80**	*i* P		**Pn**	**00 30 03.5**	**-2.9**
DBOC				*i* S		**Sn**	**00 30 22.3**	**-1.9**
DBOC	**Borcka**	**1.41**	**80**	*i* P		**Pn**	**00 30 03.5**	**-2.9**
DBOC				*i* S		**Sn**	**00 30 22.3**	**-1.9**
DBAD	**Bademkaya**	**1.42**	**94**	*i* P		**Pn**	**00 30 07.0**	**+0.5**
DBAD				*i* S		**Sn**	**00 30 24.6**	**+0.1**
DBAD	**Bademkaya**	**1.42**	**94**	*i* P		**Pn**	**00 30 07.0**	**+0.5**
DBAD				*i* S		**Sn**	**00 30 24.6**	**+0.1**
DDEM	**Demirkent**	**1.48**	**98**	*i* P		**Pn**	**00 30 08.3**	**+0.9**
DDEM				*i* S		**Sn**	**00 30 27.0**	**+1.1**
DAGI	**Agillar**	**1.59**	**91**	*i* P		**Pn**	**00 30 08.8**	**+0.1**
DAGI				*i* S		**Sn**	**00 30 29.2**	**+0.7**

KRSC 12 00:46:28.3±1.2, 49°.38N×157°.20E, h37km±36km, ML3.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ALID	**Alaid**	**1.83**	**325**	*e*P		Pn	00 46 58.7	+1.5
ALID				*i* S		Sn	00 47 20.9	+1.8
RUS	**Russkaya**	**3.17**	**15**	*e*P		Pn	00 47 18.6	+3.0
RUS				*i* S		Sn	00 47 54.6	+2.5
AVH	**Avacha**	**4.01**	**13**	*e*P		Pn	00 47 31.6	+4.5
GNL	**Ganaly**	**4.35**	**6**	*e*P		Pn	00 47 37.4	+5.7
MKZ	**Mys Kozlova**	**5.89**	**27**	*e*P		Pn	00 47 56.1	+3.2
MKZ				*i* S		Sn	00 49 00.5	+1.4

IDC ***12*** *00:46:50.5±1.7, 9°.38S×107°.87E, h0km, mb3.8/7, mb1 3.8/8, mb1mx3.7/21, mbtmp3.7/8, ML3.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.4/26, Error ellipse: s-maj=78.4km s-min=18.3km az=47.0*
ISCJB ***12*** *00:46:54.2±0.8, 9°.50S±0°.05×107°.87E±0°.04, h46km±7km, mb4.0/12, Error ellipse: s-maj=9.5km s-min=6.2km az=30.9*
NEIC ***12*** *00:46:55.8±0.6, 9°.33S×107°.95E, h35km, mb4.2/3, Error ellipse: s-maj=30.4km s-min=5.8km az=49.0*
DJA ***12*** *00:46:55, 9°.51S×107°.87E, h44km, MLv4.5/15*
ISC 12 00:46:55.5±0.8, 9°.50S±0°.05×107°.85E±0°.05, h37km±7km, n45, σ0s90/48, mb4.0/12, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMJI	**Cimerak**	**1.81**	**19**	P		**Pn**	**00 47 24.1**	**-0.1**
CISI	**Cisompet, Garu**	**1.94**	**359**	P		**Pn**	**00 47 23.8**	**-2.1**
CISI				S		**Sn**	**00 47 51.3**	**+2.3**
CLJI	**Cilicap**	**2.11**	**33**	P		**Pn**	**00 47 29.4**	**+1.0**
CLJI				S		**Sn**	**00 47 54.7**	**+1.3**
XMIS	**Christmas Isla**	**2.38**	**246**	P		**Pn**	**00 47 31.5**	**-0.5**
LEM	**Lembang**	**2.67**	**355**	P		**Pn**	**00 47 36.2**	**+0.2**
LEM				S		**Sn**	**00 48 11.4**	**+4.2**
SKJI	**Sukabumi**	**2.79**	**333**	P		**Pn**	**00 47 38.3**	**+0.6**
SKJI				S		**Sn**	**00 48 09.1**	**-1.1**
BJII	**Banjamegara**	**2.83**	**41**	P		**Pn**	**00 47 37.7**	**-0.6**
UGM	**Wanagama**	**3.08**	**59**	S		**Sn**	**00 48 15.9**	**-1.3**
DBJI	**Dramaga**	**3.13**	**339**	P		**Pn**	**00 47 42.2**	**-0.1**
PCJI	**Pacitan**	**3.53**	**69**	P		**Pn**	**00 47 47.0**	**-0.9**
PCJI				S		**Sn**	**00 48 22.6**	**-5.9**
PWJI	**Pagerwojo**	**4.17**	**70**	P		**Pn**	**00 47 55.5**	**-1.2**
PWJI				S		**Sn**	**00 48 37.6**	**-6.7**
SJI	**Sawahan**	**4.25**	**66**	P		**Pn**	**00 47 57.8**	**0.0**
GMJI	**Gumukmas**	**5.66**	**78**	P		**Pn**	**00 48 17.1**	**0.0**
	0.7nm6μm93nm,0.6s							
KLSI		**5.70**	**327**	P		**Pn**	**00 48 18.9**	**+1.2**
BLJI	**Banyuglugur**	**5.94**	**73**	P		**Pn**	**00 48 20.9**	**-0.1**
	1.3nm8μm183nm,0.5s							
JAGI	**Jajag, Banyuwa**	**6.31**	**81**	P		**Pn**	**00 48 27.3**	**+1.2**
	0.8nm3μm209nm,0.6s							
KHKI	**Kahang-Kahang**	**7.75**	**82**	P		**Pn**	**00 48 45.9**	**+0.1**
MBWA	**Marble Bar**	**16.28**	**137**	*e*P		**Pn**	**00 50 42.8**	**+1.3**
FITZ	**Fitzroy Crossi**	**19.26**	**118**	P		**Pn**	**00 51 16.2**	**-2.0**
	0.0nm,0.3s,baz=333,slow=18,SNR=1.9							
FITZ	**Fitzroy Crossi**	**19.26**	**118**	*e*P		**Pn**	**00 51 17.2**	**-1.0**
NWAO	**Narrogin (SRO)**	**24.87**	**161**	LR		LR	01 02 55.5	
	comp=Z,63nm,18.4s,baz=129,slow=39							
WRA	**Warramunga Arr**	**27.60**	**115**	P		**P**	**00 52 40.1**	**+0.5**
	0.2nm,0.3s,mb3.2,baz=287,slow=12,SNR=4.6							
WRA	**Warramunga Arr**	**27.60**	**115**	P		**P**	**00 52 40.1**	**+0.5**
WRAB	**Tennant Creek**	**27.60**	**115**	*e*P		**P**	**00 52 39.9**	**+0.3**
	1.5nm,0.8s,mb3.7							
ASAR	**Alice Springs**	**28.59**	**123**	P		**P**	**00 52 49.9**	**+1.5**
	0.2nm,0.3s,mb3.3,baz=295,slow=8.9,SNR=2.7							
ASAR	**Alice Springs**	**28.59**	**123**	P		**P**	**00 52 49.9**	**+1.5**
CMAR	**Chiang Mai Arr**	**29.14**	**342**	P		**P**	**00 52 52.8**	**-0.5**
	0.6nm,0.3s,mb3.8,baz=178,slow=8.6,SNR=4.3							
CMAR	**Chiang Mai Arr**	**29.14**	**342**	P		**P**	**00 52 52.8**	**-0.5**
SONM	**Songino Array**	**57.10**	**359**	P		**P**	**00 56 38.3**	**+0.3**
	0.7nm,0.5s,mb4.0,baz=181,slow=8.5,SNR=9.5							
SONM	**Songino Array**	**57.10**	**359**	P		**P**	**00 56 38.3**	**+0.3**
ULN	**Ulaanbaatar**	**57.12**	**359**	*e*P		**P**	**00 56 37.3**	**-0.9**
TKM2	**Tokmak 2**	**59.90**	**333**	*e*P		**P**	**00 56 57.6**	**-0.1**
	2.2nm,0.5s,mb4.4							
MK31	**Makanchi Array**	**60.51**	**340**	*e*P		**P**	**00 57 01.3**	**-0.5**
MK31				*e*		pP	00 57 10.7	-2.1
MKAR	**Makanchi Array**	**60.51**	**340**	P		**P**	**00 57 01.9**	**0.0**
	2.9nm,0.6s,mb4.6,baz=145,slow=7.5,SNR=34							
MKAR	**Makanchi Array**	**60.51**	**340**	P		**P**	**00 57 01.9**	**0.0**
EKS2	**Erkin-Say**	**60.53**	**332**	P		**P**	**00 57 02.4**	**+0.3**
KURK	**Kurchatov**	**65.12**	**340**	*e*P		**P**	**00 57 32.4**	**0.0**
	2.3nm,0.8s,mb4.3							
ZALV	**Zalesovo Beam**	**66.15**	**345**	P		**P**	**00 57 37.9**	**-1.1**
	0.3nm,0.4s,mb3.7,baz=117,slow=5.2,SNR=4.4							
ZALV	**Zalesovo Beam**	**66.15**	**345**	P		**P**	**00 57 37.9**	**-1.1**
URZ	**Urewera**	**67.90**	**127**	*e*P		**P**	**00 57 50.4**	**-0.2**
	8.0nm,0.5s,mb5.0							
ABKAR	**Akbulak array**	**71.98**	**329**	*e*P		**P**	**00 58 15.4**	**+0.1**
	2.0nm,0.5s,mb4.3							
BRTR	**Keskin Array B**	**84.11**	**312**	P		**P**	**00 59 23.6**	**+0.7**
	0.4nm,0.7s,mb3.6,baz=143,slow=7.9,SNR=3.4							
BRTR	**Keskin Array B**	**84.11**	**312**	P		**P**	**00 59 23.6**	**+0.7**
TXAR	**Lajitas Array**	**144.51**	**52**	PKP		PKPdf	01 06 29.1	+0.3
	0.2nm,0.6s,baz=354,slow=1.4,SNR=3.9							
TXAR	**Lajitas Array**	**144.51**	**52**	PKP		PKPdf	01 06 29.1	+0.3

IDC 12 00:52:26.1±4.2, 4°.00S×153°.81E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.3/17, mbtmp3.4/2, Error ellipse: s-maj=200.0km s-min=50.2km az=119.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.73**	**229**	P		P	00 57 49.0	-0.3
	0.6nm,0.4s,baz=52,slow=9.8,SNR=12							
ASAR	**Alice Springs**	**27.42**	**223**	P		P	00 58 14.2	+0.6
	0.3nm,0.5s,baz=65,slow=9.4,SNR=4.5							
TORD	**Torodi Ar. Bea**	**150.99**	**290**	PKPbc		PKPbc	01 12 21.8	-0.3
	0.1nm,0.3s,baz=83,slow=2.0,SNR=3.3							

NEIC ***12*** *01:12:42.6, 19°.63N×66°.26W, h25km, MD3.5(RSPR), After RSPR.*
RSPR 12 01:12:42.6, 19°.63N×66°.26W, h25km±11km, MD3.5/9, 6C-12D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CBYP	**Canovanas**	**1.41**	**164**⇓	*e*P		Pn	01 13 04.6	-2.0
CBYP	**Canovanas**	**1.41**	**164**⇓	*e*P		Pn	01 13 04.6	-2.0
AGPR	**Aguadilla, PR**	**1.41**	**215**	*e*Pn		Pn	01 13 05.5	-1.2
LRS	**Lares**	**1.44**	**203**⇓	*e*P		Pn	01 13 05.0	-2.2
LRS	**Lares**	**1.44**	**203**⇓	*e*P		Pn	01 13 05.0	-2.2
SJG	**San Juan**	**1.52**	**176**⇑	*e*P		Pn	01 13 06.3	-1.9
SJG	**San Juan**	**1.52**	**176**⇑	*i*P		Pn	01 13 06.1	-2.1
SJG				*e*S		Sn	01 13 24.4	-2.7
SJG	**San Juan**	**1.52**	**176**⇑	*e*P		Pn	01 13 06.3	-1.9
SJG				*e*S		Sn	01 13 24.3	-2.8
HUMP	**Col San Antoni**	**1.53**	**165**⇓	*e*P		Pn	01 13 06.3	-2.1
HUMP	**Col San Antoni**	**1.53**	**165**⇓	*e*P		Pn	01 13 06.3	-2.1
CELP	**Cerrillos**	**1.58**	**191**⇑	*i*P		Pn	01 13 06.8	-2.2
CELP	**Cerrillos**	**1.58**	**191**⇑	*i*P		Pn	01 13 06.8	-2.2
OBIP	**Obispado Ponce**	**1.61**	**192**⇓	*e*P		Pn	01 13 07.3	-2.2
OBIP	**Obispado Ponce**	**1.61**	**192**⇓	*e*P		Pn	01 13 07.3	-2.2
LSP	**Las Mesas**	**1.65**	**208**⇑	*i*P		Pn	01 13 07.9	-2.0
LSP				*e*S		Sn	01 13 27.7	-2.6
LSP	**Las Mesas**	**1.65**	**208**⇑	*i*P		Pn	01 13 07.9	-2.0
LSP				*e*S		Sn	01 13 27.7	-2.6
MTP	**Monte Pirata**	**1.67**	**156**⇓	*e*P		Pn	01 13 08.2	-2.0
MTP	**Monte Pirata**	**1.67**	**156**⇓	*e*P		Pn	01 13 08.2	-2.0
ICM	**Isla Caja Muer**	**1.75**	**188**	*e*S		Sn	01 13 30.7	-2.1
STVI	**Saint Thomas**	**1.78**	**136**⇓	*e*P		Pn	01 13 11.4	-0.3
STVI	**Saint Thomas**	**1.78**	**136**⇓	*e*P		Pn	01 13 11.4	-0.3
CRPR	**Cabo Rojo, PR**	**1.81**	**207**⇓	*e*P		Pn	01 13 10.4	-1.7
CRPR	**Cabo Rojo, PR**	**1.81**	**207**⇓	*e*P		Pn	01 13 10.4	-1.7

IDC 12 01:20:28.1±1.7, 7°.00S×128°.40E, h0km, mb3.4/2, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, ML4.2/2, Error ellipse: s-maj=229.2km s-min=28.6km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.10**	**156**	Pn		Pn	01 23 49.0	-0.2
	1.5nm,0.3s,baz=321,slow=15,SNR=50							
WRA				Sn		Sn	01 26 12.0	-15
	0.6nm,0.3s,baz=322,slow=24,SNR=5.5							
ASAR	**Alice Springs**	**17.40**	**163**	P		Pn	01 24 32.6	+0.3
	0.3nm,0.3s,baz=334,slow=9.5,SNR=16							
ASAR				S		Sn	01 27 32.9	-14
	0.2nm,0.3s,baz=346,slow=25,SNR=4.5							
SONM	**Songino Array**	**57.95**	**343**	P		P	01 30 22.2	0.0
	0.4nm,0.8s,baz=166,slow=5.8,SNR=3.3							
MKAR	**Makanchi Array**	**67.36**	**328**	P		P	01 31 25.4	+0.3
	0.2nm,0.5s,baz=130,slow=7.8,SNR=6.9							

MEX 12 01:27:13.1±0.6, 16°.83N×100°.17W, h6km±3km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CAIG	**El Cayaco**	**0.23**	**336**	*i* P		Pg	01 27 17.3	-0.5
CAIG				*i* S		Sg	01 27 21.3	+0.4
ACX	**Acapulco**	**0.30**	**83**	*i* P		Pg	01 27 17.3	-1.7
ACX				*i* S		Sg	01 27 21.4	-1.5
MEIG	**Mezcala**	**1.21**	**26**	*i* P		Pg	01 27 32.5	-3.8
MEIG				*i* S		Sg	01 27 47.4	-4.6
ZIIG	**Zihuatanejo**	**1.46**	**302**	*i* P		Pn	01 27 36.4	-3.6
ZIIG				*i* S		Sn	01 27 54.4	-5.0
PLIG	**Platanillo**	**1.68**	**22**	*e*P		Pn	01 27 39.1	-3.8
PLIG				*i* S		Sn	01 28 00.3	-4.5
PNIG	**Pinotepa**	**2.00**	**102**	*i* P		Pn	01 27 45.3	-2.1
PNIG				*i* S		Sn	01 28 07.8	-5.1
UTMO	**Huajuapan**	**2.47**	**66**	*i* P		Pn	01 27 51.1	-2.8
UTMO				*i* S		Sn	01 28 21.4	-2.9
PPM	**Popocatepetl**	**2.66**	**33**	*i* P		Pn	01 27 54.1	-2.4
PPM				*i* S		Sn	01 28 27.0	-2.2
VHO	**Vista Hermosa**	**3.30**	**85**	*e*P		Pn	01 28 02.8	-2.4
VHO				*i* S		Sn	01 28 41.5	-3.2

IDC 12 01:43:18.2±14.0, 17°.34S×178°.29W, h498km±146km, mb3.3/4, mb1 3.5/4, mb1mx3.1/18, mbtmp3.3/4, Error ellipse: s-maj=135.8km s-min=57.3km az=133.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**39.00**	**241**	P		P	01 50 01.1	-0.1
	3.0nm,0.7s,baz=68,slow=7.9,SNR=5.7							
WRA	**Warramunga Arr**	**44.85**	**259**	P		P	01 50 47.5	-0.1
	1.6nm,0.5s,baz=94,slow=7.0,SNR=69							
ASAR	**Alice Springs**	**45.06**	**254**	P		P	01 50 49.2	0.0
	10.0nm,0.6s,baz=88,slow=8.4,SNR=149							
ILAR	**Eielson Array**	**85.31**	**13**	P		P	01 55 01.6	+0.1
	0.2nm,0.4s,baz=220,slow=5.7,SNR=7.1							
BRTR	**Keskin Array B**	**144.47**	**315**	PKP		PKPdf	02 01 57.3	-0.3
	0.8nm,0.6s,baz=139,slow=5.1,SNR=5.6							
**

MK31 Makanchi Array 13.56 317 *e*P **Pn** **01 48 34.4 -0.7**
MK31 *e* 01 51 02.0
MKAR Makanchi Array 13.56 317 Pn **Pn** **01 48 33.6 -1.4**
comp=Z,0.8nm,0.3s,baz=122,slow=13,SNR=51
MKAR Sn **Sn** **01 51 02.7 -2.1**
comp=Z,0.5nm,0.3s,baz=128,slow=26,SNR=4.6
MKAR Lg 01 52 30.9
baz=132,slow=24,SNR=2.6
MKAR LR LR 01 54 07.6
comp=Z,140nm,18.4s,baz=126,slow=39
MKAR Makanchi Array 13.56 317 Pn **Pn** **01 48 33.6 -1.4**
MKAR Sn **Sn** **01 51 02.7 -2.1**
MKAR Lg 01 52 30.9
MKAR LR LR 01 54 07.6
MKAR Makanchi Array 13.56 317 P **Pn** **01 48 33.7 -1.4**
MKAR 01 51 02.7
MKAR pmax pmax
comp=Z,1.0nm,0.3s
MKAR smax
comp=N,1.0nm,0.3s
MKAR MLR MLR
comp=Z,140nm,18.5s
ZAK Zakamensk 13.87 20 *e*P Px 01 48 48.8
ZAK pmax pmax
comp=Z,5.0nm,0.7s
MOY Mondy 14.54 13 *e*P **Pn** **01 48 57.5 +9.1**
TLY Talaya 15.14 19 *e*P **Pn** **01 49 00.9 +4.5**
TLY pmax pmax
comp=Z,10.0nm,1.1s
TLY MLR MLR
comp=Z,186nm,11.0s
TKM2 Tokmak 2 16.29 295 *e*Pn **Pn** **01 49 10.6 -0.8**
comp=Z,19nm,0.9s
TKM2 Tokmak 2 16.29 295 *e*P **Pn** **01 49 10.6 -0.7**
TKM2 pmax pmax
comp=Z,19nm,0.9s
WHN Wuhan 16.91 109 ⇓P **Pn** **01 49 20.3 +1.1**
FRU Bishkek 16.97 295 *e*P **Pn** **01 49 25.0 +5.0**
EKS2 Erkin-Say 17.55 294 *e*P **Pn** **01 49 27.8 +0.6**
comp=Z,4.7nm,0.8s
EKS2 Erkin-Say 17.55 294 *e*P **Pn** **01 49 27.8 +0.6**
EKS2 pmax pmax
comp=Z,5.0nm,0.8s
KURK Kurchatov 17.93 322 P **Pn** **01 49 30.8 -1.0**
comp=Z,0.3nm,0.3s,baz=133,slow=11,SNR=12
KURK S **Sn** **01 52 42.8 -8.0**
comp=Z,0.1nm,0.3s,baz=114,slow=29,SNR=2.8
KURK Lg 01 55 00.1
comp=Z,0.1nm,0.3s,baz=119,slow=20,SNR=3.1
KURK LR LR 01 56 53.0
comp=Z,191nm,18.1s,baz=105,slow=38
KURK Kurchatov 17.93 322 *e*P **Pn** **01 49 32.0 +0.2**
comp=Z,9.1nm,0.9s
KURK S **Sn** **01 52 42.8 -8.0**
KURK Lg 01 55 00.1
KURK LR LR 01 56 53.0
KURK Kurchatov 17.93 322 P **Pn** **01 49 30.8 -1.0**
KURK S **Sn** **01 52 42.8 -8.0**
KURK MLR MLR
comp=Z,191nm,18.1s
ZAA0 Zalesovo Array 18.02 339 *e*Pn **Pn** **01 49 32.4 -0.4**
ZALV Zalesovo Beam 18.02 339 P **Pn** **01 49 33.1 +0.3**
comp=Z,0.4nm,0.3s,baz=149,slow=12,SNR=20
ZALV LR LR 01 56 46.3
comp=Z,105nm,20.9s,baz=319,slow=38
ZALV Zalesovo Beam 18.02 339 P **Pn** **01 49 33.1 +0.3**
ZALV LR LR 01 56 46.3
ZALV Zalesovo Beam 18.02 339 P **Pn** **01 49 33.1 +0.3**
ZALV MLR MLR
comp=Z,105nm,20.9s
NVS Novosibirsk 19.25 338 *e*P **Pn** **01 49 45.8 -2.0**
NVS pmax pmax
comp=Z,6.0nm,0.6s
NVS pmax pmax
comp=N,6.0nm,0.5s
NVS pmax pmax
comp=E,11nm,1.1s
CMAR Chiang Mai Arr 19.27 171 P **Pn** **01 49 47.0 -1.2**
comp=E,0.6nm,0.3s,baz=346,slow=10.0,SNR=5.2
CMAR LR LR 01 57 46.6
comp=E,96nm,21.7s,baz=350,slow=39
CMAR Chiang Mai Arr 19.27 171 P **Pn** **01 49 47.0 -1.2**
CMAR LR LR 01 57 46.6
CMAR Chiang Mai Arr 19.27 171 P **Pn** **01 49 47.0 -1.2**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR MLR MLR
comp=Z,96nm,21.7s
KK31 Karatay Array 19.99 294 *i* P **P** **01 49 55.7 +0.8**
KK31 pmax pmax
comp=Z,4.0nm,0.5s
KKAR Karatay Array 19.99 294 *e*P **P** **01 49 56.0 +1.1**
comp=Z,3.6nm,0.6s
KKAR Karatay Array 19.99 294 *e*P **P** **01 49 56.0 +1.1**
KKAR pmax pmax
comp=Z,4.0nm,0.6s
QIZ Qiongzhong 22.21 143 P **P** **01 50 18.1 -0.8**
QIZ S **S** **01 54 18.3 -4.0**
QIZ pmax pmax
comp=Z,33nm,1.7s,mb4.5
CN2 Changchun 23.26 65 *e*P **P** **01 50 29.5 -0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,400nm,16.0s,MS4.3
CN2 LR LR
comp=E,700nm,16.0s,MS4.3
CN2 LR LR
comp=Z,300nm,13.0s,MS3.9
BVA0 Borovoye Array 23.42 319 *i* P **P** **01 50 32.0 +0.5**
BVA0 pmax pmax
comp=Z,1.0nm,0.9s
BRVK Borovoye 23.49 319 *e*P **P** **01 50 32.8 +0.7**
comp=Z,6.0nm,0.6s,mb4.2
BRVK Borovoye 23.49 319⇓*e*P **P** **01 50 32.4 +0.3**
BRVK pmax pmax
comp=Z,4.0nm,0.6s,mb4.0
BRVK MLR MLR
comp=Z,314nm,18.0s,MS3.8
KSRS Korea Array 25.43 80 P **P** **01 50 48.3 -1.7**
comp=Z,20nm,0.7s,mb4.8,baz=275,slow=9.6,SNR=57
KSRS LR LR 02 01 06.6
comp=Z,41nm,21.9s,MS2.9,baz=168,slow=38
KSRS Korea Array 25.43 80 P **P** **01 50 48.3 -1.7**
KSRS pmax pmax
comp=Z,21nm,0.7s,mb4.8
KSRS MLR MLR
comp=Z,41nm,21.9s,MS2.9
ABKAR Akbulak array 28.25 306 *e*P **P** **01 51 15.6 +0.4**
comp=Z,2.7nm,0.8s,mb3.9
AKTK Aktyubinsk 29.70 308 P **P** **01 51 28.9 +0.8**
AKTO Aktyubinsk 29.70 308 P **P** **01 51 28.9 +0.8**
comp=Z,5.6nm,1.0s,mb4.2,baz=94,slow=10,SNR=9.9
AKTO Aktyubinsk 29.70 308 *i* P **P** **01 51 29.0 +0.9**
AKTO pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
SVE Sverdlovsk 30.17 321 *e*P **P** **01 51 36.7 +4.6**
SVE pmax pmax
comp=Z,12nm,1.4s,mb4.4
ARU Arti 31.07 319 *e*P **P** **01 51 39.8 -0.3**
comp=Z,12nm,1.1s,mb4.6
ARU Arti 31.07 319 *c i*P **P** **01 51 40.3 +0.2**
ARU *e* 01 52 41.2
ARU S **S** **01 56 48.3 +4.7**
ARU SS SS 01 58 29.2 -27
ARU pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
VRHR Novokhopersk 40.11 307 *e*P **P** **01 52 57.1 -0.6**
VRHR pmax pmax
comp=Z,5.0nm,0.5s,mb4.5
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,8.0nm,0.7s
KIV Kislovodsk 40.12 296 *e*P **P** **01 52 55.2 -2.7**
KIV pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
KIV MLR MLR
comp=Z,72nm,15.0s,MS3.6
VSR Storozhevoye 41.65 308 *e*P **P** **01 53 10.3 -0.1**
VSR *e**SP sP 01 53 15.2 -6.2
VSR pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
VSR pmax pmax
comp=N,2.0nm,0.6s
VSR pmax pmax
comp=E,3.0nm,0.5s
KLMR Klimovskoe 41.78 322 *e*P **P** **01 53 10.8 -0.5**
KLMR pmax pmax
comp=Z,25nm,1.5s,mb4.6
OBN Obninsk 43.04 314⇓*e*P **P** **01 53 22.1 +0.4**
OBN *e* 01 55 01.2
OBN pmax pmax
comp=Z,11nm,1.2s,mb4.5
OBN MLR MLR
comp=Z,100nm,17.0s,MS3.8
PEA0B Petropavlovsk- 44.76 49 *e*P **P** **01 53 36.2 +0.7**
PETK Petropavlovsk- 44.76 49 P **P** **01 53 33.6 -1.8**
comp=Z,2.2nm,0.5s,mb4.3,baz=257,slow=0.6,SNR=6.0
PETK Petropavlovsk- 44.76 49 P **P** **01 53 33.6 -1.8**
PETK Petropavlovsk- 44.76 49 P **P** **01 53 33.7 -1.8**
PETK pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
JOF Joensuu 45.83 325 *e*P **P** **01 53 43.6 -0.2**
JOF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
JOF Joensuu 45.83 325 *e*p **P** **01 53 43.6 -0.2**
comp=Z,3.0nm,0.5s,mb4.5
BR131 Keskin Array S 47.70 293 *e*P **P** **01 53 59.9 +1.0**
comp=Z,2.7nm,0.8s,mb4.3
BRTR Keskin Array B 47.70 293 P **P** **01 53 60.0 +1.1**
comp=Z,1.9nm,0.7s,mb4.2,baz=100,slow=8.1,SNR=14
BRTR Keskin Array B 47.70 293 P **P** **01 53 60.0 +1.1**
BRTR Keskin Array B 47.70 293 P **P** **01 54 00.0 +1.2**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 47.95 308 P **P** **01 53 59.9 -0.6**
comp=Z,0.8nm,0.5s,mb4.0,baz=67,slow=7.8,SNR=7.4
AKASG Malin Array Be 47.95 308 P **P** **01 53 59.9 -0.6**
AKASG Malin Array Be 47.95 308 P **P** **01 53 59.9 -0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKBB Malin Array Si 47.95 308 *e*P **P** **01 54 00.9 +0.4**
AKBB Malin Array Si 47.95 308 *e*P **P** **01 54 00.9 +0.4**
KEV Kevo 47.96 334 *e*P **P** **01 53 59.6 -0.8**
KEV Kevo 47.96 334 *e*p **P** **01 53 59.6 -0.8**
KAF Kangasniemi 48.15 324 *e*P **P** **01 54 01.2 -0.8**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
KAF Kangasniemi 48.15 324 *e*p **P** **01 54 01.2 -0.8**
comp=Z,1.0nm,0.4s,mb4.2
FINES FINESS Array B 48.30 323 P **P** **01 54 03.4 +0.2**
comp=Z,2.4nm,0.5s,mb4.5,baz=93,slow=9.9,SNR=15
FINES LR LR 02 15 59.9
comp=Z,77nm,19.8s,MS3.7,baz=112,slow=38
FINES FINESS Array B 48.30 323 P **P** **01 54 03.4 +0.2**
FINES LR LR 02 15 59.9
FINES FINESS Array B 48.30 323 P **P** **01 54 03.4 +0.3**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES MLR MLR
comp=Z,77nm,19.8s
ARCES ARCESS Array B 48.47 334 P **P** **01 54 04.7 +0.3**
comp=Z,2.2nm,0.7s,mb4.3,baz=90,slow=8.5,SNR=15
ARCES PcP PcP 01 55 28.9 -1.1
comp=Z,2.4nm,0.9s,baz=85,slow=2.8,SNR=4.4
ARCES ARCESS Array B 48.47 334 P **P** **01 54 04.7 +0.3**
ARCES PcP PcP 01 55 28.9 -1.1
ARCES ARCESS Array B 48.47 334 P **P** **01 54 04.7 +0.4**
ARCES 01 55 28.9
ARCES pmax pmax
comp=Z,2.0nm,0.7s
GUMO Guam 49.64 105 LR LR 02 15 16.6
comp=Z,358nm,21.3s,MS4.3,baz=235,slow=36
EIL Elat 50.49 280 LR LR 02 19 20.3
comp=Z,35nm,21.1s,MS3.4,baz=82,slow=40
VRI Vrincioaia 50.73 303⇑*i*P **P** **01 54 28.6 +6.8**
PLOR Plostina 50.78 303⇓*i*P **P** **01 54 23.9 +1.6**
BURAR Bucovina Array 51.23 305⇑*i*P **P** **01 54 26.8 +1.2**
BUR08 Bucovina Ar. S 51.23 305 *e*P **P** **01 54 26.2 +0.5**
SPITS Spitsbergen Ar 51.35 345 LR LR 02 20 52.7
comp=Z,66nm,18.9s,MS3.7,baz=230,slow=42
MLR Muntele Rosu 51.36 302⇓*i*P **P** **01 54 29.3 +2.7**
KWP Kalwaria Pacla 52.27 308 *e*P **P** **01 54 33.8 +0.4**
comp=Z,20nm,0.9s,mb5.0
KWP Kalwaria Pacla 52.27 308 *e*P **P** **01 54 33.8 +0.5**
KWP pmax pmax
comp=Z,20nm,0.9s,mb5.0
KWP Kalwaria Pacla 52.27 308⇓*i*P **P** **01 54 34.7 +1.4**
UZH Uzhgorod 52.82 307 *e*P **P** **01 54 35.6 -1.8**
CRVS Cervenica-Dubn 53.26 308 *e*P **P** **01 54 47.8 +7.1**
CRVS Cervenica-Dubn 53.26 308 *e*pP pP 01 54 47.8 -0.9
VYHS Vyhne 55.04 308 *e*P **P** **01 54 55.5 +1.8**
VYHS *e* 01 55 00.6
VYHS pmax pmax
comp=Z,11nm,1.9s,mb4.6
VYHS Vyhne 55.04 308 *e*P **P** **01 54 55.5 +1.8**
VYHS *e*pP pP 01 55 00.6 -1.1
MORC Moravsky Berou 55.42 310 *e*P **P** **01 54 57.0 +0.6**
comp=Z,8.2nm,1.1s,mb4.7
MORC Moravsky Berou 55.42 310 *e*P **P** **01 54 57.0 +0.6**
MORC pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
MORC Moravsky Berou 55.42 310⇓*i*P **P** **01 54 57.6 +1.2**
NB2 NORSAR Subarra 55.44 324 P **P** **01 54 55.9 -0.4**
comp=Z,2.5nm,0.6s,mb4.4,baz=72,slow=6.9
NOA NORSAR Array B 55.44 324 P **P** **01 54 56.2 -0.1**
comp=Z,2.0nm,0.6s,mb4.3,baz=72,slow=7.1,SNR=8.8
NOA LR LR 02 20 27.7
comp=Z,30nm,18.6s,MS3.4,baz=145,slow=38
NOA NORSAR Array B 55.44 324 P **P** **01 54 56.2 -0.1**
NOA LR LR 02 20 27.7
NOA NORSAR Array B 55.44 324 P **P** **01 54 56.2 -0.1**
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA MLR MLR
comp=Z,30nm,18.6s
CONA Conrad Observa 57.10 308⇑*i*pP pP 01 55 09.4 -7.1
comp=Z,9.7nm,1.2s
BRG Berggiesshubel 57.22 312 *e*P **P** **01 55 09.9 +0.8**
comp=Z,4.9nm,1.0s,mb4.5
BRG *e* pP 01 55 15.6 -1.7
comp=Z,8.1nm,1.1s
CLL Collm 57.61 312 *e*P **P** **01 55 18.0 +6.0**
CLL Collm 57.61 312 *e*(sP) sP 01 55 18.0 -5.2
GERES GERESS Array B 58.10 310 P **P** **01 55 16.1 +0.7**
comp=Z,0.8nm,0.7s,mb3.9,baz=66,slow=6.4,SNR=9.0
GERES GERESS Array B 58.10 310 P **P** **01 55 16.1 +0.7**
GERES GERESS Array B 58.10 310 P **P** **01 55 16.1 +0.7**
GERES pmax pmax
comp=Z,1.0nm,0.7s
ABTA Abfaltersbach 59.66 308 P **P** **01 55 21.0 -5.2**
comp=Z,6.4nm,1.1s,mb4.6
MOTA Moosalm 60.30 309⇑*i*P **P** **01 55 30.9 +0.3**
comp=Z,6.9nm,0.9s,mb4.7
FITZ Fitzroy Crossi 62.12 148 LR LR 02 23 02.2
comp=Z,99nm,18.7s,MS4.0,baz=17,slow=36
CDF Champ du Feu 62.17 311 *e*P **P** **01 55 43.5 +0.2**
comp=Z,7.1nm,0.8s,mb4.5
HINF Hinteralfeld 62.69 311 *e*P **P** **01 55 46.8 0.0**
GIVF Givet 62.85 314 *e*P **P** **01 55 48.4 +0.6**
HAU Haudompre 62.91 311 *e*P **P** **01 55 48.3 +0.1**
HAU *e*R
comp=Z,84nm,17.7s
PAGF Fort de Pagny 63.03 312 *e*P **P** **01 55 49.8 +0.8**
BAIF Baives 63.23 314 *e*P **P** **01 55 51.0 +0.7**
MEZF Maizieres J'vi 63.45 312 *e*P **P** **01 55 50.8 -1.0**
SFTF Sexfontaines 63.60 312 *e*P **P** **01 55 52.9 +0.1**
LPG La Plagne 63.81 308 *e*P **P** **01 55 55.4 +1.1**
comp=Z,8.5nm,0.7s,mb4.6
LPL La Plagne 63.81 308 *e*P **P** **01 55 55.3 +1.0**
comp=Z,9.9nm,0.7s,mb4.6
MBDF Montbardon 64.16 308 *e*P **P** **01 55 56.2 -0.4**
COLD Coldfoot 64.30 23 *e*P **P** **01 55 57.1 0.0**
comp=Z,6.3nm,1.0s,mb4.6
ORIF Oris-en-Rattie 64.63 308 *e*P **P** **01 55 59.9 +0.3**
comp=Z,10nm,0.8s,mb4.6
ORIF *e*R
comp=Z,98nm,19.2s
LOR Lormes 64.74 311 *e*P **P** **01 55 59.8 -0.5**
LOR *e*R
comp=Z,116nm,17.6s
SMF Signal de Mont 65.05 311 *e*P **P** **01 56 02.4 +0.1**
comp=Z,9.8nm,0.6s,mb4.7
AVF Avril sur Loir 65.27 311 *e*P **P** **01 56 03.7 -0.1**
comp=Z,6.6nm,0.8s,mb4.4
BGF Bois d'Agland 65.69 311 *e*P **P** **01 56 06.3 -0.2**
comp=Z,22nm,1.2s,mb4.8
BPAW Bear Paw Mtn. 65.91 26 *e*P **P** **01 56 07.7 +0.1**
comp=Z,5.3nm,0.6s,mb4.8
TCF Toulx Ste Croi 66.21 311 *e*P **P** **01 56 10.1 +0.3**
LASF Ste Croix 66.30 308 *e*P **P** **01 56 10.0 -0.5**
LDF La Druitiere 66.42 314 *e*P **P** **01 56 11.0 -0.1**
comp=Z,3.4nm,0.5s,mb4.4
COLA College 66.50 25 *e*P **P** **01 56 11.1 -0.2**
comp=Z,4.9nm,0.7s,mb4.7
COLA College 66.50 25 *e*P **P** **01 56 11.1 -0.3**
COLA pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
FLN La Foliniere 66.53 314 *e*P **P** **01 56 11.9 0.0**
FLN *e*R
comp=Z,146nm,18.5s
ILAR Eielson Array 66.89 24 P **P** **01 56 12.7 -1.1**
comp=Z,2.3nm,0.8s,mb4.3,baz=296,slow=5.6,SNR=27
ILAR Eielson Array 66.89 24 P **P** **01 56 12.7 -1.1**
ILAR Eielson Array 66.89 24 P **P** **01 56 12.7 -1.1**
ILAR pmax pmax
comp=Z,2.0nm,0.8s
GRR Gorron 66.94 314 *e*P **P** **01 56 14.4 -0.1**
comp=Z,16nm,0.7s,mb4.9
CAF Calviac 66.98 310 *e*P **P** **01 56 15.4 +0.6**
RJF Les Rejaudoux 67.12 310 *e*P **P** **01 56 16.3 +0.6**
RJF *e*R
comp=Z,82nm,20.0s
MTLF Montolieu 67.70 308 *e*P **P** **01 56 19.1 -0.3**
comp=Z,4.5nm,0.9s,mb4.2
WRA Warramunga Arr 67.77 141 P **P** **01 56 18.1 -1.8**
comp=Z,3.0nm,0.9s,mb4.3,baz=341,slow=6.6,SNR=13
WRA LR LR 02 23 17.7
comp=Z,300nm,21.9s,MS4.5,baz=345,slow=34
WRA Warramunga Arr 67.77 141 P **P** **01 56 18.1 -1.8**
WRA LR LR 02 23 17.7
WRA Warramunga Arr 67.77 141 P **P** **01 56 18.2 -1.7**
WRA pmax pmax
comp=Z,3.0nm,0.9s
LFF La Frestale 67.78 310 *e*P **P** **01 56 20.5 +0.6**
comp=Z,17nm,0.7s,mb4.9
SGMF Saint Gilles 67.98 314 *e*P **P** **01 56 21.4 +0.4**
INK Inuvik 68.20 18 *e*P **P** **01 56 21.7 -0.3**
comp=Z,4.3nm,1.0s,mb4.4
INK Inuvik 68.20 18 *e*P **P** **01 56 21.7 -0.4**
INK pmax pmax
comp=Z,4.0nm,1.0s
EGAK Eagle 68.70 23 *e*P **P** **01 56 24.8 -0.5**
comp=Z,5.8nm,0.9s,mb4.5
KDAK Kodiak Island 69.14 32 P **P** **01 56 26.7 -1.4**
comp=Z,8.5nm,0.6s,mb4.9,baz=290,slow=7.1,SNR=17
KDAK Kodiak Island 69.14 32 P **P** **01 56 26.7 -1.4**
KDAK Kodiak Island 69.14 32 P **P** **01 56 26.7 -1.4**
KDAK pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
OHAK Old Harbor 69.18 33 *e*P **P** **01 56 27.2 -1.2**
comp=Z,10nm,0.8s,mb4.8
ASAR Alice Springs 70.70 143 P **P** **01 56 37.1 -1.0**
comp=Z,2.1nm,0.6s,mb4.2,baz=328,slow=6.0,SNR=27
ASAR Alice Springs 70.70 143 P **P** **01 56 37.1 -1.0**
ASAR Alice Springs 70.70 143 P **P** **01 56 37.1 -1.0**
ASAR pmax pmax
comp=Z,2.0nm,0.6s
ESDC Sonseca Array 73.59 308 P **P** **01 56 56.0 +0.7**
comp=Z,1.1nm,0.5s,mb4.0,baz=40,slow=6.3,SNR=12
ESDC Sonseca Array 73.59 308 P **P** **01 56 56.0 +0.7**
TAM Tamanrasset 76.66 288 *e*P **P** **01 57 13.3 0.0**
comp=Z,2.5nm,1.1s,mb4.1
TAM Tamanrasset 76.66 288 *e*P **P** **01 57 13.3 0.0**
TAM pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
EVO Evora 76.80 309 *e*P **P** **01 57 16.0 +2.2**
comp=Z,29nm,1.1s,mb4.8
YKA Yellowknife Ar 77.30 14 P **P** **01 57 15.4 -0.8**
comp=Z,1.2nm,0.5s,mb4.0,baz=335,slow=5.4,SNR=5.0
YKA Yellowknife Ar 77.30 14 P **P** **01 57 15.4 -0.8**
YKA Yellowknife Ar 77.30 14 P **P** **01 57 15.4 -0.8**
YKA pmax pmax
comp=Z,1.0nm,0.5s
STKA Stephens Creek 81.27 142 P **P** **01 57 36.8 -1.4**
comp=Z,5.1nm,0.7s,mb4.6,baz=340,slow=5.5,SNR=18
STKA LR LR 02 32 33.6
comp=Z,190nm,19.1s,MS4.5,baz=123,slow=35
STKA Stephens Creek 81.27 142 P **P** **01 57 36.8 -1.4**
STKA LR LR 02 32 33.6
STKA Stephens Creek 81.27 142 P **P** **01 57 36.8 -1.4**
TORD Torodi Ar. Bea 85.28 283 P **P** **01 57 59.4 0.0**
comp=Z,0.4nm,0.4s,mb3.9,baz=49,slow=4.8,SNR=14
TORD Torodi Ar. Bea 85.28 283 P **P** **01 57 59.4 0.0**
JTMT Jette 90.90 20 *e*P **P** **01 58 26.0 +0.3**
comp=Z,3.5nm,0.9s,mb4.7
OTAV Otavalo 141.98 351 *e*PKPdf PKPdf 02 04 55.4 +0.8

DDA ***12*** *01:48:51.0, 40.38N×28.97E, h7km±4km, Md2.7*
CSEM ***12*** *01:48:51.4±0.1, 40.41N×28.99E, h2km, MD2.3, Error ellipse: s-maj=2.7km s-min=2.2km az=161.0*
ISK 12 01:48:50.5, 40.43N×28.99E, h5km, MD2.3, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDNY	**Mudanya-Bursa**	**0.10**	**233**	*e*PG	Pg	01 48 52.9	+0.3
MDNY				*e*SG	Sg	01 48 54.8	+0.7
MDNY	**Mudanya-Bursa**	**0.10**	**233**	*e*Pg	Pg	01 48 52.9	+0.3
MDNY				*e*Sg	Sg	01 48 54.8	+0.8
GEMT	**Gemlik**	**0.15**	**88**	*e*PG	Pg	01 48 54.2	+0.7
GEMT				*e*SG	Sg	01 48 57.0	+1.4
GEMT	**Gemlik**	**0.15**	**88**	*e*Pg	Pg	01 48 54.2	+0.7
GEMT				*e*Sg	Sg	01 48 57.0	+1.4
ARMT	**Armutlu**	**0.17**	**324**	*e*PG	Pg	01 48 54.6	+0.8
ARMT				*e*SG	Sg	01 48 57.6	+1.5
ARMT	**Armutlu**	**0.17**	**324**	*e*Pg	Pg	01 48 54.6	+0.8
ARMT				*e*Sg	Sg	01 48 57.6	+1.5
ADVT	**Abdulvahap**	**0.57**	**89**	*e*PG	Pg	01 49 02.4	+0.9
ADVT	**Abdulvahap**	**0.57**	**89**	*e*Pg	Pg	01 49 02.4	+0.9
DST	**Dursunbey**	**0.87**	**199**	*e*PG	Pg	01 49 08.5	+1.3
DST	**Dursunbey**	**0.87**	**199**	*e*Pg	Pg	01 49 08.5	+1.3
DURS	**Dursunbey**	**0.92**	**206**	*i* P	Pg	01 49 09.1	+1.0
DURS				*i* S	Sg	01 49 20.2	+0.2
BORA	**Eskisehir**	**1.25**	**116**	*i* P	Pg	01 49 14.8	+0.4
BORA				*i* S	Sg	01 49 31.9	+1.3
BORA	**Eskisehir**	**1.25**	**116**	*i* P	Pg	01 49 14.8	+0.4
BORA				*i* S	Sg	01 49 31.9	+1.3
BALY	**Balya**	**1.26**	**237**	*i* P	Pg	01 49 15.1	+0.5
BALY				*i* S	Sg	01 49 30.7	-0.1
BALY	**Balya**	**1.26**	**237**	*i* P	Pg	01 49 15.1	+0.5
BALY				*i* S	Sg	01 49 30.7	-0.2
GDZ	**Gediz**	**1.39**	**164**	*i* P	Pn	01 49 16.7	+0.2
GDZ				*i* S	Sb	01 49 35.3	+0.3
DEMI	**Demirci**	**1.40**	**189**	*i* P	Pn	01 49 17.5	+0.8
DEMI				*i* S	Sb	01 49 35.1	-0.2
DEMI	**Demirci**	**1.40**	**189**	*i* P	Pn	01 49 17.5	+0.8
DEMI				*i* S	Sb	01 49 35.1	-0.2

BUC 12 01:50:55.1±0.9, 46.53N×27.53E, h5km, MD2.4/4, 8C-10D, Error ellipse: s-maj=11.0km s-min=6.3km az=357.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GHRR		**0.47**	**190**⇑*i*P		Pg	01 51 05.7	+1.5
GHRR		**0.47**	**190**	S	Sg	01 51 12.6	+2.2
GHRR		**0.47**	**190**⇑*i*P		Pg	01 51 05.7	+1.5
GHRR				*i* S	Sg	01 51 12.6	+2.2
LEOM	**Leova**	**0.50**	**96**⇑*i*P		Pg	01 51 05.2	+0.5
LEOM	**Leova**	**0.50**	**96**	S	Sg	01 51 12.5	+1.4
LEOM	**Leova**	**0.50**	**96**⇑*i*P		Pg	01 51 05.2	+0.5
LEOM				*i* S	Sg	01 51 12.5	+1.4
PETR		**0.83**	**195**⇓*i*P		Pg	01 51 12.8	+1.8
PETR		**0.83**	**195**	S	Sg	01 51 25.0	+3.2
PETR		**0.83**	**195**⇓*i*P		Pg	01 51 12.8	+1.8
PETR				*i* S	Sg	01 51 25.0	+3.2
VRI	**Vrincioaia**	**0.86**	**220**⇓*i*P		Pg	01 51 12.5	+0.8
VRI	**Vrincioaia**	**0.86**	**220**	S	Sg	01 51 24.9	+2.0
VRI	**Vrincioaia**	**0.86**	**220**⇓*i*P		Pg	01 51 12.5	+0.8
VRI				*i* S	Sg	01 51 24.9	+2.0
VRI	**Vrincioaia**	**0.86**	**220**	S	Sg	01 51 24.9	+2.0
PLOR	**Plostina**	**0.91**	**222**⇓*i*P		Pg	01 51 13.2	+0.6
PLOR	**Plostina**	**0.91**	**222**	S	Sg	01 51 26.8	+2.4
PLOR	**Plostina**	**0.91**	**222**⇓*i*P		Pg	01 51 13.2	+0.6
PLOR				*i* S	Sg	01 51 26.8	+2.4
CFR	**Carcaliu**	**1.41**	**162**⇑*i*P		Pn	01 51 21.4	0.0
CFR	**Carcaliu**	**1.41**	**162**	S	Sb	01 51 40.8	+0.6
CFR	**Carcaliu**	**1.41**	**162**⇑*i*P		Pn	01 51 21.4	0.0
CFR				*i* S	Sb	01 51 40.8	+0.6

MLR	**Muntele Rosu**	**1.52 227**	S	Sn	01 51 44.8	+1.9
MLR	**Muntele Rosu**	**1.52 227**	*i* S	Sn	01 51 44.8	+1.9
TLCR		**1.61 146** ⇓	*i* P	Pn	01 51 25.2	+1.0
TLCR		**1.61 146**	S	Sn	01 51 46.1	+0.8
TLCR		**1.61 146** ⇓	*i* P	Pn	01 51 25.2	+1.0
TLCR			*i* S	Sn	01 51 46.1	+0.8
BURAR	**Bucovina Array**	**1.92 305** ⇑	*i* P	Pn	01 51 29.3	+0.9
BURAR	**Bucovina Array**	**1.92 305**	S	Sn	01 51 55.3	+2.4
BURAR	**Bucovina Array**	**1.92 305** ⇑	*i* P	Pn	01 51 29.3	+0.9
BURAR			*i* S	Sn	01 51 55.3	+2.4
TIRR	**Tirgusor**	**2.16 163** ⇓	*i* P	Pn	01 51 33.2	+1.5
TIRR	**Tirgusor**	**2.16 163**	S	Sn	01 52 02.4	+3.6
TIRR	**Tirgusor**	**2.16 163** ⇓	*i* P	Pn	01 51 33.2	+1.5
TIRR			*i* S	Sn	01 52 02.4	+3.6

BJI **12** *02:04:45.3, 6˚.39N× 126˚.73E, h44km, mB5.1/25, mb5.1/50, Ms4.6/35, Ms7 4.4/33*

MOS **12** *02:04:49.9± 1.2, 7˚.03N× 126˚.32E, h44km, mb5.3/45, Error ellipse: s-maj=12.0km s-min=5.7km az=115.8*

ISCJB **12** *02:04:50.5± 0.4, 6˚.99N± 0˚.02× 126˚.38E± 0˚.03, h48km± 3km, mb5.0/132, MS4.2/36, Error ellipse: s-maj=5.0km s-min=2.8km az=166.3*

MAN **12** *02:04:51, 6˚.96N× 126˚.22E, h34km, mb5.6, ML4.6, MS5.0*

MAN INTENSITY IV - MATI DAVAO ORIENTAL; INTENSITY III - MANAY DAVAO ORIENTAL; TAGUM CITY.

TEH **12** *02:04:51.0, 6˚.98N× 126˚.39E, h35km*

IDC **12** *02:04:51.1± 1.3, 6˚.96N× 126˚.36E, h43km± 11km, mb4.6/27, mb1 4.6/27, mb1mx4.6/30, mbtmp4.6/27, MS4.1/20, Ms1 4.1/20, ms1mx3.9/32, Error ellipse: s-maj=14.8km s-min=8.3km az=77.0*

NEIC **12** *02:04:52.2± 1.1, 6˚.99N× 126˚.33E, h49km± 9km, mb5.0/47, Error ellipse: s-maj=8.6km s-min=5.0km az=65.0*

NEIC Felt [IV PIVS] at Mati; [III PIVS] at Manay and Tagum; [II PIVS] at Davao; [I PIVS] at General Santos.

GCMT **12** *02:04:53.1± 0.3, 6˚.89N× 126˚.27E, h36km± 2km, MW5.1, Moment Tensor Solution. s31,c36; s70,c107; Moment tensor: Scale 10^16 Nm; Mrr 1.53±.26; Mθθ 3.46±.18; Mφφ -4.99±.20; Mrθ 1.49±.20; Mrφ -1.29±.16; Mθφ 1.74±.30; Best double couple: Mo 5.00000×10^16 NP1: φs 144.00000°, δ 59.00000°, λ 9.00000°. NP2: φs 49.00000°, δ 82.00000°, λ 149.00000°. Principal axes: T 4.2800, Plg27.0000°, Azm2.0000°; N 1.4300, Plg58.0000°, Azm217.0000°; P -5.7100, Plg15.0000°, Azm101.0000°; Data Used: IU G IC II CN.*

DJA **12** *02:04:55, 6˚.89N× 126˚.25E, h52km, Mw5.5/34*

ISC 12 02:04:52.9±0.4, **7˚.01N**±0˚.02×**126˚.36E**±0˚.03, **h54**km±3km, **h38**km±1.9km**:pP-P, n369,** σ**1s30**/371, **mb5.0**/132, **MS4.2**/36, **9C-15D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.12**	**239**	*e*P		**Pn**	**02 04 58.2**	**-3.0**
MATI				*e*S		**Sn**	**02 05 01.6**	**-5.5**
DAV	**Davao City (W)**	**0.78**	**275**	P		**Pn**	**02 05 04.9**	**-2.9**
	7µm,0.3s,baz=146,slow=1.0,SNR=647							
DAV				S		**Sn**	**02 05 17.2**	**-1.4**
	5µm,0.3s,baz=107,slow=24,SNR=19							
DAV	**Davao City (W)**	**0.78**	**275**	*e*Pn		**Pn**	**02 05 04.8**	**-3.0**
DAV	**Davao City--Mi**	**0.78**	**275**	P		**Pn**	**02 05 04.5**	**-3.2**
DMPH	**Davao City--Mi**	**0.85**	**275** ⇓	*i* P		**Pn**	**02 05 06.4**	**-2.2**
DMPH				*i* S		**Sn**	**02 05 10.4**	**-10**
KCP	**Kidapawan**	**1.26**	**270** ⇓	*i* P		**Pn**	**02 05 11.0**	**-3.2**
KCP				*i* S		**Sn**	**02 05 26.2**	**-3.9**
BUKP	**Musuan**	**1.55**	**304**	*e*P		**Pn**	**02 05 16.6**	**-1.5**
BUKP				*e*S		**Sn**	**02 05 32.0**	**-5.2**
CTBH	**Cotabato--PC H**	**2.11**	**276** ⇓	*i* P		**Pn**	**02 05 22.9**	**-2.8**
CGP	**Cagayan de Oro**	**2.19**	**311**	*e*P		**Pn**	**02 05 25.2**	**-1.6**
CGP				*i* S		**Sn**	**02 05 53.3**	**+0.5**
SCPH	**Surigao**	**2.89**	**343**	*e*P		**Pn**	**02 05 38.7**	**+2.3**
SCPH				*e*S		**Sn**	**02 06 11.1**	**+1.1**
PAGZ	**Pagadian**	**3.07**	**286**	*e*P		**Pn**	**02 05 37.5**	**-1.4**
DCPH	**Dipolog City**	**3.37**	**298** ⇑	*e*P		**Pn**	**02 05 44.2**	**+1.2**
SGSI	**Sangihe**	**3.40**	**194**	P		**Pn**	**02 05 42.1**	**-1.4**
SGSI				S		**Sn**	**02 06 21.0**	**-1.6**
TBP	**Tagbilaran**	**3.64**	**317**	*e*P		**Pn**	**02 05 47.7**	**+1.0**
TBP				*e*S		**Sn**	**02 06 28.2**	**-0.1**
IPIL	**Ipil**	**3.84**	**282**	*e*P		**Pn**	**02 05 48.7**	**-0.8**
SNPH	**Sibulan**	**3.87**	**307**	*e*P		**Pn**	**02 05 50.8**	**+1.0**
LLP	**Lapu-Lapu**	**4.05**	**324** ⇑	*e*P		**Pn**	**02 05 51.8**	**-0.5**
LLP				*e*S		**Sn**	**02 06 37.9**	**-0.6**
PLP	**Palo**	**4.35**	**342** ⇓	*e*P		**Pn**	**02 05 57.7**	**+1.2**
MNI	**Manado**	**5.73**	**195**	P		**Pn**	**02 06 13.1**	**-2.3**
	6.1nm1µm,0.8s							
MNI				S		**Sn**	**02 07 14.8**	**-5.1**
	6.1nm1µm,0.8s							
RCP	**Roxas**	**5.76**	**322** ⇑	*e*P		**Pn**	**02 06 16.2**	**+0.4**
TNTI	**Ternate**	**6.27**	**171**	P		**Pn**	**02 06 24.9**	**+2.0**
	6.7nm2µm,0.9s							
TNTI				S		**Sn**	**02 07 38.4**	**+5.1**
	6.7nm2µm,0.9s							
KMSI	**Cibinong**	**6.81**	**200**	P		**Pn**	**02 06 29.1**	**-1.2**
	2µm,0.9s							
LBMI	**Labuha**	**7.68**	**171**	P		**Pn**	**02 06 43.0**	**+0.9**
	3.6nm6µm534nm,0.9s							
LBMI				S		**Sn**	**02 08 09.1**	**+1.3**
	3.6nm6µm534nm,0.9s							
MRSI	**Marisa**	**7.84**	**214**	P		**Pn**	**02 06 42.9**	**-1.5**
	6µm545nm,1.1s							
MRSI				S		**Sn**	**02 08 03.9**	**-7.9**
	6µm545nm,1.1s							
MYLDM	**Lahad Datu**	**8.02**	**257**	P		**Pn**	**02 06 47.0**	**+0.1**
MYLDM	**Lahad Datu**	**8.02**	**257**	P		**Pn**	**02 06 46.3**	**-0.6**
	0.6nm2µm129nm,1.1s							
LUWI	**Luwuk**	**8.76**	**204**	P		**Pn**	**02 06 57.2**	**+0.2**
	6µm792nm,1.1s							
LUWI				S		**Sn**	**02 08 34.8**	**+0.5**
	6µm792nm,1.1s							
TSM	**Tawau**	**8.87**	**253**	P		**Pn**	**02 06 58.1**	**-0.3**
SDKM	**Sandakan**	**9.21**	**262**	P		**Pn**	**02 07 04.2**	**+1.1**
KDM	**Kudat**	**9.46**	**270**	P		**Pn**	**02 07 08.1**	**+1.6**
KKM	**Kota Kinabalu**	**10.12**	**265**	P		**Pn**	**02 07 17.2**	**+1.6**
KKM	**Kota Kinabalu**	**10.12**	**265**	*e*Pn		**Pn**	**02 07 14.7**	**-0.9**
KKM	**Kota Kinabalu**	**10.12**	**265**	P		Px	02 07 27.3	
NLAI	**Namlea**	**10.20**	**176**	P		**Pn**	**02 07 14.8**	**-1.9**
	4µm273nm,0.6s							
NLAI				S		**Sn**	**02 09 01.2**	**-8.5**
	4µm273nm,0.6s							
MSAI	**Masohi**	**10.60**	**166**	P		**Pn**	**02 07 24.5**	**+2.4**
	2µm38nm,0.7s							
AAI	**Ambon**	**10.78**	**170**	P		**Pn**	**02 07 29.7**	**+5.1**
MSSI	**Masamba**	**11.25**	**213**	P		**Pn**	**02 07 39.4**	**+8.4**
KDI	**Kendari**	**11.51**	**199**	P		**Pn**	**02 07 34.6**	**0.0**
	1µm101nm,0.9s							
TTSI	**Tana Toraja**	**11.93**	**213**	P		**Pn**	**02 07 40.9**	**+0.6**
	2µm147nm,0.9s							
SPSI	**Sidrap Palu**	**12.73**	**211**	P		**Pn**	**02 07 53.7**	**+2.5**
	868nm75nm,1.1s							
BBSI	**Bau Bau**	**12.97**	**197**	P		**Pn**	**02 07 57.0**	**+2.4**
	2µm78nm,1.0s							
BKSI	**Bulukumba**	**13.74**	**207**	P		**Pn**	**02 08 05.0**	**0.0**
	835nm60nm,1.4s							
BTM	**Bintulu**	**13.75**	**255**	P		**Pn**	**02 08 06.4**	**+1.2**
TLE	**Tual**	**14.08**	**153**	P		**Pn**	**02 08 12.6**	**+3.0**
	74nm,1.2s							
KBKI	**Kotabaru**	**14.43**	**225**	P		**Pn**	**02 08 19.2**	**+4.9**
SBUM	**Sibu**	**14.80**	**253**	P		**Pn**	**02 08 24.5**	**+5.4**
SMPI	**Sarmi**	**15.22**	**126**	P		**Pn**	**02 08 26.6**	**+2.0**
	4µm295nm,1.4s							
BBKI	**Banjar Baru**	**15.50**	**228**	P		**Pn**	**02 08 34.7**	**+6.5**
STKI	**Sintang**	**16.37**	**246**	P		**Pn**	**02 08 41.7**	**+2.5**
	46nm,1.0s							
KSM	**Kuching**	**16.92**	**252**	P		**Pn**	**02 08 48.8**	**+2.7**
KSM	**Kuching**	**16.92**	**252**	*e*Pn		**Pn**	**02 08 45.5**	**-0.6**
	53nm,1.0s							
KSM	**Kuching**	**16.92**	**252**	P		sP	02 09 05.4	-0.7
JAY	**Jayapura**	**17.16**	**123**	P		**Pn**	**02 08 51.7**	**+2.6**
	4µm40nm,1.2s							
BMNI	**Bima**	**17.23**	**206**	P		**Pn**	**02 08 49.3**	**-0.6**
	1µm62nm,0.8s							
SSLB	**Suanglung**	**17.47**	**343**	*e*Pn		**Pn**	**02 08 50.3**	**-2.5**
MTNI	**Mataram**	**18.56**	**213**	P		**Pn**	**02 09 06.9**	**+0.7**
	105nm,0.8s							
KMMI	**Kalianget**	**18.65**	**222**	P		**Pn**	**02 09 09.0**	**+1.7**
	4µm89nm,1.1s							
KHKI	**Kahang-Kahang**	**18.66**	**215**	P		**Pn**	**02 09 07.5**	**+0.2**
	62nm,0.9s							
QZH	**Quanzhou**	**19.32**	**338**	*e*P		**Pn**	**02 09 17.4**	**+2.2**
QZH				S		**S**	**02 12 49.0**	**-0.7**
QZH				LR		LR		
	comp=Z,2µm,21.5s							
BLJI	**Banyuglugur**	**19.41**	**221**	P		**Pn**	**02 09 25.6**	**+9.2**
JAGI	**Jajag, Banyuwa**	**19.61**	**219**	P		**Pn**	**02 09 26.1**	**+7.4**
JOW	**Kunigami**	**19.80**	**5**	LR		LR	02 16 28.0	
	comp=Z,504nm,21.2s,baz=54,slow=35							
JOW	**Kunigami**	**19.80**	**5**	*e*P		**Pn**	**02 09 20.5**	**-0.4**
GMJI	**Gumukmas**	**19.90**	**221**	P		**Pn**	**02 09 30.5**	**+8.3**
QIZ	**Qiongzhong**	**20.02**	**308**	P		**P**	**02 09 18.0**	**-3.4**
QIZ				pP			02 09 26.1	
QIZ				sP		sP	02 09 36.0	-4.2
QIZ				S		**S**	**02 13 04.3**	**+0.6**
QIZ				sS		sS	02 13 20.0	-3.2
QIZ				pmax		pmax		
	comp=Z,21nm,2.0s							
QIZ				pmax		pmax		
	comp=Z,380nm,3.8s							
QIZ				LR		LR		
	comp=N,640nm,15.8s,MS4.1							
QIZ				LR		LR		
	comp=E,310nm,15.8s,MS4.1							
QIZ				LR		LR		
	comp=Z,1µm,23.0s							
QIZ	**Qiongzhong**	**20.02**	**308**	*e*P		**P**	**02 09 22.9**	**+1.5**
	comp=Z,124nm,1.2s							
GZH	**Guangzhou**	**20.31**	**323**	P		**P**	**02 09 29.2**	**+4.7**
GZH				S		**S**	**02 13 18.2**	**+8.8**
GZH				pmax		pmax		
	comp=Z,340nm,1.1s							
KRKI	**Karangkates**	**20.47**	**223**	P		**P**	**02 09 33.8**	**+7.4**
SJI	**Sawahan**	**20.64**	**225**	P		**P**	**02 09 31.6**	**+3.4**
	comp=Z,77nm,1.0s							
PWJI	**Pagerwojo**	**20.82**	**224**	P		**P**	**02 09 35.2**	**+5.1**
SMRI	**Semarang**	**21.14**	**229**	P		pP	02 09 46.3	+0.6
BJII	**Banjamegara**	**21.88**	**230**	P		**P**	**02 09 43.8**	**+2.3**
	comp=Z,2µmcomp=Z,176nm,1.6s,mb5.2							
PPBI	**Pangkal Pinang**	**22.14**	**246**	P		**P**	**02 09 43.6**	**-0.7**
	comp=Z,66nm,0.9s,mb5.1							
MYKOM	**Kota Tinggi**	**23.03**	**258**	P		**P**	**02 09 55.0**	**+1.3**
MYKOM	**Kota Tinggi**	**23.03**	**258**	P		**P**	**02 09 55.2**	**+1.5**
	comp=Z,99nm,1.1s,mb5.2							
KTGM	**Kuala Trenggan**	**23.15**	**267**	P		**P**	**02 09 56.5**	**+1.5**
LEM	**Lembang**	**23.20**	**234**	P		**P**	**02 09 56.6**	**+1.1**
	comp=Z,2µmcomp=Z,136nm,1.0s,mb5.3							
CISI	**Cisompet, Garu**	**23.48**	**232**	P		**P**	**02 09 58.2**	**+0.2**
	comp=Z,136nm,1.1s,mb5.3							
KGM	**Kluang**	**23.49**	**259**	P		**P**	**02 09 59.7**	**+1.5**
CBJI	**Citeko**	**23.60**	**236**	P		**P**	**02 10 03.0**	**+3.9**
	comp=Z,502nm,0.9s,mb6.0							
DBJI	**Dramaga**	**23.75**	**236**	P		**P**	**02 10 01.2**	**+0.7**
	comp=Z,2µmcomp=Z,78nm,1.4s,mb5.0							
SBJI	**Serang**	**24.03**	**238**	P		**P**	**02 10 05.6**	**+2.5**
	comp=Z,10µmcomp=Z,254nm,1.5s,mb5.4							
RBSI	**Rajabasa**	**24.21**	**239**	P		**P**	**02 10 06.5**	**+1.8**
	comp=Z,755nmcomp=Z,93nm,1.0s,mb5.2							
KLI	**Kotabumi**	**24.49**	**242**	P		**P**	**02 10 08.6**	**+1.4**
	comp=Z,6µmcomp=Z,218nm,1.2s,mb5.4							
CGJI	**Cibinong**	**24.66**	**237**	P		**P**	**02 10 08.4**	**-0.4**
	comp=Z,90nm,1.0s,mb5.3							
MDSI	**Maura Dua**	**24.91**	**243**	P		**P**	**02 10 10.5**	**-0.6**
	comp=Z,58nm,0.9s,mb5.1							
FRIM	**Kepong**	**24.91**	**263**	P		**P**	**02 10 12.2**	**+1.0**
FITZ	**Fitzroy Crossi**	**24.96**	**182**	P		**P**	**02 10 10.5**	**-0.9**
	comp=Z,26nm,0.6s,mb5.0,baz=11,slow=10,SNR=76							
FITZ	**Fitzroy Crossi**	**24.96**	**182**	*e*P		**P**	**02 10 10.4**	**-1.0**
	comp=Z,49nm,0.5s,mb5.3							
FITZ	**Fitzroy Crossi**	**24.96**	**182**	*e*P		**P**	**02 10 10.0**	**-1.4**
	comp=Z,42nm,0.8s,mb5.0							
FITZ	**Fitzroy Crossi**	**24.96**	**182**	P		**P**	**02 10 10.4**	**-1.0**
	comp=Z,576nmcomp=Z,59nm,1.1s,mb5.0							
CBIJ	**Chichi jima**	**25.00**	**35**	P		**P**	**02 10 11.3**	**-0.5**
	comp=Z,96nm,0.7s,mb5.5,baz=264,slow=17,SNR=3.2							
LWLI	**Liwa**	**25.26**	**242**	P		**P**	**02 10 14.3**	**0.0**
	comp=Z,354nm,0.8s,mb5.9							
IPM	**Ipoh**	**25.33**	**266**	P		**P**	**02 10 16.2**	**+1.3**
IPM	**Ipoh**	**25.33**	**266**	*e*P		**P**	**02 10 15.6**	**+0.7**
	comp=Z,39nm,0.9s,mb4.9							
IPM	**Ipoh**	**25.33**	**266**	P		**P**	**02 10 15.5**	**+0.6**
	comp=Z,53nm,1.0s,mb5.0							
KULM	**Kulim**	**25.62**	**268**	P		**P**	**02 10 18.9**	**+1.3**
KULM	**Kulim**	**25.62**	**268**	*e*P		**P**	**02 10 17.7**	**+0.1**
	comp=Z,57nm,1.1s,mb5.0							
KULM	**Kulim**	**25.62**	**268**	P		**P**	**02 10 17.2**	**-0.4**
	comp=Z,51nm,1.2s,mb4.9							
NJ2	**Nanjing**	**25.88**	**345**	*e*P		**P**	**02 10 29.5**	**+10**
NJ2				pmax		pmax		
	comp=Z,20nm,0.5s,mb4.9							
MNAI	**Manna**	**25.95**	**245**	P		**P**	**02 10 16.2**	**-4.3**
KSI	**Kapahiang**	**25.98**	**247**	P		**P**	**02 10 20.5**	**-0.3**
	comp=Z,272nm,0.7s,mb5.9							
WHN	**Wuhan**	**25.98**	**336**	P		**P**	**02 10 22.9**	**+2.2**
WHN				pmax		pmax		
	comp=Z,130nm,1.2s,mb5.3							
WHN				LR		LR		
	comp=Z,960nm,18.6s,MS4.4							
BKNI	**Bangkinang**	**26.11**	**256**	P		**P**	**02 10 24.4**	**+2.4**
	comp=Z,105nm,0.9s,mb5.3							
PMG	**Port Moresby**	**26.37**	**128**	P		**P**	**02 10 23.6**	**-0.7**
	comp=Z,10nm,0.5s,mb4.6,baz=301,slow=12,SNR=3.5							
PMG	**Port Moresby**	**26.37**	**128**	*e*P		**P**	**02 10 24.2**	**-0.1**
	comp=Z,19nm,0.9s,mb4.6							
PMG	**Port Moresby**	**26.37**	**128**	*e*P		**P**	**02 10 24.2**	**-0.1**
PMG				pmax		pmax		
	comp=Z,19nm,0.9s							
COEN	**Coen**	**26.69**	**141**	*e*P		**P**	**02 10 27.3**	**+0.1**
	comp=Z,43nm,0.4s,mb5.3							
COEN	**Coen**	**26.69**	**141**	*e*P		**P**	**02 10 26.6**	**-0.6**
	comp=Z,262nm,1.2s,mb5.6							
COEN	**Coen**	**26.69**	**141**	P		**P**	**02 10 35.4**	**+8.2**
GYA	**Guiyang**	**26.94**	**318**	P		**P**	**02 10 31.4**	**+2.1**
GYA				pP		pP	02 10 43.8	+0.9
GYA				PP			02 11 17.6	
GYA				S		**S**	**02 15 04.5**	**+1.7**
GYA				sS		sS	02 15 25.5	-0.3
GYA				ScP		ScP	02 17 27.0	+0.7
GYA				ScS		ScS	02 21 17.4	+0.1
GYA				pmax		pmax		
	comp=Z,20nm,1.0s,mb4.6							
GYA				pmax		pmax		
	comp=Z,120nm,4.2s							
GYA				LR		LR		
	comp=N,810nm,12.1s,MS4.6							
GYA				LR		LR		
	comp=E,650nm,14.3s,MS4.6							
GYA				LR		LR		
	comp=Z,1µm,15.5s,MS4.6							
PPI	**Padang Panjang**	**26.94**	**255**	P		**P**	**02 10 29.3**	**-0.2**
	comp=Z,867nmcomp=Z,98nm,0.8s,mb5.4							
PDSI	**Padang**	**27.01**	**254**	P		**P**	**02 10 29.5**	**-0.6**
	comp=Z,122nm,0.7s,mb5.5							
NST	**Nakhon Sawan**	**27.09**	**291**	P		**P**	**02 10 30.0**	**-0.8**
MNSI	**Mandailing Nat**	**27.41**	**258**	P		**P**	**02 10 32.3**	**-1.4**
	comp=Z,6µmcomp=Z,28nm,0.9s,mb4.8							
PSI	**Prapat**	**27.64**	**263**	P		**P**	**02 10 35.5**	**-0.3**
	comp=Z,45nm,1.0s,mb5.1,baz=70,slow=1.5,SNR=25							
PSI				LR		LR	02 23 56.2	
	comp=Z,152nm,18.2s,MS3.6,baz=298,slow=41							
PSI	**Prapat**	**27.64**	**263**	P		**P**	**02 10 35.5**	**-0.3**
PSI				LR		LR	02 23 56.2	
PSI	**Prapat**	**27.64**	**263**	P		**P**	**02 10 35.5**	**-0.3**
PSI	**Prapat**	**27.64**	**263**	P		**P**	**02 10 35.3**	**-0.5**
	comp=Z,728nmcomp=Z,72nm,1.2s,mb5.2							
WRAB	**Tennant Creek**	**27.90**	**164**	*e*P		**P**	**02 10 37.5**	**-0.4**
	comp=Z,102nm,1.5s,mb5.2							
WRAB	**Tennant Creek**	**27.90**	**164**	*e*P		**P**	**02 10 37.6**	**-0.4**
WRAB				pmax		pmax		
	comp=Z,102nm,1.5s,mb5.2							
WRAB	**Tennant Creek**	**27.90**	**164**	P		**P**	**02 10 37.6**	**-0.4**
	comp=Z,166nm,0.5s,mb5.9,SNR=17							
WRAB	**Tennant Creek**	**27.90**	**164**	P		**P**	**02 10 38.2**	**+0.2**
	comp=Z,73nm,1.3s,mb5.2							
WRA	**Warramunga Arr**	**27.91**	**164**	P		**P**	**02 10 37.5**	**-0.6**
	comp=Z,6.8nm,0.6s,mb4.5,baz=345,slow=9.9,SNR=39							
WRA				S		**S**	**02 15 15.7**	**-2.4**
	comp=Z,4.9nm,1.1s,baz=334,slow=15,SNR=6.4							
WRA	**Warramunga Arr**	**27.91**	**164**	P		**P**	**02 10 37.5**	**-0.6**
WRA				S		**S**	**02 15 15.7**	**-2.4**
WRA	**Warramunga Arr**	**27.91**	**164**	P		**P**	**02 10 37.5**	**-0.5**
WRA				S		**S**	**02 15 15.7**	**-2.4**
ENH	**Enshi**	**28.05**	**328**	*e*P		**P**	**02 10 40.8**	**+1.6**
	comp=Z,194nm,1.4s,mb5.5							
SISI	**Saibi**	**28.44**	**254**	P		**P**	**02 10 41.7**	**-1.2**
	comp=Z,3µmcomp=Z,219nm,0.7s,mb5.9							
MBWA	**Marble Bar**	**28.74**	**193**	*e*P		**P**	**02 10 43.8**	**-1.6**
MBWA	**Marble Bar**	**28.74**	**193**	*e*P		**P**	**02 10 44.0**	**-1.4**
	comp=Z,39nm,1.2s,mb5.0							
MBWA	**Marble Bar**	**28.74**	**193**	P		**P**	**02 10 44.2**	**-1.2**
	comp=Z,30nm,1.6s,mb4.8							
JHJ	**Hachijo jima 2**	**28.82**	**24**	LR		LR	02 21 59.5	
	comp=Z,247nm,18.5s,MS3.9,baz=340,slow=36							
KMI	**Kunming**	**28.89**	**311**	P		**P**	**02 10 49.3**	**+2.6**
KMI				pP		pP	02 11 00.6	+0.3
KMI				sP		sP	02 11 05.6	-1.1
KMI				PP		PP	02 11 43.9	-8.8
KMI				S		**S**	**02 15 35.9**	**+2.4**
KMI				sS		sS	02 15 56.9	+0.4
KMI				pmax		pmax		
	comp=Z,44nm,1.1s,mb5.1							
KMI				pmax		pmax		
	comp=Z,210nm,4.5s							
KMI				LR		LR		
	comp=N,450nm,18.2s,MS4.3							
KMI				LR		LR		
	comp=E,530nm,18.2s,MS4.3							
KMI				LR		LR		
	comp=Z,760nm,18.2s,MS4.3							
CM31	**Chiang Mai Arr**	**29.01**	**296**	*e*P		**P**	**02 10 49.0**	**+1.1**
	comp=Z,3.7nm,0.4s,mb4.5							
CMAR	**Chiang Mai Arr**	**29.01**	**296**	P		**P**	**02 10 48.8**	**+0.8**
	comp=Z,13nm,1.0s,mb4.6,baz=118,slow=7.3,SNR=37							
CMAR				LR		LR	02 22 39.1	
	comp=Z,467nm,18.4s,MS4.1,baz=114,slow=37							
CMAR	**Chiang Mai Arr**	**29.01**	**296**	P		**P**	**02 10 48.8**	**+0.8**
CMAR				LR		LR	02 22 39.1	
CMAR	**Chiang Mai Arr**	**29.01**	**296**	P		**P**	**02 10 48.8**	**+0.9**
CHG	**Chiang Mai**	**29.13**	**296** ⇑	P		**P**	**02 10 49.5**	**+0.5**
	comp=Z,20nm,1.0s,mb4.8							
CHTO	**Chiang Mai**	**29.13**	**296**	*e*P		**P**	**02 10 49.5**	**+0.5**
	comp=Z,19nm,1.0s,mb4.8							
CHTO	**Chiang Mai**	**29.13**	**296**	*e*P		**P**	**02 10 49.5**	**+0.5**
CHTO				pmax		pmax		
	comp=Z,19nm,1.0s,mb4.8							
CHTO	**Chiang Mai**	**29.13**	**296**	P		**P**	**02 10 49.1**	**+0.1**
	comp=Z,23nm,1.1s,mb4.8							
QIS	**Mount Isa**	**30.33**	**155**	*e*P		**P**	**02 10 59.1**	**-0.4**
KSRS	**Korea Array**	**30.34**	**2**	P		**P**	**02 10 59.2**	**-0.2**
	comp=Z,2.8nm,0.8s,mb4.0,baz=180,slow=10,SNR=9.0							
KSRS				LR		LR	02 22 13.5	
	comp=Z,204nm,21.0s,MS3.8,baz=18,slow=34							
MJAR	**Matsushiro Arr**	**31.33**	**19**	P		**P**	**02 11 06.6**	**-1.6**
	comp=Z,8.2nm,0.8s,mb4.6,baz=199,slow=11,SNR=7.7							
MJAR				LR		LR	02 22 60.0	
	comp=Z,259nm,20.3s,MS3.9,baz=185,slow=35							
MJAR	**Matsushiro Arr**	**31.33**	**19**	P		**P**	**02 11 06.6**	**-1.6**
MJAR				LR		LR	02 22 60.0	
MJAR	**Matsushiro Arr**	**31.33**	**19**	P		**P**	**02 11 06.6**	**-1.6**
MAJO	**Matsushiro**	**31.33**	**19**	*e*P		**P**	**02 11 06.5**	**-1.6**
	comp=Z,15nm,0.9s,mb4.8							
MAJO	**Matsushiro**	**31.33**	**19**	*e*P		**P**	**02 11 06.5**	**-1.7**
MAJO				pmax		pmax		
	comp=Z,15nm,0.9s,mb4.8							
MAT	**Matsushiro**	**31.33**	**19**	P		**P**	**02 11 05.8**	**-2.4**
XAN	**Xi'an**	**31.36**	**331**	P		**P**	**02 11 09.2**	**+0.7**
XAN				pP		pP	02 11 17.9	-4.2
XAN				sP		sP	02 11 24.3	-4.2
XAN				pmax		pmax		
	comp=Z,25nm,1.2s,mb4.9							
XAN				pmax		pmax		
	comp=Z,21nm,6.9s							
XAN				LR		LR		
	comp=N,440nm,23.9s,MS4.1							
XAN				LR		LR		
	comp=E,210nm,26.3s,MS4.1							
ASAR	**Alice Springs**	**31.36**	**167**	P		**P**	**02 11 08.6**	**0.0**
	comp=E,7.1nm,0.5s,mb4.7,baz=340,slow=7.1,SNR=49							
ASAR				S		**S**	**02 16 10.8**	**-1.4**
	comp=E,3.1nm,0.9s,baz=357,slow=17,SNR=4.6							

CN2 eS S 02 17 36.2 +2.5
CN2 pmax pmax
comp=Z,10.0nm,0.5s,mb4.9
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,400nm,16.0s,MS4.6
CN2 LR LR
comp=E,700nm,16.0s,MS4.6
CN2 LR LR
comp=Z,200nm,15.0s,MS4.0
MDJ Mudanjiang 37.57 4 P P 02 12 01.7 -0.3
MDJ pP pP 02 12 12.7 -3.1
MDJ sP sP 02 12 17.1 -5.0
MDJ S S 02 17 47.8 +0.3
MDJ pmax pmax
comp=Z,11nm,1.2s,mb4.5
MDJ pmax pmax
comp=Z,63nm,4.6s
FORT Forrest 37.60 178 eP P 02 12 02.1 -0.3
comp=Z,79nm,0.6s,mb5.6
FORT Forrest 37.60 178 eP P 02 12 02.1 -0.3
comp=Z,83nm,0.7s,mb5.6
QLP Quilpie 37.62 153 eP P 02 12 01.8 -0.9
KLBR Kellerberrin 39.25 192 eP P 02 12 15.2 -1.1
comp=Z,15nm,0.4s,mb5.1
LSA Lhasa 40.06 309 eP P 02 12 25.2 +2.1
comp=Z,13nm,1.0s,mb4.6
LSA Lhasa 40.06 309 eP P 02 12 25.2 +2.1
LSA pmax pmax
comp=Z,13nm,1.0s,mb4.6
GTA Gaotai 40.13 328 ⇑P P 02 12 25.3 +1.8
GTA pP pP 02 12 37.7 +0.2
GTA sP sP 02 12 42.8 -1.0
GTA PP PP 02 14 05.0 +8.3
GTA ScP ScP 02 18 14.4 +2.4
GTA S S 02 18 28.6 +2.3
GTA pmax pmax
comp=Z,38nm,2.1s,mb4.8
GTA pmax pmax
comp=Z,270nm,5.0s
GTA LR LR
comp=N,350nm,19.9s,MS4.4
GTA LR LR
comp=E,430nm,19.0s,MS4.4
GTA LR LR
comp=Z,500nm,20.9s,MS4.3
EIDS Eidsvold 40.17 144 eP P 02 12 24.1 0.0
comp=Z,28nm,1.2s,mb4.9
NWAO Narrogin (SRO) 40.65 192 P P 02 12 27.0 -0.8
comp=Z,23nm,0.5s,mb5.1,baz=16,slow=8.6,SNR=29
NWAO Narrogin (SRO) 40.65 192 eP P 02 12 27.5 -0.4
NWAO Narrogin (SRO) 40.65 192 eP P 02 12 27.5 -0.3
BBOO Buckleboo 40.66 167 eP P 02 12 28.8 +0.8
comp=Z,204nm,0.8s,mb5.8
STKA Stephens Creek 41.31 160 P P 02 12 33.5 +0.2
comp=Z,14nm,0.6s,mb4.8,baz=337,slow=8.5,SNR=29
STKA Stephens Creek 41.31 160 eP P 02 12 33.5 +0.2
comp=Z,24nm,0.7s,mb4.9
STKA Stephens Creek 41.31 160 eP P 02 12 33.7 +0.4
comp=Z,8.2nm,0.9s,mb4.4
STKA Stephens Creek 41.31 160 eP P 02 12 33.7 +0.4
STKA pmax pmax
comp=Z,8.0nm,0.9s
KLR Kul'dur 42.33 5 eP P 02 12 39.2 -2.2
GUN Gumba 43.56 304 eP P 02 12 51.5 -0.3
comp=Z,74nm,0.8s,mb5.5
PKI Pulchoki 43.84 303 eP P 02 12 53.6 -0.4
PKIN Phulchoki 43.85 303 eP P 02 12 53.5 -0.6
comp=Z,13nm,0.6s,mb4.9
ULN Ulaanbaatar 43.91 341 eP P 02 12 54.9 +0.7
comp=Z,38nm,0.9s,mb5.1
ULN Ulaanbaatar 43.91 341 eP P 02 12 54.9 +0.7
ULN pmax pmax
comp=Z,38nm,0.9s,mb5.1
ULN Ulaanbaatar 43.91 341 P P 02 12 56.0 +1.8
KKN Kakani 44.02 303 eP P 02 12 54.7 -0.7
SONM Songino Array 44.10 341 P P 02 12 55.6 -0.1
comp=Z,16nm,1.0s,mb4.7,baz=159,slow=8.2,SNR=54
SONM PcP PcP 02 14 40.9 +0.7
comp=Z,4.4nm,0.8s,baz=134,slow=3.3,SNR=6.1
SONM LR LR 02 32 06.9
comp=Z,170nm,21.9s,MS3.9,baz=162,slow=37
SONM Songino Array 44.10 341 P P 02 12 55.6 -0.1
SONM PcP PcP 02 14 40.9 +0.7
SONM LR LR 02 32 06.9
SONM Songino Array 44.10 341 P P 02 12 55.6 -0.1
SONM 02 14 40.9
DMN Daman 44.10 303 eP P 02 12 56.0 -0.1
comp=Z,40nm,1.0s,mb5.1
ARMA Armidale 44.41 148 eP P 02 12 58.6 +0.2
ARMA Armidale 44.41 148 eP P 02 12 58.9 +0.5
comp=Z,26nm,0.8s,mb5.0
GKN Gorkha 44.63 303 eP P 02 12 59.4 -0.9
KOLN Koldanda 45.41 302 eP P 02 13 06.7 +0.1
comp=Z,46nm,1.0s,mb5.3
DANN Dangsing 45.47 303 eP P 02 13 06.8 -0.2
comp=Z,39nm,0.8s,mb5.3
ARPS Mount Arapiles 45.90 163 eP P 02 13 10.5 +0.4
comp=Z,58nm,0.6s,mb5.7
CAN Canberra 47.20 155 eP P 02 13 20.8 +0.5
comp=Z,60nm,1.3s,mb5.4
CAN epP pP 02 13 31.3 -3.3
CAN Canberra 47.20 155 eP P 02 13 20.8 +0.4
CAN e*PP pP 02 13 31.3 -3.3
CAN pmax pmax
comp=Z,60nm,1.3s,mb5.4
ZAK Zakamensk 47.33 340 eP P 02 13 14.4 -6.8
ZAK pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
CNB Canberra Magne 47.35 154 eP P 02 13 23.6 +2.1
comp=Z,137nm,0.9s,mb5.9
HYB Hyderabad 47.73 287 *i* P P 02 13 26.0 +1.1
TLY Talaya 48.33 341 eP P 02 13 30.3 +1.4
comp=Z,13nm,0.9s,mb5.0
TLY Talaya 48.33 341 eP P 02 13 30.4 +1.6
TLY pmax pmax
comp=Z,15nm,1.0s,mb5.0
TLY MLR MLR
comp=Z,96nm,18.0s,MS3.8
MOY Mondy 49.20 339 eP P 02 13 38.2 +2.6
MOY pmax pmax
comp=Z,49nm,2.2s,mb5.2
CLNS Chul'man 49.71 359 eP P 02 13 44.1 +4.7
CLNS pmax pmax
comp=Z,11nm,0.9s,mb4.9
CLNS pmax pmax
comp=N,6.0nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,0.7s
WMQ Urumqi 49.86 324 P P 02 13 39.9 -0.9
WMQ pP pP 02 13 49.8 -5.3
WMQ sP sP 02 13 53.7 -7.6
WMQ PP PP 02 15 35.3 -0.7
WMQ pmax pmax
comp=Z,19nm,0.6s,mb5.3
WMQ pmax pmax
comp=Z,220nm,3.8s
WMQ LR LR
comp=N,440nm,15.0s,MS4.7
WMQ LR LR
comp=E,230nm,14.5s,MS4.7
WMQ LR LR
comp=Z,410nm,28.3s
BOD Bodaibo 51.59 352 eP P 02 13 54.8 +1.3
BOD pmax pmax
comp=Z,14nm,1.2s,mb4.8
PETK Petropavlovsk- 52.57 23 P P 02 14 03.0 +2.1
comp=Z,2.6nm,0.5s,mb4.4,baz=191,slow=7.2,SNR=4.7
PETK LR LR 02 35 52.5
comp=Z,76nm,20.5s,MS3.7,baz=32,slow=35
PETK Petropavlovsk- 52.57 23 P P 02 14 03.0 +2.1
PETK LR LR 02 35 52.5
PETK Petropavlovsk- 52.57 23 P P 02 14 03.0 +2.1
MK31 Makanchi Array 54.69 324 eP P 02 14 17.2 +0.8
MK31 Makanchi Array 54.69 324 *ce*P P 02 14 16.9 +0.4
MK31 pmax pmax
comp=Z,18nm,0.7s,mb5.2
MKAR Makanchi Array 54.69 324 P P 02 14 17.4 +0.9
comp=Z,14nm,0.7s,mb5.1,baz=121,slow=7.6,SNR=20
MKAR LR LR 02 39 03.9
comp=Z,322nm,20.8s,MS4.4,baz=113,slow=38
MKAR Makanchi Array 54.69 324 P P 02 14 17.4 +0.9
MKAR LR LR 02 39 03.9
MKAR Makanchi Array 54.69 324 P P 02 14 17.4 +0.9
YAK Yakutsk 54.97 2 *i* P P 02 14 18.3 +0.1
YAK pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
MSVF Nonsavu 56.65 116 eP P 02 14 32.7 +1.6
comp=Z,28nm,0.9s,mb5.3
MSVF Nonsavu 56.65 116 eP P 02 14 32.7 +1.7
MSVF pmax pmax
comp=Z,28nm,0.9s,mb5.3
TKM2 Tokmak 2 57.08 317 eP P 02 14 34.2 +0.5
comp=Z,8.3nm,0.8s,mb4.8
TKM2 Tokmak 2 57.08 317 eP P 02 14 34.2 +0.5
TKM2 pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
ZAA0 Zalesovo Array 57.53 332 eP P 02 14 36.0 -0.6
ZALV Zalesovo Beam 57.53 332 P P 02 14 36.5 -0.1
comp=Z,13nm,0.8s,mb5.0,baz=122,slow=6.5,SNR=29
ZALV LR LR 02 40 52.0
comp=Z,197nm,20.0s,MS4.2,baz=118,slow=38
ZALV Zalesovo Beam 57.53 332 P P 02 14 36.5 -0.1
ZALV LR LR 02 40 52.0
ZALV Zalesovo Beam 57.53 332 P P 02 14 36.5 -0.1
EKS2 Erkin-Say 58.22 316 eP P 02 14 42.2 +0.5
comp=Z,9.8nm,0.7s,mb5.0
EKS2 Erkin-Say 58.22 316 eP P 02 14 42.2 +0.5
EKS2 pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
KURK Kurchatov 58.81 327 P P 02 14 45.0 -0.7
comp=Z,21nm,0.8s,mb5.2,baz=125,slow=6.3,SNR=57
KURK Kurchatov 58.81 327 eP P 02 14 45.2 -0.4
comp=Z,27nm,0.8s,mb5.3
KURK Kurchatov 58.81 327 P P 02 14 45.4 -0.2
KURK pmax pmax
comp=Z,29nm,0.9s,mb5.3
NVS Novosibirsk 58.81 332⇑ *i*P P 02 14 43.4 -2.2
NVS pmax pmax
comp=Z,27nm,1.0s,mb5.2
NVS pmax pmax
comp=N,17nm,1.3s
NVS pmax pmax
comp=E,12nm,1.3s
KKAR Karatay Array 60.62 316 eP P 02 14 57.7 -0.5
comp=E,12nm,0.9s,mb5.0
KKAR Karatay Array 60.62 316 eP P 02 14 57.7 -0.6
KKAR pmax pmax
comp=Z,12nm,0.9s,mb5.0
BVA0 Borovoye Array 64.40 326 *i* P P 02 15 22.6 -0.7
BVA0 pmax pmax
comp=Z,3.0nm,1.3s,mb4.2
BRVK Borovoye 64.47 326 eP P 02 15 23.1 -0.6
comp=Z,16nm,0.8s,mb5.1
BRVK Borovoye 64.47 326⇓ eP P 02 15 23.6 -0.1
BRVK pmax pmax
comp=Z,29nm,1.7s,mb5.0
BRVK MLR MLR
comp=Z,128nm,17.0s,MS4.2
ZRNK Zerenda 65.14 326 *i* P P 02 15 27.1 -1.0
ZRNK pmax pmax
comp=Z,19nm,0.8s,mb5.2
BILL Bilibino 66.50 15 eP P 02 15 37.2 +0.6
comp=Z,3.1nm,0.8s,mb4.4
BILL Bilibino 66.50 15⇓ eP P 02 15 37.0 +0.4
BILL eS S 02 24 12.6 -10
BILL pmax pmax
comp=Z,4.0nm,1.2s,mb4.3
AB31 Akbulak array 69.41 320 *ce*P P 02 15 53.8 -1.4
AB31 pmax pmax
comp=Z,17nm,1.2s,mb4.8
ABKAR Akbulak array 69.41 320 eP P 02 15 54.4 -0.8
comp=Z,5.7nm,0.8s,mb4.5
AKTK Aktyubinsk 70.89 321 P P 02 16 03.7 -0.5
AKTO Aktyubinsk 70.89 321 P P 02 16 03.7 -0.5
comp=Z,6.9nm,0.8s,mb4.6,baz=119,slow=5.8,SNR=12
AKTO Aktyubinsk 70.89 321 P P 02 16 03.7 -0.5
SVE Sverdlovsk 71.00 328⇑ *i*P P 02 16 04.4 -0.4
SVE pmax pmax
comp=Z,37nm,1.0s,mb5.3
IGLO Ghaloghah 71.83 306 eP P 02 16 08.7 -1.5
ARU Arti 71.99 327 eP P 02 16 09.6 -1.1
comp=Z,27nm,0.9s,mb5.2
ARU Arti 71.99 327 *d i*P P 02 16 10.5 -0.3
ARU *e* 02 18 49.5
ARU S S 02 25 30.8 +2.7
ARU SS SS 02 30 08.8 +3.2
ARU pmax pmax
comp=Z,44nm,1.7s,mb5.1
IPAR Pars 72.08 299 eP P 02 16 10.4 -1.5
ILAS Lasjerd 72.45 305 eP P 02 16 12.7 -1.3
ISFB Sefidab 72.97 304 eP P 02 16 15.0 -2.1
IKLH Kolahrood 73.47 303 eP P 02 16 18.8 -1.3
SOKR Solikamsk 73.70 330 eP P 02 16 25.2 +4.4
SOKR pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CASY Casey 74.00 187 eP P 02 16 21.9 -0.5
comp=Z,14nm,0.9s,mb4.9
GNI Garni 79.12 309 P P 02 16 51.3 -0.6
comp=Z,5.0nm,1.0s,mb4.4,baz=18,slow=9.6,SNR=2.3
GNI Garni 79.12 309 eP P 02 16 53.1 +1.1
comp=Z,17nm,0.9s,mb5.0
GNI Garni 79.12 309 eP P 02 16 53.1 +1.1
GNI pmax pmax
comp=Z,17nm,0.9s
KDAK Kodiak Island 79.34 33 *i* P P 02 16 53.3 +0.5
ZEI Tsey 79.75 312 eP P 02 16 53.7 -1.6
ZEI pmax pmax
comp=Z,21nm,1.5s,mb4.8
KIV Kislovodsk 80.63 313 eP P 02 17 01.8 +1.8
comp=Z,18nm,1.1s,mb4.9
KIV Kislovodsk 80.63 313 eP P 02 17 01.5 +1.5
KIV pmax pmax
comp=Z,13nm,1.0s,mb4.8
VRHR Novokhopersk 81.29 321 eP P 02 17 01.5 -1.9
VRHR pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
VRHR pmax pmax
comp=N,10.0nm,0.4s
VRHR pmax pmax
comp=E,20nm,0.7s
MCK McKinley 81.42 27 eP P 02 17 03.0 -0.7
comp=E,15nm,0.9s,mb4.9
MCK McKinley 81.42 27 eP P 02 17 03.1 -0.7
MCK pmax pmax
comp=Z,15nm,0.9s,mb4.9
COLA College 81.91 25 eP P 02 17 07.2 +0.8
comp=Z,5.6nm,0.9s,mb4.5
COLA College 81.91 25 eP P 02 17 07.2 +0.8
COLA pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
ABPO Ambohimpanom 82.08 250 eP P 02 17 05.9 -2.3
comp=Z,7.4nm,0.9s,mb4.6
ABPO Ambohimpanom 82.08 250 eP P 02 17 05.9 -2.3
ABPO pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
ILAR Eielson Array 82.32 26 P P 02 17 07.0 -1.5
comp=Z,1.2nm,0.6s,mb4.0,baz=237,slow=5.0,SNR=21
ILAR Eielson Array 82.32 26 P P 02 17 07.0 -1.5
ILAR Eielson Array 82.32 26 P P 02 17 07.0 -1.6
KLMR Klimovskoe 82.39 330 eP P 02 17 07.0 -2.0
KLMR pmax pmax
comp=Z,53nm,1.4s,mb5.3
VSR Storozhevoye 82.83 321 eP P 02 17 10.9 -0.6
VSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
VSR pmax pmax
comp=N,1.0nm,0.6s
VSR pmax pmax
comp=E,10.0nm,1.1s
MOS Moscow 83.55 325 eP pP 02 17 26.4 -4.0
OBN Obninsk 84.19 325 eP P 02 17 17.3 -1.1
comp=Z,94nm,1.5s,mb5.7
OBN Obninsk 84.19 325⇓ eP P 02 17 19.4 +1.1
OBN *e* 02 20 32.6
OBN eS S 02 27 41.4 +2.1
OBN pmax pmax
comp=Z,71nm,1.7s,mb5.5
OBN MLR MLR
comp=Z,200nm,21.0s,MS4.5
LVZ Lovozero 84.20 338⇓ eP P 02 17 18.4 +0.2
LVZ pmax pmax
comp=Z,102nm,2.4s,mb5.5
LVZ MLR MLR
comp=Z,212nm,21.0s,MS4.5
ANN Anapa 84.36 314 eP P 02 17 17.0 -2.4
ANN pmax pmax
comp=Z,44nm,1.3s,mb5.4
APA Apatity 84.71 337⇓ *i*P P 02 17 17.0 -3.7
DAWY Dawson 85.61 26 eP P 02 17 26.3 +1.0
JOF Joensuu 86.11 333 eP P 02 17 27.2 -0.6
JOF pmax pmax
comp=Z,18nm,0.6s,mb5.5
JOF Joensuu 86.11 333 ep P 02 17 27.2 -0.6
comp=Z,18nm,0.6s,mb5.5
PPT Papeete 86.47 108 eLR LR 02 45 13.0
comp=Z,200nm,23.8s
PPT Papeete 86.47 108 LR LR 02 49 06.9
comp=Z,138nm,18.9s,MS4.4,baz=279,slow=31
MAW Mawson 86.68 200 P P 02 17 29.4 -1.0
comp=Z,2.8nm,0.9s,mb4.5,baz=345,slow=5.9,SNR=4.5
MAW LR LR 02 56 58.3
comp=Z,77nm,18.9s,MS4.1,baz=220,slow=36
MAW Mawson 86.68 200 P P 02 17 29.4 -1.0
MAW LR LR 02 56 58.3
MAW Mawson 86.68 200 P P 02 17 29.4 -1.0
VNDA Vanda 86.70 173 P P 02 17 30.3 -0.1
comp=Z,3.5nm,0.9s,mb4.6,baz=321,slow=6.5,SNR=14
VNDA LR LR 02 52 24.9
comp=Z,132nm,20.9s,MS4.3,baz=321,slow=33
VNDA Vanda 86.70 173 eP P 02 17 30.3 -0.1
comp=Z,4.9nm,0.8s,mb4.8
VNDA Vanda 86.70 173 eP P 02 17 30.3 -0.1
VNDA pmax pmax
comp=Z,5.0nm,0.8s
KEV Kevo 86.71 340 eP P 02 17 28.6 -2.0
KEV pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
KEV Kevo 86.71 340 ep P 02 17 28.6 -2.0
comp=Z,5.4nm,0.8s,mb4.8
MMAI Mount Meron Ar 87.03 303 P P 02 17 32.0 -1.0
comp=Z,2.7nm,0.7s,mb4.6,baz=74,slow=7.8,SNR=2.6
SPITS Spitsbergen Ar 87.22 349 P P 02 17 32.1 -0.9
comp=Z,9.0nm,0.7s,mb5.1,baz=111,slow=8.6,SNR=6.5
SPITS Spitsbergen Ar 87.22 349 P P 02 17 32.1 -0.9
SPITS Spitsbergen Ar 87.22 349 P P 02 17 32.1 -0.9
ARCES ARCESS Array B 87.27 340 P P 02 17 32.9 -0.5
comp=Z,15nm,0.9s,mb5.2,baz=42,slow=5.7,SNR=15
ARCES LR LR 03 02 33.5
comp=Z,87nm,18.5s,MS4.2,baz=350,slow=40
ARCES ARCESS Array B 87.27 340 P P 02 17 32.9 -0.5
ARCES LR LR 03 02 33.5
ARCES ARCESS Array B 87.27 340 P P 02 17 32.9 -0.4
INK Inuvik 87.27 21 eP P 02 17 33.2 -0.2
comp=Z,4.9nm,0.9s,mb4.7
INK Inuvik 87.27 21 eP P 02 17 33.2 -0.2
INK pmax pmax
comp=Z,5.0nm,0.9s
TBI Tubuai 87.44 114 eLR LR 02 45 39.8
comp=Z,219nm,23.0s
BR131 Keskin Array S 87.66 310 eP P 02 17 34.1 -1.8
comp=Z,3.5nm,0.9s,mb4.6
BRTR Keskin Array B 87.66 310 P P 02 17 33.1 -2.8
comp=Z,2.2nm,0.9s,mb4.4,baz=93,slow=3.9,SNR=8.7
BRTR LR LR 03 04 18.4
comp=Z,51nm,19.7s,MS3.9,baz=298,slow=41
BRTR Keskin Array B 87.66 310 P P 02 17 33.1 -2.8
BRTR LR LR 03 04 18.4
BRTR Keskin Array B 87.66 310 P P 02 17 33.1 -2.8
KAF Kangasniemi 88.54 332 eP P 02 17 38.5 -1.0
KAF pmax pmax
comp=Z,8.0nm,0.7s,mb5.2
KAF Kangasniemi 88.54 332 ep P 02 17 38.5 -1.0
comp=Z,7.8nm,0.7s,mb5.2
FINES FINESS Array B 88.79 332 P P 02 17 40.5 -0.3
comp=Z,7.1nm,0.7s,mb5.1,baz=104,slow=3.0,SNR=22
FINES LR LR 02 59 14.9
comp=Z,146nm,20.4s,MS4.4,baz=111,slow=37
FINES FINESS Array B 88.79 332 P P 02 17 40.5 -0.3
FINES LR LR 02 59 14.9
FINES FINESS Array B 88.79 332 P P 02 17 40.5 -0.2
AKASG Malin Array Be 89.13 321 P P 02 17 41.2 -1.4
comp=Z,2.0nm,0.5s,mb4.7,baz=73,slow=3.8,SNR=15
AKASG LR LR 03 02 59.0
comp=Z,104nm,20.6s,MS4.2,baz=80,slow=39
AKASG Malin Array Be 89.13 321 P P 02 17 41.2 -1.4
AKASG LR LR 03 02 59.0
AKASG Malin Array Be 89.13 321 P P 02 17 41.2 -1.4
AKBB Malin Array Si 89.13 321 eP P 02 17 41.4 -1.2
AKBB Malin Array Si 89.13 321 eP P 02 17 41.4 -1.2
KIEV Kiev 89.14 321 eP P 02 17 41.3 -1.3
comp=Z,12nm,1.1s,mb5.1
KIEV Kiev 89.14 321 eP P 02 17 41.3 -1.3
KIEV pmax pmax
comp=Z,12nm,1.1s,mb5.1
KMBO Kilima Mbogo 89.25 269 eP P 02 17 42.5 -1.4
comp=Z,3.0nm,1.1s,mb4.5
KMBO Kilima Mbogo 89.25 269 eP P 02 17 42.5 -1.4
KMBO pmax pmax
comp=Z,3.0nm,1.1s
BUR08 Bucovina Ar. S 92.33 318 eP P 02 17 56.8 -0.8
KWP Kalwaria Pacla 93.46 321 eP P 02 18 03.8 +1.1
comp=Z,18nm,1.2s,mb5.4
KWP Kalwaria Pacla 93.46 321 eP P 02 18 03.8 +1.1
KWP pmax pmax
comp=Z,18nm,1.2s,mb5.4
UZH Uzhgorod 93.98 320 eP P 02 18 04.0 -1.1
TAOE Nuku Hiva Isla 94.49 98 eLR LR 02 48 53.2
comp=Z,274nm,23.0s
NIE Niedzica 95.02 321 eP P 02 18 12.0 +2.2
NIE Niedzica 95.02 321 eP P 02 18 12.0 +2.2
OJC Ojcow 95.10 322 eP P 02 18 11.1 +0.9
OJC Ojcow 95.10 322 eP P 02 18 11.1 +0.9
SYO Syowa Base 95.33 201⇓ eP P 02 18 09.2 -1.5
SYO Syowa Base 95.33 201⇓ ePcP PcP 02 18 10.8 -0.2
NB2 NORSAR Subarra 95.71 334 P P 02 18 12.3 -0.4
comp=Z,5.0nm,0.8s,mb5.0,baz=65,slow=4.6
NOA NORSAR Array B 95.71 334 P P 02 18 11.9 -0.8
comp=Z,3.2nm,0.8s,mb4.8,baz=64,slow=4.6,SNR=12
NOA LR LR 03 04 51.9
comp=Z,240nm,19.7s,MS4.7,baz=70,slow=38
NOA NORSAR Array B 95.71 334 P P 02 18 11.9 -0.8
NOA LR LR 03 04 52.0
NOA NORSAR Array B 95.71 334 P P 02 18 12.0 -0.7
NAO01 NORSAR Array S 95.94 334 eP P 02 18 14.1 +0.4
comp=Z,5.4nm,0.7s,mb5.1
BRG Berggiesshubel 98.40 324 eP P 02 18 27.1 +2.0
comp=Z,4.7nm,1.0s,mb5.0
GERES GERESS Array B 99.30 322 P P 02 18 29.0 -0.2
comp=Z,0.9nm,0.8s,mb4.4,baz=69,slow=4.4,SNR=7.1
GERES LR LR 03 07 16.1
comp=Z,93nm,20.1s,MS4.3,baz=65,slow=38
GERES GERESS Array B 99.30 322 P P 02 18 29.0 -0.2
GERES LR LR 03 07 16.1
GERES GERESS Array B 99.30 322 P P 02 18 29.0 -0.2
VNA2 Neumayer--Watz 109.88 195 *e* PKiKP 02 23 15.5 -2.1
baz=53,slow=1.1
TXAR Lajitas Array 119.85 50 PKP PKPdf 02 23 37.1 -0.8
comp=Z,0.2nm,0.6s,baz=204,slow=2.0,SNR=3.3
TXAR Lajitas Array 119.85 50 PKP PKPdf 02 23 37.1 -0.8
TXAR Lajitas Array 119.85 50 PKIKP PKPdf 02 23 37.2 -0.7
WMOK Wichita Mounta 120.53 43 *e*PKPdf PKPdf 02 23 38.9 -0.1
WMOK Wichita Mounta 120.53 43 *e*PKIKP PKPdf 02 23 38.9 -0.2
TORD Torodi Ar. Bea 121.51 290 PKP PKPdf 02 23 40.4 -1.0
comp=Z,2.9nm,0.8s,baz=72,slow=1.5,SNR=18
TORD Torodi Ar. Bea 121.51 290 PKP PKPdf 02 23 40.4 -1.0
JCT Junction City 122.17 47 *e*PKPdf PKPdf 02 23 42.8 +0.5
JCT Junction City 122.17 47 *e*PKIKP PKPdf 02 23 42.8 +0.5
WVT Waverly 126.41 34 *e*PKPdf PKPdf 02 23 50.3 0.0
WVT Waverly 126.41 34 *e*PKIKP PKPdf 02 23 50.3 0.0
DBIC Dimbokro 129.47 285 PKP PKPdf 02 23 57.6 +0.8
comp=Z,2.6nm,1.0s,baz=95,slow=5.6,SNR=3.1
DBIC Dimbokro 129.47 285 *e*PKPdf PKPdf 02 23 57.5 +0.8
DBIC Dimbokro 129.47 285 *e*PKIKP PKPdf 02 23 57.5 +0.8
JTS JuntasAbangare 144.40 61 *e*PKPdf PKPdf 02 24 23.3 -0.9
JTS JuntasAbangare 144.40 61 *e*PKIKP PKPdf 02 24 23.3 -0.9
GTBY Guantanamo Bay 145.90 38 *e*PKPbc PKPbc 02 24 27.4 +0.1
TRQA Tornquist 148.18 167 *e*PKPbc PKPbc 02 24 32.3 -0.9
LCO Las Campanas 152.83 146 *e*PKPdf PKPdf 02 24 39.2 +1.8
LPAZ La Paz 163.09 124 *e*PKPdf PKPdf 02 24 50.1 -0.2
LPAZ La Paz 163.09 124 *e*PKIKP PKPdf 02 24 50.1 -0.2

*IDC **12** 02:08:12.7±2.8,34°.99N×82°.01E,h0km,mb3.9/5, mb1 4.0/8,mb1mx3.6/28,mbtmp3.9/8,ML3.9/2,MS3.2/3, Ms1 3.1/3,ms1mx2.7/38,Error ellipse: s-maj=71.4km s-min=26.2km az=103.0*
*ISCJB **12** 02:08:14.6±1.3,35°.2N±0°.1×81°.7E±0°.1,h10km,mb3.8/6, MS3.3/2,Error ellipse: s-maj=19.0km s-min=13.2km az=39.0*
*NEIC **12** 02:08:14.7±1.2,35°.07N×81°.93E,h10km,mb3.9/2,Error ellipse: s-maj=21.0km s-min=13.3km az=112.0*
*BJI **12** 02:08:17.8,35°.30N×81°.49E,h21km,mb4.2/5,ML4.1/5, Ms3.8/4,Ms7 3.6/3*

ISC 12 02:08:15.0±1.4, 35°.1N±0°.1×81°.9E±0°.2, h10km, n27, σ1°03/29, mb3.8/6, MS3.3/2, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**6.46**	**315**	Pn	**Pn**	**02 09 48.2**	**-1.9**
KSH				Sn	**Sn**	**02 10 54.4**	**-9.5**
KSH	comp=N,110nm,0.8s			smax			
KSH	comp=E,140nm,0.8s			smax			
TKM2	**Tokmak 2** comp=E,8.1nm,0.7s	**9.22**	**330**	*e*Pn	**Pn**	**02 10 28.9**	**+1.0**
WMQ	**Urumqi**	**9.78**	**25**	P	**Pn**	**02 10 40.8**	**+5.2**
WMQ	comp=Z,7.0nm,1.2s			pmax	pmax		
WMQ	comp=N,21nm,1.2s			smax			
WMQ	comp=E,39nm,0.8s			smax			
EKS2	**Erkin-Say** comp=E,4.4nm,0.5s	**9.85**	**322**	*e*Pn	**Pn**	**02 10 36.5**	**0.0**
MK31	**Makanchi Array**	**11.68**	**1**	*e*Pn	**Pn**	**02 11 02.7**	**+1.2**
MKAR	**Makanchi Array** comp=E,0.6nm,0.3s,baz=185,slow=10,SNR=34	**11.68**	**1**	Pn	**Pn**	**02 11 01.7**	**+0.1**
MKAR				Sn	**Sn**	**02 13 06.0**	**-5.9**
MKAR	**Makanchi Array** comp=E,0.4nm,0.3s,baz=185,slow=23,SNR=3.7	**11.68**	**1**	Pn	**Pn**	**02 11 01.7**	**+0.1**
MKAR				Sn	**Sn**	**02 13 06.0**	**-5.9**
KKAR	**Karatay Array** comp=E,0.8nm,0.4s	**11.91**	**315**	*e*Pn	**Pn**	**02 11 04.9**	**+0.1**
KURK	**Kurchatov** comp=E,0.2nm,0.3s,baz=173,slow=12,SNR=7.6	**15.78**	**352**	Pn	**Pn**	**02 11 53.8**	**-3.3**
KURK				LR	LR	02 18 48.9	
KURK	**Kurchatov** comp=E,45nm,18.8s,baz=155,slow=40	**15.78**	**352**	*e*Pn	**Pn**	**02 11 55.3**	**-1.8**
KURK				LR	LR	02 18 48.9	
LZH	**Lanzhou**	**17.86**	**81**	*e*P	**Pn**	**02 12 33.1**	**+10**
LZH				pP	pP	02 12 36.7	+10
LZH				sP	sP	02 12 40.2	+12
LZH	comp=Z,17nm,1.0s			pmax	pmax		
ZAA0	**Zalesovo Array**	**18.95**	**5**	*e*P	**Pn**	**02 12 36.0**	**-0.6**
ZALV	**Zalesovo Beam** baz=196,slow=10,SNR=10	**18.95**	**5**	P	**Pn**	**02 12 36.2**	**-0.4**
ZALV	**Zalesovo Beam**	**18.95**	**5**	P	**Pn**	**02 12 36.2**	**-0.4**
BRVK	**Borovoye** comp=Z,7.1nm,1.1s	**19.75**	**339**	*e*P	**Pn**	**02 12 45.3**	**-0.9**
ABKAR	**Akbulak array** comp=Z,4.2nm,0.9s,mb3.8	**21.45**	**318**	*e*P	**P**	**02 13 03.0**	**-0.3**
AKTK	**Aktyubinsk**	**23.14**	**319**	P	**P**	**02 13 22.6**	**+1.3**
AKTK				LR	LR	02 23 11.6	
AKTO	**Aktyubinsk** comp=Z,0.7nm,0.4s,mb3.5,baz=95,slow=11,SNR=3.1	**23.14**	**319**	P	**P**	**02 13 22.6**	**+1.3**
AKTO				LR	LR	02 23 11.6	
FINES	**FINESS Array B** comp=Z,2.1nm,0.7s,mb4.0,baz=116,slow=3.2,SNR=3.1	**43.67**	**325**	P	**P**	**02 16 21.2**	**+1.7**
FINES	**FINESS Array B**	**43.67**	**325**	P	**P**	**02 16 21.2**	**+1.7**
GERES	**GERESS Array B** comp=Z,0.2nm,0.5s,mb3.3,baz=111,slow=7.3,SNR=3.9	**50.88**	**308**	P	**P**	**02 17 15.6**	**-0.4**
GERES	**GERESS Array B**	**50.88**	**308**	P	**P**	**02 17 15.6**	**-0.4**
TORD	**Torodi Ar. Bea** comp=Z,1.6nm,1.0s,mb3.9,baz=49,slow=4.9,SNR=9.2	**74.63**	**275**	P	**P**	**02 19 53.6**	**-1.2**
TORD	**Torodi Ar. Bea**	**74.63**	**275**	P	**P**	**02 19 53.6**	**-1.2**
YKA	**Yellowknife Ar** comp=Z,5.9nm,19.1s,MS3.0,baz=25,slow=37	**81.83**	**8**	LR	LR	02 58 25.6	
BOSA	**Boshof** comp=Z,5.7nm,1.0s,mb4.6,baz=55,slow=8.8,SNR=5.3	**82.91**	**228**	P	**P**	**02 20 40.2**	**+0.3**
BOSA	**Boshof**	**82.91**	**228**	P	**P**	**02 20 40.2**	**+0.3**

IDC 12 02:24:25.5±8.8, 16°.73S×175°.12W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.7/18, mbtmp3.8/2, MS3.8/8, Ms1 3.8/8, ms1mx3.4/28, Error ellipse: s-maj=389.4km s-min=66.2km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete** comp=Z,187nm,21.4s,baz=144,slow=29	**24.42**	**96**	LR	LR	02 36 10.3	
CTA	**Charters Tower** comp=Z,95nm,18.6s,baz=49,slow=31	**36.75**	**259**	LR	LR	02 43 17.6	
WRA	**Warramunga Arr** 0.6nm,1.1s,baz=95,slow=7.2,SNR=2.9	**47.94**	**258**	P	P	02 33 06.3	+0.1
WRA	comp=Z,88nm,20.7s,baz=80,slow=35			LR	LR	02 52 29.3	
ASAR	**Alice Springs** 2.5nm,0.8s,baz=86,slow=8.2,SNR=23	**48.14**	**253**	P	P	02 33 07.5	-0.2
ASAJ	**Asahikawa** comp=Z,34nm,20.0s,baz=128,slow=32	**71.81**	**329**	LR	LR	03 02 35.6	
TXAR	**Lajitas Array** comp=Z,70nm,20.3s,baz=185,slow=32	**82.72**	**57**	LR	LR	03 08 10.4	
CMAR	**Chiang Mai Arr** comp=Z,29nm,18.7s,baz=302,slow=35	**91.47**	**289**	LR	LR	03 17 28.9	
ATAH	**Atahualpa** comp=Z,84nm,18.4s,baz=9.7,slow=28	**94.36**	**99**	LR	LR	03 09 07.2	
ULM	**Lac du Bonnet** comp=Z,56nm,18.5s,baz=313,slow=33	**96.00**	**39**	LR	LR	03 17 41.9	
BRTR	**Keskin Array B** 0.7nm,0.8s,baz=46,slow=4.2,SNR=3.7	**146.09**	**318**	PKPbc	PKPbc	02 44 07.2	-0.6

*IDC **12** 02:33:02.0±0.7, 12°.35N×143°.68E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.9/24, mbtmp3.9/8, MS3.2/2, Ms1 3.3/2, ms1mx2.7/30, Error ellipse: s-maj=26.0km s-min=15.4km az=107.0*
*NEIC **12** 02:33:04.2±5.4, 12°.32N×143°.66E, h13km±33km, mb4.4/3, Error ellipse: s-maj=17.1km s-min=9.0km az=109.0*

ISC 12 02:33:04.0±6.4, 12°.33N±0°.09×143°.7E±0°.1, h11km±40km, n26, σ0°60/24, mb4.0/11, MS3.2/2, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam** 110nm,0.3s,baz=206,slow=5.9,SNR=29	**1.71**	**43**	Pn	**Pn**	**02 33 33.9**	**+0.1**
GUMO				Sn	**Sn**	**02 33 55.2**	**-0.5**
GUMO	**Guam** 86nm,0.3s,baz=24,slow=21,SNR=11	**1.71**	**43**	Pn	**Pn**	**02 33 33.9**	**+0.1**
GUMO				Sn	**Sn**	**02 33 55.2**	**-0.5**
MJAR	**Matsushiro Arr** comp=Z,66nm,20.4s,MS3.1,baz=160,slow=33	**24.61**	**349**	LR	LR	02 46 23.2	
WB2	**Warramunga Arr**	**33.35**	**196**	*e*P	**P**	**02 39 42.0**	**-0.4**
WRA	**Warramunga Arr** 3.5nm,0.6s,mb4.5,baz=19,slow=9.7,SNR=62	**33.36**	**196**	P	**P**	**02 39 42.2**	**-0.2**
WRA	**Warramunga Arr**	**33.36**	**196**	P	**P**	**02 39 42.2**	**-0.2**
ASAR	**Alice Springs** 0.8nm,0.6s,mb3.7,baz=22,slow=11,SNR=14	**37.03**	**195**	P	**P**	**02 40 14.3**	**+0.3**
ASAR	**Alice Springs**	**37.03**	**195**	P	**P**	**02 40 14.3**	**+0.3**
CMAR	**Chiang Mai Arr** comp=Z,28nm,18.5s,MS3.2,baz=105,slow=36	**43.47**	**284**	LR	LR	02 58 43.6	
STKA	**Stephens Creek** 1.6nm,0.7s,mb3.9,baz=336,slow=6.7,SNR=6.6	**44.00**	**183**	P	**P**	**02 41 10.9**	**-0.6**
STKA	**Stephens Creek**	**44.00**	**183**	P	**P**	**02 41 10.9**	**-0.6**
SONM	**Songino Array** 0.3nm,0.6s,mb3.4,baz=134,slow=7.6,SNR=2.6	**47.10**	**326**	P	**P**	**02 41 36.6**	**+0.6**
SONM	**Songino Array**	**47.10**	**326**	P	**P**	**02 41 36.6**	**+0.6**
MKAR	**Makanchi Array** 0.2nm,0.2s,mb3.8,baz=79,slow=7.8,SNR=2.5	**61.59**	**317**	P	**P**	**02 43 21.0**	**-0.6**
MKAR	**Makanchi Array**	**61.59**	**317**	P	**P**	**02 43 20.9**	**-0.6**
KURK	**Kurchatov** 0.5nm,0.2s,mb4.1,baz=97,slow=7.6,SNR=4.5	**64.80**	**320**	P	**P**	**02 43 42.4**	**-0.3**
KURK	**Kurchatov**	**64.80**	**320**	P	**P**	**02 43 42.4**	**-0.3**
ILAR	**Eielson Array** 0.2nm,0.5s,mb3.3,baz=251,slow=5.6,SNR=9.3	**70.20**	**25**	P	**P**	**02 44 15.6**	**-1.1**
ILAR	**Eielson Array**	**70.20**	**25**	P	**P**	**02 44 15.6**	**-1.1**
NEW	**Newport** 1.5nm,0.6s,mb4.4	**86.94**	**41**	*e*P	**P**	**02 45 49.7**	**+0.4**
WVOR	**Wild Horse Val** 2.3nm,0.8s,mb4.5	**87.38**	**47**	*e*P	**P**	**02 45 51.5**	**+0.1**
NVAR	**Mina Array Bea** 0.9nm,0.7s,mb4.2,baz=261,slow=5.1,SNR=4.9	**88.62**	**51**	P	**P**	**02 45 58.6**	**+1.2**
NVAR	**Mina Array Bea**	**88.62**	**51**	P	**P**	**02 45 58.6**	**+1.2**
HLID	**Hailey** 1.5nm,0.8s,mb4.4	**90.06**	**45**	*e*P	**P**	**02 46 05.0**	**+0.9**
HLID				*e*pP	pP	02 46 13.2	+5.5
LPAZ	**La Paz** 1.6nm,1.1s,baz=236,slow=3.6,SNR=3.2	**148.96**	**101**	PKPbc	PKPbc	02 52 52.6	-0.4
LPAZ	**La Paz**	**148.96**	**101**	PKPbc	PKPbc	02 52 52.6	-0.4

NNC 12 02:45:30.4±2.3, 44°.87N×81°.03E, h0km, mb3.5, mpv3.1, 4C-4D, Error ellipse: s-maj=23.3km s-min=17.3km az=137.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array** 2.0nm,0.2s,baz=209,slow=15,SNR=98	**2.12**	**24**	⇑Pn	Pn	02 46 10.5	+3.4
MK31				⇓Lg		02 46 38.2	
TKM2	**Tokmak 2** 2.6nm,0.8s	**4.38**	**246**	⇑Pn	Pn	02 46 38.5	+0.4
TKM2				⇓Pg	Pg	02 46 50.1	-4.2
TKM2	4.1nm,0.6s			⇑Lg		02 47 40.8	
KURK	**Kurchatov** 2.1nm,1.0s	**6.07**	**345**	⇓Pn	Pn	02 47 01.5	+0.2
KURK	5.0nm,0.5s			⇓Sn	Sn	02 48 09.7	-1.8
KURK	28nm,0.8s			⇑Lg		02 48 44.9	

*ISCJB **12** 02:46:29.0±0.9, 13°.88N±0°.02×60°.43W±0°.06, h28km±4km, Error ellipse: s-maj=9.0km s-min=3.2km az=3.3*
*TRN **12** 02:46:29.3, 13°.87N×60°.56W, h21km, M3.7(FDF)*
*FUNV **12** 02:46:31.3, 13°.91N×60°.41W, h36km, MW3.7*

ISC 12 02:46:29.9±0.9, 13°.88N±0°.02×60°.48W±0°.05, h27km±4km, n48, σ1°08/73, 4C-7D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLPA	**Patience**	**0.43**	**267**	⇓*e*P	**Pb**	**02 46 38.5**	**-0.5**
SLPA				*e*S	**Sb**	**02 46 45.2**	**0.0**
SLW	**Petit Monier**	**0.47**	**288**	⇓*i*P	**Pb**	**02 46 39.1**	**-0.5**
SLW	**Petit Monier**	**0.47**	**288**	⇓*i*P	**Pb**	**02 46 40.1**	**+0.4**
SLW				*e*S	**Sb**	**02 46 47.0**	**+0.6**
MCLT	**Moule a Chique**	**0.48**	**250**	⇑*i*P	**Pb**	**02 46 39.2**	**-0.6**
MCLT				*e*S	**Sb**	**02 46 46.7**	**0.0**
SLPE	**Piton Saint Es**	**0.51**	**266**	⇓*e*P	**Pb**	**02 46 39.6**	**-0.7**
SLPE				*e*S	**Sb**	**02 46 47.2**	**-0.2**
SLB	**Belfond**	**0.55**	**265**	⇑*i*P	**Pb**	**02 46 41.4**	**+0.3**
SLB				*e*S	**Sb**	**02 46 50.0**	**+1.4**
SLDE	**Delcer**	**0.57**	**263**	⇓*i*P	**Pb**	**02 46 41.8**	**+0.4**
SLDE				*e*S	**Sb**	**02 46 49.4**	**+0.3**
MVM	**Montagne Vaucl**	**0.79**	**329**	⇑*e*P	**Pb**	**02 46 43.1**	**-1.9**
BHS	**Barnard House**	**0.86**	**228**	*e*P	**Pb**	**02 46 46.8**	**+0.6**
BHS				*e*S	**Sb**	**02 46 58.2**	**+0.9**
BIM	**Bigot**	**0.86**	**318**	⇓*i*P	**Pb**	**02 46 44.5**	**-1.7**
BIM				⇓*e*S	**Sb**	**02 46 57.2**	**-0.1**
SVV	**Soufriere Volc**	**0.91**	**232**	*e*P	**Pn**	**02 46 48.0**	**+1.1**
SVV				*e*S	**Sb**	**02 46 59.6**	**+0.8**
SVB	**Belmont**	**0.97**	**232**	*e*P	**Pn**	**02 46 46.3**	**-1.4**
SVB				*e*S	**Sb**	**02 47 01.2**	**+0.8**
FCV	**Fort Charlotte**	**1.04**	**226**	*e*P	**Pn**	**02 46 48.6**	**+0.1**
FCV				*e*S	**Sn**	**02 47 02.9**	**+0.5**
FDF	**Fort de France**	**1.07**	**322**	*e*P	**Pn**	**02 46 47.7**	**-1.5**
FDF				*e*S	**Sn**	**02 47 02.7**	**-0.5**
DSHT	**Scott's Head**	**1.59**	**327**	⇑*e*P	**Pn**	**02 46 56.9**	**+0.6**
DSHT				*e*S	**Sn**	**02 47 17.9**	**+2.0**
DFBT	**Forest Bistro**	**1.60**	**328**	*e*P	**Pn**	**02 46 57.5**	**+1.1**
DFBT				*e*S	**Sn**	**02 47 17.4**	**+1.1**
MDN	**Morne-Daniel**	**1.69**	**328**	*e*P	**Pn**	**02 46 59.3**	**+1.7**
DWS	**Wesley**	**1.87**	**334**	*e*P	**Pn**	**02 47 00.8**	**+0.7**
DWS				*e*S	**Sn**	**02 47 24.3**	**+1.5**
GRIC	**Isle de Caille**	**1.92**	**215**	*e*P	**Pn**	**02 47 01.6**	**+0.8**
GRIC				*e*S	**Sn**	**02 47 24.6**	**+0.5**
GRSS	**Sisters**	**1.92**	**215**	*e*P	**Pn**	**02 47 01.4**	**+0.5**
GRSS				*e*S	**Sn**	**02 47 25.4**	**+1.2**
GRHS	**Sauteurs**	**2.00**	**215**	*e*P	**Pn**	**02 47 03.1**	**+1.2**
GRHS				*e*S	**Sn**	**02 47 27.3**	**+1.2**
GRW	**Mount Saint Ca**	**2.06**	**214**	*e*P	**Pn**	**02 47 03.5**	**+0.7**
GRW				*e*S	**Sn**	**02 47 27.7**	**0.0**
MGG	**Marie-Galante**	**2.19**	**338**	*e*P	**Pn**	**02 47 04.1**	**-0.4**
PHG	**Guadaloupe-2**	**2.41**	**332**	*e*P	**Pn**	**02 47 07.4**	**-0.1**
DOG	**Dongo Capester**	**2.41**	**333**	*e*P	**Pn**	**02 47 08.0**	**+0.4**
SCG	**Saint Claude**	**2.44**	**332**	*e*P	**Pn**	**02 47 08.2**	**+0.3**
BCG	**Bois Riant Cap**	**2.46**	**333**	*e*P	**Pn**	**02 47 07.2**	**-1.1**
DEG	**La Desirade**	**2.49**	**347**	*e*P	**Pn**	**02 47 08.2**	**-0.5**
TOSP	**Speyside**	**2.56**	**181**	*e*P	**Pn**	**02 47 11.3**	**+1.6**
TOSP				*e*S	**Sn**	**02 47 42.4**	**+2.3**
TRN	**Trinidad (W)**	**3.33**	**196**	*e*P	**Pn**	**02 47 21.0**	**+0.7**
GUIV	**Guiria**	**3.64**	**208**	*e*P	**Pn**	**02 47 23.8**	**-0.6**
GUIV				*e*S	**Sn**	**02 48 04.8**	**-1.7**
SKI	**Saint Kitts**	**4.07**	**328**	*e*P	**Pn**	**02 47 32.2**	**+1.8**
SKI				*e*S	**Sn**	**02 48 17.0**	**-0.2**
CRUV	**Carupano**	**4.17**	**221**	*e*P	**Pn**	**02 47 32.4**	**+0.5**
CRUV				*e*S	**Sn**	**02 48 16.7**	**-3.1**
GUNV	**Guanoco**	**4.41**	**213**	*e*P	**Pn**	**02 48 22.1**	**-3.6**
GUNV				*e*S	**Sn**	**02 48 22.1**	**-3.6**
IBAV	**Isla La Blanqu**	**4.49**	**243**	*e*P	**Pn**	**02 47 35.3**	**-0.9**
IBAV				*e*S	**Sn**	**02 48 24.3**	**-3.4**
PCRV	**Puerto La Cruz**	**5.49**	**228**	*e*P	**Pn**	**02 47 49.6**	**-0.3**
RIOV	**Rio Grande**	**5.92**	**193**	*e*P	**Pn**	**02 47 55.8**	**-0.1**
ORCV	**Isla La Orchil**	**5.94**	**250**	*e*P	**Pn**	**02 47 54.7**	**-1.5**
CUPV	**Cepira**	**6.44**	**234**	*e*P	**Pn**	**02 48 02.8**	**-0.2**
BIRV	**Birongo**	**6.60**	**240**	*e*P	**Pn**	**02 48 05.0**	**-0.2**
MERV	**Las Mercedes**	**7.33**	**232**	*e*P	**Pn**	**02 48 13.3**	**-1.9**
TURV	**Turiamo**	**7.97**	**245**	*e*P	**Pn**	**02 48 23.0**	**-1.0**
LUEV	**Luepa**	**8.04**	**187**	*e*P	**Pn**	**02 48 22.6**	**-2.4**
MAPV	**Macapo**	**8.79**	**244**	*e*P	**Pn**	**02 48 34.1**	**-1.2**
BAUV	**El Baul**	**8.89**	**237**	*e*P	**Pn**	**02 48 36.0**	**-0.7**
TEPV	**Terepaima**	**9.37**	**246**	*e*P	**Pn**	**02 48 41.8**	**-1.6**
MONV	**Montecano**	**9.45**	**259**	*e*P	**Pn**	**02 48 42.9**	**-1.5**
CURV	**Curarigua**	**10.04**	**249**	*e*P	**Pn**	**02 48 50.9**	**-1.6**

IDC 12 03:14:09.1±1.7, 2°.40S×141°.14E, h0km, mb3.3/2, mb1 3.8/3, mb1mx3.4/16, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=132.8km s-min=28.4km az=111.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=22,slow=12,SNR=12	**18.66**	**200**	P	Pn	03 18 28.6	-0.4
ASAR	**Alice Springs** 0.6nm,0.5s,baz=30,slow=10,SNR=12	**22.27**	**199**	P	P	03 19 07.7	-0.2
ILAR	**Eielson Array** 0.3nm,0.9s,baz=258,slow=4.5,SNR=3.6	**84.55**	**24**	P	P	03 26 44.1	+0.3

*NNC **12** 03:19:10.0±2.0, 39°.90N×73°.73E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=16.8km s-min=9.9km az=174.0*

ISC 12 03:19:01.3±3.8, 39°.00N±0°.3×73°.6E±0°.1, h19km±31km, n11, σ0°78/14, 3C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu** SNR=25	**3.17**	**1**	P	**Pn**	**03 19 50.4**	**+0.1**
UCH	**Uchtor** SNR=9.9	**3.34**	**12**	P	**Pn**	**03 19 52.5**	**0.0**
KZA	**Kyzart** SNR=22	**3.37**	**22**	P	**Pn**	**03 19 52.3**	**-0.6**
EKS2	**Erkin-Say** SNR=13	**3.71**	**2**	P	**Pn**	**03 19 58.2**	**+0.7**
AAK	**Ala-Archa** SNR=7.5	**3.74**	**10**	P	**Pn**	**03 19 58.5**	**+0.5**
KBK	**Karagaybulak** SNR=26	**3.84**	**15**	P	**Pn**	**03 19 59.4**	**0.0**
TKM2	**Tokmak 2** SNR=5.3	**4.24**	**20**	P	**Pn**	**03 20 04.2**	**-0.8**
TKM2	**Tokmak 2** 8.4nm,0.7s	**4.24**	**20**	⇓Pn	**Pn**	**03 20 04.1**	**-0.8**
TKM2	45nm,1.6s			⇑Lg		03 20 56.0	
USP	**Ospenovka** SNR=9.2	**4.36**	**9**	P	**Pn**	**03 20 12.4**	**+5.9**
KK31	**Karatay Array** 1.0nm,0.3s,baz=142,slow=14,SNR=34	**4.75**	**332**	⇑Pn	**Pn**	**03 20 15.0**	**+3.1**
KK31	4.7nm,0.4s,baz=146,slow=16,SNR=22			⇓Pg	**Pb**	**03 20 23.5**	**-0.5**
KK31	6.2nm,0.4s,baz=140,slow=26			⇑Sn	**Sn**	**03 21 07.2**	**+0.7**
KK31	7.8nm,0.5s,baz=141,slow=32			⇓Lg		03 21 22.9	
AB31	**Akbulak array** 0.6nm,0.5s,baz=125,slow=14,SNR=17	**14.20**	**321**	P	**Pn**	**03 22 21.0**	**-0.2**
AB31	0.3nm,0.4s,baz=126,slow=25,SNR=4.1			S	**Sn**	**03 24 57.1**	**-1.0**

*ISK **12** 03:29:46.7, 40°.19N×31°.78E, h5km, MD3.4*
*ISCJB **12** 03:29:47.5±0.3, 40°.19N±0°.02×31°.82E±0°.03, h10km, Error ellipse: s-maj=3.6km s-min=2.7km az=18.5*
*CSEM **12** 03:29:48.0±0.1, 40°.20N×31°.77E, h2km, MD3.4, Error ellipse: s-maj=3.7km s-min=2.8km az=21.0*
*DDA **12** 03:29:48.6, 40°.22N×31°.67E, h4km, Md3.5*

ISC 12 03:29:47.8±0.4, 40°.21N±0°.03×31°.80E±0°.03, h1km±4km, n74, σ0°96/90, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDU	**Mudurnu**	**0.52**	**300**	*e*PG	**Pg**	**03 29 57.5**	**-0.2**
MDU				*e*SG	**Sg**	**03 30 06.6**	**+2.3**
MDU	**Mudurnu**	**0.52**	**300**	*e*Pg	**Pg**	**03 29 57.5**	**-0.2**
MDU				*e*Sg	**Sg**	**03 30 06.6**	**+2.2**
SVRH	**Sivrihisar-ESK**	**0.79**	**196**	*e*PG	**Pg**	**03 30 02.6**	**-0.3**
SVRH	**Sivrihisar-ESK**	**0.79**	**196**	*e*Pg	**Pg**	**03 30 02.6**	**-0.3**
LOD	**Lodumlu**	**0.81**	**113**	*e*PG	**Pg**	**03 30 03.5**	**+0.2**
LOD	**Lodumlu**	**0.81**	**113**	*e*Pg	**Pg**	**03 30 03.5**	**+0.2**
HENT	**Hendek**	**0.92**	**312**	*i*P	**Pg**	**03 30 04.9**	**-0.6**
HENT				*i*S	**Sg**	**03 30 23.9**	**+6.5**
HENT	**Hendek**	**0.92**	**312**	*i*P	**Pg**	**03 30 04.9**	**-0.6**
ESKT	**Eskisehir**	**1.00**	**227**	*e*PG	**Pg**	**03 30 06.5**	**-0.5**
ESKT				*e*SG	**Sg**	**03 30 21.3**	**+1.3**
ESKT	**Eskisehir**	**1.00**	**227**	*e*Pg	**Pg**	**03 30 06.5**	**-0.5**
ESKT				*e*Sg	**Sg**	**03 30 21.3**	**+1.4**
GULT	**Gulveren**	**1.00**	**283**	*e*PG	**Pg**	**03 30 06.7**	**-0.3**
GULT	**Gulveren**	**1.00**	**283**	*e*Pg	**Pg**	**03 30 06.7**	**-0.4**
BORA	**Eskisehir**	**1.08**	**253**	*i*P	**Pg**	**03 30 07.4**	**+1.1**
BORA				*i*S	**Sg**	**03 30 24.9**	**+2.3**
BORA	**Eskisehir**	**1.08**	**253**	*i*P	**Pg**	**03 30 07.4**	**-1.1**
BORA				*i*S	**Sg**	**03 30 24.9**	**+2.3**
KDZE	**Karadeniz Ereo**	**1.14**	**346**	*e*PN	**Pg**	**03 30 10.1**	**+0.5**
KDZE	**Karadeniz Ereo**	**1.14**	**346**	*e*Pn	**Pg**	**03 30 10.1**	**+0.5**
GPA	**Golpazari**	**1.14**	**275**	*e*PN	**Pg**	**03 30 08.8**	**-0.9**
GPA	**Golpazari**	**1.14**	**275**	*e*Pn	**Pg**	**03 30 08.8**	**-0.9**
BBAL	**Bala**	**1.22**	**123**	*i*P	**Pg**	**03 30 12.5**	**+1.4**
BBAL				*i*S	**Sg**	**03 30 31.3**	**+4.4**
BBAL	**Bala**	**1.22**	**123**	*i*P	**Pg**	**03 30 12.5**	**+1.4**
BBAL				*i*S	**Sg**	**03 30 31.3**	**+4.4**
SPNC	**Sapanca-Adapaz**	**1.23**	**293**	*e*PN	**Pn**	**03 30 11.0**	**-1.1**
SPNC	**Sapanca-Adapaz**	**1.23**	**293**	*e*Pn	**Pn**	**03 30 11.0**	**-1.1**
SAFT	**Safranbolu**	**1.23**	**33**	*e*PN	**Pg**	**03 30 12.8**	**+1.3**
SAFT	**Safranbolu**	**1.23**	**33**	*e*Pn	**Pg**	**03 30 12.8**	**+1.3**
KIZT	**Kizilcal**	**1.33**	**177**	*e*PN	**Pn**	**03 30 12.7**	**-0.7**
KIZT	**Kizilcal**	**1.33**	**177**	*e*Pn	**Pn**	**03 30 12.7**	**-0.7**
CANT	**Cankiri**	**1.45**	**73**	*e*PN	**Pn**	**03 30 15.1**	**0.0**
CAVI	**Cavuskoy**	**1.50**	**270**	*e*PN	**Pg**	**03 30 15.6**	**-0.9**
CAVI	**Cavuskoy**	**1.50**	**270**	*e*Pn	**Pg**	**03 30 15.6**	**-0.9**
ADVT	**Abdulvahap**	**1.59**	**279**	*e*PN	**Pn**	**03 30 16.8**	**-0.3**
ADVT	**Abdulvahap**	**1.59**	**279**	*e*Pn	**Pn**	**03 30 16.8**	**-0.2**
BOLV	**Bolvadin**	**1.62**	**204**	*i*P	**Pg**	**03 30 17.8**	**-1.1**
BOLV				*i*S	**Sg**	**03 30 41.2**	**+1.2**
BOLV	**Bolvadin**	**1.62**	**204**	*i*P	**Pg**	**03 30 17.8**	**-1.1**
BOLV				*i*S	**Sg**	**03 30 41.2**	**+1.2**
KDHN	**Kadinhani**	**1.70**	**172**	*i*P	**Pg**	**03 30 19.1**	**-1.3**
KDHN				*i*S	**Sn**	**03 30 37.4**	**-3.6**
KDHN	**Kadinhani**	**1.70**	**172**	*i*P	**Pg**	**03 30 19.1**	**-1.3**
KDHN				*i*S	**Sn**	**03 30 37.4**	**-3.5**
HRT	**Hereke**	**1.73**	**291**	*e*PN	**Pn**	**03 30 18.8**	**-0.2**
HRT	**Hereke**	**1.73**	**291**	*e*Pn	**Pn**	**03 30 18.8**	**-0.2**
ALT	**Altintas**	**1.74**	**229**	*e*PN	**Pn**	**03 30 19.1**	**+0.1**
ALT	**Altintas**	**1.74**	**229**	*e*Pn	**Pn**	**03 30 19.1**	**0.0**
BALT	**Daday**	**1.79**	**42**	*i*P	**Pg**	**03 30 21.5**	**-0.6**
BALT	**Daday**	**1.79**	**42**	*i*P	**Pg**	**03 30 21.5**	**-0.7**
TOS	**Tosya**	**1.89**	**63**	*e*PN	**Pb**	**03 30 21.9**	**-1.1**
TOS	**Tosya**	**1.89**	**63**	*e*Pn	**Pb**	**03 30 21.9**	**-1.1**
YLV	**Yalova**	**1.89**	**282**	*e*PN	**Pb**	**03 30 21.6**	**-1.4**
YLV	**Yalova**	**1.89**	**282**	*e*Pn	**Pb**	**03 30 21.6**	**-1.4**
SHUT	**Suhut-Afyon**	**1.91**	**211**	*e*PN	**Pb**	**03 30 21.7**	**-1.7**
SHUT	**Suhut-Afyon**	**1.91**	**211**	*e*Pn	**Pb**	**03 30 21.7**	**-1.8**
CDAG	**Cicekdag**	**2.06**	**106**	*i*P	**Pn**	**03 30 24.7**	**+1.1**
CDAG				*i*S	**Sg**	**03 30 54.5**	**+0.4**
CDAG	**Cicekdag**	**2.06**	**106**	*i*P	**Pg**	**03 30 24.7**	**-2.7**
CDAG				*i*S	**Sg**	**03 30 54.5**	**+0.4**
MDNY	**Mudanya-Bursa**	**2.23**	**275**	*e*PN	**Pn**	**03 30 26.1**	**+0.2**
MDNY	**Mudanya-Bursa**	**2.23**	**275**	*e*Pn	**Pn**	**03 30 26.1**	**+0.2**
ISK	**Istanbul-Kandi**	**2.25**	**293**	*e*PN	**Pn**	**03 30 26.4**	**+0.3**
ISK	**Istanbul-Kandi**	**2.25**	**293**	*e*Pn	**Pn**	**

ANDN				*i* S	**Sg**	**03 44 05.9**	**+0.9**
ANDN	**Andirin**	**1.30**	**27**	*i* P	**Pg**	**03 43 48.9**	**+0.8**
ANDN				*i* S	**Sg**	**03 44 05.9**	**+0.9**
GAZ	**Gaziantep**	**1.49**	**59**	*e*PN	**Pn**	**03 43 50.2**	**+0.1**
GAZ	**Gaziantep**	**1.49**	**59**	*e*Pn	**Pn**	**03 43 50.2**	**+0.1**
KMRS	**Kahramanmaras**	**1.50**	**44**	*e*PN	**Pn**	**03 43 50.2**	**0.0**
KMRS	**Kahramanmaras**	**1.50**	**44**	*e*Pn	**Pn**	**03 43 50.2**	**0.0**
BIDA	**Albida**	**1.52**	**157**	⇑P	**Pn**	**03 43 50.0**	**-0.5**
BIDA				⇓S	**Sn**	**03 44 10.0**	**-0.4**
BIDA	**Albida**	**1.52**	**157**	⇑*i*P	**Pn**	**03 43 50.6**	**+0.1**
BIDA				⇓*i*S	**Sn**	**03 44 10.5**	**+0.1**
GZT	**Gaziantep**	**1.83**	**59**	*i* P	**Pg**	**03 43 56.7**	**-1.5**
GZT				*i* S	**Sg**	**03 44 20.8**	**-1.1**
HWQ	**Hawqa**	**2.16**	**172**	*e*P	**Pn**	**03 43 59.4**	**+0.2**
HWQ	**Hawqa**	**2.16**	**172**	*e*P	**Pn**	**03 43 59.4**	**+0.2**
ATAB	**Bozova**	**2.40**	**63**	*i* P	**Pg**	**03 44 07.1**	**-2.0**
ATAB				*i* S	**Sg**	**03 44 37.3**	**-2.9**
SARI	**SarD1z-Kayseri**	**2.41**	**21**	*e*PN	**Pn**	**03 43 58.8**	**-4.0**
SARI	**SarD1z-Kayseri**	**2.41**	**21**	*e*Pn	**Pn**	**03 43 58.8**	**-4.0**
BHL	**Bhannes**	**2.51**	**179**	*e*P	**Pn**	**03 44 05.3**	**+1.2**
BHL	**Bhannes**	**2.51**	**179**	*e*P	**Pn**	**03 44 05.3**	**+1.2**
HDMB	**Hadim**	**2.56**	**283**	*e*PN	**Pn**	**03 44 05.6**	**+0.8**
HDMB	**Hadim**	**2.56**	**283**	*e*Pn	**Pn**	**03 44 05.6**	**+0.8**

IDC 12 03:44:24.9±47.0, 10°.85S×171°.36E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/18, mbtmp4.0/3, Error ellipse: s-maj=814.0km s-min=116.9km az=63.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**34.53**	**228**	P	P	03 51 15.4	+0.3
	0.6nm,0.3s,baz=61,slow=10,SNR=3.3						
WRA	**Warramunga Arr**	**36.74**	**251**	P	P	03 51 34.7	+0.4
	1.2nm,0.3s,baz=84,slow=8.5,SNR=26						
ASAR	**Alice Springs**	**37.84**	**245**	P	P	03 51 43.0	-0.7
	1.7nm,0.5s,baz=72,slow=9.4,SNR=24						

*IDC **12** 04:00:05.9±4.7, 52°.89N×166°.76W, h0km, mb3.6/3, mb1 4.0/5, mb1mx3.6/28, mbtmp3.6/5, ML3.7/2, Error ellipse: s-maj=80.9km s-min=32.8km az=100.0*
*ISCJB **12** 04:00:09.1±0.9, 53°.3N±0°.2×168°.3W±0°.2, h107km±6km, mb3.6/3, Error ellipse: s-maj=37.0km s-min=10.9km az=142.5*
*NEIC **12** 04:00:10.1±1.5, 53°.29N×168°.43W, h107km±9km, MG3.4(AEIC), Error ellipse: s-maj=39.9km s-min=20.2km az=126.0*

ISC 12 04:00:10.2±1.0, 53°.4N±0°.2×168°.4W±0°.2, h102km±6km, n15, σ1s31/19, mb3.6/3, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKO	**Nikolski**	**0.48**	**218**	*e*Pn	**Pn**	**04 00 26.0**	**0.0**
NIKO				*e*Sn	**Sn**	**04 00 37.3**	**-0.5**
UNV	**Unalaska Valle**	**1.22**	**65**	*e*Pn	**Pn**	**04 00 34.0**	**+0.8**
UNV				*e*Sn	**Sn**	**04 00 51.9**	**+1.4**
AKUT	**Akutan**	**1.73**	**62**	*e*Pn	**Pn**	**04 00 40.8**	**+1.4**
AKUT				*e*Sn	**Sn**	**04 00 59.2**	**-2.3**
KDAK	**Kodiak Island**	**9.98**	**57**	Pn	**Pn**	**04 02 27.5**	**-2.8**
	0.3nm,0.3s,baz=263,slow=8.5,SNR=5.6						
KDAK				Sn	**Sn**	**04 04 10.2**	**-10**
	0.1nm,0.3s,baz=342,slow=20,SNR=2.6						
KDAK	**Kodiak Island**	**9.98**	**57**	Pn	**Pn**	**04 02 27.5**	**-2.8**
KDAK				Sn	**Sn**	**04 04 10.2**	**-10**
ILAR	**Eielson Array**	**15.80**	**35**	Pn	**Pn**	**04 03 45.9**	**-0.6**
	0.2nm,0.3s,baz=230,slow=11,SNR=26						
ILAR	**Eielson Array**	**15.80**	**35**	Pn	**Pn**	**04 03 45.9**	**-0.6**
EGAK	**Eagle**	**17.89**	**40**	*e*P	**Pn**	**04 04 12.7**	**+0.7**
NVAR	**Mina Array Bea**	**37.09**	**93**	P	**P**	**04 07 08.5**	**-1.8**
	0.4nm,0.5s,mb3.6,baz=302,slow=7.3,SNR=3.1						
NVAR	**Mina Array Bea**	**37.09**	**93**	P	**P**	**04 07 08.5**	**-1.8**
PDAR	**Pinedale Array**	**39.64**	**81**	P	**P**	**04 07 32.8**	**+1.2**
	0.9nm,0.6s,mb3.8,baz=289,slow=3.6,SNR=7.3						
PDAR	**Pinedale Array**	**39.64**	**81**	P	**P**	**04 07 32.8**	**+1.2**
TXAR	**Lajitas Array**	**52.14**	**90**	P	**P**	**04 09 10.6**	**+0.7**
	0.3nm,0.6s,mb3.5,baz=304,slow=5.5,SNR=6.3						
TXAR	**Lajitas Array**	**52.14**	**90**	P	**P**	**04 09 10.6**	**+0.7**
PPT	**Papeete**	**72.47**	**161**	*e*LR	LR	04 10 48.2	
	168nm,26.2s						

IDC 12 04:09:52.1±4.0, 22°.46S×147°.99E, h0km, mb3.3/1, mb1 3.7/5, mb1mx3.6/15, mbtmp3.6/5, ML3.6/3, Error ellipse: s-maj=43.7km s-min=18.8km az=85.0, Queensland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**2.86**	**325**	Pn	Pn	04 10 38.5	-0.5
	baz=130,slow=17						
CTA				Pg	Pg	04 10 44.4	-2.5
	29nm,0.3s,baz=148,slow=17,SNR=36						
CTA				Sn	Sn	04 11 15.6	+1.6
	8.3nm,0.3s,baz=72,slow=20,SNR=4.1						
CTA				Lg		04 11 22.5	
	10nm,0.3s,baz=51,slow=21,SNR=3.5						
STKA	**Stephens Creek**	**10.97**	**210**	Pn	Pn	04 12 28.3	-2.1
	0.3nm,0.3s,baz=41,slow=14,SNR=3.4						
STKA				Sn	Sn	04 14 39.4	+5.6
	0.2nm,0.3s,baz=279,slow=21,SNR=3.7						
STKA				Lg		04 15 41.6	
	baz=288,slow=19,SNR=2.1						
WRA	**Warramunga Arr**	**12.97**	**279**	Pn	Pn	04 12 56.4	-1.5
	0.3nm,0.3s,baz=99,slow=12,SNR=14						
WRA				Sn	Sn	04 15 23.4	+0.4
	0.1nm,0.3s,baz=104,slow=21,SNR=3.4						
WRA				Lg		04 16 43.0	
	0.2nm,0.3s,baz=110,slow=25,SNR=7.3						
ASAR	**Alice Springs**	**13.02**	**262**	Pn	Pn	04 12 59.4	+0.9
	0.2nm,0.3s,baz=92,slow=13,SNR=8.2						
ASAR				Sn	Sn	04 15 26.6	+2.4
	0.1nm,0.3s,baz=86,slow=20,SNR=4.5						
ASAR				Lg		04 16 55.3	
	0.2nm,0.3s,baz=95,slow=28,SNR=6.9						
FITZ	**Fitzroy Crossi**	**21.40**	**278**	P	P	04 14 43.2	+1.6
	1.1nm,0.7s,baz=113,slow=13,SNR=4.9						
FITZ				Lg		04 21 12.7	
	4.5nm,1.1s,baz=199,slow=18,SNR=1.8						

ECX 12 04:12:24.0±0.4, 30°.78N×114°.33W, h6km, MD3.7, ML3.9, 4C-2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECBX	**El Chinero**	**0.92**	**318**	⇑*e*P	Pg	04 12 40.0	-1.8
ECBX				*e*S	Sg	04 12 52.6	-1.0
ECBX				⇓*e*		04 12 56.5	
	comp=N,2μm,0.5s						
SPX	**San Pedro Mart**	**1.01**	**285**	⇑*e*P	Pg	04 12 41.6	-1.7
SPX				*e*S	Sg	04 12 55.5	-0.8
SPX				*e*		04 12 57.1	
	comp=E,2μm,0.4s						
SPX				⇑*e*		04 13 05.5	
	comp=N,2μm,0.6s						
RDX	**Rancho Dawling**	**1.79**	**310**	*e*P	Pn	04 12 54.7	-0.7
RDX				*e*S	Sn	04 13 18.4	0.0
RDX				⇓*e*		04 13 30.0	
	comp=E,1μm,0.6s						
RDX				⇑*e*		04 13 32.6	
	comp=N,588nm,0.6s						
ECNX	**Esteban Cantu**	**2.13**	**295**	*e*P	Pn	04 13 00.2	+0.2
PBX	**Punta Banda**	**2.26**	**296**	*e*PN	Pn	04 13 01.5	-0.4
CBX	**Cerro Bola**	**2.51**	**308**	*e*PN	Pn	04 13 05.6	+0.3

*ISCJB **12** 04:21:45.8±0.6, 63°.32S±0°.07×169°.1E±0°.3, h10km, mb4.1/9, MS4.4/11, Error ellipse: s-maj=19.9km s-min=9.2km az=173.9*
*IDC **12** 04:21:45.2±0.9, 63°.16S×169°.70E, h0km, mb4.0/9, mb1 4.2/10, mb1mx4.2/15, mbtmp4.1/10, ML3.9/1, MS4.5/13, Ms1 4.5/13, ms1mx4.3/19, Error ellipse: s-maj=38.8km s-min=16.6km az=65.0*
*NEIC **12** 04:21:46.6±0.6, 63°.18S×169°.73E, h10km, mb4.6/2, Error ellipse: s-maj=23.6km s-min=9.6km az=77.0*
*GCMT **12** 04:21:49.2±0.2, 63°.14S×169°.47E, h12km, MW5.1, Moment Tensor Solution. s27,c34; s68,c105; Moment tensor: Scale 10^16Nm; Mrr=0.98±.15; Mθφ4.64±.11; Mφφ=3.66±.13; Mrθ=-5.40±.35; Mθθ0.57±.12; Mφr=1.04±.39; Best double couple: M0=6.30000×10^16 NP1:φ=315.00000°, δ27.00000°, λ=-20.00000°. NP2:φ=63.00000°, δ81.00000°, λ=-116.00000°. Principal axes: T 8.0100, Plg31.0000°, Azm174.0000°; N -3.3600, Plg25.0000°, Azm67.0000°; P =4.6500, Plg48.0000°, Azm306.0000°; Data Used: ll IU IC G.*

ISC 12 04:21:47.6±0.6, 63°.31S±0°.06×169°.2E±0°.3, h10km, n56, σ1s26/27, mb4.1/9, MS4.4/11, 2C-1D, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**14.47**	**186**	Pn	**Pn**	**04 25 13.5**	**+1.5**
	0.5nm,0.3s,baz=28,slow=15,SNR=43						
VNDA				LR	LR	04 29 34.9	
	comp=Z,3μm,21.3s,baz=17,slow=32						
VNDA	**Vanda**	**14.47**	**186**	Pn	**Pn**	**04 25 13.5**	**+1.5**
VNDA				LR	LR	04 29 34.9	
SBA	**Scott Base**	**14.64**	**182**	*e*Pn	**Pn**	**04 25 13.9**	**-0.3**
	85nm,1.7s						
RPZ	**Rata Peaks**	**19.66**	**4**	P	**Pn**	**04 26 18.1**	**+0.5**
	1.5nm,0.3s,baz=159,slow=16,SNR=11						
RPZ				LR	LR	04 32 26.8	
	comp=Z,3μm,19.9s,baz=113,slow=33						
RPZ	**Rata Peaks**	**19.66**	**4**	P	**Pn**	**04 26 18.1**	**+0.5**
RPZ				LR	LR	04 32 26.8	
QSPA	**South Pole Qui**	**26.78**	**180**	P	**P**	**04 27 27.6**	**+0.6**
	2.0nm,0.8s,mb3.7,baz=61,slow=2.3,SNR=4.1						
QSPA				LR	LR	04 36 23.0	
	comp=Z,1μm,19.7s,MS4.4,baz=33,slow=33						
QSPA	**South Pole Qui**	**26.78**	**180**	*e*P	**P**	**04 27 26.7**	**-0.3**
	12nm,1.2s,mb4.3						
QSPA				LR	LR	04 36 23.0	
STKA	**Stephens Creek**	**35.97**	**318**	P	**P**	**04 28 48.2**	**+0.1**
	3.6nm,1.0s,mb4.3,baz=159,slow=11,SNR=2.2						
STKA				LR	LR	04 40 52.4	
	comp=Z,563nm,18.7s,MS4.4,baz=157,slow=32						
STKA	**Stephens Creek**	**35.97**	**318**	P	**P**	**04 28 48.2**	**+0.1**
STKA				LR	LR	04 40 52.5	
MAW	**Mawson**	**39.16**	**216**	P	**P**	**04 29 16.9**	**+2.1**
	2.4nm,0.8s,mb4.0,baz=133,slow=8.5,SNR=4.4						
MAW				LR	LR	04 44 58.1	
	comp=Z,638nm,21.1s,MS4.4,baz=134,slow=35						
MAW	**Mawson**	**39.16**	**216**	P	**P**	**04 29 16.9**	**+2.1**
MAW				LR	LR	04 44 58.1	
DZM	**Mont Dzumac**	**41.26**	**356**	*e*LR	LR	04 40 52.0	
	1μm,24.1s						
SNAA	**Sanae**	**45.18**	**184**	P	**P**	**04 30 02.7**	**-1.1**
	2.9nm,1.1s,mb4.0,baz=181,slow=8.3,SNR=14						
SNAA	**Sanae**	**45.18**	**184**	*e*P	**P**	**04 30 04.0**	**+0.3**
	15nm,1.2s,mb4.7						
VNA3	**Neumayer Olymp**	**45.72**	**180**	*e*	**P**	**04 30 06.3**	**-1.7**
VNA2	**Neumayer--Watz**	**46.02**	**182**	*e*	**P**	**04 30 07.1**	**-3.3**
	baz=183,slow=6.1						
ASAR	**Alice Springs**	**46.05**	**313**	P	**P**	**04 30 11.6**	**+0.4**
	4.4nm,1.1s,mb4.3,baz=165,slow=8.4,SNR=11						
ASAR	**Alice Springs**	**46.05**	**313**	P	**P**	**04 30 11.6**	**+0.4**
VNA1	**Neumayer--Stat**	**46.31**	**181**	*e*	**P**	**04 30 11.6**	**-1.1**
PMSA	**Palmer Station**	**46.34**	**152**	LR	LR	04 49 04.8	
	comp=Z,686nm,19.2s,MS4.6,baz=139,slow=35						
WRA	**Warramunga Arr**	**49.38**	**315**	P	**P**	**04 30 36.6**	**-0.5**
	1.4nm,1.0s,mb3.9,baz=162,slow=6.4,SNR=7.1						
WRA				PcP	PcP	04 31 57.0	-2.4
	0.9nm,0.8s,baz=162,slow=3.1,SNR=5.6						
WRA				LR	LR	04 49 03.0	
	comp=Z,395nm,18.3s,MS4.5,baz=135,slow=33						
WRA	**Warramunga Arr**	**49.38**	**315**	P	**P**	**04 30 36.6**	**-0.5**
WRA				PcP	PcP	04 31 57.0	-2.4
WRA				LR	LR	04 49 03.0	
PAE	**Paea**	**53.62**	**51**	*e*T		05 28 15.0	
	5.7nm,0.3s						
PPT	**Papeete**	**53.71**	**51**	*e*S	**S**	**04 38 44.5**	**+1.2**
	55nm,25.2s						
PPT				*e*LQ		04 43 49.9	
	642nm,24.0s						
PPT				*e*LR	LR	04 46 34.0	
	145nm,21.8s						
PPT				*e*T		05 28 21.7	
	10nm,0.3s						
PPT	**Papeete**	**53.71**	**51**	LR	LR	04 48 45.8	
	comp=Z,199nm,18.5s,MS4.2,baz=212,slow=30						
TIAR	**Tiarei**	**53.80**	**51**	*e*T		05 28 28.8	
	13nm,0.3s						
MEH	**Mehetia**	**53.97**	**53**	*e*T		05 28 41.9	
	97nm,0.3s						
FITZ	**Fitzroy Crossi**	**54.08**	**306**	P	**P**	**04 31 10.3**	**-1.8**
	2.0nm,1.0s,mb4.0,baz=130,slow=7.9,SNR=2.5						
FITZ	**Fitzroy Crossi**	**54.08**	**306**	P	**P**	**04 31 10.3**	**-1.8**
RKT	**Rikitea**	**54.41**	**69**	*e*LR	LR	04 46 59.0	
	432nm,26.8s						
RKT				*e*T		05 29 31.5	
	11nm,0.3s						
CFAA	**Coronel Fontan**	**75.05**	**132**	P	**P**	**04 33 28.7**	**-0.3**
	0.5nm,0.7s,mb3.5,baz=229,slow=5.2,SNR=8.1						
CFAA	**Coel Fontan**	**75.05**	**132**	P	**P**	**04 33 28.7**	**-0.3**
CPUP	**Villa Florida**	**83.40**	**139**	LR	LR	05 09 05.8	
	comp=Z,162nm,18.2s,MS4.4,baz=180,slow=34						
BOSA	**Boshof**	**84.03**	**211**	P	**P**	**04 34 20.4**	**+2.4**
	3.7nm,0.9s,mb4.5,baz=170,slow=8.3,SNR=4.5						
BOSA				LR	LR	05 08 50.3	
	comp=Z,263nm,20.0s,MS4.6,baz=166,slow=34						
BOSA	**Boshof**	**84.03**	**211**	P	**P**	**04 34 20.4**	**+2.4**
BOSA				LR	LR	05 08 50.3	
LPAZ	**La Paz**	**89.16**	**126**	LR	LR	05 04 44.9	
	comp=Z,144nm,21.5s,MS4.4,baz=309,slow=29						
NNA	**Nana**	**89.72**	**117**	LR	LR	05 05 33.0	
	comp=Z,199nm,21.8s,MS4.5,baz=130,slow=29						
CMAR	**Chiang Mai Arr**	**97.83**	**296**	LR	LR	05 13 47.2	
	comp=Z,127nm,19.9s,MS4.4,baz=162,slow=32						
TKM2	**Tokmak 2**	**128.78**	**290**	*e*PKPdf	PKPdf	04 40 53.7	-0.3
TORD	**Torodi Ar. Bea**	**129.14**	**196**	PKP	PKPdf	04 40 54.7	-0.8
	0.8nm,0.8s,baz=191,slow=1.1,SNR=7.1						
TORD	**Torodi Ar. Bea**	**129.14**	**196**	PKP	PKPdf	04 40 54.7	-0.8
ILAR	**Eielson Array**	**131.81**	**23**	PKP	PKPdf	04 40 58.6	-0.4
	0.6nm,0.8s,baz=308,slow=3.6,SNR=6.5						
ILAR	**Eielson Array**	**131.81**	**23**	PKP	PKPdf	04 40 58.6	-0.4
KIV	**Kislovodsk**	**144.22**	**263**	*e*PKPdf	PKPdf	04 41 21.9	-0.5
BR131	**Keskin Array S**	**144.76**	**249**	*e*PKPdf	PKPdf	04 41 21.7	-1.8
BRTR	**Keskin Array B**	**144.76**	**249**	PKPbc	PKPdf	04 41 22.3	-1.2
	6.9nm,0.8s,baz=144,slow=4.6,SNR=24						
BRTR	**Keskin Array B**	**144.76**	**249**	PKPbc	PKPdf	04 41 22.3	-1.2
KEST	**Kesra**	**149.74**	**214**	PKPbc	PKPbc	04 41 36.0	-0.7
	0.3nm,0.5s,baz=196,slow=7.4,SNR=2.4						
KEST	**Kesra**	**149.74**	**214**	PKPbc	PKPbc	04 41 36.0	-0.7
RES	**Resolute Bay**	**150.74**	**33**	*e*PKPbc	PKPbc	04 41 36.4	-1.5
VTS	**Vitosha**	**151.42**	**240**	⇑*i*P	PKPbc	04 41 42.6	+2.2
PLOR	**Plostina**	**152.72**	**248**	⇑*i*P	PKPbc	04 41 46.7	+3.4
MLR	**Muntele Rosu**	**152.72**	**247**	⇓*i*P	PKPbc	04 41 44.7	+1.4
BUR08	**Bucovina Ar. S**	**154.75**	**249**	*e*PKPdf	PKPdf	04 41 37.6	-1.4
AKASG	**Malin Array Be**	**155.31**	**258**	PKPab	PKPab	04 42 06.0	+1.0
	0.5nm,0.3s,baz=136,slow=3.5,SNR=5.0						
AKASG	**Malin Array Be**	**155.31**	**258**	PKPab	PKPab	04 42 06.0	+1.0

*NIED **12** 04:39:00, 38°.90N×140°.80E, h5km, Mw3.8 Best double couple: M0=6.63000×10^14 NP1:φ=351.00000°, δ61.00000°, λ82.00000°. NP2:φ=187.00000°, δ30.00000°, λ104.00000°.*
*IDC **12** 04:39:46.2±0.8, 38°.92N×140°.78E, h0km, mb3.9/10, mb1 4.0/12, mb1mx3.9/25, mbtmp3.8/12, ML3.4/2, MS3.5/2, Ms1 3.6/2, ms1mx2.8/27, Error ellipse: s-maj=20.4km s-min=13.4km az=107.0*
*ISCJB **12** 04:39:47.3±0.5, 38°.91N±0°.03×140°.83E±0°.04, h20km±4km, mb4.0/15, Error ellipse: s-maj=6.9km s-min=4.1km az=136.8*
*JMA **12** 04:39:47.6, 38°.90N×140°.80E, h6km±1km, M4.0 Broadband fault plane solution: P waves. NP1: φ±204.00000°, δ42.00000°, λ122.00000°. NP2: φ±344.00000°, δ55.00000°, λ64.00000°. Principal axes: T Plg68.0000°, Azm199.0000°; N Plg21.0000°, Azm359.0000°; P Plg7.0000°, Azm92.0000°;*
JMA Felt III J1.
*NEIC **12** 04:39:53.0±1.6, 38°.88N×140°.60E, h48km±13km, mb4.5/5 Error ellipse: s-maj=16.6km s-min=7.9km az=72.0*

ISC 12 04:39:47.5±0.5, 38°.91N±0°.03×140°.80E±0°.04, h8km±3km, n43, σ0s72/49, mb4.0/15, 2C-4D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMK	**Ichinoseki**	**0.33**	**82**	⇓P	**Pg**	**04 39 54.1**	**+0.1**
JMK				S	**Sg**	**04 39 58.8**	**+0.3**
JYK	**Kaneyama**	**0.34**	**272**	⇓P	**Pg**	**04 39 54.4**	**+0.2**
JYK				S	**Sg**	**04 39 58.9**	**+0.1**
JRG	**Rokugo**	**0.50**	**345**	⇓P	**Pg**	**04 39 57.9**	**+0.6**
JOU	**Okura**	**0.55**	**191**	⇑P	**Pg**	**04 39 58.1**	**-0.1**
JOU				S	**Sg**	**04 40 05.3**	**-0.1**
JOM	**Ohasama**	**0.68**	**34**	⇓P	**Pg**	**04 40 00.6**	**-0.1**
JOM				S	**Sg**	**04 40 10.0**	**+0.4**
JYS	**Shirataka**	**0.90**	**220**	⇑P	**Pg**	**04 40 04.5**	**-0.2**
JYS				S	**Sg**	**04 40 16.2**	**-0.2**
JYA	**Atsumi**	**0.90**	**250**	P	**Pg**	**04 40 04.6**	**-0.3**
JYA				S	**Sg**	**04 40 16.5**	**-0.2**
MAJO	**Matsushiro**	**3.13**	**222**	*e*Pn	**Pn**	**04 40 38.1**	**+1.1**
MAT	**Matsushiro**	**3.13**	**222**	P	**Pn**	**04 40 38.0**	**+0.9**
MAT				S	**Sn**	**04 41 15.1**	**+0.5**
MJAR	**Matsushiro Arr**	**3.13**	**222**	Pn	**Pn**	**04 40 38.5**	**+1.4**
	2.3nm,0.3s,baz=30,slow=14,SNR=14						
MJAR				Pg	**Pg**	**04 40 44.9**	**-2.6**
	4.8nm,0.3s,baz=24,slow=15,SNR=33						
MJAR				Sn	**Sn**	**04 41 15.5**	**+0.9**
	3.1nm,0.3s,baz=166,slow=14,SNR=5.0						
MJAR				Lg		04 41 23.6	
	4.7nm,0.3s,baz=213,slow=30,SNR=5.2						
MJAR	**Matsushiro Arr**	**3.13**	**222**	Pn	**Pn**	**04 40 38.5**	**+1.4**
MJAR				Pg	**Pg**	**04 40 44.9**	**-2.6**
MJAR				Sn	**Sn**	**04 41 15.5**	**+0.9**
MJAR				Lg		04 41 23.6	
KSRS	**Korea Array**	**10.24**	**266**	Pn	**Pn**	**04 42 16.6**	**+1.8**
	0.7nm,0.3s,baz=80,slow=14,SNR=11						
KSRS				Sn	**Sn**	**04 44 14.6**	**+4.9**
	0.6nm,0.3s,baz=75,slow=24,SNR=5.5						
KSRS				LR	LR	04 45 47.8	
	comp=Z,58nm,19.4s,baz=157,slow=35						
SONM	**Songino Array**	**26.37**	**301**	P	**P**	**04 45 23.0**	**-1.0**
	0.4nm,0.5s,mb3.2,baz=86,slow=9.4,SNR=2.5						
SONM	**Songino Array**	**26.37**	**301**	P	**P**	**04 45 23.0**	**-1.0**
ZALV	**Zalesovo Beam**	**40.31**	**311**	P	**P**	**04 47 24.9**	**-0.1**
	1.5nm,0.6s,mb3.9,baz=86,slow=7.9,SNR=8.4						
ZALV	**Zalesovo Beam**	**40.31**	**311**	P	**P**	**04 47 24.9**	**-0.1**
MKAR	**Makanchi Array**	**42.73**	**300**	P	**P**	**04 47 44.9**	**-0.1**
	0.3nm,0.2s,mb3.6,baz=87,slow=8.7,SNR=3.5						
MKAR	**Makanchi Array**	**42.73**	**300**	P	**P**	**04 47 44.9**	**-0.1**
KURK	**Kurchatov**	**44.41**	**307**	*e*P	**P**	**04 47 58.1**	**-0.3**
	2.9nm,0.8s,mb4.1						
ILAR	**Eielson Array**	**48.19**	**33**	P	**P**	**04 48 28.4**	**+0.5**
	0.4nm,0.8s,mb3.5,baz=298,slow=7.1,SNR=5.5						
ILAR	**Eielson Array**	**48.19**	**33**	P	**P**	**04 48 28.4**	**+0.5**
BRVK	**Borovoye**	**49.02**	**311**	*e*P	**P**	**04 48 33.2**	**-1.3**
	1.4nm,0.5s,mb4.2						
ABKAR	**Akbulak array**	**56.37**	**309**	*e*P	**P**	**04 49 28.5**	**-0.5**
	2.5nm,0.6s,mb4.4						
WRAB	**Tennant Creek**	**58.84**	**187**	*e*P	**P**	**04 49 45.8**	**-0.8**
	15nm,1.5s,mb4.8						
WRA	**Warramunga Arr**	**58.85**	**187**	P	**P**	**04 49 46.0**	**-0.6**
	4.1nm,0.8s,mb4.5,baz=4.0,slow=7.3,SNR=56						
WRA	**Warramunga Arr**	**58.85**	**187**	P	**P**	**04 49 46.0**	**-0.6**
ASAR	**Alice Springs**	**62.58**	**187**	P	**P**	**04 50 12.0**	**+0.1**
	1.5nm,0.7s,mb4.3,baz=10,slow=5.3,SNR=16						
ASAR	**Alice Springs**	**62.58**	**187**	P	**P**	**04 50 12.0**	**+0.1**
MBWA	**Marble Bar**	**62.93**	**202**	*e*P	**P**	**04 50 13.7**	**-0.6**
	7.4nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**70.43**	**179**	P	**P**	**04 51 02.1**	**+0.1**
	0.9nm,0.6s,mb3.9,baz=132,slow=19,SNR=3.5						
STKA	**Stephens Creek**	**70.43**	**179**	P	**P**	**04 51 02.1**	**+0.1**
NOA	**NORSAR Array B**	**72.27**	**337**	P	**P**	**04 51 13.0**	**+0.1**
	1.0nm,0.8s,mb3.8,baz=38,slow=6.1,SNR=3.1						
NOA	**NORSAR Array B**	**72.27**	**337**	P	**P**	**04 51 13.0**	**+0.1**
AKASG	**Malin Array Be**	**72.52**	**322**	P	**P**	**04 51 14.1**	**-0.5**
	0.4nm,0.3s,mb3.8,baz=46,slow=5.3,SNR=4.4						
AKASG	**Malin Array Be**	**72.52**	**322**	P	**P**	**04 51 14.1**	**-0.5**
PDAR	**Pinedale Array**	**76.70**	**45**	LR	LR	05 28 27.9	
	comp=Z,141nm,18.1s,baz=131,slow=38						
GERES	**GERESS Array B**	**80.87**	**328**	P	**P**	**04 52 01.7**	**-0.1**
	0.4nm,0.6s,mb3.5,baz=44,slow=4.1,SNR=4.3						
GERES	**GERESS Array B**	**80.87**	**328**	P	**P**	**04 52 01.7**	**-0.1**
TAOE	**Nuku Hiva Isla**	**87.09**	**104**	*e*LR	LR	04 51 54.0	
	217nm,24.6s						
VNA2	**Neumayer--Watz**	**143.97**	**197**	*e*	PKPdf	04 59 17.5	-4.8
VNA3	**Neumayer Olymp**	**144.24**	**196**	*e*	PKPdf	04 59 18.2	-4.5
LPAZ	**La Paz**	**146.11**	**56**	PKPbc	PKPbc	04 59 30.2	+1.7
	0.8nm,0.8s,baz=30,slow=17,SNR=3.5						
LPAZ	**La Paz**	**146.11**	**56**	PKPbc	PKPbc	04 59 30.2	+1.7

**IDC 12 04:50:55.8±4.7, 8°.37S×119°.

ellipse: s-maj=15.6km s-min=12.7km az=27.7
KRSC ***12*** *05:16:05.1±0.8,54°.10N×167°.67E,h40km±50km,ML4.3*

ISC 12 05:16:07.3±0.6,54°.32N±0°.07×167°.86E±0°.06,h45km±8km, n64,σ1ᵍ21/80,mb3.8/12,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.41**	**310**	*e*P	**Pn**	**05 16 28.8**	**-1.7**
BKI				*e*S	**Sn**	**05 16 46.3**	**-1.5**
BKI	**Bering**	**1.41**	**310**	PN	**Pn**	**05 16 28.8**	**-1.7**
BKI				S	**Sn**	**05 16 46.3**	**-1.5**
KBTR	**Krutoberegovo**	**3.45**	**305**	*e*P	**Pn**	**05 16 58.6**	**+0.2**
KBTR				*e*S	**Sn**	**05 17 37.4**	**-0.6**
KBTR	**Krutoberegovo**	**3.45**	**305**	PN	**Pn**	**05 16 58.6**	**+0.2**
KBTR				S	**Sn**	**05 17 37.4**	**-0.6**
FX1	**Attu Island--F**	**3.47**	**112**	Pn	**Pn**	**05 16 58.2**	**-0.5**
	21nm,0.3s,baz=343,slow=6.8,SNR=88						
FX1				Sn	**Sn**	**05 17 38.5**	**+0.1**
	71nm,0.3s,baz=95,slow=23,SNR=22						
FX1	**Attu Island--F**	**3.47**	**112**	Pn	**Pn**	**05 16 58.2**	**-0.5**
FX1				Sn	**Sn**	**05 17 38.5**	**+0.1**
FX1	**Attu Island--F**	**3.47**	**112**	PN	**Pn**	**05 16 58.2**	**-0.5**
FX1						05 17 38.6	
FX1				pmax	pmax		
	comp=Z,21nm,0.3s						
FX1				smax			
	comp=N,71nm,0.3s						
MKZ	**Mys Kozlova**	**3.59**	**276**	*e*P	**Pn**	**05 16 59.3**	**-1.0**
MKZ				*e*S	**Sn**	**05 17 38.0**	**-3.4**
MKZ	**Mys Kozlova**	**3.59**	**276**	PN	**Pn**	**05 16 59.3**	**-1.0**
MKZ				S	**Sn**	**05 17 38.0**	**-3.4**
SMY	**Shemya**	**4.05**	**111**	*e*Pn	**Pn**	**05 17 06.0**	**-0.6**
SMY	**Shemya**	**4.05**	**111**	*e*PN	**Pn**	**05 17 06.0**	**-0.6**
SMKR	**Semkarok**	**4.29**	**305**	*e*P	**Pn**	**05 17 12.6**	**+2.7**
SMKR				*e*S	**Sn**	**05 18 02.6**	**+4.0**
BDR	**Baidarnaya**	**4.41**	**303**	*e*P	**Pn**	**05 17 14.2**	**+2.6**
BDR				*e*S	**Sn**	**05 18 05.6**	**+4.0**
SRKR	**Sorokina**	**4.47**	**304**	*e*P	**Pn**	**05 17 15.2**	**+2.8**
TUMR	**Tumrok**	**4.57**	**285**	*e*P	**Pn**	**05 17 15.0**	**+1.2**
TUMR				*e*S	**Sn**	**05 18 04.5**	**-1.0**
SRDR	**Sredinnyy**	**5.07**	**297**	*e*P	**Pn**	**05 17 21.6**	**+1.0**
NLC	**Nalytchevo**	**5.18**	**261**	*e*P	**Pn**	**05 17 21.3**	**-0.9**
NLC				*e*S	**Sn**	**05 18 16.0**	**-4.6**
NLC	**Nalytchevo**	**5.18**	**261**	PN	**Pn**	**05 17 21.3**	**-0.9**
AVH	**Avacha**	**5.51**	**263**	*e*P	**Pn**	**05 17 26.7**	**0.0**
AVH				*e*S	**Sn**	**05 18 28.2**	**-0.5**
PET	**Petropavlovsk**	**5.63**	**260**	*e*S	**Sn**	**05 18 30.3**	**-1.2**
PET	**Petropavlovsk**	**5.63**	**260**	*e*Pn	**Pn**	**05 17 28.2**	**0.0**
PET	**Petropavlovsk**	**5.63**	**260**	*e*PN	**Pn**	**05 17 28.2**	**-0.1**
GNL	**Ganaly**	**5.88**	**268**	*e*P	**Pn**	**05 17 32.6**	**+0.8**
RUS	**Russkaya**	**5.91**	**255**	*e*P	**Pn**	**05 17 31.5**	**-0.6**
RUS				*e*S	**Sn**	**05 18 34.1**	**-4.3**
RUS	**Russkaya**	**5.91**	**255**	PN	**Pn**	**05 17 31.5**	**-0.6**
PETK	**Petropavlovsk-**	**6.16**	**263**	Pn	**Pn**	**05 17 36.9**	**+1.4**
	comp=N,1.6nm,0.3s,baz=92,slow=20,SNR=7.5						
PETK				Sn	**Sn**	**05 18 47.4**	**+2.9**
	comp=N,2.7nm,0.3s,baz=66,slow=11,SNR=5.2						
PETK	**Petropavlovsk-**	**6.16**	**263**	Pn	**Pn**	**05 17 36.9**	**+1.4**
PETK				Sn	**Sn**	**05 18 47.4**	**+2.9**
PETK	**Petropavlovsk-**	**6.16**	**263**	PN	**Pn**	**05 17 36.9**	**+1.4**
PETK						05 18 47.4	
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PETK				smax			
	comp=N,3.0nm,0.3s						
KDAK	**Kodiak Island**	**22.14**	**65**	P	**P**	**05 20 59.0**	**+0.4**
	comp=N,7.1nm,0.9s,mb4.1,baz=166,slow=21,SNR=9.2						
KDAK	**Kodiak Island**	**22.14**	**65**	P	**P**	**05 20 59.0**	**+0.4**
KDAK	**Kodiak Island**	**22.14**	**65**	P	**P**	**05 20 59.1**	**+0.4**
KDAK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.1						
ILAR	**Eielson Array**	**24.64**	**47**	P	**P**	**05 21 22.1**	**-1.0**
	comp=Z,1.4nm,0.7s,mb3.6,baz=252,slow=7.3,SNR=32						
ILAR	**Eielson Array**	**24.64**	**47**	P	**P**	**05 21 22.1**	**-1.0**
ILAR	**Eielson Array**	**24.64**	**47**	P	**P**	**05 21 22.1**	**-1.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
EGAK	**Eagle**	**27.09**	**47**	*e*P	**P**	**05 21 43.0**	**-2.2**
INK	**Inuvik**	**30.04**	**39**	P	**P**	**05 22 11.2**	**-0.2**
	comp=Z,1.0nm,0.6s,mb3.7,baz=275,slow=8.6,SNR=9.1						
INK	**Inuvik**	**30.04**	**39**	P	**P**	**05 22 11.2**	**-0.1**
INK	**Inuvik**	**30.04**	**39**	P	**P**	**05 22 11.2**	**-0.2**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**38.06**	**286**	P	**P**	**05 23 23.0**	**+2.0**
	comp=Z,0.3nm,0.4s,mb3.4,baz=65,slow=8.2,SNR=4.1						
SONM	**Songino Array**	**38.06**	**286**	P	**P**	**05 23 23.0**	**+2.0**
SONM	**Songino Array**	**38.06**	**286**	P	**P**	**05 23 23.0**	**+2.0**
DAG	**Danmarks Havn**	**49.12**	**2**	*e*P	**P**	**05 24 39.9**	**-10**
DAG	**Danmarks Havn**	**49.12**	**2**	*i* P	**P**	**05 24 39.9**	**-10**
	comp=Z,3.4nm,0.8s,mb4.4						
KURK	**Kurchatov**	**50.92**	**305**	P	**P**	**05 25 03.3**	**-0.2**
	comp=Z,0.4nm,0.3s,mb3.8,baz=52,slow=7.7,SNR=5.9						
KURK	**Kurchatov**	**50.92**	**305**	P	**P**	**05 25 03.3**	**-0.2**
KURK	**Kurchatov**	**50.92**	**305**	P	**P**	**05 25 03.3**	**-0.2**
MKAR	**Makanchi Array**	**51.69**	**299**	P	**P**	**05 25 08.4**	**-0.9**
	comp=Z,0.2nm,0.2s,mb3.6,baz=64,slow=6.6,SNR=2.5						
MKAR	**Makanchi Array**	**51.69**	**299**	P	**P**	**05 25 08.4**	**-0.9**
MKAR	**Makanchi Array**	**51.69**	**299**	P	**P**	**05 25 08.4**	**-1.0**
PDAR	**Pinedale Array**	**52.84**	**66**	P	**P**	**05 25 18.6**	**+0.7**
	comp=Z,0.8nm,0.6s,mb3.8,baz=306,slow=1.2,SNR=5.8						
PDAR	**Pinedale Array**	**52.84**	**66**	P	**P**	**05 25 18.6**	**+0.7**
ARCES	**ARCESS Array B**	**53.46**	**344**	P	**P**	**05 25 21.5**	**-0.6**
	comp=Z,2.8nm,0.8s,mb4.2,baz=23,slow=9.9,SNR=6.1						
ARCES	**ARCESS Array B**	**53.46**	**344**	P	**P**	**05 25 21.5**	**-0.6**
ARCES	**ARCESS Array B**	**53.46**	**344**	P	**P**	**05 25 21.5**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NB2	**NORSAR Subarra**	**63.51**	**348**	P	**P**	**05 26 31.9**	**-0.3**
	comp=Z,0.9nm,0.4s,mb4.2,baz=15,slow=6.9						
NOA	**NORSAR Array B**	**63.51**	**348**	P	**P**	**05 26 32.0**	**-0.1**
	comp=Z,0.7nm,0.4s,mb4.0,baz=18,slow=6.6,SNR=9.1						
NOA	**NORSAR Array B**	**63.51**	**348**	P	**P**	**05 26 32.0**	**-0.1**
NOA	**NORSAR Array B**	**63.51**	**348**	P	**P**	**05 26 32.1**	**-0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**65.88**	**73**	P	**P**	**05 26 48.9**	**+0.8**
	comp=Z,0.8nm,0.5s,mb4.0,baz=303,slow=5.0,SNR=18						
TXAR	**Lajitas Array**	**65.88**	**73**	P	**P**	**05 26 48.9**	**+0.8**
TXAR	**Lajitas Array**	**65.88**	**73**	P	**P**	**05 26 48.9**	**+0.8**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**74.93**	**343**	P	**P**	**05 27 43.6**	**+0.6**
	comp=Z,0.2nm,0.5s,mb3.3,baz=46,slow=4.2,SNR=3.6						
GERES	**GERESS Array B**	**74.93**	**343**	P	**P**	**05 27 43.6**	**+0.5**
GERES	**GERESS Array B**	**74.93**	**343**	P	**P**	**05 27 43.6**	**+0.6**

WEL 12 05:39:35.7±0.3,37°.39S×179°.29E,h33km,ML3.5/4,1D, Error ellipse: s-maj=2.5km s-min=2.4km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.80**	**257**	PN	Pn	05 39 50.2	-0.4
MXZ				SN	Sn	05 40 00.9	-0.6
PUZ	**Puketiti**	**1.07**	**230**	⇓PN	Pn	05 39 53.6	-0.8
PUZ				SN	Sn	05 40 07.3	-0.7
PUZ				SN	Sn	05 40 07.4	-0.6
CNGZ	**Carnagh Statio**	**1.39**	**218**	PN	Pn	05 39 58.6	-0.2
MWZ	**Matawai**	**1.69**	**235**	PN	Pn	05 40 02.3	-0.5
MWZ				SN	Sn	05 40 21.9	-1.3
URZ	**Urewera**	**1.93**	**243**	PN	Pn	05 40 06.7	+0.4
URZ				SN	Sn	05 40 28.1	-1.3
KNZ	**Kokohu**	**2.07**	**218**	PN	Pn	05 40 06.9	-1.1
RAHZ	**Arahi**	**2.31**	**228**	PN	Pn	05 40 11.2	-0.3
TARZ	**Mount Tarawera**	**2.36**	**248**	PN	Pn	05 40 12.7	+0.6
NMHZ	**Naumai**	**2.60**	**228**	PN	Pn	05 40 15.1	-0.3
MCHZ	**McNeill Hill**	**2.89**	**224**	PN	Pn	05 40 18.6	-0.8
KAHZ	**Kahuranaki**	**3.06**	**218**	PN	Pn	05 40 19.7	-1.9
BHHZ	**Black Hill Sta**	**3.29**	**229**	PN	Pn	05 40 23.9	-0.9
MKAZ	**Moumakai**	**3.31**	**274**	PN	Pn	05 40 26.4	+1.3
TSZ	**Takapari Road**	**3.73**	**223**	PN	Pn	05 40 28.1	-2.7
BFZ	**Birch Farm**	**4.05**	**215**	PN	Pn	05 40 31.7	-3.6
CTZ	**Chatham Island**	**7.06**	**155**	PN	Pn	05 41 15.1	-1.5

IDC ***12*** *05:41:12.5±1.3,9°.18S×125°.33E,h0km,mb4.0/2, mb1 4.2/5,mb1mx3.8/18,mbtmp4.1/5,ML4.1/3,MS2.8/1, Ms1 2.8/1,ms1mx2.4/25,Error ellipse: s-maj=101.7km s-min=24.5km az=68.0*
NEIC ***12*** *05:41:13.9±0.6,9°.24S×125°.26E,h10km,Error ellipse: s-maj=16.9km s-min=7.3km az=58.0*
ISCJB ***12*** *05:41:14.7±0.8,9°.3S±0°.1×125°.2E±0°.1,h33km,mb3.9/2, Error ellipse: s-maj=22.7km s-min=9.7km az=148.4*

ISC 12 05:41:17.2±0.8,9°.36S±0°.09×125°.2E±0°.1,h35km,n15, sᵍ0ᵍ90/19,mb3.9/2,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**6.89**	**308**	Pn	**Pn**	**05 42 55.0**	**-0.8**
FITZ	**Fitzroy Crossi**	**8.70**	**177**	Pn	**Pn**	**05 43 22.1**	**+1.5**
	1.5nm,0.3s,baz=16,slow=10,SNR=73						
FITZ				Sn	**Sn**	**05 44 54.1**	**-3.4**
	1.0nm,0.3s,baz=353,slow=21,SNR=12						
FITZ				LR	LR	05 47 11.3	
	comp=Z,57nm,19.1s,baz=95,slow=40						
FITZ	**Fitzroy Crossi**	**8.70**	**177**	Pn	**Pn**	**05 43 22.1**	**+1.5**
FITZ				Sn	**Sn**	**05 44 54.1**	**-3.4**
FITZ				LR	LR	05 47 11.3	
MBWA	**Marble Bar**	**12.84**	**203**	*e*Pn	**Pn**	**05 44 18.3**	**+0.9**
WRA	**Warramunga Arr**	**13.75**	**141**	Pn	**Pn**	**05 44 29.6**	**-0.2**
	1.2nm,0.3s,baz=316,slow=15,SNR=62						
WRA				Sn	**Sn**	**05 46 52.3**	**-9.0**
	1.3nm,0.3s,baz=311,slow=23,SNR=8.5						
WRA	**Warramunga Arr**	**13.75**	**141**	Pn	**Pn**	**05 44 29.6**	**-0.2**
WRA				Sn	**Sn**	**05 46 52.3**	**-9.0**
WRAB	**Tennant Creek**	**13.75**	**141**	*e*Pn	**Pn**	**05 44 29.8**	**0.0**
	3.7nm,0.5s						
ASAR	**Alice Springs**	**16.50**	**151**	Pn	**Pn**	**05 45 06.0**	**0.0**
	0.8nm,0.3s,baz=317,slow=11,SNR=34						
ASAR				Sn	**Sn**	**05 48 01.2**	**-6.8**
	0.5nm,0.3s,baz=319,slow=22,SNR=12						
ASAR	**Alice Springs**	**16.50**	**151**	Pn	**Pn**	**05 45 06.0**	**0.0**
ASAR				Sn	**Sn**	**05 48 01.2**	**-6.8**
MKAR	**Makanchi Array**	**67.70**	**330**	P	**P**	**05 52 11.4**	**+0.5**
	1.3nm,0.5s,mb4.2,baz=133,slow=7.9,SNR=18						
MKAR	**Makanchi Array**	**67.70**	**330**	P	**P**	**05 52 11.4**	**+0.5**
ZALV	**Zalesovo Beam**	**71.69**	**336**	P	**P**	**05 52 34.9**	**-0.4**
	0.3nm,0.3s,mb3.6,baz=157,slow=4.4,SNR=3.9						
ZALV	**Zalesovo Beam**	**71.69**	**336**	P	**P**	**05 52 34.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**124.52**	**280**	PKP	PKPdf	06 00 15.4	+1.6
	0.7nm,0.8s,baz=92,slow=1.4,SNR=5.4						
TORD	**Torodi Ar. Bea**	**124.52**	**280**	PKP	PKPdf	06 00 15.4	+1.6

ISCJB ***12*** *05:41:32.5±0.5,39°.14N±0°.04×29°.42E±0°.03,h3km±5km, Error ellipse: s-maj=6.3km s-min=3.4km az=1.8*
CSEM ***12*** *05:41:32.7±0.1,39°.14N×29°.44E,h5km,MD3.1,Error ellipse: s-maj=3.0km s-min=2.2km az=9.0*
DDA ***12*** *05:41:32.3,39°.13N×29°.40E,h8km±2km,Md2.9*
ISK ***12*** *05:41:32.4,39°.13N×29°.43E,h6km,MD3.1*

ISC 12 05:41:33.0±0.4,39°.14N±0°.03×29°.43E±0°.03,h6km±4km, n48,σ0ᵍ60/64,3C,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.06**	**140**	⇑*i*Pg	**Pg**	**05 41 34.4**	**-0.2**
GDZ				*i* Sg	**Sg**	**05 41 36.2**	**+0.4**
ALT	**Altintas**	**0.54**	**99**	*e*PG	**Pg**	**05 41 43.0**	**-0.3**
ALT				*e*SG	**Sg**	**05 41 51.3**	**+1.0**
ALT	**Altintas**	**0.54**	**99**	*e*Pg	**Pg**	**05 41 43.0**	**-0.3**
ALT				*e*Sg	**Sg**	**05 41 51.3**	**+1.0**
DEMI	**Demirci**	**0.56**	**261**	⇑*i*Pg	**Pg**	**05 41 43.5**	**-0.3**
DEMI				*i* Sg	**Sg**	**05 41 50.6**	**-0.5**
KHAL	**Karahalli**	**0.77**	**176**	*e*P	**Pg**	**05 41 47.9**	**+0.2**
KHAL				*e*S	**Sg**	**05 41 57.6**	**-0.1**
KHAL	**Karahalli**	**0.77**	**176**	*e*P	**Pg**	**05 41 47.9**	**+0.2**
KHAL				*e*S	**Sg**	**05 41 57.6**	**-0.1**
DST	**Dursunbey**	**0.78**	**307**	*e*PG	**Pg**	**05 41 47.9**	**-0.1**
DST	**Dursunbey**	**0.78**	**307**	*e*Pg	**Pg**	**05 41 47.9**	**-0.1**
KULA	**Kula-Manisa**	**0.86**	**224**	*e*PG	**Pg**	**05 41 49.0**	**-0.5**
KULA	**Kula-Manisa**	**0.86**	**224**	*e*Pg	**Pg**	**05 41 49.0**	**-0.6**
DURS	**Dursunbey**	**0.87**	**302**	⇑*i*P	**Pg**	**05 41 49.1**	**-0.7**
DURS				*i* S	**Sg**	**05 42 02.9**	**+1.8**
DURS	**Dursunbey**	**0.87**	**302**	*i* P	**Pg**	**05 41 49.1**	**-0.6**
DURS				*i* S	**Sg**	**05 42 02.9**	**+1.8**
SHUT	**Suhut-Afyon**	**1.05**	**123**	*e*PG	**Pg**	**05 41 53.3**	**+0.1**
SHUT	**Suhut-Afyon**	**1.05**	**123**	*e*Pg	**Pg**	**05 41 53.3**	**+0.1**
BORA	**Eskisehir**	**1.09**	**47**	*e*P	**Pg**	**05 41 53.1**	**-0.8**
BORA				*e*S	**Sg**	**05 42 07.1**	**-0.8**
BORA	**Eskisehir**	**1.09**	**47**	*e*P	**Pg**	**05 41 53.1**	**-0.7**
BORA				*e*S	**Sg**	**05 42 07.1**	**-0.8**
CAVI	**Cavuskoy**	**1.11**	**17**	*e*PN	**Pn**	**05 41 54.0**	**-1.0**
CAVI	**Cavuskoy**	**1.11**	**17**	*e*Pn	**Pn**	**05 41 54.0**	**-1.0**
ESKT	**Eskisehir**	**1.17**	**70**	*e*PN	**Pn**	**05 41 54.9**	**-0.9**
ESKT	**Eskisehir**	**1.17**	**70**	*e*Pn	**Pn**	**05 41 54.9**	**-0.9**
BOLV	**Bolvadin**	**1.26**	**109**	*e*P	**Pn**	**05 41 56.4**	**-0.6**
BOLV				*e*S	**Sg**	**05 42 14.1**	**+0.7**
BOLV	**Bolvadin**	**1.26**	**109**	*e*P	**Pn**	**05 41 56.4**	**-0.6**
BOLV				*e*S	**Sg**	**05 42 14.1**	**+0.7**
AKHS	**Akhisar**	**1.28**	**259**	*e*P	**Pn**	**05 41 56.8**	**-0.5**
AKHS				*e*S	**Sg**	**05 42 14.1**	**-0.1**
AKHS	**Akhisar**	**1.28**	**259**	*e*P	**Pn**	**05 41 56.8**	**-0.6**
AKHS				*e*S	**Sg**	**05 42 14.1**	**-0.1**
AKS	**Akhisar**	**1.28**	**259**	*e*PN	**Pn**	**05 41 57.3**	**-0.1**
AKS	**Akhisar**	**1.28**	**259**	*e*Pn	**Pn**	**05 41 57.3**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.30**	**341**	*e*PN	**Pn**	**05 41 57.8**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.30**	**341**	*e*Pn	**Pn**	**05 41 57.8**	**+0.2**
BALB	**Balikesir**	**1.30**	**293**	*e*PN	**Pn**	**05 41 57.7**	**+0.1**
BALB	**Balikesir**	**1.30**	**293**	*e*Pn	**Pn**	**05 41 57.7**	**+0.1**
ADVT	**Abdulvahap**	**1.32**	**10**	*e*PN	**Pn**	**05 41 57.8**	**0.0**
ADVT	**Abdulvahap**	**1.32**	**10**	*e*Pn	**Pn**	**05 41 57.8**	**0.0**
GPA	**Golpazari**	**1.34**	**30**	*e*PN	**Pn**	**05 41 57.9**	**-0.2**
GPA	**Golpazari**	**1.34**	**30**	*e*Pn	**Pn**	**05 41 57.9**	**-0.2**
ARMT	**Armutlu**	**1.49**	**343**	*e*PN	**Pn**	**05 42 00.8**	**+0.6**
ARMT	**Armutlu**	**1.49**	**343**	*e*Pn	**Pn**	**05 42 00.8**	**+0.6**
BALY	**Balya**	**1.52**	**294**	*e*P	**Pn**	**05 42 01.1**	**+0.4**
BALY				*e*S	**Sn**	**05 42 21.1**	**+0.3**
BALY	**Balya**	**1.52**	**294**	*e*P	**Pn**	**05 42 01.1**	**+0.4**
BALY				*e*S	**Sn**	**05 42 21.1**	**+0.3**
GULT	**Gulveren**	**1.54**	**33**	*e*PN	**Pn**	**05 42 01.3**	**+0.4**
GULT	**Gulveren**	**1.54**	**33**	*e*Pn	**Pn**	**05 42 01.3**	**+0.4**
GONE	**Gonen-Balikesi**	**1.62**	**305**	*e*PN	**Pn**	**05 42 02.7**	**+0.7**
GONE	**Gonen-Balikesi**	**1.62**	**305**	*e*Pn	**Pn**	**05 42 02.7**	**+0.7**
SVRH	**Sivrihisar-ESK**	**1.66**	**79**	*e*PN	**Pn**	**05 42 02.0**	**-0.5**
SVRH	**Sivrihisar-ESK**	**1.66**	**79**	*e*Pn	**Pn**	**05 42 02.0**	**-0.5**
MDU	**Mudurnu**	**1.91**	**45**	*e*PN	**Pn**	**05 42 06.7**	**+0.7**
MDU	**Mudurnu**	**1.91**	**45**	*e*Pn	**Pn**	**05 42 06.7**	**+0.7**
KIZT	**Kizilcal**	**1.93**	**97**	*e*PN	**Pn**	**05 42 07.1**	**+0.9**
KIZT	**Kizilcal**	**1.93**	**97**	*e*Pn	**Pn**	**05 42 07.1**	**+0.9**

BGS ***12*** *06:44:54.8±2.1,39°.42N×52°.45E,h33km,mb5.1*
IDC ***12*** *06:44:59.1±0.8,40°.42N×51°.87E,h0km,mb4.3/18, mb1 4.5/22,mb1mx4.3/31,mbtmp4.3/22,ML4.5/3,MS3.6/25, Ms1 3.6/25,ms1mx3.4/45,Error ellipse: s-maj=19.0km s-min=8.4km az=170.0*
BJI ***12*** *06:45:02.1,40°.74N×51°.46E,h39km,mB5.1/6,mb4.5/13, Ms4.7/3,Ms7 4.5/3*
MOS ***12*** *06:45:03.9±1.4,40°.76N×51°.94E,h33km,mb4.6/27,Error ellipse: s-maj=6.5km s-min=5.2km az=113.2*
NEIC ***12*** *06:45:03.9±1.6,40.62N×51.89E,h27km±12km,mb4.4/9, Error ellipse: s-maj=8.7km s-min=4.1km az=171.0*
ISCJB ***12*** *06:45:05.4±0.6,40°.92N±0°.04×51°.90E±0°.03,h39km±5km, mb4.5/63,MS3.6/23,Error ellipse: s-maj=7.3km s-min=3.4km az=172.5*
CSEM ***12*** *06:45:07.0±0.3,40°.95N×51°.96E,h40km,mb4.4/16,Ms3.2, Error ellipse: s-maj=12.4km s-min=5.1km az=163.0*
NNC ***12*** *06:45:13.9±4.9,41°.34N×53°.13E,h0km,mb4.5,Error ellipse: s-maj=51.4km s-min=39.7km az=105.0*

ISC 12 06:45:07.3±0.5,40°.91N±0°.04×51°.94E±0°.03,h42km±4km, n307,σ1ᵍ12/343,mb4.5/63,MS3.6/23,21C-17D,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	**Gala**	**1.44**	**251**	P	**Pn**	**06 45 37.3**	**+6.4**
	SNR=3.7						
NDR	**Nardaran**	**1.52**	**258**	P	**Pn**	**06 45 38.3**	**+6.3**
	SNR=6.6						
ALIB	**Äli-Bayra**	**2.43**	**248**	S	**Sn**	**06 46 17.7**	**+4.8**
PQL	**Pirkuli**	**2.54**	**268**	P	**Pn**	**06 45 47.4**	**+1.4**
	SNR=15						
QUBA	**Quba, Azerbaij**	**2.64**	**281**	P	**Pn**	**06 45 50.0**	**+2.6**
	SNR=5.5						
QUBA				S	**Sn**	**06 46 29.4**	**+11**
IML	**Ismayilli**	**2.85**	**269**	P	**Pn**	**06 45 51.0**	**+0.7**
	SNR=4.7						
GLBA	**Cilabad**	**3.19**	**240**	P	**Pn**	**06 45 52.9**	**-2.0**
	SNR=8.7						
GLBA				S	**Sn**	**06 46 27.5**	**-4.1**
SEKA	**Sheki**	**3.60**	**276**	P	**Pn**	**06 46 01.8**	**+1.3**
	SNR=26						
SEKA				S	**Sn**	**06 46 44.3**	**+2.6**
BRDA	**Brd**	**3.68**	**262**	P	**Pn**	**06 46 01.5**	**-0.2**
	SNR=4.3						
BRDA				S	**Sn**	**06 46 44.5**	**+0.7**
GANJ	**Ganja**	**4.27**	**268**	P	**Pn**	**06 46 08.3**	**-1.5**
	SNR=7.8						
GANJ				S	**Sn**	**06 46 55.8**	**-2.5**
DGRG	**David-gareji**	**4.98**	**278**	P	**Pn**	**06 46 19.2**	**-0.3**
DGRG				S	**Sn**	**06 47 16.0**	**+0.1**
MTA	**Mtatsminda**	**5.44**	**281**	P	**Sn**	**06 47 25.1**	**-2.0**
TBLG	**Delisi**	**5.48**	**281**	P	**Sn**	**06 47 26.7**	**-1.5**
GNI	**Garni**	**5.53**	**265**	Pn	**Pn**	**06 46 25.1**	**-2.0**
	baz=270,slow=20						
GNI				Sn	**Sn**	**06 47 27.6**	**-1.8**
	3.0nm,0.3s,baz=162,slow=20,SNR=3.2						
GNI	**Garni**	**5.53**	**265**	Pn	**Pn**	**06 46 25.1**	**-2.0**
GNI				Sn	**Sn**	**06 47 27.6**	**-1.8**
GNI	**Garni**	**5.53**	**265**	P	**Pn**	**06 46 25.2**	**-1.9**
GNI						06 47 27.7	
GNI	**Garni**	**5.53**	**265**	P	**Pn**	**06 46 25.2**	**-1.9**
GNI				S	**Sn**	**06 47 27.7**	**-1.8**
GOR	**Gori**	**5.98**	**283**	P	**Sn**	**06 47 40.9**	**+0.5**
ZEI	**Tsey**	**6.29**	**290**	*e*P	**Pn**	**06 46 44.6**	**+7.2**
ZEI				pmax	pmax		
	comp=Z,13nm,0.8s						
AKH	**Akhalkalaki**	**6.39**	**277**	P	**Sn**	**06 47 51.3**	**+0.7**
ONI	**Oni**	**6.56**	**288**	P	**Sn**	**06 47 41.1**	**-14**
KIV	**Kislovodsk**	**7.49**	**297**	*e*Pn	**Pn**	**06 46 56.6**	**+2.6**
	comp=Z,42nm,0.6s						
KIV	**Kislovodsk**	**7.49**	**297**	*e*P	**Pn**	**06 46 56.6**	**+2.6**
KIV				*e*		06 48 14.2	
KIV				pmax	pmax		
	comp=Z,22nm,0.7s						
KIV				MLR	MLR		
	comp=Z,21nm,7.0s						
KIV	**Kislovodsk**	**7.49**	**297**	*e*S	**Sn**	**06 48 14.2**	**-3.3**
	comp=Z,21nm,7.0s						
AB31	**Akbulak array**	**10.08**	**31**	P	**Pn**	**06 47 29.1**	**-0.3**
	comp=Z,4.5nm,0.4s,baz=210,slow=14,SNR=109						
AB31				⇑S	**Sn**	**06 49 16.4**	**-4.7**
	comp=Z,316nm,0.8s,baz=213,slow=26						
AB31	**Akbulak array**	**10.08**	**31**	*e*P	**Pn**	**06 47 29.1**	**-0.3**
AB31						06 49 19.8	
AB31				pmax	pmax		
	comp=Z,10.0nm,0.6s						
AB31				smax			
	comp=Z,31nm,0.3s						
AB31	**Akbulak array**	**10.08**	**31**	P	**Pn**	**06 47 29.1**	**-0.3**
	comp=Z,4.5nm,0.4s,SNR=109						
AB31				S	**Sn**	**06 49 16.4**	**-4.7**
	comp=Z,316nm,0.8s						
ABKAR	**Akbulak array**	**10.08**	**31**	*e*Pn	**Pn**	**06 47 29.2**	**-0.2**
	comp=Z,17nm,0.6s						
ABKAR	**Akbulak array**	**10.08**	**31**	*e*Pn	**Pn**	**06 47 29.2**	**-0.2**
	comp=Z,17nm,0.6s						
AKTK	**Aktyubinsk**	**10.43**	**22**	Pn	**Pn**	**06 47 35.5**	**+1.3**
AKTK				Sn	**Sn**	**06 49 27.3**	**-2.3**
AKTK

ARU MLR MLR
comp=Z,409nm,17.0s
ARU Arti 16.13 13 *i* P **Pn 06 48 51.6 +0.8**
comp=Z,25nm,1.2s
EKS2 Erkin-Say 16.38 77 *e*Pn **Pn 06 48 55.1 +0.9**
comp=Z,28nm,1.4s
EKS2 Erkin-Say 16.38 77 *e*P **Pn 06 48 55.1 +1.0**
EKS2 pmax pmax
comp=Z,28nm,1.4s
EKS2 Erkin-Say 16.38 77 *e*P **Pn 06 48 55.1 +1.0**
comp=Z,28nm,1.4s
SVE Sverdlovsk 16.91 17⇓*i*P **Pn 06 49 03.8 +3.2**
SVE *e*S **S 06 52 01.3 -15**
SVE pmax pmax
comp=Z,55nm,1.2s
SVE MLR MLR
comp=Z,591nm,16.0s
SVE Sverdlovsk 16.91 17 *i* P **Pn 06 49 03.8 +3.2**
comp=Z,591nm,16.0s
FRU Bishkek 17.00 76⇓*e*P **Pn 06 49 04.0 +2.1**
FRU *e*S **S 06 52 14.0 -4.2**
FRU pmax pmax
comp=Z,120nm,2.0s
FRU Bishkek 17.00 76 *e*P **Pn 06 49 04.0 +2.1**
comp=Z,120nm,2.0s
BRVK Borovoye 17.39 39 ⇓P **Pn 06 49 04.3 -2.3**
comp=Z,62nm,0.9s
BRVK ⇓S **S 06 52 07.7 -18**
comp=Z,102nm,0.8s
BRVK Borovoye 17.39 39 *e*Pn **Pn 06 49 06.4 -0.2**
comp=Z,35nm,0.8s
BRVK Borovoye 17.39 39 *e*P **Pn 06 49 06.4 -0.2**
BRVK pmax pmax
comp=Z,35nm,0.8s
BRVK Borovoye 17.39 39 *e*P **Pn 06 49 06.4 -0.2**
comp=Z,35nm,0.8s
BVA0 Borovoye Array 17.42 40 ⇑P **Pn 06 49 07.0 0.0**
comp=Z,5.1nm,0.8s,baz=232,slow=13,SNR=180
BVA0 ⇓S **S 06 52 08.2 -18**
comp=Z,19nm,0.8s,baz=237,slow=22
BVA0 Borovoye Array 17.42 40 *i* P **Pn 06 49 06.9 -0.1**
BVA0 pmax pmax
comp=Z,5.0nm,0.8s
BVA0 Borovoye Array 17.42 40 *i* P **Pn 06 49 06.9 -0.1**
comp=Z,5.0nm,0.8s
BVAR Borovoye Array 17.42 40 P **Pn 06 49 07.0 0.0**
comp=Z,5.1nm,0.8s,SNR=180
OBN Obninsk 17.48 330 *e*Pn **Pn 06 49 07.8 0.0**
OBN Obninsk 17.48 330⇓*i*P **Pn 06 49 07.5 -0.3**
OBN *e*S **S 06 52 22.0 -5.9**
OBN pmax pmax
comp=Z,68nm,1.8s
OBN MLR MLR
comp=Z,100nm,16.0s
OBN Obninsk 17.48 330 *i* P **Pn 06 49 07.5 -0.3**
comp=Z,100nm,16.0s
OBN Obninsk 17.48 330 *e*Pn **Pn 06 49 07.8 0.0**
VOSK Vostochnaya 17.53 41 ⇑P **Pn 06 49 06.5 -1.9**
comp=Z,15nm,0.8s
VOSK ⇓S **S 06 52 11.4 -18**
comp=Z,49nm,0.8s
VOSK Vostochnaya 17.53 41 P **Pn 06 49 06.5 -1.9**
VOSK 06 52 15.1
VOSK pmax pmax
comp=Z,37nm,1.5s
VOSK smax
comp=Z,38nm,0.8s
VOSK Vostochnaya 17.53 41 P **Pn 06 49 06.5 -1.9**
comp=Z,15nm,0.8s
VOSK S **S 06 52 11.4 -17**
comp=Z,49nm,0.8s
MOS Moscow 17.57 332 *e*P **Pn 06 49 02.3 -6.6**
MOS *i*S **S 06 52 13.7 -16**
TIRR Tirgusor 17.64 289 ⇓P **Pn 06 49 08.3 -1.5**
TIRR Tirgusor 17.64 289⇑*i*P **Pn 06 49 09.0 -0.8**
TIRR Tirgusor 17.64 289 P **Pn 06 49 08.3 -1.5**
KIS Kishinev 17.70 298 *e*P **Pn 06 49 05.0 -5.4**
KIS Kishinev 17.70 298 *e*P **Pn 06 49 05.0 -5.4**
TKM2 Tokmak 2 17.72 76 *e*Pn **Pn 06 49 10.7 0.0**
comp=Z,32nm,1.1s
TKM2 Tokmak 2 17.72 76 *e*P **Pn 06 49 10.7 0.0**
TKM2 pmax pmax
comp=Z,32nm,1.1s
EIL Elat 17.80 236 LR LR 06 57 13.4
comp=Z,73nm,18.1s,baz=276,slow=42
LEOM Leova 17.98 296 ⇑P **Pn 06 49 13.5 -0.5**
LEOM Leova 17.98 296 P **Pn 06 49 13.5 -0.5**
AKASG Malin Array Be 18.55 309 P **Pn 06 49 19.3 -1.5**
comp=Z,9.6nm,0.3s,baz=112,slow=11,SNR=76
AKASG S **S 06 52 42.4 -7.2**
comp=Z,1.7nm,0.3s,baz=114,slow=22,SNR=6.9
AKASG Malin Array Be 18.55 309 P **Pn 06 49 19.3 -1.5**
AKASG S **S 06 52 42.4 -7.2**
AKASG Malin Array Be 18.55 309 P **Pn 06 49 19.3 -1.6**
AKASG S **S 06 52 42.4 -7.2**
AKASG pmax pmax
comp=Z,10.0nm,0.3s
AKASG smax
comp=N,2.0nm,0.3s
AKASG Malin Array Be 18.55 309 P **Pn 06 49 19.3 -1.6**
comp=N,10.0nm,0.3s
SOKR Solikamsk 18.93 8 *e*P **Pn 06 49 25.7 +0.3**
SOKR S **S 06 52 46.4 -11**
SOKR pmax pmax
comp=Z,40nm,0.9s
SOKR MLR MLR
comp=Z,190nm,18.0s
SOKR Solikamsk 18.93 8 *e*P **Pn 06 49 25.7 +0.3**
comp=Z,40nm,0.9s
VRI Vrincioaia 18.95 294⇓*i*P **Pn 06 49 28.8 +3.1**
PLOR Plostina 19.00 294 ⇑P **Pn 06 49 26.7 +0.4**
PLOR Plostina 19.00 294⇑*i*P **Pn 06 49 27.0 +0.7**
PLOR Plostina 19.00 294 P **Pn 06 49 26.7 +0.4**
MLR Muntele Rosu 19.46 292 P **Pn 06 49 30.3 -1.5**
comp=Z,0.1nm,0.3s,baz=175,slow=11,SNR=14
MLR Muntele Rosu 19.46 292 P **Pn 06 49 30.3 -1.5**
MLR Muntele Rosu 19.46 292 P **Pn 06 49 30.3 -1.5**
MLR Muntele Rosu 19.46 292⇓*i*P **Pn 06 49 33.9 +2.1**
MLR Muntele Rosu 19.46 292 P **Pn 06 49 30.3 -1.5**
VOIR 20.09 292⇓*i*P **P 06 49 38.2 +1.1**
BURAR Bucovina Array 20.22 298 ⇑P **P 06 49 39.3 +0.7**
BURAR Bucovina Array 20.22 298⇑*i*P **P 06 49 39.0 +0.4**
BUR08 Bucovina Ar. S 20.23 298 *e*P **P 06 49 38.4 -0.3**
BUR08 Bucovina Ar. S 20.23 298 *e*P **P 06 49 38.4 -0.3**
KURBB Kurchatov Arra 20.84 53 ⇓P **P 06 49 46.6 +1.3**
comp=Z,4.5nm,0.9s
KURBB Kurchatov Arra 20.84 53 P **P 06 49 46.6 +1.3**
comp=Z,4.5nm,0.9s
KURK Kurchatov 20.93 53 ⇓P **P 06 49 47.4 +1.2**
comp=Z,55nm,1.1s
KURK ⇑S **S 06 53 33.9 -3.1**
comp=Z,24nm,1.0s
KURK Kurchatov 20.93 53 P **P 06 49 46.4 +0.2**
comp=Z,18nm,0.8s,baz=253,slow=11,SNR=61
KURK S **S 06 53 32.6 -4.3**
comp=Z,1.7nm,0.3s,baz=254,slow=24,SNR=4.2
KURK LR LR 06 59 03.8
comp=Z,297nm,18.2s,MS3.7,baz=255,slow=40
KURK Kurchatov 20.93 53 P **P 06 49 46.4 +0.2**
KURK S **S 06 53 32.6 -4.3**
KURK LR LR 06 59 03.8
KURK Kurchatov 20.93 53 P **P 06 49 46.9 +0.7**
KURK 06 53 33.8
KURK pmax pmax
comp=Z,55nm,1.1s
KURK smax
comp=Z,25nm,1.0s
KURK Kurchatov 20.93 53 P **P 06 49 46.4 +0.2**
KURK S **S 06 53 33.9 -3.0**
comp=Z,24nm,1.0s
MICGM Minsk 21.01 318 *e* **P 06 49 45.0 -2.0**
MNK Minsk 21.03 318 *e*P **P 06 49 45.0 -2.3**
MNK Minsk 21.03 318 *e*P **P 06 49 45.0 -2.3**
KLMR Klimovskoe 21.38 343 *e*P **P 06 49 49.2 -1.8**
KLMR *e*S **S 06 53 41.8 -4.0**
KLMR pmax pmax
comp=Z,56nm,1.1s,mb4.8
KLMR Klimovskoe 21.38 343 *e*P **P 06 49 49.2 -1.8**
comp=Z,56nm,1.1s,mb4.8
LVV L'vov 21.43 304 *e*P **P 06 49 51.6 -0.1**
LVV L'vov 21.43 304 *e*P **P 06 49 51.6 -0.1**
VTS Vitosha 21.46 284 ⇓P **P 06 49 52.4 +0.4**
VTS Vitosha 21.46 284⇑*i*P **P 06 49 54.6 +2.6**
VTS Vitosha 21.46 284 P **P 06 49 52.4 +0.4**
NACGM Naroch 21.76 319 *e* **P 06 49 50.0 -5.1**

TRPA Tarpa 22.08 299⇓*i*P **P 06 50 01.1 +2.5**
IIGN Ignalina 22.26 319 *e*P **P 06 50 01.1 +0.7**
IIGN *e*S **S 06 54 03.1 +0.2**
IIGN Ignalina 22.26 319 *e*P **P 06 50 01.1 +0.7**
SNR=34
IIGN *e*S **S 06 54 03.2 +0.3**
SNR=36
UZH Uzhgorod 22.32 300 *e*P **P 06 50 03.2 +2.1**
UZH *e* 06 50 07.8
UZH *e* 06 50 17.0
ISAL Salakas 22.42 320 *e*P **P 06 50 02.7 +0.6**
ISAL *e*S **S 06 54 07.5 +1.5**
ISAL Salakas 22.42 320 *e*P **P 06 50 02.7 +0.6**
SNR=34
ISAL *e*S **S 06 54 07.5 +1.5**
SNR=36
IZAR Zarasai 22.45 320 *e*P **P 06 50 03.1 +0.7**
IZAR *e*S **S 06 54 08.8 +2.2**
IZAR Zarasai 22.45 320 *e*P **P 06 50 03.1 +0.7**
SNR=34
IZAR *e*S **S 06 54 08.8 +2.2**
SNR=36
MK31 Makanchi Array 22.58 65 P **P 06 50 04.5 +0.6**
comp=Z,23nm,1.1s,mb4.5,baz=245,slow=14,SNR=67
MK31 Makanchi Array 22.58 65 *e*P **P 06 50 04.6 +0.7**
MK31 Makanchi Array 22.58 65 *i*P **P 06 50 04.5 +0.6**
MK31 06 54 08.4
MK31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.0
MK31 Makanchi Array 22.58 65 P **P 06 50 04.5 +0.6**
comp=Z,23nm,1.1s,mb4.5,SNR=67
MKAR Makanchi Array 22.58 65 P **P 06 50 04.4 +0.5**
comp=Z,9.2nm,1.0s,mb4.2,baz=260,slow=9.1,SNR=42
MKAR S **S 06 54 15.0 +6.1**
comp=Z,2.5nm,1.0s,baz=272,slow=20,SNR=5.9
MKAR LR LR 06 59 50.1
comp=Z,95nm,20.4s,MS3.2,baz=250,slow=39
MKAR Makanchi Array 22.58 65 P **P 06 50 04.4 +0.5**
MKAR S **S 06 54 14.9 +6.1**
MKAR LR LR 06 59 50.1
MKAR Makanchi Array 22.58 65 P **P 06 50 04.4 +0.5**
MKAR pmax pmax
comp=Z,9.0nm,1.0s
MKAR MLR MLR
comp=Z,95nm,20.4s
MKAR Makanchi Array 22.58 65 P **P 06 50 04.4 +0.5**
comp=Z,95nm,20.4s
CRVS Cervenica-Dubn 22.90 301 *e*P **P 06 50 08.1 +0.8**
CRVS pmax pmax
comp=Z,25nm,1.6s,mb4.4
CRVS Cervenica-Dubn 22.90 301 *e*P **P 06 50 08.1 +0.8**
CRVS Cervenica-Dubn 22.90 301 *e*P **P 06 50 08.1 +0.8**
comp=Z,25nm,1.6s,mb4.4
NIE Niedzica 23.73 302 *e*P **P 06 50 16.8 +1.4**
NIE Niedzica 23.73 302 *e*P **P 06 50 16.8 +1.4**
NIE Niedzica 23.73 302 *e*P **P 06 50 16.8 +1.4**
VSU Vasula 23.74 326 *i*P **P 06 50 16.0 +0.6**
VSU pmax pmax
comp=Z,43nm,0.7s,mb5.0
VSU MLR MLR
comp=Z,134nm,20.0s,MS3.4
PSZ Piszkesteto 23.82 298 *e*P **P 06 50 17.1 +0.9**
comp=Z,6.2nm,0.8s,mb4.1
PSZ Piszkesteto 23.82 298 *e*P **P 06 50 17.1 +0.9**
PSZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.1
OJC Ojcow 24.19 303 *e*P **P 06 50 20.1 +0.5**
OJC Ojcow 24.19 303 *e*P **P 06 50 20.1 +0.5**
OJC Ojcow 24.19 303 *e*P **P 06 50 20.1 +0.5**
VYHS Vyhne 24.57 299 *e*P **P 06 50 24.0 +0.8**
VYHS pmax pmax
comp=Z,7.0nm,1.5s,mb4.0
VYHS Vyhne 24.57 299 *e*P **P 06 50 24.0 +0.8**
VYHS Vyhne 24.57 299 *e*P **P 06 50 24.0 +0.8**
comp=Z,7.2nm,1.5s,mb4.0
NVS Novosibirsk 24.94 45 *e*P **P 06 50 26.1 -0.3**
NVS pmax pmax
comp=Z,27nm,1.6s,mb4.5
NVS pmax pmax
comp=N,8.0nm,1.0s
NVS pmax pmax
comp=E,9.0nm,1.0s
JOF Joensuu 25.23 338 *e*P **P 06 50 28.1 -0.8**
JOF pmax pmax
comp=Z,23nm,0.5s,mb5.0
JOF Joensuu 25.23 338 *e*p **P 06 50 28.1 -0.8**
comp=Z,23nm,0.5s,mb5.0
JOF Joensuu 25.23 338 *e*P **P 06 50 28.1 -0.8**
comp=Z,23nm,0.5s,mb5.0
ZAA0 Zalesovo Array 25.53 48 *e*P **P 06 50 32.4 +0.6**
ZALV Zalesovo Beam 25.53 48 P **P 06 50 32.1 +0.4**
comp=Z,7.1nm,0.8s,mb4.3,baz=263,slow=10.0,SNR=23
ZALV LR LR 07 02 05.8
comp=Z,154nm,19.5s,MS3.5,baz=75,slow=40
ZALV Zalesovo Beam 25.53 48 P **P 06 50 32.1 +0.4**
ZALV LR LR 07 02 05.8
ZALV Zalesovo Beam 25.53 48 P **P 06 50 32.1 +0.4**
ZALV pmax pmax
comp=Z,7.0nm,0.8s,mb4.2
ZALV MLR MLR
comp=Z,155nm,19.5s,MS3.5
MORC Moravsky Berou 25.56 302 *e*P **P 06 50 32.6 +0.5**
comp=Z,18nm,1.2s,mb4.5
MORC Moravsky Berou 25.56 302 *e*P **P 06 50 32.6 +0.5**
MORC pmax pmax
comp=Z,18nm,1.2s,mb4.5
MORC Moravsky Berou 25.56 302⇑*i*P **P 06 50 32.6 +0.5**
MORC Moravsky Berou 25.56 302 *e*P **P 06 50 32.6 +0.5**
FINES FINESS Array B 25.87 331 P **P 06 50 35.2 +0.4**
comp=Z,14nm,0.7s,mb4.6,baz=128,slow=9.0,SNR=22
FINES LR LR 07 02 18.2
comp=Z,152nm,20.6s,MS3.5,baz=335,slow=40
FINES FINESS Array B 25.87 331 P **P 06 50 35.2 +0.4**
FINES LR LR 07 02 18.2
FINES FINESS Array B 25.87 331 P **P 06 50 35.2 +0.4**
FINES pmax pmax
comp=Z,14nm,0.7s
FINES MLR MLR
comp=Z,152nm,20.6s
VRAC Vranov 26.12 301 LR LR 07 02 07.7
comp=Z,102nm,19.8s,MS3.4,baz=89,slow=39
KAF Kangasniemi 26.23 333 *e*P **P 06 50 39.9 +1.9**
KAF pmax pmax
comp=Z,7.0nm,0.5s,mb4.5
KAF Kangasniemi 26.23 333 *e*p **P 06 50 39.9 +1.9**
comp=Z,6.6nm,0.5s,mb4.4
KAF Kangasniemi 26.23 333 *e*P **P 06 50 39.9 +1.9**
comp=Z,6.6nm,0.5s,mb4.4
WMQ Urumqi 26.46 72 P **P 06 50 44.6 +4.3**
SOKA Soboth 27.08 295⇑*i*P **P 06 50 46.4 +0.5**
comp=Z,9.0nm,0.7s,mb4.4
SOKA Soboth 27.08 295 P **P 06 50 46.4 +0.6**
comp=Z,9.0nm,0.7s,mb4.4
BRG Berggiesshubel 27.98 304 *e*P **P 06 50 54.9 +1.1**
comp=Z,16nm,1.0s,mb4.6
BRG *e* 06 57 24.0
comp=Z,3.0nm,0.7s
GERES GERESS Array B 27.99 299 P **P 06 50 54.0 0.0**
comp=Z,1.9nm,0.6s,mb3.9,baz=91,slow=8.8,SNR=14
GERES LR LR 07 03 11.1
comp=Z,70nm,19.4s,MS3.3,baz=223,slow=39
GERES GERESS Array B 27.99 299 P **P 06 50 54.0 0.0**
GERES LR LR 07 03 11.1
GERES GERESS Array B 27.99 299 P **P 06 50 54.0 0.0**
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES MLR MLR
comp=Z,70nm,19.4s
KBA Koelnbreinsper 28.23 296⇑*i*P **P 06 50 56.1 0.0**
comp=Z,6.4nm,0.6s,mb4.5
KBA Koelnbreinsper 28.23 296 P **P 06 50 56.1 0.0**
comp=Z,6.4nm,0.6s,mb4.5
CLL Collm 28.61 305 *e*P **P 06 51 00.0 +0.5**
CLL pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
CLL Collm 28.61 305 *e*P **P 06 51 00.0 +0.5**
comp=Z,7.0nm,0.9s,mb4.4
LVZ Lovozero 28.64 346 P **P 06 51 00.0 +0.5**
LVZ Lovozero 28.64 346 P **P 06 51 00.0 +0.5**
WTTA Wattenberg 29.39 296⇑*i*P **P 06 51 06.2 -0.1**
comp=Z,12nm,0.8s,mb4.7
WTTA Wattenberg 29.39 296 P **P 06 51 06.2 -0.2**
comp=Z,12nm,0.8s,mb4.7
HFS Hagfors 30.38 322 P **P 06 51 15.0 0.0**
comp=Z,7.4nm,0.7s,mb4.6,baz=104,slow=10,SNR=11
HFS LR LR 07 05 02.1
comp=Z,116nm,18.9s,MS3.5,baz=70,slow=39
HFS Hagfors 30.38 322 P **P 06 51 15.0 0.0**
HFS LR LR 07 05 02.1
HFS Hagfors 30.38 322 P **P 06 51 15.0 0.0**
HFS pmax pmax
comp=Z,7.0nm,0.7s
HFS MLR MLR
comp=Z,117nm,18.9s
DAVOX Davos/Dischmat 30.62 295 P **P 06 51 16.3 -0.9**
comp=Z,2.3nm,0.4s,mb4.3,baz=60,slow=9.7,SNR=4.0
DAVOX LR LR 07 05 01.7
comp=Z,65nm,18.9s,MS3.5,baz=86,slow=39
DAVOX Davos/Dischmat 30.62 295 P **P 06 51 16.3 -0.9**
DAVOX LR LR 07 05 01.6
DAVOX Davos/Dischmat 30.62 295 P **P 06 51 16.3 -1.0**
KEV Kevo 31.71 344 *e*P **P 06 51 25.4 -1.2**
KEV pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
KEV Kevo 31.71 344 *e*p **P 06 51 25.4 -1.2**
comp=Z,5.3nm,0.6s,mb4.5
KEV Kevo 31.71 344 *e*P **P 06 51 25.4 -1.2**
comp=Z,5.0nm,0.6s,mb4.5
PGF Pioggiola 31.84 287 *e*P **P 06 51 26.1 -2.0**
comp=Z,22nm,0.9s,mb4.7
PGF Pioggiola 31.84 287 *e*P **P 06 51 26.1 -2.0**
comp=Z,11nm,0.9s,mb4.7
NB2 NORSAR Subarra 31.85 323 P **P 06 51 27.6 -0.4**
comp=Z,4.4nm,0.7s,mb4.4,baz=115,slow=8.6
NOA NORSAR Array B 31.85 323 P **P 06 51 27.7 -0.3**
comp=Z,4.6nm,0.7s,mb4.4,baz=113,slow=8.3,SNR=18
NOA LR LR 07 05 56.1
comp=Z,93nm,18.7s,MS3.5,baz=110,slow=39
NOA NORSAR Array B 31.85 323 P **P 06 51 27.7 -0.3**
NOA LR LR 07 05 56.1
NOA NORSAR Array B 31.85 323 P **P 06 51 27.7 -0.3**
NOA pmax pmax
comp=Z,5.0nm,0.7s
NOA MLR MLR
comp=Z,93nm,18.7s
NOA NORSAR Array B 31.85 323 P **P 06 51 27.7 -0.3**
comp=Z,93nm,18.7s
ARCES ARCESS Array B 31.86 343 P **P 06 51 29.1 +1.1**
comp=Z,5.3nm,0.9s,mb4.4,baz=148,slow=9.8,SNR=11
ARCES LR LR 07 06 32.3
comp=Z,104nm,18.9s,MS3.5,baz=273,slow=40
ARCES ARCESS Array B 31.86 343 P **P 06 51 29.1 +1.1**
ARCES LR LR 07 06 32.2
ARCES ARCESS Array B 31.86 343 P **P 06 51 29.1 +1.1**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES MLR MLR
comp=Z,104nm,18.9s
ARCES ARCESS Array B 31.86 343 P **P 06 51 29.1 +1.1**
comp=Z,104nm,18.9s
CDF Champ du Feu 32.26 299 *e*P **P 06 51 31.1 -0.6**
comp=Z,5.6nm,0.6s,mb4.3
CDF Champ du Feu 32.26 299 *e*P **P 06 51 31.1 -0.6**
comp=Z,2.8nm,0.6s,mb4.3
HINF Hinteralfeld 32.59 298 *e*P **P 06 51 33.5 -1.1**
comp=Z,2.3nm,0.4s,mb4.2
HINF Hinteralfeld 32.59 298 *e*P **P 06 51 33.5 -1.1**
comp=Z,1.1nm,0.4s,mb4.2
SBF Sospel 32.71 290 *e*P **P 06 51 34.9 -0.8**
SBF Sospel 32.71 290 *e*P **P 06 51 34.9 -0.8**
HAU Haudompre 32.91 298 *e*P **P 06 51 36.9 -0.5**
comp=Z,32nm,0.9s,mb5.0
HAU *e*R
comp=Z,88nm,22.0s
LPG La Plagne 32.92 293 *e*P **P 06 51 37.2 -0.3**
comp=Z,8.7nm,0.8s,mb4.5
LPL La Plagne 32.93 293 *e*P **P 06 51 37.3 -0.3**
comp=Z,13nm,0.9s,mb4.6
MBDF Montbardon 33.03 292 *e*P **P 06 51 38.2 -0.2**
comp=Z,15nm,0.7s,mb4.7
CABF La Chapelle 33.23 295 *e*P **P 06 51 39.9 -0.3**
comp=Z,18nm,0.7s,mb4.8
FRF La Foret Royal 33.33 290 *e*P **P 06 51 40.5 -0.6**
comp=Z,15nm,0.7s,mb4.7
ORIF Oris-en-Rattie 33.62 292 *e*P **P 06 51 43.1 -0.5**
ORIF *e*R
comp=Z,82nm,22.9s
SFTF Sexfontaines 33.77 299 *e*P **P 06 51 44.5 -0.3**
GIVF Givet 33.78 302 *e*P **P 06 51 46.2 +1.3**
comp=Z,26nm,0.8s,mb4.9
BAIF Baives 34.17 302 *e*P **P 06 51 49.8 +1.4**
comp=Z,32nm,0.9s,mb4.9
VIVF Saint-Julien-l 34.48 293 *e*P **P 06 51 50.4 -0.6**
LOR Lormes 34.66 297 *e*P **P 06 51 52.6 0.0**
comp=Z,12nm,0.8s,mb4.6
LOR *e*R
comp=Z,68nm,21.2s
SMF Signal de Mont 34.76 296 *e*P **P 06 51 53.7 +0.2**
comp=Z,21nm,0.9s,mb4.8
SSF Saint Saulge 34.93 297 *e*P **P 06 51 54.6 -0.3**
AVF Avril sur Loir 35.07 296 *e*P **P 06 51 55.9 -0.2**
comp=Z,26nm,1.0s,mb4.8
LASF Ste Croix 35.20 292 *e*P **P 06 51 56.8 -0.5**
BGF Bois d'Agland 35.45 296 *e*P **P 06 52 00.0 +0.6**
comp=Z,7.7nm,0.6s,mb4.5
TCF Toulx Ste Croi 35.93 296 *e*P **P 06 52 03.8 +0.3**
GTA Gaotai 36.26 76 *e*P **P 06 52 07.5 +1.0**
GTA pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
LDF La Druitiere 37.14 300 *e*P **P 06 52 13.7 -0.1**
comp=Z,4.9nm,0.5s,mb4.3
LFF La Frestale 37.20 294 *e*P **P 06 52 14.6 +0.2**
comp=Z,12nm,0.7s,mb4.5
FLN La Foliniere 37.35 300 *e*P **P 06 52 15.4 -0.2**
comp=Z,19nm,0.7s,mb4.7
FLN *e*R
comp=Z,114nm,17.4s
MFF Saint Martin d 37.48 297 *e*P **P 06 52 16.0 -0.7**
GRR Gorron 37.65 300 *e*P **P 06 52 17.8 -0.3**
comp=Z,47nm,1.1s,mb4.8
XAL Allendale 37.92 310⇑*e*P **P 06 52 20.3 0.0**
XAL Allendale 37.92 310⇑*e*P **P 06 52 20.3 0.0**
ESY Stoneypath 38.13 312 *e*P **P 06 52 22.5 +0.4**
ESY Stoneypath 38.13 312 *e*P **P 06 52 22.5 +0.4**
EBL Broad Law 38.38 312 *e*P **P 06 52 24.8 +0.6**
EBL Broad Law 38.38 312 *e*P **P 06 52 24.8 +0.7**
ECK Cauldkaine Hil 38.44 311 *e*P **P 06 52 25.1 +0.4**
ECK Cauldkaine Hil 38.44 311 *e*P **P 06 52 25.1 +0.4**
KESW Keswick, Cumbr 38.45 310 *e*P **P 06 52 24.7 0.0**
KESW AMB AMB 06 52 29.2
comp=Z,90nm,4.0s
KESW Keswick, Cumbr 38.45 310 *e*P **P 06 52 24.7 0.0**
ESK Eskdalemuir 38.48 311 *e*P **P 06 52 23.9 -1.2**
ESK AMB AMB 06 52 27.1
comp=Z,91nm,2.5s,mb5.1
ESK Eskdalemuir 38.48 311 *e*P **P 06 52 23.9 -1.1**
MCH1 Michaelchurch 38.56 306 AMB AMB 06 52 28.8
comp=Z,94nm,2.5s,mb5.1
MCH1 Michaelchurch 38.56 306 AMB AMB 06 52 28.8
comp=Z,94nm,2.5s,mb5.1
EBH Black Hill 38.63 313 *e*P **P 06 52 26.4 +0.1**
EBH Black Hill 38.63 313 *e*P **P 06 52 26.4 +0.1**
SGMF Saint Gilles 38.79 300 *e*P **P 06 52 27.8 +0.1**
comp=Z,24nm,0.7s,mb4.8
SONM Songino Array 38.84 61 P **P 06 52 28.6 +0.5**
comp=Z,0.6nm,0.8s,mb3.4,baz=297,slow=9.5,SNR=3.8
SONM LR LR 07 09 58.0
comp=Z,101nm,18.6s,MS3.7,baz=341,slow=38
SONM Songino Array 38.84 61 P **P 06 52 28.6 +0.4**
SONM LR LR 07 09 58.0
SONM Songino Array 38.84 61 P **P 06 52 28.6 +0.4**
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM MLR MLR
comp=Z,101nm,18.6s
EAB Aberfoyle 39.10 312 *e*P **P 06 52 30.3 +0.2**
EAB Aberfoyle 39.10 312 *e*P **P 06 52 30.3 +0.1**
PGBU Glenifferbraes 39.19 312 *e*P **P 06 52 31.2 +0.3**
PGBU AMB AMB 06 52 36.0
comp=Z,202nm,3.6s
ROSF Rostrenen 39.25 300 *e*P **P 06 52 31.7 +0.1**
comp=Z,20nm,0.6s,mb4.7
QUIF Quistinic 39.25 299 *e*P **P 06 52 31.4 -0.2**
comp=Z,21nm,0.8s,mb4.6
ULN Ulaanbaatar 39.27 61 *e*P **P 06 52 32.7 +0.9**
comp=Z,3.4nm,0.8s,mb4.1
ULN Ulaanbaatar 39.27 61 *e*P **P 06 52 32.7 +0.9**
ULN pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
SPITS Spitsbergen Ar 40.06 349 P **P 06 52 39.0 +1.1**
comp=Z,13nm,0.8s,mb4.7,baz=116,slow=4.5,SNR=5.7
SPITS LR LR 07 10 41.2

	comp=Z,73nm,19.8s,MS3.5,baz=245,slow=38						
SPITS	**Spitsbergen Ar**	**40.06**	**349**	P	**P**	**06 52 39.0**	**+1.1**
SPITS				LR	LR	07 10 41.2	
SPITS	**Spitsbergen Ar**	**40.06**	**349**	P	**P**	**06 52 39.0**	**+1.1**
SPITS				pmax	pmax		
	comp=Z,13nm,0.8s						
SPITS				MLR	MLR		
	comp=Z,73nm,19.8s						
LZH	**Lanzhou**	**40.42**	**79**	*e*P	**P**	**06 52 42.5**	**+1.0**
LZH				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.6						
ESDC	**Sonseca Array**	**42.03**	**287**	P	**P**	**06 52 53.5**	**-1.2**
	comp=Z,0.4nm,0.4s,mb3.4,baz=73,slow=9.5,SNR=3.4						
ESDC	**Sonseca Array**	**42.03**	**287**	P	**P**	**06 52 53.5**	**-1.2**
JMIC	**Jan Mayen**	**42.37**	**335**	LR	LR	07 11 16.5	
	comp=Z,134nm,18.3s,MS3.9,baz=108,slow=37						
CMAR	**Chiang Mai Arr**	**45.90**	**105**	P	**P**	**06 53 23.8**	**-2.1**
	comp=Z,0.9nm,0.3s,mb4.2,baz=300,slow=8.2,SNR=5.1						
CMAR	**Chiang Mai Arr**	**45.90**	**105**	P	**P**	**06 53 23.8**	**-2.1**
CMAR	**Chiang Mai Arr**	**45.90**	**105**	P	**P**	**06 53 23.8**	**-2.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
TORD	**Torodi Ar. Bea**	**51.71**	**253**	P	**P**	**06 54 07.9**	**-2.6**
	comp=Z,0.4nm,1.0s,baz=51,slow=9.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	**51.71**	**253**	P	**P**	**06 54 07.9**	**-2.6**
KSRS	**Korea Array**	**57.24**	**67**	P	**P**	**06 54 49.5**	**-0.9**
	comp=Z,4.2nm,1.0s,mb4.4,baz=282,slow=6.5,SNR=13						
KSRS				LR	LR	07 22 51.0	
	comp=Z,26nm,18.8s,MS3.4,baz=328,slow=40						
KSRS	**Korea Array**	**57.24**	**67**	P	**P**	**06 54 49.5**	**-0.9**
KSRS				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
KSRS				MLR	MLR		
	comp=Z,26nm,18.8s,MS3.4						
BILL	**Bilibino**	**60.86**	**23**	*e*P	**P**	**06 55 15.7**	**+0.6**
	comp=Z,23nm,1.5s,mb5.1						
BILL	**Bilibino**	**60.86**	**23**‖	*e*P	**P**	**06 55 15.7**	**+0.7**
BILL				*i*		06 57 28.9	
BILL				*e*S	**S**	**07 03 27.7**	**-1.6**
BILL				pmax	pmax		
	comp=Z,13nm,1.1s,mb5.0						
BILL				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.0						
LIC	**Lamto**	**61.24**	**252**	*e*P	**P**	**06 55 16.5**	**-1.9**
	comp=Z,25nm,0.9s,mb5.0						
MJAR	**Matsushiro Arr**	**64.76**	**63**	P	**P**	**06 55 40.6**	**-0.9**
	comp=Z,1.0nm,0.3s,mb4.3,baz=285,slow=2.3,SNR=3.7						
MJAR				LR	LR	07 25 10.2	
	comp=Z,42nm,20.4s,MS3.6,baz=195,slow=37						
MJAR	**Matsushiro Arr**	**64.76**	**63**	P	**P**	**06 55 40.6**	**-0.9**
MJAR				LR	LR	07 25 10.2	
MJAR	**Matsushiro Arr**	**64.76**	**63**	P	**P**	**06 55 40.6**	**-0.9**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MJAR				MLR	MLR		
	comp=Z,43nm,20.4s						
YUK	**Yuzh-Kuril'sk**	**65.52**	**52**	P	sP	06 56 02.0	-1.2
YUK				pmax	pmax		
	comp=Z,121nm,0.7s						
YUK				pmax	pmax		
	comp=N,130nm,0.7s						
YUK				pmax	pmax		
	comp=E,64nm,0.7s						
YUK				pmax	pmax		
	comp=Z,364nm,1.4s						
PETK	**Petropavlovsk-**	**66.66**	**39**	LR	LR	07 28 04.5	
	comp=Z,67nm,19.5s,MS3.9,baz=188,slow=39						
INK	**Inuvik**	**71.03**	**2**	*e*P	**P**	**06 56 20.0**	**-0.3**
	comp=Z,3.4nm,1.0s,mb4.2						
INK	**Inuvik**	**71.03**	**2**	*e*P	**P**	**06 56 20.0**	**-0.3**
INK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SCHQ	**Schefferville**	**71.28**	**328**	P	**P**	**06 56 21.7**	**-0.3**
	comp=Z,4.1nm,0.9s,mb4.4,baz=53,slow=5.1,SNR=5.7						
SCHQ	**Schefferville**	**71.28**	**328**	P	**P**	**06 56 21.7**	**-0.3**
BOSA	**Boshof**	**73.46**	**204**	LR	LR	07 27 44.6	
	comp=Z,44nm,19.0s,MS3.8,baz=168,slow=35						
ILAR	**Eielson Array**	**73.63**	**8**	P	**P**	**06 56 36.0**	**+0.1**
	comp=Z,1.4nm,0.8s,mb4.0,baz=333,slow=4.4,SNR=16						
ILAR				LR	LR	07 36 02.9	
	comp=Z,47nm,18.5s,MS3.8,baz=202,slow=41						
ILAR	**Eielson Array**	**73.63**	**8**	P	**P**	**06 56 36.0**	**+0.1**
ILAR				LR	LR	07 36 02.9	
ILAR	**Eielson Array**	**73.63**	**8**	P	**P**	**06 56 36.0**	**+0.1**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FX1	**Attu Island--F**	**73.70**	**33**	LR	LR	07 32 28.4	
	comp=Z,133nm,21.8s,MS4.2,baz=19,slow=38						
BBB	**Bella Bella**	**87.29**	**0**	LR	LR	07 40 13.3	
	comp=Z,117nm,18.7s,MS4.3,baz=172,slow=38						
TKL	**Tuckaleechee C**	**93.63**	**325**	LR	LR	07 41 39.5	
	comp=Z,42nm,18.6s,MS3.9,baz=305,slow=36						
WRA	**Warramunga Arr**	**97.29**	**110**	P	**P**	**06 58 32.4**	**-3.6**
	comp=Z,0.5nm,0.9s,mb3.9,baz=320,slow=4.4,SNR=4.2						
WRA	**Warramunga Arr**	**97.29**	**110**	P	**P**	**06 58 32.4**	**-3.6**
WRA	**Warramunga Arr**	**97.29**	**110**	P	**P**	**06 58 32.4**	**-3.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						

IDC 12 06:47:42.8±2.9, 0°12S×96°78E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.6/23, mbtmp3.9/5, ML4.4/1, Error ellipse: s-maj=108.9km s-min=30.3km az=60.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**18.58**	**6**	P	Pn	06 52 01.7	0.0
	0.5nm,0.3s,baz=201,slow=11,SNR=5.1						
WRA	**Warramunga Arr**	**41.72**	**120**	P	P	06 55 34.1	+0.3
	0.4nm,0.8s,baz=298,slow=8.7,SNR=2.8						
MKAR	**Makanchi Array**	**48.41**	**347**	P	P	06 56 26.9	+0.2
	1.3nm,0.6s,baz=161,slow=9.3,SNR=5.1						
SONM	**Songino Array**	**48.49**	**9**	P	P	06 56 26.7	-0.5
	0.6nm,0.5s,baz=201,slow=10,SNR=4.3						
ZALV	**Zalesovo Beam**	**54.79**	**351**	P	P	06 57 14.5	+0.3
	3.3nm,0.4s,baz=166,slow=6.1,SNR=9.0						
TXAR	**Lajitas Array**	**145.00**	**32**	PKP	PKPdf	07 07 21.5	-1.3
	0.2nm,0.6s,baz=330,slow=1.5,SNR=4.6						

JMA 12 06:48:44.6±0.4, 44°00N×147°95E, h0km, M4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.72**	**249**	P	Pn	06 49 16.0	+0.2
NEM2				*e*S	Sn	06 49 39.0	+0.5
JRA	**Rausu**	**2.04**	**269**	P	Pn	06 49 20.8	+0.6
JRA				*e*S	Sn	06 49 48.1	+1.7
JNK	**Nakash**	**2.38**	**261**	P	Pn	06 49 25.6	+0.8
JNK				*e*S	Sn	06 49 55.8	+1.2
JAK	**Akkeshi**	**2.57**	**248**	P	Pn	06 49 28.2	+0.7
JTKR	**Abashiri--Toko**	**2.92**	**271**	P	Pn	06 49 33.8	+1.6
JAR	**Ashorobuto**	**3.12**	**258**	P	Pn	06 49 36.0	+1.1
JOB	**Onbets**	**3.19**	**251**	P	Pn	06 49 37.3	+1.3
JMP	**Maruseppu**	**3.31**	**272**	P	Pn	06 49 39.3	+1.7
JCH	**Churui**	**3.62**	**249**	P	Pn	06 49 42.9	+1.0
JNBK	**Urakawa-nobuka**	**4.17**	**247**	P	Pn	06 49 51.4	+1.9
JNBK				*e*S	Sn	06 50 41.0	+2.1

ISK 12 07:00:31.5, 36°96N×29°09E, h5km, MD3.1
ISCJB 12 07:00:32.5±0.2, 36°96N×29°11E, h2km, MD3.1, Error ellipse: s-maj=4.0km s-min=3.3km az=12.8
CSEM 12 07:00:32.5±0.2, 36°96N×29°11E, h2km, MD3.1, Error ellipse: s-maj=4.2km s-min=4.1km az=48.0
DDA 12 07:00:32.4, 36°96N×29°18E, h7km±3km, Md3.0
ISC 12 07:00:33.1±0.5, 36°99N±0°02×29°11E±0°04, h0km±6km, n41, σ1°02/57, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLHS	**Glhisar (BURDU**	**0.35**	**62**	*e*PG	**Pg**	**07 00 40.0**	**+0.2**
GLHS				*e*SG	**Sg**	**07 00 46.9**	**+2.6**
GLHS	**Glhisar (BURDU**	**0.35**	**62**	*e*Pg	**Pg**	**07 00 40.0**	**+0.2**
GLHS				*e*Sg	**Sg**	**07 00 46.9**	**+2.6**
FETY	**Fethiye**	**0.36**	**184**	PG	**Pg**	**07 00 38.7**	**-1.2**
FETY				SG	**Sg**	**07 00 44.8**	**+0.3**
FETY	**Fethiye**	**0.36**	**184**	*i* Pg	**Pg**	**07 00 38.7**	**-1.2**
FETY				*i* Sg	**Sg**	**07 00 44.8**	**+0.3**
TURN	**Turunc**	**0.43**	**254**	*i* P	**Pg**	**07 00 47.2**	**+6.0**
TURN				*i* S	**Sg**	**07 00 58.6**	**+12**
GOLH	**Golhisar**	**0.43**	**55**	*i* P	**Pg**	**07 00 40.2**	**-1.2**
GOLH				*i* S	**Sg**	**07 00 46.9**	**-0.2**
GOLH	**Golhisar**	**0.43**	**55**	*i* P	**Pg**	**07 00 40.2**	**-1.2**
GOLH				*i* S	**Sg**	**07 00 46.9**	**-0.2**
YER	**Yerkesik**	**0.68**	**282**	*e*PG	**Pg**	**07 00 46.2**	**0.0**
YER	**Yerkesik**	**0.68**	**282**	*e*Pg	**Pg**	**07 00 46.2**	**+0.1**
ELL	**Elmali**	**0.68**	**111**	*e*PG	**Pg**	**07 00 46.1**	**-0.1**
ELL	**Elmali**	**0.68**	**111**	*e*Pg	**Pg**	**07 00 46.1**	**-0.1**
DNZL	**Cakiroluk**	**0.70**	**356**	*i* P	**Pg**	**07 00 45.5**	**-1.0**
DNZL				*i* S	**Sg**	**07 00 53.7**	**-1.9**
DNZL	**Cakiroluk**	**0.70**	**356**	*i* P	**Pg**	**07 00 45.5**	**-1.0**
DNZL				*i* S	**Sg**	**07 00 53.7**	**-1.9**
DENT	**Denizli**	**0.76**	**355**	*e*PG	**Pg**	**07 00 47.1**	**-0.7**
DENT	**Denizli**	**0.76**	**355**	*e*Pg	**Pg**	**07 00 47.1**	**-0.7**
AKAS	**Kas**	**0.85**	**152**	*i* P	**Pg**	**07 00 48.1**	**-1.3**
AKAS				*i* S	**Sg**	**07 01 06.1**	**+5.6**
AKAS	**Kas**	**0.85**	**152**	*i* P	**Pg**	**07 00 48.1**	**-1.4**
KSL	**Kastellorizon**	**0.92**	**156**	*e*P	**Pg**	**07 00 51.5**	**+0.7**
ARG	**Arkhangelos**	**1.11**	**226**	*e*P	**Pg**	**07 00 55.4**	**+1.0**
AYDN	**Tasoluk**	**1.19**	**305**	*i* P	**Pg**	**07 00 56.3**	**+0.4**
AYDN				*i* S	**Sg**	**07 01 15.5**	**+4.2**
AYDN	**Tasoluk**	**1.19**	**305**	*i* P	**Pg**	**07 00 56.3**	**+0.4**
AYDN				*i* S	**Sg**	**07 01 15.5**	**+4.2**
DAT	**Datca**	**1.26**	**258**	*e*PN	**Pn**	**07 00 56.4**	**-1.5**
DAT	**Datca**	**1.26**	**258**	*e*Pn	**Pn**	**07 00 56.4**	**-1.5**
KHAL	**Karahalli**	**1.41**	**12**	*i* P	**Pg**	**07 01 00.3**	**+0.2**
KHAL				*i* S	**Sg**	**07 01 20.8**	**+2.4**
KHAL	**Karahalli**	**1.41**	**12**	*i* P	**Pg**	**07 01 00.3**	**+0.2**
KHAL				*i* S	**Sg**	**07 01 20.8**	**+2.4**
BODT	**Bodrum**	**1.44**	**273**	*e*PN	**Pn**	**07 00 59.8**	**-0.7**
BODT	**Bodrum**	**1.44**	**273**	*e*Pn	**Pn**	**07 00 59.8**	**-0.7**
MANT	**Manisa**	**1.56**	**344**	*i* P	**Pn**	**07 01 01.7**	**-0.4**
MANT				*i* S	**Sg**	**07 01 24.3**	**+1.1**
MANT	**Manisa**	**1.56**	**344**	*i* P	**Pn**	**07 01 01.7**	**-0.4**
MANT				*i* S	**Sg**	**07 01 24.3**	**+1.0**
KULA	**Kula-Manisa**	**1.56**	**347**	*e*PN	**Pn**	**07 01 01.8**	**-0.3**
KULA	**Kula-Manisa**	**1.56**	**347**	*e*Pn	**Pn**	**07 01 01.8**	**-0.3**
SUTC	**Sutluce-Ispart**	**1.58**	**72**	*e*PN	**Pn**	**07 01 02.2**	**-0.2**
SUTC	**Sutluce-Ispart**	**1.58**	**72**	*e*Pn	**Pn**	**07 01 02.2**	**-0.2**
SMG	**Samos**	**1.95**	**292**	*e*P	**Pn**	**07 01 07.3**	**-0.1**
IZM	**Izmir**	**2.03**	**314**	*e*PN	**Pn**	**07 01 08.4**	**-0.1**
IZM	**Izmir**	**2.03**	**314**	*e*Pn	**Pn**	**07 01 08.4**	**-0.1**
KARP	**Karpathos**	**2.14**	**228**	*e*P	**Pn**	**07 01 11.1**	**+1.1**
BLCB	**Balcova**	**2.15**	**311**	*e*PN	**Pn**	**07 01 09.7**	**-0.6**
BLCB	**Balcova**	**2.15**	**311**	*e*Pn	**Pn**	**07 01 09.7**	**-0.5**
APE	**Apeiranthos**	**2.87**	**273**	*e*P	**Pn**	**07 01 20.9**	**+0.9**
LAST	**Lasithi**	**3.46**	**239**	*e*P	**Pn**	**07 01 30.0**	**+1.8**

NEIC 12 07:27:17.3, 51°24N×174°18W, h24km, mb4.3/1, ML3.5(AEIC), After AEIC.
ISCJB 12 07:27:18.3±1.4, 51°5N±0°2×174°13W±0°10, h57km±11km, mb3.6/9, MS2.7/2, Error ellipse: s-maj=25.5km s-min=9.6km az=173.4
IDC 12 07:27:20.4±1.1, 51°49N×174°18W, h61km±9km, mb3.3/8, mb1 3.7/10, mb1mx3.5/28, mbtmp3.4/10, MS2.7/2, Ms1 2.6/2, ms1mx2.5/38, Error ellipse: s-maj=30.5km s-min=18.3km az=179.0
ISC 12 07:27:19.5±1.3, 51°5N±0°1×174°10W±0°09, h49km±11km, h60km±2.2km; pP-P, n25, σ0s99/24, mb3.6/9, MS2.7/2, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSTR	**Great Sitkin T**	**1.34**	**295**	*e*Pn	**Pn**	**07 27 40.7**	**-1.0**
GSTR				*e*Sn	**Sn**	**07 27 59.1**	**+0.7**
NIKO	**Nikolski**	**3.53**	**64**	*e*Pn	**Pn**	**07 28 12.6**	**+0.9**
AMKA	**Amchitka**	**4.13**	**270**	*e*Pn	**Pn**	**07 28 19.9**	**-0.1**
FX1	**Attu Island--F**	**7.94**	**285**	P	**Pn**	**07 29 13.0**	**+0.8**
	0.3nm,0.3s,baz=198,slow=18,SNR=1.8						
FX1	**Attu Island--F**	**7.94**	**285**	P	**Pn**	**07 29 13.0**	**+0.8**
KDAK	**Kodiak Island**	**13.90**	**55**	P	**Pn**	**07 30 31.9**	**-1.6**
	0.3nm,0.3s,baz=290,slow=15,SNR=8.7						
KDAK	**Kodiak Island**	**13.90**	**55**	P	**Pn**	**07 30 31.9**	**-1.6**
ILAR	**Eielson Array**	**19.32**	**36**	P	**Pn**	**07 31 40.0**	**-1.7**
	0.4nm,0.3s,baz=231,slow=9.0,SNR=33						
ILAR	**Eielson Array**	**19.32**	**36**	P	**Pn**	**07 31 40.0**	**-1.7**
EGAK	**Eagle**	**21.53**	**39**	*e*P	**P**	**07 32 05.5**	**+1.5**
	10.0nm,0.7s,mb4.3						
INK	**Inuvik**	**25.66**	**34**	P	**P**	**07 32 43.6**	**-0.6**
	0.7nm,0.4s,mb3.5,baz=250,slow=6.9,SNR=7.5						
INK	**Inuvik**	**25.66**	**34**	P	**P**	**07 32 43.6**	**-0.6**
YKA	**Yellowknife Ar**	**32.98**	**47**	LR	LR	07 48 28.2	
	comp=Z,4.2nm,18.9s,MS2.2,baz=60,slow=38						
NVAR	**Mina Array Bea**	**40.61**	**86**	P	**P**	**07 34 54.9**	**+0.6**
	0.2nm,0.4s,mb3.1,baz=303,slow=7.4,SNR=4.0						
NVAR				pP	pP	07 35 09.4	+2.1
	0.3nm,0.5s,baz=291,slow=7.6,SNR=2.4						
NVAR	**Mina Array Bea**	**40.61**	**86**	P	**P**	**07 34 54.9**	**+0.6**
NVAR				pP	pP	07 35 09.4	+2.1
PDAR	**Pinedale Array**	**43.44**	**75**	P	**P**	**07 35 18.6**	**+1.3**
	0.4nm,0.7s,mb3.3,baz=303,slow=5.2,SNR=3.6						
PDAR				pP	pP	07 35 34.4	+3.9
	1.0nm,0.6s,baz=285,slow=6.8,SNR=5.8						
PDAR	**Pinedale Array**	**43.44**	**75**	P	**P**	**07 35 18.6**	**+1.3**
PDAR				pP	pP	07 35 34.4	+3.9
SONM	**Songino Array**	**49.17**	**299**	P	**P**	**07 36 02.0**	**-0.2**
	0.3nm,0.5s,mb3.6,baz=39,slow=9.4,SNR=3.2						
SONM	**Songino Array**	**49.17**	**299**	P	**P**	**07 36 02.0**	**-0.2**
TXAR	**Lajitas Array**	**55.72**	**85**	P	**P**	**07 36 51.4**	**+0.6**
	0.2nm,0.7s,mb3.3,baz=300,slow=9.3,SNR=2.9						
TXAR				pP	pP	07 37 06.6	+2.1
	0.3nm,0.6s,baz=306,slow=5.5,SNR=4.0						
TXAR	**Lajitas Array**	**55.72**	**85**	P	**P**	**07 36 51.4**	**+0.5**
TXAR				pP	pP	07 37 06.6	+2.1
ZALV	**Zalesovo Beam**	**56.01**	**316**	LR	LR	08 04 19.7	
	comp=Z,18nm,19.3s,MS3.2,baz=73,slow=40						
ARCES	**ARCESS Array B**	**58.39**	**352**	P	**P**	**07 37 09.3**	**+0.2**
	4.1nm,0.9s,mb4.5,baz=15,slow=7.5,SNR=6.3						
MKAR	**Makanchi Array**	**62.19**	**311**	P	**P**	**07 37 35.5**	**+0.1**
	0.3nm,0.3s,mb4.0,baz=47,slow=5.8,SNR=3.0						
WRA	**Warramunga Arr**	**84.23**	**228**	P	**P**	**07 39 43.9**	**-1.7**
	0.2nm,0.7s,mb3.4,baz=35,slow=5.7,SNR=5.1						

IDC 12 07:41:47.4±1.0, 5°76S×154°76E, h0km, mb4.1/9, mb1 4.2/9, mb1mx4.0/18, mbtmp4.1/9, Error ellipse: s-maj=37.1km s-min=18.5km az=101.0
NEIC 12 07:41:49.0±0.5, 5°77S×154°79E, h10km, Error ellipse: s-maj=12.1km s-min=10.7km az=114.0
ISCJB 12 07:41:50.4±0.6, 5°82S±0°09×154°83E±0°10, h33km, mb3.9/9, Error ellipse: s-maj=14.5km s-min=13.1km az=24.8
ISC 12 07:41:52.6±0.6, 5°82S±0°09×154°8E±0°1, h35km, n21, σ0s69/21, mb3.9/9, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.24**	**125**	Pn	**Pn**	**07 43 21.9**	**-0.3**
COEN	**Coen**	**14.01**	**234**	Pn	**Pn**	**07 45 08.0**	**-0.8**
WRAB	**Tennant Creek**	**24.33**	**233**	*e*P	**P**	**07 47 08.1**	**+0.8**
WRA	**Warramunga Arr**	**24.34**	**233**	P	**P**	**07 47 08.5**	**+1.2**
	2.5nm,0.4s,mb4.0,baz=58,slow=10,SNR=33						
WRA	**Warramunga Arr**	**24.34**	**233**	P	**P**	**07 47 08.5**	**+1.2**
ASAR	**Alice Springs**	**26.82**	**226**	P	**P**	**07 47 29.9**	**+0.2**
	1.2nm,0.4s,mb3.8,baz=58,slow=8.7,SNR=13						
ASAR	**Alice Springs**	**26.82**	**226**	P	**P**	**07 47 29.9**	**+0.2**
STKA	**Stephens Creek**	**28.71**	**204**	P	**P**	**07 47 45.9**	**-0.7**
	0.8nm,0.4s,mb3.8,baz=13,slow=12,SNR=3.7						
STKA	**Stephens Creek**	**28.71**	**204**	P	**P**	**07 47 45.9**	**-0.7**
RPZ	**Rata Peaks**	**40.36**	**162**	P	**P**	**07 49 27.3**	**+0.3**
	5.2nm,0.6s,mb4.5,baz=355,slow=4.1,SNR=6.7						
RPZ	**Rata Peaks**	**40.36**	**162**	P	**P**	**07 49 27.3**	**+0.3**
PETK	**Petropavlovsk-**	**58.76**	**2**	P	**P**	**07 51 48.0**	**+1.1**
	2.5nm,0.7s,mb4.4,baz=192,slow=4.3,SNR=3.1						
PETK	**Petropavlovsk-**	**58.76**	**2**	P	**P**	**07 51 48.0**	**+1.1**
SONM	**Songino Array**	**68.25**	**327**	P	**P**	**07 52 49.2**	**-0.5**
	0.4nm,0.6s,mb3.6,baz=151,slow=6.3,SNR=3.0						
SONM	**Songino Array**	**68.25**	**327**	P	**P**	**07 52 49.2**	**-0.5**
ILAR	**Eielson Array**	**82.36**	**22**	P	**P**	**07 54 10.7**	**+0.1**
	0.1nm,0.5s,mb3.0,baz=210,slow=5.2,SNR=4.1						
ILAR	**Eielson Array**	**82.36**	**22**	P	**P**	**07 54 10.7**	**+0.1**
MKAR	**Makanchi Array**	**82.40**	**319**	P	**P**	**07 54 10.6**	**-0.6**
	0.8nm,0.4s,mb4.0,baz=96,slow=6.8,SNR=12						
MKAR	**Makanchi Array**	**82.40**	**319**	P	**P**	**07 54 10.6**	**-0.6**
ZALV	**Zalesovo Beam**	**83.10**	**326**	P	**P**	**07 54 14.0**	**-0.7**
	0.5nm,0.4s,mb3.9,baz=98,slow=7.4,SNR=2.7						
ZALV	**Zalesovo Beam**	**83.10**	**326**	P	**P**	**07 54 14.0**	**-0.7**

NEIC 12 08:02:20.1±0.4, 6°60S×129°55E, h10km, mb4.3/6, Error ellipse: s-maj=18.8km s-min=8.0km az=55.0

IDC 12 08:02:30.3±3.4, 6°79S×129°76E, h107km±32km, mb3.9/12, mb1 4.1/16, mb1mx4.0/23, mbtmp4.0/16, MS2.6/1, Ms1 2.6/1, ms1mx2.1/24, Error ellipse: s-maj=25.2km s-min=12.8km az=67.0
ISCJB 12 08:02:35.6±0.5, 6°74S±0°04×129°94E±0°05, h175km±6km, mb4.0/16, Error ellipse: s-maj=8.9km s-min=6.1km az=140.4
DJA 12 08:02:35.7±0.2, 7°S±3°×13°0E±°, h169km±9km, mb4.8/15, mB5.3/9, MLv5.2/3, Mw(mB)5.2/9
ISC 12 08:02:36.1±0.5, 6°79S±0°05×129°91E±0°05, h163km±6km, n65, σ0s88/71, mb4.0/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.25**	**360**	P	**Pn**	**08 03 15.1**	**+0.1**
TLE	**Tual**	**3.04**	**68**	P	**Pn**	**08 03 25.3**	**+0.8**
TLE				S	**Sn**	**08 04 01.7**	**-0.3**
AAI	**Ambon**	**3.52**	**331**	P	**Pn**	**08 03 30.4**	**-0.3**
MSAI	**Masohi**	**3.56**	**344**	P	**Pn**	**08 03 31.5**	**+0.4**
NLAI	**Namlea**	**4.50**	**321**	P	**Pn**	**08 03 44.2**	**+0.9**
LBMI	**Labuha**	**6.57**	**338**	P	**Pn**	**08 04 10.7**	**+0.2**
	1μm,0.9s						
LBMI				S	**Sn**	**08 05 22.9**	**-1.8**
	1μm,0.9s						
MMRI	**Maumere**	**7.82**	**256**	P	**Pn**	**08 04 26.7**	**-0.4**
	0.4nm2μm129nm,1.1s						
TNTI	**Ternate**	**7.93**	**341**	P	**Pn**	**08 04 28.5**	**-0.1**
	143nm,0.8s						
BAKI	**Biak**	**8.31**	**48**	P	**Pn**	**08 04 34.6**	**+0.9**
	764nm,0.9s						
BAKI				S	**Sn**	**08 06 01.8**	**-4.7**
	764nm,0.9s						
FITZ	**Fitzroy Crossi**	**11.99**	**200**	P	**Pn**	**08 05 17.6**	**-4.3**
	2.8nm,0.3s,baz=26,slow=16,SNR=29						
FITZ				S	**Sn**	**08 07 20.5**	**-14**
	11nm,0.3s,baz=230,slow=17,SNR=7.1						
FITZ				LR	LR	08 09 27.2	
	comp=Z,32nm,19.9s,baz=24,slow=35						
FITZ	**Fitzroy Crossi**	**11.99**	**200**	*e*P	**Pn**	**08 05 17.4**	**-4.5**
	21nm,0.3s						
FITZ				*e*S	**Sn**	**08 07 21.7**	**-13**
FITZ	**Fitzroy Crossi**	**11.99**	**200**	P	**Pn**	**08 05 17.6**	**-4.3**
FITZ				S	**Sn**	**08 07 20.5**	**-14**
FITZ				LR	LR	08 09 27.2	
FITZ	**Fitzroy Crossi**	**11.99**	**200**	P	**Pn**	**08 05 17.9**	**-4.0**
	600nm20nm,0.8s						
MTNI	**Mataram**	**13.74**	**261**	P	**Pn**	**08 05 48.9**	**+4.6**
	46nm,0.8s						
WRAB	**Tennant Creek**	**13.76**	**162**	*e*Pn	**Pn**	**08 05 40.6**	**-3.9**
	29nm,0.5s						
WRA	**Warramunga Arr**	**13.76**	**162**	P	**Pn**	**08 05 40.1**	**-4.4**
	0.6nm,0.3s,baz=342,slow=13,SNR=27						
WRA				S	**Sn**	**08 08 06.4**	**-11**
	6.8nm,0.3s,baz=347,slow=22,SNR=12						
WRA	**Warramunga Arr**	**13.76**	**162**	P	**Pn**	**08 05 40.1**	**-4.4**
WRA				S	**Sn**	**08 08 06.4**	**-11**
KBKI	**Kotabaru**	**14.12**	**284**	P	**Pn**	**08 05 53.2**	**+4.1**
	1μm49nm,1.2s						
KHKI	**Kahang-Kahang**	**14.26**	**263**	P	**Pn**	**08 05 52.1**	**+1.2**
	26nm,0.7s						
COEN	**Coen**	**14.86**	**120**	*e*Pn	**Pn**	**08 05 57.9**	**-0.4**
	418nm,1.0s						
COEN	**Coen**	**14.86**	**120**	P	**Pn**	**08 06 01.2**	**+2.9**
BBKI	**Banjar Baru**	**15.37**	**282**	P	**Pn**	**08 06 06.9**	**+2.3**
ASAR	**Alice Springs**	**17.21**	**168**	P	**Pn**	**08 06 25.5**	**-1.4**
	3.9nm,0.3s,baz=343,slow=11,SNR=244						
ASAR				S	**S**	**08 09 31.3**	**-5.4**
	1.7nm,0.3s,baz=351,slow=26,SNR=5.0						
ASAR	**Alice Springs**	**17.21**	**168**	P	**Pn**	**08 06 25.5**	**-1.4**
ASAR				S	**S**	**08 09 31.3**	**-5.4**
PMG	**Port Moresby**	**17.27**	**100**	P	**Pn**	**08 06 27.0**	**-0.6**
	0.9nm,0.3s,baz=270,slow=17,SNR=2.6						
**

MTP	**Monte Pirata**	**1.34 149**	*e*P		Pn	08 27 39.1	-0.8
ICM	**Isla Caja Muer**	**1.37 190**	*e*P		Pn	08 27 39.4	-1.0
ICM	**Isla Caja Muer**	**1.37 190**	*e*P		Pn	08 27 39.4	-1.0
ICM			*e*S		Sn	08 27 56.3	-1.1
GBPR	**Guanica, Bosqu**	**1.39 204**	*e*P		Pn	08 27 39.8	-0.9
CRPR	**Cabo Rojo, PR**	**1.47 212**	*e*P		Pn	08 27 40.7	-0.9
CRPR	**Cabo Rojo, PR**	**1.47 212**	*e*P		Pn	08 27 40.7	-0.9
CRPR			*e*S		Sn	08 27 58.8	-1.0
STVI	**Saint Thomas**	**1.55 125**	*e*P		Pn	08 27 41.7	-1.0
STVI	**Saint Thomas**	**1.55 125**	*e*P		Pn	08 27 41.7	-1.0
STVI			*e*S		Sn	08 28 00.8	-0.9
SDDR	**Presa de Saban**	**4.74 268**	*e*Pn		Pn	08 28 25.6	-1.0

JMA 12 08:59:18.0±0.3, 44°.51N×146°.80E, h163km±3km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JRA	**Rausu**	**1.33**	**245**	P	Pn	08 59 46.9	0.0
NEM2	**Nemuro 2**	**1.38**	**214**	P	Pn	08 59 47.2	-0.1
NEM2				*e*S	Sn	09 00 09.7	-0.1
JNK	**Nakash**	**1.76**	**239**	P	Pn	08 59 51.6	+0.3
JTKR	**Abashiri--Toko**	**2.15**	**256**	P	Pn	08 59 55.4	-0.1
JTKR				*e*S	Sn	09 00 24.4	-0.1
JAK	**Akkeshi**	**2.15**	**226**	P	Pn	08 59 55.7	+0.1
JAK				*e*S	Sn	09 00 24.2	-0.3
JAR	**Ashorobuto**	**2.50**	**242**	P	Pn	09 00 00.5	+0.7
JMP	**Maruseppu**	**2.52**	**260**	P	Pn	09 00 00.3	+0.3
JMP				*e*S	Sn	09 00 32.4	0.0
JOB	**Onbets**	**2.68**	**234**	P	Pn	09 00 02.5	+0.6
JOB				*e*S	Sn	09 00 35.7	-0.2
JKK2	**Kamakawa 2**	**2.98**	**259**	P	Pn	09 00 06.2	+0.6
JKK2				*e*S	Sn	09 00 42.9	+0.4
JSE	**Soyaes**	**3.04**	**280**	P	Pn	09 00 05.6	-0.7
JCH	**Churui**	**3.14**	**234**	P	Pn	09 00 07.6	+0.1
JCH				*e*S	Sn	09 00 44.7	-1.2
JFR	**Furan**	**3.33**	**248**	P	Pn	09 00 10.9	+1.0
JWK2	**Keihoku**	**3.58**	**285**	P	Pn	09 00 13.5	+0.5
JNBK	**Urakawa-nobuka**	**3.70**	**234**	P	Pn	09 00 13.8	-0.8
JNBK				*e*S	Sn	09 00 54.8	-3.9

IDC 12 09:07:41.9±3.4, 9°.61S×159°.70E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=161.6km s-min=29.1km az=134.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.55**	**244**	P	P	09 13 22.2	+0.5
	0.5nm,0.5s,baz=71,slow=10,SNR=12						
ASAR	**Alice Springs**	**28.32**	**237**	P	P	09 13 37.3	-0.3
	0.3nm,0.8s,baz=62,slow=10,SNR=6.4						
ILAR	**Eielson Array**	**84.14**	**20**	P	P	09 20 14.7	+0.2
	0.3nm,0.5s,baz=243,slow=4.9,SNR=10						
MKAR	**Makanchi Array**	**88.44**	**318**	P	P	09 20 35.9	-0.2
	0.2nm,0.7s,baz=97,slow=4.5,SNR=2.4						

CSEM ***12*** *09:48:00.9±0.1, 43°.22N×0°.60W, h8km, ML2.6/12, Error ellipse: s-maj=2.8km s-min=1.8km az=174.0*
NEIC ***12*** *09:48:01.7, 43°.18N×0°.62W, h2km, ML2.7(STR), ML2.5(LDG), MN2.5(MDD), After LDG.*
LDG ***12*** *09:48:01.7±0.1, 43°.18N×0°.62W, h2km, Md2.4/3, Ml2.5/10, Error ellipse: s-maj=1.7km s-min=1.1km az=175.0*
STR ***12*** *09:48:02.2±0.2, 43°.13N×0°.60W, h5km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

MDD 12 09:48:02.2±0.2, 43°.15N×0°.62W, h10km, mbLg2.4/22, Error ellipse: s-maj=2.9km s-min=1.5km az=7.0, PRIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.09**	**224**	Pg	Pg	09 48 05.0	+0.4
ATE				Sg	Sg	09 48 06.3	-0.1
ATE	**Arette**	**0.09**	**224**	Pg	Pg	09 48 05.0	+0.4
ATE				Sg	Sg	09 48 06.3	-0.1
REYF	**Montagne du Re**	**0.18**	**116**	Pg	Pg	09 48 06.3	+0.2
REYF				Sg	Sg	09 48 08.9	+0.2
REYF	**Montagne du Re**	**0.18**	**116**	Pg	Pg	09 48 06.3	+0.2
REYF				Lg		09 48 09.5	
REYF	**Montagne du Re**	**0.18**	**116**	Pg	Pg	09 48 06.3	+0.2
REYF				Sg	Sg	09 48 08.9	+0.2
REYF	**Montagne du Re**	**0.18**	**116**	Pg	Pg	09 48 06.3	+0.2
REYF				Sg	Sg	09 48 08.9	+0.2
ORDF	**Ordiarp**	**0.24**	**285**	Pg	Pg	09 48 07.3	+0.2
ORDF				Sg	Sg	09 48 10.3	-0.2
ORDF	**Ordiarp**	**0.24**	**285**	Pg	Pg	09 48 07.3	+0.2
ORDF				Lg		09 48 11.2	
ORDF	**Ordiarp**	**0.24**	**285**	Pg	Pg	09 48 07.3	+0.2
ORDF				Sg	Sg	09 48 10.3	-0.2
ORDF	**Ordiarp**	**0.24**	**285**	Pg	Pg	09 48 07.3	+0.2
ORDF				Sg	Sg	09 48 11.4	+0.9
ETSF	**Etsaut**	**0.26**	**171**	*e*Pg	Pg	09 48 06.8	-0.5
ETSF				*e*Sg	Sg	09 48 10.1	-0.7
	570nm,0.2s						
ETSF	**Etsaut**	**0.26**	**171**	*e*Pg	Pg	09 48 06.8	-0.5
ETSF				*e*Sg	Sg	09 48 10.1	-0.7
ETSF	**Etsaut**	**0.26**	**171**	Pg	Pg	09 48 06.8	-0.5
ETSF				Lg		09 48 10.1	
	285nm,0.2s						
ETSF	**Etsaut**	**0.26**	**171**	*e*Pg	Pg	09 48 06.8	-0.5
ETSF				*e*Sg	Sg	09 48 10.1	-0.7
	285nm,0.2s						
LARF	**Larrau**	**0.29**	**248**	Pg	Pg	09 48 08.1	0.0
LARF				Lg		09 48 12.4	
FDAF	**Les Forges d'A**	**0.33**	**174**	Pg	Pg	09 48 08.3	-0.4
FDAF				Lg		09 48 12.4	
SJPF	**Ste Jean**	**0.45**	**265**	*e*Pg	Pg	09 48 10.4	-0.5
SJPF				*e*Sg	Sg	09 48 16.1	-0.7
	72nm,0.3s						
SJPF	**Ste Jean**	**0.45**	**265**	*e*Pg	Pg	09 48 10.4	-0.5
SJPF				*e*Sg	Sg	09 48 16.1	-0.7
SJPF	**Ste Jean**	**0.45**	**265**	Pg	Pg	09 48 10.4	-0.5
SJPF				Lg		09 48 16.1	
	36nm,0.3s						
SJPF	**Ste Jean**	**0.45**	**265**	*e*Pg	Pg	09 48 10.4	-0.5
SJPF				*e*Sg	Sg	09 48 16.1	-0.7
	36nm,0.3s						
OSSF	**Osses**	**0.48**	**283**	Pg	Pg	09 48 10.7	-0.9
OSSF	**Osses**	**0.48**	**283**	Pg	Pg	09 48 10.7	-0.9
OSSF	**Osses**	**0.48**	**283**	Pg	Pg	09 48 10.7	-0.9
OSSF	**Osses**	**0.48**	**283**	Pg	Pg	09 48 10.7	-0.9
LABF	**Labassere**	**0.52**	**101**	Pg	Pg	09 48 12.1	-0.1
LABF				Sg	Sg	09 48 19.3	+0.3
LABF	**Labassere**	**0.52**	**101**	Pg	Pg	09 48 11.5	-0.6
LABF				Lg		09 48 19.3	
LABF	**Labassere**	**0.52**	**101**	Pg	Pg	09 48 12.1	-0.1
LABF				Sg	Sg	09 48 19.3	+0.3
LABF	**Labassere**	**0.52**	**101**	Pg	Pg	09 48 12.1	-0.1
LABF				Sg	Sg	09 48 19.3	+0.3
VIEF	**Viey**	**0.54**	**119**	Pg	Pg	09 48 12.1	-0.5
VIEF				Sg	Sg	09 48 19.0	-0.7
VIEF	**Viey**	**0.54**	**119**	Pg	Pg	09 48 12.2	-0.5
VIEF				Lg		09 48 19.0	
VIEF	**Viey**	**0.54**	**119**	Pg	Pg	09 48 12.1	-0.5
VIEF				Sg	Sg	09 48 19.0	-0.7
VIEF	**Viey**	**0.54**	**119**	Pg	Pg	09 48 12.1	-0.5
VIEF				Sg	Sg	09 48 19.0	-0.7
IELO	**Elcoad**	**0.55**	**236**	Pg	Pg	09 48 12.3	-0.5
	4.7nm,0.1s,SNR=7.9						
IELO				Lg		09 48 19.4	
	77nm,0.1s,SNR=7.9						
IELO	**Elcoad**	**0.55**	**236**	Pg	Pg	09 48 12.3	-0.5
	4.7nm,0.1s,SNR=7.9						
IELO				Lg		09 48 19.4	
	77nm,0.1s,SNR=7.9						
EORO	**Oroz-Betelu**	**0.57**	**243**	Pg	Pg	09 48 12.8	-0.4
	30nm,0.2s,SNR=51						
EORO				Lg		09 48 20.5	
	102nm,0.1s,SNR=5.0						
EORO	**Oroz-Betelu**	**0.57**	**243**	Pg	Pg	09 48 12.8	-0.4
	30nm,0.2s,SNR=51						
EORO				Lg		09 48 20.5	
	102nm,0.1s,SNR=5.0						
IEPA	**Eparoz**	**0.60**	**232**	Pg	Pg	09 48 14.1	+0.2
	13nm,0.2s,SNR=7.9						
IEPA				Lg		09 48 22.4	
	104nm,0.1s,SNR=7.9						
IEPA	**Eparoz**	**0.60**	**232**	Pg	Pg	09 48 14.1	+0.2
	13nm,0.2s,SNR=7.9						
IEPA				Lg		09 48 22.8	
	104nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.66**	**276**	Pg	Pg	09 48 13.8	-1.0
EALK				Lg		09 48 22.1	
EALK	**Alkurruntz**	**0.66**	**276**	Pg	Pg	09 48 13.8	-1.0
	10.0nm,0.1s,SNR=45						
EALK				Lg		09 48 22.8	
	29nm,0.2s,SNR=5.0						
EALK	**Alkurruntz**	**0.66**	**276**	Pg	Pg	09 48 13.8	-1.0
	10.0nm,0.1s,SNR=45						
EALK				Lg		09 48 22.1	
	29nm,0.2s,SNR=5.0						
ELIZ	**Elizondo**	**0.67**	**271**	Pg	Pg	09 48 14.2	-0.9
ELIZ				Lg		09 48 23.0	
ELIZ	**Elizondo**	**0.67**	**271**	Pg	Pg	09 48 14.2	-0.9
	12nm,0.2s,SNR=20						
ELIZ				Lg		09 48 23.0	
	27nm,0.1s,SNR=16						
ELIZ	**Elizondo**	**0.67**	**271**	Pg	Pg	09 48 14.2	-0.9
	12nm,0.2s,SNR=20						
ELIZ				Lg		09 48 23.0	
	27nm,0.1s,SNR=16						
IZUN	**Zunzarren**	**0.68**	**245**	Pg	Pg	09 48 14.8	-0.5
	3.9nm,0.1s,SNR=7.9						
IZUN				Lg		09 48 24.0	
	36nm,0.2s,SNR=7.9						
IZUN	**Zunzarren**	**0.68**	**245**	Pg	Pg	09 48 14.8	-0.5
	3.9nm,0.1s,SNR=7.9						
IZUN				Lg		09 48 24.0	
	36nm,0.2s,SNR=7.9						
EPF	**Esparros**	**0.71**	**99**	*e*Pg	Pg	09 48 15.2	-0.7
EPF				*e*Sg	Sg	09 48 24.7	-0.5
	61nm,0.3s						
EPF	**Esparros**	**0.71**	**99**	*e*Pg	Pg	09 48 15.2	-0.7
EPF				*e*Sg	Sg	09 48 24.7	-0.5
EPF	**Esparros**	**0.71**	**99**	Pg	Pg	09 48 15.2	-0.7
EPF				Lg		09 48 24.7	
	31nm,0.3s						
EPF	**Esparros**	**0.71**	**99**	*e*Pg	Pg	09 48 15.2	-0.7
EPF				*e*Sg	Sg	09 48 24.7	-0.5
	31nm,0.3s						
IUSE	**Utxeti**	**0.71**	**254**	Pg	Pg	09 48 15.2	-0.7
	16nm,0.1s,SNR=18						
IUSE				Lg		09 48 24.5	
	56nm,0.2s,SNR=17						
IUSE	**Utxeti**	**0.71**	**254**	Pg	Pg	09 48 15.2	-0.7
	16nm,0.1s,SNR=18						
IUSE				Lg		09 48 24.5	
	56nm,0.2s,SNR=17						
EBIE	**Bielsa**	**0.72**	**130**	Pg	Pg	09 48 15.6	-0.6
EBIE				Lg		09 48 24.5	
EBIE	**Bielsa**	**0.72**	**130**	Pg	Pg	09 48 15.6	-0.6
	28nm,0.1s,SNR=423						
EBIE				Lg		09 48 24.5	
	58nm,0.1s,SNR=5.0						
EBIE	**Bielsa**	**0.72**	**130**	Pg	Pg	09 48 15.6	-0.5
	28nm,0.1s,SNR=423						
EBIE				Lg		09 48 24.5	
	58nm,0.1s,SNR=5.0						
IUNC	**Unciti**	**0.76**	**239**	Pg	Pg	09 48 16.9	+0.1
	4.6nm,0.1s,SNR=7.9						
IUNC				Lg		09 48 27.2	
	49nm,0.2s,SNR=7.9						
IUNC	**Unciti**	**0.76**	**239**	Pg	Pg	09 48 16.9	+0.1
	4.6nm,0.1s,SNR=7.9						
IUNC				Lg		09 48 27.2	
	49nm,0.2s,SNR=7.9						
RESF	**Ens**	**0.78**	**116**	Pg	Pg	09 48 16.4	-0.8
RESF				Sg	Sg	09 48 26.6	-0.8
RESF	**Ens**	**0.78**	**116**	Pg	Pg	09 48 16.6	-0.6
RESF				Lg		09 48 26.7	
RESF	**Ens**	**0.78**	**116**	Pg	Pg	09 48 16.4	-0.8
RESF				Sg	Sg	09 48 26.6	-0.8
RESF	**Ens**	**0.78**	**116**	Pg	Pg	09 48 16.4	-0.8
RESF				Sg	Sg	09 48 26.6	-0.8
EARA	**Aranguren**	**0.80**	**242**	Pg	Pg	09 48 17.5	-0.1
	8.0nm,0.1s,SNR=5.9						
EARA				Lg		09 48 27.2	
	18nm,0.1s,SNR=5.0						
EARA	**Aranguren**	**0.80**	**242**	Pg	Pg	09 48 17.5	-0.1
	8.0nm,0.1s,SNR=5.9						
EARA				Lg		09 48 28.8	
	18nm,0.1s,SNR=5.0						
MELF	**Melles**	**1.05**	**105**	Pg	Pg	09 48 21.8	-0.4
MELF				Lg		09 48 34.9	
MELF	**Melles**	**1.05**	**105**	Pg	Pg	09 48 21.9	-0.4
MELF	**Melles**	**1.05**	**105**	Pg	Pg	09 48 21.9	-0.4
SALF	**Salau**	**1.38**	**106**	Pn	Pn	09 48 27.5	+0.1
SALF				Sg	Sg	09 48 46.6	0.0
SALF	**Salau**	**1.38**	**106**	Pg	Pg	09 48 28.1	-0.5
SALF				Lg		09 48 45.4	
SALF	**Salau**	**1.38**	**106**	Pn	Pn	09 48 27.5	+0.1
SALF				Sg	Sg	09 48 46.6	0.0
SALF	**Salau**	**1.38**	**106**	Pn	Pn	09 48 27.5	+0.1
SALF				Sg	Sg	09 48 46.6	0.0
ESAC	**San Caprasio**	**1.43**	**176**	Pg	Pg	09 48 29.4	-0.2
ESAC				Lg		09 48 47.3	
ESAC	**San Caprasio**	**1.43**	**176**	Pg	Pg	09 48 28.7	-0.9
	12nm,0.1s,SNR=9.3						
ESAC				Lg		09 48 47.3	
	54nm,0.2s,SNR=5.0						
ESAC	**San Caprasio**	**1.43**	**176**	Pg	Pg	09 48 29.4	-0.2
	12nm,0.1s,SNR=9.3						
ESAC				Lg		09 48 47.3	
	54nm,0.2s,SNR=5.0						
CSOR	**Sort**	**1.50**	**120**	Pg	Pg	09 48 29.9	-1.1
CSOR				Lg		09 48 50.0	
CSOR	**Sort**	**1.50**	**120**	Pg	Pg	09 48 29.9	-1.1
	4.1nm,0.1s,SNR=22						
CSOR				Lg		09 48 50.0	
	22nm,0.2s,SNR=5.0						
CSOR	**Sort**	**1.50**	**120**	Pg	Pg	09 48 29.9	-1.1
	4.1nm,0.1s,SNR=22						
CSOR				Lg		09 48 50.0	
	22nm,0.2s,SNR=5.0						
GRBF	**Gourbit**	**1.61**	**100**	Sn	Sn	09 48 51.8	+0.5
EMIR	**Miracle**	**2.01**	**127**	Pg	Pg	09 48 39.2	-1.5
EMIR				Lg		09 49 05.6	
EMIR	**Miracle**	**2.01**	**127**	Pg	Pg	09 48 39.2	-1.5
	5.0nm,0.1s,SNR=8.2						
EMIR				Lg		09 49 05.6	
	30nm,0.2s,SNR=6.3						
EMIR	**Miracle**	**2.01**	**127**	Pg	Pg	09 48 39.2	-1.4
	5.0nm,0.1s,SNR=8.2						
EMIR				Lg		09 49 05.6	
	30nm,0.2s,SNR=6.3						
CLLI	**Llivia**	**2.02**	**109**	Pg	Pg	09 48 40.4	-0.5
CLLI				Lg		09 49 07.8	
CLLI	**Llivia**	**2.02**	**109**	Pg	Pg	09 48 40.4	-0.5
	4.1nm,0.2s,SNR=7.2						
CLLI				Lg		09 49 07.8	
	10nm,0.2s,SNR=13						
CLLI	**Llivia**	**2.02**	**109**	Pg	Pg	09 48 40.4	-0.5
	4.1nm,0.2s,SNR=7.2						
CLLI				Lg		09 49 07.8	
	10nm,0.2s,SNR=13						
LFF	**La Frestale**	**2.04**	**28**	*e*Pn	Pn	09 48 35.0	-1.5
LFF				*e*Sn	Sn	09 48 59.3	-2.6
	13nm,0.4s						
LFF	**La Frestale**	**2.04**	**28**	*e*Pn	Pn	09 48 35.0	-1.5
LFF				*e*Sn	Sn	09 48 59.3	-2.6
LFF	**La Frestale**	**2.04**	**28**	Pn	Pn	09 48 35.0	-1.5
LFF				Sn	Sn	09 48 59.3	-2.6
	6.7nm,0.4s						
LFF	**La Frestale**	**2.04**	**28**	*e*Pn	Pn	09 48 35.0	-1.5
LFF				*e*Sn	Sn	09 48 59.3	-2.6
	6.7nm,0.4s						
ELAN	**Lanestosa**	**2.06**	**273**	Pg	Pg	09 48 39.2	-2.5
ELAN				Sn	Sn	09 49 03.9	+1.4
ELAN	**Lanestosa**	**2.06**	**273**	Pg	Pg	09 48 39.2	-2.5
	4.0nm,0.4s,SNR=7.9						
ELAN				Sn	Sn	09 49 02.1	-0.4
	2.3nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**2.06**	**273**	Pg	Pg	09 48 39.2	-2.5
	4.0nm,0.4s,SNR=7.9						
ELAN				Sn	Sn	09 49 03.9	+1.4
	2.3nm,0.2s,SNR=7.9						
VALF	**Valcebollere**	**2.08**	**110**	Pg	Pg	09 48 41.8	-0.2
VALF				Sg	Sg	09 49 09.0	+0.1
VALF	**Valcebollere**	**2.08**	**110**	Pg	Pg	09 48 41.5	-0.5
VALF				Lg		09 49 07.2	
VALF	**Valcebollere**	**2.08**	**110**	Pg	Pg	09 48 41.8	-0.2
VALF				Sg	Sg	09 49 09.0	+0.1
VALF	**Valcebollere**	**2.08**	**110**	Pg	Pg	09 48 41.8	-0.2
VALF				Sg	Sg	09 49 09.0	+0.1
MTLF	**Montolieu**	**2.08**	**84**	*e*Pn	Pn	09 48 36.0	-1.0
MTLF	**Montolieu**	**2.08**	**84**	*e*Pg	Pg	09 48 39.4	-2.6
MTLF				*e*Sg	Sg	09 49 07.0	-1.9
	5.7nm,0.2s						
MTLF	**Montolieu**	**2.08**	**84**	*e*Pn	Pn	09 48 36.0	-1.0
MTLF				*e*Pg	Pg	09 48 39.4	-2.6
MTLF				*e*Sg	Sg	09 49 07.0	-1.9
MTLF	**Montolieu**	**2.08**	**84**	Pn	Pn	09 48 36.0	-1.0
MTLF				Pg	Pg	09 48 39.4	-2.6
MTLF				Lg		09 49 07.0	
	2.8nm,0.2s						
MTLF	**Montolieu**	**2.08**	**84**	*e*Pn	Pn	09 48 36.0	-1.0
MTLF	**Montolieu**	**2.08**	**84**	*e*Pg	Pg	09 48 39.4	-2.6
MTLF				*e*Sg	Sg	09 49 07.0	-1.9
	2.8nm,0.2s						
EPOB	**Poblet**	**2.19**	**144**	Pg	Pg	09 48 42.3	-1.8
EPOB				Lg		09 49 10.1	
EPOB	**Poblet**	**2.19**	**144**	Pg	Pg	09 48 42.3	-1.8
	1.8nm,0.2s,SNR=9.7						
EPOB				Lg		09 49 10.8	
	7.1nm,0.2s,SNR=5.0						
EPOB	**Poblet**	**2.19**	**144**	Pg	Pg	09 48 42.3	-1.9
	1.8nm,0.2s,SNR=9.7						
EPOB				Lg		09 49 10.1	
	7.1nm,0.2s,SNR=5.0						
ETOR	**Torete**	**2.56**	**205**	Pn	Pn	09 48 42.5	-1.2
ETOR				Sn	Sn	09 49 14.4	-0.4
ETOR				Lg		09 49 23.5	
ETOR	**Torete**	**2.56**	**205**	Pn	Pn	09 48 42.9	-0.8
	3.9nm,0.1s,SNR=7.9						
ETOR				Sn	Sn	09 49 14.4	-0.4
	8.0nm,0.1s,SNR=7.9						
ETOR				Lg		09 49 23.5	
	10nm,0.2s,SNR=7.9						
ETOR	**Torete**	**2.56**	**205**	Pn	Pn	09 48 42.5	-1.2
	SNR=7.9						
ETOR				Sn	Sn	09 49 14.4	-0.5
	SNR=7.9						
ETOR				Lg		09 49 23.5	
	10nm,0.2s,SNR=7.9						
CAF	**Calviac**	**2.62**	**47**	*e*Pn	Pn	09 48 43.0	-1.5
CAF				*e*Sn	Sn	09 49 13.1	-3.3
	3.0nm,0.2s						
CAF	**Calviac**	**2.62**	**47**	*e*Pn	Pn	09 48 43.0	-1.5
CAF				*e*Sn	Sn	09 49 13.1	-3.3
CAF	**Calviac**	**2.62**	**47**	Pn	Pn	09 48 43.0	-1.5
CAF				Sn	Sn	09 49 13.1	-3.3
	1.5nm,0.2s						
CAF	**Calviac**	**2.62**	**47**	*e*Pn	Pn	09 48 43.0	-1.5
CAF				*e*Sn	Sn	09 49 13.1	-3.3
	1.5nm,0.2s						
RJF	**Les Rejaudoux**	**2.64**	**35**	*e*Pn	Pn	09 48 43.0	-1.8
RJF				*e*Sn	Sn	09 49 13.5	-3.3
	2.6nm,0.2s						
RJF	**Les Rejaudoux**	**2.64**	**35**	*e*Pn	Pn	09 48 43.0	-1.8
RJF				*e*Sn	Sn	09 49 13.5	-3.3
RJF	**Les Rejaudoux**	**2.64**	**35**	Pn	Pn	09 48 43.0	-1.8
RJF				Sn	Sn	09 49 13.5	-3.3
	1.3nm,0.2s						
RJF	**Les Rejaudoux**	**2.64**	**35**	*e*Pn	Pn	09 48 43.0	-1.8
RJF				*e*Sn	Sn	09 49 13.5	-3.3
	1.3nm,0.2s						
CFON	**Fontmartina**	**2.65**	**121**	Pn	Pn	09 48 46.2	+1.4
CFON				Lg		09 49 24.9	
CFON	**Fontmartina**	**2.65**	**121**	Pn	Pn	09 48 46.0	+1.1
	3.1nm,0.1s,SNR=7.9						
CFON				Pg	Pg	09 48 50.8	-2.2
	5.7nm,0.2s,SNR=7.9						
CFON				Lg		09 49 24.2	
	47nm,0.3s,SNR=5.0						
CFON	**Fontmartina**	**2.65**	**121**	Pn	Pn	09 48 46.2	+1.3
	3.1nm,0.1s,SNR=7.9						
CFON				Lg		09 49 24.9	
	47nm,0.3s,SNR=5.0						
EJON	**La Jonquera**	**2.67**	**104**	Pn	Pn	09 48 46.5	+1.3
EJON				Lg		09 49 26.3	
EJON	**La Jonquera**	**2.67**	**104**	Pg	Pg	09 48 47.8	-5.5
	1.9nm,0.2s,SNR=7.9						
EJON				Lg		09 49 26.7	
	6.4nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**2.67**	**104**	Pn	Pn	09 48 46.5	+1.3
	1.9nm,0.2s,SNR=7.9						
EJON				Lg		09 49 26.3	
	6.4nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**2.79**	**178**	Pn	Pn	09 48 48.7	+1.9
EMOS				Lg		09 49 27.4	
EMOS	**Mosqueruela**	**2.79**	**178**	Pg	Pg	09 48 49.5	-6.1
	0.4nm,0.2s,SNR=7.9						
EMOS				Lg		09 49 27.4	
	1.0nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**2.79**	**178**	Pn	Pn	09 48 48.7	+2.0
	0.4nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**3.36**	**274**	Pn	Pn	09 48 53.2	-1.4
	0.3nm,0.2s,SNR=7.9						
EARI				Sn	Sn	09 49 32.0	-2.6
	0.3nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	**3.38**	**73**	*e*Pn	Pn	09 48 53.6	-1.3
LASF				*e*Sn	Sn	09 49 31.8	-3.1
	1.9nm,0.2s						
LASF	**Ste Croix**	**3.38**	**73**	*e*Pn	Pn	09 48 53.6	-1.3
LASF				*e*Sn	Sn	09 49 31.8	-3.1
LASF	**Ste Croix**	**3.38**	**73**	Pn	Pn	09 48 53.6	-1.3
LASF				Sn	Sn	09 49 31.8	-3.1
	0.9nm,0.2s						
LASF	**Ste Croix**	**3.38**	**73**	*e*Pn	Pn	09 48 53.6	-1.3
LASF				*e*Sn	Sn	09 49 31.8	-3.1
	0.9nm,0.2s						
MFF	**Saint Martin d**	**3.47**	**5**	*e*Pn	Pn	09 48 54.2	-1.9
MFF				*e*Sg	Sg	09 49 49.4	-4.1
	3.6nm,0.3s		

0.5nm,0.7s,baz=21,slow=10,SNR=7.8
CMAR Chiang Mai Arr 43.30 286 P P 10 04 52.8 +0.1
2.3nm,0.7s,baz=81,slow=6.3,SNR=10
SONM Songino Array 48.13 327 P P 10 05 30.5 0.0
0.5nm,0.5s,baz=148,slow=7.5,SNR=4.3
MKAR Makanchi Array 62.37 317 P P 10 07 14.2 +0.9
0.3nm,0.3s,baz=96,slow=8.9,SNR=6.2
ZALV Zalesovo Beam 62.96 326 P P 10 07 16.8 -0.3
0.3nm,0.3s,baz=91,slow=7.2,SNR=2.8
KURK Kurchatov 65.67 321 P P 10 07 35.0 +0.1
2.6nm,0.7s,baz=106,slow=6.3,SNR=20
ILAR Eielson Array 71.92 25 P P 10 08 13.3 -0.3
0.7nm,0.7s,baz=250,slow=5.7,SNR=9.0
NVAR Mina Array Bea 90.10 51 P P 10 09 52.3 +1.3
1.3nm,0.6s,baz=283,slow=6.2,SNR=9.7

*IDC **12** 10:06:10.0±0.9, 37.°77N×95.°74E, h0km, mb3.8/6, mb1 3.9/10, mb1mx3.7/29, mbtmp3.8/10, ML3.8/3, MS3.2/4, Ms1 3.3/4, ms1mx2.8/45, Error ellipse: s-maj=27.2km s-min=13.5km az=50.0*
*BJI **12** 10:06:10.3, 37.°78N×95.°97E, h4km, mB4.5/2, mb4.2/4, ML4.0/7, Ms3.8/6, Ms7 3.5/6*
*NEIC **12** 10:06:11.7±0.5, 37.°74N×95.°75E, h10km, mb3.6/2, Error ellipse: s-maj=12.8km s-min=8.2km az=50.0*
*ISCJB **12** 10:06:12.1±1.3, 37.°76N±0.°06×95.°67E±0.°06, h28km±10km, mb3.8/6, Error ellipse: s-maj=10.4km s-min=6.8km az=24.1*

ISC 12 10:06:11.5±2.1, 37.°72N±0.°06×95.°71E±0.°05, h10km±15km, n27, σ0°71/36, mb3.8/6, Qinghai

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.64**	**61**	Pn			**Pn**	**10 07 08.6**	**+0.9**
GTA				Pg			**Pb**	**10 07 15.3**	**-0.5**
GTA				Sn			**Sn**	**10 07 50.5**	**-0.1**
GTA				Sg			**Sb**	**10 08 00.2**	**+0.3**
GTA				smax					
	comp=N,110nm,0.9s								
GTA				smax					
	comp=E,78nm,1.2s								
GTA				LR		LR			
	comp=N,570nm,7.1s								
GTA				LR		LR			
	comp=E,970nm,9.0s								
GTA				LR		LR			
	comp=Z,1μm,8.5s								
LZH	**Lanzhou**	**6.72**	**102**	*e*Pn			**Pn**	**10 07 55.0**	**+4.9**
LZH				Pg			**Pb**	**10 08 06.8**	**-1.5**
LZH				Sg			**Sb**	**10 09 32.6**	**+4.0**
LZH				smax					
	comp=N,98nm,1.0s								
LZH				smax					
	comp=E,100nm,1.0s								
LZH				LR		LR			
	comp=N,690nm,6.8s								
LZH				LR		LR			
	comp=E,440nm,7.5s								
LZH				LR		LR			
	comp=Z,640nm,6.9s								
SONM	**Songino Array**	**12.79**	**34**	Pn			**Pn**	**10 09 13.5**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=218,slow=15,SNR=22								
SONM				Lg				10 12 57.7	
	comp=Z,0.1nm,0.3s,baz=216,slow=30,SNR=3.6								
SONM				LR		LR		10 14 34.6	
	comp=Z,175nm,20.2s,baz=186,slow=40								
SONM	**Songino Array**	**12.79**	**34**	Pn			**Pn**	**10 09 13.5**	**+0.4**
SONM				Lg				10 12 57.7	
SONM				LR		LR		10 14 34.6	
MK31	**Makanchi Array**	**13.44**	**317**	*e*Pn			**Pn**	**10 09 23.8**	**+1.8**
MK31				*e*Sn			**Sn**	**10 11 51.0**	**-0.4**
MKAR	**Makanchi Array**	**13.44**	**317**	Pn			**Pn**	**10 09 21.2**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=117,slow=14,SNR=3.8								
MKAR				Sn			**Sn**	**10 11 50.3**	**-1.1**
	baz=125,slow=25,SNR=4.0								
MKAR				Lg				10 13 22.9	
	baz=149,slow=25,SNR=2.8								
MKAR	**Makanchi Array**	**13.44**	**317**	Pn			**Pn**	**10 09 21.2**	**-0.9**
MKAR				Sn			**Sn**	**10 11 50.3**	**-1.1**
MKAR				Lg				10 13 22.9	
TKM2	**Tokmak 2**	**16.18**	**295**	*e*Pn			**Pn**	**10 09 58.9**	**+0.1**
	comp=Z,6.8nm,0.8s								
KURK	**Kurchatov**	**17.80**	**322**	P			**Pn**	**10 10 19.4**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=138,slow=11,SNR=7.7								
KURK				S			**Sn**	**10 13 37.1**	**-0.2**
	baz=110,slow=27,SNR=3.8								
KURK	**Kurchatov**	**17.80**	**322**	P			**Pn**	**10 10 19.4**	**+0.4**
KURK				S			**Sn**	**10 13 37.1**	**-0.2**
ZALV	**Zalesovo Beam**	**17.88**	**339**	P			**Pn**	**10 10 20.3**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=148,slow=8.7,SNR=6.6								
ZALV				LR		LR		10 17 30.3	
	comp=Z,36nm,19.2s,baz=124,slow=38								
ZALV	**Zalesovo Beam**	**17.88**	**339**	P			**Pn**	**10 10 20.3**	**+0.2**
ZALV				LR		LR		10 17 30.3	
CMAR	**Chiang Mai Arr**	**19.40**	**171**	P			**Pn**	**10 10 38.1**	**-0.6**
	baz=344,slow=9.3,SNR=7.0								
CMAR				LR		LR		10 18 28.9	
	comp=Z,75nm,18.9s,baz=0.0,slow=38								
CMAR	**Chiang Mai Arr**	**19.40**	**171**	P			**Pn**	**10 10 38.1**	**-0.6**
CMAR				LR		LR		10 18 28.9	
KKAR	**Karatay Array**	**19.89**	**294**	*e*P			**Pn**	**10 10 44.6**	**+0.2**
	comp=Z,1.2nm,0.6s								
KSRS	**Korea Array**	**25.47**	**81**	P			**P**	**10 11 39.1**	**-0.5**
	comp=Z,4.9nm,0.5s,mb4.3,baz=279,slow=9.2,SNR=23								
AKTK	**Aktyubinsk**	**29.58**	**308**	P			**P**	**10 12 16.4**	**+0.1**
AKTO	**Aktyubinsk**	**29.58**	**309**	P			**P**	**10 12 16.4**	**+0.1**
	comp=Z,0.5nm,0.3s,mb3.7,baz=94,slow=15,SNR=2.6								
BRTR	**Keskin Array B**	**47.60**	**293**	P			**P**	**10 14 48.0**	**+0.7**
	comp=Z,0.5nm,0.8s,mb3.6,baz=84,slow=8.5,SNR=2.9								
BRTR	**Keskin Array B**	**47.60**	**293**	P			**P**	**10 14 48.0**	**+0.7**
NOA	**NORSAR Array B**	**55.30**	**324**	LR			LR	10 39 34.6	
	comp=Z,29nm,22.0s,baz=0.0,slow=36								
ILAR	**Eielson Array**	**66.80**	**24**	P			**P**	**10 17 02.2**	**-0.4**
	comp=Z,0.4nm,1.0s,mb3.4,baz=295,slow=4.9,SNR=2.8								
ILAR	**Eielson Array**	**66.80**	**24**	P			**P**	**10 17 02.2**	**-0.4**
WRA	**Warramunga Arr**	**67.90**	**141**	P			**P**	**10 17 10.0**	**-0.2**
	comp=Z,1.2nm,0.9s,mb3.9,baz=338,slow=6.4,SNR=8.9								
WRA	**Warramunga Arr**	**67.90**	**141**	P			**P**	**10 17 10.0**	**-0.2**
ASAR	**Alice Springs**	**70.83**	**143**	P			**P**	**10 17 29.3**	**+1.0**
	comp=Z,0.8nm,0.8s,mb3.7,baz=327,slow=5.5,SNR=7.8								
ASAR	**Alice Springs**	**70.83**	**143**	P			**P**	**10 17 29.3**	**+1.0**

IDC 12 10:23:05.8±49.0, 22.°40S×173.°85W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/19, mbtmp4.1/3, Error ellipse: s-maj=932.0km s-min=169.3km az=87.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.52**	**247**	P			P	10 30 45.6	-1.2
	0.8nm,0.3s,baz=82,slow=12,SNR=6.8								
ASAR	**Alice Springs**	**47.87**	**258**	P			P	10 31 45.9	0.0
	0.7nm,0.3s,baz=95,slow=8.3,SNR=25								
WRA	**Warramunga Arr**	**48.18**	**263**	P			P	10 31 49.1	+0.8
	1.8nm,0.3s,baz=99,slow=7.0,SNR=34								

IDC 12 10:25:18.9±12.0, 3.°17N×93.°95E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.3/25, mbtmp3.6/4, ML4.3/1, Error ellipse: s-maj=235.5km s-min=107.7km az=153.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.96**	**17**	Pn			Pn	10 29 05.0	+0.1
	0.4nm,0.3s,baz=212,slow=12,SNR=6.0								
MKAR	**Makanchi Array**	**44.62**	**349**	P			P	10 33 33.4	+0.4
	0.9nm,0.7s,baz=168,slow=8.3,SNR=7.8								
SONM	**Songino Array**	**45.78**	**12**	P			P	10 33 42.1	-0.1
	0.5nm,0.9s,baz=198,slow=7.6,SNR=3.4								
ZALV	**Zalesovo Beam**	**51.17**	**353**	P			P	10 34 23.1	-0.5
	0.4nm,0.3s,baz=185,slow=7.2,SNR=4.7								

*ISCJB **12** 10:39:06.4±0.2, 36.°98N±0.°02×16.°76E±0.°02, h10km, mb3.7/8, Error ellipse: s-maj=3.0km s-min=2.0km az=2.2*
*IDC **12** 10:39:06.0±1.2, 36.°91N×16.°83E, h0km, mb3.8/8, mb1 3.9/14, mb1mx3.7/33, mbtmp3.8/14, ML3.8/5, MS2.9/1, Ms1 2.9/1, ms1mx2.0/41, Error ellipse: s-maj=24.9km s-min=18.8km az=129.0*
*PDG **12** 10:39:10.2±0.2, 37.°49N×16.°33E, h11km±11km, ML4.3/10, Error ellipse: s-maj=147.3km s-min=79.9km az=90.0*

*CSEM **12** 10:39:10.7±0.1, 37.°00N×16.°67E, h40km, ML4.2/4, Error ellipse: s-maj=3.6km s-min=2.7km az=176.0*
*NEIC **12** 10:39:10.0, 37.°01N×16.°45E, h13km, ML3.8(ROM), After ROM.*
*ROM **12** 10:39:11.5±0.1, 37.°00N×16.°48E, h38km, Ml3.9/45, Error ellipse: s-maj=0.8km s-min=0.3km az=61.0*
*HLW **12** 10:39:11.9, 37.°43N×17.°86E, h33km±21km, Md4.0, Ml3.9*
*THE **12** 10:39:13.6, 37.°24N×16.°96E, h20km±23km, ML4.2/4, Error ellipse: s-maj=28.4km s-min=2.7km az=247.0*

ISC 12 10:39:08.0±0.2, 37.°00N±0.°02×16.°68E±0.°02, h10km, n289, σ1°23/354, mb3.7/8, 22C-43D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MPAZ	**Palizzi**	**1.09**	**331**	⇓*i*Pn			**Pn**	**10 39 29.6**	**+0.3**
MPAZ				Sn			**Sn**	**10 39 43.1**	**-1.4**
	2μm,0.3s								
MPAZ	**Palizzi**	**1.09**	**331**	⇓*i*Pn			**Pn**	**10 39 29.6**	**+0.3**
MPAZ				Sn			**Sn**	**10 39 43.1**	**-1.4**
SOI	**Samo**	**1.18**	**335**	⇓*i*Pn			**Pn**	**10 39 31.0**	**+0.4**
SOI				Sn			**Sn**	**10 39 45.4**	**-1.3**
	871nm,0.4s								
SOI	**Samo**	**1.18**	**335**	⇓*i*Pn			**Pn**	**10 39 31.0**	**+0.4**
SOI				Sn			**Sn**	**10 39 45.4**	**-1.3**
	871nm,0.4s								
HAVL	**Avola**	**1.25**	**269**	⇑*e*Pn			**Pn**	**10 39 30.2**	**-1.3**
HAVL				Sn			**Sn**	**10 39 45.1**	**-3.3**
	6μm,0.3s								
HAVL	**Avola**	**1.25**	**269**	⇑*e*Pn			**Pn**	**10 39 30.2**	**-1.3**
HAVL				Sn			**Sn**	**10 39 45.1**	**-3.3**
HAGA	**Augusta**	**1.25**	**283**	⇓*i*Pn			**Pn**	**10 39 29.9**	**-1.7**
HAGA				Sn			**Sn**	**10 39 43.7**	**-4.8**
	1μm,0.3s								
HAGA	**Augusta**	**1.25**	**283**	⇓*i*Pn			**Pn**	**10 39 29.9**	**-1.7**
MTTG	**Motta San Giov**	**1.27**	**322**	⇓*i*Pn			**Pn**	**10 39 32.0**	**+0.2**
MTTG				Sn			**Sn**	**10 39 47.0**	**-1.9**
	863nm,0.5s								
MTTG	**Motta San Giov**	**1.27**	**322**	⇓*i*Pn			**Pn**	**10 39 32.0**	**+0.2**
MTTG				Sn			**Sn**	**10 39 47.0**	**-1.9**
	863nm,0.5s								
SSY	**Sortino**	**1.30**	**277**	⇓*i*Pn			**Pn**	**10 39 30.6**	**-1.6**
SSY				Sn			**Sn**	**10 39 45.4**	**-4.2**
	3μm,0.3s								
SSY	**Sortino**	**1.30**	**277**	⇓*i*Pn			**Pn**	**10 39 30.6**	**-1.6**
HCRL	**Carlentini**	**1.35**	**282**	⇓*i*Pn			**Pn**	**10 39 31.4**	**-1.5**
HCRL				Sn			**Sn**	**10 39 47.0**	**-3.8**
	3μm,0.3s								
HCRL	**Carlentini**	**1.35**	**282**	⇓*i*Pn			**Pn**	**10 39 31.4**	**-1.5**
CEL	**Celeste**	**1.40**	**334**	*e*Pn			**Pn**	**10 39 34.4**	**+0.7**
CEL				*e*Sn			**Sn**	**10 39 51.3**	**-0.8**
CEL	**Celeste**	**1.40**	**334**	*e*Pn			**Pn**	**10 39 34.4**	**+0.8**
CEL				*e*Sn			**Sn**	**10 39 51.3**	**-0.9**
MSCL	**Scilla**	**1.42**	**330**	Pn			**Pn**	**10 39 34.4**	**+0.6**
	2μm,0.6s								
MSCL	**Scilla**	**1.42**	**330**	Pn			**Pn**	**10 39 34.4**	**+0.6**
	2μm,0.6s								
PLAC	**Placanica**	**1.46**	**352**	⇓*i*Pn			**Pn**	**10 39 35.5**	**+1.1**
	722nm,0.3s								
PLAC	**Placanica**	**1.46**	**352**	⇓*i*Pn			**Pn**	**10 39 35.5**	**+1.1**
	722nm,0.3s								
MMME	**Mongiuffi-Meli**	**1.47**	**310**	⇓*i*Pn			**Pn**	**10 39 34.4**	**-0.1**
MMME				Sn			**Sn**	**10 39 52.3**	**-1.5**
	716nm,0.5s								
MMME	**Mongiuffi-Meli**	**1.47**	**310**	⇓*i*Pn			**Pn**	**10 39 34.4**	**-0.1**
MMME				Sn			**Sn**	**10 39 52.3**	**-1.5**
	716nm,0.5s								
SCLL	**Scilla**	**1.47**	**329**	Pn			**Pn**	**10 39 34.9**	**+0.4**
	223nm,0.3s								
SCLL	**Scilla**	**1.47**	**329**	Pn			**Pn**	**10 39 34.9**	**+0.4**
	223nm,0.3s								
HMDC	**Modica**	**1.52**	**269**	Pn			**Pn**	**10 39 34.2**	**-1.1**
HMDC				Sn			**Sn**	**10 39 51.6**	**-3.5**
	4μm,0.2s								
HMDC	**Modica**	**1.52**	**269**	Pn			**Pn**	**10 39 34.2**	**-1.1**
HMDC				Sn			**Sn**	**10 39 51.6**	**-3.5**
ESLN	**Serra La Nave**	**1.53**	**297**	Pn			**Pn**	**10 39 34.4**	**-0.9**
	1μm,0.5s								
ESLN	**Serra La Nave**	**1.53**	**297**	Pn			**Pn**	**10 39 34.4**	**-0.9**
	1μm,0.5s								
MSRU	**Castanea**	**1.57**	**324**	⇓*i*Pn			**Pn**	**10 39 36.4**	**+0.5**
	818nm,0.8s								
MSRU	**Castanea**	**1.57**	**324**	⇓*i*Pn			**Pn**	**10 39 36.4**	**+0.5**
	818nm,0.8s								
HVZN	**Vizzini**	**1.58**	**277**	Pn			**Pn**	**10 39 34.9**	**-1.2**
HVZN	**Vizzini**	**1.58**	**277**	Pn			**Pn**	**10 39 34.9**	**-1.2**
ECNV	**Catenanuova**	**1.68**	**291**	⇓*i*Pn			**Pn**	**10 39 37.4**	**0.0**
	2μm,0.4s								
ECNV	**Catenanuova**	**1.68**	**291**	⇓*i*Pn			**Pn**	**10 39 37.4**	**0.0**
	2μm,0.4s								
MILZ	**Milazzo**	**1.71**	**318**	⇓*i*Pn			**Pn**	**10 39 38.3**	**+0.4**
	717nm,0.7s								
MILZ	**Milazzo**	**1.71**	**318**	⇓*i*Pn			**Pn**	**10 39 38.3**	**+0.4**
	717nm,0.7s								
JOPP	**Joppolo**	**1.72**	**339**	⇓*i*Pn			**Pn**	**10 39 39.1**	**+1.1**
	669nm,0.4s								
JOPP	**Joppolo**	**1.72**	**339**	⇓*i*Pn			**Pn**	**10 39 39.1**	**+1.1**
	669nm,0.4s								
GALF	**Gagliano Caste**	**1.83**	**293**	Pn			**Pn**	**10 39 39.8**	**+0.3**
	718nm,0.6s								
GALF	**Gagliano Caste**	**1.83**	**293**	Pn			**Pn**	**10 39 39.8**	**+0.3**
	718nm,0.6s								
MNO	**Monte Soro**	**1.83**	**301**	⇓*i*Pn			**Pn**	**10 39 41.2**	**+1.6**
	762nm,0.5s								
MNO	**Monte Soro**	**1.83**	**301**	⇓*i*Pn			**Pn**	**10 39 41.2**	**+1.6**
	762nm,0.5s								
RAFF	**Raffo Rosso**	**1.87**	**277**	⇑*i*Pn			**Pn**	**10 39 39.6**	**-0.4**
	2μm,0.3s								
RAFF	**Raffo Rosso**	**1.87**	**277**	⇑*i*Pn			**Pn**	**10 39 39.6**	**-0.4**
	2μm,0.3s								
VPL	**Vulcano Piano**	**1.93**	**316**	⇓*i*Pn			**Pn**	**10 39 41.4**	**+0.6**
	1μm,0.6s								
VPL	**Vulcano Piano**	**1.93**	**316**	⇓*i*Pn			**Pn**	**10 39 41.4**	**+0.6**
	1μm,0.6s								
LLI	**Lipari**	**1.99**	**317**	⇓*i*Pn			**Pn**	**10 39 42.5**	**+0.8**
	2μm,0.5s								
LLI	**Lipari**	**1.99**	**317**	⇓*i*Pn			**Pn**	**10 39 42.5**	**+0.8**
	2μm,0.5s								
WDD	**Wield Dalam**	**2.08**	**238**	*e*Pn			**Pn**	**10 39 43.0**	**+0.1**
WDD				*e*Sn			**Sn**	**10 40 07.1**	**-1.8**
WDD	**Wield Dalam**	**2.08**	**238**	⇑*i*Pn			**Pn**	**10 39 43.0**	**+0.1**
	2μm,0.8s								
WDD	**Wield Dalam**	**2.08**	**238**	⇑*i*Pn			**Pn**	**10 39 43.0**	**+0.1**
	2μm,0.8s								
WDD				*e*Sn			**Sn**	**10 40 07.1**	**-1.7**
RESU	**Resuttano**	**2.19**	**288**	Pn			**Pn**	**10 39 45.7**	**+1.3**
	818nm,0.5s								
RESU	**Resuttano**	**2.19**	**288**	Pn			**Pn**	**10 39 45.7**	**+1.3**
	818nm,0.5s								
CARO	**Carolei**	**2.28**	**351**	Pn			**Pn**	**10 39 47.1**	**+1.4**
	848nm,0.3s								
CARO	**Carolei**	**2.28**	**351**	Pn			**Pn**	**10 39 47.1**	**+1.4**
	848nm,0.3s								
CSLB	**Castelbuono**	**2.29**	**295**	Pn			**Pn**	**10 39 46.4**	**+0.6**
	400nm,0.8s								
CSLB	**Castelbuono**	**2.29**	**295**	Pn			**Pn**	**10 39 46.4**	**+0.6**
	400nm,0.8s								
IFIL	**Filicudi I Eol**	**2.29**	**314**	Pn			**Pn**	**10 39 45.8**	**0.0**
	594nm,0.5s								
IFIL	**Filicudi I Eol**	**2.29**	**314**	Pn			**Pn**	**10 39 45.8**	**0.0**
	594nm,0.5s								
GIB	**Gibilmanna**	**2.33**	**296**	Pn			**Pn**	**10 39 47.0**	**+0.6**
	568nm,0.5s								
GIB	**Gibilmanna**	**2.33**	**296**	Pn			**Pn**	**10 39 47.0**	**+0.6**
	568nm,0.5s								
IACL	**Alicudi**	**2.40**	**310**	Pn			**Pn**	**10 39 47.1**	**-0.2**
	340nm,0.4s								
IACL	**Alicudi**	**2.40**	**310**	Pn			**Pn**	**10 39 47.1**	**-0.2**
	340nm,0.4s								
FAVR	**Favara**	**2.42**	**277**	Pn			**Pn**	**10 39 48.7**	**+1.0**
	150nm,0.3s								
FAVR	**Favara**	**2.42**	**277**	Pn			**Pn**	**10 39 48.7**	**+1.0**
	150nm,0.3s								
ALJA	**Alia**	**2.45**	**289**	Pn			**Pn**	**10 39 49.2**	**+1.2**
	415nm,0.4s								
ALJA	**Alia**	**2.45**	**289**	Pn			**Pn**	**10 39 49.2**	**+1.2**
	415nm,0.4s								
PIPA	**Pietrapaola**	**2.48**	**2**	Pn			**Pn**	**10 39 49.8**	**+1.4**
	1μm,0.3s								
PIPA	**Pietrapaola**	**2.48**	**2**	Pn			**Pn**	**10 39 49.8**	**+1.4**
	1μm,0.3s								
CORL	**Corleone**	**2.83**	**289**	Pn			**Pn**	**10 39 54.6**	**+1.3**
	779nm,0.8s								
CORL	**Corleone**	**2.83**	**289**	Pn			**Pn**	**10 39 54.6**	**+1.3**
	779nm,0.8s								
CUC	**Castrocucco**	**3.06**	**347**	*e*Pn			**Pn**	**10 39 56.6**	**+0.1**
CUC				*e*Sn			**Sn**	**10 40 27.5**	**-5.6**
CUC	**Castrocucco**	**3.06**	**347**	*e*Pn			**Pn**	**10 39 56.6**	**+0.2**
CUC				*e*Sn			**Sn**	**10 40 27.5**	**-5.6**
SCHR	**S. Chirico Rap**	**3.23**	**352**	Pn			**Pn**	**10 40 00.8**	**+2.1**
	120nm,0.6s								
BULG	**Bulgheria - Ca**	**3.24**	**342**	Pn			**Pn**	**10 39 59.7**	**+0.9**
	383nm,0.5s								
BULG	**Bulgheria - Ca**	**3.24**	**342**	Pn			**Pn**	**10 39 59.7**	**+0.9**
	383nm,0.5s								
SIRI	**Monte Sirino -**	**3.24**	**349**	Pn			**Pn**	**10 39 59.8**	**+0.9**
	281nm,0.3s								
SIRI	**Monte Sirino -**	**3.24**	**349**	Pn			**Pn**	**10 39 59.8**	**+0.9**
	281nm,0.3s								
USI	**Ustica**	**3.25**	**303**	Pn			**Pn**	**10 39 58.5**	**-0.6**
	94nm,0.3s								
USI	**Ustica**	**3.25**	**303**	Pn			**Pn**	**10 39 58.5**	**-0.6**
	94nm,0.3s								
VLS	**Valsamata**	**3.32**	**68**	*e*P			**Pn**	**10 39 59.9**	**-0.1**
VLS	**Valsamata**	**3.32**	**68**	P			**Pn**	**10 40 00.0**	**+0.1**
VLS				S			**Sn**	**10 40 35.9**	**-3.5**
VLS	**Valsamata**	**3.32**	**68**	P			**Pn**	**10 40 00.0**	**+0.1**
VLS				S			**Sn**	**10 40 35.9**	**-3.5**
SCTE	**Santa Cesarea**	**3.37**	**24**	⇑*i*Pn			**Pn**	**10 40 00.0**	**-0.7**
SCTE	**Santa Cesarea**	**3.37**	**24**	⇑*i*Pn			**Pn**	**10 40 00.0**	**-0.7**
MCEL	**Monticello**	**3.39**	**349**	Pn			**Pn**	**10 40 02.4**	**+1.5**
	165nm,0.4s								
MCEL	**Monticello**	**3.39**	**349**	Pn			**Pn**	**10 40 02.4**	**+1.5**
	165nm,0.4s								
KFL	**Anninata**	**3.44**	**70**	P			**Pn**	**10 40 01.5**	**-0.2**
KFL				S			**Sn**	**10 40 39.8**	**-2.7**
KFL	**Anninata**	**3.44**	**70**	P			**Pn**	**10 40 01.5**	**-0.2**
KFL				S			**Sn**	**10 40 39.8**	**-2.7**
CMPR	**Campora**	**3.48**	**342**	Pn			**Pn**	**10 40 02.8**	**+0.6**
	118nm,0.3s								
CMPR	**Campora**	**3.48**	**342**	Pn			**Pn**	**10 40 02.8**	**+0.6**
	118nm,0.3s								
PTRP	**Pietrapertosa**	**3.55**	**352**	Pn			**Pn**	**10 40 06.2**	**+3.1**
	17μm,6.8s								
TAR1	**Taranto**	**3.55**	**7**	*e*Pn			**Pn**	**10 40 01.5**	**-1.6**
LKD2	**Lefkada island**	**3.62**	**59**	P			**Pn**	**10 40 04.8**	**+0.8**
LKD2				S			**Sn**	**10 40 44.6**	**-2.1**
LKD2	**Lefkada island**	**3.62**	**59**	P			**Pn**	**10 40 04.8**	**+0.8**
LKD2				S			**Sn**	**10 40 44.6**	**-2.1**
MATE	**Matera**	**3.64**	**0**	Pn			**Pn**	**10 40 04.2**	**-0.2**
MATE	**Matera**	**3.64**	**0**	Pn			**Pn**	**10 40 04.2**	**-0.2**
CDRU	**Civita di Ruta**	**3.64**	**343**	Pn			**Pn**	**10 40 05.5**	**+1.1**
	108nm,0.3s								
CDRU	**Civita di Ruta**	**3.64**	**343**	Pn			**Pn**	**10 40 05.5**	**+1.1**
	108nm,0.3s								
SGO	**Sicignano**	**3.71**	**344**	Pn			**Pn**	**10 40 08.0**	**+2.6**
	74nm,0.3s								
SGO	**Sicignano**	**3.71**	**344**	Pn			**Pn**	**10 40 08.0**	**+2.6**
	74nm,0.3s								
NOCI	**Noci**	**3.79**	**4**	⇑*e*Pn			**Pn**	**10 40 05.7**	**-0.8**
NOCI	**Noci**	**3.79**	**4**	⇑*e*Pn			**Pn**	**10 40 05.7**	**-0.8**
IGT	**Igoumenitsa**	**3.83**	**48**	P			**Pn**	**10 40 07.1**	**+0.2**
IGT				S			**Sn**	**10 40 48.8**	**-3.1**
IGT	**Igoumenitsa**	**3.83**	**48**	P			**Pn**	**10 40 07.1**	**+0.2**
IGT				S			**Sn**	**10 40 48.8**	**-3.1**
SG1	**Sgolgore (BA)**	**3.83**	**360**	*e*Pn			**Pn**	**10 40 07.6**	**+0.6**
SG1				*e*Sn			**Sn**	**10 40 46.5**	**-5.6**
PE1	**Pezze di Greco**	**3.84**	**8**	*e*Pn			**Pn**	**10 40 06.2**	**-0.9**
MRLC	**Muro Lucano**	**3.86**	**346**	Pn			**Pn**	**10 40 10.1**	**+2.7**
	97nm,0.4s								
MRLC	**Muro Lucano**	**3.86**	**346**	Pn			**Pn**	**10 40 10.1**	**+2.7**
	97nm,0.4s								
AMUR	**Altamura**	**3.90**	**359**	Pn			**Pn**	**10 40 07.8**	**-0.1**
	334nm,0.4s								
AMUR	**Altamura**	**3.90**	**359**	Pn			**Pn**	**10 40 07.8**	**-0.1**
	334nm,0.4s								
RLS	**Riolos of Patr**	**3.95**	**73**	*e*P			**Pn**	**10 40 09.6**	**+1.0**
RLS	**Riolos of Patr**	**3.95**	**73**	P			**Pn**	**10 40 09.6**	**+1.0**
RLS				S			**Sn**	**10 40 52.4**	**-2.5**
RLS	**Riolos of Patr**	**3.95**	**73**	P			**Pn**	**10 40 09.6**	**+1.0**
RLS				S			**Sn**	**10 40 52.4**	**-2.5**
MCRV

BIA	**Bitola**	**5.40**	**41**	*e*Pn		**Pn**	**10 40 28.6 +0.1**
BIA	**Bitola**	**5.40**	**41**	*e*Pn		**Pn**	**10 40 28.6 +0.1**
NAIG	**Nisos Aigina**	**5.47**	**80**	*e*P		**Pn**	**10 40 30.4 +0.8**
LIT	**Litokhoron**	**5.50**	**54**	*e*P		**Pn**	**10 40 30.4 +0.4**
LIT	**Litokhoron**	**5.50**	**54**	P		**Pn**	**10 40 30.4 +0.4**
LIT	**Litokhoron**	**5.50**	**54**	P		**Pn**	**10 40 30.4 +0.4**
BUM	**Brajici-Budva**	**5.56**	**17**	*i* Pn		**Pn**	**10 40 29.5 -1.3**
BUM				*e*Sn		**Sn**	**10 41 29.5 -5.2**
BUM	**Brajici-Budva**	**5.56**	**17**	*i* Pn		**Pn**	**10 40 29.5 -1.3**
HCY	**Herceg Novi**	**5.62**	**14**	*i* Pn		**Pn**	**10 40 29.7 -1.8**
HCY				*e*Sn		**Sn**	**10 41 29.8 -6.2**
HCY	**Herceg Novi**	**5.62**	**14**	*i* Pn		**Pn**	**10 40 29.7 -1.8**
KRUS	**Krusevo**	**5.62**	**38**	*e*Pn		**Pn**	**10 40 30.2 -1.4**
KRUS	**Krusevo**	**5.62**	**38**	*e*Pn		**Pn**	**10 40 30.1 -1.5**
ATH	**Athens Observa**	**5.68**	**78**	*e*P		**Pn**	**10 40 33.4 +1.0**
GHAR	**Gharyan**	**5.70**	**212**	*e*P		**Pn**	**10 40 32.0 -0.7**
	61nm,0.8s,SNR=48						
VLY	**Voula,Athens**	**5.72**	**79**	*e*P		**Pn**	**10 40 34.7 +1.7**
VLY	**Voula,Athens**	**5.72**	**79**	P		**Pn**	**10 40 34.8 +1.8**
VLY	**Voula,Athens**	**5.72**	**79**	P		**Pn**	**10 40 34.8 +1.8**
PDG	**Podgorica**	**5.77**	**19**	*i* Pn		**Pn**	**10 40 32.6 -1.1**
TTG	**Podgorica**	**5.77**	**19**	*i* Pn		**Pn**	**10 40 32.6 -1.1**
TTG				*e*Sn		**Sn**	**10 41 34.6 -5.3**
PTL	**Penteli**	**5.80**	**77**	*e*P		**Pn**	**10 40 35.6 +1.5**
ALAS	**Alassa**	**5.88**	**227**	*e*P		**Pn**	**10 40 35.1 -0.1**
	83nm,0.9s,SNR=46						
LSRT	**Sirt**	**5.91**	**180**	*e*P		**Pn**	**10 40 35.9 +0.3**
	SNR=46						
STON	**Ston**	**5.91**	**7**	*i* Pn		**Pn**	**10 40 33.7 -1.9**
STON				*e*Sn		**Sn**	**10 41 34.6 -8.8**
KEST	**Kesra**	**6.05**	**260**	Pn		**Pn**	**10 40 38.4 +0.8**
	0.5nm,0.3s,baz=46,slow=2.5,SNR=20						
KEST				*e*Sn		**Sn**	**10 41 42.0 -4.9**
	1.2nm,0.3s,baz=342,slow=21,SNR=11						
KEST	**Kesra**	**6.05**	**260**	Pn		**Pn**	**10 40 38.4 +0.8**
KEST				*e*Sn		**Sn**	**10 41 42.0 -4.9**
KEST	**Kesra**	**6.05**	**260**	Pn		**Pn**	**10 40 38.4 +0.8**
BRY	**Bratogost**	**6.06**	**13**	*i* Pn		**Pn**	**10 40 36.1 -1.5**
BRY				*e*Sn		**Sn**	**10 41 40.2 -6.8**
BRY	**Bratogost**	**6.06**	**13**	*i* Pn		**Pn**	**10 40 36.1 -1.5**
NKY	**Niksic**	**6.07**	**16**	*i* Pn		**Pn**	**10 40 36.4 -1.4**
NKY				*e*Sn		**Sn**	**10 41 41.3 -5.9**
NKY	**Niksic**	**6.07**	**16**	*i* Pn		**Pn**	**10 40 36.4 -1.4**
AOS	**Alonnisos**	**6.08**	**67**	P		**Pn**	**10 40 38.9 +1.1**
AOS				S		**Sn**	**10 41 44.5 -2.9**
AOS	**Alonnisos**	**6.08**	**67**	P		**Pn**	**10 40 38.9 +1.1**
AOS				S		**Sn**	**10 41 44.5 -2.9**
PVY	**Plav**	**6.13**	**23**	*i* Pn		**Pn**	**10 40 38.2 -0.4**
PVY				*e*Sn		**Sn**	**10 41 44.4 -4.4**
PVY	**Plav**	**6.13**	**23**	*i* Pn		**Pn**	**10 40 38.2 -0.4**
PAIG	**Paliouri**	**6.22**	**60**	P		**Pn**	**10 40 39.9 +0.1**
PAIG	**Paliouri**	**6.22**	**60**	P		**Pn**	**10 40 39.9 +0.1**
PLG	**Polygyros**	**6.27**	**55**	P		**Pn**	**10 40 40.4 -0.1**
PLG	**Polygyros**	**6.27**	**55**	P		**Pn**	**10 40 40.4 -0.1**
VAY	**Valandovo**	**6.29**	**45**	*e*Pn		**Pn**	**10 40 38.8 -2.0**
VAY	**Valandovo**	**6.29**	**45**	*e*Pn		**Pn**	**10 40 38.7 -2.0**
BEY	**Berane**	**6.36**	**22**	*i* Pn		**Pn**	**10 40 41.6 -0.1**
IVA	**Berane**	**6.36**	**22**	*i* Pn		**Pn**	**10 40 41.6 -0.1**
IVA				*e*Sn		**Sn**	**10 41 49.3 -5.1**
UPM	**Unac-Piva**	**6.42**	**15**	*i* Pn		**Pn**	**10 40 41.7 -0.9**
UPM				*e*Sn		**Sn**	**10 41 49.6 -6.4**
UPM	**Unac-Piva**	**6.42**	**15**	*i* Pn		**Pn**	**10 40 41.7 -0.9**
SOH	**Sokhos**	**6.45**	**52**	*e*P		**Pn**	**10 40 43.1 +0.1**
OUR	**Ouranopolis**	**6.61**	**58**	P		**Pn**	**10 40 45.6 +0.4**
OUR	**Ouranopolis**	**6.61**	**58**	P		**Pn**	**10 40 45.6 +0.4**
PLE	**Pljevlja**	**6.65**	**17**	*i* Pn		**Pn**	**10 40 45.0 -0.7**
PLE				*e*Sn		**Sn**	**10 41 55.8 -5.8**
PLE	**Pljevlja**	**6.65**	**17**	*i* Pn		**Pn**	**10 40 45.0 -0.7**
LJBD	**Adjabya**	**6.74**	**153**	*e*P		**Pn**	**10 40 47.1 +0.1**
	138nm,1.0s,SNR=46						
SJES	**Sjenica**	**6.74**	**21**	*e*Pn		**Pn**	**10 40 46.8 -0.2**
BARS	**Barje**	**7.02**	**33**	*e*Pn		**Pn**	**10 40 49.4 -1.4**
BBLS	**Lazići**	**7.16**	**16**	*i* Pn		**Pn**	**10 40 51.8 -1.0**
LSHF	**Shwairf**	**7.29**	**197**	*e*P		**Pn**	**10 40 53.9 -0.6**
	20nm,0.4s,SNR=46						
DIVS	**Divibare**	**7.52**	**19**	P		**Pn**	**10 40 56.3 -1.4**
DIVS	**Divibare**	**7.52**	**19**	P		**Pn**	**10 40 56.3 -1.4**
GRUS	**Gruza**	**7.53**	**23**	*i* Pn		**Pn**	**10 40 56.3 -1.5**
CHOS	**Chios island**	**7.56**	**77**	*e*P		**Pn**	**10 40 59.4 +1.2**
NVLJ	**Novalja**	**7.68**	**350**	*e*Pn		**Pn**	**10 41 00.2 +0.4**
NVLJ				Sn		**Sn**	**10 42 18.3 -8.4**
NVLJ	**Novalja**	**7.68**	**350**	*e*Pn		**Pn**	**10 41 00.1 +0.3**
ZAPS	**Zavoj**	**7.74**	**34**	*i* Pn		**Pn**	**10 41 00.7 0.0**
BLY	**Banja Luka**	**7.75**	**3**	*i* Pn		**Pn**	**10 41 01.0 +0.2**
ALN	**Alexandroupoli**	**8.27**	**59**	*e*P		**Pn**	**10 41 07.8 -0.1**
LZLA	**Zalla**	**8.46**	**175**	*e*P		**Pn**	**10 41 09.4 -1.2**
	SNR=46						
BOJS	**Bojanci**	**8.56**	**353**	*i* Pn		**Pn**	**10 41 13.4 +1.5**
BOJS				*i* Sn		**Sn**	**10 42 41.0 -7.5**
BOJS	**Bojanci**	**8.56**	**353**	*i* Pn		**Pn**	**10 41 13.4 +1.5**
SLUM		**8.95**	**125**	P		**Pn**	**10 41 13.4 -3.8**
	baz=132						
SLUM				S		**Sn**	**10 42 44.4 -14**
	baz=132						
JAVS	**Javornik**	**9.10**	**348**	*i* Pn		**Pn**	**10 41 22.4 +3.2**
JAVS				*i* Sn		**Sn**	**10 42 58.4 -3.3**
PERS	**Pernice**	**9.70**	**354**	*i* Pn		**Pn**	**10 41 30.1 +2.6**
PERS				*i* Sn		**Sn**	**10 43 08.3 -8.1**
PERS	**Pernice**	**9.70**	**354**	*i* Pn		**Pn**	**10 41 30.1 +2.6**
HMAT	**Matruh**	**10.45**	**121**	P		**Pn**	**10 41 33.6 -4.3**
	baz=126						
HMAT				AMP			10 43 00.0
	comp=E,20µm,0.2s,logA/T=4.9,baz=126						
HMAT				S		**Sn**	**10 43 20.0 -15**
	baz=126						
SWA2		**10.67**	**134**	P		**Pn**	**10 41 39.3 -1.6**
	baz=140						
SWA2				S		**Sn**	**10 43 30.2 -10**
	baz=140						
MLR	**Muntele Rosu**	**10.97**	**37**	Pn		**Pn**	**10 41 46.4 +1.4**
	comp=E,0.4nm,0.3s,baz=126,slow=21,SNR=9.3						
MLR	**Muntele Rosu**	**10.97**	**37**	Pn		**Pn**	**10 41 46.4 +1.4**
MLR	**Muntele Rosu**	**10.97**	**37**	Pn		**Pn**	**10 41 46.4 +1.5**
GERES	**GERESS Array B**	**12.04**	**351**	Pn		**Pn**	**10 42 04.0 +4.6**
	comp=E,0.1nm,0.3s,baz=187,slow=14,SNR=2.1						
GERES	**GERESS Array B**	**12.04**	**351**	Pn		**Pn**	**10 42 04.0 +4.6**
BR131	**Keskin Array S**	**13.58**	**73**	*e*Pn		**Pn**	**10 42 24.9 +4.3**
BRTR	**Keskin Array B**	**13.58**	**73**	Pn		**Pn**	**10 42 19.7 -1.0**
	comp=E,0.1nm,0.3s,baz=223,slow=8.2,SNR=2.9						
BRTR	**Keskin Array B**	**13.58**	**73**	Pn		**Pn**	**10 42 19.7 -1.0**
BRTR	**Keskin Array B**	**13.58**	**73**	Pn		**Pn**	**10 42 19.7 -1.0**
KOT	**Kottamia**	**14.47**	**115**	P		**Pn**	**10 42 29.4 -3.5**
	baz=118						
AMAG	**Maghara**	**15.12**	**110**	P		**Pn**	**10 42 37.2 -4.5**
	baz=113						
AKASG	**Malin Array Be**	**16.38**	**29**	Pn		**Pn**	**10 42 56.9 -0.9**
	comp=E,2.0nm,0.3s,baz=221,slow=11,SNR=16						
AKASG	**Malin Array Be**	**16.38**	**29**	Pn		**Pn**	**10 42 56.9 -0.9**
AKASG	**Malin Array Be**	**16.38**	**29**	Pn		**Pn**	**10 42 56.9 -0.9**
EIL	**Elat**	**16.91**	**110**	Pn		**Pn**	**10 43 01.4 -3.3**
	comp=E,1.4nm,0.3s,baz=337,slow=12,SNR=7.0						
EIL	**Elat**	**16.91**	**110**	Pn		**Pn**	**10 43 01.4 -3.3**
MDT	**Midelt**	**17.95**	**263**	LR		LR	10 50 07.2
	comp=E,42nm,21.0s,baz=278,slow=37						
HFS	**Hagfors**	**23.23**	**356**	P		**P**	**10 44 14.0 -1.1**
	comp=E,0.7nm,0.5s,mb3.4,baz=234,slow=12,SNR=3.9						
HFS	**Hagfors**	**23.23**	**356**	P		**P**	**10 44 14.0 -1.1**
HFS	**Hagfors**	**23.23**	**356**	P		**P**	**10 44 14.0 -1.1**
FINES	**FINESS Array B**	**25.17**	**11**	P		**P**	**10 44 33.0 -0.2**
	comp=E,4.0nm,0.9s,mb4.0,baz=184,slow=14,SNR=3.3						
FINES	**FINESS Array B**	**25.17**	**11**	P		**P**	**10 44 33.0 -0.1**
FINES	**FINESS Array B**	**25.17**	**11**	P		**P**	**10 44 33.0 -0.2**
TORD	**Torodi Ar. Bea**	**27.28**	**213**	P		**P**	**10 44 52.2 -0.5**
	comp=E,0.4nm,0.7s,mb3.1,baz=25,slow=9.1,SNR=4.9						
TORD	**Torodi Ar. Bea**	**27.28**	**213**	P		**P**	**10 44 52.2 -0.5**
TORD	**Torodi Ar. Bea**	**27.28**	**213**	P		**P**	**10 44 52.2 -0.5**
ARCES	**ARCESS Array B**	**32.94**	**6**	P		**P**	**10 45 41.5 -0.8**
	comp=E,2.6nm,0.9s,mb4.2,baz=192,slow=11,SNR=2.7						
ARCES	**ARCESS Array B**	**32.94**	**6**	P		**P**	**10 45 41.5 -0.8**
ARCES	**ARCESS Array B**	**32.94**	**6**	P		**P**	**10 45 41.5 -0.8**
SPITS	**Spitsbergen Ar**	**41.28**	**360**	P		**P**	**10 46 53.6 +0.6**
	comp=E,1.0nm,0.4s,mb3.8,baz=218,slow=9.1,SNR=3.4						
SPITS	**Spitsbergen Ar**	**41.28**	**360**	P		**P**	**10 46 53.6 +0.6**
SPITS	**Spitsbergen Ar**	**41.28**	**360**	P		**P**	**10 46 53.6 +0.6**
KURK	**Kurchatov**	**45.41**	**52**	P		**P**	**10 47 25.7 -0.9**
	comp=E,0.4nm,0.6s,mb3.5,baz=285,slow=9.2,SNR=3.5						
KURK	**Kurchatov**	**45.41**	**52**	P		**P**	**10 47 25.7 -0.9**
KURK	**Kurchatov**	**45.41**	**52**	P		**P**	**10 47 25.7 -0.9**
MKAR	**Makanchi Array**	**48.50**	**57**	P		**P**	**10 47 50.5 -0.4**
	comp=E,0.5nm,0.5s,mb3.8,baz=277,slow=6.2,SNR=4.7						
MKAR	**Makanchi Array**	**48.50**	**57**	P		**P**	**10 47 50.5 -0.4**
MKAR	**Makanchi Array**	**48.50**	**57**	P		**P**	**10 47 50.5 -0.4**
ZALV	**Zalesovo Beam**	**48.73**	**47**	P		**P**	**10 47 52.1 -0.4**
	comp=E,0.8nm,0.3s,mb4.3,baz=282,slow=7.3,SNR=4.4						
ZALV	**Zalesovo Beam**	**48.73**	**47**	P		**P**	**10 47 52.1 -0.4**
ZALV	**Zalesovo Beam**	**48.73**	**47**	P		**P**	**10 47 52.1 -0.4**

*IDC **12** 10:47:47.6±1.2,3°.16S×142°.67E,h0km,mb3.8/6, mb1 3.9/8,mb1mx3.7/19,mbtmp3.8/8,ML3.4/2,Error ellipse: s-maj=41.3km s-min=22.9km az=98.0*
*NEIC **12** 10:47:49.3±0.7,3°.15S×142°.56E,h10km,mb4.0/3,Error ellipse: s-maj=17.0km s-min=12.6km az=86.0*
*ISCJB **12** 10:47:51.2±0.9,3°.3S±0°.1×142°.6E±0°.1,h33km,mb3.8/7, Error ellipse: s-maj=20.1km s-min=15.4km az=0.9*
ISC 12 10:47:53.2±0.9,**3°.23S**±0°.09×**142°.6E**±0°.1,**h35**km,**n20, σ0877/19, mb3.8/7, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.65**	**144**	Pn	**Pn**	**10 49 42.1**	**-0.1**
	0.5nm,0.3s,baz=308,slow=19,SNR=2.8						
PMG	**Port Moresby**	**7.65**	**144**	Pn	**Pn**	**10 49 42.1**	**-0.1**
WRAB	**Tennant Creek**	**18.43**	**205**	*e*P	**Pn**	**10 52 05.9**	**-0.1**
	4.2nm,0.6s						
WRAB				*e*S	**S**	**10 55 34.1**	**-0.4**
WRA	**Warramunga Arr**	**18.44**	**205**	P	**Pn**	**10 52 05.8**	**-0.3**
	0.4nm,0.3s,baz=28,slow=13,SNR=22						
WRA	**Warramunga Arr**	**18.44**	**205**	P	**Pn**	**10 52 05.8**	**-0.4**
ASAR	**Alice Springs**	**21.97**	**202**	P	**P**	**10 52 43.5**	**-0.7**
	0.9nm,0.5s,mb3.5,baz=29,slow=10,SNR=16						
ASAR	**Alice Springs**	**21.97**	**202**	P	**P**	**10 52 43.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**22.21**	**227**	P	**P**	**10 52 47.5**	**+0.7**
	2.9nm,0.5s,mb4.0,baz=34,slow=12,SNR=22						
FITZ	**Fitzroy Crossi**	**22.21**	**227**	*e*P	**P**	**10 52 47.0**	**+0.2**
	2.8nm,0.5s,mb4.0						
EIDS	**Eidsvold**	**23.49**	**160**	*e*P	**P**	**10 53 01.3**	**+1.2**
	4.5nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**28.51**	**182**	P	**P**	**10 53 45.4**	**0.0**
	2.6nm,1.0s,mb3.9,baz=16,slow=7.4,SNR=2.9						
STKA	**Stephens Creek**	**28.51**	**182**	P	**P**	**10 53 45.4**	**0.0**
KURK	**Kurchatov**	**76.37**	**324**	P	**P**	**10 59 39.7**	**+0.9**
	0.6nm,0.7s,mb3.6,baz=108,slow=6.8,SNR=3.8						
KURK	**Kurchatov**	**76.37**	**324**	P	**P**	**10 59 39.7**	**+0.9**
MAW	**Mawson**	**83.09**	**202**	P	**P**	**11 00 15.7**	**+0.7**
	0.6nm,0.6s,mb3.8,baz=101,slow=5.2,SNR=3.2						
MAW	**Mawson**	**83.09**	**202**	P	**P**	**11 00 15.7**	**+0.7**
ILAR	**Eielson Array**	**84.73**	**24**	P	**P**	**11 00 21.6**	**-1.7**
	0.4nm,0.9s,mb3.5,baz=260,slow=5.4,SNR=3.3						
ILAR	**Eielson Array**	**84.73**	**24**	P	**P**	**11 00 21.6**	**-1.7**
DBIC	**Dimbokro**	**147.36**	**277**	PKPbc	PKPbc	11 07 34.4	0.0
	0.9nm,0.5s,baz=117,slow=2.3,SNR=3.5						
DBIC	**Dimbokro**	**147.36**	**277**	PKPbc	PKPbc	11 07 34.4	0.0

*ISCJB **12** 10:54:41.9±1.4,37°.4N±0°.1×96°.1E±0°.1,h10km,Error ellipse: s-maj=21.5km s-min=10.1km az=153.8*
*IDC **12** 10:54:44.0±2.2,37°.26N×96°.39E,h0km,mb3.5/1, mb1 3.6/3,mb1mx3.3/26,mbtmp3.5/3,ML3.4/2,Error ellipse: s-maj=66.8km s-min=38.5km az=70.0*
*BJI **12** 10:54:47.8,37°.48N×96°.03E,h15km,ML3.3/6*
ISC 12 10:54:44.4±1.4,**37°.4N**±0°.1×**96°.1E**±0°.1,**h10**km,**n4,σ1§15/8, Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**3.58**	**54**	Pn	**Pn**	**10 55 43.1**	**+3.2**
GTA				Pg	**Pg**	**10 55 51.0**	**-2.0**
GTA				Sn	**Sn**	**10 56 27.8**	**+5.5**
GTA				Sg	**Sg**	**10 56 39.7**	**+0.3**
GTA				smax			
	comp=N,21nm,0.9s						
GTA				smax			
	comp=E,15nm,0.7s						
SONM	**Songino Array**	**12.92**	**33**	Pn	**Pn**	**10 57 48.4**	**+0.4**
	comp=E,0.2nm,0.3s,baz=221,slow=16,SNR=7.3						
MKAR	**Makanchi Array**	**13.89**	**317**	Pn	**Pn**	**10 58 01.1**	**-0.2**
	comp=E,0.2nm,0.3s,baz=124,slow=14,SNR=2.1						
MKAR				Sn	**Sn**	**11 00 23.1**	**-12**
	comp=E,0.2nm,0.3s,baz=128,slow=26,SNR=5.4						
ASAR	**Alice Springs**	**70.38**	**143**	P	**P**	**11 05 58.5**	**0.0**
	comp=E,0.3nm,0.7s,baz=330,slow=6.5,SNR=5.1						

*IDC **12** 11:10:52.8±4.0,37°.99N×123°.29W,h0km,mb1 3.4/3, mb1mx3.3/26,mbtmp2.9/3,ML3.5/1,Error ellipse: s-maj=62.8km s-min=37.4km az=171.0*
*ISCJB **12** 11:10:58.8±0.5,38°.85N±0°.04×122°.81W±0°.05,h10km, Error ellipse: s-maj=6.7km s-min=3.9km az=140.6*
*NEIC **12** 11:10:58.9,38°.86N×122°.84W,h2km,MW3.5(BRK),After NCEDC.*
ISC 12 11:10:59.6±0.5,**38°.87N**±0°.04×**122°.82W**±0°.05,**h10**km,**n19, σ1§11/26,1C,Northern California**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPS	**Hopland**	**0.24**	**302**	*i* Pg	**Pg**	**11 11 09.6**	**-0.8**
HOPS				*e*Sg	**Sg**	**11 11 09.1**	**+1.3**
MCCM	**Marconi Confer**	**0.72**	**184**	*e*Pg	**Pg**	**11 11 13.3**	**-0.3**
KCPM	**Cahto Peak**	**1.01**	**324**	*e*Pg	**Pg**	**11 11 18.7**	**-0.4**
KIPM	**Iron Peak**	**1.07**	**331**	*e*Pg	**Pg**	**11 11 19.9**	**-0.4**
SAC	**San Andreas**	**1.32**	**166**	*e*Pg	**Pg**	**11 11 23.0**	**-2.0**
SAC				*e*Sg	**Sg**	**11 11 43.5**	**+1.4**
WDC	**Whiskeytown Da**	**1.72**	**7**	*e*Pn	**Pn**	**11 11 30.3**	**+0.6**
CMB	**Columbia Colle**	**2.08**	**113**	*e*Pn	**Pn**	**11 11 34.3**	**-0.2**
CMB				*e*Sn	**Sn**	**11 12 00.2**	**-0.3**
KHMM	**Horse Mountain**	**2.12**	**341**	*e*Pn	**Pn**	**11 11 42.9**	**+7.7**
SAO	**San Andreas Ge**	**2.36**	**152**	*e*Pn	**Pn**	**11 11 38.1**	**-0.4**
WCN	**Washoe City**	**2.42**	**79**	*e*Pn	**Pn**	**11 11 40.7**	**+1.5**
WCN				*e*Sn	**Sn**	**11 12 09.0**	**+0.1**
WAKR	**Walker**	**2.67**	**97**	*e*Pn	**Pn**	**11 11 45.5**	**+2.8**
PAHR	**Pah Rah Range**	**2.79**	**71**	*e*Pn	**Pn**	**11 11 43.0**	**-1.3**
YBH	**Yreka Blue Hor**	**2.86**	**2**	*e*Pn	**Pn**	**11 11 45.4**	**+0.1**
NVAR	**Mina Array Bea**	**3.56**	**96**	Pn	**Pn**	**11 11 56.5**	**+1.7**
	0.5nm,0.3s,baz=273,slow=15,SNR=11						
NVAR				Pg	**Pg**	**11 12 05.0**	**-2.8**
	2.0nm,0.3s,baz=269,slow=17,SNR=42						
NVAR				Lg		11 12 57.7	
	1.1nm,0.3s,baz=281,slow=28,SNR=3.1						
NVAR	**Mina Array Bea**	**3.56**	**96**	Pn	**Pn**	**11 11 56.5**	**+1.7**
NVAR				Pg	**Pg**	**11 12 05.0**	**-2.8**
NVAR				Lg		11 12 57.7	
HUMO	**Hull Mountain**	**3.74**	**358**	*e*Pn	**Pn**	**11 11 56.7**	**-0.6**
ISA	**Isabella**	**4.71**	**131**	*e*Pn	**Pn**	**11 12 10.4**	**-0.4**
ISA				*e*Sn	**Sn**	**11 13 05.9**	**+0.4**
PDAR	**Pinedale Array**	**10.78**	**65**	Pn	**Pn**	**11 13 41.6**	**+7.7**
	0.0nm,0.3s,baz=245,slow=13,SNR=2.6						
TXAR	**Lajitas Array**	**18.46**	**115**	P	**Pn**	**11 15 10.1**	**-5.5**
	0.0nm,0.3s,baz=306,slow=11,SNR=4.4						

MEX 12 11:16:27.8±0.8,**17°.10N×95°.83W,h101**km±7km,**MD4.0, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OXX	**Oaxaca**	**0.85**	**269**	*i* P	Pn	11 16 46.1	-0.7
OXX				*i* S	Sn	11 17 00.1	-1.0
VHO	**Vista Hermosa**	**0.86**	**268**	*i* P	Pn	11 16 46.2	-0.7
VHO				*i* S	Sn	11 17 00.0	-1.2
CMIG	**Matias Romero**	**0.91**	**91**	*i* P	Pn	11 16 46.3	-1.0
CMIG				*i* S	Sn	11 16 59.8	-2.2
HUIG	**Huatulco**	**1.35**	**191**	*i* P	Pn	11 16 50.9	-1.5
HUIG				*i* S	Sn	11 17 09.0	-2.0
TPIG	**Tehuac#an**	**1.96**	**312**	*i* S	Sn	11 17 22.4	-2.1
UTMO	**Huajuapan**	**2.02**	**291**	*i* P	Pn	11 16 59.6	-1.0
UTMO				*i* S	Sn	11 17 23.6	-2.2
PNIG	**Pinotepa**	**2.31**	**253**	*i* P	Pn	11 17 02.4	-2.1
PNIG				*i* S	Sn	11 17 32.4	-0.2
TGIG		**2.61**	**97**	*i* P	Pn	11 17 07.5	-0.9
TGIG				*i* S	Sn	11 17 38.8	-0.9
PCIG		**2.87**	**119**	*i* P	Pn	11 17 12.2	+0.4
PCIG				*i* S	Sn	11 17 46.1	+0.4
CCIG	**Comitan**	**3.63**	**102**	*i* P	Pn	11 17 22.6	+0.5
CCIG				*i* S	Sn	11 18 03.1	-1.0

*IDC **12** 11:42:51.9±0.7,4°.50S×77°.61W,h0km,mb4.0/9, mb1 4.2/12,mb1mx4.1/25,mbtmp4.0/12,ML3.8/2,MS3.0/1, Ms1 3.0/1,ms1mx2.4/28,Error ellipse: s-maj=28.2km s-min=12.1km az=93.0*
*NEIC **12** 11:42:59.3±1.0,4°.61S×77°.63W,h57km±10km,MG3.9(LIM), Error ellipse: s-maj=21.0km s-min=8.2km az=72.0*
NEIC Felt [II] at Santa Maria de Nieva.
ISC 12 11:42:54.5±3.2,**4°.51S**±0°.06×**77°.7W**±0°.1,**h15**km±20km,**n28, σ0886/27,mb3.9/9,Northern Peru**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**2.71**	**195**	Pn	**Pn**	**11 43 39.1**	**+1.5**
	8.7nm,0.3s,baz=14,slow=11,SNR=69						
ATAH				Pg	**Pg**	**11 43 42.5**	**-4.1**
	53nm,0.3s,baz=19,slow=14,SNR=96						
ATAH				Lg		11 44 18.0	
	57nm,0.3s,baz=79,slow=23,SNR=11						
ATAH				LR	LR	11 44 45.1	
	comp=Z,259nm,20.4s,baz=29,slow=41						
OTAV	**Otavalo**	**4.78**	**351**	*e*Pn	**Pn**	**11 44 11.4**	**+5.4**
NNA	**Nana**	**7.48**	**174**	Pn	**Pn**	**11 44 43.8**	**+0.7**
	2.3nm,0.3s,baz=333,slow=11,SNR=4.3						
NNA				Sn	**Sn**	**11 46 07.1**	**-0.7**
	5.0nm,0.3s,baz=105,slow=19,SNR=6.8						
NNA	**Nana**	**7.48**	**174**	Pn	**Pn**	**11 44 43.9**	**+0.7**
NNA				Sn	**Sn**	**11 46 07.2**	**-0.7**
LPAZ	**La Paz**	**15.00**	**142**	Pn	**Pn**	**11 46 27.2**	**+1.1**
	baz=315,slow=4.3,SNR=3.6						
LPAZ	**La Paz**	**15.00**	**142**	Pn	**Pn**	**11 46 27.2**	**+1.1**
SJG	**San Juan**	**25.18**	**27**	P	**P**	**11 48 19.6**	**0.0**
	10nm,0.4s,mb4.8,baz=207,slow=6.8,SNR=6.2						
SJG	**San Juan**	**25.18**	**27**	P	**P**	**11 48 19.6**	**0.0**
TXAR	**Lajitas Array**	**41.89**	**325**	P	**P**	**11 50 44.6**	**+0.2**
	0.4nm,0.8s,mb3.1,baz=148,slow=8.6,SNR=4.6						
TXAR				PcP	PcP	11 52 39.7	-0.5
	0.7nm,1.0s,baz=90,slow=1.8,SNR=3.1						
TXAR	**Lajitas Array**	**41.89**	**325**	P	**P**	**11 50 44.6**	**+0.2**
TXAR				PcP	PcP	11 52 39.7	-0.5
PDAR	**Pinedale Array**	**55.21**	**332**	P	**P**	**11 52 26.6**	**-0.2**
	1.4nm,1.1s,mb3.9,baz=146,slow=3.4,SNR=5.4						
PDAR	**Pinedale Array**	**55.21**	**332**	P	**P**	**11 52 26.6**	**-0.2**
ULM	**Lac du Bonnet**	**56.76**	**346**	P	**P**	**11 52 37.8**	**0.0**
	4.2nm,1.0s,mb4.4,baz=154,slow=12,SNR=3.1						
ULM	**Lac du Bonnet**	**56.76**	**346**	P	**P**	**11 52 37.8**	**0.0**
NVAR	**Mina Array Bea**	**56.91**	**322**	P	**P**	**11 52 40.3**	**+1.2**
	0.3nm,0.6s,mb3.5,baz=128,slow=6.9,SNR=2.9						
NVAR	**Mina Array Bea**	**56.91**	**322**	P	**P**	**11 52 40.3**	**+1.2**
TORD	**Torodi Ar. Bea**	**80.70**	**76**	P	**P**	**11 55 07.1**	**-0.7**
	0.3nm,0.3s,mb3.7,baz=278,slow=5.4,SNR=7.2						
TORD	**Torodi Ar. Bea**	**80.70**	**76**	P	**P**	**11 55 07.1**	**-0.7**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDU	**Mudurnu**	**0.62**	**239**	*e*PG	**Pg**	**11 57 46.8**	**-0.7**
MDU				*e*SG	**Sg**	**11 57 55.9**	**+0.4**
MDU	**Mudurnu**	**0.62**	**239**	*e*Pg	**Pg**	**11 57 47.2**	**-0.3**
MDU				*e*Sg	**Sg**	**11 57 56.3**	**+0.8**
KDZE	**Karadeniz Ereo**	**0.64**	**326**	*e*PG	**Pg**	**11 57 47.9**	**+0.1**
KDZE				*e*SG	**Sg**	**11 57 56.9**	**+0.8**
KDZE	**Karadeniz Ereo**	**0.64**	**326**	*e*Pg	**Pg**	**11 57 47.9**	**+0.1**
KDZE				*e*Sg	**Sg**	**11 57 56.9**	**+0.8**
SAFT	**Safranbolu**	**0.74**	**52**	*e*PG	**Pg**	**11 57 48.9**	**-1.0**
SAFT				*e*SG	**Sg**	**11 58 00.3**	**+0.8**
SAFT	**Safranbolu**	**0.74**	**52**	*e*Pg	**Pg**	**11 57 48.9**	**-1.0**
SAFT				*e*Sg	**Sg**	**11 58 00.3**	**+0.8**
LOD	**Lodumlu**	**1.11**	**144**	*e*PN	**Pg**	**11 57 54.8**	**-2.0**
LOD				*e*SN	**Sg**	**11 58 11.7**	**+0.5**
GULT	**Gulveren**	**1.12**	**252**	*e*PN	**Pg**	**11 57 56.6**	**-0.5**
GULT	**Gulveren**	**1.12**	**252**	*e*Pn	**Pg**	**11 57 56.6**	**-0.5**
ELDT	**Eldivan**	**1.19**	**104**	*i* P	**Pg**	**11 57 56.8**	**-1.6**
ELDT				*i* S	**Sg**	**11 58 13.3**	**-0.5**
ELDT	**Eldivan**	**1.19**	**104**	*i* P	**Pg**	**11 57 56.8**	**-1.6**
ELDT				*i* S	**Sg**	**11 58 13.3**	**-0.6**
SPNC	**Sapanca-Adapaz**	**1.22**	**266**	*e*PN	**Pn**	**11 57 58.9**	**-0.8**
SPNC	**Sapanca-Adapaz**	**1.22**	**266**	*e*Pn	**Pn**	**11 57 58.9**	**-0.8**
CANT	**Cankiri**	**1.31**	**97**	*e*PN	**Pn**	**11 57 59.8**	**-1.1**
GPA	**Golpazari**	**1.32**	**248**	*e*PN	**Pn**	**11 58 00.2**	**-0.8**
GPA	**Golpazari**	**1.32**	**248**	*e*Pn	**Pn**	**11 58 00.2**	**-0.8**
SVRH	**Sivrihisar-ESK**	**1.37**	**193**	*e*PN	**Pn**	**11 58 00.8**	**-0.9**
SVRH	**Sivrihisar-ESK**	**1.37**	**193**	*e*Pn	**Pn**	**11 58 00.8**	**-0.9**
BORA	**Eskisehir**	**1.44**	**231**	*i* P	**Pn**	**11 58 01.5**	**-1.1**
BORA				*i* S	**Sg**	**11 58 23.0**	**+1.2**
BORA	**Eskisehir**	**1.44**	**231**	*i* P	**Pn**	**11 58 01.5**	**-1.1**
BORA				*i* S	**Sg**	**11 58 23.0**	**+1.3**
ESKT	**Eskisehir**	**1.50**	**213**	*e*PN	**Pn**	**11 58 03.2**	**-0.3**
ESKT	**Eskisehir**	**1.50**	**213**	*e*Pn	**Pn**	**11 58 03.2**	**-0.3**
BBAL	**Bala**	**1.55**	**143**	*i* P	**Pg**	**11 58 05.0**	**-0.4**
BBAL				*i* S	**Sg**	**11 58 26.9**	**+1.5**
BBAL	**Bala**	**1.55**	**143**	*i* P	**Pg**	**11 58 04.9**	**-0.4**
BBAL				*i* S	**Sg**	**11 58 26.9**	**+1.5**
AFSR	**Afˇar-Bala (A**	**1.60**	**146**	*e*PN	**Pn**	**11 58 04.5**	**-0.5**
AFSR	**Afˇar-Bala (A**	**1.60**	**146**	*e*Pn	**Pn**	**11 58 04.5**	**-0.4**
TOS	**Tosya**	**1.62**	**80**	*e*PN	**Pn**	**11 58 04.6**	**-0.6**
TOS	**Tosya**	**1.62**	**80**	*e*Pn	**Pn**	**11 58 04.6**	**-0.5**
CAVI	**Cavuskoy**	**1.68**	**250**	*e*PN	**Pn**	**11 58 05.5**	**-0.5**
CAVI	**Cavuskoy**	**1.68**	**250**	*e*Pn	**Pn**	**11 58 05.5**	**-0.5**
ADVT	**Abdulvahap**	**1.69**	**259**	*e*PN	**Pn**	**11 58 05.6**	**-0.6**
ADVT	**Abdulvahap**	**1.69**	**259**	*e*Pn	**Pn**	**11 58 05.6**	**-0.5**
BRTR	**Keskin Array B**	**1.69**	**128**	Pn	**Pg**	**11 58 07.0**	**-1.1**
	149nm,0.3s,baz=310,slow=16,SNR=547						
BRTR				Sn	**Sg**	**11 58 30.8**	**+0.8**
	150nm,0.3s,baz=301,slow=23,SNR=5.5						
BRTR	**Keskin Array B**	**1.69**	**128**	Pn	**Pg**	**11 58 07.0**	**-1.1**
BRTR				Sn	**Sg**	**11 58 30.8**	**+0.8**
BRTR	**Keskin Array B**	**1.69**	**128**	P	**Pn**	**11 58 07.0**	**+0.9**
BRTR						11 58 30.8	
BRTR				pmax	pmax		
	comp=Z,149nm,0.3s						
BRTR				smax			
	comp=N,150nm,0.3s						
BRTR	**Keskin Array B**	**1.69**	**128**	Pn	**Pg**	**11 58 06.9**	**-1.2**
BRTR				S	**Sg**	**11 58 30.8**	**+0.8**
	comp=N,150nm,0.3s						
HRT	**Hereke**	**1.70**	**272**	*e*PN	**Pn**	**11 58 06.4**	**+0.1**
HRT	**Hereke**	**1.70**	**272**	*e*Pn	**Pn**	**11 58 05.9**	**-0.4**
SILT	**Sile**	**1.76**	**283**	*e*PN	**Pn**	**11 58 07.0**	**0.0**
SILT	**Sile**	**1.76**	**283**	*e*Pn	**Pn**	**11 58 07.0**	**0.0**
KIZT	**Kizilcal**	**1.90**	**181**	*e*PN	**Pn**	**11 58 08.6**	**-0.5**
KIZT	**Kizilcal**	**1.90**	**181**	*e*Pn	**Pn**	**11 58 08.6**	**-0.4**
YLV	**Yalova**	**1.94**	**264**	*e*PN	**Pn**	**11 58 09.0**	**-0.6**
YLV	**Yalova**	**1.94**	**264**	*e*Pn	**Pn**	**11 58 09.0**	**-0.6**
BZK	**Bozkurt**	**1.96**	**53**	*e*PN	**Pn**	**11 58 09.2**	**-0.6**
BZK	**Bozkurt**	**1.96**	**53**	*e*Pn	**Pn**	**11 58 09.3**	**-0.6**
GEMT	**Gemlik**	**2.10**	**261**	*e*PN	**Pn**	**11 58 11.6**	**-0.1**
GEMT	**Gemlik**	**2.10**	**261**	*e*Pn	**Pn**	**11 58 11.6**	**-0.2**
BUY	**Buyukada**	**2.12**	**273**	*i* P	**Pn**	**11 58 11.5**	**-0.5**
BUY				*i* S	**Sn**	**11 58 39.4**	**+0.5**
BUY	**Buyukada**	**2.12**	**273**	*i* P	**Pn**	**11 58 11.5**	**-0.5**
BUY				*i* S	**Sn**	**11 58 39.4**	**+0.5**
ISK	**Istanbul-Kandi**	**2.18**	**278**	*e*PN	**Pn**	**11 58 12.3**	**-0.5**
ISK	**Istanbul-Kandi**	**2.18**	**278**	*e*Pn	**Pn**	**11 58 12.3**	**-0.5**
BOLV	**Bolvadin**	**2.19**	**200**	*i* P	**Pn**	**11 58 12.1**	**-0.9**
BOLV				*i* S	**Sg**	**11 58 47.0**	**+0.9**
BOLV	**Bolvadin**	**2.19**	**200**	*i* P	**Pn**	**11 58 12.1**	**-0.9**
CDAG	**Cicekdag**	**2.21**	**121**	*i* P	**Pn**	**11 58 14.6**	**+1.3**
CDAG				*i* S	**Sn**	**11 58 42.0**	**+0.9**
CDAG	**Cicekdag**	**2.21**	**121**	*i* P	**Pn**	**11 58 14.6**	**+1.3**
CDAG				*i* S	**Sn**	**11 58 42.0**	**+0.8**
ALT	**Altintas**	**2.21**	**219**	*e*PN	**Pn**	**11 58 12.8**	**-0.5**
ALT	**Altintas**	**2.21**	**219**	*e*Pn	**Pn**	**11 58 12.8**	**-0.5**
KLYT	**Kilyos**	**2.22**	**283**	*e*PN	**Pn**	**11 58 13.1**	**-0.3**
KLYT	**Kilyos**	**2.22**	**283**	*e*Pn	**Pn**	**11 58 13.1**	**-0.3**
BYBT	**Boyabat**	**2.26**	**71**	*e*PN	**Pn**	**11 58 13.3**	**-0.7**
BYBT	**Boyabat**	**2.26**	**71**	*e*Pn	**Pn**	**11 58 13.3**	**-0.7**
ARMT	**Armutlu**	**2.33**	**266**	*e*PN	**Pn**	**11 58 14.4**	**-0.5**
ARMT	**Armutlu**	**2.33**	**266**	*e*Pn	**Pn**	**11 58 14.4**	**-0.5**
MDNY	**Mudanya-Bursa**	**2.34**	**261**	*e*PN	**Pn**	**11 58 15.1**	**0.0**
MDNY	**Mudanya-Bursa**	**2.34**	**261**	*e*Pn	**Pn**	**11 58 15.1**	**0.0**
BGKT	**Bogazkoy**	**2.41**	**280**	*e*PN	**Pn**	**11 58 15.6**	**-0.4**
BGKT	**Bogazkoy**	**2.41**	**280**	*e*Pn	**Pn**	**11 58 15.6**	**-0.4**
SHUT	**Suhut-Afyon**	**2.46**	**206**	*e*PN	**Pn**	**11 58 16.3**	**-0.4**
SHUT	**Suhut-Afyon**	**2.46**	**206**	*e*Pn	**Pn**	**11 58 16.3**	**-0.4**
GDZ	**Gediz**	**2.52**	**229**	*i* P	**Pn**	**11 58 15.8**	**-1.7**
GDZ	**Gediz**	**2.52**	**229**	*i* P	**Pn**	**11 58 15.8**	**-1.8**
CTKS	**Kestanelik-??a**	**2.62**	**281**	*e*PN	**Pn**	**11 58 19.0**	**+0.2**
CTKS	**Kestanelik-??a**	**2.62**	**281**	*e*Pn	**Pn**	**11 58 19.0**	**+0.2**
ELBA	**Catalca**	**2.66**	**279**	*i* P	**Pn**	**11 58 18.2**	**-1.2**
ELBA				*i* S	**Sn**	**11 58 53.2**	**+1.0**
ELBA	**Catalca**	**2.66**	**279**	*i* P	**Pn**	**11 58 18.2**	**-1.3**
ELBA				*i* S	**Sn**	**11 58 53.2**	**+1.0**
KCTX	**Karacabey (Bur**	**2.76**	**260**	*e*PN	**Pn**	**11 58 21.6**	**+0.7**
KCTX	**Karacabey (Bur**	**2.76**	**260**	*e*Pn	**Pn**	**11 58 21.6**	**+0.8**
DST	**Dursunbey**	**2.78**	**246**	*e*PN	**Pn**	**11 58 21.2**	**+0.1**
DST	**Dursunbey**	**2.78**	**246**	*e*Pn	**Pn**	**11 58 21.3**	**+0.1**
CTYL	**Yal??k??y-??at**	**2.82**	**285**	*e*PN	**Pn**	**11 58 22.3**	**+0.6**
CTYL	**Yal??k??y-??at**	**2.82**	**285**	*e*Pn	**Pn**	**11 58 22.3**	**+0.6**
SLVT	**Silivri**	**2.84**	**280**	*e*PN	**Pn**	**11 58 21.8**	**-0.1**
SLVT	**Silivri**	**2.84**	**280**	*e*Pn	**Pn**	**11 58 21.8**	**-0.1**
YOZ	**Yozgat**	**2.85**	**113**	*e*PN	**Pn**	**11 58 22.5**	**+0.5**
YOZ	**Yozgat**	**2.85**	**113**	*e*Pn	**Pn**	**11 58 22.5**	**+0.5**
KONT	**Konya--Tatoy**	**2.86**	**173**	*e*PN	**Pn**	**11 58 21.8**	**-0.3**
KONT	**Konya--Tatoy**	**2.86**	**173**	*e*Pn	**Pn**	**11 58 21.8**	**-0.3**
DURS	**Dursunbey**	**2.89**	**247**	*i* P	**Pn**	**11 58 21.4**	**-1.1**
DURS	**Dursunbey**	**2.89**	**247**	*i* P	**Pn**	**11 58 21.4**	**-1.2**
AVNT	**Avonos**	**3.02**	**130**	*i* P	**Pn**	**11 58 24.9**	**+0.5**
AVNT				*i* S	**Sg**	**11 59 09.7**	**-3.1**
AVNT	**Avonos**	**3.02**	**130**	*i* P	**Pn**	**11 58 24.9**	**+0.4**
BNT	**Bandirma**	**3.07**	**263**	*e*PN	**Pn**	**11 58 24.9**	**-0.2**
BNT	**Bandirma**	**3.07**	**263**	*e*Pn	**Pn**	**11 58 24.9**	**-0.2**
BALB	**Balikesir**	**3.29**	**251**	*e*PN	**Pn**	**11 58 29.0**	**+0.8**
BALB	**Balikesir**	**3.29**	**251**	*e*Pn	**Pn**	**11 58 29.0**	**+0.9**
GONE	**Gonen-Balikesi**	**3.31**	**259**	*e*PN	**Pn**	**11 58 28.6**	**+0.2**
GONE	**Gonen-Balikesi**	**3.31**	**259**	*e*Pn	**Pn**	**11 58 28.6**	**+0.2**
KULA	**Kula-Manisa**	**3.38**	**229**	*e*PN	**Pn**	**11 58 30.0**	**+0.6**
KULA	**Kula-Manisa**	**3.38**	**229**	*e*Pn	**Pn**	**11 58 30.0**	**+0.6**
BALY	**Balya**	**3.45**	**254**	*i* P	**Pn**	**11 58 29.4**	**-0.8**
BALY				*i* S	**Sg**	**11 59 27.2**	**+0.9**
BALY	**Balya**	**3.45**	**254**	*i* P	**Pn**	**11 58 29.4**	**-0.9**
BCK	**Bucak**	**3.48**	**198**	*e*PN	**Pn**	**11 58 31.2**	**+0.6**
BCK	**Bucak**	**3.48**	**198**	*e*Pn	**Pn**	**11 58 31.2**	**+0.5**
KRBG	**Karabiga-Canak**	**3.54**	**265**	*e*PN	**Pn**	**11 58 31.5**	**0.0**
KRBG	**Karabiga-Canak**	**3.54**	**265**	*e*Pn	**Pn**	**11 58 31.5**	**0.0**
BNN	**Bunyan**	**3.59**	**121**	*e*PN	**Pn**	**11 58 32.5**	**+0.2**
BNN	**Bunyan**	**3.59**	**121**	*e*Pn	**Pn**	**11 58 32.5**	**+0.2**
RKY	**Sarkoy-Tekirda**	**3.60**	**270**	*e*PN	**Pn**	**11 58 33.0**	**+0.7**
RKY	**Sarkoy-Tekirda**	**3.60**	**270**	*e*Pn	**Pn**	**11 58 33.0**	**+0.7**
AKS	**Akhisar**	**3.69**	**240**	*e*PN	**Pn**	**11 58 33.7**	**+0.2**
AKS	**Akhisar**	**3.69**	**240**	*e*Pn	**Pn**	**11 58 33.7**	**+0.2**
MANR	**Mangalia**	**3.91**	**322**	*i*P	**Pn**	**11 58 36.7**	**+0.1**
MANR	**Mangalia**	**3.91**	**322**	*i*P	**Pn**	**11 58 36.7**	**+0.1**
SEV	**Sevastopol'**	**3.98**	**18**	*e*P	**Pn**	**11 58 38.7**	**+1.2**
SEV				*e*S	**Sn**	**11 59 22.8**	**-1.8**
SEV	**Sevastopol'**	**3.98**	**18**	*e*P	**Pn**	**11 58 38.7**	**+1.2**
SEV				*e*S	**Sn**	**11 59 22.8**	**-1.8**
EDRB	**Edirne**	**4.03**	**287**	*e*PN	**Pn**	**11 58 38.2**	**-0.1**
EDRB	**Edirne**	**4.03**	**287**	*e*Pn	**Pn**	**11 58 38.2**	**-0.1**
YAL	**Yalta**	**4.05**	**23**	*e*P	**Pn**	**11 58 39.4**	**+0.8**
YAL				*e*S	**Sn**	**11 59 25.4**	**-1.2**
YAL	**Yalta**	**4.05**	**23**	*e*P	**Pn**	**11 58 39.4**	**+0.8**
YAL				*e*S	**Sn**	**11 59 25.4**	**-1.2**
SARI	**SarD1z-Kayseri**	**4.25**	**118**	*e*PN	**Pn**	**11 58 41.0**	**-0.2**
SARI	**SarD1z-Kayseri**	**4.25**	**118**	*e*Pn	**Pn**	**11 58 41.5**	**+0.2**
ALU	**Alushta**	**4.30**	**24**	*i*P	**Pn**	**11 58 46.9**	**+4.8**
ALU				*i* S	**Sn**	**11 59 35.6**	**+2.8**
ALU	**Alushta**	**4.30**	**24**	*i* P	**Pn**	**11 58 46.9**	**+4.8**
ALU				*i* S	**Sn**	**11 59 35.6**	**+2.8**
SIM	**Simferopol'**	**4.47**	**21**	*e*P	**Pn**	**11 58 47.0**	**+2.7**
SIM				*e*S	**Sn**	**11 59 36.1**	**-0.7**
SIM				pmax	pmax		
	comp=Z,43nm,0.8s						
SIM	**Simferopol'**	**4.47**	**21**	*e*P	**Pn**	**11 58 47.0**	**+2.7**
	comp=Z,43nm,0.8s						
SIM				*e*S	**Sn**	**11 59 36.1**	**-0.7**
TIRR	**Tirgusor**	**4.49**	**326**	*e*Pn	**Pn**	**11 58 43.9**	**-0.7**
TIRR				*e*Sn	**Sn**	**11 59 35.1**	**-2.2**
TIRR	**Tirgusor**	**4.49**	**326**	*e*P	**Pn**	**11 58 43.9**	**-0.7**
TIRR				*e*		11 59 35.1	
TIRR	**Tirgusor**	**4.49**	**326**	*i*P	**Pn**	**11 58 44.1**	**-0.5**
TIRR	**Tirgusor**	**4.49**	**326**	*e*P	**Pn**	**11 58 43.9**	**-0.7**
TIRR				*e*Sn	**Sn**	**11 59 35.1**	**-2.2**
KOZT	**Kozan**	**4.49**	**136**	*e*PN	**Pn**	**11 58 45.4**	**+0.8**
CVD	**Cernavoda**	**4.54**	**322**	*i*P	**Pn**	**11 58 46.0**	**+0.7**
CVD	**Cernavoda**	**4.54**	**322**	P	**Pn**	**11 58 46.0**	**+0.7**
SUDU	**Sudak**	**4.69**	**28**	*i*P	**Pn**	**11 58 48.5**	**+1.2**
SUDU				*i* S	**Sn**	**11 59 41.6**	**-0.6**
SUDU	**Sudak**	**4.69**	**28**	*i* P	**Pn**	**11 58 48.5**	**+1.2**
SUDU				*i* S	**Sn**	**11 59 41.6**	**-0.6**
FEO	**Feodosiya**	**4.94**	**30**	*e*P	**Pn**	**11 58 52.6**	**+1.8**
FEO	**Feodosiya**	**4.94**	**30**	*e*P	**Pn**	**11 58 52.6**	**+1.8**
TLCR		**4.95**	**334**	*i*P	**Pn**	**11 58 49.8**	**-1.1**
TLCR		**4.95**	**334**	P	**Pn**	**11 58 49.8**	**-1.1**
CFR	**Carcaliu**	**5.19**	**329**	*i*P	**Pn**	**11 58 53.4**	**-0.8**
CFR	**Carcaliu**	**5.19**	**329**	*i*P	**Pn**	**11 58 53.4**	**-0.8**
CFR	**Carcaliu**	**5.19**	**329**	P	**Pn**	**11 58 53.4**	**-0.8**
PGOR	**Pogoanele**	**5.49**	**320**	*i*P	**Pb**	**11 59 08.0**	**-4.1**
ZIMR		**5.64**	**303**	*i*P	**Pn**	**11 59 01.7**	**+1.2**
ANN	**Anapa**	**5.71**	**44**	*e*P	**Pn**	**11 58 59.8**	**-1.5**
ANN				pmax	pmax		
	comp=Z,139nm,1.3s						
ANN	**Anapa**	**5.71**	**44**	*e*P	**Pn**	**11 58 59.8**	**-1.5**
	comp=Z,139nm,1.3s						
GRER		**5.84**	**323**	*i*P	**Pn**	**11 59 04.0**	**+0.8**
GRER		**5.84**	**323**	*i*P	**Pn**	**11 59 04.0**	**+0.8**
ISR	**Istrita**	**5.85**	**319**	*i*P	**Pn**	**11 59 05.1**	**+1.8**
ISR	**Istrita**	**5.85**	**319**	*i*P	**Pn**	**11 59 05.1**	**+1.8**
ISR	**Istrita**	**5.85**	**319**	P	**Pn**	**11 59 05.1**	**+1.8**
LEOM	**Leova**	**6.28**	**336**	*i*P	**Pn**	**11 59 09.3**	**+0.2**
LEOM	**Leova**	**6.28**	**336**	P	**Pn**	**11 59 09.3**	**+0.2**
VRI	**Vrincioaia**	**6.33**	**325**	*i*P	**Pn**	**11 59 09.8**	**-0.1**
VRI	**Vrincioaia**	**6.33**	**325**	*i*P	**Pn**	**11 59 09.8**	**-0.1**
VRI	**Vrincioaia**	**6.33**	**325**	P	**Pn**	**11 59 09.8**	**-0.1**
PLOR	**Plostina**	**6.35**	**325**	*i*P	**Pn**	**11 59 10.9**	**+0.7**
PLOR	**Plostina**	**6.35**	**325**	*i*P	**Pn**	**11 59 10.4**	**+0.2**
PLOR	**Plostina**	**6.35**	**325**	P	**Pn**	**11 59 10.9**	**+0.7**
MLR	**Muntele Rosu**	**6.42**	**319**	Pn	**Pn**	**11 59 11.5**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=339,slow=15,SNR=11						
MLR				Sn	**Sn**	**12 00 25.6**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=73,slow=19,SNR=2.0						
MLR	**Muntele Rosu**	**6.42**	**319**	Pn	**Pn**	**11 59 11.5**	**+0.5**
MLR				Sn	**Sn**	**12 00 25.6**	**+0.9**
MLR	**Muntele Rosu**	**6.42**	**319**	P	**Pn**	**11 59 11.5**	**+0.5**
MLR						12 00 25.6	
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MLR				smax			
	comp=N,1.0nm,0.3s						
MLR	**Muntele Rosu**	**6.42**	**319**	*i*P	**Pn**	**11 59 11.7**	**+0.7**
MLR	**Muntele Rosu**	**6.42**	**319**	P	**Pn**	**11 59 11.5**	**+0.5**
	comp=N,1.0nm,0.3s						
MLR				Sn	**Sn**	**12 00 25.6**	**+0.8**
KIS	**Kishinev**	**6.60**	**341**	*e*P	**Pn**	**11 59 10.0**	**-3.6**
KIS	**Kishinev**	**6.60**	**341**	*e*P	**Pn**	**11 59 10.0**	**-3.6**
VTS	**Vitosha**	**6.76**	**288**	*i*P	**Pn**	**11 59 18.0**	**+2.2**
VTS	**Vitosha**	**6.76**	**288**	*i*P	**Pn**	**11 59 18.0**	**+2.2**
VOIR		**6.84**	**315**	*i*P	**Pn**	**11 59 17.5**	**+0.6**
VOIR		**6.84**	**315**	*i*P	**Pn**	**11 59 17.5**	**+0.6**
VOIR		**6.84**	**315**	P	**Pn**	**11 59 17.5**	**+0.6**
DOPR	**Dopca**	**7.03**	**320**	*i*P	**Pn**	**11 59 19.9**	**+0.5**
DOPR	**Dopca**	**7.03**	**320**	*i*P	**Pn**	**11 59 19.9**	**+0.5**
VAY	**Valandovo**	**7.08**	**277**	*e*Pn	**Pn**	**11 59 20.3**	**+0.1**
VAY	**Valandovo**	**7.08**	**277**	*e*Pn	**Pn**	**11 59 20.2**	**0.0**
LOT	**Lotru**	**7.56**	**311**	*i*P	**Pn**	**11 59 27.7**	**+0.9**
LOT	**Lotru**	**7.56**	**311**	*i*P	**Pn**	**11 59 27.7**	**+0.9**
BURAR	**Bucovina Array**	**8.35**	**327**	*i*P	**Pn**	**11 59 38.9**	**+1.3**
BURAR	**Bucovina Array**	**8.35**	**327**	*i*P	**Pn**	**11 59 38.9**	**+1.3**
BURAR	**Bucovina Array**	**8.35**	**327**	*i*P	**Pn**	**11 59 38.9**	**+1.3**
BUR08	**Bucovina Ar. S**	**8.38**	**327**	*e*Pn	**Pn**	**11 59 37.9**	**-0.1**
BUR08				*e*Sn	**Sn**	**12 01 10.3**	**-2.8**
BUR08	**Bucovina Ar. S**	**8.38**	**327**	*e*Pn	**Pn**	**11 59 37.9**	**-0.1**
ZEI	**Tsey**	**9.17**	**74**	*e*P	**Pn**	**11 59 55.9**	**+7.0**
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ASF	**Jabal al Asfar**	**9.48**	**153**	LR	LR	12 04 10.8	
	comp=Z,46nm,19.0s,baz=217,slow=42						
GNI	**Garni**	**9.80**	**90**	*e*P	**Pn**	**12 00 01.3**	**+3.8**
AKASG	**Malin Array Be**	**10.09**	**350**	Pn	**Pn**	**11 59 59.0**	**-2.4**
	comp=Z,5.2nm,0.3s,baz=165,slow=12,SNR=12						
AKASG				Sn	**Sn**	**12 01 46.1**	**-9.0**
	comp=Z,2.2nm,0.3s,baz=175,slow=23,SNR=3.7						
AKASG	**Malin Array Be**	**10.09**	**350**	Pn	**Pn**	**11 59 59.0**	**-2.4**
AKASG				Sn	**Sn**	**12 01 46.1**	**-9.0**
AKASG	**Malin Array Be**	**10.09**	**350**	P	**Pn**	**11 59 59.0**	**-2.4**
AKASG						12 01 46.1	
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.3s						
AKASG				smax			
	comp=N,2.0nm,0.3s						
CRVS	**Cervenica-Dubn**	**10.99**	**321**	*e*P	**Pn**	**12 00 11.2**	**-2.5**
CRVS	**Cervenica-Dubn**	**10.99**	**321**	*e*PN	**Pn**	**12 00 11.2**	**-2.5**
VSR	**Storozhevoye**	**11.58**	**23**	*e*P	**Pn**	**12 00 21.3**	**-0.5**
VSR				pmax	pmax		
	comp=Z,8.0nm,0.5s						
VSR				pmax	pmax		
	comp=N,5.0nm,0.4s						
VSR				pmax	pmax		
	comp=E,4.0nm,0.5s						
VSR	**Storozhevoye**	**11.58**	**23**	*e*P	**Pn**	**12 00 21.3**	**-0.5**
	comp=E,5.0nm,0.4s						
VYHS	**Vyhne**	**12.08**	**314**	*e*P	**Pn**	**12 00 27.7**	**-0.9**
VYHS	**Vyhne**	**12.08**	**314**	*e*PN	**Pn**	**12 00 27.7**	**-0.9**
VYHS	**Vyhne**	**12.08**	**314**	*e*P	**Pn**	**12 00 27.7**	**-0.9**
OBN	**Obninsk**	**14.67**	**11**	*i*P	**Pn**	**12 01 03.7**	**-0.2**
OBN				*i* S	**Sn**	**12 03 40.8**	**-6.1**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
OBN				MLR	MLR		
	comp=Z,100nm,14.0s						
VSU	**Vasula**	**18.00**	**351**	*e*P	**Pn**	**12 01 50.0**	**+3.3**
FINES	**FINESS Array B**	**20.99**	**352**	P	**P**	**12 02 19.6**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=150,slow=14,SNR=3.1						
FINES	**FINESS Array B**	**20.99**	**352**	P	**P**	**12 02 19.6**	**-0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**20.99**	**352**	P	**P**	**12 02 19.6**	**-0.3**
	comp=Z,2.0nm,0.7s						
HFS	**Hagfors**	**22.43**	**336**	P	**P**	**12 02 36.0**	**+0.7**
	comp=Z,3.6nm,0.8s,mb3.9,baz=138,slow=10.0,SNR=6.5						
HFS	**Hagfors**	**22.43**	**336**	P	**P**	**12 02 36.0**	**+0.6**
HFS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HFS	**Hagfors**	**22.43**	**336**	P	**P**	**12 02 36.0**	**+0.6**
	comp=Z,4.0nm,0.8s,mb3.9						
ARU	**Arti**	**23.35**	**39**	*d*P	**P**	**12 02 45.6**	**+0.5**
ARU				S	**S**	**12 06 54.8**	**-3.5**
ARU				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb3.8						
ARU	**Arti**	**23.35**	**39**	*i* P	**P**	**12 02 45.6**	**+0.5**
	comp=Z,5.0nm,1.2s,mb3.8						
NB2	**NORSAR Subarra**	**23.91**	**335**	P	**P**	**12 02 54.6**	**+4.1**
	comp=Z,3.7nm,0.8s,mb3.9,baz=138,slow=11						
NOA	**NORSAR Array B**	**23.91**	**335**	P	**P**	**12 02 51.5**	**+0.9**
	comp=Z,2.9nm,0.8s,mb3.7,baz=139,slow=11,SNR=5.1						
NOA	**NORSAR Array B**	**23.91**	**335**	P	**P**	**12 02 51.5**	**+1.0**
NOA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NOA	**NORSAR Array B**	**23.91**	**335**	P	**P**	**12 02 51.5**	**+1.0**
	comp=Z,3.0nm,0.8s,mb3.8						
KURK	**Kurchatov**	**33.56**	**57**	*e*P	**P**	**12 04 19.0**	**+2.3**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb4.0						
KURK	**Kurchatov**	**33.56**	**57**	*e*P	**P**	**12 04 19.0**	**+2.3**
	comp=Z,3.0nm,1.4s,mb4.0						
MKAR	**Makanchi Array**	**36.34**	**63**	P	**P**	**12 04 43.7**	**+3.0**
	comp=Z,0.6nm,0.5s,mb3.8,baz=280,slow=7.1,SNR=3.5						
MKAR	**Makanchi Array**	**36.34**	**63**	*e*P	**P**	**12 04 43.7**	**+3.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZALV	**Zalesovo Beam**	**37.29**	**51**	P	**P**	**12 04 51.0**	**+2.3**
	comp=Z,0.7nm,0.5s,mb3.8,baz=254,slow=11,SNR=5.0						
ZALV	**Zalesovo Beam**	**37.29**	**51**	*e*P	**P**	**12 04 51.2**	**+2.5**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
ZALV	**Zalesovo Beam**	**37.29**	**51**	*e*P	**P**	**12 04 51.2**	**+2.5**
	comp=Z,1.0nm,0.5s,mb3.9						
TORD	**Torodi Ar. Bea**	**38.16**	**233**	P	**P**	**12 04 54.5**	**-1.9**
	comp=Z,1.6nm,0.8s,mb3.8,baz=34,slow=9.3,SNR=15						
SONM	**Songino Array**	**51.85**	**56**	P	**P**	**12 06 48.1**	**+3.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=297,slow=8.6,SNR=4.3						
SONM	**Songino Array**	**51.85**	**56**	P	**P**	**12 06 48.1**	**+3.1**
CMAR	**Chiang Mai Arr**	**60.92**	**90**	P

comp=Z,0.4nm,0.3s,baz=230,slow=29,SNR=3.4
SONM LR LR 12 18 00.5
comp=Z,1μm,19.1s,baz=86,slow=40
SONM Songino Array 12.83 33 Pn **Pn 12 12 34.7 +1.4**
SONM Lg 12 16 23.5
SONM LR LR 12 18 00.5
SONM Songino Array 12.83 33 P **Pn 12 12 34.7 +1.4**
SONM pmax pmax
comp=Z,11nm,0.3s
SONM MLR MLR
comp=Z,1μm,19.1s
ODAN Odare 12.87 217 *e*P **Pn 12 12 33.6 -0.3**
comp=Z,54nm,0.7s
ULN Ulaanbaatar 13.15 35 *e*Pn **Pn 12 12 39.9 +2.3**
ULN *e*Sn **Sn 12 15 03.3 -1.1**
ULN Ulaanbaatar 13.15 35 *e*P **Pn 12 12 39.9 +2.3**
ULN *e* 12 15 03.3
ULN Ulaanbaatar 13.15 35 P **Pn 12 12 39.9 +2.3**
comp=Z,43nm,0.8s
ULN Ulaanbaatar 13.15 35 P **Pn 12 12 40.3 +2.7**
SNR=14
KKN Kakani 13.22 226 *e*P **Pn 12 12 38.7 -0.1**
comp=Z,36nm,0.6s
PKI Pulchoki 13.32 225 *e*P **Pn 12 12 39.6 -0.5**
comp=Z,116nm,0.8s
PKIN Phulchoki 13.32 225 *e*P **Pn 12 12 39.5 -0.6**
comp=Z,101nm,1.0s
ENH Enshi 13.38 119 *e*Pn **Pn 12 12 40.3 -0.7**
comp=Z,132nm,0.9s
GKN Gorkha 13.44 228 *e*P **Pn 12 12 41.1 -0.6**
comp=Z,80nm,0.9s
DMN Daman 13.46 226 *e*P **Pn 12 12 42.0 0.0**
comp=Z,74nm,0.8s
KMI Kunming 13.67 153 P **Pn 12 12 47.4 +2.5**
KMI pP 12 12 52.5
KMI sP 12 12 55.1
KMI PP 12 12 59.6
KMI S **Sn 12 15 23.3 +5.8**
KMI SS 12 15 38.6
KMI pmax pmax
comp=Z,9.0nm,0.9s
KMI pmax pmax
comp=Z,180nm,4.8s
KMI LR LR
comp=N,1μm,9.7s
KMI LR LR
comp=E,1μm,9.0s
KMI LR LR
comp=Z,2μm,9.9s
MK31 Makanchi Array 13.69 317 *e*Pn **Pn 12 12 43.2 -1.8**
MK31 *e*Sn **Sn 12 15 04.4 -13**
MK31 Makanchi Array 13.69 317 *e*P **Pn 12 12 43.2 -1.8**
MKAR Makanchi Array 13.69 317 Pn **Pn 12 12 42.2 -2.8**
comp=Z,4.1nm,0.3s,baz=129,slow=14,SNR=88
MKAR Sn **Sn 12 15 06.1 -11**
comp=Z,1.9nm,0.3s,baz=133,slow=27,SNR=3.2
MKAR Lg 12 16 48.3
baz=118,slow=27,SNR=2.3
MKAR Makanchi Array 13.69 317 Pn **Pn 12 12 42.2 -2.8**
MKAR Sn **Sn 12 15 06.2 -11**
MKAR Lg 12 16 48.3
MKAR Makanchi Array 13.69 317 P **Pn 12 12 42.2 -2.8**
MKAR pmax pmax
comp=Z,4.0nm,0.3s
DANN Dangsing 13.72 232 *e*P **Pn 12 12 44.3 -1.2**
comp=Z,48nm,0.8s
ZAK Zakamensk 13.87 20 *e*P Px 12 12 58.4
ZAK pmax pmax
comp=Z,13nm,1.1s
KOLN Koldanda 14.23 230 *e*P **Pn 12 12 51.2 -1.3**
comp=Z,52nm,0.9s
GYA Guiyang 14.31 138⇓ *i*P **Pn 12 12 53.4 -0.2**
GYA PP 12 13 04.5
GYA S **Sn 12 15 33.3 +0.3**
GYA SS 12 15 53.7
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,140nm,4.6s
GYA LR LR
comp=N,2μm,10.6s
GYA LR LR
comp=E,1μm,12.3s
GYA LR LR
comp=Z,2μm,11.6s
MOY Mondy 14.57 13 *e*P **Pn 12 13 05.8 +8.8**
MOY pmax pmax
comp=Z,94nm,1.6s
TLY Talaya 15.15 19 *e*P **Pn 12 13 05.5 +0.6**
comp=Z,68nm,1.4s
TLY Talaya 15.15 19 *e*P **Pn 12 13 12.6 +7.7**
TLY *e*S **Sn 12 15 55.4 +2.2**
TLY pmax pmax
comp=Z,47nm,1.3s
TLY MLR MLR
comp=Z,947nm,11.0s
TLY Talaya 15.15 19 P **Pn 12 13 13.8 +8.9**
comp=Z,187nm,1.2s,SNR=5.9
KSH Kashi 15.75 283 P **Pn 12 13 14.2 +1.4**
KSH pP pP 12 13 17.7 +0.7
KSH sP sP 12 13 21.2 +4.2
KSH PP 12 13 27.1
KSH S **Sn 12 16 08.7 +0.8**
KSH SS 12 16 28.0
KSH PcP PcP 12 18 14.3 +1.3
KSH pmax pmax
comp=Z,30nm,1.2s
KSH LR LR
comp=N,920nm,3.5s
KSH LR LR
comp=E,940nm,5.0s
KSH LR LR
comp=Z,810nm,4.7s
ULHL Ulahol 15.82 293 P **Pn 12 13 12.6 -1.2**
SNR=9.5
IRK Irkutsk 15.82 19 *e*P **Pn 12 13 16.7 +3.0**
IRK pmax pmax
comp=Z,168nm,1.5s
BJT Baijiatuau 15.97 75 *e*Pn **Pn 12 13 17.9 +2.2**
comp=Z,59nm,0.8s
BJT Baijiatuau 15.97 75 *e*P **Pn 12 13 17.9 +2.2**
BJT pmax pmax
comp=Z,59nm,0.8s
BJI Beijing 15.98 75 P **Pn 12 13 18.2 +2.4**
BJI S **Sn 12 16 16.6 +3.1**
BJI pmax pmax
comp=Z,100nm,0.9s
BJI pmax pmax
comp=Z,210nm,3.5s
BJI LR LR
comp=N,3μm,14.6s
BJI LR LR
comp=E,710nm,14.8s
BJI LR LR
comp=Z,650nm,19.1s
CAL Calcutta 16.33 206 *ex* x 12 16 41.7
CAL *ex* x 12 20 03.5
TKM2 Tokmak 2 16.42 295 P **Pn 12 13 19.7 -1.8**
SNR=142
TKM2 Tokmak 2 16.42 295 *e*Pn **Pn 12 13 19.6 -1.8**
comp=Z,90nm,0.6s
TKM2 *e*Sn **Sn 12 16 18.5 -5.8**
TKM2 Tokmak 2 16.42 295 *i*P **Pn 12 13 19.6 -1.9**
DDI Dehra Dun 16.48 249 *ex* x 12 13 30.0
KZA Kyzart 16.52 292 P **Pn 12 13 21.8 -0.9**
SNR=16
WHN Wuhan 16.77 109 ⇑P **Pn 12 13 29.3 +3.3**
WHN pmax pmax
comp=Z,130nm,0.8s
WHN LR LR
comp=N,2μm,6.2s
WHN LR LR
comp=E,3μm,7.6s
WHN LR LR
comp=Z,6μm,10.6s
KBK Karagaybulak 16.84 294 P **Pn 12 13 25.9 -0.8**
SNR=16
CHMS Chumysh 17.04 295 P **Pn 12 13 28.1 -1.3**
SNR=5.8
UCH Uchtor 17.08 293 P **Pn 12 13 29.5 -0.3**
SNR=5.2
FRU Bishkek 17.11 295⇓ *e*P **Pn 12 13 29.5 -0.7**
FRU *e*S **Sn 12 16 36.0 -4.9**
FRU pmax pmax
comp=Z,100nm,1.9s
FRU pmax pmax
comp=N,380nm,2.1s
AAK Ala-Archa 17.16 294 P **Pn 12 13 30.6 -0.3**
SNR=36
AAK Ala-Archa 17.16 294 *i*P **Pn 12 13 30.5 -0.3**
USP Ospenovka 17.28 296 P **Pn 12 13 31.0 -1.3**
SNR=37
AML Almayashu 17.67 292 P **Pn 12 13 38.7 +1.5**
SNR=43
EKS2 Erkin-Say 17.69 294 P **Pn 12 13 38.0 +0.6**
SNR=25
EKS2 Erkin-Say 17.69 294 *e*P **Pn 12 13 37.9 +0.5**
comp=N,21nm,0.8s
EKS2 Erkin-Say 17.69 294 *e*P **Pn 12 13 37.9 +0.5**
EKS2 pmax pmax
comp=Z,21nm,0.8s
CHRT Chiangrai 17.93 168 P **Pn 12 13 40.0 -0.5**
comp=Z,105nm,1.0s
KURK Kurchatov 18.05 322 P **Pn 12 13 39.6 -2.2**
comp=Z,1.1nm,0.3s,baz=133,slow=11,SNR=50
KURK S **Sn 12 16 57.5 -6.0**
comp=Z,0.3nm,0.3s,baz=124,slow=18,SNR=3.7
KURK Lg 12 19 12.6
baz=117,slow=30,SNR=3.1
KURK LR LR 12 20 28.3
comp=Z,271nm,18.9s,baz=110,slow=36
KURK Kurchatov 18.05 322 *e*Pn **Pn 12 13 39.4 -2.4**
comp=Z,84nm,0.9s
KURK *e*Sn **Sn 12 17 02.8 -0.7**
KURK Kurchatov 18.05 322 P **Pn 12 13 39.6 -2.2**
KURK S **Sn 12 16 57.5 -6.0**
KURK pmax pmax
comp=Z,1.0nm,0.3s
KURK MLR MLR
comp=Z,271nm,18.9s
KURK Kurchatov 18.05 322 P **Pn 12 13 40.1 -1.7**
SNR=31
ZAA0 Zalesovo Array 18.11 338 *e*Pn **Pn 12 13 41.8 -0.7**
ZALV Zalesovo Beam 18.11 338 P **Pn 12 13 41.4 -1.1**
comp=Z,1.5nm,0.3s,baz=149,slow=12,SNR=100
ZALV Lg 12 18 56.6
comp=Z,0.1nm,0.3s,baz=137,slow=26,SNR=3.5
ZALV LR LR 12 21 08.4
comp=Z,333nm,19.1s,baz=319,slow=39
ZALV Zalesovo Beam 18.11 338 P **Pn 12 13 41.4 -1.1**
ZALV Lg 12 18 56.6
ZALV LR LR 12 21 08.4
ZALV Zalesovo Beam 18.11 338 P **Pn 12 13 41.4 -1.1**
ZALV pmax pmax
comp=Z,2.0nm,0.3s
ZALV MLR MLR
comp=Z,333nm,19.1s
AGRA Agra 18.32 241 *e*PKP **Pn 12 13 44.4 -0.9**
SONA Sohna 18.32 245 *ex* **Pn 12 13 40.6 -4.6**
CHG Chiang Mai 18.85 171 ⇑P **Pn 12 13 52.9 +1.2**
comp=Z,16nm,0.8s
CHTO Chiang Mai 18.85 171 *e*Pn **Pn 12 13 52.3 +0.5**
comp=Z,15nm,1.0s
CHTO Chiang Mai 18.85 171 *e*P **Pn 12 13 52.3 +0.6**
CHTO pmax pmax
comp=Z,15nm,1.0s
CHTO Chiang Mai 18.85 171 P **Pn 12 13 53.5 +1.8**
comp=Z,18nm,1.1s
CIT Chita 19.05 35 *e*P **Pn 12 13 45.9 -8.1**
CIT pmax pmax
comp=Z,137nm,2.1s
CMAR Chiang Mai Arr 19.20 171 P **Pn 12 13 54.2 -1.7**
comp=Z,0.6nm,0.3s,baz=341,slow=11,SNR=36
CMAR PcP PcP 12 18 17.0 -1.9
comp=Z,0.2nm,0.3s,baz=318,slow=2.3,SNR=10
CMAR LR LR 12 21 35.7
comp=Z,531nm,20.4s,baz=347,slow=38
CMAR ScP ScP 12 21 54.9 -1.0
baz=330,slow=3.1,SNR=4.2
CMAR Chiang Mai Arr 19.20 171 P **Pn 12 13 54.2 -1.7**
CMAR PcP PcP 12 18 17.0 -1.9
CMAR LR LR 12 21 35.7
CMAR ScP ScP 12 21 54.9 -1.0
CMAR Chiang Mai Arr 19.20 171 P **Pn 12 13 54.3 -1.7**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR MLR MLR
comp=Z,531nm,20.5s
KHET Khetri 19.34 247 *e*PKP **Pn 12 13 56.2 -1.5**
NVS Novosibirsk 19.35 337⇑ *i*P **Pn 12 13 55.0 -2.6**
NVS *i*S **Sn 12 17 36.3 +1.3**
NVS pmax pmax
comp=N,45nm,0.9s
NVS pmax pmax
comp=Z,73nm,0.9s
NVS pmax pmax
comp=E,47nm,1.4s
NVS smax
comp=N,23nm,1.8s
NVS smax
comp=E,30nm,1.8s
NJ2 Nanjing 19.59 99 *e*P **Pn 12 14 08.6 +8.0**
NJ2 pP pP 12 14 12.6 +13
NJ2 sP sP 12 14 15.6 +16
NJ2 PP 12 14 28.5
NJ2 S **Sn 12 17 46.0 +5.0**
NJ2 sS sS 12 17 51.0 +10
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,220nm,4.8s
NJ2 LR LR
comp=N,1μm,18.5s
NJ2 LR LR
comp=E,1μm,11.6s
NJ2 LR LR
comp=Z,1μm,9.8s
KK31 Karatay Array 20.13 294 *i*P **P 12 14 05.4 +0.2**
KK31 pmax pmax
comp=Z,18nm,0.6s
KKAR Karatay Array 20.13 294 *e*Pn **P 12 14 05.5 +0.4**
KKAR Karatay Array 20.13 294 *e*P **P 12 14 05.5 +0.3**
BDT Bhumibol Dam 20.40 172 P **P 12 14 10.5 +2.2**
comp=Z,22nm,0.8s
GZH Guangzhou 20.77 129 P **P 12 14 10.7 -1.6**
GZH S **S 12 17 59.2 -5.8**
GZH LR LR
comp=Z,3μm,13.4s,MS4.8
HIA Hailar 20.80 48 *e*P **P 12 14 12.9 +0.6**
comp=Z,34nm,0.9s
HIA Hailar 20.80 48 *e*P **P 12 14 12.9 +0.5**
HIA pmax pmax
comp=Z,33nm,0.9s
AJM Ajmer 21.11 245 *e*PKP **P 12 14 15.0 -0.9**
BHPL Bhopal 21.35 233 *e*PKP **P 12 14 17.8 -0.7**
BHPL AMb AMB 12 14 19.1
comp=Z,144nm,0.5s,mb5.6
SNY Shenyang 21.66 70 ⇑P **P 12 14 22.0 +0.2**
SNY S **S 12 18 22.0 -0.3**
SNY pmax pmax
comp=Z,100nm,1.0s,mb5.2
SNY LR LR
comp=N,840nm,9.6s
SNY LR LR
comp=E,2μm,9.0s
SNY LR LR
comp=Z,2μm,8.9s
SSE Sheshan 21.79 100 P **P 12 14 18.7 -4.6**
SSE S **S 12 18 24.4 -0.6**
SSE pmax pmax
comp=Z,31nm,0.7s,mb4.8
SSE pmax pmax
comp=Z,350nm,5.5s
SSE LR LR
comp=N,890nm,19.5s,MS4.2
SSE LR LR
comp=E,420nm,19.5s,MS4.2
SSE LR LR
comp=Z,780nm,9.7s
NGP Nagpur 21.93 227 *ex* **P 12 14 21.3 -3.5**
NGP *ex* x 12 14 29.8
comp=Z,74nm,1.5s
NGP *e*S **S 12 18 23.4 -4.4**
QIZ Qiongzhong 22.09 143 P **P 12 14 28.4 +1.9**
QIZ pP 12 14 32.6
QIZ sP sP 12 14 35.5 +8.8
QIZ S **S 12 18 33.2 +2.2**
QIZ pmax pmax
comp=Z,200nm,4.8s
QIZ LR LR
comp=N,630nm,12.4s
QIZ LR LR
comp=E,310nm,9.2s
QIZ LR LR
comp=Z,810nm,12.1s,MS4.4
QIZ Qiongzhong 22.09 143 *e*P **P 12 14 27.1 +0.5**
comp=Z,68nm,1.1s,mb5.0
NST Nakhon Sawan 22.10 169 P **P 12 14 33.0 +6.4**
VIS Vishakhapatnam 22.64 213 *ex* x 12 14 23.5
VIS AMb AMB 12 14 27.2
comp=Z,61nm,1.4s,mb4.9
VOSK Vostochnaya 23.08 319 P **P 12 14 35.9 -0.8**
VOSK pmax pmax
comp=Z,75nm,1.1s,mb5.1
CN2 Changchun 23.17 65 *e*P **P 12 14 37.6 -0.2**
CN2 *es*P sP 12 14 44.6 +6.7
CN2 PP 12 15 07.8
CN2 *e*S **S 12 18 45.2 -5.0**
CN2 pmax pmax
comp=Z,40nm,0.8s,mb5.0
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,2μm,10.0s,MS4.9
CN2 LR LR
comp=E,1μm,10.0s,MS4.9
CN2 LR LR
comp=Z,2μm,10.0s,MS4.8
AKL Akola 23.48 230 *e*PKP **P 12 14 41.5 +0.3**
AKL AMb AMB 12 14 42.6
comp=Z,81nm,0.6s,mb5.5
BOD Bodaibo 23.51 25 *e*P **P 12 14 41.6 +0.4**
BOD pmax pmax
comp=Z,56nm,1.4s,mb4.9
BVA0 Borovoye Array 23.54 319 *i*P **P 12 14 41.5 -0.1**
BVA0 pmax pmax
comp=Z,16nm,1.4s,mb4.4
BRVK Borovoye 23.61 319 *e*P **P 12 14 41.9 -0.4**
comp=Z,67nm,0.6s,mb5.3
BRVK Borovoye 23.61 319 P **P 12 14 41.3 -1.0**
BRVK pmax pmax
comp=Z,87nm,0.6s,mb5.5
BRVK Borovoye 23.61 319 P **P 12 14 42.4 +0.1**
SNR=20
UBT Ubonrachathani 23.63 158⇓ P **P 12 14 43.0 +0.3**
INCN Inchon 24.30 81 *e*P **P 12 14 48.9 +0.1**
comp=Z,38nm,0.7s,mb5.0
INCN Inchon 24.30 81 P **P 12 14 49.1 +0.3**
SNR=5.2
NNT Nongplab 25.08 171 P **P 12 14 59.0 +3.0**
HYB Hyderabad 25.21 222 *i*P **P 12 14 58.0 +0.8**
HYB *e* 12 15 04.0
HYB *e*S **S 12 19 28.0 +4.5**
KSRS Korea Array 25.32 80 P **P 12 14 57.3 -0.8**
comp=Z,67nm,0.8s,mb5.4,baz=276,slow=9.6,SNR=127
KSRS LR LR 12 25 10.9
comp=Z,128nm,19.0s,MS3.5,baz=281,slow=37
KSRS Korea Array 25.32 80 P **P 12 14 57.3 -0.8**
KSRS pmax pmax
comp=Z,67nm,0.8s,mb5.4
KSRS MLR MLR
comp=Z,128nm,19.0s,MS3.5
NACB Ninganchiao 25.65 114 *e*P **P 12 15 02.3 +1.1**
MDJ Mudanjiang 26.20 64 P **P 12 15 05.4 -0.6**
MDJ pP 12 15 08.8
MDJ sP sP 12 15 10.0 +3.8
MDJ S **S 12 19 43.0 +4.1**
MDJ pmax pmax
comp=Z,7.0nm,1.2s,mb4.2
MDJ pmax pmax
comp=Z,160nm,10.6s
MDJ LR LR
comp=N,730nm,10.8s,MS4.6
MDJ LR LR
comp=E,760nm,11.7s,MS4.6
MDJ LR LR
comp=Z,900nm,11.7s,MS4.5
POO Poona 27.06 232 *e*PKP **P 12 15 13.4 -0.5**
POO AMb AMB 12 15 17.4
comp=Z,40nm,0.7s,mb5.3
CLNS Chul'man 27.23 36 *e*P **P 12 15 15.2 +0.1**
CLNS *e**PP 12 15 23.9
CLNS *e* 12 16 05.8
CLNS *e*SS 12 21 20.6
CLNS pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
CLNS pmax pmax
comp=N,7.0nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,0.9s
CLNS pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
CLNS pmax pmax
comp=N,11nm,1.0s
CLNS pmax pmax
comp=E,7.0nm,1.0s
CLNS MLR MLR
comp=Z,1μm,11.0s,MS4.8
CLNS MLR MLR
comp=N,535nm,11.0s
CLNS MLR MLR
comp=E,908nm,9.0s
KAD Karad 27.79 229 *e*PKP **P 12 15 19.9 -0.5**
KAD AMb AMB 12 15 23.1
comp=Z,16nm,0.7s,mb5.0
VLA Vladivostok 27.83 67⇓ *e*P **P 12 15 19.6 -1.0**
VLA S **S 12 20 03.1 -1.5**
VLA pmax pmax
comp=Z,13nm,0.8s,mb4.8
KLR Kul'dur 28.27 54 *e*P **P 12 15 20.2 -4.3**
KLR pmax pmax
comp=Z,38nm,1.4s,mb5.0
AB31 Akbulak array 28.38 306 *i*P **P 12 15 25.4 -0.1**
AB31 pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
ABKAR Akbulak array 28.38 306 *e*P **P 12 15 25.9 +0.3**
comp=Z,3.4nm,0.4s,mb4.5
IMYA Miami 28.56 279 *e*P **P 12 15 27.7 +0.5**
IAKL Akhelmad 29.56 280 *e*P **P 12 15 37.9 +1.8**
IKRD Kardeh 29.71 280 *e*P **P 12 15 30.4 -7.0**
IDAH Dahanechah 29.76 272 *e*P **P 12 15 39.1 +1.2**
ABKT Ailbek 29.77 283 P **P 12 15 40.9 +2.9**
comp=Z,129nm,1.1s,mb5.7,SNR=6.0
AKTK Aktyubinsk 29.83 308 P **P 12 15 38.8 +0.4**
AKTK LR LR 12 28 39.0
AKTO Aktyubinsk 29.83 308 P **P 12 15 38.8 +0.4**
comp=Z,34nm,0.8s,mb5.2,baz=94,slow=9.6,SNR=80
AKTO LR LR 12 28 39.0
comp=Z,206nm,21.1s,MS3.7,baz=102,slow=38
AKTO Aktyubinsk 29.83 308 P **P 12 15 38.8 +0.4**
AKTO pmax pmax
comp=Z,34nm,0.8s,mb5.2
AKTO MLR MLR
comp=Z,206nm,21.1s,MS3.7
SVE Sverdlovsk 30.29 321⇓ *i*P **P 12 15 42.7 +0.4**
SVE pmax pmax
comp=Z,38nm,0.9s,mb5.2
SVE MLR MLR
comp=Z,468nm,14.0s,MS4.3
ARU Arti 31.19 319 *e*P **P 12 15 50.3 0.0**
comp=Z,43nm,0.7s,mb5.5
ARU Arti 31.19 319*c i*P **P 12 15 50.2 -0.1**
ARU *e* 12 16 51.4
ARU *e*PPP 12 17 02.3
ARU *e* 12 18 42.8
ARU S **S 12 20 57.9 +0.9**
ARU SS SS 12 22 36.0 -34
ARU pmax pmax
comp=Z,65nm,1.0s,mb5.5
ARU Arti 31.19 319 P **P 12 15 50.4 +0.1**
comp=Z,395nm,0.8s,mb6.4,SNR=13
SOKR Solikamsk 33.27 324 *e*P **P 12 16 09.2 +0.7**
SOKR pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
SOKR MLR MLR
comp=Z,260nm,17.0s,MS4.0
MJAR Matsushiro Arr 33.55 79 P **P 12 16 09.1 -2.1**
comp=Z,3.1nm,0.9s,mb4.2,baz=284,slow=9.4,SNR=5.3
MJAR PcP PcP 12 18 51.0 -0.9
comp=Z,3.7nm,0.8s,baz=276,slow=3.1,SNR=7.2
MJAR Matsushiro Arr 33.55 79 P **P 12 16 09.1 -2.1**
MJAR PcP PcP 12 18 51.0 -0.9
MJAR Matsushiro Arr 33.55 79 P **P 12 16 09.1 -2.2**
MJAR 12 18 51.0
MJAR pmax pmax
comp=Z,3.0nm,1.0s
IANJ Anjilo 33.64 279 *e*P **P 12 16 14.1 +2.1**

ISHM Shahmirzad 34.03 280 *e*P **P** **12 16 18.0 +2.6**
PSI Prapat 34.68 175 PcP PcP 12 18 54.2 -1.2
comp=Z,8.9nm,0.7s,baz=340,slow=5.5,SNR=3.9
IDMV Damavand 35.08 280 *e*P **P** **12 16 26.8 +2.3**
ASAJ Asahikawa 35.53 64 P **P** **12 16 27.6 -0.6**
comp=Z,18nm,0.8s,mb5.0,baz=270,slow=7.9,SNR=14
ASAJ Asahikawa 35.53 64 *e*P **P** **12 16 25.3 -2.9**
ASAJ Asahikawa 35.53 64 P **P** **12 16 27.7 -0.6**
ASAJ pmax pmax
comp=Z,18nm,0.8s
IPAR Pars 36.25 271 *e*P **P** **12 16 35.5 +0.9**
ISRV Sarvestan 36.39 270 *e*P **P** **12 16 36.1 +0.3**
IRAZ Razeghan 36.77 281 *e*P **P** **12 16 41.2 +2.2**
YUK Yuzh-Kuril'sk 37.87 64 P **P** **12 16 53.9 +5.6**
YUK *e*PPP 12 18 19.8
YUK *e* 12 26 57.0
YUK pmax pmax
comp=Z,859nm,1.8s,mb6.2
YUK pmax pmax
comp=N,249nm,0.9s
YUK pmax pmax
comp=E,127nm,0.9s
YUK pmax pmax
comp=Z,300nm,0.9s,mb6.0
YUK MLR MLR
comp=Z,523nm,17.1s,MS4.4
MYLDM Lahad Datu 38.24 142 P **P** **12 16 54.0 +2.4**
comp=Z,1µmcomp=Z,150nm,1.1s,mb5.6
IBST Bostanabad 38.48 286 *e*P **P** **12 16 54.9 +1.4**
DGRG David-gareji 38.76 292 P **P** **12 16 56.0 +0.2**
IMRD Marand 39.13 288 *e*P **P** **12 17 00.8 +1.9**
MTA Mtatsminda 39.14 293 P **P** **12 16 59.9 +1.0**
TBLG Delisi 39.17 293 *e*P **P** **12 17 00.0 +0.8**
TBLG Delisi 39.17 293 P **P** **12 17 00.0 +0.8**
ISHB Shabestar 39.30 287 *e*P **P** **12 17 02.2 +1.9**
GNI Garni 39.51 290 P **P** **12 17 04.3 +2.3**
comp=Z,9.1nm,0.6s,mb4.6,baz=303,slow=23,SNR=8.0
GNI Garni 39.51 290 *e*P **P** **12 17 04.2 +2.2**
comp=Z,86nm,1.4s,mb5.2
GNI Garni 39.51 290 *e*P **P** **12 17 04.2 +2.2**
GNI pmax pmax
comp=Z,87nm,1.4s
GNI Garni 39.51 290 P **P** **12 17 04.9 +2.9**
SNR=9.7
GOR Gori 39.59 293 P **P** **12 17 03.6 +0.9**
ZEI Tsey 39.59 294 *e*P **P** **12 17 03.3 +0.6**
ZEI pmax pmax
comp=Z,20nm,1.4s,mb4.5
ONI Oni 39.95 294 P **P** **12 17 04.3 -1.4**
KIV Kislovodsk 40.25 296 *e*P **P** **12 17 07.9 -0.2**
comp=Z,35nm,1.0s,mb4.9
KIV Kislovodsk 40.25 296 *e*P **P** **12 17 07.0 -1.2**
KIV pmax pmax
comp=Z,30nm,1.0s,mb4.9
KIV MLR MLR
comp=Z,230nm,15.0s,MS4.2
KIV Kislovodsk 40.25 296 P **P** **12 17 09.8 +1.6**
SNR=6.3
ARTV Artvin 41.35 292 *i*P **P** **12 17 16.9 -0.4**
DAGI Agillar 41.39 292 *i*P **P** **12 17 19.2 +1.6**
VSR Storozhevoye 41.78 308 *e*P **P** **12 17 20.3 -0.3**
VSR pmax pmax
comp=Z,60nm,0.8s,mb5.4
VSR pmax pmax
comp=N,10.0nm,0.6s
VSR pmax pmax
comp=E,40nm,0.8s
KLMR Klimovskoe 41.90 322 *e*P **P** **12 17 18.8 -2.7**
KLMR pmax pmax
comp=Z,72nm,1.2s,mb5.3
KLMR pmax pmax
comp=Z,166nm,5.0s
KLMR MLR MLR
comp=Z,565nm,16.0s,MS4.5
ERZM Erzurum 42.08 291 *i*P **P** **12 17 25.1 +1.8**
SEY Seymchan 42.22 35 *e*P **P** **12 17 22.5 -1.6**
MOS Moscow 42.56 315 *e*P **P** **12 17 25.8 -1.1**
MOS *e* 12 17 31.1
MOS pmax pmax
comp=Z,105nm,0.7s,mb5.7
OBN Obninsk 43.17 314⇑ *e*P **P** **12 17 31.6 -0.3**
OBN *e* 12 19 10.6
OBN *e*S **S** **12 23 58.0 -1.1**
OBN *i*SS SS 12 27 22.1 +11
OBN pmax pmax
comp=Z,72nm,1.7s,mb5.1
OBN MLR MLR
comp=Z,500nm,20.0s,MS4.4
PETK Petropavlovsk- 44.70 49 P **P** **12 17 43.3 -0.9**
comp=Z,13nm,0.8s,mb4.9,baz=230,slow=5.1,SNR=22
PETK LR LR 12 37 33.2
comp=Z,103nm,19.0s,MS3.8,baz=90,slow=38
PETK Petropavlovsk- 44.70 49 P **P** **12 17 43.3 -0.9**
PETK LR LR 12 37 33.2
PETK Petropavlovsk- 44.70 49 P **P** **12 17 43.3 -0.9**
PETK pmax pmax
comp=Z,13nm,0.8s,mb4.9
PETK MLR MLR
comp=Z,103nm,19.0s,MS3.8
APA Apatity 45.49 331⇑ *e*P **P** **12 17 49.8 -0.5**
APA MLR MLR
comp=Z,1µm,17.0s,MS4.8
JOF Joensuu 45.94 325 *e*P **P** **12 17 52.1 -1.8**
JOF pmax pmax
comp=Z,18nm,0.5s,mb5.4
JOF Joensuu 45.94 325 *e*p **P** **12 17 52.1 -1.8**
comp=Z,18nm,0.5s,mb5.4
ANDN Andirin 46.51 289 *i*P **P** **12 18 00.0 +1.2**
CTKT Corum 46.72 294 *i*P **P** **12 18 00.4 0.0**
AVNT Avonos 47.24 291 *i*P **P** **12 18 05.3 +0.8**
BALT Daday 47.47 295 *i*P **P** **12 18 06.2 -0.1**
BRTR Keskin Array B 47.84 293 P **P** **12 18 09.7 +0.6**
comp=Z,14nm,0.6s,mb5.3,baz=93,slow=7.3,SNR=63
BRTR Keskin Array B 47.84 293 P **P** **12 18 09.7 +0.6**
BRTR Keskin Array B 47.84 293 P **P** **12 18 09.7 +0.6**
BRTR pmax pmax
comp=Z,15nm,0.6s
KEV Kevo 48.06 334 *e*P **P** **12 18 08.8 -1.6**
KEV pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
KEV Kevo 48.06 334 *e*p **P** **12 18 08.8 -1.6**
comp=Z,5.8nm,0.7s,mb4.8
AKASG Malin Array Be 48.08 308 P **P** **12 18 10.4 -0.4**
comp=Z,7.6nm,0.5s,mb5.1,baz=68,slow=7.2,SNR=36
AKASG Malin Array Be 48.08 308 P **P** **12 18 10.4 -0.4**
AKASG Malin Array Be 48.08 308 P **P** **12 18 10.4 -0.4**
AKASG pmax pmax
comp=Z,8.0nm,0.5s
KIEV Kiev 48.09 308 *e*P **P** **12 18 10.5 -0.4**
comp=Z,34nm,1.2s,mb5.4
KIEV Kiev 48.09 308 *e*P **P** **12 18 10.5 -0.4**
KIEV pmax pmax
comp=Z,34nm,1.2s,mb5.3
KAF Kangasniemi 48.27 324 *e*P **P** **12 18 10.8 -1.3**
KAF pmax pmax
comp=Z,8.0nm,0.5s,mb5.1
KAF Kangasniemi 48.27 324 *e*p **P** **12 18 10.8 -1.3**
comp=Z,8.3nm,0.5s,mb5.1
FINES FINESS Array B 48.42 323 P **P** **12 18 13.1 -0.2**
comp=Z,21nm,0.7s,mb5.4,baz=96,slow=8.6,SNR=28
FINES LR LR 12 40 11.3
comp=Z,159nm,18.9s,MS4.0,baz=311,slow=38
FINES FINESS Array B 48.42 323 P **P** **12 18 13.1 -0.2**
FINES LR LR 12 40 11.3
FINES FINESS Array B 48.42 323 P **P** **12 18 13.1 -0.2**
FINES pmax pmax
comp=Z,21nm,0.7s
FINES MLR MLR
comp=Z,159nm,18.9s
BILL Bilibino 48.48 28 *e*P **P** **12 18 13.9 +0.2**
comp=Z,6.6nm,0.6s,mb4.9
BILL Bilibino 48.48 28⇑ *e*P **P** **12 18 13.8 +0.1**
BILL *e* 12 20 07.8
BILL *e*S **S** **12 25 08.1 -7.3**
BILL pmax pmax
comp=Z,13nm,1.0s,mb5.0
BILL MLR MLR
comp=Z,200nm,14.0s,MS4.2
ARCES ARCESS Array B 48.57 334 P **P** **12 18 14.4 +0.1**
comp=Z,5.5nm,0.6s,mb4.8,baz=88,slow=8.5,SNR=30
ARCES PcP PcP 12 19 39.2 -0.7
comp=Z,3.5nm,0.7s,baz=83,slow=3.8,SNR=6.7
ARCES LR LR 12 41 16.2
comp=Z,173nm,19.1s,MS4.1,baz=90,slow=39
ARCES ARCESS Array B 48.57 334 P **P** **12 18 14.4 +0.1**
ARCES PcP PcP 12 19 39.2 -0.7
ARCES LR LR 12 41 16.2
ARCES ARCESS Array B 48.57 334 P **P** **12 18 14.4 0.0**
ARCES 12 19 39.3
ARCES pmax pmax
comp=Z,6.0nm,0.6s
ARCES MLR MLR
comp=Z,173nm,19.1s
NACGM Naroch 48.80 314 *e* **P** **12 18 12.0 -4.3**
CFR Carcaliu 50.10 301⇑ *i*P **P** **12 18 26.9 +0.5**
CFR Carcaliu 50.10 301⇑ *i*P **P** **12 18 26.8 +0.4**
BORA Eskisehir 50.11 294 *i*P **P** **12 18 26.5 0.0**
BOLV Bolvadin 50.14 293 *i*P **P** **12 18 27.1 +0.3**
VRI Vrincioaia 50.86 303⇓ *i*P **P** **12 18 33.2 +1.1**
VRI Vrincioaia 50.86 303⇑ *i*P **P** **12 18 33.1 +1.0**
PLOR Plostina 50.91 303⇑ *i*P **P** **12 18 33.5 +1.0**
PLOR Plostina 50.91 303⇓ *i*P **P** **12 18 33.9 +1.4**
BURAR Bucovina Array 51.36 305⇓ *i*P **P** **12 18 36.0 +0.1**
BURAR Bucovina Array 51.36 305⇓ *i*P **P** **12 18 36.4 +0.5**
MLR Muntele Rosu 51.49 302⇓ *i*P **P** **12 18 37.9 +1.0**
MLR Muntele Rosu 51.49 302⇑ *i*P **P** **12 18 37.7 +0.8**
LVV L'vov 51.52 308 *e*P **P** **12 18 37.1 +0.1**
DOPR Dopca 51.72 303⇓ *i*P **P** **12 18 39.1 +0.5**
VOIR 52.11 303⇓ *i*P **P** **12 18 42.0 +0.5**
VOIR 52.11 303⇓ *i*P **P** **12 18 42.0 +0.5**
BALY Balya 52.20 295 *i*P **P** **12 18 42.2 -0.1**
KWP Kalwaria Pacla 52.40 308 *e*P **P** **12 18 44.5 +0.9**
KWP Kalwaria Pacla 52.40 308 *e*P **P** **12 18 43.5 0.0**
comp=Z,96nm,0.9s,mb5.7
KWP Kalwaria Pacla 52.40 308 *e*P **P** **12 18 43.5 -0.1**
KWP pmax pmax
comp=Z,96nm,0.9s,mb5.7
TRPA Tarpa 52.94 306⇑ *i*P **P** **12 18 48.0 +0.4**
UZH Uzhgorod 52.95 307⇓ *i*P **P** **12 18 47.1 -0.6**
UZH *e* 12 19 00.0
UZH *i* 12 19 58.0
LOT Lotru 52.96 303⇓ *i*P **P** **12 18 48.7 +0.9**
DRGR 53.24 305⇓ *i*P **P** **12 18 50.8 +1.0**
DRGR 53.24 305⇑ *i*P **P** **12 18 50.6 +0.8**
STHS Stebnicka Huta 53.37 308 *e*P **P** **12 18 51.6 +0.8**
STHS pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
STHS Stebnicka Huta 53.37 308 *e*P **P** **12 18 51.6 +0.8**
CRVS Cervenica-Dubn 53.39 308 *e*P **P** **12 18 51.0 +0.1**
CRVS pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
CRVS Cervenica-Dubn 53.39 308 *e*P **P** **12 18 51.0 +0.1**
LIA Limnos Island 53.90 296 *e*P **P** **12 18 53.7 -1.1**
OJC Ojcow 54.03 310 *e*P **P** **12 18 55.7 +0.1**
OJC Ojcow 54.03 310 *e*P **P** **12 18 55.7 +0.1**
NVR Nevrokopi 54.30 298 *e*P **P** **12 18 57.2 -0.5**
VTS Vitosha 54.31 300⇑ *i*P **P** **12 18 58.6 +0.9**
BZS Buzias 54.34 304⇓ *i*P **P** **12 18 58.4 +0.5**
HFS Hagfors 54.62 323 P **P** **12 18 59.1 -0.6**
comp=Z,15nm,0.8s,mb5.1,baz=111,slow=8.1,SNR=25
HFS Hagfors 54.62 323 P **P** **12 18 59.1 -0.6**
HFS Hagfors 54.62 323 P **P** **12 18 59.1 -0.6**
HFS pmax pmax
comp=Z,15nm,0.8s
PSZ Piszkesteto 54.69 307 *e*P **P** **12 19 01.2 +0.8**
comp=Z,45nm,1.6s,mb5.2
PSZ Piszkesteto 54.69 307 *e*P **P** **12 19 01.2 +0.8**
PSZ pmax pmax
comp=Z,45nm,1.6s,mb5.2
PSZ Piszkesteto 54.69 307⇑ *e*P **P** **12 19 01.3 +0.9**
PLG Polygyros 54.95 297 *e*P **P** **12 19 01.8 -0.7**
VYHS Vyhne 55.17 308 *e*P **P** **12 19 04.8 +0.9**
VYHS pmax pmax
comp=Z,18nm,1.3s,mb4.9
VYHS Vyhne 55.17 308 *e*P **P** **12 19 04.8 +0.9**
VAY Valandovo 55.21 299 *e*P **P** **12 19 03.9 -0.5**
NEO Neokhori 55.52 296 *e*P **P** **12 19 06.1 -0.5**
MORC Moravsky Berou 55.55 310 *e*P **P** **12 19 07.1 +0.5**
comp=Z,5.2nm,0.5s,mb4.8
MORC Moravsky Berou 55.55 310⇑ *i*P **P** **12 19 07.1 +0.5**
MORC Moravsky Berou 55.55 310⇑ *i*P **P** **12 19 07.1 +0.5**
NB2 NORSAR Subarra 55.55 324 P **P** **12 19 05.5 -0.9**
comp=Z,14nm,0.7s,mb5.1,baz=71,slow=7.4
NOA NORSAR Array B 55.55 324 P **P** **12 19 05.8 -0.6**
comp=Z,16nm,0.8s,mb5.1,baz=73,slow=7.2,SNR=34
NOA LR LR 12 43 52.8
comp=Z,108nm,19.1s,MS4.0,baz=80,slow=37
NOA NORSAR Array B 55.55 324 P **P** **12 19 05.8 -0.6**
NOA LR LR 12 43 52.9
NOA NORSAR Array B 55.55 324 P **P** **12 19 05.8 -0.6**
NOA pmax pmax
comp=Z,16nm,0.8s
NOA MLR MLR
comp=Z,108nm,19.1s
VLY Voula,Athens 55.68 294 *e*P **P** **12 19 06.9 -0.9**
LKR Lokris 55.94 295 *e*P **P** **12 19 09.0 -0.6**
PKSM Moragy 56.08 305⇓ *i*P **P** **12 19 10.6 +0.1**
PKSM Moragy 56.08 305⇓ *i*P **P** **12 19 10.9 +0.4**
DPC Dobruska-Polom 56.10 311 *e*P **P** **12 19 11.2 +0.7**
DPC Dobruska-Polom 56.10 311 *e*P **P** **12 19 11.2 +0.7**
KRUS Krusevo 56.12 299 *e*P **P** **12 19 06.5 -4.3**
KZN Kozani 56.16 298 *e*P **P** **12 19 10.9 -0.2**
LTK Loutraki 56.21 295 *e*P **P** **12 19 09.3 -2.3**
DID Didima 56.23 294 *e*P **P** **12 19 09.3 -2.4**
AGG Agios Georgios 56.27 296 *e*P **P** **12 19 11.0 -0.9**
THL Klokotos Trika 56.28 297 *e*P **P** **12 19 10.7 -1.3**
VRAC Vranov 56.29 309⇑ *i*P **P** **12 19 12.8 +0.9**
EVR Evrytania 56.69 296 *e*P **P** **12 19 14.4 -0.5**
GUR Goura 56.70 295 *e*P **P** **12 19 13.3 -1.7**
EFP Efpalio 56.81 296 *e*P **P** **12 19 15.3 -0.5**
SOP Sopron 56.88 308⇑ *e*P **P** **12 19 16.8 +0.6**
CONA Conrad Observa 57.23 308⇑ *i*pP **P** **12 19 19.4 +0.8**
comp=Z,15nm,0.7s,mb5.1
RLS Riolos of Patr 57.28 295 *e*P **P** **12 19 18.0 -1.1**
PRU Pruhonice 57.30 311 *e*P **P** **12 19 20.6 +1.5**
PRU Pruhonice 57.30 311 *e*P **P** **12 19 20.6 +1.5**
BRG Berggiesshubel 57.34 312 *e*P **P** **12 19 19.7 +0.3**
comp=Z,38nm,1.5s,mb5.2
PYL PYLOS 57.57 294 *e*P **P** **12 19 19.2 -2.0**
FBE Freiberg 57.67 312 *e*P **P** **12 19 22.2 +0.5**
comp=Z,35nm,1.4s,mb5.2
ARSA Arzberg 57.70 307⇑ *i*pP **P** **12 19 22.1 +0.2**
comp=Z,8.7nm,0.6s,mb5.0
CLL Collm 57.74 313 *e*P **P** **12 19 22.3 +0.1**
comp=Z,30nm,1.2s,mb5.2
CLL Collm 57.74 313⇑ *i*P **P** **12 19 22.1 -0.1**
CLL *e* 12 19 32.0
CLL pmax pmax
comp=Z,30nm,1.2s,mb5.2
CLL MLR MLR
comp=Z,200nm,18.5s,MS4.3
CLL Collm 57.74 313⇑ *i*P **P** **12 19 22.1 -0.1**
comp=Z,30nm,1.2s,mb5.2
CLL *es*P sP 12 19 27.0 +4.7
CLL *e* 12 19 32.0
CLL *e*PP PP 12 21 32.0 +2.2
CLL Lm 12 45 00.0
comp=Z,200nm,18.5s
VLS Valsamata 57.86 296 *e*P **P** **12 19 21.4 -1.8**
PERS Pernice 58.19 307 *i*P **P** **12 19 25.5 +0.1**
KHC Kasperske Hory 58.20 310 *e*P **P** **12 19 25.6 +0.2**
comp=Z,2.0nm,0.4s,mb4.5
KHC Kasperske Hory 58.20 310 *e*P **P** **12 19 25.6 +0.2**
KHC pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
KHC Kasperske Hory 58.20 310 *e*P **P** **12 19 25.5 +0.1**
SOKA Soboth 58.22 307⇑ *i*pP **P** **12 19 25.8 +0.2**
comp=Z,17nm,0.6s,mb5.3
GEC2 GERESS Array S 58.23 310 *e*P **P** **12 19 26.0 +0.4**
comp=Z,14nm,1.1s,mb4.9
GEC2 GERESS Array S 58.23 310 *e*P **P** **12 19 26.0 +0.4**
GEC2 pmax pmax
comp=Z,14nm,1.1s,mb4.9
GERES GERESS Array B 58.23 310 P **P** **12 19 25.9 +0.2**
comp=Z,7.4nm,0.8s,mb4.8,baz=66,slow=6.4,SNR=41
GERES LR LR 12 45 24.3
comp=Z,177nm,18.5s,MS4.2,baz=341,slow=37
GERES GERESS Array B 58.23 310 P **P** **12 19 25.9 +0.2**
GERES LR LR 12 45 24.3
GERES GERESS Array B 58.23 310 P **P** **12 19 25.9 +0.3**
GERES pmax pmax
comp=Z,7.0nm,0.8s
GERES MLR MLR
comp=Z,177nm,18.5s
MOA Molln 58.26 308⇑ *i*pP **P** **12 19 26.4 +0.5**
comp=Z,11nm,0.7s,mb5.0,SNR=6.3
TANN Tannenbergstha 58.39 312 *e*P **P** **12 19 27.0 +0.3**
comp=Z,10.0nm,0.9s,mb4.8
WERD Werda 58.47 312 *e*P **P** **12 19 27.6 +0.3**
comp=Z,14nm,1.0s,mb5.0
GUNZ Gunzen 58.48 312 *e*P **P** **12 19 28.0 +0.6**
comp=Z,20nm,0.9s,mb5.2
WERN Wernitzgruen 58.49 312 *e*P **P** **12 19 28.0 +0.6**
comp=Z,14nm,0.8s,mb5.0
NEUB Neuenburg 58.49 313 *e*P **P** **12 19 27.9 +0.5**
comp=Z,25nm,0.8s,mb5.3
BOJS Bojanci 58.54 306 *i*P **P** **12 19 28.2 +0.4**
PLN Plauen 58.54 312 *e*P **P** **12 19 28.1 +0.3**
comp=Z,58nm,1.0s,mb5.6
OBKA Obir 58.60 307⇑ *i*pP **P** **12 19 28.5 +0.3**
comp=Z,12nm,0.9s,mb4.9
WET Wettzell 58.62 310 *e*P **P** **12 19 28.8 +0.5**
comp=Z,13nm,0.8s,mb5.0
WET Wettzell 58.62 310 *e*P **P** **12 19 28.8 +0.5**
WET pmax pmax
comp=Z,13nm,0.8s,mb5.0
VISS Visnje 58.69 306 *i*P **P** **12 19 28.9 0.0**
ROTZ Rotzenmuhle 58.78 311 *e*P **P** **12 19 30.3 +0.8**
comp=Z,20nm,0.9s,mb5.2
MOX Moxa 58.80 312 *e*P **P** **12 19 30.0 +0.4**
comp=Z,15nm,0.9s,mb5.0
MOX Moxa 58.80 312 *e*P **P** **12 19 30.0 +0.4**
MOX pmax pmax
comp=Z,15nm,0.9s,mb5.0
NRDL Niedersach Rie 58.97 315 *e*P **P** **12 19 31.4 +0.7**
comp=Z,58nm,1.2s,mb5.5
DAG Danmarks Havn 59.05 346 *i*P **P** **12 19 29.3 -1.6**
DAG *i* 12 20 17.2
DAG Danmarks Havn 59.05 346 *i*P **P** **12 19 29.3 -1.6**
comp=Z,5.7nm,0.9s,mb4.6
DAG *i* 12 20 17.2
CLZ Clausthal 59.06 314 *e*P **P** **12 19 32.2 +0.8**
comp=Z,30nm,0.9s,mb5.3
CLZ Clausthal 59.06 314 *e*P **P** **12 19 32.2 +0.8**
CLZ pmax pmax
comp=Z,30nm,0.9s,mb5.3
KBA Koelnbreinsper 59.13 308 *i*pP **P** **12 19 32.3 +0.4**
comp=Z,10nm,0.5s,mb5.1,SNR=12
JAVS Javornik 59.15 306 *i*P **P** **12 19 31.6 -0.5**
RJOB Jochberg 59.22 309 *e*P **P** **12 19 33.3 +0.8**
comp=Z,20nm,1.3s,mb5.0
GRF Grafenberg Arr 59.40 311 *e*P **P** **12 19 34.6 +0.8**
comp=Z,52nm,0.9s,mb5.6
GRF *e*L 12 49 39.1
comp=Z,138nm,19.2s
GRF Grafenberg Arr 59.40 311 *e*P **P** **12 19 34.6 +0.8**
GRF pmax pmax
comp=Z,52nm,0.9s,mb5.6
GRF MLR MLR
comp=Z,100nm,19.2s,MS4.0
ABTA Abfaltersbach 59.79 308⇑ *i*P **P** **12 19 35.9 -0.6**
comp=Z,12nm,0.8s,mb5.0,SNR=6.7
FUR Furstenfeldbru 59.98 310 *e*P **P** **12 19 38.8 +1.0**
comp=Z,53nm,0.8s,mb5.6
FUR Furstenfeldbru 59.98 310 *e*P **P** **12 19 38.8 +1.0**
FUR pmax pmax
comp=Z,53nm,0.8s,mb5.6
WTTA Wattenberg 60.13 309⇑ *i*pP **P** **12 19 39.0 +0.2**
comp=Z,27nm,0.5s,mb5.5,SNR=12
WATA Walderalm 60.13 309⇑ *i*pP **P** **12 19 38.9 +0.1**
comp=Z,12nm,0.6s,mb5.1
MOTA Moosalm 60.42 309⇑ *i*pP **P** **12 19 41.0 +0.1**
comp=Z,24nm,0.7s,mb5.3,SNR=12
CUC Castrocucco 60.45 300 *e*P **P** **12 19 40.7 -0.4**
comp=Z,22nm,0.8s,mb5.2
RETA Reutte 60.58 309⇑ *i*pP **P** **12 19 42.1 +0.3**
comp=Z,23nm,1.0s,mb5.3
FETA Feichten 60.79 309⇑ *i*P **P** **12 19 43.3 0.0**
comp=Z,26nm,1.1s,mb5.3,SNR=7.1
TNS Taunus Mts 60.83 313 *e*P **P** **12 19 43.8 +0.3**
comp=Z,15nm,1.2s,mb5.0
TNS Taunus Mts 60.83 313 *e*P **P** **12 19 43.8 +0.3**
TNS pmax pmax
comp=Z,15nm,1.2s,mb5.0
STU Stuttgart 60.99 311 *e*P **P** **12 19 45.1 +0.4**
comp=Z,19nm,0.6s,mb5.4
BUG Bochum--Univer 61.00 314 *e*P **P** **12 19 45.1 +0.4**
comp=Z,56nm,1.7s,mb5.4
DAVA Damuels 61.20 309⇑ *i*P **P** **12 19 46.2 0.0**
comp=Z,11nm,0.8s,mb5.1
SPAK Spaichingen-Ko 61.52 310 *e*P **P** **12 19 48.8 +0.5**
BFO Black Forest 61.70 311 *e*P **P** **12 19 49.5 0.0**
comp=Z,26nm,1.4s,mb5.3
BFO Black Forest 61.70 311 *e*P **P** **12 19 49.0 -0.5**
comp=Z,8.3nm,0.8s,mb5.0
BFO Black Forest 61.70 311 *e*P **P** **12 19 49.5 0.0**
BFO pmax pmax
comp=Z,26nm,1.4s,mb5.3
LANF Langenberg 61.73 312 *e*P **P** **12 19 49.8 +0.1**
LANF Langenberg 61.73 312 *e*P **P** **12 19 49.8 +0.1**
LANF Langenberg 61.73 312 *e*P **P** **12 19 49.8 +0.1**
RUP Ruppelstein 61.86 313 *e*P **P** **12 19 50.8 +0.3**
RUP Ruppelstein 61.86 313 *e*P **P** **12 19 50.8 +0.3**
TUE Stuetta 61.88 309 *e*P **P** **12 19 50.6 -0.1**
comp=Z,13nm,0.5s,mb5.4
FITZ Fitzroy Crossi 62.01 148 *e*P **P** **12 19 49.2 -2.6**
comp=Z,11nm,0.9s,mb5.1
MEM Membach 62.08 314 P **P** **12 19 52.3 +0.4**
FELD Feldberg im Sc 62.09 310 *e*P **P** **12 19 52.1 -0.1**
CDF Champ du Feu 62.30 311⇑ *i*P **P** **12 19 53.4 -0.1**
comp=Z,19nm,0.6s,mb5.2
WLF Walferdange 62.41 313 P **P** **12 19 55.7 +1.5**
comp=Z,30nm,1.4s,mb5.3
ECH Echery 62.45 311 *e*P **P** **12 19 54.3 -0.3**
comp=Z,28nm,1.4s,mb5.3
ECH Echery 62.45 311 *e*P **P** **12 19 54.3 -0.3**
ECH pmax pmax
comp=Z,28nm,1.4s,mb5.3
MBWA Marble Bar 62.54 155 *e*P **P** **12 19 55.8 +0.4**
comp=Z,28nm,1.2s,mb5.3
BCLA Clavier 62.56 314 P **P** **12 19 55.8 +0.5**
MOF Molkenrain 62.63 311 *e*P **P** **12 19 56.2 +0.5**
MOF Molkenrain 62.63 311 *e*P **P** **12 19 56.2 +0.5**
MOF Molkenrain 62.63 311 *e*P **P** **12 19 56.2 +0.5**
HINF Hinteralfeld 62.81 311⇑ *i*P **P** **12 19 56.7 -0.3**
comp=Z,24nm,0.8s,mb5.1
GIVF Givet 62.98 314 *e*P **P** **12 19 58.3 +0.3**
comp=Z,35nm,0.6s,mb5.3
HAU Haudompre 63.03 311 *e*P **P** **12 19 58.2 -0.2**
comp=Z,18nm,0.7s,mb5.0
HAU *e*R 12 19 58.2
comp=Z,336nm,17.5s
LOMF Lomont 63.04 310 *e*P **P** **12 19 58.6 +0.1**
LOMF Lomont 63.04 310 *e*P **P** **12 19 58.6 +0.1**
LOMF Lomont 63.04 310 *e*P **P** **12 19 58.6 +0.1**
SNF Seneffe 63.10 314 P **P** **12 19 59.3 +0.5**
DOU Dourbes 63.11 314 P **P** **12 19 59.4 +0.5**
comp=Z,21nm,2.7s,mb4.8
THEF They Montfort 63.15 311 *e*P **P** **12 19 59.3 +0.1**
THEF They Montfort 63.15 311 *e*P **P** **12 19 59.3 +0.1**
THEF They Montfort 63.15 311 *e*P **P** **12 19 59.3 +0.1**
PAGF Fort de Pagny 63.16 312 *e*P **P** **12 19 59.7 +0.5**
comp=Z,9.9nm,0.8s,mb4.7
BAIF Baives 63.35 314⇑ *i*P **P** **12 20 00.8 +0.3**
comp=Z,20nm,0.6s,mb5.1
MEZF Maizieres J'vi 63.58 312 *e*P **P** **12 20 02.3 +0.3**
comp=Z,24nm,0.6s,mb5.3
OG01 Vacheresse 63.60 309 *e*P **P** **12 20 02.0 -0.2**
OG01 Vacheresse 63.60 309 *e*P **P** **12 20 02.0 -0.2**
SFTF Sexfontaines 63.72 312 *e*P **P** **12 20 02.8 -0.2**
comp=Z,21nm,0.6s,mb5.2
CABF La Chapelle 63.83 310⇑ *i*P **P** **12 20 03.4 -0.3**
comp=Z,12nm,0.7s,mb4.9
PGF Pioggiola 63.88 305⇑ *i*P **P** **12 20 04.5 +0.4**
comp=Z,43nm,0.8s,mb5.4
RSL Roselend 63.93 309 *e*P **P** **12 20 04.5 +0.1**
RSL Roselend 63.93 309 *e*P **P** **12 20 04.5 +0.1**
RSL Roselend 63.93 309 *e*P **P** **12 20 04.5 +0.1**
LPG La Plagne 63.94 308⇑ *i*P **P** **12 20 05.3 +0.8**
comp=Z,51nm,0.7s,mb5.6
LPL La Plagne 63.94 309⇑ *i*P **P** **12 20 05.2 +0.7**
comp=Z,29nm,0.4s,mb5.5
SAOF Saorge 64.14 307 *e*P **P** **12 20 06.1 +0.3**
SAOF Saorge 64.14 307 *e*P **P** **12 20 06.1 +0.3**
SAOF Saorge 64.14 307 *e*P **P** **12 20 06.1 +0.3**
SBF Sospel 64.27 307⇑ *i*P **P** **12 20 06.7 0.0**
comp=Z,72nm,0.6s,mb5.8
MBDF Montbardon 64.29 308 *e*P **P** **12 20 06.2 -0.6**
comp=Z,21nm,0.6s,mb5.2
COLD Coldfoot 64.30 23 *e*P **P** **12 20 06.5 0.0**
comp=Z,34nm,0.9s,mb5.6
LUCF Luceram 64.32 307 *e*P **P** **12 20 07.1 +0.1**
LUCF Luceram 64.32 307 *e*P **P** **12 20 07.1 +0.1**
TOUF Mont Tournerai 64.32 307 *e*P **P** **12 20 07.1 +0.1**

TOUF Mont Tournerai 64.32 307 *e*P **P 12 20 07.1 +0.1**
TOUF Mont Tournerai 64.32 307 *e*P **P 12 20 07.1 +0.1**
MVIF Mont Vial 64.44 307 *e*P **P 12 20 07.5 -0.3**
MVIF Mont Vial 64.44 307 *e*P **P 12 20 07.5 -0.3**
MVIF Mont Vial 64.44 307 *e*P **P 12 20 07.5 -0.3**
ORIF Oris-en-Rattie 64.76 308⇑*i*P **P 12 20 09.7 -0.1**
comp=Z,34nm,0.6s,mb5.5
ORIF *e*R
comp=Z,300nm,17.8s
LOR Lormes 64.87 311⇑*i*P **P 12 20 09.7 -0.8**
comp=Z,26nm,0.9s,mb5.1
LOR *e*R
comp=Z,229nm,17.2s
FRF La Foret Royal 64.92 307 *e*P **P 12 20 10.5 -0.4**
comp=Z,18nm,0.7s,mb5.1
AKUT Akutan 64.97 40 *e*P **P 12 20 10.3 -0.7**
comp=Z,321nm,2.0s,mb6.2
LMR La Mourre 65.12 306⇑*i*P **P 12 20 11.9 -0.3**
comp=Z,15nm,0.6s,mb5.1
SMF Signal de Mont 65.18 311⇑*i*P **P 12 20 12.2 -0.3**
comp=Z,56nm,0.7s,mb5.6
SSF Saint Saulge 65.18 311 *e*P **P 12 20 11.9 -0.6**
comp=Z,10nm,0.6s,mb5.0
AVF Avril sur Loir 65.40 311⇑*i*P **P 12 20 13.6 -0.4**
comp=Z,37nm,0.8s,mb5.3
SMRF Simiane la Rot 65.40 307⇑*i*P **P 12 20 14.1 +0.1**
comp=Z,12nm,0.9s,mb4.8
VIVF Saint-Julien-l 65.54 309⇑*i*P **P 12 20 14.7 -0.2**
comp=Z,24nm,0.8s,mb5.2
SUMG Summit 65.73 346 *e*P **P 12 20 15.0 -0.7**
comp=Z,27nm,1.2s,mb5.3
SUMG Summit 65.73 346 *e*P **P 12 20 15.0 -0.7**
SUMG pmax pmax
comp=Z,27nm,1.2s
SUMG Summit 65.73 346 *i*P **P 12 20 15.1 -0.6**
comp=Z,10nm,1.1s,mb5.0
BGF Bois d'Agland 65.82 311⇑*i*P **P 12 20 16.3 -0.4**
comp=Z,27nm,0.7s,mb5.3
AGO Saint Agoulin 65.90 310 *e*P **P 12 17.3 +0.1**
AGO Saint Agoulin 65.90 310 *e*P **P 12 20 17.3 +0.1**
BPAW Bear Paw Mtn. 65.90 26 *e*P **P 12 20 17.1 +0.1**
comp=Z,14nm,0.8s,mb5.2
SVW2 Sparrevohn 65.93 30 *e*P **P 12 20 17.1 0.0**
comp=Z,35nm,1.2s,mb5.5
PYM Petit Puy Mans 66.12 310 *e*P **P 12 20 18.7 +0.1**
PYM Petit Puy Mans 66.12 310 *e*P **P 12 20 18.7 +0.1**
PYM Petit Puy Mans 66.12 310 *e*P **P 12 20 18.7 +0.1**
PPLA Purkeypile 66.19 28 *e*P **P 12 20 19.4 +0.6**
comp=Z,96nm,1.4s,mb5.8
LBL Lubilhac 66.23 310 *e*P **P 12 20 19.3 -0.1**
LBL Lubilhac 66.23 310 *e*P **P 12 20 19.3 -0.1**
LBL Lubilhac 66.23 310 *e*P **P 12 20 19.3 -0.1**
TCF Toulx Ste Croi 66.33 311⇑*i*P **P 12 20 20.0 0.0**
comp=Z,33nm,0.7s,mb5.4
KMBO Kilima Mbogo 66.34 249 *e*P **P 12 20 21.0 +0.5**
comp=Z,12nm,1.4s,mb4.9
KMBO Kilima Mbogo 66.34 249 *e*P **P 12 20 21.0 +0.5**
KMBO pmax pmax
comp=Z,12nm,1.4s
LASF Ste Croix 66.43 308⇑*i*P **P 12 20 20.8 +0.1**
comp=Z,36nm,0.8s,mb5.4
COLA College 66.50 25 *e*P **P 12 20 20.5 -0.2**
comp=Z,25nm,0.9s,mb5.5
COLA College 66.50 25 *e*P **P 12 20 20.5 -0.2**
COLA pmax pmax
comp=Z,25nm,0.9s,mb5.4
LDF La Druitiere 66.54 314⇑*i*P **P 12 20 20.8 -0.5**
comp=Z,20nm,0.5s,mb5.3
TRF Thorofare Moun 66.55 27 *e*P **P 12 20 21.1 +0.1**
comp=Z,8.3nm,0.8s,mb5.0
FLN La Foliniere 66.66 314 *e*P **P 12 20 21.8 -0.2**
comp=Z,21nm,0.7s,mb5.2
FLN *e*R
comp=Z,344nm,20.2s
MCK McKinley 66.85 26 *e*P **P 12 20 22.9 -0.1**
comp=Z,9.5nm,0.8s,mb5.1
MCK McKinley 66.85 26 *e*P **P 12 20 22.9 -0.1**
MCK pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
ILAR Eielson Array 66.88 24 P **P 12 20 22.1 -1.0**
comp=Z,9.9nm,0.8s,mb5.1,baz=295,slow=5.2,SNR=97
ILAR LR LR 12 53 14.2
comp=Z,162nm,18.7s,MS4.3,baz=323,slow=39
ILAR Eielson Array 66.88 24 P **P 12 20 22.1 -1.0**
ILAR LR LR 12 53 14.2
ILAR Eielson Array 66.88 24 P **P 12 20 22.2 -1.0**
ILAR pmax pmax
comp=Z,10.0nm,0.8s
ILAR MLR MLR
comp=Z,162nm,18.7s
KEST Kesra 66.97 298 P **P 12 20 23.4 -0.8**
comp=Z,2.3nm,0.6s,mb4.6,baz=301,slow=3.2,SNR=8.1
KEST LR LR 12 54 41.4
comp=Z,28nm,19.0s,MS3.5,baz=261,slow=40
KEST Kesra 66.97 298 *e*P **P 12 20 24.4 +0.2**
GRR Gorron 67.07 314⇑*i*P **P 12 20 24.3 -0.3**
comp=Z,75nm,0.6s,mb5.8
CAF Calviac 67.11 310⇑*i*P **P 12 20 25.4 +0.4**
comp=Z,18nm,0.7s,mb5.1
RJF Les Rejaudoux 67.25 310⇑*i*P **P 12 20 26.2 +0.3**
comp=Z,21nm,0.8s,mb5.2
RJF *e*R
comp=Z,202nm,17.4s
RSO Redoubt South 67.42 30 *e*P **P 12 20 27.2 +0.5**
comp=Z,60nm,0.8s,mb5.9
MFF Saint Martin d 67.58 312⇑*i*P **P 12 20 27.7 -0.2**
comp=Z,28nm,0.8s,mb5.2
WRAB Tennant Creek 67.65 141 *e*P **P 12 20 27.5 -1.1**
comp=Z,26nm,1.1s,mb5.4
WRAB Tennant Creek 67.65 141 *e*P **P 12 20 27.5 -1.1**
WRAB pmax pmax
comp=Z,26nm,1.1s,mb5.4
WRAB Tennant Creek 67.65 141 P **P 12 20 27.5 -1.1**
comp=Z,128nm,0.9s,mb6.2,SNR=6.7
WRAB Tennant Creek 67.65 141 P **P 12 20 28.0 -0.6**
comp=Z,42nm,1.2s,mb5.5
WRA Warramunga Arr 67.65 141 P **P 12 20 27.8 -0.8**
comp=Z,13nm,0.9s,mb5.2,baz=339,slow=6.5,SNR=36
WRA Warramunga Arr 67.65 141 P **P 12 20 27.8 -0.8**
WRA Warramunga Arr 67.65 141 P **P 12 20 27.8 -0.8**
WRA pmax pmax
comp=Z,13nm,0.9s
MTLF Montolieu 67.83 308⇑*i*P **P 12 20 29.6 0.0**
comp=Z,14nm,0.8s,mb5.0
LFF La Frestale 67.91 310⇑*i*P **P 12 20 30.4 +0.4**
comp=Z,50nm,0.6s,mb5.6
SGMF Saint Gilles 68.10 315⇑*i*P **P 12 20 31.3 +0.1**
comp=Z,46nm,0.7s,mb5.5
PMR Palmer 68.12 28 *e*P **P 12 20 30.1 -0.9**
comp=Z,28nm,1.0s,mb5.5
PMR Palmer 68.12 28 *e*P **P 12 20 30.1 -1.0**
PMR pmax pmax
comp=Z,28nm,1.0s,mb5.5
INK Inuvik 68.21 18 *e*P **P 12 20 30.9 -0.6**
comp=Z,26nm,1.0s,mb5.4
INK Inuvik 68.21 18 *e*P **P 12 20 30.9 -0.6**
INK pmax pmax
comp=Z,25nm,1.0s
SML Sawmill 68.28 27 *e*P **P 12 20 32.0 -0.1**
comp=Z,14nm,0.9s,mb5.2
SML Sawmill 68.28 27 *e*P **P 12 20 32.0 -0.1**
SML pmax pmax
comp=Z,14nm,0.9s,mb5.2
CLLI Llivia 68.43 307 P **P 12 20 34.6 +1.2**
ROSF Rostrenen 68.46 315 *e*P **P 12 20 33.6 +0.1**
PAX Paxson 68.54 26 *e*P **P 12 20 32.8 -0.9**
comp=Z,8.7nm,1.0s,mb4.9
PAX Paxson 68.54 26 *e*P **P 12 20 32.8 -0.8**
PAX pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
QUIF Quistinic 68.63 314 *e*P **P 12 20 34.5 0.0**
comp=Z,34nm,0.6s,mb5.4
EGAK Eagle 68.70 23 *e*P **P 12 20 34.4 -0.3**
comp=Z,32nm,1.1s,mb5.5
EMIR Miracle 69.01 307 P **P 12 20 37.3 +0.3**
comp=Z,219nm,2.6s,mb5.9
CSOR Sort 69.01 308 P **P 12 20 36.8 -0.2**
comp=Z,387nm,6.2s
KDAK Kodiak Island 69.12 32 *i*P **P 12 20 36.5 -0.9**
KDAK Kodiak Island 69.12 32 P **P 12 20 36.0 -1.4**
comp=Z,278nm,1.6s,mb6.2,SNR=8.6
EPF Esparros 69.16 309⇑*i*P **P 12 20 37.3 -0.6**
comp=Z,10nm,0.6s,mb5.0
OHAK Old Harbor 69.16 33 *e*P **P 12 20 35.5 -2.2**
comp=Z,32nm,1.0s,mb5.5
EBIE Bielsa 69.47 308 P **P 12 20 40.3 +0.5**
comp=Z,426nm,4.4s

DIV Divide 69.66 27 *e*P **P 12 20 41.0 +0.3**
comp=Z,18nm,0.7s,mb5.3
DAWY Dawson 69.75 23 *e*P **P 12 20 40.9 -0.3**
ETSF Etsaut 69.79 309 *e*P **P 12 20 42.1 +0.3**
comp=Z,36nm,1.0s,mb5.2
SJPF Ste Jean 70.08 309 *e*P **P 12 20 44.3 +0.7**
comp=Z,33nm,0.8s,mb5.2
BMRM Bremner River 70.19 27 *e*P **P 12 20 43.6 -0.2**
comp=Z,30nm,1.0s,mb5.4
ERTA Horta de San J 70.28 307 P **P 12 20 44.8 0.0**
comp=Z,320nm,4.2s
ASAR Alice Springs 70.59 143 P **P 12 20 46.5 -0.3**
comp=Z,9.8nm,0.7s,mb5.0,baz=330,slow=6.0,SNR=50
ASAR Alice Springs 70.59 143 P **P 12 20 46.5 -0.3**
ASAR Alice Springs 70.59 143 P **P 12 20 46.5 -0.3**
ASAR pmax pmax
comp=Z,10.0nm,0.7s
EMOS Mosqueruela 71.11 307 P **P 12 20 50.5 +0.5**
comp=Z,390nm,6.9s
ELAN Lanestosa 71.36 310 P **P 12 20 52.2 +0.9**
comp=Z,1µm,5.0s
KLBR Kellerberrin 71.74 160 *e*P **P 12 20 52.6 -0.9**
comp=Z,33nm,1.1s,mb5.4
ECHE Chera 71.86 306 P **P 12 20 54.6 +0.1**
ECHE Chera 71.86 306 P **P 12 20 54.6 +0.2**
SFJD Kangerlussuaq 72.71 347 *i*P **P 12 20 57.3 -1.7**
SFJD pmax pmax
comp=Z,13nm,0.9s,mb5.1
SFJD Kangerlussuaq 72.71 347 *i*P **P 12 20 57.3 -1.7**
comp=Z,13nm,0.9s,mb5.1
EMUR La Murta 73.02 305 P **P 12 21 01.7 +0.3**
comp=Z,273nm,4.7s
EVIA Vianos 73.38 306 P **P 12 21 04.2 +0.7**
comp=Z,14nm,0.8s,mb5.2
EVIA Vianos 73.38 306 P **P 12 21 04.2 +0.7**
EVIA pmax pmax
comp=Z,14nm,0.8s,mb5.1
ESDC Sonseca Array 73.72 308 P **P 12 21 05.5 +0.1**
comp=Z,6.8nm,0.5s,mb4.9,baz=46,slow=5.9,SNR=26
ESDC LR LR 12 54 27.5
comp=Z,89nm,18.2s,MS4.1,baz=5.0,slow=37
ESDC Sonseca Array 73.72 308 P **P 12 21 05.9 +0.4**
comp=Z,5.7nm,0.5s,mb4.9
PBRG Braganca 74.18 311 *e*P **P 12 21 08.5 +0.3**
comp=Z,29nm,1.9s,mb5.0
FORT Forrest 74.31 152 *e*P **P 12 21 07.7 -1.1**
comp=Z,29nm,0.8s,mb5.3
CTA Charters Tower 74.34 131 *e*P **P 12 21 09.2 -0.1**
comp=Z,17nm,1.0s,mb5.0
CTAO Charters Tower 74.34 131 P **P 12 21 09.0 -0.3**
comp=Z,31nm,1.2s,mb5.2
SKAG Skagway 74.47 24 *e*P **P 12 21 10.7 +1.2**
comp=Z,76nm,1.5s,mb5.5
MVO Moncorvo 74.74 310 *e*P **P 12 21 11.9 +0.5**
comp=Z,38nm,1.9s,mb5.1
ELOB Lobios 74.94 311 P **P 12 21 13.0 +0.5**
comp=Z,19nm,1.3s,mb5.0
PGAV Gavieira, Arco 75.00 312 *e*P **P 12 21 13.8 +0.9**
comp=Z,44nm,1.5s,mb5.3
PCAB Cabril 75.01 311 *e*P **P 12 21 13.2 +0.2**
comp=Z,55nm,1.4s,mb5.4
MTE Manteigas 75.51 310 *e*P **P 12 21 15.6 -0.3**
comp=Z,65nm,2.1s,mb5.4
PMRV Marv??o 76.00 309 *e*P **P 12 21 19.1 +0.4**
comp=Z,30nm,1.7s,mb5.2
PBAR Barrancos 76.54 308 *e*P **P 12 21 22.1 +0.3**
comp=Z,21nm,1.6s,mb5.0
EMIN Mina Concepcio 76.55 307 P **P 12 21 21.6 -0.2**
comp=Z,46nm,1.2s,mb5.5
TAM Tamanrasset 76.79 289 *e*P **P 12 21 23.5 0.0**
comp=Z,9.6nm,1.1s,mb4.8
TAM Tamanrasset 76.79 289 *e*P **P 12 21 23.5 0.0**
TAM pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
EVO Evora 76.93 309 *e*P **P 12 21 24.7 +0.7**
comp=Z,34nm,1.1s,mb5.1
EVO *e*R
comp=Z,117nm,19.2s
PBEJ Beja 77.14 308 *e*P **P 12 21 25.7 +0.5**
comp=Z,34nm,1.4s,mb5.3
YKA Yellowknife Ar 77.32 14 P **P 12 21 24.9 -0.8**
comp=Z,3.7nm,0.8s,mb4.6,baz=344,slow=5.8,SNR=3.8
YKA LR LR 12 56 38.9
comp=Z,11nm,18.8s,MS3.2,baz=65,slow=37
YKA Yellowknife Ar 77.32 14 P **P 12 21 24.9 -0.8**
YKA LR LR 12 56 38.9
YKA Yellowknife Ar 77.32 14 P **P 12 21 24.9 -0.8**
YKA pmax pmax
comp=Z,4.0nm,0.8s
YKA MLR MLR
comp=Z,11nm,18.8s
PCVE Castro Verde 77.49 308 *e*P **P 12 21 26.7 -0.5**
comp=Z,26nm,1.7s,mb5.1
MORF Marmelete 78.08 308 *e*P **P 12 21 31.3 +0.9**
comp=Z,59nm,1.3s,mb5.6
STKA Stephens Creek 81.16 142 P **P 12 21 46.3 -0.7**
comp=Z,19nm,0.7s,mb5.2,baz=335,slow=5.4,SNR=45
STKA Stephens Creek 81.16 142 *e*P **P 12 21 46.2 -0.8**
comp=Z,16nm,0.6s,mb5.2
STKA Stephens Creek 81.16 142 P **P 12 21 46.3 -0.7**
STKA Stephens Creek 81.16 142 P **P 12 21 46.3 -0.7**
LSZ Lusaka 82.43 244 *e*P **P 12 21 53.9 -0.2**
comp=Z,3.2nm,0.6s,mb4.6
LSZ Lusaka 82.43 244 *e*P **P 12 21 53.9 -0.2**
LSZ pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
ARMA Armidale 85.34 134⇓*i*P **P 12 22 09.2 +0.6**
ARMA Armidale 85.34 134 *e*P **P 12 22 09.3 +0.7**
comp=Z,29nm,0.9s,mb5.5
TORD Torodi Ar. Bea 85.42 283 P **P 12 22 08.7 -0.8**
comp=Z,6.0nm,0.9s,mb4.8,baz=46,slow=4.2,SNR=32
TORD LR LR 13 05 01.2
comp=Z,53nm,18.3s,MS4.0,baz=245,slow=39
TORD Torodi Ar. Bea 85.42 283 P **P 12 22 08.7 -0.8**
TORD LR LR 13 05 01.2
SCHQ Schefferville 86.81 350 P **P 12 22 14.3 -1.4**
comp=Z,7.4nm,0.8s,mb5.0,baz=25,slow=2.7,SNR=5.7
SCHQ LR LR 13 04 07.7
comp=Z,94nm,18.0s,MS4.2,baz=241,slow=38
SCHQ Schefferville 86.81 350 P **P 12 22 14.3 -1.4**
SCHQ LR LR 13 04 07.7
TOO Toolangi 87.64 143 *e*P **P 12 22 18.6 -1.1**
comp=Z,45nm,0.9s,mb5.8
B08A Colville Reser 88.90 23⇑P **P 12 22 26.1 +0.3**
baz=88,SNR=6.0
ETW Entiat 89.25 24 *e*P **P 12 22 28.1 +0.6**
comp=Z,16nm,1.0s,mb5.2
A12A Yaak River Ran 89.45 20⇑P **P 12 22 28.8 +0.4**
baz=89
NEW Newport 89.64 21⇓P **P 12 22 29.7 +0.4**
baz=89,SNR=8.5
NEW Newport 89.64 21 *e*P **P 12 22 29.6 +0.3**
comp=Z,14nm,1.1s,mb5.1
NEW Newport 89.64 21 *e*P **P 12 22 29.6 +0.3**
NEW pmax pmax
comp=Z,14nm,1.1s
C09A Chrisman Ranch 89.72 22⇑P **P 12 22 30.0 +0.4**
baz=89,SNR=6.3
A15A Johnson Ranch, 90.18 18⇑P **P 12 22 31.3 -0.5**
baz=90,SNR=9.5
D08A Wollman Farm, 90.18 23⇑P **P 12 22 32.3 +0.4**
baz=90
C11A Tepee Creek (N 90.27 21⇓P **P 12 22 32.5 +0.3**
baz=90
B13A Whitefish 90.28 20⇑P **P 12 22 32.5 +0.2**
baz=90,SNR=13
E07A Sunnyside 90.33 24⇑P **P 12 22 33.0 +0.4**
baz=90,SNR=5.1
A16A West Butte Ran 90.48 18⇑P **P 12 22 32.3 -0.9**
baz=90,SNR=5.3
C12B Naegeli Ranch, 90.61 21⇓P **P 12 22 34.3 +0.4**
baz=90,SNR=5.6
G04A Mulino 90.64 26⇓P **P 12 22 34.9 +0.9**
baz=90
BSMT Bassoo Peak 90.67 20 *e*P **P 12 22 34.9 +0.8**
comp=Z,7.9nm,1.0s,mb5.0
A17A Triple J Farms 90.70 17⇑P **P 12 22 33.4 -0.8**
baz=90,SNR=11
B15A Bradely Ranch, 90.83 19⇑P **P 12 22 34.0 -0.8**
baz=90,SNR=5.9
C13A Hot Springs 90.89 20⇓P **P 12 22 35.5 +0.4**
baz=90,SNR=7.9
JTMT Jette 90.91 20 *e*P **P 12 22 35.8 +0.6**
comp=Z,19nm,1.0s,mb5.4
A18A Metzger Ranch, 90.92 17⇓P **P 12 22 34.5 -0.8**
baz=90,SNR=8.6
B16A M & M Farms, S 90.95 18⇓P **P 12 22 34.8 -0.7**
baz=91,SNR=7.1
C14A Swan Lake 91.03 20⇑P **P 12 22 36.1 +0.4**
baz=91
A19A Klindworth Far 91.16 16⇑P **P 12 22 36.3 0.0**
baz=91
SWMT Swartz Lake 91.20 20 *e*P **P 12 22 36.5 -0.1**
comp=Z,14nm,1.0s,mb5.2
D12A Red Ives Fores 91.25 21⇑P **P 12 22 36.7 -0.1**
baz=91
B17A L&G Farms, Che 91.29 17⇓P **P 12 22 36.9 0.0**
baz=91
C15A Salmond Ranch, 91.32 19⇑P **P 12 22 36.8 -0.3**
baz=91,SNR=13
A20A Cobblestone Ra 91.38 15⇑P **P 12 22 37.3 -0.1**
baz=91
B18A Beardsley Farm 91.43 17⇑P **P 12 22 37.3 -0.3**
baz=91
D13A Huson 91.46 20⇓P **P 12 22 37.4 -0.3**
baz=91,SNR=6.4
A21A Bergtoll Ranch 91.48 15⇑P **P 12 22 37.2 -0.7**
baz=91
C16A Fuhringer Ranc 91.51 18⇑P **P 12 22 37.6 -0.4**
baz=91
SLMT Seeley Lake 91.58 20 *e*P **P 12 22 38.6 +0.2**
comp=Z,28nm,1.3s,mb5.4
F10A Beach Ranch, E 91.67 22⇓P **P 12 22 39.2 +0.4**
baz=91,SNR=5.0
D14A Greenough 91.72 20⇑P **P 12 22 38.6 -0.4**
baz=91,SNR=6.8
G08A Pilot Rock 91.74 24⇑P **P 12 22 40.0 +0.8**
baz=91
EGMT Eagleton 91.78 17⇑P **P 12 22 38.8 -0.4**
baz=91
EGMT Eagleton 91.78 17 *e*P **P 12 22 38.6 -0.7**
comp=Z,14nm,1.1s,mb5.2
MSO Missoula 91.84 20⇑P **P 12 22 39.3 -0.2**
baz=91,SNR=6.7
MSO Missoula 91.84 20 *e*P **P 12 22 39.4 -0.2**
comp=Z,7.3nm,1.1s,mb4.9
CHMT Chamberlain Mo 91.95 20 *e*P **P 12 22 39.5 -0.6**
comp=Z,3.8nm,1.0s,mb4.7
ULM Lac du Bonnet 91.96 8 P **P 12 22 38.5 -1.6**
comp=Z,3.2nm,0.8s,mb4.7,baz=324,slow=9.7,SNR=3.0
ULM Lac du Bonnet 91.96 8 P **P 12 22 38.5 -1.6**
ULM Lac du Bonnet 91.96 8 P **P 12 22 38.5 -1.6**
D15A Lincoln 92.02 19⇓P **P 12 22 40.1 -0.3**
baz=92
A24A Westby 92.11 13⇑P **P 12 22 40.3 -0.5**
baz=92
E13A Victor 92.13 20⇑P **P 12 22 40.5 -0.4**
baz=92,SNR=8.1
C19A Slack Wire Ran 92.22 17⇓P **P 12 22 40.7 -0.6**
baz=92
B22A Reddig Ranch S 92.33 14⇑P **P 12 22 41.4 -0.4**
baz=92,SNR=6.5
E14A Clinton 92.34 20⇑P **P 12 22 42.1 +0.2**
baz=92
D17A Six Diamond Ra 92.38 18⇓P **P 12 22 41.6 -0.4**
baz=92
HRY Holter Researc 92.50 19 *e*P **P 12 22 42.4 -0.2**
comp=Z,7.6nm,0.7s,mb5.2
D18A Linhart Farms, 92.55 17⇑P **P 12 22 42.5 -0.3**
baz=92
C21A Desert Coulee 92.56 15⇓P **P 12 22 42.0 -0.8**
baz=92
I07A Izee 92.64 25⇓P **P 12 22 43.8 +0.5**
baz=92
F13A Darby 92.69 21⇑P **P 12 22 42.8 -0.6**
baz=92,SNR=5.2
E16A East Helena 92.71 19⇓P **P 12 22 43.1 -0.4**
baz=92
D19A Cripps Ranch, 92.79 17⇓P **P 12 22 43.3 -0.6**
baz=92,SNR=6.0
C22A Vida 92.88 15⇓P **P 12 22 43.9 -0.5**
baz=92
C23A Lambert 92.97 14⇑P **P 12 22 44.9 +0.1**
baz=93
D20A Manuel Ranch, 93.03 16⇑P **P 12 22 44.5 -0.6**
baz=93
E18A Harlowton 93.11 18⇓P **P 12 22 45.4 -0.1**
baz=93
F15A Butte 93.14 19⇓P **P 12 22 45.3 -0.3**
baz=93
D21A La Casta Ranch 93.30 15⇓P **P 12 22 45.7 -0.6**
baz=93
BOSA Boshof 93.31 236 P **P 12 22 45.7 -0.8**
comp=Z,9.0nm,1.1s,mb5.1,baz=60,slow=8.5,SNR=3.7
BOSA Boshof 93.31 236 P **P 12 22 45.7 -0.8**
BOSA Boshof 93.31 236 P **P 12 22 45.7 -0.8**
BOSA pmax pmax
comp=Z,9.0nm,1.1s,mb5.1
G13A Cobalt 93.35 21⇓P **P 12 22 45.9 -0.7**
baz=93
D22A Cohagen 93.39 15⇓P **P 12 22 46.1 -0.6**
baz=93,SNR=6.2
F16A Kennard Place, 93.42 19⇓P **P 12 22 46.4 -0.5**
baz=93
E19A Rath Farm, Rou 93.48 17⇑P **P 12 22 46.9 -0.2**
baz=93
F17A Fitzpatrick Pl 93.55 18⇑P **P 12 22 47.4 -0.1**
baz=93,SNR=6.7
E20A Meyer Farm, Mu 93.59 16⇑P **P 12 22 47.3 -0.4**
baz=93
J08A Circle Bar Ran 93.62 24⇑P **P 12 22 48.7 +0.8**
baz=93
H12A Diamond D Ranc 93.67 22⇓P **P 12 22 47.5 -0.6**
baz=93
G15A Dillon 93.77 20⇓P **P 12 22 48.6 +0.2**
baz=93
F18A Big Timber 93.78 18⇑P **P 12 22 48.4 -0.1**
baz=93,SNR=5.6
LAO LASA Array 93.82 15⇓P **P 12 22 49.3 +0.6**
baz=93
H13A Challis 93.83 21⇑P **P 12 22 48.0 -0.8**
baz=93
G16A Moss Hill, Enn 93.89 19⇑P **P 12 22 48.9 -0.1**
baz=94
MCMT McKenzie Canyo 93.98 20 *e*P **P 12 22 49.8 +0.3**
comp=Z,1.1nm,0.7s,mb4.3
F19A Roth Farm, Mol 94.02 17⇑P **P 12 22 49.3 -0.3**
baz=94,SNR=5.7
H14A Leadore 94.03 21⇑P **P 12 22 47.6 -2.1**
baz=94
E22A Miles City 94.12 15⇓P **P 12 22 49.3 -0.8**
baz=94
MFID Camas Ranch 94.41 23⇓P **P 12 22 51.4 -0.1**
baz=94
DBIC Dimbokro 94.46 282 P **P 12 22 51.1 -1.1**
comp=Z,6.6nm,0.7s,mb5.1,baz=28,slow=5.0,SNR=11
DBIC Dimbokro 94.46 282 P **P 12 22 51.1 -1.1**
DBIC pmax pmax
comp=Z,7.0nm,0.7s
I13A Wildhorse Cree 94.47 21⇑P **P 12 22 51.5 -0.2**
baz=94
H16A Russell Place, 94.52 19⇑P **P 12 22 52.0 0.0**
baz=94
I14A Mackay 94.64 21⇑P **P 12 22 52.4 -0.1**
baz=94
HLID Hailey 94.70 22⇓P **P 12 22 52.6 -0.2**
baz=94
G20A Bridger 94.78 17⇑P **P 12 22 52.7 -0.4**
baz=94
J13A Cove Ranch, Pi 94.92 22⇑P **P 12 22 54.2 +0.4**
baz=94
G21A Lodge Grass 95.00 16⇑P **P 12 22 54.0 -0.2**
baz=95
H19A Powell 95.12 18⇑P **P 12 22 54.7 0.0**
baz=95
I16A Newdale 95.23 20⇑P **P 12 22 55.3 +0.1**
baz=95
J15A Blackfoot 95.42 20⇑P **P 12 22 56.4 +0.4**
baz=95
H21A Big Horn, Sher 95.61 16⇑P **P 12 22 57.0 +0.1**
baz=95
I19A Meeteetse 95.71 18⇑P **P 12 22 57.9 +0.4**
baz=95
I18A Diamond G Ranc 95.83 18⇑P **P 12 22 58.1 +0.2**
baz=95
K14A Jones Ranch, D 96.00 21⇓P **P 12 22 58.8 +0.1**
baz=96
K15A Arbon 96.05 21⇑P **P 12 22 59.3 +0.3**
baz=96
K16A Soda Springs 96.17 20⇑P **P 12 22 59.9 +0.3**
baz=96
J18A Kendall Valley 96.23 19⇓P **P 12 22 59.9 +0.1**
baz=96
I21A Big Trails, Te 96.33 17⇓P **P 12 23 00.0 -0.2**

	baz=96								
J19A	**Crowheart**	**96.43**	**18**	⇑P		**P**	**12 23 00.6**	**-0.1**	
	baz=96								
BW06	**Boulder Array**	**96.77**	**19**	⇑P		**P**	**12 23 01.7**	**-0.6**	
	baz=96								
PDAR	**Pinedale Array**	**96.77**	**19**	P		**P**	**12 23 01.6**	**-0.7**	
	comp=Z,1.0nm,0.8s,mb4.5,baz=16,slow=1.8,SNR=8.1								
PDAR				LR		LR	13 10 54.6		
	comp=Z,97nm,20.3s,MS4.3,baz=190,slow=38								
PDAR	**Pinedale Array**	**96.77**	**19**	P		**P**	**12 23 01.6**	**-0.7**	
PDAR				LR		LR	13 10 54.6		
J22A	**Midwest**	**96.89**	**16**	⇓P		**P**	**12 23 02.0**	**-0.7**	
	baz=96								
K19A	**Absolon Red Bu**	**96.89**	**18**	⇑P		**P**	**12 23 02.0**	**-0.8**	
	baz=96								
L18A	**Fontenelle, Gr**	**97.43**	**19**	⇑P		**P**	**12 23 04.8**	**-0.5**	
	baz=97								
L19A	**Farson**	**97.44**	**19**	⇓P		**P**	**12 23 05.2**	**-0.1**	
	baz=97								
NVAR	**Mina Array Bea**	**98.08**	**27**	P		**P**	**12 23 08.6**	**+0.3**	
	comp=Z,1.5nm,0.9s,mb4.7,baz=309,slow=4.6,SNR=9.9								
NVAR	**Mina Array Bea**	**98.08**	**27**	P		**P**	**12 23 08.6**	**+0.3**	
MAW	**Mawson**	**107.77**	**193**	PKiKP		PKiKP	12 27 57.7	-0.1	
	comp=Z,1.9nm,0.9s,baz=303,slow=3.0,SNR=5.6								
MAW	**Mawson**	**107.77**	**193**	PKPdf		PKiKP	12 27 57.7	-0.1	
TXAR	**Lajitas Array**	**110.98**	**18**	PKiKP		PKiKP	12 28 04.4	-0.9	
	comp=Z,0.3nm,0.7s,baz=248,slow=1.1,SNR=4.7								
TXAR	**Lajitas Array**	**110.98**	**18**	PKPdf		PKiKP	12 28 04.4	-0.9	
TXAR	**Lajitas Array**	**110.98**	**18**	*i* PKiKP		PKiKP	12 28 04.4	-0.8	
VNDA	**Vanda**	**121.45**	**167**	PKP		PKPdf	12 28 22.2	-1.5	
	comp=Z,1.7nm,0.9s,baz=328,slow=3.8,SNR=7.4								
VNDA	**Vanda**	**121.45**	**167**	PKP		PKPdf	12 28 22.2	-1.5	
VNDA	**Vanda**	**121.45**	**167**	PKIKP		PKPdf	12 28 22.2	-1.5	
VNDA				pmax		pmax			
	comp=Z,2.0nm,0.9s								
MAIT	**Maitri**	**123.09**	**203**	*e*P		PKPdf	12 28 26.5	-0.5	
CMIG	**Matias Romero**	**124.71**	**13**	PKP		PKPdf	12 28 30.0	-1.8	
	comp=Z,2.9nm,0.7s,baz=350,slow=3.0,SNR=6.7								
CMIG	**Matias Romero**	**124.71**	**13**	PKP		PKPdf	12 28 30.0	-1.8	
VNA2	**Neumayer--Watz**	**129.29**	**204**	*e*		PKPdf	12 28 35.7	-3.1	
	baz=25,slow=2.2								
VNA3	**Neumayer Olymp**	**130.04**	**204**	*e*		PKPdf	12 28 36.9	-3.4	
ATAH	**Atahualpa**	**149.29**	**349**	PKPbc		PKPbc	12 29 18.4	-2.6	
	comp=Z,8.5nm,0.6s,baz=297,slow=2.3,SNR=7.2								
LPAZ	**La Paz**	**154.58**	**322**	PKP		PKPdf	12 29 24.3	-0.1	
	comp=Z,1.0nm,0.5s,baz=209,slow=9.5,SNR=3.8								
LPAZ				PKPbc		PKPbc	12 29 31.6	-1.2	
	comp=Z,0.9nm,0.4s,baz=216,slow=4.5,SNR=4.2								
LPAZ				PKPab		PKPab	12 29 45.9	-1.5	
	comp=Z,0.9nm,0.7s,baz=284,slow=4.1,SNR=5.5								
LPAZ	**La Paz**	**154.58**	**322**	PKP		PKPdf	12 29 24.3	-0.1	
LPAZ				PKPbc		PKPbc	12 29 31.6	-1.2	
LPAZ				PKPab		PKPab	12 29 45.9	-1.5	
LPAZ	**La Paz**	**154.58**	**322**	PKIKP		PKPdf	12 29 24.3	-0.2	
LPAZ							12 29 31.7		
LPAZ							12 29 45.9		
LPAZ				pmax		pmax			
	comp=Z,1.0nm,0.5s								
LPAZ				pmax		pmax			
	comp=Z,1.0nm,0.4s								
LPAZ				pmax		pmax			
	comp=Z,1.0nm,0.7s								
CPUP	**Villa Florida**	**154.79**	**289**	PKPbc		PKPbc	12 29 31.1	-2.0	
	comp=Z,3.2nm,0.7s,baz=118,slow=3.7,SNR=6.6								
CPUP	**Villa Florida**	**154.79**	**289**	PKIKP		PKPbc	12 29 31.2	-1.9	
CPUP				pmax		pmax			
	comp=Z,3.0nm,0.7s								
PLCA	**Paso Flores**	**169.03**	**249**	PKP		PKPdf	12 29 38.0	-0.5	
	comp=Z,3.4nm,1.0s,baz=291,slow=1.6,SNR=4.1								
PLCA	**Paso Flores**	**169.03**	**249**	PKP		PKPdf	12 29 38.0	-0.5	
PLCA	**Paso Flores**	**169.03**	**249**	PKIKP		PKPdf	12 29 38.0	-0.5	
PLCA				pmax		pmax			
	comp=Z,3.0nm,1.0s								

ISCJB ***12*** *12:14:17.6±0.5, 3°.89N×0°.03×126°.19E±0°.09, h129km±6km, mb3.7/8, Error ellipse: s-maj=14.3km s-min=5.4km az=172.7*
NEIC ***12*** *12:14:22.2±6.0, 3°.83N×125°.90E, h162km±58km, mb4.1/1, Error ellipse: s-maj=45.2km s-min=14.5km az=68.0*
DJA ***12*** *12:14:22, 3.66N×126°.24E, h84km, MLv4.7/7*
IDC ***12*** *12:14:23.2±7.5, 3°.81N×125°.89E, h170km±75km, mb3.4/7, mb1 3.5/7, mb1mx3.3/22, mbtmp3.4/7, Error ellipse: s-maj=49.5km s-min=15.0km az=73.0*

ISC 12 12:14:18.6±0.5, 3°.89N±0°.03×126°.20E±0°.08, h123km±6km, n32, σ0°.92/33, mb3.8/8, 2C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**0.70**	**253**	P	**Pn**	**12 14 38.4**	**+0.1**
SGSI				S	**Sn**	**12 14 53.2**	**+0.1**
GSPH	**General Santos**	**2.51**	**330**	*e*P	**Pn**	**12 14 58.2**	**-0.5**
GSPH				*i* S	**Sn**	**12 15 28.1**	**-1.3**
MNI	**Manado**	**2.79**	**209**	P	**Sn**	**12 15 35.1**	**-0.7**
MATI	**Mati**	**3.03**	**1**	*e*P	**Pn**	**12 15 06.2**	**+0.7**
MATI				eS	Px	12 15 23.8	
TNTI	**Ternate**	**3.31**	**159**	P	**Pn**	**12 15 09.7**	**+0.5**
CTBH	**Cotabato--PC H**	**3.83**	**330**	*i*P	**Pn**	**12 15 16.2**	**+0.1**
KMSI	**Cibinong**	**3.97**	**214**	P	**Pn**	**12 15 19.6**	**+1.7**
KMSI				S	**Sn**	**12 16 03.8**	**0.0**
BUKP	**Musuan**	**4.12**	**344**	*e*P	**Pn**	**12 15 20.6**	**+0.8**
LBMI	**Labuha**	**4.69**	**164**	P	**Pn**	**12 15 27.7**	**+0.2**
LBMI				S	**Sn**	**12 16 19.4**	**-1.5**
PAGZ	**Pagadian**	**4.83**	**325**	*e*P	**Pn**	**12 15 29.1**	**-0.2**
MRSI	**Marisa**	**5.44**	**232**	P	**Pn**	**12 15 39.0**	**+1.4**
	0.2nm671nm61nm,0.6s						
LUWI	**Luwuk**	**5.98**	**215**	P	**Pn**	**12 15 50.6**	**+5.7**
NLAI	**Namlea**	**7.14**	**173**	P	**Pn**	**12 15 59.4**	**-1.2**
	1.0nm108nm,0.7s						
MYLDM	**Lahad Datu**	**7.78**	**280**	P	**Pn**	**12 16 13.2**	**+4.0**
PCI	**Palu**	**7.95**	**233**	P	Px	12 16 42.6	
FITZ	**Fitzroy Crossi**	**21.86**	**181**	*e*P	**P**	**12 19 01.1**	**-0.5**
WRAB	**Tennant Creek**	**25.00**	**162**	*e*P	**P**	**12 19 32.0**	**+0.9**
	2.5nm,0.4s,mb4.0						
WRA	**Warramunga Arr**	**25.00**	**162**	P	**P**	**12 19 32.0**	**+0.8**
	4.2nm,0.5s,mb4.1,baz=343,slow=10.0,SNR=55						
WRA	**Warramunga Arr**	**25.00**	**162**	P	**P**	**12 19 32.0**	**+0.8**
ASAR	**Alice Springs**	**28.40**	**165**	P	**P**	**12 20 01.7**	**+0.1**
	0.5nm,0.5s,mb3.3,baz=339,slow=7.0,SNR=16						
ASAR	**Alice Springs**	**28.40**	**165**	P	**P**	**12 20 01.7**	**+0.1**
KSRS	**Korea Array**	**33.44**	**2**	P	**P**	**12 20 47.2**	**+1.4**
	0.9nm,0.7s,mb3.7,baz=186,slow=9.4,SNR=4.5						
SONM	**Songino Array**	**46.98**	**342**	P	**P**	**12 22 37.3**	**+0.2**
	0.4nm,0.6s,mb3.3,baz=151,slow=8.9,SNR=2.4						
SONM	**Songino Array**	**46.98**	**342**	P	**P**	**12 22 37.3**	**+0.2**
MKAR	**Makanchi Array**	**57.12**	**325**	P	**P**	**12 23 51.2**	**-1.0**
	1.2nm,0.5s,mb4.2,baz=122,slow=7.7,SNR=19						
MKAR	**Makanchi Array**	**57.12**	**325**	P	**P**	**12 23 51.2**	**-1.0**
KURK	**Kurchatov**	**61.32**	**328**	P	**P**	**12 24 19.2**	**-1.9**
	2.5nm,0.6s,mb4.4,baz=128,slow=6.8,SNR=8.9						
KURK	**Kurchatov**	**61.32**	**328**	P	**P**	**12 24 19.2**	**-1.9**
ILAR	**Eielson Array**	**85.19**	**25**	P	**P**	**12 26 40.5**	**-0.4**
	0.2nm,0.5s,mb3.3,baz=248,slow=4.8,SNR=6.1						
ILAR	**Eielson Array**	**85.19**	**25**	P	P	**12 26 40.5**	**-0.4**
TORD	**Torodi Ar. Bea**	**122.36**	**288**	PKP	PKPdf	12 32 59.2	-1.1
	0.3nm,0.8s,baz=72,slow=2.1,SNR=2.7						
TORD	**Torodi Ar. Bea**	**122.36**	**288**	PKP	PKPdf	12 32 59.2	-1.1

IGQ 12 12:34:52.8, 2.09S×76°.96W, h163km±7km, Mb4.0, Ms3.8, 2C-20D, Error ellipse: s-maj=5.9km s-min=3.2km az=14.8, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MACE	**Macas**	**1.25**	**263**	⇓P	Pn	12 35 21.5	+0.6
ULBA	**Ulba**	**1.58**	**294**	P	Pn	12 35 24.9	+0.7
BULB	**Ulba Tungurahu**	**1.59**	**294**	⇓P	Pn	12 35 24.8	+0.5
BULB	**Ulba Tungurahu**	**1.59**	**294**	⇓S	Sn	12 35 47.1	-1.3
PAT1	**Patacocha**	**1.59**	**292**	⇓S	Sn	12 35 49.0	+0.5
PAT1	**Patacocha**	**1.59**	**292**	⇓P	Pn	12 35 25.0	+0.7
BRUN	**Tungurahua Vol**	**1.60**	**295**	⇓P	Pn	12 35 25.0	+0.7
ARRY	**Arrayan**	**1.60**	**291**	⇓P	Pn	12 35 24.8	+0.3
RETU	**Refugio**	**1.62**	**293**	P	Pn	12 35 25.3	+0.7
BMAS	**Trigal station**	**1.63**	**291**	⇓P	Pn	12 35 25.3	+0.6
JUI6	**Juive**	**1.65**	**294**	⇓P	Pn	12 35 25.3	+0.4
BBIL	**Ulba Tungurahu**	**1.66**	**293**	P	Pn	12 35 25.9	+0.9
PISA	**Pisayambo**	**1.76**	**306**	⇓S	Sn	12 35 53.0	+1.4
PISA	**Pisayambo**	**1.76**	**306**	⇓P	Pn	12 35 27.2	+1.1
IGUA	**Igualata**	**1.78**	**290**	S	Sn	12 35 55.2	+3.1
IGUA	**Igualata**	**1.78**	**290**	P	Pn	12 35 27.7	+1.3
TAMB	**Tambo**	**1.98**	**315**	⇓P	Pn	12 35 30.4	+1.9
COV1	**Cotopaxi Volc**	**1.98**	**316**	P	Pn	12 35 31.1	+2.5
BTAM	**Cotopaxi Volca**	**2.01**	**314**	⇓P	Pn	12 35 30.4	+1.5
MOV1	**Cotopaxi Vol s**	**2.02**	**313**	P	Pn	12 35 30.8	+1.8
BMOR	**Cotopaxi Volca**	**2.02**	**312**	⇓P	Pn	12 35 30.5	+1.5
ANTI	**Antisana**	**2.03**	**324**	⇓P	Pn	12 35 30.4	+1.3
BVC2	**Cotopaxi Volca**	**2.04**	**314**	⇓P	Pn	12 35 31.3	+2.2
VC1	**Cotopaxi 1**	**2.04**	**315**	⇓P	Pn	12 35 31.2	+2.0
BREF	**Cotopaxi Volca**	**2.05**	**314**	P	Pn	12 35 31.6	+2.3
NAS2	**Nasa**	**2.08**	**314**	P	Pn	12 35 31.1	+1.4
LAV4	**Lava4-Reventad**	**2.10**	**341**	⇓P	Pn	12 35 30.5	+0.6
CHAR	**Charly**	**2.12**	**340**	P	Pn	12 35 31.2	+1.1
PITA	**Cotopaxi Volc**	**2.12**	**316**	⇓P	Pn	12 35 32.2	+2.1
CONE	**Cono NE Rev Vo**	**2.12**	**341**	P	Pn	12 35 31.0	+0.8
CAYR	**Refugio Cayamb**	**2.34**	**333**	P	Pn	12 35 34.7	+2.0
JUA2	**San Juan 2**	**2.49**	**319**	P	Pn	12 35 35.5	+1.0
GGP	**Refugio Guagua**	**2.51**	**319**	⇑P	Pn	12 35 36.2	+1.4
TERV	**Terraza Guagua**	**2.52**	**319**	P	Pn	12 35 36.1	+1.3
PINO	**Pino**	**2.53**	**319**	⇑P	Pn	12 35 36.0	+1.0
YANA	**Yana**	**2.54**	**321**	P	Pn	12 35 36.2	+1.1
OTAV	**Otavalo**	**2.75**	**327**	⇓P	Pn	12 35 38.5	+0.9

IDC 12 12:36:59.8±27.0, 22°.85S×177°.28W, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.8/4, ML4.0/1, 1C, Error ellipse: s-maj=504.5km s-min=65.5km az=71.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**16.10**	**196**	Pn	Pn	12 40 47.3	-0.2
	0.6nm,0.3s,baz=3.5,slow=19,SNR=4.0						
URZ				Sn	Sn	12 43 26.5	-20
	0.2nm,0.3s,baz=252,slow=20,SNR=2.1						
STKA	**Stephens Creek**	**37.44**	**247**	P	P	12 44 15.9	+1.0
	1.5nm,0.8s,baz=84,slow=9.2,SNR=3.7						
ASAR	**Alice Springs**	**44.68**	**259**	P	P	12 45 14.2	-0.6
	0.2nm,0.3s,baz=101,slow=7.9,SNR=14						
WRA	**Warramunga Arr**	**44.99**	**264**	P	P	12 45 17.0	-0.2
	0.3nm,0.3s,baz=102,slow=8.4,SNR=26						
TKM2	**Tokmak 2**	**117.48**	**308**	⇑P	Pdif	12 51 25.8	-39
	6.9nm,0.7s						

ISCJB ***12*** *12:38:31.7±0.7, 40°.14N±0°.05×40°.93E±0°.04, h4km±7km, Error ellipse: s-maj=7.8km s-min=5.7km az=7.7*
CSEM ***12*** *12:38:31.7±0.3, 40°.14N×40°.92E, h8km, MD2.8, Error ellipse: s-maj=8.4km s-min=6.1km az=10.0*
ISK ***12*** *12:38:31.0, 40°.22N×40°.99E, h12km, MD2.8*
DDA ***12*** *12:38:32.8, 40°.11N×41°.04E, h7km±3km, Md3.1*

ISC 12 12:38:32.3±0.6, 40°.15N±0°.05×40°.96E±0°.04, h10km±6km, n20, σ0°.94/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOPT	**Kop Dagi**	**0.38**	**250**	*i* P	**Pg**	**12 38 38.3**	**-1.4**
KOPT				*i* S	**Sg**	**12 38 47.6**	**+2.8**
KOPT	**Kop Dagi**	**0.38**	**250**	*i* P	**Pg**	**12 38 38.3**	**-1.4**
KOPT				*i* S	**Sg**	**12 38 47.6**	**+2.8**
EZM	**Erzurum**	**0.39**	**128**	PG	**Pg**	**12 38 39.9**	**0.0**
ERZM	**Erzurum**	**0.40**	**128**	*i* P	**Pg**	**12 38 39.0**	**-1.0**
ERZM	**Erzurum**	**0.40**	**128**	*i* P	**Pg**	**12 38 39.0**	**-1.0**
BAYT	**Ayd¨–ntepe-Bay**	**0.67**	**291**	*e*PG	**Pg**	**12 38 44.4**	**-0.9**
BAYT				*e*SG	**Sg**	**12 38 54.8**	**+0.7**
BAYT	**Ayd¨–ntepe-Bay**	**0.67**	**291**	*e*Pg	**Pg**	**12 38 44.4**	**-0.9**
BAYT				*e*Sg	**Sg**	**12 38 54.8**	**+0.7**
HOMI	**Horasan**	**0.73**	**98**	*i* P	**Pg**	**12 38 47.0**	**+0.6**
DDEM	**Demirkent**	**0.95**	**39**	*i* P	**Pg**	**12 38 51.3**	**+0.6**
DDEM	**Demirkent**	**0.95**	**39**	*i* P	**Pg**	**12 38 51.3**	**+0.7**
GUMT	**Gumushane**	**1.18**	**286**	*e*PN	**Pn**	**12 38 53.4**	**-1.4**
GUMT				*e*SN	**Sn**	**12 39 10.7**	**-0.1**
GUMT	**Gumushane**	**1.18**	**286**	*e*Pn	**Pn**	**12 38 53.4**	**-1.3**
GUMT				*e*Sn	**Sn**	**12 39 10.7**	**-0.1**
DAGI	**Agillar**	**1.18**	**38**	*i* P	**Pb**	**12 38 55.6**	**+0.9**
BNGL	**BINGOL**	**1.21**	**173**	*i* P	**Pb**	**12 38 55.1**	**0.0**
ARTV	**Artvin**	**1.27**	**35**	*i* P	**Pn**	**12 38 56.0**	**-0.1**
ARTV	**Artvin**	**1.27**	**35**	*i* P	**Pn**	**12 38 56.0**	**0.0**
PTK	**Pertek**	**1.75**	**225**	*e*PN	**Pn**	**12 39 02.4**	**-0.2**
PTK				*e*SN	**Sn**	**12 39 26.2**	**+1.3**
PTK	**Pertek**	**1.75**	**225**	*e*Pn	**Pn**	**12 39 02.4**	**-0.2**
PTK				*e*Sn	**Sn**	**12 39 26.2**	**+1.3**
ESPY	**Espiye-Giresun**	**1.87**	**295**	*e*PN	**Pn**	**12 39 03.8**	**-0.5**
ESPY	**Espiye-Giresun**	**1.87**	**295**	*e*Pn	**Pn**	**12 39 03.8**	**-0.5**

IDC 12 13:16:37.0±1.9, 5°.46S×148°.34E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.4/16, mbtmp3.4/3, Error ellipse: s-maj=139.4km s-min=28.5km az=123.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.81**	**222**	P	Pn	13 21 09.2	-1.5
	0.3nm,0.3s,baz=47,slow=11,SNR=26						
ASAR	**Alice Springs**	**22.82**	**216**	P	P	13 21 41.8	+0.1
	0.9nm,0.8s,baz=51,slow=8.1,SNR=14						
ILAR	**Eielson Array**	**84.47**	**23**	P	P	13 29 11.5	+0.2
	0.1nm,0.4s,baz=233,slow=5.0,SNR=7.3						

ISCJB ***12*** *13:18:00.5±1.0, 30°.4N±0°.1×67°.6E±0°.2, h10km, mb3.6/7, Error ellipse: s-maj=19.6km s-min=14.5km az=6.7*
IDC ***12*** *13:18:00.5±1.1, 30°.33N×67°.54E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.4/29, mbtmp3.6/7, Error ellipse: s-maj=29.9km s-min=24.3km az=91.0*
NEIC ***12*** *13:18:02.1±0.8, 30°.31N×67°.58E, h10km, mb3.6/3, Error ellipse: s-maj=17.1km s-min=11.7km az=100.0*

ISC 12 13:18:02.2±0.9, 30°.33N±0°.10×67°.6E±0°.2, h10km, n21, σ0°.80/21, mb3.6/7, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKAR	**Karatay Array**	**12.97**	**10**	P	**Pn**	**13 21 06.7**	**+0.2**
EKS2	**Erkin-Say**	**13.28**	**20**	*e*P	**Pn**	**13 21 11.4**	**+0.7**
	2.3nm,0.6s						
TKM2	**Tokmak 2**	**14.12**	**25**	*e*P	**Pn**	**13 21 22.2**	**0.0**
	5.3nm,1.2s						
ABKAR	**Akbulak array**	**19.77**	**345**	*e*P	**Pn**	**13 22 32.9**	**-0.9**
	1.0nm,0.6s						
MK31	**Makanchi Array**	**20.02**	**31**	*e*P	**P**	**13 22 34.5**	**-0.5**
MKAR	**Makanchi Array**	**20.02**	**31**	P	**P**	**13 22 33.6**	**-1.5**
	0.5nm,0.7s,baz=209,slow=9.9,SNR=6.4						
MKAR	**Makanchi Array**	**20.02**	**31**	P	**P**	**13 22 33.6**	**-1.5**
AKTK	**Aktyubinsk**	**21.32**	**343**	P	**P**	**13 22 49.6**	**+0.5**
AKTO	**Aktyubinsk**	**21.32**	**343**	P	**P**	**13 22 49.6**	**+0.5**
	0.6nm,0.4s,mb3.2,baz=146,slow=9.2,SNR=6.1						
KURK	**Kurchatov**	**21.99**	**19**	P	**P**	**13 22 54.1**	**-2.2**
	0.7nm,0.6s,mb3.3,baz=211,slow=8.5,SNR=8.0						
KURK	**Kurchatov**	**21.99**	**19**	P	**P**	**13 22 55.0**	**-1.2**
	1.6nm,0.7s,mb3.6						
BRVK	**Borovoye**	**22.80**	**4**	*e*P	**P**	**13 23 05.4**	**+0.5**
	2.9nm,0.8s,mb3.8						
ZAA0	**Zalesovo Array**	**26.71**	**23**	*e*P	**P**	**13 23 42.7**	**+1.3**
ZALV	**Zalesovo Beam**	**26.71**	**23**	P	**P**	**13 23 42.1**	**+0.6**
	1.9nm,0.6s,mb3.8,baz=222,slow=10,SNR=13						
ZALV	**Zalesovo Beam**	**26.71**	**23**	P	**P**	**13 23 42.1**	**+0.6**
TORD	**Torodi Ar. Bea**	**62.74**	**270**	P	**P**	**13 28 27.3**	**-0.6**
	0.8nm,0.7s,mb3.9,baz=59,slow=6.6,SNR=6.8						
TORD	**Torodi Ar. Bea**	**62.74**	**270**	P	**P**	**13 28 27.3**	**-0.6**
WRA	**Warramunga Arr**	**81.36**	**119**	P	**P**	**13 30 19.6**	**+0.3**
	0.7nm,0.8s,mb3.7,baz=318,slow=4.9,SNR=6.9						
WRA	**Warramunga Arr**	**81.36**	**119**	P	**P**	**13 30 19.6**	**+0.3**
ASAR	**Alice Springs**	**83.25**	**122**	P	**P**	**13 30 29.4**	**+0.2**
	0.5nm,0.6s,mb3.7,baz=311,slow=5.4,SNR=11						
ASAR	**Alice Springs**	**83.25**	**122**	P	**P**	**13 30 29.4**	**+0.2**

KRSC 12 13:21:11.6±0.2, 55°.02N×162°.42E, h26km±26km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.61**	**221**	*e*P	Pb	13 21 24.0	+0.3
MKZ				eS	Sb	13 21 33.0	+1.1
KBTR	**Krutoberegovo**	**1.21**	**11**	*e*P	Pn	13 21 33.6	+0.8
KBTR				eS	Sn	13 21 50.6	+2.2
TUMR	**Tumrok**	**1.33**	**282**	*e*P	Pn	13 21 35.4	+0.9
TUMR				eS	Sn	13 21 53.3	+2.0
KMNR	**Kamenistaya**	**1.45**	**302**	*e*P	Pn	13 21 36.8	+0.8
KMNR				S	Sn	13 21 56.1	+1.9
SMKR	**Semkarok**	**1.66**	**341**	*e*P	Pn	13 21 39.6	+0.7
SMKR				eS	Sn	13 21 59.8	+0.5
BDR	**Baidarnaya**	**1.70**	**337**	*e*P	Pn	13 21 40.9	+1.4
BDR				eS	Sn	13 22 01.5	+1.2
SRKR	**Sorokina**	**1.78**	**337**	*e*P	Pn	13 21 42.1	+1.4
KII	**Karymskiy**	**1.99**	**242**	*e*P	Pn	13 21 45.1	+1.6
KII				eS	Sn	13 22 10.0	+2.4
SRDR	**Sredinnyy**	**2.01**	**311**	*e*P	Pn	13 21 44.8	+1.0
BKI	**Bering**	**2.05**	**83**	eS	Sn	13 22 07.9	-1.1
SPN	**Mys Shipunski**	**2.39**	**217**	*e*P	Pn	13 21 50.1	+1.1
SPN				eS	Sn	13 22 17.8	+0.4
NLC	**Nalytchevo**	**2.59**	**226**	*e*P	Pn	13 21 53.1	+1.4
NLC				eS	Sn	13 22 24.0	+1.7
AVH	**Avacha**	**2.79**	**232**	*e*P	Pn	13 21 57.0	+2.5
GNL	**Ganaly**	**2.94**	**245**	*e*P	Pn	13 21 58.5	+2.0
PET	**Petropavlovsk**	**2.99**	**230**	*e*P	Pn	13 21 59.5	+2.3
PET				eS	Sn	13 22 34.2	+2.0

ISCJB ***12*** *14:03:15.9±0.4, 38°.91N±0°.01×35°.52E±0°.01, h2km±2km, mb4.7/117, MS4.5/43, Error ellipse: s-maj=2.1km s-min=1.7km az=13.4*
DDA ***12*** *14:03:15.6, 38°.86N×35°.54E, h10km±1km, Ml4.8*
ISK ***12*** *14:03:15.0, 38°.83N×35°.56E, h5km, ML4.9*
IDC ***12*** *14:03:16.1±0.6, 38°.70N×35°.53E, h0km, mb4.4/22, mb1 4.4/28, mb1mx4.3/34, mbtmp4.3/28, ML4.2/5, MS4.4/34, Ms1 4.4/34, ms1mx4.2/43, Error ellipse: s-maj=12.7km s-min=8.4km az=11.0*
CSEM ***12*** *14:03:16.7±0.1, 38°.85N×35°.57E, h2km, mb5.0/24, Ms4.1, Mw4.6, Error ellipse: s-maj=2.8km s-min=2.4km az=22.0*
TEH ***12*** *14:03:16.7, 38°.84N×35°.54E, h5km*
MOS ***12*** *14:03:17.3±1.3, 38°.95N×35°.52E, h11km, mb4.8/40, MS4.2/29, Error ellipse: s-maj=5.7km s-min=3.4km az=113.3*
NEIC ***12*** *14:03:18.3±0.3, 38°.84N×35°.52E, h10km, mb4.8/30, ML4.9(ISK), Error ellipse: s-maj=6.3km s-min=4.4km az=177.0*
NEIC Felt at Kayseri.
NIC ***12*** *14:03:18.4±0.2, 39°.08N×35°.54E, h36km, mb5.0, ML4.8, MW4.1, Central Turkey 8 km. E. Erkilet*
BJI ***12*** *14:03:20.4, 38°.90N×35°.50E, h33km, mB5.0/21, mb4.6/28, Ms5.0/20, Ms7 4.6/20*
GCMT ***12*** *14:03:21.2±0.2, 38°.92N×35°.46E, h17km±1km, MW5.1, Moment Tensor Solution. s35,c44; s84,c140; Moment tensor: Scale 10^16 Nm; Mrr-1.15±.15; Mθθ-4.38±.12; Mφφ5.53±.14; Mrθ1.61±.33; Mθφ0.65±.09; Mφr-0.69±.30; Best double couple: M0 5.40000×10^16 NP1:φ227.00000°, δ70.00000°, λ-13.00000°. NP2:φ321.00000°, δ78.00000°, λ-160.00000°. Principal axes: T 5.6200, Plg5.0000°, Azm93.0000°; N -0.5100, Plg67.0000°, Azm351.0000°; P -5.1100, Plg23.0000°, Azm185.0000°; Data Used: II IU IC G CN.*
SZGRF ***12*** *14:03:24.5, 39°.14N×35°.43E, h33km, mb4.4, Turkey*

ISC 12 14:03:17.4±0.4, 38°.89N±0°.01×35°.53E±0°.01, h2km±3km, n690, σ1°.16/762, mb4.7/117, MS4.5/43, 46C-23D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNN	**Bunyan**	**0.25**	**98**	PG	**Pg**	**14 03 20.0**	**-2.3**
BNN				*e*SG	**Sg**	**14 03 24.9**	**-0.6**
BNN	**Bunyan**	**0.25**	**98**	Pg	**Pg**	**14 03 20.0**	**-2.3**
BNN	**Bunyan**	**0.25**	**98**	*i* Pg	**Pg**	**14 03 20.0**	**-2.2**
BNN				*e*Sg	**Sg**	**14 03 24.9**	**-0.6**
AVNT	**Avonos**	**0.54**	**258**

LOD Lodumlu 2.36 296 ePN Pn 14 03 56.6 -0.6
LOD Lodumlu 2.36 296 ePn Pn 14 03 56.6 -0.6
COBT Iskenderun 2.44 166 ⇓iP Pn 14 03 56.3 -1.9
COBT Iskenderun 2.44 166 iP Pn 14 03 56.3 -1.9
TOS Tosya 2.44 332 ePN Pn 14 03 58.5 +0.3
TOS Tosya 2.44 332 ePn Pn 14 03 58.5 +0.3
DRWC Darouich 2.44 158 ⇓iP Pn 14 03 58.5 +0.3
ATAB Bozova 2.60 122 ⇑iP Pn 14 03 58.2 -2.2
ATAB iS Sg 14 04 41.1 +0.2
ATAB Bozova 2.60 122 iP Pn 14 03 58.2 -2.3
KONT Konya--Tatoy 2.66 250 ePN Pn 14 04 00.9 -0.4
KONT Konya--Tatoy 2.66 250 ePn Pn 14 04 00.9 -0.4
KDHN Kadinhani 2.69 263 ⇑iP Pn 14 04 01.5 -0.3
KDHN iS Sg 14 04 45.5 +1.5
KDHN Kadinhani 2.69 263 iP Pn 14 04 01.5 -0.3
ELZG Elazig 2.73 97 ⇑iP Pn 14 04 01.9 -0.3
ELZG iS Sg 14 04 43.8 -1.4
ELZG Elazig 2.73 97 iP Pn 14 04 01.9 -0.4
KIZT Kizilcal 2.85 271 ePN Pn 14 04 03.7 -0.2
KIZT Kizilcal 2.85 271 ePn Pn 14 04 03.7 -0.2
GRSN GIRESUNGRSN 2.93 45 ⇑iP Pn 14 04 04.0 -1.0
GRSN GIRESUNGRSN 2.93 45 iP Pn 14 04 04.0 -1.0
HDMB Hadim 3.08 232 ePN Pn 14 04 06.1 -0.9
HDMB Hadim 3.08 232 ePn Pn 14 04 06.1 -0.9
EZC Erzincan 3.09 73 ePN Pn 14 04 07.3 +0.1
EZC Erzincan 3.09 73 Pn Pn 14 04 07.8 +0.6
EZC Erzincan 3.09 73 P Pn 14 04 07.8 +0.6
EZC Erzincan 3.09 73 ePn Pn 14 04 07.3 +0.1
BALT Daday 3.11 329 ⇓iP Pn 14 04 07.2 -0.3
BALT eS Sn 14 04 47.3 +2.1
BALT Daday 3.11 329 iP Pn 14 04 07.2 -0.3
BALT eS Sn 14 04 47.3 +2.1
SVRH Sivrihisar-ESK 3.16 281 ePN Pn 14 04 08.1 -0.1
SVRH Sivrihisar-ESK 3.16 281 ePn Pn 14 04 08.1 -0.1
ESPY Espiye-Giresun 3.19 50 ePN Pn 14 04 09.1 +0.6
ESPY Espiye-Giresun 3.19 50 ePn Pn 14 04 09.1 +0.6
SAFT Safranbolu 3.20 318 ePN Pn 14 04 09.1 +0.3
SAFT Safranbolu 3.20 318 ePn Pn 14 04 09.1 +0.3
BZK Bozkurt 3.28 340 ePN Pn 14 04 10.7 +0.9
BZK Bozkurt 3.28 340 ePn Pn 14 04 10.7 +0.9
SLMH Al Salmeh 3.28 144 ⇑iP Pn 14 04 10.5 +0.7
GUMT Gumushane 3.43 62 ePN Pn 14 04 11.4 -0.4
GUMT Gumushane 3.43 62 ePn Pn 14 04 11.4 -0.5
WRDH Warideh 3.45 168 ⇑iP Pn 14 04 12.4 +0.3
BOLV Bolvadin 3.58 269 ⇑iP Pn 14 04 13.8 -0.2
BOLV Bolvadin 3.58 269 iP Pn 14 04 13.8 -0.1
MDU Mudurnu 3.68 297 ePN Pn 14 04 16.1 +0.8
MDU Mudurnu 3.68 297 ePn Pn 14 04 16.2 +0.9
ESKT Eskisehir 3.69 281 ePN Pn 14 04 15.3 -0.2
ESKT Eskisehir 3.69 281 ePn Pn 14 04 15.3 -0.1
KFRA Kufra 3.81 164 ⇓iP Pn 14 04 17.9 +0.8
SUTC Sutluce-Ispart 3.84 250 ePN Pn 14 04 17.7 +0.2
SUTC Sutluce-Ispart 3.84 250 ePn Pn 14 04 17.7 +0.2
KTUT Trabzon 3.87 56 ePN Pn 14 04 18.6 +0.7
KTUT Trabzon 3.87 56 ePn Pn 14 04 18.6 +0.6
SHUT Suhut-Afyon 3.91 267 ePN Pn 14 04 19.1 +0.7
SHUT Suhut-Afyon 3.91 267 ePn Pn 14 04 19.1 +0.7
BIDA Albida 3.92 170 ⇓iP Pn 14 04 19.1 +0.5
KDZE Karadeniz Ereo 3.96 309 ePN Pn 14 04 19.4 +0.2
KDZE Karadeniz Ereo 3.96 309 ePn Pn 14 04 19.4 +0.3
HENT Hendek 4.05 300 ⇑iP Pn 14 04 19.7 -0.8
HENT Hendek 4.05 300 iP Pn 14 04 19.7 -0.7
PHNC Paralimni 4.06 198 P Pn 14 04 21.4 +0.9
comp=N,27nm,0.9s
PHNC S Sn 14 05 10.3 +1.7
PHNC Paralimni 4.06 198 P Pn 14 04 21.4 +0.9
comp=N,27nm,0.9s
PHNC S Sn 14 05 10.3 +1.7
BCK Bucak 4.15 251 ePN Pn 14 04 22.1 +0.3
BCK Bucak 4.15 251 ePn Pn 14 04 22.1 +0.4
MAMC Mammari 4.15 207 P Pn 14 04 22.2 +0.5
MAMC Mammari 4.15 207 P Pn 14 04 22.2 +0.5
GULT Gulveren 4.17 293 ePN Pn 14 04 22.1 +0.1
GULT Gulveren 4.17 293 ePn Pn 14 04 22.1 +0.1
ALT Altintas 4.23 274 ePN Pn 14 04 23.1 +0.3
ALT Altintas 4.23 274 ePn Pn 14 04 23.1 +0.3
CSS Prodhromos 4.30 205 P Pn 14 04 24.5 +0.7
comp=N,15nm,0.8s
CSS S Sn 14 05 16.5 +2.0
CSS Prodhromos 4.30 205 eP Pn 14 04 21.6 -2.2
CSS Prodhromos 4.30 205 P Pn 14 04 24.5 +0.7
comp=N,15nm,0.8s
CSS S Sn 14 05 16.5 +2.0
ALFC Alevga 4.40 213 P Pn 14 04 25.4 +0.2
comp=N,13nm,1.2s
ALFC S Sn 14 05 18.6 +1.6
ALFC Alevga 4.40 213 P Pn 14 04 25.4 +0.2
comp=N,13nm,1.2s
ALFC S Sn 14 05 18.6 +1.6
CAVI Cavuskoy 4.59 288 ePN Pn 14 04 28.5 +0.8
CAVI Cavuskoy 4.59 288 ePn Pn 14 04 28.5 +0.7
HWQ Hawqa 4.62 176 eP Pn 14 04 29.7 +1.5
HWQ Hawqa 4.62 176 eP Pn 14 04 29.7 +1.5
BEST Besiri 4.62 101 iP Pn 14 04 28.1 -0.1
SZAC Souni-Zanaja 4.64 208 P Pn 14 04 29.2 +0.7
SZAC Souni-Zanaja 4.64 208 P Pn 14 04 29.2 +0.7
ADVT Abdulvahap 4.73 291 ePN Pn 14 04 30.9 +1.2
ADVT Abdulvahap 4.73 291 ePn Pn 14 04 30.9 +1.2
PPCY Paphos 4.74 214 P Pn 14 04 30.9 +1.0
PPCY Paphos 4.74 214 P Pn 14 04 30.9 +1.0
ROOS tl_alroos 4.92 163 ⇑iP Pn 14 04 34.2 +1.9
BHL Bhannes 4.98 179 eP Pn 14 04 34.7 +1.6
BHL Bhannes 4.98 179 eP Pn 14 04 34.7 +1.6
SILT Sile 5.05 298 ePN Pn 14 04 35.3 +1.2
SILT Sile 5.05 298 ePn Pn 14 04 35.3 +1.1
GEMT Gemlik 5.13 290 ePN Pn 14 04 36.8 +1.6
GEMT Gemlik 5.13 290 ePn Pn 14 04 36.8 +1.6
RCY Rachaya 5.39 177 eP Pn 14 04 40.3 +1.5
RCY Rachaya 5.39 177 eP Pn 14 04 40.3 +1.5
ARMT Armutlu 5.41 290 ePN Pn 14 04 39.7 +0.7
ARMT Armutlu 5.41 290 ePn Pn 14 04 39.7 +0.7
BRBR Barbar 5.48 176 ⇑iP Pn 14 04 40.3 +0.3
KLYT Kilyos 5.51 297 ePN Pn 14 04 41.5 +1.1
KLYT Kilyos 5.51 297 ePn Pn 14 04 41.5 +1.1
SOC Sochi 5.65 33 ciP Pn 14 04 43.4 +1.0
SOC e 14 05 47.5
SOC pmax pmax
comp=Z,35nm,0.6s
SOC MLR MLR
comp=Z,4μm,12.0s
SOC Sochi 5.65 33 iP Pn 14 04 43.4 +1.0
comp=Z,35nm,0.6s
SOC eS Sn 14 05 47.5 -0.4
comp=Z,4μm,12.0s
YAL Yalta 5.69 350 ⇑iP Pn 14 04 43.2 +0.3
YAL eS Sn 14 05 46.1 -2.6
YAL Yalta 5.69 350 iP Pn 14 04 43.2 +0.3
YAL eS Sn 14 05 46.1 -2.6
KCTX Karacabey (Bur 5.71 286 ePN Pn 14 04 45.6 +2.4
KCTX Karacabey (Bur 5.71 286 ePn Pn 14 04 45.6 +2.4
SEV Sevastopol' 5.82 347 eP Pn 14 04 45.1 +0.4
SEV eS Sn 14 05 50.8 -1.2
SEV Sevastopol' 5.82 347 eP Pn 14 04 45.1 +0.4
SEV eS Sn 14 05 50.8 -1.2
ALU Alushta 5.85 352 ⇑eP Pn 14 04 44.9 -0.2
ALU iS Sn 14 05 49.0 -3.7
ALU Alushta 5.85 352 eP Pn 14 04 44.9 -0.2
ALU iS Sn 14 05 49.0 -3.7
MMAI Mount Meron Ar 5.86 181 Pn Pn 14 04 45.5 +0.1
comp=Z,26nm,0.3s,baz=358,slow=12,SNR=19
MMAI Sn Sn 14 05 53.2 +0.1
comp=Z,11nm,0.3s,baz=334,slow=26,SNR=4.7
SUDU Sudak 6.01 356 ⇑eP Pn 14 04 47.2 -0.1
SUDU eS Sn 14 05 54.2 -2.4
SUDU Sudak 6.01 356 eP Pn 14 04 47.2 -0.1
SUDU eS Sn 14 05 54.2 -2.4
ANN Anapa 6.08 13 eP Pn 14 04 46.4 -1.8
ANN eS Sn 14 05 52.7 -5.5
ANN Anapa 6.08 13 eP Pn 14 04 46.4 -1.8
FEO Feodosiya 6.13 359 eP Pn 14 04 49.5 +0.6
FEO eS Sn 14 05 58.1 -1.4
FEO Feodosiya 6.13 359 eP Pn 14 04 49.5 +0.6
FEO eS Sn 14 05 58.1 -1.4
SIM Simferopol' 6.15 351 ⇑eP Pn 14 04 50.2 +1.0
SIM eS Sn 14 05 58.5 -1.5
SIM Simferopol' 6.15 351 eP Pn 14 04 50.2 +1.0
SIM eS Sn 14 05 58.5 -1.5
AKH Akhalkalaki 6.60 65 P Pb 14 05 08.3 -4.6
AKH S Sg 14 06 59.7 +10
ASF Jabal al Asfar 6.79 170 Pn Pn 14 04 59.4 +1.3
comp=Z,0.7nm,0.3s,baz=196,slow=3.5,SNR=8.6
ASF Lg 14 06 50.8
comp=Z,1.4nm,0.3s,baz=62,slow=19,SNR=4.5
ASF LR LR 14 07 48.7
comp=Z,2μm,20.8s,baz=70,slow=41
ASF Jabal al Asfar 6.79 170 Pn Pn 14 04 59.4 +1.3
ASF Lg 14 06 50.8
ASF LR LR 14 07 48.7
ASF Jabal al Asfar 6.79 170 P Pn 14 04 59.4 +1.3
ASF pmax pmax
comp=Z,1.0nm,0.3s
ASF MLR MLR
comp=Z,2μm,20.8s
SMG Samos 6.94 263 eP Pn 14 05 00.8 +0.7
ONI Oni 7.06 56 P Pg 14 05 35.1 +2.5
ONI S Sg 14 07 26.6 +22
PRK Paraskevi 7.21 276 eP Pn 14 05 04.7 +0.9
GNI Garni 7.23 77 Pn Pn 14 05 04.3 +0.2
comp=Z,0.4nm,0.3s,baz=150,slow=14,SNR=2.1
GNI Garni 7.23 77 eP Pn 14 05 07.2 +3.1
comp=Z,82nm,1.1s
GNI Garni 7.23 77 eP Pn 14 05 07.2 +3.1
GNI pmax pmax
comp=Z,82nm,1.1s
GNI Garni 7.23 77 eP Pn 14 05 07.2 +3.1
comp=Z,82nm,1.1s
GOR Gori 7.24 62 P Pb 14 05 28.9 +5.2
GOR S Sg 14 07 15.3 +5.5
PSN Preselentsi 7.31 313 iP Pg 14 05 53.0 +16
KIV Kislovodsk 7.38 44 eP Pn 14 05 09.3 +3.1
comp=Z,90nm,1.1s
KIV Kislovodsk 7.38 44 eP Pn 14 05 07.0 +0.8
KIV eS Sn 14 06 29.7 -0.8
KIV pmax pmax
comp=Z,27nm,0.8s
KIV MLR MLR
comp=Z,414nm,8.0s
KIV Kislovodsk 7.38 44 eP Pn 14 05 07.0 +0.8
comp=Z,27nm,0.8s
KIV eS Sn 14 06 29.7 -0.8
comp=Z,414nm,8.0s
ZEI Tsey 7.43 56 eP Pn 14 05 15.5 +8.6
ZEI pmax pmax
comp=Z,24nm,1.1s
ZEI MLR MLR
comp=Z,3μm,8.0s
PRD Provadia 7.50 308 iP Pn 14 05 07.0 -0.8
PRD Provadia 7.50 308 iP Pn 14 05 07.0 -0.8
ALN Alexandroupoli 7.56 288 eP Pn 14 05 08.2 -0.4
TBLG Delisi 7.59 65 P Pb 14 05 27.6 -2.1
TBLG Delisi 7.59 65 P Pb 14 05 27.6 -2.1
TBLG S Sg 14 07 22.1 +1.1
TIRR Tirgusor 7.70 319 P Pn 14 05 08.1 -2.4
TIRR Tirgusor 7.70 319 ⇓iP Pn 14 05 11.1 +0.6
TIRR Tirgusor 7.70 319 ⇑iP Pn 14 05 10.1 -0.4
TIRR Tirgusor 7.70 319 iP Pn 14 05 11.1 +0.6
ISHB Shabestar 7.92 91 eP Pn 14 05 15.3 +1.7
ISHB Shabestar 7.92 91 ePn Pn 14 05 15.3 +1.7
IMRD Marand 7.95 88 eP Pn 14 05 18.1 +4.2
DGRG David-gareji 7.96 68 P Pn 14 05 19.7 +5.6
DGRG S Sg 14 07 40.6 +7.7
RDO Rodhopi 7.99 290 eP Pn 14 05 14.5 0.0
LIA Limnos Island 8.07 280 eP Pn 14 05 16.5 +0.8
CFR Carcaliu 8.35 321 ⇑P Pn 14 05 19.3 -0.1
CFR Carcaliu 8.35 321 ⇓iP Pn 14 05 22.4 +3.0
CFR Carcaliu 8.35 321 P Pn 14 05 19.3 -0.1
SZH Strazhica 8.46 304 iP Pn 14 05 20.0 -1.0
SZH Strazhica 8.46 304 iP Pn 14 05 20.0 -1.0
PVL Pavlikeni 8.83 303 iP Pn 14 05 25.0 -1.0
PVL Pavlikeni 8.83 303 iP Pn 14 05 25.0 -1.0
IBST Bostanabad 9.01 94 eP Pn 14 05 33.1 +4.6
IHRS Heris 9.03 90 eP Pn 14 05 32.8 +4.0
BHD Baghdad 9.10 125 ex x 14 05 27.0
BHD ex x 14 07 12.0
BHD Baghdad 9.10 125 ix x 14 06 09.0
BHD jx x 14 08 30.0
ISR Istrita 9.13 316 ⇑P Pn 14 05 31.2 +1.1
ISR Istrita 9.13 316 ⇑iP Pn 14 05 31.1 +1.0
ISR Istrita 9.13 316 P Pn 14 05 31.2 +1.1
EIL Elat 9.21 183 Pn Pn 14 05 31.6 +0.4
comp=Z,0.9nm,0.3s,baz=15,slow=12,SNR=3.5
EIL Sn Sn 14 07 13.5 -1.9
comp=Z,0.9nm,0.3s,baz=90,slow=11,SNR=2.3
EIL LR LR 14 09 27.4
comp=Z,2μm,21.0s,baz=1.7,slow=41
EIL Elat 9.21 183 Pn Pn 14 05 31.6 +0.4
EIL Sn Sn 14 07 13.5 -1.9
EIL LR LR 14 09 27.4
EIL Elat 9.21 183 Pn Pn 14 05 31.6 +0.3
EIL Sn Sn 14 07 13.5 -1.9
NVR Nevrokopi 9.27 289 eP Pn 14 05 32.0 0.0
PLG Polygyros 9.44 283 eP Pn 14 05 34.2 -0.2
KIS Kishinev 9.48 331 eP Pn 14 05 40.0 +5.2
KIS iLi 14 07 44.0
KIS eLQ 14 08 34.0
KIS eLR LR 14 09 46.0
comp=Z,4μm,12.0s
KIS Kishinev 9.48 331 eP Pn 14 05 40.0 +5.2
KIS MLR MLR
comp=N,4μm,13.0s
KIS MLR MLR
comp=E,4μm,13.0s
KIS MLR MLR
comp=Z,5μm,13.0s
VRI Vrincioaia 9.54 320 ⇑P Pn 14 05 37.0 +1.3
VRI Vrincioaia 9.54 320 ⇓iP Px 14 05 45.8
VRI Vrincioaia 9.54 320 P Pn 14 05 37.0 +1.3
PLOR Plostina 9.56 320 ⇓P Pn 14 05 37.0 +0.9
PLOR Plostina 9.56 320 ⇑iP Pn 14 05 40.2 +4.1
PLOR Plostina 9.56 320 P Pn 14 05 37.0 +0.9
MLR Muntele Rosu 9.70 316 Pn Pn 14 05 39.2 +1.3
comp=Z,0.2nm,0.3s,baz=254,slow=7.9,SNR=9.4
MLR Muntele Rosu 9.70 316 Pn Pn 14 05 39.2 +1.3
MLR Muntele Rosu 9.70 316 P Pn 14 05 39.2 +1.3
MLR Muntele Rosu 9.70 316 ⇑iP Pn 14 05 38.5 +0.6
MLR Muntele Rosu 9.70 316 Pn Pn 14 05 39.2 +1.3
MAK Makhachkala 9.93 62 eP Pn 14 05 44.3 +3.2
MAK eS Sn 14 07 38.3 +5.2
MAK pmax pmax
comp=Z,345nm,1.4s
MAK MLR MLR
comp=Z,3μm,8.0s
MAK Makhachkala 9.93 62 eP Pn 14 05 44.3 +3.2
comp=Z,345nm,1.4s
VTS Vitosha 10.05 295 ⇑P Pn 14 05 43.1 +0.3
VTS Vitosha 10.05 295 ⇑iP Pn 14 05 42.5 -0.3
VTS Vitosha 10.05 295 iP Pn 14 05 33.0 -10
VTS Vitosha 10.05 295 P Pn 14 05 43.1 +0.3
IVIS Veis 10.08 112 eP Pn 14 05 45.2 +2.1
IVIS Veis 10.08 112 ePn Pn 14 05 45.2 +2.1
VOIR 10.16 313 ⇓P Pn 14 05 44.5 +0.3
VOIR 10.16 313 ⇑iP Pn 14 05 43.7 -0.5
VOIR 10.16 313 P Pn 14 05 44.5 +0.3
VAY Valandovo 10.22 288 ePn Pn 14 05 46.9 +1.8
VAY Valandovo 10.22 288 ePn Pn 14 05 46.9 +1.8
LOT Lotru 10.91 311 ⇑iP Pn 14 05 55.3 +0.9
LOT Lotru 10.91 311 iP Pn 14 05 55.3 +0.9
BARS Barje 11.10 295 ePn Pn 14 05 57.8 +0.7
BURAR Bucovina Array 11.51 323 ⇑P Pn 14 06 03.5 +0.9
BURAR Bucovina Array 11.51 323 ⇑iP Pn 14 06 03.5 +0.9
BURAR Bucovina Array 11.51 323 iP Pn 14 06 03.5 +0.9
DRGR 12.27 314 ⇓iP Pn 14 06 22.3 +9.2
BZS Buzias 12.30 308 ⇓P Pn 14 06 14.9 +1.5
BZS Buzias 12.30 308 ⇑iP Pn 14 06 13.1 -0.3
BZS Buzias 12.30 308 P Pn 14 06 14.9 +1.5
TRUS Trudelj 12.51 300 ePn Pn 14 06 15.2 -1.2
VSR Storozhevoye 12.59 11 eP Pn 14 06 16.7 -0.7
VSR eS Sn 14 08 29.7 -8.4
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR pmax pmax
comp=N,60nm,0.9s
VSR pmax pmax
comp=E,20nm,1.1s
VSR smax
comp=E,110nm,0.9s
VSR smax
comp=Z,10.0nm,0.8s
VSR smax
comp=N,80nm,1.0s
VSR MLR MLR
comp=Z,910nm,13.0s
VSR MLR MLR
comp=N,890nm,16.0s
VSR MLR MLR
comp=E,510nm,11.0s
VSR Storozhevoye 12.59 11 eP Pn 14 06 16.7 -0.7
comp=E,60nm,0.9s
KIEV Kiev 12.62 341 eP Pn 14 06 18.3 +0.5
comp=E,21nm,0.9s
KIEV Kiev 12.62 341 eP Pn 14 06 18.3 +0.5
KIEV pmax pmax
comp=Z,21nm,0.9s
KIEV Kiev 12.62 341 eP Pn 14 06 18.3 +0.5
comp=Z,21nm,0.9s
AKASG Malin Array Be 12.62 341 Pn Pn 14 06 18.4 +0.5
comp=Z,2.1nm,0.3s,baz=162,slow=12,SNR=6.6
AKASG Sn Sn 14 08 28.2 -11
comp=Z,0.6nm,0.3s,baz=156,slow=24,SNR=4.2
AKASG Malin Array Be 12.62 341 Pn Pn 14 06 18.4 +0.5
AKASG Sn Sn 14 08 28.2 -11
AKASG Malin Array Be 12.62 341 P Pn 14 06 18.4 +0.5
AKASG pmax pmax
comp=Z,2.0nm,0.3s
AKASG Malin Array Be 12.62 341 Pn Pn 14 06 18.4 +0.5
DIVS Divibare 12.75 299 ePn Pn 14 06 20.3 +0.6
IR3 Iran Long-Peri 12.82 101 eP Pn 14 06 24.3 +3.7
VRHR Novokhopersk 12.94 17 eP Pn 14 06 22.3 +0.1
VRHR pmax pmax
comp=Z,30nm,0.9s
VRHR pmax pmax
comp=N,40nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.7s
VRHR Novokhopersk 12.94 17 eP Pn 14 06 22.3 +0.1
comp=E,30nm,0.9s
BBLS Lazići 13.09 297 ePn Pn 14 06 24.3 +0.1
VOR Voronezh 13.10 10 P Pn 14 06 25.0 +0.7
VOR pmax pmax
comp=Z,240nm,1.0s
VOR Voronezh 13.10 10 P Pn 14 06 25.0 +0.7
comp=Z,240nm,1.0s
IDMV Damavand 13.56 99 eP Pn 14 06 34.0 +3.2
IDMV Damavand 13.56 99 eP Pn 14 06 34.0 +3.2
UZH Uzhgorod 13.63 320 eP Pn 14 06 29.7 -1.9
UZH eS Sn 14 09 00.9 -2.7
UZH MLR MLR
comp=N,2μm,14.0s
UZH MLR MLR
comp=E,3μm,14.0s
UZH MLR MLR
comp=Z,1μm,14.0s
LVV L'vov 13.66 327 eP Pn 14 06 29.3 -2.7
LVV eS Sn 14 08 55.9 -8.3
LVV MLR MLR
comp=Z,1μm,12.0s
IKLH Kolahrood 14.11 108 eP Pn 14 06 40.4 +2.1
IKLH Kolahrood 14.11 108 ePn Pn 14 06 40.4 +2.1
CRVS Cervenica-Dubn 14.23 319 eP Pn 14 06 38.8 -1.0
CRVS Cervenica-Dubn 14.23 319 ePN Pn 14 06 38.8 -1.0
ISHM Shahmirzad 14.46 97 eP Pn 14 06 46.2 +3.1
PSZ Piszkesteto 14.49 314 eP Pn 14 06 44.2 +0.8
comp=Z,12nm,1.0s
PSZ Piszkesteto 14.49 314 eP Pn 14 06 44.2 +0.8
PSZ pmax pmax
comp=Z,12nm,1.0s
PSZ Piszkesteto 14.49 314 ⇑eP Pn 14 06 44.7 +1.3
IZEF Zefreh 14.87 109 eP Pn 14 06 50.7 +2.1
IZEF Zefreh 14.87 109 ePn Pn 14 06 50.7 +2.1
IANJ Anjilo 15.05 97 eP Pn 14 06 52.3 +1.2
CUC Castrocucco 15.27 280 eP Pn 14 06 54.6 +0.6
comp=Z,65nm,0.9s
VYHS Vyhne 15.40 314 eP Pn 14 06 57.1 +1.5
VYHS Vyhne 15.40 314 ePN Pn 14 06 57.1 +1.5
OJC Ojcow 15.90 321 eP Pn 14 07 01.1 -1.0
OJC Ojcow 15.90 321 eP Pn 14 07 01.1 -1.0
ZST Bratislava 16.25 311 eP Pn 14 07 10.7 +4.1
ZST Bratislava 16.25 311 eP Pn 14 07 10.7 +4.1
ZST Bratislava 16.25 311 eP Pn 14 07 10.7 +4.1
OBN Obninsk 16.25 2 P Pn 14 07 06.1 -0.5
OBN Obninsk 16.25 2 ⇓eP Pn 14 07 04.4 -2.2
OBN eS Sn 14 10 04.5 -2.7
OBN pmax pmax
comp=Z,31nm,1.0s
OBN MLR MLR
comp=Z,800nm,17.0s
SOP Sopron 16.34 309 ⇑eP Pn 14 07 12.0 +4.2
SOP Sopron 16.34 309 ⇑eP Pn 14 07 12.0 +4.2
MORC Moravsky Berou 16.81 316 eP Pn 14 07 13.6 -0.1
CONA Conrad Observa 16.87 309 ⇑eP Pn 14 07 17.9 +3.4
comp=Z,16nm,1.2s,SNR=7.0
CONA Conrad Observa 16.87 309 P Pn 14 07 17.9 +3.4
comp=Z,16nm,1.2s,SNR=7.0
CSNA Conrad Observa 16.87 309 ⇑iP Pn 14 07 17.7 +3.1
comp=Z,16nm,1.2s
CSNA Conrad Observa 16.87 309 P Pn 14 07 17.7 +3.1
comp=Z,16nm,1.2s
MOS Moscow 16.92 4 eP Pn 14 07 10.2 -4.9
MOS eS Sn 14 10 12.5 -11
MOS pmax pmax
comp=Z,67nm,0.7s
MOS MLR MLR
comp=Z,1μm,13.0s
IPAR Pars 17.03 117 eP Pn 14 07 15.0 -1.7
NACGM Naroch 17.07 343 e Pn 14 07 17.0 0.0
VRAC Vranov 17.08 314 P Pn 14 07 16.9 -0.4
comp=Z,1.1nm,0.3s,baz=215,slow=7.6,SNR=6.2
VRAC LR LR 14 14 31.0
comp=Z,782nm,18.5s,baz=123,slow=39
VRAC Vranov 17.08 314 P Pn 14 07 16.9 -0.4
VRAC LR LR 14 14 31.0
VRAC Vranov 17.08 314 P Pn 14 07 16.9 -0.3
VRAC pmax pmax
comp=Z,1.0nm,0.3s
VRAC MLR MLR
comp=Z,782nm,18.5s
VRAC Vranov 17.08 314 P Pn 14 07 16.9 -0.3
comp=Z,782nm,18.5s
AQU L'Aquila 17.14 289 eP Pn 14 07 20.3 +2.3
AQU L'Aquila 17.14 289 eP Pn 14 07 20.3 +2.3
AQU L'Aquila 17.14 289 eP Pn 14 07 20.3 +2.3
IMEH Mehriz 17.29 110 eP Pn 14 07 21.4 +1.4
IMEH Mehriz 17.29 110 eP Pn 14 07 21.4 +1.4
SUW Suwalki 17.31 335 eP Pn 14 07 22.1 +2.0
SUW Suwalki 17.31 335 P Pn 14 07 20.4 +0.3
comp=Z,106nm,1.1s
SUW Suwalki 17.31 335 eP Pn 14 07 22.1 +2.0
SUW Suwalki 17.31 335 eP Pn 14 07 22.1 +2.0
ISRV Sarvestan 17.35 118 eP Pn 14 07 18.1 -2.6
DPC Dobruska-Polom 17.78 316 eP Pn 14 07 27.0 +1.1
DPC Dobruska-Polom 17.78 316 eP Pn 14 07 27.0 +1.1
DPC Dobruska-Polom 17.78 316 eP Pn 14 07 27.0 +1.1
MYKA Terra Mystica 17.80 303 ⇑epP Pn 14 07 29.5 +3.4
comp=Z,18nm,1.1s
MOA Molln 17.82 307 ⇑eP Pn 14 07 30.5 +4.1
comp=Z,21nm,1.1s
KSP Ksiaz 18.07 318 eP Pn 14 07 29.1 -0.3
KSP eS Sn 14 10 55.0 +3.7
IKRD Kardeh 18.27 89 eP Pn 14 07 41.9 +10
IAKL Akhelmad 18.50 90 eP Pn 14 07 36.3 +1.4
GEC2 GERESS Array S 18.56 309 eP Pn 14 07 36.1 +0.6
comp=Z,12nm,1.2s
GEC2 GERESS Array S 18.56 309 eP Pn 14 07 36.1 +0.6
GEC2 pmax pmax
comp=Z,12nm,1.2s
GEC2 GERESS Array S 18.56 309 eP Pn 14 07 36.1 +0.6
comp=Z,12nm,1.2s
GERES GERESS Array B 18.56 309 P Pn 14 07 36.2 +0.7
comp=Z,0.1nm,0.3s,baz=113,slow=10,SNR=13
GERES LR LR 14 15 13.8
comp=Z,550nm,19.4s,baz=116,slow=38
GERES GERESS Array B 18.56 309 P Pn 14 07 36.2 +0.7
GERES LR LR 14 15 13.8
GERES GERESS Array B 18.56 309 P Pn 14 07 36.2 +0.7
GERES MLR MLR
comp=Z,550nm,19.4s
GERES GERESS Array B 18.56 309 P Pn 14 07 36.2 +0.7
comp=Z,550nm,19.4s
PRU Pruhonice 18.58 313 eP Pn 14 07 37.7 +2.0
PRU Pruhonice 18.58 313 eP Pn 14 07 37.7 +2.0
IPAY Payeh 18.73 90 eP Pn 14 07 38.7 +1.1
IPAY Payeh 18.73 90 eP Pn 14 07 38.7 +1.1
KHC Kasperske Hory 18.75 310 eP Pn 14 07 37.5 -0.3
comp=Z,15nm,1.2s
KHC Kasperske Hory 18.75 310 eP Pn 14 07 41.1 +3.3
KHC Kasperske Hory 18.75 310 eP Pn 14 07 41.1 +3.3
KHC Kasperske Hory 18.75 310 eP Pn 14 07 37.5 -0.3
comp=Z,15nm,1.2s

WTTA Wattenberg 19.30 303 ||| *e*P P **Pn 14 07 45.5 +1.1**
comp=Z,31nm,1.3s
BRG Berggiesshubel 19.35 315 *e*P **Pn 14 07 47.8 +2.8**
comp=Z,11nm,1.2s
BRG S **Sn 14 11 26.0 +3.7**
BRG
comp=N,783nm,13.6s
BRG
comp=E,2µm,14.4s
BRG
comp=Z,2µm,15.3s
AKTK Aktyubinsk 19.64 47 P **Pn 14 07 48.2 -0.3**
AKTK LR LR 14 17 07.4
AKTK Aktyubinsk 19.64 47 P **Pn 14 07 48.2 -0.3**
comp=Z,965nm,20.4s
AKTO Aktyubinsk 19.64 47 P **Pn 14 07 48.2 -0.3**
comp=Z,0.5nm,0.3s,baz=240,slow=12,SNR=18
AKTO LR LR 14 17 07.4
comp=Z,965nm,20.4s,baz=245,slow=42
AKTO Aktyubinsk 19.64 47 P **Pn 14 07 48.2 -0.3**
AKTO pmax pmax
comp=Z,1.0nm,0.3s
AKTO MLR MLR
comp=Z,965nm,20.4s
MOTA Moosalm 19.67 303 ||| *i*Pn **Pn 14 07 49.0 +0.1**
comp=Z,101nm,1.0s,SNR=13
FETA Feichten 19.83 302 ||| *e*Pn **Pn 14 07 50.9 +0.1**
comp=Z,33nm,0.9s,SNR=18
FETA Feichten 19.83 302 P **Pn 14 07 50.9 +0.1**
comp=Z,33nm,0.9s,SNR=18
NKC Novy Kostel 19.89 312 *e*P **Pn 14 07 55.9 +4.4**
NKC Novy Kostel 19.89 312 *e*P **Pn 14 07 55.9 +4.4**
RETA Reutte 19.93 304 ||| *i*Pn **Pn 14 07 51.2 -0.8**
comp=Z,81nm,0.8s,SNR=16
RETA Reutte 19.93 304 Pn **Pn 14 07 51.2 -0.8**
comp=Z,81nm,0.8s,SNR=16
WERN Wernitzgruen 19.95 312 *e*P **Pn 14 07 51.5 -0.7**
comp=Z,19nm,1.2s
TANN Tannenbergsthа 19.96 313 *e*P **Pn 14 07 51.5 -0.8**
comp=Z,26nm,1.5s
GUNZ Gunzen 20.01 313 *e*P **P 14 07 52.3 +1.0**
comp=Z,13nm,1.3s
CLL Collm 20.08 316 *e*P **P 14 07 52.4 +0.5**
comp=Z,36nm,2.0s
CLL Collm 20.08 316 *e*P **P 14 07 52.0 +0.1**
CLL *e* 14 07 58.0
CLL *e*S **S 14 11 38.0 0.0**
CLL Collm 20.08 316 *e*P **P 14 07 52.0 +0.1**
CLL *e*(sP) sP 14 07 58.0 +5.3
CLL *e*PP 14 08 10.0
CLL *e*PPP 14 08 18.0
CLL *e*S **S 14 11 38.0 0.0**
comp=N,1µm,19.2s
CLL *e*S **S 14 11 38.0 0.0**
comp=E,500nm,18.7s
CLL *e*PcP PcP 14 12 11.0 +3.7
CLL Lmax 14 27 06.0
CLL Collm 20.08 316 *e*P **P 14 07 52.0 +0.1**
CLL *e*S **S 14 11 38.0 0.0**
VSL Villasalto 20.26 280 *e*P **P 14 07 53.8 -0.2**
comp=E,36nm,0.9s
VSL Villasalto 20.26 280 *e*P **P 14 07 53.8 -0.2**
comp=E,36nm,0.9s
ABKAR Akbulak array 20.29 51 *e*P **P 14 07 53.4 -0.8**
comp=E,16nm,1.1s
ABKAR Akbulak array 20.29 51 *e*P **P 14 07 53.4 -0.8**
comp=E,16nm,1.1s
DAVOX Davos/Dischmat 20.33 301 P **P 14 07 56.4 +1.6**
comp=E,33nm,1.1s,baz=114,slow=7.4,SNR=19
DAVOX LR LR 14 16 44.2
comp=E,1µm,20.8s,MS4.2,baz=98,slow=40
DAVOX Davos/Dischmat 20.33 301 P **P 14 07 56.4 +1.6**
DAVOX LR LR 14 16 44.1
DAVOX Davos/Dischmat 20.33 301 P **P 14 07 56.4 +1.6**
GRA1 Grafenberg Arr 20.39 310 *e*P **P 14 07 56.2 +0.9**
comp=E,49nm,1.1s
GRF Grafenberg Arr 20.39 310 *e*P **P 14 07 56.2 +0.9**
comp=Z,49nm,1.1s
GRF Grafenberg Arr 20.39 310 *e*P **P 14 07 56.2 +0.9**
GRF pmax pmax
comp=Z,49nm,1.1s
VSU Vasula 20.40 347 *e*P **P 14 07 55.0 -0.3**
VSU pmax pmax
comp=Z,62nm,1.4s
VSU Vasula 20.40 347 *e*P **P 14 07 55.0 -0.3**
comp=Z,62nm,1.4s
PGF Pioggiola 20.41 289 *e*P **P 14 07 55.3 -0.3**
comp=Z,79nm,1.0s
PGF Pioggiola 20.41 289 *e*P **P 14 07 55.3 -0.3**
comp=Z,40nm,1.0s
DAVA Damuels 20.46 303 ||| *e*Pn **P 14 07 56.8 +0.7**
comp=Z,176nm,0.9s,SNR=52
DAVA Damuels 20.46 303 Pn **P 14 07 56.8 +0.7**
comp=Z,176nm,0.9s,SNR=52
MOX Moxa 20.55 313 *e*P **P 14 07 57.8 +0.7**
comp=Z,25nm,1.2s
MOX Moxa 20.55 313 *e*P **P 14 07 57.8 +0.7**
MOX pmax pmax
comp=Z,25nm,1.2s
MOX Moxa 20.55 313 *e*P **P 14 07 57.8 +0.7**
comp=Z,25nm,1.2s
TUE Stuetta 20.62 300 *e*P **P 14 07 58.1 +0.2**
comp=Z,20nm,1.0s
NEUB Neuenburg 20.71 314 *e*P **P 14 07 59.5 +0.7**
comp=Z,38nm,1.2s
KEST Kesra 21.04 270 P **P 14 08 01.9 -0.6**
comp=Z,17nm,1.0s,mb4.3,baz=21,slow=4.1,SNR=30
KEST Kesra 21.04 270 *e*P **P 14 08 03.4 +0.9**
SPAK Spaichingen-Ko 21.38 304 *e*P **P 14 08 06.7 +0.6**
SPAK Spaichingen-Ko 21.38 304 *e*P **P 14 08 06.7 +0.6**
SAOF Saorge 21.53 293 *e*P **P 14 08 09.7 +2.0**
SAOF Saorge 21.53 293 *e*P **P 14 08 09.7 +2.0**
SAOF Saorge 21.53 293 *e*P **P 14 08 09.7 +2.0**
SAOF Saorge 21.53 293 *e*P **P 14 08 09.7 +2.0**
UBBA Unterbreizbach 21.55 312 *e*P **P 14 08 08.3 +0.4**
comp=Z,343nm,3.7s
SBF Sospel 21.61 292 *e*P **P 14 08 08.7 +0.1**
comp=Z,73nm,1.0s,mb4.8
AUTN L'Aution 21.62 293 *e*P **P 14 08 11.7 +3.0**
AUTN L'Aution 21.62 293 *e*P **P 14 08 11.7 +3.0**
AUTN L'Aution 21.62 293 *e*P **P 14 08 11.7 +3.0**
AUTN L'Aution 21.62 293 *e*P **P 14 08 11.7 +3.0**
LUCF Luceram 21.67 292 *e*P **P 14 08 11.2 +1.9**
LUCF Luceram 21.67 292 *e*P **P 14 08 11.2 +1.9**
LUCF Luceram 21.67 292 *e*P **P 14 08 11.2 +1.9**
BFO Black Forest 21.74 305 *e*P **P 14 08 10.8 +0.9**
comp=Z,54nm,1.4s,mb4.8
BFO Black Forest 21.74 305 *e*P **P 14 08 09.2 -0.7**
comp=Z,31nm,1.0s,mb4.7
BFO Black Forest 21.74 305 *e*P **P 14 08 10.8 +0.9**
BFO pmax pmax
comp=Z,54nm,1.4s,mb4.8
TOUF Mont Tournerai 21.75 293 *e*P **P 14 08 12.8 +2.7**
TOUF Mont Tournerai 21.75 293 *e*P **P 14 08 12.8 +2.7**
TOUF Mont Tournerai 21.75 293 *e*P **P 14 08 12.8 +2.7**
TOUF Mont Tournerai 21.75 293 *e*P **P 14 08 12.8 +2.7**
CLZ Clausthal 21.78 315 *e*P **P 14 08 10.3 0.0**
comp=Z,41nm,1.4s,mb4.7
CLZ Clausthal 21.78 315 *e*P **P 14 08 10.3 0.0**
CLZ pmax pmax
comp=Z,41nm,1.4s,mb4.7
MVIF Mont Vial 21.81 292 *e*P **P 14 08 14.3 +3.5**
MVIF Mont Vial 21.81 292 *e*P **P 14 08 14.3 +3.5**
MVIF Mont Vial 21.81 292 *e*P **P 14 08 14.3 +3.5**
MVIF Mont Vial 21.81 292 *e*P **P 14 08 14.3 +3.5**
FELD Feldberg im Sc 21.83 303 *e*P **P 14 08 11.0 +0.1**
FELD Feldberg im Sc 21.83 303 *e*P **P 14 08 11.0 +0.1**
BBS Basel-Blauen 22.06 302 *e*P **P 14 08 12.8 -0.6**
BBS Basel-Blauen 22.06 302 *e*P **P 14 08 12.8 -0.6**
BBS Basel-Blauen 22.06 302 *e*P **P 14 08 12.8 -0.6**
KLMR Klimovskoe 22.13 5 *e*P **P 14 08 13.6 -0.4**
KLMR pmax pmax
comp=Z,104nm,1.6s,mb5.0
KLMR MLR MLR
comp=Z,970nm,12.0s,MS4.4
MBDF Montbardon 22.15 295 *e*P **P 14 08 14.3 0.0**
comp=Z,24nm,0.7s,mb4.5
FRF La Foret Royal 22.16 291 *e*P **P 14 08 14.6 +0.1**
comp=Z,88nm,1.4s,mb4.7
LPG La Plagne 22.25 297 *e*P **P 14 08 15.3 -0.1**
comp=Z,82nm,1.3s,mb4.7
BNI Bardonecchia 22.25 295 *e*P **P 14 08 15.8 +0.5**
comp=Z,58nm,1.3s,mb4.8
BNI Bardonecchia 22.25 295 *e*P **P 14 08 15.8 +0.4**
BNI pmax pmax
comp=Z,58nm,1.3s,mb4.8
TNS Taunus Mts 22.25 309 *e*P **P 14 08 16.5 +1.1**
comp=Z,38nm,1.6s,mb4.6
TNS Taunus Mts 22.25 309 *e*P **P 14 08 16.5 +1.1**
TNS pmax pmax
comp=Z,38nm,1.6s,mb4.6
LANF Langenberg 22.25 306 *e*P **P 14 08 15.1 -0.3**
LANF Langenberg 22.25 306 *e*P **P 14 08 15.1 -0.3**
LANF Langenberg 22.25 306 *e*P **P 14 08 15.1 -0.3**
LANF Langenberg 22.25 306 *e*P **P 14 08 15.1 -0.3**
LMR La Mourre 22.25 291 *e*P **P 14 08 14.6 -0.9**
comp=Z,48nm,1.3s,mb4.5
LPL La Plagne 22.26 297 *e*P **P 14 08 15.4 -0.1**
comp=Z,80nm,1.2s,mb4.7
RSL Roselend 22.36 297 *e*P **P 14 08 16.1 -0.5**
RSL Roselend 22.36 297 *e*P **P 14 08 16.1 -0.5**
RSL Roselend 22.36 297 *e*P **P 14 08 16.1 -0.5**
RSL Roselend 22.36 297 *e*P **P 14 08 16.1 -0.5**
MOF Molkenrain 22.40 303 *e*P **P 14 08 16.9 -0.1**
MOF Molkenrain 22.40 303 *e*P **P 14 08 16.9 -0.1**
MOF Molkenrain 22.40 303 *e*P **P 14 08 16.9 -0.1**
MOF Molkenrain 22.40 303 *e*P **P 14 08 16.9 -0.1**
CDF Champ du Feu 22.44 304 *e*P **P 14 08 17.3 -0.1**
comp=Z,33nm,1.2s,mb4.3
ECH Echery 22.47 304 *e*P **P 14 08 16.9 -0.8**
comp=Z,33nm,0.9s,mb4.8
ECH Echery 22.47 304 *e*P **P 14 08 16.9 -0.8**
ECH pmax pmax
comp=Z,33nm,0.9s,mb4.8
ECH Echery 22.47 304 *e*P **P 14 08 17.4 -0.3**
ECH Echery 22.47 304 *e*P **P 14 08 17.4 -0.3**
LOMF Lomont 22.49 301 *e*P **P 14 08 18.6 +0.6**
LOMF Lomont 22.49 301 *e*P **P 14 08 18.6 +0.6**
LOMF Lomont 22.49 301 *e*P **P 14 08 18.6 +0.6**
LOMF Lomont 22.49 301 *e*P **P 14 08 18.6 +0.6**
HINF Hinteralfeld 22.57 303 *e*P **P 14 08 18.3 -0.5**
comp=Z,39nm,0.8s,mb4.6
OG25 Le Caire 22.62 294 *e*P **P 14 08 18.7 -0.6**
OG25 Le Caire 22.62 294 *e*P **P 14 08 18.7 -0.6**
OG25 Le Caire 22.62 294 *e*P **P 14 08 18.7 -0.6**
ORIF Oris-en-Rattie 22.80 295 *e*P **P 14 08 21.1 -0.1**
comp=Z,44nm,1.1s,mb4.5
ORIF *e*R
comp=Z,1µm,22.5s
CABF La Chapelle 22.86 299 *e*P **P 14 08 21.8 -0.1**
comp=Z,46nm,1.0s,mb4.6
RUP Ruppelstein 22.93 307 *e*P **P 14 08 20.6 -2.0**
RUP Ruppelstein 22.93 307 *e*P **P 14 08 20.6 -2.0**
RUP Ruppelstein 22.93 307 *e*P **P 14 08 20.6 -2.0**
HAU Haudompre 22.95 303 *e*P **P 14 08 22.1 -0.7**
comp=Z,32nm,0.8s,mb4.5
HAU *e*R
comp=Z,1µm,22.0s
SMRF Simiane la Rot 22.95 292 *e*P **P 14 08 22.4 -0.5**
comp=Z,77nm,1.1s,mb4.8
THEF They Montfort 23.23 303 *e*P **P 14 08 25.0 -0.8**
THEF They Montfort 23.23 303 *e*P **P 14 08 25.0 -0.8**
THEF They Montfort 23.23 303 *e*P **P 14 08 25.0 -0.8**
THEF They Montfort 23.23 303 *e*P **P 14 08 25.0 -0.8**
ARU Arti 23.24 33 *e*P **P 14 08 24.2 -1.5**
comp=Z,28nm,1.0s,mb4.7
ARU Arti 23.24 33 *d*iP **P 14 08 25.0 -0.8**
ARU *e*PPP 14 08 56.5
ARU S **S 14 12 35.6 -2.7**
ARU pmax pmax
comp=Z,30nm,1.7s,mb4.5
ARU MLR MLR
comp=Z,864nm,18.0s,MS4.2
FINES FINESS Array B 23.33 349 P **P 14 08 27.3 +0.7**
comp=Z,12nm,0.8s,mb4.4,baz=156,slow=9.1,SNR=11
FINES LR LR 14 19 46.1
comp=Z,865nm,19.1s,MS4.2,baz=165,slow=42
FINES FINESS Array B 23.33 349 P **P 14 08 27.3 +0.7**
FINES LR LR 14 19 46.1
FINES FINESS Array B 23.33 349 P **P 14 08 27.3 +0.6**
FINES pmax pmax
comp=Z,12nm,0.9s
FINES MLR MLR
comp=Z,865nm,19.1s
PAGF Fort de Pagny 23.48 304 *e*P **P 14 08 27.6 -0.8**
comp=Z,29nm,1.1s,mb4.3
VIVF Saint-Julien-l 23.65 295 *e*P **P 14 08 28.5 -1.6**
comp=Z,56nm,1.4s,mb4.5
SFTF Sexfontaines 23.85 303 *e*P **P 14 08 30.9 -1.0**
comp=Z,27nm,0.7s,mb4.5
MEZF Maizieres J'vi 23.90 304 *e*P **P 14 08 31.6 -0.8**
comp=Z,133nm,1.0s,mb5.0
KAF Kangasniemi 23.93 349 *e*P **P 14 08 33.3 +0.8**
KAF pmax pmax
comp=Z,7.0nm,0.7s,mb4.2
KAF Kangasniemi 23.93 349 *e*p **P 14 08 33.3 +0.8**
comp=Z,7.1nm,0.7s,mb4.2
KAF Kangasniemi 23.93 349 *e*P **P 14 08 33.3 +0.8**
comp=Z,7.1nm,0.7s,mb4.2
JOF Joensuu 24.20 355 *e*P **P 14 08 33.3 -1.6**
JOF pmax pmax
comp=Z,23nm,0.7s,mb4.7
JOF Joensuu 24.20 355 *e*p **P 14 08 33.3 -1.6**
comp=Z,23nm,0.7s,mb4.7
JOF Joensuu 24.20 355 *e*P **P 14 08 33.3 -1.6**
comp=Z,23nm,0.7s,mb4.7
LASF Ste Croix 24.20 293 *e*P **P 14 08 34.4 -0.7**
comp=Z,142nm,1.7s,mb4.8
SVE Sverdlovsk 24.39 34 ||| *e*P **P 14 08 39.6 +2.9**
SVE *e* 14 09 22.6
SVE *e*S **S 14 13 02.0 +5.1**
SVE pmax pmax
comp=Z,55nm,1.5s,mb4.8
SVE MLR MLR
comp=Z,1µm,16.0s,MS4.4
SMF Signal de Mont 24.40 299 *e*P **P 14 08 36.6 -0.3**
comp=Z,48nm,1.0s,mb4.6
LOR Lormes 24.47 300 *e*P **P 14 08 36.2 -1.4**
comp=Z,39nm,0.9s,mb4.5,baz=104
LOR *e*R
comp=Z,828nm,22.0s
PLDF La Plantade 24.48 297 *e*P **P 14 08 37.4 -0.3**
PLDF La Plantade 24.48 297 *e*P **P 14 08 37.4 -0.3**
PLDF La Plantade 24.48 297 *e*P **P 14 08 37.4 -0.3**
PLDF La Plantade 24.48 297 *e*P **P 14 08 37.4 -0.3**
SSF Saint Saulge 24.68 300 *e*P **P 14 08 38.3 -1.2**
comp=Z,33nm,1.0s,mb4.5
LBL Lubilhac 24.68 295 *e*P **P 14 08 39.0 -0.5**
LBL Lubilhac 24.68 295 *e*P **P 14 08 39.0 -0.5**
LBL Lubilhac 24.68 295 *e*P **P 14 08 39.0 -0.5**
LBL Lubilhac 24.68 295 *e*P **P 14 08 39.0 -0.5**
AVF Avril sur Loir 24.75 299 *e*P **P 14 08 39.8 -0.3**
comp=Z,34nm,0.8s,mb4.6
BAIF Baives 24.80 307 *e*P **P 14 08 40.1 -0.5**
comp=Z,48nm,1.3s,mb4.6
AGO Saint Agoulin 24.82 297 *e*P **P 14 08 39.9 -0.9**
AGO Saint Agoulin 24.82 297 *e*P **P 14 08 39.9 -0.9**
AGO Saint Agoulin 24.82 297 *e*P **P 14 08 39.9 -0.9**
PYM Petit Puy Mans 24.88 297 *e*P **P 14 08 40.5 -0.9**
PYM Petit Puy Mans 24.88 297 *e*P **P 14 08 40.5 -0.9**
PYM Petit Puy Mans 24.88 297 *e*P **P 14 08 40.5 -0.9**
PYM Petit Puy Mans 24.88 297 *e*P **P 14 08 40.5 -0.9**
BGF Bois d'Agland 25.07 298 *e*P **P 14 08 42.9 -0.2**
comp=Z,14nm,0.8s,mb4.3
ETOS Mallorca 25.25 282 P **P 14 08 45.3 +0.6**
comp=Z,321nm,3.1s
HYF Humbligny 25.29 300 *e*P **P 14 08 45.1 0.0**
CFON Fontmartina 25.31 287 P **P 14 08 45.3 0.0**
comp=Z,11nm,0.7s,mb4.5
HFS Hagfors 25.33 334 P **P 14 08 47.0 +1.7**
comp=Z,6.8nm,0.7s,mb4.3,baz=140,slow=7.7,SNR=7.8
HFS LR LR 14 20 02.5
comp=Z,857nm,19.7s,MS4.3,baz=136,slow=40
HFS Hagfors 25.33 334 P **P 14 08 47.0 +1.7**
HFS LR LR 14 20 02.5
HFS Hagfors 25.33 334 P **P 14 08 47.0 +1.8**
HFS pmax pmax
comp=Z,7.0nm,0.7s
HFS MLR MLR
comp=Z,857nm,19.7s
MTLF Montolieu 25.39 291 *e*P **P 14 08 45.0 -1.0**
comp=Z,41nm,1.4s,mb4.5
TCF Toulx Ste Croi 25.48 298 *e*P **P 14 08 45.9 -0.9**
comp=Z,48nm,1.2s,mb4.6
CAF Calviac 25.50 295 *e*P **P 14 08 46.7 -0.3**
comp=Z,13nm,0.9s,mb4.2
RJF Les Rejaudoux 25.91 295 *e*P **P 14 08 50.3 -0.4**
comp=Z,70nm,1.3s,mb4.7
RJF *e*R
comp=Z,1µm,22.0s
CSOR Sort 26.23 289 P **P 14 08 54.0 +0.4**
comp=Z,142nm,1.8s,mb5.2
EPOB Poblet 26.36 286 P **P 14 08 56.6 +1.8**
comp=Z,95nm,2.4s,mb4.9
KKAR Karatay Array 26.62 70 *e*P **P 14 08 56.9 -0.2**
comp=Z,8.4nm,0.8s,mb4.3
KKAR Karatay Array 26.62 70 *e*P **P 14 08 56.9 -0.2**
KKAR pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
EPF Esparros 26.77 290 *e*P **P 14 08 58.3 -0.2**
comp=Z,9.3nm,0.7s,mb4.1
NB2 NORSAR Subarra 26.83 334 P **P 14 09 01.0 +2.2**
comp=Z,12nm,1.1s,mb4.3,baz=137,slow=10
NB2 NORSAR Subarra 26.83 334 P **P 14 09 01.0 +2.2**
comp=Z,12nm,1.1s,mb4.3,SNR=5.9
NOA NORSAR Array B 26.83 334 P **P 14 09 01.1 +2.3**
comp=Z,4.5nm,0.9s,mb4.0,baz=137,slow=9.6,SNR=4.3
NOA LR LR 14 20 58.1
comp=Z,749nm,18.8s,MS4.3,baz=145,slow=39
NOA NORSAR Array B 26.83 334 P **P 14 09 01.1 +2.3**
NOA LR LR 14 20 58.1
NOA NORSAR Array B 26.83 334 P **P 14 09 01.2 +2.4**
NOA pmax pmax
comp=Z,5.0nm,0.9s
NOA MLR MLR
comp=Z,749nm,18.8s
EBIE Bielsa 26.94 290 P **P 14 08 59.6 -0.5**
comp=Z,62nm,1.3s,mb5.0
MFF Saint Martin d 27.13 298 *e*P **P 14 09 00.3 -1.4**
comp=Z,50nm,1.2s,mb4.6
LDF La Druitiere 27.30 302 *e*P **P 14 09 02.8 -0.4**
comp=Z,31nm,1.2s,mb4.4
ETSF Etsaut 27.44 290 *e*P **P 14 09 04.9 +0.4**
comp=Z,68nm,1.4s,mb4.7
FLN La Foliniere 27.56 303 *e*P **P 14 09 04.1 -1.5**
comp=Z,60nm,1.2s,mb4.8
FLN *e*R
comp=Z,1µm,21.8s
EMOS Mosqueruela 27.65 285 P **P 14 09 06.5 +0.1**
comp=Z,100nm,1.5s,mb5.2
BRVK Borovoye 27.68 48 *e*P **P 14 09 05.9 -0.7**
comp=Z,6.2nm,0.9s,mb4.2
BRVK Borovoye 27.68 48 *e*P **P 14 09 08.5 +1.9**
BRVK pmax pmax
comp=Z,14nm,1.7s,mb4.3
GRR Gorron 27.76 302 *e*P **P 14 09 06.2 -1.2**
comp=Z,56nm,1.0s,mb4.8
SJPF Ste Jean 27.91 291 *e*P **P 14 09 08.0 -0.7**
comp=Z,31nm,1.1s,mb4.5
ATD Arta Tunnel 28.02 165 LR LR 14 18 47.3
comp=Z,633nm,21.7s,MS4.2,baz=162,slow=34
EALK Alkurruntz 28.11 291 P **P 14 09 07.2 -3.3**
comp=Z,263nm,2.2s,mb5.5
ECHE Chera 28.16 283 P **P 14 09 10.7 -0.3**
comp=Z,9.8nm,0.7s,mb4.5
ECHE Chera 28.16 283 P **P 14 09 10.7 -0.3**
ECHE pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
APA Apatity 28.76 358 ||| *i*P **P 14 09 17.8 +1.8**
APA pmax pmax
comp=Z,50nm,1.2s,mb5.1
APA MLR MLR
comp=Z,2µm,16.0s,MS4.7
SGMF Saint Gilles 28.88 301 *e*P **P 14 09 17.6 +0.3**
comp=Z,82nm,1.2s,mb5.0
FRU Bishkek 29.64 70 *e*P **P 14 09 26.0 +1.9**
FRU *e* 14 16 10.0
FRU pmax pmax
comp=Z,100nm,2.4s,mb5.1
TAM Tamanrasset 30.17 247 *e*P **P 14 09 29.2 +0.1**
comp=Z,5.7nm,0.9s,mb4.3
TAM Tamanrasset 30.17 247 *e*P **P 14 09 29.2 +0.2**
TAM pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
TKM2 Tokmak 2 30.35 69 *e*P **P 14 09 32.8 +2.4**
comp=Z,5.5nm,1.1s,mb4.2
TKM2 Tokmak 2 30.35 69 *e*P **P 14 09 32.8 +2.4**
TKM2 pmax pmax
comp=Z,6.0nm,1.1s,mb4.2
GUD Guadarrama 30.38 286 P **P 14 09 29.4 -1.3**
comp=Z,9.5nm,0.9s,mb4.5
GUD Guadarrama 30.38 286 P **P 14 09 29.4 -1.3**
GUD pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
ESDC Sonseca Array 30.41 284 P **P 14 09 30.0 -1.0**
comp=Z,4.3nm,0.7s,mb4.3,baz=64,slow=9.2,SNR=14
ESDC LR LR 14 22 58.8
comp=Z,296nm,18.6s,MS4.0,baz=60,slow=39
ESDC Sonseca Array 30.41 284 P **P 14 09 30.2 -0.8**
comp=Z,1.9nm,0.1s,mb4.8
KSH Kashi 31.16 76 *e*P **P 14 09 36.7 -0.9**
KSH pP 14 09 46.2
KSH sP sP 14 09 50.2 +12
KSH PP PP 14 10 39.1 -8.7
KSH PcP PcP 14 12 32.3 -0.3
KSH S **S 14 14 37.0 -7.2**
KSH sS sS 14 14 54.0 +8.8
KSH ScP ScP 14 16 11.3 -5.2
KSH PcS PcS 14 16 15.2 -1.5
KSH SS SS 14 16 23.1 -34
KSH ScS ScS 14 20 06.8 -6.8
KSH pmax pmax
comp=Z,6.0nm,1.3s,mb4.3
KSH pmax pmax
comp=Z,26nm,3.0s
KSH LR LR
comp=N,340nm,9.0s
KSH LR LR
comp=E,630nm,14.1s
KSH LR LR
comp=Z,310nm,9.0s
ARCES ARCESS Array B 31.17 353 P **P 14 09 38.1 +0.8**
comp=Z,3.5nm,0.6s,mb4.3,baz=165,slow=10.0,SNR=8.1
ARCES LR LR 14 24 31.7
comp=Z,809nm,18.2s,MS4.4,baz=162,slow=41
ARCES ARCESS Array B 31.17 353 P **P 14 09 38.1 +0.8**
ARCES LR LR 14 24 31.7
ARCES ARCESS Array B 31.17 353 P **P 14 09 38.2 +0.8**
ARCES pmax pmax
comp=Z,4.0nm,0.6s
ARCES MLR MLR
comp=Z,809nm,18.3s
EADA Adamuz 31.21 282 P **P 14 09 37.6 -0.5**
comp=Z,33nm,1.6s,mb4.9
EPLA Plasencia 31.93 286 P **P 14 09 42.8 -1.6**
comp=Z,28nm,1.1s,mb5.0
EPLA Plasencia 31.93 286 P **P 14 09 42.8 -1.6**
EPLA pmax pmax
comp=Z,28nm,1.1s,mb5.0
KURK Kurchatov 32.33 54 P **P 14 09 47.1 -0.7**
comp=Z,9.9nm,0.8s,mb4.7,baz=274,slow=9.0,SNR=24
KURK Kurchatov 32.33 54 *e*P **P 14 09 49.0 +1.2**
comp=Z,9.6nm,0.9s,mb4.6
KURK Kurchatov 32.33 54 *e*P **P 14 09 49.0 +1.2**
KURK pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
MDT Midelt 32.90 272 P **P 14 09 52.1 -0.8**
comp=Z,2.0nm,0.9s,mb4.0,baz=54,slow=12,SNR=3.6
MDT Midelt 32.90 272 P **P 14 09 52.1 -0.9**
EMIN Mina Concepcio 32.91 282 P **P 14 09 50.6 -2.4**
comp=Z,72nm,1.8s,mb5.3
MTE Manteigas 32.96 287 *e*P **P 14 09 53.0 -0.4**
comp=Z,46nm,1.4s,mb5.2
MTE Manteigas 32.96 287 *e*P **P 14 09 53.0 -0.4**
comp=Z,46nm,1.4s,mb5.2
PCBR Castelo Branco 33.03 286 *e*P **P 14 09 53.4 -0.6**
comp=Z,39nm,1.4s,mb5.1
PCBR Castelo Branco 33.03 286 *e*P **P 14 09 53.4 -0.6**
comp=Z,39nm,1.4s,mb5.1
PCBR *e*pP 14 10 03.2
PMRV Marv??o 33.05 285 *e*P **P 14 09 53.0 -1.2**
comp=Z,26nm,1.5s,mb4.9
PMRV Marv??o 33.05 285 *e*P **P 14 09 53.0 -1.2**
comp=Z,26nm,1.5s,mb4.9
PBAR Barrancos 33.09 282 *e*P **P 14 09 52.3 -2.2**
comp=Z,34nm,2.0s,mb4.9
PBAR Barrancos 33.09 282 *e*P **P 14 09 52.3 -2.2**
comp=Z,34nm,2.0s,mb4.9
PESTR Estremoz 33.34 284 *e*P **P 14 09 55.5 -1.2**
comp=Z,30nm,0.9s,mb5.2
PESTR Estremoz 33.34 284 *e*P **P 14 09 55.5 -1.2**
comp=Z,30nm,0.9s,mb5.2
PBEJ Beja 33.76 282 *e*P **P 14 09 59.4 -1.0**
comp=Z,26nm,1.7s,mb4.9
PBEJ Beja 33.76 282 *e*P **P 14 09 59.4 -1.0**
comp=Z,26nm,1.7s,mb4.9
PVAQ Vaqueiros 33.81 281 *e*P **P 14 10 02.9 +2.0**

comp=Z,61nm,1.9s,mb5.2
PCVE Castro Verde 33.99 282 *e*P **P 14 10 01.6 -0.8**
comp=Z,47nm,1.8s,mb5.1
PCVE Castro Verde 33.99 282 *e*P **P 14 10 01.6 -0.8**
comp=Z,47nm,1.8s,mb5.1
PBDV Barranco-do-Ve 34.02 281 *e*P **P 14 10 02.5 -0.2**
comp=Z,60nm,1.4s,mb5.3
PBDV Barranco-do-Ve 34.02 281 *e*P **P 14 10 02.5 -0.2**
comp=Z,60nm,1.4s,mb5.3
PNCL Nicolau / Gran 34.24 283 *e*P **P 14 10 04.0 -0.6**
comp=Z,39nm,1.2s,mb5.2
PNCL Nicolau / Gran 34.24 283 *e*P **P 14 10 04.0 -0.6**
comp=Z,39nm,1.2s,mb5.2
MKAR Makanchi Array 34.75 61 P **P 14 10 08.8 -0.1**
comp=Z,2.6nm,0.9s,mb4.1,baz=274,slow=7.9,SNR=9.2
MKAR LR LR 14 27 01.5
comp=Z,558nm,19.5s,MS4.3,baz=270,slow=41
MKAR Makanchi Array 34.75 61 P **P 14 10 08.8 -0.1**
MKAR LR LR 14 27 01.5
MKAR Makanchi Array 34.75 61 P **P 14 10 08.8 -0.1**
MKAR pmax pmax
comp=Z,3.0nm,1.0s
MKAR MLR MLR
comp=Z,558nm,19.5s
NVS Novosibirsk 35.53 47 *e*P **P 14 10 14.6 -0.9**
NVS *e*S **S 14 15 56.7 +5.1**
NVS *i* 14 20 28.5
NVS pmax pmax
comp=N,9.0nm,1.8s
NVS pmax pmax
comp=Z,48nm,1.8s,mb5.1
NVS pmax pmax
comp=E,12nm,1.0s
NVS pmax pmax
comp=Z,38nm,1.9s,mb5.0
NVS pmax pmax
comp=N,5.0nm,1.4s
NVS pmax pmax
comp=E,1.0nm,1.4s
NVS smax
comp=N,25nm,2.4s
NVS smax
comp=E,8.0nm,1.8s
NVS Novosibirsk 35.53 47 *e*P **P 14 10 14.6 -0.9**
comp=E,38nm,1.9s,mb5.0
ZALV Zalesovo Beam 36.37 49 P **P 14 10 22.6 -0.1**
comp=E,2.5nm,0.5s,mb4.4,baz=272,slow=10,SNR=16
ZALV LR LR 14 27 14.5
comp=E,469nm,19.4s,MS4.3,baz=267,slow=39
ZALV Zalesovo Beam 36.37 49 P **P 14 10 22.6 -0.1**
ZALV LR LR 14 27 14.5
ZALV Zalesovo Beam 36.37 49 P **P 14 10 22.6 -0.1**
ZALV pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
ZALV MLR MLR
comp=Z,469nm,19.4s,MS4.3
ZALV Zalesovo Beam 36.37 49 P **P 14 10 22.6 -0.1**
comp=Z,469nm,19.4s
WMQ Urumqi 38.93 65 P **P 14 10 45.9 +1.4**
WMQ pP 14 10 55.7
WMQ sP sP 14 10 59.7 +14
WMQ PP PP 14 12 20.0 +6.5
WMQ S **S 14 16 42.4 -1.2**
WMQ ScS ScS 14 20 50.7 -4.6
WMQ pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
WMQ pmax pmax
comp=Z,130nm,6.4s
WMQ LR LR
comp=N,2μm,12.0s,MS5.1
WMQ LR LR
comp=E,1μm,15.8s,MS5.1
WMQ LR LR
comp=Z,500nm,32.4s
TORD Torodi Ar. Bea 39.39 239 P **P 14 10 46.8 -1.9**
comp=Z,7.0nm,0.8s,mb4.4,baz=38,slow=7.9,SNR=49
TORD Torodi Ar. Bea 39.39 239 P **P 14 10 46.8 -1.9**
TORD Torodi Ar. Bea 39.39 239 P **P 14 10 46.8 -1.9**
SPITS Spitsbergen Ar 40.20 354 P **P 14 10 56.2 +1.6**
comp=Z,7.7nm,0.9s,mb4.4,baz=141,slow=13,SNR=3.0
SPITS LR LR 14 28 07.3
comp=Z,485nm,18.2s,MS4.4,baz=205,slow=37
SPITS Spitsbergen Ar 40.20 354 P **P 14 10 56.2 +1.6**
SPITS LR LR 14 28 07.3
SPITS Spitsbergen Ar 40.20 354 P **P 14 10 56.3 +1.6**
SPITS pmax pmax
comp=Z,8.0nm,0.9s
SPITS MLR MLR
comp=Z,485nm,18.2s
SPITS Spitsbergen Ar 40.20 354 P **P 14 10 56.2 +1.5**
DANN Dangsing 41.10 90 *e*P **P 14 11 03.0 +0.3**
KOLN Koldanda 41.25 91 *e*P **P 14 11 02.8 -1.1**
BORG Borgarnes 41.60 327 LR LR 14 30 37.9
comp=Z,477nm,19.3s,MS4.4,baz=272,slow=39
GKN Gorkha 41.95 90 *e*P **P 14 11 09.2 -0.5**
comp=Z,52nm,1.1s,mb5.1
DMN Daman 42.50 90 *e*P **P 14 11 13.7 -0.5**
comp=Z,25nm,0.7s,mb4.9
KKN Kakani 42.55 90 *e*P **P 14 11 13.9 -0.7**
comp=Z,32nm,1.1s,mb4.9
PKIN Phulchoki 42.74 90 *e*P **P 14 11 15.0 -1.1**
comp=Z,28nm,1.1s,mb4.9
PKI Pulchoki 42.75 90 *e*P **P 14 11 15.5 -0.7**
GUN Gumba 42.96 89 *e*P **P 14 11 17.7 -0.2**
comp=Z,85nm,1.4s,mb5.3
LSA Lhasa 46.24 84 *e*P **P 14 11 44.0 -0.1**
LSA Lhasa 46.24 84 *e*P **P 14 11 44.4 +0.3**
comp=Z,21nm,1.1s,mb5.0
LSA Lhasa 46.24 84 *e*P **P 14 11 44.4 +0.3**
LSA pmax pmax
comp=Z,21nm,1.1s,mb5.0
LSA Lhasa 46.24 84 *e*P **P 14 11 44.4 +0.3**
comp=Z,21nm,1.1s,mb5.0
TLY Talaya 47.90 51 *e*P **P 14 11 58.6 +1.8**
TLY *e* 14 13 48.0
TLY *e*S **S 14 18 48.5 -6.2**
TLY *e*SS SS 14 22 17.9 -5.0
TLY pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
TLY MLR MLR
comp=Z,472nm,18.0s,MS4.5
DBIC Dimbokro 48.50 239 P **P 14 12 00.1 -1.7**
comp=Z,4.6nm,0.7s,mb4.6,baz=18,slow=7.8,SNR=8.0
DBIC LR LR 14 36 42.1
comp=Z,346nm,19.1s,MS4.4,baz=24,slow=41
DBIC Dimbokro 48.50 239 P **P 14 12 00.1 -1.7**
DBIC LR LR 14 36 42.1
DBIC Dimbokro 48.50 239 P **P 14 12 00.1 -1.7**
DBIC pmax pmax
comp=Z,5.0nm,0.7s
DBIC MLR MLR
comp=Z,346nm,19.1s
DBIC Dimbokro 48.50 239 P **P 14 12 00.1 -1.7**
comp=Z,346nm,19.1s
GTA Gaotai 48.88 68 *e*P **P 14 12 07.8 +3.3**
GTA pP 14 12 17.6
GTA sP sP 14 12 21.7 +16
GTA S **S 14 19 10.8 +2.0**
GTA sS sS 14 19 26.5 +17
GTA pmax pmax
comp=Z,3.0nm,1.8s,mb4.0
GTA LR LR
comp=N,460nm,21.8s,MS4.5
GTA LR LR
comp=E,350nm,21.8s,MS4.5
GTA LR LR
comp=Z,570nm,16.6s
SONM Songino Array 50.63 55 P **P 14 12 18.9 +1.2**
comp=Z,1.6nm,0.8s,mb4.0,baz=286,slow=8.4,SNR=9.6
SONM LR LR 14 36 41.8
comp=Z,731nm,19.0s,MS4.7,baz=108,slow=40
SONM Songino Array 50.63 55 P **P 14 12 18.9 +1.2**
SONM LR LR 14 36 41.8
SONM Songino Array 50.63 55 P **P 14 12 18.9 +1.2**
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM MLR MLR
comp=Z,731nm,19.0s
SONM Songino Array 50.63 55 P **P 14 12 18.9 +1.2**
comp=Z,731nm,19.0s
ULN Ulaanbaatar 51.04 55 *e*P **P 14 12 19.5 -1.3**
comp=Z,8.8nm,1.2s,mb4.6
ULN Ulaanbaatar 51.04 55 *e*P **P 14 12 19.5 -1.3**
ULN pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
BBTS Babate 51.56 257 P **P 14 12 23.2 -1.9**
comp=Z,7.0nm,0.4s,mb4.9,baz=351,slow=4.3,SNR=4.1
BBTS Babate 51.56 257 P **P 14 12 23.2 -1.9**
BBTS Babate 51.56 257 P **P 14 12 23.2 -1.9**
BOD Bodaibo 52.29 42 *e*P **P 14 12 29.5 -0.5**
BOD pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
BOD Bodaibo 52.29 42 *e*P **P 14 12 29.5 -0.5**
comp=Z,10.0nm,0.8s,mb4.8
LZH Lanzhou 53.11 70 *e*P **P 14 12 40.6 +4.2**
LZH pP 14 12 50.8
LZH sP sP 14 12 54.1 +17
LZH *e*PP PP 14 14 42.4 +6.3
LZH *e*S **S 14 20 08.4 +0.8**
LZH sS sS 14 20 22.0 +13
LZH *e*SS SS 14 23 44.6 -2.0
LZH pmax pmax
comp=Z,19nm,1.2s,mb4.9
LZH pmax pmax
comp=Z,110nm,5.8s
LZH LR LR
comp=N,500nm,15.0s,MS4.8
LZH LR LR
comp=E,490nm,14.3s,MS4.8
LZH LR LR
comp=Z,680nm,16.5s,MS4.8
CD2 Chengdu 55.36 76 P **P 14 12 53.5 +0.6**
CD2 pP 14 13 03.7
CD2 sP sP 14 13 07.5 +14
CD2 PP PP 14 14 58.8 +2.4
CD2 S **S 14 20 33.6 -4.5**
CD2 sS sS 14 20 50.0 +11
CD2 SS SS 14 24 17.2 -5.0
CD2 pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
CD2 pmax pmax
comp=Z,120nm,4.9s
CD2 LR LR
comp=N,530nm,10.1s
CD2 LR LR
comp=Z,580nm,16.1s
HHC Hu-ho-hao-te 56.62 62 *e*P **P 14 13 02.1 +0.4**
HHC pP 14 13 12.2
HHC sP sP 14 13 16.6 +14
HHC PP PP 14 15 08.8 +1.4
HHC S **S 14 20 48.9 -5.6**
HHC sS sS 14 21 06.4 +11
HHC ScS ScS 14 22 46.5 -5.5
HHC SS SS 14 24 38.6 -2.9
HHC pmax pmax
comp=Z,13nm,1.0s,mb4.9
HHC pmax pmax
comp=Z,91nm,5.3s
HHC LR LR
comp=N,810nm,17.9s,MS4.9
HHC LR LR
comp=E,370nm,15.7s,MS4.9
HHC LR LR
comp=Z,380nm,13.2s,MS4.7
KMI Kunming 57.45 83 P **P 14 13 08.4 +0.5**
KMI pP 14 13 18.8
KMI sP sP 14 13 22.6 +14
KMI PP PP 14 15 17.9 +2.8
KMI S **S 14 21 02.6 -3.3**
KMI sS sS 14 21 20.3 +13
KMI SS SS 14 24 52.6 -2.7
KMI pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
KMI pmax pmax
comp=Z,130nm,4.2s
KMI LR LR
comp=N,150nm,19.0s,MS4.5
KMI LR LR
comp=E,360nm,19.8s,MS4.5
KMI LR LR
comp=Z,380nm,26.1s
CMAR Chiang Mai Arr 58.11 91 P **P 14 13 11.6 -1.0**
comp=Z,4.8nm,1.1s,mb4.5,baz=301,slow=8.0,SNR=20
CMAR LR LR 14 41 55.9
comp=Z,313nm,20.2s,MS4.4,baz=292,slow=40
CMAR Chiang Mai Arr 58.11 91 P **P 14 13 11.6 -1.0**
CMAR LR LR 14 41 55.9
CMAR Chiang Mai Arr 58.11 91 P **P 14 13 11.6 -1.0**
CMAR pmax pmax
comp=Z,5.0nm,1.1s
CMAR MLR MLR
comp=Z,313nm,20.2s
CMAR Chiang Mai Arr 58.11 91 P **P 14 13 11.6 -1.0**
comp=Z,313nm,20.2s
GYA Guiyang 59.78 79 *e*P **P 14 13 24.0 -0.1**
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
BJI Beijing 60.13 61 P **P 14 13 21.0 -5.3**
BJI S **S 14 21 33.8 -6.6**
BJI SS SS 14 25 37.8 +1.0
BJI pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BJI pmax pmax
comp=Z,75nm,3.5s
BJI LR LR
comp=N,650nm,27.1s,MS4.7
BJI LR LR
comp=E,480nm,26.1s,MS4.7
BJI LR LR
comp=Z,370nm,19.1s
CN2 Changchun 64.40 53 *e*P **P 14 13 54.5 -0.4**
CN2 *e*sP sP 14 14 08.0 +12
CN2 *e*S **S 14 22 28.1 -6.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,600nm,17.0s,MS5.0
CN2 LR LR
comp=E,600nm,17.0s,MS5.0
CN2 LR LR
comp=Z,900nm,16.0s,MS5.0
SCHQ Schefferville 65.59 322 LR LR 14 42 26.4
comp=Z,247nm,19.9s,MS4.4,baz=82,slow=36
MDJ Mudanjiang 66.54 51 P **P 14 14 06.5 -2.2**
MDJ PcP PcP 14 14 35.9 -2.2
MDJ S S 14 22 58.3 -1.9
MDJ SS SS 14 27 12.3 -4.2
MDJ pmax pmax
comp=Z,6.0nm,1.6s,mb4.4
MDJ pmax pmax
comp=Z,51nm,8.3s
MDJ LR LR
comp=N,370nm,27.1s
MDJ LR LR
comp=Z,310nm,22.8s,MS4.5
BILL Bilibino 67.19 18⇑ *e*P **P 14 14 14.0 +1.6**
BILL *e*S S 14 23 04.9 -2.5
BILL *e*SS SS 14 27 26.5 +1.1
BILL pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
BILL MLR MLR
comp=Z,200nm,26.0s,MS4.2
BOSA Boshof 67.83 190 P **P 14 14 14.6 -2.3**
comp=Z,9.8nm,0.9s,mb4.9,baz=345,slow=4.5,SNR=8.8
BOSA LR LR 14 43 53.7
comp=Z,230nm,18.6s,MS4.4,baz=186,slow=36
BOSA Boshof 67.83 190 P **P 14 14 14.6 -2.3**
BOSA LR LR 14 43 53.7
BOSA Boshof 67.83 190 P **P 14 14 14.6 -2.3**
BOSA pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BOSA MLR MLR
comp=Z,231nm,18.6s,MS4.4
BOSA Boshof 67.83 190 P **P 14 14 14.6 -2.3**
comp=Z,231nm,18.6s
VLA Vladivostok 68.75 51 *e*P **P 14 14 26.7 +4.0**
VLA pmax pmax
comp=Z,12nm,1.2s,mb4.7
KSRS Korea Array 69.35 58 P **P 14 14 26.1 -0.5**
comp=Z,5.8nm,1.0s,mb4.5,baz=303,slow=5.7,SNR=17
KSRS LR LR 14 48 05.5
comp=Z,765nm,19.3s,MS5.0,baz=304,slow=39
KSRS Korea Array 69.35 58 P **P 14 14 26.1 -0.4**
KSRS pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
KSRS MLR MLR
comp=Z,765nm,19.3s,MS5.0
KSRS Korea Array 69.35 58 P **P 14 14 26.1 -0.4**
comp=Z,765nm,19.3s
INK Inuvik 72.81 356 LR LR 14 51 02.8
comp=Z,168nm,18.6s,MS4.3,baz=133,slow=39
COLD Coldfoot 74.12 2 *e*P **P 14 14 55.2 +0.5**
comp=Z,9.4nm,1.1s,mb4.6
COLD Coldfoot 74.12 2 *e*P **P 14 14 55.2 +0.5**
comp=Z,9.4nm,1.1s,mb4.6
ASAJ Asahikawa 74.41 46 LR LR 14 48 26.0
comp=Z,219nm,20.5s,MS4.4,baz=328,slow=36
PETK Petropavlovsk- 75.62 32 LR LR 14 56 37.4
comp=Z,218nm,18.6s,MS4.5,baz=300,slow=42
YKA Yellowknife Ar 76.14 346 P **P 14 15 07.4 +1.0**
comp=Z,5.6nm,1.0s,mb4.4,baz=32,slow=5.2,SNR=3.7
YKA LR LR 14 52 55.4
comp=Z,26nm,18.3s,MS3.6,baz=20,slow=39
YKA Yellowknife Ar 76.14 346 P **P 14 15 07.4 +1.0**
YKA LR LR 14 52 55.4
YKA Yellowknife Ar 76.14 346 P **P 14 15 07.4 +1.0**
YKA pmax pmax
comp=Z,6.0nm,1.0s
YKA MLR MLR
comp=Z,26nm,18.3s
YKA Yellowknife Ar 76.14 346 P **P 14 15 07.4 +1.0**
comp=Z,26nm,18.3s
MJAR Matsushiro Arr 76.54 54 P **P 14 15 09.5 +0.3**
comp=Z,2.3nm,0.9s,mb4.1,baz=300,slow=5.6,SNR=4.3
MJAR LR LR 14 52 13.8
comp=Z,535nm,19.2s,MS4.9,baz=285,slow=38
MJAR Matsushiro Arr 76.54 54 P **P 14 15 09.5 +0.3**
MJAR LR LR 14 52 13.8
MJAR Matsushiro Arr 76.54 54 P **P 14 15 09.5 +0.3**
MJAR pmax pmax
comp=Z,2.0nm,0.9s
MJAR MLR MLR
comp=Z,535nm,19.2s
MJAR Matsushiro Arr 76.54 54 P **P 14 15 09.5 +0.3**
comp=Z,535nm,19.2s
ILAR Eielson Array 76.66 1 P **P 14 15 09.7 +0.3**
comp=Z,1.0nm,1.0s,mb3.7,baz=309,slow=3.0,SNR=7.1
ILAR LR LR 14 57 22.8
comp=Z,99nm,18.6s,MS4.2,baz=2.2,slow=42
ILAR Eielson Array 76.66 1 P **P 14 15 09.7 +0.3**
ILAR LR LR 14 57 22.8
ILAR Eielson Array 76.66 1 P **P 14 15 09.7 +0.4**
ILAR pmax pmax
comp=Z,1.0nm,1.0s
ILAR Eielson Array 76.66 1 P **P 14 15 09.6 +0.3**
DAWY Dawson 77.31 358 *e*P **P 14 15 12.3 -0.7**
DAWY Dawson 77.31 358 *e*P **P 14 15 12.3 -0.7**
MENT Mentasta 78.52 360 P **P 14 15 18.7 -1.0**
MENT Mentasta 78.52 360 P **P 14 15 18.7 -1.0**
JHJ Hachijo jima 2 79.70 56 LR LR 14 50 52.8
comp=Z,568nm,19.1s,MS4.9,baz=318,slow=36
ULM Lac du Bonnet 81.49 331 LR LR 14 54 09.5
comp=Z,161nm,18.6s,MS4.4,baz=50,slow=37
FX1 Attu Island--F 81.50 24 LR LR 14 58 45.6
comp=Z,114nm,20.6s,MS4.2,baz=317,slow=41
CBIJ Chichi jima 85.19 59 LR LR 14 57 10.4
comp=Z,407nm,20.3s,MS4.8,baz=109,slow=38
PDAR Pinedale Array 92.77 335 LR LR 15 00 28.3
comp=Z,173nm,19.5s,MS4.5,baz=264,slow=37
NVAR Mina Array Bea 99.39 339 LR LR 15 04 25.5
comp=Z,354nm,19.7s,MS4.9,baz=327,slow=37
RPZ Rata Peaks 146.55 113 PKPbc PKPbc 14 22 58.9 -1.1
comp=Z,7.0nm,0.9s,baz=198,slow=3.2,SNR=3.1
RPZ Rata Peaks 146.55 113 PKPbc PKPbc 14 22 58.9 -1.1

IDC ***12*** *14:07:04.1±1.1, 11°.66S×166°.70E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.9/18, mbtmp3.8/9, Error ellipse: s-maj=37.4km s-min=23.0km az=110.0*
ISCJB ***12*** *14:07:08.2±0.9, 11°.7S±0°.1×166°.5E±0°.2, h33km, mb3.9/10, Error ellipse: s-maj=28.4km s-min=18.7km az=11.8*
NEIC ***12*** *14:07:17.3±0.8, 11°.74S×166°.51E, h100km, mb4.4/1, Error ellipse: s-maj=28.5km s-min=19.8km az=111.0*

ISC 12 14:07:10.1±0.9, 11°.7S±0°.1×166°.6E±0°.2, h35km, n20, σ0.9 91/18, mb3.9/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**30.57**	**225**	P	**P**	**14 13 22.1**	**+1.5**
	1.6nm,0.8s,mb3.9,baz=103,slow=14,SNR=2.6						
STKA	**Stephens Creek**	**30.57**	**225**	P	**P**	**14 13 22.1**	**+1.5**
WRA	**Warramunga Arr**	**32.05**	**251**	P	**P**	**14 13 33.3**	**-0.5**
	0.9nm,0.7s,mb3.7,baz=83,slow=9.2,SNR=10						
WRA				PcP	PcP	14 16 22.2	-0.9
	0.3nm,0.6s,baz=72,slow=3.2,SNR=6.8						
WRA	**Warramunga Arr**	**32.05**	**251**	P	**P**	**14 13 33.3**	**-0.5**
WRA				PcP	PcP	14 16 22.2	-0.9
ASAR	**Alice Springs**	**33.26**	**245**	P	**P**	**14 13 43.0**	**-1.3**
	0.9nm,0.8s,mb3.8,baz=69,slow=10,SNR=8.6						
ASAR				PcP	PcP	14 16 25.1	-1.2
	0.3nm,0.5s,baz=88,slow=2.8,SNR=7.0						
ASAR	**Alice Springs**	**33.26**	**245**	P	**P**	**14 13 43.0**	**-1.3**
ASAR				PcP	PcP	14 16 25.1	-1.2
KSRS	**Korea Array**	**60.84**	**325**	P	**P**	**14 17 18.6**	**-0.5**
	0.5nm,0.5s,mb3.9,baz=121,slow=8.7,SNR=3.8						
VNDA	**Vanda**	**65.90**	**181**	P	**P**	**14 17 51.8**	**-0.1**
	0.6nm,0.7s,mb3.7,baz=342,slow=5.0,SNR=3.8						
VNDA	**Vanda**	**65.90**	**181**	P	**P**	**14 17 51.8**	**-0.1**
CMAR	**Chiang Mai Arr**	**73.11**	**293**	P	**P**	**14 18 38.5**	**+1.0**
	1.7nm,0.7s,mb4.1,baz=126,slow=4.5,SNR=10						
CMAR	**Chiang Mai Arr**	**73.11**	**293**	P	**P**	**14 18 38.5**	**+1.0**
QSPA	**South Pole Qui**	**78.35**	**180**	*e*P	**P**	**14 19 06.2**	**-0.2**
	8.0nm,1.3s,mb4.5						
SONM	**Songino Array**	**79.64**	**324**	P	**P**	**14 19 15.3**	**+1.4**
	0.2nm,0.5s,mb3.3,baz=122,slow=5.4,SNR=2.5						
SONM	**Songino Array**	**79.64**	**324**	P	**P**	**14 19 15.3**	**+1.4**
ILAR	**Eielson Array**	**83.83**	**18**	P	**P**	**14 19 35.3**	**-0.3**
	0.1nm,0.5s,mb3.2,baz=267,slow=4.5,SNR=5.0						
ILAR	**Eielson Array**	**83.83**	**18**	P	**P**	**14 19 35.3**	**-0.3**
MKAR	**Makanchi Array**	**94.53**	**317**	P	**P**	**14 20 26.2**	**-0.8**
	1.2nm,0.6s,mb4.5,baz=103,slow=6.2,SNR=3.7						
MKAR	**Makanchi Array**	**94.53**	**317**	P	**P**	**14 20 26.2**	**-0.8**
ARCES	**ARCESS Array B**	**117.13**	**346**	PKP	PKPdf	14 25 49.3	-1.6
	7.3nm,1.2s,baz=28,slow=2.5,SNR=3.6						
ARCES	**ARCESS Array B**	**117.13**	**346**	PKP	PKPdf	14 25 49.3	-1.6

NNC 12 14:14:22.8±3.4, 43°.37N×84°.13E, h0km, mb3.8, mpv3.5, 3C-2D, Error ellipse: s-maj=34.4km s-min=17.3km az=136.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**3.66**	**340**	Pn	Pn	14 15 23.1	+2.4
	2.4nm,0.6s,baz=160,slow=14,SNR=269						
MK31				⇑Pg	Pg	14 15 31.6	-1.4
	6.8nm,0.4s,baz=161,slow=18,SNR=56						
MK31				⇓Lg		14 16 16.4	
	56nm,0.5s,baz=158,slow=29						
TKM2	**Tokmak 2**	**6.26**	**269**	⇑Pn	Pn	14 15 57.1	+0.8
	2.1nm,0.6s						
TKM2				⇓Pg	Pg	14 16 16.3	-6.3
	6.0nm,0.8s						
KURK	**Kurchatov**	**8.25**	**335**	⇑Pn	Pn	14 16 23.0	-0.6
	6.8nm,1.8s						

ISK ***12*** *14:25:42.8, 40°.77N×31°.94E, h5km, ML3.8*
ISCJB ***12*** *14:25:43.9±0.2, 40°.80N±0°.02×31°.95E±0°.02, h10km, mb3.7/6, Error ellipse: s-maj=2.4km s-min=2.0km az=174.9*
DDA ***12*** *14:25:43.2, 40°.79N×31°.92E, h20km±1km, Md3.6*
IDC ***12*** *14:25:44.5±1.1, 40°.66N×31°.70E, h0km, mb3.6/7, mb1 3.7/9, mb1mx3.5/27, mbtmp3.7/9, ML3.6/2, MS3.3/2, Ms1 3.3/2, ms1mx2.7/32, Error ellipse: s-maj=21.1km s-min=9.5km az=40.0*
CSEM ***12*** *14:25:44.3±0.1, 40°.74N×31°.92E, h2km, MD3.6, Error ellipse: s-maj=3.2km s-min=2.7km az=175.0*
NEIC ***12*** *14:25:45.4±2.1, 40°.66N×31°.87E, h6km±16km, ML3.7(ISK), Error ellipse: s-maj=10.1km s-min=7.6km az=200.0*
MOS ***12*** *14:25:45.8±1.4, 40°.92N×31°.77E, h10km, mb3.8/6, Error ellipse: s-maj=11.3km s-min=6.6km az=97.3*

ISC 12 14:25:44.9±0.2, 40.75N±0°.02×31.95E±0°.02, h10km, n208, σ1.5 10/251, mb3.7/7, 11C-13D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGKT	**Sivrigoynuk**	**0.20**	**155**	*i* P	**Pg**	**14 25 48.8**	**-0.2**
SGKT	**Sivrigoynuk**	**0.20**	**155**	*i* P	**Pg**	**14 25 48.8**	**-0.2**
MDU	**Mudurnu**	**0.62**	**243**	*e*PG	**Pg**	**14 25 55.8**	**-1.2**
MDU				*e*SG	**Sg**	**14 26 05.7**	**+0.5**
MDU	**Mudurnu**	**0.62**	**243**	Pg	**Pg**	**14 25 55.8**	**-1.2**

MDU	**Mudurnu**	**0.62**	**243**	*e*Pg	**Pg**	**14 25 55.8**	**-1.2**
MDU				*e*Sg	**Sg**	**14 26 05.7**	**+0.5**
KDZE	**Karadeniz Ereo**	**0.68**	**326**	*e*PG	**Pg**	**14 25 56.4**	**-1.6**
KDZE	**Karadeniz Ereo**	**0.68**	**326**	*e*Pg	**Pg**	**14 25 56.4**	**-1.6**
SAFT	**Safranbolu**	**0.74**	**49**	*e*PG	**Pg**	**14 25 57.9**	**-1.4**
SAFT				*e*SG	**Sg**	**14 26 09.1**	**+0.1**
SAFT	**Safranbolu**	**0.74**	**49**	*e*Pg	**Pg**	**14 25 57.9**	**-1.4**
SAFT				*e*Sg	**Sg**	**14 26 09.1**	**+0.1**
HENT	**Hendek**	**0.80**	**276**	*i* P	**Pg**	**14 25 58.5**	**-1.7**
HENT				*i* S	**Sg**	**14 26 08.5**	**-2.2**
HENT	**Hendek**	**0.80**	**276**	*i* P	**Pg**	**14 25 58.5**	**-1.8**
HENT				*i* S	**Sg**	**14 26 08.5**	**-2.2**
LOD	**Lodumlu**	**1.06**	**144**	*e*PN	**Pg**	**14 26 04.1**	**-1.2**
LOD				*e*SN	**Sg**	**14 26 20.4**	**+1.2**
LOD	**Lodumlu**	**1.06**	**144**	Pn	**Pg**	**14 26 04.1**	**-1.2**
LOD	**Lodumlu**	**1.06**	**144**	*e*Pn	**Pg**	**14 26 04.1**	**-1.2**
LOD				*e*Sn	**Sg**	**14 26 20.4**	**+1.2**
GULT	**Gulveren**	**1.14**	**254**	*e*PN	**Pg**	**14 26 06.0**	**-0.7**
GULT	**Gulveren**	**1.14**	**254**	*e*Pn	**Pg**	**14 26 06.0**	**-0.7**
ELDT	**Eldivan**	**1.16**	**103**	*i* P	**Pb**	**14 26 06.5**	**-0.5**
ELDT				*i* S	**Sb**	**14 26 21.7**	**-0.4**
ELDT	**Eldivan**	**1.16**	**103**	*i* P	**Pb**	**14 26 06.5**	**-0.5**
ELDT				*i* S	**Sb**	**14 26 21.7**	**-0.3**
SPNC	**Sapanca-Adapaz**	**1.25**	**268**	*e*PN	**Pn**	**14 26 07.3**	**-1.0**
SPNC	**Sapanca-Adapaz**	**1.25**	**268**	*e*Pn	**Pn**	**14 26 07.3**	**-1.0**
CANT	**Cankiri**	**1.28**	**96**	*e*PN	**Pn**	**14 26 08.5**	**-0.3**
GPA	**Golpazari**	**1.33**	**250**	*e*PN	**Pn**	**14 26 09.5**	**0.0**
GPA	**Golpazari**	**1.33**	**250**	Pn	**Pn**	**14 26 10.0**	**+0.5**
GPA	**Golpazari**	**1.33**	**250**	P	**Pg**	**14 26 10.0**	**-0.4**
GPA	**Golpazari**	**1.33**	**250**	P	**Pg**	**14 26 10.0**	**-0.4**
BALT	**Daday**	**1.34**	**54**	*i* P	**Pn**	**14 26 07.8**	**-1.9**
BALT				*i* S	**Sb**	**14 26 20.8**	**-5.3**
BALT	**Daday**	**1.34**	**54**	*i* P	**Pn**	**14 26 07.8**	**-1.9**
SVRH	**Sivrihisar-ESK**	**1.34**	**194**	*e*PN	**Pn**	**14 26 09.9**	**+0.2**
SVRH	**Sivrihisar-ESK**	**1.34**	**194**	*e*Pn	**Pn**	**14 26 09.9**	**+0.2**
ILGA	**Ilgaz**	**1.38**	**77**	*i* P	**Pn**	**14 26 09.7**	**-0.4**
ILGA				*i* S	**Sg**	**14 26 28.8**	**-0.4**
ILGA	**Ilgaz**	**1.38**	**77**	*i* P	**Pn**	**14 26 09.7**	**-0.4**
ILGA				*i* S	**Sg**	**14 26 28.8**	**-0.4**
BORA	**Eskisehir**	**1.43**	**233**	*i* P	**Pn**	**14 26 10.7**	**-0.3**
BORA				*i* S	**Sn**	**14 26 30.2**	**+0.4**
BORA	**Eskisehir**	**1.43**	**233**	*i* P	**Pn**	**14 26 10.6**	**-0.3**
BORA				*i* S	**Sn**	**14 26 30.2**	**+0.4**
ESKT	**Eskisehir**	**1.49**	**215**	*e*PN	**Pn**	**14 26 11.9**	**+0.2**
ESKT	**Eskisehir**	**1.49**	**215**	*i* P	**Pn**	**14 26 11.0**	**-0.7**
ESKT	**Eskisehir**	**1.49**	**215**	*e*Pn	**Pn**	**14 26 11.9**	**+0.2**
SEYT	**Eskypehyr**	**1.49**	**215**	*i* P	**Pn**	**14 26 11.0**	**-0.7**
BBAL	**Bala**	**1.51**	**143**	*i* P	**Pg**	**14 26 13.8**	**0.0**
BBAL				*i* S	**Sg**	**14 26 33.7**	**+0.4**
BBAL	**Bala**	**1.51**	**143**	*i* P	**Pg**	**14 26 13.8**	**0.0**
BBAL				*i* S	**Sg**	**14 26 33.7**	**+0.4**
AFSR	**Af˘ar-Bala (A**	**1.56**	**146**	*e*PN	**Pn**	**14 26 13.1**	**+0.4**
AFSR	**Af˘ar-Bala (A**	**1.56**	**146**	*e*Pn	**Pn**	**14 26 13.1**	**+0.4**
TOS	**Tosya**	**1.60**	**79**	*e*PN	**Pg**	**14 26 14.0**	**-1.6**
TOS	**Tosya**	**1.60**	**79**	Pn	**Pg**	**14 26 14.0**	**-1.6**
TOS	**Tosya**	**1.60**	**79**	*e*Pn	**Pg**	**14 26 14.0**	**-1.6**
BR131	**Keskin Array S**	**1.65**	**128**	*e*P	**Pg**	**14 26 15.6**	**-1.0**
BR131				*e*S	**Sg**	**14 26 39.7**	**+1.7**
BR131	**Keskin Array S**	**1.65**	**128**	*e*P	**Pg**	**14 26 15.6**	**-1.0**
BR131				*e*S	**Sg**	**14 26 39.7**	**+1.7**
BRTR	**Keskin Array B**	**1.65**	**128**	Pn	**Pg**	**14 26 15.8**	**-0.8**
	60nm,0.3s,baz=309,slow=16,SNR=622						
BRTR				Lg		14 26 39.9	
	136nm,0.3s,baz=300,slow=24,SNR=46						
BRTR	**Keskin Array B**	**1.65**	**128**	Pn	**Pg**	**14 26 15.8**	**-0.8**
BRTR				Lg		14 26 39.9	
BRTR	**Keskin Array B**	**1.65**	**128**	P	**Pg**	**14 26 15.8**	**-0.8**
BRTR				pmax	pmax		
	comp=Z,60nm,0.3s						
BRTR	**Keskin Array B**	**1.65**	**128**	P	**Pg**	**14 26 15.8**	**-0.8**
BRTR				Lg		14 26 39.8	
CAVI	**Cavuskoy**	**1.69**	**252**	*e*PN	**Pn**	**14 26 14.8**	**+0.2**
CAVI	**Cavuskoy**	**1.69**	**252**	*e*Pn	**Pn**	**14 26 14.8**	**+0.3**
ADVT	**Abdulvahap**	**1.71**	**260**	*e*PN	**Pn**	**14 26 14.8**	**+0.1**
ADVT	**Abdulvahap**	**1.71**	**260**	Pn	**Pg**	**14 26 16.7**	**-1.0**
ADVT	**Abdulvahap**	**1.71**	**260**	*e*Pn	**Pn**	**14 26 14.8**	**+0.1**
HRT	**Hereke**	**1.73**	**273**	*e*PN	**Pn**	**14 26 15.3**	**+0.3**
HRT	**Hereke**	**1.73**	**273**	*e*Pn	**Pn**	**14 26 15.3**	**+0.3**
SILT	**Sile**	**1.79**	**284**	*e*PN	**Pn**	**14 26 15.8**	**0.0**
SILT	**Sile**	**1.79**	**284**	*e*Pn	**Pn**	**14 26 15.8**	**0.0**
KIZT	**Kizilcal**	**1.87**	**182**	*e*PN	**Pn**	**14 26 17.0**	**+0.1**
KIZT	**Kizilcal**	**1.87**	**182**	Pn	**Pn**	**14 26 17.0**	**+0.1**
KIZT	**Kizilcal**	**1.87**	**182**	*e*Pn	**Pn**	**14 26 17.0**	**+0.1**
BZK	**Bozkurt**	**1.96**	**51**	*e*PN	**Pg**	**14 26 19.1**	**-3.5**
BZK	**Bozkurt**	**1.96**	**51**	Pn	**Pg**	**14 26 21.7**	**-0.9**
BZK	**Bozkurt**	**1.96**	**51**	*e*Pn	**Pg**	**14 26 19.1**	**-3.5**
YLV	**Yalova**	**1.97**	**265**	*e*PN	**Pn**	**14 26 18.4**	**+0.1**
YLV	**Yalova**	**1.97**	**265**	*e*Pn	**Pn**	**14 26 18.4**	**+0.2**
BUY	**Buyukada**	**2.15**	**274**	*i* P	**Pn**	**14 26 21.1**	**+0.3**
BUY				*i* S	**Sn**	**14 26 46.2**	**-1.2**
BUY	**Buyukada**	**2.15**	**274**	*i* P	**Pn**	**14 26 21.0**	**+0.2**
BUY				*i* S	**Sn**	**14 26 46.2**	**-1.2**
CTKT	**Corum**	**2.17**	**92**	*i* P	**Pn**	**14 26 21.0**	**0.0**
CTKT	**Corum**	**2.17**	**92**	*i* P	**Pn**	**14 26 21.0**	**0.0**
BOLV	**Bolvadin**	**2.17**	**201**	*i* P	**Pn**	**14 26 21.8**	**+0.7**
BOLV				*i* S	**Sg**	**14 26 51.6**	**-3.0**
BOLV	**Bolvadin**	**2.17**	**201**	*i* P	**Pn**	**14 26 21.8**	**+0.7**
CDAG	**Cicekdag**	**2.17**	**120**	*i* P	**Pn**	**14 26 23.9**	**-2.7**
CDAG				*i* S	**Sn**	**14 26 49.3**	**+1.2**
CDAG	**Cicekdag**	**2.17**	**120**	*i* P	**Pg**	**14 26 23.9**	**-2.7**
CDAG				*i* S	**Sn**	**14 26 49.3**	**+1.2**
ALT	**Altintas**	**2.21**	**220**	*e*PN	**Pn**	**14 26 22.1**	**+0.5**
ALT	**Altintas**	**2.21**	**220**	Pn	**Pn**	**14 26 21.4**	**-0.1**
ALT	**Altintas**	**2.21**	**220**	*i* P	**Pg**	**14 26 23.8**	**-3.4**
ALT				*i* S	**Sg**	**14 26 53.8**	**-1.9**
ALT	**Altintas**	**2.21**	**220**	*e*Pn	**Pn**	**14 26 22.1**	**+0.6**
ISK	**Istanbul-Kandi**	**2.21**	**279**	*e*PN	**Pn**	**14 26 21.0**	**-0.6**
ISK	**Istanbul-Kandi**	**2.21**	**279**	Pn	**Pn**	**14 26 20.6**	**-1.1**
ISK	**Istanbul-Kandi**	**2.21**	**279**	P	**Pn**	**14 26 20.6**	**-1.0**
ISK	**Istanbul-Kandi**	**2.21**	**279**	P	**Pn**	**14 26 20.6**	**-1.0**
ISK	**Istanbul-Kandi**	**2.21**	**279**	*e*Pn	**Pn**	**14 26 21.0**	**-0.6**
KDHN	**Kadinhani**	**2.23**	**177**	*i* P	**Pn**	**14 26 21.6**	**-0.3**
KDHN	**Kadinhani**	**2.23**	**177**	*i* P	**Pn**	**14 26 21.5**	**-0.4**
KLYT	**Kilyos**	**2.25**	**284**	*e*PN	**Pn**	**14 26 22.3**	**+0.1**
KLYT	**Kilyos**	**2.25**	**284**	*e*Pn	**Pn**	**14 26 22.3**	**+0.1**
ARMT	**Armutlu**	**2.35**	**266**	*e*PN	**Pn**	**14 26 23.6**	**0.0**
ARMT	**Armutlu**	**2.35**	**266**	*e*Pn	**Pn**	**14 26 23.6**	**0.0**
MDNY	**Mudanya-Bursa**	**2.36**	**262**	*e*PN	**Pn**	**14 26 23.9**	**+0.1**
MDNY	**Mudanya-Bursa**	**2.36**	**262**	*e*Pn	**Pn**	**14 26 23.9**	**+0.2**
BGKT	**Bogazkoy**	**2.44**	**281**	*e*PN	**Pn**	**14 26 25.0**	**+0.2**
BGKT	**Bogazkoy**	**2.44**	**281**	*e*Pn	**Pn**	**14 26 25.0**	**+0.2**
SHUT	**Suhut-Afyon**	**2.44**	**207**	*e*PN	**Pn**	**14 26 25.7**	**+0.9**
SHUT	**Suhut-Afyon**	**2.44**	**207**	*e*Pn	**Pn**	**14 26 25.7**	**+0.9**
GDZ	**Gediz**	**2.52**	**230**	*i* P	**Pn**	**14 26 24.2**	**-1.6**
GDZ	**Gediz**	**2.52**	**230**	*i* P	**Pn**	**14 26 24.2**	**-1.7**
CTKS	**Kestanelik-??a**	**2.65**	**282**	*e*PN	**Pn**	**14 26 28.2**	**+0.6**
CTKS	**Kestanelik-??a**	**2.65**	**282**	*e*Pn	**Pn**	**14 26 28.2**	**+0.6**
ELBA	**Catalca**	**2.69**	**280**	*i* P	**Pn**	**14 26 27.3**	**-0.9**
ELBA				*i* S	**Sn**	**14 27 03.2**	**+2.4**
ELBA	**Catalca**	**2.69**	**280**	*i* P	**Pn**	**14 26 27.3**	**-0.9**
ELBA				*i* S	**Sn**	**14 27 03.2**	**+2.4**
KCTX	**Karacabey (Bur**	**2.78**	**261**	*e*PN	**Pn**	**14 26 30.2**	**+0.8**
KCTX	**Karacabey (Bur**	**2.78**	**261**	*e*Pn	**Pn**	**14 26 30.2**	**+0.8**
YOZ	**Yozgat**	**2.81**	**112**	*e*PN	**Pn**	**14 26 30.9**	**+1.0**
YOZ	**Yozgat**	**2.81**	**112**	Pn	**Pn**	**14 26 31.8**	**+1.9**
YOZ	**Yozgat**	**2.81**	**112**	*e*Pn	**Pn**	**14 26 30.9**	**+1.0**
KONT	**Konya--Tatoy**	**2.82**	**173**	*e*PN	**Pn**	**14 26 31.4**	**+1.4**
KONT	**Konya--Tatoy**	**2.82**	**173**	*e*Pn	**Pn**	**14 26 31.4**	**+1.4**
CTYL	**Yal??k??y-??at**	**2.86**	**286**	*e*PN	**Pn**	**14 26 30.9**	**+0.4**
CTYL	**Yal??k??y-??at**	**2.86**	**286**	*e*Pn	**Pn**	**14 26 30.9**	**+0.4**
SLVT	**Silivri**	**2.87**	**281**	*e*PN	**Pn**	**14 26 31.1**	**+0.4**
SLVT	**Silivri**	**2.87**	**281**	*e*Pn	**Pn**	**14 26 31.1**	**+0.5**
AVNT	**Avonos**	**2.98**	**130**	*i* P	**Pg**	**14 26 38.5**	**-3.6**
AVNT				*i* S	**Sg**	**14 27 20.0**	**-0.7**
BALB	**Balikesir**	**3.31**	**252**	*e*PN	**Pn**	**14 26 37.5**	**+0.9**
BALB	**Balikesir**	**3.31**	**252**	*e*Pn	**Pn**	**14 26 37.6**	**+0.9**
GONE	**Gonen-Balikesi**	**3.33**	**259**	*e*PN	**Pn**	**14 26 38.0**	**+1.0**
GONE	**Gonen-Balikesi**	**3.33**	**259**	*e*Pn	**Pn**	**14 26 38.0**	**+1.0**
SUTC	**Sutluce-Ispart**	**3.35**	**193**	*e*PN	**Pn**	**14 26 38.3**	**+1.0**
SUTC	**Sutluce-Ispart**	**3.35**	**193**	*e*Pn	**Pn**	**14 26 38.3**	**+1.0**
KULA	**Kula-Manisa**	**3.38**	**230**	*e*PN	**Pn**	**14 26 38.4**	**+0.7**
KULA	**Kula-Manisa**	**3.38**	**230**	*e*Pn	**Pn**	**14 26 38.4**	**+0.7**
BCK	**Bucak**	**3.45**	**198**	*e*PN	**Pn**	**14 26 39.6**	**+0.9**
BCK	**Bucak**	**3.45**	**198**	*e*Pn	**Pn**	**14 26 39.6**	**+0.9**
BALY	**Balya**	**3.46**	**254**	*i* P	**Pn**	**14 26 38.4**	**-0.4**
BALY				*i* S	**Sg**	**14 27 28.0**	**-8.0**
BALY	**Balya**	**3.46**	**254**	*i* P	**Pn**	**14 26 38.4**	**-0.4**
MANR	**Mangalia**	**3.95**	**322**	⇑*i* P	**Pn**	**14 26 45.6**	**+0.1**
MANR	**Mangalia**	**3.95**	**322**	⇑*i* P	**Pn**	**14 26 45.6**	**+0.1**
SEV	**Sevastopol'**	**4.00**	**18**	*e*P	**Pn**	**14 26 47.5**	**+1.3**
SEV				*e*S	**Sn**	**14 27 31.0**	**-2.1**
SEV	**Sevastopol'**	**4.00**	**18**	*e*P	**Pn**	**14 26 47.5**	**+1.3**
SEV				*e*S	**Sn**	**14 27 31.0**	**-2.1**
YAL	**Yalta**	**4.08**	**23**	*e*P	**Pn**	**14 26 49.9**	**+2.7**
YAL				*e*S	**Sn**	**14 27 34.3**	**-0.6**
YAL	**Yalta**	**4.08**	**23**	*e*P	**Pn**	**14 26 49.9**	**+2.7**
YAL				*e*S	**Sn**	**14 27 34.3**	**-0.6**
ALU	**Alushta**	**4.33**	**24**	*e*P	**Pn**	**14 26 51.9**	**+1.2**
ALU				*e*S	**Sn**	**14 27 40.7**	**-0.4**
ALU	**Alushta**	**4.33**	**24**	*e*P	**Pn**	**14 26 51.9**	**+1.2**
ALU				*e*S	**Sn**	**14 27 40.7**	**-0.4**
SIM	**Simferopol'**	**4.49**	**20**	*e*P	**Pn**	**14 26 53.4**	**+0.5**
SIM				*e*S	**Sn**	**14 27 44.3**	**-0.9**
SIM				pmax	pmax		
	comp=Z,24nm,0.9s						
SIM	**Simferopol'**	**4.49**	**20**	*e*P	**Pn**	**14 26 53.4**	**+0.5**
	comp=Z,24nm,0.9s						
SIM				*e*S	**Sn**	**14 27 44.3**	**-0.9**
TIRR	**Tirgusor**	**4.53**	**326**	*e*P	**Pn**	**14 26 53.1**	**-0.4**
TIRR				*e*S	**Sn**	**14 27 42.8**	**-3.4**
TIRR	**Tirgusor**	**4.53**	**326**	*e*P	**Pn**	**14 26 53.1**	**-0.4**
TIRR				*e*S	**Sn**	**14 27 42.8**	**-3.4**
TIRR	**Tirgusor**	**4.53**	**326**	⇓*i*P	**Pn**	**14 26 53.0**	**-0.5**
TIRR	**Tirgusor**	**4.53**	**326**	*e*P	**Pn**	**14 26 53.1**	**-0.4**
TIRR				*e*S	**Sn**	**14 27 42.8**	**-3.4**
SUDU	**Sudak**	**4.71**	**27**	⇓*e*P	**Pn**	**14 26 57.6**	**+1.7**
SUDU				*e*S	**Sn**	**14 27 50.4**	**-0.1**
SUDU	**Sudak**	**4.71**	**27**	*e*P	**Pn**	**14 26 57.6**	**+1.7**
SUDU				*e*S	**Sn**	**14 27 50.4**	**-0.1**
CFR	**Carcaliu**	**5.23**	**329**	⇓P	**Pn**	**14 27 02.5**	**-0.6**
CFR	**Carcaliu**	**5.23**	**329**	⇓*i*P	**Pn**	**14 27 02.3**	**-0.8**
CFR	**Carcaliu**	**5.23**	**329**	P	**Pn**	**14 27 02.5**	**-0.6**
ISR	**Istrita**	**5.90**	**320**	⇑*i*P	**Pn**	**14 27 14.4**	**+2.1**
ISR	**Istrita**	**5.90**	**320**	⇑*i*P	**Pn**	**14 27 14.4**	**+2.1**
VRI	**Vrincioaia**	**6.37**	**325**	⇓P	**Pn**	**14 27 19.6**	**+0.8**
VRI	**Vrincioaia**	**6.37**	**325**	⇓*i*P	**Pn**	**14 27 19.3**	**+0.5**
VRI	**Vrincioaia**	**6.37**	**325**	P	**Pn**	**14 27 19.6**	**+0.8**
PLOR	**Plostina**	**6.39**	**325**	⇓P	**Pn**	**14 27 19.8**	**+0.7**
PLOR	**Plostina**	**6.39**	**325**	⇑*i*P	**Pn**	**14 27 19.8**	**+0.7**
PLOR	**Plostina**	**6.39**	**325**	P	**Pn**	**14 27 19.8**	**+0.7**
MLR	**Muntele Rosu**	**6.46**	**319**	Pn	**Pn**	**14 27 21.0**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=253,slow=2.2,SNR=6.5						
MLR				Sn	**Sn**	**14 28 34.4**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=101,slow=18,SNR=2.2						
MLR	**Muntele Rosu**	**6.46**	**319**	Pn	**Pn**	**14 27 21.0**	**+1.1**
MLR				Sn	**Sn**	**14 28 34.4**	**+0.8**
MLR	**Muntele Rosu**	**6.46**	**319**	P	**Pn**	**14 27 21.0**	**+1.0**
MLR						14 28 34.4	
MLR	**Muntele Rosu**	**6.46**	**319**	⇓*i*P	**Pn**	**14 27 21.6**	**+1.6**
MLR	**Muntele Rosu**	**6.46**	**319**	P	**Pn**	**14 27 21.0**	**+1.0**
MLR				S	**Sn**	**14 28 34.4**	**+0.7**
VTS	**Vitosha**	**6.80**	**289**	⇑*i*P	**Pn**	**14 27 25.0**	**+0.4**
VTS	**Vitosha**	**6.80**	**289**	⇑*i*P	**Pn**	**14 27 25.0**	**+0.4**
VOIR		**6.88**	**315**	⇓P	**Pn**	**14 27 27.5**	**+1.7**
VOIR		**6.88**	**315**	⇓*i*P	**Pn**	**14 27 26.4**	**+0.6**
VOIR		**6.88**	**315**	P	**Pn**	**14 27 27.5**	**+1.7**
DOPR	**Dopca**	**7.07**	**320**	⇓*i*P	**Pn**	**14 27 29.3**	**+0.9**
DOPR	**Dopca**	**7.07**	**320**	⇓*i*P	**Pn**	**14 27 29.3**	**+0.9**
LOT	**Lotru**	**7.60**	**311**	⇑*i*P	**Pn**	**14 27 36.6**	**+0.9**
LOT	**Lotru**	**7.60**	**311**	⇑*i*P	**Pn**	**14 27 36.6**	**+0.9**
BURAR	**Bucovina Array**	**8.39**	**327**	⇓P	**Pn**	**14 27 47.2**	**+0.7**
BURAR	**Bucovina Array**	**8.39**	**327**	⇑P	**Pn**	**14 27 47.3**	**+0.8**
BURAR	**Bucovina Array**	**8.39**	**327**	⇑*i*P	**Pn**	**14 27 47.3**	**+0.8**
GNI	**Garni**	**9.78**	**89**	LR	LR	14 33 20.6	
	comp=Z,112nm,18.2s,baz=354,slow=46						
AKASG	**Malin Array Be**	**10.13**	**350**	Pn	**Pn**	**14 28 07.6**	**-2.7**
	comp=Z,2.5nm,0.3s,baz=169,slow=12,SNR=9.9						
AKASG	**Malin Array Be**	**10.13**	**350**	Pn	**Pn**	**14 28 07.6**	**-2.7**
AKASG	**Malin Array Be**	**10.13**	**350**	P	**Pn**	**14 28 07.6**	**-2.7**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AKBB	**Malin Array Si**	**10.13**	**350**	P	**Pn**	**14 28 09.6**	**-0.7**
AKBB	**Malin Array Si**	**10.13**	**350**	P	**Pn**	**14 28 09.6**	**-0.7**
AKBB	**Malin Array Si**	**10.13**	**350**	P	**Pn**	**14 28 09.6**	**-0.7**
CRVS	**Cervenica-Dubn**	**11.03**	**321**	*e*P	**Pn**	**14 28 17.0**	**-5.6**
CRVS	**Cervenica-Dubn**	**11.03**	**321**	*e*	**Pn**	**14 28 17.0**	**-5.6**
AKTK	**Aktyubinsk**	**20.56**	**53**	P	**P**	**14 30 28.6**	**+5.1**
AKTO	**Aktyubinsk**	**20.56**	**53**	P	**P**	**14 30 28.6**	**+5.1**
	comp=Z,0.9nm,0.5s,baz=251,slow=14,SNR=3.1						
AKTO	**Aktyubinsk**	**20.56**	**53**	P	**P**	**14 30 28.6**	**+5.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**21.03**	**352**	P	**P**	**14 30 31.8**	**+3.3**
	comp=Z,2.9nm,0.8s,mb3.6,baz=152,slow=12,SNR=4.6						
FINES	**FINESS Array B**	**21.03**	**352**	P	**P**	**14 30 31.8**	**+3.3**
FINES	**FINESS Array B**	**21.03**	**352**	P	**P**	**14 30 31.8**	**+3.3**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**21.03**	**352**	P	**P**	**14 30 31.8**	**+3.3**
	comp=Z,3.0nm,0.8s,mb3.7						
HFS	**Hagfors**	**22.47**	**336**	P	**P**	**14 30 46.8**	**+2.8**
	comp=Z,3.8nm,0.8s,mb3.9,baz=142,slow=15,SNR=3.6						
HFS	**Hagfors**	**22.47**	**336**	P	**P**	**14 30 46.8**	**+2.8**
HFS	**Hagfors**	**22.47**	**336**	P	**P**	**14 30 46.8**	**+2.8**
HFS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HFS	**Hagfors**	**22.47**	**336**	P	**P**	**14 30 46.8**	**+2.8**
	comp=Z,4.0nm,0.8s,mb3.9						
NOA	**NORSAR Array B**	**23.96**	**335**	P	**P**	**14 31 03.9**	**+4.9**
	comp=Z,1.5nm,0.7s,mb3.5,baz=139,slow=11,SNR=3.6						
NOA	**NORSAR Array B**	**23.96**	**335**	P	**P**	**14 31 03.9**	**+4.9**
NOA	**NORSAR Array B**	**23.96**	**335**	P	**P**	**14 31 03.9**	**+4.9**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ESDC	**Sonseca Array**	**27.33**	**280**	LR	LR	14 42 53.5	
	comp=Z,73nm,20.0s,baz=60,slow=38						
KURK	**Kurchatov**	**33.56**	**57**	P	**P**	**14 32 25.2**	**+0.5**
	comp=Z,1.7nm,0.8s,mb4.0,baz=277,slow=9.1,SNR=8.4						
KURK	**Kurchatov**	**33.56**	**57**	P	**P**	**14 32 25.2**	**+0.5**
KURK	**Kurchatov**	**33.56**	**57**	P	**P**	**14 32 25.2**	**+0.5**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
KURK	**Kurchatov**	**33.56**	**57**	P	**P**	**14 32 25.2**	**+0.5**
	comp=Z,2.0nm,0.8s,mb4.1						
MKAR	**Makanchi Array**	**36.34**	**63**	P	**P**	**14 32 53.1**	**+4.4**
	comp=Z,0.5nm,0.6s,mb3.6,baz=271,slow=8.6,SNR=6.7						
MKAR	**Makanchi Array**	**36.34**	**63**	P	**P**	**14 32 53.1**	**+4.4**
MKAR	**Makanchi Array**	**36.34**	**63**	P	**P**	**14 32 53.1**	**+4.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**38.16**	**233**	P	**P**	**14 33 03.4**	**-1.1**
	comp=Z,0.8nm,0.7s,mb3.5,baz=35,slow=9.2,SNR=7.9						
TORD	**Torodi Ar. Bea**	**38.16**	**233**	P	**P**	**14 33 03.4**	**-1.1**
TORD	**Torodi Ar. Bea**	**38.16**	**233**	P	**P**	**14 33 03.4**	**-1.1**
SONM	**Songino Array**	**51.85**	**56**	P	**P**	**14 34 56.6**	**+3.6**
SONM	**Songino Array**	**51.85**	**56**	P	**P**	**14 34 56.6**	**+3.6**
SONM	**Songino Array**	**51.85**	**56**	P	**P**	**14 34 56.6**	**+3.6**
IGT				S	**Sg**	**14 31 14.7**	**+1.2**
JAN	**Janina**	**1.16**	**32**	*e*PN	**Pg**	**14 31 06.1**	**-1.1**
JAN				*e*SN	**Sg**	**14 31 22.6**	**+0.3**
JAN	**Janina**	**1.16**	**32**	P	**Pg**	**14 31 07.0**	**-0.2**
JAN				S	**Sg**	**14 31 22.3**	**0.0**
JAN	**Janina**	**1.16**	**32**	*e*Pn	**Pg**	**14 31 06.1**	**-1.1**
JAN	**Janina**	**1.16**	**32**	P	**Pg**	**14 31 07.0**	**-0.2**
JAN				S	**Sg**	**14 31 22.3**	**0.0**
JAN				*e*Sn	**Sg**	**14 31 22.6**	**+0.3**
RLS	**Riolos of Patr**	**1.27**	**118**	*e*PN	**Pn**	**14 31 07.7**	**-1.6**
RLS				*e*SN	**Sn**	**14 31 26.9**	**+0.3**
RLS	**Riolos of Patr**	**1.27**	**118**	P	**Sg**	**14 31 08.3**	**-0.9**
RLS				S	**Sg**	**14 31 24.6**	**-1.0**
RLS	**Riolos of Patr**	**1.27**	**118**	*e*Pn	**Pn**	**14 31 07.7**	**-1.6**
RLS	**Riolos of Patr**	**1.27**	**118**	P	**Pg**	**14 31 08.3**	**-0.9**
RLS				S	**Sg**	**14 31 24.6**	**-1.0**
RLS				*e*Sn	**Sn**	**14 31 26.9**	**+0.3**
EVR	**Evrytania**	**1.39**	**79**	*e*PN	**Pn**	**14 31 10.7**	**-0.3**
EVR	**Evrytania**	**1.39**	**79**	P	**Pn**	**14 31 10.2**	**-0.8**
EVR	**Evrytania**	**1.39**	**79**	P	**Pn**	**14 31 10.2**	**-0.8**
EVR	**Evrytania**	**1.39**	**79**	*e*Pn	**Pn**	**14 31 10.7**	**-0.3**
MEV	**Metsovon**	**1.44**	**39**	P	**Pn**	**14 31 11.2**	**-0.4**
MEV	**Metsovon**	**1.44**	**39**	P	**Pn**	**14 31 11.2**	**-0.4**
THL	**Klokotos Trika**	**1.77**	**59**	*e*PN	**Pn**	**14 31 15.9**	**-0.2**
THL				*e*SN	**Sn**	**14 31 38.7**	**-0.2**
THL	**Klokotos Trika**	**1.77**	**59**	P	**Pn**	**14 31 15.9**	**-0.2**
THL				S	**Sn**	**14 31 38.2**	**-0.7**
THL	**Klokotos Trika**	**1.77**	**59**	P	**Pn**	**14 31 15.9**	**-0.2**
THL				S	**Sn**	**14 31 38.2**	**-0.7**
THL				*e*Sn	**Sn**	**14 31 38.7**	**-0.2**
AGG	**Agios Georgios**	**1.81**	**78**	*e*PN	**Pn**	**14 31 16.8**	**+0.1**
AGG				*e*SN	**Sn**	**14 31 40.8**	**+0.8**
AGG	**Agios Georgios**	**1.81**	**78**	P	**Pn**	**14 31 16.8**	**+0.1**
AGG	**Agios Georgios**	**1.81**	**78**	P	**Pn**	**14 31 16.8**	**+0.1**
AGG				*e*Sn	**Sn**	**14 31 40.8**	**+0.8**
NEST	**Nestorio**	**1.90**	**23**	P	**Pn**	**14 31 19.3**	**+1.3**
NEST	**Nestorio**	**1.90**	**23**	P	**Pn**	**14 31 19.3**	**+1.3**
GUR	**Goura**	**1.94**	**111**

IBST			*e*			14 36 18.2
	comp=Z,545nm,0.1s					
ISRB	**Sarab**	**2.84**	**151**	*e*Pn	**Pn**	**14 36 14.2 +2.5**
ISRB				*e*		14 36 19.4
	comp=Z,1µm,0.2s					

ISCJB **12** *14:36:57.0±1.2, 41°.58N±0°.05×34°.91E±0°.07, h10km, Error ellipse: s-maj=9.5km s-min=4.3km az=137.8*
DDA **12** *14:36:58.0, 41°.55N×34°.90E, h7km±2km, Md3.0*
CSEM **12** *14:36:58.6±1.1, 41°.68N×34°.86E, h2km, MD3.0, Error ellipse: s-maj=22.6km s-min=12.8km az=34.0*
ISK **12** *14:36:58.6, 41°.69N×34°.90E, h7km, MD2.9*
ISC 12 14:36:56.6±1.4**, 41°.63N**±0°.06×**34°.98E**±0°.08**, h15**km±12km**, n21,**σ1§**00/35, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BOYT	**Boyabat**	**0.22**	**195**	*i* P		**Pg**	**14 37 01.4**	**-0.1**
BOYT	**Boyabat**	**0.22**	**195**	*i* P		**Pg**	**14 37 01.4**	**-0.2**
BZK	**Bozkurt**	**0.80**	**294**	*e*PG		**Pg**	**14 37 12.7**	**+0.5**
BZK				*e*SG		**Sg**	**14 37 23.6**	**+0.9**
BZK	**Bozkurt**	**0.80**	**294**	*e*Pg		**Pg**	**14 37 12.7**	**+0.5**
BZK				*e*Sg		**Sg**	**14 37 23.6**	**+0.9**
TOS	**Tosya**	**0.94**	**231**	*e*PG		**Pg**	**14 37 16.7**	**+1.9**
TOS				*e*SG		**Sg**	**14 37 30.1**	**+3.1**
TOS	**Tosya**	**0.94**	**231**	*e*Pg		**Pg**	**14 37 16.7**	**+2.0**
TOS				*e*Sg		**Sg**	**14 37 30.1**	**+3.1**
CTKT	**Corum**	**1.02**	**188**	*i* P		**Pg**	**14 37 15.6**	**-0.7**
CTKT				*i* S		**Sg**	**14 37 28.8**	**-0.9**
CTKT	**Corum**	**1.02**	**188**	*i* P		**Pg**	**14 37 15.6**	**-0.7**
CTKT				*i* S		**Sg**	**14 37 28.8**	**-0.8**
ILGA	**Ilgaz**	**1.11**	**239**	*i* P		**Pg**	**14 37 17.4**	**-0.7**
ILGA				*i* S		**Sg**	**14 37 32.7**	**0.0**
ILGA	**Ilgaz**	**1.11**	**239**	*i* P		**Pg**	**14 37 17.4**	**-0.7**
ILGA				*i* S		**Sg**	**14 37 32.7**	**0.0**
BALT	**Daday**	**1.20**	**266**	*i* P		**Pg**	**14 37 17.7**	**-2.0**
BALT				*i* S		**Sg**	**14 37 35.6**	**+0.2**
BALT	**Daday**	**1.20**	**266**	*i* P		**Pg**	**14 37 17.7**	**-2.1**
BALT				*i* S		**Sg**	**14 37 35.6**	**+0.2**
CANT	**Cankiri**	**1.45**	**225**	*e*PN		**Pg**	**14 37 25.5**	**+1.0**
SAFT	**Safranbolu**	**1.77**	**258**	*e*PN		**Pg**	**14 37 29.5**	**-1.1**
SAFT				*e*SN		**Sg**	**14 37 52.5**	**-1.0**
SAFT	**Safranbolu**	**1.77**	**258**	*e*Pn		**Pg**	**14 37 29.5**	**-1.1**
SAFT				*e*Sn		**Sg**	**14 37 52.5**	**-1.0**
YOZ	**Yozgat**	**2.01**	**172**	*e*PN		**Pg**	**14 37 35.3**	**+0.2**
YOZ	**Yozgat**	**2.01**	**172**	*e*Pn		**Pg**	**14 37 35.3**	**+0.1**
AFSR	**Afar-Bala (A**	**2.62**	**214**	*e*PN		**Pb**	**14 37 42.9**	**-0.5**
AFSR	**Afar-Bala (A**	**2.62**	**214**	*e*Pn		**Pb**	**14 37 42.9**	**-0.4**
AVNT	**Avonos**	**2.85**	**182**	*i* P		**Pb**	**14 37 47.9**	**+0.7**
AVNT				*i* S		**Sg**	**14 38 28.7**	**+0.5**
AVNT	**Avonos**	**2.85**	**182**	*i* P		**Pb**	**14 37 47.9**	**+0.7**
AVNT				*i* S		**Sg**	**14 38 28.7**	**+0.4**

ISCJB **12** *14:54:33.8±0.5, 38°.89N±0°.03×35°.60E±0°.03, h6km±9km, Error ellipse: s-maj=5.5km s-min=3.5km az=23.6*
DDA **12** *14:54:34.4, 38°.87N×35°.58E, h4km±2km, Md3.1*
ISK **12** *14:54:34.5, 39°.00N×35°.83E, h16km, MD2.9*
CSEM **12** *14:54:35.6±0.3, 38°.86N×35°.58E, h2km, MD2.9, Error ellipse: s-maj=8.5km s-min=5.6km az=21.0*
ISC 12 14:54:34.6±0.5**, 38°.88N**±0°.03×**35°.59E**±0°.03**, h12**km±8km**, n26,**σ0§**96/46, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BNN	**Bunyan**	**0.20**	**97**	*e*PG		**Pg**	**14 54 38.7**	**-0.3**
BNN				*e*SG		**Sg**	**14 54 41.8**	**-0.2**
BNN	**Bunyan**	**0.20**	**97**	*e*Pg		**Pg**	**14 54 38.7**	**-0.3**
BNN				*e*Sg		**Sg**	**14 54 41.8**	**-0.2**
AVNT	**Avonos**	**0.58**	**261**	*i* P		**Pg**	**14 54 45.8**	**0.0**
AVNT				*i* S		**Sg**	**14 54 54.7**	**+1.2**
AVNT	**Avonos**	**0.58**	**261**	*i* P		**Pg**	**14 54 45.8**	**-0.1**
AVNT				*i* S		**Sg**	**14 54 54.7**	**+1.2**
PINB	**Pinarbasi**	**0.67**	**107**	*i* P		**Pg**	**14 54 47.5**	**0.0**
PINB				*i* S		**Sg**	**14 54 58.1**	**+1.8**
PINB	**Pinarbasi**	**0.67**	**107**	*i* P		**Pg**	**14 54 47.5**	**0.0**
PINB				*i* S		**Sg**	**14 54 58.1**	**+1.8**
YOZ	**Yozgat**	**0.79**	**345**	*e*PG		**Pg**	**14 54 49.6**	**-0.2**
YOZ				*e*SG		**Sg**	**14 55 00.5**	**+0.3**
YOZ	**Yozgat**	**0.79**	**345**	*e*Pg		**Pg**	**14 54 49.7**	**-0.2**
YOZ				*e*Sg		**Sg**	**14 55 00.5**	**+0.3**
SARI	**SarD1z-Kayseri**	**0.89**	**102**	*e*PG		**Pg**	**14 54 49.5**	**-2.3**
CDAG	**Cicekdag**	**1.20**	**309**	*i* P		**Pn**	**14 54 57.6**	**+0.5**
CDAG				*i* S		**Sg**	**14 55 14.8**	**+1.4**
CDAG	**Cicekdag**	**1.20**	**309**	*i* P		**Pn**	**14 54 57.7**	**+0.5**
CDAG				*i* S		**Sg**	**14 55 14.8**	**+1.4**
KOZT	**Kozan**	**1.41**	**172**	*e*PN		**Pg**	**14 55 01.8**	**+0.2**
SCER	**sogukcermik**	**1.55**	**50**	*i* P		**Pg**	**14 55 04.1**	**-0.2**
SCER				*i* S		**Sg**	**14 55 26.0**	**+1.6**
SCER	**sogukcermik**	**1.55**	**50**	*i* P		**Pg**	**14 55 04.1**	**-0.2**
SCER				*i* S		**Sg**	**14 55 26.0**	**+1.6**
KARA	**Karaisali**	**1.67**	**195**	*e*PN		**Pg**	**14 55 06.2**	**-0.4**
KARA	**Karaisali**	**1.67**	**195**	*e*Pn		**Pg**	**14 55 06.2**	**-0.3**
CTKT	**Corum**	**1.85**	**341**	*i* P		**Pg**	**14 55 09.1**	**-1.0**
CTKT				*i* S		**Sg**	**14 55 34.9**	**+0.8**
CTKT	**Corum**	**1.85**	**341**	*i* P		**Pg**	**14 55 09.1**	**-1.0**
CTKT				*i* S		**Sg**	**14 55 34.9**	**+0.8**
AKCD	**Akcadag**	**1.92**	**107**	*i* P		**Pg**	**14 55 11.1**	**-0.3**
AKCD				*i* S		**Sg**	**14 55 36.9**	**+0.6**
AKCD	**Akcadag**	**1.92**	**107**	*i* P		**Pg**	**14 55 11.1**	**-0.3**
AKCD				*i* S		**Sg**	**14 55 36.9**	**+0.6**
AFSR	**Afar-Bala (A**	**2.04**	**287**	*e*PN		**Pb**	**14 55 11.5**	**0.0**
AFSR	**Afar-Bala (A**	**2.04**	**287**	*e*Pn		**Pb**	**14 55 11.5**	**0.0**
KEMA	**Kemaliye**	**2.30**	**79**	*i* P		**Pb**	**14 55 16.3**	**+0.4**
KEMA				*i* S		**Sg**	**14 55 47.2**	**-1.2**
KEMA	**Kemaliye**	**2.30**	**79**	*i* P		**Pb**	**14 55 16.3**	**+0.4**
KEMA				*i* S		**Sg**	**14 55 47.2**	**-1.2**
ELDT	**Eldivan**	**2.32**	**315**	*i* P		**Pg**	**14 55 17.2**	**-1.8**
ELDT				*i* S		**Sg**	**14 55 47.7**	**-1.4**
ELDT	**Eldivan**	**2.32**	**315**	*i* P		**Pg**	**14 55 17.2**	**-1.8**
ELDT				*i* S		**Sg**	**14 55 47.7**	**-1.4**

IDC **12** *14:57:15.3±1.6, 21°.90N×121°.80E, h0km, mb3.3/5, mb1 3.4/5, mb1mx3.2/22, mbtmp3.3/5, Error ellipse: s-maj=160.7km s-min=20.0km az=66.0*
ISCJB **12** *14:57:26.8±0.6, 21°.88N±0°.04×121°.56E±0°.07, h103km±4km, mb3.1/5, Error ellipse: s-maj=10.3km s-min=7.0km az=177.8*
NEIC **12** *14:57:26.6±1.0, 21°.84N×121°.62E, h95km±10km, Error ellipse: s-maj=54.9km s-min=13.2km az=66.0*
TAP **12** *14:57:27.7, 21°.94N×121°.58E, h98km±1km, ML3.8, D*
ISC 12 14:57:27.7±0.6**, 21°.89N**±0°.04×**121°.56E**±0°.06**, h98**km±4km**, n41,**σ0§**76/67, mb3.1/5, 2D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.15**	**356**	P		**Pn**	**14 57 41.5**	**-0.1**
	baz=349							
LAY				*e*S		**Sn**	**14 57 51.9**	**0.0**
	baz=349							
TWK1	**Hengchun**	**0.70**	**274**	*e*P		**Pn**	**14 57 45.7**	**+0.6**
	baz=270							
TWK1				S		**Sn**	**14 57 58.7**	**+0.7**
	baz=270							
EAST	**Anshuo**	**0.82**	**307**	P		**Pn**	**14 57 46.3**	**+0.1**
	baz=303							
EAST				*e*S		**Sn**	**14 57 59.2**	**-0.8**
	baz=303							
ECL	**Taimali**	**0.90**	**321**	P		**Pn**	**14 57 46.3**	**-0.6**
	baz=318							
ECL				*e*S		**Sn**	**14 57 59.9**	**-1.5**
	baz=318							
SCZT	**Fangliau**	**0.99**	**299**	P		**Pn**	**14 57 48.1**	**+0.2**
	baz=296							
SCZT				*e*S		**Sn**	**14 58 02.9**	**-0.3**
	baz=296							
TWG	**Pinlang**	**1.03**	**334**	*e*P		**Pn**	**14 57 47.0**	**-1.4**
TWG				*e*S		**Sn**	**14 58 01.8**	**-2.1**
TWG	**Pinlang**	**1.03**	**334**	P		**Pn**	**14 57 47.9**	**-0.5**
	baz=332							
TWG				*e*S		**Sn**	**14 58 03.0**	**-0.9**
	baz=332							
SSD	**Sandimen**	**1.21**	**315**	⇓*i*P		**Pn**	**14 57 50.5**	**+0.1**
	baz=312							
SSD				*e*S		**Sn**	**14 58 06.7**	**-0.8**
	baz=312							
CHKT	**Chengkung**	**1.22**	**351**	*e*P		**Pn**	**14 57 50.6**	**+0.1**
	baz=350							
CHKT				*e*S		**Sn**	**14 58 07.4**	**-0.2**
	baz=350							
ELDTW	**Lidau**	**1.39**	**339**	*e*P		**Pn**	**14 57 52.8**	**+0.3**
	baz=337							
ELDTW				*e*S		**Sn**	**14 58 12.4**	**+1.2**
	baz=337							
TWM1	**Shoushan**	**1.40**	**312**	P		**Pn**	**14 57 53.8**	**+1.1**
	baz=309							
STYT	**Tauyuan**	**1.47**	**330**	P		**Pn**	**14 57 53.9**	**+0.4**
	baz=328							
STYT				*e*S		**Sn**	**14 58 12.9**	**-0.1**
	baz=328							
TWF1	**Yuli**	**1.47**	**351**	*e*P		**Pn**	**14 57 53.4**	**-0.3**
	baz=349							
TWF1				*e*S		**Sn**	**14 58 12.4**	**-0.8**
	baz=349							
YULB	**Yu-li**	**1.51**	**351**	*e*P		**Pn**	**14 57 54.1**	**0.0**
CHN1	**Nanshi**	**1.60**	**324**	*e*P		**Pn**	**14 57 55.4**	**+0.2**
	baz=322							
CHN1				*e*S		**Sn**	**14 58 16.2**	**+0.2**
	baz=322							
WTP	**Ta-pu**	**1.61**	**327**	P		**Pn**	**14 57 55.5**	**+0.2**
	baz=325							
WTP				*e*S		**Sn**	**14 58 16.0**	**-0.1**
	baz=325							
CHN3	**Shinhua**	**1.62**	**317**	*e*P		**Pn**	**14 57 56.5**	**+1.1**
	baz=315							
CHN3				*e*S		**Sn**	**14 58 17.2**	**+0.9**
	baz=315							
EHY	**Hungye**	**1.62**	**352**	*e*P		**Pn**	**14 57 55.5**	**+0.1**
	baz=351							
EHY				S		**Sn**	**14 58 15.1**	**-1.3**
	baz=351							
TPUB	**Ta-pu**	**1.65**	**329**	*e*P		**Pn**	**14 57 55.7**	**0.0**
YUS	**Yu-Shan**	**1.69**	**341**	*e*P		**Pn**	**14 57 57.6**	**+1.4**
	baz=339							
YUS				*e*S		**Sn**	**14 58 19.0**	**+1.1**
	baz=339							
CHN4	**Tsaushan**	**1.71**	**329**	*e*P		**Pn**	**14 57 56.7**	**+0.2**
	baz=327							
CHN4				*e*S		**Sn**	**14 58 18.0**	**-0.3**
	baz=327							
ALS	**Alishan**	**1.76**	**337**	*e*P		**Pn**	**14 57 58.0**	**+0.9**
	baz=335							
ALS				*e*S		**Sn**	**14 58 19.9**	**+0.4**
	baz=335							
SCLT	**Jiali**	**1.80**	**316**	*e*P		**Pn**	**14 57 58.1**	**+0.4**
	baz=314							
SCLT				*e*S		**Sn**	**14 58 20.0**	**-0.4**
	baz=314							
CHN5	**Tsauling**	**1.88**	**335**	P		**Pn**	**14 57 58.6**	**-0.2**
	baz=333							
CHN5				S		**Sn**	**14 58 21.8**	**-0.5**
	baz=333							
CHN8	**Yiju**	**1.91**	**320**	P		**Pn**	**14 57 58.8**	**-0.3**
	baz=318							
CHN8				*e*S		**Sn**	**14 58 22.2**	**-0.8**
	baz=318							
ESL	**Shilin**	**1.92**	**356**	⇓*e*P		**Pn**	**14 58 00.3**	**+1.1**
	baz=356							
ESL				*e*S		**Sn**	**14 58 21.5**	**-1.7**
	baz=356							
SSLB	**Suanglung**	**1.97**	**344**	*e*P		**Pn**	**14 57 59.8**	**-0.1**
SMLT	**Sun Moon Lake**	**2.07**	**343**	P		**Pn**	**14 58 01.9**	**+0.7**
	baz=342							
SMLT				S		**Sn**	**14 58 27.4**	**+0.6**
	baz=342							
TYC	**Yuchr**	**2.11**	**342**	*e*P		**Pn**	**14 58 02.8**	**+1.2**
	baz=341							
TYC				*e*S		**Sn**	**14 58 28.1**	**+0.6**
	baz=341							
WSF	**Szhu**	**2.13**	**325**	*e*S		**Sn**	**14 58 26.9**	**-1.2**
	baz=323							
WHF	**Hehuan Shan**	**2.26**	**353**	P		**Pn**	**14 58 04.8**	**+1.1**
	baz=352							
WHF				S		**Sn**	**14 58 31.4**	**+0.3**
	baz=352							
SONM	**Songino Array**	**28.61**	**338**	P		**P**	**15 03 14.0**	**-0.7**
	0.2nm,0.4s,mb3.1,baz=158,slow=8.5,SNR=2.8							
SONM	**Songino Array**	**28.61**	**338**	P		**P**	**15 03 14.0**	**-0.7**
MKAR	**Makanchi Array**	**40.24**	**318**	P		**P**	**15 04 55.4**	**+0.7**
	0.6nm,0.8s,mb3.5,baz=110,slow=9.8,SNR=5.3							
MKAR	**Makanchi Array**	**40.24**	**318**	P		**P**	**15 04 55.4**	**+0.7**
ZALV	**Zalesovo Beam**	**42.36**	**328**	P		**P**	**15 05 11.6**	**-0.4**
	0.6nm,0.5s,mb3.6,baz=101,slow=9.1,SNR=4.6							
ZALV	**Zalesovo Beam**	**42.36**	**328**	P		**P**	**15 05 11.6**	**-0.4**
WRA	**Warramunga Arr**	**43.41**	**162**	P		**P**	**15 05 19.5**	**-1.3**
	0.1nm,0.8s,mb2.6,baz=342,slow=9.1,SNR=2.8							
WRA	**Warramunga Arr**	**43.41**	**162**	P		**P**	**15 05 19.5**	**-1.3**
ASAR	**Alice Springs**	**46.85**	**164**	P		**P**	**15 05 46.8**	**-1.2**
	0.2nm,0.7s,mb2.9,baz=342,slow=7.3,SNR=5.3							
ASAR	**Alice Springs**	**46.85**	**164**	P		**P**	**15 05 46.8**	**-1.2**

TIR **12** *14:58:20.1±2.4, 41°.27N×20°.41E, h0km±902km, ML2.9*
SKO **12** *14:58:22.9, 41°.28N×20°.15E, h0km*
ISCJB **12** *14:58:24.6±0.6, 41°.23N±0°.04×20°.30E±0°.04, h6km±5km, Error ellipse: s-maj=7.6km s-min=3.4km az=36.2*
CSEM **12** *14:58:24.8±0.2, 41°.22N×20°.31E, h2km, ML2.9, Error ellipse: s-maj=7.9km s-min=3.5km az=38.0*
THE **12** *14:58:24.6, 41°.27N×20°.33E, h0km±8km, ML2.3/2, Error ellipse: s-maj=9.6km s-min=2.5km az=297.0*
ISC 12 14:58:25.4±0.5**, 41°.22N**±0°.04×**20°.29E**±0°.04**, h6**km±6km**, n26,**σ1§**10/47, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.34**	**292**	*i* PG		**Pg**	**14 58 31.3**	**-0.7**
TIR				*i* SG		**Sg**	**14 58 37.2**	**+0.7**
TIR	**Tirane**	**0.34**	**292**	*i* Pg		**Pg**	**14 58 31.3**	**-0.7**
TIR				*i* Sg		**Sg**	**14 58 37.2**	**+0.7**
KBN	**Korca**	**0.71**	**147**	*i* PG		**Pg**	**14 58 38.3**	**-0.6**
KBN				*i* SG		**Sg**	**14 58 49.2**	**+1.1**
KBN	**Korca**	**0.71**	**147**	*i* Pg		**Pg**	**14 58 38.3**	**-0.6**
KBN				*i* Sg		**Sg**	**14 58 49.2**	**+1.1**
KRUS	**Krusevo**	**0.74**	**78**	*e*Pg		**Pg**	**14 58 38.4**	**-1.2**
KRUS				*e*Sg		**Sg**	**14 58 49.3**	**+0.2**
KRUS	**Krusevo**	**0.74**	**78**	*e*Pg		**Pg**	**14 58 38.3**	**-1.3**
KRUS				*e*Sg		**Sg**	**14 58 49.3**	**+0.1**
BIA	**Bitola**	**0.81**	**104**	P		**Pg**	**14 58 39.0**	**-1.9**
BIA				S		**Sg**	**14 58 51.7**	**+0.3**
BIA	**Bitola**	**0.81**	**104**	*e*Pg		**Pg**	**14 58 38.9**	**-2.0**
BIA				*e*Sg		**Sg**	**14 58 52.0**	**+0.7**
BIA	**Bitola**	**0.81**	**104**	*e*Pg		**Pg**	**14 58 38.8**	**-2.1**
BIA	**Bitola**	**0.81**	**104**	P		**Pg**	**14 58 39.0**	**-1.9**
BIA				S		**Sg**	**14 58 51.7**	**+0.3**
BIA				*e*Sg		**Sg**	**14 58 52.0**	**+0.7**
PUK	**Puka**	**0.87**	**340**	*i* PG		**Pg**	**14 58 41.5**	**-0.6**
PUK				*i* SG		**Sg**	**14 58 54.9**	**+1.4**
PUK	**Puka**	**0.87**	**340**	*i* Pg		**Pg**	**14 58 41.5**	**-0.6**
PUK				*i* Sg		**Sg**	**14 58 54.9**	**+1.4**
FNA	**Florina**	**0.93**	**118**	P		**Pg**	**14 58 42.0**	**-1.2**
FNA				S		**Sg**	**14 58 55.5**	**+0.2**
FNA	**Florina**	**0.93**	**118**	P		**Pg**	**14 58 42.0**	**-1.2**
FNA				S		**Sg**	**14 58 55.5**	**+0.2**
NEST	**Nestorio**	**0.99**	**144**	P		**Pg**	**14 58 43.6**	**-0.7**
NEST				S		**Sg**	**14 58 59.1**	**+1.9**
NEST	**Nestorio**	**0.99**	**144**	P		**Pg**	**14 58 43.6**	**-0.7**
NEST				S		**Sg**	**14 58 59.1**	**+1.9**
BCI	**Bajram Curri**	**1.16**	**352**	*i* PG		**Pg**	**14 58 47.4**	**-0.2**
BCI				*i* SG		**Sg**	**14 59 08.4**	**+5.8**
BCI	**Bajram Curri**	**1.16**	**352**	*i* Pg		**Pg**	**14 58 47.4**	**-0.2**
GRG	**Griva**	**1.62**	**99**	P		**Pn**	**14 58 54.0**	**-0.4**
GRG	**Griva**	**1.62**	**99**	P		**Pn**	**14 58 54.0**	**-0.4**
BARS	**Barje**	**1.96**	**35**	*e*Pn		**Pn**	**14 59 02.2**	**+3.1**
IVAS	**Ivanjica**	**2.36**	**358**	*e*Pn		**Pn**	**14 59 06.6**	**+2.0**
STON	**Ston**	**2.54**	**311**	*i* Pn		**Pn**	**14 59 07.3**	**+0.2**
STON				Sn		**Sn**	**14 59 38.0**	**-0.3**
STON	**Ston**	**2.54**	**311**	*i* Pn		**Pn**	**14 59 07.2**	**+0.1**
STON				Sn		**Sn**	**14 59 38.0**	**-0.3**
NVLJ	**Novalja**	**5.20**	**312**	*e*Pn		**Pn**	**14 59 43.9**	**+0.3**
NVLJ				Sn		**Sn**	**15 00 42.2**	**-1.6**
NVLJ	**Novalja**	**5.20**	**312**	*e*Pn		**Pn**	**14 59 43.9**	**+0.3**
NVLJ				Sn		**Sn**	**15 00 42.2**	**-1.6**

ISCJB **12** *15:01:43.8±0.8, 6°.90N±0°.07×73°.01W±0°.08, h171km±9km, Error ellipse: s-maj=16.0km s-min=7.1km az=35.8*
FUNV **12** *15:01:44.9, 6°.80N×73°.10W, h170km, MW3.5*
IDC **12** *15:01:46.8±7.2, 5°.56N×76°.65W, h105km±70km, mb1 3.5/1, mb1mx3.0/20, mbtmp3.8/1, ML2.6/1, Error ellipse: s-maj=119.4km s-min=70.9km az=21.0*

ISC 12 15:01:44.6±0.8**, 6°.90N**±0°.07×**73°.02W**±0°.08**, h168**km±9km**, n21,**σ0§**94/27, 1C-7D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.19**	**36**	⇑*i*P		**Pn**	**15 02 13.6**	**+1.0**
CAPV				*e*S		**Sn**	**15 02 34.9**	**+0.8**
ROSC	**El Rosal**	**2.41**	**213**	P		**Pn**	**15 02 25.5**	**-0.1**
	27nm,0.3s,baz=286,slow=20,SNR=25							
ROSC				S		**Sn**	**15 02 55.8**	**-1.6**
	42nm,0.3s,baz=74,slow=18,SNR=14							
VIGV	**El Vigia**	**2.53**	**40**	⇓*i*P		**Pn**	**15 02 28.1**	**+1.1**
VIGV				*e*S		**Sn**	**15 03 00.1**	**+0.4**
SOCV	**Socops**	**2.54**	**57**	⇓*i*P		**Pn**	**15 02 28.3**	**+1.2**
SOCV				*e*S		**Sn**	**15 03 00.6**	**+0.5**
VIRV	**Villa del Rosa**	**3.63**	**10**	⇓*i*P		**Pn**	**15 02 40.3**	**-0.3**
VIRV				*e*S		**Sn**	**15 03 22.9**	**-1.4**
QARV	**Quebrada Arrib**	**4.11**	**37**	⇓*i*P		**Pn**	**15 02 48.0**	**+1.3**
QARV				*e*S		**Sn**	**15 03 33.7**	**-1.6**
SANV	**Sanarito**	**4.31**	**53**	*e*P		**Pn**	**15 02 49.7**	**+0.4**
SANV				*e*S		**Sn**	**15 03 37.1**	**-2.7**
CURV	**Curarigua**	**4.33**	**44**	⇓*i*P		**Pn**	**15 02 50.3**	**+0.7**
CURV				*e*S		**Sn**	**15 03 38.5**	**-1.8**
DABV	**Dabajuro**	**4.64**	**30**	*e*P		**Pn**	**15 02 54.4**	**+0.8**
TEPV	**Terepaima**	**4.86**	**51**	*e*P		**Pn**	**15 02 57.1**	**+0.7**
SIQV	**Siquisique**	**4.89**	**40**	⇓*i*P		**Pn**	**15 02 57.2**	**+0.3**
BAUV	**El Baul**	**5.33**	**67**	*e*P		**Pn**	**15 03 01.8**	**-0.8**
MAPV	**Macapo**	**5.37**	**57**	⇓*i*P		**Pn**	**15 03 03.4**	**+0.2**
IMOV	**Isla Los Monje**	**5.81**	**21**	*e*P		**Pn**	**15 03 09.3**	**+0.3**
MONV	**Montecano**	**5.85**	**31**	*e*P		**Pn**	**15 03 09.6**	**+0.1**
TURV	**Turiamo**	**6.21**	**55**	*e*P		**Pn**	**15 03 14.2**	**-0.1**
MERV	**Las Mercedes**	**7.05**	**70**	*e*P		**Pn**	**15 03 24.9**	**-0.5**
BIRV	**Birongo**	**7.56**	**61**	*e*P		**Pn**	**15 03 32.7**	**0.0**
CUPV	**Cespira**	**7.81**	**66**	*e*P		**Pn**	**15 03 35.0**	**-0.4**
ASAR	**Alice Springs**	**149.24**	**234**	PKPbc	PKPbc		15 21 12.7	-1.6
	0.3nm,0.5s,baz=114,slow=3.6,SNR=9.5							
WRA	**Warramunga Arr**	**150.47**	**241**	PKPbc	PKPbc		15 21 16.8	-0.5
	0.3nm,0.4s,baz=107,slow=2.6,SNR=14							

ISCJB **12** *15:34:07.8±0.4, 45°.44N±0°.02×3°.96W±0°.04, h10km, Error ellipse: s-maj=4.0km s-min=2.5km az=2.0*
NEIC **12** *15:34:08.9, 45°.31N×4°.36W, h17km, ML3.0(LDG), After LDG.*
LDG **12** *15:34:08.9±0.1, 45°.30N×4°.36W, h17km, Ml3.0/29, Error ellipse: s-maj=2.4km s-min=1.7km az=104.0*
MDD **12** *15:34:09.2±0.6, 45°.42N×4°.25W, h12km±1km, mb3.9/18, Error ellipse: s-maj=6.3km s-min=4.5km az=111.0, PRIMO*
ISC 12 15:34:09.2±0.4**, 45°.43N**±0°.02×**4°.00W**±0°.04**, h10**km**, n107,**
σ1§14/199, Bay of Biscay

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ELAN	**Lanestosa**	**2.24**	**169**			**Pn**	**15 34 45.0**	**-1.2**
	6.4nm,0.4s,SNR=14							
EARI	**Arriondas**	**2.30**	**203**			**Pn**	**15 34 43.7**	**-3.4**
	4.4nm,0.3s,SNR=12							
QUIF	**Quistinic**	**2.55**	**13**	*e*Pn		**Pn**	**15 34 49.8**	**-0.8**
QUIF	**Quistinic**	**2.55**	**13**	*e*Pg		**Pg**	**15 34 59.3**	**+1.2**
QUIF				*e*Sn		**Sn**	**15 35 21.2**	**-0.5**
	17nm,0.3s							
QUIF	**Quistinic**	**2.55**	**13**	*e*Pn		**Pn**	**15 34 49.8**	**-0.8**
QUIF				*e*Pg		**Pg**	**15 34 59.3**	**+1.2**
QUIF				*e*Sn		**Sn**	**15 35 21.2**	**-0.5**
QUIF	**Quistinic**	**2.55**	**13**	Pn		**Pn**	**15 34 49.8**	**-0.8**
QUIF				Pg		**Pg**	**15 34 59.3**	**+1.2**
QUIF				Sn		**Sn**	**15 35 21.2**	**-0.5**
	8.7nm,0.3s							
EALK	**Alkurruntz**	**2.84**	**140**	Pn		**Pn**	**15 34 54.9**	**+0.3**
	4.2nm,0.2s,SNR=6.4							
EALK				Sn		**Sn**	**15 35 29.2**	**+0.3**
	3.9nm,0.1s,SNR=7.9							
ELIZ	**Elizondo**	**2.88**	**141**	Pn		**Pn**	**15 34 55.5**	**+0.4**
	3.1nm,0.2s,SNR=14							
ELIZ				Pg		**Pg**	**15 35 03.2**	**-1.2**
	12nm,0.3s,SNR=8.9							
ELIZ				Sn		**Sn**	**15 35 30.2**	**+0.5**
	3.5nm,0.2s,SNR=7.9							
MFF	**Saint Martin d**	**2.93**	**65**	*e*Pn		**Pn**	**15 34 57.0**	**+1.2**
MFF	**Saint Mart

4.0nm,0.3s
RJF Les Rejaudoux 3.89 90 *e*Pn **Pn 15 35 09.8 +0.8**
RJF *e*Sn **Sn 15 35 54.6 -0.1**
5.6nm,0.2s
RJF Les Rejaudoux 3.89 90 *e*Pn **Pn 15 35 09.8 +0.8**
RJF *e*Sn **Sn 15 35 54.6 -0.1**
RJF Les Rejaudoux 3.89 90 Pn **Pn 15 35 09.8 +0.8**
RJF Sn **Sn 15 35 54.6 -0.1**
2.8nm,0.2s
EPF Esparros 3.94 126 *e*Pn **Pn 15 35 08.7 -0.9**
EPF *e*Sn **Sn 15 35 54.5 -1.3**
6.2nm,0.4s
EPF Esparros 3.94 126 *e*Pn **Pn 15 35 08.7 -0.9**
EPF *e*Sn **Sn 15 35 54.5 -1.3**
EPF Esparros 3.94 126 Pn **Pn 15 35 08.7 -0.9**
EPF Sn **Sn 15 35 54.5 -1.3**
3.1nm,0.4s
ECAL Calabor 4.01 211 Pn **Pn 15 35 09.2 -1.4**
1.8nm,0.2s,SNR=7.9
ECAL Sn **Sn 15 35 49.1 -8.7**
2.9nm,0.3s,SNR=7.9
EBIE Bielsa 4.06 131 Pn **Pn 15 35 12.9 +1.6**
8.0nm,0.2s,SNR=48
EBIE Sn **Sn 15 36 00.7 +1.9**
4.5nm,0.2s,SNR=7.9
FLN La Foliniere 4.11 35 *e*Pn **Pn 15 35 12.9 +0.9**
baz=210
FLN *e*Sn **Sn 15 35 59.4 -0.6**
11nm,0.4s
FLN La Foliniere 4.11 35 *e*Pn **Pn 15 35 12.9 +0.9**
FLN *e*Sn **Sn 15 35 59.4 -0.6**
FLN La Foliniere 4.11 35 Pn **Pn 15 35 12.9 +0.9**
FLN Sn **Sn 15 35 59.4 -0.6**
5.6nm,0.4s
LDF La Druitiere 4.13 39 *e*Pn **Pn 15 35 12.9 +0.7**
LDF *e*Sn **Sn 15 36 00.2 -0.3**
4.0nm,0.2s
LDF La Druitiere 4.13 39 *e*Pn **Pn 15 35 12.9 +0.7**
LDF *e*Sn **Sn 15 36 00.2 -0.3**
CAF Calviac 4.32 95 *e*Pn **Pn 15 35 15.1 +0.2**
CAF *e*Sn **Sn 15 36 04.6 -0.6**
6.2nm,0.3s
CAF Calviac 4.32 95 *e*Pn **Pn 15 35 15.1 +0.2**
CAF *e*Sn **Sn 15 36 04.6 -0.6**
CAF Calviac 4.32 95 Pn **Pn 15 35 15.1 +0.2**
CAF Sn **Sn 15 36 04.6 -0.6**
3.1nm,0.3s
EMAZ Mazaricos 4.36 237 Pn **Pn 15 35 13.1 -2.3**
3.0nm,0.3s,SNR=7.9
TCF Toulx Ste Croi 4.42 77 *e*Pn **Pn 15 35 17.0 +0.7**
TCF *e*Sn **Sn 15 36 07.5 -0.3**
6.8nm,0.3s
TCF Toulx Ste Croi 4.42 77 *e*Pn **Pn 15 35 17.0 +0.7**
TCF *e*Sn **Sn 15 36 07.5 -0.3**
TCF Toulx Ste Croi 4.42 77 Pn **Pn 15 35 17.0 +0.7**
TCF Sn **Sn 15 36 07.5 -0.3**
3.4nm,0.3s
ELOB Lobios 4.62 221 Pn **Pn 15 35 15.8 -3.2**
2.7nm,0.3s,SNR=7.9
GUD Guadarrama 4.79 181 Pn **Pn 15 35 20.0 -1.3**
1.1nm,0.2s,SNR=7.9
CSOR Sort 4.81 128 Pn **Pn 15 35 24.6 +3.1**
4.6nm,0.3s,SNR=11
CSOR Sn **Sn 15 36 22.4 +5.1**
7.4nm,0.4s,SNR=7.9
ETOR Torete 4.83 162 Pn **Pn 15 35 20.9 -1.0**
7.5nm,0.5s,SNR=8.2
BGF Bois d'Agland 4.90 74 *e*Pn **Pn 15 35 22.8 -0.1**
BGF *e*Sn **Sn 15 36 18.8 -0.8**
11nm,0.3s
BGF Bois d'Agland 4.90 74 *e*Pn **Pn 15 35 22.8 -0.1**
BGF *e*Sn **Sn 15 36 18.8 -0.8**
BGF Bois d'Agland 4.90 74 Pn **Pn 15 35 22.8 -0.1**
BGF Sn **Sn 15 36 18.8 -0.8**
5.4nm,0.3s
MTLF Montolieu 4.92 113 *e*Pn **Pn 15 35 24.0 +0.8**
MTLF *e*Sn **Sn 15 36 18.4 -1.7**
4.1nm,0.4s
MTLF Montolieu 4.92 113 *e*Pn **Pn 15 35 24.0 +0.8**
MTLF *e*Sn **Sn 15 36 18.4 -1.7**
MTLF Montolieu 4.92 113 Pn **Pn 15 35 24.0 +0.8**
MTLF Sn **Sn 15 36 18.4 -1.7**
2.0nm,0.4s
HYF Humbligny 4.95 66 *e*Pn **Pn 15 35 24.3 +0.8**
HYF *e*Sn **Sn 15 36 20.0 -0.8**
HYF Humbligny 4.95 66 *e*Pn **Pn 15 35 24.3 +0.8**
HYF *e*Sn **Sn 15 36 20.0 -0.8**
HYF Humbligny 4.95 66 Pn **Pn 15 35 24.3 +0.8**
HYF Sn **Sn 15 36 20.0 -0.8**
AVF Avril sur Loir 5.29 72 *e*Pn **Pn 15 35 28.8 +0.6**
AVF *e*Sn **Sn 15 36 28.4 -0.8**
3.5nm,0.3s
AVF Avril sur Loir 5.29 72 *e*Pn **Pn 15 35 28.8 +0.6**
AVF *e*Sn **Sn 15 36 28.4 -0.8**
AVF Avril sur Loir 5.29 72 Pn **Pn 15 35 28.8 +0.6**
AVF Sn **Sn 15 36 28.4 -0.8**
1.8nm,0.3s
EMIR Miracle 5.33 129 Pn **Pn 15 35 32.0 +3.3**
2.0nm,0.2s,SNR=4.0
SSF Saint Saulge 5.46 70 *e*Pn **Pn 15 35 31.3 +0.8**
SSF *e*Sn **Sn 15 36 32.3 -0.9**
3.3nm,0.3s
SSF Saint Saulge 5.46 70 *e*Pn **Pn 15 35 31.3 +0.8**
SSF *e*Sn **Sn 15 36 32.3 -0.9**
SSF Saint Saulge 5.46 70 Pn **Pn 15 35 31.3 +0.8**
SSF Sn **Sn 15 36 32.3 -0.9**
1.7nm,0.3s
ERTA Horta de San J 5.48 143 Pn **Pn 15 35 31.0 +0.2**
2.7nm,0.2s,SNR=7.9
EPOB Poblet 5.51 136 Pn **Pn 15 35 32.1 +0.9**
1.7nm,0.3s,SNR=7.9
SMF Signal de Mont 5.59 75 *e*Pn **Pn 15 35 33.3 +0.9**
SMF *e*Sn **Sn 15 36 35.6 -1.0**
5.9nm,0.5s
SMF Signal de Mont 5.59 75 *e*Pn **Pn 15 35 33.3 +0.9**
SMF *e*Sn **Sn 15 36 35.6 -1.0**
SMF Signal de Mont 5.59 75 Pn **Pn 15 35 33.3 +0.9**
SMF Sn **Sn 15 36 35.6 -1.0**
3.0nm,0.5s
EMOS Mosqueruela 5.69 152 Pn **Pn 15 35 35.0 +1.3**
2.1nm,0.3s,SNR=7.9
LOR Lormes 5.74 69 *e*Pn **Pn 15 35 35.2 +0.8**
baz=258
LOR *e*Sn **Sn 15 36 38.9 -1.4**
1.9nm,0.3s
LOR Lormes 5.74 69 *e*Pn **Pn 15 35 35.2 +0.8**
LOR *e*Sn **Sn 15 36 38.9 -1.4**
LOR Lormes 5.74 69 Pn **Pn 15 35 35.2 +0.8**
LOR Sn **Sn 15 36 38.9 -1.4**
0.9nm,0.3s
LASF Ste Croix 5.76 101 *e*Pn **Pn 15 35 35.4 +0.8**
LASF *e*Sn **Sn 15 36 39.1 -1.6**
3.8nm,0.4s
LASF Ste Croix 5.76 101 *e*Pn **Pn 15 35 35.4 +0.8**
LASF *e*Sn **Sn 15 36 39.1 -1.6**
LASF Ste Croix 5.76 101 Pn **Pn 15 35 35.4 +0.8**
LASF Sn **Sn 15 36 39.1 -1.6**
1.9nm,0.4s
CFON Fontmartina 5.94 126 Pn **Pn 15 35 38.5 +1.4**
2.7nm,0.2s,SNR=7.9
VIVF Saint-Julien-l 6.16 92 *e*Pn **Pn 15 35 40.0 -0.2**
VIVF *e*Sn **Sn 15 36 49.0 -1.7**
3.1nm,0.4s
VIVF Saint-Julien-l 6.16 92 *e*Pn **Pn 15 35 40.0 -0.2**
VIVF *e*Sn **Sn 15 36 49.0 -1.7**
VIVF Saint-Julien-l 6.16 92 Pn **Pn 15 35 40.0 -0.2**
VIVF Sn **Sn 15 36 49.0 -1.7**
1.6nm,0.4s
SMRF Simiane la Rot 6.98 99 *e*Pn **Pn 15 35 51.7 +0.3**
SMRF Simiane la Rot 6.98 99 *e*Pn **Pn 15 35 51.7 +0.3**
SMRF Simiane la Rot 6.98 99 Pn **Pn 15 35 51.7 +0.3**
ORIF Oris-en-Rattie 7.00 91 *e*Pn **Pn 15 35 51.9 +0.2**
ORIF *e*Sn **Sn 15 37 09.2 -2.2**
2.6nm,0.4s
ORIF Oris-en-Rattie 7.00 91 *e*Pn **Pn 15 35 51.9 +0.2**
ORIF *e*Sn **Sn 15 37 09.2 -2.2**
ORIF Oris-en-Rattie 7.00 91 Pn **Pn 15 35 51.9 +0.2**
ORIF Sn **Sn 15 37 09.2 -2.2**
1.3nm,0.4s
ETOB Tobarra 7.02 164 Pn **Pn 15 35 50.6 -1.4**
0.2nm,0.1s,SNR=7.9
CABF La Chapelle 7.12 77 *e*Pn **Pn 15 35 54.6 +1.2**
CABF *e*Sn **Sn 15 37 11.8 -2.5**
4.1nm,0.6s
CABF La Chapelle 7.12 77 *e*Pn **Pn 15 35 54.6 +1.2**
CABF *e*Sn **Sn 15 37 11.8 -2.5**
CABF La Chapelle 7.12 77 Pn **Pn 15 35 54.6 +1.2**
CABF Sn **Sn 15 37 11.8 -2.5**
2.0nm,0.6s
PGF Pioggiola 9.80 102 *e*Pn **Pn 15 36 29.9 -0.2**
PGF Pioggiola 9.80 102 *e*Pn **Pn 15 36 29.9 -0.2**

ISK ***12*** *15:56:26.2, 38.86N×35.60E, h2km, MD2.9*
ISCJB ***12*** *15:56:27.6±0.4, 38.86N±0.03×35.59E±0.03, h10km, Error ellipse: s-maj=4.9km s-min=3.0km az=24.6*
CSEM ***12*** *15:56:27.1±0.3, 38.85N×35.59E, h2km, MD2.9, Error ellipse: s-maj=10.6km s-min=6.5km az=21.0*
DDA ***12*** *15:56:28.4, 38.87N×35.54E, h5km±2km, Md3.3*

ISC 12 15:56:27.7±0.6, 38.82N±0.04×35.55E±0.03, h2km±7km, n33, σ0.91/91, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNN	**Bunyan**	**0.23**	**81**	*e*PG	**Pg**	**15 56 31.0**	**-1.2**
BNN				*e*SG	**Sg**	**15 56 34.6**	**-0.6**
BNN	**Bunyan**	**0.23**	**81**	*e*Pg	**Pg**	**15 56 31.0**	**-1.1**
BNN				*e*Sg	**Sg**	**15 56 34.6**	**-0.5**
AVNT	**Avonos**	**0.55**	**266**	*e*P	**Pg**	**15 56 38.1**	**-0.1**
AVNT				*i* S	**Sg**	**15 56 50.6**	**+5.3**
AVNT	**Avonos**	**0.55**	**266**	*e*P	**Pg**	**15 56 38.1**	**-0.1**
AVNT				*i* S	**Sg**	**15 56 50.6**	**+5.3**
PINB	**Pinarbasi**	**0.68**	**102**	*i* P	**Pg**	**15 56 40.6**	**-0.1**
PINB				*i* S	**Sg**	**15 56 50.9**	**+1.4**
PINB	**Pinarbasi**	**0.68**	**102**	*i* P	**Pg**	**15 56 40.6**	**-0.1**
PINB				*i* S	**Sg**	**15 56 50.9**	**+1.4**
YOZ	**Yozgat**	**0.84**	**348**	*e*PG	**Pg**	**15 56 42.6**	**-1.2**
YOZ				*e*SG	**Sg**	**15 56 54.8**	**0.0**
YOZ	**Yozgat**	**0.84**	**348**	*e*Pg	**Pg**	**15 56 42.7**	**-1.2**
YOZ				*e*Sg	**Sg**	**15 56 54.8**	**0.0**
SARI	**SarD1z-Kayseri**	**0.91**	**98**	*e*PG	**Pg**	**15 56 41.9**	**-3.2**
SARI	**SarD1z-Kayseri**	**0.91**	**98**	*e*Pg	**Pg**	**15 56 41.9**	**-3.1**
CDAG	**Cicekdag**	**1.22**	**312**	*e*P	**Pg**	**15 56 50.1**	**-1.1**
CDAG				*i* S	**Sg**	**15 57 07.3**	**+0.4**
CDAG	**Cicekdag**	**1.22**	**312**	*e*P	**Pg**	**15 56 50.1**	**-1.0**
CDAG				*i* S	**Sg**	**15 57 07.3**	**+0.3**
KOZT	**Kozan**	**1.35**	**171**	*e*PN	**Pn**	**15 56 53.6**	**+0.1**
CORM	**Corum**	**1.54**	**333**	*e*PN	**Pn**	**15 56 55.5**	**-0.6**
CORM	**Corum**	**1.54**	**333**	*e*Pn	**Pn**	**15 56 55.5**	**-0.6**
KARA	**Karaisali**	**1.60**	**194**	*e*PN	**Pn**	**15 56 57.2**	**+0.3**
KARA	**Karaisali**	**1.60**	**194**	*e*Pn	**Pn**	**15 56 57.2**	**+0.2**
SCER	**sogukcermik**	**1.61**	**49**	*e*P	**Pn**	**15 56 57.6**	**-0.3**
SCER				*i* S	**Sg**	**15 57 20.4**	**+1.1**
SCER	**sogukcermik**	**1.61**	**49**	*e*P	**Pn**	**15 56 56.7**	**-0.3**
SCER				*i* S	**Sg**	**15 57 20.4**	**+1.1**
KMRS	**Kahramanmaras**	**1.69**	**141**	*e*PN	**Pn**	**15 56 58.2**	**+0.1**
KMRS	**Kahramanmaras**	**1.69**	**141**	*e*Pn	**Pn**	**15 56 58.2**	**+0.1**
SULT	**Sultanhani-AKS**	**1.71**	**250**	*e*PN	**Pn**	**15 56 58.4**	**-0.1**
SULT	**Sultanhani-AKS**	**1.71**	**250**	*e*Pn	**Pn**	**15 56 58.4**	**-0.1**
DARE	**Darende-Malaty**	**1.76**	**85**	*e*PN	**Pn**	**15 56 55.0**	**-4.2**
DARE	**Darende-Malaty**	**1.76**	**85**	*e*Pn	**Pn**	**15 56 55.0**	**-4.2**
CTKT	**Corum**	**1.90**	**342**	*e*P	**Pn**	**15 57 01.1**	**0.0**
CTKT				*i* S	**Sg**	**15 57 29.4**	**+0.7**
CTKT	**Corum**	**1.90**	**342**	*e*P	**Pn**	**15 57 01.1**	**+0.1**
CTKT				*i* S	**Sg**	**15 57 29.4**	**+0.7**
AKCD	**Akcadag**	**1.93**	**105**	*e*P	**Pg**	**15 57 03.9**	**-0.8**
AKCD				*i* S	**Sg**	**15 57 32.1**	**+2.4**
AKCD	**Akcadag**	**1.93**	**105**	*e*P	**Pg**	**15 57 03.9**	**-0.8**
AKCD				*i* S	**Sg**	**15 57 32.1**	**+2.4**
BBAL	**Bala**	**2.02**	**292**	*e*P	**Pn**	**15 57 03.3**	**+0.5**
BBAL				*i* S	**Sg**	**15 57 34.1**	**+1.4**
BBAL	**Bala**	**2.02**	**292**	*e*P	**Pn**	**15 57 03.3**	**+0.5**
BBAL				*i* S	**Sg**	**15 57 34.1**	**+1.4**
AFSR	**Afˆar-Bala (A**	**2.03**	**289**	*e*PN	**Pn**	**15 57 02.6**	**-0.3**
AFSR	**Afˆar-Bala (A**	**2.03**	**289**	*e*Pn	**Pn**	**15 57 02.6**	**-0.3**

CASC 12 16:17:42.3±2.0, 11.57N×86.57W, h87km±13km, MD3.8, ML3.8, 2C-3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APON	**Apoyo**	**0.60**	**55**	*e*P	Pn	16 17 58.2	+0.6
COPN	**Copaltepe**	**0.61**	**358**	*i* P	Pn	16 17 58.1	+0.4
COPN				*e*S	Sn	16 18 10.1	+1.0
XAVN	**Gruta Xavier**	**0.62**	**22**	*e*P	Pn	16 17 57.8	-0.1
TISN	**Laguna Tiscapa**	**0.64**	**27**	*e*P	Pn	16 17 57.9	0.0
MOMN	**Momotombo**	**0.83**	**2**	*e*P	Pn	16 18 00.0	+0.1
HUEN		**0.85**	**27**	*i* P	Pn	16 17 59.5	-0.7
HUEN				*e*S	Sn	16 18 13.4	-0.1
MIRN	**Miramar**	**0.88**	**351**	*e*P	Pn	16 18 00.5	+0.1
CNGN	**Cerro Negro**	**0.93**	**352**	*e*P	Pn	16 18 01.3	+0.3
CNGN				*e*S	Sn	16 18 16.4	+1.3
TEL3	**Telica 3**	**1.03**	**345**	*e*P	Pn	16 18 02.3	+0.1
CRIN	**San Cristobal**	**1.22**	**337**	*e*P	Pn	16 18 04.2	-0.2
CRIN				*e*S	Sn	16 18 22.3	+1.2
CRIN				AML	AML	16 18 27.3	
	comp=N,2μm,0.3s						
GBS2	**Las Lilas**	**1.31**	**124**	*i* P	Pn	16 18 05.6	0.0
GBS2				*i* S	Sn	16 18 23.5	+0.4
LAPC	**Finca la Perla**	**1.37**	**126**	*i* P	Pn	16 18 06.1	-0.2
LAPC				*i* S	Sn	16 18 24.5	+0.1
CUI	**Cuipilapa**	**1.65**	**123**	*i* P	Pn	16 18 10.0	+0.2
CUI				*i* S	Sn	16 18 32.1	+1.3
VCR	**Vista de Mar**	**1.70**	**147**	*e*P	Pn	16 18 11.8	+1.2
VCR				*e*S	Sn	16 18 33.4	+1.4
AMAS	**Alto Masis**	**1.81**	**122**	*i* P	Pn	16 18 11.8	-0.2
JTS	**JuntasAbangare**	**2.03**	**129**	*e*P	Pn	16 18 14.3	-0.5
CNCH	**Conchagua**	**2.10**	**324**	*i* P	Pn	16 18 15.6	-0.2
JCR	**Jicaral**	**2.23**	**140**	*e*P	Pn	16 18 18.1	+0.6
JCR				*e*S	Sn	16 18 44.2	-0.1
BLLM	**Bellamira**	**2.48**	**319**	*i* P	Pn	16 18 20.9	+0.2
VSM	**San Miguel**	**2.49**	**318**	*i* P	Pn	16 18 21.7	+0.8
CGA2	**Cerro Gallo 2**	**2.58**	**127**	*e*P	Pn	16 18 23.1	+0.9
CGA2				*e*S	Sn	16 18 54.0	+1.3
CAHU	**Cacacuatique**	**2.71**	**324**	*i* P	Pn	16 18 24.1	+0.1
PRS1	**Puriscal**	**2.72**	**125**	*e*P	Pn	16 18 25.4	+1.4
PRS1				*e*S	Sn	16 18 59.1	+3.0
ICR	**Volcan Irazu**	**3.12**	**120**	*e*P	Pn	16 18 32.6	+3.3
ICR				*e*S	Sn	16 19 09.9	+4.2
LFRS	**El Faro**	**3.18**	**310**	*i* P	Pn	16 18 31.1	+0.9
URSC	**Urasca**	**3.24**	**122**	*e*P	Pn	16 18 29.9	-1.1
URSC				*e*S	Sn	16 19 11.8	+3.2
BUS	**Buena Vista**	**3.41**	**126**	*e*P	Pn	16 18 34.0	+0.6
BUS				*e*S	Sn	16 19 14.7	+1.9

IDC 12 16:39:15.7±36.0, 29.04N×68.78E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.2/27, mbtmp3.6/3, Error ellipse: s-maj=1220.0km s-min=29.9km az=140.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**20.63**	**27**	P	P	16 43 55.9	-0.7
	0.7nm,0.5s,baz=214,slow=9.8,SNR=16						
ZALV	**Zalesovo Beam**	**27.50**	**21**	P	P	16 45 04.3	+0.6
	1.0nm,0.5s,baz=224,slow=10,SNR=7.1						
TORD	**Torodi Ar. Bea**	**63.82**	**271**	P	P	16 49 50.2	0.0
	0.4nm,0.8s,baz=46,slow=4.8,SNR=2.8						

ISCJB ***12*** *16:58:60.0±0.8, 30.6N±0.1×83.27E±0.08, h10km, mb3.4/5, MS3.4/2, Error ellipse: s-maj=15.0km s-min=9.6km az=12.7*
IDC ***12*** *16:58:59.6±2.8, 30.66N×83.26E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.4/27, mbtmp3.5/6, ML3.4/1, MS3.5/2, Ms1 3.5/2, ms1mx2.5/31, Error ellipse: s-maj=65.5km s-min=35.3km az=46.0*
NEIC ***12*** *16:59:01.5±1.0, 30.59N×83.25E, h10km, mb3.4/2, Error ellipse: s-maj=21.2km s-min=11.3km az=216.0*

ISC 12 16:59:02.3±0.8, 30.68N±0.10×83.34E±0.08, h10km, n20, σ1.920/19, mb3.4/5, MS3.4/2, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDI	**Dehra Dun**	**4.57**	**267**	*ex*	**Pg**	**17 00 31.0**	**+1.1**
LSA	**Lhasa**	**6.83**	**96**	P	**Pn**	**17 00 42.2**	**-0.4**
	9.6nm,0.8s						
KBL	**Kabul**	**12.65**	**291**	*e*P	**Pn**	**17 02 01.4**	**-0.9**
	3.6nm,0.7s						
MK31	**Makanchi Array**	**16.11**	**357**	*e*P	**Pn**	**17 02 51.1**	**+2.3**
MKAR	**Makanchi Array**	**16.11**	**357**	Pn	**Pn**	**17 02 49.6**	**+0.9**
	0.1nm,0.3s,baz=186,slow=11,SNR=8.7						
MKAR	**Makanchi Array**	**16.11**	**357**	Pn	**Pn**	**17 02 49.6**	**+0.9**
CMAR	**Chiang Mai Arr**	**18.67**	**127**	Pn	**Pn**	**17 03 21.7**	**+0.8**
	0.1nm,0.3s,baz=305,slow=10,SNR=3.9						
CMAR	**Chiang Mai Arr**	**18.67**	**127**	Pn	**Pn**	**17 03 21.7**	**+0.8**
KURK	**Kurchatov**	**20.32**	**351**	P	**P**	**17 03 35.8**	**-2.6**
	1.1nm,0.8s,baz=174,slow=9.8,SNR=7.4						
KURK				LR	LR	17 12 26.4	
	comp=Z,44nm,19.0s,MS2.8,baz=255,slow=40						
KURK	**Kurchatov**	**20.32**	**351**	*e*P	**P**	**17 03 37.9**	**-0.5**
	1.7nm,0.6s						
KURK				LR	LR	17 12 26.4	
ZALV	**Zalesovo Beam**	**23.28**	**2**	P	**P**	**17 04 10.2**	**+0.2**
	0.4nm,0.4s,mb3.2,baz=186,slow=12,SNR=4.0						
ZALV	**Zalesovo Beam**	**23.28**	**2**	P	**P**	**17 04 10.2**	**+0.2**
SONM	**Songino Array**	**24.60**	**39**	P	**P**	**17 04 23.1**	**+0.6**
	0.4nm,0.6s,mb3.1,baz=238,slow=8.5,SNR=3.8						
SONM	**Songino Array**	**24.60**	**39**	P	**P**	**17 04 23.1**	**+0.6**
ABKAR	**Akbulak array**	**25.63**	**323**	*e*P	**P**	**17 04 30.6**	**-1.2**
	0.4nm,0.6s,mb3.1						
FINES	**FINESS Array B**	**48.00**	**327**	P	**P**	**17 07 40.9**	**-0.2**
	3.1nm,0.9s,mb4.3,baz=141,slow=12,SNR=4.1						
FINES	**FINESS Array B**	**48.00**	**327**	P	**P**	**17 07 40.9**	**-0.2**
FX1	**Attu Island--F**	**66.08**	**42**	LR	LR	17 41 17.8	
	comp=Z,73nm,18.2s,MS3.9,baz=257,slow=38						
ILAR	**Eielson Array**	**77.14**	**20**	P	**P**	**17 10 53.3**	**-2.4**
	0.4nm,0.9s,mb3.4,baz=317,slow=6.5,SNR=3.5						
ILAR	**Eielson Array**	**77.14**	**20**	P	**P**	**17 10 53.3**	**-2.5**

NOU ***12*** *17:03:01.9±1.1, 17.33S×167.94E, h30km, MD3.5, ML3.2*
IDC ***12*** *17:03:02.4±0.6, 17.37S×167.12E, h0km, mb4.5/19, mb1 4.6/20, mb1mx4.6/23, mbtmp4.5/20, ML4.2/1, MS3.7/13, Ms1 3.7/13, ms1mx3.5/30, Error ellipse: s-maj=19.3km s-min=15.4km az=118.0*
ISCJB ***12*** *17:03:05.5±0.3, 17.59S±0.03×167.13E±0.06, h33km, mb4.8/54, MS3.9/17, Error ellipse: s-maj=7.6km s-min=4.1km az=2.6*
LDG ***12*** *17:03:05.9±0.1, 17.46S×165.96E, h10km, Mb4.9/4, Ms4.1/6, Error ellipse: s-maj=17.6km s-min=3.5km az=79.0*
MOS ***12*** *17:03:06.2±1.1, 17.36S×167.07E, h33km, mb5.1/17, Error ellipse: s-maj=11.4km s-min=10.0km az=24.2*
BJI ***12*** *17:03:07.3, 17.40S×167.20E, h49km, mB5.0/22, mb4.8/31, Ms5.0/13, Ms7 4.6/13*
NEIC ***12*** *17:03:07.4±1.9, 17.46S×167.13E, h33km±13km, mb4.9/18, Error ellipse: s-maj=7.1km s-min=6.6km az=183.0*
GCMT ***12*** *17:03:08.7±0.3, 17.38S×167.11E, h16km, MW4.9, Moment Tensor Solution. s41,c52; s67,c99; Moment tensor: Scale 10^16 Nm; Mrr-2.66±.15; Mθθ-0.09±.10; Mφφ 2.75±.11; Mrθ-0.90±.33; Mθφ 0.73±.07; Mφr-0.17±.29; Best double couple: M0 3.00000×10^16 NP1: φs 177.00000°, δ 44.00000°, λ-115.00000°. NP2: φs 30.00000°, δ 51.00000°, λ-68.00000°. Principal axes: T 2.9500, Plg 4.0000°, Azm 105.0000°; N 0.0000, Plg 17.0000°, Azm 196.0000°; P -2.9400, Plg 72.0000°, Azm 2.0000°; Data Used: II IC IU G.*

ISC 12 17:03:06.2±2.2, 17.56S±0.03×167.13E±0.06, h26km±15km, h46km±1.2km: pP-P, n254, σ1.908/130, mb4.8/54, MS3.9/17, 5C-13D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.54**	**188**	*e*Pn	**Pn**	**17 04 13.1**	**-0.2**
	82nm,0.2s						
DZM				*e*Sn	**Sn**	**17 05 05.2**	**-0.1**
	99nm,0.2s						
DZM				*e*LR	LR	17 05 15.6	
	602nm,22.9s						
DZM	**Mont Dzumac**	**4.54**	**188**	*e*P	**Pn**	**17 04 12.7**	**-0.6**
DZM				AMP		17 05 20.1	
	comp=Z,1μm,8.6s						
DZM	**Mont Dzumac**	**4.54**	**188**	*e*P	**Pn**	**17 04 13.1**	**-0.2**
BAYA	**Yate Dam**	**4.58**	**183**	*e*S	**Sn**	**17 05 04.0**	**-2.3**
NOUC	**Port Laguerre**	**4.59**	**190**	*e*P	**Pn**	**17 04 14.1**	**+0.1**
NOUC				*e*S	**Sn**	**17 05 06.3**	**-0.2**
NOUC				AMP		17 05 15.2	
	comp=Z,78nm,2.6s						
NORM	**Noumea**	**4.69**	**187**	*e*P	**Pn**	**17 04 14.1**	**-1.2**
PLUM	**Mont Dore**	**4.72**	**186**	*e*P	**Pn**	**17 04 14.8**	**-1.0**
PLUM				*e*S	**Sn**	**17 05 09.4**	**-0.3**
MSVF	**Nonsavu**	**10.41**	**93**	*e*P	**Pn**	**17 05 35.7**	**+1.8**
	comp=Z,86nm,0.9s						
MSVF	**Nonsavu**	**10.41**	**93**	*e*P	**Pn**	**17 05 35.7**	**+1.7**
MSVF				pmax	pmax		
	comp=Z,85nm,0.9s						
HNR	**Honiara**	**10.68**	**318**	*e*P	**Pn**	**17 05 36.5**	**-1.1**
	comp=Z,232nm,0.6s						
HNR	**Honiara**	**10.68**	**318**	*e*P	**Pn**	**17 05 36.5**	**-1.1**
HNR				pmax	pmax		
	comp=Z,232nm,0.6s						
RMQ	**Roma**	**19.20**	**239**	*e*P	**Pn**	**17 07 29.0**	**-0.2**
	comp=Z,76nm,1.6s						
CTA	**Charters Tower**	**19.92**	**259**	P	**Pn**	**17 07 38.0**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=72,slow=14,SNR=6.7						
CTA				LR	LR	17 14 06.4	
	comp=Z,284nm,18.8s,baz=76,slow=33						
CTA	**Charters Tower**	**19.92**	**259**	*e*P	**Pn**	**17 07 38.8**	**+0.8**
	comp=Z,7.8nm,0.6s						
CTA	**Charters Tower**	**19.92**	**259**	P	**Pn**	**17 07 38.0**	**+0.1**
CTA				LR	LR	17 14 06.4	
CTA	**Charters Tower**	**19.92**	**259**	P	**Pn**	**17 07 38.0**	**+0.1**
CTAO	**Charters Tower**	**19.92**	**259**	*e*P	**Pn**	**17 07 38.2**	**+0.3**
	comp=Z,15nm,0.9s						
CTAO	**Charters Tower**	**19.92**	**259**	*e*P	**Pn**	**17 07 38.2**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,15nm,0.9s						
MTSU	**Mount Surprise**	**21.73**	**265**	*e*P	**P**	**17 07 57.4**	**+1.7**
	comp=Z,75nm,1.4s,mb4.9						
URZ	**Urewera**	**22.40**	**159**	P	**P**	**17 08 05.6**	**+2.8**
	comp=Z,6.9nm,0.7s,mb4.2,baz=353,slow=5.1,SNR=6.2						
URZ				LR	LR	17 13 43.8	
	comp=Z,57nm,21.4s,MS3.0,baz=1.9,slow=28						
URZ	**Urewera**	**22.40**	**159**	*e*P	**P**	**17 08 05.1**	**+2.4**
	comp=Z,57nm,1.3s,mb4.8						
QLP	**Quilpie**	**23.01**	**243**	*i* P	**P**	**17 08 10.2**	**+0.8**
CMSA	**Cobar Meteorol**	**23.90**	**230**	*e*P	**P**	**17 08 19.2**	**+1.2**
	comp=Z,60nm,0.6s,mb5.2						
RPZ	**Rata Peaks**	**26.29**	**174**	LR	LR	17 16 39.1	
	comp=Z,183nm,20.3s,MS3.6,baz=213,slow=31						
STKA	**Stephens Creek**	**27.14**	**234**	P	**P**	**17 08 49.4**	**+1.9**
	comp=Z,18nm,1.0s,mb4.5,baz=78,slow=7.5,SNR=17						
STKA				LR	LR	17 20 01.5	
	comp=Z,179nm,19.1s,MS3.6,baz=104,slow=37						
STKA	**Stephens Cre

VNDA Vanda 60.05 181 P **P** 17 13 11.3 +0.8
VNDA LR LR 17 35 28.6
VNDA Vanda 60.05 181 P **P** 17 13 11.3 +0.8
SBA Scott Base 60.33 180 *e*P **P** 17 13 13.8 +1.4
comp=Z,9.6nm,1.4s,mb4.6
SBA Scott Base 60.33 180 *e*P **P** 17 13 13.8 +1.4
SBA pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
MJAR Matsushiro Arr 60.35 333 P **P** 17 13 11.8 -1.2
comp=Z,6.4nm,1.1s,mb4.6,baz=170,slow=8.9,SNR=7.0
MJAR Matsushiro Arr 60.35 333 P **P** 17 13 11.8 -1.2
MJAR Matsushiro Arr 60.35 333 P **P** 17 13 11.8 -1.2
CGJI Cibinong 60.83 272 P **P** 17 13 16.0 -0.8
LWLI Liwa 62.84 273 P **P** 17 13 32.0 +1.6
comp=Z,2µmcomp=Z,43nm,0.9s,mb5.6
MDSI Maura Dua 62.88 274 P **P** 17 13 29.5 -1.2
comp=Z,16nm,1.0s,mb5.1
ASAJ Asahikawa 65.34 341 P **P** 17 13 44.8 -1.4
comp=Z,17nm,1.1s,mb5.0,baz=210,slow=15,SNR=4.3
ASAJ LR LR 17 38 19.2
comp=Z,83nm,18.7s,MS4.0,baz=78,slow=32
ASAJ Asahikawa 65.34 341 P **P** 17 13 44.8 -1.3
ASAJ pmax pmax
comp=Z,17nm,1.1s
ASAJ MLR MLR
comp=Z,83nm,18.7s
RGRI Rengat 65.92 278 P **P** 17 13 42.1 -8.5
KSRS Korea Array 66.00 327 P **P** 17 13 50.5 0.0
comp=Z,2.4nm,0.8s,mb4.2,baz=140,slow=6.0,SNR=12
KSRS LR LR 17 38 26.9
comp=Z,40nm,20.7s,MS3.6,baz=321,slow=32
KSRS Korea Array 66.00 327 P **P** 17 13 50.5 0.0
KSRS pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
KSRS MLR MLR
comp=Z,40nm,20.7s,MS3.6
QIZ Qiongzhong 67.01 300 P **P** 17 13 52.5 -4.9
QIZ S S 17 22 44.3 -5.4
QIZ pmax pmax
comp=Z,28nm,2.2s,mb4.9
NJ2 Nanjing 67.61 317 *e*P **P** 17 13 59.7 -1.2
NJ2 pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
YSS Yuzh-Sakhalins 67.86 342 *e*P **P** 17 14 01.1 -1.0
YSS pmax pmax
comp=Z,23nm,1.0s,mb5.2
VLA Vladivostok 68.51 333 *e*P **P** 17 14 04.3 -2.0
VLA pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
PSI Prapat 70.17 280 P **P** 17 14 16.5 -0.8
comp=Z,9.2nm,0.9s,mb4.7,baz=124,slow=3.6,SNR=8.0
PSI Prapat 70.17 280 P **P** 17 14 16.5 -0.8
PSI Prapat 70.17 280 P **P** 17 14 16.5 -0.8
PSI Prapat 70.17 280 P **P** 17 14 16.8 -0.5
MDJ Mudanjiang 70.70 333 P **P** 17 14 19.6 -0.2
MDJ sP sP 17 14 36.2 +5.2
MDJ PcP PcP 17 14 40.4 -0.2
MDJ sS sS 17 23 53.6 +7.6
MDJ pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
MDJ pmax pmax
comp=Z,66nm,8.2s
PETK Petropavlovsk- 70.84 354 P **P** 17 14 19.5 -1.0
comp=Z,5.9nm,0.8s,mb4.6,baz=164,slow=6.8,SNR=11
PETK LR LR 17 38 26.1
comp=Z,66nm,21.2s,MS3.9,baz=249,slow=30
PETK Petropavlovsk- 70.84 354 P **P** 17 14 19.5 -1.0
PETK LR LR 17 38 26.1
PETK Petropavlovsk- 70.84 354 P **P** 17 14 19.5 -0.9
CN2 Changchun 71.99 330 *e*P **P** 17 14 23.8 -3.8
CN2 *e*pP pP 17 14 37.0 +1.2
CN2 *e*S S 17 23 41.8 -5.7
CN2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,18.0s,MS4.6
CN2 LR LR
comp=E,200nm,18.0s,MS4.6
CN2 LR LR
comp=Z,200nm,19.0s,MS4.4
QSPA South Pole Qui 72.49 180 *e*P **P** 17 14 31.1 +0.9
comp=Z,20nm,1.2s,mb4.9
GYA Guiyang 73.22 305 P **P** 17 14 37.2 +1.9
GYA pP pP 17 14 51.0 +7.5
GYA sP sP 17 14 56.5 +10
GYA PP PP 17 17 22.8 +3.9
GYA S S 17 24 01.6 -0.6
GYA sS sS 17 24 23.8 +8.1
GYA SKS 17 24 33.5
GYA SS SS 17 28 45.0 +0.5
GYA pmax pmax
comp=Z,20nm,1.0s,mb5.0
GYA pmax pmax
comp=Z,120nm,5.2s
GYA LR LR
comp=N,500nm,19.6s,MS4.9
GYA LR LR
comp=E,460nm,20.3s,MS4.9
GYA LR LR
comp=Z,540nm,18.6s,MS4.9
KLR Kul'dur 73.53 337 *e*P **P** 17 14 32.8 -3.8
KLR pmax pmax
comp=Z,40nm,1.6s,mb5.1
BJI Beijing 74.38 322 P **P** 17 14 42.3 +0.5
BJI S S 17 24 14.5 -0.3
BJI SS SS 17 29 01.8 +0.1
BJI pmax pmax
comp=Z,16nm,0.7s,mb5.1
BJI LR LR
comp=N,110nm,24.5s
BJI LR LR
comp=E,140nm,14.2s
BJI LR LR
comp=Z,99nm,39.3s
KMI Kunming 75.69 302 P **P** 17 14 49.8 +0.1
KMI pP pP 17 15 04.2 +6.3
KMI sP sP 17 15 11.0 +10
KMI PP PP 17 17 42.3 +2.5
KMI S S 17 24 29.7 -0.2
KMI sS sS 17 24 52.8 +9.3
KMI SS SS 17 29 23.0 +0.8
KMI pmax pmax
comp=Z,11nm,1.6s,mb4.5
KMI pmax pmax
comp=Z,130nm,4.9s
KMI LR LR
comp=N,170nm,23.4s,MS4.4
KMI LR LR
comp=E,160nm,24.5s,MS4.4
KMI LR LR
comp=Z,130nm,23.9s,MS4.2
CM31 Chiang Mai Arr 75.99 295 *e*P **P** 17 14 53.2 +1.7
comp=Z,2.4nm,0.3s,mb4.6
CMAR Chiang Mai Arr 75.99 295 P **P** 17 14 52.9 +1.3
comp=Z,4.7nm,0.9s,mb4.4,baz=134,slow=3.9,SNR=21
CMAR Chiang Mai Arr 75.99 295 P **P** 17 14 52.9 +1.3
CMAR Chiang Mai Arr 75.99 295 P **P** 17 14 52.9 +1.3
CD2 Chengdu 77.63 308 P **P** 17 15 01.2 +0.6
CD2 pP pP 17 15 14.6 +5.8
CD2 sP sP 17 15 19.5 +7.7
CD2 PP PP 17 17 58.3 +2.2
CD2 S S 17 24 48.4 -2.6
CD2 SKS 17 25 05.6
CD2 sS sS 17 25 10.7 +6.2
CD2 SS SS 17 29 51.8 +0.5
CD2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CD2 pmax pmax
comp=Z,170nm,5.4s
CD2 LR LR
comp=N,500nm,5.3s
CD2 LR LR
comp=Z,270nm,5.9s
HHC Hu-ho-hao-te 77.65 320 *e*P **P** 17 15 00.4 0.0
HHC pP pP 17 15 13.9 +5.2
HHC sP sP 17 15 18.8 +7.1
HHC PP PP 17 17 57.7 +1.6
HHC S S 17 24 47.3 -3.5
HHC sS sS 17 25 10.7 +6.4
HHC SS SS 17 29 51.8 +0.5
HHC pmax pmax
comp=Z,15nm,0.6s,mb5.1
HHC pmax pmax
comp=Z,91nm,3.9s
HHC LR LR
comp=N,120nm,15.5s,MS4.5
HHC LR LR
comp=E,140nm,14.3s,MS4.5
HHC LR LR
comp=Z,150nm,13.1s,MS4.5
MAW Mawson 79.23 202 P **P** 17 15 10.4 +1.5
comp=Z,5.3nm,1.1s,mb4.4,baz=91,slow=9.8,SNR=6.6
MAW LR LR 17 45 10.6
comp=Z,35nm,18.3s,MS3.7,baz=321,slow=32
MAW Mawson 79.23 202 *e*P **P** 17 15 09.7 +0.8
comp=Z,5.5nm,1.8s,mb4.2
MAW Mawson 79.23 202 P **P** 17 15 10.4 +1.6
MAW pmax pmax
comp=Z,5.0nm,1.1s
MAW MLR MLR
comp=Z,35nm,18.3s
LZH Lanzhou 80.12 313 *e*P **P** 17 15 15.0 +0.9
LZH *e*PP PP 17 18 22.0 +5.2
LZH pmax pmax
comp=Z,14nm,1.0s,mb4.8
LZH pmax pmax
comp=Z,130nm,4.8s
ULN Ulaanbaatar 84.33 324 *e*P **P** 17 15 35.5 -0.4
comp=Z,4.0nm,0.9s,mb4.5
ULN *e* 17 15 51.2
ULN *e* 17 15 57.5
ULN Ulaanbaatar 84.33 324 *e*P **P** 17 15 35.5 -0.4
ULN *e* 17 15 51.2
ULN pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
GTA Gaotai 84.52 314 P **P** 17 15 37.7 +0.6
GTA pP pP 17 15 51.4 +6.0
GTA sP sP 17 15 56.9 +8.5
GTA SKS 17 25 53.0
GTA S S 17 25 59.6 -2.7
GTA SS SS 17 31 29.4 -4.5
GTA pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
GTA pmax pmax
comp=Z,99nm,5.7s
GTA LR LR
comp=N,74nm,14.2s,MS4.5
GTA LR LR
comp=E,98nm,13.3s,MS4.5
GTA LR LR
comp=Z,110nm,18.0s,MS4.3
YAK Yakutsk 84.68 343 *e*P **P** 17 15 37.0 -0.3
comp=Z,41nm,1.4s,mb5.4
YAK Yakutsk 84.68 343 *e*P **P** 17 15 34.8 -2.5
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK pmax pmax
comp=Z,24nm,1.5s,mb5.1
YAK pmax pmax
comp=N,10.0nm,1.5s
SONM Songino Array 84.68 324 P **P** 17 15 37.9 +0.2
comp=N,3.6nm,1.0s,mb4.5,baz=145,slow=5.2,SNR=18
SONM Songino Array 84.68 324 P **P** 17 15 37.9 +0.2
SONM Songino Array 84.68 324 P **P** 17 15 37.9 +0.2
BILL Bilibino 85.35 360 *e*P **P** 17 15 39.8 -0.8
comp=N,61nm,1.4s,mb5.5
BILL Bilibino 85.35 360⇑ *e*P **P** 17 15 39.7 -0.9
BILL *e* 17 18 56.5
BILL pmax pmax
comp=Z,34nm,1.3s,mb5.3
SYO Syowa Base 85.98 197⇓ *e*P **P** 17 15 43.2 -0.7
SYO Syowa Base 85.98 197⇓ *e*PcP PcP 17 15 46.0 -0.6
KIPM Iron Peak 86.13 46 *e*P **P** 17 15 45.4 +0.3
comp=Z,12nm,0.8s,mb5.2
LSA Lhasa 86.94 302 *e*P **P** 17 15 50.6 +1.3
comp=Z,4.5nm,0.8s,mb4.8
LSA *e* 17 16 03.5
LSA Lhasa 86.94 302 *e*P **P** 17 15 50.6 +1.2
LSA *e* 17 16 03.5
LSA pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
CMB Columbia Colle 87.55 49 *e*P **P** 17 15 51.7 -0.4
comp=Z,17nm,1.0s,mb5.2
CMB Columbia Colle 87.55 49 *e*P **P** 17 15 51.7 -0.4
CMB pmax pmax
comp=Z,17nm,1.0s,mb5.2
ISA Isabella 88.00 52 *e*P **P** 17 15 54.1 -0.2
comp=Z,12nm,1.3s,mb5.0
ISA Isabella 88.00 52 *e*P **P** 17 15 54.1 -0.2
ISA pmax pmax
comp=Z,11nm,1.3s,mb4.9
WAKR Walker 88.42 49 *e*P **P** 17 15 56.7 +0.5
comp=Z,19nm,1.1s,mb5.2
NVAR Mina Array Bea 89.21 49 P **P** 17 16 00.1 +0.2
comp=Z,8.5nm,0.9s,mb5.1,baz=229,slow=7.9,SNR=42
NVAR Mina Array Bea 89.21 49 P **P** 17 16 00.1 +0.2
ILAR Eielson Array 89.24 18 P **P** 17 15 58.0 -1.4
comp=Z,3.3nm,0.9s,mb4.7,baz=239,slow=5.3,SNR=16
ILAR Eielson Array 89.24 18 P **P** 17 15 58.0 -1.4
ILAR Eielson Array 89.24 18 P **P** 17 15 58.1 -1.3
MAIT Maitri 90.26 188 *e*P **P** 17 16 04.8 +0.4
WVOR Wild Horse Val 90.55 45 *e*P **P** 17 16 06.5 +0.4
comp=Z,5.7nm,0.7s,mb5.0
WVOR Wild Horse Val 90.55 45 *e*P **P** 17 16 06.5 +0.4
WVOR pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
SNAA Sanae 90.74 183 *e*P **P** 17 16 06.7 +0.2
comp=Z,12nm,1.3s,mb5.1
SNAA Sanae 90.74 183 *e*P **P** 17 16 06.7 +0.2
SNAA pmax pmax
comp=Z,12nm,1.3s
BMN Battle Mountai 90.75 48 *e*P **P** 17 16 06.1 -1.0
comp=Z,8.2nm,0.9s,mb5.1
BMN Battle Mountai 90.75 48 *e*P **P** 17 16 06.1 -1.0
BMN pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
VNA3 Neumayer Olymp 91.40 181 *e* **P** 17 16 07.3 -2.3
VNA2 Neumayer--Watz 91.67 182 *e* **P** 17 16 08.4 -2.5
baz=172,slow=3.5
WMQ Urumqi 94.60 314 P **P** 17 16 25.6 +0.8
INK Inuvik 95.59 19 P **P** 17 16 28.5 -0.2
comp=Z,2.4nm,1.0s,mb4.6,baz=214,slow=2.4,SNR=3.0
INK Inuvik 95.59 19 P **P** 17 16 28.5 -0.2
INK Inuvik 95.59 19 P **P** 17 16 28.5 -0.2
PDAR Pinedale Array 96.95 47 P **P** 17 16 35.8 +0.3
comp=Z,0.3nm,0.5s,mb4.0,baz=258,slow=4.2,SNR=2.9
PDAR Pinedale Array 96.95 47 P **P** 17 16 35.8 +0.3
TXAR Lajitas Array 97.73 62 P **P** 17 16 40.5 +1.1
comp=Z,0.4nm,0.9s,mb4.0,baz=248,slow=9.5,SNR=3.3
TXAR LR LR 17 55 02.5
comp=Z,41nm,21.0s,MS3.9,baz=355,slow=32
TXAR Lajitas Array 97.73 62 P **P** 17 16 40.5 +1.1
TXAR LR LR 17 55 02.5
TXAR Lajitas Array 97.73 62 P **P** 17 16 40.5 +1.1
MKAR Makanchi Array 99.14 316 P **P** 17 16 45.3 +0.1
comp=Z,0.4nm,0.7s,mb4.1,baz=86,slow=6.7,SNR=4.8
MKAR Makanchi Array 99.14 316 P **P** 17 16 45.3 +0.1
MKAR Makanchi Array 99.14 316 P **P** 17 16 45.3 0.0
AKTK Aktyubinsk 115.48 318 PKP PKPdf 17 21 45.1 -0.6
AKTO Aktyubinsk 115.48 318 PKP PKPdf 17 21 45.1 -0.6
comp=Z,0.5nm,0.4s,baz=15,slow=2.7,SNR=3.6
AKTO Aktyubinsk 115.48 318 PKIKP PKPdf 17 21 45.1 -0.6
AKTO pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 122.93 345 PKP PKPdf 17 21 59.1 -0.4
comp=Z,6.3nm,0.9s,baz=80,slow=1.4,SNR=8.1
ARCES ARCESS Array B 122.93 345 PKP PKPdf 17 21 59.1 -0.4
ARCES ARCESS Array B 122.93 345 PKIKP PKPdf 17 21 59.1 -0.4
RDF Al-Radifah 123.86 293 *e*P PKPdf 17 22 02.5 0.0
RDF AMb AMB 17 22 03.7
comp=Z,53nm,1.3s
MIB Mutribah 124.07 294 *e*P PKPdf 17 22 02.7 -0.2
MIB AMb AMB 17 22 04.5
comp=Z,28nm,1.3s
NAY Al-Naaiem 124.14 294 *e*P PKPdf 17 22 02.6 -0.5
NAY AMb AMB 17 22 03.9
comp=Z,13nm,1.3s
VRHR Novokhopersk 125.60 321 *e*PKIKP PKPdf 17 22 04.7 -0.4
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=Z,7.0nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.5s
AKASG Malin Array Be 132.96 324 PKP PKPdf 17 22 18.5 -0.6
comp=E,0.6nm,0.5s,baz=57,slow=3.5,SNR=7.0
AKASG Malin Array Be 132.96 324 PKP PKPdf 17 22 18.5 -0.6
AKASG Malin Array Be 132.96 324 PKIKP PKPdf 17 22 18.5 -0.7
BRTR Keskin Array B 134.20 309 PKP PKPdf 17 22 22.1 +0.3
comp=E,1.4nm,1.0s,baz=82,slow=2.6,SNR=6.6
BRTR Keskin Array B 134.20 309 PKP PKPdf 17 22 22.1 +0.3
BRTR Keskin Array B 134.20 309 PKIKP PKPdf 17 22 22.2 +0.3
GERES GERESS Array B 142.07 331 PKP PKPdf 17 22 34.4 -1.6
comp=E,1.3nm,0.9s,baz=13,slow=2.9,SNR=5.1
GERES GERESS Array B 142.07 331 PKP PKPdf 17 22 34.4 -1.6
GERES GERESS Array B 142.07 331 PKIKP PKPdf 17 22 34.4 -1.6
BOJS Bojanci 143.59 326 *i* PKPdf PKPdf 17 22 37.7 -1.1
BOJS *i* 17 22 52.6
VISS Visnje 143.62 327 *i* PKPdf PKPdf 17 22 35.9 -2.9
VISS *i* 17 22 57.0
MEM Membach 143.73 340 PKP PKPdf 17 22 38.0 -0.8
JAVS Javornik 143.96 327 *i* PKPdf PKPdf 17 22 37.2 -2.2
JAVS *i* 17 22 56.3
BCLA Clavier 144.12 340 PKP PKPdf 17 22 38.2 -1.3
RUP Ruppelstein 144.13 338 PKP PKPdf 17 22 38.2 -1.4
RUP Ruppelstein 144.13 338 PKIKP PKPdf 17 22 38.2 -1.4
ABTA Abfaltersbach 144.13 330⇑ *i* PKPdf PKPdf 17 22 37.2 -2.6
comp=E,8.0nm,0.8s
WTTA Wattenberg 144.17 331⇓ *i* PKPdf PKPdf 17 22 38.6 -1.1
comp=E,17nm,1.3s
MOTA Moosalm 144.35 332⇑ *i* PKPdf PKPdf 17 22 38.1 -1.9
comp=E,12nm,1.0s
SNF Seneffe 144.37 341 PKP PKPdf 17 22 38.8 -1.2
LANF Langenberg 144.45 336 PKP PKPdf 17 22 39.5 -0.7
LANF Langenberg 144.45 336 PKIKP PKPdf 17 22 39.5 -0.7
LANF Langenberg 144.45 336 PKP PKPdf 17 22 39.5 -0.7
WLF Walferdange 144.48 339 PKP PKPdf 17 22 39.9 -0.4
WLF Walferdange 144.48 339 *e*PKPdf PKPdf 17 22 39.6 -0.6
WLF Walferdange 144.48 339 *e*PKIKP PKPdf 17 22 39.6 -0.6
DOU Dourbes 144.63 340 PKP PKPdf 17 22 39.7 -0.8
DOU APKP 17 22 54.1
FETA Feichten 144.76 332⇓ *i* PKPdf PKPdf 17 22 40.7 -0.1
comp=E,19nm,0.9s
SPAK Spaichingen-Ko 144.77 335 PKP PKPdf 17 22 40.3 -0.5
BFO Black Forest 144.77 335 *e*PKPdf PKPdf 17 22 39.6 -1.2
BFO Black Forest 144.77 335 *e*PKIKP PKPdf 17 22 39.6 -1.2
BAIF Baives 144.78 341 *e*PKP1 PKPbf 17 22 39.8 -0.9
comp=E,29nm,0.9s
DAVA Damuels 144.94 333⇑ *i* PKPdf PKPdf 17 22 41.2 +0.1
comp=E,32nm,1.2s
CDF Champ du Feu 145.11 336 *e*PKP1 PKPbc 17 22 41.1 +0.2
comp=E,102nm,1.0s
LIBD Limburg 145.20 336 PKP PKPdf 17 22 41.7 +0.2
LIBD Limburg 145.20 336 PKIKP PKPdf 17 22 41.7 +0.2
FELD Feldberg im Sc 145.26 335 PKP PKPdf 17 22 41.4 -0.2
ECH Echery 145.32 336 *e*PKPdf PKPdf 17 22 41.4 -0.3
ECH Echery 145.32 336 *e*PKIKP PKPdf 17 22 41.4 -0.3
ECH Echery 145.32 336 PKP PKPdf 17 22 41.7 0.0
PAGF Fort de Pagny 145.57 338 *e*PKP1 PKPbc 17 22 43.0 +0.7
comp=E,76nm,1.5s
MOF Molkenrain 145.63 336 PKP PKPdf 17 22 42.2 -0.1
MOF Molkenrain 145.63 336 PKIKP PKPdf 17 22 42.2 -0.1
MOF Molkenrain 145.63 336 PKP PKPdf 17 22 42.2 -0.1
THEF They Montfort 145.75 337 PKP PKPdf 17 22 43.2 +0.7
THEF They Montfort 145.75 337 PKP2 PKPdf 17 22 43.2 +0.7
THEF They Montfort 145.75 337 PKP PKPdf 17 22 43.2 +0.7
HINF Hinteralfeld 145.76 336 *e*PKP1 PKPbc 17 22 42.9 0.0
comp=E,25nm,1.0s
BBS Basel-Blauen 145.79 335 PKP PKPdf 17 22 43.1 +0.5
BBS Basel-Blauen 145.79 335 PKP2 PKPdf 17 22 43.1 +0.5
TUE Stuetta 145.80 332 *e*PKPdf PKPdf 17 22 42.1 -0.4
HAU Haudompre 145.80 337⇓ *i* PKP1 PKPbc 17 22 43.2 +0.1
comp=E,98nm,1.2s
HAU *e*R
comp=E,63nm,17.4s
MEZF Maizieres J'vi 145.85 339 *e*PKP1 PKPbc 17 22 43.9 +0.7
comp=E,198nm,1.1s
SFTF Sexfontaines 146.11 338 *e*PKP1 PKPbc 17 22 44.4 +0.4
comp=E,141nm,1.3s
LOMF Lomont 146.16 336 PKP PKPdf 17 22 43.5 +0.3
LOMF Lomont 146.16 336 PKP2 PKPdf 17 22 43.5 +0.3
LOMF Lomont 146.16 336 PKP PKPdf 17 22 43.5 +0.3
CABF La Chapelle 147.05 336⇓ *i* PKP1 PKPbc 17 22 47.4 +0.6
comp=E,60nm,1.1s
FLN La Foliniere 147.28 345⇓ *i* PKP1 PKPbc 17 22 47.2 -0.1
comp=E,100nm,1.2s
FLN *e*R
comp=E,73nm,21.2s
LOR Lormes 147.32 339⇓ *i* PKP1 PKPbc 17 22 47.8 +0.3
comp=E,36nm,0.9s
LOR *e*R
comp=E,61nm,17.2s
LDF La Druitiere 147.35 344 *e*PKP1 PKPbc 17 22 47.1 -0.4
CEL Celeste 147.48 315 *e*PKPbc PKPbc 17 22 48.6 +0.3
SSF Saint Saulge 147.62 339⇓ *i* PKP1 PKPbc 17 22 48.6 +0.2
comp=E,75nm,1.1s
LPL La Plagne 147.68 334 *e*PKP1 PKPbc 17 22 49.3 +0.7
comp=E,69nm,1.3s
LPG La Plagne 147.69 334⇓ *i* PKP1 PKPbc 17 22 49.4 +0.8
comp=E,43nm,1.0s
GRR Gorron 147.72 345 *e*PKP1 PKPbc 17 22 48.6 0.0
comp=E,96nm,1.3s
SMF Signal de Mont 147.87 338⇓ *i* PKP1 PKPbc 17 22 49.1 +0.1
comp=E,50nm,1.1s
AVF Avril sur Loir 147.91 339 *e*PKP1 PKPbc 17 22 49.1 0.0
comp=E,22nm,1.0s
BNI Bardonecchia 148.07 333 *e*PKPbc PKPbc 17 22 50.1 +0.5
BNI Bardonecchia 148.07 333 *e*PKP2 PKPbc 17 22 50.1 +0.5
BGF Bois d'Agland 148.29 339 *e*PKP1 PKPbc 17 22 50.3 +0.2
comp=E,42nm,0.9s
MBDF Montbardon 148.29 333 *e*PKP1 PKPbc 17 22 50.2 0.0
comp=E,25nm,1.1s
ORIF Oris-en-Rattie 148.52 334 *e*PKP1 PKPbc 17 22 51.1 +0.3
comp=E,39nm,0.8s
ORIF *e*R
comp=E,71nm,18.7s
SAOF Saorge 148.52 331 PKP PKPbc 17 22 50.3 -0.5
SAOF Saorge 148.52 331 PKP2 PKPbc 17 22 50.3 -0.5
SAOF Saorge 148.52 331 PKP PKPbc 17 22 50.3 -0.5
PLDF La Plantade 148.52 338 PKP PKPbc 17 22 50.9 +0.1
PLDF La Plantade 148.52 338 PKP2 PKPbc 17 22 50.9 +0.1
PLDF La Plantade 148.52 338 PKP PKPbc 17 22 50.9 +0.1
AGO Saint Agoulin 148.63 338 PKP PKPbc 17 22 51.3 +0.3
AGO Saint Agoulin 148.63 338 PKP PKPbc 17 22 51.3 +0.3
TOUF Mont Tournerai 148.64 332 PKP PKPbc 17 22 51.2 +0.1
TOUF Mont Tournerai 148.64 332 PKP2 PKPbc 17 22 51.2 +0.1
TOUF Mont Tournerai 148.64 332 PKP PKPbc 17 22 51.2 +0.1
SBF Sospel 148.67 331 *e*PKP1 PKPbc 17 22 51.1 -0.1
comp=E,102nm,1.1s
LUCF Luceram 148.69 331 PKP PKPbc 17 22 51.3 0.0
LUCF Luceram 148.69 331 PKP PKPbc 17 22 51.3 0.0
TCF Toulx Ste Croi 148.74 340 *e*PKP1 PKPbc 17 22 51.5 +0.2
comp=E,84nm,1.4s
PGF Pioggiola 148.90 328⇓ *i* PKP1 PKPbc 17 22 51.9 +0.1
comp=E,173nm,1.3s
PYM Petit Puy Mans 148.93 338 PKP PKPbc 17 22 52.1 +0.3
PYM Petit Puy Mans 148.93 338 PKP2 PKPbc 17 22 52.1 +0.3
PYM Petit Puy Mans 148.93 338 PKP PKPbc 17 22 52.1 +0.3
CALN Calern 149.00 332 PKP PKPbc 17 22 52.6 +0.5
CALN Calern 149.00 332 PKP2 PKPbc 17 22 52.6 +0.5
CALN Calern 149.00 332 PKP PKPbc 17 22 52.6 +0.5
VIVF Saint-Julien-l 149.06 335 *e*PKP1 PKPbc 17 22 52.5 +0.3
comp=E,19nm,0.8s
MFF Saint Martin d 149.18 343 *e*PKP1 PKPbc 17 22 52.4 0.0
comp=E,63nm,1.0s
FRF La Foret Royal 149.26 332 *e*PKP1 PKPbc 17 22 52.6 -0.1
comp=E,135nm,1.6s
LBL Lubilhac 149.29 337 PKP PKPbc 17 22 53.6 +0.9
SMRF Simiane la Rot 149.41 333 *e*PKP1 PKPbc 17 22 53.6 +0.5
comp=E,49nm,1.1s
LMR La Mourre 149.50 332 *e*PKP1 PKPbc 17 22 53.3 0.0
comp=E,77nm,1.2s
RJF Les Rejaudoux 149.83 340⇓ *i* PKP1 PKPbc 17 22 54.4 +0.3
comp=E,58nm,1.2s
RJF *e*R
comp=E,85nm,21.0s
CAF Calviac 149.98 339 *e*PKP1 PKPbc 17 22 54.8 +0.4
comp=E,38nm,1.1s
LASF Ste Croix 150.03 335 *e*PKP1 PKPbc 17 22 55.0 +0.4
comp=E,79nm,1.1s
LFF La Frestale 150.41 340 *e*PKP1 PKPbc 17 22 55.8 +0.3
comp=E,33nm,0.9s
MTLF Montolieu 151.29 337 *e*PKP1 PKPbc 17 22 57.9 +0.3
comp=E,27nm,0.9s
EPF Esparros 152.24 339 *e*PKP1 PKPbc 17 22 59.8 0.0
comp=E,27nm,1.0s
ETSF Etsaut 152.65 340 *e*PKP1 PKPbc 17 23 01.3 +0.6
comp=E,24nm,0.9s
KEST Kesra 153.24 317 PKPbc PKPbc 17 23 01.2 -1.1
comp=E,1.6nm,0.9s,baz=82,slow=4.5,SNR=4.4
ESDC Sonseca Array 156.64 342 PKPab PKPab 17 23 28.9 +0.5
comp=E,1.4nm,0.6s,baz=33,slow=3.7,SNR=7.9

TORD	**Torodi Ar. Bea**	**165.29**	**255**	PKP	PKPdf	17 23 09.0	-0.3	
	comp=E,3.2nm,1.0s,baz=41,slow=0.8,SNR=15							
TORD				PKPab	PKPab	17 24 06.2	-0.8	
	comp=E,0.9nm,0.9s,baz=96,slow=2.6,SNR=4.2							
TORD	**Torodi Ar. Bea**	**165.29**	**255**	PKP	PKPdf	17 23 09.0	-0.3	
TORD				PKPab	PKPab	17 24 06.2	-0.8	

IDC ***12*** *17:08:53.6±1.1,52.92N×175.46W,h0km,mb3.7/9, mb1 3.8/10,mb1mx3.7/29,mbtmp3.7/10,ML4.1/1,MS3.4/3, Ms1 3.3/3,ms1mx2.7/39,Error ellipse: s-maj=35.5km s-min=19.3km az=174.0*

NEIC ***12*** *17:08:55.0±0.7,52.83N×175.52W,h10km,mb3.6/1, ML3.3(AEIC),Error ellipse: s-maj=18.9km s-min=10.3km az=139.0*

ISC 12 17:08:55.3±2.8,52.8N±0.2×175.6W±0.2,h10km±21km,n26, σ0s95/23,mb3.7/9,MS3.3/3,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GSTR	**Great Sitkin T**	**0.77**	**204**	*eP*		**Pg**		**17 09 10.3**	**+0.3**
AMKA	**Amchitka**	**3.47**	**248**	*eP*		**Pn**		**17 09 48.4**	**-1.0**
KDAK	**Kodiak Island**	**13.98**	**60**	Pn		**Pn**		**17 12 13.8**	**+0.6**
	0.9nm,0.3s,baz=193,slow=6.0,SNR=7.4								
KDAK	**Kodiak Island**	**13.98**	**60**	Pn		**Pn**		**17 12 13.8**	**+0.6**
ILAR	**Eielson Array**	**18.88**	**39**	P		**Pn**		**17 13 12.0**	**-4.0**
	0.3nm,0.3s,baz=226,slow=8.5,SNR=19								
ILAR	**Eielson Array**	**18.88**	**39**	P		**Pn**		**17 13 12.0**	**-4.0**
INK	**Inuvik**	**25.14**	**36**	*eP*		**P**		**17 14 17.6**	**-2.5**
	0.9nm,0.9s,mb3.3,baz=236,slow=6.8,SNR=3.5								
INK	**Inuvik**	**25.14**	**36**	*eP*		**P**		**17 14 18.1**	**-2.0**
	1.0nm,0.8s,mb3.4								
BBB	**Bella Bella**	**28.49**	**72**	LR		LR		17 23 59.1	
	comp=Z,141nm,19.9s,MS3.6,baz=289,slow=32								
YKA	**Yellowknife Ar**	**32.80**	**49**	LR		LR		17 28 53.3	
	comp=Z,9.5nm,21.3s,MS2.5,baz=190,slow=37								
KSRS	**Korea Array**	**41.61**	**272**	P		**P**		**17 16 42.5**	**-0.7**
	1.1nm,0.9s,mb3.5,baz=48,slow=7.2,SNR=4.8								
PDAR	**Pinedale Array**	**44.00**	**76**	P		**P**		**17 17 01.7**	**-0.9**
	1.1nm,0.7s,mb3.7,baz=280,slow=2.7,SNR=4.8								
PDAR	**Pinedale Array**	**44.00**	**76**	P		**P**		**17 17 01.7**	**-0.9**
SONM	**Songino Array**	**47.79**	**297**	P		**P**		**17 17 32.8**	**+0.4**
	0.7nm,0.7s,mb3.8,baz=41,slow=10,SNR=4.5								
SONM	**Songino Array**	**47.79**	**297**	P		**P**		**17 17 32.8**	**+0.4**
JOW	**Kunigami**	**48.79**	**261**	LR		LR		17 36 08.9	
	comp=Z,146nm,19.4s,MS4.0,baz=134,slow=34								
TXAR	**Lajitas Array**	**56.49**	**84**	P		**P**		**17 18 38.4**	**+0.9**
	0.9nm,0.8s,mb3.4,baz=316,slow=8.8,SNR=4.0								
TXAR	**Lajitas Array**	**56.49**	**84**	P		**P**		**17 18 38.4**	**+0.9**
KURK	**Kurchatov**	**59.46**	**315**	P		**P**		**17 18 58.9**	**+1.0**
	0.5nm,0.4s,mb3.9,baz=43,slow=6.7,SNR=9.2								
KURK	**Kurchatov**	**59.46**	**315**	P		**P**		**17 18 58.9**	**+1.0**
MKAR	**Makanchi Array**	**60.69**	**310**	P		**P**		**17 19 05.8**	**-0.6**
	0.7nm,0.7s,mb3.9,baz=47,slow=5.6,SNR=8.6								
MKAR	**Makanchi Array**	**60.69**	**310**	P		**P**		**17 19 05.8**	**-0.6**
AKTK	**Aktyubinsk**	**67.65**	**326**	P		**P**		**17 19 53.0**	**+1.0**
AKTO	**Aktyubinsk**	**67.65**	**326**	P		**P**		**17 19 53.0**	**+1.0**
	0.8nm,0.4s,mb4.1,baz=54,slow=5.2,SNR=4.1								
ASAR	**Alice Springs**	**87.89**	**225**	P		**P**		**17 21 45.0**	**+0.2**
	0.5nm,0.9s,mb3.7,baz=26,slow=4.9,SNR=3.5								
ASAR	**Alice Springs**	**87.89**	**225**	P		**P**		**17 21 45.0**	**+0.2**

IDC ***12*** *17:18:00.1±1.1,30.32N×67.34E,h0km,mb3.6/8, mb1 3.8/8,mb1mx3.5/29,mbtmp3.7/8,MS3.1/5,Ms1 3.1/5, ms1mx2.7/36,Error ellipse: s-maj=28.4km s-min=24.5km az=93.0*

NEIC ***12*** *17:18:01.6±1.0,30.35N×67.34E,h10km,mb4.0/4,Error ellipse: s-maj=19.0km s-min=15.1km az=75.0*

ISCJB ***12*** *17:18:02.6±4.8,30.45N±0.10×67.58E±0.09,h26km±34km, mb3.7/8,MS3.0/5,Error ellipse: s-maj=19.5km s-min=9.0km az=35.9*

ISC 12 17:18:03.1±4.6,30.44N±0.09×67.52E±0.08,h17km±29km, n28,σ1s55/26,mb3.7/8,MS3.0/5,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**4.29**	**17**	*eP*		**Pn**		**17 19 10.2**	**+2.6**
AJM	**Ajmer**	**7.41**	**120**	*ePKP*		**Pn**		**17 19 48.0**	**-2.6**
AJM				*eS*		**Sn**		**17 21 15.0**	**+0.7**
SDNR	**Sundarnagar**	**8.19**	**80**	*ePKP*		**Pn**		**17 20 03.0**	**+1.8**
SDNR				*eS*		**Sn**		**17 21 32.0**	**-1.4**
TKM2	**Tokmak 2**	**14.03**	**25**	*eP*		**Pn**		**17 21 19.9**	**-1.3**
	11nm,1.0s								
ABKAR	**Akbulak array**	**19.65**	**345**	*eP*		**Pn**		**17 22 31.6**	**-0.9**
	1.4nm,0.6s								
MK31	**Makanchi Array**	**19.94**	**31**	*eP*		**Pn**		**17 22 33.8**	**-2.1**
MKAR	**Makanchi Array**	**19.94**	**31**	P		**Pn**		**17 22 33.7**	**-2.2**
	1.8nm,0.6s,baz=209,slow=8.9,SNR=15								
MKAR	**Makanchi Array**	**19.94**	**31**	P		**Pn**		**17 22 33.7**	**-2.2**
LSA	**Lhasa**	**20.46**	**86**	*eP*		**P**		**17 22 43.2**	**+3.2**
	8.2nm,1.0s								
AKTK	**Aktyubinsk**	**21.21**	**343**	P		**P**		**17 22 49.0**	**+1.2**
AKTK				LR		LR		17 31 58.9	
AKTO	**Aktyubinsk**	**21.21**	**343**	P		**P**		**17 22 49.0**	**+1.2**
	1.6nm,0.7s,mb3.4,baz=143,slow=13,SNR=3.3								
AKTO				LR		LR		17 31 58.9	
	comp=Z,55nm,18.1s,MS3.0,baz=198,slow=39								
KURK	**Kurchatov**	**21.89**	**19**	P		**P**		**17 22 54.1**	**-1.1**
	2.9nm,0.8s,mb3.7,baz=208,slow=11,SNR=13								
KURK	**Kurchatov**	**21.89**	**19**	*eP*		**P**		**17 22 56.0**	**+0.8**
	5.7nm,1.0s,mb4.0								
BRVK	**Borovoye**	**22.69**	**4**	*eP*		**P**		**17 23 02.2**	**-1.5**
	4.6nm,0.7s,mb4.0								
ASF	**Jabal al Asfar**	**26.18**	**282**	LR		LR		17 34 09.4	
	comp=Z,13nm,19.8s,MS2.5,baz=229,slow=37								
ZAA0	**Zalesovo Array**	**26.62**	**23**	*eP*		**P**		**17 23 41.9**	**+1.3**
ZALV	**Zalesovo Beam**	**26.62**	**23**	P		**P**		**17 23 41.8**	**+1.2**
	1.7nm,0.4s,mb3.9,baz=227,slow=11,SNR=8.6								
ZALV	**Zalesovo Beam**	**26.62**	**23**	P		**P**		**17 23 41.8**	**+1.2**
FINES	**FINESS Array B**	**41.13**	**331**	LR		LR		17 46 08.1	
	comp=Z,64nm,20.2s,MS3.5,baz=184,slow=41								
NOA	**NORSAR Array B**	**47.86**	**327**	LR		LR		17 50 21.7	
	comp=Z,20nm,18.2s,MS3.1,baz=0,slow=41								
KEST	**Kesra**	**48.42**	**292**	LR		LR		17 51 07.9	
	comp=Z,23nm,18.4s,MS3.2,baz=321,slow=41								
KSRS	**Korea Array**	**49.86**	**65**	P		**P**		**17 26 58.3**	**+2.7**
	0.2nm,0.3s,mb3.6,baz=271,slow=8.3,SNR=2.5								
TORD	**Torodi Ar. Bea**	**62.71**	**270**	P		**P**		**17 28 26.2**	**-1.4**
	0.6nm,0.7s,mb3.8,baz=48,slow=6.8,SNR=5.1								
TORD	**Torodi Ar. Bea**	**62.71**	**270**	P		**P**		**17 28 26.2**	**-1.4**
WRA	**Warramunga Arr**	**81.44**	**119**	P		**P**		**17 30 19.3**	**-0.3**
	0.3nm,0.5s,mb3.5,baz=323,slow=5.0,SNR=6.6								
WRA	**Warramunga Arr**	**81.44**	**119**	P		**P**		**17 30 19.3**	**-0.3**
ASAR	**Alice Springs**	**83.34**	**122**	P		**P**		**17 30 29.2**	**-0.2**
	0.3nm,0.6s,mb3.5,baz=307,slow=5.2,SNR=8.7								
ASAR	**Alice Springs**	**83.34**	**122**	P		**P**		**17 30 29.2**	**-0.2**

IDC ***12*** *17:36:21.9±1.8,35.53N×139.82E,h134km±13km,mb3.3/5, mb1 3.3/7,mb1mx3.1/27,mbtmp3.2/7,MS3.2/1,Ms1 3.2/1, ms1mx2.4/15,Error ellipse: s-maj=26.1km s-min=17.9km az=83.0*

ISCJB ***12*** *17:36:22.8±0.5,35.49N±0.05×139.48E±0.08, h149km±3km,mb3.5/5,Error ellipse: s-maj=11.8km s-min=7.2km az=146.6*

JMA ***12*** *17:36:24.3±0.1,35.47N×139.51E,h140km±1km,M2.9*

NEIC ***12*** *17:36:24.6±2.2,34.99N×138.41E,h119km±72km,mb4.4/1, Error ellipse: s-maj=231.5km s-min=16.3km az=64.0*

ISC 12 17:36:24.0±0.5,35.50N±0.05×139.49E±0.08,h146km±3km, n29,σ0s85/40,mb3.5/5,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TOK	**Tokyo**	**0.28**	**50**	S		**Sn**		**17 37 00.1**	**+1.0**
JYO	**Yokosk**	**0.31**	**153**	P		**Pn**		**17 36 44.4**	**+0.4**
JYO				S		**Sn**		**17 37 00.8**	**+1.6**
JHU	**Hanno**	**0.39**	**334**	P		**Pn**		**17 36 44.0**	**+0.1**
JHU				S		**Sn**		**17 36 59.4**	**-0.4**
JOD2	**Odawara 2**	**0.41**	**234**	P		**Pn**		**17 36 44.1**	**-0.3**
JOD2				S		**Sn**		**17 36 59.0**	**-0.8**
JRY	**Ryogami san**	**0.70**	**317**	P		**Pn**		**17 36 46.4**	**+0.4**
JRY				S		**Sn**		**17 37 02.6**	**-0.2**
JYN	**Shimob**	**0.77**	**270**	P		**Pn**		**17 36 46.6**	**+0.1**
JYN				S		**Sn**		**17 37 04.5**	**+0.9**
JIM2	**Oshima 3**	**0.79**	**184**	S		**Sn**		**17 37 02.5**	**-1.3**
JAG	**Ashikaga**	**0.92**	**358**	P		**Pn**		**17 36 48.0**	**+0.4**
JAG				S		**Sn**		**17 37 05.5**	**-0.2**
MJAR	**Matsushiro Arr**	**1.47**	**315**	P		**Pn**		**17 36 52.6**	**-0.2**
	3.2nm,0.3s,baz=160,slow=10,SNR=45								
MJAR				S		**Sn**		**17 37 14.0**	**-0.9**
	8.1nm,0.3s,baz=166,slow=15,SNR=14								
MJAR	**Matsushiro Arr**	**1.47**	**315**	P		**Pn**		**17 36 52.6**	**-0.2**
MJAR				S		**Sn**		**17 37 14.0**	**-0.9**
MAJO	**Matsushiro**	**1.47**	**315**	*eP*		**Pn**		**17 36 52.8**	**0.0**
MAT	**Matsushiro**	**1.47**	**315**	P		**Pn**		**17 36 52.8**	**0.0**
MAT				S		**Sn**		**17 37 13.9**	**-1.1**
MAT	**Matsushiro**	**1.47**	**315**	P		**Pn**		**17 36 52.9**	**+0.1**
MAT				S		**Sn**		**17 37 14.5**	**-0.5**
BSO1	**Boso 1**	**1.48**	**124**	P		**Pn**		**17 36 52.4**	**-0.6**
BSO1				*eS*		**Sn**		**17 37 15.7**	**+0.5**
TK02	**Tokai 2**	**2.11**	**223**	P		**Pn**		**17 36 59.7**	**-0.4**
JNS	**Sasagawa**	**2.31**	**357**	P		**Pn**		**17 37 03.3**	**+0.7**
ASAJ	**Asahikawa**	**8.93**	**15**	P		**Pn**		**17 38 27.6**	**-2.0**
	1.0nm,0.3s,baz=228,slow=25,SNR=13								
ASAJ				S		**Sn**		**17 40 02.6**	**-5.9**
	0.3nm,0.3s,baz=293,slow=15,SNR=2.4								
KSRS	**Korea Array**	**9.52**	**285**	P		**Pn**		**17 38 40.4**	**+2.8**
	0.1nm,0.3s,baz=100,slow=14,SNR=4.1								
SONM	**Songino Array**	**27.41**	**307**	P		**P**		**17 41 55.5**	**-0.2**
	0.4nm,0.6s,mb3.2,baz=104,slow=8.9,SNR=4.2								
SONM	**Songino Array**	**27.41**	**307**	P		**P**		**17 41 55.5**	**-0.2**
DAV	**Davao City (W)**	**31.05**	**208**	LR		LR		17 53 42.9	
	comp=Z,40nm,19.6s,baz=289,slow=33								
ZALV	**Zalesovo Beam**	**41.82**	**314**	P		**P**		**17 43 59.8**	**+0.7**
	1.2nm,0.9s,mb3.5,baz=113,slow=8.1,SNR=4.5								
ZALV	**Zalesovo Beam**	**41.82**	**314**	P		**P**		**17 43 59.8**	**+0.7**
KURK	**Kurchatov**	**45.67**	**309**	P		**P**		**17 44 31.3**	**+1.5**
	1.9nm,0.7s,mb3.8,baz=84,slow=7.8,SNR=10								
KURK	**Kurchatov**	**45.67**	**309**	*eP*		**P**		**17 44 30.7**	**+0.8**
	5.0nm,0.6s,mb4.3								
WRA	**Warramunga Arr**	**55.36**	**186**	P		**P**		**17 45 41.5**	**-1.2**
	0.4nm,0.4s,mb3.5,baz=360,slow=7.6,SNR=11								
WRA	**Warramunga Arr**	**55.36**	**186**	P		**P**		**17 45 41.5**	**-1.2**
ASAR	**Alice Springs**	**59.08**	**186**	P		**P**		**17 46 08.8**	**-0.1**
	0.3nm,0.8s,mb3.2,baz=20,slow=10,SNR=5.0								
ASAR	**Alice Springs**	**59.08**	**186**	P		**P**		**17 46 08.8**	**-0.1**

BJI ***12*** *17:39:44.1,37.63N×95.99E,h15km,ML3.7/8*

ISCJB ***12*** *17:39:46.0±0.9,38.1N±0.1×95.61E±0.06,h10km,mb3.8/4, Error ellipse: s-maj=15.5km s-min=6.9km az=2.7*

IDC ***12*** *17:39:47.5±1.6,38.29N×96.03E,h0km,mb3.7/2, mb1 3.6/5,mb1mx3.3/27,mbtmp3.6/5,ML3.6/3,Error ellipse: s-maj=53.6km s-min=24.9km az=44.0*

NEIC ***12*** *17:39:48.6±0.9,38.14N×95.47E,h10km,mb3.9/3,Error ellipse: s-maj=15.5km s-min=12.6km az=213.0*

ISC 12 17:39:48.1±0.9,38.2N±0.1×95.72E±0.05,h10km,n17, σ1s27/20,mb3.8/4,Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.43**	**68**	Pn		**Pn**		**17 40 41.5**	**-0.1**
GTA				Pg		**Pg**		**17 40 48.7**	**-0.2**
GTA				Sn		**Sn**		**17 41 24.5**	**+2.2**
GTA				Sg		**Sg**		**17 41 36.0**	**-2.3**
GTA				smax					
	comp=N,34nm,0.9s								
GTA				smax					
	comp=E,20nm,1.1s								
WMQ	**Urumqi**	**8.28**	**315**	*eP*		**Pn**		**17 41 49.5**	**+1.4**
WMQ				smax					
	comp=N,36nm,1.0s								
WMQ				smax					
	comp=E,38nm,1.0s								
SONM	**Songino Array**	**12.40**	**36**	Pn		**Pn**		**17 42 47.0**	**+2.4**
	comp=E,0.3nm,0.3s,baz=217,slow=15,SNR=10								
SONM	**Songino Array**	**12.40**	**36**	Pn		**Pn**		**17 42 47.0**	**+2.4**
MK31	**Makanchi Array**	**13.11**	**315**	*eP*		**Pn**		**17 42 53.3**	**-1.0**
MKAR	**Makanchi Array**	**13.11**	**315**	Pn		**Pn**		**17 42 53.8**	**-0.4**
	comp=E,0.4nm,0.3s,baz=123,slow=13,SNR=24								
MKAR	**Makanchi Array**	**13.11**	**315**	Pn		**Pn**		**17 42 53.8**	**-0.4**
TKM2	**Tokmak 2**	**16.00**	**294**	*eP*		**Pn**		**17 43 30.2**	**-3.0**
	comp=E,4.3nm,0.7s								
KURK	**Kurchatov**	**17.44**	**321**	P		**Pn**		**17 43 51.1**	**-0.2**
	comp=E,0.1nm,0.3s,baz=134,slow=11,SNR=6.0								
KURK	**Kurchatov**	**17.44**	**321**	P		**Pn**		**17 43 51.1**	**-0.2**
ZALV	**Zalesovo Beam**	**17.45**	**338**	P		**Pn**		**17 43 51.6**	**+0.1**
	comp=E,0.1nm,0.3s,baz=150,slow=15,SNR=2.4								
ZALV	**Zalesovo Beam**	**17.45**	**338**	P		**Pn**		**17 43 51.6**	**+0.1**
BRVK	**Borovoye**	**23.02**	**318**	*eP*		**P**		**17 44 53.3**	**+0.2**
	comp=E,1.5nm,0.6s,mb3.6								
KSRS	**Korea Array**	**25.39**	**82**	P		**P**		**17 45 14.0**	**-1.5**
	comp=E,1.7nm,0.5s,mb3.8,baz=276,slow=9.6,SNR=8.9								
KMBO	**Kilima Mbogo**	**66.42**	**248**	*eP*		**P**		**17 50 38.2**	**+0.5**
	comp=E,2.9nm,0.6s,mb4.5								
ASAR	**Alice Springs**	**71.20**	**143**	P		**P**		**17 51 08.0**	**+0.8**
	comp=E,0.3nm,0.6s,mb3.4,baz=343,slow=9.0,SNR=8.5								
ASAR	**Alice Springs**	**71.20**	**143**	P		**P**		**17 51 08.0**	**+0.8**

WEL 12 18:06:10.9±0.1,38.23S×177.49E,h43km±2km,ML3.5/6, 1C,Error ellipse: s-maj=1.2km s-min=1.1km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**0.11**	**165**	⇑PN		Pn		18 06 17.6	-0.4
MWZ				SN		Sn		18 06 23.0	+0.1
URZ	**Urewera**	**0.30**	**264**	PN		Pn		18 06 19.2	-0.2
URZ				SN		Sn		18 06 25.3	-0.1
EDRZ	**Edgecumbe**	**0.60**	**281**	PN		Pn		18 06 23.1	0.0
CNGZ	**Carnagh Statio**	**0.62**	**115**	PN		Pn		18 06 23.5	+0.2
PUZ	**Puketiti**	**0.62**	**76**	PN		Pn		18 06 23.5	+0.1
MARZ	**Manawahe**	**0.69**	**290**	PN		Pn		18 06 24.0	-0.2
WIZ	**White Island**	**0.74**	**341**	PN		Pn		18 06 24.0	-0.9
RAHZ	**Arahi**	**0.76**	**205**	PN		Pn		18 06 25.4	+0.2
PRGZ	**Paritu Road**	**0.76**	**156**	PN		Pn		18 06 24.7	-0.5
TARZ	**Mount Tarawera**	**0.78**	**269**	PN		Pn		18 06 25.6	+0.2
RRRZ	**Republican Roa**	**0.78**	**261**	PN		Pn		18 06 25.2	-0.3
KNZ	**Kokohu**	**0.81**	**170**	PN		Pn		18 06 25.3	-0.5
OPRZ	**Ohinepanea**	**0.83**	**297**	PN		Pn		18 06 25.6	-0.6
PRRZ	**Plateau Road**	**0.90**	**252**	PN		Pn		18 06 26.9	-0.2
MXZ	**Matakaoa Point**	**0.93**	**45**	PN		Pn		18 06 28.0	+0.5
ALRZ	**Allen Road**	**0.96**	**249**	PN		Pn		18 06 27.8	-0.2
MHGZ	**Mahia Peninsul**	**0.98**	**161**	PN		Pn		18 06 27.8	-0.4
NMHZ	**Naumai**	**1.02**	**211**	PN		Pn		18 06 29.3	+0.5
MCHZ	**McNeill Hill**	**1.36**	**207**	*e*PN		Pn		18 06 33.1	-0.4
KAHZ	**Kahuranaki**	**1.64**	**197**	*e*PN		Pn		18 06 35.8	-1.4
BHHZ	**Black Hill Sta**	**1.68**	**221**	*e*PN		Pn		18 06 37.1	-0.7
KRVZ	**Karewarewa**	**1.69**	**238**	PN		Pn		18 06 38.1	+0.2
NGZ	**Ngauruhoe**	**1.76**	**237**	PN		Pn		18 06 39.4	+0.5
WPVZ	**Whakapapa**	**1.81**	**237**	*e*PN		Pn		18 06 38.7	-0.8
WNVZ	**Wahianoa**	**1.84**	**233**	*e*PN		Pn		18 06 39.6	-0.4
PXZ	**Pawanui**	**1.87**	**195**	*e*PN		Pn		18 06 38.0	-2.4
MTVZ	**Mangateitei**	**1.96**	**233**	*e*PN		Pn		18 06 41.2	-0.4
PNHZ	**Pukenui**	**1.96**	**210**	*e*PN		Pn		18 06 39.8	-1.8
PRHZ	**Porangahau**	**2.14**	**198**	PN		Pn		18 06 42.4	-1.8
MKAZ	**Mournaki**	**2.15**	**300**	*e*PN		Pn		18 06 43.6	-1.7
MRZ	**Mangatainoka R**	**2.85**	**211**	SN		Sn		18 07 23.1	-3.8
HOWZ	**Holdsworth Sta**	**3.07**	**209**	SN		Sn		18 07 27.9	-4.5
THZ	**Tophouse**	**4.99**	**223**	*e*PN		Pn		18 07 19.8	-3.4
LTZ	**Lake Taylor**	**6.04**	**220**	*e*PN		Pn		18 07 33.2	-4.5
MQZ	**McQueen's Vall**	**6.58**	**212**	SN		Sn		18 08 47.1	-12
CTZ	**Chatham Island**	**7.08**	**143**	SN		Sn		18 09 02.3	-8.7
ODZ	**Otahua Downs**	**8.52**	**215**	*e*PN		Pn		18 08 06.3	-5.3

ISCJB ***12*** *18:11:05.7±0.7,38.64N±0.06×75.15E±0.10,h10km, mb3.9/12,MS2.4/2,Error ellipse: s-maj=12.2km s-min=7.2km az=35.2*

IDC ***12*** *18:11:05.2±1.0,38.64N×75.10E,h0km,mb3.7/9, mb1 3.8/13,mb1mx3.6/30,mbtmp3.7/13,ML3.3/4,MS2.8/4, Ms1 2.8/4,ms1mx2.5/29,Error ellipse: s-maj=21.7km s-min=17.0km az=156.0*

NEIC ***12*** *18:11:07.2±0.7,38.64N×75.07E,h10km,mb3.6/1,Error ellipse: s-maj=12.1km s-min=8.6km az=138.0*

ISC 12 18:11:07.6±0.7,38.65N±0.06×75.10E±0.10,h10km,n45, σ1s10/45,mb3.9/12,MS2.4/2,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**3.43**	**2**	P		**Pn**		**18 12 01.8**	**+0.7**
	SNR=13								
AML	**Almayashu**	**3.64**	**343**	P		**Pn**		**18 12 09.8**	**+5.8**
	SNR=17								
ULHL	**Ulahol**	**3.70**	**13**	P		**Pn**		**18 12 11.2**	**+6.4**
	SNR=24								
KBK	**Karagaybulak**	**4.01**	**358**	P		**Pn**		**18 12 10.2**	**+1.1**
	SNR=26								
AAK	**Ala-Archa**	**4.01**	**354**	P		**Pn**		**18 12 10.2**	**+1.2**
	SNR=24								
EKS2	**Erkin-Say**	**4.14**	**346**	P		**Pn**		**18 12 11.9**	**+1.2**
	SNR=8.3								
EKS2	**Erkin-Say**	**4.14**	**346**	*e*P		**Pn**		**18 12 11.8**	**+1.1**
TKM2	**Tokmak 2**	**4.29**	**5**	P		**Pn**		**18 12 14.4**	**+1.6**
	SNR=26								
TKM2	**Tokmak 2**	**4.29**	**5**	*e*P		**Pn**		**18 12 13.6**	**+0.7**
CHMS	**Chumysh**	**4.36**	**357**	P		**Pn**		**18 12 14.9**	**+1.1**
	SNR=13								
USP	**Ospenovka**	**4.64**	**355**	P		**Pn**		**18 12 18.3**	**+0.6**
	SNR=5.8								
KKAR	**Karatay Array**	**5.65**	**323**	*e*P		**Pn**		**18 12 31.2**	**-0.4**
	7.3nm,0.4s								
KBL	**Kabul**	**6.36**	**232**	P		**Pn**		**18 12 42.5**	**+1.1**
	22nm,0.8s								
MK31	**Makanchi Array**	**9.71**	**31**	*e*P		**Pn**		**18 13 27.0**	**-0.2**
MKAR	**Makanchi Array**	**9.71**	**31**	Pn		**Pn**		**18 13 27.4**	**+0.1**
	0.3nm,0.3s,baz=14,SNR=7.5								
MKAR				LR		LR		18 17 34.7	
	comp=Z,97nm,18.9s,baz=204,slow=40								
MKAR	**Makanchi Array**	**9.71**	**31**	Pn		**Pn**		**18 13 27.4**	**+0.1**
MKAR				LR		LR		18 17 34.7	
KURK	**Kurchatov**	**12.32**	**11**	Pn		**Pn**		**18 13 59.5**	**-3.5**
	0.0nm,0.3s,baz=197,slow=12,SNR=7.5								
KURK				Lg				18 17 21.4	
	0.0nm,0.3s,baz=202,slow=30,SNR=4.3								
KURK	**Kurchatov**	**12.32**	**11**	Pn		**Pn**		**18 13 59.5**	**-3.5**
KURK				Lg				18 17 21.4	
ABKAR	**Akbulak array**	**15.19**	**319**	*e*P		**Pn**		**18 14 38.0**	**-4.0**
	1.6nm,0.6s								
ZALV	**Zalesovo Beam**	**16.69**	**20**	Pn		**Pn**		**18 14 58.3**	**-3.0**
	0.1nm,0.3s,baz=207,slow=11,SNR=13								
ZALV				Lg				18 19 55.7	
	baz=22,slow=40,SNR=1.2								
ZALV				LR		LR		18 21 55.2	
	comp=Z,40nm,18.2s,baz=304,slow=39								
ZALV	**Zalesovo Beam**	**16.69**	**20**	Pn		**Pn**		**18 14 58.3**	**-3.0**
ZALV				Lg				18 19 55.7	
ZALV				LR		LR		18 21 55.2	
AKTK	**Aktyubinsk**	**16.90**	**320**	Pn		**Pn**		**18 15 02.7**	**-1.3**
AKTO	**Aktyubinsk**	**16.90**	**320**	Pn		**Pn**		**18 15 02.7**	**-1.3**
	0.2nm,0.3s,baz=116,slow=17,SNR=13								
GNI	**Garni**	**23.46**	**283**	P		**P**		**18 16 17.6**	**+0.3**
	2.3nm,0.4s,mb4.0,baz=17,slow=17,SNR=2.5								
GNI				LR		LR		18 26 13.9	
	comp=Z,17nm,18.4s,MS2.5,baz=90,slow=39								
GNI	**Garni**	**23.46**	**283**	P		**P**		**18 16 17.6**	**+0.3**
GNI				LR		LR		18 26 13.9	
SONM	**Songino Array**	**24.44**	**58**	P		**P**		**18 16 26.9**	**+0.6**
	1.0nm,0.8s,mb3.3,baz=261,slow=11,SNR=10								
SONM				LR		LR		18 26 07.4	
	comp=Z,7.9nm,21.5s,MS2.2,baz=165,slow=37								
SONM	**Songino Array**	**24.44**	**58**	P		**P**		**18 16 26.9

*IDC **12** 18:34:58.9±2.2,4.˚33N×126.˚83E,h0km,mb3.8/4, mb1 3.9/4,mb1mx3.5/21,mbtmp3.8/4,Error ellipse: s-maj=187.2km s-min=26.7km az=65.0*
*ISCJB **12** 18:35:00.7±0.6,4.˚34N±0.˚05×125.˚3E±0.˚1,h33km,mb3.7/4, Error ellipse: s-maj=16.7km s-min=5.7km az=167.4*
*DJA **12** 18:35:02,4.˚29N×125.˚73E,h10km,MLv4.1/4*
ISC 12 18:35:01.9±0.6,4.˚33N±0.˚05×125.˚4E±0.˚1,h35km,n18, σ1§06/20,mb3.7/4,2C-1D,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.66**	**168**	P	**Pn**	**18 35 13.9**	**-0.8**
SGSI				S	**Sn**	**18 35 24.4**	**+0.6**
GSPH	**General Santos**	**1.80**	**346**	⇑*e*P	**Pn**	**18 35 28.6**	**-1.8**
DAV	**Davao City (W)**	**2.73**	**4**	Sn	**Sn**	**18 36 26.0**	**+11**
	21nm,0.3s,baz=285,slow=20,SNR=4.0						
DMPH	**Davao City--Mi**	**2.74**	**3**	‖*e*P	**Pn**	**18 35 45.7**	**+2.4**
DMPH				*i* S	**Sn**	**18 36 24.5**	**+9.3**
MATI	**Mati**	**2.74**	**18**	*e*P	**Pn**	**18 35 42.8**	**-0.5**
MNI	**Manado**	**2.92**	**191**	P	**Pn**	**18 35 50.5**	**+4.7**
CTBH	**Cotabato--PC H**	**3.09**	**338**	⇑*i*P	**Pn**	**18 35 48.6**	**+0.5**
BUKP	**Musuan**	**3.54**	**355**	*e*P	**Pn**	**18 35 55.2**	**+0.8**
KMSI	**Cibinong**	**3.99**	**201**	P	**Pn**	**18 36 09.1**	**+8.6**
PAGZ	**Pagadian**	**4.02**	**330**	*e*P	**Pn**	**18 36 00.7**	**-0.3**
TNTI	**Ternate**	**4.05**	**151**	P	**Pn**	**18 36 02.3**	**+0.9**
IPIL	**Ipil**	**4.43**	**321**	*e*P	**Pn**	**18 36 06.2**	**-0.4**
MRSI	**Marisa**	**5.15**	**222**	P	**Pn**	**18 36 17.3**	**+0.8**
LUWI	**Luwuk**	**5.94**	**206**	P	**Pn**	**18 36 32.7**	**+5.3**
WRA	**Warramunga Arr**	**25.68**	**160**	P	**P**	**18 40 27.2**	**-1.5**
	2.9nm,0.6s,mb4.0,baz=342,slow=10.0,SNR=32						
ASAR	**Alice Springs**	**29.04**	**164**	P	**P**	**18 40 58.4**	**-0.5**
	0.3nm,0.5s,mb3.3,baz=339,slow=7.0,SNR=4.8						
STKA	**Stephens Creek**	**39.17**	**158**	P	**P**	**18 42 22.5**	**-4.0**
	2.4nm,0.8s,mb4.0,baz=328,slow=9.5,SNR=2.8						
MKAR	**Makanchi Array**	**56.30**	**326**	P	**P**	**18 44 47.4**	**+8.3**
	0.3nm,0.6s,mb3.5,baz=117,slow=8.7,SNR=3.8						

*TAP **12** 19:03:24.9,23.˚47N×121.˚66E,h53km,ML3.0,D*
*ISCJD **12** 19:03:25.9±0.3,23.˚48N±0.˚02×121.˚71E±0.˚02, h39km±10km,Error ellipse: s-maj=4.2km s-min=2.6km az=40.7*
*JMA **12** 19:03:26.8±0.5,23.˚66N×121.˚80E,h113km,M2.5*
ISC 12 19:03:26.4±0.4,23.˚49N±0.˚02×121.˚69E±0.˚02,h34km±2km, n40,σ0§67/78,2C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEGC	**Jichi Village**	**0.26**	**328**	*e*P	**Pb**	**19 03 34.1**	**+0.2**
	baz=337						
EHY	**Hungye**	**0.34**	**274**	⇑*i*P	**Pb**	**19 03 34.5**	**-0.4**
	baz=276						
EHY				*i* S	**Sb**	**19 03 41.1**	**+0.6**
	baz=276						
TWF1	**Yuli**	**0.39**	**250**	⇑*i*P	**Pb**	**19 03 35.0**	**-0.4**
	baz=261						
TWF1				*i* S	**Sb**	**19 03 42.0**	**+0.5**
	baz=261						
ESL	**Shilin**	**0.41**	**324**	*i* P	**Pb**	**19 03 35.2**	**-0.6**
	baz=322						
ESL				*i* S	**Sb**	**19 03 42.7**	**+0.7**
	baz=322						
CHKT	**Chengkung**	**0.49**	**218**	*e*P	**Pb**	**19 03 37.0**	**+0.2**
	baz=209						
CHKT				*e*S	**Sb**	**19 03 44.3**	**+0.2**
	baz=209						
HWA	**Hwalien**	**0.50**	**351**	P	**Pb**	**19 03 36.4**	**-0.7**
	baz=1.0						
HWA				S	**Sb**	**19 03 44.3**	**-0.1**
	baz=1.0						
TWD	**Chiawan**	**0.60**	**351**	P	**Pn**	**19 03 38.0**	**-0.5**
	baz=2.0						
TWD				S	**Sn**	**19 03 46.8**	**-0.2**
	baz=2.0						
YUS	**Yu-Shan**	**0.68**	**271**	P	**Pn**	**19 03 39.6**	**0.0**
	baz=276						
YUS				S	**Sn**	**19 03 48.8**	**-0.2**
	baz=276						
ELDTW	**Lidau**	**0.69**	**245**	*e*P	**Pn**	**19 03 38.4**	**-1.3**
	baz=239						
ELDTW				*e*S	**Sn**	**19 03 48.2**	**-0.9**
	baz=239						
WHF	**Hehuan Shan**	**0.77**	**329**	P	**Pn**	**19 03 40.0**	**-0.7**
	baz=328						
WHF				S	**Sn**	**19 03 50.7**	**-0.4**
	baz=328						
ALS	**Alishan**	**0.82**	**272**	P	**Pn**	**19 03 41.5**	**0.0**
	baz=278						
ALS				S	**Sn**	**19 03 52.7**	**+0.3**
	baz=278						
SMLT	**Sun Moon Lake**	**0.83**	**299**	P	**Pn**	**19 03 41.4**	**-0.3**
	baz=302						
SMLT				S	**Sn**	**19 03 53.1**	**+0.4**
	baz=302						
TYC	**Yuchr**	**0.87**	**299**	*e*P	**Pn**	**19 03 42.0**	**-0.3**
	baz=310						
TYC				*e*S	**Sn**	**19 03 54.0**	**+0.2**
	baz=310						
TWG	**Pinlang**	**0.87**	**221**	*e*P	**Pn**	**19 03 40.6**	**-1.6**
	baz=225						
TWG				*e*S	**Sn**	**19 03 53.0**	**-0.8**
	baz=225						
TWT	**Tachien**	**0.90**	**328**	*e*P	**Pn**	**19 03 42.6**	**0.0**
	baz=332						
TWT				*e*S	**Sn**	**19 03 53.7**	**-0.8**
	baz=332						
STYT	**Tauyuan**	**0.92**	**250**	*e*P	**Pn**	**19 03 42.5**	**-0.4**
	baz=245						
STYT				*e*S	**Sn**	**19 03 55.2**	**+0.4**
	baz=245						
CHN5	**Tsauling**	**0.94**	**277**	*e*P	**Pn**	**19 03 43.2**	**+0.1**
	baz=278						
CHN5				*e*S	**Sn**	**19 03 56.5**	**+1.2**
	baz=278						
ENA	**Nanau**	**0.94**	**3**	*e*P	**Pn**	**19 03 42.7**	**-0.5**
	baz=6.0						
ENA				*e*S	**Sn**	**19 03 55.2**	**-0.2**
	baz=6.0						
NNS	**Nan Shan**	**0.99**	**343**	*e*P	**Pn**	**19 03 43.8**	**-0.2**
	baz=353						
NNS				*e*S	**Sn**	**19 03 56.4**	**-0.4**
	baz=353						
WNT	**Mingjian**	**1.00**	**293**	*e*P	**Pn**	**19 03 44.0**	**0.0**
	baz=295						
WNT				*e*S	**Sn**	**19 03 57.1**	**+0.1**
	baz=295						
CHN4	**Tsaushan**	**1.02**	**263**	*e*P	**Pn**	**19 03 44.4**	**+0.2**
	baz=262						
CHN4				*e*S	**Sn**	**19 03 57.9**	**+0.6**
	baz=262						
WTP	**Ta-pu**	**1.02**	**257**	P	**Pn**	**19 03 44.5**	**+0.2**
	baz=256						
WTP				*e*S	**Sn**	**19 03 58.3**	**+0.9**
	baz=256						
CHN1	**Nanshi**	**1.11**	**255**	*e*P	**Pn**	**19 03 45.5**	**-0.1**
	baz=254						
CHN1				*e*S	**Sn**	**19 04 00.7**	**+1.0**
	baz=254						
ECL	**Taimali**	**1.11**	**218**	*e*P	**Pn**	**19 03 43.8**	**-1.8**
	baz=208						
ECL				*e*S	**Sn**	**19 03 57.6**	**-2.1**
	baz=208						
TWC	**Suao**	**1.13**	**7**	*e*P	**Pn**	**19 03 45.1**	**-0.7**
	baz=10.0						
TWC				*e*S	**Sn**	**19 03 59.1**	**-1.0**
	baz=10.0						
ENTT	**Nioudou**	**1.16**	**354**	*e*P	**Pn**	**19 03 45.7**	**-0.5**
	baz=358						
ENTT				*e*S	**Sn**	**19 04 00.9**	**+0.1**
	baz=358						
TWQ1	**Liyutan**	**1.20**	**316**	*e*P	**Pn**	**19 03 47.4**	**+0.6**
	baz=319						
TWQ1				*e*S	**Sn**	**19 04 02.2**	**+0.3**
	baz=319						
SSD	**Sandimen**	**1.22**	**233**	*e*P	**Pn**	**19 03 47.2**	**+0.2**
	baz=231						
SSD				*e*S	**Sn**	**19 04 03.7**	**+1.3**
	baz=231						
NSK	**Sanguang**	**1.23**	**346**	*e*P	**Pn**	**19 03 47.0**	**-0.1**
	baz=358						
NSK				*e*S	**Sn**	**19 04 02.4**	**-0.1**
	baz=358						
TWE	**Neicheng**	**1.23**	**359**	*e*P	**Pn**	**19 03 46.9**	**-0.3**
	baz=355						
TWE				*e*S	**Sn**	**19 04 02.3**	**-0.3**
	baz=355						
CHN3	**Shinhua**	**1.29**	**252**	*e*P	**Pn**	**19 03 48.5**	**+0.6**
	baz=250						
CHN3				*e*S	**Sn**	**19 04 03.7**	**-0.3**
	baz=250						
NSTT	**Nanjuang**	**1.30**	**331**	*e*P	**Pn**	**19 03 48.6**	**+0.4**
	baz=325						
NSTT				*e*S	**Sn**	**19 04 05.2**	**+0.8**
	baz=325						
SGLT	**Jiouru**	**1.34**	**236**	*e*P	**Pn**	**19 03 48.6**	**-0.1**
	baz=224						
SGLT				*e*S	**Sn**	**19 04 05.7**	**+0.4**
	baz=224						
TWM1	**Shoushan**	**1.34**	**241**	*e*P	**Pn**	**19 03 48.7**	**0.0**
	baz=251						
TWM1				*e*S	**Sn**	**19 04 05.9**	**+0.6**
	baz=251						
EAST	**Anshuo**	**1.34**	**216**	*e*P	**Pn**	**19 03 49.4**	**+0.7**
	baz=209						
YOJ	**Yonaguni jima**	**1.55**	**51**	P	**Pn**	**19 03 52.6**	**+1.1**
YOJ				*e*S	**Sn**	**19 04 11.5**	**+1.0**
IRIF	**Iriomote-Funau**	**2.05**	**65**	P	**Pn**	**19 03 59.1**	**+0.7**
IRIF				*e*S	**Sn**	**19 04 24.5**	**+1.7**
JKRS	**Kuro-shima**	**2.25**	**70**	P	**Pn**	**19 04 01.6**	**+0.4**
JKRS				*e*S	**Sn**	**19 04 28.6**	**+0.9**
JIJ	**Ishigaki jima**	**2.41**	**68**	P	**Pn**	**19 04 03.1**	**-0.2**
JIJ				*e*S	**Sn**	**19 04 30.5**	**-1.1**
JTJ	**Tarama**	**2.98**	**67**	P	**Pn**	**19 04 11.6**	**+0.3**
JTJ				*e*S	**Sn**	**19 04 46.0**	**+0.2**

*IDC **12** 19:10:52.7±1.1,40.˚71N×31.˚78E,h0km,mb3.3/2, mb1 3.3/4,mb1mx3.1/25,mbtmp3.2/4,ML3.2/2,Error ellipse: s-maj=22.6km s-min=11.6km az=47.0*
*NEIC **12** 19:10:52.0,40.˚78N×31.˚94E,h5km,ML3.4(ISK),After ISK.*
*ISK **12** 19:10:52.3,40.˚78N×31.˚94E,h2km,ML3.5*
*ISCJB **12** 19:10:52.8±0.5,40.˚86N±0.˚02×31.˚93E±0.˚02,h5km±4km, mb3.4/2,Error ellipse: s-maj=3.3km s-min=2.6km az=161.2*
*MOS **12** 19:10:52.9±0.5,40.˚86N×31.˚99E,h10km,mb4.2/1,Error ellipse: s-maj=18.7km s-min=7.5km az=108.3*
*CSEM **12** 19:10:53.2±0.1,40.˚78N×31.˚96E,h2km,ML3.5,Error ellipse: s-maj=3.1km s-min=2.5km az=172.0*
*DDA **12** 19:10:54.0,40.˚84N×31.˚90E,h11km±6km,Md3.3*
ISC 12 19:10:53.3±0.5,40.˚82N±0.˚02×31.˚96E±0.˚02,h1km±3km, n168,σ1§09/212,mb3.4/2,17C-7D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDZE	**Karadeniz Ereo**	**0.63**	**322**	*e*PG	**Pg**	**19 11 05.7**	**+0.3**
KDZE	**Karadeniz Ereo**	**0.63**	**322**	*e*Pg	**Pg**	**19 11 05.7**	**+0.3**
MDU	**Mudurnu**	**0.67**	**239**	*e*PG	**Pg**	**19 11 05.1**	**-1.0**
MDU				*e*SG	**Sg**	**19 11 14.7**	**0.0**
MDU	**Mudurnu**	**0.67**	**239**	*e*Pg	**Pg**	**19 11 05.1**	**-1.0**
MDU				*e*Sg	**Sg**	**19 11 14.7**	**0.0**
SAFT	**Safranbolu**	**0.69**	**52**	*e*PG	**Pg**	**19 11 07.0**	**+0.4**
SAFT				*e*SG	**Sg**	**19 11 17.9**	**+2.4**
SAFT	**Safranbolu**	**0.69**	**52**	*e*Pg	**Pg**	**19 11 07.0**	**+0.4**
SAFT				*e*Sg	**Sg**	**19 11 17.9**	**+2.3**
HENT	**Hendek**	**0.81**	**271**	*e*P	**Pg**	**19 11 07.9**	**-0.8**
HENT				*i* S	**Sg**	**19 11 20.0**	**+0.8**
HENT	**Hendek**	**0.81**	**271**	*e*P	**Pg**	**19 11 07.9**	**-0.8**
HENT				*i* S	**Sg**	**19 11 20.0**	**+0.8**
LOD	**Lodumlu**	**1.11**	**146**	*e*PN	**Pg**	**19 11 13.4**	**-1.2**
LOD	**Lodumlu**	**1.11**	**146**	*e*Pn	**Pg**	**19 11 13.4**	**-1.2**
ELDT	**Eldivan**	**1.16**	**106**	*e*P	**Pg**	**19 11 14.8**	**-0.7**
ELDT				*i* S	**Sg**	**19 11 34.2**	**+3.6**
ELDT	**Eldivan**	**1.16**	**106**	*e*P	**Pg**	**19 11 14.8**	**-0.7**
ELDT				*i* S	**Sg**	**19 11 34.2**	**+3.6**
GULT	**Gulveren**	**1.17**	**251**	*e*PN	**Pn**	**19 11 15.2**	**-1.5**
GULT	**Gulveren**	**1.17**	**251**	*e*Pn	**Pn**	**19 11 15.2**	**-1.5**
SPNC	**Sapanca-Adapaz**	**1.26**	**265**	*e*PN	**Pn**	**19 11 16.9**	**-1.1**
SPNC	**Sapanca-Adapaz**	**1.26**	**265**	*e*Pn	**Pn**	**19 11 16.9**	**-1.1**
CANT	**Cankiri**	**1.28**	**99**	*e*PN	**Pn**	**19 11 17.7**	**-0.5**
BALT	**Daday**	**1.29**	**56**	‖*i*P	**Pg**	**19 11 17.0**	**-1.1**
BALT				*i* S	**Sg**	**19 11 34.5**	**-0.3**
BALT	**Daday**	**1.29**	**56**	*i* P	**Pg**	**19 11 17.0**	**-1.1**
BALT				*i* S	**Sg**	**19 11 34.5**	**-0.3**
GPA	**Golpazari**	**1.36**	**248**	*e*PN	**Pn**	**19 11 18.4**	**-1.0**
GPA	**Golpazari**	**1.36**	**248**	*e*Pn	**Pn**	**19 11 18.4**	**-1.0**
SVRH	**Sivrihisar-ESK**	**1.41**	**194**	*e*PN	**Pn**	**19 11 19.2**	**-0.8**
SVRH	**Sivrihisar-ESK**	**1.41**	**194**	*e*Pn	**Pn**	**19 11 19.2**	**-0.8**
BORA	**Eskisehir**	**1.48**	**231**	*e*P	**Pn**	**19 11 19.9**	**-1.1**
BORA				*i* S	**Sb**	**19 11 42.8**	**+1.9**
BORA	**Eskisehir**	**1.48**	**231**	*e*P	**Pn**	**19 11 19.9**	**-1.2**
BORA				*i* S	**Sb**	**19 11 42.8**	**+1.9**
ESKT	**Eskisehir**	**1.55**	**214**	*e*PN	**Pn**	**19 11 21.2**	**-0.7**
ESKT	**Eskisehir**	**1.55**	**214**	*e*P	**Pn**	**19 11 20.1**	**-1.9**
ESKT				*i* S	**Sn**	**19 11 42.6**	**-0.1**
ESKT	**Eskisehir**	**1.55**	**214**	*e*Pn	**Pn**	**19 11 21.2**	**-0.8**
SEYT	**Eskypehyr**	**1.55**	**214**	*e*P	**Pn**	**19 11 20.1**	**-1.9**
SEYT				*i* S	**Sn**	**19 11 42.6**	**-0.1**
TOS	**Tosya**	**1.58**	**81**	*e*PN	**Pn**	**19 11 22.8**	**+0.4**
TOS	**Tosya**	**1.58**	**81**	*e*Pn	**Pn**	**19 11 22.8**	**+0.4**
AFSR	**Af˙ar-Bala (A**	**1.61**	**148**	*e*PN	**Pn**	**19 11 22.4**	**-0.4**
AFSR	**Af˙ar-Bala (A**	**1.61**	**148**	*e*Pn	**Pn**	**19 11 22.4**	**-0.4**
BR131	**Keskin Array S**	**1.68**	**130**	*e*P	**Pn**	**19 11 23.1**	**-0.7**
BR131	**Keskin Array S**	**1.68**	**130**	*e*P	**Pn**	**19 11 23.1**	**-0.7**
BRTR	**Keskin Array B**	**1.69**	**130**	Pn	**Pn**	**19 11 23.0**	**-0.9**
	26nm,0.3s,baz=309,slow=14,SNR=483						
BRTR				Pg	**Pg**	**19 11 24.9**	**-0.7**
	26nm,0.3s,baz=306,slow=14,SNR=472						
BRTR				Sn	**Sn**	**19 11 48.1**	**+2.1**
	23nm,0.3s,baz=301,slow=24,SNR=27						
BRTR	**Keskin Array B**	**1.69**	**130**	Pn	**Pn**	**19 11 22.9**	**-0.9**
BRTR				Pg	**Pg**	**19 11 24.9**	**-0.7**
BRTR				Sn	**Sn**	**19 11 48.1**	**+2.1**
BRTR	**Keskin Array B**	**1.69**	**130**	P	**Pn**	**19 11 23.0**	**-0.8**
BRTR						19 11 48.1	
BRTR				pmax	pmax		
	comp=Z,26nm,0.3s						
BRTR				pmax	pmax		
	comp=Z,26nm,0.3s						
BRTR				smax			
	comp=N,23nm,0.3s						
BRTR	**Keskin Array B**	**1.69**	**130**	P	**Pn**	**19 11 23.0**	**-0.8**
	comp=N,26nm,0.3s						
BRTR	**Keskin Array B**	**1.69**	**130**	Pg	**Pg**	**19 11 24.9**	**-0.7**
BRTR				S	**Sn**	**19 11 48.1**	**+2.1**
	comp=N,23nm,0.3s						
CAVI	**Cavuskoy**	**1.73**	**250**	*e*PN	**Pn**	**19 11 24.2**	**-0.3**
CAVI	**Cavuskoy**	**1.73**	**250**	*e*Pn	**Pn**	**19 11 24.2**	**-0.2**
ADVT	**Abdulvahap**	**1.73**	**258**	*e*PN	**Pn**	**19 11 24.0**	**-0.5**
ADVT	**Abdulvahap**	**1.73**	**258**	*e*Pn	**Pn**	**19 11 24.0**	**-0.5**
HRT	**Hereke**	**1.74**	**271**	*e*PN	**Pn**	**19 11 24.5**	**-0.1**
HRT	**Hereke**	**1.74**	**271**	*e*Pn	**Pn**	**19 11 24.5**	**-0.1**
SILT	**Sile**	**1.79**	**282**	*e*PN	**Pn**	**19 11 25.2**	**0.0**
SILT	**Sile**	**1.79**	**282**	*e*Pn	**Pn**	**19 11 25.2**	**0.0**
BZK	**Bozkurt**	**1.92**	**53**	*e*PN	**Pn**	**19 11 27.8**	**+0.7**
BZK	**Bozkurt**	**1.92**	**53**	*e*Pn	**Pn**	**19 11 27.8**	**+0.8**
KIZT	**Kizilcal**	**1.94**	**182**	*e*PN	**Pn**	**19 11 26.4**	**-0.8**
KIZT	**Kizilcal**	**1.94**	**182**	*e*Pn	**Pn**	**19 11 26.4**	**-0.9**
YLV	**Yalova**	**1.98**	**264**	*e*PN	**Pn**	**19 11 27.9**	**-0.1**
YLV	**Yalova**	**1.98**	**264**	*e*Pn	**Pn**	**19 11 27.9**	**0.0**
CORM	**Corum**	**2.13**	**107**	*e*PN	**Pn**	**19 11 30.3**	**+0.3**
CORM	**Corum**	**2.13**	**107**	*e*Pn	**Pn**	**19 11 30.3**	**+0.3**
GEMT	**Gemlik**	**2.14**	**261**	*e*PN	**Pn**	**19 11 30.0**	**-0.1**
GEMT	**Gemlik**	**2.14**	**261**	*e*Pn	**Pn**	**19 11 30.0**	**-0.1**
BUY	**Buyukada**	**2.16**	**272**	*e*P	**Pn**	**19 11 30.1**	**-0.2**
BUY				*i* S	**Sn**	**19 12 00.0**	**+2.3**
BUY	**Buyukada**	**2.16**	**272**	*e*P	**Pn**	**19 11 30.1**	**-0.2**
BUY				*i* S	**Sn**	**19 12 00.0**	**+2.3**
CTKT	**Corum**	**2.16**	**94**	*e*P	**Pn**	**19 11 32.2**	**+1.8**
CTKT	**Corum**	**2.16**	**94**	*e*P	**Pn**	**19 11 32.2**	**+1.8**
ISK	**Istanbul-Kandi**	**2.21**	**277**	*e*PN	**Pn**	**19 11 30.7**	**-0.4**
ISK	**Istanbul-Kandi**	**2.21**	**277**	*e*Pn	**Pn**	**19 11 30.7**	**-0.4**
BOLV	**Bolvadin**	**2.24**	**201**	*e*P	**Pn**	**19 11 30.7**	**-0.7**
BOLV				*e*S	**Sg**	**19 12 07.7**	**+2.6**
BOLV	**Bolvadin**	**2.24**	**201**	*e*P	**Pn**	**19 11 30.7**	**-0.7**
KLYT	**Kilyos**	**2.25**	**282**	*e*PN	**Pn**	**19 11 31.8**	**+0.1**
KLYT	**Kilyos**	**2.25**	**282**	*e*Pn	**Pn**	**19 11 31.8**	**+0.2**
ALT	**Altintas**	**2.26**	**220**	*e*PN	**Pn**	**19 11 31.2**	**-0.5**
ALT	**Altintas**	**2.26**	**220**	*e*Pn	**Pn**	**19 11 31.2**	**-0.6**
ARMT	**Armutlu**	**2.37**	**265**	*e*PN	**Pn**	**19 11 33.3**	**0.0**
ARMT	**Armutlu**	**2.37**	**265**	*e*Pn	**Pn**	**19 11 33.3**	**0.0**
MDNY	**Mudanya-Bursa**	**2.38**	**260**	*e*PN	**Pn**	**19 11 33.6**	**+0.1**
MDNY	**Mudanya-Bursa**	**2.38**	**260**	*e*Pn	**Pn**	**19 11 33.6**	**+0.1**
BGKT	**Bogazkoy**	**2.44**	**280**	*e*PN	**Pn**	**19 11 34.5**	**+0.3**
BGKT	**Bogazkoy**	**2.44**	**280**	*e*Pn	**Pn**	**19 11 34.5**	**+0.3**
SHUT	**Suhut-Afyon**	**2.51**	**206**	*e*PN	**Pn**	**19 11 35.0**	**-0.2**
SHUT	**Suhut-Afyon**	**2.51**	**206**	*e*Pn	**Pn**	**19 11 35.0**	**-0.2**
CTKS	**Kestanelik-??a**	**2.65**	**280**	*e*PN	**Pn**	**19 11 36.6**	**-0.4**
CTKS	**Kestanelik-??a**	**2.65**	**280**	*e*Pn	**Pn**	**19 11 36.7**	**-0.4**
ELBA	**Catalca**	**2.69**	**278**	*e*P	**Pn**	**19 11 36.6**	**-1.1**
ELBA				*i* S	**Sn**	**19 12 14.2**	**+3.3**
ELBA	**Catalca**	**2.69**	**278**	*e*P	**Pn**	**19 11 36.6**	**-1.1**
ELBA				*i* S	**Sn**	**19 12 14.2**	**+3.3**
KCTX	**Karacabey (Bur**	**2.80**	**260**	*e*PN	**Pn**	**19 11 39.8**	**+0.6**
KCTX	**Karacabey (Bur**	**2.80**	**260**	*e*Pn	**Pn**	**19 11 39.8**	**+0.6**
YOZ	**Yozgat**	**2.83**	**113**	*e*PN	**Pn**	**19 11 39.9**	**+0.4**
YOZ	**Yozgat**	**2.83**	**113**	*e*Pn	**Pn**	**19 11 39.9**	**+0.4**
DST	**Dursunbey**	**2.83**	**246**	*e*PN	**Pn**	**19 11 40.0**	**+0.4**
DST	**Dursunbey**	**2.83**	**246**	*e*Pn	**Pn**	**19 11 40.0**	**+0.4**
CTYL	**Yal??k??y-??at**	**2.85**	**285**	*e*PN	**Pn**	**19 11 40.4**	**+0.6**
CTYL	**Yal??k??y-??at**	**2.85**	**285**	*e*Pn	**Pn**	**19 11 40.4**	**+0.5**
SLVT	**Silivri**	**2.87**	**280**	*e*PN	**Pn**	**19 11 40.8**	**+0.7**
SLVT	**Silivri**	**2.87**	**280**	*e*Pn	**Pn**	**19 11 40.8**	**+0.7**
SULT	**Sultanhani-AKS**	**2.88**	**155**	*e*PN	**Pn**	**19 11 40.7**	**+0.5**
SULT	**Sultanhani-AKS**	**2.88**	**155**	*e*Pn	**Pn**	**19 11 40.7**	**+0.5**
KONT	**Konya--Tatoy**	**2.88**	**174**	*e*PN	**Pn**	**19 11 40.6**	**+0.3**
KONT	**Konya--Tatoy**	**2.88**	**174**	*e*Pn	**Pn**	**19 11 40.7**	**+0.4**
DURS	**Dursunbey**	**2.93**	**247**	*e*P	**Pn**	**19 11 39.9**	**-1.1**
DURS				*i* S	**Sg**	**19 12 26.0**	**-1.5**
DURS	**Dursunbey**	**2.93**	**247**	*e*P	**Pn**	**19 11 39.9**	**-1.1**
AVNT	**Avonos**	**3.02**	**131**	*e*P	**Pg**	**19 11 49.1**	**-2.1**
AVNT				*i* S	**Sg**	**19 12 30.3**	**+0.1**
KVT	**Kavak**	**3.11**	**84**	*e*PN	**Pn**	**19 11 44.7**	**+1.3**
KVT	**Kavak**	**3.11**	**84**	*e*Pn	**Pn**	**19 11 44.7**	**+1.3**
BALB	**Balikesir**	**3.34**	**251**	*e*PN	**Pn**	**19 11 47.1**	**+0.5**
BALB	**Balikesir**	**3.34**	**251**	*e*Pn	**Pn**	**19 11 47.1**	**+0.5**
GONE	**Gonen-Balikesi**	**3.35**	**258**	*e*PN	**Pn**	**19 11 47.3**	**+0.5**
GONE	**Gonen-Balikesi**	**3.35**	**258**	*e*Pn	**Pn**	**19 11 47.3**	**+0.5**
KULA	**Kula-Manisa**	**3.43**	**229**	*e*PN	**Pn**	**19 11 48.3**	**+0.4**
KULA	**Kula-Manisa**	**3.43**	**229**	*e*Pn	**Pn**	**19 11 48.3**	**+0.5**
BALY	**Balya**	**3.49**	**253**	*e*P	**Pn**	**19 11 47.5**	**-1.2**
BALY				*i* S	**Sg**	**19 12 48.0**	**+2.6**
BALY	**Balya**	**3.49**	**253**	*e*P	**Pn**	**19 11 47.5**	**-1.2**
KRBG	**Karabiga-Canak**	**3.58**	**265**	*e*PN	**Pn**	**19 11 50.6**	**+0.8**
KRBG	**Karabiga-Canak**	**3.58**	**265**	*e*Pn	**Pn**	**19 11 50.6**	**+0.8**
RKY	**Sarkoy-Tekirda**	**3.64**	**270**	*e*PN	**Pn**	**19 11 51.5**	**+0.9**
RKY	**Sarkoy-Tekirda**	**3.64**	**270**	*e*Pn	**Pn**	**19 11 51.5**	**+0.8**
MANR	**Mangalia**	**3.90**	**321**	⇑*i*P	**Pn**	**19 11 54.8**	**+0.5**
MANR	**Mangalia**	**3.90**	**321**	⇑*i*P	**Pn**	**19 11 54.8**	**+0.5**
MANR				S	**Sn**	**19 12 39.3**	**-1.5**
SEV	**Sevastopol'**	**3.93**	**18**	*e*P	**Pn**	**19 11 54.5**	**-0.2**
SEV				*e*S	**Sn**	**19 12 38.5**	**-3.0**
SEV	**Sevastopol'**	**3.93**	**18**	*e*P	**Pn**	**19 11 54.5**	**-0.2**
SEV				*e*S	**Sn**	**19 12 38.5**	**-3.0**
ALU	**Alushta**	**4.26**	**24**	*e*P	**Pn**	**19 11 59.9**	**+0.7**
ALU				*e*S	**Sn**	**19 12 48.9**	**-0.7**
ALU	**Alushta**	**4.26**	**24**	*e*P	**Pn**	**19 11 59.9**	**+0.7**
ALU				*e*S	**Sn**	**19 12 48.9**	**-0.7**
SIM	**Simferopol'**	**4.42**	**20**	*e*P	**Pn**	**19 11 59.9**	**-1.6**
SIM				*e*S	**Sn**	**19 12 51.9**	**-1.7**
SIM				pmax	pmax		
	comp=Z,15nm,1.6s						
SIM	**Simferopol'**	**4.42**	**20**	*e*P	**Pn**	**19 11 59.9**	**-1.6**
	comp=Z,15nm,1.6s						
SIM				*e*S	**Sn**	**19 12 51.9**	**-1.7**
TIRR	**Tirgusor**	**4.48**	**325**	⇑*i*P	**Pn**	**19 12 02.3**	**0.0**
TIRR				S	**Sn**	**19 12 52.8**	**-2.2**
TIRR	**Tirgusor**	**4.48**	**325**	⇑*i*P	**Pn**	**19 12 02.3**	**0.0**
TIRR	**Tirgusor**	**4.48**	**325**	S	**Sn**	**19 12 52.8**	**-2.2**

JAK	**Akkeshi**	**4.30**	**235**	P	**Pn**	**19 33 46.9**	**+1.0**
JAK				*e*S	**Sn**	**19 34 37.1**	**+0.2**
JOB	**Onbets**	**4.86**	**239**	P	**Pn**	**19 33 55.1**	**+2.0**
JOB				*e*S	**Sn**	**19 34 51.2**	**+1.4**
JKK2	**Kamakawa 2**	**5.10**	**253**	P	**Pn**	**19 33 59.0**	**+2.9**
ASAJ	**Asahikawa**	**5.12**	**256**	P	**Pn**	**19 33 58.6**	**+2.2**
	comp=E,0.3nm,0.3s,baz=97,slow=17,SNR=3.3						
ASAJ	**Asahikawa**	**5.12**	**256**	PN	**Pn**	**19 33 58.6**	**+2.2**
ASAJ	**Asahikawa**	**5.12**	**256**	P	**Pn**	**19 33 59.6**	**+3.2**
JCH	**Churui**	**5.31**	**238**	P	**Pn**	**19 34 00.6**	**+1.7**
JCH				*e*S	**Sn**	**19 35 00.4**	**+0.1**
JNBK	**Urakawa-nobuka**	**5.87**	**238**	*e*S	**Sn**	**19 35 12.1**	**-1.3**
JNB	**Noboribetsu**	**6.84**	**246**	*e*S	**Sn**	**19 35 36.8**	**+0.6**
JKB	**Kayabe**	**7.15**	**242**	*e*S	**Sn**	**19 35 41.6**	**-1.9**
JTM	**Tenmabayashi**	**7.79**	**235**	*e*S	**Sn**	**19 35 54.6**	**-4.2**
JANG	**Nango**	**7.82**	**231**	*e*S	**Sn**	**19 35 55.9**	**-3.6**
JTH	**Tanohata**	**7.94**	**228**	*e*S	**Sn**	**19 35 59.7**	**-2.8**
JRG	**Rokugo**	**8.99**	**230**	*e*S	**Sn**	**19 36 26.9**	**-0.5**
PETK	**Petropavlovsk-**	**9.25**	**32**	P	**Pn**	**19 34 44.3**	**-5.9**
	comp=E,0.2nm,0.3s,baz=192,slow=13,SNR=5.3						
PETK	**Petropavlovsk-**	**9.25**	**32**	P	**Pn**	**19 34 44.3**	**-5.9**
PETK	**Petropavlovsk-**	**9.25**	**32**	PN	**Pn**	**19 34 44.3**	**-5.9**
JIO	**Ouri**	**9.33**	**223**	*e*S	**Sn**	**19 36 31.7**	**-4.0**
KSRS	**Korea Array**	**18.04**	**251**	P	**P**	**19 36 42.0**	**+4.4**
	comp=E,0.1nm,0.3s,baz=55,slow=11,SNR=4.4						
KSRS	**Korea Array**	**18.04**	**251**	P	**P**	**19 36 42.1**	**+4.4**
ILAR	**Eielson Array**	**39.03**	**38**	P	**P**	**19 39 47.6**	**-1.0**
	comp=E,0.4nm,0.6s,mb3.2,baz=277,slow=8.6,SNR=5.2						
ILAR	**Eielson Array**	**39.03**	**38**	P	**P**	**19 39 47.6**	**-1.0**
ILAR	**Eielson Array**	**39.03**	**38**	P	**P**	**19 39 47.6**	**-1.1**
ZALV	**Zalesovo Beam**	**41.27**	**306**	P	**P**	**19 40 06.0**	**-1.1**
	comp=E,0.5nm,0.6s,mb3.4,baz=60,slow=15,SNR=2.8						
ZALV	**Zalesovo Beam**	**41.27**	**306**	P	**P**	**19 40 06.0**	**-1.1**
ZALV	**Zalesovo Beam**	**41.27**	**306**	P	**P**	**19 40 06.0**	**-1.1**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
INK	**Inuvik**	**43.99**	**31**	P	**P**	**19 40 26.3**	**-2.5**
	comp=Z,1.5nm,1.0s,mb3.6,baz=230,slow=7.3,SNR=5.9						
INK	**Inuvik**	**43.99**	**31**	P	**P**	**19 40 26.4**	**-2.5**
INK	**Inuvik**	**43.99**	**31**	P	**P**	**19 40 26.3**	**-2.5**
INK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MKAR	**Makanchi Array**	**45.25**	**297**	P	**P**	**19 40 39.4**	**+0.3**
	comp=Z,0.6nm,0.5s,mb3.5,baz=68,slow=7.1,SNR=14						
MKAR	**Makanchi Array**	**45.25**	**297**	P	**P**	**19 40 39.4**	**+0.3**
MKAR	**Makanchi Array**	**45.25**	**297**	P	**P**	**19 40 39.4**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**45.92**	**303**	P	**P**	**19 40 44.8**	**+0.5**
	comp=Z,0.9nm,0.5s,mb3.7,baz=68,slow=8.3,SNR=7.4						
KURK	**Kurchatov**	**45.92**	**303**	*e*P	**P**	**19 40 44.0**	**-0.3**
	comp=Z,1.6nm,0.6s,mb3.8						
KURK	**Kurchatov**	**45.92**	**303**	P	**P**	**19 40 44.8**	**+0.5**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7						
NVAR	**Mina Array Bea**	**65.21**	**60**	P	**P**	**19 43 02.0**	**+0.2**
	comp=Z,0.3nm,0.3s,mb3.5,baz=284,slow=3.6,SNR=2.4						
NVAR	**Mina Array Bea**	**65.21**	**60**	P	**P**	**19 43 02.0**	**+0.2**
WRA	**Warramunga Arr**	**66.63**	**196**	P	**P**	**19 43 15.1**	**+4.3**
	comp=Z,0.3nm,0.8s,mb3.2,baz=9.2,slow=6.8,SNR=4.2						
WRA	**Warramunga Arr**	**66.63**	**196**	P	**P**	**19 43 15.1**	**+4.3**
WRA	**Warramunga Arr**	**66.63**	**196**	P	**P**	**19 43 15.1**	**+4.3**
PDAR	**Pinedale Array**	**67.47**	**52**	P	**P**	**19 43 16.4**	**+0.4**
	comp=Z,0.6nm,0.7s,mb3.5,baz=201,slow=2.9,SNR=3.8						
PDAR	**Pinedale Array**	**67.47**	**52**	P	**P**	**19 43 16.4**	**+0.4**
TXAR	**Lajitas Array**	**80.26**	**58**	P	**P**	**19 44 31.1**	**+0.5**
	comp=Z,0.5nm,0.5s,mb3.4,baz=299,slow=4.8,SNR=8.7						
TXAR	**Lajitas Array**	**80.26**	**58**	P	**P**	**19 44 31.1**	**+0.5**
TXAR	**Lajitas Array**	**80.26**	**58**	P	**P**	**19 44 31.1**	**+0.6**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
PLCA	**Paso Flores**	**150.60**	**95**	PKPbc	PKPbc	19 52 11.5	+1.7
	comp=Z,1.1nm,0.6s,baz=261,slow=19,SNR=3.8						
PLCA	**Paso Flores**	**150.60**	**95**	PKPbc	PKPbc	19 52 11.5	+1.7

*ISCJB **12** 19:33:36.9±0.6, 15°.3S±0°.1×66°.9E±0°.1, h10km, mb4.0/13, MS3.5/6, Error ellipse: s-maj=19.6km s-min=17.0km az=7.8*
*IDC **12** 19:33:37.5±1.1, 15°.19S×66°.92E, h0km, mb3.9/11, mb1 4.0/11,mb1mx3.8/24, mbtmp3.9/11, MS3.5/6, Ms1 3.5/6,ms1mx3.2/28, Error ellipse: s-maj=34.7km s-min=23.1km az=25.0*
*NEIC **12** 19:33:39.0±0.9, 15°.21S×66°.91E, h10km, mb4.6/2, Error ellipse: s-maj=28.6km s-min=18.3km az=214.0*
ISC 12 19:33:38.9±0.6, **15°.3S**±0°.1×**66°.9E**±0°.1, **h10km**, **n29,** σ0**92**/25, **mb4.0**/13, **MS3.5**/6, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**40.63**	**244**	LR	LR	19 57 24.9	
	comp=Z,39nm,20.7s,MS3.2,baz=166,slow=35						
CMAR	**Chiang Mai Arr**	**46.04**	**44**	P	**P**	**19 42 04.2**	**+1.1**
	0.7nm,0.8s,mb3.7,baz=238,slow=11,SNR=4.8						
CMAR				LR	LR	19 58 60.0	
	comp=Z,65nm,18.4s,MS3.6,baz=146,slow=33						
CMAR	**Chiang Mai Arr**	**46.04**	**44**	P	**P**	**19 42 04.2**	**+1.1**
CMAR				LR	LR	19 58 60.0	
ASAR	**Alice Springs**	**63.26**	**109**	P	**P**	**19 44 06.9**	**-1.3**
	1.0nm,0.9s,mb3.9,baz=256,slow=7.1,SNR=5.0						
ASAR	**Alice Springs**	**63.26**	**109**	P	**P**	**19 44 06.9**	**-1.3**
MKAR	**Makanchi Array**	**63.30**	**12**	P	**P**	**19 44 07.1**	**-0.7**
	0.6nm,0.8s,mb3.8,baz=217,slow=9.9,SNR=4.3						
MKAR	**Makanchi Array**	**63.30**	**12**	P	**P**	**19 44 07.1**	**-0.7**
WRA	**Warramunga Arr**	**64.10**	**105**	P	**P**	**19 44 14.9**	**+1.2**
	1.4nm,0.9s,mb4.0,baz=267,slow=6.1,SNR=10.0						
WRA	**Warramunga Arr**	**64.10**	**105**	P	**P**	**19 44 14.9**	**+1.2**
WRAB	**Tennant Creek**	**64.11**	**105**	*e*P	**P**	**19 44 13.8**	**0.0**
	5.8nm,1.1s,mb4.5						
KURK	**Kurchatov**	**66.50**	**8**	P	**P**	**19 44 27.1**	**-1.5**
	0.9nm,0.3s,mb4.2,baz=199,slow=6.0,SNR=3.4						
KURK				LR	LR	20 09 49.0	
	comp=Z,26nm,20.5s,MS3.4,baz=295,slow=33						
KURK	**Kurchatov**	**66.50**	**8**	P	**P**	**19 44 27.1**	**-1.5**
KURK				LR	LR	20 09 49.0	
BRVK	**Borovoye**	**68.10**	**2**	*e*P	**P**	**19 44 39.2**	**+0.5**
	3.4nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**69.27**	**119**	LR	LR	20 09 59.4	
	comp=Z,60nm,18.3s,MS3.9,baz=206,slow=32						
TORD	**Torodi Ar. Bea**	**70.41**	**290**	P	**P**	**19 44 54.4**	**+0.6**
	0.6nm,1.0s,mb3.5,baz=48,slow=2.1,SNR=3.1						
TORD	**Torodi Ar. Bea**	**70.41**	**290**	P	**P**	**19 44 54.4**	**+0.6**
VNA2	**Neumayer--Watz**	**70.55**	**200**	*e*	**P**	**19 44 53.5**	**-0.2**
	baz=75,slow=5.6						
ZALV	**Zalesovo Beam**	**70.62**	**11**	P	**P**	**19 44 52.3**	**-2.0**
	0.4nm,0.4s,mb3.7,baz=202,slow=3.2,SNR=4.0						
ZALV	**Zalesovo Beam**	**70.62**	**11**	P	**P**	**19 44 52.3**	**-2.0**
VNA3	**Neumayer Olymp**	**71.33**	**199**	*e*	**P**	**19 44 58.1**	**-0.4**
SONM	**Songino Array**	**72.04**	**27**	P	**P**	**19 45 03.5**	**+0.5**
	1.0nm,0.8s,mb3.8,baz=220,slow=6.1,SNR=6.7						
SONM				LR	LR	20 15 24.0	
	comp=Z,40nm,18.5s,MS3.7,baz=210,slow=35						
SONM	**Songino Array**	**72.04**	**27**	P	**P**	**19 45 03.5**	**+0.5**
SONM				LR	LR	20 15 24.0	
KSRS	**Korea Array**	**77.67**	**45**	P	**P**	**19 45 36.3**	**+0.5**
	2.2nm,1.0s,mb4.0,baz=242,slow=5.3,SNR=5.7						
KSRS				LR	LR	20 15 35.0	
	comp=Z,18nm,21.3s,MS3.4,baz=220,slow=32						
MJAR	**Matsushiro Arr**	**84.62**	**50**	P	**P**	**19 46 13.3**	**+0.4**
	1.7nm,0.9s,mb4.2,baz=238,slow=6.3,SNR=4.0						
MJAR	**Matsushiro Arr**	**84.62**	**50**	P	**P**	**19 46 13.3**	**+0.4**
ESDC	**Sonseca Array**	**85.53**	**313**	P	**P**	**19 46 18.3**	**+1.0**
	0.8nm,0.8s,mb4.0,baz=90,slow=1.3,SNR=3.5						
ESDC	**Sonseca Array**	**85.53**	**313**	P	**P**	**19 46 18.3**	**+1.0**
PDAR	**Pinedale Array**	**152.42**	**354**	PKPbc	PKPbc	19 53 35.7	+0.2
	0.6nm,0.7s,baz=80,slow=1.7,SNR=5.8						
PDAR	**Pinedale Array**	**152.42**	**354**	PKPbc	PKPbc	19 53 35.7	+0.2

*DDA **12** 19:42:10.5, 38°.93N×35°.55E, h7km±2km, Md3.4*
*ISK **12** 19:42:10.1, 38°.86N×35°.63E, h5km, MD3.5*
*ISCJB **12** 19:42:11.8±0.3, 38°.86N±0°.03×35°.61E±0°.03, h10km, Error ellipse: s-maj=4.3km s-min=2.9km az=12.5*
*CSEM **12** 19:42:11.6±0.1, 38°.85N×35°.60E, h2km, MD3.5, Error ellipse: s-maj=4.0km s-min=2.8km az=9.0*
ISC 12 19:42:12.6±0.3, **38°.86N**±0°.03×**35°.60E**±0°.03, **h10km**, **n75,** σ0**95**/85, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNN	**Bunyan**	**0.19**	**92**	*e*PG	**Pg**	**19 42 14.3**	**-2.2**
BNN	**Bunyan**	**0.19**	**92**	*e*Pg	**Pg**	**19 42 14.4**	**-2.2**
AVNT	**Avonos**	**0.59**	**263**	*e*P	**Pg**	**19 42 21.4**	**-2.6**
AVNT				*i* S	**Sg**	**19 42 30.0**	**-1.7**
AVNT	**Avonos**	**0.59**	**263**	*e*P	**Pg**	**19 42 21.4**	**-2.6**
AVNT				*i* S	**Sg**	**19 42 30.0**	**-1.7**
PINB	**Pinarbasi**	**0.65**	**106**	*e*P	**Pg**	**19 42 23.9**	**-1.2**
PINB				*i* S	**Sg**	**19 42 34.6**	**+1.0**
PINB	**Pinarbasi**	**0.65**	**106**	*e*P	**Pg**	**19 42 23.9**	**-1.3**
PINB				*i* S	**Sg**	**19 42 34.6**	**+0.9**
SARI	**SarD1z-Kayseri**	**0.87**	**101**	*e*PG	**Pg**	**19 42 25.4**	**-4.0**
SARI				*e*SG	**Sg**	**19 42 37.5**	**-3.2**
NIG	**Nigde**	**1.08**	**227**	*e*PN	**Pg**	**19 42 32.6**	**-0.7**
NIG	**Nigde**	**1.08**	**227**	*e*Pn	**Pg**	**19 42 32.6**	**-0.7**
KOZT	**Kozan**	**1.39**	**173**	*e*PN	**Pn**	**19 42 37.1**	**-0.8**
ANDN	**Andirin**	**1.40**	**155**	*e*P	**Pg**	**19 42 39.0**	**-0.5**
ANDN				*i* S	**Sg**	**19 43 00.3**	**+2.6**
ANDN	**Andirin**	**1.40**	**155**	*e*P	**Pg**	**19 42 39.0**	**-0.5**
ANDN				*i* S	**Sg**	**19 43 00.3**	**+2.6**
CORM	**Corum**	**1.52**	**331**	*e*PN	**Pn**	**19 42 39.6**	**-0.2**
CORM	**Corum**	**1.52**	**331**	*e*Pn	**Pn**	**19 42 39.6**	**-0.2**
SCER	**sogukcermik**	**1.55**	**49**	*e*P	**Pn**	**19 42 39.4**	**-0.8**
SCER	**sogukcermik**	**1.55**	**49**	*e*P	**Pn**	**19 42 39.4**	**-0.8**
TOKT	**Tokat**	**1.63**	**26**	*e*PN	**Pn**	**19 42 41.2**	**-0.2**
TOKT	**Tokat**	**1.63**	**26**	*e*Pn	**Pn**	**19 42 41.2**	**-0.1**
KARA	**Karaisali**	**1.65**	**195**	*e*PN	**Pn**	**19 42 41.5**	**-0.1**
KARA	**Karaisali**	**1.65**	**195**	*e*Pn	**Pn**	**19 42 41.5**	**-0.1**
KMRS	**Kahramanmaras**	**1.69**	**142**	*e*PN	**Pn**	**19 42 42.1**	**-0.1**
KMRS	**Kahramanmaras**	**1.69**	**142**	*e*Pn	**Pn**	**19 42 42.1**	**-0.1**
DARE	**Darende-Malaty**	**1.72**	**86**	*e*PN	**Pn**	**19 42 39.0**	**-3.5**
SULT	**Sultanhani-AKS**	**1.76**	**249**	*e*PN	**Pn**	**19 42 43.2**	**+0.1**
SULT	**Sultanhani-AKS**	**1.76**	**249**	*e*Pn	**Pn**	**19 42 43.2**	**+0.1**
CEYT	**Ceyhan**	**1.85**	**176**	*e*PN	**Pn**	**19 42 44.1**	**-0.1**
CEYT	**Ceyhan**	**1.85**	**176**	*e*Pn	**Pn**	**19 42 44.2**	**-0.1**
CTKT	**Corum**	**1.87**	**341**	*e*P	**Pn**	**19 42 44.7**	**+0.1**
CTKT				*i* S	**Sn**	**19 43 02.1**	**-6.2**
CTKT	**Corum**	**1.87**	**341**	*e*P	**Pn**	**19 42 44.7**	**+0.1**
AKCD	**Akcadag**	**1.90**	**106**	*e*P	**Pg**	**19 42 47.0**	**-2.1**
AKCD				*i* S	**Sg**	**19 43 15.6**	**+1.9**
AKCD	**Akcadag**	**1.90**	**106**	*e*P	**Pg**	**19 42 47.0**	**-2.0**
RSDY	**Resadiye-TOKAT**	**2.03**	**40**	*e*PN	**Pn**	**19 42 46.5**	**-0.3**
RSDY	**Resadiye-TOKAT**	**2.03**	**40**	*e*Pn	**Pn**	**19 42 46.5**	**-0.4**
AFSR	**Af˙ar-Bala (A**	**2.06**	**287**	*e*PN	**Pn**	**19 42 47.2**	**+0.1**
AFSR	**Af˙ar-Bala (A**	**2.06**	**287**	*e*Pn	**Pn**	**19 42 47.2**	**+0.1**
GAZ	**Gaziantep**	**2.11**	**142**	*e*PN	**Pn**	**19 42 48.0**	**+0.1**
GAZ	**Gaziantep**	**2.11**	**142**	*e*Pn	**Pn**	**19 42 48.0**	**+0.1**
MERS	**Mersin**	**2.16**	**204**	*e*PN	**Pn**	**19 42 48.8**	**+0.2**
MERS	**Mersin**	**2.16**	**204**	*e*Pn	**Pn**	**19 42 48.8**	**+0.2**
MYA	**Malataya**	**2.27**	**103**	*e*PN	**Pn**	**19 42 50.0**	**-0.1**
MYA	**Malataya**	**2.27**	**103**	*e*Pn	**Pn**	**19 42 50.0**	**-0.2**
KEMA	**Kemaliye**	**2.29**	**79**	*e*P	**Pn**	**19 42 50.8**	**+0.5**
KEMA				*i* S	**Pg**	**19 42 56.1**	**-0.3**
KEMA	**Kemaliye**	**2.29**	**79**	*e*P	**Pn**	**19 42 50.8**	**+0.5**
CANT	**Cankiri**	**2.32**	**319**	*e*PN	**Pn**	**19 42 51.1**	**+0.2**
LOD	**Lodumlu**	**2.43**	**296**	*e*PN	**Pn**	**19 42 52.6**	**+0.3**
LOD	**Lodumlu**	**2.43**	**296**	*e*Pn	**Pn**	**19 42 52.6**	**+0.3**
TOS	**Tosya**	**2.49**	**331**	*e*PN	**Pn**	**19 42 53.4**	**+0.3**
TOS	**Tosya**	**2.49**	**331**	*e*Pn	**Pn**	**19 42 53.4**	**+0.2**
KONT	**Konya--Tatoy**	**2.71**	**251**	*e*PN	**Pn**	**19 42 56.5**	**+0.5**
KONT	**Konya--Tatoy**	**2.71**	**251**	*e*Pn	**Pn**	**19 42 56.6**	**+0.5**
HTY	**Hatay**	**2.76**	**171**	*e*PN	**Pn**	**19 42 57.4**	**+0.5**
HTY	**Hatay**	**2.76**	**171**	*e*Pn	**Pn**	**19 42 57.4**	**+0.5**
URFA	**Urfa**	**2.91**	**118**	*e*PN	**Pn**	**19 42 59.2**	**+0.4**
URFA	**Urfa**	**2.91**	**118**	*e*Pn	**Pn**	**19 42 59.2**	**+0.4**
KIZT	**Kizilcal**	**2.91**	**272**	*e*PN	**Pn**	**19 42 59.3**	**+0.5**
KIZT	**Kizilcal**	**2.91**	**272**	*e*Pn	**Pn**	**19 42 59.3**	**+0.4**
SVRC	**Sivrice-ELAZID**	**2.94**	**98**	*e*PN	**Pn**	**19 42 59.7**	**+0.4**
SVRC	**Sivrice-ELAZID**	**2.94**	**98**	*e*Pn	**Pn**	**19 42 59.7**	**+0.4**
PTK	**Pertek**	**2.96**	**88**	*e*PN	**Pn**	**19 42 59.7**	**+0.2**
PTK	**Pertek**	**2.96**	**88**	*e*Pn	**Pn**	**19 42 59.7**	**+0.1**
HDMB	**Hadim**	**3.11**	**233**	*e*PN	**Pn**	**19 43 02.3**	**+0.7**
HDMB	**Hadim**	**3.11**	**233**	*e*Pn	**Pn**	**19 43 02.3**	**+0.7**
ESPY	**Espiye-Giresun**	**3.16**	**48**	*e*PN	**Pn**	**19 43 03.0**	**+0.6**
ESPY	**Espiye-Giresun**	**3.16**	**48**	*e*Pn	**Pn**	**19 43 03.0**	**+0.6**
SVRH	**Sivrihisar-ESK**	**3.23**	**282**	*e*PN	**Pn**	**19 43 04.0**	**+0.8**
SVRH	**Sivrihisar-ESK**	**3.23**	**282**	*e*Pn	**Pn**	**19 43 04.0**	**+0.8**
SAFT	**Safranbolu**	**3.27**	**318**	*e*PN	**Pn**	**19 43 04.5**	**+0.7**
SAFT	**Safranbolu**	**3.27**	**318**	*e*Pn	**Pn**	**19 43 04.5**	**+0.7**
ERZN	**Erzincan**	**3.28**	**76**	*e*PN	**Pn**	**19 43 04.5**	**+0.5**
GUMT	**Gumushane**	**3.39**	**61**	*e*PN	**Pn**	**19 43 06.2**	**+0.7**
GUMT	**Gumushane**	**3.39**	**61**	*e*Pn	**Pn**	**19 43 06.2**	**+0.7**
MDU	**Mudurnu**	**3.75**	**297**	*e*PN	**Pn**	**19 43 11.3**	**+0.9**
MDU	**Mudurnu**	**3.75**	**297**	*e*Pn	**Pn**	**19 43 11.3**	**+0.9**
ESKT	**Eskisehir**	**3.75**	**282**	*e*PN	**Pn**	**19 43 11.5**	**+1.0**
ESKT	**Eskisehir**	**3.75**	**282**	*e*Pn	**Pn**	**19 43 11.5**	**+1.0**

*ISCJB **12** 20:17:32.8±0.8, 53°.75N±0°.03×161°.64E±0°.07, h15km±7km, mb3.4/2, Error ellipse: s-maj=7.5km s-min=3.7km az=35.7*
*IDC **12** 20:17:33.0±1.3, 53°.89N×161°.72E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.3/27, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=72.5km s-min=13.7km az=4.0*
*NEIC **12** 20:17:33.7±0.8, 53°.59N×161°.69E, h10km, Error ellipse: s-maj=52.0km s-min=10.8km az=173.0*
*MOS **12** 20:17:34.8±0.4, 53°.68N×161°.74E, h35km, mb4.2/1, Error ellipse: s-maj=99.9km s-min=36.8km az=166.1*
*KRSC **12** 20:17:35.0±0.1, 53°.79N×161°.59E, h38km±28km, ML4.0*
ISC 12 20:17:33.0±0.9, **53°.77N**±0°.03×**161°.54E**±0°.07, **h5km**±6km, **n34,** σ1**914**/52, **mb3.4**/2, **Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.80**	**8**	*e*P	**Pg**	**20 17 47.7**	**-0.6**
MKZ				*e*S	**Sg**	**20 17 57.4**	**-1.3**
SPN	**Mys Shipunski**	**1.13**	**234**	*e*P	**Pb**	**20 17 54.3**	**-0.6**
SPN				*e*S	**Sg**	**20 18 08.6**	**-0.6**
KII	**Karymskiy**	**1.27**	**283**	*e*P	**Pn**	**20 17 56.3**	**-1.1**
KII				*e*S	**Sb**	**20 18 10.7**	**-3.3**
NLC	**Nalytchevo**	**1.44**	**247**	*e*P	**Pn**	**20 17 58.9**	**-0.8**
NLC				*e*S	**Sn**	**20 18 17.2**	**-1.8**
TUMR	**Tumrok**	**1.73**	**332**	*e*P	**Pn**	**20 18 03.4**	**-0.2**
TUMR				*e*S	**Sn**	**20 18 24.4**	**-1.7**
AVH	**Avacha**	**1.75**	**254**	*e*P	**Pn**	**20 18 04.3**	**+0.4**
AVH				*e*S	**Sn**	**20 18 25.9**	**-0.7**
PET	**Petropavlovsk**	**1.88**	**248**	*e*P	**Pn**	**20 18 04.9**	**-0.9**
PET	**Petropavlovsk**	**1.88**	**248**	*e*PN	**Pn**	**20 18 06.0**	**+0.2**
PET				*e*S	**Sn**	**20 18 27.6**	**-2.3**
PET				pmax	pmax		
	comp=Z,46nm,0.3s						
PET				smax			
	comp=N,284nm,0.6s						
KMNR	**Kamenistaya**	**2.13**	**340**	*e*P	**Pn**	**20 18 10.8**	**+1.5**
KMNR				*e*S	**Sn**	**20 18 37.0**	**+0.9**
GNL	**Ganaly**	**2.14**	**270**	*e*P	**Pn**	**20 18 10.3**	**+1.0**
GNL				*e*S	**Sn**	**20 18 36.9**	**+0.6**
RUS	**Russkaya**	**2.26**	**235**	P	**Pn**	**20 18 11.9**	**+0.9**
RUS				*e*S	**Sn**	**20 18 39.3**	**0.0**
PEA0B	**Petropavlovsk-**	**2.39**	**256**	*e*P	**Pn**	**20 18 14.6**	**+1.8**
PETK	**Petropavlovsk-**	**2.39**	**256**	Pn	**Pn**	**20 18 14.1**	**+1.4**
	comp=N,6.2nm,0.3s,baz=84,slow=18,SNR=44						
PETK				Sn	**Sn**	**20 18 42.7**	**+0.3**
	comp=N,6.3nm,0.3s,baz=261,slow=18,SNR=8.2						
PETK	**Petropavlovsk-**	**2.39**	**256**	Pn	**Pn**	**20 18 14.1**	**+1.4**
PETK				Sn	**Sn**	**20 18 42.7**	**+0.3**
PETK	**Petropavlovsk-**	**2.39**	**256**	PN	**Pn**	**20 18 14.1**	**+1.3**
PETK						20 18 42.7	
PETK				pmax	pmax		
	comp=Z,6.0nm,0.3s						
PETK				smax			
	comp=N,6.0nm,0.3s						
GRL	**Gorelyy**	**2.42**	**241**	P	**Pn**	**20 18 16.0**	**+2.9**
KOZ	**Kozyrevsk**	**2.49**	**338**	*e*P	**Pn**	**20 18 15.5**	**+1.3**
KOZ				*e*S	**Sn**	**20 18 44.8**	**-0.1**
KBTR	**Krutoberegovo**	**2.56**	**16**	*e*P	**Pn**	**20 18 14.1**	**-1.0**
KLY	**Klyuchi**	**2.60**	**349**	*e*S	**Sn**	**20 18 46.8**	**-0.9**
SRDR	**Sredinnyy**	**2.77**	**338**	*e*P	**Pn**	**20 18 18.2**	**+0.3**
BDR	**Baidarnaya**	**2.82**	**356**	*e*P	**Pn**	**20 18 20.2**	**+1.6**
BDR				*e*S	**Sn**	**20 18 53.1**	**+0.2**
SMKR	**Semkarok**	**2.82**	**359**	*e*P	**Pn**	**20 18 19.7**	**+1.0**
SMKR				*e*S	**Sn**	**20 18 52.8**	**-0.3**
SRKR	**Sorokina**	**2.90**	**356**	*e*P	**Pn**	**20 18 20.9**	**+1.1**
BKI	**Bering**	**2.96**	**59**	*e*P	**Pn**	**20 18 19.0**	**-1.6**
BKI				*e*S	**Sn**	**20 18 50.3**	**-6.1**
MIPR	**Malaya Ipel'ka**	**3.25**	**245**	*e*P	**Pn**	**20 18 28.5**	**+3.9**
FX1	**Attu Island--F**	**7.02**	**93**	Pn	**Pn**	**20 19 15.8**	**-0.5**
	comp=N,2.3nm,0.3s,baz=223,slow=15,SNR=9.8						
FX1				Sn	**Sn**	**20 20 29.4**	**-7.1**
	comp=N,3.5nm,0.3s,baz=40,slow=23,SNR=7.3						
FX1	**Attu Island--F**	**7.02**	**93**	Pn	**Pn**	**20 19 15.8**	**-0.5**
FX1				Sn	**Sn**	**20 20 29.4**	**-7.1**
FX1	**Attu Island--F**	**7.02**	**93**	PN	**Pn**	**20 19 15.9**	**-0.4**
FX1				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR	**Makanchi Array**	**48.64**	**296**	P	**P**	**20 26 18.9**	**+1.4**
	comp=Z,0.2nm,0.5s,mb3.4,baz=52,slow=9.5,SNR=2.7						
MKAR	**Makanchi Array**	**48.64**	**296**	P	**P**	**20 26 18.9**	**+1.4**
MKAR	**Makanchi Array**	**48.64**	**296**	P	**P**	**20 26 18.9**	**+1.4**
TXAR	**Lajitas Array**	**69.58**	**68**	P	**P**	**20 28 41.8**	**-1.1**
	comp=Z,0.3nm,0.5s,mb3.5,baz=303,slow=4.8,SNR=5.3						
TXAR	**Lajitas Array**	**69.58**	**68**	P	**P**	**20 28 41.8**	**-1.1**
TXAR	**Lajitas Array**	**69.58**	**68**	P	**P**	**20 28 41.8**	**-1.1**

IDC 12 20:29:28.4±8.5, **14°.69S×174°.35W**, **h0km**, **mb3.5**/2, **mb1 3.8**/2, **mb1mx3.5**/18, **mbtmp3.5**/2, **Error ellipse: s-maj=356.7km s-min=65.8km az=138.0, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**49.12**	**256**	P	P	20 38 18.2	0.0
	0.2nm,0.4s,baz=91,slow=6.9,SNR=9.4						
ASAR	**Alice Springs**	**49.47**	**251**	P	P	20 38 20.6	-0.2
	0.7nm,0.5s,baz=87,slow=7.9,SNR=14						
BRTR	**Keskin Array B**	**145.03**	**321**	PKPbc	PKPbc	20 49 06.8	-0.5
	0.8nm,1.0s,baz=64,slow=3.4,SNR=3.5						

*ISCJB **12** 20:40:34.7±0.6, 38°.90N±0°.05×40°.35E±0°.04, h11km±5km, Error ellipse: s-maj=7.8km s-min=4.8km az=171.8*
*ISK **12** 20:40:34.8, 38°.88N×40°.34E, h6km, MD2.6*
*CSEM **12** 20:40:35.1±0.3, 38°.87N×40°.33E, h2km, MD2.6, Error ellipse: s-maj=8.7km s-min=5.1km az=158.0*
*DDA **12**

HILG	Hillesheim	1.18 176	ePg	Pg	20 57 18.8	+1.5
HILG			eSg	Sg	20 57 34.9	+2.4
	comp=N,353nm,0.5s					
HILG	Hillesheim	1.18 176	Pg	Pg	20 57 18.8	+1.5
HILG			Sg	Sg	20 57 34.9	+2.4
	comp=N,353nm,0.5s					
KOE	Koeppel	1.28 144	⇓ePg	Pg	20 57 20.1	+0.8
KOE			eSg	Sg	20 57 37.3	+1.3
	comp=N,190nm,0.3s					
KOE	Koeppel	1.28 144	Pg	Pg	20 57 20.1	+0.7
KOE			Sg	Sg	20 57 37.3	+1.3
	comp=N,190nm,0.3s					
BCLA	Clavier	1.30 217	⇓P	Pg	20 57 20.3	+0.5
BCLA			S	Sg	20 57 37.4	+0.7
	comp=Z,76nm,0.4s					
BCLA	Clavier	1.30 217	P	Pg	20 57 20.3	+0.5
BCLA			S	Sg	20 57 37.4	+0.7
	comp=Z,76nm,0.4s					
BGG	Burgeitz	1.36 158	ePg	Pg	20 57 20.9	+0.1
BGG	Burgeitz	1.36 158	Pg	Pg	20 57 20.9	+0.1
ABH	Alteburg	1.71 158	Pn	Pn	20 57 26.0	+0.2
ABH			Pg	Pg	20 57 27.8	+0.3
ABH			Sg	Sg	20 57 47.1	-2.5
ABH	Alteburg	1.71 158	Pn	Pn	20 57 26.0	+0.2
SNF	Seneffe	1.72 237	P	Pn	20 57 26.2	+0.4
SNF	Seneffe	1.72 237	P	Pn	20 57 26.2	+0.3
TNS	Taunus Mts	1.73 135	ePn	Pn	20 57 26.3	+0.1
TNS			ePg	Pg	20 57 28.6	+0.7
TNS			eSg	Sg	20 57 49.6	-0.8
TNS	Taunus Mts	1.73 135	Pn	Pn	20 57 26.3	+0.2
GIVF	Givet	1.74 219	ePn	Pn	20 57 26.7	+0.4
GIVF	Givet	1.74 219	ePg	Pg	20 57 29.9	+1.7
GIVF			eSn	Sn	20 57 49.0	-0.2
	comp=Z,135nm,0.3s					
GIVF	Givet	1.74 219	ePn	Pn	20 57 26.7	+0.4
GIVF			ePg	Pg	20 57 29.9	+1.7
GIVF			eSn	Sn	20 57 49.0	-0.2
GIVF	Givet	1.74 219	ePn	Pn	20 57 26.7	+0.4
GIVF	Givet	1.74 219	ePg	Pg	20 57 29.9	+1.7
GIVF			eSn	Sn	20 57 49.0	-0.2
	comp=Z,68nm,0.3s					
RUP	Ruppelstein	1.79 169	Pg	Pg	20 57 28.9	-0.2
RUP			Sg	Sg	20 57 50.9	-1.5
RUP	Ruppelstein	1.79 169	Pg	Pg	20 57 29.9	+0.8
RUP			Sg	Sg	20 57 50.9	-1.5
WLF	Walferdange	1.82 188	P	Pn	20 57 28.7	+1.4
WLF	Walferdange	1.82 188	ePn	Pn	20 57 29.0	+1.7
WLF			eSn	Sn	20 57 52.8	+1.9
WLF	Walferdange	1.82 188	ePn	Pn	20 57 28.6	+1.4
WLF			eSg	Sg	20 57 53.4	+0.3
WLF	Walferdange	1.82 188	P	Pn	20 57 28.6	+1.3
WLF			eSn	Sn	20 57 52.8	+1.8
WLF			Sg	Sg	20 57 53.4	+0.3
DOU	Dourbes	1.84 223	⇓P	Pn	20 57 28.1	+0.4
DOU	Dourbes	1.84 223	P	Pn	20 57 28.0	+0.4
BAIF	Baives	2.04 227	ePn	Pn	20 57 30.6	+0.2
BAIF	Baives	2.04 227	ePg	Pg	20 57 35.2	+1.3
BAIF			eSn	Sn	20 57 55.7	-0.8
	comp=Z,50nm,0.3s					
BAIF	Baives	2.04 227	ePn	Pn	20 57 30.6	+0.2
BAIF			ePg	Pg	20 57 35.2	+1.3
BAIF			eSn	Sn	20 57 55.7	-0.8
BAIF	Baives	2.04 227	ePn	Pn	20 57 30.6	+0.2
BAIF	Baives	2.04 227	ePg	Pg	20 57 35.2	+1.3
BAIF			eSn	Sn	20 57 55.7	-0.8
	comp=Z,25nm,0.3s					
GTTG	Gvttingen	2.14 86	eSg	Sg	20 58 02.9	-0.6
GTTG	Gvttingen	2.14 86	Sg	Sg	20 58 02.9	-0.7
UBBA	Unterbreizbach	2.27 105	ePg	Pg	20 57 37.0	-1.4
UBBA			eSg	Sg	20 58 06.6	-1.1
UBBA	Unterbreizbach	2.27 105	Pg	Pg	20 57 37.0	-1.3
UBBA			Sg	Sg	20 58 06.6	-1.2
TOD	Tromm	2.35 141	Pg	Pg	20 57 37.7	-2.2
TOD			Sg	Sg	20 58 05.3	-5.1
TOD	Tromm	2.35 141	Pg	Pg	20 57 37.7	-2.2
CLZ	Clausthal	2.42 79	ePn	Pn	20 57 34.6	-0.9
CLZ			ePg	Pg	20 57 41.1	0.0
CLZ			eSg	Sg	20 58 10.7	-1.7
CLZ	Clausthal	2.42 79	Pn	Pn	20 57 34.6	-0.9
NRDL	Niedersach Rie	2.44 64	ePg	Pg	20 57 40.8	-0.6
NRDL	Niedersach Rie	2.44 64	Pg	Pg	20 57 40.8	-0.7
LANF	Langenberg	2.61 161	Pn	Pn	20 57 38.0	-0.2
LANF	Langenberg	2.61 161	Pg	Pg	20 57 45.5	+0.6
LANF			Sg	Sg	20 58 16.5	-2.2
LANF	Langenberg	2.61 161	Pn	Pn	20 57 38.0	-0.2
LANF	Langenberg	2.61 161	Pg	Pg	20 57 45.5	+0.6
LANF			Sg	Sg	20 58 16.5	-2.2
PAGF	Fort de Pagny	2.96 191	ePn	Pn	20 57 43.2	+0.3
	baz=13					
PAGF	Fort de Pagny	2.96 191	ePg	Pg	20 57 51.9	+0.5
	baz=6.1					
PAGF			eSg	Sg	20 58 30.8	+1.0
	comp=Z,14nm,0.6s					
PAGF	Fort de Pagny	2.96 191	ePn	Pn	20 57 43.2	+0.3
	baz=13					
PAGF	Fort de Pagny	2.96 191	ePg	Pg	20 57 51.9	+0.5
	baz=6.1					
PAGF			eSg	Sg	20 58 30.8	+1.0
	comp=Z,7.1nm,0.6s					
CDF	Champ du Feu	3.09 171	ePn	Pn	20 57 44.8	0.0
CDF	Champ du Feu	3.09 171	ePg	Pg	20 57 54.1	+0.1
CDF			eSn	Sn	20 58 20.4	-2.0
CDF			eSg	Sg	20 58 34.5	+0.5
	comp=Z,25nm,0.5s					
CDF	Champ du Feu	3.09 171	ePn	Pn	20 57 44.8	0.0
CDF			ePg	Pg	20 57 54.1	+0.1
CDF			eSn	Sn	20 58 20.4	-2.0
CDF			eSg	Sg	20 58 34.5	+0.5
CDF	Champ du Feu	3.09 171	ePn	Pn	20 57 44.8	0.0
CDF	Champ du Feu	3.09 171	ePg	Pg	20 57 54.1	+0.1
CDF			eSn	Sn	20 58 20.4	-2.0
CDF			eSg	Sg	20 58 34.5	+0.5
	comp=Z,13nm,0.5s					
MEZF	Maizieres J'vi	3.12 199	ePn	Pn	20 57 45.2	+0.1
	baz=19					
MEZF			eSg	Sg	20 58 35.9	+1.1
	comp=Z,39nm,0.4s					
MEZF	Maizieres J'vi	3.12 199	ePn	Pn	20 57 45.2	+0.1
MEZF			eSg	Sg	20 58 35.9	+1.1
MEZF	Maizieres J'vi	3.12 199	ePn	Pn	20 57 45.2	+0.1
	baz=19					
MEZF			eSg	Sg	20 58 35.9	+1.1
	comp=Z,20nm,0.4s					
THEF	They Montfort	3.26 187	Pn	Pn	20 57 47.9	+0.8
THEF			Pg	Pg	20 57 57.7	+0.5
THEF			Sg	Sg	20 58 40.5	+1.1
THEF	They Montfort	3.26 187	Pn	Pn	20 57 47.9	+0.8
THEF	They Montfort	3.26 187	Pg	Pg	20 57 58.7	+1.5
THEF			Sg	Sg	20 58 40.5	+1.1
THEF	They Montfort	3.26 187	Pn	Pn	20 57 47.9	+0.8
THEF	They Montfort	3.26 187	Pg	Pg	20 57 58.7	+1.5
THEF			Sg	Sg	20 58 40.5	+1.1
MOX	Moxa	3.31 102	ePn	Pn	20 57 47.9	+0.2
MOX			ePg	Pg	20 57 57.1	-1.0
MOX			eSg	Sg	20 58 39.2	-1.7
MOX	Moxa	3.31 102	Pn	Pn	20 57 47.9	+0.2
BFO	Black Forest	3.34 159	ePn	Pn	20 57 48.3	+0.1
BFO	Black Forest	3.34 159	ePn	Pn	20 57 48.6	+0.4
BFO			eSn	Sn	20 58 26.5	-2.1
BFO			eSg	Sg	20 58 41.3	-0.8
BFO	Black Forest	3.34 159	ePn	Pn	20 57 48.3	+0.1
BFO			Sn	Sn	20 58 26.5	-2.1
BFO			Sg	Sg	20 58 41.3	-0.8
SFTF	Sexfontaines	3.40 197	ePn	Pn	20 57 49.1	0.0
	baz=7.0					
SFTF	Sexfontaines	3.40 197	ePg	Pg	20 58 00.4	+0.4
SFTF			eSg	Sg	20 58 44.8	+0.8
	comp=Z,34nm,0.4s					
SFTF	Sexfontaines	3.40 197	ePn	Pn	20 57 49.1	0.0
SFTF			ePg	Pg	20 58 00.4	+0.4
SFTF			eSg	Sg	20 58 44.8	+0.8
SFTF	Sexfontaines	3.40 197	ePn	Pn	20 57 49.1	0.0
	baz=7.0					
SFTF	Sexfontaines	3.40 197	ePg	Pg	20 58 00.4	+0.4
SFTF			eSg	Sg	20 58 44.8	+0.8
	comp=Z,17nm,0.4s					
HAU	Haudompre	3.46 182	ePn	Pn	20 57 49.8	-0.1
HAU	Haudompre	3.46 182	ePg	Pg	20 58 01.3	+0.2
HAU			eSn	Sn	20 58 29.8	-1.8
HAU			eSg	Sg	20 58 46.6	+0.6
	comp=Z,28nm,0.4s					
HAU	Haudompre	3.46 182	ePn	Pn	20 57 49.8	-0.1
HAU			ePg	Pg	20 58 01.3	+0.2
HAU			eSn	Sn	20 58 29.8	-1.8
HAU			eSg	Sg	20 58 46.6	+0.6
HAU	Haudompre	3.46 182	ePn	Pn	20 57 49.8	-0.1
HAU	Haudompre	3.46 182	ePg	Pg	20 58 01.3	+0.2
HAU			eSn	Sn	20 58 29.8	-1.8
HAU			eSg	Sg	20 58 46.6	+0.6
	comp=Z,14nm,0.4s					
GRA1	Grafenberg Arr	3.47 119	Pn	Pn	20 57 50.5	+0.5
GRA1	Grafenberg Arr	3.47 119	Pg	Pg	20 58 01.7	+0.4
GRF	Grafenberg Arr	3.47 119	ePn	Pn	20 57 50.5	+0.5
GRF			ePg	Pg	20 58 01.7	+0.5
MOF	Molkenrain	3.63 174	Pn	Pn	20 57 52.4	+0.1
MOF	Molkenrain	3.63 174	Pn	Pn	20 57 52.4	+0.1
HINF	Hinteralfeld	3.66 177	ePn	Pn	20 57 52.4	-0.1
HINF	Hinteralfeld	3.66 177	ePg	Pg	20 58 04.5	-0.3
HINF			eSn	Sn	20 58 34.1	-2.2
HINF			eSg	Sg	20 58 52.3	+0.1
	comp=Z,20nm,0.6s					
HINF	Hinteralfeld	3.66 177	ePn	Pn	20 57 52.4	-0.1
HINF			ePg	Pg	20 58 04.5	-0.3
HINF			eSn	Sn	20 58 34.1	-2.2
HINF			eSg	Sg	20 58 52.3	+0.1
HINF	Hinteralfeld	3.66 177	ePn	Pn	20 57 52.4	-0.1
HINF	Hinteralfeld	3.66 177	ePg	Pg	20 58 04.5	-0.3
HINF			eSn	Sn	20 58 34.1	-2.2
HINF			eSg	Sg	20 58 52.3	+0.1
	comp=Z,10nm,0.6s					
FELD	Feldberg im Sc	3.71 165	Pn	Pn	20 57 53.5	+0.2
FELD			Sg	Sg	20 58 52.6	-1.4
GUNZ	Gunzen	3.83 104	ePn	Pn	20 57 55.1	+0.2
GUNZ			ePg	Pg	20 58 07.0	-1.1
GUNZ	Gunzen	3.83 104	Pn	Pn	20 57 55.1	+0.2
ROTZ	Rotzenmuhle	3.99 113	ePn	Pn	20 57 57.3	+0.2
ROTZ			ePg	Pg	20 58 11.1	-0.1
ROTZ			eSg	Sg	20 59 03.5	+0.7
ROTZ	Rotzenmuhle	3.99 113	Pn	Pn	20 57 57.3	+0.2
CLL	Collm	4.05 90	ePn	Pn	20 57 58.1	+0.1
CLL			eSg	Sg	20 59 03.9	-1.0
CLL	Collm	4.05 90	ePg	Pg	20 58 09.0	-3.4
CLL			eSg	Sg	20 59 03.0	-1.9
	comp=Z,9.0nm,0.8s					
CLL	Collm	4.05 90	Pn	Pn	20 57 58.1	+0.1
CLL			Sg	Sg	20 59 03.9	-1.0
LOR	Lormes	4.55 204	ePn	Pn	20 58 04.8	0.0
	baz=27					
LOR	Lormes	4.55 204	ePg	Pg	20 58 21.8	-0.1
	baz=28					
LOR			eSn	Sn	20 58 55.9	-2.4
LOR			eSg	Sg	20 59 20.3	-0.5
	comp=Z,23nm,0.4s					
LOR	Lormes	4.55 204	ePn	Pn	20 58 04.8	0.0
LOR			ePg	Pg	20 58 21.8	-0.1
LOR			eSn	Sn	20 58 55.9	-2.4
LOR			eSg	Sg	20 59 20.3	-0.5
LOR	Lormes	4.55 204	ePn	Pn	20 58 04.8	0.0
	baz=27					
LOR	Lormes	4.55 204	ePg	Pg	20 58 21.8	-0.1
	baz=28					
LOR			eSn	Sn	20 58 55.9	-2.4
LOR			eSg	Sg	20 59 20.3	-0.5
	comp=Z,11nm,0.4s					
BRG	Berggiesshubel	4.70 94	PG	Pg	20 58 21.4	-3.4
BRG			SG	Sg	20 59 24.5	-1.1
	comp=Z,6.6nm,0.8s					
DAVA	Damuels	4.71 151	⇓iPn	Pn	20 58 08.7	+1.6
DAVA			⇑iSn	Sn	20 59 02.5	+0.1
DAVA	Damuels	4.71 151	Pn	Pn	20 58 08.7	+1.6
DAVA			Sn	Sn	20 59 02.5	+0.1
SSF	Saint Saulge	4.83 205	ePn	Pn	20 58 08.2	-0.5
SSF			eSn	Sn	20 59 02.8	-2.5
SSF			eSg	Sg	20 59 29.3	-0.6
	comp=Z,20nm,0.4s					
SSF	Saint Saulge	4.83 205	ePn	Pn	20 58 08.2	-0.5
SSF			eSn	Sn	20 59 02.8	-2.5
SSF			eSg	Sg	20 59 29.3	-0.6
SSF	Saint Saulge	4.83 205	ePn	Pn	20 58 08.2	-0.5
SSF			eSn	Sn	20 59 02.8	-2.5
SSF			eSg	Sg	20 59 29.3	-0.6
	comp=Z,10nm,0.4s					
RETA	Reutte	4.84 144	⇑iPn	Pn	20 58 10.0	+1.2
RETA			⇓iSn	Sn	20 59 04.3	-1.2
RETA	Reutte	4.84 144	Pn	Pn	20 58 10.0	+1.2
RETA			Sn	Sn	20 59 04.3	-1.1
CABF	La Chapelle	4.87 184	ePn	Pn	20 58 08.8	-0.4
CABF			eSg	Sg	20 59 30.3	-0.7
	comp=Z,35nm,0.8s					
CABF	La Chapelle	4.87 184	ePn	Pn	20 58 08.8	-0.4
CABF			eSg	Sg	20 59 30.3	-0.7
CABF	La Chapelle	4.87 184	ePn	Pn	20 58 08.8	-0.4
CABF			eSg	Sg	20 59 30.3	-0.7
	comp=Z,17nm,0.8s					
HYF	Humbligny	4.91 213	ePn	Pn	20 58 09.7	-0.1
HYF			eSn	Sn	20 59 04.5	-2.7
HYF			eSg	Sg	20 59 32.2	-0.2
HYF	Humbligny	4.91 213	ePn	Pn	20 58 09.7	-0.1
HYF			eSn	Sn	20 59 04.5	-2.7
HYF			eSg	Sg	20 59 32.2	-0.2
HYF	Humbligny	4.91 213	ePn	Pn	20 58 09.7	-0.1
HYF			eSn	Sn	20 59 04.5	-2.7
HYF			eSg	Sg	20 59 32.2	-0.2
AVF	Avril sur Loir	5.12 205	ePn	Pn	20 58 12.3	-0.4
AVF			eSn	Sn	20 59 09.4	-3.1
AVF			eSg	Sg	20 59 38.9	-0.3
	comp=Z,21nm,0.8s					
AVF	Avril sur Loir	5.12 205	ePn	Pn	20 58 12.3	-0.4
AVF			eSn	Sn	20 59 09.4	-3.1
AVF			eSg	Sg	20 59 38.9	-0.3
AVF	Avril sur Loir	5.12 205	ePn	Pn	20 58 12.3	-0.4
AVF			eSn	Sn	20 59 09.4	-3.1
AVF			eSg	Sg	20 59 38.9	-0.3
	comp=Z,11nm,0.8s					
SMF	Signal de Mont	5.14 201	ePn	Pn	20 58 12.5	-0.4
SMF			eSn	Sn	20 59 09.8	-3.0
SMF			eSg	Sg	20 59 38.8	-0.9
	comp=Z,14nm,0.4s					
SMF	Signal de Mont	5.14 201	ePn	Pn	20 58 12.5	-0.4
SMF			eSn	Sn	20 59 09.8	-3.0
SMF			eSg	Sg	20 59 38.8	-0.9
SMF	Signal de Mont	5.14 201	ePn	Pn	20 58 12.5	-0.4
SMF			eSn	Sn	20 59 09.8	-3.0
SMF			eSg	Sg	20 59 38.8	-0.9
	comp=Z,7.1nm,0.4s					
LDF	La Druitiere	5.17 239	ePn	Pn	20 58 13.1	-0.2
LDF			eSn	Sn	20 59 10.6	-2.9
LDF			eSg	Sg	20 59 39.9	-0.7
	comp=Z,9.9nm,0.4s					
LDF	La Druitiere	5.17 239	ePn	Pn	20 58 13.1	-0.2
LDF			eSn	Sn	20 59 10.6	-2.9
LDF			eSg	Sg	20 59 39.9	-0.7
LDF	La Druitiere	5.17 239	ePn	Pn	20 58 13.1	-0.2
LDF			eSn	Sn	20 59 10.6	-2.9
LDF			eSg	Sg	20 59 39.9	-0.7
	comp=Z,4.9nm,0.4s					
FETA	Feichten	5.22 147	⇑iPn	Pn	20 58 15.4	+1.3
FETA			⇑iSn	Sn	20 59 15.3	+0.3
FETA	Feichten	5.22 147	Pn	Pn	20 58 15.4	+1.3
FETA			Sn	Sn	20 59 15.3	+0.4
FLN	La Foliniere	5.26 242	ePn	Pn	20 58 14.4	-0.2
	baz=55					
FLN			eSn	Sn	20 59 12.3	-3.6
FLN			eSg	Sg	20 59 42.7	-1.1
	comp=Z,11nm,0.4s					
FLN	La Foliniere	5.26 242	ePn	Pn	20 58 14.4	-0.2
FLN			eSn	Sn	20 59 12.3	-3.6
FLN			eSg	Sg	20 59 42.7	-1.1
FLN	La Foliniere	5.26 242	ePn	Pn	20 58 14.4	-0.2
	baz=55					
FLN			eSn	Sn	20 59 12.3	-3.6
FLN			eSg	Sg	20 59 42.7	-1.1
	comp=Z,5.4nm,0.4s					
BGF	Bois d'Agland	5.48 208	ePn	Pn	20 58 17.2	-0.4
BGF			eSn	Sn	20 59 18.1	-3.1
BGF			eSg	Sg	20 59 49.8	-0.8
	comp=Z,28nm,0.4s					
BGF	Bois d'Agland	5.48 208	ePn	Pn	20 58 17.2	-0.4
BGF			eSn	Sn	20 59 18.1	-3.1
BGF			eSg	Sg	20 59 49.8	-0.8
BGF	Bois d'Agland	5.48 208	ePn	Pn	20 58 17.2	-0.4
BGF			eSg	Sg	20 59 49.8	-0.8
	comp=Z,14nm,0.4s					
GRR	Gorron	5.68 240	ePn	Pn	20 58 20.0	-0.4
GRR			eSn	Sn	20 59 22.6	-3.7
	comp=Z,14nm,0.3s					
GRR	Gorron	5.68 240	ePn	Pn	20 58 20.0	-0.4
GRR			eSn	Sn	20 59 22.6	-3.7
GRR	Gorron	5.68 240	ePn	Pn	20 58 20.0	-0.4
TCF	Toulx Ste Croi	5.91 211	ePn	Pn	20 58 23.4	-0.1
TCF			eSn	Sn	20 59 28.2	-3.7
TCF			eSg	Sg	21 00 03.4	-1.2
	comp=Z,13nm,0.6s					
TCF	Toulx Ste Croi	5.91 211	ePn	Pn	20 58 23.4	-0.1
TCF			eSn	Sn	20 59 28.2	-3.7
TCF			eSg	Sg	21 00 03.4	-1.2
TCF	Toulx Ste Croi	5.91 211	ePn	Pn	20 58 23.4	-0.1
MOA	Molln	6.18 123	⇑iPn	Pn	20 58 27.5	+0.2
MOA	Molln	6.18 123	Pn	Pn	20 58 27.5	+0.3
KBA	Koelnbreinsper	6.25 132	⇑iPn	Pn	20 58 30.7	+2.5
MFF	Saint Martin d	6.55 225	ePn	Pn	20 58 32.0	-0.3
MFF			eSn	Sn	20 59 43.4	-4.3
	comp=Z,7.3nm,0.5s					
MFF	Saint Martin d	6.55 225	ePn	Pn	20 58 32.0	-0.3
MFF			eSn	Sn	20 59 43.4	-4.3
MFF	Saint Martin d	6.55 225	ePn	Pn	20 58 32.0	-0.3
SGMF	Saint Gilles	6.70 245	ePn	Pn	20 58 33.3	-1.0
SGMF			eSn	Sn	20 59 47.0	-4.3
	comp=Z,2.2nm,0.3s					
SGMF	Saint Gilles	6.70 245	ePn	Pn	20 58 33.3	-1.0
SGMF			eSn	Sn	20 59 47.0	-4.3
SGMF	Saint Gilles	6.70 245	ePn	Pn	20 58 33.3	-1.0
RJF	Les Rejaudoux	7.01 210	ePn	Pn	20 58 38.1	-0.5
RJF			eSn	Sn	20 59 54.6	-4.3
RJF			eSg	Sg	21 00 37.6	-2.2
	comp=Z,5.8nm,0.4s					
RJF	Les Rejaudoux	7.01 210	ePn	Pn	20 58 38.1	-0.5
RJF			eSn	Sn	20 59 54.6	-4.3
RJF			eSg	Sg	21 00 37.6	-2.2
RJF	Les Rejaudoux	7.01 210	ePn	Pn	20 58 38.1	-0.5
QUIF	Quistinic	7.23 244	ePn	Pn	20 58 39.9	-1.7
QUIF			eSn	Sn	20 59 59.6	-4.6
	comp=Z,1.4nm,0.3s					
QUIF	Quistinic	7.23 244	ePn	Pn	20 58 39.9	-1.7
QUIF			eSn	Sn	20 59 59.6	-4.6
QUIF	Quistinic	7.23 244	ePn	Pn	20 58 39.9	-1.7
LFF	La Frestale	7.59 213	ePn	Pn	20 58 45.9	-0.6
LFF			eSn	Sn	21 00 08.2	-5.0
LFF			eSg	Sg	21 00 55.8	-2.5
	comp=Z,11nm,0.6s					
LFF	La Frestale	7.59 213	ePn	Pn	20 58 45.9	-0.6
LFF			eSn	Sn	21 00 08.2	-5.0
LFF			eSg	Sg	21 00 55.8	-2.5
LFF	La Frestale	7.59 213	ePn	Pn	20 58 45.9	-0.6

DJA **12** *21:14:31, 4°.86N×126°.61E, h291km, MLv4.6/4*
ISCJB **12** *21:14:33.7±1.2, 2°.71N±0°.06×128°.6E±0°.1, h236km±11km, mb3.9/15, Error ellipse: s-maj=17.6km s-min=9.1km az=162.4*
IDC **12** *21:14:33.5±6.3, 2°.70N×128°.69E, h219km±68km, mb3.5/11, mb1 3.7/11, mb1mx3.4/21, mbtmp3.5/11, Error ellipse: s-maj=28.8km s-min=12.2km az=76.0*
NEIC **12** *21:14:40.0±2.3, 2°.67N×128°.71E, h291km±25km, mb4.0/6, Error ellipse: s-maj=18.5km s-min=8.3km az=72.0*
ISC 12 21:14:34.7±1.2, 2°.69N±0°.06×128°.6E±0°.1, h228km±11km, n37, σ0§74/39, mb3.9/15, Halmahera

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.24 212	P	Pn	21 15 19.0	+1.2
SGSI	Sangihe	3.18 288	S	S	21 16 09.5	-0.4
MNI	Manado	3.91 252	P	Pn	21 15 37.0	+0.5
MNI			S	S	21 16 24.8	-0.6
KMSI	Cibinong	5.03 245	P	Pn	21 15 49.4	-0.9
	1.4nm4µm110nm,0.6s					
KMSI			S	S	21 16 49.7	-0.5
	1.4nm4µm110nm,0.6s					
LUWI	Luwuk	6.87 237	P	Pn	21 16 15.0	+1.5
	0.3nm974nm18nm,1.2s					
KAPI	Kappang	11.66 229	eP	Pn	21 17 20.6	+6.0
FITZ	Fitzroy Crossi	20.86 188	P	P	21 18 58.0	-1.3
	1.4nm,0.4s,baz=7.1,slow=7.4,SNR=5.4					
FITZ	Fitzroy Crossi	20.86 188	P	P	21 18 58.0	-1.3
WRAB	Tennant Creek	23.19 166	eP	P	21 19 22.2	+0.8
	3.7nm,0.6s,mb4.1					
WRA	Warramunga Arr	23.19 166	P	P	21 19 21.4	0.0
	2.2nm,0.3s,mb4.1,baz=343,slow=10,SNR=20					
WRA	Warramunga Arr	23.19 166	P	P	21 19 21.4	0.0
MBWA	Marble Bar	25.23 200	eP	P	21 19 39.4	-0.5
ASAR	Alice Springs	26.71 169	P	P	21 19 53.3	+0.2
	1.5nm,0.4s,mb4.0,baz=351,slow=7.5,SNR=30					
ASAR	Alice Springs	26.71 169	P	P	21 19 53.3	+0.2
ENH	Enshi	32.85 329	eP	P	21 20 47.3	+0.2
	3.2nm,0.6s,mb4.0					
CMAR	Chiang Mai Arr	32.97 300	P	P	21 20 49.1	+0.8
	0.8nm,0.7s,mb3.4,baz=114,slow=6.9,SNR=6.7					
CMAR	Chiang Mai Arr	32.97 300	P	P	21 20 49.1	+0.8
KSRS	Korea Array	34.60 359	P	P	21 21 01.7	-0.4
	2.6nm,0.8s,mb3.8,baz=172,slow=10,SNR=9.7					
MAJO	Matsushiro	34.85 14	eP	P	21 21 03.8	-0.4
	5.2nm,0.7s,mb4.2					
MJAR	Matsushiro Arr	34.85 14	P	P	21 21 03.0	-1.1
	1.7nm,0.6s,mb3.7,baz=188,slow=9.6,SNR=7.3					
MJAR	Matsushiro Arr	34.85 14	P	P	21 21 03.0	-1.1
STKA	Stephens Creek	36.54 161	P	P	21 21 17.7	-0.9
	1.6nm,0.4s,mb3.9,baz=345,slow=9.1,SNR=9.9					
STKA	Stephens Creek	36.54 161	eP	P	21 21 18.6	+0.1
	0.3nm,0.4s,mb3.2					
LSA	Lhasa	44.49 311	P	P	21 22 24.7	+1.0
ULN	Ulaanbaatar	48.68 341	eP	P	21 22 56.0	+0.2
SONM	Songino Array	48.88 340	P	P	21 22 58.4	+1.1
	0.7nm,0.6s,mb3.1,baz=141,slow=8.7,SNR=5.8					
SONM	Songino Array	48.88 340	P	P	21 22 58.4	+1.1
MK31	Makanchi Array	59.45 325	eP	P	21 24 14.0	+0.5
MKAR	Makanchi Array	59.45 325	P	P	21 24 14.0	+0.5
	1.1nm,0.4s,mb3.9,baz=115,slow=8.3,SNR=36					
MKAR	Makanchi Array	59.45 325	P	P	21 24 14.0	+0.5
ZALV	Zalesovo Beam	62.34 333	P	P	21 24 31.7	-1.1
	0.6nm,0.3s,mb3.7,baz=133,slow=7.0,SNR=4.2					
ZALV	Zalesovo Beam	62.34 333	P	P	21 24 31.7	-1.2
KURK	Kurchatov	63.60 327	eP	P	21 24 41.1	0.0
	2.9nm,0.4s,mb4.3					
KBL	Kabul	63.60 307	eP	P	21 24 41.7	+0.2
	0.8nm,0.3s,mb3.8					
KIV	Kislovodsk	85.17 314	eP	P	21 26 45.5	+0.1
ARCES	ARCESS Array B	92.05 340	P	P	21 27 16.5	-0.9
	5.2nm,0.9s,mb4.5,baz=36,slow=6.3,SNR=3.8					
ARCES	ARCESS Array B	92.05 340	P	P	21 27 16.5	-0.9

IDC **12** *21:24:36.6±1.3, 27°.26N×126°.06E, h0km, mb3.4/5, mb1 3.5/6, mb1mx3.3/26, mbtmp3.4/6, ML3.5/1, MS2.7/1, Ms1 2.7/1, ms1mx2.1/27, Error ellipse: s-maj=51.8km s-min=21.7km az=42.0*
JMA **12** *21:24:40.4±0.3, 26°.85N×126°.15E, h11km, M3.0*
ISC 12 21:24:36.5±1.6, 26°.9N±0°.1×126°.0E±0°.1, h8km±10km, n15, σ1§15/16, mb3.2/5, Northeast of Taiwan

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	Kume jima 2	0.92 128	P	Pg	21 24 55.0	+0.9
JKE			eS	Sg	21 25 05.3	-0.7
JAGN	Aguni-jima	1.17 105	P	Pg	21 24 59.4	+0.5
JAGN			eS	Sg	21 25 12.3	-1.8
NAH1	Naha	1.68 114	eS	Sn	21 25 26.9	-0.9
JJT2	Tamagusuku 2	1.75 115	P	Pn	21 25 09.3	+2.2
JIH	Iheya	1.78 85	P	Pn	21 25 08.7	+1.2
JOW	Kunigami	2.05 91	Pn	Pn	21 25 11.5	+0.3
	27nm,0.3s,baz=274,slow=11,SNR=17					
JOW	Kunigami	2.05 91	P	Pn	21 25 13.1	+1.9
JTK	Tokunoshima	2.79 71	P	Pn	21 25 26.3	+4.9
JAM	Amami Oshima	3.56 64	P	Pn	21 25 37.2	+5.3
KSRS	Korea Array	10.66 8	LR	LR	21 31 28.1	
	comp=Z,50nm,21.7s,baz=156,slow=40					
SONM	Songino Array	25.93 329	P	P	21 30 09.5	+0.5
	0.4nm,0.6s,mb3.1,baz=139,slow=9.5,SNR=5.4					
MKAR	Makanchi Array	39.59 312	P	P	21 32 07.3	-0.9
	0.4nm,0.6s,mb3.3,baz=100,slow=8.8,SNR=2.9					
ZALV	Zalesovo Beam	40.51 323	P	P	21 32 14.4	-1.2
	0.3nm,0.3s,mb3.3,baz=103,slow=12,SNR=2.6					
KURK	Kurchatov	42.96 317	P	P	21 32 35.1	-0.6
	0.1nm,0.3s,mb3.0,baz=108,slow=8.3,SNR=2.7					
WRA	Warramunga Arr	47.26 169	P	P	21 33 14.7	+4.5
	0.4nm,0.8s,mb3.4,baz=349,slow=8.6,SNR=3.0					

MOS ***12*** *21:26:08.4±0.2,54.97N×161.94E, h36km, mb4.3/1, Error ellipse: s-maj=28.4km s-min=11.8km az=76.9*

KRSC 12 21:26:08.8±0.2, 55.01N×161.81E, h51km±40km, ML4.1, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.46**	**186**	*e*P	Pn	21 26 19.5	-0.1
MKZ				*i* S	Sn	21 26 26.4	-0.9
MKZ	**Mys Kozlova**	**0.46**	**186**	PN	Pn	21 26 19.5	-0.1
MKZ				S	Sn	21 26 26.4	-0.9
TUMR	**Tumrok**	**0.99**	**287**	*e*P	Pn	21 26 27.4	+1.0
TUMR				*i* S	Sn	21 26 41.8	+2.4
KMNR	**Kamenistaya**	**1.17**	**310**	*e*P	Pn	21 26 29.7	+0.9
KMNR				*i* S	Sn	21 26 45.6	+2.0
BZMR	**Bezymyannaya**	**1.19**	**322**	*e*P	Pn	21 26 30.1	+1.0
BZMR				*i* S	Sn	21 26 45.6	+1.4
KIRR	**Kirishev**	**1.26**	**319**	*e*P	Pn	21 26 31.9	+1.9
KIRR				*i* S	Sn	21 26 48.8	+2.9
KPT	**Kopyto**	**1.32**	**317**	*e*P	Pn	21 26 32.0	+1.2
KPT				*i* S	Sn	21 26 49.1	+1.9
KBTR	**Krutoberegovo**	**1.33**	**25**	*e*P	Pn	21 26 30.9	0.0
KBTR				*i* S	Sn	21 26 47.4	-0.1
KBTR	**Krutoberegovo**	**1.33**	**25**	PN	Pn	21 26 30.9	0.0
KBTR				S	Sn	21 26 47.4	-0.1
KRSR	**Krestovskiy**	**1.40**	**330**	*e*P	Pn	21 26 32.9	+1.0
KRSR				*i* S	Sn	21 26 49.5	+0.3
KLY	**Klyuchi**	**1.46**	**334**	*e*P	Pn	21 26 32.9	+0.2
KLY				*i* S	Sn	21 26 50.9	+0.2
KLY	**Klyuchi**	**1.46**	**334**	PN	Pn	21 26 32.9	+0.2
KLY				S	Sn	21 26 50.9	+0.2
KOZR	**Kozyr**	**1.52**	**315**	PN	Pn	21 26 35.0	+1.5
KOZR				S	Sn	21 26 54.9	+2.8
KOZ	**Kozyrevsk**	**1.52**	**314**	*e*P	Pn	21 26 35.0	+1.5
KOZ				*i* S	Sn	21 26 54.9	+2.7
SMKR	**Semkarok**	**1.59**	**353**	*e*P	Pn	21 26 35.4	+1.0
SMKR				*i* S	Sn	21 26 55.2	+1.4
BDR	**Baidarnaya**	**1.60**	**348**	*e*P	Pn	21 26 35.7	+1.1
BDR				*i* S	Sn	21 26 55.7	+1.6
KII	**Karymskiy**	**1.69**	**236**	*e*P	Pn	21 26 37.1	+1.3
KII				*i* S	Sn	21 26 58.5	+2.3
SRKR	**Sorokina**	**1.69**	**348**	*e*P	Pn	21 26 36.7	+0.9
SRDR	**Sredinnyy**	**1.77**	**319**	*e*P	Pn	21 26 37.9	+1.0
SRDR				*i* S	Sn	21 26 59.3	+1.1
SPN	**Mys Shipunski**	**2.19**	**210**	*e*P	Pn	21 26 42.8	+0.2
SPN				*i* S	Sn	21 27 07.3	-1.2
SPN	**Mys Shipunski**	**2.19**	**210**	PN	Pn	21 26 42.8	+0.2
SPN				S	Sn	21 27 07.3	-1.2
NLC	**Nalytchevo**	**2.35**	**219**	*e*P	Pn	21 26 45.9	+1.1
NLC				*i* S	Sn	21 27 13.1	+0.7
NLC	**Nalytchevo**	**2.35**	**219**	PN	Pn	21 26 45.9	+1.1
NLC				S	Sn	21 27 13.1	+0.7
BKI	**Bering**	**2.40**	**84**	*e*P	Pn	21 26 45.3	-0.2
BKI				*i* S	Sn	21 27 12.3	-1.4
BKI	**Bering**	**2.40**	**84**	PN	Pn	21 26 45.3	-0.2
BKI				S	Sn	21 27 12.3	-1.4
AVH	**Avacha**	**2.52**	**227**	*e*P	Pn	21 26 49.1	+2.0
AVH				*i* S	Sn	21 27 18.3	+1.8
GNL	**Ganaly**	**2.62**	**241**	*e*P	Pn	21 26 50.5	+2.0
PET	**Petropavlovsk**	**2.73**	**224**	*e*PN	Pn	21 26 51.4	+1.4
PET				*e*S	Sn	21 27 23.7	+2.0
PET				pmax	pmax		
	comp=Z,36nm,0.3s						
PET				smax			
	comp=N,245nm,0.6s						
RUS	**Russkaya**	**3.24**	**219**	*e*P	Pn	21 26 58.3	+1.2
RUS				*i* S	Sn	21 27 35.0	+0.7
RUS	**Russkaya**	**3.24**	**219**	PN	Pn	21 26 58.3	+1.2
RUS				S	Sn	21 27 35.0	+0.7

NEIC ***12*** *21:36:57.5, 37.15N×13.60W, h0km, MG3.7(MDD), After MDD.*
MDD ***12*** *21:36:58.2±3.2, 37.16N×13.52W, h0km, mb3.7/7, Error ellipse: s-maj=28.6km s-min=22.1km az=61.0, PRIMO*
INMG ***12*** *21:37:00.6±1.0, 36.92N×13.84W, h10km, ML2.3, Error ellipse: s-maj=6.0km s-min=4.7km az=98.0*
CSEM ***12*** *21:37:01.6±0.4, 37.25N×13.27W, h10km, ML2.9/16, Error ellipse: s-maj=6.5km s-min=5.8km az=56.0*

ISC 12 21:37:01.8±1.0, 37.25N±0.05×13.25W±0.06, h10km, n76, σ0s85/133, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**3.53**	**91**	*e*Pn	**Pn**	**21 37 55.8**	**-0.8**
PFVI				*e*Sn	**Sn**	**21 38 38.4**	**0.0**
PFVI	**Vila Bisbo**	**3.53**	**91**	P	**Pn**	**21 37 55.8**	**-0.8**
	2.6nm,0.1s,SNR=9.5						
PFVI				S	**Sn**	**21 38 38.1**	**-0.3**
	4.5nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.53**	**91**	P	**Pn**	**21 37 55.8**	**-0.8**
	2.6nm,0.1s,SNR=9.5						
PFVI				S	**Sn**	**21 38 38.1**	**-0.3**
	4.5nm,0.1s,SNR=7.9						
PFVI				*e*Sn	**Sn**	**21 38 38.4**	**0.0**
PFVI	**Vila Bisbo**	**3.53**	**91**	*e*Pn	**Pn**	**21 37 55.8**	**-0.8**
PFVI				*e*Sn	**Sn**	**21 38 38.2**	**-0.2**
PFVI				A		21 38 41.5	
	4.1nm,0.3s						
PMAFR	**Mafra**	**3.56**	**60**	P	**Pn**	**21 37 56.8**	**-0.2**
	1.4nm,0.1s,SNR=7.9						
PMAFR				S	**Sn**	**21 38 40.8**	**+1.6**
	4.8nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**3.56**	**60**	P	**Pn**	**21 37 56.8**	**-0.2**
	1.4nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**3.56**	**60**	*e*Pn	**Pn**	**21 37 58.0**	**+0.9**
PMAFR				S	**Sn**	**21 38 40.8**	**+1.6**
	4.8nm,0.1s,SNR=7.9						
PMAFR				*e*Sn	**Sn**	**21 38 41.5**	**+2.3**
	16nm,0.8s						
PMAFR	**Mafra**	**3.56**	**60**	*e*Pn	**Pn**	**21 37 58.0**	**+0.9**
PMAFR				*e*Sn	**Sn**	**21 38 41.5**	**+2.3**
PMAFR				A		21 38 47.1	
	16nm,0.8s						
PTEO	**Sao Teotonio**	**3.61**	**84**	*e*Pn	**Pn**	**21 37 57.6**	**-0.2**
PTEO				*e*Sn	**Sn**	**21 38 40.1**	**-0.3**
PTEO	**Sao Teotonio**	**3.61**	**84**	*e*Pn	**Pn**	**21 37 57.6**	**-0.2**
PTEO				*e*Sn	**Sn**	**21 38 40.1**	**-0.3**
	7.4nm,0.7s						
PTEO	**Sao Teotonio**	**3.61**	**84**	*e*Pn	**Pn**	**21 37 57.6**	**-0.2**
PTEO				*e*Sn	**Sn**	**21 38 40.1**	**-0.3**
PTEO				A		21 38 48.6	
	7.4nm,0.7s						
PNCL	**Nicolau / Gran**	**3.84**	**76**	*e*Pn	**Pn**	**21 38 01.7**	**+0.8**
PNCL				*e*Sn	**Sn**	**21 38 46.9**	**+0.8**
	3.1nm,0.8s						
PNCL	**Nicolau / Gran**	**3.84**	**76**	*e*Pn	**Pn**	**21 38 01.7**	**+0.8**
PNCL				*e*Sn	**Sn**	**21 38 46.9**	**+0.8**
PNCL				A		21 38 51.2	
	3.1nm,0.8s						
MOE	**Montemor**	**4.08**	**70**	*e*Sn	**Sn**	**21 38 52.8**	**+0.9**
MOE	**Montemor**	**4.08**	**70**	*e*Sn	**Sn**	**21 38 52.8**	**+0.9**
MOE	**Montemor**	**4.08**	**70**	*e*Sn	**Sn**	**21 38 52.8**	**+0.9**
PCVE	**Castro Verde**	**4.16**	**83**	*e*Pn	**Pn**	**21 38 05.1**	**-0.2**
PCVE				*e*Sn	**Sn**	**21 38 53.5**	**-0.5**
	3.2nm,0.7s						
PCVE	**Castro Verde**	**4.16**	**83**	*e*Pn	**Pn**	**21 38 05.1**	**-0.2**
PCVE				*e*Sn	**Sn**	**21 38 53.5**	**-0.5**
PCVE				A		21 39 02.8	
	3.2nm,0.7s						
PBDV	**Barranco-do-Ve**	**4.24**	**88**	*e*Pn	**Pn**	**21 38 06.3**	**-0.1**
PBDV				*e*Sn	**Sn**	**21 38 55.3**	**-0.6**
	2.4nm,0.1s						
PBDV	**Barranco-do-Ve**	**4.24**	**88**	*e*Pn	**Pn**	**21 38 06.3**	**-0.1**
PBDV				*e*Sn	**Sn**	**21 38 55.3**	**-0.6**
PBDV				A		21 39 03.0	
	2.4nm,0.1s						
EVO	**Evora**	**4.33**	**71**	*e*Pn	**Pn**	**21 38 08.6**	**+0.9**
EVO				*e*Sn	**Sn**	**21 38 58.4**	**+0.2**
EVO	**Evora**	**4.33**	**71**	*e*Pn	**Pn**	**21 38 08.2**	**+0.5**
EVO				*e*Sn	**Sn**	**21 38 58.4**	**+0.2**
EVO	**Evora**	**4.33**	**71**	*e*Pn	**Pn**	**21 38 08.2**	**+0.5**
EVO				*e*Sn	**Sn**	**21 38 58.7**	**+0.5**
EVO				A		21 38 59.4	
	4.0nm,0.3s						
PVAQ	**Vaqueiros**	**4.41**	**86**	*e*Pn	**Pn**	**21 38 08.6**	**-0.1**
PVAQ				*e*Sn	**Sn**	**21 38 59.5**	**-0.6**
	3.5nm,0.7s						
PVAQ	**Vaqueiros**	**4.41**	**86**	*e*Pn	**Pn**	**21 38 08.6**	**-0.1**
PVAQ				*e*Sn	**Sn**	**21 38 59.5**	**-0.6**
PVAQ				A		21 39 07.6	
	3.5nm,0.7s						
PTOM	**Tomar**	**4.47**	**57**	*e*Sn	**Sn**	**21 39 04.0**	**+2.3**
PTOM	**Tomar**	**4.47**	**57**	*e*Sn	**Sn**	**21 39 02.6**	**+0.9**
	5.9nm,0.8s						
PTOM	**Tomar**	**4.47**	**57**	*e*Sn	**Sn**	**21 39 02.6**	**+0.9**
PTOM				A		21 39 07.5	
	5.9nm,0.8s						
PESTR	**Estremoz**	**4.75**	**68**	*e*Pn	**Pn**	**21 38 16.2**	**+2.9**
PESTR				*e*Sn	**Sn**	**21 39 11.5**	**+3.0**
PESTR	**Estremoz**	**4.75**	**68**	*e*Pn	**Pn**	**21 38 13.7**	**+0.3**
PESTR				*e*Sn	**Sn**	**21 39 09.0**	**+0.6**
	1.7nm,0.7s						
PESTR	**Estremoz**	**4.75**	**68**	*e*Pn	**Pn**	**21 38 13.7**	**+0.3**
PESTR				*e*Sn	**Sn**	**21 39 09.0**	**+0.6**
PESTR				A		21 39 17.4	
	1.7nm,0.7s						
PBAR	**Barrancos**	**5.01**	**77**	*e*Pn	**Pn**	**21 38 17.6**	**+0.7**
PBAR				*e*Sn	**Sn**	**21 39 14.6**	**-0.2**
	2.0nm,0.8s						
PBAR	**Barrancos**	**5.01**	**77**	*e*Pn	**Pn**	**21 38 17.6**	**+0.7**
PBAR				*e*Sn	**Sn**	**21 39 14.6**	**-0.2**
PBAR				A		21 39 29.7	
	2.0nm,0.8s						
PMRV	**Marv??o**	**5.09**	**63**	*e*Pn	**Pn**	**21 38 18.8**	**+0.8**
PMRV				*e*Sn	**Sn**	**21 39 17.9**	**+1.0**
PMRV	**Marv??o**	**5.09**	**63**	*e*Pn	**Pn**	**21 38 18.8**	**+0.7**
PMRV				*e*Sn	**Sn**	**21 39 17.1**	**+0.2**
	2.4nm,0.6s						
PMRV	**Marv??o**	**5.09**	**63**	*e*Pn	**Pn**	**21 38 18.8**	**+0.7**
PMRV				*e*Sn	**Sn**	**21 39 17.1**	**+0.2**
PMRV				A		21 39 24.8	
	2.4nm,0.6s						
EBAD	**Badajoz**	**5.15**	**71**	P	**Pn**	**21 38 19.0**	**+0.2**
EBAD				S	**Sn**	**21 39 17.7**	**-0.5**
EBAD	**Badajoz**	**5.15**	**71**	P	**Pn**	**21 38 19.0**	**+0.2**
	0.1nm,0.0s,SNR=7.9						
EBAD				S	**Sn**	**21 39 17.7**	**-0.6**
	0.4nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**5.15**	**71**	P	**Pn**	**21 38 19.0**	**+0.1**
	0.1nm,0.0s,SNR=7.9						
EBAD				S	**Sn**	**21 39 17.7**	**-0.6**
	0.4nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**5.21**	**58**	*e*Sn	**Sn**	**21 39 22.4**	**+2.6**
PCBR	**Castelo Branco**	**5.21**	**58**	*e*Pn	**Pn**	**21 38 20.4**	**+0.7**
PCBR				*e*Sn	**Sn**	**21 39 20.9**	**+1.1**
	2.7nm,0.5s						
PCBR	**Castelo Branco**	**5.21**	**58**	*e*Pn	**Pn**	**21 38 20.4**	**+0.7**
PCBR				*e*Sn	**Sn**	**21 39 20.9**	**+1.1**
PCBR				A		21 39 25.3	
	2.7nm,0.5s						
EMIN	**Mina Concepcio**	**5.25**	**82**	P	**Pn**	**21 38 20.5**	**+0.2**
EMIN				S	**Sn**	**21 39 19.2**	**-1.6**
EMIN	**Mina Concepcio**	**5.25**	**82**	P	**Pn**	**21 38 20.5**	**+0.2**
	0.1nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**21 39 19.2**	**-1.6**
	0.1nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.25**	**82**	P	**Pn**	**21 38 20.5**	**+0.2**
	0.1nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**21 39 19.2**	**-1.7**
	0.1nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**5.42**	**49**	*e*Sn	**Sn**	**21 39 27.0**	**+2.0**
PVIS	**Viseu**	**5.42**	**49**	*e*Pn	**Pn**	**21 38 23.0**	**+0.4**
PVIS				*e*Sn	**Sn**	**21 39 25.3**	**+0.3**
	2.1nm,0.4s						
PVIS	**Viseu**	**5.42**	**49**	*e*Pn	**Pn**	**21 38 23.0**	**+0.4**
PVIS				*e*Sn	**Sn**	**21 39 25.3**	**+0.3**
PVIS				A		21 39 33.7	
	2.1nm,0.4s						
MTE	**Manteigas**	**5.45**	**53**	*e*Sn	**Sn**	**21 39 25.8**	**+0.1**
MTE	**Manteigas**	**5.45**	**53**	*e*Sn	**Sn**	**21 39 26.3**	**+0.5**
	2.2nm,0.2s						
MTE	**Manteigas**	**5.45**	**53**	*e*Sn	**Sn**	**21 39 26.3**	**+0.5**
MTE				A		21 39 30.1	
	2.2nm,0.2s						
POLO	**Lamas de Olo**	**5.90**	**44**	*e*Sn	**Sn**	**21 39 36.7**	**-0.2**
	0.8nm,0.5s						
POLO	**Lamas de Olo**	**5.90**	**44**	*e*Sn	**Sn**	**21 39 36.7**	**-0.2**
POLO				A		21 39 42.7	
	0.8nm,0.5s						
ESPR	**Espera**	**5.92**	**91**	P	**Pn**	**21 38 29.3**	**-0.2**
ESPR				S	**Sn**	**21 39 36.8**	**-0.6**
ESPR	**Espera**	**5.92**	**91**	P	**Pn**	**21 38 29.3**	**-0.2**
	0.4nm,0.1s,SNR=7.9						
ESPR				S	**Sn**	**21 39 36.8**	**-0.6**
	0.4nm,0.1s,SNR=7.9						
PCAB	**Cabril**	**6.01**	**41**	*e*Sn	**Sn**	**21 39 39.2**	**-0.4**
PCAB	**Cabril**	**6.01**	**41**	*e*Sn	**Sn**	**21 39 39.2**	**-0.4**
	2.4nm,0.3s						
PCAB	**Cabril**	**6.01**	**41**	*e*Sn	**Sn**	**21 39 39.2**	**-0.4**
PCAB				A		21 39 40.8	
	2.4nm,0.3s						
PGAV	**Gavieira, Arco**	**6.08**	**38**	*e*Pn	**Pn**	**21 38 32.0**	**+0.4**
PGAV				*e*Sn	**Sn**	**21 39 40.2**	**-1.0**
	3.0nm,0.7s						
PGAV	**Gavieira, Arco**	**6.08**	**38**	*e*Pn	**Pn**	**21 38 32.0**	**+0.4**
PGAV				*e*Sn	**Sn**	**21 39 40.2**	**-1.0**
PGAV				A		21 39 48.4	
	3.0nm,0.7s						
ELOB	**Lobios**	**6.11**	**39**	P	**Pn**	**21 38 31.8**	**-0.3**
ELOB				S	**Sn**	**21 39 40.3**	**-1.7**
ELOB	**Lobios**	**6.11**	**39**	P	**Pn**	**21 38 31.8**	**-0.3**
	0.2nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**21 39 40.3**	**-1.7**
	1.7nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.11**	**39**	P	**Pn**	**21 38 31.8**	**-0.3**
	0.2nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**21 39 40.3**	**-1.7**
	1.7nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**6.21**	**49**	*e*Pn	**Pn**	**21 38 33.7**	**+0.2**
MVO				*e*Sn	**Sn**	**21 39 43.9**	**-0.7**
MVO	**Moncorvo**	**6.21**	**49**	P	**Pn**	**21 38 33.3**	**-0.2**
	0.4nm,0.1s,SNR=7.9						
MVO				S	**Sn**	**21 39 43.0**	**-1.5**
	0.9nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**6.21**	**49**	P	**Pn**	**21 38 33.3**	**-0.2**
	0.4nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**6.21**	**49**	*e*Pn	**Pn**	**21 38 33.8**	**+0.3**
MVO				S	**Sn**	**21 39 43.9**	**-0.6**
	0.9nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**6.21**	**49**	*e*Pn	**Pn**	**21 38 33.8**	**+0.3**
MVO				*e*Sn	**Sn**	**21 39 43.9**	**-0.6**
MVO				A		21 39 46.1	
	2.8nm,0.9s						
EMAZ	**Mazaricos**	**6.57**	**29**	P	**Pn**	**21 38 36.3**	**-2.1**
EMAZ				S	**Sn**	**21 39 48.7**	**-4.6**
EMAZ	**Mazaricos**	**6.57**	**29**	P	**Pn**	**21 38 37.1**	**-1.3**
	0.1nm,0.1s,SNR=7.9						
EMAZ				S	**Sn**	**21 39 48.7**	**-4.6**
	0.5nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.57**	**29**	P	**Pn**	**21 38 36.3**	**-2.0**
	0.1nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**6.87**	**45**	S	**Sn**	**21 39 58.0**	**-2.7**
	0.5nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**6.87**	**45**	S	**Sn**	**21 40 00.4**	**-0.3**
	0.5nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**6.93**	**80**	P	**Pn**	**21 38 42.9**	**-0.5**
EADA				S	**Sn**	**21 40 02.5**	**+0.2**
EADA	**Adamuz**	**6.93**	**80**	P	**Pn**	**21 38 42.9**	**-0.5**
	0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**21 40 01.0**	**-1.3**
	0.6nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**6.93**	**80**	P	**Pn**	**21 38 42.9**	**-0.5**
	0.2nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**21 40 02.5**	**+0.2**
	0.6nm,0.2s,SNR=7.9						

IDC ***12*** *21:40:29.6±0.9, 4.91N×124.89E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.5/24, mbtmp3.6/8, ML4.0/1, Error ellipse: s-maj=45.1km s-min=15.5km az=77.0*
ISCJB ***12*** *21:40:37.0±1.2, 5.3N±0.1×125.9E±0.2, h90km±12km, mb3.6/7, Error ellipse: s-maj=34.5km s-min=15.0km az=161.9*

ISC 12 21:40:37.9±1.3, 5.2N±0.1×125.9E±0.2, h79km±13km, n12, σ1s18/14, mb3.6/7, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.28**	**312**	*i*P	**Pn**	**21 40 59.0**	**-1.3**
GSPH				*i* S	**Sn**	**21 41 18.1**	**+0.9**
MATI	**Mati**	**1.75**	**12**	*e*P	**Pn**	**21 41 01.6**	**-4.9**
MATI				*e*S	Px	21 41 11.0	
DAV	**Davao City (W)**	**1.86**	**350**	Pn	**Pn**	**21 41 07.3**	**-0.7**
	39nm,0.3s,baz=62,slow=19,SNR=3.5						
DAV					Sn	**Sn**	**21 41 38.3**	**+7.6**
	70nm,0.3s,baz=128,slow=18,SNR=6.7						
KCP	**Kidapawan**	**1.95**	**336**	*i*P	**Pn**	**21 41 12.0**	**+2.9**
KCP				*i* S	Px	21 41 14.8	
BUKP	**Musuan**	**2.77**	**343**	*e*P	**Pn**	**21 41 19.6**	**-0.5**
BUKP				*e*S	Px	21 41 37.8	
FITZ	**Fitzroy Crossi**	**23.18**	**181**	P	**P**	**21 45 36.3**	**-1.6**
	1.5nm,0.8s,mb3.4,baz=5.7,slow=10,SNR=3.4						
WRA	**Warramunga Arr**	**26.35**	**162**	P	**P**	**21 46 06.9**	**+0.2**
	0.4nm,0.3s,mb3.3,baz=334,slow=11,SNR=11						
ASAR	**Alice Springs**	**29.76**	**165**	P	**P**	**21 46 37.3**	**+0.2**
	0.4nm,0.9s,mb3.1,baz=348,slow=7.5,SNR=3.3						
STKA	**Stephens Creek**	**39.81**	**159**	P	**P**	**21 48 06.0**	**+2.5**
	2.8nm,0.9s,mb4.1,baz=319,slow=11,SNR=3.6						
MKAR	**Makanchi Array**	**55.86**	**325**	P	**P**	**21 50 07.1**	**-0.2**
	0.2nm,0.4s,mb3.5,baz=119,slow=6.5,SNR=6.1						
ZALV	**Zalesovo Beam**	**58.89**	**333**	P	**P**	**21 50 29.3**	**+0.8**
	0.3nm,0.3s,mb3.8,baz=106,slow=5.2,SNR=2.5						
KURK	**Kurchatov**	**60.04**	**327**	P	**P**	**21 50 35.6**	**-0.9**
	0.4nm,0.4s,mb3.8,baz=127,slow=7.3,SNR=4.3						

JMA 12 22:15:16.9±0.1, 37.70N×146.26E, h45km, M4.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**3.86**	**292**	P	Pn	22 16 15.7	+2.0
OFUJ				*e*S	Sn	22 17 00.2	+2.4
MIYJ	**Miyakonagasawa**	**3.95**	**300**	P	Pn	22 16 16.7	+1.8
MIYJ				S	Sn	22 17 01.7	+1.7
JMK	**Ichinoseki**	**4.16**	**289**	P	Pn	22 16 19.8	+2.0
JMK				*e*S	Sn	22 17 07.6	+2.5
JCH	**Churui**	**5.39**	**337**	P	Pn	22 16 34.1	-0.5
JCH				*e*S	Sn	22 17 32.8	-2.5
JOT	**Ohata**	**5.45**	**314**	P	Pn	22 16 37.3	+1.7
JOT				*e*S	Sn	22 17 38.7	+1.7
NEM2	**Nemuro 2**	**5.67**	**356**	P	Pn	22 16 34.5	-4.1
NEM2				*e*S	Sn	22 17 34.2	-8.1
JRY	**Ryogami san**	**6.13**	**256**	P	Pn	22 16 46.6	+1.7
JRY				*e*S	Sn	22 17 53.8	0.0
JTKR	**Abashiri--Toko**	**6.51**	**345**	P	Pn	22 16 49.0	-1.1
JTKR				*e*S	Sn	22 17 58.9	-4.1

MEX 12 22:50:51.1±0.3, 17.15N×101.09W, h12km±5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.58**	**322**	*i* P	Pg	22 51 01.1	-1.4
ZIIG				*i* S	Sg	22 51 08.8	-1.4
CAIG	**El Cayaco**	**0.79**	**97**	*i* P	Pg	22 51 03.9	-2.5
CAIG				*i* S	Sg	22 51 14.1	-2.7
ACX	**Acapulco**	**1.21**	**103**	*i* P	Pn	22 51 09.3	-4.5
ACX				*i* S	Sb	22 51 24.2	-5.2
MMIG	**Aquila**	**2.43**	**298**	*i* P	Pn	22 51 27.5	-3.2
MMIG				*i* S	Sn	22 51 56.1	-4.2
PNIG	**Pinotepa**	**2.93**	**104**	*e*P	Pn	22 51 35.0	-2.6
PNIG				*i* S	Sn	22 52 08.6	-4.0
PPM	**Popocatepetl**	**3.02**	**50**	*e*P	Pn	22 51 36.7	-2.0
PPM				*i* S	Sn	22 52 11.8	-3.1
UTMO	**Huajuapan**	**3.21**	**77**	*i* P	Pn	22 51 39.2	-2.1
UTMO				*i* S	Sn	22 52 15.5	-3.9
IIO	**Organos**	**3.31**	**42**	*e*P	Pn	22 51 43.6	+0.8
IIO				*i* S	Sn	22 52 23.0	+1.0

IDC 12 23:14:31.9±5.4, 5.31S×133.22E, h0km, mb3.6/1, mb1 3.6/3, mb1mx3.4/15, mbtmp3.5/3, ML3.2/2, Error ellipse: s-maj=322.6km s-min=32.6km az=77.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.59**	**176**	Pn	Pn	23 17 58.0	-1.8
	0.1nm,0.3s,baz=354,slow=13,SNR=2.9						
WRA					Sn	Sn	23 20 35.9	-6.4
	0.1nm,0.3s,baz=354,slow=24,SNR=2.7						
ASAR	**Alice Springs**	**18.26**	**178**	P	Pn	23 18 48.0	+1.0
	0.2nm,0.3s,baz=2.4,slow=13,SNR=10						
MKAR	**Makanchi Array**	**68.62**	**325**	P	**P**	23 25 37.0	+0.1
	0.4nm,0.6s,baz=113,slow=9.6,SNR=4.6						

DDA ***12*** *23:25:51.8, 37.88N×29.25E, h7km±3km, Md2.8*
CSEM ***12*** *23:25:52.7±0.2, 37.87N×29.20E, h15km, MD2.7, Error ellipse: s-maj=7.2km s-min=4.5km az=93.0*

ISK 12 23:25:52.9, 37.89N×29.15E, h24km, MD2.8, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DENT	**Denizli**	**0.16**	**214**	*e*PG	Pb	23 25 55.2	-2.8
DENT	**Denizli**	**0.16**	**214**	*e*PG	Pb	23 25 58.5	+0.6
DENT				*e*SG

CRPR	**Cabo Rojo, PR**	**1.39**	**216**⇓	*e*P	Pn	23 31 45.1	-0.6
CRPR				*e*S	Sn	23 32 01.8	-1.3
STVI	**Saint Thomas**	**1.46**	**122**⇑	*e*P	Pn	23 31 45.8	-0.7
STVI	**Saint Thomas**	**1.46**	**122**⇑	*e*P	Pn	23 31 45.8	-0.7

ISCJB ***12*** *23:51:56.1±0.6,72.7°17N±0.0°7×1.8E±0.2,h10km,mb3.3/6, MS3.0/4,Error ellipse: s-maj=11.5km s-min=8.6km az=146.5*
IDC ***12*** *23:51:57.4±0.9,72.5°05N×1.36E,h0km,mb3.4/6, mb1 3.6/10,mb1mx3.5/28,mbtmp3.5/10,ML2.8/3,MS3.0/6, Ms1 3.0/6,ms1mx2.8/28,Error ellipse: s-maj=22.9km s-min=16.5km az=58.0*
NEIC ***12*** *23:51:58.7±0.6,72.1°11N×1.67E,h10km,Error ellipse: s-maj=12.2km s-min=8.9km az=59.0*
CSEM ***12*** *23:51:58.1±0.2,72.1°16N×1.73E,h10km,ML2.3,Error ellipse: s-maj=8.6km s-min=6.3km az=67.0*
BER ***12*** *23:51:58.1±2.1,72.2°20N×1.4°E,h0km±134km, ML2.3(NAO)*
NAO ***12*** *23:52:02.1±8.2,72.4°41N×2.7°0E,ML2.3*
ISC 12 23:51:58.8±0.6,**72.1°6N**±0.0°6×**2.0°E**±0.2,**h10**km,**n42,** σ1§**10**/43,**mb3.3/6,MS3.0**/4,**Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPB4	**Spitsbergen Ar**	**7.06**	**25**	*e*Pn	**Pn**	**23 53 42.6**	**+0.8**
SPB4	**Spitsbergen Ar**	**7.06**	**25**	*e*Pn	**Pn**	**23 53 42.6**	**+0.7**
SPA0	**Spitsbergen Ar** baz=215,slow=12	**7.06**	**25**	Pn	**Pn**	**23 53 41.5**	**-0.4**
SPA0	**Spitsbergen Ar** baz=215,slow=12,SNR=2.7	**7.06**	**25**	Pn	**Pn**	**23 53 41.5**	**-0.4**
SPITS	**Spitsbergen Ar** baz=227,slow=12,SNR=23	**7.06**	**25**	Pn	**Pn**	**23 53 42.3**	**+0.4**
SPITS	**Spitsbergen Ar**	**7.06**	**25**	Pn	**Pn**	**23 53 42.3**	**+0.4**
SPITS	**Spitsbergen Ar**	**7.06**	**25**	Pn	**Pn**	**23 53 42.3**	**+0.4**
KBS	**Kingsbay**	**7.23**	**15**	Pn	**Pn**	**23 53 42.9**	**-1.3**
KBS	**Kingsbay**	**7.23**	**15**	Pn	**Pn**	**23 53 42.9**	**-1.3**
ARA0	**ARCESS Array S** baz=308,slow=12	**8.15**	**97**	Pn	**Pn**	**23 53 57.8**	**+0.9**
ARA0	baz=305,slow=22			Sn	**Sn**	**23 55 26.8**	**-2.0**
ARA0	**ARCESS Array S** baz=308,slow=12,SNR=8.4	**8.15**	**97**	Pn	**Pn**	**23 53 57.8**	**+0.9**
ARCES	**ARCESS Array B** 0.3nm,0.3s,baz=299,slow=12,SNR=5.7	**8.15**	**97**	Pn	**Pn**	**23 53 58.1**	**+1.3**
ARCES	comp=Z,77nm,18.8s,baz=162,slow=35			LR	LR	23 56 48.0	
ARCES	**ARCESS Array B**	**8.15**	**97**	Pn	**Pn**	**23 53 58.1**	**+1.3**
ARCES				LR	LR	23 56 48.0	
ARCES	**ARCESS Array B**	**8.15**	**97**	Pn	**Pn**	**23 53 58.1**	**+1.2**
NOA	**NORSAR Array B** 0.2nm,0.3s,baz=296,slow=16,SNR=2.2	**11.74**	**157**	Sn	**Sn**	**23 56 51.0**	**-5.8**
NOA	comp=Z,43nm,19.9s,baz=280,slow=35			LR	LR	23 58 46.1	
SUMG	**Summit**	**12.09**	**291**	Pn	**Pn**	**23 54 50.4**	**-0.3**
SUMG	**Summit**	**12.09**	**291**	Pn	**Pn**	**23 54 50.4**	**-0.3**
HFS	**Hagfors** 0.1nm,0.3s,baz=2.5,slow=13,SNR=2.6	**12.94**	**153**	Pn	**Pn**	**23 55 01.6**	**-0.7**
HFS	0.2nm,0.3s,baz=358,slow=22,SNR=4.8			Sn	**Sn**	**23 57 18.4**	**-7.7**
HFS	**Hagfors**	**12.94**	**153**	Pn	**Pn**	**23 55 01.6**	**-0.7**
HFS				Sn	**Sn**	**23 57 18.4**	**-7.7**
HFS	**Hagfors**	**12.94**	**153**	Pn	**Pn**	**23 55 01.6**	**-0.7**
FINES	**FINESS Array B** 0.1nm,0.3s,baz=339,slow=15,SNR=3.1	**14.20**	**127**	Pn	**Pn**	**23 55 19.2**	**-0.3**
FINES	**FINESS Array B**	**14.20**	**127**	Pn	**Pn**	**23 55 19.2**	**-0.3**
FINES	**FINESS Array B**	**14.20**	**127**	Pn	**Pn**	**23 55 19.2**	**-0.3**
GERES	**GERESS Array B** 0.5nm,0.7s,mb3.1,baz=6.8,slow=9.1,SNR=3.7	**24.00**	**161**	P	**P**	**23 57 14.8**	**+1.7**
GERES	comp=Z,34nm,18.7s,MS2.9,baz=97,slow=35			LR	LR	00 06 00.8	
GERES	**GERESS Array B**	**24.00**	**161**	P	**P**	**23 57 14.8**	**+1.6**
GERES				LR	LR	00 06 00.8	
GERES	**GERESS Array B**	**24.00**	**161**	P	**P**	**23 57 14.8**	**+1.6**
AKASG	**Malin Array Be** 0.3nm,0.4s,mb3.2,baz=21,slow=28,SNR=3.1	**24.72**	**136**	P	**P**	**23 57 19.8**	**+0.2**
AKASG	**Malin Array Be**	**24.72**	**136**	P	**P**	**23 57 19.8**	**+0.2**
AKASG	**Malin Array Be**	**24.72**	**136**	P	**P**	**23 57 19.8**	**+0.1**
DAVOX	**Davos/Dischmat** comp=Z,48nm,19.9s,MS3.0,baz=172,slow=38	**25.73**	**167**	LR	LR	00 08 02.4	
ZALV	**Zalesovo Beam** comp=Z,13nm,18.4s,MS2.8,baz=54,slow=44	**37.82**	**73**	LR	LR	00 20 06.7	
ILAR	**Eielson Array** 0.5nm,0.9s,mb3.2,baz=15,slow=5.0,SNR=5.4	**41.71**	**341**	P	**P**	**23 59 46.4**	**-0.7**
ILAR	**Eielson Array**	**41.71**	**341**	P	**P**	**23 59 46.4**	**-0.7**
ILAR	**Eielson Array**	**41.71**	**341**	P	**P**	**23 59 46.4**	**-0.6**
SONM	**Songino Array** 0.3nm,0.8s,mb3.4,baz=318,slow=8.4,SNR=2.7	**49.37**	**59**	P	**P**	**00 00 50.7**	**+2.9**
SONM	**Songino Array**	**49.37**	**59**	P	**P**	**00 00 50.7**	**+2.9**
TORD	**Torodi Ar. Bea** 0.3nm,0.7s,mb3.5,baz=339,slow=6.0,SNR=2.4	**58.99**	**180**	P	**P**	**00 01 57.0**	**-1.2**
TORD	comp=Z,31nm,18.9s,MS3.5,baz=185,slow=39			LR	LR	00 30 38.8	
TORD	**Torodi Ar. Bea**	**58.99**	**180**	P	**P**	**00 01 57.0**	**-1.2**
TORD				LR	LR	00 30 38.8	
TORD	**Torodi Ar. Bea**	**58.99**	**180**	P	**P**	**00 01 57.0**	**-1.2**
TXAR	**Lajitas Array** 0.2nm,0.6s,mb3.3,baz=17,slow=6.6,SNR=2.7	**66.97**	**294**	P	**P**	**00 02 51.2**	**0.0**
TXAR	**Lajitas Array**	**66.97**	**294**	P	**P**	**00 02 51.2**	**0.0**
TXAR	**Lajitas Array**	**66.97**	**294**	P	**P**	**00 02 51.2**	**0.0**

ISCJB ***13*** *00:45:12.8±0.5,26.7°19S±0.0°3×28.2°1E±0.0°4,h10km,Error ellipse: s-maj=5.5km s-min=4.1km az=27.7*
NEIC ***13*** *00:45:12.1±1.8,26.6°22S×28.3°7E,h5km,Error ellipse: s-maj=29.6km s-min=11.7km az=107.0*
PRE ***13*** *00:45:13.1±0.8,26.2°3S×28.1°8E,h2km,ML2.9*
IDC ***13*** *00:45:14.2±2.0,26.2°6S×28.0°3E,h0km,mb3.4/1, mb1 3.4/4,mb1mx3.2/24,mbtmp3.5/4,ML2.9/3,Error ellipse: s-maj=22.8km s-min=17.7km az=94.0*
ISC 13 00:45:13.8±0.6,**26.2°5S**±0.0°3×**28.2°1E**±0.0°4,**h10**km,**n20,** σ1§**23**/36,**South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERPM	**east rand prop**	**0.10**	**163**	*e*P	**Pg**	**00 45 14.7**	**-1.7**
ERPM				*e*S	**Sg**	**00 45 15.1**	**-3.2**
ERPM	comp=Z,10μm,0.4s			AML	AML	00 45 15.6	
SLR	**Silverton**	**0.51**	**7**	*e*P	**Pg**	**00 45 22.2**	**-1.6**
SLR				*e*S	**Sg**	**00 45 29.7**	**-0.8**
SLR	comp=Z,262nm,0.4s			AML	AML	00 45 35.2	
PRYS	**Parys**	**1.02**	**228**	*e*P	**Pg**	**00 45 32.5**	**-1.0**
PRYS				*e*S	**Sg**	**00 45 46.3**	**-0.4**
PRYS	comp=Z,156nm,0.4s			AML	AML	00 45 51.4	
KSR	**Koster**	**1.24**	**288**	*e*P	**Pn**	**00 45 36.8**	**-0.5**
KSR				*e*S	**Sb**	**00 45 53.6**	**+0.2**
KSR	comp=Z,964nm,0.3s			AML	AML	00 45 57.5	
BFSD	**Buffelsfontein**	**1.42**	**244**	*e*P	**Pn**	**00 45 39.7**	**+0.1**
BFSD				*e*S	**Sn**	**00 45 59.2**	**+0.9**
BFSD	comp=Z,84nm,0.6s			AML	AML	00 46 02.1	
LBTB	**Lobatse** comp=Z,5.2nm,0.3s,baz=127,slow=18,SNR=140	**2.66**	**297**	Pn	**Pn**	**00 45 58.0**	**+1.3**
LBTB				Pg	**Pg**	**00 45 60.0**	**-4.8**
LBTB	comp=Z,8.2nm,0.3s,baz=126,slow=18,SNR=142			Lg		00 46 34.3	
LBTB	**Lobatse** comp=Z,14nm,0.3s,baz=210,slow=21,SNR=16	**2.66**	**297**	*e*Pn	**Pn**	**00 45 58.2**	**+1.5**
LBTB				Pg	**Pg**	**00 45 60.0**	**-4.8**
LBTB				Lg		00 46 34.3	
LBTB				*e*Sg	**Sg**	**00 46 34.8**	**-4.4**
SWZ	**Schweizer**	**2.74**	**249**	*e*P	**Pn**	**00 45 58.4**	**+0.6**
SWZ				*e*S	**Sn**	**00 46 32.1**	**+1.1**
SWZ	comp=Z,52nm,0.3s			AML	AML	00 46 45.9	
POGA	**Pongola**	**3.24**	**111**	*e*P	**Pn**	**00 46 06.7**	**+2.0**
POGA				*e*S	**Sn**	**00 46 46.9**	**+3.5**
POGA	comp=Z,55nm,0.4s			AML	AML	00 47 02.2	
BOSA	**Boshof** comp=Z,0.4nm,0.3s,baz=48,slow=15,SNR=12	**3.53**	**227**	Pn	**Pn**	**00 46 09.0**	**+0.3**
BOSA				Pg	**Pg**	**00 46 16.6**	**-4.8**
BOSA	comp=Z,2.9nm,0.3s,baz=54,slow=16,SNR=31			Lg		00 47 01.5	
BOSA	**Boshof** comp=Z,5.2nm,0.3s,baz=324,slow=19,SNR=13	**3.53**	**227**	*e*Pn	**Pn**	**00 46 08.7**	**0.0**
BOSA				Pg	**Pg**	**00 46 16.6**	**-4.8**
BOSA				*e*Pg	**Pg**	**00 46 18.7**	**-2.7**
BOSA				*e*S	**Sn**	**00 46 59.8**	**+9.3**
BOSA				Lg		00 47 01.5	
UPI	**Upington**	**6.54**	**250**	*e*P	**Pn**	**00 46 50.6**	**+0.6**
UPI				*e*S	**Sn**	**00 48 02.1**	**-2.6**
UPI	comp=Z,5.7nm,0.5s			AML	AML	00 48 41.7	
SUR	**Sutherland** comp=Z,0.3nm,0.3s,baz=41,slow=11,SNR=6.4	**8.89**	**225**	Pn	**Pn**	**00 47 23.9**	**+1.6**
SUR	**Sutherland**	**8.89**	**225**	*e*Pn	**Pn**	**00 47 23.8**	**+1.5**
SUR				*e*Sn	**Sn**	**00 48 58.9**	**-3.6**
LSZ	**Lusaka**	**10.91**	**360**	*e*Pn	**Pn**	**00 47 48.9**	**-1.2**
LSZ				Sn	**Sn**	**00 49 53.3**	**+1.0**
TSUM	**Tsumeb**	**12.05**	**303**	*e*Pn	**Pn**	**00 48 05.4**	**-0.2**
TSUM				*e*Sn	**Sn**	**00 50 20.8**	**+0.6**
TORD	**Torodi Ar. Bea** comp=Z,0.6nm,0.9s,baz=151,slow=7.9,SNR=3.7	**46.89**	**323**	P	**P**	**00 53 44.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**46.89**	**323**	P	**P**	**00 53 44.4**	**-0.1**
NVAR	**Mina Array Bea** comp=Z,0.1nm,0.3s,baz=90,slow=4.9,SNR=3.7	**149.38**	**302**	PKPbc	PKPbc	01 05 05.5	+2.4
NVAR	**Mina Array Bea**	**149.38**	**302**	PKPbc	PKPbc	01 05 05.5	+2.4

ISK ***13*** *01:07:46.8,38.8°88N×27.1°3E,h3km,MD3.5*
DDA ***13*** *01:07:46.9,38.8°85N×27.1°7E,h26km,Ml3.5*
ATH ***13*** *01:07:47.5,38.8°84N×27.2°1E,h29km±3km,MD3.4/7*
ISCJB ***13*** *01:07:47.4±0.3,38.8°85N±0.0°2×27.1°6E±0.0°2,h8km±3km, Error ellipse: s-maj=2.8km s-min=2.3km az=36.4*
CSEM ***13*** *01:07:48.1±0.1,38.8°84N×27.1°8E,h10km,MD3.5,Error ellipse: s-maj=2.4km s-min=2.2km az=54.0*
THE ***13*** *01:07:49.5,38.8°82N×27.1°0E,h10km±2km,ML3.4/3,Error ellipse: s-maj=2.2km s-min=0.8km az=240.0*
SKO ***13*** *01:08:06.3,39.1°76N×25.7°84E,h0km*
ISC 13 01:07:48.2±0.3,**38.8°5N**±0.0°1×**27.1°9E**±0.0°2,**h9**km±2km, **n162,** σ0§**95**/218,**9C-6D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZM	**Izmir**	**0.46**	**173**	PG	**Pg**	**01 07 57.1**	**0.0**
IZM	**Izmir**	**0.46**	**173**	*i* Pg	**Pg**	**01 07 57.1**	**+0.1**
BLCB	**Balcova**	**0.48**	**194**	*e*PG	**Pg**	**01 07 57.2**	**-0.3**
BLCB				*e*SG	**Sg**	**01 08 05.1**	**+1.3**
BLCB	**Balcova**	**0.48**	**194**	*e*Pg	**Pg**	**01 07 57.2**	**-0.3**
BLCB				*e*Sg	**Sg**	**01 08 05.1**	**+1.3**
AKS	**Akhisar**	**0.49**	**87**	*e*PG	**Pg**	**01 07 57.9**	**+0.3**
AKS	**Akhisar**	**0.49**	**87**	*e*Pg	**Pg**	**01 07 57.9**	**+0.2**
AKHS	**Akhisar**	**0.49**	**87**	*e*P	**Pg**	**01 07 57.6**	**0.0**
AKHS				*i* S	**Sg**	**01 08 05.5**	**+1.4**
AKHS	**Akhisar**	**0.49**	**87**	*e*P	**Pg**	**01 07 57.6**	**-0.1**
AKHS				*i* S	**Sg**	**01 08 05.5**	**+1.4**
AYVA	**Ayvalik**	**0.60**	**320**	⇑*i* P	**Pg**	**01 07 59.7**	**0.0**
AYVA				*i* S	**Sg**	**01 08 08.6**	**+1.0**
AYVA	**Ayvalik**	**0.60**	**320**	*i* P	**Pg**	**01 07 59.7**	**0.0**
AYVA				*i* S	**Sg**	**01 08 08.6**	**+1.0**
URLA	**Izmir**	**0.68**	**224**	*i* P	**Pg**	**01 07 59.8**	**-1.4**
URLA				*i* S	**Sg**	**01 08 13.5**	**+3.5**
URLA	**Izmir**	**0.68**	**224**	*i* P	**Pg**	**01 07 59.8**	**-1.4**
URLA				*i* S	**Sg**	**01 08 13.5**	**+3.5**
PRK	**Paraskevi**	**0.81**	**299**	*e*PN	**Pg**	**01 08 03.5**	**-0.3**
PRK				*e*SN	**Sg**	**01 08 16.6**	**+2.2**
PRK	**Paraskevi**	**0.81**	**299**	P	**Pg**	**01 08 03.6**	**-0.2**
PRK				S	**Sg**	**01 08 15.9**	**+1.5**
PRK	**Paraskevi**	**0.81**	**299**	P	**Pg**	**01 08 03.6**	**-0.2**
PRK				S	**Sg**	**01 08 15.9**	**+1.5**
PRK				*e*Sn	**Sg**	**01 08 16.6**	**+2.2**
BALY	**Balya**	**0.95**	**21**	*e*P	**Pg**	**01 08 06.2**	**-0.2**
BALY				*i* S	**Sg**	**01 08 19.4**	**+0.7**
BALY	**Balya**	**0.95**	**21**	*e*P	**Pg**	**01 08 06.2**	**-0.2**
BALY				*i* S	**Sg**	**01 08 19.4**	**+0.7**
BALB	**Balikesir**	**0.95**	**34**	*e*PG	**Pg**	**01 08 05.9**	**-0.6**
BALB				*e*SG	**Sg**	**01 08 19.7**	**+0.8**
BALB	**Balikesir**	**0.95**	**34**	*e*Pg	**Pg**	**01 08 05.9**	**-0.6**
BALB				*e*Sg	**Sg**	**01 08 19.7**	**+0.8**
CHOS	**Chios island**	**1.00**	**243**	*e*PN	**Pg**	**01 08 06.9**	**-0.5**
CHOS				*e*SN	**Sg**	**01 08 21.0**	**+0.6**
CHOS	**Chios island**	**1.00**	**243**	P	**Pg**	**01 08 06.9**	**-0.5**
CHOS				S	**Sg**	**01 08 20.7**	**+0.3**
CHOS	**Chios island**	**1.00**	**243**	P	**Pg**	**01 08 06.9**	**-0.5**
CHOS				S	**Sg**	**01 08 20.7**	**+0.3**
CHOS				*e*Sn	**Sg**	**01 08 21.0**	**+0.6**
SIGR	**SIGRI**	**1.10**	**289**	P	**Pg**	**01 08 08.8**	**-0.4**
SIGR				S	**Sg**	**01 08 23.8**	**+0.3**
SIGR	**SIGRI**	**1.10**	**289**	P	**Pg**	**01 08 08.8**	**-0.4**
SIGR				S	**Sg**	**01 08 23.8**	**+0.3**
MANT	**Manisa**	**1.13**	**108**	*i* P	**Pg**	**01 08 09.2**	**-0.7**
MANT				*i* S	**Sg**	**01 08 24.4**	**-0.2**
MANT	**Manisa**	**1.13**	**108**	*i* P	**Pg**	**01 08 09.2**	**-0.7**
MANT				*i* S	**Sg**	**01 08 24.4**	**-0.2**
GCAM	**G?zelcaml?**	**1.15**	**178**	*i* P	**Pg**	**01 08 08.6**	**-1.7**
GCAM				*i* S	**Sg**	**01 08 24.6**	**-0.5**
GCAM	**G?zelcaml?**	**1.15**	**178**	*i* P	**Pg**	**01 08 08.6**	**-1.6**
GCAM				*i* S	**Sg**	**01 08 24.6**	**-0.6**
SMG	**Samos**	**1.17**	**194**	*e*PN	**Pn**	**01 08 09.2**	**-1.5**
SMG				*e*SN	**Sn**	**01 08 25.9**	**-0.9**
SMG	**Samos**	**1.17**	**194**	*e*Pn	**Pn**	**01 08 09.2**	**-1.5**
SMG				*e*Sn	**Sn**	**01 08 25.9**	**-0.9**
EZN	**Ezine**	**1.18**	**326**	*e*PN	**Pn**	**01 08 09.2**	**-1.6**
EZN				*e*SN	**Sn**	**01 08 25.6**	**-1.4**
EZN	**Ezine**	**1.18**	**326**	*e*Pn	**Pn**	**01 08 09.3**	**-1.5**
EZN				*e*Sn	**Sn**	**01 08 25.7**	**-1.3**
KULA	**Kula-Manisa**	**1.20**	**106**	*e*PN	**Pn**	**01 08 10.8**	**-0.3**
KULA	**Kula-Manisa**	**1.20**	**106**	*e*Pn	**Pn**	**01 08 10.8**	**-0.3**
DEMI	**Demirci**	**1.21**	**80**	*e*P	**Pb**	**01 08 10.9**	**-0.2**
DEMI				*i* S	**Sb**	**01 08 26.9**	**+0.1**
DEMI	**Demirci**	**1.21**	**80**	*e*P	**Pb**	**01 08 10.9**	**-0.3**
DEMI				*i* S	**Sb**	**01 08 26.9**	**+0.1**
DURS	**Dursunbey**	**1.25**	**53**	⇓*i* P	**Pn**	**01 08 11.3**	**-0.5**
DURS				*i* S	**Sb**	**01 08 28.2**	**+0.2**
DURS	**Dursunbey**	**1.25**	**53**	*i* P	**Pn**	**01 08 11.3**	**-0.5**
DURS				*i* S	**Sb**	**01 08 28.2**	**+0.2**
GONE	**Gonen-Balikesi**	**1.25**	**18**	*e*PN	**Pn**	**01 08 11.3**	**-0.6**
GONE	**Gonen-Balikesi**	**1.25**	**18**	*e*Pn	**Pn**	**01 08 11.3**	**-0.5**
AYDN	**Tasoluk**	**1.31**	**155**	*e*P	**Pn**	**01 08 11.9**	**-0.7**
AYDN				*i* S	**Sb**	**01 08 30.5**	**+0.8**
AYDN	**Tasoluk**	**1.31**	**155**	*e*P	**Pn**	**01 08 11.9**	**-0.7**
AYDN				*i* S	**Sb**	**01 08 30.5**	**+0.8**
BOZC	**Bozcaada**	**1.32**	**319**	⇓*i* P	**Pn**	**01 08 12.0**	**-0.8**
BOZC				⇓*i* P		01 08 12.0	
BOZC				*i* S	**Sb**	**01 08 30.2**	**0.0**
BOZC				*i* S	**Sb**	**01 08 30.2**	**0.0**
DST	**Dursunbey**	**1.34**	**56**	*e*PN	**Pn**	**01 08 13.0**	**-0.1**
DST	**Dursunbey**	**1.34**	**56**	*e*Pn	**Pn**	**01 08 13.0**	**0.0**
KRBG	**Karabiga-Canak**	**1.54**	**3**	*e*PN	**Pn**	**01 08 15.2**	**-0.6**
KRBG	**Karabiga-Canak**	**1.54**	**3**	*e*Pn	**Pn**	**01 08 15.2**	**-0.6**
LPK	**Lapseki**	**1.55**	**348**	*e*PN	**Pn**	**01 08 15.3**	**-0.7**
LPK				*e*SN	**Sn**	**01 08 36.6**	**+0.4**
LPK	**Lapseki**	**1.55**	**348**	*e*Pn	**Pn**	**01 08 15.3**	**-0.7**
LPK				*e*Sn	**Sn**	**01 08 36.6**	**+0.4**
BNT	**Bandirma**	**1.60**	**20**	*e*PN	**Pn**	**01 08 16.6**	**-0.1**
BNT	**Bandirma**	**1.60**	**20**	*e*Pn	**Pn**	**01 08 16.6**	**-0.1**
MLSB	**Milas**	**1.62**	**163**	*e*PN	**Pn**	**01 08 17.9**	**+1.0**
MLSB	**Milas**	**1.62**	**163**	*e*Pn	**Pn**	**01 08 17.9**	**+1.0**
GELI	**Tayfur-Gelibol**	**1.64**	**341**	*e*PN	**Pn**	**01 08 16.8**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.64**	**341**	*e*Pn	**Pn**	**01 08 16.8**	**-0.3**
GADA	**Gvkgeada**	**1.67**	**324**	*e*PN	**Pn**	**01 08 17.1**	**-0.4**
GADA	**Gvkgeada**	**1.67**	**324**	*e*Pn	**Pn**	**01 08 17.1**	**-0.4**
KCTX	**Karacabey (Bur**	**1.68**	**32**	*e*PN	**Pn**	**01 08 18.3**	**+0.7**
KCTX	**Karacabey (Bur**	**1.68**	**32**	*e*Pn	**Pn**	**01 08 18.3**	**+0.7**
BODT	**Bodrum**	**1.79**	**177**	*e*PN	**Pn**	**01 08 20.1**	**+0.9**
BODT	**Bodrum**	**1.79**	**177**	*e*Pn	**Pn**	**01 08 20.1**	**+0.9**
GDZ	**Gediz**	**1.80**	**82**	*i* P	**Pn**	**01 08 19.5**	**+0.1**
GDZ				*i* S	**Sn**	**01 08 42.9**	**+0.5**
GDZ	**Gediz**	**1.80**	**82**	*i* P	**Pn**	**01 08 19.5**	**+0.1**
GDZ				*i* S	**Sn**	**01 08 42.9**	**+0.5**
RKY	**Sarkoy-Tekirda**	**1.83**	**360**	*e*PN	**Pn**	**01 08 19.5**	**-0.3**
RKY	**Sarkoy-Tekirda**	**1.83**	**360**	*e*Pn	**Pn**	**01 08 19.5**	**-0.3**
SART	**Tekirdag**	**1.83**	**360**	*i* P	**Pn**	**01 08 18.3**	**-1.5**
SART				*i* S	**Sn**	**01 08 41.8**	**-1.4**
SART	**Tekirdag**	**1.83**	**360**	*i* P	**Pn**	**01 08 18.3**	**-1.5**
SART				*i* S	**Sn**	**01 08 41.8**	**-1.4**
DNZL	**Cakiroluk**	**1.87**	**128**	*i* P	**Pn**	**01 08 20.5**	**+0.3**
DNZL				*i* S	**Sg**	**01 08 48.3**	**+0.1**
DNZL	**Cakiroluk**	**1.87**	**128**	*i* P	**Pn**	**01 08 20.5**	**+0.2**
DNZL				*i* S	**Sg**	**01 08 48.3**	**+0.1**
KHAL	**Karahalli**	**1.87**	**104**	*i* P	**Pn**	**01 08 20.4**	**+0.2**
KHAL				*i* S	**Sn**	**01 08 46.1**	**+2.2**
KHAL	**Karahalli**	**1.87**	**104**	*i* P	**Pn**	**01 08 20.4**	**+0.1**
KHAL				*i* S	**Sn**	**01 08 46.2**	**+2.2**
LIA	**Limnos Island**	**1.87**	**305**	*e*PN	**Pn**	**01 08 19.9**	**-0.4**
LIA	**Limnos Island**	**1.87**	**305**	P	**Pn**	**01 08 20.0**	**-0.3**
LIA				S	**Sn**	**01 08 43.2**	**-0.9**
LIA	**Limnos Island**	**1.87**	**305**	P	**Pn**	**01 08 20.0**	**-0.3**
LIA				S	**Sn**	**01 08 43.2**	**-0.9**
ERIK	**Erikli-Kesan**	**1.89**	**344**	*e*PN	**Pn**	**01 08 20.4**	**-0.2**
ERIK	**Erikli-Kesan**	**1.89**	**344**	*e*Pn	**Pn**	**01 08 20.4**	**-0.2**
YER	**Yerkesik**	**1.92**	**153**	*e*PN	**Pn**	**01 08 22.7**	**+1.7**
YER	**Yerkesik**	**1.92**	**153**	*e*Pn	**Pn**	**01 08 22.7**	**+1.7**
ENEZ	**Enez**	**2.04**	**337**	*e*PN	**Pn**	**01 08 22.9**	**+0.2**
ENEZ	**Enez**	**2.04**	**337**	*e*Pn	**Pn**	**01 08 22.9**	**+0.2**
ARMT	**Armutlu**	**2.14**	**37**	*e*PN	**Pn**	**01 08 25.6**	**+1.6**
ARMT	**Armutlu**	**2.14**	**37**	*e*Pn	**Pn**	**01 08 25.6**	**+1.5**
TKR	**Tekirdag**	**2.15**	**7**	*e*PN	**Pn**	**01 08 24.6**	**+0.4**
TKR	**Tekirdag**	**2.15**	**7**	*e*Pn	**Pn**	**01 08 24.6**	**+0.4**
APE	**Apeiranthos**	**2.21**	**217**	*e*PN	**Pn**	**01 08 25.2**	**+0.3**
APE	**Apeiranthos**	**2.21**	**217**	*e*PN	**Pn**	**01 08 23.4**	**-1.6**
APE	**Apeiranthos**	**2.21**	**217**	P	**Pn**	**01 08 23.4**	**-1.6**
APE	**Apeiranthos**	**2.21**	**217**	P	**Pn**	**01 08 23.4**	**-1.6**
APE	**Apeiranthos**	**2.21**	**217**	*e*Pn	**Pn**	**01 08 25.2**	**+0.2**
GEMT	**Gemlik**	**2.21**	**44**	*e*PN	**Pn**	**01 08 26.2**	**+1.2**
GEMT	**Gemlik**	**2.21**	**44**	*e*Pn	**Pn**	**01 08 26.2**	**+1.2**
ALN	**Alexandroupoli**	**2.22**	**337**	*e*PN	**Pn**	**01 08 24.9**	**-0.3**
ALN	**Alexandroupoli**	**2.22**	**337**	P	**Pn**	**01 08 25.2**	**0.0**
ALN	**Alexandroupoli**	**2.22**	**337**	*e*Pn	**Pn**	**01 08 24.9**	**-0.3**
ALN	**Alexandroupoli**	**2.22**	**337**	P	**Pn**	**01 08 25.2**	**0.0**
TURN	**Turunc**	**2.27**	**150**	*i* P	**Pn**	**01 08 23.9**	**-1.9**
TURN				*i* S	**Sn**	**01 08 48.7**	**-5.2**
TURN	**Turunc**	**2.27**	**150**	*i* P	**Pn**	**01 08 23.9**	**-1.9**
TURN				*i* S	**Sn**	**01 08 48.7**	**-5.2**
ALT	**Altintas**	**2.29**	**84**	*e*P	**Pg**	**01 08 29.4**	**-2.6**
ALT				*e*S	**Sg**	**01 08 59.2**	**-2.4**
CAVI	**Cavuskoy**	**2.46**	**56**	*e*PN	**Pn**	**01 08 30.0**	**+1.6**
CAVI	**Cavuskoy**	**2.46**	**56**	*e*Pn	**Pn**	**01 08 30.0**	**+1.6**
ELBA	**Catalca**	**2.48**	**22**	*i* P	**Pn**	**01 08 26.9**	**-1.8**
ELBA				*i* S	**Sn**	**01 08 56.2**	**-3.0**
ELBA	**Catalca**	**2.48**	**22**	*i* P	**Pn**	**01 08 27.0**	**-1.7**
ELBA				*i* S	**Sn**	**01 08 56.2**	**-2.9**
BUY	**Buyukada**	**2.49**	**36**	*i* P	**Pn**	**01 08 27.3**	**-1.5**
BUY				*i* S	**Sg**	**01 09 06.6**	**-1.6**
BUY	**Buyukada**	**2.49**	**36**	*i* P	**Pn**	**01 08 27.3**	**-1.5**
CTKS	**Kestanelik-??a**	**2.59**	**23**	*e*PN	**Pn**	**01 08 31.1**	**+0.9**
CTKS	**Kestanelik-??a**	**2.59**	**23**	*e*Pn	**Pn**	**01 08 31.1**	**+0.9**
AOS	**Alonnisos**	**2.60**	**278**	P	**Pn**	**01 08 30.1**	**-0.2**
AOS	**Alonnisos**	**2.60**	**278**	P	**Pn**	**01 08 30.1**	**-0.2**
RDO	**Rodhopi**	**2.62**	**332**	*e*PN	**Pn**	**01 08 30.4**	**-0.2**
RDO	**Rodhopi**	**2.62**	**332**	P	**Pn**	**01 08 30.6**	**0.0**
RDO	**Rodhopi**	**2.62**	**332**	*e*Pn	**Pn**	**01 08 30.4**	**-0.2**
**

BKI				*i* S		Sn	01 34 00.5	-7.7
BKI	**Bering**	**7.28**	**48**	PN		**Pn**	**01 32 46.3**	**-1.0**

*ISCJB **13** 01:41:03.4±0.3, 63°12N±0°02×150°91W±0°07, h140km±2km, mb3.8/15, Error ellipse: s-maj=5.0km s-min=3.8km az=17.1*
*NEIC **13** 01:41:05.2, 63°11N×150°88W, h134km, mb3.9/1, After AEIC.*
*IDC **13** 01:41:06.8±2.5, 63°41N×150°83W, h141km±18km, mb3.5/13, mb1 3.7/16, mb1mx3.6/26, mbtmp3.5/16, Error ellipse: s-maj=26.4km s-min=12.8km az=47.0*

ISC 13 01:41:04.6±0.3, 63°11N±0°02×150°89W±0°06, h136km±2km, n78, σ0°77/98, mb3.8/15, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRF	**Thorofare Moun**	**0.44**	**38**	P	**Pn**	**01 41 24.5**	**+0.6**
TRF				S	**Sn**	**01 41 38.8**	**+0.2**
PPLA	**Purkeypile**	**0.63**	**251**	*e*Pg	**Pn**	**01 41 25.5**	**+0.5**
PPLA				*e*S	**Sn**	**01 41 41.0**	**+0.6**
RND	**Reindeer**	**0.97**	**71**	P	**Pn**	**01 41 27.9**	**+0.3**
RND				S	**Sn**	**01 41 45.5**	**+0.3**
BPAW	**Bear Paw Mtn.**	**0.99**	**358**	P	**Pn**	**01 41 27.8**	**0.0**
BPAW				S	**Sn**	**01 41 44.8**	**-0.9**
CHUM	**Lake Minchumin**	**1.00**	**321**	P	**Pn**	**01 41 28.2**	**+0.2**
CHUM				S	**Sn**	**01 41 45.1**	**-0.7**
MCK	**McKinley**	**1.08**	**54**	P	**Pn**	**01 41 29.1**	**+0.5**
MCK				S	**Sn**	**01 41 46.7**	**-0.2**
SKT	**Skwentna**	**1.17**	**195**	P	**Pn**	**01 41 29.8**	**+0.2**
SKT				S	**Sn**	**01 41 48.8**	**+0.2**
DHY	**Denali Highway**	**1.60**	**90**	P	**Pn**	**01 41 34.6**	**+0.6**
DHY				S	**Sn**	**01 41 57.3**	**+0.7**
GHO	**Glory Hole Cre**	**1.62**	**145**	P	**Pn**	**01 41 34.9**	**+0.5**
SUA	**Susitna One**	**1.66**	**178**	P	**Pn**	**01 41 35.3**	**+0.5**
SUA				S	**Sn**	**01 41 58.5**	**+0.7**
PMR	**Palmer**	**1.73**	**151**	*e*Pn	**Pn**	**01 41 35.5**	**-0.1**
SML	**Sawmill**	**1.77**	**137**	*e*Pn	**Pn**	**01 41 35.9**	**-0.1**
SML				*e*S	**Sn**	**01 42 00.7**	**+0.7**
FIB	**Fire Island**	**1.98**	**170**	P	**Pn**	**01 41 39.9**	**+1.3**
SCM	**Sheep Creek Mo**	**2.09**	**126**	P	**Pn**	**01 41 39.8**	**-0.1**
HDA	**Harding Lake**	**2.18**	**52**	P	**Pn**	**01 41 41.1**	**+0.2**
MDM	**Murphy Dome**	**2.19**	**31**	P	**Pn**	**01 41 41.3**	**+0.2**
COLA	**College**	**2.22**	**36**	*e*Pn	**Pn**	**01 41 41.6**	**+0.2**
COLA				*e*S	**Sn**	**01 42 08.9**	**-0.8**
TT01	**Tatalina**	**2.35**	**267**	P	**Pn**	**01 41 42.4**	**-0.7**
DDM	**Donnelly Dome**	**2.36**	**71**	P	**Pn**	**01 41 43.8**	**+0.7**
ILAR	**Eielson Array**	**2.43**	**45**	P	**Pn**	**01 41 44.0**	**0.0**
	30nm,0.3s,baz=228,slow=12,SNR=464						
ILAR				S	**Sn**	**01 42 12.9**	**-1.4**
	15nm,0.3s,baz=225,slow=23,SNR=10						
ILAR	**Eielson Array**	**2.43**	**45**	P	**Pn**	**01 41 44.0**	**0.0**
ILAR				S	**Sn**	**01 42 12.9**	**-1.4**
IL1	**Eielson Array**	**2.43**	**45**	P	**Pn**	**01 41 43.9**	**-0.1**
GLM	**Gilmore Dome**	**2.43**	**38**	P	**Pn**	**01 41 44.5**	**+0.4**
PAX	**Paxson**	**2.47**	**91**	*e*Pn	**Pn**	**01 41 45.3**	**+0.7**
PAX				*e*S	**Sn**	**01 42 15.3**	**-0.1**
SLKM	**Skilak Lake**	**2.63**	**173**	*e*Pn	**Pn**	**01 41 47.0**	**+0.3**
SLKM				*e*S	**Sn**	**01 42 18.8**	**-0.2**
RSO	**Redoubt South**	**2.80**	**199**	*e*Pn	**Pn**	**01 41 49.3**	**+0.6**
SVW2	**Sparrevohn**	**2.99**	**230**	*e*P	**Pn**	**01 41 51.2**	**0.0**
SEW	**Seward**	**3.10**	**167**	*e*Pn	**Pn**	**01 41 52.4**	**-0.1**
SEW				*e*S	**Sn**	**01 42 27.0**	**-2.6**
DIV	**Divide**	**3.12**	**127**	*e*Pn	**Pn**	**01 41 52.1**	**-0.8**
DIV				*e*S	**Sn**	**01 42 27.7**	**-2.3**
DOT	**Dot Lake**	**3.12**	**77**	*e*Pn	**Pn**	**01 41 52.9**	**+0.1**
DOT				*e*S	**Sn**	**01 42 25.6**	**-4.5**
IM3	**Indian Mountai**	**3.14**	**338**	P	**Pn**	**01 41 53.0**	**0.0**
MENT	**Mentasta**	**3.27**	**90**	*e*P	**Pn**	**01 41 55.4**	**+0.6**
BRLK	**Bradley Lake**	**3.36**	**180**	P	**Pn**	**01 41 56.3**	**+0.3**
BMRM	**Bremner River**	**3.66**	**123**	P	**Pn**	**01 41 59.4**	**-0.5**
BCA3	**Beaver Creek A**	**4.14**	**87**	P	**Pn**	**01 42 06.0**	**-0.2**
COLD	**Coldfoot**	**4.14**	**4**	P	**Pn**	**01 42 06.6**	**+0.4**
EGAK	**Eagle**	**4.61**	**64**	P	**Pn**	**01 42 12.2**	**-0.1**
BM3	**Burnt Mountain**	**5.06**	**29**	P	**Pn**	**01 42 18.4**	**0.0**
DAWY	**Dawson**	**5.22**	**74**	P	**Pn**	**01 42 20.6**	**0.0**
KDAK	**Kodiak Island**	**5.41**	**190**	P	**Pn**	**01 42 21.1**	**-2.1**
	5.0nm,0.3s,baz=31,slow=9.8,SNR=39						
KDAK				S	**Sn**	**01 43 19.9**	**-4.5**
	16nm,0.3s,baz=173,slow=20,SNR=16						
KDAK	**Kodiak Island**	**5.41**	**190**	*e*Pn	**Pn**	**01 42 21.6**	**-1.5**
KDAK				*e*S	**Sn**	**01 43 18.6**	**-5.8**
OHAK	**Old Harbor**	**6.03**	**193**	P	**Pn**	**01 42 29.7**	**-1.7**
PNL	**Peninsula**	**6.51**	**117**	P	**Pn**	**01 42 37.9**	**+0.1**
CHGN	**Chignik**	**7.81**	**212**	*e*Pn	**Pn**	**01 42 54.2**	**-1.2**
SKAG	**Skagway**	**8.33**	**109**	*e*Pn	**Pn**	**01 43 02.3**	**0.0**
	12nm,0.7s						
INK	**Inuvik**	**8.83**	**46**	P	**Pn**	**01 43 08.2**	**-0.7**
	0.3nm,0.3s,baz=240,slow=16,SNR=26						
INK	**Inuvik**	**8.83**	**46**	P	**Pn**	**01 43 08.2**	**-0.7**
YKA	**Yellowknife Ar**	**16.46**	**76**	P	**Pn**	**01 44 46.5**	**-0.8**
	0.4nm,0.3s,baz=286,slow=10,SNR=5.9						
YKA	**Yellowknife Ar**	**16.46**	**76**	P	**Pn**	**01 44 46.5**	**-0.8**
RES	**Resolute Bay**	**22.15**	**36**	P	**P**	**01 45 47.4**	**-1.4**
	2.5nm,0.5s,mb3.9,baz=267,slow=1.1,SNR=14						
RES	**Resolute Bay**	**22.15**	**36**	P	**P**	**01 45 47.4**	**-1.4**
PDAR	**Pinedale Array**	**31.35**	**111**	P	**P**	**01 47 14.7**	**+2.8**
	1.0nm,0.8s,mb3.6,baz=312,slow=7.0,SNR=7.5						
PDAR				pP	pP	01 47 43.6	+2.6
	1.0nm,0.8s,baz=188,slow=10.0,SNR=6.8						
PDAR				PcP	PcP	01 50 03.0	+0.8
	0.3nm,0.4s,baz=126,slow=1.1,SNR=5.9						
PDAR	**Pinedale Array**	**31.35**	**111**	P	**P**	**01 47 14.7**	**+2.8**
PDAR				pP	pP	01 47 43.6	+2.6
PDAR				PcP	PcP	01 50 03.0	+0.8
NVAR	**Mina Array Bea**	**31.55**	**126**	P	**P**	**01 47 17.4**	**+3.8**
	0.4nm,0.7s,mb3.3,baz=330,slow=8.7,SNR=4.3						
NVAR				pP	pP	01 47 45.7	+3.0
	1.0nm,0.8s,baz=302,slow=7.9,SNR=6.2						
NVAR				PcP	PcP	01 50 05.1	+2.3
	0.4nm,0.6s,baz=256,slow=3.7,SNR=5.1						
NVAR	**Mina Array Bea**	**31.55**	**126**	P	**P**	**01 47 17.4**	**+3.8**
NVAR				pP	pP	01 47 45.7	+3.0
NVAR				PcP	PcP	01 50 05.1	+2.3
TXAR	**Lajitas Array**	**45.27**	**116**	P	**P**	**01 49 11.2**	**+2.9**
	0.8nm,0.7s,mb3.5,baz=323,slow=6.6,SNR=11						
TXAR				PcP	PcP	01 50 47.1	+1.5
	0.4nm,0.6s,baz=291,slow=3.4,SNR=3.4						
TXAR	**Lajitas Array**	**45.27**	**116**	P	**P**	**01 49 11.2**	**+2.9**
TXAR				PcP	PcP	01 50 47.1	+1.5
ARCES	**ARCESS Array B**	**47.61**	**2**	P	**P**	**01 49 26.3**	**+0.3**
	7.4nm,1.0s,mb4.2,baz=24,slow=9.3,SNR=6.9						
ARCES	**ARCESS Array B**	**47.61**	**2**	P	**P**	**01 49 26.3**	**+0.3**
SONM	**Songino Array**	**53.79**	**305**	P	**P**	**01 50 13.2**	**+0.7**
	0.4nm,0.6s,mb3.3,baz=38,slow=5.5,SNR=3.2						
SONM	**Songino Array**	**53.79**	**305**	P	**P**	**01 50 13.2**	**+0.7**
JOF	**Joensuu**	**54.27**	**359**	*e*p	**P**	**01 50 15.6**	**-0.2**
	2.0nm,0.5s,mb4.1						
KAF	**Kangasniemi**	**55.07**	**2**	*e*p	**P**	**01 50 21.0**	**-0.6**
ZALV	**Zalesovo Beam**	**55.46**	**324**	P	**P**	**01 50 24.6**	**+0.1**
	1.3nm,0.5s,mb3.9,baz=22,slow=7.4,SNR=9.1						
ZALV	**Zalesovo Beam**	**55.46**	**324**	P	**P**	**01 50 24.6**	**+0.1**
FINES	**FINESS Array B**	**55.74**	**2**	P	**P**	**01 50 26.1**	**-0.3**
	3.8nm,0.9s,mb4.2,baz=26,slow=9.3,SNR=8.7						
FINES	**FINESS Array B**	**55.74**	**2**	P	**P**	**01 50 26.1**	**-0.3**
MKAR	**Makanchi Array**	**62.62**	**322**	P	**P**	**01 51 13.6**	**-0.3**
	1.3nm,0.5s,mb4.0,baz=44,slow=7.2,SNR=23						
MKAR	**Makanchi Array**	**62.62**	**322**	P	**P**	**01 51 13.6**	**-0.3**
ABKAR	**Akbulak array**	**65.35**	**338**	*e*P	**P**	**01 51 32.4**	**+0.7**
	0.6nm,0.4s,mb3.8						
AKASG	**Malin Array Be**	**66.53**	**360**	P	**P**	**01 51 39.3**	**+0.1**
	3.2nm,0.4s,mb4.5,baz=1.4,slow=6.5,SNR=24						
AKASG	**Malin Array Be**	**66.53**	**360**	P	**P**	**01 51 39.3**	**+0.1**
GERES	**GERESS Array B**	**67.72**	**11**	P	**P**	**01 51 46.3**	**-0.5**
	0.2nm,0.5s,mb3.1,baz=354,slow=4.9,SNR=2.7						
GERES	**GERESS Array B**	**67.72**	**11**	P	**P**	**01 51 46.3**	**-0.5**
ESDC	**Sonseca Array**	**74.20**	**26**	P	**P**	**01 52 26.0**	**0.0**
	0.3nm,0.5s,mb3.3,baz=359,slow=5.5,SNR=4.3						
ESDC	**Sonseca Array**	**74.20**	**26**	P	**P**	**01 52 26.0**	**0.0**
BRTR	**Keskin Array B**	**77.45**	**356**	P	**P**	**01 52 45.2**	**+0.8**
	0.5nm,0.4s,mb3.5,baz=351,slow=3.9,SNR=5.8						
BRTR	**Keskin Array B**	**77.45**	**356**	P	**P**	**01 52 45.2**	**+0.8**

WEL 13 01:53:07.9±0.9, 35°65S×178°53E, h33km, ML4.1/7, Error ellipse: s-maj=15.3km s-min=7.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.92**	**185**	*e*P*	Pb	01 53 37.6	-4.6
PUZ	**Puketiti**	**2.42**	**185**	PN	Pn	01 53 45.3	+0.1
PUZ				SN	Sn	01 54 12.6	-1.2
MWZ	**Matawai**	**2.80**	**196**	P*	Pb	01 53 50.9	-6.3
MWZ				S*	Sb	01 54 22.5	-8.5
CNGZ	**Carnagh Statio**	**2.84**	**185**	PN	Pn	01 53 50.7	-0.2
URZ	**Urewera**	**2.84**	**203**	P*	Pb	01 53 51.5	-6.4
URZ				S*	Sb	01 54 23.8	-8.5
TARZ	**Mount Tarawera**	**3.05**	**212**	P*	Pb	01 53 55.8	-5.6
PRGZ	**Paritu Road**	**3.31**	**189**	PN	Pn	01 53 56.0	-1.3
KNZ	**Kokohu**	**3.43**	**191**	PN	Pn	01 53 57.7	-1.4
RAHZ	**Arahi**	**3.46**	**199**	PN	Pn	01 53 59.1	-0.3
RAHZ				SN	Sn	01 54 38.6	-0.5
MHGZ	**Mahia Peninsul**	**3.53**	**188**	*e*PN	Pn	01 53 57.9	-2.5
NMHZ	**Naumai**	**3.70**	**201**	PN	Pn	01 54 01.8	-1.0
BKZ	**Black Stump Fm**	**3.87**	**204**	P*	Pb	01 54 04.0	-11
FWVZ	**Far West T-bar**	**4.31**	**213**	P*	Pb	01 54 11.1	-12
KAHZ	**Kahuranaki**	**4.34**	**197**	PN	Pn	01 54 09.1	-2.4
WNVZ	**Wahianoa**	**4.35**	**212**	*e*P*	Pb	01 54 11.4	-12
MOVZ	**Moawhango**	**4.35**	**210**	P*	Pb	01 54 10.9	-13
PXZ	**Pawanui**	**4.57**	**196**	*e*PN	Pn	01 54 11.1	-3.5
PXZ				SN	Sn	01 55 01.6	-5.0
PNHZ	**Pukenui**	**4.64**	**203**	*e*PN	Pn	01 54 12.6	-3.0
PNHZ				SN	Sn	01 55 04.0	-4.3
PRHZ	**Porangahau**	**4.84**	**197**	*e*PN	Pn	01 54 14.5	-4.0
DVHZ	**Dannevirke**	**5.00**	**201**	PN	Pn	01 54 16.7	-3.9
BFZ	**Birch Farm**	**5.33**	**199**	PN	Pn	01 54 20.9	-4.2
MRZ	**Mangatainoka R**	**5.52**	**204**	PN	Pn	01 54 23.2	-4.5
MRZ				SN	Sn	01 55 23.4	-6.5
TIWZ	**Tintock**	**5.52**	**201**	*e*PN	Pn	01 54 23.9	-3.9
TIWZ				SN	Sn	01 55 23.5	-6.6
HOWZ	**Holdsworth Sta**	**5.75**	**203**	PN	Pn	01 54 26.1	-4.8
HOWZ				SN	Sn	01 55 28.2	-7.5
OGWZ	**Otaki Gorge**	**5.80**	**206**	PN	Pn	01 54 27.8	-3.8
TMWZ	**Te Maipa**	**5.83**	**200**	*e*PN	Pn	01 54 27.3	-4.7
TMWZ				SN	Sn	01 55 30.2	-7.4
KIW	**Kapiti Island**	**5.93**	**208**	PN	Pn	01 54 29.3	-4.1
MTW	**Mount Morrison**	**5.99**	**202**	PN	Pn	01 54 29.2	-4.9
CAW	**Cannon Point**	**6.09**	**206**	PN	Pn	01 54 31.5	-4.1
TRWZ	**Traveller**	**6.16**	**200**	PN	Pn	01 54 31.3	-5.2
PLWZ	**Palliser**	**6.44**	**202**	PN	Pn	01 54 34.6	-5.7
TCW	**Tory Channel**	**6.48**	**210**	PN	Pn	01 54 35.8	-5.1
THZ	**Tophouse**	**7.52**	**214**	PN	Pn	01 54 50.0	-5.2
KHZ	**Kahutara**	**7.79**	**208**	*e*PN	Pn	01 54 53.5	-5.4

*IDC **13** 01:56:14.9±4.6, 8°71S×124°35E, h76km±47km, mb3.7/6, mb1 4.0/9, mb1mx3.7/20, mbtmp3.8/9, ML4.1/3, Error ellipse: s-maj=61.2km s-min=20.3km az=52.0*

NEIC 13 01:56:13.5±2.8, 8°62S×124°40E, h60km±30km, Error ellipse: s-maj=40.6km s-min=15.5km az=45.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**9.50**	**173**	P	Pn	01 58 27.1	-0.6
	1.5nm,0.3s,baz=5.1,slow=9.5,SNR=67						
FITZ				S	Sn	02 00 04.7	-8.2
	4.9nm,0.3s,baz=75,slow=7.0,SNR=18						
FITZ	**Fitzroy Crossi**	**9.50**	**173**	*e*Pn	Pn	01 58 27.5	-0.1
FITZ				*e*S	Sn	02 00 02.5	-10
WRA	**Warramunga Arr**	**14.80**	**141**	P	Pn	01 59 39.0	-0.5
	0.7nm,0.3s,baz=318,slow=13,SNR=38						
WRA				S	Sn	02 02 09.6	-13
	1.6nm,0.3s,baz=315,slow=25,SNR=13						
WRA	**Warramunga Arr**	**14.80**	**141**	P	Pn	01 59 39.0	-0.5
WRA				S	Sn	02 02 09.6	-13
WRAB	**Tennant Creek**	**14.80**	**140**	*e*Pn	Pn	01 59 39.1	-0.4
	14nm,0.6s						
WRAB				*e*S	Sn	02 02 10.2	-12
ASAR	**Alice Springs**	**17.51**	**150**	P	Pn	02 00 13.9	+0.4
	0.6nm,0.3s,baz=324,slow=12,SNR=26						
ASAR				S		02 03 14.3	-19
	0.8nm,0.3s,baz=320,slow=19,SNR=8.5						
ASAR	**Alice Springs**	**17.51**	**150**	P	Pn	02 00 13.9	+0.4
ASAR				S	S	02 03 14.3	-19
CTA	**Charters Tower**	**24.00**	**121**	P	P	02 01 23.1	+0.2
	5.5nm,0.9s,baz=280,slow=6.8,SNR=4.7						
CTA	**Charters Tower**	**24.00**	**121**	P	P	02 01 23.1	+0.2
STKA	**Stephens Creek**	**28.12**	**148**	P	P	02 02 00.1	+0.2
	1.5nm,0.4s,baz=298,slow=6.4,SNR=5.1						
STKA	**Stephens Creek**	**28.12**	**148**	P	P	02 02 01.6	+1.7
	0.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**36.81**	**317**	P	P	02 03 17.3	+1.3
	1.2nm,0.3s,baz=150,slow=9.0,SNR=4.6						
CMAR	**Chiang Mai Arr**	**36.81**	**317**	P	P	02 03 17.3	+1.3
SONM	**Songino Array**	**58.43**	**346**	P	P	02 06 03.6	+0.7
	0.4nm,0.5s,baz=166,slow=7.4,SNR=3.3						
SONM	**Songino Array**	**58.43**	**346**	P	P	02 06 03.6	+0.7
MKAR	**Makanchi Array**	**66.69**	**330**	P	P	02 06 58.0	0.0
	0.4nm,0.5s,baz=155,slow=6.6,SNR=5.9						
MKAR	**Makanchi Array**	**66.69**	**330**	P	P	02 06 58.0	0.0
ZALV	**Zalesovo Beam**	**70.71**	**336**	P	P	02 07 22.0	-0.9
	0.5nm,0.4s,baz=138,slow=6.9,SNR=5.2						
ZALV	**Zalesovo Beam**	**70.71**	**336**	P	P	02 07 22.0	-0.9
TORD	**Torodi Ar. Bea**	**123.66**	**280**	PKP	PKPdf	02 15 04.1	-1.3
	0.5nm,1.0s,baz=55,slow=1.8,SNR=2.8						
TORD	**Torodi Ar. Bea**	**123.66**	**280**	PKP	PKPdf	02 15 04.1	-1.3

JMA 13 01:59:11.0±0.2, 29°86N×129°59E, h178km±2km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.25**	**94**	P	Pn	01 59 34.9	+0.2
JKC	**Kuchinoerabu**	**0.80**	**41**	P	Pn	01 59 37.3	+0.2
JTN	**Tanegashima 3**	**1.44**	**56**	P	Pn	01 59 42.4	+0.2
JAM	**Amami Oshima**	**1.44**	**179**	P	Pn	01 59 42.2	-0.1
JAM				*e*S	Sn	02 00 05.3	-1.1
JTSR	**Tashiro 2**	**1.74**	**41**	P	Pn	01 59 45.5	+0.4
JTSR				*e*S	Sn	02 00 11.2	-0.3
JSJ	**Shimokoshiki**	**1.81**	**3**	P	Pn	01 59 45.6	-0.3
JSJ				*e*S	Sn	02 00 12.3	-0.8
JTK	**Tokunoshima**	**2.14**	**195**	P	Pn	01 59 49.1	-0.4
JTK				S	Sn	02 00 17.9	-1.4
JTZ	**Takazaki**	**2.41**	**32**	P	Pn	01 59 53.0	+0.5
JTZ				S	Sn	02 00 24.2	-0.5
JIU2	**Izumi 2**	**2.88**	**21**	P	Pn	01 59 58.7	+0.7
JIU2				S	Sn	02 00 34.7	+0.1

*ISCJB **13** 02:07:16.0±0.8, 21°0S±0°1×179°0W±0°1, h635km±10km, mb4.0/10, Error ellipse: s-maj=22.1km s-min=13.1km az=150.0*
*NEIC **13** 02:07:16.5±0.9, 20°86S×179°00W, h625km±11km, mb4.5/3, Error ellipse: s-maj=22.7km s-min=13.0km az=145.0*
*IDC **13** 02:07:16.2±1.8, 20°99S×179°03W, h618km±23km, mb3.4/9, mb1 3.6/11, mb1mx3.4/21, mbtmp3.5/11, Error ellipse: s-maj=29.0km s-min=11.9km az=156.0*

ISC 13 02:07:16.6±0.9, 21°0S±0°1×179°0W±0°1, h624km±9km, n34, σ1°01/29, mb4.0/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.26**	**319**	*e*Pn	**P**	**02 08 45.8**	**+0.1**
MSVF				*e*S	**S**	**02 09 58.9**	**+0.7**
AFI	**Afiamalu**	**9.84**	**46**	P	**P**	**02 09 32.4**	**-2.0**
OUZ	**Omahuta**	**15.62**	**203**	*e*Pn	**P**	**02 10 32.4**	**+3.1**
	22nm,0.8s						
URZ	**Urewera**	**17.55**	**190**	P	**P**	**02 10 45.8**	**-1.2**
	3.0nm,0.3s,baz=278,slow=2.4,SNR=14						
URZ	**Urewera**	**17.55**	**190**	P	**P**	**02 10 45.8**	**-1.2**
CTA	**Charters Tower**	**32.52**	**265**	P	**P**	**02 12 58.3**	**-0.3**
	12nm,0.4s,mb4.9,baz=84,slow=11,SNR=19						
CTA	**Charters Tower**	**32.52**	**265**	P	**P**	**02 12 58.3**	**-0.3**
CTAO	**Charters Tower**	**32.52**	**265**	*e*P	**P**	**02 12 59.0**	**+0.3**
	9.0nm,0.5s,mb4.7						
PMG	**Port Moresby**	**34.55**	**284**	P	**P**	**02 13 15.7**	**0.0**
	8.8nm,0.6s,mb4.6,baz=70,slow=4.7,SNR=4.3						
PMG	**Port Moresby**	**34.55**	**284**	P	**P**	**02 13 15.7**	**0.0**
STKA	**Stephens Creek**	**36.75**	**245**	P	**P**	**02 13 33.9**	**+0.4**
	1.3nm,0.5s,mb3.7,baz=87,slow=12,SNR=3.0						
STKA	**Stephens Creek**	**36.75**	**245**	P	**P**	**02 13 33.9**	**+0.4**
ASAR	**Alice Springs**	**43.51**	**257**	P	**P**	**02 14 27.4**	**+0.2**
	8.1nm,0.5s,mb4.5,baz=96,slow=7.6,SNR=95						
ASAR				S	**S**	**02 20 11.5**	**-1.1**
	1.7nm,0.8s,baz=93,slow=16,SNR=9.1						
ASAR	**Alice Springs**	**43.51**	**257**	P	**P**	**02 14 27.4**	**+0.2**
ASAR				S	**S**	**02 20 11.5**	**-1.1**
WRAB	**Tennant Creek**	**43.61**	**263**	*e*P	**P**	**02 14 27.6**	**-0.4**
	3.0nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**43.62**	**263**	P	**P**	**02 14 27.5**	**-0.6**
	4.1nm,0.3s,mb4.4,baz=97,slow=7.6,SNR=215						
WRA	**Warramunga Ar**	**43.62**	**263**	P	**P**	**02 14 27.5**	**-0.6**
NVAR	**Mina Array Bea**	**82.01**	**44**	P	**P**	**02 18 34.2**	**+1.2**
	1.0nm,0.6s,mb3.5,baz=226,slow=8.2,SNR=9.0						
NVAR	**Mina Array Bea**	**82.01**	**44**	P	**P**	**02 18 34.2**	**+1.2**
TXAR	**Lajitas Array**	**88.09**	**58**	P	**P**	**02 19 04.1**	**+1.5**
	0.6nm,0.8s,mb3.4,baz=224,slow=5.2,SNR=6.4						
TXAR	**Lajitas Array**	**88.09**	**58**	P	**P**	**02 19 04.1**	**+1.5**
ILAR	**Eielson Array**	**88.98**	**13**	P	**P**	**02 19 04.7**	**-1.1**
	0.8nm,0.4s,mb3.9,baz=214,slow=5.3,SNR=23						
ILAR	**Eielson Array**	**88.98**	**13**	P	**P**	**02 19 04.7**	**-1.1**
PDAR	**Pinedale Array**	**89.94**	**44**	P	**P**	**02 19 11.1**	**+0.2**
	0.4nm,0.6s,mb3.4,baz=193,slow=4.5,SNR=4.6						
PDAR	**Pinedale Array**	**89.94**	**44**	P	**P**	**02 19 11.1**	**+0.2**
ARCES	**ARCESS Array B**	**129.21**	**349**	PKP	PKPdf	02 25 14.1	-0.4
	10.0nm,1.1s,baz=52,slow=2.0,SNR=4.8						
ARCES	**ARCESS Array B**	**129.21**	**349**	PKP	PKPdf	02 25 14.1	-0.4
AKASG	**Malin Array Be**	**142.97**	**330**	PKhKP	PKPpre	02 25 37.3	
	2.8nm,0.4s,baz=44,slow=4.0,SNR=16						
AKASG	**Malin Array Be**	**142.97**	**330**	PKP	PKPpre	02 25 37.3	
BRTR	**Keskin Array B**	**146.46**	**311**	PKPbc	PKPbc	02 25 49.0	-0.3
	0.4nm,0.5s,baz=150,slow=1.6,SNR=4.3						
BRTR	**Keskin Array B**	**146.46**	**311**	PKPbc	PKPbc	02 25 49.0	-0.3
GERES	**GERESS Array B**	**150.39**	**343**	PKPbc	PKPbc	02 25 58.8	0.0
	0.6nm,0.6s,baz=2.9,slow=2.7,SNR=6.8						
GERES	**GERESS Array B**	**150.39**	**343**	PKPbc	PKPbc	02 25 58.8	0.0

JMA 13 02:07:23.7±0.2, 43°29N×147°38E, h46km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.20**	**274**	P	Pn	02 07 44.4	+0.4
NEM2				*e*S	Sn	02 07 59.9	+0.9
JRA	**Rausu**	**1.76**	**292**	P	Pn	02 07 52.5	+0.8
JRA				*e*S	Sn	02 08 13.3	+0.4
JNK	**Nakash**	**1.96**	**280**	P	Pn	02 07 55.1	+0.7
JNK				*e*S	Sn	02 08 18.1	+0.3
JAK	**Akkeshi**	**1.99**	**262**	P	Pn	02 07 55.8	+1.0
JAK				*e*S	Sn	02 08 19.0	+0.6
JTKR	**Abashiri--Toko**	**2.61**	**286**	P	Pn	02 08 05.2	+1.9
JOB	**Onbets**	**2.62**	**263**	*e*S	Sn	02 08 34.6	+0.5
JAR	**Ashorobuto**	**2.64**	**271**	P	Pn	02 08 05.3	+1.6
JAR				*e*S	Sn	02 08 35.9	+1.5
JCH	**Churui**	**3.03**	**258**	*e*S	Sn	02 08 44.1	+0.1
JNBK	**Urakawa-nobuka**	**3.55**	**255**	P	Pn	02 08 17.9	+1.6

*IDC **13** 02:09:36.4±6.0, 10°83S×166°43E, h98km±52km, mb4.1/19, mb1 4.2/19, mb1mx4.2/23, mbtmp4.1/19, MS3.2/2, Ms1 3.1/2, ms1mx2.6/28, Error ellipse: s-maj=21.6km s-min=14.7km az=73.0*
*ISCJB **13** 02:09:41.0±2.1, 10°91S±0°07×166°4E±0°1, h154km±18km, mb4.3/26, Error ellipse: s-maj=17.0km s-min=10.1km az=161.8*
*NEIC **13** 02:09:41.5±1.6, 10°86S×166°43E

ZALV	Zalesovo Beam	93.83	324	P		P	02 22 41.9	-0.4
MK31	Makanchi Array	93.88	317	*e*P		P	02 22 42.9	+0.2
MKAR	Makanchi Array	93.88	317	P		P	02 22 42.6	-0.1
	2.1nm,0.6s,mb4.5,baz=93,slow=6.3,SNR=17							
MKAR	Makanchi Array	93.88	317	P		P	02 22 42.6	0.0
YKA	Yellowknife Ar	94.52	27	P		P	02 22 44.4	-0.9
	1.8nm,0.6s,mb4.5,baz=224,slow=7.7,SNR=3.8							
YKA	Yellowknife Ar	94.52	27	P		P	02 22 44.4	-0.9
FINES	FINESS Array B	121.88	339	PKP		PKPdf	02 28 18.1	-0.2
	2.5nm,0.8s,baz=189,slow=3.7,SNR=3.4							
FINES	FINESS Array B	121.88	339	PKP		PKPdf	02 28 18.1	-0.2
BOSA	Boshof	125.70	223	PKP		PKPdf	02 28 27.3	+0.5
	2.8nm,0.8s,baz=110,slow=5.4,SNR=3.3							
BOSA	Boshof	125.70	223	PKP		PKPdf	02 28 27.3	+0.5
KEST	Kesra	147.70	324	PKPbc		PKPbc	02 29 09.7	0.0
	1.3nm,0.9s,baz=45,slow=5.4,SNR=4.3							
KEST	Kesra	147.70	324	PKPbc		PKPbc	02 29 09.7	0.0
ESDC	Sonseca Array	150.09	345	PKPbc		PKPbc	02 29 15.7	+0.1
	0.3nm,0.6s,baz=353,slow=4.0,SNR=3.1							
ESDC	Sonseca Array	150.09	345	PKPbc		PKPbc	02 29 15.7	+0.1
TORD	Torodi Ar. Bea	164.91	280	PKP		PKPdf	02 29 28.9	-0.5
	0.4nm,0.7s,baz=48,slow=2.1,SNR=3.0							
TORD				PKPab		PKPab	02 30 24.5	-2.1
	1.3nm,1.0s,baz=82,slow=4.3,SNR=6.1							
TORD	Torodi Ar. Bea	164.91	280	PKP		PKPdf	02 29 28.9	-0.5
TORD				PKPab		PKPab	02 30 24.5	-2.1

CSEM ***13*** *02:38:10.1±0.2,38˚34.N×22˚29.E,h15km,ML1.4/2,Error ellipse: s-maj=3.8km s-min=3.0km az=42.0*
THE ***13*** *02:38:10.7,38˚34N×22˚.30E,h13km±3km,ML1.4/2, Error ellipse: s-maj=3.4km s-min=0.7km az=133.0*
ATH ***13*** *02:38:10.4,38˚34N×22˚.30E,h14km±5km,MD2.8/4*
ISC 13 02:38:10.2±1.2, 38˚33N±0˚.04×22˚30E±0˚.05, h18km±12km, n20,σ0°49/36, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DSF	Desfina	0.20	65	P		Pg	02 38 15.0	-0.2
DSF				S		Sg	02 38 18.3	-0.3
DSF	Desfina	0.20	65	P		Pg	02 38 15.0	-0.2
DSF				S		Sg	02 38 18.3	-0.3
EFP	Efpalio	0.32	288	*e*PB		Pg	02 38 16.9	-0.2
EFP				*e*SB		Sg	02 38 21.8	-0.1
EFP	Efpalio	0.32	288	P		Pg	02 38 16.9	-0.2
EFP				S		Sg	02 38 22.2	+0.3
EFP	Efpalio	0.32	288	P		Pg	02 38 16.9	-0.2
EFP				*e*Sb		Sg	02 38 21.8	-0.1
EFP				S		Sg	02 38 22.2	+0.3
GUR	Goura	0.39	175	*e*PB		Pg	02 38 18.6	+0.3
GUR	Goura	0.39	175	P		Pg	02 38 18.7	+0.4
GUR	Goura	0.39	175	*e*Pb		Pg	02 38 18.6	+0.3
LKR	Lokris	0.64	59	*e*PB		Pg	02 38 23.1	+0.3
LKR				*e*SB		Sg	02 38 31.3	-0.1
LKR	Lokris	0.64	59	P		Pg	02 38 22.8	0.0
LKR				S		Sg	02 38 32.7	+1.3
LKR	Lokris	0.64	59	P		Pg	02 38 22.8	0.0
LKR	Lokris	0.64	59	*e*Pb		Pg	02 38 23.1	+0.3
LKR				*e*Sb		Sg	02 38 31.3	-0.1
LKR				S		Sg	02 38 32.7	+1.3
AGG	Agios Georgios	0.70	2	P		Pg	02 38 23.1	-0.8
AGG				S		Sg	02 38 33.2	0.0
AGG	Agios Georgios	0.70	2	P		Pg	02 38 23.1	-0.8
AGG				S		Sg	02 38 33.2	0.0
EVR	Evrytania	0.70	327	*e*PG		Pg	02 38 23.4	-0.6
EVR				*e*SB		Sg	02 38 33.6	+0.2
EVR	Evrytania	0.70	327	P		Pg	02 38 23.8	-0.2
EVR				S		Sg	02 38 34.7	+1.3
EVR	Evrytania	0.70	327	*e*Pg		Pg	02 38 23.4	-0.6
EVR	Evrytania	0.70	327	P		Pg	02 38 23.8	-0.2
EVR				*e*Sb		Sg	02 38 33.6	+0.2
EVR				S		Sg	02 38 34.7	+1.3
DID	Didima	1.10	137	*e*PN		Pg	02 38 31.5	-0.1
DID	Didima	1.10	137	*e*Pn		Pg	02 38 31.5	-0.1

NIED ***13*** *02:38:00,26˚.30N×126˚.00E,h56km,Mw4.0 Best double couple: M0 1.29000×10^15 NP1:φs303.00000°,δ66.00000°, λ144.00000°. NP2:φs50.00000°,δ57.00000°,λ29.00000°.*
ISCJB ***13*** *02:38:37.5±0.3,26˚.24N±0˚.05×126˚.03E±0˚.05, h117km±4km,mb3.8/14, Error ellipse: s-maj=10.8km s-min=3.8km az=143.1*
NEIC ***13*** *02:38:38.8±0.6,26˚.30N×126˚.00E,h114km±6km,mb3.9/1, Error ellipse: s-maj=8.0km s-min=7.8km az=107.0*
IDC ***13*** *02:38:38.1±2.2,26˚.30N×126˚.08E,h108km±21km, mb3.6/13,mb1 3.8/15,mb1mx3.7/26,mbtmp3.6/15,MS3.0/1, Ms1 3.0/1,ms1mx2.5/31, Error ellipse: s-maj=23.3km s-min=14.0km az=64.0*
JMA ***13*** *02:38:39.0±0.2,26˚.27N×125˚.97E,h103km±3km,M3.7*
ISC 13 02:38:38.5±0.3, 26˚26N±0˚.05×126˚01E±0˚.05, h111km±4km, n49,σ0°85/64, mb3.8/14, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JKE	Kume jima 2	0.70	84	P		Pn	02 38 57.3	+0.4
JKE				S		Sn	02 39 10.6	-0.1
JAGN	Aguni-jima	1.15	73	P		Pn	02 39 01.8	+0.5
JAGN				S		Sn	02 39 18.6	0.0
NAH1	Naha	1.51	92	P		Pn	02 39 06.5	+1.1
NAH1				*e*S		Sn	02 39 26.2	+0.3
JJT2	Tamagusuku 2	1.56	94	P		Pn	02 39 07.2	+1.1
JJT2				*e*S		Sn	02 39 27.8	+0.7
JMJ	Miyako jima 2	1.58	204	P		Pn	02 39 06.6	+0.3
JMJ				*e*S		Sn	02 39 27.0	-1.4
JOGS	Gusukube	1.59	200	P		Pn	02 39 07.0	+0.6
JOGS				*e*S		Sn	02 39 28.0	+0.4
JIH	Iheya	1.91	66	*e*S		Sn	02 39 35.5	+0.7
JTJ	Tarama	2.00	217	P		Pn	02 39 11.8	+0.3
JTJ				*e*S		Sn	02 39 35.5	-1.2
JOW	Kunigami	2.11	74	P		Pn	02 39 13.2	+0.4
	14nm,0.3s,baz=147,slow=19,SNR=12							
JOW				S		Sn	02 39 37.2	-1.9
	71nm,0.3s,baz=110,slow=26,SNR=16							
JOW	Kunigami	2.11	74	*e*Pn		Pn	02 39 13.2	+0.3
JOW				*e*S		Sn	02 39 37.5	-1.6
JOW	Kunigami	2.11	74	P		Pn	02 39 13.2	+0.4
JOW				*e*S		Sn	02 39 37.9	-1.2
JIJ	Ishigaki jima	2.53	222	P		Pn	02 39 18.1	-0.3
JIJ				*e*S		Sn	02 39 46.4	-2.6
JKRS	Kuro-shima	2.71	222	*e*S		Sn	02 39 51.8	-1.3
JTK	Tokunoshima	3.03	59	P		Pn	02 39 25.1	+0.2
JTK				*e*S		Sn	02 40 00.0	-0.7
JAM	Amami Oshima	3.85	55	P		Pn	02 39 35.8	0.0
JAM				*e*S		Sn	02 40 18.5	-1.7
JMZ	Minamidaito 2	4.71	94	P		Pn	02 39 45.6	-1.7
JMZ				*e*S		Sn	02 40 34.6	-6.3
YULB	Yu-li	5.15	237	*e*Pn		Pn	02 39 53.4	+0.1
YULB				*e*S		Sn	02 40 47.4	-4.1
SSLB	Suanglung	5.21	243	*e*Pn		Pn	02 39 55.2	+1.1
SSLB				*e*S		Sn	02 40 55.0	+2.0
KSRS	Korea Array	11.28	8	P		Pn	02 41 17.1	+0.8
	0.2nm,0.3s,baz=188,slow=13,SNR=13							
SONM	Songino Array	26.48	330	P		P	02 44 06.0	+0.8
	1.3nm,0.6s,mb3.5,baz=146,slow=11,SNR=8.9							
SONM	Songino Array	26.48	330	P		P	02 44 06.0	+0.8
PETK	Petropavlovsk-	35.73	33	LR		LR	03 03 06.7	
	comp=Z,20nm,18.4s,baz=66,slow=41							
MK31	Makanchi Array	40.04	312	*e*P		P	02 46 02.4	-0.2
MKAR	Makanchi Array	40.04	312	P		P	02 46 02.5	-0.2
	2.5nm,0.5s,mb4.3,baz=98,slow=10,SNR=51							
MKAR				PcP		PcP	02 48 06.2	+0.8
	0.8nm,0.8s,baz=81,slow=3.8,SNR=4.6							
MKAR	Makanchi Array	40.04	312	P		P	02 46 02.5	-0.2
MKAR				PcP		PcP	02 48 06.2	+0.8
ZALV	Zalesovo Beam	41.03	324	P		P	02 46 09.4	-1.2
	0.8nm,0.4s,mb3.9,baz=109,slow=9.4,SNR=5.0							
ZALV	Zalesovo Beam	41.03	324	P		P	02 46 09.4	-1.2
WRAB	Tennant Creek	46.62	169	*e*P		P	02 46 56.6	+0.9
	1.8nm,0.9s,mb3.8							
WRA	Warramunga Arr	46.63	169	P		P	02 46 55.5	-0.3
	1.1nm,0.7s,mb3.7,baz=352,slow=8.4,SNR=8.7							
WRA	Warramunga Arr	46.63	169	P		P	02 46 55.5	-0.3
ASAR	Alice Springs	50.21	171	P		P	02 47 23.5	+0.3
	0.3nm,0.5s,mb3.5,baz=358,slow=1.3,SNR=4.6							
ASAR	Alice Springs	50.21	171	P		P	02 47 23.5	+0.3
STKA	Stephens Creek	59.69	165	P		P	02 48 31.8	+0.5
	1.7nm,0.8s,mb4.1,baz=111,slow=11,SNR=2.9							
STKA	Stephens Creek	59.69	165	P		P	02 48 31.8	+0.5
ILAR	Eielson Array	65.35	28	P		P	02 49 08.6	0.0
	1.0nm,0.7s,mb3.7,baz=256,slow=4.9,SNR=18							
ILAR	Eielson Array	65.35	28	P		P	02 49 08.6	0.0

FINES	FINESS Array B	71.85	330	P		P	02 49 49.0	0.0
	4.0nm,1.0s,mb4.2,baz=58,slow=5.5,SNR=16							
FINES	FINESS Array B	71.85	330	P		P	02 49 49.0	0.0
AKASG	Malin Array Be	74.21	319	P		P	02 50 02.1	-1.0
	0.5nm,0.4s,mb3.6,baz=55,slow=7.6,SNR=4.2							
AKASG	Malin Array Be	74.21	319	P		P	02 50 02.1	-1.0
BRTR	Keskin Array B	75.44	307	P		P	02 50 10.8	+0.4
	1.8nm,0.7s,mb3.9,baz=92,slow=4.1,SNR=11							
BRTR	Keskin Array B	75.44	307	P		P	02 50 10.8	+0.4
NB2	NORSAR Subarra	78.40	333	P		P	02 50 26.9	+0.3
	comp=Z,0.1nm,0.7s,baz=62,slow=6.2							
NOA	NORSAR Array B	78.40	333	P		P	02 50 26.1	-0.5
	comp=Z,1.1nm,0.8s,mb3.7,baz=54,slow=5.6,SNR=4.4							
NOA	NORSAR Array B	78.40	333	P		P	02 50 26.1	-0.5
YKA	Yellowknife Ar	79.33	24	P		P	02 50 31.5	-0.2
	comp=Z,1.9nm,0.6s,mb4.1,baz=299,slow=5.7,SNR=3.5							
YKA	Yellowknife Ar	79.33	24	P		P	02 50 31.5	-0.2
GERES	GERESS Array B	83.97	322	P		P	02 50 56.5	+0.2
	comp=Z,0.2nm,0.5s,mb3.2,baz=45,slow=7.7,SNR=3.5							
GERES	GERESS Array B	83.97	322	P		P	02 50 56.5	+0.2

NEIC ***13*** *02:49:25.5,36˚.83N×10˚.52W,h0km,MN2.6(MDD), After MDD.*
MDD ***13*** *02:49:26.5±1.9,36˚.68N×10˚.67W,h64km±45km,mb3.5/13, Error ellipse: s-maj=18.3km s-min=13.3km az=51.0, PRIMO*
IGIL ***13*** *02:49:27.8,36˚.66N×10˚.61W,h31km,ML2.7*
CSEM ***13*** *02:49:27.1±0.5,36˚.90N×10˚.41W,h10km,ML2.6/18, Error ellipse: s-maj=9.4km s-min=6.7km az=51.0*
INMG ***13*** *02:49:28.0±1.0,36˚.76N×10˚.48W,h10km,ML2.0, Error ellipse: s-maj=4.6km s-min=2.9km az=72.0*
ISC 13 02:49:27.3±0.9, 36˚92N±0˚.04×10˚42W±0˚.05, h10km, n86, σ1°08/153, 3C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PFVI	Vila Bisbo	1.29	80	⇑P		Pn	02 49 51.4	+0.1
PFVI				S		Sb	02 50 08.8	+0.6
PFVI	Vila Bisbo	1.29	80	⇑P		Pn	02 49 51.4	+0.1
	13nm,0.1s,SNR=18							
PFVI				S		Sb	02 50 08.8	+0.6
	38nm,0.1s,SNR=17							
PFVI	Vila Bisbo	1.29	80	P		Pn	02 49 51.4	0.0
	13nm,0.1s,SNR=18							
PFVI				*e*Sn		Sn	02 50 08.9	+0.2
	15nm,0.1s							
PFVI	Vila Bisbo	1.29	80	⇑*i*Pn		Pn	02 49 51.4	0.0
PFVI				*e*Sn		Sn	02 50 08.9	+0.2
PFVI				A			02 50 09.8	
	15nm,0.1s							
MORF	Marmelete	1.46	74	P		Pn	02 49 54.5	+0.8
	SNR=7.9							
MORF				S		Sn	02 50 12.5	-0.4
	SNR=7.9							
MORF	Marmelete	1.46	74	*e*Pn		Pn	02 49 54.1	+0.4
MORF				*e*Sn		Sn	02 50 13.6	+0.7
	11nm,0.3s							
MORF	Marmelete	1.46	74	*e*Pn		Pn	02 49 54.1	+0.4
MORF				*e*Sn		Sn	02 50 13.6	+0.7
MORF				A			02 50 15.1	
	11nm,0.3s							
PTEO	Sao Teotonio	1.49	65	*e*Pn		Pn	02 49 54.9	+0.8
PTEO				*e*Sn		Sn	02 50 15.2	+1.7
	7.2nm,0.9s							
PTEO	Sao Teotonio	1.49	65	*e*Pn		Pn	02 49 54.9	+0.8
PTEO				*e*Sn		Sn	02 50 15.2	+1.7
PTEO				A			02 50 18.5	
	7.2nm,0.9s							
PNCL	Nicolau / Gran	1.91	51	*e*Pn		Pn	02 50 00.9	+1.0
PNCL				*e*Sn		Sn	02 50 25.8	+1.7
	4.4nm,0.4s							
PNCL	Nicolau / Gran	1.91	51	*e*Pn		Pn	02 50 00.9	+1.0
PNCL				*e*Sn		Sn	02 50 25.8	+1.7
PNCL				A			02 50 28.4	
	4.4nm,0.4s							
MESJ	Messejana	1.97	62	*e*P		Pn	02 50 01.4	+0.6
MESJ				*e*			02 50 01.8	
	baz=260,slow=16							
MESJ				*e*S		Sn	02 50 26.3	+0.8
MESJ	Messejana	1.97	62	P		Pn	02 50 01.4	+0.6
	SNR=7.9							
MESJ				S		Sn	02 50 26.2	+0.6
	SNR=7.9							
PBDV	Barranco-do-Ve	2.01	80	*e*Pn		Pn	02 50 01.7	+0.4
PBDV				*e*Sn		Sn	02 50 26.3	-0.2
	4.2nm,0.9s							
PBDV	Barranco-do-Ve	2.01	80	*e*Pn		Pn	02 50 01.7	+0.4
PBDV				*e*Sn		Sn	02 50 26.3	-0.2
PBDV				A			02 50 38.2	
	4.2nm,0.9s							
PCVE	Castro Verde	2.02	69	*e*Pn		Pn	02 50 02.1	+0.6
PCVE				*e*Sn		Sn	02 50 27.3	+0.5
	4.4nm,0.6s							
PCVE	Castro Verde	2.02	69	*e*Pn		Pn	02 50 02.1	+0.6
PCVE				*e*Sn		Sn	02 50 27.3	+0.5
PCVE				A			02 50 30.1	
	4.4nm,0.6s							
PVAQ	Vaqueiros	2.21	77	*e*Pn		Pn	02 50 04.3	+0.3
PVAQ				*e*Sn		Sn	02 50 31.1	-0.3
	4.4nm,0.4s							
PVAQ	Vaqueiros	2.21	77	*e*Pn		Pn	02 50 04.3	+0.3
PVAQ				*e*Sn		Sn	02 50 31.1	-0.3
PVAQ				A			02 50 36.3	
	4.4nm,0.4s							
PMAFR	Mafra	2.22	23	P		Pn	02 50 04.8	+0.7
	4.0nm,0.1s,SNR=7.9							
PMAFR				S		Sn	02 50 33.1	+1.5
	8.2nm,0.1s,SNR=11							
PMAFR	Mafra	2.22	23	*e*Pn		Pn	02 50 04.9	+0.8
PMAFR				S		Sn	02 50 33.1	+1.5
	8.2nm,0.1s,SNR=11							
PMAFR	Mafra	2.22	23	*e*Pn		Pn	02 50 04.9	+0.8
PMAFR				*e*Sn		Sn	02 50 33.1	+1.5
PMAFR				A			02 50 36.6	
	17nm,0.2s							
MOE	Montemor	2.29	45	*e*Sn		Sn	02 50 34.8	+1.5
MOE	Montemor	2.29	45	*e*Sn		Sn	02 50 34.8	+1.5
PBEJ	Beja	2.31	61	*e*Pn		Pn	02 50 06.5	+1.1
PBEJ				*e*Sn		Sn	02 50 34.6	+0.8
	3.1nm,0.4s							
PBEJ	Beja	2.31	61	*e*Pn		Pn	02 50 06.5	+1.1
PBEJ				*e*Sn		Sn	02 50 34.6	+0.8
PBEJ				A			02 50 35.1	
	3.1nm,0.4s							
EGRO	El Granado	2.42	75	P		Pn	02 50 05.1	-1.8
EGRO				S		Sn	02 50 36.8	+0.2
EGRO	El Granado	2.42	75	P		Pn	02 50 05.7	-1.2
	1.9nm,0.1s,SNR=7.9							
EGRO				S		Sn	02 50 36.8	+0.2
	2.5nm,0.1s,SNR=7.9							
EGRO	El Granado	2.42	75	P		Pn	02 50 05.1	-1.8
	1.9nm,0.1s,SNR=7.9							
EGRO				S		Sn	02 50 36.8	+0.3
	2.5nm,0.1s,SNR=7.9							
PESTR	Estremoz	2.96	48	*e*Pn		Pn	02 50 15.3	+1.0
PESTR				*e*Sn		Sn	02 50 51.2	+1.3
	2.0nm,0.7s							
PESTR	Estremoz	2.96	48	*e*Pn		Pn	02 50 15.3	+1.0
PESTR				*e*Sn		Sn	02 50 51.2	+1.3
PESTR				A			02 51 06.1	
	2.0nm,0.7s							
PBAR	Barrancos	2.96	64	*e*Pn		Pn	02 50 14.9	+0.6
PBAR				*e*Sn		Sn	02 50 50.0	+0.1
	3.3nm,0.4s							
PBAR	Barrancos	2.96	64	*e*Pn		Pn	02 50 14.9	+0.6
PBAR				*e*Sn		Sn	02 50 50.0	+0.1
PBAR				A			02 50 52.8	
	3.3nm,0.4s							
EMIN	Mina Concepcio	3.10	73	P		Pn	02 50 16.4	+0.1
EMIN				S		Sn	02 50 52.5	-0.9
EMIN	Mina Concepcio	3.10	73	P		Pn	02 50 16.4	+0.1
	0.7nm,0.1s,SNR=16							
EMIN				S		Sn	02 50 52.5	-0.9
	1.2nm,0.1s,SNR=9.3							
EMIN	Mina Concepcio	3.10	73	P		Pn	02 50 16.4	+0.1
	0.7nm,0.1s,SNR=16							
EMIN				S		Sn	02 50 52.5	-0.9
	1.2nm,0.1s,SNR=9.3							
PTOM	Tomar	3.12	30	*e*Sn		Sn	02 50 54.8	+1.0
	4.5nm,0.9s							
PTOM	Tomar	3.12	30	*e*Sn		Sn	02 50 54.8	+1.0
PTOM				A			02 50 59.4	
	4.5nm,0.9s							

EBAD	Badajoz	3.25	55	P		Pn	02 50 18.8	+0.4
EBAD				S		Sn	02 50 57.7	+0.5
EBAD	Badajoz	3.25	55	P		Pn	02 50 18.8	+0.4
	2.3nm,0.1s,SNR=13							
EBAD				S		Sn	02 50 57.7	+0.5
	2.8nm,0.1s,SNR=6.3							
EBAD	Badajoz	3.25	55	P		Pn	02 50 18.8	+0.4
	2.3nm,0.1s,SNR=13							
EBAD				S		Sn	02 50 57.7	+0.5
	2.8nm,0.1s,SNR=6.3							
PMRV	Marv??o	3.45	43	*e*Pn		Pn	02 50 21.9	+0.8
PMRV				*e*Sn		Sn	02 51 02.6	+0.5
	2.0nm,0.2s							
PMRV	Marv??o	3.45	43	*e*Pn		Pn	02 50 21.9	+0.8
PMRV				*e*Sn		Sn	02 51 02.6	+0.5
PMRV				A			02 51 05.2	
	2.0nm,0.2s							
ESPR	Espera	3.66	89	P		Pn	02 50 22.9	-1.0
ESPR				S		Sn	02 51 04.5	-2.6
ESPR	Espera	3.66	89	P		Pn	02 50 22.9	-1.0
	0.7nm,0.1s,SNR=7.9							
ESPR				S		Sn	02 51 04.5	-2.6
	12nm,0.2s,SNR=7.9							
ESPR	Espera	3.66	89	P		Pn	02 50 22.9	-1.0
	0.7nm,0.1s,SNR=7.9							
ESPR				S		Sn	02 51 04.5	-2.6
	12nm,0.2s,SNR=7.9							
PCBR	Castelo Branco	3.72	38	*e*Pn		Pn	02 50 25.7	+1.0
PCBR				*e*Sn		Sn	02 51 09.0	+0.4
	0.6nm,0.2s							
PCBR	Castelo Branco	3.72	38	*e*Pn		Pn	02 50 25.7	+1.0
PCBR				*e*Sn		Sn	02 51 09.0	+0.4
PCBR				A			02 51 10.6	
	0.6nm,0.2s							
MTE	Manteigas	4.13	32	*e*Sn		Sn	02 51 18.8	-0.1
	1.3nm,0.2s							
MTE	Manteigas	4.13	32	*e*Sn		Sn	02 51 18.8	-0.1
MTE				A			02 51 22.5	
	1.3nm,0.2s							
PVIS	Viseu	4.27	27	*e*Pn		Pn	02 50 33.3	+1.0
PVIS				*e*Sn		Sn	02 51 22.1	-0.1
	2.7nm,0.1s							
PVIS	Viseu	4.27	27	*e*Pn		Pn	02 50 33.3	+1.0
PVIS				*e*Sn		Sn	02 51 22.1	-0.1
PVIS				A			02 51 25.1	
	2.7nm,0.1s							
EADA	Adamuz	4.80	73	P		Pn	02 50 39.9	+0.2
EADA				S		Sn	02 51 34.3	-1.1
EADA	Adamuz	4.80	73	P		Pn	02 50 39.9	+0.2
	0.4nm,0.1s,SNR=7.9							
EADA				S		Sn	02 51 33.7	-1.6
	1.5nm,0.1s,SNR=7.9							
EADA	Adamuz	4.80	73	P		Pn	02 50 39.8	+0.1
EADA				S		Sn	02 51 34.3	-1.1
	1.5nm,0.1s,SNR=7.9							
POLO	Lamas de Olo	4.89	24	*e*Sn		Sn	02 51 36.6	-0.9
	0.8nm,0.4s							
POLO	Lamas de Olo	4.89	24	*e*Sn		Sn	02 51 36.6	-0.9
POLO				A			02 51 38.6	
	0.8nm,0.4s							
MVO	Moncorvo	4.99	31	P		Pn	02 50 42.9	+0.7
MVO				S		Sn	02 51 39.2	-0.7
MVO	Moncorvo	4.99	31	P		Pn	02 50 42.9	+0.7
	0.3nm,0.1s,SNR=7.9							
MVO				S		Sn	02 51 39.2	-0.7
	1.4nm,0.1s,SNR=5.9							
MVO	Moncorvo	4.99	31	P		Pn	02 50 42.9	+0.7
	0.3nm,0.1s,SNR=7.9							
MVO	Moncorvo	4.99	31	*e*Pn		Pn	02 50 43.4	+1.2
MVO				S		Sn	02 51 39.2	-0.7
	1.4nm,0.1s,SNR=5.9							
MVO	Moncorvo	4.99	31	*e*Pn		Pn	02 50 43.4	+1.2
MVO				*e*Sn		Sn	02 51 39.0	-0.9
MVO				A			02 51 44.0	
	2.5nm,0.6s							
ELOB	Lobios	5.26	20	P		Pn	02 50 44.4	-1.6
ELOB				S		Sn	02 51 44.4	-2.3
ELOB	Lobios	5.26	20	P		Pn	02 50 44.4	-1.6
	0.1nm,0.1s,SNR=7.9							
ELOB				S		Sn	02 51 44.4	-2.3
	0.4nm,0.1s,SNR=7.9							
ELOB	Lobios	5.26	20	P		Pn	02 50 44.4	-1.6
	0.1nm,0.1s,SNR=7.9							
ELOB				S		Sn	02 51 44.4	-2.3
	0.4nm,0.1s,SNR=7.9							
PGAV	Gavieira, Arco	5.30	18	*e*Sn		Sn	02 51 46.5	-1.1
	1.2nm,0.3s							
PGAV	Gavieira, Arco	5.30	18	*e*Sn		Sn	02 51 46.5	-1.1
PGAV				A			02 51 48.5	
	1.2nm,0.3s							
PBRG	Braganca	5.64	29	*e*Sn		Sn	02 51 54.3	-1.8
	0.9nm,0.2s							
PBRG	Braganca	5.64	29	*e*Sn		Sn	02 51 54.3	-1.8
PBRG				A			02 51 57.9	
	0.9nm,0.2s							
ECAL	Calabor	5.76

	comp=Z,79nm,0.2s							
BTLR	**Botlikh**	**0.54**	**173**	*i* Pg		**Pg**	02 52 37.1	-1.0
	comp=Z,79nm,0.2s							
BTLR				*e*Sg		**Sg**	02 52 46.0	+0.9
DBC	**Dubki**	**0.54**	**109**	*e*PG		**Pg**	02 52 38.8	+0.7
DBC				*i* S		**Sg**	02 52 46.5	+1.4
DBC				pmax	pmax			
	comp=Z,52nm,0.2s							
DBC	**Dubki**	**0.54**	**109**	*e*Pg		**Pg**	02 52 38.8	+0.7
	comp=Z,52nm,0.2s							
DBC				*i* Sg		**Sg**	02 52 46.5	+1.4
KRNR	**Karanay**	**0.68**	**123**	*e*PG		**Pg**	02 52 38.8	-1.9
KRNR				*e*S		**Sg**	02 52 48.0	-1.5
KRNR				pmax	pmax			
	comp=Z,46nm,0.2s							
KRNR	**Karanay**	**0.68**	**123**	*e*Pg		**Pg**	02 52 38.8	-1.9
	comp=Z,46nm,0.2s							
KRNR				*e*Sg		**Sg**	02 52 48.0	-1.5
UNCR	**Uncukul**	**0.68**	**135**	*e*PG		**Pg**	02 52 39.5	-1.3
UNCR				*e*S		**Sg**	02 52 49.0	-0.7
UNCR				pmax	pmax			
	comp=Z,40nm,0.2s							
UNCR	**Uncukul**	**0.68**	**135**	*e*Pg		**Pg**	02 52 39.5	-1.3
	comp=Z,40nm,0.2s							
UNCR				*e*Sg		**Sg**	02 52 49.0	-0.7
XNZR	**Khunzakh**	**0.78**	**147**	*e*PG		**Pg**	02 52 41.3	-1.3
XNZR				*e*S		**Sg**	02 52 53.0	+0.3
XNZR				pmax	pmax			
	comp=Z,220nm,0.2s							
XNZR	**Khunzakh**	**0.78**	**147**	*e*Pg		**Pg**	02 52 41.3	-1.3
	comp=Z,220nm,0.2s							
XNZR				*e*Sg		**Sg**	02 52 53.0	+0.3
BUJR	**Buynaksk**	**0.80**	**117**	*e*PG		**Pg**	02 52 43.0	-0.1
BUJR				*e*S		**Sg**	02 52 54.2	+0.6
BUJR	**Buynaksk**	**0.80**	**117**	*e*Pg		**Pg**	02 52 43.0	-0.1
BUJR				*e*Sg		**Sg**	02 52 54.2	+0.6
SNJR	**Sundja**	**0.98**	**263**	⇓*i*PG		**Pg**	02 52 47.2	+0.7
SNJR				*e*S		**Sg**	02 53 01.3	+2.1
SNJR	**Sundja**	**0.98**	**263**	*i* Pg		**Pg**	02 52 47.2	+0.7
SNJR				*e*Sg		**Sg**	02 53 01.3	+2.1
MAK	**Makhachkala**	**1.03**	**103**	*e*PG		**Pg**	02 52 46.8	-0.6
MAK				*e*			02 53 02.4	
MAK				pmax	pmax			
	comp=Z,91nm,0.2s							
MAK				smax				
	comp=N,1.0nm,1.0s							
MAK	**Makhachkala**	**1.03**	**103**	*e*Pg		**Pg**	02 52 46.8	-0.6
	comp=N,91nm,0.2s							
MAK				*e*Sg		**Sg**	02 52.4	+1.6
	comp=N,1.0nm,1.0s							
TRKR	**Terskaya**	**1.15**	**298**	⇓*i*PG		**Pg**	02 52 49.2	-0.6
TRKR				*i* S		**Sg**	02 53 06.8	+2.1
TRKR	**Terskaya**	**1.15**	**298**	*i* Pg		**Pg**	02 52 49.2	-0.6
TRKR				*i* Sg		**Sg**	02 53 06.8	+2.1
KMKR	**Kumukh**	**1.28**	**146**	*e*PG		**Pn**	02 52 51.5	-0.2
KMKR				*e*S		**Sb**	02 53 08.5	0.0
KMKR				pmax	pmax			
	comp=Z,70nm,0.2s							
KMKR	**Kumukh**	**1.28**	**146**	*e*Pg		**Pn**	02 52 51.5	-0.2
	comp=Z,70nm,0.2s							
KMKR				*e*Sg		**Sb**	02 53 08.5	0.0
KMSR	**Komsomolskaya**	**1.36**	**278**	⇑*i*PG		**Pn**	02 52 52.4	-0.4
KMSR				*e*S		**Sg**	02 53 12.0	+0.7
KMSR	**Komsomolskaya**	**1.36**	**278**	*i* Pg		**Pn**	02 52 52.4	-0.4
KMSR				*e*Sg		**Sg**	02 53 12.0	+0.7
ARNR	**Ardon**	**1.36**	**270**	⇓*i*PG		**Pn**	02 52 52.6	-0.2
ARNR				*e*S		**Sg**	02 53 11.5	+0.1
ARNR	**Ardon**	**1.36**	**270**	*i* Pg		**Pn**	02 52 52.6	-0.2
ARNR				*e*Sg		**Sg**	02 53 11.5	+0.1
LACR	**Lac**	**1.40**	**255**	⇑*i*PG		**Pn**	02 52 52.2	-1.2
LACR				*i* S		**Sb**	02 53 11.8	-0.2
LACR	**Lac**	**1.40**	**255**	*i* Pg		**Pn**	02 52 52.2	-1.2
LACR				*i* Sg		**Sb**	02 53 11.8	-0.2
PRTR	**Priterechnaya**	**1.46**	**293**	⇓*i*PG		**Pn**	02 52 54.2	0.0
PRTR				*e*S		**Sg**	02 53 15.2	+0.6
PRTR	**Priterechnaya**	**1.46**	**293**	*i* Pg		**Pn**	02 52 54.2	0.0
PRTR				*e*Sg		**Sg**	02 53 15.2	+0.6
KORR	**Kora**	**1.52**	**267**	*e*PG		**Pn**	02 52 54.7	-0.3
KORR				*e*S		**Sg**	02 53 16.1	-0.4
KORR	**Kora**	**1.52**	**267**	*e*Pg		**Pn**	02 52 54.7	-0.3
KORR				*e*Sg		**Sg**	02 53 16.1	-0.4
ZEI	**Tsey**	**1.70**	**256**	⇑*i*PN		**Pn**	02 52 57.1	-0.4
ZEI				*i* S		**Sn**	02 53 20.3	+1.0
ZEI	**Tsey**	**1.70**	**256**	*i* Pn		**Pn**	02 52 57.1	-0.4
ZEI				*i* Sg		**Sn**	02 53 20.3	+1.0
LSNR	**Lesken**	**1.70**	**273**	⇓*i*PN		**Pn**	02 52 57.6	+0.1
LSNR				*e*S		**Sg**	02 53 21.2	-1.0
LSNR	**Lesken**	**1.70**	**273**	*i* Pn		**Pn**	02 52 57.6	+0.1
LSNR				*e*Sg		**Sg**	02 53 21.2	-1.0
TBLG	**Delisi**	**1.79**	**216**	PN		**Pn**	02 53 00.5	+1.7
TBLG				S		**Sg**	02 53 25.2	-0.1
TBLG	**Delisi**	**1.79**	**216**	P		**Pn**	02 53 00.5	+1.7
TBLG				S		**Sg**	02 53 25.2	-0.1
TBLG	**Delisi**	**1.79**	**216**	Pn		**Pn**	02 53 00.5	+1.7
TBLG				Sg		**Sg**	02 53 25.2	-0.1
MTA	**Mtatsminda**	**1.80**	**214**	P		**Pn**	02 52 59.7	+0.8
MTA				S		**Sg**	02 53 25.1	-0.5
DGRG	**David-gareji**	**1.83**	**198**	P		**Pn**	02 53 00.8	+1.5
DGRG				S		**Sg**	02 53 27.4	+0.8
DIGR	**Digorskoe uzhe**	**1.90**	**262**	⇓*i*PN		**Pn**	02 52 59.8	-0.4
DIGR	**Digorskoe uzhe**	**1.90**	**262**	*i* Pn		**Pn**	02 52 59.8	-0.4
GOR	**Gori**	**1.93**	**232**	P		**Pn**	02 53 01.9	+1.3
GOR				S		**Sg**	02 53 28.4	-1.1
ONI	**Oni**	**2.06**	**254**	P		**Pn**	02 53 02.4	-0.1
ONI				S		**Sg**	02 53 32.4	-1.5
KIV	**Kislovodsk**	**2.62**	**288**	*e*PN		**Pn**	02 53 07.9	-2.3
KIV				*i* S		**Sn**	02 53 40.9	-1.2
KIV				pmax	pmax			
	comp=Z,16nm,0.9s							
KIV	**Kislovodsk**	**2.62**	**288**	*e*Pn		**Pn**	02 53 07.9	-2.3
	comp=Z,16nm,0.9s							
KIV				*i* Sn		**Sn**	02 53 40.9	-1.2
GNI	**Garni**	**3.22**	**199**	*i* PN		**Pn**	02 53 20.9	+2.5
GNI	**Garni**	**3.22**	**199**	*i* Pn		**Pn**	02 53 20.9	+2.5
DOMR	**Dombai**	**3.30**	**273**	*i* PN		**Pn**	02 53 18.8	-0.7
DOMR	**Dombai**	**3.30**	**273**	*i* Pn		**Pn**	02 53 18.8	-0.7

*ISCJB **13** 02:52:43.9±0.4, 38°.95N±0°.04×35°.66E±0°.04, h10km, Error ellipse: s-maj=5.6km s-min=3.5km az=26.2*
*DDA **13** 02:52:44.0, 38°.93N×35°.59E, h5km±3km, Md2.9*
*ISK **13** 02:52:43.9, 38°.97N×35°.74E, h7km, MD2.9*
*CSEM **13** 02:52:44.1±0.2, 38°.92N×35°.66E, h2km, MD2.9, Error ellipse: s-maj=7.4km s-min=5.2km az=19.0*

ISC 13 02:52:44.3±0.6, 38°.93N±0°.04×35°.63E±0°.04, h1km±8km, n31, σ1§19/40, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
BNN	**Bunyan**	**0.19**	**114**	PG	**Pg**	02 52 47.3		-0.6
BNN	**Bunyan**	**0.19**	**114**	*i* Pg	**Pg**	02 52 47.3		-0.6
AVNT	**Avonos**	**0.62**	**256**	*i* P	**Pg**	02 52 55.9		-0.3
AVNT				*i* S	**Sg**	02 53 03.5		-0.7
AVNT	**Avonos**	**0.62**	**256**	*i* P	**Pg**	02 52 55.9		-0.3
AVNT				*i* S	**Sg**	02 53 03.5		-0.7
PINB	**Pinarbasi**	**0.66**	**112**	*i* P	**Pg**	02 52 57.2		+0.3
PINB				*i* S	**Sg**	02 53 07.1		+1.7
PINB	**Pinarbasi**	**0.66**	**112**	*i* P	**Pg**	02 52 57.2		+0.3
PINB				*i* S	**Sg**	02 53 07.1		+1.7
YOZ	**Yozgat**	**0.75**	**342**	*e*PG	**Pg**	02 52 58.7		0.0
YOZ	**Yozgat**	**0.75**	**342**	*e*Pg	**Pg**	02 52 58.7		0.0
SARI	**SarD1z-Kayseri**	**0.87**	**106**	*e*PG	**Pg**	02 52 59.1		-2.0
SARI				*e*SG	**Sg**	02 53 10.3		-2.1
SARI	**SarD1z-Kayseri**	**0.87**	**106**	*e*Pg	**Pg**	02 52 59.1		-2.0
SARI				*e*Sg	**Sg**	02 53 10.3		-2.1
KOZT	**Kozan**	**1.45**	**174**	*e*PN	**Pn**	02 53 11.0		-0.7
CORM	**Corum**	**1.47**	**329**	*e*PN	**Pn**	02 53 11.6		-0.3
CORM	**Corum**	**1.47**	**329**	*e*Pn	**Pn**	02 53 11.6		-0.3
SCER	**sogukcermik**	**1.49**	**51**	*i* P	**Pg**	02 53 13.1		+0.2
SCER				*i* S	**Sg**	02 53 37.5		+5.2
SCER	**sogukcermik**	**1.49**	**51**	*i* P	**Pg**	02 53 13.1		+0.2
DARE	**Darende-Malaty**	**1.70**	**88**	*e*PN	**Pn**	02 53 10.8		-4.3
KARA	**Karaisali**	**1.72**	**195**	*e*PN	**Pn**	02 53 16.0		+0.7
KARA	**Karaisali**	**1.72**	**195**	*e*Pn	**Pn**	02 53 16.0		+0.6
KMRS	**Kahramanmaras**	**1.74**	**144**	*e*PN	**Pn**	02 53 15.1		-0.5
KMRS	**Kahramanmaras**	**1.74**	**144**	*e*Pn	**Pn**	02 53 15.1		-0.5
SULT	**Sultanhani-AKS**	**1.81**	**247**	*e*PN	**Pn**	02 53 17.6		+1.1
SULT	**Sultanhani-AKS**	**1.81**	**247**	*e*Pn	**Pn**	02 53 17.6		+1.1
CTKT	**Corum**	**1.81**	**339**	*i* P	**Pg**	02 53 17.5		-1.5
CTKT				*i* S	**Sg**	02 53 45.1		+2.6
CTKT	**Corum**	**1.81**	**339**	*i* P	**Pg**	02 53 17.5		-1.6
AKCD	**Akcadag**	**1.91**	**109**	*i* P	**Pg**	02 53 21.2		+0.4
AKCD				*i* S	**Sg**	02 53 48.2		+2.6
AKCD	**Akcadag**	**1.91**	**109**	*i* P	**Pg**	02 53 21.2		+0.3
RSDY	**Resadiye-TOKAT**	**1.97**	**41**	*e*PN	**Pn**	02 53 17.4		-1.4
RSDY	**Resadiye-TOKAT**	**1.97**	**41**	*e*Pn	**Pn**	02 53 17.4		-1.4
AFSR	**Af˙ar-Bala (A**	**2.05**	**285**	*e*PN	**Pn**	02 53 20.9		+1.0
AFSR	**Af˙ar-Bala (A**	**2.05**	**285**	*e*Pn	**Pn**	02 53 20.9		+1.0
GZT	**Gaziantep**	**2.19**	**135**	*i* P	**Pg**	02 53 27.2		+0.9

IDC 13 02:57:15.4±41.0, 5°.17N×32°.00W, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/24, mbtmp3.6/4, MS3.5/10, Ms1 3.6/10, ms1mx3.3/26, Error ellipse: s-maj=951.7km s-min=82.5km az=31.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
DBIC	**Dimbokro**	**27.04**	**85**	LR	LR	03 11 19.2		
	comp=Z,94nm,19.6s,baz=280,slow=31							
TORD	**Torodi Ar. Bea**	**34.16**	**74**	P	P	03 04 02.5		-0.1
	1.6nm,0.8s,baz=266,slow=9.3,SNR=11							
TORD				LR	LR	03 16 04.5		
	comp=Z,122nm,20.6s,baz=235,slow=33							
LPAZ	**La Paz**	**41.62**	**238**	LR	LR	03 20 27.0		
	comp=Z,75nm,20.4s,baz=166,slow=33							
ROSC	**El Rosal**	**42.17**	**272**	LR	LR	03 20 51.8		
	comp=Z,58nm,20.9s,baz=72,slow=34							
PLCA	**Paso Flores**	**57.75**	**214**	LR	LR	03 32 11.2		
	comp=Z,72nm,18.2s,baz=83,slow=36							
GERES	**GERESS Array B**	**58.21**	**34**	LR	LR	03 32 55.0		
	comp=Z,38nm,18.6s,baz=298,slow=37							
MLR	**Muntele Rosu**	**64.18**	**41**	P	P	03 07 52.9		+0.9
	0.7nm,1.1s,baz=212,slow=15,SNR=3.0							
NOA	**NORSAR Array B**	**64.44**	**22**	LR	LR	03 35 33.2		
	comp=Z,15nm,18.4s,baz=150,slow=36							
BOSA	**Boshof**	**64.47**	**125**	LR	LR	03 30 09.5		
	comp=Z,52nm,18.5s,baz=175,slow=31							
AKASG	**Malin Array Be**	**68.03**	**37**	P	P	03 08 16.1		-0.6
	0.6nm,0.5s,baz=243,slow=8.2,SNR=4.1							
BRTR	**Keskin Array B**	**68.04**	**49**	P	P	03 08 17.4		+0.5
	0.1nm,0.3s,baz=250,slow=5.2,SNR=3.7							
BRTR				LR	LR	03 43 07.2		
	comp=Z,16nm,18.2s,baz=62,slow=40							
PDAR	**Pinedale Array**	**77.37**	**313**	LR	LR	03 39 07.2		
	comp=Z,62nm,18.8s,baz=178,slow=32							

*IDC **13** 02:57:24.0±1.9, 51°.40N×166°.33W, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/29, mbtmp3.6/6, ML3.0/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/31, Error ellipse: s-maj=42.6km s-min=27.2km az=14.0*
*NEIC **13** 02:57:25.1±1.0, 51°.29N×166°.31W, h10km, Error ellipse: s-maj=17.7km s-min=11.1km az=165.0*
*ISCJB **13** 02:57:27.2±0.9, 51°.42N±0°.08×166°.2W±0°.1, h33km, mb3.6/5, Error ellipse: s-maj=13.0km s-min=8.5km az=138.0*

ISC 13 02:57:29.1±0.8, 51°.44N±0°.08×166°.39W±0°.10, h35km, n19, σ1§07/25, mb3.6/5, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
UNV	**Unalaska Valle**	**2.41**	**358**	*e*Pn	**Pn**	02 58 06.9		+0.8
AKUT	**Akutan**	**2.73**	**8**	*e*Pn	**Pn**	02 58 11.9		+1.5
AKUT				*e*S	**Sn**	02 58 42.0		0.0
SDPT	**Sand Point**	**5.28**	**40**	*e*Pn	**Pn**	02 58 45.9		+0.5
	37nm,0.6s							
SDPT				*e*S	**Sn**	02 59 43.6		-1.3
ADK	**Adak**	**6.42**	**278**	*e*Pn	**Pn**	02 59 00.7		-0.5
ADK				*e*S	**Sn**	03 00 10.7		-2.5
CHGN	**Chignik**	**6.78**	**41**	*e*Pn	**Pn**	02 59 06.1		+0.2
CHGN				*e*S	**Sn**	03 00 21.6		-0.1
KDAK	**Kodiak Island**	**10.21**	**46**	Pn	**Pn**	02 59 52.0		-1.0
	1.4nm,0.3s,baz=96,slow=17,SNR=49							
KDAK				Sn	**Sn**	03 01 39.5		-6.5
	0.2nm,0.3s,baz=291,slow=16,SNR=5.0							
KDAK	**Kodiak Island**	**10.21**	**46**	Pn	**Pn**	02 59 52.0		-1.0
KDAK				Sn	**Sn**	03 01 39.5		-6.5
ILAR	**Eielson Array**	**16.76**	**30**	Pn	**Pn**	03 01 18.4		-2.4
	0.0nm,0.3s,baz=229,slow=11,SNR=4.0							
ILAR				LR	LR	03 08 00.3		
	comp=Z,54nm,20.3s,baz=107,slow=38							
ILAR	**Eielson Array**	**16.76**	**30**	Pn	**Pn**	03 01 18.4		-2.4
ILAR				LR	LR	03 08 00.3		
INK	**Inuvik**	**23.15**	**31**	P	**P**	03 02 32.7		+0.7
	1.4nm,0.7s,mb3.5,baz=269,slow=11,SNR=10							
INK				LR	LR	03 13 11.7		
	comp=Z,78nm,19.3s,baz=346,slow=41							
INK	**Inuvik**	**23.15**	**31**	P	**P**	03 02 32.7		+0.7
INK				LR	LR	03 13 11.7		
PDAR	**Pinedale Array**	**38.76**	**80**	P	**P**	03 04 50.2		+0.4
	1.0nm,0.8s,mb3.6,baz=309,slow=4.7,SNR=7.2							
PDAR	**Pinedale Array**	**38.76**	**80**	P	**P**	03 04 50.2		+0.4
TXAR	**Lajitas Array**	**50.90**	**91**	P	**P**	03 06 25.9		-0.8
	0.4nm,0.6s,mb3.5,baz=297,slow=5.9,SNR=5.4							
TXAR	**Lajitas Array**	**50.90**	**91**	P	**P**	03 06 25.9		-0.8
MKAR	**Makanchi Array**	**65.78**	**315**	P	**P**	03 08 10.3		+0.2
	0.4nm,0.6s,mb3.6,baz=38,slow=6.1,SNR=3.9							
MKAR	**Makanchi Array**	**65.78**	**315**	P	**P**	03 08 10.3		+0.2
AKTK	**Aktyubinsk**	**71.72**	**332**	P	**P**	03 08 48.4		+1.2
AKTO	**Aktyubinsk**	**71.72**	**332**	P	**P**	03 08 48.4		+1.2
	0.8nm,0.7s,mb3.8,baz=350,slow=6.1,SNR=5.3							

*DDA **13** 02:59:21.0, 40°.80N×31°.89E, h5km±5km, Md3.1*
*ISCJB **13** 02:59:21.2±0.5, 40°.83N±0°.03×31°.93E±0°.02, h1km±5km, Error ellipse: s-maj=4.8km s-min=2.9km az=160.4*
*CSEM **13** 02:59:21.8±0.1, 40°.77N×31°.96E, h2km, MD3.2, Error ellipse: s-maj=3.4km s-min=2.5km az=170.0*
*ISK **13** 02:59:21.5, 40°.79N×31°.95E, h6km, MD3.2*

ISC 13 02:59:22.3±0.5, 40°.79N±0°.03×31°.95E±0°.03, h4km±4km, n99, σ0§87/117, 8C-8D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
KDZE	**Karadeniz Ereo**	**0.64**	**324**	*e*PG	**Pg**	02 59 34.4		-0.3
KDZE	**Karadeniz Ereo**	**0.64**	**324**	*e*Pg	**Pg**	02 59 34.4		-0.2
MDU	**Mudurnu**	**0.65**	**240**	*e*PG	**Pg**	02 59 34.0		-0.6
MDU				*e*SG	**Sg**	02 59 43.9		+0.9
MDU	**Mudurnu**	**0.65**	**240**	*e*Pg	**Pg**	02 59 34.1		-0.6
MDU				*e*Sg	**Sg**	02 59 43.9		+0.8
SAFT	**Safranbolu**	**0.72**	**51**	*e*PG	**Pg**	02 59 35.6		-0.4
SAFT	**Safranbolu**	**0.72**	**51**	*e*Pg	**Pg**	02 59 35.6		-0.4
HENT	**Hendek**	**0.80**	**272**	*i* P	**Pg**	02 59 35.4		-2.1
HENT				*i* S	**Sg**	02 59 46.8		-1.0
HENT	**Hendek**	**0.80**	**272**	*i* P	**Pg**	02 59 35.4		-2.1
HENT				*i* S	**Sg**	02 59 46.8		-1.0
LOD	**Lodumlu**	**1.10**	**145**	*e*PN	**Pg**	02 52 42.9		-0.5
LOD	**Lodumlu**	**1.10**	**145**	*e*Pn	**Pg**	02 52 42.9		-0.4
GULT	**Gulveren**	**1.15**	**252**	*e*PN	**Pg**	02 59 44.1		-0.2
GULT	**Gulveren**	**1.15**	**252**	*e*Pn	**Pg**	02 59 44.1		-0.2
ELDT	**Eldivan**	**1.17**	**105**	*i* P	**Pg**	02 59 43.9		-0.8
ELDT				*i* S	**Sg**	03 00 03.4		+3.6
ELDT	**Eldivan**	**1.17**	**105**	*i* P	**Pg**	02 59 43.9		-0.8
ELDT				*i* S	**Sg**	03 00 03.4		+3.6
SPNC	**Sapanca-Adapaz**	**1.25**	**266**	*e*PN	**Pn**	02 59 46.1		-0.4
SPNC	**Sapanca-Adapaz**	**1.25**	**266**	*e*Pn	**Pn**	02 59 46.1		-0.4
CANT	**Cankiri**	**1.29**	**98**	*e*PN	**Pn**	02 59 46.2		-0.8
BALT	**Daday**	**1.31**	**55**	*i* P	**Pn**	02 59 45.7		-1.7
BALT				*i* S	**Sg**	03 00 04.8		+0.3
BALT	**Daday**	**1.31**	**55**	*i* P	**Pn**	02 59 45.7		-1.7
BALT				*i* S	**Sg**	03 00 04.8		+0.3
GPA	**Golpazari**	**1.34**	**248**	*e*PN	**Pn**	02 59 47.4		-0.4
GPA	**Golpazari**	**1.34**	**248**	*e*Pn	**Pn**	02 59 47.4		-0.4
ILGA	**Ilgaz**	**1.37**	**79**	*i* P	**Pg**	02 59 48.7		+0.3
ILGA				*i* S	**Sg**	03 00 07.9		+1.7
ILGA	**Ilgaz**	**1.37**	**79**	*i* P	**Pg**	02 59 48.7		+0.2
ILGA				*i* S	**Sg**	03 00 07.9		+1.7
SVRH	**Sivrihisar-ESK**	**1.38**	**194**	*e*PN	**Pn**	02 59 48.2		-0.2
SVRH	**Sivrihisar-ESK**	**1.38**	**194**	*e*Pn	**Pn**	02 59 48.2		-0.1
BORA	**Eskisehir**	**1.46**	**232**	*i* P	**Pn**	02 59 48.5		-0.9
BORA				*i* S	**Sg**	03 00 11.9		+2.7
BORA	**Eskisehir**	**1.46**	**232**	*i* P	**Pn**	02 59 48.5		-0.9
BORA				*i* S	**Sg**	03 00 11.9		+2.7
ESKT	**Eskisehir**	**1.52**	**214**	*e*PN	**Pn**	02 59 49.6		-0.6
ESKT	**Eskisehir**	**1.52**	**214**	*i* P	**Pn**	02 59 48.9		-1.3
ESKT				*i* S	**Sg**	03 00 11.2		-0.1
ESKT	**Eskisehir**	**1.52**	**214**	*e*Pn	**Pn**	02 59 49.6		-0.7
SEYT	**Eskypehyr**	**1.52**	**214**	*i* P	**Pn**	02 59 48.9		-1.4
SEYT				*i* S	**Sg**	03 00 11.2		-0.1
TOS	**Tosya**	**1.59**	**81**	*e*PN	**Pn**	02 59 51.1		-0.1
TOS	**Tosya**	**1.59**	**81**	*e*Pn	**Pn**	02 59 51.1		-0.1
AFSR	**Af˙ar-Bala (A**	**1.60**	**147**	*e*PN	**Pn**	02 59 51.2		-0.1
AFSR	**Af˙ar-Bala (A**	**1.60**	**147**	*e*Pn	**Pn**	02 59 51.2		-0.1
CAVI	**Cavuskoy**	**1.71**	**250**	*e*PN	**Pn**	02 59 52.9		+0.1
CAVI	**Cavuskoy**	**1.71**	**250**	*e*Pn	**Pn**	02 59 52.9		+0.1
ADVT	**Abdulvahap**	**1.72**	**259**	*e*PN	**Pn**	02 59 53.0		+0.1
ADVT	**Abdulvahap**	**1.72**	**259**	*e*Pn	**Pn**	02 59 53.0		+0.1
HRT	**Hereke**	**1.73**	**272**	*e*PN	**Pn**	02 59 52.8		-0.3
HRT	**Hereke**	**1.73**	**272**	*e*Pn	**Pn**	02 59 52.8		-0.3
SILT	**Sile**	**1.78**	**282**	*e*PN	**Pn**	02 59 53.8		0.0
SILT	**Sile**	**1.78**	**282**	*e*Pn	**Pn**	02 59 53.8		0.0
KIZT	**Kizilcal**	**1.91**	**182**	*e*PN	**Pn**	02 59 55.0		-0.6
KIZT	**Kizilcal**	**1.91**	**182**	*e*Pn	**Pn**	02 59 55.0		-0.6
BZK	**Bozkurt**	**1.94**	**52**	*e*PN	**Pn**	02 59 55.9		0.0
BZK	**Bozkurt**	**1.94**	**52**	*e*Pn	**Pn**	02 59 55.9		-0.1
YLV	**Yalova**	**1.97**	**264**	*e*PN	**Pn**	02 59 55.9		-0.5
YLV	**Yalova**	**1.97**	**264**	*e*Pn	**Pn**	02 59 55.9		-0.5
CORM	**Corum**	**2.14**	**106**	*e*PN	**Pn**	02 59 58.7		0.0
CORM	**Corum**	**2.14**	**106**	*e*Pn	**Pn**	02 59 58.7		0.0
BUY	**Buyukada**	**2.15**	**272**	*i* P	**Pn**	02 59 59.0		+0.1
BUY				*i* S	**Sg**	03 00 28.9		-2.4
BUY	**Buyukada**	**2.15**	**272**	*i* P	**Pn**	02 59 59.0		+0.2
BUY				*i* S	**Sg**	03 00 28.9		-2.3
ISK	**Istanbul-Kandi**	**2.20**	**278**	*e*PN	**Pn**	02 59 59.4		-0.2
ISK	**Istanbul-Kandi**	**2.20**	**278**	*e*Pn	**Pn**	02 59 59.4		-0.2
ALT	**Altintas**	**2.24**	**220**	*e*PN	**Pn**	03 00 00.1		0.0
ALT	**Altintas**	**2.24**	**220**	*e*Pn	**Pn**	03 00 00.1		0.0
KLYT	**Kilyos**	**2.24**	**283**	*e*PN	**Pn**	03 00 00.5		+0.3
KLYT	**Kilyos**	**2.24**	**283**	*e*Pn	**Pn**	03 00 00.5		+0.3
ARMT	**Armutlu**	**2.36**	**265**	*e*PN	**Pn**	03 00 02.1		+0.3
ARMT	**Armutlu**	**2.36**	**265**	*e*Pn	**Pn**	03 00 02.1		+0.4
MDNY	**Mudanya-Bursa**	**2.37**	**261**	*e*PN	**Pn**	03 00 02.7		+0.8
MDNY	**Mudanya-Bursa**	**2.37**	**261**	*e*Pn	**Pn**	03 00 02.7		+0.8
BGKT	**Bogazkoy**	**2.43**	**280**	*e*PN	**Pn**	03 00 03.1		+0.4
BGKT	**Bogazkoy**	**2.43**	**280**	*e*Pn	**Pn**	03 00 03.1		+0.3
SHUT	**Suhut-Afyon**	**2.48**	**206**	*e*PN	**Pn**	03 00 04.5		+1.0
SHUT	**Suhut-Afyon**	**2.48**	**206**	*e*Pn	**Pn**	03 00 04.5		+1.0
CTKS	**Kestanelik-??a**	**2.64**	**281**	*e*PN	**Pn**	03 00 05.6		0.0
CTKS	**Kestanelik-??a**

KLYT	**Kilyos**	**2.26 283**	*e*Pn	**Pn**	**03 01 48.6**	**0.0**
KDHN	**Kadinhani**	**2.26 177**	*i* P	**Pn**	**03 01 48.4**	**-0.3**
KDHN			*i* S	**Sg**	**03 02 21.2**	**-1.8**
KDHN	**Kadinhani**	**2.26 177**	*i* P	**Pn**	**03 01 48.4**	**-0.3**
KDHN			*i* S	**Sg**	**03 02 21.2**	**-1.7**
ARMT	**Armutlu**	**2.37 266**	*e*PN	**Pn**	**03 01 50.5**	**+0.4**
ARMT	**Armutlu**	**2.37 266**	*e*Pn	**Pn**	**03 01 50.5**	**+0.3**
MDNY	**Mudanya-Bursa**	**2.38 261**	*e*Pn	**Pn**	**03 01 50.6**	**+0.3**
MDNY	**Mudanya-Bursa**	**2.38 261**	*e*Pn	**Pn**	**03 01 50.7**	**+0.4**
BGKT	**Bogazkoy**	**2.45 280**	*e*PN	**Pn**	**03 01 51.4**	**+0.2**
BGKT	**Bogazkoy**	**2.45 280**	*e*Pn	**Pn**	**03 01 51.4**	**+0.2**
SHUT	**Suhut-Afyon**	**2.48 206**	*e*PN	**Pn**	**03 01 52.1**	**+0.4**
SHUT	**Suhut-Afyon**	**2.48 206**	*e*Pn	**Pn**	**03 01 52.1**	**+0.4**
GDZ	**Gediz**	**2.55 229**	*i* P	**Pn**	**03 01 50.8**	**-1.9**
GDZ			*i* S	**Sg**	**03 02 33.3**	**+1.1**
GDZ	**Gediz**	**2.55 229**	*i* P	**Pn**	**03 01 50.8**	**-1.9**
CTKS	**Kestanelik-??a**	**2.65 281**	*e*PN	**Pn**	**03 01 54.1**	**+0.1**
CTKS	**Kestanelik-??a**	**2.65 281**	*e*Pn	**Pn**	**03 01 54.2**	**+0.1**
KCTX	**Karacabey (Bur**	**2.80 261**	*e*PN	**Pn**	**03 01 56.9**	**+0.9**
KCTX	**Karacabey (Bur**	**2.80 261**	*e*Pn	**Pn**	**03 01 56.9**	**+0.9**
DST	**Dursunbey**	**2.82 246**	*e*PN	**Pn**	**03 01 56.8**	**+0.4**
DST	**Dursunbey**	**2.82 246**	*e*Pn	**Pn**	**03 01 56.8**	**+0.5**
CTYL	**Yal??k??y-??at**	**2.86 285**	*e*PN	**Pn**	**03 01 57.6**	**+0.7**
CTYL	**Yal??k??y-??at**	**2.86 285**	*e*Pn	**Pn**	**03 01 57.6**	**+0.7**
SLVT	**Silivri**	**2.87 280**	*e*PN	**Pn**	**03 01 57.8**	**+0.7**
SLVT	**Silivri**	**2.87 280**	*e*Pn	**Pn**	**03 01 57.8**	**+0.7**
DURS	**Dursunbey**	**2.92 247**	*i* P	**Pn**	**03 01 57.5**	**-0.3**
DURS			*i* S	**Sg**	**03 02 46.0**	**+2.0**
DURS	**Dursunbey**	**2.92 247**	*i* P	**Pn**	**03 01 57.5**	**-0.2**
DEMI	**Demirci**	**3.04 236**	*i* P	**Pn**	**03 01 58.9**	**-0.5**
DEMI			*i* S	**Sg**	**03 02 52.2**	**+4.2**
DEMI	**Demirci**	**3.04 236**	*i* P	**Pn**	**03 01 58.9**	**-0.5**
MANR	**Mangalia**	**3.93 322** ⇓	*i*P	**Pn**	**03 02 11.8**	**+0.2**
MANR	**Mangalia**	**3.93 322** ⇓	*i*P	**Pn**	**03 02 11.8**	**+0.2**
ALN	**Alexandroupoli**	**4.49 273**	*e*PN	**Pn**	**03 02 18.5**	**-0.8**
TIRR	**Tirgusor**	**4.51 326** ⇑	*i*P	**Pn**	**03 02 19.1**	**-0.5**
TIRR	**Tirgusor**	**4.51 326** ⇑	*i*P	**Pn**	**03 02 19.1**	**-0.5**
PRK	**Paraskevi**	**4.63 252**	*e*PN	**Pn**	**03 02 21.3**	**0.0**
RDO	**Rodhopi**	**4.88 276**	*e*PN	**Pn**	**03 02 24.2**	**-0.4**
TLCR		**4.97 333** ⇑	*i*P	**Pn**	**03 02 25.0**	**-0.9**
TLCR		**4.97 333** ⇑	*i*P	**Pn**	**03 02 25.0**	**-0.9**
CFR	**Carcaliu**	**5.21 329** ⇑	*i*P	**Pn**	**03 02 28.5**	**-0.7**
CFR	**Carcaliu**	**5.21 329** ⇑	*i*P	**Pn**	**03 02 28.5**	**-0.7**
LIA	**Limnos Island**	**5.25 263**	*e*PN	**Pn**	**03 02 29.3**	**-0.5**
ISR	**Istrita**	**5.88 319** ⇑	*i*P	**Pn**	**03 02 39.3**	**+0.9**
ISR	**Istrita**	**5.88 319** ⇑	*i*P	**Pn**	**03 02 39.3**	**+0.9**
MLR	**Muntele Rosu**	**6.44 319** ⇑	*i*P	**Pn**	**03 02 47.0**	**+0.9**
MLR	**Muntele Rosu**	**6.44 319** ⇑	*i*P	**Pn**	**03 02 47.0**	**+0.9**
VOIR		**6.87 315** ⇑	*i*P	**Pn**	**03 02 52.9**	**+0.9**
VOIR		**6.87 315** ⇑	*i*P	**Pn**	**03 02 52.9**	**+0.9**
DOPR	**Dopca**	**7.05 319** ⇓	*i*P	**Pn**	**03 02 55.3**	**+0.8**
DOPR	**Dopca**	**7.05 319** ⇓	*i*P	**Pn**	**03 02 55.3**	**+0.8**
LOT	**Lotru**	**7.59 311** ⇑	*i*P	**Pn**	**03 03 02.3**	**+0.4**
LOT	**Lotru**	**7.59 311** ⇑	*i*P	**Pn**	**03 03 02.3**	**+0.4**

NEIC ***13*** *03:11:55.3, 27.°56S×70.°60W, h50km, MG2.9(GUC), After GUC.*

GUC 13 03:11:55.3±0.8**, 27.°56S×70.°60W, h50**km±15km**, ML2.9, 4C-3D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.30**	**46** ⇑	*i*P	Pn	03 12 04.6	+0.1
CPCH				*i* S	Sn	03 12 11.8	+0.9
CPCH	**Copiapo**	**0.30**	**46** ⇑	*i*P	Pn	03 12 04.6	+0.1
CPCH				*i* S	Sn	03 12 11.8	+0.9
CPCH				AML	AML	03 12 13.0	
	comp=E,7μm,0.1s						
CDCH	**Caldera**	**0.53**	**338** ⇓	*i*P	Pn	03 12 07.2	+0.2
CDCH				*i* S	Sn	03 12 15.9	+0.6
CDCH	**Caldera**	**0.53**	**338** ⇓	*i*P	Pn	03 12 07.2	+0.2
CDCH				*i* S	Sn	03 12 15.9	+0.6
CDCH				AML	AML	03 12 16.4	
	comp=E,407nm,0.2s						
VACH	**Vallenar**	**1.02**	**188** ⇑	*i*P	Pn	03 12 14.3	+1.0
VACH				*i* S	Sn	03 12 28.0	+1.5
VACH	**Vallenar**	**1.02**	**188** ⇑	*i*P	Pn	03 12 14.3	+1.0
VACH				*i* S	Sn	03 12 28.0	+1.5
VACH				AML	AML	03 12 29.3	
	comp=N,2μm,0.1s						
LCO	**Las Campanas**	**1.45**	**184**	*e*Pn	Pn	03 12 20.1	+1.0
LCO				*i* S	Sn	03 12 38.7	+1.8
LCO				*e*S	Sn	03 12 39.0	+2.1
LCO	**Las Campanas**	**1.45**	**184** ⇓	*i*P	Pn	03 12 20.1	+1.0
LCO				*i* S	Sn	03 12 38.7	+1.8
LCO				AML	AML	03 12 40.7	
	comp=N,71nm,0.4s						

JMA ***13*** *03:15:57.8±0.5, 25.°16N×123.°08E, h0km*
ISCJB ***13*** *03:15:58.4±0.9, 24.°45N±0.°06×122.°71E±0.°03, h86km±10km, Error ellipse: s-maj=10.6km s-min=4.0km az=4.5*
TAP ***13*** *03:15:58.4, 24.°46N×122.°70E, h86km±1km, ML3.0, D*

ISC 13 03:15:58.9±0.9**, 24.°45N**±0.°06**×122.°71E**±0.°03**, h85**km±9km**, n19**, σ0°35/36, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.28**	**87**	P	**Pn**	**03 16 11.6**	**0.0**
YOJ				*e*S	**Sn**	**03 16 21.4**	**+0.4**
TWC	**Suao**	**0.80**	**282**	P	**Pn**	**03 16 15.6**	**-0.3**
	baz=281						
TWC				S	**Sn**	**03 16 28.3**	**-0.4**
	baz=281						
TWB1	**Santiao Chiao**	**0.86**	**311**	*e*P	**Pn**	**03 16 16.4**	**-0.2**
	baz=310						
TWB1				*e*S	**Sn**	**03 16 29.7**	**-0.2**
	baz=310						
ENA	**Nanau**	**0.88**	**269**	P	**Pn**	**03 16 17.1**	**+0.3**
	baz=268						
ENA				*e*S	**Sn**	**03 16 30.5**	**+0.2**
	baz=268						
IRIF	**Iriomote-Funau**	**0.94**	**97**	P	**Pn**	**03 16 17.4**	**-0.1**
IRIF				*e*S	**Sn**	**03 16 31.7**	**+0.2**
TWE	**Neicheng**	**0.98**	**286**	*e*P	**Pn**	**03 16 18.0**	**0.0**
	baz=285						
TWE				*e*S	**Sn**	**03 16 32.3**	**-0.1**
	baz=285						
NWF	**Wu-fen Shan**	**1.05**	**307**	*e*P	**Pn**	**03 16 19.0**	**+0.2**
	baz=306						
NWF				*e*S	**Sn**	**03 16 33.7**	**0.0**
	baz=306						
ENTT	**Nioudou**	**1.06**	**281**	*e*P	**Pn**	**03 16 19.1**	**+0.2**
	baz=279						
ENTT				*e*S	**Sn**	**03 16 34.0**	**+0.1**
	baz=279						
TWD	**Chiawan**	**1.08**	**250**	*e*P	**Pn**	**03 16 18.6**	**-0.5**
	baz=249						
TWD				*e*S	**Sn**	**03 16 34.0**	**-0.3**
	baz=249						
TWA	**Mucha**	**1.15**	**298**	*e*P	**Pn**	**03 16 20.0**	**0.0**
	baz=297						
TWA				*e*S	**Sn**	**03 16 35.8**	**-0.1**
	baz=297						
JKRS	**Kuro-shima**	**1.21**	**100**	P	**Pn**	**03 16 21.1**	**+0.4**
JKRS				*e*S	**Sn**	**03 16 37.8**	**+0.7**
NNS	**Nan Shan**	**1.22**	**270**	*e*P	**Pn**	**03 16 21.0**	**+0.2**
	baz=269						
NNS				*e*S	**Sn**	**03 16 37.3**	**0.0**
	baz=269						
NSK	**Sanguang**	**1.25**	**281**	*e*P	**Pn**	**03 16 21.2**	**0.0**
	baz=280						
NSK				*e*S	**Sn**	**03 16 37.9**	**-0.1**
	baz=280						
JIJ	**Ishigaki jima**	**1.31**	**93**	P	**Pn**	**03 16 21.6**	**-0.4**
JIJ				*e*S	**Sn**	**03 16 38.5**	**-0.9**
WHF	**Hehuan Shan**	**1.35**	**257**	*e*P	**Pn**	**03 16 22.7**	**+0.3**
	baz=256						
WHF				*e*S	**Sn**	**03 16 40.5**	**+0.2**
	baz=256						
TWT	**Tachien**	**1.41**	**262**	*e*P	**Pn**	**03 16 23.7**	**+0.5**
	baz=261						
TWT				*e*S	**Sn**	**03 16 42.2**	**+0.6**
	baz=261						
EHY	**Hungye**	**1.57**	**234**	*e*P	**Pn**	**03 16 25.9**	**+0.5**
	baz=233						
EHY				*e*S	**Sn**	**03 16 44.7**	**-0.7**
	baz=233						
TWF1	**Yuli**	**1.69**	**230**	*e*P	**Pn**	**03 16 26.6**	**-0.2**
	baz=229						
JTJ	**Tarama**	**1.83**	**84**	P	**Pn**	**03 16 28.4**	**-0.2**

IDC ***13*** *03:19:50.7±0.9, 54.°58N×167.°71E, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.6/27, mbtmp3.6/8, ML3.4/2, Error ellipse: s-maj=29.7km s-min=11.0km az=24.0*
NEIC ***13*** *03:19:51.5±0.6, 54.°54N×167.°76E, h10km, mb4.1/4, Error ellipse: s-maj=22.3km s-min=9.9km az=188.0*
ISCJB ***13*** *03:19:53.7±0.7, 54.°15N±0.°06×167.°64E±0.°06, h51km±7km, mb3.8/10, Error ellipse: s-maj=10.7km s-min=5.8km az=12.5*
MOS ***13*** *03:19:53.0±1.0, 54.°29N×167.°67E, h42km, mb4.3/5, Error ellipse: s-maj=17.8km s-min=12.7km az=30.5*
KRSC ***13*** *03:19:53.1±0.1, 54.°13N×167.°32E, h10km±10km, ML4.3*

ISC 13 03:19:55.3±0.6**, 54.°19N**±0.°06**×167.°60E**±0.°06**, h46**km±7km**, n55, σ1°44/68, mb3.8/10, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.39**	**318**	*e*P	**Pn**	**03 20 16.0**	**-2.2**
BKI				*e*S	**Sn**	**03 20 34.1**	**-1.2**
BKI	**Bering**	**1.39**	**318**	PN	**Pn**	**03 20 16.0**	**-2.2**
BKI				S	**Sn**	**03 20 34.1**	**-1.2**
KBTR	**Krutoberegovo**	**3.41**	**308**	*e*P	**Pn**	**03 20 45.0**	**-0.8**
KBTR				*e*S	**Sn**	**03 21 22.8**	**-2.1**
KBTR	**Krutoberegovo**	**3.41**	**308**	PN	**Pn**	**03 20 45.0**	**-0.8**
KBTR				S	**Sn**	**03 21 22.8**	**-2.1**
MKZ	**Mys Kozlova**	**3.45**	**278**	*e*P	**Pn**	**03 20 46.2**	**-0.3**
MKZ				*e*S	**Sn**	**03 21 23.4**	**-2.7**
MKZ	**Mys Kozlova**	**3.45**	**278**	PN	**Pn**	**03 20 46.2**	**-0.3**
FX1	**Attu Island--F**	**3.57**	**109**	Pn	**Pn**	**03 20 46.7**	**-1.4**
	10.0nm,0.3s,baz=336,slow=4.6,SNR=23						
FX1				Sn	**Sn**	**03 21 28.6**	**-0.4**
	9.1nm,0.3s,baz=145,slow=16,SNR=7.5						
FX1	**Attu Island--F**	**3.57**	**109**	Pn	**Pn**	**03 20 46.7**	**-1.4**
FX1				Sn	**Sn**	**03 21 28.6**	**-0.4**
FX1	**Attu Island--F**	**3.57**	**109**	PN	**Pn**	**03 20 46.7**	**-1.4**
FX1						03 21 28.6	
FX1				pmax	pmax		
	comp=Z,10.0nm,0.3s						
FX1				smax			
	comp=N,9.0nm,0.3s						
SMKR	**Semkarok**	**4.24**	**307**	*e*P	**Pn**	**03 20 59.6**	**+2.3**
SMKR				*e*S	**Sn**	**03 21 49.4**	**+4.0**
BDR	**Baidarnaya**	**4.36**	**306**	*e*P	**Pn**	**03 21 01.8**	**+2.9**
SRKR	**Sorokina**	**4.42**	**307**	*e*P	**Pn**	**03 21 03.1**	**+3.4**
TUMR	**Tumrok**	**4.46**	**287**	*e*P	**Pn**	**03 21 01.6**	**+1.3**
TUMR				*e*S	**Sn**	**03 21 52.5**	**+1.7**
SPN	**Mys Shipunski**	**4.64**	**259**	*e*P	**Pn**	**03 21 02.9**	**+0.1**
SPN				*e*S	**Sn**	**03 21 52.6**	**-2.7**
SPN	**Mys Shipunski**	**4.64**	**259**	PN	**Pn**	**03 21 02.9**	**+0.1**
SRDR	**Sredinnyy**	**4.99**	**298**	P	**Pn**	**03 21 10.6**	**+3.1**
NLC	**Nalytchevo**	**5.01**	**262**	*e*P	**Pn**	**03 21 08.1**	**+0.2**
NLC				*e*S	**Sn**	**03 22 02.4**	**-2.1**
NLC	**Nalytchevo**	**5.01**	**262**	PN	**Pn**	**03 21 08.1**	**+0.2**
AVH	**Avacha**	**5.34**	**264**	*e*P	**Pn**	**03 21 13.5**	**+1.1**
PET	**Petropavlovsk**	**5.45**	**261**	*e*S	**Sn**	**03 22 14.9**	**-0.4**
RUS	**Russkaya**	**5.72**	**256**	*e*P	**Pn**	**03 21 18.4**	**+0.7**
RUS				*e*S	**Sn**	**03 22 19.7**	**-2.3**
RUS	**Russkaya**	**5.72**	**256**	PN	**Pn**	**03 21 18.4**	**+0.7**
GNL	**Ganaly**	**5.73**	**269**	*e*P	**Pn**	**03 21 19.1**	**+1.4**
PETK	**Petropavlovsk-**	**5.99**	**264**	Pn	**Pn**	**03 21 22.9**	**+1.7**
	comp=N,1.3nm,0.3s,baz=100,slow=19,SNR=7.0						
PETK				Sn	**Sn**	**03 22 32.3**	**+3.8**
	comp=N,1.4nm,0.3s,baz=346,slow=40,SNR=4.5						
PETK	**Petropavlovsk-**	**5.99**	**264**	Pn	**Pn**	**03 21 22.9**	**+1.7**
PETK				Sn	**Sn**	**03 22 32.3**	**+3.8**
PETK	**Petropavlovsk-**	**5.99**	**264**	PN	**Pn**	**03 21 22.9**	**+1.6**
PETK						03 22 32.3	
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK				smax			
	comp=N,1.0nm,0.3s						
ILAR	**Eielson Array**	**24.84**	**47**	P	**P**	**03 25 11.3**	**-1.5**
	comp=N,0.6nm,0.7s,mb3.2,baz=246,slow=6.9,SNR=11						
ILAR	**Eielson Array**	**24.84**	**47**	P	**P**	**03 25 11.3**	**-1.5**
ILAR	**Eielson Array**	**24.84**	**47**	P	**P**	**03 25 11.4**	**-1.5**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**37.95**	**286**	P	**P**	**03 27 10.2**	**+2.1**
	comp=Z,1.3nm,0.7s,mb3.8,baz=57,slow=8.6,SNR=9.0						
SONM	**Songino Array**	**37.95**	**286**	P	**P**	**03 27 10.2**	**+2.1**
SONM	**Songino Array**	**37.95**	**286**	P	**P**	**03 27 10.2**	**+2.2**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KURK	**Kurchatov**	**50.86**	**305**	*e*P	**P**	**03 28 51.0**	**0.0**
	comp=Z,0.9nm,0.5s,mb4.0						
KURK	**Kurchatov**	**50.86**	**305**	*e*P	**P**	**03 28 51.0**	**-0.1**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
MK31	**Makanchi Array**	**51.62**	**299**	*e*P	**P**	**03 28 56.4**	**-0.4**
MK31	**Makanchi Array**	**51.62**	**299**	*e*P	**P**	**03 28 56.4**	**-0.4**
MKAR	**Makanchi Array**	**51.62**	**299**	P	**P**	**03 28 56.0**	**-0.7**
	comp=Z,0.2nm,0.2s,mb3.6,baz=51,slow=4.6,SNR=2.4						
MKAR	**Makanchi Array**	**51.62**	**299**	P	**P**	**03 28 56.0**	**-0.7**
MKAR	**Makanchi Array**	**51.62**	**299**	P	**P**	**03 28 56.0**	**-0.8**
BRVK	**Borovoye**	**53.14**	**312**	*e*P	**P**	**03 29 07.8**	**-0.1**
	comp=Z,1.6nm,0.5s,mb4.2						
BRVK	**Borovoye**	**53.14**	**312**	*e*P	**P**	**03 29 07.8**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
EKS2	**Erkin-Say**	**58.84**	**301**	*e*P	**P**	**03 29 48.6**	**-0.2**
	comp=Z,3.4nm,1.1s,mb4.3						
EKS2	**Erkin-Say**	**58.84**	**301**	*e*P	**P**	**03 29 48.6**	**-0.3**
EKS2				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
ABKAR	**Akbulak array**	**60.37**	**314**	*e*P	**P**	**03 29 58.7**	**-0.5**
	comp=Z,0.6nm,0.6s,mb3.8						
NB2	**NORSAR Subarra**	**63.60**	**347**	P	**P**	**03 30 20.6**	**-0.1**
	comp=Z,0.8nm,0.6s,mb3.9,baz=16,slow=6.9						
NOA	**NORSAR Array B**	**63.60**	**347**	P	**P**	**03 30 20.7**	**0.0**
	comp=Z,1.4nm,0.7s,mb4.1,baz=16,slow=6.7,SNR=4.9						
NOA	**NORSAR Array B**	**63.60**	**347**	P	**P**	**03 30 20.7**	**0.0**
NOA	**NORSAR Array B**	**63.60**	**347**	P	**P**	**03 30 20.7**	**0.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
DDI	**Dehra Dun**	**65.77**	**289**	*ex*	x	03 31 43.0	
TXAR	**Lajitas Array**	**66.07**	**73**	P	**P**	**03 30 38.6**	**+1.4**
	comp=Z,0.3nm,0.7s,mb3.4,baz=318,slow=5.0,SNR=3.8						
TXAR	**Lajitas Array**	**66.07**	**73**	P	**P**	**03 30 38.6**	**+1.4**
TXAR	**Lajitas Array**	**66.07**	**73**	P	**P**	**03 30 38.7**	**+1.4**
GERES	**GERESS Array B**	**75.00**	**342**	P	**P**	**03 31 31.3**	**-0.1**
	comp=Z,0.3nm,0.6s,mb3.4,baz=46,slow=4.2,SNR=3.2						
GERES	**GERESS Array B**	**75.00**	**342**	P	**P**	**03 31 31.3**	**-0.1**
GERES	**GERESS Array B**	**75.00**	**342**	P	**P**	**03 31 31.3**	**-0.1**

MOS ***13*** *03:52:07.8±1.1, 43.°24N×45.°69E, h8km, mb4.0/1, Error ellipse: s-maj=10.2km s-min=7.5km az=17.2*
CSEM ***13*** *03:52:07.8, 43.°24N×45.°69E, h8km, mb4.0, After OBN*
ISCJB ***13*** *03:52:08.2±0.4, 43.°24N±0.°03×45.°73E±0.°03, h8km±4km, Error ellipse: s-maj=5.6km s-min=2.7km az=17.8*

ISC 13 03:52:08.8±0.5**, 43.°27N**±0.°03×**45.°76E**±0.°03**, h14**km±3km**, n39, σ1°23/75, 2C-2D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRO	**Groznyy**	**0.05**	**356** ⇑	*i*PG	**Pg**	**03 52 09.7**	**-1.6**
GRO	**Groznyy**	**0.05**	**356**	*i* Pg	**Pg**	**03 52 09.7**	**-1.6**
DLMR	**Dylym**	**0.67**	**107**	*e*PG	**Pg**	**03 52 24.5**	**+2.7**
DLMR				*e*S	**Sg**	**03 52 34.0**	**+3.4**
DLMR	**Dylym**	**0.67**	**107**	*e*Pg	**Pg**	**03 52 24.5**	**+2.7**
DLMR				*e*Sg	**Sg**	**03 52 34.0**	**+3.4**
BTLR	**Botlikh**	**0.69**	**150**	*e*PG	**Pg**	**03 52 20.8**	**-1.5**
BTLR				*e*S	**Sg**	**03 52 31.0**	**-0.4**
BTLR	**Botlikh**	**0.69**	**150**	*e*Pg	**Pg**	**03 52 20.8**	**-1.5**
BTLR				*e*Sg	**Sg**	**03 52 31.0**	**-0.4**
SNJR	**Sundja**	**0.72**	**254**	*e*PG	**Pg**	**03 52 21.8**	**-0.9**
SNJR				*e*S	**Sg**	**03 52 33.8**	**+1.6**
SNJR	**Sundja**	**0.72**	**254**	*e*Pg	**Pg**	**03 52 21.8**	**-0.9**
SNJR				*e*Sg	**Sg**	**03 52 33.8**	**+1.6**
DBC	**Dubki**	**0.82**	**107**	*e*PG	**Pg**	**03 52 25.0**	**+0.3**
DBC				*e*S	**Sg**	**03 52 36.0**	**+0.5**
DBC				pmax	pmax		
	comp=Z,31nm,0.2s						
DBC	**Dubki**	**0.82**	**107**	*e*Pg	**Pg**	**03 52 25.0**	**+0.3**
	comp=Z,31nm,0.2s						
DBC				*e*Sg	**Sg**	**03 52 36.0**	**+0.5**
TRKR	**Terskaya**	**0.87**	**302**	*e*PG	**Pg**	**03 52 24.3**	**-1.3**
TRKR				*i* S	**Sg**	**03 52 38.7**	**+1.6**
TRKR	**Terskaya**	**0.87**	**302**	*e*Pg	**Pg**	**03 52 24.3**	**-1.3**
TRKR				*i* Sg	**Sg**	**03 52 38.7**	**+1.6**
UNCR	**Uncukul**	**0.94**	**126**	*e*PG	**Pg**	**03 52 26.0**	**-1.0**
UNCR				*e*S	**Sg**	**03 52 40.0**	**+0.7**
UNCR				pmax	pmax		
	comp=Z,32nm,0.3s						
UNCR	**Uncukul**	**0.94**	**126**	*e*Pg	**Pg**	**03 52 26.0**	**-1.0**
	comp=Z,32nm,0.3s						
UNCR				*e*Sg	**Sg**	**03 52 40.0**	**+0.7**
KRNR	**Karanay**	**0.95**	**117**	*e*PG	**Pg**	**03 52 27.5**	**+0.3**
KRNR				*i* S	**Sg**	**03 52 40.5**	**+0.9**
KRNR				pmax	pmax		
	comp=Z,40nm,0.2s						
KRNR	**Karanay**	**0.95**	**117**	*e*Pg	**Pg**	**03 52 27.5**	**+0.3**
	comp=Z,40nm,0.2s						
KRNR				*i* Sg	**Sg**	**03 52 40.5**	**+0.9**
KMSR	**Komsomolskaya**	**1.07**	**276**	*e*PG	**Pg**	**03 52 28.7**	**-0.7**
KMSR				*e*S	**Sg**	**03 52 45.5**	**+2.1**
KMSR	**Komsomolskaya**	**1.07**	**276**	*e*Pg	**Pg**	**03 52 28.7**	**-0.7**
KMSR				*e*Sg	**Sg**	**03 52 45.5**	**+2.1**
ARNR	**Ardon**	**1.08**	**266**	*e*PG	**Pg**	**03 52 28.5**	**-1.1**
ARNR				*i* S	**Sg**	**03 52 45.1**	**+1.4**
ARNR	**Ardon**	**1.08**	**266**	*e*Pg	**Pg**	**03 52 28.5**	**-1.1**
ARNR				*i* Sg	**Sg**	**03 52 45.1**	**+1.4**
LACR	**Lac**	**1.16**	**248** ⇓	*i*PG	**Pn**	**03 52 28.9**	**-1.6**
LACR				*i* S	**Sg**	**03 52 45.8**	**-0.3**
LACR	**Lac**	**1.16**	**248**	*i* Pg	**Pn**	**03 52 28.9**	**-1.6**
LACR				*i* Sg	**Sg**	**03 52 45.8**	**-0.3**
PRTR	**Priterechnaya**	**1.18**	**295** ⇓	*i*PG	**Pg**	**03 52 30.6**	**-0.8**
PRTR				*e*S	**Sg**	**03 52 48.8**	**+2.1**
PRTR	**Priterechnaya**	**1.18**	**295**	*i* Pg	**Pg**	**03 52 30.6**	**-0.8**
PRTR				*e*Sg	**Sg**	**03 52 48.8**	**+2.1**
KORR	**Kora**	**1.25**	**262**	*e*PG	**Pn**	**03 52 30.9**	**-0.9**
KORR				*e*S	**Sg**	**03 52 49.1**	**+0.1**
KORR	**Kora**	**1.25**	**262**	*e*Pg	**Pn**	**03 52 30.9**	**-0.9**
KORR				*e*Sg	**Sg**	**03 52 49.1**	**+0.1**
LSNR	**Lesken**	**1.42**	**271**	*e*PG	**Pn**	**03 52 33.2**	**-0.9**
LSNR				*e*S	**Sg**	**03 52 54.0**	**-0.4**
LSNR	**Lesken**	**1.42**	**271**	*e*Pg	**Pn**	**03 52 33.2**	**-0.9**
LSNR				*e*Sg	**Sg**	**03 52 54.0**	**-0.4**
ZEI	**Tsey**	**1.45**	**251**	*e*PG	**Pn**	**03 52 32.9**	**-1.7**
ZEI				*e*S	**Sn**	**03 52 52.6**	**-0.8**
ZEI	**Tsey**	**1.45**	**251**	*e*Pg	**Pn**	**03 52 32.9**	**-1.7**
ZEI				*e*Sg	**Sn**	**03 52 52.6**	**-0.8**
DIGR	**Digorskoe uzhe**	**1.64**	**258** ⇑	*i*PG	**Pn**	**03 52 35.9**	**-1.2**
DIGR				*i* S	**Sn**	**03 52 58.3**	**+0.4**
DIGR	**Digorskoe uzhe**	**1.64**	**258**	*i* Pg	**Pn**	**03 52 35.9**	**-1.2**
DIGR				*i* Sg	**Sn**	**03 52 58.3**	**+0.4**
TBLG	**Delisi**	**1.71**	**206**	PN	**Pn**	**03 52 37.1**	**-1.0**
TBLG				S	**Sg**	**03 53 03.4**	**-0.4**
TBLG	**Delisi**	**1.71**	**206**	P	**Pn**	**03 52 37.1**	**-1.1**
TBLG				S	**Sg**	**03 53 03.4**	**-0.4**
TBLG	**Delisi**	**1.71**	**206**	Pn	**Pn**	**03 52 37.1**	**-1.0**
TBLG				Sg	**Sg**	**03 53 03.4**	**-0.4**
MTA	**Mtatsminda**	**1.73**	**205**	P	**Pn**	**03 52 39.8**	**+1.4**
MTA				S	**Sg**	**03 53 03.5**	**-0.8**
GOR	**Gori**	**1.77**	**224**	P	**Sn**	**03 53 03.3**	**+2.1**
ONI	**Oni**	**1.82**	**249**	P	**Pn**	**03 52 39.1**	**-0.6**
ONI				S	**Sn**	**03 53 04.8**	**+2.3**
DGRG	**David-gareji**	**1.84**	**189**	P	**Pn**	**03 52 41.0**	**+1.1**
DGRG				S	**Sn**	**03 53 08.8**	**+5.8**

IGQ 13 04:06:35.8, 0.°40N×77.°15W, h7km±2km**, Mb4.1, Ms3.9, 6C-26D, Error ellipse: s-maj=2.0km s-min=1.8km az=132.8, Colombia-Ecuador border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONE	**Cono NE Rev Vo**	**

SSLB	**Suanglung**	**0.65**	**292**	*e*Pg	**Pb**	**04 09 31.1**	**-1.1**
ELDTW	**Lidau**	**0.65**	**237**	P	**Pb**	**04 09 31.5**	**-0.9**
	baz=231						
WHF	**Hehuan Shan**	**0.67**	**332**⇑	*i*P	**Pb**	**04 09 31.9**	**-0.8**
	baz=336						
WHF				*e*S	**Sb**	**04 09 40.6**	**-1.1**
	baz=336						
SMLT	**Sun Moon Lake**	**0.73**	**297**⇑	*i*P	**Pb**	**04 09 33.1**	**-0.6**
	baz=302						
ALS	**Alishan**	**0.74**	**267**⇑	*i*P	**Pb**	**04 09 33.9**	**0.0**
	baz=271						
ALS				*e*S	**Sb**	**04 09 43.0**	**-0.6**
	baz=271						
TYC	**Yuchr**	**0.77**	**297**⇑	*i*P	**Pb**	**04 09 33.6**	**-0.8**
	baz=298						
TYC				S	**Sb**	**04 09 44.2**	**-0.3**
	baz=298						
TWT	**Tachien**	**0.80**	**331**	⇑P	**Pb**	**04 09 34.5**	**-0.5**
	baz=332						
TWT				S	**Sb**	**04 09 44.2**	**-1.2**
	baz=332						
CHN5	**Tsauling**	**0.86**	**273**⇑	*i*P	**Pb**	**04 09 35.7**	**-0.1**
	baz=272						
CHN5				*e*S	**Sb**	**04 09 47.0**	**+0.1**
	baz=272						
STYT	**Tauyuan**	**0.87**	**244**⇓	*i*P	**Pb**	**04 09 35.7**	**-0.4**
	baz=241						
STYT				S	**Sb**	**04 09 46.2**	**-1.2**
	baz=241						
TWG	**Pinlang**	**0.88**	**214**	*e*Pg	**Pb**	**04 09 34.0**	**-2.3**
TWG	**Pinlang**	**0.88**	**214**	⇓P	**Pb**	**04 09 34.3**	**-1.9**
	baz=196						
ENA	**Nanau**	**0.88**	**8**	*e*P	**Pb**	**04 09 35.2**	**-1.1**
	baz=1.0						
TTN	**Taitung**	**0.90**	**208**	*e*P	**Pb**	**04 09 34.8**	**-1.8**
	baz=201						
WNT	**Mingjian**	**0.91**	**291**	P	**Pb**	**04 09 36.5**	**-0.3**
	baz=291						
WNT				*e*S	**Sb**	**04 09 48.8**	**+0.3**
	baz=291						
NNS	**Nan Shan**	**0.91**	**346**	⇓P	**Pb**	**04 09 35.8**	**-1.0**
NNS				*e*S	**Sb**	**04 09 46.3**	**-2.2**
TPUB	**Ta-pu**	**0.93**	**255**	*e*Pg	**Pb**	**04 09 36.8**	**-0.4**
TPUB				*e*S	**Sb**	**04 09 49.4**	**+0.3**
CHN4	**Tsaushan**	**0.95**	**258**⇓	*i*P	**Pn**	**04 09 37.7**	**+0.2**
	baz=257						
CHN4				*e*S	**Sb**	**04 09 50.5**	**+0.7**
	baz=257						
WTP	**Ta-pu**	**0.96**	**252**⇓	*i*P	**Pn**	**04 09 37.5**	**-0.1**
	baz=250						
WTP				S	**Sb**	**04 09 50.5**	**+0.5**
	baz=250						
WGK	**Gukeng**	**0.97**	**278**⇑	*e*P	**Pn**	**04 09 37.4**	**-0.3**
	baz=278						
TCU	**Taichung**	**1.04**	**305**	⇑P	**Pn**	**04 09 39.0**	**+0.3**
	baz=305						
TCU				*e*S	**Sb**	**04 09 53.0**	**+0.8**
	baz=305						
SGST	**Jiashian**	**1.05**	**244**⇓	*e*P	**Pn**	**04 09 39.0**	**+0.2**
	baz=240						
CHN1	**Nanshi**	**1.06**	**250**⇓	*i*P	**Pn**	**04 09 39.3**	**+0.3**
	baz=249						
CHN1				S	**Sb**	**04 09 53.0**	**+0.3**
	baz=249						
TWC	**Suao**	**1.08**	**12**	*e*P	**Pn**	**04 09 38.9**	**-0.3**
	baz=28						
TWC				*e*S	**Sb**	**04 09 53.3**	**+0.1**
	baz=28						
ENTT	**Nioudou**	**1.08**	**358**	*e*P	**Pn**	**04 09 38.2**	**-1.1**
	baz=1.0						
CHY	**Chiayi**	**1.09**	**267**⇑	*e*P	**Pn**	**04 09 39.6**	**+0.2**
	baz=266						
CHY				*e*S	**Sb**	**04 09 53.3**	**-0.3**
	baz=266						
TWQ1	**Liyutan**	**1.10**	**316**⇑	*i*P	**Pn**	**04 09 40.0**	**+0.4**
	baz=324						
TWQ1				S	**Sn**	**04 09 54.6**	**+0.6**
	baz=324						
ECL	**Taimali**	**1.12**	**213**	*e*P	**Pn**	**04 09 37.5**	**-2.3**
	baz=196						
YHNB	**Yeheng**	**1.14**	**349**	*e*Pn	**Pn**	**04 09 39.1**	**-0.9**
NSK	**Sanguang**	**1.14**	**348**	⇑P	**Pn**	**04 09 39.5**	**-0.7**
	baz=351						
NSK				S	**Sn**	**04 09 53.1**	**-1.9**
	baz=351						
NSY	**Sanyi**	**1.16**	**318**	P	**Pn**	**04 09 40.9**	**+0.5**
	baz=332						
NSY				S	**Sn**	**04 09 56.2**	**+0.8**
	baz=332						
TWE	**Neicheng**	**1.17**	**3**	*e*P	**Pn**	**04 09 39.7**	**-0.7**
	baz=7.0						
SSD	**Sandimen**	**1.20**	**229**	*e*P	**Pn**	**04 09 40.3**	**-0.7**
	baz=225						
NSTT	**Nanjuang**	**1.21**	**333**	⇑P	**Pn**	**04 09 41.2**	**+0.2**
	baz=345						
NSTT				*e*S	**Sn**	**04 09 55.7**	**-1.0**
	baz=345						
CHN3	**Shinhua**	**1.24**	**248**	*e*P	**Pn**	**04 09 42.8**	**+1.4**
	baz=259						
CHN3				*e*S	**Sn**	**04 09 59.9**	**+2.5**
	baz=259						
WTCT	**Ta-ch'eng**	**1.26**	**285**	*e*P	**Pn**	**04 09 41.6**	**-0.1**
	baz=274						
WTCT				*e*S	**Sn**	**04 09 58.5**	**+0.7**
	baz=274						
CHN8	**Yiju**	**1.30**	**261**	*e*P	**Pn**	**04 09 42.1**	**-0.2**
	baz=261						
CHN8				*e*S	**Sn**	**04 09 59.3**	**+0.4**
	baz=261						
TWM1	**Shoushan**	**1.31**	**237**	*e*P	**Pn**	**04 09 43.9**	**+1.5**
	baz=222						
SGLT	**Jiouru**	**1.32**	**232**	*e*P	**Pn**	**04 09 44.4**	**+1.9**
	baz=229						
EGS		**1.32**	**13**	*e*P	**Pn**	**04 09 43.5**	**+1.0**
	baz=28						
EGS				*e*S	**Sn**	**04 10 01.9**	**+2.4**
	baz=28						
SCLT	**Jiali**	**1.35**	**254**	*e*P	**Pn**	**04 09 43.6**	**+0.6**
	baz=253						
SCLT				*e*S	**Sn**	**04 10 01.6**	**+1.4**
	baz=253						
EAST	**Anshuo**	**1.36**	**211**	*e*P	**Pn**	**04 09 41.1**	**-1.9**
	baz=196						
TAW	**Tawu**	**1.36**	**209**	*e*P	**Pn**	**04 09 43.8**	**+0.7**
	baz=193						
TAI1	**Yung-k'ang**	**1.37**	**248**	*e*P	**Pn**	**04 09 43.9**	**+0.7**
	baz=262						
TAI1				*e*S	**Sn**	**04 10 02.1**	**+1.6**
	baz=262						
TATO	**Taipei**	**1.42**	**356**	*e*Pn	**Pn**	**04 09 44.0**	**+0.1**
TATO				*e*S	**Sn**	**04 10 02.9**	**+0.9**
TWA	**Mucha**	**1.42**	**359**	*e*P	**Pn**	**04 09 44.2**	**+0.2**
	baz=12						
NCU	**National Centr**	**1.47**	**345**	*e*P	**Pn**	**04 09 45.3**	**+0.7**
	baz=345						
TAP1	**Taipei**	**1.48**	**357**	*e*P	**Pn**	**04 09 46.6**	**+1.8**
	baz=359						
SCZT	**Fangliau**	**1.49**	**218**	*e*P	**Pn**	**04 09 44.4**	**-0.4**
	baz=199						
TWB1	**Santiao Chiao**	**1.49**	**13**	*e*P	**Pn**	**04 09 45.5**	**+0.6**
	baz=3.0						
LAY	**Lan-yu**	**1.51**	**182**	*e*P	**Pn**	**04 09 43.8**	**-1.3**
	baz=168						
NWF	**Wu-fen Shan**	**1.52**	**6**	*e*P	**Pn**	**04 09 45.5**	**+0.1**
	baz=10.0						
TWS1	**Kuangyinshan**	**1.55**	**354**	*e*P	**Pn**	**04 09 46.5**	**+0.7**
	baz=14						
YOJ	**Yonaguni jima**	**1.57**	**54**	*e*P	**Pn**	**04 09 45.8**	**-0.2**
	baz=59						
YOJ	**Yonaguni jima**	**1.57**	**54**	P	**Pn**	**04 09 46.1**	**+0.1**
YOJ				S	**Sn**	**04 10 05.4**	**-0.2**
TWP	**Hsiaoliuchiu**	**1.66**	**224**	*e*P	**Pn**	**04 09 48.7**	**+1.5**
	baz=220						
HEN	**Hengchun**	**1.73**	**208**	*e*P	**Pn**	**04 09 48.8**	**+0.6**
	baz=189						
TWK1	**Hengchun**	**1.76**	**205**	*e*P	**Pn**	**04 09 49.0**	**+0.4**
	baz=188						
TSEB	**Hengchuen, Pin**	**1.77**	**202**	*e*P	**Pn**	**04 09 47.3**	**-1.4**
	baz=187						
WDGT	**Dungji**	**1.81**	**261**	⇑P	**Pn**	**04 09 48.7**	**-0.6**
	baz=261						
WDGT				*e*S	**Sn**	**04 10 09.4**	**-2.1**
	baz=261						
PNG	**Penghu**	**1.89**	**271**	⇑P	**Pn**	**04 09 49.7**	**-0.6**
	baz=270						
PNG				*e*S	**Sn**	**04 10 11.5**	**-1.8**
	baz=270						
HATJ	**Hateruma jima**	**2.07**	**75**	*e*S	**Sn**	**04 10 17.4**	**-0.6**

IRIF	**Iriomote-Funau**	**2.09**	**68**	P	**Pn**	**04 09 53.6**	**+0.4**
IRIF				S	**Sn**	**04 10 18.6**	**+0.2**
JKRS	**Kuro-shima**	**2.30**	**72**	P	**Pn**	**04 09 57.0**	**+1.0**
JKRS				*e*S	**Sn**	**04 10 23.8**	**+0.2**
JIJ	**Ishigaki jima**	**2.46**	**70**	P	**Pn**	**04 09 58.4**	**+0.2**
JIJ				*e*S	**Sn**	**04 10 26.5**	**-0.9**
JTJ	**Tarama**	**3.03**	**68**	*e*S	**Sn**	**04 10 41.5**	**0.0**
QZH	**Quanzhou**	**3.08**	**297**⇓	*i*Pn	**Pn**	**04 10 03.8**	**-3.0**
QZH				Sn	**Sn**	**04 10 37.5**	**-5.4**
QZH				smax			
	comp=N,190nm,0.8s						
QZH				smax			
	comp=E,200nm,0.7s						

MEX 13 04:12:22.4±1.2, 19°17N×104°08W, h12km±4km, MD4.0, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R15V		**0.09**	**92**	*i* P	Pg	04 12 24.1	-1.0
R15V				*i* S	Sg	04 12 27.5	+0.5
EZ5V		**0.54**	**56**	*i* P	Pg	04 12 31.0	-2.0
EZ5V				*i* S	Sg	04 12 40.0	-0.2
MMIG	**Aquila**	**1.12**	**142**	*i* P	Pb	04 12 39.9	-3.9
MMIG				*i* S	Sb	04 12 55.0	-3.3
ANIG	**Ahuacatlan**	**1.92**	**348**	*i* P	Pn	04 12 52.3	-2.6
ANIG				*i* S	Sn	04 13 15.1	-3.9
MOIG	**Morelia**	**2.77**	**79**	*i* P	Pn	04 13 03.4	-3.3
MOIG				*i* S	Sn	04 13 37.4	-2.8
ZIIG	**Zihuatanejo**	**2.93**	**122**	*i* P	Pn	04 13 06.0	-2.8
ZIIG				*i* S	Sn	04 13 41.0	-3.0
CAIG	**El Cayaco**	**4.20**	**120**	*i* P	Pn	04 13 23.6	-2.6
CAIG				*i* S	Sn	04 14 12.0	-3.3
PLIG	**Platanillo**	**4.40**	**99**	*e*P	Pn	04 13 26.2	-2.9
PLIG				*i* S	Sn	04 14 17.6	-2.8
ACX	**Acapulco**	**4.62**	**119**	*e*P	Pn	04 13 29.6	-2.5
ACX				*i* S	Sn	04 14 21.2	-4.6
PNIG	**Pinotepa**	**6.31**	**115**	*e*P	Pn	04 13 52.7	-2.6
PNIG				*i* S	Sn	04 15 04.5	-2.8
VHO	**Vista Hermosa**	**7.29**	**105**	*e*P	Pn	04 14 07.8	-1.0
VHO				*i* S	Sn	04 15 29.5	-2.1

IDC 13 04:24:09.2±5.4, 25°38N×109°91W, h0km, mb3.2/1, mb1 3.4/5, mb1mx3.3/22, mbtmp3.0/5, ML2.9/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/16, Error ellipse: s-maj=77.0km s-min=26.0km az=169.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**6.81**	**53**	Pn	Pn	04 25 49.8	-0.6
	0.1nm,0.3s,baz=224,slow=11,SNR=8.5						
TXAR				Lg		04 27 45.4	
	0.1nm,0.3s,baz=247,slow=20,SNR=2.3						
ANMO	**Albuquerque**	**10.00**	**17**	Pn	Pn	04 26 32.8	-1.3
	0.1nm,0.3s,baz=180,slow=9.1,SNR=2.2						
ANMO				Lg		04 29 15.3	
	0.1nm,0.3s,baz=340,slow=17,SNR=3.5						
NVAR	**Mina Array Bea**	**14.83**	**333**	Pn	Pn	04 27 41.8	+1.7
	0.0nm,0.3s,baz=151,slow=13,SNR=2.0						
PDAR	**Pinedale Array**	**17.35**	**1**	P	Pn	04 28 14.8	+2.1
	baz=179,slow=12,SNR=2.1						
TEIG	**Tepich**	**20.58**	**100**	LR	LR	04 38 57.3	
	comp=Z,57nm,19.5s,baz=333,slow=43						
ILAR	**Eielson Array**	**45.99**	**339**	P	P	04 32 34.8	+0.9
	0.3nm,0.8s,baz=149,slow=7.4,SNR=4.2						

IDC ***13*** *04:26:56.4±0.5, 3°.36N×145°.66E, h0km, mb4.6/19, mb1 4.7/19, mb1mx4.7/24, mbtmp4.6/19, MS3.8/24, Ms1 3.8/24, ms1mx3.7/36, Error ellipse: s-maj=23.5km s-min=11.8km az=95.0*

NEIC ***13*** *04:26:58.5±0.2, 3°.37N×145°.56E, h10km, mb4.9/24, Error ellipse: s-maj=9.7km s-min=5.4km az=94.0*

MOS ***13*** *04:27:00.2±0.9, 3°.38N×145°.50E, h33km, mb4.9/26, Error ellipse: s-maj=14.5km s-min=8.0km az=99.6*

ISCJB ***13*** *04:27:00.2±0.3, 3°.35N±0°.05×145°.50E±0°.07, h33km, mb4.7/58, MS3.8/22, Error ellipse: s-maj=9.7km s-min=6.3km az=15.8*

BJI ***13*** *04:27:00.5, 3°.86N×145°.33E, h10km, mB5.1/12, mb4.7/18, Ms4.9/3*

DJA ***13*** *04:27:06, 3°.25N×145°.28E, h46km, mb4.9/14*

ISC 13 04:27:02.2±0.3, 3°34N±0°.04×145°54E±0°.06, h35km, (h26km±1.4km:pP-P), n153, o°97/124, mb4.7/58, MS3.8/22, 2C-1D, Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**7.56**	**220**	P	Pn	**04 28 48.2**	**-1.8**
	0.7nm6µm101nm,0.5s						
GUMO	**Guam**	**10.20**	**356**	LR	LR	04 32 38.0	
	comp=Z,344nm,20.4s,baz=75,slow=34						
PMG	**Port Moresby**	**12.77**	**173**	LR	LR	04 34 38.5	
	comp=Z,646nm,19.4s,baz=249,slow=36						
COEN	**Coen**	**17.34**	**188**	*e*Pn	Pn	**04 31 03.8**	**+2.1**
	88nm,1.0s						
COEN	**Coen**	**17.34**	**188**	P	Pn	**04 31 07.1**	**+5.4**
	25nm,1.2s						
BNDI	**Bandanaira**	**17.46**	**244**	P	Pn	**04 31 05.8**	**+2.6**
	95nm,1.3s						
KMSI	**Cibinong**	**21.72**	**263**	P	P	**04 31 47.1**	**-3.5**
	5µm289nm,1.3s,mb5.5						
LUWI	**Luwuk**	**23.17**	**260**	P	P	**04 32 05.7**	**-0.3**
	2µm138nm,1.2s,mb5.2						
CTA	**Charters Tower**	**23.29**	**178**	P	P	**04 32 07.5**	**+0.3**
	24nm,0.8s,mb4.7,baz=351,slow=9.0,SNR=22						
CTA				LR	LR	04 40 36.3	
	comp=Z,132nm,20.9s,MS3.4,baz=154,slow=35						
CTA	**Charters Tower**	**23.29**	**178**	*e*P	P	**04 32 07.4**	**+0.3**
	22nm,0.9s,mb4.6						
CTA	**Charters Tower**	**23.29**	**178**	P	P	**04 32 07.5**	**+0.3**
CTA				LR	LR	04 40 36.3	
CTA	**Charters Tower**	**23.29**	**178**	P	P	**04 32 07.5**	**+0.4**
CTAO	**Charters Tower**	**23.29**	**178**	*e*P	P	**04 32 07.6**	**+0.5**
	38nm,1.0s,mb4.8						
CTAO	**Charters Tower**	**23.29**	**178**	*e*P	P	**04 32 07.6**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,38nm,1.0s,mb4.8						
CTAO	**Charters Tower**	**23.29**	**178**	P	P	**04 32 07.6**	**+0.5**
	comp=Z,40nm,1.0s,mb4.8						
KDI	**Kendari**	**24.02**	**253**	P	P	**04 32 16.6**	**+2.5**
	comp=Z,28nm,1.4s,mb4.5						
WRAB	**Tennant Creek**	**25.61**	**205**	*e*P	P	**04 32 28.0**	**-0.4**
	comp=Z,42nm,0.7s,mb5.1						
WRAB	**Tennant Creek**	**25.61**	**205**	*e*P	P	**04 32 28.0**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,42nm,0.7s,mb5.1						
WRAB	**Tennant Creek**	**25.61**	**205**	P	P	**04 32 27.9**	**-0.5**
	comp=Z,113nm,0.8s,mb5.5						
WRA	**Warramunga Arr**	**25.62**	**205**	P	P	**04 32 28.0**	**-0.5**
	comp=Z,35nm,0.8s,mb5.0,baz=32,slow=11,SNR=85						
WRA				PcP	PcP	04 35 59.6	+0.7
	comp=Z,1.9nm,1.1s,baz=21,slow=3.0,SNR=5.9						
WRA				LR	LR	04 42 20.8	
	comp=Z,267nm,19.6s,MS3.8,baz=30,slow=36						
WRA	**Warramunga Arr**	**25.62**	**205**	P	P	**04 32 28.0**	**-0.5**
WRA				PcP	PcP	04 35 59.6	+0.7
WRA				LR	LR	04 42 20.8	
WRA	**Warramunga Arr**	**25.62**	**205**	P	P	**04 32 28.0**	**-0.5**
WRA						04 35 59.6	
TTSI	**Tana Toraja**	**26.48**	**256**	P	sP	04 32 50.9	+0.2
BKSI	**Bulukumba**	**26.81**	**251**	P	P	**04 32 40.1**	**+0.7**
	comp=Z,22nm,1.0s,mb4.6						
FITZ	**Fitzroy Crossi**	**28.96**	**222**	P	P	**04 32 58.2**	**-0.3**
	comp=Z,7.8nm,0.8s,mb4.5,baz=43,slow=7.5,SNR=17						
FITZ				LR	LR	04 45 01.7	
	comp=Z,251nm,18.1s,MS3.9,baz=46,slow=37						
FITZ	**Fitzroy Crossi**	**28.96**	**222**	*e*P	P	**04 32 58.1**	**-0.4**
	comp=Z,22nm,1.1s,mb4.8						
FITZ	**Fitzroy Crossi**	**28.96**	**222**	P	P	**04 32 58.2**	**-0.3**
FITZ				LR	LR	04 45 01.7	
ASAR	**Alice Springs**	**29.14**	**202**	P	P	**04 32 59.7**	**-0.3**
	comp=Z,2.3nm,0.6s,mb4.1,baz=31,slow=7.4,SNR=27						
ASAR				PcP	PcP	04 36 08.1	+0.7
	comp=Z,3.6nm,0.9s,baz=36,slow=2.8,SNR=9.4						
ASAR	**Alice Springs**	**29.14**	**202**	P	P	**04 32 59.7**	**-0.3**
ASAR				PcP	PcP	04 36 08.1	+0.7
ASAR	**Alice Springs**	**29.14**	**202**	P	P	**04 32 59.7**	**-0.3**
ASAR						04 36 08.1	
YHNB	**Yeheng**	**31.49**	**315**	P	P	**04 33 18.9**	**-2.0**
JNU	**Nakatsue**	**32.65**	**337**	*e*P	P	**04 33 31.0**	**0.0**
	comp=Z,6.9nm,0.8s,mb4.6						

MJAR	**Matsushiro Arr**	**33.72**	**349**	LR	LR	04 46 10.8	
	comp=Z,66nm,18.1s,MS3.4,baz=175,slow=34						
STKI	**Sintang**	**34.20**	**265**	P	P	**04 33 48.6**	**+3.9**
	comp=Z,10µmcomp=Z,48nm,0.4s,mb5.7						
MBWA	**Marble Bar**	**35.10**	**225**	*e*P	P	**04 33 52.5**	**+0.1**
	comp=Z,35nm,1.4s,mb5.1						
STKA	**Stephens Creek**	**35.22**	**186**	P	P	**04 33 52.0**	**-1.3**
	comp=Z,6.8nm,0.7s,mb4.7,baz=348,slow=9.8,SNR=12						
STKA				LR	LR	04 48 30.8	
	comp=Z,248nm,20.8s,MS4.0,baz=21,slow=37						
STKA	**Stephens Creek**	**35.22**	**186**	*e*P	P	**04 33 51.8**	**-1.5**
	comp=Z,5.9nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**35.22**	**186**	P	P	**04 33 52.0**	**-1.3**
STKA				LR	LR	04 48 30.8	
STKA	**Stephens Creek**	**35.22**	**186**	P	P	**04 33 52.0**	**-1.3**
KSRS	**Korea Array**	**37.60**	**337**	P	P	**04 34 12.7**	**-0.8**
	comp=Z,4.5nm,0.9s,mb4.2,baz=158,slow=9.4,SNR=11						
KSRS				PcP	PcP	04 36 31.8	+0.9
	comp=Z,1.1nm,0.5s,baz=171,slow=3.2,SNR=7.3						
KSRS				LR	LR	04 49 16.1	
	comp=Z,73nm,20.2s,MS3.5,baz=275,slow=36						
KSRS	**Korea Array**	**37.60**	**337**	P	P	**04 34 12.7**	**-0.8**
KSRS						04 36 31.8	
KSRS				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2						
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
KSRS				MLR	MLR		
	comp=Z,73nm,20.2s,MS3.5						
MSVF	**Nonsavu**	**38.29**	**124**	*e*P	P	**04 34 21.0**	**+1.3**
	comp=Z,25nm,0.9s,mb5.0						
MSVF				*e*	pP	04 34 28.9	-1.0
MSVF	**Nonsavu**	**38.29**	**124**	*e*P	P	**04 34 21.0**	**+1.4**
MSVF				*e*	pP	04 34 28.9	-1.0
MSVF				pmax	pmax		
	comp=Z,25nm,0.9s,mb4.9						
WHN	**Wuhan**	**40.00**	**316**	*e*P	P	**04 34 33.1**	**-0.6**
ASAJ	**Asahikawa**	**40.69**	**357**	LR	LR	04 49 05.0	
	comp=Z,77nm,21.4s,MS3.5,baz=28,slow=33						
ENH	**Enshi**	**43.34**	**312**	*e*P	P	**04 35 02.5**	**+1.4**
KLBR	**Kellerberrin**	**43.65**	**215**	*e*P	P	**04 35 03.1**	**-0.5**
	comp=Z,10nm,0.5s,mb4.8						
NWAO	**Narrogin (SRO)**	**44.93**	**214**	P	P	**04 35 13.1**	**-0.7**
	comp=Z,8.4nm,0.8s,mb4.6,baz=42,slow=7.6,SNR=3.8						
NWAO	**Narrogin (SRO)**	**44.93**	**214**	P	P	**04 35 13.1**	**-0.7**
NWAO	**Narrogin (SRO)**	**44.93**	**214**	P	P	**04 35 13.1**	**-0.7**
AFI	**Afiamalu**	**45.67**	**113**	LR	LR	04 54 09.5	
	comp=Z,55nm,18.2s,MS3.5,baz=58,slow=36						
PSI	**Prapat**	**46.55**	**271**	LR	LR	04 53 23.9	
	comp=Z,22nm,18.5s,MS3.1,baz=98,slow=34						
PSI	**Prapat**	**46.55**	**271**	P	P	**04 35 27.5**	**+0.6**
	comp=Z,22nm,1.1s,mb5.0						
KLR	**Kul'dur**	**47.21**	**348**	*e*P	P	**04 35 28.2**	**-3.3**
KLR				pmax	pmax		
	comp=Z,56nm,1.8s,mb5.2						
CMAR	**Chiang Mai Arr**	**47.98**	**292**	P	P	**04 35 39.9**	**+1.8**
	comp=Z,1.6nm,0.3s,mb4.5,baz=106,slow=5.1,SNR=4.8						
CMAR				PcP	PcP	04 37 06.5	+0.5
	comp=Z,1.4nm,0.4s,baz=67,slow=1.9,SNR=5.3						
CMAR	**Chiang Mai Arr**	**47.98**	**292**	P	P	**04 35 39.9**	**+1.8**
CMAR				PcP	PcP	04 37 06.5	+0.5
CMAR	**Chiang Mai Arr**	**47.98**	**292**	P	P	**04 35 39.9**	**+1.9**
CMAR						04 37 06.5	
PETK	**Petropavlovsk-**	**50.61**	**9**	P	P	**04 35 57.6**	**+0.1**
	comp=Z,5.4nm,0.8s,mb4.5,baz=174,slow=6.6,SNR=4.1						
PETK				LR	LR	04 53 22.1	
	comp=Z,82nm,19.6s,MS3.8,baz=23,slow=31						
PETK	**Petropavlovsk-**	**50.61**	**9**	P	P	**04 35 57.6**	**+0.1**
PETK				LR	LR	04 53 22.1	
PETK	**Petropavlovsk-**	**50.61**	**9**	P	P	**04 35 57.6**	**+0.1**
HIA	**Hailar**	**50.76**	**338**	P	P	**04 35 59.2**	**+0.5**
	comp=Z,8.6nm,0.7s,mb4.8						
HIA	**Hailar**	**50.76**	**338**	P	P	**04 35 59.2**	**+0.5**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
FX1	**Attu Island--F**	**54.40**	**20**	LR	LR	04 55 49.9	
	comp=Z,132nm,20.2s,MS4.0,baz=46,slow=32						
GTA	**Gaotai**	**54.79**	**317**	P	P	**04 36 29.9**	**+1.2**
GTA				pP	pP	04 36 38.3	-1.0
GTA				sP	sP	04 36 42.4	-1.0
GTA				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
ULN	**Ulaanbaatar**	**55.32**	**329**	*e*P	P	**04 36 33.5**	**+1.2**
	comp=Z,2.4nm,0.3s,mb4.7						
ULN	**Ulaanbaatar**	**55.32**	**329**	*e*P	P	**04 36 33.6**	**+1.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
ULN	**Ulaanbaatar**	**55.32**	**329**	P	P	**04 36 34.1**	**+1.8**
SONM	**Songino Array**	**55.64**	**329**	P	P	**04 36 35.2**	**+0.6**
	comp=Z,3.5nm,0.9s,mb4.4,baz=143,slow=7.3,SNR=16						
SONM				PcP	PcP	04 37 34.6	+0.7
	comp=Z,1.7nm,0.7s,baz=132,slow=4.1,SNR=2.9						
SONM	**Songino Array**	**55.64**	**329**	P	P	**04 36 35.2**	**+0.5**
SONM				PcP	PcP	04 37 34.6	+0.7
SONM	**Songino Array**	**55.64**	**329**	P	P	**04 36 35.2**	**+0.6**
SONM						04 37 34.6	
ZAK	**Zakamensk**	**58.83**	**330**	*e*P	P	**04 36 56.9**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
TLY	**Talaya**	**59.47**	**331**	*e*P	P	**04 37 09.6**	**+8.1**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
BILL	**Bilibino**	**66.12**	**8**	*e*P	P	**04 37 45.7**	**+0.2**
BILL				*e*		04 38 15.0	
BILL				*e*		04 40 18.2	
BILL				pmax	pmax		
	comp=Z,11nm,1.7s,mb4

comp=Z,9.0nm,1.1s,mb4.6
DIV Divide 76.90 28 *e*P P **04 38 51.2 +0.6**
comp=Z,12nm,0.7s,mb4.9
COLD Coldfoot 77.17 21 *e*P P **04 38 53.2 +1.2**
comp=Z,10nm,1.1s,mb4.7
COLA College 77.20 24 *e*P P **04 38 51.7 -0.5**
comp=Z,5.2nm,1.0s,mb4.4
COLA College 77.20 24 *e*P P **04 38 51.7 -0.5**
COLA pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
ILAR Eielson Array 77.55 24 P P **04 38 52.9 -1.3**
comp=Z,3.9nm,0.8s,mb4.4,baz=252,slow=5.7,SNR=45
ILAR LR LR 05 10 04.6
comp=Z,75nm,18.8s,MS4.0,baz=243,slow=33
ILAR Eielson Array 77.55 24 P P **04 38 52.9 -1.3**
ILAR LR LR 05 10 04.6
ILAR Eielson Array 77.55 24 P P **04 38 52.9 -1.3**
VOSK Vostochnaya 78.02 323 P P **04 38 56.2 -0.8**
VOSK pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
DOT Dot Lake 78.39 25 *e*P P **04 38 59.0 +0.1**
comp=Z,23nm,1.0s,mb5.0
BVA0 Borovoye Array 78.42 323 *i* P P **04 38 59.4 +0.1**
BVA0 pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
BRVK Borovoye 78.49 323 *e*P P **04 39 00.1 +0.4**
comp=Z,18nm,1.3s,mb4.8
BRVK *e*PcP PcP 04 39 08.6 -0.1
BRVK Borovoye 78.49 323 *e*P P **04 39 00.1 +0.4**
BRVK *e* pP 04 39 08.6 -2.0
BRVK pmax pmax
comp=Z,18nm,1.3s,mb4.8
EGAK Eagle 79.91 25 *e*P P **04 39 07.7 +0.5**
comp=Z,11nm,0.9s,mb4.8
DAWY Dawson 80.50 26 *e*P P **04 39 11.2 +0.9**
VNDA Vanda 81.26 176 P P **04 39 14.1 -0.1**
comp=Z,4.1nm,0.8s,mb4.4,baz=323,slow=6.1,SNR=21
VNDA LR LR 05 12 08.8
comp=Z,62nm,18.2s,MS4.0,baz=336,slow=33
VNDA Vanda 81.26 176 *e*P P **04 39 14.3 +0.1**
comp=Z,9.9nm,1.3s,mb4.6
VNDA *e* pP 04 39 22.4 -2.8
VNDA Vanda 81.26 176 *e*P P **04 39 14.3 +0.1**
VNDA *e* pP 04 39 22.4 -2.8
VNDA pmax pmax
comp=Z,10.0nm,1.3s
INK Inuvik 83.56 22 P P **04 39 25.6 -0.8**
comp=Z,6.9nm,1.0s,mb4.7,baz=277,slow=1.9,SNR=14
INK LR LR 05 14 39.8
comp=Z,109nm,19.5s,MS4.2,baz=146,slow=34
INK Inuvik 83.56 22 P P **04 39 25.6 -0.8**
INK LR LR 05 14 39.8
INK Inuvik 83.56 22 P P **04 39 25.6 -0.7**
DLBC Dease Lake 84.25 32 P P **04 39 30.1 +0.1**
comp=Z,4.7nm,0.8s,mb4.6,baz=267,slow=18,SNR=6.1
DLBC Dease Lake 84.25 32 P P **04 39 30.1 +0.1**
AB31 Akbulak array 84.61 319*ce*P P **04 39 31.9 -0.2**
AB31 pmax pmax
comp=Z,4.0nm,0.5s,mb4.8
ABKAR Akbulak array 84.61 319 *e*P P **04 39 31.8 -0.2**
comp=Z,5.6nm,0.6s,mb4.9
BBB Bella Bella 85.14 38 LR LR 05 11 28.5
comp=Z,180nm,19.1s,MS4.5,baz=236,slow=31
ARU Arti 85.56 326 *e*P P **04 39 36.4 -0.3**
comp=Z,16nm,1.0s,mb5.2
ARU Arti 85.56 326*d* iP P **04 39 36.2 -0.5**
ARU 04 42 51.5
ARU S S 04 49 57.7 -8.2
ARU SS SS 04 55 41.1 -0.8
ARU pmax pmax
comp=Z,17nm,1.0s,mb5.2
AKTO Aktyubinsk 85.86 320 LR LR 05 22 49.8
comp=Z,33nm,18.9s,MS3.8,baz=214,slow=39
AKTO Aktyubinsk 85.86 320 *i* P P **04 39 37.6 -0.7**
AKTO pmax pmax
comp=Z,1.0nm,0.8s,mb4.1
MAW Mawson 90.27 202 LR LR 05 19 21.0
comp=Z,57nm,18.1s,MS4.0,baz=288,slow=35
YKA Yellowknife Ar 91.61 27 P P **04 40 04.0 -1.4**
comp=Z,2.8nm,0.8s,mb4.6,baz=270,slow=4.9,SNR=2.9
YKA LR LR 05 17 05.2
comp=Z,14nm,19.3s,MS3.4,baz=315,slow=33
YKA Yellowknife Ar 91.61 27 P P **04 40 04.0 -1.4**
YKA LR LR 05 17 05.2
YKA Yellowknife Ar 91.61 27 P P **04 40 04.0 -1.3**
NVAR Mina Array Bea 92.77 51 P P **04 40 10.9 -0.4**
comp=Z,2.2nm,0.9s,mb4.6,baz=264,slow=5.2,SNR=14
NVAR Mina Array Bea 92.77 51 P P **04 40 10.9 -0.4**
QSPA South Pole Qui 93.25 180 *e*P P **04 40 13.5 +0.9**
comp=Z,12nm,1.1s,mb5.3
RES Resolute Bay 94.31 13 LR LR 05 17 39.4
comp=Z,58nm,21.2s,MS4.0,baz=269,slow=32
ARCES ARCESS Array B 96.98 342 LR LR 05 25 16.6
comp=Z,85nm,18.8s,MS3.8,baz=337,slow=36
PDAR Pinedale Array 98.62 46 LR LR 05 22 23.3
comp=Z,53nm,18.5s,MS4.1,baz=165,slow=34
FINES FINESS Array B 100.67 335 P Pdif 04 40 44.9 -1.7
comp=Z,3.1nm,1.0s,baz=20,slow=6.1,SNR=3.9
FINES FINESS Array B 100.67 335 P Pdif 04 40 44.9 -1.7
FINES FINESS Array B 100.67 335 P Pdif 04 40 44.9 -1.7
GERES GERESS Array B 113.36 328 PKiKP PKiKP 04 45 36.4 -0.1
comp=Z,0.7nm,0.6s,baz=42,slow=2.2,SNR=7.1
GERES GERESS Array B 113.36 328 PKPdf PKiKP 04 45 36.4 -0.1
GERES GERESS Array B 113.36 328 PKiKP PKiKP 04 45 36.4 -0.1
TORD Torodi Ar. Bea 140.54 295 PKhKP PKPpre 04 46 20.6
comp=Z,0.8nm,0.8s,baz=40,slow=1.9,SNR=7.1
TORD Torodi Ar. Bea 140.54 295 PKP PKPpre 04 46 20.6
LPAZ La Paz 144.50 114 PKP PKPdf 04 46 36.5 +0.6
comp=Z,14nm,0.7s,baz=273,slow=2.9,SNR=46
LPAZ La Paz 144.50 114 *e*PKPdf PKPdf 04 46 36.6 +0.7
LPAZ La Paz 144.50 114 *e*PKiKP PKPdf 04 46 36.6 +0.7
DBIC Dimbokro 148.82 289 PKPbc PKPbc 04 46 47.2 0.0
comp=Z,11nm,0.8s,baz=82,slow=3.0,SNR=12
DBIC Dimbokro 148.82 289 *e*PKPdf PKPdf 04 46 43.4 +0.1
DBIC *e*PKPbc PKPbc 04 46 47.5 +0.3
DBIC Dimbokro 148.82 289 *e*PKiKP PKPdf 04 46 43.4 +0.1
DBIC *e* 04 46 47.5

*IDC **13** 04:34:14.4±1.1,3°.32S×143°.07E, h0km, mb3.9/7, mb1 4.1/8, mb1mx3.9/18, mbtmp3.9/8, ML4.0/1, Error ellipse: s-maj=45.9km s-min=22.8km az=101.0*
*ISCJB **13** 04:34:18.0±1.0,3°.4S±0°.1×143°.0E±0°.2, h33km, mb3.9/7, Error ellipse: s-maj=35.7km s-min=15.9km az=16.9*
*NEIC **13** 04:34:19.8±0.8,3°.35S×143°.02E, h35km, mb3.8/2, Error ellipse: s-maj=29.5km s-min=13.5km az=105.0*

ISC 13 04:34:19.9±1.0,3°.4S±0°.1×143°.0E±0°.2,h35km,n19, σ0s83/17,mb3.9/7,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**18.50**	**206**	*e*P	**Pn**		**04 38 34.0**	**+0.4**
	4.9nm,0.5s							
WRA	**Warramunga Arr**	**18.52**	**206**	P	**Pn**		**04 38 33.0**	**-0.7**
	0.5nm,0.3s,baz=26,slow=11,SNR=25							
WRA	**Warramunga Arr**	**18.52**	**206**	P	**Pn**		**04 38 33.0**	**-0.7**
ASAR	**Alice Springs**	**22.02**	**203**	P	**P**		**04 39 11.8**	**+0.5**
	1.4nm,0.8s,mb3.5,baz=28,slow=10,SNR=9.8							
ASAR	**Alice Springs**	**22.02**	**203**	P	**P**		**04 39 11.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**22.43**	**228**	P	**P**		**04 39 15.3**	**-0.5**
	5.7nm,0.8s,mb4.0,baz=47,slow=9.5,SNR=15							
FITZ	**Fitzroy Crossi**	**22.43**	**228**	P	**P**		**04 39 15.3**	**-0.5**
STKA	**Stephens Creek**	**28.41**	**182**	P	**P**		**04 40 09.8**	**-1.3**
	2.7nm,0.5s,mb4.1,baz=359,slow=10,SNR=7.9							
STKA	**Stephens Creek**	**28.41**	**182**	P	**P**		**04 40 09.8**	**-1.3**
MKAR	**Makanchi Array**	**72.92**	**321**	P	**P**		**04 45 46.1**	**+0.5**
	0.3nm,0.3s,mb3.8,baz=101,slow=7.5,SNR=3.1							
MKAR	**Makanchi Array**	**72.92**	**321**	P	**P**		**04 45 46.1**	**+0.5**
VNDA	**Vanda**	**74.81**	**176**	P	**P**		**04 45 57.4**	**+1.3**
	0.7nm,0.8s,mb3.7,baz=346,slow=10,SNR=4.0							
VNDA	**Vanda**	**74.81**	**176**	*e*P	**P**		**04 45 56.9**	**+0.8**
	0.6nm,0.6s,mb3.7							
ILAR	**Eielson Array**	**84.67**	**24**	P	**P**		**04 46 48.7**	**-1.0**
	0.8nm,0.9s,mb3.9,baz=262,slow=5.0,SNR=4.5							
ILAR	**Eielson Array**	**84.67**	**24**	P	**P**		**04 46 48.7**	**-1.0**
QSPA	**South Pole Qui**	**86.60**	**180**	P	**P**		**04 47 00.0**	**+0.9**
	1.1nm,0.5s,mb4.3,baz=355,slow=18,SNR=5.0							
QSPA	**South Pole Qui**	**86.60**	**180**	P	**P**		**04 47 00.0**	**+0.9**
DBIC	**Dimbokro**	**147.78**	**277**	PKPbc	PKPbc		04 54 02.7	+0.5
	2.2nm,0.7s,baz=159,slow=6.5,SNR=3.6							
DBIC	**Dimbokro**	**147.78**	**277**	PKPbc	PKPbc		04 54 02.7	+0.5

WEL 13 04:36:52.4±0.6,37°.36S×179°.94E, h33km, ML4.1/7, 1C,

Error ellipse: s-maj=5.4km s-min=3.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.32**	**261**	PN	Pn		04 37 14.0	-0.4
MXZ				SN	Sn		04 37 29.7	-1.2
PUZ	**Puketiti**	**1.52**	**241**	⇑PN	Pn		04 37 16.6	-0.6
PUZ				SN	Sn		04 37 35.0	-0.8
CNGZ	**Carnagh Statio**	**1.77**	**230**	PN	Pn		04 37 20.6	-0.1
MWZ	**Matawai**	**2.15**	**242**	PN	Pn		04 37 24.9	-0.9
PRGZ	**Paritu Road**	**2.25**	**225**	PN	Pn		04 37 26.6	-0.8
MHGZ	**Mahia Peninsul**	**2.41**	**221**	PN	Pn		04 37 28.4	-1.0
URZ	**Urewera**	**2.42**	**247**	PN	Pn		04 37 29.4	-0.2
KNZ	**Kokohu**	**2.44**	**226**	PN	Pn		04 37 28.6	-1.3
KNZ				SN	Sn		04 37 57.3	-1.3
RAHZ	**Arahi**	**2.74**	**234**	PN	Pn		04 37 33.6	-0.4
TARZ	**Mount Tarawera**	**2.86**	**251**	PN	Pn		04 37 35.9	+0.2
NMHZ	**Naumai**	**3.02**	**234**	PN	Pn		04 37 37.4	-0.4
CKHZ	**Cape Kidnapper**	**3.21**	**223**	PN	Pn		04 37 39.4	-1.2
BKZ	**Black Stump Fm**	**3.26**	**235**	PN	Pn		04 37 40.4	-0.8
MCHZ	**McNeill Hill**	**3.29**	**230**	PN	Pn		04 37 40.7	-0.9
KAHZ	**Kahuranaki**	**3.42**	**224**	PN	Pn		04 37 41.9	-1.5
PXZ	**Pawanui**	**3.60**	**221**	PN	Pn		04 37 43.5	-2.3
BHHZ	**Black Hill Sta**	**3.72**	**234**	PN	Pn		04 37 46.4	-1.0
MKAZ	**Moumakai**	**3.82**	**272**	PN	Pn		04 37 49.2	+0.3
WPHZ	**Waipukurau**	**3.85**	**224**	PN	Pn		04 37 47.0	-2.3
PNHZ	**Pukenui**	**3.89**	**228**	PN	Pn		04 37 47.6	-2.2
FWVZ	**Far West T-bar**	**3.94**	**240**	PN	Pn		04 37 50.0	-0.5
WNVZ	**Wahianoa**	**3.94**	**239**	PN	Pn		04 37 49.4	-1.1
TSZ	**Takapari Road**	**4.12**	**228**	PN	Pn		04 37 50.6	-2.4
DVHZ	**Dannevirke**	**4.16**	**224**	PN	Pn		04 37 50.7	-2.8
BFZ	**Birch Farm**	**4.39**	**220**	PN	Pn		04 37 53.2	-3.5
TIWZ	**Tintock**	**4.65**	**222**	PN	Pn		04 37 57.2	-3.1
MRZ	**Mangatainoka R**	**4.74**	**225**	PN	Pn		04 37 58.4	-3.1
TMWZ	**Te Maipa**	**4.89**	**219**	PN	Pn		04 37 59.9	-3.7
HOWZ	**Holdsworth Sta**	**4.94**	**223**	PN	Pn		04 38 00.9	-3.3
MTW	**Mount Morrison**	**5.13**	**221**	PN	Pn		04 38 02.7	-4.1
CTZ	**Chatham Island**	**6.89**	**159**	PN	Pn		04 38 32.6	+1.6

*ISCJB **13** 04:38:13.8±0.7,37°.06S±0°.04×73°.0W±0°.1, h76km±8km, Error ellipse: s-maj=18.2km s-min=5.3km az=10.0*
*GUC **13** 04:38:15.1±0.8,37°.08S×72°.95W, h39km±3km, ML4.1*
*NEIC **13** 04:38:15.1,37°.08S×72°.95W, h39km, MG4.1(GUC), After GUC.*

ISC 13 04:38:15.0±0.7,37°.06S±0°.04×73°.0W±0°.1,h66km±9km,n36, σ0s66/54,2C-3D,Central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**0.86**	**58**	*i* P	**Pn**		**04 38 30.9**	**-0.6**
CCHI				*i* S	**Sn**		**04 38 42.4**	**-1.4**
CCHI	**Chillan**	**0.86**	**58**	*i* P	**Pn**		**04 38 30.9**	**-0.6**
CCHI				⇑*i*P			04 38 30.9	
CCHI				*i* S	**Sn**		**04 38 42.4**	**-1.4**
CCHI				AML	AML		04 38 44.0	
	comp=N,9μm,0.5s							
CCHI	**Chillan**	**0.86**	**58**	*i* P	**Pn**		**04 38 30.9**	**-0.6**
CCHI				⇑*i*P			04 38 30.9	
CCHI				*i* S	**Sn**		**04 38 42.4**	**-1.4**
CCHI				AML	AML		04 38 44.0	
	comp=N,9μm,0.5s							
COCH	**Cobquecura**	**0.94**	**10**	*e*P	**Pn**		**04 38 32.3**	**-0.3**
COCH				*e*S	**Sn**		**04 38 45.5**	**-0.1**
COCH	**Cobquecura**	**0.94**	**10**	*e*P	**Pn**		**04 38 32.3**	**-0.3**
COCH				*e*S	**Sn**		**04 38 45.5**	**-0.1**
COCH	**Cobquecura**	**0.94**	**10**	*e*P	**Pn**		**04 38 32.3**	**-0.3**
COCH				*e*S	**Sn**		**04 38 45.5**	**-0.1**
LNCH	**Linares**	**1.65**	**43**	*e*P	**Pn**		**04 38 42.5**	**+0.7**
LNCH				*i* S	**Sn**		**04 39 03.5**	**+1.4**
LNCH	**Linares**	**1.65**	**43**	*e*P	**Pn**		**04 38 42.5**	**+0.7**
LNCH				*i* S	**Sn**		**04 39 03.5**	**+1.4**
LNCH				AML	AML		04 39 09.5	
	comp=E,2μm,0.4s							
LNCH	**Linares**	**1.65**	**43**	*e*P	**Pn**		**04 38 42.5**	**+0.7**
LNCH				*i* S	**Sn**		**04 39 03.5**	**+1.4**
LNCH				AML	AML		04 39 09.5	
	comp=E,2μm,0.4s							
TMU	**Temuco**	**1.70**	**170**	⇓*e*P	**Pn**		**04 38 42.8**	**+0.4**
TMU				*i* S	**Sn**		**04 39 04.3**	**+1.0**
TMU	**Temuco**	**1.70**	**170**	⇓*e*P	**Pn**		**04 38 42.8**	**+0.4**
TMU				*i* S	**Sn**		**04 39 04.3**	**+1.0**
TMU	**Temuco**	**1.70**	**170**	⇓*e*P	**Pn**		**04 38 42.8**	**+0.4**
TMU				*i* S	**Sn**		**04 39 04.3**	**+1.0**
TALC	**Talca**	**1.99**	**34**	*e*P	**Pn**		**04 38 47.4**	**+1.0**
TALC	**Talca**	**1.99**	**34**	*e*P	**Pn**		**04 38 47.4**	**+1.0**
TALC				AML	AML		04 39 23.6	
	comp=N,3μm,0.4s							
TALC	**Talca**	**1.99**	**34**	*e*P	**Pn**		**04 38 47.4**	**+1.0**
TALC				AML	AML		04 39 23.6	
	comp=N,3μm,0.4s							
NICH	**Los Niches**	**2.50**	**35**	*e*P	**Pn**		**04 38 54.2**	**+0.9**
NICH				AML	AML		04 39 46.2	
	comp=Z,1μm,0.6s							
NICH	**Los Niches**	**2.50**	**35**	*e*P	**Pn**		**04 38 54.2**	**+0.9**
NICH				AML	AML		04 39 46.2	
	comp=Z,1μm,0.6s							
LNV	**Longovilo**	**3.36**	**23**	P	**Pn**		**04 39 05.0**	**0.0**
LNV	**Longovilo**	**3.36**	**23**	*e*P	**Pn**		**04 39 05.0**	**0.0**
OSCH	**Osorno**	**3.51**	**182**	*e*P	**Pn**		**04 39 06.8**	**-0.3**
OSCH				*e*S	**Sn**		**04 39 46.6**	**-0.8**
OSCH	**Osorno**	**3.51**	**182**	*e*P	**Pn**		**04 39 06.8**	**-0.3**
OSCH				*e*S	**Sn**		**04 39 46.6**	**-0.8**
OSCH				AML	AML		04 40 15.4	
	comp=E,582nm,0.5s							
OSCH	**Osorno**	**3.51**	**182**	*e*P	**Pn**		**04 39 06.8**	**-0.3**
OSCH				*e*S	**Sn**		**04 39 46.6**	**-0.8**
OSCH				AML	AML		04 40 15.4	
	comp=E,582nm,0.5s							
CACH	**El Canelo**	**3.53**	**34**	P	**Pn**		**04 39 07.8**	**+0.5**
CACH	**El Canelo**	**3.53**	**34**	*e*P	**Pn**		**04 39 07.8**	**+0.5**
CHCH	**Chadas Angostu**	**3.66**	**32**	P	**Pn**		**04 39 09.1**	**0.0**
CHCH	**Chadas Angostu**	**3.66**	**32**	*e*P	**Pn**		**04 39 09.1**	**0.0**
RCDM	**Rinconada Maip**	**3.99**	**27**	*e*P	**Pn**		**04 39 13.2**	**-0.5**
RCDM				*e*S	**Sn**		**04 39 58.1**	**-1.0**
RCDM	**Rinconada Maip**	**3.99**	**27**	*e*P	**Pn**		**04 39 13.2**	**-0.5**
RCDM				*e*S	**Sn**		**04 39 58.1**	**-1.0**
RCDM	**Rinconada Maip**	**3.99**	**27**	*e*P	**Pn**		**04 39 13.2**	**-0.5**
RCDM				*e*S	**Sn**		**04 39 58.1**	**-1.0**
CLCH	**Cerro Calan**	**4.17**	**29**	*e*P	**Pn**		**04 39 15.9**	**-0.3**
FCH	**Farellones**	**4.33**	**31**	*e*P	**Pn**		**04 39 18.8**	**+0.4**
PEL	**Peldehue**	**4.34**	**26**	*e*P	**Pn**		**04 39 18.2**	**-0.2**
ROLH	**El Roble**	**4.39**	**22**	*e*P	**Pn**		**04 39 19.1**	**0.0**
TRQA	**Tornquist**	**8.80**	**100**	Pn	**Pn**		**04 40 19.2**	**-0.3**
VNA3	**Neumayer Olymp**	**46.84**	**157**	*e*	**P**		**04 46 37.6**	**-0.2**
VNA3				*e*			04 46 44.6	
VNA3				*e*	pP		04 46 55.4	+0.9
VNA2	**Neumayer--Watz**	**47.52**	**156**	*e*	**P**		**04 46 42.9**	**-0.2**
	baz=294,slow=8.2							
VNA2				*e*			04 46 48.8	
VNA2				*e*	pP		04 47 00.8	+1.0

*MOS **13** 04:38:46.2±1.2,43°.23N×46°.70E, h9km, mb3.9/1, Error ellipse: s-maj=8.2km s-min=7.4km az=110.7*
*CSEM **13** 04:38:46.2,43°.23N×46°.70E, h9km, mb3.9, After OBN*

ISC 13 04:38:48.2±0.8,43°.27N±0°.04×46°.57E±0°.04,h3km±4km, n42,σ1s18/78,1D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.20**	**167**	*e*PG	**Pg**		**04 38 51.7**	**-0.4**
DLMR				S	**Sg**		**04 39 00.0**	**+5.3**
DLMR				pmax	pmax			
	comp=Z,1μm,0.4s							
DLMR	**Dylym**	**0.20**	**167**	*e*Pg	**Pg**		**04 38 51.7**	**-0.4**
	comp=Z,1μm,0.4s							
DLMR				Sg	**Sg**		**04 39 00.0**	**+5.3**
DBC	**Dubki**	**0.31**	**142**	⇓*i*PG	**Pg**		**04 38 53.0**	**-1.2**
DBC				*i* S	**Sg**		**04 38 58.0**	**-0.2**
DBC				pmax	pmax			
	comp=Z,207nm,0.2s							
DBC	**Dubki**	**0.31**	**142**	*i* Pg	**Pg**		**04 38 53.0**	**-1.2**
	comp=Z,207nm,0.2s							
DBC				*i* Sg	**Sg**		**04 38 58.0**	**-0.2**
KRNR	**Karanay**	**0.51**	**151**	*e*PG	**Pg**		**04 38 57.0**	**-0.9**
KRNR				*i* S	**Sg**		**04 39 05.2**	**+0.8**
KRNR				pmax	pmax			
	comp=Z,46nm,0.2s							
KRNR	**Karanay**	**0.51**	**151**	*e*Pg	**Pg**		**04 38 57.0**	**-0.9**
	comp=Z,46nm,0.2s							
KRNR				*i* Sg	**Sg**		**04 39 05.2**	**+0.8**
BUJR	**Buynaksk**	**0.59**	**138**	PG	**Pg**		**04 38 54.5**	**-5.0**
BUJR				*i* S	**Sg**		**04 39 08.8**	**+1.6**
BUJR	**Buynaksk**	**0.59**	**138**	Pg	**Pg**		**04 38 54.5**	**-5.0**
BUJR				*i* Sg	**Sg**		**04 39 08.8**	**+1.6**
GRO	**Groznyy**	**0.60**	**275**	*e*PG	**Pg**		**04 38 59.8**	**+0.1**
GRO				*e*S	**Sg**		**04 39 09.3**	**+1.8**
GRO	**Groznyy**	**0.60**	**275**	*e*Pg	**Pg**		**04 38 59.8**	**+0.1**
GRO				*e*Sg	**Sg**		**04 39 09.3**	**+1.8**
BTLR	**Botlikh**	**0.66**	**203**	PG	**Pg**		**04 39 00.0**	**-0.7**
BTLR				S	**Sg**		**04 39 09.0**	**-0.2**
BTLR				pmax	pmax			
	comp=Z,53nm,0.2s							
BTLR	**Botlikh**	**0.66**	**203**	Pg	**Pg**		**04 39 00.0**	**-0.7**
	comp=Z,53nm,0.2s							
BTLR				Sg	**Sg**		**04 39 09.0**	**-0.2**
XNZR	**Khunzakh**	**0.73**	**172**	*e*PG	**Pg**		**04 39 00.0**	**-2.2**
XNZR				S	**Sg**		**04 39 12.3**	**+0.6**
XNZR				pmax	pmax			
	comp=Z,77nm,0.2s							
XNZR	**Khunzakh**	**0.73**	**172**	*e*Pg	**Pg**		**04 39 00.0**	**-2.2**
	comp=Z,77nm,0.2s							
XNZR				Sg	**Sg**		**04 39 12.3**	**+0.6**
KMKR	**Kumukh**	**1.20**	**161**	*e*PG	**Pn**		**04 39 10.0**	**-1.8**
KMKR				*e*S	**Sg**		**04 39 29.0**	**+2.2**
KMKR				pmax	pmax			
	comp=Z,39nm,0.3s							
KMKR	**Kumukh**	**1.20**	**161**	*e*Pg	**Pn**		**04 39 10.0**	**-1.8**
	comp=Z,39nm,0.3s							
KMKR				*e*Sg	**Sg**		**04 39 29.0**	**+2.2**
SNJR	**Sundja**	**1.30**	**262**	*e*PG	**Pn**		**04 39 11.5**	**-1.7**
SNJR				*e*S	**Sg**		**04 39 29.3**	**-0.7**
SNJR	**Sundja**	**1.30**	**262**	*e*Pg	**Pn**		**04 39 11.5**	**-1.7**
SNJR				*e*Sg	**Sg**		**04 39 29.3**	**-0.7**
TRKR	**Terskaya**	**1.41**	**289**	*e*PG	**Pg**		**04 39 15.5**	**+0.3**
TRKR				*e*S	**Sg**		**04 39 36.2**	**+2.6**
TRKR	**Terskaya**	**1.41**	**289**	*e*Pg	**Pg**		**04 39 15.5**	**+0.3**
TRKR				*e*Sg	**Sg**		**04 39 36.2**	**+2.6**
KMSR	**Komsomolskaya**	**1.67**	**274**	*e*PN	**Pn**		**04 39 18.1**	**-0.1**
KMSR				*e*S	**Sn**		**04 39 41.2**	**-0.5**
KMSR	**Komsomolskaya**	**1.67**	**274**	*e*Pn	**Pn**		**04 39 18.1**	**-0.1**
KMSR				*e*Sg	**Sg**		**04 39 41.2**	**-0.5**
ARNR	**Ardon**	**1.68**	**268**	*e*PN	**Pn**		**04 39 17.7**	**-0.7**
ARNR				*e*S	**Sn**		**04 39 41.1**	**+0.8**
ARNR	**Ardon**	**1.68**	**268**	*e*Pn	**Pn**		**04 39 17.7**	**-0.7**
ARNR				*e*Sg	**Sn**		**04 39 41.1**	**+0.8**
LACR	**Lac**	**1.72**	**256**	*i* PN	**Pn**		**04 39 17.6**	**-1.4**
LACR	**Lac**	**1.72**	**256**	*i* Pn	**Pn**		**04 39 17.6**	**-1.4**
PRTR	**Priterechnaya**	**1.73**	**287**	*e*PN	**Pn**		**04 39 20.1**	**+0.9**
PRTR				*i* S	**Sg**		**04 39 44.8**	**+1.0**
PRTR	**Priterechnaya**	**1.73**	**287**	*e*Pn	**Pn**		**04 39 20.1**	**+0.9**
PRTR				*i* Sg	**Sg**		**04 39 44.8**	**+1.0**
KORR	**Kora**	**1.84**	**265**	*e*PN	**Pn**		**04 39 19.9**	**-0.7**
KORR	**Kora**	**1.84**	**265**	*e*Pn	**Pn**		**04 39 19.9**	**-0.7**
LSNR	**Lesken**	**2.01**	**271**	*e*PN	**Pn**		**04 39 23.4**	**+0.4**
LSNR				*e*S	**Sn**		**04 39 50.1**	**-0.7**
LSNR	**Lesken**	**2.01**	**271**	*e*Pn	**Pn**		**04 39 23.4**	**+0.4**
LSNR				*e*Sb	**Sb**		**04 39 50.1**	**-0.7**
DGRG	**David-gareji**	**2.02**	**206**	P	**Pn**		**04 39 24.0**	**+0.9**
DGRG				S	**Sg**		**04 39 54.8**	**+1.7**
ZEI	**Tsey**	**2.02**	**257**	*e*PN	**Pn**		**04 39 22.0**	**-1.1**
ZEI	**Tsey**	**2.02**	**257**	*e*Pn	**Pn**		**04 39 22.0**	**-1.1**
TBLG	**Delisi**	**2.05**	**222**	PN	**Pn**		**04 39 24.1**	**+0.6**
TBLG				S	**Sb**		**04 39 53.0**	**+1.2**
TBLG	**Delisi**	**2.05**	**222**	P	**Pn**		**04 39 24.1**	**+0.7**
TBLG				S	**Sg**		**04 39 53.0**	**-0.9**
TBLG	**Delisi**	**2.05**	**222**	Pn	**Pn**		**04 39 24.1**	**+0.6**
TBLG				Sb	**Sb**		**04 39 53.0**	**+1.2**
MTA	**Mtatsminda**	**2.05**	**220**	P	**Pn**		**04 39 25.2**	**+1.7**
MTA				S	**Sg**		**04 39 52.7**	**-1.4**
DIGR	**Digorskoe uzhe**	**2.22**	**261**	*e*PN	**Pn**		**04 39 25.2**	**-0.7**
DIGR				*e*S	**Sn**		**04 39 53.9**	**+0.1**
DIGR	**Digorskoe uzhe**	**2.22**	**261**	*e*Pn	**Pn**		**04 39 25.2**	**-0.7**
DIGR				*e*Sn	**Sn**		**04 39 53.9**	**+0.1**
ONI	**Oni**	**2.39**	**255**	P	**Pn**		**04 39 29.9**	**+1.8**
ONI				S	**Sg**		**04 40 02.4**	**-2.4**

IDC 13 04:43:21.9±4.0,1°.36S×16°.59W,h0km,mb3.9/2, mb1 3.9/2,mb1mx3.3/21,mbtmp3.9/2,MS3.4/4,Ms1 3.4/4, ms1mx3.0/31,Error ellipse: s-maj=103.4km s-min=47.3km az=108.0,North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**14.17**	**56**	LR	LR		04 51 01.6	
	comp=Z,81nm,18.9s,baz=272,slow=32							
TORD	**Torodi Ar. Bea**	**23.17**	**51**	P	P		04 48 30.4	0.0
	2.6nm,1.1s,baz=231,slow=9.2,SNR=8.1							
TORD				LR	LR		04 56 35.0	
	comp=Z,64nm,18.4s,baz=215,slow=34							
ESDC	**Sonseca Array**	**42.44**	**14**	LR	LR

IVRN	**Varamin**	**3.48**	**33**	*e*Pn		**Pn**	**04 56 25.4**	**+0.1**
IVRN				*e*Pn		**Pn**	**04 56 25.7**	**+0.4**
ILIN	**Lien**	**3.50**	**324**	*e*Pn		**Pn**	**04 56 25.8**	**+0.1**
ILIN				*e*			04 57 12.0	
	comp=Z,791nm,0.1s							
RDF	**Al-Radifah**	**3.54**	**208**	*e*P		**Pn**	**04 56 25.9**	**-0.3**
RDF				*e*S		**Sn**	**04 57 08.0**	**-0.1**
RDF				AML		AML	04 57 12.2	
	comp=Z,27nm,0.5s							
RDF	**Al-Radifah**	**3.54**	**208**	*e*P		**Pn**	**04 56 25.9**	**-0.3**
RDF				*e*S		**Sn**	**04 57 08.0**	**-0.1**
QRN	**Al-Qurain**	**3.58**	**202**	*e*P		**Pn**	**04 56 25.9**	**-0.7**
QRN				*e*S		**Sn**	**04 57 08.3**	**-0.6**
ISAD	**Sadrabad**	**3.61**	**92**	*e*Pn		**Pn**	**04 56 27.4**	**+0.3**
ISAD				*e*			04 57 30.1	
	comp=Z,344nm,0.3s							
IDHR	**Dehrash**	**3.65**	**316**	*e*Pn		**Pn**	**04 56 27.5**	**-0.2**
IDHR				*e*			04 57 14.8	
	comp=Z,1μm,0.1s							
IMHD	**Mahdasht**	**3.74**	**16**	*e*Pn		**Pn**	**04 56 29.2**	**+0.4**
IMHD				*e*			04 56 47.4	
	comp=Z,288nm,0.1s							
IPAR	**Pars**	**3.82**	**125**	*e*Pn		**Pn**	**04 56 29.8**	**-0.2**
IPAR				*e*			04 57 45.1	
	comp=Z,206nm,0.4s							
IDMV	**Damavand**	**4.10**	**31**	*e*Pn		**Pn**	**04 56 34.1**	**+0.3**
IDMV				*e*			04 56 49.2	
	comp=Z,224nm,0.3s							
ILAS	**Lasjerd**	**4.41**	**41**	*e*Pn		**Pn**	**04 56 38.2**	**+0.1**
ILAS				*e*			04 56 38.6	
	comp=Z,266nm,0.2s							
IMEH	**Mehriz**	**4.46**	**98**	*e*Pn		**Pn**	**04 56 39.0**	**+0.2**
IMEH				*e*			04 58 18.1	
	comp=Z,88nm,0.5s							
IFIR	**Firoozkooh**	**4.50**	**37**	*e*Pn		**Pn**	**04 56 39.6**	**+0.3**
IFIR				*e*			04 56 55.3	
	comp=Z,147nm,0.2s							
ISHM	**Shahmirzad**	**4.90**	**40**	*e*Pn		**Pn**	**04 56 45.1**	**+0.2**
ISHM				*e*			04 56 46.5	
	comp=Z,291nm,0.2s							
IANJ	**Anjilo**	**5.03**	**47**	*e*Pn		**Pn**	**04 56 46.0**	**-0.6**
IANJ				*e*			04 56 47.5	
	comp=Z,99nm,0.1s							
IKIA	**Kiasar**	**5.41**	**39**	*e*Pn		**Pn**	**04 56 52.2**	**+0.3**
BRTR	**Keskin Array B**	**14.89**	**305**	Pn		**Pn**	**04 59 06.3**	**+4.7**
	comp=Z,0.1nm,0.3s,baz=126,slow=13,SNR=4.6							
AKASG	**Malin Array Be**	**23.86**	**327**	P		**P**	**05 00 45.1**	**+0.5**
	comp=Z,0.3nm,0.3s,mb3.2,baz=137,slow=8.4,SNR=3.3							
MKAR	**Makanchi Array**	**29.07**	**50**	P		**P**	**05 01 33.3**	**+1.7**
	comp=Z,0.2nm,0.2s,mb3.4,baz=253,slow=8.4,SNR=2.3							
TORD	**Torodi Ar. Bea**	**47.51**	**258**	P		**P**	**05 04 03.5**	**-3.2**
	comp=Z,0.5nm,0.6s,mb3.7,baz=59,slow=8.2,SNR=6.9							

DJA 13 05:00:02,10′.06S×108°.96E, h55km, MLv4.0/6, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMJI	**Cimerak**	**2.32**	**347**	P	Pn	05 00 38.7	+0.9
CMJI				S	Sn	05 01 06.9	+1.8
UGM	**Wanagama**	**2.63**	**36**	P	Pn	05 00 43.4	+1.3
UGM				S	Sn	05 01 14.8	+1.9
CISI	**Cisompet, Garu**	**2.73**	**335**	P	Pn	05 00 41.3	-2.2
BJII	**Banjarnegara**	**2.81**	**15**	P	Pn	05 00 44.4	-0.1
PCJI	**Pacitan**	**2.87**	**50**	P	Pn	05 00 45.6	+0.3
PCJI				S	Sn	05 01 20.2	+1.6
SMRI	**Semarang**	**3.33**	**26**	P	Pn	05 00 47.8	-3.8
PWJI	**Pagerwojo**	**3.46**	**54**	P	Pn	05 00 54.8	+1.4
PWJI				S	Sn	05 01 35.5	+2.3
SJI	**Sawahan**	**3.61**	**50**	P	Pn	05 00 57.5	+2.0
SJI				S	Sn	05 01 40.9	+4.1
NGJI	**Ngawi**	**3.64**	**43**	P	Pn	05 01 00.0	+4.1
NGJI				S	Sn	05 01 40.0	+2.3
JAGI	**Jajag, Banyuwa**	**5.36**	**73**	P	Pn	05 01 18.5	-1.0

ISCJB 13 05:03:51.2±1.4, 40°.44N±0°.05×125°.24W±0°.09, h9km±9km, Error ellipse: s-maj=11.3km s-min=7.8km az=177.4
NEIC 13 05:03:54.0, 40°.45N×125°.33W, h23km, MW4.0(BRK), After NCEDC.
NEIC Felt at Alderpoint.
IDC 13 05:04:01.1±3.7, 40°.65N×124°.15W, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.5/24, mbtmp3.5/4, ML3.5/2, Error ellipse: s-maj=46.6km s-min=25.6km az=60.0

ISC 13 05:03:52.0±1.6, 40°.47N±0°.05×125°.21W±0°.09, h3km±8km, n20, σ1s28/26, 1C, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHMM	**Horse Mountain**	**1.19**	**70**	⇑*i*Pg	**Pg**	**05 04 15.0**	**+0.1**
KHMM				*e*S	**Sg**	**05 04 29.3**	**-1.0**
KRMB	**Red Mountain**	**1.44**	**43**	*e*Pn	**Pn**	**05 04 17.5**	**-1.4**
KCPM	**Cahto Peak**	**1.47**	**122**	*e*Pn	**Pn**	**05 04 17.6**	**-1.7**
KIPM	**Iron Peak**	**1.48**	**116**	*e*Pn	**Pn**	**05 04 18.5**	**-0.9**
KIPM				*e*Sn	**Sn**	**05 04 38.2**	**-1.0**
WDC	**Whiskeytown Da**	**2.03**	**86**	*e*Pn	**Pn**	**05 04 26.8**	**-0.2**
WDC				*e*Sn	**Sn**	**05 04 52.5**	**-0.4**
HOPS	**Hopland**	**2.21**	**131**	*e*Pn	**Pn**	**05 04 27.1**	**-2.4**
YBH	**Yreka Blue Hor**	**2.27**	**55**	*e*Pn	**Pn**	**05 04 29.8**	**-0.5**
YBH				*e*Sn	**Sn**	**05 05 00.1**	**+1.3**
HUMO	**Hull Mountain**	**2.72**	**38**	*e*Pn	**Pn**	**05 04 36.5**	**0.0**
HUMO				*e*Sn	**Sn**	**05 05 08.6**	**-1.3**
MOD	**Modoc**	**3.97**	**67**	*e*Pn	**Pn**	**05 04 53.7**	**+0.1**
WCN	**Washoe City**	**4.35**	**104**	*e*Pn	**Pn**	**05 05 00.2**	**+1.3**
CMB	**Columbia Colle**	**4.46**	**121**	*e*Pn	**Pn**	**05 05 01.1**	**+0.7**
CMB				*e*Sn	**Sn**	**05 05 52.7**	**-0.1**
NVAR	**Mina Array Bea**	**5.72**	**109**	Pn	**Pn**	**05 05 18.9**	**+1.2**
	1.2nm,0.3s,baz=285,slow=14,SNR=36						
NVAR				Lg		05 06 38.9	
	0.7nm,0.3s,baz=297,slow=26,SNR=3.8						
NVAR	**Mina Array Bea**	**5.72**	**109**	Pn	**Pn**	**05 05 18.9**	**+1.2**
ISA	**Isabella**	**7.16**	**130**	*e*Pn	**Pn**	**05 05 38.1**	**+0.7**
	3.5nm,0.4s						
BMO	**Blue Mountains**	**7.29**	**50**	*e*Pn	**Pn**	**05 05 42.3**	**+3.1**
	12nm,0.8s						
HLID	**Hailey**	**8.61**	**65**	*e*Pn	**Pn**	**05 06 00.8**	**+3.4**
	7.6nm,1.0s						
PDAR	**Pinedale Array**	**11.94**	**74**	Pn	**Pn**	**05 06 45.7**	**+2.8**
	0.1nm,0.3s,baz=261,slow=11,SNR=7.3						
TXAR	**Lajitas Array**	**20.81**	**116**	P	**P**	**05 08 37.3**	**+2.8**
	1.2nm,0.8s,baz=297,slow=8.0,SNR=12						
ULM	**Lac du Bonnet**	**22.68**	**55**	P	**P**	**05 08 55.1**	**+0.8**
	5.3nm,0.9s,baz=280,slow=13,SNR=4.2						
HHC	**Hu-ho-hao-te**	**84.03**	**320**	*e*P	**P**	**05 16 22.0**	**-1.7**
HHC				pP	pP	05 16 29.0	+4.2
HHC				sP	sP	05 16 32.8	+7.6
HHC				PP	PP	05 19 36.9	+0.2
HHC				SKS		05 26 39.1	
HHC				S	S	05 26 42.4	-6.2
HHC				sS	sS	05 26 54.5	+4.0
HHC				SS	SS	05 32 13.3	-2.3
HHC				pmax	pmax		
	comp=Z,130nm,7.1s						
HHC				LR	LR		
	comp=N,140nm,15.5s						
HHC				LR	LR		
	comp=E,180nm,13.1s						
HHC				LR	LR		
	comp=Z,100nm,15.5s						

ISK 13 05:08:57.8, 38°.86N×35°.61E, h2km, ML3.6
ISCJB 13 05:08:59.3±0.3, 38°.87N±0°.03×35°.60E±0°.03, h10km, Error ellipse: s-maj=3.9km s-min=2.6km az=25.8
CSEM 13 05:08:59.0±0.1, 38°.86N×35°.58E, h2km, ML3.6, Error ellipse: s-maj=3.4km s-min=2.6km az=17.0
DDA 13 05:09:00.4, 38°.74N×35°.46E, h3km, Md3.7

ISC 13 05:09:00.1±0.3, 38°.86N±0°.03×35°.59E±0°.03, h10km, n78, σ0s91/91, 1C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNN	**Bunyan**	**0.20**	**92**	PG	**Pg**	**05 09 02.1**	**-2.2**
BNN				eSG	**Sg**	**05 09 06.0**	**-1.1**
BNN	**Bunyan**	**0.20**	**92**	*i* Pg	**Pg**	**05 09 02.1**	**-2.2**
BNN				eSg	**Sg**	**05 09 06.1**	**-1.0**
AVNT	**Avonos**	**0.58**	**262**	*e*P	**Pg**	**05 09 09.2**	**-2.1**
AVNT				*i* S	**Sg**	**05 09 18.3**	**-0.5**
AVNT	**Avonos**	**0.58**	**262**	*e*P	**Pg**	**05 09 09.2**	**-2.1**
AVNT				*i* S	**Sg**	**05 09 18.3**	**-0.6**
PINB	**Pinarbasi**	**0.66**	**106**	⇑*i*P	**Pg**	**05 09 10.9**	**-1.9**
PINB				*i* S	**Sg**	**05 09 21.4**	**-0.1**
PINB	**Pinarbasi**	**0.66**	**106**	*i* P	**Pg**	**05 09 10.9**	**-2.0**
PINB				*i* S	**Sg**	**05 09 21.4**	**-0.1**
YOZ	**Yozgat**	**0.81**	**345**	*e*PG	**Pg**	**05 09 13.4**	**-2.2**
YOZ	**Yozgat**	**0.81**	**345**	*e*Pg	**Pg**	**05 09 13.4**	**-2.3**
SARI	**SarD1z-Kayseri**	**0.88**	**101**	*e*PG	**Pg**	**05 09 13.4**	**-3.7**
SARI				*e*SG	**Sg**	**05 09 24.4**	**-4.2**
KOZT	**Kozan**	**1.39**	**172**	*e*PN	**Pn**	**05 09 24.8**	**-0.7**
KOZT				*e*SN	**Sn**	**05 09 44.3**	**+0.5**
CORM	**Corum**	**1.51**	**331**	*e*PN	**Pn**	**05 09 26.3**	**-0.9**
CORM	**Corum**	**1.51**	**331**	*e*Pn	**Pn**	**05 09 26.3**	**-0.9**
TOKT	**Tokat**	**1.64**	**27**	*e*PN	**Pn**	**05 09 28.6**	**-0.3**
TOKT	**Tokat**	**1.64**	**27**	*e*Pn	**Pn**	**05 09 28.6**	**-0.3**
KARA	**Karaisali**	**1.65**	**195**	*e*PN	**Pn**	**05 09 29.2**	**+0.1**
KARA	**Karaisali**	**1.65**	**195**	*e*Pn	**Pn**	**05 09 29.2**	**+0.1**
KMRS	**Kahramanmaras**	**1.70**	**142**	*e*PN	**Pn**	**05 09 29.7**	**0.0**
KMRS	**Kahramanmaras**	**1.70**	**142**	*e*Pn	**Pn**	**05 09 29.7**	**-0.1**
DARE	**Darende-Malaty**	**1.73**	**86**	*e*PN	**Pn**	**05 09 25.8**	**-4.4**
SULT	**Sultanhani-AKS**	**1.75**	**249**	*e*PN	**Pn**	**05 09 30.5**	**0.0**
SULT	**Sultanhani-AKS**	**1.75**	**249**	*e*Pn	**Pn**	**05 09 30.5**	**0.0**
CEYT	**Ceyhan**	**1.85**	**176**	*e*PN	**Pn**	**05 09 31.9**	**+0.1**
CEYT	**Ceyhan**	**1.85**	**176**	*e*Pn	**Pn**	**05 09 32.0**	**+0.2**
CTKT	**Corum**	**1.87**	**341**	*e*P	**Pn**	**05 09 32.5**	**+0.5**
CTKT				*i* S	**Sg**	**05 10 00.5**	**+0.4**
CTKT	**Corum**	**1.87**	**341**	*e*P	**Pn**	**05 09 32.5**	**+0.4**
CTKT				*i* S	**Sg**	**05 10 00.5**	**+0.4**
AKCD	**Akcadag**	**1.91**	**106**	⇓*i*P	**Pg**	**05 09 34.7**	**-2.0**
AKCD				*i* S	**Sg**	**05 10 03.3**	**+1.8**
AKCD	**Akcadag**	**1.91**	**106**	*i* P	**Pg**	**05 09 34.7**	**-2.0**
RSDY	**Resadiye-TOKAT**	**2.04**	**41**	*e*PN	**Pn**	**05 09 34.2**	**-0.2**
RSDY	**Resadiye-TOKAT**	**2.04**	**41**	*e*Pn	**Pn**	**05 09 34.2**	**-0.2**
AFSR	**Af ar-Bala (A**	**2.04**	**287**	*e*PN	**Pn**	**05 09 34.5**	**0.0**
AFSR	**Af ar-Bala (A**	**2.04**	**287**	*e*Pn	**Pn**	**05 09 34.5**	**0.0**
GAZ	**Gaziantep**	**2.12**	**142**	*e*PN	**Pn**	**05 09 35.8**	**+0.3**
GAZ	**Gaziantep**	**2.12**	**142**	*e*Pn	**Pn**	**05 09 35.8**	**+0.3**
MERS	**Mersin**	**2.16**	**203**	*e*PN	**Pn**	**05 09 36.1**	**+0.1**
MERS	**Mersin**	**2.16**	**203**	*e*Pn	**Pn**	**05 09 36.2**	**+0.1**
KVT	**Kavak**	**2.25**	**9**	*e*PN	**Pn**	**05 09 37.3**	**0.0**
KVT	**Kavak**	**2.25**	**9**	*e*Pn	**Pn**	**05 09 37.3**	**0.0**
MYA	**Malataya**	**2.29**	**103**	*e*PN	**Pn**	**05 09 37.7**	**-0.1**
MYA	**Malataya**	**2.29**	**103**	*e*Pn	**Pn**	**05 09 37.7**	**-0.1**
KRTS	**Karatas**	**2.29**	**184**	*e*PN	**Pn**	**05 09 38.0**	**+0.1**
KRTS	**Karatas**	**2.29**	**184**	*e*Pn	**Pn**	**05 09 38.0**	**+0.2**
CANT	**Cankiri**	**2.31**	**320**	*e*PN	**Pn**	**05 09 38.2**	**0.0**
CANT				*e*SN	**Sn**	**05 10 08.2**	**+1.5**
LOD	**Lodumlu**	**2.42**	**296**	*e*PN	**Pn**	**05 09 39.7**	**0.0**
LOD	**Lodumlu**	**2.42**	**296**	*e*Pn	**Pn**	**05 09 39.7**	**0.0**
TOS	**Tosya**	**2.49**	**332**	*e*PN	**Pn**	**05 09 40.7**	**+0.1**
TOS	**Tosya**	**2.49**	**332**	*e*Pn	**Pn**	**05 09 40.7**	**+0.1**
ATAB	**Bozova**	**2.54**	**122**	*e*P	**Pn**	**05 09 41.5**	**+0.2**
ATAB				*i* S	**Sg**	**05 10 23.3**	**+1.5**
ATAB	**Bozova**	**2.54**	**122**	*e*P	**Pn**	**05 09 41.5**	**+0.1**
KONT	**Konya--Tatoy**	**2.69**	**251**	*e*PN	**Pn**	**05 09 43.7**	**+0.2**
KONT	**Konya--Tatoy**	**2.69**	**251**	*e*Pn	**Pn**	**05 09 43.7**	**+0.2**
KIZT	**Kizilcal**	**2.90**	**272**	*e*PN	**Pn**	**05 09 46.0**	**-0.3**
KIZT	**Kizilcal**	**2.90**	**272**	*e*Pn	**Pn**	**05 09 46.0**	**-0.2**
SVRC	**Sivrice-ELAZID**	**2.95**	**98**	*e*PN	**Pn**	**05 09 47.7**	**+0.7**
SVRC	**Sivrice-ELAZID**	**2.95**	**98**	*e*Pn	**Pn**	**05 09 47.7**	**+0.7**
PTK	**Pertek**	**2.97**	**88**	*e*PN	**Pn**	**05 09 47.3**	**+0.1**
PTK	**Pertek**	**2.97**	**88**	*e*Pn	**Pn**	**05 09 47.3**	**+0.1**
EZC	**Erzincan**	**3.05**	**72**	*e*PN	**Pn**	**05 09 48.2**	**-0.2**
EZC	**Erzincan**	**3.05**	**72**	*e*Pn	**Pn**	**05 09 48.2**	**-0.2**
HDMB	**Hadim**	**3.10**	**233**	*e*PN	**Pn**	**05 09 49.4**	**+0.4**
HDMB	**Hadim**	**3.10**	**233**	*e*Pn	**Pn**	**05 09 49.4**	**+0.4**
BALT	**Daday**	**3.16**	**328**	*e*P	**Pn**	**05 09 48.9**	**-0.9**
BALT	**Daday**	**3.16**	**328**	*e*P	**Pn**	**05 09 48.9**	**-0.9**
ESPY	**Espiye-Giresun**	**3.17**	**49**	*e*PN	**Pn**	**05 09 50.7**	**+0.7**
ESPY	**Espiye-Giresun**	**3.17**	**49**	*e*Pn	**Pn**	**05 09 50.7**	**+0.7**
SVRH	**Sivrihisar-ESK**	**3.21**	**282**	*e*PN	**Pn**	**05 09 51.1**	**+0.5**
SVRH	**Sivrihisar-ESK**	**3.21**	**282**	*e*Pn	**Pn**	**05 09 51.1**	**+0.5**
SAFT	**Safranbolu**	**3.26**	**318**	*e*PN	**Pn**	**05 09 51.9**	**+0.7**
SAFT	**Safranbolu**	**3.26**	**318**	*e*Pn	**Pn**	**05 09 51.9**	**+0.7**
BZK	**Bozkurt**	**3.33**	**339**	*e*PN	**Pn**	**05 09 52.8**	**+0.7**
BZK	**Bozkurt**	**3.33**	**339**	*e*Pn	**Pn**	**05 09 52.8**	**+0.7**
GUMT	**Gumushane**	**3.40**	**61**	*e*PN	**Pn**	**05 09 53.9**	**+0.7**
GUMT	**Gumushane**	**3.40**	**61**	*e*Pn	**Pn**	**05 09 53.9**	**+0.7**
MDU	**Mudurnu**	**3.74**	**297**	*e*PN	**Pn**	**05 09 59.0**	**+1.2**
MDU	**Mudurnu**	**3.74**	**297**	*e*Pn	**Pn**	**05 09 59.0**	**+1.2**
BINT	**Bingol**	**3.83**	**88**	*e*PN	**Pn**	**05 09 59.8**	**+0.8**
BINT	**Bingol**	**3.83**	**88**	*e*Pn	**Pn**	**05 09 59.8**	**+0.8**
BAYT	**Ayd¯–ntepe-Bay**	**3.83**	**65**	*e*PN	**Pn**	**05 10 00.1**	**+1.0**
BAYT	**Ayd¯–ntepe-Bay**	**3.83**	**65**	*e*Pn	**Pn**	**05 10 00.1**	**+1.0**

IDC 13 05:14:58.6±4.6, 30°.27S×138°.45E, h0km, mb1 3.0/3, mb1mx3.0/15, mbtmp2.8/3, ML2.4/3, Error ellipse: s-maj=138.8km s-min=18.1km az=43.0, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**3.14**	**122**	Pn	Pn	05 15 48.6	-0.8
	0.2nm,0.3s,baz=302,slow=14,SNR=6.2						
STKA				Pg	Pg	05 15 56.6	-2.2
	0.8nm,0.3s,baz=294,slow=12,SNR=9.9						
STKA				Lg		05 16 38.4	
	1.6nm,0.3s,baz=309,slow=6.5,SNR=7.0						
ASAR	**Alice Springs**	**7.72**	**327**	Pn	Pn	05 16 52.4	0.0
	0.0nm,0.3s,baz=146,slow=12,SNR=3.1						
WRA	**Warramunga Arr**	**10.93**	**339**	Pn	Pn	05 17 36.6	+0.2
	0.0nm,0.3s,baz=162,slow=13,SNR=4.7						
WRA				Sn	Sn	05 19 35.8	-3.6
	0.0nm,0.3s,baz=159,slow=22,SNR=2.3						

NEIC 13 05:16:37.8, 24°.07S×67°.55W, h200km, MG3.8(GUC), After GUC.

GUC 13 05:16:37.8±0.5, 24°.07S×67°.55W, h200km, ML3.8, 2C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANCH	**Antofagasta**	**2.65**	**278**	*i* P	Pn	05 17 24.8	+1.5
ANCH				*i* S	Sn	05 18 00.5	+1.7
ANCH	**Antofagasta**	**2.65**	**278**	*i* P	Pn	05 17 24.8	+1.5
ANCH				*i* S	Sn	05 18 00.5	+1.7
ANCH				AML	AML	05 18 03.5	
	comp=N,305nm,0.1s						
PB09	**Plate Boundary**	**2.75**	**325**	⇑*i*P	Pn	05 17 26.5	+2.0
PB09				*i* S	Sn	05 18 03.8	+2.8
PB09				AML	AML	05 18 05.9	
	comp=N,212nm,0.3s						
MACH	**Maria Elena**	**2.76**	**312**	*e*P	Pn	05 17 26.2	+1.6
MACH				*i* S	Sn	05 18 03.8	+2.6
PB07	**Plate Boundary**	**3.17**	**317**	⇓*i*P	Pn	05 17 30.9	+1.3
PB07				*e*S	Sn	05 18 11.3	+1.4
PB07				AML	AML	05 18 13.1	
	comp=N,114nm,0.4s						
PB01	**Plate Boundary**	**3.50**	**329**	⇑*i*P	Pn	05 17 34.5	+1.0
PB01				*i* S	Sn	05 18 18.5	+1.3
PB01				AML	AML	05 18 26.9	
	comp=N,44nm,0.1s						
HMBC	**Humberston**	**4.35**	**330**	*e*P	Pn	05 17 43.9	-0.1
HMBC				*i* S	Sn	05 18 36.4	+0.3
LCO	**Las Campanas**	**5.67**	**209**	*e*Pn	Pn	05 17 56.7	-4.1
LCO				*e*Sn	Sn	05 19 00.6	-5.9
LPAZ	**La Paz**	**7.76**	**356**	*e*Pn	Pn	05 18 29.5	+1.5
TRQA	**Tornquist**	**14.73**	**162**	*e*Pn	Pn	05 19 54.1	-2.5

ATH 13 05:19:54.4, 35°.23N×22°.70E, h36km±4km, MD3.6/14
CSEM 13 05:19:54.5±0.3, 35°.26N×22°.71E, h15km, ML2.9/1, Error ellipse: s-maj=9.4km s-min=3.1km az=39.0
THE 13 05:19:55.8, 35°.29N×22°.72E, h20km±5km, ML2.9/1, Error ellipse: s-maj=6.2km s-min=0.9km az=230.0

ISC 13 05:19:54.3±1.7, 35°.27N±0°.08×22°.70E±0°.08, h13km±8km, n54, σ0s64/66, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARN	**Karanos**	**1.01**	**82**	*e*PN	**Pg**	**05 20 13.5**	**-0.2**
KARN				*e*SN	**Sg**	**05 20 28.1**	**+1.2**
KARN	**Karanos**	**1.01**	**82**	P	**Pg**	**05 20 13.6**	**-0.1**
KARN				S	**Sg**	**05 20 27.4**	**+0.5**
KARN	**Karanos**	**1.01**	**82**	*e*Pn	**Pg**	**05 20 13.5**	**-0.2**
KARN				S	**Sg**	**05 20 27.4**	**+0.5**
KARN				*e*Sn	**Sg**	**05 20 28.1**	**+1.2**
KYTH	**Kithira**	**1.05**	**15**	*e*PB	**Pg**	**05 20 14.1**	**-0.4**
KYTH	**Kithira**	**1.05**	**15**	P	**Pg**	**05 20 14.0**	**-0.5**
KYTH	**Kithira**	**1.05**	**15**	*e*Pb	**Pg**	**05 20 14.1**	**-0.4**
GVD	**Gavdhos**	**1.22**	**110**	*e*Pn	**Pn**	**05 20 16.6**	**-0.3**
GVD	**Gavdhos**	**1.22**	**110**	P	**Pn**	**05 20 16.6**	**-0.3**
GVD				S	**Sb**	**05 20 33.2**	**+0.5**
GVD	**Gavdhos**	**1.22**	**110**	P	**Pn**	**05 20 16.6**	**-0.3**
GVD				S	**Sb**	**05 20 33.2**	**+0.5**
VAM	**Vamos**	**1.24**	**83**	*e*PB	**Pb**	**05 20 16.8**	**-0.6**
VAM	**Vamos**	**1.24**	**83**	P	**Pn**	**05 20 16.7**	**-0.5**
VAM	**Vamos**	**1.24**	**83**	P	**Pn**	**05 20 16.7**	**-0.5**
VLI	**Veliai**	**1.46**	**8**	*e*PN	**Pn**	**05 20 21.3**	**+1.0**
VLI				*e*SN	**Sn**	**05 20 39.5**	**+0.3**
VLI	**Veliai**	**1.46**	**8**	P	**Pn**	**05 20 20.2**	**-0.1**
VLI				S	**Sn**	**05 20 38.9**	**-0.3**
VLI	**Veliai**	**1.46**	**8**	P	**Pn**	**05 20 20.2**	**-0.1**
VLI	**Veliai**	**1.46**	**8**	*e*Pn	**Pn**	**05 20 21.3**	**+1.0**
VLI				S	**Sn**	**05 20 38.9**	**-0.3**
VLI				*e*Sn	**Sn**	**05 20 39.5**	**+0.3**
SIVA	**Sivas**	**1.75**	**98**	*e*PN	**Pn**	**05 20 24.3**	**+0.1**
SIVA	**Sivas**	**1.75**	**98**	P	**Pn**	**05 20 24.4**	**+0.2**
SIVA	**Sivas**	**1.75**	**98**	*e*Pn	**Pn**	**05 20 24.3**	**+0.1**
PYL	**PYLOS**	**1.80**	**335**	*e*PN	**Pn**	**05 20 25.3**	**+0.4**
PYL	**PYLOS**	**1.80**	**335**	P	**Pn**	**05 20 25.3**	**+0.4**
PYL	**PYLOS**	**1.80**	**335**	P	**Pn**	**05 20 25.3**	**+0.4**
ITM	**Ithomi**	**2.01**	**342**	*e*PN	**Pn**	**05 20 28.4**	**+0.6**
ITM	**Ithomi**	**2.01**	**342**	P	**Pn**	**05 20 27.4**	**-0.4**
ITM	**Ithomi**	**2.01**	**342**	P	**Pn**	**05 20 27.4**	**-0.4**
ITM	**Ithomi**	**2.01**	**342**	*e*Pn	**Pn**	**05 20 28.4**	**+0.6**
VLX	**Vlachokerasia**	**2.11**	**353**	*e*PB	**Pb**	**05 20 31.1**	**-1.3**
VLX	**Vlachokerasia**	**2.11**	**353**	*e*Pb	**Pb**	**05 20 31.1**	**-1.3**
DID	**Didima**	**2.28**	**11**	*e*PN	**Pn**	**05 20 31.0**	**-0.5**
DID	**Didima**	**2.28**	**11**	P	**Pn**	**05 20 31.1**	**-0.4**
DID	**Didima**	**2.28**	**11**	P	**Pn**	**05 20 31.1**	**-0.4**
LAST	**Lasithi**	**2.28**	**92**	*e*PN	**Pn**	**05 20 31.6**	**+0.1**
LAST	**Lasithi**	**2.28**	**92**	P	**Pn**	**05 20 32.0**	**+0.5**
LAST				S	**Sn**	**05 20 59.0**	**-0.4**
LAST	**Lasithi**	**2.28**	**92**	*e*Pn	**Pn**	**05 20 31.6**	**+0.1**
LAST	**Lasithi**	**2.28**	**92**	P	**Pn**	**05 20 32.0**	**+0.5**
LAST				S	**Sn**	**05 20 59.0**	**-0.4**
NPS	**Neapolis**	**2.39**	**89**	P	**Pn**	**05 20 33.0**	**0.0**
NPS	**Neapolis**	**2.39**	**89**	P	**Pn**	**05 20 33.0**	**0.0**
THR3	**Thira Island,**	**2.48**	**62**	P	**Pn**	**05 20 33.7**	**-0.5**
THR3	**Thira Island,**	**2.48**	**62**	P	**Pn**	**05 20 33.7**	**-0.5**
GUR	**Goura**	**2.68**	**354**	*e*PN	**Pn**	**05 20 38.0**	**+1.0**
GUR	**Goura**	**2.68**	**354**	P	**Pn**	**05 20 38.1**	**+1.1**
GUR	**Goura**	**2.68**	**354**	*e*Pn	**Pn**	**05 20 38.0**	**+1.0**
LTK	**Loutraki**	**2.76**	**4**	*e*PN	**Pn**	**05 20 38.8**	**+0.7**
LTK	**Loutraki**	**2.76**	**4**	*e*Pn	**Pn**	**05 20 38.8**	**+0.7**
DSF	**Desfina**	**3.14**	**358**	P	**Pn**	**05 20 43.1**	**-0.3**
DSF	**Desfina**	**3.14**	**358**	P	**Pn**	**05 20 43.1**	**-0.3**
EFP	**Efpalio**	**3.22**	**349**	*e*PN	**Pn**	**05 20 46.1**	**+1.7**
EFP	**Efpalio**	**3.22**	**349**	*e*Pn	**Pn**	**05 20 46.1**	**+1.7**
VLS	**Valsamata**	**3.36**	**330**	P	**Pn**	**05 20 45.9**	**-0.5**
**V

comp=Z,0.5nm,1.1s,baz=243,slow=0.6,SNR=3.5
TORD PKPab PKPab 05 58 35.6 +0.8
comp=Z,0.4nm,0.8s,baz=170,slow=5.5,SNR=2.5
TORD Torodi Ar. Bea 169.34 193 PKP PKPdf 05 57 17.0 -1.7
TORD PKPab PKPab 05 58 35.6 +0.8

*ISCJB **13** 05:47:29.4±0.5, 1.°65N±0.°05×99.°36E±0.°09, h175km±5km, mb3.7/7, Error ellipse: s-maj=16.0km s-min=6.7km az=157.8*
*NEIC **13** 05:47:30.6±0.9, 1.°66N×99.°51E, h166km±7km, mb4.0/1, Error ellipse: s-maj=21.1km s-min=9.6km az=61.0*
*IDC **13** 05:47:30.6±1.1, 1.°77N×99.°69E, h160km±16km, mb3.4/6, mb1 3.5/6, mb1mx3.2/24, mbtmp3.4/6, Error ellipse: s-maj=108.1km s-min=13.8km az=58.0*
*DJA **13** 05:47:32, 1.°54N×99.°20E, h153km, MLv2.9/4*
ISC 13 05:47:30.5±0.5, 1.°66N±0.°05×99.°38E±0.°09, h169km±5km, n24, σ0§85/29, mb3.7/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**0.88**	**167**	P	**Pn**	**05 47 57.2**	**+1.0**
MNSI				S	**Sn**	**05 48 16.7**	**+0.8**
PSI	**Prapat**	**1.23**	**338**	P	**Pn**	**05 47 58.6**	**-0.3**
	3.4nm,0.3s,baz=182,slow=18,SNR=9.2						
PSI				S	**Sn**	**05 48 19.3**	**-1.6**
	6.2nm,0.3s,baz=180,slow=20,SNR=29						
PSI	**Prapat**	**1.23**	**338**	P	**Pn**	**05 47 58.6**	**-0.3**
PSI				S	**Sn**	**05 48 19.3**	**-1.6**
PSI	**Prapat**	**1.23**	**338**	P	**Pn**	**05 47 58.9**	**-0.1**
PSI				S	**Sn**	**05 48 19.4**	**-1.5**
PPI	**Padang Panjang**	**2.33**	**154**	P	**Pn**	**05 48 11.7**	**+1.1**
TPTI		**2.71**	**306**	P	**Pn**	**05 48 16.7**	**+1.6**
TPTI				S	**Sn**	**05 48 49.3**	**-0.4**
PDSI	**Padang**	**2.77**	**157**	S	**Sn**	**05 48 51.2**	**+0.2**
SISI	**Saibi**	**2.98**	**186**	S	**Sn**	**05 48 53.9**	**-1.6**
IPM	**Ipoh**	**3.25**	**30**	*e*Pn	**Pn**	**05 48 22.2**	**+0.4**
KULM	**Kulim**	**3.83**	**19**	*e*Pn	**Pn**	**05 48 28.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**32.46**	**128**	P	**P**	**05 53 44.6**	**-0.5**
	1.9nm,1.0s,mb3.8,baz=338,slow=19,SNR=3.2						
FITZ	**Fitzroy Crossi**	**32.46**	**128**	P	**P**	**05 53 44.6**	**-0.5**
WRA	**Warramunga Arr**	**40.45**	**124**	P	**P**	**05 54 52.1**	**-0.6**
	3.1nm,0.4s,mb4.3,baz=303,slow=9.0,SNR=51						
WRA	**Warramunga Arr**	**40.45**	**124**	P	**P**	**05 54 52.1**	**-0.6**
WRAB	**Tennant Creek**	**40.45**	**124**	*e*P	**P**	**05 54 52.8**	**0.0**
	1.8nm,0.4s,mb4.0						
WB2	**Warramunga Arr**	**40.46**	**124**	*e*P	**P**	**05 54 52.3**	**-0.5**
ASAR	**Alice Springs**	**41.96**	**129**	P	**P**	**05 55 04.4**	**-0.5**
	0.3nm,0.3s,mb3.4,baz=308,slow=39,SNR=5.5						
ASAR	**Alice Springs**	**41.96**	**129**	P	**P**	**05 55 04.5**	**-0.5**
SONM	**Songino Array**	**46.40**	**7**	P	**P**	**05 55 40.6**	**+0.7**
	0.2nm,0.5s,mb3.0,baz=190,slow=8.7,SNR=2.6						
SONM	**Songino Array**	**46.40**	**7**	P	**P**	**05 55 40.6**	**+0.7**
MKAR	**Makanchi Array**	**47.37**	**344**	P	**P**	**05 55 48.2**	**+0.8**
	0.4nm,0.3s,mb3.5,baz=152,slow=7.9,SNR=11						
MKAR	**Makanchi Array**	**47.37**	**344**	P	**P**	**05 55 48.2**	**+0.8**
ZALV	**Zalesovo Beam**	**53.49**	**349**	P	**P**	**05 56 33.3**	**+0.2**
	0.4nm,0.3s,mb3.6,baz=177,slow=7.8,SNR=3.2						
ZALV	**Zalesovo Beam**	**53.49**	**349**	P	**P**	**05 56 33.3**	**+0.2**

*IDC **13** 06:09:11.5±12.0, 19.°33S×177.°54W, h548km±125km, mb3.2/6, mb1 3.3/6, mb1mx3.0/20, mbtmp3.2/6, Error ellipse: s-maj=83.4km s-min=35.1km az=52.0*
*NEIC **13** 06:09:14.4±1.6, 19.°32S×177.°62W, h585km±13km, mb3.9/2, Error ellipse: s-maj=35.3km s-min=26.3km az=173.0*
ISC 13 06:09:10.9±2.6, 18.°7S±0.°7×177.°1W±0.°3, h603km±22km, n20, σ0§83/18, mb3.8/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.70**	**281**	*e*P	**P**	**06 10 41.7**	**-0.1**
DZM	**Mont Dzumac**	**15.77**	**255**	*e*P	**P**	**06 12 26.6**	**+0.5**
	2.5nm,0.5s						
CTA	**Charters Tower**	**34.54**	**262**	P	**P**	**06 15 10.7**	**-0.2**
	2.6nm,0.5s,mb4.1,baz=72,slow=6.4,SNR=3.6						
CTA	**Charters Tower**	**34.54**	**262**	P	**P**	**06 15 10.7**	**-0.2**
STKA	**Stephens Creek**	**39.34**	**242**	P	**P**	**06 15 48.6**	**-1.3**
	1.4nm,0.5s,mb3.7,baz=85,slow=12,SNR=3.8						
STKA	**Stephens Creek**	**39.34**	**242**	P	**P**	**06 15 48.6**	**-1.3**
WB2	**Warramunga Arr**	**45.69**	**260**	*e*P	**P**	**06 16 39.6**	**0.0**
WRAB	**Tennant Creek**	**45.69**	**260**	*e*P	**P**	**06 16 39.3**	**-0.4**
	3.1nm,0.8s,mb3.9						
WRA	**Warramunga Arr**	**45.70**	**260**	P	**P**	**06 16 39.7**	**0.0**
	1.1nm,0.3s,mb3.9,baz=98,slow=7.7,SNR=46						
WRA				PcP	PcP	06 18 08.2	+3.5
	0.4nm,0.8s,baz=95,slow=3.6,SNR=3.8						
WRA	**Warramunga Arr**	**45.70**	**260**	P	**P**	**06 16 39.7**	**0.0**
WRA				PcP	PcP	06 18 08.2	+3.5
ASAR	**Alice Springs**	**45.77**	**255**	P	**P**	**06 16 40.1**	**0.0**
	1.5nm,0.4s,mb3.8,baz=86,slow=8.5,SNR=22						
ASAR				PcP	PcP	06 18 08.3	+3.4
	0.4nm,0.5s,baz=106,slow=3.9,SNR=4.4						
ASAR	**Alice Springs**	**45.77**	**255**	P	**P**	**06 16 40.1**	**0.0**
ASAR				PcP	PcP	06 18 08.3	+3.4
FITZ	**Fitzroy Crossi**	**54.12**	**261**	P	**P**	**06 17 42.2**	**+1.2**
	1.4nm,0.6s,mb3.5,baz=115,slow=6.5,SNR=11						
FITZ	**Fitzroy Crossi**	**54.12**	**261**	P	**P**	**06 17 42.2**	**+1.2**
QSPA	**South Pole Qui**	**71.34**	**180**	P	**P**	**06 19 32.4**	**+2.0**
	1.3nm,0.7s,mb3.5,baz=285,slow=0.2,SNR=4.9						
QSPA	**South Pole Qui**	**71.34**	**180**	P	**P**	**06 19 32.4**	**+2.0**
VNA3	**Neumayer Olymp**	**89.85**	**176**	*e*	**P**	**06 21 05.0**	**-1.1**
VNA2	**Neumayer--Watz**	**90.31**	**177**	*e*	**P**	**06 21 07.7**	**-0.5**
	baz=195,slow=3.7						
GERES	**GERESS Array B**	**148.70**	**346**	PKPbc	PKPbc	06 27 58.1	+7.0
	0.2nm,0.3s,baz=303,slow=2.7,SNR=4.3						
GERES	**GERESS Array B**	**148.70**	**346**	PKPbc	PKPbc	06 27 58.1	+7.0

*ATH **13** 06:44:05.9, 39.°37N×22.°84E, h25km±3km, MD3.0/6*
*ISCJB **13** 06:44:06.4±0.5, 39.°34N±0.°04×22.°81E±0.°04, h29km±5km, Error ellipse: s-maj=6.3km s-min=5.3km az=3.0*
*CSEM **13** 06:44:06.4±0.2, 39.°35N×22.°81E, h27km±2km, MD3.0, Error ellipse: s-maj=6.0km s-min=4.9km az=175.0*
*THE **13** 06:44:06.8, 39.°38N×22.°83E, h16km±1km, ML2.0/4, Error ellipse: s-maj=2.3km s-min=0.7km az=199.0*
ISC 13 06:44:06.5±0.5, 39.°35N±0.°04×22.°82E±0.°04, h29km±5km, n22, σ0§78/40, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEO	**Neokhori**	**0.32**	**97**	*e*PB	**Pb**	**06 44 13.4**	**-0.6**
NEO				*e*SB	**Sb**	**06 44 18.3**	**-0.9**
NEO	**Neokhori**	**0.32**	**97**	P	**Pb**	**06 44 13.4**	**-0.6**
NEO				S	**Sb**	**06 44 18.2**	**-1.0**
NEO	**Neokhori**	**0.32**	**97**	P	**Pb**	**06 44 13.4**	**-0.6**
NEO				*e*Sb	**Sb**	**06 44 18.3**	**-0.9**
AGG	**Agios Georgios**	**0.50**	**229**	*e*PN	**Pn**	**06 44 16.6**	**-1.1**
AGG				*e*SN	**Sb**	**06 44 24.8**	**+0.9**
AGG	**Agios Georgios**	**0.50**	**229**	P	**Pb**	**06 44 16.9**	**0.0**
AGG				S	**Sb**	**06 44 24.8**	**+0.9**
AGG	**Agios Georgios**	**0.50**	**229**	*e*Pn	**Pn**	**06 44 16.6**	**-1.1**
AGG	**Agios Georgios**	**0.50**	**229**	P	**Pb**	**06 44 16.9**	**0.0**
AGG				S	**Sb**	**06 44 24.8**	**+0.9**
THL	**Klokotos Trika**	**0.66**	**289**	*e*PB	**Pb**	**06 44 18.5**	**-1.0**
THL				*e*SN	**Sn**	**06 44 28.8**	**-0.5**
THL	**Klokotos Trika**	**0.66**	**289**	P	**Pb**	**06 44 18.7**	**-0.8**
THL				S	**Sb**	**06 44 29.3**	**+1.0**
THL	**Klokotos Trika**	**0.66**	**289**	P	**Pb**	**06 44 18.7**	**-0.8**
THL				*e*Sn	**Sn**	**06 44 28.8**	**-0.5**
THL				S	**Sb**	**06 44 29.3**	**+1.0**
LIT	**Litokhoron**	**0.79**	**341**	*e*PN	**Pn**	**06 44 20.4**	**-1.3**
LIT				*e*SN	**Sn**	**06 44 32.6**	**0.0**
LIT	**Litokhoron**	**0.79**	**341**	P	**Pb**	**06 44 21.0**	**-0.7**
LIT				S	**Sb**	**06 44 32.9**	**+0.8**
LIT	**Litokhoron**	**0.79**	**341**	*e*Pn	**Pn**	**06 44 20.4**	**-1.3**
LIT	**Litokhoron**	**0.79**	**341**	P	**Pb**	**06 44 21.0**	**-0.7**
LIT				*e*Sn	**Sn**	**06 44 32.6**	**0.0**
LIT				S	**Sb**	**06 44 32.9**	**+0.8**
AOS	**Alonnisos**	**0.84**	**102**	P	**Pn**	**06 44 23.1**	**+0.7**
AOS				S	**Sb**	**06 44 34.4**	**+0.9**
AOS	**Alonnisos**	**0.84**	**102**	P	**Pn**	**06 44 23.1**	**+0.7**
AOS				S	**Sb**	**06 44 34.4**	**+0.9**
EVR	**Evrytania**	**0.90**	**242**	*e*PN	**Pn**	**06 44 23.7**	**+0.6**
EVR	**Evrytania**	**0.90**	**242**	*e*Pn	**Pn**	**06 44 23.7**	**+0.6**
PLG	**Polygyros**	**1.13**	**25**	*e*PN	**Pn**	**06 44 26.8**	**+0.4**
PLG	**Polygyros**	**1.13**	**25**	P	**Pn**	**06 44 27.3**	**+0.9**
PLG				S	**Sn**	**06 44 41.5**	**+0.5**
PLG	**Polygyros**	**1.13**	**25**	*e*Pn	**Pn**	**06 44 26.8**	**+0.4**
PLG	**Polygyros**	**1.13**	**25**	P	**Pn**	**06 44 27.3**	**+0.9**
PLG				S	**Sn**	**06 44 41.5**	**+0.5**

*ISCJB **13** 06:48:19.8±0.6, 37.°69N±0.°06×96.°08E±0.°05, h10km, mb3.7/6, MS3.4/2, Error ellipse: s-maj=8.6km s-min=5.6km az=169.2*
*IDC **13** 06:48:20.6±1.0, 37.°69N×96.°05E, h0km, mb3.8/5, mb1 3.8/10, mb1mx3.6/30, mbtmp3.7/10, ML3.8/4, MS3.2/3, Ms1 3.1/3, ms1mx2.7/30, Error ellipse: s-maj=27.9km s-min=19.0km az=40.0*
*MOS **13** 06:48:22.7±1.6, 37.°72N×96.°11E, h28km, mb4.0/4, Error ellipse: s-maj=26.1km s-min=14.5km az=106.8*
*NEIC **13** 06:48:22.1±0.7, 37.°72N×96.°00E, h10km, mb3.8/1, Error ellipse: s-maj=18.9km s-min=10.7km az=50.0*
*BJI **13** 06:48:24.2, 37.°66N×96.°06E, h13km, mb4.2/2, ML3.7/6, Ms3.7/3, Ms7 3.4/3*
ISC 13 06:48:21.9±0.6, 37.°73N±0.°06×96.°04E±0.°04, h10km, n37, σ1§10/41, mb3.7/6, MS3.4/2, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**3.40**	**59**	Pn	**Pb**	**06 49 21.3**	**-1.0**
GTA				Pg	**Pg**	**06 49 27.8**	**+0.7**
GTA				Sn	**Sb**	**06 50 02.1**	**-1.6**
GTA				Sg	**Sg**	**06 50 12.4**	**+1.2**
GTA				smax			
	comp=N,79nm,0.8s						
GTA				smax			
	comp=E,88nm,0.8s						
GTA				LR	LR		
	comp=N,580nm,9.0s						
GTA				LR	LR		
	comp=E,350nm,7.1s						
GTA				LR	LR		
	comp=Z,500nm,8.1s						
LZH	**Lanzhou**	**6.47**	**102**	*e*Pn	**Pb**	**06 50 08.5**	**-6.0**
LZH				Pg	**Pg**	**06 50 26.0**	**+0.2**
LZH				Sg	**Sg**	**06 51 45.6**	**-3.9**
LZH				smax			
	comp=N,98nm,0.9s						
LZH				smax			
	comp=E,100nm,1.0s						
LZH				LR	LR		
	comp=N,440nm,4.1s						
LZH				LR	LR		
	comp=E,410nm,4.8s						
LZH				LR	LR		
	comp=Z,370nm,7.6s						
SONM	**Songino Array**	**12.63**	**34**	Pn	**Pn**	**06 51 21.6**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=216,slow=14,SNR=2.9						
SONM	**Songino Array**	**12.63**	**34**	Pn	**Pn**	**06 51 21.6**	**+0.1**
SONM	**Songino Array**	**12.63**	**34**	P	**Pn**	**06 51 21.6**	**+0.1**
ENH	**Enshi**	**13.40**	**120**	*e*Pn	**Pn**	**06 51 32.3**	**+0.1**
MKAR	**Makanchi Array**	**13.61**	**316**	Pn	**Pn**	**06 51 32.7**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=125,slow=14,SNR=3.9						
MKAR				Sn	**Sn**	**06 54 05.2**	**-0.9**
	baz=126,slow=24,SNR=3.6						
MKAR	**Makanchi Array**	**13.61**	**316**	Pn	**Pn**	**06 51 32.7**	**-2.2**
MKAR				Sn	**Sn**	**06 54 05.2**	**-0.9**
MKAR	**Makanchi Array**	**13.61**	**316**	P	**Pn**	**06 51 32.7**	**-2.2**
MKAR						06 54 05.2	
ZAK	**Zakamensk**	**13.67**	**20**	*e*P	Px	06 51 47.8	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
KURK	**Kurchatov**	**17.95**	**322**	P	**Pn**	**06 52 29.9**	**-1.6**
	baz=130,slow=12,SNR=2.6						
KURK	**Kurchatov**	**17.95**	**322**	P	**Pn**	**06 52 29.9**	**-1.6**
KURK	**Kurchatov**	**17.95**	**322**	P	**Pn**	**06 52 29.9**	**-1.6**
ZALV	**Zalesovo Beam**	**17.97**	**338**	P	**Pn**	**06 52 33.5**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=153,slow=11,SNR=3.0						
ZALV				LR	LR	06 59 36.0	
	comp=Z,27nm,18.9s,baz=176,slow=38						
ZALV	**Zalesovo Beam**	**17.97**	**338**	P	**Pn**	**06 52 33.5**	**+1.9**
ZALV				LR	LR	06 59 36.0	
ZALV	**Zalesovo Beam**	**17.97**	**338**	P	**Pn**	**06 52 33.5**	**+1.9**
ZALV				MLR	MLR		
	comp=Z,27nm,18.9s						
CMAR	**Chiang Mai Arr**	**19.37**	**172**	P	**Pn**	**06 52 48.1**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=350,slow=9.3,SNR=5.3						
CMAR	**Chiang Mai Arr**	**19.37**	**172**	P	**Pn**	**06 52 48.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**19.37**	**172**	P	**Pn**	**06 52 48.2**	**-0.7**
BRVK	**Borovoye**	**23.53**	**319**	*e*P	**P**	**06 53 34.2**	**+2.0**
	comp=Z,2.3nm,0.7s,mb3.7						
BRVK	**Borovoye**	**23.53**	**319**	*e*P	**P**	**06 53 34.2**	**+2.0**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
KSRS	**Korea Array**	**25.21**	**81**	P	**P**	**06 53 47.4**	**-0.4**
	comp=Z,3.3nm,0.6s,mb4.1,baz=272,slow=9.8,SNR=15						
KSRS	**Korea Array**	**25.21**	**81**	P	**P**	**06 53 47.4**	**-0.3**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.0						
AKTK	**Aktyubinsk**	**29.78**	**308**	P	**P**	**06 54 29.4**	**+0.8**
AKTO	**Aktyubinsk**	**29.78**	**308**	P	**P**	**06 54 29.4**	**+0.8**
	comp=Z,0.8nm,0.3s,mb3.9,baz=91,slow=11,SNR=4.7						
AKTO	**Aktyubinsk**	**29.78**	**308**	P	**P**	**06 54 29.4**	**+0.8**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
BRTR	**Keskin Array B**	**47.84**	**293**	P	**P**	**06 56 59.6**	**-0.2**
	comp=Z,0.4nm,0.5s,mb3.7,baz=59,slow=8.6,SNR=2.9						
BRTR	**Keskin Array B**	**47.84**	**293**	P	**P**	**06 56 59.6**	**-0.2**
BRTR	**Keskin Array B**	**47.84**	**293**	P	**P**	**06 56 59.6**	**-0.2**
ILAR	**Eielson Array**	**66.68**	**25**	P	**P**	**06 59 13.2**	**+0.7**
	comp=Z,0.6nm,1.0s,mb3.6,baz=288,slow=4.4,SNR=5.5						
ILAR	**Eielson Array**	**66.68**	**25**	P	**P**	**06 59 13.2**	**+0.7**
ILAR	**Eielson Array**	**66.68**	**25**	P	**P**	**06 59 13.2**	**+0.7**
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	**Alice Springs**	**70.69**	**143**	P	**P**	**06 59 38.1**	**+0.2**
	comp=Z,0.4nm,0.6s,mb3.5,baz=323,slow=5.2,SNR=4.9						
ASAR	**Alice Springs**	**70.69**	**143**	P	**P**	**06 59 38.1**	**+0.2**
ASAR	**Alice Springs**	**70.69**	**143**	P	**P**	**06 59 38.2**	**+0.3**
YKA	**Yellowknife Ar**	**77.12**	**14**	LR	LR	07 37 59.2	
	comp=Z,6.8nm,20.1s,MS3.0,baz=170,slow=39						
ULM	**Lac du Bonnet**	**91.77**	**8**	LR	LR	07 46 49.1	
	comp=Z,43nm,19.1s,MS3.9,baz=19,slow=38						

OTT 13 07:27:12.7±0.9, 57.°12N×57.°92W, h18km, ML3.9/9, LAlbertaRADOR Sea Seismic Zone. 232km northeast from Aillik, NI, Labrador Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**5.51**	**249**	PN	Pn	07 28 34.7	+1.0
SCHQ				SN	Sn	07 29 33.5	-3.0
SCHQ				Trac		07 29 36.9	
	comp=Z,12nm,0.2s						
NATG	**Natashquan Que**	**7.43**	**205**	PN	Pn	07 29 02.9	+2.7
NATG				SN	Sn	07 30 19.1	-4.7
FRB	**Frobisher Bay**	**8.47**	**326**	PN	Pn	07 29 13.5	-0.7
FRB				SN	Sn	07 30 41.2	-8.0
FRB				Trac		07 30 59.3	
	comp=Z,17nm,0.6s						
SMQ	**Clarke City**	**8.65**	**221**	PN	Pn	07 29 15.7	-1.1
SMQ				SN	Sn	07 30 46.5	-7.3
SMQ				Trac		07 30 52.4	
	comp=Z,5.3nm,0.3s						
MNQ	**Manicouagan**	**9.20**	**229**	PN	Pn	07 29 22.8	-1.6
MNQ				SN	Sn	07 30 59.6	-7.6
MNQ				Trac		07 31 04.3	
	comp=Z,4.4nm,0.3s						
YOSQ	**Ashton Mining**	**9.24**	**249**	PN	Pn	07 29 23.1	-1.9
YOSQ				SN	Sn	07 30 59.3	-9.1
YOSQ				Trac		07 31 01.9	
	comp=Z,7.6nm,0.3s						
ICQ	**Pointe Anglais**	**9.44**	**220**	PN	Pn	07 29 25.6	-2.1
ICQ				SN	Sn	07 31 05.0	-8.2
LG4Q	**La Grande 4**	**9.85**	**256**	PN	Pn	07 29 31.4	-1.8
LG4Q				SN	Sn	07 31 12.3	-11
LG4Q				Trac		07 31 19.2	
	comp=Z,6.7nm,0.2s						
GSQ	**Grosses Roches**	**9.90**	**218**	PN	Pn	07 29 33.9	-0.1
GSQ				SN	Sn	07 31 16.1	-8.5
GSQ				Trac		07 31 21.0	
	comp=Z,2.4nm,0.3s						
CNQ	**Baie Comeau**	**9.91**	**222**	SN	Sn	07 31 18.5	-6.2
CNQ				Trac		07 31 25.1	
	comp=Z,2.8nm,0.3s						
CHEG	**Cheticamp, Nov**	**10.46**	**190**	PN	Pn	07 29 42.6	+1.0
CHEG				SN	Sn	07 31 30.1	-8.2
INUQ	**Inukjuak**	**10.86**	**286**	PN	Pn	07 29 46.6	-0.5
INUQ				SN	Sn	07 31 35.4	-13
BATG	**Bathurst New B**	**11.04**	**210**	PN	Pn	07 29 51.6	+2.0
BATG				SN	Sn	07 31 44.7	-7.8
AKVQ	**Akulivik**	**11.09**	**298**	PN	Pn	07 29 49.2	-0.9
AKVQ				SN	Sn	07 31 43.9	-10
A64	**Saint Simeon**	**11.81**	**223**	SN	Sn	07 32 02.0	-9.3
GBN	**Guysborough**	**11.94**	**192**	PN	Pn	07 30 00.0	-1.8
GBN				SN	Sn	07 32 04.5	-10
GBN				Trac		07 32 11.8	
	comp=Z,8.0nm,0.3s						
LMN	**Caledonia Moun**	**12.06**	**204**	PN	Pn	07 30 03.6	+0.1
LMN				SN	Sn	07 32 07.6	-10
WEMQ	**Wemindji, Queb**	**12.18**	**259**	PN	Pn	07 30 01.5	-3.6
WEMQ				SN	Sn	07 32 06.7	-13
MATQ	**Matagami**	**13.84**	**246**	PN	Pn	07 30 25.5	-2.3
MATQ				SN	Sn	07 32 48.7	-12
MALO	**McAlpine Lake**	**14.75**	**251**	PN	Pn	07 30 34.5	-5.6
MALO				SN	Sn	07 33 06.0	-17
SILO	**Sutton Inlier**	**15.37**	**272**	PN	Pn	07 30 42.9	-5.5
SILO				SN	Sn	07 33 19.6	-18
VIMO	**Victor Mine**	**15.40**	**265**	PN	Pn	07 30 45.2	-3.6
VIMO				SN	Sn	07 33 22.1	-17

*ISCJB **13** 07:31:58.2±0.9, 50.°35N±0.°08×73.°83E±0.°07, h10km, Error ellipse: s-maj=11.8km s-min=4.5km az=22.4*
*NNC **13** 07:32:03.6±8.9, 50.°87N×73.°97E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=92.7km s-min=63.1km az=45.0*
*IDC **13** 07:32:03.4±1.0, 51.°09N×73.°64E, h0km, mb3.6/1, mb1 3.6/5, mb1mx3.2/30, mbtmp3.4/5, ML3.2/4, Error ellipse: s-maj=23.6km s-min=10.5km az=15.0*
ISC 13 07:32:02.3±0.9, 50.°52N±0.°08×73.°78E±0.°07, h10km, n10, σ1§43/17, 4C-6D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VOSK	**Vostochnaya**	**2.81**	**323**	⇓Pn	**Pn**	**07 32 45.9**	**-1.3**
	12nm,0.5s						
VOSK				⇑Sn	**Sn**	**07 33 18.2**	**-3.0**
	27nm,0.5s						
KURK	**Kurchatov**	**3.09**	**84**	⇓Pn	**Pg**	**07 32 59.6**	**-1.9**
	8.1nm,0.6s						
KURK				⇑Sn	**Sg**	**07 33 42.3**	**+0.8**
	38nm,0.6s						
KURK	**Kurchatov**	**3.09**	**84**	Pn	**Pn**	**07 32 53.9**	**+2.8**
	0.4nm,0.3s,baz=279,slow=13,SNR=4.5						
KURK				Lg		07 33 40.7	
	1.9nm,0.3s,baz=278,slow=30,SNR=10						
BVA0	**Borovoye Array**	**3.28**	**321**	⇓Pn	**Pn**	**07 32 54.0**	**+0.4**
	1.2nm,0.5s,baz=141,slow=16,SNR=39						
BVA0				⇓Sn	**Sn**	**07 33 34.1**	**+1.6**
	10nm,0.7s,baz=130,slow=26						
BRVK	**Borovoye**	**3.34**	**321**	⇓Pn	**Pn**	**07 32 55.9**	**+1.4**
	15nm,0.5s						
BRVK				⇑Sn	**Sn**	**07 33 35.7**	**+1.5**
	55nm,0.7s						
MK31	**Makanchi Array**	**6.76**	**120**	⇓Pn	**Pg**	**07 34 07.5**	**-4.1**
	1.0nm,0.5s,baz=315,slow=15,SNR=5.8						
MK31				⇑Sn	**Sg**	**07 35 39.9**	**+0.8**
	6.3nm,0.6s,baz=315,slow=29						
MKAR	**Makanchi Array**	**6.76**	**120**	Pn	**Pn**	**07 33 47.2**	**+5.8**
	0.2nm,0.3s,baz=303,slow=13,SNR=5.9						
MKAR				Sn	**Sn**	**07 35 11.0**	**+13**
	0.4nm,0.3s,baz=315,slow=20,SNR=3.3						
MKAR				Lg		07 35 40.1	
	0.7nm,0.3s,baz=342,slow=19,SNR=4.9						
ZALV	**Zalesovo Beam**	**7.60**	**59**	Pn	**Pn**	**07 33 51.2**	**-1.8**
	0.5nm,0.3s,baz=250,slow=13,SNR=11						
ZALV				Sn	**Sn**	**07 35 18.7**	**-0.3**
	0.3nm,0.3s,baz=251,slow=23,SNR=3.8						
AKTO	**Aktyubinsk**	**10.05**	**276**	Pn	**Pn**	**07 34 25.3**	**-1.2**
	0.6nm,0.3s,baz=80,slow=12,SNR=8.1						
ILAR	**Eielson Array**	**60.80**	**19**	P	**P**	**07 42 13.5**	**-0.3**
	0.4nm,0.5s,baz=326,slow=5.0,SNR=17						

*BJI **13** 07:35:37.3, 17.°99N×145.°96E, h350km, mB4.5/23, mb4.6/38*
*NEIC **13** 07:35:44.3±0.2, 18.°41N×145.°26E, mb4.6/63, Error ellipse: s-maj=6.6km s-min=5.4km az=124.0*
*ISCJB **13** 07:35:46.7±0.7, 18.°45N±0.°04×145.°18E±0.°04, h389km±7km, mb4.5/113, Error ellipse: s-maj=7.0km s-min=5.3km az=16.8*
*MOS **13** 07:35:47.7±1.0, 18.°42N×145.°12E, h406km, mb4.6/35, Error ellipse: s-maj=11.4km s-min=6.3km az=99.7*
*IDC **13** 07:35:49.8±1.4, 18.°42N×145.°21E, h418km±13km, mb4.0/28, mb1 4.1/30, mb1mx4.1/33, mbtmp4.0/30, Error ellipse: s-maj=11.6km s-min=8.9km az=106.0*
ISC 13 07:35:47.5±0.7, 18.°39N±0.°04×145.°24E±0.°04, h386km±7km, h361km±3.7km: pP-P, n396, σ0§69/395, mb4.5/112, 89C-79D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.79**	**184**	P	**Pn**	**07 37 07.7**	**+1.0**
	25nm,0.3s,baz=350,slow=3.3,SNR=11						
GUMO				S	**S**	**07 38

comp=Z,72nm,0.9s,mb5.0
BJT Baijiatuau 33.05 317 *e*P **P 07 41 49.6 +1.1**
comp=Z,20nm,0.4s,mb4.8
BJT Baijiatuau 33.05 317 *e*P **P 07 41 49.6 +1.1**
BJT pmax pmax
comp=Z,20nm,0.4s
BJI Beijing 33.05 317 P **P 07 41 49.3 +0.7**
BJI pmax pmax
comp=Z,49nm,0.6s,mb5.0
KAPI Kappang 34.24 230 *e*P **P 07 41 58.8 -0.2**
comp=Z,9.2nm,0.7s,mb4.2
PEA0B Petropavlovsk- 35.98 13 *e*P **P 07 42 14.2 +1.1**
PETK Petropavlovsk- 35.98 13 P **P 07 42 13.7 +0.6**
comp=Z,3.0nm,0.4s,mb3.9,baz=169,slow=6.4,SNR=8.8
PETK PcP PcP 07 44 27.6 -2.4
comp=Z,5.2nm,0.7s,baz=151,slow=3.4,SNR=4.6
PETK Petropavlovsk- 35.98 13 P **P 07 42 13.7 +0.5**
PETK PcP PcP 07 44 27.6 -2.4
PETK Petropavlovsk- 35.98 13 P **P 07 42 13.7 +0.6**
PETK 07 44 27.6
GYA Guiyang 36.44 290 *e*P **P 07 42 16.8 -0.7**
GYA pP pP 07 43 28.0 -2.3
GYA sP sP 07 44 09.3 -5.5
GYA PcP PcP 07 44 28.9 -3.1
GYA S **S 07 47 32.4 +2.1**
GYA ScP ScP 07 47 43.3 +2.1
GYA PcS PcS 07 48 20.0 -0.5
GYA ScS ScS 07 51 49.5 +0.5
GYA pmax pmax
comp=Z,10.0nm,0.7s,mb4.2
HHC Hu-ho-hao-te 36.51 315 *e*P **P 07 42 18.8 +1.0**
HHC pP pP 07 43 27.5 -3.2
HHC PP PP 07 43 52.5 +1.6
HHC sP sP 07 44 04.4 -11
HHC PcP PcP 07 44 35.3 +3.4
HHC S **S 07 47 34.9 +4.1**
HHC SS SS 07 50 27.3 -2.8
HHC ScS ScS 07 51 51.8 +3.0
HHC pmax pmax
comp=Z,32nm,0.9s,mb4.7
HHC pmax pmax
comp=Z,74nm,9.5s
HHC LR LR
comp=N,150nm,16.7s
HHC LR LR
comp=E,140nm,19.0s
HHC LR LR
comp=Z,100nm,16.7s
HIA Hailar 37.02 332 *e*P **P 07 42 22.4 +0.4**
comp=Z,31nm,0.8s,mb4.7
HIA Hailar 37.02 332 *e*P **P 07 42 22.4 +0.5**
HIA pmax pmax
comp=Z,31nm,0.8s
KSM Kuching 38.17 248 *e*P **P 07 42 31.6 -0.3**
comp=Z,12nm,0.9s,mb4.2
CD2 Chengdu 39.49 296 P **P 07 42 42.8 +0.2**
CD2 pP pP 07 43 54.5 -2.1
CD2 PP PP 07 44 24.6 +1.5
CD2 sP sP 07 44 34.8 -6.0
CD2 S **S 07 48 17.9 +2.3**
CD2 sS sS 07 50 24.3 -5.7
CD2 pmax pmax
comp=Z,20nm,0.5s,mb4.7
CD2 pmax pmax
comp=Z,290nm,4.8s
WRAB Tennant Creek 39.56 196 *e*P **P 07 42 43.6 +0.5**
comp=Z,9.5nm,0.6s,mb4.3
WRAB Tennant Creek 39.56 196 *e*P **P 07 42 43.6 +0.5**
WRAB pmax pmax
comp=Z,10.0nm,0.6s,mb4.3
WB2 Warramunga Arr 39.57 196 *e*P **P 07 42 43.7 +0.5**
WRA Warramunga Arr 39.57 196 P **P 07 42 43.5 +0.3**
comp=Z,5.2nm,0.5s,mb4.1,baz=12,slow=8.7,SNR=69
WRA PcP PcP 07 44 40.2 -1.5
comp=Z,1.0nm,0.7s,baz=13,slow=3.2,SNR=5.1
WRA ScP ScP 07 47 50.5 -2.5
comp=Z,2.0nm,0.8s,baz=12,slow=3.9,SNR=11
WRA Warramunga Arr 39.57 196 P **P 07 42 43.5 +0.3**
WRA PcP PcP 07 44 40.2 -1.5
WRA ScP ScP 07 47 50.5 -2.5
WRA Warramunga Arr 39.57 196 P **P 07 42 43.6 +0.4**
WRA 07 44 40.2
LZH Lanzhou 40.46 304 *e*P **P 07 42 51.5 +1.2**
LZH pP pP 07 44 01.5 -3.3
LZH sP sP 07 44 39.3 -10
LZH pmax pmax
comp=Z,26nm,1.0s,mb4.5
LZH pmax pmax
comp=Z,97nm,4.3s
FX1 Attu Island--F 40.72 26 P **P 07 42 53.1 +1.0**
comp=Z,37nm,0.5s,mb5.0,baz=220,slow=2.5,SNR=37
FX1 Attu Island--F 40.72 26 P **P 07 42 53.1 +1.0**
FX1 Attu Island--F 40.72 26 P **P 07 42 53.2 +1.1**
FX1 pmax pmax
comp=Z,37nm,0.5s
FITZ Fitzroy Crossi 41.07 209 *e*P **P 07 42 55.7 +0.3**
comp=Z,8.2nm,0.6s,mb4.2
ULN Ulaanbaatar 42.74 322 *e*P **P 07 43 09.4 +1.0**
comp=Z,20nm,0.7s,mb4.5
ULN Ulaanbaatar 42.74 322 *e*P **P 07 43 09.4 +1.0**
ULN pmax pmax
comp=Z,20nm,0.7s,mb4.6
SONM Songino Array 43.11 322 P **P 07 43 12.0 +0.7**
comp=Z,15nm,0.6s,mb4.5,baz=136,slow=8.6,SNR=91
SONM PcP PcP 07 44 50.5 -2.6
comp=Z,2.7nm,0.8s,baz=106,slow=3.1,SNR=5.1
SONM Songino Array 43.11 322 P **P 07 43 12.0 +0.7**
SONM PcP PcP 07 44 50.5 -2.6
SONM Songino Array 43.11 322 P **P 07 43 12.0 +0.7**
SONM 07 44 50.5
ASAR Alice Springs 43.24 195 P **P 07 43 12.9 +0.3**
comp=Z,1.7nm,0.4s,mb3.8,baz=12,slow=7.0,SNR=27
ASAR ScP ScP 07 48 04.8 -2.9
comp=Z,1.4nm,0.7s,baz=17,slow=4.3,SNR=10.0
ASAR Alice Springs 43.24 195 P **P 07 43 12.9 +0.3**
ASAR ScP ScP 07 48 04.8 -2.9
ASAR Alice Springs 43.24 195 P **P 07 43 13.0 +0.4**
CMAR Chiang Mai Arr 43.83 278 P **P 07 43 17.6 +0.2**
comp=Z,4.3nm,0.7s,mb3.9,baz=70,slow=6.6,SNR=18
CMAR PcP PcP 07 44 55.5 -0.6
comp=Z,0.9nm,0.3s,baz=44,slow=1.5,SNR=5.5
CMAR Chiang Mai Arr 43.83 278 P **P 07 43 17.6 +0.2**
CMAR PcP PcP 07 44 55.5 -0.6
CMAR Chiang Mai Arr 43.83 278 P **P 07 43 17.6 +0.2**
CMAR 07 44 55.5
GTA Gaotai 44.39 308 *e*P **P 07 43 22.3 +0.8**
GTA pP pP 07 44 36.1 -1.5
GTA PcP PcP 07 44 57.9 +0.2
GTA ScP ScP 07 48 12.6 +0.3
GTA PcS PcS 07 48 52.9 +1.3
GTA pmax pmax
comp=Z,6.0nm,1.1s,mb3.8
SEY Seymchan 44.77 5⇓ *e*P **P 07 43 24.5 +0.4**
YAK Yakutsk 44.94 350 *e*P **P 07 43 25.0 -0.4**
comp=Z,166nm,0.6s,mb5.5
YAK Yakutsk 44.94 350 *e*P **P 07 43 24.3 -1.1**
YAK pmax pmax
comp=Z,11nm,1.0s,mb4.1
YAK pmax pmax
comp=Z,75nm,0.7s,mb5.1
YAK pmax pmax
comp=N,26nm,1.1s
ZAK Zakamensk 46.13 324 *e*P **P 07 43 33.0 -1.9**
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb3.7
TLY Talaya 46.56 325 *e*P **P 07 43 38.3 +0.2**
comp=Z,11nm,0.7s,mb4.3
TLY Talaya 46.56 325 *e*P **P 07 43 37.9 -0.2**
TLY pmax pmax
comp=Z,7.0nm,0.6s,mb4.2
STKA Stephens Creek 50.10 184 P **P 07 44 04.8 -0.3**
comp=Z,0.8nm,0.4s,mb3.5,baz=9.3,slow=7.7,SNR=5.6
STKA Stephens Creek 50.10 184 P **P 07 44 04.8 -0.3**
STKA Stephens Creek 50.10 184 P **P 07 44 04.8 -0.2**
UNV Unalaska Valle 51.15 35 *e*P **P 07 44 12.7 +0.1**
comp=Z,43nm,0.6s,mb4.9
BILL Bilibino 51.39 10 *e*P **P 07 44 14.2 +0.1**
comp=Z,26nm,0.9s,mb4.5
BILL Bilibino 51.39 10 *de*P **P 07 44 14.1 +0.1**
BILL *e* 07 45 22.0
BILL *e*S **S 07 50 59.4 -3.6**
BILL pmax pmax
comp=Z,27nm,0.8s,mb4.5
AKUT Akutan 51.66 34 *e*P **P 07 44 16.5 +0.2**
comp=Z,34nm,0.5s,mb4.8

FALS False Pass 53.21 34 *e*P **P 07 44 27.1 -0.4**
comp=Z,54nm,0.5s,mb5.0
FALS *e*PcP PcP 07 45 25.6 -4.0
WMQ Urumqi 54.18 311 P **P 07 44 37.3 +2.7**
JIRN Jiri 54.69 291 *e*P **P 07 44 40.2 +1.7**
comp=Z,0.5nm,0.3s
GUN Gumba 54.95 292 *e*P **P 07 44 41.2 +0.8**
comp=Z,11nm,0.4s,mb4.4
SDPT Sand Point 54.97 34 *e*P **P 07 44 39.9 -0.1**
comp=Z,60nm,0.7s,mb4.9
PKI Pulchoki 55.39 291 *e*P **P 07 44 43.6 +0.1**
comp=Z,11nm,0.5s,mb4.4
PKIN Phulchoki 55.40 291 *e*P **P 07 44 44.4 +0.8**
comp=Z,14nm,0.5s,mb4.4
KKN Kakani 55.49 291 *e*P **P 07 44 44.2 0.0**
DMN Daman 55.65 291 *e*P **P 07 44 45.6 +0.3**
comp=Z,16nm,0.5s,mb4.6
GKN Gorkha 56.04 292 *e*P **P 07 44 48.3 +0.3**
comp=Z,23nm,0.7s,mb4.6
CHGN Chignik 56.38 34 *e*P **P 07 44 49.4 -0.5**
DANN Dangsing 56.79 292 *e*P **P 07 44 54.0 +0.8**
comp=Z,60nm,0.5s,mb5.2
ZAA0 Zalesovo Array 57.99 323 *e*P **P 07 45 00.2 -0.9**
ZAA0 *e*PcP PcP 07 45 46.4 -1.9
ZALV Zalesovo Beam 57.99 323 P **P 07 45 00.2 -0.8**
comp=Z,3.8nm,0.4s,mb4.0,baz=112,slow=7.7,SNR=20
ZALV Zalesovo Beam 57.99 323 P **P 07 45 00.2 -0.9**
ZALV Zalesovo Beam 57.99 323 P **P 07 45 00.2 -0.9**
MK31 Makanchi Array 58.36 314 *e*P **P 07 45 03.8 +0.1**
MK31 Makanchi Array 58.36 314 *ce*P **P 07 45 03.6 -0.1**
MK31 pmax pmax
comp=Z,3.0nm,0.5s,mb3.9
MKAR Makanchi Array 58.36 314 P **P 07 45 03.9 +0.1**
comp=Z,3.9nm,0.5s,mb4.0,baz=89,slow=8.3,SNR=51
MKAR Makanchi Array 58.36 314 P **P 07 45 03.9 +0.1**
MKAR Makanchi Array 58.36 314 P **P 07 45 03.9 +0.2**
NVS Novosibirsk 59.09 323 *e*P **P 07 45 07.1 -1.5**
SVW2 Sparrevohn 59.30 29 *e*P **P 07 45 10.7 +0.9**
comp=Z,9.7nm,0.8s,mb4.2
OHAK Old Harbor 59.35 34 *e*P **P 07 45 10.8 +0.5**
comp=Z,25nm,0.8s,mb4.6
KDAK Kodak Island 59.85 33 P **P 07 45 13.8 +0.2**
comp=Z,10nm,0.5s,mb4.5,baz=273,slow=2.8,SNR=52
KDAK Kodiak Island 59.85 33 *e*P **P 07 45 13.8 +0.2**
comp=Z,226nm,2.6s,mb5.1
KDAK Kodiak Island 59.85 33 *e*P **P 07 45 13.8 +0.2**
KDAK pmax pmax
comp=Z,226nm,2.6s,mb5.1
RSO Redoubt South 60.45 30 *e*P **P 07 45 17.9 +0.3**
KURK Kurchatov 61.21 318 P **P 07 45 22.3 -0.5**
comp=Z,23nm,0.7s,mb4.7,baz=101,slow=6.5,SNR=4.6
KURK Kurchatov 61.21 318 P **P 07 45 22.3 -0.5**
KURK Kurchatov 61.21 318 *ce*P **P 07 45 22.5 -0.3**
KURK pmax pmax
comp=Z,11nm,0.7s,mb4.4
PPLA Purkeypile 61.37 28 *e*P **P 07 45 24.5 +0.8**
comp=Z,19nm,1.1s,mb4.4
SEW Seward 61.96 31 *e*P **P 07 45 27.7 +0.1**
comp=Z,23nm,0.8s,mb4.8
BPAW Bear Paw Mtn. 62.22 26 *e*P **P 07 45 29.5 +0.2**
comp=Z,29nm,1.0s,mb4.8
TRF Thorofare Moun 62.35 27 *e*P **P 07 45 29.7 -0.4**
comp=Z,11nm,0.8s,mb4.4
PMR Palmer 62.43 29 *e*P **P 07 45 29.8 -0.8**
comp=Z,14nm,0.6s,mb4.7
PMR Palmer 62.43 29 *e*P **P 07 45 29.8 -0.9**
PMR pmax pmax
comp=Z,14nm,0.6s,mb4.7
KSH Kashi 62.69 305 P **P 07 45 36.0 +3.2**
KSH PcP PcP 07 46 11.3 +3.7
KSH pP pP 07 46 52.8 -2.5
KSH sP sP 07 47 29.9 -7.2
KSH PP PP 07 48 01.3 +5.1
KSH ScP ScP 07 49 37.9 +6.1
KSH PcS 07 50 13.3
KSH ScS ScS 07 54 50.3 +3.8
KSH pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
KSH pmax pmax
comp=Z,73nm,6.8s
KSH LR LR
comp=N,65nm,5.9s
KSH LR LR
comp=E,69nm,5.5s
KSH LR LR
comp=Z,110nm,5.6s
SML Sawmill 62.85 29 *e*P **P 07 45 33.2 -0.1**
comp=Z,8.1nm,1.0s,mb4.2
SML Sawmill 62.85 29 *e*P **P 07 45 33.3 -0.1**
SML pmax pmax
comp=Z,8.0nm,1.0s,mb4.2
TKM2 Tokmak 2 62.91 309 *e*P **P 07 45 34.8 +0.6**
comp=Z,9.9nm,1.0s,mb4.3
TKM2 Tokmak 2 62.91 309 *e*P **P 07 45 34.8 +0.7**
TKM2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.3
MCK McKinley 63.01 27 *e*P **P 07 45 34.0 -0.4**
comp=Z,8.1nm,0.8s,mb4.3
MCK McKinley 63.01 27 *e*P **P 07 45 34.0 -0.4**
MCK pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
COLD Coldfoot 63.41 23 *e*P **P 07 45 37.5 +0.6**
comp=Z,14nm,1.1s,mb4.4
ILAR Eielson Array 64.11 26 P **P 07 45 40.0 -1.5**
comp=Z,8.2nm,0.6s,mb4.4,baz=244,slow=6.3,SNR=174
ILAR Eielson Array 64.11 26 P **P 07 45 40.0 -1.5**
ILAR Eielson Array 64.11 26 P **P 07 45 40.0 -1.5**
PAX Paxson 64.38 28 *e*P **P 07 45 42.8 -0.4**
comp=Z,18nm,0.6s,mb4.8
PAX Paxson 64.38 28 *e*P **P 07 45 42.8 -0.5**
PAX pmax pmax
comp=Z,18nm,0.6s,mb4.8
BMRM Bremner River 64.47 31 *e*P **P 07 45 44.0 +0.2**
comp=Z,33nm,1.1s,mb4.8
DOT Dot Lake 65.12 28 *e*P **P 07 45 47.6 -0.3**
comp=Z,54nm,0.8s,mb5.2
MENT Mentasta 65.17 28 *e*P **P 07 45 48.6 +0.3**
BRVK Borovoye 66.50 321 *e*P **P 07 45 56.4 -0.4**
comp=Z,9.4nm,0.5s,mb4.7
BRVK Borovoye 66.50 321 *d i*P **P 07 45 56.1 -0.8**
BRVK pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
KKAR Karatay Array 66.63 310 *e*P **P 07 45 58.0 +0.1**
KKAR Karatay Array 66.63 310 *e*P **P 07 45 58.0 +0.1**
DAWY Dawson 67.22 27 *e*P **P 07 46 01.6 +0.4**
KBL Kabul 68.65 301 *e*P **P 07 46 10.8 +0.2**
comp=Z,15nm,0.8s,mb4.7
KBL Kabul 68.65 301 *e*P **P 07 46 10.8 +0.2**
KBL pmax pmax
comp=Z,15nm,0.8s,mb4.7
INK Inuvik 69.82 23 P **P 07 46 16.6 -0.5**
comp=Z,14nm,0.7s,mb4.6,baz=282,slow=6.7,SNR=67
INK Inuvik 69.82 23 P **P 07 46 16.6 -0.4**
INK pmax pmax
comp=Z,14nm,0.7s
DLBC Dease Lake 71.78 33 P **P 07 46 29.2 +0.4**
comp=Z,12nm,0.9s,mb4.4,baz=289,slow=4.7,SNR=14
DLBC Dease Lake 71.78 33 P **P 07 46 29.2 +0.4**
ARU Arti 73.06 325 *e*P **P 07 46 35.1 -1.3**
comp=Z,19nm,1.2s,mb4.5
ARU Arti 73.06 325 *c i*P **P 07 46 36.2 -0.2**
ARU *PP pP 07 48 08.9 +7.1
ARU *e* 07 49 23.2
ARU S S 07 55 27.0 -4.3
ARU pmax pmax
comp=Z,22nm,1.7s,mb4.4
AB31 Akbulak array 73.27 317 *ce*P **P 07 46 36.4 -1.3**
AB31 pmax pmax
comp=Z,6.0nm,0.4s,mb4.5
ABKAR Akbulak array 73.27 317 *e*P **P 07 46 36.5 -1.2**
GNW Green Mountain 77.93 44 *e*P **P 07 47 05.1 +1.2**
comp=Z,12nm,1.1s,mb4.5
A05A Maple Falls 78.06 42 ⇑P **P 07 47 05.1 +0.5**
baz=78
JCW Jim Creek 78.36 43 *e*P **P 07 47 07.2 +0.9**
YKA Yellowknife Ar 78.46 28 P **P 07 47 05.8 -0.7**
comp=Z,5.9nm,0.6s,mb4.4,baz=284,slow=5.5,SNR=14
YKA Yellowknife Ar 78.46 28 P **P 07 47 05.8 -0.7**
YKA Yellowknife Ar 78.46 28 P **P 07 47 05.8 -0.7**
D05A Enumclaw 78.58 44 ⇓P **P 07 47 07.9 +0.5**
baz=78
SPITS Spitsbergen Ar 79.40 351 P **P 07 47 10.1 -1.2**
comp=Z,3.3nm,0.6s,mb4.2,baz=83,slow=6.8,SNR=9.8
SPITS Spitsbergen Ar 79.40 351 P **P 07 47 10.1 -1.2**
SPITS Spitsbergen Ar 79.40 351 P **P 07 47 10.1 -1.2**

RES Resolute Bay 79.82 14 P **P 07 47 13.3 -0.3**
comp=Z,5.4nm,0.6s,mb4.3,baz=347,slow=4.8,SNR=25
RES Resolute Bay 79.82 14 P **P 07 47 13.3 -0.3**
RES Resolute Bay 79.82 14 P **P 07 47 13.3 -0.3**
K05A Summer Lake 80.51 48 ⇑P **P 07 47 18.0 +0.1**
baz=80
G08A Pilot Rock 81.12 45 ⇑P **P 07 47 20.8 -0.1**
baz=81
NEW Newport 81.43 42 ⇓P **P 07 47 22.3 -0.2**
baz=81
NEW Newport 81.43 42 *e*P **P 07 47 22.6 +0.1**
comp=Z,7.0nm,0.8s,mb4.4
NEW Newport 81.43 42 *e*P **P 07 47 22.7 +0.2**
NEW pmax pmax
comp=Z,7.0nm,0.8s
KLMR Klimovskoe 81.52 332 *e*P **P 07 47 19.3 -3.4**
KLMR pmax pmax
comp=Z,28nm,1.4s,mb4.8
KEV Kevo 82.09 342 *e*P **P 07 47 23.6 -1.9**
KEV pmax pmax
comp=Z,9.0nm,0.5s,mb4.8
CMB Columbia Colle 82.23 53 *e*P **P 07 47 27.3 +0.4**
comp=Z,6.9nm,0.8s,mb4.4
CMB Columbia Colle 82.23 53 *e*P **P 07 47 27.3 +0.5**
CMB pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
WCN Washoe City 82.32 51 ⇑P **P 07 47 27.5 +0.2**
baz=82
WCN Washoe City 82.32 51 *e*P **P 07 47 27.7 +0.4**
comp=Z,4.7nm,1.0s,mb4.2
WCN Washoe City 82.32 51 *e*P **P 07 47 27.7 +0.4**
WCN pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
BMO Blue Mountains 82.37 45 *e*P **P 07 47 27.4 0.0**
comp=Z,12nm,1.4s,mb4.4
BMO Blue Mountains 82.37 45 *e*P **P 07 47 27.4 0.0**
BMO pmax pmax
comp=Z,12nm,1.4s,mb4.4
ARCES ARCESS Array B 82.65 342 P **P 07 47 27.1 -1.3**
comp=Z,15nm,0.7s,mb4.8,baz=81,slow=8.1,SNR=41
ARCES ARCESS Array B 82.65 342 P **P 07 47 27.1 -1.3**
ARCES ARCESS Array B 82.65 342 P **P 07 47 27.1 -1.3**
D12A Red Ives Fores 82.95 43 ⇓P **P 07 47 30.0 -0.3**
baz=83
BSMT Bassoo Peak 83.05 42 *e*P **P 07 47 31.7 +0.9**
B13A Whitefish 83.07 41 ⇓P **P 07 47 31.2 +0.3**
baz=83
WALA Waterton Lakes 83.19 41 *e*P **P 07 47 32.0 +0.5**
WALA *e*PP PP 07 50 48.5 -0.3
SMMC Simmler 83.34 55 ⇓P **P 07 47 32.7 +0.1**
baz=83
A14A Double T Ranch 83.52 41 ⇓P **P 07 47 33.4 +0.2**
baz=83
RCTC Rector, Farmer 83.62 54 ⇑P **P 07 47 33.7 -0.3**
baz=84
SWMT Swartz Lake 83.66 42 *e*P **P 07 47 33.6 -0.3**
NVAR Mina Array Bea 83.67 52 P **P 07 47 34.6 +0.4**
comp=Z,6.1nm,0.6s,mb4.5,baz=273,slow=5.7,SNR=27
NVAR Mina Array Bea 83.67 52 P **P 07 47 34.6 +0.4**
MFID Camas Ranch 83.84 46 ⇑P **P 07 47 34.8 -0.1**
baz=84
MFID Camas Ranch 83.84 46 *e*P **P 07 47 35.1 +0.3**
comp=Z,15nm,0.7s,mb4.8
E13A Victor 83.91 43 ⇑P **P 07 47 35.0 -0.2**
baz=84
A15A Johnson Ranch, 83.94 40 ⇓P **P 07 47 35.2 -0.1**
baz=84,SNR=11
JOF Joensuu 84.11 335 *e*P **P 07 47 33.1 -2.7**
JOF pmax pmax
comp=Z,14nm,0.6s,mb4.9
H12A Diamond D Ranc 84.12 45 ⇓P **P 07 47 35.9 -0.4**
baz=84
TIN Tinemaha 84.16 53 ⇓P **P 07 47 36.4 -0.3**
baz=84
I12A Atlanta 84.19 46 ⇑P **P 07 47 36.4 -0.2**
baz=84
B15A Bradely Ranch, 84.28 41 ⇑P **P 07 47 36.7 -0.3**
baz=84,SNR=14
CHMT Chamberlain Mo 84.35 42 *e*P **P 07 47 36.9 -0.5**
E14A Clinton 84.37 43 ⇑P **P 07 47 36.6 -0.8**
baz=84
C15A Salmond Ranch, 84.45 41 ⇓P **P 07 47 37.8 0.0**
baz=84
CWC Cottonwood Cre 84.47 54 ⇓P **P 07 47 37.6 -0.6**
baz=84
H13A Challis 84.52 45 ⇓P **P 07 47 38.4 +0.1**
baz=84
HLID Hailey 84.76 46 ⇓P **P 07 47 39.5 +0.1**
baz=85
HLID Hailey 84.76 46 *e*P **P 07 47 39.8 +0.4**
comp=Z,5.4nm,0.6s,mb4.5
B16A M & M Farms, S 84.78 41 ⇓P **P 07 47 39.1 -0.3**
baz=85,SNR=19
J13A Cove Ranch, Pi 84.98 46 ⇓P **P 07 47 40.5 0.0**
baz=85
C16A Fuhringer Ranc 84.98 41 ⇑P **P 07 47 39.9 -0.6**
baz=85
MPMC Manual Prospec 85.04 54 ⇑P **P 07 47 41.1 +0.1**
baz=85
LRMC Laurel Mountai 85.08 54 ⇓P **P 07 47 41.4 +0.1**
baz=85
H14A Leadore 85.09 45 ⇓P **P 07 47 41.3 +0.2**
baz=85,SNR=9.2
F15A Butte 85.23 43 ⇓P **P 07 47 41.4 -0.3**
baz=85,SNR=13
LRM Limekiln Ridge 85.26 43 *e*P **P 07 47 42.1 +0.2**
I14A Mackay 85.28 45 ⇓P **P 07 47 42.1 +0.1**
baz=85
OBN Obninsk 85.29 327⇑ *e*P **P 07 47 40.2 -1.6**
OBN pmax pmax
comp=Z,10.0nm,0.5s,mb4.8
HRY Holter Researc 85.33 42 *e*P **P 07 47 42.5 +0.3**
MCMT McKenzie Canyo 85.36 44 *e*P **P 07 47 42.4 +0.1**
comp=Z,1.5nm,0.6s,mb3.9
B17A L&G Farms, Che 85.39 41 ⇓P **P 07 47 42.1 -0.3**
baz=85,SNR=20
FURC Furnace Creek, 85.39 53 ⇑P **P 07 47 42.8 +0.1**
baz=85
D16A Dana Ranch, Ca 85.39 42 ⇑P **P 07 47 42.3 -0.2**
baz=85,SNR=5.3
G15A Dillon 85.47 44 ⇓P **P 07 47 42.6 -0.4**
baz=85,SNR=6.9
VSR Storozhevoye 85.50 323 *e*P **P 07 47 40.8 -2.1**
VSR pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
VSR pmax pmax
comp=N,1.0nm,0.3s
VSR pmax pmax
comp=E,4.0nm,0.6s
H15A Lima 85.57 44 ⇓P **P 07 47 43.0 -0.4**
baz=85
F16A Kennard Place, 85.81 43 ⇑P **P 07 47 44.4 -0.1**
baz=86
GSC Goldstone 85.82 54 ⇑P **P 07 47 44.7 -0.1**
baz=86
GSC Goldstone 85.82 54 *e*P **P 07 47 44.8 -0.1**
comp=E,61nm,2.6s,mb4.9
GSC Goldstone 85.82 54 *e*P **P 07 47 44.8 0.0**
GSC pmax pmax
comp=Z,61nm,2.6s,mb4.9
BOZ Bozeman (W) 85.86 43 ⇑P **P 07 47 45.0 +0.2**
baz=86
BOZ Bozeman (W) 85.86 43 *e*P **P 07 47 45.1 +0.3**
comp=Z,4.9nm,0.8s,mb4.3
BOZ Bozeman (W) 85.86 43 *e*P **P 07 47 45.2 +0.4**
BOZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
G16A Moss Hill, Enn 85.90 44 ⇑P **P 07 47 45.0 0.0**
baz=86,SNR=8.3
K14A Jones Ranch, D 85.96 47 ⇑P **P 07 47 45.6 +0.3**
baz=86
B18A Beardsley Farm 85.97 40 ⇑P **P 07 47 44.7 -0.6**
baz=86
L14A Malta 86.10 47 ⇑P **P 07 47 46.3 +0.3**
baz=86
J15A Blackfoot 86.16 46 ⇑P **P 07 47 46.2 -0.1**
baz=86
K15A Arbon 86.36 46 ⇑P **P 07 47 47.2 0.0**
baz=86
A19A Klindworth Far 86.39 39 ⇑P **P 07 47 47.3 +0.1**
baz=86
B19A Brinkman Farms 86.46 40 ⇑P **P 07 47 47.2 -0.5**
baz=86
KAF Kangasniemi 86.52 336 *e*P **P 07 47 43.1 -4.5**
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
E18A Harlowton 86.61 42 ⇓P **P 07 47 48.6 +0.3**

	baz=86								
C19A	**Slack Wire Ran**	86.69	41	⇓P		P	07 47 49.0	+0.3	
	baz=86								
L15A	**Malad City**	86.71	47	⇑P		P	07 47 49.3	+0.3	
	baz=86								
J16A	**Bone**	86.76	45	⇓P		P	07 47 49.8	+0.6	
	baz=87								
GMRC	**Granite Mounta**	86.88	54	⇓P		P	07 47 50.1	+0.2	
	baz=87								
A20A	**Cobblestone Ra**	86.90	39	⇓P		P	07 47 49.5	-0.2	
	baz=87								
R13A	**O'Grain Ranch,**	86.97	51	⇓P		P	07 47 50.5	+0.2	
	baz=87								
FINES	**FINESS Array B**	86.98	335	P		P	07 47 47.5	-2.3	
	comp=Z,7.9nm,0.5s,mb4.7,baz=64,slow=4.6,SNR=38								
FINES	**FINESS Array B**	86.98	335	P		P	07 47 47.5	-2.3	
FINES	**FINESS Array B**	86.98	335	P		P	07 47 47.5	-2.3	
F18A	**Big Timber**	87.00	42	⇓P		P	07 47 50.3	+0.1	
	baz=87								
D19A	**Cripps Ranch,**	87.02	41	⇓P		P	07 47 50.1	-0.2	
	baz=87								
DUG	**Dugway**	87.07	49	⇑P		P	07 47 50.7	-0.1	
	baz=87,SNR=8.7								
DUG	**Dugway**	87.07	49	*e*P		P	07 47 50.7	0.0	
	comp=Z,4.4nm,0.7s,mb4.3								
DUG	**Dugway**	87.07	49	*e*P		P	07 47 50.7	0.0	
DUG				pmax		pmax			
	comp=Z,4.0nm,0.7s,mb4.3								
Q14A	**Sevier Lake (B**	87.18	50	⇑P		P	07 47 51.4	+0.1	
	baz=87,SNR=11								
LDFC	**Landfair**	87.20	54	*e*P		P	07 47 52.0	+0.6	
	comp=Z,15nm,0.6s,mb4.9								
AHID	**Auburn Hatcher**	87.30	46	*e*P		P	07 47 51.3	-0.5	
	comp=Z,19nm,1.8s,mb4.5								
AHID				*e*pP		pP	07 49 15.4	-5.3	
L16A	**Fish Haven**	87.36	47	⇑P		P	07 47 52.6	+0.6	
	baz=87								
E19A	**Rath Farm, Rou**	87.36	42	⇑P		P	07 47 51.7	-0.3	
	baz=87								
HWUT	**Hardware Ranch**	87.42	47	*e*P		P	07 47 52.3	-0.1	
	comp=Z,5.8nm,1.0s,mb4.3								
A21A	**Bergtoll Ranch**	87.45	39	⇓P		P	07 47 51.7	-0.6	
	baz=87								
FFC	**Flin Flon**	87.58	32	*e*P		P	07 47 52.3	-0.5	
	comp=Z,12nm,0.8s,mb4.7								
FFC	**Flin Flon**	87.58	32	*e*P		P	07 47 52.3	-0.5	
FFC				pmax		pmax			
	comp=Z,12nm,0.8s,mb4.7								
CCUT	**Cedar City**	87.64	51	*e*P		P	07 47 54.4	+1.0	
	comp=Z,4.0nm,1.0s,mb4.1								
Q15A	**Fillmore**	87.83	50	⇑P		P	07 47 54.2	-0.1	
	baz=88								
C21A	**Desert Coulee**	87.85	40	⇓P		P	07 47 53.8	-0.4	
	baz=88								
J18A	**Kendall Valley**	87.86	45	⇓P		P	07 47 54.1	-0.3	
	baz=88								
F20A	**Billings**	88.04	42	⇓P		P	07 47 55.2	+0.1	
	baz=88								
DAU	**Daniels Canyon**	88.10	48	*e*P		P	07 47 55.9	+0.3	
DAU	**Daniels Canyon**	88.10	48	*e*P		P	07 47 55.9	+0.4	
M17A	**Scullys Gap (B**	88.10	47	⇑P		P	07 47 55.2	-0.3	
	baz=88								
W13A	**Hualapai Mount**	88.13	54	⇑P		P	07 47 55.8	0.0	
	baz=88								
MSU	**Marysvale**	88.16	50	*e*P		P	07 47 56.2	+0.4	
MSU				*e*pP		pP	07 49 17.5	-7.5	
MSU	**Marysvale**	88.16	50	*e*P		P	07 47 56.2	+0.4	
U14A	**Mt Trumbull**	88.19	52	⇓P		P	07 47 56.3	+0.3	
	baz=88,SNR=6.3								
N17A	**Moffit Pass**	88.19	47	⇓P		P	07 47 55.6	-0.3	
	baz=88								
R15A	**Junction**	88.19	50	⇑P		P	07 47 56.3	+0.2	
	baz=88								
BW06	**Boulder Array**	88.35	45	⇓P		P	07 47 56.6	-0.1	
	baz=88								
PDAR	**Pinedale Array**	88.35	45	P		P	07 47 56.3	-0.4	
	comp=Z,1.0nm,0.6s,mb3.7,baz=339,slow=0.2,SNR=9.6								
PDAR	**Pinedale Array**	88.35	45	P		P	07 47 56.3	-0.4	
L18A	**Fontenelle, Gr**	88.36	46	⇑P		P	07 47 56.8	0.0	
	baz=88								
J19A	**Crowheart**	88.49	45	⇑P		P	07 47 57.1	-0.2	
	baz=88								
M18A	**Lyman**	88.53	47	⇓P		P	07 47 57.2	-0.3	
	baz=88								
O17A	**Robinson Place**	88.55	48	⇑P		P	07 47 57.8	+0.2	
	baz=88,SNR=5.3								
Q16A	**Castle Valley**	88.73	49	⇓P		P	07 47 59.1	+0.6	
	baz=89,SNR=8.7								
R16A	**Teasdale**	88.75	50	⇓P		P	07 47 59.2	+0.6	
	baz=89,SNR=6.4								
L19A	**Farson**	88.75	46	⇓P		P	07 47 59.1	+0.5	
	baz=89								
K19A	**Absolon Red Bu**	88.80	45	⇑P		P	07 47 58.3	-0.5	
	baz=89								
I20A	**Worland**	88.82	44	⇓P		P	07 47 58.8	-0.1	
	baz=89								
P17A	**Butcher Ranch,**	88.82	49	⇓P		P	07 47 59.0	0.0	
	baz=89								
U15A	**North Rim**	88.85	52	⇓P		P	07 47 59.7	+0.5	
	baz=89,SNR=6.7								
LAO	**LASA Array**	88.87	41	⇓P		P	07 47 59.4	+0.3	
	baz=89								
LAO	**LASA Array**	88.87	41	*e*P		P	07 47 59.0	-0.1	
	comp=Z,8.1nm,0.8s,mb4.5								
S16A	**Weppner Ranch,**	88.88	51	⇓P		P	07 47 59.3	+0.1	
	baz=89								
G21A	**Lodge Grass**	88.88	42	⇑P		P	07 47 59.2	+0.1	
	baz=89								
N18A	**Larsen Ranch,**	88.98	47	⇑P		P	07 47 59.3	-0.4	
	baz=89								
C23A	**Lambert**	89.02	39	⇓P		P	07 47 59.6	0.0	
	baz=89								
O18A	**Roosevelt**	89.03	48	⇓P		P	07 47 59.9	0.0	
	baz=89								
P18A	**Preston Nutter**	89.11	48	⇓P		P	07 48 00.7	+0.4	
	baz=89								
SRU	**San Rafael**	89.12	49	⇑P		P	07 48 00.1	-0.2	
	baz=89,SNR=18								
SRU	**San Rafael**	89.12	49	*e*P		P	07 48 00.2	-0.2	
	comp=Z,13nm,0.6s,mb4.8								
SRU	**San Rafael**	89.12	49	*e*P		P	07 48 00.2	-0.1	
SRU				pmax		pmax			
	comp=Z,13nm,0.6s,mb4.8								
E22A	**Miles City**	89.15	41	⇓P		P	07 47 59.8	-0.5	
	baz=89								
V15A	**Kaibab Nationa**	89.17	52	⇑P		P	07 48 01.2	+0.5	
	baz=89,SNR=8.7								
T16A	**Glen Canyon Da**	89.22	51	⇑P		P	07 48 00.6	-0.3	
	baz=89								
Y14A	**Wickenburg**	89.23	54	⇑P		P	07 48 01.1	+0.1	
	baz=89,SNR=9.1								
R17A	**Hanksville Air**	89.25	50	⇑P		P	07 48 00.8	-0.2	
	baz=89,SNR=13								
D23A	**Lindsay**	89.28	40	⇓P		P	07 48 00.8	-0.2	
	baz=89								
N19A	**John Jarvie Ra**	89.36	47	⇓P		P	07 48 01.4	0.0	
	baz=89								
Q18A	**Rafter H Ranch**	89.40	49	⇑P		P	07 48 00.8	-0.8	
	baz=89,SNR=5.9								
I21A	**Big Trails, Te**	89.43	44	⇑P		P	07 48 01.5	-0.2	
	baz=89								
L20A	**Wamsutter**	89.48	46	⇑P		P	07 48 01.9	-0.1	
	baz=89								
S17A	**Black Ridge (B**	89.49	50	⇑P		P	07 48 01.8	-0.3	
	baz=89								
J21A	**Lysite**	89.52	44	⇑P		P	07 48 01.8	-0.3	
	baz=89								
E23A	**Ismay**	89.53	41	⇑P		P	07 48 01.6	-0.4	
	baz=89								
C24A	**Savage**	89.60	39	⇑P		P	07 48 02.0	-0.4	
	baz=89								
O19A	**Miners Draw (B**	89.64	47	⇑P		P	07 48 02.7	0.0	
	baz=90								
T17A	**Navajo Res., N**	89.74	51	⇑P		P	07 48 03.3	+0.1	
	baz=90								
Y15A	**Casa Rosa Ranc**	89.74	54	⇑P		P	07 48 03.5	+0.1	
	baz=90,SNR=8.8								
M20A	**Sweetwater, Wa**	89.80	46	⇑P		P	07 48 03.5	0.0	
	baz=90								
U16A	**Tuba City**	89.83	52	⇑P		P	07 48 03.8	+0.1	
	baz=90								
D24A	**Glendive**	89.85	40	⇑P		P	07 48 03.4	-0.2	
	baz=90								
R18A	**Canyonlands Na**	89.86	49	⇓P		P	07 48 03.2	-0.6	
	baz=90,SNR=9.3								
WUAZ	**Wupatki**	89.88	53	*e*P		P	07 48 04.6	+0.6	
	comp=Z,4.2nm,0.8s,mb4.3								
P19A	**Cripple Cowboy**	90.01	48	⇑P		P	07 48 04.5	+0.1	
	baz=90,SNR=5.9								
S18A	**Hurst Farm, Bl**	90.06	50	⇓P		P	07 48 04.6	-0.2	
	baz=90								
V17A	**Tonalea, Kykot**	90.28	52	⇑P		P	07 48 06.1	+0.3	
	baz=90								
O20A	**White River Ci**	90.32	47	⇑P		P	07 48 05.6	-0.3	
	baz=90								
R19A	**Curley Farm, L**	90.35	49	⇑P		P	07 48 06.1	0.0	
	baz=90,SNR=8.8								
T18A	**Mexican Hat**	90.37	51	⇓P		P	07 48 05.7	-0.5	
	baz=90,SNR=5.6								
Y16A	**Circle Bar Ran**	90.43	54	⇑P		P	07 48 06.9	+0.4	
	baz=90,SNR=6.1								
P20A	**De Beque**	90.48	48	⇓P		P	07 48 06.6	0.0	
	baz=90								
N21A	**Black Mountain**	90.56	47	⇓P		P	07 48 07.0	0.0	
	baz=90,SNR=8.3								
PV04	**Paradox Valley**	90.57	49	*e*P		P	07 48 07.4	+0.3	
U18A	**Rough Rock, Ch**	90.66	51	⇓P		P	07 48 08.1	+0.6	
	baz=90								
S19A	**Harvey Farm, M**	90.66	50	⇓P		P	07 48 07.3	-0.3	
	baz=90								
H24A	**Dirks Ranch, A**	90.78	42	⇑P		P	07 48 07.5	-0.5	
	baz=91								
V18A	**Ganado**	90.89	52	⇓P		P	07 48 08.8	+0.2	
	baz=91								
PV01	**Paradox Valley**	90.91	49	*e*P		P	07 48 08.5	-0.2	
	comp=Z,613nm,0.6s								
R20A	**Redvale**	91.03	49	⇑P		P	07 48 09.1	-0.1	
	baz=91,SNR=7.8								
T19A	**Beclabito**	91.11	51	⇓P		P	07 48 09.7	0.0	
	baz=91,SNR=9.7								
S20A	**Disappointment**	91.19	49	⇓P		P	07 48 10.1	+0.1	
	baz=91,SNR=5.7								
U19A	**Dine` College,**	91.19	51	⇑P		P	07 48 10.2	+0.2	
	baz=91								
AKASG	**Malin Array Be**	91.31	325	P		P	07 48 07.4	-2.9	
	comp=Z,0.5nm,0.4s,mb3.7,baz=45,slow=6.1,SNR=3.6								
AKASG					PKKPbc	PKKPbc	08 05 38.5	+7.1	
	comp=Z,0.3nm,0.3s,baz=331,slow=4.4,SNR=5.0								
AKASG	**Malin Array Be**	91.31	325	P		P	07 48 07.4	-2.9	
AKASG					PKKPbc	PKKPbc	08 05 38.5	+7.1	
AKASG	**Malin Array Be**	91.31	325	P		P	07 48 07.4	-2.8	
Q21A	**Lamborn Mesa,**	91.33	48	⇑P		P	07 48 10.7	+0.1	
	baz=91								
MVCO	**Mesa Verde**	91.34	50	⇑P		P	07 48 10.5	-0.2	
	baz=91								
O22A	**Kremmling**	91.49	47	⇑P		P	07 48 11.0	-0.3	
	baz=91								
R21A	**Cimarron**	91.55	49	⇑P		P	07 48 12.2	+0.6	
	baz=91								
V19A	**Window Rock**	91.55	52	⇑P		P	07 48 12.1	+0.4	
	baz=91								
Y18A	**Canyon Day Jun**	91.58	54	⇓P		P	07 48 12.2	+0.4	
	baz=91,SNR=5.3								
N23A	**Red Feather La**	91.58	46	⇓P		P	07 48 12.2	+0.5	
	baz=91								
P22A	**Eagle**	91.58	47	⇑P		P	07 48 12.1	+0.3	
	baz=91								
SMCO	**Snowmass**	91.61	48	*e*P		P	07 48 12.2	+0.3	
	comp=Z,5.9nm,0.8s,mb4.6								
S21A	**Coal Bank Pass**	91.67	49	⇑P		P	07 48 12.4	+0.2	
	baz=92								
U20A	**Newcomb**	91.67	51	⇑P		P	07 48 12.5	+0.3	
	baz=92								
Q22A	**Crested Butte,**	91.79	48	⇑P		P	07 48 13.0	+0.3	
	baz=92								
X19A	**St. Johns**	91.88	53	⇑P		P	07 48 13.9	+0.6	
	baz=92								
O23A	**Lake Granby, G**	91.90	46	⇓P		P	07 48 13.8	+0.6	
	baz=92								
M24A	**Cheyenne**	92.09	45	⇑P		P	07 48 14.6	+0.6	
	baz=92								
W20A	**Ramah**	92.19	52	⇓P		P	07 48 14.7	0.0	
	baz=92								
U21A	**Nageezi**	92.28	50	⇓P		P	07 48 15.4	+0.4	
	baz=92								
ISCO	**Idaho Springs**	92.29	47	⇑P		P	07 48 15.8	+0.8	
	baz=92								
ISCO	**Idaho Springs**	92.29	47	*e*P		P	07 48 15.3	+0.3	
	comp=Z,2.6nm,0.7s,mb4.3								
ISCO	**Idaho Springs**	92.29	47	*e*P		P	07 48 15.3	+0.3	
ISCO				pmax		pmax			
	comp=Z,3.0nm,0.7s,mb4.3								
P23A	**Jefferson**	92.32	47	⇑P		P	07 48 15.9	+0.8	
	baz=92								
S22A	**4UR Ranch, Cre**	92.33	49	⇑P		P	07 48 15.7	+0.5	
	baz=92								
X20A	**Quemado**	92.44	52	⇓P		P	07 48 16.2	+0.4	
	baz=92								
HFS	**Hagfors**	92.50	338	P		P	07 48 13.2	-2.3	
	comp=Z,2.8nm,0.5s,mb4.5,baz=72,slow=4.8,SNR=10								
HFS	**Hagfors**	92.50	338	P		P	07 48 13.2	-2.3	
HFS	**Hagfors**	92.50	338	P		P	07 48 13.2	-2.3	
O24A	**Longmont**	92.52	46	⇓P		P	07 48 16.7	+0.7	
	baz=92								
V21A	**Milan**	92.56	51	⇑P		P	07 48 16.8	+0.5	
	baz=92								
T22A	**Edith**	92.58	50	⇓P		P	07 48 16.8	+0.4	
	baz=92								
NB2	**NORSAR Subarra**	92.71	339	P		P	07 48 14.1	-2.3	
	comp=Z,0.8nm,0.5s,mb3.9,baz=42,slow=5.1								
NOA	**NORSAR Array B**	92.71	339	P		P	07 48 14.3	-2.1	
	comp=Z,0.9nm,0.5s,mb3.9,baz=45,slow=4.7,SNR=6.6								
NOA	**NORSAR Array B**	92.71	339	P		P	07 48 14.3	-2.1	
NOA	**NORSAR Array B**	92.71	339	P		P	07 48 14.4	-2.0	
Y20A	**Horse Springs,**	92.78	53	⇑P		P	07 48 17.9	+0.5	
	baz=93								
R24A	**Sanders Place,**	93.34	48	⇑P		P	07 48 20.6	+0.7	
	baz=93								
U23A	**El Rito**	93.39	50	⇓P		P	07 48 20.1	0.0	
	baz=93								
P25A	**Willow Gulch B**	93.42	47	⇓P		P	07 48 20.3	+0.1	
	baz=93								
BR131	**Keskin Array S**	94.01	314	*e*P		P	07 48 21.3	-1.6	
	comp=Z,1.4nm,0.6s,mb4.2								
BRTR	**Keskin Array B**	94.01	314	P		P	07 48 20.9	-2.0	
	comp=Z,1.5nm,0.7s,mb4.1,baz=57,slow=3.5,SNR=7.2								
BRTR	**Keskin Array B**	94.01	314	P		P	07 48 20.9	-2.0	
BRTR	**Keskin Array B**	94.01	314	P		P	07 48 20.9	-2.0	
W24A	**Lazy 6 Ranch,**	94.45	51	⇓P		P	07 48 24.8	-0.2	
	baz=94								
MMAI	**Mount Meron Ar**	95.78	307	P		P	07 48 29.9	-1.1	
	comp=Z,2.1nm,0.3s,mb4.8,baz=332,slow=6.6,SNR=5.1								
X26A	**CR and CF Fran**	95.92	51	⇓P		P	07 48 31.1	-0.6	
	baz=96								
DPC	**Dobruska-Polom**	98.12	330	*e*P		P	07 48 40.0	-1.2	
	comp=Z,8.9nm,0.8s,mb5.0								
TXAR	**Lajitas Array**	98.37	55	P		Pdif	07 48 42.7	+0.4	
	comp=Z,0.5nm,0.9s,baz=297,slow=2.7,SNR=3.3								
TXAR	**Lajitas Array**	98.37	55	P		Pdif	07 48 42.7	+0.4	
TXAR	**Lajitas Array**	98.37	55	P		Pdif	07 48 42.7	+0.4	
KHC	**Kasperske Hory**	100.26	330	*e*Pdif		Pdif	07 48 52.2	+1.5	
KHC	**Kasperske Hory**	100.26	330	*e*P		Pdif	07 48 52.2	+1.5	
LSZ	**Lusaka**	119.93	263	*e*PKPdf		PKPdf	07 53 52.6	-0.9	
LSZ	**Lusaka**	119.93	263	*e*PKIKP		PKPdf	07 53 52.6	-0.9	
TORD	**Torodi Ar. Bea**	132.31	308	PKP		PKPdf	07 54 15.8	-1.5	
	comp=Z,1.1nm,0.5s,baz=38,slow=1.1,SNR=13								
TORD					SKPbc	SKPbc	07 57 02.4	-4.8	
	comp=Z,2.4nm,0.6s,baz=36,slow=2.6,SNR=17								
SDV	**Santo Domingo**	135.41	56	*e*PKPdf		PKPdf	07 54 22.7	-0.4	
DBIC	**Dimbokro**	141.39	307	*e*PKhKP		PKPpre	07 54 27.4		
	comp=Z,3.0nm,0.5s,baz=47,slow=3.2,SNR=9.5								
DBIC					SKPbc	SKPbc	07 57 29.5	-4.6	
	comp=Z,1.0nm,0.5s,baz=348,slow=4.4,SNR=3.1								
LPAZ	**La Paz**	148.10	91	PKPbc		PKPbc	07 54 46.4	-2.8	
	comp=Z,7.1nm,0.5s,baz=251,slow=4.8,SNR=19								
LPAZ					PKPab	PKPab	07 54 50.4	-2.9	
	comp=Z,7.1nm,0.5s,baz=4.5,slow=3.4,SNR=18								

BEO ***13*** *07:47:29.0±0.5, 46°.71N×20°.92E, h8km±3km, ML3.1/1*
CSEM ***13*** *07:47:29.1±0.1, 46°.76N×20°.85E, h10km, ML3.7/4, Error ellipse: s-maj=3.3km s-min=2.4km az=43.0*
PRU ***13*** *07:47:32.3, 46°.91N×20°.82E, h14km*
VIE ***13*** *07:47:33.5±0.5, 46°.93N×20°.48E, h9km±1km, mb2.6/5, ML2.8/5, Error ellipse: s-maj=3.1km s-min=1.8km az=111.0 79 km NNE of Szeged*

ISC 13 07:47:30.3±0.4, 46°.72N±0°.01×20°.79E±0°.02, h19km±2km, n99, σ1s24/153, 18C-33D, Hungary

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PKSN	**Nyarlorinc**	0.66	286	⇑*e*Pb			Pb	07 47 44.5	+1.3
TIM	**Timisoara**	1.03	163	S			Sb	07 48 04.5	+1.9
TIM	**Timisoara**	1.03	163	S			Sb	07 48 04.5	+1.9
PKS7	**Kunszentmiklos**	1.17	287	*e*Pn			Pn	07 47 53.5	+1.9
PKS7				*e*Sn			Sn	07 48 10.9	+3.9
BZS	**Buzias**	1.24	152	⇓*i*Pg			Pn	07 47 52.0	-0.7
BZS				*e*Sg			Sn	07 48 08.1	-0.8
BZS	**Buzias**	1.24	152	⇑*i*P			Pn	07 47 52.5	-0.2
BZS	**Buzias**	1.24	152	⇓*i*Pg			Pn	07 47 52.0	-0.7
BZS	**Buzias**	1.24	152	⇑*i*P			Pn	07 47 52.5	-0.2
BZS				*e*Sg			Sn	07 48 08.1	-0.8
BZS				S			Sn	07 48 10.7	+1.8
DRGR		1.32	86	⇓*i*Pg			Pn	07 47 52.6	-1.2
DRGR				*e*Sg			Sn	07 48 08.4	-2.4
DRGR		1.32	86	⇓*i*P			Pn	07 47 52.5	-1.3
DRGR		1.32	86	⇓*i*P			Pn	07 47 52.5	-1.3
DRGR				*e*Sg			Sn	07 48 08.4	-2.4
DRGR				⇓*e*Sn			Sn	07 48 09.7	-1.1
DRGR				S			Sn	07 48 10.3	-0.5
PSZ	**Piszkesteto**	1.35	333	⇑*e*Pn			Pn	07 47 53.8	-0.3
PSZ				*e*SB			Sg	07 48 14.6	+0.7
PSZ	**Piszkesteto**	1.35	333	⇓*i*P			Pn	07 47 53.4	-0.7
PSZ	**Piszkesteto**	1.35	333	⇓*i*P			Pn	07 47 53.4	-0.7
PSZ	**Piszkesteto**	1.35	333	⇑*e*Pn			Pn	07 47 53.8	-0.3
PSZ				S			Sn	07 48 10.7	-0.7
PSZ				*e*Sn			Sg	07 48 14.6	+0.7
BUD	**Budapest**	1.43	303	⇓*e*Pn			Pn	07 47 54.6	-0.6
BUD				*e*Sg			Sg	07 48 17.7	+1.2
BUD	**Budapest**	1.43	303	⇓*e*Pn			Pn	07 47 54.6	-0.6
BUD				*e*Sn			Sg	07 48 17.7	+1.2
PKSM	**Moragy**	1.57	252	⇓*i*Pg			Pg	07 47 59.5	-1.1
PKSM				*e*Sg			Sg	07 48 22.1	+1.1
PKSM	**Moragy**	1.57	252	⇓*i*P			Pn	07 47 57.8	+0.6
PKSM	**Moragy**	1.57	252	⇓*i*P			Pn	07 47 57.8	+0.6
PKSM	**Moragy**	1.57	252	⇓*i*Pg			Pg	07 47 59.5	-1.1
PKSM				S			Sn	07 48 19.4	+2.4
PKSM				*e*Sn			Sg	07 48 21.9	+0.9
PKSM				*e*Sg			Sg	07 48 22.1	+1.1
FRGS	**Fruska Gora**	1.71	204	⇓*i*Pg			Pg	07 48 00.8	-2.3
FRGS				*e*Sg			Sg	07 48 24.2	-1.1
FGSL	**Fruska Gora**	1.71	204	*e*Sg			Sg	07 48 24.2	-1.1
PKS9	**Tamasi**	1.74	267	*e*Pn			Pn	07 47 59.1	-0.3
PKS9	**Tamasi**	1.74	267	*e*Pg			Pg	07 48 03.9	+0.2
PKSG		1.77	293	*e*Pn			Pn	07 47 58.9	-1.1
PKSG		1.77	293	*e*Pg			Pg	07 48 04.5	+0.1
TRPA	**Tarpa**	1.84	39	⇑*i*P			Pn	07 47 59.4	-1.5
TRPA	**Tarpa**	1.84	39	⇑*i*P			Pn	07 47 59.4	-1.5
TRPA				*e*Sn			Sn	07 48 21.1	-2.6
BEO	**Beograd**	1.92	187	*e*Pn			Pn	07 48 02.6	+0.6
BEO				*e*Sg			Sg	07 48 30.9	-1.4
RHK3	**Tenkes**	1.95	246	*e*Pn			Pn	07 47 59.9	-2.4
BMR	**Baia Mare**	2.08	62	⇓*i*P			Pn	07 48 03.4	-0.7
BMR	**Baia Mare**	2.08	62	⇓*i*P			Pn	07 48 03.4	-0.7
BMR				S			Sn	07 48 32.2	+2.7
VYHS	**Vyhne**	2.21	324	*e*PN			Pn	07 48 06.7	+0.7
VYHS				*e*SN			Sn	07 48 32.7	-0.2
VYHS	**Vyhne**	2.21	324	*e*Pn			Pn	07 48 06.7	+0.7
VYHS				*e*Sn			Sn	07 48 32.7	-0.2
CRVS	**Cervenica-Dubn**	2.23	11	*e*PN			Pn	07 48 06.1	-0.2
CRVS				*e*				07 48 12.6	
CRVS	**Cervenica-Dubn**	2.23	11	*e*Pn			Pn	07 48 06.1	-0.2
CRVS				*e*Sg			Sg	07 48 42.4	+0.3
DJES	**Djerdap**	2.38	149	*e*Sg			Sg	07 48 42.9	-4.1
LOT	**Lotru**	2.43	120	⇓*i*P			Pn	07 48 08.6	-0.4
LOT	**Lotru**	2.43	120	⇓*i*P			Pn	07 48 08.6	-0.4
LOT				S			Sn	07 48 40.0	+1.8
KOLL	**Kolacno**	2.46	320	*e*PN			Pn	07 48 09.9	+0.4
KOLL				*e*SN			Sn	07 48 38.2	-0.8
KOLL	**Kolacno**	2.46	320	*e*Pn			Pn	07 48 09.9	+0.4
KOLL				*e*Sn			Sn	07 48

*ISCJB **13** 07:48:45.9±1.8,30.1°N±0.2°×114.0°W±0.1°,h10km,MS3.2/2, Error ellipse: s-maj=28.2km s-min=8.5km az=37.9*
*NEIC **13** 07:48:45.4±2.5,29.98°N×114.21°W,h5km,ML2.8(ECX), Error ellipse: s-maj=40.2km s-min=10.9km az=206.0*
*IDC **13** 07:48:46.4±2.6,29.98°N×114.01°W,h0km,mb3.3/1, mb1 3.5/4,mb1mx3.4/23,mbtmp3.1/4,ML3.1/3,MS3.4/2, Ms1 3.4/2,ms1mx2.7/13,Error ellipse: s-maj=43.1km s-min=15.3km az=26.0*

ISC 13 07:48:46.7±1.8,29.9N±0.2°×114.1W±0.2°,h10km,n12, σ1§48/12,MS3.2/2,Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLA	**Glamis**	**3.18**	**349**	*e*Pn	**Pn**	**07 49 35.0**	**-1.8**
BAR	**Barrett**	**3.52**	**322**	*e*Pn	**Pn**	**07 49 39.5**	**-2.0**
BAR				*e*Sn	**Sn**	**07 50 26.0**	**+3.0**
PFO	**Pinyon Flat Ob**	**4.18**	**332**	*e*Pn	**Pn**	**07 49 48.8**	**-1.8**
PFO				*e*Sg	**Sg**	**07 51 01.2**	**+0.1**
ANMO	**Albuquerque**	**8.19**	**50**	Pn	**Pn**	**07 50 45.5**	**-0.1**
	0.1nm,0.3s,baz=230,slow=14,SNR=10.0						
ANMO				Lg		07 53 01.7	
	0.1nm,0.3s,baz=166,slow=4.2,SNR=2.8						
ANMO	**Albuquerque**	**8.19**	**50**	Pn	**Pn**	**07 50 45.5**	**-0.1**
ANMO				Lg		07 53 01.7	
TXAR	**Lajitas Array**	**9.11**	**91**	Pn	**Pn**	**07 50 58.8**	**+0.5**
	0.2nm,0.3s,baz=269,slow=14,SNR=14						
TXAR				Lg		07 53 32.4	
	0.0nm,0.3s,baz=270,slow=33,SNR=3.2						
TXAR	**Lajitas Array**	**9.11**	**91**	Pn	**Pn**	**07 50 58.8**	**+0.5**
TXAR				Lg		07 53 32.4	
NVAR	**Mina Array Bea**	**9.17**	**339**	Pn	**Pn**	**07 51 00.5**	**+1.5**
	0.1nm,0.3s,baz=163,slow=16,SNR=2.1						
NVAR	**Mina Array Bea**	**9.17**	**339**	Pn	**Pn**	**07 51 00.5**	**+1.5**
BBB	**Bella Bella**	**24.54**	**339**	LR	LR	08 05 06.9	
	comp=Z,156nm,18.1s,MS3.5,baz=173,slow=40						
TKL	**Tuckaleechee C**	**26.08**	**69**	LR	LR	08 04 54.7	
	comp=Z,34nm,19.8s,MS2.9,baz=11,slow=37						
ILAR	**Eielson Array**	**40.43**	**339**	P	**P**	**07 56 26.4**	**+1.6**
	0.4nm,0.9s,baz=139,slow=8.4,SNR=4.4						

*ISCJB **13** 08:00:01.2±0.4,39.12N±0.02°×27.55E±0.04,h0km,Error ellipse: s-maj=4.3km s-min=3.4km az=157.8*
*CSEM **13** 08:00:01.3±0.2,39.13N×27.55E,h1km,MD2.9,Error ellipse: s-maj=5.5km s-min=4.5km az=59.0*
*DDA **13** 08:00:01.7,39.14N×27.59E,h7km±4km,Md2.9*
*ISK **13** 08:00:01.5,39.09N×27.58E,h19km,MD2.8*

ISC 13 08:00:01.7±0.4,39.12N±0.03°×27.54E±0.04,h0km,n32, σ1§16/46,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKHS	**Akhisar**	**0.32**	**139**	*e*P	**Pg**	**08 00 07.6**	**-0.2**
AKHS				*e*S	**Sg**	**08 00 13.3**	**+1.2**
AKHS	**Akhisar**	**0.32**	**139**	*e*P	**Pg**	**08 00 07.6**	**-0.3**
AKHS				*e*S	**Sg**	**08 00 13.3**	**+1.3**
BALY	**Balya**	**0.62**	**6**	*i* P	**Pg**	**08 00 13.7**	**+0.1**
BALY				*i* S	**Sg**	**08 00 22.8**	**+1.3**
BALY	**Balya**	**0.62**	**6**	*i* P	**Pg**	**08 00 13.7**	**+0.2**
BALY				*i* S	**Sg**	**08 00 22.8**	**+1.3**
AYVA	**Ayvalik**	**0.69**	**286**	*e*P	**Pg**	**08 00 16.5**	**+1.6**
AYVA				*e*S	**Sg**	**08 00 25.9**	**+2.2**
AYVA	**Ayvalik**	**0.69**	**286**	*e*P	**Pg**	**08 00 16.5**	**+1.7**
AYVA				*e*S	**Sg**	**08 00 25.9**	**+2.2**
IZM	**Izmir**	**0.76**	**197**	*e*PG	**Pg**	**08 00 16.2**	**+0.1**
IZM				*e*SG	**Sg**	**08 00 27.1**	**+1.1**
IZM	**Izmir**	**0.76**	**197**	*e*Pg	**Pg**	**08 00 16.2**	**0.0**
IZM				*e*Sg	**Sg**	**08 00 27.1**	**+1.1**
DURS	**Dursunbey**	**0.86**	**56**	*e*P	**Pg**	**08 00 18.1**	**-0.2**
DURS				*e*S	**Sg**	**08 00 31.3**	**+1.8**
DURS	**Dursunbey**	**0.86**	**56**	*e*P	**Pg**	**08 00 18.1**	**-0.2**
DURS				*e*S	**Sg**	**08 00 31.3**	**+1.8**
GONE	**Gonen-Balikesi**	**0.93**	**7**	*e*PG	**Pg**	**08 00 19.8**	**+0.4**
GONE				*e*SG	**Sg**	**08 00 34.5**	**+3.0**
GONE	**Gonen-Balikesi**	**0.93**	**7**	*e*Pg	**Pg**	**08 00 19.8**	**+0.3**
GONE				*e*Sg	**Sg**	**08 00 34.5**	**+3.0**
DST	**Dursunbey**	**0.96**	**60**	*e*PG	**Pg**	**08 00 20.6**	**+0.5**
DST	**Dursunbey**	**0.96**	**60**	*e*Pg	**Pg**	**08 00 20.6**	**+0.5**
KULA	**Kula-Manisa**	**1.06**	**125**	*e*PG	**Pg**	**08 00 21.0**	**-1.1**
KULA				*e*SG	**Sg**	**08 00 35.4**	**-0.4**
KULA	**Kula-Manisa**	**1.06**	**125**	*e*Pg	**Pg**	**08 00 21.0**	**-1.1**
KULA				*e*Sg	**Sg**	**08 00 35.4**	**-0.5**
EZN	**Ezine**	**1.17**	**307**	*e*PN	**Pn**	**08 00 24.1**	**-1.2**
EZN	**Ezine**	**1.17**	**307**	*e*Pn	**Pn**	**08 00 24.1**	**-1.2**
KRBG	**Karabiga-Canak**	**1.28**	**352**	*e*PN	**Pn**	**08 00 26.0**	**-0.8**
KRBG	**Karabiga-Canak**	**1.28**	**352**	*e*Pn	**Pn**	**08 00 26.0**	**-0.8**
KCTX	**Karacabey (Bur**	**1.30**	**29**	*e*PN	**Pn**	**08 00 25.7**	**-1.4**
KCTX	**Karacabey (Bur**	**1.30**	**29**	*e*Pn	**Pn**	**08 00 25.7**	**-1.4**
LPK	**Lapseki**	**1.39**	**334**	*e*PN	**Pn**	**08 00 27.0**	**-1.2**
LPK	**Lapseki**	**1.39**	**334**	*e*Pn	**Pn**	**08 00 27.0**	**-1.2**
GELI	**Tayfur-Gelibol**	**1.52**	**327**	*e*PN	**Pn**	**08 00 28.8**	**-1.2**
GELI	**Tayfur-Gelibol**	**1.52**	**327**	*e*Pn	**Pn**	**08 00 28.8**	**-1.2**
RKY	**Sarkoy-Tekirda**	**1.59**	**350**	*e*PN	**Pn**	**08 00 30.2**	**-0.8**
RKY	**Sarkoy-Tekirda**	**1.59**	**350**	*e*Pn	**Pn**	**08 00 30.2**	**-0.8**
ERIK	**Erikli-Kesan**	**1.74**	**333**	*e*PN	**Pn**	**08 00 32.0**	**-1.0**
ERIK	**Erikli-Kesan**	**1.74**	**333**	*e*Pn	**Pn**	**08 00 32.0**	**-1.1**
ENEZ	**Enez**	**1.93**	**327**	*e*PN	**Pn**	**08 00 34.5**	**-1.3**
ENEZ	**Enez**	**1.93**	**327**	*e*Pn	**Pn**	**08 00 34.5**	**-1.3**

IDC 13 08:09:00.6±4.4,6.22S×128.63E,h379km±54km,mb3.0/1, mb1 3.3/3,mb1mx2.9/17,mbtmp3.1/3,Error ellipse: s-maj=173.5km s-min=14.5km az=70.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.72**	**158**	P	P	08 12 10.8	-0.3
	1.9nm,0.3s,baz=334,slow=13,SNR=58						
WRA				S	S	08 14 47.8	-0.9
	0.4nm,0.3s,baz=336,slow=18,SNR=8.5						
ASAR	**Alice Springs**	**18.07**	**164**	P	P	08 12 47.1	+0.2
	0.9nm,0.3s,baz=342,slow=11,SNR=44						
ASAR				S	S	08 15 55.4	+1.1
	0.3nm,0.3s,baz=345,slow=22,SNR=27						
MKAR	**Makanchi Array**	**66.84**	**327**	P	P	08 19 13.0	+0.1
	0.5nm,0.5s,baz=115,slow=8.6,SNR=6.5						

*MAN **13** 08:16:27,13.14N×124.58E,h20km,mb4.7,ML3.6,MS3.5*
*ISCJB **13** 08:16:28.1±1.4,13.11N±0.08×124.6E±0.2,h20km±9km, mb3.7/6,Error ellipse: s-maj=30.9km s-min=6.4km az=157.0*
*IDC **13** 08:16:28.1±1.4,12.65N×123.92E,h0km,mb3.7/6, mb1 3.8/6,mb1mx3.5/22,mbtmp3.7/6,Error ellipse: s-maj=196.7km s-min=17.8km az=68.0*

ISC 13 08:16:28.5±1.1,13.08N±0.08×124.5E±0.2,h10km±6km, n10,σ0§95/13,mb3.7/6,1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**0.59**	**163**	*e*P	**Pg**	**08 16 40.5**	**+0.5**
CNP				*e*S	**Sg**	**08 16 48.4**	**+0.7**
PVCP	**Virac**	**0.61**	**327**	*e*P	**Pg**	**08 16 39.9**	**-0.5**
PVCP				*e*S	**Sg**	**08 16 47.7**	**-0.8**
PLP	**Palo**	**1.96**	**166**⇓	*e*P	**Pn**	**08 17 01.6**	**-0.3**
PLP				*e*S	**Sn**	**08 17 25.7**	**-0.8**
RCP	**Roxas**	**2.28**	**229**⇑	*e*P	**Pn**	**08 17 06.5**	**+0.3**
WRA	**Warramunga Arr**	**34.21**	**163**	P	**P**	**08 23 13.8**	**-0.7**
	0.3nm,0.5s,mb3.5,baz=342,slow=8.7,SNR=7.5						
ASAR	**Alice Springs**	**37.66**	**166**	P	**P**	**08 23 43.0**	**-1.0**
	0.8nm,0.6s,mb3.6,baz=336,slow=7.2,SNR=8.7						
SONM	**Songino Array**	**37.80**	**340**	P	**P**	**08 23 48.4**	**+3.5**
	0.3nm,0.6s,mb3.2,baz=148,slow=8.5,SNR=2.3						
STKA	**Stephens Creek**	**47.61**	**160**	P	**P**	**08 25 03.8**	**-0.9**
	1.8nm,0.8s,mb4.2,baz=332,slow=18,SNR=3.5						
MKAR	**Makanchi Array**	**48.75**	**322**	P	**P**	**08 25 14.9**	**+1.5**
	1.0nm,0.8s,mb3.9,baz=116,slow=8.2,SNR=3.9						
ZALV	**Zalesovo Beam**	**51.34**	**331**	P	**P**	**08 25 34.4**	**+1.5**
	0.5nm,0.4s,mb3.8,baz=123,slow=12,SNR=3.0						

*IDC **13** 08:16:30.9±2.9,19.76S×175.96W,h160km±28km,mb3.8/6, mb1 4.0/8,mb1mx3.7/20,mbtmp3.8/8,Error ellipse: s-maj=34.9km s-min=15.1km az=145.0*
*NEIC **13** 08:16:39.6±2.5,20.04S×175.93W,h244km±21km,mb4.2/4, Error ellipse: s-maj=27.0km s-min=18.8km az=141.0*

ISC 13 08:16:40.1±2.4,20.0S±0.1×176.0W±0.2,h251km±21km, n26,σ0§99/25,mb3.9/8,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.10**	**291**	*e*Pn	**Pn**	**08 18 09.1**	**-0.4**
	17nm,0.9s						
AFI	**Afiamalu**	**7.28**	**34**	P	**Pn**	**08 18 12.0**	**-12**
	5.9nm,0.3s,baz=79,slow=22,SNR=18						
AFI				S	**S**	**08 19 24.3**	**-24**
	14nm,0.3s,baz=50,slow=20,SNR=8.0						
DZM	**Mont Dzumac**	**16.54**	**260**	*e*P	**P**	**08 20 19.1**	**+2.3**
DZM	**Mont Dzumac**	**16.54**	**260**	*e*P	**P**	**08 20 20.2**	**+3.4**
	44nm,0.7s						
URZ	**Urewera**	**19.14**	**197**	P	**P**	**08 20 44.3**	**-0.5**
	4.5nm,0.3s,baz=329,slow=5.5,SNR=14						
URZ				S	**S**	**08 24 08.0**	**0.0**
	0.5nm,0.3s,baz=251,slow=22,SNR=6.3						
URZ	**Urewera**	**19.14**	**197**	P	**P**	**08 20 44.3**	**-0.4**
URZ				S	**S**	**08 24 08.0**	**0.0**
EIDS	**Eidsvold**	**30.81**	**254**	*e*P	**P**	**08 22 33.6**	**+0.8**
	6.1nm,0.7s,mb4.3						
CTA	**Charters Tower**	**35.44**	**263**	P	**P**	**08 23 13.0**	**+0.2**
	12nm,0.6s,mb4.6,baz=95,slow=10,SNR=20						
CTA	**Charters Tower**	**35.44**	**263**	P	**P**	**08 23 13.0**	**+0.2**
CTAO	**Charters Tower**	**35.44**	**263**	*e*P	**P**	**08 23 12.8**	**0.0**
	13nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**39.71**	**244**	P	**P**	**08 23 49.5**	**+1.2**
	1.3nm,0.6s,mb3.5,baz=81,slow=9.9,SNR=4.6						
STKA	**Stephens Creek**	**39.71**	**244**	P	**P**	**08 23 49.5**	**+1.2**
ASAR	**Alice Springs**	**46.48**	**256**	P	**P**	**08 24 42.5**	**-0.1**
	5.7nm,0.7s,mb4.0,baz=88,slow=8.1,SNR=49						
ASAR	**Alice Springs**	**46.48**	**256**	P	**P**	**08 24 42.5**	**-0.1**
WRAB	**Tennant Creek**	**46.55**	**261**	*e*P	**P**	**08 24 42.2**	**-0.9**
	2.9nm,0.4s,mb4.0						
WRA	**Warramunga Arr**	**46.55**	**261**	P	**P**	**08 24 42.3**	**-0.9**
	2.8nm,0.5s,mb3.9,baz=97,slow=7.6,SNR=64						
WRA	**Warramunga Arr**	**46.55**	**261**	P	**P**	**08 24 42.3**	**-0.9**
MBWA	**Marble Bar**	**59.82**	**257**	*e*S	**P**	**08 26 16.6**	**-2.9**
NVAR	**Mina Array Bea**	**79.38**	**42**	P	**P**	**08 28 18.1**	**-0.2**
	0.6nm,0.8s,mb3.3,baz=225,slow=9.8,SNR=5.7						
NVAR	**Mina Array Bea**	**79.38**	**42**	P	**P**	**08 28 18.1**	**-0.2**
TXAR	**Lajitas Array**	**85.20**	**57**	P	**P**	**08 28 49.3**	**+0.7**
BRTR	**Keskin Array B**	**147.90**	**314**	PKPbc	PKPbc	08 35 56.7	+1.0
	0.6nm,0.4s,baz=120,slow=4.9,SNR=3.3						
BRTR	**Keskin Array B**	**147.90**	**314**	PKPbc	PKPbc	08 35 56.7	+1.0
STU	**Stuttgart**	**151.01**	**353**	*e*PKPdf	PKPdf	08 35 52.1	-4.9
BFO	**Black Forest**	**151.54**	**354**	*e*PKPbc	PKPbc	08 36 06.4	+2.2

*ISK **13** 08:17:29.2,36.89N×28.55E,h8km,MD2.7*
*ISCJB **13** 08:17:30.7±0.6,37.00N±0.05×28.53E±0.04,h29km±5km, Error ellipse: s-maj=7.7km s-min=5.8km az=11.7*
*CSEM **13** 08:17:30.3±0.2,36.98N×28.52E,h20km,MD3.1,Error ellipse: s-maj=7.0km s-min=4.4km az=179.0*
*DDA **13** 08:17:30.2,36.98N×28.55E,h7km±4km,Md3.1*

ISC 13 08:17:30.8±0.6,37.01N±0.05×28.53E±0.04,h28km±5km, n24,σ0§92/35,1D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TURN	**Turunc**	**0.15**	**156**⇓	*i* P	**Pb**	**08 17 36.5**	**+0.3**
TURN				*i* S	**Sb**	**08 17 41.7**	**+1.8**
TURN	**Turunc**	**0.15**	**156**	*i* P	**Pb**	**08 17 36.5**	**+0.3**
TURN				*i* S	**Sb**	**08 17 41.7**	**+1.8**
YER	**Yerkesik**	**0.23**	**303**	*e*PG	**Pb**	**08 17 36.0**	**-1.2**
YER				*e*SG	**Sb**	**08 17 41.1**	**-0.4**
YER	**Yerkesik**	**0.23**	**303**	*e*Pg	**Pb**	**08 17 36.0**	**-1.2**
YER				*e*Sg	**Sb**	**08 17 41.1**	**-0.4**
FETY	**Fethiye**	**0.58**	**130**	*e*PG	**Pb**	**08 17 39.4**	**-3.0**
FETY	**Fethiye**	**0.58**	**130**	*e*Pg	**Pb**	**08 17 39.4**	**-3.0**
MLSB	**Milas**	**0.67**	**296**	*e*PG	**Pb**	**08 17 43.9**	**0.0**
MLSB	**Milas**	**0.67**	**296**	*e*Pg	**Pb**	**08 17 43.9**	**0.0**
GLHS	**Glhisar (BURDU**	**0.79**	**79**	*e*PG	**Pb**	**08 17 45.1**	**-0.8**
GLHS	**Glhisar (BURDU**	**0.79**	**79**	*e*Pg	**Pb**	**08 17 45.1**	**-0.9**
DNZL	**Cakiroluk**	**0.80**	**31**	*e*P	**Pb**	**08 17 46.2**	**+0.1**
DNZL				*e*S	**Sb**	**08 17 56.2**	**-0.3**
DNZL	**Cakiroluk**	**0.80**	**31**	*e*P	**Pb**	**08 17 46.2**	**+0.1**
DNZL				*e*S	**Sb**	**08 17 56.2**	**-0.3**
DAT	**Datca**	**0.81**	**250**	*e*PG	**Pb**	**08 17 45.0**	**-1.3**
DAT	**Datca**	**0.81**	**250**	*e*Pg	**Pb**	**08 17 45.0**	**-1.3**
AYDN	**Tasoluk**	**0.83**	**322**	*i* P	**Pb**	**08 17 47.2**	**+0.5**
AYDN				*i* S	**Sb**	**08 17 58.5**	**+1.0**
AYDN	**Tasoluk**	**0.83**	**322**	*i* P	**Pb**	**08 17 47.2**	**+0.5**
AYDN				*i* S	**Sb**	**08 17 58.5**	**+1.0**
DENT	**Denizli**	**0.85**	**28**	*e*PG	**Pn**	**08 17 47.7**	**+0.8**
DENT	**Denizli**	**0.85**	**28**	*e*Pg	**Pn**	**08 17 47.7**	**+0.8**
GOLH	**Golhisar**	**0.86**	**74**	*e*P	**Pn**	**08 17 46.5**	**-0.5**
GOLH				*e*S	**Sb**	**08 17 58.2**	**0.0**
GOLH	**Golhisar**	**0.86**	**74**	*e*P	**Pn**	**08 17 46.5**	**-0.5**
GOLH				*e*S	**Sb**	**08 17 58.2**	**0.0**
BODT	**Bodrum**	**0.98**	**274**	*e*PG	**Pn**	**08 17 49.0**	**+0.4**
BODT	**Bodrum**	**0.98**	**274**	*e*Pg	**Pn**	**08 17 49.0**	**+0.4**
AKAS	**Kas**	**1.16**	**131**	*e*P	**Pn**	**08 17 52.1**	**+0.9**
AKAS				*e*S	**Sn**	**08 18 11.6**	**+5.5**
AKAS	**Kas**	**1.16**	**131**	*e*P	**Pn**	**08 17 52.1**	**+0.9**

SKHL 13 08:22:52.0±0.9,54.31N×122.42E,h20km±1km,mb4.0/7, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUP	**Tupik**	**1.45**	**276**	*e*Pn	Pn	08 23 16.9	-0.1
TUP				*i* Pg	Pn	08 23 18.5	+1.5
TUP				AMB	AMB	08 23 18.8	
	32nm,0.3s						
TUP				*e*Sg	Sn	08 23 37.4	+2.0
TUP				A		08 23 37.9	
	1µm,0.4s						
TNDR	**Tynda**	**1.58**	**57**	*e*Pg	Pn	08 23 21.3	+2.5
TNDR				*e*Sg	Sn	08 23 41.4	+2.9
IENR	**Iengra**	**2.37**	**35**	*e*Pn	Pn	08 23 30.1	+0.4
IENR				*e*Pg	Pn	08 23 35.2	+5.5
IENR				*e*Sn	Sn	08 23 59.9	+1.8
IENR				*e*Sg	Sn	08 24 06.9	+8.8
KROS	**Kirovskiy**	**2.67**	**86**	*e*Pn	Pn	08 23 34.0	+0.3
KROS				*e*Pg	Pn	08 23 40.0	+6.3
KROS				AMB	AMB	08 23 43.2	
	7.0nm,0.4s						
KROS				AMB	AMB	08 23 43.2	
	21nm,0.4s						
KROS				AMB	AMB	08 23 43.2	
	23nm,0.4s						
KROS				pPg		08 23 46.0	
KROS				*e*Sg	Sn	08 24 13.7	+8.3
KROS				A		08 24 17.8	
	250nm,0.5s						
KROS				A		08 24 17.8	
	140nm,0.5s						
KROS				A		08 24 17.8	
	210nm,0.5s						
CLNS	**Chul'man**	**2.90**	**28**	*e*Pn	Pn	08 23 38.1	+1.2
CLNS				*e*Pg	Pn	08 23 45.9	+9.0
CLNS				AMB	AMB	08 23 47.6	
	31nm,0.2s						
CLNS				*e*Sn	Sn	08 24 12.1	+1.0
CLNS				*e*Sg	Sn	08 24 22.7	+12
CLNS				A		08 24 28.5	
	81nm,0.3s						
ZEA	**Zeya**	**2.91**	**99**	*e*Pg	Pn	08 23 45.5	+8.5
ZEA				AMB	AMB	08 23 46.9	
	19nm,0.2s						
ZEA				*e*Sn	Sn	08 24 11.3	0.0
ZEA				*e*Sg	Sn	08 24 21.5	+10
ZEA				A		08 24 24.1	
	160nm,0.8s						
ZEA				A		08 24 24.1	
	220nm,0.8s						
KHN	**Khani**	**3.01**	**331**	*e*Pn	Pn	08 23 39.4	+0.9
KHN				*e*Pg	Pn	08 23 45.6	+7.1
KHN				*e*Sn	Sn	08 24 14.7	+0.8
KHN				*e*Sg	Sn	08 24 24.3	+10
CRS	**Chara**	**3.50**	**319**	*e*Pn	Pn	08 23 46.1	+0.9
CRS				*e*Pg	Pn	08 23 54.0	+8.8
CRS				AMB	AMB	08 23 57.1	
	50nm,0.7s						
CRS				*e*Sg	Sn	08 24 41.6	+16
CRS				A		08 24 55.1	
	111nm,1.2s						
BMKR	**Bomnak**	**3.77**	**81**	*e*Pn	Pn	08 23 48.8	0.0
BMKR				*e*Pg	Pn	08 23 59.8	+11
BMKR				AMB	AMB	08 24 01.8	
	16nm,0.4s						
BMKR				pPg		08 24 06.2	
BMKR				*e*Sg	Sn	08 24 48.5	+16
BMKR				A		08 24 52.9	
	272nm,0.5s						
EKMR	**Ekimchan**	**6.38**	**97**	*e*Pn	Pn	08 24 24.2	-0.5
EKMR				AMB	AMB	08 24 27.0	
	3.0nm,0.3s						
EKMR				pPn		08 24 31.0	
EKMR				*e*Sg	Sn	08 26 10.2	+33
EKMR				A		08 26 21.6	
	20nm,0.6s						
EKMR				A		08 26 21.6	
	8.0nm,0.6s						
EKMR				A		08 26 21.6	
	13nm,0.6s						
KLR	**Kul'dur**	**7.70**	**128**	*e*rx	rx	08 26 01.6	
KLR				*e*Sg	Sn	08 26 53.0	+44

*NEIC **13** 08:22:57.1,18.67N×68.41W,h83km,MD3.5(RSPR), After RSPR.*

RSPR 13 08:22:57.1,18.67N×68.41W,h83km±4km,MD3.5/5,6C-3D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMN1	**Samana, DR**	**0.97**	**302**⇓	*e*P	Pn	08 23 15.1	-0.9
SMN1				*e*S	Sn	08 23 30.2	0.0
AGPR	**Aguadilla, PR**	**1.25**	**99**⇓	*i*P	Pn	08 23 18.7	-0.7
AGPR	**Aguadilla, PR**	**1.25**	**99**⇓	*i*P	Pn	08 23 18.7	-0.7
AGPR				*e*S	Sn	08 23 35.4	-0.7
LSP	**Las Mesas**	**1.35**	**111**	*e*Pn	Pn	08 23 20.0	-0.6
LSP				*e*Sn	Sn	08 23 43.3	+4.9
CRPR	**Cabo Rojo, PR**	**1.40**	**118**⇑	*e*P	Pn	08 23 20.2	-1.0
CRPR	**Cabo Rojo, PR**	**1.40**	**118**⇑	*e*P	Pn	08 23 20.2	-1.0
CRPR				*e*S	Sn	08 23 39.5	0.0
CRPR				*e*Sn	Sn	08 23 43.1	+3.6
LRS	**Lares**	**1.53**	**104**	*e*Pn	Pn	08 23 21.9	-1.1
LRS				*e*Sn	Sn	08 23 42.6	+0.1
HUMP	**Col San Antoni**	**2.48**	**102**⇑	*e*P	Pn	08 23 35.6	0.0
HUMP	**Col San Antoni**	**2.48**	**102**⇑	*e*P	Pn	08 23 35.6	0.0
HUMP				*e*S	Sn	08 24 05.2	+0.1
MTP	**Monte Pirata**	**2.77**	**101**⇑	*e*P	Pn	08 23 39.5	+0.1
MTP	**Monte Pirata**	**2.77**	**101**⇑	*e*P	Pn	08 23 39.5	+0.1

*ISCJB **13** 08:23:52.3±0.7,13.99N±0.07×91.51W±0.04,h68km±12km, Error ellipse: s-maj=12.4km s-min=4.8km az=27.9*
*CASC **13** 08:23:53.7±1.3,14.14N×91.39W,h69km±13km,MD3.8*
*MEX **13** 08:23:54.4±0.5,13.93N×91.51W,h30km±8km,MD4.1*

ISC 13 08:23:53.5±0.7,14.01N±0.07×91.47W±0.04,h60km±15km, n20,σ0§74/32,1C-1D,Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.35**	**333**⇑	*e*P	**Pn**	**08 24 04.9**	**+0.9**
PSG	**Pto de San Jos**	**0.66**	**95**	*e*P	**Pn**	**08 24 07.8**	**+0.5**
FUG	**Fuego 3**	**0.75**	**54**⇓	*e*P	**Pn**	**08 24 07.9**	**-0.5**
FG6		**0.79**	**46**	*e*P	**Pn**	**08 24 08.7**	**-0.3**
FG6				*e*S	**Sn**	**08 24 19.7**	**-0.6**
PCG	**Pacaya**	**0.92**	**65**	*e*P	**Pn**	**08 24 10.7**	**+0.1**
PCG				*e*S	**Sn**	**08 24 23.5**	**+0.4**
THIG		**1.18**	**319**	*i* P	**Pn**	**08 24 13.4**	**-0.5**
THIG				*i* S	**Sn**	**08 24 27.8**	**-1.4**
NBG	**Las Nubes**	**1.23**	**62**	*e*P	**Pn**	**08 24 14.9**	**+0.3**
NBG				*e*S	**Sn**	**08 24 35.2**	**+4.7**
RBDL	**Robledal**	**1.74**	**86**	*e*P	**Pn**	**08 24 20.8**	**-0.7**
RTR	**El Retiro**	**1.78**	**93**	*e*P	**Pn**	**08 24 21.8**	**-0.2**
SBLS	**San Blas**	**1.80**	**95**	*e*P	**Pn**	**08 24 22.8**	**+0.4**
SBLS				*e*S	**Sn**	**08 24 44.2**	**0.0**
CCIG	**Comitan**	**2.35**	**344**	*i* P	**Pn**	**08 24 29.8**	**0.0**
CCIG				*i* S	**Sn**	**08 24 59.0**	**+1.5**
LFRS	**El Faro**	**2.37**	**99**	*e*P	**Pn**	**08 24 30.2**	**+0.1**
PCIG		**2.39**	**315**	*i* P	**Pn**	**08 24 30.4**	**+0.1**
PCIG				*i* S	**Sn**	**08 24 58.0**	**-0.5**
SCX	**San Cristobal**	**2.94**	**338**	*e*P	**Pn**	**08 24 38.0**	**+0.2**
SCX				*i* S	**Sn**	**08 25 12.7**	**+0.8**
TGIG		**3.18**	**330**	*i* P	**Pn**	**08 24 41.6**	**+0.4**
TGIG				*i* S	**Sn**	**08 25 18.4**	**+0.5**
CMIG	**Matias Romero**	**4.50**	**313**	*i* P	**Pn**	**08 24 59.1**	**0.0**
CMIG				*i* S	**Sn**	**08 25 49.6**	**-0.5**
HUIG	**Huatulco**	**4.81**	**292**	*e*P	**Pn**	**08 25 02.9**	**-0.5**
HUIG				*i* S	**Sn**	**08 25 57.4**	**-0.6**
VHO	**Vista Hermosa**	**5.92**	**302**	*i* P	**Pn**	**08 25 19.3**	**+0.7**
VHO				*i* S	**Sn**	**08 26 24.9**	**-0.1**
PNIG	**Pinotepa**	**6.85**	**291**	*e*P	**

TRAV				Sg	**Sg**	**08 32 00.7**	**-0.1**
	16nm,0.1s							
RSP	**Reno Superiore**	**1.06**	**181**	P	**Pb**	**08 31 55.3**	**0.0**
PZZ	**Stroppo**	**1.70**	**184**	P	**Pn**	**08 32 04.9**	**+0.6**
PZZ				S	**Sn**	**08 32 23.8**	**-1.7**

ISCJB ***13*** *08:50:31.7±0.8, 35°.78N±0°.04×27°.76E±0°.04, h7km±5km, Error ellipse: s-maj=8.8km s-min=4.0km az=144.5*
DDA ***13*** *08:50:31.1, 35°.88N×27°.75E, h2km±3km, Md3.1*
ISK ***13*** *08:50:31.6, 35°.75N×27°.74E, h17km, MD3.1*
CSEM ***13*** *08:50:32.6±0.3, 35°.78N×27°.75E, h10km, MD3.5, Error ellipse: s-maj=9.0km s-min=4.6km az=146.0*
ATH ***13*** *08:50:32.0, 35°.82N×27°.71E, h17km, MD3.5/5*
ISC 13 08:50:31.8±0.9, 35°.77N±0°.05×27°.79E±0°.05, h5km±5km, n36, σ0s90/53, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.53**	**31**	*e*PN	**Pg**	**08 50 42.4**	**+0.5**
ARG				*e*SN	**Sg**	**08 50 49.9**	**+1.2**
ARG	**Arkhangelos**	**0.53**	**31**	*e*Pn	**Pg**	**08 50 42.4**	**+0.5**
KARP	**Karpathos**	**0.56**	**247**	*e*PN	**Pg**	**08 50 42.5**	**+0.1**
KARP				*e*SN	**Sg**	**08 50 49.7**	**0.0**
KARP	**Karpathos**	**0.56**	**247**	*e*Pn	**Pg**	**08 50 42.5**	**+0.1**
DAT	**Datca**	**0.98**	**350**	*e*PG	**Pg**	**08 50 51.0**	**+0.5**
DAT				*e*SG	**Sg**	**08 51 05.1**	**+1.9**
DAT	**Datca**	**0.98**	**350**	*e*Pg	**Pg**	**08 50 51.0**	**+0.5**
DAT				*e*Sg	**Sg**	**08 51 05.1**	**+1.9**
TURN	**Turunc**	**1.28**	**31**	*i* P	**Pn**	**08 50 52.5**	**-3.9**
TURN				*i* S	**Sg**	**08 51 06.6**	**-6.5**
TURN	**Turunc**	**1.28**	**31**	*i* P	**Pn**	**08 50 52.5**	**-3.9**
BODT	**Bodrum**	**1.35**	**344**	*e*PN	**Pn**	**08 50 56.5**	**-0.8**
BODT	**Bodrum**	**1.35**	**344**	*e*Pn	**Pn**	**08 50 56.5**	**-0.8**
FETY	**Fethiye**	**1.36**	**50**	*e*PN	**Pn**	**08 50 56.9**	**-0.5**
FETY				*e*SN	**Sn**	**08 51 15.4**	**-0.5**
FETY	**Fethiye**	**1.36**	**50**	*e*Pn	**Pn**	**08 50 56.9**	**-0.5**
FETY				*e*Sn	**Sn**	**08 51 15.4**	**-0.4**
YER	**Yerkesik**	**1.42**	**16**	*e*PN	**Pn**	**08 50 58.0**	**-0.3**
YER	**Yerkesik**	**1.42**	**16**	*e*Pn	**Pn**	**08 50 58.0**	**-0.3**
MLSB	**Milas**	**1.53**	**360**	*e*PN	**Pn**	**08 50 59.2**	**-0.5**
MLSB	**Milas**	**1.53**	**360**	*e*Pn	**Pn**	**08 50 59.2**	**-0.5**
AKAS	**Kas**	**1.54**	**72**	*e*P	**Pn**	**08 50 59.8**	**-0.2**
AKAS				*e*S	**Sn**	**08 51 21.6**	**+1.2**
AKAS	**Kas**	**1.54**	**72**	*e*P	**Pn**	**08 50 59.8**	**-0.2**
AKAS				*e*S	**Sn**	**08 51 21.6**	**+1.2**
NPS	**Neapolis**	**1.84**	**255**	*e*PN	**Pn**	**08 51 03.8**	**-0.3**
NPS				*e*SN	**Sn**	**08 51 27.5**	**-0.3**
NPS	**Neapolis**	**1.84**	**255**	*e*Pn	**Pn**	**08 51 03.8**	**-0.3**
NPS				*e*Sn	**Sn**	**08 51 27.5**	**-0.3**
AYDN	**Tasoluk**	**1.89**	**2**	*e*P	**Pn**	**08 51 04.7**	**0.0**
AYDN				*e*S	**Sn**	**08 51 29.3**	**+0.3**
AYDN	**Tasoluk**	**1.89**	**2**	*e*P	**Pn**	**08 51 04.7**	**0.0**
AYDN				*e*S	**Sn**	**08 51 29.3**	**+0.3**
XRY	**Khrisi**	**1.93**	**243**	*e*PN	**Pn**	**08 51 06.0**	**+0.8**
XRY	**Khrisi**	**1.93**	**243**	*e*Pn	**Pn**	**08 51 06.0**	**+0.8**
ELL	**Elmali**	**1.97**	**60**	*e*PN	**Pn**	**08 51 06.5**	**+0.7**
ELL	**Elmali**	**1.97**	**60**	*e*Pn	**Pn**	**08 51 06.5**	**+0.6**
LAST	**Lasithi**	**1.98**	**253**	*e*PN	**Pn**	**08 51 06.3**	**+0.4**
LAST	**Lasithi**	**1.98**	**253**	*e*Pn	**Pn**	**08 51 06.3**	**+0.4**
GOLH	**Golhisar**	**2.05**	**44**	*e*P	**Pn**	**08 51 08.6**	**+1.8**
GOLH				*e*S	**Sg**	**08 51 36.5**	**-1.0**
GOLH	**Golhisar**	**2.05**	**44**	*e*P	**Pn**	**08 51 08.6**	**+1.7**
GOLH				*e*S	**Sg**	**08 51 36.5**	**-1.1**
DNZL	**Cakiroluk**	**2.17**	**27**	*e*P	**Pg**	**08 51 11.4**	**-1.9**
DNZL				*e*S	**Sg**	**08 51 40.1**	**-1.4**
DNZL	**Cakiroluk**	**2.17**	**27**	*e*P	**Pg**	**08 51 11.4**	**-1.9**
DNZL				*e*S	**Sg**	**08 51 40.1**	**-1.4**
APE	**Apeiranthos**	**2.24**	**306**	*e*PN	**Pn**	**08 51 08.3**	**-1.2**
APE	**Apeiranthos**	**2.24**	**306**	*e*Pn	**Pn**	**08 51 08.3**	**-1.2**
KYTH	**Kithira**	**3.89**	**279**	*e*PN	**Pn**	**08 51 32.1**	**-0.1**
KYTH	**Kithira**	**3.89**	**279**	*e*Pn	**Pn**	**08 51 32.1**	**-0.1**

IDC 13 09:26:13.1±10.0, 5°.21S×104°.56W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.8/13, mbtmp3.5/4, MS3.9/4, Ms1 3.9/4, ms1mx3.5/20, Error ellipse: s-maj=299.2km s-min=123.3km az=118.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**24.13**	**23**	LR	LR	09 38 25.9	
	comp=Z,286nm,19.9s,baz=187,slow=30						
TXAR	**Lajitas Array**	**34.35**	**1**	P	P	09 33 01.9	+0.1
	0.2nm,0.7s,baz=189,slow=11,SNR=3.5						
LPAZ	**La Paz**	**37.37**	**110**	LR	LR	09 46 02.9	
	comp=Z,107nm,19.4s,baz=226,slow=32						
NVAR	**Mina Array Bea**	**45.26**	**345**	P	P	09 34 32.8	+0.4
	0.5nm,0.8s,baz=168,slow=9.2,SNR=3.8						
NVAR				LR	LR	09 49 02.2	
	comp=Z,175nm,21.4s,baz=122,slow=30						
PPT	**Papeete**	**45.69**	**251**	LR	LR	09 49 19.5	
	comp=Z,137nm,20.9s,baz=100,slow=30						
PDAR	**Pinedale Array**	**47.97**	**355**	P	P	09 34 53.8	+0.2
	0.6nm,0.7s,baz=186,slow=6.4,SNR=3.9						
ILAR	**Eielson Array**	**76.47**	**343**	P	P	09 38 04.4	0.0
	0.4nm,0.8s,baz=155,slow=5.6,SNR=8.0						

IDC ***13*** *09:49:45.2±0.5, 11°.12N×85°.79W, h0km, mb4.8/21, mb1 5.0/22, mb1mx4.9/27, mbtmp4.8/22, ML3.8/1, MS4.9/31, Ms1 4.9/31, ms1mx4.8/37, Error ellipse: s-maj=22.2km s-min=11.3km az=61.0*
CASC ***13*** *09:49:48.2±3.4, 10°.68N×86°.31W, h14km±15km, MD4.2, ML5.2, mb5.4(NEIC)*
ISCJB ***13*** *09:49:49.9±0.2, 10°.83N±0°.03×86°.15W±0°.02, h52km, mb5.2/236, MS5.0/44, Error ellipse: s-maj=4.3km s-min=1.7km az=28.0*
MOS ***13*** *09:49:51.6±1.3, 11°.11N×85°.94W, h53km, mb5.5/52, MS5.2/6, Error ellipse: s-maj=10.3km s-min=4.6km az=111.1*
NEIC ***13*** *09:49:51.9±0.2, 10°.84N×86°.12W, mb5.4/176, MW5.3, MD5.1(CASC), Error ellipse: s-maj=5.2km s-min=2.6km az=218.0, Moment Tensor Solution. s63 Moment tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{r\phi}$0.00; Best double couple: $M_0$1.00000×10^{17} NP1:ϕ_s141.00000°, δ48.00000°, λ81.00000°. NP2: ϕ_s334.00000°, δ42.00000°, λ100.00000°. Principal axes: T 1.0100, Plg82.0000°, Azm350.0000°; N 0.0100, Plg6.0000°, Azm146.0000°; P -1.0200, Plg2.0000°, Azm237.0000°;*
NEIC Felt at Liberia.
GCMT ***13*** *09:49:52.6±0.2, 10°.49N×86°.46W, h30km, MW5.4, Moment Tensor Solution. s90,c158; s95,c172; Moment tensor: Scale 10^{17}Nm; M_{rr}1.18±.03; $M_{\theta\theta}$-0.83±.02; $M_{\phi\phi}$-0.35±.02; $M_{r\theta}$0.95±.03; $M_{\theta\phi}$0.72±.02; $M_{r\phi}$-0.58±.03; Best double couple: $M_0$1.70000×10^{17} NP1:ϕ_s310.00000°, δ24.00000°, λ96.00000°. NP2:ϕ_s123.00000°, δ66.00000°, λ87.00000°. Principal axes: T 1.6000, Plg69.0000°, Azm27.0000°; N 0.1700, Plg3.0000°, Azm124.0000°; P -1.7700, Plg21.0000°, Azm215.0000°; Data Used: II IU IC G CN.*
BJI ***13*** *09:49:54.9, 10°.81N×86°.65W, h85km, mB5.2/18, Ms5.5/20, Ms7 5.2/19*
ISC 13 09:49:51.9±0.2, 10°.85N±0°.03×86°.07W±0°.02, h54km, h54km±1.0km: pP-P, n963, σ0s98/859, mb5.2/236, MS5.0/44, 190C-209D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRZC	**La Cruz**	**0.48**	**77**	⇓*i*P	**Pn**	**09 50 03.1**	**-0.1**
NY14	**Universidad de**	**0.57**	**110**	⇓*i*P	**Pn**	**09 50 02.4**	**-1.7**
NY14				*i* S	**Sn**	**09 50 14.8**	**+1.7**
GBS3	**Finca Las lm˜¡**	**0.61**	**96**	⇓*i*P	**Pn**	**09 50 03.4**	**-1.4**
GBS3				*i* S	**Sn**	**09 50 15.9**	**+1.9**
LAPC	**Finca la Perla**	**0.64**	**97**	⇓*i*P	**Pn**	**09 50 03.5**	**-1.5**
LAPC				*i* S	**Sn**	**09 50 16.1**	**+1.6**
GB1A	**Borinquen Arri**	**0.67**	**93**	⇓*i*P	**Pn**	**09 50 04.4**	**-0.9**
GPS1	**Guardaparques**	**0.72**	**96**	*i* P	**Pn**	**09 50 05.2**	**-0.8**
GPS1				*i* S	**Sn**	**09 50 18.8**	**+2.6**
GPS2	**Hotel Rinc˜‡n**	**0.72**	**98**	*i* P	**Pn**	**09 50 05.2**	**-0.8**
GPS2				*i* S	**Sn**	**09 50 18.6**	**+2.3**
LIM1	**Limonal**	**0.82**	**100**	*i* P	**Pn**	**09 50 06.7**	**-0.7**
LIM1				*i* S	**Sn**	**09 50 21.1**	**+2.4**
CONN	**Concepcion**	**0.84**	**32**	*e*P	**Pn**	**09 50 09.3**	**+1.7**
VCR	**Vista de Mar**	**0.84**	**149**	⇓*e*P	**Pn**	**09 50 03.4**	**-4.2**
VCR	**Vista de Mar**	**0.84**	**149**	⇓*i*P	**Pn**	**09 50 03.3**	**-4.3**
GUAB	**Guayabo de Bag**	**0.84**	**99**	*i* P	**Pn**	**09 50 06.4**	**-1.3**
GUAB				*i* S	**Sn**	**09 50 21.2**	**+2.0**
MESS	**Mesas**	**0.87**	**97**	*i* P	**Pn**	**09 50 07.8**	**-0.2**
COLC	**Colonia**	**0.88**	**102**	*i* P	**Pn**	**09 50 07.4**	**-0.6**
COLC				*i* S	**Sn**	**09 50 22.0**	**+2.1**
CUI	**Cuipilapa**	**0.92**	**102**	*i* P	**Pn**	**09 50 08.0**	**-0.5**
PTEN	**Parque Tenorio**	**1.08**	**97**	*i* P	**Pn**	**09 50 11.2**	**+0.5**
AMAS	**Alto Masis**	**1.09**	**102**	*i* P	**Pn**	**09 50 11.2**	**+0.3**
MASN	**Masaya**	**1.13**	**356**	*e*P	**Pn**	**09 50 11.7**	**+0.2**
MASN				AML	AML	09 50 39.8	
	comp=N,75μm,0.7s						
CRUN	**El Crucero**	**1.15**	**349**	*e*P	**Pn**	**09 50 12.8**	**+1.1**
TICN	**Tiantepe**	**1.19**	**353**	*e*P	**Pn**	**09 50 12.7**	**+0.4**
CHPA	**Chiripa**	**1.22**	**109**	*i* P	**Pn**	**09 50 12.0**	**-0.6**
JTS	**JuntasAbangare**	**1.23**	**117**	*e*Pn	**Pn**	**09 50 11.8**	**-1.0**
JTS				*e*Sn	**Sn**	**09 50 35.7**	**+7.2**
JTS	**JuntasAbangare**	**1.23**	**117**	*e*P	**Pn**	**09 50 11.8**	**-1.0**
JTS				*e*		09 50 35.7	
JTS	**JuntasAbangare**	**1.23**	**117**	*e*S	**Sn**	**09 50 34.4**	**+5.9**
TISN	**Laguna Tiscapa**	**1.30**	**352**	*e*P	**Pn**	**09 50 14.3**	**+0.5**
TISN				*e*S	**Sn**	**09 50 31.4**	**+1.3**
MGAN	**Managua**	**1.30**	**353**	*e*P	**Pn**	**09 50 14.1**	**+0.3**
WILN	**Americas 2**	**1.31**	**355**	*e*P	**Pn**	**09 50 14.3**	**+0.5**
XAVN	**Gruta Xavier**	**1.32**	**349**	*e*P	**Pn**	**09 50 14.1**	**+0.1**
JCR	**Jicaral**	**1.37**	**136**	*e*P	**Pn**	**09 50 12.1**	**-2.7**
JCR	**Jicaral**	**1.37**	**136**	*e*P	**Pn**	**09 50 11.9**	**-2.8**
CASO	**Castillo**	**1.38**	**107**	⇑*i*P	**Pn**	**09 50 14.1**	**-0.7**
COPN	**Copaltepe**	**1.42**	**339**	*e*P	**Pn**	**09 50 14.9**	**-0.4**
HUEN		**1.48**	**356**	*e*P	**Pn**	**09 50 16.8**	**+0.6**
MIRN	**Miramar**	**1.70**	**339**	*e*P	**Pn**	**09 50 19.6**	**+0.4**
CNGN	**Cerro Negro**	**1.75**	**340**	*e*P	**Pn**	**09 50 19.2**	**-0.7**
CGA2	**Cerro Gallo 2**	**1.79**	**117**	*e*P	**Pn**	**09 50 20.4**	**0.0**
CGA2	**Cerro Gallo 2**	**1.79**	**117**	*e*P	**Pn**	**09 50 20.4**	**0.0**
PRS1	**Puriscal**	**1.94**	**116**	*e*P	**Pn**	**09 50 21.9**	**-0.4**
CRIN	**San Cristobal**	**2.07**	**333**	*e*P	**Pn**	**09 50 23.4**	**-0.9**
CRIN				AML	AML	09 51 10.8	
	comp=N,24μm,0.5s						
SJS	**Escuela Geolog**	**2.18**	**114**	⇑*e*P	**Pn**	**09 50 26.6**	**+0.9**
SJS	**Escuela Geolog**	**2.18**	**114**	*e*P	**Pn**	**09 50 26.9**	**+1.1**
QCR	**Quepos**	**2.35**	**127**	*e*P	**Pn**	**09 50 27.8**	**-0.3**
QCR	**Quepos**	**2.35**	**127**	*e*P	**Pn**	**09 50 27.3**	**-0.8**
ICR	**Volcan Irazu**	**2.37**	**111**	⇑*e*P	**Pn**	**09 50 30.4**	**+2.0**
ICR	**Volcan Irazu**	**2.37**	**111**	*e*P	**Pn**	**09 50 30.5**	**+2.2**
URSC	**Urasca**	**2.47**	**114**	⇑*e*P	**Pn**	**09 50 30.3**	**+0.5**
URSC	**Urasca**	**2.47**	**114**	⇑*e*P	**Pn**	**09 50 30.6**	**+0.8**
BUS	**Buena Vista**	**2.62**	**119**	*e*P	**Pn**	**09 50 31.9**	**+0.2**
BUS	**Buena Vista**	**2.62**	**119**	*e*P	**Pn**	**09 50 32.4**	**+0.7**
CNCH	**Conchagua**	**2.96**	**325**	*e*P	**Pn**	**09 50 35.2**	**-1.2**
TGUH	**Tegucigalpa,Un**	**3.40**	**340**	*e*Pn	**Pn**	**09 50 42.8**	**+0.4**
TGUH	**Tegucigalpa,Un**	**3.40**	**340**	*e*P	**Pn**	**09 50 42.7**	**+0.3**
CAHU	**Cacacuatique**	**3.58**	**325**	*e*P	**Pn**	**09 50 44.2**	**-0.7**
ACR	**Cerro Adams**	**3.60**	**127**	⇑*e*P	**Pn**	**09 50 45.1**	**-0.1**
ACR	**Cerro Adams**	**3.60**	**127**	*e*P	**Pn**	**09 50 45.1**	**-0.1**
CNI	**Changuinola**	**3.78**	**112**	*e*P	**Pn**	**09 50 49.0**	**+1.3**
BRU2	**Volcan**	**3.91**	**121**	*e*P	**Pn**	**09 50 51.5**	**+2.1**
BRU	**Baru**	**4.01**	**120**	*e*P	**Pn**	**09 50 50.6**	**-0.3**
SNET	**Serv Nac Est T**	**4.18**	**313**	*e*P	**Pn**	**09 50 52.4**	**-0.8**
SBLS	**San Blas**	**4.57**	**211**	*e*P	**Pn**	**09 50 57.6**	**-0.9**
BCIP	**Isla Barro Col**	**6.37**	**105**	*e*Pn	**Pn**	**09 51 24.1**	**+1.0**
	comp=N,326nm,0.9s						
TEIG	**Tepich**	**9.56**	**347**	Pn	**Pn**	**09 52 10.4**	**+3.5**
	comp=N,2.8nm,0.3s,baz=162,slow=9.3,SNR=50						
TEIG				Sn	**Sn**	**09 53 55.3**	**+2.4**
	comp=N,0.3nm,0.3s,baz=213,slow=17,SNR=1.6						
TEIG				LR	LR	09 56 13.5	
	comp=N,20μm,19.8s,baz=165,slow=42						
TEIG	**Tepich**	**9.56**	**347**	*e*Pn	**Pn**	**09 52 09.9**	**+3.0**
	comp=N,138nm,1.0s						
CMIG	**Matias Romero**	**10.56**	**307**	Pn	**Pn**	**09 52 26.9**	**+6.3**
	comp=N,9.0nm,0.3s,baz=144,slow=12,SNR=14						
CMIG				Sn	**Sn**	**09 54 30.9**	**+13**
	comp=N,1.3nm,0.3s,baz=226,slow=19,SNR=2.4						
CMIG	**Matias Romero**	**10.56**	**307**	Pn	**Pn**	**09 52 26.9**	**+6.3**
CMIG				Sn	**Sn**	**09 54 30.9**	**+13**
PCJ	**Portland Cotta**	**11.03**	**51**	*i* P	**Pn**	**09 52 33.2**	**+6.3**
MTDJ	**Mount Denham**	**11.05**	**47**	Pn	**Pn**	**09 52 33.2**	**+5.9**
	comp=N,1μm,1.5s						
BBJ	**Bamboo Saint A**	**11.34**	**48**	*i* P	**Pn**	**09 52 40.0**	**+8.7**
STH	**Stony Hill**	**11.49**	**50**	*i* P	**Pn**	**09 52 39.8**	**+6.5**
HOJ	**Hope**	**11.49**	**51**	*i* P	**Pn**	**09 52 40.3**	**+7.0**
GWJ	**Greenwich**	**11.55**	**50**	*i* P	**Pn**	**09 52 40.8**	**+6.7**
YHJ	**Yallahs**	**11.62**	**52**	⇑*i*P	**Pn**	**09 52 42.5**	**+7.4**
SOR	**Soroa**	**12.23**	**13**	*e*P	**Pn**	**09 52 49.4**	**+6.0**
SOR				*e*S	**Sn**	**09 55 14.9**	**+17**
	comp=N,2.8nm,3.8s						
SOR				*e*			
	comp=E,2.7nm,2.9s						
LMGC	**Las Mercedes**	**12.66**	**43**	*e*P	**Pn**	**09 52 53.8**	**+4.6**
LMGC				*e*S	**Sn**	**09 55 27.2**	**+19**
	comp=N,5μm,17.3s						
LMGC				*e*			
	comp=E,7μm,19.0s						
OTAV	**Otavalo**	**12.98**	**144**	*e*Pn	**Pn**	**09 52 54.1**	**+0.4**
	comp=E,41nm,1.1s						
ROSC	**El Rosal**	**13.06**	**116**	Pn	**Pn**	**09 52 58.8**	**+4.0**
	comp=E,1.7nm,0.3s,baz=90,slow=20,SNR=2.1						
ROSC				Sn	**Sn**	**09 55 35.9**	**+17**
	comp=E,1.9nm,0.3s,baz=99,slow=19,SNR=2.0						
ROSC				LR	LR	09 57 30.6	
	comp=E,4μm,20.6s,baz=335,slow=36						
ROSC	**El Rosal**	**13.06**	**116**	*e*Pn	**Pn**	**09 52 54.7**	**-0.2**
ROSC				Pn	**Pn**	**09 52 58.8**	**+4.0**
ROSC				Sn	**Sn**	**09 55 35.9**	**+17**
ROSC				LR	LR	09 57 30.6	
HLJC	**Holguin**	**13.87**	**43**	*e*P	**Pn**	**09 53 08.7**	**+3.0**
GTBY	**Guantanamo Bay**	**13.89**	**48**	*e*Pn	**Pn**	**09 53 08.9**	**+2.8**
	comp=E,301nm,1.3s						
MOAC	**Moa**	**14.47**	**46**	*e*P	**Pn**	**09 53 18.5**	**+4.8**
MASC	**Masc**	**14.70**	**49**	*e*P	**Pn**	**09 53 21.3**	**+4.6**
SDV	**Santo Domingo**	**15.34**	**96**	*e*Pn	**Pn**	**09 53 26.9**	**+1.8**
	comp=E,66nm,0.9s						
SDDR	**Presa de Saban**	**16.41**	**59**	Pn	**Pn**	**09 53 39.3**	**+0.7**
	comp=E,455nm,1.8s						
ATAH	**Atahualpa**	**19.43**	**157**	P	**Pn**	**09 54 16.2**	**+0.6**
	comp=E,0.3nm,0.3s,baz=3.2,slow=5.9,SNR=12						
ATAH				LR	LR	10 00 53.4	
	comp=E,9μm,18.4s,baz=157,slow=34						
CRPR	**Cabo Rojo, PR**	**19.69**	**67**	*e*P	**Pn**	**09 54 18.7**	**+0.1**
	comp=E,24nm,0.8s						
LSP	**Las Mesas**	**19.76**	**66**	*e*P	**Pn**	**09 54 19.1**	**-0.4**
AGPR	**Aguadilla, PR**	**19.84**	**65**	*e*P	**Pn**	**09 54 19.6**	**-0.8**
	comp=E,109nm,0.8s						
KVTX	**Kingsville**	**19.98**	**328**	*e*P	**Pn**	**09 54 20.9**	**-1.1**
	comp=E,157nm,0.9s						
LRS	**Lares**	**20.02**	**66**	*e*P	**P**	**09 54 22.2**	**+1.9**
BRAL	**Brewton**	**20.08**	**358**	*e*P	**P**	**09 54 23.3**	**+2.3**
	comp=E,320nm,0.9s						
OBIP	**Obispado Ponce**	**20.15**	**67**	*e*P	**P**	**09 54 22.1**	**+0.3**
	comp=E,186nm,1.2s						
ICM	**Isla Caja Muer**	**20.18**	**67**	*e*P	**P**	**09 54 24.4**	**+2.2**
CELP	**Cerrillos**	**20.19**	**67**	*e*P	**P**	**09 54 24.1**	**+1.9**
SJG	**San Juan**	**20.59**	**67**	P	**P**	**09 54 26.6**	**+0.1**
	comp=E,49nm,0.7s,baz=245,slow=5.7,SNR=13						
SJG				LR	LR	10 00 44.7	
	comp=E,2μm,21.1s,MS4.3,baz=246,slow=33						
SJG	**San Juan**	**20.59**	**67**	P	**P**	**09 54 26.6**	**+0.1**
SJG				LR	LR	10 00 44.7	
SJG	**San Juan**	**20.59**	**67**	P	**P**	**09 54 26.6**	**+0.1**
CBYP	**Canovanas**	**20.90**	**67**	*e*P	**P**	**09 54 31.1**	**+1.2**
	comp=E,84nm,1.0s						
HKT	**Hockley**	**21.07**	**336**	*e*P	**P**	**09 54 33.5**	**+1.8**
	comp=E,1.5nm,1.5s						
HKT	**Hockley**	**21.07**	**336**	*e*P	**P**	**09 54 33.5**	**+1.9**
HKT				pmax	pmax		
	comp=Z,2.0nm,1.5s						
MTP	**Monte Pirata**	**21.12**	**68**	*e*P	**P**	**09 54 34.6**	**+2.2**
	comp=Z,112nm,1.0s,mb5.2						
VBMS	**Vicksburg**	**21.66**	**350**	*e*P	**P**	**09 54 38.7**	**+0.8**
	comp=Z,527nm,1.2s,mb5.8						
STVI	**Saint Thomas**	**21.74**	**68**	*e*P	**P**	**09 54 42.4**	**+3.5**
	comp=Z,128nm,1.1s,mb5.3						
NATX	**Nacogdoches**	**22.27**	**340**	*e*P	**P**	**09 54 44.1**	**-0.4**
	comp=Z,522nm,1.1s,mb5.9						
GOGA	**Godfrey**	**22.58**	**6**	*e*P	**P**	**09 54 49.2**	**+1.4**
	comp=Z,300nm,1.3s,mb5.6						
GOGA	**Godfrey**	**22.58**	**6**	*e*P	**P**	**09 54 49.2**	**+1.5**
GOGA				pmax	pmax		
	comp=Z,300nm,1.3s,mb5.6						
NHSC	**New Hope**	**22.81**	**13**	*e*P	**P**	**09 54 53.6**	**+3.5**
	comp=Z,238nm,1.1s,mb5.5						
COW	**Cow Castle Cre**	**22.96**	**12**	*e*P	**P**	**09 54 54.4**	**+2.6**
JCT	**Junction City**	**23.33**	**329**	⇓P	**P**	**09 54 53.9**	**-1.6**
	baz=23						
JCT	**Junction City**	**23.33**	**329**	*e*P	**P**	**09 54 53.7**	**-1.8**
	comp=Z,128nm,0.9s,mb5.3						
JCT	**Junction City**	**23.33**	**329**	*e*P	**P**	**09 54 53.7**	**-1.8**
JCT				pmax	pmax		
	comp=Z,128nm,0.9s,mb5.3						
JSC	**Jenkinsville**	**23.74**	**10**	*e*P	**P**	**09 55 00.8**	**+1.6**
JSC	**Jenkinsville**	**23.74**	**10**	*e*P	**P**	**09 55 00.8**	**+1.6**
OXF	**Oxford**	**23.75**	**353**	*e*P	**P**	**09 54 58.4**	**-0.9**
	comp=Z,637nm,1.0s,mb6.0						
OXF	**Oxford**	**23.75**	**353**	*e*P	**P**	**09 54 58.4**	**-0.9**
OXF				pmax	pmax		
	comp=Z,637nm,1.0s,mb6.0						
PLAL	**Pickwick Lake**	**24.09**	**356**	*e*P	**P**	**09 55 01.5**	**-0.9**
	comp=Z,186nm,1.0s,mb5.5						
RFTA	**Plano**	**24.12**	**338**	*e*P	**P**	**09 55 02.2**	**-0.5**
SWET	**Sewanee**	**24.26**	**0**	*e*P	**P**	**09 55 04.2**	**+0.3**
	comp=Z,76nm,0.7s,mb5.2						
TBG	**Guadaloupe-3**	**24.27**	**76**	*e*P	**P**	**09 55 06.0**	**+1.8**
BPA	**Boggy Peak**	**24.28**	**73**	*e*P	**P**	**09 55 03.7**	**-0.6**
NNA	**Nana**	**24.47**	**158**	P	**P**	**09 55 07.7**	**+1.7**
	comp=Z,10.0nm,0.9s,mb4.2,baz=5.2,slow=9.7,SNR=6.0						
NNA				LR	LR	10 03 43.4	
	comp=Z,2μm,19.5s,MS4.6,baz=246,slow=34						
NNA	**Nana**	**24.47**	**158**	P	**P**	**09 55 07.8**	**+1.7**
NNA				LR	LR	10 03 43.4	
NNA	**Nana**	**24.47**	**158**	P	**P**	**09 55 07.8**	**+1.8**
	comp=Z,168nm,0.8s,mb5.6						
ANWB	**Willy Bob**	**24.48**	**71**	*e*P	**P**	**09 55 07.5**	**+1.4**
	comp=Z,113nm,1.0s,mb5.2						
UALR	**University of**	**24.49**	**347**	*e*P	**P**	**09 55 05.4**	**-0.6**
	comp=Z,206nm,0.8s,mb5.6						
CPCT	**Cooper Cave**	**24.53**	**3**	*e*P	**P**	**09 55 06.2**	**-0.2**
MIAR	**Mount Ida**	**24.56**	**345**	*e*P	**P**	**09 55 05.2**	**-1.5**
	comp=Z,168nm,0.8s,mb5.6						
MIAR	**Mount Ida**	**24.56**	**345**	*e*P	**P**	**09 55 05.2**	**-1.5**
MIAR				pmax	pmax		
	comp=Z,168nm,0.8s,mb5.6						
KMSC	**Kings Mountain**	**24.57**	**9**	⇑P	**P**	**09 55 07.2**	**+0.5**
	baz=25,SNR=23						
627A	**Terlingua Ranc**	**24.57**	**321**	⇓P	**P**	**09 55 06.3**	**-0.6**
	baz=25,SNR=96						
FDF	**Fort de France**	**24.60**	**78**	*e*P	**P**	**09 55 07.6**	**+0.3**
	comp=Z,54nm,0.8s,mb5.1						
FDF	**Fort de France**	**24.60**	**78**	*e*P	**P**	**09 55 07.6**	**+0.3**
FDF				pmax	pmax		
	comp=Z,54nm,0.8s,mb5.1						
FDF	**Fort de France**	**24.60**	**78**	*e*P	**P**	**09 55 07.4**	**+0.1**
BIM	**Bigot**	**24.66**	**79**	*e*P	**P**	**09 55 08.5**	**+0.7**
TXAR	**Lajitas Array**	**24.66**	**321**	P	**P**	**09 55 07.2**	**-0.4**
	comp=Z,67nm,0.8s,mb5.2,baz=141,slow=8.1,SNR=360						
TXAR				PcP	PcP	09 58 46.1	+2.1
	comp=Z,15nm

baz=28,SNR=12
AMTX Amarillo 27.84 332 *e*P P **09 55 35.5 -0.8**
comp=Z,162nm,1.2s,mb5.5
AMTX *e*PcP PcP 09 58 53.3 +2.0
SLM Saint Louis 27.92 353 *e*P P **09 55 36.4 -0.5**
comp=Z,96nm,1.0s,mb5.4
SLM *e*PcP PcP 09 58 52.5 +1.1
SLM Saint Louis 27.92 353 *e*P P **09 55 36.4 -0.5**
SLM *e* 09 58 52.5
SLM pmax pmax
comp=Z,97nm,1.0s,mb5.4
124A Stringfield Ra 28.13 324 ⇓P P **09 55 38.9 0.0**
baz=28,SNR=81
Z25A Roswell 28.13 325 ⇑P P **09 55 38.5 -0.4**
baz=28
Y26A Elida 28.14 327 ⇓P P **09 55 37.9 -1.0**
baz=28,SNR=20
BLO Bloomington 28.21 359 *e*P P **09 55 38.9 -0.6**
comp=Z,75nm,0.8s,mb5.4
BLO *e*PcP PcP 09 58 53.3 +1.2
BLO Bloomington 28.21 359 *e*P P **09 55 38.9 -0.6**
BLO *e* 09 58 53.3
BLO pmax pmax
comp=Z,75nm,0.8s,mb5.4
223A Chaparral, Ant 28.22 321 ⇓P P **09 55 38.5 -1.2**
baz=28
X27A F and S Farms, 28.33 329 ⇓P P **09 55 39.3 -1.3**
baz=28,SNR=13
CBN Corbin 28.33 15 *e*P P **09 55 41.9 +1.3**
comp=Z,148nm,1.1s,mb5.5
Z24A Sheeppen Canyo 28.53 325 ⇑P P **09 55 42.9 +0.4**
baz=29,SNR=59
123A Bell Site, Whi 28.56 322 ⇑P P **09 55 42.9 +0.2**
baz=29,SNR=7.2
Y25A Mesa, Roswell 28.60 326 ⇓P P **09 55 42.7 -0.4**
baz=29,SNR=31
X26A CR and CF Fran 28.61 328 ⇑P P **09 55 42.7 -0.5**
baz=29,SNR=11
W27A Bowe Ranch, En 28.64 330 ⇑P P **09 55 42.3 -1.2**
baz=29,SNR=24
222A Williams Famil 28.70 321 ⇓P P **09 55 43.6 -0.5**
baz=29
Z23A Rita Site, Whi 28.98 323 ⇑P P **09 55 46.1 -0.4**
baz=29
W26A Owens Ranch, T 29.01 329 ⇓P P **09 55 45.9 -0.8**
baz=29,SNR=5.5
Y24A Capitan 29.01 325 ⇑P P **09 55 46.5 -0.2**
baz=29,SNR=63
X25A Clemmons Ranch 29.04 327 ⇑P P **09 55 46.2 -0.8**
baz=29,SNR=22
122A Conniff Cattle 29.05 322 ⇓P P **09 55 47.1 +0.1**
baz=29
221A Mesquite Ranch 29.07 320 ⇓P P **09 55 48.0 +0.7**
baz=29,SNR=9.7
BBSR BB Station 29.11 39 *e*P P **09 55 49.5 +1.9**
comp=Z,77nm,0.8s,mb5.5
MCWV Mont Chateau 29.22 10 *e*P P **09 55 49.6 +1.1**
comp=Z,36nm,0.8s,mb5.2
ACSO Alum Creek Sta 29.39 5 *e*P P **09 55 50.1 +0.1**
comp=Z,136nm,0.7s,mb5.8
Z22A Elephant Butte 29.41 323 ⇑P P **09 55 50.6 +0.3**
baz=29,SNR=29
121A Cookes Peak, D 29.42 320 ⇓P P **09 55 51.1 +0.8**
baz=29,SNR=26
SFIN Scholer Farm 29.43 358 ⇑P P **09 55 49.3 -1.0**
baz=30,SNR=40
W25A X Bar L Ranch, 29.47 328 ⇓P P **09 55 50.1 -0.6**
baz=30,SNR=32
220A Playas Peak, P 29.48 319 ⇑P P **09 55 51.5 +0.6**
baz=30,SNR=20
X24A Lazy VL Ranch, 29.49 326 ⇓P P **09 55 50.6 -0.3**
baz=30,SNR=8.1
V26A Tequesquite Ra 29.58 330 ⇓P P **09 55 50.8 -0.9**
baz=30,SNR=25
SDMD Soldier's Deli 29.61 15 *e*P P **09 55 53.1 +1.2**
comp=Z,73nm,1.0s,mb5.4
SDMD *e*PcP PcP 09 58 56.7 +1.1
319A Douglas 29.64 317 ⇓P P **09 55 53.1 +0.8**
baz=30,SNR=9.1
KSU1 Kansas State U 29.66 343 *e*P P **09 55 51.0 -1.5**
comp=Z,197nm,1.3s,mb5.7
KSU1 *e*PcP PcP 09 58 57.0 +1.2
BNM Barren Site 29.85 324 *e*P P **09 55 54.4 +0.3**
comp=Z,52nm,1.2s,mb5.1
BNM *e*PcP PcP 09 58 59.5 +3.1
Z21A St. Cloud Mine 29.88 322 ⇑P P **09 55 54.5 +0.1**
baz=30
Y22A Socorro 29.89 324 ⇓P P **09 55 54.9 +0.4**
baz=30,SNR=65
X23A Hourglass Bar 29.91 325 ⇓P P **09 55 54.5 -0.2**
baz=30
W24A Lazy 6 Ranch, 29.96 327 ⇓P P **09 55 55.1 0.0**
baz=30,SNR=9.5
120A U Bar Ranch, L 29.96 320 ⇑P P **09 55 55.9 +0.7**
baz=30,SNR=16
Y22D IRIS PASSCAL I 29.97 324 ⇓P P **09 55 55.9 +0.7**
baz=30
LPM Los Pinos Moun 29.97 324 *e*P P **09 55 55.7 +0.5**
comp=Z,15nm,0.8s,mb4.8
LPM *e*PcP PcP 09 58 59.5 +2.8
219A White Tail Can 30.02 318 ⇑P P **09 55 55.8 +0.2**
baz=30,SNR=9.9
V25A Rancho No Teng 30.03 329 ⇓P P **09 55 55.8 0.0**
baz=30,SNR=19
U26A Atchley Ranch, 30.04 331 ⇓P P **09 55 55.4 -0.4**
baz=30,SNR=21
LENM Lemitar 30.06 324 *e*P P **09 55 58.1 +2.0**
comp=Z,34nm,1.0s,mb5.0
V24A Rampart Ranch, 30.28 328 ⇓P P **09 55 57.7 -0.2**
baz=30,SNR=12
W23A Werner Place, 30.32 326 ⇑P P **09 55 58.5 +0.2**
baz=30,SNR=33
LAZ Ladron 30.33 324 *e*P P **09 55 58.9 +0.6**
comp=Z,20nm,1.1s,mb4.8
LAZ *e*PcP PcP 09 59 00.0 +2.4
ANMO Albuquerque 30.34 325 P P **09 55 59.5 +1.0**
comp=Z,19nm,0.9s,mb4.8,baz=135,slow=6.5,SNR=75
ANMO PcP PcP 09 59 00.4 +2.8
comp=Z,6.9nm,0.9s,baz=138,slow=5.2,SNR=3.2
ANMO Albuquerque 30.34 325 *e*P P **09 55 58.4 0.0**
comp=Z,18nm,0.8s,mb4.8
ANMO P 09 55 59.5
ANMO *e*PcP PcP 09 59 00.3 +2.7
ANMO PcP PcP 09 59 00.4 +2.8
ANMO Albuquerque 30.34 325 *e*P P **09 55 58.4 -0.1**
ANMO *e* 09 59 00.3
ANMO pmax pmax
comp=Z,18nm,0.8s
Y21A Point of Rocks 30.36 323 ⇑P P **09 55 59.4 +0.7**
baz=30,SNR=19
U25A Circle Dot Ran 30.36 330 ⇑P P **09 55 58.4 -0.3**
baz=30,SNR=11
CBKS Cedar Bluff 30.41 339 ⇓P P **09 55 59.3 +0.3**
baz=30,SNR=6.1
CBKS Cedar Bluff 30.41 339 *e*P P **09 55 57.7 -1.2**
comp=Z,43nm,1.0s,mb5.1
CBKS *e*ScP ScP 10 02 40.1 +4.3
CBKS Cedar Bluff 30.41 339 *e*P P **09 55 57.7 -1.3**
CBKS *e* 10 02 40.1
CBKS pmax pmax
comp=Z,43nm,1.0s,mb5.1
218A Dragoon 30.52 317 ⇓P P **09 56 00.9 +0.8**
baz=30
SSPA Standing Stone 30.54 12 *e*P P **09 56 01.0 +0.8**
comp=Z,50nm,0.9s,mb5.3
W22A Albuquerque 30.65 325 ⇑P P **09 56 01.8 +0.5**
baz=31,SNR=21
Y20A Horse Springs, 30.72 322 ⇓P P **09 56 02.7 +0.9**
baz=31,SNR=46
V23A Ortiz Mt. (NFS 30.78 327 ⇓P P **09 56 02.9 +0.6**
baz=31,SNR=14
U24A Moreno Valley 30.81 329 ⇓P P **09 56 03.1 +0.5**
baz=31,SNR=12
Z19A T-Link Ranch, 30.85 320 ⇓P P **09 56 03.9 +0.8**
baz=31
118A Homack Ranch, 30.89 318 ⇑P P **09 56 03.9 +0.5**
baz=31,SNR=11
217A Green Valley 30.92 316 ⇓P P **09 56 04.7 +1.1**
baz=31,SNR=26
T25A Trinidad 30.95 331 ⇑P P **09 56 04.1 +0.2**
baz=31,SNR=17
ALLY Alegheny Colle 31.12 9 *e*P P **09 56 05.9 +0.6**
comp=Z,126nm,1.1s,mb5.7
W21A San Fidel 31.13 324 ⇓P P **09 56 05.8 +0.4**
baz=31
Z18A Geronimo 31.21 319 ⇓P P **09 56 06.8 +0.6**
baz=31,SNR=9.5

T24A Torres, Weston 31.21 330 ⇓P P **09 56 06.1 -0.1**
baz=31,SNR=9.6
U23A El Rito 31.22 328 ⇑P P **09 56 06.6 +0.4**
baz=31,SNR=62
X20A Quemado 31.22 323 ⇑P P **09 56 07.2 +0.9**
baz=31,SNR=12
TUC Tucson 31.22 317 *e*P P **09 56 06.8 +0.5**
comp=Z,23nm,1.1s,mb4.9
TUC Tucson 31.22 317 *e*P P **09 56 06.8 +0.5**
TUC pmax pmax
comp=Z,23nm,1.1s,mb4.9
V22A San Miguel Ran 31.30 326 ⇑P P **09 56 07.2 +0.3**
baz=31
117A Oracle 31.35 317 ⇓P P **09 56 07.3 -0.1**
baz=31,SNR=5.0
S25A Robets Cordova 31.38 331 ⇓P P **09 56 07.5 -0.1**
baz=31,SNR=11
AAM Ann Arbor 31.40 3 *e*P P **09 56 07.8 0.0**
comp=Z,116nm,1.2s,mb5.6
AAM Ann Arbor 31.40 3 *e*P P **09 56 07.8 +0.1**
AAM pmax pmax
comp=Z,116nm,1.2s,mb5.6
216A Three Points, 31.50 316 ⇑P P **09 56 09.2 +0.4**
baz=32,SNR=13
SCIA State Center 31.57 350 *e*P P **09 56 08.4 -0.8**
comp=Z,216nm,1.4s,mb5.8
SCIA *e*PcP PcP 09 59 02.4 +1.7
ERPA Erie 31.60 9 *e*P P **09 56 10.0 +0.5**
comp=Z,126nm,0.9s,mb5.8
ERPA *e*pP pP 09 56 22.9 -0.2
U22A Llaves 31.61 327 ⇑P P **09 56 10.3 +0.7**
baz=32,SNR=13
V21A Milan 31.62 325 ⇓P P **09 56 10.4 +0.6**
baz=32,SNR=24
X19A St. Johns 31.62 322 ⇓P P **09 56 10.2 +0.4**
baz=32,SNR=38
W20A Ramah 31.63 323 ⇓P P **09 56 10.2 +0.3**
baz=32,SNR=22
Y18A Canyon Day Jun 31.66 320 ⇓P P **09 56 10.3 +0.2**
baz=32,SNR=30
T23A Casias Ranch, 31.68 329 ⇓P P **09 56 10.5 +0.3**
baz=32,SNR=16
R25A Fountain Ranch 31.70 332 ⇓P P **09 56 10.6 +0.1**
baz=32
S24A Houchin Ranch, 31.74 330 ⇓P P **09 56 11.1 +0.3**
baz=32,SNR=14
PAL Palisades 31.90 18 *e*P P **09 56 13.2 +1.2**
comp=Z,158nm,1.5s,mb5.6
PAL *e*pP pP 09 56 26.5 +0.6
PAL Palisades 31.90 18 *e*P P **09 56 13.3 +1.2**
PAL *e**PP pP 09 56 26.5 +0.7
PAL pmax pmax
comp=Z,158nm,1.5s,mb5.6
SDCO Great Sand Dun 31.96 330 ⇑P P **09 56 13.2 +0.4**
baz=32,SNR=45
SDCO Great Sand Dun 31.96 330 *e*P P **09 56 12.9 +0.1**
comp=Z,33nm,1.0s,mb5.1
SDCO *e*PcP PcP 09 59 04.4 +2.5
116A Eloy 32.00 316 ⇑P P **09 56 13.0 0.0**
baz=32,SNR=24
U21A Nageezi 32.08 326 ⇑P P **09 56 14.6 +0.8**
baz=32,SNR=17
V20A Brimhall 32.08 324 ⇓P P **09 56 14.3 +0.5**
baz=32,SNR=6.3
X18A Snowflake 32.10 321 ⇑P P **09 56 14.7 +0.7**
baz=32,SNR=42
T22A Edith 32.11 328 ⇓P P **09 56 14.6 +0.6**
baz=32,SNR=11
Y17A Roosevelt 32.12 319 ⇑P P **09 56 14.7 +0.5**
baz=32,SNR=9.5
W19A Sanders 32.15 322 ⇑P P **09 56 14.7 +0.3**
baz=32,SNR=16
JFWS Jewell Farm 32.15 354 *e*P P **09 56 13.2 -1.1**
comp=Z,86nm,0.7s,mb5.7
JFWS Jewell Farm 32.15 354 *e*P P **09 56 13.2 -1.1**
JFWS pmax pmax
comp=Z,86nm,0.7s,mb5.7
R24A Sanders Place, 32.16 331 ⇓P P **09 56 14.5 +0.1**
baz=32,SNR=7.7
S23A Nye Farm, Mont 32.18 329 ⇓P P **09 56 15.2 +0.5**
baz=32,SNR=5.4
BGNE Belgrade 32.24 343 ⇑P P **09 56 14.2 -0.9**
baz=32
Z16A Peralta Trail, 32.28 318 ⇓P P **09 56 15.6 0.0**
baz=32,SNR=6.4
LPAZ La Paz 32.28 146 P P **09 56 17.4 +1.7**
comp=Z,15nm,1.2s,mb4.7,baz=13,slow=2.9,SNR=11
LPAZ PcP PcP 09 59 07.9 +4.8
comp=Z,5.2nm,0.9s,baz=360,slow=8.9,SNR=3.5
LPAZ LR LR 10 10 01.6
comp=Z,3μm,19.7s,MS5.0,baz=170,slow=38
LPAZ La Paz 32.28 146 P P **09 56 17.4 +1.7**
LPAZ PcP PcP 09 59 07.9 +4.8
LPAZ LR LR 10 10 01.6
LPAZ La Paz 32.28 146 P P **09 56 17.4 +1.7**
LPAZ 09 59 07.9
Q25A Bedland, Calha 32.31 333 ⇓P P **09 56 15.4 -0.4**
baz=32,SNR=15
V19A Window Rock 32.36 324 ⇓P P **09 56 16.9 +0.7**
baz=32,SNR=9.0
W18A Petrified Fore 32.36 322 ⇓P P **09 56 16.9 +0.6**
baz=32,SNR=25
214A Organ Pipe Nat 32.41 314 ⇓P P **09 56 17.5 +0.7**
baz=32,SNR=14
T21A Navajo Lake 32.43 327 ⇑P P **09 56 17.6 +0.8**
baz=32,SNR=17
BINY Binghamton 32.45 14 *e*P P **09 56 17.8 +0.8**
comp=Z,77nm,0.8s,mb5.6
BINY *e*pP pP 09 56 31.3 +0.6
YLE Yale 32.48 19 *e*P P **09 56 18.4 +1.2**
comp=Z,23nm,0.6s,mb5.2
YLE *e*pP pP 09 56 31.7 +0.8
X17A Forest Lakes 32.51 320 ⇑P P **09 56 18.6 +1.1**
baz=32,SNR=11
U20A Newcomb 32.52 325 ⇑P P **09 56 18.3 +0.6**
baz=33,SNR=11
S22A 4UR Ranch, Cre 32.63 329 ⇑P P **09 56 18.8 +0.2**
baz=33,SNR=21
Y16A Circle Bar Ran 32.65 319 ⇓P P **09 56 19.6 +0.8**
baz=33,SNR=16
Z15A Gila River Ind 32.74 317 ⇓P P **09 56 19.8 +0.2**
baz=33
Q24A Divide 32.76 332 ⇑P P **09 56 19.6 -0.1**
baz=33
P25A Willow Gulch B 32.77 334 ⇓P P **09 56 19.1 -0.7**
baz=33,SNR=12
U19A Dine' College, 32.86 324 ⇑P P **09 56 20.4 -0.2**
baz=33,SNR=55
V18A Ganado 32.88 323 ⇑P P **09 56 20.8 0.0**
baz=33,SNR=14
114A Black Gap (USA 32.91 316 ⇑P P **09 56 21.4 +0.3**
baz=33,SNR=18
W17A Winslow 32.93 321 ⇓P P **09 56 22.1 +0.8**
baz=33
X16A Lo Mia Camp, P 32.96 319 ⇓P P **09 56 21.4 -0.1**
baz=33,SNR=16
Q23A Hartsel 33.04 331 ⇑P P **09 56 21.7 -0.4**
baz=33
S21A Coal Bank Pass 33.06 327 ⇓P P **09 56 22.3 -0.1**
baz=33,SNR=21
P24A Kohler Place, 33.10 333 ⇑P P **09 56 22.6 0.0**
baz=33
MVCO Mesa Verde 33.11 326 ⇓P P **09 56 22.7 -0.1**
baz=33,SNR=32
MVCO Mesa Verde 33.11 326 *e*P P **09 56 23.2 +0.4**
comp=Z,42nm,0.9s,mb5.4
MVCO *e*PcP PcP 09 59 07.4 +2.3
OGNE Ogallala 33.12 338 ⇑P P **09 56 22.3 -0.5**
baz=33,SNR=9.0
OGNE Ogallala 33.12 338 *e*P P **09 56 22.9 +0.1**
comp=Z,76nm,1.0s,mb5.6
T19A Beclabito 33.13 325 ⇑P P **09 56 23.2 +0.2**
baz=33,SNR=34
O25A Wiggins 33.25 334 ⇑P P **09 56 23.8 -0.1**
baz=33
Y15A Casa Rosa Ranc 33.25 318 ⇓P P **09 56 24.7 +0.6**
baz=33,SNR=13
Z14A Wintersburg 33.31 316 ⇓P P **09 56 25.5 +0.9**
baz=33,SNR=10.0
V17A Tonalea, Kykot 33.34 322 ⇑P P **09 56 25.5 +0.7**
baz=33,SNR=65
W16A Flagstaff 33.45 320 ⇓P P **09 56 26.5 +0.7**
baz=34
R21A Cimarron 33.47 329 ⇓P P **09 56 26.4 +0.5**
baz=34
BRYW Bryant College 33.47 20 *e*P P **09 56 27.9 +2.0**
comp=Z,41nm,1.0s,mb5.3

S20A Disappointment 33.49 327 ⇑P P **09 56 26.8 +0.7**
baz=34,SNR=23
Q22A Crested Butte, 33.53 330 ⇑P P **09 56 26.9 +0.5**
baz=34,SNR=23
QUA2 Belchertown 33.53 19 *e*P P **09 56 27.4 +1.0**
comp=Z,95nm,1.2s,mb5.6
TRY Troy 33.56 17 *e*P P **09 56 26.5 -0.1**
comp=Z,112nm,1.0s,mb5.8
TRY *e*pP pP 09 56 40.7 +0.4
WUAZ Wupatki 33.62 321 ⇓P P **09 56 28.2 +0.9**
baz=34,SNR=34
WUAZ Wupatki 33.62 321 *e*P P **09 56 28.2 +0.9**
comp=Z,64nm,1.1s,mb5.5
WUAZ *e*PcP PcP 09 59 08.8 +2.3
ISCO Idaho Springs 33.65 332 ⇓P P **09 56 27.4 0.0**
baz=34,SNR=8.7
ISCO Idaho Springs 33.65 332 *e*P P **09 56 27.9 +0.5**
comp=Z,18nm,1.0s,mb5.0
ISCO Idaho Springs 33.65 332 *e*P P **09 56 27.9 +0.5**
ISCO pmax pmax
comp=Z,18nm,1.0s,mb5.0
O24A Longmont 33.67 333 ⇑P P **09 56 27.5 -0.1**
baz=34,SNR=8.1
Y14A Wickenburg 33.69 317 ⇓P P **09 56 28.1 +0.2**
baz=34,SNR=16
R20A Redvale 33.77 327 ⇓P P **09 56 29.3 +0.8**
baz=34,SNR=12
SMCO Snowmass 33.80 330 *e*P P **09 56 28.9 +0.1**
comp=Z,33nm,1.0s,mb5.2
SMCO *e*PcP PcP 09 59 09.8 +2.8
SMCO *e*ScP ScP 10 02 54.0 +6.6
N25A Grover 33.82 335 ⇑P P **09 56 28.3 -0.6**
baz=34
PV01 Paradox Valley 33.83 327 *e*P P **09 56 29.6 +0.5**
comp=Z,2μm,1.1s
T18A Mexican Hat 33.83 325 ⇑P P **09 56 29.2 +0.2**
baz=34,SNR=39
Q21A Lamborn Mesa, 33.84 329 ⇑P P **09 56 29.2 +0.1**
baz=34,SNR=9.6
S19A Harvey Farm, M 33.85 326 ⇓P P **09 56 29.7 +0.5**
baz=34,SNR=30
GLMI Grayling 33.88 2 *e*P P **09 56 28.4 -1.0**
comp=Z,174nm,0.8s,mb6.0
GLMI *e*pP pP 09 56 41.4 -1.7
U16A Tuba City 33.89 322 ⇓P P **09 56 30.5 +1.0**
baz=34,SNR=106
U17A Shonto 33.91 323 ⇑P P **09 56 30.7 +0.9**
baz=34,SNR=12
WES Weston 33.96 20 *e*P P **09 56 30.3 +0.2**
comp=Z,95nm,1.3s,mb5.6
WES Weston 33.96 20 *e*P P **09 56 30.3 +0.2**
WES pmax pmax
comp=Z,95nm,1.3s,mb5.6
HRV Adam Dziewonsk 33.99 19 *e*P P **09 56 31.4 +1.0**
comp=Z,31nm,1.3s,mb5.1
HRV *e*pP pP 09 56 45.3 +1.1
HRV Adam Dziewonsk 33.99 19 *e*P P **09 56 31.4 +1.0**
HRV *e**PP pP 09 56 45.3 +1.1
HRV pmax pmax
comp=Z,31nm,1.3s,mb5.1
ECSD EROS Data Cent 34.01 346 *e*P P **09 56 28.4 -2.1**
comp=Z,131nm,1.4s,mb5.7
ECSD *e*PcP PcP 09 59 08.6 +1.1
P22A Eagle 34.02 331 ⇓P P **09 56 30.8 +0.2**
baz=34,SNR=15
O23A Lake Granby, G 34.12 332 ⇓P P **09 56 31.6 +0.1**
baz=34,SNR=12
ACCN Adirondack Com 34.16 16 *e*P P **09 56 32.6 +0.8**
comp=Z,67nm,1.5s,mb5.3
N24A Carr 34.16 334 ⇑P P **09 56 32.4 +0.5**
baz=34
PV04 Paradox Valley 34.20 327 *e*P P **09 56 32.5 +0.2**
T17A Navajo Res., N 34.27 324 ⇑P P **09 56 33.5 +0.6**
baz=34,SNR=41
S18A Hurst Farm, Bl 34.29 325 ⇓P P **09 56 33.3 +0.3**
baz=34,SNR=47
P21A Newcastle 34.30 330 ⇓P P **09 56 33.6 +0.5**
baz=34,SNR=19
R19A Curley Farm, L 34.31 327 ⇑P P **09 56 33.1 -0.1**
baz=34,SNR=20
V15A Kaibab Nationa 34.32 321 ⇓P P **09 56 34.3 +1.0**
baz=34,SNR=49
SADO Sadowa 34.32 9 P P **09 56 32.6 -0.6**
comp=Z,27nm,0.7s,mb5.3,baz=206,slow=6.8,SNR=16
SADO Sadowa 34.32 9 P P **09 56 32.6 -0.6**
O22A Kremmling 34.37 332 ⇓P P **09 56 33.5 -0.2**
baz=34,SNR=31
GLA Glamis 34.43 314 ⇓P P **09 56 35.1 +0.8**
baz=34,SNR=8.2
GLA Glamis 34.43 314 *e*P P **09 56 36.3 +2.0**
comp=Z,200nm,1.7s,mb5.8
GLA *e*PcP PcP 09 59 11.7 +2.8
GLA Glamis 34.43 314 *e*P P **09 56 36.3 +2.0**
GLA *e* 09 59 11.7
GLA pmax pmax
comp=Z,200nm,1.7s,mb5.8
NCB Newcomb 34.56 15 *e*P P **09 56 36.1 +0.8**
comp=Z,40nm,1.3s,mb5.2
NCB *e*pP pP 09 56 49.2 +0.2
NCB *e*sP sP 09 56 55.3 -0.1
Y12C Blythe 34.61 316 ⇓P P **09 56 36.6 +0.7**
baz=35,SNR=15
PDMCI Parker Dam,Lak 34.66 317 ⇑P P **09 56 37.3 +1.0**
baz=35,SNR=28
M24A Cheyenne 34.67 335 ⇓P P **09 56 36.3 0.0**
baz=35,SNR=13
T16A Glen Canyon Da 34.67 323 ⇑P P **09 56 36.4 0.0**
baz=35,SNR=15
N23A Red Feather La 34.68 333 ⇑P P **09 56 36.5 +0.1**
baz=35
S17A Black Ridge (B 34.71 324 ⇓P P **09 56 37.3 +0.7**
baz=35,SNR=20
R18A Canyonlands Na 34.73 326 ⇑P P **09 56 36.6 -0.1**
baz=35,SNR=18
SPMN St. Paul 34.74 352 ⇑P P **09 56 34.7 -2.0**
baz=35,SNR=31
P20A De Beque 34.75 329 ⇑P P **09 56 36.8 -0.2**
baz=35,SNR=27
U15A North Rim 34.78 321 ⇑P P **09 56 38.5 +1.2**
baz=35,SNR=19
Q19A Hogan Spring (34.80 327 ⇑P P **09 56 37.4 0.0**
baz=35,SNR=24
FFD Franklin Falls 34.83 19 *e*P P **09 56 40.1 +2.5**
comp=Z,52nm,1.0s,mb5.4
N22A Wattenberg Ran 34.84 332 ⇓P P **09 56 37.9 +0.2**
baz=35
O21A Pagoda 34.85 331 ⇓P P **09 56 38.2 +0.4**
baz=35,SNR=6.3
MDV Middlebury 34.86 16 *e*P P **09 56 38.2 +0.3**
W13A Hualapai Mount 34.97 318 ⇓P P **09 56 40.0 +1.1**
baz=35,SNR=43
M23A Laramie 35.05 334 ⇓P P **09 56 39.5 0.0**
baz=35
SWSC Sam W. Stewart 35.06 313 ⇓P P **09 56 41.0 +1.3**
baz=35,SNR=15
LONY Lake Ozonia 35.08 14 *e*P P **09 56 39.6 -0.1**
comp=Z,69nm,1.0s,mb5.5
DVTC Desert V Tower 35.13 313 ⇑P P **09 56 40.8 +0.5**
baz=35,SNR=11
P19A Cripple Cowboy 35.16 329 ⇓P P **09 56 40.1 -0.3**
baz=35,SNR=10.0
O20A White River Ci 35.16 330 ⇑P P **09 56 40.7 +0.2**
baz=35,SNR=21
L24A Wheatland 35.19 335 ⇓P P **09 56 40.2 -0.6**
baz=35
BC3 Big Chuckawall 35.20 315 ⇑P P **09 56 41.6 +0.7**
baz=35,SNR=22
R17A Hanksville Air 35.20 325 ⇓P P **09 56 41.1 +0.2**
baz=35,SNR=70
S16A Weppner Ranch, 35.22 324 ⇓P P **09 56 41.6 +0.5**
baz=35,SNR=36
NEE2 Needles Airpor 35.26 317 ⇓P P **09 56 42.3 +0.9**
baz=35,SNR=7.7
IRM Iron Mountain 35.27 316 ⇑P P **09 56 42.3 +0.8**
baz=35,SNR=22
BRSD Miller 35.27 344 ⇑P P **09 56 39.3 -2.1**
baz=35,SNR=12
N21A Black Mountain 35.30 331 ⇑P P **09 56 42.4 +0.8**
baz=35,SNR=13
U14A Mt Trumbull 35.33 321 ⇓P P **09 56 42.8 +0.8**
baz=35,SNR=20
Q18A Rafter H Ranch 35.37 327 ⇑P P **09 56 41.9 -0.4**
baz=35,SNR=20
LBNH Lisbon 35.44 18 *e*P P **09 56 44.1 +1.2**
comp=Z,96nm,1.7s,mb5.5
LBNH Lisbon 35.44 18 *e*P P **09 56 44.1 +1.2**
LBNH pmax pmax

comp=Z,96nm,1.7s,mb5.5
MONP **Monument Peak 35.48 313** ⇓P P 09 56 44.1 +0.8
baz=36,SNR=8.9
FRNY **Flat Rock 35.53 15** *e*P P 09 56 42.2 -1.4
comp=Z,57nm,1.4s,mb5.3
R16A **Teasdale 35.54 324** ⇓P P 09 56 44.2 +0.4
baz=36,SNR=51
BAR **Barrett 35.55 312** *e*P P 09 56 46.1 +2.1
comp=Z,97nm,2.0s,mb5.4
BAR *e*PcP PcP 09 59 13.8 +1.6
L23A **Garrett 35.57 335** ⇓P P 09 56 43.8 -0.3
baz=36
SRU **San Rafael 35.59 326** ⇓P P 09 56 44.4 +0.2
baz=36,SNR=34
SRU **San Rafael 35.59 326** *e*P P 09 56 44.0 -0.2
comp=Z,87nm,1.0s,mb5.6
SRU **San Rafael 35.59 326** *e*P P 09 56 44.0 -0.2
SRU pmax pmax
comp=Z,87nm,1.0s,mb5.6
K24A **Anderson Ranch 35.71 336** ⇓P P 09 56 44.8 -0.5
baz=36
O19A **Miners Draw (B 35.73 329** ⇓P P 09 56 45.0 -0.3
baz=36,SNR=6.8
LDFC **Landfair 35.76 317** *e*P P 09 56 48.0 +2.3
comp=Z,46nm,1.0s,mb5.4
BELC **Belle Mtn. Jos 35.77 315** ⇑P P 09 56 46.9 +1.0
baz=36,SNR=19
Q16A **Castle Valley 35.81 326** ⇑P P 09 56 46.0 -0.1
baz=36,SNR=12
P18A **Preston Nutter 35.81 327** ⇑P P 09 56 46.3 +0.2
baz=36
L22A **Ellis Ranch, M 35.82 334** ⇑P P 09 56 46.1 0.0
baz=36,SNR=5.7
PFO **Pinyon Flat Ob 35.88 314** ⇓P P 09 56 48.1 +1.3
baz=36,SNR=20
PFO **Pinyon Flat Ob 35.88 314** *e*P P 09 56 48.0 +1.2
comp=Z,34nm,1.1s,mb5.2
PFO **Pinyon Flat Ob 35.88 314** *e*P P 09 56 48.0 +1.2
PFO pmax pmax
comp=Z,34nm,1.1s,mb5.2
M21A **Separation Pea 35.89 332** ⇓P P 09 56 46.8 0.0
baz=36,SNR=9.3
R15A **Junction 35.95 324** ⇑P P 09 56 47.7 +0.4
baz=36,SNR=9.4
P17A **Butcher Ranch, 35.96 327** ⇑P P 09 56 47.8 +0.3
baz=36
GMRC **Granite Mounta 35.97 316** ⇑P P 09 56 48.7 +1.2
baz=36,SNR=12
109C **Camp Elliot, M 35.97 312** ⇑P P 09 56 48.5 +0.9
baz=36,SNR=6.3
TMUT **Trail Mountain 36.09 326** *e*P P 09 56 49.1 +0.5
comp=Z,43nm,1.1s,mb5.3
MSU **Marysvale 36.10 324** *e*P P 09 56 49.4 +0.8
comp=Z,16nm,0.9s,mb5.0
MSU *e*PcP PcP 09 59 16.7 +3.0
MSU **Marysvale 36.10 324** *e*P P 09 56 49.4 +0.8
MSU *e* 09 59 16.7
MSU pmax pmax
comp=Z,16nm,0.9s,mb5.0
O18A **Roosevelt 36.15 328** ⇓P P 09 56 49.2 +0.1
baz=36,SNR=18
CCUT **Cedar City 36.16 322** *e*P P 09 56 50.4 +1.2
comp=Z,21nm,1.0s,mb5.0
CCUT *e*PcP PcP 09 59 16.6 +2.7
CCUT *e*ScP ScP 10 03 03.1 +7.2
J24A **Dixon Ranch, L 36.17 337** ⇑P P 09 56 49.0 -0.1
baz=36
L21A **Rawlins 36.18 333** ⇑P P 09 56 48.9 -0.3
baz=36,SNR=16
M20A **Sweetwater, Wa 36.18 331** ⇓P P 09 56 49.1 -0.1
baz=36,SNR=5.5
N19A **John Jarvie Ra 36.20 330** ⇓P P 09 56 49.4 -0.1
baz=36,SNR=17
K22A **Casper 36.36 334** ⇑P P 09 56 50.2 -0.5
baz=36,SNR=5.6
ARUT **Antelope Range 36.36 322** *e*P P 09 56 52.4 +1.5
comp=Z,27nm,1.0s,mb5.1
ARUT *e*PcP PcP 09 59 18.0 +3.5
ARUT *e*ScP ScP 10 03 04.9 +8.2
ARUT **Antelope Range 36.36 322** *e*P P 09 56 52.4 +1.6
ARUT *e* 09 59 18.0
ARUT pmax pmax
comp=Z,27nm,1.0s,mb5.1
MURC **Murrieta 36.40 313** ⇑P P 09 56 51.8 +0.6
baz=36,SNR=18
HEC **Hector,Ludlow 36.45 316** ⇓P P 09 56 53.1 +1.5
baz=36,SNR=16
WVL **Waterville 36.45 20** *e*P P 09 56 52.6 +1.1
comp=Z,328nm,1.5s,mb6.0
O17A **Robinson Place 36.48 327** ⇑P P 09 56 52.1 +0.2
baz=36,SNR=16
N18A **Larsen Ranch, 36.51 329** ⇑P P 09 56 52.0 -0.1
baz=37,SNR=12
TUQ **Turquoise Moun 36.51 317** ⇑P P 09 56 52.5 +0.4
baz=36
Q15A **Fillmore 36.54 325** ⇓P P 09 56 52.5 +0.1
baz=37,SNR=18
BBRC **Big Bear Solar 36.55 315** ⇓P P 09 56 54.3 +1.8
baz=37,SNR=20
P16A **Fountain Green 36.56 326** ⇑P P 09 56 53.0 +0.4
baz=37
J23A **Dilts Ranch, B 36.58 336** ⇑P P 09 56 52.7 +0.1
baz=37
I24A **Kuemmerle Ranc 36.60 337** ⇑P P 09 56 52.6 -0.2
baz=37,SNR=8.2
RSSD **Black Hills 36.61 338** *e*P P 09 56 52.7 -0.2
comp=Z,18nm,0.8s,mb5.0
RSSD *e*pP pP 09 57 07.8 +1.1
RSSD *e*PcP PcP 09 59 16.8 +1.7
RSSD **Black Hills 36.61 338** *e*P P 09 56 52.7 -0.1
RSSD *e**PP pP 09 57 07.8 +1.1
RSSD *e* 09 59 16.8
RSSD pmax pmax
comp=Z,18nm,0.8s,mb5.0
L20A **Wamsutter 36.66 332** ⇓P P 09 56 52.8 -0.5
baz=37,SNR=6.1
MPU **Maple Canyon 36.83 326** *e*P P 09 56 55.5 +0.7
comp=Z,38nm,0.9s,mb5.2
MPU *e*pP pP 09 57 09.6 +0.8
P15A **Leamington 36.88 325** ⇓P P 09 56 55.9 +0.7
baz=37,SNR=11
DAU **Daniels Canyon 36.91 327** *e*P P 09 56 56.6 +1.2
comp=Z,95nm,1.1s,mb5.5
DAU **Daniels Canyon 36.91 327** *e*P P 09 56 56.7 +1.2
DAU pmax pmax
comp=Z,95nm,1.1s,mb5.5
R13A **O'Grain Ranch, 36.93 322** ⇓P P 09 56 57.0 +1.3
baz=37,SNR=22
RRX **Edison Barstow 36.94 315** ⇑P P 09 56 56.8 +1.0
baz=37
J22A **Midwest 36.96 335** ⇑P P 09 56 55.5 -0.4
baz=37,SNR=22
I23A **Meade Ranch, G 37.01 337** ⇑P P 09 56 55.9 -0.3
baz=37
SHOC **Shoshone 37.02 317** ⇑P P 09 56 57.1 +0.7
baz=37,SNR=12
NLU **North Lily Min 37.03 326** *e*P P 09 56 58.2 +1.7
comp=Z,64nm,1.6s,mb5.2
GSC **Goldstone 37.04 316** ⇑P P 09 56 57.9 +1.3
baz=37,SNR=15
GSC **Goldstone 37.04 316** *e*P P 09 56 58.1 +1.5
comp=Z,33nm,1.3s,mb5.0
GSC **Goldstone 37.04 316** *e*P P 09 56 58.1 +1.5
GSC pmax pmax
comp=Z,33nm,1.3s,mb5.0
M18A **Lyman 37.05 329** ⇓P P 09 56 56.0 -0.6
baz=37
Q14A **Sevier Lake (B 37.05 324** ⇓P P 09 56 57.4 +0.7
baz=37,SNR=27
BFSC **Mount Baldy Ra 37.06 314** ⇓P P 09 56 57.9 +1.1
baz=37,SNR=16
SCI **San Clemente I 37.07 312** ⇑P P 09 56 58.6 +1.6
baz=37
N17A **Moffit Pass 37.08 328** ⇓P P 09 56 57.0 +0.1
baz=37,SNR=9.2
K20A **Yellowstone Ra 37.17 332** ⇓P P 09 56 57.0 -0.6
baz=37,SNR=6.2
CIS **Catalina Islan 37.17 312** ⇑P P 09 56 59.4 +1.6
baz=37,SNR=10
PKME **Peaks-Kenny Pk 37.19 20** *e*P P 09 56 58.9 +1.1
comp=Z,52nm,1.0s,mb5.3
PKME *e*pP pP 09 57 12.3 +0.6
L19A **Farson 37.21 331** ⇓P P 09 56 57.1 -0.9
baz=37,SNR=9.3
FMP **Fort Macarthur 37.24 313** ⇑P P 09 56 59.6 +1.2
baz=37
EYMN **Ely 37.26 354** *e*P P 09 56 56.4 -1.8
comp=Z,57nm,1.3s,mb5.2
J21A **Lysite 37.32 334** ⇓P P 09 56 59.5 +0.6
baz=37,SNR=37
H24A **Dirks Ranch, A 37.33 338** ⇑P P 09 56 58.4 -0.5
baz=37,SNR=29
MWC **Mount Wilson 37.33 314** *e*P P 09 57 01.5 +2.3
comp=Z,60nm,1.3s,mb5.3
MWC *e*PcP PcP 09 59 19.3 +1.8
MWC **Mount Wilson 37.33 314** *e*P P 09 57 01.5 +2.3
MWC *e* 09 59 19.3
MWC pmax pmax
comp=Z,60nm,1.3s,mb5.3
N16A **Rees Ranch, Co 37.35 328** ⇑P P 09 56 59.5 +0.4
baz=37,SNR=8.1
I22A **9 Mile Ranch, 37.36 335** ⇓P P 09 56 58.6 -0.6
baz=37,SNR=14
M17A **Scullys Gap (B 37.38 329** ⇑P P 09 56 59.1 -0.3
baz=37,SNR=17
PASC **Pasadena Art C 37.40 313** *e*P P 09 57 01.6 +1.9
comp=Z,125nm,1.6s,mb5.5
L18A **Fontenelle, Gr 37.40 330** ⇑P P 09 56 59.3 -0.3
baz=38,SNR=7.9
O15A **The Old Anders 37.48 326** ⇑P P 09 57 00.7 +0.4
baz=38
K19A **Absolon Red Bu 37.53 332** ⇑P P 09 56 59.9 -0.7
baz=38
DECC **Green Verdugo 37.54 313** ⇑P P 09 57 02.3 +1.4
baz=38
NOQ **North Oquirrh 37.55 327** *e*P P 09 57 01.6 +0.7
comp=Z,46nm,0.8s,mb5.3
NOQ *e*pP pP 09 57 15.2 +0.5
NOQ *es*P sP 09 57 20.2 -1.0
NOQ *e*PcP PcP 09 59 20.4 +2.3
J20A **Shoshoni 37.60 333** ⇓P P 09 57 01.1 -0.2
baz=38,SNR=9.5
DUG **Dugway 37.61 326** ⇓P P 09 57 01.9 +0.5
baz=38,SNR=18
DUG **Dugway 37.61 326** *e*P P 09 57 02.1 +0.7
comp=Z,27nm,1.0s,mb4.9
DUG *e*PcP PcP 09 59 20.2 +1.9
DUG **Dugway 37.61 326** *e*P P 09 57 02.1 +0.7
DUG *e* 09 59 20.2
DUG pmax pmax
comp=Z,27nm,1.0s,mb4.9
EDW2 **Edwards Air Fo 37.63 315** ⇓P P 09 57 02.5 +0.9
baz=38,SNR=23
I21A **Big Trails, Te 37.63 335** ⇓P P 09 57 00.9 -0.7
baz=38,SNR=17
FURC **Furnace Creek, 37.73 318** ⇑P P 09 57 03.4 +1.0
baz=38,SNR=39
LRMC **Laurel Mountai 37.74 316** ⇓P P 09 57 03.7 +1.1
baz=38,SNR=21
M16A **Huntsville 37.76 328** ⇓P P 09 57 02.9 +0.2
baz=38
BW06 **Boulder Array 37.81 331** ⇓P P 09 57 02.6 -0.5
baz=38,SNR=16
PDAR **Pinedale Array 37.81 331** P P 09 57 02.5 -0.6
comp=Z,7.6nm,0.7s,mb4.5,baz=132,slow=9.3,SNR=58
PDAR PcP PcP 09 59 19.9 +1.2
comp=Z,13nm,0.9s,baz=137,slow=4.8,SNR=11
PDAR ScP ScP 10 03 07.5 +5.5
comp=Z,9.1nm,1.2s,baz=134,slow=4.3,SNR=12
PDAR PKiKP PKiKP 10 06 34.2 -0.4
comp=Z,0.5nm,0.7s,baz=117,slow=1.0,SNR=3.8
PDAR LR LR 10 15 46.8
comp=Z,2μm,21.7s,MS4.9,baz=138,slow=41
PDAR **Pinedale Array 37.81 331** P P 09 57 02.5 -0.6
PDAR PcP PcP 09 59 19.9 +1.2
PDAR ScP ScP 10 03 07.5 +5.5
MPMC **Manual Prospec 37.92 317** ⇓P P 09 57 04.6 +0.5
baz=38,SNR=47
N15A **Stansbury Isla 37.93 327** ⇓P P 09 57 03.8 -0.3
baz=38
HWUT **Hardware Ranch 37.94 328** *e*P P 09 57 04.0 -0.1
comp=Z,67nm,0.9s,mb5.4
HWUT *e*PcP PcP 09 59 21.0 +1.8
K18A **Toltan Ranch, 37.95 331** ⇓P P 09 57 04.3 +0.1
baz=38,SNR=38
L17A **Cokeville 37.95 329** ⇓P P 09 57 03.6 -0.6
baz=38,SNR=18
J19A **Crowheart 37.97 332** ⇓P P 09 57 03.9 -0.5
baz=38,SNR=11
BLG **Laguna Peak 38.00 313** ⇑P P 09 57 05.4 +0.7
baz=38
OSI **Osito Adit 38.01 314** ⇑P P 09 57 05.3 +0.5
baz=38
I20A **Worland 38.10 334** ⇑P P 09 57 04.8 -0.7
baz=38
L16A **Fish Haven 38.17 329** ⇓P P 09 57 05.7 -0.4
baz=38
SPUT **South Promonto 38.19 327** *e*P P 09 57 07.5 +1.3
comp=Z,30nm,0.9s,mb5.0
SPUT *e*pP pP 09 57 21.0 +0.8
SPUT *e*PcP PcP 09 59 22.5 +2.5
AGMN **Agassiz Nation 38.22 349** *e*P P 09 57 04.4 -2.0
comp=Z,75nm,0.8s,mb5.5
AGMN *e*pP pP 09 57 18.8 -1.6
AGMN *e*PcP PcP 09 59 21.1 +1.2
AGMN *e*ScP ScP 10 03 08.0 +4.6
BGU **Big Grassy Mou 38.23 326** *e*P P 09 57 06.9 +0.3
comp=Z,99nm,1.5s,mb5.3
BGU *e*ScP ScP 10 03 10.6 +7.0
M15A **Larsen Ranch, 38.30 327** ⇑P P 09 57 06.7 -0.4
baz=38,SNR=9.1
ARVC **Arvin 38.34 314** ⇑P P 09 57 08.6 +1.0
baz=38,SNR=14
BSC **Santa Cruz Isl 38.35 312** ⇑P P 09 57 08.3 +0.5
baz=38
GRAC **Grevvine Rang 38.36 318** ⇓P P 09 57 09.1 +1.3
baz=38,SNR=27
J18A **Kendall Valley 38.37 331** ⇓P P 09 57 07.3 -0.5
baz=38,SNR=40
ISA **Isabella 38.38 315** ⇓P P 09 57 09.2 +1.2
baz=38,SNR=20
ISA **Isabella 38.38 315** *e*P P 09 57 09.2 +1.3
comp=Z,31nm,1.3s,mb4.9
ISA **Isabella 38.38 315** *e*P P 09 57 09.3 +1.4
ISA pmax pmax
comp=Z,31nm,1.3s,mb4.9
K17A **Gardner Place, 38.45 330** ⇓P P 09 57 08.0 -0.5
baz=38,SNR=24
H20A **Greybull 38.48 335** ⇓P P 09 57 07.8 -0.8
baz=38,SNR=10.0
CWC **Cottonwood Cre 38.52 317** ⇑P P 09 57 10.0 +0.8
baz=38,SNR=11
AHID **Auburn Hatcher 38.55 330** *e*P P 09 57 09.4 +0.1
comp=Z,101nm,1.4s,mb5.4
AHID *e*PcP PcP 09 59 23.0 +1.9
MDND **Maddock 38.60 345** ⇓P P 09 57 08.1 -1.5
baz=39,SNR=36
SBC **Santa Barbara 38.63 313** ⇓P P 09 57 10.9 +0.8
baz=39
L15A **Malad City 38.65 328** ⇓P P 09 57 09.2 -0.9
baz=39,SNR=28
I18A **Diamond G Ranc 38.66 332** ⇑P P 09 57 09.6 -0.5
baz=39,SNR=10
HVU **Hansel Valley 38.69 327** *e*P P 09 57 10.7 +0.2
comp=Z,101nm,1.6s,mb5.3
HVU **Hansel Valley 38.69 327** *e*P P 09 57 10.7 +0.2
HVU pmax pmax
comp=Z,101nm,1.6s,mb5.3
G21A **Lodge Grass 38.75 336** ⇓P P 09 57 09.9 -1.0
baz=39
J17A **Brown Place, J 38.81 331** ⇓P P 09 57 11.3 -0.2
baz=39,SNR=35
K16A **Soda Springs 38.84 330** ⇑P P 09 57 11.5 -0.2
baz=39
PQI **Presque Isle 38.85 20** *e*P P 09 57 12.5 +0.7
comp=Z,137nm,1.3s,mb5.5
PQI *e*pP pP 09 57 25.9 +0.1
REDW **Red Top Meadow 38.88 331** *e*P P 09 57 12.6 +0.5
comp=Z,194nm,1.3s,mb5.7
VES **Vestal, Richgr 38.89 315** ⇓P P 09 57 13.6 +1.4
baz=39,SNR=29
SNOW **Snow King Moun 38.91 331** *e*P P 09 57 12.3 0.0
comp=Z,95nm,1.0s,mb5.5
PKM **Peak Mountain 38.93 313** ⇑P P 09 57 13.6 +1.0
baz=39,SNR=9.4
LOHW **Long Hollow 38.95 331** *e*P P 09 57 12.9 +0.3
comp=Z,47nm,1.2s,mb5.1
LOHW *e*ScP ScP 10 03 11.3 +5.0
TIN **Tinemaha 38.96 317** ⇑P P 09 57 13.9 +1.1
baz=39,SNR=11
TPAW **Teton Pass 39.02 331** *e*P P 09 57 13.8 +0.5
comp=Z,56nm,1.0s,mb5.2
TPAW *e*pP pP 09 57 26.3 -0.9
H19A **Powell 39.05 334** ⇑P P 09 57 12.7 -0.7
baz=39,SNR=12
E23A **Ismay 39.11 339** ⇓P P 09 57 13.0 -0.9
baz=39,SNR=29
L14A **Malta 39.12 327** ⇑P P 09 57 13.4 -0.7
baz=39,SNR=33
MOOW **Moose Ponds 39.12 331** *e*P P 09 57 14.8 +0.7
comp=Z,18nm,0.9s,mb4.8
G20A **Bridger 39.16 335** ⇓P P 09 57 13.2 -1.2
baz=39,SNR=23
I17A **Pilgrim Ck. 39.17 332** ⇑P P 09 57 14.6 +0.1
baz=39
J16A **Bone 39.18 330** ⇑P P 09 57 14.4 -0.2
baz=39
K15A **Arbon 39.21 329** ⇑P P 09 57 14.2 -0.6
baz=39,SNR=8.4
RCTC **Rector, Farmer 39.24 316** ⇑P P 09 57 16.2 +1.0
baz=39,SNR=30
SMMC **Simmler 39.26 314** ⇑P P 09 57 16.9 +1.5
baz=39,SNR=9.9
E22A **Miles City 39.29 338** ⇓P P 09 57 14.1 -1.3
baz=39,SNR=63
FLWY **Flagg Ranch 39.36 332** *e*P P 09 57 17.3 +1.3
comp=Z,88nm,1.2s,mb5.4
K14A **Jones Ranch, D 39.45 328** ⇓P P 09 57 16.0 -0.8
baz=40,SNR=42
RLMT **Red Lodge 39.52 334** ⇓P P 09 57 16.8 -0.6
baz=40,SNR=5.8
RLMT **Red Lodge 39.52 334** *e*P P 09 57 17.2 -0.1
comp=Z,42nm,1.0s,mb5.1
H17A **Grant Village 39.54 332** ⇓P P 09 57 18.4 +0.8
baz=40
LAO **LASA Array 39.60 338** ⇓P P 09 57 17.0 -1.0
baz=40,SNR=21
LAO **LASA Array 39.60 338** *e*P P 09 57 17.5 -0.5
comp=Z,87nm,1.1s,mb5.4
F20A **Billings 39.60 336** ⇑P P 09 57 17.1 -0.9
baz=40,SNR=26
D23A **Lindsay 39.65 339** ⇑P P 09 57 17.8 -0.7
baz=40
J15A **Blackfoot 39.68 330** ⇓P P 09 57 18.4 -0.4
baz=40,SNR=16
MLAC **Mammoth Lakes 39.69 318** ⇑P P 09 57 20.3 +1.4
baz=40
YFT **Old Faithful 39.70 332** *e*P P 09 57 19.8 +0.9
comp=Z,60nm,1.1s,mb5.2
C24A **Savage 39.70 340** ⇓P P 09 57 18.2 -0.6
baz=40,SNR=45
NVAR **Mina Array Bea 39.79 319** P P 09 57 20.9 +1.2
comp=Z,14nm,0.7s,mb4.8,baz=128,slow=6.4,SNR=82
NVAR PcP PcP 09 59 27.3 +2.2
comp=Z,33nm,0.7s,baz=136,slow=4.1,SNR=29
NVAR ScP ScP 10 03 15.1 +5.4
comp=Z,1.0nm,0.7s,baz=135,slow=4.8,SNR=4.1
NVAR LR LR 10 15 36.2
comp=Z,2μm,20.4s,MS5.0,baz=58,slow=39
NVAR **Mina Array Bea 39.79 319** P P 09 57 20.9 +1.2
NVAR PcP PcP 09 59 27.3 +2.2
NVAR ScP ScP 10 03 15.1 +5.4
NVAR LR LR 10 15 36.2
E21A **Keefer Ranch, 39.79 337** ⇑P P 09 57 18.5 -1.1
baz=40
G18A **Lazy EL Ranch, 39.81 334** ⇓P P 09 57 18.6 -1.1
baz=40,SNR=14
YMR **Madison River 39.93 332** *e*P P 09 57 21.7 +0.9
comp=Z,85nm,1.1s,mb5.4
F19A **Roth Farm, Mol 39.97 335** ⇓P P 09 57 20.0 -1.1
baz=40,SNR=18
H16A **Russell Place, 40.08 332** ⇑P P 09 57 22.1 +0.1
baz=40
ULM **Lac du Bonnet 40.11 350** P P 09 57 19.7 -2.4
comp=Z,52nm,0.8s,mb5.3,baz=169,slow=8.1,SNR=56
ULM PcP PcP 09 59 26.4 +0.6
comp=Z,17nm,0.7s,baz=198,slow=4.1,SNR=5.9
ULM LR LR 10 15 40.1
comp=Z,1μm,18.8s,MS4.8,baz=252,slow=39
ULM **Lac du Bonnet 40.11 350** P P 09 57 19.7 -2.4
ULM PcP PcP 09 59 26.4 +0.6
ULM LR LR 10 15 40.1
ULM **Lac du Bonnet 40.11 350** P P 09 57 19.7 -2.4
ULM 09 59 26.4
I15A **Monteview 40.15 330** ⇓P P 09 57 22.7 +0.1
baz=40,SNR=7.0
E20A **Meyer Farm, Mu 40.17 336** ⇑P P 09 57 22.2 -0.5
baz=40,SNR=93
C23A **Lambert 40.19 340** ⇑P P 09 57 22.5 -0.4
baz=40,SNR=77
QLMT **Earthquake Lak 40.27 332** *e*P P 09 57 24.8 +1.2
comp=Z,6.1nm,1.1s,mb4.2
BMN **Battle Mountai 40.31 322** *e*P P 09 57 25.2 +1.2
comp=Z,54nm,1.0s,mb5.2
BMN **Battle Mountai 40.31 322** *e*P P 09 57 25.2 +1.2
BMN pmax pmax
comp=Z,54nm,1.0s,mb5.2
G17A **Pierce Place, 40.33 333** ⇓P P 09 57 24.5 +0.5
baz=40,SNR=30
F18A **Big Timber 40.34 334** ⇓P P 09 57 23.5 -0.6
baz=40,SNR=25
E19A **Rath Farm, Rou 40.40 336** ⇓P P 09 57 24.2 -0.4
baz=40,SNR=25
DGMT **Dagmar 40.45 341** ⇓P P 09 57 24.4 -0.6
baz=40,SNR=36
DGMT **Dagmar 40.45 341** *e*P P 09 57 24.4 -0.7
comp=Z,169nm,0.9s,mb5.8
J13A **Cove Ranch, Pi 40.56 328** ⇑P P 09 57 25.9 -0.2
baz=41,SNR=24
I14A **Mackay 40.57 329** ⇓P P 09 57 26.7 +0.6
baz=41,SNR=36
H15A **Lima 40.68 331** ⇓P P 09 57 27.8 +0.9
baz=41,SNR=59
G16A **Moss Hill, Enn 40.74 332** ⇓P P 09 57 27.9 +0.4
baz=41,SNR=17
F17A **Fitzpatrick Pl 40.74 334** ⇑P P 09 57 27.4 -0.1
baz=41,SNR=21
A24A **Westby 40.80 342** ⇓P P 09 57 27.5 -0.4
baz=41,SNR=28
HLID **Hailey 40.80 328** ⇑P P 09 57 27.8 -0.2
baz=41,SNR=27
HLID **Hailey 40.80 328** *e*P P 09 57 27.8 -0.2
comp=Z,18nm,0.8s,mb4.8
HLID *e*pP pP 09 57 42.5 +0.5
HLID *e*PcP PcP 09 59 30.8 +2.6
C21A **Desert Coulee 40.88 338** ⇓P P 09 57 28.1 -0.5
baz=41,SNR=10
MCMT **McKenzie Canyo 40.93 331** *e*P P 09 57 29.8 +0.8
comp=Z,42nm,1.2s,mb4.9
MCMT *e*PcP PcP 09 59 31.4 +2.8
CMB **Columbia Colle 40.93 317** *e*P P 09 57 30.5 +1.3
comp=Z,48nm,1.3s,mb5.0
CMB **Columbia Colle 40.93 317** *e*P P 09 57 30.5 +1.3
CMB pmax pmax
comp=Z,48nm,1.3s,mb5.0
E18A **Harlowton 40.95 335** ⇓P P 09 57 29.0 -0.1
baz=41,SNR=14
BOZ **Bozeman (W) 40.98 333** ⇑P P 09 57 29.5 +0.1
baz=41,SNR=18
BOZ **Bozeman (W) 40.98 333** *e*P P 09 57 28.9 -0.5
comp=Z,46nm,1.3s,mb4.9
BOZ **Bozeman (W) 40.98 333** *e*P P 09 57 28.9 -0.5
BOZ pmax pmax
comp=Z,45nm,1.3s,mb4.9
D19A **Cripps Ranch, 41.01 336** ⇑P P 09 57 29.5 -0.2
baz=41,SNR=38
G15A **Dillon 41.01 331** ⇑P P 09 57 30.2 +0.5
baz=41,SNR=25
H14A **Leadore 41.03 330** ⇑P P 09 57 30.3 +0.5
baz=41,SNR=22
F16A **Kennard Place, 41.08 333** ⇑P P 09 57 30.3 +0.1
baz=41,SNR=20
DLMT **Dillon 41.21 331** *e*P P 09 57 31.3 0.0
comp=Z,68nm,1.2s,mb5.2
WCN **Washoe City 41.22 319** ⇓P P 09 57 32.2 +0.7
baz=41,SNR=9.5
WCN **Washoe City 41.22 319** *e*P P 09 57 33.0 +1.5
comp=Z,21nm,1.0s,mb4.7
WCN **Washoe City 41.22 319** *e*P P 09 57 33.0 +1.5
WCN pmax pmax
comp=Z,21nm,1.0s,mb4.7
E17A **Martinsdale 41.27 334** ⇑P P 09 57 31.5 -0.3
baz=41,SNR=15
I12A **Atlanta 41.34 328** ⇑P P 09 57 32.3 -0.1
baz=41,SNR=24
B21A **Ellsworth Farm 41.36 339** ⇓P P 09 57 32.2 -0.3
baz=41,SNR=7.2
D18A **Linhart Farms, 41.40 335** ⇑P P 09 57 32.7 -0.2
baz=42,SNR=25
H13A **Challis 41.43 329** ⇓P P 09 57 32.7 -0.4
baz=42,SNR=26
MFID **Camas Ranch 41.45 327** ⇓P P 09 57 33.7 +0.4

baz=42,SNR=12
MFID Camas Ranch 41.45 327 *e*P P **09 57 33.2 -0.1**
comp=Z,119nm,1.8s,mb5.2
LRM Limekiln Ridge 41.49 332 *e*P P **09 57 33.5 0.0**
comp=Z,620nm,1.3s,mb6.1
LRM *e*PcP PcP 09 59 33.1 +2.7
F15A Butte 41.52 332 ⇑P P **09 57 33.6 -0.2**
baz=42,SNR=15
C19A Slack Wire Ran 41.54 337 ⇓P P **09 57 33.7 -0.3**
baz=42,SNR=53
E16A East Helena 41.68 333 ⇓P P **09 57 34.7 -0.4**
baz=42,SNR=15
H12A Diamond D Ranc 41.72 329 ⇑P P **09 57 35.1 -0.4**
baz=42
B20A Solberg Farm, 41.73 338 ⇓P P **09 57 35.3 -0.3**
baz=42,SNR=16
D17A Six Diamond Ra 41.74 335 ⇑P P **09 57 35.0 -0.6**
baz=42,SNR=44
A21A Bergtoll Ranch 41.81 339 ⇓P P **09 57 35.6 -0.6**
baz=42
HRY Holter Researc 41.88 333 *e*P P **09 57 36.8 -0.1**
comp=Z,28nm,0.9s,mb4.9
HRY *e*PcP PcP 09 59 33.9 +2.2
F14A Wisdom 41.91 331 ⇓P P **09 57 36.3 -0.7**
baz=42
D16A Dana Ranch, Ca 42.01 334 ⇑P P **09 57 37.4 -0.4**
baz=42,SNR=20
EGMT Eagleton 42.05 336 ⇑P P **09 57 37.5 -0.7**
baz=42,SNR=5.8
EGMT Eagleton 42.05 336 *e*P P **09 57 38.1 -0.1**
comp=Z,70nm,1.2s,mb5.2
A20A Cobblestone Ra 42.07 338 ⇓P P **09 57 38.1 -0.1**
baz=42,SNR=21
B19A Brinkman Farms 42.09 337 ⇑P P **09 57 38.0 -0.4**
baz=42,SNR=31
C17A Wharram Farm, 42.15 335 ⇑P P **09 57 38.3 -0.6**
baz=42,SNR=32
LCO Las Campanas 42.31 160 *e*P P **09 57 41.5 +1.0**
comp=Z,45nm,1.3s,mb4.9
B18A Beardsley Farm 42.36 337 ⇓P P **09 57 40.2 -0.4**
baz=42,SNR=17
WVOR Wild Horse Val 42.38 324 *e*P P **09 57 40.8 -0.1**
comp=Z,48nm,0.8s,mb5.2
WVOR *e*pP pP 09 57 55.2 +0.1
WVOR Wild Horse Val 42.38 324 *e*P P **09 57 40.8 -0.2**
WVOR e*PP pP 09 57 55.2 +0.1
WVOR pmax pmax
comp=Z,48nm,0.8s,mb5.2
A19A Klindworth Far 42.41 338 ⇓P P **09 57 40.4 -0.7**
baz=42,SNR=18
E14A Clinton 42.41 332 ⇑P P **09 57 40.4 -0.7**
baz=42,SNR=20
CHMT Chamberlain Mo 42.67 332 *e*P P **09 57 43.0 -0.2**
comp=Z,12nm,1.2s,mb4.5
CHMT *e*PcP PcP 09 59 36.6 +2.3
B17A L&G Farms, Che 42.69 336 ⇓P P **09 57 42.0 -1.3**
baz=43
C16A Fuhringer Ranc 42.69 334 ⇓P P **09 57 42.8 -0.5**
baz=43,SNR=7.9
E13A Victor 42.76 331 ⇑P P **09 57 43.2 -0.7**
baz=43,SNR=23
A18A Metzger Ranch, 42.81 337 ⇓P P **09 57 43.5 -0.8**
baz=43,SNR=30
J08A Circle Bar Ran 42.87 325 ⇑P P **09 57 44.4 -0.5**
baz=43,SNR=8.5
D14A Greenough 42.91 332 ⇓P P **09 57 44.2 -1.0**
baz=43,SNR=5.6
MSO Missoula 42.92 332 ⇑P P **09 57 44.7 -0.6**
baz=43,SNR=27
MSO Missoula 42.92 332 *e*P P **09 57 44.5 -0.8**
comp=Z,37nm,1.3s,mb5.0
MSO *e*PcP PcP 09 59 37.4 +2.2
SLMT Seeley Lake 43.03 333 *e*P P **09 57 45.5 -0.5**
comp=Z,18nm,1.1s,mb4.7
C15A Salmond Ranch, 43.04 334 ⇑P P **09 57 45.8 -0.4**
baz=43
B16A M & M Farms, S 43.15 335 ⇑P P **09 57 45.8 -1.2**
baz=43
A17A Triple J Farms 43.17 336 ⇓P P **09 57 46.6 -0.6**
baz=43,SNR=9.3
BMO Blue Mountains 43.20 327 *e*P P **09 57 46.6 -0.9**
comp=Z,34nm,1.2s,mb5.0
BMO *e*PcP PcP 09 59 38.0 +1.8
SWMT Swartz Lake 43.46 333 *e*P P **09 57 49.5 -0.1**
comp=Z,11nm,1.1s,mb4.5
D12A Red Ives Fores 43.75 331 ⇑P P **09 57 51.3 -0.6**
baz=44
JTMT Jette 43.76 333 *e*P P **09 57 52.2 +0.2**
comp=Z,11nm,1.0s,mb4.5
B14A Marquette Ranc 43.77 334 ⇓P P **09 57 51.4 -0.7**
baz=44
K05A Summer Lake 43.89 323 ⇓P P **09 57 52.7 -0.5**
baz=44
KIPM Iron Peak 43.92 318 *e*P P **09 57 55.5 +2.1**
comp=Z,125nm,1.1s,mb5.6
KIPM *e*PcP PcP 09 59 42.0 +3.3
F10A Beach Ranch, E 43.92 329 ⇓P P **09 57 52.4 -0.9**
baz=44,SNR=16
KCPM Cahto Peak 43.92 317 *e*P P **09 57 55.6 +2.1**
comp=Z,54nm,1.1s,mb5.2
KCPM *e*PcP PcP 09 59 42.0 +3.2
A15A Johnson Ranch, 44.02 335 ⇓P P **09 57 53.4 -0.7**
baz=44,SNR=37
BSMT Bassoo Peak 44.07 332 *e*P P **09 57 54.4 -0.1**
comp=Z,11nm,1.1s,mb4.5
C12B Nageli Ranch, 44.28 332 ⇑P P **09 57 55.7 -0.5**
baz=44,SNR=12
A14A Double T Ranch 44.31 334 ⇑P P **09 57 55.9 -0.4**
baz=44,SNR=52
B13A Whitefish 44.31 333 ⇑P P **09 57 55.9 -0.5**
baz=44,SNR=16
G08A Pilot Rock 44.38 327 ⇓P P **09 57 56.3 -0.7**
baz=44
LNOR Lincton Mounta 44.40 328 *e*P P **09 57 57.9 +0.8**
comp=Z,21nm,1.0s,mb4.8
LNOR Lincton Mounta 44.40 328 *e*P P **09 57 57.9 +0.8**
LNOR pmax pmax
comp=Z,21nm,1.0s,mb4.8
WALA Waterton Lakes 44.58 334 *e*P P **09 57 58.6 +0.1**
comp=Z,2.2nm,1.5s,mb3.8
KHMM Horse Mountain 44.63 319 *e*P P **09 58 00.3 +1.2**
comp=Z,78nm,1.3s,mb5.4
KHMM *e*PcP PcP 09 59 44.2 +3.1
E09A Wood Farm, Sta 44.75 329 ⇑P P **09 57 59.0 -1.0**
baz=45,SNR=14
E08A Dider Farm, El 45.21 328 ⇑P P **09 58 02.3 -1.3**
baz=45,SNR=12
G06A Carlson Farm, 45.26 326 ⇓P P **09 58 04.1 +0.1**
baz=45,SNR=6.1
F07A Phinny Hill Vi 45.28 327 ⇓P P **09 58 03.6 -0.6**
baz=45,SNR=5.2
HAWA Hanford 45.39 328 *e*P P **09 58 04.5 -0.5**
comp=Z,45nm,0.9s,mb5.3
HAWA *e*pP pP 09 58 18.2 -1.0
HAWA *e*PcP PcP 09 59 45.5 +1.9
RSW Rattlesnake Hi 45.43 328 *e*P P **09 58 05.1 -0.2**
comp=Z,104nm,1.2s,mb5.5
RSW *e*PcP PcP 09 59 45.9 +2.2
NEW Newport 45.45 331 ⇑P P **09 58 04.8 -0.7**
baz=46,SNR=8.4
WRD Warden 45.46 328 P P **09 58 06.2 +0.6**
FFC Flin Flon 45.54 347 *e*P P **09 58 05.2 -0.9**
comp=Z,21nm,1.1s,mb5.0
FFC Flin Flon 45.54 347 *e*P P **09 58 05.2 -0.9**
FFC pmax pmax
comp=Z,21nm,1.1s,mb5.0
CRF Corfu 45.60 328 P P **09 58 06.1 -0.5**
OD2 Odessa Site #2 45.63 329 P P **09 58 06.5 -0.4**
E07A Sunnyside 45.67 328 ⇓P P **09 58 06.7 -0.6**
baz=46,SNR=12
H04A Detroit Lake 45.80 324 ⇓P P **09 58 07.6 -0.7**
baz=46,SNR=7.7
HOOD Mount Hood Mea 45.88 325 *e*P P **09 58 10.8 +1.9**
comp=Z,621nm,1.0s,mb6.5
MXC Moxie City 45.91 327 P P **09 58 09.7 +0.5**
CPUP Villa Florida 46.33 143 P P **09 58 13.0 +0.3**
comp=Z,5.3nm,0.7s,mb4.6,baz=311,slow=7.7,SNR=8.9
CPUP PcP PcP 09 59 49.8 +2.6
comp=Z,4.3nm,0.8s,baz=288,slow=6.4,SNR=3.3
CPUP LR LR 10 18 09.9
comp=Z,927nm,21.9s,MS4.7,baz=306,slow=37
CPUP Villa Florida 46.33 143 P P **09 58 13.0 +0.3**
CPUP PcP PcP 09 59 49.8 +2.6
CPUP LR LR 10 18 09.9
CPUP Villa Florida 46.33 143 P P **09 58 13.0 +0.3**
CPUP 09 59 49.8
ASR Mount Adams--S 46.35 326 P P **09 58 13.4 +0.9**

SCHQ Schefferville 46.44 15 P P **09 58 11.8 -1.4**
comp=Z,19nm,0.8s,mb5.1,baz=223,slow=7.2,SNR=30
SCHQ PcP PcP 09 59 46.8 -0.3
SCHQ comp=Z,6.4nm,0.7s,baz=122,slow=1.3,SNR=2.1 LR LR 10 18 20.3
comp=Z,3µm,19.1s,MS5.2,baz=214,slow=37
SCHQ Schefferville 46.44 15 P P **09 58 11.8 -1.4**
SCHQ *e*P 09 58 12.2
SCHQ PcP PcP 09 59 46.8 -0.3
SCHQ LR LR 10 18 20.3
WTV Waterville 46.47 329 P P **09 58 13.3 -0.1**
CBSW Chelan Butte S 46.58 329 P P **09 58 14.1 -0.2**
ETW Entiat 46.60 328 *e*P P **09 58 15.5 +1.0**
comp=Z,186nm,1.8s,mb5.7
LON Longmire 46.84 327 *e*P P **09 58 17.5 +1.1**
comp=Z,29nm,1.0s,mb5.2
LON Longmire 46.84 327 *e*P P **09 58 17.5 +1.1**
LON pmax pmax
comp=Z,29nm,1.0s,mb5.2
D05A Enumclaw 47.20 327 ⇓P P **09 58 18.6 -0.6**
baz=47
RPW Rockport 47.75 329 *e*P P **09 58 23.0 -0.4**
comp=Z,50nm,1.1s,mb5.5
RPW *e*PcP PcP 09 59 53.2 +1.3
JCW Jim Creek 47.80 328 *e*P P **09 58 22.8 -1.0**
comp=Z,60nm,1.2s,mb5.5
GNW Green Mountain 47.88 327 *e*P P **09 58 23.7 -0.8**
comp=Z,29nm,1.1s,mb5.2
NLWA Neilton Lookou 48.34 326 *e*P P **09 58 28.4 +0.4**
comp=Z,51nm,1.4s,mb5.4
NLWA *e*PcP PcP 09 59 56.7 +2.6
A05A Maple Falls 48.39 329 ⇓P P **09 58 27.2 -1.2**
baz=48
BBB Bella Bella 53.38 329 LR LR 10 25 07.7
comp=Z,1µm,20.8s,MS4.9,baz=136,slow=40
TRQA Tornquist 53.62 156 *e*P P **09 59 08.4 +0.7**
comp=Z,83nm,1.7s,mb5.4
FRB Frobisher Bay 54.26 9 P P **09 59 12.3 +0.2**
comp=Z,24nm,1.0s,mb5.1,baz=178,slow=6.0,SNR=4.8
FRB Frobisher Bay 54.26 9 P P **09 59 12.3 +0.2**
FRB Frobisher Bay 54.26 9 P P **09 59 12.3 +0.2**
YKA Yellowknife Ar 55.51 344 P P **09 59 19.2 -1.8**
comp=Z,17nm,0.8s,mb5.1,baz=136,slow=7.3,SNR=23
YKA PcP PcP 10 00 20.1 -0.4
comp=Z,4.1nm,0.7s,baz=148,slow=4.2,SNR=5.6
YKA LR LR 10 27 38.8
comp=Z,129nm,18.2s,MS4.0,baz=295,slow=41
YKA Yellowknife Ar 55.51 344 P P **09 59 19.2 -1.8**
YKA PcP PcP 10 00 20.1 -0.4
YKA LR LR 10 27 38.8
YKA Yellowknife Ar 55.51 344 P P **09 59 19.3 -1.8**
YKA 10 00 20.1
TAOE Nuku Hiva Isla 57.25 252 *e*S S **10 07 34.9 +8.2**
comp=Z,815nm,24.8s
TAOE *e*LR LR 10 16 14.3
comp=Z,1µm,23.5s
DLBC Dease Lake 57.92 334 LR LR 10 27 25.6
comp=Z,2µm,19.8s,MS5.2,baz=106,slow=39
DLBC Dease Lake 57.92 334 *e*P P **09 59 38.8 +0.5**
RKT Rikitea 58.56 234 *e*S S **10 07 51.9 +8.3**
comp=Z,2µm,26.0s
RKT *e*LQ 10 14 30.6
comp=Z,656nm,33.5s
RKT *e*LR LR 10 17 03.6
comp=Z,902nm,26.0s,baz=57
RES Resolute Bay 64.01 357 P P **10 00 18.1 -1.2**
comp=Z,14nm,1.0s,mb5.0,baz=181,slow=11,SNR=20
RES LR LR 10 29 37.7
comp=Z,782nm,18.0s,MS4.9,baz=306,slow=38
RES Resolute Bay 64.01 357 P P **10 00 18.1 -1.2**
RES LR LR 10 29 37.7
RES Resolute Bay 64.01 357 P P **10 00 18.2 -1.1**
DAWY Dawson 64.79 337 *e*P P **10 00 23.6 -1.0**
INK Inuvik 65.13 342 P P **10 00 25.8 -0.9**
comp=Z,20nm,0.9s,mb5.1,baz=122,slow=7.3,SNR=51
INK Inuvik 65.13 342 P P **10 00 25.8 -0.9**
INK Inuvik 65.13 342 P P **10 00 25.8 -0.9**
BMRM Bremner River 65.58 333 *e*P P **10 00 30.3 +0.5**
comp=Z,46nm,1.3s,mb5.3
EGAK Eagle 65.80 337 *e*P P **10 00 30.3 -0.9**
comp=Z,18nm,1.1s,mb5.0
MENT Mentasta 66.00 335 *e*P P **10 00 32.4 0.0**
DOT Dot Lake 66.44 336 *e*P P **10 00 35.0 -0.2**
comp=Z,142nm,1.2s,mb5.9
PAX Paxson 66.74 335 *e*P P **10 00 36.7 -0.5**
comp=Z,78nm,1.7s,mb5.5
PAX Paxson 66.74 335 *e*P P **10 00 36.7 -0.5**
PAX pmax pmax
comp=Z,78nm,1.7s,mb5.5
SEW Seward 67.52 331 *e*P P **10 00 41.6 -0.6**
comp=Z,31nm,1.1s,mb5.2
SML Sawmill 67.56 333 *e*P P **10 00 42.1 -0.3**
comp=Z,14nm,1.2s,mb4.9
SML Sawmill 67.56 333 *e*P P **10 00 42.1 -0.3**
SML pmax pmax
comp=Z,14nm,1.2s,mb4.9
SUMG Summit 67.80 14 *e*P P **10 00 42.9 -0.9**
comp=Z,19nm,0.9s,mb5.1
SUMG Summit 67.80 14 *e*P P **10 00 42.9 -0.9**
SUMG pmax pmax
comp=Z,19nm,0.9s
SUMG Summit 67.80 14 *i*P P **10 00 41.3 -2.5**
comp=Z,6.9nm,0.9s,mb4.7
SUMG *i* pP 10 00 56.2 -2.6
SUMG
comp=Z,2µm,21.0s
PMR Palmer 67.85 333 *e*P P **10 00 43.3 -0.9**
comp=Z,44nm,1.6s,mb5.2
PMR Palmer 67.85 333 *e*P P **10 00 43.3 -0.9**
PMR pmax pmax
comp=Z,44nm,1.6s,mb5.2
SLKM Skilak Lake 68.01 331 *e*P P **10 00 45.2 0.0**
SLKM Skilak Lake 68.01 331 *e*P P **10 00 45.2 0.0**
ILAR Eielson Array 68.02 336 P P **10 00 44.2 -1.0**
comp=Z,12nm,0.8s,mb5.0,baz=112,slow=4.4,SNR=104
ILAR PP PP 10 03 14.3 -1.3
comp=Z,2.6nm,0.9s,baz=104,slow=6.3,SNR=4.8
ILAR LR LR 10 34 20.5
comp=Z,1µm,21.7s,MS5.1,baz=122,slow=39
ILAR Eielson Array 68.02 336 P P **10 00 44.2 -1.0**
ILAR PP PP 10 03 14.3 -1.3
ILAR LR LR 10 34 20.5
ILAR Eielson Array 68.02 336 P P **10 00 44.2 -1.0**
ILAR 10 03 14.4
KDAK Kodiak Island 68.43 328 LR LR 10 32 27.3
comp=Z,899nm,21.2s,MS5.0,baz=100,slow=38
KDAK Kodiak Island 68.43 328 *e*P P **10 00 48.0 0.0**
comp=Z,16nm,0.9s,mb5.1
KDAK Kodiak Island 68.43 328 *e*P P **10 00 48.0 +0.1**
KDAK pmax pmax
comp=Z,16nm,0.9s,mb5.0
COLA College 68.44 336 *e*P P **10 00 46.8 -1.1**
comp=Z,24nm,1.1s,mb5.1
COLA College 68.44 336 *e*P P **10 00 46.8 -1.1**
COLA pmax pmax
comp=Z,24nm,1.1s,mb5.1
MCK McKinley 68.48 335 *e*P P **10 00 48.0 -0.2**
comp=Z,76nm,1.1s,mb5.6
MCK McKinley 68.48 335 *e*P P **10 00 48.0 -0.1**
MCK pmax pmax
comp=Z,76nm,1.1s,mb5.6
OHAK Old Harbor 68.66 327 *e*P P **10 00 49.4 0.0**
comp=Z,59nm,1.1s,mb5.4
PPT Papeete 68.78 246 *e*S S 10 09 58.0 +7.2
comp=Z,1µm,26.5s
PPT *e*LR LR 10 21 41.3
comp=Z,1µm,25.0s,baz=60
PPT Papeete 68.78 246 LR LR 10 25 09.0
comp=Z,763nm,18.0s,MS5.0,baz=92,slow=31
TRF Thorofare Moun 68.95 334 *e*P P **10 00 51.0 -0.1**
comp=Z,39nm,1.0s,mb5.3
RSO Redoubt South 69.20 331 *e*P P **10 00 52.7 +0.1**
comp=Z,97nm,0.9s,mb5.7
BPAW Bear Paw Mtn. 69.45 335 *e*P P **10 00 53.2 -1.0**
comp=Z,57nm,1.0s,mb5.5
PPLA Purkeypile 69.61 333 *e*P P **10 00 54.7 -0.4**
comp=Z,63nm,1.1s,mb5.5
COLD Coldfoot 70.18 338 *e*P P **10 00 58.8 +0.3**
comp=Z,35nm,1.3s,mb5.1
TBI Tubuai 70.69 241 *e*S S 10 10 23.2 +10
comp=Z,932nm,25.0s
TBI *e*LR LR 10 22 36.7
comp=Z,1µm,25.0s,baz=61
SVW2 Sparrevohn 70.70 331 *e*P P **10 01 00.2 -1.7**
comp=Z,32nm,1.3s,mb5.1
CHGN Chignik 71.25 326 *e*P P **10 01 05.1 -0.2**

SDPT Sand Point 72.28 325 *e*P P **10 01 11.9 +0.4**
comp=Z,160nm,1.4s,mb5.8
FALS False Pass 73.92 324 *e*P P **10 01 21.5 +0.3**
comp=Z,153nm,0.9s,mb5.9
EVO Evora 74.02 53 *e*P P **10 01 20.1 -2.0**
comp=Z,24nm,1.0s,mb4.8
EVO *e*R
comp=Z,1µm,17.2s
DAG Danmarks Havn 74.41 13 *i*P P **10 01 21.3 -2.4**
DAG *i* pP 10 01 34.0 -4.9
DAG MLR MLR
comp=Z,2µm,26.0s,MS5.2
DAG Danmarks Havn 74.41 13 *i*P P **10 01 21.3 -2.4**
comp=Z,4.5nm,0.8s,mb4.5
DAG *i* pP 10 01 34.0 -4.9
DAG
comp=Z,1µm,26.0s
PMRV Marv??o 74.48 52 *e*P P **10 01 23.7 -1.1**
comp=Z,25nm,1.6s,mb4.9
MVO Moncorvo 74.72 50 *e*P P **10 01 24.9 -1.2**
comp=Z,21nm,1.2s,mb4.9
PBAR Barrancos 74.79 53 *e*P P **10 01 26.0 -0.6**
comp=Z,24nm,1.8s,mb4.8
PBRG Braganca 74.92 50 *e*P P **10 01 29.2 +1.9**
comp=Z,31nm,1.6s,mb5.0
UNV Unalaska Valle 75.67 323 *e*P P **10 01 32.0 +0.7**
comp=Z,84nm,0.9s,mb5.7
MDT Midelt 77.07 59 P P **10 01 39.5 -0.3**
comp=Z,5.8nm,0.9s,mb4.5,baz=284,slow=5.9,SNR=6.4
MDT Midelt 77.07 59 P P **10 01 39.5 -0.3**
ESDC Sonseca Array 77.12 52 P P **10 01 39.0 -0.9**
comp=Z,3.7nm,0.7s,mb4.4,baz=280,slow=5.4,SNR=13
ESDC LR LR 10 31 15.1
comp=Z,1µm,21.4s,MS5.1,baz=280,slow=32
ESDC Sonseca Array 77.12 52 P P **10 01 39.0 -0.9**
ESDC LR LR 10 31 15.1
ROSF Rostrenen 77.21 43 *e*P P **10 01 39.1 -1.1**
comp=Z,104nm,1.4s,mb5.3
QUIF Quistinic 77.30 43 *e*P P **10 01 38.8 -1.9**
comp=Z,63nm,1.1s,mb5.2
SGMF Saint Gilles 77.69 43 *e*P P **10 01 40.7 -2.1**
comp=Z,148nm,1.7s,mb5.3
GRR Gorron 78.81 43⇑ *i*P P **10 01 47.1 -2.0**
comp=Z,71nm,1.0s,mb5.2
SJPF Ste Jean 78.94 48 *e*P P **10 01 48.5 -1.4**
comp=Z,36nm,1.1s,mb4.9
FLN La Foliniere 79.04 42 *e*P P **10 01 48.4 -1.9**
comp=Z,27nm,0.8s,mb4.9
FLN *e*R
comp=Z,2µm,20.5s
RAR Rarotonga 79.05 246 LR LR 10 27 04.8
comp=Z,583nm,20.4s,MS4.9,baz=299,slow=28
LDF La Druitiere 79.29 42 *e*P P **10 01 49.6 -2.1**
comp=Z,23nm,1.0s,mb4.8
MFF Saint Martin d 79.42 44 *e*P P **10 01 50.4 -2.0**
comp=Z,37nm,1.3s,mb4.9
ETSF Etsaut 79.44 48 *e*P P **10 01 51.2 -1.4**
comp=Z,22nm,1.1s,mb4.7
EPF Esparros 80.08 48 *e*P P **10 01 54.5 -1.6**
comp=Z,17nm,0.9s,mb4.7
LIC Lamto 80.09 86 *e*P P **10 01 56.0 -0.7**
comp=Z,29nm,0.7s,mb5.0,baz=266
LIC *e*R
comp=Z,572nm,21.5s
DBIC Dimbokro 80.18 85 P P **10 01 56.5 -0.7**
comp=Z,9.3nm,0.9s,mb4.7,baz=255,slow=4.9,SNR=8.0
DBIC LR LR 10 35 18.4
comp=Z,453nm,20.1s,MS4.8,baz=262,slow=34
DBIC Dimbokro 80.18 85 P P **10 01 56.5 -0.7**
DBIC LR LR 10 35 18.4
DBIC Dimbokro 80.18 85 P P **10 01 56.5 -0.7**
RJF Les Rejaudoux 80.70 46 *e*P P **10 01 57.2 -2.2**
comp=Z,14nm,0.9s,mb4.6
RJF *e*R
comp=Z,1µm,20.2s
TCF Toulx Ste Croi 81.08 45 *e*P P **10 01 58.9 -2.4**
comp=Z,4.9nm,0.6s,mb4.3
CAF Calviac 81.13 46 *e*P P **10 01 59.6 -2.0**
comp=Z,12nm,0.8s,mb4.5
MTLF Montolieu 81.42 48 *e*P P **10 02 01.2 -2.0**
comp=Z,11nm,0.8s,mb4.5
BGF Bois d'Agland 81.48 44 *e*P P **10 02 01.2 -2.3**
comp=Z,38nm,1.2s,mb4.9
AVF Avril sur Loir 81.80 44 *e*P P **10 02 02.5 -2.7**
comp=Z,44nm,1.5s,mb4.9
SSF Saint Saulge 81.87 44 *e*P P **10 02 02.9 -2.6**
comp=Z,11nm,1.0s,mb4.5
LOR Lormes 82.08 43 *e*P P **10 02 04.2 -2.4**
comp=Z,17nm,0.9s,mb4.7
LOR *e*R
comp=Z,2µm,19.5s
SMF Signal de Mont 82.15 44 *e*P P **10 02 04.4 -2.6**
comp=Z,52nm,1.4s,mb5.0
LASF Ste Croix 82.50 47 *e*P P **10 02 06.7 -2.2**
comp=Z,54nm,1.2s,mb5.1
MEZF Maizieres J'vi 82.72 42 *e*P P **10 02 07.8 -2.1**
SFTF Sexfontaines 82.75 42 *e*P P **10 02 07.8 -2.3**
comp=Z,41nm,1.2s,mb5.0
VIVF Saint-Julien-l 82.97 46 *e*P P **10 02 09.7 -1.6**
comp=Z,54nm,1.3s,mb5.1
PAGF Fort de Pagny 83.15 42 *e*P P **10 02 10.1 -2.1**
comp=Z,3.2nm,0.5s,mb4.3
HAU Haudompre 83.65 42 *e*P P **10 02 12.4 -2.3**
comp=Z,22nm,0.9s,mb5.0
HAU *e*R
comp=Z,2µm,20.2s
CABF La Chapelle 83.69 44 *e*P P **10 02 12.7 -2.3**
comp=Z,27nm,1.2s,mb5.0
HINF Hinteralfeld 84.01 43 *e*P P **10 02 14.1 -2.5**
comp=Z,10.0nm,0.8s,mb4.7
NB2 NORSAR Subarra 84.11 29 P P **10 02 15.1 -1.7**
comp=Z,11nm,1.0s,mb4.9,baz=280,slow=5.1
NOA NORSAR Array B 84.11 29 P P **10 02 15.3 -1.5**
comp=Z,2.5nm,1.0s,mb4.3,baz=282,slow=5.2,SNR=3.3
NOA LR LR 10 36 04.6
comp=Z,631nm,21.2s,MS5.0,baz=285,slow=33
NOA NORSAR Array B 84.11 29 P P **10 02 15.3 -1.5**
NOA LR LR 10 36 04.6
NOA NORSAR Array B 84.11 29 P P **10 02 15.3 -1.5**
CDF Champ du Feu 84.19 42 *e*P P **10 02 15.3 -2.2**
comp=Z,6.4nm,0.7s,mb4.6
LPG La Plagne 84.33 45 *e*P P **10 02 16.2 -2.0**
comp=Z,9.5nm,1.0s,mb4.6
AMKA Amchitka 84.49 321 *e*P P **10 02 20.1 +1.2**
comp=Z,115nm,0.7s,mb6.1
SBF Sospel 85.09 46 *e*P P **10 02 19.1 -3.0**
comp=Z,43nm,0.8s,mb5.3
TORD Torodi Ar. Bea 85.44 78 P P **10 02 22.1 -2.4**
comp=Z,4.5nm,0.9s,mb4.6,baz=279,slow=4.5,SNR=23
TORD PKKPbc PKKPbc 10 20 32.2 +4.1
comp=Z,0.6nm,0.8s,baz=77,slow=3.2,SNR=4.4
TORD Torodi Ar. Bea 85.44 78 P P **10 02 22.1 -2.4**
TORD PKKPbc PKKPbc 10 20 32.2 +4.1
DAVA Damuels 86.12 43⇑ *i*P P **10 02 25.1 -2.1**
comp=Z,17nm,0.9s,mb5.3
PGF Pioggiola 86.46 48 *e*P P **10 02 25.9 -3.0**
BILL Bilibino 86.49 339 *e*P P **10 02 28.3 -0.3**
comp=Z,57nm,1.6s,mb5.5
BILL Bilibino 86.49 339 *c i*P P **10 02 27.8 -0.8**
BILL *e* 10 05 47.8
BILL *e*SS SS 10 18 46.2 +5.2
BILL pmax pmax
comp=Z,55nm,1.8s,mb5.5
GRFO Grafenberg 86.49 40 *e*P P **10 02 24.6 -4.3**
comp=Z,36nm,0.6s,mb5.8
GRFO Grafenberg 86.49 40 *e*P P **10 02 24.6 -4.3**
GRFO pmax pmax
comp=Z,36nm,0.6s,mb5.8
FETA Feichten 86.75 43⇑ *i*P P **10 02 27.3 -3.0**
comp=Z,9.2nm,1.0s,mb5.0
CLL Collm 87.23 38 *e*P P **10 02 31.0 -1.5**
CLL *e* 10 02 54.0
CLL *e*S S 10 13 14.0 +5.8
CLL pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
CLL MLR MLR
comp=Z,500nm,18.1s,MS5.0
CLL Collm 87.23 38 *e*P P **10 02 31.0 -1.5**
comp=Z,9.0nm,0.8s,mb5.0
CLL *e* 10 02 39.0
CLL *e*sP sP 10 02 54.0 0.0
CLL *e*PP PP 10 05 59.0 +2.3
CLL *e*S S 10 13 14.0 +5.8
CLL *e*PS 10 14 14.0
CLL *e*SS SS 10 19 12.0 +19
CLL *e*SSS 10 22 54.0
CLL *e*SSSS 10 25 36.0

CLL					LmV			10 55 00.0	
	comp=Z,500nm,18.1s								
ARCES	**ARCESS Array B**	**87.25**	**19**		P		**P**	**10 02 33.9**	**+1.7**
	comp=Z,3.8nm,1.0s,mb4.6,baz=338,slow=2.9,SNR=4.2								
ARCES					LR		LR	10 44 12.8	
	comp=Z,870nm,19.4s,MS5.2,baz=314,slow=38								
ARCES	**ARCESS Array B**	**87.25**	**19**		P		**P**	**10 02 33.9**	**+1.7**
ARCES					LR		LR	10 44 12.8	
ARCES	**ARCESS Array B**	**87.25**	**19**		P		**P**	**10 02 33.9**	**+1.7**
TAM	**Tamanrasset**	**87.32**	**67**		*e*P		**P**	**10 02 33.1**	**-0.5**
	comp=Z,7.8nm,1.1s,mb4.8								
TAM	**Tamanrasset**	**87.32**	**67**		*e*P		**P**	**10 02 33.1**	**-0.4**
TAM					pmax		pmax		
	comp=Z,8.0nm,1.1s,mb4.9								
FX1	**Attu Island--F**	**87.85**	**323**		LR		LR	10 43 57.7	
	comp=Z,205nm,20.3s,MS4.5,baz=272,slow=37								
BRG	**Berggiesshubel**	**87.91**	**39**		*e*P		**P**	**10 02 34.1**	**-1.6**
	comp=Z,4.4nm,0.8s,mb4.7								
BRG					*e*			10 02 41.0	
	comp=Z,4.9nm,0.9s								
BRG					S		S	10 13 10.0	-4.8
BRG					SS		SS	10 19 26.0	+23
BRG									
	comp=N,637nm,21.3s								
BRG									
	comp=E,598nm,19.8s								
BRG									
	comp=Z,875nm,19.8s								
BRG	**Berggiesshubel**	**87.91**	**39**		*e*P		**P**	**10 02 34.1**	**-1.7**
BRG					S		S	10 13 10.0	-4.8
BRG					pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.7								
BRG					MLR		MLR		
	comp=N,637nm,21.3s,MS5.2								
BRG					MLR		MLR		
	comp=E,598nm,19.8s,MS5.2								
BRG					MLR		MLR		
	comp=Z,875nm,19.8s,MS5.2								
KEST	**Kesra**		**88.10**	**54**	LR		LR	10 37 35.4	
	comp=Z,204nm,21.3s,MS4.5,baz=201,slow=33								
KHC	**Kasperske Hory**	**88.12**	**40**		*e*P		**P**	**10 02 34.6**	**-2.2**
	comp=Z,2.8nm,0.8s,mb4.5								
KHC	**Kasperske Hory**	**88.12**	**40**		*e*P		**P**	**10 02 34.6**	**-2.2**
KHC					pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.6								
GERES	**GERESS Array B**	**88.27**	**41**		P		**P**	**10 02 36.1**	**-1.4**
	comp=Z,0.7nm,0.5s,mb4.2,baz=245,slow=2.8,SNR=8.6								
GERES					PP		PP	10 06 12.1	+7.0
	comp=Z,0.3nm,0.4s,baz=284,slow=5.4,SNR=3.5								
GERES					LR		LR	10 39 11.2	
	comp=Z,1μm,19.8s,MS5.3,baz=276,slow=34								
GERES	**GERESS Array B**	**88.27**	**41**		P		**P**	**10 02 36.1**	**-1.4**
GERES					PP		PP	10 06 12.1	+7.0
GERES					LR		LR	10 39 11.2	
GERES	**GERESS Array B**	**88.27**	**41**		P		**P**	**10 02 36.1**	**-1.4**
GERES								10 06 12.1	
AFI	**Afiamalu**	**88.46**	**256**		LR		LR	10 35 03.0	
	comp=Z,561nm,18.8s,MS5.0,baz=77,slow=31								
APA	**Apatity**	**90.74**	**20**	⇑	*e*P		sP	10 03 03.0	-7.2
APA					pmax		pmax		
	comp=Z,30nm,1.2s,mb5.5								
APA					MLR		MLR		
	comp=Z,2μm,19.0s,MS5.5								
FINES	**FINESS Array B**	**90.80**	**26**		LR		LR	10 41 55.0	
	comp=Z,1μm,18.8s,MS5.3,baz=296,slow=35								
PET	**Petropavlovsk**	**95.99**	**327**	*d*	iP		**P**	**10 03 15.9**	**+2.8**
PET					*e*			10 07 09.5	
PET					*e*S		S	10 14 29.2	+1.7
PET					pmax		pmax		
	comp=Z,100nm,15.0s								
PET					pmax		pmax		
	comp=Z,100nm,14.9s								
PET					MLR		MLR		
	comp=Z,600nm,16.0s,MS5.2								
PET					MLR		MLR		
	comp=Z,500nm,19.0s								
AKASG	**Malin Array Be**	**97.05**	**35**		LR		LR	10 47 41.6	
	comp=Z,983nm,18.7s,MS5.3,baz=255,slow=36								
KIS	**Kishinev**	**98.44**	**39**		*e*P		**P**	**10 03 19.0**	**-5.3**
KIS					LRM			10 47 52.0	
	comp=Z,1μm,17.0s								
KIS	**Kishinev**	**98.44**	**39**		*e*P		**P**	**10 03 19.0**	**-5.3**
KIS					MLR		MLR		
	comp=Z,1μm,17.0s,MS5.5								
DZM	**Mont Dzumac**	**110.10**	**250**		*e*SP		SP	10 18 15.3	-0.8
	comp=Z,139nm,28.2s								
DZM					*e*SS		SS	10 24 24.0	+8.7
	comp=Z,236nm,24.1s								
DZM					*e*LR		LR	10 41 00.9	
	comp=Z,436nm,23.2s								
ABKAR	**Akbulak array**	**113.11**	**23**		*e*PKPdf		PKiKP	10 08 23.8	+0.5
BRVK	**Borovoye**	**113.21**	**15**	⇑	*i*PKIKP		PKiKP	10 08 24.2	+0.8
BOSA	**Boshof**	**113.78**	**116**		PKiKP		PKiKP	10 08 26.1	+1.0
	comp=Z,13nm,0.8s,baz=216,slow=0.7,SNR=13								
BOSA	**Boshof**	**113.78**	**116**		PKPdf		PKiKP	10 08 26.1	+1.0
BOSA	**Boshof**	**113.78**	**116**		PKIKP		PKiKP	10 08 26.1	+1.0
ZALV	**Zalesovo Beam**	**115.00**	**6**		PKP		PKiKP	10 08 26.5	-0.3
	comp=Z,2.0nm,0.6s,baz=280,slow=2.1,SNR=13								
ZALV					PKKPab		PKKPab	10 19 15.1	+4.3
	comp=Z,0.3nm,0.4s,baz=169,slow=3.8,SNR=4.5								
ZALV	**Zalesovo Beam**	**115.00**	**6**		PKP		PKiKP	10 08 26.5	-0.3
ZALV					PKKPab		PKKPab	10 19 15.1	+4.3
ZALV	**Zalesovo Beam**	**115.00**	**6**		PKIKP		PKiKP	10 08 26.5	-0.3
LSZ	**Lusaka**	**116.01**	**102**		*e*PKPdf		PKPdf	10 08 31.2	+1.5
LSZ	**Lusaka**	**116.01**	**102**		*e*PKIKP		PKPdf	10 08 31.2	+1.5
MDJ	**Mudanjiang**	**116.05**	**332**		PKP		PKPdf	10 08 28.3	-0.8
MDJ					PP		PP	10 09 31.9	-1.3
MDJ					S		Sdif	10 17 11.3	-4.0
MDJ					SS		SS	10 25 29.4	-1.7
MDJ					AMB		AMB		
	comp=Z,110nm,6.2s								
MDJ					LR		LR		
	comp=N,290nm,24.0s,MS4.9								
MDJ					LR		LR		
	comp=E,230nm,22.2s,MS4.9								
MDJ					LR		LR		
	comp=Z,350nm,20.3s,MS5.0								
MJAR	**Matsushiro Arr**	**117.10**	**321**		PKP		PKPdf	10 08 31.4	+0.1
	comp=Z,2.1nm,0.7s,baz=103,slow=1.2,SNR=6.8								
MJAR	**Matsushiro Arr**	**117.10**	**321**		PKP		PKPdf	10 08 31.4	+0.1
MJAR	**Matsushiro Arr**	**117.10**	**321**		PKIKP		PKPdf	10 08 31.4	0.0
TLY	**Talaya**	**117.16**	**353**	*i*	PKIKP		PKPdf	10 08 43.1	+12
TLY					pmax		pmax		
	comp=Z,3.0nm,0.7s								
KURK	**Kurchatov**	**117.26**	**11**		*e*PKPdf		PKPdf	10 08 30.2	-1.0
KURK	**Kurchatov**	**117.26**	**11**	⇓	*i*PKIKP		PKPdf	10 08 30.6	-0.6
KURK					pmax		pmax		
	comp=Z,4.0nm,1.7s								
ZAK	**Zakamensk**	**118.48**	**353**		*e*PKIKP		PKPdf	10 08 33.3	-0.3
ZAK					pmax		pmax		
	comp=Z,2.0nm,2.0s								
CN2	**Changchun**	**118.51**	**334**		*e*PKP		PKPdf	10 08 30.3	-3.6
CN2					PP		PP	10 09 53.4	+3.0
CN2					AMB		AMB		
	comp=Z,200nm,6.0s								
CN2					LR		LR		
	comp=N,300nm,23.0s,MS4.9								
CN2					LR		LR		
	comp=E,200nm,23.0s,MS4.9								
CN2					LR		LR		
	comp=Z,300nm,21.0s,MS4.9								
MAW	**Mawson**	**119.68**	**167**		PKP		PKPdf	10 08 37.3	+1.9
	comp=Z,2.1nm,0.8s,baz=272,slow=4.8,SNR=7.6								
MAW	**Mawson**	**119.68**	**167**		PKP		PKPdf	10 08 37.3	+1.9
MAW	**Mawson**	**119.68**	**167**		PKIKP		PKPdf	10 08 37.3	+2.0
ULN	**Ulaanbaatar**	**120.39**	**350**		*e*PKPdf		PKPdf	10 08 38.1	+0.8
ULN	**Ulaanbaatar**	**120.39**	**350**		*e*PKIKP		PKPdf	10 08 38.1	+0.7
SONM	**Songino Array**	**120.54**	**350**		PKP		PKPdf	10 08 38.2	+0.6
	comp=Z,5.8nm,0.8s,baz=335,slow=1.5,SNR=41								
SONM					PKKPab		PKKPab	10 18 51.6	+5.1
	comp=Z,1.6nm,1.1s,baz=168,slow=4.0,SNR=5.5								
SONM	**Songino Array**	**120.54**	**350**		PKP		PKPdf	10 08 38.2	+0.6
SONM					PKKPab		PKKPab	10 18 51.6	+5.1
SONM	**Songino Array**	**120.54**	**350**		PKIKP		PKPdf	10 08 38.2	+0.6
MKAR	**Makanchi Array**	**121.68**	**9**		PKP		PKPdf	10 08 39.5	-0.3
	comp=Z,2.6nm,0.7s,baz=357,slow=2.3,SNR=20								
MKAR	**Makanchi Array**	**121.68**	**9**		PKP		PKPdf	10 08 39.5	-0.3
MKAR	**Makanchi Array**	**121.68**	**9**		PKIKP		PKPdf	10 08 39.5	-0.4
KSRS	**Korea Array**	**122.34**	**328**		PKP		PKPdf	10 08 41.9	+0.4
	comp=Z,15nm,1.0s,baz=28,slow=1.2,SNR=40								
USP	**Ospenovka**	**123.30**	**17**		P		PKPdf	10 08 43.8	+0.7
	SNR=18								
EKS2	**Erkin-Say**	**123.64**	**18**		P		PKPdf	10 08 44.9	+1.1
	SNR=11								
EKS2	**Erkin-Say**	**123.64**	**18**		*e*PKPdf		PKPdf	10 08 45.2	+1.4
EKS2	**Erkin-Say**	**123.64**	**18**		*e*PKIKP		PKPdf	10 08 45.2	+1.4
AAK	**Ala-Archa**	**123.88**	**17**		P		PKPdf	10 08 45.5	+1.3
	SNR=8.1								
AAK	**Ala-Archa**	**123.88**	**17**	*c*	*i*PKIKP		PKPdf	10 08 45.5	+1.3
TKM2	**Tokmak 2**	**123.93**	**16**		P		PKPdf	10 08 45.0	+0.7
	SNR=9.8								
TKM2	**Tokmak 2**	**123.93**	**16**		*e*PKPdf		PKPdf	10 08 45.2	+0.9
TKM2	**Tokmak 2**	**123.93**	**16**		*e*PKIKP		PKPdf	10 08 45.2	+0.9
AML	**Almayashu**	**124.10**	**18**		P		PKPdf	10 08 46.3	+1.7
	SNR=24								
ULHL	**Ulahol**	**124.73**	**16**		P		PKPdf	10 08 47.8	+1.9
	SNR=13								
WMQ	**Urumqi**	**125.30**	**6**		PKP		PKPdf	10 08 49.1	+2.2
WMQ					sPKP			10 09 14.3	
WMQ					PP		PP	10 10 43.6	+7.6
WMQ					LR		LR		
	comp=N,700nm,20.5s,MS5.4								
WMQ					LR		LR		
	comp=E,460nm,18.5s,MS5.4								
WMQ					LR		LR		
	comp=Z,860nm,22.5s,MS5.4								
BJI	**Beijing**	**125.33**	**339**		PKP		PKPdf	10 08 46.0	-1.1
BJI					PP		PP	10 10 35.8	-0.7
BJI					SS		SS	10 27 27.8	-1.8
BJI					LR		LR		
	comp=N,310nm,22.8s,MS5.0								
BJI					LR		LR		
	comp=E,210nm,21.2s,MS5.0								
BJI					LR		LR		
	comp=Z,530nm,29.3s								
HHC	**Hu-ho-hao-te**	**126.04**	**343**		*e*PKP		PKPdf	10 08 49.1	+0.7
HHC					PP		PP	10 10 43.3	+2.2
HHC					PKS			10 12 23.1	
HHC					SKS		SKSdf	10 15 48.8	-7.1
HHC					SKKS		SKKSac	10 17 27.6	-8.3
HHC					SS		SS	10 27 37.8	-0.6
HHC					AMB		AMB		
	comp=Z,79nm,9.5s								
HHC					LR		LR		
	comp=N,410nm,17.8s,MS5.3								
HHC					LR		LR		
	comp=E,360nm,17.8s,MS5.3								
HHC					LR		LR		
	comp=Z,510nm,17.8s,MS5.2								
RMQ	**Roma**	**126.16**	**245**		*e*PKP		PKPdf	10 08 50.1	+1.1
	comp=Z,16nm,0.8s								
KSH	**Kashi**	**127.19**	**17**		PKP		PKPdf	10 08 52.6	+2.0
KSH					PKS			10 12 28.1	
KSH					SKS		SKSdf	10 15 53.3	-4.8
KSH					AMB		AMB		
	comp=Z,120nm,6.7s								
KSH					LR		LR		
	comp=N,77nm,4.9s								
KSH					LR		LR		
	comp=E,82nm,5.8s								
KSH					LR		LR		
	comp=Z,160nm,4.9s								
CTA	**Charters Tower**	**128.91**	**253**		*e*PKP		PKPdf	10 08 55.4	+1.0
	comp=Z,5.2nm,0.9s								
KBL	**Kabul**	**129.06**	**27**		*e*PKPdf		PKPdf	10 08 55.5	+1.2
KBL	**Kabul**	**129.06**	**27**		*e*PKIKP		PKPdf	10 08 55.5	+1.1
GTA	**Gaotai**	**129.70**	**354**		PKP		PKPdf	10 08 56.5	+1.1
GTA					PKS			10 12 30.8	
GTA					SKS		SKSdf	10 15 59.4	-3.3
GTA					AMB		AMB		
	comp=Z,120nm,7.6s								
GTA					LR		LR		
	comp=N,470nm,20.4s,MS5.2								
GTA					LR		LR		
	comp=E,330nm,21.8s,MS5.2								
GTA					LR		LR		
	comp=Z,540nm,22.3s,MS5.2								
NJ2	**Nanjing**	**131.13**	**332**		*e*PKP		PKPdf	10 08 59.4	+1.0
STKA	**Stephens Creek**	**131.38**	**237**		PKP		PKPdf	10 08 59.7	+0.9
	comp=Z,6.4nm,0.8s,baz=102,slow=2.5,SNR=9.9								
STKA	**Stephens Creek**	**131.38**	**237**		*e*PKP		PKPdf	10 08 59.3	+0.5
	comp=Z,5.6nm,0.9s								
STKA	**Stephens Creek**	**131.38**	**237**		PKP		PKPdf	10 08 59.7	+0.9
STKA					*e*PKPdf		PKPdf	10 08 59.9	+1.1
STKA	**Stephens Creek**	**131.38**	**237**		PKIKP		PKPdf	10 08 59.7	+0.9
LZH	**Lanzhou**	**132.39**	**349**		*e*PKP		PKPdf	10 09 01.4	+0.8
LZH					PKS			10 12 36.8	
XAN	**Xi'an**	**133.14**	**343**		PKP		PKPdf	10 09 02.0	-0.1
XAN					AMB		AMB		
	comp=Z,34nm,5.4s								
ABPO	**Ambohimpanom**	**134.27**	**106**		*e*PKPdf		PKPdf	10 09 06.5	+1.9
ABPO	**Ambohimpanom**	**134.27**	**106**		*e*PKIKP		PKPdf	10 09 06.5	+2.0
ENH	**Enshi**	**136.46**	**340**		*e*PKPdf		PKPdf	10 09 08.8	+0.4
CD2	**Chengdu**	**137.42**	**347**		PKP		PKPdf	10 09 06.0	-4.2
CD2					sPKP			10 09 43.3	
CD2					PP		PP	10 11 55.4	+1.0
CD2					PKS			10 12 41.0	
CD2					SKS		SKSdf	10 16 05.1	-12
CD2					SKKS		SKKSac	10 18 35.3	-11
CD2					SS		SS	10 29 51.4	-5.6
CD2					AMB		AMB		
	comp=Z,220nm,4.7s								
CD2					LR		LR		
	comp=N,440nm,13.1s								
CD2					LR		LR		
	comp=Z,580nm,16.6s,MS5.4								
DANN	**Dangsing**	**139.81**	**14**		*e*P		PKPdf	10 09 10.3	-4.3
	comp=Z,80nm,0.8s								
ASAR	**Alice Springs**	**139.89**	**246**		PKhKP		PKPpre	10 09 06.0	
	comp=Z,0.9nm,0.7s,baz=117,slow=3.1,SNR=11								
ASAR					PKP		PKPdf	10 09 17.2	+2.4
	comp=Z,8.4nm,0.8s,baz=98,slow=1.6,SNR=26								
ASAR	**Alice Springs**	**139.89**	**246**		PKP		PKPdf	10 09 17.2	+2.4
ASAR	**Alice Springs**	**139.89**	**246**		PKIKP		PKPdf	10 09 17.3	+2.5
WB2	**Warramunga Arr**	**140.08**	**252**		*e*PKPdf		PKPdf	10 09 16.1	+0.8
WRAB	**Tennant Creek**	**140.08**	**252**		*e*PKPdf		PKPdf	10 09 16.3	+1.0
WRAB	**Tennant Creek**	**140.08**	**252**		*e*PKIKP		PKPdf	10 09 16.3	+1.0
WRA	**Warramunga Arr**	**140.09**	**252**		PKhKP		PKPpre	10 09 07.3	
	comp=Z,2.3nm,1.0s,baz=100,slow=2.9,SNR=14								
WRA					PKP		PKPdf	10 09 16.2	+1.0
	comp=Z,10nm,0.7s,baz=93,slow=2.4,SNR=35								
WRA	**Warramunga Arr**	**140.09**	**252**		PKP		PKPpre	10 09 07.3	
WRA					PKP		PKPdf	10 09 16.2	+1.0
WRA	**Warramunga Arr**	**140.09**	**252**		PKHKP		PKPpre	10 09 07.4	
WRA								10 09 16.3	
KOLN	**Koldanda**	**140.33**	**14**		*e*P		PKPdf	10 09 09.1	-6.5
	comp=Z,28nm,0.9s								
GKN	**Gorkha**	**140.35**	**13**		*e*P		PKPdf	10 09 11.0	-4.6
	comp=Z,67nm,0.9s								
KKN	**Kakani**	**140.69**	**12**		*e*P		PKPdf	10 09 11.9	-4.3
	comp=Z,30nm,0.8s								
GUN	**Gumba**	**140.69**	**11**		*e*P		PKPdf	10 09 12.8	-3.4
	comp=Z,62nm,0.8s								
DMN	**Daman**	**140.83**	**12**		*e*P		PKPdf	10 09 11.9	-4.6
GYA	**Guiyang**	**140.91**	**342**		*e*PKP		PKPdf	10 09 15.3	-1.4
GYA					sPKP			10 09 44.8	
GYA					PP		PP	10 12 18.8	+2.8
GYA					PKS			10 12 48.9	
GYA					SKKS		SKKSac	10 19 01.5	-5.1
GYA					SS		SS	10 30 36.0	-2.3
GYA					AMB		AMB		
	comp=Z,140nm,7.9s								
GYA					LR		LR		
	comp=N,180nm,23.6s,MS4.8								
GYA					LR		LR		
	comp=E,150nm,25.3s,MS4.8								
GYA					LR		LR		
	comp=Z,190nm,24.6s,MS4.8								
PKI	**Pulchoki**	**140.93**	**12**		*e*P		PKPdf	10 09 11.7	-5.0
	comp=Z,35nm,0.9s								
TAPN	**Taplejung**	**141.55**	**9**		*e*P		PKPdf	10 09 13.3	-4.5
	comp=Z,19nm,0.9s								
ODAN	**Odare**	**141.98**	**10**		*e*P		PKPdf	10 09 14.1	-4.5
KMI	**Kunming**	**143.23**	**347**		PKP		PKPdf	10 09 21.4	+0.6
KMI					PP		PP	10 12 33.1	+3.1
KMI					SS		SS	10 31 06.0	+1.0
KMI					LR		LR		
	comp=N,240nm,23.5s,MS5.1								
KMI					LR		LR		
	comp=E,260nm,20.0s,MS5.1								
KMI					LR		LR		
	comp=Z,350nm,26.1s								
SHL	**Shillong**	**143.75**	**3**		*ex*		PKPdf	10 09 21.0	-0.8
POO	**Poona**	**144.72**	**34**		*e*PKP		PKPdf	10 09 18.0	-5.6
AGT	**Agartala**	**145.38**	**4**		*ex*		PKPbc	10 09 24.0	-0.5
QIZ	**Qiongzhong**	**146.42**	**332**		PKPbc		PKPbc	10 09 24.8	-3.0
QIZ					PP		PP	10 12 49.0	-0.4
QIZ					SS		SS	10 31 41.1	-1.2
QIZ					AMB		AMB		
	comp=Z,130nm,4.9s								
QIZ					LR		LR		
	comp=N,640nm,20.4s								
QIZ					LR		LR		
	comp=Z,800nm,20.7s,MS5.5								
QIZ	**Qiongzhong**	**146.42**	**332**		*e*PKPbc		PKPbc	10 09 29.0	+1.2
KMBL	**Kambalda**	**147.05**	**227**		*e*PKP		PKPdf	10 09 27.1	-0.1
	comp=Z,149nm,1.0s								
HYB	**Hyderabad**	**148.07**	**29**		*i* PKP		PKPdf	10 09 30.0	+0.7
FITZ	**Fitzroy Crossi**	**148.49**	**253**		*e*PKP		PKPbc	10 09 32.8	-0.7
	comp=Z,45nm,1.0s								
FITZ	**Fitzroy Crossi**	**148.49**	**253**		*e*PKPbc		PKPbc	10 09 33.3	-0.3
FITZ					*e*PKPab		PKPab	10 09 37.5	+0.4
CHRT	**Chiangrai**	**148.94**	**349**	⇑	P		PKPdf	10 09 30.0	-0.6
	comp=Z,163nm,0.8s								
NWAO	**Narrogin (SRO)**	**149.31**	**221**		*e*PKPdf		PKPdf	10 09 31.0	+0.2
NWAO					*e*PKPbc		PKPbc	10 09 35.4	+0.2
NWAO					*e*PKPab		PKPab	10 09 39.6	-0.3
NWAO	**Narrogin (SRO)**	**149.31**	**221**		*e*PKIKP		PKPdf	10 09 31.0	+0.1
NWAO					*e*			10 09 39.6	
KLBR	**Kellerberrin**	**149.81**	**223**		*e*PKP		PKPbc	10 09 34.7	-1.8
	comp=Z,91nm,1.3s								
CHG	**Chiang Mai**	**150.11**	**350**	⇑	P		PKPdf	10 09 32.9	+0.4
	comp=Z,42nm,1.2s								
CHTO	**Chiang Mai**	**150.11**	**350**		*e*PKPdf		PKPdf	10 09 33.4	+0.9
CHTO					*e*PKPbc		PKPbc	10 09 37.8	+0.2
CHTO					*e*PKPab		PKPab	10 09 44.5	+1.1
CM31	**Chiang Mai Arr**	**150.46**	**350**		*e*PKPdf		PKPdf	10 09 34.2	+1.1
CM31					*e*PKPbc		PKPbc	10 09 39.3	+0.9
CM31					*e*PKPab		PKPab	10 09 44.4	-0.5
CMAR	**Chiang Mai Arr**	**150.46**	**350**		PKP		PKPdf	10 09 33.9	+0.8
	comp=Z,17nm,0.9s,baz=312,slow=2.4,SNR=76								
CMAR					PKPbc		PKPbc	10 09 39.0	+0.6
	comp=Z,33nm,0.9s,baz=339,slow=3.3,SNR=41								
CMAR					PKPab		PKPab	10 09 45.9	+1.0
	comp=Z,38nm,1.0s,baz=346,slow=2.8,SNR=11								
CMAR	**Chiang Mai Arr**	**150.46**	**350**		PKP		PKPdf	10 09 33.9	+0.8
CMAR					PKPbc		PKPbc	10 09 39.0	+0.6
CMAR					PKPab		PKPab	10 09 45.9	+1.0
CMAR	**Chiang Mai Arr**	**150.46**	**350**		PKIKP		PKPdf	10 09 33.9	+0.8
CMAR								10 09 45.9	
BDT	**Bhumibol Dam**	**151.64**	**350**		P		PKPdf	10 09 35.0	+0.1
	comp=Z,47nm,0.9s								
MBWA	**Marble Bar**	**153.20**	**244**		*e*PKP		PKPbc	10 09 47.4	+2.8
KULM	**Kulim**	**162.63**	**337**		*e*PKPdf		PKPdf	10 09 49.2	+0.3
IPM	**Ipoh**	**163.21**	**335**		*e*PKPdf		PKPdf	10 09 50.2	+0.8
PSI	**Prapat**	**165.56**	**340**		PKP		PKPdf	10 09 51.9	+0.4
	comp=Z,19nm,1.0s,baz=292,slow=5.3,SNR=13								
PSI					PKPab		PKPab	10 10 51.8	+1.9
	comp=Z,7.1nm,0.7s,baz=290,slow=6.3,SNR=4.2								
PSI	**Prapat**	**165.56**	**340**		PKP		PKPdf	10 09 51.9	+0.3
PSI					PKPab		PKPab	10 10 51.8	+1.9
PSI	**Prapat**	**165.56**	**340**		PKIKP		PKPdf	10 09 51.9	+0.3
PSI								10 10 51.8	

CSEM ***13*** *10:03:06.7±0.2, 38.27N×22.27E, h25km±2km, MD2.7, Error ellipse: s-maj=9.3km s-min=5.3km az=62.0*
THE ***13*** *10:03:08.1, 38.27N×22.17E, h14km±2km, ML1.4/2, Error ellipse: s-maj=2.2km s-min=0.4km az=254.0*

ATH 13 10:03:07.1, 38.28N×22.16E, h24km±5km, MD2.7/4, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EFP	**Efpalio**	**0.25**	**306**			*e*PB	Pb	10 03 13.4	+0.1
EFP						*e*SB	Sb	10 03 17.9	+0.4
EFP	**Efpalio**	**0.25**	**306**			P	Pb	10 03 13.5	+0.2
EFP						S	Sb	10 03 18.0	+0.5
EFP	**Efpalio**	**0.25**	**306**			P	Pb	10 03 13.5	+0.2
EFP						S	Sb	10 03 18.0	+0.5
DSF	**Desfina**	**0.32**	**65**			P	Pb	10 03 14.3	0.0
DSF						S	Sb	10 03 19.4	+0.2
DSF	**Desfina**	**0.32**	**65**			P	Pb	10 03 14.3	0.0
DSF						S	Sb	10 03 19.4	+0.2
GUR	**Goura**	**0.37**	**157**			*e*PB	Pb	10 03 14.9	-0.2
GUR						*e*SB	Sb	10 03 21.1	+0.5
GUR	**Goura**	**0.37**	**157**			P	Pb	10 03 15.2	+0.1
GUR						S	Sb	10 03 20.7	+0.1
GUR	**Goura**	**0.37**	**157**			*e*Pb	Pb	10 03 14.9	-0.2

NY14	**Universidad de**	**0.66**	**102**	⇓*i*P		Pg		10 31 43.6	+0.6
NY14				*i* S		Sg		10 31 56.0	+4.6
GBS3	**Finca Las lm˜¡**	**0.72**	**91**	⇑*i*P		Pg		10 31 44.5	+0.4
GBS3				*i* S		Sg		10 31 57.0	+3.6
LAPC	**Finca la Perla**	**0.74**	**92**	⇓*i*P		Pg		10 31 44.6	0.0
LAPC				*i* S		Sg		10 31 57.1	+2.9
GB1A	**Borinquen Arri**	**0.77**	**88**	*i* P		Pg		10 31 45.7	+0.4
LIM1	**Limonal**	**0.92**	**96**	*i* P		Pg		10 31 47.7	-0.4
CONN	**Concepcion**	**0.94**	**35**	*e*P		Pg		10 31 50.7	+2.2
COLC	**Colonia**	**0.97**	**97**	*i* P		Pg		10 31 48.3	-0.8
COLC				*i* S		Sg		10 32 03.2	+1.6
CUI	**Cuipilapa**	**1.01**	**97**	*i* P		Pg		10 31 49.0	-0.8
AMAS	**Alto Masis**	**1.19**	**98**	*i* P		Pg		10 31 52.5	-0.6
CRUN	**El Crucero**	**1.19**	**355**	*e*P		Pg		10 31 54.8	+1.5
TICN	**Ticuantepe**	**1.24**	**358**	*e*P		Pg		10 31 54.1	0.0
TISN	**Laguna Tiscapa**	**1.35**	**356**	*e*P		Pg		10 31 55.5	-0.8
WILN	**Americas 2**	**1.36**	**360**	*e*P		Pg		10 31 56.2	-0.4
JCR	**Jicaral**	**1.41**	**131**	*e*P		Pn		10 31 57.8	+0.4
JCR				*e*S		Sg		10 32 17.9	+2.1
COPN	**Copaltepe**	**1.44**	**344**	*e*P		Pn		10 31 56.2	-1.5
HUEN		**1.54**	**0**	*e*P		Pn		10 31 59.0	-0.1
CGA2	**Cerro Gallo 2**	**1.86**	**114**	*e*P		Pn		10 32 03.4	-0.1
CGA2				*e*S		Sn		10 32 33.3	+5.5
PRS1	**Puriscal**	**2.01**	**113**	*e*P		Pn		10 32 05.9	+0.3
CRIN	**San Cristobal**	**2.08**	**336**	*e*P		Pn		10 32 03.6	-3.0
CRIN				*e*S		Sn		10 32 34.7	+1.6
CRIN				AML		AML		10 32 43.3	
	comp=N,291nm,0.3s								
ICR	**Volcan Irazu**	**2.45**	**109**	*e*P		Pn		10 32 13.2	+1.6
BUS	**Buena Vista**	**2.69**	**117**	*e*P		Pn		10 32 16.6	+1.7
BUS				*e*S		Sn		10 32 59.2	+11

ISCJB ***13*** *10:31:34.9±1.1,21˚.83S±0˚.04×178˚.20W±0˚.03, h380km±11km,mb4.9/130,Error ellipse: s-maj=6.5km s-min=4.3km az=157.1*

MOS ***13*** *10:31:37.9±1.0,21˚.78S×178˚.22W,h411km,mb5.0/32, Error ellipse: s-maj=10.9km s-min=9.2km az=50.1*

NEIC ***13*** *10:31:37.3±0.2,21˚.80S×178˚.15W,mb5.0/90,Error ellipse: s-maj=8.5km s-min=5.0km az=152.0*

IDC ***13*** *10:31:38.0±0.5,21˚.76S×178˚.14W,h403km±4km,mb4.3/20, mb1 4.5/20,mb1mx4.5/22,mbtmp4.3/20,Error ellipse: s-maj=11.1km s-min=8.8km az=139.0*

BGS ***13*** *10:31:38.0±4.6,21˚.80S×178˚.15W,h393km,mb5.0(NEIC) BJI* ***13*** *10:31:38.0,21˚.11S×178˚.58W,h380km,mB5.0/19, mb4.7/31*

GCMT ***13*** *10:31:39.8±0.5,21˚.94S×177˚.86W,h403km±2km,MW5.3, Moment Tensor Solution. s57,c73; Moment tensor: Scale 10¹⁶Nm; Mrr-7.61±.37; Mθθ1.40±.64; Mφφ6.21±.64; Mrθ-4.82±.69; Mrφ3.73±.52; Mθφ-3.22±.71; Best double couple: M₀9.80000×10¹⁶ NP1:ϕ₁193.00000°,δ30.00000°, λ-118.00000°. NP2:ϕ₂44.00000°,δ63.00000°, λ-75.00000°. Principal axes: T 9.8200, Plg17.0000°, Azm123.0000°; N 0.0300, Plg14.0000°, Azm217.0000°; P -9.8500, Plg68.0000°, Azm344.0000°; Data used: II IU IC G.*

DJA ***13*** *10:31:53,21˚.36S×176˚.65E,h233km,mb5.3/10*

ISC 13 10:31:37.4±0.8,21˚.91S±0˚.04×178˚.15W±0˚.03, h395km±8km,h394km±2.8km:pP-P,n838,₀0s67/633, mb4.9/130,200C-179D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.48**	**319**	*e*Pn		**Pn**	**10 33 05.4**	**+1.1**
	753nm,0.9s							
MSVF	**Nonsavu**	**5.48**	**319**	*e*P		**Pn**	**10 33 05.4**	**+1.1**
MSVF				pmax		pmax		
	comp=Z,753nm,0.9s							
MSVF	**Nonsavu**	**5.48**	**319**	Pn		**Pn**	**10 33 05.0**	**+0.7**
	comp=Z,5μm,0.8s							
AFI	**Afiamalu**	**10.00**	**38**	P		**Pn**	**10 33 49.1**	**-6.5**
	comp=Z,11nm,0.3s,baz=58,slow=15,SNR=15							
AFI				S		**S**	**10 35 35.2**	**-14**
	comp=Z,24nm,0.3s,baz=61,slow=19,SNR=9.1							
AFI	**Afiamalu**	**10.00**	**38**	P		**Pn**	**10 33 49.1**	**-6.5**
AFI				S		**S**	**10 35 35.2**	**-14**
AFI	**Afiamalu**	**10.00**	**38**	P		**Pn**	**10 33 49.1**	**-6.5**
FUNA	**Funafuti**	**13.55**	**349**	*e*Pn		**P**	**10 34 33.5**	**-0.9**
DZM	**Mont Dzumac**	**14.29**	**266**	*e*P		**P**	**10 34 44.0**	**+1.6**
DZM	**Mont Dzumac**	**14.29**	**266**	*e*Pn		**P**	**10 34 45.5**	**+3.0**
	comp=Z,42nm,0.7s							
NOUC	**Port Laguerre**	**14.42**	**266**	*e*P		**P**	**10 34 46.2**	**+2.4**
PUZ	**Puketiti**	**16.41**	**190**	PN		**P**	**10 35 04.3**	**-0.8**
MWZ	**Matawai**	**16.79**	**192**	PN		**P**	**10 35 08.6**	**-0.6**
URZ	**Urewera**	**16.80**	**193**	P		**P**	**10 35 07.3**	**-2.0**
	comp=Z,8.2nm,0.3s,baz=339,slow=3.6,SNR=57							
URZ				S		**S**	**10 38 03.6**	**-1.1**
	comp=Z,2.3nm,0.3s,baz=41,slow=23,SNR=7.7							
URZ	**Urewera**	**16.80**	**193**	*e*P		**P**	**10 35 08.0**	**-1.3**
	comp=Z,22nm,0.4s							
URZ	**Urewera**	**16.80**	**193**	PN		**P**	**10 35 07.3**	**-2.0**
RAR	**Rarotonga**	**17.11**	**91**	P		**P**	**10 35 10.7**	**-2.1**
	comp=Z,3.7nm,0.3s,baz=248,slow=8.2,SNR=14							
RAR	**Rarotonga**	**17.11**	**91**	*e*P		**P**	**10 35 12.1**	**-0.8**
	comp=Z,110nm,1.1s							
RAR	**Rarotonga**	**17.11**	**91**	*e*P		**P**	**10 35 12.1**	**-0.8**
RAR				pmax		pmax		
	comp=Z,110nm,1.1s							
KNZ	**Kokohu**	**17.43**	**191**	PN		**P**	**10 35 15.8**	**-0.1**
KAHZ	**Kahuranaki**	**18.33**	**192**	PN		**P**	**10 35 24.4**	**-1.0**
PXZ	**Pawanui**	**18.56**	**192**	PN		**P**	**10 35 27.4**	**-0.5**
TSZ	**Takapari Road**	**18.78**	**194**	PN		**P**	**10 35 28.3**	**-1.8**
BFZ	**Birch Farm**	**19.31**	**193**	PN		**P**	**10 35 34.4**	**-1.3**
SNZO	**South Karori**	**20.26**	**196**	PN		**P**	**10 35 43.2**	**-1.2**
QRZ	**Quartz Range**	**20.45**	**201**	PN		**P**	**10 35 46.5**	**+0.4**
NNZ	**Nelson**	**20.54**	**198**	PN		**P**	**10 35 47.3**	**+0.4**
THZ	**Tophouse**	**21.18**	**199**	PN		**P**	**10 35 52.8**	**0.0**
DSZ	**Denniston Nort**	**21.51**	**201**	PN		**P**	**10 35 56.1**	**+0.3**
KHZ	**Kahutara**	**21.60**	**197**	PN		**P**	**10 35 56.4**	**-0.3**
LTZ	**Lake Taylor**	**22.30**	**199**	PN		**P**	**10 36 01.9**	**-1.1**
RPZ	**Rata Peaks**	**23.52**	**200**	P		**P**	**10 36 14.8**	**+0.8**
	comp=Z,13nm,0.5s,mb4.7,baz=266,slow=1.8,SNR=19							
RPZ	**Rata Peaks**	**23.52**	**200**	*e*P		**P**	**10 36 14.9**	**+1.0**
	comp=Z,148nm,1.8s,mb5.1							
WHZ	**Wether Hill Ro**	**26.48**	**202**	*e*P		**P**	**10 36 41.8**	**+1.4**
TBI	**Tubuai**	**26.51**	**99**	*e*LR		LR	10 42 45.3	
	comp=Z,683nm,27.5s							
PPT	**Papeete**	**27.22**	**86**	*e*LR		LR	10 43 07.4	
	comp=Z,435nm,26.5s							
ARMA	**Armidale**	**28.35**	**246**	*e*P		**P**	**10 36 58.9**	**+1.8**
ARMA				*e*SS		SS	10 43 38.9	+3.5
ARMA	**Armidale**	**28.35**	**246**	*e*P		**P**	**10 36 59.1**	**+2.0**
	comp=Z,26nm,0.8s,mb4.6							
EIDS	**Eidsvold**	**28.36**	**257**	*e*P		**P**	**10 36 58.2**	**+0.9**
	comp=Z,26nm,1.0s,mb4.5							
CNB	**Canberra Magne**	**31.34**	**238**	*e*P		**P**	**10 37 24.9**	**+1.8**
	comp=Z,83nm,0.4s,mb5.4							
CNB				*e*S		**S**	**10 42 03.1**	**+2.3**
CTA	**Charters Tower**	**33.23**	**266**	P		**P**	**10 37 40.2**	**+0.6**
	comp=Z,33nm,0.8s,mb4.7,baz=93,slow=10.0,SNR=28							
CTA	**Charters Tower**	**33.23**	**266**	*e*P		**P**	**10 37 40.2**	**+0.6**
	comp=Z,26nm,0.9s,mb4.6							
CTA				*e*S		**S**	**10 42 26.8**	**-3.5**
CTA				*e*SS		SS	10 44 54.0	-21
CTA	**Charters Tower**	**33.23**	**266**	P		**P**	**10 37 40.2**	**+0.6**
CTA	**Charters Tower**	**33.23**	**266**	P		**P**	**10 37 40.2**	**+0.6**
CTAO	**Charters Tower**	**33.23**	**266**	*e*P		**P**	**10 37 40.5**	**+0.8**
	comp=Z,69nm,1.1s,mb4.9							
CTAO	**Charters Tower**	**33.23**	**266**	*e*P		**P**	**10 37 40.5**	**+0.9**
CTAO				pmax		pmax		
	comp=Z,69nm,1.1s,mb4.9							
CTAO	**Charters Tower**	**33.23**	**266**	P		**P**	**10 37 40.3**	**+0.7**
	comp=Z,692nmcomp=Z,66nm,1.2s,mb4.8							
QLP	**Quilpie**	**34.53**	**255**	*e*P		**P**	**10 37 51.0**	**+0.4**
TOO	**Toolangi**	**34.97**	**235**	*e*P		**P**	**10 37 54.5**	**+0.4**
	comp=Z,41nm,0.3s,mb5.2							
PMG	**Port Moresby**	**35.54**	**285**	P		**P**	**10 37 59.8**	**+0.6**
	comp=Z,67nm,1.0s,mb4.9,baz=132,slow=2.6,SNR=13							
PMG	**Port Moresby**	**35.54**	**285**	*e*P		**P**	**10 37 59.7**	**+0.5**
PMG	**Port Moresby**	**35.54**	**285**	*e*P		**P**	**10 37 59.7**	**+0.4**
PMG	**Port Moresby**	**35.54**	**285**	P		**P**	**10 37 59.8**	**+0.5**
	comp=Z,701nmcomp=Z,86nm,1.1s,mb5.0							
STKA	**Stephens Creek**	**37.07**	**246**	P		**P**	**10 38 12.8**	**+1.0**
	comp=Z,21nm,0.5s,mb4.7,baz=94,slow=10.0,SNR=35							
STKA	**Stephens Creek**	**37.07**	**246**	⇓*i*P		**P**	**10 38 12.6**	**+0.8**
	comp=Z,22nm,0.7s,mb4.6							
STKA	**Stephens Creek**	**37.07**	**246**	*e*P		**P**	**10 38 12.6**	**+0.8**
	comp=Z,3.6nm,0.5s,mb4.0							
STKA	**Stephens Creek**	**37.07**	**246**	*e*P		**P**	**10 38 12.6**	**+0.8**
STKA				pmax		pmax		
	comp=Z,4.0nm,0.5s							
COEN	**Coen**	**37.55**	**276**	*e*P		**P**	**10 38 17.1**	**+1.1**
	comp=Z,396nm,1.1s,mb5.7							
ASAR	**Alice Springs**	**44.07**	**258**	P		**P**	**10 39 08.5**	**0.0**
	comp=Z,18nm,0.5s,mb4.7,baz=90,slow=9.2,SNR=296							
ASAR				S		**S**	**10 45 08.9**	**-2.1**
	comp=Z,1.6nm,1.0s,baz=96,slow=15,SNR=7.1							
ASAR	**Alice Springs**	**44.07**	**258**	P		**P**	**10 39 08.5**	**0.0**
ASAR				S		**S**	**10 45 08.9**	**-2.1**
ASAR	**Alice Springs**	**44.07**	**258**	P		**P**	**10 39 08.5**	**0.0**
ASAR				S		**S**	**10 45 08.9**	**-2.1**
WRAB	**Tennant Creek**	**44.27**	**264**	*e*P		**P**	**10 39 09.2**	**-0.9**
	comp=Z,57nm,1.0s,mb4.8							
WRAB	**Tennant Creek**	**44.27**	**264**	*e*P		**P**	**10 39 09.2**	**-0.9**
WRAB				pmax		pmax		
	comp=Z,57nm,1.0s,mb4.9							
WRAB	**Tennant Creek**	**44.27**	**264**	P		**P**	**10 39 09.0**	**-1.1**
	comp=Z,253nm,0.5s,mb5.8,SNR=67							
WRAB	**Tennant Creek**	**44.27**	**264**	P		**P**	**10 39 09.3**	**-0.8**
	comp=Z,1μmcomp=Z,84nm,1.1s,mb5.0							
WRA	**Warramunga Arr**	**44.28**	**263**	P		**P**	**10 39 09.3**	**-0.8**
	comp=Z,18nm,0.5s,mb4.7,baz=94,slow=7.8,SNR=235							
WRA				PcP		PcP	10 40 48.7	+2.1
	comp=Z,3.3nm,0.6s,baz=95,slow=3.8,SNR=6.1							
WRA				S		**S**	**10 45 14.7**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=99,slow=12,SNR=3.0							
WRA	**Warramunga Arr**	**44.28**	**263**	P		**P**	**10 39 09.3**	**-0.8**
WRA				PcP		PcP	10 40 48.7	+2.1
WRA				S		**S**	**10 45 14.7**	**+0.7**
WRA	**Warramunga Arr**	**44.28**	**263**	P		**P**	**10 39 09.3**	**-0.9**
WRA							10 40 48.7	
WRA				S		**S**	**10 45 14.7**	**+0.7**
FORT	**Forrest**	**48.62**	**248**	*e*P		**P**	**10 39 42.7**	**-0.6**
	comp=Z,50nm,0.9s,mb4.8							
FORT	**Forrest**	**48.62**	**248**	*e*P		**P**	**10 39 42.9**	**-0.4**
	comp=Z,188nm,1.2s,mb5.3							
GUMO	**Guam**	**50.60**	**311**	P		**P**	**10 39 58.3**	**+0.2**
	comp=Z,144nm,1.0s,mb5.2,baz=245,slow=2.8,SNR=4.5							
GUMO	**Guam**	**50.60**	**311**	P		**P**	**10 39 58.4**	**+0.2**
GUMO	**Guam**	**50.60**	**311**	P		**P**	**10 39 58.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**52.71**	**263**	P		**P**	**10 40 13.8**	**+0.1**
	comp=Z,8.9nm,0.4s,mb4.4,baz=88,slow=6.9,SNR=72							
FITZ	**Fitzroy Crossi**	**52.71**	**263**	*e*P		**P**	**10 40 13.5**	**-0.1**
	comp=Z,48nm,1.2s,mb4.6							
FITZ				*e*S		**S**	**10 47 05.0**	**-5.8**
FITZ	**Fitzroy Crossi**	**52.71**	**263**	P		**P**	**10 40 13.8**	**+0.1**
SBA	**Scott Base**	**56.47**	**184**	*e*P		**P**	**10 40 42.3**	**+3.0**
	comp=Z,137nm,2.5s,mb4.8							
SBA	**Scott Base**	**56.47**	**184**	*e*P		**P**	**10 40 42.3**	**+3.0**
SBA				pmax		pmax		
	comp=Z,137nm,2.5s,mb4.8							
VNDA	**Vanda**	**56.50**	**185**	P		**P**	**10 40 41.6**	**+2.1**
	comp=Z,0.8nm,0.4s,baz=22,slow=7.9,SNR=5.5							
VNDA				pP		pP	10 42 05.0	+3.3
	comp=Z,1.7nm,0.8s,baz=13,slow=7.4,SNR=2.9							
VNDA	**Vanda**	**56.50**	**185**	P		**P**	**10 40 41.6**	**+2.1**
VNDA				pP		pP	10 42 05.0	+3.3
VNDA	**Vanda**	**56.50**	**185**	P		**P**	**10 40 41.7**	**+2.1**
VNDA				*PP		pP	10 42 05.0	+3.4
KLBR	**Kellerberrin**	**57.34**	**246**	*e*P		**P**	**10 40 45.5**	**-0.6**
	comp=Z,106nm,1.5s,mb5.0							
MBWA	**Marble Bar**	**57.42**	**258**	*e*P		**P**	**10 40 46.3**	**-0.5**
MBWA	**Marble Bar**	**57.42**	**258**	*e*P		**P**	**10 40 46.4**	**-0.4**
	comp=Z,39nm,0.8s,mb4.8							
MBWA	**Marble Bar**	**57.42**	**258**	P		**P**	**10 40 46.3**	**-0.5**
	comp=Z,1μmcomp=Z,75nm,1.1s,mb4.9							
BBSI	**Bau Bau**	**59.50**	**277**	P		**P**	**10 41 09.9**	**+8.8**
BKSI	**Bulukumba**	**61.82**	**276**	P		**P**	**10 41 13.7**	**-2.9**
	comp=Z,549nmcomp=Z,42nm,1.4s,mb4.8							
BMNI	**Bima**	**62.00**	**272**	P		**P**	**10 41 16.6**	**-1.2**
	comp=Z,2μmcomp=Z,192nm,1.1s,mb5.5							
SPSI	**Sidrap Palu**	**62.66**	**277**	P		**P**	**10 41 20.8**	**-1.3**
	comp=Z,364nmcomp=Z,33nm,1.1s,mb4.8							
TTSI	**Tana Toraja**	**62.96**	**278**	P		**P**	**10 41 23.8**	**-0.3**
MTNI	**Mataram**	**64.31**	**271**	P		**P**	**10 41 31.2**	**-1.6**
	comp=Z,5μmcomp=Z,96nm,1.1s,mb5.2							
KHKI	**Kahang-Kahang**	**64.92**	**271**	P		**P**	**10 41 35.6**	**-1.1**
	comp=Z,896nmcomp=Z,65nm,1.2s,mb5.1							
IGBI	**Denpasar**	**65.19**	**270**	P		**P**	**10 41 38.8**	**+0.4**
	comp=Z,389nm,1.3s,mb5.9							
SRBI	**Singaraja**	**65.38**	**271**	P		**P**	**10 41 39.1**	**-0.5**
	comp=Z,1μmcomp=Z,101nm,1.0s,mb5.4							
KBKI	**Kotabaru**	**66.23**	**276**	P		**P**	**10 41 44.7**	**-0.3**
	comp=Z,1μmcomp=Z,55nm,1.1s,mb5.1							
JAGI	**Jajag, Banyuwa**	**66.24**	**270**	P		**P**	**10 41 43.8**	**-1.2**
KMMI	**Kalianget**	**66.90**	**272**	P		**P**	**10 41 48.9**	**-0.3**
	comp=Z,86nm,1.1s,mb5.3							
GMJI	**Gumukmas**	**66.96**	**270**	P		**P**	**10 41 49.2**	**-0.3**
BLJI	**Banyuglugur**	**67.00**	**271**	P		**P**	**10 41 49.0**	**-0.8**
BBKI	**Banjar Baru**	**67.39**	**276**	P		**P**	**10 41 53.0**	**+0.8**
MYLDM	**Lahad Datu**	**67.56**	**286**	P		**P**	**10 41 55.8**	**+2.5**
	comp=Z,32nm,1.7s,mb4.7							
TSM	**Tawau**	**67.74**	**284**	P		**P**	**10 41 55.0**	**+0.6**
QSPA	**South Pole Qui**	**68.17**	**180**	P		**P**	**10 41 57.6**	**+1.7**
	comp=Z,7.4nm,0.9s,mb4.3,baz=25,slow=3.7,SNR=16							
QSPA				pP		pP	10 43 23.8	+2.2
	comp=Z,9.6nm,1.0s,baz=14,slow=2.8,SNR=3.0							
QSPA	**South Pole Qui**	**68.17**	**180**	P		**P**	**10 41 57.6**	**+1.7**
QSPA				pP		pP	10 43 23.8	+2.2
SDKM	**Sandakan**	**68.93**	**285**	P		**P**	**10 42 02.2**	**+0.5**
MIR	**Mirnyy**	**69.66**	**205**	⇓*i*P		**P**	**10 42 06.4**	**+1.2**
MIR				pmax		pmax		
	comp=Z,48nm,1.4s,mb4.8							
KKM	**Kota Kinabalu**	**69.98**	**285**	P		**P**	**10 42 08.2**	**+0.1**
MJAR	**Matsushiro Arr**	**71.25**	**324**	P		**P**	**10 42 14.5**	**-0.6**
	comp=Z,16nm,0.9s,mb4.6,baz=165,slow=6.6,SNR=31							
MJAR	**Matsushiro Arr**	**71.25**	**324**	P		**P**	**10 42 14.5**	**-0.6**
MJAR	**Matsushiro Arr**	**71.25**	**324**	P		**P**	**10 42 14.5**	**-0.6**
MAJO	**Matsushiro**	**71.26**	**324**	*e*P		**P**	**10 42 14.5**	**-0.6**
	comp=Z,46nm,1.3s,mb4.8							
MAJO	**Matsushiro**	**71.26**	**324**	*e*P		**P**	**10 42 14.5**	**-0.6**
MAJO				pmax		pmax		
	comp=Z,47nm,1.3s,mb4.9							
MAT	**Matsushiro**	**71.26**	**324**	P		**P**	**10 42 13.9**	**-1.2**
BTM	**Bintulu**	**71.62**	**281**	P		**P**	**10 42 18.7**	**+0.9**
SBUM	**Sibu**	**72.11**	**280**	P		**P**	**10 42 21.0**	**+0.3**
SBUM	**Sibu**	**72.11**	**280**	P		**P**	**10 42 21.0**	**+0.4**
	comp=Z,28nm,1.3s,mb4.6							
KSM	**Kuching**	**73.47**	**278**	P		**P**	**10 42 28.6**	**+0.1**
KSM	**Kuching**	**73.47**	**278**	*e*P		**P**	**10 42 28.6**	**0.0**
	comp=Z,60nm,0.9s,mb5.1							
KSM	**Kuching**	**73.47**	**278**	P		**P**	**10 42 28.7**	**+0.1**
	comp=Z,81nm,1.1s,mb5.2							
FX1	**Attu Island--F**	**74.85**	**355**	P		**P**	**10 42 35.0**	**-0.6**
	comp=Z,18nm,0.7s,mb4.8,baz=211,slow=17,SNR=6.4							
FX1	**Attu Island--F**	**74.85**	**355**	P		**P**	**10 42 35.0**	**-0.6**
FX1	**Attu Island--F**	**74.85**	**355**	P		**P**	**10 42 35.0**	**-0.5**
ASAJ	**Asahikawa**	**74.89**	**332**	*e*P		**P**	**10 42 36.9**	**+0.9**
	comp=Z,20nm,1.0s,mb4.7							
AKUT	**Akutan**	**76.47**	**7**	*e*P		**P**	**10 42 43.4**	**-1.2**
	comp=Z,84nm,1.0s,mb5.3							
QZH	**Quanzhou**	**77.06**	**304**	⇓*i*P		**P**	**10 42 47.8**	**-0.7**
YSS	**Yuzh-Sakhalins**	**77.08**	**334**	*e*P		**P**	**10 42 48.4**	**+0.3**
	comp=Z,17nm,0.8s,mb4.7							
YSS	**Yuzh-Sakhalins**	**77.08**	**334**	*e*P		**P**	**10 42 48.0**	**-0.1**
YSS				pmax		pmax		
	comp=Z,20nm,0.7s,mb4.9							
PETK	**Petropavlovsk-**	**77.59**	**345**	P		**P**	**10 42 49.7**	**-1.0**
	comp=Z,22nm,1.0s,mb4.8,baz=130,slow=8.0,SNR=9.7							
PETK	**Petropavlovsk-**	**77.59**	**345**	P		**P**	**10 42 49.7**	**-1.0**
PETK	**Petropavlovsk-**	**77.59**	**345**	P		**P**	**10 42 49.7**	**-1.0**
KSRS	**Korea Array**	**77.84**	**319**	P		**P**	**10 42 52.9**	**+0.3**
	comp=Z,4.3nm,0.9s,mb4.1,baz=139,slow=6.0,SNR=16							
SDPT	**Sand Point**	**78.41**	**10**	*e*P		**P**	**10 42 54.9**	**-0.2**
	comp=Z,94nm,0.7s,mb5.5							
BSC	**Santa Cruz Isl**	**78.67**	**46**	⇑P		**P**	**10 42 57.5**	**+0.4**
	baz=79							
SBC	**Santa Barbara**	**78.88**	**46**	⇑P		**P**	**10 42 58.3**	**+0.1**
	baz=79							
PKM	**Peak Mountain**	**79.08**	**45**	⇓P		**P**	**10 42 60.0**	**+0.7**
	baz=79							
BLG	**Laguna Peak**	**79.12**	**46**	⇑P		**P**	**10 42 59.3**	**-0.2**
	baz=79							
CIS	**Catalina Islan**	**79.16**	**47**	⇑P		**P**	**10 42 59.5**	**-0.2**
	baz=79							
SMMC	**Simmler**	**79.20**	**45**	⇓P		**P**	**10 43 00.4**	**+0.5**
	baz=79							
FMP	**Fort Macarthur**	**79.41**	**47**	⇓P		**P**	**10 43 01.1**	**0.0**
	baz=80							
HOPS	**Hopland**	**79.53**	**41**	*e*P		**P**	**10 43 01.6**	**+0.1**
	comp=Z,39nm,1.1s,mb5.0							
MYKOM	**Kota Tinggi**	**79.54**	**276**	P		**P**	**10 43 02.2**	**-0.1**
OSI	**Osito Adit**	**79.64**	**46**	⇑P		**P**	**10 43 02.5**	**+0.2**
	baz=80							
CHGN	**Chignik**	**79.67**	**11**	*e*P		**P**	**10 43 00.3**	**-1.6**
PASC	**Pasadena Art C**	**79.75**	**47**	*e*P		**P**	**10 43 03.0**	**+0.1**
	comp=Z,14nm,0.8s,mb4.6							
MWC	**Mount Wilson**	**79.86**	**47**	*e*P		**P**	**10 43 03.8**	**+0.3**
	comp=Z,18nm,0.9s,mb4.7							
MWC	**Mount Wilson**	**79.86**	**47**	*e*P		**P**	**10 43 03.8**	**+0.3**
MWC				pmax		pmax		
	comp=Z,18nm,0.9s,mb4.7							
ARVC	**Arvin**	**79.87**	**46**	⇓P		**P**	**10 43 03.4**	**-0.1**
	baz=80,SNR=6.3							
MURC	**Murrieta**	**80.10**	**48**	⇑P		**P**	**10 43 04.8**	**+0.1**
	baz=80,SNR=8.1							
KGM	**Kluang**	**80.12**	**276**	P		**P**	**10 43 05.9**	**+0.6**
VES	**Vestal, Richgr**	**80.12**	**45**	⇑P		**P**	**10 43 04.4**	**-0.3**
	baz=80,SNR=9.2							
BFSC	**Mount Baldy Ra**	**80.14**	**47**	⇓P		**P**	**10 43 04.8**	**-0.2**
	baz=80,SNR=7.8							
MAW	**Mawson**	**80.20**	**200**	P		**P**	**10 43 05.3**	**+0.6**
	comp=Z,7.5nm,1.0s,mb4.3,baz=122,slow=4.6,SNR=10							
MAW	**Mawson**	**80.20**	**200**	P		**P**	**10 43 05.3**	**+0.6**
MAW	**Mawson**	**80.20**	**200**	P		**P**	**10 43 05.3**	**+0.6**
MONP	**Monument Peak**	**80.24**	**49**	⇓P		**P**	**10 43 05.9**	**+0.4**
	baz=80,SNR=19							
EDW2	**Edwards Air Fo**	**80.29**	**46**	⇓P		**P**	**10 43 05.9**	**+0.2**
	baz=80,SNR=20							
RCTC	**Rector, Farmer**	**80.29**	**45**	⇓P		**P**	**10 43 05.7**	**+0.1**
	baz=80							
DVTC	**Desert V Tower**	**80.33**	**49**	⇑P		**P**	**10 43 06.1**	**+0.2**
	baz=80,SNR=6.7							
KHMM	**Horse Mountain**	**80.33**	**39**	*e*P		**P**	**10 43 06.9**	**+1.1**
	comp=Z,64nm,1.2s,mb5.1							
ISA	**Isabella**	**80.42**	**45**	⇓P		**P**	**10 43 06.5**	**+0.2**
	baz=80,SNR=15							
ISA	**Isabella**	**80.42**	**45**	*e*P		**P**	**10 43 06.5**	**+0.1**
	comp=Z,51nm,1.5s,mb4.9							
ISA	**Isabella**	**80.42**	**45**	*e*P		**P**	**10 43 06.5**	**+0.2**
ISA				pmax		pmax		
	comp=Z,51nm,1.5s,mb4.9							
CMB	**Columbia Colle**	**80.59**	**43**	*e*P		**P**	**10 43 07.0**	**-0.1**
	comp=Z,43nm,1.4s,mb5.0							
CMB	**Columbia Colle**	**80.59**	**43**	*e*P		**P**	**10 43 07.0**	**-0.2**
CMB				pmax		pmax		
	comp=Z,43nm,1.4s,mb5.0							
PFO	**Pinyon Flat Ob**	**80.61**	**48**	⇑P

comp=Z,8.9nm,0.6s,mb4.7
IPM Ipoh 83.17 278 P P 10 43 21.9 +0.8
comp=Z,48nm,1.4s,mb5.0
Y14A Wickenburg 83.20 49 ⇑P P 10 43 21.0 +0.2
baz=83,SNR=17
W13A Hualapai Mount 83.21 48 ⇓P P 10 43 21.2 +0.5
baz=83,SNR=16
BROR Big Rock Looko 83.23 37 P P 10 43 20.8 +0.2
216A Three Points, 83.31 52 ⇑P P 10 43 21.8 +0.5
baz=83,SNR=6.6
CN2 Changchun 83.32 323 eP P 10 43 20.6 -0.5
CN2 epP pP 10 44 46.8 -4.2
CN2 pmax pmax
comp=Z,20nm,1.5s,mb4.6
CN2 pmax pmax
comp=Z,200nm,3.0s
116A Eloy 83.42 51 ⇓P P 10 43 22.3 +0.5
baz=84,SNR=7.8
Z15A Gila River Ind 83.47 50 ⇑P P 10 43 22.5 +0.4
baz=84
H04A Detroit Lake 83.64 37 ⇑P P 10 43 22.4 -0.2
baz=84,SNR=7.1
217A Green Valley 83.66 52 ⇑P P 10 43 23.9 +0.8
baz=84,SNR=15
Y15A Casa Rosa Ranc 83.69 50 ⇓P P 10 43 23.7 +0.5
baz=84,SNR=21
KULM Kulim 83.83 278 P P 10 43 25.3 +0.9
TUC Tucson 83.96 52 eP P 10 43 25.5 +0.9
comp=Z,29nm,1.1s,mb4.9
TUC Tucson 83.96 52 eP P 10 43 25.5 +0.9
TUC pmax pmax
comp=Z,29nm,1.1s,mb4.9
BMN Battle Mountai 83.98 42 eP P 10 43 24.5 0.0
comp=Z,68nm,1.3s,mb5.2
BMN Battle Mountai 83.98 42 eP P 10 43 24.5 0.0
BMN pmax pmax
comp=Z,68nm,1.3s,mb5.2
Z16A Peralta Trail, 84.02 51 ⇑P P 10 43 25.3 +0.5
baz=84,SNR=9.7
117A Oracle 84.12 52 ⇑P P 10 43 26.2 +0.8
baz=84,SNR=16
Y16A Circle Bar Ran 84.26 50 ⇓P P 10 43 26.7 +0.7
baz=84,SNR=21
WVOR Wild Horse Val 84.30 40 eP P 10 43 26.1 +0.1
comp=Z,46nm,1.5s,mb5.0
WVOR Wild Horse Val 84.30 40 eP P 10 43 26.1 +0.1
WVOR pmax pmax
comp=Z,46nm,1.5s,mb5.0
218A Dragoon 84.33 52 ⇑P P 10 43 27.4 +1.0
baz=84,SNR=28
U14A Mt Trumbull 84.40 47 ⇑P P 10 43 27.4 +0.7
baz=84
PSI Prapat 84.47 275 P P 10 43 27.7 +0.1
comp=Z,36nm,1.4s,mb4.9
FL2 Flat Top 2 84.51 35 P P 10 43 27.8 +0.9
X16A Lo Mia Camp, P 84.56 50 ⇑P P 10 43 28.2 +0.7
baz=85,SNR=18
319A Douglas 84.60 53 ⇓P P 10 43 28.8 +1.0
baz=85,SNR=21
Y17A Roosevelt 84.61 51 ⇓P P 10 43 28.3 +0.5
baz=85,SNR=8.9
RSO Redoubt South 84.64 12 eP P 10 43 26.2 -1.0
comp=Z,67nm,0.9s,mb5.4
TDL Tradedollar La 84.68 35 P P 10 43 28.6 +0.8
SVW2 Sparrevohn 84.70 11 eP P 10 43 23.9 -3.6
comp=Z,9.6nm,0.6s,mb4.7
118A Homack Ranch, 84.72 52 ⇑P P 10 43 29.2 +0.8
baz=85,SNR=18
V15A Kaibab Nationa 84.77 48 ⇑P P 10 43 29.2 +0.7
baz=85
R13A O'Grain Ranch, 84.81 45 ⇓P P 10 43 29.1 +0.4
baz=85
G06A Carlson Farm, 84.84 37 ⇓P P 10 43 28.6 -0.1
baz=85,SNR=5.8
W16A Flagstaff 84.84 49 ⇑P P 10 43 29.5 +0.6
baz=85
CCUT Cedar City 84.88 46 eP P 10 43 29.6 +0.6
comp=Z,22nm,1.2s,mb4.8
Z18A Geronimo 84.89 51 ⇑P P 10 43 29.8 +0.6
baz=85
219A White Tail Can 84.92 53 ⇑P P 10 43 30.1 +0.7
baz=85,SNR=19
J08A Circle Bar Ran 84.94 39 ⇑P P 10 43 29.2 0.0
baz=85,SNR=5.9
ARUT Antelope Range 84.95 46 eP P 10 43 30.0 +0.6
comp=Z,13nm,1.1s,mb4.6
ARUT Antelope Range 84.95 46 eP P 10 43 30.0 +0.6
ARUT pmax pmax
comp=Z,13nm,1.1s,mb4.6
X17A Forest Lakes 84.97 50 ⇓P P 10 43 30.2 +0.6
baz=85,SNR=8.2
SEW Seward 85.01 14 eP P 10 43 28.1 -1.0
comp=Z,37nm,0.9s,mb5.1
U15A North Rim 85.01 48 ⇓P P 10 43 30.2 +0.5
baz=85
GNW Green Mountain 85.13 34 eP P 10 43 30.2 +0.2
comp=Z,20nm,1.4s,mb4.7
WUAZ Wupatki 85.17 49 ⇓P P 10 43 30.9 +0.4
baz=85,SNR=12
WUAZ Wupatki 85.17 49 eP P 10 43 31.2 +0.7
comp=Z,24nm,1.4s,mb4.7
SLKM Skilak Lake 85.20 13 eP P 10 43 29.0 -1.0
SLKM Skilak Lake 85.20 13 eP P 10 43 29.0 -1.0
Y18A Canyon Day Jun 85.24 51 ⇑P P 10 43 31.6 +0.8
baz=85,SNR=26
D05A Enumclaw 85.33 35 ⇑P P 10 43 31.4 +0.4
baz=85
SYO Syowa Base 85.33 193 ⇑eP P 10 43 28.7 -2.0
SYO Syowa Base 85.33 193 ⇓ePcP PcP 10 43 30.8 -2.3
W17A Winslow 85.41 49 ⇓P P 10 43 32.2 +0.5
baz=86
220A Playas Peak, P 85.42 53 ⇑P P 10 43 32.7 +0.9
baz=86,SNR=16
Z19A T-Link Ranch, 85.55 52 ⇑P P 10 43 32.8 +0.4
baz=86
V17A Tonalea, Kykot 85.63 49 ⇑P P 10 43 33.1 +0.4
baz=86,SNR=18
F07A Phinny Hill Vi 85.64 37 ⇑P P 10 43 32.5 -0.1
baz=86
120A U Bar Ranch, L 85.65 53 ⇑P P 10 43 33.8 +0.8
baz=86,SNR=12
U16A Tuba City 85.66 48 ⇑P P 10 43 33.3 +0.5
baz=86,SNR=22
NAC Naches 85.67 35 P P 10 43 32.8 +0.2
X18A Snowflake 85.68 50 ⇑P P 10 43 33.4 +0.4
baz=86,SNR=12
Q14A Sevier Lake (B 85.71 45 ⇓P P 10 43 33.3 +0.2
baz=86
G08A Pilot Rock 85.81 37 ⇓P P 10 43 33.4 0.0
baz=86,SNR=14
T16A Glen Canyon Da 85.84 47 ⇓P P 10 43 34.0 +0.3
baz=86,SNR=11
R15A Junction 85.96 46 ⇓P P 10 43 34.8 +0.6
baz=86
221A Mesquite Ranch 86.03 53 ⇓P P 10 43 35.7 +0.9
baz=86,SNR=6.2
E07A Sunnyside 86.08 36 ⇑P P 10 43 34.6 0.0
baz=86,SNR=9.2
X19A St. Johns 86.10 51 ⇓P P 10 43 35.5 +0.5
baz=86,SNR=11
W18A Petrified Fore 86.12 50 ⇑P P 10 43 35.5 +0.3
baz=86
RSW Rattlesnake Hi 86.13 36 eP P 10 43 35.1 +0.3
comp=Z,106nm,1.4s,mb5.4
RSW e pP 10 45 07.3 +1.9
HAWA Hanford 86.16 36 eP P 10 43 34.9 -0.1
comp=Z,60nm,1.4s,mb5.1
HAWA e pP 10 45 06.6 +1.0
S16A Weppner Ranch, 86.16 47 ⇓P P 10 43 35.1 -0.1
baz=86,SNR=10
MSU Marysvale 86.18 46 eP P 10 43 36.4 +1.1
comp=Z,14nm,1.2s,mb4.5
MSU Marysvale 86.18 46 eP P 10 43 36.4 +1.1
MSU pmax pmax
comp=Z,14nm,1.2s,mb4.6
U17A Shonto 86.22 48 ⇓P P 10 43 36.1 +0.5
baz=86
121A Cookes Peak, D 86.27 53 ⇓P P 10 43 36.7 +0.7
baz=86,SNR=10
V18A Ganado 86.28 49 ⇑P P 10 43 36.1 +0.2
baz=86,SNR=13
Q15A Fillmore 86.31 45 ⇑P P 10 43 36.0 +0.1
baz=86
T17A Navajo Res., N 86.33 48 ⇑P P 10 43 36.5 +0.5
baz=86,SNR=15
W19A Sanders 86.37 50 ⇓P P 10 43 36.7 +0.4
baz=86
PMR Palmer 86.41 13 eP P 10 43 33.6 -2.3
comp=Z,49nm,1.4s,mb5.0
PMR Palmer 86.41 13 eP P 10 43 33.6 -2.3
PMR pmax pmax
comp=Z,49nm,1.4s,mb5.0
A05A Maple Falls 86.43 33 ⇑P P 10 43 37.0 +0.8
baz=86
ETW Entiat 86.47 35 eP P 10 43 36.1 -0.4
comp=Z,25nm,0.6s,mb5.1
E08A Dider Farm, El 86.48 36 ⇓P P 10 43 36.4 -0.2
baz=87,SNR=13
BMO Blue Mountains 86.50 38 eP P 10 43 36.3 -0.4
comp=Z,10nm,0.8s,mb4.6
BMO e pP 10 45 08.2 +0.9
Y20A Horse Springs, 86.50 51 ⇑P P 10 43 37.7 +0.7
baz=87,SNR=14
R16A Teasdale 86.53 46 ⇑P P 10 43 37.6 +0.6
baz=87,SNR=14
MFID Camas Ranch 86.55 40 ⇑P P 10 43 36.8 -0.1
baz=87,SNR=6.4
MFID Camas Ranch 86.55 40 eP P 10 43 36.8 -0.2
comp=Z,9.3nm,1.2s,mb4.4
222A Williams Famil 86.58 54 ⇓P P 10 43 38.0 +0.6
baz=87,SNR=9.2
SNAA Sanae 86.62 179 eP P 10 43 36.2 -0.7
comp=Z,2.1nm,0.6s,mb4.0
SNAA e pP 10 45 06.8 -0.7
SNAA Sanae 86.62 179 eP P 10 43 36.2 -0.7
SNAA e pP 10 45 06.8 -0.7
SNAA pmax pmax
comp=Z,2.0nm,0.6s
S17A Black Ridge (B 86.66 47 ⇓P P 10 43 37.3 -0.3
baz=87,SNR=9.7
DUG Dugway 86.66 44 ⇓P P 10 43 37.1 -0.4
baz=87
P15A Leamington 86.67 45 ⇓P P 10 43 37.6 0.0
baz=87
ENH Enshi 86.71 304 eP P 10 43 38.6 +0.6
comp=Z,66nm,1.2s,mb5.2
X20A Quemado 86.72 51 ⇓P P 10 43 38.7 +0.7
baz=87,SNR=11
Z21A St. Cloud Mine 86.73 52 ⇑P P 10 43 39.0 +0.9
baz=87
WTV Waterville 86.73 35 P P 10 43 37.6 -0.1
NLW Nelson Butte 86.76 35 P P 10 43 37.9 0.0
DIV Divide 86.77 15 eP P 10 43 36.5 -1.0
comp=Z,44nm,1.0s,mb5.1
DIV e pP 10 45 05.9 -2.4
SML Sawmill 86.78 14 eP P 10 43 38.2 +0.6
SML Sawmill 86.78 14 eP P 10 43 38.2 +0.6
BJI Beijing 86.79 316 P P 10 43 38.8 +0.6
BJI pmax pmax
comp=Z,20nm,0.9s,mb4.8
V19A Window Rock 86.91 50 ⇓P P 10 43 39.4 +0.5
baz=87
BMRM Bremner River 86.92 16 eP P 10 43 37.5 -0.8
comp=Z,22nm,0.9s,mb4.9
122A Conniff Cattle 86.93 53 ⇓P P 10 43 39.7 +0.7
baz=87
E09A Wood Farm, Sta 87.00 37 ⇓P P 10 43 38.8 -0.2
baz=87
W20A Ramah 87.01 50 ⇓P P 10 43 39.8 +0.5
baz=87,SNR=14
223A Chaparral, Ant 87.03 54 ⇑P P 10 43 40.3 +0.8
baz=87
T18A Mexican Hat 87.04 48 ⇑P P 10 43 39.6 +0.1
baz=87,SNR=38
Y21A Point of Rocks 87.06 52 ⇑P P 10 43 40.5 +0.8
baz=87,SNR=12
Q16A Castle Valley 87.06 46 ⇑P P 10 43 40.0 +0.4
baz=87,SNR=11
U19A Dine' College, 87.08 49 ⇑P P 10 43 39.6 0.0
baz=87,SNR=16
P16A Fountain Green 87.10 45 ⇓P P 10 43 39.9 +0.3
baz=87
R17A Hanksville Air 87.12 47 ⇓P P 10 43 39.5 -0.3
baz=87,SNR=16
I12A Atlanta 87.18 40 ⇑P P 10 43 40.1 +0.2
baz=87,SNR=20
F10A Beach Ranch, E 87.20 38 ⇓P P 10 43 39.5 -0.5
baz=87,SNR=52
OD2 Odessa Site #2 87.21 36 eP P 10 43 39.7 -0.3
comp=Z,103nm,1.5s,mb5.3
GYA Guiyang 87.22 300 eP P 10 43 41.3 +0.8
GYA pP pP 10 45 07.0 -4.3
GYA sP sP 10 45 45.3 -7.0
GYA PP PP 10 47 13.0 +1.6
GYA SKS 10 53 31.6
GYA S S 10 53 48.4 +1.9
GYA sS sS 10 56 19.8 -8.0
GYA pmax pmax
comp=Z,20nm,1.0s,mb4.8
GYA pmax pmax
comp=Z,120nm,5.0s
Z22A Elephant Butte 87.22 53 ⇓P P 10 43 40.9 +0.5
baz=87,SNR=16
S18A Hurst Farm, Bl 87.23 47 ⇓P P 10 43 40.3 -0.1
baz=87
TMUT Trail Mountain 87.24 46 eP P 10 43 41.2 +0.9
comp=Z,24nm,0.9s,mb4.9
MAIT Maitri 87.31 183 eP P 10 43 39.9 -0.3
V20A Brimhall 87.36 50 ⇓P P 10 43 40.8 -0.2
baz=87
L14A Malta 87.37 42 ⇑P P 10 43 40.8 -0.1
baz=88
123A Bell Site, Whi 87.45 53 ⇓P P 10 43 42.0 +0.5
baz=88
T19A Beclabito 87.47 49 ⇑P P 10 43 41.4 -0.1
baz=88,SNR=6.8
HLID Hailey 87.48 41 ⇓P P 10 43 41.6 +0.2
baz=88,SNR=19
HLID Hailey 87.48 41 eP P 10 43 41.6 +0.2
comp=Z,13nm,0.9s,mb4.7
324A Moseley Ranch, 87.48 55 ⇓P P 10 43 41.7 0.0
baz=88,SNR=23
J13A Cove Ranch, Pi 87.53 41 ⇓P P 10 43 41.9 +0.3
baz=88,SNR=20
Y22A Socorro 87.55 52 ⇓P P 10 43 42.2 +0.3
baz=88,SNR=9.6
425A Indio Mountain 87.56 56 ⇑P P 10 43 42.5 +0.4
baz=88
M15A Larsen Ranch, 87.57 43 ⇑P P 10 43 41.6 -0.2
baz=88
SRU San Rafael 87.60 46 ⇑P P 10 43 42.0 -0.1
baz=88,SNR=22
SRU San Rafael 87.60 46 eP P 10 43 42.0 0.0
comp=Z,19nm,0.8s,mb4.9
SRU San Rafael 87.60 46 eP P 10 43 42.0 0.0
SRU pmax pmax
comp=Z,19nm,0.8s,mb4.9
U20A Newcomb 87.60 49 ⇑P P 10 43 42.1 0.0
baz=88
W21A San Fidel 87.61 51 ⇑P P 10 43 42.6 +0.4
baz=88
P17A Butcher Ranch, 87.64 46 ⇑P P 10 43 42.4 +0.2
baz=88
LAZ Ladron 87.64 51 eP P 10 43 43.0 +0.6
comp=Z,18nm,1.7s,mb4.5
Y22D IRIS PASSCAL I 87.64 52 ⇓P P 10 43 42.8 +0.4
baz=88
R18A Canyonlands Na 87.65 47 ⇑P P 10 43 42.1 -0.2
baz=88,SNR=18
626A Big Bend Ranch 87.67 57 ⇑P P 10 43 43.0 +0.4
baz=88
K14A Jones Ranch, D 87.69 42 ⇓P P 10 43 42.3 -0.1
baz=88,SNR=6.6
SEY Seymchan 87.70 347 ⇑eP P 10 43 40.9 -1.0
224A Cornudas Mount 87.75 54 ⇑P P 10 43 43.4 +0.5
baz=88,SNR=26
H12A Diamond D Ranc 87.76 40 ⇑P P 10 43 42.7 0.0
baz=88
Z23A Rita Site, Whi 87.77 53 ⇑P P 10 43 43.4 +0.4
baz=88
325A Bean Ranch, Si 87.84 55 ⇑P P 10 43 43.5 +0.1
baz=88,SNR=30
TRF Thorofare Moun 87.85 12 eP P 10 43 40.9 -1.7
comp=Z,41nm,0.8s,mb5.2
S19A Harvey Farm, M 87.85 48 ⇓P P 10 43 43.0 -0.2
baz=88,SNR=9.8
Q18A Rafter H Ranch 87.86 46 ⇑P P 10 43 42.9 -0.3
baz=88,SNR=14
L15A Malad City 87.89 43 ⇓P P 10 43 42.9 -0.4
baz=88,SNR=6.5
BNM Barren Site 87.89 52 eP P 10 43 44.4 +0.8
comp=Z,30nm,1.6s,mb4.8
N16A Rees Ranch, Co 87.91 44 ⇑P P 10 43 43.5 0.0
baz=88,SNR=5.3
526A Mary Lane Ranc 87.93 57 ⇑P P 10 43 43.9 +0.1
baz=88,SNR=13
TXAR Lajitas Array 87.93 57 P P 10 43 44.2 +0.4
comp=Z,6.4nm,0.8s,mb4.4,baz=220,slow=6.8,SNR=57
TXAR pP pP 10 45 14.7 -0.1
comp=Z,4.7nm,1.0s,baz=216,slow=5.6,SNR=7.5
TXAR Lajitas Array 87.93 57 P P 10 43 44.2 +0.4
TXAR pP pP 10 45 14.7 -0.1
TXAR Lajitas Array 87.93 57 P P 10 43 44.2 +0.4
TXAR *PP pP 10 45 14.7 -0.1
LPM Los Pinos Moun 87.97 52 eP P 10 43 44.4 +0.5
comp=Z,19nm,1.4s,mb4.6
M16A Huntsville 88.01 44 ⇑P P 10 43 43.6 -0.3
baz=88
O17A Robinson Place 88.01 45 ⇓P P 10 43 44.3 +0.4
baz=88,SNR=26
MVCO Mesa Verde 88.03 49 ⇑P P 10 43 43.9 -0.2
baz=88
R19A Curley Farm, L 88.04 47 ⇓P P 10 43 43.7 -0.4
baz=88,SNR=16
P18A Preston Nutter 88.05 46 ⇓P P 10 43 44.2 +0.1
baz=88
124A Stringfield Ra 88.08 54 ⇓P P 10 43 44.7 +0.3
baz=88,SNR=14
H13A Challis 88.13 40 ⇑P P 10 43 44.4 0.0
baz=88,SNR=17
W22A Albuquerque 88.15 51 ⇑P P 10 43 45.2 +0.4
baz=88
K15A Arbon 88.16 42 ⇓P P 10 43 44.6 0.0
baz=88
627A Terlingua Ranc 88.20 57 ⇑P P 10 43 45.3 +0.2
baz=88,SNR=18
U21A Nageezi 88.24 50 ⇓P P 10 43 45.2 +0.1
baz=88,SNR=17
426A McDonald Obser 88.25 56 ⇑P P 10 43 45.6 +0.3
baz=88,SNR=25
I14A Mackay 88.26 41 ⇓P P 10 43 45.5 +0.5
baz=88,SNR=19
225A Deer Hill, Car 88.29 54 ⇑P P 10 43 45.8 +0.4
baz=88,SNR=19
PV04 Paradox Valley 88.33 47 eP P 10 43 45.6 +0.1
N17A Moffit Pass 88.33 44 ⇓P P 10 43 45.5 0.0
baz=88,SNR=5.9
Q19A Hogan Spring (88.37 47 ⇑P P 10 43 45.3 -0.4
baz=88,SNR=16
MCK McKinley 88.37 13 eP P 10 43 43.4 -1.6
comp=Z,32nm,1.0s,mb5.0
MCK McKinley 88.37 13 eP P 10 43 43.4 -1.6
MCK pmax pmax
comp=Z,32nm,1.0s,mb5.0
ANMO Albuquerque 88.39 51 eP P 10 43 45.8 0.0
comp=Z,19nm,1.3s,mb4.7
ANMO Albuquerque 88.39 51 eP P 10 43 45.8 -0.1
ANMO pmax pmax
comp=Z,19nm,1.3s
X23A Hourglass Bar 88.42 52 ⇑P P 10 43 46.0 +0.1
baz=88
S20A Disappointment 88.43 48 ⇑P P 10 43 45.6 -0.3
baz=88,SNR=7.8
Z24A Sheeppen Canyo 88.44 53 ⇓P P 10 43 46.2 +0.1
baz=88,SNR=9.4
L16A Fish Haven 88.50 43 ⇑P P 10 43 46.0 -0.2
baz=89
V22A San Miguel Ran 88.52 50 ⇑P P 10 43 46.5 +0.1
baz=89
O18A Roosevelt 88.53 45 ⇓P P 10 43 46.4 +0.1
baz=89
326A Caldwell Ranch 88.57 55 ⇓P P 10 43 46.6 -0.2
baz=89,SNR=7.7
R20A Redvale 88.59 48 ⇑P P 10 43 46.3 -0.4
baz=89
NEW Newport 88.59 36 ⇑P P 10 43 45.6 -0.8
baz=89,SNR=8.5
T21A Navajo Lake 88.60 49 ⇓P P 10 43 46.4 -0.3
baz=89
J15A Blackfoot 88.60 42 ⇑P P 10 43 47.2 +0.6
baz=89,SNR=8.9
Y24A Capitan 88.66 53 ⇓P P 10 43 47.5 +0.4
baz=89,SNR=27
125A Gardner Draw, 88.66 54 ⇑P P 10 43 47.3 +0.1
baz=89,SNR=15
H14A Leadore 88.69 40 ⇓P P 10 43 47.1 +0.2
baz=89,SNR=17
M17A Scullys Gap (B 88.71 44 ⇑P P 10 43 46.9 -0.3
baz=89
W23A Warner Place, 88.71 51 ⇓P P 10 43 47.2 -0.1
baz=89
S21A Coal Bank Pass 88.74 48 ⇓P P 10 43 47.6 +0.2
baz=89,SNR=10
427A Hayter Ranch, 88.81 56 ⇑P P 10 43 48.3 +0.4
baz=89,SNR=33
226A Malaga, Loving 88.81 55 ⇑P P 10 43 47.8 -0.1
baz=89
MENT Mentasta 88.83 15 eP P 10 43 46.1 -1.0
K16A Soda Springs 88.83 42 ⇑P P 10 43 48.0 +0.3
baz=89
D12A Red Ives Fores 88.88 37 ⇑P P 10 43 47.3 -0.5
baz=89
I15A Monteview 88.89 41 ⇑P P 10 43 48.2 +0.3
baz=89,SNR=10
P19A Cripple Cowboy 88.89 46 ⇓P P 10 43 47.8 -0.3
baz=89,SNR=7.1
Z25A Roswell 88.90 53 ⇑P P 10 43 48.4 +0.1
baz=89
V23A Ortiz Mt. (NFS 88.96 51 ⇑P P 10 43 48.7 +0.2
baz=89,SNR=9.4
J16A Bone 89.05 42 ⇓P P 10 43 49.0 +0.3
baz=89
T22A Edith 89.05 49 ⇓P P 10 43 48.6 -0.3
baz=89
M18A Lyman 89.08 44 ⇓P P 10 43 48.7 -0.2
baz=89,SNR=6.0
N18A Larsen Ranch, 89.11 45 ⇑P P 10 43 48.8 -0.3
baz=89,SNR=8.3
MCMT McKenzie Canyo 89.11 40 eP P 10 43 49.4 +0.4
comp=Z,20nm,1.1s,mb4.8
O19A Miners Draw (B 89.13 46 ⇑P P 10 43 48.9 -0.2
baz=89,SNR=11
126A Clayton Basin, 89.14 54 ⇓P P 10 43 48.9 -0.5
baz=89
C12B Naegeli Ranch, 89.18 37 ⇑P P 10 43 48.9 -0.3
baz=89,SNR=11
E13A Victor 89.20 38 ⇑P P 10 43 48.6 -0.8
baz=89,SNR=5.4
K17A Gardner Place, 89.21 43 ⇓P P 10 43 49.4 -0.1
baz=89,SNR=13
Y25A Mesa, Roswell 89.21 53 ⇑P P 10 43 49.5 -0.2
baz=89,SNR=13
P20A De Beque 89.22 47 ⇓P P 10 43 49.5 -0.2
baz=89,SNR=10
U23A El Rito 89.23 50 ⇑P P 10 43 49.7 0.0
baz=89,SNR=11
R21A Cimarron 89.25 48 ⇓P P 10 43 49.8 0.0
baz=89,SNR=14
W24A Lazy 6 Ranch, 89.28 51 ⇑P P 10 43 49.6 -0.4
baz=89,SNR=9.0
428A Kincaid Ranch, 89.31 56 ⇓P P 10 43 50.3 +0.1
baz=89
F14A Wisdom 89.33 39 ⇓P P 10 43 49.7 -0.3
baz=89,SNR=5.4
L18A Fontenelle, Gr 89.35 44 ⇑P P 10 43 50.1 -0.1
baz=89
DOT Dot Lake 89.35 14 eP P 10 43 48.9 -0.8
comp=Z,78nm,1.2s,mb5.3
N19A John Jarvie Ra 89.39 45 ⇓P P 10 43 49.8 -0.6
baz=90,SNR=6.4
227A Bennet, Jal 89.41 55 ⇓P P 10 43 50.4 -0.2
baz=90
I16A Newdale 89.44 42 ⇓P P 10 43 51.0 +0.5
baz=90
Z26A Caprock 89.45 54 ⇑P P 10 43 50.6 -0.2
baz=90,SNR=13
S22A 4UR Ranch, Cre 89.45 49 ⇓P P 10 43 51.0 +0.3
baz=90,SNR=16
Q21A Lamborn Mesa, 89.46 47 ⇑P P 10 43 50.7 0.0
baz=90
328A Wristen Ranch, 89.50 56 ⇓P P 10 43 50.7 -0.4
baz=90,SNR=6.5
X25A Clemmons Ranch 89.51 52 ⇑P P 10 43 50.5 -0.6
baz=90
G15A Dillon 89.51 40 ⇓P P 10 43 51.1 +0.3
baz=90,SNR=25
DLMT Dillon 89.55 40 eP P 10 43 51.6 +0.6
comp=Z,37nm,1.3s,mb5.0
MSO Missoula 89.56 38 ⇑P P 10 43 50.2 -0.8
baz=90,SNR=5.3
TPAW Teton Pass 89.57 42 eP P 10 43 51.8 +0.7
comp=Z,24nm,1.2s,mb4.9

E14A Clinton 89.59 39 ⇓P P **10 43 50.6 -0.6**
baz=90,SNR=9.0
COLA College 89.60 12 *eP* P **10 43 49.2 -1.6**
comp=Z,30nm,0.9s,mb5.1
COLA **College 89.60 12** *eP* P **10 43 49.2 -1.6**
COLA pmax pmax
comp=Z,30nm,0.9s,mb5.1
V24A Rampart Ranch, 89.61 51 ⇓P P **10 43 51.6 0.0**
baz=90,SNR=7.2
O20A White River Ci 89.64 46 ⇓P P **10 43 51.3 -0.3**
baz=90
BSMT Bassoo Peak 89.64 37 *eP* P **10 43 51.0 -0.3**
comp=Z,4.1nm,0.7s,mb4.4
127A Arkansas Junct 89.65 54 ⇓P P **10 43 51.5 -0.3**
baz=90,SNR=9.3
J17A Brown Place, J 89.65 42 ⇑P P **10 43 51.6 0.0**
baz=90,SNR=12
T23A Casias Ranch, 89.67 50 ⇑P P **10 43 51.8 0.0**
baz=90,SNR=8.5
K18A Toltan Ranch, 89.71 43 ⇓P P **10 43 51.8 +0.1**
baz=90,SNR=33
M19A Rock Springs 89.71 45 ⇑P P **10 43 51.4 -0.4**
baz=90
ILAR Eielson Array 89.71 13 P P **10 43 49.2 -2.0**
comp=Z,7.8nm,0.8s,mb4.6,baz=221,slow=5.6,SNR=104
ILAR pP pP 10 45 23.5 +0.9
comp=Z,2.0nm,1.0s,baz=222,slow=4.9,SNR=3.5
ILAR Eielson Array 89.71 13 P P **10 43 49.2 -2.0**
ILAR pP pP 10 45 23.5 +0.9
ILAR Eielson Array 89.71 13 P P **10 43 49.3 -2.0**
ILAR *PP pP 10 45 23.5 +0.9
LOHW Long Hollow 89.85 42 *eP* P **10 43 52.8 +0.3**
comp=Z,9.2nm,0.8s,mb4.7
Y26A Elida 89.86 53 ⇑P P **10 43 52.2 -0.5**
baz=90
KMI Kunming 89.86 297 P P **10 43 54.0 +1.1**
KMI pmax pmax
comp=Z,11nm,1.1s,mb4.6
F15A Butte 89.87 40 ⇓P P **10 43 52.3 -0.1**
baz=90,SNR=7.8
P21A Newcastle 89.87 47 ⇑P P **10 43 52.4 -0.3**
baz=90
L19A Farson 89.87 44 ⇓P P **10 43 52.4 -0.1**
baz=90,SNR=15
LRM Limekiln Ridge 89.88 40 *eP* P **10 43 52.9 +0.4**
comp=Z,91nm,1.0s,mb5.6
Q22A Crested Butte, 89.92 48 ⇑P P **10 43 52.9 0.0**
baz=90,SNR=8.9
BDT Bhumibol Dam 89.93 289 P P **10 43 53.0 -0.4**
D14A Greenough 89.94 38 ⇓P P **10 43 52.0 -0.8**
baz=90,SNR=7.1
G16A Moss Hill, Enn 89.95 40 ⇓P P **10 43 52.6 -0.3**
baz=90,SNR=8.9
W25A X Bar L Ranch, 89.97 52 ⇓P P **10 43 52.6 -0.6**
baz=90,SNR=22
QLMT Earthquake Lak 89.97 41 *eP* P **10 43 54.2 +1.2**
comp=Z,6.4nm,1.1s,mb4.4
CHMT Chamberlain Mo 90.00 38 *eP* P **10 43 52.9 -0.2**
comp=Z,26nm,1.6s,mb4.8
S23A Nye Farm, Mont 90.01 49 ⇑P P **10 43 53.4 +0.1**
baz=90
J18A Kendall Valley 90.01 43 ⇑P P **10 43 53.3 +0.1**
baz=90,SNR=59
H16A Russell Place, 90.02 41 ⇑P P **10 43 54.0 +0.8**
baz=90,SNR=9.7
I17A Pilgrim Ck. 90.03 42 ⇑P P **10 43 53.7 +0.5**
baz=90
SMCO Snowmass 90.03 47 *eP* P **10 43 53.8 +0.4**
comp=Z,11nm,1.1s,mb4.6
Z27A Tatum 90.04 54 ⇑P P **10 43 53.1 -0.5**
baz=90
PD01 Pinedale Array 90.07 43 *eP* P **10 43 53.5 0.0**
BW06 Boulder Array 90.08 43 ⇑P P **10 43 53.2 -0.3**
baz=90,SNR=21
PDAR Pinedale Array 90.08 43 P P **10 43 53.0 -0.5**
comp=Z,18nm,1.0s,mb4.9,baz=211,slow=2.9,SNR=91
PDAR Pinedale Array 90.08 43 P P **10 43 53.0 -0.5**
PD02 Pinedale Array 90.08 43 *eP* P **10 43 53.3 -0.2**
B13A Whitefish 90.11 37 ⇓P P **10 43 52.9 -0.6**
baz=90
V25A Rancho No Teng 90.14 51 ⇓P P **10 43 53.8 -0.2**
baz=90,SNR=9.5
X26A CR and CF Fran 90.15 53 ⇑P P **10 43 53.8 -0.2**
baz=90
O21A Pagoda 90.19 46 ⇓P P **10 43 53.8 -0.3**
baz=90
HHC Hu-ho-hao-te 90.23 314 *eP* P **10 43 56.8 +2.5**
HHC pP pP 10 45 26.3 +0.7
HHC sP sP 10 46 04.3 -2.0
HHC SKS 10 53 50.5
HHC S S 10 54 15.5 +1.9
HHC pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
HHC pmax pmax
comp=Z,96nm,9.5s
HHC LR LR
comp=N,430nm,19.0s
HHC LR LR
comp=Z,430nm,20.2s
H17A Grant Village 90.27 42 ⇓P P **10 43 55.4 +1.1**
baz=90
BOZ Bozeman (W) 90.28 40 ⇓P P **10 43 54.2 -0.2**
baz=90,SNR=20
BOZ Bozeman (W) 90.28 40 *eP* P **10 43 54.5 +0.1**
comp=Z,33nm,1.4s,mb5.0
BOZ Bozeman (W) 90.28 40 *eP* P **10 43 54.5 +0.1**
BOZ pmax pmax
comp=Z,33nm,1.4s,mb5.0
Y27A Causey 90.33 53 ⇓P P **10 43 54.3 -0.6**
baz=90,SNR=11
M20A Sweetwater, Wa 90.33 45 ⇓P P **10 43 54.9 +0.1**
baz=90,SNR=7.4
F16A Kennard Place, 90.35 40 ⇑P P **10 43 54.7 0.0**
baz=90,SNR=8.9
P22A Eagle 90.38 47 ⇑P P **10 43 54.8 -0.2**
baz=90
SDCO Great Sand Dun 90.38 49 ⇑P P **10 43 55.0 -0.1**
baz=90,SNR=10
SDCO Great Sand Dun 90.38 49 *eP* P **10 43 55.1 +0.1**
comp=Z,19nm,1.5s,mb4.7
I18A Diamond G Ranc 90.39 42 ⇑P P **10 43 54.9 -0.1**
baz=90,SNR=6.5
T24A Torres, Weston 90.39 50 ⇓P P **10 43 55.0 -0.1**
baz=90
BILL Bilibino 90.41 354 ⇓*eP* P **10 43 52.6 -1.9**
BILL *ePS* PS 10 56 15.1 -1.5
BILL pmax pmax
comp=Z,9.0nm,1.2s,mb4.5
W26A Owens Ranch, T 90.42 52 ⇑P P **10 43 54.7 -0.6**
baz=90
N21A Black Mountain 90.42 46 ⇑P P **10 43 55.3 +0.1**
baz=90,SNR=10
CM31 Chiang Mai Arr 90.45 290 *eP* P **10 43 58.0 +2.2**
comp=Z,18nm,1.0s,mb4.9
CMAR Chiang Mai Arr 90.45 290 P P **10 43 57.2 +1.4**
comp=Z,12nm,0.9s,mb4.7,baz=132,slow=3.1,SNR=42
CMAR pP pP 10 45 28.4 +1.4
comp=Z,2.7nm,1.0s,baz=115,slow=3.3,SNR=3.0
CMAR PP PP 10 47 41.8 +4.7
comp=Z,0.5nm,0.4s,baz=130,slow=6.1,SNR=4.2
CMAR Chiang Mai Arr 90.45 290 P P **10 43 57.2 +1.4**
CMAR pP pP 10 45 28.4 +1.4
CMAR PP PP 10 47 41.8 +4.7
CMAR Chiang Mai Arr 90.45 290 P P **10 43 57.2 +1.4**
CMAR *PP pP 10 45 28.5 +1.4
CMAR 10 47 41.8
L20A Wamsutter 90.49 44 ⇑P P **10 43 55.5 +0.1**
baz=91,SNR=5.6
S24A Houchin Ranch, 90.53 49 ⇓P P **10 43 55.8 0.0**
baz=91,SNR=8.3
U25A Circle Dot Ran 90.54 51 ⇑P P **10 43 55.5 -0.3**
baz=91,SNR=9.1
K19A Absolon Red Bu 90.56 43 ⇓P P **10 43 55.1 -0.7**
baz=91
CHG Chiang Mai 90.58 290 ⇑P P **10 43 57.6 +1.2**
comp=Z,16nm,0.9s,mb4.9
CHTO Chiang Mai 90.58 290 *eP* P **10 43 57.5 +1.1**
comp=Z,19nm,1.1s,mb4.8
CHTO Chiang Mai 90.58 290 *eP* P **10 43 57.5 +1.1**
CHTO pmax pmax
comp=Z,19nm,1.1s,mb4.8
CHTO Chiang Mai 90.58 290 P P **10 43 57.5 +1.1**
G17A Pierce Place, 90.64 41 ⇑P P **10 43 56.4 +0.3**
baz=91
J19A Crowheart 90.65 43 ⇓P P **10 43 55.6 -0.5**
baz=91,SNR=9.7
MSTX Muleshoe 90.66 54 ⇑P P **10 43 56.1 -0.3**
baz=91,SNR=9.6
E16A East Helena 90.72 39 ⇓P P **10 43 56.1 -0.2**
baz=91
X27A F and S Farms, 90.72 53 ⇑P P **10 43 56.2 -0.5**
baz=91,SNR=7.3
HRY Holter Researc 90.72 39 *eP* P **10 43 56.6 +0.2**
comp=Z,4.9nm,0.6s,mb4.5
HRY *e* pP 10 45 29.6 +1.8
V26A Tequesquite Ra 90.72 52 ⇑P P **10 43 55.8 -0.8**
baz=91,SNR=7.3
B14A Marquette Ranc 90.77 37 ⇓P P **10 43 55.8 -0.7**
baz=91
O22A Kremmling 90.79 47 ⇓P P **10 43 56.7 -0.1**
baz=91,SNR=5.5
K20A Yellowstone Ra 90.80 44 ⇑P P **10 43 56.0 -0.9**
baz=91,SNR=9.0
C15A Salmond Ranch, 90.83 38 ⇑P P **10 43 56.2 -0.7**
baz=91
DAWY Dawson 90.84 16 *eP* P **10 43 56.1 -0.5**
DAWY *e* 10 45 34.5
T25A Trinidad 90.87 50 ⇑P P **10 43 57.0 -0.4**
baz=91,SNR=7.5
R24A Sanders Place, 90.88 49 ⇓P P **10 43 57.2 -0.1**
baz=91,SNR=7.8
W27A Bowe Ranch, En 90.92 52 ⇓P P **10 43 57.0 -0.6**
baz=91
M21A Separation Pea 90.93 45 ⇓P P **10 43 57.0 -0.5**
baz=91
F17A Fitzpatrick Pl 90.99 40 ⇑P P **10 43 57.8 +0.1**
baz=91,SNR=9.0
EGAK Eagle 90.99 15 *eP* P **10 43 56.4 -0.8**
comp=Z,28nm,1.0s,mb5.0
U26A Atchley Ranch, 91.02 51 ⇑P P **10 43 57.5 -0.6**
baz=91,SNR=7.1
A14A Double T Ranch 91.02 37 ⇑P P **10 43 57.2 -0.5**
baz=91,SNR=10
D16A Dana Ranch, Ca 91.05 39 ⇑P P **10 43 57.7 -0.2**
baz=91
S25A Robets Cordova 91.09 50 ⇑P P **10 43 58.0 -0.4**
baz=91
L21A Rawlins 91.10 45 ⇑P P **10 43 57.7 -0.6**
baz=91
N22A Wattenberg Ran 91.15 46 ⇑P P **10 43 58.4 -0.1**
baz=91
E17A Martinsdale 91.16 40 ⇑P P **10 43 58.4 -0.1**
baz=91
Q24A Divide 91.19 48 ⇓P P **10 43 58.4 -0.3**
baz=91,SNR=6.0
O23A Lake Granby, G 91.23 47 ⇓P P **10 43 58.7 -0.2**
baz=91
ISCO Idaho Springs 91.25 47 ⇓P P **10 43 58.9 -0.1**
baz=91
COLD Coldfoot 91.28 11 *eP* P **10 43 58.1 -0.4**
comp=Z,13nm,1.0s,mb4.7
J20A Shoshoni 91.31 43 ⇑P P **10 43 59.2 0.0**
baz=91,SNR=16
C16A Fuhringer Ranc 91.34 38 ⇓P P **10 43 58.5 -0.7**
baz=91,SNR=6.3
G18A Lazy EL Ranch, 91.36 41 ⇓P P **10 43 59.4 0.0**
baz=91,SNR=8.5
H19A Powell 91.39 42 ⇑P P **10 43 59.7 +0.2**
baz=92,SNR=8.5
A15A Johnson Ranch, 91.41 37 ⇓P P **10 43 58.7 -0.7**
baz=92,SNR=5.7
R25A Fountain Ranch 91.42 49 ⇑P P **10 43 59.2 -0.7**
baz=92
CD2 Chengdu 91.42 303 P P **10 44 00.1 +0.1**
CD2 pP pP 10 45 29.3 -2.1
CD2 sP sP 10 46 07.8 -4.4
CD2 PP PP 10 47 46.9 +2.4
CD2 SKS 10 53 54.3
CD2 S S 10 54 24.0 -0.8
CD2 sS sS 10 57 01.3 -6.6
CD2 pmax pmax
comp=Z,20nm,0.5s,mb5.2
CD2 pmax pmax
comp=Z,160nm,6.0s
RLMT Red Lodge 91.44 41 ⇓P P **10 43 59.9 +0.1**
baz=92,SNR=8.7
RLMT Red Lodge 91.44 41 *eP* P **10 44 00.3 +0.5**
comp=Z,14nm,1.0s,mb4.8
JCT Junction City 91.45 58 ⇑P P **10 43 59.3 -0.9**
baz=92
JCT Junction City 91.45 58 *eP* P **10 43 59.3 -0.8**
comp=Z,3.4nm,0.6s,mb4.3
JCT Junction City 91.45 58 *eP* P **10 43 59.3 -0.9**
JCT pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
N23A Red Feather La 91.54 46 ⇓P P **10 44 00.2 -0.1**
baz=92
F18A Big Timber 91.56 41 ⇓P P **10 44 00.7 +0.4**
baz=92,SNR=5.5
I20A Worland 91.57 43 ⇑P P **10 44 00.1 -0.3**
baz=92
D17A Six Diamond Ra 91.62 39 ⇓P P **10 44 00.4 -0.2**
baz=92,SNR=11
B16A M & M Farms, S 91.68 38 ⇓P P **10 43 59.7 -1.1**
baz=92
J21A Lysite 91.71 44 ⇑P P **10 44 00.9 -0.2**
baz=92,SNR=26
L22A Ellis Ranch, M 91.74 45 ⇑P P **10 44 01.3 +0.1**
baz=92
E18A Harlowton 91.78 40 ⇓P P **10 44 01.3 0.0**
baz=92
Q25A Bedland, Calha 91.79 49 ⇓P P **10 44 01.2 -0.4**
baz=92
C17A Wharram Farm, 91.82 39 ⇓P P **10 44 01.0 -0.4**
baz=92
AMTX Amarillo 91.87 53 ⇑P P **10 44 01.4 -0.6**
baz=92
H20A Greybull 91.91 42 ⇑P P **10 44 01.3 -0.6**
baz=92
M23A Laramie 91.95 46 ⇓P P **10 44 01.9 -0.3**
baz=92,SNR=6.1
K22A Casper 91.98 44 ⇑P P **10 44 01.8 -0.5**
baz=92,SNR=5.1
I21A Big Trails, Te 92.03 43 ⇓P P **10 44 01.9 -0.6**
baz=92,SNR=19
P25A Willow Gulch B 92.11 48 ⇓P P **10 44 02.8 -0.3**
baz=92,SNR=6.3
G20A Bridger 92.14 42 ⇑P P **10 44 02.3 -0.6**
baz=92
B17A L&G Farms, Che 92.14 38 ⇑P P **10 44 02.1 -0.8**
baz=92,SNR=6.5
L23A Garrett 92.26 45 ⇓P P **10 44 03.3 -0.3**
baz=92,SNR=5.7
J22A Midwest 92.36 44 ⇑P P **10 44 03.5 -0.5**
baz=92,SNR=8.5
A17A Triple J Farms 92.53 38 ⇑P P **10 44 04.3 -0.4**
baz=93
I22A 9 Mile Ranch, 92.59 43 ⇓P P **10 44 04.8 -0.3**
baz=93,SNR=9.5
EGMT Eagleton 92.60 39 ⇓P P **10 44 04.7 -0.4**
baz=93
D19A Cripps Ranch, 92.69 40 ⇓P P **10 44 05.3 -0.2**
baz=93,SNR=5.1
B18A Beardsley Farm 92.78 38 ⇑P P **10 44 05.4 -0.4**
baz=93,SNR=5.6
E20A Meyer Farm, Mu 92.81 41 ⇓P P **10 44 05.7 -0.3**
baz=93
C19A Slack Wire Ran 92.87 39 ⇑P P **10 44 06.3 0.0**
baz=93,SNR=8.6
A18A Metzger Ranch, 93.00 38 ⇓P P **10 44 06.1 -0.8**
baz=93,SNR=11
B19A Brinkman Farms 93.29 39 ⇑P P **10 44 08.0 -0.2**
baz=93
YAK Yakutsk 93.36 338 *eP* P **10 44 06.2 -2.0**
YAK pmax pmax
comp=Z,38nm,2.5s,mb4.9
LZH Lanzhou 93.51 307 *eP* P **10 44 08.0 -1.5**
LZH sP sP 10 46 18.1 -3.6
LZH pmax pmax
comp=Z,20nm,1.3s,mb5.0
LZH pmax pmax
comp=Z,130nm,5.2s
A19A Klindworth Far 93.64 38 ⇑P P **10 44 09.3 -0.4**
baz=94
I24A Kuemmerle Ranc 93.76 44 ⇓P P **10 44 09.4 -1.1**
baz=94
B20A Solberg Farm, 93.82 39 ⇑P P **10 44 09.9 -0.7**
baz=94
A20A Cobblestone Ra 94.08 39 ⇓P P **10 44 11.3 -0.6**
baz=94,SNR=7.7
E22A Miles City 94.11 41 ⇑P P **10 44 11.4 -0.5**
baz=94
H24A Dirks Ranch, A 94.21 43 ⇑P P **10 44 11.5 -1.0**
baz=94,SNR=8.0
RSSD Black Hills 94.26 44 *eP* P **10 44 12.3 -0.4**
comp=Z,17nm,1.1s,mb5.0
RSSD Black Hills 94.26 44 *eP* P **10 44 12.4 -0.3**
RSSD pmax pmax
comp=Z,17nm,1.1s,mb5.0
B21A Ellsworth Farm 94.40 39 ⇑P P **10 44 12.9 -0.3**
baz=94,SNR=6.0
E23A Ismay 94.53 41 ⇓P P **10 44 13.7 -0.3**
baz=95
A21A Bergtoll Ranch 94.72 39 ⇑P P **10 44 14.2 -0.5**
baz=95
D23A Lindsay 94.90 41 ⇑P P **10 44 15.3 -0.3**
baz=95
C23A Lambert 95.20 40 ⇓P P **10 44 16.8 -0.2**
baz=95
C24A Savage 95.53 41 ⇑P P **10 44 18.2 -0.3**
baz=96
DGMT Dagmar 96.09 40 ⇑P P **10 44 20.6 -0.4**
baz=96
SONM Songino Array 96.71 319 P P **10 44 21.9 -1.9**
comp=Z,0.6nm,0.9s,mb3.7,baz=108,slow=3.3,SNR=3.4
SONM Songino Array 96.71 319 P P **10 44 21.9 -1.9**
SONM Songino Array 96.71 319 P P **10 44 21.9 -1.9**
GTA Gaotai 97.75 309 *eP* P **10 44 32.0 +3.4**
GTA pmax pmax
comp=Z,2.0nm,1.0s,mb4.3
ZALV Zalesovo Beam 111.49 321 PKiKP PKiKP 10 49 22.6 -2.5
comp=Z,1.3nm,0.6s,baz=210,slow=1.1,SNR=6.2
ZALV Zalesovo Beam 111.49 321 PKiKP PKiKP 10 49 22.6 -2.5
ZALV Zalesovo Beam 111.49 321 PKiKP PKiKP 10 49 22.6 -2.5
MKAR Makanchi Array 112.05 313 PKiKP PKiKP 10 49 24.3 -2.1
comp=Z,1.8nm,0.9s,baz=58,slow=4.6,SNR=7.0
MKAR Makanchi Array 112.05 313 PKPdf PKiKP 10 49 24.3 -2.1
MKAR Makanchi Array 112.05 313 PKiKP PKiKP 10 49 24.3 -2.1
KURK Kurchatov 114.92 317 ⇑*i*PKiKP PKPdf 10 49 30.0 -1.7
BRVK Borovoye 120.12 320 *eP* PKPdf 10 49 39.7 -1.9
BRVK Borovoye 120.12 320 *e*PKiKP PKPdf 10 49 39.7 -2.0
DAG Danmarks Havn 124.14 6 *i* PKiKP PKPdf 10 49 46.5 -2.3
DAG Danmarks Havn 124.14 6 *i* P PKPdf 10 49 46.5 -2.3
comp=Z,5.2nm,0.8s
SUMG Summit 124.55 14 *e*PKPdf PKPdf 10 49 49.4 -0.3
SUMG Summit 124.55 14 *e*PKiKP PKPdf 10 49 49.4 -0.2
SUMG Summit 124.55 14 *i* P PKPdf 10 49 48.8 -0.8
comp=Z,9.2nm,1.0s
SOKR Solikamsk 126.21 329 ⇓*i*PKiKP PKPdf 10 49 52.4 -0.8
SOKR pmax pmax
comp=Z,10.0nm,0.7s
ARU Arti 126.27 325 *e*PKPdf PKPdf 10 49 52.5 -0.9
ARU Arti 126.27 325 *i* PKiKP PKPdf 10 49 51.7 -1.7
ARU 10 51 50.3
ARU 10 56 20.8
ARU SS SS 11 08 19.3 -6.2
ABKAR Akbulak array 127.00 316 *e*PKPdf PKPdf 10 49 53.8 -1.1
ARCES ARCESS Array B 130.27 349 PKP PKPdf 10 49 59.1 -1.5
comp=Z,6.1nm,0.6s,baz=34,slow=1.3,SNR=22
ARCES ARCESS Array B 130.27 349 PKP PKPdf 10 49 59.1 -1.5
ARCES ARCESS Array B 130.27 349 PKiKP PKPdf 10 49 59.1 -1.5
FINES FINESS Array B 137.07 343 PKP PKPdf 10 50 12.0 -1.6
comp=Z,3.6nm,0.6s,baz=101,slow=3.9,SNR=4.7
FINES FINESS Array B 137.07 343 PKP PKPdf 10 50 12.0 -1.6
FINES FINESS Array B 137.07 343 PKiKP PKPdf 10 50 12.0 -1.6
OBN Obninsk 137.91 331 *e*PKiKP PKPdf 10 50 13.5 -1.8
OBN pmax pmax
comp=Z,9.0nm,1.4s
VSR Storozhevoye 138.84 325 *e*PKiKP PKPdf 10 50 17.9 +0.8
VSR pmax pmax
comp=N,7.0nm,0.8s
VSR pmax pmax
comp=E,10.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s
NOA NORSAR Array B 140.35 353 PKhKP PKPpre 10 50 11.3
comp=Z,1.0nm,0.6s,baz=4.0,slow=2.3,SNR=5.9
NOA PKP PKPdf 10 50 20.9 +1.3
comp=Z,3.1nm,0.7s,baz=13,slow=4.0,SNR=7.0
NOA NORSAR Array B 140.35 353 PKP PKPpre 10 50 11.3
NOA PKP PKPdf 10 50 20.9 +1.3
NOA NORSAR Array B 140.35 353 PKHKP PKPpre 10 50 11.3
NOA 10 50 20.9
KAC Achnashellach 144.07 7 *eP* PKPdf 10 50 23.0 -3.3
SUW Suwalki 144.09 339 *e*PKP PKPdf 10 50 24.1 -2.3
SUW Suwalki 144.09 339 *e*PKiKP PKPdf 10 50 24.1 -2.3
AKASG Malin Array Be 144.16 330 PKP PKPdf 10 50 23.6 -3.0
comp=Z,21nm,0.7s,baz=42,slow=4.3,SNR=64
AKASG pPKP pPKPdf 10 52 03.4 0.0
comp=Z,1.8nm,0.6s,baz=42,slow=4.3,SNR=4.5
AKASG Malin Array Be 144.16 330 PKP PKPdf 10 50 23.6 -3.0
AKASG pPKP pPKPdf 10 52 03.4 0.0
AKASG Malin Array Be 144.16 330 PKiKP PKPdf 10 50 23.7 -2.9
AKASG 10 52 03.4
AKBB Malin Array Si 144.16 330 *e*PKPdf PKPdf 10 50 23.7 -2.9
AKBB Malin Array Si 144.16 330 *e*PKiKP PKPdf 10 50 23.7 -2.9
MCD Coleburn Disti 144.17 5 *eP* PKPdf 10 50 23.2 -3.3
KIEV Kiev 144.17 330 *e*PKPbc PKPdf 10 50 23.6 -3.1
KIEV Kiev 144.17 330 *e*PKiKP PKPdf 10 50 23.6 -3.1
ELZG Elazig 144.18 306 *i* P PKPdf 10 50 26.5 -0.6
KPL Plockton 144.19 7 *eP* PKPdf 10 50 23.7 -2.8
MDO Dochfour 144.22 6 *eP* PKPdf 10 50 23.7 -2.8
KEMA Kemaliye 144.31 307 *i* P PKPdf 10 50 26.2 -1.0
KSB Sheil Bridge 144.34 7 *eP* PKPdf 10 50 24.4 -2.4
SIM Simferopol' 144.96 319 *i* PKiKP PKPdf 10 50 27.5 -0.7
SIM pmax pmax
comp=Z,41nm,1.0s
AKCD Akcadag 145.03 306 *i* P PKPdf 10 50 28.8 +0.2
MUD Monsted U'grnd 145.07 353 *i* PKiKP PKPdf 10 50 27.2 -0.8
MUD pmax pmax
comp=Z,27nm,0.9s
MUD Monsted U'grnd 145.07 353 *i* P PKPdf 10 50 27.2 -0.8
comp=Z,27nm,0.9s
ERBA Erbaa 145.09 310 *i* P PKPdf 10 50 28.5 -0.1
SCER sogukcermik 145.12 309 *i* P PKPdf 10 50 29.0 +0.4
EAB Aberfoyle 145.46 6 *eP* PKPdf 10 50 28.2 -0.5
EBH Black Hill 145.47 5 *eP* PKPdf 10 50 27.5 -1.2
GZT Gaziantep 145.58 305 *i* P PKPdf 10 50 29.2 -0.4
EBL Broad Law 145.98 5 *eP* PKPdf 10 50 29.4 -0.2
ANDN Andirin 146.44 306 *i* P PKPdf 10 50 33.0 +2.1
CTKT Corum 146.49 311 *i* P PKPdf 10 50 31.6 +0.7
ECK Cauldkaine Hil 146.56 5 *eP* PKPdf 10 50 30.6 0.0
BEL Belsk 146.71 338 *e*PKP PKPdf 10 50 32.9 +2.0
BEL Belsk 146.71 338 *e*PKP2 PKPdf 10 50 32.9 +1.9
GAL1 Galloway 146.72 7 *eP* PKPdf 10 50 31.5 +0.6
COBT Iskenderun 146.82 304 *i* P PKPdf 10 50 32.7 +1.0
XAL Allendale 146.95 4 *eP* PKPdf 10 50 32.0 +0.8
BALT Daday 147.06 314 *i* P PKPdf 10 50 32.0 +0.1
LVV L'vov 147.10 333 *i* PKiKP PKPdf 10 50 32.6 +0.9
LVV *e* 10 52 13.8
AVNT Avonos 147.15 308 *i* P PKPdf 10 50 33.9 +1.7
XDE Dent Fell 147.20 6 *eP* PKPdf 10 50 32.6 +1.0
BSEG Bad Segeberg 147.38 351 *e*PKPbc PKPbc 10 50 34.2 -0.9
BSEG Bad Segeberg 147.38 351 *e*PKP2 PKPbc 10 50 34.2 -0.9
HLG Helgoland 147.45 353 *e*PKPbc PKPbc 10 50 34.4 -0.8
ELDT Eldivan 147.49 312 *i* P PKPdf 10 50 35.2 +2.5
BRTR Keskin Array B 147.66 311 PKPbc PKPbc 10 50 34.0 -2.3
comp=Z,6.2nm,0.8s,baz=128,slow=3.7,SNR=28
BRTR pPKPbc pPKPbc 10 52 12.0 +0.2
comp=Z,1.6nm,0.7s,baz=180,slow=0.5,SNR=3.6
BRTR Keskin Array B 147.66 311 PKPbc PKPbc 10 50 34.0 -2.3
BRTR pPKPbc pPKPbc 10 52 12.0 +0.2
BRTR Keskin Array B 147.66 311 PKiKP PKPbc 10 50 34.0 -2.3
BRTR 10 52 12.0
GULE Gulek 147.72 306 *i* P PKPbc 10 50 35.9 -0.6
KWP Kalwaria Pacla 147.79 334 *e*PKP PKPbc 10 50 36.6 +0.3
KWP Kalwaria Pacla 147.79 334 *e*PKP2 PKPbc 10 50 36.6 +0.3
DLF Lyons Farm 148.01 10 *eP* PKPdf 10 50 34.8 +1.7
DLF Lyons Farm 148.01 10 ⇑*i*P PKPdf 10 50 34.0 +0.9
RUE Ruedersdorf 148.12 346 *e*PKPbc PKPbc 10 50 36.2 -0.8
BUR08 Bucovina Ar. S 148.19 329 *e*PKPdf PKPdf 10 50 34.4 +0.9
BUR08 *e*PKPbc PKPbc 10 50 37.1 -0.2
BUR08 *e*PKPab PKPab 10 50 41.6 -0.1
BURAR Bucovina Array 148.20 329 ⇑*i*P PKPbc 10 50 37.1 -0.3
OJC Ojcow 148.41 338 *e*PKP PKPbc 10 50 36.5 -1.3
OJC Ojcow 148.41 338 *e*PKP2 PKPbc 10 50 36.5 -1.3
STHS Stebnicka Huta 148.54 335 *e*PKP2 PKPbc 10 50 37.9 -0.3
STHS Stebnicka Huta 148.54 335 *e*PKP PKPbc 10 50 37.9 -0.3
STHS *e* 10 52 14.9
VAL Valentia 148.59 14 ⇑*i*P PKPdf 10 50 34.0 0.0
KBI1 Birley Grange 148.60 4 *eP* PKPbc 10 50 36.5 -1.7
TIRR Tirgusor 148.62 322 ⇑*i*P PKPbc 10 50 37.3 -1.3
VRI Vrincioaia 148.65 326 ⇑*i*P PKPbc 10 50 37.7 -0.9
PLOR Plostina 148.70 326 ⇑*i*P PKPbc 10 50 38.5 -0.2
UZH Uzhgorod 148.74 333 ⇓*i*PKHKP PKPbc 10 50 37.5 -1.2
UZH *i* 10 50 44.3
NRDL Niedersach Rie 148.81 350 *e*PKPbc PKPbc 10 50 37.5 -1.3
FOEL Foel Wylfa 148.83 6 *eP* PKPdf 10 50 36.0 +1.6

CRVS	**Cervenica-Dubn**	**148.86**	**335**	*e*PKP2	PKPbc	10 50 38.7	-0.3
CRVS	**Cervenica-Dubn**	**148.86**	**335**	*e*PKP	PKPbc	10 50 38.7	-0.3
CRVS				*e*		10 52 16.1	
NIE	**Niedzica**	**148.89**	**336**	*e*PKP	PKPbc	10 50 39.1	0.0
NIE	**Niedzica**	**148.89**	**336**	*e*PKP2	PKPbc	10 50 39.1	0.0
KSP	**Ksiaz**	**148.98**	**342**	*e*PKP	PKPbc	10 50 38.7	-0.6
TRPA	**Tarpa**	**149.03**	**333**	⇓*i*P	PKPbc	10 50 38.3	-1.1
HENT	**Hendek**	**149.05**	**314**	*i* P	PKPdf	10 50 37.1	+2.0
KDHN	**Kadinhani**	**149.23**	**309**	*i* P	PKPbc	10 50 38.7	-1.6
OKC	**Ostrava-Krasne**	**149.29**	**339**	*e*PKHKP	PKPbc	10 50 39.2	-0.8
OKC				*e*		10 50 45.4	
OKC	**Ostrava-Krasne**	**149.29**	**339**⇑	*e*PKP	PKPbc	10 50 39.2	-0.8
OKC				*e*PKPAB	PKPab	10 50 45.4	-0.7
IBBN	**Ibbenburen**	**149.31**	**353**	*e*PKPbc	PKPbc	10 50 39.1	-0.9
MLR	**Muntele Rosu**	**149.31**	**326**	⇓*i*P	PKPbc	10 50 38.9	-1.3
ERMK	**Ermenek**	**149.34**	**306**	*i* P	PKPdf	10 50 26.0	-10
UPC	**Upice**	**149.36**	**342**	*e*PKHKP	PKPbc	10 50 39.5	-0.7
UPC	**Upice**	**149.36**	**342**⇑	*e*PKP	PKPbc	10 50 39.5	-0.7
UPC				*ep*PKP	pPKPdf	10 52 16.5	+4.3
CLL	**Collm**	**149.39**	**346**	*e*PKPbc	PKPbc	10 50 39.4	-0.8
CLL	**Collm**	**149.39**	**346**	⇓*i*PKHKP	PKPbc	10 50 39.4	-0.8
CLL				*i*		10 50 45.2	
CLL				pmax	pmax		
	comp=Z,75nm,1.3s						
CLL				pmax	pmax		
	comp=Z,15nm,0.8s						
CLL	**Collm**	**149.39**	**346**	⇓*i*PKPbc	PKPbc	10 50 39.4	-0.8
	comp=Z,75nm,1.3s						
CLL				*i* PKPab	PKPab	10 50 45.2	-1.2
	comp=Z,15nm,0.8s						
CLL				*i* pPKPbc	pPKPbc	10 52 16.5	+0.4
CLL				*ep*PKPab	pPKPab	10 52 21.0	+1.7
CLZ	**Clausthal**	**149.40**	**350**	*e*PKPbc	PKPbc	10 50 39.6	-0.6
CLZ	**Clausthal**	**149.40**	**350**	*e*PKHKP	PKPbc	10 50 39.6	-0.6
DPC	**Dobruska-Polom**	**149.41**	**342**	*e*PKP2	PKPbc	10 50 39.8	-0.5
DPC	**Dobruska-Polom**	**149.41**	**342**⇑	*e*PKP	PKPbc	10 50 39.8	-0.5
DPC				*ep*PKP	pPKPdf	10 52 17.3	+5.0
MORC	**Moravsky Berou**	**149.54**	**340**	*e*PKPdf	PKPdf	10 50 36.8	+1.2
MORC				*e*PKPbc	PKPbc	10 50 39.8	-0.8
MORC				*e*PKPab	PKPab	10 50 47.8	+0.7
MORC	**Moravsky Berou**	**149.54**	**340**	*e*PKHKP	PKPdf	10 50 36.8	+1.2
MORC	**Moravsky Berou**	**149.54**	**340**	⇓*i*P	PKPbc	10 50 39.7	-0.9
CSS	**Prodhromos**	**149.55**	**302**	*e*PKPbc	PKPbc	10 50 40.0	-1.2
BRG	**Berggiesshubel**	**149.58**	**345**	*i* PKP	PKPbc	10 50 39.9	-0.8
	comp=Z,65nm,1.5s						
BRG				*i*		10 50 45.8	
	comp=Z,19nm,1.1s						
BRG				*e*		10 50 56.6	
	comp=Z,12nm,1.0s						
BRG				*ep*PKP	pPKPdf	10 52 16.5	+3.9
	comp=Z,20nm,1.4s						
BRG				*e*		11 04 26.8	
	comp=Z,2.1nm,0.4s						
BRG	**Berggiesshubel**	**149.58**	**345**	*e*PKPbc	PKPbc	10 50 39.9	-0.8
BRG	**Berggiesshubel**	**149.58**	**345**	*i* PKHKP	PKPbc	10 50 39.9	-0.8
BRG				*i*		10 50 45.8	
BRG				pmax	pmax		
	comp=Z,65nm,1.5s						
BRG				pmax	pmax		
	comp=Z,20nm,1.4s						
FBE	**Freiberg**	**149.67**	**346**	*e*PKPbc	PKPbc	10 50 40.5	-0.4
ESKT	**Eskisehir**	**149.69**	**312**	*i* P	PKPdf	10 50 38.6	+2.4
PVCC	**Panska Ves**	**149.74**	**344**	*e*PKHKP	PKPbc	10 50 40.6	-0.5
PVCC	**Panska Ves**	**149.74**	**344**⇑	*e*PKP	PKPbc	10 50 40.6	-0.5
NEUB	**Neuenburg**	**149.74**	**348**	*e*PKPbc	PKPbc	10 50 40.3	-0.8
WTSB	**Winterswijk**	**149.75**	**354**	*e*PKP	PKPbc	10 50 40.1	-1.0
	comp=Z,80nm,1.6s						
VOIR		**149.81**	**327**⇑	*i*P	PKPbc	10 50 40.4	-1.0
DRGR		**149.97**	**331**	⇓*i*P	PKPbc	10 50 40.6	-1.2
VYHS	**Vyhne**	**150.20**	**337**	*e*PKIKP	PKPbc	10 50 41.4	-0.8
VYHS				*e*		10 52 19.3	
VYHS	**Vyhne**	**150.20**	**337**	*e*PKP	PKPbc	10 50 41.4	-0.8
VYHS				*e*		10 52 19.3	
BUG	**Bochum--Univer**	**150.22**	**353**	*e*PKPbc	PKPbc	10 50 41.1	-1.1
PRU	**Pruhonice**	**150.24**	**343**	*e*PKIKP	PKPbc	10 50 42.2	-0.1
PRU				*e*		10 52 19.7	
PRU	**Pruhonice**	**150.24**	**343**⇑	*e*PKP	PKPbc	10 50 42.2	-0.1
PRU				*ep*PKP	pPKPdf	10 52 19.7	+6.1
VRAC	**Vranov**	**150.25**	**340**	⇓*i*P	PKPdf	10 50 28.9	-7.9
PSZ	**Piszkesteto**	**150.28**	**335**	*e*PKPbc	PKPbc	10 50 41.6	-0.8
PSZ	**Piszkesteto**	**150.28**	**335**	*e*PKIKP	PKPbc	10 50 41.6	-0.8
PSZ	**Piszkesteto**	**150.28**	**335**	⇓*i*P	PKPbc	10 50 41.4	-1.0
KOLL	**Kolacno**	**150.28**	**338**	*e*PKIKP	PKPbc	10 50 42.2	-0.2
KOLL	**Kolacno**	**150.28**	**338**	*e*PKP	PKPbc	10 50 42.2	-0.2
MOX	**Moxa**	**150.31**	**347**	*e*PKPbc	PKPbc	10 50 41.6	-0.8
MOX				*ep*PKPbc	pPKPbc	10 52 19.3	+0.9
MOX	**Moxa**	**150.31**	**347**	*e*PKIKP	PKPbc	10 50 41.6	-0.8
MOX				*e*		10 52 19.3	
PLN	**Plauen**	**150.35**	**347**	*e*PKPbc	PKPbc	10 50 41.7	-0.8
TANN	**Tannenbergstha**	**150.35**	**346**	*e*PKPbc	PKPbc	10 50 41.8	-0.7
WERD	**Werda**	**150.35**	**346**	*e*PKPbc	PKPbc	10 50 41.8	-0.7
WERD				*ep*PKPbc	pPKPbc	10 52 19.6	+1.1
GUNZ	**Gunzen**	**150.43**	**346**	*e*PKPbc	PKPbc	10 50 42.1	-0.6
GUNZ				*ep*PKPbc	pPKPbc	10 52 19.9	+1.2
UBBA	**Unterbreizbach**	**150.44**	**349**	*ep*PKPbc	pPKPbc	10 52 19.4	+0.7
WERN	**Wernitzgruen**	**150.49**	**346**	*e*PKPbc	PKPbc	10 50 42.3	-0.6
WERN				*ep*PKPbc	pPKPbc	10 52 20.3	+1.4
NKC	**Novy Kostel**	**150.52**	**346**	*e*PKIKP	PKPbc	10 50 41.8	-1.1
NKC	**Novy Kostel**	**150.52**	**346**⇑	*e*PKP	PKPbc	10 50 41.8	-1.1
WOL	**Wolverton**	**150.55**	**4**	*e*P	PKPbc	10 50 40.9	-2.1
TREC	**Trest**	**150.60**	**342**	*e*PKIKP	PKPbc	10 50 42.2	-1.0
TREC	**Trest**	**150.60**	**342**⇑	*e*PKP	PKPbc	10 50 42.2	-1.0
BEBN	**Eben Emael**	**151.01**	**355**	PKPbc	PKPbc	10 50 42.6	-1.4
ROTZ	**Rotzenmuhle**	**151.01**	**346**	*e*PKPbc	PKPbc	10 50 43.3	-0.8
ROTZ				*ep*PKPbc	pPKPbc	10 52 21.4	+1.3
HGN	**Heimansgroeve**	**151.02**	**355**	*e*PKP	PKPbc	10 50 43.0	-1.1
	comp=Z,27nm,1.0s						
ZST	**Bratislava**	**151.06**	**339**	*e*PKIKP	PKPbc	10 50 43.8	-0.4
ZST	**Bratislava**	**151.06**	**339**	*e*PKP	PKPbc	10 50 43.8	-0.4
DYA	**Yadsworthy**	**151.17**	**8**	*e*P	PKPdf	10 50 39.9	+1.8
MEM	**Membach**	**151.17**	**354**	PKPbc	PKPbc	10 50 43.5	-0.9
TNS	**Taunus Mts**	**151.27**	**351**	*e*PKPbc	PKPbc	10 50 44.0	-0.6
TNS	**Taunus Mts**	**151.27**	**351**	*e*PKIKP	PKPbc	10 50 44.0	-0.6
KHC	**Kasperske Hory**	**151.28**	**344**	*e*PKPbc	PKPbc	10 50 44.0	-0.4
KHC				*e*PKPab	PKPab	10 50 54.3	-0.1
KHC	**Kasperske Hory**	**151.28**	**344**	*e*PKIKP	PKPbc	10 50 43.8	-0.9
KHC				*e*		10 50 53.7	
KHC				*e*		10 52 23.6	
KHC	**Kasperske Hory**	**151.28**	**344**⇑	*e*PKP	PKPbc	10 50 43.8	-0.9
KHC				*e*PKPAB	PKPab	10 50 53.7	-0.7
KHC				*ep*PKP	pPKPdf	10 52 23.6	+8.3
GRF	**Grafenberg Arr**	**151.30**	**347**	*e*PKPbc	PKPbc	10 50 44.1	-0.6
GRF	**Grafenberg Arr**	**151.30**	**347**	*e*PKIKP	PKPbc	10 50 44.1	-0.6
BZS	**Buzias**	**151.35**	**330**	⇓*i*P	PKPbc	10 50 43.8	-1.2
SNF	**Seneffe**	**151.39**	**357**	PKPbc	PKPbc	10 50 44.2	-0.7
BCLA	**Clavier**	**151.41**	**355**	PKPbc	PKPbc	10 50 44.2	-0.8
WET	**Wettzell**	**151.44**	**345**	*e*PKPbc	PKPbc	10 50 43.9	-1.2
WET	**Wettzell**	**151.44**	**345**	*e*PKIKP	PKPbc	10 50 43.9	-1.2
GEC2	**GERESS Array S**	**151.51**	**343**	*e*PKPbc	PKPbc	10 50 44.3	-0.9
GEC2	**GERESS Array S**	**151.51**	**343**	*e*PKIKP	PKPbc	10 50 44.3	-0.9
GERES	**GERESS Array B**	**151.51**	**343**	PKP	PKPdf	10 50 37.2	-1.5
	comp=Z,0.3nm,0.2s,baz=323,slow=0.7,SNR=4.6						
GERES				PKPbc	PKPbc	10 50 44.2	-1.0
	comp=Z,14nm,0.9s,baz=42,slow=2.2,SNR=47						
GERES				pPKPbc	pPKPbc	10 52 22.5	+1.1
	comp=Z,3.1nm,0.9s,baz=48,slow=2.0,SNR=4.8						
GERES	**GERESS Array B**	**151.51**	**343**	PKP	PKPdf	10 50 37.2	-1.5
GERES				PKPbc	PKPbc	10 50 44.2	-1.0
GERES				pPKPbc	pPKPbc	10 52 22.5	+1.1
GERES	**GERESS Array B**	**151.51**	**343**	PKIKP	PKPdf	10 50 37.2	-1.5
CONA	**Conrad Observa**	**151.70**	**340**	⇑*i*PKPdf	PKPdf	10 50 40.1	+1.1
	comp=Z,5.6nm,1.7s						
CONA				⇓*i*PKPbc	PKPbc	10 50 45.1	-0.6
	comp=Z,36nm,1.4s						
GIVF	**Givet**	**151.76**	**356**	*e*PKP1	PKPbc	10 50 44.7	-1.1
	comp=Z,119nm,1.1s						
DOU	**Dourbes**	**151.78**	**356**	PKPbc	PKPbc	10 50 45.3	-0.6
BAIF	**Baives**	**151.84**	**357**	*e*PKP1	PKPbc	10 50 45.0	-1.0
	comp=Z,59nm,1.0s						
WLF	**Walferdange**	**152.09**	**354**	PKPbc	PKPbc	10 50 46.5	0.0
WLF	**Walferdange**	**152.09**	**354**	*e*PKPbc	PKPbc	10 50 46.1	-0.4
PKSM	**Moragy**	**152.16**	**335**	⇓*i*P	PKPbc	10 50 45.7	-1.1
RJOB	**Jochberg**	**152.76**	**344**	*e*PKPbc	PKPbc	10 50 46.8	-1.3
BFO	**Black Forest**	**153.13**	**350**	*e*PKPbc	PKPbc	10 50 47.7	-1.1
BFO	**Black Forest**	**153.13**	**350**	*e*PKIKP	PKPbc	10 50 47.7	-1.1
FLN	**La Foliniere**	**153.14**	**3**	*e*PKP1	PKPbc	10 50 47.4	-1.4
	comp=Z,25nm,0.7s						
CDF	**Champ du Feu**	**153.20**	**352**	*e*PKP1	PKPbc	10 50 47.8	-1.2
	comp=Z,24nm,0.9s						
PAGF	**Fort de Pagny**	**153.23**	**354**	⇓*i*PKP1	PKPbc	10 50 48.2	-0.8
	comp=Z,5.3nm,0.7s						
LDF	**La Druitiere**	**153.32**	**3**	*e*PKP1	PKPbc	10 50 47.5	-1.8
MEZF	**Maizieres J'vi**	**153.34**	**355**	*e*PKP1	PKPbc	10 50 48.5	-0.8
SGMF	**Saint Gilles**	**153.47**	**7**	*e*PKP1	PKPbc	10 50 48.0	-1.6
GRR	**Gorron**	**153.49**	**4**	*e*PKP1	PKPbc	10 50 48.3	-1.3
	comp=Z,41nm,0.9s						
MOTA	**Moosalm**	**153.54**	**346**⇑	*i*PKPdf	PKPdf	10 50 40.5	-1.2
	comp=Z,1.7nm,0.4s						
MOTA				⇑*i*PKPbc	PKPbc	10 50 48.7	-1.1
	comp=Z,6.3nm,0.7s						
SFTF	**Sexfontaines**	**153.63**	**355**	*e*PKP1	PKPbc	10 50 49.0	-0.9
	comp=Z,36nm,0.8s						
HAU	**Haudompre**	**153.71**	**353**	*e*PKP1	PKPbc	10 50 48.8	-1.3
ABTA	**Abfaltersbach**	**153.75**	**343**⇑	*i*PKPdf	PKPdf	10 50 40.5	-1.6
	comp=Z,7.6nm,1.0s						
ABTA				⇑*i*PKPbc	PKPbc	10 50 48.6	-1.6
	comp=Z,22nm,1.1s						
HINF	**Hinteralfeld**	**153.84**	**352**	*e*PKP1	PKPbc	10 50 48.9	-1.5
VAY	**Valandovo**	**153.92**	**323**	*e*PKP	PKPab	10 51 04.8	-1.1
FETA	**Feichten**	**153.93**	**346**⇑	*i*PKPdf	PKPdf	10 50 41.5	-0.8
	comp=Z,8.6nm,1.0s						
FETA				⇓*i*PKPbc	PKPbc	10 50 49.0	-1.6
	comp=Z,9.4nm,1.1s						
LOR	**Lormes**	**154.65**	**357**	*e*PKP1	PKPbc	10 50 51.0	-1.1
	comp=Z,16nm,0.9s						
SSF	**Saint Saulge**	**154.87**	**357**	*e*PKP1	PKPbc	10 50 51.5	-1.1
MFF	**Saint Martin d**	**155.31**	**3**	*e*PKP1	PKPdf	10 50 50.8	+6.6
	comp=Z,10nm,0.9s						
EVO	**Evora**	**161.39**	**25**	*e*PKP2	PKPab	10 51 36.3	-2.0
	comp=Z,23nm,1.1s						
ESDC	**Sonseca Array**	**161.61**	**14**	PKPab	PKPab	10 51 38.3	-0.8
	comp=Z,0.4nm,0.3s,baz=338,slow=4.3,SNR=7.9						
LIC	**Lamto**	**163.05**	**156**	*e*PKIKP	PKPdf	10 50 52.4	-1.7
	comp=Z,20nm,0.9s						
DBIC	**Dimbokro**	**163.53**	**156**	PKP	PKPdf	10 50 52.8	-1.8
	comp=Z,9.0nm,1.0s,baz=347,slow=1.2,SNR=7.3						
DBIC	**Dimbokro**	**163.53**	**156**	PKP	PKPdf	10 50 52.8	-1.8
DBIC	**Dimbokro**	**163.53**	**156**	PKIKP	PKPdf	10 50 52.8	-1.7
TORD	**Torodi Ar. Bea**	**171.29**	**179**	PKP	PKPdf	10 50 58.2	-1.8
	comp=Z,4.4nm,0.9s,baz=226,slow=0.4,SNR=23						
TORD				PKPab	PKPab	10 52 22.4	0.0
	comp=Z,4.3nm,1.0s,baz=175,slow=4.1,SNR=14						
TORD				pPKP	pPKPdf	10 52 39.5	+2.1
	comp=Z,1.4nm,1.0s,baz=113,slow=2.6,SNR=3.2						
TORD				pPKPab	pPKPab	10 53 56.0	+1.7
	comp=Z,1.7nm,0.9s,baz=189,slow=3.2,SNR=4.7						
TORD	**Torodi Ar. Bea**	**171.29**	**179**	PKP	PKPdf	10 50 58.2	-1.8
TORD				PKPab	PKPab	10 52 22.4	0.0
TORD				pPKP	pPKPdf	10 52 39.5	+2.1
TORD				pPKPab	pPKPab	10 53 56.0	+1.7

CSEM ***13*** *10:44:07.8±0.1,38.˝57N×22.˝12E,h20km,ML1.8/4, Error ellipse: s-maj=4.4km s-min=3.4km az=90.0*

ISCJB ***13*** *10:44:08.1±0.5,38.˝58N±0.˝04×22.˝11E±0.˝07,h23km±6km, Error ellipse: s-maj=8.8km s-min=5.9km az=0.9*

THE ***13*** *10:44:08.2,38.˝59N×22.˝13E,h20km±4km,ML1.8/4, Error ellipse: s-maj=4.6km s-min=0.5km az=185.0*

ATH ***13*** *10:44:08.5,38.˝60N×22.˝10E,h19km±3km,MD2.8/7*

ISC 13 10:44:08.1±0.5,38.˝58N±0.˝04×22.˝12E±0.˝07,h23km±6km, n21,σ0°38/34,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
KALE	**Kalithea**	**0.19**	**174**	P		**Pb**	**10 44 13.3**	**-0.1**
KALE				S		**Sb**	**10 44 17.3**	**+0.3**
KALE	**Kalithea**	**0.19**	**174**	P		**Pb**	**10 44 13.3**	**-0.1**
KALE				S		**Sb**	**10 44 17.3**	**+0.3**
EFP	**Efpalio**	**0.23**	**226**	*e*PB		**Pb**	**10 44 13.6**	**-0.3**
EFP				*e*SB		**Sb**	**10 44 18.0**	**+0.2**
EFP	**Efpalio**	**0.23**	**226**	P		**Pb**	**10 44 13.6**	**-0.3**
EFP				S		**Sb**	**10 44 17.9**	**+0.1**
EFP	**Efpalio**	**0.23**	**226**	P		**Pb**	**10 44 13.6**	**-0.3**
EFP				*e*Sb		**Sb**	**10 44 18.0**	**+0.2**
EVR	**Evrytania**	**0.41**	**324**	*e*PB		**Pb**	**10 44 16.9**	**+0.1**
EVR				*e*SB		**Sb**	**10 44 22.7**	**+0.1**
EVR	**Evrytania**	**0.41**	**324**	P		**Pb**	**10 44 16.9**	**+0.1**
EVR				S		**Sb**	**10 44 22.9**	**+0.3**
EVR	**Evrytania**	**0.41**	**324**	P		**Pb**	**10 44 16.9**	**+0.1**
EVR				*e*Sb		**Sb**	**10 44 22.7**	**+0.1**
AGG	**Agios Georgios**	**0.47**	**21**	*e*PB		**Pb**	**10 44 17.0**	**-0.7**
AGG				*e*SB		**Sb**	**10 44 24.3**	**0.0**
AGG	**Agios Georgios**	**0.47**	**21**	P		**Pb**	**10 44 17.0**	**-0.7**
AGG				S		**Sb**	**10 44 24.3**	**0.0**
AGG	**Agios Georgios**	**0.47**	**21**	P		**Pb**	**10 44 17.0**	**-0.7**
AGG				S		**Sb**	**10 44 24.3**	**0.0**
GUR	**Goura**	**0.67**	**164**	*e*PN		**Pn**	**10 44 22.5**	**+0.2**
GUR	**Goura**	**0.67**	**164**	*e*Pn		**Pn**	**10 44 22.5**	**+0.2**
LKR	**Lokris**	**0.70**	**84**	*e*PN		**Pn**	**10 44 22.1**	**-0.5**
LKR				*e*SN		**Sn**	**10 44 33.0**	**+0.3**
LKR	**Lokris**	**0.70**	**84**	*e*Pn		**Pn**	**10 44 22.1**	**-0.5**
LKR				*e*Sn		**Sn**	**10 44 33.0**	**+0.3**
RLS	**Riolos of Patr**	**0.73**	**224**	*e*PN		**Pn**	**10 44 22.5**	**-0.6**
RLS	**Riolos of Patr**	**0.73**	**224**	*e*Pn		**Pn**	**10 44 22.5**	**0.6**
LTK	**Loutraki**	**0.87**	**130**	*e*PN		**Pn**	**10 44 25.2**	**+0.2**
LTK	**Loutraki**	**0.87**	**130**	*e*Pn		**Pn**	**10 44 25.2**	**+0.2**
THL	**Klokotos Trika**	**0.98**	**355**	*e*PN		**Pn**	**10 44 27.2**	**+0.7**
THL	**Klokotos Trika**	**0.98**	**355**	*e*Pn		**Pn**	**10 44 27.2**	**+0.7**

BJI ***13*** *11:07:19.1,6.˝31S×26.˝39E,h6km,mB5.3/10,mb5.0/20, Ms5.2/12,Ms7 4.7/13*

MOS ***13*** *11:07:21.4±1.0,6.˝30S×26.˝77E,h10km,mb5.1/40, Error ellipse: s-maj=14.4km s-min=4.9km az=91.4*

ISCJB ***13*** *11:07:21.2±0.3,6.˝32S±0.˝04×26.˝73E±0.˝06,h10km, mb4.9/134,MS4.3/22, Error ellipse: s-maj=8.4km s-min=5.8km az=161.0*

IDC ***13*** *11:07:21.5±0.5,6.˝28S×26.˝70E,h0km,mb4.7/26, mb1 4.7/27,mb1mx4.7/29,mbtmp4.6/27,ML4.5/1,MS4.1/17, Ms1 4.2/17,ms1mx3.9/29, Error ellipse: s-maj=18.7km s-min=11.4km az=96.0*

NEIC ***13*** *11:07:23.1±0.3,6.˝37S×26.˝86E,h10km,mb5.0/37, Error ellipse: s-maj=9.1km s-min=5.8km az=80.0*

GCMT ***13*** *11:07:27.2±0.3,6.˝04S×26.˝73E,h18km±1km,MW5.0, Moment Tensor Solution. s23,c28; s73,c99; Moment tensor: Scale 10^{16}Nm; Mrr-3.61±.22; Mθθ0.64±.13; Mφφ2.97±.16; Mrθ0.20±.34; Mrφ1.76±.10; Mθφ0.65±.35; Best double couple: M00.80000×10^{16} NP1:φs31.00000°, δ40.00000°,λ-87.00000°. NP2:φs206.00000°,δ50.00000°, λ-93.00000°. Principal axes: T 3.9700, Plg5.0000°, Azm298.0000°; N -0.3000, Plg2.0000°, Azm208.0000°; P -3.6800, Plg84.0000°, Azm94.0000°; Data Used: IU II G IC CN.*

ISC 13 11:07:23.3±0.2,6.˝33S±0.˝04×26.˝82E±0.˝05,h10km, (h15km±1.3km:pP-P),n273,σ0°90/263,mb4.9/134, MS4.3/22,14C-8D,Zaire

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
					Op			
LSZ	**Lusaka**	**8.99**	**172**	*e*Pn		**Pn**	**11 09 31.8**	**-1.4**
LSZ				*e*Sn		**Sn**	**11 11 06.8**	**-7.8**
LSZ	**Lusaka**	**8.99**	**172**	*e*P		**Pn**	**11 09 31.8**	**-1.4**
KMBO	**Kilima Mbogo**	**11.62**	**64**	*e*Pn		**Pn**	**11 10 07.2**	**-2.2**
KMBO				*e*Sn		**Sn**	**11 12 09.3**	**-10**
KMBO	**Kilima Mbogo**	**11.62**	**64**	*e*P		**Pn**	**11 10 07.2**	**-2.2**
MSKU	**Masuku**	**13.97**	**289**	Pn		**Pn**	**11 10 34.2**	**-7.3**
	28nm,0.3s,baz=118,slow=8.1,SNR=59							
MSKU				Sn		**Sn**	**11 13 01.7**	**-15**
	14nm,0.3s,baz=144,slow=23,SNR=2.8							
MSKU				Lg			11 14 28.3	
	6.3nm,0.3s,baz=356,slow=23,SNR=4.3							
MSKU				LR	LR		11 16 09.8	
	comp=Z,3μm,20.5s,baz=124,slow=38							
MSKU	**Masuku**	**13.97**	**289**	Pn		**Pn**	**11 10 34.2**	**-7.3**
MSKU				Sn		**Sn**	**11 13 01.7**	**-15**
MSKU				Lg			11 14 28.3	
MSKU				LR	LR		11 16 09.8	
TSUM	**Tsumeb**	**15.63**	**214**	*e*Pn		**Pn**	**11 10 57.4**	**-6.4**
	63nm,0.6s							
TSUM				*e*Sn		**Sn**	**11 13 45.2**	**-12**
LBTB	**Lobatse**	**18.61**	**183**	P		**Pn**	**11 11 42.1**	**+0.9**
	1.4nm,0.3s,baz=11,slow=12,SNR=11							
LBTB				Lg			11 17 03.8	
	0.6nm,0.3s,baz=111,slow=18,SNR=2.6							
LBTB				LR	LR		11 17 49.3	
	comp=Z,195nm,18.1s,baz=18,slow=34							
LBTB	**Lobatse**	**18.61**	**183**	*e*Pn		**Pn**	**11 11 40.1**	**-1.1**
	15nm,0.8s							
LBTB				*e*Sn		**Sn**	**11 15 11.3**	**+1.9**
LBTB	**Lobatse**	**18.61**	**183**	*e*P		**Pn**	**11 11 40.2**	**-1.0**
LBTB				*e*			11 15 11.4	
LBTB				pmax	pmax			

	comp=Z,15nm,0.8s							
BOSA	**Boshof**	**22.21**	**184**	P		**P**	**11 12 20.2**	**+0.2**
	comp=Z,16nm,0.9s,mb4.5,baz=3.0,slow=11,SNR=16							
BOSA				Lg			11 18 60.0	
	comp=Z,6.8nm,0.7s,baz=257,slow=21,SNR=2.1							
BOSA				LR	LR		11 19 48.5	
	comp=Z,288nm,18.5s,MS3.7,baz=7.2,slow=34							
BOSA	**Boshof**	**22.21**	**184**	*e*P		**P**	**11 12 18.4**	**-1.6**
	comp=Z,21nm,0.8s,mb4.6							
BOSA	**Boshof**	**22.21**	**184**	*e*P		**P**	**11 12 18.4**	**-1.6**
BOSA				pmax	pmax			
	comp=Z,21nm,0.8s,mb4.6							
ABPO	**Ambohimpanom**	**23.53**	**124**	*e*P		**P**	**11 12 34.8**	**+0.8**
	comp=Z,197nm,2.2s,mb5.2							
ABPO	**Ambohimpanom**	**23.53**	**124**	*e*P		**P**	**11 12 34.8**	**+0.7**
ABPO				pmax	pmax			
	comp=Z,197nm,2.2s,mb5.2							
ATD	**Arta Tunnel**	**23.86**	**42**	P		**P**	**11 12 40.4**	**+3.3**
	comp=Z,4.1nm,0.3s,mb4.3,baz=253,slow=8.7,SNR=6.9							
ATD				Lg			11 20 00.9	
	comp=Z,2.3nm,0.3s,baz=262,slow=23,SNR=2.8							
ATD				LR	LR		11 22 49.6	
	comp=Z,613nm,20.9s,MS4.0,baz=17,slow=39							
ATD	**Arta Tunnel**	**23.86**	**42**	P		**P**	**11 12 40.4**	**+3.3**
ATD				Lg			11 20 00.9	
ATD				LR	LR		11 22 49.5	
SUR	**Sutherland**	**26.51**	**191**	P		**P**	**11 13 01.8**	**+0.7**
	comp=Z,13nm,1.0s,mb4.4,baz=25,slow=12,SNR=6.7							
SUR				LR	LR		11 24 06.9	
	comp=Z,272nm,21.9s,MS3.8,baz=193,slow=38							
SUR	**Sutherland**	**26.51**	**191**	P		**P**	**11 13 01.8**	**+0.7**
SUR				LR	LR		11 24 06.9	
TORD	**Torodi Ar. Bea**	**31.58**	**308**	P		**P**	**11 13 44.0**	**-2.4**
	comp=Z,35nm,1.0s,mb5.2,baz=122,slow=8.4,SNR=53							
TORD				LR	LR		11 27 27.3	
	comp=Z,810nm,20.3s,MS4.4,baz=125,slow=38							
TORD	**Torodi Ar. Bea**	**31.58**	**308**	P		**P**	**11 13 44.0**	**-2.4**
TORD				LR	LR		11 27 27.2	
LIC	**Lamto**	**34.15**	**291**	*e*P		**P**	**11 14 05.3**	**-3.6**
	comp=Z,65nm,0.9s,mb5.3,baz=109							
LIC				*e*R				
	comp=Z,715nm,19.0s							
**

PSZ	**Piszkesteto**	**54.36**	**354**	*e*P		**P**	**11 16 50.0**	**-0.1**
PSZ				pmax		pmax			
	comp=Z,18nm,0.9s,mb5.0								
ORIF	**Oris-en-Rattie**	**54.38**	**342**	*e*P		**P**	**11 16 50.5**	**+0.2**
	comp=Z,15nm,0.9s,mb4.6								
ORIF				*e*R					
	comp=Z,219nm,18.8s								
EBIE	**Bielsa**	**54.49**	**336**	P		**P**	**11 16 51.5**	**+0.4**
	comp=Z,14nm,1.1s,mb4.8								
KBA	**Koelnbreinsper**	**54.51**	**349**⇑	*i*P		**P**	**11 16 52.4**	**+1.2**
	comp=Z,20nm,1.4s,mb5.0								
PFVI	**Vila Bisbo**	**54.57**	**325**	*e*P		**P**	**11 16 59.2**	**+7.3**
MORF	**Marmelete**	**54.60**	**325**	*e*P		**P**	**11 16 53.2**	**+1.1**
	comp=Z,53nm,1.2s,mb5.4								
LPG	**La Plagne**	**54.64**	**343**	*e*P		**P**	**11 16 53.0**	**+0.8**
	comp=Z,18nm,0.9s,mb4.8								
LPL	**La Plagne**	**54.66**	**343**	*e*P		**P**	**11 16 53.2**	**+0.9**
	comp=Z,28nm,1.0s,mb4.9								
EPF	**Esparros**	**54.70**	**336**	*e*P		**P**	**11 16 52.8**	**+0.1**
	comp=Z,22nm,0.9s,mb4.9								
VIVF	**Saint-Julien-l**	**54.71**	**341**	*e*P		**P**	**11 16 52.8**	**+0.1**
	comp=Z,27nm,1.1s,mb4.9								
GUD	**Guadarrama**	**54.73**	**331**	P		**P**	**11 16 52.7**	**-0.2**
	comp=Z,7.6nm,0.8s,mb4.8								
GUD	**Guadarrama**	**54.73**	**331**	P		**P**	**11 16 52.7**	**-0.3**
GUD				pmax		pmax			
	comp=Z,8.0nm,0.8s,mb4.8								
TUE	**Stuetta**	**54.83**	**345**	*e*P		**P**	**11 16 53.9**	**+0.3**
	comp=Z,12nm,0.8s,mb5.0								
UZH	**Uzhgorod**	**54.88**	**356**	*e*P		**P**	**11 16 53.0**	**-0.8**
UZH				*i*		pP	11 16 56.0	-1.0
CONA	**Conrad Observa**	**54.89**	**351**⇑	*i*P		**P**	**11 16 53.8**	**-0.1**
	comp=Z,12nm,1.3s,mb4.8								
ETSF	**Etsaut**	**54.95**	**336**	*e*P		**P**	**11 16 54.8**	**+0.3**
	comp=Z,25nm,1.0s,mb4.9								
ZST	**Bratislava**	**54.97**	**352**	*e*P		**P**	**11 16 56.9**	**+2.4**
ZST				pmax		pmax			
	comp=Z,11nm,0.7s,mb5.0								
WTTA	**Wattenberg**	**55.03**	**347**⇑	*i*P		**P**	**11 16 55.1**	**+0.1**
	comp=Z,20nm,1.2s,mb5.0								
VYHS	**Vyhne**	**55.04**	**354**	*e*P		**P**	**11 16 55.3**	**+0.2**
VYHS				pmax		pmax			
	comp=Z,16nm,1.4s,mb4.9								
MOA	**Molin**	**55.08**	**350**⇑	*i*P		**P**	**11 16 54.5**	**-0.8**
	comp=Z,31nm,1.2s,mb5.2								
EVO	**Evora**	**55.12**	**327**	*e*P		**P**	**11 16 55.9**	**+0.1**
	comp=Z,19nm,1.0s,mb4.8								
EVO				*e*R					
	comp=Z,373nm,19.2s								
EVO	**Evora**	**55.12**	**327**	*e*pP		pP	11 16 59.0	0.0	
EVO				A			11 17 02.6		
	comp=Z,14nm,1.2s								
SSB	**Saint Sauveur**	**55.12**	**341**	*e*P		**P**	**11 16 56.0**	**+0.3**
	comp=Z,12nm,0.8s,mb5.0								
SSB	**Saint Sauveur**	**55.12**	**341**	*e*P		**P**	**11 16 56.0**	**+0.3**
SSB				pmax		pmax			
	comp=Z,12nm,0.8s,mb5.0								
PESTR	**Estremoz**	**55.13**	**327**	*e*P		**P**	**11 16 56.5**	**+0.6**
	comp=Z,23nm,1.5s,mb5.0								
KOLL	**Kolacno**	**55.18**	**353**	*e*P		**P**	**11 16 56.7**	**+0.7**
CRVS	**Cervenica-Dubn**	**55.20**	**356**	*e*P		**P**	**11 16 56.7**	**+0.5**
CRVS				pmax		pmax			
	comp=Z,17nm,1.0s,mb5.0								
MOTA	**Moosalm**	**55.23**	**347**⇑	*i*P		**P**	**11 16 55.9**	**-0.5**
	comp=Z,7.8nm,0.7s,mb4.8								
EPLA	**Plasencia**	**55.23**	**330**	P		**P**	**11 16 55.3**	**-1.3**
	comp=Z,25nm,0.8s,mb5.3								
EPLA	**Plasencia**	**55.23**	**330**	P		**P**	**11 16 55.3**	**-1.3**
EPLA				pmax		pmax			
	comp=Z,25nm,0.8s,mb5.3								
SJPF	**Ste Jean**	**55.40**	**335**	*e*P		**P**	**11 16 58.0**	**+0.2**
	comp=Z,56nm,1.2s,mb5.2								
PMRV	**Marv??o**	**55.44**	**328**	*e*P		**P**	**11 16 58.1**	**0.0**
	comp=Z,20nm,1.3s,mb5.0								
PMRV	**Marv??o**	**55.44**	**328**	*e*PP		PP	11 19 01.8	-0.3	
DAVA	**Damuels**	**55.45**	**346**⇑	*i*P		**P**	**11 16 56.4**	**-1.7**
	comp=Z,29nm,0.9s,mb5.3								
CAF	**Calviac**	**55.66**	**339**	*e*P		**P**	**11 16 59.7**	**+0.1**
	comp=Z,20nm,0.9s,mb4.8								
STHS	**Stebnicka Huta**	**55.73**	**356**	*e*P		**P**	**11 17 00.3**	**+0.3**
STHS				pmax		pmax			
	comp=Z,15nm,0.8s,mb5.1								
NIE	**Niedzica**	**55.81**	**355**	*e*P		**P**	**11 17 00.8**	**+0.2**
CABF	**La Chapelle**	**55.84**	**343**	*e*P		**P**	**11 17 00.5**	**-0.4**
	comp=Z,18nm,0.8s,mb4.8								
KWP	**Kalwaria Pacla**	**55.85**	**357**	*e*P		**P**	**11 17 01.3**	**+0.5**
	comp=Z,59nm,0.9s,mb5.6								
KWP	**Kalwaria Pacla**	**55.85**	**357**	*e*P		**P**	**11 17 01.3**	**+0.5**
KWP				pmax		pmax			
	comp=Z,59nm,0.9s,mb5.6								
GERES	**GERESS Array B**	**56.14**	**350**	P		**P**	**11 17 01.9**	**-1.0**
	comp=Z,4.5nm,0.9s,mb4.5,baz=167,slow=6.6,SNR=13								
GERES				LR		LR	11 41 32.2		
	comp=Z,131nm,19.2s,MS4.0,baz=43,slow=37								
GERES	**GERESS Array B**	**56.14**	**350**	P		**P**	**11 17 01.9**	**-1.0**
GERES				LR		LR	11 41 32.2		
GERES	**GERESS Array B**	**56.14**	**350**	P		**P**	**11 17 02.0**	**-0.9**
LFF	**La Frestale**	**56.16**	**338**	*e*P		**P**	**11 17 03.2**	**+0.1**
	comp=Z,53nm,0.9s,mb5.3								
RJF	**Les Rejaudoux**	**56.18**	**339**	*e*P		**P**	**11 17 03.2**	**-0.1**
	comp=Z,56nm,1.4s,mb5.1								
RJF				*e*R					
	comp=Z,292nm,21.8s								
MTE	**Manteigas**	**56.23**	**329**	*e*P		**P**	**11 17 00.1**	**-3.7**
	comp=Z,32nm,1.8s,mb5.0								
TREC	**Trest**	**56.27**	**351**	*e*P		**P**	**11 17 03.5**	**-0.4**
TREC	**Trest**	**56.27**	**351**	*e*P		**P**	**11 17 03.5**	**-0.4**
KHC	**Kasperske Hory**	**56.43**	**350**	*e*P		**P**	**11 17 04.4**	**-0.7**
	comp=Z,13nm,1.1s,mb4.9								
KHC	**Kasperske Hory**	**56.43**	**350**	*e*P		**P**	**11 17 04.4**	**-0.6**
KHC				pmax		pmax			
	comp=Z,13nm,1.1s,mb4.9								
KHC	**Kasperske Hory**	**56.43**	**350**	*e*P		**P**	**11 17 04.3**	**-0.7**
KHC				AMS		AMS	11 45 00.0		
	comp=Z,200nm,18.7s								
MORC	**Moravsky Berou**	**56.46**	**353**	*e*P		**P**	**11 17 04.5**	**-0.7**
	comp=Z,16nm,1.2s,mb4.9								
MORC	**Moravsky Berou**	**56.46**	**353**	*e*P		**P**	**11 17 04.5**	**-0.7**
MORC				pmax		pmax			
	comp=Z,16nm,1.2s,mb4.9								
MVO	**Moncorvo**	**56.54**	**330**	P		**P**	**11 17 06.3**	**+0.4**
MVO	**Moncorvo**	**56.54**	**330**	*e*P		**P**	**11 17 06.5**	**+0.6**
	comp=Z,32nm,1.3s,mb5.2								
SMF	**Signal de Mont**	**56.56**	**341**	*e*P		**P**	**11 17 05.6**	**-0.4**
	comp=Z,12nm,0.7s,mb4.7								
OJC	**Ojcow**	**56.65**	**355**	*e*P		**P**	**11 17 06.0**	**-0.5**
OJC	**Ojcow**	**56.65**	**355**	*e*P		**P**	**11 17 06.5**	**-0.1**
HINF	**Hinteralfeld**	**56.72**	**344**	*e*P		**P**	**11 17 06.5**	**-0.6**
	comp=Z,13nm,0.7s,mb4.8								
TCF	**Toulx Ste Croi**	**56.79**	**340**	*e*P		**P**	**11 17 07.9**	**+0.3**
	comp=Z,20nm,0.9s,mb4.9								
BFO	**Black Forest**	**56.81**	**345**	*e*P		**P**	**11 17 09.5**	**+1.8**
	comp=Z,28nm,1.7s,mb5.0								
BFO	**Black Forest**	**56.81**	**345**	*e*P		**P**	**11 17 09.5**	**+1.8**
BFO				pmax		pmax			
	comp=Z,28nm,1.7s,mb5.0								
BGF	**Bois d'Agland**	**56.81**	**340**	*e*P		**P**	**11 17 07.7**	**-0.1**
	comp=Z,19nm,1.0s,mb4.8								
KIEV	**Kiev**	**56.83**	**2**	*e*P		**P**	**11 17 07.8**	**-0.1**
	comp=Z,17nm,0.8s,mb5.1								
KIEV	**Kiev**	**56.83**	**2**	*e*P		**P**	**11 17 07.8**	**-0.1**
KIEV				pmax		pmax			
	comp=Z,17nm,0.8s,mb5.1								
AKASG	**Malin Array Be**	**56.84**	**2**	P		**P**	**11 17 07.2**	**-0.7**
	comp=Z,12nm,0.8s,mb5.0,baz=184,slow=6.6,SNR=20								
AKASG	**Malin Array Be**	**56.84**	**2**	P		**P**	**11 17 07.2**	**-0.7**
AKASG	**Malin Array Be**	**56.84**	**2**	P		**P**	**11 17 07.2**	**-0.7**
AKBB	**Malin Array Si**	**56.84**	**2**	*e*P		**P**	**11 17 07.6**	**-0.3**
AKBB	**Malin Array Si**	**56.84**	**2**	*e*P		**P**	**11 17 07.6**	**-0.3**
AVF	**Avril sur Loir**	**56.85**	**341**	*e*P		**P**	**11 17 07.7**	**-0.3**
	comp=Z,32nm,1.0s,mb5.0								
HAU	**Haudompre**	**57.03**	**344**	*e*P		**P**	**11 17 09.0**	**-0.3**
	comp=Z,9.4nm,0.7s,mb4.6								
HAU				*e*R					
	comp=Z,213nm,19.8s								
SSF	**Saint Saulge**	**57.04**	**341**	*e*P		**P**	**11 17 08.6**	**-0.8**
	comp=Z,4.3nm,0.6s,mb4.4								
PRU	**Pruhonice**	**57.10**	**351**	*e*P		**P**	**11 17 10.3**	**+0.6**
PRU	**Pruhonice**	**57.10**	**351**	*e*P		**P**	**11 17 10.3**	**+0.6**
LOR	**Lormes**	**57.11**	**342**	*e*P		**P**	**11 17 09.1**	**-0.8**
	comp=Z,23nm,1.1s,mb4.8								
LOR				*e*R					
	comp=Z,240nm,23.0s								
CDF	**Champ du Feu**	**57.16**	**345**	*e*P		**P**	**11 17 09.4**	**-0.8**
	comp=Z,14nm,0.7s,mb4.8								
DPC	**Dobruska-Polom**	**57.18**	**352**	*e*P		**P**	**11 17 10.2**	**-0.2**
	comp=Z,16nm,1.1s,mb5.0								
DPC	**Dobruska-Polom**	**57.18**	**352**	*e*P		**P**	**11 17 10.2**	**-0.1**
DPC				pmax		pmax			
	comp=Z,16nm,1.1s,mb5.0								
DPC	**Dobruska-Polom**	**57.18**	**352**	*e*P		**P**	**11 17 09.7**	**-0.6**
UPC	**Upice**	**57.38**	**352**	*e*P		**P**	**11 17 11.3**	**-0.4**
UPC	**Upice**	**57.38**	**352**	*e*P		**P**	**11 17 11.3**	**-0.4**
GRF	**Grafenberg Arr**	**57.42**	**348**	*e*P		**P**	**11 17 11.7**	**-0.4**
	comp=Z,22nm,1.1s,mb5.1								
GRF	**Grafenberg Arr**	**57.42**	**348**	*e*P		**P**	**11 17 11.7**	**-0.4**
GRF				pmax		pmax			
	comp=Z,22nm,1.1s,mb5.1								
SFTF	**Sexfontaines**	**57.59**	**343**	*e*P		**P**	**11 17 13.2**	**0.0**
	comp=Z,71nm,1.3s,mb5.2								
NKC	**Novy Kostel**	**57.70**	**349**	*e*P		**P**	**11 17 14.0**	**0.0**
NKC	**Novy Kostel**	**57.70**	**349**	*e*P		**P**	**11 17 14.0**	**0.0**
PAGF	**Fort de Pagny**	**57.71**	**344**	*e*P		**P**	**11 17 13.8**	**-0.3**
	comp=Z,5.6nm,0.8s,mb4.4								
MEZF	**Maizieres J'vi**	**57.85**	**343**	*e*P		**P**	**11 17 14.2**	**-0.9**
	comp=Z,11nm,0.6s,mb4.8								
MFF	**Saint Martin d**	**57.90**	**338**	*e*P		**P**	**11 17 15.2**	**-0.2**
	comp=Z,21nm,0.8s,mb4.9								
BRG	**Berggiesshubel**	**58.05**	**350**	*e*P		**P**	**11 17 15.0**	**-1.4**
BRG				pmax		pmax			
	comp=Z,6.0nm,1.0s,mb4.6								
BRG				MLR		MLR			
	comp=N,413nm,16.3s,MS4.7								
BRG				MLR		MLR			
	comp=E,267nm,15.0s,MS4.7								
BRG				MLR		MLR			
	comp=Z,693nm,17.7s,MS4.8								
EPON	**Pontenova**	**58.22**	**331**	P		**P**	**11 17 18.1**	**+0.3**
	comp=Z,4.8nm,0.7s,mb4.6								
VSR	**Storozhevoye**	**58.30**	**9**	*e*P		**P**	**11 17 19.6**	**+1.4**
VSR				pmax		pmax			
	comp=N,10.0nm,0.8s								
VSR				pmax		pmax			
	comp=Z,10.0nm,0.8s,mb4.9								
VSR				pmax		pmax			
	comp=E,2.0nm,0.4s								
VRHR	**Novokhopersk**	**58.61**	**11**	*e*P		**P**	**11 17 21.3**	**+1.0**
VRHR				pmax		pmax			
	comp=N,30nm,0.9s								
VRHR				pmax		pmax			
	comp=Z,50nm,0.9s,mb5.5								
VRHR				pmax		pmax			
	comp=E,7.0nm,0.5s								
CLL	**Collm**	**58.63**	**350**	*i* P		**P**	**11 17 20.7**	**+0.2**
CLL				*e*S		**S**	**11 25 29.0**	**+4.3**
CLL				pmax		pmax			
	comp=Z,18nm,1.8s,mb4.8								
GIVF	**Givet**	**59.36**	**344**	*e*P		**P**	**11 17 24.8**	**-0.8**
BAIF	**Baives**	**59.49**	**343**	*e*P		**P**	**11 17 26.0**	**-0.5**
	comp=Z,19nm,0.9s,mb4.8								
GRR	**Gorron**	**59.66**	**339**	*e*P		**P**	**11 17 27.3**	**-0.4**
	comp=Z,34nm,1.0s,mb5.0								
IIGN	**Ignalina**	**61.46**	**360**	*e*P		**P**	**11 17 39.0**	**-0.8**
IIGN				AMB		AMB	11 17 44.7		
	comp=Z,9.2nm,1.2s,mb4.8								
ISAL	**Salakas**	**61.69**	**360**	*e*P		**P**	**11 17 40.5**	**-0.8**
ISAL				AMB		AMB	11 17 42.3		
	comp=Z,8.2nm,0.9s,mb4.8								
OBN	**Obninsk**	**61.76**	**6**⇓	*i*P		**P**	**11 17 43.0**	**+1.1**
OBN				pmax		pmax			
	comp=Z,25nm,1.2s,mb5.2								
IZAR	**Zarasai**	**61.86**	**360**	*e*P		**P**	**11 17 41.7**	**-0.9**
IZAR				AMB		AMB	11 17 46.0		
	comp=Z,8.0nm,0.9s,mb4.9								
ABKAR	**Akbulak array**	**62.44**	**24**	*e*P		**P**	**11 17 47.3**	**+0.8**
MOS	**Moscow**	**62.50**	**7**	*e*P		**P**	**11 17 44.1**	**-2.7**
AKTK	**Aktyubinsk**	**62.65**	**22**	P		**P**	**11 17 48.2**	**+0.3**
AKTO	**Aktyubinsk**	**62.65**	**22**	P		**P**	**11 17 48.2**	**+0.3**
	comp=Z,6.4nm,0.8s,mb4.8,baz=220,slow=5.6,SNR=14								
AKTO	**Aktyubinsk**	**62.65**	**22**	P		**P**	**11 17 48.2**	**+0.3**
KKAR	**Karatay Array**	**63.14**	**35**	*e*P		**P**	**11 17 50.9**	**-0.5**
KKAR	**Karatay Array**	**63.14**	**35**	*e*P		**P**	**11 17 50.9**	**-0.5**
VSU	**Vasula**	**64.58**	**360**⇑	*e*P		**P**	**11 18 00.2**	**-0.3**
VSU				pmax		pmax			
	comp=Z,22nm,0.9s,mb5.2								
FRU	**Bishkek**	**65.36**	**37**	*e*P		**P**	**11 18 14.0**	**+8.1**
MAW	**Mawson**	**65.85**	**166**	P		**P**	**11 18 09.6**	**+1.0**
	comp=Z,9.7nm,0.7s,mb5.0,baz=320,slow=10.0,SNR=6.0								
MAW	**Mawson**	**65.85**	**166**	*e*P		**P**	**11 18 09.5**	**+0.8**
	comp=Z,5.3nm,1.1s,mb4.5								
MAW	**Mawson**	**65.85**	**166**	*e*P		**P**	**11 18 09.5**	**+0.8**
MAW				pmax		pmax			
	comp=Z,5.0nm,1.1s								
FINES	**FINESS Array B**	**67.58**	**360**	P		**P**	**11 18 20.9**	**+1.2**
	comp=Z,5.9nm,0.8s,mb4.7,baz=163,slow=2.0,SNR=7.9								
FINES	**FINESS Array B**	**67.58**	**360**	P		**P**	**11 18 20.9**	**+1.2**
FINES	**FINESS Array B**	**67.58**	**360**	P		**P**	**11 18 20.9**	**+1.2**
KLMR	**Klimovskoe**	**67.72**	**7**	*e*P		**P**	**11 18 18.2**	**-2.4**
KLMR				pmax		pmax			
	comp=Z,33nm,1.3s,mb5.2								
ARU	**Arti**	**67.76**	**18**	*e*P		**P**	**11 18 21.3**	**+0.3**
	comp=Z,8.0nm,0.8s,mb4.8								
ARU	**Arti**	**67.76**	**18***c*	*i*P		**P**	**11 18 21.3**	**+0.3**
ARU							11 18 46.3		
ARU				*e*			11 20 47.9		
ARU				S		S	11 27 19.5	+0.8	
ARU				SS		SS	11 31 35.4	-4.9	
ARU				pmax		pmax			
	comp=Z,22nm,1.7s,mb4.9								
SNAA	**Sanae**	**67.84**	**190**	P		**P**	**11 18 21.6**	**+0.3**
	comp=Z,0.8nm,0.8s,mb3.8,baz=59,slow=8.7,SNR=6.1								
SNAA	**Sanae**	**67.84**	**190**	P		**P**	**11 18 21.6**	**+0.3**
SNAA	**Sanae**	**67.84**	**190**	P		**P**	**11 18 21.6**	**+0.3**
KAF	**Kangasniemi**	**68.25**	**360**	*e*P		**P**	**11 18 22.2**	**-1.7**
KAF				pmax		pmax			
	comp=Z,9.0nm,0.7s,mb4.9								
NB2	**NORSAR Subarra**	**68.27**	**352**	P		**P**	**11 18 24.0**	**-0.1**
	comp=Z,16nm,1.2s,mb4.9,baz=166,slow=6.2								
NOA	**NORSAR Array B**	**68.27**	**352**	P		**P**	**11 18 24.2**	**+0.1**
	comp=Z,8.4nm,0.9s,mb4.8,baz=166,slow=5.9,SNR=9.9								
NOA				LR		LR	11 49 19.8		
	comp=Z,98nm,18.6s,MS4.1,baz=175,slow=37								
NOA	**NORSAR Array B**	**68.27**	**352**	P		**P**	**11 18 24.2**	**+0.1**
NOA				LR		LR	11 49 19.8		
NOA	**NORSAR Array B**	**68.27**	**352**	P		**P**	**11 18 24.2**	**+0.1**
JOF	**Joensuu**	**69.14**	**2**	*e*P		**P**	**11 18 28.8**	**-0.7**
JOF				pmax		pmax			
	comp=Z,2.0nm,0.7s,mb4.2								
BRVK	**Borovoye**	**69.63**	**26**⇑	*i*P		**P**	**11 18 32.6**	**-0.1**
BRVK				pmax		pmax			
	comp=Z,6.0nm,1.2s,mb4.4								
SOKR	**Solikamsk**	**69.88**	**16**	*e*P		**P**	**11 18 34.6**	**+0.5**
SOKR				pmax		pmax			
	comp=Z,10.0nm,0.9s,mb4.8								
MK31	**Makanchi Array**	**72.09**	**37**	*e*P		**P**	**11 18 48.0**	**+0.2**
MK31	**Makanchi Array**	**72.09**	**37**	*e*P		**P**	**11 18 48.0**	**+0.2**
MKAR	**Makanchi Array**	**72.09**	**37**	P		**P**	**11 18 46.8**	**-1.0**
	comp=Z,4.1nm,0.8s,mb4.4,baz=241,slow=4.7,SNR=14								
MKAR				LR		LR	11 54 45.5		
	comp=Z,140nm,19.3s,MS4.2,baz=80,slow=39								
MKAR	**Makanchi Array**	**72.09**	**37**	P		**P**	**11 18 46.8**	**-1.0**
MKAR				LR		LR	11 54 45.5		
MKAR	**Makanchi Array**	**72.09**	**37**	P		**P**	**11 18 46.8**	**-1.0**
KURK	**Kurchatov**	**72.17**	**32**	P		**P**	**11 18 47.1**	**-1.1**
	comp=Z,3.4nm,0.7s,mb4.4,baz=242,slow=6.6,SNR=11								
KURK	**Kurchatov**	**72.17**	**32**	*e*P		**P**	**11 18 48.1**	**-0.1**
	comp=Z,4.5nm,0.9s,mb4.4								
KURK	**Kurchatov**	**72.17**	**32**⇓	*e*P		**P**	**11 18 48.2**	**0.0**
KURK				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.4								
APA	**Apatity**	**73.87**	**3**⇓	*e*P		**P**	**11 18 55.0**	**-3.0**
APA				MLR		MLR			
	comp=Z,1μm,15.0s,MS5.2								
WMQ	**Urumqi**	**74.06**	**41**	P		**P**	**11 19 00.6**	**+1.0**
WMQ				LR		LR			
	comp=N,110nm,24.0s,MS4.2								
WMQ				LR		LR			
	comp=E,120nm,26.7s,MS4.2								
CMAR	**Chiang Mai Arr**	**75.22**	**69**	P		**P**	**11 19 06.1**	**-0.7**
	comp=E,4.0nm,0.9s,mb4.3,baz=268,slow=6.8,SNR=10								
CMAR	**Chiang Mai Arr**	**75.22**	**69**	P		**P**	**11 19 06.1**	**-0.7**
CMAR	**Chiang Mai Arr**	**75.22**	**69**	P		**P**	**11 19 06.1**	**-0.7**
CHTO	**Chiang Mai**	**75.29**	**69**	*e*P		**P**	**11 19 06.1**	**-1.1**
	comp=E,8.2nm,0.9s,mb4.7								
CHTO	**Chiang Mai**	**75.29**	**69**	*e*P		**P**	**11 19 06.1**	**-1.1**
CHTO				pmax		pmax			
	comp=Z,8.0nm,0.9s,mb4.7								
ARCES	**ARCESS Array B**	**75.70**	**360**	P		**P**	**11 19 08.2**	**-0.3**
	comp=Z,8.0nm,0.7s,mb4.8,baz=168,slow=6.2,SNR=16								
ARCES	**ARCESS Array B**	**75.70**	**360**	P		**P**	**11 19 08.2**	**-0.3**
ARCES	**ARCESS Array B**	**75.70**	**360**	P		**P**	**11 19 08.2**	**-0.3**
NVS	**Novosibirsk**	**76.78**	**30**	*e*P		**P**	**11 19 13.5**	**-1.5**
NVS				pmax		pmax			
	comp=Z,25nm,1.5s,mb4.9								
NVS				pmax		pmax			
	comp=N,4.0nm,0.8s								
NVS				pmax		pmax			
	comp=E,5.0nm,1.1s								
ZAA0	**Zalesovo Array**	**77.12**	**31**	*e*P		**P**	**11 19 16.9**	**0.0**
ZALV	**Zalesovo Beam**	**77.12**	**31**	P		**P**	**11 19 16.0**	**-0.9**
	comp=E,4.4nm,0.8s,mb4.5,baz=266,slow=4.6,SNR=15								
ZALV				PP		PP	11 22 12.4	+1.7	
	comp=E,6.0nm,1.0s,baz=248,slow=7.8,SNR=8.9								
ZALV				LR		LR	11 57 42.5		
	comp=E,75nm,19.8s,MS4.0,baz=70,slow=39								
ZALV	**Zalesovo Beam**	**77.12**	**31**	P		**P**	**11 19 16.0**	**-0.9**
ZALV				PP		PP	11 22 12.4	+1.7	
ZALV				LR		LR	11 57 42.5		
ZALV	**Zalesovo Beam**	**77.12**	**31**	P		**P**	**11 19 16.0**	**-0.9**
ZALV							11 22 12.4		
KMI	**Kunming**	**80.04**	**63**	P		**P**	**11 19 33.1**	**-0.6**
KMI				pmax		pmax			
	comp=Z,7.0nm,0.8s,mb4.6								
GTA	**Gaotai**	**81.03**	**49**	*e*P		**P**	**11 19 39.5**	**+0.8**
GTA				pP		pP	11 19 43.3	+1.3	
GTA				sP		sP	11 19 46.0	+2.8	
GTA				S		S	11 29 48.0	-0.2	
GTA				SS		SS	11 35 04.5	+1.5	
GTA				pmax		pmax			
	comp=Z,7.0nm,0.7s,mb4.7								
GTA				LR		LR			
	comp=N,130nm,17.5s,MS4.5								
GTA				LR		LR			
	comp=E,140nm,17.1s,MS4.5								
GTA				LR		LR			
	comp=Z,140nm,19.4s,MS4.3								
CD2	**Chengdu**	**82.12**	**58**	P		**P**	**11 19 44.4**	**-0.2**
CD2				pP		pP	11 19 49.3	+1.3	
CD2				sP		sP	11 19 51.4	+2.3	
CD2				PP		PP	11 22 54.4	+1.5	
CD2				S		S	11 29 57.3	-2.5	
CD2				SKS			11 29 59.8		
CD2				SS		SS	11 35 21.4	+1.8	
CD2				pmax		pmax			
	comp=Z,20nm,0.5s,mb5.3								
CD2				pmax		pmax			
	comp=Z,430nm,10.6s								
CD2				LR		LR			
	comp=N,300nm,6.5s								
CD2				LR		LR			
	comp=Z,160nm,13.1s,MS4.6								
LZH	**Lanzhou**	**83.31**	**53**	*e*P		**P**	**11 19 51.3**	**+0.6**
LZH				pP		pP	11 19 56.6	+2.6	
LZH				sP		sP	11 19 59.3	+4.1	
LZH				PP		PP	11 23 05.1	+2.6	
LZH				pmax		pmax			
	comp=Z,13nm,1.0s,mb4.9								
LZH				pmax		pmax			
	comp=Z,150nm,5.0s								
GYA	**Guiyang**	**83.77**	**63**	*e*P		**P**	**11 19 53.3**	**0.0**
GYA				PP		PP	11 23 08.4	+1.9	
GYA				SKS			11 30 11.8		
GYA				S		S	11 30 15.6	-1.2	
GYA				SS		SS	11 35 44.9	+0.7	
GYA				pmax		pmax			
	comp=Z,20nm,1.0s,mb5.2								
GYA				pmax		pmax			
	comp=Z,130nm,5.3s								
GYA				LR		LR	

CAVI	**Cavuskoy**	**0.61**	**28**	*e*PG	**Pg**	**11 12 14.8**	**-0.1**
CAVI	**Cavuskoy**	**0.61**	**28**	*e*Pg	**Pg**	**11 12 14.8**	**-0.1**
DURS	**Dursunbey**	**0.77**	**266**	*i* P	**Pg**	**11 12 16.9**	**-1.0**
DURS	**Dursunbey**	**0.77**	**266**	*i* P	**Pg**	**11 12 17.0**	**-1.0**
DURS				*i* S	**Sg**	**11 12 28.7**	**+0.7**
ALT	**Altintas**	**0.78**	**140**	*e*PG	**Pg**	**11 12 18.3**	**+0.2**
ALT				*e*SG	**Sg**	**11 12 29.2**	**+1.0**
ALT	**Altintas**	**0.78**	**140**	*e*Pg	**Pg**	**11 12 18.3**	**+0.2**
ALT				*e*Sg	**Sg**	**11 12 29.2**	**+1.0**
BORA	**Eskisehir**	**0.79**	**73**	*i* P	**Pg**	**11 12 18.7**	**+0.5**
BORA	**Eskisehir**	**0.79**	**73**	*i* P	**Pg**	**11 12 18.7**	**+0.4**
BORA				*i* S	**Sg**	**11 12 32.2**	**+3.7**
ADVT	**Abdulvahap**	**0.80**	**15**	*e*PG	**Pg**	**11 12 18.6**	**+0.1**
ADVT	**Abdulvahap**	**0.80**	**15**	*e*Pg	**Pg**	**11 12 18.6**	**+0.1**
GEMT	**Gemlik**	**0.80**	**344**	*e*PG	**Pg**	**11 12 18.6**	**0.0**
GEMT	**Gemlik**	**0.80**	**344**	*e*Pg	**Pg**	**11 12 18.6**	**0.0**
MDNY	**Mudanya-Bursa**	**0.84**	**328**	*e*PG	**Pg**	**11 12 20.0**	**+0.7**
MDNY	**Mudanya-Bursa**	**0.84**	**328**	*e*Pg	**Pg**	**11 12 20.0**	**+0.7**
DEMI	**Demirci**	**0.85**	**224**	*i* P	**Pg**	**11 12 18.0**	**-1.5**
DEMI	**Demirci**	**0.85**	**224**	*i* P	**Pg**	**11 12 18.0**	**-1.5**
DEMI				*i* S	**Sg**	**11 12 35.6**	**+5.1**
ARMT	**Armutlu**	**1.02**	**333**	*e*PG	**Pg**	**11 12 22.6**	**-0.1**
ARMT	**Armutlu**	**1.02**	**333**	*e*Pg	**Pg**	**11 12 22.6**	**-0.1**
KCTX	**Karacabey (Bur**	**1.05**	**306**	*e*PG	**Pg**	**11 12 22.9**	**-0.4**
KCTX	**Karacabey (Bur**	**1.05**	**306**	*e*Pg	**Pg**	**11 12 22.9**	**-0.4**
ESKT	**Eskisehir**	**1.07**	**97**	*e*PG	**Pg**	**11 12 23.9**	**+0.1**
ESKT	**Eskisehir**	**1.07**	**97**	*e*Pg	**Pg**	**11 12 23.9**	**+0.2**
GULT	**Gulveren**	**1.11**	**46**	*e*PN	**Pn**	**11 12 24.4**	**-1.0**
GULT	**Gulveren**	**1.11**	**46**	*e*Pn	**Pn**	**11 12 24.4**	**-1.0**
HRT	**Hereke**	**1.17**	**7**	*e*PN	**Pn**	**11 12 25.7**	**-0.5**
HRT	**Hereke**	**1.17**	**7**	*e*Pn	**Pn**	**11 12 25.7**	**-0.5**
BALB	**Balikesir**	**1.23**	**270**	*e*PN	**Pn**	**11 12 26.4**	**-0.6**
BALB	**Balikesir**	**1.23**	**270**	*e*Pn	**Pn**	**11 12 26.4**	**-0.6**
KULA	**Kula-Manisa**	**1.31**	**209**	*e*PN	**Pn**	**11 12 27.8**	**-0.3**
KULA	**Kula-Manisa**	**1.31**	**209**	*e*Pn	**Pn**	**11 12 27.8**	**-0.3**
BNT	**Bandirma**	**1.38**	**301**	*e*PN	**Pn**	**11 12 29.4**	**+0.3**
BNT	**Bandirma**	**1.38**	**301**	*e*Pn	**Pn**	**11 12 29.4**	**+0.3**
GONE	**Gonen-Balikesi**	**1.43**	**286**	*e*PN	**Pn**	**11 12 29.4**	**-0.4**
GONE	**Gonen-Balikesi**	**1.43**	**286**	*e*Pn	**Pn**	**11 12 29.4**	**-0.4**
BALY	**Balya**	**1.43**	**274**	*i* P	**Pn**	**11 12 29.9**	**+0.1**
BALY	**Balya**	**1.43**	**274**	*i* P	**Pn**	**11 12 29.9**	**+0.1**
BALY				*i* S	**Sb**	**11 12 50.8**	**+1.9**
SVRH	**Sivrihisar-ESK**	**1.60**	**97**	*e*PN	**Pn**	**11 12 32.1**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.60**	**97**	*e*Pn	**Pn**	**11 12 32.1**	**0.0**
CTKS	**Kestanelik-??a**	**1.74**	**335**	*e*PN	**Pn**	**11 12 33.8**	**-0.3**
CTKS	**Kestanelik-??a**	**1.74**	**335**	*e*Pn	**Pn**	**11 12 33.8**	**-0.2**
LPK	**Lapseki**	**2.20**	**290**	*e*PN	**Pn**	**11 12 40.4**	**+0.1**
LPK	**Lapseki**	**2.20**	**290**	*e*Pn	**Pn**	**11 12 40.4**	**0.0**
GELI	**Tayfur-Gelibol**	**2.42**	**289**	*e*PN	**Pn**	**11 12 43.9**	**+0.5**
GELI	**Tayfur-Gelibol**	**2.42**	**289**	*e*Pn	**Pn**	**11 12 43.9**	**+0.5**
ERIK	**Erikli-Kesan**	**2.48**	**295**	*e*PN	**Pn**	**11 12 44.7**	**+0.4**
ERIK	**Erikli-Kesan**	**2.48**	**295**	*e*Pn	**Pn**	**11 12 44.7**	**+0.5**

*ISCJB **13** 11:12:27.5±0.7,31°.25S±0°.07×65°.71W±0°.09,h162km±8km, mb3.9/10, Error ellipse: s-maj=12.0km s-min=10.6km az=8.8*
*NEIC **13** 11:12:28.3±0.6,31°.22S×65°.72W,h154km±7km, Error ellipse: s-maj=9.0km s-min=8.0km az=107.0*
*IDC **13** 11:12:29.2±0.4,31°.23S×65°.80W,h163km±3km, mb3.9/10, mb1 4.1/14,mb1mx4.0/19,mbtmp3.9/14, Error ellipse: s-maj=12.7km s-min=8.3km az=166.0*
*GUC **13** 11:13:17.5±0.8,32°.88S×69°.93W,h115km±7km,ML3.0*

ISC 13 11:12:28.7±0.7,31°.29S±0°.05×65°.70W±0°.08,h156km±8km, h165km±2.5km:pP-P,n53,σ0°90/53,mb3.9/10,9C-6D, Cordoba Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFAA	**Coronel Fontan**	**2.19**	**261**	P	**Pn**	**11 13 06.8**	**+0.4**
	123nm,0.3s,baz=72,slow=11,SNR=7058						
CFAA				S	**Sn**	**11 13 34.9**	**-0.5**
	113nm,0.3s,baz=96,slow=19,SNR=39						
CFAA	**Coronel Fontan**	**2.19**	**261**	P	**Pn**	**11 13 06.8**	**+0.4**
CFAA				S	**Sn**	**11 13 34.9**	**-0.5**
JACH	**Jahuel**	**4.38**	**250**	⇑*i*P	**Pn**	**11 13 35.2**	**+1.1**
JACH				*i* S	Sn	11 13 50.1	-35
JACH	**Jahuel**	**4.38**	**250**	⇑*i*P	**Pn**	**11 13 35.2**	**+1.1**
JACH				*i* S	Sn	11 13 50.1	-35
FCH	**Farellones**	**4.39**	**241**	⇑*i*P	**Pn**	**11 13 36.1**	**+2.0**
FCH				*i* S	Sn	11 13 50.5	-35
FCH				AML	AML	11 13 52.5	
	comp=E,1μm,0.5s						
CLCH	**Cerro Calan**	**4.60**	**242**	⇑*i*P	**Pn**	**11 13 36.9**	**0.0**
CLCH				*i* S	Sn	11 13 51.5	-39
PEL	**Peldehue**	**4.61**	**245**	⇓*i*P	**Pn**	**11 13 36.8**	**-0.3**
PCH	**Pirque**	**4.69**	**239**	⇓*i*P	**Pn**	**11 13 38.1**	**0.0**
PCH				*i* S	Sn	11 13 54.0	-38
PCH	**Pirque**	**4.69**	**239**	⇓*i*P	**Pn**	**11 13 38.1**	**0.0**
PCH				*i* S	Sn	11 13 54.0	-38
SAN	**Santiago**	**4.72**	**241**	⇓*i*P	**Pn**	**11 13 38.4**	**-0.1**
SAN				*i* S	Sn	11 13 53.1	-40
SAN	**Santiago**	**4.72**	**241**	⇓*i*P	**Pn**	**11 13 38.4**	**-0.1**
SAN				*i* S	Sn	11 13 53.1	-40
SAN				AML	AML	11 13 55.5	
	comp=N,253nm,0.6s						
ANTU	**Antumapu**	**4.75**	**240**	*e*P	**Pn**	**11 13 38.9**	**0.0**
ANTU	**Antumapu**	**4.75**	**240**	*e*P	**Pn**	**11 13 38.9**	**0.0**
ROCH	**El Roble**	**4.81**	**248**	⇑*i*P	**Pn**	**11 13 39.2**	**-0.4**
ROCH	**El Roble**	**4.81**	**248**	⇓*i*P	**Pn**	**11 13 39.0**	**-0.6**
ROCH				⇑*i*P		11 13 39.2	
LCO	**Las Campanas**	**4.89**	**296**	*e*Pn	**Pn**	**11 13 40.8**	**+0.1**
TACH	**Talagante**	**5.02**	**241**	⇑*i*P	**Pn**	**11 13 41.4**	**-1.0**
TACH	**Talagante**	**5.02**	**241**	⇑*i*P	**Pn**	**11 13 41.4**	**-1.0**
LNV	**Longovilo**	**5.50**	**240**	*e*P	**Pn**	**11 13 46.1**	**-2.7**
LNV	**Longovilo**	**5.50**	**240**	*e*P	**Pn**	**11 13 46.1**	**-2.7**
TRQA	**Tornquist**	**7.42**	**157**	*e*Pn	**Pn**	**11 14 15.2**	**+1.0**
	comp=N,10nm,0.5s						
CPUP	**Villa Florida**	**8.85**	**58**	P	**Pn**	**11 14 32.5**	**-0.8**
	comp=N,8.0nm,0.3s,baz=222,slow=11,SNR=40						
CPUP				S	**Sn**	**11 16 24.2**	**+13**
	comp=N,0.2nm,0.3s,baz=202,slow=5.8,SNR=1.2						
CPUP	**Villa Florida**	**8.85**	**58**	P	**Pn**	**11 14 32.5**	**-0.8**
CPUP				S	**Sn**	**11 16 24.2**	**+13**
PLCA	**Paso Flores**	**10.21**	**201**	P	**Pn**	**11 14 51.3**	**+0.1**
	comp=N,1.3nm,0.3s,baz=11,slow=12,SNR=18						
PLCA	**Paso Flores**	**10.21**	**201**	P	**Pn**	**11 14 51.3**	**+0.1**
LPAZ	**La Paz**	**15.09**	**351**	P	**Pn**	**11 15 53.0**	**-1.0**
	comp=N,2.9nm,0.3s,baz=172,slow=6.9,SNR=24						
LPAZ				S	**S**	**11 18 45.3**	**+2.9**
	baz=357,slow=19,SNR=3.5						
LPAZ	**La Paz**	**15.09**	**351**	P	**Pn**	**11 15 53.0**	**-1.0**
LPAZ				S	**S**	**11 18 45.3**	**+2.9**
SNAA	**Sanae**	**52.14**	**159**	P	**P**	**11 21 23.3**	**+0.8**
	comp=N,1.8nm,0.5s,mb4.0,baz=285,slow=7.7,SNR=34						
SNAA	**Sanae**	**52.14**	**159**	P	**P**	**11 21 23.3**	**+0.8**
SYO	**Syowa Base**	**66.38**	**158**	*e*P	**P**	**11 22 59.2**	**-1.1**
VNDA	**Vanda**	**67.75**	**190**	P	**P**	**11 23 10.2**	**+1.4**
	comp=N,1.6nm,0.7s,mb3.8,baz=140,slow=5.8,SNR=9.8						
VNDA	**Vanda**	**67.75**	**190**	P	**P**	**11 23 10.2**	**+1.4**
DBIC	**Dimbokro**	**69.23**	**68**	P	**P**	**11 23 18.0**	**-0.9**
	comp=N,6.8nm,0.5s,mb4.7,baz=222,slow=9.3,SNR=12						
DBIC				pP	pP	11 23 56.8	+0.3
	comp=N,1.4nm,0.4s,baz=237,slow=4.1,SNR=2.9						
DBIC	**Dimbokro**	**69.23**	**68**	P	**P**	**11 23 18.0**	**-0.9**
DBIC				pP	pP	11 23 56.8	+0.3
TXAR	**Lajitas Array**	**70.28**	**325**	P	**P**	**11 23 24.5**	**-0.5**
	comp=N,0.7nm,0.4s,mb3.7,baz=151,slow=7.3,SNR=30						
TXAR	**Lajitas Array**	**70.28**	**325**	P	**P**	**11 23 24.5**	**-0.5**
MAW	**Mawson**	**74.17**	**162**	P	**P**	**11 23 48.3**	**+0.7**
	comp=N,1.9nm,0.7s,mb3.9,baz=235,slow=13,SNR=6.5						
MAW	**Mawson**	**74.17**	**162**	P	**P**	**11 23 48.3**	**+0.7**
BOSA	**Boshof**	**76.49**	**115**	P	**P**	**11 24 01.5**	**-0.1**
	comp=N,2.0nm,0.5s,mb4.0,baz=239,slow=12,SNR=3.6						
BOSA				pP	pP	11 24 42.0	+2.1
	comp=N,4.9nm,0.8s,baz=262,slow=4.6,SNR=3.5						
BOSA	**Boshof**	**76.49**	**115**	P	**P**	**11 24 01.5**	**-0.1**
BOSA				pP	pP	11 24 42.0	+2.1
TORD	**Torodi Ar. Bea**	**78.24**	**67**	P	**P**	**11 24 11.4**	**0.0**
	comp=N,1.0nm,0.6s,mb3.6,baz=131,slow=6.6,SNR=5.0						
TORD				pP	pP	11 24 50.5	+0.7
	comp=N,2.9nm,0.6s,baz=282,slow=7.6,SNR=5.1						
TORD	**Torodi Ar. Bea**	**78.24**	**67**	P	**P**	**11 24 11.4**	**0.0**
TORD				pP	pP	11 24 50.5	+0.7
PDAR	**Pinedale Array**	**83.97**	**329**	P	**P**	**11 24 40.6**	**-0.4**
	comp=N,1.4nm,0.7s,mb3.8,baz=124,slow=7.8,SNR=13						
PDAR				pP	pP	11 25 22.4	+2.4
	comp=N,0.9nm,0.5s,baz=129,slow=7.3,SNR=4.5						
NVAR	**Mina Array Bea**	**84.92**	**321**	P	**P**	**11 24 46.1**	**+0.2**
	comp=N,0.7nm,0.6s,mb3.6,baz=138,slow=3.9,SNR=8.0						
NVAR	**Mina Array Bea**	**84.92**	**321**	P	**P**	**11 24 46.1**	**+0.2**
ULM	**Lac du Bonnet**	**85.47**	**341**	P	**P**	**11 24 47.8**	**-0.6**
	comp=N,2.2nm,0.7s,mb4.0,baz=107,slow=4.6,SNR=4.0						
ULM	**Lac du Bonnet**	**85.47**	**341**	P	**P**	**11 24 47.8**	**-0.6**
ASAR	**Alice Springs**	**122.22**	**201**	PKP	PKPdf	11 31 04.0	-1.4
	comp=N,1.4nm,0.6s,baz=146,slow=1.6,SNR=36						
ASAR				pPKP	pPKPdf	11 31 47.3	+0.6
	comp=N,0.5nm,0.5s,baz=130,slow=1.7,SNR=3.3						
WRA	**Warramunga Arr**	**125.55**	**203**	PKP	PKPdf	11 31 10.8	-1.1
	comp=N,2.7nm,0.4s,baz=165,slow=1.6,SNR=139						
WRA				pPKP	pPKPdf	11 31 54.2	+1.0
	comp=N,1.4nm,0.6s,baz=169,slow=1.7,SNR=5.7						
FITZ	**Fitzroy Crossi**	**129.70**	**194**	PKP	PKPdf	11 31 19.8	-0.1
	comp=N,0.5nm,0.3s,baz=71,slow=9.3,SNR=6.5						
PSI	**Prapat**	**148.17**	**150**	PKPbc	PKPbc	11 31 55.9	-0.9
	comp=N,5.6nm,0.6s,baz=210,slow=5.7,SNR=4.2						
ZALV	**Zalesovo Beam**	**149.02**	**34**	PKPbc	PKPbc	11 31 57.7	0.0
	comp=N,4.7nm,0.5s,baz=317,slow=3.3,SNR=28						
ZALV				pPKPbc	pPKPbc	11 32 40.6	+1.9
	comp=N,7.4nm,0.6s,baz=303,slow=3.3,SNR=14						
MKAR	**Makanchi Array**	**150.96**	**49**	PKPbc	PKPbc	11 32 02.4	-0.2
	comp=N,3.0nm,0.6s,baz=298,slow=2.1,SNR=20						
MKAR				pPKPbc	pPKPbc	11 32 45.4	+1.7
	comp=N,2.6nm,0.9s,baz=298,slow=2.6,SNR=4.8						

*DDA **13** 11:19:00.3,35°.44N×27°.29E,h21km, Md3.1*
*ISCJB **13** 11:19:04.4±0.8,35°.77N±0°.04×27°.77E±0°.04,h9km±4km, Error ellipse: s-maj=7.8km s-min=3.4km az=142.5*
*THE **13** 11:19:04.5,35°.78N×27°.78E,h1km±2km, Error ellipse: s-maj=5.4km s-min=1.4km az=133.0*
*ISK **13** 11:19:04.4,35°.78N×27°.73E,h18km, MD3.2*
*CSEM **13** 11:19:05.3±0.2,35°.82N×27°.74E,h10km, MD3.4, Error ellipse: s-maj=7.1km s-min=3.1km az=144.0*
*ATH **13** 11:19:05.1,35°.94N×27°.60E,h14km±3km, MD3.4/8*

ISC 13 11:19:05.0±0.8,35°.76N±0°.04×27°.79E±0°.04,h10km±4km, n64,σ0°98/90,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.53**	**31**	*e*PB	**Pg**	**11 19 15.0**	**-0.4**
ARG				*e*SB	**Sg**	**11 19 22.5**	**+0.1**
ARG	**Arkhangelos**	**0.53**	**31**	P	**Pg**	**11 19 15.1**	**-0.3**
ARG				S	**Sg**	**11 19 22.5**	**+0.1**
ARG	**Arkhangelos**	**0.53**	**31**	*e*Pb	**Pg**	**11 19 15.0**	**-0.4**
ARG				S	**Sg**	**11 19 22.5**	**+0.1**
KARP	**Karpathos**	**0.55**	**247**	*e*PB	**Pg**	**11 19 14.7**	**-1.0**
KARP				*e*SB	**Sg**	**11 19 23.6**	**+0.6**
KARP	**Karpathos**	**0.55**	**247**	P	**Pg**	**11 19 14.8**	**-0.9**
KARP				S	**Sg**	**11 19 23.4**	**+0.4**
KARP	**Karpathos**	**0.55**	**247**	P	**Pg**	**11 19 14.8**	**-0.9**
KARP				S	**Sg**	**11 19 23.4**	**+0.4**
NIS1	**Nisyros Isl.**	**0.97**	**330**	P	**Pg**	**11 19 22.7**	**-1.0**
NIS1				S	**Sg**	**11 19 37.8**	**+1.4**
NIS1	**Nisyros Isl.**	**0.97**	**330**	P	**Pg**	**11 19 22.7**	**-1.0**
NIS1				S	**Sg**	**11 19 37.8**	**+1.4**
DAT	**Datca**	**0.98**	**350**	*e*PG	**Pg**	**11 19 23.3**	**-0.6**
DAT				*e*SG	**Sg**	**11 19 37.3**	**+0.6**
DAT	**Datca**	**0.98**	**350**	*e*Pg	**Pg**	**11 19 23.3**	**-0.6**
DAT				*e*Sg	**Sg**	**11 19 37.3**	**+0.7**
BODT	**Bodrum**	**1.35**	**344**	*e*PN	**Pn**	**11 19 27.7**	**-2.2**
BODT	**Bodrum**	**1.35**	**344**	*e*Pn	**Pn**	**11 19 27.7**	**-2.2**
FETY	**Fethiye**	**1.36**	**50**	*e*PN	**Pn**	**11 19 29.1**	**-1.0**
FETY				*e*SN	**Sn**	**11 19 47.7**	**-0.4**
FETY	**Fethiye**	**1.36**	**50**	*e*Pn	**Pn**	**11 19 29.1**	**-1.0**
FETY				*e*Sn	**Sn**	**11 19 47.7**	**-0.5**
YER	**Yerkesik**	**1.43**	**16**	*e*PN	**Pn**	**11 19 30.2**	**-0.7**
YER	**Yerkesik**	**1.43**	**16**	*e*Pn	**Pn**	**11 19 30.2**	**-0.7**
MLSB	**Milas**	**1.53**	**360**	*e*PN	**Pn**	**11 19 31.3**	**-1.0**
MLSB	**Milas**	**1.53**	**360**	*e*Pn	**Pn**	**11 19 31.3**	**-1.0**
NPS	**Neapolis**	**1.84**	**255**	*e*PN	**Pn**	**11 19 36.3**	**-0.3**
NPS				*e*SN	**Sn**	**11 19 59.8**	**-0.1**
NPS	**Neapolis**	**1.84**	**255**	P	**Pn**	**11 19 36.6**	**0.0**
NPS	**Neapolis**	**1.84**	**255**	*e*Pn	**Pn**	**11 19 36.3**	**-0.3**
NPS	**Neapolis**	**1.84**	**255**	P	**Pn**	**11 19 36.6**	**0.0**
NPS				*e*Sn	**Sn**	**11 19 59.8**	**-0.1**
AYDN	**Tasoluk**	**1.90**	**2**	*i* P	**Pn**	**11 19 37.1**	**-0.3**
AYDN				*i* S	**Sn**	**11 20 01.3**	**0.0**
AYDN	**Tasoluk**	**1.90**	**2**	*i* P	**Pn**	**11 19 37.1**	**-0.3**
AYDN				*i* S	**Sn**	**11 20 01.3**	**0.0**
XRY	**Khrisi**	**1.93**	**243**	*e*PN	**Pn**	**11 19 39.4**	**+1.6**
XRY	**Khrisi**	**1.93**	**243**	*e*Pn	**Pn**	**11 19 39.4**	**+1.6**
GLHS	**Glhisar (BURDU**	**1.96**	**44**	*e*PN	**Pn**	**11 19 38.0**	**-0.2**
GLHS	**Glhisar (BURDU**	**1.96**	**44**	*e*Pn	**Pn**	**11 19 38.1**	**-0.1**
LAST	**Lasithi**	**1.98**	**253**	*e*PN	**Pn**	**11 19 38.7**	**+0.2**
LAST				*e*SN	**Sn**	**11 20 03.9**	**+0.7**
LAST	**Lasithi**	**1.98**	**253**	P	**Pn**	**11 19 38.8**	**+0.3**
LAST				S	**Sn**	**11 20 03.6**	**+0.4**
LAST	**Lasithi**	**1.98**	**253**	*e*Pn	**Pn**	**11 19 38.7**	**+0.2**
LAST				S	**Sn**	**11 20 03.6**	**+0.4**
LAST				*e*Sn	**Sn**	**11 20 03.9**	**+0.7**
ELL	**Elmali**	**1.98**	**60**	*e*PN	**Pn**	**11 19 38.7**	**+0.2**
ELL	**Elmali**	**1.98**	**60**	*e*Pn	**Pn**	**11 19 38.7**	**+0.2**
THR3	**Thira Island,**	**2.04**	**289**	P	**Pn**	**11 19 38.0**	**-1.3**
THR3	**Thira Island,**	**2.04**	**289**	P	**Pn**	**11 19 38.0**	**-1.3**
GOLH	**Golhisar**	**2.05**	**44**	*i* P	**Pn**	**11 19 40.3**	**+0.8**
GOLH				*i* S	**Sg**	**11 20 09.4**	**-1.5**
GOLH	**Golhisar**	**2.05**	**44**	*i* P	**Pn**	**11 19 40.3**	**+0.8**
GOLH				*i* S	**Sg**	**11 20 09.4**	**-1.6**
SMG	**Samos**	**2.09**	**339**	*e*PN	**Pn**	**11 19 38.8**	**-1.2**
SMG	**Samos**	**2.09**	**339**	*e*Pn	**Pn**	**11 19 38.8**	**-1.2**
DNZL	**Cakiroluk**	**2.17**	**27**	*i* P	**Pn**	**11 19 43.2**	**+2.0**
DNZL				*i* S	**Sg**	**11 20 17.1**	**+2.2**
DNZL	**Cakiroluk**	**2.17**	**27**	*i* P	**Pn**	**11 19 43.2**	**+2.0**
DENT	**Denizli**	**2.23**	**26**	*e*PN	**Pn**	**11 19 41.5**	**-0.4**
DENT	**Denizli**	**2.23**	**26**	*e*Pn	**Pn**	**11 19 41.5**	**-0.4**
APE	**Apeiranthos**	**2.24**	**306**	*e*PN	**Pn**	**11 19 41.2**	**-0.9**
APE	**Apeiranthos**	**2.24**	**306**	*e*PN	**Pn**	**11 19 41.2**	**-1.2**
APE	**Apeiranthos**	**2.24**	**306**	P	**Pn**	**11 19 40.9**	**-1.2**
APE	**Apeiranthos**	**2.24**	**306**	P	**Pn**	**11 19 40.9**	**-1.2**
APE	**Apeiranthos**	**2.24**	**306**	*e*Pn	**Pn**	**11 19 41.2**	**-0.9**
SIVA	**Sivas**	**2.54**	**254**	*e*PN	**Pn**	**11 19 47.7**	**+1.5**
SIVA	**Sivas**	**2.54**	**254**	*e*Pn	**Pn**	**11 19 47.7**	**+1.5**
MANT	**Manisa**	**2.79**	**13**	*i* P	**Pn**	**11 19 50.9**	**+1.2**
MANT				*i* S	**Sg**	**11 20 28.5**	**-6.2**
MANT	**Manisa**	**2.79**	**13**	*i* P	**Pn**	**11 19 50.8**	**+1.1**
BCK	**Bucak**	**2.82**	**52**	*e*PN	**Pn**	**11 19 50.4**	**+0.3**
BCK	**Bucak**	**2.82**	**52**	*e*Pn	**Pn**	**11 19 50.4**	**+0.3**
KULA	**Kula-Manisa**	**2.83**	**14**	*e*PN	**Pn**	**11 19 50.4**	**+0.1**
KULA	**Kula-Manisa**	**2.83**	**14**	*e*Pn	**Pn**	**11 19 50.4**	**+0.1**
KHAL	**Karahalli**	**2.94**	**27**	*i* P	**Pn**	**11 19 52.7**	**+0.9**
KHAL				*i* S	**Sn**	**11 20 30.6**	**+3.5**
KHAL	**Karahalli**	**2.94**	**27**	*i* P	**Pn**	**11 19 52.7**	**+1.0**
KHAL				*i* S	**Sn**	**11 20 30.6**	**+3.6**
SUTC	**Sutluce-Ispart**	**3.10**	**56**	*e*PN	**Pn**	**11 19 54.5**	**+0.5**
SUTC	**Sutluce-Ispart**	**3.10**	**56**	*e*Pn	**Pn**	**11 19 54.5**	**+0.6**
KARN	**Karanos**	**3.17**	**265**	*e*PN	**Pn**	**11 19 54.8**	**-0.1**
KARN	**Karanos**	**3.17**	**265**	*e*Pn	**Pn**	**11 19 54.8**	**-0.1**
VLI	**Veliai**	**4.03**	**285**	P	**Pn**	**11 20 06.4**	**-0.4**
VLI	**Veliai**	**4.03**	**285**	P	**Pn**	**11 20 06.4**	**-0.4**

MAN 13 11:48:05,15°.76N×120°.18E,h21km,mb4.5,ML3.3,MS3.2, 2C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCZP	**Santa Cruz**	**0.26**	**274**	*e*P	Pb	11 48 12.8	+1.7
SCZP				*e*S	Sb	11 48 15.6	+0.4
BOLP	**Bolinao**	**0.67**	**338**	*e*P	Pb	11 48 18.1	+0.1
BCPH	**Baguio City Da**	**0.73**	**32**	⇑*i*P	Pb	11 48 20.4	+1.4
BCPH				*i* S	Sb	11 48 32.6	+4.0
PCPH	**Palayan**	**0.91**	**102**	⇑*i*P	Pb	11 48 21.3	-0.8
PCPH				*e*S	Sb	11 48 35.9	+2.2
BALP	**Baler**	**1.35**	**91**	*e*P	Pn	11 48 28.2	-0.3

*ATH **13** 11:57:36.8,38°.77N×21°.56E,h28km±4km, MD2.7/3*
*ISCJB **13** 11:57:37.1±1.0,38°.68N±0°.04×21°.64E±0°.08,h26km±7km, Error ellipse: s-maj=11.2km s-min=6.4km az=9.0*
*CSEM **13** 11:57:37.0±0.3,38°.68N×21°.70E,h30km, ML1.6/5, Error ellipse: s-maj=8.4km s-min=5.9km az=101.0*
*THE **13** 11:57:37.5,38°.67N×21°.65E,h16km±3km, ML1.6/5, Error ellipse: s-maj=3.4km s-min=0.6km az=78.0*

ISC 13 11:57:37.1±1.0,38°.68N±0°.04×21°.64E±0°.08,h25km±7km, n14,σ0°53/28,Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EVR	**Evrytania**	**0.27**	**29**	*e*PB	**Pb**	**11 57 43.6**	**-0.2**
EVR				*e*SB	**Sb**	**11 57 48.2**	**-0.1**
EVR	**Evrytania**	**0.27**	**29**	P	**Pb**	**11 57 43.5**	**-0.3**
EVR				S	**Sb**	**11 57 47.7**	**-0.6**
EVR	**Evrytania**	**0.27**	**29**	*e*Pb	**Pb**	**11 57 43.6**	**-0.2**
EVR				S	**Sb**	**11 57 47.7**	**-0.6**
EVR				*e*Sb	**Sb**	**11 57 48.2**	**-0.1**
EFP	**Efpalio**	**0.33**	**141**	P	**Pb**	**11 57 44.2**	**-0.4**
EFP				S	**Sb**	**11 57 49.5**	**-0.1**
EFP	**Efpalio**	**0.33**	**141**	P	**Pb**	**11 57 44.2**	**-0.4**
EFP				S	**Sb**	**11 57 49.5**	**-0.1**
KALE	**Kalithea**	**0.49**	**126**	P	**Pb**	**11 57 46.5**	**-0.6**
KALE				S	**Sb**	**11 57 54.6**	**+0.7**
KALE	**Kalithea**	**0.49**	**126**	P	**Pb**	**11 57 46.5**	**-0.6**
KALE				S	**Sb**	**11 57 54.6**	**+0.7**
LAKA	**Lakka**	**0.51**	**149**	P	**Pb**	**11 57 47.6**	**0.0**
LAKA				S	**Sb**	**11 57 54.4**	**-0.2**
LAKA	**Lakka**	**0.51**	**149**	P	**Pb**	**11 57 47.6**	**0.0**
LAKA				S	**Sb**	**11 57 54.4**	**-0.2**
AGG	**Agios Georgios**	**0.64**	**57**	*e*PN	**Pn**	**11 57 49.8**	**-0.7**
AGG				*e*SN	**Sn**	**11 57 59.5**	**-0.3**
AGG	**Agios Georgios**	**0.64**	**57**	P	**Pb**	**11 57 50.0**	**+0.4**
AGG				S	**Sb**	**11 57 59.2**	**+1.0**
AGG	**Agios Georgios**	**0.64**	**57**	*e*Pn	**Pn**	**11 57 49.8**	**-0.7**
AGG				S	**Sb**	**11 57 59.2**	**+1.0**
AGG				*e*Sn	**Sn**	**11 57 59.5**	**-0.3**
VLS	**Valsamata**	**0.97**	**239**	*e*PN	**Pn**	**11 57 55.8**	**+0.8**
VLS	**Valsamata**	**0.97**	**239**	*e*Pn	**Pn**	**11 57 55.8**	**+0.8**

*ISK **13** 12:28:54.9,37°.34N×28°.30E,h5km, MD2.6*
*ISCJB **13** 12:28:56.5±0.6,37°.25N±0°.05×28°.28E±0°.05,h5km±9km, Error ellipse: s-maj=9.4km s-min=4.9km az=34.6*
*CSEM **13** 12:28:56.5±0.2,37°.23N×28°.28E,h10km, MD2.6, Error ellipse: s-maj=5.2km s-min=3.

PKSM				*e*Sn	**Sg**	**12 51 15.2**	**+1.0**
FRGS	**Fruska Gora**	**1.74**	**205**	*e*Pg	**Pg**	**12 50 53.3**	**-2.2**
FGSL	**Fruska Gora**	**1.75**	**205**	*e*Pg	**Pg**	**12 50 53.3**	**-2.2**
PKS9	**Tamasi**	**1.78**	**266**	⇓*e*Pn	**Pn**	**12 50 51.4**	**-1.0**
TRPA	**Tarpa**	**1.80**	**39**	⇑*i*P	**Pn**	**12 50 51.9**	**-0.7**
TRPA	**Tarpa**	**1.80**	**39**	⇑*i*P	**Pn**	**12 50 51.9**	**-0.7**
TRPA				S	**Sn**	**12 51 15.0**	**-0.2**
PKSG		**1.81**	**292**	⇓*e*Pn	**Pn**	**12 50 52.9**	**+0.2**
RHK3	**Tenkes**	**2.00**	**246**	*e*Pn	**Pn**	**12 50 57.7**	**+2.4**
CRVS	**Cervenica-Dubn**	**2.20**	**10**	*e*	**Pn**	**12 50 58.5**	**+0.4**
CRVS				*e*		12 51 08.1	
CRVS	**Cervenica-Dubn**	**2.20**	**10**	*e*SN	**Sg**	**12 51 34.9**	**+2.2**
VYHS	**Vyhne**	**2.22**	**323**	*e*PN	**Pn**	**12 50 59.1**	**+0.6**
VYHS				*e*		12 51 34.7	
VYHS	**Vyhne**	**2.22**	**323**	*e*Pn	**Pn**	**12 50 59.1**	**+0.6**
DJES	**Djerdap**	**2.38**	**150**	*e*Sg	**Sg**	**12 51 37.8**	**-0.7**
KOLL	**Kolacno**	**2.48**	**319**	*e*	**Pn**	**12 51 01.1**	**-0.8**
KOLL	**Kolacno**	**2.48**	**319**	*e*SN	**Sn**	**12 51 30.7**	**-1.2**
KOLL	**Kolacno**	**2.48**	**319**	*e*Sn	**Sn**	**12 51 30.7**	**-1.2**
STHS	**Stebnicka Huta**	**2.69**	**5**	*e*	**Pg**	**12 51 17.9**	**+4.3**
STHS	**Stebnicka Huta**	**2.69**	**5**	*e*SG	**Sg**	**12 51 52.8**	**+4.4**
DIVS	**Divibare**	**2.71**	**193**	⇓*i*Pn	**Pn**	**12 51 04.7**	**-0.5**
DIVS				*e*Sg	**Sg**	**12 51 49.9**	**+0.7**
DIVS	**Divibare**	**2.71**	**193**	⇓*i*Pn	**Pn**	**12 51 04.7**	**-0.5**
DIVS				*e*Sg	**Sg**	**12 51 49.9**	**+0.7**
GRUS	**Gruza**	**2.85**	**182**	*e*Pn	**Pn**	**12 51 07.1**	**0.0**
GRUS				*e*Sg	**Sg**	**12 51 54.7**	**+1.0**
GRUS	**Gruza**	**2.85**	**182**	*e*Pn	**Pn**	**12 51 07.1**	**0.0**
GRUS				*e*Sg	**Sg**	**12 51 54.7**	**+1.0**
ZST	**Bratislava**	**2.93**	**301**	*e*PN	**Pn**	**12 51 08.7**	**+0.5**
ZST				*e*SN	**Sn**	**12 51 41.7**	**-1.5**
ZST	**Bratislava**	**2.93**	**301**	*e*Pn	**Pn**	**12 51 08.7**	**+0.5**
ZST				*e*Sn	**Sn**	**12 51 41.7**	**-1.5**
BBLS	**Lazići**	**3.05**	**200**	*e*Pn	**Pn**	**12 51 10.2**	**+0.3**
BBLS				*e*Sn	**Sn**	**12 51 45.9**	**-0.3**
BBLS	**Lazići**	**3.05**	**200**	*e*Pn	**Pn**	**12 51 10.2**	**+0.3**
BBLS				*e*Sn	**Sn**	**12 51 45.9**	**-0.3**
SOP	**Sopron**	**3.08**	**289**	⇑*e*Pn	**Pn**	**12 51 10.6**	**+0.4**
SOP	**Sopron**	**3.08**	**289**	⇑*e*Pn	**Pn**	**12 51 10.6**	**+0.4**
BURAR	**Bucovina Array**	**3.10**	**72**	⇑*i*P	**Pn**	**12 51 12.2**	**+1.7**
BURAR	**Bucovina Array**	**3.10**	**72**	⇑*i*P	**Pn**	**12 51 12.2**	**+1.7**
BURAR				S	**Sn**	**12 51 46.6**	**-0.7**
VOIR		**3.20**	**113**	⇑*i*P	**Pn**	**12 51 12.7**	**+0.9**
VOIR		**3.20**	**113**	⇑*i*P	**Pn**	**12 51 12.7**	**+0.9**
VOIR				S	**Sn**	**12 51 50.7**	**+1.0**
SJES	**Sjenica**	**3.54**	**191**	*e*Pn	**Pn**	**12 51 16.9**	**+0.4**
SJES	**Sjenica**	**3.54**	**191**	*e*Pn	**Pn**	**12 51 16.9**	**+0.4**
OJC	**Ojcow**	**3.55**	**349**	*e*Pn	**Pn**	**12 51 18.6**	**+1.9**
OJC				*e*Pg	**Pg**	**12 51 29.3**	**-0.7**
OJC	**Ojcow**	**3.55**	**349**	*e*Pn	**Pn**	**12 51 18.6**	**+1.9**
CONA	**Conrad Observa**	**3.60**	**291**	⇑*i*Pn	**Pn**	**12 51 17.7**	**+0.4**
CONA				⇑*i*Sn	**Sn**	**12 51 59.7**	**+0.1**
CONA				⇑*i*Sg	**Sg**	**12 52 18.4**	**+0.9**
	14nm,0.5s						
CONA	**Conrad Observa**	**3.60**	**291**	Pn	**Pn**	**12 51 17.7**	**+0.4**
CONA				Sn	**Sn**	**12 51 59.7**	**+0.1**
CONA				Sg	**Sg**	**12 52 18.4**	**+0.9**
	14nm,0.5s						
ZAPS	**Zavoj**	**3.69**	**159**	*e*Pn	**Pn**	**12 51 19.1**	**+0.5**
ZAPS				*e*Sn	**Sn**	**12 52 02.5**	**+0.6**
MLR	**Muntele Rosu**	**3.75**	**108**	⇓*i*P	**Pn**	**12 51 20.3**	**+0.8**
MLR	**Muntele Rosu**	**3.75**	**108**	⇓*i*P	**Pn**	**12 51 20.3**	**+0.8**
MLR				S	**Sn**	**12 52 03.6**	**+0.2**
MORC	**Moravsky Berou**	**3.76**	**325**	⇑*i*P	**Pn**	**12 51 20.4**	**+0.9**
MORC	**Moravsky Berou**	**3.76**	**325**	⇑*i*P	**Pn**	**12 51 20.4**	**+0.9**
MORC				*e*Sn	**Sn**	**12 52 01.4**	**-2.1**
MORC				S	**Sn**	**12 52 02.2**	**-1.3**
VRAC	**Vranov**	**3.84**	**313**	⇓*i*P	**Pn**	**12 51 21.2**	**+0.5**
VRAC	**Vranov**	**3.84**	**313**	⇓*i*P	**Pn**	**12 51 21.2**	**+0.5**
VRAC				*e*Sn	**Sn**	**12 52 04.2**	**-1.5**
VRAC				S	**Sn**	**12 52 04.5**	**-1.2**
BARS	**Barje**	**3.98**	**170**	*i* Pn	**Pn**	**12 51 22.2**	**-0.5**
BARS	**Barje**	**3.98**	**170**	*i* Pn	**Pn**	**12 51 22.2**	**-0.5**
DPC	**Dobruska-Polom**	**4.70**	**322**	*e*PN	**Pn**	**12 51 32.9**	**+0.4**
DPC	**Dobruska-Polom**	**4.70**	**322**	*e*Pn	**Pn**	**12 51 32.9**	**+0.4**
PRU	**Pruhonice**	**5.32**	**310**	*e*SN	**Sn**	**12 52 39.7**	**-2.2**
KHC	**Kasperske Hory**	**5.44**	**299**	*e*PN	**Pn**	**12 51 44.1**	**+1.4**
KHC				*e*SN	**Sn**	**12 52 42.6**	**-2.5**
KHC	**Kasperske Hory**	**5.44**	**299**	*e*Pn	**Pn**	**12 51 44.1**	**+1.4**

IDC 13 12:51:44.8±2.2, 7.°56S×156.°40E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.9/18, mbtmp3.9/9, MS3.0/3, Ms1 2.9/3, ms1mx2.4/19, Error ellipse: s-maj=65.0km s-min=25.2km az=120.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**15.86**	**217**	LR	LR	13 00 50.1	
	comp=Z,34nm,19.6s,baz=230,slow=34						
WRA	**Warramunga Arr**	**24.67**	**238**	P	P	12 57 08.0	+0.5
	0.8nm,0.5s,baz=63,slow=9.9,SNR=18						
WRA				LR	LR	13 05 48.7	
	comp=Z,35nm,20.5s,baz=20,slow=34						
ASAR	**Alice Springs**	**26.87**	**231**	P	P	12 57 27.2	-0.2
	0.3nm,0.7s,baz=55,slow=10,SNR=4.6						
STKA	**Stephens Creek**	**27.85**	**208**	LR	LR	13 08 21.4	
	comp=Z,36nm,18.5s,baz=203,slow=36						
KSRS	**Korea Array**	**52.09**	**331**	P	P	13 00 56.7	+0.1
	0.5nm,0.5s,baz=149,slow=8.5,SNR=4.0						
CMAR	**Chiang Mai Arr**	**62.28**	**295**	P	P	13 02 09.4	+0.2
	0.2nm,0.3s,baz=125,slow=5.2,SNR=4.4						
SONM	**Songino Array**	**70.56**	**327**	P	P	13 03 02.5	+0.8
	1.1nm,0.4s,baz=144,slow=6.6,SNR=14						
ILAR	**Eielson Array**	**83.39**	**21**	P	P	13 04 14.1	+0.5
	0.2nm,0.9s,baz=248,slow=4.8,SNR=3.5						
MKAR	**Makanchi Array**	**84.75**	**318**	P	P	13 04 21.2	+0.3
	2.9nm,0.7s,baz=105,slow=5.9,SNR=20						
ZALV	**Zalesovo Beam**	**85.42**	**326**	P	P	13 04 23.4	-0.8
	1.3nm,0.4s,baz=110,slow=5.5,SNR=11						
KURK	**Kurchatov**	**88.14**	**322**	P	P	13 04 36.8	-0.7
	0.5nm,0.6s,baz=98,slow=4.7,SNR=11						

BEO 13 13:17:49.0±0.7, 43.°88N×19.°97E, h7km±5km, ML1.1/4, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DIVS	**Divibare**	**0.22**	**4**	*e*Pg	Pg	13 17 53.7	+0.3
DIVS				*e*Sg	Sg	13 17 57.8	+1.4
BBLS	**Lazići**	**0.41**	**268**	*e*Pg	Pg	13 17 55.8	-1.1
BBLS				*e*Sg	Sg	13 18 04.2	+1.9
GRUS	**Gruza**	**0.54**	**89**	*e*Pg	Pg	13 17 59.7	+0.3
GRUS				*e*Sg	Sg	13 18 07.1	+0.7
SJES	**Sjenica**	**0.62**	**180**	*e*Sg	Sg	13 18 09.5	+0.6

*CSEM **13** 13:20:04.0±0.2, 47.°62N×26.°66E, h68km±6km, MD3.3/5, Error ellipse: s-maj=4.3km s-min=2.6km az=37.0*

BUC 13 13:20:03.7±1.2, 47.°61N×26.°67E, h36km, MD3.3/5, 15C-18D, Error ellipse: s-maj=22.0km s-min=6.3km az=13.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BURAR	**Bucovina Array**	**0.98**	**271**	⇑*i*P	Pn	13 20 22.1	+1.2
BURAR	**Bucovina Array**	**0.98**	**271**	S	Sn	13 20 36.2	+2.6
BURAR	**Bucovina Array**	**0.98**	**271**	⇑*i*P	Pn	13 20 22.1	+1.2
BURAR				*i* S	Sn	13 20 36.2	+2.6
BURAR	**Bucovina Array**	**0.98**	**271**	⇑*i*P	Pn	13 20 22.1	+1.2
BURAR				*i* S	Sn	13 20 36.2	+2.6
KIS	**Kishinev**	**1.59**	**112**	*e*P	Pn	13 20 30.0	+0.8
KIS				*e*S	Sn	13 20 50.0	+1.5
	400nm,0.8s						
KIS	**Kishinev**	**1.59**	**112**	S	Sn	13 20 50.4	+1.9
KIS	**Kishinev**	**1.59**	**112**	*e*P	Pn	13 20 30.0	+0.8
KIS				*i* S	Pn	13 20 50.4	+1.9
GHRR		**1.63**	**162**	⇓*i*P	Pn	13 20 30.4	+0.5
GHRR		**1.63**	**162**	S	Sn	13 20 51.1	+1.5
GHRR		**1.63**	**162**	⇓*i*P	Pn	13 20 30.4	+0.5
GHRR				*i* S	Sn	13 20 51.1	+1.5
GHRR		**1.63**	**162**	⇓*i*P	Pn	13 20 30.4	+0.5
GHRR				*i* S	Sn	13 20 51.1	+1.5
VRI	**Vrincioaia**	**1.75**	**179**	⇑*i*P	Pn	13 20 32.4	+1.0
VRI	**Vrincioaia**	**1.75**	**179**	S	Sn	13 20 53.0	+0.6
VRI	**Vrincioaia**	**1.75**	**179**	⇑*i*P	Pn	13 20 32.4	+1.0
VRI				*i* S	Sn	13 20 53.0	+0.6
VRI	**Vrincioaia**	**1.75**	**179**	⇑*i*P	Pn	13 20 32.4	+1.0
VRI				*i* S	Sn	13 20 53.0	+0.6
PLOR	**Plostina**	**1.76**	**180**	⇓*i*P	Pn	13 20 32.6	+1.0
PLOR	**Plostina**	**1.76**	**180**	S	Sn	13 20 53.7	+0.9
PLOR	**Plostina**	**1.76**	**180**	⇓*i*P	Pn	13 20 32.6	+1.0
PLOR				*i* S	Sn	13 20 53.7	+0.9
PETR		**1.93**	**168**	S	Sn	13 20 59.0	+2.1
PETR		**1.93**	**168**	*i* S	Sn	13 20 59.0	+2.1
PETR		**1.93**	**168**	*i* S	Sn	13 20 59.0	+2.1
MLR	**Muntele Rosu**	**2.18**	**194**	⇓*i*P	Pn	13 20 37.9	+0.5
MLR	**Muntele Rosu**	**2.18**	**194**	S	Sn	13 21 04.6	+1.5
MLR	**Muntele Rosu**	**2.18**	**194**	⇓*i*P	Pn	13 20 37.9	+0.5
MLR				*i* S	Sn	13 21 04.6	+1.5
MLR	**Muntele Rosu**	**2.18**	**194**	⇓*i*P	Pn	13 20 37.9	+0.5
MLR				*i* S	Sn	13 21 04.6	+1.5
VOIR		**2.44**	**208**	⇑*i*P	Pn	13 20 41.8	+0.8
VOIR		**2.44**	**208**	S	Sn	13 21 10.8	+1.1
VOIR		**2.44**	**208**	⇑*i*P	Pn	13 20 41.8	+0.8
VOIR				*i* S	Sn	13 21 10.8	+1.1
VOIR		**2.44**	**208**	⇑*i*P	Pn	13 20 41.8	+0.8
VOIR				*i* S	Sn	13 21 10.8	+1.1
DRGR		**2.82**	**255**	⇑*i*P	Pn	13 20 47.6	+1.4
DRGR		**2.82**	**255**	S	Sn	13 21 20.1	+1.2
DRGR		**2.82**	**255**	⇑*i*P	Pn	13 20 47.6	+1.4
DRGR				*i* S	Sn	13 21 20.1	+1.2
DRGR		**2.82**	**255**	⇑*i*P	Pn	13 20 47.6	+1.4
DRGR				*i* S	Sn	13 21 20.1	+1.2
TLCR		**2.84**	**148**	⇑*i*P	Pn	13 20 47.2	+0.7
TLCR		**2.84**	**148**	⇑*i*P	Pn	13 20 47.2	+0.7
TLCR		**2.84**	**148**	⇑*i*P	Pn	13 20 47.2	+0.7
LOT	**Lotru**	**2.95**	**224**	⇓*i*P	Pn	13 20 48.1	+0.2
LOT	**Lotru**	**2.95**	**224**	S	Sn	13 21 22.3	+0.3
LOT	**Lotru**	**2.95**	**224**	⇓*i*P	Pn	13 20 48.1	+0.2
LOT				*i* S	Sn	13 21 22.3	+0.3
LOT	**Lotru**	**2.95**	**224**	⇓*i*P	Pn	13 20 48.1	+0.2
LOT				*i* S	Sn	13 21 22.3	+0.3
KWP	**Kalwaria Pacla**	**3.32**	**309**	⇓*i*P	Pn	13 20 53.0	0.0
KWP	**Kalwaria Pacla**	**3.32**	**309**	S	Sn	13 21 32.5	+1.4
KWP	**Kalwaria Pacla**	**3.32**	**309**	⇓*i*P	Pn	13 20 53.0	0.0
KWP				*i* S	Sn	13 21 32.5	+1.4
KWP	**Kalwaria Pacla**	**3.32**	**309**	⇓*i*P	Pn	13 20 53.0	0.0
KWP				*i* S	Sn	13 21 32.5	+1.4
TIRR	**Tirgusor**	**3.38**	**158**	⇓*i*P	Pn	13 20 54.5	+0.6
TIRR	**Tirgusor**	**3.38**	**158**	S	Sn	13 21 34.8	+2.1
TIRR	**Tirgusor**	**3.38**	**158**	⇓*i*P	Pn	13 20 54.5	+0.6
TIRR				*i* S	Sn	13 21 34.8	+2.1
TIRR	**Tirgusor**	**3.38**	**158**	⇓*i*P	Pn	13 20 54.5	+0.6
TIRR				*i* S	Sn	13 21 34.8	+2.1

*MOS **13** 13:57:12.9±2.4, 40.°15N×46.°03E, h10km, mb3.5/1, Error ellipse: s-maj=22.5km s-min=13.3km az=103.2*
*CSEM **13** 13:57:15.7±0.2, 40.°30N×45.°89E, h5km, ML3.2, Error ellipse: s-maj=4.3km s-min=3.8km az=14.0*
*TIF **13** 13:57:15.0, 40.°32N×45.°94E, h12km±1km*
*NSSP **13** 13:57:15.0, 40.°30N×46.°07E, h5km, Ms3.2*

ISC 13 13:57:14.9±0.3, 40.°34N±0.°02×45.°99E±0.°02, h4km±3km, n69,σ1°31/111, 17C-30D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VADZ	**Vardenis**	**0.25**	**227**	*e*P	**Pg**	**13 57 20.0**	**+0.3**
VADZ				*e*S	**Sg**	**13 57 24.0**	**+1.0**
GANJ	**Ganja**	**0.40**	**40**	P	**Pg**	**13 57 24.7**	**+2.2**
	SNR=130						
GRS	**Goris**	**0.88**	**162**	⇓*i*P	**Pg**	**13 57 33.0**	**+1.2**
GRS				⇓*i*S	**Sg**	**13 57 45.0**	**+1.8**
GRS	**Goris**	**0.88**	**162**	⇓P	**Pg**	**13 57 33.0**	**+1.2**
GRS				S	**Sg**	**13 57 45.0**	**+1.8**
BRDA	**Brd**	**0.92**	**95**	P	**Pg**	**13 57 35.3**	**+2.8**
	SNR=20						
BRDA				S	**Sg**	**13 57 50.9**	**+6.6**
GNI	**Garni**	**0.97**	**259**	⇓*i*P	**Pg**	**13 57 34.1**	**+0.6**
GNI				⇓*i*S	**Sg**	**13 57 47.6**	**+1.5**
GNI	**Garni**	**0.97**	**259**	⇑*e*PG	**Pg**	**13 57 33.6**	**+0.1**
GNI	**Garni**	**0.97**	**259**	*e*Pg	**Pg**	**13 57 33.6**	**+0.1**
GNI	**Garni**	**0.97**	**259**	⇓P	**Pg**	**13 57 34.1**	**+0.6**
KAPZ	**Kaputan**	**0.98**	**269**	⇑*i*P	**Pg**	**13 57 34.2**	**+0.4**
KAPZ				⇓*i*S	**Sg**	**13 57 46.7**	**+0.2**
KAPZ	**Kaputan**	**0.98**	**269**	⇑P	**Pg**	**13 57 34.2**	**+0.5**
KAPZ				S	**Sg**	**13 57 46.7**	**+0.2**
XTNZ	**Xhotanan**	**1.10**	**164**	⇓*i*P	**Pg**	**13 57 35.5**	**-0.6**
XTNZ				⇑*i*S	**Sg**	**13 57 48.5**	**-1.8**
XTNZ	**Xhotanan**	**1.10**	**164**	⇓P	**Pg**	**13 57 35.5**	**-0.5**
XTNZ				S	**Sg**	**13 57 48.5**	**-1.8**
ERE	**Yerevan**	**1.17**	**262**	*e*P	**Pn**	**13 57 36.0**	**-2.0**
ERE	**Yerevan**	**1.17**	**262**	P	**Pn**	**13 57 36.0**	**-2.0**
CKLZ	**Chkalov**	**1.18**	**301**	⇓*i*P	**Pn**	**13 57 35.5**	**-2.6**
KDR	**Kadzharan**	**1.19**	**176**	⇓*i*P	**Pg**	**13 57 36.8**	**-1.0**
KDR				⇓*i*S	**Sg**	**13 57 52.2**	**-1.1**
KDR	**Kadzharan**	**1.19**	**176**	⇓P	**Pg**	**13 57 36.8**	**-1.0**
KDR				S	**Sg**	**13 57 52.2**	**-1.0**
DGRG	**David-gareji**	**1.20**	**337**	P	**Pg**	**13 57 38.6**	**+0.7**
DGRG				S	**Sg**	**13 57 57.3**	**+3.8**
DGRG	**David-gareji**	**1.20**	**337**	P	**Pg**	**13 57 38.6**	**+0.7**
DGRG				S	**Sg**	**13 57 57.3**	**+3.8**
NAX	**Nakhchivan**	**1.23**	**198**	P	**Pg**	**13 57 38.6**	**+0.2**
	SNR=29						
NAX				S	**Sg**	**13 57 55.2**	**+0.9**
PAAR	**P'arak'ar**	**1.24**	**262**	⇓*i*P	**Pn**	**13 57 37.5**	**-1.4**
PAAR				⇑*i*S	**Sn**	**13 57 55.4**	**-1.5**
PAAR	**P'arak'ar**	**1.24**	**262**	⇓P	**Pn**	**13 57 37.5**	**-1.5**
PAAR				S	**Sn**	**13 57 53.7**	**-2.5**
SEKA	**Sheki**	**1.26**	**46**	P	**Pg**	**13 57 39.6**	**+0.5**
	SNR=17						
AMBZ	**Amberd**	**1.32**	**273**	⇑*i*P	**Pn**	**13 57 40.1**	**0.0**
AMBZ				⇓*i*S	**Sg**	**13 57 59.6**	**+2.3**
AMBZ	**Amberd**	**1.32**	**273**	⇑P	**Pn**	**13 57 40.1**	**+0.1**
STEZ	**Stepenevan**	**1.37**	**299**	⇓*i*P	**Pn**	**13 57 40.0**	**-0.8**
STEZ				⇓*i*S	**Sb**	**13 57 58.0**	**-1.0**
SPIZ	**Spitak**	**1.39**	**291**	⇓*i*P	**Pn**	**13 57 39.6**	**-1.4**
SPIZ	**Spitak**	**1.39**	**291**	⇓P	**Pn**	**13 57 39.6**	**-1.4**
STE	**Stepanavan**	**1.39**	**299**	⇑*i*P	**Pn**	**13 57 40.5**	**-0.6**
STE	**Stepanavan**	**1.39**	**299**	⇑P	**Pn**	**13 57 40.5**	**-0.6**
STE				S	**Sb**	**13 57 58.0**	**-1.5**
VRNZ	**Vardanashen**	**1.41**	**259**	⇑*i*P	**Pn**	**13 57 41.8**	**+2.6**
VRNZ				⇑*i*S	**Sb**	**13 58 05.3**	**+5.5**
ARUZ	**Aruch**	**1.45**	**268**	⇑*i*P	**Pn**	**13 57 41.9**	**0.0**
ARUZ				⇓*i*S	**Sb**	**13 58 00.9**	**-0.2**
ARUZ	**Aruch**	**1.45**	**268**	⇑P	**Pn**	**13 57 41.8**	**0.0**
ARUZ				S	**Sb**	**13 58 00.9**	**-0.3**
MGRZ	**Megri**	**1.45**	**172**	⇓*i*P	**Pn**	**13 57 42.7**	**+0.8**
MGRZ				⇓*i*S	**Sb**	**13 57 59.8**	**-1.5**
MGRZ	**Megri**	**1.45**	**172**	⇓P	**Pn**	**13 57 42.7**	**+0.8**
MGRZ				S	**Sb**	**13 57 59.8**	**-1.5**
LERZ	**Lernakert**	**1.57**	**279**	⇑*i*P	**Pn**	**13 57 35.5**	**-8.0**
AKSZ	**Araks**	**1.61**	**265**	⇓*i*P	**Pn**	**13 57 45.1**	**+1.0**
AKSZ				⇑*i*S	**Sn**	**13 58 08.6**	**+3.3**
MTA	**Mtatsminda**	**1.62**	**327**	P	**Pn**	**13 57 45.2**	**+1.0**
MTA				S	**Sn**	**13 58 07.6**	**+2.0**
MTA	**Mtatsminda**	**1.62**	**327**	P	**Pn**	**13 57 45.2**	**+1.0**
MTA				S	**Sn**	**13 58 07.6**	**+2.0**
VNNZ	**Vanand**	**1.67**	**262**	⇓*i*P	**Pn**	**13 57 46.0**	**+1.1**
VNNZ				⇓*i*S	**Sn**	**13 58 10.4**	**+3.7**
VNNZ	**Vanand**	**1.67**	**262**	⇓P	**Pn**	**13 57 46.0**	**+1.1**
TBLG	**Delisi**	**1.68**	**326**	*i* PN	**Pn**	**13 57 46.1**	**+1.1**
TBLG	**Delisi**	**1.68**	**326**	P	**Pn**	**13 57 46.1**	**+1.2**
TBLG				S	**Sn**	**13 58 08.8**	**+1.9**
TBLG	**Delisi**	**1.68**	**326**	P	**Pn**	**13 57 46.1**	**+1.1**
TBLG				S	**Sn**	**13 58 08.8**	**+1.9**
GMRZ	**Gyumri**	**1.71**	**287**	*e*P	**Pn**	**13 57 47.0**	**+1.7**
GMRZ				⇑S	**Sn**	**13 58 09.0**	**+1.4**
IML	**Ismayilli**	**1.73**	**74**	P	**Pg**	**13 57 48.4**	**+0.3**
	SNR=12						
IML				S	**Sg**	**13 58 11.2**	**+0.6**
BAW	**Bavra**	**1.83**	**296**	*e*	**Pn**	**13 57 47.0**	**-0.1**
KMKR	**Kumukh**	**1.98**	**25**	*e*PN	**Pg**	**13 57 53.0**	**+0.3**
KMKR				*e*S	**Sg**	**13 58 21.0**	**+2.7**
KMKR				pmax	pmax		
	comp=Z,246nm,0.8s						
KMKR	**Kumukh**	**1.98**	**25**	*e*Pn	**Pg**	**13 57 53.0**	**+0.3**
	comp=Z,246nm,0.8s						
KMKR				*e*Sb	**Sg**	**13 58 21.0**	**+2.7**
PQL	**Pirkuli**	**2.04**	**76**	P	**Pn**	**13 57 51.2**	**+1.3**
	SNR=8.5						
PQL				S	**Sg**	**13 58 20.2**	**-0.1**
QUBA	**Quba, Azerbaij**	**2.15**	**61**	P	**Pg**	**13 57 55.5**	**-0.7**
	SNR=4.8						
QUBA				S	**Sg**	**13 58 21.9**	**-2.2**
GLBA	**Clilabad**	**2.16**	**120**	P	**Pg**	**13 57 54.1**	**-2.1**
	SNR=12						
GLBA				S	**Sg**	**13 58 23.6**	**-0.5**
GOR	**Gori**	**2.17**	**320**	P	**Pg**	**13 57 55.4**	**-1.0**
GOR				S	**Sg**	**13 58 23.8**	**-0.7**
GOR	**Gori**	**2.17**	**320**	P	**Pg**	**13 57 55.4**	**-1.0**
GOR				S	**Sg**	**13 58 23.8**	**-0.7**
AKH	**Akhalkalaki**	**2.17**	**300**	P	**Pg**	**13 57 55.4**	**-1.1**
AKH				S	**Sg**	**13 58 23.6**	**-0.9**
AKH	**Akhalkalaki**	**2.17**	**300**	P	**Pg**	**13 57 55.4**	**-1.1**
ALIB	**Äli-Bayra**	**2.35**	**98**	P	**Pg**	**13 57 59.3**	**-0.6**
	SNR=4.5						
ZEI	**Tsey**	**2.89**	**328**	⇓*i*PN	**Pg**	**13 58 06.0**	**-4.2**
ZEI				*e*S	**Sg**	**13 58 46.0**	**-1.6**
ZEI				pmax	pmax		
	comp=Z,92nm,0.5s						
ZEI				smax			
	comp=N,234nm,0.7s						
ZEI				smax			
	comp=E,230nm,0.7s						
ZEI	**Tsey**	**2.89**	**328**	*i* Pn	**Pg**	**13 58 06.0**	**-4.2**
	comp=E,92nm,0.5s						
ONI	**Oni**	**2.94**	**321**	P	**Pg**	**13 58 07.1**	**-4.1**
ONI				S	**Sg**	**13 58 47.2**	**-2.3**
KIV	**Kislovodsk**	**4.36**	**327**	*e*PN	**Pn**	**13 58 21.7**	**-0.2**
KIV	**Kislovodsk**	**4.36**	**327**	*e*Pn	**Pn**	**13 58 21.7**	**-0.2**
DOMR	**Dombai**	**4.39**	**314**	⇓*e*PN	**Pn**	**13 58 20.8**	**-1.5**
DOMR	**Dombai**	**4.39**	**314**	*e*Pn	**Pn**	**13 58 20.8**	**-1.5**
ARU	**Arti**	**18.09**	**23**	*e*P	**Pn**	**14 01 26.5**	**-0.3**
ARU				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARU	**Arti**	**18.09**	**23**	*e*P	**Pn**	**14 01 26.5**	**-0.3**
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**20.84**	**44**	⇑*e*P	**P**	**14 01 57.0**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BRVK	**Borovoye**	**20.84**	**44**	*e*P	**P**	**14 01 57.0**	**-0.3**
	comp=Z,1.0nm,0.6s						

MEX 13 14:01:10.9±0.6, 14.°95N×94.°69W, h22km±24km, MD4.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.61**	**62**	*i* P	Pn	14 01 35.5	-2.5
PCIG				*i* S	Sn	14 01 53.2	-4.9
CMIG	**Matias Romero**	**2.14**	**355**	*i* P	Pn	14 01 42.9	-2.3
CMIG				*i* S	Sn	14 02 07.7	-3.4
THIG		**2.34**	**91**	*e*P	Pn	14 01 45.6	-2.5
THIG				*i* S	Sn	14 02 12.3	-4.0
TGIG		**2.36**	**39**	*i* P	Pn	14 01 45.7	-2.7
TGIG				*i* S	Sn	14 02 14.6	-2.1
SCX	**San Cristobal**	**2.66**	**48**	*e*P	Pn	14 01 50.1	-2.4

SJG	**San Juan**	**1.27 173**	Pn	**Pn**	**14 53 21.8**	**-0.6**			
	157nm,0.3s,baz=357,slow=10,SNR=193								
SJG			Sn	**Sn**	**14 53 39.7**	**+0.6**			
	382nm,0.3s,baz=14,slow=15,SNR=28								
SJG	**San Juan**	**1.27 173**⇑	*eP*	**Pn**	**14 53 22.0**	**-0.4**			
SJG			*eS*	**Sb**	**14 53 39.9**	**+1.0**			
HUMP	**Col San Antoni**	**1.30 160**⇓	*eP*	**Pn**	**14 53 22.7**	**-0.3**			
HUMP	**Col San Antoni**	**1.30 160**⇓	*eP*	**Pn**	**14 53 22.7**	**-0.3**			
HUMP			*eS*	**Sb**	**14 53 40.7**	**+0.7**			
CELP	**Cerrillos**	**1.31 191**⇑	*iP*	**Pn**	**14 53 22.8**	**-0.4**			
CELP	**Cerrillos**	**1.31 191**⇑	*iP*	**Pn**	**14 53 22.8**	**-0.4**			
OBIP	**Obispado Ponce**	**1.35 192**⇓	*eP*	**Pn**	**14 53 23.1**	**-0.5**			
OBIP	**Obispado Ponce**	**1.35 192**⇓	*eP*	**Pn**	**14 53 23.1**	**-0.5**			
OBIP			*eS*	**Sb**	**14 53 40.9**	**-0.6**			
LSP	**Las Mesas**	**1.40 212**⇑	*eP*	**Pn**	**14 53 23.7**	**-0.5**			
LSP	**Las Mesas**	**1.40 212**	*eP*	**Pn**	**14 53 23.5**	**-0.8**			
MTP	**Monte Pirata**	**1.46 150**⇓	*eP*	**Pn**	**14 53 24.6**	**-0.6**			
MTP	**Monte Pirata**	**1.46 150**⇓	*eP*	**Pn**	**14 53 24.6**	**-0.6**			
MTP			*eS*	**Sn**	**14 53 44.0**	**0.0**			
ICM	**Isla Caja Muer**	**1.48 187**⇑	*eP*	**Pn**	**14 53 25.8**	**+0.3**			
ICM	**Isla Caja Muer**	**1.48 187**⇑	*eP*	**Pn**	**14 53 25.8**	**+0.3**			
ICM			*eS*	**Sn**	**14 53 45.2**	**+0.7**			
GBPR	**Guanica, Bosqu**	**1.49 201**⇑	*eP*	**Pn**	**14 53 25.9**	**+0.3**			
CRPR	**Cabo Rojo, PR**	**1.55 209**⇓	*eP*	**Pn**	**14 53 26.0**	**-0.5**			
CRPR	**Cabo Rojo, PR**	**1.55 209**⇓	*eP*	**Pn**	**14 53 26.0**	**-0.5**			
CRPR			*eS*	**Sn**	**14 53 45.2**	**-0.9**			
STVI	**Saint Thomas**	**1.64 128**⇑	*eP*	**Pn**	**14 53 27.5**	**-0.2**			
STVI	**Saint Thomas**	**1.64 128**⇑	*eP*	**Pn**	**14 53 27.5**	**-0.2**			
STVI			*eS*	**Sn**	**14 53 47.8**	**-0.7**			
TBVI	**Tortola**	**1.87 120**⇓	*eP*	**Pn**	**14 53 30.6**	**-0.2**			
TBVI			*eS*	**Sn**	**14 53 53.7**	**-0.4**			
TBVI	**Tortola**	**1.87 120**⇓	*eP*	**Pn**	**14 53 30.6**	**-0.2**			
TBVI			*eS*	**Sn**	**14 53 53.7**	**-0.4**			
ABV	**Anegada**	**1.98 108**⇑	*eP*	**Pn**	**14 53 32.0**	**-0.4**			
SMN1	**Samana, DR**	**2.80 267**⇓	*eP*	**Pn**	**14 53 41.6**	**-1.9**			
SKI	**Saint Kitts**	**3.96 120**	*eP*	**Pn**	**14 54 00.2**	**+0.7**			
SKI	**Saint Kitts**	**3.96 120**	*e*	**Pn**	**14 54 05.5**	**+6.0**			
SKI	**Saint Kitts**	**3.96 120**	*e*	**Sb**	**14 54 55.6**	**-0.9**			
SKI	**Saint Kitts**	**3.96 120**	*e*	**Sg**	**14 55 08.2**	**+1.4**			
ANWB	**Willy Bob**	**4.62 111**	*eP*	**Pn**	**14 54 07.7**	**-1.0**			
SDDR	**Presa de Saban**	**4.71 266**⇓	*eP*	**Pn**	**14 54 09.8**	**-0.1**			
SDDR	**Presa de Saban**	**4.71 266**	*eP*	**Pn**	**14 54 10.1**	**+0.2**			
BPA	**Boggy Peak**	**4.83 118**	*eP*	**Pn**	**14 54 13.7**	**+2.2**			
PHG	**Guadaloupe-2**	**5.57 126**	*eP*	**Pn**	**14 54 26.9**	**+5.2**			
MGG	**Marie-Galante**	**5.88 125**	*eP*	**Pn**	**14 54 27.6**	**+1.6**			
GTBY	**Guantanamo Bay**	**8.30 275**	P	**Pn**	**14 54 56.3**	**-2.9**			
SDV	**Santo Domingo**	**11.23 202**	*eP*	**Pn**	**14 55 41.5**	**+2.1**			
	18nm,0.8s								
BBSR	**BB Station**	**13.03 6**	*eP*	**Pn**	**14 55 58.5**	**-5.4**			
	39nm,0.6s								
ROSC	**El Rosal**	**16.41 209**	Pn	**Pn**	**14 56 52.5**	**+3.3**			
	1.4nm,0.3s,baz=81,slow=14,SNR=9.0								
ROSC	**El Rosal**	**16.41 209**	Pn	**Pn**	**14 56 52.5**	**+3.3**			
JTS	**JuntasAbangare**	**20.13 246**	*eP*	**P**	**14 57 33.0**	**+0.1**			
	20nm,0.9s								
TEIG	**Tepich**	**20.68 276**	P	**P**	**14 57 38.9**	**0.0**			
	10nm,0.7s,baz=17,slow=7.4,SNR=3.7								
TEIG			LR	LR	15 06 14.5				
	comp=Z,325nm,18.3s,MS3.7,baz=98,slow=39								
TEIG	**Tepich**	**20.68 276**	P	**P**	**14 57 38.9**	**0.0**			
TEIG			LR	LR	15 06 14.5				
TGUH	**Tegucigalpa,Un**	**20.75 258**	*eP*	**P**	**14 57 40.6**	**+0.9**			
	22nm,0.4s								
BLA	**Blacksburg**	**21.63 328**	*eP*	**P**	**14 57 47.9**	**-1.1**			
	25nm,0.5s,mb4.9								
TKL	**Tuckaleechee C**	**22.36 320**	LR	LR	15 07 24.1				
	comp=Z,146nm,19.4s,MS3.4,baz=117,slow=39								
OTAV	**Otavalo**	**22.43 213**	*eP*	**P**	**14 57 58.9**	**+1.2**			
	37nm,1.2s,mb4.7								
SPMN	**St. Paul**	**33.85 326**	⇑P	**P**	**14 59 40.7**	**-0.5**			
	baz=34								
428A	**Kincaid Ranch,**	**34.69 296**	⇑P	**P**	**14 59 48.1**	**-0.5**			
	baz=35,SNR=8.1								
328A	**Wristen Ranch,**	**34.91 297**	⇑P	**P**	**14 59 50.3**	**-0.2**			
	baz=35								
ECSD	**EROS Data Cent**	**35.11 321**	*eP*	**P**	**14 59 51.0**	**-1.1**			
	7.7nm,0.8s,mb4.7								
TXAR	**Lajitas Array**	**35.31 294**	P	**P**	**14 59 53.1**	**-0.9**			
	4.4nm,0.7s,mb4.5,baz=107,slow=8.9,SNR=47								
TXAR			LR	LR	15 18 37.6				
	comp=Z,91nm,18.8s,MS3.5,baz=0.0,slow=44								
TXAR	**Lajitas Array**	**35.31 294**	P	**P**	**14 59 53.1**	**-0.9**			
TXAR			LR	LR	15 18 37.6				
427A	**Hayter Ranch,**	**35.32 296**	⇓P	**P**	**14 59 53.9**	**-0.1**			
	baz=35								
SCHQ	**Scheffterville**	**35.40 359**	LR	LR	15 13 30.9				
	comp=Z,111nm,18.0s,MS3.7,baz=309,slow=35								
LPAZ	**La Paz**	**35.48 183**	P	**P**	**14 59 55.9**	**+0.5**			
	1.5nm,0.8s,mb4.0,baz=340,slow=3.8,SNR=4.9								
LPAZ	**La Paz**	**35.48 183**	P	**P**	**14 59 55.9**	**+0.5**			
Z27A	**Tatum**	**35.66 300**	⇑P	**P**	**14 59 56.3**	**-0.6**			
	baz=36								
626A	**Big Bend Ranch**	**35.74 294**	⇓P	**P**	**14 59 57.6**	**0.0**			
	baz=36								
Y27A	**Causey**	**35.76 301**	⇓P	**P**	**14 59 57.8**	**0.0**			
	baz=36								
526A	**Mary Lane Ranc**	**35.78 295**	⇓P	**P**	**14 59 57.3**	**-0.6**			
	baz=36,SNR=9.1								
426A	**McDonald Obser**	**35.82 296**	⇓P	**P**	**14 59 58.0**	**-0.3**			
	baz=36								
W26A	**Owens Ranch, T**	**36.55 303**	⇓P	**P**	**15 00 04.8**	**+0.3**			
	baz=36								
425A	**Indio Mountain**	**36.65 296**	⇑P	**P**	**15 00 05.0**	**-0.4**			
	baz=36,SNR=8.7								
125A	**Gardner Draw,**	**36.70 299**	⇓P	**P**	**15 00 05.5**	**-0.4**			
	baz=37								
325A	**Bean Ranch, Si**	**36.73 297**	⇑P	**P**	**15 00 05.7**	**-0.4**			
	baz=37,SNR=11								
225A	**Deer Hill, Car**	**36.74 298**	⇓P	**P**	**15 00 05.7**	**-0.4**			
	baz=37								
V26A	**Tequesquite Ra**	**36.76 304**	⇑P	**P**	**15 00 06.4**	**+0.1**			
	baz=37								
U26A	**Atchley Ranch,**	**36.90 305**	⇑P	**P**	**15 00 07.2**	**-0.2**			
	baz=37								
W25A	**X Bar L Ranch,**	**37.13 303**	⇓P	**P**	**15 00 09.8**	**+0.4**			
	baz=37								
324A	**Moseley Ranch,**	**37.17 297**	⇑P	**P**	**15 00 10.0**	**+0.1**			
	baz=37								
U25A	**Circle Dot Ran**	**37.41 305**	⇑P	**P**	**15 00 11.7**	**-0.1**			
	baz=37								
V25A	**Rancho No Teng**	**37.42 304**	⇑P	**P**	**15 00 12.6**	**+0.7**			
	baz=37								
T25A	**Trinidad**	**37.63 306**	⇑P	**P**	**15 00 14.3**	**+0.6**			
	baz=38								
S25A	**Robets Cordova**	**37.81 307**	⇑P	**P**	**15 00 15.7**	**+0.5**			
	baz=38								
W24A	**Lazy 6 Ranch,**	**37.88 303**	⇓P	**P**	**15 00 16.5**	**+0.7**			
	baz=38								
Z23A	**Rita Site, Whi**	**38.12 299**	⇓P	**P**	**15 00 18.8**	**+0.9**			
	baz=38								
P25A	**Willow Gulch B**	**38.22 310**	⇓P	**P**	**15 00 19.9**	**+1.3**			
	baz=38								
X23A	**Hourglass Bar**	**38.36 302**	⇓P	**P**	**15 00 20.7**	**+0.8**			
	baz=38								
S24A	**Houchin Ranch,**	**38.39 307**	⇑P	**P**	**15 00 20.8**	**+0.8**			
	baz=38								
R24A	**Sanders Place,**	**38.49 308**	⇓P	**P**	**15 00 21.0**	**+0.1**			
	baz=38								
SDCO	**Great Sand Dun**	**38.64 307**	⇑P	**P**	**15 00 21.5**	**-0.6**			
	baz=38,SNR=8.3								
SDCO	**Great Sand Dun**	**38.64 307**	*eP*	**P**	**15 00 21.7**	**-0.5**			
	4.8nm,0.8s,mb4.3								
ULM	**Lac du Bonnet**	**38.74 330**	LR	LR	15 17 07.1				
	comp=Z,202nm,18.4s,MS4.0,baz=130,slow=38								
V22A	**San Miguel Ran**	**39.24 303**	⇓P	**P**	**15 00 27.4**	**+0.2**			
	baz=39								
P23A	**Jefferson**	**39.39 309**	⇑P	**P**	**15 00 28.6**	**+0.2**			
	baz=39								
Y21A	**Point of Rocks**	**39.44 300**	⇑P	**P**	**15 00 29.4**	**+0.4**			
	baz=39								
T22A	**Edith**	**39.51 305**	⇑P	**P**	**15 00 29.9**	**+0.5**			
	baz=39								
S22A	**4UR Ranch, Cre**	**39.65 306**	⇑P	**P**	**15 00 31.1**	**+0.5**			
	baz=40								
U21A	**Nageezi**	**39.95 304**	⇓P	**P**	**15 00 33.3**	**+0.2**			
	baz=40,SNR=5.9								
T21A	**Navajo Lake**	**39.99 305**	⇓P	**P**	**15 00 34.3**	**+0.8**			
	baz=40								
O22A	**Kremmling**	**40.16 310**	⇓P	**P**	**15 00 35.3**	**+0.4**			
	baz=40								
S21A	**Coal Bank Pass**	**40.36 306**	⇓P	**P**	**15 00 37.0**	**+0.5**			
	baz=40								
219A	**White Tail Can**	**40.44 297**	⇑P	**P**	**15 00 37.9**	**+0.6**			
	baz=40								
H24A	**Dirks Ranch, A**	**40.56 317**	⇓P	**P**	**15 00 37.8**	**-0.2**			
	baz=40								
P21A	**Newcastle**	**40.62 309**	⇑P	**P**	**15 00 38.9**	**+0.3**			
	baz=40								
V19A	**Window Rock**	**40.89 302**	⇓P	**P**	**15 00 41.2**	**+0.3**			
	baz=41								
U19A	**Dine' College,**	**41.14 303**	⇓P	**P**	**15 00 43.3**	**+0.3**			
	baz=41								
J22A	**Midwest**	**41.27 315**	⇑P	**P**	**15 00 43.4**	**-0.5**			
	baz=41								
S19A	**Harvey Farm, M**	**41.41 305**	⇓P	**P**	**15 00 45.9**	**+0.7**			
	baz=41								
R19A	**Curley Farm, L**	**41.64 306**	⇓P	**P**	**15 00 47.8**	**+0.7**			
	baz=42								
217A	**Green Valley**	**41.73 296**	⇑P	**P**	**15 00 48.5**	**+0.6**			
	baz=42								
117A	**Oracle**	**41.76 297**	⇓P	**P**	**15 00 48.2**	**+0.1**			
	baz=42								
P19A	**Cripple Cowboy**	**41.79 308**	⇓P	**P**	**15 00 48.2**	**0.0**			
	baz=42								
T18A	**Mexican Hat**	**41.84 304**	⇓P	**P**	**15 00 48.5**	**-0.2**			
	baz=42,SNR=6.2								
J21A	**Lysite**	**41.90 314**	⇓P	**P**	**15 00 49.4**	**+0.3**			
	baz=42								
I21A	**Big Trails, Te**	**41.97 315**	⇓P	**P**	**15 00 49.9**	**+0.2**			
	baz=42								
S18A	**Hurst Farm, Bl**	**42.06 305**	⇓P	**P**	**15 00 51.1**	**+0.6**			
	baz=42								
R18A	**Canyonlands Na**	**42.15 306**	⇑P	**P**	**15 00 51.4**	**+0.2**			
	baz=42								
E22A	**Miles City**	**42.18 319**	⇓P	**P**	**15 00 51.1**	**-0.2**			
	baz=42								
V17A	**Tonalea, Kykot**	**42.27 302**	⇑P	**P**	**15 00 52.6**	**+0.4**			
	baz=42								
J20A	**Shoshoni**	**42.34 314**	⇓P	**P**	**15 00 53.3**	**+0.7**			
	baz=42								
C23A	**Lambert**	**42.35 321**	⇓P	**P**	**15 00 53.3**	**+0.7**			
	baz=42								
I20A	**Worland**	**42.58 315**	⇑P	**P**	**15 00 54.6**	**-0.1**			
	baz=42								
S17A	**Black Ridge (B**	**42.67 305**	⇑P	**P**	**15 00 55.6**	**+0.1**			
	baz=43								
WUAZ	**Wupatki**	**42.71 302**	⇑P	**P**	**15 00 56.2**	**+0.4**			
	baz=43								
L19A	**Farson**	**42.80 312**	⇑P	**P**	**15 00 57.1**	**+0.6**			
	baz=43								
J19A	**Crowheart**	**42.97 313**	⇑P	**P**	**15 00 57.8**	**0.0**			
	baz=43								
BW06	**Boulder Array**	**43.15 312**	⇑P	**P**	**15 00 59.8**	**+0.5**			
	baz=43								
PDAR	**Pinedale Array**	**43.15 312**	P	**P**	**15 00 58.9**	**-0.4**			
	2.9nm,1.1s,mb3.9,baz=123,slow=9.7,SNR=10.0								
PDAR			PcP	PcP	15 02 48.1	-0.6			
	1.1nm,0.8s,baz=117,slow=7.1,SNR=3.7								
PDAR	**Pinedale Array**	**43.15 312**	P	**P**	**15 00 58.9**	**-0.4**			
PDAR			PcP	PcP	15 02 48.1	-0.6			
PD02	**Pinedale Array**	**43.16 312**	*eP*	**P**	**15 00 58.1**	**-1.3**			
PD01	**Pinedale Array**	**43.17 312**	*eP*	**P**	**15 00 59.4**	**-0.1**			
F20A	**Billings**	**43.30 317**	⇑P	**P**	**15 01 00.3**	**-0.2**			
	baz=43								
K18A	**Toltan Ranch,**	**43.45 312**	⇓P	**P**	**15 01 02.1**	**+0.4**			
	baz=43								
E20A	**Meyer Farm, Mu**	**43.58 318**	⇑P	**P**	**15 01 02.6**	**0.0**			
	baz=44								
U15A	**North Rim**	**43.60 303**	⇓P	**P**	**15 01 03.4**	**+0.4**			
	baz=44								
J18A	**Kendall Valley**	**43.62 313**	⇓P	**P**	**15 01 03.3**	**+0.3**			
	baz=44								
I18A	**Diamond G Ranc**	**43.64 314**	⇓P	**P**	**15 01 03.3**	**0.0**			
	baz=44								
RLMT	**Red Lodge**	**43.77 316**	⇑P	**P**	**15 01 04.7**	**+0.4**			
	baz=44								
RLMT	**Red Lodge**	**43.77 316**	*eP*	**P**	**15 01 04.0**	**-0.3**			
	2.6nm,0.6s,mb4.1								
F19A	**Roth Farm, Mol**	**43.84 317**	⇓P	**P**	**15 01 05.7**	**+1.0**			
	baz=44								
E19A	**Rath Farm, Rou**	**43.97 318**	⇓P	**P**	**15 01 05.6**	**-0.3**			
	baz=44								
J17A	**Brown Place, J**	**44.14 313**	⇓P	**P**	**15 01 07.5**	**+0.3**			
	baz=44								
LOHW	**Long Hollow**	**44.15 313**	*eP*	**P**	**15 01 05.7**	**-1.6**			
	6.6nm,0.8s,mb4.4								
M16A	**Huntsville**	**44.19 310**	⇓P	**P**	**15 01 07.1**	**-0.6**			
	baz=44								
L16A	**Fish Haven**	**44.24 311**	⇑P	**P**	**15 01 08.7**	**+0.6**			
	baz=44								
MOOW	**Moose Ponds**	**44.29 313**	*eP*	**P**	**15 01 08.2**	**-0.2**			
	3.8nm,0.7s,mb4.2								
B20A	**Solberg Farm,**	**44.33 321**	⇑P	**P**	**15 01 09.7**	**+1.0**			
	baz=44								
F18A	**Big Timber**	**44.35 317**	⇑P	**P**	**15 01 09.0**	**+0.1**			
	baz=44								
A20A	**Cobblestone Ra**	**44.47 321**	⇑P	**P**	**15 01 10.5**	**+0.8**			
	baz=44								
E18A	**Harlowton**	**44.73 317**	⇑P	**P**	**15 01 12.1**	**+0.2**			
	baz=45								
DUG	**Dugway**	**44.78 308**	⇑P	**P**	**15 01 12.6**	**+0.2**			
	baz=45								
P14A	**Drum Mountains**	**44.84 307**	⇑P	**P**	**15 01 12.9**	**+0.1**			
	baz=45								
Q14A	**Sevier Lake (B**	**44.86 306**	⇓P	**P**	**15 01 13.3**	**+0.2**			
	baz=45								
B19A	**Brinkman Farms**	**44.89 320**	⇓P	**P**	**15 01 13.9**	**+0.8**			
	baz=45								
L15A	**Malad City**	**44.92 311**	⇓P	**P**	**15 01 13.4**	**-0.1**			
	baz=45								
E17A	**Martinsdale**	**45.30 317**	⇓P	**P**	**15 01 16.6**	**+0.2**			
	baz=45								
J15A	**Blackfoot**	**45.35 312**	⇑P	**P**	**15 01 17.5**	**+0.6**			
	baz=45								
B18A	**Beardsley Farm**	**45.37 320**	⇑P	**P**	**15 01 17.2**	**+0.2**			
	baz=45								
D17A	**Six Diamond Ra**	**45.44 318**	⇑P	**P**	**15 01 17.5**	**0.0**			
	baz=45,SNR=5.1								
G16A	**Moss Hill, Enn**	**45.49 315**	⇑P	**P**	**15 01 17.9**	**-0.1**			
	baz=45								
BOZ	**Bozeman (W)**	**45.51 316**	⇑P	**P**	**15 01 18.2**	**0.0**			
	baz=45								
L14A	**Malta**	**45.55 310**	⇑P	**P**	**15 01 18.7**	**+0.2**			
	baz=45								
F16A	**Kennard Place,**	**45.56 316**	⇑P	**P**	**15 01 18.9**	**+0.4**			
	baz=45								
I15A	**Monteview**	**45.56 313**	⇑P	**P**	**15 01 18.7**	**+0.1**			
	baz=45,SNR=6.0								
IRM	**Iron Mountain**	**45.60 299**	⇓P	**P**	**15 01 19.5**	**+0.4**			
	baz=46								
A18A	**Metzger Ranch,**	**45.63 321**	⇑P	**P**	**15 01 19.2**	**+0.3**			
	baz=46								
K14A	**Jones Ranch, D**	**45.63 311**	⇓P	**P**	**15 01 19.4**	**+0.2**			
	baz=46								
C17A	**Wharram Farm,**	**45.67 319**	⇑P	**P**	**15 01 19.4**	**0.0**			
	baz=46								
G15A	**Dillon**	**45.93 315**	⇓P	**P**	**15 01 21.8**	**+0.4**			
	baz=46								
D16A	**Dana Ranch, Ca**	**45.95 317**	⇑P	**P**	**15 01 21.9**	**+0.3**			
	baz=46								
DLMT	**Dillon**	**46.06 315**	*eP*	**P**	**15 01 22.8**	**+0.3**			
	8.9nm,1.1s,mb4.6								
GMRC	**Granite Mounta**	**46.09 300**	⇑P	**P**	**15 01 23.3**	**+0.5**			
	baz=46								
F15A	**Butte**	**46.15 316**	⇓P	**P**	**15 01 23.5**	**+0.3**			
	baz=46								
A17A	**Triple J Farms**	**46.15 320**	⇑P	**P**	**15 01 22.9**	**-0.3**			
	baz=46,SNR=5.3								
I14A	**Mackay**	**46.21 313**	⇓P	**P**	**15 01 23.9**	**+0.2**			
	baz=46,SNR=6.2								
CPUP	**Villa Florida**	**46.26 169**	LR	LR	15 20 27.6				
	comp=Z,179nm,21.7s,MS4.0,baz=135,slow=36								
C16A	**Fuhringer Ranc**	**46.35 318**	⇓P	**P**	**15 01 24.6**	**-0.2**			
	baz=46								
H14A	**Leadore**	**46.35 314**	⇓P	**P**	**15 01 24.9**	**+0.1**			
	baz=46,SNR=6.4								
MONP	**Monument Peak**	**46.55 297**	⇓P	**P**	**15 01 27.4**	**+0.8**			
	baz=46								
J13A	**Cove Ranch, Pi**	**46.57 312**	⇑P	**P**	**15 01 26.9**	**+0.3**			
	baz=46,SNR=6.3								
F14A	**Wisdom**	**46.72 315**	⇓P	**P**	**15 01 27.9**	**+0.3**			
	baz=47								
HLID	**Hailey**	**46.78 312**	⇓P	**P**	**15 01 28.3**	**+0.1**			
	baz=47,SNR=6.2								
H13A	**Challis**	**46.95 313**	⇓P	**P**	**15 01 28.9**	**-0.5**			
	baz=47,SNR=6.4								
D14A	**Greenough**	**47.22 317**	⇓P	**P**	**15 01 32.1**	**+0.5**			
	baz=47								
I12A	**Atlanta**	**47.34 312**	⇑P	**P**	**15 01 32.5**	**0.0**			
	baz=47,SNR=7.9								
H12A	**Diamond D Ranc**	**47.35 313**	⇓P	**P**	**15 01 32.9**	**+0.2**			
	baz=47								
E13A	**Victor**	**47.46 316**	⇓P	**P**	**15 01 33.7**	**+0.3**			
	baz=47								
SWMT	**Swartz Lake**	**47.68 317**	*eP*	**P**	**15 01 34.4**	**-0.7**			
	2.0nm,0.5s,mb4.4								
MFID	**Camas Ranch**	**47.74 312**	⇑P	**P**	**15 01 35.5**	**-0.2**			
	baz=48								
A14A	**Double T Ranch**	**47.82 319**	⇓P	**P**	**15 01 35.6**	**-0.5**			
	baz=48,SNR=5.8								
B13A	**Whitefish**	**48.26 318**	⇓P	**P**	**15 01 39.3**	**-0.3**			
	baz=48								
BSMT	**Bassoo Peak**	**48.29 318**	*eP*	**P**	**15 01 38.5**	**-1.3**			
E12A	**Beaver Dam Sad**	**48.36 315**	⇑P	**P**	**15 01 40.5**	**+0.1**			
	baz=48								
NVAR	**Mina Array Bea**	**48.64 304**	P	**P**	**15 01 42.8**	**0.0**			
	2.1nm,0.6s,mb4.4,baz=88,slow=7.0,SNR=20								
NVAR	**Mina Array Bea**	**48.64 304**	P	**P**	**15 01 42.8**	**0.0**			
J08A	**Circle Bar Ran**	**49.61 311**	⇓P	**P**	**15 01 49.8**	**-0.2**			
	baz=50								
NEW	**Newport**	**49.91 317**	⇓P	**P**	**15 01 51.5**	**-0.7**			
	baz=50,SNR=8.5								
NEW	**Newport**	**49.91 317**	*eP*	**P**	**15 01 51.0**	**-1.2**			
	7.9nm,0.6s,mb4.9								
G08A	**Pilot Rock**	**50.36 313**	⇑P	**P**	**15 01 55.2**	**-0.5**			
	baz=50								
YKA	**Yellowknife Ar**	**54.29 335**	P	**P**	**15 02 22.8**	**-1.8**			
	3.3nm,0.8s,mb4.3,baz=118,slow=7.3,SNR=3.3								
YKA	**Yellowknife Ar**	**54.29 335**	P	**P**	**15 02 22.8**	**-1.8**			
ESDC	**Sonseca Array**	**56.79 55**	P	**P**	**15 02 42.3**	**-0.6**			
	0.3nm,0.3s,mb3.8,baz=272,slow=7.1,SNR=7.9								
ESDC	**Sonseca Array**	**56.79 55**	P	**P**	**15 02 42.3**	**-0.6**			
DBIC	**Dimbokro**	**60.92 93**	P	**P**	**15 03 11.6**	**-0.5**			
	6.5nm,0.7s,mb4.9,baz=261,slow=7.8,SNR=9.3								
DBIC	**Dimbokro**	**60.92 93**	P	**P**	**15 03 11.6**	**-0.5**			
TORD	**Torodi Ar. Bea**	**65.24 84**	P	**P**	**15 03 40.0**	**-0.8**			
	2.3nm,0.8s,mb4.3,baz=287,slow=5.8,SNR=14								
TORD	**Torodi Ar. Bea**	**65.24 84**	P	**P**	**15 03 40.0**	**-0.8**			
TAM	**Tamanrasset**	**66.52 73**	*eP*	**P**	**15 03 50.0**	**+1.1**			
	4.4nm,1.0s,mb4.4								
ILAR	**Eielson Array**	**68.64 333**	P	**P**	**15 04 00.1**	**-1.5**			
	3.2nm,0.9s,mb4.2,baz=103,slow=4.5,SNR=31								
ILAR			LR	LR	15 35 38.4				
	comp=Z,228nm,19.5s,MS4.4,baz=3.4,slow=37								
ILAR	**Eielson Array**	**68.64 333**	P	**P**	**15 04 00.1**	**-1.5**			
ILAR			LR	LR	15 35 38.4				
COLA	**College**	**69.05 333**	*eP*	**P**	**15 04 02.8**	**-1.3**			
	5.1nm,0.9s,mb4.5								
TRF	**Thorofare Moun**	**70.18 332**	*eP*	**P**	**15 04 09.7**	**-1.4**			
	7.7nm,0.9s,mb4.6								
BPAW	**Bear Paw Mtn.**	**70.44 332**	*eP*	**P**	**15 04 11.2**	**-1.5**			
	6.8nm,0.9s,mb4.6								
FINES	**FINESS Array B**	**74.32 30**	P	**P**	**15 04 35.4**	**-0.5**			
	1.9nm,0.7s,mb4.1,baz=231,slow=8.8,SNR=2.2								
FINES	**FINESS Array B**	**74.32 30**	P	**P**	**15 04 35.4**	**-0.5**			
AKASG	**Malin Array Be**	**78.67 40**	P	**P**	**15 04 59.5**	**-1.3**			
	0.4nm,0.6s,mb3.6,baz=270,slow=4.7,SNR=5.3				

JANG eS Sn 15 05 34.8 -7.6
JTM Tenmabayashi 7.19 241 P Pn 15 04 21.5 -1.2
JTM eS Sn 15 05 37.9 -5.1
JOSM Okushiri--Mats 7.61 254 P Pn 15 04 28.6 +0.1
JRG Rokugo 8.31 234 P Pn 15 04 36.7 -1.5
JRG eS Sn 15 06 04.6 -6.0
PEA0B Petropavlovsk- 10.11 30 P Pn 15 05 01.5 -1.1
PETK Petropavlovsk- 10.11 30 Pn Pn 15 05 03.4 +0.8
comp=Z,0.5nm,0.3s,baz=201,slow=14,SNR=8.7
PETK Petropavlovsk- 10.11 30 Pn Pn 15 05 03.4 +0.8
PETK Petropavlovsk- 10.11 30 ePN Pn 15 05 07.0 +4.3
PETK pmax pmax
comp=Z,1.0nm,0.3s
PET Petropavlovsk 10.40 33 ePN Pn 15 05 07.6 +1.0
MAJO Matsushiro 11.68 230 ePN Pn 15 05 26.7 +2.5
KSRS Korea Array 17.63 253 P Pn 15 06 40.3 -2.0
baz=59,slow=10,SNR=2.6
KSRS LR LR 15 12 44.4
comp=Z,58nm,19.9s,baz=345,slow=34
KSRS Korea Array 17.63 253 P Pn 15 06 40.3 -2.0
KSRS MLR MLR
comp=Z,58nm,19.9s
YAK Yakutsk 20.85 334 P P 15 07 15.3 -2.4
comp=Z,26nm,0.8s
YAK e 15 07 23.4
YAK Yakutsk 20.85 334 eP P 15 07 17.0 -0.7
YAK pmax pmax
comp=Z,29nm,0.9s
YAK pmax pmax
comp=N,14nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.2s
SONM Songino Array 29.58 292 P P 15 08 40.8 +0.4
comp=E,0.4nm,0.4s,mb3.5,baz=69,slow=8.2,SNR=2.6
SONM LR LR 15 21 50.9
comp=E,42nm,18.2s,MS3.1,baz=252,slow=39
SONM Songino Array 29.58 292 P P 15 08 40.8 +0.4
SONM LR LR 15 21 50.9
SONM Songino Array 29.58 292 P P 15 08 40.8 +0.4
SONM MLR MLR
comp=Z,43nm,18.2s
LZH Lanzhou 35.30 272 eP P 15 09 32.5 +2.0
LZH pP pP 15 09 38.0 -5.1
LZH sP sP 15 09 41.3 -7.5
LZH pmax pmax
comp=Z,19nm,1.4s,mb4.8
KDAK Kodiak Island 37.50 48 P P 15 09 48.1 -0.9
comp=Z,5.5nm,0.9s,mb4.4,baz=246,slow=8.0,SNR=3.5
KDAK Kodiak Island 37.50 48 P P 15 09 48.1 -0.9
KDAK Kodiak Island 37.50 48 P P 15 09 48.1 -0.9
KDAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
COLA College 39.44 37 P P 15 10 05.3 +0.2
COLA College 39.44 37 P P 15 10 05.3 +0.1
ILAR Eielson Array 39.85 37 P P 15 10 08.3 -0.3
comp=Z,0.4nm,0.4s,mb3.5,baz=268,slow=8.8,SNR=15
ILAR Eielson Array 39.85 37 P P 15 10 08.3 -0.3
ILAR Eielson Array 39.85 37 P P 15 10 08.3 -0.3
ZALV Zalesovo Beam 41.71 307 P P 15 10 22.1 -2.0
comp=Z,0.2nm,0.3s,mb3.2,baz=74,slow=11,SNR=2.8
ZALV PcP PcP 15 12 19.9 +0.2
comp=Z,0.7nm,0.6s,baz=88,slow=3.3,SNR=4.2
ZALV Zalesovo Beam 41.71 307 P P 15 10 22.1 -2.0
ZALV PcP PcP 15 12 19.9 +0.2
ZALV Zalesovo Beam 41.71 307 P P 15 10 22.1 -2.0
ZALV 15 12 20.0
INK Inuvik 44.85 31 P P 15 10 49.5 +0.3
comp=Z,0.8nm,0.6s,mb3.7,baz=294,slow=4.3,SNR=6.0
INK Inuvik 44.85 31 P P 15 10 49.5 +0.3
INK Inuvik 44.85 31 P P 15 10 49.5 +0.3
INK pmax pmax
comp=Z,1.0nm,0.6s
MK31 Makanchi Array 45.55 298 eP P 15 10 54.8 -0.2
MK31 Makanchi Array 45.55 298 eP P 15 10 54.8 -0.3
MKAR Makanchi Array 45.55 298 P P 15 10 55.9 +0.8
comp=Z,2.0nm,0.6s,mb4.2,baz=76,slow=7.9,SNR=12
MKAR Makanchi Array 45.55 298 P P 15 10 55.9 +0.8
MKAR Makanchi Array 45.55 298 P P 15 10 55.9 +0.8
MKAR pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 49.27 255 P P 15 11 25.3 +1.1
comp=Z,0.4nm,0.9s,mb3.4,baz=44,slow=12,SNR=4.4
CMAR Chiang Mai Arr 49.27 255 P P 15 11 25.3 +1.1
CMAR Chiang Mai Arr 49.27 255 P P 15 11 25.3 +1.1
TKM2 Tokmak 2 51.53 296 P P 15 11 40.4 -0.7
TKM2 Tokmak 2 51.53 296 P P 15 11 40.4 -0.6
EKS2 Erkin-Say 52.82 296 P P 15 11 51.4 +0.7
comp=Z,2.6nm,0.9s,mb4.2
EKS2 Erkin-Say 52.82 296 P P 15 11 51.4 +0.7
EKS2 pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
RES Resolute Bay 53.67 17 P P 15 11 55.9 -0.6
comp=Z,0.7nm,0.6s,mb3.8,baz=321,slow=6.3,SNR=4.2
RES Resolute Bay 53.67 17 P P 15 11 54.3 -2.1
comp=Z,3.5nm,0.9s,mb4.3
RES Resolute Bay 53.67 17 P P 15 11 55.9 -0.5
RES pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
ABKAR Akbulak array 57.72 309 eP P 15 12 25.7 -0.1
comp=Z,1.3nm,0.5s,mb4.2
KBL Kabul 60.34 291 P P 15 12 44.2 0.0
comp=Z,5.0nm,0.8s,mb4.6
KBL Kabul 60.34 291 P P 15 12 44.3 +0.1
KBL pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
FINES FINESS Array B 64.78 334 P P 15 13 12.4 -0.9
comp=Z,2.1nm,0.7s,mb4.3,baz=44,slow=5.8,SNR=4.9
FINES FINESS Array B 64.78 334 P P 15 13 12.4 -0.9
FINES FINESS Array B 64.78 334 P P 15 13 12.5 -0.9
FINES pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 65.70 195 P P 15 13 19.5 -0.3
comp=Z,0.4nm,0.6s,mb3.6,baz=16,slow=7.1,SNR=3.9
WRA Warramunga Arr 65.70 195 P P 15 13 19.5 -0.3
WRA Warramunga Arr 65.70 195 P P 15 13 19.5 -0.2
PDAR Pinedale Array 68.14 51 P P 15 13 35.5 +0.4
comp=Z,0.3nm,0.5s,mb3.6,baz=195,slow=2.7,SNR=3.0
PDAR Pinedale Array 68.14 51 P P 15 13 35.5 +0.4
NB2 NORSAR Subarra 69.33 340 P P 15 13 41.4 -0.8
comp=Z,2.0nm,0.6s,mb4.2,baz=30,slow=6.5
NOA NORSAR Array B 69.33 340 P P 15 13 41.4 -0.8
comp=Z,1.0nm,0.5s,mb4.0,baz=30,slow=6.4,SNR=8.1
NOA NORSAR Array B 69.33 340 P P 15 13 41.4 -0.8
NOA NORSAR Array B 69.33 340 P P 15 13 41.4 -0.8
NOA pmax pmax
comp=Z,1.0nm,0.5s
ASAR Alice Springs 69.42 195 P P 15 13 43.6 +0.6
comp=Z,0.5nm,0.7s,mb3.5,baz=19,slow=4.8,SNR=9.7
ASAR Alice Springs 69.42 195 P P 15 13 43.6 +0.6
ASAR Alice Springs 69.42 195 eP P 15 13 44.0 +0.9
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ULM Lac du Bonnet 69.85 38 LR LR 15 43 09.8
comp=Z,108nm,19.0s,MS4.1,baz=337,slow=35
KIV Kislovodsk 70.32 313 eP P 15 13 49.2 +0.6
comp=Z,12nm,0.9s,mb4.8
KIV Kislovodsk 70.32 313 eP P 15 13 49.0 +0.4
KIV pmax pmax
comp=Z,13nm,1.1s,mb4.8
AKASG Malin Array Be 71.77 325 P P 15 13 57.3 0.0
comp=Z,1.7nm,0.5s,mb4.2,baz=34,slow=6.4,SNR=6.4
AKASG Malin Array Be 71.77 325 P P 15 13 57.3 0.0
AKASG Malin Array Be 71.77 325 P P 15 13 57.3 0.0
AKASG pmax pmax
comp=Z,2.0nm,0.5s
CLL Collm 77.23 334 eP P 15 14 29.0 +0.1
CLL Collm 77.23 334 eP P 15 14 29.0 +0.1
BRTR Keskin Array B 78.05 315 P P 15 14 35.0 +1.3
comp=Z,0.6nm,0.6s,mb3.7,baz=78,slow=1.4,SNR=3.8
BRTR Keskin Array B 78.05 315 P P 15 14 35.0 +1.3
BRTR Keskin Array B 78.05 315 eP P 15 14 35.6 +1.9
BRTR pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 79.13 332 P P 15 14 39.0 -0.4
comp=Z,0.6nm,0.4s,mb3.9,baz=47,slow=6.2,SNR=5.0
GERES GERESS Array B 79.13 332 P P 15 14 39.0 -0.4
GERES GERESS Array B 79.13 332 P P 15 14 39.0 -0.5
GERES pmax pmax
comp=Z,1.0nm,0.4s
TXAR Lajitas Array 80.86 58 P P 15 14 49.4 +0.2
comp=Z,0.6nm,0.6s,mb3.7,baz=304,slow=3.8,SNR=6.9
TXAR Lajitas Array 80.86 58 P P 15 14 49.4 +0.2
TXAR Lajitas Array 80.86 58 P P 15 14 49.4 +0.2
TXAR pmax pmax
comp=Z,1.0nm,0.6s

DJA ***13*** *15:10:10,55˚.94S×26˚.97W,h10km,mb5.5/11*
MOS ***13*** *15:10:10.8±1.7,56˚.12S×27˚.30W,h52km,mb5.7/15, MS4.9/19,Error ellipse: s-maj=19.2km s-min=11.4km az=96.2*
ISCJB ***13*** *15:10:14.7±0.3,55˚.96S±0˚.05×27˚.20W±0˚.08,h85km, mb5.3/50,Error ellipse: s-maj=7.2km s-min=6.4km az=20.0*
IDC ***13*** *15:10:15.8±0.7,56˚.00S×27˚.08W,h84km±5km,mb5.0/17, mb1 5.0/19,mb1mx4.9/22,mbtmp5.0/19,MS4.5/15, Ms1 4.5/15,ms1mx4.3/25,Error ellipse: s-maj=12.1km s-min=9.7km az=65.0*
NEIC ***13*** *15:10:15.9±0.2,55˚.96S×27˚.23W,mb5.5/31,MW5.6, MW5.6,Error ellipse: s-maj=9.4km s-min=7.3km az=201.0, Moment Tensor Solution. s36 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.29; $M_{\theta\theta}$1.19; $M_{\phi\phi}$ 1.10; $M_{r\theta}$-1.89; $M_{\theta\phi}$1.47; $M_{\phi r}$0.45; Best double couple: M_o3.10000×10^{17} NP1: ϕ_s74.00000°,δ63.00000°,λ-61.00000°. NP2:ϕ_d203.00000°, δ39.00000°,λ-134.00000°. Principal axes: T 2.8700, Plg13.0000°, Azm142.0000°; N 0.4900, Plg25.0000°, Azm239.0000°; P -3.3600, Plg60.0000°, Azm27.0000°;*
BJI ***13*** *15:10:15.0,56˚.00S×27˚.30W,h88km,mB5.3/21,Ms5.6/17, Ms7 5.0/16*
GCMT ***13*** *15:10:18.2±0.1,56˚.05S×26˚.93W,h74km,MW5.6, Moment Tensor Solution. s104,c204; s30,c30; Moment tensor: Scale 10^{17}Nm; M_{rr}-2.07±.03; $M_{\theta\theta}$2.07±.04; $M_{\phi\phi}$0.00±.03; $M_{r\theta}$-1.58±.03; $M_{\theta\phi}$1.35±.03; $M_{\phi r}$0.40±.03; Best double couple: M_o3.00000×10^{17} NP1:ϕ_s219.00000°, δ37.00000°,λ-132.00000°. NP2:ϕ_d87.00000°,δ63.00000°, λ-64.00000°. Principal axes: T 3.0600, Plg14.0000°, Azm158.0000°; N -0.2000, Plg23.0000°, Azm254.0000°; P -2.8500, Plg62.0000°, Azm39.0000°; Data Used: II IU IC G CN. Surface waves: sta=104, comp=209, per= 50.*

ISC 13 15:10:16.6±0.3,56.07S±0.05×27.20W±0.08,h87km, h87km±3.1km:pP-P,n556,σ1§00/110,mb5.3/50,82C-55D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
EFI	**East Falkland**	**18.63**	**271**	P	**Pn**	**15 14 23.6**	**-4.7**
	583nm,1.7s						
EFI	**East Falkland**	**18.63**	**271**	*e*P	**Pn**	**15 14 25.4**	**-2.8**
SNAA	**Sanae**	**18.73**	**156**	*i*P	**Pn**	**15 14 28.3**	**-0.9**
SNAA	**Sanae**	**18.73**	**156**	P	**Pn**	**15 14 27.6**	**-1.6**
	3.0nm,0.3s,baz=310,slow=9.6,SNR=383						
SNAA				S	**S**	**15 17 54.6**	**-1.5**
	0.3nm,0.3s,baz=345,slow=19,SNR=2.5						
SNAA				LR	LR	15 20 31.5	
	comp=Z,623nm,19.4s,baz=327,slow=33						
SNAA				ScP	ScP	15 22 19.6	+0.5
	0.4nm,0.3s,baz=318,slow=0.6,SNR=16						
SNAA	**Sanae**	**18.73**	**156**	*e*P	**Pn**	**15 14 27.6**	**-1.6**
	452nm,1.0s						
SNAA				*e*S	**S**	**15 17 54.9**	**-1.2**
SNAA	**Sanae**	**18.73**	**156**	P	**Pn**	**15 14 27.6**	**-1.6**
SNAA				S	**S**	**15 17 54.6**	**-1.5**
SNAA				pmax	pmax		
	comp=Z,3.0nm,0.3s						
SNAA				MLR	MLR		
	comp=Z,623nm,19.4s						
PMSA	**Palmer Station**	**19.88**	**229**	P	**Pn**	**15 14 42.9**	**+0.1**
	comp=Z,7.2nm,0.3s,baz=81,slow=11,SNR=19						
PMSA				S	**S**	**15 18 28.8**	**+10**
	comp=Z,0.0nm,0.3s,baz=308,slow=8.3,SNR=1.9						
PMSA				LR	LR	15 21 10.9	
	comp=Z,2μm,20.4s,baz=81,slow=33						
PMSA				ScP	ScP	15 22 20.8	-1.0
	comp=Z,0.9nm,0.3s,baz=117,slow=4.5,SNR=3.5						
PMSA	**Palmer Station**	**19.88**	**229**	*e*P	**Pn**	**15 14 42.5**	**-0.4**
	comp=Z,106nm,0.8s						
NVL	**N'lazarevskaya**	**22.25**	**147**	*c i*P	**P**	**15 15 06.6**	**+0.9**
NVL				pmax	pmax		
	comp=Z,66nm,1.4s,mb4.8						
USHA	**Ushuaia**	**23.17**	**256**	P	**P**	**15 15 15.8**	**+0.6**
	comp=Z,12nm,0.6s,mb4.4,baz=68,slow=9.0,SNR=9.5						
USHA				LR	LR	15 21 41.4	
	comp=Z,2μm,21.4s,baz=86,slow=30						
USHA	**Ushuaia**	**23.17**	**256**	P	**P**	**15 15 15.8**	**+0.6**
USHA				LR	LR	15 21 41.4	
TRQA	**Tornquist**	**29.32**	**293**	*e*P	**P**	**15 16 10.0**	**-0.8**
	comp=Z,146nm,1.6s,mb5.4						
TRQA				LR	LR		
	comp=Z,1μm,21.0s						
PLCA	**Paso Flores**	**32.00**	**280**	P	**P**	**15 16 33.5**	**-0.7**
	comp=Z,7.5nm,0.9s,mb4.4,baz=106,slow=3.8,SNR=5.9						
PLCA				PcP	PcP	15 19 22.1	0.0
	comp=Z,10nm,1.0s,baz=142,slow=4.5,SNR=5.3						
PLCA				ScP	ScP	15 22 54.7	-2.7
	comp=Z,5.2nm,0.8s,baz=118,slow=4.8,SNR=8.0						
PLCA	**Paso Flores**	**32.00**	**280**	*e*P	**P**	**15 16 31.4**	**-2.9**
	comp=Z,47nm,1.5s,mb5.0						
PLCA				LR	LR		
	comp=Z,1μm,19.0s						
PLCA	**Paso Flores**	**32.00**	**280**	P	**P**	**15 16 33.6**	**-0.6**
PLCA						15 19 22.1	
PLCA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
QSPA	**South Pole Qui**	**34.18**	**180**	P	**P**	**15 16 54.2**	**+1.4**
	comp=Z,55nm,0.6s,mb5.6,baz=203,slow=3.0,SNR=106						
QSPA				S	**S**	**15 22 07.4**	**-4.9**
	comp=Z,1.9nm,0.8s,baz=54,slow=8.7,SNR=1.7						
QSPA				ScP	ScP	15 23 03.4	-0.9
	comp=Z,12nm,0.5s,baz=351,slow=1.2,SNR=16						
QSPA				LR	LR	15 30 10.0	
	comp=Z,2μm,20.4s,baz=191,slow=35						
QSPA	**South Pole Qui**	**34.18**	**180**	*e*P	**P**	**15 16 53.5**	**+0.7**
	comp=Z,112nm,0.9s,mb5.7						
QSPA				*e*ScP	ScP	15 23 03.4	-0.9
QSPA				LR	LR		
	comp=Z,2μm,20.0s						
MAW	**Mawson**	**40.14**	**144**	P	**P**	**15 17 44.1**	**+0.8**
	comp=Z,22nm,0.8s,mb5.0,baz=234,slow=8.1,SNR=38						
MAW				ScP	ScP	15 23 26.6	-0.2
	comp=Z,7.4nm,0.9s,baz=341,slow=1.1,SNR=4.3						
MAW				LR	LR	15 32 10.0	
	comp=Z,919nm,20.2s,baz=250,slow=33						
MAW	**Mawson**	**40.14**	**144**	*i*P	**P**	**15 17 43.1**	**-0.2**
	comp=Z,125nm,2.8s,mb5.2						
MAW				*e*ScP	ScP	15 23 26.2	-0.6
MAW	**Mawson**	**40.14**	**144**	P	**P**	**15 17 44.1**	**+0.8**
MAW				pmax	pmax		
	comp=Z,22nm,0.8s						
SUR	**Sutherland**	**40.65**	**75**	*i*P	**P**	**15 17 48.7**	**+0.8**
SUR				AMB	AMB	15 17 49.7	
	comp=Z,88nm,3.2s						
SUR	**Sutherland**	**40.65**	**75**	P	**P**	**15 17 48.4**	**+0.5**
	comp=Z,96nm,1.0s,mb5.6						
SUR				LR	LR	15 31 18.1	
	comp=Z,988nm,18.0s,baz=212,slow=31						
SUR	**Sutherland**	**40.65**	**75**	*i*P	**P**	**15 17 48.7**	**+0.7**
	comp=Z,193nm,1.3s,mb5.8						
CVNA	**Calvinia**	**40.78**	**73**	*i*P	**P**	**15 17 49.8**	**+0.8**
CVNA				AMB	AMB	15 17 52.3	
	comp=Z,178nm,1.1s,mb5.8						
KOMG	**Komaggas**	**40.90**	**69**	*e*P	**P**	**15 17 50.1**	**+0.1**
KOMG				AMB	AMB	15 17 52.7	
	comp=Z,99nm,1.4s,mb5.5						
LCO	**Las Campanas**	**40.91**	**293**	*e*P	**P**	**15 17 49.1**	**-1.0**
	comp=Z,46nm,0.9s,mb5.3						
LCO				LR	LR		
	comp=Z,1μm,22.0s						
SHEL	**Horse Pasture**	**43.26**	**31**	*e*P	**P**	**15 18 08.2**	**-1.1**
	comp=Z,413nm,1.0s,mb6.1						
SHEL	**Horse Pasture**	**43.26**	**31**	*e*P	**P**	**15 18 08.2**	**-1.1**
SHEL				pmax	pmax		
	comp=Z,413nm,1.0s,mb6.1						
UPI	**Upington**	**44.03**	**72**	*i*P	**P**	**15 18 15.5**	**+0.1**
UPI				AMB	AMB	15 18 17.9	
	comp=Z,124nm,1.2s,mb5.5						
BOSA	**Boshof**	**45.98**	**76**	*e*P	**P**	**15 18 30.2**	**-0.7**
BOSA				AMB	AMB	15 18 33.4	
	comp=Z,90nm,1.9s,mb5.2						
BOSA	**Boshof**	**45.98**	**76**	P	**P**	**15 18 30.4**	**-0.5**
	comp=Z,60nm,1.1s,mb5.2,baz=213,slow=7.4,SNR=26						
BOSA				PcP	PcP	15 20 03.5	-2.7
	comp=Z,14nm,0.9s,baz=221,slow=5.9,SNR=1.6						
BOSA				LR	LR	15 34 49.1	
	comp=Z,1μm,18.2s,baz=224,slow=32						
BOSA	**Boshof**	**45.98**	**76**	*e*P	**P**	**15 18 30.3**	**-0.6**
	comp=Z,69nm,1.1s,mb5.3						
BOSA				*e*pP	pP	15 18 52.1	+0.4
BOSA				LR	LR		
	comp=Z,2μm,19.0s						
BOSA	**Boshof**	**45.98**	**76**	*e*P	**P**	**15 18 30.3**	**-0.6**
BOSA				*e**PP	pP	15 18 52.1	+0.4
BOSA				pmax	pmax		
	comp=Z,69nm,1.1s,mb5.3						
BOSA				MLR	MLR		
	comp=Z,2μm,19.0s						
SBA	**Scott Base**	**46.06**	**184**	*e*P	**P**	**15 18 31.3**	**+0.5**
	comp=Z,85nm,1.0s,mb5.4						
SBA				*e*ScP	ScP	15 23 50.5	-0.1
SBA				LR	LR		
	comp=Z,571nm,20.0s						
SBA	**Scott Base**	**46.06**	**184**	*e*P	**P**	**15 18 31.3**	**+0.4**
SBA				pmax	pmax		
	comp=Z,85nm,1.0s,mb5.4						
SBA				MLR	MLR		
	comp=Z,571nm,20.0s						
VNDA	**Vanda**	**46.55**	**183**	P	**P**	**15 18 35.5**	**+0.8**
	comp=Z,55nm,0.8s,mb5.4,baz=186,slow=6.3,SNR=194						
VNDA				ScP	ScP	15 23 51.4	-1.3
	comp=Z,7.7nm,0.9s,baz=170,slow=6.1,SNR=6.4						
VNDA				LR	LR	15 37 26.2	
	comp=Z,171nm,21.2s,baz=175,slow=35						
VNDA	**Vanda**	**46.55**	**183**	*e*P	**P**	**15 18 35.5**	**+0.8**
	comp=Z,64nm,0.8s,mb5.4						
VNDA				*e*ScP	ScP	15 23 52.5	-0.2
VNDA				LR	LR		
	comp=Z,478nm,20.0s						
VNDA	**Vanda**	**46.55**	**183**	P	**P**	**15 18 35.5**	**+0.8**
VNDA				pmax	pmax		
	comp=Z,55nm,0.8s						
VNDA				MLR	MLR		
	comp=Z,171nm,21.2s						
SEK	**Senekal**	**47.50**	**78**	*e*P	**P**	**15 18 42.3**	**-0.5**
SEK				AMB	AMB	15 18 45.6	
	comp=Z,78nm,1.6s,mb5.3						
PRYS	**Parys**	**48.45**	**76**	*i*P	**P**	**15 18 49.0**	**-1.1**
PRYS				AMB	AMB	15 18 52.5	
	comp=Z,81nm,1.5s,mb5.3						
LBTB	**Lobatse**	**49.02**	**73**	*i*P	**P**	**15 18 53.8**	**-0.6**
LBTB				AMB	AMB	15 18 56.3	
	comp=Z,121nm,1.2s,mb5.7						
LBTB	**Lobatse**	**49.02**	**73**	P	**P**	**15 18 53.1**	**-1.3**
	comp=Z,130nm,1.1s,mb5.8,baz=232,slow=10						
LBTB				LR	LR	15 37 05.0	
	comp=Z,380nm,20.8s,baz=224,slow=33						
LBTB	**Lobatse**	**49.02**	**73**	*i*P	**P**	**15 18 53.3**	**-1.1**
	comp=Z,156nm,1.1s,mb5.8						
LBTB				*e*pP	pP	15 19 15.4	0.0
LBTB				LR	LR		
	comp=Z,925nm,19.0s						
LBTB	**Lobatse**	**49.02**	**73**	*i*P	**P**	**15 18 53.3**	**-1.1**
LBTB				*e**PP	pP	15 19 15.4	0.0
LBTB				pmax	pmax		
	comp=Z,156nm,1.1s,mb5.8						
LBTB				MLR	MLR		
	comp=Z,925nm,19.0s						
ERPM	**east rand prop**	**49.40**	**77**	*i*P	**P**	**15 18 57.5**	**+0.3**
ERPM				AMB	AMB	15 19 00.3	
	comp=Z,109nm,1.3s,mb5.6						
TSUM	**Tsumeb**	**49.70**	**61**	*i*P	**P**	**15 18 59.1**	**-0.6**
TSUM	**Tsumeb**	**49.70**	**61**	*e*P	**P**	**15 18 58.4**	**-1.3**
	comp=Z,55nm,0.9s,mb5.5						
TSUM				LR	LR		
	comp=Z,609nm,22.0s						
SLR	**Silverton**	**49.90**	**76**	*e*P	**P**	**15 19 00.1**	**-1.0**
SLR				AMB	AMB	15 19 03.4	
	comp=Z,107nm,1.6s,mb5.5						
LPAZ	**La Paz**	**50.38**	**305**	P	**P**	**15 19 05.1**	**+0.3**
	comp=Z,36nm,0.6s,mb5.5,baz=122,slow=5.8,SNR=88						
LPAZ				ScP	ScP	15 24 08.0	-1.8
	comp=Z,3.7nm,0.8s,baz=139,slow=4.7,SNR=6.2						
LPAZ				LR	LR	15 39 38.5	
	comp=Z,234nm,20.4s,baz=124,slow=35						
LPAZ	**La Paz**	**50.38**	**305**	*i*P	**P**	**15 19 04.8**	**0.0**
	comp=Z,166nm,1.4s,mb5.8						
LPAZ				*e*ScP	ScP	15 24 06.5	-3.3
LPAZ				LR	LR		
	comp=Z,615nm,22.0s						
LPAZ	**La Paz**	**50.38**	**305**	P	**P**	**15 19 05.1**	**+0.3**
LPAZ				pmax	pmax		
	comp=Z,36nm,0.6s						
POGA	**Pongola**	**50.44**	**81**	*i*P	**P**	**15 19 05.2**	**0.0**
POGA				AMB	AMB	15 19 07.5	
	comp=Z,91nm,2.9s,mb5.2						
RCBR	**Riachuelo**	**50.58**	**349**	PFAKE		15 19 20.0	+14
RCBR				LR	LR		
	comp=Z,562nm,21.0s						
MOPA	**Mopani**	**53.37**	**78**	*i*P	**P**	**15 19 26.9**	**0.0**
MOPA				AMB	AMB	15 19 29.3	
	comp=Z,62nm,1.0s,mb5.6						
CASY	**Casey**	**53.89**	**160**	*e*P	**P**	**15 19 30.6**	**+0.5**
	comp=Z,44nm,1.1s,mb5.4						
CASY				*e*pP	pP	15 19 53.3	+1.8
CASY				LR	LR		
	comp=Z,1μm,20.0s						
NNA	**Nana**	**58.25**	**299**	*e*P	**P**	**15 20 01.2**	**-0.7**
	comp=Z,45nm,0.9s,mb5.5						
NNA				LR	LR		
	comp=Z,657nm,22.0s						
NNA	**Nana**	**58.25**	**299**	*e*P	**P**	**15 20 01.2**	**-0.7**
NNA				pmax	pmax		
	comp=Z,45nm,0.9s						
NNA				MLR	MLR		
	comp=Z,657nm,22.0s						
LSZ	**Lusaka**	**58.39**	**69**	*i*P	**P**	**15 20 02.2**	**-0.6**
LSZ	**Lusaka**	**58.39**	**69**	*e*P	**P**	**15 20 01.7**	**-1.2**
	comp=Z,141nm,1.2s,mb5.9						
LSZ				LR	LR		
	comp=Z,1μm,19.0s						
LSZ	**Lusaka**	**58.39**	**69**	*e*P	**P**	**15 20 01.7**	**-1.1**
LSZ				pmax	pmax		
	comp=Z,141nm,1.2s,mb5.9						
LSZ				MLR	MLR		
	comp=Z,1μm,19.0s						
ATAH	**Atahualpa**	**63.20**	**300**	P	**P**	**15 20 36.3**	**+0.9**
	comp=Z,41nm,0.8s,mb5.4,baz=163,slow=5.7,SNR=21						
DBIC	**Dimbokro**	**65.19**	**25**	*e*P	**P**	**15 20 47.1**	**-1.3**
DBIC	**Dimbokro**	**65.19**	**25**	P	**P**	**15 20 47.1**	**-1.3**
	comp=Z,36nm,0.7s,mb5.3,baz=171,slow=7.5,SNR=51						
DBIC				LR	LR	15 43 44.6	
	comp=Z,518nm,18.6s,baz=163,slow=31						
DBIC	**Dimbokro**	**65.19**	**25**	*e*P	**P**	**15 20 47.0**	**-1.4**
	comp=Z,38nm,0.6s,mb5.4						
DBIC				LR	LR		
	comp=Z,784nm,22.0s						
DBIC	**Dimbokro**	**65.19**	**25**	P	**P**	**15 20 47.1**	**-1.3**
DBIC				pmax	pmax		
	comp=Z,37nm,0.7s						
ABPO	**Ambohimpanom**	**65.76**	**88**	*e*P	**P**	**15 20 53.3**	**+1.2**
	comp=Z,56nm,1.3s,mb5.2						
ABPO				*e*pP	pP	15 21 19.1	+4.9
ABPO				LR	LR		
	comp=Z,972nm,20.0s						
ABPO	**Ambohimpanom**	**65.76**	**88**	*e*P	**P**	**15 20 53.3**	**+1.2**
ABPO				*e**PP	pP	15 21 19.1	+4.9
ABPO				pmax	pmax		
	comp=Z,56nm,1.3s,mb5.2						
ABPO				MLR	MLR		
	comp=Z,972nm,20.0s						
RER	**Riviere de l'E**	**68.82**	**97**	*e*P	**P**	**15 21 10.2**	**-1.3**
	comp=Z,48nm,0.9s,mb5.3						
RER				*e*pP	pP	15 21 34.1	+0.5
OTAV	**Otavalo**	**69.66**	**304**	*i*P	**P**	**15 21 17.1**	**+0.4**
	comp=Z,57nm,1.3s,mb5.2						
OTAV				*e*pP	pP	15 21 37.1	-1.8
OTAV				LR	LR		
	comp=Z,247nm,20.0s						
MRIV	**Mauritius Mete**	**70.48**	**97**	*e*P	**P**	**15 21 21.3**	**-0.4**
MRIV				*e*pP	pP	15 21 43.8	-0.2
ROSC	**El Rosal**	**71.91**	**310**	P	**P**	**15 21 30.1**	**-0.2**
	comp=Z,12nm,0.8s,mb4.8,baz=84,slow=21,SNR=4.9						
ROSC				LR	LR	15 51 44.8	
	comp=Z,344nm,21.8s,baz=192,slow=35						
ROSC	**El Rosal**	**71.91**	**310**	*e*P	**P**	**15 21 29.9**	**-0.

GRGR LR LR
comp=Z,376nm,20.0s
SDV Santo Domingo 74.02 315 *e*P **P** **15 21 40.9 -1.8**
comp=Z,44nm,0.9s,mb5.2
SDV *e*pP pP 15 22 03.7 -1.4
SDV LR LR
comp=Z,328nm,22.0s
BBGH Gun Hill 74.08 327 PFAKE 15 21 50.0 +7.0
BBGH LR LR
comp=Z,476nm,19.0s
PAYG Puerto Ayora 74.72 292 *e*P **P** **15 21 47.4 +0.6**
comp=Z,49nm,0.9s,mb5.2
KMBO Kilima Mbogo 75.05 69 *e*P **P** **15 21 52.4 +3.7**
KMBO Kilima Mbogo 75.05 69 *e*P **P** **15 21 51.9 +3.1**
comp=Z,34nm,1.4s,mb4.9
KMBO *e*pP pP 15 22 16.6 +5.3
KMBO LR LR
comp=Z,475nm,19.0s
KMBO Kilima Mbogo 75.05 69 *e*P **P** **15 21 51.9 +3.1**
KMBO *e**PP pP 15 22 16.6 +5.3
KMBO pmax pmax
comp=Z,34nm,1.4s
KMBO MLR MLR
comp=Z,475nm,19.0s
FDF Fort de France 76.07 326 PFAKE 15 22 00.0 +5.6
FDF LR LR
comp=Z,252nm,20.0s
BCIP Isla Barro Col 78.17 307 PFAKE 15 22 20.0 +14
BCIP LR LR
comp=Z,295nm,21.0s
ANWB Willy Bob 79.03 327 PFAKE 15 22 20.0 +9.2
ANWB LR LR
comp=Z,525nm,22.0s
RPZ Rata Peaks 79.39 193 P **P** **15 22 13.4 +0.7**
comp=Z,12nm,0.8s,mb4.8,baz=170,slow=11
RPZ Rata Peaks 79.39 193 P **P** **15 22 13.4 +0.7**
RKT Rikitea 80.46 243 *e*LR LR 15 47 40.0
comp=Z,840nm,33.2s,baz=137
HUMP Col San Antoni 80.78 323 *e*pP pP 15 22 42.6 -0.4
SJG San Juan 80.86 323 PFAKE 15 22 30.0 +9.3
SJG LR LR
comp=Z,395nm,21.0s
SNZO South Karori 81.22 197 PFAKE 15 22 30.0 +7.5
SNZO LR LR
comp=Z,577nm,20.0s
TAU Tasmania Unive 81.28 176 *e*P **P** **15 22 22.6 -0.2**
comp=Z,135nm,1.0s,mb5.7
TAU *e*pP pP 15 22 44.6 -0.9
TAU Tasmania Unive 81.28 176 *e*P **P** **15 22 22.6 -0.2**
TAU *e**PP pP 15 22 44.7 -0.9
TAU pmax pmax
comp=Z,135nm,1.0s,mb5.7
JTS JuntasAbangare 81.52 303 *e*P **P** **15 22 23.9 -0.4**
comp=Z,56nm,1.1s,mb5.3
JTS *e*pP pP 15 22 45.8 -1.3
JTS LR LR
comp=Z,315nm,19.0s
JTS JuntasAbangare 81.52 303 *e*P **P** **15 22 23.9 -0.4**
JTS *e**PP pP 15 22 45.8 -1.3
JTS pmax pmax
comp=Z,56nm,1.1s
JTS MLR MLR
comp=Z,315nm,19.0s
MSEY Mahe Island 82.06 87 P **P** **15 22 26.9 -0.3**
comp=Z,26nm,1.0s,mb5.0
MSEY LR LR
comp=Z,502nm,19.0s
MSEY Mahe Island 82.06 87 P **P** **15 22 26.9 -0.4**
MSEY pmax pmax
comp=Z,26nm,1.0s,mb5.0
MSEY MLR MLR
comp=Z,502nm,19.0s
TAM Tamanrasset 83.31 30 *e*P **P** **15 22 34.8 +1.4**
comp=Z,53nm,1.4s,mb5.2
TAM *e*pP pP 15 22 56.5 +0.1
TAM LR LR
comp=Z,447nm,19.0s
TAM Tamanrasset 83.31 30 *e*P **P** **15 22 34.8 +1.4**
TAM *e**PP pP 15 22 56.5 +0.2
TAM pmax pmax
comp=Z,53nm,1.4s,mb5.2
TAM MLR MLR
comp=Z,447nm,19.0s
SDDR Presa de Saban 83.49 318 PFAKE 15 22 40.0 +5.6
SDDR LR LR
comp=Z,487nm,22.0s
URZ Urewera 83.78 199 *e*P **P** **15 22 35.4 -0.4**
MTDJ Mount Denham 85.25 313 PFAKE 15 22 50.0 +6.7
MTDJ LR LR
comp=Z,579nm,22.0s
GTBY Guantanamo Bay 85.81 316 PFAKE 15 23 00.0 +14
GTBY LR LR
comp=Z,623nm,22.0s
TGUH Tegucigalpa,Un 85.89 303 PFAKE 15 23 00.0 +13
TGUH LR LR
comp=Z,224nm,22.0s
NWAO Narrogin (SRO) 86.31 151 PFAKE 15 23 00.0 +11
NWAO LR LR
comp=Z,285nm,20.0s
TBI Tubuai 87.06 231 *e*P **P** **15 23 00.1 +7.7**
TBI *e*LQ 15 46 59.8
comp=Z,333nm,30.5s
TBI *e*LR LR 15 50 42.6
comp=Z,1μm,30.8s,baz=156
CAN Canberra 88.91 177 PFAKE 15 23 10.0 +9.0
CAN LR LR
comp=Z,372nm,21.0s
DGAR Diego Garcia 89.27 102 PFAKE 15 23 10.0 +7.1
DGAR LR LR
comp=Z,943nm,21.0s
MDT Midelt 90.61 19 LR LR 15 59 02.9
comp=Z,351nm,18.8s,baz=171,slow=32
RTC Rabat Centre 91.37 17 PFAKE 15 23 20.0 +7.9
RTC LR LR
comp=Z,1μm,22.0s
RAO Raoul Island 91.42 205 PFAKE 15 23 20.0 +7.2
RAO LR LR
comp=Z,1μm,19.0s
TEIG Tepich 91.71 305 *e*P **P** **15 23 13.3 -0.7**
comp=Z,28nm,0.7s,mb5.6
TEIG *e*pP pP 15 23 32.3 -4.9
TEIG LR LR
comp=Z,223nm,19.0s
STKA Stephens Creek 91.88 170 P **P** **15 23 16.1 +1.2**
comp=Z,4.7nm,0.7s,mb4.8,baz=147,slow=3.9,SNR=12
STKA Stephens Creek 91.88 170 P **P** **15 23 16.1 +1.2**
STKA *e*pP pP 15 23 37.6 -0.4
STKA Stephens Creek 91.88 170 P **P** **15 23 16.1 +1.2**
STKA *e**PP pP 15 23 37.6 -0.4
PPT Papeete 92.18 234 *e*P **P** **15 23 21.1 +4.7**
PPT *e*LQ 15 49 09.3
comp=Z,957nm,28.5s
PPT *e*LR LR 15 53 07.9
comp=Z,2μm,32.0s,baz=156
RAR Rarotonga 93.22 223 PFAKE 15 23 30.0 +8.8
RAR LR LR
comp=Z,1μm,20.0s
BBSR BB Station 93.71 329 PFAKE 15 23 30.0 +7.1
BBSR LR LR
comp=Z,303nm,19.0s
SFS San Fernando 93.90 17 PFAKE 15 23 30.0 +6.3
SFS LR LR
comp=Z,1μm,22.0s
MORF Marmelete 94.35 15 *e*P **P** **15 23 27.5 +1.8**
comp=Z,65nm,1.6s,mb5.7
PVAQ Vaqueiros 94.58 15 *e*P **P** **15 23 29.1 +2.3**
comp=Z,43nm,1.6s,mb5.6
TAOE Nuku Hiva Isla 95.13 246 *e*LR LR 15 54 29.4
comp=Z,608nm,28.2s,baz=153
PBAR Barrancos 95.44 16 *e*P **P** **15 23 32.7 +2.0**
comp=Z,27nm,1.2s,mb5.5
KEST Kesra 96.60 29 LR LR 16 04 30.0
comp=Z,115nm,18.6s,baz=179,slow=34
PMRV Marv??o 96.61 15 *e*P **P** **15 23 38.8 +2.8**
comp=Z,22nm,1.8s,mb5.3
PAB San Pablo 97.21 18 PFAKE 15 23 50.0 +11
PAB LR LR
comp=Z,460nm,20.0s
ESDC Sonseca Array 97.40 18 P **P** **15 23 40.4 +0.8**
comp=Z,0.5nm,0.3s,mb4.4,baz=180,slow=4.6,SNR=4.4
ESDC Sonseca Array 97.40 18 P **P** **15 23 40.4 +0.8**
ESLA Sonseca Array 97.40 18 PFAKE 15 23 50.0 +10
ESLA LR LR
comp=Z,3μm,22.0s
MTE Manteigas 97.54 15 PFAKE 15 23 50.0 +10
MTE LR LR

comp=Z,480nm,22.0s
MBWA Marble Bar 98.14 149 PFAKE 15 23 50.0 +6.4
MBWA LR LR
comp=Z,331nm,20.0s
ASAR Alice Springs 98.97 163 P **P** **15 23 47.3 0.0**
comp=Z,2.4nm,0.7s,mb4.8,baz=193,slow=4.3,SNR=8.8
ASAR pP pP 15 24 07.8 -2.7
comp=Z,3.4nm,0.8s,baz=187,slow=4.3,SNR=4.4
ASAR PP PP 15 27 46.0 -3.2
comp=Z,1.4nm,0.8s,baz=185,slow=6.1,SNR=4.4
ASAR Alice Springs 98.97 163 P **P** **15 23 47.3 0.0**
ASAR pP pP 15 24 07.8 -2.7
ASAR PP PP 15 27 46.0 -3.2
ASAR Alice Springs 98.97 163 P **P** **15 23 47.3 0.0**
ASAR *PP pP 15 24 07.8 -2.7
ASAR 15 27 46.0
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR pmax pmax
comp=Z,3.0nm,0.8s
ASAR pmax pmax
comp=Z,1.0nm,0.8s
VSL Villasalto 100.14 28 PFAKE 15 24 00.0 +7.4
VSL LR LR
comp=Z,407nm,19.0s
BRAL Brewton 100.53 311 PFAKE 15 24 00.0 +5.7
BRAL LR LR
comp=Z,468nm,21.0s
CEL Celeste 100.85 33 PFAKE 15 24 10.0 +14
CEL LR LR
comp=Z,209nm,20.0s
GOGA Godfrey 101.15 315 PFAKE 15 24 10.0 +13
GOGA LR LR
comp=Z,518nm,22.0s
DZM Mont Dzumac 101.31 193 *e*SP SP 15 36 56.7 -4.3
comp=Z,174nm,29.9s
DZM *e*LR LR 15 57 15.4
comp=Z,969nm,24.0s
CUC Castrocucco 102.42 32 PFAKE 15 24 10.0 +7.3
CUC LR LR
comp=Z,177nm,19.0s
WRA Warramunga Arr 102.69 162 P Pdif 15 24 03.9 0.0
comp=Z,1.3nm,0.8s,baz=195,slow=4.2,SNR=6.6
WRA PP PP 15 28 15.9 -1.3
comp=Z,1.4nm,0.9s,baz=190,slow=6.0,SNR=4.0
WRA PKKPbc PKKPbc 15 40 00.4 +0.5
comp=Z,0.6nm,0.4s,baz=355,slow=2.9,SNR=21
WRA Warramunga Arr 102.69 162 P Pdif 15 24 03.9 0.0
WRA PP PP 15 28 15.9 -1.3
WRA PKKPbc PKKPbc 15 40 00.4 +0.5
WRA Warramunga Arr 102.69 162 P Pdif 15 24 03.9 0.0
WRA 15 28 16.0
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA pmax pmax
comp=Z,1.0nm,0.4s
WRAB Tennant Creek 102.70 162 PFAKE 15 24 10.0 +6.0
WRAB LR LR
comp=Z,408nm,19.0s
VBMS Vicksburg 103.05 309 PFAKE 15 24 20.0 +14
VBMS LR LR
comp=Z,335nm,20.0s
CBN Corbin 103.12 322 PFAKE 15 24 20.0 +14
CBN LR LR
comp=Z,476nm,21.0s
BLA Blacksburg 103.33 319 PFAKE 15 24 20.0 +13
BLA LR LR
comp=Z,447nm,19.0s
CPCT Cooper Cave 103.35 315 *e*Pdif Pdif 15 24 12.2 +5.3
MSVF Nonsavu 103.46 205 PFAKE 15 24 20.0 +13
MSVF LR LR
comp=Z,649nm,21.0s
SWET Sewanee 103.71 314 *e*Pdif Pdif 15 24 05.9 -2.6
AQU L'Aquila 103.90 30 PFAKE 15 24 20.0 +11
AQU LR LR
comp=Z,373nm,20.0s
CTAO Charters Tower 103.94 174 PFAKE 15 24 20.0 +11
CTAO LR LR
comp=Z,994nm,21.0s
CSS Prodhromos 104.23 48 PFAKE 15 24 20.0 +9.3
CSS LR LR
comp=Z,190nm,22.0s
PLAL Pickwick Lake 104.39 312 PFAKE 15 24 20.0 +8.6
PLAL LR LR
comp=Z,608nm,22.0s
SSB Saint Sauveur 104.46 23 PFAKE 15 24 20.0 +8.2
SSB LR LR
comp=Z,438nm,22.0s
NATX Nacogdoches 104.51 306 PFAKE 15 24 20.0 +8.0
NATX LR LR
comp=Z,211nm,20.0s
OXF Oxford 104.54 311 PFAKE 15 24 20.0 +7.9
OXF LR LR
comp=Z,525nm,21.0s
BNI Bardonecchia 104.72 24 PFAKE 15 24 20.0 +7.1
BNI LR LR
comp=Z,693nm,22.0s
VLC Villacollemand 104.78 27 PFAKE 15 24 20.0 +6.8
VLC LR LR
comp=Z,523nm,21.0s
TIR Tirane 104.91 35 PFAKE 15 24 20.0 +6.2
TIR LR LR
comp=Z,267nm,21.0s
MCWV Mont Chateau 105.29 320 *e*PP PP 15 28 42.1 +4.5
MCWV LR LR
comp=Z,622nm,20.0s
JCT Junction City 105.85 301 PFAKE 15 28 40.0 +10
JCT LR LR
comp=Z,223nm,20.0s
BINY Binghamton 106.23 324 PFAKE 15 28 40.0 +10
BINY LR LR
comp=Z,522nm,22.0s
MIAR Mount Ida 106.37 308 PFAKE 15 28 40.0 +10
MIAR LR LR
comp=Z,245nm,19.0s
TUE Stuetta 106.68 25 PFAKE 15 28 40.0 +9.5
TUE LR LR
comp=Z,354nm,20.0s
TXAR Lajitas Array 106.80 298 Pdiff Pdif 15 24 23.1 +1.0
comp=Z,0.3nm,0.8s,baz=134,slow=5.2,SNR=3.3
TXAR PKKPab PKKPab 15 40 05.8 +2.9
comp=Z,0.4nm,0.8s,baz=211,slow=1.5,SNR=4.3
TXAR Lajitas Array 106.80 298 Pdif Pdif 15 24 23.1 +1.0
TXAR PKKPab PKKPab 15 40 05.8 +2.9
TXAR Lajitas Array 106.80 298 P Pdif 15 24 23.1 +0.9
LBNH Lisbon 106.82 328 PFAKE 15 28 40.0 +9.1
LBNH LR LR
comp=Z,369nm,19.0s
ACSO Alum Creek Sta 106.93 319 PFAKE 15 28 40.0 +8.8
ACSO LR LR
comp=Z,299nm,20.0s
PKME Peaks-Kenny Pk 107.00 330 PFAKE 15 28 40.0 +8.8
PKME LR LR
comp=Z,526nm,21.0s
TRI Trieste 107.10 29 PFAKE 15 28 40.0 +8.7
TRI LR LR
comp=Z,467nm,22.0s
NCB Newcomb 107.27 326 PFAKE 15 28 40.0 +8.3
NCB LR LR
comp=Z,444nm,22.0s
ERPA Erie 107.51 322 PFAKE 15 28 40.0 +7.8
ERPA LR LR
comp=Z,495nm,20.0s
FETA Feichten 107.53 26⇑ *i*PKiKP PKiKP 15 28 26.6 -5.5
comp=Z,6.2nm,0.8s
ECH Echery 107.82 23 PFAKE 15 28 40.0 +7.4
ECH LR LR
comp=Z,323nm,20.0s
LONY Lake Ozonia 107.97 326 PFAKE 15 28 40.0 +7.0
LONY LR LR
comp=Z,385nm,20.0s
BFO Black Forest 108.19 24 PFAKE 15 28 40.0 +6.7
BFO LR LR
comp=Z,452nm,22.0s
BRTR Keskin Array B 108.44 45 PP PP 15 28 53.1 -7.7
comp=Z,1.2nm,0.9s,baz=218,slow=7.7,SNR=5.0
WMOK Wichita Mounta 108.89 304 PFAKE 15 28 50.0 +15
WMOK LR LR
comp=Z,173nm,19.0s
WLF Walferdange 108.97 22 PFAKE 15 28 50.0 +15
WLF LR LR
comp=Z,232nm,19.0s
AAM Ann Arbor 108.98 319 PFAKE 15 28 50.0 +15

AAM LR LR
comp=Z,398nm,21.0s
GERES GERESS Array B 109.98 27 PP PP 15 28 58.0 -14
comp=Z,1.9nm,0.9s,baz=193,slow=5.5,SNR=3.9
AMTX Amarillo 110.37 302 PFAKE 15 28 50.0 +12
AMTX LR LR
comp=Z,232nm,21.0s
PSZ Piszkesteto 110.85 32 PFAKE 15 28 50.0 +12
PSZ LR LR
comp=Z,279nm,19.0s
KSU1 Kansas State U 111.51 308 PFAKE 15 28 50.0 +10
KSU1 LR LR
comp=Z,363nm,20.0s
GLMI Grayling 111.52 320 PFAKE 15 28 50.0 +10
GLMI LR LR
comp=Z,378nm,19.0s
W25A X Bar L Ranch, 111.97 301⇑ P PKiKP 15 28 40.8 0.0
baz=112
JFWS Jewell Farm 112.03 315 PFAKE 15 28 50.0 +9.3
JFWS LR LR
comp=Z,451nm,22.0s
CLL Collm 112.07 26 *e*P Pdif 15 24 51.0 +5.4
CLL *e* 15 29 24.0
217A Green Valley 112.38 294⇑ P PKiKP 15 28 42.6 +0.8
baz=112
SCIA State Center 112.38 312 PFAKE 15 28 50.0 +8.6
SCIA LR LR
comp=Z,707nm,22.0s
CBKS Cedar Bluff 112.67 306 PFAKE 15 28 50.0 +7.9
CBKS LR LR
comp=Z,252nm,19.0s
ANMO Albuquerque 112.73 299 PFAKE 15 28 50.0 +7.7
ANMO LR LR
comp=Z,227nm,19.0s
ESK Eskdalemuir 112.74 15 PFAKE 15 28 50.0 +8.4
ESK LR LR
comp=Z,503nm,19.0s
TUC Tucson 112.79 294 PFAKE 15 28 50.0 +7.5
TUC LR LR
comp=Z,253nm,19.0s
U25A Circle Dot Ran 112.89 301⇓ P PKiKP 15 28 42.4 -0.2
baz=113
117A Oracle 112.97 294⇑ P PKiKP 15 28 42.1 -0.8
baz=113
KWP Kalwaria Pacla 113.22 33 PFAKE 15 28 50.0 +7.3
KWP LR LR
comp=Z,471nm,19.0s
KAPI Kappang 113.35 144 PFAKE 15 29 00.0 +16
KAPI LR LR
comp=Z,165nm,22.0s
GNI Garni 113.49 53 PFAKE 15 28 50.0 +6.4
GNI LR LR
comp=Z,196nm,21.0s
V22A San Miguel Ran 113.72 299⇓ P PKiKP 15 28 45.4 +1.2
baz=114
S25A Robets Cordova 113.92 302⇑ P PKiKP 15 28 44.9 +0.4
baz=114
ANN Anapa 114.23 45 *i* PKiKP PKiKP 15 28 43.9 -1.0
ANN pmax pmax
comp=Z,83nm,1.1s
Y16A Circle Bar Ran 114.39 295⇑ P PKiKP 15 28 45.7 +0.2
baz=114
HNR Honiara 114.47 188 PFAKE 15 29 00.0 +14
HNR LR LR
comp=Z,421nm,21.0s
SDCO Great Sand Dun 114.49 301⇓ P PKiKP 15 28 45.8 +0.2
baz=115
SDCO Great Sand Dun 114.49 301 PFAKE 15 29 00.0 +14
SDCO LR LR
comp=Z,306nm,19.0s
PMG Port Moresby 114.59 174 PFAKE 15 29 00.0 +13
PMG LR LR
comp=Z,314nm,21.0s
KULM Kulim 114.74 120 PFAKE 15 29 00.0 +13
KULM LR LR
comp=Z,440nm,22.0s
X16A Lo Mia Camp, P 114.79 295⇑ P PKiKP 15 28 46.5 +0.2
baz=115
Y15A Casa Rosa Ranc 114.88 294⇓ P PKiKP 15 28 46.6 +0.2
baz=115
S22A 4UR Ranch, Cre 115.13 301⇑ P PKiKP 15 28 46.8 -0.1
baz=115
SCHQ Schefferville 115.18 336 PFAKE 15 29 00.0 +14
SCHQ LR LR
comp=Z,587nm,22.0s
Y14A Wickenburg 115.21 294⇑ P PKPdf 15 28 47.4 +0.3
baz=115
ECSD EROS Data Cent 115.31 311 PFAKE 15 29 00.0 +13
ECSD LR LR
comp=Z,561nm,20.0s
V17A Tonalea, Kykot 115.41 296⇓ P PKPdf 15 28 47.5 +0.1
baz=116
OGNE Ogallala 115.43 306 PFAKE 15 29 00.0 +13
OGNE LR LR
comp=Z,400nm,20.0s
MVCO Mesa Verde 115.52 299 PFAKE 15 29 00.0 +12
MVCO LR LR
comp=Z,211nm,19.0s
S21A Coal Bank Pass 115.53 300⇓ P PKPdf 15 28 48.3 +0.7
baz=116
KIV Kislovodsk 115.69 49 PFAKE 15 29 00.0 +12
KIV LR LR
comp=Z,173nm,21.0s
KIV Kislovodsk 115.69 49 *i* PKIKP PKPdf 15 28 46.8 -0.9
KIV *e* 15 29 52.0
KIV *e*PS PS 15 39 34.9 +1.8
KIV *e*SS SS 15 45 48.9 +3.0
KIV pmax pmax
comp=Z,8.0nm,1.1s
KSM Kuching 115.75 131 PFAKE 15 29 00.0 +11
KSM LR LR
comp=Z,228nm,21.0s
PDMCI Parker Dam,Lak 116.08 293⇑ P PKPdf 15 28 48.9 +0.2
baz=116
U17A Shonto 116.11 297⇑ P PKPdf 15 28 49.1 +0.4
baz=116
T18A Mexican Hat 116.14 298⇑ P PKPdf 15 28 49.6 +0.8
baz=116
ISCO Idaho Springs 116.17 303 PFAKE 15 29 00.0 +11
ISCO LR LR
comp=Z,322nm,19.0s
KIEV Kiev 116.21 36 PFAKE 15 29 00.0 +12
KIEV LR LR
comp=Z,192nm,22.0s
AKASG Malin Array Be 116.22 36 PKP PKPdf 15 28 47.4 -1.1
comp=Z,1.5nm,0.6s,baz=231,slow=1.7,SNR=7.4
AKASG Malin Array Be 116.22 36 PKP PKPdf 15 28 47.4 -1.1
AKASG Malin Array Be 116.22 36 PKIKP PKPdf 15 28 47.4 -1.1
AKASG pmax pmax
comp=Z,2.0nm,0.6s
R20A Redvale 116.23 300⇑ P PKPdf 15 28 49.1 +0.2
baz=116
S19A Harvey Farm, M 116.25 299⇑ P PKPdf 15 28 49.3 +0.3
baz=116
BC3 Big Chuckawall 116.26 292⇓ P PKPdf 15 28 49.0 -0.1
baz=116
V15A Kaibab Nationa 116.26 295⇓ P PKPdf 15 28 49.2 +0.1
baz=116
Q21A Lamborn Mesa, 116.35 301⇑ P PKPdf 15 28 49.9 +0.7
baz=116
T17A Navajo Res., N 116.49 297⇓ P PKPdf 15 28 49.7 +0.3
baz=117
IRM Iron Mountain 116.50 292⇑ P PKPdf 15 28 50.0 +0.4
baz=117
W13A Hualapai Mount 116.57 294⇓ P PKPdf 15 28 50.5 +0.8
baz=117
S18A Hurst Farm, Bl 116.63 298⇑ P PKPdf 15 28 50.5 +0.8
baz=117
PV10 Paradox Valley 116.70 299 *e*PKPdf PKPdf 15 28 49.6 -0.2
EYMN Ely 116.70 317 PFAKE 15 29 00.0 +10
EYMN LR LR
comp=Z,356nm,21.0s
PFO Pinyon Flat Ob 116.75 291 PFAKE 15 29 00.0 +10
PFO LR LR
comp=Z,192nm,22.0s
U15A North Rim 116.80 296⇓ P PKPdf 15 28 50.8 +0.7
baz=117
O22A Kremmling 116.90 302⇓ P PKPdf 15 28 50.4 +0.3
baz=117
R18A Canyonlands Na 117.13 299⇓ P PKPdf 15 28 50.5 -0.2
baz=117
GMRC Granite Mounta 117.24 292⇑ P PKPdf 15 28 51.5 +0.5
baz=117
Q18A Rafter H Ranch 117.80 299⇓ P PKPdf 15 28 51.5 -0.4
baz=118
SRU San Rafael 118.00 299⇓ P PKPdf 15 28 52.0 -0.3

baz=118
SRU San Rafael 118.00 299 ePKPdf PKPdf 15 28 51.1 -1.2
SRU San Rafael 118.00 299 ePKIKP PKPdf 15 28 51.1 -1.2
O19A Miners Draw (B 118.24 301 ⇓P PKPdf 15 28 52.7 0.0
baz=118
MSU Marysvale 118.35 297 ePKPdf PKPdf 15 28 53.7 +0.7
MSU Marysvale 118.35 297 ePKIKP PKPdf 15 28 53.7 +0.7
MVU Marysvale 118.36 297 PFAKE 15 29 00.0 +7.0
MVU LR LR
comp=Z,297nm,20.0s
EDW2 Edwards Air Fo 118.53 291 ⇑P PKPdf 15 28 53.9 +0.4
baz=119,SNR=6.9
AGMN Agassiz Nation 118.69 315 PFAKE 15 29 00.0 +6.7
AGMN LR LR
comp=Z,557nm,20.0s
RSSD Black Hills 118.84 307 ePKPdf PKPdf 15 28 53.6 -0.2
RSSD Black Hills 118.84 307 ePKIKP PKPdf 15 28 53.6 -0.2
I24A Kuemmerle Ranc 118.91 306 ⇑P PKPdf 15 28 53.6 -0.2
baz=119
R13A O'Grain Ranch, 119.00 296 ⇓P PKPdf 15 28 54.4 +0.1
baz=119
MPMC Manual Prospec 119.18 292 ⇓P PKPdf 15 28 54.6 -0.1
baz=119
Q14A Sevier Lake (B 119.27 297 ⇓P PKPdf 15 28 55.0 +0.3
baz=119
ISA Isabella 119.39 291 ⇓P PKPdf 15 28 55.5 +0.4
baz=120,SNR=5.4
ISA Isabella 119.39 291 ePKPdf PKPdf 15 28 55.9 +0.8
ISA Isabella 119.39 291 ePKIKP PKPdf 15 28 55.9 +0.8
DAC Darwin (Calif) 119.40 292 PFAKE 15 29 10.0 +15
DAC LR LR
comp=Z,305nm,20.0s
J22A Midwest 119.40 305 ⇑P PKPdf 15 28 54.2 -0.6
baz=120
H24A Dirks Ranch, A 119.56 307 ⇓P PKPdf 15 28 54.8 -0.3
baz=120
CWC Cottonwood Cre 119.77 292 ⇑P PKPdf 15 28 55.0 -0.8
baz=120
J21A Lysite 119.80 304 ⇓P PKPdf 15 28 55.0 -0.6
baz=120
DUG Dugway 119.96 298 ⇑P PKPdf 15 28 55.5 -0.5
baz=120
DUG Dugway 119.96 298 ePKPdf PKPdf 15 28 55.5 -0.6
DUG LR LR
comp=Z,283nm,20.0s
DUG Dugway 119.96 298 ePKIKP PKPdf 15 28 55.5 -0.5
DUG MLR MLR
comp=Z,283nm,20.0s
I21A Big Trails, Te 120.09 304 ⇓P PKPdf 15 28 55.5 -0.6
baz=120
ULM Lac du Bonnet 120.26 316 PKP PKPdf 15 28 54.1 -2.1
comp=Z,2.7nm,0.7s,baz=224,slow=3.0,SNR=4.6
ULM Lac du Bonnet 120.26 316 PKP PKPdf 15 28 54.1 -2.1
ULM LR LR
comp=Z,657nm,22.0s
ULM Lac du Bonnet 120.26 316 PKIKP PKPdf 15 28 54.1 -2.2
ULM MLR MLR
comp=Z,657nm,22.0s
BW06 Boulder Array 120.35 302 ⇑P PKPdf 15 28 56.0 -0.7
baz=120
BW06 Boulder Array 120.35 302 PFAKE 15 29 10.0 +13
BW06 LR LR
comp=Z,390nm,22.0s
PDAR Pinedale Array 120.35 302 PKP PKPdf 15 28 54.5 -2.2
comp=Z,1.1nm,0.6s,baz=148,slow=5.3,SNR=9.2
PDAR PKKPab PKKPab 15 39 04.2 +1.2
comp=Z,0.3nm,0.7s,baz=354,slow=1.5,SNR=4.3
PDAR PKKP PKKPbc 15 39 27.1 +25
comp=Z,0.8nm,0.8s,baz=169,slow=0.8,SNR=5.7
PDAR Pinedale Array 120.35 302 PKP PKPdf 15 28 54.5 -2.2
PDAR PKKPab PKKPab 15 39 04.2 +1.2
PDAR PKKP PKKPbc 15 39 27.1 +25
HWUT Hardware Ranch 120.42 300 ePKPdf PKPdf 15 28 56.6 -0.3
HWUT LR LR
comp=Z,361nm,20.0s
L17A Cokeville 120.47 301 ⇓P PKPdf 15 28 56.0 -1.0
baz=121
TPH Tonopah 120.57 294 PFAKE 15 29 10.0 +13
TPH LR LR
comp=Z,275nm,20.0s
I20A Worland 120.58 304 ⇑P PKPdf 15 28 56.7 -0.4
baz=121
NB2 NORSAR Subarra 120.63 21 PKPdf PKPdf 15 28 55.8 -0.8
comp=Z,3.3nm,0.9s,baz=202,slow=1.9
NOA NORSAR Array B 120.63 21 PKP PKPdf 15 28 55.6 -1.0
comp=Z,3.3nm,0.7s,baz=205,slow=2.0,SNR=11
NOA pPKP pPKPdf 15 29 18.9 -1.9
comp=Z,1.7nm,0.7s,baz=205,slow=2.0,SNR=3.2
NOA NORSAR Array B 120.63 21 PKP PKPdf 15 28 55.6 -1.0
NOA pPKP pPKPdf 15 29 18.9 -1.9
NOA NORSAR Array B 120.63 21 PKIKP PKPdf 15 28 55.7 -0.9
NOA 15 29 18.9
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA pmax pmax
comp=Z,2.0nm,0.7s
M15A Larsen Ranch, 120.75 299 ⇑P PKPdf 15 28 57.5 0.0
baz=121
J18A Kendall Valley 120.91 302 ⇑P PKPdf 15 28 57.8 +0.1
baz=121
AHID Auburn Hatcher 121.08 301 PFAKE 15 29 10.0 +12
AHID LR LR
comp=Z,403nm,19.0s
L15A Malad City 121.13 300 ⇓P PKPdf 15 28 58.2 0.0
baz=121
I18A Diamond G Ranc 121.18 303 ⇑P PKPdf 15 28 58.2 0.0
baz=121
NVAR Mina Array Bea 121.40 293 PKP PKPdf 15 28 59.1 +0.3
comp=Z,1.3nm,0.5s,baz=138,slow=3.0,SNR=14
NVAR PKKPab PKKPab 15 39 00.1 +1.0
comp=Z,1.3nm,1.0s,baz=274,slow=2.0,SNR=4.7
NVAR PKKP PKKPbc 15 39 23.2 +25
comp=Z,1.2nm,0.9s,baz=304,slow=4.6,SNR=4.1
NVAR Mina Array Bea 121.40 293 PKP PKPdf 15 28 59.1 +0.3
NVAR PKKPab PKKPab 15 39 00.1 +1.0
NVAR PKKP PKKPbc 15 39 23.2 +25
G20A Bridger 121.59 305 ⇑P PKPdf 15 28 58.5 -0.5
baz=122
MOOW Moose Ponds 121.66 302 ePKPdf PKPdf 15 28 58.1 -1.1
LAO LASA Array 121.81 307 PFAKE 15 29 10.0 +11
LAO LR LR
comp=Z,516nm,20.0s
RLMT Red Lodge 122.00 304 ⇑P PKPdf 15 28 59.5 -0.2
baz=122
RLMT Red Lodge 122.00 304 PFAKE 15 29 10.0 +10
RLMT LR LR
comp=Z,468nm,22.0s
LKWY Lake 122.11 303 PFAKE 15 29 10.0 +10
LKWY LR LR
comp=Z,411nm,20.0s
CMB Columbia Colle 122.18 291 ePKPdf PKPdf 15 29 01.4 +1.0
CMB Columbia Colle 122.18 291 ePKIKP PKPdf 15 29 01.4 +1.0
C23A Lambert 122.20 309 ⇑P PKPdf 15 29 00.1 0.0
baz=122
DGMT Dagmar 122.28 310 ⇓P PKPdf 15 29 00.3 +0.1
baz=122
DGMT Dagmar 122.28 310 PFAKE 15 29 10.0 +10
DGMT LR LR
comp=Z,651nm,22.0s
KKM Kota Kinabalu 122.30 135 PFAKE 15 29 10.0 +8.6
KKM LR LR
comp=Z,324nm,20.0s
BMN Battle Mountai 122.35 295 PFAKE 15 29 10.0 +9.4
BMN LR LR
comp=Z,353nm,20.0s
OBN Obninsk 122.36 38 PFAKE 15 29 10.0 +10
OBN LR LR
comp=Z,168nm,20.0s
OBN Obninsk 122.36 38 ⇓iPKIKP PKPdf 15 28 59.9 -0.2
OBN e 15 30 40.2
OBN pmax pmax
comp=Z,22nm,1.7s
F19A Roth Farm, Mol 122.41 305 ⇓P PKPdf 15 29 00.6 0.0
baz=123
E20A Meyer Farm, Mu 122.52 306 ⇑P PKPdf 15 29 00.5 -0.2
baz=123
A24A Westby 122.54 310 ⇑P PKPdf 15 29 00.6 -0.1
baz=123
NIL Nilore 122.79 77 ePKPdf PKPdf 15 29 02.9 +1.2
NIL LR LR
comp=Z,101nm,19.0s
NIL Nilore 122.79 77 ePKIKP PKPdf 15 29 02.9 +1.2
NIL MLR MLR
comp=Z,101nm,19.0s
E19A Rath Farm, Rou 122.79 306 ⇑P PKPdf 15 29 01.3 0.0
baz=123
J13A Cove Ranch, Pi 123.04 300 ⇓P PKPdf 15 29 02.4 +0.5
baz=123
TARA Tarawa 123.08 204 PFAKE 15 29 10.0 +7.0
TARA LR LR
comp=Z,2µm,20.0s
I14A Mackay 123.09 301 ⇓P PKPdf 15 29 02.2 +0.3
baz=123,SNR=6.7
F17A Fitzpatrick Pl 123.24 304 ⇓P PKPdf 15 29 02.5 +0.4
baz=123
G16A Moss Hill, Enn 123.27 303 ⇑P PKPdf 15 29 02.7 +0.5
baz=123
HLID Hailey 123.28 300 ⇑P PKPdf 15 29 02.7 +0.4
baz=123
HLID Hailey 123.28 300 ePKPdf PKPdf 15 29 02.9 +0.6
HLID LR LR
comp=Z,324nm,21.0s
D19A Cripps Ranch, 123.36 306 ⇑P PKPdf 15 29 02.8 +0.4
baz=124
E18A Harlowton 123.39 305 ⇓P PKPdf 15 29 02.8 +0.4
baz=124
B21A Ellsworth Farm 123.47 308 ⇓P PKPdf 15 29 03.1 +0.6
baz=124
BOZ Bozeman (W) 123.50 303 ⇑P PKPdf 15 29 03.4 +0.7
baz=124
BOZ Bozeman (W) 123.50 303 PFAKE 15 29 10.0 +7.4
BOZ LR LR
comp=Z,323nm,21.0s
G15A Dillon 123.55 302 ⇓P PKPdf 15 29 03.5 +0.7
baz=124
H14A Leadore 123.56 301 ⇑P PKPdf 15 29 03.4 +0.6
baz=124
F16A Kennard Place, 123.60 303 ⇑P PKPdf 15 29 03.3 +0.5
baz=124
DLMT Dillon 123.74 302 ePKPdf PKPdf 15 29 04.0 +0.8
E17A Martinsdale 123.74 304 ⇑P PKPdf 15 29 03.9 +0.8
baz=124
D18A Linhart Farms, 123.80 306 ⇑P PKPdf 15 29 03.8 +0.7
baz=124
I12A Atlanta 123.80 299 ⇓P PKPdf 15 29 03.8 +0.5
baz=124
C19A Slack Wire Ran 123.86 306 ⇓P PKPdf 15 29 03.6 +0.3
baz=124,SNR=7.5
MFID Camas Ranch 123.86 299 ⇓P PKPdf 15 29 03.9 +0.5
baz=124
MFID Camas Ranch 123.86 299 ePKPdf PKPdf 15 29 04.5 +1.0
B20A Solberg Farm, 123.93 308 ⇑P PKPdf 15 29 04.1 +0.7
baz=124
H13A Challis 123.94 301 ⇑P PKPdf 15 29 04.0 +0.4
baz=124,SNR=5.8
SFJD Kangerlussuaq 124.00 349 ePKPdf PKPdf 15 29 01.9 -1.1
SFJD LR LR
comp=Z,533nm,22.0s
SFJD Kangerlussuaq 124.00 349 ePKIKP PKPdf 15 29 01.9 -1.0
SFJD MLR MLR
comp=Z,533nm,22.0s
LRM Limekiln Ridge 124.01 303 ePKPdf PKPdf 15 29 04.9 +1.3
F15A Butte 124.05 303 ⇓P PKPdf 15 29 04.4 +0.7
baz=124
KOLN Kolanda 124.07 90 eP PKPdf 15 29 03.1 -1.2
comp=Z,27nm,0.9s
D17A Six Diamond Ra 124.18 305 ⇓P PKPdf 15 29 03.4 -0.5
baz=124
E16A East Helena 124.18 304 ⇓P PKPdf 15 29 04.7 +0.8
baz=124
A20A Cobblestone Ra 124.21 308 ⇑P PKPdf 15 29 04.1 +0.2
baz=124,SNR=6.6
H12A Diamond D Ranc 124.22 300 ⇓P PKPdf 15 29 04.4 +0.3
baz=124,SNR=7.6
B19A Brinkman Farms 124.35 307 ⇑P PKPdf 15 29 04.0 -0.2
baz=124
HRY Holter Researc 124.38 304 ePKPdf PKPdf 15 29 04.7 +0.4
EGMT Eagleton 124.39 306 ⇑P PKPdf 15 29 04.5 +0.2
baz=125
EGMT Eagleton 124.39 306 ePKPdf PKPdf 15 29 04.2 -0.1
EGMT LR LR
comp=Z,701nm,21.0s
FINES FINESS Array B 124.41 28 PKP PKPdf 15 29 02.6 -1.2
comp=Z,12nm,0.6s,baz=187,slow=1.0,SNR=52
FINES pPKP pPKPdf 15 29 26.4 -1.6
comp=Z,6.4nm,0.6s,baz=180,slow=0.6,SNR=4.2
FINES FINESS Array B 124.41 28 PKP PKPdf 15 29 02.6 -1.2
FINES pPKP pPKPdf 15 29 26.4 -1.6
FINES FINESS Array B 124.41 28 PKIKP PKPdf 15 29 02.7 -1.2
FINES 15 29 26.4
FINES pmax pmax
comp=Z,12nm,0.6s
FINES pmax pmax
comp=Z,6.0nm,0.6s
D16A Dana Ranch, Ca 124.48 304 ⇑P PKPdf 15 29 04.8 +0.3
baz=125,SNR=6.3
C17A Wharram Farm, 124.56 305 ⇑P PKPdf 15 29 04.8 +0.2
baz=125,SNR=9.0
DANN Dangsing 124.61 90 eP PKPdf 15 29 04.6 -0.8
comp=Z,60nm,1.0s
A19A Klindworth Far 124.61 308 ⇓P PKPdf 15 29 04.6 0.0
baz=125
B18A Beardsley Farm 124.68 307 ⇓P PKPdf 15 29 05.0 +0.2
baz=125
DMN Daman 124.79 91 eP PKPdf 15 29 04.4 -1.3
comp=Z,39nm,1.1s
GKN Gorkha 124.83 91 eP PKPdf 15 29 04.3 -1.5
comp=Z,49nm,1.1s
PKI Pulchoki 124.93 92 eP PKPdf 15 29 04.7 -1.3
comp=Z,31nm,1.0s
E14A Clinton 124.94 303 ⇓P PKPdf 15 29 06.1 +0.7
baz=125
MOD Modoc 125.00 294 ePKPdf PKPdf 15 29 07.0 +1.4
KAF Kangasniemi 125.03 27 ePKIKP PKPdf 15 29 02.9 -2.1
KAF pmax pmax
comp=Z,17nm,0.7s
KKN Kakani 125.03 91 eP PKPdf 15 29 05.2 -1.0
comp=Z,36nm,1.2s
CMAR Chiang Mai Arr 125.06 111 PKP PKPdf 15 29 05.3 -1.2
comp=Z,7.3nm,1.0s,baz=237,slow=3.6,SNR=28
CMAR pPKP pPKPdf 15 29 27.9 -2.7
comp=Z,4.9nm,0.8s,baz=226,slow=3.7,SNR=5.8
CMAR Chiang Mai Arr 125.06 111 PKP PKPdf 15 29 05.3 -1.2
CMAR pPKP pPKPdf 15 29 27.9 -2.7
CMAR Chiang Mai Arr 125.06 111 PKIKP PKPdf 15 29 05.4 -1.1
CMAR 15 29 28.0
CMAR pmax pmax
comp=Z,7.0nm,1.0s
CMAR pmax pmax
comp=Z,5.0nm,0.8s
B17A L&G Farms, Che 125.07 306 ⇑P PKPdf 15 29 05.5 -0.1
baz=125,SNR=6.2
A18A Metzger Ranch, 125.10 307 ⇑P PKPdf 15 29 05.7 +0.1
baz=125
J08A Circle Bar Ran 125.14 297 ⇑P PKPdf 15 29 06.2 +0.4
baz=125
C16A Fuhringer Ranc 125.14 305 ⇑P PKPdf 15 29 05.6 -0.1
baz=125,SNR=11
WDC Whiskeytown Da 125.19 292 ePKPdf PKPdf 15 29 06.4 +0.3
WDC Whiskeytown Da 125.19 292 ePKIKP PKPdf 15 29 06.4 +0.3
CHMT Chamberlain Mo 125.19 303 ePKPdf PKPdf 15 29 05.3 -0.6
E13A Victor 125.29 302 ⇓P PKPdf 15 29 06.2 +0.1
baz=126
CHTO Chiang Mai 125.36 110 ePKPdf PKPdf 15 29 06.6 -0.4
CHTO LR LR
comp=Z,206nm,20.0s
CHTO Chiang Mai 125.36 110 ePKIKP PKPdf 15 29 06.6 -0.5
CHTO MLR MLR
comp=Z,206nm,20.0s
D14A Greenough 125.43 303 ⇓P PKPdf 15 29 06.3 0.0
baz=126
MSO Missoula 125.45 303 ⇓P PKPdf 15 29 06.4 0.0
baz=126,SNR=9.5
MSO Missoula 125.45 303 ePKPdf PKPdf 15 29 06.5 +0.1
MSO LR LR
comp=Z,151nm,22.0s
GUN Gumba 125.46 92 eP PKPdf 15 29 05.2 -1.8
comp=Z,37nm,1.0s
A17A Triple J Farms 125.50 306 ⇓P PKPdf 15 29 06.7 +0.3
baz=126,SNR=9.0
B16A M & M Farms, S 125.57 305 ⇓P PKPdf 15 29 06.5 -0.1
baz=126
BMO Blue Mountains 125.64 299 ePKPdf PKPdf 15 29 05.8 -0.9
BMO LR LR
comp=Z,320nm,20.0s
BMO Blue Mountains 125.64 299 ePKIKP PKPdf 15 29 05.9 -0.9
BMO MLR MLR
comp=Z,320nm,20.0s
SWMT Swartz Lake 125.97 303 ePKPdf PKPdf 15 29 07.5 +0.1
FFC Flin Flon 126.09 316 PFAKE 15 29 20.0 +13
FFC LR LR
comp=Z,335nm,19.0s
D12A Red Ives Fores 126.28 302 ⇑P PKPdf 15 29 07.6 -0.4
baz=126
F10A Beach Ranch, E 126.41 300 ⇑P PKPdf 15 29 07.5 -0.7
baz=127
BSMT Bassoo Peak 126.59 303 ePKPdf PKPdf 15 29 08.0 -0.5
A14A Double T Ranch 126.76 305 ⇑P PKPdf 15 29 08.7 -0.1
baz=127
G08A Pilot Rock 126.77 298 ⇑P PKPdf 15 29 09.3 +0.4
baz=127
B13A Whitefish 126.81 304 ⇑P PKPdf 15 29 08.9 0.0
baz=127
HUMO Hull Mountain 126.87 293 ePKPdf PKPdf 15 29 10.1 +0.9
JOF Joensuu 127.02 29 ePKIKP PKPdf 15 29 07.0 -1.8
JOF pmax pmax
comp=Z,9.0nm,0.5s
WALA Waterton Lakes 127.05 305 ePKPdf PKPdf 15 29 08.9 -0.5
E09A Wood Farm, Sta 127.24 300 ⇓P PKPdf 15 29 10.0 +0.2
baz=127
AKTO Aktyubinsk 127.35 53 PKIKP PKPdf 15 29 08.5 -1.4
AKTO pmax pmax
comp=Z,3.0nm,1.1s
AB31 Akbulak array 127.39 55 iPKIKP PKPdf 15 29 09.1 -0.9
AB31 pmax pmax
comp=Z,9.0nm,0.8s
ABKAR Akbulak array 127.39 55 ePKPdf PKPpre 15 29 05.4
G06A Carlson Farm, 127.56 297 ⇑P PKPdf 15 29 10.3 -0.1
baz=128
E08A Dider Farm, El 127.67 299 ⇑P PKPdf 15 29 10.3 -0.3
baz=128
HAWA Hanford 127.83 299 PFAKE 15 29 20.0 +9.1
HAWA LR LR
comp=Z,410nm,20.0s
KLMR Klimovskoe 127.84 35 ePKIKP PKPdf 15 29 07.4 -3.1
KLMR pmax pmax
comp=Z,27nm,1.2s
H04A Detroit Lake 127.95 296 ⇑P PKPdf 15 29 10.7 -0.5
baz=128
NEW Newport 127.99 302 ⇑P PKPdf 15 29 11.0 -0.1
baz=128
NEW Newport 127.99 302 ePKPdf PKPdf 15 29 09.9 -1.2
NEW Newport 127.99 302 ePKIKP PKPdf 15 29 09.9 -1.2
KK31 Karatay Array 128.23 68 iPKIKP PKPdf 15 29 11.5 -0.3
KK31 pmax pmax
comp=Z,19nm,1.0s
KKAR Karatay Array 128.23 68 ePKPdf PKPdf 15 29 11.5 -0.3
KKAR Karatay Array 128.23 68 ePKIKP PKPdf 15 29 11.5 -0.3
KSH Kashi 128.58 74 PKP PKPdf 15 29 11.9 -0.7
KSH sPKP 15 29 49.3
KSH PKS 15 32 47.3
KSH SKS SKSdf 15 36 12.8 -3.2
KSH AMB AMB
comp=Z,190nm,7.2s
KSH LR LR
comp=N,140nm,5.4s
KSH LR LR
comp=E,100nm,4.8s
KSH LR LR
comp=Z,49nm,6.4s
SUMG Summit 128.60 356 ePKPdf PKPdf 15 29 12.3 +0.7
SUMG Summit 128.60 356 ePKIKP PKPdf 15 29 12.3 +0.7
AML Almayashu 129.22 71 P PKPdf 15 29 13.9 +0.2
SNR=27
EKS2 Erkin-Say 129.63 70 P PKPdf 15 29 14.4 -0.1
SNR=26
EKS2 Erkin-Say 129.63 70 ePKPdf PKPdf 15 29 13.2 -1.3
EKS2 LR LR
comp=Z,242nm,20.0s
EKS2 Erkin-Say 129.63 70 ePKIKP PKPdf 15 29 13.2 -1.3
EKS2 MLR MLR
comp=Z,242nm,20.0s
BMW Boistfort Moun 129.72 297 ePKPdf PKPdf 15 29 09.2 -5.4
BMW Boistfort Moun 129.72 297 ePKIKP PKPdf 15 29 09.2 -5.3
LSA Lhasa 129.78 95 PFAKE 15 29 30.0 +15
LSA LR LR
comp=Z,298nm,21.0s
AAK Ala-Archa 129.99 71 P PKPdf 15 29 15.2 +0.1
SNR=19
AAK Ala-Archa 129.99 71 c iPKIKP PKPdf 15 29 15.2 0.0
KZA Kyzart 130.00 72 P PKPdf 15 29 15.4 +0.2
SNR=9.2
FRU Bishkek 130.19 70 ePKIKP PKPdf 15 29 15.0 -0.5
FRU e 15 29 25.0
KBK Karagaybulak 130.25 71 P PKPdf 15 29 15.6 0.0
SNR=5.9
JCW Jim Creek 130.26 299 ePKPdf PKPdf 15 29 17.0 +1.5
USP Ospenovka 130.43 70 P PKPdf 15 29 15.4 -0.6
SNR=7.8
TKM2 Tokmak 2 130.77 71 ePKPdf PKPdf 15 29 15.8 -0.8
TKM2 ePP PP 15 31 36.8 +2.6
TKM2 LR LR
comp=Z,182nm,21.0s
TKM2 Tokmak 2 130.77 71 ePKIKP PKPdf 15 29 15.8 -0.8
TKM2 e 15 31 36.8
TKM2 MLR MLR
comp=Z,182nm,21.0s
ARCES ARCESS Array B 130.97 22 PKP PKPdf 15 29 15.8 -0.4
comp=Z,9.9nm,0.5s,baz=182,slow=2.5,SNR=44
ARCES SKP 15 32 37.3
comp=Z,4.2nm,0.8s,baz=199,slow=2.6,SNR=4.2
ARCES ARCESS Array B 130.97 22 PKP PKPdf 15 29 15.8 -0.4
ARCES SKP 15 32 37.3
ARCES ARCESS Array B 130.97 22 PKIKP PKPdf 15 29 15.8 -0.4
ARCES pmax pmax
comp=Z,10.0nm,0.5s
ARCES pmax pmax
comp=N,4.0nm,0.9s
APA Apatity 131.22 26 ⇓iPKIKP PKPdf 15 29 17.6 +0.9
APA i 15 31 42.0
APA iPPS 15 43 24.0
APA MLR MLR
comp=Z,2µm,15.0s
ARU Arti 131.72 48 ePKPdf PKPdf 15 29 17.3 -0.7
ARU ePP PP 15 31 37.6 -2.4
ARU LR LR
comp=Z,262nm,19.0s
ARU Arti 131.72 48 iPKIKP PKPdf 15 29 17.3 -0.7
ARU 15 31 36.4
LVZ Lovozero 131.78 27 PFAKE 15 29 30.0 +12
LVZ LR LR
comp=Z,682nm,20.0s
KMI Kunming 132.53 109 PKP PKPdf 15 29 22.1 +1.6
DAG Danmarks Havn 132.69 3 iPKIKP PKPdf 15 29 18.3 -1.0
DAG i 15 29 41.2
SVE Sverdlovsk 132.85 49 ePKIKP PKPdf 15 29 20.5 +0.4
SVE pmax pmax
comp=Z,20nm,1.1s
SOKR Solikamsk 133.06 44 iPKIKP PKPdf 15 29 20.7 +0.3
SOKR pmax pmax
comp=Z,10.0nm,0.9s
SOKR MLR MLR
comp=Z,280nm,25.0s
BRVK Borovoye 134.77 57 ePKPdf PKPdf 15 29 23.6 -0.2
BRVK ePP PP 15 31 59.1 -0.5
BRVK LR LR
comp=Z,222nm,20.0s
BRVK Borovoye 134.77 57 ePKIKP PKPdf 15 29 23.7 -0.1
BRVK e 15 31 59.1
BRVK MLR MLR
comp=Z,222nm,20.0s
BVA0 Borovoye Array 134.80 58 PKIKP PKPpre 15 29 18.1
BVA0 pmax pmax
comp=Z,5.0nm,1.2s
GYA Guiyang 135.66 112 Pdif Pdif 15 26 31.0 +0.5
GYA PKP PKPdf 15 29 27.5 +1.1
GYA sPKP 15 29 57.8
GYA PP PP 15 32 10.6 +5.4
GYA PKS 15 33 01.5
GYA SKKS SKKSac 15 38 51.4 -0.4
GYA SS SS 15 50 01.8 +6.0
GYA LR LR
comp=Z,2µm,18.9s
YKA Yellowknife Ar 136.18 318 PKP PKPdf 15 29 24.4 -1.7
comp=Z,5.2nm,0.6s,baz=129,slow=2.1,SNR=14
YKA SKP 15 32 48.5
comp=Z,2.6nm,0.5s,baz=128,slow=3.9,SNR=11
YKA Yellowknife Ar 136.18 318 PKP PKPdf 15 29 24.4 -1.7
YKA SKP 15 32 48.5
YKA Yellowknife Ar 136.18 318 PKIKP PKPdf 15 29 24.4 -1.7
YKA pmax pmax
comp=Z,5.0nm,0.6s
YKA pmax pmax
comp=N,3.0nm,0.5s
MK31 Makanchi Array 136.90 71 ePKPdf PKPdf 15 29 25.8 -2.2
MK31 Makanchi Array 136.90 71 ePKIKP PKPdf 15 29 25.8 -2.2
MKAR Makanchi Array 136.90 71 PKhKP PKPpre 15 29 14.8
comp=N,0.6nm,0.7s,baz=233,slow=3.3,SNR=3.5

MKAR PKP PKPdf 15 29 26.1 -1.9
comp=N,3.2nm,0.8s,baz=266,slow=2.2,SNR=6.5
MKAR PP PP 15 32 14.6 +1.5
comp=N,2.5nm,1.0s,baz=194,slow=2.5,SNR=4.0
MKAR SKP 15 32 50.5
comp=N,1.3nm,0.6s,baz=252,slow=2.9,SNR=3.5
MKAR Makanchi Array 136.90 71 PKP PKPpre 15 29 14.8
MKAR PKP PKPdf 15 29 26.1 -1.9
MKAR PP PP 15 32 14.6 +1.5
MKAR SKP 15 32 50.5
MKAR Makanchi Array 136.90 71 *i* PKHKP PKPpre 15 29 14.8
MKAR 15 29 26.1
MKAR 15 32 14.6
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR pmax pmax
comp=Z,3.0nm,1.0s
GUMO Guam 137.17 169 PFAKE 15 29 40.0 +11
GUMO LR LR
comp=Z,596nm,19.0s
KURK Kurchatov 137.42 65 PKhKP PKPpre 15 29 18.5
comp=Z,0.4nm,0.5s,baz=231,slow=2.8,SNR=2.7
KURK PP PP 15 32 09.9 -6.3
comp=Z,1.1nm,0.9s,baz=235,slow=3.7,SNR=3.4
KURK SKPab 15 32 53.4
comp=Z,0.9nm,0.5s,baz=232,slow=3.3,SNR=5.8
KURK Kurchatov 137.42 65 PKP PKPpre 15 29 18.5
KURK *e*PKPdf PKPdf 15 29 21.8 -7.0
KURK PP PP 15 32 09.9 -6.3
KURK SKPab 15 32 53.4
KURK LR LR
comp=Z,287nm,22.0s
KURK Kurchatov 137.42 65 *i* PKHKP PKPpre 15 29 18.5
KURK pmax pmax
comp=Z,1.0nm,0.9s
CD2 Chengdu 137.66 105 PKP PKPdf 15 29 29.3 -0.6
CD2 sPKP 15 30 06.6
CD2 PP PP 15 32 22.8 +5.1
CD2 PKS 15 33 04.3
CD2 SKS SKSdf 15 36 28.0 -4.6
CD2 SKKS SKKSac 15 39 02.3 -1.2
CD2 SS SS 15 50 22.8 +3.1
CD2 AMB AMB
comp=Z,140nm,7.7s
CD2 LR LR
comp=N,320nm,6.0s
CD2 LR LR
comp=Z,220nm,7.1s
RES Resolute Bay 137.87 338 PKhKP PKPpre 15 29 23.9
comp=Z,5.1nm,1.0s,baz=122,slow=4.6,SNR=2.6
RES Resolute Bay 137.87 338 PKP PKPpre 15 29 23.9
RES *e*PKPdf PKPdf 15 29 28.7 -0.3
RES Resolute Bay 137.87 338 *i* PKIKP PKPpre 15 29 23.9
RES pmax pmax
comp=Z,5.0nm,1.0s
WMQ Urumqi 137.92 78 PKP PKPdf 15 29 31.6 +1.6
WMQ PP PP 15 32 24.6 +5.2
WMQ LR LR
comp=N,250nm,27.5s
WMQ LR LR
comp=E,170nm,33.0s
WMQ LR LR
comp=Z,250nm,35.8s
ENH Enshi 140.20 112 PFAKE 15 29 50.0 +15
ENH LR LR
comp=Z,239nm,22.0s
DLBC Dease Lake 140.32 307 *e*PKPdf PKPdf 15 29 32.7 -1.2
YHNB Yeheng 141.17 131 PFAKE 15 29 50.0 +13
YHNB LR LR
comp=Z,476nm,20.0s
LZH Lanzhou 141.61 100 *e*PKP PKPdf 15 29 33.5 -3.5
LZH PKS 15 33 06.5
GTA Gaotai 141.73 93 PKP PKPdf 15 29 32.1 -5.0
GTA SKKS SKKSac 15 39 20.1 -6.9
GTA AMB AMB
comp=Z,160nm,11.4s
GTA LR LR
comp=N,89nm,20.4s
GTA LR LR
comp=E,140nm,15.2s
GTA LR LR
comp=Z,140nm,22.3s
NVS Novosibirsk 142.06 62⇧ *i* PKHKP PKPpre 15 29 30.6
NVS *e* 15 32 42.1
NVS pmax pmax
comp=Z,34nm,1.2s
NVS pmax pmax
comp=N,11nm,1.3s
NVS pmax pmax
comp=E,7.0nm,1.3s
ZAA0 Zalesovo Array 142.39 64 *e*PKPdf PKPpre 15 29 31.6
ZAA0 *e*PP PP 15 32 45.6 -1.1
ZALV Zalesovo Beam 142.39 64 PKhKP PKPpre 15 29 31.7
comp=E,4.9nm,0.5s,baz=231,slow=3.9,SNR=27
ZALV PP PP 15 32 46.0 -0.6
comp=E,2.9nm,1.0s,baz=298,slow=3.2,SNR=5.0
ZALV SKPbc SKPbc 15 33 06.3 -1.1
comp=E,1.6nm,0.6s,baz=247,slow=3.0,SNR=3.0
ZALV Zalesovo Beam 142.39 64 PKP PKPpre 15 29 31.7
ZALV PP PP 15 32 46.0 -0.6
ZALV SKPbc SKPbc 15 33 06.3 -1.1
ZALV Zalesovo Beam 142.39 64 *i* PKHKP PKPpre 15 29 31.7
ZALV 15 32 46.0
ZALV pmax pmax
comp=Z,5.0nm,0.5s
ZALV pmax pmax
comp=Z,3.0nm,1.0s
XAN Xi'an 142.84 108 PKP PKPdf 15 29 35.1 -4.1
SKAG Skagway 143.22 306 *e*PKPdf PKPdf 15 29 38.7 -0.3
INK Inuvik 145.81 321 *e*PKPdf PKPdf 15 29 42.6 -0.6
INK Inuvik 145.81 321 *e*PKP2 PKPdf 15 29 42.7 -0.6
NJ2 Nanjing 146.34 121 *e*PKPbc PKPbc 15 29 45.8 -0.9
DAWY Dawson 146.80 312 *e*PKPdf PKPdf 15 29 45.5 +0.5
EGAK Eagle 147.75 313 *e*PKPdf PKPdf 15 29 47.5 +0.9
EGAK LR LR
comp=Z,445nm,22.0s
BMRM Bremner River 148.07 305 *e*PKPdf PKPdf 15 29 45.5 -1.7
BMRM *e*PKPbc PKPbc 15 29 50.6 0.0
MENT Mentasta 148.30 309 *e*PKPbc PKPbc 15 29 50.1 -1.0
DOT Dot Lake 148.65 310 *e*PKPbc PKPbc 15 29 50.9 -1.1
DIV Divide 148.66 305 *e*PKPbc PKPbc 15 29 51.8 -0.2
PAX Paxson 149.08 308 *e*PKPbc PKPbc 15 29 52.2 -0.9
PAX Paxson 149.08 308 *e*PKP2 PKPbc 15 29 52.2 -0.9
HHC Hu-ho-hao-te 149.25 102 *e*PKPbc PKPbc 15 29 52.6 -1.6
HHC pPKP pPKPdf 15 30 11.4 -2.6
HHC sPKP 15 30 21.8
HHC PKS 15 33 26.3
HHC PP PP 15 33 32.4 +5.1
HHC SKS SKSdf 15 36 49.9 +0.2
HHC SKKS SKKSac 15 40 12.3 +2.8
HHC SS SS 15 52 37.3 +4.3
HHC AMB AMB
comp=Z,110nm,9.2s
HHC LR LR
comp=N,170nm,19.3s
HHC LR LR
comp=E,140nm,20.1s
HHC LR LR
comp=Z,120nm,20.2s
MOY Mondy 149.74 76 *e*PKHKP PKPdf 15 29 51.0 +0.8
MOY pmax pmax
comp=Z,71nm,1.7s
SML Sawmill 150.04 306 *e*PKPbc PKPbc 15 29 54.6 -0.8
SML Sawmill 150.04 306 *e*PKIKP PKPbc 15 29 54.7 -0.8
SEW Seward 150.05 302 *e*PKPbc PKPbc 15 29 54.7 -0.9
ILAR Eielson Array 150.12 312 PKP PKPdf 15 29 47.2 -3.2
comp=Z,2.0nm,0.7s,baz=299,slow=1.4,SNR=24
ILAR PKPbc PKPbc 15 29 54.7 -0.9
comp=Z,48nm,0.8s,baz=131,slow=2.2,SNR=186
ILAR Eielson Array 150.12 312 PKP PKPdf 15 29 47.2 -3.2
ILAR PKPbc PKPbc 15 29 54.7 -0.9
ILAR Eielson Array 150.12 312 PKIKP PKPdf 15 29 47.2 -3.2
ILAR pmax pmax
comp=Z,2.0nm,0.7s
ILAR pmax pmax
comp=Z,48nm,0.8s
PMR Palmer 150.34 305 *e*P PKPbc 15 29 56.6 +0.4
PMR Palmer 150.34 305 *e*PKIKP PKPbc 15 29 56.6 +0.4
ZAK Zakamensk 150.36 80 *e*PKIKP PKPdf 15 29 50.3 -1.0
ZAK pmax pmax
comp=Z,2.0nm,1.3s
ZAK pmax pmax
comp=Z,24nm,1.0s
RC01 Rabbit Creek A 150.48 304 *e*PKPbc PKPbc 15 29 56.2 -0.3
SLKM Skilak Lake 150.54 302 *e*PKPbc PKPbc 15 29 55.9 -0.9
SLKM Skilak Lake 150.54 302 *e*PKIKP PKPbc 15 29 55.9 -0.8
COLA College 150.55 312 *e*PKPbc PKPbc 15 29 54.9 -1.7
COLA LR LR
comp=Z,469nm,19.0s
COLA College 150.55 312 *e*PKIKP PKPbc 15 29 54.9 -1.7
COLA MLR MLR
comp=Z,469nm,19.0s
SONM Songino Array 150.74 87 PKP PKPdf 15 29 50.6 -1.3
comp=Z,2.7nm,1.0s,baz=182,slow=1.1,SNR=13
SONM PKPbc PKPbc 15 29 56.9 -0.7
comp=Z,42nm,0.8s,baz=222,slow=3.2,SNR=94
SONM Songino Array 150.74 87 PKP PKPdf 15 29 50.6 -1.3
SONM PKPbc PKPbc 15 29 56.9 -0.7
SONM Songino Array 150.74 87 PKIKP PKPdf 15 29 50.6 -1.3
SONM pmax pmax
comp=Z,3.0nm,1.0s
SONM pmax pmax
comp=Z,42nm,0.8s
MCK McKinley 150.78 309 *e*PKPdf PKPdf 15 29 48.5 -3.0
MCK *e*PKPbc PKPbc 15 29 56.4 -0.8
MCK McKinley 150.78 309 *e*PKIKP PKPdf 15 29 48.5 -3.0
KDAK Kodiak Island 150.82 296 *e*PKPdf PKPbc 15 29 56.7 -0.7
KDAK LR LR
comp=Z,944nm,20.0s
KDAK Kodiak Island 150.82 296 *e*PKIKP PKPbc 15 29 56.7 -0.7
KDAK MLR MLR
comp=Z,944nm,20.0s
OHAK Old Harbor 150.98 295 *e*PKPdf PKPbc 15 29 57.2 -0.6
OHAK *e*PKPab PKPab 15 30 06.1 +0.4
ULN Ulaanbaatar 151.12 87 *e*PKPdf PKPbc 15 29 57.7 -0.8
ULN LR LR
comp=Z,205nm,20.0s
ULN Ulaanbaatar 151.12 87 *e*PKIKP PKPbc 15 29 57.7 -0.8
ULN MLR MLR
comp=Z,205nm,20.0s
ULN Ulaanbaatar 151.12 87 PKP PKPbc 15 29 57.3 -1.2
BJT Baijiatuau 151.15 108 *e*PKPbc PKPbc 15 29 58.0 -0.8
BJT LR LR
comp=Z,267nm,21.0s
BJT Baijiatuau 151.15 108 *e*PKIKP PKPbc 15 29 58.0 -0.8
BJT MLR MLR
comp=Z,267nm,21.0s
BJI Beijing 151.17 108 PKPbc PKPdf 15 29 54.8 +1.9
BJI LR LR
comp=N,130nm,25.1s
BJI LR LR
comp=E,150nm,24.9s
BJI LR LR
comp=Z,130nm,21.1s
TLY Talaya 151.20 78 *e*PKPdf PKPbc 15 29 58.4 -0.2
TLY LR LR
comp=Z,209nm,20.0s
TLY Talaya 151.20 78 *e*PKIKP PKPbc 15 29 56.9 -1.6
TLY *e*SS SS 15 53 01.1 +6.5
TLY pmax pmax
comp=Z,36nm,1.0s
TRF Thorofare Moun 151.31 308 *e*PKPdf PKPdf 15 29 49.6 -2.7
TRF *e*PKPbc PKPbc 15 29 57.8 -0.7
SPU Mount Spurr 151.59 303 *e*PKPdf PKPbc 15 29 58.2 -0.9
RSO Redoubt South 151.73 302 *e*PKPbc PKPbc 15 29 58.6 -0.9
BPAW Bear Paw Mtn. 151.74 310 *e*PKPdf PKPdf 15 29 49.8 -3.2
BPAW *e*PKPbc PKPbc 15 29 57.9 -1.5
IRK Irkutsk 151.80 77⇑ *i* PKIKP PKPbc 15 29 59.0 -0.9
IRK pmax pmax
comp=Z,44nm,1.0s
COLD Coldfoot 151.83 316 *e*PKPdf PKPdf 15 29 50.0 -3.0
COLD *e*PKPbc PKPbc 15 29 59.1 -0.4
PPLA Purkeypile 152.04 307 *e*PKPbc PKPbc 15 29 59.1 -0.9
JNU Nakatsue 152.48 137 *e*PKPbc PKPbc 15 30 01.8 -0.2
INCN Inchon 154.43 126 PFAKE 15 30 10.0 +12
INCN LR LR
comp=Z,294nm,20.0s
KSRS Korea Array 154.99 128 PKP PKPdf 15 29 57.6 -0.9
comp=Z,1.6nm,0.8s,baz=245,slow=1.4,SNR=8.0
KSRS PKPab PKPab 15 30 22.6 -0.6
comp=Z,2.3nm,0.8s,baz=214,slow=4.6,SNR=7.5
KSRS Korea Array 154.99 128 PKIKP PKPdf 15 29 57.6 -0.9
KSRS 15 30 22.6
KSRS pmax pmax
comp=Z,2.0nm,0.8s
KSRS pmax pmax
comp=Z,2.0nm,0.8s
MJAR Matsushiro Arr 158.10 147 PKP PKPdf 15 30 02.1 -0.5
comp=Z,1.4nm,0.7s,baz=142,slow=2.9,SNR=5.1
MJAR PKPab PKPab 15 30 36.0 -0.7
comp=Z,3.6nm,1.0s,baz=183,slow=4.6,SNR=4.5
MJAR Matsushiro Arr 158.10 147 PKP PKPdf 15 30 02.1 -0.5
MJAR PKPab PKPab 15 30 36.0 -0.7
MJAR Matsushiro Arr 158.10 147 PKIKP PKPdf 15 30 02.1 -0.5
MJAR 15 30 36.0
MJAR pmax pmax
comp=Z,1.0nm,0.7s
MJAR pmax pmax
comp=Z,4.0nm,1.0s
MAJO Matsushiro 158.11 147 PFAKE 15 30 10.0 +7.4
MAJO LR LR
comp=Z,417nm,22.0s
CN2 Changchun 158.70 114 *e*PKP PKPdf 15 30 02.8 -0.2
CN2 PP PP 15 34 22.1 +1.8
HIA Hailar 158.98 95 PFAKE 15 30 10.0 +6.8
HIA LR LR
comp=Z,224nm,20.0s
MDJ Mudanjiang 161.38 118 PKP PKPdf 15 30 08.1 +2.1
MDJ PP PP 15 34 37.3 +2.6
MDJ SS SS 15 54 45.1 +1.4
MDJ AMB AMB
comp=Z,42nm,4.1s
MDJ LR LR
comp=N,120nm,33.0s
MDJ LR LR
comp=E,120nm,30.9s
MDJ LR LR
comp=Z,210nm,28.9s
MDJ Mudanjiang 161.38 118 PFAKE 15 30 20.0 +14
MDJ LR LR
comp=Z,182nm,20.0s
CLNS Chul'man 164.60 76 *e*PKIKP PKPdf 15 30 03.7 -5.0
CLNS pmax pmax
comp=Z,12nm,1.1s
CLNS pmax pmax
comp=N,9.0nm,1.2s
CLNS pmax pmax
comp=E,4.0nm,1.0s
ERM Erimo 164.60 152 PFAKE 15 30 20.0 +11
ERM LR LR
comp=Z,655nm,22.0s
BILL Bilibino 166.48 338 *e*PKPdf PKPdf 15 30 06.2 -3.7
BILL *e*PKPab PKPab 15 31 10.7 -1.9
BILL LR LR
comp=Z,321nm,19.0s
BILL Bilibino 166.48 338 *e*PKIKP PKPdf 15 30 06.6 -3.3
BILL *e* 15 35 01.9
BILL pmax pmax
comp=Z,4.0nm,0.9s
YAK Yakutsk 166.74 54 PFAKE 15 30 20.0 +10
YAK LR LR
comp=Z,306nm,21.0s
YUK Yuzh-Kuril'sk 167.16 157⇑ *i* PKIKP PKPdf 15 30 09.2 -2.0
YSS Yuzh-Sakhalins 168.94 141 PFAKE 15 30 20.0 +7.7
YSS LR LR
comp=Z,93nm,19.0s
YSS Yuzh-Sakhalins 168.94 141 *e*PKIKP PKPdf 15 30 12.0 -0.3
PET Petropavlovsk 175.42 231 PFAKE 15 30 20.0 +5.0
PET LR LR
comp=Z,648nm,20.0s
PET Petropavlovsk 175.42 231 *i* PKIKP PKPdf 15 30 14.3 -0.7
PET *e* 15 35 50.0
PET *e*SS SS 15 57 07.2 +3.4
PET pmax pmax
comp=Z,100nm,17.0s
PET MLR MLR
comp=Z,500nm,18.0s
PETK Petropavlovsk- 175.88 226 PKP PKPdf 15 30 15.9 +0.8
comp=Z,10.0nm,1.1s,baz=17,slow=1.5,SNR=3.7
PETK pPKP pPKPdf 15 30 37.8 -1.6
comp=Z,9.8nm,0.9s,baz=123,slow=5.5,SNR=3.9
PETK PKPab PKPab 15 31 54.1 -0.5
comp=Z,4.8nm,1.0s,baz=127,slow=5.7,SNR=4.2
PETK Petropavlovsk- 175.88 226 PKP PKPdf 15 30 15.9 +0.8
PETK pPKP pPKPdf 15 30 37.8 -1.6
PETK PKPab PKPab 15 31 54.1 -0.5
PETK Petropavlovsk- 175.88 226 PKIKP PKPdf 15 30 15.9 +0.8
PETK 15 30 37.8
PETK 15 31 54.1
PETK pmax pmax
comp=Z,10.0nm,1.1s
PETK pmax pmax
comp=Z,10.0nm,0.9s
PETK pmax pmax
comp=Z,5.0nm,1.0s

ISCJB ***13*** *15:56:17.3±0.2, 35°.90N±0°.02×26°.29E±0°.02, h136km±3km, mb3.7/3, Error ellipse: s-maj=3.7km s-min=3.0km az=10.0*
CSEM ***13*** *15:56:18.6±0.1, 35°.91N×26°.29E, h124km±1km, ML3.2/2, Error ellipse: s-maj=2.7km s-min=2.3km az=21.0*
DDA ***13*** *15:56:18.2, 35°.93N×26°.66E, h9km±3km, Md3.2*
ATH ***13*** *15:56:18.7, 35°.98N×26°.24E, h119km±2km, ML3.2*
NEIC ***13*** *15:56:19.1±0.8, 35°.75N×26°.43E, h122km±12km, mb4.0/2, Error ellipse: s-maj=14.7km s-min=9.9km az=149.0*
IDC ***13*** *15:56:20.3±3.0, 35°.72N×26°.55E, h133km±35km, mb3.5/2, mb1 3.4/6, mb1mx3.0/26, mbtmp3.4/6, MS3.4/1, Ms1 3.4/1, ms1mx2.6/19, Error ellipse: s-maj=29.5km s-min=18.6km az=116.0*
THE ***13*** *15:56:21.1, 35°.98N×26°.24E, h126km±5km, ML3.2/2, Error ellipse: s-maj=6.0km s-min=1.2km az=146.0*
ISK ***13*** *15:56:21.6, 36°.10N×26°.36E, h89km, MD3.5*
ISC 13 15:56:18.4±0.2, 35°.90N±0°.02×26°.29E±0°.02, h129km±3km, n183, σ1=05/228, mb3.7/3, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.79**	**116**	*e*P	**Pn**	**15 56 40.5**	**+1.1**
KARP				*e*S	**Sn**	**15 56 55.3**	**-0.1**
KARP	**Karpathos**	**0.79**	**116**	P	**Pn**	**15 56 40.4**	**+1.0**
KARP				S	**Sn**	**15 56 55.2**	**-0.2**
KARP	**Karpathos**	**0.79**	**116**	P	**Pn**	**15 56 40.4**	**+1.0**
KARP				S	**Sn**	**15 56 55.2**	**-0.2**
THR1	**Thera Island**	**0.82**	**305**	P	**Pn**	**15 56 39.4**	**-0.2**
THR1				S	**Sn**	**15 56 43.2**	**-13**
THR1	**Thera Island**	**0.82**	**305**	P	**Pn**	**15 56 39.4**	**-0.2**
NPS	**Neapolis**	**0.84**	**221**	*e*P	**Pn**	**15 56 40.5**	**+0.6**
NPS				*e*S	**Sn**	**15 56 55.2**	**-0.9**
NPS	**Neapolis**	**0.84**	**221**	P	**Pn**	**15 56 40.3**	**+0.4**
NPS				S	**Sn**	**15 56 55.1**	**-1.0**
NPS	**Neapolis**	**0.84**	**221**	P	**Pn**	**15 56 40.3**	**+0.4**
NPS				*e*S	**Sn**	**15 56 55.2**	**-0.9**
THR2	**Thira island,**	**0.88**	**309**	P	**Pn**	**15 56 40.2**	**0.0**
THR2	**Thira island,**	**0.88**	**309**	P	**Pn**	**15 56 40.2**	**0.0**
THR3	**Thira Island,**	**0.88**	**306**	P	**Pn**	**15 56 40.0**	**-0.2**
THR3	**Thira Island,**	**0.88**	**306**	P	**Pn**	**15 56 40.0**	**-0.2**
LAST	**Lasithi**	**0.99**	**222**	*e*P	**Pn**	**15 56 42.0**	**+0.8**
LAST				*e*S	**Sn**	**15 56 57.8**	**-0.6**
LAST	**Lasithi**	**0.99**	**222**	*e*P	**Pn**	**15 56 42.0**	**+0.8**
LAST				*e*S	**Sn**	**15 56 57.8**	**-0.6**
NIS1	**Nisyros Isl.**	**1.00**	**46**	P	**Pn**	**15 56 41.6**	**+0.3**
NIS1				S	**Sn**	**15 56 56.5**	**-2.2**
NIS1	**Nisyros Isl.**	**1.00**	**46**	P	**Pn**	**15 56 41.6**	**+0.3**
NIS1				S	**Sn**	**15 56 56.5**	**-2.2**
APE	**Apeiranthos**	**1.32**	**333**	*e*PN	**Pn**	**15 56 44.0**	**-0.4**
APE				*e*SN	**Sn**	**15 57 01.2**	**-3.1**
APE	**Apeiranthos**	**1.32**	**333**	*e*P	**Pn**	**15 56 44.2**	**-0.2**
APE				*e*S	**Sn**	**15 57 02.2**	**-2.1**
APE	**Apeiranthos**	**1.32**	**333**	*e*P	**Pn**	**15 56 44.2**	**-0.2**
APE				*e*Sn	**Sn**	**15 57 01.2**	**-3.1**
APE				*e*S	**Sn**	**15 57 02.2**	**-2.1**
DAT	**Datca**	**1.33**	**51**	*e*PN	**Pn**	**15 56 44.6**	**+0.1**
DAT				*e*SN	**Sn**	**15 57 00.5**	**-4.0**
DAT	**Datca**	**1.33**	**51**	*e*Pn	**Pn**	**15 56 44.6**	**0.0**
DAT				*e*Sn	**Sn**	**15 57 00.5**	**-4.0**
BODT	**Bodrum**	**1.42**	**35**	*e*PN	**Pn**	**15 56 44.6**	**-1.0**
BODT	**Bodrum**	**1.42**	**35**	*e*Pn	**Pn**	**15 56 44.6**	**-1.0**
SIVA	**Sivas**	**1.49**	**234**	P	**Pn**	**15 56 48.1**	**+1.7**
SIVA				S	**Sn**	**15 57 09.3**	**+1.6**
SIVA	**Sivas**	**1.49**	**234**	P	**Pn**	**15 56 48.1**	**+1.7**
SIVA				S	**Sn**	**15 57 09.3**	**+1.6**
ARG	**Arkhangelos**	**1.52**	**78**	*e*P	**Pn**	**15 56 47.9**	**+1.2**
ARG				*e*S	**Sn**	**15 57 07.9**	**-0.4**
ARG	**Arkhangelos**	**1.52**	**78**	P	**Pn**	**15 56 47.9**	**+1.2**
ARG				S	**Sn**	**15 57 08.0**	**-0.3**
ARG	**Arkhangelos**	**1.52**	**78**	P	**Pn**	**15 56 47.9**	**+1.2**
ARG				S	**Sn**	**15 57 08.0**	**-0.3**
VAM	**Vamos**	**1.77**	**254**	*e*P	**Pn**	**15 56 49.6**	**0.0**
VAM	**Vamos**	**1.77**	**254**	P	**Pn**	**15 56 49.7**	**+0.1**
VAM	**Vamos**	**1.77**	**254**	P	**Pn**	**15 56 49.7**	**+0.1**
MLSB	**Milas**	**1.84**	**40**	*e*PN	**Pn**	**15 56 50.2**	**-0.1**
MLSB	**Milas**	**1.84**	**40**	*e*Pn	**Pn**	**15 56 50.2**	**-0.1**
SMG	**Samos**	**1.86**	**14**	*e*P	**Pn**	**15 56 50.5**	**-0.1**
SMG	**Samos**	**1.86**	**14**	*e*P	**Pn**	**15 56 50.5**	**-0.1**
GCAM	**G?zelcaml?**	**1.95**	**23**	*i* P	**Pn**	**15 56 52.1**	**+0.4**
GCAM	**G?zelcaml?**	**1.95**	**23**	*i* P	**Pn**	**15 56 52.1**	**+0.4**
KARN	**Karanos**	**1.99**	**256**	*e*P	**Pn**	**15 56 52.9**	**+0.6**
KARN	**Karanos**	**1.99**	**256**	P	**Pn**	**15 56 52.9**	**+0.6**
KARN				S	**Sn**	**15 57 16.4**	**-1.7**
KARN	**Karanos**	**1.99**	**256**	P	**Pn**	**15 56 52.9**	**+0.6**
KARN				S	**Sn**	**15 57 16.4**	**-1.7**
YER	**Yerkesik**	**2.02**	**52**	*e*PN	**Pn**	**15 56 53.4**	**+0.7**
YER	**Yerkesik**	**2.02**	**52**	*e*Pn	**Pn**	**15 56 53.4**	**+0.8**
GVD	**Gavdhos**	**2.09**	**240**	*e*Pn	**Pn**	**15 56 54.1**	**+0.7**
GVD				*e*Sn	**Sn**	**15 57 21.4**	**+1.2**
GVD	**Gavdhos**	**2.09**	**240**	*e*Pn	**Pn**	**15 56 54.1**	**+0.7**
GVD				*e*Sn	**Sn**	**15 57 21.4**	**+1.2**
TURN	**Turunc**	**2.10**	**62**	*i* P	**Pn**	**15 56 50.2**	**-3.4**
TURN				*i* S	**Sn**	**15 57 12.9**	**-7.7**
TURN	**Turunc**	**2.10**	**62**	*i* P	**Pn**	**15 56 50.2**	**-3.4**
AYDN	**Tasoluk**	**2.17**	**36**	*i* P	**Pn**	**15 56 55.5**	**+1.0**
AYDN	**Tasoluk**	**2.17**	**36**	*i* P	**Pn**	**15 56 55.5**	**+1.1**
FETY	**Fethiye**	**2.38**	**71**	*e*PN	**Pn**	**15 56 58.2**	**+1.2**
FETY	**Fethiye**	**2.38**	**71**	*e*Pn	**Pn**	**15 56 58.2**	**+1.2**
CHOS	**Chios island**	**2.49**	**356**	*e*P	**Pn**	**15 56 58.6**	**+0.2**
CHOS	**Chios island**	**2.49**	**356**	*e*P	**Pn**	**15 56 58.6**	**+0.2**
BLCB	**Balcova**	**2.55**	**13**	*e*PN	**Pn**	**15 56 59.4**	**+0.2**
BLCB	**Balcova**	**2.55**	**13**	*e*Pn	**Pn**	**15 56 59.4**	**+0.2**
IZM	**Izmir**	**2.61**	**17**	*e*PN	**Pn**	**15 57 00.4**	**+0.5**
IZM	**Izmir**	**2.61**	**17**	*e*Pn	**Pn**	**15 57 00.4**	**+0.4**
KYTH	**Kithira**	**2.66**	**279**	*e*P	**Pn**	**15 57 00.5**	**-0.1**
KYTH	**Kithira**	**2.66**	**279**	P	**Pn**	**15 57 00.4**	**-0.2**
KYTH	**Kithira**	**2.66**	**279**	*e*P	**Pn**	**15 57 00.5**	**-0.1**
KSL	**Kastellorizon**	**2.68**	**84**	*e*P	**Pn**	**15 57 02.1**	**+1.2**
KSL	**Kastellorizon**	**2.68**	**84**	*e*P	**Pn**	**15 57 02.1**	**+1.2**
AKAS	**Kas**	**2.71**	**82**	*i* P	**Pn**	**15 57 01.4**	**+0.2**
AKAS				*i* S	**Sn**	**15 57 32.4**	**-1.8**
AKAS	**Kas**	**2.71**	**82**	*i* P	**Pn**	**15 57 01.4**	**+0.2**
AKAS				*i* S	**Sn**	**15 57 32.4**	**-1.8**
VLY	**Voula,Athens**	**2.79**	**315**	*e*P	**Pn**	**15 57 02.4**	**+0.1**
VLY	**Voula,Athens**	**2.79**	**315**	P	**Pn**	**15 57 02.7**	**+0.4**
VLY	**Voula,Athens**	**2.79**	**315**	P	**Pn**	**15 57 02.7**	**+0.4**
VLI	**Veliai**	**2.83**	**288**	*e*P	**Pn**	**15 57 02.4**	**-0.3**
VLI	**Veliai**	**2.83**	**288**	P	**Pn**	**15 57 02.4**	**-0.3**
VLI	**Veliai**	**2.83**	**288**	P	**Pn**	**15 57 02.4**	**-0.3**
GLHS	**Glhisar (BURDU**	**2.87**	**63**	*e*PN	**Pn**	**15 57 04.5**	**+1.1**
GLHS	**Glhisar (BURDU**	**2.87**	**63**	*e*Pn	**Pn**	**15 57 04.5**	**+1.2**
DENT	**Denizli**	**2.88**	**49**	*e*PN	**Pn**	**15 57 04.0**	**+0.7**
DENT	**Denizli**	**2.88**	**49**	*e*Pn	**Pn**	**15 57 04.0**	**+0.6**
PTL	**Penteli**	**2.89**	**319**	*e*P	**Pn**	**15 57 04.0**	**+0.4**
PTL	**Penteli**	**2.89**	**319**	*e*P	**Pn**	**15 57 04.0**	**+0.4**
NAIG	**Nisos Aigina**	**2.91**	**310**	*e*P	**Pn**	**15 57 03.4**	**-0.4**
NAIG	**Nisos Aigina**	**2.91**	**310**	*e*P	**Pn**	**15 57 03.4**	**-0.4**
ATH	**Athens Observa**	**2.92**	**316**	*e*P	**Pn**	**15 57 04.4**	**+0.5**
ATH	**Athens Observa**	**2.92**	**316**	*e*P	**Pn**	**15 57 04.4**	**+0.5**
DID	**Didima**	**2.93**	**304**	*e*P	**Pn**	**15 57 04.1**	**+0.1**
DID	**Didima**	**2.93**	**304**	P	**Pn**	**15 57 04.2**	**+0.2**
DID				S	**Sn**	**15 57 36.8**	**-2.5**
DID	**Didima**	**2.93**	**304**	P	**Pn**	**15 57 04.2**	**+0.2**
GOLH	**Golhisar**	**2.95**	**62**	*i* P	**Pn**	**15 57 03.4**	**-1.0**
GOLH				*i* S	**Sn**	**15 57 38.9**	**-0.9**
GOLH	**Golhisar**	**2.95**	**62**	*i* P	**Pn**	**15 57 03.4**	**-1.0**
GOLH				*i* S	**Sn**	**15 57 38.9**	**-0.9**
ELL	**Elmali**	**3.04**	**73**	*e*PN	**Pn**	**15 57 07.2**	**+1.6**
ELL	**Elmali**	**3.04**	**73**	*e*Pn	**Pn**	**15 57 07.2**	**+1.7**
AKS	**Akhisar**	**3.21**	**22**	*e*PN	**Pn**	**15 57 08.1**	**+0.4**
AKS	**Akhisar**	**3.21**	**22**	*e*Pn	**Pn**	**15 57 08.1**	**+0.4**
KULA	**Kula-Manisa**	**3.22**	**35**	*e*PN	**Pn**	**15 57 08.6**	**+0.7**
KULA	**Kula-Manisa**	**3.22**	**35**	*e*Pn	**Pn**	**15 57 08.6**	**+0.7**
PRK	**Paraskevi**	**3.34**	**360**	*e*P	**Pn**	**15 57 09.7**	**+0.3**
PRK	**Paraskevi**	**3.34**	**360**	*e*P	**Pn**	**15 57 09.7**	**+0.3**
LTK	**Loutraki**	**3.40**	**310**	*e*P	**Pn**	**15 57 10.7**	**+0.5**
LTK	**Loutraki**	**3.40**	**310**	P	**Pn**	**15 57 10.5**	**+0.3**
LTK	**Loutraki**	**3.40**	**310**	P	**Pn**	**15 57 10.5**	**+0.3**
VLX	**Vlachokerasia**	**3.47**	**296**	*e*P	**Pn**	**15 57 11.0**	**-0.1**

VLX	Vlachokerasia	3.47	296	P	Pn	15 57 10.7	-0.4	
VLX	Vlachokerasia	3.47	296	*e*P	Pn	15 57 11.0	-0.1	
ANTB	Antalya	3.66	73	*e*PN	Pn	15 57 16.4	+2.8	
ANTB	Antalya	3.66	73	*e*Pn	Pn	15 57 16.4	+2.8	
ITM	Ithomi	3.74	291	*e*P	Pn	15 57 14.9	+0.3	
ITM	Ithomi	3.74	291	*e*P	Pn	15 57 15.1	+0.5	
ITM	Ithomi	3.74	291	P	Pn	15 57 14.9	+0.3	
ITM	Ithomi	3.74	291	P	Pn	15 57 14.9	+0.3	
GUR	Goura	3.76	304	*e*P	Pn	15 57 14.8	-0.1	
GUR	Goura	3.76	304	P	Pn	15 57 14.7	-0.2	
GUR	Goura	3.76	304	*e*P	Pn	15 57 14.8	-0.1	
BCK	Bucak	3.79	64	*e*PN	Pn	15 57 17.1	+1.7	
BCK	Bucak	3.79	64	*e*Pn	Pn	15 57 17.1	+1.7	
LKR	Lokris	3.80	317	*e*P	Pn	15 57 15.8	+0.4	
LKR	Lokris	3.80	317	P	Pn	15 57 15.9	+0.5	
LKR	Lokris	3.80	317	*e*P	Pn	15 57 15.8	+0.4	
PYL	PYLOS	3.80	286	*e*P	Pn	15 57 14.7	-0.8	
PYL	PYLOS	3.80	286	P	Pn	15 57 14.3	-1.2	
PYL	PYLOS	3.80	286	*e*P	Pn	15 57 14.7	-0.8	
DSF	Desfina	3.91	311	P	Pn	15 57 17.3	+0.4	
DSF				S	Sn	15 58 01.3	-1.0	
DSF	Desfina	3.91	311	P	Pn	15 57 17.3	+0.4	
DSF				S	Sn	15 58 01.3	-1.0	
BALY	Balya	3.98	15	*i* P	Pn	15 57 18.1	+0.4	
BALY	Balya	3.98	15	*i* P	Pn	15 57 18.1	+0.3	
KALE	Kalithea	4.14	308	P	Pn	15 57 19.7	-0.3	
KALE	Kalithea	4.14	308	P	Pn	15 57 19.7	-0.3	
LAKA	Lakka	4.16	305	P	Pn	15 57 19.9	-0.4	
LAKA	Lakka	4.16	305	P	Pn	15 57 19.9	-0.4	
GONE	Gonen-Balikesi	4.28	15	*e*PN	Pn	15 57 21.9	+0.1	
GONE	Gonen-Balikesi	4.28	15	*e*Pn	Pn	15 57 22.0	+0.1	
LTBQ	Tobruq SNR=76	4.31	208	*i* P	Pn	15 57 23.4	+1.1	
LTBQ				*e*S	Sn	15 58 08.2	-3.6	
	79nm,0.5s,SNR=76							
RLS	Riolos of Patr	4.42	301	*e*P	Pn	15 57 24.6	+0.9	
RLS	Riolos of Patr	4.42	301	*e*P	Pn	15 57 24.6	+0.9	
AGG	Agios Georgios	4.43	316	*e*P	Pn	15 57 24.3	+0.5	
AGG	Agios Georgios	4.43	316	*e*P	Pn	15 57 24.3	+0.5	
SLUM		4.49	192	P	Pn	15 57 25.4	+0.7	
EVR	Evrytania	4.67	312	*e*P	Pn	15 57 28.0	+1.0	
EVR	Evrytania	4.67	312	*e*P	Pn	15 57 28.0	+1.0	
HMAT	Matruh	4.84	172	P	Pn	15 57 30.5	+1.1	
HMAT				S	Sn	15 58 22.4	-2.2	
GAZI	Gazipasa	4.89	84	*i* P	Pn	15 57 30.5	+0.5	
GAZI				*i* S	Sn	15 58 22.8	-3.0	
GAZI	Gazipasa	4.89	84	*i* P	Pn	15 57 30.5	+0.5	
GAZI				*i* S	Sn	15 58 22.8	-3.0	
THL	Klokotos Trika	4.99	318	*e*P	Pn	15 57 31.8	+0.6	
THL	Klokotos Trika	4.99	318	*e*P	Pn	15 57 31.8	+0.6	
CSS	Prodhromos	5.83	97	Pn	Pn	15 57 40.1	-2.5	
CSS				*e*Sn	Sn	15 58 42.6	-5.5	
KRUS	Krusevo	6.73	326	*e*Pn	Pn	15 57 54.0	-0.8	
KRUS	Krusevo	6.73	326	*e*Pn	Pn	15 57 53.9	-0.8	
BR131	Keskin Array S 2.6nm,0.8s	6.96	55	*e*Pn	Pn	15 57 58.7	+0.9	
BR131	Keskin Array S 2.6nm,0.8s	6.96	55	*e*Pn	Pn	15 57 58.7	+0.9	
BRTR	Keskin Array B 0.3nm,0.3s,baz=232,slow=13,SNR=18	6.96	55	P	Pn	15 57 59.3	+1.5	
BRTR				S	Sn	15 59 15.7	+0.2	
	0.2nm,0.3s,baz=218,slow=22,SNR=3.3							
BRTR	Keskin Array B	6.96	55	P	Pn	15 57 59.3	+1.5	
BRTR				S	Sn	15 59 15.7	+0.2	
BRTR	Keskin Array B	6.96	55	P	Pn	15 57 59.3	+1.5	
BRTR				S	Sn	15 59 15.7	+0.2	
HNAT	Natroun	7.23	149	P	Pn	15 58 02.1	+0.5	
KOT	Kottamia	7.56	140	P	Pn	15 58 05.4	-0.6	
HSAF	As Saff	7.67	143	P	Pn	15 58 07.3	-0.2	
HHAG	Hagoal	7.68	139	P	Pn	15 58 06.9	-0.7	
GLL	Jalalah	7.78	143	P	Pn	15 58 08.6	-0.4	
AMAG	Maghara	7.81	130	P	Pn	15 58 07.5	-1.9	
AWBH		7.88	163	P	Pn	15 58 10.9	+0.7	
RSH		7.93	126	P	Pn	15 58 09.6	-1.3	
MMAI	Mount Meron Ar 2.7nm,0.3s,baz=302,slow=13,SNR=26	8.06	108	P	Pn	15 58 10.9	-1.8	
SUZ		8.17	136	P	Pn	15 58 14.1	-0.1	
ZAF		8.45	140	P	Pn	15 58 17.5	-0.5	
ZNM		8.55	138	P	Pn	15 58 19.5	+0.2	
EIL	Elat 2.0nm,0.3s,baz=334,slow=15,SNR=33	9.58	128	P	Pn	15 58 32.5	-0.6	
EIL				S	Sn	16 00 14.1	-4.8	
	baz=86,slow=0.0							
EIL				LR	LR	16 03 46.4		
	comp=Z,258nm,20.8s,baz=260,slow=48							
EIL	Elat	9.58	128	P	Pn	15 58 32.5	-0.6	
EIL				S	Sn	16 00 14.1	-4.8	
EIL	Elat	9.58	128	P	Pn	15 58 32.5	-0.6	
STON	Ston	9.62	319	*e*Pn	Pn	15 58 28.8	-4.8	
STON				Sn	Sn	16 00 07.1	-13	
AKASG	Malin Array Be 0.7nm,0.3s,baz=204,slow=12,SNR=3.7	14.95	7	P	Pn	15 59 45.7	+2.8	
AKASG	Malin Array Be	14.95	7	P	Pn	15 59 45.7	+2.8	
KHC	Kasperske Hory 11nm,0.6s	16.17	329	P	Pn	16 00 02.6	+4.5	
LPG	La Plagne	17.61	309	*e*P	Pn	16 00 15.1	-0.4	
LPL	La Plagne	17.63	309	*e*P	Pn	16 00 15.6	-0.1	
ORIF	Oris-en-Rattie 5.0nm,0.7s	17.93	306	*e*P	Pn	16 00 19.5	+0.2	
CABF	La Chapelle 7.7nm,0.6s	18.53	311	*e*P	P	16 00 25.5	+0.8	
PAGF	Fort de Pagny 2.0nm,0.5s	19.72	316	*e*P	P	16 00 34.8	-2.8	
SMF	Signal de Mont 3.1nm,0.4s	19.93	309	*e*P	P	16 00 37.5	-2.4	
LOR	Lormes	20.18	311	*e*P	P	16 00 41.9	-0.7	
AVF	Avril sur Loir	20.30	309	*e*P	P	16 00 43.0	-0.8	
SSF	Saint Saulge 7.9nm,0.6s	20.31	310	*e*P	P	16 00 42.9	-1.1	
BGF	Bois d'Agland 7.3nm,0.6s	20.52	308	*e*P	P	16 00 45.1	-1.2	
LDF	La Druitiere 3.9nm,0.6s,mb3.8	23.17	311	*e*P	P	16 01 09.9	-3.4	
TORD	Torodi Ar. Bea 1.0nm,0.3s,mb4.0,baz=34,slow=8.7,SNR=21	31.67	231	P	P	16 02 31.3	+1.7	
TORD	Torodi Ar. Bea	31.67	231	P	P	16 02 31.3	+1.7	
TORD	Torodi Ar. Bea	31.67	231	P	P	16 02 31.3	+1.7	
MKAR	Makanchi Array 0.8nm,0.9s,mb3.3,baz=272,slow=9.1,SNR=5.2	42.60	57	P	P	16 04 02.7	+1.2	
MKAR	Makanchi Array	42.60	57	P	P	16 04 02.7	+1.2	
MKAR	Makanchi Array	42.60	57	P	P	16 04 02.7	+1.2	

ISCJB ***13*** *16:02:05.3±0.6,56.°75S±0.°07×140.°8W±0.°2, h10km, mb4.4/12, MS4.7/44, Error ellipse: s-maj=16.3km s-min=9.8km az=169.8*

IDC ***13*** *16:02:06.1±0.9,56.°61S×141.°40W, h0km, mb4.1/4, mb1 4.3/4, mb1mx4.0/14, mbtmp4.1/4, MS4.6/14, Ms1 4.5/14, ms1mx4.5/18, Error ellipse: s-maj=39.5km s-min=25.9km az=175.0*

NEIC ***13*** *16:02:08.3±0.8,56.°92S×140.°80W, h10km, mb4.7/8, MS4.8/32, Error ellipse: s-maj=27.6km s-min=20.6km az=210.0*

BJI ***13*** *16:02:09.1,57.°00S×140.°50W, h10km, mB5.5/4, Ms5.4/5, Ms7 4.9/5*

GCMT ***13*** *16:02:13.0,57.°09S×141.°06W, h20km, MW5.5, Moment Tensor Solution. s81,c126; s34,c35; Moment tensor: Scale 10*^{17}*Nm; Mrr=0.16±.03; Mθθ 1.36±.03; Mφφ=-1.20±.03; Mrθ 0.15±.05; Mθφ 1.33±.03; Mrφ 0.00±.05; Best double couple: M=1.90000×10*^{17} *NP1:φs22.00000°, δ86.00000°, λ179.00000°. NP2:φs112.00000°, δ89.00000°, λ4.00000°. Principal axes: T 1.9400, Plg4.0000°, Azm337.0000°; N -0.1700, Plg86.0000°, Azm127.0000°; P -1.7700, Plg2.0000°, Azm247.0000°; Data Used: II IU G IC CN. Surface waves: sta= 93, comp=157, per= 50.*

ISC 13 16:02:07.2±0.6,56.°71S±0.°07×140.°8W±0.°2, h10km, n74, σ1§65/26, mb4.4/12, MS4.7/44, 1C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBA	**Scott Base** 8.8nm,1.2s,mb4.3	**27.57**	**201**	*e*P	**P**	**16 07 55.3**	**+1.5**
SBA				LR	LR		
	comp=Z,2μm,19.0s,MS4.6						
VNDA	**Vanda** comp=Z,295nm,19.3s,MS3.9,baz=78,slow=34	**28.49**	**203**	LR	LR	16 18 05.7	
SNZO	**South Karori**	**32.35**	**279**	PFAKE		16 08 50.0	+14
SNZO				LR	LR		
	comp=Z,2μm,20.0s,MS4.8						
RPZ	**Rata Peaks** comp=Z,2μm,21.7s,MS4.8,baz=127,slow=30	**32.74**	**273**	LR	LR	16 18 28.4	
URZ	**Urewera** comp=Z,606nm,20.7s,MS4.3,baz=334,slow=28	**33.23**	**286**	LR	LR	16 17 37.7	
QSPA	**South Pole Qui** comp=Z,6.4nm,0.9s,mb4.5,baz=70,slow=2.5,SNR=14	**33.45**	**180**	P	**P**	**16 08 47.1**	**+1.5**
QSPA				LR	LR	16 19 40.7	
	comp=Z,2μm,21.7s,MS4.8,baz=70,slow=31						
QSPA	**South Pole Qui** comp=Z,12nm,1.1s,mb4.7	**33.45**	**180**	*e*P	**P**	**16 08 46.5**	**+0.9**
QSPA				LR	LR		
	comp=Z,2μm,21.0s,MS4.8						
RKT	**Rikitea** comp=Z,376nm,27.5s	**33.82**	**10**	*e*S	**S**	**16 14 12.8**	**-0.3**
RKT				*e*LQ		16 16 21.9	
	comp=Z,3μm,28.5s						
RKT				*e*LR	LR	16 17 45.9	
	comp=Z,4μm,28.0s,baz=180						
TBI	**Tubuai** comp=Z,595nm,30.2s	**33.92**	**346**	*e*S	**S**	**16 14 14.3**	**-0.4**
TBI				*e*LR	LR	16 17 44.9	
	comp=Z,5μm,29.0s,baz=176						
PMSA	**Palmer Station** comp=Z,67nm,1.0s,mb5.5	**36.10**	**135**	P	**P**	**16 09 09.5**	**+0.9**
RAO	**Raoul Island**	**37.84**	**301**	PFAKE		16 09 40.0	+16
RAO				LR	LR		
	comp=Z,1μm,19.0s,MS4.7						
RAR	**Rarotonga** comp=Z,406nm,2.1s	**38.13**	**331**	P	**P**	**16 09 31.0**	**+4.8**
RAR				LR	LR		
	comp=Z,1μm,20.0s						
PPT	**Papeete** comp=Z,710nm,27.2s	**39.63**	**347**	*e*S	**S**	**16 15 41.1**	**-0.7**
PPT				*e*LQ		16 18 44.7	
	comp=Z,444nm,24.0s						
PPT				*e*LR	LR	16 20 21.0	
	comp=Z,5μm,28.2s,baz=180						
PPT	**Papeete** comp=Z,1μm,21.2s,MS4.7,baz=170,slow=29	**39.63**	**347**	LR	LR	16 21 27.5	
CASY	**Casey**	**46.26**	**212**	PFAKE		16 10 40.0	+8.0
CASY				LR	LR		
	comp=Z,729nm,20.0s,MS4.6						
TAOE	**Nuku Hiva Isla** comp=Z,675nm,25.8s	**47.74**	**1**	*e*S	**S**	**16 17 40.9**	**+0.7**
TAOE				*e*LR	LR	16 24 15.5	
	comp=Z,3μm,27.9s,baz=190						
VNA3	**Neumayer Olymp**	**47.78**	**161**	*e*	**P**	**16 10 38.7**	**-5.1**
VNA2	**Neumayer--Watz** baz=210,slow=6.6	**48.45**	**161**	*e*	**P**	**16 10 44.4**	**-4.6**
VNA1	**Neumayer--Stat**	**48.53**	**161**	*e*	**P**	**16 10 47.3**	**-2.3**
SNAA	**Sanae** comp=Z,11nm,1.2s,mb4.8	**48.56**	**164**	*e*P	**P**	**16 10 47.3**	**-2.6**
DZM	**Mont Dzumac** comp=Z,4μm,26.4s	**51.60**	**290**	*e*LQ		16 23 44.1	
DZM				*e*LR	LR	16 25 53.4	
	comp=Z,1μm,24.9s						
TRQA	**Tornquist** comp=Z,4.8nm,0.9s,mb4.4	**53.37**	**105**	P	**P**	**16 11 26.9**	**+0.4**
SYO	**Syowa Base**	**54.59**	**180**	*e*P	**P**	**16 11 33.6**	**-1.3**
MAW	**Mawson** comp=Z,725nm,20.4s,MS4.7,baz=157,slow=33	**54.77**	**191**	LR	LR	16 31 51.5	
MAW	**Mawson** comp=Z,3.9nm,1.5s,mb4.2	**54.77**	**191**	P	**P**	**16 11 42.6**	**+6.3**
MAW				LR	LR		
	comp=Z,1μm,22.0s,MS5.0						
EIDS	**Eidsvold** comp=Z,12nm,1.0s,mb4.9	**57.23**	**273**	P	**P**	**16 11 56.9**	**+2.4**
FUNA	**Funafuti**	**57.28**	**311**	PFAKE		16 12 10.0	+15
FUNA				LR	LR		
	comp=Z,3μm,19.0s,MS5.4						
STKA	**Stephens Creek** comp=Z,752nm,20.1s,MS4.8,baz=300,slow=31	**57.39**	**261**	LR	LR	16 31 34.9	
STKA	**Stephens Creek** comp=Z,0.5nm,0.7s,mb3.6	**57.39**	**261**	P	**P**	**16 11 58.1**	**+2.7**
CTA	**Charters Tower** comp=Z,333nm,18.5s,MS4.5,baz=134,slow=32	**64.11**	**273**	LR	LR	16 36 26.3	
CTAO	**Charters Tower** comp=Z,9.1nm,0.9s,mb4.8	**64.11**	**273**	P	**P**	**16 12 51.9**	**+11**
CTAO				LR	LR		
	comp=Z,429nm,22.0s,MS4.6						
HNR	**Honiara**	**65.56**	**291**	PFAKE		16 13 00.0	+9.1
HNR				LR	LR		
	comp=Z,421nm,21.0s,MS4.6						
LPAZ	**La Paz** comp=Z,3.6nm,1.0s,mb4.3,baz=183,slow=1.2,SNR=9.3	**67.02**	**85**	P	**P**	**16 13 03.7**	**+3.5**
LPAZ				LR	LR	16 36 26.5	
	comp=Z,67nm,20.7s,MS3.8,baz=122,slow=31						
LPAZ	**La Paz**	**67.02**	**85**	P	**P**	**16 13 03.7**	**+3.5**
LPAZ				LR	LR	16 36 26.5	
ASAR	**Alice Springs** comp=Z,1.2nm,0.8s,mb4.0,baz=139,slow=6.3,SNR=16	**68.02**	**260**	P	**P**	**16 13 05.2**	**-1.3**
ASAR	**Alice Springs**	**68.02**	**260**	P	**P**	**16 13 05.2**	**-1.3**
NWAO	**Narrogin (SRO)**	**69.21**	**242**	PFAKE		16 13 30.0	+16
NWAO				LR	LR		
	comp=Z,432nm,20.0s,MS4.7						
WRA	**Warramunga Arr** comp=Z,1.0nm,0.8s,mb3.8,baz=146,slow=5.3,SNR=7.3	**70.78**	**263**	P	**P**	**16 13 22.5**	**-1.2**
WRA				LR	LR	16 40 20.8	
	comp=Z,534nm,20.0s,MS4.8,baz=135,slow=33						
WRA	**Warramunga Arr**	**70.78**	**263**	P	**P**	**16 13 22.5**	**-1.2**
WRA				LR	LR	16 40 20.8	
WRAB	**Tennant Creek**	**70.79**	**263**	P	**P**	**16 13 20.8**	**-2.8**
WRAB				LR	LR		
	comp=Z,549nm,20.0s,MS4.8						
PMG	**Port Moresby**	**72.36**	**280**	PFAKE		16 13 50.0	+17
PMG				LR	LR		
	comp=Z,334nm,19.0s,MS4.6						
FITZ	**Fitzroy Crossi** comp=Z,658nm,21.4s,MS4.9,baz=144,slow=32	**77.01**	**257**	LR	LR	16 43 11.2	
MBWA	**Marble Bar**	**77.61**	**250**	PFAKE		16 14 20.0	+17
MBWA				LR	LR		
	comp=Z,585nm,20.0s,MS4.9						
ROSC	**El Rosal**	**81.41**	**67**	LR	LR	16 42 15.9	
	comp=Z,122nm,21.0s,MS4.2,baz=198,slow=30						
BOSA	**Boshof** comp=Z,394nm,19.1s,MS4.9,baz=166,slow=34	**94.19**	**168**	LR	LR	16 56 12.4	
ANMO	**Albuquerque**	**95.83**	**28**	PFAKE		16 15 50.0	+17
ANMO				LR	LR		
	comp=Z,393nm,21.0s,MS4.9						
TPH	**Tonopah**	**96.51**	**19**	PFAKE		16 15 50.0	+14
TPH				LR	LR		
	comp=Z,589nm,19.0s,MS5.1						
COCO	**West Island**	**96.53**	**236**	PFAKE		16 15 50.0	+13
COCO				LR	LR		
	comp=Z,258nm,19.0s,MS4.7						
NVAR	**Mina Array Bea** comp=Z,540nm,22.0s,MS5.0,baz=276,slow=29	**96.67**	**18**	LR	LR	16 49 08.3	
SDCO	**Great Sand Dun**	**98.72**	**28**	PFAKE		16 16 00.0	+14
SDCO				LR	LR		
	comp=Z,386nm,19.0s,MS4.9						
KSM	**Kuching**	**101.54**	**255**	PFAKE		16 16 10.0	+11
KSM				LR	LR		
	comp=Z,223nm,20.0s,MS4.7						
KKM	**Kota Kinabalu**	**102.16**	**262**	PFAKE		16 16 10.0	+7.8
KKM				LR	LR		
	comp=Z,369nm,20.0s,MS4.9						
KULM	**Kulim**	**109.82**	**248**	PFAKE		16 20 50.0	+12
KULM				LR	LR		
	comp=Z,238nm,20.0s,MS4.8						
MAJO	**Matsushiro**	**115.16**	**298**	PFAKE		16 21 00.0	+12
MAJO				LR	LR		
	comp=Z,417nm,22.0s,MS5.0						
ILAR	**Eielson Array** comp=Z,1.0nm,0.8s,baz=235,slow=1.6,SNR=13	**121.24**	**357**	PKP	PKPdf	16 20 58.5	-0.1
ILAR	**Eielson Array**	**121.24**	**357**	PKP	PKPdf	16 20 58.5	-0.1
YSS	**Yuzh-Sakhalins**	**121.28**	**309**	PFAKE		16 21 10.0	+11
YSS				LR	LR		
	comp=Z,48nm,21.0s,MS4.1						
COLA	**College**	**121.38**	**356**	PFAKE		16 21 10.0	+11
COLA				LR	LR		
	comp=Z,469nm,19.0s,MS5.2						
CHTO	**Chiang Mai**	**122.06**	**255**	PFAKE		16 21 10.0	+8.3
CHTO				LR	LR		
	comp=Z,178nm,21.0s,MS4.7						
GYA	**Guiyang**	**124.01**	**267**	Pdif	Pdif	16 17 41.8	+2.5
GYA				PKP	PKPdf	16 21 07.0	+1.8
GYA				PP	PP	16 22 57.3	+7.8
GYA				PKS		16 24 42.3	
GYA				SKKS	SKKSac	16 29 47.6	-0.1
GYA				SS	SS	16 39 44.8	+5.3
GYA				LR	LR		
	comp=N,280nm,20.8s,MS5.0						
GYA				LR	LR		
	comp=E,170nm,21.0s,MS5.0						
GYA				LR	LR		
	comp=Z,250nm,20.9s,MS4.8						
KMI	**Kunming**	**125.11**	**263**	PKP	PKPdf	16 21 10.3	+2.9
ENH	**Enshi**	**125.42**	**272**	PFAKE		16 21 20.0	+12
ENH				LR	LR		
	comp=Z,213nm,20.0s,MS4.8						
MDJ	**Mudanjiang**	**125.55**	**299**	PFAKE		16 21 20.0	+12
MDJ				LR	LR		
	comp=Z,182nm,20.0s,MS4.7						
BJT	**Baijiatuau**	**129.04**	**286**	PFAKE		16 21 30.0	+16
BJT				LR	LR		
	comp=Z,181nm,21.0s,MS4.7						
BILL	**Bilibino**	**130.39**	**337**	PFAKE		16 21 30.0	+14
BILL				LR	LR		
	comp=Z,321nm,19.0s,MS5.0						
HHC	**Hu-ho-hao-te**	**132.10**	**283**	*e*PKP	PKPdf	16 21 22.9	+2.8
HHC				PP	PP	16 23 48.6	+5.9
HHC				PKS		16 24 58.8	
HHC				SKS	SKSdf	16 28 32.8	+1.7
HHC				SKKS	SKKSac	16 30 38.9	+1.0
HHC				SS	SS	16 41 27.5	+7.7
HHC				AMB	AMB		
	comp=Z,140nm,11.9s						
HHC				LR	LR		
	comp=N,160nm,16.6s,MS4.9						
HHC				LR	LR		
	comp=E,140nm,17.8s,MS4.9						
HHC				LR	LR		
	comp=Z,180nm,20.8s,MS4.8						
HIA	**Hailar**	**133.61**	**297**	PFAKE		16 21 40.0	+17
HIA				LR	LR		
	comp=Z,167nm,21.0s,MS4.7						
LSA	**Lhasa**	**135.00**	**256**	PFAKE		16 21 40.0	+14
LSA				LR	LR		
	comp=Z,157nm,20.0s,MS4.7						
YAK	**Yakutsk**	**137.19**	**316**	PFAKE		16 21 40.0	+11
YAK				LR	LR		
	comp=Z,143nm,19.0s,MS4.7						
WMQ	**Urumqi**	**147.16**	**268**	*e*PKPbc	PKPbc	16 21 50.4	+0.9
ESDC	**Sonseca Array** comp=Z,0.3nm,0.3s,baz=216,slow=2.7,SNR=6.5	**147.22**	**103**	PKPbc	PKPbc	16 21 51.1	+1.3
ESDC	**Sonseca Array**	**147.22**	**103**	PKPbc	PKPbc	16 21 51.1	+1.3
MKAR	**Makanchi Array** comp=Z,1.4nm,0.8s,baz=104,slow=5.1,SNR=8.2	**152.00**	**268**	PKPbc	PKPbc	16 22 00.9	-0.5
MKAR	**Makanchi Array**	**152.00**	**268**	PKPbc	PKPbc	16 22 00.9	-0.5

ISCJB ***13*** *16:32:07.5±0.8,57.°0S±0.°1×141.°2W±0.°3, h10km, mb4.1/7, MS4.1/15, Error ellipse: s-maj=24.6km s-min=15.1km az=142.5*

IDC ***13*** *16:32:08.7±1.0,56.°71S×141.°37W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/13, mbtmp3.9/4, MS4.1/15, Ms1 4.1/15, ms1mx4.0/23, Error ellipse: s-maj=42.1km s-min=29.5km az=177.0*

NEIC ***13*** *16:32:10.1±0.9,56.°85S×141.°27W, h10km, mb4.4/4, Error ellipse: s-maj=32.6km s-min=23.8km az=200.0*

GCMT ***13*** *16:32:15.0±0.3,57.°19S×140.°85W, h24km±2km, MW5.0, Moment Tensor Solution. s23,c29; s64,c84; Moment tensor: Scale 10*^{16}*Nm; Mrr 0.32±.26; Mθθ 2.66±.24; Mφφ -2.98±.22; Mrθ 0.15±.28; Mθφ 2.75±.14; Mφr 0.81±.27; Best double couple: M=0.40000×10*^{16} *NP1:φs113.00000°, δ79.00000°, λ-1.00000°. NP2:φs203.00000°, δ89.00000°, λ-169.00000°. Principal axes: T 3.8400, Plg7.0000°, Azm337.0000°; N 0.3700, Plg79.0000°, Azm208.0000°; P -4.2100, Plg9.0000°, Azm68.0000°; Data Used: IU G II IC.*

ISC 13 16:32:09.4±0.8,57.°0S±0.°1×141.°1W±0.°3, h10km, n38, σ1§42/15, mb4.1/7, MS4.1/15, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda** comp=Z,291nm,19.8s,MS3.9,baz=80,slow=29	**28.13**	**203**	LR	LR	16 45 49.9	
RPZ	**Rata Peaks** comp=Z,394nm,21.7s,MS4.1,baz=326,slow=31	**32.58**	**273**	LR	LR	16 48 54.5	
QSPA	**South Pole Qui** 3.7nm,1.0s,mb4.2,baz=80,slow=7.3,SNR=7.8	**33.13**	**180**	P	**P**	**16 38 49.0**	**+4.0**
QSPA	**South Pole Qui** 4.0nm,1.0s,mb4.3	**33.13**	**180**	*e*P	**P**	**16 38 49.0**	**+3.9**
URZ	**Urewera** comp=Z,378nm,19.4s,MS4.1,baz=141,slow=32	**33.15**	**286**	LR	LR	16 49 31.2	
RKT	**Rikitea** 804nm,28.8s	**34.16**	**10**	*e*LR	LR	16 47 51.8	
RKT				*e*T		17 14 29.0	
	4.5nm,0.4s						
TBI	**Tubuai** 963nm,29.0s,baz=176	**34.18**	**346**	*e*LR	LR	16 47 47.5	
TBI				*e*T		17 14 28.3	
	34nm,0.3s						
RPN	**Rapa Nui** comp=Z,302nm,21.5s,MS4.1,baz=262,slow=30	**37.43**	**51**	LR	LR	16 50 45.1	
RAR	**Rarotonga** comp=Z,250nm,19.8s,MS4.0,baz=214,slow=31	**38.32**	**331**	LR	LR	16 51 41.4	
MEH	**Mehetia** 52nm,0.3s	**39.43**	**350**	*e*T		17 21 01.7	
PPT	**Papeete** 89nm,26.8s	**39.90**	**347**	*e*S	**S**	**16 45 46.2**	**-1.8**
PPT				*e*LR	LR	16 50 25.7	
	830nm,25.8s,baz=181						
PPT	**Papeete** comp=Z,263nm,18.8s,MS4.1,baz=192,slow=30	**39.90**	**347**	LR	LR	16 52 08.9	
VNA3	**Neumayer Olymp**	**47.54**	**161**	*e*	**P**	**16 40 42.9**	**-1.3**
TAOE	**Nuku Hiva Isla** 544nm,27.3s	**48.05**	**1**	*e*LR	LR	16 54 20.1	
VNA2	**Neumayer--Watz** baz=202,slow=6.5	**48.21**	**161**	*e*	**P**	**16 40 48.0**	**-1.4**
VNA1	**Neumayer--Stat**	**48.29**	**161**	*e*	**P**	**16 40 49.5**	**-0.5**
SNAA	**Sanae** 4.0nm,1.1s,mb4.4	**48.31**	**164**	*e*P	**P**	**16 40 50.9**	**+0.7**
AFI	**Afiamalu** comp=Z,162nm,18.5s,MS4.0,baz=158,slow=30	**48.95**	**319**	LR	LR	16 56 27.1	
DZM	**Mont Dzumac** 369nm,24.7s	**51.54**	**290**	*e*LR	LR	16 55 56.6	
MAW	**Mawson** comp=Z,177nm,19.8s,MS4.1,baz=159,slow=33	**54.42**	**191**	LR	LR	17 02 02.5	
STKA	**Stephens Creek** comp=Z,193nm,18.7s,MS4.2,baz=28,slow=31	**57.16**	**261**	LR	LR	17 01 27.9

BIA				*e*Sg		**Sn**	**17 07 21.0**	**-0.5**
BIA	**Bitola**	**1.60**	**49**	*e*Pn		**Pn**	**17 07 01.2**	**+0.5**
BIA				*e*Sg		**Sn**	**17 07 20.9**	**-0.6**
KZN	**Kozani**	**1.61**	**78**	*e*PN		**Pg**	**17 07 02.9**	**-0.2**
KZN				*e*SN		**Sg**	**17 07 24.8**	**+0.9**
KZN	**Kozani**	**1.61**	**78**	*e*Pn		**Pg**	**17 07 02.9**	**-0.2**
KZN				*e*Sn		**Sg**	**17 07 24.8**	**+0.9**
KRUS	**Krusevo**	**1.81**	**40**	*e*Pn		**Pn**	**17 07 02.0**	**-1.5**
KRUS	**Krusevo**	**1.81**	**40**	*e*Pn		**Pn**	**17 07 02.0**	**-1.5**
THL	**Klokotos Trika**	**1.82**	**103**	*e*PB		**Pg**	**17 07 05.8**	**-1.4**
THL				*e*SN		**Sg**	**17 07 29.9**	**-0.9**
THL	**Klokotos Trika**	**1.82**	**103**	*e*Pb		**Pg**	**17 07 05.8**	**-1.4**
THL				*e*Sn		**Sg**	**17 07 29.9**	**-0.9**
EVR	**Evrytania**	**1.94**	**123**	*e*PB		**Pg**	**17 07 08.8**	**-0.7**
EVR	**Evrytania**	**1.94**	**123**	*e*Pb		**Pg**	**17 07 08.8**	**-0.7**
LIT	**Litokhoron**	**2.13**	**86**	*e*PN		**Pn**	**17 07 09.7**	**+1.7**
LIT	**Litokhoron**	**2.13**	**86**	*e*Pn		**Pn**	**17 07 09.7**	**+1.7**
AGG	**Agios Georgios**	**2.24**	**115**	*e*PB		**Pb**	**17 07 12.6**	**-0.3**
VAY	**Valandovo**	**2.55**	**58**	*e*Pn		**Pn**	**17 07 14.3**	**+0.6**
VAY	**Valandovo**	**2.55**	**58**	*e*Pn		**Pn**	**17 07 14.3**	**+0.6**

IDC 13 17:10:48.1±1.9, 24°.14N×108°.25W, h0km, mb3.4/1, mb1 3.6/3, mb1mx3.5/20, mbtmp3.1/3, ML3.0/2, Error ellipse: s-maj=53.0km s-min=38.4km az=106.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
TXAR	**Lajitas Array**	**6.60**	**37**	Pn	Pn		17 12 27.5	+1.2
	0.1nm,0.3s,baz=209,slow=18,SNR=6.1							
TXAR				Lg			17 14 22.1	
	0.2nm,0.3s,baz=210,slow=34,SNR=3.1							
NVAR	**Mina Array Bea**	**16.62**	**331**	Pn	Pn		17 14 45.2	+2.7
	0.0nm,0.3s,baz=161,slow=14,SNR=6.8							
ILAR	**Eielson Array**	**47.68**	**339**	P	P		17 19 25.9	-0.1
	0.5nm,0.9s,baz=152,slow=6.2,SNR=4.6							
WRA	**Warramunga Arr**	**122.25**	**261**	PKP	PKPdf		17 29 45.8	+0.1
	0.5nm,0.8s,baz=74,slow=2.4,SNR=4.8							
ASAR	**Alice Springs**	**123.62**	**257**	PKP	PKPdf		17 29 47.8	-0.4
	0.6nm,1.1s,baz=73,slow=3.1,SNR=3.5							

*IDC **13** 17:40:47.0±1.5, 7°.72S×126°.83E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.6/17, mbtmp3.8/5, ML4.1/2, Error ellipse: s-maj=165.9km s-min=28.7km az=65.0*
*NEIC **13** 17:40:51.7±0.7, 7°.11S×128°.47E, h35km, mb3.9/2, Error ellipse: s-maj=27.2km s-min=9.1km az=70.0*
ISC 13 17:41:04.2±2.1, 7°.7S±0°.1×128°.6E±0°.2, h180km±22km, n14, σ0s91/18, mb3.4/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRAB	**Tennant Creek**	**13.41**	**156**	*e*P	**Pn**		**17 44 07.1**	**-0.4**
	11nm,1.1s							
WRA	**Warramunga Arr**	**13.41**	**156**	Pn	**Pn**		**17 44 07.7**	**+0.1**
	1.0nm,0.3s,baz=324,slow=13,SNR=30							
WRA				Sn	**Sn**		**17 46 29.3**	**-7.6**
	1.9nm,0.3s,baz=327,slow=21,SNR=9.5							
WRA	**Warramunga Arr**	**13.41**	**156**	Pn	**Pn**		**17 44 07.7**	**+0.1**
WRA				Sn	**Sn**		**17 46 29.2**	**-7.6**
WB2	**Warramunga Arr**	**13.42**	**156**	*e*P	**Pn**		**17 44 06.8**	**-0.9**
MBWA	**Marble Bar**	**15.93**	**212**	*e*P	**Pn**		**17 44 38.6**	**0.0**
	4.5nm,0.7s							
ASAR	**Alice Springs**	**16.70**	**163**	P	**Pn**		**17 44 50.6**	**+2.6**
	0.4nm,0.3s,baz=331,slow=9.8,SNR=30							
ASAR				S	**S**		**17 47 52.4**	**-0.1**
	0.5nm,0.3s,baz=320,slow=17,SNR=6.5							
ASAR	**Alice Springs**	**16.70**	**163**	P	**Pn**		**17 44 50.6**	**+2.6**
ASAR				S	**S**		**17 47 52.4**	**-0.1**
SONM	**Songino Array**	**58.64**	**343**	P	**P**		**17 50 43.2**	**+0.8**
	0.2nm,0.6s,mb3.1,baz=170,slow=6.2,SNR=4.9							
SONM	**Songino Array**	**58.64**	**343**	P	**P**		**17 50 43.2**	**+0.8**
MKAR	**Makanchi Array**	**68.03**	**328**	P	**P**		**17 51 42.7**	**-1.4**
	0.3nm,0.5s,mb3.3,baz=121,slow=7.9,SNR=5.6							
MKAR	**Makanchi Array**	**68.03**	**328**	P	**P**		**17 51 42.7**	**-1.4**
ZALV	**Zalesovo Beam**	**71.57**	**334**	P	**P**		**17 52 05.7**	**+0.2**
	0.3nm,0.3s,mb3.5,baz=104,slow=6.1,SNR=4.7							
ZALV	**Zalesovo Beam**	**71.57**	**334**	P	**P**		**17 52 05.7**	**+0.2**
KURK	**Kurchatov**	**72.37**	**329**	*e*P	**P**		**17 52 10.5**	**+0.2**
	1.7nm,0.8s,mb3.8							

*ISCJB **13** 18:11:40.9±0.5, 27°.82N±0°.05×140°.0E±0°.1, h495km±7km, mb3.7/19, Error ellipse: s-maj=19.0km s-min=8.3km az=175.5*
*JMA **13** 18:11:42.2±0.1, 27°.98N×140°.51E, h504km, M3.9*
*NEIC **13** 18:11:42.3±1.4, 27°.77N×139°.80E, h492km±14km, mb4.0/2, Error ellipse: s-maj=18.4km s-min=13.9km az=93.0*
*IDC **13** 18:11:43.0±2.6, 27°.78N×139°.79E, h500km±30km, mb3.2/12, mb1 3.2/14, mb1mx3.1/26, mbtmp3.1/14, Error ellipse: s-maj=25.0km s-min=17.1km az=85.0*
ISC 13 18:11:41.9±0.5, 27°.85N±0°.06×140°.0E±0°.1, h491km±7km, n44, σ0s84/50, mb3.7/19, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CBIJ	**Chichi jima**	**2.08**	**111**	P	**P**		**18 12 46.9**	**+0.4**
CBIJ				*e*S	**S**		**18 13 37.0**	**-2.0**
JHHJ	**Haha-jima-NKT**	**2.29**	**121**	P	**P**		**18 12 48.1**	**+0.4**
JHHJ				*e*S	**S**		**18 13 41.1**	**+0.1**
BSO1	**Boso 1**	**6.84**	**7**	P	**P**		**18 13 27.6**	**+1.7**
BSO1				*e*S	**S**		**18 14 50.9**	**-0.4**
JIE	**Ise**	**7.11**	**337**	P	**P**		**18 13 30.7**	**+2.0**
JRY	**Ryogami san**	**8.20**	**354**	P	**P**		**18 13 40.6**	**+0.6**
JRY				*e*S	**S**		**18 15 15.6**	**-1.4**
JYT	**Yasato**	**8.36**	**1**	P	**P**		**18 13 41.8**	**+0.2**
JAG	**Ashikaga**	**8.57**	**357**	P	**P**		**18 13 43.7**	**-0.1**
JAG				*e*S	**S**		**18 15 19.2**	**-4.8**
JHO	**Hitachi**	**8.75**	**3**	P	**P**		**18 13 47.0**	**+1.2**
JHO				*e*S	**S**		**18 15 25.4**	**-2.2**
MJAR	**Matsushiro Arr**	**8.80**	**351**	P	**P**		**18 13 47.0**	**+0.8**
	0.4nm,0.3s,baz=169,slow=9.7,SNR=4.5							
MJAR	**Matsushiro Arr**	**8.80**	**351**	P	**P**		**18 13 47.0**	**+0.8**
KSRS	**Korea Array**	**13.96**	**316**	P	**P**		**18 14 41.5**	**+0.4**
	0.1nm,0.3s,baz=139,slow=10,SNR=1.5							
SONM	**Songino Array**	**32.83**	**317**	P	**P**		**18 17 33.9**	**+0.1**
	0.8nm,0.5s,mb3.4,baz=128,slow=9.1,SNR=7.1							
SONM	**Songino Array**	**32.83**	**317**	P	**P**		**18 17 33.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**38.74**	**265**	P	**P**		**18 18 22.7**	**-0.7**
	0.5nm,0.7s,mb3.1,baz=68,slow=5.0,SNR=4.6							
CMAR	**Chiang Mai Arr**	**38.74**	**265**	P	**P**		**18 18 22.7**	**-0.7**
GUN	**Gumba**	**47.50**	**283**	*e*P	**P**		**18 19 32.2**	**+0.3**
	12nm,0.4s,mb4.7							
ZALV	**Zalesovo Beam**	**47.65**	**319**	P	**P**		**18 19 32.2**	**-0.3**
	1.8nm,0.5s,mb3.7,baz=102,slow=8.1,SNR=10							
ZALV	**Zalesovo Beam**	**47.65**	**319**	P	**P**		**18 19 32.2**	**-0.3**
WRA	**Warramunga Arr**	**47.82**	**187**	P	**P**		**18 19 33.8**	**-0.5**
	0.2nm,0.4s,mb2.8,baz=5.7,slow=7.7,SNR=9.1							
WRA	**Warramunga Arr**	**47.82**	**187**	P	**P**		**18 19 33.8**	**-0.5**
PKI	**Pulchoki**	**47.98**	**283**	*e*P	**P**		**18 19 35.7**	**+0.2**
KKN	**Kakani**	**48.04**	**283**	*e*P	**P**		**18 19 36.1**	**+0.2**
	2.5nm,0.3s,mb4.0							
DMN	**Daman**	**48.23**	**283**	*e*P	**P**		**18 19 37.6**	**+0.2**
MKAR	**Makanchi Array**	**48.50**	**309**	P	**P**		**18 19 39.0**	**-0.1**
	1.0nm,0.4s,mb3.5,baz=88,slow=10.0,SNR=27							
MKAR	**Makanchi Array**	**48.50**	**309**	P	**P**		**18 19 39.0**	**-0.1**
GKN	**Gorkha**	**48.54**	**284**	*e*P	**P**		**18 19 39.3**	**-0.4**
KOLN	**Koldanda**	**49.49**	**284**	*e*P	**P**		**18 19 46.6**	**-0.1**
	3.2nm,0.3s,mb4.2							
KURK	**Kurchatov**	**51.08**	**314**	P	**P**		**18 19 58.1**	**+0.2**
	6.6nm,0.5s,mb4.2,baz=91,slow=8.2,SNR=86							
KURK	**Kurchatov**	**51.08**	**314**	*e*P	**P**		**18 19 57.8**	**-0.2**
BRVK	**Borovoye**	**56.24**	**317**	*e*P	**P**		**18 20 34.9**	**+0.3**
	6.2nm,0.7s,mb4.0							
KKAR	**Karatay Array**	**57.07**	**305**	*e*P	**P**		**18 20 40.5**	**0.0**
	4.3nm,0.6s,mb4.0							
ILAR	**Eielson Array**	**57.99**	**29**	P	**P**		**18 20 48.5**	**+2.0**
	0.4nm,0.7s,mb2.8,baz=235,slow=5.5,SNR=5.1							
ILAR	**Eielson Array**	**57.99**	**29**	P	**P**		**18 20 48.5**	**+2.0**
AKTK	**Aktyubinsk**	**64.14**	**315**	P	**P**		**18 21 26.6**	**-0.6**
AKTO	**Aktyubinsk**	**64.14**	**315**	P	**P**		**18 21 26.6**	**-0.6**
	1.4nm,0.7s,mb3.6,baz=88,slow=8.8,SNR=6.4							
ARCES	**ARCESS Array B**	**72.19**	**340**	P	**P**		**18 22 16.4**	**+0.5**
	7.4nm,1.0s,mb4.2,baz=48,slow=9.9,SNR=5.5							
ARCES	**ARCESS Array B**	**72.19**	**340**	P	**P**		**18 22 16.4**	**+0.5**
JOF	**Joensuu**	**73.55**	**333**	*e*p	**P**		**18 22 22.6**	**-1.2**
	2.3nm,0.7s,mb3.8							
KAF	**Kangasniemi**	**75.95**	**334**	*e*p	**P**		**18 22 36.6**	**-0.7**
	2.0nm,0.4s,mb4.0							
FINES	**FINESS Array B**	**76.41**	**333**	P	**P**		**18 22 40.0**	**+0.1**
	3.1nm,0.3s,mb4.3,baz=64,slow=4.9,SNR=34							
NOA	**NORSAR Array B**	**82.19**	**337**	P	**P**		**18 23 10.4**	**-0.2**
	0.9nm,0.7s,mb3.4,baz=43,slow=5.3,SNR=3.4							
NOA	**NORSAR Array B**	**82.19**	**337**	P	**P**		**18 23 10.4**	**-0.2**
BRTR	**Keskin Array B**	**84.07**	**312**	P	**P**		**18 23 20.1**	**-0.3**
	0.2nm,0.4s,mb3.0,baz=82,slow=3.1,SNR=2.1							
BRTR	**Keskin Array B**	**84.07**	**312**	P	**P**		**18 23 20.1**	**-0.3**

*ISCJB **13** 18:12:54.2±0.4, 57°.04S±0°.07×141°.0W±0°.1, h10km, mb4.8/16, MS4.6/11, Error ellipse: s-maj=11.0km s-min=8.9km az=43.7*
*IDC **13** 18:12:54.0±0.6, 56°.75S×140°.97W, h0km, mb4.7/10, mb1 4.8/10, mb1mx4.7/16, mbtmp4.7/10, MS4.6/11, Ms1 4.6/11, ms1mx4.5/14, Error ellipse: s-maj=28.3km s-min=14.7km az=6.0*
*NEIC **13** 18:12:55.9±0.3, 56°.90S×141°.00W, h10km, mb5.1/8, Error ellipse: s-maj=15.5km s-min=9.5km az=187.0*
*GCMT **13** 18:12:59.9±0.1, 57°.13S×140°.84W, h19km, MW5.3, Moment Tensor Solution. s75,c124; s96,c151; Moment tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{r\phi}$0.00; $M_{\theta\phi}$0.00; Best double couple: $M_0$1.30000×10^{17} NP1:$\phi_0$21.00000°, δ83.00000°, λ176.00000°. NP2:$\phi_0$111.00000°, δ86.00000°, λ7.00000°. Principal axes: T 1.3500, Plg8.0000°, Azm336.0000°; N -0.1100, Plg82.0000°, Azm141.0000°; P -1.2400, Plg2.0000°, Azm246.0000°; Data Used: II IU IC G CN.*
ISC 13 18:12:56.1±0.4, 56°.99S±0°.07×141°.0W±0°.1, h10km, n89, σ1s26/44, mb4.8/16, MS4.6/11, 5D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
VNDA	**Vanda**	**28.19**	**203**	LR	LR		18 28 30.6	
	comp=Z,4.8nm,20.3s,baz=79,slow=33							
RPZ	**Rata Peaks**	**32.65**	**273**	P	**P**		**18 19 30.6**	**+2.8**
	11nm,0.9s,mb4.8,baz=181,slow=4.9,SNR=4.7							
RPZ				LR	LR		18 29 18.2	
	comp=Z,1μm,20.6s,MS4.6,baz=128,slow=30							
RPZ	**Rata Peaks**	**32.65**	**273**	P	**P**		**18 19 30.6**	**+2.8**
RPZ				LR	LR		18 29 18.2	
QSPA	**South Pole Qui**	**33.16**	**180**	P	**P**		**18 19 35.0**	**+3.0**
	29nm,1.0s,mb5.2,baz=76,slow=4.2,SNR=59							
QSPA	**South Pole Qui**	**33.16**	**180**	*e*P	**P**		**18 19 34.8**	**+2.8**
	115nm,1.5s,mb5.6							
URZ	**Urewera**	**33.21**	**286**	LR	LR		18 29 45.6	
	comp=Z,1μm,20.8s,MS4.6,baz=141,slow=30							
RKT	**Rikitea**	**34.12**	**10**	*e*LQ			18 27 18.4	
RKT	2μm,28.5s							
				*e*LR	LR		18 28 42.3	
	3μm,28.2s,baz=186							
TBI	**Tubuai**	**34.17**	**346**	*e*S	**S**		**18 25 06.4**	**-1.1**
	300nm,28.5s							
TBI				*e*LR	LR		18 28 33.0	
	3μm,29.0s,baz=172							
DRV	**Dumont d'Urvil**	**35.99**	**222**	S	**S**		**18 25 32.0**	**-2.6**
DRV				L			18 28 00.0	
DRV				R			18 30 00.0	
USHA	**Ushuaia**	**38.95**	**119**	P	**P**		**18 20 22.5**	**+0.8**
	12nm,0.8s,mb4.6,baz=216,slow=3.6,SNR=4.7							
USHA	**Ushuaia**	**38.95**	**119**	P	**P**		**18 20 22.5**	**+0.8**
PPT	**Papeete**	**39.89**	**347**	*e*S	**S**		**18 26 32.2**	**-2.3**
	582nm,26.8s							
PPT				*e*LR	LR		18 31 10.2	
	4μm,28.2s,baz=179							
PPT	**Papeete**	**39.89**	**347**	LR	LR		18 32 36.9	
	comp=Z,839nm,18.9s,MS4.6,baz=198,slow=30							
VNA3	**Nenayer Olymp**	**47.54**	**161**	*e*	**P**		**18 21 28.3**	**-2.6**
TAOE	**Nuku Hiva Isla**	**48.02**	**1**	*e*S	**S**		**18 28 32.4**	**-0.8**
	344nm,24.8s							
TAOE				*e*LR	LR		18 35 05.6	
	2μm,27.8s,baz=194							
VNA2	**Neumayer--Watz**	**48.22**	**161**	*e*	**P**		**18 21 33.8**	**-2.3**
	baz=214,slow=7.5							
VNA1	**Neumayer--Stat**	**48.29**	**161**	*e*	**P**		**18 21 34.9**	**-1.8**
SNAA	**Sanae**	**48.32**	**164**	*e*P	**P**		**18 21 37.0**	**+0.1**
	16nm,0.8s,mb5.1							
AFI	**Afiamalu**	**48.97**	**319**	LR	LR		18 37 13.1	
	comp=Z,408nm,18.5s,MS4.5,baz=151,slow=30							
MSVF	**Nonsavu**	**49.67**	**305**	*e*P	**P**		**18 21 48.5**	**+0.7**
MAIT	**Maitri**	**51.06**	**169**	*e*P	**P**		**18 21 58.7**	**+0.9**
DZM	**Mont Dzumac**	**51.60**	**290**	*e*S	**S**		**18 29 22.3**	**-0.9**
	542nm,28.1s							
DZM				*e*LQ			18 34 45.5	
	2μm,25.6s							
DZM				*e*LR	LR		18 36 44.6	
	1μm,24.7s							
ARMA	**Armidale**	**52.89**	**270**	*e*P	**P**		**18 22 13.7**	**+1.7**
TRQA	**Tornquist**	**53.40**	**105**	*e*P	**P**		**18 22 15.6**	**0.0**
	43nm,1.3s,mb5.2							
SYO	**Syowa Base**	**54.30**	**180**	‖P	**P**		**18 22 21.0**	**-0.8**
MAW	**Mawson**	**54.47**	**191**	P	**P**		**18 22 24.2**	**+1.3**
	4.0nm,0.7s,mb4.5,baz=172,slow=8.0,SNR=9.5							
MAW				LR	LR		18 43 10.6	
	comp=Z,528nm,20.9s,MS4.6,baz=159,slow=33							
MAW	**Mawson**	**54.47**	**191**	P	**P**		**18 22 24.2**	**+1.3**
MAW				LR	LR		18 43 10.6	
STKA	**Stephens Creek**	**57.24**	**261**	P	**P**		**18 22 43.9**	**+0.5**
	8.4nm,0.9s,mb4.8,baz=137,slow=4.2,SNR=9.4							
STKA				LR	LR		18 42 15.4	
	comp=Z,568nm,19.8s,MS4.7,baz=47,slow=31							
STKA	**Stephens Creek**	**57.24**	**261**	*e*P	**P**		**18 22 44.7**	**+1.3**
	6.9nm,0.9s,mb4.7							
STKA	**Stephens Creek**	**57.24**	**261**	*e*P	**P**		**18 22 43.9**	**+0.5**
STKA				LR	LR		18 42 15.4	
CTA	**Charters Tower**	**64.02**	**273**	P	**P**		**18 23 30.1**	**+0.4**
	16nm,1.0s,mb5.0,baz=157,slow=8.6,SNR=13							
CTA	**Charters Tower**	**64.02**	**273**	*e*P	**P**		**18 23 30.0**	**+0.3**
	11nm,0.9s,mb4.9							
CTA	**Charters Tower**	**64.02**	**273**	P	**P**		**18 23 30.1**	**+0.4**
CTAO	**Charters Tower**	**64.02**	**273**	*e*P	**P**		**18 23 29.9**	**+0.2**
	17nm,1.0s,mb5.0							
CPUP	**Villa Florida**	**64.94**	**100**	P	**P**		**18 23 34.5**	**-1.1**
	2.9nm,0.6s,mb4.5,baz=240,slow=9.2,SNR=9.1							
CPUP				LR	LR		18 46 59.0	
	comp=Z,403nm,18.3s,MS4.7,baz=205,slow=32							
CPUP	**Villa Florida**	**64.94**	**100**	P	**P**		**18 23 34.5**	**-1.1**
CPUP				LR	LR		18 46 59.0	
LPAZ	**La Paz**	**67.15**	**85**	P	**P**		**18 23 51.0**	**+1.0**
	9.1nm,0.8s,mb4.9,baz=208,slow=3.5,SNR=25							
LPAZ				LR	LR		18 45 48.5	
	comp=Z,275nm,19.9s,MS4.5,baz=27,slow=29							
LPAZ	**La Paz**	**67.15**	**85**	*e*P	**P**		**18 23 50.7**	**+0.8**
	15nm,0.8s,mb5.1							
LPAZ				LR	LR		18 45 48.5	
ASAR	**Alice Springs**	**67.87**	**260**	P	**P**		**18 23 53.8**	**-0.7**
	4.6nm,0.8s,mb4.5,baz=141,slow=6.5,SNR=38							
ASAR	**Alice Springs**	**67.87**	**260**	P	**P**		**18 23 53.8**	**-0.7**
ATAH	**Atahualpa**	**69.30**	**70**	LR	LR		18 47 26.8	
	comp=Z,235nm,21.3s,MS4.4,baz=199,slow=30							
WB2	**Warramunga Arr**	**70.64**	**263**	*e*P	**P**		**18 24 11.1**	**-0.6**
WRA	**Warramunga Arr**	**70.65**	**263**	P	**P**		**18 24 11.1**	**-0.6**
	5.8nm,1.0s,mb4.5,baz=145,slow=5.5,SNR=32							
WRA	**Warramunga Arr**	**70.65**	**263**	P	**P**		**18 24 11.1**	**-0.6**
WRAB	**Tennant Creek**	**70.65**	**263**	*e*P	**P**		**18 24 10.9**	**-0.8**
	5.5nm,0.9s,mb4.5							
OTAV	**Otavalo**	**75.57**	**66**	*e*P	**P**		**18 24 42.1**	**+1.3**
	15nm,1.2s,mb4.8							
FITZ	**Fitzroy Crossi**	**76.84**	**257**	P	**P**		**18 24 48.0**	**-0.1**
	3.0nm,0.9s,mb4.2,baz=228,slow=6.1,SNR=5.6							
FITZ	**Fitzroy Crossi**	**76.84**	**257**	*e*P	**P**		**18 24 48.5**	**+0.4**
	5.8nm,0.8s,mb4.6							
FITZ	**Fitzroy Crossi**	**76.84**	**257**	P	**P**		**18 24 48.0**	**-0.1**
TEIG	**Tepich**	**88.63**	**48**	*e*P	**P**		**18 25 49.9**	**+0.9**
	7.3nm,0.9s,mb5.0							
BOSA	**Boshof**	**93.94**	**168**	LR	LR		19 04 34.2	
	comp=Z,304nm,19.1s,MS4.8,baz=166,slow=33							
NVAR	**Mina Array Bea**	**96.97**	**18**	LR	LR		18 59 33.4	
	comp=Z,402nm,20.7s,MS4.9,baz=32,slow=29							
ILAR	**Eielson Array**	**121.52**	**357**	PKP	PKPdf		18 31 47.5	-0.5
	3.2nm,0.9s,baz=227,slow=1.7,SNR=30							
ILAR	**Eielson Array**	**121.52**	**357**	PKP	PKPdf		18 31 47.5	-0.5
CMAR	**Chiang Mai Arr**	**121.59**	**255**	PKP	PKPdf		18 31 49.8	+0.1
	0.5nm,0.9s,baz=134,slow=4.1,SNR=4.2							
CMAR	**Chiang Mai Arr**	**121.59**	**255**	PKP	PKPdf		18 31 49.8	+0.1
TORD	**Torodi Ar. Bea**	**127.81**	**132**	PKP	PKPdf		18 32 00.3	-1.4
	0.8nm,0.9s,baz=228,slow=1.1,SNR=4.1							
TORD				PP	PP		18 33 59.3	-4.0
	2.4nm,1.2s,baz=209,slow=6.1,SNR=4.2							
TORD	**Torodi Ar. Bea**	**127.81**	**132**	PKP	PKPdf		18 32 00.3	-1.4
TORD				PP	PP		18 33 59.3	-4.0
PMRV	**Marv??o**	**145.25**	**100**	*e*PKP	PKPdf		18 32 33.0	-0.1
PCBR	**Castelo Branco**	**145.50**	**100**	*e*PKP	PKPdf		18 32 33.6	+0.1
MTE	**Manteigas**	**145.85**	**99**	*e*PKP	PKPdf		18 32 36.5	+2.4
POLO	**Lamas de Olo**	**146.40**	**97**	*e*PKP	PKPdf		18 32 36.8	+1.8
SUMG	**Summit**	**146.49**	**32**	*e*PKPbc	PKPbc		18 32 36.8	+1.1
SUMG	**Summit**	**146.49**	**32**	*i* P	PKPdf		18 32 37.1	+2.9
	6.0nm,0.9s							
MVO	**Moncorvo**	**146.67**	**98**	*e*PKP	PKPdf		18 32 37.5	+2.1
ESDC	**Sonseca Array**	**147.26**	**103**	PKPbc	PKPbc		18 32 39.0	+0.2
	2.3nm,0.7s,baz=230,slow=2.4,SNR=15							
ESDC	**Sonseca Array**	**147.26**	**103**	PKPbc	PKPbc		18 32 39.0	+0.2
PBRG	**Braganca**	**147.27**	**98**	*e*PKP	PKPdf		18 32 39.1	+2.7
KBL	**Kabul**	**149.72**	**235**	*e*PKPbc	PKPbc		18 32 45.9	+0.5
KEST	**Kesra**	**150.86**	**124**	PKPbc	PKPbc		18 32 47.5	-0.6
	2.2nm,0.9s,baz=203,slow=1.5,SNR=3.6							
KEST	**Kesra**	**150.86**	**124**	PKPbc	PKPbc		18 32 47.5	-0.6
MK31	**Makanchi Array**	**151.88**	**267**	*e*PKPbc	PKPbc		18 32 49.1	-0.9
MKAR	**Makanchi Array**	**151.88**	**267**	PKPbc	PKPbc		18 32 49.4	-0.6
	3.8nm,0.9s,baz=116,slow=5.6,SNR=20							
MKAR	**Makanchi Array**	**151.88**	**267**	PKPbc	PKPbc		18 32 49.4	-0.6
TKM2	**Tokmak 2**	**152.97**	**254**	*e*PKPbc	PKPbc		18 32 50.7	-1.9
ZAA0	**Zalesovo Array**	**154.24**	**283**	*e*PKPbc	PKPbc		18 32 56.8	+1.8
ZALV	**Zalesovo Beam**	**154.24**	**283**	PKPbc	PKPbc		18 32 53.9	-1.1
	0.6nm,0.7s,baz=101,slow=7.7,SNR=4.4							
ZALV				PKPab	PKPab		18 33 07.0	-2.1
	1.8nm,0.7s,baz=106,slow=2.2,SNR=8.1							
ZALV	**Zalesovo Beam**	**154.24**	**283**	PKPbc	PKPbc		18 32 53.9	-1.1
ZALV				PKPab	PKPab		18 33 07.0	-2.1
KURK	**Kurchatov**	**156.09**	**272**	PKP	PKPdf		18 32 53.8	+4.4
	0.5nm,0.7s,baz=116,slow=2.2,SNR=3.6							
KURK				PKPab	PKPab		18 33 17.2	+0.2
	1.9nm,1.0s,baz=124,slow=2.9,SNR=7.8							
KURK	**Kurchatov**	**156.09**	**272**	PKP	PKPdf		18 32 53.8	+4.4
KURK				PKPab	PKPab		18 33 17.2	+0.2
BRTR	**Keskin Array B**	**162.36**	**166**	PKPab	PKPab		18 33 43.1	-1.4
	2.1nm,0.8s,baz=182,slow=9.0,SNR=8.2							
GERES	**GERESS Array B**	**162.77**	**107**	PKPab	PKPab		18 33 46.1	-0.1
	1.6nm,1.1s,baz=132,slow=2.0,SNR=4.4							
CLL	**Collm**	**163.78**	**99**	*e*SKKSac	SKKSac		18 44 30.0	+6.4
CLL				*e*PSKS			18 48 21.0	
CLL				*e*SS	SS		18 58 07.0	+1.8
CLL				*e*SSS			19 04 19.0	
CLL				*e*SSSS			19 08 42.0	
CLL				LmV			19 53 00.0	
	comp=Z,100nm,19.1s							
MLR	**Muntele Rosu**	**165.90**	**139**	‖ *i* P	PKPab		18 33 59.4	-0.6
PLOR	**Plostina**	**166.46**	**140**	‖ *i* P	PKPab		18 33 58.8	-3.7
VRI	**Vrincioaia**	**166.50**	**140**	‖ *i* P	PKPab		18 34 01.2	-1.4
AKTO	**Aktyubinsk

EARI				S		Sn	18 19 41.1	-2.2
	0.7nm,0.3s,SNR=7.9							
EARI	**Arriondas**	**7.43**	**85**	P		**Pn**	**18 18 18.4**	**-0.6**
	0.4nm,0.1s,SNR=7.9							
EARI				S		Sn	18 19 41.1	-2.2
	0.7nm,0.3s,SNR=7.9							
EPLA	**Plasencia**	**7.61**	**111**	P		**Pn**	**18 18 20.9**	**-0.6**
	0.6nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**7.61**	**111**	P		**Pn**	**18 18 20.9**	**-0.5**
	0.6nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**7.69**	**122**	P		**Pn**	**18 18 21.4**	**-1.1**
	1.0nm,0.1s,SNR=7.9							
EBAD				S		Sn	18 19 49.8	+0.1
	0.8nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**7.69**	**122**	P		**Pn**	**18 18 21.4**	**-1.1**
	1.0nm,0.1s,SNR=7.9							
EBAD				S		Sn	18 19 49.8	+0.1
	0.8nm,0.2s,SNR=7.9							
PCVE	**Castro Verde**	**7.84**	**132**	*e*Pn		**Pn**	**18 18 24.9**	**+0.3**
PCVE				*e*Sn		**Sn**	**18 19 52.4**	**-1.0**
PCVE	**Castro Verde**	**7.84**	**132**	*e*Pn		**Pn**	**18 18 24.9**	**+0.3**
PCVE				*e*Sn		**Sn**	**18 19 52.4**	**-1.0**
PBAR	**Barrancos**	**8.04**	**125**	*e*Pn		**Pn**	**18 18 27.1**	**-0.2**
PBAR	**Barrancos**	**8.04**	**125**	*e*Pn		**Pn**	**18 18 27.1**	**-0.2**
EMIN	**Mina Concepcio**	**8.53**	**126**	P		**Pn**	**18 18 34.3**	**+0.3**
	1.0nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**8.53**	**126**	P		**Pn**	**18 18 34.3**	**+0.3**
	1.0nm,0.2s,SNR=7.9							
ELAN	**Lanestosa**	**8.73**	**85**	P		**Pn**	**18 18 36.6**	**-0.2**
	1.0nm,0.4s,SNR=7.9							
ELAN				S		Sn	18 20 13.4	-1.8
	2.5nm,0.4s,SNR=7.9							
ELAN	**Lanestosa**	**8.73**	**85**	P		**Pn**	**18 18 36.7**	**-0.1**
	1.0nm,0.4s,SNR=7.9							
ELAN				S		Sn	18 20 13.4	-1.9
	2.5nm,0.4s,SNR=7.9							
GUD	**Guadarrama**	**8.73**	**103**	P		**Pn**	**18 18 37.9**	**+1.1**
	2.3nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**8.73**	**103**	P		**Pn**	**18 18 37.9**	**+1.0**
	2.3nm,0.2s,SNR=7.9							
ESDC	**Sonseca Array**	**9.25**	**108**	P		**Pn**	**18 18 44.4**	**+0.5**
	1.7nm,0.2s,baz=297,slow=13,SNR=4.6							
ESDC	**Sonseca Array**	**9.25**	**108**	P		**Pn**	**18 18 44.4**	**+0.5**
	1.7nm,0.2s,SNR=4.6							
EADA	**Adamuz**	**9.59**	**117**	P		**Pn**	**18 18 48.0**	**-0.6**
	0.8nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**9.59**	**117**	P		**Pn**	**18 18 48.0**	**-0.5**
	0.8nm,0.2s,SNR=7.9							

IDC ***13*** *18:19:15.7±1.0,55.°85S×26.°97W,h0km,mb3.9/4, mb1 4.1/4,mb1mx3.7/15,mbtmp3.9/4,MS3.9/2,Ms1 3.9/2, ms1mx3.2/18,Error ellipse: s-maj=47.6km s-min=23.9km az=86.0*

ISCJB ***13*** *18:19:16.1±1.0,55.°8S±0.°1×27.°0W±0.°5,h10km,mb4.0/4, MS3.7/2,Error ellipse: s-maj=40.7km s-min=16.1km az=161.2*

ISC 13 18:19:18.0±1.0,55.°9S±0.°1×27.°0W±0.°5,h10km,n9,σ1§24/6, mb4.0/4,MS3.7/2,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olympr**	**17.14**	**161**	*e*P	**Pn**	**18 23 16.4**	**-0.8**
VNA3				*e*		18 23 18.6	
VNA2	**Neumayer--Watz**	**17.33**	**158**	*e*P	**Pn**	**18 23 21.4**	**+1.8**
	baz=315,slow=14						
VNA2				*e*		18 23 22.3	
PMSA	**Palmer Station**	**20.11**	**229**	LR	LR	18 28 37.6	
	comp=Z,188nm,21.6s,MS3.4,baz=313,slow=28						
USHA	**Ushuaia**	**23.34**	**255**	LR	LR	18 30 36.8	
	comp=Z,522nm,18.4s,MS4.0,baz=216,slow=29						
QSPA	**South Pole Qui**	**34.40**	**180**	P	**P**	**18 26 03.9**	**-0.8**
	1.6nm,0.8s,mb4.0,baz=202,slow=11,SNR=11						
VNDA	**Vanda**	**46.77**	**183**	P	**P**	**18 27 46.7**	**-0.2**
	1.0nm,0.6s,mb3.9,baz=158,slow=6.2,SNR=11						
LPAZ	**La Paz**	**50.36**	**305**	P	**P**	**18 28 15.6**	**+0.5**
	0.7nm,0.3s,mb4.1,baz=194,slow=4.2,SNR=4.6						
TORD	**Torodi Ar. Bea**	**72.83**	**29**	P	**P**	**18 30 46.4**	**-0.3**
	0.5nm,0.4s,mb3.8,baz=200,slow=6.0,SNR=8.7						
ILAR	**Eielson Array**	**150.07**	**312**	PKPbc	PKPbc	18 39 05.0	-2.2
	0.4nm,0.7s,baz=121,slow=1.6,SNR=6.8						

NEIC ***13*** *18:20:30.4±1.4,27.°91N×140.°21E,h424km±17km,mb3.7/3, Error ellipse: s-maj=35.1km s-min=9.7km az=74.0*

ISCJB ***13*** *18:20:35.6±0.5,27.°82N±0.°07×140.°2E±0.°2,h504km±9km, mb3.6/15,Error ellipse: s-maj=32.3km s-min=8.2km az=168.4*

JMA ***13*** *18:20:37.7±0.1,28.°02N×140.°46E,h495km,M3.6*

IDC ***13*** *18:20:40.4±5.9,27.°73N×139.°67E,h531km±62km, mb3.1/11,mb1 3.2/12,mb1mx3.0/25,mbtmp3.1/12,Error ellipse: s-maj=75.2km s-min=11.1km az=73.0*

ISC 13 18:20:36.8±0.5,27.°89N±0.°07×140.°3E±0.°2,h504km±9km, n37,σ0§90/41,mb3.6/15,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.86**	**115**	P	**P**	**18 21 41.7**	**+0.1**
CBIJ				*e*S	**S**	**18 22 31.7**	**-2.4**
JHHJ	**Haha-jima-NKT**	**2.10**	**126**	P	**P**	**18 21 43.3**	**+0.5**
BSO1	**Boso 1**	**6.76**	**5**	P	**P**	**18 22 22.2**	**+1.6**
BSO3	**Boso 3**	**6.89**	**1**	P	**P**	**18 22 22.9**	**+1.1**
JKN2	**Miekihoku**	**7.20**	**332**	P	**P**	**18 22 26.0**	**+1.0**
JHU	**Hanno**	**7.98**	**354**	*e*S	**S**	**18 24 07.4**	**-0.9**
JRY	**Ryogami san**	**8.19**	**352**	P	**P**	**18 22 35.3**	**+0.3**
JRY				*e*S	**S**	**18 24 11.0**	**-1.1**
JAG	**Ashikaga**	**8.54**	**355**	P	**P**	**18 22 38.7**	**+0.1**
JAG				*e*S	**S**	**18 24 13.9**	**-4.9**
JHO	**Hitachi**	**8.70**	**1**	P	**P**	**18 22 41.8**	**+1.5**
JHO				*e*S	**S**	**18 24 21.0**	**-0.8**
MAJO	**Matsushiro**	**8.80**	**349**	P	**P**	**18 22 33.8**	**-7.6**
KSRS	**Korea Array**	**14.11**	**316**	P	**P**	**18 23 38.9**	**+1.5**
	0.3nm,0.3s,baz=145,slow=8.6,SNR=7.1						
SONM	**Songino Array**	**32.98**	**316**	P	**P**	**18 26 28.4**	**-0.8**
	0.6nm,0.6s,mb3.2,baz=130,slow=9.3,SNR=4.9						
SONM	**Songino Array**	**32.98**	**316**	P	**P**	**18 26 28.4**	**-0.8**
ZALV	**Zalesovo Beam**	**47.79**	**319**	P	**P**	**18 28 26.9**	**-0.6**
	0.9nm,0.3s,mb3.5,baz=97,slow=6.8,SNR=6.0						
ZALV	**Zalesovo Beam**	**47.79**	**319**	P	**P**	**18 28 26.9**	**-0.6**
WRA	**Warramunga Array**	**47.90**	**188**	P	**P**	**18 28 28.1**	**-0.7**
	0.9nm,0.3s,mb3.5,baz=4.9,slow=7.7,SNR=26						
WRA	**Warramunga Arr**	**47.90**	**188**	P	**P**	**18 28 28.1**	**-0.7**
MKAR	**Makanchi Array**	**48.67**	**309**	P	**P**	**18 28 33.6**	**-0.7**
	0.7nm,0.4s,mb3.3,baz=90,slow=9.6,SNR=7.8						
MKAR	**Makanchi Array**	**48.67**	**309**	P	**P**	**18 28 33.6**	**-0.7**
KURK	**Kurchatov**	**51.23**	**314**	P	**P**	**18 28 52.8**	**-0.2**
	4.7nm,0.6s,mb4.0,baz=91,slow=8.4,SNR=55						
KURK	**Kurchatov**	**51.23**	**314**	*e*P	**P**	**18 28 52.1**	**-0.9**
	3.4nm,0.7s,mb3.8						
ASAR	**Alice Springs**	**51.63**	**187**	P	**P**	**18 28 56.1**	**-0.1**
	0.5nm,0.4s,mb3.2,baz=2.7,slow=5.1,SNR=27						
ASAR	**Alice Springs**	**51.63**	**187**	P	**P**	**18 28 56.1**	**-0.1**
KKAR	**Karatay Array**	**57.26**	**305**	*e*P	**P**	**18 29 35.4**	**-0.3**
	2.4nm,0.6s,mb3.7						
STKA	**Stephens Creek**	**59.45**	**179**	P	**P**	**18 29 51.4**	**+0.9**
	0.8nm,0.6s,mb3.2,baz=350,slow=12,SNR=3.2						
STKA	**Stephens Creek**	**59.45**	**179**	P	**P**	**18 29 51.4**	**+0.9**
ABKAR	**Akbulak array**	**63.34**	**314**	*e*P	**P**	**18 30 15.4**	**-0.5**
	1.2nm,0.8s,mb3.5						
AKTK	**Aktyubinsk**	**64.29**	**315**	P	**P**	**18 30 21.8**	**-0.1**
AKTO	**Aktyubinsk**	**64.29**	**315**	P	**P**	**18 30 21.8**	**-0.1**
	0.6nm,0.5s,mb3.4,baz=77,slow=14,SNR=4.9						
ARCES	**ARCESS Array B**	**72.23**	**340**	P	**P**	**18 31 11.1**	**+1.2**
	5.1nm,0.9s,mb4.1,baz=52,slow=9.8,SNR=5.3						
ARCES	**ARCESS Array B**	**72.23**	**340**	P	**P**	**18 31 11.1**	**+1.2**
JOF	**Joensuu**	**73.62**	**333**	*e*p	**P**	**18 31 17.9**	**-0.1**
	0.4nm,0.3s,mb3.4						
KAF	**Kangasniemi**	**76.02**	**334**	*e*p	**P**	**18 31 30.1**	**-1.4**
	2.0nm,0.5s,mb3.9						
FINES	**FINESS Array B**	**76.49**	**333**	P	**P**	**18 31 34.8**	**+0.7**
	2.0nm,0.3s,mb4.1,baz=67,slow=4.9,SNR=26						
FINES	**FINESS Array B**	**76.49**	**333**	P	**P**	**18 31 34.8**	**+0.7**
NOA	**NORSAR Array B**	**82.24**	**338**	P	**P**	**18 32 04.9**	**+0.3**
	1.4nm,0.9s,mb3.5,baz=46,slow=4.9,SNR=1.9						
NOA	**NORSAR Array B**	**82.24**	**338**	P	**P**	**18 32 04.9**	**+0.3**

ISCJB ***13*** *18:21:40.4±0.7,32.°2N±0.°1×84.°9E±0.°1,h10km,mb3.6/7, Error ellipse: s-maj=18.0km s-min=11.3km az=137.6*

IDC ***13*** *18:21:40.6±1.1,32.°19N×84.°97E,h0km,mb3.5/6, mb1 3.7/8,mb1mx3.5/26,mbtmp3.6/8,ML3.4/2,Error ellipse: s-maj=36.1km s-min=19.8km az=61.0*

NEIC ***13*** *18:21:41.8±0.7,32.°11N×85.°02E,h10km,mb3.6/2,Error ellipse: s-maj=18.3km s-min=10.6km az=222.0*

ISC 13 18:21:42.2±0.7,32.°17N±0.°10×85.°0E±0.°1,h10km,n22, σ0§72/22,mb3.6/7,Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**5.87**	**113**	*e*P	**Pn**	**18 23 05.4**	**-3.8**
	10nm,0.8s						
KBL	**Kabul**	**13.51**	**284**	P	**Pn**	**18 24 53.5**	**-0.4**
	4.9nm,0.7s						
MKAR	**Makanchi Array**	**14.75**	**353**	Pn	**Pn**	**18 25 15.9**	**+5.2**
	baz=186,slow=12,SNR=2.5						
MKAR	**Makanchi Array**	**14.75**	**353**	Pn	**Pn**	**18 25 15.9**	**+5.2**
CMAR	**Chiang Mai Arr**	**18.58**	**134**	P	**Pn**	**18 26 00.0**	**+0.2**
	0.1nm,0.3s,baz=326,slow=13,SNR=8.1						
CMAR	**Chiang Mai Arr**	**18.58**	**134**	P	**Pn**	**18 26 00.0**	**+0.2**
KURK	**Kurchatov**	**19.11**	**348**	P	**Pn**	**18 26 03.5**	**-2.5**
	0.0nm,0.3s,baz=164,slow=10,SNR=9.4						
KURK	**Kurchatov**	**19.11**	**348**	*e*P	**Pn**	**18 26 06.4**	**+0.4**
	2.9nm,0.9s						
ZAA0	**Zalesovo Array**	**21.77**	**360**	*e*P	**P**	**18 26 34.8**	**+0.9**
ZALV	**Zalesovo Beam**	**21.77**	**360**	P	**P**	**18 26 33.0**	**-0.9**
	2.0nm,0.6s,mb3.7,baz=179,slow=9.9,SNR=12						
ZALV	**Zalesovo Beam**	**21.77**	**360**	P	**P**	**18 26 33.0**	**-0.9**
SONM	**Songino Array**	**22.57**	**40**	P	**P**	**18 26 42.9**	**+0.3**
	0.9nm,0.9s,mb3.2,baz=224,slow=8.3,SNR=6.1						
SONM	**Songino Array**	**22.57**	**40**	P	**P**	**18 26 42.9**	**+0.3**
ABKAR	**Akbulak array**	**25.33**	**320**	*e*P	**P**	**18 27 09.4**	**+0.3**
	1.2nm,0.6s,mb3.6						
FINES	**FINESS Array B**	**47.52**	**326**	P	**P**	**18 30 17.7**	**+0.4**
	3.4nm,1.0s,mb4.3,baz=102,slow=6.6,SNR=5.2						
FINES	**FINESS Array B**	**47.52**	**326**	P	**P**	**18 30 17.7**	**+0.4**
WRA	**Warramunga Arr**	**70.14**	**131**	P	**P**	**18 32 54.8**	**-0.3**
	0.2nm,0.5s,mb3.4,baz=326,slow=6.5,SNR=3.0						
WRA	**Warramunga Arr**	**70.14**	**131**	P	**P**	**18 32 54.8**	**-0.3**
ASAR	**Alice Springs**	**72.59**	**134**	P	**P**	**18 33 10.1**	**+0.2**
	0.2nm,0.5s,mb3.3,baz=332,slow=7.8,SNR=4.3						
ASAR	**Alice Springs**	**72.59**	**134**	P	**P**	**18 33 10.1**	**+0.2**
TORD	**Torodi Ar. Bea**	**77.48**	**278**	P	**P**	**18 33 38.6**	**+0.2**
	0.4nm,0.7s,mb3.5,baz=44,slow=6.3,SNR=2.5						
TORD	**Torodi Ar. Bea**	**77.48**	**278**	P	**P**	**18 33 38.6**	**+0.2**

IDC ***13*** *18:30:30.1±1.1,13.°00N×124.°48E,h0km,mb3.5/7, mb1 3.6/7,mb1mx3.5/23,mbtmp3.5/7,MS3.0/2,Ms1 3.0/2, ms1mx2.7/19,Error ellipse: s-maj=46.4km s-min=19.6km az=67.0*

ISCJB ***13*** *18:30:32.9±0.7,13.°06N±0.°06×124.°5E±0.°1,h33km, mb3.5/7,MS2.9/2,Error ellipse: s-maj=19.7km s-min=5.4km az=158.9*

MAN ***13*** *18:30:32,13.°18N×124.°56E,h25km,mb4.7,ML3.6,MS3.6*

ISC 13 18:30:34.9±0.7,12.°98N±0.°06×124.°6E±0.°1,h35km,n12, σ0§78/14,mb3.5/7,MS2.9/2,1C-1D,Samar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**0.48**	**168**	*e*P	**Pn**	**18 30 45.2**	**-0.1**
CNP				*e*S	**Sn**	**18 30 51.9**	**-0.6**
PVCP	**Virac**	**0.72**	**327**	*e*P	**Pn**	**18 30 44.5**	**-4.2**
PVCP				*e*S	**Sn**	**18 30 54.0**	**-4.5**
PLP	**Palo**	**1.85**	**167**	*e*P	**Pn**	**18 31 05.7**	**+1.5**
PLP				*e*S	**Sn**	**18 31 25.4**	**-1.0**
RCP	**Roxas**	**2.27**	**232**	*e*P	**Pn**	**18 31 10.5**	**+0.6**
KSRS	**Korea Array**	**24.55**	**6**	P	**P**	**18 35 51.8**	**+0.4**
	1.1nm,0.9s,mb3.4,baz=185,slow=13,SNR=4.3						
KSRS				LR	LR	18 45 07.3	
	comp=Z,24nm,18.8s,MS2.7,baz=205,slow=36						
CMAR	**Chiang Mai Arr**	**25.23**	**286**	P	**P**	**18 35 57.5**	**-0.3**
	0.6nm,0.8s,mb3.2,baz=95,slow=10,SNR=3.3						
MJAR	**Matsushiro Arr**	**26.47**	**25**	LR	LR	18 45 14.3	
	comp=Z,51nm,19.1s,MS3.1,baz=315,slow=33						
WRA	**Warramunga Arr**	**34.10**	**163**	P	**P**	**18 37 15.7**	**-0.7**
	0.3nm,0.6s,mb3.4,baz=343,slow=9.0,SNR=2.3						
ASAR	**Alice Springs**	**37.55**	**166**	P	**P**	**18 37 47.3**	**+1.3**
	0.3nm,0.3s,mb3.5,baz=335,slow=7.0,SNR=9.9						
MKAR	**Makanchi Array**	**48.87**	**322**	P	**P**	**18 39 16.6**	**-0.5**
	1.3nm,0.9s,mb4.0,baz=116,slow=8.4,SNR=5.0						
ZALV	**Zalesovo Beam**	**51.45**	**331**	P	**P**	**18 39 36.5**	**-0.1**
	2.4nm,0.5s,mb3.6,baz=106,slow=9.4,SNR=4.1						
KURK	**Kurchatov**	**52.90**	**325**	P	**P**	**18 39 47.4**	**0.0**
	0.4nm,0.4s,mb3.7,baz=121,slow=7.6,SNR=4.9						

BJI ***13*** *18:43:12.8,24.°16N×109.°18W,h13km,mB5.2/4,mb4.8/2, Ms5.2/4,Ms7 4.9/4*

MOS ***13*** *18:43:14.8±1.4,24.°22N×109.°02W,h10km,mb5.0/9,Error ellipse: s-maj=10.1km s-min=5.7km az=85.8*

IDC ***13*** *18:43:14.7±0.9,24.°21N×108.°95W,h0km,mb4.5/10, mb1 4.6/13,mb1mx4.4/23,mbtmp4.4/13,ML3.5/3,MS4.0/10, Ms1 4.0/10,ms1mx3.7/31,Error ellipse: s-maj=24.7km s-min=17.5km az=106.0*

ISCJB ***13*** *18:43:15.3±0.4,24.°17N±0.°04×109.°00W±0.°04,h10km, mb4.8/51,MS4.1/8,Error ellipse: s-maj=6.3km s-min=3.5km az=36.4*

NEIC ***13*** *18:43:17.1±0.8,24.°38N×109.°02W,h10km,mb4.7/60, Error ellipse: s-maj=13.2km s-min=7.2km az=36.0*

MEX ***13*** *18:43:18.5±0.5,24.°02N×109.°29W,h5km,MD4.7*

ISC 13 18:43:15.8±0.5,24.°02N±0.°04×109.°01W±0.°04,h10km, n373,σ1§36/343,mb4.8/52,MS4.1/8,80C-62D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPIG	**La Paz**	**1.19**	**274**	*e*P	**Pb**	**18 43 33.9**	**-4.5**
LPIG				*i* S	**Sb**	**18 43 47.3**	**-6.6**
MAIG	**Mazatlaan**	**2.51**	**109**	*i* P	**Pn**	**18 44 00.4**	**+3.7**
MAIG				*i* S	**Sn**	**18 44 33.6**	**+6.2**
SRIG	**Santa Rosalia**	**4.39**	**319**	*i* P	**Pn**	**18 44 20.5**	**-2.2**
ANIG	**Ahuacatlan**	**5.09**	**125**	*i* P	**Pn**	**18 44 36.1**	**+3.9**
ANIG				*i* S	**Sn**	**18 45 38.2**	**+7.1**
HSIG		**5.28**	**341**	*i* P	**Pn**	**18 44 35.5**	**+0.7**
HSIG				*i* S	**Sn**	**18 45 34.1**	**-1.5**
ZAIG	**Zacatecas**	**6.05**	**101**	*i* S	**Sn**	**18 46 01.1**	**+6.4**
CGIG		**6.39**	**8**	*i* P	**Pn**	**18 44 54.0**	**+3.9**
CGIG				*i* S	**Sn**	**18 46 06.8**	**+3.8**
626A	**Big Bend Ranch**	**7.03**	**37**	⇑P	**Pn**	**18 44 56.3**	**-2.5**
	baz=6.9						
TXAR	**Lajitas Array**	**7.13**	**41**	Pn	**Pn**	**18 44 58.0**	**-2.3**
	0.5nm,0.3s,baz=213,slow=15,SNR=19						
TXAR				Lg		18 46 50.4	
	0.8nm,0.3s,baz=233,slow=37,SNR=2.8						
TXAR				LR	LR	18 48 02.3	
	comp=Z,672nm,22.0s,baz=5.0,slow=41						
TXAR	**Lajitas Array**	**7.13**	**41**	Pn	**Pn**	**18 44 58.0**	**-2.3**
TXAR				Lg		18 46 50.4	
TXAR				LR	LR	18 48 02.4	
TXAR	**Lajitas Array**	**7.13**	**41**	P	**Pn**	**18 44 58.0**	**-2.3**
318A	**Bisbee**	**7.44**	**354**	⇓P	**Pn**	**18 45 01.5**	**-3.1**
	baz=7.3						
526A	**Mary Lane Ranc**	**7.45**	**35**	⇓P	**Pn**	**18 45 01.7**	**-2.8**
	baz=7.3						
425A	**Indio Mountain**	**7.63**	**27**	⇑P	**Pn**	**18 45 04.8**	**-2.3**
	baz=7.5						
220A	**Playas Peak, P**	**7.87**	**3**	⇑P	**Pn**	**18 45 07.9**	**-2.4**
	baz=7.7						
217A	**Green Valley**	**7.89**	**349**	⇑P	**Pn**	**18 45 08.3**	**-2.3**
	baz=7.7						
219A	**White Tail Can**	**7.96**	**358**	⇓P	**Pn**	**18 45 08.9**	**-2.6**
	baz=7.8						
325A	**Bean Ranch, Si**	**8.15**	**25**	⇓P	**Pn**	**18 45 12.8**	**-1.5**
	baz=8.0						
TUC	**Tucson**	**8.41**	**350**	*e*P	**Pn**	**18 45 12.0**	**-5.7**
	5.0nm,0.9s						
TUC	**Tucson**	**8.41**	**350**	*e*P	**Pn**	**18 45 12.0**	**-5.8**
TUC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
120A	**U Bar Ranch, L**	**8.50**	**2**	⇓P	**Pn**	**18 45 18.1**	**-0.9**
	baz=8.3						
326A	**Caldwell Ranch**	**8.53**	**30**	⇑P	**Pn**	**18 45 18.2**	**-1.2**
	baz=8.4						
121A	**Cookes Peak, D**	**8.55**	**7**	⇑P	**Pn**	**18 45 18.0**	**-1.7**
	baz=8.4						
118A	**Hornack Ranch,**	**8.63**	**355**	⇓P	**Pn**	**18 45 18.5**	**-2.4**
	baz=8.5						
117A	**Oracle**	**8.66**	**350**	⇓P	**Pn**	**18 45 18.4**	**-2.8**
	baz=8.5						
428A	**Kincaid Ranch,**	**8.73**	**39**	⇓P	**Pn**	**18 45 21.0**	**-1.2**
	baz=8.6						
Z18A	**Geronimo**	**9.08**	**355**	⇓P	**Pn**	**18 45 24.9**	**-2.1**
	baz=8.9						
124A	**Stringfield Ra**	**9.20**	**19**	⇑P	**Pn**	**18 45 28.0**	**-0.6**
	baz=9.1						
Z22A	**Elephant Butte**	**9.38**	**11**	⇑P	**Pn**	**18 45 29.3**	**-1.7**
	baz=9.2						
125A	**Gardner Draw,**	**9.42**	**23**	⇓P	**Pn**	**18 45 30.3**	**-1.4**
	baz=9.3						
Y17A	**Roosevelt**	**9.78**	**351**	⇑P	**Pn**	**18 45 36.4**	**-0.1**
	baz=9.6						
Y20A	**Horse Springs,**	**9.87**	**3**	⇑P	**Pn**	**18 45 38.8**	**+1.0**
	baz=9.7						
Z25A	**Roswell**	**9.97**	**21**	⇓P	**Pn**	**18 45 38.6**	**-0.5**
	baz=9.8						
Y21A	**Point of Rocks**	**10.02**	**6**	⇓P	**Pn**	**18 45 41.1**	**+1.2**
	baz=9.9,SNR=8.6						
Y16A	**Circle Bar Ran**	**10.06**	**348**	⇑P	**Pn**	**18 45 40.4**	**0.0**
	baz=9.9						
LENM	**Lemitar**	**10.27**	**10**	P	**Pn**	**18 45 39.8**	**-3.4**
	comp=Z,14nm,1.1s						
BNM	**Barren Site**	**10.31**	**11**	*e*P	**Pn**	**18 45 43.8**	**0.0**
	comp=Z,7.3nm,1.0s						
Y15A	**Casa Rosa Ranc**	**10.32**	**344**	⇑P	**Pn**	**18 45 44.4**	**+0.4**
	baz=10						
GLA	**Glamis**	**10.35**	**332**	⇑P	**Pn**	**18 45 45.0**	**+0.6**
	baz=10						
GLA	**Glamis**	**10.35**	**332**	*e*P	**Pn**	**18 45 41.8**	**-2.6**
	comp=Z,37nm,1.3s						
GLA	**Glamis**	**10.35**	**332**	*e*P	**Pn**	**18 45 41.8**	**-2.6**
GLA				pmax	pmax		
	comp=Z,37nm,1.3s						
X19A	**St. Johns**	**10.38**	**359**	⇑P	**Pn**	**18 45 45.2**	**+0.5**
	baz=10						
JCT	**Junction City**	**10.42**	**50**	⇑P	**Pn**	**18 45 46.7**	**+1.4**
	baz=10						
JCT	**Junction City**	**10.42**	**50**	*e*P	**Pn**	**18 45 46.6**	**+1.3**
	comp=Z,34nm,1.3s						
JCT	**Junction City**	**10.42**	**50**	*e*P	**Pn**	**18 45 46.6**	**+1.3**
JCT				pmax	pmax		
	comp=Z,34nm,1.3s						
LAZ	**Ladron**	**10.48**	**9**	*e*P	**Pn**	**18 45 41.4**	**-4.7**
	comp=Z,14nm,1.3s						
X20A	**Quemado**	**10.50**	**2**	⇓P	**Pn**	**18 45 46.8**	**+0.4**
	baz=10						
Z27A	**Tatum**	**10.57**	**27**	⇓P	**Pn**	**18 45 48.8**	**+1.5**
	baz=10						
X16A	**Lo Mia Camp, P**	**10.58**	**349**	⇑P	**Pn**	**18 45 48.0**	**+0.5**
	baz=10						
DVTC	**Desert V Tower**	**10.63**	**326**	⇑P	**Pn**	**18 45 48.8**	**+0.5**
	baz=10						
Y12C	**Blythe**	**10.83**	**335**	⇑P	**Pn**	**18 45 53.6**	**+2.6**
	baz=11						
BAR	**Barrett**	**10.95**	**324**	P	**Pn**	**18 45 48.3**	**-4.3**
	comp=Z,27nm,1.4s						
MONP	**Monument Peak**	**10.98**	**325**	⇑P	**Pn**	**18 45 53.6**	**+0.6**
	baz=11						
W20A	**Ramah**	**11.08**	**2**	⇑P	**Pn**	**18 45 55.8**	**+1.4**
	baz=11						
W18A	**Petrified Fore**	**11.08**	**357**	⇑P	**Pn**	**18 45 55.5**	**+1.1**
	baz=11						
Y27A	**Causey**	**11.08**	**26**	⇓P	**Pn**	**18 45 55.7**	**+1.4**
	baz=11						
ANMO	**Albuquerque**	**11.12**	**11**	Pn	**Pn**	**18 45 53.4**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=180,slow=16,SNR=2.3						
ANMO				Lg		18 48 59.9	
	comp=Z,0.1nm,0.3s,baz=201,slow=18,SNR=2.5						
ANMO				LR	LR	18 50 07.2	
	comp=Z,234nm,19.3s,baz=202,slow=38						
ANMO	**Albuquerque**	**11.12**	**11**	P	**Pn**	**18 45 53.0**	**-1.9**
	comp=Z,14nm,1.4s						
ANMO	**Albuquerque**	**11.12**	**11**	P	**Pn**	**18 45 53.4**	**-1.5**
ANMO				MLR	MLR		
	comp=Z,234nm,19.3s						
BC3	**Big Chuckawall**	**11.14**	**331**	⇓P	**Pn**	**18 45 55.4**	**+0.3**
	baz=11						
PDMCI	**Parker Dam,Lak**	**11.18**	**338**	⇑P	**Pn**	**18 45 57.2**	**+1.5**
	baz=11						
MSTX	**Muleshoe**	**11.32**	**27**	⇓P	**Pn**	**18 45 59.4**	**+1.8**
	baz=11						
X26A	**CR and CF Fran**	**11.43**	**22**

baz=15
SRU San Rafael 15.10 355 P Pn 18 46 52.0 +2.7
comp=Z,12nm,1.0s
SRU San Rafael 15.10 355 P Pn 18 46 52.0 +2.7
SRU pmax pmax
comp=Z,13nm,1.0s
SMCO Snowmass 15.21 6 P Pn 18 46 50.9 +0.2
comp=Z,34nm,1.1s
TMUT Trail Mountain 15.35 354 P Pn 18 46 51.3 -1.1
comp=Z,19nm,1.1s
Q14A Sevier Lake (B 15.36 347 ⇑P Pn 18 46 54.7 +2.1
baz=15,SNR=14
P19A Cripple Cowboy 15.57 0 ⇓P Pn 18 46 57.2 +1.8
baz=15
P18A Preston Nutter 15.60 356 ⇑P Pn 18 46 57.2 +1.5
baz=16
P14A Drum Mountains 15.90 348 ⇑P Pn 18 47 01.7 +2.0
baz=16,SNR=16
ISCO Idaho Springs 15.99 10 ⇑P Pn 18 47 03.4 +2.5
baz=16
ISCO Idaho Springs 15.99 10 P Pn 18 47 00.7 -0.3
comp=Z,68nm,1.6s
ISCO Idaho Springs 15.99 10 P Pn 18 47 00.7 -0.2
ISCO pmax pmax
comp=Z,68nm,1.6s
O20A White River Ci 16.08 2 ⇓P Pn 18 47 03.6 +1.6
baz=16
NLU North Lily Min 16.10 351 eP Pn 18 46 59.7 -2.5
comp=Z,30nm,1.2s
MPU Maple Canyon 16.10 353 P Pn 18 47 01.6 -0.7
comp=Z,68nm,1.3s
O22A Kremmling 16.23 7 ⇓P Pn 18 47 06.4 +2.5
baz=16,SNR=5.8
O19A Miners Draw (B 16.23 360 ⇑P Pn 18 47 06.6 +2.6
baz=16,SNR=15
O23A Lake Granby, G 16.36 8 ⇓P Pn 18 47 08.1 +2.5
baz=16
NVAR Mina Array Bea 16.40 333 Pn Pn 18 47 06.8 +0.6
comp=Z,0.2nm,0.3s,baz=159,slow=12,SNR=22
NVAR Mina Array Bea 16.40 333 Pn Pn 18 47 06.8 +0.6
DUG Dugway 16.45 350 ⇓P Pn 18 47 09.3 +2.7
baz=16
DUG Dugway 16.45 350 eP Pn 18 47 07.2 +0.6
comp=Z,86nm,1.4s
DUG Dugway 16.45 350 eP Pn 18 47 07.2 +0.5
DUG pmax pmax
comp=Z,86nm,1.4s
DAU Daniels Canyon 16.46 354 P Pn 18 47 08.0 +1.2
comp=Z,141nm,1.6s
DAU Daniels Canyon 16.46 354 P Pn 18 47 08.0 +1.2
DAU pmax pmax
comp=Z,141nm,1.6s
TUL1 Tulsa 16.46 41 ⇓P Pn 18 47 10.4 +3.4
baz=16
O15A The Old Anders 16.48 351 ⇓P Pn 18 47 08.5 +1.5
baz=16
CBKS Cedar Bluff 16.72 26 ⇑P Pn 18 47 12.6 +2.4
baz=17
CBKS Cedar Bluff 16.72 26 eP Pn 18 47 08.2 -2.0
comp=Z,90nm,1.3s
CBKS Cedar Bluff 16.72 26 eP Pn 18 47 08.2 -2.0
CBKS pmax pmax
comp=Z,90nm,1.3s
N20A Spence Gulch, 16.78 2 ⇑P Pn 18 47 13.8 +2.8
baz=17
NOQ North Oquirrh 16.79 352 P Pn 18 47 13.4 +2.3
comp=Z,57nm,1.2s
CMB Columbia Colle 17.02 328 eP Pn 18 47 16.4 +2.5
comp=Z,44nm,1.7s
CMB Columbia Colle 17.02 328 eP Pn 18 47 16.4 +2.5
CMB pmax pmax
comp=Z,44nm,1.7s
MIAR Mount Ida 17.05 49 eP Pn 18 47 16.2 +1.8
comp=Z,70nm,1.2s
MIAR Mount Ida 17.05 49 eP Pn 18 47 16.2 +1.8
MIAR pmax pmax
comp=Z,70nm,1.2s
BGU Big Grassy Mou 17.19 350 eP Pn 18 47 17.3 +1.2
comp=Z,114nm,1.7s
WCN Washoe City 17.75 332 eP Pn 18 47 25.4 +2.4
comp=Z,66nm,1.6s
WCN Washoe City 17.75 332 eP Pn 18 47 25.4 +2.4
WCN pmax pmax
comp=Z,66nm,1.6s
BMN Battle Mountai 17.76 339 eP Pn 18 47 23.8 +0.6
comp=Z,83nm,1.7s
BMN Battle Mountai 17.76 339 eP Pn 18 47 23.8 +0.6
BMN pmax pmax
comp=Z,83nm,1.7s
HVU Hansel Valley 17.99 351 eP Pn 18 47 23.2 -2.7
comp=Z,107nm,1.9s
HVU Hansel Valley 17.99 351 eP Pn 18 47 23.3 -2.7
HVU pmax pmax
comp=Z,107nm,1.9s
UALR University of 18.03 50 eP Pn 18 47 28.0 +1.5
comp=Z,21nm,0.9s
L15A Malad City 18.16 352 ⇑P Pn 18 47 28.1 0.0
baz=18
KSU1 Kansas State U 18.35 32 eP Pn 18 47 31.3 +0.8
comp=Z,72nm,1.2s
K18A Toltan Ranch, 18.59 358 ⇑P Pn 18 47 33.2 -0.2
baz=18,SNR=8.3
BW06 Boulder Array 18.71 359 ⇑P Pn 18 47 34.3 -0.4
baz=19,SNR=10
PDAR Pinedale Array 18.71 359 P Pn 18 47 33.9 -0.8
baz=167,slow=13,SNR=1.1
PDAR Pinedale Array 18.71 359 P Pn 18 47 33.9 -0.8
K19A Absolon Red Bu 18.76 0 ⇑P Pn 18 47 32.8 -2.6
baz=19
AHID Auburn Hatcher 18.78 355 eP Pn 18 47 32.9 -2.7
comp=Z,67nm,1.7s
K14A Jones Ranch, D 18.80 350 ⇓P Pn 18 47 33.7 -2.1
baz=19
J18A Kendall Valley 19.16 358 ⇑P Pn 18 47 38.6 -1.7
baz=19,SNR=5.8
J19A Crowheart 19.20 360 ⇑P Pn 18 47 39.5 -1.2
baz=19
J20A Shoshoni 19.30 2 ⇑P Pn 18 47 40.6 -1.3
baz=19
J16A Bone 19.33 354 ⇓P Pn 18 47 40.8 -1.4
baz=19
REDW Red Top Meadow 19.36 356 eP Pn 18 47 39.5 -3.1
comp=Z,18nm,1.1s
SNOW Snow King Moun 19.45 356 eP Pn 18 47 44.8 +1.1
comp=Z,19nm,0.3s
J22A Midwest 19.46 6 P Pn 18 47 42.9 -0.9
baz=19,SNR=11
TPAW Teton Pass 19.49 356 eP Pn 18 47 42.5 -1.6
comp=Z,51nm,1.4s
J15A Blackfoot 19.54 353 ⇓P Pn 18 47 45.3 +0.5
baz=19
TEIG Tepich 19.57 97 P Pn 18 47 47.0 +1.6
comp=Z,41nm,1.4s
LOHW Long Hollow 19.59 357 eP Pn 18 47 42.0 -3.3
comp=Z,15nm,1.0s
DCID1 Drake Creek 19.61 355 eP Pn 18 47 44.5 -1.1
comp=Z,84nm,1.4s
HBAR Harrisburg 19.61 50 eP Pn 18 47 45.2 -0.4
I18A Diamond G Ranc 19.65 358 ⇑P Pn 18 47 46.2 +0.2
baz=20,SNR=5.6
MOOW Moose Ponds 19.73 356 eP Pn 18 47 43.1 -4.0
comp=Z,13nm,1.0s
J13A Cove Ranch, Pi 19.79 349 ⇑P Pn 18 47 47.0 -0.8
baz=20
I21A Big Trails, Te 19.80 4 ⇑P Pn 18 47 47.6 -0.2
baz=20
I20A Worland 19.90 2 P Pn 18 47 49.4 +0.3
baz=20,SNR=15
KIPM Iron Peak 19.93 326 P Pn 18 47 47.3 -2.1
comp=Z,175nm,1.7s
HLID Hailey 20.00 348 ⇑P Pn 18 47 49.0 -1.2
baz=20
HLID Hailey 20.00 348 eP Pn 18 47 49.2 -1.0
comp=Z,94nm,1.9s
FLWY Flagg Ranch 20.06 356 P P 18 47 45.1 -4.1
comp=Z,73nm,1.5s
I15A Monteview 20.14 353 ⇓P P 18 47 52.1 +2.1
baz=20
MFID Camas Ranch 20.15 345 ⇓P P 18 47 50.6 +0.5
baz=20
MFID Camas Ranch 20.15 345 eP P 18 47 48.4 -1.7
comp=Z,49nm,1.6s
MOD Modoc 20.16 335 P P 18 47 46.2 -4.1
comp=Z,31nm,1.4s
I14A Mackay 20.19 351 ⇑P P 18 47 51.5 +0.9
baz=20
GNAR Gosnell 20.27 50 P P 18 47 51.2 -0.3
comp=Z,3μm,1.3s

I12A Atlanta 20.36 347 P P 18 47 53.0 +0.6
baz=20,SNR=11
H20A Greybull 20.44 2 ⇑P P 18 47 54.3 +1.0
baz=20
YFT Old Faithful 20.44 356 eP P 18 47 55.5 +2.2
comp=Z,69nm,1.5s
H19A Powell 20.60 0 ⇓P P 18 47 56.7 +1.6
H18A Shoshone NF, C 20.62 359 ⇑P P 18 47 56.5 +1.3
baz=20
CCM Cathedral Cave 20.63 43 eP P 18 47 56.0 +0.7
comp=Z,83nm,1.5s
CCM Cathedral Cave 20.63 43 eP P 18 47 56.1 +0.7
CCM pmax pmax
comp=Z,83nm,1.5s
YMR Madison River 20.66 356 eP P 18 47 51.5 -4.2
comp=Z,43nm,1.1s
HALT Halls 20.71 51 P P 18 47 56.2 -0.1
H16A Russell Place, 20.72 355 ⇓P P 18 47 57.5 +1.2
baz=21
PARMO Parma 20.81 48 eP P 18 48 00.5 +3.1
H14A Leadore 20.86 351 ⇓P P 18 47 58.5 +0.7
baz=21,SNR=8.9
QLMT Earthquake Lak 20.86 355 eP P 18 47 59.6 +1.8
comp=Z,9.0nm,1.5s
H13A Challis 20.94 349 P P 18 47 59.2 +0.5
baz=21,SNR=8.2
MCMT McKenzie Canyo 21.00 352 eP P 18 48 00.5 +1.1
comp=Z,25nm,1.2s
H24A Dirks Ranch, A 21.00 9 ⇑P P 18 48 00.7 +1.4
baz=21
H12A Diamond D Ranc 21.03 348 P P 18 48 00.2 +0.5
baz=21,SNR=13
RLMT Red Lodge 21.06 359 ⇓P P 18 48 00.3 +0.4
baz=21
RLMT Red Lodge 21.06 359 eP P 18 47 59.6 -0.4
comp=Z,84nm,1.8s,mb4.8
G20A Bridger 21.16 2 ⇓P P 18 48 02.8 +1.7
baz=21,SNR=11
PLAL Pickwick Lake 21.20 54 eP P 18 48 03.3 +1.6
comp=Z,135nm,1.3s,mb5.1
G18A Lazy EL Ranch, 21.25 359 P P 18 48 02.6 +0.5
baz=21,SNR=14
G16A Moss Hill, Enn 21.28 355 P P 18 48 03.6 +1.2
baz=21,SNR=10
G15A Dillon 21.29 353 ⇑P P 18 48 03.4 +0.9
baz=21
G17A Pierce Place, 21.30 357 ⇓P P 18 48 03.5 +1.0
baz=21
DLMT Dillon 21.49 353 eP P 18 48 05.0 +0.4
comp=Z,46nm,1.4s,mb4.6
G12A Big Creek, Yel 21.68 348 P P 18 48 07.0 +0.3
baz=22,SNR=14
BOZ Bozeman (W) 21.68 355 P P 18 48 06.8 +0.1
baz=22,SNR=9.7
BOZ Bozeman (W) 21.68 355 eP P 18 48 04.7 -2.0
comp=Z,53nm,1.5s,mb4.8
BOZ Bozeman (W) 21.68 355 eP P 18 48 04.7 -2.0
BOZ pmax pmax
comp=Z,53nm,1.5s,mb4.8
SIUC Southern Illin 21.74 46 eP P 18 48 10.0 +2.6
comp=Z,90nm,1.4s,mb5.0
F20A Billings 21.75 2 ⇑P P 18 48 07.1 -0.2
baz=22
F18A Big Timber 21.84 359 P P 18 48 08.2 -0.2
baz=22,SNR=6.7
BMO Blue Mountains 21.86 344 eP P 18 48 07.8 -0.8
comp=Z,23nm,1.3s,mb4.5
F17A Fitzpatrick Pl 21.88 357 ⇑P P 18 48 08.5 -0.3
baz=22
WVT Waverly 21.89 52 eP P 18 48 07.9 -1.1
comp=Z,81nm,1.4s,mb5.0
WVT Waverly 21.89 52 eP P 18 48 07.9 -1.2
WVT pmax pmax
comp=Z,81nm,1.4s,mb5.0
LRM Limekiln Ridge 21.93 354 eP P 18 48 09.4 0.0
comp=Z,268nm,1.3s,mb5.5
F15A Butte 21.95 353 ⇑P P 18 48 09.5 -0.1
baz=22,SNR=14
ECSD EROS Data Cent 22.15 24 eP P 18 48 11.5 -0.2
comp=Z,69nm,1.5s,mb4.9
SCIA State Center 22.16 33 P P 18 48 11.2 -0.6
comp=Z,66nm,1.2s,mb4.9
E19A Rath Farm, Rou 22.39 0 P P 18 48 15.0 +0.7
baz=22,SNR=8.7
E17A Martinsdale 22.45 357 ⇓P P 18 48 15.1 +0.3
baz=22
E20A Meyer Farm, Mu 22.45 2 ⇑P P 18 48 15.4 +0.6
baz=22
E22A Miles City 22.51 6 ⇑P P 18 48 15.9 +0.4
baz=22
E16A East Helena 22.57 355 ⇑P P 18 48 17.0 +0.9
baz=22
E23A Ismay 22.63 7 ⇓P P 18 48 16.5 -0.2
baz=22
E14A Clinton 22.64 352 ⇓P P 18 48 17.1 +0.2
baz=22
G08A Pilot Rock 22.71 342 ⇓P P 18 48 17.4 -0.3
baz=23
LAO LASA Array 22.73 5 eP P 18 48 15.7 -2.2
comp=Z,42nm,0.6s,mb5.0
E13A Victor 22.76 351 ⇓P P 18 48 17.9 -0.3
baz=23
F10A Beach Ranch, E 22.89 345 ⇑P P 18 48 18.7 -0.8
baz=23
SWET Sewanee 22.90 56 eP P 18 48 19.9 +0.1
comp=Z,123nm,1.5s,mb5.1
USIN University of 22.91 48 eP P 18 48 16.6 -3.2
comp=Z,207nm,1.4s,mb5.4
E12A Beaver Dam Sad 22.96 348 ⇑P P 18 48 20.0 -0.3
baz=23
OLIL Olney 23.03 46 eP P 18 48 17.5 -3.7
comp=Z,121nm,1.3s,mb5.2
D16A Dana Ranch, Ca 23.05 356 ⇓P P 18 48 20.4 -0.8
baz=23
D19A Cripps Ranch, 23.10 0 P P 18 48 22.0 +0.2
baz=23,SNR=12
CHMT Chamberlain Mo 23.10 353 eP P 18 48 21.7 0.0
comp=Z,53nm,1.8s,mb4.7
MSO Missoula 23.10 351 P P 18 48 21.9 +0.1
baz=23,SNR=5.6
MSO Missoula 23.10 351 eP P 18 48 21.8 0.0
comp=Z,29nm,1.4s,mb4.5
D17A Six Diamond Ra 23.12 357 ⇓P P 18 48 21.4 -0.6
baz=23,SNR=7.0
D14A Greenough 23.30 352 P P 18 48 23.5 -0.3
baz=23,SNR=8.9
D23A Lindsay 23.31 7 ⇓P P 18 48 23.2 -0.7
baz=23,SNR=5.8
SLMT Seeley Lake 23.45 352 eP P 18 48 23.8 -1.7
comp=Z,83nm,1.5s,mb4.9
C17A Wharram Farm, 23.61 357 P P 18 48 26.9 -0.2
baz=24,SNR=9.3
C19A Slack Wire Ran 23.67 360 ⇑P P 18 48 26.6 -1.0
baz=24
SWMT Swartz Lake 23.78 352 eP P 18 48 27.0 -1.6
comp=Z,7.6nm,1.4s,mb3.9
C21A Desert Coulee 23.81 3 ⇓P P 18 48 26.9 -1.9
baz=24
C16A Fuhringer Ranc 23.84 355 P P 18 48 28.2 -0.8
baz=24,SNR=6.8
C15A Salmond Ranch, 23.88 354 ⇑P P 18 48 28.0 -1.5
baz=24
C23A Lambert 23.93 6 ⇑P P 18 48 28.7 -1.3
baz=24,SNR=6.6
EGMT Eagleton 23.96 359 P P 18 48 29.7 -0.6
baz=24,SNR=6.1
EGMT Eagleton 23.96 359 eP P 18 48 29.2 -1.1
comp=Z,161nm,1.6s,mb5.2
WCI Wyandotte Cave 23.98 48 eP P 18 48 29.1 -1.4
comp=Z,112nm,1.6s,mb5.0
WCI Wyandotte Cave 23.98 48 eP P 18 48 29.1 -1.4
WCI pmax pmax
comp=Z,112nm,1.6s,mb5.0
CPCT Cooper Cave 24.06 56 eP P 18 48 27.6 -3.6
GOGA Godfrey 24.23 62 P P 18 48 31.9 -1.0
comp=Z,62nm,1.3s,mb4.9
GOGA Godfrey 24.23 62 P P 18 48 31.9 -0.9
GOGA pmax pmax
comp=Z,62nm,1.3s,mb4.9
B17A L&G Farms, Che 24.27 357 ⇑P P 18 48 32.1 -0.9
baz=24
B18A Beardsley Farm 24.34 359 ⇓P P 18 48 33.0 -0.6
baz=24
B20A Solberg Farm, 24.39 2 P P 18 48 33.5 -0.6
baz=24,SNR=5.7
SFIN Scholer Farm 24.60 43 ⇑P P 18 48 36.5 +0.4
baz=24,SNR=6.9

B13A Whitefish 24.69 351 ⇑P P 18 48 37.1 +0.2
baz=24
DGMT Dagmar 24.70 8 ⇓P P 18 48 36.1 -0.8
baz=25
DGMT Dagmar 24.70 8 eP P 18 48 36.2 -0.8
comp=Z,42nm,1.3s,mb4.8
TKL Tuckaleechee C 24.70 56 P P 18 48 40.8 +3.6
comp=Z,28nm,1.1s,mb4.7,baz=223,slow=4.6,SNR=3.5
TKL LR LR 18 59 09.2
comp=Z,557nm,18.9s,MS4.1,baz=110,slow=39
TKL Tuckaleechee C 24.70 56 P P 18 48 36.2 -0.9
TKL LR LR 18 59 09.2
TKL Tuckaleechee C 24.70 56 P P 18 48 36.2 -1.0
A20A Cobblestone Ra 24.83 2 ⇓P P 18 48 38.5 +0.3
baz=25
A17A Triple J Farms 24.91 357 ⇑P P 18 48 37.9 -1.0
baz=25,SNR=6.4
MDND Maddock 24.93 15 ⇑P P 18 48 38.3 -0.8
baz=25
A21A Bergtoll Ranch 24.98 3 ⇑P P 18 48 38.6 -0.9
baz=25
NEW Newport 25.04 347 ⇑P P 18 48 40.2 +0.2
baz=25
NEW Newport 25.04 347 P P 18 48 38.3 -1.8
comp=Z,11nm,1.0s,mb4.4
NEW Newport 25.04 347 P P 18 48 38.3 -1.8
NEW pmax pmax
comp=Z,11nm,1.0s
A15A Johnson Ranch, 25.09 354 ⇑P P 18 48 41.0 +0.6
baz=25
A14A Double T Ranch 25.15 353 ⇓P P 18 48 41.9 +0.9
baz=25
A24A Westby 25.17 8 ⇑P P 18 48 41.6 +0.4
baz=25
TZTN Tazewell 25.20 54 eP P 18 48 44.8 +3.1
comp=Z,148nm,1.5s,mb5.3
WALA Waterton Lakes 25.29 352 eP P 18 48 39.0 -3.4
comp=Z,1.5nm,1.4s
AGMN Agassiz Nation 26.38 20 eP P 18 48 51.4 -0.8
comp=Z,24nm,1.3s,mb4.6
JTS JuntasAbangare 26.67 117⇑eP P 18 48 57.8 +2.6
ACSO Alum Creek Sta 27.20 47 P P 18 48 57.3 -2.3
comp=Z,32nm,1.0s,mb4.8
ELN Prospectdale 27.54 55 eP P 18 49 03.6 +0.9
ULM Lac du Bonnet 28.11 18 P P 18 49 08.2 +0.5
comp=Z,5.0nm,1.0s,mb4.1,baz=196,slow=15,SNR=2.4
ULM Lac du Bonnet 28.11 18 P P 18 49 08.2 +0.5
ULM Lac du Bonnet 28.11 18 P P 18 49 08.2 +0.4
BINY Binghamton 32.80 48 eP P 18 49 49.2 -0.1
comp=Z,59nm,1.0s,mb5.5
DLBC Dease Lake 37.51 342 P P 18 50 29.4 -0.3
comp=Z,11nm,0.9s,mb4.5,baz=152,slow=9.3,SNR=9.3
DLBC Dease Lake 37.51 342 P P 18 50 29.4 -0.3
ROSC El Rosal 38.43 114 LR LR 19 06 13.2
comp=Z,122nm,19.6s,MS3.7,baz=25,slow=36
YKA Yellowknife Ar 38.65 356 P P 18 50 37.4 -1.7
comp=Z,6.2nm,1.1s,mb4.3,baz=169,slow=7.7,SNR=5.9
YKA LR LR 19 06 28.6
comp=Z,13nm,19.5s,baz=225,slow=36
YKA Yellowknife Ar 38.65 356 P P 18 50 37.4 -1.7
YKA LR LR 19 06 28.6
YKA Yellowknife Ar 38.65 356 P P 18 50 37.4 -1.8
SCHQ Schefferville 43.77 34 P P 18 51 21.4 0.0
comp=Z,9.4nm,1.1s,mb4.4,baz=230,slow=4.2,SNR=3.7
SCHQ Schefferville 43.77 34 P P 18 51 21.4 0.0
TAOE Nuku Hiva Isla 44.63 227 eLR LR 19 03 55.5
comp=Z,299nm,25.8s
KDAK Kodiak Island 45.84 329 LR LR 19 08 34.2
comp=Z,648nm,21.7s,MS4.5,baz=159,slow=33
INK Inuvik 46.76 348 P P 18 51 44.4 -0.6
comp=Z,4.6nm,0.9s,mb4.4,baz=147,slow=7.6,SNR=12
INK Inuvik 46.76 348 P P 18 51 44.4 -0.6
INK Inuvik 46.76 348 P P 18 51 44.4 -0.6
ILAR Eielson Array 47.54 339 P P 18 51 50.1 -1.0
comp=Z,5.2nm,1.0s,mb4.5,baz=151,slow=6.5,SNR=39
ILAR Eielson Array 47.54 339 P P 18 51 50.1 -1.0
ILAR Eielson Array 47.54 339 P P 18 51 50.1 -1.0
RKT Rikitea 53.21 210 eLR LR 19 07 51.9
comp=Z,176nm,33.8s
PPT Papeete 57.23 228 eLR LR 19 09 45.5
comp=Z,229nm,25.2s
TBI Tubuai 61.31 223 eLR LR 19 11 38.8
comp=Z,140nm,29.2s
BILL Bilibino 66.00 336⇓eP P 18 54 00.9 -1.3
BILL e 18 54 31.0
BILL pmax pmax
comp=Z,8.0nm,1.7s,mb4.5
CPUP Villa Florida 70.71 132 P P 18 54 34.5 +2.3
comp=Z,1.6nm,0.6s,mb4.1,baz=319,slow=7.7,SNR=3.1
CPUP LR LR 19 23 35.5
comp=Z,102nm,18.5s,MS4.1,baz=153,slow=34
CPUP Villa Florida 70.71 132 P P 18 54 34.5 +2.3
CPUP LR LR 19 23 35.5
CPUP Villa Florida 70.71 132 P P 18 54 34.5 +2.2
SEY Seymchan 72.71 332⇑eP P 18 54 41.9 -1.8
PMOZ Porto Moniz, M 78.82 59 eLR LR 19 25 07.6
comp=Z,545nm,22.0s
ARCES ARCESS Array B 81.18 15 P P 18 55 31.1 -0.2
comp=Z,9.1nm,1.0s,mb4.6,baz=23,slow=11,SNR=3.6
ARCES ARCESS Array B 81.18 15 P P 18 55 31.1 -0.2
ARCES ARCESS Array B 81.18 15 P P 18 55 31.1 -0.2
PGAV Gavieira, Arco 81.81 48 eP P 18 55 34.8 -0.4
comp=Z,27nm,1.6s,mb4.9
PGAV eP 18 58 53.8
PGAV Gavieira, Arco 81.81 48 eLR LR 19 23 56.9
comp=Z,92nm,20.0s
PMAFR Mafra 82.36 51 eLR LR 19 25 04.8
comp=Z,176nm,20.0s
YAK Yakutsk 82.36 336 eP P 18 55 36.0 -1.7
YAK pmax pmax
comp=Z,15nm,1.0s,mb4.9
POLO Lamas de Olo 82.38 48 eP P 18 55 36.5 -1.7
comp=Z,9.4nm,1.6s,mb4.5
POLO Lamas de Olo 82.38 48 eLR LR 19 24 02.6
comp=Z,67nm,20.0s
PVRL Vila Real 82.47 48 eP P 18 55 36.9 -1.8
comp=Z,34nm,1.7s,mb5.0
PVIS Viseu 82.59 49 eP P 18 55 39.5 +0.2
comp=Z,13nm,2.2s,mb4.6
PBRG Braganca 82.91 47 eLR LR 19 25 51.4
comp=Z,115nm,18.0s
MTE Manteigas 82.97 49 eP P 18 55 40.3 -1.0
comp=Z,21nm,1.9s,mb4.8
MTE Manteigas 82.97 49 eLR LR 19 26 19.8
comp=Z,165nm,20.0s
MVO Moncorvo 82.99 48 eP P 18 55 40.5 -0.9
comp=Z,31nm,1.5s,mb5.1
MVO Moncorvo 82.99 48 eLR LR 19 23 59.9
comp=Z,119nm,20.0s
PNCL Nicolau / Gran 83.25 51 eLR LR 19 23 57.2
comp=Z,85nm,20.0s
PCBR Castelo Branco 83.25 49 eP P 18 55 42.9 +0.1
comp=Z,15nm,1.7s,mb4.7
PTEO Sao Teotonio 83.35 52 eP P 18 55 45.0 +1.6
comp=Z,56nm,1.9s,mb5.3
PFVI Vila Bisbo 83.45 52 eP P 18 55 41.7 -2.2
comp=Z,97nm,2.4s,mb5.4
PFVI Vila Bisbo 83.45 52 eLR LR 19 23 35.3
comp=Z,122nm,18.0s
PMRV Marv??o 83.49 50 eP P 18 55 44.3 +0.3
comp=Z,18nm,1.6s,mb4.8
PMRV Marv??o 83.49 50 eLR LR 19 26 48.0
comp=Z,128nm,18.0s
MORF Marmelete 83.50 52 eP P 18 55 44.4 +0.2
comp=Z,34nm,1.6s,mb5.2
MORF Marmelete 83.50 52 eLR LR 19 22 07.4
comp=Z,130nm,20.0s
PCVE Castro Verde 83.81 52 eLR LR 19 23 25.8
comp=Z,105nm,22.0s
PBDV Barranco-do-Ve 84.05 52 eP P 18 55 44.5 -2.4
comp=Z,36nm,1.5s,mb5.3
PBDV Barranco-do-Ve 84.05 52 eLR LR 19 24 06.6
comp=Z,126nm,20.0s
PVAQ Vaqueiros 84.14 52 eLR LR 19 25 00.5
comp=Z,107nm,18.0s
PBAR Barrancos 84.28 51 eLR LR 19 22 05.9
comp=Z,105nm,22.0s
ESDC Sonseca Array 85.75 48 P P 18 55 55.7 +0.3
comp=Z,0.2nm,0.5s,baz=301,slow=5.4,SNR=7.1
ESDC LR LR 19 32 08.8
comp=Z,94nm,21.8s,MS4.1,baz=230,slow=34
ESDC Sonseca Array 85.75 48 P P 18 55 55.7 +0.3
ESDC LR LR 19 32 08.8
FINES FINESS Array B 87.49 20 P P 18 56 02.8 -0.8
comp=Z,1.3nm,0.8s,mb4.2,baz=24,slow=10,SNR=3.9
FINES FINESS Array B 87.49 20 P P 18 56 02.8 -0.8
FINES FINESS Array B 87.49 20 P P 18 56 02.8 -0.7

MJAR	**Matsushiro Arr**	**92.59**	**312**	LR	LR	19 32 57.4			
	comp=Z,84nm,20.0s,MS4.2,baz=80,slow=32								
DZM	**Mont Dzumac**	**94.05**	**248**	eLR	LR	19 26 44.4			
	comp=Z,134nm,23.4s								
OBN	**Obninsk**	**95.86**	**19**	*e*P	**P**	**18 56 39.1**	**-3.4**		
OBN				*e*PS	PS	19 09 15.6	-3.9		
OBN				pmax	pmax				
	comp=Z,7.0nm,1.4s,mb4.9								
CN2	**Changchun**	**96.07**	**324**	*e*P	**P**	**18 56 40.9**	**-2.8**		
KSRS	**Korea Array**	**98.74**	**318**	LR	LR	19 42 50.0			
	comp=Z,63nm,18.3s,MS4.2,baz=25,slow=36								
GUMO	**Guam**	**98.77**	**289**	LR	LR	19 32 51.8			
	comp=Z,70nm,19.3s,MS4.2,baz=90,slow=30								
TORD	**Torodi Ar. Bea**	**102.91**	**69**	PKiKP	PKiKP	19 01 33.0	-2.2		
	comp=Z,0.4nm,1.0s,baz=318,slow=2.0,SNR=3.5								
WMQ	**Urumqi**	**110.78**	**347**	PKP	PKiKP	19 01 47.8	-1.4		
LZH	**Lanzhou**	**112.64**	**332**	*e*PKP	PKiKP	19 01 48.3	-4.6		
CD2	**Chengdu**	**117.00**	**329**	PKP	PKPdf	19 02 01.1	-0.4		
WRA	**Warramunga Arr**	**121.54**	**261**	PKP	PKPdf	19 02 09.9	-0.4		
	comp=Z,2.6nm,0.8s,baz=71,slow=2.4,SNR=28								
WRA	**Warramunga Arr**	**121.54**	**261**	PKIKP	PKPdf	19 02 09.9	-0.4		
ASAR	**Alice Springs**	**122.91**	**256**	PKP	PKPdf	19 02 12.4	-0.4		
	comp=Z,1.9nm,0.7s,baz=88,slow=2.1,SNR=27								
ASAR	**Alice Springs**	**122.91**	**256**	PKIKP	PKPdf	19 02 12.5	-0.4		
CMAR	**Chiang Mai Arr**	**129.74**	**325**	PKP	PKPdf	19 02 27.0	+0.8		
	comp=Z,1.2nm,0.8s,baz=318,slow=2.2,SNR=7.2								
CMAR	**Chiang Mai Arr**	**129.74**	**325**	PKIKP	PKPdf	19 02 27.0	+0.8		

*ISCJB **13** 18:48:35.2±0.7, 52°.27N±0°.10×178°.64E±0°.08, h159km±7km, mb4.0/17, Error ellipse: s-maj=16.3km s-min=8.1km az=172.3*
*IDC **13** 18:48:35.1±1.8, 52°.25N×178°.71E, h145km±15km, mb3.7/14, mb1 3.9/17, mb1mx3.7/31, mbtmp3.7/17, MS3.8/2, Ms1 3.8/2, ms1mx2.9/44, Error ellipse: s-maj=22.5km s-min=9.7km az=166.0*
*NEIC **13** 18:48:37.2, 52°.01N×178°.64E, h164km, mb4.3/7, After AEIC.*

ISC 13 18:48:36.1±0.7, 52°.26N±0°.09×178°.67E±0°.08, h152km±7km, n42, σ0°98/43, mb4.0/17, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.96**	**156**		*e*P	**Pn**	**18 49 01.5**	**+0.8**
SMY	**Shemya**	**2.83**	**281**	P		**Pn**	**18 49 21.2**	**-0.1**
SMY				S		**Sn**	**18 49 56.4**	**+0.1**
FX1	**Attu Island--F**	**3.42**	**283**	P		**Pn**	**18 49 28.2**	**-0.5**
	3.9nm,0.3s,baz=72,slow=5.8,SNR=138							
FX1				S		**Sn**	**18 50 08.9**	**-0.7**
	46nm,0.3s,baz=270,slow=23,SNR=58							
FX1	**Attu Island--F**	**3.42**	**283**	P		**Pn**	**18 49 28.2**	**-0.5**
FX1				S		**Sn**	**18 50 07.6**	**-1.9**
PETK	**Petropavlovsk-**	**12.75**	**282**	P		**Pn**	**18 51 32.4**	**+0.7**
	0.2nm,0.3s,baz=116,slow=12,SNR=3.5							
PETK	**Petropavlovsk-**	**12.75**	**282**	P		**Pn**	**18 51 32.4**	**+0.7**
BILL	**Bilibino**	**16.93**	**344**	*e*P		**Pn**	**18 52 26.4**	**+2.9**
	11nm,0.9s							
KDAK	**Kodiak Island**	**17.30**	**60**	P		**Pn**	**18 52 26.6**	**-1.5**
	3.7nm,0.3s,baz=278,slow=6.1,SNR=38							
KDAK	**Kodiak Island**	**17.30**	**60**	P		**Pn**	**18 52 26.6**	**-1.5**
PPLA	**Purkeypile**	**18.73**	**44**	*e*P		**P**	**18 52 45.2**	**+2.6**
	52nm,1.3s							
BPAW	**Bear Paw Mtn.**	**19.68**	**41**	*e*P		**P**	**18 52 54.1**	**+1.1**
	10nm,0.8s							
MCK	**McKinley**	**20.39**	**43**	*e*P		**P**	**18 53 01.8**	**+1.2**
	10nm,1.0s							
COLA	**College**	**21.23**	**41**	*e*P		**P**	**18 53 08.4**	**-1.0**
	12nm,1.0s,mb4.2							
ILAR	**Eielson Array**	**21.58**	**41**	P		**P**	**18 53 11.1**	**-2.1**
	1.9nm,0.5s,mb3.8,baz=244,slow=8.1,SNR=43							
ILAR	**Eielson Array**	**21.58**	**41**	P		**P**	**18 53 11.1**	**-2.1**
PAX	**Paxson**	**21.68**	**46**	*e*P		**P**	**18 53 13.8**	**-0.5**
	7.0nm,0.6s,mb4.3							
MENT	**Mentasta**	**22.46**	**47**	*e*P		**P**	**18 53 22.4**	**+0.2**
EGAK	**Eagle**	**23.94**	**43**	*e*P		**P**	**18 53 35.4**	**-0.3**
	30nm,0.8s,mb4.9							
INK	**Inuvik**	**27.66**	**36**	P		**P**	**18 54 09.7**	**+0.6**
	3.2nm,0.6s,mb4.2,baz=247,slow=8.9,SNR=16							
INK	**Inuvik**	**27.66**	**36**	P		**P**	**18 54 09.7**	**+0.6**
JHJ	**Hachijo jima 2**	**33.85**	**251**	LR		LR	19 10 14.6	
	comp=Z,185nm,18.5s,baz=31,slow=38							
YKA	**Yellowknife Ar**	**35.77**	**47**	P		**P**	**18 55 20.5**	**+0.6**
	3.6nm,0.6s,mb4.2,baz=283,slow=8.3,SNR=7.5							
YKA	**Yellowknife Ar**	**35.77**	**47**	P		**P**	**18 55 20.6**	**+0.6**
KSRS	**Korea Array**	**38.08**	**268**	P		**P**	**18 55 40.8**	**+1.1**
	1.1nm,0.7s,mb3.6,baz=49,slow=8.3,SNR=3.9							
SONM	**Songino Array**	**44.85**	**294**	P		**P**	**18 56 35.4**	**+0.7**
	1.9nm,0.6s,mb3.9,baz=59,slow=8.4,SNR=17							
SONM	**Songino Array**	**44.85**	**294**	P		**P**	**18 56 35.4**	**+0.7**
NVAR	**Mina Array Bea**	**44.99**	**82**	P		**P**	**18 56 36.4**	**+0.5**
	2.3nm,0.7s,mb3.9,baz=298,slow=7.9,SNR=12							
NVAR	**Mina Array Bea**	**44.99**	**82**	P		**P**	**18 56 36.4**	**+0.5**
PDAR	**Pinedale Array**	**47.53**	**71**	P		**P**	**18 56 55.0**	**-0.7**
	2.0nm,0.6s,mb3.9,baz=313,slow=3.5,SNR=15							
PDAR	**Pinedale Array**	**47.53**	**71**	P		**P**	**18 56 55.0**	**-0.7**
SPITS	**Spitsbergen Ar**	**49.38**	**355**	P		**P**	**18 57 08.7**	**-0.6**
	16nm,1.0s,mb4.6,baz=36,slow=8.7,SNR=6.2							
SPITS	**Spitsbergen Ar**	**49.38**	**355**	P		**P**	**18 57 08.7**	**-0.6**
ULM	**Lac du Bonnet**	**50.51**	**56**	P		**P**	**18 57 17.3**	**-0.8**
	3.4nm,0.7s,mb4.1,baz=295,slow=6.4,SNR=3.5							
ULM	**Lac du Bonnet**	**50.51**	**56**	P		**P**	**18 57 17.3**	**-0.8**
MKAR	**Makanchi Array**	**58.25**	**307**	P		**P**	**18 58 13.5**	**-0.6**
	0.6nm,0.4s,mb3.8,baz=53,slow=6.4,SNR=19							
MKAR	**Makanchi Array**	**58.25**	**307**	P		**P**	**18 58 13.5**	**-0.6**
TXAR	**Lajitas Array**	**60.06**	**80**	P		**P**	**18 58 26.2**	**-0.6**
	1.3nm,0.6s,mb4.0,baz=306,slow=5.6,SNR=22							
TXAR	**Lajitas Array**	**60.06**	**80**	P		**P**	**18 58 26.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**69.37**	**274**	P		**P**	**18 59 27.1**	**-0.1**
	1.4nm,0.8s,mb3.8,baz=30,slow=7.3,SNR=8.4							
WRA	**Warramunga Arr**	**81.59**	**222**	P		**P**	**19 00 36.0**	**-0.6**
	1.3nm,0.7s,mb3.7,baz=32,slow=6.2,SNR=13							
FITZ	**Fitzroy Crossi**	**83.80**	**230**	LR		LR	19 32 54.6	
	comp=Z,34nm,20.0s,baz=53,slow=32							
ASAR	**Alice Springs**	**85.11**	**220**	P		**P**	**19 00 54.7**	**+0.2**
	0.5nm,0.9s,mb3.3,baz=27,slow=5.1,SNR=6.0							

*ISCJB **13** 19:07:54.7±1.0, 32°.39N±0°.03×47°.40E±0°.04, h3km±7km, Error ellipse: s-maj=6.5km s-min=4.3km az=147.4*
*THR **13** 19:07:54.5±0.3, 32°.15N×47°.21E, h39km±2km, ML3.5*
*CSEM **13** 19:07:55.8±0.2, 32°.37N×47°.39E, h2km, ML3.1, Error ellipse: s-maj=4.6km s-min=4.2km az=75.0*
*KISR **13** 19:07:55.0±0.8, 32°.47N×47°.68E, h43km±999km, ML3.1*
*TEH **13** 19:08:00.9, 32°.51N×47°.38E, h33km*

ISC 13 19:07:56.2±1.0, 32°.39N±0°.03×47°.38E±0°.04, h5km±7km, n28, σ0°67/42, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.23**	**103**		*e*Pg	**Pg**	**19 08 19.4**	**-0.4**
SHGR					*e*Sg	**Sg**	**19 08 37.5**	**+1.7**
SHGR				AML		AML	19 08 41.2	
	comp=N,1μm,0.4s							
SHGR				AML		AML	19 08 41.3	
	comp=E,1μm,0.4s							
SHGR	**Shooshtar-Gavs**	**1.23**	**103**		*e*Pg	**Pg**	**19 08 19.4**	**-0.5**
SHGR					*e*Sg	**Sg**	**19 08 37.5**	**+1.6**
IKOM	**Komasi**	**1.79**	**3**		*e*Pn	**Pn**	**19 08 27.8**	**+0.1**
IKOM					*e*Sg	**Sg**	**19 08 53.5**	**-0.2**
IKOM					*e*		19 08 56.5	
	comp=Z,5μm,0.2s							
IGHG	**Ghaleghazi**	**2.06**	**341**		*e*Pn	**Pn**	**19 08 31.6**	**+0.2**
IGHG					*e*Sg	**Sg**	**19 09 02.9**	**+0.7**
IGHG					*e*		19 09 21.4	
	comp=Z,3μm,0.4s							
IVIS	**Veis**	**2.18**	**348**		*e*Pn	**Pn**	**19 08 33.1**	**-0.1**
IVIS					*e*Sg	**Sg**	**19 09 05.4**	**-0.9**
IVIS					*e*		19 09 07.4	
	comp=Z,2μm,0.2s							
IDHR	**Dehrash**	**2.45**	**340**		*e*Pn	**Pn**	**19 08 36.3**	**-0.6**
IDHR					*e*Sg	**Sg**	**19 09 13.9**	**-1.1**
IDHR					*e*		19 09 15.2	
	comp=Z,2μm,0.2s							
ILIN	**Lien**	**2.55**	**352**		*e*Pn	**Pn**	**19 08 38.4**	**+0.2**
ILIN					*e*		19 09 27.6	
	comp=Z,904nm,0.3s							
MIB	**Mutribah**	**2.57**	**181**		*e*P	**Pn**	**19 08 38.1**	**-0.4**
MIB					*e*S	**Sn**	**19 09 10.2**	**0.0**
MIB				AML		AML	19 09 14.6	
	comp=Z,69nm,0.7s							
MIB	**Mutribah**	**2.57**	**181**		*e*P	**Pn**	**19 08 38.1**	**-0.4**
MIB					*e*S	**Sn**	**19 09 10.2**	**0.0**
BHD	**Baghdad**	**2.68**	**290**		*ex*	x	19 08 40.0	
BHD					*ex*	x	19 09 14.0	
BHD	**Baghdad**	**2.68**	**290**		*e*Pn	**Pn**	**19 08 40.0**	**0.0**
BHD					*e*Sn	**Sn**	**19 09 14.0**	**+1.2**
SNGE	**Sanandaj**	**2.70**	**359**		*e*Pn	**Pn**	**19 08 40.6**	**+0.3**
SNGE				AML		AML	19 09 32.4	
	comp=E,82nm,0.8s							
SNGE	**Sanandaj**	**2.70**	**359**		*e*Pn	**Pn**	**19 08 40.6**	**+0.3**
ASAO	**Ashtian**	**3.09**	**45**		*e*Pn	**Pn**	**19 08 46.5**	**+0.9**
ASAO				AML		AML	19 09 46.1	
	comp=N,73nm,0.8s							
ASAO	**Ashtian**	**3.09**	**45**		*e*Pn	**Pn**	**19 08 46.5**	**+0.9**
RDF	**Al-Radifah**	**3.45**	**178**		*e*P	**Pn**	**19 08 50.6**	**0.0**
RDF					*e*S	**Sn**	**19 09 32.3**	**+0.4**
RDF				AML		AML	19 09 32.7	
	comp=Z,36nm,0.7s							
RDF	**Al-Radifah**	**3.45**	**178**		*e*P	**Pn**	**19 08 50.6**	**0.0**
RDF					*e*S	**Sn**	**19 09 32.3**	**+0.4**
QRN	**Al-Qurain**	**3.66**	**173**		*e*P	**Pn**	**19 08 52.8**	**-0.6**
QRN					*e*S	**Sn**	**19 09 36.3**	**-0.7**
QRN				AML		AML	19 09 39.2	
	comp=Z,45nm,0.4s							
IRAZ	**Razeghan**	**3.68**	**34**		*e*Pn	**Pn**	**19 08 55.0**	**+1.2**
IRAZ					*e*		19 09 51.8	
	comp=Z,458nm,0.2s							
IMHD	**Mahdasht**	**4.28**	**39**		*e*Pn	**Pn**	**19 09 02.0**	**+0.1**
IMHD					*e*		19 09 21.8	
	comp=Z,196nm,0.1s							
IR3	**Iran Long-Peri**	**4.32**	**43**		*e*Pn	**Pn**	**19 09 03.0**	**+0.4**
IVRN	**Varamin**	**4.46**	**53**		*e*	**Pn**	**19 09 08.7**	**+4.2**
	comp=Z,213nm,0.1s							
IVRN					*e*Pn	**Pn**	**19 09 04.6**	**+0.1**
IVRN					*e*Pn	**Pn**	**19 09 04.8**	**+0.3**
NASN	**Na'in**	**4.60**	**83**		*e*Pn	**Pn**	**19 09 06.1**	**-0.3**
NASN					Sn	**Sn**	**19 09 58.6**	**-1.6**
NASN	**Na'in**	**4.60**	**83**		*e*Pn	**Pn**	**19 09 06.1**	**-0.3**
IDMV	**Damavand**	**5.01**	**49**		*e*Pn	**Pn**	**19 09 11.8**	**-0.2**
IDMV					*e*		19 10 47.7	
	comp=Z,215nm,0.4s							
IFIR	**Firoozkooh**	**5.52**	**52**		*e*Pn	**Pn**	**19 09 19.0**	**0.0**
IFIR					*e*		19 09 30.5	
	comp=Z,128nm,0.1s							
ILAS	**Lasjerd**	**5.52**	**56**		*e*Pn	**Pn**	**19 09 18.7**	**-0.3**
ILAS					*e*		19 09 22.3	
	comp=Z,183nm,0.1s							
ISHM	**Shahmirzad**	**5.97**	**54**		*e*Pn	**Pn**	**19 09 25.5**	**+0.2**
ISHM					*e*		19 09 38.6	
	comp=Z,186nm,0.2s							

*IDC **13** 19:15:18.3±1.3, 3°.35N×128°.22E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.8/23, mbtmp3.9/8, Error ellipse: s-maj=104.4km s-min=15.6km az=71.0*
*NEIC **13** 19:15:23.4±0.7, 3°.33N×128°.24E, h35km, mb4.3/3, Error ellipse: s-maj=53.8km s-min=8.9km az=73.0*
*ISCJB **13** 19:15:35.8±1.1, 3°.14N±0°.09×127°.9E±0°.1, h173km±10km, mb3.8/9, Error ellipse: s-maj=20.3km s-min=10.1km az=142.9*
*DJA **13** 19:15:39, 3°.08N×127°.98E, h30km, MLv4.2/4*

ISC 13 19:15:36.9±1.1, 3°.12N±0°.09×127°.9E±0°.1, h165km±10km, n22, σ0°54/23, mb3.8/9, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.40**	**194**	P		**Pn**	**19 16 18.3**	**+0.7**
SGSI	**Sangihe**	**2.48**	**283**	P		**Pn**	**19 16 18.9**	**+0.4**
SGSI				S		**Sn**	**19 16 49.5**	**-1.1**
MNI	**Manado**	**3.52**	**242**	P		Px	19 17 01.7	
MNI				S		**Sn**	**19 17 14.1**	**+0.4**
KMSI	**Cibinong**	**4.70**	**238**	P		**Pn**	**19 16 50.6**	**+4.0**
SWI	**Sorong**	**5.16**	**140**	P		**Pn**	**19 16 52.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**21.20**	**186**	P		**P**	**19 20 09.0**	**-0.6**
	1.2nm,0.7s,mb3.3,baz=12,slow=13,SNR=8.1							
FITZ	**Fitzroy Crossi**	**21.20**	**186**	P		**P**	**19 20 09.0**	**-0.6**
WRAB	**Tennant Creek**	**23.75**	**165**	*e*P		**P**	**19 20 34.1**	**-0.1**
	8.0nm,0.7s,mb4.4							
WRA	**Warramunga Arr**	**23.76**	**165**	P		**P**	**19 20 33.8**	**-0.5**
	4.5nm,0.3s,mb4.4,baz=344,slow=10,SNR=81							
WRA	**Warramunga Arr**	**23.76**	**165**	P		**P**	**19 20 33.8**	**-0.5**
ASAR	**Alice Springs**	**27.25**	**168**	P		**P**	**19 21 05.6**	**0.0**
	0.4nm,0.4s,mb3.4,baz=356,slow=8.4,SNR=4.5							
ASAR	**Alice Springs**	**27.25**	**168**	P		**P**	**19 21 05.6**	**0.0**
STKA	**Stephens Creek**	**37.14**	**161**	P		**P**	**19 22 32.0**	**+0.2**
	2.1nm,0.3s,mb3.4,baz=348,slow=7.4,SNR=18							
STKA	**Stephens Creek**	**37.14**	**161**	*e*P		**P**	**19 22 31.7**	**-0.1**
	0.4nm,0.4s,mb3.4							
SONM	**Songino Array**	**48.27**	**341**	P		**P**	**19 24 00.9**	**-0.2**
	0.1nm,0.4s,mb2.8,baz=155,slow=7.3,SNR=3.6							
SONM	**Songino Array**	**48.27**	**341**	P		**P**	**19 24 00.9**	**-0.2**
MKAR	**Makanchi Array**	**58.75**	**325**	P		**P**	**19 25 17.7**	**+0.3**
	1.3nm,0.4s,mb4.1,baz=110,slow=7.2,SNR=32							
MKAR	**Makanchi Array**	**58.75**	**325**	P		**P**	**19 25 17.7**	**+0.3**
ZALV	**Zalesovo Beam**	**61.68**	**333**	P		**P**	**19 25 37.9**	**+0.7**
	0.2nm,0.3s,mb3.4,baz=144,slow=13,SNR=2.0							
ZALV	**Zalesovo Beam**	**61.68**	**333**	P		**P**	**19 25 37.9**	**+0.7**
KURK	**Kurchatov**	**62.91**	**327**	P		**P**	**19 25 45.7**	**+0.3**
	1.7nm,0.2s,mb4.5,baz=128,slow=5.9,SNR=5.7							
KURK	**Kurchatov**	**62.91**	**327**	*e*P		**P**	**19 25 45.2**	**-0.2**
	1.9nm,0.4s,mb4.3							

MEX 13 19:23:49.7±0.7, 15°.49N×96°.43W, h20km±9km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**1.60**	**350**		*i* P	Pn	19 24 13.2	-3.7
VHO					*i* S	Sn	19 24 33.9	-3.1
OXX	**Oaxaca**	**1.61**	**350**		*i* P	Pn	19 24 13.8	-3.2
OXX					*i* S	Sn	19 24 33.2	-4.0
PNIG	**Pinotepa**	**1.86**	**299**		*i* P	Pn	19 24 18.3	-2.1
PNIG					*i* S	Sn	19 24 39.2	-4.3
CMIG	**Matias Romero**	**2.18**	**43**		*i* P	Pn	19 24 22.4	-2.4
CMIG					*i* S	Sn	19 24 48.3	-3.0
UTMO	**Huajuapan**	**2.68**	**331**		*i* P	Pn	19 24 30.3	-1.4
UTMO					*i* S	Sn	19 25 00.4	-3.2
TPIG	**Tehuac#an**	**3.05**	**343**		*e*P	Pn	19 24 34.7	-2.2
TPIG					*i* S	Sn	19 25 10.0	-2.8
PCIG		**3.10**	**86**		*i* P	Pn	19 24 36.1	-1.4
PCIG					*i* S	Sn	19 25 10.0	-4.0
TGIG		**3.43**	**68**		*i* P	Pn	19 24 39.3	-2.8
TGIG					*i* S	Sn	19 25 19.4	-2.8
ACX	**Acapulco**	**3.57**	**293**		*i* P	Pn	19 24 43.6	-0.3
ACX					*i* S	Sn	19 25 24.6	-0.9
MEIG	**Mezcala**	**3.90**	**309**		*e*P	Pn	19 24 46.8	-1.7
MEIG					*i* S	Sn	19 25 30.2	-3.5
CAIG	**El Cayaco**	**4.00**	**293**		*i* P	Pn	19 24 48.5	-1.3
CAIG					*i* S	Sn	19 25 32.9	-3.2
PLIG	**Platanillo**	**4.12**	**315**		*e*P	Pn	19 24 50.6	-0.9
PLIG					*i* S	Sn	19 25 36.0	-3.2
PPM	**Popocatepetl**	**4.13**	**330**		*e*P	Pn	19 24 51.2	-0.5
PPM					*i* S	Sn	19 25 36.5	-3.0
CCIG	**Comitan**	**4.21**	**79**		*e*P	Pn	19 24 50.8	-1.9
CCIG					*i* S	Sn	19 25 38.7	-2.6
LVIG	**Laguna Verde**	**4.21**	**0**		*i* P	Pn	19 24 54.1	+1.3
LVIG					*i* S	Sn	19 25 41.0	-0.5
MZVM		**4.55**	**324**		*e*P	Pn	19 24 55.3	-2.1
MZVM					*i* S	Sn	19 25 46.5	-3.2
IIO	**Organos**	**4.63**	**332**		*e*P	Pn	19 24 57.9	-0.7
IIO					*i* S	Sn	19 25 49.0	-2.8
SZVM	**Salazar**	**4.74**	**324**		*e*P	Pn	19 24 58.9	-1.2
SZVM					*i* S	Sn	19 25 52.1	-2.4
PTVM	**Pico Tres Padr**	**4.82**	**328**		*e*P	Pn	19 25 00.3	-0.9
PTVM					*i* S	Sn	19 25 53.8	-2.6
ZIIG	**Zihuatanejo**	**5.27**	**294**		*e*P	Pn	19 25 07.2	-0.1
ZIIG					*i* S	Sn	19 26 05.0	-2.5

*NEIC **13** 19:28:49.4, 19°.39N×66°.36W, h99km, MD3.8(RSPR), After RSPR.*

RSPR 13 19:28:49.4, 19°.39N×66°.36W, h99km±7km, MD3.8/10, 29C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.10**	**200**		*e*P	Pn	19 29 09.8	-1.1
AOPR	**Arecibo Observ**	**1.10**	**200**		*e*P	Pn	19 29 09.8	-1.1
AOPR					*e*S	Sn	19 29 27.0	-0.1
AGPR	**Aguadilla, PR**	**1.16**	**218**		*e*P	Pn	19 29 10.9	-0.6
AGPR	**Aguadilla, PR**	**1.16**	**218**		*e*P	Pn	19 29 10.9	-0.6
AGPR					*e*S	Sn	19 29 28.6	+0.4
LRS	**Lares**	**1.19**	**203**		*e*P	Pn	19 29 10.5	-1.3
LRS					*e*S	Sn	19 29 28.5	-0.3
LRS	**Lares**	**1.19**	**203**		*e*P	Pn	19 29 10.5	-1.3
LRS					*e*S	Sn	19 29 28.5	-0.3
CBYP	**Canovanas**	**1.21**	**157**		*e*P	Pn	19 29 10.5	-1.6
CBYP	**Canovanas**	**1.21**	**157**		*e*P	Pn	19 29 10.5	-1.6
SJG	**San Juan**	**1.29**	**171**		*e*P	Pn	19 29 12.3	-0.7
SJG	**San Juan**	**1.29**	**171**		*e*P	Pn	19 29 12.2	-0.9
SJG					*e*S	Sn	19 29 30.1	-0.8
SJG	**San Juan**	**1.29**	**171**		*e*P	Pn	19 29 12.3	-0.7
SJG					*e*S	Sn	19 29 29.9	-0.9
CELP	**Cerrillos**	**1.33**	**189**		*e*P	Pn	19 29 13.3	-0.2
CELP					*e*S	Sn	19 29 31.6	-0.1
CELP	**Cerrillos**	**1.33**	**189**		*e*P	Pn	19 29 13.3	-0.2
CELP					*e*S	Sn	19 29 31.6	-0.1
HUMP	**Col San Antoni**	**1.33**	**159**		*e*P	Pn	19 29 12.5	-1.1
HUMP	**Col San Antoni**	**1.33**	**159**		*e*P	Pn	19 29 12.5	-1.1
OBIP	**Obispado Ponce**	**1.36**	**190**		*e*P	Pn	19 29 13.5	-0.4
OBIP	**Obispado Ponce**	**1.36**	**190**		*e*P	Pn	19 29 13.5	-0.4
OBIP					*e*S	Sn	19 29 32.9	+0.4
LSP	**Las Mesas**	**1.39**	**210**		*e*P	Pn	19 29 14.1	-0.2
LSP					*e*S	Sn	19 29 33.1	0.0
LSP	**Las Mesas**	**1.39**	**210**		*e*P	Pn	19 29 14.1	-0.2
LSP					*e*S	Sn	19 29 33.1	0.0
MTP	**Monte Pirata**	**1.50**	**149**		*e*P	Pn	19 29 14.7	-0.8
MTP	**Monte Pirata**	**1.50**	**149**		*e*P	Pn	19 29 14.7	-0.8
MTP					*e*S	Sn	19 29 35.4	0.0
ICM	**Isla Caja Muer**	**1.50**	**186**		*e*P	Pn	19 29 15.8	+0.2
ICM	**Isla Caja Muer**	**1.50**	**186**		*e*P	Pn	19 29 15.8	+0.2
ICM					*e*S	Sn	19 29 34.8	-0.6
CRPR	**Cabo Rojo, PR**	**1.55**	**207**		*e*P	Pn	19 29 16.3	+0.1
CRPR	**Cabo Rojo, PR**	**1.55**	**207**		*e*P	Pn	19 29 16.3	+0.1
CRPR					*e*S	Sn	19 29 36.9	+0.4
STVI	**Saint Thomas**	**1.69**	**128**		*e*P	Pn	19 29 18.0	+0.1
STVI	**Saint Thomas**	**1.69**	**128**		*e*P	Pn	19 29 18.0	+0.1
STVI					*e*S	Sn	19 29 40.0	+0.4
TBVI	**Tortola**	**1.91**	**120**		*e*P	Pn	19 29 21.4	+0.6
TBVI	**Tortola**	**1.91**	**120**		*e*P	Pn	19 29 21.4	+0.6
SDDR	**Presa de Saban**	**4.68**	**266**		*e*P	Pn	19 30 00.6	+2.9

*NIED **13** 19:31:00, 44°.70N×148°.90E, h35km, Mw4.0 Best double couple: M0 1.22000×10^15 NP1:φ0=357.00000°, δ69.00000°, λ75.00000°. NP2:φ0=213.00000°, δ26.00000°, λ123.00000°.*
*BJI **13** 19:31:50.9, 44°.07N×149°.82E, h30km, mB4.8/3, mb4.5/7*
*ISCJB **13** 19:31:58.5±0.8, 44°.53N±0°.04×149°.04E±0°.08, h50km±6km, mb4.0/25, Error ellipse: s-maj=9.8km s-min=6.5km az=28.6*
*SKHL **13** 19:31:58.6±1.3, 44°.58N×149°.20E, h53km±19km, mb5.1/3*
*MOS **13** 19:31:58.7±0.9, 44°.66N×149°.02E, h49km, mb4.2/16, Error ellipse: s-maj=11.2km s-min=9.4km az=90.2*
*JMA **13** 19:31:59.8±0.6, 44°.74N×148°.93E, h30km, M4.6*
*NEIC **13** 19:32:02.2±0.8, 44°.71N×148°.93E, h63km±6km, mb4.4/3, Error ellipse: s-maj=9.8km s-min=5.9km az=145.0*
*IDC **13** 19:32:03.0±3.9, 44°.73N×148°.96E, h70km±34km, mb3.6/17, mb1 3.8/19, mb1mx3.8/27, mbtmp3.6/19, ML3.6/2, MS3.1/2, Ms1 3.2/2, ms1mx2.8/32, Error ellipse: s-maj=19.9km s-min=14.7km az=144.0*

ISC 13 19:32:00.5±0.7, 44°.53N±0°.05×149°.02E±0°.07, h50km±6km, n144, σ1°18/153, mb4.0/25, 9C-16D, Kuril Islands

| Code | Station Name | Δ° | AZ° | Phase | Op | ISC | Time h m s | Res ISC |
|---|---|---|---|---|---|---

YSS				AMB	AMB	19 33 13.7		
	comp=E,30nm,0.3s							
YSS				*eS*	**Sn**	**19 34 09.0**	**-0.5**	
YSS				A		19 34 18.8		
	comp=E,30nm,0.9s							
JNBK	**Urakawa-nobuka**	**5.09**	**246**	P	**Pn**	**19 33 14.0**	**-0.1**	
JWK2	**Keihoku**	**5.12**	**281**	P	**Pn**	**19 33 16.6**	**+2.1**	
JBT2	**Biratori 2**	**5.14**	**252**	P	**Pn**	**19 33 15.4**	**+0.6**	
JEW	**Eniwo**	**5.75**	**256**	P	**Pn**	**19 33 26.8**	**+3.7**	
JNB	**Noboribetsu**	**6.16**	**253**	P	**Pn**	**19 33 30.0**	**+1.2**	
JKB	**Kayabe**	**6.41**	**248**	P	**Pn**	**19 33 32.7**	**+0.5**	
JKB				*eS*	**Sn**	**19 34 41.5**	**-2.4**	
JYM2	**Yakumo 2**	**6.75**	**252**	P	**Pn**	**19 33 37.8**	**+0.9**	
JSH	**Shimam**	**6.79**	**257**	P	**Pn**	**19 33 40.8**	**+3.4**	
JANG	**Nango**	**6.93**	**236**	P	**Pn**	**19 33 37.8**	**-1.6**	
JANG				*eS*	**Sn**	**19 34 50.9**	**-6.0**	
JTM	**Tenmabayashi**	**6.95**	**240**	P	**Pn**	**19 33 39.7**	**0.0**	
JSR	**Shiriuchi**	**6.98**	**248**	P	**Pn**	**19 33 40.1**	**+0.1**	
JSR				*eS*	**Sn**	**19 34 54.3**	**-3.7**	
JTH	**Tanohata**	**7.02**	**232**	P	**Pn**	**19 33 38.6**	**-2.0**	
JTH				*eS*	**Sn**	**19 34 51.8**	**-7.2**	
JOSM	**Okushiri--Mats**	**7.38**	**254**	P	**Pn**	**19 33 46.5**	**+1.0**	
OFUJ	**Ofunato**	**7.73**	**228**	P	**Pn**	**19 33 48.7**	**-1.7**	
OFUJ				*eS*	**Sn**	**19 35 10.0**	**-6.5**	
JRG	**Rokugo**	**8.08**	**233**	P	**Pn**	**19 33 54.4**	**-0.8**	
JIO	**Ouri**	**8.37**	**226**	P	**Pn**	**19 33 56.7**	**-2.3**	
JIO				*eS*	**Sn**	**19 35 24.1**	**-7.9**	
PETK	**Petropavlovsk-**	**10.31**	**31**	P	**Pn**	**19 34 25.8**	**+0.3**	
	comp=E,0.5nm,0.3s,baz=208,slow=18,SNR=8.2							
PETK				LR	LR	19 38 34.3		
	comp=E,52nm,20.8s,baz=148,slow=38							
PETK	**Petropavlovsk-**	**10.31**	**31**	P	**Pn**	**19 34 25.8**	**+0.3**	
PETK				LR	LR	19 38 34.3		
PETK	**Petropavlovsk-**	**10.31**	**31**	PN	**Pn**	**19 34 25.8**	**+0.3**	
PETK				pmax	pmax			
	comp=Z,1.0nm,0.3s							
PETK				MLR	MLR			
	comp=Z,52nm,20.8s							
MJA0	**Matsu Arr-Jizo**	**11.43**	**229**	*e*PN	**Pn**	**19 34 41.3**	**+0.3**	
MJAR	**Matsushiro Arr**	**11.45**	**230**	P	**Pn**	**19 34 40.0**	**-1.2**	
	comp=Z,0.4nm,0.3s,baz=28,slow=13,SNR=7.7							
MJAR	**Matsushiro Arr**	**11.45**	**230**	P	**Pn**	**19 34 40.0**	**-1.2**	
MJAR	**Matsushiro Arr**	**11.45**	**230**	PN	**Pn**	**19 34 40.0**	**-1.3**	
KSRS	**Korea Array**	**17.40**	**253**	P	**Pn**	**19 36 01.4**	**+1.9**	
	comp=Z,0.2nm,0.3s,baz=63,slow=12,SNR=7.5							
KSRS	**Korea Array**	**17.40**	**253**	*e*P	**Pn**	**19 36 01.4**	**+1.9**	
YAK	**Yakutsk**	**20.85**	**334**	*e*P	**P**	**19 36 40.4**	**+2.8**	
YAK				pmax	pmax			
	comp=Z,13nm,0.9s							
YAK				pmax	pmax			
	comp=N,6.0nm,1.1s							
BILL	**Bilibino**	**25.24**	**15**	*e*P	**P**	**19 37 18.9**	**-2.4**	
BILL				pmax	pmax			
	comp=Z,15nm,2.5s,mb4.1							
ULN	**Ulaanbaatar**	**28.98**	**292**	*e*P	**P**	**19 37 55.7**	**+0.7**	
SONM	**Songino Array**	**29.42**	**292**	P	**P**	**19 37 59.4**	**+0.5**	
	comp=Z,0.5nm,0.7s,mb3.4,baz=74,slow=7.7,SNR=5.0							
SONM	**Songino Array**	**29.42**	**292**	P	**P**	**19 37 59.4**	**+0.5**	
SONM	**Songino Array**	**29.42**	**292**	P	**P**	**19 37 59.4**	**+0.5**	
SONM				pmax	pmax			
	comp=Z,1.0nm,0.7s							
GTA	**Gaotai**	**36.49**	**280**	*e*P	**P**	**19 39 01.6**	**+1.0**	
GTA				pP	pP	19 39 05.1	-8.7	
GTA				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5							
ILAR	**Eielson Array**	**40.06**	**37**	P	**P**	**19 39 29.6**	**-0.7**	
	comp=Z,0.9nm,0.9s,mb3.5,baz=266,slow=8.5,SNR=9.1							
ILAR	**Eielson Array**	**40.06**	**37**	P	**P**	**19 39 29.6**	**-0.7**	
ILAR	**Eielson Array**	**40.06**	**37**	P	**P**	**19 39 29.6**	**-0.7**	
ILAR				pmax	pmax			
	comp=Z,1.0nm,0.9s							
ZALV	**Zalesovo Beam**	**41.61**	**307**	PcP	PcP	19 41 39.1	-0.2	
	comp=Z,1.2nm,0.5s,baz=67,slow=2.7,SNR=9.4							
INK	**Inuvik**	**45.05**	**31**	P	**P**	**19 40 10.4**	**-0.2**	
	comp=Z,1.1nm,0.6s,mb3.9,baz=321,slow=4.8,SNR=5.1							
INK	**Inuvik**	**45.05**	**31**	P	**P**	**19 40 10.4**	**-0.2**	
INK	**Inuvik**	**45.05**	**31**	P	**P**	**19 40 10.4**	**-0.3**	
INK				pmax	pmax			
	comp=Z,1.0nm,0.6s							
MK31	**Makanchi Array**	**45.42**	**298**	*e*P	**P**	**19 40 13.2**	**-0.6**	
MK31	**Makanchi Array**	**45.42**	**298**	*e*P	**P**	**19 40 13.3**	**-0.6**	
MKAR	**Makanchi Array**	**45.42**	**298**	P	**P**	**19 40 13.2**	**-0.6**	
	comp=Z,1.5nm,0.7s,mb3.9,baz=75,slow=8.5,SNR=12							
MKAR				PcP	PcP	19 41 52.4	+0.1	
	comp=Z,0.6nm,0.5s,baz=78,slow=3.5,SNR=6.2							
MKAR	**Makanchi Array**	**45.42**	**298**	P	**P**	**19 40 13.2**	**-0.6**	
MKAR				PcP	PcP	19 41 52.4	+0.1	
MKAR	**Makanchi Array**	**45.42**	**298**	P	**P**	**19 40 13.3**	**-0.6**	
MKAR						19 41 52.4		
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
KURK	**Kurchatov**	**46.21**	**304**	PcP	PcP	19 41 54.9	-0.2	
	comp=Z,0.4nm,0.3s,baz=71,slow=3.5,SNR=6.0							
KURK	**Kurchatov**	**46.21**	**304**	*e*P	**P**	**19 40 19.4**	**-0.7**	
KURK				pmax	pmax			
	comp=Z,4.0nm,1.7s,mb4.1							
CMAR	**Chiang Mai Arr**	**49.03**	**255**	P	**P**	**19 40 43.4**	**+1.0**	
	comp=Z,0.9nm,0.8s,mb3.9,baz=46,slow=6.7,SNR=4.6							
CMAR				LR	LR	20 03 26.7		
	comp=Z,38nm,18.2s,baz=105,slow=38							
CMAR	**Chiang Mai Arr**	**49.03**	**255**	P	**P**	**19 40 43.4**	**+1.0**	
CMAR				LR	LR	20 03 26.7		
CMAR	**Chiang Mai Arr**	**49.03**	**255**	P	**P**	**19 40 43.4**	**+1.0**	
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
CMAR				MLR	MLR			
	comp=Z,39nm,18.2s							
TAPN	**Taplejung**	**51.33**	**272**	*e*P	**P**	**19 41 00.6**	**+0.9**	
	comp=Z,8.9nm,0.7s,mb4.8							
ODAN	**Odare**	**51.85**	**272**	*e*P	**P**	**19 41 05.4**	**+1.8**	
GUN	**Gumba**	**52.31**	**274**	*e*P	**P**	**19 41 07.6**	**+0.6**	
	comp=Z,16nm,0.4s							
PKI	**Pulchoki**	**52.85**	**274**	*e*P	**P**	**19 41 11.3**	**+0.4**	
DMN	**Daman**	**53.04**	**274**	*e*P	**P**	**19 41 12.9**	**+0.5**	
GKN	**Gorkha**	**53.14**	**275**	*e*P	**P**	**19 41 13.5**	**+0.4**	
DANN	**Dangsing**	**53.56**	**276**	*e*P	**P**	**19 41 16.9**	**+0.7**	
KOLN	**Koldanda**	**54.02**	**275**	*e*P	**P**	**19 41 20.1**	**+0.6**	
	comp=Z,4.1nm,0.6s,mb4.6							
YKA	**Yellowknife Ar**	**54.40**	**35**	P	**P**	**19 41 21.6**	**-0.2**	
	comp=Z,1.3nm,0.6s,mb4.0,baz=323,slow=9.2,SNR=2.2							
YKA	**Yellowknife Ar**	**54.40**	**35**	P	**P**	**19 41 21.6**	**-0.2**	
YKA	**Yellowknife Ar**	**54.40**	**35**	P	**P**	**19 41 21.6**	**-0.2**	
YKA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
ABKAR	**Akbulak array**	**57.62**	**309**	*e*P	**P**	**19 41 44.0**	**-1.0**	
	comp=Z,1.4nm,0.4s,mb4.3							
KBL	**Kabul**	**60.18**	**290**	*e*P	**P**	**19 42 01.9**	**-1.2**	
	comp=Z,2.2nm,0.6s,mb4.4							
KBL	**Kabul**	**60.18**	**290**	*e*P	**P**	**19 42 01.9**	**-1.1**	
KBL				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3							
FINES	**FINESS Array B**	**64.78**	**334**	P	**P**	**19 42 32.0**	**-1.3**	
	comp=Z,1.4nm,0.6s,mb4.2,baz=60,slow=7.5,SNR=6.1							
FINES	**FINESS Array B**	**64.78**	**334**	P	**P**	**19 42 32.0**	**-1.3**	
FINES	**FINESS Array B**	**64.78**	**334**	P	**P**	**19 42 32.0**	**-1.2**	
FINES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
WRA	**Warramunga Arr**	**65.55**	**195**	P	**P**	**19 42 39.9**	**+1.3**	
	comp=Z,0.6nm,0.6s,mb3.8,baz=12,slow=6.8,SNR=7.5							
WRA	**Warramunga Arr**	**65.55**	**195**	P	**P**	**19 42 39.9**	**+1.3**	
WRA	**Warramunga Arr**	**65.55**	**195**	P	**P**	**19 42 39.9**	**+1.3**	
WRA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
PDAR	**Pinedale Array**	**68.37**	**51**	P	**P**	**19 42 56.6**	**+0.1**	
	comp=Z,0.7nm,0.6s,mb3.9,baz=251,slow=2.4,SNR=7.4							
PDAR	**Pinedale Array**	**68.37**	**51**	P	**P**	**19 42 56.6**	**+0.1**	
ASAR	**Alice Springs**	**69.26**	**195**	P	**P**	**19 43 03.7**	**+1.7**	
	comp=Z,0.3nm,0.7s,mb3.4,baz=11,slow=5.6,SNR=4.2							
ASAR	**Alice Springs**	**69.26**	**195**	P	**P**	**19 43 03.7**	**+1.7**	
ASAR	**Alice Springs**	**69.26**	**195**	*e*P	**P**	**19 43 03.7**	**+1.7**	
NB2	**NORSAR Subarra**	**69.35**	**340**	P	**P**	**19 43 00.9**	**-1.3**	
	comp=Z,0.6nm,0.3s,mb4.0,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**69.35**	**340**	P	**P**	**19 43 01.1**	**-1.1**	
	comp=Z,1.0nm,0.6s,mb3.9,baz=30,slow=6.5,SNR=8.6							
NOA	**NORSAR Array B**	**69.35**	**340**	P	**P**	**19 43 01.1**	**-1.1**	
NOA	**NORSAR Array B**	**69.35**	**340**	P	**P**	**19 43 01.1**	**-1.1**	
NOA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
HFS	**Hagfors**	**69.48**	**338**	P	**P**	**19 43 01.5**	**-1.5**	
	comp=Z,0.9nm,0.4s,mb4.1,baz=68,slow=5.5,SNR=6.9							
HFS	**Hagfors**	**69.48**	**338**	P	**P**	**19 43 01.5**	**-1.5**	
HFS	**Hagfors**	**69.48**	**338**	P	**P**	**19 43 01.5**	**-1.5**	
HFS				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**71.74**	**324**	P	**P**	**19 43 15.7**	**-1.3**	
	comp=Z,0.9nm,0.4s,mb4.0,baz=36,slow=5.9,SNR=5.6							
AKASG	**Malin Array Be**	**71.74**	**324**	P	**P**	**19 43 15.7**	**-1.3**	
AKASG	**Malin Array Be**	**71.74**	**324**	P	**P**	**19 43 15.7**	**-1.2**	
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
KWP	**Kalwaria Pacla**	**75.19**	**327**	⇑P	**P**	**19 43 37.3**	**0.0**	
KWP	**Kalwaria Pacla**	**75.19**	**327**	⇑*i*P	**P**	**19 43 37.3**	**0.0**	
BUR08	**Bucovina Ar. S**	**75.78**	**325**	*e*P	**P**	**19 43 40.1**	**-0.5**	
BURAR	**Bucovina Array**	**75.79**	**325**	⇓P	**P**	**19 43 40.4**	**-0.3**	
BURAR	**Bucovina Array**	**75.79**	**325**	⇓*i*P	**P**	**19 43 40.4**	**-0.3**	
TESR		**76.06**	**323**	⇑*i*P	**P**	**19 43 41.7**	**-0.6**	
TRPA	**Tarpa**	**76.47**	**326**	⇑*i*P	**P**	**19 43 44.3**	**-0.3**	
VRI	**Vrincioaia**	**76.53**	**323**	⇑P	**P**	**19 43 46.2**	**+1.3**	
VRI	**Vrincioaia**	**76.53**	**323**	⇑*i*P	**P**	**19 43 46.2**	**+1.3**	
MORC	**Moravsky Berou**	**77.00**	**330**	⇓P	**P**	**19 43 47.4**	**-0.1**	
MORC	**Moravsky Berou**	**77.00**	**330**	⇓*i*P	**P**	**19 43 47.4**	**-0.1**	
MLR	**Muntele Rosu**	**77.16**	**323**	P	**P**	**19 43 49.0**	**+0.5**	
	comp=Z,0.4nm,0.4s,mb3.7,baz=247,slow=4.6,SNR=7.7							
MLR	**Muntele Rosu**	**77.16**	**323**	P	**P**	**19 43 49.0**	**+0.5**	
MLR	**Muntele Rosu**	**77.16**	**323**	⇓P	**P**	**19 43 49.0**	**+0.5**	
MLR	**Muntele Rosu**	**77.16**	**323**	⇓*i*P	**P**	**19 43 48.1**	**-0.4**	
CLL	**Collm**	**77.23**	**333**	⇓*i*P	**P**	**19 43 48.0**	**-0.8**	
CLL				pmax	pmax			
	comp=Z,7.0nm,0.7s,mb4.7							
CLL	**Collm**	**77.23**	**333**	⇓*i*P	**P**	**19 43 48.0**	**-0.8**	
	comp=Z,7.0nm,0.7s,mb4.7							
VOIR		**77.59**	**323**	⇓P	**P**	**19 43 50.6**	**-0.3**	
VOIR		**77.59**	**323**	⇓*i*P	**P**	**19 43 50.6**	**-0.3**	
BR131	**Keskin Array S**	**77.97**	**315**	*e*P	**P**	**19 43 53.1**	**0.0**	
	comp=Z,1.0nm,0.6s,mb3.9							
BRTR	**Keskin Array B**	**77.97**	**315**	P	**P**	**19 43 53.2**	**+0.1**	
	comp=Z,1.4nm,0.7s,mb4.0,baz=101,slow=4.2,SNR=10.0							
BRTR	**Keskin Array B**	**77.97**	**315**	P	**P**	**19 43 53.2**	**+0.1**	
BRTR	**Keskin Array B**	**77.97**	**315**	*e*P	**P**	**19 43 53.2**	**+0.1**	
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
GERES	**GERESS Array B**	**79.12**	**332**	P	**P**	**19 43 58.8**	**-0.5**	
	comp=Z,1.1nm,0.6s,mb4.0,baz=34,slow=5.5,SNR=12							
GERES	**GERESS Array B**	**79.12**	**332**	P	**P**	**19 43 58.8**	**-0.5**	
GERES	**GERESS Array B**	**79.12**	**332**	P	**P**	**19 43 58.8**	**-0.5**	
GERES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
VTS	**Vitosha**	**80.66**	**323**	⇓P	**P**	**19 44 06.8**	**-1.0**	
VTS	**Vitosha**	**80.66**	**323**	⇓*i*P	**P**	**19 44 06.8**	**-1.0**	
TXAR	**Lajitas Array**	**81.09**	**58**	P	**P**	**19 44 10.8**	**+0.5**	
	comp=Z,1.0nm,0.6s,mb3.9,baz=306,slow=4.3,SNR=15							
TXAR	**Lajitas Array**	**81.09**	**58**	P	**P**	**19 44 10.8**	**+0.5**	
TXAR	**Lajitas Array**	**81.09**	**58**	P	**P**	**19 44 10.8**	**+0.5**	
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							
TORD	**Torodi Ar. Bea**	**115.37**	**324**	PKP	PKPdf	19 50 36.1	-0.6	
	comp=Z,0.2nm,0.3s,baz=360,slow=1.7,SNR=6.3							
TORD	**Torodi Ar. Bea**	**115.37**	**324**	PKP	PKPdf	19 50 36.1	-0.6	
VNA2	**Neumayer--Watz**	**151.11**	**196**	*e*	PKPdf	19 51 36.7	-3.9	
VNA2				*e*		19 51 44.5		
VNA2				*e*		19 51 53.1		
VNA3	**Neumayer Olymp**	**151.27**	**194**	*e*	PKPdf	19 51 35.2	-5.6	
VNA3				*e*		19 51 44.5		
TGY	**Tagaytay City**	**1.09**	**34**	Pn	**Pn**	**20 00 28.3**	**-1.0**	
	2μm,0.3s,baz=223,slow=3.6,SNR=134							
TGY				Lg		20 00 43.6		
	3μm,0.3s,baz=160,slow=21,SNR=24							
TGY	**Tagaytay City**	**1.09**	**34**	Pn	**Pn**	**20 00 28.3**	**-1.0**	
TGY				Lg		20 00 43.6		
TGY	**Tagaytay City**	**1.09**	**34**	⇓*i*P	**Pn**	**20 00 28.6**	**-0.8**	
BUSP	**Coron**	**1.19**	**185**	*e*P	**Pn**	**20 00 30.8**	**+0.1**	
BUSP				*eS*	**Sn**	**20 00 40.0**	**-5.8**	
BOAC	**Boac**	**1.52**	**80**	*e*P	**Pn**	**20 00 35.0**	**-0.3**	
BOAC				*eS*	**Sn**	**20 00 54.3**	**+0.3**	
OTRP	**Odiongan**	**1.87**	**116**	*e*P	**Pn**	**20 00 39.6**	**-0.4**	
ENPP	**El Nido**	**2.16**	**203**	*e*P	**Pn**	**20 00 44.0**	**0.0**	
POLP	**Polilio Island**	**2.20**	**46**	*e*P	**Pn**	**20 00 43.9**	**-0.7**	
GQP	**Guinayangan**	**2.20**	**71**	*e*P	**Pn**	**20 00 43.3**	**-1.3**	
GQP				*i*S	**Sn**	**20 01 12.1**	**+1.5**	
AUQP	**San Andres**	**2.32**	**87**	*e*P	**Pn**	**20 00 50.5**	**+4.4**	
CUYO	**Cuyo Island**	**2.44**	**163**	*e*P	**Pn**	**20 00 47.5**	**-0.3**	
PCPH	**Palayan**	**2.47**	**18**	⇑*e*P	**Pn**	**20 00 47.0**	**-1.3**	
PCPH				*eS*	**Sn**	**20 01 12.8**	**-4.4**	
SCZP	**Santa Cruz**	**2.59**	**352**	*e*P	**Pn**	**20 00 50.3**	**+0.4**	
BALP	**Baler**	**2.81**	**26**	*e*P	**Pn**	**20 00 53.1**	**+0.2**	
RCP	**Roxas**	**2.89**	**124**	⇑*e*P	**Pn**	**20 00 54.6**	**+0.6**	
GUIM	**Jordan**	**3.40**	**139**	*e*P	**Pn**	**20 01 01.9**	**+0.9**	
CAUP	**Cauayan**	**4.00**	**21**	*e*P	**Pn**	**20 01 10.2**	**+0.9**	
APYP	**Conner**	**4.72**	**11**	*e*P	**Pn**	**20 01 20.7**	**+1.4**	
CMAR	**Chiang Mai Arr**	**21.20**	**287**	P	**P**	**20 04 53.9**	**+1.5**	
	0.6nm,0.7s,mb3.0,baz=94,slow=8.9,SNR=4.2							
CMAR	**Chiang Mai Arr**	**21.20**	**287**	P	**P**	**20 04 53.9**	**+1.5**	
GUMO	**Guam**	**23.90**	**86**	LR	LR	20 14 15.0		
	comp=Z,38nm,18.4s,baz=120,slow=35							
WRAB	**Tennant Creek**	**35.71**	**157**	*e*P	**P**	**20 07 04.6**	**-0.3**	
	4.1nm,0.6s,mb4.5							
WRA	**Warramunga Arr**	**35.71**	**157**	P	**P**	**20 07 04.0**	**-0.9**	
	2.4nm,0.3s,mb4.5,baz=333,slow=11,SNR=58							
WRA	**Warramunga Arr**	**35.71**	**157**	P	**P**	**20 07 04.0**	**-0.9**	
SONM	**Songino Array**	**36.43**	**344**	P	**P**	**20 07 10.4**	**-0.3**	
	3.3nm,0.6s,mb4.5,baz=163,slow=10,SNR=37							
SONM	**Songino Array**	**36.43**	**344**	P	**P**	**20 07 10.4**	**-0.3**	
ASAR	**Alice Springs**	**38.98**	**160**	P	**P**	**20 07 33.2**	**+0.7**	
	4.7nm,0.6s,mb4.4,baz=339,slow=7.0,SNR=88							
ASAR	**Alice Springs**	**38.98**	**160**	P	**P**	**20 07 33.2**	**+0.7**	
MKAR	**Makanchi Array**	**46.20**	**324**	P	**P**	**20 08 31.4**	**+0.5**	
	0.2nm,0.3s,mb3.5,baz=108,slow=8.0,SNR=6.7							
MKAR	**Makanchi Array**	**46.20**	**324**	P	**P**	**20 08 31.4**	**+0.5**	
STKA	**Stephens Creek**	**49.25**	**156**	P	**P**	**20 08 53.9**	**-0.8**	
	0.6nm,0.3s,mb4.1,baz=138,slow=22,SNR=3.6							
STKA	**Stephens Creek**	**49.25**	**156**	P	**P**	**20 08 53.9**	**-0.8**	
ZALV	**Zalesovo Beam**	**49.32**	**333**	P	**P**	**20 08 54.1**	**-0.9**	
	0.7nm,0.3s,mb4.1,baz=114,slow=6.0,SNR=4.7							
ZALV	**Zalesovo Beam**	**49.32**	**333**	P	**P**	**20 08 54.1**	**-0.9**	
KURK	**Kurchatov**	**50.39**	**327**	P	**P**	**20 09 03.4**	**+0.2**	
	1.0nm,0.4s,mb4.2,baz=122,slow=7.8,SNR=8.2							
KURK	**Kurchatov**	**50.39**	**327**	P	**P**	**20 09 03.4**	**+0.2**	
BRVK	**Borovoye**	**56.04**	**326**	*e*P	**P**	**20 09 44.8**	**+0.1**	
	2.8nm,1.1s,mb4.2							

ISCJB ***13*** *19:38:08.1±1.6, 18°.8S±0°.1×169°.3E±0°.1, h240km±16km, mb4.1/15, Error ellipse: s-maj=20.4km s-min=15.8km az=170.9*

NEIC ***13*** *19:38:09.6±1.8, 18°.80S×169°.31E, h245km±17km, mb4.1/6, Error ellipse: s-maj=17.5km s-min=12.6km az=182.0*

IDC ***13*** *19:38:13.9±6.7, 18°.90S×169°.28E, h287km±68km, mb3.8/12, mb1 4.0/12, mb1mx3.8/19, mbtmp3.8/12, Error ellipse: s-maj=30.7km s-min=19.6km az=10.0*

ISC 13 19:38:08.5±1.6, 18°.8S±0°.1×169°.3E±0°.1, h229km±16km, n44, σ0°81/36, mb4.1/15, 1C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
DZM	**Mont Dzumac**	**4.25**	**219**	*e*P		**Pn**	**19 39 13.5**	**-1.0**
DZM	**Mont Dzumac**	**4.25**	**219**	*e*P		**Pn**	**19 39 15.2**	**+0.8**
NOUC	**Port Laguerre**	**4.36**	**220**	*e*P		**Pn**	**19 39 15.7**	**-0.1**
OUZ	**Omahuta**	**16.84**	**168**	*e*P		**P**	**19 41 49.3**	**-0.5**
	22nm,0.8s							
ARMA	**Armidale**	**19.80**	**231**	*e*P		**P**	**19 42 22.8**	**+1.1**
URZ	**Urewera**	**20.60**	**162**	P		**P**	**19 42 30.3**	**+0.2**
	3.8nm,0.5s,baz=260,slow=0.7,SNR=3.9							
URZ	**Urewera**	**20.60**	**162**	P		**P**	**19 42 30.3**	**+0.2**
CTA	**Charters Tower**	**21.77**	**263**	P		**P**	**19 42 44.1**	**+1.8**
	2.3nm,0.3s,mb4.1,baz=79,slow=10,SNR=5.8							
CTA	**Charters Tower**	**21.77**	**263**	*e*P		**P**	**19 42 43.0**	**+0.7**
	1.9nm,0.4s,mb4.0							
CTA	**Charters Tower**	**21.77**	**263**	P		**P**	**19 42 44.1**	**+1.8**
CTAO	**Charters Tower**	**21.77**	**263**	*e*P		**P**	**19 42 42.9**	**+0.6**
	3.3nm,0.6s,mb4.0							
STKA	**Stephens Creek**	**28.16**	**237**	P		**P**	**19 43 39.6**	**0.0**
	4.9nm,0.6s,mb4.3,baz=58,slow=8.6,SNR=14							
STKA	**Stephens Creek**	**28.16**	**237**	*e*P		**P**	**19 43 39.6**	**0.0**
	4.4nm,0.6s,mb4.3							
STKA	**Stephens Creek**	**28.16**	**237**	*e*P		**P**	**19 43 39.3**	**-0.3**
	1.2nm,0.7s,mb3.6							
WRAB	**Tennant Creek**	**32.96**	**262**	*e*P		**P**	**19 44 21.1**	**-0.8**
	2.5nm,0.6s,mb3.9							
WRA	**Warramunga Arr**	**32.97**	**262**	P		**P**	**19 44 21.4**	**-0.7**
	1.0nm,0.3s,mb3.8,baz=82,slow=6.6,SNR=53							
WRA	**Warramunga Arr**	**32.97**	**262**	P		**P**	**19 44 21.4**	**-0.7**
ASAR	**Alice Springs**	**33.30**	**255**	P		**P**	**19 44 24.4**	**-0.4**
	20nm,0.4s,mb5.0,baz=82,slow=8.9,SNR=555							
ASAR	**Alice Springs**	**33.30**	**255**	P		**P**	**19 44 24.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**41.35**	**264**	*e*P		**P**	**19 45 32.9**	**+0.5**
	9.1nm,0.6s,mb4.4							
MBWA	**Marble Bar**	**46.51**	**258**	*e*P		**P**	**19 46 12.9**	**-0.4**
	5.5nm,0.6s,mb4.1							
FX1	**Attu Island--F**	**71.41**	**2**	P		**P**	**19 49 03.6**	**+0.2**
	13nm,0.8s,mb4.6,baz=202,slow=5.4,SNR=1.9							
FX1	**Attu Island--F**	**71.41**	**2**	P		**P**	**19 49 03.6**	**+0.2**
PETK	**Petropavlovsk-**	**72.26**	**353**	P		**P**	**19 49 09.4**	**+0.9**
	2.5nm,0.5s,mb4.1,baz=157,slow=5.3,SNR=7.0							
PETK	**Petropavlovsk-**	**72.26**	**353**	P		**P**	**19 49 09.4**	**+0.9**
SONM	**Songino Array**	**86.86**	**323**	P		**P**	**19 50 27.1**	**0.0**
	0.9nm,0.7s,mb3.6,baz=139,slow=6.1,SNR=11							
SONM	**Songino Array**	**86.86**	**323**	P		**P**	**19 50 27.1**	**0.0**
NVAR	**Mina Array Bea**	**88.44**	**48**	P		**P**	**19 50 35.2**	**+0.5**
	1.1nm,0.5s,mb3.9,baz=224,slow=8.3,SNR=4.4							
NVAR	**Mina Array Bea**	**88.44**	**48**	P		**P**	**19 50 35.2**	**+0.5**
ILAR	**Eielson Array**	**89.75**	**17**	P		**P**	**19 50 38.3**	**-1.9**
	0.9nm,0.7s,mb3.7,baz=241,slow=5.0,SNR=12							
ILAR	**Eielson Array**	**89.75**	**17**	P		**P**	**19 50 38.3**	**-1.9**
SLMT	**Seeley Lake**	**95.21**	**42**	*e*P		**P**	**19 51 06.9**	**+1.1**
	7.5nm,1.4s,mb4.6							
INK	**Inuvik**	**96.06**	**18**	P		**P**	**19 51 08.0**	**-1.3**
	1.3nm,1.0s,mb4.1,baz=270,slow=10,SNR=3.2							
INK	**Inuvik**	**96.06**	**18**	P		**P**	**19 51 08.0**	**-1.3**
TXAR	**Lajitas Array**	**96.48**	**61**	P		**P**	**19 51 12.5**	**+0.4**
	0.3nm,0.6s,mb3.7,baz=234,slow=5.7,SNR=4.1							
TXAR	**Lajitas Array**	**96.48**	**61**	P		**P**	**19 51 12.5**	**+0.4**
ARCES	**ARCESS Array B**	**124.61**	**345**	PKP		PKPdf	19 56 38.3	-1.6
	0.8nm,0.4s,baz=82,slow=2.6,SNR=7.7							
ARCES	**ARCESS

*ISCJB **13** 20:15:51.4±0.3, 37.69N±0.04×95.99E±0.04, h10km, mb4.2/22, Error ellipse: s-maj=6.4km s-min=4.1km az=177.2*

*IDC **13** 20:15:51.3±0.7, 37.58N×95.97E, h0km, mb4.1/12, mb1 4.1/17, mb1mx4.0/30, mbtmp4.0/17, ML3.8/5, MS2.9/2, Ms1 2.9/2, ms1mx2.5/36, Error ellipse: s-maj=28.2km s-min=13.3km az=44.0*

*BJI **13** 20:15:52.7, 37.70N×95.81E, h15km, mB4.6/2, mb4.3/12, ML4.2/9, Ms3.9/12, Ms7 3.7/11*

*MOS **13** 20:15:53.7±1.3, 37.67N×95.96E, h28km, mb4.3/12, Error ellipse: s-maj=12.4km s-min=7.8km az=115.1*

*NEIC **13** 20:15:53.2±0.4, 37.66N×95.91E, h10km, mb4.1/5, Error ellipse: s-maj=8.2km s-min=6.4km az=49.0*

ISC 13 20:15:53.6±0.3, 37.67N±0.05×95.96E±0.04, h10km, n112, σ1§06/117, mb4.2/22, 4C-6D, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.48**	**59**	Pn		**Pn**	**20 16 52.3**	**+4.4**
GTA				Pg		**Pg**	**20 16 58.9**	**-1.5**
GTA				Sn		**Sb**	**20 17 35.0**	**-2.8**
GTA				Sg		**Sg**	**20 17 45.4**	**-0.1**
GTA				smax				
	comp=N,160nm,0.9s							
GTA				smax				
	comp=E,130nm,0.9s							
GTA				LR	LR			
	comp=N,1μm,8.8s							
GTA				LR	LR			
	comp=E,2μm,7.8s							
GTA				LR	LR			
	comp=Z,1μm,8.5s							
LZH	**Lanzhou**	**6.51**	**102**	*e*Pn		**Pn**	**20 17 31.3**	**+1.8**
LZH				Pg		**Pb**	**20 17 50.5**	**+3.5**
LZH				Sn		**Sn**	**20 18 48.4**	**+4.6**
LZH				Sg		**Sg**	**20 19 18.6**	**-4.0**
LZH				smax				
	comp=N,100nm,0.8s							
LZH				smax				
	comp=E,170nm,0.7s							
LZH				LR	LR			
	comp=N,550nm,5.9s							
LZH				LR	LR			
	comp=E,630nm,5.7s							
LZH				LR	LR			
	comp=Z,840nm,7.4s							
WMQ	**Urumqi**	**8.78**	**317**	P		**Pn**	**20 18 01.5**	**+1.0**
WMQ				S		**Sn**	**20 19 41.9**	**+2.4**
WMQ				pmax	pmax			
	comp=Z,18nm,0.6s							
WMQ				smax				
	comp=N,120nm,0.8s							
LSA	**Lhasa**	**8.90**	**208**	*e*P		**Pn**	**20 18 04.8**	**+2.5**
	comp=N,8.8nm,0.9s							
LSA	**Lhasa**	**8.90**	**208**	*e*P		**Pn**	**20 18 04.8**	**+2.6**
LSA				pmax	pmax			
	comp=Z,9.0nm,0.9s							
BTO	**Baotou**	**11.31**	**71**	*e*P		**Pn**	**20 18 36.5**	**+1.3**
SONM	**Songino Array**	**12.71**	**34**	Pn		**Pn**	**20 18 55.9**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=218,slow=15,SNR=34							
SONM	**Songino Array**	**12.71**	**34**	Pn		**Pn**	**20 18 55.9**	**+1.5**
SONM	**Songino Array**	**12.71**	**34**	P		**Pn**	**20 18 55.9**	**+1.5**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ULN	**Ulaanbaatar**	**13.03**	**35**	*e*P		**Pn**	**20 18 59.8**	**+1.2**
	comp=Z,7.7nm,0.9s							
ULN	**Ulaanbaatar**	**13.03**	**35**	*e*P		**Pn**	**20 18 59.8**	**+1.1**
ULN				pmax	pmax			
	comp=Z,8.0nm,0.9s							
ENH	**Enshi**	**13.42**	**119**	*e*P		**Pn**	**20 19 03.7**	**-0.4**
	comp=Z,18nm,0.9s							
MK31	**Makanchi Array**	**13.61**	**316**	*e*P		**Pn**	**20 19 05.6**	**-1.0**
MK31	**Makanchi Array**	**13.61**	**316**	*e*P		**Pn**	**20 19 05.6**	**-1.0**
MKAR	**Makanchi Array**	**13.61**	**316**	Pn		**Pn**	**20 19 04.0**	**-2.6**
	comp=Z,0.4nm,0.3s,baz=124,slow=13,SNR=23							
MKAR				LR	LR		20 25 24.4	
	comp=Z,109nm,19.8s,baz=224,slow=42							
MKAR	**Makanchi Array**	**13.61**	**316**	Pn		**Pn**	**20 19 04.0**	**-2.6**
MKAR				LR	LR		20 25 24.4	
MKAR	**Makanchi Array**	**13.61**	**316**	P		**Pn**	**20 19 04.0**	**-2.6**
MKAR				MLR	MLR			
	comp=Z,109nm,19.8s							
ZAK	**Zakamensk**	**13.75**	**20**	*e*P		Px	20 19 20.7	
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.1s							
MOY	**Mondy**	**14.44**	**13**	*e*P		pP	20 19 28.5	+0.9
BJT	**Baijiatuan**	**15.92**	**75**	P		**Pn**	**20 19 41.1**	**+3.5**
BJT	**Baijiatuan**	**15.92**	**75**	P		**Pn**	**20 19 41.1**	**+3.5**
TKM2	**Tokmak 2**	**16.39**	**295**	*e*P		**Pn**	**20 19 42.3**	**-1.3**
	comp=Z,11nm,0.6s							
TKM2	**Tokmak 2**	**16.39**	**295**	*e*P		**Pn**	**20 19 42.3**	**-1.3**
TKM2				pmax	pmax			
	comp=Z,11nm,0.6s							
KURK	**Kurchatov**	**17.96**	**322**	P		**Pn**	**20 20 01.2**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=133,slow=11,SNR=30							
KURK				LR	LR		20 26 25.6	
	comp=Z,23nm,21.5s,baz=115,slow=35							
KURK	**Kurchatov**	**17.96**	**322**	*e*P		**Pn**	**20 20 02.5**	**-0.8**
KURK				LR	LR		20 26 25.6	
KURK	**Kurchatov**	**17.96**	**322**	P		**Pn**	**20 20 01.2**	**-2.0**
KURK				MLR	MLR			
	comp=Z,23nm,21.5s							
ZAA0	**Zalesovo Array**	**18.00**	**338**	*e*P		**Pn**	**20 20 03.2**	**-0.5**
ZALV	**Zalesovo Beam**	**18.00**	**338**	P		**Pn**	**20 20 03.0**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=150,slow=10,SNR=13							
ZALV	**Zalesovo Beam**	**18.00**	**338**	P		**Pn**	**20 20 03.0**	**-0.7**
ZALV	**Zalesovo Beam**	**18.00**	**338**	P		**Pn**	**20 20 03.0**	**-0.7**
NVS	**Novosibirsk**	**19.24**	**337**	*e*P		**Pn**	**20 20 16.9**	**-1.9**
NVS				pmax	pmax			
	comp=Z,11nm,1.2s							
NVS				pmax	pmax			
	comp=N,8.0nm,1.3s							
NVS				pmax	pmax			
	comp=E,6.0nm,1.4s							
CMAR	**Chiang Mai Arr**	**19.32**	**171**	P		**Pn**	**20 20 17.8**	**-2.2**
	comp=E,0.1nm,0.3s,baz=341,slow=10,SNR=9.4							
CMAR	**Chiang Mai Arr**	**19.32**	**171**	P		**Pn**	**20 20 17.8**	**-2.2**
CMAR	**Chiang Mai Arr**	**19.32**	**171**	P		**Pn**	**20 20 17.8**	**-2.2**
KKAR	**Karatay Array**	**20.10**	**294**	*e*P		**P**	**20 20 26.7**	**-0.5**
	comp=E,3.2nm,0.8s							
KKAR	**Karatay Array**	**20.10**	**294**	*e*P		**P**	**20 20 26.7**	**-0.6**
KKAR				pmax	pmax			
	comp=Z,3.0nm,0.8s							
HIA	**Hailar**	**20.70**	**48**	P		**P**	**20 20 34.0**	**+0.2**
HIA	**Hailar**	**20.70**	**48**	P		**P**	**20 20 34.0**	**+0.3**
KBL	**Kabul**	**21.95**	**270**	*e*P		**P**	**20 20 45.9**	**-1.4**
	comp=Z,10nm,1.1s,mb4.2							
KBL	**Kabul**	**21.95**	**270**	*e*P		**P**	**20 20 45.9**	**-1.4**
KBL				pmax	pmax			
	comp=Z,10.0nm,1.1s,mb4.2							
BRVK	**Borovoye**	**23.53**	**319**	P		**P**	**20 21 03.4**	**-0.6**
BRVK	**Borovoye**	**23.53**	**319**	P		**P**	**20 21 03.4**	**-0.5**
KSRS	**Korea Array**	**25.28**	**81**	P		**P**	**20 21 19.3**	**-0.7**
	comp=Z,9.7nm,0.8s,mb4.4,baz=275,slow=9.6,SNR=35							
KSRS	**Korea Array**	**25.28**	**81**	P		**P**	**20 21 19.3**	**-0.7**
KSRS				pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.4							
AKTK	**Aktyubinsk**	**29.77**	**308**	P		**P**	**20 22 00.5**	**+0.4**
AKTO	**Aktyubinsk**	**29.77**	**308**	P		**P**	**20 22 00.5**	**+0.4**
	comp=Z,4.7nm,1.0s,mb4.2,baz=94,slow=8.0,SNR=12							
AKTO	**Aktyubinsk**	**29.77**	**308**	P		**P**	**20 22 00.5**	**+0.3**
AKTO				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.2							
ARU	**Arti**	**31.11**	**319**	*e*P		**P**	**20 22 11.4**	**-0.5**
	comp=Z,1.8nm,0.6s,mb4.1							
ARU	**Arti**	**31.11**	**319**	*e*P		**P**	**20 22 11.4**	**-0.5**
ARU				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.1							
BR131	**Keskin Array S**	**47.81**	**293**	*e*P		**P**	**20 24 31.0**	**-0.1**
	comp=Z,1.0nm,0.6s,mb4.0							
BRTR	**Keskin Array B**	**47.81**	**293**	P		**P**	**20 24 31.1**	**-0.1**
	comp=Z,1.6nm,0.8s,mb4.1,baz=102,slow=8.1,SNR=13							
BRTR	**Keskin Array B**	**47.81**	**293**	P		**P**	**20 24 31.1**	**-0.1**
BRTR	**Keskin Array B**	**47.81**	**293**	P		**P**	**20 24 31.1**	**-0.1**
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
AKASG	**Malin Array Be**	**48.02**	**308**	P		**P**	**20 24 31.2**	**-1.4**
	comp=Z,2.9nm,0.9s,mb4.3,baz=68,slow=7.4,SNR=6.2							
AKASG	**Malin Array Be**	**48.02**	**308**	P		**P**	**20 24 31.2**	**-1.4**
AKASG	**Malin Array Be**	**48.02**	**308**	P		**P**	**20 24 31.3**	**-1.3**
AKASG				pmax	pmax			
	comp=Z,3.0nm,0.9s							
FINES	**FINESS Array B**	**48.33**	**323**	P		**P**	**20 24 35.0**	**0.0**
	comp=Z,2.4nm,0.7s,mb4.3,baz=78,slow=7.8,SNR=5.4							
FINES	**FINESS Array B**	**48.33**	**323**	P		**P**	**20 24 35.0**	**0.0**
FINES	**FINESS Array B**	**48.33**	**323**	P		**P**	**20 24 35.0**	**+0.1**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.7s							
TIRR	**Tirgusor**	**50.08**	**300**	⇑P		**P**	**20 24 55.0**	**+6.5**
TIRR	**Tirgusor**	**50.08**	**300**	⇑*i*P		**P**	**20 24 55.0**	**+6.5**
PLOR	**Plostina**	**50.87**	**303**	⇓P		**P**	**20 24 55.4**	**+1.0**
PLOR	**Plostina**	**50.87**	**305**	⇓*i*P		**P**	**20 24 55.3**	**+0.9**
BURAR	**Bucovina Array**	**51.31**	**305**	⇓P		**P**	**20 24 59.7**	**+2.0**
BURAR	**Bucovina Array**	**51.31**	**305**	⇓*i*P		**P**	**20 24 59.7**	**+2.0**
KWP	**Kalwaria Pacla**	**52.34**	**308**	⇑P		**P**	**20 25 06.6**	**+1.2**
KWP	**Kalwaria Pacla**	**52.34**	**308**	⇑*i*P		**P**	**20 25 06.6**	**+1.2**
NOA	**NORSAR Array B**	**55.46**	**324**	P		**P**	**20 25 26.8**	**-1.3**
	comp=Z,2.0nm,0.8s,mb4.2,baz=75,slow=7.6,SNR=5.9							
NOA	**NORSAR Array B**	**55.46**	**324**	P		**P**	**20 25 26.8**	**-1.3**
NOA	**NORSAR Array B**	**55.46**	**324**	P		**P**	**20 25 26.8**	**-1.3**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
MORC	**Moravsky Berou**	**55.49**	**310**	⇓P		**P**	**20 25 29.3**	**+0.9**
MORC	**Moravsky Berou**	**55.49**	**310**	⇓*i*P		**P**	**20 25 29.3**	**+0.9**
CLL	**Collm**	**57.67**	**313**	*e*P		**P**	**20 25 44.0**	**+0.1**
GERES	**GERESS Array B**	**58.17**	**310**	P		**P**	**20 25 48.0**	**+0.5**
	comp=Z,0.7nm,0.8s,mb3.8,baz=54,slow=6.8,SNR=5.9							
GERES	**GERESS Array B**	**58.17**	**310**	P		**P**	**20 25 48.0**	**+0.5**
GERES	**GERESS Array B**	**58.17**	**310**	P		**P**	**20 25 48.0**	**+0.5**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.8s							
CDF	**Champ du Feu**	**62.23**	**311**	*e*P		**P**	**20 26 15.4**	**+0.1**
PAGF	**Fort de Pagny**	**63.09**	**312**	*e*P		**P**	**20 26 21.7**	**+0.7**
MEZF	**Maizieres J'vi**	**63.51**	**312**	*e*P		**P**	**20 26 24.5**	**+0.7**
	comp=Z,6.9nm,0.6s,mb4.5							
CABF	**La Chapelle**	**63.77**	**310**	*e*P		**P**	**20 26 26.3**	**+0.7**
PGF	**Pioggiola**	**63.83**	**305**	*e*P		**P**	**20 26 25.2**	**-0.8**
LPG	**La Plagne**	**63.88**	**308**	*e*P		**P**	**20 26 27.3**	**+1.0**
	comp=Z,4.7nm,0.7s,mb4.3							
LPL	**La Plagne**	**63.88**	**308**	*e*P		**P**	**20 26 27.2**	**+0.9**
	comp=Z,6.6nm,0.7s,mb4.5							
SBF	**Sospel**	**64.22**	**307**	*e*P		**P**	**20 26 28.8**	**+0.2**
	comp=Z,17nm,0.6s,mb5.0							
MBDF	**Montbardon**	**64.23**	**308**	*e*P		**P**	**20 26 28.1**	**-0.5**
ORIF	**Oris-en-Rattie**	**64.70**	**308**	*e*P		**P**	**20 26 31.8**	**+0.1**
	comp=Z,14nm,1.0s,mb4.7							
LOR	**Lormes**	**64.80**	**311**	*e*P		**P**	**20 26 32.6**	**+0.3**
FRF	**La Foret Royal**	**64.86**	**307**	*e*P		**P**	**20 26 33.1**	**+0.3**
SSF	**Saint Saulge**	**65.11**	**311**	*e*P		**P**	**20 26 34.0**	**-0.3**
SMF	**Signal de Mont**	**65.11**	**311**	*e*P		**P**	**20 26 34.3**	**-0.1**
	comp=Z,8.5nm,0.7s,mb4.6							
AVF	**Avril sur Loir**	**65.34**	**311**	*e*P		**P**	**20 26 35.7**	**-0.1**
	comp=Z,2.7nm,0.5s,mb4.2							
VIVF	**Saint-Julien-l**	**65.48**	**309**	*e*P		**P**	**20 26 36.7**	**-0.1**
TCF	**Toulx Ste Croi**	**66.27**	**311**	*e*P		**P**	**20 26 42.1**	**+0.3**
	comp=Z,4.5nm,0.7s,mb4.3							
LASF	**Ste Croix**	**66.37**	**308**	*e*P		**P**	**20 26 42.9**	**+0.4**
GRR	**Gorron**	**67.00**	**314**	*e*P		**P**	**20 26 46.3**	**-0.1**
CAF	**Calviac**	**67.05**	**310**	*e*P		**P**	**20 26 47.4**	**+0.6**
RJF	**Les Rejaudoux**	**67.19**	**310**	*e*P		**P**	**20 26 48.3**	**+0.6**
MFF	**Saint Martin d**	**67.51**	**312**	*e*P		**P**	**20 26 49.8**	**+0.1**
WRA	**Warramunga Arr**	**67.73**	**141**	P		**P**	**20 26 50.0**	**-1.3**
	comp=Z,1.5nm,0.9s,mb4.0,baz=340,slow=6.3,SNR=6.5							
WRA	**Warramunga Arr**	**67.73**	**141**	P		**P**	**20 26 50.0**	**-1.3**
WRA	**Warramunga Arr**	**67.73**	**141**	P		**P**	**20 26 50.0**	**-1.3**
WRA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
LFF	**La Frestale**	**67.85**	**310**	*e*P		**P**	**20 26 52.1**	**+0.2**
ASAR	**Alice Springs**	**70.68**	**143**	P		**P**	**20 27 08.2**	**-1.3**
	comp=Z,1.7nm,0.8s,mb4.0,baz=336,slow=5.9,SNR=10							
ASAR	**Alice Springs**	**70.68**	**143**	P		**P**	**20 27 08.2**	**-1.3**
ASAR	**Alice Springs**	**70.68**	**143**	P		**P**	**20 27 08.2**	**-1.3**
ASAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
ESDC	**Sonseca Array**	**73.66**	**308**	P		**P**	**20 27 27.4**	**+0.1**
	comp=Z,0.4nm,0.4s,mb3.7,baz=47,slow=6.0,SNR=7.9							
ESDC	**Sonseca Array**	**73.66**	**308**	P		**P**	**20 27 27.4**	**+0.1**
STKA	**Stephens Creek**	**81.24**	**142**	P		**P**	**20 28 08.5**	**-1.1**
	comp=Z,2.5nm,0.6s,mb4.3,baz=35,slow=23,SNR=7.8							
STKA	**Stephens Creek**	**81.24**	**142**	P		**P**	**20 28 08.5**	**-1.1**
STKA	**Stephens Creek**	**81.24**	**142**	P		**P**	**20 28 08.5**	**-1.2**
TORD	**Torodi Ar. Bea**	**85.41**	**283**	P		**P**	**20 28 31.8**	**+0.1**
	comp=Z,1.0nm,1.0s,mb3.9,baz=28,slow=5.1,SNR=4.6							
TORD	**Torodi Ar. Bea**	**85.41**	**283**	P		**P**	**20 28 31.8**	**+0.1**

*ISCJB **13** 20:16:23.4±0.4, 37.64N±0.06×95.90E±0.09, h10km, mb4.3/28, Error ellipse: s-maj=11.2km s-min=7.9km az=145.7*

*IDC **13** 20:16:23.8±0.6, 37.60N×95.94E, h0km, mb4.1/14, mb1 4.2/18, mb1mx4.1/29, mbtmp4.1/18, ML3.8/4, MS3.4/1, Ms1 3.4/1, ms1mx2.5/36, Error ellipse: s-maj=25.5km s-min=13.8km az=44.0*

*MOS **13** 20:16:25.2±0.8, 37.64N×95.91E, h23km, mb4.3/13, Error ellipse: s-maj=16.3km s-min=9.2km az=113.8*

*NEIC **13** 20:16:25.7±0.4, 37.64N×95.90E, h10km, mb4.3/5, Error ellipse: s-maj=10.7km s-min=7.0km az=66.0*

ISC 13 20:16:25.4±0.4, 37.63N±0.06×95.90E±0.09, h10km, n91, σ0§68/90, mb4.3/28, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**8.84**	**208**	*e*P		**Pn**	**20 18 35.5**	**+2.3**
	6.8nm,0.8s							
LSA	**Lhasa**	**8.84**	**208**	*e*P		**Pn**	**20 18 35.5**	**+2.3**
LSA				pmax	pmax			
	comp=Z,7.0nm,0.8s							
XAN	**Xi'an**	**11.16**	**105**	P		**Pn**	**20 19 12.4**	**+7.4**
XAN				pP			20 19 23.6	
XAN				sP			20 19 28.5	
XAN				S		Sn	20 22 06.5	+57
XAN				pmax	pmax			
	comp=Z,2.0nm,0.8s							
XAN				pmax	pmax			
	comp=Z,20nm,7.6s							
XAN				LR	LR			
	comp=N,280nm,11.8s							
XAN				LR	LR			
	comp=E,66nm,11.8s							
XAN				LR	LR			
	comp=Z,82nm,12.1s							
SONM	**Songino Array**	**12.78**	**34**	Pn		**Pn**	**20 19 28.1**	**+1.1**
	comp=Z,1.1nm,0.3s,baz=218,slow=15,SNR=7.2							
SONM				LR	LR		20 24 49.6	
	comp=Z,172nm,19.8s,baz=208,slow=40							
SONM	**Songino Array**	**12.78**	**34**	Pn		**Pn**	**20 19 28.1**	**+1.1**
SONM				LR	LR		20 24 49.6	
SONM	**Songino Array**	**12.78**	**34**	P		**Pn**	**20 19 28.1**	**+1.1**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.3s							
SONM				MLR	MLR			
	comp=Z,172nm,19.8s							
MKAR	**Makanchi Array**	**13.61**	**317**	Pn		**Pn**	**20 19 37.6**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=127,slow=14,SNR=5.1							
MKAR	**Makanchi Array**	**13.61**	**317**	Pn		**Pn**	**20 19 37.6**	**-0.7**
MKAR	**Makanchi Array**	**13.61**	**317**	P		**Pn**	**20 19 37.6**	**-0.8**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ZAK	**Zakamensk**	**13.80**	**20**	*i* P		Px	20 19 52.6	
ZAK				pmax	pmax			
	comp=Z,7.0nm,1.1s							
TKM2	**Tokmak 2**	**16.36**	**295**	*e*P		**Pn**	**20 20 14.1**	**-1.0**
	comp=Z,13nm,0.7s							
TKM2	**Tokmak 2**	**16.36**	**295**	*e*P		**Pn**	**20 20 14.1**	**-1.0**
TKM2				pmax	pmax			
	comp=Z,13nm,0.7s							
KURK	**Kurchatov**	**17.96**	**322**	P		**Pn**	**20 20 35.4**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=133,slow=11,SNR=9.0							
KURK	**Kurchatov**	**17.96**	**322**	P		**Pn**	**20 20 35.4**	**+0.3**
KURK	**Kurchatov**	**17.96**	**322**	P		**Pn**	**20 20 35.4**	**+0.3**
ZAA0	**Zalesovo Array**	**18.02**	**338**	*e*P		**Pn**	**20 20 38.5**	**+2.8**
ZALV	**Zalesovo Beam**	**18.02**	**338**	P		**Pn**	**20 20 35.9**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=153,slow=11,SNR=7.3							
ZALV	**Zalesovo Beam**	**18.02**	**338**	P		**Pn**	**20 20 35.9**	**+0.1**
ZALV	**Zalesovo Beam**	**18.02**	**338**	P		**Pn**	**20 20 35.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**19.28**	**171**	P		**Pn**	**20 20 51.2**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=337,slow=9.7,SNR=4.5							
CMAR	**Chiang Mai Arr**	**19.28**	**171**	P		**Pn**	**20 20 51.2**	**-0.1**
CMAR	**Chiang Mai Arr**	**19.28**	**171**	P		**Pn**	**20 20 51.3**	**0.0**
KKAR	**Karatay Array**	**20.07**	**294**	*e*P		**P**	**20 20 59.2**	**+0.5**
	comp=Z,3.3nm,0.7s							
KKAR	**Karatay Array**	**20.07**	**294**	*e*P		**P**	**20 20 59.2**	**+0.4**
KKAR				pmax	pmax			
	comp=Z,3.0nm,0.7s							
BRVK	**Borovoye**	**23.53**	**319**	*e*P		**P**	**20 21 35.8**	**0.0**
	comp=Z,9.9nm,0.7s,mb4.3							
BRVK	**Borovoye**	**23.53**	**319**	*e*P		**P**	**20 21 35.8**	**+0.1**
BRVK				pmax	pmax			
	comp=Z,10.0nm,0.7s,mb4.3							
KSRS	**Korea Array**	**25.33**	**80**	P		**P**	**20 21 52.2**	**-0.1**
	comp=Z,7.5nm,0.6s,mb4.4,baz=278,slow=9.6,SNR=11							
KSRS	**Korea Array**	**25.33**	**80**	P		**P**	**20 21 52.2**	**-0.1**
KSRS				pmax	pmax			
	comp=Z,8.0nm,0.6s,mb4.4							
AKTK	**Aktyubinsk**	**29.76**	**308**	P		**P**	**20 22 32.9**	**+1.0**
AKTO	**Aktyubinsk**	**29.76**	**308**	P		**P**	**20 22 32.9**	**+1.0**
	comp=Z,4.5nm,0.7s,mb4.3,baz=96,slow=10.0,SNR=8.8							
AKTO	**Aktyubinsk**	**29.76**	**308**	P		**P**	**20 22 32.9**	**+1.0**
AKTO				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.3							
ARU	**Arti**	**31.11**	**319**	*e*P		**P**	**20 22 43.4**	**-0.4**
	comp=Z,13nm,1.4s,mb4.6							
ARU	**Arti**	**31.11**	**319**	*e*P		**P**	**20 22 43.4**	**-0.3**
ARU				pmax	pmax			
	comp=Z,13nm,1.4s,mb4.6							
BR131	**Keskin Array S**	**47.78**	**293**	*e*P		**P**	**20 25 03.5**	**+0.7**
	comp=Z,1.5nm,0.7s,mb4.1							
BRTR	**Keskin Array B**	**47.78**	**293**	P		**P**	**20 25 04.0**	**+1.2**
	comp=Z,2.1nm,0.7s,mb4.3,baz=101,slow=6.9,SNR=8.8							
BRTR	**Keskin Array B**	**47.78**	**293**	P		**P**	**20 25 04.0**	**+1.2**
BRTR	**Keskin Array B**	**47.78**	**293**	P		**P**	**20 25 04.0**	**+1.3**
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.7s							
AKASG	**Malin Array Be**	**48.00**	**308**	P		**P**	**20 25 04.7**	**+0.4**
	comp=Z,1.5nm,0.6s,mb4.2,baz=67,slow=7.7,SNR=6.2							
AKASG	**Malin Array Be**	**48.00**	**308**	P		**P**	**20 25 04.7**	**+0.4**
AKASG	**Malin Array Be**	**48.00**	**308**	P		**P**	**20 25 04.7**	**+0.4**
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.6s							
FINES	**FINESS Array B**	**48.34**	**323**	P		**P**	**20 25 06.4**	**-0.3**
	comp=Z,2.3nm,0.6s,mb4.4,baz=101,slow=9.9,SNR=8.3							
FINES	**FINESS Array B**	**48.34**	**323**	P		**P**	**20 25 06.4**	**-0.3**
FINES	**FINESS Array B**	**48.34**	**323**	P		**P**	**20 25 06.4**	**-0.3**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ARCES	**ARCESS Array B**	**48.49**	**334**	P		**P**	**20 25 07.5**	**-0.3**
	comp=Z,6.2nm,1.0s,mb4.6,baz=87,slow=6.2,SNR=5.7							
ARCES	**ARCESS Array B**	**48.49**	**334**	P		**P**	**20 25 07.5**	**-0.3**
ARCES	**ARCESS Array B**	**48.49**	**334**	P		**P**	**20 25 07.5**	**-0.3**
ARCES				pmax	pmax			
	comp=Z,6.0nm,1.0s							
NOA	**NORSAR Array B**	**55.47**	**324**	P		**P**	**20 25 59.9**	**0.0**
	comp=Z,2.2nm,0.7s,mb4.3,baz=73,slow=7.2,SNR=5.4							
NOA	**NORSAR Array B**	**55.47**	**324**	P		**P**	**20 25 59.9**	**0.0**
NOA	**NORSAR Array B**	**55.47**	**324**	P		**P**	**20 25 59.9**	**0.0**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
CLL	**Collm**	**57.66**	**313**	*e*P		**P**	**20 26 10.6**	**+0.3**
GERES	**GERESS Array B**	**58.16**	**310**	P		**P**	**20 26 19.2**	**+0.1**
	comp=Z,0.9nm,0.8s,mb3.9,baz=76,slow=5.6,SNR=6.4							
GERES	**GERESS Array B**	**58.16**	**310**	P		**P**	**20 26 19.2**	**+0.1**
GERES	**GERESS Array B**	**58.16**	**310**	P		**P**	**20 26 19.3**	**+0.1**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.8s							
CDF	**Champ du Feu**	**62.22**	**311**	*e*P		**P**	**20 26 46.9**	**-0.1**
	comp=Z,4.1nm,0.7s,mb4.4							
HINF	**Hinteralfeld**	**62.74**	**311**	*e*P		**P**	**20 26 50.2**	**-0.3**
GIVF	**Givet**	**62.90**	**314**	*e*P		**P**	**20 26 51.2**	**-0.4**
HAU	**Haudompre**	**62.96**	**311**	*e*P		**P**	**20 26 51.8**	**-0.2**
	comp=Z,5.5nm,0.7s,mb4.5							
HAU				*e*R				
	comp=Z,45nm,17.2s							
LPG	**La Plagne**	**63.87**	**308**	*e*P		**P**	**20 26 58.8**	**+0.8**
	comp=Z,10nm,0.8s,mb4.7							
LPL	**La Plagne**	**63.87**	**308**	*e*P		**P**	**20 26 58.7**	**+0.6**
	comp=Z,8.3nm,0.7s,mb

0.3nm,0.6s,mb3.4,baz=102,slow=7.2,SNR=4.2
MKAR Makanchi Array 69.36 322 P P 20 30 37.1 +1.5

*NEIC **13** 20:23:49.2, 36°.26S × 73°.13W, h26km, ML3.9(GUC), After GUC.*
GUC 13 20:23:49.2±0.7, 36°.26S × 73°.13W, h26km±5km, MD4.1, ML3.9, 6C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.30**	**65**	‖ *i* P	Pb	20 23 56.4	+0.2
COCH				*i* S	Sb	20 24 01.0	-0.1
COCH	**Cobquecura**	**0.30**	**65**	‖ *i* P	Pb	20 23 56.4	+0.2
COCH				*i* S	Sb	20 24 01.0	-0.1
COCH				AML	AML	20 24 01.6	
	comp=N,29μm,0.2s						
CCHI	**Chillan**	**0.91**	**112**	‖ *i* P	Pn	20 24 05.6	-0.8
CCHI	**Chillan**	**0.91**	**112**	‖ *i* P	Pn	20 24 05.6	-0.8
CCHI				AML	AML	20 24 22.8	
	comp=N,2μm,0.5s						
LNCH	**Linares**	**1.30**	**72**	⇑ *i* P	Pn	20 24 11.7	0.0
LNCH				*i* S	Sn	20 24 28.6	+0.3
LNCH	**Linares**	**1.30**	**72**	⇑ *i* P	Pn	20 24 11.7	0.0
LNCH				*i* S	Sn	20 24 28.6	+0.3
LNCH				AML	AML	20 24 35.5	
	comp=N,7μm,0.4s						
TALC	**Talca**	**1.49**	**55**	‖ *i* P	Pn	20 24 14.6	+0.3
TALC				*i* S	Sn	20 24 34.3	+1.4
TALC	**Talca**	**1.49**	**55**	‖ *i* P	Pn	20 24 14.6	+0.3
TALC				*i* S	Sn	20 24 34.3	+1.4
TALC				AML	AML	20 24 38.1	
	comp=E,7μm,0.3s						
NICH	**Los Niches**	**1.99**	**51**	*eP*	Pn	20 24 22.3	+1.1
LNV	**Longovilo**	**2.70**	**32**	⇑ *i* P	Pn	20 24 31.7	+0.8
LNV	**Longovilo**	**2.70**	**32**	⇑ *i* P	Pn	20 24 31.7	+0.8
CACH	**El Canelo**	**2.98**	**45**	*eP*	Pn	20 24 36.2	+1.5
CACH	**El Canelo**	**2.98**	**45**	*eP*	Pn	20 24 36.2	+1.5
RCDM	**Rinconada Maip**	**3.36**	**35**	⇑ *i* P	Pn	20 24 40.8	+0.8
RCDM	**Rinconada Maip**	**3.36**	**35**	⇑ *i* P	Pn	20 24 40.8	+0.8
RCDM				AML	AML	20 25 42.1	
	comp=E,239nm,0.3s						
CLCH	**Cerro Calan**	**3.56**	**37**	‖ *i* P	Pn	20 24 44.3	+1.4
PEL	**Peldehue**	**3.70**	**34**	‖ *i* P	Pn	20 24 46.5	+1.7
PEL				*eS*	Sn	20 25 29.6	+2.1

*JMA **13** 20:35:29.7±0.1, 25°.02N × 122°.84E, h11km*
*ISCJB **13** 20:35:32.0±0.8, 24°.81N±0°.07 × 122°.78E±0°.03, h15km±10km, Error ellipse: s-maj=12.6km s-min=4.2km az=10.4*
*TAP **13** 20:35:33.5, 24°.73N × 122°.69E, h7km±2km, ML2.7, D*
ISC 13 20:35:31.8±0.8, 24°.77N±0°.08 × 122°.76E±0°.03, h3km±6km, n17, σ1§12/27, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.38**	**143**	P	**Pg**	**20 35 40.9**	**+1.8**
	baz=132						
YOJ				*eS*	**Sg**	**20 35 46.6**	**+2.6**
	baz=132						
YOJ	**Yonaguni jima**	**0.38**	**143**	P	**Pg**	**20 35 40.8**	**+1.7**
YOJ				S	**Sg**	**20 35 48.7**	**+4.7**
TWB1	**Santiao Chiao**	**0.74**	**289**	*eP*	**Pg**	**20 35 46.4**	**+0.4**
	baz=293						
EGS		**0.75**	**276**	*eP*	**Pg**	**20 35 47.1**	**+0.8**
	baz=279						
TWC	**Suao**	**0.84**	**260**	*eP*	**Pg**	**20 35 46.9**	**-1.1**
	baz=260						
TWC				*eS*	**Sg**	**20 35 58.9**	**+0.1**
	baz=260						
NWF	**Wu-fen Shan**	**0.94**	**289**	*eP*	**Pg**	**20 35 51.3**	**+1.5**
	baz=292						
ENA	**Nanau**	**0.98**	**250**	*eP*	**Pg**	**20 35 50.5**	**-0.1**
	baz=250						
ENA				*eS*	**Sg**	**20 36 03.2**	**-0.3**
	baz=250						
IRIF	**Iriomote-Funau**	**0.98**	**116**	P	**Pg**	**20 35 49.5**	**-1.1**
IRIF				*eS*	**Sg**	**20 36 03.1**	**-0.3**
TWE	**Neicheng**	**0.99**	**268**	P	**Pg**	**20 35 50.8**	**0.0**
	baz=269						
ENTT	**Nioudou**	**1.09**	**264**	*eP*	**Pg**	**20 35 52.4**	**-0.3**
	baz=264						
ENTT				S	**Sg**	**20 36 06.4**	**-0.5**
	baz=264						
JKRS	**Kuro-shima**	**1.25**	**114**	P	**Pg**	**20 35 53.7**	**-2.2**
NSK	**Sanguang**	**1.28**	**266**	*eP*	**Pg**	**20 35 57.5**	**+1.3**
	baz=267						
NSK				*eS*	**Sg**	**20 36 10.1**	**-2.7**
	baz=267						
NNS	**Nan Shan**	**1.30**	**256**	*eP*	**Pg**	**20 35 57.7**	**+1.0**
	baz=256						
NNS				*eS*	**Sg**	**20 36 12.4**	**-1.2**
	baz=256						
JIJ	**Ishigaki jima**	**1.32**	**107**	P	**Pn**	**20 35 54.4**	**-2.8**
WHF	**Hehuan Shan**	**1.49**	**246**	*eP*	**Pn**	**20 35 59.9**	**+0.4**
	baz=245						
WHF				*eS*	**Sn**	**20 36 19.5**	**0.0**
	baz=245						
TYC	**Yuchr**	**1.93**	**244**	*eP*	**Pn**	**20 36 06.0**	**+0.4**
	baz=243						
CHN5	**Tsauling**	**2.23**	**239**	*eP*	**Pn**	**20 36 10.8**	**+1.2**
	baz=238						
CHN5				*eS*	**Sn**	**20 36 37.3**	**-0.3**
	baz=238						

*ISCJB **13** 20:42:26.0±0.4, 30°.33N±0°.05 × 67°.66E±0°.04, h10km, mb4.0/21, MS3.6/11, Error ellipse: s-maj=7.8km s-min=3.9km az=27.9*
*IDC **13** 20:42:26.6±0.8, 30°.34N × 67°.40E, h0km, mb3.9/18, mb1 4.1/18, mb1mx3.9/31, mbtmp4.0/18, MS3.6/12, Ms1 3.6/12, ms1mx3.3/37, Error ellipse: s-maj=21.0km s-min=14.6km az=19.0*
*NEIC **13** 20:42:28.1±0.6, 30°.33N × 67°.37E, h10km, mb4.3/3, Error ellipse: s-maj=11.0km s-min=9.0km az=188.0*
*MOS **13** 20:42:30.6±1.4, 30°.53N × 67°.52E, h33km, mb4.4/12, Error ellipse: s-maj=11.9km s-min=7.2km az=84.0*
ISC 13 20:42:27.9±0.4, 30°.32N±0°.05 × 67°.62E±0°.04, h10km, n114, σ1§13/112, mb4.0/21, MS3.6/12, 2C-6D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**4.38**	**16**	*eP*	**Pn**	**20 43 37.0**	**+2.5**
KBL	**Kabul**	**4.38**	**16**	*eP*	**Pn**	**20 43 37.0**	**+2.5**
AJM	**Ajmer**	**7.27**	**120**	*ePKP*	**Pn**	**20 44 15.0**	**+0.8**
AJM				*ex*	**Sn**	**20 45 38.0**	**+1.1**
KHET	**Khetri**	**7.50**	**105**	*ePKP*	**Pn**	**20 44 17.5**	**+0.2**
KHET				*eS*	**Sn**	**20 45 38.9**	**-3.6**
KUDL	**Kundal**	**8.05**	**103**	*ex*	**Pn**	**20 44 23.4**	**-1.5**
KUDL				*eS*	**Sn**	**20 45 55.1**	**-0.8**
SMLA	**Simla**	**8.26**	**82**	*i* P	**Pn**	**20 44 29.1**	**+1.3**
SMLA				*i* S	**Sn**	**20 46 00.7**	**-0.5**
SMLA				*i* S	**Sn**	**20 46 01.2**	**0.0**
SMLA				AML	AML	20 46 08.2	
	comp=E,406nm,0.4s						
SMLA				‖ AML	AML	20 46 09.0	
	comp=N,451nm,0.5s						
SONA	**Sohna**	**8.52**	**102**	*ePKP*	**Pn**	**20 44 31.6**	**+0.2**
SONA				*eS*	**Sn**	**20 46 04.2**	**-3.4**
SONA				AML	AML	20 46 13.8	
	comp=N,17nm,0.4s						
SONA				AML	AML	20 46 14.4	
	comp=E,24nm,0.5s						
NDI	**New Delhi**	**8.52**	**99**	*ePKP*	**Pn**	**20 44 32.0**	**+0.6**
NDI				*ex*	x	20 45 50.0	
DDI	**Dehra Dun**	**9.02**	**87**	*ex*	**Pn**	**20 44 42.7**	**+4.4**
DDI				*ex*	x	20 46 31.0	
AML	**Almayashu**	**12.77**	**21**	P	**Pn**	**20 45 31.8**	**+2.4**
	SNR=6.6						
KKAR	**Karatay Array**	**12.97**	**9**	*eP*	**Pn**	**20 45 29.7**	**-2.5**
	comp=E,2.7nm,0.7s						
KKAR	**Karatay Array**	**12.97**	**9**	*eP*	**Pn**	**20 45 29.7**	**-2.5**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
POO	**Poona**	**13.03**	**153**	*ex*	x	20 47 54.5	
EKS2	**Erkin-Say**	**13.28**	**20**	P	**Pn**	**20 45 36.9**	**+0.5**
	SNR=13						
EKS2	**Erkin-Say**	**13.28**	**20**	*eP*	**Pn**	**20 45 36.5**	**+0.1**
	comp=Z,11nm,0.8s						
EKS2	**Erkin-Say**	**13.28**	**20**	*eP*	**Pn**	**20 45 36.5**	**+0.1**
EKS2				pmax	pmax		
	comp=Z,11nm,0.8s						
AAK	**Ala-Archa**	**13.47**	**22**	P	**Pn**	**20 45 39.4**	**+0.3**
	SNR=9.1						
KBK	**Karagaybulak**	**13.65**	**24**	P	**Pn**	**20 45 42.4**	**+0.9**
	SNR=5.3						
FRU	**Bishkek**	**13.69**	**22**	*eP*	**Pn**	**20 45 42.0**	**-0.1**
FRU				*eS*	**Sn**	**20 48 20.0**	**+5.8**
FRU				pmax	pmax		
	comp=E,30nm,2.0s						
CHMS	**Chumysh**	**13.88**	**22**	P	**Pn**	**20 45 44.1**	**-0.5**
	SNR=8.4						
USP	**Ospenovka**	**14.04**	**21**	P	**Pn**	**20 45 45.7**	**-1.2**
	SNR=6.6						
TKM2	**Tokmak 2**	**14.11**	**25**	P	**Pn**	**20 45 47.0**	**-0.8**
	SNR=14						
TKM2	**Tokmak 2**	**14.11**	**25**	*eP*	**Pn**	**20 45 46.7**	**-1.0**
	comp=E,9.0nm,0.8s						
TKM2	**Tokmak 2**	**14.11**	**25**	*eP*	**Pn**	**20 45 46.7**	**-1.0**
TKM2				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KOLN	**Koldanda**	**14.21**	**96**	*eP*	**Pn**	**20 45 48.0**	**-1.2**
	comp=Z,23nm,0.5s						
DANN	**Dangsing**	**14.22**	**94**	*eP*	**Pn**	**20 45 49.6**	**+0.3**
	comp=Z,58nm,0.7s						
GKN	**Gorkha**	**15.05**	**95**	*eP*	**Pn**	**20 45 59.3**	**-1.4**
	comp=Z,38nm,0.7s						
DMN	**Daman**	**15.55**	**96**	*eP*	**Pn**	**20 46 06.2**	**-1.0**
	comp=Z,46nm,1.1s						
KKN	**Kakani**	**15.65**	**95**	*eP*	**Pn**	**20 46 07.1**	**-1.5**
	comp=Z,49nm,1.0s						
KKN				*eS*	**Sn**	**20 48 56.3**	**-5.8**
PKIN	**Phulchoki**	**15.80**	**96**	*eP*	**Pn**	**20 46 09.3**	**-1.2**
	comp=Z,41nm,0.7s						
PKI	**Pulchoki**	**15.82**	**96**	*eP*	**Pn**	**20 46 10.1**	**-0.6**
	comp=Z,34nm,0.8s						
GUN	**Gumba**	**16.14**	**94**	*eP*	**Pn**	**20 46 14.2**	**-0.7**
	comp=Z,249nm,1.0s						
HYB	**Hyderabad**	**16.26**	**140**	*i* P	**Pn**	**20 46 22.0**	**+5.5**
ABKAR	**Akbulak array**	**19.79**	**345**	*eP*	**Pn**	**20 46 59.0**	**-0.7**
	comp=Z,5.0nm,0.8s						
MK31	**Makanchi Array**	**20.00**	**31**	*eP*	**P**	**20 47 00.6**	**0.0**
MK31	**Makanchi Array**	**20.00**	**31**	*eP*	**P**	**20 47 00.6**	**0.0**
MKAR	**Makanchi Array**	**20.00**	**31**	P	**P**	**20 47 00.3**	**-0.2**
	comp=Z,2.4nm,0.8s,baz=208,slow=7.7,SNR=15						
MKAR				LR	LR	20 55 50.9	
	comp=Z,253nm,20.0s,MS3.6,baz=220,slow=40						
MKAR	**Makanchi Array**	**20.00**	**31**	P	**P**	**20 47 00.3**	**-0.2**
MKAR				LR	LR	20 55 50.9	
MKAR	**Makanchi Array**	**20.00**	**31**	P	**P**	**20 47 00.4**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR				MLR	MLR		
	comp=Z,253nm,20.0s						
LSA	**Lhasa**	**20.39**	**86**	*eP*	**P**	**20 47 08.9**	**+4.1**
	comp=Z,12nm,0.8s						
LSA	**Lhasa**	**20.39**	**86**	*eP*	**P**	**20 47 08.9**	**+4.0**
LSA				pmax	pmax		
	comp=Z,12nm,0.8s						
GNI	**Garni**	**21.05**	**304**	P	**P**	**20 47 09.0**	**-3.0**
	comp=Z,1.2nm,0.4s,mb3.5,baz=54,slow=8.7,SNR=2.7						
GNI	**Garni**	**21.05**	**304**	P	**P**	**20 47 09.0**	**-3.0**
GNI	**Garni**	**21.05**	**304**	P	**P**	**20 47 09.0**	**-3.0**
GNI				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKTK	**Aktyubinsk**	**21.35**	**343**	P	**P**	**20 47 14.1**	**-1.0**
AKTO	**Aktyubinsk**	**21.35**	**343**	P	**P**	**20 47 14.1**	**-1.0**
	comp=Z,4.0nm,0.8s,mb3.8,baz=162,slow=11,SNR=8.7						
AKTO	**Aktyubinsk**	**21.35**	**343**	P	**P**	**20 47 14.1**	**-1.0**
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.8						
SHL	**Shillong**	**21.94**	**97**	*ePKP*	**P**	**20 47 23.0**	**+1.3**
KURK	**Kurchatov**	**21.98**	**19**	P	**P**	**20 47 20.4**	**-1.4**
	comp=Z,12nm,1.0s,mb4.3,baz=211,slow=10,SNR=34						
KURK	**Kurchatov**	**21.98**	**19**	*eP*	**P**	**20 47 21.5**	**-0.3**
KURK	**Kurchatov**	**21.98**	**19**	P	**P**	**20 47 20.5**	**-1.4**
KURK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.3						
ZEI	**Tsey**	**22.66**	**310**	*eP*	Px	20 47 45.3	
ZEI				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.0						
BRVK	**Borovoye**	**22.81**	**4**	*eP*	**P**	**20 47 31.3**	**+0.7**
	comp=Z,16nm,1.0s,mb4.4						
BRVK	**Borovoye**	**22.81**	**4**	*eP*	**P**	**20 47 31.3**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.4						
ASF	**Jabal al Asfar**	**26.29**	**282**	LR	LR	21 00 04.8	
	comp=Z,96nm,18.8s,MS3.4,baz=58,slow=40						
ZAA0	**Zalesovo Array**	**26.70**	**23**	*eP*	**P**	**20 48 09.8**	**+2.7**
ZALV	**Zalesovo Beam**	**26.70**	**23**	P	**P**	**20 48 08.3**	**+1.2**
	comp=Z,4.5nm,0.5s,mb4.3,baz=226,slow=10,SNR=32						
ZALV				LR	LR	21 01 05.0	
	comp=Z,39nm,21.7s,MS2.9,baz=237,slow=42						
ZALV	**Zalesovo Beam**	**26.70**	**23**	P	**P**	**20 48 08.3**	**+1.2**
ZALV				LR	LR	21 01 05.0	
ZALV	**Zalesovo Beam**	**26.70**	**23**	P	**P**	**20 48 08.3**	**+1.3**
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.3						
ZALV				MLR	MLR		
	comp=Z,39nm,21.7s,MS2.9						
NVS	**Novosibirsk**	**26.95**	**20**	*eP*	**P**	**20 48 09.5**	**+0.2**
MMAI	**Mount Meron Ar**	**27.49**	**284**	LR	LR	21 01 02.3	
	comp=Z,156nm,18.8s,MS3.6,baz=15,slow=41						
EIL	**Elat**	**28.25**	**277**	LR	LR	21 01 36.6	
	comp=Z,208nm,19.0s,MS3.8,baz=268,slow=41						
BRTR	**Keskin Array B**	**29.22**	**298**	P	**P**	**20 48 28.1**	**-1.7**
	comp=Z,0.4nm,0.7s,mb3.3,baz=116,slow=5.0,SNR=2.6						
BRTR	**Keskin Array B**	**29.22**	**298**	P	**P**	**20 48 28.1**	**-1.7**
BRTR	**Keskin Array B**	**29.22**	**298**	P	**P**	**20 48 28.1**	**-1.7**
ATD	**Arta Tunnel**	**29.62**	**236**	LR	LR	21 02 06.9	
	comp=Z,54nm,21.1s,MS3.1,baz=156,slow=40						
CMAR	**Chiang Mai Arr**	**30.77**	**105**	P	**P**	**20 48 45.6**	**+1.9**
	comp=Z,0.4nm,0.4s,mb3.6,baz=190,slow=22,SNR=4.4						
CMAR	**Chiang Mai Arr**	**30.77**	**105**	P	**P**	**20 48 45.6**	**+1.9**
CMAR	**Chiang Mai Arr**	**30.77**	**105**	P	**P**	**20 48 45.6**	**+1.9**
SONM	**Songino Array**	**34.38**	**48**	P	**P**	**20 49 16.6**	**+1.6**
	comp=Z,0.6nm,0.9s,mb3.5,baz=242,slow=7.6,SNR=5.4						
SONM	**Songino Array**	**34.38**	**48**	P	**P**	**20 49 16.6**	**+1.6**
SONM	**Songino Array**	**34.38**	**48**	P	**P**	**20 49 16.6**	**+1.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.9s						
AKASG	**Malin Array Be**	**35.05**	**317**	P	**P**	**20 49 19.7**	**-1.1**
	comp=Z,0.2nm,0.2s,mb3.6,baz=96,slow=7.6,SNR=4.1						
AKASG	**Malin Array Be**	**35.05**	**317**	P	**P**	**20 49 19.7**	**-1.0**
AKASG	**Malin Array Be**	**35.05**	**317**	P	**P**	**20 49 19.7**	**-1.1**
MLR	**Muntele Rosu**	**35.77**	**307**	‖ P	**P**	**20 49 28.1**	**+1.1**
MLR	**Muntele Rosu**	**35.77**	**307**	‖ P	**P**	**20 49 28.1**	**+1.1**
BURAR	**Bucovina Array**	**36.69**	**310**	‖ P	**P**	**20 49 35.2**	**+0.4**
BURAR	**Bucovina Array**	**36.69**	**310**	‖ P	**P**	**20 49 35.2**	**+0.4**
DRGR		**38.21**	**308**	‖ P	**P**	**20 49 49.2**	**+1.5**
BZS	**Buzias**	**38.80**	**306**	⇑ P	**P**	**20 49 53.1**	**+0.4**
BZS	**Buzias**	**38.80**	**306**	⇑ *i* P	**P**	**20 49 53.1**	**+0.4**
PSI	**Prapat**	**40.33**	**127**	LR	LR	21 06 29.1	
	comp=Z,125nm,19.6s,MS3.8,baz=138,slow=36						
FINES	**FINESS Array B**	**41.28**	**331**	P	**P**	**20 50 13.8**	**+0.7**
	comp=Z,4.6nm,1.0s,mb4.0,baz=114,slow=4.8,SNR=4.3						
FINES	**FINESS Array B**	**41.28**	**331**	P	**P**	**20 50 13.8**	**+0.7**
FINES	**FINESS Array B**	**41.28**	**331**	P	**P**	**20 50 13.8**	**+0.7**
FINES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GERES	**GERESS Array B**	**44.48**	**310**	P	**P**	**20 50 38.3**	**-0.9**
	comp=Z,0.6nm,0.8s,mb3.4,baz=116,slow=7.6,SNR=4.9						
GERES	**GERESS Array B**	**44.48**	**310**	P	**P**	**20 50 38.3**	**-0.9**
GERES	**GERESS Array B**	**44.48**	**310**	P	**P**	**20 50 38.3**	**-0.9**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**45.91**	**341**	P	**P**	**20 50 50.7**	**+0.4**
	comp=Z,6.0nm,1.1s,mb4.5,baz=126,slow=8.2,SNR=5.6						
ARCES				LR	LR	21 09 38.2	
	comp=Z,52nm,20.7s,MS3.5,baz=100,slow=36						
ARCES	**ARCESS Array B**	**45.91**	**341**	P	**P**	**20 50 50.7**	**+0.4**
ARCES				LR	LR	21 09 38.2	
ARCES	**ARCESS Array B**	**45.91**	**341**	P	**P**	**20 50 50.7**	**+0.4**
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ARCES				MLR	MLR		
	comp=Z,52nm,20.7s						
LPG	**La Plagne**	**49.22**	**306**	*eP*	**P**	**20 51 16.2**	**-0.2**
LPL	**La Plagne**	**49.23**	**306**	*eP*	**P**	**20 51 16.0**	**-0.5**
	comp=Z,4.5nm,0.7s,mb4.3						
CABF	**La Chapelle**	**49.61**	**307**	*eP*	**P**	**20 51 19.5**	**+0.2**
KSRS	**Korea Array**	**49.83**	**65**	P	**P**	**20 51 22.3**	**+1.1**
	comp=Z,12nm,0.5s,mb4.2,baz=275,slow=6.6,SNR=6.3						
KSRS	**Korea Array**	**49.83**	**65**	P	**P**	**20 51 22.3**	**+1.1**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
SMF	**Signal de Mont**	**51.15**	**307**	*eP*	**P**	**20 51 31.4**	**+0.4**
	comp=Z,29nm,1.2s,mb4.8						
ESDC	**Sonseca Array**	**57.98**	**300**	P	**P**	**20 52 19.7**	**-1.0**
	comp=Z,0.4nm,0.6s,mb3.6,baz=59,slow=7.1,SNR=4.1						
ESDC	**Sonseca Array**	**57.98**	**300**	P	**P**	**20 52 19.7**	**-1.0**
TORD	**Torodi Ar. Bea**	**62.79**	**270**	P	**P**	**20 52 53.1**	**-0.9**
	comp=Z,3.5nm,0.7s,mb4.6,baz=58,slow=6.1,SNR=24						
TORD				LR	LR	21 21 33.8	
	comp=Z,58nm,20.3s,MS3.7,baz=225,slow=38						
TORD	**Torodi Ar. Bea**	**62.79**	**270**	P	**P**	**20 52 53.1**	**-0.9**
TORD				LR	LR	21 21 33.8	
BOSA	**Boshof**	**71.18**	**219**	LR	LR	21 23 38.0	
	comp=Z,31nm,19.2s,MS3.6,baz=156,slow=35						
DBIC	**Dimbokro**	**71.54**	**267**	LR	LR	21 27 49.5	
	comp=Z,82nm,18.4s,MS4.0,baz=37,slow=38						
INK	**Inuvik**	**80.42**	**8**	P	**P**	**20 54 39.5**	**+0.2**
	comp=Z,4.1nm,1.1s,mb4.3,baz=330,slow=8.6,SNR=4.3						
INK	**Inuvik**	**80.42**	**8**	P	**P**	**20 54 39.5**	**+0.2**
INK	**Inuvik**	**80.42**	**8**	P	**P**	**20 54 39.5**	**+0.2**
INK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
WRA	**Warramunga Arr**	**81.30**	**119**	P	**P**	**20 54 46.1**	**+1.4**
	comp=Z,1.4nm,0.8s,mb4.0,baz=321,slow=4.8,SNR=13						
WRA	**Warramunga Arr**	**81.30**	**119**	P	**P**	**20 54 46.1**	**+1.4**
WRA	**Warramunga Arr**	**81.30**	**119**	P	**P**	**20 54 46.2**	**+1.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**83.20**	**122**	P	**P**	**20 54 55.8**	**+1.2**
	comp=Z,1.3nm,0.7s,mb4.1,baz=312,slow=5.0,SNR=16						
ASAR	**Alice Springs**	**83.20**	**122**	P	**P**	**20 54 55.8**	**+1.2**
ASAR	**Alice Springs**	**83.20**	**122**	P	**P**	**20 54 55.8**	**+1.2**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
STKA	**Stephens Creek**	**93.49**	**125**	LR	LR	21 42 22.9	
	comp=Z,48nm,18.1s,MS4.0,baz=26,slow=38						

*ISCJB **13** 20:47:55.3±0.5, 34°.73N±0°.04 × 23°.48E±0°.06, h73km±10km, Error ellipse: s-maj=9.7km s-min=4.6km az=146.8*
*ATH **13** 20:47:56.5, 34°.87N × 23°.51E, h78km±2km*
*CSEM **13** 20:47:57.0±0.2, 34°.75N × 23°.47E, h40km, ML2.7/1, Error ellipse: s-maj=5.3km s-min=3.1km az=51.0*
*HLW **13** 20:47:59.5, 34°.49N × 23°.72E, h17km±26km, Md3.4, Ml3.4*
*THE **13** 20:47:59.2, 34°.91N × 23°.60E, h22km±2km, ML2.7/1, Error ellipse: s-maj=4.7km s-min=1.3km az=216.0*
ISC 13 20:47:56.7±0.5, 34°.73N±0°.04 × 23°.47E±0°.06, h55km±17km, n74, σ0§74/92, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.52**	**77**	P	**Pn**	**20 48 07.1**	**-1.4**
GVD	**Gavdhos**	**0.52**	**77**	P	**Pn**	**20 48 07.1**	**-1.4**
KARN	**Karanos**	**0.77**	**28**	*eP*	**Pn**	**20 48 11.0**	**-0.6**
KARN				*eS*	**Sn**	**20 48 22.8**	**+0.4**
KARN	**Karanos**	**0.77**	**28**	P	**Pn**	**20 48 10.2**	**-1.4**
KARN	**Karanos**	**0.77**	**28**	*eP*	**Pn**	**20 48 11.0**	**-0.6**
KARN				*eS*	**Sn**	**20 48 22.8**	**+0.4**
VAM	**Vamos**	**0.91**	**41**	*eP*	**Pn**	**20 48 13.2**	**-0.1**
VAM				*eS*	**Sn**	**20 48 26.5**	**+0.9**
VAM	**Vamos**	**0.91**	**41**	P	**Pn**	**20 48 12.7**	**-0.6**
VAM	**Vamos**	**0.91**	**41**	*eP*	**Pn**	**20 48 13.2**	**-0.1**
VAM				*eS*	**Sn**	**20 48 26.5**	**+0.9**
SIVA	**Sivas**	**1.14**	**75**	*eP*	**Pn**	**20 48 17.2**	**+0.8**
SIVA				*eS*	**Sn**	**20 48 32.5**	**+1.4**
SIVA	**Sivas**	**1.14**	**75**	P	**Pn**	**20 48 17.1**	**+0.7**
SIVA				S	**Sn**	**20 48 31.1**	**0.0**
SIVA	**Sivas**	**1.14**	**75**	P	**Pn**	**20 48 17.1**	**+0.7**
SIVA				S	**Sn**	**20 48 31.1**	**0.0**
KYTH	**Kithira**	**1.59**	**347**	*eP*	**Pn**	**20 48 23.4**	**+0.9**
KYTH	**Kithira**	**1.59**	**347**	P	**Pn**	**20 48 23.4**	**+0.9**
KYTH	**Kithira**	**1.59**	**347**	P	**Pn**	**20 48 23.4**	**+0.9**
LAST	**Lasithi**	**1.71**	**75**	*eP*	**Pn**	**20 48 25.5**	**+1.4**
LAST	**Lasithi**	**1.71**	**75**	P	**Pn**	**20 48 25.3**	**+1.2**
LAST	**Lasithi**	**1.71**	**75**	P	**Pn**	**20 48 25.3**	**+1.2**
NPS	**Neapolis**	**1.84**	**72**	*eP*	**Pn**	**20 48 26.0**	**+0.1**
NPS	**Neapolis**	**1.84**	**72**	*eP*	**Pn**	**20 48 26.0**	**+0.1**
VLI	**Veliai**	**2.04**	**348**	*eP*	**Pn**	**20 48 29.5**	**+0.9**
VLI	**Veliai**	**2.04**	**348**	P	**Pn**	**20 48 29.9**	**+1.3**
VLI				S	**Sn**	**20 48 52.1**	**-0.7**
VLI	**Veliai**	**2.04**	**348**	*eP*	**Pn**	**20 48 29.5**	**+0.9**
VLI				S	**Sn**	**20 48 52.1**	**-0.7**
THR3	**Thira Island,**	**2.30**	**43**	P	**Pn**	**20 48 31.6**	**-0.6**
THR3	**Thira Island,**	**2.30**	**43**	P	**Pn**	**20 48 31.6**	**-0.6**
THR1	**Thera Island**	**2.31**	**44**	P	**Pn**	**20 48 31.5**	**-0.8**

ISCJB ***13*** *20:50:54.2±1.5, 24.°8N±0.°1×122.°89E±0.°05, h33km±11km, mb3.6/4, Error ellipse: s-maj=17.9km s-min=7.9km az=8.6*

ISC 13 20:50:53.0±2.0, **24.°90N**±0.°10×**122.°91E**±0.°06, **h15**km±11km, **n22**, σ1§**28**/21, **mb3.6**/4, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
YOJ	**Yonaguni jima**	**0.45**	**168**	P		**Pg**	**20 51 01.3**	**-0.7**
YOJ				S		**Sg**	**20 51 09.3**	**+1.2**
IRIF	**Iriomote-Funau**	**0.94**	**127**	P		**Pb**	**20 51 10.0**	**-0.9**
IRIF				*e*S		**Sb**	**20 51 24.6**	**+1.5**
HATJ	**Hateruma jima**	**1.17**	**136**	P		**Pn**	**20 51 14.2**	**-0.6**
JKRS	**Kuro-shima**	**1.20**	**123**	P		**Pn**	**20 51 14.4**	**-0.8**
JIJ	**Ishigaki jima**	**1.25**	**115**	P		**Pn**	**20 51 14.9**	**-0.9**
TATO	**Taipei**	**1.29**	**273**	*e*P		**Pn**	**20 51 18.0**	**+1.5**
NACB	**Ninganchiao**	**1.40**	**239**	*e*P		**Pn**	**20 51 16.0**	**-1.9**
YHNB	**Yeheng**	**1.41**	**261**	*e*P		**Pn**	**20 51 16.4**	**-1.7**
SSLB	**Suanglung**	**2.10**	**238**	*e*P		**Pn**	**20 51 28.5**	**+0.9**
YULB	**Yu-li**	**2.10**	**225**	*e*P		**Pn**	**20 51 25.4**	**-2.2**
TPUB	**Ta-pu**	**2.62**	**233**	*e*P		**Pn**	**20 51 36.7**	**+1.9**
KSRS	**Korea Array**	**13.22**	**18**	Pn		Px	20 54 11.3	
	0.2nm,0.3s,baz=200,slow=13,SNR=4.4							
KSRS				LR		LR	21 00 04.9	
	comp=E,114nm,18.2s,baz=195,slow=40							
MJAR	**Matsushiro Arr**	**17.51**	**45**	LR		LR	21 02 24.0	
	comp=E,260nm,18.9s,baz=205,slow=37							
SONM	**Songino Array**	**26.36**	**334**	P		**P**	**20 56 30.3**	**+1.9**
	0.8nm,0.9s,mb3.3,baz=154,slow=9.7,SNR=5.3							
SONM	**Songino Array**	**26.36**	**334**	P		**P**	**20 56 30.3**	**+1.9**
ZALV	**Zalesovo Beam**	**40.52**	**326**	P		**P**	**20 58 31.1**	**-0.1**
	0.8nm,0.6s,mb3.5,baz=121,slow=8.5,SNR=2.7							
ZALV	**Zalesovo Beam**	**40.52**	**326**	P		**P**	**20 58 31.1**	**-0.1**
WRA	**Warramunga Arr**	**45.94**	**165**	P		**P**	**20 59 15.5**	**+0.1**
	2.8nm,0.8s,mb4.2,baz=346,slow=8.7,SNR=15							
WRA	**Warramunga Arr**	**45.94**	**165**	P		**P**	**20 59 15.4**	**+0.1**
ASAR	**Alice Springs**	**49.44**	**167**	P		**P**	**20 59 42.9**	**+0.4**
	0.3nm,0.8s,mb3.4,baz=350,slow=6.8,SNR=3.5							
ASAR	**Alice Springs**	**49.44**	**167**	P		**P**	**20 59 42.9**	**+0.4**
NVAR	**Mina Array Bea**	**94.83**	**44**	LR		LR	21 47 05.7	
	comp=Z,69nm,18.1s,baz=305,slow=35							

LDG ***13*** *20:52:02.4±0.1, 39.°46N×74.°03E, h10km, Mb4.6/15, Error ellipse: s-maj=6.1km s-min=5.2km az=25.0*

IDC ***13*** *20:52:03.2±0.6, 39.°43N×73.°99E, h0km, mb4.3/19, mb1 4.5/21, mb1mx4.3/29, mbtmp4.3/21, ML3.3/4, MS3.5/3, Ms1 3.6/3, ms1mx2.8/33, Error ellipse: s-maj=14.8km s-min=11.4km az=4.0*

ISCJB ***13*** *20:52:03.6±0.2, 39.°37N±0.°02×73.°94E±0.°03, h10km, mb4.4/56, MS3.4/3, Error ellipse: s-maj=4.1km s-min=2.9km az=146.7*

BJI ***13*** *20:52:05.3, 39.°63N×73.°91E, h11km, mB4.5/5, mb4.2/13, ML4.1/5, Ms4.1/6, Ms7 3.8/6*

NNC ***13*** *20:52:07.0±3.6, 39.°83N×74.°04E, h0km, mb4.5, mpv4.5, Error ellipse: s-maj=31.5km s-min=15.4km az=1.0*

MOS ***13*** *20:52:07.4±1.3, 39.°54N×74.°03E, h33km, mb4.7/34, Error ellipse: s-maj=7.4km s-min=4.7km az=106.5*

NEIC ***13*** *20:52:08.9±0.3, 39.°52N×73.°96E, h35km, mb4.3/12, Error ellipse: s-maj=7.3km s-min=5.9km az=191.0*

ISC 13 20:52:05.5±0.2, **39.°40N**±0.°02×**73.°94E**±0.°03, **h10**km, **n247**, σ1§**16**/261, **mb4.4**/56, **MS3.4**/3, **21C-35D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KSH	**Kashi**	**1.58**	**85**	Pg		**Pn**	**20 52 28.6**	**-4.9**
KSH				Sg		**Sn**	**20 52 46.1**	**-7.9**
KSH				smax				
	comp=N,2μm,0.6s							
KSH				smax				
	comp=E,2μm,0.5s							
AML	**Almayashu**	**2.74**	**356**	P		**Pn**	**20 52 49.9**	**+0.4**
	SNR=481							
AML	**Almayashu**	**2.74**	**356**	*i* PN		**Pn**	**20 52 49.9**	**+0.4**
KZA	**Kyzart**	**2.86**	**20**	P		**Pn**	**20 52 52.2**	**+1.1**
	SNR=38							
KZA	**Kyzart**	**2.86**	**20**	*i* PN		**Pn**	**20 52 52.2**	**+1.1**
UCH	**Uchtor**	**2.86**	**9**	P		**Pn**	**20 52 52.4**	**+1.2**
	SNR=102							
AAK	**Ala-Archa**	**3.26**	**7**	P		**Pn**	**20 52 57.9**	**+1.2**
	SNR=180							
AAK	**Ala-Archa**	**3.26**	**7**	*i* PN		**Pn**	**20 52 57.8**	**+1.1**
EKS2	**Erkin-Say**	**3.27**	**358**	P		**Pn**	**20 52 57.6**	**+0.9**
	SNR=158							
EKS2	**Erkin-Say**	**3.27**	**358**	*e*P		**Pn**	**20 52 57.4**	**+0.7**
EKS2	**Erkin-Say**	**3.27**	**358**	*e*PN		**Pn**	**20 52 57.4**	**+0.7**
ULHL	**Ulahol**	**3.34**	**31**	P		**Pn**	**20 52 59.5**	**+1.7**
	SNR=23							
KBK	**Karagaybulak**	**3.35**	**13**	P		**Pn**	**20 52 59.0**	**+1.2**
	SNR=107							
FRU	**Bishkek**	**3.47**	**8**	*i* PN		**Pn**	**20 53 01.0**	**+1.5**
FRU				*i* S		**Sb**	**20 53 51.0**	**+1.8**
FRU				pmax	pmax			
	comp=Z,650nm,1.8s							
FRU				smax				
	comp=E,2μm,1.9s							
CHMS	**Chumysh**	**3.65**	**9**	P		**Pn**	**20 53 02.8**	**+0.8**
	SNR=48							
TKM2	**Tokmak 2**	**3.74**	**19**	P		**Pn**	**20 53 04.2**	**+1.0**
	SNR=42							
TKM2	**Tokmak 2**	**3.74**	**19**	⇓Pg		**Pn**	**20 53 04.2**	**+1.1**
	comp=E,128nm,0.7s							
TKM2				⇓Lg			20 53 53.6	
	comp=E,429nm,1.4s							
TKM2	**Tokmak 2**	**3.74**	**19**	*e*P		**Pn**	**20 53 04.0**	**+0.9**
TKM2	**Tokmak 2**	**3.74**	**19**	*i* PN		**Pn**	**20 53 04.1**	**+0.9**
USP	**Ospenovka**	**3.89**	**6**	P		**Pn**	**20 53 05.5**	**+0.2**
	SNR=22							
KNDC	**Almaty**	**4.45**	**30**	⇑Pg		**Pn**	**20 53 14.6**	**+1.7**
	comp=E,164nm,0.6s							
KNDC				⇑Lg			20 54 19.4	
	comp=E,3μm,1.5s							
AAA	**Alma-Ata**	**4.49**	**29**	*i* PN		**Pb**	**20 53 24.7**	**+0.4**
AAA				*i* S		**Sb**	**20 54 20.7**	**+2.3**
AAA				pmax	pmax			
	comp=Z,257nm,0.5s							
AAA				smax				
	comp=E,680nm,0.8s							
KK31	**Karatay Array**	**4.51**	**326**	⇑Pn		**Pn**	**20 53 14.5**	**+0.6**
	comp=E,8.2nm,0.3s,baz=131,slow=13,SNR=891							
KK31				⇓Pg		**Pg**	**20 53 27.1**	**-4.8**
	comp=E,54nm,0.5s,baz=142,slow=15,SNR=9.3							
KK31				⇓Sn		**Sn**	**20 54 08.9**	**+2.5**
	comp=E,147nm,0.5s,baz=148,slow=22,SNR=5.4							
KK31				⇓Lg			20 54 22.8	
	comp=E,192nm,0.6s							
KKAR	**Karatay Array**	**4.51**	**326**	*e*P		**Pn**	**20 53 14.0**	**+0.1**
KKAR	**Karatay Array**	**4.51**	**326**	*e*PN		**Pn**	**20 53 14.0**	**+0.1**
KBL	**Kabul**	**6.23**	**220**	*e*P		**Pn**	**20 53 44.3**	**+6.9**
	comp=E,35nm,0.6s							
KBL	**Kabul**	**6.23**	**220**	*e*PN		**Pn**	**20 53 44.3**	**+6.8**
KBL				pmax	pmax			
	comp=Z,35nm,0.6s							
SDNR	**Sundarnagar**	**8.26**	**162**	*e*PKP		**Pn**	**20 54 10.5**	**+5.2**
SDNR				*ex*		x	20 55 41.0	
SMLA	**Simla**	**8.66**	**161**	*i* P		**Pn**	**20 54 14.2**	**+3.4**
SMLA				*i* S		**Sn**	**20 55 43.6**	**-4.9**
SMLA				⇓AML		AML	20 55 54.8	
	comp=E,684nm,0.6s							
SMLA				⇓AML		AML	20 56 05.8	
	comp=E,925nm,0.6s							
MK31	**Makanchi Array**	**9.59**	**37**	Pn		**Pn**	**20 54 25.8**	**+2.3**
	comp=E,5.5nm,0.7s,baz=194,slow=15,SNR=21							
MK31				⇑Lg			20 56 56.7	
	comp=E,32nm,1.2s							
MK31	**Makanchi Array**	**9.59**	**37**	*e*P		**Pn**	**20 54 23.2**	**-0.3**
MK31	**Makanchi Array**	**9.59**	**37**	*e*P		**Pn**	**20 54 23.2**	**-0.2**
MKAR	**Makanchi Array**	**9.59**	**37**	Pn		**Pn**	**20 54 23.4**	**-0.1**
	comp=E,0.1nm,0.3s,baz=220,slow=14,SNR=6.5							
MKAR	**Makanchi Array**	**9.59**	**37**	Pn		**Pn**	**20 54 23.4**	**-0.1**
MKAR	**Makanchi Array**	**9.59**	**37**	P		**Pn**	**20 54 23.4**	**0.0**
DDI	**Dehra Dun**	**9.66**	**158**	*e*PKP		**Pn**	**20 54 28.0**	**+3.4**
DDI				*ex*		x	20 56 22.0	
NDI	**New Delhi**	**11.03**	**165**	*e*PKP		**Pn**	**20 54 52.0**	**+8.8**
NDI				*e*S		**Sn**	**20 56 47.0**	**+0.4**
WMQ	**Urumqi**	**11.21**	**62**	*e*P		**Pn**	**20 54 46.8**	**+1.2**
SONA	**Sohna**	**11.42**	**166**	*e*PKP		**Pn**	**20 54 50.2**	**+1.6**
SONA				*e*S		**Sn**	**20 56 47.8**	**-8.4**
SONA				AML		AML	20 57 05.0	
	comp=E,40nm,0.6s							
SONA				AML		AML	20 57 05.1	
	comp=N,14nm,0.3s							
KUDL	**Kundal**	**11.42**	**169**	*e*PKP		**Pn**	**20 54 49.4**	**+0.7**
KUDL				*e*S		**Sn**	**20 56 47.5**	**-8.8**
KUDL				AML		AML	20 57 08.5	
	comp=N,14nm,0.5s							
KUDL				AML		AML	20 57 09.9	
	comp=E,15nm,0.6s							
KURBB	**Kurchatov Arra**	**11.68**	**15**	⇓Pn		**Pn**	**20 54 53.3**	**+1.2**
	comp=E,0.8nm,0.8s							
KURBB				⇓Lg			20 58 12.9	
	comp=E,34nm,1.7s							
KURK	**Kurchatov**	**11.79**	**15**	⇓Pn		**Pn**	**20 54 54.9**	**+1.3**
	comp=E,6.0nm,1.4s							
KURK				⇑Lg			20 58 09.8	
	comp=E,240nm,1.5s							
KURK	**Kurchatov**	**11.79**	**15**	Pn		**Pn**	**20 54 49.1**	**-4.5**
	comp=E,0.1nm,0.3s,baz=203,slow=11,SNR=6.5							
KURK	**Kurchatov**	**11.79**	**15**	*e*P		**Pn**	**20 54 49.1**	**-4.5**
	comp=E,12nm,1.2s							
KURK	**Kurchatov**	**11.79**	**15**	*d* iP		**Pn**	**20 54 53.4**	**-0.2**
KURK				pmax	pmax			
	comp=Z,3.0nm,0.8s							
AJM	**Ajmer**	**12.89**	**177**	*ex*		**Sn**	**20 57 31.0**	**-1.4**
VOSK	**Vostochnaya**	**13.48**	**352**	⇑Pn		**Pn**	**20 55 13.3**	**-3.5**
	comp=Z,9.8nm,0.8s							
VOSK				⇓Lg			20 58 58.0	
	comp=Z,58nm,1.1s							
DANN	**Dangsing**	**13.70**	**141**	*e*P		**Pn**	**20 55 20.3**	**+0.5**
BVA0	**Borovoye Array**	**13.85**	**351**	Pn		**Pn**	**20 55 18.1**	**-3.6**
	comp=Z,3.9nm,0.9s,baz=158,slow=13,SNR=45							
BVA0				⇓Lg			20 59 11.8	
	comp=Z,9.6nm,1.1s,baz=156,slow=30,SNR=4.0							
BRVK	**Borovoye**	**13.89**	**351**	⇓Pn		**Pn**	**20 55 19.6**	**-2.7**
	comp=Z,37nm,0.6s							
BRVK				⇑Lg			20 59 14.6	
	comp=Z,126nm,1.4s							
BRVK	**Borovoye**	**13.89**	**351**	*e*P		**Pn**	**20 55 18.7**	**-3.6**
	comp=Z,32nm,0.7s							
BRVK	**Borovoye**	**13.89**	**351**	*e*P		**Pn**	**20 55 18.7**	**-3.6**
BRVK				pmax	pmax			
	comp=Z,32nm,0.7s							
AB31	**Akbulak array**	**14.03**	**319**	⇓Pn		**Pn**	**20 55 21.7**	**-2.5**
	comp=Z,14nm,0.8s							
AB31				⇓Sn		**Sn**	**20 57 54.7**	**-5.1**
	comp=Z,8.7nm,0.6s							
ABKAR	**Akbulak array**	**14.03**	**319**	*e*P		**Pn**	**20 55 21.5**	**-2.7**
	comp=Z,10nm,0.6s							
KOLN	**Koldanda**	**14.11**	**142**	*e*P		**Pn**	**20 55 25.8**	**+0.5**
	comp=Z,20nm,0.6s							
GKN	**Gorkha**	**14.42**	**139**	*e*P		**Pn**	**20 55 30.5**	**+0.8**
	comp=Z,76nm,0.9s							
KKN	**Kakani**	**14.93**	**137**	*e*P		**Pn**	**20 55 36.2**	**-0.3**
	comp=Z,16nm,0.6s							
KKN				*e*S		**Sn**	**20 58 19.0**	**-3.0**
DMN	**Daman**	**14.98**	**138**	*e*P		**Pn**	**20 55 37.2**	**-0.1**
	comp=Z,33nm,0.9s							
GUN	**Gumba**	**15.15**	**136**	*e*P		**Pn**	**20 55 39.1**	**-0.4**
	comp=Z,35nm,0.7s							
PKI	**Pulchoki**	**15.17**	**138**	*e*P		**Pn**	**20 55 40.6**	**+0.8**
	comp=Z,14nm,0.6s							
AKTK	**Aktyubinsk**	**15.74**	**320**	Pn		**Pn**	**20 55 44.9**	**-2.2**
AKTK				LR		LR	21 02 12.3	
AKTO	**Aktyubinsk**	**15.74**	**320**	⇑Pn		**Pn**	**20 55 45.2**	**-2.0**
	comp=Z,4.0nm,1.0s							
AKTO				⇑Sn		**Sn**	**20 58 35.5**	**-6.1**
	comp=Z,5.7nm,1.4s							
AKTO	**Aktyubinsk**	**15.74**	**320**	Pn		**Pn**	**20 55 44.9**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=124,slow=14,SNR=16							
AKTO				LR		LR	21 02 12.3	
	comp=Z,152nm,20.8s,baz=315,slow=39							
AKTO	**Aktyubinsk**	**15.74**	**320**	P		**Pn**	**20 55 44.9**	**-2.2**
AKTO				MLR		MLR		
	comp=Z,153nm,20.8s							
ZAA0	**Zalesovo Array**	**16.33**	**23**	*e*P		**Pn**	**20 55 53.7**	**-0.9**
ZALV	**Zalesovo Beam**	**16.33**	**23**	Pn		**Pn**	**20 55 52.0**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=210,slow=12,SNR=19							
ZALV	**Zalesovo Beam**	**16.33**	**23**	Pn		**Pn**	**20 55 52.0**	**-2.7**
ZALV	**Zalesovo Beam**	**16.33**	**23**	P		**Pn**	**20 55 52.0**	**-2.7**
TAPN	**Taplejung**	**16.61**	**132**	*e*P		**Pn**	**20 55 58.8**	**+0.4**
	comp=Z,31nm,0.8s							
NVS	**Novosibirsk**	**16.67**	**19**	*e*P		**Pn**	**20 55 55.9**	**-3.1**
NVS				*e*			20 59 01.4	
ODAN	**Odare**	**16.80**	**134**	*e*P		**Pn**	**20 56 00.8**	**-0.1**
	comp=Z,45nm,0.8s							
LSA	**Lhasa**	**17.14**	**119**	P		**Pn**	**20 56 08.5**	**+3.4**
	comp=Z,10.0nm,0.9s							
LSA	**Lhasa**	**17.14**	**119**	P		**Pn**	**20 56 08.5**	**+3.4**
LSA				pmax	pmax			
	comp=Z,10.0nm,0.9s							
SVE	**Sverdlovsk**	**19.51**	**338**	⇓*e*P		**Pn**	**20 56 34.2**	**+0.3**
SVE				*e*S		**Sn**	**20 59 59.2**	**-13**
SVE				pmax	pmax			
	comp=Z,14nm,1.0s							
ARU	**Arti**	**19.84**	**334**	*e*P		**Pn**	**20 56 35.8**	**-2.0**
	comp=Z,12nm,0.9s							
ARU	**Arti**	**19.84**	**334**	*d* iP		**Pn**	**20 56 36.3**	**-1.5**
ARU				S		**Sn**	**21 00 14.4**	**-6.1**
ARU				pmax	pmax			
	comp=Z,17nm,1.7s							
GTA	**Gaotai**	**19.98**	**82**	*e*P		**Pn**	**20 56 40.1**	**+0.5**
GTA				pP		pP	20 56 43.9	+3.2
GTA				sP		sP	20 56 46.5	+4.5
GTA				S		**Sn**	**21 00 23.8**	**-0.5**
GTA				sS		sS	21 00 27.5	+0.5
GTA				pmax	pmax			
	comp=Z,7.0nm,0.9s							
GTA				LR	LR			
	comp=N,320nm,13.3s							
GTA				LR	LR			
	comp=E,190nm,11.9s							
GTA				LR	LR			
	comp=Z,260nm,11.4s							
POO	**Poona**	**20.79**	**180**	*e*PKP		**P**	**20 56 47.0**	**+0.2**
HYB	**Hyderabad**	**22.27**	**168**	*i* P		**P**	**20 57 05.0**	**+2.3**
GNI	**Garni**	**22.41**	**281**	P		**P**	**20 57 04.7**	**+0.6**
	comp=Z,6.2nm,0.6s,mb4.2,baz=5.1,slow=3.4,SNR=6.3							
GNI	**Garni**	**22.41**	**281**	P		**P**	**20 57 04.8**	**+0.6**
GNI	**Garni**	**22.41**	**281**	P		**P**	**20 57 04.7**	**+0.6**
GNI				pmax	pmax			
	comp=Z,6.0nm,0.6s							
ZEI	**Tsey**	**22.83**	**288**	*e*P		**P**	**20 57 11.0**	**+2.4**
ZEI				pmax	pmax			
	comp=Z,7.0nm,0.6s,mb4.3							
SOKR	**Solikamsk**	**22.93**	**337**	*e*P		**P**	**20 57 08.5**	**-0.9**
SOKR				pmax	pmax			
	comp=Z,10.0nm,1.0s,mb4.2							
ONI	**Oni**	**23.17**	**288**	P		**P**	**20 57 13.6**	**+1.4**
ONI				S		Px	20 57 41.6	
AKH	**Akhalkalaki**	**23.22**	**285**	P		**P**	**20 57 15.0**	**+2.3**
KIV	**Kislovodsk**	**23.70**	**291**	*e*P		**P**	**20 57 18.8**	**+1.3**
	comp=Z,21nm,0.8s,mb4.6							
KIV	**Kislovodsk**	**23.70**	**291**	*e*P		**P**	**20 57 18.8**	**+1.3**
KIV				*e*S		**S**	**21 01 28.4**	**-3.8**
KIV				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.0							
KIV				MLR	MLR			
	comp=Z,33nm,13.0s,MS3.0							
SONM	**Songino Array**	**24.82**	**59**	P		**P**	**20 57 26.5**	**-1.1**
	comp=Z,2.5nm,0.8s,mb3.8,baz=260,slow=9.2,SNR=18							
SONM	**Songino Array**	**24.82**	**59**	P		**P**	**20 57 26.5**	**-1.1**
SONM	**Songino Array**	**24.82**	**59**	P		**P**	**20 57 26.5**	**-1.1**
SONM				pmax	pmax			
	comp=Z,3.0nm,0.8s							
ULN	**Ulaanbaatar**	**25.26**	**60**	*e*P		**P**	**20 57 30.9**	**-0.8**
	comp=Z,4.5nm,0.9s,mb4.0							
ULN	**Ulaanbaatar**	**25.26**	**60**	*e*P		**P**	**20 57 30.9**	**-0.8**
ULN				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.0							
VSR	**Storozhevoye**	**26.90**	**308**	*e*P		**P**	**20 57 45.2**	**-1.3**
VSR				pmax	pmax			
	comp=N,6.0nm,1.1s							
VSR				pmax	pmax			
	comp=E,10.0nm,1.1s							
VSR				pmax	pmax			
	comp=Z,10.0nm,1.1s,mb4.3							
OBN	**Obninsk**	**29.40**	**315**	⇓*e*P		**P**	**20 58 08.0**	**-0.7**
OBN				*e*			20 59 00.3	
OBN				*e*S		**S**	**21 02 56.3**	**-6.0**
OBN				pmax	pmax			
	comp=Z,23nm,2.5s,mb4.5							
SIM	**Simferopol'**	**29.81**	**294**	*e*P		**P**	**20 58 13.6**	**+1.2**
SIM				pmax	pmax			
	comp=Z,12nm,0.8s,mb4.7							
CMAR	**Chiang Mai Arr**	**30.06**	**127**	P		**P**	**20 58 14.3**	**-0.6**
	comp=Z,0.3nm,0.4s,mb3.4,baz=215,slow=32,SNR=4.1							
CMAR	**Chiang Mai Arr**	**30.06**	**127**	P		**P**	**20 58 14.2**	**-0.6**
CMAR	**Chiang Mai Arr**	**30.06**	**127**	P		**P**	**20 58 14.3**	**-0.6**
BR131	**Keskin Array S**	**30.89**	**284**	*e*P		**P**	**20 58 23.9**	**+1.8**
	comp=Z,1.3nm,0.5s,mb4.0							
BRTR	**Keskin Array B**	**30.89**	**284**	P		**P**	**20 58 20.9**	**-1.1**
	comp=Z,2.0nm,0.6s,mb4.1,baz=90,slow=8.1,SNR=16							
BRTR	**Keskin Array B**	**30.89**	**284**	P		**P**	**20 58 20.9**	**-1.1**
BRTR	**Keskin Array B**	**30.89**	**284**	P		**P**	**20 58 20.9**	**-1.1**
BRTR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
AKASG	**Malin Array Be**	**33.07**	**305**	P		**P**	**20 58 39.9**	**-1.2**
	comp=Z,4.7nm,0.6s,mb4.6,baz=82,slow=7.4,SNR=27							
AKASG	**Malin Array Be**	**33.07**	**305**	P		**P**	**20 58 39.9**	**-1.2**
AKASG	**Malin Array Be**	**33.07**	**305**	P		**P**	**20 58 39.9**	**-1.2**
AKASG				pmax	pmax			
	comp=Z,5.0nm,0.6s							
KIEV	**Kiev**	**33.08**	**305**	*e*P		**P**	**20 58 40.3**	**-0.9**
	comp=Z,5.0nm,0.7s,mb4.5							
KIEV	**Kiev**	**33.08**	**305**	*e*P		**P**	**20 58 40.3**	**-0.8**
KIEV				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5							
WHN	**Wuhan**	**34.04**	**92**	P		**P**	**20 58 50.0**	**+0.2**
JOF	**Joensuu**	**34.62**	**327**	*e*P		**P**	**20 58 53.0**	**-1.4**
JOF				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.6							
JOF	**Joensuu**	**34.62**	**327**	*ep*		**P**	**20 58 53.0**	**-1.4**
	comp=Z,4.7nm,0.6s,mb4.6							
TESR		**34.90**	**298**	⇑*i* P		**P**	**20 58 57.4**	**+0.4**
VRI	**Vrincioaia**	**34.91**	**296**	⇑P		**P**	**20 58 58.5**	**+1.4**
VRI	**Vrincioaia**	**34.91**	**296**	⇑*i* P		**P**	**20 58 58.5**	**+1.4**
PLOR	**Plostina**	**34.97**	**296**	⇓P		**P**	**20 58 59.3**	**+1.7**
PLOR	**Plostina**	**34.97**	**296**	⇓*i* P		**P**	**20 58 59.3**	**+1.7**
MLR	**Muntele Rosu**	**35.51**	**296**	⇑P		**P**	**20 59 03.2**	**+1.0**
MLR	**Muntele Rosu**	**35.51**	**296**	⇑*i* P		**P**	**20 59 03.2**	**+1.0**
BURAR	**Bucovina Array**	**35.77**	**300**	⇑P		**P**	**20 59 05.1**	**+0.6**
BURAR	**Bucovina Array**	**35.77**	**300**	⇑*i* P		**P**	**20 59 05.1**	**+0.6**
VOIR		**36.14**	**296**	⇓P		**P**	**20 59 08.7**	**+1.0**
VOIR		**36.14**	**296**	⇓*i* P		**P**	**20 59 08.7**	**+1.0**
HUMR	**Humele**	**36.32**	**294**	⇓*i* P		**P**	**20 59 10.6**	**+1.3**
FINES	**FINESS Array B**	**36.47**	**323**	P		**P**	**20 59 10.0**	**-0.3**
	comp=Z,6.2nm,0.7s,mb4.7,baz=113,slow=9.8,SNR=21							
FINES	**FINESS Array B**	**36.47**	**323**	P		**P**	**20 59 10.0**	**-0.3**
FINES	**FINESS Array B**	**36.47**	**323**	P		**P**	**20 59 10.0**	**-0.3**
FINES				pmax	pmax			
	comp=Z,6.0nm,0.7s							
KAF	**Kangasniemi**	**36.54**	**324**	*e*P		**P**	**20 59 09.6**	**-1.3**
KAF				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.2							
KAF	**Kangasniemi**	**36.54**	**324**	*ep*		**P**	**20 59 09.6**	**-1.3**
	comp=Z,3.2nm,0.7s,mb4.3							
LOT	**Lotru**	**37.03**	**296**	⇓*i* P		**P**	**20 59 16.6**	**+1.4**
KWP	**Kalwaria Pacla**	**37.27**	**303**	⇓P		**P**	**20 59 17.9**	**+0.6**
KWP	**Kalwaria Pacla**	**37.27**	**303**	⇓*i* P		**P**	**20 59 17.9**	**+0.6**
TRPA	**Tarpa**	**37.52**	**301**	⇓*i* P		**P**	**20 59 20.2**	**+0.8**
DRGR		**37.56**	**299**	⇓P		**P**	**20 59 20.3**	**+0.5**
DRGR		**37.56**	**299**	⇓*i* P		**P**	**20 59 20.3**	**+0.5**
VTS	**Vitosha**	**37.96**	**292**	⇓P		**P**	**20 59 24.8**	**+1.6**
VTS	**Vitosha**	**37.96**	**292**	⇓*i* P		**P**	**20 59 24.8**	**+1.6**
STHS	**Stebnicka Huta**	**38.24**	**303**	*e*P		**P**	**20 59 25.6**	**+0.1**
STHS	**Stebnicka Huta**	**38.24**	**303**	*e*P		**P**	**20 59 25.6**	**+0.1**
BZS	**Buzias**	**38.49**	**297**	⇓P		**P**	**20 59 28.6**	**+1.0**
BZS	**Buzias**	**38.49**	**297**	⇓*i* P		**P**	**20 59 28.6**	**+1.0**
NIE	**Niedzica**	**38.85**	**303**	*e*P		**P**	**20 59 31.6**	**+1.0**
NIE	**Niedzica**	**38.85**	**303**	*e*P		**P**	**20 59 31.6**	**+1.0**
KEV	**Kevo**	**39.03**	**336**	*e*P		**P**	**20 59 24.8**	**-7.1**
KEV	**Kevo**	**39.03**	**336**	*ep*		**P**	**20 59 24.8**	**-7.1**
OJC	**Ojcow**	**39.10**	**304**	*e*P		**P**	**20 59 32.9**	**+0.2**
OJC	**Ojcow**	**39.10**	**304**	*e*P		**P**	**20 59 32.9**	**+0.2**
ARCES	**

SFTF	**Sexfontaines**	**48.97**	**304**	*eP*	**P**	**Pn**	**21 00 51.4**	**-0.5**
BAIF	**Baives**	**48.98**	**307**	*eP*	**P**	**Pn**	**21 00 51.2**	**-0.7**
	comp=Z,6.2nm,0.7s,mb4.5							
ORIF	**Oris-en-Rattie**	**49.42**	**300**	*eP*	**P**		**21 00 54.7**	**-0.6**
MJAR	**Matsushiro Arr**	**49.79**	**72**	P	**P**	**Pn**	**21 00 57.1**	**-1.2**
	comp=Z,3.1nm,0.9s,mb4.3,baz=283,slow=8.5,SNR=7.7							
MJAR	**Matsushiro Arr**	**49.79**	**72**	P	**P**		**21 00 57.1**	**-1.1**
MJAR	**Matsushiro Arr**	**49.79**	**72**	P	**P**		**21 00 57.1**	**-1.2**
MJAR				pmax	pmax			
	comp=Z,3.0nm,0.9s							
LOR	**Lormes**	**50.01**	**303**	*eP*	**P**	**Pn**	**21 00 58.7**	**-1.1**
	comp=Z,7.0nm,0.8s,mb4.5							
SMF	**Signal de Mont**	**50.22**	**303**	*eP*	**P**		**21 01 00.5**	**-0.9**
SSF	**Saint Saulge**	**50.30**	**303**	*eP*	**P**		**21 01 01.1**	**-0.9**
AVF	**Avril sur Loir**	**50.49**	**303**	*eP*	**P**		**21 01 02.1**	**-1.3**
	comp=Z,16nm,0.9s,mb4.7							
BGF	**Bois d'Agland**	**50.89**	**303**	*eP*	**P**		**21 01 04.8**	**-1.7**
LDF	**La Druitiere**	**52.12**	**306**	*eP*	**P**		**21 01 15.1**	**-0.6**
	comp=Z,6.9nm,0.6s,mb4.5							
DAG	**Danmarks Havn**	**52.62**	**343**	*i P*	**P**		**21 01 18.3**	**-0.7**
DAG	**Danmarks Havn**	**52.62**	**343**	*i P*	**P**		**21 01 18.3**	**-0.7**
	comp=Z,3.6nm,0.9s,mb4.3							
GRR	**Gorron**	**52.65**	**306**	*eP*	**P**		**21 01 18.4**	**-1.2**
LFF	**La Frestale**	**52.84**	**301**	*eP*	**P**		**21 01 20.2**	**-0.8**
SGMF	**Saint Gilles**	**53.76**	**306**	*eP*	**P**		**21 01 26.9**	**-0.9**
	comp=Z,17nm,0.8s,mb4.8							
BILL	**Bilibino**	**54.98**	**27**	*eP*	**P**		**21 01 35.2**	**-1.2**
	comp=Z,3.8nm,0.9s,mb4.4							
BILL	**Bilibino**	**54.98**	**27**	*eP*	**P**		**21 01 35.4**	**-1.0**
BILL				*e*			21 01 46.0	
BILL				*e*			21 03 37.0	
BILL				pmax	pmax			
	comp=Z,16nm,2.5s,mb4.6							
ESDC	**Sonseca Array**	**58.18**	**297**	P	**P**		**21 01 59.5**	**0.0**
	comp=Z,1.5nm,0.7s,mb4.2,baz=58,slow=7.4,SNR=13							
ESDC	**Sonseca Array**	**58.18**	**297**	P	**P**		**21 01 59.5**	**0.0**
SUMG	**Summit**	**59.08**	**341**	*i P*	**P**		**21 02 04.3**	**-1.0**
	comp=Z,4.4nm,0.9s,mb4.5							
TORD	**Torodi Ar. Bea**	**68.09**	**269**	P	**P**		**21 03 05.1**	**-0.6**
	comp=Z,7.5nm,0.7s,mb4.8,baz=47,slow=5.6,SNR=60							
TORD	**Torodi Ar. Bea**	**68.09**	**269**	P	**P**		**21 03 05.1**	**-0.6**
COLD	**Coldfoot**	**68.55**	**17**	*eP*	**P**		**21 03 06.5**	**-1.2**
	comp=Z,6.2nm,0.8s,mb4.6							
INK	**Inuvik**	**70.66**	**10**	P	**P**		**21 03 19.9**	**-0.9**
	comp=Z,6.6nm,0.9s,mb4.6,baz=359,slow=9.6,SNR=18							
INK	**Inuvik**	**70.66**	**10**	P	**P**		**21 03 19.9**	**-0.9**
INK	**Inuvik**	**70.66**	**10**	P	**P**		**21 03 19.9**	**-0.9**
INK				pmax	pmax			
	comp=Z,7.0nm,0.9s							
COLA	**College**	**71.04**	**18**	*eP*	**P**		**21 03 21.5**	**-1.6**
	comp=Z,9.3nm,0.9s,mb4.7							
COLA	**College**	**71.04**	**18**	*eP*	**P**		**21 03 21.5**	**-1.6**
COLA				pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.7							
ILAR	**Eielson Array**	**71.35**	**17**	P	**P**		**21 03 23.1**	**-1.9**
	comp=Z,4.1nm,0.8s,mb4.4,baz=319,slow=5.1,SNR=32							
ILAR	**Eielson Array**	**71.35**	**17**	P	**P**		**21 03 23.1**	**-1.9**
ILAR	**Eielson Array**	**71.35**	**17**	P	**P**		**21 03 23.1**	**-1.9**
ILAR				pmax	pmax			
	comp=Z,4.0nm,0.8s							
SML	**Sawmill**	**73.50**	**19**	*eP*	**P**		**21 03 36.2**	**-1.7**
	comp=Z,3.9nm,0.9s,mb4.3							
SML	**Sawmill**	**73.50**	**19**	*eP*	**P**		**21 03 36.2**	**-1.7**
SML				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.3							
DBIC	**Dimbokro**	**77.14**	**268**	P	**P**		**21 03 57.9**	**-1.7**
	comp=Z,5.4nm,0.7s,mb4.6,baz=39,slow=7.8,SNR=7.6							
DBIC	**Dimbokro**	**77.14**	**268**	P	**P**		**21 03 57.9**	**-1.7**
DBIC	**Dimbokro**	**77.14**	**268**	P	**P**		**21 03 57.9**	**-1.7**
DBIC				pmax	pmax			
	comp=Z,5.0nm,0.7s							
LIC	**Lamto**	**77.55**	**268**	*eP*	**P**		**21 04 01.6**	**-0.3**
	comp=Z,28nm,0.9s,mb4.9							
YKA	**Yellowknife Ar**	**78.22**	**4**	P	**P**		**21 04 03.5**	**-1.3**
	comp=Z,4.4nm,0.7s,mb4.5,baz=349,slow=5.7,SNR=6.9							
YKA	**Yellowknife Ar**	**78.22**	**4**	P	**P**		**21 04 03.5**	**-1.3**
YKA	**Yellowknife Ar**	**78.22**	**4**	P	**P**		**21 04 03.5**	**-1.3**
YKA				pmax	pmax			
	comp=Z,4.0nm,0.7s							
WRA	**Warramunga Arr**	**81.62**	**124**	P	**P**		**21 04 23.9**	**+0.1**
	comp=Z,4.0nm,0.7s,mb4.4,baz=326,slow=5.0,SNR=54							
WRA	**Warramunga Arr**	**81.62**	**124**	P	**P**		**21 04 23.9**	**+0.1**
WRA	**Warramunga Arr**	**81.62**	**124**	P	**P**		**21 04 23.9**	**+0.1**
WRA				pmax	pmax			
	comp=Z,4.0nm,0.7s							
WRAB	**Tennant Creek**	**81.62**	**124**	*eP*	**P**		**21 04 23.8**	**0.0**
	comp=Z,2.6nm,0.6s,mb4.3							
WRAB	**Tennant Creek**	**81.62**	**124**	*eP*	**P**		**21 04 23.8**	**0.0**
WRAB				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.4							
WB2	**Warramunga Arr**	**81.63**	**124**	*eP*	**P**		**21 04 23.5**	**-0.3**
ASAR	**Alice Springs**	**84.07**	**127**	P	**P**		**21 04 36.5**	**0.0**
	comp=Z,2.5nm,0.7s,mb4.5,baz=315,slow=4.8,SNR=34							
ASAR	**Alice Springs**	**84.07**	**127**	P	**P**		**21 04 36.5**	**0.0**
ASAR	**Alice Springs**	**84.07**	**127**	P	**P**		**21 04 36.5**	**+0.1**
ASAR				pmax	pmax			
	comp=Z,3.0nm,0.7s							
VNA2	**Neumayer--Watz**	**123.96**	**203**	*e*		PKPdf	21 11 00.5	-2.1
	baz=19,slow=5.0							
PLCA	**Paso Flores**	**152.90**	**256**	PKPbc	PKPbc		21 12 02.8	+0.2
	comp=Z,3.5nm,0.9s,baz=98,slow=6.9,SNR=4.4							
PLCA	**Paso Flores**	**152.90**	**256**	PKPbc	PKPbc		21 12 02.8	+0.2

NEIC ***13*** *21:20:15.9, 27.74S×71.29W, h44km, MG3.7(GUC), After GUC.*

GUC 13 21:20:15.9±0.8, 27.74S×71.29W, h44km±5km, ML3.7, 3C-6D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CDCH	**Caldera**	**0.79**	**32**	*iP*		Pn	21 20 30.7	+0.1
CDCH				*i*	S	Sn	21 20 41.8	+0.6
CDCH	**Caldera**	**0.79**	**32**	*iP*		Pn	21 20 30.7	+0.1
CDCH				AML		AML	21 20 41.8	
	comp=N,862nm,0.4s							
CDCH				*i*	S	Sn	21 20 41.8	+0.6
CPCH	**Copiapo**	**0.91**	**66**	*iP*		Pn	21 20 33.4	+1.1
CPCH				*i*	S	Sn	21 20 46.0	+1.7
CPCH	**Copiapo**	**0.91**	**66**	*iP*		Pn	21 20 33.4	+1.1
CPCH				*i*	S	Sn	21 20 46.0	+1.7
CPCH				AML		AML	21 20 47.3	
	comp=N,12μm,0.1s							
VACH	**Vallenar**	**0.96**	**151**	*iP*		Pn	21 20 33.8	+0.8
VACH				*i*	S	Sn	21 20 46.8	+1.4
VACH	**Vallenar**	**0.96**	**151**	*iP*		Pn	21 20 33.8	+0.8
VACH				*i*	S	Sn	21 20 46.8	+1.4
VACH				AML		AML	21 20 47.8	
	comp=N,8μm,0.1s							
LCO	**Las Campanas**	**1.37**	**158**	*eP*		Pn	21 20 40.3	+1.8
LCO				*eS*		Sn	21 20 58.0	+2.5
LCO	**Las Campanas**	**1.37**	**158**	*iP*		Pn	21 20 40.3	+1.7
LCO				*i*	S	Sn	21 20 58.0	+2.4
LCO				AML		AML	21 20 59.4	
	comp=E,2μm,0.5s							
TLL	**Tololo Astrono**	**2.46**	**170**	*iP*		Pn	21 20 55.6	+2.1
TLL				*i*	S	Sn	21 21 25.4	+3.1
TLL	**Tololo Astrono**	**2.46**	**170**	*iP*		Pn	21 20 55.6	+2.1
TLL				*i*	S	Sn	21 21 25.4	+3.1
TLL				AML		AML	21 21 40.3	
	comp=N,448nm,0.6s							

ISCJB ***13*** *21:59:00.6±0.4, 24.32N±0.04×122.96E±0.02, h45km±9km, Error ellipse: s-maj=6.5km s-min=3.0km az=1.5*
JMA ***13*** *21:59:00.6±0.2, 24.32N×122.99E, h47km±2km, M2.7*
TAP ***13*** *21:59:01.2, 24.32N×122.90E, h53km±1km, ML3.3, D*

ISC 13 21:59:01.1±0.4, 24.34N±0.04×122.97E±0.02, h42km±9km, n36, σ0.89/70, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.12**	**16**	P		**Pn**	**21 59 08.2**	**+0.1**
YOJ				S		**Sn**	**21 59 13.7**	**+0.7**
IRIF	**Iriomote-Funau**	**0.69**	**90**	P		**Pn**	**21 59 13.9**	**-0.5**
IRIF				*eS*		**Sn**	**21 59 23.7**	**-0.4**
HATJ	**Hateruma jima**	**0.81**	**110**	P		**Pn**	**21 59 15.3**	**-0.8**
HATJ				*eS*		**Sn**	**21 59 27.2**	**+0.2**
JKRS	**Kuro-shima**	**0.95**	**96**	P		**Pn**	**21 59 18.0**	**0.0**
JKRS				S		**Sn**	**21 59 30.6**	**+0.2**
TWC	**Suao**	**1.06**	**285**	P		**Pn**	**21 59 18.7**	**-0.7**
	baz=296							
TWC				S		**Sn**	**21 59 31.9**	**-1.1**
	baz=296							

JIJ	**Ishigaki jima**	**1.07**	**89**	P		**Pn**	**21 59 18.9**	**-0.7**
JIJ				S		**Sn**	**21 59 32.0**	**-1.2**
TWB1	**Santiao Chiao**	**1.11**	**307**	*eP*		**Pn**	**21 59 20.2**	**0.0**
	baz=310							
ENA	**Nanau**	**1.13**	**275**	P		**Pn**	**21 59 20.4**	**0.0**
	baz=284							
ENA				*eS*		**Sn**	**21 59 33.8**	**-0.9**
	baz=284							
ILA	**Ilan**	**1.19**	**291**	*eP*		**Pn**	**21 59 21.4**	**+0.1**
	baz=302							
ILA				*eS*		**Sn**	**21 59 35.7**	**-0.6**
	baz=302							
TWE	**Neicheng**	**1.25**	**288**	P		**Pn**	**21 59 22.2**	**+0.1**
	baz=297							
TWE				S		**Sn**	**21 59 37.4**	**-0.2**
	baz=297							
TWD	**Chiawan**	**1.28**	**259**	*eP*		**Pn**	**21 59 23.2**	**+0.6**
	baz=247							
TWD				*eS*		**Sn**	**21 59 37.7**	**-0.9**
	baz=247							
NWF	**Wu-fen Shan**	**1.30**	**304**	*eP*		**Pn**	**21 59 22.8**	**0.0**
	baz=306							
NWF				*eS*		**Sn**	**21 59 38.8**	**-0.2**
	baz=306							
ENTT	**Nioudou**	**1.32**	**283**	*eP*		**Pn**	**21 59 23.5**	**+0.5**
	baz=294							
ENTT				*eS*		**Sn**	**21 59 39.5**	**+0.2**
	baz=294							
NNS	**Nan Shan**	**1.46**	**274**	*eP*		**Pn**	**21 59 26.1**	**+1.1**
	baz=264							
NNS				*eS*		**Sn**	**21 59 43.0**	**+0.1**
	baz=264							
ESL	**Shilin**	**1.50**	**250**	*eP*		**Pn**	**21 59 24.5**	**-1.1**
	baz=240							
ESL				*eS*		**Sn**	**21 59 42.0**	**-1.9**
	baz=240							
NSK	**Sanguang**	**1.51**	**283**	*eP*		**Pn**	**21 59 26.3**	**+0.7**
	baz=291							
NSK				*eS*		**Sn**	**21 59 43.4**	**-0.7**
	baz=291							
WHF	**Hehuan Shan**	**1.57**	**263**	*eP*		**Pn**	**21 59 27.0**	**+0.5**
	baz=252							
WHF				*eS*		**Sn**	**21 59 44.8**	**-0.8**
	baz=252							
JTJ	**Tarama**	**1.60**	**79**	P		**Pn**	**21 59 27.2**	**+0.3**
JTJ				*eS*		**Sn**	**21 59 46.2**	**-0.2**
EHY	**Hungye**	**1.72**	**242**	*eP*		**Pn**	**21 59 27.6**	**-1.0**
	baz=252							
EHY				*eS*		**Sn**	**21 59 48.0**	**-1.3**
	baz=252							
NSTT	**Nanjuang**	**1.82**	**280**	*eP*		**Pn**	**21 59 31.2**	**+1.3**
	baz=280							
NSTT				*eS*		**Sn**	**21 59 52.2**	**+0.4**
	baz=280							
TWF1	**Yuli**	**1.82**	**238**	P		**Pn**	**21 59 29.2**	**-0.8**
	baz=236							
TWF1				*eS*		**Sn**	**21 59 50.4**	**-1.4**
	baz=236							
CHKT	**Chengkung**	**1.92**	**230**	*eP*		**Pn**	**21 59 32.9**	**+1.5**
	baz=220							
CHKT				*eS*		**Sn**	**21 59 50.4**	**-3.9**
	baz=220							
SMLT	**Sun Moon Lake**	**1.95**	**257**	*eP*		**Pn**	**21 59 31.6**	**0.0**
	baz=249							
SMLT				*eS*		**Sn**	**21 59 55.1**	**+0.2**
	baz=249							
TYC	**Yuchr**	**1.98**	**258**	*eP*		**Pn**	**21 59 31.8**	**-0.3**
	baz=249							
TYC				*eS*		**Sn**	**21 59 55.9**	**+0.1**
	baz=249							
YUS	**Yu-Shan**	**2.03**	**246**	*eP*		**Pn**	**21 59 32.6**	**-0.2**
	baz=244							
YUS				*eS*		**Sn**	**21 59 55.5**	**-1.5**
	baz=244							
ELDTW	**Lidau**	**2.13**	**238**	*eP*		**Pn**	**21 59 33.1**	**-1.0**
	baz=236							
ELDTW				*eS*		**Sn**	**21 59 56.8**	**-2.5**
	baz=236							
ALS	**Alishan**	**2.15**	**248**	*eP*		**Pn**	**21 59 35.8**	**+1.3**
	baz=247							
ALS				*eS*		**Sn**	**22 00 00.2**	**+0.4**
	baz=247							
CHN5	**Tsauling**	**2.23**	**251**	*eP*		**Pn**	**21 59 36.4**	**+0.9**
	baz=250							
CHN5				*eS*		**Sn**	**22 00 02.3**	**+0.5**
	baz=250							
TWG	**Pinlang**	**2.31**	**229**	*eP*		**Pn**	**21 59 36.7**	**+0.1**
	baz=238							
TWG				*eS*		**Sn**	**22 00 00.5**	**-3.3**
	baz=238							
STYT	**Tauyuan**	**2.34**	**240**	*eP*		**Pn**	**21 59 38.1**	**+1.0**
	baz=233							
STYT				*eS*		**Sn**	**22 00 04.6**	**-0.1**
	baz=233							
CHN4	**Tsaushan**	**2.39**	**246**	*eP*		**Pn**	**21 59 40.5**	**+2.7**
	baz=245							
CHN4				*eS*		**Sn**	**22 00 07.4**	**+1.5**
	baz=245							
WTP	**Ta-pu**	**2.42**	**244**	*eP*		**Pn**	**21 59 39.1**	**+1.0**
	baz=242							
WTP				*eS*		**Sn**	**22 00 07.2**	**+0.7**
	baz=242							
CHN1	**Nanshi**	**2.52**	**243**	*eP*		**Pn**	**21 59 40.0**	**+0.5**
	baz=242							
CHN1				*eS*		**Sn**	**22 00 09.9**	**+1.0**
	baz=242							
SSD	**Sandimen**	**2.67**	**234**	*eP*		**Pn**	**21 59 42.6**	**+1.0**
	baz=225							
SSD				*eS*		**Sn**	**22 00 13.5**	**+0.8**
	baz=225							
EAST	**Anshuo**	**2.76**	**225**	*eP*		**Pn**	**21 59 43.0**	**+0.2**
	baz=231							
SCZT	**Fangliau**	**2.92**	**228**	*eP*		**Pn**	**21 59 46.5**	**+1.5**
	baz=221							
SCZT				*eS*		**Sn**	**22 00 18.9**	**+0.1**
	baz=221							

ISCJB ***13*** *22:24:08.3±0.8, 10.7N±0.2×41.4W±0.1, h10km, mb4.0/7, Error ellipse: s-maj=27.5km s-min=18.6km az=179.0*
IDC ***13*** *22:24:08.3±1.0, 10.64N×41.46W, h0km, mb4.0/7, mb1 4.2/7, mb1mx3.8/22, mbtmp4.0/7, Error ellipse: s-maj=32.4km s-min=21.2km az=178.0*
NEIC ***13*** *22:24:09.7±0.8, 10.63N×41.44W, h10km, Error ellipse: s-maj=25.4km s-min=17.1km az=179.0*

ISC 13 22:24:10.0±0.8, 10.7N±0.2×41.4W±0.1, h10km, n15, σ0.79/15, mb4.0/7, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DBIC	**Dimbokro**	**36.36**	**93**	P		**P**	**22 31 14.1**	**-0.6**
	4.4nm,0.8s,mb4.5,baz=289,slow=10,SNR=6.4							
DBIC	**Dimbokro**	**36.36**	**93**	P		**P**	**22 31 14.1**	**-0.6**
LPAZ	**La Paz**	**37.63**	**225**	P		**P**	**22 31 25.6**	**+0.2**
	1.8nm,0.9s,mb3.8,baz=27,slow=8.8,SNR=8.2							
LPAZ	**La Paz**	**37.63**	**225**	P		**P**	**22 31 25.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**42.23**	**82**	P		**P**	**22 32 03.2**	**-0.5**
	2.0nm,0.7s,mb3.9,baz=280,slow=9.6,SNR=10							
TORD	**Torodi Ar. Bea**	**42.23**	**82**	P		**P**	**22 32 03.2**	**-0.5**
TKL	**Tuckaleechee C**	**45.70**	**310**	*eP*		**P**	**22 32 26.7**	**-4.7**
SCHQ	**Schefferville**	**48.40**	**341**	P		**P**	**22 32 51.5**	**-0.6**
	1.8nm,0.7s,mb4.2,baz=150,slow=2.1,SNR=5.4							
SCHQ	**Schefferville**	**48.40**	**341**	P		**P**	**22 32 51.5**	**-0.6**
TXAR	**Lajitas Array**	**60.69**	**298**	P		**P**	**22 34 21.8**	**-0.1**
	0.6nm,0.7s,mb3.8,baz=118,slow=7.2,SNR=7.4							
TXAR	**Lajitas Array**	**60.69**	**298**	P		**P**	**22 34 21.8**	**-0.1**
BRTR	**Keskin Array B**	**71.79**	**52**	P		**P**	**22 35 34.8**	**+1.9**
	0.3nm,0.6s,mb3.4,baz=282,slow=2.7,SNR=2.4							
BRTR	**Keskin Array B**	**71.79**	**52**	P		**P**	**22 35 34.8**	**+1.9**
ILAR	**Eielson Array**	**86.90**	**336**	P		**P**	**22 36 55.0**	**+0.1**
	1.1nm,0.9s,mb4.1,baz=60,slow=4.6,SNR=10							
ILAR	**Eielson Array**	**86.90**	**336**	P		**P**	**22 36 55.0**	**+0.1**

NEIC ***13*** *22:36:52.9±0.9, 23.65S×179.64W, h200km, Error ellipse: s-maj=22.9km s-min=19.5km az=142.0*

IDC 13 22:36:58.1±10.0, 23.69S×179.64W, h256km±91km, mb4.3/6.7, mb1 3.7/7, mb1mx3.5/17, mbtmp3.6/7, Error ellipse: s-maj=45.3km s-min=27.7km az=38.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RPZ	**Rata Peaks**	**21.39**	**199**	P		P	22 41 24.9	-0.8
	4.0nm,0.5s,baz=250,slow=20,SNR=5.2							
RPZ	**Rata Peaks**	**21.39**	**199**	P		P	22 41 24.9	-0.8

PMG	**Port Moresby**	**34.74**	**289**	P		P	22 43 23.4	-1.0
	8.7nm,0.7s,baz=191,slow=5.2,SNR=2.6							
PMG	**Port Moresby**	**34.74**	**289**	P		P	22 43 23.4	-1.0
STKA	**Stephens Creek**	**35.10**	**248**	P		P	22 43 27.9	+0.6
	1.0nm,0.5s,baz=81,slow=7.5,SNR=6.4							
STKA	**Stephens Creek**	**35.10**	**248**	P		P	22 43 27.9	+0.6
ASAR	**Alice Springs**	**42.39**	**260**	P		P	22 44 28.3	+0.6
	0.8nm,0.5s,baz=93,slow=7.7,SNR=9.5							
ASAR	**Alice Springs**	**42.39**	**260**	P		P	22 44 28.4	+0.6
WRA	**Warramunga Arr**	**42.75**	**266**	P		P	22 44 31.2	+0.5
	2.2nm,0.4s,baz=103,slow=8.2,SNR=17							
WRA	**Warramunga Arr**	**42.75**	**266**	P		P	22 44 31.2	+0.5
TXAR	**Lajitas Array**	**90.04**	**58**	P		P	22 49 30.3	+1.4
	0.1nm,0.5s,baz=211,slow=7.0,SNR=3.8							
TXAR	**Lajitas Array**	**90.04**	**58**	P		P	22 49 30.3	+1.4
BPAW	**Bear Paw Mtn.**	**90.33**	**12**	*eP*		P	22 49 37.9	+8.5
SONM	**Songino Array**	**97.16**	**319**	P		P	22 49 59.8	-1.4
	0.4nm,0.9s,baz=217,slow=6.7,SNR=4.4							
SONM	**Songino Array**	**97.16**	**319**	P		P	22 49 59.8	-1.4
BRTR	**Keskin Array B**	**147.71**	**308**	PKPbc		PKPbc	22 56 14.2	+1.6
	0.5nm,0.6s,baz=137,slow=2.4,SNR=4.1							
BRTR	**Keskin Array B**	**147.71**	**308**	PKPbc		PKPbc	22 56 14.2	+1.6
MMAI	**Mount Meron Ar**	**147.91**	**295**	PKPbc		PKPbc	22 56 10.9	-2.4
	1.0nm,0.4s,baz=78,slow=7.8,SNR=9.3							

ISCJB ***13*** *22:53:23.8±0.3, 40.60N±0.03×123.03E±0.04, h10km, mb4.4/40, MS3.6/14, Error ellipse: s-maj=5.3km s-min=3.6km az=33.6*
IDC ***13*** *22:53:24.1±0.6, 40.53N×122.89E, h0km, mb4.2/18, mb1 4.4/22, mb1mx4.2/32, mbtmp4.2/22, ML4.1/4, MS3.5/15, Ms1 3.6/15, ms1mx3.3/39, Error ellipse: s-maj=19.8km s-min=11.6km az=46.0*
BJI ***13*** *22:53:26.1, 40.72N×122.92E, h13km, mB4.4/6, mb4.2/15, ML4.7/16, Ms4.2/13, Ms7 4.1/13*
MOS ***13*** *22:53:26.0±1.0, 40.53N×122.93E, h26km, mb4.7/28, Error ellipse: s-maj=12.0km s-min=6.0km az=125.7*
NEIC ***13*** *22:53:29.6±0.3, 40.54N×122.84E, h35km, mb4.5/9, Error ellipse: s-maj=8.0km s-min=6.4km az=184.0*

ISC 13 22:53:25.7±0.2, 40.60N±0.02×123.05E±0.04, h10km, n155, σ0.96/165, mb4.4/40, MS3.6/14, 17C-15D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SNY	**Shenyang**	**1.29**	**18**	*iPg*		**Pg**	**22 53 50.3**	**-0.2**
SNY				Sg		**Sg**	**22 54 07.3**	**0.0**
SNY				smax				
	comp=N,9μm,0.5s							
SNY				smax				
	comp=E,5μm,0.4s							
DL2	**Dalian**	**2.02**	**213**	*ePn*		**Pn**	**22 54 01.5**	**+1.7**
DL2				Pg		**Pg**	**22 54 02.9**	**-1.5**
DL2				Sn		**Sn**	**22 54 24.5**	**-0.5**
DL2				Sg		**Sg**	**22 54 29.3**	**-1.2**
DL2				smax				
	comp=N,2μm,0.9s							
DL2				smax				
	comp=E,2μm,0.9s							
CN2	**Changchun**	**3.66**	**28**	*ePg*		**Pg**	**22 54 34.3**	**-1.6**
CN2				Sg		**Sg**	**22 55 21.1**	**-2.2**
CN2				smax				
	comp=N,3μm,0.8s							
CN2				smax				
	comp=E,2μm,0.8s							
INCN	**Inchon**	**4.18**	**137**	*eP*		**Pg**	**22 54 43.9**	**-1.9**
INCN				*eS*		**Sg**	**22 55 39.6**	**-0.3**
KSRS	**Korea Array**	**4.92**	**128**	Pn		**Pn**	**22 54 41.0**	**+1.3**
	comp=E,6.9nm,0.3s,baz=312,slow=14,SNR=52							
KSRS				Lg			22 56 03.8	
	comp=E,79nm,0.3s,baz=313,slow=29,SNR=15							
KSRS				LR		LR	22 56 32.7	
	comp=E,256nm,21.2s,baz=315,slow=38							
KSRS	**Korea Array**	**4.92**	**128**	P		**Pn**	**22 54 41.0**	**+1.3**
KSRS				pmax	pmax			
	comp=Z,7.0nm,0.3s							
KSRS				MLR	MLR			
	comp=Z,256nm,21.2s							
BJT	**Baijiatuau**	**5.29**	**266**	*eP*		**Pn**	**22 54 44.0**	**-0.8**
BJT				*eS*		**Sg**	**22 56 09.2**	**-6.5**
BJT	**Baijiatuau**	**5.29**	**266**	*eP*		**Pn**	**22 54 44.0**	**-0.8**
MDJ	**Mudanjiang**	**6.28**	**48**	Pn		**Pn**	**22 54 59.5**	**+1.2**
MDJ				Sn		**Sn**	**22 56 12.3**	**+2.3**
MDJ				LR		LR		
	comp=N,800nm,6.1s							
MDJ				LR		LR		
	comp=E,1μm,5.9s							
MDJ				LR		LR		
	comp=Z,2μm,6.8s							
MDJ	**Mudanjiang**	**6.28**	**48**	*eP*		**Pn**	**22 55 01.9**	**+3.6**
MDJ				*eS*		**Sg**	**22 56 45.1**	**-2.1**
KLR	**Kul'dur**	**10.60**	**33**	*eP*		**Pn**	**22 56 02.8**	**+5.2**
KLR				*e*			22 58 07.2	
WHN	**Wuhan**	**12.27**	**218**	P		**Pn**	**22 56 25.0**	**+4.5**
WHN				S		**Sn**	**22 58 42.1**	**+4.7**
WHN				LR		LR		
	comp=N,1μm,4.4s							
WH

GTA LR LR
comp=E,310nm,12.3s
GTA LR LR
comp=Z,190nm,13.3s
YAK Yakutsk 21.84 8 *e*P **P** **22 58 17.4 -0.6**
YAK *e**PP 22 58 24.4
YAK *e*PPP 22 58 48.8
YAK *e*S **S** **23 02 20.4 +1.4**
YAK *e*SSS 23 02 54.2
YAK pmax pmax
comp=Z,38nm,1.0s,mb4.8
YAK pmax pmax
comp=N,23nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK pmax pmax
comp=Z,8.0nm,0.6s,mb4.3
YAK smax
comp=E,44nm,9.8s
YAK smax
comp=N,26nm,8.6s
YAK MLR MLR
comp=Z,126nm,10.0s,MS3.6
YAK MLR MLR
comp=N,96nm,10.0s,MS3.6
YAK MLR MLR
comp=E,62nm,11.0s,MS3.6
ZALV Zalesovo Beam 28.79 311 P **P** **22 59 23.6 +0.1**
comp=E,0.9nm,0.5s,mb3.7,baz=96,slow=7.4,SNR=7.0
ZALV PcP PcP 23 02 32.0 -1.1
comp=E,0.5nm,0.6s,baz=120,slow=2.3,SNR=3.6
ZALV LR LR 23 10 47.3
comp=E,55nm,19.6s,MS3.2,baz=62,slow=36
ZALV Zalesovo Beam 28.79 311 P **P** **22 59 23.6 +0.1**
ZALV PcP PcP 23 02 32.0 -1.1
ZALV LR LR 23 10 47.2
ZALV Zalesovo Beam 28.79 311 P **P** **22 59 23.6 +0.1**
ZALV 23 02 32.0
ZALV pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
ZALV MLR MLR
comp=Z,55nm,19.6s,MS3.2
MK31 Makanchi Array 29.86 296 *e*P **P** **22 59 31.7 -1.4**
MK31 Makanchi Array 29.86 296 *i* P **P** **22 59 33.1 0.0**
MK31 pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
MKAR Makanchi Array 29.86 296 P **P** **22 59 33.5 +0.5**
comp=Z,1.3nm,0.8s,mb3.7,baz=93,slow=10,SNR=11
MKAR LR LR 23 10 37.5
comp=Z,63nm,18.3s,MS3.3,baz=346,slow=35
MKAR Makanchi Array 29.86 296 P **P** **22 59 33.5 +0.5**
MKAR LR LR 23 10 37.5
MKAR Makanchi Array 29.86 296 P **P** **22 59 33.6 +0.5**
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR MLR MLR
comp=Z,63nm,18.3s
CMAR Chiang Mai Arr 30.26 230 LR LR 23 13 23.7
comp=Z,30nm,20.2s,MS2.9,baz=50,slow=40
KURK Kurchatov 32.22 303 P **P** **22 59 52.5 -1.3**
comp=Z,3.4nm,0.7s,mb4.3,baz=90,slow=9.5,SNR=23
KURK LR LR 23 13 35.4
comp=Z,142nm,21.1s,MS3.6,baz=85,slow=38
KURK Kurchatov 32.22 303 *e*P **P** **22 59 54.0 +0.2**
comp=Z,3.5nm,0.8s,mb4.2
KURK Kurchatov 32.22 303 *c i*P **P** **22 59 54.1 +0.3**
KURK pmax pmax
comp=Z,6.0nm,1.7s,mb4.2
TKM2 Tokmak 2 35.11 290 *e*P **P** **23 00 18.9 -0.3**
comp=Z,4.4nm,0.9s,mb4.4
TKM2 Tokmak 2 35.11 290 *i* P **P** **23 00 19.4 +0.3**
TKM2 pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BILL Bilibino 35.97 26⇓ *e*P **P** **23 00 27.3 +1.1**
BILL *e* 23 02 46.2
BILL pmax pmax
comp=Z,22nm,2.5s,mb4.6
BRVK Borovoye 37.35 308 *e*P **P** **23 00 38.2 0.0**
comp=Z,6.6nm,0.9s,mb4.5
BRVK Borovoye 37.35 308 *d i*P **P** **23 00 38.2 0.0**
BRVK pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
KK31 Karatay Array 38.69 292 *i* P **P** **23 00 50.1 +0.5**
SVE Sverdlovsk 42.67 314 *e*P **P** **23 01 22.5 +0.3**
SVE pmax pmax
comp=Z,13nm,0.9s,mb4.7
PSI Prapat 43.48 216 P **P** **23 01 29.4 +0.1**
comp=Z,2.2nm,0.4s,mb4.2,baz=108,slow=9.6,SNR=3.8
PSI Prapat 43.48 216 P **P** **23 01 29.4 +0.1**
PSI Prapat 43.48 216 P **P** **23 01 29.4 +0.1**
PSI pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
ARU Arti 43.85 314 *e*P **P** **23 01 31.6 -0.2**
comp=Z,6.5nm,0.6s,mb4.5
ARU Arti 43.85 314 *d i*P **P** **23 01 31.8 0.0**
ARU *e* 23 03 12.3
ARU S **S** **23 07 58.1 -4.4**
ARU SS SS 23 11 05.8 -12
ARU pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
AB31 Akbulak array 44.33 303 *c e*P **P** **23 01 35.6 -0.1**
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
ABKAR Akbulak array 44.33 303 *e*P **P** **23 01 35.6 -0.1**
comp=Z,3.9nm,0.7s,mb4.2
SOKR Solikamsk 44.44 318 *e*P **P** **23 01 36.3 -0.1**
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
AKTK Aktyubinsk 45.26 305 P **P** **23 01 42.5 -0.6**
AKTO Aktyubinsk 45.26 305 P **P** **23 01 42.5 -0.6**
comp=Z,2.0nm,0.7s,mb4.0,baz=85,slow=11,SNR=6.2
AKTO Aktyubinsk 45.26 305 P **P** **23 01 42.5 -0.6**
AKTO pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
KLMR Klimovskoe 52.61 322 *e*P **P** **23 02 34.8 -4.5**
KLMR pmax pmax
comp=Z,28nm,1.8s,mb4.9
COLA College 53.75 32 *e*P **P** **23 02 49.4 +1.7**
comp=Z,12nm,0.9s,mb4.8
COLA College 53.75 32 *e*P **P** **23 02 49.4 +1.7**
COLA pmax pmax
comp=Z,12nm,0.9s,mb4.8
ILAR Eielson Array 54.17 32 P **P** **23 02 51.6 +0.9**
comp=Z,4.3nm,0.8s,mb4.4,baz=284,slow=6.5,SNR=54
ILAR LR LR 23 31 49.0
comp=Z,33nm,18.1s,MS3.4,baz=328,slow=42
ILAR Eielson Array 54.17 32 P **P** **23 02 51.6 +0.9**
ILAR LR LR 23 31 49.0
ILAR Eielson Array 54.17 32 P **P** **23 02 51.7 +0.9**
ILAR pmax pmax
comp=Z,4.0nm,0.8s
ILAR MLR MLR
comp=Z,33nm,18.1s
KEV Kevo 54.57 335 *e*P **P** **23 02 52.5 -1.1**
KEV pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
KEV Kevo 54.57 335 *e*p **P** **23 02 52.5 -1.1**
comp=Z,6.3nm,0.6s,mb4.8
ARCES ARCESS Array B 55.14 335 P **P** **23 02 56.4 -1.3**
comp=Z,3.8nm,0.8s,mb4.5,baz=67,slow=9.3,SNR=9.7
ARCES LR LR 23 29 27.5
comp=Z,93nm,18.0s,MS3.9,baz=68,slow=39
ARCES ARCESS Array B 55.14 335 P **P** **23 02 56.4 -1.3**
ARCES LR LR 23 29 27.6
ARCES ARCESS Array B 55.14 335 P **P** **23 02 56.4 -1.3**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES MLR MLR
comp=Z,93nm,18.0s
JOF Joensuu 55.55 326 *e*P **P** **23 02 59.4 -1.3**
JOF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
JOF Joensuu 55.55 326 *e*p **P** **23 02 59.4 -1.3**
comp=Z,8.6nm,0.8s,mb4.8
DOT Dot Lake 55.74 33 *e*P **P** **23 03 02.8 +0.7**
comp=Z,19nm,0.7s,mb5.2
OBN Obninsk 56.12 316⇑ *e*P **P** **23 03 03.7 -1.3**
OBN *e* 23 04 04.5
OBN pmax pmax
comp=Z,19nm,1.7s,mb4.8
VSR Storozhevoye 56.29 311 *e*P **P** **23 03 05.7 -0.5**
VSR pmax pmax
comp=N,1.0nm,0.6s
VSR pmax pmax
comp=E,5.0nm,0.6s
VSR pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
ZEI Tsey 57.04 300 *e*P **P** **23 03 10.1 -1.6**
ZEI pmax pmax
comp=Z,7.0nm,1.4s,mb4.5
KIV Kislovodsk 57.29 302 *e*P **P** **23 03 13.5 0.0**
KIV pmax pmax
comp=Z,12nm,0.9s,mb4.9
KIV MLR MLR
comp=Z,34nm,17.0s,MS3.5
INK Inuvik 57.59 25 P **P** **23 03 16.4 +1.2**
comp=Z,3.3nm,1.0s,mb4.3,baz=313,slow=5.8,SNR=6.7
INK Inuvik 57.59 25 P **P** **23 03 16.4 +1.2**
INK Inuvik 57.59 25 P **P** **23 03 16.4 +1.2**
INK pmax pmax
comp=Z,3.0nm,1.0s
KAF Kangasniemi 57.99 327 *e*P **P** **23 03 17.2 -0.9**
KAF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
KAF Kangasniemi 57.99 327 *ep* **P** **23 03 17.2 -0.9**
comp=Z,5.7nm,0.8s,mb4.7
FINES FINESS Array B 58.40 326 P **P** **23 03 21.1 +0.1**
comp=Z,8.6nm,0.8s,mb4.8,baz=70,slow=6.0,SNR=28
FINES LR LR 23 30 53.9
comp=Z,91nm,18.6s,MS3.9,baz=317,slow=38
FINES FINESS Array B 58.40 326 P **P** **23 03 21.1 +0.1**
FINES LR LR 23 30 53.9
FINES FINESS Array B 58.40 326 P **P** **23 03 21.1 +0.2**
FINES pmax pmax
comp=Z,9.0nm,0.8s
FINES MLR MLR
comp=Z,91nm,18.6s
WRA Warramunga Arr 61.14 168 P **P** **23 03 38.7 -1.4**
comp=Z,1.8nm,1.0s,mb4.2,baz=352,slow=7.3,SNR=6.2
WRA Warramunga Arr 61.14 168 P **P** **23 03 38.7 -1.4**
WRA Warramunga Arr 61.14 168 P **P** **23 03 38.7 -1.5**
WRA pmax pmax
comp=Z,2.0nm,1.0s
AKASG Malin Array Be 62.10 314 P **P** **23 03 46.0 -0.5**
comp=Z,1.8nm,0.5s,mb4.5,baz=52,slow=6.7,SNR=12
AKASG Malin Array Be 62.10 314 P **P** **23 03 46.0 -0.5**
AKASG Malin Array Be 62.10 314 P **P** **23 03 46.0 -0.5**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
HFS Hagfors 64.22 328 LR LR 23 36 33.3
comp=Z,55nm,19.2s,MS3.8,baz=256,slow=40
NOA NORSAR Array B 64.63 330 P **P** **23 04 02.7 -0.3**
comp=Z,2.3nm,0.8s,mb4.2,baz=53,slow=6.6,SNR=6.7
NOA LR LR 23 32 50.2
comp=Z,32nm,19.0s,MS3.5,baz=125,slow=37
NOA NORSAR Array B 64.63 330 P **P** **23 04 02.7 -0.3**
NOA LR LR 23 32 50.2
NOA NORSAR Array B 64.63 330 P **P** **23 04 02.7 -0.4**
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA MLR MLR
comp=Z,32nm,19.0s
ASAR Alice Springs 64.72 169 P **P** **23 04 03.8 -0.3**
comp=Z,1.2nm,1.0s,mb3.9,baz=1.9,slow=5.2,SNR=7.0
ASAR Alice Springs 64.72 169 P **P** **23 04 03.8 -0.3**
ASAR Alice Springs 64.72 169 P **P** **23 04 03.8 -0.2**
ASAR pmax pmax
comp=Z,1.0nm,1.0s
BR131 Keskin Array S 65.25 302 *e*P **P** **23 04 06.9 -0.5**
comp=Z,1.4nm,0.6s,mb4.2
BRTR Keskin Array B 65.25 302 P **P** **23 04 07.3 -0.1**
comp=Z,2.5nm,0.7s,mb4.3,baz=82,slow=5.5,SNR=18
BRTR LR LR 23 33 31.0
comp=Z,75nm,18.5s,MS3.9,baz=232,slow=37
BRTR Keskin Array B 65.25 302 P **P** **23 04 07.3 -0.1**
BRTR LR LR 23 33 31.0
BRTR Keskin Array B 65.25 302 P **P** **23 04 07.4 -0.1**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BRTR MLR MLR
comp=Z,75nm,18.5s
TLCR 65.26 309⇑ *i*P **P** **23 04 07.3 -0.1**
TLCR 65.26 309⇑ *i*P **P** **23 04 07.3 -0.1**
TESR 65.79 311⇑ *i*P **P** **23 04 09.6 -1.2**
BUR08 Bucovina Ar. S 65.97 313 *e*P **P** **23 04 12.0 +0.1**
BURAR Bucovina Array 65.98 313⇓ P **P** **23 04 12.0 0.0**
BURAR Bucovina Array 65.98 313⇓ *i*P **P** **23 04 12.0 0.0**
VRI Vrincioaia 66.10 311⇓ P **P** **23 04 13.3 +0.5**
VRI Vrincioaia 66.10 311⇓ *i*P **P** **23 04 13.3 +0.5**
PLOR Plostina 66.16 311⇓ P **P** **23 04 13.5 +0.3**
PLOR Plostina 66.16 311⇓ *i*P **P** **23 04 13.5 +0.3**
KWP Kalwaria Pacla 66.20 316 *e*P **P** **23 04 13.8 +0.5**
comp=Z,10nm,0.7s,mb5.0
KWP Kalwaria Pacla 66.20 316 *e*P **P** **23 04 13.9 +0.5**
KWP pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
KWP Kalwaria Pacla 66.20 316⇑ *i*P **P** **23 04 14.0 +0.6**
MLR Muntele Rosu 66.77 311⇑ P **P** **23 04 17.3 +0.2**
MLR Muntele Rosu 66.77 311⇑ *i*P **P** **23 04 17.3 +0.2**
TRPA Tarpa 67.16 314⇓ *i*P **P** **23 04 20.1 +0.5**
VOIR 67.31 311⇑ P **P** **23 04 20.7 +0.1**
VOIR 67.31 311⇑ *i*P **P** **23 04 20.7 +0.1**
YKA Yellowknife Ar 67.36 25 P **P** **23 04 21.6 +1.0**
comp=Z,3.3nm,0.9s,mb4.4,baz=328,slow=6.6,SNR=4.6
YKA Yellowknife Ar 67.36 25 P **P** **23 04 21.6 +1.0**
YKA Yellowknife Ar 67.36 25 P **P** **23 04 21.6 +1.0**
YKA pmax pmax
comp=Z,3.0nm,0.9s
OJC Ojcow 67.38 317 *e*P **P** **23 04 21.3 +0.4**
OJC Ojcow 67.38 317 *e*P **P** **23 04 21.3 +0.4**
NIE Niedzica 67.59 316 *e*P **P** **23 04 23.4 +1.2**
NIE Niedzica 67.59 316 *e*P **P** **23 04 23.4 +1.2**
DRGR 67.85 313⇓ P **P** **23 04 23.4 -0.5**
DRGR 67.85 313⇓ *i*P **P** **23 04 23.4 -0.5**
MORC Moravsky Berou 68.81 318⇓ P **P** **23 04 30.5 +0.6**
MORC Moravsky Berou 68.81 318⇓ *i*P **P** **23 04 30.5 +0.6**
VYHS Vyhne 68.92 316 *e*P **P** **23 04 31.5 +0.9**
VYHS pmax pmax
comp=Z,4.0nm,1.6s,mb4.1
VYHS Vyhne 68.92 316 *e*P **P** **23 04 31.5 +0.9**
DPC Dobruska-Polom 69.07 319 *e*P **P** **23 04 32.5 +1.0**
DPC Dobruska-Polom 69.07 319 *e*P **P** **23 04 32.5 +1.0**
BZS Buzias 69.16 313⇑ P **P** **23 04 32.2 +0.1**
BZS Buzias 69.16 313⇑ *i*P **P** **23 04 32.2 +0.1**
VTS Vitosha 70.06 309⇑ P **P** **23 04 37.7 -0.1**
VTS Vitosha 70.06 309⇑ *i*P **P** **23 04 37.7 -0.1**
CLL Collm 70.08 321 *e*P **P** **23 04 38.0 +0.3**
CLL Collm 70.08 321 *e*P **P** **23 04 38.0 +0.3**
PKSM Moragy 70.44 314⇑ P **P** **23 04 40.2 +0.2**
PKSM Moragy 70.44 314⇑ *i*P **P** **23 04 40.2 +0.2**
KHC Kasperske Hory 71.22 319 *e*P **P** **23 04 45.8 +1.1**
KHC Kasperske Hory 71.22 319 *e*P **P** **23 04 45.8 +1.1**
GERES GERESS Array B 71.34 319 P **P** **23 04 45.7 +0.2**
comp=Z,0.9nm,0.9s,mb3.7,baz=39,slow=6.8,SNR=5.0
GERES LR LR 23 38 00.4
comp=Z,38nm,18.5s,MS3.7,baz=105,slow=38
GERES GERESS Array B 71.34 319 P **P** **23 04 45.7 +0.2**
GERES LR LR 23 38 00.4
GERES GERESS Array B 71.34 319 P **P** **23 04 45.7 +0.3**
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES MLR MLR
comp=Z,38nm,18.5s
NWAO Narrogin (SRO) 73.36 185 LR LR 23 37 46.1
comp=Z,34nm,19.7s,MS3.6,baz=150,slow=36
STKA Stephens Creek 74.12 164 P **P** **23 05 02.6 +0.6**
comp=Z,1.9nm,0.6s,mb4.2,baz=320,slow=6.0,SNR=3.9
STKA Stephens Creek 74.12 164 P **P** **23 05 02.6 +0.6**
STKA Stephens Creek 74.12 164 P **P** **23 05 02.6 +0.6**
ESDC Sonseca Array 86.65 322 P **P** **23 06 09.4 -0.1**
comp=Z,0.6nm,0.7s,mb4.0,baz=19,slow=4.9,SNR=4.4
ESDC Sonseca Array 86.65 322 P **P** **23 06 09.4 -0.1**

IDC 13 23:26:50.4±8.5, 18°.61N×94°.65E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.2/25, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=173.6km s-min=36.0km az=26.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**4.08**	**91**	Pn	Pn	23 27 54.0	0.0
	0.6nm,0.3s,baz=240,slow=17,SNR=2.5						
MKAR	**Makanchi Array**	**29.89**	**343**	P	P	23 32 57.9	-1.8
	1.1nm,1.0s,baz=156,slow=11,SNR=4.1						
SONM	**Songino Array**	**30.69**	**16**	P	P	23 33 06.6	-0.1
	0.3nm,0.6s,baz=193,slow=12,SNR=5.7						
KURK	**Kurchatov**	**34.48**	**342**	P	P	23 33 39.7	-0.2
	3.6nm,0.3s,baz=154,slow=8.9,SNR=3.2						
ZALV	**Zalesovo Beam**	**36.08**	**350**	P	P	23 33 55.3	+1.6
	0.3nm,0.3s,baz=170,slow=10,SNR=4.2						

DDA ***13*** *23:27:37.7, 38°.55N×44°.66E, h4km±3km, Ml3.4*
ISCJB ***13*** *23:27:39.8±0.3, 38°.59N±0°.03×44°.60E±0°.03, h10km, Error ellipse: s-maj=3.9km s-min=2.9km az=23.4*
ISK ***13*** *23:27:39.3, 38°.55N×44°.43E, h5km, MD3.5*
CSEM ***13*** *23:27:40.2±0.6, 38°.53N×44°.48E, h2km, MD3.5, Error ellipse: s-maj=13.1km s-min=6.7km az=98.0*
TEH ***13*** *23:27:42.3, 38°.67N×44°.71E, h6km*

ISC 13 23:27:40.7±0.3, 38°.56N±0°.03×44°.59E±0°.03, h10km, n43, σ1°26/62, 1C-1D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLDR	**Calciran**	**0.79**	**318**	*e*Pg	**Pg**	**23 27 52.3**	**-3.5**
CLDR				*e*Sg	**Sg**	**23 28 05.5**	**-0.6**
ISHB	**Shabestar**	**0.85**	**108**⇓	*e*Pg	**Pg**	**23 27 56.6**	**-0.5**
ISHB				*e*Sg	**Sg**	**23 28 08.0**	**-0.2**
ISHB				*e*		23 28 14.4	
	comp=Z,27μm,0.2s						
IMRD	**Marand**	**0.89**	**79**	*e*Pg	**Pg**	**23 27 57.0**	**-0.8**
IMRD				*e*		23 28 16.7	
	comp=Z,33μm,0.2s						
TVAN	**Van**	**0.93**	**269**	*e*P	**Pg**	**23 27 55.2**	**-3.4**
TVAN				*e*S	**Sg**	**23 28 09.9**	**-0.7**
TVAN	**Van**	**0.93**	**269**	*e*P	**Pg**	**23 27 55.2**	**-3.3**
TVAN				*e*S	**Sg**	**23 28 09.9**	**-0.7**
VANT	**Van**	**1.05**	**263**	*e*PG	**Pg**	**23 27 58.4**	**-2.4**
VANT	**Van**	**1.05**	**263**	*e*Pg	**Pg**	**23 27 58.4**	**-2.4**
DYDN	**Diyadin**	**1.21**	**325**	*e*P	**Pn**	**23 28 02.0**	**-1.7**
DYDN				*e*S	**Sb**	**23 28 19.8**	**+0.4**
DYDN	**Diyadin**	**1.21**	**325**	*e*P	**Pn**	**23 28 02.0**	**-1.7**
DYDN				*e*S	**Sb**	**23 28 19.8**	**+0.5**
HAKT	**HAKKARI**	**1.22**	**215**⇑	*i*P	**Pn**	**23 28 01.1**	**-2.6**
HAKT				*i* S	**Sb**	**23 28 19.9**	**+0.4**
HAKT	**HAKKARI**	**1.22**	**215**	*i* P	**Pn**	**23 28 01.1**	**-2.6**
HAKT				*i* S	**Sb**	**23 28 19.9**	**+0.4**
ITBZ	**Tabriz**	**1.27**	**104**	*e*	**Sn**	**23 28 28.8**	**+7.3**
	comp=Z,4μm,0.1s						
ITBZ				*e*Pg	**Pg**	**23 28 03.7**	**-1.3**
IAZR	**Azarshahr**	**1.41**	**128**	*e*	**Pn**	**23 28 13.8**	**+7.5**
	comp=Z,12μm,0.2s						
IAZR				*e*Pg	**Pg**	**23 28 06.2**	**-1.5**
CUKT	**Cukurca**	**1.52**	**211**	*e*PN	**Pn**	**23 28 07.6**	**-0.3**
CUKT				*e*SN	**Sn**	**23 28 28.5**	**+0.8**
CUKT	**Cukurca**	**1.52**	**211**	*e*Pn	**Pn**	**23 28 07.6**	**-0.3**
CUKT				*e*Sn	**Sn**	**23 28 28.5**	**+0.8**
IFTB	**Fath-abad**	**1.52**	**110**	*e*Pg	**Pg**	**23 28 09.0**	**-0.9**
GNI	**Garni**	**1.60**	**4**	*e*PN	**Pn**	**23 28 11.0**	**+2.0**
GNI	**Garni**	**1.60**	**4**	*e*Pn	**Pn**	**23 28 11.0**	**+2.0**
AGRB	**Hanur-Agry**	**1.61**	**310**	*e*PN	**Pn**	**23 28 08.6**	**-0.6**
AGRB	**Hanur-Agry**	**1.61**	**310**	*e*Pn	**Pn**	**23 28 08.6**	**-0.5**
TUTA	**Tutak**	**1.62**	**302**	*e*P	**Pn**	**23 28 09.2**	**-0.1**
TUTA				*e*S	**Sg**	**23 28 33.4**	**+0.6**
TUTA	**Tutak**	**1.62**	**302**	*e*P	**Pn**	**23 28 09.2**	**-0.1**
TUTA				*e*S	**Sg**	**23 28 33.4**	**+0.6**
TATV	**Tatvan**	**1.82**	**269**	*e*P	**Pn**	**23 28 12.6**	**+0.6**
TATV				*e*S	**Sg**	**23 28 39.1**	**-0.1**
TATV	**Tatvan**	**1.82**	**269**	*e*P	**Pn**	**23 28 12.6**	**+0.5**
TATV				*e*S	**Sg**	**23 28 39.1**	**-0.1**
IHRS	**Heris**	**1.94**	**96**	*e*Pn	**Pn**	**23 28 14.8**	**+1.1**
IHRS				*e*		23 28 19.7	
	comp=Z,6μm,0.4s						
IBST	**Bostanabad**	**2.01**	**114**	*e*Pn	**Pn**	**23 28 16.1**	**+1.5**
IBST				*e*		23 28 53.0	
	comp=Z,2μm,0.3s						
DIGO	**Kars**	**2.08**	**334**	*e*P	**Pn**	**23 28 17.2**	**+1.6**
DIGO				*e*S	**Sg**	**23 28 51.8**	**+4.3**
DIGO	**Kars**	**2.08**	**334**	*e*P	**Pn**	**23 28 17.2**	**+1.6**
ISRB	**Sarab**	**2.53**	**106**	*e*Pn	**Pn**	**23 28 23.4**	**+1.5**
ISRB				*e*		23 28 38.0	
	comp=Z,1μm,0.2s						
BEST	**Besiri**	**2.70**	**257**	*e*P	**Pn**	**23 28 26.3**	**+2.2**
BEST				*e*S	**Sn**	**23 29 04.7**	**+7.9**
EZM	**Erzurum**	**2.84**	**299**	*e*PN	**Pn**	**23 28 26.2**	**0.0**
DGRG	**David-gareji**	**2.95**	**12**	P	**Pg**	**23 28 36.2**	**-1.1**
DGRG				S	**Sn**	**23 29 00.0**	**-3.1**
AKH	**Akhalkalaki**	**2.97**	**344**	P	**Pg**	**23 28 36.8**	**-0.8**
MTA	**Mtatsminda**	**3.14**	**3**	P	**Pg**	**23 28 42.9**	**+2.1**
MTA				S	**Sn**	**23 29 00.0**	**-7.7**
TBLG	**Delisi**	**3.17**	**2**	P	**Pg**	**23 28 42.7**	**+1.2**
BINT	**Bingol**	**3.22**	**277**	*e*PN	**Pn**	**23 28 31.3**	**0.0**
BINT	**Bingol**	**3.22**	**277**	*e*Pn	**Pn**	**23 28 31.3**	**0.0**
PTK	**Pertek**	**4.08**	**276**	*e*PN	**Pn**	**23 28 43.5**	**+0.4**
PTK	**Pertek**	**4.08**	**276**	*e*Pn	**Pn**	**23 28 43.5**	**+0.4**
IDHR	**Dehrash**	**4.11**	**159**	*e*Pn	**Pn**	**23 28 46.6**	**+3.0**
IDHR				*e*		23 29 17.9	
	comp=Z,272nm,0.3s						
SVRC	**Sivrice-ELAZID**	**4.15**	**269**	*e*PN	**Pn**	**23 28 44.4**	**+0.3**
SVRC	**Sivrice-ELAZID**	**4.15**	**269**	*e*Pn	**Pn**	**23 28 44.4**	**+0.3**
BHD	**Baghdad**	**5.28**	**182**	*ex*	x	23 29 27.0	
BHD				*ex*	x	23 30 50.0	

NEIC ***13*** *23:31:08.1, 19°.61N×66°.35W, h36km, MD3.6(RSPR), After RSPR.*

RSPR 13 23:31:08.1, 19°.61N×66°.35W, h35km±26km, MD3.6/14, 16C-10D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AOPR	**Arecibo Observ**	**1.31**	**197**⇑	*e*P	Pn	23 31 28.5	-1.4
AOPR	**Arecibo Observ**	**1.31**	**197**⇑	*e*P	Pn	23 31 28.5	-1.4
AOPR				*e*S	Sn	23 31 44.9	-1.3
AGPR	**Aguadilla, PR**	**1.34**	**213**⇑	*e*P	Pn	23 31 29.9	-0.5
AGPR	**Aguadilla, PR**	**1.34**	**213**⇑	*e*P	Pn	23 31 29.9	-0.5
LRS	**Lares**	**1.39**	**200**⇑	*i*P	Pn	23 31 29.4	-1.6
LRS	**Lares**	**1.39**	**200**⇑	*i*P	Pn	23 31 29.4	-1.6
CBYP	**Canovanas**	**1.41**	**161**⇑	*e*P	Pn	23 31 30.7	-0.5
CBYP	**Canovanas**	**1.41**	**161**⇑	*e*P	Pn	23 31 30.7	-0.5
CBYP				*e*S	Sn	23 31 47.0	-1.5
SJG	**San Juan**	**1.50**	**173**⇓	*e*P	Pn	23 31 31.0	-1.6
SJG	**San Juan**	**1.50**	**173**⇓	*e*P	Pn	23 31 31.0	-1.5
SJG				*e*S	Sn	23 31 49.4	-1.4
SJG	**San Juan**	**1.50**	**173**⇓	*e*P	Pn	23 31 31.0	-1.6
SJG				*e*S	Sn	23 31 49.5	-1.3
HUMP	**Col San Antoni**	**1.53**	**162**⇓	*e*P	Pn	23 31 31.4	-1.5
HUMP	**Col San Antoni**	**1.53**	**162**⇓	*e*P	Pn	23 31 31.4	-1.5
HUMP				*e*S	Sn	23 31 50.5	-1.1
CELP	**Cerrillos**	**1.54**	**188**⇓	*i*P	Pn	23 31 31.7	-1.4
CELP	**Cerrillos**	**1.54**	**188**⇓	*i*P	Pn	23 31 31.7	-1.4
OBIP	**Obispado Ponce**	**1.57**	**189**⇑	*e*P	Pn	23 31 32.3	-1.3
OBIP	**Obispado Ponce**	**1.57**	**189**⇑	*e*P	Pn	23 31 32.3	-1.3
OBIP				*e*S	Sn	23 31 51.6	-1.1
LSP	**Las Mesas**	**1.58**	**206**⇑	*i*P	Pn	23 31 33.0	-0.7
LSP				*e*S	Sn	23 31 52.3	-0.7
LSP	**Las Mesas**	**1.58**	**206**⇑	*i*P	Pn	23 31 33.0	-0.7
LSP				*e*S	Sn	23 31 52.3	-0.7
MTP	**Monte Pirata**	**1.68**	**153**⇑	*e*P	Pn	23 31 33.9	-1.1
MTP	**Monte Pirata**	**1.68**	**153**⇑	*e*P	Pn	23 31 33.9	-1.1
MTP				*e*S	Sn	23 31 54.3	-0.9
GBPR	**Guanica, Bosqu**	**1.70**	**197**⇓	*e*P	Pn	23 31 34.8	-0.5
ICM	**Isla Caja Muer**	**1.71**	**186**⇑	*e*P	Pn	23 31 34.4	-1.1
ICM	**Isla Caja Muer**	**1.71**	**186**⇑	*e*P	Pn	23 31 34.4	-1.1
ICM				*e*S	Sn	23 31 55.3	-0.8
STVI	**Saint Thomas**	**1.81**	**133**⇓	*e*P	Pn	23 31 36.4	-0.5
STVI	**Saint Thomas**	**1.81**	**133**⇓	*e*P	Pn	23 31 36.4	-0.5
TBVI	**Tortola**	**2.02**	**126**⇑	*e*P	Pn	23 31 39.3	-0.4
TBVI	**Tortola**	**2.02**	**126**⇑	*e*P	Pn	23 31 39.3	-0.4
SDDR	**Presa de Saban**	**4.71**	**263**	*e*Pn	Pn	23 32 18.9	+2.2
SDDR				*e*Sn	Sn	23 33 10.0	-0.1

ISCJB ***13*** *23:41:19.1±1.0, 14°.06N±0°.05×43°.06E±0°.06, h10km, Error ellipse: s-maj=9.9km s-min=4.6km az=136.8*
CSEM ***13*** *23:41:19.2±0.6, 14°.05N×43°.09E, h2km, ML3.9, Error ellipse: s-maj=13.2km s-min=5.7km az=44.0*
SGS ***13*** *23:41:21.0, 13°.87N×42°.85E, h21km*
DHMR ***13*** *23:41:21.4±1.0, 14°.07N×43°.24E, h18km±4km, ML3.7*

ISC 13 23:41:20.1±1.0, 14°.07N±0°.05×43°.09E±0°.05, h10km, n27, σ1°11/47, 7C-2D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UDYN	**Al 'Udayn**	**0.86**	**97**	*i* P	**Pg**	**23 41 35.4**	**-1.2**
UDYN				*i* S	**Sg**	**23 41 45.9**	**-1.9**
UDYN				AML	AML	23 41 46.7	
	comp=Z,2μm,0.3s						
UDYN	**Al 'Udayn**	**0.86**	**97**	⇓*i*P	**Pg**	**23 41 35.4**	**-1.2**

UDYN				*i* S		**Sg**	**23 41 45.9**	**-1.8**
DHBB	**Dhamar BB**	**1.35**	**68**	*i* P		**Pn**	**23 41 44.3**	**-0.7**
DHBB				*i* S		**Sb**	**23 42 01.4**	**-1.5**
DHBB	**Dhamar BB**	**1.35**	**68**	⇑*i*P		**Pn**	**23 41 44.8**	**-0.2**
DHBB				*i* S		**Sb**	**23 42 01.9**	**-1.0**
DHBB	**Dhamar BB**	**1.35**	**68**	⇑*i*P		**Pn**	**23 41 44.8**	**-0.2**
DHBB				*i* S		**Sb**	**23 42 01.9**	**-1.0**
HAJJ	**Hajjah**	**1.69**	**17**	*i* P		**Pn**	**23 41 49.9**	**+0.2**
HAJJ				*i* S		**Sn**	**23 42 13.5**	**+2.1**
HAJJ				AML		AML	23 42 24.3	
	comp=E,1μm,0.4s							
HAJJ	**Hajjah**	**1.69**	**17**	⇑*i*P		**Pn**	**23 41 50.0**	**+0.3**
HAJJ				*i* S		**Sn**	**23 42 13.3**	**+1.9**
HAJJ				AML		AML	23 42 24.2	
	comp=Z,2μm,0.5s							
HAJJ	**Hajjah**	**1.69**	**17**	⇑*i*P		**Pn**	**23 41 50.0**	**+0.3**
HAJJ				*i* S		**Sn**	**23 42 13.3**	**+1.9**
	comp=Z,1μm,0.5s							
SANA	**San'a**	**1.69**	**39**	*i* P		**Pn**	**23 41 50.1**	**+0.3**
SANA				*i* S		**Sn**	**23 42 11.9**	**+0.5**
SANA				AML		AML	23 42 16.7	
	comp=N,818nm,0.2s							
SANA	**San'a**	**1.69**	**39**	⇑*i*P		**Pn**	**23 41 49.9**	**+0.2**
SANA				*i* S		**Sn**	**23 42 12.2**	**+0.7**
SANA				AML		AML	23 42 20.8	
	comp=E,3μm,0.3s							
RADA	**Ahram - Rada'a**	**1.75**	**78**	*i* P		**Pn**	**23 41 48.8**	**-1.7**
RADA				*i* P			23 41 49.6	
LBOS		**2.10**	**95**	*i* P		**Pn**	**23 41 55.5**	**+0.1**
LBOS				*i* S		**Sn**	**23 42 22.3**	**+0.7**
LBOS		**2.10**	**95**	⇓*i*P		**Pn**	**23 41 54.4**	**-1.0**
LBOS				*i* S		**Sn**	**23 42 22.8**	**+1.2**
ADEN	**Aden**	**2.25**	**125**	*i* P		**Pn**	**23 41 58.0**	**+0.7**
ADEN				*i* S		**Sn**	**23 42 26.1**	**+1.1**
ADEN				AML		AML	23 42 27.3	
	comp=N,628nm,0.3s							
ADEN	**Aden**	**2.25**	**125**	*i* P		**Pn**	**23 41 57.7**	**+0.4**
ADEN				*i* S		**Sn**	**23 42 25.6**	**+0.5**
ADEN				AML		AML	23 42 30.7	
	comp=E,693nm,0.3s							
ADEN	**Aden**	**2.25**	**125**	*i* P		**Pn**	**23 41 57.7**	**+0.4**
ADEN				*i* S		**Sn**	**23 42 25.6**	**+0.5**
	comp=E,346nm,0.3s							
BDHA	**Al Bayda'**	**2.40**	**92**	*i* P		**Pn**	**23 42 00.9**	**+1.4**
BDHA				*i* S		**Sn**	**23 42 30.6**	**+1.5**
BDHA				AML		AML	23 42 37.3	
	comp=N,998nm,0.3s							
BDHA	**Al Bayda'**	**2.40**	**92**	⇑*i*P		**Pn**	**23 42 00.3**	**+0.8**
BDHA				*i* S		**Sn**	**23 42 30.9**	**+1.9**
BDHA				AML		AML	23 42 37.4	
	comp=N,998nm,0.3s							
BDHA	**Al Bayda'**	**2.40**	**92**	⇑*i*P		**Pn**	**23 42 00.3**	**+0.8**
BDHA				*i* S		**Sn**	**23 42 31.0**	**+2.0**
	comp=N,499nm,0.3s							
FRSS	**Farasan al Kab**	**2.81**	**341**	P		**Pn**	**23 42 04.8**	**-0.3**
FRSS	**Farasan al Kab**	**2.81**	**341**	P		**Pn**	**23 42 04.8**	**-0.3**
FRSS				S		**Sn**	**23 42 36.6**	**-2.5**
JAZS	**Jizan**	**2.98**	**357**	P		**Pn**	**23 42 07.0**	**-0.5**
JAZS	**Jizan**	**2.98**	**357**	P		**Pn**	**23 42 07.0**	**-0.5**
JAZS				S		**Sn**	**23 42 43.5**	**+0.1**
DJNS	**Zahran al Janu**	**3.64**	**7**	P		**Pn**	**23 42 17.7**	**+1.2**
DJNS	**Zahran al Janu**	**3.64**	**7**	P		**Pn**	**23 42 17.7**	**+1.3**
MUKL	**Al Mukalla**	**5.78**	**85**	*i* S		**Sn**	**23 43 52.5**	**+0.2**
MUKL				AML		AML	23 44 28.1	
	comp=N,48nm,0.6s							
MUKL	**Al Mukalla**	**5.78**	**85**	*i* S		**Sn**	**23 43 51.7**	**-0.5**

*TRN **13** 23:42:32.5, 19.°00N×64.°85W, h51km, M3.4(RSPR)*
*NEIC **13** 23:42:34.1, 18.°91N×64.°78W, h72km, MD3.4(RSPR), After RSPR.*

RSPR 13 23:42:34.1, 18.°91N×64.°78W, h72km±5km, MD3.4/8, 23C-12D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.46**	**113**	⇑*e*P	Pn	23 42 46.3	-0.4
ABV				*e*S	Sn	23 42 55.4	-0.6
ABV	**Anegada**	**0.46**	**113**	⇑*e*P	Pn	23 42 46.3	-0.4
ABV				*e*S	Sn	23 42 55.4	-0.6
TBVI	**Tortola**	**0.52**	**163**	⇓*i*P	Pn	23 42 46.5	-0.7
TBVI				*e*S	Sn	23 42 57.0	+0.1
TBVI	**Tortola**	**0.52**	**163**	⇓*i*P	Pn	23 42 46.5	-0.7
TBVI				*e*S	Sn	23 42 57.0	+0.1
TBVI	**Tortola**	**0.52**	**163**	⇓*i*P	Pn	23 42 46.5	-0.7
TBVI				*e*S	Sn	23 42 57.0	+0.1
STVI	**Saint Thomas**	**0.58**	**197**	⇑*i*P	Pn	23 42 46.9	-1.0
STVI	**Saint Thomas**	**0.58**	**197**	⇑*i*P	Pn	23 42 46.9	-1.0
STVI				*e*S	Sn	23 42 57.6	-0.3
STVI	**Saint Thomas**	**0.58**	**197**	⇑*i*P	Pn	23 42 46.9	-1.0
STVI				*e*S	Sn	23 42 57.6	-0.3
MTP	**Monte Pirata**	**1.09**	**222**	⇑*e*P	Pn	23 42 53.5	-0.3
MTP	**Monte Pirata**	**1.09**	**222**	⇑*e*P	Pn	23 42 53.5	-0.3
MTP				*e*S	Sn	23 43 09.0	+0.4
MTP	**Monte Pirata**	**1.09**	**222**	⇑*e*P	Pn	23 42 53.5	-0.3
MTP				*e*S	Sn	23 43 09.0	+0.4
CBYP	**Canovanas**	**1.20**	**238**	*e*S	Sn	23 43 10.8	-0.4
CBYP	**Canovanas**	**1.20**	**238**	*e*S	Sn	23 43 10.8	-0.4
HUMP	**Col San Antoni**	**1.27**	**233**	⇑*e*P	Pn	23 42 55.2	-1.0
HUMP	**Col San Antoni**	**1.27**	**233**	⇑*e*P	Pn	23 42 55.2	-1.0
HUMP				*e*S	Sn	23 43 12.3	-0.3
HUMP	**Col San Antoni**	**1.27**	**233**	⇑*e*P	Pn	23 42 55.2	-1.0
HUMP				*e*S	Sn	23 43 12.3	-0.3
SJG	**San Juan**	**1.52**	**239**	⇓*e*P	Pn	23 42 58.2	-1.3
SJG	**San Juan**	**1.52**	**239**	⇓*e*P	Pn	23 42 58.2	-1.3
SJG				*e*S	Sn	23 43 17.1	-1.5
SJG	**San Juan**	**1.52**	**239**	⇓*e*P	Pn	23 42 58.2	-1.3
SJG				*e*S	Sn	23 43 18.2	-0.4
SJG	**San Juan**	**1.52**	**239**	⇓*e*P	Pn	23 42 58.2	-1.3
SJG				*e*S	Sn	23 43 17.8	-0.8
SJG				*e*S	Sn	23 43 18.2	-0.4
CELP	**Cerrillos**	**1.90**	**244**	⇑*e*P	Pn	23 43 03.4	-1.1
CELP				*e*S	Sn	23 43 26.5	-1.1
CELP	**Cerrillos**	**1.90**	**244**	⇑*e*P	Pn	23 43 03.4	-1.1
CELP				*e*S	Sn	23 43 26.5	-1.1
CELP	**Cerrillos**	**1.90**	**244**	⇑*e*P	Pn	23 43 03.4	-1.1
CELP				*e*S	Sn	23 43 26.5	-1.1
OBIP	**Obispado Ponce**	**1.94**	**244**	⇑*e*P	Pn	23 43 03.7	-1.2
OBIP	**Obispado Ponce**	**1.94**	**244**	⇑*e*P	Pn	23 43 03.7	-1.2
OBIP				*e*S	Sn	23 43 28.1	-0.4
OBIP	**Obispado Ponce**	**1.94**	**244**	⇑*e*P	Pn	23 43 03.7	-1.2
OBIP				*e*S	Sn	23 43 28.9	+0.5
ICM	**Isla Caja Muer**	**1.94**	**239**	*e*S	Sn	23 43 28.7	+0.2
ICM	**Isla Caja Muer**	**1.94**	**239**	*e*S	Sn	23 43 28.7	+0.2
AOPR	**Arecibo Observ**	**1.96**	**254**	⇓*e*P	Pn	23 43 04.5	-0.7
AOPR	**Arecibo Observ**	**1.96**	**254**	⇓*e*P	Pn	23 43 04.5	-0.7
AOPR				*e*S	Sn	23 43 27.5	-1.4
AOPR	**Arecibo Observ**	**1.96**	**254**	⇓*e*P	Pn	23 43 04.5	-0.8
AOPR				*e*S	Sn	23 43 27.5	-1.4
LRS	**Lares**	**2.05**	**253**	⇓*i*P	Pn	23 43 06.9	+0.4
LRS	**Lares**	**2.05**	**253**	⇓*i*P	Pn	23 43 06.9	+0.4
LRS	**Lares**	**2.05**	**253**	⇓*i*P	Pn	23 43 06.9	+0.4
AGPR	**Aguadilla, PR**	**2.25**	**259**	⇑*e*P	Pn	23 43 08.7	-0.6
AGPR	**Aguadilla, PR**	**2.25**	**259**	⇑*e*P	Pn	23 43 08.7	-0.6
AGPR	**Aguadilla, PR**	**2.25**	**259**	⇑*e*P	Pn	23 43 08.7	-0.6
CRPR	**Cabo Rojo, PR**	**2.39**	**248**	⇑*e*P	Pn	23 43 10.9	-0.2
CRPR	**Cabo Rojo, PR**	**2.39**	**248**	⇑*e*P	Pn	23 43 10.9	-0.2
CRPR	**Cabo Rojo, PR**	**2.39**	**248**	⇑*e*P	Pn	23 43 10.9	-0.2

MEX 14 00:00:41.1±0.5, 15.°74N×96.°63W, h8km±9km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VHO	**Vista Hermosa**	**1.33**	**356**	*i* P	Pn	00 01 02.5	-3.4
VHO				*i* S	Sb	00 01 18.8	-4.7
PNIG	**Pinotepa**	**1.58**	**294**	*i* P	Pn	00 01 05.7	-3.7
PNIG				*i* S	Sn	00 01 25.6	-4.4
CMIG	**Matias Romero**	**2.15**	**51**	*i* P	Pn	00 01 14.2	-3.0
CMIG				*i* S	Sn	00 01 40.1	-4.0
UTMO	**Huajuapan**	**2.36**	**332**	*e*P	Pn	00 01 17.6	-2.6
UTMO				*i* S	Sn	00 01 46.6	-2.8
PCIG		**3.29**	**90**	*e*P	Pn	00 01 29.7	-3.2
TGIG		**3.52**	**72**	*e*P	Pn	00 01 32.7	-3.5
TGIG				*i* S	Sn	00 02 14.6	-3.5

*MOS **14** 00:10:25.7±1.9, 51.°06N×89.°65E, h15km, mb4.2/1, Error ellipse: s-maj=36.1km s-min=24.0km az=101.0*
*NNC **14** 00:10:35.4±2.1, 51.°08N×88.°90E, h22km±13km, mb3.8, mpv3.5, Error ellipse: s-maj=14.9km s-min=11.8km az=60.0*

ISC 14 00:10:32.0±1.6, 51.°12N±0.°07×89.°3E±0.°1, h27km±16km, n13, σ1.°3 13/19, 10C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAR	**Aktash**	**1.33**	**233**	*e*PG	Pn	**00 10 52.3**	**-2.5**
AKAR				*e*		00 11 11.2	
TASR	**Tashtagol**	**1.85**	**333**	*e*PN	Pn	**00 11 03.7**	**+1.6**
TASR				*e*		00 11 29.4	
CERR	**Cheremushki**	**2.18**	**36**	*e*PN	Pn	**00 11 03.7**	**-2.8**
CERR				*e*		00 11 30.9	
ELT	**Yel'tsovka**	**2.84**	**320**	*e*PN	Pn	**00 11 16.0**	**+0.4**
ELT				*e*		00 11 21.2	
ELT				*e*		00 11 58.7	
UKR	**Ust'-Kan**	**2.85**	**268**	*e*PN	Pb	**00 11 21.6**	**-0.6**
UKR				*e*		00 12 03.0	
NVS	**Novosibirsk**	**5.22**	**318**	*e*PN	Pn	**00 11 47.0**	**-1.2**
NVS				*e*		00 12 05.3	
NVS				*e*		00 12 49.5	
NVS				*e*		00 13 14.0	
MK31	**Makanchi Array**	**6.32**	**229**	⇓Pn	Pn	**00 12 04.0**	**+0.6**
	3.4nm,0.6s,baz=58,slow=12,SNR=77						
MK31				⇓Sn	Sn	**00 13 15.3**	**+0.7**
	5.7nm,0.8s,baz=49,slow=23,SNR=4.5						
MK31				⇑Lg		00 13 49.6	
	18nm,0.7s,baz=42,slow=29,SNR=3.9						
KURK	**Kurchatov**	**6.75**	**271**	⇓Pn	Pn	**00 12 10.8**	**+1.5**
	4.0nm,0.7s						
KURK				⇓Lg		00 14 02.6	
	38nm,1.0s						
KURBB	**Kurchatov Arra**	**6.82**	**270**	⇓Pn	Pn	**00 12 10.8**	**+0.5**
	1.6nm,0.9s						
KURBB				⇓Sn	Sn	**00 13 25.2**	**-1.8**
	2.2nm,0.5s						
KURBB				⇑Lg		00 14 04.2	
	8.5nm,0.7s						
VOSK	**Vostochnaya**	**11.41**	**285**	⇑Pn	Pn	**00 13 13.2**	**0.0**
	1.8nm,1.0s						
VOSK				⇑Sn	Sn	**00 15 19.0**	**-0.6**
	4.1nm,1.3s						
BVA0	**Borovoye Array**	**11.78**	**287**	⇑Pn	Pn	**00 13 18.8**	**+0.7**
	0.8nm,1.4s,baz=91,slow=14,SNR=5.9						
BVA0				⇑Sn	Sn	**00 15 29.7**	**+1.2**
	0.5nm,0.9s,baz=98,slow=24,SNR=4.6						
BRVK	**Borovoye**	**11.85**	**287**	⇑Pn	Pn	**00 13 19.8**	**+0.8**
	6.6nm,1.0s						
BRVK				⇑Sn	Sn	**00 15 29.1**	**-1.1**
	6.9nm,1.0s						
ZRNK	**Zerenda**	**12.62**	**286**	⇑Pn	Pn	**00 13 29.5**	**0.0**
	1.8nm,0.9s						
ZRNK				⇑Sn	Sn	**00 15 49.2**	**+0.2**
	4.3nm,1.1s						

*PGC **14** 00:11:02.4±3.2, 58.°47N×137.°28W, h1km, ML2.8/3, 137km Wsw of Haines, Ak Southeastern Alaska*

NEIC 14 00:11:02.0, 58.°54N×137.°26W, h7km, ML2.8(PGC), **ML2.6**(AEIC), **3C-9D, After AEIC., Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLBC	**Pleasant Camp**	**1.03**	**26**	⇓P	Pg	00 11 21.9	+0.1
PLBC				S	Sg	00 11 36.5	+1.3
PLBC	**Pleasant Camp**	**1.03**	**26**	⇓P	Pg	00 11 21.9	+0.1
PLBC				⇓S	Sg	00 11 36.5	+1.3
BESE	**Bessie Mountai**	**1.26**	**87**	P	Pn	00 11 25.7	-0.3
BESE				S	Sb	00 11 43.1	+0.6
SKAG	**Skagway**	**1.36**	**46**	P	Pn	00 11 26.0	-1.4
SKAG				S	Sb	00 11 46.7	+1.3
PNL	**Peninsula**	**1.58**	**317**	P	Pn	00 11 29.5	-0.9
PNL				S	Sn	00 11 51.6	+0.5
SIT	**Sitka**	**1.81**	**144**	P	Pn	00 11 32.1	-1.4
SIT				S	Sn	00 11 56.8	+0.2
WHY	**Whitehorse**	**2.45**	**29**	⇑Pn	Pn	00 11 43.8	+1.5
WHY				⇓Pg	Pg	00 11 47.2	-1.7
WHY				Sg	Sg	00 12 20.1	-0.6
WHY	**Whitehorse**	**2.45**	**29**	⇑Pn	Pn	00 11 43.8	+1.5
WHY				⇓Pg	Pg	00 11 47.2	-1.7
WHY				⇑Sg	Sg	00 12 20.1	-0.6
DLBC	**Dease Lake**	**3.80**	**88**	⇑Pn	Pn	00 12 01.4	+0.5
DLBC				⇓Pg	Pg	00 12 11.0	-3.7
DLBC				Sg	Sg	00 13 00.8	-3.0
DLBC	**Dease Lake**	**3.80**	**88**	⇑Pn	Pn	00 12 01.4	+0.5
DLBC				⇓Pg	Pg	00 12 11.0	-3.7
DLBC				⇓Sg	Sg	00 13 00.8	-3.0
DAWY	**Dawson**	**5.64**	**350**	⇑Pn	Pn	00 12 29.1	+2.9
DAWY				Sn	Sn	00 13 31.4	+0.3
DAWY	**Dawson**	**5.64**	**350**	⇑Pn	Pn	00 12 29.1	+2.9
DAWY				⇓Sn	Sn	00 13 31.4	+0.3

*CASC **14** 00:26:25.3±3.1, 8.°05N×82.°84W, h0km±27km, MD4.6, ML3.0, mb4.7(NEIC)*
*ISCJB **14** 00:26:26.7±1.1, 7.°99N±0.°05×82.°81W±0.°04, h28km±7km, mb4.1/16, MS3.4/5, Error ellipse: s-maj=9.4km s-min=5.2km az=26.4*
*NEIC **14** 00:26:27.7±1.3, 8.°06N×82.°84W, h22km±9km, mb4.7/7, MD4.7(CASC), Error ellipse: s-maj=9.5km s-min=4.9km az=209.0*
NEIC Felt at Puerto Armuelles, Panama.
*IDC **14** 00:26:36.8±3.0, 8.°44N×82.°71W, h88km±26km, mb3.8/10, mb1 4.0/14, mb1mx4.0/21, mbtmp3.9/14, MS3.4/8, Ms1 3.4/8, ms1mx3.2/21, Error ellipse: s-maj=26.7km s-min=14.6km az=41.0*

ISC 14 00:26:26.8±1.0, 8.°02N±0.°05×82.°85W±0.°03, h14km±5km, n98, σ1.°12/89, mb4.1/16, MS3.4/5, 8C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.71**	**333**	⇓*e*P	Pg	**00 26 38.7**	**-2.0**
ACR	**Cerro Adams**	**0.71**	**333**	*e*P	Pg	**00 26 38.2**	**-2.5**
BRU2	**Volcan**	**0.79**	**11**	*e*P	Pg	**00 26 40.5**	**-1.6**
BRU2				*e*S	Sg	**00 26 54.2**	**+1.9**
BRU	**Baru**	**0.83**	**20**	*e*S	Pg	**00 26 44.2**	**+1.1**
BUS	**Buena Vista**	**1.78**	**330**	⇑*i*P	Pn	**00 26 56.8**	**-0.4**
BUS	**Buena Vista**	**1.78**	**330**	⇑*i*P	Pn	**00 26 56.8**	**-0.4**
QCR	**Quepos**	**1.91**	**317**	⇑*e*P	Pn	**00 26 58.0**	**-1.0**
QCR	**Quepos**	**1.91**	**317**	*e*P	Pn	**00 26 57.8**	**-1.2**
LIO	**Limon**	**1.99**	**355**	*e*P	Pn	**00 27 00.2**	**+0.2**
URSC	**Urasca**	**2.03**	**333**	⇑*e*P	Pn	**00 27 00.3**	**-0.2**
URSC	**Urasca**	**2.03**	**333**	⇑*e*P	Pn	**00 27 00.1**	**-0.4**
ICR	**Volcan Irazu**	**2.18**	**334**	⇑*e*P	Pn	**00 26 60.0**	**-2.7**
LAJ	**Bijagual**	**2.23**	**326**	*e*P	Pn	**00 27 04.4**	**+1.0**
LAJ	**Bijagual**	**2.23**	**326**	*e*P	Pn	**00 27 04.2**	**+0.8**
SJS	**Escuela Geolog**	**2.25**	**328**	*e*P	Pn	**00 27 02.2**	**-1.5**
SJS	**Escuela Geolog**	**2.25**	**328**	*e*P	Pn	**00 27 04.4**	**+0.7**
PRS1	**Puriscal**	**2.43**	**324**	⇓*e*P	Pn	**00 27 05.0**	**-1.2**
PRS1	**Puriscal**	**2.43**	**324**	⇓*e*P	Pn	**00 27 05.0**	**-1.1**
CGA2	**Cerro Gallo 2**	**2.55**	**321**	*e*P	Pn	**00 27 07.4**	**-0.4**
CGA2	**Cerro Gallo 2**	**2.55**	**321**	*e*P	Pn	**00 27 07.5**	**-0.3**
TRTC	**Tortuguero**	**2.68**	**341**	⇑*e*P	Pn	**00 27 10.4**	**+0.8**
TRTC				*e*S	Sn	**00 27 43.9**	**+1.9**
JCR	**Jicaral**	**2.89**	**309**	*e*P	Pn	**00 27 11.6**	**-0.8**
JCR	**Jicaral**	**2.89**	**309**	*e*P	Pn	**00 27 16.9**	**+4.5**
PINA	**Piqa, Costa Ab**	**3.01**	**66**	⇑*e*P	Pn	**00 27 14.2**	**0.0**
JTS	**JuntasAbangare**	**3.07**	**318**	*e*Pn	Pn	**00 27 14.4**	**-0.5**
JTS				*e*Pg	Pg	**00 27 25.9**	**+0.2**
JTS				*e*Sn	Sn	**00 27 50.6**	**-0.9**
JTS				*e*Sg	Sg	**00 28 05.1**	**-0.5**
JTS	**JuntasAbangare**	**3.07**	**318**	*e*P	Pn	**00 27 14.1**	**-0.8**
BCIP	**Isla Barro Col**	**3.19**	**69**	*e*Pn	Pn	**00 27 16.2**	**-0.3**
BCIP				*e*Pg	Pg	**00 27 26.8**	**-1.1**
BCIP				*e*Sn	Sn	**00 27 55.5**	**+1.1**
BCIP				*e*Sg	Sg	**00 28 10.5**	**+1.2**
BCIP	**Isla Barro Col**	**3.19**	**69**	*e*P	Pn	**00 27 16.7**	**+0.2**
AMAS	**Alto Masis**	**3.34**	**321**	*i* P	Pn	**00 27 20.2**	**+1.6**
PTEN	**Parque Tenorio**	**3.42**	**322**	*i* P	Pn	**00 27 22.1**	**+2.4**
VCR	**Vista de Mar**	**3.46**	**308**	*e*P	Pn	**00 27 19.8**	**-0.4**
NY14	**Universidad de**	**3.73**	**315**	*i* P	Pn	**00 27 25.5**	**+1.5**
GB1A	**Borinquen Arri**	**3.76**	**318**	*i* P	Pn	**00 27 26.0**	**+1.6**
GBS2	**Las Lilas**	**3.81**	**318**	*i* P	Pn	**00 27 25.6**	**+0.6**
CRZC	**La Cruz**	**3.99**	**317**	*e*P	Pn	**00 27 30.3**	**+2.8**
CONN	**Concepcion**	**4.47**	**322**	*e*P	Pn	**00 27 34.5**	**+0.4**
CONN				AML	AML	00 28 06.1	
	comp=Z,35nm,0.6s						
TGUH	**Tegucigalpa,Un**	**7.41**	**324**	*e*Pn	Pn	**00 28 14.8**	**+0.1**
	comp=Z,102nm,0.9s						
TGUH				Pg	Pn	00 28 48.9	+34
TGUH				*e*Sg	Sn	00 30 23.1	+45
OTAV	**Otavalo**	**8.88**	**150**	*e*Pn	Pn	**00 28 35.7**	**+0.9**
	comp=Z,8.6nm,1.1s						
ROSC	**El Rosal**	**9.02**	**110**	P	Pn	**00 28 44.3**	**+7.5**
	comp=Z,0.9nm,0.3s,baz=82,slow=18,SNR=4.7						
ROSC				LR	LR	00 31 40.8	
	comp=Z,291nm,19.9s,baz=207,slow=34						
ROSC	**El Rosal**	**9.02**	**110**	*e*Pn	Pn	**00 28 36.3**	**-0.4**
ROSC				LR	LR	00 31 40.9	
MTDJ	**Mount Denham**	**11.39**	**26**	*e*Pn	Pn	**00 29 09.6**	**+0.4**
	comp=Z,50nm,1.0s						
SDV	**Santo Domingo**	**12.11**	**85**	*e*Pn	Pn	**00 29 19.3**	**+0.2**
	comp=Z,8.6nm,0.7s						
CMIG	**Matias Romero**	**14.80**	**309**	P	Pn	**00 29 58.4**	**+2.5**
	comp=Z,0.6nm,0.3s,baz=126,slow=7.5,SNR=4.8						
CMIG	**Matias Romero**	**14.80**	**309**	P	Pn	**00 29 58.4**	**+2.5**
SDDR	**Presa de Saban**	**15.64**	**45**	*e*Pn	Pn	**00 30 06.6**	**-0.4**
	comp=Z,17nm,0.6s						
ATAH	**Atahualpa**	**15.69**	**163**	P	sP	00 30 18.7	+1.2
	comp=Z,0.1nm,0.3s,baz=340,slow=10.0,SNR=5.7						
ATAH				LR	LR	00 36 22.0	
	comp=Z,91nm,18.2s,baz=158,slow=36						
CELP	**Cerrillos**	**18.72**	**56**	*e*P	Pn	**00 30 44.7**	**-0.8**
SJG	**San Juan**	**19.09**	**57**	P	Pn	**00 30 49.8**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=232,slow=12,SNR=5.5						
SJG				LR	LR	00 37 46.1	
	comp=Z,124nm,18.9s,baz=267,slow=36						
SJG	**San Juan**	**19.09**	**57**	P	Pn	**00 30 49.8**	**-0.3**
SJG				LR	LR	00 37 46.1	
CBYP	**Canovanas**	**19.41**	**57**	*e*P	Pn	**00 30 52.8**	**-1.1**
	comp=Z,69nm,1.4s						
MTP	**Monte Pirata**	**19.58**	**58**	*e*P	Pn	**00 30 54.6**	**-1.3**
	comp=Z,45nm,1.1s						
NNA	**Nana**	**20.75**	**163**	P	P	**00 31 09.0**	**+1.7**
	comp=Z,4.8nm,0.4s,baz=309,slow=6.5,SNR=3.3						
NNA	**Nana**	**20.75**	**163**	P	P	**00 31 09.0**	**+1.7**
GOGA	**Godfrey**	**25.28**	**359**	*e*P	P	**00 31 52.3**	**-0.4**
TKL	**Tuckaleechee C**	**27.53**	**358**	LR	LR	00 43 28.3	
	comp=Z,84nm,20.2s,MS3.3,baz=196,slow=37						
LPAZ	**La Paz**	**28.20**	**149**	P	P	**00 32 20.1**	**+0.8**
	comp=Z,0.7nm,0.8s,mb3.4,baz=343,slow=14,SNR=2.5						
LPAZ	**La Paz**	**28.20**	**149**	P	P	**00 32 20.1**	**+0.9**
TXAR	**Lajitas Array**	**28.86**	**320**	P	P	**00 32 24.4**	**-0.6**
	comp=Z,0.2nm,0.6s,mb3.0,baz=127,slow=10,SNR=2.8						
TXAR				PcP	PcP	00 35 35.0	+0.4
	comp=Z,0.4nm,0.7s,baz=128,slow=5.1,SNR=5.1						
TXAR				LR	LR	00 46 15.2	
	comp=Z,38nm,18.0s,MS3.0,baz=275,slow=41						
TXAR	**Lajitas Array**	**28.86**	**320**	P	P	**00 32 24.4**	**-0.6**
TXAR				PcP	PcP	00 35 35.0	+0.4
TXAR				LR	LR	00 46 15.2	
CCM	**Cathedral Cave**	**30.86**	**347**	*e*P	P	**00 32 41.6**	**-1.0**
	comp=Z,14nm,1.3s,mb4.6						
CFAA	**Coronel Fontan**	**41.80**	**161**	P	P	**00 34 21.4**	**+5.3**
	comp=Z,0.2nm,0.4s,mb3.1,baz=336,slow=5.5,SNR=3.6						
CFAA	**Coronel Fontan**	**41.80**	**161**	P	P	**00 34 21.4**	**+5.3**
PDAR	**Pinedale Array**	**41.83**	**330**	P	P	**00 34 15.4**	**-0.8**
	comp=Z,0.8nm,1.1s,mb3.3,baz=144,slow=6.3,SNR=4.7						
PDAR				PcP	PcP	00 36 09.9	-2.2
	comp=Z,0.9nm,0.9s,baz=134,slow=3.9,SNR=4.6						
PDAR	**Pinedale Array**	**41.83**	**330**	P	P	**00 34 15.4**	**-0.8**
PDAR				PcP	PcP	00 36 09.9	-2.2
CPUP	**Villa Florida**	**42.18**	**145**	LR	LR	00 55 01.2	
	comp=Z,53nm,18.9s,MS3.5,baz=308,slow=40						
ULM	**Lac du Bonnet**	**43.48**	**348**	P	P	**00 34 27.3**	**-2.2**
	comp=Z,5.2nm,0.5s,mb4.5,baz=161,slow=10.0,SNR=12						
ULM	**Lac du Bonnet**	**43.48**	**348**	P	P	**00 34 27.3**	**-2.2**
NVAR	**Mina Array Bea**	**44.00**	**319**	P	P	**00 34 35.

XMIS	Christmas Isla	4.61	179	P		Pn	00 28 35.8	-4.8	
SMRI	Semarang	4.97	104	P		Pn	00 28 46.7	+1.3	
	4.4nm1µm,0.8s								
UGM	Wanagama	5.32	113	P		Pn	00 28 49.2	-0.7	
	2.2nm7µm591nm,0.9s								
PCJI	Pacitan	6.02	113	P		Pn	00 28 58.1	-1.1	
	1.3nm6µm259nm,0.4s								
PCJI				P			00 28 58.4		
	1.3nm6µm259nm,0.4s								
PCJI				P			00 28 58.4		
	1.3nm6µm259nm,0.4s								
NGJI	Ngawi	6.03	105	P		Pn	00 29 01.7	+2.4	
	0.9nm270nm,1.1s								
NGJI				P			00 29 02.3		
	0.9nm270nm,1.1s								
NGJI				P			00 29 02.8		
	0.9nm270nm,1.1s								
RGRI	Rengat	6.35	329	P		Pn	00 29 05.3	+1.8	
	16nm352nm,0.9s								
SDSI	Sungai Dareh	6.40	319	P		Pn	00 29 04.1	-0.1	
	0.9nm280nm,0.7s								
SDSI				P			00 29 04.3		
	0.9nm280nm,0.7s								
SJI	Sawahan	6.42	107	P		Pn	00 29 04.8	+0.4	
	3.2nm10µm1µm,0.6s								
SJI				P			00 29 04.9		
	3.2nm10µm1µm,0.6s								
SJI				P			00 29 05.2		
	3.2nm10µm1µm,0.6s								
PWJI	Pagerwojo	6.54	110	P		Pn	00 29 04.9	-1.2	
	1.2nm5µm235nm,0.9s								
PWJI				P			00 29 05.3		
	1.2nm5µm235nm,0.9s								
PWJI				P			00 29 05.6		
	1.2nm5µm235nm,0.9s								
PDSI	Padang	7.08	314	P		Pn	00 29 11.4	-1.8	
	5.4nm793nm,0.7s								
PDSI				P			00 29 11.6		
	5.4nm793nm,0.7s								
PDSI				P			00 29 11.6		
	5.4nm793nm,0.7s								
KRKI	Karangkates	7.20	109	P		Pn	00 29 14.0	-0.7	
	5.5nm836nm,0.4s								
KRKI				P			00 29 14.2		
	5.5nm836nm,0.4s								
KRKI				P			00 29 16.1		
	5.5nm836nm,0.4s								
PPI	Padang Panjang	7.45	316	P		Pn	00 29 16.4	-1.6	
	0.7nm3µm150nm,0.7s								
PPI				P			00 29 16.5		
	0.7nm3µm150nm,0.7s								
BKNI	Bangkinang	7.63	323	P		Pn	00 29 20.6	+0.2	
	1.4nm3µm413nm,0.8s								
BKNI				P			00 29 20.8		
	1.4nm3µm413nm,0.8s								
BKNI				P			00 29 20.9		
	1.4nm3µm413nm,0.8s								
MYKOM	Kota Tinggi	7.78	347	P		Pn	00 29 23.8	+1.4	
	0.3nm64nm,0.9s								
MYKOM				P			00 29 23.9		
	0.3nm64nm,0.9s								
MYKOM				P			00 29 24.3		
	0.3nm64nm,0.9s								
SISI	Saibi	7.88	304	P		Pn	00 29 21.8	-2.0	
	1.8nm473nm,0.7s								
SISI				P			00 29 21.8		
	1.8nm473nm,0.7s								
SISI				P			00 29 22.1		
	1.8nm473nm,0.7s								
GMJI	Gumukmas	8.17	108	P		Pn	00 29 27.4	-0.2	
	7µm244nm,0.5s								
GMJI				P			00 29 27.5		
	7µm244nm,0.5s								
GMJI				P			00 29 28.2		
	7µm244nm,0.5s								
BLJI	Banyuglugur	8.18	104	P		Pn	00 29 28.9	+1.2	
	387nm,0.6s								
BLJI				P			00 29 29.0		
	387nm,0.6s								
BLJI				P			00 29 30.6		
	387nm,0.6s								
STKI	Sintang	8.31	45	P		Pn	00 29 35.3	+5.8	
	33nm,0.9s								
STKI				P			00 29 35.4		
	33nm,0.9s								
KMMI	Kalianget	8.42	99	P		Pn	00 29 31.9	+1.0	
	4µm180nm,0.4s								
KMMI				P			00 29 32.0		
	4µm180nm,0.4s								
KMMI				P			00 29 32.2		
	4µm180nm,0.4s								
JAGI	Jajag, Banyuwa	8.89	108	P		Pn	00 29 36.0	-1.2	
	965nm,0.7s								
JAGI				P			00 29 36.2		
	965nm,0.7s								
JAGI				P			00 29 36.5		
	965nm,0.7s								
MNSI	Mandailing Nat	8.91	318	P		Pn	00 29 35.4	-2.1	
	0.6nm3µm124nm,0.7s								
MNSI				P			00 29 35.6		
	0.6nm3µm124nm,0.7s								
MNSI				P			00 29 35.6		
	0.6nm3µm124nm,0.7s								
BYJI	Banyuwangi	9.02	106	P		Pn	00 29 39.3	+0.4	
	639nm,0.9s								
BYJI				P			00 29 39.7		
	639nm,0.9s								
BYJI				P			00 29 40.0		
	639nm,0.9s								
NBBI	Negara	9.31	106	P		Pn	00 29 42.7	0.0	
	2µm,0.5s								
NBBI				P			00 29 42.9		
	2µm,0.5s								
NBBI				P			00 29 43.3		
	2µm,0.5s								
SRBI	Singaraja	9.81	104	P		Pn	00 29 49.3	0.0	
	689nm,0.5s								
SRBI				P			00 29 49.4		
	689nm,0.5s								
SRBI				P			00 29 49.5		
	689nm,0.5s								
IGBI	Denpasar	9.93	108	P		Pn	00 29 48.6	-2.3	
	746nm,0.7s								
IGBI				P			00 29 48.6		
	746nm,0.7s								
IGBI				P			00 29 49.3		
	746nm,0.7s								
KHKI	Kahang-Kahang	10.26	105	P		Pn	00 29 53.7	-1.5	
	3µm244nm,0.6s								
KHKI				P			00 29 53.8		
	3µm244nm,0.6s								
KHKI				P			00 29 53.9		
	3µm244nm,0.6s								
COCO	West Island	10.69	233	Pn		Pn	00 29 51.4	-9.5	
COCO	West Island	10.69	233	P		Pn	00 29 51.4	-9.5	
KBKI	Kotabaru	10.85	77	P		Pn	00 30 10.4	+7.5	
	23nm,0.6s								
PSI	Prapat	10.86	322	P		Pn	00 29 59.8	-3.3	
	3.4nm,0.3s,baz=157,slow=13,SNR=23								
PSI	Prapat	10.86	322	P		Pn	00 29 59.8	-3.3	
PSI	Prapat	10.86	322	P		Pn	00 29 59.8	-3.3	
PSI	Prapat	10.86	322	P		Pn	00 29 59.1	-4.0	
	51nm,0.8s								
PSI				P			00 29 59.2		
	51nm,0.8s								
PSI				P			00 29 59.7		
	51nm,0.8s								
MTNI	Mataram	10.86	105	P		Pn	00 29 59.9	-3.2	
	9µm301nm,0.4s								
MTNI				P			00 30 00.0		
	9µm301nm,0.4s								
MTNI				P			00 30 00.1		
	9µm301nm,0.4s								
IPM	Ipoh	11.22	336	*e*Pn		Pn	00 29 57.7	-10	
IPM	Ipoh	11.22	336	P		Pn	00 30 09.1	+1.3	
	22nm,0.9s								
KULM	Kulim	12.11	336	*e*Pn		Pn	00 30 09.2	-10	
KULM	Kulim	12.11	336	P		Pn	00 30 18.5	-0.8	
	53nm,1.2s								
KULM				P			00 30 19.7		
	53nm,1.2s								
KULM				P			00 30 19.7		
	53nm,1.2s								
TPTI		12.34	317	P		Pn	00 30 17.9	-4.4	
	74nm,0.6s								
TPTI				P			00 30 18.9		
	74nm,0.6s								
TPTI				P			00 30 20.3		
	74nm,0.6s								
BMNI	Bima	13.28	102	P		Pn	00 30 30.9	-3.4	
	2µm78nm,0.6s								
BMNI				P			00 30 31.1		
	2µm78nm,0.6s								
BMNI				P			00 30 31.2		
	2µm78nm,0.6s								
MJSI	Majene	13.54	81	P		Pn	00 30 40.5	+2.9	
	1µm104nm,1.3s								
MJSI				P			00 30 40.9		
	1µm104nm,1.3s								
KAPI	Kappang	14.13	87	P		Pn	00 30 45.0	0.0	
	16nm,1.0s								
KAPI				P			00 30 45.1		
	16nm,1.0s								
KAPI				P			00 30 46.4		
	16nm,1.0s								
SPSI	Sidrap Palu	14.26	83	P		Pn	00 30 47.9	+1.3	
	15nm,1.1s								
SPSI				P			00 30 48.0		
	15nm,1.1s								
SPSI				P			00 30 51.8		
	15nm,1.1s								
TTSI	Tana Toraja	14.46	80	P		Pn	00 30 51.6	+2.5	
	1µm31nm,1.1s								
TTSI				P			00 30 51.7		
	1µm31nm,1.1s								
TTSI				P			00 30 52.3		
	1µm31nm,1.1s								
BKSI	Bulukumba	14.48	89	P		Pn	00 30 50.8	+1.4	
	690nm89nm,0.9s								
BKSI				P			00 30 50.9		
	690nm89nm,0.9s								
BKSI				P			00 30 51.2		
	690nm89nm,0.9s								
MSSI	Masamba	15.06	78	P		Pn	00 31 00.7	+4.2	
	178nm,1.0s								
MSSI				P			00 31 02.5		
	178nm,1.0s								
WSI	Waingapu	15.06	106	P		Pn	00 30 58.1	+1.5	
	9µm614nm,0.5s								
MMRI	Maumere	16.75	101	P		Pn	00 31 16.0	-1.2	
	3µm186nm,1.0s								
MMRI				P			00 31 16.1		
	3µm186nm,1.0s								
KDI	Kendari	17.08	84	P		Pn	00 31 22.8	+1.7	
	360nm20nm,0.8s								
MRSI	Marisa	17.50	70	P		Pn	00 31 26.2	+0.1	
	2µm45nm,0.6s								
MRSI				P			00 31 26.7		
	2µm45nm,0.6s								
LUWI	Luwuk	17.80	75	P		Pn	00 31 30.1	+0.4	
	995nm56nm,1.3s								
LUWI				P			00 31 30.9		
	995nm56nm,1.3s								
MBWA	Marble Bar	20.49	139	*e*P		P	00 31 57.3	+0.2	
MBWA				*e*S		S	00 35 35.6	-1.6	
MBWA	Marble Bar	20.49	139	*e*P		P	00 31 52.2	-4.8	
	23nm,0.9s								
NLAI	Namlea	21.60	84	P		P	00 32 11.8	+2.8	
	20nm,0.8s,mb4.6								
LBMI	Labuha	22.48	77	P		P	00 32 24.1	+6.4	
	804nm35nm,1.2s,mb4.7								
FITZ	Fitzroy Crossi	23.06	124	P		P	00 32 22.9	0.0	
	33nm,0.8s,mb4.8,baz=312,slow=9.9,SNR=54								
FITZ	Fitzroy Crossi	23.06	124	*e*P		P	00 32 22.9	-0.1	
	48nm,0.9s,mb4.9								
FITZ				*e*S		S	00 36 40.2	+19	
FITZ	Fitzroy Crossi	23.06	124	*e*P		P	00 32 21.3	-1.7	
	33nm,0.8s,mb4.8								
FITZ	Fitzroy Crossi	23.06	124	P		P	00 32 23.0	0.0	
	41nm,0.8s,mb4.9								
FITZ				P			00 32 23.3		
	41nm,0.8s								
CMAR	Chiang Mai Arr	25.02	345	P		P	00 32 39.5	-1.2	
	1.1nm,0.4s,mb3.7,baz=179,slow=8.1,SNR=5.3								
CMAR				ScP		ScP	00 39 35.8	+0.9	
	0.6nm,0.4s,baz=194,slow=3.3,SNR=4.5								
CMAR	Chiang Mai Arr	25.02	345	P		P	00 32 39.5	-1.2	
CMAR				ScP		ScP	00 39 35.8	+0.9	
CMAR	Chiang Mai Arr	25.02	345	P		P	00 32 39.5	-1.2	
QIZ	Qiongzhong	25.07	10	P		P	00 32 37.4	-3.8	
QIZ				pmax		pmax			
	comp=Z,47nm,2.0s,mb4.7								
QIZ				pmax		pmax			
	comp=Z,280nm,4.6s								
NWAO	Narrogin (SRO)	29.05	160	P		P	00 33 12.9	-3.7	
NWAO	Narrogin (SRO)	29.05	160	P		P	00 33 12.9	-3.7	
KMI	Kunming	30.91	355	P		P	00 33 32.8	-0.2	
KMI				pmax		pmax			
	comp=Z,6.0nm,0.5s,mb4.6								
WRA	Warramunga Arr	31.26	119	P		P	00 33 35.6	-0.7	
	comp=Z,5.0nm,0.6s,mb4.4,baz=290,slow=9.8,SNR=8.6								
WRA				PcP		PcP	00 36 26.8	0.0	
	comp=Z,2.7nm,0.3s,baz=302,slow=2.0,SNR=12								
WRA				S		S	00 38 27.4	-3.3	
	comp=Z,4.5nm,0.9s,baz=298,slow=16,SNR=10								
WRA				ScP		ScP	00 39 53.8	-0.6	
	comp=Z,1.2nm,0.8s,baz=310,slow=2.4,SNR=4.4								
WRA	Warramunga Arr	31.26	119	P		P	00 33 35.6	-0.7	
WRA				PcP		PcP	00 36 26.8	0.0	
WRA				S		S	00 38 27.4	-3.3	
WRA				ScP		ScP	00 39 53.8	-0.6	
WRA	Warramunga Arr	31.26	119	P		P	00 33 35.6	-0.7	
WRA							00 36 26.8		
WRA				S		S	00 38 27.5	-3.2	
WRAB	Tennant Creek	31.27	119	*e*P		P	00 33 35.2	-1.2	
	comp=Z,12nm,0.4s,mb5.0								
WRAB				*e*			00 34 33.4		
WRAB				*e*PcP		PcP	00 36 26.7	-0.1	
WRAB	Tennant Creek	31.27	119	*e*P		P	00 33 35.2	-1.1	
WRAB				*e*			00 34 33.4		
WRAB				*e*			00 36 26.7		
WRAB				pmax		pmax			
	comp=Z,13nm,0.4s,mb5.0								
WRAB	Tennant Creek	31.27	119	P		P	00 33 40.8	+4.5	
	comp=Z,28nm,0.9s,mb5.0								
WB2	Warramunga Arr	31.27	119	*e*P		P	00 33 35.7	-0.7	
WB2				*e*PcP		PcP	00 36 26.4	-0.4	
GYA	Guiyang	32.13	2	P		P	00 33 52.0	+8.3	
GYA				PP		PP	00 34 48.5	-11	
GYA				S		S	00 38 53.8	+10	
GYA				ScP		ScP	00 40 14.3	+17	
GYA				SS		SS	00 40 46.9	-23	
GYA				pmax		pmax			
	comp=Z,20nm,0.8s,mb4.9								
GYA				pmax		pmax			
	comp=Z,110nm,4.6s								
GYA				LR		LR			
	comp=N,510nm,16.8s								
GYA				LR		LR			
	comp=E,470nm,16.0s								
GYA				LR		LR			
	comp=Z,490nm,17.9s								
ASAR	Alice Springs	32.50	126	P		P	00 33 47.1	0.0	
	comp=Z,2.5nm,0.3s,mb4.4,baz=298,slow=7.8,SNR=30								
ASAR				pP		pP	00 34 21.4	-0.8	
	comp=Z,1.6nm,0.5s,baz=307,slow=9.3,SNR=2.1								
ASAR				PcP		PcP	00 36 30.4	+0.2	
	comp=Z,1.7nm,0.4s,baz=301,slow=2.0,SNR=8.8								
ASAR				S		S	00 38 47.8	-2.2	
	comp=Z,6.6nm,0.8s,baz=292,slow=15,SNR=22								
ASAR				ScP		ScP	00 39 58.8	+0.3	
	comp=Z,1.3nm,0.7s,baz=298,slow=3.0,SNR=5.9								
ASAR	Alice Springs	32.50	126	P		P	00 33 47.1	0.0	
ASAR				pP		pP	00 34 21.4	-0.8	
ASAR				PcP		PcP	00 36 30.4	+0.2	
ASAR				S		S	00 38 47.8	-2.2	
ASAR				ScP		ScP	00 39 58.8	+0.3	
ASAR	Alice Springs	32.50	126	P		P	00 33 47.2	+0.1	
ASAR							00 36 30.4		
ASAR				S		S	00 38 47.8	-2.2	
CD2	Chengdu	36.59	357	P		P	00 34 20.4	-1.6	
CD2				pP		pP	00 34 23.6	-34	
CD2				sP		sP	00 34 26.0	-51	
CD2				PP		PP	00 35 45.3	-3.7	
CD2				S		S	00 40 03.8	+11	
CD2				sS		sS	00 40 06.3	-49	
CD2				pmax		pmax			
	comp=Z,10.0nm,0.5s,mb4.7								
CD2				pmax		pmax			
	comp=Z,170nm,6.0s								
CD2				LR		LR			
	comp=E,240nm,5.9s								
CD2				LR		LR			
	comp=Z,140nm,7.1s								
LSA	Lhasa	37.96	339	*e*P		P	00 34 31.1	-2.6	
	comp=Z,4.8nm,0.4s,mb4.5								
LSA	Lhasa	37.96	339	*e*P		P	00 34 31.1	-2.6	
LSA				pmax		pmax			
	comp=Z,5.0nm,0.4s,mb4.5								
MTSU	Mount Surprise	39.71	111	*e*P		P	00 34 48.7	+0.3	
	comp=Z,7.7nm,0.3s,mb4.8								
PMG	Port Moresby	41.34	98	*e*P		P	00 34 58.4	-3.5	
PMG	Port Moresby	41.34	98	*e*P		P	00 34 58.4	-3.5	
CTAO	Charters Tower	41.95	114	*e*P		P	00 35 03.8	-3.0	
	comp=Z,8.7nm,1.1s,mb4.3								
CTAO	Charters Tower	41.95	114	*e*P		P	00 35 03.8	-2.9	
CTAO				pmax		pmax			
	comp=Z,9.0nm,1.1s,mb4.3								
STKA	Stephens Creek	42.45	132	P		P	00 35 11.2	+0.6	
	comp=Z,8.0nm,0.5s,mb4.7,baz=309,slow=9.8,SNR=29								
STKA	Stephens Creek	42.45	132	*e*P		P	00 35 11.2	+0.6	
	comp=Z,1.9nm,0.3s,mb4.2								
STKA	Stephens Creek	42.45	132	*e*P		P	00 35 10.3	-0.4	
	comp=Z,2.0nm,0.6s,mb3.9								
STKA	Stephens Creek	42.45	132	P		P	00 35 11.3	+0.7	
STKA				pmax		pmax			
	comp=Z,8.0nm,0.5s								
CMSA	Cobar Meteorol	45.38	129	*e*P		P	00 35 35.1	+1.1	
	comp=Z,10nm,0.3s,mb4.9								
BJI	Beijing	46.69	11	P		P	00 35 42.3	-1.7	
BJI				pmax		pmax			
	comp=Z,7.0nm,0.6s,mb4.5								
HHC	Hu-ho-hao-te	46.79	6	*e*P		P	00 35 41.4	-3.3	
HHC				pP		pP	00 35 45.9	-36	
HHC				sP		sP	00 35 48.9	-51	
HHC				PP		PP	00 37 30.8	-6.0	
HHC				S		S	00 42 29.3	+7.1	
HHC				SS		SS	00 45 48.8	-2.3	
HHC				pmax		pmax			
	comp=Z,9.0nm,0.4s,mb4.8								
HHC				pmax		pmax			
	comp=Z,84nm,4.4s								
HHC				LR		LR			
	comp=N,82nm,11.4s								
HHC				LR		LR			
	comp=E,110nm,6.3s								
HHC				LR		LR			
	comp=Z,90nm,5.4s								
KSRS	Korea Array	47.85	24	P		P	00 35 53.4	+0.4	
	comp=Z,1.1nm,0.4s,mb3.9,baz=220,slow=7.3,SNR=4.4								
KSRS				ScP		ScP	00 40 58.4	+0.5	
	comp=Z,1.4nm,0.8s,baz=203,slow=5.5,SNR=5.4								
KSRS	Korea Array	47.85	24	P		P	00 35 53.4	+0.4	
KSRS				pmax		pmax			
	comp=Z,1.0nm,0.4s,mb3.8								
KSRS				pmax		pmax			
	comp=Z,1.0nm,0.8s,mb3.5								
WMQ	Urumqi	52.01	344	P		P	00 36 23.1	-1.1	
MJAR	Matsushiro Arr	52.06	33	P		P	00 36 23.6	-1.2	
	comp=Z,1.0nm,0.5s,mb3.7,baz=202,slow=8.7,SNR=3.4								
MJAR	Matsushiro Arr	52.06	33	P		P	00 36 23.6	-1.2	
MJAR	Matsushiro Arr	52.06	33	P		P	00 36 23.6	-1.2	
CN2	Changchun	52.57	18	*e*P		P	00 36 24.5	-3.9	
KBL	Kabul	52.93	322	*e*P		P	00 36 29.0	-2.2	
KBL	Kabul	52.93	322	*e*P		P	00 36 29.0	-2.2	
SONM	Songino Array	53.45	1	P		P	00 36 35.5	+0.8	
	comp=Z,0.9nm,0.4s,mb3.9,baz=177,slow=9.2,SNR=9.1								
SONM				pP		pP	00 37 12.6	-0.1	
	comp=Z,1.7nm,0.8s,baz=175,slow=8.8,SNR=4.3								
SONM				PcP		PcP	00 37 39.9	+0.3	
	comp=Z,3.4nm,0.7s,baz=182,slow=4.4,SNR=9.1								
SONM				ScP		ScP	00 41 21.6	-0.1	
	comp=Z,1.2nm,0.7s,baz=190,slow=3.4,SNR=6.9								
SONM	Songino Array	53.45	1	P		P	00 36 35.5	+0.8	
SONM				pP		pP	00 37 12.6	-0.1	
SONM				PcP		PcP	00 37 39.9	+0.3	
SONM				ScP		ScP	00 41 21.6	-0.1	
SONM	Songino Array	53.45	1	P		P	00 36 35.5	+0.8	
SONM							00 37 39.9		
TKM2	Tokmak 2	55.64	334	*e*P		P	00 36 49.0	-1.6	
	comp=Z,3.2nm,0.4s,mb4.5								
TKM2	Tokmak 2	55.64	334	*e*P		P	00 36 49.0	-1.6	
TKM2				pmax		pmax			
	comp=Z,3.0nm,0.4s,mb4.5								
MK31	Makanchi Array	56.33	341	*e*P		P	00 36 54.4	-1.1	
MK31	Makanchi Array	56.33	341	*e*P		P	00 36 54.4	-1.1	
MKAR	Makanchi Array	56.33	341	P		P	00 36 54.5	-0.9	
	comp=Z,1.1nm,0.5s,mb4.0,baz=152,slow=8.7,SNR=28								
MKAR				PcP		PcP	00 37 51.0	+0.3	
	comp=Z,1.2nm,0.7s,baz=169,slow=3.5,SNR=5.9								
MKAR	Makanchi Array	56.33	341	P		P	00 36 54.5	-0.9	
MKAR				PcP		PcP	00 37 51.0	+0.3	
MKAR	Makanchi Array	56.33	341	P		P	00 36 54.5	-1.0	
MKAR							00 37 51.0		
CASY	Casey	60.43	178	*e*P		P	00 37 24.2	+0.6	
	comp=Z,4.7nm,0.6s,mb4.5								
KURK	Kurchatov	60.95	341	*e*P		P	00 37 25.3	-2.0	
	comp=Z,1.3nm,0.7s,mb3.9								
KURK	Kurchatov	60.95	341	*e*P		P	00 37 25.3	-2.0	
KURK				pmax		pmax			
	comp=Z,1.0nm,0.7s,mb3.8								
ZALV	Zalesovo Beam	62.08	346	P		P	00 37 33.5	-1.3	
	comp=Z,1.1nm,0.3s,mb4.2,baz=156,slow=5.9,SNR=9.7								
ZALV				PcP		PcP	00 38 12.4	-1.0	
	comp=Z,1.2nm,0.4s,baz=159,slow=4.6,SNR=4.4								
ZALV	Zalesovo Beam	62.08	346	P		P	00 37 33.5	-1.3	
ZALV				PcP		PcP	00 38 12.4	-1.0	
ZALV	Zalesovo Beam	62.08	346	P		P	00 37 33.5	-1.3	
ZALV				pP			00 38 12.5	-1.3	
RDF	Al-Radifah	65.60	305	*e*P		P	00 37 59.3	+0.9	
RDF				AMb		AMB	00 38 00.1		
	comp=Z,81nm,1.0s,mb5.5								
UMR	Umm Al-Rimmam	65.70	306	*e*P		P	00 37 59.3	+0.2	
UMR				AMb		AMB	00 38 00.2		
	comp=Z,42nm,0.4s,mb5.6								
BRVK	Borovoye	65.83	338	*e*P		P	00 37 57.7	-1.6	
BRVK	Borovoye	65.83	338	*e*P		P	00 37 57.7	-1.6	
NAY	Al-Naaiem	65.97	305	*e*P		P	00 38 00.9	+0.2	
MIB	Mutribah	66.10	306	*e*P		P	00 38 01.6	+0.1	
ABKAR	Akbulak array	67.71	330	*e*P		P	00 38 10.4	-0.8	
MAW	Mawson	68.06	196	P		P	00 38 15.1	+1.9	
	comp=Z,15nm,0.5s,mb5.0,baz=46,slow=7.1,SNR=49								
MAW	Mawson	68.06	196	*e*P		P	00 38 15.2	+2.0	
	comp=Z,92nm,3.0s								
MAW	Mawson	68.06	196	*e*P		P	00 38 15.2	+2.0	
MAW				pmax		pmax			
	comp=Z,92nm,3.0s								
KMBO	Kilima Mbogo	68.33	271	*e*P		P	00 38 17.9	+1.9	
	comp=Z,3.3nm,0.7s,mb4.2								
KMBO	Kilima Mbogo	68.33	271	*e*P		P	00 38 17.9	+2.0	
KMBO				pmax		pmax			
	comp=Z,3.0nm,0.7s								
YAK	Yakutsk	70.19	12	P		P	00 38 23.2	-3.1	
YAK	Yakutsk	70.19	12	P		P	00 38 23.2	-3.1	
GNI	Garni	72.15	315	P		P	00 38 38.3	-0.3	
GNI	Garni	72.15	315	P		P	00 38 38.3	-0.3	
ARU	Arti	72.98	335	*e*P		P	00 38 42.1	-1.0	
ARU	Arti	72.98	335	*e*P		P	00 38

LBTB pmax pmax
comp=Z,14nm,0.9s,mb4.6
VRHR Novokhopersk 78.64 325 *eP* **P 00 39 15.2 -0.2**
VRHR pmax pmax
comp=Z,20nm,0.7s,mb4.9
VRHR pmax pmax
comp=N,1.0nm,0.3s
VRHR pmax pmax
comp=E,6.0nm,0.7s
BOSA Boshof 78.75 242 P **P 00 39 17.6 +1.1**
comp=E,8.2nm,0.8s,mb4.4,baz=100,slow=4.7,SNR=22
BOSA Boshof 78.75 242 *eP* **P 00 39 17.9 +1.4**
comp=E,4.5nm,0.4s,mb4.5
BOSA Boshof 78.75 242 *eP* **P 00 39 17.9 +1.4**
BOSA pmax pmax
comp=Z,4.0nm,0.4s,mb4.4
CSS Prodhromos 78.97 307 *eP* **P 00 39 18.1 +0.6**
comp=Z,13nm,0.7s,mb4.7
BR131 Keskin Array S 80.01 312 *eP* **P 00 39 23.3 +0.2**
comp=Z,4.9nm,0.6s,mb4.3
BRTR Keskin Array B 80.01 312 P **P 00 39 23.0 -0.1**
comp=Z,6.3nm,0.7s,mb4.3,baz=129,slow=6.2,SNR=54
BRTR Keskin Array B 80.01 312 *i* **P 00 39 23.0 -0.1**
BRTR Keskin Array B 80.01 312 P **P 00 39 23.0 -0.1**
VSR Storozhevoye 80.11 324 *eP* **P 00 39 23.0 -0.3**
VSR pmax pmax
comp=N,2.0nm,0.6s
VSR pmax pmax
comp=E,7.0nm,0.6s
VSR pmax pmax
comp=Z,20nm,0.6s,mb4.9
SUR Sutherland 82.50 238 *eP* **P 00 39 36.9 +0.6**
OBN Obninsk 83.00 327 *eP* **P 00 39 38.0 -0.4**
OBN Obninsk 83.00 327⇑ *eP* **P 00 39 38.7 +0.3**
OBN pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
TIRR Tirgusor 84.97 315 *eP* **P 00 39 48.9 +0.3**
TIRR Tirgusor 84.97 315 *eP* **P 00 39 48.9 +0.3**
AKASG Malin Array Be 85.92 322 P **P 00 39 52.1 -1.1**
comp=Z,1.1nm,0.4s,mb3.9,baz=96,slow=4.7,SNR=7.4
AKASG Malin Array Be 85.92 322 P **P 00 39 52.1 -1.1**
AKASG Malin Array Be 85.92 322 P **P 00 39 52.1 -1.1**
TSUM Tsumeb 86.22 251 *eP* **P 00 39 57.0 +1.6**
VRI Vrincioaia 86.44 317 ⇓P **P 00 39 57.0 +1.2**
VRI Vrincioaia 86.44 317 ⇓*iP* **P 00 39 57.0 +1.2**
PLOR Plostina 86.50 317 ⇑P **P 00 39 57.4 +1.3**
PLOR Plostina 86.50 317 ⇑*iP* **P 00 39 57.4 +1.3**
TESR 86.63 317 *iP* **P 00 39 57.9 +1.2**
MLR Muntele Rosu 86.91 316 ⇑P **P 00 39 59.5 +1.4**
MLR Muntele Rosu 86.91 316 ⇑*iP* **P 00 39 59.5 +1.4**
VOIR 87.51 316 ⇑P **P 00 40 01.3 +0.3**
VOIR 87.51 316 ⇑*iP* **P 00 40 01.3 +0.3**
BURAR Bucovina Array 87.81 318 ⇓P **P 00 40 04.1 +1.7**
BURAR Bucovina Array 87.81 318 ⇓*iP* **P 00 40 04.1 +1.7**
BUR08 Bucovina Ar. S 87.83 318 *eP* **P 00 40 03.6 +1.2**
JOF Joensuu 88.08 334 *eP* **P 00 40 03.5 +0.2**
JOF pmax pmax
comp=Z,12nm,0.5s,mb5.0
JOF Joensuu 88.08 334 *ep* **P 00 40 03.5 +0.2**
comp=Z,12nm,0.5s,mb5.0
VTS Vitosha 88.32 313 ⇑P **P 00 40 05.7 +0.8**
VTS Vitosha 88.32 313⇑ *iP* **P 00 40 05.7 +0.8**
APA Apatity 88.66 339⇓ *eP* **P 00 40 00.0 -5.9**
APA MLR MLR
comp=Z,2μm,25.0s
FINES FINESS Array B 90.09 332 P **P 00 40 12.9 +0.2**
comp=Z,2.8nm,0.5s,mb4.4,baz=107,slow=4.8,SNR=27
FINES FINESS Array B 90.09 332 P **P 00 40 12.9 +0.2**
FINES FINESS Array B 90.09 332 P **P 00 40 12.9 +0.2**
KAF Kangasniemi 90.13 332 *eP* **P 00 40 13.4 +0.5**
KAF Kangasniemi 90.13 332 *ep* **P 00 40 13.4 +0.5**
SNAA Sanae 90.20 197 *eP* **P 00 40 15.1 +2.0**
comp=Z,5.4nm,0.7s,mb4.6
SNAA Sanae 90.20 197 *eP* **P 00 40 15.1 +2.0**
SNAA pmax pmax
comp=Z,5.0nm,0.7s
KEV Kevo 91.50 340 *eP* **P 00 40 18.5 -0.6**
KEV Kevo 91.50 340 *ep* **P 00 40 18.5 -0.6**
VNA2 Neumayer--Watz 91.84 198 *e* **P 00 40 20.2 -0.5**
baz=96,slow=4.4
ARCES ARCESS Array B 91.97 340 P **P 00 40 20.9 -0.4**
comp=Z,3.8nm,0.6s,mb4.6,baz=97,slow=6.2,SNR=23
ARCES ARCESS Array B 91.97 340 P **P 00 40 20.9 -0.4**
ARCES ARCESS Array B 91.97 340 P **P 00 40 20.9 -0.4**
VNA1 Neumayer--Stat 92.22 198 *e* **P 00 40 22.9 +0.4**
VNA3 Neumayer Olymp 92.38 197 *e* **P 00 40 22.1 -1.1**
AQU L'Aquila 95.51 312 P **P 00 40 38.5 +0.4**
AQU L'Aquila 95.51 312 P **P 00 40 38.5 +0.4**
ILAR Eielson Array 102.70 25 PKKPbc PKKPbc 00 57 08.4 -2.8
comp=Z,0.3nm,0.5s,baz=129,slow=1.8,SNR=5.9
TORD Torodi Ar. Bea 104.80 282 PKiKP PKiKP 00 45 34.4 -0.6
comp=Z,0.3nm,0.7s,baz=100,slow=0.8,SNR=4.5
YKA Yellowknife Ar 116.26 20 PKP PKPdf 00 45 54.7 -0.5
comp=Z,0.9nm,0.8s,baz=329,slow=0.5,SNR=8.6
YKA Yellowknife Ar 116.26 20 PKP PKPdf 00 45 54.7 -0.5
YKA Yellowknife Ar 116.26 20 PKIKP PKPdf 00 45 54.7 -0.5
NVAR Mina Array Bea 128.74 44 PKP PKPdf 00 46 21.1 +1.2
comp=Z,0.4nm,0.5s,baz=318,slow=2.4,SNR=3.0
NVAR Mina Array Bea 128.74 44 PKP PKPdf 00 46 21.1 +1.2
SCHQ Schefferville 130.77 354 PKP PKPdf 00 46 23.6 +0.4
comp=Z,3.5nm,0.7s,baz=178,slow=5.8,SNR=4.3
SCHQ SKPbc SKPbc 00 49 31.3 -0.6
comp=Z,7.5nm,0.7s,baz=15,slow=5.9,SNR=9.5
SCHQ Schefferville 130.77 354 PKP PKPdf 00 46 23.6 +0.4
SCHQ SKPbc SKPbc 00 49 31.3 -0.7
PDAR Pinedale Array 131.88 35 PKP PKPdf 00 46 26.1 +0.4
comp=Z,0.5nm,0.5s,baz=163,slow=0.9,SNR=5.5
PDAR SKPbc SKPbc 00 49 35.9 -0.5
comp=Z,1.2nm,0.7s,baz=246,slow=0.9,SNR=7.9
PDAR Pinedale Array 131.88 35 PKP PKPdf 00 46 26.1 +0.4
PDAR SKPbc SKPbc 00 49 35.9 -0.5
ULM Lac du Bonnet 132.22 18 PKP PKPdf 00 46 26.7 +0.5
comp=Z,1.6nm,0.5s,baz=110,slow=4.4,SNR=3.0
ULM SKPbc SKPbc 00 49 36.0 -1.3
comp=Z,5.5nm,0.6s,baz=0,0,slow=1.0,SNR=8.7
ULM Lac du Bonnet 132.22 18 PKP PKPdf 00 46 26.7 +0.5
ULM SKPbc SKPbc 00 49 36.0 -1.3
ULM Lac du Bonnet 132.22 18 PKIKP PKPdf 00 46 26.7 +0.6
WMOK Wichita Mounta 143.49 35 *e*PKPdf PKPdf 00 46 44.9 -2.5
WMOK Wichita Mounta 143.49 35 *e*PKIKP PKPdf 00 46 44.9 -2.4
TXAR Lajitas Array 143.83 46 PKP PKPdf 00 46 47.1 -1.0
comp=Z,4.6nm,0.7s,baz=242,slow=1.9,SNR=60
TXAR SKPbc SKPbc 00 50 11.4 0.0
comp=Z,0.8nm,0.5s,baz=224,slow=2.5,SNR=11
TXAR Lajitas Array 143.83 46 PKP PKPdf 00 46 47.0 -1.0
TXAR SKPbc SKPbc 00 50 11.4 0.0
TXAR Lajitas Array 143.83 46 PKIKP PKPdf 00 46 47.1 -1.0
CPUP Villa Florida 143.98 207 PKP PKPdf 00 46 47.5 -0.9
comp=Z,9.5nm,0.6s,baz=138,slow=3.1,SNR=28
CPUP Villa Florida 143.98 207 PKP PKPdf 00 46 47.5 -0.9
CPUP Villa Florida 143.98 207 PKIKP PKPdf 00 46 47.6 -0.8
CCM Cathedral Cave 144.47 23 *e*PKPdf PKPdf 00 46 46.8 -2.1
CCM Cathedral Cave 144.47 23 *e*PKIKP PKPdf 00 46 46.8 -2.1
ACSO Alum Creek Sta 144.91 11 *e*PKPdf PKPdf 00 46 49.0 -0.6
OLIL Olney 144.99 19 *e*PKPdf PKPdf 00 46 49.6 -0.2
SSPA Standing Stone 145.22 5 *e*PKPdf PKPdf 00 46 49.3 -0.8
SIUC Southern Illin 145.53 21 *e*PKPdf PKPdf 00 46 51.4 +0.7
JCT Junction City 145.79 41 *e*PKPab PKPab 00 46 52.5 -0.3
JCT Junction City 145.79 41 *e*PKP2 PKPab 00 46 52.5 -0.3
MVL Millersville 145.95 3 *e*PKPab PKPab 00 46 52.3 -0.8
MCWV Mont Chateau 145.98 8 *e*PKPab PKPab 00 46 52.5 -0.7
WCI Wyandotte Cave 146.00 17 *e*PKPab PKPab 00 46 52.4 -0.9
WCI Wyandotte Cave 146.00 17 *e*PKP2 PKPab 00 46 52.4 -1.0
MIAR Mount Ida 146.39 29 *e*PKPab PKPab 00 46 54.0 -0.9
MIAR Mount Ida 146.39 29 *e*PKP2 PKPab 00 46 54.0 -1.0
UALR University of 146.79 28 *e*PKPab PKPab 00 46 55.1 -1.4
WVT Waverly 147.44 20 *e*PKPab PKPbc 00 46 56.3 -0.5
WVT Waverly 147.44 20 *e*PKP2 PKPbc 00 46 56.3 -0.4
TZTN Tazewell 148.32 14 *e*PKPab PKPbc 00 46 59.2 +0.2
PLAL Pickwick Lake 148.38 22 *e*PKPdf PKPbc 00 46 58.1 -1.1
SWET Sewanee 148.90 18 *e*PKPdf PKPbc 00 47 00.1 -0.5
CPCT Cooper Cave 149.10 16 *e*PKPdf PKPbc 00 46 59.9 -1.1
TKL Tuckaleechee C 149.10 15 PKPbc PKPbc 00 47 01.2 +0.1
comp=Z,15nm,0.3s,baz=117,slow=2.6,SNR=44
TKL Tuckaleechee C 149.10 15 *e*PKPab PKPbc 00 47 01.1 +0.1
TKL Tuckaleechee C 149.10 15 PKP2 PKPbc 00 47 01.2 +0.1
TKL pmax pmax
comp=Z,15nm,0.4s
LPAZ La Paz 157.15 196 PKPab PKPab 00 47 42.0 +2.0
comp=Z,0.7nm,0.4s,baz=103,slow=2.2,SNR=4.7
LPAZ La Paz 157.15 196 PKP2 PKPab 00 47 42.1 +2.0
LPAZ pmax pmax
comp=Z,1.0nm,0.4s

IDC 14 00:27:51.5±3.0, 8°48'N×82°47'W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/19, mbtmp3.8/5, Error ellipse: s-maj=98.0km s-min=32.5km az=27.0, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ULM	**Lac du Bonnet**	**43.11**	**347**	P	P	00 35 52.6	-0.7
	2.5nm,0.6s,baz=167,slow=9.3,SNR=4.9						
NVAR	**Mina Array Bea**	**43.90**	**318**	P	P	00 36 01.3	+1.4
	0.3nm,0.5s,baz=134,slow=5.2,SNR=2.1						
ILAR	**Eielson Array**	**71.61**	**336**	P	P	00 39 13.7	-0.8
	0.5nm,0.6s,baz=113,slow=5.2,SNR=4.2						
ESDC	**Sonseca Array**	**75.80**	**51**	P	P	00 39 40.2	+0.6
	0.8nm,0.6s,baz=270,slow=5.3,SNR=4.3						
TORD	**Torodi Ar. Bea**	**82.47**	**78**	P	P	00 40 16.7	+0.2
	0.4nm,0.6s,baz=293,slow=5.0,SNR=3.4						
ASAR	**Alice Springs**	**142.07**	**242**	PKP	PKPdf	00 47 23.8	-2.7
	0.2nm,0.4s,baz=128,slow=2.6,SNR=3.0						

WEL 14 00:29:07.6±0.3, 41°39S×172°85E, h113km±3km, ML3.5/9, 1C-1D, Error ellipse: s-maj=2.2km s-min=1.9km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THZ	**Tophouse**	**0.37**	**173**	⇑PN	Pn	00 29 23.9	-0.1
THZ				SN	Sn	00 29 35.3	-1.0
NNZ	**Nelson**	**0.44**	**67**	⇓PN	Pn	00 29 24.3	-0.1
NNZ				SN	Sn	00 29 36.1	-0.8
QRZ	**Quartz Range**	**0.61**	**337**	PN	Pn	00 29 25.5	-0.1
QRZ				SN	Sn	00 29 37.7	-1.3
TUWZ	**Tuamarina**	**0.82**	**93**	PN	Pn	00 29 27.5	+0.2
BSWZ	**Blackbirch Sta**	**0.84**	**113**	PN	Pn	00 29 27.7	+0.3
BSWZ				SN	Sn	00 29 42.2	-0.1
DSZ	**Denniston Hort**	**0.86**	**245**	PN	Pn	00 29 27.2	-0.3
DUWZ	**D'Urville Isla**	**1.00**	**54**	PN	Pn	00 29 29.7	+0.7
TCW	**Tory Channel**	**1.09**	**81**	PN	Pn	00 29 30.2	+0.3
KHZ	**Kahutara**	**1.15**	**153**	PN	Pn	00 29 30.5	0.0
SNZO	**South Karori**	**1.40**	**87**	PN	Pn	00 29 32.8	-0.6
LTZ	**Lake Taylor**	**1.45**	**197**	PN	Pn	00 29 34.0	0.0
BHW	**Baring Head**	**1.52**	**91**	PN	Pn	00 29 33.9	-0.8
KIW	**Kapiti Island**	**1.65**	**72**	PN	Pn	00 29 36.1	-0.1
CAW	**Cannon Point**	**1.70**	**81**	PN	Pn	00 29 36.2	-0.7
MSWZ	**Moikau Station**	**1.81**	**91**	PN	Pn	00 29 37.1	-1.1
PLWZ	**Palliser**	**1.82**	**96**	PN	Pn	00 29 37.2	-1.2
OGWZ	**Otaki Gorge**	**1.85**	**73**	PN	Pn	00 29 38.2	-0.5
MTW	**Mount Morrison**	**2.02**	**84**	PN	Pn	00 29 39.5	-1.3
HOWZ	**Holdsworth Sta**	**2.08**	**77**	PN	Pn	00 29 40.5	-1.1
MRZ	**Mangatainoka R**	**2.19**	**71**	PN	Pn	00 29 42.0	-1.1
WVZ	**Waitaha Valley**	**2.30**	**222**	PN	Pn	00 29 43.9	-0.5
WAZ	**Wanganui**	**2.31**	**46**	PN	Pn	00 29 45.9	+1.3
MQZ	**McQueen's Vall**	**2.32**	**183**	PN	Pn	00 29 43.4	-1.3
PKE	**Pukeiti**	**2.36**	**22**	PN	Pn	00 29 46.6	+1.3
TIWZ	**Tintock**	**2.38**	**76**	PN	Pn	00 29 44.1	-1.4
BFZ	**Birch Farm**	**2.67**	**76**	PN	Pn	00 29 47.6	-1.7
PNHZ	**Pukenui**	**2.95**	**61**	PN	Pn	00 29 51.4	-1.5
FOZ	**Fox Glacier**	**3.19**	**226**	PN	Pn	00 29 54.1	-1.9
KAHZ	**Kahuranaki**	**3.46**	**64**	PN	Pn	00 29 58.0	-1.7
ODZ	**Otahua Downs**	**3.99**	**203**	PN	Pn	00 30 05.7	-1.1
JCZ	**Jackson Bay**	**4.03**	**227**	PN	Pn	00 30 06.3	-1.0

DJA 14 00:58:36, 7°80S×110°44E, h10km, MLv3.5/9, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UGM	**Wanagama**	**0.14**	**144**	P	Pg	00 58 40.5	+1.3
UGM				S	Sg	00 58 42.9	+1.5
SMRI	**Semarang**	**0.75**	**0**	P	Pg	00 58 48.5	-1.9
PCJI	**Pacitan**	**0.83**	**118**	P	Pg	00 58 51.0	-1.0
PCJI				S	Sg	00 59 01.4	-1.4
NGJI	**Ngawi**	**1.10**	**67**	P	Pb	00 59 00.8	+3.7
SJI	**Sawahan**	**1.32**	**87**	P	Pn	00 59 01.0	+0.5
PWJI	**Pagerwojo**	**1.37**	**99**	P	Pn	00 59 00.6	-0.6
PWJI				S	Sb	00 59 17.4	-1.9
CMJI	**Cimerak**	**1.97**	**270**	P	Pn	00 59 12.3	+2.8
KRKI	**Karangkates**	**2.02**	**100**	P	Pn	00 59 13.3	+3.1
CISI	**Cisompet, Garu**	**2.61**	**275**	P	Pn	00 59 18.7	+0.4

*ISCJB **14** 01:29:35.3±1.0, 23°54S±0°06×179°89W±0°08, h555km±13km, mb4.3/27, Error ellipse: s-maj=12.3km s-min=9.1km az=20.6*
*NEIC **14** 01:29:35.3±0.9, 23°51S×179°83W, h542km±10km, mb4.1/12, Error ellipse: s-maj=11.5km s-min=8.6km az=126.0*
*IDC **14** 01:29:35.0±1.8, 23°44S×179°86W, h532km±19km, mb3.6/12, mb1 3.9/13, mb1mx3.7/20, mbtmp3.7/13, Error ellipse: s-maj=17.5km s-min=13.8km az=171.0*
ISC 14 01:29:35.5±1.0, 23°63S±0°06×179°80W±0°08, h545km±12km, n53, σ1s03/56, mb4.3/27, 1C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.20**	**341**	*e*Pn	P	**01 31 14.7**	**-1.2**
	15nm,0.7s						
URZ	**Urewera**	**14.83**	**190**	P	P	**01 32 43.2**	**+0.2**
	2.4nm,0.3s,baz=292,slow=1.6,SNR=9.7						
URZ				S	S	**01 35 16.3**	**-1.2**
	1.3nm,0.3s,baz=18,slow=20,SNR=7.3						
URZ	**Urewera**	**14.83**	**190**	P	P	**01 32 43.2**	**+0.2**
URZ				S	S	**01 35 16.3**	**-1.2**
THZ	**Tophouse**	**19.09**	**197**	*e*P*	P	**01 33 23.3**	**0.0**
THZ				S*	S	**01 36 26.0**	**-2.4**
THZ				S*	S	**01 36 26.5**	**-1.9**
RPZ	**Rata Peaks**	**21.41**	**198**	P	P	**01 33 45.8**	**+1.5**
	4.5nm,0.5s,mb4.3,baz=9.3,slow=3.1,SNR=4.0						
RPZ	**Rata Peaks**	**21.41**	**198**	P	P	**01 33 45.8**	**+1.5**
EIDS	**Eidsvold**	**26.53**	**260**	*e*P	P	**01 34 30.8**	**+0.7**
	40nm,0.4s,mb5.4						
CMSA	**Cobar Meteorol**	**31.48**	**248**	*e*P	P	**01 35 14.0**	**+1.0**
	65nm,0.6s,mb5.3						
CTA	**Charters Tower**	**31.66**	**270**	P	P	**01 35 15.2**	**+0.7**
	30nm,0.4s,mb5.2,baz=94,slow=13,SNR=66						
CTA	**Charters Tower**	**31.66**	**270**	⇓*iP*	P	**01 35 15.4**	**+0.8**
	20nm,0.3s,mb5.1						
CTA	**Charters Tower**	**31.66**	**270**	P	P	**01 35 15.2**	**+0.7**
CTAO	**Charters Tower**	**31.66**	**270**	*e*P	P	**01 35 15.2**	**+0.6**
	32nm,0.5s,mb5.1						
QLP	**Quilpie**	**32.63**	**257**	⇑*iP*	P	**01 35 23.4**	**+0.6**
PMG	**Port Moresby**	**34.58**	**289**	P	P	**01 35 38.8**	**-0.5**
	14nm,0.5s,mb4.7,baz=142,slow=13,SNR=5.2						
PMG	**Port Moresby**	**34.58**	**289**	P	P	**01 35 38.8**	**-0.5**
STKA	**Stephens Creek**	**34.99**	**248**	P	P	**01 35 43.7**	**+1.1**
	8.8nm,0.6s,mb4.5,baz=88,slow=9.5,SNR=32						
STKA	**Stephens Creek**	**34.99**	**248**	*e*P	P	**01 35 43.6**	**+1.0**
	6.1nm,0.5s,mb4.4						
STKA	**Stephens Creek**	**34.99**	**248**	P	P	**01 35 43.7**	**+1.1**
ASAR	**Alice Springs**	**42.26**	**260**	P	P	**01 36 41.4**	**-0.1**
	9.3nm,0.5s,mb4.6,baz=98,slow=7.1,SNR=112						
ASAR				ScP	ScP	01 41 23.9	+2.3
	0.9nm,0.8s,baz=106,slow=3.6,SNR=6.0						
ASAR				S	S	**01 42 21.9**	**-1.1**
	0.5nm,0.9s,baz=92,slow=14,SNR=4.3						
ASAR	**Alice Springs**	**42.26**	**260**	P	P	**01 36 41.4**	**-0.1**
ASAR				ScP	ScP	01 41 23.9	+2.3
ASAR				S	S	**01 42 21.9**	**-1.1**
WRAB	**Tennant Creek**	**42.60**	**266**	*e*P	P	**01 36 43.6**	**-0.6**
	10nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**42.61**	**266**	P	P	**01 36 43.6**	**-0.6**
	10nm,0.4s,mb4.7,baz=102,slow=8.3,SNR=199						
WRA				ScP	ScP	01 41 25.7	+2.7
	0.8nm,0.6s,baz=98,slow=4.0,SNR=6.7						
WRA	**Warramunga Arr**	**42.61**	**266**	P	P	**01 36 43.6**	**-0.6**
WRA				ScP	ScP	01 41 25.7	+2.7
FORT	**Forrest**	**46.58**	**249**	*e*P	P	**01 37 14.5**	**-0.1**
	46nm,0.7s,mb5.1						
FORT	**Forrest**	**46.58**	**249**	*e*P	P	**01 37 14.3**	**-0.4**
	34nm,0.6s,mb5.1						
FITZ	**Fitzroy Crossi**	**51.03**	**265**	*e*P	P	**01 37 48.2**	**+0.4**
	15nm,0.7s,mb4.4						
VNDA	**Vanda**	**54.67**	**185**	P	P	**01 38 14.7**	**+1.9**
	1.7nm,0.5s,mb3.5,baz=8.6,slow=7.3,SNR=14						
VNDA	**Vanda**	**54.67**	**185**	*e*P	P	**01 38 14.8**	**+2.0**
	1.3nm,0.5s,mb3.4						
KLBR	**Kellerberrin**	**55.26**	**247**	*e*P	P	**01 38 17.7**	**0.0**
	12nm,0.4s,mb4.5						
MBWA	**Marble Bar**	**55.60**	**260**	*e*P	P	**01 38 19.8**	**-0.4**
	13nm,0.6s,mb4.3						
MORW	**Morawa**	**57.14**	**250**	*e*P	P	**01 38 30.6**	**-0.1**
	69nm,0.5s,mb5.1						
CASY	**Casey**	**60.44**	**206**	*e*P	P	**01 38 52.2**	**0.0**
	3.6nm,0.5s,mb4.0						
QSPA	**South Pole Qui**	**66.46**	**180**	*e*P	P	**01 39 32.5**	**+2.1**
	9.9nm,1.2s,mb4.2						
MAW	**Mawson**	**78.07**	**200**	P	P	**01 40 38.7**	**+1.0**
	5.2nm,0.8s,mb3.9,baz=117,slow=4.5,SNR=4.7						
MAW	**Mawson**	**78.07**	**200**	P	P	**01 40 38.7**	**+1.0**
NVAR	**Mina Array Bea**	**84.43**	**44**	P	P	**01 41 10.5**	**-0.3**
	0.4nm,0.4s,mb3.3,baz=219,slow=7.0,SNR=4.8						
NVAR	**Mina Array Bea**	**84.43**	**44**	P	P	**01 41 10.5**	**-0.3**
SNAA	**Sanae**	**84.94**	**179**	*e*P	P	**01 41 12.1**	**-0.7**
	0.9nm,0.5s,mb3.6						
VNA3	**Neumayer Olymp**	**85.14**	**177**	*e*	P	**01 41 10.9**	**-2.9**
VNA2	**Neumayer--Watz**	**85.56**	**178**	*e*	P	**01 41 13.2**	**-2.6**
	baz=197,slow=3.5						
TUC	**Tucson**	**86.21**	**52**	*e*P	P	**01 41 20.8**	**+1.3**
	1.7nm,0.7s,mb3.8						
WVOR	**Wild Horse Val**	**86.58**	**41**	*e*P	P	**01 41 20.9**	**-0.1**
	1.4nm,0.8s,mb3.6						
HLID	**Hailey**	**89.77**	**41**	*e*P	P	**01 41 36.4**	**+0.5**
	0.9nm,0.9s,mb3.6						
TXAR	**Lajitas Array**	**90.13**	**58**	P	P	**01 41 38.5**	**+0.6**
	0.9nm,0.7s,mb3.7,baz=218,slow=5.7,SNR=14						
TXAR	**Lajitas Array**	**90.13**	**58**	P	P	**01 41 38.5**	**+0.6**
HWUT	**Hardware Ranch**	**90.49**	**44**	*e*P	P	**01 41 38.6**	**-0.6**
	2.5nm,0.7s,mb4.2						
ILAR	**Eielson Array**	**91.72**	**13**	P	P	**01 41 42.9**	**-1.5**
	0.4nm,0.8s,mb3.5,baz=224,slow=6.3,SNR=4.7						
ILAR	**Eielson Array**	**91.72**	**13**	P	P	**01 41 42.9**	**-1.5**
PDAR	**Pinedale Array**	**92.37**	**44**	P	P	**01 41 47.8**	**-0.1**
	0.4nm,0.7s,mb3.6,baz=214,slow=6.4,SNR=3.5						
PDAR	**Pinedale Array**	**92.37**	**44**	P	P	**01 41 47.8**	**-0.1**
BRTR	**Keskin Array B**	**147.56**	**308**	PKPbc	PKPbc	01 48 19.9	+1.2
	0.9nm,0.7s,baz=103,slow=3.6,SNR=4.2						
BRTR	**Keskin Array B**	**147.56**	**308**	PKPbc	PKPbc	01 48 19.9	+1.2
MMAI	**Mount Meron Ar**	**147.75**	**295**	PKPbc	PKPbc	01 48 20.4	+1.0
	1.2nm,0.4s,baz=75,slow=5.9,SNR=11						

*ISCJB **14** 01:40:10.2±0.4, 0°03N±0°07×27°83E±0°07, h10km, mb4.1/17, MS3.0/3, Error ellipse: s-maj=10.8km s-min=9.5km az=25.3*
*IDC **14** 01:40:11.1±0.7, 0°07N×27°82E, h0km, mb4.1/14, mb1 4.3/15, mb1mx4.1/24, mbtmp4.2/15, ML4.9/1, MS2.9/5, Ms1 2.9/5, ms1mx2.7/38, Error ellipse: s-maj=20.0km s-min=15.8km az=94.0*
*NEIC **14** 01:40:12.1±0.3, 0°00S×27°83E, h10km, mb4.4/7, Error ellipse: s-maj=8.0km s-min=6.9km az=138.0*
ISC 14 01:40:12.3±0.4, 0°02N±0°07×27°82E±0°07, h10km, n43, σ0s82/44, mb4.1/17, MS3.0/3, Zaire

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**9.50**	**97**	*e*Pn	Pn	**01 42 28.9**	**-0.4**
	6.2nm,0.8s						
KMBO				*e*Lg		01 44 46.1	
MSKU	**Masuku**	**14.30**	**263**	Pn	Pn	**01 43 33.9**	**-1.1**
	5.2nm,0.3s,baz=95,slow=11,SNR=15						
MSKU				Sn	Sn	**01 46 05.7**	**-8.1**
	4.9nm,0.3s,baz=315,slow=20,SNR=3.4						
MSKU				LR	LR	01 49 38.7	
	comp=Z,102nm,19.8s,baz=122,slow=40						
MSKU	**Masuku**	**14.30**	**263**	Pn	Pn	**01 43 33.9**	**-1.1**
MSKU				Sn	Sn	**01 46 05.7**	**-8.1**
MSKU				LR	LR	01 49 38.7	
ATD	**Arta Tunnel**	**18.81**	**52**	LR	LR	01 50 34.6	
	comp=Z,10nm,21.9s,baz=130,slow=33						
TSUM	**Tsumeb**	**21.58**	**207**	*eP*	P	**01 45 03.2**	**+0.9**
	15nm,1.0s,mb4.4						
LBTB	**Lobatse**	**24.98**	**185**	P	P	**01 45 36.1**	**-0.1**
	2.1nm,0.5s,mb3.9,baz=13,slow=10,SNR=6.3						
LBTB				LR	LR	01 54 45.0	
	comp=Z,21nm,20.5s,MS2.6,baz=88,slow=35						
LBTB	**Lobatse**	**24.98**	**185**	*eP*	P	**01 45 36.5**	**+0.3**
	2.2nm,0.5s,mb3.9						
LBTB				LR	LR	01 54 45.0	
BOSA	**Boshof**	**28.57**	**185**	P	P	**01 46 07.8**	**-0.8**
	1.8nm,0.6s,mb4.0,baz=0.5,slow=11,SNR=7.4						
BOSA	**Boshof**	**28.57**	**185**	P	P	**01 46 07.8**	**-0.8**
TORD	**Torodi Ar. Bea**	**28.99**	**298**	P	P	**01 46 12.7**	**+0.2**
	0.8nm,0.3s,mb3.9,baz=107,slow=7.7,SNR=21						
TORD				LR	LR	01 57 31.6	
	comp=Z,51nm,20.6s,MS3.1,baz=135,slow=36						
TORD	**Torodi Ar. Bea**	**28.99**	**298**	P	P	**01 46 12.7**	**+0.2**
TORD				LR	LR	01 57 31.6	
DBIC	**Dimbokro**	**33.26**	**282**	P	P	**01 46 51.1**	**+0.9**
	3.3nm,0.4s,mb4.7,baz=81,slow=10,SNR=24						
DBIC				LR	LR	02 00 45.2	
	comp=Z,36nm,19.6s,MS3.1,baz=81,slow=37						
DBIC	**Dimbokro**	**33.26**	**282**	*eP*	P	**01 46 49.8**	**-0.4**
	4.8nm,0.6s,mb4.6						
DBIC				LR	LR	02 00 45.2	
BR131	**Keskin Array S**	**39.88**	**7**	*eP*	P	**01 47 47.1**	**+0.9**
	0.6nm,0.5s,mb3.6						
BRTR	**Keskin Array B**	**39.88**	**7**	P	P	**01 47 46.5**	**+0.3**
	1.2nm,0.6s,mb3.8,baz=190,slow=8.8,SNR=8.4						
BRTR				PcP	PcP	01 49 53.0	+1.0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.40**	**147**	*i* Pg	**Pg**	**01 42 49.0**	**+0.1**
DLMR				S	**Sg**	**01 42 54.0**	**-0.2**
DLMR	**Dylym**	**0.40**	**147**	*i* Pg	**Pg**	**01 42 49.0**	**+0.1**
DLMR				Sg	**Sg**	**01 42 54.0**	**-0.2**
GRO	**Groznyy**	**0.43**	**258**	⇑*i* Pg	**Pg**	**01 42 49.7**	**+0.1**
GRO				*i* S	**Sg**	**01 42 55.6**	**+0.4**
GRO	**Groznyy**	**0.43**	**258**	*i* Pg	**Pg**	**01 42 49.7**	**+0.1**
GRO				*i* Sg	**Sg**	**01 42 55.6**	**+0.4**
DBC	**Dubki**	**0.53**	**137**	*i* Pg	**Pg**	**01 42 51.2**	**-0.2**
DBC				S	**Sg**	**01 42 58.2**	**-0.1**
DBC	**Dubki**	**0.53**	**137**	*i* Pg	**Pg**	**01 42 51.2**	**-0.2**
DBC				Sg	**Sg**	**01 42 58.2**	**-0.1**
MAK	**Makhachkala**	**0.97**	**117**	*e*Pg	**Pg**	**01 43 01.0**	**+1.3**
MAK				*e*		01 43 17.3	
MAK	comp=Z,1μm,0.4s			pmax	pmax		
MAK	comp=E,7.0nm,0.8s			smax			
MAK	comp=N,7.0nm,0.6s			smax			
MAK	**Makhachkala** comp=N,1μm,0.4s	**0.97**	**117**	*e*Pg	**Pg**	**01 43 01.0**	**+1.3**
GNBR	**Gunib**	**1.12**	**155**	*i* PG	**Pg**	**01 43 01.0**	**-1.6**
GNBR				S	**Sg**	**01 43 15.1**	**-2.0**
GNBR	**Gunib**	**1.12**	**155**	*i* Pg	**Pg**	**01 43 01.0**	**-1.6**
GNBR				Sg	**Sg**	**01 43 15.1**	**-2.0**
SNJR	**Sundja**	**1.16**	**254**	⇑*i* PG	**Pg**	**01 43 03.5**	**0.0**
SNJR				*i* S	**Sg**	**01 43 18.8**	**+0.3**
SNJR	**Sundja**	**1.16**	**254**	*i* Pg	**Pg**	**01 43 03.5**	**0.0**
SNJR				*i* Sg	**Sg**	**01 43 18.8**	**+0.3**
TRKR	**Terskaya**	**1.21**	**286**	⇑*i* PG	**Pg**	**01 43 05.8**	**+1.5**
TRKR				*i* S	**Sg**	**01 43 23.8**	**+3.9**
TRKR	**Terskaya**	**1.21**	**286**	*i* Pg	**Pg**	**01 43 05.8**	**+1.5**
VLKR	**Vladikavkaz**	**1.26**	**254**	⇑*i* PG	**Pg**	**01 43 05.3**	**-0.1**
VLKR				*i* S	**Sg**	**01 43 21.8**	**0.0**
VLKR	**Vladikavkaz**	**1.26**	**254**	*i* Pg	**Pg**	**01 43 05.3**	**-0.1**
VLKR				*i* Sg	**Sg**	**01 43 21.8**	**0.0**
KMSR	**Komsomolskaya**	**1.49**	**269**	⇓*i* PG	**Pg**	**01 43 09.1**	**-0.6**
KMSR				*i* S	**Sg**	**01 43 29.5**	**+0.5**
KMSR	**Komsomolskaya**	**1.49**	**269**	*i* Pg	**Pg**	**01 43 09.1**	**-0.6**
KMSR				*i* Sg	**Sg**	**01 43 29.5**	**+0.5**
ARNR	**Ardon**	**1.52**	**262**	⇑*i* PG	**Pg**	**01 43 09.0**	**-1.2**
ARNR				*e*S	**Sn**	**01 43 29.0**	**+0.1**
ARNR	**Ardon**	**1.52**	**262**	*i* Pg	**Pg**	**01 43 09.0**	**-1.2**
ARNR				*e*Sg	**Sn**	**01 43 29.0**	**+0.1**
PRTR	**Priterechnaya**	**1.53**	**284**	⇓*i* PG	**Pg**	**01 43 10.4**	**-0.1**
PRTR				*i* S	**Sg**	**01 43 32.0**	**+1.7**
PRTR	**Priterechnaya**	**1.53**	**284**	*i* Pg	**Pg**	**01 43 10.4**	**-0.1**
PRTR				*i* Sg	**Sg**	**01 43 32.0**	**+1.7**
LACR	**Lac**	**1.60**	**249**	⇓*i* PN	**Pn**	**01 43 08.7**	**-1.3**
LACR	**Lac**	**1.60**	**249**	*i* Pn	**Pn**	**01 43 08.7**	**-1.3**
KORR	**Kora**	**1.69**	**260**	⇑*i* PN	**Pn**	**01 43 10.6**	**-0.6**
KORR				*e*S	**Sn**	**01 43 32.7**	**-0.4**
KORR	**Kora**	**1.69**	**260**	*i* Pn	**Pn**	**01 43 10.6**	**-0.6**
LSNR	**Lesken**	**1.84**	**267**	⇓*i* PN	**Pn**	**01 43 13.2**	**-0.1**
LSNR	**Lesken**	**1.84**	**267**	*i* Pn	**Pn**	**01 43 13.2**	**-0.1**
ZEI	**Tsey**	**1.90**	**251**	*e*PN	**Pn**	**01 43 12.5**	**-1.5**
ZEI	**Tsey**	**1.90**	**251**	*e*Pn	**Pn**	**01 43 12.5**	**-1.5**
TBLG	**Delisi**	**2.05**	**216**	*i* PN	**Pn**	**01 43 16.1**	**-0.1**
TBLG				S	**Sn**	**01 43 43.0**	**+1.0**
TBLG	**Delisi**	**2.05**	**216**	P	**Pn**	**01 43 16.1**	**0.0**
TBLG				S	**Sn**	**01 43 43.0**	**+1.0**
TBLG	**Delisi**	**2.05**	**216**	P	**Pn**	**01 43 16.1**	**-0.1**
TBLG				S	**Sn**	**01 43 43.0**	**+1.0**
MTA	**Mtatsminda**	**2.06**	**214**	*e*PN	**Pn**	**01 43 16.0**	**-0.3**
MTA	**Mtatsminda**	**2.06**	**214**	P	**Pn**	**01 43 16.1**	**-0.2**
MTA				S	**Sn**	**01 43 42.2**	**0.0**
MTA	**Mtatsminda**	**2.06**	**214**	*e*Pn	**Pn**	**01 43 16.0**	**-0.3**
MTA				S	**Sn**	**01 43 42.2**	**0.0**
DIGR	**Digorskoe uzhe**	**2.08**	**257**	*e*PN	**Pn**	**01 43 15.3**	**-1.2**
DIGR	**Digorskoe uzhe**	**2.08**	**257**	*e*Pn	**Pn**	**01 43 15.3**	**-1.2**
DGRG	**David-gareji**	**2.08**	**200**	*e*PN	**Pn**	**01 43 17.0**	**+0.4**
DGRG	**David-gareji**	**2.08**	**200**	P	**Pn**	**01 43 17.1**	**+0.5**
DGRG				S	**Sn**	**01 43 44.5**	**+1.7**
DGRG	**David-gareji**	**2.08**	**200**	*e*Pn	**Pn**	**01 43 17.0**	**+0.4**
DGRG				S	**Sn**	**01 43 44.5**	**+1.7**
GOR	**Gori**	**2.17**	**230**	*e*PN	**Pn**	**01 43 17.5**	**-0.3**
GOR	**Gori**	**2.17**	**230**	P	**Pn**	**01 43 17.5**	**-0.3**
GOR				S	**Sn**	**01 43 46.0**	**+1.0**
GOR	**Gori**	**2.17**	**230**	P	**Pn**	**01 43 17.5**	**-0.3**
GOR				S	**Sn**	**01 43 46.0**	**+1.0**
ONI	**Oni**	**2.27**	**250**	P	**Pn**	**01 43 19.1**	**0.0**
ONI				S	**Sn**	**01 43 50.5**	**+3.1**
ONI	**Oni**	**2.27**	**250**	P	**Pn**	**01 43 19.1**	**0.0**
ONI				S	**Sn**	**01 43 50.5**	**+3.1**
SEKA	**Sheki** comp=N,0.3nm,0.0s,SNR=32	**2.29**	**163**	P	**Pn**	**01 43 19.8**	**+0.3**
SEKA	comp=N,305nm,0.2s			S	**Sn**	**01 43 48.4**	**+0.4**
QUBA	**Quba, Azerbaij** SNR=9.1	**2.60**	**141**	P	**Pn**	**01 43 26.9**	**+3.1**
QUBA				S	**Sn**	**01 43 57.4**	**+1.7**
BEYR	**Belyy Ugol+**	**2.62**	**285**	*c i* PN	**Pn**	**01 43 23.3**	**-0.7**
BEYR	**Belyy Ugol+**	**2.62**	**285**	*i* Pn	**Pn**	**01 43 23.3**	**-0.7**
KIV	**Kislovodsk**	**2.70**	**283**	*e*Pn	**Pn**	**01 43 24.1**	**-1.0**
KIV	**Kislovodsk**	**2.70**	**283**	⇑*i* PN	**Pn**	**01 43 24.2**	**-0.9**
KIV				*i*		01 43 57.5	
KIV	comp=Z,43nm,0.6s			pmax	pmax		
KIV	comp=Z,34nm,0.6s			pmax	pmax		
KIV	comp=N,425nm,0.8s			smax			
KIV	**Kislovodsk** comp=N,34nm,0.6s	**2.70**	**283**	*i* Pn	**Pn**	**01 43 24.2**	**-0.9**
KIV	comp=N,425nm,0.8s			*i* Sn	**Sn**	**01 43 57.5**	**-0.6**
GANJ	**Ganja** SNR=44	**2.76**	**180**	P	**Pn**	**01 43 24.8**	**-1.1**
GANJ				S	**Sn**	**01 43 57.3**	**-2.3**
AKH	**Akhalkalaki**	**2.90**	**227**	P	**Pn**	**01 43 27.9**	**+0.1**
AKH				S	**Sn**	**01 44 06.5**	**+3.4**
AKH	**Akhalkalaki**	**2.90**	**227**	P	**Pn**	**01 43 27.9**	**0.0**
AKH				S	**Sn**	**01 44 06.5**	**+3.5**
IML	**Ismayilli**	**2.95**	**152**	S	**Sn**	**01 44 05.0**	**+0.7**
BRDA	**Brd** SNR=17	**3.21**	**168**	P	**Pn**	**01 43 33.2**	**+1.1**
GNI	**Garni** comp=N,15nm,0.3s,baz=21,slow=9.6,SNR=41	**3.47**	**201**	Pn	**Pn**	**01 43 35.6**	**0.0**
GNI	comp=N,18nm,0.3s,baz=229,slow=20,SNR=3.7			Lg		01 44 22.6	
GNI	**Garni**	**3.47**	**201**	*e*Pn	**Pn**	**01 43 35.2**	**-0.5**
GNI				*e*Sn	**Sn**	**01 44 14.7**	**-2.3**
GNI				Lg		01 44 22.6	
GNI	**Garni**	**3.47**	**201**	*e*PN	**Pn**	**01 43 35.2**	**-0.5**
GNI						01 44 22.6	
GNI	**Garni**	**3.47**	**201**	*e*Pn	**Pn**	**01 43 35.2**	**-0.5**
GNI				*e*Sn	**Sn**	**01 44 14.7**	**-2.3**
ALIB	**Äli-Bayra** SNR=4.1	**3.99**	**149**	P	**Pn**	**01 43 46.3**	**+3.5**
NAX	**Nakhchivan** SNR=34	**4.28**	**189**	P	**Pn**	**01 43 48.0**	**+1.2**
GLBA	**Clilabad** comp=N,17nm,0.2s,SNR=9.4	**4.44**	**159**	P	**Pn**	**01 43 48.9**	**-0.2**
GLBA				S	**Sn**	**01 44 39.6**	**-1.5**
SOC	**Sochi**	**4.82**	**274**	*e*PN	**Pn**	**01 43 55.1**	**+0.9**
SOC				*e*		01 45 09.0	
SOC	comp=Z,228nm,9.0s			MLR	MLR		
SOC	**Sochi** comp=Z,228nm,9.0s	**4.82**	**274**	*e*Pn	**Pn**	**01 43 55.1**	**+0.9**
ANN	**Anapa**	**6.56**	**285**	*e*P	**Pn**	**01 44 20.7**	**+2.6**
ANN				*e*S	**Sn**	**01 45 39.1**	**+5.9**
ANN	comp=Z,79nm,1.8s			pmax	pmax		
VRHR	**Novokhopersk**	**8.33**	**339**	*e*P	**Pn**	**01 44 43.5**	**+1.1**
VRHR				*e*S	**Sn**	**01 46 15.3**	**-1.4**
VRHR	comp=N,4.0nm,0.7s			pmax	pmax		
VRHR	comp=E,7.0nm,0.7s			pmax	pmax		
VRHR	comp=Z,10.0nm,0.7s			pmax	pmax		
VRHR	comp=E,890nm,0.8s			smax			
VRHR	comp=Z,110nm,0.8s			smax			
VRHR	comp=N,20nm,0.3s			smax			
VRHR	**Novokhopersk**	**8.33**	**339**	*e*P	**Pn**	**01 44 43.5**	**+1.1**
VRHR	comp=N,20nm,0.3s			*e*S	**Sn**	**01 46 15.3**	**-1.4**
VSR	**Storozhevoye**	**9.20**	**331**	*e*P	**Pn**	**01 44 55.5**	**+1.2**
VSR				*e*S	**Sn**	**01 46 33.8**	**-4.2**
VSR	comp=N,2.0nm,0.7s			pmax	pmax		
VSR	comp=E,2.0nm,0.7s			pmax	pmax		
VSR	comp=Z,2.0nm,0.7s			pmax	pmax		
VSR	comp=E,180nm,1.0s			smax			
VSR	comp=N,40nm,0.3s			smax			
VSR	comp=Z,10.0nm,0.3s			smax			
VSR	**Storozhevoye**	**9.20**	**331**	*e*P	**Pn**	**01 44 55.5**	**+1.2**
VOR	**Voronezh**	**9.62**	**332**	P	**Pn**	**01 45 01.0**	**+1.0**
VOR	comp=Z,240nm,1.0s			pmax	pmax		
VOR	**Voronezh** comp=Z,240nm,1.0s	**9.62**	**332**	P	**Pn**	**01 45 01.0**	**+1.0**
BRTR	**Keskin Array B** baz=58,slow=13,SNR=4.3	**10.20**	**253**	Pn	**Pn**	**01 45 10.4**	**+2.4**
BRTR	**Keskin Array B**	**10.20**	**253**	Pn	**Pn**	**01 45 10.4**	**+2.3**
BRTR	**Keskin Array B**	**10.20**	**253**	P	**Pn**	**01 45 10.4**	**+2.4**
BRTR	**Keskin Array B**	**10.20**	**253**	Pn	**Pn**	**01 45 10.4**	**+2.4**
AKTK	**Aktyubinsk**	**10.63**	**45**	Pn	**Pn**	**01 45 13.8**	**-0.2**
AKTK				Sn	**Sn**	**01 47 07.3**	**-5.9**
AKTK	**Aktyubinsk** comp=Z,1.0nm,0.3s	**10.63**	**45**	P	**Pn**	**01 45 13.8**	**-0.1**
AKTO	**Aktyubinsk** comp=Z,1.3nm,0.6s	**10.63**	**45**	⇑Pn	**Pn**	**01 45 14.9**	**+1.0**
AKTO	comp=Z,4.5nm,0.6s			⇓Sn	**Sn**	**01 47 07.3**	**-6.0**
AKTO	**Aktyubinsk** comp=Z,1.4nm,0.3s,baz=216,slow=13,SNR=19	**10.63**	**45**	Pn	**Pn**	**01 45 13.8**	**-0.1**
AKTO	comp=Z,2.4nm,0.3s,baz=288,slow=20,SNR=6.7			Sn	**Sn**	**01 47 07.3**	**-5.9**
AKTO	**Aktyubinsk**	**10.63**	**45**	P	**Pn**	**01 45 13.8**	**-0.1**
AKTO						01 47 07.3	
AKTO	comp=Z,1.0nm,0.3s			pmax	pmax		
AKTO	comp=N,2.0nm,0.3s			smax			
AKTO	**Aktyubinsk** comp=N,1.3nm,0.6s	**10.63**	**45**	Pn	**Pn**	**01 45 14.9**	**+1.0**
AB31	**Akbulak array** comp=N,1.7nm,0.3s,baz=245,slow=12,SNR=70	**11.07**	**53**	Pn	**Pn**	**01 45 20.4**	**+0.5**
AB31	comp=N,10nm,0.5s,baz=11,slow=50,SNR=4.8			⇑Sn	**Sn**	**01 47 18.8**	**-5.2**
AB31	**Akbulak array**	**11.07**	**53**	*i* P	**Pn**	**01 45 20.4**	**+0.5**
AB31	comp=Z,2.0nm,0.1s			pmax	pmax		
AB31	**Akbulak array** comp=Z,1.7nm,0.3s,baz=245,SNR=70	**11.07**	**53**	Pn	**Pn**	**01 45 20.4**	**+0.5**
ABKAR	**Akbulak array** comp=Z,7.6nm,0.5s	**11.07**	**53**	*e*Pn	**Pn**	**01 45 20.3**	**+0.4**
ABKAR				*e*Sn	**Sn**	**01 47 17.3**	**-6.7**
ABKAR	**Akbulak array** comp=Z,7.6nm,0.5s	**11.07**	**53**	*e*Pn	**Pn**	**01 45 20.3**	**+0.4**
OBN	**Obninsk**	**13.32**	**335**	⇑*e*P	**Pn**	**01 45 48.6**	**-2.0**
OBN				*i* S	**Sn**	**01 48 14.7**	**-4.2**
OBN	comp=Z,6.0nm,0.7s			pmax	pmax		
OBN	comp=Z,100nm,13.0s			MLR	MLR		
OBN	**Obninsk** comp=Z,100nm,13.0s	**13.32**	**335**	*e*P	**Pn**	**01 45 48.6**	**-2.0**
AKASG	**Malin Array Be** comp=Z,1.1nm,0.3s,baz=108,slow=14,SNR=3.9	**13.74**	**308**	Pn	**Pn**	**01 45 54.9**	**-1.5**
AKASG	**Malin Array Be**	**13.74**	**308**	Pn	**Pn**	**01 45 54.9**	**-1.5**
AKASG	**Malin Array Be**	**13.74**	**308**	P	**Pn**	**01 45 54.9**	**-1.4**
AKASG	comp=Z,1.0nm,0.3s			pmax	pmax		
AKASG	**Malin Array Be** comp=Z,1.0nm,0.3s	**13.74**	**308**	P	**Pn**	**01 45 54.9**	**-1.4**
AKBB	**Malin Array Si**	**13.74**	**308**	*e*Pn	**Pn**	**01 45 56.5**	**+0.2**
AKBB	**Malin Array Si**	**13.74**	**308**	*e*P	**Pn**	**01 45 56.5**	**+0.2**
AKBB	**Malin Array Si**	**13.74**	**308**	*e*P	**Pn**	**01 45 56.5**	**+0.2**
KIEV	**Kiev** comp=Z,7.4nm,0.7s	**13.74**	**308**	*e*Pn	**Pn**	**01 45 55.3**	**-1.1**
KIEV	**Kiev**	**13.74**	**308**	*e*P	**Pn**	**01 45 55.3**	**-1.1**
KIEV	comp=Z,7.0nm,0.7s			pmax	pmax		
KIEV	**Kiev** comp=Z,7.0nm,0.7s	**13.74**	**308**	*e*P	**Pn**	**01 45 55.3**	**-1.1**
VRI	**Vrincioaia**	**14.17**	**287**	⇓P	**Pn**	**01 46 10.0**	**+7.7**
VRI	**Vrincioaia**	**14.17**	**287**	⇓*i* P	**Pn**	**01 46 10.0**	**+7.7**
PLOR	**Plostina**	**14.23**	**287**	⇑P	pP	01 46 14.0	+1.8
PLOR	**Plostina**	**14.23**	**287**	⇑*i* P	pP	01 46 14.0	+1.8
MLR	**Muntele Rosu** comp=Z,0.0nm,0.3s,baz=274,slow=3.5,SNR=3.5	**14.71**	**285**	Pn	**Pn**	**01 46 05.9**	**-3.7**
MLR	**Muntele Rosu**	**14.71**	**285**	Pn	**Pn**	**01 46 05.9**	**-3.7**
MLR	**Muntele Rosu**	**14.71**	**285**	P	**Pn**	**01 46 05.9**	**-3.7**
MLR	**Muntele Rosu**	**14.71**	**285**	⇓*i* P	**Pn**	**01 46 16.4**	**+6.8**
MLR	**Muntele Rosu**	**14.71**	**285**	⇓*i* P	**Pn**	**01 46 16.4**	**+6.8**
ARU	**Arti** comp=Z,9.8nm,0.4s	**15.19**	**27**	*e*Pn	**Pn**	**01 46 12.8**	**-3.4**
ARU				*e*Sn	**Sn**	**01 48 54.4**	**-10**
ARU	**Arti**	**15.19**	**27**	*c e*P	**Pn**	**01 46 12.5**	**-3.6**
ARU				S	**Sn**	**01 49 00.4**	**-4.2**
ARU	comp=Z,5.0nm,0.5s			pmax	pmax		
VOIR		**15.34**	**285**	⇑P	**Pn**	**01 46 24.2**	**+6.1**
VOIR		**15.34**	**285**	⇑*i* P	**Pn**	**01 46 24.2**	**+6.1**
VOIR		**15.34**	**285**	P	**Pn**	**01 46 24.2**	**+6.1**
BURAR	**Bucovina Array**	**15.38**	**293**	⇑P	**Pn**	**01 46 22.9**	**+4.3**
BURAR	**Bucovina Array**	**15.38**	**293**	⇑*i* P	**Pn**	**01 46 22.9**	**+4.3**
BURAR	**Bucovina Array**	**15.38**	**293**	⇑*i* P	**Pn**	**01 46 22.9**	**+4.3**
BUR08	**Bucovina Ar. S**	**15.39**	**293**	*e*Pn	**Pn**	**01 46 15.8**	**-3.0**
SVE	**Sverdlovsk**	**16.21**	**29**	⇑*i* P	**Pn**	**01 46 27.3**	**-2.1**
SVE	comp=Z,20nm,0.7s			pmax	pmax		
SVE	comp=Z,192nm,13.0s			MLR	MLR		
LVV	**L'vov**	**16.58**	**301**	*e*P	**Pn**	**01 46 36.8**	**+2.7**
LVV	comp=N,100nm,14.0s			MLR	MLR		
LVV	comp=E,100nm,14.0s			MLR	MLR		
LVV	comp=Z,100nm,14.0s			MLR	MLR		
LVV	**L'vov**	**16.58**	**301**	*e*P	**Pn**	**01 46 36.8**	**+2.7**
DRGR		**17.00**	**290**	⇑P	**Pn**	**01 46 41.7**	**+2.3**
DRGR		**17.00**	**290**	⇑*i* P	**Pn**	**01 46 41.7**	**+2.3**
DRGR		**17.00**	**290**	P	**Pn**	**01 46 41.7**	**+2.3**
KWP	**Kalwaria Pacla** comp=Z,17nm,1.1s	**17.37**	**299**	*e*P	**Pn**	**01 46 45.7**	**+1.7**
KWP	**Kalwaria Pacla**	**17.37**	**299**	*e*P	**Pn**	**01 46 45.7**	**+1.7**
KWP	comp=Z,17nm,1.1s			pmax	pmax		
KWP	**Kalwaria Pacla**	**17.37**	**299**	⇑*i* P	**Pn**	**01 46 46.1**	**+2.1**
KWP	**Kalwaria Pacla** comp=Z,17nm,1.1s	**17.37**	**299**	*e*P	**Pn**	**01 46 45.7**	**+1.7**
SOKR	**Solikamsk**	**17.41**	**18**	*e*P	**Pn**	**01 46 47.7**	**+3.3**
SOKR	comp=Z,9.0nm,0.9s			pmax	pmax		
SOKR	**Solikamsk** comp=Z,9.0nm,0.9s	**17.41**	**18**	*e*P	**Pn**	**01 46 47.7**	**+3.3**
KK31	**Karatay Array** comp=Z,1.2nm,0.4s,baz=287,slow=14,SNR=31	**17.61**	**83**	⇑P	**Pn**	**01 46 45.5**	**-1.5**
KK31	**Karatay Array**	**17.61**	**83**	*i* P	**Pn**	**01 46 45.4**	**-1.6**
KK31	comp=Z,1.0nm,0.4s			pmax	pmax		
KK31	**Karatay Array** comp=Z,1.2nm,0.4s,baz=287,SNR=31	**17.61**	**83**	P	**Pn**	**01 46 45.5**	**-1.5**
KKAR	**Karatay Array** comp=Z,2.6nm,0.4s	**17.61**	**83**	*e*P	**Pn**	**01 46 45.9**	**-1.1**
KKAR				*e*Sn	**Sn**	**01 49 52.4**	**-11**
KKAR	**Karatay Array**	**17.61**	**83**	*e*P	**Pn**	**01 46 45.9**	**-1.1**
KKAR				*e*		01 49 52.4	
KKAR	comp=Z,3.0nm,0.4s			pmax	pmax		
KKAR	**Karatay Array** comp=Z,3.0nm,0.4s	**17.61**	**83**	*e*P	**Pn**	**01 46 45.9**	**-1.1**
BZS	**Buzias**	**17.75**	**286**	⇑P	**Pn**	**01 46 47.8**	**-1.0**
BZS	**Buzias**	**17.75**	**286**	⇑*i* P	**Pn**	**01 46 47.8**	**-1.0**
BZS	**Buzias**	**17.75**	**286**	P	**Pn**	**01 46 47.8**	**-1.0**
ZRNK	**Zerenda** comp=Z,19nm,0.8s	**17.81**	**50**	⇓P	**Pn**	**01 46 51.3**	**+1.9**
KLMR	**Klimovskoe**	**17.95**	**349**	*e*P	**Pn**	**01 46 42.8**	**-8.3**
KLMR				*e*S	**Sn**	**01 50 01.0**	**-10**
KLMR	comp=Z,23nm,1.1s			pmax	pmax		
BRVK	**Borovoye** comp=Z,13nm,0.6s	**18.57**	**50**	*e*P	**Pn**	**01 46 57.8**	**-0.9**
BRVK	**Borovoye**	**18.57**	**50**	*e*P	**Pn**	**01 46 57.8**	**-0.9**
BRVK	comp=Z,13nm,0.6s			pmax	pmax		
BRVK	**Borovoye** comp=Z,13nm,0.6s	**18.57**	**50**	*e*P	**Pn**	**01 46 57.8**	**-0.9**
BVA0	**Borovoye Array** comp=Z,1.2nm,0.6s	**18.61**	**50**	⇑P	**Pn**	**01 46 58.8**	**-0.5**
BVA0	**Borovoye Array**	**18.61**	**50**	P	**Pn**	**01 46 58.7**	**-0.6**
BVA0	comp=Z,2.0nm,0.7s			pmax	pmax		
BVA0	**Borovoye Array** comp=Z,2.0nm,0.7s	**18.61**	**50**	P	**Pn**	**01 46 58.7**	**-0.6**
BVAR	**Borovoye Array** comp=Z,1.2nm,0.6s	**18.61**	**50**	P	**Pn**	**01 46 58.8**	**-0.5**
VOSK	**Vostochnaya** comp=Z,17nm,0.8s	**18.84**	**52**	⇑P	**Pn**	**01 47 03.2**	**+1.2**
VOSK	**Vostochnaya**	**18.84**	**52**	P	**Pn**	**01 47 02.8**	**+0.7**
VOSK	comp=Z,17nm,0.8s			pmax	pmax		
VOSK	**Vostochnaya** comp=Z,17nm,0.8s	**18.84**	**52**	P	**Pn**	**01 47 02.8**	**+0.7**
VSU	**Vasula**	**19.37**	**328**	⇓*e*P	**Pn**	**01 47 07.3**	**-1.1**
VSU	comp=Z,19nm,1.0s			pmax	pmax		
VSU	**Vasula** comp=Z,19nm,1.0s	**19.37**	**328**	*e*P	**Pn**	**01 47 07.3**	**-1.1**
KBL	**Kabul** comp=Z,5.0nm,0.8s	**19.70**	**109**	*e*P	**Pn**	**01 47 12.8**	**+0.3**
KBL	**Kabul**	**19.70**	**109**	*e*P	**Pn**	**01 47 12.8**	**+0.2**
KBL	comp=Z,5.0nm,0.8s			pmax	pmax		
KBL	**Kabul** comp=Z,5.0nm,0.8s	**19.70**	**109**	*e*P	**Pn**	**01 47 12.8**	**+0.2**
EKS2	**Erkin-Say** comp=Z,3.3nm,0.7s	**20.05**	**83**	*e*P	**P**	**01 47 15.6**	**+0.8**
EKS2	**Erkin-Say**	**20.05**	**83**	*e*P	**P**	**01 47 15.6**	**+0.8**
EKS2	comp=Z,3.0nm,0.7s			pmax	pmax		
EKS2	**Erkin-Say** comp=Z,3.3nm,0.7s	**20.05**	**83**	*e*P	**P**	**01 47 15.6**	**+0.8**
MORC	**Moravsky Berou** comp=Z,2.1nm,0.7s	**20.70**	**298**	*e*P	**P**	**01 47 19.9**	**-2.0**
MORC	**Moravsky Berou**	**20.70**	**298**	*e*P	**P**	**01 47 19.9**	**-2.0**
MORC	comp=Z,2.0nm,0.7s			pmax	pmax		
MORC	**Moravsky Berou** comp=Z,2.1nm,0.7s	**20.70**	**298**	*e*P	**P**	**01 47 19.9**	**-2.0**
VRAC	**Vranov** comp=Z,55nm,18.1s,MS3.0,baz=254,slow=40	**21.27**	**296**	LR	LR	01 56 56.6	
TKM2	**Tokmak 2** comp=Z,3.2nm,0.8s,mb3.7	**21.31**	**81**	⇓P	**P**	**01 47 28.2**	**-0.3**
TKM2	**Tokmak 2** comp=Z,3.7nm,0.7s,mb3.8	**21.31**	**81**	*e*P	**P**	**01 47 28.1**	**-0.4**
TKM2	**Tokmak 2**	**21.31**	**81**	*e*P	**P**	**01 47 28.1**	**-0.4**
TKM2	comp=Z,4.0nm,0.7s,mb3.9			pmax	pmax		
TKM2	**Tokmak 2** comp=Z,3.2nm,0.8s,mb3.7	**21.31**	**81**	P	**P**	**01 47 28.2**	**-0.3**
JOF	**Joensuu**	**21.41**	**341**	*e*P	**P**	**01 47 29.7**	**+0.3**
JOF	comp=Z,11nm,0.3s,mb4.7			pmax	pmax		
JOF	**Joensuu** comp=Z,10nm,0.3s,mb4.6	**21.41**	**341**	*e*p	**P**	**01 47 29.7**	**+0.3**
JOF	**Joensuu** comp=Z,11nm,0.3s,mb4.7	**21.41**	**341**	*e*P	**P**	**01 47 29.7**	**+0.3**
CSNA	**Conrad Observa** comp=Z,5.8nm,1.3s,mb3.9	**21.69**	**293**	⇑*i* P	**P**	**01 47 32.6**	**0.0**
CSNA	**Conrad Observa** comp=Z,5.8nm,1.3s,mb3.9	**21.69**	**293**	P	**P**	**01 47 32.6**	**0.0**
FINES	**FINESS Array B** comp=Z,15nm,0.7s,mb4.5,baz=139,slow=11,SNR=32	**21.71**	**333**	P	**P**	**01 47 33.5**	**+0.8**
FINES	comp=Z,5.5nm,0.6s,baz=152,slow=19,SNR=5.3			S	**S**	**01 51 27.8**	**-5.2**
FINES	**FINESS Array B**	**21.71**	**333**	P	**P**	**01 47 33.5**	**+0.8**
FINES				S	**S**	**01 51 27.8**	**-5.2**
FINES	**FINESS Array B**	**21.71**	**333**	P	**P**	**01 47 33.5**	**+0.8**
FINES				S	**S**	**01 51 27.8**	**-5.2**
FINES	comp=Z,15nm,0.7s			pmax	pmax		
FINES	comp=N,6.0nm,0.6s			smax			
FINES	**FINESS Array B** comp=N,15nm,0.7s,mb4.5	**21.71**	**333**	P	**P**	**01 47 33.5**	**+0.8**
KAF	**Kangasniemi**	**22.14**	**335**	*e*P	**P**	**01 47 37.2**	**0.0**
KAF	**Kangasniemi**	**22.14**	**335**	*e*p	**P**	**01 47 37.2**	**0.0**
KAF	**Kangasniemi**	**22.14**	**335**	*e*P	**P**	**01 47 37.2**	**0.0**
KSH	**Kashi** comp=Z,110nm,4.8s	**22.49**	**90**	*e*P	**P**	**01 47 42.5**	**+1.3**
KSH				pmax	pmax		
KURK	**Kurchatov** comp=Z,12nm,1.4s,mb4.1	**23.04**	**60**	⇑P	**P**	**01 47 47.7**	**+0.8**
KURK	**Kurchatov** comp=Z,4.0nm,0.5s,mb4.1,baz=272,slow=12,SNR=25	**23.04**	**60**	P	**P**	**01 47 49.6**	**+2.7**
KURK	**Kurchatov** comp=Z,7.2nm,0.9s,mb4.1	**23.04**	**60**	*e*P	**P**	**01 47 49.1**	**+2.2**
KURK	**Kurchatov**	**23.04**	**60**	*de*P	**P**	**01 47 48.1**	**+1.2**
KURK	comp=Z,5.0nm,1.2s,mb3.8			pmax	pmax		
KURK	**Kurchatov** comp=Z,12nm,1.4s,mb4.1	**23.04**	**60**	P	**P**	**01 47 47.7**	**+0.8**
GERES	**GERESS Array B** comp=Z,1.4nm,0.5s,mb3.6,baz=97,slow=8.0,SNR=16	**23.15**	**295**	P	**P**	**01 47 47.4**	**-0.6**
GERES	comp=Z,41nm,19.2s,MS2.9,baz=276,slow=40			LR	LR	01 58 06.1	
GERES	**GERESS Array B**	**23.15**	**295**	P	**P**	**01 47 47.4**	**-0.6**

NOA					LR	LR	02 00 31.5		
NOA	**NORSAR Array B**	**27.34**	**322**		P	**P**	**01 48 25.3**	**-1.2**	
NOA					pmax	pmax			
	comp=Z,2.0nm,0.6s								
NOA					MLR	MLR			
	comp=Z,12nm,18.5s								
NOA	**NORSAR Array B**	**27.34**	**322**		P	**P**	**01 48 25.3**	**-1.2**	
	comp=Z,12nm,18.5s								
ARCES	**ARCESS Array B**	**28.29**	**345**		P	**P**	**01 48 35.5**	**+0.6**	
	comp=Z,4.6nm,0.9s,mb4.1,baz=150,slow=9.3,SNR=8.6								
ARCES	**ARCESS Array B**	**28.29**	**345**		P	**P**	**01 48 35.5**	**+0.6**	
ARCES	**ARCESS Array B**	**28.29**	**345**		P	**P**	**01 48 35.5**	**+0.6**	
ARCES					pmax	pmax			
	comp=Z,5.0nm,0.9s								
ARCES	**ARCESS Array B**	**28.29**	**345**		P	**P**	**01 48 35.5**	**+0.6**	
	comp=Z,5.0nm,0.9s,mb4.1								
TAM	**Tamanrasset**	**39.40**	**252**	*e*P		**P**	**01 50 10.6**	**-1.1**	
	comp=Z,2.9nm,0.9s,mb4.0								
TAM	**Tamanrasset**	**39.40**	**252**	*e*P		**P**	**01 50 10.6**	**-1.1**	
TAM					pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.0								
TAM	**Tamanrasset**	**39.40**	**252**	*e*P		**P**	**01 50 10.6**	**-1.1**	
	comp=Z,2.9nm,0.9s,mb4.0								
TORD	**Torodi Ar. Bea**	**48.71**	**246**		P	**P**	**01 51 22.8**	**-3.7**	
	comp=Z,1.7nm,0.5s,mb4.3,baz=38,slow=8.0,SNR=31								
TORD	**Torodi Ar. Bea**	**48.71**	**246**		P	**P**	**01 51 22.8**	**-3.7**	
CN2	**Changchun**	**55.11**	**60**	*e*P		**P**	**01 52 17.8**	**+3.8**	
DBIC	**Dimbokro**	**57.81**	**246**		P	**P**	**01 52 29.8**	**-3.8**	
	comp=Z,1.7nm,0.4s,mb4.4,baz=22,slow=8.1,SNR=7.8								
DBIC	**Dimbokro**	**57.81**	**246**	*e*P		**P**	**01 52 29.8**	**-3.7**	
	comp=Z,2.1nm,0.5s,mb4.4								
DBIC	**Dimbokro**	**57.81**	**246**		P	**P**	**01 52 29.8**	**-3.7**	
DBIC					pmax	pmax			
	comp=Z,2.0nm,0.4s								
BOSA	**Boshof**	**74.24**	**199**		P	**P**	**01 54 15.9**	**-2.9**	
	comp=Z,2.8nm,0.6s,mb4.3,baz=24,slow=4.9,SNR=5.9								
BOSA	**Boshof**	**74.24**	**199**		P	**P**	**01 54 15.9**	**-2.9**	
BOSA	**Boshof**	**74.24**	**199**		P	**P**	**01 54 15.9**	**-2.9**	
BOSA					pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.4								
BROR	**Big Rock Looko**	**92.14**	**352**		P	**P**	**01 55 54.0**	**+2.7**	

IDC ***14*** *01:48:34.9±0.6, 43.49N×127.55W, h0km, mb4.7/25, mb1 4.8/27, mb1mx4.7/32, mbtmp4.6/27, ML3.5/2, MS4.7/17, Ms1 4.7/17, ms1mx4.5/43, Error ellipse: s-maj=20.7km s-min=11.5km az=40.0*

BJI ***14*** *01:48:34.1, 43.50N×127.40W, h10km, mB5.3/28, mb5.2/45, Ms5.3/30, Ms7 4.9/31*

ISCJB ***14*** *01:48:36.9±0.1, 43.61N±0.01×127.36W±0.02, h15km, mb5.0/181, MS4.8/64, Error ellipse: s-maj=2.3km s-min=1.5km az=135.2*

MOS ***14*** *01:48:36.8±1.2, 43.56N×127.39W, h17km, mb5.4/59, MS4.8/23, Error ellipse: s-maj=5.5km s-min=4.4km az=120.2*

NEIC ***14*** *01:48:37.1±0.2, 43.50N×127.39W, h10km, mb5.3/102, MS4.8/39, Error ellipse: s-maj=3.9km s-min=2.3km az=209.0*

GCMT ***14*** *01:48:40.0±0.2, 43.40N×127.68W, h14km±1km, MW5.3, Moment Tensor Solution. s62,c106; s14,c14; Moment tensor: Scale 1017Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mrφ0.00; Mθφ0.00; Best double couple: Mo1.30000×1017 NP1:φs112.00000°, δ80.00000°, λ-173.00000°. NP2:φs21.00000°, δ83.00000°, λ-10.00000°. Principal axes: T 1.2800, Plg2.0000°, Azm67.0000°; N 0.0200, Plg78.0000°, Azm167.0000°; P -1.2900, Plg12.0000°, Azm336.0000°; Data Used: ll IU IC G CN. Surface waves: sta=101, comp=195, per= 50.*

SZGRF ***14*** *01:48:45.2, 44.03N×126.94W, h33km, mb4.8, OFF coast of Oregon, United States*

ISC 14 01:48:39.3±0.7, 43.59N±0.01×127.44W±0.03, h22km±5km, h21km±1.5km:pP-P, n993, σ0.95/954, mb5.0/181, MS4.8/64, 232C-228D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**2.38**	**107**	*e*Pn	**Pn**	**01 49 12.3**	**-4.7**
RNO	**Roman Nose**	**2.70**	**82**	P	**Pn**	**01 49 18.3**	**-3.0**
KBO	**Bosley Butte**	**2.73**	**119**	*e*Pn	**Pn**	**01 49 17.7**	**-4.1**
MPOR	**Mary's Peak**	**2.95**	**71**	P	**Pn**	**01 49 22.0**	**-2.8**
HEBO	**Mount Hebo**	**3.10**	**57**	P	**Pn**	**01 49 25.0**	**-1.9**
COR	**Corvallis**	**3.14**	**70**	*e*Pn	**Pn**	**01 49 24.9**	**-2.5**
COR	**Corvallis**	**3.14**	**70**	*e*P	**Pn**	**01 49 24.9**	**-2.5**
HSO	**Harness Mounta**	**3.16**	**90**	P	**Pn**	**01 49 24.9**	**-2.8**
HSO	**Harness Mounta**	**3.16**	**90**	P	**Pn**	**01 49 24.9**	**-2.8**
KRMB	**Red Mountain**	**3.33**	**127**	*e*Pn	**Pn**	**01 49 25.5**	**-4.5**
HUMO	**Hull Mountain**	**3.43**	**105**	*e*Pn	**Pn**	**01 49 27.3**	**-4.0**
HUMO				*e*Sn	**Sn**	**01 50 09.0**	**-2.2**
KMOR	**Kings Mountain**	**3.48**	**53**	P	**Pn**	**01 49 30.5**	**-1.6**
BROR	**Big Rock Looko**	**3.67**	**78**	P	**Pn**	**01 49 32.9**	**-1.7**
NLO	**Nicolai Mounta**	**3.78**	**47**	P	**Pn**	**01 49 35.3**	**-0.9**
KHMM	**Horse Mountain**	**3.87**	**133**	*e*Pn	**Pn**	**01 49 35.3**	**-2.1**
FRIS	**Frissel Point**	**3.91**	**79**	P	**Pn**	**01 49 36.5**	**-1.5**
H04A	**Detroit Lake** baz=3.9	**3.94**	**72**	⇓P	**Pn**	**01 49 36.9**	**-1.4**
YBH	**Yreka Blue Hor**	**3.95**	**116**	*e*Pn	**Pn**	**01 49 36.2**	**-2.3**
YBH	**Yreka Blue Hor**	**3.95**	**116**	*e*P	**Pn**	**01 49 36.2**	**-2.4**
E03A	**Lebam** baz=4.1	**4.03**	**42**	⇑P	**Pn**	**01 49 38.4**	**-1.3**
E03A				⇑S	**Sn**	**01 50 26.7**	**+0.5**
	baz=4.1						
VLMM	**Larch Mountain**	**4.32**	**61**	P	**Pn**	**01 49 43.2**	**-0.4**
LVP	**Lakeview Peak**	**4.35**	**54**	P	**Pn**	**01 49 43.6**	**-0.4**
MTMW	**Mount Mitchell**	**4.44**	**55**	P	**Pn**	**01 49 44.8**	**-0.5**
FL2	**Flat Top 2**	**4.46**	**52**	P	**Pn**	**01 49 45.0**	**-0.5**
HOOD	**Mount Hood Mea**	**4.49**	**65**	P	**Pn**	**01 49 45.6**	**-0.4**
SHW	**Mount Saint He**	**4.52**	**53**	P	**Pn**	**01 49 46.3**	**-0.1**
SHW	**Mount Saint He**	**4.52**	**53**	P	**Pn**	**01 49 46.3**	**-0.1**
JLK	**June Lake**	**4.54**	**54**	P	**Pn**	**01 49 46.4**	**-0.3**
NLWA	**Neilton Lookou**	**4.55**	**32**	*e*Pn	**Pn**	**01 49 46.3**	**-0.5**
TDL	**Tradedollar La**	**4.62**	**52**	P	**Pn**	**01 49 47.4**	**-0.4**
WDC	**Whiskeytown Da**	**4.72**	**128**	*e*Pn	**Pn**	**01 49 46.7**	**-2.5**
WDC	**Whiskeytown Da**	**4.72**	**128**	*e*P	**Pn**	**01 49 46.7**	**-2.5**
KIPM	**Iron Peak**	**4.80**	**141**	*e*Pn	**Pn**	**01 49 43.4**	**-6.9**
KCPM	**Cahto Peak**	**4.85**	**142**	*e*Pn	**Pn**	**01 49 49.5**	**-1.5**
K05A	**Summer Lake** baz=4.8	**4.87**	**98**	⇑P	**Pn**	**01 49 49.1**	**-2.1**
LON	**Longmire**	**5.08**	**50**	*e*Pn	**Pn**	**01 49 53.9**	**-0.2**
LON	**Longmire**	**5.08**	**50**	*e*P	**Pn**	**01 49 53.9**	**-0.2**
GNW	**Green Mountain**	**5.12**	**38**	*e*Pn	**Pn**	**01 49 53.7**	**-1.0**
G06A	**Carlson Farm,** baz=5.1	**5.14**	**69**	⇓P	**Pn**	**01 49 53.5**	**-1.5**
D05A	**Enumclaw** baz=5.3	**5.26**	**45**	⇑P	**Pn**	**01 49 56.8**	**+0.3**
D05A				⇓S	**Sn**	**01 51 00.2**	**+3.8**
	baz=5.3						
MOD	**Modoc**	**5.52**	**105**	*e*Pn	**Pn**	**01 49 57.8**	**-2.3**
HOPS	**Hopland**	**5.65**	**143**	*e*Pn	**Pn**	**01 50 00.5**	**-1.4**
I07A	**Izee** baz=5.7	**5.76**	**82**	⇑P	**Pn**	**01 50 01.8**	**-1.6**
PGC	**Sidney** 8.1nm,0.3s	**5.77**	**27**	*e*Pn	**Pn**	**01 50 02.4**	**-1.1**
PGC				*e*Sn	**Sn**	**01 51 07.0**	**-2.0**
F07A	**Phinny Hill Vi** baz=5.8	**5.82**	**64**	⇑P	**Pn**	**01 50 03.4**	**-0.9**
JCW	**Jim Creek**	**6.00**	**38**	*e*Pn	**Pn**	**01 50 06.3**	**-0.4**
JCW				*e*Sn	**Sn**	**01 51 15.2**	**+0.7**
E07A	**Sunnyside** baz=6.1	**6.13**	**58**	⇑P	**Pn**	**01 50 08.2**	**-0.4**
RSW	**Rattlesnake Hi**	**6.23**	**61**	*e*Pn	**Pn**	**01 50 09.4**	**-0.5**
HAWA	**Hanford**	**6.27**	**61**	*e*Pn	**Pn**	**01 50 09.8**	**-0.6**
G08A	**Pilot Rock** baz=6.3	**6.30**	**71**	⇓P	**Pn**	**01 50 09.4**	**-1.5**
RPW	**Rockport**	**6.37**	**38**	*e*Pn	**Pn**	**01 50 11.6**	**-0.2**
ETW	**Entiat**	**6.40**	**49**	*e*Pn	**Pn**	**01 50 12.3**	**+0.1**
MCCM	**Marconi Confer**	**6.44**	**146**	*e*Pn	**Pn**	**01 50 10.8**	**-2.0**
J08A	**Circle Bar Ran** baz=6.5	**6.53**	**89**	⇑P	**Pn**	**01 50 11.8**	**-2.1**
WVOR	**Wild Horse Val** 110nm,1.3s	**6.55**	**97**	*e*Pn	**Pn**	**01 50 11.1**	**-3.3**
WVOR	**Wild Horse Val**	**6.55**	**97**	*e*P	**Pn**	**01 50 11.1**	**-3.2**
WVOR				pmax	pmax		
	comp=Z,110nm,1.3s						
A05A	**Maple Falls** baz=6.6	**6.56**	**33**	⇓P	**Pn**	**01 50 14.5**	**+0.1**
E08A	**Dider Farm, El** baz=6.6	**6.61**	**61**	⇑P	**Pn**	**01 50 14.4**	**-0.7**
LNOR	**Lincton Mounta**	**6.91**	**68**	*e*Pn	**Pn**	**01 50 17.1**	**-2.1**
LNOR	**Lincton Mounta**	**6.91**	**68**	*e*P	**Pn**	**01 50 17.1**	**-2.1**
WCN	**Washoe City**	**7.19**	**124**	⇑P	**Pn**	**01 50 21.2**	**-1.8**
	baz=7.1						
WCN	**Washoe City**	**7.19**	**124**	*e*Pn	**Pn**	**01 50 23.7**	**+0.6**
WCN	**Washoe City**	**7.19**	**124**	*e*P	**Pn**	**01 50 23.7**	**+0.7**
E09A	**Wood Farm, Sta** baz=7.2	**7.20**	**63**	⇓P	**Pn**	**01 50 21.6**	**-1.6**
OD2	**Odessa Site #2**	**7.21**	**55**	*e*Pn	**Pn**	**01 50 22.8**	**-0.6**
BMO	**Blue Mountains**	**7.39**	**77**	*e*Pn	**Pn**	**01 50 23.8**	**-2.0**
F10A	**Beach Ranch, E** baz=7.6	**7.64**	**68**	⇓P	**Pn**	**01 50 27.7**	**-1.6**
C09A	**Chisman Ranch** baz=7.7	**7.67**	**54**	⇓P	**Pn**	**01 50 29.1**	**-0.5**
SAO	**San Andreas Ge**	**8.21**	**144**	*e*Pn	**Pn**	**01 50 34.5**	**-2.6**
SAO	**San Andreas Ge**	**8.21**	**144**	*e*P	**Pn**	**01 50 34.5**	**-2.6**
BMN	**Battle Mountai** comp=Z,37nm,1.4s	**8.23**	**109**	*e*Pn	**Pn**	**01 50 39.0**	**+1.6**
BMN	**Battle Mountai**	**8.23**	**109**	*e*P	**Pn**	**01 50 39.0**	**+1.6**
BMN				pmax	pmax		
	comp=Z,37nm,1.4s						
MFID	**Camas Ranch** baz=8.4	**8.44**	**87**	⇓P	**Pn**	**01 50 38.5**	**-1.8**
MFID	**Camas Ranch**	**8.44**	**87**	*e*Pn	**Pn**	**01 50 39.1**	**-1.2**
NEW	**Newport** baz=8.6	**8.57**	**53**	⇑P	**Pn**	**01 50 41.0**	**-1.0**
NEW	**Newport**	**8.57**	**53**	*e*Pn	**Pn**	**01 50 41.3**	**-0.7**
NEW	**Newport**	**8.57**	**53**	*e*P	**Pn**	**01 50 41.3**	**-0.7**
BBB	**Bella Bella** comp=Z,5.7nm,0.3s,baz=188,slow=15,SNR=38	**8.61**	**357**	Pn	**Pn**	**01 50 44.6**	**+2.1**
BBB				LR	LR	01 53 38.7	
	comp=Z,3μm,19.8s,baz=182,slow=35						
BBB	**Bella Bella**	**8.61**	**357**	Pn	**Pn**	**01 50 44.6**	**+2.1**
BBB				LR	LR	01 53 38.7	
NVAR	**Mina Array Bea** comp=Z,0.8nm,0.3s,baz=298,slow=13,SNR=28	**8.62**	**124**	Pn	**Pn**	**01 50 42.9**	**+0.2**
NVAR				LR	LR	01 53 59.3	
	comp=Z,3μm,20.2s,baz=56,slow=37						
NVAR	**Mina Array Bea**	**8.62**	**124**	Pn	**Pn**	**01 50 42.9**	**+0.2**
NVAR				LR	LR	01 53 59.3	
LRV	**Little Rabbit**	**8.69**	**143**	*e*Pn	**Pn**	**01 50 43.8**	**+0.2**
G12A	**Big Creek, Yel** baz=8.8	**8.81**	**76**	⇑P	**Pn**	**01 50 44.2**	**-1.1**
MLAC	**Mammoth Lakes** baz=8.7	**8.84**	**129**	⇓P	**Pn**	**01 50 43.9**	**-1.9**
E12A	**Beaver Dam Sad** baz=8.9	**8.87**	**67**	⇑P	**Pn**	**01 50 45.0**	**-1.1**
C11A	**Tepee Creek (N** baz=8.9	**8.90**	**58**	⇑P	**Pn**	**01 50 46.2**	**-0.3**
I12A	**Atlanta** baz=8.9	**8.92**	**84**	⇑P	**Pn**	**01 50 45.5**	**-1.2**
F12A	**Elk City** baz=8.9	**8.95**	**72**	⇓P	**Pn**	**01 50 46.2**	**-0.9**
H12A	**Diamond D Ranc** baz=9.1	**9.11**	**80**	⇑P	**Pn**	**01 50 48.5**	**-0.9**
D12A	**Red Ives Fores** baz=9.2	**9.19**	**64**	⇓P	**Pn**	**01 50 49.9**	**-0.5**
C12B	**Naegeli Ranch,** baz=9.3	**9.33**	**60**	⇑P	**Pn**	**01 50 52.5**	**0.0**
HLID	**Hailey** baz=9.4	**9.46**	**86**	⇑P	**Pn**	**01 50 53.2**	**-0.9**
HLID	**Hailey**	**9.46**	**86**	*e*Pn	**Pn**	**01 50 52.6**	**-1.5**
H13A	**Challis** baz=9.5	**9.54**	**80**	⇑P	**Pn**	**01 50 55.5**	**+0.3**
B12A	**Libby** baz=9.6	**9.57**	**55**	⇑P	**Pn**	**01 50 56.2**	**+0.4**
G13A	**Cobalt** baz=9.5	**9.58**	**76**	⇓P	**Pn**	**01 50 56.1**	**+0.3**
TIN	**Tinemaha** baz=9.5	**9.59**	**130**	⇑P	**Pn**	**01 50 54.1**	**-1.9**
RCTC	**Rector, Farmer** baz=9.5	**9.61**	**136**	⇓P	**Pn**	**01 50 55.6**	**-0.7**
J13A	**Cove Ranch, Pi** baz=9.6	**9.64**	**87**	⇓P	**Pn**	**01 50 56.1**	**-0.6**
I13A	**Wildhorse Cree** baz=9.6	**9.65**	**83**	⇓P	**Pn**	**01 50 56.3**	**-0.5**
A12A	**Yaak River Ran** baz=9.8	**9.75**	**53**	⇓P	**Pn**	**01 50 58.7**	**+0.6**
D13A	**Huson** baz=9.8	**9.79**	**65**	⇓P	**Pn**	**01 50 57.8**	**-0.8**
E13A	**Victor** baz=9.8	**9.81**	**69**	⇑P	**Pn**	**01 50 58.1**	**-0.8**
BSMT	**Bassoo Peak**	**9.82**	**60**	*e*Pn	**Pn**	**01 50 59.4**	**+0.3**
C13A	**Hot Springs** baz=9.9	**9.89**	**61**	⇓P	**Pn**	**01 51 00.6**	**+0.5**
MSO	**Missoula** baz=10.0	**10.06**	**67**	⇓P	**Pn**	**01 51 01.8**	**-0.6**
MSO	**Missoula**	**10.06**	**67**	*e*Pn	**Pn**	**01 51 01.6**	**-0.7**
VES	**Vestal, Richgr** baz=10.0	**10.06**	**137**	⇓P	**Pn**	**01 51 01.5**	**-0.9**
SMMC	**Simmler** baz=10.0	**10.07**	**143**	⇑P	**Pn**	**01 51 01.3**	**-1.3**
JTMT	**Jett**	**10.10**	**61**	*e*P	**Pn**	**01 51 03.0**	**+0.1**
GRAC	**Grapevine Rang** baz=10.0	**10.12**	**127**	⇓P	**Pn**	**01 51 02.4**	**-0.8**
CWC	**Cottonwood Cre** baz=10.0	**10.12**	**132**	⇑P	**Pn**	**01 51 02.7**	**-0.5**
I14A	**Mackay** baz=10	**10.13**	**83**	⇓P	**Pn**	**01 51 03.6**	**+0.3**
J14A	**Carey** baz=10	**10.13**	**87**	⇑P	**Pn**	**01 51 02.9**	**-0.4**
G14A	**Jackson** baz=10	**10.14**	**76**	⇑P	**Pn**	**01 51 03.3**	**-0.1**
H14A	**Leadore** baz=10	**10.18**	**79**	⇓P	**Pn**	**01 51 04.1**	**+0.1**
SWMT	**Swartz Lake**	**10.21**	**63**	*e*Pn	**Pn**	**01 51 04.1**	**-0.3**
B13A	**Whitefish** baz=10	**10.21**	**58**	⇓P	**Pn**	**01 51 04.5**	**+0.1**
F14A	**Wisdom** baz=10	**10.26**	**73**	⇓P	**Pn**	**01 51 05.3**	**+0.1**
E14A	**Clinton** baz=10	**10.27**	**69**	⇓P	**Pn**	**01 51 04.8**	**-0.5**
YBMT	**Yellow Bay**	**10.31**	**61**	*e*Pn	**Pn**	**01 51 06.3**	**+0.4**
R11A	**Troy Canyon, C** baz=10	**10.38**	**116**	⇓P	**Pn**	**01 51 05.5**	**-1.3**
D14A	**Greenough** baz=10	**10.41**	**66**	⇑P	**Pn**	**01 51 07.0**	**-0.2**
C14A	**Swan Lake** baz=10	**10.45**	**62**	⇓P	**Pn**	**01 51 07.8**	**+0.1**
SLMT	**Seeley Lake**	**10.46**	**65**	*e*Pn	**Pn**	**01 51 06.9**	**-0.9**
A13A	**Flathead Natio** baz=10	**10.48**	**55**	⇓P	**Pn**	**01 51 08.3**	**+0.2**
K14A	**Jones Ranch, D** baz=10	**10.49**	**91**	⇑P	**Pn**	**01 51 08.0**	**-0.3**
PKM	**Peak Mountain** baz=10	**10.50**	**143**	⇓P	**Pn**	**01 51 07.3**	**-1.1**
CHMT	**Chamberlain Mo**	**10.54**	**67**	*e*Pn	**Pn**	**01 51 08.1**	**-0.9**
L14A	**Malta** baz=10	**10.55**	**94**	⇓P	**Pn**	**01 51 09.4**	**+0.3**
MCMT	**McKenzie Canyo** comp=Z,75nm,1.4s	**10.55**	**78**	*e*Pn	**Pn**	**01 51 03.1**	**-6.0**
MPMC	**Manual Prospec** baz=11	**10.72**	**131**	⇓P	**Pn**	**01 51 11.1**	**-0.4**
DLMT	**Dillon**	**10.76**	**75**	*e*Pn	**Pn**	**01 51 11.7**	**-0.2**
ARVC	**Arvin** baz=11	**10.76**	**139**	⇑P	**Pn**	**01 51 12.0**	**0.0**
FURC	**Furnace Creek,** baz=11	**10.78**	**128**	⇓P	**Pn**	**01 51 12.5**	**+0.2**
G15A	**Dillon** baz=11	**10.82**	**76**	⇓P	**Pn**	**01 51 13.4**	**+0.6**
I15A	**Monteview** baz=11	**10.82**	**83**	⇓P	**Pn**	**01 51 13.2**	**+0.4**
WALA	**Waterton Lakes** comp=Z,12nm,1.4s	**10.83**	**55**	*e*Pn	**Pn**	**01 51 13.1**	**+0.2**
F15A	**Butte** baz=11	**10.87**	**73**	⇑P	**Pn**	**01 51 13.0**	**-0.5**
LRM	**Limekiln Ridge**	**10.90**	**73**	*e*Pn	**Pn**	**01 51 13.3**	**-0.6**
J15A	**Blackfoot** baz=11	**10.91**	**86**	⇑P	**Pn**	**01 51 13.4**	**-0.6**
K15A	**Arbon** baz=11	**10.94**	**90**	⇓P	**Pn**	**01 51 14.3**	**0.0**
B14A	**Marquette Ranc** baz=11	**10.95**	**59**	⇑P	**Pn**	**01 51 14.2**	**-0.3**
HVU	**Hansel Valley**	**10.95**	**94**	*e*Pn	**Pn**	**01 51 15.3**	**+0.8**
HVU	**Hansel Valley**	**10.95**	**94**	*e*P	**Pn**	**01 51 15.3**	**+0.7**
BGU	**Big Grassy Mou** comp=Z,143nm,1.5s	**11.01**	**99**	*e*Pn	**Pn**	**01 51 15.5**	**+0.1**
LRMC	**Laurel Mountai** baz=11	**11.05**	**134**	⇓P	**Pn**	**01 51 15.7**	**-0.4**
D15A	**Lincoln** baz=11	**11.06**	**67**	⇑P	**Pn**	**01 51 15.4**	**-0.7**
A14A	**Double T Ranch** baz=11	**11.09**	**56**	⇑P	**Pn**	**01 51 17.4**	**+1.0**
L15A	**Malad City** baz=11	**11.18**	**93**	⇓P	**Pn**	**01 51 18.2**	**+0.5**
C15A	**Salmond Ranch,** baz=11	**11.19**	**63**	⇓P	**Pn**	**01 51 19.2**	**+1.4**
OSI	**Osito Adit** baz=11	**11.22**	**140**	⇑P	**Pn**	**01 51 17.3**	**-1.1**
M15A	**Larsen Ranch,** baz=11	**11.27**	**96**	⇓P	**Pn**	**01 51 18.0**	**-0.9**
G16A	**Moss Hill, Enn** baz=11	**11.30**	**76**	⇓P	**Pn**	**01 51 19.2**	**-0.2**
BSC	**Santa Cruz Isl** baz=11	**11.35**	**145**	⇑P	**Pn**	**01 51 19.2**	**-0.9**
EDW2	**Edwards Air Fo** baz=11	**11.37**	**137**	⇑P	**Pn**	**01 51 19.2**	**-1.0**
B15A	**Bradely Ranch,** baz=11	**11.38**	**60**	⇓P	**Pn**	**01 51 20.8**	**+0.4**
N15A	**Stansbury Isla** baz=11	**11.38**	**99**	⇑P	**Pn**	**01 51 20.2**	**-0.3**
DUG	**Dugway** baz=11	**11.42**	**102**	⇑P	**Pn**	**01 51 21.0**	**+0.1**
DUG	**Dugway**	**11.42**	**102**	*e*Pn	**Pn**	**01 51 20.4**	**-0.6**
DUG	**Dugway**	**11.42**	**102**	*e*P	**Pn**	**01 51 20.4**	**-0.6**
HRY	**Holter Researc**	**11.46**	**69**	*e*Pn	**Pn**	**01 51 21.1**	**-0.4**
BOZ	**Bozeman (W)** baz=11	**11.46**	**74**	⇑P	**Pn**	**01 51 21.3**	**-0.2**
BOZ	**Bozeman (W)**	**11.46**	**74**	*e*Pn	**Pn**	**01 51 21.2**	**-0.2**
BOZ	**Bozeman (W)**	**11.46**	**74**	*e*P	**Pn**	**01 51 21.3**	**-0.2**
F16A	**Kennard Place,** baz=11	**11.47**	**74**	⇑P	**Pn**	**01 51 21.8**	**+0.1**
P14A	**Drum Mountains** baz=11	**11.48**	**105**	⇑P	**Pn**	**01 51 20.4**	**-1.5**
BLG	**Laguna Peak** baz=11	**11.49**	**143**	⇓P	**Pn**	**01 51 20.9**	**-1.1**
A15A	**Johnson Ranch,** baz=12	**11.51**	**57**	⇓P	**Pn**	**01 51 22.0**	**-0.2**
SHOC	**Shoshone** baz=11	**11.51**	**128**	⇑P	**Pn**	**01 51 22.0**	**-0.3**
J16A	**Bone** baz=12	**11.52**	**86**	⇑P	**Pn**	**01 51 21.8**	**-0.5**
E16A	**East Helena** baz=12	**11.53**	**70**	⇓P	**Pn**	**01 51 21.8**	**-0.7**
R13A	**O'Grain Ranch,** baz=11	**11.54**	**113**	⇑P	**Pn**	**01 51 22.1**	**-0.5**
I16A	**Newdale** baz=12	**11.55**	**83**	⇑P	**Pn**	**01 51 22.5**	**-0.3**
QLMT	**Earthquake Lak**	**11.56**	**78**	*e*Pn	**Pn**	**01 51 24.3**	**+1.4**
K16A	**Soda Springs** baz=12	**11.60**	**88**	⇓P	**Pn**	**01 51 23.0**	**-0.4**
Q14A	**Sevier Lake (B** baz=12	**11.60**	**109**	⇑P	**Pn**	**01 51 22.5**	**-1.0**
O15A	**The Old Anders** baz=12	**11.63**	**101**	⇓P	**Pn**	**01 51 23.0**	**-0.9**
GSC	**Goldstone** baz=12	**11.66**	**132**	⇑P	**Pn**	**01 51 23.4**	**-0.9**
GSC	**Goldstone**	**11.66**	**132**	*e*Pn	**Pn**	**01 51 26.3**	**+2.0**
GSC	**Goldstone**	**11.66**	**132**	*e*P	**Pn**	**01 51 26.3**	**+2.0**
H16A	**Russell Place,** baz=12	**11.69**	**79**	⇓P	**Pn**	**01 51 24.5**	**-0.2**
D16A	**Dana Ranch, Ca** baz=12	**11.70**	**67**	⇓P	**Pn**	**01 51 24.5**	**-0.3**
DECC	**Green Verdugo** baz=12	**11.71**	**140**	⇑P	**Pn**	**01 51 24.2**	**-0.8**
RRI2	**Red Ridge**	**11.72**	**86**	*e*Pn	**Pn**	**01 51 27.4**	**+2.3**
NOQ	**North Oquirrh**	**11.75**	**99**	*e*Pn	**Pn**	**01 51 22.9**	**-2.7**
C16A	**Fuhringer Ranc** baz=12	**11.75**	**64**	⇑P	**Pn**	**01 51 25.7**	**+0.2**
DCID1	**Drake Creek**	**11.79**	**84**	*e*Pn	**Pn**	**01 51 28.7**	**+2.7**
PASC	**Pasadena Art C**	**11.84**	**139**	*e*Pn	**Pn**	**01 51 28.4**	**+1.6**
MWC	**Mount Wilson**	**11.86**	**139**	*e*Pn	**Pn**	**01 51 27.6**	**+0.5**
MWC	**Mount Wilson**	**11.86**	**139**	*e*P	**Pn**	**01 51 27.6**	**+0.5**
L16A	**Fish Haven** baz=12	**11.87**	**92**	⇑P	**Pn**	**01 51 26.5**	**-0.6**
HWUT	**Hardware Ranch**	**11.87**	**94**	*e*Pn	**Pn**	**01 51 27.6**	**+0.5**
RRX	**Edison Barstow** baz=12	**11.87**	**134**	⇓P	**Pn**	**01 51 25.9**	**-1.3**
YMR	**Madison River** comp=Z,458nm,1.6s	**11.89**	**79**	*e*Pn	**Pn**	**01 51 27.4**	**0.0**
M16A	**Huntsville** baz=12	**11.90**	**96**	⇓P	**Pn**	**01 51 27.8**	**+0.3**
IMW	**Indian Meadow**	**11.94**	**83**	*e*Pn	**Pn**	**01 51 30.0**	**+1.9**
B16A	**M & M Farms, S** baz=12	**11.95**	**61**	⇓P	**Pn**	**01 51 29.2**	**+1.0**
AHID	**Auburn Hatcher**	**11.96**	**88**	*e*Pn	**Pn**	**01 51 29.6**	**+1.2**
TPAW	**Teton Pass**	**11.97**	**85**	*e*Pn	**Pn**	**01 51 30.4**	**+1.9**
YFT	**Old Faithful**	**11.99**	**80**	*e*Pn	**Pn**	**01 51 31.0**	**+2.2**
NLU	**North Lily Min**	**12.03**	**102**	*e*Pn	**Pn**	**01 51 29.0**	**-0.4**
P15A	**Leamington** baz=12	**12.04**	**104**	⇑P	**Pn**	**01 51 29.0**	**-0.5**
BFSC	**Mount Baldy Ra** baz=12	**12.04**	**138**	⇓P	**Pn**	**01 51 30.6**	**+1.0**
TUQ	**Turquoise Moun** baz=12	**12.05**	**129**	⇑P	**Pn**	**01 51 30.3**	**+0.6**
REDW	**Red Top Meadow**	**12.06**	**85**	*e*Pn	**Pn**	**01 51 30.6**	**+0.9**
G17A	**Pierce Place,** baz=12	**12.06**	**76**	⇑P	**Pn**	**01 51 30.6**	**+0.8**
E17A	**Martinsdale** baz=12	**12.08**	**71**	⇑P	**Pn**	**01 51 30.6**	**+0.6**
K17A	**Gardner Place,** baz=12	**12.09**	**88**	⇑P	**Pn**	**01

	baz=13								
H18A	Shoshone NF, C	12.82	79	⇑P		Pn	01 51 40.4	+0.3	
	baz=13								
GCMT	Greycliff	12.84	74	ePn		Pn	01 51 41.1	+0.8	
	comp=Z,325nm,1.4s								
S15A	Panguitch	12.88	112	⇓P		Pn	01 51 40.8	-0.2	
	baz=13								
G18A	Lazy EL Ranch,	12.89	76	⇑P		Pn	01 51 41.3	+0.3	
	baz=13								
O17A	Robinson Place	12.90	100	⇑P		Pn	01 51 40.7	-0.6	
	baz=13								
L18A	Fontenelle, Gr	12.90	91	⇓P		Pn	01 51 40.9	-0.4	
	baz=13								
D18A	Linhart Farms,	12.91	68	⇑P		Pn	01 51 41.0	-0.3	
	baz=13								
TMUT	Trail Mountain	12.91	104	ePn		Pn	01 51 36.5	-4.8	
	comp=Z,52nm,1.2s								
M18A	Lyman	13.00	94	⇓P		Pn	01 51 42.2	-0.4	
	baz=13								
PD01	Pinedale Array	13.06	87	ePn		Pn	01 51 43.4	0.0	
PD02	Pinedale Array	13.07	87	ePn		Pn	01 51 43.2	-0.3	
BELC	Belle Mtn. Jos	13.07	133	⇓P		Pn	01 51 42.4	-1.2	
	baz=13								
BW06	Boulder Array	13.08	87	⇑P		Pn	01 51 43.6	-0.1	
	baz=13								
BW06	Boulder Array	13.08	87	ePn		Pn	01 51 44.3	+0.6	
PDAR	Pinedale Array	13.08	87	Pn		Pn	01 51 44.2	+0.5	
	comp=Z,0.2nm,0.3s,baz=280,slow=12,SNR=55								
PDAR				LR		LR	01 57 06.8		
	comp=Z,7μm,19.1s,baz=280,slow=39								
PDAR	Pinedale Array	13.08	87	Pn		Pn	01 51 44.2	+0.5	
PDAR				LR		LR	01 57 06.8		
Q16A	Castle Valley	13.10	105	⇓P		Pn	01 51 43.3	-0.6	
	baz=13								
RLMT	Red Lodge	13.10	77	⇓P		Pn	01 51 44.2	+0.3	
	baz=13								
EGMT	Eagleton	13.10	64	⇓P		Pn	01 51 43.8	-0.2	
	baz=13								
EGMT	Eagleton	13.10	64	ePn		Pn	01 51 43.2	-0.8	
PFO	Pinyon Flat Ob	13.14	136	⇑P		Pn	01 51 44.4	-0.2	
	baz=13								
PFO	Pinyon Flat Ob	13.14	136	ePn		Pn	01 51 47.0	+2.4	
PFO	Pinyon Flat Ob	13.14	136	eP		Pn	01 51 47.1	+2.5	
PFO	Pinyon Flat Ob	13.14	136	Pn		Pn	01 51 47.9	+3.3	
	comp=Z,138nm,1.3s,SNR=8.3								
P17A	Butcher Ranch,	13.17	103	⇓P		Pn	01 51 44.6	-0.3	
	baz=13								
R16A	Teasdale	13.17	108	⇑P		Pn	01 51 44.8	-0.1	
	baz=13								
B18A	Beardsley Farm	13.18	62	⇓P		Pn	01 51 45.7	+0.7	
	baz=13								
WRAK	Wrangell Islan	13.22	348	ePn		Pn	01 51 48.6	+3.1	
	comp=Z,221nm,1.3s								
NEE2	Needles Airpor	13.27	127	⇑P		Pn	01 51 46.9	+0.5	
	baz=13								
A18A	Metzger Ranch,	13.28	60	⇑P		Pn	01 51 46.1	-0.3	
	baz=13								
H19A	Powell	13.30	79	⇓P		Pn	01 51 47.5	+0.7	
	baz=13								
I19A	Meeteetse	13.33	82	⇓P		Pn	01 51 48.0	+0.9	
	baz=13								
F19A	Roth Farm, Mol	13.35	74	⇑P		Pn	01 51 47.4	+0.1	
	baz=13								
L19A	Farson	13.35	90	⇑P		Pn	01 51 47.8	+0.3	
	baz=13								
J19A	Crowheart	13.37	85	⇑P		Pn	01 51 47.6	0.0	
	baz=13								
S16A	Weppner Ranch,	13.37	111	⇑P		Pn	01 51 48.5	+0.8	
	baz=13								
O18A	Roosevelt	13.40	98	⇑P		Pn	01 51 48.8	+0.8	
	baz=13								
N18A	Larsen Ranch,	13.41	95	⇑P		Pn	01 51 47.7	-0.5	
	baz=13								
IRM	Iron Mountain	13.41	130	⇑P		Pn	01 51 47.9	-0.4	
	baz=13								
P18A	Preston Nutter	13.46	101	⇑P		Pn	01 51 47.7	-1.2	
	baz=13								
SRU	San Rafael	13.47	104	⇓P		Pn	01 51 49.2	+0.2	
	baz=13								
SRU	San Rafael	13.47	104	ePn		Pn	01 51 50.1	+1.1	
SRU	San Rafael	13.47	104	eP		Pn	01 51 50.1	+1.1	
W13A	Hualapai Mount	13.47	124	⇓P		Pn	01 51 49.1	0.0	
	baz=13								
E19A	Rath Farm, Rou	13.50	71	⇑P		Pn	01 51 49.4	-0.1	
	baz=14								
C19A	Slack Wire Ran	13.51	66	⇑P		Pn	01 51 49.4	-0.1	
	baz=14								
D19A	Cripps Ranch,	13.52	68	⇑P		Pn	01 51 50.0	+0.3	
	baz=14								
K19A	Absolon Red Bu	13.59	87	⇑P		Pn	01 51 50.8	+0.2	
	baz=14								
U15A	North Rim	13.62	117	⇑P		Pn	01 51 51.6	+0.4	
	baz=14								
BC3	Big Chuckawall	13.63	133	⇑P		Pn	01 51 51.4	+0.1	
	baz=14								
M19A	Rock Springs	13.64	93	⇑P		Pn	01 51 52.3	+0.9	
	baz=14								
R17A	Hanksville Air	13.64	107	⇓P		Pn	01 51 51.6	+0.2	
	baz=14								
B19A	Brinkman Farms	13.73	63	⇑P		Pn	01 51 53.0	+0.4	
	baz=14								
MONP	Monument Peak	13.74	137	⇓P		Pn	01 51 53.3	+0.6	
	baz=14								
Q18A	Rafter H Ranch	13.75	103	⇓P		Pn	01 51 53.0	+0.2	
	baz=14								
BAR	Barrett	13.79	139	ePn		Pn	01 51 55.1	+1.7	
N19A	John Jarvie Ra	13.79	95	⇓P		Pn	01 51 53.6	+0.1	
	baz=14								
T16A	Glen Canyon Da	13.83	113	⇓P		Pn	01 51 53.6	-0.3	
	baz=14								
G20A	Bridger	13.84	77	⇑P		Pn	01 51 54.4	+0.3	
	baz=14								
PDMCI	Parker Dam,Lak	13.88	127	⇑P		Pn	01 51 54.5	-0.2	
	baz=14								
F20A	Billings	13.90	74	⇓P		Pn	01 51 54.3	-0.6	
	baz=14								
E20A	Meyer Farm, Mu	13.96	71	⇑P		Pn	01 51 55.9	+0.2	
	baz=14								
S17A	Black Ridge (B	13.96	110	⇑P		Pn	01 51 56.0	+0.3	
	baz=14								
I20A	Worland	13.96	82	⇓P		Pn	01 51 56.2	+0.5	
	baz=14								
A19A	Klindworth Far	13.98	61	⇑P		Pn	01 51 57.5	+1.5	
	baz=14								
K20A	Yellowstone Ra	13.98	87	⇑P		Pn	01 51 56.5	+0.5	
	baz=14								
SWSC	Sam W. Stewart	14.01	135	⇑P		Pn	01 51 55.2	-1.2	
	baz=14								
H20A	Greybull	14.02	80	⇑P		Pn	01 51 57.4	+1.0	
	baz=14								
D20A	Manuel Ranch,	14.02	69	⇑P		Pn	01 51 57.6	+1.1	
	baz=14								
O19A	Miners Draw (B	14.02	97	⇑P		Pn	01 51 56.6	+0.1	
	baz=14								
J20A	Shoshoni	14.06	84	⇑P		Pn	01 51 58.0	+1.0	
	baz=14								
Y12C	Blythe	14.07	130	⇑P		Pn	01 51 57.5	+0.3	
	baz=14								
V15A	Kaibab Nationa	14.07	118	⇓P		Pn	01 51 57.7	+0.5	
	baz=14								
DVTC	Desert V Tower	14.08	137	⇑P		Pn	01 51 56.6	-0.8	
	baz=14								
L20A	Wamsutter	14.11	90	⇑P		Pn	01 51 57.7	-0.1	
	baz=14								
R18A	Canyonlands Na	14.23	105	⇓P		Pn	01 52 00.0	+0.6	
	baz=14								
T17A	Navajo Res., N	14.29	112	⇑P		Pn	01 52 00.8	+0.6	
	baz=14								
B20A	Solberg Farm,	14.33	63	⇓P		Pn	01 52 01.3	+0.6	
	baz=14								
M20A	Sweetwater, Wa	14.35	92	⇑P		Pn	01 52 01.1	+0.1	
	baz=14								
P19A	Cripple Cowboy	14.36	100	⇓P		Pn	01 52 01.7	+0.6	
	baz=14								
Q19A	Hogan Spring (	14.43	103	⇓P		Pn	01 52 01.9	-0.2	
	baz=14								
GLA	Glamis	14.43	133	⇓P		Pn	01 52 01.4	-0.8	
	baz=14								
GLA	Glamis	14.43	133	ePn		Pn	01 52 02.4	+0.3	
	comp=Z,181nm,1.6s								
GLA	Glamis	14.43	133	eP		Pn	01 52 02.4	+0.3	
GLA				pmax		pmax			
	comp=Z,181nm,1.6s								
N20A	Spence Gulch,	14.47	94	⇓P		Pn	01 52 03.2	+0.5	
	baz=14								
S18A	Hurst Farm, Bl	14.49	108	⇓P		Pn	01 52 03.4	+0.5	
	baz=14								
A20A	Cobblestone Ra	14.49	62	⇓P		Pn	01 52 03.1	+0.2	
	baz=14								
J21A	Lysite	14.52	84	⇑P		Pn	01 52 03.8	+0.4	
	baz=14								
U16A	Tuba City	14.55	115	⇓P		Pn	01 52 04.1	+0.3	
	baz=14								
G21A	Lodge Grass	14.55	77	⇑P		Pn	01 52 04.0	+0.3	
	baz=14								
I21A	Big Trails, Te	14.58	82	⇓P		Pn	01 52 04.7	+0.6	
	baz=14								
U17A	Shonto	14.60	113	⇓P		Pn	01 52 05.2	+0.7	
	baz=14								
F21A	Absaloka Mine,	14.62	74	⇑P		Pn	01 52 04.9	+0.3	
	baz=15								
E21A	Keefer Ranch,	14.69	71	⇑P		Pn	01 52 05.5	-0.1	
	baz=15								
H21A	Big Horn, Sher	14.69	79	⇓P		Pn	01 52 06.3	+0.6	
	baz=15								
O20A	White River Ci	14.71	97	⇑P		Pn	01 52 05.4	-0.6	
	baz=15								
R19A	Curley Farm, L	14.71	105	⇓P		Pn	01 52 06.7	+0.7	
	baz=15								
WUAZ	Wupatki	14.77	118	⇑P		Pn	01 52 06.8	0.0	
	baz=15								
WUAZ	Wupatki	14.77	118	ePn		Pn	01 52 09.1	+2.4	
K21A	Alcova	14.78	87	⇓P		Pn	01 52 06.0	-0.9	
	baz=15								
D21A	La Casta Ranch	14.79	69	⇑P		Pn	01 52 06.5	-0.5	
	baz=15								
Y14A	Wickenburg	14.80	126	⇑P		Pn	01 52 06.8	-0.4	
	baz=15								
C21A	Desert Coulee	14.82	66	⇑P		Pn	01 52 07.9	+0.5	
	baz=15								
L21A	Rawlins	14.83	89	⇓P		Pn	01 52 05.5	-2.1	
	baz=15								
P20A	De Beque	14.83	99	⇑P		Pn	01 52 07.1	-0.5	
	baz=15								
T18A	Mexican Hat	14.85	110	⇑P		Pn	01 52 08.0	+0.2	
	baz=15								
M21A	Separation Pea	14.92	91	⇑P		Pn	01 52 08.2	-0.5	
	baz=15								
PV04	Paradox Valley	14.92	104	ePn		Pn	01 52 07.4	-1.4	
W16A	Flagstaff	14.93	119	⇑P		Pn	01 52 08.3	-0.6	
	baz=15								
DLBC	Dease Lake	14.95	355	Pn		Pn	01 52 11.3	+2.2	
	comp=Z,0.2nm,0.3s,baz=168,slow=12,SNR=17								
DLBC				LR		LR	01 57 11.1		
	comp=Z,4μm,21.3s,baz=174,slow=34								
DLBC	Dease Lake	14.95	355	ePn		Pn	01 52 11.2	+2.1	
Z13A	Yuma Proving G	14.96	129	⇓P		Pn	01 52 09.3	0.0	
	baz=15								
B21A	Ellsworth Farm	14.98	64	⇑P		Pn	01 52 09.9	+0.4	
	baz=15								
RWWY	Rawlins	15.01	90	ePn		Pn	01 52 09.0	-1.0	
	comp=Z,926nm,2.4s								
N21A	Black Mountain	15.04	94	⇓P		Pn	01 52 09.7	-0.6	
	baz=15								
S19A	Harvey Farm, M	15.05	107	⇑P		Pn	01 52 10.9	+0.3	
	baz=15								
V17A	Tonalea, Kykot	15.08	116	⇑P		Pn	01 52 11.1	+0.2	
	baz=15								
Q20A	Ridgley Place,	15.11	101	⇓P		Pn	01 52 11.2	-0.2	
	baz=15								
I22A	9 Mile Ranch,	15.15	82	⇑P		Pn	01 52 12.9	+1.1	
	baz=15								
A21A	Bergtoll Ranch	15.16	62	⇓P		Pn	01 52 11.3	-0.5	
	baz=15								
H22A	Clearmont	15.19	79	⇑P		Pn	01 52 12.6	+0.3	
	baz=15								
Y15A	Casa Rosa Ranc	15.19	124	⇑P		Pn	01 52 13.0	+0.7	
	baz=15								
J22A	Midwest	15.21	83	⇑P		Pn	01 52 12.8	+0.2	
	baz=15								
113A	Mohawk Valley,	15.22	131	⇑P		Pn	01 52 12.4	-0.4	
	baz=15								
U18A	Rough Rock, Ch	15.23	112	⇓P		Pn	01 52 13.2	+0.2	
	baz=15								
O21A	Pagoda	15.24	96	⇑P		Pn	01 52 13.2	+0.1	
	baz=15								
Z14A	Wintersburg	15.24	127	⇑P		Pn	01 52 12.9	-0.2	
	baz=15								
PV01	Paradox Valley	15.27	104	ePn		Pn	01 52 12.5	-0.9	
	comp=Z,8μm,1.5s								
LAO	LASA Array	15.28	71	⇑P		Pn	01 52 13.2	-0.4	
	baz=15								
LAO	LASA Array	15.28	71	ePn		Pn	01 52 12.3	-1.2	
	comp=Z,265nm,1.3s								
K22A	Casper	15.30	86	⇓P		Pn	01 52 12.2	-1.6	
	baz=15								
D22A	Cohagen	15.35	69	⇓P		Pn	01 52 14.5	+0.1	
	baz=15								
R20A	Redvale	15.38	104	⇑P		Pn	01 52 13.3	-1.5	
	baz=15								
X16A	Lo Mia Camp, P	15.42	121	⇓P		Pn	01 52 15.9	+0.5	
	baz=15								
E22A	Miles City	15.46	72	⇑P		Pn	01 52 16.0	+0.2	
	baz=15								
W17A	Winslow	15.46	118	⇓P		Pn	01 52 16.2	+0.3	
	baz=15								
L22A	Ellis Ranch, M	15.49	89	⇑P		Pn	01 52 15.1	-1.2	
	baz=15								
P21A	Newcastle	15.50	98	⇓P		Pn	01 52 15.2	-1.2	
	baz=15								
M22A	Cedar Creek Ra	15.53	91	⇓P		Pn	01 52 14.9	-1.8	
	baz=15								
S20A	Disappointment	15.56	105	⇓P		Pn	01 52 17.1	-0.1	
	baz=16								
T19A	Beclabito	15.59	109	⇑P		Pn	01 52 17.4	-0.2	
	baz=16								
V18A	Ganado	15.59	114	⇓P		Pn	01 52 17.8	+0.2	
	baz=16								
C22A	Vida	15.62	67	⇓P		Pn	01 52 18.7	+0.8	
	baz=16								
B22A	Reddig Ranch S	15.62	65	⇑P		Pn	01 52 18.8	+0.8	
	baz=16								
Q21A	Lamborn Mesa,	15.68	101	⇑P		Pn	01 52 18.8	+0.1	
	baz=16								
114A	Black Gap (USA	15.73	129	⇑P		Pn	01 52 19.4	0.0	
	baz=16								
U19A	Dine' College,	15.75	111	⇓P		Pn	01 52 19.5	-0.2	
	baz=16								
Z15A	Gila River Ind	15.76	126	⇓P		Pn	01 52 19.6	-0.2	
	baz=16								
MVCO	Mesa Verde	15.76	107	⇓P		Pn	01 52 19.7	-0.1	
	baz=16								
MVCO	Mesa Verde	15.76	107	ePn		Pn	01 52 21.0	+1.2	
	comp=Z,278nm,2.1s								
Y16A	Circle Bar Ran	15.76	123	⇓P		Pn	01 52 20.7	+0.9	
	baz=16								
N22A	Wattenberg Ran	15.80	93	⇓P		Pn	01 52 19.7	-0.6	
	baz=16								
A22A	Carney Farms,	15.81	63	⇑P		Pn	01 52 20.3	0.0	
	baz=16								
H23A	Clabaugh Cattl	15.87	79	⇑P		Pn	01 52 21.3	+0.2	
	baz=16								
X17A	Forest Lakes	15.87	120	⇓P		Pn	01 52 22.1	+0.8	
	baz=16								
I23A	Meade Ranch, G	15.88	81	⇓P		Pn	01 52 21.8	+0.5	
	baz=16								
J23A	Dilts Ranch, B	15.88	83	⇓P		Pn	01 52 20.8	-0.6	
	baz=16								
R21A	Cimarron	15.89	102	⇓P		Pn	01 52 20.9	-0.6	
	baz=16								
E23A	Ismay	15.90	72	⇓P		Pn	01 52 22.4	+0.8	
	baz=16								
O22A	Kremmling	15.93	95	⇓P		Pn	01 52 21.9	-0.1	
	baz=16								
P22A	Eagle	15.97	97	⇓P		Pn	01 52 21.8	-0.7	
	baz=16								
L23A	Garrett	16.01	88	⇑P		Pn	01 52 21.2	-1.8	
	baz=16								
D23A	Lindsay	16.01	69	⇓P		Pn	01 52 23.3	+0.3	
	baz=16								
S21A	Coal Bank Pass	16.04	105	⇓P		Pn	01 52 22.8	-0.5	
	baz=16								
W18A	Petrified Fore	16.07	116	⇓P		Pn	01 52 23.7	-0.2	
	baz=16								
C23A	Lambert	16.09	67	⇓P		Pn	01 52 24.6	+0.5	
	baz=16								
115A	Sonoran Desert	16.14	127	⇑P		Pn	01 52 25.2	+0.5	
	baz=16								
N23A	Red Feather La	16.14	92	⇓P		Pn	01 52 24.2	-0.4	
	baz=16								
Q22A	Crested Butte,	16.14	100	⇑P		Pn	01 52 24.4	-0.3	
	baz=16								
M23A	Laramie	16.14	90	⇓P		Pn	01 52 24.3	-0.4	
	baz=16								
Z16A	Peralta Trail,	16.16	124	⇑P		Pn	01 52 25.0	+0.1	
	baz=16								
U20A	Newcomb	16.17	110	⇓P		Pn	01 52 24.2	-0.9	
	baz=16								
V19A	Window Rock	16.18	113	⇑P		Pn	01 52 25.0	-0.2	
	baz=16								
Y17A	Roosevelt	16.27	122	⇑P		Pn	01 52 26.5	+0.1	
	baz=16								
X18A	Snowflake	16.30	118	⇓P		Pn	01 52 27.3	+0.6	
	baz=16								
W19A	Sanders	16.30	115	⇑P		Pn	01 52 26.8	0.0	
	baz=16								
214A	Organ Pipe Nat	16.36	130	⇓P		Pn	01 52 27.0	-0.6	
	baz=16								
O23A	Lake Granby, G	16.37	95	⇑P		Pn	01 52 26.9	-0.7	
	baz=16								
PHWY	Pilot Hill	16.38	90	ePn		Pn	01 52 26.6	-1.2	
	comp=Z,82nm,1.3s								
H24A	Dirks Ranch, A	16.46	78	⇓P		Pn	01 52 27.1	-1.6	
	baz=16								
A23A	Redstone	16.47	63	⇓P		Pn	01 52 28.8	-0.1	
	baz=16								
I24A	Kuemmerle Ranc	16.49	81	⇓P		Pn	01 52 29.3	+0.2	
	baz=16								
R22A	Saguache, Gunn	16.51	102	⇓P		Pn	01 52 28.8	-0.7	
	baz=16								
V20A	Brimhall	16.52	112	⇓P		Pn	01 52 30.1	+0.5	
	baz=16								
K24A	Anderson Ranch	16.53	85	⇑P		Pn	01 52 29.5	-0.1	
	baz=16								
J24A	Dixon Ranch, L	16.54	83	⇓P		Pn	01 52 30.0	+0.3	
	baz=16								
T21A	Navajo Lake	16.54	107	⇑P		Pn	01 52 30.3	+0.5	
	baz=16								
116A	Eloy	16.54	126	⇑P		Pn	01 52 30.3	+0.4	
	baz=16								
C24A	Savage	16.57	68	⇑P		Pn	01 52 30.6	+0.4	
	baz=16								
L24A	Wheatland	16.58	88	⇓P		Pn	01 52 28.6	-1.7	
	baz=16								
D24A	Glendive	16.61	70	⇓P		Pn	01 52 31.1	+0.5	
	baz=17								
SKAG	Skagway	16.61	346	eP		Pn	01 52 33.5	+3.0	
	comp=Z,760nm,2.3s								
S22A	4UR Ranch, Cre	16.67	103	⇓P		Pn	01 52 32.0	+0.5	
	baz=17								
P23A	Jefferson	16.71	97	⇓P		Pn	01 52 31.7	-0.3	
	baz=17								
Y18A	Canyon Day Jun	16.72	120	⇑P		Pn	01 52 32.2	+0.1	
	baz=17								
ISCO	Idaho Springs	16.73	96	⇑P		Pn	01 52 31.1	-1.0	
	baz=17								
ISCO	Idaho Springs	16.73	96	ePn		Pn	01 52 31.2	-1.0	
	comp=Z,112nm,1.0s								
ISCO	Idaho Springs	16.73	96	eP		Pn	01 52 31.2	-0.9	
ISCO				pmax		pmax			
	comp=Z,112nm,1.0s								
U21A	Nageezi	16.74	109	⇑P		Pn	01 52 32.8	+0.5	
	baz=17								
Z17A	San Carlos Hig	16.77	122	⇓P		Pn	01 52 33.9	+1.2	
	baz=17								
X19A	St. Johns	16.79	117	⇓P		Pn	01 52 31.5	-1.4	
	baz=17								
M24A	Cheyenne	16.80	89	⇓P		Pn	01 52 31.6	-1.4	
	baz=17								
DGMT	Dagmar	16.84	65	⇑P		Pn	01 52 33.4	-0.1	
	baz=17								
DGMT	Dagmar	16.84	65	ePn		Pn	01 52 33.3	-0.2	
	comp=Z,230nm,1.2s								
RSSD	Black Hills	16.88	80	ePn		Pn	01 52 32.3	-1.7	
	comp=Z,255nm,1.7s								
RSSD	Black Hills	16.88	80	eP		Pn	01 52 32.3	-1.8	
RSSD				pmax		pmax			
	comp=Z,255nm,1.7s								
W20A	Ramah	16.88	114	⇑P		Pn	01 52 34.2	+0.1	
	baz=17								
Q23A	Hartsel	16.90	99	⇑P		Pn	01 52 33.3	-1.0	
	baz=17								
N24A	Carr	16.93	92	⇑P		Pn	01 52 34.0	-0.7	
	baz=17								
T22A	Edith	16.97	106	⇓P		Pn	01 52 35.4	+0.3	
	baz=17								
O24A	Longmont	17.01	94	⇓P		Pn	01 52 34.5	-1.2	
	baz=17								
A24A	Westby	17.03	64	⇓P		Pn	01 52 36.0	+0.1	
	baz=17								
V21A	Milan	17.08	110	⇓P		Pn	01 52 37.1	+0.4	
	baz=17								
216A	Three Points,	17.09	127	⇑P		Pn	01 52 37.2	+0.4	
	baz=17								
Y19A	Nutrioso	17.10	118	⇑P		Pn	01 52 37.1	+0.2	
	baz=17								
117A	Oracle	17.11	124	⇓P		Pn	01 52 37.2	+0.2	
	baz=17								
Z18A	Geronimo	17.18	122	⇑P		Pn	01 52 37.6	-0.3	
	baz=17								
X20A	Quemado	17.23	115	⇑P		Pn	01 52 38.9	+0.4	
	baz=17								
TUC	Tucson	17.27	125	ePn		Pn	01 52 40.1	+1.2	
	comp=Z,228nm,1.6s								
TUC	Tucson	17.27	125	eP		Pn	01 52 40.1	+1.2	
TUC				pmax		pmax			
	comp=Z,228nm,1.6s								
S23A	Nye Farm, Mont	17.28	103	⇓P		Pn	01 52 39.4	+0.3	
	baz=17								
U22A	Llaves	17.32	108	⇓P		Pn	01 52 40.1	+0.5	
	baz=17								
P24A	Kohler Place,	17.34	96	⇑P		Pn	01 52 39.7	-0.1	
	baz=17								
Q24A	Divide	17.36	98	⇑P		Pn	01 52 40.2	+0.1	
	baz=17								
W21A	San Fidel	17.46	112	⇑P		Pn	01 52 41.9	+0.6	
	baz=17								
N25A	Grover	17.51	91	⇑P		Pn	01 52 42.4	+0.4	
	baz=17								
V22A	San Miguel Ran	17.52	109	⇑P		Pn	01 52 42.4	+0.3	
	baz=17								
Z19A	T-Link Ranch,	17.52	120	⇓P		Pn	01 52 41.9	-0.2	
	baz=17

comp=Z,1µm,20.6s,baz=303,slow=36
ANMO Albuquerque 18.36 111 *e*P **Pn 01 52 52.1 -0.3**
comp=Z,96nm,1.7s
ANMO Albuquerque 18.36 111 *e*P **Pn 01 52 52.1 -0.3**
ANMO pmax pmax
comp=Z,96nm,1.7s
318A Bisbee 18.36 126 ⇑P **Pn 01 52 53.2 +0.8**
baz=18
U24A Moreno Valley 18.40 105 ⇑P **Pn 01 52 53.9 +1.0**
baz=18
219A White Tail Can 18.40 123 ⇓P **Pn 01 52 53.5 +0.6**
baz=18
S25A Robets Cordova 18.41 101 ⇓P **Pn 01 52 53.5 +0.5**
baz=18
120A U Bar Ranch, L 18.42 120 ⇑P **Pn 01 52 54.7 +1.6**
baz=18
W23A Werner Place, 18.45 110 ⇑P **Pn 01 52 53.7 +0.2**
baz=18
LENM Lemitar 18.46 114 *e*P **Pn 01 52 55.7 +2.0**
comp=Z,37nm,1.1s
Z21A St. Cloud Mine 18.53 117 ⇑P **Pn 01 52 56.7 +2.2**
baz=18
Y22D IRIS PASSCAL I 18.55 114 ⇑P **Pn 01 52 55.3 +0.5**
baz=18
LPM Los Pinos Moun 18.61 113 *e*P **Pn 01 52 56.7 +1.3**
Y22A Socorro 18.61 114 ⇓P **Pn 01 52 56.3 +0.9**
baz=18
T25A Trinidad 18.66 102 ⇓P **Pn 01 52 56.7 +0.6**
baz=19
BNM Barren Site 18.70 113 *e*P **Pn 01 52 58.1 +1.4**
comp=Z,165nm,1.5s
X23A Hourglass Bar 18.75 112 ⇓P **Pn 01 52 58.1 +0.9**
baz=19
V24A Rampart Ranch, 18.75 107 ⇓P **Pn 01 52 57.9 +0.8**
baz=19
319A Douglas 18.83 124 ⇓P **Pn 01 52 58.4 +0.3**
baz=19
220A Playas Peak, P 18.92 122 ⇓P **Pn 01 52 59.9 +0.7**
baz=19
W24A Lazy 6 Ranch, 18.93 109 ⇑P **Pn 01 52 59.9 +0.5**
baz=19
121A Cookes Peak, D 18.96 119 ⇓P **Pn 01 53 00.7 +0.9**
baz=19
OGNE Ogallala 18.97 89 ⇓P **Pn 01 52 58.3 -1.4**
baz=19
OGNE Ogallala 18.97 89 *e*P **Pn 01 52 57.9 -1.9**
comp=Z,206nm,1.5s
U25A Circle Dot Ran 19.02 104 ⇑P **Pn 01 53 00.2 -0.2**
baz=19
Z22A Elephant Butte 19.03 116 ⇓P **Pn 01 53 00.7 +0.2**
baz=19
V25A Rancho No Teng 19.15 106 ⇑P **Pn 01 53 02.3 +0.3**
baz=19
Y23A Lovelace Mesa, 19.22 113 ⇓P **Pn 01 53 03.3 +0.5**
baz=19
X24A Lazy VL Ranch, 19.27 110 ⇓P **Pn 01 53 02.7 -0.7**
baz=19
221A Mesquite Ranch 19.31 120 ⇓P **Pn 01 53 04.3 +0.4**
baz=19
122A Conniff Cattle 19.36 117 ⇑P **Pn 01 53 04.7 +0.2**
baz=19
U26A Atchley Ranch, 19.49 104 ⇑P **Pn 01 53 06.2 +0.2**
baz=19
Z23A Rita Site, Whi 19.50 115 ⇓P **Pn 01 53 07.1 +0.8**
baz=19
W25A X Bar L Ranch, 19.58 108 ⇑P **Pn 01 53 07.7 +0.5**
baz=20
Y24A Capitan 19.64 112 ⇑P **Pn 01 53 07.3 -0.5**
baz=20
222A Williams Famil 19.68 119 ⇑P **Pn 01 53 08.3 -0.1**
baz=20
V26A Tequesquite Ra 19.75 105 ⇑P **Pn 01 53 09.4 +0.2**
baz=20
X25A Clemmons Ranch 19.82 109 ⇓P **Pn 01 53 09.7 -0.3**
baz=20
MDND Maddock 19.85 68 ⇓P **Pn 01 53 10.3 +0.1**
baz=20
123A Bell Site, Whi 19.88 116 ⇓P **Pn 01 53 10.4 -0.2**
baz=20
FFC Flin Flon 19.91 47 *e*P **Pn 01 53 10.2 -0.7**
comp=Z,341nm,1.2s
FFC Flin Flon 19.91 47 *e*P **Pn 01 53 10.2 -0.7**
FFC pmax pmax
comp=Z,341nm,1.2s
FFC Flin Flon 19.91 47 Pn **Pn 01 53 11.2 +0.3**
comp=Z,1µm,1.3s,SNR=36
Z24A Sheeppen Canyo 20.04 113 ⇓P **P 01 53 12.5 +1.7**
baz=20
W26A Owens Ranch, T 20.13 107 ⇓P **P 01 53 13.3 +1.6**
baz=20
Y25A Mesa, Roswell 20.14 111 ⇓P **P 01 53 13.4 +1.6**
baz=20
223A Chaparral, Ant 20.17 118 ⇓P **P 01 53 14.0 +1.7**
baz=20
BMRM Bremner River 20.21 335 *e*P **P 01 53 12.1 -0.3**
comp=Z,754nm,2.5s
124A Stringfield Ra 20.36 115 ⇓P **P 01 53 15.7 +1.4**
baz=20
YKA Yellowknife Ar 20.37 17 P **P 01 53 14.9 +0.8**
comp=Z,18nm,0.7s,baz=205,slow=12,SNR=20
YKA Yellowknife Ar 20.37 17 P **P 01 53 14.9 +0.8**
YKA Yellowknife Ar 20.37 17 P **P 01 53 14.9 +0.8**
X26A CR and CF Fran 20.39 108 ⇓P **P 01 53 15.7 +1.1**
baz=20
BRSD Miller 20.46 78 ⇓P **P 01 53 16.8 +1.5**
baz=20
Z25A Roswell 20.50 113 ⇑P **P 01 53 17.0 +1.3**
baz=20
W27A Bowe Ranch, En 20.64 106 ⇑P **P 01 53 18.0 +0.8**
baz=20
DIV Divide 20.70 334 *e*P **P 01 53 19.7 +2.0**
comp=Z,59nm,1.0s
224A Cornudas Mount 20.71 116 ⇑P **P 01 53 18.9 +0.8**
baz=21
Y26A Elida 20.73 110 ⇓P **P 01 53 19.0 +0.8**
baz=21
X27A F and S Farms, 20.83 107 ⇓P **P 01 53 20.7 +1.4**
baz=21
125A Gardner Draw, 20.92 114 ⇓P **P 01 53 21.8 +1.6**
baz=21
Z26A Caprock 21.00 111 ⇓P **P 01 53 21.9 +0.7**
baz=21
225A Deer Hill, Car 21.15 115 ⇓P **P 01 53 24.4 +1.6**
baz=21
324A Moseley Ranch, 21.15 118 ⇑P **P 01 53 23.7 +0.9**
baz=21
KDAK Kodiak Island 21.17 321 P **P 01 53 23.3 +0.5**
comp=Z,116nm,0.9s,mb5.2,baz=124,slow=7.9,SNR=36
KDAK LR LR 01 59 29.3
comp=Z,5µm,21.0s,MS4.9,baz=127,slow=31
KDAK Kodiak Island 21.17 321 *e*P **P 01 53 23.4 +0.6**
comp=Z,201nm,1.1s,mb5.4
KDAK LR LR
comp=Z,5µm,22.0s,MS4.9
KDAK Kodiak Island 21.17 321 *e*P **P 01 53 23.4 +0.6**
KDAK pmax pmax
comp=Z,201nm,1.1s,mb5.4
KDAK MLR MLR
comp=Z,5µm,22.0s,MS4.9
KDAK Kodiak Island 21.17 321 Pn **P 01 53 24.9 +2.1**
comp=Z,868nm,1.0s,mb6.0,SNR=14
Y27A Causey 21.21 109 ⇑P **P 01 53 24.2 +0.8**
baz=21
OHAK Old Harbor 21.22 319 *e*P **P 01 53 25.0 +1.7**
comp=Z,513nm,2.0s,mb5.5
CPRX Cap Rock 21.22 112 *e*P **P 01 53 24.8 +1.3**
comp=Z,135nm,1.0s,mb5.2
SEW Seward 21.24 329 *e*P **P 01 53 25.0 +1.6**
comp=Z,286nm,1.0s,mb5.6
CBKS Cedar Bluff 21.33 93 ⇓P **P 01 53 25.9 +1.2**
baz=21
CBKS Cedar Bluff 21.33 93 *e*P **P 01 53 25.4 +0.6**
comp=Z,202nm,1.3s,mb5.3
CBKS LR LR
comp=Z,4µm,21.0s,MS4.7
CBKS Cedar Bluff 21.33 93 *e*P **P 01 53 25.4 +0.7**
CBKS pmax pmax
comp=Z,202nm,1.3s,mb5.3
CBKS MLR MLR
comp=Z,4µm,21.0s,MS4.7
126A Clayton Basin, 21.35 113 ⇑P **P 01 53 25.5 +0.6**
baz=21
MSTX Muleshoe 21.43 108 ⇓P **P 01 53 26.1 +0.3**
baz=21
Z27A Tatum 21.50 110 ⇑P **P 01 53 27.1 +0.6**
baz=21
325A Bean Ranch, Si 21.53 117 ⇓P **P 01 53 26.8 -0.1**
baz=21

MENT Mentasta 21.57 340 *e*P **P 01 53 28.2 +1.2**
DAWY Dawson 21.62 346 *e*P **P 01 53 28.9 +1.3**
226A Malaga, Loving 21.66 114 ⇓P **P 01 53 28.4 +0.2**
baz=22
BGNE Belgrade 21.66 86 ⇑P **P 01 53 28.6 +0.4**
baz=22
CLNB Carlsbad 21.68 114 *e*P **P 01 53 29.4 +1.0**
comp=Z,57nm,1.7s,mb4.7
AMTX Amarillo 21.70 105 ⇓P **P 01 53 28.4 -0.2**
baz=22
AMTX Amarillo 21.70 105 *e*P **P 01 53 29.3 +0.7**
comp=Z,97nm,1.0s,mb5.2
AMTX LR LR
comp=Z,943nm,19.0s,MS4.2
127A Arkansas Junct 21.78 112 ⇑P **P 01 53 29.4 -0.1**
baz=22
SLKM Skilak Lake 21.79 329 *e*P **P 01 53 31.4 +2.0**
SLKM Skilak Lake 21.79 329 *e*P **P 01 53 31.4 +2.0**
425A Indio Mountain 21.90 118 ⇑P **P 01 53 31.6 +0.7**
baz=22
SML Sawmill 22.03 333 *e*P **P 01 53 33.6 +1.7**
comp=Z,41nm,1.1s,mb4.8
SML Sawmill 22.03 333 *e*P **P 01 53 33.6 +1.7**
SML pmax pmax
comp=Z,41nm,1.1s,mb4.8
PAX Paxson 22.05 338 *e*P **P 01 53 33.1 +0.8**
comp=Z,69nm,1.5s,mb4.9
PAX Paxson 22.05 338 *e*P **P 01 53 33.1 +0.9**
PAX pmax pmax
comp=Z,69nm,1.5s,mb4.9
PMR Palmer 22.14 332 *e*P **P 01 53 33.7 +0.6**
comp=Z,307nm,1.9s,mb5.4
PMR Palmer 22.14 332 *e*P **P 01 53 33.7 +0.6**
PMR pmax pmax
comp=Z,307nm,1.9s,mb5.4
326A Caldwell Ranch 22.21 116 ⇓P **P 01 53 34.7 +0.6**
baz=22
227A Bennet, Jal 22.22 113 ⇓P **P 01 53 34.2 -0.1**
baz=22
ECSD EROS Data Cent 22.24 79 *e*P **P 01 53 34.5 +0.1**
comp=Z,208nm,1.1s,mb5.5
ECSD LR LR
comp=Z,2µm,20.0s,MS4.5
DOT Dot Lake 22.25 340 *e*P **P 01 53 35.8 +1.5**
comp=Z,131nm,1.1s,mb5.3
AGMN Agassiz Nation 22.36 67 *e*P **P 01 53 35.2 -0.4**
comp=Z,505nm,1.5s,mb5.7
AGMN LR LR
comp=Z,5µm,20.0s,MS4.9
ULM Lac du Bonnet 22.45 62 P **P 01 53 35.9 -0.7**
comp=Z,40nm,1.0s,mb4.8,baz=270,slow=12,SNR=21
ULM LR LR 02 02 37.7
comp=Z,5µm,20.4s,MS4.9,baz=268,slow=37
ULM Lac du Bonnet 22.45 62 *e*P **P 01 53 36.1 -0.4**
comp=Z,160nm,1.5s,mb5.2
ULM LR LR
comp=Z,6µm,19.0s,MS5.1
ULM Lac du Bonnet 22.45 62 *e*P **P 01 53 36.1 -0.4**
ULM pmax pmax
comp=Z,160nm,1.5s
ULM MLR MLR
comp=Z,6µm,19.0s
327A Balmorhea Ranc 22.49 115 ⇑P **P 01 53 37.4 +0.3**
baz=22
EGAK Eagle 22.59 345 *e*P **P 01 53 39.1 +1.2**
comp=Z,45nm,1.0s,mb4.8
EGAK LR LR
comp=Z,3µm,19.0s,MS4.8
426A McDonald Obser 22.60 117 ⇑P **P 01 53 39.3 +1.0**
baz=22
RSO Redoubt South 22.74 327 *e*P **P 01 53 42.2 +2.7**
427A Hayter Ranch, 22.89 116 ⇑P **P 01 53 42.2 +0.8**
baz=23
SPU Mount Spurr 22.91 329 *e*P **P 01 53 42.7 +1.4**
328A Wristen Ranch, 22.94 114 ⇑P **P 01 53 42.2 +0.3**
baz=23
526A Mary Lane Ranc 22.96 118 ⇑P **P 01 53 42.6 +0.5**
baz=23
527A Woodward Ranch 23.21 117 ⇓P **P 01 53 45.5 +0.8**
baz=23
626A Big Bend Ranch 23.28 119 ⇓P **P 01 53 46.0 +0.6**
baz=23
CHGN Chignik 23.41 314 *e*P **P 01 53 46.4 -0.2**
428A Kincaid Ranch, 23.44 115 ⇑P **P 01 53 47.3 +0.2**
baz=23
KSU1 Kansas State U 23.50 90 *e*P **P 01 53 48.8 +1.1**
comp=Z,138nm,1.2s,mb5.3
KSU1 LR LR
comp=Z,3µm,22.0s,MS4.7
MCK McKinley 23.64 336 *e*P **P 01 53 49.0 +0.3**
comp=Z,134nm,1.3s,mb5.2
MCK McKinley 23.64 336 *e*P **P 01 53 49.0 +0.3**
MCK pmax pmax
comp=Z,134nm,1.3s,mb5.2
TXAR Lajitas Array 23.72 119 P **P 01 53 50.0 +0.2**
comp=Z,9.9nm,0.8s,mb4.3,baz=302,slow=6.0,SNR=53
TXAR PcP PcP 01 57 33.5 +0.1
comp=Z,1.0nm,0.8s,baz=346,slow=1.9,SNR=4.0
TXAR LR LR 02 03 09.8
comp=Z,1µm,21.7s,MS4.3,baz=120,slow=37
TXAR Lajitas Array 23.72 119 P **P 01 53 50.0 +0.2**
TXAR PcP PcP 01 57 33.5 +0.1
TXAR LR LR 02 03 09.8
TXAR Lajitas Array 23.72 119 P **P 01 53 50.1 +0.3**
TXAR 01 57 33.5
528A Cox Ranch, San 23.73 116 ⇑P **P 01 53 50.7 +0.8**
baz=24
627A Terlingua Ranc 23.82 118 ⇓P **P 01 53 50.8 +0.1**
baz=24
WMOK Wichita Mounta 23.82 102 *e*P **P 01 53 50.4 -0.3**
comp=Z,231nm,1.3s,mb5.5
WMOK LR LR
comp=Z,1µm,20.0s,MS4.4
WMOK Wichita Mounta 23.82 102 *e*P **P 01 53 50.4 -0.3**
WMOK pmax pmax
comp=Z,231nm,1.3s,mb5.5
WMOK MLR MLR
comp=Z,1µm,20.0s,MS4.4
TRF Thorofare Moun 23.84 334 *e*P **P 01 53 50.9 +0.3**
comp=Z,456nm,1.9s,mb5.6
ILAR Eielson Array 23.88 339 P **P 01 53 51.7 +0.8**
comp=Z,26nm,0.9s,mb4.7,baz=153,slow=8.6,SNR=152
ILAR PcP PcP 01 57 32.8 -0.2
comp=Z,2.4nm,0.9s,baz=167,slow=2.5,SNR=6.2
ILAR LR LR 02 01 38.2
comp=Z,3µm,21.8s,MS4.7,baz=154,slow=33
ILAR Eielson Array 23.88 339 P **P 01 53 51.7 +0.8**
ILAR PcP PcP 01 57 32.8 -0.2
ILAR LR LR 02 01 38.2
PPLA Purkeypile 24.08 332 *e*P **P 01 53 54.1 +1.4**
comp=Z,2µm,2.6s,mb6.0
COLA College 24.21 339 *e*P **P 01 53 54.0 0.0**
comp=Z,48nm,1.1s,mb4.8
COLA LR LR
comp=Z,2µm,21.0s,MS4.6
SDPT Sand Point 24.23 311 *e*P **P 01 53 55.1 +0.8**
comp=Z,537nm,2.0s,mb5.6
SVW2 Sparrevohn 24.25 326 *e*P **P 01 53 54.5 +0.2**
comp=Z,255nm,2.4s,mb5.2
BPAW Bear Paw Mtn. 24.52 335 *e*P **P 01 53 57.0 +0.2**
comp=Z,51nm,0.9s,mb5.1
SPMN St. Paul 24.69 74 ⇓P **P 01 53 59.6 +1.1**
baz=25
INK Inuvik 24.98 355 P **P 01 54 01.0 +0.1**
comp=Z,25nm,1.0s,mb4.7,baz=162,slow=9.3,SNR=26
INK LR LR 02 03 24.6
comp=Z,3µm,19.2s,MS4.8,baz=169,slow=36
INK Inuvik 24.98 355 *e*P **P 01 54 00.8 -0.1**
comp=Z,55nm,1.2s,mb5.0
INK Inuvik 24.98 355 *e*P **P 01 54 00.8 -0.1**
INK pmax pmax
comp=Z,55nm,1.2s
SCIA State Center 25.09 82 *e*P **P 01 54 02.6 +0.4**
comp=Z,269nm,1.6s,mb5.5
SCIA LR LR
comp=Z,5µm,19.0s,MS5.0
EYMN Ely 25.30 67 *e*P **P 01 54 05.1 +1.1**
comp=Z,108nm,1.1s,mb5.3
EYMN LR LR
comp=Z,6µm,19.0s,MS5.1
TUL1 Tulsa 25.40 97 ⇑P **P 01 54 05.7 +0.7**
baz=25
FCC Fort Churchill 25.49 42 *e*P **P 01 54 05.6 0.0**
comp=Z,4.8nm,1.2s,mb3.9
JCT Junction City 25.52 112 ⇑P **P 01 54 05.8 -0.3**
baz=25
JCT Junction City 25.52 112 *e*P **P 01 54 06.2 0.0**
comp=Z,204nm,1.6s,mb5.4
JCT LR LR
comp=Z,5µm,19.0s,MS5.0
JCT Junction City 25.52 112 *e*P **P 01 54 06.2 +0.1**
JCT pmax pmax
comp=Z,204nm,1.6s,mb5.4
JCT MLR MLR
comp=Z,5µm,19.0s,MS5.0
COLD Coldfoot 26.66 340 *e*P **P 01 54 17.8 +1.7**
comp=Z,36nm,1.2s,mb4.8
JFWS Jewell Farm 26.95 78 *e*P **P 01 54 19.6 +0.6**
comp=Z,100nm,1.2s,mb5.2
JFWS LR LR
comp=Z,1µm,22.0s,MS4.3
JFWS Jewell Farm 26.95 78 *e*P **P 01 54 19.6 +0.6**
JFWS pmax pmax
comp=Z,100nm,1.2s,mb5.2
JFWS MLR MLR
comp=Z,1µm,22.0s,MS4.3
UNV Unalaska Valle 27.41 306 *e*P **P 01 54 23.6 +0.6**
comp=Z,64nm,0.9s,mb5.2
MIAR Mount Ida 27.64 98 *e*P **P 01 54 25.7 +0.4**
comp=Z,57nm,1.4s,mb5.0
MIAR LR LR
comp=Z,3µm,19.0s,MS4.8
MIAR Mount Ida 27.64 98 *e*P **P 01 54 25.7 +0.4**
MIAR pmax pmax
comp=Z,57nm,1.4s,mb5.0
MIAR MLR MLR
comp=Z,3µm,19.0s,MS4.8
CCM Cathedral Cave 27.79 89 *e*P **P 01 54 26.6 0.0**
comp=Z,34nm,1.1s,mb4.9
CCM Cathedral Cave 27.79 89 *e*P **P 01 54 26.6 0.0**
CCM pmax pmax
comp=Z,34nm,1.1s,mb4.9
HDIL Hopedale 28.31 83 *e*P **P 01 54 32.0 +0.8**
comp=Z,85nm,1.3s,mb5.2
HDIL LR LR
comp=Z,5µm,20.0s,MS5.1
NATX Nacogdoches 28.32 104 *e*P **P 01 54 32.9 +1.5**
comp=Z,196nm,1.6s,mb5.5
NATX LR LR
comp=Z,1µm,19.0s,MS4.5
SIUC Southern Illin 29.40 88 *e*P **P 01 54 42.0 +1.1**
comp=Z,37nm,1.0s,mb5.1
OLIL Olney 29.81 86 *e*P **P 01 54 44.4 -0.2**
comp=Z,120nm,1.6s,mb5.4
SFIN Scholer Farm 29.95 82 ⇑P **P 01 54 46.2 +0.4**
baz=30
USIN University of 30.42 87 *e*P **P 01 54 50.7 +0.7**
comp=Z,104nm,1.4s,mb5.4
OXF Oxford 30.67 94 *e*P **P 01 54 52.5 +0.4**
comp=Z,216nm,1.2s,mb5.9
OXF Oxford 30.67 94 *e*P **P 01 54 52.5 +0.3**
OXF pmax pmax
comp=Z,216nm,1.2s,mb5.9
BLO Bloomington 30.79 84 *e*P **P 01 54 51.4 -1.8**
comp=Z,35nm,1.0s,mb5.1
BLO Bloomington 30.79 84 *e*P **P 01 54 51.4 -1.8**
BLO pmax pmax
comp=Z,35nm,1.0s,mb5.1
VBMS Vicksburg 31.03 99 *e*P **P 01 54 56.2 +0.9**
comp=Z,89nm,1.2s,mb5.5
VBMS LR LR
comp=Z,2µm,20.0s,MS4.8
WVT Waverly 31.07 90 *e*P **P 01 54 55.1 -0.6**
comp=Z,27nm,1.2s,mb5.0
WVT Waverly 31.07 90 *e*P **P 01 54 55.1 -0.6**
WVT pmax pmax
comp=Z,27nm,1.2s,mb5.0
WCI Wyandotte Cave 31.32 86 *e*P **P 01 54 58.4 +0.6**
comp=Z,104nm,2.0s,mb5.3
WCI Wyandotte Cave 31.32 86 *e*P **P 01 54 58.4 +0.6**
WCI pmax pmax
comp=Z,104nm,2.0s,mb5.3
PLAL Pickwick Lake 31.41 92 *e*P **P 01 54 58.1 -0.6**
comp=Z,60nm,1.3s,mb5.3
PLAL LR LR
comp=Z,3µm,22.0s,MS4.9
SWET Sewanee 32.86 90 *e*P **P 01 55 10.7 -0.8**
ACSO Alum Creek Sta 32.96 80 *e*P **P 01 55 12.0 -0.2**
comp=Z,31nm,1.1s,mb5.1
ACSO LR LR
comp=Z,1µm,20.0s,MS4.5
CPCT Cooper Cave 33.78 89 *e*P **P 01 55 18.2 -1.2**
RES Resolute Bay 34.40 15 P **P 01 55 23.6 -0.7**
comp=Z,7.8nm,0.8s,mb4.7,baz=235,slow=11,SNR=13
RES Resolute Bay 34.40 15 *e*P **P 01 55 24.7 +0.3**
comp=Z,10nm,0.9s,mb4.8
RES Resolute Bay 34.40 15 *e*P **P 01 55 24.7 +0.4**
RES pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GOGA Godfrey 35.52 92 *e*P **P 01 55 34.6 +0.2**
comp=Z,53nm,1.0s,mb5.4
GOGA LR LR
comp=Z,969nm,21.0s,MS4.5
GOGA Godfrey 35.52 92 *e*P **P 01 55 34.6 +0.1**
GOGA pmax pmax
comp=Z,53nm,1.0s,mb5.4
GOGA MLR MLR
comp=Z,969nm,21.0s,MS4.5
ELN Prospectdale 35.73 84 *e*P **P 01 55 36.2 0.0**
KMSC Kings Mountain 36.24 87 ⇓P **P 01 55 40.2 -0.4**
baz=36
VWCC Virginia Weste 36.28 83 *e*P **P 01 55 42.3 +1.3**
SSPA Standing Stone 36.44 77 *e*P **P 01 55 40.9 -1.4**
comp=Z,32nm,1.4s,mb5.1
JSC Jenkinsville 36.70 89 *e*P **P 01 55 44.5 -0.1**
JSC Jenkinsville 36.70 89 *e*P **P 01 55 44.5 0.0**
NHSC New Hope 38.06 90 *e*P **P 01 55 55.7 -0.4**
comp=Z,176nm,1.3s,mb5.6
NHSC LR LR
comp=Z,2µm,22.0s,MS4.8
FX1 Attu Island--F 39.59 305 LR LR 02 09 36.1
comp=Z,505nm,18.3s,MS4.4,baz=92,slow=32
SCHQ Schefferville 39.94 52 P **P 01 56 10.1 -1.5**
comp=Z,20nm,1.1s,mb4.8,baz=282,slow=9.1,SNR=5.7
SCHQ LR LR 02 13 01.7
comp=Z,3µm,18.5s,MS5.2,baz=92,slow=37
SCHQ Schefferville 39.94 52 P **P 01 56 10.1 -1.5**
SCHQ LR LR 02 13 01.7
TEIG Tepich 40.08 113 *e*P **P 01 56 12.6 -0.5**
comp=Z,61nm,1.2s,mb5.2
TEIG LR LR
comp=Z,499nm,19.0s,MS4.4
BILL Bilibino 41.71 329 *e*P **P 01 56 25.3 -0.7**
comp=Z,28nm,1.0s,mb4.8
BILL LR LR
comp=Z,1µm,21.0s,MS4.8
BILL Bilibino 41.71 329 ⇑ *i*P **P 01 56 25.6 -0.4**
BILL *i* 01 56 36.0
BILL *e* 01 58 07.3
BILL *e*S **S 02 02 46.4 +5.1**
BILL pmax pmax
comp=Z,46nm,1.6s,mb4.9
BILL MLR MLR
comp=Z,2µm,16.0s,MS5.0
SOR Soroa 41.97 105 *e*P **P 01 56 27.1 -1.6**
ALE Alert 43.84 10 P **P 01 56 43.8 +0.7**
comp=Z,85nm,0.9s,mb5.5,SNR=5.9
TGUH Tegucigalpa,Un 45.20 118 *e*P **P 01 56 53.9 -0.8**
comp=Z,79nm,1.3s,mb5.4
TGUH LR LR
comp=Z,820nm,22.0s,MS4.6
LMGC Las Mercedes 47.98 103 *e*P **P 01 57 16.8 +0.3**
PET Petropavlovsk 47.99 309 *e*P **P 01 57 15.3 -0.9**
PET *e*S **S 02 04 12.7 +0.1**
PET pmax pmax
comp=Z,50nm,1.2s,mb5.4
SEY Seymchan 48.12 323 ‖ *e*P **P 01 57 16.6 -0.4**
PETK Petropavlovsk- 48.51 309 P **P 01 57 18.8 -1.4**
comp=Z,16nm,0.9s,mb5.0,baz=84,slow=10,SNR=8.4
PETK LR LR 02 14 08.9
comp=Z,341nm,20.3s,MS4.3,baz=248,slow=32
PETK Petropavlovsk- 48.51 309 P **P 01 57 18.8 -1.4**
PETK LR LR 02 14 08.9
PETK Petropavlovsk- 48.51 309 P **P 01 57 18.8 -1.4**
SUMG Summit 48.77 24 *e*P **P 01 57 23.4 +1.5**
comp=Z,29nm,0.7s,mb5.4
SUMG Summit 48.77 24 *e*P **P 01 57 23.4 +1.4**
SUMG pmax pmax
comp=Z,29nm,0.7s
SUMG Summit 48.77 24 *i* P **P 01 57 23.9 +1.9**
comp=Z,30nm,0.9s,mb5.3
JTS JuntasAbangare 49.51 119 *e*P **P 01 57 26.9 -1.5**
JTS LR LR
comp=Z,398nm,19.0s,MS4.4

JTS **JuntasAbangare** 49.51 119 eP P 01 57 26.9 -1.4
JTS MLR MLR
comp=Z,398nm,19.0s
DAG **Danmarks Havn** 52.07 16⇑ iP P 01 57 47.1 +0.3
DAG **Danmarks Havn** 52.07 16⇑ iP P 01 57 47.1 +0.3
comp=Z,11nm,0.9s,mb4.8
SDDR **Presa de Saban** 52.76 99 eP P 01 57 52.1 -0.6
comp=Z,60nm,1.3s,mb5.4
MPR **Mayaguez** 56.25 97 eP P 01 58 18.9 +0.9
comp=Z,133nm,1.4s,mb5.8
LRS **Lares** 56.41 96 eP P 01 58 19.3 +0.1
AOPR **Arecibo Observ** 56.44 96 eP P 01 58 19.9 +0.5
comp=Z,40nm,1.2s,mb5.3
CELP **Cerrillos** 56.74 96 eP P 01 58 21.3 -0.3
OBIP **Obispado Ponce** 56.74 97 eP P 01 58 21.6 0.0
comp=Z,95nm,1.3s,mb5.7
ICM **Isla Caja Muer** 56.90 97 eP P 01 58 23.4 +0.7
comp=Z,147nm,1.4s,mb5.8
SJG **San Juan** 57.02 96 eP P 01 58 20.8 -2.8
comp=Z,59nm,1.3s,mb5.5
SJG **San Juan** 57.02 96 eP P 01 58 20.8 -2.8
SJG pmax pmax
comp=Z,59nm,1.3s
HUMP **Col San Antoni** 57.22 96 eP P 01 58 24.8 -0.1
comp=Z,20nm,1.0s,mb5.1
MTP **Monte Pirata** 57.47 96 eP P 01 58 25.4 -1.3
comp=Z,91nm,1.2s,mb5.7
YAK **Yakutsk** 58.03 327 eP P 01 58 27.3 -2.7
YAK e*PP pP 01 58 35.6 -1.4
YAK e 01 59 20.2
YAK eS S 02 06 22.7 -6.3
YAK pmax pmax
comp=Z,33nm,1.0s,mb5.3
YAK pmax pmax
comp=E,15nm,1.3s
YAK pmax pmax
comp=N,10.0nm,1.4s
YAK smax
comp=E,109nm,11.9s
YAK smax
comp=N,77nm,14.6s
YAK pmax pmax
comp=Z,33nm,1.1s,mb5.3
YSS **Yuzh-Sakhalins** 59.85 308 eP P 01 58 42.1 -0.9
comp=Z,30nm,0.8s,mb5.4
YSS LR LR
comp=Z,205nm,19.0s,MS4.3
YSS **Yuzh-Sakhalins** 59.85 308 eP P 01 58 41.2 -1.7
YSS e 02 06 55.0
YSS pmax pmax
comp=Z,40nm,0.9s,mb5.5
YSS MLR MLR
comp=N,300nm,16.0s
YSS MLR MLR
comp=Z,500nm,16.0s,MS4.7
SDV **Santo Domingo** 60.10 107 eP P 01 58 45.0 0.0
comp=Z,21nm,1.1s,mb5.1
SDV LR LR
comp=Z,194nm,20.0s,MS4.2
ROSC **El Rosal** 60.50 114 eP P 01 58 49.2 +1.4
PMOR **Pomariorio Ree** 61.24 203 eT 03 04 50.3
comp=Z,62nm,0.3s
OTAV **Otavalo** 61.34 121 eP P 01 58 54.2 +0.8
comp=Z,44nm,1.4s,mb5.4
ASAJ **Asahikawa** 61.52 305 eP P 01 58 51.7 -2.6
comp=Z,13nm,1.1s,mb5.0
ERM **Erimo** 62.37 303 eP P 01 59 00.5 +0.5
comp=Z,48nm,1.0s,mb5.6
ERM **Erimo** 62.37 303 d iP P 01 59 00.7 +0.6
ERM pmax pmax
comp=Z,61nm,1.2s,mb5.6
CLNS **Chul'man** 63.08 324 eP P 01 59 03.0 -1.5
CLNS e 01 59 39.6
CLNS e 02 01 21.6
CLNS eS S 02 07 27.3 -6.4
CLNS e 02 08 48.5
CLNS pmax pmax
comp=Z,18nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,11nm,1.0s
CLNS pmax pmax
comp=E,13nm,1.1s
CLNS pmax pmax
comp=Z,4.0nm,1.2s,mb4.4
CLNS pmax pmax
comp=N,10.0nm,1.3s
CLNS pmax pmax
comp=E,7.0nm,1.2s
CLNS smax
comp=N,208nm,13.1s
CLNS smax
comp=E,137nm,11.3s
CLNS MLR MLR
comp=Z,452nm,15.0s,MS4.8
CLNS MLR MLR
comp=N,138nm,14.0s,MS4.8
CLNS MLR MLR
comp=E,401nm,15.0s,MS4.8
TIAR **Tiarei** 64.08 203 eT 03 08 22.9
comp=E,102nm,0.3s
PPT **Papeete** 64.16 204 eS S 02 07 46.3 -1.5
comp=E,415nm,27.8s
PPT eLQ 02 15 14.8
comp=E,3μm,29.5s
PPT eLR LR 02 18 00.0
comp=E,590nm,28.2s,baz=23
KLR **Kul'dur** 64.56 315 eP P 01 59 10.0 -4.5
KLR pmax pmax
comp=Z,64nm,1.8s,mb5.3
RKT **Rikitea** 66.74 188 eT 03 11 45.7
comp=Z,12nm,0.3s
APA **Apatity** 68.22 8 ⇓ iP P 01 59 38.0 +0.5
APA i 02 00 00.0
APA i S S 02 08 32.0 -4.2
APA i PS 02 09 00.0
APA i SS SS 02 13 00.0 +1.9
APA pmax pmax
comp=Z,40nm,1.4s,mb5.3
APA MLR MLR
comp=Z,1μm,14.0s,MS5.2
MDJ **Mudanjiang** 68.63 312 P P 01 59 39.3 -1.2
MDJ pP pP 01 59 42.5 -5.1
MDJ PcP PcP 02 00 03.9 -1.4
MDJ PP PP 02 02 08.6 -3.0
MDJ S S 02 08 39.8 -2.0
MDJ ScS ScS 02 09 39.3 +0.3
MDJ SS SS 02 13 09.4 +4.0
MDJ pmax pmax
comp=Z,14nm,1.0s,mb4.8
MDJ pmax pmax
comp=Z,85nm,5.1s
MDJ LR LR
comp=N,230nm,19.9s
MDJ LR LR
comp=E,170nm,26.2s
MDJ LR LR
comp=Z,370nm,15.7s,MS4.7
MAJO **Matsushiro** 68.72 300 eP P 01 59 39.8 -1.4
comp=Z,38nm,0.9s,mb5.3
MAJO **Matsushiro** 68.72 300 eP P 01 59 39.8 -1.4
MAJO pmax pmax
comp=Z,38nm,0.9s,mb5.3
MAT **Matsushiro** 68.72 300 P P 01 59 39.5 -1.7
MAT S S 02 08 40.0 -3.2
MJAR **Matsushiro Arr** 68.72 300 P P 01 59 39.1 -2.1
comp=Z,13nm,0.8s,mb4.9,baz=45,slow=4.5,SNR=20
MJAR **Matsushiro Arr** 68.72 300 P P 01 59 39.1 -2.1
MJAR **Matsushiro Arr** 68.72 300 P P 01 59 39.1 -2.1
NB2 **NORSAR Subarra** 70.44 20 P P 01 59 51.8 +0.4
comp=Z,16nm,1.1s,mb4.9,baz=330,slow=6.2
NOA **NORSAR Array B** 70.44 20 P P 01 59 51.2 -0.2
comp=Z,7.2nm,1.0s,mb4.5,baz=332,slow=5.8,SNR=5.5
NOA LR LR 02 32 57.1
comp=Z,178nm,18.0s,MS4.4,baz=345,slow=38
NOA **NORSAR Array B** 70.44 20 P P 01 59 51.2 -0.2
NOA LR LR 02 32 57.1
NOA **NORSAR Array B** 70.44 20 P P 01 59 51.2 -0.2
HIA **Hailar** 70.46 320 eP P 01 59 49.5 -2.2
comp=Z,19nm,1.0s,mb5.0
HIA LR LR
comp=Z,611nm,20.0s,MS4.8
HIA **Hailar** 70.46 320 eP P 01 59 49.5 -2.2
HIA pmax pmax
comp=Z,19nm,1.0s
HIA MLR MLR
comp=Z,611nm,20.0s

NAO01 **NORSAR Array S** 70.53 20 eP P 01 59 53.7 +1.7
comp=Z,12nm,1.0s,mb4.8
CN2 **Changchun** 71.39 313 eP P 01 59 55.9 -1.6
CN2 eSP sP 02 00 02.0 -5.3
CN2 eS S 02 09 10.4 -3.8
CN2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,13.0s,MS4.9
CN2 LR LR
comp=E,300nm,13.0s,MS4.9
CN2 LR LR
comp=Z,300nm,19.0s
HFS **Hagfors** 71.84 19 P P 02 00 00.6 +0.7
comp=Z,6.3nm,0.9s,mb4.6,baz=337,slow=3.3,SNR=9.3
HFS **Hagfors** 71.84 19 P P 02 00 00.6 +0.7
HFS **Hagfors** 71.84 19 P P 02 00 00.6 +0.7
NNA **Nana** 71.97 127 eP P 02 00 00.9 -0.3
comp=Z,33nm,1.4s,mb5.1
NNA **Nana** 71.97 127 eP P 02 00 00.9 -0.3
NNA pmax pmax
comp=Z,33nm,1.4s
FINES **FINESS Array B** 73.14 13 P P 02 00 07.4 -0.1
comp=Z,11nm,0.9s,mb4.8,baz=337,slow=9.0,SNR=11
FINES **FINESS Array B** 73.14 13 P P 02 00 07.5 -0.1
FINES **FINESS Array B** 73.14 13 P P 02 00 07.5 -0.1
SNY **Shenyang** 73.75 313 ⇓ P P 02 00 11.3 -0.2
SNY S S 02 09 42.0 +0.8
SNY pmax pmax
comp=Z,22nm,1.8s,mb4.8
SNY LR LR
comp=N,280nm,18.3s,MS4.8
SNY LR LR
comp=E,280nm,16.2s,MS4.8
SNY LR LR
comp=Z,350nm,38.4s
KSRS **Korea Array** 74.34 307 P P 02 00 13.8 -1.2
comp=Z,7.9nm,0.9s,mb4.7,baz=51,slow=6.3,SNR=21
IRK **Irkutsk** 74.64 330 eP P 02 00 16.5 0.0
IRK pmax pmax
comp=Z,61nm,2.6s,mb5.1
TLY **Talaya** 75.32 330 eP P 02 00 20.9 +0.4
TLY LR LR
comp=Z,596nm,19.0s,MS4.9
TLY **Talaya** 75.32 330 eP P 02 00 20.3 -0.2
TLY pmax pmax
comp=Z,18nm,1.1s,mb4.9
TLY MLR MLR
comp=Z,496nm,17.0s,MS4.9
KLMR **Klimovskoe** 75.37 7 eP P 02 00 19.8 -0.8
KLMR pmax pmax
comp=Z,37nm,1.7s,mb5.0
JNU **Nakatsue** 75.51 302 eP P 02 00 19.0 -2.9
comp=Z,10nm,1.2s,mb4.6
ROSF **Rostrenen** 76.14 35 eP P 02 00 24.2 -1.0
comp=Z,108nm,1.5s,mb5.3
SGMF **Saint Gilles** 76.50 34 eP P 02 00 26.0 -1.3
comp=Z,172nm,1.7s,mb5.4
ZAK **Zakamensk** 76.51 329 eP P 02 00 26.7 -0.6
ZAK pmax pmax
comp=Z,4.0nm,1.7s,mb4.1
QUIF **Quistinic** 76.52 35 eP P 02 00 26.6 -0.8
comp=Z,167nm,1.8s,mb5.4
FLN **La Foliniere** 76.93 33 eP P 02 00 28.7 -1.0
comp=Z,111nm,1.5s,mb5.3
FLN eR
comp=Z,1μm,19.8s
ULN **Ulaanbaatar** 77.07 326 eP P 02 00 30.1 -0.4
comp=Z,38nm,1.6s,mb5.1
ULN LR LR
comp=Z,735nm,20.0s,MS5.0
ULN **Ulaanbaatar** 77.07 326 eP P 02 00 30.1 -0.4
ULN pmax pmax
comp=Z,38nm,1.6s,mb5.1
ULN MLR MLR
comp=Z,735nm,20.0s,MS5.0
GRR **Gorron** 77.08 33 eP P 02 00 29.8 -0.8
comp=Z,83nm,1.3s,mb5.2
SOKR **Solikamsk** 77.14 358 eP P 02 00 25.1 -5.6
SOKR pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LDF **La Druitiere** 77.21 33 eP P 02 00 30.0 -1.3
comp=Z,20nm,1.1s,mb4.6
SNF **Seneffe** 77.29 29 P P 02 00 31.8 +0.1
comp=Z,26nm,2.8s,mb4.7
SONM **Songino Array** 77.36 326 P P 02 00 31.7 -0.4
comp=Z,14nm,0.9s,mb4.9,baz=42,slow=4.5,SNR=43
SONM **Songino Array** 77.36 326 P P 02 00 31.7 -0.4
SONM **Songino Array** 77.36 326 P P 02 00 31.7 -0.4
BAIF **Baives** 77.64 30 eP P 02 00 32.8 -0.8
comp=Z,50nm,1.3s,mb5.0
BCLA **Clavier** 77.72 29 P P 02 00 35.7 +1.6
DOU **Dourbes** 77.75 29 P P 02 00 34.0 -0.2
comp=Z,12nm,1.9s,mb4.5
GIVF **Givet** 77.82 29 eP P 02 00 33.8 -0.8
NVS **Novosibirsk** 78.53 342 ⇑ iP P 02 00 36.7 -1.8
NVS pmax pmax
comp=Z,106nm,1.8s,mb5.5
NVS pmax pmax
comp=N,26nm,1.4s
NVS pmax pmax
comp=E,27nm,1.7s
MFF **Saint Martin d** 78.81 34 eP P 02 00 39.2 -1.0
comp=E,75nm,1.7s,mb5.0
PGAV **Gavieira, Arco** 78.84 42 eLQ 02 20 58.5
PGAV eLR LR 02 26 46.1
comp=E,497nm,20.0s
BJI **Beijing** 78.91 316 P P 02 00 39.6 -1.3
BJI S S 02 10 37.0 -0.9
BJI pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
BJI pmax pmax
comp=Z,140nm,6.2s
BJI LR LR
comp=N,270nm,10.2s,MS5.1
BJI LR LR
comp=E,410nm,10.2s,MS5.1
BJI LR LR
comp=Z,220nm,18.7s
ZAA0 **Zalesovo Array** 78.99 341 eP P 02 00 40.1 -0.9
ZALV **Zalesovo Beam** 78.99 341 P P 02 00 40.3 -0.8
comp=Z,7.2nm,0.9s,mb4.6,baz=18,slow=6.1,SNR=29
ZALV LR LR 02 36 28.6
comp=Z,320nm,21.7s,MS4.6,baz=300,slow=36
ZALV **Zalesovo Beam** 78.99 341 P P 02 00 40.3 -0.8
ZALV LR LR 02 36 28.6
ZALV **Zalesovo Beam** 78.99 341 P P 02 00 40.3 -0.7
GUMO **Guam** 79.11 278 LR LR 02 27 39.4
comp=Z,453nm,20.2s,MS4.8,baz=73,slow=30
MEZF **Maizieres J'vi** 79.24 30 eP P 02 00 41.6 -0.9
PAGF **Fort de Pagny** 79.44 30 eP P 02 00 42.8 -0.8
comp=Z,27nm,1.6s,mb4.6
CLL **Collm** 79.44 24 eP P 02 00 44.0 +0.4
CLL i pP 02 00 52.0 +1.2
CLL eS S 02 10 50.0 +6.9
CLL pmax pmax
comp=Z,12nm,1.5s,mb4.6
CLL **Collm** 79.44 24 eP P 02 00 44.0 +0.4
comp=Z,12nm,1.5s,mb4.6
CLL i pP 02 00 52.0 +1.2
comp=Z,15nm,1.1s
CLL eS S 02 10 50.0 +6.9
CLL ePPS 02 11 46.0
CLL eSS SS 02 15 59.0 +10
CLL e 02 21 12.0
POLO **Lamas de Olo** 79.52 42 eP P 02 00 45.2 +1.0
comp=Z,10nm,1.1s,mb4.7
POLO **Lamas de Olo** 79.52 42 eLR LR 02 27 03.0
comp=Z,273nm,22.0s
SUW **Suwalki** 79.58 17 eP P 02 00 44.7 +0.5
SUW **Suwalki** 79.58 17 eP P 02 00 44.7 +0.5
PVRL **Vila Real** 79.63 42 ePcP PcP 02 00 53.6 +1.0
PVRL A 02 01 03.2
comp=Z,19nm,1.5s
PBRG **Braganca** 79.69 41 eLR LR 02 23 21.6
comp=Z,518nm,18.0s
SVE **Sverdlovsk** 79.72 355 ⇓ iP P 02 00 45.3 +0.3
SVE pmax pmax
comp=Z,25nm,1.2s,mb5.0
LOR **Lormes** 79.83 31 eP P 02 00 44.9 -0.8
comp=Z,80nm,1.6s,mb5.1
LOR eR
comp=Z,942nm,20.5s
SSF **Saint Saulge** 79.87 32 eP P 02 00 45.1 -0.9
comp=Z,52nm,1.6s,mb4.9
PVIS **Viseu** 79.97 42 eP P 02 00 46.5 -0.1
comp=Z,23nm,1.7s,mb4.8
TCF **Toulx Ste Croi** 80.01 33 eP P 02 00 45.5 -1.2
comp=Z,26nm,1.1s,mb4.8
MNK **Minsk** 80.03 14 eP P 02 00 50.0 +3.3
BGF **Bois d'Agland** 80.03 32 eP P 02 00 45.6 -1.3
comp=Z,53nm,1.3s,mb5.0
AVF **Avril sur Loir** 80.04 32 eP P 02 00 45.5 -1.4
comp=Z,77nm,1.6s,mb5.1
MICGM **Minsk** 80.04 14 e PcP 02 00 59.0 +4.9
MVO **Moncorvo** 80.05 41 A 02 01 01.0
comp=Z,21nm,2.0s
MVO **Moncorvo** 80.05 41 eLR LR 02 27 14.9
comp=Z,572nm,20.0s
BRG **Berggiesshubel** 80.10 24 eP P 02 00 48.5 +1.3
comp=Z,18nm,1.6s,mb4.8
BRG e pP 02 00 55.9 +1.5
comp=Z,19nm,1.1s
BRG S S 02 10 56.0 +5.9
BRG SS SS 02 16 06.0 +6.8
BRG e 02 23 17.0
comp=Z,20nm,1.4s
BRG SKKS SKKSdf 02 26 18.8 -3.8
comp=Z,5.0nm,1.2s
BRG
comp=N,1μm,20.3s
BRG
comp=E,1μm,17.1s
BRG
comp=Z,1μm,20.7s
BRG **Berggiesshubel** 80.10 24 eP P 02 00 48.5 +1.4
BRG e pP 02 00 55.9 +1.5
BRG S S 02 10 56.0 +5.9
BRG SS SS 02 16 06.0 +6.8
BRG pmax pmax
comp=Z,18nm,1.6s,mb4.8
BRG pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
BRG MLR MLR
comp=N,1μm,20.3s,MS5.4
BRG MLR MLR
comp=E,1μm,17.1s,MS5.4
BRG MLR MLR
comp=Z,1μm,20.7s,MS5.3
CDF **Champ du Feu** 80.11 29 eP P 02 00 46.5 -0.7
comp=Z,24nm,1.0s,mb4.8
HAU **Haudompre** 80.13 29 eP P 02 00 46.5 -0.8
comp=Z,19nm,1.0s,mb4.7
HAU eR
comp=Z,1μm,18.8s
ARU **Arti** 80.22 357 eP P 02 00 47.0 -0.7
comp=Z,50nm,1.6s,mb5.2
ARU LR LR
comp=Z,506nm,21.0s,MS4.8
ARU **Arti** 80.22 357 d iP P 02 00 46.6 -1.1
ARU S S 02 10 51.4 +0.2
ARU SS SS 02 15 58.7 -1.9
ARU pmax pmax
comp=Z,34nm,1.7s,mb5.0
NKC **Novy Kostel** 80.22 25 eP P 02 00 49.2 +1.4
NKC e pP 02 00 56.1 +1.1
NKC **Novy Kostel** 80.22 25 eP P 02 00 49.2 +1.4
NKC ex x 02 00 56.1
MOS **Moscow** 80.24 9 eP P 02 00 43.1 -4.7
GRF **Grafenberg Arr** 80.32 26 eP P 02 00 48.6 +0.3
comp=Z,14nm,1.2s,mb4.8
GRF **Grafenberg Arr** 80.32 26 eP P 02 00 48.6 +0.3
GRF pmax pmax
comp=Z,14nm,1.2s,mb4.8
SMF **Signal de Mont** 80.34 32 eP P 02 00 47.1 -1.4
comp=Z,20nm,1.1s,mb4.7
MTE **Manteigas** 80.39 42 eP P 02 00 49.8 +0.9
comp=Z,31nm,1.4s,mb5.0
MTE **Manteigas** 80.39 42 eLR LR 02 27 31.9
comp=Z,553nm,18.0s
HINF **Hinteralfeld** 80.47 29 eP P 02 00 48.1 -1.1
comp=Z,32nm,1.3s,mb4.8
LFF **La Frestale** 80.52 34 eP P 02 00 48.5 -1.0
comp=Z,58nm,1.5s,mb5.0
LPAZ **La Paz** 80.52 123 P P 02 00 49.1 -0.7
comp=Z,3.6nm,0.9s,mb4.3,baz=328,slow=7.2,SNR=12
LPAZ **La Paz** 80.52 123 eP P 02 00 49.0 -0.8
comp=Z,12nm,1.1s,mb4.7
LPAZ LR LR
comp=Z,2μm,19.0s,MS5.4
LPAZ **La Paz** 80.52 123 eP P 02 00 49.0 -0.8
LPAZ pmax pmax
comp=Z,12nm,1.1s
LPAZ MLR MLR
comp=Z,2μm,19.0s
RJF **Les Rejaudoux** 80.54 34 eP P 02 00 48.2 -1.4
comp=Z,44nm,1.2s,mb5.0
RJF eR
comp=Z,982nm,22.2s
BFO **Black Forest** 80.55 28 eP P 02 00 51.1 +1.5
comp=Z,18nm,1.3s,mb4.8
BFO LR LR
comp=Z,744nm,22.0s,MS5.0
BFO **Black Forest** 80.55 28 eP P 02 00 51.1 +1.5
BFO pmax pmax
comp=Z,19nm,1.3s,mb4.9
BFO MLR MLR
comp=Z,744nm,22.0s,MS5.0
PTOM **Tomar** 80.56 43 eP P 02 00 50.3 +0.5
comp=Z,34nm,1.3s,mb5.1
HHC **Hu-ho-hao-te** 80.57 319 eP P 02 00 49.8 -0.1
HHC pP pP 02 00 54.3 -2.8
HHC sP sP 02 00 56.8 -2.9
HHC PP PP 02 03 57.8 +5.0
HHC S S 02 10 54.1 -1.3
HHC SS SS 02 16 08.9 +2.1
HHC pmax pmax
comp=Z,28nm,1.1s,mb5.1
HHC LR LR
comp=N,230nm,15.3s,MS4.9
HHC LR LR
comp=E,280nm,14.1s,MS4.9
HHC LR LR
comp=Z,480nm,17.6s,MS4.9
PVCC **Panska Ves** 80.59 23 eP P 02 00 51.1 +1.3
PVCC **Panska Ves** 80.59 23 eP P 02 00 51.1 +1.3
PMAFR **Mafra** 80.63 44 eLQ 02 21 23.0
PMAFR eLR LR 02 27 30.6
comp=Z,430nm,20.0s
OBN **Obninsk** 80.73 9 eP P 02 00 49.7 -0.7
OBN LR LR
comp=Z,396nm,21.0s,MS4.7
OBN **Obninsk** 80.73 9 c iP P 02 00 50.4 0.0
OBN i pP 02 00 57.8 +0.1
OBN e 02 03 53.7
OBN eS S 02 11 03.7 +7.1
OBN eSS SS 02 16 13.7 +5.4
OBN pmax pmax
comp=Z,35nm,1.2s,mb5.2
OBN MLR MLR
comp=Z,300nm,15.0s,MS4.8
PMOZ **Porto Moniz, M** 80.85 53 eLR LR 02 28 07.5
comp=Z,531nm,20.0s
UPC **Upice** 81.02 23 eP P 02 00 53.6 +1.5
UPC e pP 02 01 00.7 +1.4
UPC **Upice** 81.02 23 eP P 02 00 53.6 +1.5
UPC ex x 02 01 00.7
PRU **Pruhonice** 81.07 24 eP P 02 00 53.1 +0.8
PRU e pP 02 01 01.3 +1.7
PRU **Pruhonice** 81.07 24 eP P 02 00 53.1 +0.8
PRU ex x 02 01 01.3
CAF **Calviac** 81.07 34 eP P 02 00 50.8 -1.7
comp=Z,59nm,1.6s,mb5.0
SJPF **Ste Jean** 81.17 37 eP P 02 00 51.9 -1.1
comp=Z,65nm,1.6s,mb5.0
PMRV **Marv??o** 81.21 43 eP P 02 00 54.3 +1.0
comp=Z,14nm,1.4s,mb4.7
PMRV **Marv??o** 81.21 43 eLR LR 02 27 53.9
comp=Z,425nm,20.0s
CABF **La Chapelle** 81.22 30 eP P 02 00 51.6 -1.6
comp=Z,21nm,1.0s,mb4.7
DPC **Dobruska-Polom** 81.25 23 eP P 02 00 54.1 +0.8
comp=Z,23nm,1.1s,mb5.0
DPC **Dobruska-Polom** 81.25 23 eP P 02 00 53.8 +0.5
DPC e pP 02 01 02.3 +1.8
DPC **Dobruska-Polom** 81.25 23 eP P 02 00 53.8 +0.5
DPC ex x 02 01 02.3
KHC **Kasperske Hory** 81.54 25 eP P 02 00 56.6 +1.7
comp=Z,13nm,1.4s,mb4.7
KHC **Kasperske Hory** 81.54 25 eP P 02 00 56.2 +1.3

KHC					*e*	pP		02 01 03.3	+1.2
KHC	**Kasperske Hory**	**81.54**	**25**	*e*P		**P**		**02 00 56.2**	**+1.3**
KHC				*ex*		x		02 01 03.3	
PESTR	**Estremoz**	**81.54**	**43**	*e*P		**P**		**02 00 55.6**	**+0.5**
	comp=Z,17nm,1.7s,mb4.7								
PESTR	**Estremoz**	**81.54**	**43**	*e*LQ				02 21 46.5	
PESTR				*e*LR		LR		02 27 48.2	
	comp=Z,655nm,20.0s								
EVO	**Evora**	**81.59**	**44**	*e*P		**P**		**02 00 54.0**	**-1.3**
	comp=Z,21nm,1.2s,mb4.7								
EVO				*e*R					
	comp=Z,675nm,20.8s								
ETSF	**Etsaut**	**81.63**	**36**	*e*P		**P**		**02 00 54.7**	**-0.8**
PNCL	**Nicolau / Gran**	**81.65**	**44**	*e*P		**P**		**02 00 56.0**	**+0.3**
	comp=Z,32nm,2.0s,mb4.9								
PNCL	**Nicolau / Gran**	**81.65**	**44**	*e*LR		LR		02 28 08.3	
	comp=Z,399nm,20.0s								
GERES	**GERESS Array B**	**81.83**	**25**	P		**P**		**02 00 56.7**	**+0.3**
	comp=Z,1.4nm,0.7s,mb4.0,baz=335,slow=6.6,SNR=5.8								
GERES	**GERESS Array B**	**81.83**	**25**	P		**P**		**02 00 56.7**	**+0.3**
GERES	**GERESS Array B**	**81.83**	**25**	P		**P**		**02 00 56.7**	**+0.3**
EPF	**Esparros**	**81.91**	**36**	*e*P		**P**		**02 00 55.4**	**-1.5**
PTEO	**Sao Teotonio**	**81.98**	**45**	*e*P		**P**		**02 00 57.1**	**-0.3**
	comp=Z,52nm,1.9s,mb5.1								
MORC	**Moravsky Berou**	**82.11**	**22**	*e*P		**P**		**02 01 06.4**	**+8.6**
	comp=Z,81nm,2.7s,mb5.2								
MORC	**Moravsky Berou**	**82.11**	**22**	*e*P		**P**		**02 01 06.4**	**+8.6**
MORC					pmax	pmax			
	comp=Z,81nm,2.7s,mb5.2								
MORC	**Moravsky Berou**	**82.11**	**22**	⇑*i*P		**P**		**02 01 06.7**	**+8.9**
MORF	**Marmelete**	**82.20**	**45**	*e*pP		pP		02 01 01.9	-3.9
MORF				A				02 01 25.0	
	comp=Z,39nm,1.6s								
MORF	**Marmelete**	**82.20**	**45**	*e*LR		LR		02 29 29.1	
	comp=Z,444nm,20.0s								
OKC	**Ostrava-Krasne**	**82.22**	**22**	*e*P		**P**		**02 00 55.4**	**-3.0**
OKC				*e*				02 01 06.5	
OKC	**Ostrava-Krasne**	**82.22**	**22**	*e*P		**P**		**02 00 55.4**	**-3.0**
OKC				*ex*		x		02 01 06.5	
PFVI	**Vila Bisbo**	**82.25**	**45**	*e*LQ				02 22 14.6	
PFVI				*e*LR		LR		02 29 29.4	
	comp=Z,370nm,22.0s								
PCVE	**Castro Verde**	**82.27**	**44**	*e*LR		LR		02 28 24.0	
	comp=Z,462nm,18.0s								
VRAC	**Vranov**	**82.27**	**23**	P		**P**		**02 00 58.9**	**+0.2**
	comp=Z,2.0nm,0.5s,mb4.3,baz=322,slow=5.7,SNR=3.9								
VRAC	**Vranov**	**82.27**	**23**	P		**P**		**02 00 58.9**	**+0.2**
VRAC	**Vranov**	**82.27**	**23**	P		**P**		**02 00 58.9**	**+0.2**
OJC	**Ojcow**	**82.30**	**21**	*e*P		**P**		**02 00 59.8**	**+1.0**
OJC	**Ojcow**	**82.30**	**21**	*e*P		**P**		**02 00 59.8**	**+1.0**
OJC	**Ojcow**	**82.30**	**21**	*e*P		**P**		**02 00 59.8**	**+1.0**
PBAR	**Barrancos**	**82.35**	**43**	*e*P		**P**		**02 01 00.6**	**+1.3**
	comp=Z,28nm,1.4s,mb5.0								
PBAR	**Barrancos**	**82.35**	**43**	*e*LR		LR		02 28 17.7	
	comp=Z,591nm,20.0s								
LPL	**La Plagne**	**82.38**	**31**	*e*P		**P**		**02 00 58.0**	**-1.3**
BRVK	**Borovoye**	**82.53**	**349**	*e*P		**P**		**02 01 00.0**	**+0.1**
	comp=Z,23nm,1.0s,mb5.2								
BRVK	**Borovoye**	**82.53**	**349**	*c i*P		**P**		**02 01 00.0**	**0.0**
BRVK					pmax	pmax			
	comp=Z,39nm,1.7s,mb5.2								
BVA0	**Borovoye Array**	**82.55**	**349**	P		**P**		**02 00 59.1**	**-1.0**
BVA0					pmax	pmax			
	comp=Z,14nm,2.2s,mb4.6								
PVAQ	**Vaqueiros**	**82.61**	**44**	*e*LQ				02 22 09.1	
PVAQ				*e*LR		LR		02 28 21.8	
	comp=Z,425nm,20.0s								
PBDV	**Barranco-do-Ve**	**82.62**	**44**	*e*LR		LR		02 28 03.2	
	comp=Z,360nm,20.0s								
ESDC	**Sonseca Array**	**82.67**	**40**	P		**P**		**02 01 00.9**	**0.0**
	comp=Z,1.1nm,0.8s,mb3.9,baz=302,slow=2.4,SNR=7.1								
ESDC	**Sonseca Array**	**82.67**	**40**	P		**P**		**02 01 00.9**	**0.0**
VOSK	**Vostochnaya**	**82.76**	**349**	P		**P**		**02 01 00.2**	**-1.0**
VOSK					pmax	pmax			
	comp=Z,20nm,1.2s,mb5.0								
NIE	**Niedzica**	**83.17**	**21**	*e*P		**P**		**02 01 04.8**	**+1.5**
NIE	**Niedzica**	**83.17**	**21**	*e*P		**P**		**02 01 04.8**	**+1.5**
SMOL	**Smolenice**	**83.22**	**23**	*e*P		**P**		**02 01 06.0**	**+2.4**
SMOL	**Smolenice**	**83.22**	**23**	*e*P		**P**		**02 01 06.0**	**+2.4**
KBA	**Koelnbreinsper**	**83.29**	**26**	⇑*i*pP		pP		02 01 05.4	-5.9
	comp=Z,17nm,1.6s								
KURK	**Kurchatov**	**83.37**	**344**	P		**P**		**02 01 04.4**	**0.0**
	comp=Z,12nm,0.8s,mb5.0,baz=18,slow=5.1,SNR=47								
KURK					LR	LR		02 42 35.3	
	comp=Z,239nm,19.6s,MS4.6,baz=30,slow=39								
KURK	**Kurchatov**	**83.37**	**344**	*e*P		**P**		**02 01 04.0**	**-0.4**
	comp=Z,28nm,1.2s,mb5.2								
KURK					LR	LR			
	comp=Z,478nm,22.0s,MS4.8								
KURK	**Kurchatov**	**83.37**	**344**	*e*P		**P**		**02 01 04.0**	**-0.4**
KURK					pmax	pmax			
	comp=Z,28nm,1.2s,mb5.2								
KURK					MLR	MLR			
	comp=Z,478nm,22.0s,MS4.8								
STHS	**Stebnicka Huta**	**83.40**	**20**	*e*P		**P**		**02 01 07.4**	**+2.8**
STHS					pmax	pmax			
	comp=Z,10.0nm,1.2s,mb4.7								
STHS	**Stebnicka Huta**	**83.40**	**20**	*e*P		**P**		**02 01 07.4**	**+2.8**
NJ2	**Nanjing**	**83.41**	**308**	*e*P		**P**		**02 01 06.5**	**+1.6**
NJ2					pP	pP		02 01 11.8	-0.4
NJ2					sP	sP		02 01 13.8	-1.0
NJ2					SKS			02 11 19.0	
NJ2					S	S		02 11 26.0	+1.1
NJ2					pmax	pmax			
	comp=Z,10.0nm,0.7s,mb5.0								
NJ2					pmax	pmax			
	comp=Z,160nm,4.1s								
NJ2					LR	LR			
	comp=N,1μm,23.9s,MS5.3								
NJ2					LR	LR			
	comp=E,1μm,22.4s,MS5.3								
NJ2					LR	LR			
	comp=Z,390nm,20.0s,MS4.8								
ZST	**Bratislava**	**83.42**	**23**	*e*P		**P**		**02 01 06.0**	**+1.3**
ZST					pmax	pmax			
	comp=Z,17nm,1.5s,mb4.8								
ZST	**Bratislava**	**83.42**	**23**	*e*P		**P**		**02 01 06.0**	**+1.3**
KOLL	**Kolacno**	**83.43**	**22**	*e*P		**P**		**02 01 05.0**	**+0.3**
KOLL	**Kolacno**	**83.43**	**22**	*e*P		**P**		**02 01 05.0**	**+0.3**
KWP	**Kalwaria Pacla**	**83.56**	**19**	⇑P		**P**		**02 01 14.0**	**+8.6**
KWP	**Kalwaria Pacla**	**83.56**	**19**	⇑*i*P		**P**		**02 01 14.0**	**+8.6**
VYHS	**Vyhne**	**83.63**	**22**	*e*P		**P**		**02 01 06.8**	**+1.1**
VYHS					pmax	pmax			
	comp=Z,6.0nm,1.4s,mb4.5								
VYHS	**Vyhne**	**83.63**	**22**	*e*P		**P**		**02 01 06.8**	**+1.1**
LVV	**L'vov**	**83.69**	**18**	*e*P		**P**		**02 01 13.7**	**+7.7**
AKASG	**Malin Array Be**	**83.92**	**15**	P		**P**		**02 01 06.6**	**-0.6**
	comp=Z,3.5nm,0.7s,mb4.6,baz=340,slow=4.5,SNR=11								
AKASG	**Malin Array Be**	**83.92**	**15**	P		**P**		**02 01 06.6**	**-0.6**
AKASG	**Malin Array Be**	**83.92**	**15**	P		**P**		**02 01 06.6**	**-0.6**
AKBB	**Malin Array Si**	**83.92**	**15**	*e*P		**P**		**02 01 06.4**	**-0.8**
AKBB	**Malin Array Si**	**83.92**	**15**	*e*P		**P**		**02 01 06.4**	**-0.8**
KIEV	**Kiev**	**83.92**	**15**	*e*P		**P**		**02 01 07.2**	**0.0**
	comp=Z,32nm,1.6s,mb5.2								
KIEV	**Kiev**	**83.92**	**15**	*e*P		**P**		**02 01 07.2**	**0.0**
KIEV					pmax	pmax			
	comp=Z,32nm,1.6s,mb5.2								
CRVS	**Cervenica-Dubn**	**83.93**	**20**	*e*P		**P**		**02 01 10.0**	**+2.7**
CRVS					pmax	pmax			
	comp=Z,15nm,1.3s,mb5.0								
CRVS	**Cervenica-Dubn**	**83.93**	**20**	*e*P		**P**		**02 01 10.0**	**+2.7**
UZH	**Uzhgorod**	**84.39**	**20**	*e*P		**P**		**02 01 06.2**	**-3.4**
UZH				*e*		pP		02 01 11.0	-5.9
UZH				*e*S		S		02 11 26.5	-7.6
UZH					MLR	MLR			
	comp=N,600nm,17.0s,MS5.3								
UZH					MLR	MLR			
	comp=E,800nm,17.0s,MS5.3								
UZH					MLR	MLR			
	comp=Z,400nm,17.0s,MS4.9								
PSZ	**Piszkesteto**	**84.44**	**21**	*e*P		**P**		**02 01 11.5**	**+1.6**
	comp=Z,27nm,1.2s,mb5.2								
PSZ					LR	LR			
	comp=Z,1μm,19.0s,MS5.2								
PSZ	**Piszkesteto**	**84.44**	**21**	*e*P		**P**		**02 01 11.5**	**+1.6**
PSZ					pmax	pmax			
	comp=Z,27nm,1.2s,mb5.2								
PSZ					MLR	MLR			
	comp=Z,1μm,19.0s,MS5.2								
PSZ	**Piszkesteto**	**84.44**	**21**	⇓*e*PcP		PcP		02 01 11.0	-2.5
BUD	**Budapest**	**84.60**	**22**	⇓*e*PcP		PcP		02 01 12.6	-1.6
VSR	**Storozhevoye**	**84.86**	**8**	*e*P		**P**		**02 01 11.7**	**-0.2**
VSR					pmax	pmax			
	comp=N,10.0nm,1.2s								
VSR					pmax	pmax			
	comp=E,10.0nm,1.2s								
VSR					pmax	pmax			
	comp=Z,20nm,1.2s,mb5.1								
VRHR	**Novokhopersk**	**85.22**	**7**	*e*P		**P**		**02 01 13.3**	**-0.4**
VRHR					pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.9								
VRHR					pmax	pmax			
	comp=N,1.0nm,0.3s								
VRHR					pmax	pmax			
	comp=E,5.0nm,0.6s								
BUR08	**Bucovina Ar. S**	**86.00**	**18**	*e*P		**P**		**02 01 19.4**	**+1.7**
BURAR	**Bucovina Array**	**86.03**	**18**	⇓P		**P**		**02 01 24.3**	**+6.5**
BURAR	**Bucovina Array**	**86.03**	**18**	⇓*i*P		**P**		**02 01 24.3**	**+6.5**
MK31	**Makanchi Array**	**86.23**	**340**	*e*P		**P**		**02 01 17.9**	**-0.9**
MK31	**Makanchi Array**	**86.23**	**340**	*e*P		**P**		**02 01 17.9**	**-1.0**
MKAR	**Makanchi Array**	**86.23**	**340**	P		**P**		**02 01 18.0**	**-0.9**
	comp=E,5.3nm,1.1s,mb4.7,baz=35,slow=5.3,SNR=11								
MKAR	**Makanchi Array**	**86.23**	**340**	P		**P**		**02 01 18.0**	**-0.9**
MKAR	**Makanchi Array**	**86.23**	**340**	P		**P**		**02 01 18.0**	**-0.9**
AKTK	**Aktyubinsk**	**86.24**	**357**	P		**P**		**02 01 18.3**	**-0.5**
AKTO	**Aktyubinsk**	**86.24**	**357**	P		**P**		**02 01 18.3**	**-0.5**
	comp=E,2.4nm,0.9s,mb4.4,baz=38,slow=4.3,SNR=5.9								
AKTO	**Aktyubinsk**	**86.24**	**357**	P		**P**		**02 01 18.3**	**-0.5**
GTA	**Gaotai**	**87.00**	**325**	⇑P		**P**		**02 01 22.4**	**-0.4**
GTA					pP	pP		02 01 26.8	-3.3
GTA					sP	sP		02 01 29.1	-3.6
GTA					SKS			02 11 47.3	
GTA					S	S		02 12 01.6	+1.5
GTA					pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.9								
GTA					pmax	pmax			
	comp=Z,120nm,7.1s								
GTA					LR	LR			
	comp=N,590nm,20.4s,MS5.1								
GTA					LR	LR			
	comp=E,560nm,21.4s,MS5.1								
GTA					LR	LR			
	comp=Z,880nm,21.8s,MS5.1								
BZS	**Buzias**	**87.02**	**21**	⇓P		**P**		**02 01 23.2**	**+0.5**
BZS	**Buzias**	**87.02**	**21**	⇓*i*P		**P**		**02 01 23.2**	**+0.5**
XAN	**Xi'an**	**87.22**	**316**	P		**P**		**02 01 22.3**	**-1.6**
XAN					pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.7								
XAN					pmax	pmax			
	comp=Z,23nm,5.3s								
AB31	**Akbulak array**	**87.31**	**355**	*ce*P		**P**		**02 01 24.1**	**0.0**
AB31					pmax	pmax			
	comp=Z,19nm,1.0s,mb5.3								
ABKAR	**Akbulak array**	**87.31**	**355**	*e*P		**P**		**02 01 24.8**	**+0.7**
TESR		**87.39**	**18**	⇑*i*P		**P**		**02 01 30.3**	**+5.8**
WMQ	**Urumqi**	**87.48**	**335**	P		**P**		**02 01 25.4**	**+0.4**
WMQ					pP	pP		02 01 30.3	-2.0
WMQ					sP	sP		02 01 32.4	-2.5
WMQ					PP	PP		02 04 52.8	+3.9
WMQ					S	S		02 12 04.3	-0.3
WMQ					sS	sS		02 12 12.3	-4.4
WMQ					pmax	pmax			
	comp=Z,14nm,1.7s,mb4.9								
WMQ					pmax	pmax			
	comp=Z,170nm,4.0s								
WMQ					LR	LR			
	comp=N,470nm,17.4s,MS5.2								
WMQ					LR	LR			
	comp=E,600nm,18.7s,MS5.2								
WMQ					LR	LR			
	comp=Z,690nm,19.8s,MS5.1								
LZH	**Lanzhou**	**88.01**	**321**	*e*P		**P**		**02 01 26.8**	**-0.9**
LZH					pP	pP		02 01 31.5	-3.5
LZH					sP	sP		02 01 34.1	-3.5
LZH					PP	PP		02 04 52.4	-1.0
LZH					SKS			02 11 56.3	
LZH					S	S		02 12 08.4	-1.5
LZH					sS	sS		02 12 25.0	+3.0
LZH					*e*SS	SS		02 17 55.3	-1.3
LZH					pmax	pmax			
	comp=Z,37nm,1.2s,mb5.5								
LZH					pmax	pmax			
	comp=Z,210nm,4.7s								
LZH					LR	LR			
	comp=N,1μm,16.6s,MS5.6								
LZH					LR	LR			
	comp=E,1μm,17.2s,MS5.6								
LZH					LR	LR			
	comp=Z,2μm,18.2s,MS5.5								
VRI	**Vrincioaia**	**88.02**	**18**	⇑P		**P**		**02 01 29.0**	**+1.4**
VRI	**Vrincioaia**	**88.02**	**18**	⇑*i*P		**P**		**02 01 29.0**	**+1.4**
MLR	**Muntele Rosu**	**88.20**	**18**	⇓P		sP		02 01 40.3	+2.0
MLR	**Muntele Rosu**	**88.20**	**18**	⇓*i*P		sP		02 01 40.3	+2.0
LCO	**Las Campanas**	**88.99**	**133**	*e*P		**P**		**02 01 33.5**	**+1.3**
LCO					LR	LR			
	comp=Z,4μm,22.0s,MS5.8								
DZM	**Mont Dzumac**	**89.07**	**238**	*e*LR		LR		02 29 47.5	
	comp=Z,1μm,23.2s								
ENH	**Enshi**	**89.91**	**314**	*e*P		**P**		**02 01 36.4**	**-0.4**
	comp=Z,23nm,0.9s,mb5.5								
ENH					LR	LR			
	comp=Z,535nm,21.0s,MS5.0								
ANN	**Anapa**	**90.97**	**11**	*e*P		**P**		**02 01 38.2**	**-3.2**
ANN					pmax	pmax			
	comp=Z,90nm,1.6s,mb5.8								
TKM2	**Tokmak 2**	**91.43**	**343**	*e*P		**P**		**02 01 43.3**	**-0.3**
	comp=Z,15nm,1.0s,mb5.3								
TKM2					LR	LR			
	comp=Z,398nm,21.0s,MS4.8								
TKM2	**Tokmak 2**	**91.43**	**343**	*e*P		**P**		**02 01 43.3**	**-0.3**
TKM2					pmax	pmax			
	comp=Z,15nm,1.0s,mb5.3								
TKM2					MLR	MLR			
	comp=Z,398nm,21.0s,MS4.8								
KEST	**Kesra**	**91.80**	**34**	*e*P		**P**		**02 01 45.9**	**+0.5**
EKS2	**Erkin-Say**	**92.05**	**345**	*e*P		**P**		**02 01 45.6**	**-0.8**
	comp=Z,10nm,1.3s,mb5.0								
EKS2	**Erkin-Say**	**92.05**	**345**	*e*P		**P**		**02 01 45.6**	**-0.8**
EKS2					pmax	pmax			
	comp=Z,10.0nm,1.3s,mb5.0								
KKAR	**Karatay Array**	**92.21**	**347**	*e*P		**P**		**02 01 48.1**	**+0.9**
KKAR	**Karatay Array**	**92.21**	**347**	*e*P		**P**		**02 01 48.1**	**+1.0**
CD2	**Chengdu**	**92.30**	**318**	P		**P**		**02 01 47.3**	**-0.5**
CD2					pP	pP		02 01 51.6	-3.5
CD2					sP	sP		02 01 53.0	-4.8
CD2					PP	PP		02 05 29.3	+1.6
CD2					SKS			02 12 17.9	
CD2					S	S		02 12 46.4	-3.4
CD2					pmax	pmax			
	comp=Z,10.0nm,0.5s,mb5.4								
CD2					pmax	pmax			
	comp=Z,100nm,5.3s								
CD2					LR	LR			
	comp=N,440nm,15.5s								
CD2					LR	LR			
	comp=Z,460nm,20.2s,MS4.9								
GYA	**Guiyang**	**94.44**	**313**	P		**P**		**02 01 57.0**	**-0.8**
GYA					PP	PP		02 05 47.6	+3.0
GYA					SKS			02 12 31.8	
GYA					S	S		02 13 05.4	-3.4
GYA					SS	SS		02 19 31.3	+1.5
GYA					pmax	pmax			
	comp=Z,30nm,1.0s,mb5.7								
GYA					pmax	pmax			
	comp=Z,130nm,5.7s								
GYA					LR	LR			
	comp=N,560nm,20.8s,MS5.1								
GYA					LR	LR			
	comp=E,520nm,21.0s,MS5.1								
GYA					LR	LR			
	comp=Z,550nm,22.9s,MS5.0								
BRTR	**Keskin Array B**	**95.32**	**15**	P		**P**		**02 02 02.1**	**+0.6**
	comp=Z,0.3nm,0.5s,mb4.0,baz=347,slow=4.4,SNR=3.3								
BRTR	**Keskin Array B**	**95.32**	**15**	P		**P**		**02 02 02.1**	**+0.6**
BRTR	**Keskin Array B**	**95.32**	**15**	P		**P**		**02 02 02.1**	**+0.6**
KMI	**Kunming**	**97.57**	**315**	P		**P**		**02 02 11.6**	**-0.4**
KMI					pmax	pmax			
	comp=Z,8.0nm,0.8s,mb5.3								
QIZ	**Qiongzhong**	**98.56**	**306**	P		**P**		**02 02 14.8**	**-1.7**
QIZ					S	S		02 13 43.3	-1.1
QIZ					pmax	pmax			
	comp=Z,29nm,1.8s,mb5.5								
VNDA	**Vanda**	**128.20**	**195**	PKP		PKPdf		02 07 42.8	+0.5
	comp=Z,2.5nm,1.1s,baz=26,slow=1.5,SNR=4.1								
VNDA	**Vanda**	**128.20**	**195**	*e*PKPdf		PKPdf		02 07 42.2	-0.1
VNDA	**Vanda**	**128.20**	**195**	*e*PKIKP		PKPdf		02 07 42.2	-0.1
KMBO	**Kilima Mbogo**	**135.57**	**22**	*e*PKPdf		PKPdf		02 07 59.2	+1.0
KMBO	**Kilima Mbogo**	**135.57**	**22**	*e*PKIKP		PKPdf		02 07 59.2	+1.0
SNAA	**Sanae**	**141.47**	**155**	*e*PKPdf		PKPdf		02 08 06.1	-1.0
SNAA	**Sanae**	**141.47**	**155**	*e*PKIKP		PKPdf		02 08 06.1	-1.0
LSZ	**Lusaka**	**144.95**	**44**	*e*PKPdf		PKPdf		02 08 14.4	-0.5
LSZ	**Lusaka**	**144.95**	**44**	*e*PKIKP		PKPdf		02 08 14.4	-0.5
LBTB	**Lobatse**	**151.22**	**59**	*e*PKPdf		PKPdf		02 08 25.3	+0.3
LBTB	**Lobatse**	**151.22**	**59**	*e*PKIKP		PKPdf		02 08 25.3	+0.3
SUR	**Sutherland**	**152.75**	**76**	PKPbc		PKPbc		02 08 33.8	-0.3
	comp=Z,9.5nm,0.9s,baz=323,slow=5.1,SNR=5.4								
SUR	**Sutherland**	**152.75**	**76**	*e*PKPbc		PKPbc		02 08 34.4	+0.3
BOSA	**Boshof**	**153.51**	**65**	PKPbc		PKPbc		02 08 34.7	-1.2
	comp=Z,6.7nm,1.0s,baz=296,slow=3.1,SNR=4.8								
BOSA	**Boshof**	**153.51**	**65**	*e*PKPdf		PKPdf		02 08 28.6	+0.4
BOSA					PKPbc	PKPbc		02 08 34.7	-1.2
BOSA				*e*PKPbc		PKPbc		02 08 35.9	-0.1
BOSA	**Boshof**	**153.51**	**65**	*e*PKIKP		PKPdf		02 08 28.7	+0.4
BOSA								02 08 34.7	
BOSA				*e*				02 08 35.9	
SYO	**Syowa Base**	**153.64**	**170**	⇓*e*PKiKP		PKiKP		02 08 37.2	+2.1

*ISCJB **14** 01:59:20.6±0.3,40.56N±0.02×15.84E±0.02,h15km±3km, Error ellipse: s-maj=3.1km s-min=2.7km az=23.7*
*ROM **14** 01:59:20.8±0.1,40.55N×15.85E,h16km±2km, Md2.8/23, Ml2.8/20, Error ellipse: s-maj=0.9km s-min=0.9km az=108.0*
*CSEM **14** 01:59:20.9±0.1,40.56N×15.85E,h10km, ML3.3/10, Error ellipse: s-maj=2.4km s-min=2.2km az=146.0*

ISC 14 01:59:21.3±0.3,40.56N±0.02×15.84E±0.02,h10km±3km, n65,σ0.87/101,19C-2D,Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PZUN	**Potenza**	**0.09**	**345**	Pg		**Pg**	**01 59 24.3**	**+0.4**
PZUN				Sg		**Sg**	**01 59 27.1**	**+1.4**
PZUN	**Potenza**	**0.09**	**345**	Pg		**Pg**	**01 59 24.3**	**+0.4**
PZUN				Sg		**Sg**	**01 59 27.1**	**+1.4**
PTRP	**Pietrapertosa**	**0.17**	**101**	⇑*i*Pg		**Pg**	**01 59 25.5**	**+0.4**
PTRP				Sg		**Sg**	**01 59 29.0**	**+1.3**
	4μm,0.8s							
PTRP	**Pietrapertosa**	**0.17**	**101**	⇑*i*Pg		**Pg**	**01 59 25.5**	**+0.4**
PTRP				Sg		**Sg**	**01 59 29.0**	**+1.3**
	4μm,0.8s							
MCEL	**Monticello**	**0.23**	**187**	⇑*i*Pg		**Pg**	**01 59 26.1**	**0.0**
MCEL				Sg		**Sg**	**01 59 30.6**	**+1.3**
	3μm,0.3s							
MCEL	**Monticello**	**0.23**	**187**	⇑*i*Pg		**Pg**	**01 59 26.1**	**0.0**
MCEL				Sg		**Sg**	**01 59 30.6**	**+1.3**
	3μm,0.3s							
MRLC	**Muro Lucano**	**0.33**	**307**	Pg		**Pg**	**01 59 28.8**	**+0.8**
MRLC				Sg		**Sg**	**01 59 34.1**	**+1.7**
	435nm,0.5s							
MRLC	**Muro Lucano**	**0.33**	**307**	Pg		**Pg**	**01 59 28.8**	**+0.8**
MRLC				Sg		**Sg**	**01 59 34.1**	**+1.7**
	435nm,0.5s							
SIRI	**Monte Sirino -**	**0.37**	**177**	⇑*e*Pg		**Pg**	**01 59 28.2**	**-0.5**
SIRI				Sg		**Sg**	**01 59 34.1**	**+0.4**
	2μm,0.2s							
SIRI	**Monte Sirino -**	**0.37**	**177**	⇑*e*Pg		**Pg**	**01 59 28.2**	**-0.5**
SIRI				Sg		**Sg**	**01 59 34.1**	**+0.4**
	2μm,0.2s							
PALZ	**Palazzo San Ge**	**0.40**	**13**	⇑*e*Pg		**Pg**	**01 59 28.9**	**-0.3**
PALZ				Sg		**Sg**	**01 59 35.7**	**+1.2**
	980nm,0.6s							
PALZ	**Palazzo San Ge**	**0.40**	**13**	⇑*e*Pg		**Pg**	**01 59 28.9**	**-0.3**
PALZ				Sg		**Sg**	**01 59 35.7**	**+1.2**
	980nm,0.6s							
SCHR	**S. Chirico Rap**	**0.40**	**153**	⇑*e*Pg		**Pg**	**01 59 28.7**	**-0.5**
SCHR				Sg		**Sg**	**01 59 35.0**	**+0.5**
	1μm,0.2s							
SGO	**Sicignano**	**0.40**	**271**	⇑*i*Pg		**Pg**	**01 59 29.2**	**-0.1**
	154nm,0.3s							
SGO	**Sicignano**	**0.40**	**271**	⇑*i*Pg		**Pg**	**01 59 29.2**	**-0.1**
	154nm,0.3s							
CDRU	**Civita di Ruta**	**0.41**	**261**	⇑*i*Pg		**Pg**	**01 59 29.2**	**-0.2**
CDRU				Sg		**Sg**	**01 59 35.9**	**+1.0**
	755nm,0.2s							
CDRU	**Civita di Ruta**	**0.41**	**261**	⇑*i*Pg		**Pg**	**01 59 29.2**	**-0.2**
CDRU				Sg		**Sg**	**01 59 35.9**	**+1.0**
	755

PUK	**Puka**	**3.40**	**63**	*e*PN	**Pn**	**02 00 15.5**	**+1.2**
PUK				*i* SN	**Sn**	**02 00 55.6**	**+1.0**
PUK	**Puka**	**3.40**	**63**	*e*Pn	**Pn**	**02 00 15.5**	**+1.2**
PUK				*i* Sn	**Sn**	**02 00 55.6**	**+1.0**
BCI	**Bajram Curri**	**3.66**	**59**	*e*PN	**Pn**	**02 00 18.1**	**+0.2**
BCI				*i* SN	**Sn**	**02 01 01.9**	**+0.9**
BCI	**Bajram Curri**	**3.66**	**59**	*e*Pn	**Pn**	**02 00 18.1**	**+0.2**
BCI				*i* Sn	**Sn**	**02 01 01.9**	**+0.9**

IDC **14** *02:05:07.8±0.4, 53.˙69S×8.˙78E, h0km, mb5.3/24, mb1 5.3/25, mb1mx5.2/26, mbtmp5.2/25, ML5.0/1, MS5.4/18, Ms1 5.4/18, ms1mx5.4/19, Error ellipse: s-maj=16.4km s-min=13.0km az=92.0*

BJI **14** *02:05:07.7, 53.˙70S×8.˙70E, h10km, mB5.8/18, Ms5.7/20, Ms7 5.4/21*

ISCJB **14** *02:05:08.7±0.2, 53.˙84S±0.˙03×8.˙81E±0.˙08, h10km, mb5.5/118, MS5.5/204, Error ellipse: s-maj=7.2km s-min=4.5km az=177.1*

PRE **14** *02:05:08.5±5.3, 53.˙70S×8.˙75E, h10km, mb5.4*

NEIC **14** *02:05:09.9±0.2, 53.˙79S×8.˙73E, h12km, mb5.7/63, MS5.5/184, MW5.9, MW5.8, Error ellipse: s-maj=8.3km s-min=6.7km az=103.0, Moment Tensor Solution. s26 Moment tensor: Scale 10¹⁷Nm; Mrr1.40; Mθθ5.49; Mϕϕ-6.89; Mrθ-0.23; Mθϕ1.48; Mϕr-0.51; Best double couple: M₀6.50000×10¹⁷ NP1:ϕ₁218.00000°, δ90.00000°, λ175.00000°. NP2:ϕ₂308.00000°, δ85.00000°, λ0.00000°. Principal axes: T 5.6800, Plg3.0000°, Azm173.0000°; N 1.4100, Plg84.0000°, Azm33.0000°; P -7.0900, Plg3.0000°, Azm263.0000°;*

MOS **14** *02:05:09.9±1.1, 53.˙78S×9.˙02E, h17km, mb5.6/35, MS5.4/40 Error ellipse: s-maj=22.6km s-min=7.5km az=90.2*

DJA **14** *02:05:11, 53.˙72S×8.˙60E, h10km, mb5.3/12*

GCMT **14** *02:05:13.1±0.1, 53.˙78S×9.˙09E, h14km, MW5.9, Moment Tensor Solution. s100,c197; s84,c113; Moment tensor: Scale 10¹⁷Nm; Mrr-0.89±.06; Mθθ8.49±.08; Mϕϕ-7.60±.07; Mrθ-0.29±.14; Mθϕ2.33±.06; Mϕr0.03±.15; Best double couple: M₀8.40000×10¹⁷ NP1:ϕ₁217.00000°, δ88.00000°, λ179.00000°. NP2:ϕ₂307.00000°, δ89.00000°, λ2.00000°. Principal axes: T 8.8300, Plg2.0000°, Azm172.0000°; N -0.8900, Plg88.0000°, Azm333.0000°; P -7.9300, Plg1.0000°, Azm82.0000°; Data Used: II IU CN IC G. Surface waves: sta=117, comp=259, per= 50.*

ISC 14 02:05:10.2±0.2, 53.˙82S±0.˙03×8.˙87E±0.˙08, h10km, n713, σ1§03/271, mb5.5/117, MS5.5/204, 36C-24D, Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NVL	**N'lazarevskaya**	**17.06**	**177**	*e*		P	**Pn**	**02 09 07.7**	**-0.7**
NVL						MLR	MLR		
	comp=Z,19μm,15.0s								
MAIT	**Maitri**	**17.07**	**177**	*e*	P		**Pn**	**02 09 07.2**	**-1.3**
MAIT				*e*	S		**Sn**	**02 12 00.7**	**-17**
VNA1	**Neumayer--Stat**	**18.54**	**198**	*e*			**Pn**	**02 09 23.6**	**-3.1**
VNA2	**Neumayer--Watz**	**18.62**	**197**	*e*			**Pn**	**02 09 23.8**	**-3.8**
SNAA	**Sanae**	**18.63**	**192**	⇑ *i*	P		**Pn**	**02 09 28.0**	**+0.3**
SNAA						AMB	AMB	02 09 30.5	
	comp=Z,2μm,2.4s								
SNAA	**Sanae**	**18.63**	**192**		P		**Pn**	**02 09 28.2**	**+0.4**
	comp=Z,4.6nm,0.3s,baz=24,slow=12,SNR=268								
SNAA					S		**Sn**	**02 12 43.2**	**-12**
	comp=Z,1.0nm,0.3s,baz=323,slow=20,SNR=7.2								
SNAA					LR		LR	02 15 03.5	
	comp=Z,8μm,18.6s,baz=25,slow=32								
SNAA	**Sanae**	**18.63**	**192**	*e*	P		**Pn**	**02 09 28.1**	**+0.3**
	comp=Z,9μm,2.8s								
SNAA	**Sanae**	**18.63**	**192**		P		**Pn**	**02 09 28.2**	**+0.5**
SNAA					pmax		pmax		
	comp=Z,5.0nm,0.3s								
SNAA					MLR		MLR		
	comp=Z,8μm,18.7s								
VNA3	**Neumayer Olymp**	**19.30**	**198**	*e*			**Pn**	**02 09 31.4**	**-4.4**
ELIM	**Elim**	**20.70**	**26**	*e*	P		**P**	**02 09 49.5**	**-0.7**
ELIM						AMB	AMB	02 09 53.0	
	comp=Z,17μm,2.8s								
SYO	**Syowa Base**	**20.80**	**149**	⇓ *i*	P		**P**	**02 09 49.4**	**-1.7**
CER	**Ceres**	**21.76**	**24**	⇑ *i*	P		**P**	**02 09 59.6**	**-2.0**
CER						AMB	AMB	02 10 04.7	
	comp=Z,155nm,1.4s,mb5.2								
TRIS	**Tristan da Cun**	**22.25**	**310**		PFAKE			02 10 20.0	+13
TRIS					LR		LR		
	comp=Z,7μm,19.0s,MS5.1								
SUR	**Sutherland**	**23.07**	**27**	⇑ *i*	P		**P**	**02 10 06.0**	**-10**
SUR						AMB	AMB	02 10 16.4	
	comp=Z,201nm,3.1s								
SUR	**Sutherland**	**23.07**	**27**		P		**P**	**02 10 13.8**	**-1.9**
	comp=Z,79nm,1.0s,mb5.1,baz=198,slow=8.8								
SUR						S	**S**	**02 14 22.2**	**-4.3**
	comp=Z,6.7nm,0.5s,baz=248,slow=16,SNR=4.5								
SUR					LR		LR	02 16 58.2	
	comp=Z,15μm,18.8s,MS5.5,baz=196,slow=31								
SUR	**Sutherland**	**23.07**	**27**	*e*	P		**P**	**02 10 14.6**	**-1.1**
	comp=Z,1μm,2.2s,mb5.9								
SUR					LR		LR		
	comp=Z,14μm,22.0s,MS5.4								
SUR	**Sutherland**	**23.07**	**27**		P		**P**	**02 10 15.5**	**-0.2**
	SNR=7.5								
KOMG	**Komaggas**	**24.81**	**18**	⇑ *i*	P		**P**	**02 10 31.6**	**-0.6**
KOMG						AMB	AMB	02 10 34.2	
	comp=Z,402nm,1.5s,mb5.7								
PKA	**Prieska**	**26.17**	**28**	*e*	P		**P**	**02 10 42.5**	**-2.0**
PKA						AMB	AMB	02 10 45.7	
	comp=Z,33nm,1.4s,mb4.7								
UPI	**Upington**	**27.01**	**25**	⇑ *i*	P		**P**	**02 10 50.0**	**-2.1**
UPI						AMB	AMB	02 10 57.1	
	comp=Z,128nm,1.4s,mb5.3								
KSD	**Kokstad**	**27.61**	**41**	*e*	P		**P**	**02 10 52.4**	**-5.0**
KSD						AMB	AMB	02 11 07.8	
	comp=Z,340nm,1.7s,mb5.7								
BOSA	**Boshof**	**27.90**	**32**	*e*	P		**P**	**02 10 57.7**	**-2.4**
BOSA						AMB	AMB	02 11 07.5	
	comp=Z,62nm,4.7s								
BOSA	**Boshof**	**27.90**	**32**		P		**P**	**02 10 57.5**	**-2.6**
	comp=Z,31nm,1.1s,mb4.9,baz=206,slow=10,SNR=13								
BOSA					LR		LR	02 19 35.4	
	comp=Z,7μm,20.6s,MS5.3,baz=199,slow=31								
BOSA	**Boshof**	**27.90**	**32**	*e*	P		**P**	**02 10 58.8**	**-1.4**
	comp=Z,57nm,1.1s,mb5.1								
BOSA					LR		LR		
	comp=Z,7μm,19.0s,MS5.3								
BOSA	**Boshof**	**27.90**	**32**	*e*	P		**P**	**02 10 58.8**	**-1.3**
BOSA					pmax		pmax		
	comp=Z,57nm,1.1s,mb5.1								
BOSA					MLR		MLR		
	comp=Z,7μm,19.0s,MS5.3								
MAW	**Mawson**	**28.68**	**140**		P		**P**	**02 11 07.2**	**+0.6**
	comp=Z,48nm,1.0s,mb5.2,baz=265,slow=11,SNR=28								
MAW					LR		LR	02 20 02.7	
	comp=Z,11μm,19.7s,MS5.5,baz=284,slow=31								
MAW	**Mawson**	**28.68**	**140**	*e*	P		**P**	**02 11 07.2**	**+0.5**
	comp=Z,48nm,1.0s,mb5.2								
MAW					eS		**S**	**02 15 55.9**	**+0.8**
MAW	**Mawson**	**28.68**	**140**	*e*	P		**P**	**02 11 07.5**	**+0.8**
	comp=Z,21nm,1.0s,mb4.8								
MAW					LR		LR		
	comp=Z,19μm,22.0s,MS5.7								
MAW	**Mawson**	**28.68**	**140**	*e*	P		**P**	**02 11 07.5**	**+0.8**
MAW					pmax		pmax		
	comp=Z,21nm,1.0s								
MAW					MLR		MLR		
	comp=Z,19μm,22.0s								
SEK	**Senekal**	**28.95**	**36**	*e*	P		**P**	**02 11 07.8**	**-1.6**
SEK						AMB	AMB	02 11 20.0	
	comp=Z,98nm,1.4s,mb5.3								
SWZ	**Schweizer**	**29.26**	**31**	⇑ *i*	P		**P**	**02 11 09.4**	**-2.8**
SWZ						AMB	AMB	02 11 19.7	
	comp=Z,73nm,3.7s								
PRYS	**Parys**	**30.15**	**34**	*e*	P		**P**	**02 11 18.2**	**-1.9**
PRYS						AMB	AMB	02 11 29.0	
	comp=Z,81nm,1.4s,mb5.3								
ERPM	**east rand prop**	**30.98**	**35**	*e*	P		**P**	**02 11 27.3**	**-0.2**
ERPM						AMB	AMB	02 11 37.6	
	comp=Z,102nm,1.5s,mb5.4								
KSR	**Koster**	**30.99**	**33**	*e*	P		**P**	**02 11 25.7**	**-1.8**
KSR						AMB	AMB	02 11 34.1	
	comp=Z,40nm,2.0s,mb4.9								
POGA	**Pongola**	**31.29**	**41**	*e*	P		**P**	**02 11 27.6**	**-2.5**
POGA						AMB	AMB	02 11 40.0	
	comp=Z,87nm,1.4s,mb5.4								
LBTB	**Lobatse**	**31.37**	**30**	*e*	P		**P**	**02 11 28.8**	**-2.1**
LBTB						AMB	AMB	02 11 38.3	
	comp=Z,44nm,2.5s,mb4.8								
LBTB	**Lobatse**	**31.37**	**30**		LR		LR	02 22 38.2	
	comp=Z,6μm,18.8s,MS5.3,baz=244,slow=34								
LBTB	**Lobatse**	**31.37**	**30**	*e*	P		**P**	**02 11 29.3**	**-1.6**
	comp=Z,58nm,1.3s,mb5.2								
LBTB					LR		LR		
	comp=Z,7μm,19.0s,MS5.4								
LBTB	**Lobatse**	**31.37**	**30**	*e*	P		**P**	**02 11 29.3**	**-1.6**
LBTB					pmax		pmax		
	comp=Z,58nm,1.3s,mb5.2								
LBTB					MLR		MLR		
	comp=Z,7μm,19.0s,MS5.4								
SLR	**Silverton**	**31.56**	**35**	*e*	P		**P**	**02 11 30.9**	**-1.6**
SLR						AMB	AMB	02 11 41.5	
	comp=Z,117nm,1.4s,mb5.5								
TSUM	**Tsumeb**	**35.20**	**14**	⇑ *i*	P		**P**	**02 12 03.7**	**-0.6**
TSUM	**Tsumeb**	**35.20**	**14**	*e*	P		**P**	**02 12 03.3**	**-1.1**
	comp=Z,870nm,1.3s,mb6.5								
TSUM					LR		LR		
	comp=Z,20μm,21.0s,MS5.8								
PMSA	**Palmer Station**	**36.66**	**223**		P		**P**	**02 12 15.8**	**-0.6**
	comp=Z,29nm,0.8s,mb5.2,baz=110,slow=9.7,SNR=6.9								
PMSA	**Palmer Station**	**36.66**	**223**	*e*	P		**P**	**02 12 16.0**	**-0.4**
	comp=Z,84nm,1.1s,mb5.5								
PMSA					LR		LR		
	comp=Z,6μm,20.0s,MS5.4								
PAF	**Port-aux-Franc**	**37.33**	**109**		PFAKE			02 12 30.0	+7.7
PAF					LR		LR		
	comp=Z,7μm,21.0s,MS5.4								
EFI	**East Falkland**	**39.22**	**245**		PFAKE			02 12 50.0	+12
EFI					LR		LR		
	comp=Z,5μm,22.0s,MS5.3								
SHEL	**Horse Pasture**	**39.47**	**338**	*e*	P		**P**	**02 12 39.5**	**-1.0**
	comp=Z,244nm,1.1s,mb5.8								
SHEL					LR		LR		
	comp=Z,6μm,22.0s,MS5.4								
SHEL	**Horse Pasture**	**39.47**	**338**	*e*	P		**P**	**02 12 39.5**	**-1.0**
SHEL					pmax		pmax		
	comp=Z,244nm,1.1s,mb5.8								
SHEL					MLR		MLR		
	comp=Z,6μm,22.0s,MS5.4								
MIR	**Mirnyy**	**40.34**	**142**	⇓ *i*	P		**P**	**02 12 48.6**	**+1.3**
MIR				*i*				02 14 30.0	
MIR				*e*	S		**S**	**02 18 55.0**	**+0.4**
MIR					pmax		pmax		
	comp=Z,101nm,1.4s,mb5.4								
MIR					pmax		pmax		
	comp=Z,505nm,4.0s								
MIR					pmax		pmax		
	comp=N,202nm,2.0s								
MIR					pmax		pmax		
	comp=E,404nm,4.0s								
MIR					smax				
	comp=N,2μm,14.0s								
MIR					smax				
	comp=E,1μm,13.0s								
LSZ	**Lusaka**	**41.34**	**29**	*e*	P		**P**	**02 12 52.6**	**-3.4**
LSZ	**Lusaka**	**41.34**	**29**	*e*	P		**P**	**02 12 53.7**	**-2.3**
	comp=E,86nm,1.8s,mb5.1								
LSZ					LR		LR		
	comp=Z,8μm,20.0s,MS5.6								
LSZ	**Lusaka**	**41.34**	**29**	*e*	P		**P**	**02 12 53.7**	**-2.3**
LSZ					pmax		pmax		
	comp=Z,86nm,1.8s,mb5.1								
LSZ					MLR		MLR		
	comp=Z,8μm,20.0s,MS5.6								
LSZ	**Lusaka**	**41.34**	**29**		P		**P**	**02 12 54.6**	**-1.4**
	SNR=8.0								
USHA	**Ushuaia**	**42.93**	**236**		P		**P**	**02 13 08.5**	**-0.1**
	comp=Z,42nm,1.0s,mb5.1,baz=87,slow=11,SNR=7.0								
USHA	**Ushuaia**	**42.93**	**236**		P		**P**	**02 13 08.5**	**-0.1**
ABPO	**Ambohimpanom**	**45.52**	**55**	*e*	P		**P**	**02 13 31.1**	**+1.4**
	comp=Z,96nm,1.3s,mb5.6								
ABPO					LR		LR		
	comp=Z,4μm,19.0s,MS5.4								
ABPO	**Ambohimpanom**	**45.52**	**55**	*e*	P		**P**	**02 13 31.1**	**+1.4**
ABPO					pmax		pmax		
	comp=Z,96nm,1.3s,mb5.6								
ABPO					MLR		MLR		
	comp=Z,4μm,19.0s,MS5.4								
CASY	**Casey**	**46.53**	**147**	*e*	P		**P**	**02 13 37.9**	**+0.7**
CASY	**Casey**	**46.53**	**147**	*e*	P		**P**	**02 13 37.7**	**+0.5**
	comp=Z,119nm,1.2s,mb5.7								
CASY					LR		LR		
	comp=Z,7μm,19.0s,MS5.7								
VNDA	**Vanda**	**47.85**	**172**		P		**P**	**02 13 48.3**	**+1.0**
	comp=Z,110nm,0.8s,mb5.9,baz=222,slow=7.5,SNR=302								
VNDA					PP		PP	02 15 39.4	+0.6
	comp=Z,82nm,1.1s,baz=222,slow=9.6,SNR=4.5								
VNDA					LR		LR	02 33 18.5	
	comp=Z,18μm,18.5s,MS6.1,baz=194,slow=35								
VNDA	**Vanda**	**47.85**	**172**	*e*	P		**P**	**02 13 47.3**	**-0.1**
	comp=Z,245nm,1.1s,mb6.2								
VNDA					ePP		PP	02 15 38.1	-0.6
VNDA					LR		LR		
	comp=Z,18μm,19.0s,MS6.1								
VNDA	**Vanda**	**47.85**	**172**		P		**P**	**02 13 48.3**	**+1.0**
VNDA								02 15 39.4	
VNDA					pmax		pmax		
	comp=Z,110nm,0.9s								
VNDA					pmax		pmax		
	comp=Z,82nm,1.1s								
VNDA					MLR		MLR		
	comp=Z,18μm,18.5s								
SBA	**Scott Base**	**47.88**	**174**	*e*	P		**P**	**02 13 48.5**	**+0.9**
	comp=Z,343nm,1.4s,mb6.2								
SBA					ePP		PP	02 15 37.8	-1.2
SBA					LR		LR		
	comp=Z,6μm,21.0s,MS5.6								
SBA	**Scott Base**	**47.88**	**174**	*e*	P		**P**	**02 13 48.5**	**+0.9**
SBA				*e*				02 15 37.8	
SBA					pmax		pmax		
	comp=Z,343nm,1.4s,mb6.2								
SBA					MLR		MLR		
	comp=Z,6μm,21.0s,MS5.6								
RER	**Riviere de l'E**	**48.15**	**66**	*e*	P		**P**	**02 13 50.9**	**+0.6**
	comp=Z,147nm,0.9s,mb6.0								
RER					LR		LR		
	comp=Z,5μm,22.0s,MS5.5								
TRQA	**Tornquist**	**49.62**	**258**	*e*	P		**P**	**02 14 00.5**	**-0.9**
	comp=Z,231nm,1.4s,mb6.0								
TRQA					LR		LR		
	comp=Z,4μm,21.0s,MS5.4								
MRIV	**Mauritius Mete**	**49.80**	**67**	*e*	P		**P**	**02 14 03.0**	**0.0**
SPB	**Sao Paulo**	**51.52**	**283**		PFAKE			02 14 30.0	+14
SPB					LR		LR		
	comp=Z,3μm,19.0s,MS5.4								
DRV	**Dumont d'Urvil**	**54.32**	**158**		P		**P**	**02 14 41.0**	**+5.0**
DRV	**Dumont d'Urvil**	**54.32**	**158**		PP		PP	02 16 39.0	+1.5
DRV					S		**S**	**02 22 12.0**	**-1.4**
DRV					SP			02 22 20.0	
DRV					SS		SS	02 25 58.0	+3.5
DRV					R			02 31 00.0	
DRV					R			03 10 00.0	
CPUP	**Villa Florida**	**55.25**	**272**		P		**P**	**02 14 41.7**	**-1.6**
	comp=Z,45nm,0.9s,mb5.5,baz=119,slow=8.0,SNR=60								
CPUP					LR		LR	02 35 25.7	
	comp=Z,2μm,19.3s,MS5.2,baz=128,slow=33								
CPUP	**Villa Florida**	**55.25**	**272**		P		**P**	**02 14 41.7**	**-1.6**
CPUP					LR		LR	02 35 25.8	
CPUP	**Villa Florida**	**55.25**	**272**		P		**P**	**02 14 41.7**	**-1.6**
CPUP					pmax		pmax		
	comp=Z,45nm,0.9s								
KMBO	**Kilima Mbogo**	**57.50**	**34**	*e*	P		**P**	**02 15 01.5**	**+2.1**
KMBO	**Kilima Mbogo**	**57.50**	**34**	*e*	P		**P**	**02 15 01.0**	**+1.6**
	comp=Z,41nm,1.5s,mb5.2								
KMBO					LR		LR		
	comp=Z,3μm,19.0s,MS5.4								
KMBO	**Kilima Mbogo**	**57.50**	**34**	*e*	P		**P**	**02 15 01.0**	**+1.6**
KMBO	**Kilima Mbogo**	**57.50**	**34**		P		**P**	**02 15 02.1**	**+2.6**
	SNR=10								
FCH	**Farellones**	**57.74**	**257**	*i*	P		**P**	**02 14 59.9**	**-1.1**
CLCH	**Cerro Calan**	**57.83**	**256**	*i*	P		**P**	**02 15 00.9**	**-0.7**
RCBR	**Riachuelo**	**60.00**	**306**		PFAKE			02 15 30.0	+13
RCBR					LR		LR		
	comp=Z,1μm,21.0s,MS5.1								
LIC	**Lamto**	**60.96**	**344**	⇑ *i*	P		**P**	**02 15 21.1**	**-2.2**
	comp=Z,365nm,1.3s,mb6.0,baz=170								
LIC				*e*	R				
	comp=Z,7μm,22.5s								
LCO	**Las Campanas**	**61.15**	**260**	*e*	P		**P**	**02 15 23.1**	**-1.4**
	comp=Z,127nm,1.3s,mb5.9								
LCO					LR		LR		
	comp=Z,4μm,22.0s,MS5.5								
DBIC	**Dimbokro**	**61.37**	**344**	⇑ *i*	P		**P**	**02 15 23.5**	**-2.5**
DBIC	**Dimbokro**	**61.37**	**344**		P		**P**	**02 15 23.5**	**-2.6**
	comp=Z,74nm,0.9s,mb5.8,baz=148,slow=8.9,SNR=65								
DBIC					LR		LR	02 35 51.0	
	comp=Z,3μm,20.9s,MS5.4,baz=95,slow=30								
DBIC	**Dimbokro**	**61.37**	**344**	*e*	P		**P**	**02 15 23.8**	**-2.3**
	comp=Z,115nm,1.0s,mb6.0								
DBIC					LR		LR		
	comp=Z,4μm,22.0s,MS5.5								
DBIC	**Dimbokro**	**61.37**	**344**	*e*	P		**P**	**02 15 23.8**	**-2.3**
DBIC					pmax		pmax		
	comp=Z,115nm,1.0s								
DBIC					MLR		MLR		
	comp=Z,4μm,22.0s								
MSEY	**Mahe Island**	**61.89**	**55**		PFAKE			02 15 40.0	+10
MSEY					LR		LR		
	comp=Z,4μm,20.0s,MS5.5								
TORD	**Torodi Ar. Bea**	**66.98**	**352**		P		**P**	**02 16 00.2**	**-2.6**
	comp=Z,29nm,1.0s,mb5.3,baz=188,slow=6.8,SNR=135								
TORD					LR		LR	02 39 06.8	
	comp=Z,4μm,21.8s,MS5.6,baz=165,slow=30								
TORD					PKP2ab			02 44 39.5	
	comp=Z,1.7nm,1.1s,baz=318,slow=1.9,SNR=5.6								
TORD	**Torodi Ar. Bea**	**66.98**	**352**		P		**P**	**02 16 00.2**	**-2.6**
TORD					LR		LR	02 39 06.8	
TORD					P'P'ab			02 44 39.5	
FURI	**Furi**	**67.38**	**32**	*e*	P		**P**	**02 16 08.6**	**+3.1**
	comp=Z,49nm,1.1s,mb5.5								
FURI	**Furi**	**67.38**	**32**	*e*	P		**P**	**02 16 07.7**	**+2.2**
FURI					S		S	02 25 12.7	+12
DGAR	**Diego Garcia**	**68.61**	**73**		PFAKE			02 16 30.0	+17
DGAR					LR		LR		
	comp=Z,4μm,22.0s,MS5.6								
LPAZ	**La Paz**	**69.36**	**271**		P		**P**	**02 16 18.0**	**0.0**
	comp=Z,95nm,1.1s,mb5.6,baz=166,slow=6.1,SNR=140								
LPAZ					LR		LR	02 45 04.4	
	comp=Z,2μm,19.3s,MS5.2,baz=131,slow=35								
LPAZ	**La Paz**	**69.36**	**271**	*e*	P		**P**	**02 16 17.8**	**-0.2**
	comp=Z,135nm,1.1s,mb5.8								
LPAZ					LR		LR		
	comp=Z,2μm,19.0s,MS5.3								
LPAZ	**La Paz**	**69.36**	**271**		P		**P**	**02 16 18.0**	**+0.1**
LPAZ					pmax		pmax		
	comp=Z,95nm,1.1s								
NWAO	**Narrogin (SRO)**	**73.83**	**124**		LR		LR	02 39 42.8	
	comp=Z,1μm,21.5s,MS5.2,baz=217,slow=28								
NWAO	**Narrogin (SRO)**	**73.83**	**124**	*e*	P		**P**	**02 16 43.0**	**-1.7**
	comp=Z,25nm,1.1s,mb5.0								
NWAO					LR		LR		
	comp=Z,1μm,20.0s,MS5.1								
NWAO	**Narrogin (SRO)**	**73.83**	**124**	*e*	P		**P**	**02 16 43.0**	**-1.7**
NWAO					pmax		pmax		
	comp=Z,25nm,1.1s								
NWAO					MLR		MLR		
	comp=Z,1μm,20.0s								
KLBR	**Kellerberrin**	**75.17**	**123**	*e*	P		**P**	**02 16 52.4**	**-0.1**
	comp=Z,26nm,1.1s,mb5.1								
TAM	**Tamanrasset**	**76.35**	**357**	*e*	P		**P**	**02 16 58.7**	**-0.4**
	comp=Z,46nm,1.4s,mb5.2								
TAM					LR		LR		
	comp=Z,2μm,19.0s,MS5.5								
TAM	**Tamanrasset**	**76.35**	**357**	*e*	P		**P**	**02 16 58.7**	**-0.4**
TAM					pmax		pmax		
	comp=Z,46nm,1.4s,mb5.2								
TAM					MLR		MLR		
	comp=Z,2μm,19.0s,MS5.5								
TAU	**Tasmania Unive**	**77.28**	**150**		PFAKE			02 17 20.0	+16
TAU					LR		LR		
	comp=Z,3μm,21.0s,MS5.6								
NNA	**Nana**	**77.90**	**266**	*e*	P		**P**	**02 17 05.1**	**-3.1**
	comp=Z,38nm,1.0s,mb5.3								
NNA					LR		LR		
	comp=Z,2μm,20.0s,MS5.4								
NNA	**Nana**	**77.90**	**266**	*e*	P		**P**	**02 17 05.1**	**-3.1**
NNA					pmax		pmax		
	comp=Z,38nm,1.0s								
NNA					MLR		MLR		
	comp=Z,2μm,20.0s								
COCO	**West Island**	**79.08**	**96**		PFAKE			02 17 30.0	+15
COCO					LR		LR		
	comp=Z,2μm,22.0s,MS5.4								
ODZ	**Otahua Downs**	**80.29**	**167**	*e*	P		**P**	**02 17 21.5**	**+0.7**
	comp=Z,469nm,1.7s,mb6.1								
ABTO	**Aybut**	**80.47**	**43**		P		**P**	**02 17 22.6**	**+0.6**
	SNR=10								
FORT	**Forrest**	**80.73**	**130**	*e*	P		**P**	**02 17 25.3**	**+1.9**
	comp=Z,73nm,1.2s,mb5.5								
ARPS	**Mount Arapiles**	**81.06**	**144**	*e*	P		**P**	**02 17 25.3**	**+0.2**
	comp=Z,109nm,1.2s,mb5.7								
RPZ	**Rata Peaks**	**81.65**	**167**		LR		LR	02 51 01.6	
	comp=Z,3μm,20.2s,MS5.7,baz=208,slow=34								
RPZ	**Rata Peaks**	**81.65**	**167**	*e*	P		**P**	**02 17 28.0**	**-0.1**
	comp=Z,190nm,2.0s,mb5.7								
CFTV	**Fuerteventura**	**84.28**	**340**		P		**P**	**02 17 40.6**	**-1.0**
	comp=Z,19nm,0.8s,mb5.3								
SNZO	**South Karori**	**84.46**	**169**		PFAKE			02 17 50.0	+7.3
SNZO					LR		LR		
	comp=Z,5μm,20.0s,MS5.9								
MBWA	**Marble Bar**	**84.73**	**119**	*e*	P		**P**	**02 17 43.2**	**-1.1**
	comp=Z,26nm,1.2s,mb5.2								
MBWA					LR		LR		
	comp=Z,2μm,22.0s,MS5.5								
CAN	**Canberra**	**84.76**	**148**		PFAKE			02 18 00.0	+16
CAN					LR		LR		

WDD Wield Dalam 89.45 5 PFAKE 02 18 20.0 +13
WDD LR LR
comp=Z,4µm,20.0s,MS5.8
ASAR Alice Springs 89.47 131 P **P** **02 18 06.0 -1.3**
comp=Z,14nm,1.1s,mb5.2,baz=208,slow=4.8,SNR=19
ASAR PKKPbc PKKPbc 02 35 39.3 -0.1
comp=Z,0.7nm,0.8s,baz=39,slow=2.7,SNR=6.8
ASAR PKPPKP 02 43 48.1
comp=Z,0.5nm,0.9s,baz=86,slow=1.2,SNR=4.3
ASAR Alice Springs 89.47 131 P **P** **02 18 06.0 -1.3**
ASAR PKKPbc PKKPbc 02 35 39.3 -0.1
ASAR P'P' 02 43 48.1
ASAR Alice Springs 89.47 131 P **P** **02 18 06.0 -1.3**
ASAR pmax pmax
comp=Z,14nm,1.1s
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR pmax pmax
comp=Z,1.0nm,0.9s
VAM Vamos 89.85 12 *e*P **P** **02 18 08.6 +0.1**
VAM Vamos 89.85 12 P **P** **02 18 09.6 +1.1**
ROSC El Rosal 89.87 278 P **P** **02 18 08.6 -0.7**
comp=Z,5.6nm,0.5s,mb5.2,baz=111,slow=14,SNR=9.2
ROSC LR LR 02 56 45.8
comp=Z,3µm,18.4s,MS5.7,baz=179,slow=34
ROSC El Rosal 89.87 278 *e*P **P** **02 18 08.7 -0.5**
NPS Neapolis 89.90 14 *e*P **P** **02 18 08.7 -0.1**
NPS Neapolis 89.90 14 P **P** **02 18 10.2 +1.4**
FITZ Fitzroy Crossi 90.31 122 P **P** **02 18 11.5 +0.2**
comp=Z,2.0nm,0.9s,mb4.5,baz=180,slow=5.1,SNR=4.1
FITZ Fitzroy Crossi 90.31 122 P **P** **02 18 11.5 +0.2**
OUZ Omahuta 90.34 168 *e*P **P** **02 18 11.9 +0.6**
comp=Z,54nm,1.2s,mb5.8
KARP Karpathos 90.40 15 *e*P **P** **02 18 08.9 -2.2**
KARP Karpathos 90.40 15 P **P** **02 18 12.0 +0.9**
FDF Fort de France 90.43 295 PFAKE 02 18 20.0 +8.3
FDF LR LR
comp=Z,626nm,21.0s,MS5.0
EMIJ Mijas 90.79 349 P **P** **02 18 12.2 -0.7**
comp=Z,135nm,1.5s,mb6.0
SFS San Fernando 90.86 348 PFAKE 02 18 20.0 +6.8
SFS LR LR
comp=Z,4µm,20.0s,MS5.9
CSS Prodhromos 90.92 20 *e*P **P** **02 18 13.8 +0.2**
comp=Z,49nm,1.2s,mb5.7
CSS LR LR
comp=Z,3µm,20.0s,MS5.7
EGUA Guajares 90.92 350 ⇓P **P** **02 18 13.4 -0.1**
comp=Z,34nm,0.7s,mb5.8
EGUA Guajares 90.92 350 ⇓P **P** **02 18 13.5 0.0**
EGUA pmax pmax
comp=Z,34nm,0.7s,mb5.8
ENIJ Nijar 90.93 351 ⇓P **P** **02 18 14.9 +1.4**
comp=Z,46nm,1.0s,mb5.8
ENIJ Nijar 90.93 351 ⇓P **P** **02 18 14.9 +1.4**
ENIJ pmax pmax
comp=Z,47nm,1.0s,mb5.8
POO Poona 90.94 59 *e*PKP **P** **02 18 17.0 +3.0**
SDV Santo Domingo 90.96 284 PFAKE 02 18 20.0 +5.7
SDV LR LR
comp=Z,612nm,21.0s,MS5.0
VLI Veliai 90.99 11 *e*P **P** **02 18 13.9 +0.1**
VLI Veliai 90.99 11 P **P** **02 18 13.6 -0.2**
PYL PYLOS 91.03 10 P **P** **02 18 13.8 -0.2**
QLP Quilpie 91.11 141 *e*P **P** **02 18 14.7 -0.3**
ERON Agron 91.13 350 ⇓P **P** **02 18 15.3 +0.8**
comp=Z,84nm,1.3s,mb5.9
ARG Arkhangelos 91.21 15 *e*P **P** **02 18 14.5 -0.3**
ARG Arkhangelos 91.21 15 P **P** **02 18 15.8 +1.0**
ESPR Espera 91.21 348 ⇑P **P** **02 18 15.8 +1.0**
comp=Z,259nm,1.6s,mb6.3
ELOJ Sierra Loja 91.30 350 P **P** **02 18 15.5 +0.3**
comp=Z,67nm,1.4s,mb5.8
ELOJ Sierra Loja 91.30 350 P **P** **02 18 15.5 +0.3**
ELOJ pmax pmax
comp=Z,67nm,1.4s,mb5.8
ITM Ithomi 91.33 10 *e*P **P** **02 18 09.7 -5.7**
ECOG Cogollos-Vega 91.36 350 ⇑P **P** **02 18 16.2 +0.7**
comp=Z,83nm,1.4s,mb5.9
ECOG Cogollos-Vega 91.36 350 ⇑P **P** **02 18 16.2 +0.7**
ECOG pmax pmax
comp=Z,83nm,1.4s,mb5.9
CART Cartagena 91.44 352 *e*P **P** **02 18 15.7 -0.2**
comp=Z,41nm,1.0s,mb5.7
VLX Vlachokerasia 91.57 11 P **P** **02 18 18.2 +1.7**
APE Apeiranthos 91.66 13 *e*P **P** **02 18 17.3 -0.6**
APE Apeiranthos 91.66 13 P **P** **02 18 17.2 +0.3**
EMUR La Murta 91.71 352 ⇑P **P** **02 18 17.9 +0.8**
comp=Z,117nm,1.4s,mb6.0
ELUQ Luque 91.72 350 ⇓P **P** **02 18 17.2 0.0**
comp=Z,74nm,1.1s,mb5.9
ELUQ Luque 91.72 350 ⇓P **P** **02 18 17.2 0.0**
ELUQ pmax pmax
comp=Z,74nm,1.1s,mb5.9
EHUE Huescar 91.80 351 ⇑P **P** **02 18 17.4 -0.1**
comp=Z,71nm,1.2s,mb5.9
EHUE Huescar 91.80 351 ⇑P **P** **02 18 17.4 -0.1**
EHUE pmax pmax
comp=Z,71nm,1.2s,mb5.9
DID Didima 91.80 11 P **P** **02 18 17.4 -0.2**
EQES Quesada 91.83 351 P **P** **02 18 17.6 -0.1**
comp=Z,42nm,1.3s,mb5.6
PBDV Barranco-do-Ve 91.85 347 *e*P **P** **02 18 18.6 +0.8**
comp=Z,57nm,1.9s,mb5.6
PBDV Barranco-do-Ve 91.85 347 *e*S SKSac 02 28 53.4 +3.3
PBDV Barranco-do-Ve 91.85 347 *e*LQ 02 45 53.0
PBDV *e*LR LR 02 47 51.2
comp=Z,2µm,20.0s
PFVI Vila Bisbo 91.87 346 *e*P **P** **02 18 19.2 +1.3**
comp=Z,85nm,1.3s,mb5.9
PFVI Vila Bisbo 91.87 346 *e*LQ 02 44 35.2
PFVI *e*LR LR 02 47 58.7
comp=Z,3µm,22.0s
CEL Celeste 91.91 6 *e*P **P** **02 18 19.4 +1.4**
comp=Z,121nm,1.3s,mb6.1
CEL LR LR
comp=Z,4µm,20.0s,MS5.8
PVAQ Vaqueiros 91.98 347 *e*P **P** **02 18 19.7 +1.3**
comp=Z,44nm,1.6s,mb5.5
PVAQ Vaqueiros 91.98 347 *e*LR LR 02 48 03.9
comp=Z,2µm,18.0s
MORF Marmelete 92.01 346 *e*P **P** **02 18 18.3 -0.2**
MORF *e*S SKSac 02 28 50.1 -0.9
MORF *e*SS SS 02 35 29.2 -0.7
MORF Marmelete 92.01 346 *e*P **P** **02 18 19.4 +0.9**
comp=Z,48nm,1.7s,mb5.5
MORF Marmelete 92.01 346 *e*LQ 02 44 13.4
MORF *e*LR LR 02 48 04.1
comp=Z,3µm,20.0s
BHD Baghdad 92.03 29 *ex* x 02 18 13.0
BHD *ex* x 02 00 00.0
BHD *i* x x 02 29 27.0
RLS Riolos of Patr 92.15 10 *e*P **P** **02 18 20.7 +1.5**
EMIN Mina Concepcio 92.20 348 ⇑P **P** **02 18 20.1 +0.7**
comp=Z,180nm,2.0s,mb6.0
VLY Voula,Athens 92.21 12 *e*P **P** **02 18 18.7 -0.7**
VLY Voula,Athens 92.21 12 P **P** **02 18 19.4 0.0**
PCVE Castro Verde 92.25 347 *e*P **P** **02 18 20.3 +0.7**
comp=Z,48nm,1.8s,mb5.5
PCVE Castro Verde 92.25 347 *e*LQ 02 46 41.5
PCVE *e*LR LR 02 48 11.7
comp=Z,3µm,20.0s
PSI Prapat 92.27 88 P **P** **02 18 20.6 +0.1**
comp=Z,20nm,1.0s,mb5.4,baz=203,slow=12,SNR=8.5
PSI Prapat 92.27 88 P **P** **02 18 20.6 +0.1**
PSI Prapat 92.27 88 P **P** **02 18 20.6 +0.2**
PSI pmax pmax
comp=Z,20nm,1.0s,mb5.4
LTK Loutraki 92.28 11 P **P** **02 18 20.1 +0.3**
ATH Athens Observa 92.32 12 P **P** **02 18 20.3 +0.4**
EADA Adamuz 92.35 349 P **P** **02 18 20.4 +0.3**
comp=Z,166nm,1.7s,mb6.1
PTL Penteli 92.41 12 *e*P **P** **02 18 20.9 +0.5**
PTL Penteli 92.41 12 P **P** **02 18 20.8 +0.4**
HYB Hyderabad 92.47 64 *i* P **P** **02 18 21.0 -0.1**
HYB *e* 02 18 28.0
HYB *e*SKS 02 28 54.0
HYB *e*S S 02 29 30.0 +5.1
MESJ Messejana 92.48 347 *e*P **P** **02 18 20.3 -0.4**
MESJ *e* 02 18 27.0
baz=42,slow=12
MESJ *e*S SKSac 02 28 53.2 -0.4
MESJ AMS AMS 02 55 57.9
comp=Z,3µm,21.0s,MS5.6
MESJ Messejana 92.48 347 *e*P **P** **02 18 20.3 -0.4**
MESJ *e*S SKSac 02 28 53.1 -0.5
EVIA Vianos 92.61 351 ⇓P **P** **02 18 21.7 +0.5**
comp=Z,8.0nm,0.8s,mb5.2
EVIA Vianos 92.61 351 ⇓P **P** **02 18 21.7 +0.4**
EVIA pmax pmax
comp=Z,8.0nm,0.8s,mb5.2
PBEJ Beja 92.61 347 *e*P **P** **02 18 21.9 +0.6**
comp=Z,20nm,2.4s,mb5.1
PBAR Barrancos 92.65 348 *e*P **P** **02 18 22.3 +0.8**
comp=Z,42nm,1.8s,mb5.6
PBAR Barrancos 92.65 348 *e*LR LR 02 47 50.2
comp=Z,1µm,18.0s
PNCL Nicolau / Gran 92.79 346 *e*P **P** **02 18 22.1 0.0**
comp=Z,32nm,1.4s,mb5.6
PNCL Nicolau / Gran 92.79 346 *e*LQ 02 46 28.5
PNCL *e*LR LR 02 48 31.5
comp=Z,2µm,20.0s
WRA Warramunga Arr 92.90 130 P **P** **02 18 22.0 -1.3**
comp=Z,5.5nm,1.1s,mb4.9,baz=210,slow=4.3,SNR=10.0
WRA PKKPbc PKKPbc 02 35 30.8 0.0
comp=Z,0.9nm,0.8s,baz=22,slow=2.7,SNR=5.9
WRA LR LR 02 54 14.2
comp=Z,1µm,19.0s,MS5.4,baz=175,slow=32
WRA Warramunga Arr 92.90 130 P **P** **02 18 22.0 -1.3**
WRA PKKPbc PKKPbc 02 35 30.8 -0.1
WRA LR LR 02 54 14.2
WRA Warramunga Arr 92.90 130 P **P** **02 18 22.0 -1.3**
WRA pmax pmax
comp=Z,6.0nm,1.2s
WRA pmax pmax
comp=Z,1.0nm,0.8s
LKR Lokris 92.91 11 *e*P **P** **02 18 21.8 -0.8**
LKR Lokris 92.91 11 P **P** **02 18 21.4 -1.2**
WB2 Warramunga Arr 92.91 130 *e*P **P** **02 18 24.2 +0.9**
WRAB Tennant Creek 92.92 130 *e*P **P** **02 18 24.4 +1.0**
comp=Z,26nm,1.4s,mb5.5
WRAB LR LR
comp=Z,1µm,22.0s,MS5.4
WRAB Tennant Creek 92.92 130 *e*P **P** **02 18 24.4 +1.0**
WRAB pmax pmax
comp=Z,26nm,1.4s,mb5.5
WRAB MLR MLR
comp=Z,1µm,22.0s,MS5.4
VSL Villasalto 92.94 0 *e*P **P** **02 18 23.6 +0.8**
comp=Z,152nm,1.4s,mb6.2
VSL LR LR
comp=Z,2µm,19.0s,MS5.7
ATAL Atalanti 92.95 11 P **P** **02 18 23.2 +0.4**
EVO Evora 93.13 347 *e*P **P** **02 18 23.1 -0.6**
comp=Z,30nm,1.2s,mb5.3
EVO *e*R
comp=Z,2µm,19.8s
EVO Evora 93.13 347 *e*P **P** **02 18 24.7 +1.0**
comp=Z,18nm,1.7s,mb5.2
ANWB Willy Bob 93.19 296 PFAKE 02 18 30.0 +5.5
ANWB LR LR
comp=Z,495nm,21.0s,MS4.9
EBAD Badajoz 93.22 348 P **P** **02 18 24.5 +0.4**
comp=Z,17nm,1.3s,mb5.3
PESTR Estremoz 93.40 347 *e*P **P** **02 18 25.2 +0.3**
comp=Z,24nm,1.9s,mb5.3
PESTR Estremoz 93.40 347 *e*LQ 02 47 11.2
PESTR *e*LR LR 02 48 44.5
comp=Z,2µm,22.0s
ECHE Chera 93.42 352 ⇑P **P** **02 18 25.7 +0.7**
comp=Z,32nm,0.9s,mb5.8
ECHE Chera 93.42 352 ⇑P **P** **02 18 25.7 +0.7**
ECHE pmax pmax
comp=Z,32nm,0.9s,mb5.8
LIS Lisbon 93.47 346 *e*P **P** **02 18 25.0 -0.2**
LIS *e*S SKSac 02 29 00.3 +1.3
LIS AMS AMS 02 58 41.2
comp=N,4µm,18.1s
LIS Lisbon 93.47 346 *e*P **P** **02 18 24.9 -0.3**
LIS *e*S SKSac 02 29 00.3 +1.3
CUC Castrocucco 93.63 5 PFAKE 02 18 40.0 +14
CUC LR LR
comp=Z,2µm,19.0s,MS5.6
PAB San Pablo 93.69 350 *e*P **P** **02 18 26.8 +0.6**
comp=Z,23nm,1.2s,mb5.5
PAB LR LR
comp=Z,1µm,20.0s,MS5.4
PAB San Pablo 93.69 350 *e*P **P** **02 18 26.8 +0.6**
PAB pmax pmax
comp=Z,23nm,1.2s,mb5.5
PAB MLR MLR
comp=Z,1µm,20.0s,MS5.4
THL Klokotos Trika 93.70 10 P **P** **02 18 26.9 +0.6**
PMAFR Mafra 93.72 346 *e*LR LR 02 48 39.5
comp=Z,4µm,18.0s
ESDC Sonseca Array 93.78 350 P **P** **02 18 26.7 +0.1**
comp=Z,9.0nm,0.9s,mb5.2,baz=177,slow=4.6,SNR=40
ESDC LR LR 02 56 49.2
comp=Z,1µm,20.8s,MS5.4,baz=165,slow=33
ESDC Sonseca Array 93.78 350 ⇑P **P** **02 18 26.7 +0.1**
comp=Z,9.0nm,0.9s,mb5.2
ESLA Sonseca Array 93.78 350 *e*P **P** **02 18 26.8 +0.2**
comp=Z,12nm,1.5s,mb5.1
ESLA LR LR
comp=Z,11µm,20.0s,MS6.3
PRK Paraskevi 93.90 13 *e*P **P** **02 18 26.9 -0.3**
PMRV Marv??o 93.93 347 *e*P **P** **02 18 28.1 +0.8**
comp=Z,28nm,1.3s,mb5.5
PMRV Marv??o 93.93 347 *e*LR LR 02 49 03.6
comp=Z,2µm,22.0s
PTOM Tomar 94.25 347 *e*P **P** **02 18 28.7 -0.1**
comp=Z,38nm,1.6s,mb5.6
PCBR Castelo Branco 94.35 347 *e*P **P** **02 18 29.9 +0.7**
comp=Z,14nm,1.8s,mb5.1
EPLA Plasencia 94.39 349 P **P** **02 18 30.1 +0.7**
comp=Z,19nm,1.2s,mb5.4
EPLA Plasencia 94.39 349 P **P** **02 18 30.1 +0.7**
EPLA pmax pmax
comp=Z,19nm,1.2s,mb5.4
LIA Limnos Island 94.40 13 P **P** **02 18 29.0 -0.5**
PLG Polygyros 94.66 11 P **P** **02 18 30.9 +0.3**
ETOR Torete 94.73 352 P **P** **02 18 31.7 +0.7**
comp=Z,59nm,1.3s,mb5.9
ETOR Torete 94.73 352 P **P** **02 18 31.7 +0.7**
ETOR pmax pmax
comp=Z,59nm,1.3s,mb5.9
GUD Guadarrama 94.75 350 P **P** **02 18 32.1 +1.0**
comp=Z,24nm,1.2s,mb5.5
GUD Guadarrama 94.75 350 P **P** **02 18 32.1 +1.0**
GUD pmax pmax
comp=Z,24nm,1.2s,mb5.5
PAYG Puerto Ayora 94.87 262 PFAKE 02 18 40.0 +7.6
PAYG LR LR
comp=Z,2µm,22.0s,MS5.5
MTE Manteigas 94.91 347 PFAKE 02 18 40.0 +8.2
MTE LR LR
comp=Z,2µm,19.0s,MS5.6
MTE Manteigas 94.91 347 *e*LR LR 02 49 29.9
comp=Z,2µm,18.0s
BIA Bitola 95.07 9 *e*P **P** **02 18 34.1 +1.6**
TIR Tirane 95.26 8 PFAKE 02 18 40.0 +6.6
TIR LR LR
comp=Z,3µm,19.0s,MS5.8
KULM Kulim 95.29 88 PFAKE 02 18 50.0 +16
KULM LR LR
comp=Z,1µm,20.0s,MS5.4
KNT Kendrikon 95.38 11 P **P** **02 18 32.6 -1.3**
KRUS Krusevo 95.41 9 *e*P **P** **02 18 36.0 +2.0**
VAY Valandovo 95.50 10 *e*P **P** **02 18 35.9 +1.4**
VAY *e*PP PP 02 22 18.0 -8.0
BR131 Keskin Array S 95.59 19 *e*P **P** **02 18 34.6 -0.3**
comp=Z,6.4nm,0.9s,mb5.0
BR131 *e*PP PP 02 22 24.6 -2.1
BR131 LR LR
comp=Z,2µm,21.0s,MS5.5
BRTR Keskin Array B 95.59 19 P **P** **02 18 34.9 0.0**
comp=Z,6.5nm,0.8s,mb5.1,baz=179,slow=7.4,SNR=33
BRTR PP PP 02 22 23.6 -3.1
comp=Z,5.6nm,1.2s,baz=195,slow=4.5,SNR=9.9
BRTR LR LR 03 01 22.7
comp=Z,2µm,21.8s,MS5.5,baz=88,slow=35
BRTR Keskin Array B 95.59 19 P **P** **02 18 34.9 0.0**
BRTR PP PP 02 22 23.6 -3.1
BRTR LR LR 03 01 22.7
BRTR Keskin Array B 95.59 19 P **P** **02 18 34.9 0.0**
BRTR pmax pmax 02 22 23.6
comp=Z,7.0nm,0.8s
BRTR pmax pmax
comp=Z,6.0nm,1.2s
BRTR MLR MLR
comp=Z,2µm,21.8s
MVO Moncorvo 95.59 348 *e*LR LR 02 49 27.1
comp=Z,2µm,18.0s
RDO Rodhopi 95.67 13 P **P** **02 18 35.2 -0.1**
AQU L'Aquila 95.88 3 PFAKE 02 18 50.0 +14
AQU LR LR
comp=Z,3µm,19.0s,MS5.8
POLO Lamas de Olo 95.90 347 *e*P **P** **02 18 33.5 -2.8**
comp=Z,12nm,1.6s,mb5.1
POLO Lamas de Olo 95.90 347 *e*LR LR 02 49 50.1
comp=Z,951nm,20.0s
SJG San Juan 95.91 293 PFAKE 02 18 50.0 +13
SJG LR LR
comp=Z,2µm,22.0s,MS5.4
PGF Pioggiola 95.99 0 *e*P **P** **02 18 35.3 -1.4**
comp=Z,165nm,1.4s,mb6.0
SKO Skopje 96.03 9 *e*PP PP 02 22 27.1 -3.0
PBRG Braganca 96.19 348 *e*S SKSac 02 29 05.4 -8.1
PBRG Braganca 96.19 348 *e*LR LR 02 50 06.6
comp=Z,2µm,18.0s
PGAV Gavieira, Arco 96.54 347 *e*S SKSac 02 29 25.0 +10
PGAV Gavieira, Arco 96.54 347 *e*LR LR 02 49 47.4
comp=Z,3µm,22.0s
BCIP Isla Barro Col 96.56 276 PFAKE 02 18 50.0 +10
BCIP LR LR
comp=Z,2µm,22.0s,MS5.5
ETSF Etsaut 96.68 353 *e*P **P** **02 18 40.4 +0.6**
comp=Z,102nm,1.6s,mb5.7
EPF Esparros 96.75 354 *e*P **P** **02 18 40.6 +0.5**
comp=Z,74nm,1.6s,mb5.6
VTS Vitosha 96.82 11 ⇓P **P** **02 18 43.4 +2.9**
VTS Vitosha 96.82 11 ⇓*i*P **P** **02 18 43.4 +2.9**
SJPF Ste Jean 96.94 353 *e*P **P** **02 18 41.6 +0.6**
comp=Z,56nm,1.3s,mb5.5
MTLF Montolieu 96.95 355 *e*P **P** **02 18 40.5 -0.5**
comp=Z,62nm,1.2s,mb5.6
FRF La Foret Royal 97.02 358 *e*P **P** **02 18 41.5 +0.2**
comp=Z,130nm,1.6s,mb5.8
RAO Raoul Island 97.07 174 PFAKE 02 18 50.0 +7.8
RAO LR LR
comp=Z,3µm,20.0s,MS5.8
VLC Villacollemand 97.61 1 PFAKE 02 18 50.0 +6.0
VLC LR LR
comp=Z,2µm,22.0s,MS5.5
LASF Ste Croix 97.61 356 *e*P **P** **02 18 44.0 0.0**
comp=Z,95nm,1.4s,mb5.8
CTA Charters Tower 97.77 140 P **P** **02 18 46.1 +0.6**
comp=Z,3.1nm,0.9s,mb4.8,baz=211,slow=5.9
CTA Charters Tower 97.77 140 P **P** **02 18 46.1 +0.6**
CTA Charters Tower 97.77 140 P **P** **02 18 46.1 +0.6**
CTA pmax pmax
comp=Z,3.0nm,0.9s
CTAO Charters Tower 97.77 140 *e*P **P** **02 18 46.5 +0.9**
comp=Z,10nm,1.2s,mb5.2
CTAO LR LR
comp=Z,1µm,19.0s,MS5.5
CTAO Charters Tower 97.77 140 *e*P **P** **02 18 46.5 +1.0**
CTAO pmax pmax
comp=Z,10.0nm,1.2s,mb5.2
CTAO MLR MLR
comp=Z,1µm,19.0s,MS5.5
KSM Kuching 97.94 98 PFAKE 02 19 00.0 +14
KSM LR LR
comp=Z,1µm,22.0s,MS5.4
KAPI Kappang 98.09 110 *e*P **P** **02 18 45.7 -1.4**
comp=Z,13nm,1.2s,mb5.3
KAPI LR LR
comp=Z,976nm,20.0s,MS5.3
MBDF Montbardon 98.19 358 *e*P **P** **02 18 47.0 +0.4**
VIVF Saint-Julien-l 98.36 357 *e*P **P** **02 18 47.5 +0.1**
comp=Z,97nm,1.6s,mb5.8
ORIF Oris-en-Rattie 98.39 358 *e*P **P** **02 18 47.7 +0.2**
ORIF *e*R
comp=Z,4µm,21.5s
BNI Bardonecchia 98.51 358 PFAKE 02 19 00.0 +12
BNI LR LR
comp=Z,3µm,20.0s,MS5.7
CAF Calviac 98.54 355 *e*P **P** **02 18 48.2 +0.1**
comp=Z,69nm,1.3s,mb5.7
GNI Garni 98.56 27 PFAKE 02 19 00.0 +12
GNI LR LR
comp=Z,3µm,21.0s,MS5.8
LFF La Frestale 98.63 354 *e*P **P** **02 18 48.7 +0.2**
comp=Z,79nm,1.5s,mb5.7
SSB Saint Sauveur 98.79 357 PFAKE 02 19 00.0 +11
SSB LR LR
comp=Z,1µm,22.0s,MS5.3
RJF Les Rejaudoux 98.95 355 *e*P **P** **02 18 50.1 +0.1**
comp=Z,46nm,1.3s,mb5.5
RJF *e*R
comp=Z,3µm,22.8s
LPG La Plagne 98.96 358 *e*P **P** **02 18 50.8 +0.8**
comp=Z,71nm,1.4s,mb5.7
LPL La Plagne 98.98 358 *e*P **P** **02 18 50.5 +0.4**
comp=Z,36nm,1.2s,mb5.5
TRI Trieste 99.24 3 PFAKE 02 19 00.0 +8.8
TRI LR LR
comp=Z,2µm,21.0s,MS5.6
SDDR Presa de Saban 99.46 289 PFAKE 02 19 00.0 +7.1
SDDR LR LR
comp=Z,2µm,22.0s,MS5.5
BZS Buzias 99.66 9 ⇑P Pdif 02 18 55.3 +1.3
BZS Buzias 99.66 9 ⇑*i*P Pdif 02 18 55.3 +1.3
VOIR 99.84 11 ⇑P Pdif 02 18 54.5 -0.3
VOIR 99.84 11 ⇑*i*P Pdif 02 18 54.5 -0.3
TCF Toulx Ste Croi 99.89 355 *e*P Pdif 02 18 54.1 -0.9
comp=Z,67nm,1.5s
TUE Stuetta 99.92 0 PFAKE 02 19 10.0 +15
TUE LR LR
comp=Z,2µm,21.0s,MS5.5
MLR Muntele Rosu 100.00 12 P Pdif 02 18 53.3 -2.2
comp=Z,1.7nm,1.1s,baz=164,slow=4.7,SNR=4.0
MLR PP PP 02 22 56.2 -4.4
comp=Z,1.9nm,1.1s,baz=201,slow=5.0,SNR=8.8
MLR Muntele Rosu 100.00 12 P Pdif 02 18 53.3 -2.2
MLR PP PP 02 22 56.2 -4.4
MLR Muntele Rosu 100.00 12 P Pdif 02 18 53.3 -2.2
MLR 02 22 56.2
MLR pmax pmax
comp=Z,2.0nm,1.1s
MLR pmax pmax
comp=Z,2.0nm,1.1s
MLR Muntele Rosu 100.00 12 ⇓*i*P Pdif 02 18 53.9 -1.6
CABF La Chapelle 100.08 358 *e*P Pdif 02 18 55.7 -0.2
comp=Z,25nm,1.1s
BGF Bois d'Agland 100.13 356 *e*P Pdif 02 18 55.2 -0.9
SMF Signal de Mont 100.18 356 *e*P Pdif 02 18 55.2 -1.1
DAVOX Davos/Dischmat 100.23 1 P Pdif 02 18 55.6 -0.9
comp=Z,2.9nm,0.9s,baz=169,slow=9.5,SNR=4.0
DAVOX Davos/Dischmat 100.23 1 P Pdif 02 18 55.6 -0.9
DAVOX Davos/Dischmat 100.23 1 P Pdif 02 18 55.6 -0.9
MFF Saint Martin d 100.34 354 *e*P Pdif 02 18 56.3 -0.7
comp=Z,96nm,1.8s
AVF Avril sur Loir 100.34 356 *e*P Pdif 02 18 56.2 -0.9
comp=Z,28nm,1.4s
VRI Vrincioaia 100.47 13 ⇑P Pdif 02 18 59.0 +1.4
VRI Vrincioaia 100.47 13 ⇑*i*P Pdif 02 18 59.0 +1.4
JTS JuntasAbangare 100.47 273 *e*Pdif Pdif 02 18 54.9 -2.7
comp=Z,10nm,1.2s
JTS *e*PP PP 02 23 04.5 +0.2
JTS LR LR
comp=Z,1µm,21.0s,MS5.4
JTS JuntasAbangare 100.47 273 *e*P Pdif 02 18 54.9 -2.7
JTS *e* 02 23 04.5
JTS pmax pmax
comp=Z,10.0nm,1.2s
JTS MLR MLR
comp=Z,1µm,21.0s
FETA Feichten 100.48 1 ⇑*i*Pdiff Pdif 02 18 55.2 -2.5
comp=Z,12nm,1.3s
SSF Saint Saulge 100.61 356 *e*P Pdif 02 18 56.8 -1.4
comp=Z,29nm,1.4s
SIM Simferopol' 100.73 18 P Pdif 02 19 04.7 +5.9
SIM *e*SS SS 02 37 27.0 -6.1
SIM pmax pmax
comp=Z,100nm,10.0s
PKSN Nyarlorinc 100.78 8 *e*P PP 02 23 03.3 -3.1
LOR Lormes 100.80 357 *e*P Pdif 02 18 57.9 -1.2
comp=Z,65nm,1.8s
LOR *e*R
comp=Z,1µm,21.5s
MOTA Moosalm 100.81 2 ⇑*i*Pdiff Pdif 02 18 60.0 +0.9
comp=Z,6.3nm,1.0s
TBI Tubuai 100.90 200 *e*Sdif Sdif 02 30 33.7 -4.0
comp=Z,466nm,29.0s
TBI *e*LR LR 02 51 47.9

comp=Z,3µm,38.2s
DRGR 100.92 10 ⇑P Pdif 02 18 58.2 -1.4
DRGR 100.92 10 ⇑*i*P Pdif 02 18 58.2 -1.4
RETA Reutte 100.94 1 *i*⇓*i*PPdiff 02 19 02.5
comp=Z,15nm,1.4s
HINF Hinteralfeld 101.28 359 *e*P Pdif 02 18 59.7 -1.5
BUD Budapest 101.30 7 *e*P Pdif 02 19 01.0 -0.3
BUD Budapest 101.30 7⇓*e*PP PP 02 23 06.9 -3.4
SOP Sopron 101.34 5 *e*P Pdif 02 18 59.5 -2.0
SOP Sopron 101.34 5⇓*e*PP PP 02 23 04.3 -6.3
MOA Molln 101.40 4 ⇑*i*Pdiff Pdif 02 19 02.5 +0.7
comp=Z,4.9nm,0.9s
MOA Molln 101.40 4 P PP 02 23 07.7 -3.4
comp=Z,14nm,1.2s
HAU Haudompre 101.47 358 *e*P Pdif 02 19 00.7 -1.4
HAU *e*R
comp=Z,2µm,18.5s
CONA Conrad Observa 101.55 5⇑*i*Pdiff Pdif 02 19 01.7 -0.7
comp=Z,12nm,2.0s
CONA ⇑*i*PP PP 02 23 10.0 -2.2
comp=Z,20nm,1.5s
KIV Kislovodsk 101.61 24 *e*Pdif Pdif 02 19 01.8 -0.9
KIV LR LR
comp=Z,3µm,19.0s,MS5.8
KIV Kislovodsk 101.61 24 *e*P Pdif 02 19 01.8 -0.9
KIV MLR MLR
comp=Z,3µm,19.0s,MS5.8
ECH Echery 101.67 359 PFAKE 02 19 10.0 +7.1
ECH LR LR
comp=Z,1µm,20.0s,MS5.5
SFTF Sexfontaines 101.70 357 *e*P Pdif 02 19 02.1 -1.0
comp=Z,30nm,1.2s
BFO Black Forest 101.78 360 *e*PP PP 02 23 10.4 -3.5
BFO LR LR
comp=Z,2µm,20.0s,MS5.6
PSZ Piszkesteto 101.79 8 *e*PP PP 02 23 10.6 -3.5
PSZ LR LR
comp=Z,1µm,20.0s,MS5.4
PSZ Piszkesteto 101.79 8⇓*e*PP PP 02 23 10.0 -4.0
KIS Kishinev 101.86 14 *e*P Pdif 02 19 03.0 -0.8
KIS LRM 03 07 36.0
comp=Z,1µm,17.0s
KIS Kishinev 101.86 14 *e*P Pdif 02 19 03.0 -0.8
KIS *e* 02 23 10.0
KIS *e* 02 32 24.0
KIS *e* 02 33 06.0
KIS *e* 02 37 44.0
KIS MLR MLR
comp=Z,2µm,19.0s,MS5.7
KIS MLR MLR
comp=N,1µm,17.0s,MS5.5
KIS MLR MLR
comp=E,500nm,16.0s,MS5.5
ZST Bratislava 101.88 6 *e*P Pdif 02 19 08.9 +5.0
ZST Bratislava 101.88 6 PDIF Pdif 02 19 08.9 +5.0
ZST *e*PP PP 02 23 11.8 -2.9
MAK Makhachkala 101.94 28 P Pdif 02 19 02.5 -1.6
MAK *i* 02 23 16.4
MAK *e*PPP 02 25 24.9
MAK *e*S SKSac 02 29 42.9 +0.7
MAK *e*PS PS 02 32 22.7 +3.3
MAK *e*SS SS 02 37 51.8 +1.8
MAK pmax pmax
comp=Z,528nm,1.5s
DZM Mont Dzumac 101.98 159 *e*LR LR 02 52 28.9
comp=Z,4µm,25.1s
BURAR Bucovina Array 102.01 11 ⇓P Pdif 02 19 07.8 +3.4
BURAR Bucovina Array 102.01 11 ⇓*i*P Pdif 02 19 07.8 +3.4
BUR08 Bucovina Ar. S 102.03 11 *e*Pdif Pdif 02 19 03.4 -1.2
PAGF Fort de Pagny 102.03 358 *e*P Pdif 02 19 03.8 -0.8
comp=Z,16nm,1.2s
GRR Gorron 102.17 353 *e*P Pdif 02 19 04.3 -0.8
comp=Z,44nm,1.3s
VYHS Vyhne 102.29 7 *e*P Pdif 02 19 04.1 -1.6
VYHS Vyhne 102.29 7 PDIF Pdif 02 19 04.1 -1.6
VYHS *e*PP PP 02 23 11.9 -5.9
KOLL Kolacno 102.34 6 *e*PP PP 02 23 15.5 -2.7
GERES GERESS Array B 102.37 3 P Pdif 02 19 03.9 -2.2
comp=Z,1.4nm,0.9s,baz=193,slow=4.0,SNR=7.2
GERES PP PP 02 23 13.9 -4.5
comp=Z,3.1nm,1.0s,baz=186,slow=3.0,SNR=8.1
GERES PKKP PKKPbc 02 35 29.2 +23
comp=Z,0.7nm,0.8s,baz=346,slow=3.3,SNR=3.7
GERES GERESS Array B 102.37 3 P Pdif 02 19 03.9 -2.2
GERES PP PP 02 23 13.9 -4.5
GERES PKKP PKKPbc 02 35 29.2 +23
GERES GERESS Array B 102.37 3 P Pdif 02 19 03.9 -2.2
GERES 02 23 13.9
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES pmax pmax
comp=Z,3.0nm,1.0s
GERES pmax pmax
comp=Z,1.0nm,0.8s
GTBY Guantanamo Bay 102.37 287 PFAKE 02 19 20.0 +14
GTBY LR LR
comp=Z,1µm,20.0s,MS5.4
MTDJ Mount Denham 102.41 284 PFAKE 02 19 20.0 +14
MTDJ LR LR
comp=Z,1µm,20.0s,MS5.5
KHC Kasperske Hory 102.65 3 *e*PP PP 02 23 16.2 -4.3
KHC Kasperske Hory 102.65 3 *e*PP PP 02 23 15.4 -5.1
KHC *e*PKP PKiKP 02 23 25.2 -1.9
KHC *e*SP SP 02 32 26.3 +0.7
KHC *e*SS SS 02 38 01.3 +1.6
KHC AMS AMS 03 06 20.0
comp=Z,2µm,18.9s
UZH Uzhgorod 102.71 9 *e*P Pdif 02 19 06.1 -1.5
UZH *e*SKS 02 29 47.4
UZH *e*S Sdif 02 30 47.3 -5.5
UZH MLR MLR
comp=Z,700nm,22.0s,MS5.1
TREC Trest 102.89 4 *e*PP PP 02 23 18.9 -3.4
TREC AMS AMS 03 03 40.0
comp=Z,1µm,20.6s
CRVS Cervenica-Dubn 102.90 8 *e*P Pdif 02 19 11.6 +3.2
CRVS Cervenica-Dubn 102.90 8 PDIF Pdif 02 19 11.6 +3.2
CRVS *e*PP PP 02 23 18.8 -3.5
CRVS Cervenica-Dubn 102.90 8 *e*P PP 02 23 18.8 -3.5
comp=Z,69nm,2.1s
VRAC Vranov 102.96 5 PP PP 02 23 18.0 -4.8
comp=Z,2.0nm,0.5s,baz=182,slow=7.4,SNR=5.3
WLF Walferdange 103.14 358 PFAKE 02 19 20.0 +11
WLF LR LR
comp=Z,2µm,20.0s,MS5.6
GRF Grafenberg Arr 103.16 2 *e*L 03 05 19.3
comp=Z,3µm,20.0s
NIE Niedzica 103.32 8 *e*PKP PKiKP 02 23 22.7 -5.6
STHS Stebnicka Huta 103.39 8 *e*PP PP 02 23 23.9 -2.1
MORC Moravsky Berou 103.48 6 *e*Pdif Pdif 02 19 09.7 -1.3
MORC *e*PP PP 02 23 22.4 -4.3
MORC Moravsky Berou 103.48 6 *e*P Pdif 02 19 09.7 -1.3
MORC *e* 02 23 22.4
PRU Pruhonice 103.55 4 *e*PP PP 02 23 23.8 -3.4
PRU *ex* x 02 32 25.9
PRU *ex* x 02 38 01.5
PRU AMS AMS 02 59 40.0
comp=Z,1µm,24.3s
BAIF Baives 103.58 357 *e*P Pdif 02 19 10.8 -0.6
OKC Ostrava-Krasne 103.58 6 *e*PP PP 02 23 23.6 -3.8
OKC AMS AMS 03 01 40.0
comp=Z,1µm,20.5s
GIVF Givet 103.61 357 *e*P Pdif 02 19 10.7 -0.8
PRA Prague 103.62 4 AMS AMS 03 00 00.0
NKC Novy Kostel 103.72 2 *e*PP PP 02 23 25.2 -3.3
NKC AMS AMS 02 56 30.0
comp=Z,3µm,29.9s
KWP Kalwaria Pacla 103.74 9 PFAKE 02 19 20.0 +7.9
KWP LR LR
comp=Z,2µm,22.0s,MS5.7
KWP Kalwaria Pacla 103.74 9 ⇓P Pdif 02 19 18.9 +6.8
KWP Kalwaria Pacla 103.74 9 ⇓*i*P Pdif 02 19 18.9 +6.8
DPC Dobruska-Polom 103.99 5 *e*PP PP 02 23 29.4 -1.0
DPC AMS AMS 03 01 40.0
comp=Z,1µm,27.6s
OJC Ojcow 104.07 7 *e*P PKiKP 02 23 23.2 -6.4
PVCC Panska Ves 104.09 4 *e*PP PP 02 23 26.6 -4.6
PVCC *e*SS SS 02 38 10.6 -8.8
PVCC AMS AMS 02 58 50.0
comp=Z,1µm,23.7s
UPC Upice 104.13 5 *e*PP PP 02 23 25.3 -6.2
RAR Rarotonga 104.64 191 PFAKE 02 19 30.0 +14
RAR LR LR
comp=Z,2µm,21.0s,MS5.7

CMAR Chiang Mai Arr 104.72 79 PP PP 02 23 30.4 -5.9
comp=Z,0.8nm,0.3s,baz=225,slow=6.5,SNR=4.6
CMAR PKKP PKKPbc 02 35 17.4 +19
comp=Z,1.2nm,0.5s,baz=21,slow=3.9,SNR=5.3
CLL Collm 104.81 3 *e*P Pdif 02 19 18.0 +1.1
CLL *e* 02 23 34.0
CLL MLR MLR
comp=Z,2µm,20.5s,MS5.6
CLL Collm 104.81 3 *e*Pdif Pdif 02 19 18.0 +1.1
CLL *e* 02 19 26.0
CLL *e*PP PP 02 23 34.0 -2.6
CLL *e*PS PS 02 32 52.0 +2.6
CLL *e*PPS 02 33 43.0
CLL *e*PKKPdf PKKPdf 02 35 06.0 -3.8
CLL *e*SS SS 02 38 23.0 -6.3
CLL *e*SSS 02 42 24.0
CLL LmV 03 06 00.0
comp=N,700nm,20.6s
CLL LmV 03 06 00.0
comp=E,800nm,21.5s
CLL LmV 03 06 00.0
comp=Z,2µm,20.5s
TGUH Tegucigalpa,Un 104.83 274 PFAKE 02 19 30.0 +13
TGUH LR LR
comp=Z,1µm,19.0s,MS5.4
CHTO Chiang Mai 105.00 79 PFAKE 02 23 40.0 +7.7
CHTO LR LR
comp=Z,708nm,22.0s,MS5.2
KKM Kota Kinabalu 105.07 101 PFAKE 02 23 40.0 +7.3
KKM LR LR
comp=Z,673nm,19.0s,MS5.2
KIEV Kiev 105.53 13 *e*PP PP 02 23 38.7 -3.3
KIEV LR LR
comp=Z,1µm,19.0s,MS5.5
AKASG Malin Array Be 105.54 13 Pdiff Pdif 02 19 18.8 -1.4
comp=Z,0.2nm,0.2s,baz=188,slow=3.1,SNR=6.6
AKASG PP PP 02 23 35.1 -6.9
comp=Z,1.7nm,0.7s,baz=199,slow=7.5,SNR=12
AKASG PKKPab PKKPab 02 35 20.5 +10
comp=Z,0.4nm,0.4s,baz=355,slow=3.6,SNR=4.7
AKASG Malin Array Be 105.54 13 Pdif Pdif 02 19 18.8 -1.4
AKASG PP PP 02 23 35.1 -6.9
AKASG PKKPab PKKPab 02 35 20.5 +10
AKASG Malin Array Be 105.54 13 P Pdif 02 19 18.8 -1.4
AKBB Malin Array Si 105.54 13 *e*PKP PKiKP 02 23 30.4 -1.9
AKBB *e*PP PP 02 23 38.4 -3.6
PPT Papeete 106.53 201 *e*SKSac SKSac 02 30 03.2 -1.6
comp=Z,553nm,27.2s
PPT *e*Sdif Sdif 02 31 21.7 -3.0
comp=Z,459nm,27.5s
PPT *e*SP SP 02 33 06.6 +0.3
comp=Z,598nm,27.2s
PPT *e*SS SS 02 38 52.6 +1.4
comp=Z,3µm,27.8s
PPT *e*LQ 02 49 38.6
comp=Z,5µm,31.8s
PPT *e*LR LR 02 54 35.9
comp=Z,3µm,24.0s
BBSR BB Station 106.68 302 PFAKE 02 23 50.0 +15
BBSR LR LR
comp=Z,670nm,22.0s,MS5.2
PMG Port Moresby 107.82 136 PFAKE 02 23 50.0 +12
PMG LR LR
comp=Z,1µm,20.0s,MS5.5
MSVF Nonsavu 108.14 169 PFAKE 02 23 50.0 +12
MSVF LR LR
comp=Z,2µm,19.0s,MS5.7
LSA Lhasa 109.13 66 PFAKE 02 23 50.0 +10
LSA LR LR
comp=Z,2µm,20.0s,MS5.6
ESK Eskdalemuir 109.23 353 PFAKE 02 23 50.0 +11
ESK LR LR
comp=Z,2µm,21.0s,MS5.6
TEIG Tepich 110.24 277 PFAKE 02 23 50.0 +7.9
TEIG LR LR
comp=Z,599nm,19.0s,MS5.2
OBN Obninsk 110.95 17 PFAKE 02 23 50.0 +7.8
OBN LR LR
comp=Z,1µm,20.0s,MS5.4
OBN Obninsk 110.95 17⇓*i*PKIKP PKiKP 02 23 43.3 +1.1
OBN *i* 02 24 18.7
OBN *e*SS SS 02 39 51.6 -0.6
OBN pmax pmax
comp=Z,8.0nm,1.1s
OBN MLR MLR
comp=Z,1µm,21.0s,MS5.4
DAV Davao City (W) 111.28 108 PFAKE 02 24 00.0 +16
DAV LR LR
comp=Z,549nm,19.0s,MS5.2
ABKAR Akbulak array 111.36 33 *e*PKP PKiKP 02 23 42.2 -1.0
QIZ Qiongzhong 111.58 87 Pdif Pdif 02 19 46.4 -0.6
QIZ PP PP 02 24 24.3 -2.0
QIZ LR LR
comp=N,880nm,23.2s,MS5.3
QIZ LR LR
comp=E,280nm,22.7s,MS5.3
QIZ LR LR
comp=Z,1µm,23.0s,MS5.5
QIZ Qiongzhong 111.58 87 PFAKE 02 24 00.0 +15
QIZ LR LR
comp=Z,1µm,21.0s,MS5.5
AKTO Aktyubinsk 111.78 31 PKKP PKKPbc 02 34 54.0 +17
comp=Z,1.7nm,0.8s,baz=333,slow=2.3,SNR=4.5
TKM2 Tokmak 2 111.98 47 *e*PKPdf PKiKP 02 23 43.1 -1.5
TKM2 LR LR
comp=Z,1µm,20.0s,MS5.5
TKM2 Tokmak 2 111.98 47 *e*PKIKP PKiKP 02 23 43.1 -1.5
TKM2 MLR MLR
comp=Z,1µm,20.0s,MS5.5
KMI Kunming 112.11 77 PKP PKiKP 02 23 44.5 -1.0
TAOE Nuku Hiva Isla 112.28 213 *e*PP PP 02 24 20.9 -9.5
comp=Z,259nm,30.0s
TAOE *e*SS SS 02 40 15.0 +6.0
comp=Z,499nm,27.2s
TAOE *e*LR LR 02 57 06.6
comp=Z,1µm,30.6s
HNR Honiara 112.39 149 PFAKE 02 24 00.0 +14
HNR LR LR
comp=Z,624nm,21.0s,MS5.2
KONO Kongsberg 113.12 0 PFAKE 02 24 00.0 +14
KONO LR LR
comp=Z,1µm,20.0s,MS5.5
GYA Guiyang 115.40 79 Pdif Pdif 02 20 03.8 -0.2
GYA PKP PKPdf 02 23 51.8 +0.1
GYA PP PP 02 24 58.0 +4.6
GYA SS SS 02 40 54.9 +3.0
GYA AMB AMB
comp=Z,230nm,7.9s
GYA LR LR
comp=N,3µm,22.8s,MS6.0
GYA LR LR
comp=E,3µm,23.0s,MS6.0
GYA LR LR
comp=Z,3µm,21.9s,MS5.9
NHSC New Hope 115.43 292 PFAKE 02 24 00.0 +8.4
NHSC LR LR
comp=Z,1µm,20.0s,MS5.4
CD2 Chengdu 117.07 74 PKP PKPdf 02 23 57.5 +2.7
CD2 PKS 02 27 32.8
CD2 AMB AMB
comp=Z,150nm,8.3s
CD2 LR LR
comp=N,500nm,14.9s
CD2 LR LR
comp=Z,700nm,20.2s
ARU Arti 117.16 28 *e*PKPdf PKPdf 02 23 53.4 -0.7
ARU LR LR
comp=Z,1µm,20.0s,MS5.6
ARU Arti 117.16 28 *i* PKIKP PKPdf 02 23 53.5 -0.6
ARU 02 25 05.5
ARU 02 30 45.8
ARU SS SS 02 41 12.6 -1.6
FUNA Funafuti 117.36 169 PFAKE 02 24 10.0 +14
FUNA LR LR
comp=Z,6µm,19.0s,MS6.2
GOGA Godfrey 117.49 290 PFAKE 02 24 10.0 +14
GOGA LR LR
comp=Z,935nm,20.0s,MS5.4
CBN Corbin 117.73 297 PFAKE 02 24 10.0 +14
CBN LR LR
comp=Z,755nm,21.0s,MS5.3
BRAL Brewton 117.73 285 PFAKE 02 24 10.0 +14
BRAL LR LR
comp=Z,1µm,20.0s,MS5.6
MK31 Makanchi Array 117.96 48 *e*PKPdf PKPdf 02 23 54.5 -1.5

MK31 Makanchi Array 117.96 48 *e*PKIKP PKPdf 02 23 54.5 -1.5
MKAR Makanchi Array 117.96 48 PKP PKPdf 02 23 54.1 -1.8
comp=Z,4.0nm,0.8s,baz=239,slow=2.5,SNR=17
MKAR Makanchi Array 117.96 48 PKP PKPdf 02 23 54.1 -1.8
MKAR Makanchi Array 117.96 48 PKIKP PKPdf 02 23 54.1 -1.9
MKAR pmax pmax
comp=Z,4.0nm,0.8s
BRVK Borovoye 118.09 37 *e*PKPdf PKPdf 02 23 55.0 -1.0
BRVK LR LR
comp=Z,1µm,20.0s,MS5.5
BRVK Borovoye 118.09 37⇑*i*PKIKP PKPdf 02 23 55.4 -0.6
BRVK pmax pmax
comp=Z,8.0nm,0.8s
WMQ Urumqi 118.19 54 PKP PKPdf 02 23 57.6 +1.1
WMQ sPKP 02 24 02.1
WMQ PP PP 02 25 17.8 +5.0
WMQ SKKS SKKSac 02 32 09.8 -2.3
WMQ LR LR
comp=N,2µm,21.6s,MS5.6
WMQ LR LR
comp=E,550nm,21.6s,MS5.6
WMQ LR LR
comp=Z,720nm,30.2s
BLA Blacksburg 118.62 295 PFAKE 02 24 10.0 +12
BLA LR LR
comp=Z,1µm,22.0s,MS5.4
PKME Peaks-Kenny Pk 118.96 308 PFAKE 02 24 10.0 +12
PKME LR LR
comp=Z,668nm,19.0s,MS5.3
KURK Kurchatov 119.42 43 PKP PKPdf 02 23 56.1 -2.5
comp=Z,2.4nm,0.8s,baz=221,slow=2.4,SNR=15
KURK PP PP 02 25 20.7 -0.4
comp=Z,1.2nm,1.1s,baz=222,slow=6.7,SNR=2.9
KURK PKKPab PKKPab 02 34 11.3 +1.2
comp=Z,2.0nm,0.9s,baz=35,slow=3.5,SNR=8.9
KURK Kurchatov 119.42 43 PFAKE 02 24 10.0 +11
KURK LR LR
comp=Z,984nm,19.0s,MS5.5
KURK Kurchatov 119.42 43 PKIKP PKPdf 02 23 56.1 -2.5
KURK 02 25 20.7
KURK pmax pmax
comp=Z,2.0nm,0.8s
KURK pmax pmax
comp=Z,1.0nm,1.1s
KURK pmax pmax
comp=Z,2.0nm,1.0s
LBNH Lisbon 119.45 305 PFAKE 02 24 10.0 +11
LBNH LR LR
comp=Z,794nm,21.0s,MS5.3
ENH Enshi 119.90 79 PFAKE 02 24 10.0 +10
ENH LR LR
comp=Z,1µm,20.0s,MS5.5
BINY Binghamton 119.96 301 PFAKE 02 24 10.0 +10
BINY LR LR
comp=Z,712nm,20.0s,MS5.3
MCWV Mont Chateau 120.11 297 PFAKE 02 24 10.0 +10
MCWV LR LR
comp=Z,767nm,20.0s,MS5.3
NCB Newcomb 120.37 304 PFAKE 02 24 10.0 +9.3
NCB LR LR
comp=Z,824nm,20.0s,MS5.4
BORG Borgarnes 120.50 345 PFAKE 02 24 10.0 +10
BORG LR LR
comp=Z,3µm,19.0s,MS5.9
VBMS Vicksburg 120.61 284 PFAKE 02 24 10.0 +8.4
VBMS LR LR
comp=Z,551nm,22.0s,MS5.2
LZH Lanzhou 120.92 70 *e*PKP PKPdf 02 24 01.5 -0.5
LZH PP PP 02 25 35.0 +3.3
LZH PKS 02 27 37.3
LZH AMB AMB
comp=Z,290nm,5.4s
LZH LR LR
comp=N,440nm,17.3s,MS5.4
LZH LR LR
comp=E,700nm,18.5s,MS5.4
LZH LR LR
comp=Z,970nm,19.6s,MS5.5
LONY Lake Ozonia 121.02 304 PFAKE 02 24 10.0 +8.1
LONY LR LR
comp=Z,637nm,20.0s,MS5.3
GTA Gaotai 121.12 65 *e*PKP PKPdf 02 24 02.0 -0.3
GTA sPKP 02 24 08.4
GTA PP PP 02 25 35.6 +2.6
GTA PKS 02 27 37.9
GTA SKKS SKKSac 02 32 26.3 -5.3
GTA SS SS 02 42 06.6 +0.8
GTA AMB AMB
comp=Z,220nm,4.7s
GTA LR LR
comp=N,680nm,23.2s,MS5.5
GTA LR LR
comp=E,820nm,19.9s,MS5.5
GTA LR LR
comp=Z,1µm,22.8s,MS5.4
PLAL Pickwick Lake 121.23 288 PFAKE 02 24 10.0 +7.3
PLAL LR LR
comp=Z,662nm,22.0s,MS5.2
KVTX Kingsville 121.48 274 PFAKE 02 24 10.0 +6.6
KVTX LR LR
comp=Z,914nm,21.0s,MS5.4
OXF Oxford 121.64 286 PFAKE 02 24 10.0 +6.5
OXF LR LR
comp=Z,1µm,22.0s,MS5.5
WVT Waverly 121.92 289 *e*PKPdf PKPdf 02 24 01.6 -2.4
WVT Waverly 121.92 289 *e*PKIKP PKPdf 02 24 01.6 -2.4
ERPA Erie 121.95 299 PFAKE 02 24 10.0 +6.2
ERPA LR LR
comp=Z,762nm,22.0s,MS5.3
ACSO Alum Creek Sta 122.19 295 PFAKE 02 24 20.0 +16
ACSO LR LR
comp=Z,919nm,21.0s,MS5.4
XAN Xi'an 122.32 75 PKP PKPdf 02 24 01.6 -3.2
APA Apatity 122.45 11⇑*i*PKIKP PKPdf 02 24 00.0 -4.0
APA *i* PPP 02 28 28.0
APA *i* PS PS 02 35 28.0 -7.4
APA *i* SS SS 02 42 16.0 -6.0
APA pmax pmax
comp=Z,20nm,1.0s
APA MLR MLR
comp=Z,2µm,20.0s,MS5.8
WCI Wyandotte Cave 122.56 291 *e*PKPdf PKPdf 02 24 03.4 -1.8
WCI Wyandotte Cave 122.56 291 *e*PKIKP PKPdf 02 24 03.4 -1.7
NATX Nacogdoches 122.68 280 PFAKE 02 24 20.0 +14
NATX LR LR
comp=Z,549nm,21.0s,MS5.2
YHNB Yeheng 122.73 92 PFAKE 02 24 20.0 +14
YHNB LR LR
comp=Z,2µm,22.0s,MS5.7
LVZ Lovozero 122.91 11 PFAKE 02 24 20.0 +15
LVZ LR LR
comp=Z,2µm,20.0s,MS5.7
TATO Taipei 123.03 92 PFAKE 02 24 20.0 +14
TATO LR LR
comp=Z,1µm,20.0s,MS5.6
ARCES ARCESS Array B 123.64 7 PKP PKPdf 02 24 03.8 -2.4
comp=Z,4.9nm,0.8s,baz=186,slow=2.7,SNR=7.4
ARCES ARCESS Array B 123.64 7 PKP PKPdf 02 24 03.8 -2.4
ARCES ARCESS Array B 123.64 7 PKIKP PKPdf 02 24 03.8 -2.4
ARCES pmax pmax
comp=Z,5.0nm,0.8s
KEV Kevo 123.97 8 PFAKE 02 24 20.0 +13
KEV LR LR
comp=Z,2µm,21.0s,MS5.8
AAM Ann Arbor 124.01 297 PFAKE 02 24 20.0 +12
AAM LR LR
comp=Z,802nm,21.0s,MS5.4
MIAR Mount Ida 124.05 283 *e*PKPdf PKPdf 02 24 06.8 -1.3
MIAR LR LR
comp=Z,956nm,21.0s,MS5.4
MIAR Mount Ida 124.05 283 *e*PKIKP PKPdf 02 24 06.8 -1.3
MIAR MLR MLR
comp=Z,956nm,21.0s,MS5.4
ZAA0 Zalesovo Array 124.36 44 *e*PKPdf PKPdf 02 24 06.5 -1.6
ZALV Zalesovo Beam 124.36 44 PKP PKPdf 02 24 06.0 -2.0
comp=Z,2.6nm,0.8s,baz=245,slow=3.0,SNR=12
ZALV PKKPab 02 33 54.4
comp=Z,0.7nm,0.6s,baz=27,slow=3.9,SNR=3.2
ZALV Zalesovo Beam 124.36 44 PKP PKPdf 02 24 06.0 -2.0
ZALV PKKPab 02 33 54.4
ZALV Zalesovo Beam 124.36 44 PKIKP PKPdf 02 24 06.0 -2.0
ZALV pmax pmax
comp=Z,3.0nm,0.8s
ZALV pmax pmax
comp=Z,1.0nm,0.6s

JCT Junction City 124.77 275 *e*PKPdf PKPdf 02 24 08.6 -1.0
JCT LR LR
comp=Z,511nm,20.0s,MS5.2
JCT Junction City 124.77 275 *e*PKIKP PKPdf 02 24 08.6 -1.0
JCT MLR MLR
comp=Z,511nm,20.0s,MS5.2
SCHQ Schefferville 124.89 317 PKP PKPdf 02 24 07.9 -1.1
comp=Z,7.5nm,0.8s,baz=178,slow=1.9,SNR=5.9
SCHQ Schefferville 124.89 317 *e*PKPdf PKPdf 02 24 08.4 -0.6
SCHQ LR LR
comp=Z,3µm,22.0s,MS5.8
CCM Cathedral Cave 125.20 288 *e*PKPdf PKPdf 02 24 08.8 -1.4
CCM Cathedral Cave 125.20 288 *e*PKIKP PKPdf 02 24 08.8 -1.4
HDIL Hopedale 125.85 291 PFAKE 02 24 20.0 +8.7
HDIL LR LR
comp=Z,689nm,20.0s,MS5.3
TARA Tarawa 126.08 160 PFAKE 02 24 20.0 +7.3
TARA LR LR
comp=Z,5µm,21.0s,MS6.2
TXAR Lajitas Array 126.22 271 PKP PKPdf 02 24 11.4 -1.1
comp=Z,6.0nm,1.0s,baz=131,slow=2.7,SNR=31
TXAR Lajitas Array 126.22 271 PKP PKPdf 02 24 11.3 -1.1
TXAR Lajitas Array 126.22 271 PKIKP PKPdf 02 24 11.4 -1.0
TXAR pmax pmax
comp=Z,6.0nm,1.0s
GLMI Grayling 126.25 298 PFAKE 02 24 20.0 +8.0
GLMI LR LR
comp=Z,1µm,20.0s,MS5.5
NJ2 Nanjing 126.68 84 *e*PKP PKPdf 02 24 10.8 -2.4
NJ2 PP PP 02 26 13.0 +2.5
NJ2 AMB AMB
comp=Z,230nm,6.6s
NJ2 LR LR
comp=N,230nm,18.0s,MS5.2
NJ2 LR LR
comp=E,410nm,22.2s,MS5.2
NJ2 LR LR
comp=Z,370nm,17.0s
XMAS Kiritimati 127.17 197 PFAKE 02 24 30.0 +15
XMAS LR LR
comp=Z,1µm,19.0s,MS5.6
WMOK Wichita Mounta 127.22 280 *e*PKPdf PKPdf 02 24 13.4 -0.7
WMOK LR LR
comp=Z,521nm,20.0s,MS5.2
WMOK Wichita Mounta 127.22 280 *e*PKIKP PKPdf 02 24 13.4 -0.8
WMOK MLR MLR
comp=Z,521nm,20.0s,MS5.2
JFWS Jewell Farm 127.98 293 PFAKE 02 24 30.0 +15
JFWS LR LR
comp=Z,685nm,21.0s,MS5.3
SFJD Kangerlussuaq 128.47 334 PFAKE 02 24 30.0 +14
SFJD LR LR
comp=Z,1µm,21.0s,MS5.5
HHC Hu-ho-hao-te 128.57 71 *e*PKP PKPdf 02 24 18.9 +2.4
HHC PP PP 02 26 26.8 +3.9
HHC LR LR
comp=N,410nm,17.8s,MS5.2
HHC LR LR
comp=E,280nm,17.4s,MS5.2
HHC LR LR
comp=Z,550nm,20.1s,MS5.2
SCIA State Center 128.94 290 PFAKE 02 24 30.0 +13
SCIA LR LR
comp=Z,615nm,19.0s,MS5.3
KSU1 Kansas State U 128.97 285 PFAKE 02 24 30.0 +13
KSU1 LR LR
comp=Z,740nm,22.0s,MS5.3
CPRX Cap Rock 129.00 274 *e*PKPdf PKPdf 02 24 16.1 -1.5
AMTX Amarillo 129.02 278 *e*PKPdf PKPdf 02 24 17.1 -0.5
AMTX LR LR
comp=Z,801nm,22.0s,MS5.4
SUMG Summit 130.30 343 *e*PKPdf PKPdf 02 24 18.7 -0.1
SUMG Summit 130.30 343 *e*PKIKP PKPdf 02 24 18.7 -0.1
SUMG Summit 130.30 343 *i* P PKPdf 02 24 18.6 -0.2
comp=Z,13nm,1.0s
SONM Songino Array 130.35 61 PKP PKPdf 02 24 19.0 -0.6
comp=Z,1.4nm,0.7s,baz=231,slow=2.7,SNR=6.9
SONM PP PP 02 26 31.4 -3.0
comp=Z,0.5nm,0.7s,baz=262,slow=7.1,SNR=3.8
SONM Songino Array 130.35 61 PKP PKPdf 02 24 19.0 -0.6
SONM PP PP 02 26 31.4 -2.9
SONM Songino Array 130.35 61 PKIKP PKPdf 02 24 19.0 -0.7
SONM 02 26 31.4
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM pmax pmax
comp=Z,1.0nm,0.7s
ZAK Zakamensk 130.38 57 *e*PKIKP PKPdf 02 24 15.0 -4.6
ZAK pmax pmax
comp=Z,4.0nm,1.2s
CBKS Cedar Bluff 130.57 283 *e*PKPdf PKPdf 02 24 19.6 -0.8
CBKS LR LR
comp=Z,1µm,21.0s,MS5.6
CBKS Cedar Bluff 130.57 283 *e*PKIKP PKPdf 02 24 19.6 -0.8
CBKS MLR MLR
comp=Z,1µm,21.0s,MS5.6
BJT Baijiatuau 130.63 75 PFAKE 02 24 30.0 +10
BJT LR LR
comp=Z,777nm,21.0s,MS5.4
BJI Beijing 130.65 75 PKP PKPdf 02 24 20.3 -0.2
BJI SS SS 02 44 08.4 +3.1
BJI LR LR
comp=N,450nm,17.5s,MS5.3
BJI LR LR
comp=E,340nm,22.5s,MS5.3
BJI LR LR
comp=Z,610nm,28.8s
ULN Ulaanbaatar 130.71 62 PFAKE 02 24 30.0 +10
ULN LR LR
comp=Z,945nm,21.0s,MS5.5
TLY Talaya 131.37 56 PFAKE 02 24 30.0 +8.5
TLY LR LR
comp=Z,951nm,19.0s,MS5.5
BNM Barren Site 131.42 273 *e*PKPdf PKPdf 02 24 22.3 +0.1
LPM Los Pinos Moun 131.54 274 *e*PKPdf PKPdf 02 24 22.9 +0.5
ANMO Albuquerque 131.88 274 *e*PKPdf PKPdf 02 24 23.1 +0.1
ANMO LR LR
comp=Z,1µm,22.0s,MS5.5
ANMO Albuquerque 131.88 274 *e*PKIKP PKPdf 02 24 23.1 +0.1
ANMO MLR MLR
comp=Z,1µm,22.0s
EYMN Ely 131.90 297 PFAKE 02 24 30.0 +7.4
EYMN LR LR
comp=Z,985nm,22.0s,MS5.5
LAZ Ladron 131.90 273 *e*PKPdf PKPdf 02 24 22.4 -0.6
ECSD EROS Data Cent 132.02 290 *e*PKPdf PKPdf 02 24 22.3 -0.7
ECSD *e*SKP 02 27 47.9
ECSD LR LR
comp=Z,733nm,21.0s,MS5.4
KBS Kingsbay 132.50 1 PFAKE 02 24 30.0 +7.1
KBS LR LR
comp=Z,2µm,22.0s,MS5.7
TUC Tucson 132.59 268 *e*PKPdf PKPdf 02 24 23.9 -0.5
TUC *e*SKPbc SKPbc 02 27 50.4 -0.9
TUC LR LR
comp=Z,784nm,22.0s,MS5.4
TUC Tucson 132.59 268 *e*PKIKP PKPdf 02 24 23.9 -0.5
TUC MLR MLR
comp=Z,784nm,22.0s,MS5.4
SDCO Great Sand Dun 133.22 278 *e*PKPdf PKPdf 02 24 25.9 +0.5
SDCO *e*PP PP 02 26 50.9 -2.1
SDCO LR LR
comp=Z,721nm,19.0s,MS5.4
OGNE Ogallala 133.31 283 *e*PKPdf PKPdf 02 24 21.1 -4.4
OGNE LR LR
comp=Z,2µm,22.0s,MS5.7
AGMN Agassiz Nation 134.43 295 PFAKE 02 24 40.0 +13
AGMN LR LR
comp=Z,997nm,20.0s,MS5.5
MVCO Mesa Verde 134.63 275 *e*PKPdf PKPdf 02 24 27.2 -0.9
MVCO *e*PP PP 02 27 00.4 -1.5
MVCO LR LR
comp=Z,880nm,20.0s,MS5.5
ISCO Idaho Springs 134.64 280 *e*PKPdf PKPdf 02 24 29.9 +1.9
ISCO *e*PP PP 02 27 01.5 -0.5
ISCO LR LR
comp=Z,982nm,20.0s,MS5.5
ISCO Idaho Springs 134.64 280 *e*PKIKP PKPdf 02 24 29.9 +1.9
ISCO *e* 02 27 01.5
ISCO MLR MLR
comp=Z,982nm,20.0s,MS5.5
INCN Inchon 135.05 85 PFAKE 02 24 40.0 +11
INCN LR LR
comp=Z,682nm,20.0s,MS5.4
WUAZ Wupatki 135.18 271 *e*PKPdf PKPdf 02 24 30.1 +0.9
WUAZ LR LR
comp=Z,802nm,21.0s,MS5.4
PV01 Paradox Valley 135.28 276 *e*PKPdf PKPdf 02 24 27.1 -2.2
PV01 *e*PP PP 02 27 01.0 -5.1
ULM Lac du Bonnet 135.58 297 PKP PKPdf 02 24 27.1 -2.3
comp=Z,6.1nm,1.0s,baz=12,slow=0.5,SNR=4.9
ULM Lac du Bonnet 135.58 297 *e*PKPdf PKPdf 02 24 27.4 -2.0
ULM LR LR
comp=Z,1µm,20.0s,MS5.6
ULM Lac du Bonnet 135.58 297 *e*PKIKP PKPdf 02 24 27.4 -2.0
ULM MLR MLR
comp=Z,1µm,20.0s
PV04 Paradox Valley 135.65 276 *e*PKPdf PKPdf 02 24 31.0 +1.1
KSRS Korea Array 135.79 86 PKP PKPdf 02 24 29.4 -0.9
comp=Z,2.4nm,0.8s,baz=122,slow=39,SNR=4.3
KSRS PP PP 02 27 06.4 -2.9
comp=Z,0.7nm,0.4s,baz=234,slow=7.4,SNR=4.1
KSRS Korea Array 135.79 86 PKIKP PKPdf 02 24 29.4 -0.9
KSRS 02 27 06.4
KSRS pmax pmax
comp=Z,2.0nm,0.8s
KSRS pmax pmax
comp=Z,1.0nm,0.4s
SNY Shenyang 136.08 78 ⇑PKP PKPdf 02 24 25.0 -5.7
RSSD Black Hills 136.46 286 *e*PKPpre PKPpre 02 24 21.2
RSSD *e*PKPdf PKPdf 02 24 30.6 -0.7
RSSD Black Hills 136.46 286 *e*PKHKP PKPpre 02 24 21.2
RSSD *e* 02 24 30.6
RWWY Rawlins 136.78 281 *e*PKPdf PKPdf 02 24 31.1 -0.9
PFO Pinyon Flat Ob 136.86 265 PFAKE 02 24 40.0 +7.6
PFO LR LR
comp=Z,569nm,19.0s,MS5.3
SRU San Rafael 137.08 275 *e*PKPdf PKPdf 02 24 32.2 -0.4
SRU San Rafael 137.08 275 *e*PKIKP PKPdf 02 24 32.2 -0.4
TMUT Trail Mountain 137.60 275 *e*PKPdf PKPdf 02 24 34.0 +0.4
MSU Marysvale 137.67 274 *e*PKPdf PKPdf 02 24 34.2 +0.5
MSU Marysvale 137.67 274 *e*PKIKP PKPdf 02 24 34.2 +0.5
MVU Marysvale 137.68 274 PFAKE 02 24 50.0 +16
MVU LR LR
comp=Z,972nm,21.0s,MS5.5
CCUT Cedar City 137.73 272 *e*PKPdf PKPdf 02 24 33.8 -0.1
ARUT Antelope Range 137.94 272 *e*PKPdf PKPdf 02 24 32.8 -1.5
ARUT Antelope Range 137.94 272 *e*PKIKP PKPdf 02 24 32.8 -1.4
GSC Goldstone 138.25 266 *e*PKPdf PKPdf 02 24 35.8 +0.9
GSC Goldstone 138.25 266 *e*PKIKP PKPdf 02 24 35.8 +0.9
HIA Hailar 138.32 67 PFAKE 02 24 50.0 +15
HIA LR LR
comp=Z,1µm,21.0s,MS5.6
MPU Maple Canyon 138.32 276 *e*PKPdf PKPdf 02 24 36.0 +1.1
DAU Daniels Canyon 138.35 276 *e*PKPdf PKPdf 02 24 34.9 0.0
DAU Daniels Canyon 138.35 276 *e*PKIKP PKPdf 02 24 34.9 0.0
NLU North Lily Min 138.54 275 *e*PKPdf PKPdf 02 24 35.0 -0.3
BW06 Boulder Array 138.82 280 *e*PKPpre PKPpre 02 24 25.6
BW06 *e*PKPdf PKPdf 02 24 34.7 -1.0
BW06 LR LR
comp=Z,1µm,22.0s,MS5.6
PDAR Pinedale Array 138.82 280 PKhKP PKPpre 02 24 31.7
comp=Z,6.4nm,0.9s,baz=133,slow=4.0,SNR=14
PDAR Pinedale Array 138.82 280 PKP PKPpre 02 24 31.7
PD02 Pinedale Array 138.83 280 *e*PKPpre PKPpre 02 24 24.1
PD02 *e*PKPdf PKPdf 02 24 34.9 -0.8
PD01 Pinedale Array 138.84 280 *e*PKPpre PKPpre 02 24 30.8
PD01 *e*PKPdf PKPdf 02 24 34.9 -0.8
DGMT Dagmar 139.08 291 *e*PKPdf PKPdf 02 24 34.9 -1.1
DGMT LR LR
comp=Z,716nm,19.0s,MS5.4
DUG Dugway 139.13 275 *e*PKPdf PKPdf 02 24 36.6 +0.3
DUG LR LR
comp=Z,783nm,19.0s,MS5.5
DUG Dugway 139.13 275 *e*PKIKP PKPdf 02 24 36.6 +0.3
DUG MLR MLR
comp=Z,783nm,19.0s,MS5.5
LAO LASA Array 139.21 287 *e*PKPdf PKPdf 02 24 34.9 -1.4
LAO LR LR
comp=Z,766nm,22.0s,MS5.4
HWUT Hardware Ranch 139.28 278 *e*PKPpre PKPpre 02 24 25.6
HWUT *e*PKPdf PKPdf 02 24 35.4 -1.2
HWUT LR LR
comp=Z,1µm,20.0s,MS5.6
DAC Darwin (Calif) 139.38 267 PFAKE 02 24 50.0 +13
DAC LR LR
comp=Z,755nm,21.0s,MS5.4
BGU Big Grassy Mou 139.72 276 *e*PKPdf PKPdf 02 24 37.5 +0.1
AHID Auburn Hatcher 139.72 279 *e*PKPdf PKPdf 02 24 37.3 0.0
AHID LR LR
comp=Z,819nm,20.0s,MS5.5
SNOW Snow King Moun 139.94 280 *e*PKPdf PKPdf 02 24 36.9 -0.8
LOHW Long Hollow 139.94 281 *e*PKPdf PKPdf 02 24 35.0 -2.7
RLMT Red Lodge 140.05 284 *e*PKPdf PKPdf 02 24 36.5 -1.4
RLMT *e*SKP 02 28 11.5
RLMT *e*SKPab 02 28 22.4
RLMT LR LR
comp=Z,1µm,21.0s,MS5.6
TPAW Teton Pass 140.07 280 *e*PKPdf PKPdf 02 24 38.4 +0.4
HVU Hansel Valley 140.10 277 *e*PKPdf PKPdf 02 24 37.0 -1.1
HVU *e*PKPdf PKPdf 02 24 38.1 0.0
HVU Hansel Valley 140.10 277 *e*PKIKP PKPdf 02 24 37.0 -1.1
HVU *e* 02 24 38.1
MOOW Moose Ponds 140.10 281 *e*PKPdf PKPdf 02 24 37.6 -0.4
MOOW *e*PKPdf PKPdf 02 24 38.9 +0.9
TPH Tonopah 140.37 269 PFAKE 02 24 50.0 +11
TPH LR LR
comp=Z,794nm,20.0s,MS5.5
LKWY Lake 140.38 282 PFAKE 02 24 50.0 +12
LKWY LR LR
comp=Z,1µm,22.0s,MS5.6
YFT Old Faithful 140.57 282 *e*PKPdf PKPdf 02 24 39.9 +1.1
MTUM Tungsten Hills 140.68 267 *e*PKPdf PKPdf 02 24 41.7 +2.4
FFC Flin Flon 141.11 300 *e*PKPdf PKPdf 02 24 39.7 +0.3
FFC LR LR
comp=Z,1µm,20.0s,MS5.7
FFC Flin Flon 141.11 300 *e*PKIKP PKPdf 02 24 39.7 +0.3
FFC MLR MLR
comp=Z,1µm,20.0s,MS5.7
NVAR Mina Array Bea 141.24 269 PKhKP PKPpre 02 24 34.6
comp=Z,3.0nm,0.8s,baz=131,slow=3.7,SNR=11
NVAR Mina Array Bea 141.24 269 PKP PKPpre 02 24 34.6
MDJ Mudanjiang 141.26 79 PKP PKPdf 02 24 39.8 -0.3
MDJ pPKP pPKPdf 02 24 43.3 -0.2
MDJ sPKP 02 24 44.5
MDJ PKS 02 28 13.5
MDJ SKS SKSdf 02 31 48.3 -1.4
MDJ SS SS 02 46 14.8 +2.7
MDJ LR LR
comp=N,240nm,23.1s,MS5.3
MDJ LR LR
comp=E,620nm,21.1s,MS5.3
MDJ LR LR
comp=Z,610nm,27.1s
MDJ Mudanjiang 141.26 79 PFAKE 02 24 50.0 +10
MDJ LR LR
comp=Z,670nm,20.0s,MS5.4
MAJO Matsushiro 141.27 95 PFAKE 02 24 50.0 +10
MAJO LR LR
comp=Z,743nm,20.0s,MS5.4
MJAR Matsushiro Arr 141.27 95 PKP PKPdf 02 24 39.6 -0.8
comp=Z,0.5nm,0.3s,baz=143,slow=1.5,SNR=4.3
MJAR Matsushiro Arr 141.27 95 PKP PKPdf 02 24 39.6 -0.8
MJAR Matsushiro Arr 141.27 95 PKIKP PKPdf 02 24 39.6 -0.7
MJAR pmax pmax
comp=Z,1.0nm,0.3s
BOZ Bozeman (W) 141.72 283 *e*PKPdf PKPdf 02 24 36.4 -4.4
BOZ LR LR
comp=Z,684nm,19.0s,MS5.4
BOZ Bozeman (W) 141.72 283 *e*PKIKP PKPdf 02 24 36.4 -4.4
BOZ MLR MLR
comp=Z,684nm,19.0s,MS5.4
BMN Battle Mountai 141.89 272 PFAKE 02 24 50.0 +8.7
BMN LR LR
comp=Z,833nm,22.0s,MS5.5
EGMT Eagleton 141.95 287 *e*PKPdf PKPdf 02 24 37.0 -4.1
EGMT LR LR
comp=Z,1µm,22.0s,MS5.7
DLMT Dillon 142.12 282 *e*PKPdf PKPdf 02 24 38.4 -3.1
HLID Hailey 142.14 278 *e*PKPdf PKPdf 02 24 37.8 -3.9
HLID *e*PKPdf PKPdf 02 24 38.6 -3.0
HLID LR LR
comp=Z,813nm,21.0s,MS5.5
CMB Columbia Colle 142.22 266 *e*PKPdf PKPdf 02 24 38.7 -3.3
CMB Columbia Colle 142.22 266 *e*PKIKP PKPdf 02 24 38.7 -3.3
LRM Limekiln Ridge 142.29 282 *e*PKPdf PKPdf 02 24 41.0 -0.8
WCN Washoe City 142.67 268 *e*PKPdf PKPdf 02 24 42.1 -0.7
WCN Washoe City 142.67 268 *e*PKIKP PKPdf 02 24 42.1 -0.7
MFID Camas Ranch 142.88 277 *e*PKPdf PKPdf 02 24 39.0 -3.9
CHMT Chamberlain Mo 143.36 283 *e*PKPdf PKPdf 02 24 41.6 -2.1
SLMT Seeley Lake 143.67 284 *e*PKPdf PKPdf 02 24 41.4 -2.9
MSO Missoula 143.71 283 *e*PKPdf PKPdf 02 24 41.4 -2.9
MSO LR LR
comp=Z,690nm,20.0s,MS5.4
OHCM Honcut 143.72 267 *e*PKPdf PKPdf 02 24 42.1 -2.5
POHA Pohakuloa 143.94 205 PFAKE 02 25 00.0 +14
POHA LR LR
comp=Z,5µm,19.0s,MS6.3
WVOR Wild Horse Val 143.96 273 *e*PKPdf PKPdf 02 24 43.0 -1.9
WVOR LR LR
comp=Z,1µm,20.0s,MS5.6
WVOR Wild Horse Val 143.96 273 *e*PKIKP PKPdf 02 24 43.0 -1.9
WVOR MLR MLR
comp=Z,1µm,20.0s,MS5.6
SWMT Swartz Lake 144.10 284 *e*PKPdf PKPdf 02 24 42.3 -2.7
YBMT Yellow Bay 144.30 284 *e*PKPdf PKPdf 02 24 42.8 -2.5
JTMT Jette 144.39 284 *e*PKPdf PKPdf 02 24 43.4 -2.1
RES Resolute Bay 144.47 334 *e*PKPdf PKPdf 02 24 43.0 -1.9
RES Resolute Bay 144.47 334 *e*PKIKP PKPdf 02 24 43.0 -1.9
BMO Blue Mountains 144.58 278 *e*PKPdf PKPdf 02 24 43.8 -2.1
BMO LR LR
comp=Z,899nm,22.0s,MS5.5
BMO Blue Mountains 144.58 278 *e*PKIKP PKPdf 02 24 43.8 -2.1
BMO MLR MLR
comp=Z,899nm,22.0s,MS5.5
MOD Modoc 144.62 271 *e*PKPdf PKPdf 02 24 45.1 -1.0
CLNS Chul'man 144.66 59 *e*PKIKP PKPdf 02 24 44.1 -1.5
CLNS pmax pmax
comp=Z,38nm,0.9s
CLNS pmax pmax
comp=N,3.0nm,0.8s
CLNS pmax pmax
comp=E,15nm,1.0s
BSMT Bassoo Peak 144.74 284 *e*PKPdf PKPdf 02 24 44.4 -1.7
WALA Waterton Lakes 144.85 286 *e*PKPdf PKPdf 02 24 44.8 -1.4
KLR Kul'dur 145.00 74 ⇓*i*PKHKP PKPpre 02 24 41.1
KLR pmax pmax
comp=Z,100nm,1.8s
WDC Whiskeytown Da 145.13 268 *e*PKPbc PKPbc 02 24 44.9 -1.7
WDC Whiskeytown Da 145.13 268 *e*PKP2 PKPbc 02 24 44.9 -1.7
KCPM Cahto Peak 145.18 266 *e*PKPdf PKPdf 02 24 49.4 +2.3
KIPM Iron Peak 145.20 266 *e*PKPbc PKPbc 02 24 45.6 -1.2
HOG Hogback Mounta 145.66 271 P PKPdf 02 24 48.4 +0.5
LNOR Lincton Mounta 145.72 279 *e*PKPdf PKPdf 02 24 47.4 -0.5
LNOR Lincton Mounta 145.72 279 *e*PKP2 PKPdf 02 24 47.4 -0.4
YBH Yreka Blue Hor 145.95 269 *e*PKPdf PKPdf 02 24 48.4 0.0
YBH Yreka Blue Hor 145.95 269 *e*PKP2 PKPdf 02 24 48.4 0.0
KHMM Horse Mountain 146.02 267 *e*PKPbc PKPbc 02 24 50.0 +0.6
KIP Kipapa 146.14 202 *c i*PKP2 PKPab 02 24 52.7 +1.8
NEW Newport 146.30 283 *e*PKPbc PKPdf 02 24 46.6 -2.1
NEW LR LR
comp=Z,1µm,20.0s,MS5.7
NEW Newport 146.30 283 *e*PKIKP PKPdf 02 24 46.7 -2.0
NEW MLR MLR
comp=Z,1µm,20.0s
VIPM Ingram Point 146.34 275 P PKPbc 02 24 50.4 +0.2
VIPM Ingram Point 146.34 275 PKP2 PKPbc 02 24 50.4 +0.2
KRMB Red Mountain 146.53 268 *e*PKPbc PKPbc 02 24 51.4 +0.5
HUMO Hull Mountain 146.62 270 *e*PKPbc PKPbc 02 24 50.5 -0.6
WRD Warden 146.72 279 P PKPbc 02 24 51.5 +0.3
HAWA Hanford 146.73 279 *e*PKPbc PKPbc 02 24 50.5 -0.8
HAWA LR LR
comp=Z,1µm,22.0s,MS5.7
RSW Rattlesnake Hi 146.77 279 *e*PKPbc PKPbc 02 24 51.4 0.0
OD2 Odessa Site #2 146.77 281 *e*PKPbc PKPbc 02 24 50.6 -0.8
HOOD Mount Hood Mea 147.40 275 *e*PKPbc PKPbc 02 24 53.1 -0.1
ERM Erimo 147.73 93 PFAKE 02 25 00.0 +8.6
ERM LR LR
comp=Z,819nm,21.0s,MS5.5
ETW Entiat 147.83 280 *e*PKPbc PKPbc 02 24 53.7 -0.6
ETW *e*PP PP 02 28 19.2 -3.1
COR Corvallis 147.97 273 *e*PKPbc PKPdf 02 24 52.2 +0.6
COR Corvallis 147.97 273 *e*PKIKP PKPdf 02 24 52.2 +0.5
LON Longmire 148.26 278 *e*PKPbc PKPdf 02 24 54.4 +2.3
LON Longmire 148.26 278 *e*PKP2 PKPdf 02 24 54.4 +2.3
YAK Yakutsk 148.58 51 *e*PKPbc PKPdf 02 24 54.5 +2.4
YAK LR LR
comp=Z,922nm,20.0s,MS5.6
YAK Yakutsk 148.58 51 *e*PKP2 PKPdf 02 24 54.3 +2.2
RPW Rockport 148.94 281 *e*PKPbc PKPbc 02 24 56.6 -0.6
BMW Boistfort Moun 148.95 276 *e*PKPdf PKPdf 02 24 53.2 0.0
BMW Boistfort Moun 148.95 276 *e*PKIKP PKPdf 02 24 53.2 0.0
JCW Jim Creek 149.05 280 *e*PKPbc PKPbc 02 24 56.3 -1.1
JCW *e*PKPab PKPab 02 25 00.5 -1.3
GNW Green Mountain 149.27 278 *e*PKPbc PKPbc 02 24 57.6 -0.4
GNW *e*PKPab PKPab 02 25 01.9 -0.8
NLWA Neilton Lookou 149.79 277 *e*PKPbc PKPbc 02 24 59.5 +0.2
NLWA LR LR
comp=Z,1µm,20.0s,MS5.8
YKA Yellowknife Ar 149.89 309 PKPbc PKPbc 02 24 57.4 -1.6
comp=Z,36nm,0.8s,baz=98,slow=2.7,SNR=56
YKA Yellowknife Ar 149.89 309 PKPbc PKPbc 02 24 57.4 -1.6
YKA Yellowknife Ar 149.89 309 PKHKP PKPbc 02 24 57.4 -1.6
YKA pmax pmax
comp=Z,36nm,0.8s
OSD Olympics--Snow 149.91 278 P PKPbc 02 25 00.1 +0.6
PGC Sidney 150.16 280 *e*PKPab PKPab 02 25 05.6 -0.7
YSS Yuzh-Sakhalins 150.25 84 *e*PKPbc PKPbc 02 24 59.2 -1.2
YSS LR LR
comp=Z,385nm,19.0s,MS5.2
YSS Yuzh-Sakhalins 150.25 84 *e*PKIKP PKPbc 02 25 02.6 +2.2
YSS pmax pmax
comp=Z,50nm,1.2s
INK Inuvik 157.25 324 PKP PKPdf 02 25 03.1 -1.4
comp=Z,3.5nm,1.1s,baz=48,slow=2.9,SNR=5.5
INK PKPab PKPab 02 25 32.8 -3.0
comp=Z,9.9nm,1.2s,baz=42,slow=3.8,SNR=5.2
INK Inuvik 157.25 324 *e*PKPdf PKPdf 02 25 03.7 -0.8
INK Inuvik 157.25 324 PKIKP PKPdf 02 25 03.1 -1.4
INK 02 25 32.8
INK pmax pmax
comp=Z,4.0nm,1.1s
INK pmax pmax
comp=Z,10.0nm,1.2s
WRAK Wrangell Islan 157.87 292 PFAKE 02 25 20.0 +14
WRAK LR LR
comp=Z,2µm,20.0s,MS5.9
EGAK Eagle 161.38 318 *e*PKPdf PKPdf 02 25 08.7 -0.7
EGAK *e*PKPab PKPab 02 25 52.0 -1.9
EGAK LR LR
comp=Z,995nm,19.0s
PET Petropavlovsk 162.04 80 PFAKE 02 25 20.0 +10
PET LR LR
comp=Z,1µm,20.0s
BILL Bilibino 162.18 28 *e*PKPdf PKPdf 02 25 07.9 -2.2
BILL *e*PKPab PKPab 02 25 54.1 -3.1
BILL LR LR
comp=Z,1µm,22.0s
BILL Bilibino 162.18 28 *e*PKIKP PKPdf 02 25 07.0 -3.2
BILL *e* 02 29 42.5
BILL pmax pmax
comp=Z,19nm,2.4s
ILAR Eielson Array 163.59 321 PKP PKPdf 02 25 13.4 +1.8
comp=Z,1.8nm,1.0s,baz=327,slow=1.4,SNR=11
ILAR PKPab PKPab 02 26 02.1 -1.3
comp=Z,2.1nm,0.9s,baz=32,slow=2.4,SNR=7.2
ILAR PP PP 02 29 45.0 -4.5
comp=Z,1.3nm,1.0s,baz=43,slow=6.8,SNR=4.3
ILAR Eielson Array 163.59 321 PKP PKPdf 02 25 13.4 +1.8
ILAR PKPab PKPab 02 26 02.1 -1.3
ILAR PP PP 02 29 45.0 -4.5
ILAR Eielson Array 163.59 321 PKIKP PKPdf 02 25 13.4 +1.8
ILAR 02 26 02.2
ILAR 02 29 45.0
ILAR pmax pmax
comp=Z,2.0nm,1.0s
ILAR pmax pmax
comp=Z,2.0nm,0.9s
ILAR pmax pmax
comp=Z,1.0nm,1.0s
COLA College 163.89 323 *e*PKPdf PKPdf 02 25 10.0 -1.9
COLA LR LR
comp=Z,1µm,22.0s
COLA College 163.89 323 *e*PKIKP PKPdf 02 25 10.0 -1.9
COLA MLR MLR
comp=Z,1µm,22.0s
KDAK Kodiak Island 168.84 298 PFAKE 02 25 30.0 +14
KDAK LR LR
comp=Z,1µm,19.0s

*IDC **14** 02:19:46.2±1.4, 6°.72S×129°.51E, h0km, mb3.8/4, mb1 3.8/7, mb1mx3.7/19, mbtmp3.7/7, ML3.8/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/28, Error ellipse: s-maj=72.7km s-min=26.0km az=79.0*

*NEIC **14** 02:19:58.1±6.2, 7°.21S×129°.17E, h106km±69km, mb3.9/2, Error ellipse: s-maj=46.4km s-min=21.8km az=179.0*

ISC 14 02:20:00.6±4.4, 7°.3S±0°.2×129°.3E±0°.1, h137km±48km, n16, σ1§06/22, mb3.6/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.31**	**198**	Pn		**Pn**		**02 22 36.9**	**-1.4**
	0.5nm,0.3s,baz=19,slow=12,SNR=9.8								
FITZ				Sn		**Sn**		**02 24 44.5**	**+1.3**
	0.5nm,0.3s,baz=38,slow=19,SNR=3.9								
FITZ				LR		LR		02 27 41.2	
	comp=Z,108nm,18.3s,baz=214,slow=40								
FITZ	**Fitzroy Crossi**	**11.31**	**198**	Pn		**Pn**		**02 22 36.9**	**-1.4**
FITZ				Sn		**Sn**		**02 24 44.5**	**+1.3**
FITZ				LR		LR		02 27 41.2	
WRA	**Warramunga Arr**	**13.52**	**159**	Pn		**Pn**		**02 23 06.4**	**-0.6**
	0.5nm,0.3s,baz=337,slow=12,SNR=12								
WRA				Sn		**Sn**		**02 25 36.4**	**0.0**
	0.3nm,0.3s,baz=334,slow=22,SNR=5.9								
WRA	**Warramunga Arr**	**13.52**	**159**	Pn		**Pn**		**02 23 06.4**	**-0.6**
WRA				Sn		**Sn**		**02 25 36.4**	**0.0**
COEN	**Coen**	**15.21**	**117**	*eP*		**Pn**		**02 23 29.0**	**+0.7**
ASAR	**Alice Springs**	**16.89**	**165**	Pn		**Pn**		**02 23 50.2**	**+1.3**
	baz=341,slow=13,SNR=3.7								
ASAR				Sn		**Sn**		**02 26 56.5**	**-1.0**
	0.1nm,0.3s,baz=342,slow=24,SNR=2.8								
ASAR	**Alice Springs**	**16.89**	**165**	Pn		**Pn**		**02 23 50.2**	**+1.3**
ASAR				Sn		**Sn**		**02 26 56.5**	**-1.0**
MKAR	**Makanchi Array**	**68.05**	**327**	P		**P**		**02 30 46.4**	**+1.1**
	0.4nm,0.6s,mb3.3,baz=115,slow=7.1,SNR=3.1								
MKAR	**Makanchi Array**	**68.05**	**327**	P		**P**		**02 30 46.4**	**+1.1**
TKM2	**Tokmak 2**	**69.73**	**321**	*eP*		**P**		**02 30 53.8**	**-2.0**
	1.3nm,0.8s,mb3.7								
ZALV	**Zalesovo Beam**	**71.51**	**334**	P		**P**		**02 31 05.6**	**-0.6**
	0.5nm,0.6s,mb3.4,baz=114,slow=7.0,SNR=2.5								
ZALV	**Zalesovo Beam**	**71.51**	**334**	P		**P**		**02 31 05.7**	**-0.6**
KURK	**Kurchatov**	**72.37**	**329**	*eP*		**P**		**02 31 12.1**	**+0.6**
	1.1nm,1.0s,mb3.5,baz=127,slow=5.0,SNR=3.9								
KURK	**Kurchatov**	**72.37**	**329**	*eP*		**P**		**02 31 13.0**	**+1.5**
	2.1nm,0.9s,mb3.9								
ILAR	**Eielson Array**	**93.92**	**25**	P		**P**		**02 33 02.3**	**0.0**
	0.7nm,1.0s,mb3.7,baz=270,slow=3.3,SNR=3.2								
ILAR	**Eielson Array**	**93.92**	**25**	P		**P**		**02 33 02.3**	**0.0**

*DDA **14** 02:20:54.6, 39°.41N×25°.81E, h28km±2km, Md2.8*

*ISCJB **14** 02:20:57.0±0.5, 39°.46N±0°.02×25°.90E±0°.04, h6km±4km, Error ellipse: s-maj=5.3km s-min=3.3km az=165.2*

*CSEM **14** 02:20:57.0±0.2, 39°.48N×25°.91E, h2km, ML2.5/2, Error ellipse: s-maj=5.4km s-min=3.8km az=65.0*

*THE **14** 02:20:57.7, 39°.43N×25°.88E, h10km±1km, ML2.5/2, Error ellipse: s-maj=1.6km s-min=0.4km az=216.0*

*ISK **14** 02:20:59.4, 39°.61N×26°.02E, h5km, MD2.7*

ISC 14 02:20:57.4±0.5, 39°.46N±0°.02×25°.90E±0°.04, h8km±4km, n45, σ1§02/70, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.25**	**188**	P		**Pg**		**02 21 02.2**	**-0.1**
SIGR				S		**Sg**		**02 21 05.8**	**+0.2**
SIGR	**SIGRI**	**0.25**	**188**	P		**Pg**		**02 21 02.2**	**-0.1**
SIGR				S		**Sg**		**02 21 05.8**	**+0.2**
PRK	**Paraskevi**	**0.36**	**126**	P		**Pg**		**02 21 04.6**	**+0.3**
PRK				S		**Sg**		**02 21 09.8**	**+0.7**
PRK	**Paraskevi**	**0.36**	**126**	P		**Pg**		**02 21 04.6**	**+0.3**
PRK				S		**Sg**		**02 21 09.8**	**+0.7**
BOZC	**Bozcaada**	**0.40**	**17**	*i* P		**Pg**		**02 21 05.3**	**+0.1**
BOZC				*i* S		**Sg**		**02 21 12.1**	**+1.5**
EZN	**Ezine**	**0.49**	**42**	*e*PG		**Pg**		**02 21 06.4**	**-0.5**
EZN	**Ezine**	**0.49**	**42**	*e*Pg		**Pg**		**02 21 06.4**	**-0.6**
AYVA	**Ayvalik**	**0.63**	**103**	*i* P		**Pg**		**02 21 08.0**	**-1.5**
AYVA				*i* S		**Sg**		**02 21 18.5**	**+0.8**
AYVA	**Ayvalik**	**0.63**	**103**	*i* P		**Pg**		**02 21 08.0**	**-1.5**
AYVA				*i* S		**Sg**		**02 21 18.5**	**+0.8**
LIA	**Limnos Island**	**0.71**	**309**	P		**Pg**		**02 21 11.3**	**+0.3**
LIA				S		**Sg**		**02 21 21.7**	**+1.5**
LIA	**Limnos Island**	**0.71**	**309**	P		**Pg**		**02 21 11.3**	**+0.3**
LIA				S		**Sg**		**02 21 21.7**	**+1.5**
GADA	**Gvkgeada**	**0.73**	**360**	*e*PG		**Pg**		**02 21 11.4**	**-0.1**
GADA				*e*SG		**Sg**		**02 21 20.1**	**-1.0**
GADA	**Gvkgeada**	**0.73**	**360**	*e*Pg		**Pg**		**02 21 11.4**	**-0.1**
GADA				*e*Sg		**Sg**		**02 21 20.1**	**-1.0**
GELI	**Tayfur-Gelibol**	**1.04**	**25**	*e*PG		**Pg**		**02 21 16.6**	**-0.8**
GELI	**Tayfur-Gelibol**	**1.04**	**25**	*e*Pg		**Pg**		**02 21 16.6**	**-0.7**
CHOS	**Chios island**	**1.07**	**173**	P		**Pg**		**02 21 17.5**	**-0.5**
CHOS				S		**Sg**		**02 21 32.1**	**+0.2**
CHOS	**Chios island**	**1.07**	**173**	P		**Pg**		**02 21 17.5**	**-0.5**
CHOS				S		**Sg**		**02 21 32.1**	**+0.2**
LPK	**Lapseki**	**1.13**	**36**	*e*PG		**Pg**		**02 21 18.1**	**-1.0**
LPK	**Lapseki**	**1.13**	**36**	*e*Pg		**Pg**		**02 21 18.1**	**-1.0**
URLA	**Izmir**	**1.22**	**153**	*i* P		**Pb**		**02 21 16.1**	**-4.5**
URLA				*i* S		**Sb**		**02 21 33.8**	**-2.8**
URLA	**Izmir**	**1.22**	**153**	*i* P		**Pb**		**02 21 16.1**	**-4.6**
URLA				*i* S		**Sb**		**02 21 33.8**	**-2.8**
ENEZ	**Enez**	**1.29**	**9**	*e*PN		**Pn**		**02 21 21.5**	**-0.2**
ENEZ	**Enez**	**1.29**	**9**	*e*Pn		**Pn**		**02 21 21.5**	**-0.2**
ERIK	**Erikli-Kesan**	**1.30**	**21**	*e*PN		**Pn**		**02 21 21.5**	**-0.3**
ERIK	**Erikli-Kesan**	**1.30**	**21**	*e*Pn		**Pn**		**02 21 21.5**	**-0.3**
BALY	**Balya**	**1.36**	**77**	*i* P		**Pn**		**02 21 21.5**	**-1.1**
BALY				*i* S		**Sb**		**02 21 40.4**	**-0.2**
BALY	**Balya**	**1.36**	**77**	*i* P		**Pn**		**02 21 21.5**	**-1.1**
BALY				*i* S		**Sb**		**02 21 40.3**	**-0.2**
BLCB	**Balcova**	**1.39**	**140**	*e*PN		**Pn**		**02 21 27.0**	**+4.0**
BLCB	**Balcova**	**1.39**	**140**	*e*Pn		**Pn**		**02 21 27.0**	**+4.0**
KRBG	**Karabiga-Canak**	**1.43**	**49**	*e*PN		**Pn**		**02 21 23.9**	**+0.4**
KRBG	**Karabiga-Canak**	**1.43**	**49**	*e*Pn		**Pn**		**02 21 23.9**	**+0.4**
ALN	**Alexandroupoli**	**1.44**	**4**	P		**Pn**		**02 21 23.6**	**-0.2**
ALN				S		**Sn**		**02 21 42.8**	**-0.1**
ALN	**Alexandroupoli**	**1.44**	**4**	P		**Pn**		**02 21 23.6**	**-0.2**
ALN				S		**Sn**		**02 21 42.8**	**-0.1**
GONE	**Gonen-Balikesi**	**1.50**	**66**	*e*PN		**Pn**		**02 21 25.9**	**+1.4**
GONE	**Gonen-Balikesi**	**1.50**	**66**	*e*Pn		**Pn**		**02 21 25.9**	**+1.4**
BALB	**Balikesir**	**1.54**	**83**	*e*PN		**Pn**		**02 21 26.9**	**+1.8**
BALB	**Balikesir**	**1.54**	**83**	*e*Pn		**Pn**		**02 21 26.9**	**+1.8**
RKY	**Sarkoy-Tekirda**	**1.57**	**38**	*e*PN		**Pn**		**02 21 26.2**	**+0.7**
RKY	**Sarkoy-Tekirda**	**1.57**	**38**	*e*Pn		**Pn**		**02 21 26.2**	**+0.7**
SART	**Tekirdag**	**1.58**	**38**	*i* P		**Pn**		**02 21 23.8**	**-1.7**
SART				*i* S		**Sn**		**02 21 45.9**	**-0.2**
SART	**Tekirdag**	**1.58**	**38**	*i* P		**Pn**		**02 21 23.8**	**-1.8**
SART				*i* S		**Sn**		**02 21 45.9**	**-0.2**
AKHS	**Akhisar**	**1.60**	**111**	*i* P		**Pn**		**02 21 22.8**	**-3.0**
AKHS				*i* S		**Sn**		**02 21 49.1**	**+2.5**
AKHS	**Akhisar**	**1.60**	**111**	*i* P		**Pn**		**02 21 22.8**	**-3.0**
AKHS				*i* S		**Sn**		**02 21 49.1**	**+2.5**
DEMI	**Demirci**	**2.23**	**100**	*i* P		**Pn**		**02 21 34.7**	**+0.2**
DEMI				*i* S		**Sn**		**02 22 02.8**	**+0.6**
DEMI	**Demirci**	**2.23**	**100**	*i* P		**Pn**		**02 21 34.7**	**+0.2**
DEMI				*i* S		**Sn**		**02 22 02.8**	**+0.7**

IDC 14 02:33:18.8±9.4, 18°.97S×177°.80W, h539km±104km, mb2.8/3, mb1 3.1/3, mb1mx2.9/17, mbtmp2.8/3, Error ellipse: s-maj=130.0km s-min=42.6km az=161.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.02**	**260**	P		P	P	02 40 46.6	0.0
	0.5nm,0.4s,baz=98,slow=7.9,SNR=9.5								
ASAR	**Alice Springs**	**45.07**	**255**	P		P	P	02 40 46.9	-0.1
	0.8nm,0.5s,baz=82,slow=8.6,SNR=17								
ASAR				PcP		PcP	PcP	02 42 15.8	-0.5
	0.2nm,0.8s,baz=99,slow=3.6,SNR=4.1								
TXAR	**Lajitas Array**	**86.08**	**57**	P		P	P	02 45 02.9	+0.1
	0.2nm,0.7s,baz=207,slow=5.6,SNR=4.0								
BRTR	**Keskin Array B**	**145.94**	**314**	PKPbc		PKPbc	PKPbc	02 51 58.0	-0.4
	0.5nm,0.7s,baz=122,slow=5.0,SNR=3.5								
GERES	**GERESS Array B**	**148.78**	**345**	PKPbc		PKPbc	PKPbc	02 52 05.1	-0.4
	0.3nm,0.4s,baz=28,slow=2.3,SNR=4.7								

*MOS **14** 02:43:52.8±1.3, 53°.87S×8°.57E, h10km, mb4.8/7, Error ellipse: s-maj=27.9km s-min=10.8km az=86.2*

*ISCJB **14** 02:43:52.4±0.3, 53°.93S±0°.04×8°.5E±0°.1, h10km, mb4.8/30, MS4.8/15, Error ellipse: s-maj=11.4km s-min=6.2km az=10.5*

*IDC **14** 02:43:52.4±0.5, 53°.83S×8°.59E, h0km, mb4.6/16, mb1 4.6/17, mb1mx4.5/19, mbtmp4.6/17, ML4.6/1, MS4.8/13, Ms1 4.8/13, ms1mx4.6/20, Error ellipse: s-maj=19.7km s-min=14.3km az=92.0*

*BJI **14** 02:43:52.4, 53°.80S×8°.60E, h10km, mB5.5/8, Ms5.7/6, Ms7 5.1/8*

*NEIC **14** 02:43:54.3±0.2, 53°.83S×8°.58E, h10km, mb5.1/20, Error ellipse: s-maj=9.7km s-min=6.8km az=103.0*

*GCMT **14** 02:43:58.1±0.2, 53°.86S×8°.82E, h16km±1km, MW5.4, Moment Tensor Solution. s57,c84; s28,c31; Moment tensor: Scale 10^17^Nm; Mrr=0.23±.04; Mθθ=1.73±.04; Mφφ=-1.50±.03; Mrθ=0.03±.10; Mθφ=0.35±.03; Mφr=0.28±.11; Best double couple: M0=1.70000×10^17^ NP1:φs=308.00000°, δ81.00000°, λ=-7.00000°. NP2:φs=40.00000°, δ83.00000°, λ=-171.00000°. Principal axes: T 1.7700, Plg2.0000°, Azm174.0000°; N -0.1800, Plg78.0000°, Azm75.0000°; P -1.5900, Plg12.0000°, Azm264.0000°; Data Used: ll lU lC G CN. Surface waves: sta=106, comp=197, per= 50.*

ISC 14 02:43:54.1±0.3, 53°.92S±0°.04×8°.6E±0°.1, h10km, n144, σ1§01/82, mb4.8/30, MS4.8/15, 3D, Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NVL	**N'lazarevskaya**	**16.98**	**176**	*e*P		**Pn**		**02 47 50.9**	**-0.3**
NVL				MLR		MLR			
	comp=Z,3μm,15.0s								
MAIT	**Maitri**	**16.98**	**176**	*e*P		**Pn**		**02 47 50.1**	**-1.2**
MAIT				*e*S		**Sn**		**02 50 43.0**	**-17**
VNA1	**Neumayer--Stat**	**18.40**	**198**	*e*		**Pn**		**02 48 07.6**	**-1.2**
VNA1				*e*S		**Sn**		**02 51 13.2**	**-21**
VNA2	**Neumayer--Watz**	**18.48**	**197**	*e*		**Pn**		**02 48 07.9**	**-1.9**
VNA2				*e*S		**Sn**		**02 51 14.4**	**-22**
SNAA	**Sanae**	**18.50**	**191**	P		**Pn**		**02 48 10.9**	**+0.8**
	comp=Z,1.7nm,0.3s,baz=20,slow=13,SNR=194								
SNAA				S		**Sn**		**02 51 22.3**	**-14**
	comp=Z,0.3nm,0.3s,baz=163,slow=19,SNR=6.2								
SNAA				LR		LR		02 53 45.0	
	comp=Z,1μm,19.8s,baz=27,slow=32								
SNAA	**Sanae**	**18.50**	**191**	*e*P		**Pn**		**02 48 10.8**	**+0.7**
	comp=Z,212nm,1.2s								
SNAA				*e*Sn		**Sn**		**02 51 20.5**	**-16**
SNAA	**Sanae**	**18.50**	**191**	*e*P		**Pn**		**02 48 10.8**	**+0.7**
SNAA				pmax		pmax			
	comp=Z,212nm,1.2s								
VNA3	**Neumayer Olymp**	**19.15**	**198**	*e*		**Pn**		**02 48 14.8**	**-3.1**
VNA3				*e*S		Sn		02 51 29.0	-23
SYO	**Syowa Base**	**20.81**	**148**	*i*P		**P**		**02 48 34.6**	**-0.5**
SUR	**Sutherland**	**23.24**	**27**	P		**P**		**02 49 01.6**	**+0.3**
	comp=Z,16nm,1.0s,mb4.4,baz=177,slow=12,SNR=3.7								
SUR				S		**S**		**02 53 11.2**	**-1.9**
	comp=Z,6.7nm,0.9s,baz=112,slow=19,SNR=3.6								
SUR				LR		LR		02 55 47.0	
	comp=Z,3μm,18.4s,MS4.8,baz=197,slow=31								
SUR	**Sutherland**	**23.24**	**27**	*e*P		**P**		**02 49 01.6**	**+0.3**
	comp=Z,162nm,1.6s,mb5.2								
BOSA	**Boshof**	**28.07**	**32**	P		**P**		**02 49 44.6**	**-1.0**
	comp=Z,6.4nm,1.0s,mb4.2,baz=191,slow=9.6,SNR=5.1								
BOSA				LR		LR		02 59 23.8	
	comp=Z,1μm,18.1s,MS4.6,baz=199,slow=33								
BOSA	**Boshof**	**28.07**	**32**	*e*P		**P**		**02 49 45.6**	**+0.1**
	comp=Z,14nm,1.0s,mb4.6								
BOSA	**Boshof**	**28.07**	**32**	*e*P		**P**		**02 49 45.7**	**+0.1**
BOSA				pmax		pmax			
	comp=Z,14nm,1.0s,mb4.5								
MAW	**Mawson**	**28.72**	**140**	P		**P**		**02 49 52.0**	**+1.0**
	comp=Z,6.0nm,0.9s,mb4.3,baz=284,slow=8.3,SNR=5.4								
MAW				LR		LR		02 58 46.8	
	comp=Z,2μm,18.2s,MS4.7,baz=281,slow=31								
MAW	**Mawson**	**28.72**	**140**	*e*P		**P**		**02 49 51.5**	**+0.6**
	comp=Z,8.3nm,0.9s,mb4.5								
MAW	**Mawson**	**28.72**	**140**	*e*P		**P**		**02 49 51.4**	**+0.5**
	comp=Z,34nm,2.1s,mb4.7								
MAW	**Mawson**	**28.72**	**140**	*e*P		**P**		**02 49 51.4**	**+0.5**
MAW				pmax		pmax			
	comp=Z,34nm,2.1s								
LBTB	**Lobatse**	**31.54**	**31**	P		**P**		**02 50 15.6**	**-0.7**
	comp=Z,4.9nm,0.9s,mb4.4,baz=215,slow=8.9,SNR=4.5								
LBTB	**Lobatse**	**31.54**	**31**	*e*P		**P**		**02 50 15.3**	**-1.0**
	comp=Z,6.8nm,0.8s,mb4.5								
LBTB	**Lobatse**	**31.54**	**31**	*e*P		**P**		**02 50 15.3**	**-1.0**
LBTB				pmax		pmax			
	comp=Z,7.0nm,0.8s,mb4.5								
TSUM	**Tsumeb**	**35.34**	**15**	*e*P		**P**		**02 50 49.2**	**-0.1**
	comp=Z,63nm,1.2s,mb5.4								
QSPA	**South Pole Qui**	**36.32**	**180**	P		**P**		**02 50 58.2**	**+1.0**
	comp=Z,40nm,1.1s,mb5.3,baz=228,slow=4.3,SNR=44								
QSPA	**South Pole Qui**	**36.32**	**180**	P		**P**		**02 50 58.2**	**+1.0**
EFI	**East Falkland**	**39.02**	**245**	*i*P		**P**		**02 51 19.9**	**-0.4**
LSZ	**Lusaka**	**41.51**	**29**	*e*P		**P**		**02 51 42.2**	**+0.9**
	comp=Z,7.1nm,1.2s,mb4.2								
LSZ	**Lusaka**	**41.51**	**29**	*e*P		**P**		**02 51 42.2**	**+0.9**
LSZ				pmax		pmax			
	comp=Z,7.0nm,1.2s,mb4.2								
USHA	**Ushuaia**	**42.73**	**236**	P		**P**		**02 51 50.8**	**-0.1**
	comp=Z,12nm,1.0s,mb4.6,baz=92,slow=12,SNR=3.5								
USHA	**Ushuaia**	**42.73**	**236**	P		**P**		**02 51 50.8**	**-0.1**
CASY	**Casey**	**46.55**	**147**	*e*P		**P**		**02 52 21.4**	**+0.2**
CASY	**Casey**	**46.55**	**147**	*e*P		**P**		**02 52 22.1**	**+0.8**
	comp=Z,19nm,1.0s,mb5.0								
VNDA	**Vanda**	**47.78**	**172**	LR		LR		03 12 28.7	
	comp=Z,3μm,18.1s,MS5.3,baz=152,slow=36								
VNDA	**Vanda**	**47.78**	**172**	*e*P		**P**		**02 52 31.6**	**+0.9**
	comp=Z,52nm,1.0s,mb5.5								
VNDA				*e*PP		PP		02 54 23.6	+1.6
VNDA	**Vanda**	**47.78**	**172**	*e*P		**P**		**02 52 31.6**	**+0.9**
VNDA				*e*				02 54 23.6	
VNDA				pmax		pmax			
	comp=Z,52nm,1.0s								
SBA	**Scott Base**	**47.81**	**174**	*e*P		**P**		**02 52 32.9**	**+2.0**
	comp=Z,96nm,1.4s,mb5.6								
SBA				*e*PP		PP		02 54 25.6	+3.3
SBA	**Scott Base**	**47.81**	**174**	*e*P		**P**		**02 52 32.9**	**+2.0**
SBA				*e*				02 54 25.6	
SBA				pmax		pmax			
	comp=Z,96nm,1.4s,mb5.6								
TRQA	**Tornquist**	**49.43**	**259**	*e*P		**P**		**02 52 44.4**	**+0.6**
	comp=Z,30nm,1.1s,mb5.2								
CPUP	**Villa Florida**	**55.08**	**272**	P		**P**		**02 53 25.6**	**-0.4**
	comp=Z,16nm,0.9s,mb5.1,baz=118,slow=9.0,SNR=20								
CPUP				LR		LR		03 14 27.0	
	comp=Z,390nm,18.9s,MS4.5,baz=125,slow=33								
CPUP	**Villa Florida**	**55.08**	**272**	P		**P**		**02 53 25.6**	**-0.4**
CPUP	**Villa Florida**	**55.08**	**272**	P		**P**		**02 53 25.6**	**-0.4**
KMBO	**Kilima Mbogo**	**57.68**	**35**	*e*P		**P**		**02 53 43.9**	**-0.7**
	comp=Z,4.4nm,1.1s,mb4.4								
KMBO	**Kilima Mbogo**	**57.68**	**35**	*e*P		**P**		**02 53 43.9**	**-0.7**
DBIC	**Dimbokro**	**61.41**	**345**	P		**P**		**02 54 09.6**	**-0.7**
	comp=Z,5.8nm,0.7s,mb4.8,baz=153,slow=10,SNR=10								
DBIC				LR		LR		03 14 05.4	
	comp=Z,905nm,21.8s,MS4.9,baz=65,slow=30								
DBIC	**Dimbokro**	**61.41**	**345**	*e*P		**P**		**02 54 09.2**	**-1.1**
	comp=Z,13nm,0.9s,mb5.0								
DBIC	**Dimbokro**	**61.41**	**345**	*e*P		**P**		**02 54 09.2**	**-1.1**
DBIC				pmax		pmax			
	comp=Z,13nm,0.9s								
TORD	**Torodi Ar. Bea**	**67.05**	**353**	P		**P**		**02 54 45.9**	**-1.3**
	comp=Z,2.3nm,0.8s,mb4.2,baz=189,slow=7.4,SNR=12								
TORD				LR		LR		03 16 27.6	
	comp=Z,1μm,20.7s,MS5.1,baz=140,slow=29								
TORD	**Torodi Ar. Bea**	**67.05**	**353**	P		**P**		**02 54 45.9**	**-1.3**
FURI	**Furi**	**67.55**	**32**	*e*P		**P**		**02 54 59.0**	**+8.5**
	comp=Z,20nm,0.4s,mb5.5								
LPAZ	**La Paz**	**69.18**	**271**	P		**P**		**02 55 01.9**	**+1.2**
	comp=Z,12nm,0.8s,mb4.9,baz=156,slow=7.1,SNR=41								
LPAZ				LR		LR		03 21 14.7	
	comp=Z,441nm,21.7s,MS4.7,baz=118,slow=32								
LPAZ	**La Paz**	**69.18**	**271**	*e*P		**P**		**02 55 01.4**	**+0.7**
	comp=Z,54nm,1.3s,mb5.3								
LPAZ	**La Paz**	**69.18**	**271**	*e*P		**P**		**02 55 01.4**	**+0.6**
LPAZ				pmax		pmax			
	comp=Z,54nm,1.3s								
TAM	**Tamanrasset**	**76.43**	**357**	*e*P		**P**		**02 55 43.8**	**+0.3**
	comp=Z,3.0nm,1.1s,mb4.1								
TAM	**Tamanrasset**	**76.43**	**357**	*e*P		**P**		**02 55 43.8**	**+0.3**
TAM				pmax		pmax			
	comp=Z,3.0nm,1.1s,mb4.1								
NNA	**Nana**	**77.72**	**267**	*e*P		**P**		**02 55 52.1**	**+1.0**
	comp=Z,26nm,1.1s,mb5.1								
NNA	**Nana**	**77.72**	**267**	*e*P		**P**		**02 55 52.1**	**+1.0**
NNA				pmax		pmax			
	comp=Z,26nm,1.1s								
RPZ	**Rata Peaks**	**81.59**	**167**	P		**P**		**02 56 12.0**	**+0.3**
	comp=Z,9.1nm,0.9s,mb4.7,baz=225,slow=5.7,SNR=4.5								
RPZ	**Rata Peaks**	**81.59**	**167**	P		**P**		**02 56 12.0**	**+0.3**
STKA	**Stephens Creek**	**85.39**	**141**	P		**P**		**02 56 31.4**	**-0.1**
	comp=Z,6.8nm,0.9s,mb4.8,baz=198,slow=4.8,SNR=7.0								
STKA	**Stephens Creek**	**85.39**	**141**	*e*P		**P**		**02 56 31.7**	**+0.2**
	comp=Z,8.4nm,1.0s,mb4.8								
STKA	**Stephens Creek**	**85.39**	**141**	*e*P		**P**		**02 56 32.6**	**+1.1**
	comp=Z,3.3nm,1.1s,mb4.4								
STKA	**Stephens Creek**	**85.39**	**141**	*e*P		**P**		**02 56 32.6**	**+1.1**
STKA				pmax		pmax			
	comp=Z,3.0nm,1.1s								
YNG	**Young**	**85.53**	**148**	*e*P		**P**		**02 56 32.5**	**+0.4**
	comp=Z,13nm,1.0s,mb5.1								
OTAV	**Otavalo**	**88.43**	**273**	*e*P		**P**		**02 56 48.6**	**+2.1**
	comp=Z,34nm,1.8s,mb5.3								
KEST	**Kesra**	**89.28**	**1**	P		**P**		**02 56 47.6**	**-2.2**
	comp=Z,3.2nm,1.2s,mb4.5,baz=279,slow=15,SNR=2.4								
KEST				LR		LR		03 33 11.0	
	comp=Z,226nm,20.2s,MS4.6,baz=255,slow=33								
KEST	**Kesra**	**89.28**	**1**	P		**P**		**02 56 47.6**	**-2.2**
ASAR	**Alice Springs**	**89.53**	**132**	P		**P**		**02 56 51.5**	**0.0**
	comp=Z,3.5nm,1.1s,mb4.6,baz=204,slow=5.1,SNR=10								
ASAR	**Alice Springs**	**89.53**	**132**	P		**P**		**02 56 51.5**	**0.0**
ASAR	**Alice Springs**	**89.53**	**132**	P		**P**		**02 56 51.6**	**+0.1**
ROSC	**El Rosal**	**89.71**	**279**	LR		LR		03 33 30.0	
	comp=Z,585nm,20.3s,MS5.0,baz=189,slow=33								
CSS	**Prodhromos**	**91.07**	**20**	*e*P		**P**		**02 56 57.9**	**-0.2**
	comp=Z,28nm,1.4s,mb5.4								
WRA	**Warramunga Arr**	**92.98**	**130**	P		**P**		**02 57 07.6**	**0.0**
	comp=Z,0.2nm,0.3s,mb4.1,baz=210,slow=4.5,SNR=3.4								
WRA	**Warramunga Arr**	**92.98**	**130**	P		**P**		**02 57 07.6**	**0.0**
WRA	**Warramunga Arr**	**92.98**	**130**	P		**P**		**02 57 07.6**	**0.0**
ESDC	**Sonseca Array**	**93.84**	**350**	P		**P**		**02 57 11.9**	**+1.1**
	comp=Z,0.2nm,0.5s,mb3.8,baz=165,slow=5.3,SNR=2.7								
ESDC				LR		LR		03 33 31.4	
	comp=Z,331nm,18.6s,MS4.8,baz=175,slow=32								
ESDC	**Sonseca Array**	**93.84**	**350**	P		**P**		**02 57 11.9**	**+1.1**
BRTR	**Keskin Array B**	**95.74**	**19**	P		**P**		**02 57 20.5**	**+1.0**
	comp=Z,0.6nm,0.6s,mb4.2,baz=178,slow=4.3,SNR=5.4								
BRTR				PP		PP		03 01 12.0	+0.2
	comp=Z,0.9nm,0.8s,baz=165,slow=11.SNR=4.6								
BRTR				LR		LR		03 40 12.1	
	comp=Z,332nm,21.9s,MS4.8,baz=94,slow=35								
BRTR	**Keskin Array B**	**95.74**	**19**	P		**P**		**02 57 20.5**	**+1.0**
BRTR				PP		PP		03 01 12.0	+0.2
BRTR	**Keskin Array B**	**95.74**	**19**	P		**P**		**02 57 20.5**	**+1.0**
BRTR								03 01 12.0	
KMI	**Kunming**	**112.30**	**78**	P

ILAR	**Eielson Array**	**163.55**	**321**	PKP	PKPdf	03 03 58.5	+3.1
	comp=E,0.4nm,1.1s,baz=318,slow=1.2,SNR=3.1						
ILAR				PKPab	PKPab	03 04 47.5	+0.3
	comp=E,1.4nm,0.9s,baz=44,slow=4.1,SNR=11						
ILAR	**Eielson Array**	**163.55**	**321**	PKP	PKPdf	03 03 58.5	+3.1
ILAR				PKPab	PKPab	03 04 47.5	+0.3
ILAR	**Eielson Array**	**163.55**	**321**	PKIKP	PKPdf	03 03 58.6	+3.1
ILAR						03 04 47.5	

IDC ***14*** *03:04:46.9±1.3, 32.°02N×104.°60E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.5/28, mbtmp3.6/7, ML3.3/2, MS4.1/2, Ms1 4.1/2, ms1mx3.2/35, Error ellipse: s-maj=43.8km s-min=21.0km az=46.0*

NEIC ***14*** *03:04:48.9±0.8, 32.°11N×104.°79E, h10km, mb3.7/3, Error ellipse: s-maj=26.1km s-min=11.3km az=221.0*

BJI ***14*** *03:04:49.9, 32.°39N×105.°28E, h22km, mB4.6/2, mb4.0/2, ML3.9/18, Ms3.7/1, Ms7 3.6/3*

ISC 14 03:04:47.9±0.8, 32.°42N±0.°03×105.°29E±0.°04, h6km±6km, n26, σ1s01/36, mb3.5/7, MS4.2/2, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.99**	**222**	Pn	**Pn**	**03 05 23.0**	**+0.9**
CD2				Pg	**Pg**	**03 05 26.0**	**0.0**
CD2				Sg	**Sg**	**03 05 52.0**	**+0.1**
CD2				smax			
	comp=N,7μm,0.3s						
CD2				smax			
	comp=E,4μm,0.6s						
XAN	**Xi'an**	**3.44**	**61**	Pn	**Pn**	**03 05 46.9**	**+4.8**
XAN				Pg	**Pg**	**03 05 55.0**	**+1.1**
XAN				Sn	**Sn**	**03 06 27.6**	**+4.4**
XAN				Sg	**Sg**	**03 06 39.3**	**+0.8**
XAN				smax			
	comp=N,360nm,0.6s						
XAN				smax			
	comp=E,200nm,0.7s						
LZH	**Lanzhou**	**3.85**	**342**	Pn	**Pn**	**03 05 49.6**	**+1.9**
LZH				Pg	**Pg**	**03 06 00.3**	**-1.4**
LZH				Sn	**Sn**	**03 06 33.1**	**-0.2**
LZH				Sg	**Sg**	**03 06 47.0**	**-4.7**
LZH				smax			
	comp=N,620nm,0.6s						
LZH				smax			
	comp=E,840nm,0.5s						
LZH				LR	LR		
	comp=Z,790nm,6.7s						
ENH	**Enshi**	**4.17**	**120**	*e*Pn	**Pn**	**03 05 56.6**	**+4.5**
ENH				*e*Pg	**Pg**	**03 06 06.6**	**-1.2**
GYA	**Guiyang**	**6.05**	**168**	Pn	**Pn**	**03 06 19.1**	**+1.1**
GYA				Pg	**Pg**	**03 06 40.3**	**-3.6**
GYA				Sn	**Sn**	**03 07 27.8**	**+0.2**
GYA				Sg	**Sg**	**03 07 57.3**	**-5.0**
GYA				smax			
	comp=N,90nm,0.8s						
GYA				smax			
	comp=E,110nm,0.7s						
WHN	**Wuhan**	**7.96**	**101**	S	**Sn**	**03 08 13.4**	**-1.0**
WHN				LR	LR		
	comp=N,3μm,15.0s						
WHN				LR	LR		
	comp=E,5μm,19.2s						
WHN				LR	LR		
	comp=Z,4μm,19.5s						
GTA	**Gaotai**	**8.27**	**329**	*e*P	**Pn**	**03 06 54.8**	**+6.4**
GTA				pP		03 06 58.8	
GTA				sP		03 07 01.6	
GTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONM	**Songino Array**	**15.42**	**3**	Pn	**Pn**	**03 08 31.5**	**+5.6**
	comp=Z,0.1nm,0.3s,baz=185,slow=13,SNR=3.4						
SONM	**Songino Array**	**15.42**	**3**	Pn	**Pn**	**03 08 31.5**	**+5.6**
KSRS	**Korea Array**	**19.21**	**69**	P	**Pn**	**03 09 20.4**	**+7.1**
	comp=Z,0.1nm,0.3s,baz=256,slow=11,SNR=4.6						
MK31	**Makanchi Array**	**22.70**	**316**	*e*P	**P**	**03 09 50.7**	**+0.6**
MKAR	**Makanchi Array**	**22.70**	**316**	P	**P**	**03 09 50.0**	**-0.1**
	comp=Z,0.9nm,0.6s,mb3.4,baz=119,slow=11,SNR=8.2						
MKAR	**Makanchi Array**	**22.70**	**316**	P	**P**	**03 09 50.0**	**-0.1**
KSH	**Kashi**	**24.70**	**295**	P	**P**	**03 10 12.8**	**+3.1**
KSH				pmax	pmax		
	comp=Z,130nm,7.3s						
TKM2	**Tokmak 2**	**25.62**	**303**	*e*P	**P**	**03 10 18.6**	**+0.6**
	comp=Z,1.8nm,0.5s,mb3.9						
ZALV	**Zalesovo Beam**	**26.02**	**332**	P	**P**	**03 10 20.6**	**-0.9**
	comp=Z,0.7nm,0.6s,mb3.4,baz=128,slow=9.5,SNR=3.1						
ZALV	**Zalesovo Beam**	**26.02**	**332**	P	**P**	**03 10 20.6**	**-0.9**
KURK	**Kurchatov**	**26.84**	**321**	P	**P**	**03 10 28.2**	**-0.7**
	comp=Z,0.5nm,0.5s,mb3.3,baz=125,slow=9.7,SNR=6.8						
KURK	**Kurchatov**	**26.84**	**321**	*e*P	**P**	**03 10 28.4**	**-0.5**
	comp=Z,0.9nm,0.6s,mb3.5						
ABKAR	**Akbulak array**	**37.58**	**310**	*e*P	**P**	**03 12 02.6**	**-0.4**
	comp=Z,0.4nm,0.4s,mb3.5						
AKTK	**Aktyubinsk**	**39.00**	**312**	P	**P**	**03 12 13.9**	**-1.0**
AKTO	**Aktyubinsk**	**39.00**	**312**	P	**P**	**03 12 13.9**	**-1.0**
	comp=Z,0.4nm,0.4s,mb3.5,baz=90,slow=10,SNR=3.3						
AKASG	**Malin Array Be**	**57.23**	**313**	LR	LR	03 43 35.2	
	comp=Z,189nm,18.0s,MS4.2,baz=200,slow=41						
WRA	**Warramunga Arr**	**59.02**	**148**	P	**P**	**03 14 48.4**	**-0.3**
	comp=Z,0.8nm,0.7s,mb3.9,baz=336,slow=7.5,SNR=2.6						
WRA	**Warramunga Arr**	**59.02**	**148**	P	**P**	**03 14 48.4**	**-0.3**
MLR	**Muntele Rosu**	**60.72**	**308**	LR	LR	03 46 52.1	
	comp=Z,123nm,18.7s,MS4.1,baz=237,slow=42						

IDC ***14*** *03:08:08.7±0.8, 1.°68N×128.°28E, h0km, mb4.3/9, mb1 4.4/10, mb1mx4.1/20, mbtmp4.3/10, Error ellipse: s-maj=50.5km s-min=14.0km az=77.0*

NEIC ***14*** *03:08:18.0±2.4, 1.°64N×128.°37E, h77km±22km, mb4.5/12, Error ellipse: s-maj=22.2km s-min=7.7km az=68.0*

ISCJB ***14*** *03:08:18.7±1.5, 1.°62N±0.°07×128.°3E±0.°1, h100km±14km, mb4.3/20, Error ellipse: s-maj=19.2km s-min=9.4km az=157.3*

DJA ***14*** *03:08:27, 1.°21N×127.°89E, h37km, mb4.9/7*

ISC 14 03:08:19.4±1.6, 1.°62N±0.°08×128.°4E±0.°1, h89km±15km, n47, σ0s98/44, mb4.3/20, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.32**	**230**	P	**Pn**	**03 08 41.7**	**-1.1**
LBMI	**Labuha**	**2.41**	**201**	P	**Pn**	**03 08 58.2**	**+1.2**
SGSI	**Sangihe**	**3.51**	**306**	P	Px	03 09 43.8	
KMSI	**Cibinong**	**4.52**	**257**	P	**Pn**	**03 09 25.8**	**+0.3**
NLAI	**Namlea**	**5.00**	**195**	P	**Pn**	**03 09 32.7**	**+0.7**
LUWI	**Luwuk**	**6.20**	**245**	P	**Pn**	**03 09 47.6**	**-0.8**
	2μm88nm,1.0s						
MRSI	**Marisa**	**6.54**	**260**	P	**Pn**	**03 09 54.9**	**+1.9**
	45nm,0.7s						
KDI	**Kendari**	**7.99**	**226**	P	**Pn**	**03 10 12.1**	**-0.7**
	0.1nm595nm38nm,1.0s						
BBSI	**Bau Bau**	**9.14**	**219**	P	**Pn**	**03 10 38.2**	**+10**
TTSI	**Tana Toraja**	**9.74**	**242**	P	**Pn**	**03 10 35.1**	**-1.5**
	2μm82nm,0.8s						
SPSI	**Sidrap Palu**	**10.24**	**237**	P	**Pn**	**03 10 43.7**	**+0.2**
	791nm81nm,0.7s						
BKSI	**Bulukumba**	**10.76**	**230**	P	**Pn**	**03 10 51.7**	**+1.2**
	829nm93nm,0.6s						
KAPI	**Kappang**	**10.85**	**233**	*e*Pn	**Pn**	**03 10 50.3**	**-1.5**
	20nm,0.6s						
KAPI	**Kappang**	**10.85**	**233**	P	**Pn**	**03 10 52.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**19.79**	**188**	P	**Pn**	**03 12 41.9**	**-3.1**
	0.3nm,0.3s,baz=19,slow=13,SNR=13						
FITZ	**Fitzroy Crossi**	**19.79**	**188**	P	**Pn**	**03 12 41.9**	**-3.1**
WRAB	**Tennant Creek**	**22.21**	**165**	*e*P	**P**	**03 13 08.7**	**+0.1**
	15nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**22.21**	**165**	P	**P**	**03 13 08.7**	**0.0**
	8.0nm,0.7s,mb4.2,baz=343,slow=10,SNR=51						
WRA	**Warramunga Arr**	**22.21**	**165**	P	**P**	**03 13 08.7**	**0.0**
ASAR	**Alice Springs**	**25.70**	**168**	P	**P**	**03 13 41.4**	**0.0**
	1.4nm,0.4s,mb3.7,baz=347,slow=8.0,SNR=24						
ASAR	**Alice Springs**	**25.70**	**168**	P	**P**	**03 13 41.4**	**0.0**
FORT	**Forrest**	**32.22**	**181**	*e*P	**P**	**03 14 38.4**	**-0.8**
	16nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**35.59**	**160**	P	**P**	**03 15 09.2**	**+0.7**
	2.3nm,0.4s,mb4.5,baz=337,slow=10,SNR=7.5						
STKA	**Stephens Creek**	**35.59**	**160**	P	**P**	**03 15 09.2**	**+0.7**
KSRS	**Korea Array**	**35.66**	**359**	P	**P**	**03 15 09.2**	**+0.3**
	1.7nm,0.5s,mb4.2,baz=177,slow=10,SNR=7.8						
MJAR	**Matsushiro Arr**	**35.92**	**14**	P	**P**	**03 15 09.3**	**-1.8**
	2.1nm,0.7s,mb4.2,baz=186,slow=10,SNR=7.4						
MJAR	**Matsushiro Arr**	**35.92**	**14**	P	**P**	**03 15 09.3**	**-1.8**
BJT	**Baijiatuan**	**39.80**	**345**	*e*P	**P**	**03 15 43.9**	**+0.1**
	20nm,0.4s,mb5.3						
LSA	**Lhasa**	**45.06**	**312**	*e*P	**P**	**03 16 28.6**	**+2.0**
	7.4nm,0.6s,mb4.6						
ULN	**Ulaanbaatar**	**49.63**	**341**	*e*P	**P**	**03 17 02.7**	**+1.0**
	2.3nm,0.4s,mb4.5						
SONM	**Songino Array**	**49.81**	**341**	P	**P**	**03 17 04.3**	**+1.1**
	2.9nm,0.8s,mb4.3,baz=151,slow=8.4,SNR=15						
SONM	**Songino Array**	**49.81**	**341**	P	**P**	**03 17 04.3**	**+1.1**
MK31	**Makanchi Array**	**60.22**	**325**	*e*P	**P**	**03 18 18.1**	**0.0**
MKAR	**Makanchi Array**	**60.22**	**325**	P	**P**	**03 18 18.4**	**+0.3**
	5.5nm,0.5s,mb4.8,baz=117,slow=8.6,SNR=61						
MKAR	**Makanchi Array**	**60.22**	**325**	P	**P**	**03 18 18.4**	**+0.3**
TKM2	**Tokmak 2**	**62.41**	**319**	*e*P	**P**	**03 18 33.2**	**+0.2**
	2.9nm,0.6s,mb4.5						
ZALV	**Zalesovo Beam**	**63.20**	**333**	P	**P**	**03 18 36.9**	**-1.2**
	0.7nm,0.4s,mb3.9,baz=141,slow=9.3,SNR=4.2						
ZALV	**Zalesovo Beam**	**63.20**	**333**	P	**P**	**03 18 36.9**	**-1.2**
EKS2	**Erkin-Say**	**63.51**	**318**	*e*P	**P**	**03 18 40.3**	**0.0**
	2.6nm,0.7s,mb4.2						
KBL	**Kabul**	**64.11**	**308**	*e*P	**P**	**03 18 43.9**	**-0.5**
	3.0nm,0.7s,mb4.2						
KURK	**Kurchatov**	**64.39**	**327**	P	**P**	**03 18 45.8**	**-0.2**
	8.3nm,0.6s,mb4.8,baz=125,slow=6.4,SNR=57						
KURK	**Kurchatov**	**64.39**	**327**	*e*P	**P**	**03 18 45.4**	**-0.5**
	12nm,0.7s,mb4.8						
BRVK	**Borovoye**	**70.05**	**327**	*e*P	**P**	**03 19 21.2**	**-0.4**
	3.5nm,0.8s,mb4.2						
ABKAR	**Akbulak array**	**74.82**	**321**	*e*P	**P**	**03 19 48.9**	**-1.2**
	0.8nm,0.6s,mb3.6						
VNDA	**Vanda**	**81.14**	**173**	*e*P	**P**	**03 20 25.8**	**+1.2**
	1.6nm,1.0s,mb3.8						
TORD	**Torodi Ar. Bea**	**125.13**	**287**	PKP	PKPdf	03 27 09.7	-0.8
	0.4nm,0.7s,baz=49,slow=1.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	**125.13**	**287**	PKP	PKPdf	03 27 09.7	-0.8

JMA ***14*** *03:19:59.9±0.5, 24.°15N×121.°62E, h66km, M2.7*

TAP ***14*** *03:19:60.0, 23.°91N×121.°71E, h23km, ML3.4, B*

ISCJB ***14*** *03:20:00.2±0.3, 23.°89N±0.°02×121.°77E±0.°02, h19km±5km, Error ellipse: s-maj=4.3km s-min=2.3km az=36.4*

ISC 14 03:20:00.1±0.3, 23.°90N±0.°02×121.°76E±0.°02, h16km±2km, n48, σ0s96/82, 5C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.16**	**301**	P	**Pg**	**03 20 04.6**	**+0.3**
	baz=301						
HWA				S	**Sg**	**03 20 08.7**	**+1.5**
	baz=301						
ESF	**Shoufeng Towns**	**0.23**	**264**	*e*P	**Pg**	**03 20 04.8**	**-0.6**
	baz=258						
ESF				*e*S	**Sg**	**03 20 09.7**	**+0.8**
	baz=258						
TWD	**Chiawan**	**0.24**	**322**	⇓*i*P	**Pg**	**03 20 05.5**	**0.0**
	baz=332						
TWD				*i* S	**Sg**	**03 20 09.3**	**+0.2**
	baz=332						
TEGC	**Jichi Village**	**0.27**	**227**	*e*P	**Pg**	**03 20 06.6**	**+0.6**
	baz=219						
TEGC				*e*S	**Sg**	**03 20 12.6**	**+2.6**
	baz=219						
ESL	**Shilin**	**0.31**	**255**	⇑*i*P	**Pg**	**03 20 06.3**	**-0.3**
	baz=257						
ESL				*e*S	**Sg**	**03 20 11.3**	**+0.3**
	baz=257						
WHF	**Hehuan Shan**	**0.51**	**299**	⇑*i*P	**Pg**	**03 20 09.8**	**-0.5**
	baz=290						
WHF				S	**Sg**	**03 20 16.9**	**-0.4**
	baz=290						
ENA	**Nanau**	**0.53**	**358**	P	**Pg**	**03 20 10.3**	**-0.4**
ENA				*e*S	**Sg**	**03 20 17.8**	**-0.1**
EHY	**Hungye**	**0.56**	**226**	⇑*i*P	**Pg**	**03 20 10.3**	**-0.8**
	baz=228						
EHY				*e*S	**Sg**	**03 20 19.7**	**+1.1**
	baz=228						
TWT	**Tachien**	**0.64**	**304**	*i* P	**Pg**	**03 20 12.4**	**-0.3**
	baz=296						
TWT				S	**Sg**	**03 20 20.6**	**-0.6**
	baz=296						
NNS	**Nan Shan**	**0.65**	**327**	P	**Pg**	**03 20 12.2**	**-0.6**
	baz=329						
NNS				S	**Sg**	**03 20 21.0**	**-0.5**
	baz=329						
TWF1	**Yuli**	**0.69**	**218**	*e*P	**Pg**	**03 20 12.2**	**-1.4**
	baz=229						
TWF1				*e*S	**Sg**	**03 20 22.6**	**-0.1**
	baz=229						
TWC	**Suao**	**0.72**	**7**	P	**Pg**	**03 20 13.9**	**-0.2**
	baz=1.0						
TWC				S	**Sg**	**03 20 24.6**	**+0.9**
	baz=1.0						
ENTT	**Nioudou**	**0.76**	**347**	*e*P	**Pb**	**03 20 14.6**	**-0.5**
	baz=340						
ENTT				*e*S	**Sg**	**03 20 25.6**	**+0.5**
	baz=340						
SMLT	**Sun Moon Lake**	**0.78**	**269**	⇑*i*P	**Pb**	**03 20 14.5**	**-0.9**
	baz=274						
SMLT				*e*S	**Sb**	**03 20 24.5**	**-1.3**
	baz=274						
TYC	**Yuchr**	**0.82**	**271**	⇑*i*P	**Pb**	**03 20 15.0**	**-1.1**
	baz=275						
TYC				S	**Sb**	**03 20 25.6**	**-1.3**
	baz=275						
TWE	**Neicheng**	**0.83**	**354**	P	**Pb**	**03 20 15.9**	**-0.2**
	baz=355						
TWE				*e*S	**Sb**	**03 20 27.0**	**0.0**
	baz=355						
YUS	**Yu-Shan**	**0.84**	**241**	*e*S	**Sb**	**03 20 27.4**	**0.0**
	baz=240						
NSK	**Sanguang**	**0.86**	**335**	*e*P	**Pb**	**03 20 15.7**	**-1.0**
	baz=335						
NSK				*e*S	**Sb**	**03 20 27.3**	**-0.7**
	baz=335						
CHKT	**Chengkung**	**0.87**	**204**	*e*P	**Pb**	**03 20 16.4**	**-0.4**
	baz=190						
ALS	**Alishan**	**0.95**	**247**	*e*S	**Sb**	**03 20 29.9**	**-0.8**
	baz=245						
EGS		**0.96**	**10**	*e*P	**Pb**	**03 20 18.3**	**-0.1**
	baz=11						
ELDTW	**Lidau**	**0.98**	**224**	*e*P	**Pb**	**03 20 17.0**	**-1.7**
	baz=222						
WNT	**Mingjian**	**0.98**	**269**	*e*P	**Pb**	**03 20 17.9**	**-0.8**
	baz=267						
NSTT	**Nanjuang**	**1.01**	**317**	*e*P	**Pb**	**03 20 18.4**	**-0.8**
	baz=317						
NSTT				*e*S	**Sb**	**03 20 31.2**	**-1.0**
	baz=317						
TWQ1	**Liyutan**	**1.01**	**297**	P	**Pb**	**03 20 19.1**	**-0.1**
	baz=304						
TWQ1				*e*S	**Sb**	**03 20 33.8**	**+1.6**
	baz=304						
TCU	**Taichung**	**1.02**	**285**	*e*P	**Pb**	**03 20 19.4**	**0.0**
	baz=280						
TCU				*e*S	**Sb**	**03 20 35.2**	**+2.6**
	baz=280						
NSY	**Sanyi**	**1.05**	**300**	*e*P	**Pb**	**03 20 19.6**	**-0.3**
	baz=307						
NSY				*e*S	**Sb**	**03 20 34.3**	**+0.9**
	baz=307						
TWA	**Mucha**	**1.09**	**352**	*e*P	**Pb**	**03 20 20.0**	**-0.7**
	baz=351						
TWB1	**Santiao Chiao**	**1.13**	**11**	*e*P	**Pn**	**03 20 22.7**	**+1.4**
	baz=2.0						
TWB1				*e*S	**Sb**	**03 20 37.4**	**+1.6**
	baz=2.0						
NWF	**Wu-fen Shan**	**1.17**	**1**	*e*P	**Pn**	**03 20 22.3**	**+0.4**
	baz=352						
NWF				*e*S	**Sb**	**03 20 38.8**	**+1.8**
	baz=352						
STYT	**Tauyuan**	**1.17**	**232**	*e*P	**Pn**	**03 20 21.0**	**-0.9**
	baz=231						
STYT				*e*S	**Sb**	**03 20 36.8**	**-0.2**
	baz=231						
CHN4	**Tsaushan**	**1.20**	**243**	*e*P	**Pn**	**03 20 22.6**	**+0.3**
	baz=243						
CHN4				*e*S	**Sb**	**03 20 38.7**	**+1.1**
	baz=243						
WTP	**Ta-pu**	**1.23**	**239**	P	**Pn**	**03 20 22.5**	**-0.2**
	baz=238						
WTP				*e*S	**Sb**	**03 20 40.6**	**+2.0**
	baz=238						
YOJ	**Yonaguni jima**	**1.28**	**64**	*e*P	**Pn**	**03 20 22.6**	**-0.8**
	baz=65						
YOJ	**Yonaguni jima**	**1.28**	**64**	P	**Pn**	**03 20 22.5**	**-0.8**
YOJ				*e*S	**Sb**	**03 20 39.5**	**-0.5**
CHY	**Chiayi**	**1.28**	**252**	*e*P	**Pn**	**03 20 23.0**	**-0.4**
	baz=250						
CHN1	**Nanshi**	**1.33**	**238**	*e*P	**Pn**	**03 20 24.5**	**+0.4**
	baz=238						
CHN1				*e*S	**Sn**	**03 20 42.9**	**+1.5**
	baz=238						
ECL	**Taimali**	**1.49**	**210**	*e*P	**Pn**	**03 20 23.9**	**-2.4**
	baz=198						
SSD	**Sandimen**	**1.54**	**222**	*e*P	**Pn**	**03 20 26.7**	**-0.2**
	baz=222						
TWM1	**Shoushan**	**1.62**	**229**	*e*P	**Pn**	**03 20 28.7**	**+0.6**
	baz=228						
EAST	**Anshuo**	**1.72**	**209**	*e*P	**Pn**	**03 20 29.9**	**+0.5**
	baz=198						
SCZT	**Fangliau**	**1.84**	**215**	*e*P	**Pn**	**03 20 31.7**	**+0.6**
	baz=201						
SCZT				*e*S	**Sn**	**03 20 56.0**	**+1.9**
	baz=201						
IRIF	**Iriomote-Funau**	**1.86**	**76**	P	**Pn**	**03 20 30.9**	**-0.4**
IRIF				*e*S	**Sn**	**03 20 54.3**	**-0.1**
LAY	**Lan-yu**	**1.86**	**186**	*e*P	**Pn**	**03 20 28.6**	**-2.7**
	baz=186						
HATJ	**Hateruma jima**	**1.88**	**85**	P	**Pn**	**03 20 32.4**	**+0.8**
HATJ				*e*S	**Sn**	**03 20 56.4**	**+1.4**
JKRS	**Kuro-shima**	**2.09**	**80**	P	**Pn**	**03 20 34.8**	**+0.3**
JKRS				*e*S	**Sn**	**03 21 01.7**	**+1.6**
JIJ	**Ishigaki jima**	**2.23**	**77**	P	**Pn**	**03 20 35.6**	**-0.8**
JIJ				*e*S	**Sn**	**03 21 02.2**	**-1.4**
JTJ	**Tarama**	**2.79**	**74**	P	**Pn**	**03 20 44.6**	**+0.5**
JTJ				*e*S	**Sn**	**03 21 17.6**	**+0.2**

IDC ***14*** *03:27:05.0±0.7, 31.°74N×103.°04E, h0km, mb4.2/21, mb1 4.3/22, mb1mx4.2/28, mbtmp4.2/22, ML3.5/1, MS4.1/6, Ms1 4.2/6, ms1mx3.6/36, Error ellipse: s-maj=21.6km s-min=13.5km az=40.0*

ISCJB ***14*** *03:27:05.8±0.9, 31.°91N±0.°03×103.°02E±0.°03, h7km±6km, mb4.5/63, MS4.2/12, Error ellipse: s-maj=4.4km s-min=4.1km az=30.6*

MOS ***14*** *03:27:07.9±1.4, 31.°80N×103.°15E, h27km, mb4.7/38, MS4.1/9, Error ellipse: s-maj=9.4km s-min=6.1km az=106.4*

BJI ***14*** *03:27:07.0, 31.°96N×103.°14E, h10km, mB4.8/16, mb4.7/34, ML4.5/22, Ms4.8/47, Ms7 4.5/42*

NEIC ***14*** *03:27:09.0±0.3, 32.°04N×102.°97E, h10km, mb4.7/23, Error ellipse: s-maj=8.7km s-min=6.4km az=24.0*

ISC 14 03:27:07.7±0.9, 31.°90N±0.°02×102.°98E±0.°03, h6km±6km, n188, σ1s33/205, mb4.5/63, MS4.2/12, 2C-2D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.19**	**146**	Pg	**Pg**	**03 27 29.1**	**-1.4**
CD2				Sg	**Sg**	**03 27 46.6**	**+0.7**
CD2				smax			
	comp=N,36μm,0.8s						
CD2				smax			
	comp=E,18μm,0.7s						
LZH	**Lanzhou**	**4.24**	**9**	*e*Pn	**Pn**	**03 28 12.0**	**-0.8**
LZH				Pg	**Pb**	**03 28 24.0**	**+1.4**
LZH				Sg	**Sb**	**03 29 17.3**	**+3.3**
LZH				smax			
	comp=N,2μm,1.1s						
LZH				smax			
	comp=E,1μm,1.2s						
LZH				LR	LR		
	comp=N,4μm,4.8s						
LZH				LR	LR		
	comp=E,9μm,5.4s						
LZH				LR	LR		
	comp=Z,7μm,7.2s						
XAN	**Xi'an**	**5.43**	**65**	Pn	**Pn**	**03 28 28.1**	**-1.0**
XAN				Pg	**Pb**	**03 28 44.0**	**+1.1**
XAN				Sn	**Sn**	**03 29 37.8**	**+5.9**
XAN				Sg	Sg	03 29 55.9	-6.2
XAN				smax			
	comp=N,450nm,0.8s						
XAN				smax			
	comp=E,240nm,0.9s						
XAN				LR	LR		
	comp=N,4μm,10.7s						
XAN				LR	LR		
	comp=E,1μm,7.8s						
XAN				LR	LR		
	comp=Z,1μm,8.5s						
ENH	**Enshi**	**5.81**	**105**	*e*Pn	**Pn**	**03 28 34.2**	**-0.1**
	comp=Z,230nm,0.7s						
ENH				*e*Pg	Pg	03 28 57.2	-1.8
ENH				*e*Sn	**Sn**	**03 29 44.3**	**+3.0**
ENH				*e*Sg	Sg	03 30 09.1	-5.2
GYA	**Guiyang**	**6.30**	**148**	Pn	**Pn**	**03 28 40.3**	**-0.9**
GYA				Sn	**Sn**	**03 29 54.3**	**+0.8**
GYA				Sg	Sg	03 30 27.5	-2.7
GYA				smax			
	comp=N,520nm,0.9s						
GYA				smax			
	comp=E,820nm,0.8s						
GYA				LR	LR		
	comp=N,4μm,8.6s						
GYA				LR	LR		
	comp=E,7μm,7.5s						
GYA				LR	LR		
	comp=Z,5μm,10.2s						
KMI	**Kunming**	**6.75**	**182**	Pn	**Pn**	**03 28 47.9**	**+0.5**
KMI				Sn	**Sn**	**03 30 05.6**	**+1.0**
KMI				smax			
	comp=N,130nm,1.1s						
KMI				smax			
	comp=E,110nm,0.8s						
KMI				LR	LR		
	comp=N,3μm,7.3s						
KMI				LR	LR		
	comp=E,2μm,7.2s						
KMI				LR	LR		
	comp=Z,4μm,9.5s						
GTA	**Gaotai**	**7.93**	**342**	*e*P	**Pn**	**03 29 08.1**	**+4.7**
GTA				pP		03 29 11.9	
GTA				sP		03 29 14.8	
GTA				S	**Sn**	**03 30 34.8**	**+1.4**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GTA				LR	LR		
	comp=N,3μm,11.9s						
GTA				LR	LR		
	comp=E,4μm,11.9s						
GTA				LR	LR		
	comp=Z,2μm,17.1s						
WHN	**Wuhan**	**9.83**	**95**	P	**Pn**	**03 29 27.6**	**-1.9**
WHN				S	**Sn**	**03 31 11.4**	**-8.8**
WHN				LR	LR		
	comp=N,9μm,6.5s						
WHN				LR	LR		
	comp=E,7μm,6.8s						
LSA	**Lhasa**	**10.41**	**261**	*e*Pn	**Pn**	**03 29 41.5**	**+3.9**
	comp=E,11nm,0.6s						
LSA	**Lhasa**	**10.41**	**261**	*e*P	**Pn**	**03 29 41.5**	**+4.0**
LSA				pmax	pmax		
	comp=Z,11nm,0.6s						
HHC	**Hu-ho-hao-te**	**11.29**	**35**	*e*P	**Pn**	**03 29 51.4**	**+1.9**
HHC				pP		03

CHTO Chiang Mai 13.53 197 *e*Pn **Pn 03 30 26.0 +5.8**
CHTO Chiang Mai 13.53 197 *e*P **Pn 03 30 26.0 +5.8**
CMAR Chiang Mai Arr 13.87 196 Pn **Pn 03 30 26.4 +1.5**
comp=Z,1.7nm,0.3s,baz=8.8,slow=12,SNR=10.0
CMAR LR LR 03 36 06.7
comp=Z,350nm,18.2s,baz=350,slow=39
CMAR Chiang Mai Arr 13.87 196 Pn **Pn 03 30 26.4 +1.5**
CMAR LR LR 03 36 06.7
CMAR Chiang Mai Arr 13.87 196 P **Pn 03 30 26.4 +1.5**
CMAR pmax pmax
comp=Z,2.0nm,0.3s
CMAR MLR MLR
comp=Z,350nm,18.2s
QIZ Qiongzhong 14.23 153 P **Pn 03 30 34.3 +4.6**
QIZ pP pP 03 30 37.8 -1.2
QIZ sP sP 03 30 40.5 +0.6
QIZ S **Sn 03 33 15.3 +7.4**
QIZ pmax pmax
comp=Z,23nm,1.8s
QIZ pmax pmax
comp=Z,240nm,5.1s
QIZ LR LR
comp=N,2μm,13.3s
QIZ LR LR
comp=E,2μm,15.1s
BDT Bhumibol Dam 15.03 195 P **Pn 03 30 34.0 -6.7**
comp=E,11nm,0.8s
GUN Gumba 15.36 259 *e*P **Pn 03 30 41.2 -3.8**
comp=E,66nm,1.0s
PKI Pulchoki 15.86 259 *e*P **Pn 03 30 47.3 -4.3**
comp=E,84nm,1.0s
PKIN Phulchoki 15.87 259 *e*P **Pn 03 30 47.8 -3.9**
comp=E,66nm,1.1s
KKN Kakani 15.90 260 *e*P **Pn 03 30 48.0 -4.0**
comp=E,39nm,0.8s
DMN Daman 16.10 259 *e*P **Pn 03 30 50.7 -4.0**
comp=E,47nm,0.9s
SONM Songino Array 16.13 8 Pn **Pn 03 30 54.1 -0.8**
comp=E,0.2nm,0.3s,baz=186,slow=11,SNR=17
SONM Songino Array 16.13 8 P **Pn 03 30 54.1 -0.8**
SONM Songino Array 16.13 8 P **Pn 03 30 54.1 -0.8**
ULN Ulaanbaatar 16.25 10 *e*Pn **Pn 03 30 55.5 -0.8**
comp=E,45nm,1.7s
ULN Ulaanbaatar 16.25 10 *e*P **Pn 03 30 55.6 -0.8**
ULN pmax pmax
comp=Z,45nm,1.7s
NST Nakhon Sawan 16.36 190 P **Pn 03 30 59.0 +1.0**
GKN Gorkha 16.37 261 *e*P **Pn 03 30 56.2 -1.9**
comp=Z,142nm,0.9s
WMQ Urumqi 16.92 319 P **Pn 03 31 09.3 +4.3**
WMQ pP pP 03 31 12.8 +4.0
WMQ sP sP 03 31 16.3 +6.6
WMQ PP 03 31 23.4
WMQ S **Sn 03 34 14.9 +1.7**
WMQ ScS ScS 03 43 09.1 +2.7
WMQ pmax pmax
comp=Z,21nm,1.0s
WMQ pmax pmax
comp=Z,270nm,4.0s
WMQ LR LR
comp=N,3μm,9.6s
WMQ LR LR
comp=E,2μm,13.7s
WMQ LR LR
comp=Z,550nm,17.0s
DANN Dangsing 17.00 263 *e*P **Pn 03 31 05.5 -0.6**
comp=Z,97nm,0.7s
KOLN Koldanda 17.31 261 *e*P **Pn 03 31 06.0 -4.0**
comp=Z,115nm,0.8s
SSLB Suanglung 17.81 112 *e*Pn **Pn 03 31 19.6 +3.3**
TPUB Ta-pu 17.82 114 *e*Pn **Pn 03 31 19.6 +3.3**
NACB Ninganchiao 18.13 110 *e*Pn **Pn 03 31 21.1 +1.0**
ZAK Zakamensk 18.47 1 *e*P **Pn 03 31 23.7 -0.4**
ZAK pmax pmax
comp=Z,7.0nm,1.3s
TLY Talaya 19.77 1 *e*P **Pn 03 31 37.0 -2.9**
comp=Z,8.3nm,1.1s
TLY Talaya 19.77 1 *e*P **Pn 03 31 41.4 +1.6**
TLY pmax pmax
comp=Z,10.0nm,1.0s
TLY MLR MLR
comp=Z,455nm,12.0s
KSRS Korea Array 21.22 68 P **P 03 31 52.2 -2.0**
comp=Z,24nm,0.9s,mb4.5,baz=254,slow=9.6,SNR=29
KSRS LR LR 03 40 04.9
comp=Z,755nm,20.6s,MS4.1,baz=100,slow=37
KSRS Korea Array 21.22 68 P **P 03 31 52.2 -2.0**
KSRS pmax pmax
comp=Z,24nm,0.9s,mb4.5
KSRS MLR MLR
comp=Z,755nm,20.6s,MS4.1
CN2 Changchun 21.28 50 *e*P **P 03 31 53.8 -0.9**
CN2 *e*pP 03 31 59.0
CN2 *e*S **S 03 35 43.8 -7.6**
CN2 pmax pmax
comp=Z,30nm,1.0s,mb4.6
CN2 LR LR
comp=N,600nm,13.0s,MS4.4
CN2 LR LR
comp=E,900nm,13.0s,MS4.4
CN2 LR LR
comp=Z,1μm,16.0s,MS4.3
HIA Hailar 21.43 31 *e*P **P 03 31 56.3 -0.1**
comp=Z,32nm,1.0s,mb4.6
HIA Hailar 21.43 31 *e*P **P 03 31 56.3 -0.1**
HIA pmax pmax
comp=Z,32nm,1.0s
MK31 Makanchi Array 21.75 319 *e*P **P 03 32 01.0 +1.1**
MK31 Makanchi Array 21.75 319 *i* P **P 03 32 01.3 +1.5**
MK31 pmax pmax
comp=Z,34nm,1.0s,mb4.7
MKAR Makanchi Array 21.75 319 P **P 03 31 58.6 -1.2**
comp=Z,16nm,0.9s,mb4.5,baz=127,slow=10,SNR=50
MKAR LR LR 03 40 36.7
comp=Z,452nm,18.4s,MS3.9,baz=296,slow=37
MKAR Makanchi Array 21.75 319 P **P 03 31 58.6 -1.2**
MKAR LR LR 03 40 36.7
MKAR Makanchi Array 21.75 319 P **P 03 31 58.6 -1.2**
MKAR pmax pmax
comp=Z,16nm,0.9s
MKAR MLR MLR
comp=Z,452nm,18.4s
AGRA Agra 22.25 264 *e*PKP **P 03 32 03.9 -1.4**
AGRA AMb AMB 03 32 11.9
comp=Z,58nm,0.2s,mb5.6
NDI New Delhi 22.46 269 *e*PKP **P 03 32 06.8 -0.7**
KKR Kurukshetra 22.51 272 *e*PKP **P 03 32 06.2 -1.8**
AYAN Aya Nagar 22.59 268 *e*PKP **P 03 32 06.6 -2.3**
AYAN AMb AMB 03 32 20.9
comp=Z,8.8nm,0.7s,mb4.3
SONA Sohna 22.69 268 *e*PKP **P 03 32 11.2 +1.2**
SONA AMb AMB 03 32 15.2
comp=Z,14nm,0.5s,mb4.7
BHGR Bahadurgarh 22.70 269 *e*PKP **P 03 32 08.6 -1.5**
KSH Kashi 23.16 297 P **P 03 32 15.6 +0.8**
KSH pP 03 32 19.8
KSH sP sP 03 32 22.6 +5.1
KSH PP 03 32 45.5
KSH PcP PcP 03 36 06.8 +3.6
KSH S **S 03 36 20.1 -6.5**
KSH ScP ScP 03 39 42.6 +0.9
KSH PcS PcS 03 39 44.4 +2.1
KSH ScS ScS 03 43 27.1 -0.5
KSH pmax pmax
comp=Z,13nm,1.2s,mb4.2
KSH pmax pmax
comp=Z,53nm,2.1s,mb4.6
KSH LR LR
comp=N,900nm,12.0s
KSH LR LR
comp=E,610nm,9.8s
KSH LR LR
comp=Z,980nm,14.2s,MS4.4
JNU Nakatsue 23.53 80 *e*P **P 03 32 18.7 -0.2**
comp=Z,7.7nm,1.1s,mb4.0
KHET Khetri 23.82 268 *e*PKP **P 03 32 20.1 -1.5**
KHET AMb AMB 03 32 30.1
comp=Z,29nm,1.1s,mb4.6
BHPL Bhopal 24.20 256 *e*PKP **P 03 32 23.7 -1.4**
BHPL AMb AMB 03 32 32.6
comp=Z,48nm,1.1s,mb4.8
TKM2 Tokmak 2 24.27 305 *e*P **P 03 32 27.5 +2.0**
comp=Z,16nm,1.4s,mb4.3
TKM2 Tokmak 2 24.27 305 *e*P **P 03 32 27.5 +1.9**
TKM2 pmax pmax
comp=Z,16nm,1.4s,mb4.3
MDJ Mudanjiang 24.33 51 P **P 03 32 26.9 +0.9**
MDJ pP
MDJ sP sP 03 32 31.3 +2.5
MDJ PcP PcP 03 36 06.4 +0.8
MDJ S **S 03 36 43.3 -2.2**
MDJ ScP ScP 03 39 45.0 +0.3
MDJ PcS PcS 03 39 46.8 +1.5
MDJ ScS ScS 03 43 31.3 -0.7
MDJ pmax pmax
comp=Z,29nm,1.0s,mb4.7
MDJ LR LR
comp=N,340nm,21.8s,MS4.0
MDJ LR LR
comp=E,410nm,20.0s,MS4.0
MDJ LR LR
comp=Z,420nm,16.9s,MS4.0
MDJ Mudanjiang 24.33 51 *e*P **P 03 32 27.7 +1.6**
comp=Z,30nm,0.9s,mb4.7
EKS2 Erkin-Say 25.48 303 *e*P **P 03 32 36.7 +0.1**
comp=Z,45nm,1.5s,mb4.8
EKS2 Erkin-Say 25.48 303 *e*P **P 03 32 36.7 +0.1**
EKS2 pmax pmax
comp=Z,45nm,1.5s,mb4.8
ZAA0 Zalesovo Array 25.59 335 *e*P **P 03 32 35.9 -1.5**
ZALV Zalesovo Beam 25.59 335 P **P 03 32 38.0 +0.6**
comp=Z,5.3nm,0.8s,mb4.1,baz=134,slow=10,SNR=13
ZALV LR LR 03 43 19.0
comp=Z,368nm,19.4s,MS3.9,baz=291,slow=38
ZALV Zalesovo Beam 25.59 335 P **P 03 32 38.0 +0.6**
ZALV LR LR 03 43 19.0
ZALV Zalesovo Beam 25.59 335 P **P 03 32 38.0 +0.6**
ZALV pmax pmax
comp=Z,5.0nm,0.8s,mb4.1
ZALV MLR MLR
comp=Z,368nm,19.4s,MS3.9
KURK Kurchatov 26.04 323 P **P 03 32 40.1 -1.4**
comp=Z,11nm,0.7s,mb4.5,baz=128,slow=9.9,SNR=28
KURK LR LR 03 43 45.0
comp=Z,283nm,18.7s,MS3.8,baz=170,slow=38
KURK Kurchatov 26.04 323 *e*P **P 03 32 41.7 +0.2**
comp=Z,13nm,0.9s,mb4.5
KURK Kurchatov 26.04 323 P **P 03 32 40.1 -1.4**
KURK pmax pmax
comp=Z,11nm,0.7s,mb4.5
KURK MLR MLR
comp=Z,283nm,18.7s,MS3.8
HYB Hyderabad 26.39 243 *i* P **P 03 32 46.0 +1.0**
NVS Novosibirsk 26.87 334 *e*P **P 03 32 41.6 -7.4**
KLR Kul'dur 27.64 43 *e*P **P 03 32 53.4 -2.6**
KK31 Karatay Array 27.92 303 *i* P **P 03 32 57.8 -0.7**
KKAR Karatay Array 27.92 303 *e*P **P 03 33 01.1 +2.6**
KKAR Karatay Array 27.92 303 *e*P **P 03 33 01.1 +2.6**
KBL Kabul 28.44 285 *e*P **P 03 33 04.3 +1.1**
comp=Z,20nm,1.4s,mb4.5
KBL Kabul 28.44 285 *e*P **P 03 33 04.3 +1.0**
KBL pmax pmax
comp=Z,20nm,1.4s,mb4.5
MJAR Matsushiro Arr 29.39 71 P **P 03 33 08.6 -3.1**
comp=Z,1.4nm,0.8s,mb3.7,baz=267,slow=11,SNR=2.7
MJAR Matsushiro Arr 29.39 71 P **P 03 33 08.6 -3.1**
MJAR Matsushiro Arr 29.39 71 P **P 03 33 08.6 -3.1**
MJAR pmax pmax
comp=Z,1.0nm,0.8s
BRVK Borovoye 31.65 322 *e*P **P 03 33 32.8 +1.4**
comp=Z,6.3nm,1.1s,mb4.4
BRVK Borovoye 31.65 322 *e*P **P 03 33 32.8 +1.4**
BRVK pmax pmax
comp=Z,6.0nm,1.1s,mb4.3
YSS Yuzh-Sakhalins 33.81 52 *e*P **P 03 33 50.6 +0.2**
YAK Yakutsk 34.72 22 *e*P **P 03 33 59.2 +1.1**
YAK pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
YUK Yuzh-Kuril'sk 35.53 58 ↓ *i* P **P 03 34 13.0 +7.6**
YUK *e*S **S 03 39 42.0 +0.8**
YUK pmax pmax
comp=E,160nm,1.3s
YUK pmax pmax
comp=Z,400nm,1.3s
YUK pmax pmax
comp=N,220nm,1.0s
YUK MLR MLR
comp=E,780nm,17.0s
YUK MLR MLR
comp=Z,590nm,17.0s,MS4.4
AB31 Akbulak array 36.43 311 *i* P **P 03 34 14.6 +1.6**
AB31 pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
ABKAR Akbulak array 36.43 311 *e*P **P 03 34 13.0 0.0**
ARU Arti 39.22 322 *e*P **P 03 34 35.9 -0.6**
comp=Z,8.3nm,0.7s,mb4.6
ARU Arti 39.22 322 *c i* P **P 03 34 38.8 +2.3**
ARU *e* 03 36 07.7
ARU S **S 03 40 39.6 +2.7**
ARU SS SS 03 43 27.0 -2.7
ARU pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
KAPI Kappang 40.03 153 *e*P **P 03 34 46.1 +2.4**
SOKR Solikamsk 41.21 326 *e*P **P 03 34 54.5 +1.6**
SOKR pmax pmax
comp=Z,10.0nm,1.1s,mb4.4
SOKR MLR MLR
comp=Z,400nm,23.0s,MS4.2
PETK Petropavlovsk- 44.30 45 P **P 03 35 17.7 -0.3**
comp=Z,8.8nm,0.8s,mb4.5,baz=213,slow=6.9,SNR=4.8
PETK Petropavlovsk- 44.30 45 P **P 03 35 17.7 -0.3**
PETK Petropavlovsk- 44.30 45 P **P 03 35 17.7 -0.4**
PETK pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
ZEI Tsey 47.35 301 *e*P **P 03 35 46.3 +4.0**
ZEI pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
KIV Kislovodsk 48.08 303 ‖ *e*P **P 03 35 51.7 +3.7**
KIV pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
KIV MLR MLR
comp=Z,200nm,17.0s,MS4.2
VSR Storozhevoye 49.84 312 *e*P **P 03 36 02.5 +1.1**
VSR pmax pmax
comp=N,3.0nm,0.8s
VSR pmax pmax
comp=E,6.0nm,0.8s
VSR pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
KLMR Klimovskoe 49.87 325 *e*P **P 03 36 00.3 -1.1**
KLMR pmax pmax
comp=Z,26nm,1.4s,mb5.1
BILL Bilibino 50.87 26 *e*P **P 03 36 08.2 -0.8**
BILL Bilibino 50.87 26 *e*P **P 03 36 10.1 +1.2**
BILL pmax pmax
comp=Z,14nm,2.5s,mb4.5
OBN Obninsk 51.25 318 *e*P **P 03 36 13.6 +1.6**
OBN pmax pmax
comp=Z,11nm,0.4s,mb5.1
APA Apatity 53.17 333 ‖ *e*P **P 03 36 26.0 0.0**
APA *e* 03 37 40.0
APA *e* 03 38 22.0
APA *i* PPP 03 39 30.0
APA *i* S **S 03 43 50.0 -6.8**
APA *i* SS SS 03 47 30.0 -5.7
APA MLR MLR
comp=Z,800nm,19.0s,MS4.8
BR131 Keskin Array S 55.52 299 *e*P **P 03 36 44.1 +0.5**
comp=Z,2.8nm,0.8s,mb4.3
BRTR Keskin Array B 55.52 299 P **P 03 36 44.3 +0.7**
comp=Z,2.0nm,0.8s,mb4.2,baz=99,slow=6.1,SNR=12
BRTR Keskin Array B 55.52 299 P **P 03 36 44.3 +0.7**
BRTR Keskin Array B 55.52 299 P **P 03 36 44.3 +0.7**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 56.14 336 P **P 03 36 45.2 -2.4**
comp=Z,5.2nm,1.0s,mb4.5,baz=73,slow=6.0,SNR=2.4
ARCES LR LR 04 05 59.7
comp=Z,432nm,19.9s,MS4.5,baz=322,slow=42
ARCES ARCESS Array B 56.14 336 P **P 03 36 45.2 -2.4**
ARCES LR LR 04 05 59.7
ARCES ARCESS Array B 56.14 336 P **P 03 36 45.2 -2.4**
ARCES pmax pmax
comp=Z,5.0nm,1.0s
ARCES MLR MLR
comp=Z,432nm,19.9s
AKASG Malin Array Be 56.14 313 P **P 03 36 47.2 -0.7**
comp=Z,2.6nm,0.8s,mb4.3,baz=71,slow=6.8,SNR=3.4
AKASG Malin Array Be 56.14 313 P **P 03 36 47.2 -0.7**
AKASG Malin Array Be 56.14 313 P **P 03 36 47.2 -0.7**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 56.38 326 P **P 03 36 49.0 -0.4**
comp=Z,3.3nm,0.7s,mb4.5,baz=91,slow=5.6,SNR=4.9
FINES FINESS Array B 56.38 326 P **P 03 36 49.0 -0.4**
FINES FINESS Array B 56.38 326 P **P 03 36 49.0 -0.4**
FINES pmax pmax
comp=Z,3.0nm,0.7s
BUR08 Bucovina Ar. S 59.40 310 *e*P **P 03 37 08.9 -1.9**
WRA Warramunga Arr 59.67 145 P **P 03 37 09.5 -3.4**
comp=Z,2.6nm,0.8s,mb4.3,baz=340,slow=7.1,SNR=4.7
WRA Warramunga Arr 59.67 145 P **P 03 37 09.5 -3.4**
WRA Warramunga Arr 59.67 145 P **P 03 37 09.5 -3.4**
WRA pmax pmax
comp=Z,3.0nm,0.8s
COEN Coen 59.68 133 *e*P **P 03 37 13.8 +0.6**
comp=Z,75nm,1.1s,mb5.6
KWP Kalwaria Pacla 60.47 313 *e*P **P 03 37 17.6 -0.6**
comp=Z,15nm,1.0s,mb5.0
KWP Kalwaria Pacla 60.47 313 *e*P **P 03 37 17.6 -0.5**
KWP pmax pmax
comp=Z,15nm,1.0s,mb5.0
UZH Uzhgorod 61.00 312 *e*P **P 03 37 20.2 -1.6**
UZH *e* 03 37 33.0
HFS Hagfors 62.58 326 P **P 03 37 30.9 -1.3**
comp=Z,6.1nm,1.2s,mb4.6,baz=98,slow=6.0,SNR=4.2
HFS Hagfors 62.58 326 P **P 03 37 30.9 -1.3**
HFS Hagfors 62.58 326 P **P 03 37 30.9 -1.3**
HFS pmax pmax
comp=Z,6.0nm,1.2s
ASAR Alice Springs 62.67 148 P **P 03 37 30.9 -2.3**
comp=Z,0.6nm,0.5s,mb4.0,baz=326,slow=6.6,SNR=7.9
ASAR Alice Springs 62.67 148 P **P 03 37 30.9 -2.3**
ASAR Alice Springs 62.67 148 P **P 03 37 31.0 -2.2**
ASAR pmax pmax
comp=Z,1.0nm,0.5s
NB2 NORSAR Subarra 63.48 327 P **P 03 37 38.4 +0.2**
comp=Z,5.3nm,1.1s,mb4.6,baz=72,slow=6.5
NOA NORSAR Array B 63.48 327 P **P 03 37 37.4 -0.7**
comp=Z,2.0nm,0.9s,mb4.3,baz=73,slow=6.2,SNR=3.5
NOA NORSAR Array B 63.48 327 P **P 03 37 37.5 -0.7**
NOA NORSAR Array B 63.48 327 P **P 03 37 37.4 -0.8**
NOA pmax pmax
comp=Z,2.0nm,0.9s
MORC Moravsky Berou 63.63 314 *e*P **P 03 37 39.4 +0.1**
comp=Z,2.0nm,0.7s,mb4.3
MORC Moravsky Berou 63.63 314 *e*P **P 03 37 39.4 0.0**
MORC pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
TIR Tirane 64.99 304 *e*P **P 03 37 47.3 -1.2**
comp=Z,21nm,0.8s,mb5.2
TIR Tirane 64.99 304 *e*P **P 03 37 47.3 -1.2**
TIR pmax pmax
comp=Z,21nm,0.8s,mb5.2
BRG Berggiesshubel 65.43 316 *e*(P) **P 03 37 53.0 +1.9**
comp=Z,4.6nm,1.1s,mb4.4
BRG *e* 03 38 00.5
comp=Z,7.2nm,1.3s
BRG Berggiesshubel 65.43 316 *e*P **P 03 37 53.0 +1.9**
BRG *e* 03 38 00.5
BRG pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
CLL Collm 65.83 317 *e*P **P 03 37 54.0 +0.3**
CLL Collm 65.83 317 *e*P **P 03 37 54.0 +0.3**
GERES GERESS Array B 66.31 314 P **P 03 37 56.2 -0.7**
comp=Z,1.0nm,0.8s,mb3.9,baz=52,slow=5.5,SNR=6.6
GERES GERESS Array B 66.31 314 P **P 03 37 56.2 -0.7**
GERES GERESS Array B 66.31 314 P **P 03 37 56.2 -0.6**
GERES pmax pmax
comp=Z,1.0nm,0.8s
COLD Coldfoot 67.13 24 *e*P **P 03 38 03.5 +1.7**
comp=Z,4.5nm,0.9s,mb4.5
PPLA Purkeypile 68.42 28 *e*P **P 03 38 11.8 +1.8**
comp=Z,21nm,1.1s,mb5.1
COLA College 69.13 26 *e*P **P 03 38 15.7 +1.3**
comp=Z,11nm,0.9s,mb4.8
COLA College 69.13 26 *e*P **P 03 38 15.7 +1.4**
COLA pmax pmax
comp=Z,11nm,0.9s,mb4.8
DAVOX Davos/Dischmat 69.49 313 P **P 03 38 16.6 -0.3**
comp=Z,3.3nm,1.0s,mb4.2,baz=89,slow=6.6,SNR=4.0
DAVOX Davos/Dischmat 69.49 313 P **P 03 38 16.6 -0.3**
DAVOX Davos/Dischmat 69.49 313 P **P 03 38 16.6 -0.3**
ILAR Eielson Array 69.53 25 P **P 03 38 16.7 -0.2**
comp=Z,1.1nm,0.7s,mb3.9,baz=291,slow=5.5,SNR=14
ILAR Eielson Array 69.53 25 P **P 03 38 16.7 -0.2**
ILAR Eielson Array 69.53 25 P **P 03 38 16.7 -0.2**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
KMBO Kilima Mbogo 70.17 256 *e*P **P 03 38 20.8 -0.8**
comp=Z,24nm,1.6s,mb4.9
KMBO Kilima Mbogo 70.17 256 *e*P **P 03 38 20.8 -0.8**
KMBO pmax pmax
comp=Z,24nm,1.6s
PMR Palmer 70.31 29 *e*P **P 03 38 22.1 +0.4**
comp=Z,10nm,0.9s,mb4.8
PMR Palmer 70.31 29 *e*P **P 03 38 22.1 +0.4**
PMR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
OHAK Old Harbor 70.64 34 *e*P **P 03 38 24.4 +0.6**
comp=Z,6.7nm,0.6s,mb4.8
KDAK Kodiak Island 70.70 33 *i* P **P 03 38 27.1 +2.9**
HINF Hinteralfeld 70.90 315 *e*P **P 03 38 25.5 0.0**
comp=Z,24nm,1.3s,mb4.7
INK Inuvik 71.72 19 *e*P **P 03 38 29.6 -0.5**
comp=Z,7.3nm,1.2s,mb4.5
INK Inuvik 71.72 19 *e*P **P 03 38 29.6 -0.5**
INK pmax pmax
comp=Z,7.0nm,1.2s
LPG La Plagne 72.01 313 *e*P **P 03 38 32.4 +0.1**
comp=Z,21nm,0.9s,mb4.8
LPL La Plagne 72.01 313 *e*P **P 03 38 32.3 0.0**
comp=Z,13nm,0.8s,mb4.6
RES Resolute Bay 73.03 5 P **P 03 38 37.2 -0.7**
comp=Z,3.3nm,1.2s,mb4.2,baz=36,slow=8.7,SNR=2.0
RES Resolute Bay 73.03 5 P **P 03 38 37.2 -0.7**
RES Resolute Bay 73.03 5 P **P 03 38 37.2 -0.7**
RES pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
STKA Stephens Creek 73.20 146 P **P 03 38 36.4 -2.9**
comp=Z,4.7nm,1.2s,mb4.3,baz=312,slow=8.2,SNR=2.5
STKA Stephens Creek 73.20 146 P **P 03 38 36.4 -2.9**
STKA Stephens Creek 73.20 146 P **P 03 38 36.4 -2.9**
SMF Signal de Mont 73.26 315 *e*P **P 03 38 39.6 -0.1**
comp=Z,30nm,1.3s,mb4.8
YKA Yellowknife Ar 81.21 17 P **P 03 39 25.0 +0.9**
comp=Z,1.8nm,0.6s,mb4.2,baz=330,slow=5.2,SNR=6.3
YKA Yellowknife Ar 81.21 17 P **P 03 39 25.0 +1.0**
YKA pmax pmax
comp=Z,2.0nm,0.6s
LSZ Lusaka 85.55 249 *e*P **P 03 39 50.4 +3.3**
comp=Z,3.5nm,1.0s,mb4.5
LSZ Lusaka 85.55 249 *e*P **P 03 39 50.4 +3.3**
LSZ pmax pmax
comp=Z,4.0nm,1.0s,mb4.6
TORD Torodi Ar. Bea 92.48 287 P **P 03 40 18.7 -1.5**
comp=Z,0.7nm,1.0s,mb4.0,baz=73,slow=5.0,SNR=2.4
TORD Torodi Ar. Bea 92.48 287 P **P 03 40 18.7 -1.5**
VNA3 Neumayer Olymp 127.12 202 *e* PKPdf PKPdf 03 46 11.6 -0.2
BCIP Isla Barro Col 139.08 4 *e*PKPdf PKPdf 03 46 35.3 -0.7
OTAV Otavalo 148.01 3 *e*PKPbc PKPbc 03 46 56.0 +1.3

MEX 14 03:45:28.5±0.8, 16°41N×97°26W, h59km±16km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**0.83**	**37**	*i* P	Pn	03 45 42.8	-1.5
VHO				*i* S	Sn	03 45 54.4	-1.6
PNIG	**Pinotepa**	**0.83**	**269**	*i* P	Pn	03 45 42.5	-1.9
PNIG				*i* S	Sn	03 45 54.8	-1.3
OXX	**Oaxaca**	**0.84**	**38**	*i* P	Pn	03 45 44.0	-0.5
OXX				*i* S	Sn	03 45 54.2	-2.0
UTMO	**Huajuapan**	**1.50**	**340**	*e*P	Pn	03 45 52.7	-0.5
UTMO				*i* S	Sn	03 46 09.3	-2.5
TPIG	**Tehuac#an**	**2.00**	**357**	*e*P	Pn	03 45 58.3	-1.7
TPIG				*i* S	Sn	03 46 22.0	-1.9
CMIG	**Matias Romero**	**2.37**	**73**	*e*P	Pn	03 46 03.9	-1.1
CMIG				*i* S	Sn	03 46 31.9	-1.2
ACX	**Acapulco**	**2.53**	**281**	*e*P	Pn	03 46 08.2	+1.0
ACX				*i* S	Sn	03 46 37.9	+0.9
CAIG	**El Cayaco**	**2.95**	**283**	*i* P	Pn	03 46 12.7	-0.2
CAIG				*i* S	Sn	03 46 45.1	-2.0

CCIG	**Comitan**	**4.92**	**91**	*e*P		Pn		03 46 43.2	+3.3
CCIG				*i* S		Sn		03 47 39.9	+4.3

IDC 14 04:16:29.5±2.3, 6°64S×130°22E, h0km, mb3.8/1, mb1 3.9/3, mb1mx3.5/16, mbtmp3.7/3, ML3.7/2, MS3.7/1, Ms1 3.7/1, ms1mx2.7/23, Error ellipse: s-maj=138.9km s-min=31.7km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**13.81**	**164**	Pn	Pn		04 19 45.2	-1.5
	0.4nm,0.3s,baz=346,slow=13,SNR=4.6							
WRA				Sn	Sn		04 22 09.7	-11
	0.4nm,0.3s,baz=338,slow=22,SNR=7.1							
ASAR	**Alice Springs**	**17.29**	**169**	P	Pn		04 20 33.8	+1.3
	0.4nm,0.3s,baz=352,slow=9.7,SNR=26							
ASAR				S	Sn		04 23 34.9	-11
	0.1nm,0.3s,baz=351,slow=23,SNR=4.2							
PSI	**Prapat**	**32.62**	**286**	LR	LR		04 37 18.4	
	comp=Z,119nm,19.2s,baz=111,slow=38							
MKAR	**Makanchi Array**	**68.05**	**327**	P	P		04 27 30.9	+0.1
	0.3nm,0.3s,baz=114,slow=7.6,SNR=7.0							

IDC 14 04:26:01.8±0.8, 27°.62N×92°.71E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.8/26, mbtmp3.8/10, Error ellipse: s-maj=32.3km s-min=17.0km az=58.0
ISCJB 14 04:26:11.1±1.4, 27°.69N±0°.07×92°.8E±0°.1, h90km±13km, mb3.8/12, Error ellipse: s-maj=21.5km s-min=10.4km az=169.9
NEIC 14 04:26:12.1±1.5, 27°.75N×92°.78E, h82km±13km, mb3.7/5, Error ellipse: s-maj=14.6km s-min=10.7km az=221.0
ISC 14 04:26:11.7±1.4, 27°.70N±0°.07×92°.8E±0°.1, h78km±14km, n27, σ0955/29, mb3.8/12, 1C, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
SHL	**Shillong**	**2.27**	**201**	⇑*i* PN	**Pn**		**04 26 42.0**	**-5.2**
SHL				*e*SN	**Sn**		**04 27 14.0**	**-4.3**
LSA	**Lhasa**	**2.45**	**325**	*e*Pn	**Pn**		**04 26 50.3**	**+0.8**
LSA				*e*Sn	**Sn**		**04 27 23.3**	**+4.8**
TKM2	**Tokmak 2**	**20.60**	**322**	*e*P	**P**		**04 30 44.8**	**+0.3**
	2.3nm,0.8s							
MK31	**Makanchi Array**	**20.77**	**339**	*e*P	**P**		**04 30 45.1**	**-1.1**
MKAR	**Makanchi Array**	**20.77**	**339**	P	**P**		**04 30 45.1**	**-1.0**
	0.6nm,0.5s,baz=145,slow=14,SNR=3.6							
MKAR	**Makanchi Array**	**20.77**	**339**	P	**P**		**04 30 45.1**	**-1.0**
KBL	**Kabul**	**21.40**	**294**	*e*P	**P**		**04 30 53.2**	**+0.1**
	4.7nm,0.5s,mb4.1							
EKS2	**Erkin-Say**	**21.46**	**319**	*e*P	**P**		**04 30 53.6**	**-0.1**
	2.5nm,0.8s,mb3.6							
SONM	**Songino Array**	**22.73**	**24**	P	**P**		**04 31 07.1**	**0.0**
	0.7nm,0.5s,mb3.2,baz=236,slow=10,SNR=3.7							
SONM	**Songino Array**	**22.73**	**24**	P	**P**		**04 31 07.1**	**0.0**
KURK	**Kurchatov**	**25.38**	**339**	P	**P**		**04 31 31.2**	**-0.3**
	0.8nm,0.5s,mb3.5,baz=150,slow=9.7,SNR=6.7							
KURK	**Kurchatov**	**25.38**	**339**	*e*P	**P**		**04 31 31.3**	**-0.1**
	1.9nm,0.6s,mb3.7							
ZALV	**Zalesovo Beam**	**26.87**	**350**	P	**P**		**04 31 44.7**	**-0.1**
	0.9nm,0.5s,mb3.6,baz=179,slow=8.4,SNR=5.0							
ZALV	**Zalesovo Beam**	**26.87**	**350**	P	**P**		**04 31 44.7**	**-0.1**
ABKAR	**Akbulak array**	**33.12**	**319**	*e*P	**P**		**04 32 40.9**	**+0.7**
	1.2nm,0.7s,mb3.8							
BRTR	**Keskin Array B**	**49.82**	**300**	P	**P**		**04 34 55.9**	**-0.9**
	0.6nm,0.7s,mb3.7,baz=108,slow=8.5,SNR=4.7							
BRTR	**Keskin Array B**	**49.82**	**300**	P	**P**		**04 34 55.9**	**-0.9**
WRA	**Warramunga Arr**	**62.14**	**135**	P	**P**		**04 36 24.9**	**+0.1**
	3.3nm,0.7s,mb4.5,baz=325,slow=7.3,SNR=28							
WRA	**Warramunga Arr**	**62.14**	**135**	P	**P**		**04 36 24.9**	**+0.1**
GERES	**GERESS Array B**	**62.73**	**313**	P	**P**		**04 36 29.2**	**+0.7**
	0.5nm,0.5s,mb3.7,baz=69,slow=7.3,SNR=6.9							
GERES	**GERESS Array B**	**62.73**	**313**	P	**P**		**04 36 29.2**	**+0.7**
ASAR	**Alice Springs**	**64.67**	**138**	P	**P**		**04 36 41.7**	**+0.2**
	2.4nm,0.5s,mb4.3,baz=322,slow=6.7,SNR=46							
ASAR	**Alice Springs**	**64.67**	**138**	P	**P**		**04 36 41.7**	**+0.2**
ILAR	**Eielson Array**	**76.95**	**22**	P	**P**		**04 37 55.5**	**+0.2**
	0.8nm,0.9s,mb3.4,baz=270,slow=5.2,SNR=8.7							
ILAR	**Eielson Array**	**76.95**	**22**	P	**P**		**04 37 55.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**84.94**	**282**	P	**P**		**04 38 39.2**	**+0.5**
	0.8nm,0.8s,mb3.7,baz=51,slow=4.6,SNR=5.3							
TORD	**Torodi Ar. Bea**	**84.94**	**282**	P	**P**		**04 38 39.2**	**+0.5**

ISCJB 14 04:34:12.8±0.5, 43°.16N±0°.03×46°.12E±0°.03, h6km±4km, Error ellipse: s-maj=5.8km s-min=2.6km az=32.1
MOS 14 04:34:12.8±0.7, 43°.16N×46°.14E, h7km, mb3.7/1, Error ellipse: s-maj=10.4km s-min=7.1km az=27.1
CSEM 14 04:34:12.1, 43°.16N×46°.14E, h7km, mb3.7, After OBN
ISC 14 04:34:13.4±0.6, 43°.18N±0°.03×46°.15E±0°.03, h11km±4km, n44, σ1803/83, 1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
GRO	**Groznyy**	**0.32**	**297**	*e*PG	**Pg**		**04 34 19.1**	**-0.8**
GRO				*i* S	**Sg**		**04 34 24.4**	**+0.2**
GRO	**Groznyy**	**0.32**	**297**	*e*Pg	**Pg**		**04 34 19.1**	**-0.8**
GRO				*i* Sg	**Sg**		**04 34 24.4**	**+0.2**
BTLR	**Botlikh**	**0.52**	**174**	*e*PG	**Pg**		**04 34 22.8**	**-0.6**
BTLR				*e*S	**Sg**		**04 34 30.8**	**+0.6**
BTLR				pmax	pmax			
	comp=Z,37nm,0.2s							
BTLR	**Botlikh**	**0.52**	**174**	*e*Pg	**Pg**		**04 34 22.8**	**-0.6**
	comp=Z,37nm,0.2s							
BTLR				*e*Sg	**Sg**		**04 34 30.8**	**+0.6**
KRNR	**Karanay**	**0.66**	**122**	*e*PG	**Pg**		**04 34 25.8**	**-0.3**
KRNR				*i* S	**Sg**		**04 34 34.5**	**-0.2**
KRNR				pmax	pmax			
	comp=Z,23nm,0.2s							
KRNR	**Karanay**	**0.66**	**122**	*e*Pg	**Pg**		**04 34 25.8**	**-0.3**
	comp=Z,23nm,0.2s							
KRNR				*i* Sg	**Sg**		**04 34 34.5**	**-0.2**
UNCR	**Uncukul**	**0.66**	**134**	*e*PG	**Pg**		**04 34 26.0**	**-0.2**
UNCR				*e*S	**Sg**		**04 34 35.3**	**+0.4**
UNCR				pmax	pmax			
	comp=Z,27nm,0.2s							
UNCR	**Uncukul**	**0.66**	**134**	*e*Pg	**Pg**		**04 34 26.0**	**-0.2**
	comp=Z,27nm,0.2s							
UNCR				*e*Sg	**Sg**		**04 34 35.3**	**+0.4**
XNZR	**Khunzakh**	**0.76**	**147**	*e*PG	**Pg**		**04 34 27.8**	**-0.2**
XNZR				*e*S	**Sg**		**04 34 38.5**	**+0.7**
XNZR	**Khunzakh**	**0.76**	**147**	*e*Pg	**Pg**		**04 34 27.8**	**-0.2**
XNZR				*e*Sg	**Sg**		**04 34 38.5**	**+0.7**
SNJR	**Sundja**	**0.98**	**264**	*e*PG	**Pg**		**04 34 22.2**	**-0.1**
SNJR				*i* S	**Sg**		**04 34 46.7**	**+1.6**
SNJR	**Sundja**	**0.98**	**264**	*e*Pg	**Pg**		**04 34 22.2**	**-0.1**
SNJR				*i* Sg	**Sg**		**04 34 46.7**	**+1.6**
VLKR	**Vladikavkaz**	**1.08**	**264**	*e*PG	**Pg**		**04 34 34.1**	**-0.1**
VLKR				*e*S	**Sg**		**04 34 49.9**	**+1.6**
VLKR	**Vladikavkaz**	**1.08**	**264**	*e*Pg	**Pg**		**04 34 34.1**	**-0.1**
VLKR				*e*Sg	**Sg**		**04 34 49.9**	**+1.6**
TRKR	**Terskaya**	**1.17**	**298**	*e*PG	**Pg**		**04 34 36.5**	**+0.7**
TRKR				*e*S	**Sg**		**04 34 53.7**	**+2.7**
TRKR	**Terskaya**	**1.17**	**298**	*e*Pg	**Pg**		**04 34 36.5**	**+0.7**
TRKR				*e*Sg	**Sg**		**04 34 53.7**	**+2.7**
KMKR	**Kumukh**	**1.26**	**146**	*e*PG	**Pg**		**04 34 37.5**	**-0.1**
KMKR				*e*S	**Sg**		**04 34 55.0**	**+1.1**
KMKR				pmax	pmax			
	comp=Z,35nm,0.2s							
KMKR	**Kumukh**	**1.26**	**146**	*e*Pg	**Pg**		**04 34 37.5**	**-0.1**
	comp=Z,35nm,0.2s							
KMKR				*e*Sg	**Sg**		**04 34 55.0**	**+1.1**
ARNR	**Ardon**	**1.37**	**271**	*e*PG	**Pg**		**04 34 38.7**	**-0.9**
ARNR				*e*S	**Sg**		**04 34 58.1**	**+0.7**
ARNR	**Ardon**	**1.37**	**271**	*e*Pg	**Pg**		**04 34 38.7**	**-0.9**
ARNR				*e*Sg	**Sg**		**04 34 58.1**	**+0.7**
KMSR	**Komsomolskaya**	**1.37**	**279**	*e*PG	**Pg**		**04 34 39.2**	**-0.5**
KMSR				*e*S	**Sg**		**04 34 58.7**	**+1.3**
KMSR	**Komsomolskaya**	**1.37**	**279**	*e*Pg	**Pg**		**04 34 39.2**	**-0.5**
KMSR				*e*Sg	**Sg**		**04 34 58.7**	**+1.3**
LACR	**Lac**	**1.40**	**256**	⇓*i* PG	**Pn**		**04 34 37.8**	**-1.1**
LACR				*i* S	**Sn**		**04 34 57.2**	**-0.2**
LACR	**Lac**	**1.40**	**256**	*i* Pg	**Pn**		**04 34 37.8**	**-1.1**
LACR				*i* Sg	**Sn**		**04 34 57.2**	**-0.2**
PRTR	**Priterechnaya**	**1.48**	**294**	*e*PG	**Pg**		**04 34 40.4**	**-1.3**
PRTR				*i* S	**Sg**		**04 35 01.8**	**+1.0**
PRTR	**Priterechnaya**	**1.48**	**294**	*e*Pg	**Pg**		**04 34 40.4**	**-1.3**
PRTR				*i* Sg	**Sg**		**04 35 01.8**	**+1.0**
KORR	**Kora**	**1.52**	**267**	*e*PG	**Pn**		**04 34 40.7**	**+0.1**
KORR				*e*S	**Sg**		**04 35 02.0**	**-0.4**
KORR	**Kora**	**1.52**	**267**	*e*Pg	**Pn**		**04 34 40.7**	**+0.1**
KORR				*e*Sg	**Sg**		**04 35 02.0**	**-0.4**
ZEI	**Tsey**	**1.70**	**257**	*e*PN	**Pn**		**04 34 42.2**	**-0.8**
ZEI				*i* S	**Sn**		**04 34 05.2**	**+0.5**
ZEI	**Tsey**	**1.70**	**257**	*e*Pn	**Pn**		**04 34 42.2**	**-0.8**
ZEI				*i* Sg	**Sn**		**04 34 05.2**	**+0.5**
LSNR	**Lesken**	**1.71**	**274**	*e*PN	**Pn**		**04 34 43.6**	**+0.5**
LSNR				*e*S	**Sg**		**04 35 07.0**	**-1.3**
LSNR	**Lesken**	**1.71**	**274**	*e*Pn	**Pn**		**04 34 43.6**	**+0.5**
LSNR				*e*Sg	**Sg**		**04 35 07.0**	**-1.3**
TBLG	**Delisi**	**1.78**	**216**	*e*PN	**Pg**		**04 34 45.8**	**-1.7**
TBLG				*e*S	**Sg**		**04 35 10.6**	**0.0**
TBLG	**Delisi**	**1.78**	**216**	P	**Sg**		**04 34 45.8**	**-1.7**
TBLG				S	**Sg**		**04 35 10.6**	**0.0**
TBLG	**Delisi**	**1.78**	**216**	*e*Pn	**Pg**		**04 34 45.8**	**-1.7**
TBLG				*e*Sg	**Sg**		**04 35 10.6**	**0.0**
MTA	**Mtatsminda**	**1.79**	**215**	P	**Pg**		**04 34 46.3**	**-1.3**
MTA				S	**Sg**		**04 35 11.1**	**+0.2**
DGRG	**David-gareji**	**1.82**	**199**	P	**Pn**		**04 34 45.9**	**+1.3**
DGRG				S	**Sg**		**04 35 13.4**	**+1.7**
DIGR	**Digorskoe uzhe**	**1.90**	**263**	*e*PN	**Pn**		**04 34 45.6**	**-0.2**
DIGR	**Digorskoe uzhe**	**1.90**	**263**	*e*Pn	**Pn**		**04 34 45.6**	**-0.2**
GOR	**Gori**	**1.92**	**232**	P	**Sn**		**04 35 14.5**	**+4.4**
ONI	**Oni**	**2.06**	**254**	P	**Pn**		**04 34 48.5**	**+0.5**
ONI				S	**Sg**		**04 35 17.3**	**-2.4**
KIV	**Kislovodsk**	**2.63**	**288**	*e*PN	**Pg**		**04 35 12.4**	**+8.6**
KIV				pmax	pmax			
	comp=Z,5.0nm,0.6s							
KIV	**Kislovodsk**	**2.63**	**288**	*e*Pn	**Pg**		**04 35 12.4**	**+8.6**
	comp=Z,5.0nm,0.6s							
AKH	**Akhalkalaki**	**2.64**	**229**	P	**Pg**		**04 35 00.9**	**-3.2**
AKH				S	**Sg**		**04 35 35.2**	**-3.2**

MEX 14 04:42:08.5±0.7, 16°.35N×93°.46W, h147km±6km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
TGIG		**0.54**	**38**	*i* P	Pn		04 42 28.9	-0.8
TGIG				*i* S	Sn		04 42 43.7	-2.2
PCIG		**0.68**	**160**	*i* P	Pn		04 42 29.1	-1.5
PCIG				*i* S	Sn		04 42 45.2	-2.2
SCX	**San Cristobal**	**0.88**	**64**	*i* P	Pn		04 42 30.4	-1.6
SCX				*i* S	Sn		04 42 48.9	-1.0
CCIG	**Comitan**	**1.28**	**93**	*i* P	Pn		04 42 34.2	-1.3
CCIG				*i* S	Sn		04 42 55.0	-1.1
CMIG	**Matias Romero**	**1.55**	**299**	*i* P	Pn		04 42 37.1	-1.3
CMIG				*i* S	Sn		04 42 59.8	-1.4
THIG		**1.84**	**141**	*i* P	Pn		04 42 40.3	-1.3
THIG				*i* S	Sn		04 43 05.9	-1.1
VHO	**Vista Hermosa**	**3.21**	**283**	*i* P	Pn		04 42 58.0	-0.5
VHO				*i* S	Sn		04 43 34.8	-2.3
TPIG	**Tehuac#an**	**4.25**	**300**	*e*P	Pn		04 43 13.9	+1.9
TPIG				*i* S	Sn		04 43 59.3	-2.0
UTMO	**Huajuapan**	**4.40**	**290**	*i* P	Pn		04 43 12.7	-1.3
UTMO				*i* S	Sn		04 44 02.3	-2.7
PNIG	**Pinotepa**	**4.48**	**271**	*e*P	Pn		04 43 13.1	-1.8
PNIG				*i* S	Sn		04 44 05.3	-1.4

IDC 14 04:45:35.1±3.5, 28°.21S×177°.70W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.8/14, mbtmp3.8/2, Error ellipse: s-maj=127.7km s-min=48.0km az=23.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
ASAR	**Alice Springs**	**43.53**	**265**	P	P		04 53 39.8	-1.0
	0.5nm,0.7s,baz=107,slow=6.4,SNR=5.4							
WRA	**Warramunga Arr**	**44.33**	**270**	P	P		04 53 47.7	+0.6
	1.3nm,0.5s,baz=110,slow=7.8,SNR=25							
FINES	**FINESS Array B**	**143.18**	**341**	PKP	PKPdf		05 05 08.8	-1.6
	2.4nm,0.7s,baz=20,slow=4.4,SNR=3.3							
TORD	**Torodi Ar. Bea**	**165.00**	**178**	PKPab	PKPab		05 06 38.0	-0.1
	0.3nm,0.6s,baz=175,slow=3.5,SNR=4.8							

IDC 14 05:03:13.7±2.9, 16°.71S×66°.94E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/22, mbtmp3.5/4, Error ellipse: s-maj=114.7km s-min=27.4km az=45.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
ASAR	**Alice Springs**	**62.76**	**108**	P	P		05 13 41.0	-0.2
	0.6nm,0.7s,baz=274,slow=6.8,SNR=6.4							
WRA	**Warramunga Arr**	**63.69**	**104**	P	P		05 13 47.8	+0.3
	0.9nm,0.8s,baz=267,slow=5.9,SNR=8.2							
BRTR	**Keskin Array B**	**64.16**	**332**	P	P		05 13 50.2	+0.2
	0.2nm,0.4s,baz=81,slow=8.9,SNR=2.6							
MKAR	**Makanchi Array**	**64.70**	**12**	P	P		05 13 53.6	+0.1
	0.1nm,0.4s,baz=184,slow=8.7,SNR=2.5							

IDC 14 05:25:49.8±1.8, 50°.11N×128°.11W, h0km, mb3.5/2, mb1 3.8/7, mb1mx3.6/26, mbtmp3.5/7, ML3.5/3, Error ellipse: s-maj=38.1km s-min=8.4km az=73.0
ISCJB 14 05:25:51.8±0.8, 50°.15N±0°.04×128°.06W±0°.08, h30km±4km, Error ellipse: s-maj=9.7km s-min=5.1km az=152.5
PGC 14 05:25:51.4±0.3, 50°.05N×128°.09W, h28km, ML3.8/8
PGC 86km southwest of Pt. Hardy, Bc Vancouver Island Region
Felt (I) at Port Alice, British Columbia.
NEIC 14 05:25:51.4, 50°.05N×128°.09W, h28km, ML3.8(PGC), After PGC.
ISC 14 05:25:53.5±0.8, 50°.19N±0°.04×127°.97W±0°.08, h22km±4km, n42, σ1809/60, 9D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
BPBC	**Brooks Peninsu**	**0.13**	**105**	P	**Pb**		**05 25 57.2**	**-0.7**
BPBC				S	**Sb**		**05 26 01.6**	**+0.6**
BPBC	**Brooks Peninsu**	**0.13**	**105**	⇓P	**Pb**		**05 25 57.2**	**-0.7**
BPBC				⇓S	**Sb**		**05 26 01.6**	**+0.6**
HOLB	**Holberg**	**0.46**	**347**	P	**Pb**		**05 26 02.5**	**-0.5**
HOLB				S	**Sb**		**05 26 10.5**	**+1.1**
HOLB	**Holberg**	**0.46**	**347**	⇓P	**Pb**		**05 26 02.5**	**-0.5**
HOLB				⇑S	**Sb**		**05 26 10.5**	**+1.1**
MAYB	**Maynard**	**0.55**	**67**	P	**Pb**		**05 26 03.9**	**-0.5**
MAYB				S	**Sb**		**05 26 13.0**	**+1.1**
MAYB	**Maynard**	**0.55**	**67**	⇓P	**Pb**		**05 26 03.9**	**-0.5**
MAYB				⇓S	**Sb**		**05 26 13.0**	**+1.1**
PHC	**Port Hardy**	**0.62**	**33**	P	**Pb**		**05 26 05.4**	**-0.2**
PHC				S	**Sb**		**05 26 15.5**	**+1.7**
PHC	**Port Hardy**	**0.62**	**33**	⇓P	**Pb**		**05 26 05.4**	**-0.2**
PHC				⇓S	**Sb**		**05 26 15.5**	**+1.7**
EDB	**Eliza Dome**	**0.63**	**120**	P	**Pb**		**05 26 03.6**	**-2.2**
EDB				S	**Sb**		**05 26 13.2**	**-1.0**
EDB	**Eliza Dome**	**0.63**	**120**	⇑P	**Pb**		**05 26 03.6**	**-2.2**
EDB				⇑S	**Sb**		**05 26 13.2**	**-1.0**
WOSB	**Woss**	**0.90**	**91**	P	**Pb**		**05 26 09.2**	**-1.2**
WOSB				S	**Sb**		**05 26 22.3**	**+0.5**
WOSB	**Woss**	**0.90**	**91**	⇓P	**Pb**		**05 26 09.2**	**-1.2**
WOSB				⇑S	**Sb**		**05 26 22.3**	**+0.5**
NCRB	**Newcastle Ridg**	**1.24**	**79**	P	**Pn**		**05 26 14.7**	**-0.8**
NCRB				S	**Sn**		**05 26 31.4**	**-0.2**
NCRB	**Newcastle Ridg**	**1.24**	**79**	⇑P	**Pn**		**05 26 14.7**	**-0.8**
NCRB				⇑S	**Sn**		**05 26 31.4**	**-0.2**
GDR	**Gold River**	**1.31**	**107**	P	**Pn**		**05 26 14.0**	**-2.4**
GDR	**Gold River**	**1.31**	**107**	⇓P	**Pn**		**05 26 14.0**	**-2.4**
CBB	**Campbell River**	**1.68**	**94**	P	**Pn**		**05 26 20.4**	**-1.1**
CBB	**Campbell River**	**1.68**	**94**	⇑P	**Pn**		**05 26 20.4**	**-1.1**
BTB	**Buttle Lake**	**1.74**	**114**	P	**Pn**		**05 26 20.1**	**-2.2**
BTB	**Buttle Lake**	**1.74**	**114**	⇑P	**Pn**		**05 26 20.1**	**-2.2**
BBB	**Bella Bella**	**2.00**	**357**	Pn	**Pn**		**05 26 24.8**	**-1.0**
	7.5nm,0.3s,baz=195,slow=13,SNR=41							
BBB				Pg	**Pn**		**05 26 28.6**	**+2.7**
	34nm,0.3s,baz=183,slow=12,SNR=65							
BBB				Sn	**Sn**		**05 26 49.2**	**-1.0**
	31nm,0.3s,baz=162,slow=22,SNR=7.1							
BBB				Lg			05 26 53.9	
	102nm,0.3s,baz=73,slow=17,SNR=11							
BBB	**Bella Bella**	**2.00**	**357**	Pn	**Pn**		**05 26 24.8**	**-1.0**
BBB				Pg	**Pn**		**05 26 28.6**	**+2.7**
BBB				Sn	**Sn**		**05 26 49.2**	**-1.0**
BBB				Lg			05 26 53.9	
MCW	**Mount Constitu**	**3.68**	**112**	P	**Pn**		**05 26 49.6**	**+0.7**
VDB	**Vedder Mountai**	**3.99**	**105**	P	**Pn**		**05 26 53.0**	**-0.2**
MBW	**Mount Baker**	**4.20**	**107**	P	**Pn**		**05 26 57.0**	**+0.9**
CMW	**Cultus Mountai**	**4.21**	**113**	P	**Pn**		**05 26 57.3**	**+1.0**
GNW	**Green Mountain**	**4.29**	**126**	*e*Pn	**Pn**		**05 26 56.4**	**-1.0**
JCW	**Jim Creek**	**4.43**	**114**	P	**Pn**		**05 27 00.1**	**+0.8**
RPW	**Rockport**	**4.57**	**110**	*e*Pn	**Pn**		**05 27 00.7**	**-0.4**
NLW	**Nelson Butte**	**5.43**	**110**	P	**Pn**		**05 27 13.7**	**+0.6**
ETW	**Entiat**	**5.66**	**114**	*e*Pn	**Pn**		**05 27 16.6**	**+0.4**
	5.9nm,0.3s							
OD2	**Odessa Site #2**	**6.72**	**111**	*e*Pn	**Pn**		**05 27 30.8**	**0.0**
	15nm,0.4s							
BROR	**Big Rock Looko**	**7.01**	**146**	P	**Pn**		**05 27 35.7**	**+1.0**
FRIS	**Frissel Point**	**7.19**	**144**	P	**Pn**		**05 27 38.6**	**+1.4**
DLBC	**Dease Lake**	**8.35**	**353**	Pn	**Pn**		**05 27 52.5**	**-0.5**
	0.4nm,0.3s,baz=224,slow=21,SNR=6.1							
DLBC	**Dease Lake**	**8.35**	**353**	Pn	**Pn**		**05 27 52.5**	**-0.5**
NVAR	**Mina Array Bea**	**13.63**	**146**	Pn	**Pn**		**05 29 06.9**	**+1.7**
	0.0nm,0.3s,baz=331,slow=12,SNR=5.6							
YKA	**Yellowknife Ar**	**14.34**	**26**	Pn	**Pn**		**05 29 13.1**	**-1.7**
	0.1nm,0.3s,baz=214,slow=13,SNR=3.2							
PDAR	**Pinedale Array**	**14.67**	**113**	Pn	**Pn**		**05 29 20.9**	**+1.4**
	0.1nm,0.3s,baz=317,slow=11,SNR=5.5							
ILAR	**Eielson Array**	**17.69**	**333**	Pn	**Pn**		**05 30 05.0**	**+6.9**
	baz=142,slow=8.6,SNR=6.2							
ULM	**Lac du Bonnet**	**20.45**	**77**	P	**P**		**05 30 30.1**	**+0.9**
	1.7nm,0.7s,baz=283,slow=14,SNR=2.6							
TXAR	**Lajitas Array**	**27.76**	**130**	P	**P**		**05 31 40.6**	**+0.2**
	0.7nm,0.8s,baz=331,slow=7.6,SNR=7.3							

ISCJB 14 05:28:34.9±0.4, 39°.36N±0°.03×73°.67E±0°.05, h10km, mb3.9/15, MS3.3/3, Error ellipse: s-maj=6.1km s-min=4.1km az=14.5
IDC 14 05:28:35.3±1.0, 39°.36N×73°.79E, h0km, mb3.9/13, mb1 4.0/17, mb1mx3.9/30, mbtmp3.8/17, ML3.2/3, MS3.2/5, Ms1 3.2/5, ms1mx2.8/33, Error ellipse: s-maj=21.2km s-min=14.6km az=155.0
NNC 14 05:28:36.7±2.3, 39°.71N×74°.05E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=18.7km s-min=10.0km az=172.0
NEIC 14 05:28:40.9±0.6, 39°.56N×73°.77E, h35km, mb4.4/2, Error ellipse: s-maj=10.1km s-min=9.6km az=171.0
BJI 14 05:28:41.9, 39°.59N×74°.06E, h30km, mB4.3/3, mb4.2/7, ML4.0/5
MOS 14 05:28:42.8±1.1, 39°.71N×73°.73E, h64km, mb4.2/8, Error ellipse: s-maj=13.9km s-min=6.1km az=85.5
ISC 14 05:28:37.0±0.4, 39°.41N±0°.03×73°.69E±0°.06, h10km, n98, σ1923/109, mb3.9/15, MS3.3/3, 8C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
KSH	**Kashi**	**1.77**	**86**	Pg	**Pn**		**05 29 01.8**	**-5.8**
KSH				Sg	**Sn**		**05 29 18.4**	**-12**
KSH				smax				
	comp=N,1μm,0.6s							
KSH				smax				
	comp=E,1μm,0.9s							
AML	**Almayashu**	**2.72**	**0**	P	**Pn**		**05 29 20.3**	**-0.4**
	SNR=115							
AML	**Almayashu**	**2.72**	**0**	*i* PN	**Pn**		**05 29 20.3**	**-0.4**
UCH	**Uchtor**	**2.89**	**12**	P	**Pn**		**05 29 23.0**	**+0.1**
	SNR=20							
KZA	**Kyzart**	**2.92**	**23**	P	**Pn**		**05 29 24.2**	**+0.7**
	SNR=142							
KZA	**Kyzart**	**2.92**	**23**	*i* PN	**Pn**		**05 29 24.2**	**+0.8**
EKS2	**Erkin-Say**	**3.25**	**1**	P	**Pn**		**05 29 27.7**	**-0.3**
	SNR=65							
EKS2	**Erkin-Say**	**3.25**	**1**	*e*Pn	**Pn**		**05 29 27.4**	**-0.6**
EKS2				*e*Sn	**Sn**		**05 30 08.3**	**+1.6**
EKS2	**Erkin-Say**	**3.25**	**1**	*e*PN	**Pn**		**05 29 27.4**	**-0.6**
EKS2				*e*			05 30 08.4	
AAK	**Ala-Archa**	**3.28**	**10**	P	**Pn**		**05 29 29.4**	**+1.0**
	SNR=14							
AAK	**Ala-Archa**	**3.28**	**10**	*i* PN	**Pn**		**05 29 29.4**	**+1.0**
KBK	**Karagaybulak**	**3.38**	**16**	P	**P

ABKAR	**Akbulak array**	**13.90**	**320**	*e*Pn		**Pn**	**05 31 51.8**	**-2.0**
	comp=Z,3.6nm,0.6s								
ABKAR				*e*Sn		**Sn**	**05 34 20.9**	**-7.3**
AKTK	**Aktyubinsk**	**15.61**	**320**	Pn		**Pn**	**05 32 15.7**	**-1.2**
AKTK				LR		LR	05 39 07.2	
AKTO	**Aktyubinsk**	**15.61**	**320**	⇑Pn		**Pn**	**05 32 15.6**	**-1.3**
	comp=Z,1.3nm,0.8s								
AKTO	**Aktyubinsk**	**15.61**	**320**	Pn		**Pn**	**05 32 15.7**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=134,slow=13,SNR=9.0								
AKTO				LR		LR	05 39 07.2		
	comp=Z,48nm,20.5s,baz=187,slow=40								
AKTO	**Aktyubinsk**	**15.61**	**320**	P		**Pn**	**05 32 15.7**	**-1.2**
AKTO				MLR		MLR			
	comp=Z,48nm,20.5s								
ZALV	**Zalesovo Beam**	**16.40**	**24**	Pn		**Pn**	**05 32 25.3**	**-1.8**
	baz=203,slow=11,SNR=2.2								
ZALV				Lg			05 37 01.2		
	comp=Z,0.2nm,0.3s,baz=209,slow=15,SNR=2.8								
ZALV	**Zalesovo Beam**	**16.40**	**24**	Pn		**Pn**	**05 32 25.2**	**-1.8**
ZALV				Lg			05 37 01.2		
ZALV	**Zalesovo Beam**	**16.40**	**24**	P		**Pn**	**05 32 25.3**	**-1.7**
NVS	**Novosibirsk**	**16.73**	**19**	*e*P		**Pn**	**05 32 26.9**	**-4.3**
ARU	**Arti**	**19.75**	**335**	*c* iP		**Pn**	**05 33 06.2**	**-1.9**
ARU				S		**Sn**	**05 36 43.6**	**-6.2**
ARU				pmax		pmax			
	comp=Z,4.0nm,1.0s								
GTA	**Gaotai**	**20.17**	**82**	*e*P		**P**	**05 33 14.3**	**+2.9**
GTA				pP			05 33 17.8		
GTA				pmax		pmax			
	comp=Z,3.0nm,0.7s								
LZH	**Lanzhou**	**24.02**	**88**	*e*P		**P**	**05 33 48.3**	**-3.6**
LZH				pmax		pmax			
	comp=Z,15nm,1.0s,mb4.4								
SONM	**Songino Array**	**24.98**	**60**	P		**P**	**05 33 59.7**	**-0.9**
	comp=Z,0.6nm,0.7s,mb3.2,baz=278,slow=9.8,SNR=3.1								
SONM	**Songino Array**	**24.98**	**60**	P		**P**	**05 33 59.7**	**-0.9**
SONM	**Songino Array**	**24.98**	**60**	P		**P**	**05 33 59.7**	**-0.9**
SONM				pmax		pmax			
	comp=Z,1.0nm,0.7s								
BRTR	**Keskin Array B**	**30.70**	**284**	P		**P**	**05 34 54.0**	**+2.1**
	comp=Z,0.8nm,0.7s,mb3.6,baz=96,slow=6.3,SNR=4.5								
BRTR	**Keskin Array B**	**30.70**	**284**	P		**P**	**05 34 54.0**	**+2.1**
BRTR	**Keskin Array B**	**30.70**	**284**	P		**P**	**05 34 54.0**	**+2.2**
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
AKASG	**Malin Array Be**	**32.91**	**305**	P		**P**	**05 35 11.8**	**+0.7**
	comp=Z,0.3nm,0.3s,mb3.7,baz=81,slow=7.2,SNR=4.3								
AKASG	**Malin Array Be**	**32.91**	**305**	P		**P**	**05 35 11.8**	**+0.7**
AKASG	**Malin Array Be**	**32.91**	**305**	*e*P		**P**	**05 35 12.8**	**+1.7**
FINES	**FINESS Array B**	**36.35**	**323**	P		**P**	**05 35 40.8**	**+0.1**
	comp=Z,2.2nm,0.6s,mb4.2,baz=106,slow=9.9,SNR=7.4								
FINES	**FINESS Array B**	**36.35**	**323**	P		**P**	**05 35 40.8**	**+0.1**
FINES	**FINESS Array B**	**36.35**	**323**	P		**P**	**05 35 40.8**	**+0.1**
FINES				pmax		pmax			
	comp=Z,2.0nm,0.6s								
ARCES	**ARCESS Array B**	**39.33**	**336**	P		**P**	**05 36 05.7**	**-0.1**
	comp=Z,4.8nm,0.9s,mb4.2,baz=92,slow=7.6,SNR=7.7								
ARCES	**ARCESS Array B**	**39.33**	**336**	P		**P**	**05 36 05.7**	**-0.1**
ARCES	**ARCESS Array B**	**39.33**	**336**	P		**P**	**05 36 05.7**	**-0.1**
ARCES				pmax		pmax			
	comp=Z,5.0nm,0.9s								
KSRS	**Korea Array**	**41.99**	**75**	LR		LR	05 56 26.1		
	comp=Z,18nm,18.1s,MS3.0,baz=115,slow=40								
GERES	**GERESS Array B**	**43.06**	**303**	P		**P**	**05 36 38.2**	**+1.4**
	comp=Z,1.2nm,0.7s,mb3.8,baz=67,slow=7.4,SNR=8.4								
GERES				LR		LR	05 57 00.3		
	comp=Z,42nm,18.6s,MS3.4,baz=290,slow=40								
GERES	**GERESS Array B**	**43.06**	**303**	P		**P**	**05 36 38.2**	**+1.4**
GERES				LR		LR	05 57 00.3		
GERES	**GERESS Array B**	**43.06**	**303**	P		**P**	**05 36 38.2**	**+1.5**
GERES				pmax		pmax			
	comp=Z,1.0nm,0.7s								
GERES				MLR		MLR			
	comp=Z,42nm,18.6s								
NOA	**NORSAR Array B**	**43.40**	**321**	P		**P**	**05 36 38.9**	**-0.4**
	comp=Z,1.8nm,0.8s,mb3.9,baz=90,slow=8.0,SNR=4.2								
NOA				LR		LR	05 55 18.2		
	comp=Z,62nm,18.4s,MS3.5,baz=105,slow=37								
NOA	**NORSAR Array B**	**43.40**	**321**	P		**P**	**05 36 38.9**	**-0.4**
NOA				LR		LR	05 55 18.2		
NOA	**NORSAR Array B**	**43.40**	**321**	P		**P**	**05 36 38.9**	**-0.4**
NOA				pmax		pmax			
	comp=Z,2.0nm,0.8s								
NOA				MLR		MLR			
	comp=Z,62nm,18.4s								
ESDC	**Sonseca Array**	**58.00**	**297**	P		**P**	**05 38 29.6**	**-0.2**
	comp=Z,0.5nm,0.5s,mb3.8,baz=57,slow=7.8,SNR=4.1								
ESDC	**Sonseca Array**	**58.00**	**297**	P		**P**	**05 38 29.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**67.90**	**269**	P		**P**	**05 39 36.9**	**+0.9**
	comp=Z,1.9nm,0.7s,mb4.3,baz=47,slow=5.4,SNR=20								
TORD	**Torodi Ar. Bea**	**67.90**	**269**	P		**P**	**05 39 36.9**	**+0.9**
INK	**Inuvik**	**70.69**	**10**	P		**P**	**05 39 51.5**	**-0.8**
	comp=Z,1.0nm,0.9s,mb3.8,baz=274,slow=12,SNR=3.6								
INK	**Inuvik**	**70.69**	**10**	*e*P		**P**	**05 39 51.1**	**-1.3**
	comp=Z,2.7nm,1.1s,mb4.1								
INK	**Inuvik**	**70.69**	**10**	P		**P**	**05 39 51.6**	**-0.8**
INK				pmax		pmax			
	comp=Z,1.0nm,0.9s								
DBIC	**Dimbokro**	**76.95**	**268**	P		**P**	**05 40 30.9**	**+0.9**
	comp=Z,2.1nm,0.8s,mb4.1,baz=36,slow=11,SNR=2.9								
DBIC	**Dimbokro**	**76.95**	**268**	P		**P**	**05 40 30.9**	**+0.9**
DBIC	**Dimbokro**	**76.95**	**268**	P		**P**	**05 40 30.9**	**+0.9**
DBIC				pmax		pmax			
	comp=Z,2.0nm,0.8s								
YKA	**Yellowknife Ar**	**78.23**	**4**	P		**P**	**05 40 34.8**	**-1.5**
	comp=Z,0.3nm,0.3s,mb3.6,baz=348,slow=5.8,SNR=3.9								
YKA	**Yellowknife Ar**	**78.23**	**4**	P		**P**	**05 40 34.8**	**-1.5**
YKA	**Yellowknife Ar**	**78.23**	**4**	P		**P**	**05 40 34.8**	**-1.5**
WRA	**Warramunga Arr**	**81.78**	**124**	P		**P**	**05 40 56.0**	**-0.1**
	comp=Z,0.5nm,0.5s,mb3.7,baz=327,slow=5.0,SNR=8.3								
WRA	**Warramunga Arr**	**81.78**	**124**	P		**P**	**05 40 56.0**	**-0.1**
WRA	**Warramunga Arr**	**81.78**	**124**	P		**P**	**05 40 56.1**	**0.0**
WRA				pmax		pmax			
	comp=Z,1.0nm,0.5s								
WRAB	**Tennant Creek**	**81.78**	**124**	*e*P		**P**	**05 40 56.0**	**-0.1**
	comp=Z,9.9nm,1.4s,mb4.5								
WRAB	**Tennant Creek**	**81.78**	**124**	*e*P		**P**	**05 40 56.0**	**-0.1**
WRAB				pmax		pmax			
	comp=Z,10.0nm,1.4s,mb4.5								
WB2	**Warramunga Arr**	**81.79**	**124**	*e*P		**P**	**05 40 55.8**	**-0.4**

*ISCJB **14** 05:42:37.8±0.4, 38°.83N±0°.02×23°.61E±0°.03, h2km±3km, Error ellipse: s-maj=3.7km s-min=2.9km az=7.1*
*CSEM **14** 05:42:38.2±0.1, 38°.82N×23°.62E, h10km, ML3.0/6, Error ellipse: s-maj=3.2km s-min=2.5km az=102.0*
*THE **14** 05:42:38.3, 38°.83N×23°.60E, h3km±1km, ML3.0/6, Error ellipse: s-maj=1.1km s-min=0.5km az=11.0*
*ATH **14** 05:42:38.1, 38°.84N×23°.60E, h22km±1km, ML3.6*
*SKO **14** 05:42:46.0, 39°.58N×24°.12E, h11km*

ISC 14 05:42:38.5±0.4, 38°.84N±0°.02×23°.61E±0°.03, h6km±3km, n67, σ0s81/108, Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AOS	**Alonnisos**	**0.40**	**32**	P		**Pg**	**05 42 46.1**	**-0.1**
AOS				S		**Sg**	**05 42 51.8**	**+0.4**
AOS	**Alonnisos**	**0.40**	**32**	P		**Pg**	**05 42 46.1**	**-0.1**
AOS				S		**Sg**	**05 42 51.8**	**+0.4**
ATAL	**Atalanti**	**0.48**	**253**	P		**Pg**	**05 42 47.4**	**-0.4**
ATAL				S		**Sg**	**05 42 54.8**	**+0.7**
ATAL	**Atalanti**	**0.48**	**253**	P		**Pg**	**05 42 47.4**	**-0.4**
ATAL				S		**Sg**	**05 42 54.8**	**+0.7**
LKR	**Lokris**	**0.51**	**249**	*e*PN		**Pg**	**05 42 48.1**	**-0.3**
LKR				*e*SN		**Sg**	**05 42 55.6**	**+0.5**
LKR	**Lokris**	**0.51**	**249**	P		**Pg**	**05 42 48.0**	**-0.4**
LKR				S		**Sg**	**05 42 55.1**	**0.0**
LKR	**Lokris**	**0.51**	**249**	*e*Pn		**Pg**	**05 42 48.1**	**-0.3**
LKR				S		**Sg**	**05 42 55.1**	**0.0**
NEO	**Neokhori**	**0.56**	**328**	*e*PN		**Pg**	**05 42 49.5**	**+0.2**
NEO				*e*SN		**Sg**	**05 42 57.0**	**+0.4**
NEO	**Neokhori**	**0.56**	**328**	P		**Pg**	**05 42 49.5**	**+0.2**
NEO				S		**Sg**	**05 42 56.8**	**+0.2**
NEO	**Neokhori**	**0.56**	**328**	P		**Pg**	**05 42 49.5**	**+0.2**
NEO				S		**Sg**	**05 42 56.8**	**+0.2**
PTL	**Penteli**	**0.81**	**166**	*e*PN		**Pg**	**05 42 53.9**	**-0.2**
PTL				*e*SN		**Sg**	**05 43 05.7**	**+1.1**
PTL	**Penteli**	**0.81**	**166**	P		**Pg**	**05 42 54.0**	**-0.1**
PTL	**Penteli**	**0.81**	**166**	P		**Pg**	**05 42 54.0**	**-0.1**
PTL				*e*Sn		**Sg**	**05 43 05.7**	**+1.1**
ATH	**Athens Observa**	**0.87**	**174**	*e*PN		**Pg**	**05 42 55.2**	**0.0**
ATH				*e*SN		**Sg**	**05 43 07.1**	**+0.7**
ATH	**Athens Observa**	**0.87**	**174**	P		**Pg**	**05 42 53.7**	**-1.5**
ATH				S		**Sg**	**05 43 07.3**	**+0.9**
ATH	**Athens Observa**	**0.87**	**174**	*e*Pn		**Pg**	**05 42 53.7**	**-1.5**
ATH	**Athens Observa**	**0.87**	**174**	*e*Pn		**Pg**	**05 42 55.2**	**0.0**
ATH				*e*Sn		**Sg**	**05 43 07.1**	**+0.7**
DSF	**Desfina**	**0.95**	**244**	P		**Pg**	**05 42 55.2**	**-1.5**
DSF				S		**Sg**	**05 43 09.6**	**+0.6**
DSF	**Desfina**	**0.95**	**244**	P		**Pg**	**05 42 55.2**	**-1.5**
DSF				S		**Sg**	**05 43 09.6**	**+0.6**
LTK	**Loutraki**	**0.96**	**212**	*e*PN		**Pg**	**05 42 56.0**	**-0.9**
LTK				*e*SN		**Sg**	**05 43 10.3**	**+1.0**
LTK	**Loutraki**	**0.96**	**212**	P		**Pg**	**05 42 55.9**	**-1.0**
LTK	**Loutraki**	**0.96**	**212**	P		**Pg**	**05 42 55.9**	**-1.0**
LTK				*e*Sn		**Sg**	**05 43 10.3**	**+1.0**
VLY	**Voula,Athens**	**0.99**	**172**	*e*PN		**Pg**	**05 42 57.2**	**-0.4**
VLY				*e*SN		**Sg**	**05 43 10.8**	**+0.3**
VLY	**Voula,Athens**	**0.99**	**172**	P		**Pg**	**05 42 57.1**	**-0.5**
VLY				S		**Sg**	**05 43 10.4**	**-0.1**
VLY	**Voula,Athens**	**0.99**	**172**	P		**Pg**	**05 42 57.1**	**-0.5**
VLY				S		**Sg**	**05 43 10.4**	**-0.1**
VLY				*e*Sn		**Sg**	**05 43 10.8**	**+0.3**
AGG	**Agios Georgios**	**1.01**	**281**	*e*PN		**Pg**	**05 42 56.9**	**-1.1**
AGG				*e*SN		**Sg**	**05 43 12.3**	**+1.1**
AGG	**Agios Georgios**	**1.01**	**281**	P		**Pg**	**05 42 57.0**	**-1.0**
AGG				S		**Sg**	**05 43 11.9**	**+0.7**
AGG	**Agios Georgios**	**1.01**	**281**	P		**Pg**	**05 42 57.0**	**-1.0**
AGG				S		**Sg**	**05 43 11.9**	**+0.7**
AGG				*e*Sn		**Sg**	**05 43 12.3**	**+1.1**
NAIG	**Nisos Aigina**	**1.08**	**185**	*e*PN		**Pg**	**05 42 59.2**	**0.0**
NAIG	**Nisos Aigina**	**1.08**	**185**	*e*Pn		**Pg**	**05 42 59.2**	**0.0**
PAIG	**Paliouri**	**1.09**	**3**	P		**Pg**	**05 42 58.9**	**-0.6**
PAIG	**Paliouri**	**1.09**	**3**	P		**Pg**	**05 42 58.9**	**-0.6**
KALE	**Kalithea**	**1.23**	**249**	P		**Pb**	**05 43 01.1**	**-1.1**
KALE				S		**Sg**	**05 43 18.9**	**+0.7**
KALE	**Kalithea**	**1.23**	**249**	P		**Pb**	**05 43 01.1**	**-1.1**
KALE				S		**Sg**	**05 43 18.9**	**+0.7**
GUR	**Goura**	**1.34**	**228**	*e*PN		**Pn**	**05 43 03.1**	**-0.7**
GUR				*e*SN		**Sn**	**05 43 22.4**	**+0.5**
GUR	**Goura**	**1.34**	**228**	P		**Pn**	**05 43 03.1**	**-0.7**
GUR				S		**Sb**	**05 43 22.0**	**+0.5**
GUR	**Goura**	**1.34**	**228**	P		**Pn**	**05 43 03.1**	**-0.7**
GUR				S		**Sb**	**05 43 22.0**	**+0.5**
GUR				*e*Sn		**Sn**	**05 43 22.4**	**+0.5**
DID	**Didima**	**1.36**	**193**	*e*PN		**Pn**	**05 43 03.3**	**-0.7**
DID				*e*SN		**Sn**	**05 43 22.0**	**-0.3**
DID	**Didima**	**1.36**	**193**	P		**Pn**	**05 43 03.1**	**-0.9**
DID				S		**Sb**	**05 43 21.9**	**-0.1**
DID	**Didima**	**1.36**	**193**	*e*Pn		**Pn**	**05 43 03.3**	**-0.7**
DID				*e*Sn		**Sn**	**05 43 22.0**	**-0.3**
EFP	**Efpalio**	**1.40**	**254**	*e*PN		**Pn**	**05 43 04.2**	**-0.3**
EFP				*e*SN		**Sn**	**05 43 23.6**	**+0.4**
EFP	**Efpalio**	**1.40**	**254**	P		**Pn**	**05 43 04.1**	**-0.4**
EFP				S		**Sb**	**05 43 23.3**	**+0.3**
EFP	**Efpalio**	**1.40**	**254**	P		**Pn**	**05 43 04.1**	**-0.4**
EFP				S		**Sb**	**05 43 23.3**	**+0.3**
EFP				*e*Sn		**Sn**	**05 43 23.6**	**+0.4**
EVR	**Evrytania**	**1.41**	**274**	*e*PN		**Pn**	**05 43 04.7**	**0.0**
EVR	**Evrytania**	**1.41**	**274**	*e*Pn		**Pn**	**05 43 04.7**	**0.0**
LAKA	**Lakka**	**1.41**	**246**	P		**Pn**	**05 43 04.2**	**-0.5**
LAKA	**Lakka**	**1.41**	**246**	P		**Pn**	**05 43 04.2**	**-0.5**
THL	**Klokotos Trika**	**1.44**	**301**	P		**Pn**	**05 43 04.4**	**-0.7**
THL	**Klokotos Trika**	**1.44**	**301**	P		**Pn**	**05 43 04.4**	**-0.7**
OUR	**Ouranopolis**	**1.52**	**11**	P		**Pn**	**05 43 05.2**	**-1.1**
OUR	**Ouranopolis**	**1.52**	**11**	P		**Pn**	**05 43 05.2**	**-1.1**
PLG	**Polygyros**	**1.54**	**355**	P		**Pn**	**05 43 05.5**	**-1.0**
PLG	**Polygyros**	**1.54**	**355**	P		**Pn**	**05 43 05.5**	**-1.0**
LIA	**Limnos Island**	**1.62**	**49**	P		**Pn**	**05 43 08.8**	**+1.2**
LIA				S		**Sn**	**05 43 30.8**	**+2.1**
LIA	**Limnos Island**	**1.62**	**49**	P		**Pn**	**05 43 08.8**	**+1.2**
VLX	**Vlachokerasia**	**1.76**	**214**	*e*PN		**Pn**	**05 43 09.6**	**+0.1**
VLX	**Vlachokerasia**	**1.76**	**214**	*e*Pn		**Pn**	**05 43 09.6**	**+0.1**
VLI	**Veliai**	**2.18**	**194**	*e*PN		**Pn**	**05 43 14.6**	**-0.7**
VLI	**Veliai**	**2.18**	**194**	*e*Pn		**Pn**	**05 43 14.6**	**-0.7**
KYTH	**Kithira**	**2.59**	**190**	*e*PN		**Pn**	**05 43 21.0**	**0.0**
KYTH	**Kithira**	**2.59**	**190**	*e*Pn		**Pn**	**05 43 21.0**	**0.0**
VAY	**Valandovo**	**2.61**	**343**	*e*Pn		**Pn**	**05 43 20.7**	**-0.5**
VAY	**Valandovo**	**2.61**	**343**	*e*Pn		**Pn**	**05 43 20.7**	**-0.5**
BIA	**Bitola**	**2.80**	**322**	*e*Pn		**Pn**	**05 43 27.4**	**+3.6**
BIA	**Bitola**	**2.80**	**322**	*e*Pn		**Pn**	**05 43 27.4**	**+3.6**
KRUS	**Krusevo**	**3.11**	**325**	*e*Pn		**Pn**	**05 43 30.4**	**+2.3**
KRUS	**Krusevo**	**3.11**	**325**	*e*Pn		**Pn**	**05 43 30.4**	**+2.3**

*CSEM **14** 05:45:09.6±0.1, 50°.08N×18°.38E, h2km, ML2.5/4, Error ellipse: s-maj=3.4km s-min=1.7km az=170.0*
*ISCJB **14** 05:45:09.5±0.5, 50°.06N±0°.03×18°.35E±0°.03, h0km, Error ellipse: s-maj=4.6km s-min=2.9km az=10.7*
*VIE **14** 05:45:10.4±0.9, 49°.69N×18°.52E, h0km, mb1.4/2, ML2.0/3, Error ellipse: s-maj=5.6km s-min=3.5km az=96.0 25 km SE of Ostrava Suspected Mining induced.*
*WAR **14** 05:45:10.2, 50°.05N×18°.42E*
*IPEC **14** 05:45:10.5±0.1, 50°.06N×18°.39E, h7km±1km, ML1.6/3, Error ellipse: s-maj=1.5km s-min=0.7km az=162.0*
*PRU **14** 05:45:11.8, 50°.03N×18°.30E, h0km*

ISC 14 05:45:10.3±0.5, 50°.04N±0°.03×18°.36E±0°.03, h0km, n28, σ0s92/45, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.24**	**214**	*e*PG		**Pg**	**05 45 16.1**	**+1.1**
OKC				*e*SG		**Sg**	**05 45 20.3**	**+2.1**
	comp=Z,64nm,0.5s							
OKC	**Ostrava-Krasne**	**0.24**	**214**	*e*Pg		**Pg**	**05 45 15.9**	**+0.9**
	baz=35							
OKC				*e*Sg		**Sg**	**05 45 20.1**	**+1.9**
	baz=35							
MORC	**Moravsky Berou**	**0.59**	**244**	*e*Pg		**Pg**	**05 45 22.0**	**+0.4**
	baz=62							
MORC				*e*Sg		**Sg**	**05 45 29.8**	**+0.6**
	comp=Z,14nm,0.3s,baz=62							
OJC	**Ojcow**	**0.94**	**79**	*e*Pg		**Pg**	**05 45 27.2**	**-1.2**
OJC				*e*Sg		**Sg**	**05 45 40.5**	**-0.1**
OJC	**Ojcow**	**0.94**	**79**	*e*Pg		**Pg**	**05 45 27.0**	**-1.4**
	baz=261							
OJC				*e*Sg		**Sg**	**05 45 40.2**	**-0.4**
	baz=261							
JAVC	**Velka Javorina**	**1.27**	**201**	*e*Pn		**Pn**	**05 45 35.2**	**0.0**
	baz=21							
DPC	**Dobruska-Polom**	**1.34**	**284**	*e*PG		**Pg**	**05 45 35.9**	**-0.2**
DPC				*e*SG		**Sg**	**05 45 54.5**	**+1.0**
	comp=Z,19nm,0.5s							
DPC	**Dobruska-Polom**	**1.34**	**284**	*e*Pn		**Pn**	**05 45 35.7**	**-0.6**
	baz=102							
DPC				*e*Sg		**Sg**	**05 45 54.1**	**+0.6**
	baz=102							
VRAC	**Vranov**	**1.36**	**238**	*e*Pn		**Pn**	**05 45 36.0**	**-0.5**
	baz=56							
VRAC				*e*Sg		**Sg**	**05 45 53.8**	**-0.2**
	comp=Z,12nm,0.3s,baz=56							
NIE	**Niedzica**	**1.41**	**115**	*e*Pg		**Pg**	**05 45 36.8**	**-0.6**
NIE				*e*Sg		**Sg**	**05 45 56.2**	**+0.5**
NIE	**Niedzica**	**1.41**	**115**	*e*Pg		**Pg**	**05 45 36.8**	**-0.6**
NIE				*e*Sg		**Sg**	**05 45 54.9**	**-0.8**
KOLL	**Kolacno**	**1.46**	**179**	*e*		**Pn**	**05 45 38.3**	**+0.3**
KOLL	**Kolacno**	**1.46**	**179**	*e*SN		**Sn**	**05 45 58.2**	**+0.4**
KOLL	**Kolacno**	**1.46**	**179**	*e*Sn		**Sn**	**05 45 58.2**	**+0.4**
KSP	**Ksiaz**	**1.54**	**302**	*e*Pn		**Pn**	**05 45 39.0**	**-0.1**
KSP				*e*Pg		**Pg**	**05 45 41.1**	**+1.2**
KSP				*e*Sg		**Sg**	**05 46 01.4**	**+1.5**
UPC	**Upice**	**1.58**	**288**	*e*SG		**Sg**	**05 46 01.2**	**+0.3**
VYHS	**Vyhne**	**1.58**	**168**	*e*PN		**Pn**	**05 45 39.7**	**+0.1**
VYHS				*e*SN		**Sn**	**05 46 00.6**	**-0.1**
VYHS	**Vyhne**	**1.58**	**168**	*e*Pn		**Pn**	**05 45 39.3**	**-0.2**
	baz=350							
VYHS				*e*Sn		**Sn**	**05 46 00.6**	**-0.1**
KRUC	**Moravsky**	**1.61**	**233**	*e*Pn		**Pn**	**05 45 39.2**	**-0.8**
	baz=52							
KRUC				*e*Sg		**Sg**	**05 46 01.2**	**-0.8**
	comp=Z,5.2nm,0.2s,baz=52							
STHS	**Stebnicka Huta**	**1.97**	**107**	*e*PN		**Pn**	**05 45 47.0**	**+2.0**
STHS				*e*SN		**Sn**	**05 46 14.8**	**+4.4**
STHS	**Stebnicka Huta**	**1.97**	**107**	*e*Pn		**Pn**	**05 45 47.0**	**+2.0**
CRVS	**Cervenica-Dubn**	**2.32**	**118**	*e*PN		**Pn**	**05 45 53.7**	**+3.9**
CRVS	**Cervenica-Dubn**	**2.32**	**118**	*e*Pn		**Pn**	**05 45 53.7**	**+3.9**
PRU	**Pruhonice**	**2.46**	**270**	*e*SG		**Sg**	**05 46 28.5**	**-0.9**
	comp=Z,2.7nm,0.3s							
BRG	**Berggiesshubel**	**2.94**	**288**	SG		**Sg**	**05 46 41.3**	**-3.5**
	comp=Z,3.1nm,0.4s							
KHC	**Kasperske Hory**	**3.24**	**255**	*e*PG		**Pg**	**05 46 11.5**	**-0.9**
KHC				*e*SG		**Sg**	**05 46 53.3**	**-1.1**
	comp=Z,3.4nm,0.4s							
MOA	**Molln**	**3.48**	**232**	⇓*i*Sg		**Sg**	**05 47 01.1**	**-0.9**
	comp=Z,2.5nm,0.5s							
MOA	**Molln**	**3.48**	**232**	Sg		**Sg**	**05 47 01.1**	**-0.8**
	comp=Z,2.5nm,0.5s							

MEX 14 05:47:50.1±1.6, 16°.55N×99°.31W, h16km±17km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ACX	**Acapulco**	**0.61**	**301**	*i* P		Pg	05 47 59.7	-2.4
ACX				*i* S		Sg	05 48 08.8	-1.5
CAIG	**El Cayaco**	**1.04**	**299**	*i* P		Pb	05 48 07.1	-2.6
CAIG				*i* S		Sb	05 48 19.4	-3.7
PNIG	**Pinotepa**	**1.15**	**98**	*i* P		Pn	05 48 07.5	-4.0
PNIG				*i* S		Sb	05 48 21.5	-4.8
UTMO	**Huajuapan**	**1.92**	**48**	*i* P		Pn	05 48 19.7	-2.5
UTMO				*i* S		Sn	05 48 41.3	-4.7
VHO	**Vista Hermosa**	**2.53**	**78**	*e*P		Pn	05 48 27.3	-3.2
VHO				*i* S		Sn	05 48 57.0	-4.0
MZVM		**2.62**	**2**	*e*P		Pn	05 48 31.8	-0.1
MZVM				*i* S		Sn	05 49 02.3	-1.0

*ISCJB **14** 05:53:45.3±0.9, 41°.99N±0°.05×33°.54E±0°.06, h8km±10km, Error ellipse: s-maj=8.9km s-min=7.0km az=154.1*
*ISK **14** 05:53:45.8, 41°.95N×33°.57E, h6km, MD2.9*
*CSEM **14** 05:53:46.7±0.2, 41°.94N×33°.58E, h8km, MD2.9, Error ellipse: s-maj=4.8km s-min=3.5km az=35.0*

ISC 14 05:53:46.6±0.9, 41°.96N±0°.05×33°.57E±0°.06, h7km±10km, n17, σ0s61/25, 6C, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BZK	**Bozkurt**	**0.33**	**91**	*e*PG		**Pg**	**05 53 52.9**	**0.0**
BZK				*e*SG		**Sg**	**05 53 57.3**	**+0.1**
BZK	**Bozkurt**	**0.33**	**91**	*e*Pg		**Pg**	**05 53 52.9**	**0.0**
BZK				*e*Sg		**Sg**	**05 53 57.3**	**+0.1**
SAFT	**Safranbolu**	**0.98**	**223**	*e*PG		**Pg**	**05 54 04.6**	**-0.8**
SAFT				*e*SG		**Sg**	**05 54 18.6**	**+0.6**
SAFT	**Safranbolu**	**0.98**	**223**	*e*Pg		**Pg**	**05 54 04.6**	**-0.8**
SAFT				*e*Sg		**Sg**	**05 54 18.6**	**+0.5**
TOS	**Tosya**	**0.99**	**160**	*e*PG		**Pg**	**05 54 05.0**	**-0.6**
TOS				*e*SG		**Sg**	**05 54 18.6**	**+0.3**
TOS	**Tosya**	**0.99**	**160**	*e*Pg		**Pg**	**05 54 05.0**	**-0.5**
TOS				*e*Sg		**Sg**	**05 54 18.6**	**+0.3**
BYBT	**Boyabat**	**1.02**	**118**	*e*PG		**Pg**	**05 54 05.7**	**-0.5**
BYBT	**Boyabat**	**1.02**	**118**	*e*Pg		**Pg**	**05 54 05.7**	**-0.5**
CANT	**Cankiri**	**1.36**	**178**	*e*PN		**Pn**	**05 54 11.6**	**-0.3**
CORM	**Corum**	**1.96**	**155**	*e*PN		**Pn**	**05 54 20.4**	**+0.3**
CORM	**Corum**	**1.96**	**155**	*e*Pn		**Pn**	**05 54 20.5**	**+0.4**
TIRR	**Tirgusor**	**4.52**	**305**	⇑*i*P		**Pn**	**

az=136.9
*MOS **14** 06:31:55.6±1.1,46.˚64N×152.˚93E,h91km,mb4.3/7, Error ellipse: s-maj=19.0km s-min=11.4km az=67.0*

ISC 14 06:31:56.0±1.2,**46.˚9N**±0.˚1×**152.˚8E**±0.˚2,**h67**km±9km,**n51**, σ**0**:**93**/52,**mb3.9**/10,**3C-5D**,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.83**	**246**	PN	**Pn**	**06 32 51.5**	**-0.9**
KUR				pmax	pmax		
	comp=Z,70nm,0.5s						
SKR	**Severo-Kuril's**	**4.37**	**29**	*e*PN	**Pn**	**06 33 02.0**	**+2.2**
SKR				*e*S	**Sn**	**06 33 49.5**	**+0.1**
SKR				pmax	pmax		
	comp=Z,50nm,0.4s						
SKR				smax			
	comp=N,80nm,0.5s						
SKR				smax			
	comp=E,90nm,0.5s						
SKR				smax			
	comp=Z,80nm,0.5s						
YSS	**Yuzh-Sakhalins**	**6.90**	**274**	*e*PN	**Pn**	**06 33 38.8**	**+4.4**
PEA0B	**Petropavlovsk-**	**6.97**	**25**	*e*Pn	**Pn**	**06 33 33.9**	**-1.4**
PETK	**Petropavlovsk-**	**6.97**	**25**	Pn	**Pn**	**06 33 34.9**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=182,slow=14,SNR=4.2						
PETK	**Petropavlovsk-**	**6.97**	**25**	Pn	**Pn**	**06 33 34.9**	**-0.4**
PETK	**Petropavlovsk-**	**6.97**	**25**	*e*PN	**Pn**	**06 33 41.2**	**+5.9**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**8.46**	**238**	*e*PN	**Pn**	**06 33 55.9**	**+0.2**
FX1	**Attu Island--F**	**14.39**	**58**	Pn	**Pn**	**06 35 11.4**	**-4.6**
	comp=Z,1.1nm,0.3s,baz=270,slow=14,SNR=3.3						
FX1	**Attu Island--F**	**14.39**	**58**	Pn	**Pn**	**06 35 11.4**	**-4.6**
FX1	**Attu Island--F**	**14.39**	**58**	P	**Pn**	**06 35 11.4**	**-4.6**
FX1				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**20.65**	**252**	P	**P**	**06 36 31.5**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=58,slow=7.8,SNR=5.3						
KSRS	**Korea Array**	**20.65**	**252**	P	**P**	**06 36 31.5**	**+1.4**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ILAR	**Eielson Array**	**36.56**	**39**	P	**P**	**06 38 54.6**	**-0.2**
	comp=Z,0.5nm,0.9s,mb3.4,baz=272,slow=5.3,SNR=3.6						
ILAR	**Eielson Array**	**36.56**	**39**	P	**P**	**06 38 54.6**	**-0.2**
ILAR	**Eielson Array**	**36.56**	**39**	P	**P**	**06 38 54.6**	**-0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
INK	**Inuvik**	**41.64**	**32**	P	**P**	**06 39 37.4**	**+0.3**
	comp=Z,1.0nm,0.6s,mb3.7,baz=288,slow=11,SNR=7.5						
INK	**Inuvik**	**41.64**	**32**	*e*P	**P**	**06 39 37.8**	**+0.7**
	comp=Z,0.9nm,0.5s,mb3.8						
INK	**Inuvik**	**41.64**	**32**	*e*P	**P**	**06 39 37.8**	**+0.7**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**50.93**	**37**	P	**P**	**06 40 50.3**	**+0.3**
	comp=Z,1.6nm,0.9s,mb4.0,baz=317,slow=8.7,SNR=2.9						
YKA	**Yellowknife Ar**	**50.93**	**37**	P	**P**	**06 40 50.3**	**+0.3**
YKA	**Yellowknife Ar**	**50.93**	**37**	P	**P**	**06 40 50.3**	**+0.3**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES	**ARCESS Array B**	**57.66**	**341**	P	**P**	**06 41 39.0**	**+0.3**
	comp=Z,4.9nm,0.9s,mb4.5,baz=24,slow=7.0,SNR=2.4						
ARCES	**ARCESS Array B**	**57.66**	**341**	P	**P**	**06 41 39.0**	**+0.3**
ARCES	**ARCESS Array B**	**57.66**	**341**	P	**P**	**06 41 39.0**	**+0.3**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FINES	**FINESS Array B**	**63.83**	**335**	P	**P**	**06 42 20.8**	**0.0**
	comp=Z,1.6nm,0.4s,mb4.2,baz=36,slow=7.7,SNR=8.4						
FINES	**FINESS Array B**	**63.83**	**335**	P	**P**	**06 42 20.8**	**0.0**
FINES	**FINESS Array B**	**63.83**	**335**	P	**P**	**06 42 20.8**	**0.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
PDAR	**Pinedale Array**	**64.82**	**54**	P	**P**	**06 42 27.4**	**-0.2**
	comp=Z,0.2nm,0.5s,mb3.2,baz=336,slow=3.3,SNR=3.8						
PDAR	**Pinedale Array**	**64.82**	**54**	P	**P**	**06 42 27.4**	**-0.2**
NB2	**NORSAR Subarra**	**68.03**	**341**	P	**P**	**06 42 47.9**	**+0.2**
	comp=Z,1.4nm,0.6s,mb4.0,baz=28,slow=6.2						
NOA	**NORSAR Array B**	**68.03**	**341**	P	**P**	**06 42 48.0**	**+0.2**
	comp=Z,1.7nm,0.6s,mb4.0,baz=27,slow=6.2,SNR=6.8						
NOA	**NORSAR Array B**	**68.03**	**341**	P	**P**	**06 42 48.0**	**+0.2**
NOA	**NORSAR Array B**	**68.03**	**341**	P	**P**	**06 42 48.0**	**+0.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HFS	**Hagfors**	**68.26**	**339**	P	**P**	**06 42 49.4**	**+0.2**
	comp=Z,3.5nm,0.5s,mb4.4,baz=39,slow=5.7,SNR=15						
HFS	**Hagfors**	**68.26**	**339**	P	**P**	**06 42 49.4**	**+0.2**
HFS	**Hagfors**	**68.26**	**339**	P	**P**	**06 42 49.4**	**+0.2**
HFS				pmax	pmax		
	comp=Z,4.0nm,0.5s						
AKASG	**Malin Array Be**	**71.32**	**326**	P	**P**	**06 43 07.8**	**-0.4**
	comp=Z,1.7nm,0.4s,mb4.2,baz=35,slow=6.1,SNR=4.3						
AKASG	**Malin Array Be**	**71.32**	**326**	P	**P**	**06 43 07.8**	**-0.4**
AKASG	**Malin Array Be**	**71.32**	**326**	*e*P	**P**	**06 43 08.7**	**+0.6**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BURAR	**Bucovina Array**	**75.36**	**326**	⇓P	**P**	**06 43 32.8**	**+0.8**
BURAR	**Bucovina Array**	**75.36**	**326**	⇓*i*P	**P**	**06 43 32.8**	**+0.8**
MLR	**Muntele Rosu**	**76.84**	**325**	⇑P	**P**	**06 43 38.1**	**-2.3**
MLR	**Muntele Rosu**	**76.84**	**325**	⇑*i*P	**P**	**06 43 38.1**	**-2.3**
ISR	**Istrita**	**76.91**	**324**	⇓*i*P	**P**	**06 43 32.5**	**-8.3**
DRGR		**76.99**	**327**	⇓P	**P**	**06 43 41.8**	**+0.6**
DRGR		**76.99**	**327**	⇓*i*P	**P**	**06 43 41.8**	**+0.6**
TXAR	**Lajitas Array**	**77.59**	**60**	P	**P**	**06 43 44.6**	**-0.3**
	comp=Z,0.4nm,0.5s,mb3.4,baz=303,slow=4.9,SNR=16						
TXAR	**Lajitas Array**	**77.59**	**60**	P	**P**	**06 43 44.6**	**-0.3**
TXAR	**Lajitas Array**	**77.59**	**60**	P	**P**	**06 43 44.6**	**-0.3**
BZS	**Buzias**	**78.39**	**327**	⇑*i*P	**P**	**06 43 47.5**	**-1.5**

*BJI **14** 06:33:33.6,32.˚78N×105.˚59E,h10km,mB4.7/20,mb4.7/34, ML4.3/24,Ms4.3/44,Ms7 3.9/41*
*IDC **14** 06:33:33.1±0.6,32.˚76N×105.˚56E,h0km,mb4.5/22, mb1 4.6/25,mb1mx4.5/35,mbtmp4.5/25,ML4.0/3,MS3.5/10, Ms1 3.5/10,ms1mx3.0/48,Error ellipse: s-maj=16.7km s-min=12.6km az=42.0*
*ISCJB **14** 06:33:35.5±0.9,32.˚77N±0.˚02×105.˚57E±0.˚03,h27km±6km, mb4.6/67,MS3.8/11,Error ellipse: s-maj=4.2km s-min=3.7km az=177.4*
*MOS **14** 06:33:35.5±0.8,32.˚75N×105.˚58E,h28km,mb4.8/42,Error ellipse: s-maj=8.9km s-min=5.7km az=108.4*
*NEIC **14** 06:33:35.3±0.2,32.˚80N×105.˚50E,h10km,mb4.7/32,Error ellipse: s-maj=5.6km s-min=4.3km az=208.0*

ISC 14 06:33:36.1±1.2,**32.˚79N**±0.˚02×**105.˚52E**±0.˚02,**h15**km±7km, **n205**,σ**1**:**06**/227,**mb4.6**/67,**MS3.8**/11,**4C-6D**,**Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.40**	**219**	Pn	**Pn**	**06 34 14.1**	**-0.8**
CD2				Pg	**Pb**	**06 34 17.6**	**-1.4**
CD2				Sn	**Sn**	**06 34 45.3**	**+1.3**
CD2				Sg	**Sg**	**06 34 49.5**	**-3.8**
CD2				smax			
	comp=N,10μm,0.7s						
CD2				smax			
	comp=E,8μm,0.6s						
CD2				LR	LR		
	comp=Z,5μm,8.3s						
XAN	**Xi'an**	**3.10**	**65**	Pn	**Pn**	**06 34 25.3**	**+0.8**
XAN				Pg	**Pb**	**06 34 30.9**	**-0.1**
XAN				Sn	**Sn**	**06 35 03.6**	**+2.2**
XAN				Sg	**Sg**	**06 35 11.4**	**-4.4**
XAN				smax			
	comp=N,1μm,0.8s						
XAN				smax			
	comp=E,530nm,0.6s						
XAN				LR	LR		
	comp=N,2μm,8.6s						
XAN				LR	LR		
	comp=E,1μm,9.2s						
XAN				LR	LR		
	comp=Z,660nm,8.6s						
LZH	**Lanzhou**	**3.57**	**338**	Pn	**Pn**	**06 34 32.3**	**+1.4**
LZH				Pg	**Pg**	**06 34 41.3**	**-3.2**
LZH				Sn	**Sn**	**06 35 12.3**	**-0.5**
LZH				Sg	**Sg**	**06 35 25.8**	**-4.9**
LZH				smax			
	comp=N,3μm,1.2s						
LZH				smax			
	comp=E,3μm,1.2s						
LZH				LR	LR		
	comp=N,4μm,5.8s						
LZH				LR	LR		
	comp=E,4μm,4.7s						
LZH				LR	LR		
	comp=Z,4μm,4.8s						
ENH	**Enshi**	**4.21**	**126**	*e*Pn	**Pn**	**06 34 40.2**	**+0.4**
ENH				*e*S	Sg	06 35 48.6	-2.9
GYA	**Guiyang**	**6.39**	**171**	⇑*i*Pn	**Pn**	**06 35 08.9**	**-0.8**
GYA				Sn	**Sn**	**06 36 20.9**	**-1.5**
GYA				Sg	Sn	06 36 52.4	+30
GYA				smax			
	comp=N,390nm,0.8s						
GYA				smax			
	comp=E,570nm,0.8s						
GYA				LR	LR		
	comp=N,630nm,4.0s						
GYA				LR	LR		
	comp=E,2μm,5.0s						
GYA				LR	LR		
	comp=Z,690nm,5.0s						
WHN	**Wuhan**	**7.85**	**104**	Pn	**Pn**	**06 35 31.1**	**+1.3**
WHN				Sn	**Sn**	**06 36 54.3**	**-4.1**
WHN				LR	LR		
	comp=Z,5μm,4.1s						
KMI	**Kunming**	**8.02**	**198**	P	**Pn**	**06 35 33.0**	**+0.9**
KMI				S	**Sn**	**06 36 54.3**	**-8.2**
KMI				smax			
	comp=N,74nm,0.9s						
KMI				smax			
	comp=E,110nm,0.8s						
KMI				LR	LR		
	comp=N,570nm,6.6s						
KMI				LR	LR		
	comp=E,600nm,9.1s						
KMI				LR	LR		
	comp=Z,590nm,8.8s						
GTA	**Gaotai**	**8.06**	**327**	⇓P	**Pn**	**06 35 32.5**	**-0.1**
GTA				pP		06 35 36.1	
GTA				sP		06 35 38.4	
GTA				S	**Sn**	**06 37 02.5**	**-0.9**
GTA				pmax	pmax		
	comp=Z,19nm,0.8s						
GTA				pmax	pmax		
	comp=Z,82nm,5.2s						
GTA				LR	LR		
	comp=N,920nm,7.6s						
GTA				LR	LR		
	comp=E,690nm,10.0s						
GTA				LR	LR		
	comp=Z,660nm,9.0s						
BTO	**Baotou**	**8.59**	**24**	*e*P	**Pn**	**06 35 38.1**	**-1.8**
BTO				LR	LR		
	comp=N,280nm,7.3s						
HHC	**Hu-ho-hao-te**	**9.39**	**29**	*e*P	**Pn**	**06 35 52.3**	**+1.5**
HHC				pP		06 35 55.6	
HHC				sP		06 35 58.9	
HHC				S	**Sn**	**06 37 35.8**	**-0.2**
HHC				pmax	pmax		
	comp=Z,29nm,0.5s						
HHC				LR	LR		
	comp=N,670nm,8.3s						
HHC				LR	LR		
	comp=E,980nm,7.0s						
HHC				LR	LR		
	comp=Z,620nm,6.7s						
BJT	**Baijiatuan**	**11.20**	**47**	*e*Pn	**Pn**	**06 36 15.6**	**-0.1**
BJT	**Baijiatuan**	**11.20**	**47**	*e*P	**Pn**	**06 36 15.6**	**0.0**
BJI	**Beijing**	**11.22**	**47**	P	**Pn**	**06 36 15.8**	**-0.1**
BJI				S	**Sn**	**06 38 22.8**	**+1.8**
BJI				pmax	pmax		
	comp=Z,21nm,0.5s						
BJI				LR	LR		
	comp=N,640nm,17.9s						
BJI				LR	LR		
	comp=E,520nm,17.9s						
BJI				LR	LR		
	comp=Z,320nm,15.8s						
NJ2	**Nanjing**	**11.29**	**90**	*e*P	**Pn**	**06 36 16.5**	**-0.4**
NJ2				pP		06 36 20.6	
NJ2				sP		06 36 23.6	
NJ2				S	**Sn**	**06 38 23.0**	**+0.1**
NJ2				sS		06 38 30.0	
NJ2				pmax	pmax		
	comp=Z,30nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,210nm,5.0s						
NJ2				LR	LR		
	comp=N,760nm,11.4s						
NJ2				LR	LR		
	comp=E,650nm,8.3s						
NJ2				LR	LR		
	comp=Z,430nm,11.4s						
LSA	**Lhasa**	**12.68**	**260**	*e*Pn	**Pn**	**06 36 36.8**	**+0.9**
LSA	**Lhasa**	**12.68**	**260**	*e*P	**Pn**	**06 36 36.8**	**+0.9**
QZH	**Quanzhou**	**13.86**	**121**	P	**Pn**	**06 36 51.6**	**-0.4**
QZH				S	**Sn**	**06 39 25.0**	**-0.7**
QZH				LR	LR		
	comp=N,1μm,8.2s						
QZH				LR	LR		
	comp=E,1μm,10.6s						
QZH				LR	LR		
	comp=Z,1μm,8.6s						
SHL	**Shillong**	**13.91**	**242**	*e*PKP	**Pn**	**06 36 49.5**	**-3.3**
QIZ	**Qiongzhong**	**14.24**	**163**	P	**Pn**	**06 36 58.8**	**+1.5**
QIZ				S	**Sn**	**06 39 38.0**	**+2.9**
QIZ				pmax	pmax		
	comp=Z,150nm,4.6s						
QIZ				LR	LR		
	comp=Z,370nm,5.3s						
SONM	**Songino Array**	**15.04**	**2**	Pn	**Pn**	**06 37 07.1**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=188,slow=14,SNR=22						
SONM				LR	LR	06 43 20.8	
	comp=Z,274nm,18.8s,baz=163,slow=39						
SONM	**Songino Array**	**15.04**	**2**	Pn	**Pn**	**06 37 07.1**	**-0.9**
SONM				LR	LR	06 43 20.8	
SONM	**Songino Array**	**15.04**	**2**	P	**Pn**	**06 37 07.1**	**-0.9**
SONM				MLR	MLR		
	comp=Z,274nm,18.8s						
ULN	**Ulaanbaatar**	**15.10**	**4**	*e*P	**Pn**	**06 37 08.1**	**-0.7**
	comp=Z,34nm,1.3s						
ULN	**Ulaanbaatar**	**15.10**	**4**	*e*P	**Pn**	**06 37 08.1**	**-0.7**
ULN				pmax	pmax		
	comp=Z,34nm,1.3s						
CMAR	**Chiang Mai Arr**	**15.45**	**204**	Pn	**Pn**	**06 37 13.8**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=12,slow=10,SNR=2.9						
CMAR				LR	LR	06 43 51.3	
	comp=Z,187nm,19.2s,baz=20,slow=40						
CMAR	**Chiang Mai Arr**	**15.45**	**204**	Pn	**Pn**	**06 37 13.8**	**+0.3**
CMAR				LR	LR	06 43 51.3	
CMAR	**Chiang Mai Arr**	**15.45**	**204**	P	**Pn**	**06 37 13.8**	**+0.3**
CMAR				MLR	MLR		
	comp=Z,187nm,19.2s						
YHNB	**Yeheng**	**16.08**	**116**	*e*P	**Pn**	**06 37 23.6**	**+1.9**
	comp=Z,41nm,0.9s						
SSLB	**Suanglung**	**16.27**	**120**	*e*P	**Pn**	**06 37 26.9**	**+2.7**
	comp=Z,64nm,1.2s						
SNY	**Shenyang**	**16.94**	**53**	⇓P	**Pn**	**06 37 32.6**	**+0.1**
SNY				S	**Sn**	**06 40 38.4**	**-2.0**
SNY				pmax	pmax		
	comp=Z,12nm,1.4s						
SNY				LR	LR		
	comp=N,210nm,14.4s						
SNY				LR	LR		
	comp=E,260nm,15.0s						
SNY				LR	LR		
	comp=Z,260nm,19.6s						
ZAK	**Zakamensk**	**17.66**	**355**	*e*P	**Pn**	**06 37 42.4**	**+1.0**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
WMQ	**Urumqi**	**17.77**	**313**	P	**Pn**	**06 37 44.3**	**+1.5**
WMQ				pP	pP	06 37 47.8	+0.1
WMQ				sP	sP	06 37 51.3	+1.6
WMQ				PP		06 37 59.1	
WMQ				S	**Sn**	**06 41 00.3**	**-0.2**
WMQ				ScS	ScS	06 49 34.6	-0.2
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,170nm,4.5s						
WMQ				LR	LR		
	comp=N,290nm,8.1s						
WMQ				LR	LR		
	comp=E,120nm,5.2s						
WMQ				LR	LR		
	comp=Z,58nm,19.9s						
INCN	**Inchon**	**17.88**	**69**	*e*P	**Pn**	**06 37 41.7**	**-2.6**
	comp=Z,14nm,0.3s						
KSRS	**Korea Array**	**18.89**	**69**	P	**Pn**	**06 37 56.5**	**-0.2**
	comp=Z,1.3nm,0.3s,baz=253,slow=10,SNR=35						
KSRS				LR	LR	06 45 44.6	
	comp=Z,92nm,20.6s,baz=312,slow=39						
KSRS	**Korea Array**	**18.89**	**69**	P	**Pn**	**06 37 56.5**	**-0.1**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS				MLR	MLR		
	comp=Z,93nm,20.7s						
TLY	**Talaya**	**18.93**	**356**	*e*P	**Pn**	**06 37 57.4**	**+0.5**
TLY				*e*S	**Sn**	**06 41 32.7**	**+4.3**
TLY				pmax	pmax		
	comp=Z,7.0nm,0.9s						
TLY				MLR	MLR		
	comp=Z,110nm,14.0s						
CN2	**Changchun**	**19.07**	**49**	*e*P	**Pn**	**06 37 59.3**	**+0.6**
CN2				*e*pP	pP	06 38 06.0	+3.9
CN2				*e*S	**Sn**	**06 41 27.6**	**-4.3**
CN2				pmax	pmax		
	comp=Z,60nm,1.2s						
CN2				pmax	pmax		
	comp=Z,300nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,10.0s						
CN2				LR	LR		
	comp=E,300nm,10.0s						
CN2				LR	LR		
	comp=Z,300nm,18.0s						
HIA	**Hailar**	**19.59**	**29**	*e*P	**Pn**	**06 38 04.5**	**-0.4**
	comp=Z,71nm,1.4s						
HIA	**Hailar**	**19.59**	**29**	*e*P	**Pn**	**06 38 04.6**	**-0.3**
HIA				pmax	pmax		
	comp=Z,71nm,1.4s						
JOW	**Kunigami**	**20.60**	**101**	*e*P	**P**	**06 38 16.3**	**+1.6**
	comp=Z,8.4nm,0.6s						
JNU	**Nakatsue**	**21.27**	**82**	*e*P	**P**	**06 38 21.1**	**-0.8**
	comp=Z,8.7nm,1.4s,mb3.9						
MDJ	**Mudanjiang**	**22.10**	**51**	P	**P**	**06 38 31.6**	**+0.9**
MDJ				pP		06 38 34.3	
MDJ				sP	sP	06 38 35.8	-1.1
MDJ				PcP	PcP	06 42 28.6	+0.7
MDJ				S	**S**	**06 42 35.0**	**+1.1**
MDJ				ScP	ScP	06 46 05.8	+1.1
MDJ				PcS	PcS	06 46 07.0	+0.7
MDJ				ScS	ScS	06 49 50.6	+1.2
MDJ				pmax	pmax		
	comp=Z,33nm,1.2s,mb4.6						
MDJ				pmax	pmax		
	comp=Z,85nm,4.6s						
MDJ				LR	LR		
	comp=N,100nm,12.8s,MS3.6						
MDJ				LR	LR		
	comp=E,120nm,11.7s,MS3.6						
MDJ				LR	LR		
	comp=Z,200nm,14.0s,MS3.7						
MDJ	**Mudanjiang**	**22.10**	**51**	*e*P	**P**	**06 38 32.3**	**+1.6**
	comp=Z,68nm,1.4s,mb4.9						
MK31	**Makanchi Array**	**22.57**	**315**	*e*P	**P**	**06 38 35.7**	**0.0**
MK31	**Makanchi Array**	**22.57**	**315**	*i* P	**P**	**06 38 36.2**	**+0.5**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.1						
MKAR	**Makanchi Array**	**22.57**	**315**	P	**P**	**06 38 35.6**	**-0.1**
	comp=Z,6.7nm,0.7s,mb4.2,baz=118,slow=12,SNR=32						
MKAR	**Makanchi Array**	**22.57**	**315**	P	**P**	**06 38 35.6**	**-0.1**
MKAR	**Makanchi Array**	**22.57**	**315**	P	**P**	**06 38 35.6**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KSH	**Kashi**	**24.71**	**294**	P	**P**	**06 39 01.3**	**+4.6**
KSH				pP		06 39 05.4	
KSH				sP	sP	06 39 08.3	+5.2
KSH				PP		06 39 39.4	
KSH				PcP	PcP	06 42 35.6	+2.1
KSH				S	**S**	**06 43 23.4**	**+5.3**
KSH				sS	sS	06 43 30.4	+4.9
KSH				SS		06 44 23.8	
KSH				ScP	ScP	06 46 12.9	+1.1
KSH				PcS	PcS	06 46 14.8	+1.3
KSH				ScS	ScS	06 50 00.3	+0.6
KSH				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.4						
KSH				pmax	pmax		
	comp=Z,100nm,4.0s						
KSH				LR	LR		
	comp=N,100nm,4.9s						
KSH				LR	LR		
	comp=E,110nm,4.1s						
KSH				LR	LR		
	comp=Z,110nm,4.0s						
KLR	**Kul'dur**	**25.53**	**42**	*e*P	**P**	**06 39 00.0**	**-4.0**
KLR				pmax	pmax		
	comp=E,67nm,1.4s						
KLR				pmax	pmax		
	comp=Z,110nm,1.4s,mb5.2						
TKM2	**Tokmak 2**	**25.58**	**302**	P	**P**	**06 39 06.1**	**+1.5**
	SNR=10.0						
TKM2	**Tokmak 2**	**25.58**	**302**	*e*P	**P**	**06 39 05.6**	**+1.1**
	comp=Z,10nm,1.0s,mb4.3						
TKM2	**Tokmak 2**	**25.58**	**302**	*i* P	**P**	**06 39 05.9**	**+1.4**
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.3						
KZA	**Kyzart**	**25.65**	**300**	P	**P**	**06 39 07.8**	**+2.6**
	SNR=7.6						
ZAA0	**Zalesovo Array**	**25.78**	**331**	*e*P	**P**	**06 39 06.1**	**0.0**
ZALV	**Zalesovo Beam**	**25.78**	**331**	P	**P**	**06 39 05.9**	**-0.2**
	comp=Z,4.4nm,0.7s,mb4.1,baz=132,slow=9.8,SNR=17						
ZALV	**Zalesovo Beam**	**25.78**	**331**	P	**P**	**06 39 05.9**	**-0.2**
ZALV	**Zalesovo Beam**	**25.78**	**331**	P	**P**	**06 39 05.9**	**-0.3**
ZALV				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.1						
KBK	**Karagaybulak**	**25.99**	**301**	P	**P**	**06 39 10.3**	**+2.1**
	SNR=15						
USP	**Ospenovka**	**26.44**	**302**	P	**P**	**06 39 13.8**	**+1.4**
	SNR=11						
KURK	**Kurchatov**	**26.67**	**320**	P	**P**	**06 39 15.0**	**+0.7**
	comp=Z,5.4nm,0.7s,mb4.2,baz=136,slow=8.8,SNR=52						
KURK	**Kurchatov**	**26.67**	**320**	*e*P	**P**	**06 39 13.4**	**-0.9**
	comp=Z,11nm,0.7s,mb4.5						
KURK	**Kurchatov**	**26.67**	**320**	P	**P**	**06 39 15.0**	**+0.7**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
AML	**Almayashu**	**26.80**	**300**	P	**P**	**06 39 17.1**	**+1.5**
	SNR=8.2						
NVS	**Novosibirsk**	**27.06**	**331**	*e*P	**P**	**06 39 15.0**	**-2.8**
MAT	**Matsushiro**	**27.07**	**73**	P	**P**	**06 39 17.3**	**-0.8**
MJAR	**Matsushiro Arr**	**27.07**	**73**	P	**P**	**06 39 16.5**	**-1.6**
	comp=Z,9.9nm,1.1s,mb4.3,baz=271,slow=9.5,SNR=12						
MJAR				LR	LR	06 48 53.2	
	comp=Z,68nm,22.0s,MS3.2,baz=260,slow=34						
MJAR	**Matsushiro Arr**	**27.07**	**73**	P	**P**	**06 39 16.5**	**-1.6**
MJAR				LR	LR	06 48 53.2	
MJAR	**Matsushiro Arr**	**27.07**	**73**	P	**P**	**06 39 16.5**	**-1.6**
MJAR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
MJAR				MLR	MLR		
	comp=Z,68nm,22.0s						
KK31	**Karatay Array**	**29.28**	**301**	*i* P	**P**	**06 39 39.3**	**+1.6**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.0						
KKAR	**Karatay Array**	**29.28**	**301**	*e*P	**P**	**06 39 37.7**	**0.0**
	comp=Z,1.5nm,0.4s,mb4.1						
KKAR	**Karatay Array**	**29.28**	**301**	*e*P	**P**	**06 39 37.7**	**0.0**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.2						
KBL	**Kabul**	**30.31**	**283**	*e*P	**P**	**06 39 47.2**	**+0.3**
	comp=Z,4.5nm,0.6s,mb4.4						
KBL	**Kabul**	**30.31**	**283**	*e*P	**P**	**06 39 47.2**	**+0.3**
KBL				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
PSI	**Prapat**	**30.47**	**193**	P	**P**	**06 39 48.4**	**0.0**
	comp=Z,7.1nm,0.7s,mb4.5,baz=352,slow=12,SNR=6.1						
PSI	**Prapat**	**30.47

YAK pmax pmax
comp=Z,26nm,1.0s,mb5.1
YAK pmax pmax
comp=N,12nm,1.1s
YAK pmax pmax
comp=E,11nm,1.2s
YUK Yuzh-Kuril'sk 33.24 58 ⇓ *i* P **P** 06 40 06.0 -6.5
YUK pmax pmax
comp=Z,579nm,1.5s
YUK pmax pmax
comp=N,167nm,1.5s
YUK pmax pmax
comp=E,129nm,0.8s
YUK pmax pmax
comp=Z,870nm,1.6s
YUK MLR MLR
comp=N,220nm,16.0s,MS4.2
YUK MLR MLR
comp=E,360nm,16.0s,MS4.2
YUK MLR MLR
comp=Z,190nm,16.0s,MS3.9
AB31 Akbulak array 37.49 310 *i* P **P** 06 40 49.3 +0.2
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
ABKAR Akbulak array 37.49 310 *eP* **P** 06 40 49.4 +0.4
comp=Z,1.5nm,0.5s,mb4.1
SVE Sverdlovsk 38.89 322 *eP* **P** 06 41 01.6 +0.8
SVE pmax pmax
comp=Z,12nm,0.7s,mb4.7
AKTK Aktyubinsk 38.90 311 P **P** 06 41 01.6 +0.7
AKTO Aktyubinsk 38.90 311 P **P** 06 41 01.6 +0.7
comp=Z,1.7nm,0.5s,mb4.0,baz=108,slow=12,SNR=6.6
AKTO Aktyubinsk 38.90 311 P **P** 06 41 01.6 +0.7
AKTO pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
ARU Arti 39.87 321 *eP* **P** 06 41 08.8 -0.1
comp=Z,17nm,1.1s,mb4.7
ARU Arti 39.87 321 *c iP* **P** 06 41 09.0 +0.1
ARU S **S** 06 47 15.0 +2.1
ARU SS SS 06 50 09.7 +0.7
ARU pmax pmax
comp=Z,24nm,1.7s,mb4.7
KAPI Kappang 39.95 158 *eP* **P** 06 41 08.3 -1.7
comp=Z,27nm,1.2s,mb4.9
SOKR Solikamsk 41.69 325 *eP* **P** 06 41 22.8 -1.1
SOKR pmax pmax
comp=Z,20nm,1.5s,mb4.5
PETK Petropavlovsk- 42.15 45 LR LR 07 00 49.8
comp=Z,66nm,18.1s,MS3.6,baz=64,slow=39
BILL Bilibino 49.14 26 *eP* **P** 06 42 22.1 -0.8
comp=Z,7.2nm,0.7s,mb4.8
BILL Bilibino 49.14 26 ⇑ *eP* **P** 06 42 22.9 +0.1
BILL pmax pmax
comp=Z,13nm,1.2s,mb4.8
BILL MLR MLR
comp=Z,100nm,15.0s,MS3.9
MIB Mutribah 49.27 283 *eP* **P** 06 42 23.4 -1.0
MIB AMb AMB 06 42 29.4
comp=Z,27nm,0.7s,mb5.4
VRHR Novokhopersk 49.31 312 *eP* **P** 06 42 22.1 -2.2
VRHR pmax pmax
comp=N,6.0nm,0.5s
VRHR pmax pmax
comp=E,2.0nm,0.5s
VRHR pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
RDF Al-Radifah 49.39 282 *eP* **P** 06 42 24.3 -1.0
RDF AMb AMB 06 42 30.3
comp=Z,76nm,2.0s,mb5.4
NAY Al-Naaiem 49.53 282 *eP* **P** 06 42 25.3 -1.1
NAY AMb AMB 06 42 26.9
comp=Z,34nm,0.7s,mb5.5
KLMR Klimovskoe 50.38 325 *eP* **P** 06 42 30.3 -2.0
KLMR pmax pmax
comp=Z,37nm,1.2s,mb5.3
VSR Storozhevoye 50.84 312 *eP* **P** 06 42 35.8 -0.2
VSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
VSR pmax pmax
comp=N,3.0nm,0.4s
VSR pmax pmax
comp=E,10.0nm,0.8s
FX1 Attu Island--F 51.47 46 P **P** 06 42 41.1 +0.4
comp=E,19nm,0.6s,mb5.2,baz=278,slow=23,SNR=8.3
FX1 Attu Island--F 51.47 46 P **P** 06 42 41.1 +0.5
FX1 Attu Island--F 51.47 46 P **P** 06 42 41.1 +0.4
FX1 pmax pmax
comp=Z,19nm,0.6s
APA Apatity 53.35 333 ⇓ *eP* **P** 06 42 50.8 -3.6
APA *i* 06 44 54.0
APA *eS* **S** 06 50 16.0 -9.3
APA MLR MLR
comp=Z,600nm,18.0s,MS4.7
JOF Joensuu 54.26 327 *eP* **P** 06 43 00.8 -0.3
JOF pmax pmax
comp=Z,11nm,0.7s,mb4.9
JOF Joensuu 54.26 327 *ep* **P** 06 43 00.8 -0.3
comp=Z,11nm,0.7s,mb4.9
ARCES ARCESS Array B 56.23 335 P **P** 06 43 15.8 +0.6
comp=Z,2.5nm,0.6s,mb4.4,baz=84,slow=8.5,SNR=7.8
ARCES ARCESS Array B 56.23 335 P **P** 06 43 15.8 +0.6
ARCES ARCESS Array B 56.23 335 P **P** 06 43 15.9 +0.7
ARCES pmax pmax
comp=Z,3.0nm,0.6s
KAF Kangasniemi 56.65 326 *eP* **P** 06 43 17.7 -0.6
KAF Kangasniemi 56.65 326 *ep* **P** 06 43 17.7 -0.6
FINES FINESS Array B 56.85 326 P **P** 06 43 19.3 -0.5
comp=Z,4.3nm,0.4s,mb4.8,baz=92,slow=7.7,SNR=18
FINES FINESS Array B 56.85 326 P **P** 06 43 19.3 -0.5
FINES FINESS Array B 56.85 326 P **P** 06 43 19.3 -0.5
FINES pmax pmax
comp=Z,4.0nm,0.4s
ASF Jabal al Asfar 56.91 290 P **P** 06 43 20.9 +0.2
comp=Z,1.6nm,0.8s,mb4.2,baz=142,slow=4.0,SNR=3.6
ASF Jabal al Asfar 56.91 290 P **P** 06 43 20.9 +0.2
ASF Jabal al Asfar 56.91 290 P **P** 06 43 20.9 +0.2
ASF pmax pmax
comp=Z,2.0nm,0.8s
BR131 Keskin Array S 56.97 299 *eP* **P** 06 43 20.7 -0.3
comp=Z,1.1nm,0.5s,mb4.1
BRTR Keskin Array B 56.97 299 P **P** 06 43 20.4 -0.6
comp=Z,2.0nm,0.6s,mb4.3,baz=90,slow=6.1,SNR=10
BRTR Keskin Array B 56.97 299 P **P** 06 43 20.4 -0.6
BRTR Keskin Array B 56.97 299 P **P** 06 43 20.4 -0.6
BRTR pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 57.12 313 P **P** 06 43 21.3 -0.6
comp=Z,4.6nm,0.6s,mb4.7,baz=69,slow=6.5,SNR=14
AKASG Malin Array Be 57.12 313 P **P** 06 43 21.3 -0.6
AKASG Malin Array Be 57.12 313 P **P** 06 43 21.3 -0.6
AKASG pmax pmax
comp=Z,5.0nm,0.6s
WRAB Tennant Creek 59.23 148 *eP* **P** 06 43 36.0 -0.8
comp=Z,12nm,0.7s,mb5.0
WRAB Tennant Creek 59.23 148 *eP* **P** 06 43 36.1 -0.8
WRAB pmax pmax
comp=Z,12nm,0.7s,mb5.0
WRA Warramunga Arr 59.23 148 P **P** 06 43 36.0 -0.9
comp=Z,7.2nm,0.6s,mb4.9,baz=342,slow=7.4,SNR=129
WRA Warramunga Arr 59.23 148 P **P** 06 43 36.0 -0.9
WRA Warramunga Arr 59.23 148 P **P** 06 43 36.0 -0.9
WRA pmax pmax
comp=Z,7.0nm,0.6s
EIL Elat 59.38 288 LR LR 07 11 37.2
comp=Z,39nm,20.3s,MS3.5,baz=78,slow=38
BUR08 Bucovina Ar. S 60.47 310 *eP* **P** 06 43 45.5 +0.3
KWP Kalwaria Pacla 61.45 313 *eP* **P** 06 43 52.4 +0.6
KWP Kalwaria Pacla 61.45 313 *eP* **P** 06 43 52.4 +0.6
KWP Kalwaria Pacla 61.45 313 ⇓ *iP* **P** 06 43 46.4 -5.4
ASAR Alice Springs 62.33 151 P **P** 06 43 57.3 -0.7
comp=Z,4.3nm,0.5s,mb4.8,baz=334,slow=7.0,SNR=91
ASAR Alice Springs 62.33 151 P **P** 06 43 57.3 -0.7
ASAR Alice Springs 62.33 151 P **P** 06 43 57.3 -0.7
ASAR pmax pmax
comp=Z,4.0nm,0.5s
CRVS Cervenica-Dubn 62.45 312 *eP* **P** 06 43 58.6 0.0
CRVS Cervenica-Dubn 62.45 312 *eP* **P** 06 43 58.6 0.0
OJC Ojcow 63.04 314 *eP* **P** 06 44 03.1 +0.7
OJC Ojcow 63.04 314 *eP* **P** 06 44 03.0 +0.6
comp=Z,12nm,1.0s,mb5.0
OJC Ojcow 63.04 314 *eP* **P** 06 44 03.0 +0.6
OJC pmax pmax
comp=Z,12nm,1.0s,mb5.0
HFS Hagfors 63.05 326 P **P** 06 44 01.5 -0.9
comp=Z,4.9nm,0.5s,mb4.9,baz=76,slow=6.3,SNR=18
HFS Hagfors 63.05 326 P **P** 06 44 01.5 -0.9
HFS pmax pmax
comp=Z,5.0nm,0.5s
NB2 NORSAR Subarra 63.89 327 P **P** 06 44 06.5 -1.4
comp=Z,2.4nm,0.5s,mb4.5,baz=71,slow=6.9
NOA NORSAR Array B 63.89 327 P **P** 06 44 06.8 -1.1
comp=Z,4.7nm,0.7s,mb4.7,baz=70,slow=6.6,SNR=14
NOA NORSAR Array B 63.89 327 P **P** 06 44 06.8 -1.1
NOA NORSAR Array B 63.89 327 P **P** 06 44 06.8 -1.1
NOA pmax pmax
comp=Z,5.0nm,0.7s
VYHS Vyhne 64.22 312 *eP* **P** 06 44 11.3 +1.0
VYHS pmax pmax
comp=Z,4.0nm,1.2s,mb4.3
VYHS Vyhne 64.22 312 *eP* **P** 06 44 11.3 +1.0
MORC Moravsky Berou 64.56 314 *eP* **P** 06 44 12.6 +0.2
comp=Z,2.2nm,0.6s,mb4.4
MORC Moravsky Berou 64.56 314 *eP* **P** 06 44 12.6 +0.1
MORC pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
MORC Moravsky Berou 64.56 314 ⇓ *iP* **P** 06 44 05.3 -7.2
DPC Dobruska-Polom 65.08 315 *eP* **P** 06 44 16.1 +0.2
comp=Z,15nm,1.1s,mb4.9
DPC Dobruska-Polom 65.08 315 *eP* **P** 06 44 16.1 +0.3
DPC pmax pmax
comp=Z,15nm,1.1s,mb4.9
DPC Dobruska-Polom 65.08 315 *eP* **P** 06 44 16.8 +1.0
UPC Upice 65.20 315 *eP* **P** 06 44 17.5 +0.8
UPC Upice 65.20 315 *eP* **P** 06 44 17.5 +0.8
COLD Coldfoot 65.44 25 *eP* **P** 06 44 18.4 +0.5
comp=Z,14nm,1.2s,mb4.9
SVW2 Sparrevohn 65.93 32 *eP* **P** 06 44 22.1 +0.9
comp=Z,47nm,1.8s,mb5.2
BRG Berggiesshubel 66.28 316 *eP* **P** 06 44 23.9 +0.3
comp=Z,24nm,1.7s,mb5.0
BRG Berggiesshubel 66.28 316 *eP* **P** 06 44 23.9 +0.3
BRG pmax pmax
comp=Z,25nm,1.7s,mb5.0
BPAW Bear Paw Mtn. 66.55 28 *eP* **P** 06 44 25.3 +0.2
comp=Z,14nm,1.0s,mb5.0
PPLA Purkeypile 66.61 29 *eP* **P** 06 44 26.1 +0.6
comp=Z,36nm,1.2s,mb5.3
CLL Collm 66.65 317 *eP* **P** 06 44 25.0 -1.0
KHC Kasperske Hory 67.19 315 *eP* **P** 06 44 32.7 +3.2
KHC Kasperske Hory 67.19 315 *eP* **P** 06 44 32.7 +3.2
GERES GERESS Array B 67.23 314 P **P** 06 44 29.6 -0.1
comp=Z,2.5nm,0.9s,mb4.2,baz=64,slow=6.5,SNR=12
GERES GERESS Array B 67.23 314 P **P** 06 44 29.6 -0.1
GERES GERESS Array B 67.23 314 P **P** 06 44 29.6 -0.1
GERES pmax pmax
comp=Z,3.0nm,0.9s
ILAR Eielson Array 67.80 26 P **P** 06 44 32.1 -0.9
comp=Z,2.8nm,0.9s,mb4.3,baz=286,slow=5.9,SNR=23
ILAR Eielson Array 67.80 26 P **P** 06 44 32.1 -0.9
ILAR Eielson Array 67.80 26 P **P** 06 44 32.2 -0.8
ILAR pmax pmax
comp=Z,3.0nm,0.9s
PMR Palmer 68.48 30 *eP* **P** 06 44 36.8 -0.6
comp=Z,18nm,1.0s,mb5.0
PMR Palmer 68.48 30 *eP* **P** 06 44 36.8 -0.6
PMR pmax pmax
comp=Z,18nm,1.0s,mb5.1
SML Sawmill 68.71 29 *eP* **P** 06 44 38.4 -0.4
comp=Z,2.2nm,0.6s,mb4.3
SML Sawmill 68.71 29 *eP* **P** 06 44 38.4 -0.4
SML pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
KDAK Kodiak Island 68.77 34 P **P** 06 44 38.4 -0.9
comp=Z,11nm,0.9s,mb4.8,baz=219,slow=6.0,SNR=14
KDAK LR LR 07 17 10.6
comp=Z,82nm,18.0s,MS4.0,baz=281,slow=38
KDAK Kodiak Island 68.77 34 P **P** 06 44 38.4 -0.9
KDAK LR LR 07 17 10.6
KDAK Kodiak Island 68.77 34 P **P** 06 44 38.4 -0.8
KDAK pmax pmax
comp=Z,11nm,0.9s,mb4.8
KDAK MLR MLR
comp=Z,82nm,18.0s,MS4.0
FETA Feichten 69.82 313 ⇑ *iP* **P** 06 44 45.1 -0.8
comp=Z,11nm,1.3s,mb4.6
INK Inuvik 70.17 20 P **P** 06 44 47.2 -0.5
comp=Z,7.5nm,0.8s,mb4.7,baz=319,slow=7.2,SNR=26
INK LR LR 07 19 43.2
comp=Z,60nm,20.0s,MS3.8,baz=333,slow=40
INK Inuvik 70.17 20 *eP* **P** 06 44 46.7 -1.0
comp=Z,20nm,1.2s,mb4.9
INK Inuvik 70.17 20 P **P** 06 44 47.2 -0.5
INK pmax pmax
comp=Z,8.0nm,0.8s
INK MLR MLR
comp=Z,60nm,20.0s
DAWY Dawson 70.91 25 *eP* **P** 06 44 51.5 -0.8
RES Resolute Bay 71.95 6 *eP* **P** 06 44 58.3 -0.1
comp=Z,5.4nm,1.2s,mb4.3
RES Resolute Bay 71.95 6 *eP* **P** 06 44 58.3 -0.1
RES pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
LPG La Plagne 72.97 313 *eP* **P** 06 45 05.2 +0.2
comp=Z,15nm,0.6s,mb4.8
LPL La Plagne 72.98 313 *eP* **P** 06 45 05.1 +0.1
comp=Z,23nm,0.8s,mb4.9
SMF Signal de Mont 74.15 315 *eP* **P** 06 45 09.9 -2.0
AVF Avril sur Loir 74.36 316 *eP* **P** 06 45 12.2 -0.9
comp=Z,32nm,1.3s,mb4.8
SKAG Skagway 75.29 27 *eP* **P** 06 45 18.8 +0.5
comp=Z,40nm,1.5s,mb5.1
YKA Yellowknife Ar 79.73 18 P **P** 06 45 42.3 -0.7
comp=Z,1.5nm,0.5s,mb4.2,baz=328,slow=5.3,SNR=9.9
YKA LR LR 07 27 40.9
comp=Z,4.8nm,18.1s,MS2.9,baz=255,slow=41
YKA Yellowknife Ar 79.73 18 P **P** 06 45 42.3 -0.7
YKA LR LR 07 27 40.9
YKA Yellowknife Ar 79.73 18 P **P** 06 45 42.3 -0.7
YKA pmax pmax
comp=Z,2.0nm,0.5s
FFC Flin Flon 89.68 16 *i* P **P** 06 46 33.7 +0.4
ETW Entiat 90.01 29 *eP* **P** 06 46 34.9 -0.2
PDAR Pinedale Array 98.22 25 LR LR 07 35 47.9
comp=Z,53nm,18.5s,MS4.1,baz=80,slow=38
NVAR Mina Array Bea 98.26 33 P **P** 06 47 14.2 +1.1
comp=Z,0.3nm,0.5s,mb4.0,baz=324,slow=2.9,SNR=3.7
NVAR Mina Array Bea 98.26 33 P **P** 06 47 14.2 +1.1
OTAV Otavalo 146.94 7 *e*PKPbc PKPbc 06 53 19.3 +0.6

MEX 14 06:37:13.1±0.8, 16°48N×99°33W, h14km±12km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.64**	**308**	*i* P	Pg	06 37 23.8	-1.8
ACX				*i* S	Sg	06 37 32.9	-1.1
CAIG	**El Cayaco**	**1.06**	**302**	*i* P	Pb	06 37 30.6	-2.7
CAIG				*i* S	Sb	06 37 43.3	-3.7
PNIG	**Pinotepa**	**1.16**	**94**	*i* P	Pb	06 37 31.4	-3.5
PNIG				*i* S	Sb	06 37 45.5	-4.4
UTMO	**Huajuapan**	**1.98**	**47**	*i* P	Pn	06 37 43.2	-3.1
UTMO				*i* S	Sn	06 38 07.0	-4.1
VHO	**Vista Hermosa**	**2.56**	**76**	*i* P	Pn	06 37 50.8	-3.4
VHO				*i* S	Sn	06 38 21.0	-4.2
MZVM		**2.70**	**2**	*i* P	Pn	06 37 53.8	-2.4
IIO	**Organos**	**3.15**	**10**	*e*P	Pn	06 38 00.1	-2.2

WEL 14 06:48:48.6±0.1, 39°66S×176°76E, h40km±2km, ML3.6/9, 6C-2D, Error ellipse: s-maj=2.0km s-min=0.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAHZ	**Kahuranaki**	**0.16**	**148**	⇓ PN	Pn	06 48 54.8	-0.7
KAHZ				SN	Sn	06 49 00.6	+0.2
MCHZ	**McNeill Hill**	**0.22**	**346**	⇑ PN	Pn	06 48 54.9	-1.1
MCHZ				SN	Sn	06 49 00.4	-0.7
CKHZ	**Cape Kidnapper**	**0.24**	**90**	⇑ PN	Pn	06 48 55.7	-0.5
CKHZ				SN	Sn	06 49 01.4	0.0
PXZ	**Pawanui**	**0.38**	**169**	⇑ PN	Pn	06 48 57.8	0.0
PXZ				*e*SN	Sn	06 49 04.6	+0.5
WPHZ	**Waipukurau**	**0.48**	**211**	PN	Pn	06 48 59.1	+0.1
WPHZ				SN	Sn	06 49 07.3	+1.0
PNHZ	**Pukenui**	**0.51**	**239**	⇑ PN	Pn	06 48 59.1	-0.2
BKZ	**Black Stump Fm**	**0.53**	**337**	⇑ PN	Pn	06 48 59.1	-0.6
BKZ				SN	Sn	06 49 07.1	-0.5
NMHZ	**Naumai**	**0.56**	**3**	PN	Pn	06 49 00.1	0.0
BHHZ	**Black Hill Sta**	**0.57**	**287**	⇑ PN	Pn	06 48 59.6	-0.6
PRHZ	**Porangahau**	**0.62**	**189**	PN	Pn	06 49 01.0	+0.1
TSZ	**Takapari Road**	**0.74**	**237**	PN	Pn	06 49 02.5	0.0
RAHZ	**Arahi**	**0.78**	**19**	PN	Pn	06 49 03.4	+0.3
RAHZ				*e*SN	Sn	06 49 15.3	+1.7
DVHZ	**Dannevirke**	**0.79**	**215**	PN	Pn	06 49 03.1	-0.2
MOVZ	**Moawhango**	**0.82**	**287**	PN	Pn	06 49 03.8	+0.2
HATZ	**Hinemaiaia**	**0.93**	**326**	PN	Pn	06 49 05.9	+0.8
TUVZ	**Tukino**	**0.94**	**294**	PN	Pn	06 49 06.4	+1.0
KNZ	**Kokohu**	**0.95**	**48**	PN	Pn	06 49 04.9	-0.5
WNVZ	**Wahianoa**	**0.96**	**290**	PN	Pn	06 49 06.6	+1.1
OTVZ	**Oturere**	**0.98**	**300**	PN	Pn	06 49 06.9	+1.0
DRZ	**Dome Shelter**	**1.00**	**292**	PN	Pn	06 49 07.5	+1.3
TRVZ	**Turoa**	**1.01**	**290**	PN	Pn	06 49 07.3	+1.1
FWVZ	**Far West T-bar**	**1.02**	**293**	PN	Pn	06 49 07.3	+0.9
NGZ	**Ngauruhoe**	**1.02**	**298**	PN	Pn	06 49 07.4	+1.0
KRVZ	**Karewarewa**	**1.04**	**302**	PN	Pn	06 49 07.6	+1.0
MTVZ	**Mangateitei**	**1.04**	**285**	PN	Pn	06 49 08.0	+1.4
WPVZ	**Whakapapa**	**1.05**	**295**	PN	Pn	06 49 07.7	+1.0
WTVZ	**West Tongariro**	**1.06**	**300**	PN	Pn	06 49 08.0	+1.0
POWZ	**Post Office Ro**	**1.06**	**226**	PN	Pn	06 49 07.3	+0.4
KATZ	**Kakaramea**	**1.07**	**309**	PN	Pn	06 49 08.0	+0.9
BFZ	**Birch Farm**	**1.10**	**201**	PN	Pn	06 49 07.0	-0.4
RATZ	**Rangitukua**	**1.10**	**315**	PN	Pn	06 49 08.3	+0.8
ALRZ	**Allen Road**	**1.14**	**343**	PN	Pn	06 49 09.4	+1.3
TWVZ	**Taurewa**	**1.18**	**299**	PN	Pn	06 49 09.1	+0.5
TIWZ	**Tintock**	**1.30**	**211**	PN	Pn	06 49 10.0	-0.2
RRRZ	**Republican Roa**	**1.33**	**352**	PN	Pn	06 49 11.1	+0.5
MRZ	**Mangatainoka R**	**1.35**	**222**	PN	Pn	06 49 10.5	-0.5
WAZ	**Wanganui**	**1.38**	**265**	PN	Pn	06 49 13.1	+1.8
URZ	**Urewera**	**1.42**	**11**	PN	Pn	06 49 11.4	-0.5
TARZ	**Mount Tarawera**	**1.44**	**352**	PN	Pn	06 49 12.5	+0.4
MWZ	**Matawai**	**1.45**	**24**	⇓ PN	Pn	06 49 11.7	-0.5
HOWZ	**Holdsworth Sta**	**1.56**	**217**	PN	Pn	06 49 13.0	-0.9
TMWZ	**Te Maipa**	**1.59**	**204**	PN	Pn	06 49 13.2	-1.0
OGWZ	**Otaki Gorge**	**1.68**	**226**	PN	Pn	06 49 15.1	-0.4
MTW	**Mount Morrison**	**1.78**	**212**	PN	Pn	06 49 15.8	-1.0
KIW	**Kapiti Island**	**1.86**	**229**	PN	Pn	06 49 17.4	-0.5
PUZ	**Puketiti**	**1.97**	**37**	PN	Pn	06 49 18.1	-1.3
PLWZ	**Palliser**	**2.23**	**211**	PN	Pn	06 49 20.9	-2.1
CTZ	**Chatham Island**	**6.41**	**132**	PN	Pn	06 50 19.9	-0.5

*IDC **14** 06:48:57.9±0.8, 0°.00N×126°.12E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.8/20, mbtmp3.8/9, ML3.6/1, Error ellipse: s-maj=65.6km s-min=16.2km az=69.0*
*NEIC **14** 06:49:03.0±0.5, 0°.07S×126°.08E, h35km, mb3.9/3, Error ellipse: s-maj=40.6km s-min=9.7km az=71.0*
*ISCJB **14** 06:49:05.5±0.6, 0°.28S±0°.06×125°.90E±0°.06, h72km±7km, mb3.8/11, Error ellipse: s-maj=12.1km s-min=7.1km az=139.6*
*DJA **14** 06:49:05, 0°.23S×125°.89E, h91km, MLv3.7/6*
ISC 14 06:49:06.4±0.6, 0°.26S±0°.06×125°.91E±0°.06, h63km±7km, n31, σ1§11/31, mb3.9/11, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**1.63**	**103**	P	**Pn**	**06 49 32.9**	**-0.1**
TNTI	**Ternate**	**1.78**	**55**	P	**Pn**	**06 49 36.3**	**+1.3**
MNI	**Manado**	**2.00**	**328**	P	**Pn**	**06 49 36.6**	**-1.4**
MNI				S	**Sn**	**06 50 02.2**	**+0.2**
KMSI	**Cibinong**	**2.10**	**293**	P	**Pn**	**06 49 38.6**	**-0.7**
KMSI				S	**Sn**	**06 50 05.8**	**+1.4**
NLAI	**Namlea**	**3.19**	**158**	P	**Pn**	**06 49 53.6**	**-0.5**
LUWI	**Luwuk**	**3.23**	**256**	P	**Pn**	**06 49 54.4**	**-0.3**
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=3.3,slow=8.0,SNR=5.8	**17.73**	**181**	P	**Pn**	**06 53 08.8**	**-0.3**
FITZ	**Fitzroy Crossi** 2.3nm,0.8s	**17.73**	**181**	*eP*	**Pn**	**06 53 09.2**	**+0.1**
WRAB	**Tennant Creek** 2.4nm,0.4s,mb3.9	**21.23**	**158**	*eP*	**P**	**06 53 47.1**	**-0.1**
WRA	**Warramunga Arr** 2.5nm,0.7s,mb3.7,baz=334,slow=11,SNR=35	**21.23**	**158**	P	**P**	**06 53 46.7**	**-0.6**
WRA	**Warramunga Arr**	**21.23**	**158**	P	**P**	**06 53 46.7**	**-0.6**
ASAR	**Alice Springs** 0.6nm,0.3s,mb3.5,baz=345,slow=11,SNR=11	**24.52**	**162**	P	**P**	**06 54 22.1**	**+1.9**
ASAR				PcP	PcP	06 57 58.5	+1.3
	0.3nm,0.5s,baz=346,slow=2.2,SNR=4.4						
ASAR	**Alice Springs**	**24.52**	**162**	P	**P**	**06 54 22.1**	**+1.9**
ASAR				PcP	PcP	06 57 58.5	+1.3
STKA	**Stephens Creek** 1.7nm,0.7s,mb4.1,baz=316,slow=12,SNR=3.0	**34.77**	**156**	P	**P**	**06 55 51.0**	**+0.1**
STKA	**Stephens Creek**	**34.77**	**156**	P	**P**	**06 55 51.0**	**+0.1**
KSRS	**Korea Array** 0.9nm,0.5s,mb3.8,baz=182,slow=11,SNR=4.2	**37.57**	**3**	P	**P**	**06 56 14.8**	**+0.1**
ERM	**Erimo** 79nm,0.7s	**44.87**	**18**	*eP*	**P**	**06 57 07.1**	**-7.5**
SONM	**Songino Array** 0.3nm,0.6s,mb3.4,baz=156,slow=7.4,SNR=2.8	**50.82**	**343**	P	**P**	**06 57 58.3**	**-2.2**
SONM	**Songino Array**	**50.82**	**343**	P	**P**	**06 57 58.3**	**-2.2**
MKAR	**Makanchi Array** 0.4nm,0.5s,mb4.1,baz=125,slow=8.0,SNR=12	**60.39**	**327**	P	**P**	**06 59 07.9**	**-1.2**
MKAR	**Makanchi Array**	**60.39**	**327**	P	**P**	**06 59 07.9**	**-1.2**
ZALV	**Zalesovo Beam** 0.5nm,0.3s,mb4.0,baz=155,slow=6.1,SNR=3.3	**63.78**	**334**	P	**P**	**06 59 34.1**	**+2.4**
ZALV	**Zalesovo Beam**	**63.78**	**334**	P	**P**	**06 59 34.1**	**+2.4**
KURK	**Kurchatov** 0.5nm,0.4s,mb3.9,baz=133,slow=6.7,SNR=3.8	**64.68**	**329**	P	**P**	**06 59 36.7**	**-0.9**
KURK	**Kurchatov** 1.5nm,0.4s,mb4.4	**64.68**	**329**	*eP*	**P**	**06 59 36.4**	**-1.3**
AKTK	**Aktyubinsk**	**76.28**	**322**	P	**P**	**07 00 49.6**	**+1.3**
AKTO	**Aktyubinsk** 0.8nm,0.3s,mb4.1,baz=105,slow=7.6,SNR=3.5	**76.28**	**322**	P	**P**	**07 00 49.6**	**+1.3**
ILAR	**Eielson Array** 0.2nm,0.5s,mb3.7,baz=239,slow=5.2,SNR=7.8	**89.04**	**25**	P	**P**	**07 01 53.2**	**-1.0**
ILAR	**Eielson Array**	**89.04**	**25**	P	**P**	**07 01 53.2**	**-1.0**
TORD	**Torodi Ar. Bea** 0.4nm,0.7s,baz=52,slow=3.1,SNR=2.7	**123.28**	**286**	PKP	PKPdf	07 07 57.6	+0.4
TORD	**Torodi Ar. Bea**	**123.28**	**286**	PKP	PKPdf	07 07 57.6	+0.4

*IDC **14** 07:01:20.3±8.3, 40°.06S×174°.61E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.7/12, mbtmp3.5/2, Error ellipse: s-maj=523.3km s-min=45.9km az=32.0*
*ISCJB **14** 07:01:34.3±0.3, 41°.88S±0°.03×172°.73E±0°.05, h98km±4km, mb3.6/2, Error ellipse: s-maj=7.4km s-min=3.5km az=40.9*
*WEL **14** 07:01:36.0±0.2, 41°.82S×172°.70E, h88km±2km, ML4.3/19, Error ellipse: s-maj=1.9km s-min=1.4km az=90.0*
WEL Felt in the West Coast region, maximum reported intensity MM 4.
ISC 14 07:01:35.5±0.3, 41°.89S±0°.03×172°.74E±0°.05, h90km±5km, n63, σ0§95/69, mb3.6/2, 1C-3D, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THZ	**Tophouse**	**0.17**	**45**	⇓ PN	**Pn**	**07 01 48.4**	**0.0**
THZ				SN	**Sn**	**07 01 56.7**	**-1.2**
DSZ	**Denniston Nort**	**0.72**	**281**	⇓ PN	**Pn**	**07 01 52.1**	**0.0**
DSZ				SN	**Sn**	**07 02 02.9**	**-1.6**
KHZ	**Kahutara**	**0.80**	**132**	⇑ PN	**Pn**	**07 01 54.1**	**+1.1**
KHZ				SN	**Sn**	**07 02 07.4**	**+1.4**
NNZ	**Nelson**	**0.82**	**36**	⇓ PN	**Pn**	**07 01 53.2**	**0.0**
NNZ				SN	**Sn**	**07 02 06.2**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.86**	**79**	PN	**Pn**	**07 01 54.7**	**+1.0**
BSWZ				SN	**Sn**	**07 02 09.1**	**+1.8**
LTZ	**Lake Taylor**	**0.96**	**201**	PN	**Pn**	**07 01 56.2**	**+1.5**
LTZ				SN	**Sn**	**07 02 10.8**	**+1.7**
TUWZ	**Tuamarina**	**1.01**	**64**	PN	**Pn**	**07 01 55.9**	**+0.6**
QRZ	**Quartz Range**	**1.07**	**351**	PN	**Pn**	**07 01 55.5**	**-0.5**
CMWZ	**Cape Campbell**	**1.11**	**83**	PN	**Pn**	**07 01 57.8**	**+1.4**
TCW	**Tory Channel**	**1.33**	**60**	PN	**Pn**	**07 01 59.7**	**+0.6**
DUWZ	**D'Urville Isla**	**1.40**	**40**	PN	**Pn**	**07 02 00.7**	**+0.7**
DUWZ				*e*SN	**Sn**	**07 02 18.0**	**-0.5**
SNZO	**South Karori**	**1.58**	**69**	PN	**Pn**	**07 02 02.2**	**0.0**
WEL	**Wellington**	**1.63**	**69**	PN	**Pn**	**07 02 03.0**	**+0.1**
BHW	**Baring Head**	**1.67**	**74**	PN	**Pn**	**07 02 03.1**	**-0.2**
CRLZ	**Canterbury Las**	**1.69**	**183**	PN	**Pn**	**07 02 04.3**	**+0.6**
MQZ	**McQueen's Vall**	**1.82**	**182**	PN	**Pn**	**07 02 05.6**	**+0.2**
WVZ	**Waitaha Valley**	**1.90**	**231**	PN	**Pn**	**07 02 07.2**	**+0.8**
PLWZ	**Palliser**	**1.91**	**81**	PN	**Pn**	**07 02 06.0**	**-0.5**
CAW	**Cannon Point**	**1.91**	**67**	PN	**Pn**	**07 02 06.2**	**-0.3**
KIW	**Kapiti Island**	**1

WAZ	Wanganui	2.72	39	PN	Pn	07 02 18.3	+0.9
NWEZ	Newall Road	2.75	19	PN	Pn	07 02 18.8	+1.2
DFE	Dawson Falls	2.76	23	PN	Pn	07 02 18.8	+1.0
FOZ	Fox Glacier	2.81	232	PN	Pn	07 02 17.4	-0.9
NEZ	North Egmont	2.81	22	PN	Pn	07 02 19.2	+0.8
PKE	Pukeiti	2.85	20	PN	Pn	07 02 20.1	+1.1
RAEZ	Rainy Point	2.88	26	PN	Pn	07 02 18.8	-0.7
DREZ	Durham Road	2.91	23	PN	Pn	07 02 20.9	+1.1
DVHZ	Dannevirke	3.03	60	PN	Pn	07 02 19.7	-1.8
LBZ	Lake Benmore	3.12	216	PN	Pn	07 02 22.2	-0.4
VRZ	Vera Road	3.16	30	PN	Pn	07 02 24.1	+1.0
MTVZ	Mangateitei	3.25	41	PN	Pn	07 02 24.8	+0.5
PNHZ	Pukenui	3.28	54	PN	Pn	07 02 23.1	-1.7
TRVZ	Turoa	3.35	41	PN	Pn	07 02 25.9	+0.2
WNVZ	Wahianoa	3.35	41	PN	Pn	07 02 25.9	+0.1
MOVZ	Moawhango	3.37	44	PN	Pn	07 02 25.3	-0.7
TUVZ	Tukino	3.43	41	PN	Pn	07 02 26.8	0.0
BHHZ	Black Hill Sta	3.48	48	PN	Pn	07 02 26.5	-1.0
ODZ	Otahua Downs	3.51	205	PN	Pn	07 02 28.1	+0.3
OTVZ	Oturere	3.51	40	PN	Pn	07 02 27.8	-0.1
JCZ	Jackson Bay	3.65	232	PN	Pn	07 02 28.8	-0.9
HIZ	Hauiti	3.74	26	PN	Pn	07 02 31.3	+0.3
BKZ	Black Stump Fm	3.94	48	PN	Pn	07 02 32.2	-1.6
EAZ	Earnscleugh	4.17	216	PN	Pn	07 02 35.7	-1.1
MSZ	Milford Sound	4.49	230	PN	Pn	07 02 41.3	+0.2
TUZ	Tuapeka	4.65	208	PN	Pn	07 02 43.0	-0.2
MKAZ	Moumakai	5.12	22	PN	Pn	07 02 49.9	+0.1
WHZ	Wether Hill Ro	5.30	219	PN	Pn	07 02 50.0	-2.1
SYZ	Scrubby Hill	5.32	208	PN	Pn	07 02 51.9	-0.5
APZ	The Paps	6.00	213	PN	Pn	07 03 00.3	-1.4
OUZ	Omahuta	6.69	6	*e*PN	Pn	07 03 12.0	+0.9
ASAR	Alice Springs	36.99	287	P	P	07 08 38.4	+2.2
	0.3nm,0.5s,mb3.5,baz=121,slow=6.5,SNR=4.6						
WRA	Warramunga Arr	39.10	292	P	P	07 08 55.5	+1.5
	0.8nm,0.5s,mb3.8,baz=128,slow=8.5,SNR=26						
TORD	Torodi Ar. Bea	150.33	198	PKPbc	PKPbc	07 21 18.8	+2.2
	0.2nm,0.5s,baz=148,slow=2.1,SNR=3.2						

ISCJB **14** *07:02:47.8±0.8,3°.57S±0°.07×101°.49E±0°.08,h68*km±7km*, mb4.3/15, Error ellipse: s-maj=15.0km s-min=7.8km az=140.7*

NEIC **14** *07:02:47.6±0.8,3°.48S×101°.54E,h44*km±8km*, mb4.4/8, Error ellipse: s-maj=9.9km s-min=6.1km az=52.0*

IDC **14** *07:02:47.5±1.4,3°.58S×101°.43E,h46*km±5km*, mb4.1/11, mb1 4.1/12,mb1mx3.9/24,mbtmp4.1/12,MS3.0/2, Ms1 3.1/2,ms1mx2.6/22,Error ellipse: s-maj=65.6km s-min=11.2km az=52.0*

DJA **14** *07:02:49,3°.52S×101°.60E,h17*km*,MLv4.3/7*

ISC 14 07:02:49.2±0.8,**3°.55S**±0°.06×**101°.54E**±0°.07,**h60**km±7km, **n45**,σ**1°00**/42,**mb4.3**/15,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	**Kapahiang**	**1.06**	**96**	P	Pn	**07 03 07.1**	**-0.9**
KSI				S	Sn	**07 03 21.1**	**-0.9**
MNAI	**Manna**	**1.63**	**120**	P	Pn	**07 03 15.3**	**-0.3**
SDSI	**Sungai Dareh**	**2.60**	**358**	P	Pn	**07 03 30.9**	**+2.0**
MDSI	**Maura Dua**	**2.79**	**110**	P	Pn	**07 03 32.1**	**+0.6**
LWLI	**Liwa**	**2.91**	**120**	P	Pn	**07 03 35.0**	**+1.9**
SISI	**Saibi**	**3.29**	**312**	P	Pn	**07 03 41.6**	**+3.2**
MNSI	**Mandailing Nat**	**4.74**	**336**	P	Pn	**07 03 58.3**	**+0.2**
MYKOM	**Kota Tinggi**	**5.78**	**24**	P	Pn	**07 04 13.6**	**+1.1**
PSI	**Prapat**	**6.83**	**337**	P	Pn	**07 04 23.8**	**-2.9**
	0.8nm,0.3s,baz=143,slow=20,SNR=2.0						
PSI	**Prapat**	**6.83**	**337**	P	Pn	**07 04 23.8**	**-2.9**
COCO	**West Island**	**9.77**	**208**	*e*Pn	Pn	**07 05 06.1**	**-0.9**
KSM	**Kuching**	**10.08**	**61**	*e*Pn	Pn	**07 05 08.5**	**-2.9**
KAPI	**Kappang**	**18.22**	**95**	*e*P	Pn	**07 06 58.2**	**+0.1**
	12nm,1.0s						
CMAR	**Chiang Mai Arr**	**22.01**	**353**	LR	LR	07 16 27.1	
	comp=Z,37nm,20.8s,baz=160,slow=37						
FITZ	**Fitzroy Crossi**	**27.68**	**123**	P	P	**07 08 31.5**	**-0.3**
	2.1nm,0.7s,mb3.9,baz=199,slow=5.3,SNR=6.1						
FITZ				LR	LR	07 18 57.0	
	comp=Z,38nm,18.1s,baz=37,slow=35						
FITZ	**Fitzroy Crossi**	**27.68**	**123**	*e*P	P	**07 08 33.9**	**+2.1**
	1.4nm,0.6s,mb3.8						
FITZ				LR	LR	07 18 57.0	
WRA	**Warramunga Arr**	**35.89**	**120**	P	P	**07 09 44.0**	**+0.2**
	1.5nm,0.4s,mb4.3,baz=304,slow=9.1,SNR=35						
WRA				pP	pP	07 09 56.5	-2.4
	0.5nm,0.5s,baz=283,slow=7.9,SNR=3.2						
WRA				sP	sP	07 10 01.5	-4.5
	0.8nm,0.5s,baz=303,slow=9.0,SNR=3.5						
WRA	**Warramunga Arr**	**35.89**	**120**	P	P	**07 09 44.0**	**+0.2**
WRA				pP	pP	07 09 56.5	-2.4
WRA				sP	sP	07 10 01.5	-4.4
WRAB	**Tennant Creek**	**35.90**	**120**	*e*P	P	**07 09 43.5**	**-0.4**
	2.8nm,0.4s,mb4.5						
ASAR	**Alice Springs**	**37.11**	**126**	P	P	**07 09 54.2**	**+0.1**
	1.6nm,0.4s,mb4.2,baz=298,slow=8.0,SNR=25						
ASAR				pP	pP	07 10 06.8	-2.4
	0.8nm,0.5s,baz=292,slow=7.9,SNR=3.1						
ASAR	**Alice Springs**	**37.11**	**126**	P	P	**07 09 54.2**	**+0.1**
ASAR				pP	pP	07 10 06.8	-2.4
CTA	**Charters Tower**	**46.56**	**114**	P	P	**07 11 11.6**	**+0.2**
	1.8nm,0.4s,mb4.3,baz=279,slow=13,SNR=3.1						
CTA	**Charters Tower**	**46.56**	**114**	P	P	**07 11 11.6**	**+0.2**
STKA	**Stephens Creek**	**46.98**	**132**	P	P	**07 11 15.3**	**+0.9**
	3.1nm,0.6s,mb4.5,baz=306,slow=9.5,SNR=12						
STKA	**Stephens Creek**	**46.98**	**132**	*e*P	P	**07 11 15.2**	**+0.7**
	0.6nm,0.6s,mb3.7						
SONM	**Songino Array**	**51.34**	**4**	P	P	**07 11 47.8**	**+0.3**
	2.7nm,0.5s,mb4.4,baz=189,slow=9.7,SNR=11						
SONM				sP	sP	07 12 07.1	-3.0
	1.4nm,0.6s,baz=181,slow=10,SNR=3.2						
SONM	**Songino Array**	**51.34**	**4**	P	P	**07 11 47.8**	**+0.3**
SONM				sP	sP	07 12 07.1	-3.0
TKM2	**Tokmak 2**	**51.86**	**336**	*e*P	P	**07 11 51.7**	**+0.3**
	2.8nm,0.5s,mb4.5						
EKS2	**Erkin-Say**	**52.41**	**334**	*e*P	P	**07 11 56.2**	**+0.7**
	4.5nm,0.8s,mb4.5						
MK31	**Makanchi Array**	**52.93**	**344**	*e*P	P	**07 11 59.0**	**-0.3**
MKAR	**Makanchi Array**	**52.93**	**344**	P	P	**07 11 59.0**	**-0.2**
	5.5nm,0.5s,mb4.8,baz=156,slow=8.7,SNR=95						
MKAR				sP	sP	07 12 16.7	-5.2
	1.6nm,0.6s,baz=158,slow=9.6,SNR=3.8						
MKAR	**Makanchi Array**	**52.93**	**344**	P	P	**07 11 59.0**	**-0.2**
MKAR				sP	sP	07 12 16.7	-5.2
KURK	**Kurchatov**	**57.52**	**343**	P	P	**07 12 31.3**	**-0.9**
	2.4nm,0.7s,mb4.3,baz=162,slow=6.7,SNR=13						
KURK	**Kurchatov**	**57.52**	**343**	*e*P	P	**07 12 31.2**	**-1.0**
	3.3nm,0.6s,mb4.5						
ZAA0	**Zalesovo Array**	**58.97**	**349**	*e*P	P	**07 12 41.6**	**-0.7**
ZALV	**Zalesovo Beam**	**58.97**	**349**	P	P	**07 12 41.6**	**-0.7**
	5.4nm,0.7s,mb4.7,baz=163,slow=5.6,SNR=21						
ZALV	**Zalesovo Beam**	**58.97**	**349**	P	P	**07 12 41.6**	**-0.7**
ABKAR	**Akbulak array**	**63.73**	**331**	*e*P	P	**07 13 14.0**	**-0.5**
	3.0nm,0.8s,mb4.4						
AKASG	**Malin Array Be**	**81.64**	**322**	P	P	**07 15 00.5**	**-0.3**
	0.7nm,0.5s,mb3.9,baz=99,slow=5.0,SNR=4.0						
AKASG	**Malin Array Be**	**81.64**	**322**	P	P	**07 15 00.5**	**-0.3**
FINES	**FINESS Array B**	**86.19**	**332**	P	P	**07 15 24.1**	**+0.4**
	3.1nm,0.9s,mb4.5,baz=101,slow=3.0,SNR=4.5						
FINES	**FINESS Array B**	**86.19**	**332**	P	P	**07 15 24.1**	**+0.4**
TXAR	**Lajitas Array**	**144.93**	**40**	PKPbc	PKPdf	07 22 20.2	-0.1
	2.7nm,0.6s,baz=284,slow=1.1,SNR=49						
TXAR				pPKPbc		07 22 33.6	
	0.7nm,0.6s,baz=270,slow=1.3,SNR=4.0						
TXAR	**Lajitas Array**	**144.93**	**40**	PKPbc	PKPdf	07 22 20.2	-0.1
TXAR				pPKPbc		07 22 33.6	
JCT	**Junction City**	**146.47**	**35**	*e*PKPbc	PKPbc	07 22 24.2	-0.1

IDC **14** *07:09:25.2±6.8,18°.80N×145°.17E,h357*km±71km*, mb3.3/13,mb1 3.4/13,mb1mx3.3/24,mbtmp3.3/13,Error ellipse: s-maj=23.8km s-min=15.9km az=84.0*

NEIC **14** *07:09:33.4±3.2, 18°.69N×145°.08E,h451*km±37km*,mb4.0/4, Error ellipse: s-maj=23.8km s-min=12.5km az=84.0*

ISC 14 07:09:32.4±3.9,**18°.7N**±0°.1×**145°.1E**±0°.2,**h438**km±44km, **n28**,σ**0°90**/28,**mb3.5**/15,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**17.47**	**301**	*e*P	P	**07 13 11.3**	**+1.3**
	12nm,0.9s						
KSRS	**Korea Array**	**23.97**	**325**	P	P	**07 14 08.4**	**-1.9**
	1.1nm,0.5s,mb3.6,baz=139,slow=8.5,SNR=5.0						
WRAB	**Tennant Creek**	**39.83**	**196**	*e*P	P	**07 16 26.2**	**-0.1**
	11nm,1.5s,mb4.0						
WRA	**Warramunga Arr**	**39.84**	**196**	P	P	**07 16 26.2**	**-0.2**
	0.5nm,0.6s,mb3.0,baz=7.3,slow=8.7,SNR=5.0						
WRA	**Warramunga Arr**	**39.84**	**196**	P	P	**07 16 26.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**41.28**	**209**	P	P	**07 16 37.7**	**-0.3**
	2.8nm,1.0s,mb3.5,baz=7.5,slow=10,SNR=5.0						
FITZ	**Fitzroy Crossi**	**41.28**	**209**	P	P	**07 16 37.7**	**-0.3**
SONM	**Songino Array**	**42.77**	**322**	P	P	**07 16 49.3**	**-0.2**
	1.0nm,0.6s,mb3.3,baz=138,slow=7.9,SNR=6.0						
SONM	**Songino Array**	**42.77**	**322**	P	P	**07 16 49.3**	**-0.2**
ZALV	**Zalesovo Beam**	**57.65**	**323**	P	P	**07 18 38.3**	**-0.9**
	0.6nm,0.5s,mb3.2,baz=116,slow=6.8,SNR=4.6						
ZALV	**Zalesovo Beam**	**57.65**	**323**	P	P	**07 18 38.3**	**-0.9**
MKAR	**Makanchi Array**	**58.04**	**314**	P	P	**07 18 42.2**	**+0.2**
	0.8nm,0.5s,mb3.3,baz=89,slow=7.8,SNR=9.2						
MKAR				PcP	PcP	07 19 29.6	+1.4
	0.2nm,0.3s,baz=71,slow=4.8,SNR=4.1						
MKAR	**Makanchi Array**	**58.04**	**314**	P	P	**07 18 42.2**	**+0.2**
MKAR				PcP	PcP	07 19 29.6	+1.4
KURK	**Kurchatov**	**60.87**	**318**	P	P	**07 19 01.4**	**+0.5**
	3.6nm,0.5s,mb4.0,baz=96,slow=7.1,SNR=22						
KURK	**Kurchatov**	**60.87**	**318**	*e*P	P	**07 19 01.2**	**+0.2**
	2.2nm,0.4s,mb3.9						
ILAR	**Eielson Array**	**63.88**	**26**	P	P	**07 19 19.0**	**-1.3**
	0.8nm,0.6s,mb3.4,baz=252,slow=5.6,SNR=9.3						
ILAR	**Eielson Array**	**63.88**	**26**	P	P	**07 19 19.0**	**-1.3**
KKAR	**Karatay Array**	**66.31**	**310**	*e*P	P	**07 19 37.2**	**+1.1**
	0.9nm,0.3s,mb3.9						
INK	**Inuvik**	**69.58**	**23**	P	P	**07 19 55.6**	**0.0**
	0.7nm,0.7s,mb3.3,baz=228,slow=13,SNR=5.0						
INK	**Inuvik**	**69.58**	**23**	P	P	**07 19 55.6**	**0.0**
YKA	**Yellowknife Ar**	**78.24**	**28**	P	P	**07 20 45.5**	**+0.2**
	0.7nm,0.8s,mb3.3,baz=284,slow=5.5,SNR=3.2						
YKA	**Yellowknife Ar**	**78.24**	**28**	P	P	**07 20 45.5**	**+0.2**
ARCES	**ARCESS Array B**	**82.30**	**342**	P	P	**07 21 07.1**	**+0.7**
	2.9nm,1.0s,mb4.0,baz=49,slow=9.7,SNR=4.1						
ARCES	**ARCESS Array B**	**82.30**	**342**	P	P	**07 21 07.1**	**+0.7**
NVAR	**Mina Array Bea**	**83.58**	**52**	P	P	**07 21 15.4**	**+1.9**
	0.3nm,0.6s,mb3.2,baz=280,slow=6.0,SNR=2.9						
NVAR	**Mina Array Bea**	**83.58**	**52**	P	P	**07 21 15.4**	**+1.9**
FINES	**FINESS Array B**	**86.63**	**335**	P	P	**07 21 27.1**	**-0.8**
	1.0nm,0.3s,mb4.0,baz=54,slow=4.2,SNR=8.5						
FINES	**FINESS Array B**	**86.63**	**335**	P	P	**07 21 27.1**	**-0.8**

IDC **14** *07:13:15.3±4.8, 12°.52N×86°.44W,h0*km*,mb3.6/4, mb1 4.0/5,mb1mx3.7/21,mbtmp3.6/5,ML3.6/1,MS3.6/1, Ms1 3.6/1,ms1mx2.6/26,Error ellipse: s-maj=110.8km s-min=60.2km az=16.0*

ISCJB **14** *07:13:26.8±0.5, 12°.33N±0°.07×87°.34W±0°.08, h88*km±7km*, mb3.6/4, Error ellipse: s-maj=16.1km s-min=4.3km az=137.8*

CASC **14** *07:13:27.6±2.6, 12°.27N×87°.38W,h70*km±20km*,MD4.2, ML4.5*

ISC 14 07:13:27.8±0.5,**12°.34N**±0°.06×**87°.33W**±0°.07,**h83**km±7km, **n35**,σ**0°94**/43,**mb3.6**/4,**Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.45**	**37**	*e*P	Pn	**07 13 41.2**	**-0.2**
CRIN				*e*S	Sn	**07 13 51.5**	**+0.1**
CRIN				AML	AML	07 13 54.1	
	comp=E,19μm,0.3s						
TEL3	**Telica 3**	**0.53**	**64**	*e*P	Pn	**07 13 41.4**	**-0.6**
MIRN	**Miramar**	**0.61**	**80**	*e*P	Pn	**07 13 42.3**	**-0.5**
CNGN	**Cerro Negro**	**0.64**	**75**	*e*P	Pn	**07 13 42.6**	**-0.4**
CNGN				*e*S	Sn	**07 13 54.7**	**+0.3**
COPN	**Copaltepe**	**0.74**	**102**	*e*P	Pn	**07 13 43.6**	**-0.4**
XAVN	**Gruta Xavier**	**1.00**	**101**	*e*P	Pn	**07 13 47.0**	**0.0**
CNCH	**Conchagua**	**1.05**	**332**	*e*P	Pn	**07 13 46.9**	**-0.8**
TISN	**Laguna Tiscapa**	**1.06**	**101**	*e*P	Pn	**07 13 47.5**	**-0.1**
CRUN	**El Crucero**	**1.07**	**109**	*e*P	Pn	**07 13 48.2**	**+0.4**
TICN	**Ticuantepe**	**1.12**	**106**	*e*P	Pn	**07 13 48.8**	**+0.4**
WILN	**Americas 2**	**1.13**	**99**	*e*P	Pn	**07 13 48.3**	**-0.3**
WILN				*e*S	Sn	**07 14 04.7**	**+0.5**
HUEN		**1.13**	**90**	*e*P	Pn	**07 13 48.6**	**0.0**
MASN	**Masaya**	**1.21**	**107**	*e*P	Pn	**07 13 49.6**	**+0.1**
CAHU	**Cacacuatique**	**1.66**	**329**	*e*P	Pn	**07 13 55.2**	**-0.1**
TGUH	**Tegucigalpa,Un**	**1.71**	**2**	*e*P	Pn	**07 13 56.4**	**+0.4**
TGUH				*e*S	Sn	**07 14 17.5**	**+0.2**
CONN	**Concepcion**	**1.84**	**115**	*e*P	Pn	**07 13 57.9**	**+0.3**
SNET	**Serv Nac Est T**	**2.29**	**306**	*e*P	Pn	**07 14 03.5**	**-0.1**
GBS2	**Las Lilas**	**2.37**	**129**	*i*P	Pn	**07 14 03.7**	**-1.0**
GBS2				*i*S	Sn	**07 14 30.9**	**-2.1**
GBS3	**Finca Las Im¯¡**	**2.40**	**130**	*i*P	Pn	**07 14 03.7**	**-1.4**
LAPC	**Finca la Perla**	**2.43**	**130**	*i*P	Pn	**07 14 04.5**	**-1.0**
LAPC				*i*S	Sn	**07 14 32.5**	**-1.8**
NY14	**Universidad de**	**2.43**	**133**	*i*P	Pn	**07 14 05.8**	**+0.3**
SBLS	**San Blas**	**2.69**	**304**	*e*P	Pn	**07 14 09.2**	**+0.3**
AMAS	**Alto Masis**	**2.86**	**127**	*i*P	Pn	**07 14 11.8**	**+0.5**
CGA2	**Cerro Gallo 2**	**3.64**	**129**	*e*P	Pn	**07 14 24.9**	**+3.0**
CGA2				*e*S	Sn	**07 15 03.0**	**-0.7**
PRS1	**Puriscal**	**3.78**	**128**	*e*P	Pn	**07 14 25.4**	**+1.7**
PRS1				*e*S	Sn	**07 15 07.5**	**+0.4**
ICR	**Volcan Irazu**	**4.16**	**124**	*e*P	Pn	**07 14 32.6**	**+3.6**
URSC	**Urasca**	**4.28**	**125**	*e*P	Pn	**07 14 32.0**	**+1.4**
URSC				*e*S	Sn	**07 15 22.7**	**+3.2**
BUS	**Buena Vista**	**4.47**	**128**	*e*P	Pn	**07 14 35.3**	**+2.2**
CMIG	**Matias Romero**	**8.70**	**304**	Pn	Pn	**07 15 31.6**	**+0.8**
	comp=E,0.6nm,0.3s,baz=129,slow=8.8,SNR=20						
CMIG				Sn	Sn	**07 16 59.5**	**-7.9**
	comp=E,0.0nm,0.3s,baz=282,slow=20,SNR=2.1						
TXAR	**Lajitas Array**	**22.73**	**321**	P	P	**07 18 23.2**	**+0.2**
	comp=E,2.0nm,0.6s,mb3.6,baz=135,slow=9.7,SNR=32						
PDAR	**Pinedale Array**	**35.92**	**332**	P	P	**07 20 20.5**	**+0.3**
	comp=E,0.7nm,0.6s,mb3.8,baz=132,slow=10,SNR=6.4						
NVAR	**Mina Array Bea**	**37.86**	**319**	LR	LR	07 38 38.1	
	comp=E,77nm,19.7s,baz=219,slow=40						
YKA	**Yellowknife Ar**	**53.75**	**345**	P	P	**07 22 39.6**	**-1.6**
	comp=E,0.6nm,0.7s,mb3.7,baz=134,slow=7.7,SNR=2.9						
ILAR	**Eielson Array**	**66.17**	**336**	P	P	**07 24 05.5**	**-0.7**
	comp=E,0.2nm,0.6s,mb3.1,baz=146,slow=6.1,SNR=5.9						
WRA	**Warramunga Arr**	**139.35**	**254**	PKP	PKPdf	07 32 46.2	-0.1
	comp=E,0.2nm,0.6s,baz=89,slow=3.4,SNR=4.3						

ISK **14** *07:13:50.8,39°.48N×33°.11E,h7*km*,MD2.9*

ISCJB **14** *07:13:51.6±0.5,39°.41N±0°.03×33°.11E±0°.03,h5*km±5km*, Error ellipse: s-maj=6.1km s-min=4.2km az=160.1*

CSEM **14** *07:13:51.6±0.2,39°.45N×33°.09E,h10*km*,MD2.9, Error ellipse: s-maj=4.7km s-min=3.8km az=154.0*

DDA **14** *07:13:51.6,39°.35N×33°.15E,h7*km*,2*km*,Md2.8*

ISC 14 07:13:52.1±0.5,**39°.43N**±0°.04×**33°.10E**±0°.04,**h10**km±4km, **n30**,σ**0°89**/45,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFSR	**Af˙ar-Bala (A**	**0.03**	**301**	*e*PG	Pg	**07 13 52.6**	**-1.3**
AFSR	**Af˙ar-Bala (A**	**0.03**	**301**	*e*Pg	Pg	**07 13 52.7**	**-1.2**
BBAL	**Bala**	**0.11**	**10**	*i*P	Pg	**07 13 55.8**	**+1.0**
BBAL				*i*S	Sg	**07 13 58.9**	**+2.1**
BBAL	**Bala**	**0.11**	**10**	*i*P	Pg	**07 13 55.8**	**+0.9**
BBAL				*i*S	Sg	**07 13 58.9**	**+2.1**
LOD	**Lodumlu**	**0.52**	**330**	*e*PG	Pg	**07 14 00.8**	**-1.5**
LOD				*e*SG	Sg	**07 14 08.1**	**-1.1**
LOD	**Lodumlu**	**0.52**	**330**	*e*Pg	Pg	**07 14 00.8**	**-1.5**
LOD				*e*Sg	Sg	**07 14 08.1**	**-1.1**
CDAG	**Cicekdag**	**1.00**	**79**	*i*P	Pg	**07 14 10.1**	**-1.3**
CDAG				*i*S	Sg	**07 14 24.2**	**-0.2**
CDAG	**Cicekdag**	**1.00**	**79**	*i*P	Pg	**07 14 10.1**	**-1.3**
CDAG				*i*S	Sg	**07 14 24.2**	**-0.2**
ELDT	**Eldivan**	**1.08**	**13**	*i*P	Pg	**07 14 13.9**	**+0.9**
ELDT				*i*S	Sg	**07 14 30.9**	**+3.9**
ELDT	**Eldivan**	**1.08**	**13**	*i*P	Pb	**07 14 13.9**	**+0.9**
KIZT	**Kizilcal**	**1.10**	**240**	*e*PN	Pg	**07 14 12.6**	**-0.6**
KIZT				*e*SN	Sg	**07 14 28.7**	**+1.2**
KIZT	**Kizilcal**	**1.10**	**240**	*e*Pn	Pg	**07 14 12.6**	**-0.6**
KIZT				*e*Sn	Sg	**07 14 28.7**	**+1.2**
KDHN	**Kadinhani**	**1.19**	**220**	*i*P	Pb	**07 14 14.0**	**-0.8**
KDHN				*i*S	Sb	**07 14 30.5**	**+0.3**
KDHN	**Kadinhani**	**1.19**	**220**	*i*P	Pb	**07 14 14.0**	**-0.8**
KDHN				*i*S	Sb	**07 14 30.5**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.22**	**271**	*e*PN	Pn	**07 14 15.0**	**-0.3**
SVRH				*e*SN	Sn	**07 14 32.1**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.22**	**271**	*e*Pn	Pn	**07 14 15.0**	**-0.2**
SVRH				*e*Sn	Sn	**07 14 32.1**	**+0.3**
SULT	**Sultanhani-AKS**	**1.27**	**165**	*e*PN	Pn	**07 14 16.0**	**+0.1**
SULT	**Sultanhani-AKS**	**1.27**	**165**	*e*Pn	Pn	**07 14 16.0**	**0.0**
LADK	**Ladik-KONYA**	**1.36**	**205**	*e*PN	Pn	**07 14 17.3**	**+0.2**
LADK	**Ladik-KONYA**	**1.36**	**205**	*e*Pn	Pn	**07 14 17.3**	**+0.2**
CORM	**Corum**	**1.40**	**57**	*e*PN	Pn	**07 14 16.8**	**-0.8**
CORM	**Corum**	**1.40**	**57**	*e*Pn	Pn	**07 14 16.8**	**-0.8**
AVNT	**Avonos**	**1.52**	**115**	*i*P	Pn	**07 14 19.1**	**-0.2**
AVNT				*i*S	Sn	**07 14 39.8**	**+0.7**
AVNT	**Avonos**	**1.52**	**115**	*i*P	Pn	**07 14 19.0**	**-0.3**
AVNT				*i*S	Sn	**07 14 39.8**	**+0.8**
KONT	**Konya--Tatoy**	**1.59**	**201**	*e*PN	Pn	**07 14 20.7**	**+0.3**
KONT	**Konya--Tatoy**	**1.59**	**201**	*e*Pn	Pn	**07 14 20.7**	**+0.3**
YOZ	**Yozgat**	**1.73**	**82**	*e*PN	Pn	**07 14 22.4**	**+0.1**
YOZ	**Yozgat**	**1.73**	**82**	*e*Pn	Pn	**07 14 22.4**	**+0.2**
BNN	**Bunyan**	**2.21**	**104**	*e*PN	Pn	**07 14 28.8**	**-0.1**
BNN	**Bunyan**	**2.21**	**104**	*e*Pn	Pn	**07 14 28.8**	**-0.1**

WEL 14 07:45:20.8±0.2,**45°.08S**×**167°.42E**,**h91**km±1km,**ML3.8**/10, **1D,Error ellipse: s-maj=1.8km s-min=1.0km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.44**	**206**	PN	Pn	07 45 34.8	-0.3
DCZ				SN	Sn	07 45 45.2	-0.6
MSZ	**Milford Sound**	**0.54**	**41**	PN	Pn	07 45 35.9	-0.1
MSZ				SN	Sn	07 45 47.1	-0.2
MLZ	**Mavora Lakes**	**0.59**	**117**	PN	Pn	07 45 36.0	-0.3
MLZ				SN	Sn	07 45 47.5	-0.5
WHZ	**Wether Hill Ro**	**0.89**	**156**	PN	Pn	07 45 39.2	-0.1
WKZ	**Wanaka**	**1.16**	**78**	PN	Pn	07 45 42.3	0.0
PYZ	**Puysegur Point**	**1.20**	**205**	PN	Pn	07 45 43.4	+0.5
EAZ	**Earnscleugh**	**1.34**	**97**	PN	Pn	07 45 44.4	-0.2
JCZ	**Jackson Bay**	**1.39**	**44**	PN	Pn	07 45 44.5	-0.6
TUZ	**Tuapeka**	**1.78**	**120**	PN	Pn	07 45 49.8	-0.3
APZ	**The Paps**	**1.79**	**168**	PN	Pn	07 45 50.2	-0.1
SYZ	**Scrubby Hill**	**1.89**	**141**	PN	Pn	07 45 51.2	-0.2
LBZ	**Lake Benmore**	**2.09**	**71**	PN	Pn	07 45 52.4	-1.7
FOZ	**Fox Glacier**	**2.22**	**48**	PN	Pn	07 45 55.2	-0.7
ODZ	**Otahua Downs**	**2.28**	**90**	PN	Pn	07 45 55.4	-1.3
RPZ	**Rata Peaks**	**2.94**	**64**	PN	Pn	07 46 03.0	-2.5
WVZ	**Waitaha Valley**	**3.12**	**51**	PN	Pn	07 46 05.7	-2.1
LTZ	**Lake Taylor**	**4.19**	**58**	PN	Pn	07 46 19.0	-3.3
DSZ	**Denniston Nort**	**4.61**	**45**	PN	Pn	07 46 25.3	-2.8

ISCJB **14** *08:04:06.0±0.7,28°.10S±0°.04×70°.7W±0°.2, h55*km±9km*, Error ellipse: s-maj=27.5km s-min=5.2km az=7.8*

GUC **14** *08:04:06.1±0.5,28°.10S×70°.72W, h47*km±6km*, MD3.8, ML4.3*

NEIC **14** *08:04:06.1,28°.10S×70°.72W, h47*km*, MD3.8(GUC), After GUC.*

NEIC Felt [III] at Copiapo and Tierra Amarilla; [II] at Caldera and Chanaral.

IDC **14** *08:05:43.1±5.4, 17°.99S×65°.16W,h51*km±34km*,mb2.6/2, mb1 2.6/3,mb1mx2.6/18,mbtmp2.4/3,Error ellipse: s-maj=277.4km s-min=33.2km az=19.0*

ISC 14 08:04:06.7±0.6,**28°.10S**±0°.04×**70°.7W**±0°.2,**h50**km±10km, **n19**,σ**0°65**/26,**2C-2D,Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.47**	**186**	*i*P	Pn	**08 04 17.4**	**-0.1**
VACH				*i*S	Sn	**08 04 25.4**	**0.0**
VACH	**Vallenar**	**0.47**	**186**	*i*P	Pn	**08 04 17.4

MWZ	**Matawai**	**5.47**	**194**	*e*PN	**Pn**	**09 01 08.5**	**+0.9**
URZ	**Urewera**	**5.49**	**198**	P	**Pn**	**09 01 09.0**	**+1.1**
	1.6nm,0.3s,baz=154,slow=21,SNR=15						
URZ				S	**S**	**09 02 18.8**	**+6.5**
	0.9nm,0.3s,baz=117,slow=19,SNR=6.4						
URZ	**Urewera**	**5.49**	**198**	*e*PN	**Pn**	**09 01 08.5**	**+0.6**
CNGZ	**Carnagh Statio**	**5.50**	**188**	*e*PN	**Pn**	**09 01 08.5**	**+0.4**
NMHZ	**Naumai**	**6.36**	**197**	*e*PN	**Pn**	**09 01 19.7**	**+0.6**
BKZ	**Black Stump Fm**	**6.51**	**199**	*e*PN	**Pn**	**09 01 21.3**	**+0.4**
PXZ	**Pawanui**	**7.24**	**195**	*e*PN	**Pn**	**09 01 28.6**	**-1.7**
PXZ				*e*SN	**S**	**09 02 53.7**	**+0.9**
TSZ	**Takapari Road**	**7.49**	**200**	*e*PN	**Pn**	**09 01 32.3**	**-1.2**
MRZ	**Mangatainoka R**	**8.16**	**200**	*e*PN	**Pn**	**09 01 39.9**	**-2.2**
MRZ				*e*SN	**S**	**09 03 12.6**	**-1.7**
KIW	**Kapiti Island**	**8.54**	**203**	*e*PN	**Pn**	**09 01 44.9**	**-2.2**
TCW	**Tory Channel**	**9.07**	**204**	*e*SN	**S**	**09 03 35.8**	**0.0**
NNZ	**Nelson**	**9.41**	**208**	*e*SN	**S**	**09 03 45.1**	**+1.3**
THZ	**Tophouse**	**10.06**	**208**	*e*PN	**Pn**	**09 02 07.2**	**+0.6**
LTZ	**Lake Taylor**	**11.17**	**207**	*e*PN	**Pn**	**09 02 19.6**	**-1.1**
ASAR	**Alice Springs**	**40.70**	**271**	P	**P**	**09 07 07.3**	**+0.8**
	0.4nm,0.4s,mb3.2,baz=105,slow=8.0,SNR=8.7						
WRA	**Warramunga Arr**	**41.94**	**277**	P	**P**	**09 07 16.8**	**+0.1**
	1.2nm,0.4s,mb3.7,baz=114,slow=8.1,SNR=29						
QSPA	**South Pole Qui**	**57.09**	**180**	P	**P**	**09 09 10.6**	**+0.5**
	5.6nm,1.1s,mb4.1,baz=84,slow=5.8,SNR=6.5						
FINES	**FINESS Array B**	**146.71**	**337**	PKPbc	PKPbc	09 18 57.3	-5.1
	1.9nm,0.7s,baz=67,slow=4.7,SNR=3.5						

NEIC ***14*** *09:02:08.3,31.68S×69.65W,h154km, MD3.6(GUC), After GUC.*

GUC 14 09:02:08.3±0.7, 31.68S×69.65W, h154km±12km, MD3.6, ML3.6,11C-8D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JACH	**Jahuel**	**1.28**	**218**	⇑*i*P	Pn	09 02 36.5	+0.6
JACH				*i* S	Sn	09 02 57.8	+0.7
JACH	**Jahuel**	**1.28**	**218**	⇑*i*P	Pn	09 02 36.5	+0.6
JACH				*i* S	Sn	09 02 57.8	+0.7
CHNG	**Los Chungos**	**1.59**	**262**	⇑*i*P	Pn	09 02 40.4	+1.3
CHNG				*i* S	Sn	09 03 03.9	+1.3
CHNG				AML	AML	09 03 12.8	
	comp=E,418nm,0.4s						
OVCH	**Ovalle**	**1.70**	**308**	⇓*i*P	Pn	09 02 41.1	+0.8
OVCH				*i* S	Sn	09 03 05.1	+0.3
OVCH	**Ovalle**	**1.70**	**308**	⇓*i*P	Pn	09 02 41.1	+0.8
OVCH				*i* S	Sn	09 03 05.1	+0.3
OVCH				AML	AML	09 03 06.5	
	comp=N,675nm,0.2s						
PEL	**Peldehue**	**1.71**	**211**	⇑*i*P	Pn	09 02 40.6	+0.4
PEL				*i* S	Sn	09 03 05.4	+0.5
PEL				AML	AML	09 03 06.0	
	comp=N,424nm,0.4s						
ROCH	**El Roble**	**1.73**	**221**	⇓*i*P	Pn	09 02 41.2	+0.7
ROCH				*i* S	Sn	09 03 06.7	+1.3
ROCH				AML	AML	09 03 08.3	
	comp=N,364nm,0.2s						
FCH	**Farellones**	**1.73**	**198**	⇓*i*P	Pn	09 02 40.9	+0.4
FCH				*i* S	Sn	09 03 06.5	+1.1
FCH				AML	AML	09 03 07.5	
	comp=E,361nm,0.3s						
CLCH	**Cerro Calan**	**1.87**	**203**	⇑*i*P	Pn	09 02 42.8	+0.7
CLCH				*i* S	Sn	09 03 08.6	+0.5
CLCH				AML	AML	09 03 10.5	
	comp=E,470nm,0.5s						
ANTU	**Antumapu**	**2.06**	**203**	⇑*i*P	Pn	09 02 44.9	+0.6
ANTU				*i* S	Sn	09 03 12.6	+0.5
ANTU	**Antumapu**	**2.06**	**203**	⇑*i*P	Pn	09 02 44.9	+0.6
ANTU				*i* S	Sn	09 03 12.6	+0.5
ANTU				AML	AML	09 03 14.0	
	comp=E,353nm,0.4s						
PCH	**Pirque**	**2.07**	**200**	⇑*i*P	Pn	09 02 45.0	+0.6
PCH				*e*S	Sn	09 03 13.3	+1.0
PCH	**Pirque**	**2.07**	**200**	⇑*i*P	Pn	09 02 45.0	+0.6
PCH				*e*S	Sn	09 03 13.3	+1.0
LMEL	**Las Melosas**	**2.21**	**192**	*e*P	Pn	09 02 47.1	+1.0
LMEL	**Las Melosas**	**2.21**	**192**	*e*P	Pn	09 02 47.1	+1.0
LMEL				AML	AML	09 03 24.3	
	comp=N,187nm,0.2s						
LSCH	**La Serena**	**2.23**	**322**	*e*P	Pn	09 02 46.9	+0.6
LSCH				*i* S	Sn	09 03 15.8	+0.2
LSCH	**La Serena**	**2.23**	**322**	*e*P	Pn	09 02 46.9	+0.6
LSCH				*i* S	Sn	09 03 15.8	+0.2
CHCH	**Chadas Angostu**	**2.40**	**200**	⇓*i*P	Pn	09 02 49.1	+0.7
CHCH				*i* S	Sn	09 03 19.9	+0.6
CHCH	**Chadas Angostu**	**2.40**	**200**	⇓*i*P	Pn	09 02 49.1	+0.7
CHCH				*i* S	Sn	09 03 19.9	+0.6
LCCH	**Las Cruces**	**2.42**	**222**	*e*P	Pn	09 02 49.2	+0.7
LCCH	**Las Cruces**	**2.42**	**222**	*e*P	Pn	09 02 49.2	+0.7
CACH	**El Canelo**	**2.56**	**198**	⇓*i*P	Pn	09 02 51.3	+1.0
CACH				*i* S	Sn	09 03 23.8	+1.0
CACH	**El Canelo**	**2.56**	**198**	⇓*i*P	Pn	09 02 51.3	+1.0
CACH				*i* S	Sn	09 03 23.8	+1.0
LCO	**Las Campanas**	**2.81**	**341**	⇑*i*P	Pn	09 02 54.1	+0.7
LCO	**Las Campanas**	**2.81**	**341**	⇑*i*P	Pn	09 02 54.1	+0.7
LCO				AML	AML	09 03 30.9	
	comp=E,439nm,0.2s						

CSEM ***14*** *09:09:28.1±1.1,41.86N×20.46E,h2km, ML2.9, Error ellipse: s-maj=18.4km s-min=9.2km az=162.0*
ISCJB ***14*** *09:09:30.9±1.2,42.03N±0.06×20.46E±0.04,h10km, Error ellipse: s-maj=8.7km s-min=4.2km az=164.5*
BEO ***14*** *09:09:33.0±0.8,42.07N×20.48E,h17km, ML1.9/3*

ISC 14 09:09:31.5±1.5, 42.00N±0.07×20.47E±0.05, h7km±12km, n12,σ0.982/24, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUK	**Puka**	**0.43**	**276**	*i* PG	**Pg**	**09 09 35.7**	**-4.2**
PUK				*i* SG	**Sg**	**09 09 44.5**	**-1.1**
PUK	**Puka**	**0.43**	**276**	*i* Pg	**Pg**	**09 09 35.7**	**-4.2**
PUK				*i* Sg	**Sg**	**09 09 44.5**	**-1.1**
BCI	**Bajram Curri**	**0.48**	**321**	*i* PG	**Pg**	**09 09 35.2**	**-5.5**
BCI				*i* SG	**Sg**	**09 09 47.0**	**0.0**
BCI	**Bajram Curri**	**0.48**	**321**	*i* Pg	**Pg**	**09 09 35.2**	**-5.5**
BCI				*i* Sg	**Sg**	**09 09 47.0**	**0.0**
PDG	**Podgorica**	**1.00**	**296**	*e*Pg	**Pg**	**09 09 52.2**	**+1.5**
PDG				*e*Sg	**Sg**	**09 10 04.7**	**+1.1**
PDG	**Podgorica**	**1.00**	**296**	*e*Pg	**Pg**	**09 09 52.2**	**+1.5**
PDG				*e*Sg	**Sg**	**09 10 04.7**	**+1.1**
BARS	**Barje**	**1.29**	**50**	*e*Pg	**Pg**	**09 09 57.1**	**+0.9**
BARS				*e*Sg	**Sg**	**09 10 13.2**	**+0.3**
SELS	**Selova**	**1.31**	**21**	*e*Pg	**Pg**	**09 09 55.4**	**-1.3**
SELS				*e*Sg	**Sg**	**09 10 13.7**	**0.0**
SJES	**Sjenica**	**1.32**	**344**	*e*Pg	**Pg**	**09 09 55.7**	**-1.1**
SJES				*e*Sg	**Sg**	**09 10 14.4**	**+0.6**
IVAS	**Ivanjica**	**1.60**	**352**	*e*Pn	**Pn**	**09 10 00.4**	**+0.3**
IVAS				*e*Sg	**Sg**	**09 10 22.3**	**-0.5**
IVAS	**Ivanjica**	**1.60**	**352**	*e*Pn	**Pn**	**09 10 00.4**	**+0.3**
IVAS				*e*Sg	**Sg**	**09 10 22.3**	**-0.5**
STON	**Ston**	**2.23**	**294**	*i* Pn	**Pn**	**09 10 08.4**	**-0.5**
STON				Sn	**Sg**	**09 10 43.1**	**0.0**

DJA ***14*** *09:39:26,5.92S×105.22E,h10km, MLv3.9/6*
IDC ***14*** *09:39:32.0±55.0,6.56S×106.07E,h0km, mb3.8/3, mb1 4.0/3, mb1mx3.4/21, mbtmp3.8/3, Error ellipse: s-maj=966.8km s-min=219.6km az=141.0*

ISC 14 09:39:24.1±2.0, 6.03S±0.08×105.14E±0.08, h3km±12km, n10,σ0.975/15, mb3.9/3, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RBSI	**Rajabasa**	**0.62**	**73**	P	**Pg**	**09 39 36.5**	**+0.4**
RBSI				S	**Sg**	**09 39 43.9**	**-0.3**
BLSI	**Bandar Lampung**	**0.67**	**9**	P	**Pg**	**09 39 36.8**	**-0.1**
BLSI				S	**Sg**	**09 39 44.7**	**-0.9**
SBJI	**Serang**	**0.98**	**95**	P	**Pg**	**09 39 43.7**	**+0.7**
SBJI				S	**Sg**	**09 39 56.8**	**+1.0**
KLI	**Kotabumi**	**1.20**	**346**	P	**Pg**	**09 39 46.7**	**-0.4**
KLI				S	**Sg**	**09 40 02.4**	**-0.2**
LWLI	**Liwa**	**1.48**	**313**	P	**Pn**	**09 39 51.8**	**+0.1**
DBJI	**Dramaga**	**1.68**	**108**	P	**Pn**	**09 39 59.6**	**+5.2**
MDSI	**Maura Dua**	**1.81**	**328**	P	**Pn**	**09 39 56.6**	**+0.3**
MDSI				S	**Sn**	**09 40 21.4**	**+1.6**
WRA	**Warramunga Arr**	**31.55**	**119**	P	**P**	**09 45 46.5**	**-1.5**
	0.6nm,0.8s,mb3.5,baz=291,slow=9.9,SNR=4.6						
ASAR	**Alice Springs**	**32.75**	**125**	P	**P**	**09 45 57.9**	**-0.6**
	0.5nm,0.5s,mb3.8,baz=293,slow=7.4,SNR=13						
STKA	**Stephens Creek**	**42.66**	**132**	P	**P**	**09 47 22.1**	**-0.1**
	3.7nm,0.5s,mb4.4,baz=307,slow=8.5,SNR=17						

MEX 14 10:00:18.4±1.4, 17.79N×95.80W, h118km±16km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**1.11**	**128**	*i* P	Pn	10 00 40.6	-0.8
CMIG				*i* S	Sn	10 00 56.6	-2.3
VHO	**Vista Hermosa**	**1.14**	**232**	*i* P	Pn	10 00 41.2	-0.5
VHO				*i* S	Sn	10 00 58.2	-1.1
TPIG	**Tehuac#an**	**1.61**	**293**	*e*P	Pn	10 00 47.0	-0.1
TPIG				*i* S	Sn	10 01 06.7	-2.2
UTMO	**Huajuapan**	**1.91**	**272**	*i* P	Pn	10 00 50.0	-0.6
UTMO				*i* S	Sn	10 01 13.5	-1.8
PNIG	**Pinotepa**	**2.62**	**238**	*i* P	Pn	10 00 56.8	-2.9
PNIG				*i* S	Sn	10 01 31.0	-0.5
TGIG		**2.75**	**111**	*i* P	Pn	10 01 00.9	-0.4
TGIG				*i* S	Sn	10 01 31.7	-2.6
PCIG		**3.22**	**130**	*e*P	Pn	10 01 07.1	-0.5
PCIG				*i* S	Sn	10 01 44.7	-0.9
CCIG	**Comitan**	**3.81**	**113**	*e*P	Pn	10 01 15.2	-0.2
CCIG				*i* S	Sn	10 01 58.7	-0.8
CAIG	**El Cayaco**	**4.33**	**261**	*i* P	Pn	10 01 21.2	-1.1
CAIG				*i* S	Sn	10 02 09.8	-2.1

ISK ***14*** *10:17:35.8,39.44N×28.11E,h8km, MD2.8*
ISCJB ***14*** *10:17:36.9±0.4,39.46N±0.03×28.14E±0.03,h10km, Error ellipse: s-maj=4.4km s-min=3.8km az=171.4*
CSEM ***14*** *10:17:36.8±0.2,39.47N×28.13E,h10km, MD2.8, Error ellipse: s-maj=4.2km s-min=4.0km az=156.0*
DDA ***14*** *10:17:37.3,39.45N×28.17E,h7km±4km, Md2.8*

ISC 14 10:17:37.3±0.5, 39.46N±0.03×28.15E±0.04, h14km±5km, n28,σ0.994/40, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BALB	**Balikesir**	**0.27**	**311**	*e*PG	**Pg**	**10 17 41.9**	**-1.1**
BALB	**Balikesir**	**0.27**	**311**	*e*Pg	**Pg**	**10 17 41.9**	**-1.1**
DURS	**Dursunbey**	**0.29**	**61**	⇑*i*P	**Pg**	**10 17 42.9**	**-0.4**
DURS				*i* S	**Sg**	**10 17 48.2**	**+0.9**
DURS	**Dursunbey**	**0.29**	**61**	*i* P	**Pg**	**10 17 42.9**	**-0.4**
DURS				*i* S	**Sg**	**10 17 48.2**	**+0.9**
DST	**Dursunbey**	**0.39**	**69**	*e*PG	**Pg**	**10 17 44.7**	**-0.5**
DST				*e*SG	**Sg**	**10 17 51.2**	**+0.7**
DST	**Dursunbey**	**0.39**	**69**	*e*Pg	**Pg**	**10 17 44.7**	**-0.4**
DST				*e*Sg	**Sg**	**10 17 51.2**	**+0.8**
BALY	**Balya**	**0.49**	**304**	*e*P	**Pg**	**10 17 46.9**	**-0.1**
BALY				*e*S	**Sg**	**10 17 54.9**	**+1.3**
BALY	**Balya**	**0.49**	**304**	*e*P	**Pg**	**10 17 46.9**	**-0.1**
BALY				*e*S	**Sg**	**10 17 54.9**	**+1.3**
DEMI	**Demirci**	**0.61**	**133**	*e*P	**Pg**	**10 17 49.0**	**-0.2**
DEMI				*e*S	**Sg**	**10 17 57.6**	**+0.3**
DEMI	**Demirci**	**0.61**	**133**	*e*P	**Pg**	**10 17 49.0**	**-0.2**
DEMI				*e*S	**Sg**	**10 17 57.6**	**+0.4**
AKHS	**Akhisar**	**0.64**	**204**	*e*P	**Pg**	**10 17 49.5**	**-0.2**
AKHS				*e*S	**Sg**	**10 17 59.1**	**+1.0**
AKHS	**Akhisar**	**0.64**	**204**	*e*P	**Pg**	**10 17 49.5**	**-0.2**
AKHS				*e*S	**Sg**	**10 17 59.1**	**+1.0**
AKS	**Akhisar**	**0.64**	**204**	*e*PG	**Pg**	**10 17 47.9**	**-1.8**
AKS	**Akhisar**	**0.64**	**204**	*e*Pg	**Pg**	**10 17 47.9**	**-1.8**
GONE	**Gonen-Balikesi**	**0.68**	**329**	*e*PG	**Pg**	**10 17 49.4**	**-1.1**
GONE	**Gonen-Balikesi**	**0.68**	**329**	*e*Pg	**Pg**	**10 17 49.4**	**-1.2**
KRBG	**Karabiga-Canak**	**1.14**	**325**	*e*PN	**Pn**	**10 17 57.7**	**-1.1**
KRBG	**Karabiga-Canak**	**1.14**	**325**	*e*Pn	**Pn**	**10 17 57.7**	**-1.0**
AYVA	**Ayvalik**	**1.14**	**263**	*e*P	**Pb**	**10 17 59.6**	**+0.9**
AYVA				*e*S	**Sb**	**10 18 16.2**	**+2.8**
AYVA	**Ayvalik**	**1.14**	**263**	*e*P	**Pb**	**10 17 59.6**	**+0.9**
AYVA				*e*S	**Sb**	**10 18 16.2**	**+2.8**
ARMT	**Armutlu**	**1.23**	**26**	*e*PN	**Pn**	**10 18 00.3**	**+0.3**
ARMT	**Armutlu**	**1.23**	**26**	*e*Pn	**Pn**	**10 18 00.3**	**+0.3**
GEMT	**Gemlik**	**1.26**	**39**	*e*PN	**Pn**	**10 18 00.9**	**+0.5**
GEMT	**Gemlik**	**1.26**	**39**	*e*Pn	**Pn**	**10 18 00.9**	**+0.5**
IZM	**Izmir**	**1.27**	**213**	*e*PN	**Pn**	**10 17 59.8**	**-0.7**
IZM	**Izmir**	**1.27**	**213**	*e*Pn	**Pn**	**10 17 59.8**	**-0.7**
EZN	**Ezine**	**1.45**	**285**	*e*PN	**Pn**	**10 18 02.7**	**-0.4**
EZN	**Ezine**	**1.45**	**285**	*e*Pn	**Pn**	**10 18 02.7**	**-0.4**

ISCJB ***14*** *10:26:30.4±0.4,6.93S±0.04×127.05E±0.07,h415km±6km, mb4.1/16, Error ellipse: s-maj=11.4km s-min=6.3km az=164.7*
IDC ***14*** *10:26:31.2±2.1,6.87S×127.01E,h400km±24km, mb3.7/13, mb1 3.8/16, mb1mx3.6/22, mbtmp3.7/16, Error ellipse: s-maj=18.9km s-min=10.1km az=70.0*
NEIC ***14*** *10:26:31.9±1.2,6.90S×127.09E,h411km±15km, mb4.3/2, Error ellipse: s-maj=15.6km s-min=8.4km az=56.0*
DJA ***14*** *10:26:32,6.79S×127.20E,h425km, MLv4.8/6*

ISC 14 10:26:31.6±0.4, 6.91S±0.04×127.12E±0.07, h411km±6km, n61,σ0.989/56, mb4.1/16, 3C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**3.38**	**19**	P	**P**	**10 27 39.0**	**+0.1**
NLAI	**Namlea**	**3.65**	**360**	P	**P**	**10 27 42.0**	**+0.7**
BNDI	**Bandanaira**	**3.65**	**50**	P	**P**	**10 27 41.6**	**+0.3**
MSAI	**Masohi**	**3.98**	**27**	P	**P**	**10 27 42.8**	**-1.5**
TLE	**Tual**	**5.73**	**78**	P	**P**	**10 28 03.0**	**+1.2**
	7µm114nm,0.8s						
LBMI	**Labuha**	**6.24**	**4**	P	**P**	**10 28 07.6**	**+0.2**
	5µm469nm,0.7s						
LUWI	**Luwuk**	**7.26**	**323**	P	**P**	**10 28 18.8**	**+0.2**
	1µm90nm,1.3s						
WSI	**Waingapu**	**7.28**	**247**	P	**P**	**10 28 16.0**	**-2.8**
SWI	**Sorong**	**7.29**	**35**	P	**P**	**10 28 17.2**	**-1.7**
MRSI	**Marisa**	**8.97**	**325**	P	**P**	**10 28 37.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**11.22**	**187**	P	**P**	**10 29 02.4**	**0.0**
	3.7nm,0.3s,baz=21,slow=9.1,SNR=107						
FITZ	**Fitzroy Crossi**	**11.22**	**187**	⇑*i*P	**P**	**10 29 02.5**	**+0.1**
	43nm,0.6s						
FITZ	**Fitzroy Crossi**	**11.22**	**187**	P	**P**	**10 29 02.4**	**0.0**
WRAB	**Tennant Creek**	**14.72**	**152**	*e*P	**P**	**10 29 41.4**	**+0.6**
	5.7nm,0.4s						
WRAB				*e*S	**S**	**10 32 16.2**	**-1.0**
WRA	**Warramunga Arr**	**14.73**	**152**	P	**P**	**10 29 41.3**	**+0.5**
	3.9nm,0.3s,baz=328,slow=11,SNR=160						
WRA				S	**S**	**10 32 15.4**	**-1.8**
	0.4nm,0.3s,baz=329,slow=16,SNR=9.2						
WRA	**Warramunga Arr**	**14.73**	**152**	P	**P**	**10 29 41.3**	**+0.5**
WRA				S	**S**	**10 32 15.4**	**-1.8**
MBWA	**Marble Bar**	**15.86**	**206**	⇑*i*P	**P**	**10 29 52.7**	**-0.3**
MBWA	**Marble Bar**	**15.86**	**206**	*e*P	**P**	**10 29 52.7**	**-0.3**
	21nm,0.4s						
ASAR	**Alice Springs**	**17.89**	**159**	P	**P**	**10 30 15.3**	**+0.8**
	5.0nm,0.3s,baz=342,slow=13,SNR=173						
ASAR				S	**S**	**10 33 19.8**	**+1.0**
	0.3nm,0.3s,baz=343,slow=22,SNR=11						
ASAR	**Alice Springs**	**17.89**	**159**	P	**P**	**10 30 15.3**	**+0.8**
ASAR				S	**S**	**10 33 19.8**	**+1.0**
KSM	**Kuching**	**18.73**	**296**	*e*P	**P**	**10 30 25.3**	**+1.9**
	8.2nm,0.6s						
FORT	**Forrest**	**23.76**	**178**	*e*P	**P**	**10 31 09.9**	**+0.5**
	14nm,0.5s,mb4.7						
KMBL	**Kambalda**	**24.82**	**191**	*e*P	**P**	**10 31 19.1**	**+0.3**
	30nm,0.5s,mb5.0						
KLBR	**Kellerberrin**	**26.07**	**198**	*e*P	**P**	**10 31 29.6**	**-0.3**
	5.9nm,0.5s,mb4.3						
NWAO	**Narrogin (SRO)**	**27.47**	**198**	P	**P**	**10 31 42.4**	**+0.1**
	5.1nm,0.8s,mb4.0,baz=16,slow=9.4,SNR=5.3						
NWAO	**Narrogin (SRO)**	**27.47**	**198**	P	**P**	**10 31 42.4**	**+0.1**
STKA	**Stephens Creek**	**28.28**	**153**	P	**P**	**10 31 50.7**	**+1.2**
	4.7nm,0.5s,mb4.1,baz=331,slow=9.1,SNR=15						
STKA				pP		10 33 01.9	
	8.5nm,1.0s,baz=320,slow=11,SNR=5.2						
STKA	**Stephens Creek**	**28.28**	**153**	⇑*i*P	**P**	**10 31 50.6**	**+1.1**
	3.1nm,0.4s,mb4.0						
STKA	**Stephens Creek**	**28.28**	**153**	P	**P**	**10 31 50.7**	**+1.2**
STKA				pP		10 33 01.9	
PSI	**Prapat**	**29.75**	**288**	P	**P**	**10 32 02.0**	**-0.6**
	12nm,0.8s,mb4.2,baz=174,slow=5.6,SNR=6.4						
PSI	**Prapat**	**29.75**	**288**	P	**P**	**10 32 02.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**37.52**	**313**	P	**P**	**10 33 08.8**	**0.0**
	2.9nm,0.9s,mb3.6,baz=145,slow=7.4,SNR=12						
CMAR	**Chiang Mai Arr**	**37.52**	**313**	P	**P**	**10 33 08.8**	**0.0**
KSRS	**Korea Array**	**44.14**	**1**	P	**P**	**10 34 02.0**	**+0.4**
	2.1nm,0.8s,mb3.5,baz=174,slow=10,SNR=10						
KSRS				PcP	PcP	10 35 38.5	+0.3
	0.7nm,0.7s,baz=151,slow=1.0,SNR=4.8						
MJAR	**Matsushiro Arr**	**44.46**	**13**	P	**P**	**10 34 03.3**	**-0.8**
	5.4nm,0.8s,mb4.0,baz=191,slow=9.6,SNR=16						
MJAR	**Matsushiro Arr**	**44.46**	**13**	P	**P**	**10 34 03.3**	**-0.8**
MAT	**Matsushiro**	**44.46**	**13**	P	**P**	**10 34 03.8**	**-0.3**
SONM	**Songino Array**	**57.50**	**344**	P	**P**	**10 35 40.3**	**+0.6**
	1.2nm,0.5s,mb3.5,baz=169,slow=6.8,SNR=12						
SONM				PcP	PcP	10 36 28.3	+0.5
	0.8nm,0.6s,baz=170,slow=4.1,SNR=4.5						
SONM	**Songino Array**	**57.50**	**344**	P	**P**	**10 35 40.3**	**+0.6**
SONM				PcP	PcP	10 36 28.3	+0.5
PETK	**Petropavlovsk-**	**65.17**	**20**	P	**P**	**10 36 31.9**	**+1.6**
	3.4nm,0.5s,mb4.3,baz=189,slow=5.1,SNR=18						
PETK	**Petropavlovsk-**	**65.17**	**20**	P	**P**	**10 36 31.9**	**+1.6**
MKAR	**Makanchi Array**	**66.61**	**328**	P	**P**	**10 36 39.6**	**+0.2**
	2.1nm,0.6s,mb4.0,baz=125,slow=7.5,SNR=16						
MKAR				PcP	PcP	10 37 05.5	+0.4
	0.9nm,0.8s,baz=140,slow=3.9,SNR=3.8						
MKAR	**Makanchi Array**	**66.61**	**328**	P	**P**	**10 36 39.6**	**+0.2**
MKAR				PcP	PcP	10 37 05.5	+0.4
ZALV	**Zalesovo Beam**	**70.27**	**335**	P	**P**	**10 37 00.8**	**-0.9**
	4.9nm,0.5s,mb4.3,baz=156,slow=4.0,SNR=13						
ZALV	**Zalesovo Beam**	**70.27**	**335**	P	**P**	**10 37 00.8**	**-0.9**
KURK	**Kurchatov**	**70.97**	**330**	P	**P**	**10 37 06.0**	**+0.1**
	9.4nm,0.8s,mb4.4,baz=132,slow=5.0,SNR=44						
KURK	**Kurchatov**	**70.97**	**330**	P	**P**	**10 37 06.0**	**+0.1**
AKTK	**Aktyubinsk**	**82.27**	**323**	P	**P**	**10 38 08.0**	**-0.4**
AKTO	**Aktyubinsk**	**82.27**	**323**	P	**P**	**10 38 08.0**	**-0.4**
	2.2nm,0.7s,mb4.0,baz=83,slow=4.8,SNR=9.2						
ILAR	**Eielson Array**	**94.49**	**25**	P	**P**	**10 39 05.2**	**-0.9**
	0.2nm,0.5s,mb3.4,baz=250,slow=4.7,SNR=4.7						
ILAR	**Eielson Array**	**94.49**	**25**	P	**P**	**10 39 05.2**	**-0.9**
PDAR	**Pinedale Array**	**118.85**	**45**	PKP	PKPdf	10 44 33.5	+1.2
	0.3nm,0.7s,baz=354,slow=0.9,SNR=3.1						
PDAR	**Pinedale Array**	**118.85**	**45**	PKP	PKPdf	10 44 33.5	+1.2
TORD	**Torodi Ar. Bea**	**125.98**	**281**	PKP	PKPdf	10 44 47.3	+0.6
	0.6nm,0.6s,baz=88,slow=2.1,SNR=4.8						
TORD	**Torodi Ar. Bea**	**125.98**	**281**	PKP	PKPdf	10 44 47.3	+0.6
TXAR	**Lajitas Array**	**127.33**	**58**	PKP	PKPdf	10 44 50.6	+1.7
	0.1nm,0.4s,baz=101,slow=2.0,SNR=5.2						
TXAR	**Lajitas Array**	**127.33**	**58**	PKP	PKPdf	10 44 50.6	+1.7
CPUP	**Villa Florida**	**146.68**	**173**	PKPbc	PKPbc	10 45 27.0	+0.2
	0.8nm,0.3s,baz=221,slow=4.8,SNR=3.3						
CPUP	**Villa Florida**	**146.68**	**173**	PKPbc	PKPbc	10 45 27.0	+0.2
LPAZ	**La Paz**	**152.45**	**147**	PKPbc	PKPbc	10 45 42.6	+1.6
	0.5nm,0.5s,baz=135,slow=1.4,SNR=4.3						
LPAZ				PKPab	PKPab	10 45 54.1	+1.2
	0.6nm,0.6s,baz=252,slow=6.4,SNR=3.6						
LPAZ	**La Paz**	**152.45**	**147**	PKPbc	PKPbc	10 45 42.6	+1.6
LPAZ				PKPab	PKPab	10 45 54.1	+1.2

NNC 14 10:26:48.0±3.4, 53.57N×87.36E, h0km, mb3.6, mpv3.2, 4C-3D, Error ellipse: s-maj=27.0km s-min=17.3km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**6.19**	**245**	⇓Pn	Pn	10 28 21.5	+1.0
	1.1nm,0.5s						
KURBB				⇑Sn	Sn	10 29 33.7	+1.8
	3.1nm,0.6s						
MK31	**Makanchi Array**	**7.52**	**208**	⇑Pn	Pn	10 28 38.9	+0.1
	0.3nm,0.2s,baz=27,slow=12,SNR=73						
MK31				⇓Sn

ellipse: s-maj=6.8km s-min=3.7km az=106.0
*THE **14** 10:55:09.9, 36.68N× 25.64E, h6km± 2km, ML2.6/2, Error ellipse: s-maj=3.3km s-min=0.7km az=279.0*

ISC 14 10:55:09.2±0.9, 36.66N±0.03× 25.8E±0.1, h12km±7km, n21, σ0.80/36, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR1	**Thera Island**	**0.37**	**219**	P	**Pg**	**10 55 16.4**	**-0.2**
THR1				S	**Sg**	**10 55 21.4**	**-0.2**
THR1	**Thera Island**	**0.37**	**219**	P	**Pg**	**10 55 16.4**	**-0.2**
THR1				S	**Sg**	**10 55 21.4**	**-0.2**
THR3	**Thira Island,**	**0.38**	**228**	P	**Pg**	**10 55 16.6**	**-0.1**
THR3				S	**Sg**	**10 55 22.3**	**+0.6**
THR3	**Thira Island,**	**0.38**	**228**	P	**Pg**	**10 55 16.6**	**-0.1**
THR3				S	**Sg**	**10 55 22.3**	**+0.6**
APE	**Apeiranthos**	**0.44**	**337**	*e*PB	**Pg**	**10 55 17.6**	**-0.4**
APE				*e*SB	**Sg**	**10 55 24.7**	**+0.8**
APE	**Apeiranthos**	**0.44**	**337**	P	**Pg**	**10 55 17.6**	**-0.4**
APE				S	**Sg**	**10 55 24.5**	**+0.6**
APE	**Apeiranthos**	**0.44**	**337**	P	**Pg**	**10 55 17.6**	**-0.4**
APE				S	**Sg**	**10 55 24.5**	**+0.6**
NIS1	**Nisyros Isl.**	**1.15**	**92**	P	**Pn**	**10 55 32.7**	**+1.5**
NIS1	**Nisyros Isl.**	**1.15**	**92**	P	**Pn**	**10 55 32.7**	**+1.5**
SMG	**Samos**	**1.36**	**39**	*e*PN	**Pn**	**10 55 33.2**	**-0.9**
SMG				*e*SN	**Sn**	**10 55 51.3**	**-0.7**
SMG	**Samos**	**1.36**	**39**	*e*Pn	**Pn**	**10 55 33.2**	**-0.9**
SMG				*e*Sn	**Sn**	**10 55 51.3**	**-0.7**
NPS	**Neapolis**	**1.40**	**185**	*e*PN	**Pn**	**10 55 34.0**	**-0.6**
NPS				*e*SN	**Sn**	**10 55 52.6**	**-0.4**
NPS	**Neapolis**	**1.40**	**185**	*e*Pn	**Pn**	**10 55 34.0**	**-0.6**
NPS				*e*Sn	**Sn**	**10 55 52.6**	**-0.4**
LAST	**Lasithi**	**1.51**	**188**	P	**Pn**	**10 55 36.0**	**-0.1**
LAST				S	**Sn**	**10 55 57.5**	**+1.8**
LAST	**Lasithi**	**1.51**	**188**	P	**Pn**	**10 55 36.0**	**-0.1**
LAST				S	**Sn**	**10 55 57.5**	**+1.8**
KARP	**Karpathos**	**1.60**	**134**	*e*PN	**Pn**	**10 55 37.1**	**-0.2**
KARP	**Karpathos**	**1.60**	**134**	*e*Pn	**Pn**	**10 55 37.1**	**-0.2**
CHOS	**Chios island**	**1.74**	**8**	P	**Pn**	**10 55 38.9**	**-0.4**
CHOS				S	**Sn**	**10 56 02.5**	**+1.1**
CHOS	**Chios island**	**1.74**	**8**	P	**Pn**	**10 55 38.9**	**-0.4**
CHOS				S	**Sn**	**10 56 02.5**	**+1.1**
KARN	**Karanos**	**1.94**	**230**	P	**Pn**	**10 55 40.7**	**-1.4**
KARN	**Karanos**	**1.94**	**230**	P	**Pn**	**10 55 40.7**	**-1.4**

*ISCJB **14** 11:04:17.3±0.8, 51.8N±0.1× 176.42W±0.07, h64km±6km, mb3.6/8, Error ellipse: s-maj=21.1km s-min=5.7km az=168.8*
*NEIC **14** 11:04:18.1±1.1, 51.67N× 176.47W, h61km±10km, mb3.8/3, ML3.6(AEIC), Error ellipse: s-maj=26.0km s-min=9.3km az=163.0*
*IDC **14** 11:04:18.7±0.8, 51.86N× 176.58W, h64km±7km, mb3.3/9, mb1 3.7/10, mb1mx3.6/25, mbtmp3.5/10, MS3.2/2, Ms1 3.2/2, ms1mx2.5/28, Error ellipse: s-maj=30.0km s-min=14.4km az=162.0*

ISC 14 11:04:18.3±0.9, 51.7N±0.1× 176.36W±0.07, h57km±7km, h69km±1.0km; pP-P, n39, σ1.23/38, mb3.6/8, MS3.2/2, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSTR	**Great Sitkin T**	**0.44**	**25**	*e*Pg	**Pn**	**11 04 29.3**	**0.0**
GSTR				*e*Sg	**Sn**	**11 04 37.1**	**-0.2**
ATKA	**Atka Island**	**1.43**	**69**	P	**Pn**	**11 04 40.9**	**-1.0**
ATKA				S	**Sn**	**11 04 59.2**	**-0.5**
AMKA	**Amchitka**	**2.73**	**265**	P	**Pn**	**11 04 58.0**	**-1.5**
AMKA				S	**Sn**	**11 05 32.4**	**+1.1**
UNV	**Unalaska Valle**	**6.36**	**66**	*e*Pn	**Pn**	**11 05 52.6**	**+3.4**
FX1	**Attu Island--F**	**6.54**	**285**	P	**Pn**	**11 05 53.0**	**+1.4**
FX1	4.2nm,0.3s,baz=128,slow=21,SNR=10.0			S	**Sn**	**11 07 04.5**	**-0.2**
FX1	1.9nm,0.3s,baz=30,slow=20,SNR=2.7 **Attu Island--F**	**6.54**	**285**	P	**Pn**	**11 05 53.0**	**+1.4**
FX1				S	**Sn**	**11 07 04.5**	**-0.2**
SDPT	**Sand Point**	**10.14**	**63**	*e*P	**Pn**	**11 06 41.4**	**+0.5**
KDAK	48nm,1.3s **Kodiak Island**	**14.97**	**57**	P	**Pn**	**11 07 45.0**	**-1.1**
KDAK	0.8nm,0.3s,baz=270,slow=14,SNR=24			S	**Sn**	**11 10 38.0**	**+7.4**
KDAK	0.2nm,0.3s,baz=72,slow=20,SNR=4.0 **Kodiak Island**	**14.97**	**57**	P	**Pn**	**11 07 45.0**	**-1.1**
KDAK				S	**Sn**	**11 10 38.0**	**+7.4**
SEW	**Seward**	**17.17**	**50**	*e*Pn	**Pn**	**11 08 14.6**	**+0.8**
BPAW	**Bear Paw Mtn.**	**18.16**	**37**	*e*P	**Pn**	**11 08 28.5**	**+2.5**
MCK	4.0nm,0.6s **McKinley**	**18.78**	**40**	*e*P	**Pn**	**11 08 34.4**	**+1.0**
BMRM	2.9nm,0.3s **Bremner River**	**19.71**	**50**	*e*P	**Pn**	**11 08 42.8**	**-1.6**
ILAR	3.8nm,0.7s **Eielson Array**	**20.05**	**38**	P	**P**	**11 08 44.6**	**-1.6**
ILAR	0.3nm,0.3s,baz=239,slow=9.6,SNR=24			PcP	PcP	11 12 58.5	-0.9
ILAR	0.0nm,0.3s,baz=276,slow=3.3,SNR=4.2 **Eielson Array**	**20.05**	**38**	P	**P**	**11 08 44.6**	**-1.6**
ILAR				PcP	PcP	11 12 58.5	-0.9
INK	**Inuvik**	**26.33**	**35**	P	**P**	**11 09 47.5**	**-0.7**
INK	0.4nm,0.4s,mb3.4,baz=184,slow=6.4,SNR=5.0			PcP	PcP	11 13 12.9	+0.4
INK	1.1nm,0.5s,baz=265,slow=1.0,SNR=10 **Inuvik**	**26.33**	**35**	P	**P**	**11 09 47.5**	**-0.7**
INK				PcP	PcP	11 13 12.9	+0.4
YKA	**Yellowknife Ar**	**33.90**	**47**	PcP	PcP	11 13 32.7	+0.5
BSMT	1.2nm,0.6s,baz=288,slow=3.3,SNR=5.7 **Bassoo Peak**	**38.91**	**71**	*e*P	**P**	**11 11 39.6**	**+1.6**
KSRS	**Korea Array**	**41.15**	**272**	P	**P**	**11 11 57.3**	**+0.6**
NVAR	0.8nm,0.6s,mb3.6,baz=57,slow=7.7,SNR=5.0 **Mina Array Bea**	**42.00**	**85**	P	**P**	**11 12 05.3**	**+1.7**
NVAR	0.2nm,0.5s,mb3.0,baz=294,slow=6.8,SNR=2.8 **Mina Array Bea**	**42.00**	**85**	P	**P**	**11 12 05.3**	**+1.7**
PDAR	**Pinedale Array**	**44.76**	**74**	P	**P**	**11 12 26.4**	**+0.7**
PDAR	1.5nm,0.5s,mb4.1,baz=311,slow=3.7,SNR=15 **Pinedale Array**	**44.76**	**74**	P	**P**	**11 12 26.4**	**+0.7**
SONM	**Songino Array**	**47.86**	**298**	PcP	PcP	11 14 17.3	-0.5
ULM	0.6nm,0.6s,baz=64,slow=3.4,SNR=4.4 **Lac du Bonnet**	**48.23**	**58**	LR	LR	11 33 51.0	
ZALV	comp=Z,43nm,18.7s,MS3.5,baz=19,slow=37 **Zalesovo Beam**	**54.90**	**314**	PcP	PcP	11 14 43.1	-0.7
ZALV	0.4nm,0.3s,baz=110,slow=3.6,SNR=3.2			LR	LR	11 39 15.4	
TXAR	comp=Z,12nm,19.9s,MS3.0,baz=36,slow=38 **Lajitas Array**	**57.10**	**83**	P	**P**	**11 13 58.8**	**+0.2**
TXAR	0.9nm,0.7s,mb3.9,baz=295,slow=4.8,SNR=12			pP	pP	11 14 16.6	+2.7
TXAR	0.3nm,0.5s,baz=309,slow=6.6,SNR=3.9 **Lajitas Array**	**57.10**	**83**	P	**P**	**11 13 58.8**	**+0.2**
TXAR				pP	pP	11 14 16.6	+2.7
MKAR	**Makanchi Array**	**61.02**	**310**	P	**P**	**11 14 22.9**	**-2.5**
MKAR	0.3nm,0.7s,mb3.5,baz=24,slow=7.9,SNR=2.9 **Makanchi Array**	**61.02**	**310**	P	**P**	**11 14 22.9**	**-2.5**
WRA	**Warramunga Arr**	**83.31**	**226**	P	**P**	**11 16 37.1**	**-1.6**
WRA	0.4nm,0.8s,mb3.5,baz=33,slow=5.8,SNR=6.0			pP		11 16 55.7	+0.9
WRA	0.3nm,0.6s,baz=32,slow=5.5,SNR=2.8 **Warramunga Arr**	**83.31**	**226**	P	**P**	**11 16 37.1**	**-1.6**
WRA				pP	pP	11 16 55.7	+0.9
ASAR	**Alice Springs**	**86.77**	**224**	P	**P**	**11 16 55.2**	**-0.6**
ASAR	0.6nm,0.6s,mb4.0,baz=36,slow=3.4,SNR=7.6			pP	pP	11 17 13.6	+1.5
ASAR	0.7nm,0.7s,baz=28,slow=4.8,SNR=4.4 **Alice Springs**	**86.77**	**224**	P	**P**	**11 16 55.2**	**-0.6**
ASAR				pP	pP	11 17 13.6	+1.5
TORD	**Torodi Ar. Bea**	**115.40**	**2**	PKP	PKPdf	11 22 52.7	-0.9
TORD	0.4nm,0.4s,baz=18,slow=1.9,SNR=3.3 **Torodi Ar. Bea**	**115.40**	**2**	PKP	PKPdf	11 22 52.7	-0.9
BOSA	**Boshof**	**151.84**	**317**	PKPbc	PKPbc	11 24 05.8	-0.4
BOSA	2.8nm,0.5s,baz=54,slow=3.5,SNR=12 **Boshof**	**151.84**	**317**	PKPbc	PKPbc	11 24 05.8	-0.4

WEL 14 11:12:58.4±0.5, 38.14S× 176.14E, h160km±4km, ML3.5/14, Error ellipse: s-maj=4.0km s-min=3.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.77**	**99**	PN	Pn	11 13 22.2	-0.1
URZ				SN	Sn	11 13 40.7	-0.1
BKZ	**Black Stump Fm**	**1.06**	**165**	PN	Pn	11 13 24.5	0.0
BKZ				SN	Sn	11 13 44.4	-0.4
RAHZ	**Arahi**	**1.07**	**137**	PN	Pn	11 13 25.2	+0.5
NMHZ	**Naumai**	**1.09**	**152**	PN	Pn	11 13 25.7	+0.9
MWZ	**Matawai**	**1.11**	**101**	PN	Pn	11 13 24.9	-0.1
MWZ				*e*SN	Sn	11 13 44.7	-0.6
WPVZ	**Whakapapa**	**1.16**	**203**	PN	Pn	11 13 25.8	+0.4
FWVZ	**Far West T-bar**	**1.21**	**202**	PN	Pn	11 13 26.2	+0.4
WNVZ	**Wahianoa**	**1.26**	**200**	PN	Pn	11 13 26.6	+0.3
MOVZ	**Moawhango**	**1.30**	**193**	PN	Pn	11 13 26.4	-0.3
PKVZ	**Pokaka**	**1.31**	**208**	PN	Pn	11 13 26.9	+0.1
BHHZ	**Black Hill Sta**	**1.35**	**183**	PN	Pn	11 13 26.9	-0.2
MTVZ	**Mangateitei**	**1.35**	**203**	PN	Pn	11 13 27.3	+0.1
MCHZ	**McNeill Hill**	**1.37**	**162**	PN	Pn	11 13 27.9	+0.5
KNZ	**Kokohu**	**1.49**	**127**	PN	Pn	11 13 28.2	-0.3
PRGZ	**Paritu Road**	**1.57**	**120**	PN	Pn	11 13 29.1	-0.3
CNGZ	**Carnagh Statio**	**1.66**	**103**	PN	Pn	11 13 30.6	+0.3
PUZ	**Puketiti**	**1.67**	**88**	PN	Pn	11 13 29.9	-0.5
CKHZ	**Cape Kidnapper**	**1.68**	**155**	PN	Pn	11 13 30.5	-0.1
MHGZ	**Mahia Peninsul**	**1.71**	**127**	PN	Pn	11 13 30.9	0.0
KAHZ	**Kahuranaki**	**1.75**	**161**	PN	Pn	11 13 31.1	-0.2
PNHZ	**Pukenui**	**1.77**	**179**	PN	Pn	11 13 30.7	-0.8
WAZ	**Wanganui**	**1.85**	**209**	PN	Pn	11 13 31.8	-0.5
TSZ	**Takapari Road**	**1.92**	**184**	PN	Pn	11 13 32.2	-1.0
WPHZ	**Waipukurau**	**1.94**	**173**	PN	Pn	11 13 32.4	-0.9
PXZ	**Pawanui**	**1.97**	**164**	PN	Pn	11 13 32.8	-0.9
DVHZ	**Dannevirke**	**2.16**	**180**	PN	Pn	11 13 34.3	-1.5
PRHZ	**Porangahau**	**2.16**	**170**	PN	Pn	11 13 34.7	-1.1
POWZ	**Post Office Ro**	**2.27**	**187**	PN	Pn	11 13 35.7	-1.5
BFZ	**Birch Farm**	**2.54**	**178**	PN	Pn	11 13 38.3	-2.1
MRZ	**Mangatainoka R**	**2.56**	**190**	PN	Pn	11 13 38.4	-2.2
MRZ				SN	Sn	11 14 10.2	-3.1
TIWZ	**Tintock**	**2.64**	**184**	PN	Pn	11 13 39.5	-2.1
OGWZ	**Otaki Gorge**	**2.78**	**195**	PN	Pn	11 13 41.1	-2.2
HOWZ	**Holdsworth Sta**	**2.80**	**190**	PN	Pn	11 13 41.0	-2.6
KIW	**Kapiti Island**	**2.88**	**199**	PN	Pn	11 13 41.9	-2.6
MTW	**Mount Morrison**	**3.06**	**189**	PN	Pn	11 13 43.5	-3.2
CAW	**Cannon Point**	**3.08**	**195**	PN	Pn	11 13 44.1	-2.9
TRWZ	**Traveller**	**3.27**	**186**	PN	Pn	11 13 46.4	-3.1
MSWZ	**Moikau Station**	**3.34**	**192**	PN	Pn	11 13 46.9	-3.5
SNZO	**South Karori**	**3.35**	**199**	PN	Pn	11 13 47.1	-3.4
TCW	**Tory Channel**	**3.39**	**205**	PN	Pn	11 13 47.7	-3.2
PLWZ	**Palliser**	**3.49**	**191**	PN	Pn	11 13 48.7	-3.6
NNZ	**Nelson**	**3.74**	**214**	PN	Pn	11 13 51.8	-3.6
QRZ	**Quartz Range**	**3.88**	**225**	PN	Pn	11 13 53.2	-4.0
THZ	**Tophouse**	**4.39**	**213**	PN	Pn	11 14 00.2	-3.6
KHZ	**Kahutara**	**4.71**	**204**	PN	Pn	11 14 04.1	-4.0
LTZ	**Lake Taylor**	**5.50**	**211**	PN	Pn	11 14 13.7	-4.7

*IDC **14** 11:37:10.1±2.5, 7.88S× 115.43E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/19, mbtmp3.7/5, Error ellipse: s-maj=146.9km s-min=21.1km az=54.0*
*ISCJB **14** 11:37:12.5±2.1, 8.05S±0.5× 115.2E±0.6, h33km, mb3.8/6, Error ellipse: s-maj=114.0km s-min=16.0km az=143.8*
*NEIC **14** 11:37:14.8±1.6, 8.01S× 115.28E, h35km, mb3.8/1, Error ellipse: s-maj=87.1km s-min=12.9km az=53.0*

ISC 14 11:37:14.9±2.0, 8.0S±0.5× 115.3E±0.6, h35km, n11, σ0.33/11, mb3.8/6, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.94**	**125**	P	**P**	**11 42 05.6**	**0.0**
WRA	1.5nm,0.3s,mb3.9,baz=302,slow=11,SNR=45 **Warramunga Arr**	**21.94**	**125**	P	**P**	**11 42 05.6**	**0.0**
WRAB	**Tennant Creek**	**21.94**	**125**	*e*P	**P**	**11 42 05.9**	**+0.3**
ASAR	1.5nm,0.4s,mb3.8 **Alice Springs**	**23.68**	**133**	P	**P**	**11 42 23.6**	**0.0**
ASAR	1.1nm,0.5s,mb3.6,baz=314,slow=8.4,SNR=25 **Alice Springs**	**23.68**	**133**	P	**P**	**11 42 23.6**	**0.0**
STKA	**Stephens Creek**	**34.10**	**138**	P	**P**	**11 43 55.9**	**-0.4**
STKA	1.9nm,0.8s,mb4.1,baz=333,slow=9.0,SNR=3.6 **Stephens Creek**	**34.10**	**138**	P	**P**	**11 43 55.9**	**-0.4**
STKA	0.3nm,0.4s,mb3.7,baz=174,slow=9.7,SNR=3.6 **Stephens Creek**	**34.10**	**138**	P	**P**	**11 43 55.9**	**-0.4**
SONM	**Songino Array**	**56.17**	**353**	P	**P**	**11 46 50.6**	**-0.4**
MKAR	**Makanchi Array**	**61.97**	**335**	P	**P**	**11 47 31.7**	**+0.5**
MKAR	0.2nm,0.4s,mb3.6,baz=156,slow=6.1,SNR=4.6 **Makanchi Array**	**61.97**	**335**	P	**P**	**11 47 31.7**	**+0.5**

MEX 14 11:54:11.7±1.2, 16.66N× 99.24W, h16km±999km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.63**	**290**	*i* P	Pg	11 54 21.8	-2.3
ACX				*i* S	Sg	11 54 30.9	-1.6
CAIG	**El Cayaco**	**1.06**	**292**	*i* P	Pb	11 54 28.8	-2.8
CAIG				*i* S	Sb	11 54 41.4	-3.8
PNIG	**Pinotepa**	**1.10**	**104**	*i* P	Pb	11 54 29.1	-3.2
PNIG				*i* S	Sb	11 54 41.3	-5.1
MEIG	**Mezcala**	**1.31**	**344**	*i* P	Pn	11 54 32.1	-3.2
MEIG				*i* S	Sn	11 54 46.9	-5.6
UTMO	**Huajuapan**	**1.80**	**49**	*e*P	Pn	11 54 39.1	-3.0
UTMO				*i* S	Sn	11 55 00.3	-4.3
VHO	**Vista Hermosa**	**2.44**	**80**	*e*P	Pn	11 54 47.6	-3.2
VHO				*i* S	Sn	11 55 16.2	-4.1
MZVM		**2.52**	**0**	*e*P	Pn	11 54 52.5	+0.6

*ISK **14** 12:04:05.5, 38.80N× 37.73E, h8km, MD2.8*
*DDA **14** 12:04:06.8, 38.81N× 37.76E, h7km±3km, Md2.8*
*CSEM **14** 12:04:07.3±0.4, 38.77N× 37.82E, h16km±3km, MD2.8, Error ellipse: s-maj=9.0km s-min=7.3km az=92.0*
*ISCJB **14** 12:04:08.4±0.7, 38.80N±0.04× 37.84E±0.06, h18km±7km, Error ellipse: s-maj=8.3km s-min=6.0km az=3.1*

ISC 14 12:04:08.4±0.6, 38.79N±0.03× 37.85E±0.05, h16km±5km, n20, σ0.99/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DARE	**Darende-Malaty**	**0.17**	**348**	*e*PG	**Pg**	**12 04 11.7**	**-0.9**
DARE				*e*SG	**Sg**	**12 04 16.5**	**+1.0**
DARE	**Darende-Malaty**	**0.17**	**348**	*e*Pg	**Pg**	**12 04 11.7**	**-0.9**
DARE				*e*Sg	**Sg**	**12 04 16.5**	**+1.0**
AKCD	**Akcadag**	**0.50**	**173**	*i* P	**Pg**	**12 04 16.9**	**-1.4**
AKCD				*i* S	**Sg**	**12 04 25.4**	**+0.4**
AKCD	**Akcadag**	**0.50**	**173**	*i* P	**Pg**	**12 04 16.9**	**-1.4**
AKCD				*i* S	**Sg**	**12 04 25.4**	**+0.4**
MYA	**Malataya**	**0.65**	**136**	*e*PG	**Pg**	**12 04 19.8**	**-1.3**
MYA				*e*SG	**Sg**	**12 04 30.4**	**+0.7**
MYA	**Malataya**	**0.65**	**136**	*e*Pg	**Pg**	**12 04 19.8**	**-1.3**
MYA				*e*Sg	**Sg**	**12 04 30.4**	**+0.7**
KEMA	**Kemaliye**	**0.69**	**46**	*i* P	**Pg**	**12 04 20.5**	**-1.5**
KEMA				*i* S	**Sg**	**12 04 32.0**	**+0.8**
KEMA	**Kemaliye**	**0.69**	**46**	*i* P	**Pg**	**12 04 20.5**	**-1.5**
KEMA				*i* S	**Sg**	**12 04 32.0**	**+0.8**
SARI	**SarD1z-Kayseri**	**0.91**	**263**	*e*PN	**Pg**	**12 04 26.8**	**+0.8**
SARI	**SarD1z-Kayseri**	**0.91**	**263**	*e*Pn	**Pg**	**12 04 26.8**	**+0.8**
ELZG	**Elazig**	**0.94**	**108**	*i* P	**Pg**	**12 04 25.1**	**-1.4**
ELZG				*i* S	**Sg**	**12 04 40.6**	**+1.8**
ELZG	**Elazig**	**0.94**	**108**	*i* P	**Pg**	**12 04 25.1**	**-1.4**
ELZG				*i* S	**Sg**	**12 04 40.6**	**+1.8**
PTK	**Pertek**	**1.21**	**85**	*e*PN	**Pn**	**12 04 30.3**	**-0.3**
PTK	**Pertek**	**1.21**	**85**	*e*Pn	**Pn**	**12 04 30.3**	**-0.3**
SVRC	**Sivrice-ELAZID**	**1.21**	**109**	*e*PN	**Pn**	**12 04 30.6**	**-0.1**
SVRC	**Sivrice-ELAZID**	**1.21**	**109**	*e*Pn	**Pn**	**12 04 30.6**	**-0.1**
GZT	**Gaziantep**	**1.45**	**189**	*i* P	**Pn**	**12 04 35.0**	**+1.1**
EZC	**Erzincan**	**1.51**	**50**	*e*PN	**Pn**	**12 04 34.8**	**0.0**
EZC	**Erzincan**	**1.51**	**50**	*e*Pn	**Pn**	**12 04 34.8**	**0.0**
ERZN	**Erzincan**	**1.66**	**61**	*e*PN	**Pn**	**12 04 37.0**	**+0.2**

*IDC **14** 12:18:46.8±1.0, 26.72N× 125.19E, h0km, mb3.9/6, mb1 3.9/8, mb1mx3.7/27, mbtmp3.9/8, ML4.5/1, Error ellipse: s-maj=34.8km s-min=18.3km az=57.0*
*ISCJB **14** 12:19:00.3±0.4, 27.27N±0.06× 126.60E±0.06, h165km±6km, mb3.7/6, Error ellipse: s-maj=11.9km s-min=4.0km az=139.3*
*JMA **14** 12:19:02.3±0.3, 27.38N× 126.61E, h150km, M4.1*

ISC 14 12:19:01.3±0.4, 27.30N±0.06× 126.57E±0.06, h158km±6km, n27, σ0.95/45, mb3.7/6, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.93**	**139**	P	**Pn**	**12 19 27.0**	**+0.8**
JAGN				*e*S	**Sn**	**12 19 46.2**	**+1.0**
JKE	**Kume jima 2**	**0.99**	**169**	P	**Pn**	**12 19 27.4**	**+0.7**
JKE				*e*S	**Sn**	**12 19 47.2**	**+1.1**
JIH	**Iheya**	**1.27**	**102**	P	**Pn**	**12 19 29.9**	**+0.7**
JIH				*e*S	**Sn**	**12 19 49.8**	**-0.7**
NAH1	**Naha**	**1.48**	**137**	P	**Pn**	**12 19 32.1**	**+0.8**
NAH1				*e*S	**Sn**	**12 19 55.4**	**+1.2**
JJT2	**Tamagusuku 2**	**1.56**	**137**	P	**Pn**	**12 19 33.4**	**+1.3**
JJT2				*e*S	**Sn**	**12 19 56.2**	**+0.5**
JOW	**Kunigami**	**1.59**	**107**	Pn	**Pn**	**12 19 32.8**	**+0.4**
JOW	146nm,0.3s,baz=273,slow=4.3,SNR=353			Sn	**Sn**	**12 19 54.3**	**-1.8**
JOW	238nm,0.3s,baz=216,slow=13,SNR=9.8 **Kunigami**	**1.59**	**107**	P	**Pn**	**12 19 32.7**	**+0.3**
JOW				S	**Sn**	**12 19 54.6**	**-1.6**
JTK	**Tokunoshima**	**2.17**	**76**	P	**Pn**	**12 19 38.6**	**-0.2**
JTK				*e*S	**Sn**	**12 20 06.7**	**-1.0**
JMJ	**Miyako jima 2**	**2.73**	**205**	P	**Pn**	**12 19 46.3**	**+0.7**
JMJ				*e*S	**Sn**	**12 20 18.9**	**-0.9**
JOGS	**Gusukube**	**2.73**	**203**	P	**Pn**	**12 19 46.7**	**+1.0**
JOGS				*e*S	**Sn**	**12 20 19.6**	**-0.4**
JAM	**Amami Oshima**	**2.91**	**67**	P	**Pn**	**12 19 47.3**	**-0.5**
JAM				*e*S	**Sn**	**12 20 21.2**	**-2.6**
JTJ	**Tarama**	**3.13**	**213**	P	**Pn**	**12 19 51.2**	**+0.5**
JTJ				*e*S	**Sn**	**12 20 27.6**	**-1.3**
JZK	**Kikaishima**	**3.18**	**71**	*e*S	**Sn**	**12 20 28.5**	**-1.4**
JIJ	**Ishigaki jima**	**3.65**	**217**	P	**Pn**	**12 19 56.7**	**-0.6**
JIJ				*e*S	**Sn**	**12 20 37.9**	**-2.8**
JKRS	**Kuro-shima**	**3.82**	**218**	P	**Pn**	**12 19 59.5**	**0.0**
JKRS				*e*S	**Sn**	**12 20 43.1**	**-1.6**
JNN	**Nakanoshima**	**3.86**	**48**	P	**Pn**	**12 20 01.3**	**+1.4**
JNN				*e*S	**Sn**	**12 20 45.7**	**+0.3**
IRIF	**Iriomote-Funau**	**3.91**	**222**	P	**Pn**	**12 20 00.2**	**-0.4**
IRIF				*e*S	**Sn**	**12 20 45.9**	**-0.7**
HATJ	**Hateruma jima**	**4.08**	**218**	P	**Pn**	**12 20 03.4**	**+0.6**
YOJ	**Yonaguni jima**	**4.27**	**229**	P	**Pn**	**12 20 06.3**	**+1.0**
YOJ				*e*S	**Sn**	**12 20 55.6**	**+0.5**
JMZ	**Minamidaito 2**	**4.42**	**108**	P	**Pn**	**12 20 06.5**	**-0.7**
JMZ				*e*S	**Sn**	**12 20 52.2**	**-6.3**
KSRS	**Korea Array**	**10.19**	**6**	Pn	**Pn**	**12 21 24.4**	**+0.8**
SONM	0.1nm,0.3s,baz=182,slow=14,SNR=4.4 **Songino Array**	**25.86**	**328**	P	**P**	**12 24 18.5**	**+0.4**
MKAR	5.3nm,0.6s,mb4.3,baz=142,slow=10,SNR=36 **Makanchi Array**	**39.72**	**311**	P	**P**	**12 26 17.2**	**-1.0**
ZALV	1.6nm,0.5s,mb3.9,baz=99,slow=11,SNR=22 **Zalesovo Beam**	**40.50**	**323**	P	**P**	**12 26 24.4**	**-0.1**
KURK	2.7nm,0.3s,mb4.3,baz=112,slow=8.8,SNR=20 **Kurchatov**	**43.03**	**316**	P	**P**	**12 26 44.7**	**-0.3**
WRA	0.6nm,0.3s,mb3.7,baz=106,slow=8.5,SNR=3.4 **Warramunga Arr**	**47.56**	**170**	P	**P**	**12 27 20.9**	**-0.1**
ASAR	0.3nm,0.6s,mb3.1,baz=353,slow=8.6,SNR=4.8 **Alice Springs**	**51.16**	**171**	P	**P**	**12 27 49.4**	**+1.1**
	0.1nm,0.3s,mb2.9,baz=358,slow=15,SNR=4.1						

*NIED **14** 12:22:00.24.10N× 122.40E, h26km, Mw4.1 Best double couple: M0 1.41000×10^15 NP1:ϕ68 67.00000°, δ86.00000°, λ75.00000°. NP2:ϕ68 324.00000°, δ15.00000°, λ167.00000°.*
*JMA **14** 12:22:22.5±0.2, 24.05N× 122.41E, h29km, M3.7*
*ISCJB **14** 12:22:22.9±0.2, 23.95N±0.02× 122.45E±0.02, h44km±4km, mb4.0/11, MS3.3/7, Error ellipse: s-maj=3.2km s-min=2.1km az=153.9*
*TAP **14** 12:22:22.4, 24.00N× 122.36E, h19km, ML4.2, D*
*NEIC **14** 12:22:25.0±1.0, 23.95N× 122.22E, h50km±9km, mb4.2/3, Error ellipse: s-maj=14.9km s-min=8.4km az=83.0*
*IDC **14** 12:22:28.5±12.0, 23.97N× 122.18E, h88km±125km, mb3.7/7, mb1 3.7/9, mb1mx3.5/26, mbtmp3.6/9, ML3.5/2, MS3.3/9, Ms1 3.3/9, ms1mx2.8/37, Error ellipse: s-maj=68.3km s-min=15.1km az=61.0*

ISC 14 12:22:23.7±0.2, 23.96N±0.02× 122.45E±0.02, h39km±5km, n99, σ1.26/160, mb4.0/11, MS3.3/7, 1C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.71**	**46**	P	**Pn**	**12 22 35.6**	**-1.7**
YOJ				S	**Sn**	**12 22 44.9**	**-2.2**
HWA	**Hwalien**	**0.77**	**271**	*e*P	**Pn**	**12 22 36.6**	**-1.4**
TWD	baz=253 **Chiawan**	**0.79**	**279**	*e*P	**Pn**	**12 22 36.3**	**-2.0**
TWD

YUS				*e*S		**Sn**	**12 23 05.1**	**0.0**
	baz=249								
JKRS	**Kuro-shima**	**1.45**	**79**	P		**Pn**	**12 22 47.7**	**+0.2**
JKRS				*e*S		**Sn**	**12 23 05.7**	**+0.4**
TYC	**Yuchr**	**1.46**	**268**	*e*P		**Pn**	**12 22 46.8**	**-0.7**
	baz=266								
TYC				*e*S		**Sn**	**12 23 05.9**	**+0.6**
	baz=266								
TWS1	**Kuangyinshan**	**1.47**	**321**	*e*P		**Pn**	**12 22 47.9**	**+0.2**
	baz=333								
TWS1				*e*S		**Sn**	**12 23 07.4**	**+1.7**
	baz=333								
NSTT	**Nanjuang**	**1.48**	**297**	P		**Pn**	**12 22 48.2**	**+0.5**
	baz=283								
NSTT				S		**Sn**	**12 23 06.6**	**+0.7**
	baz=283								
TWY	**Chenhua**	**1.52**	**330**	*e*P		**Pn**	**12 22 49.1**	**+0.8**
	baz=329								
TWY				*e*S		**Sn**	**12 23 09.7**	**+2.9**
	baz=329								
ELDTW	**Lidau**	**1.52**	**240**	*e*P		**Pn**	**12 22 46.8**	**-1.6**
	baz=237								
ELDTW				*e*S		**Sn**	**12 23 04.9**	**-2.0**
	baz=237								
ALS	**Alishan**	**1.57**	**254**	P		**Pn**	**12 22 49.1**	**0.0**
	baz=252								
ALS				S		**Sn**	**12 23 08.1**	**-0.1**
	baz=252								
TWQ1	**Liyutan**	**1.57**	**284**	*e*P		**Pn**	**12 22 49.6**	**+0.5**
	baz=283								
TWQ1				*e*S		**Sn**	**12 23 09.0**	**+0.7**
	baz=283								
JIJ	**Ishigaki jima**	**1.60**	**75**	P		**Pn**	**12 22 49.3**	**-0.2**
JIJ				*e*S		**Sn**	**12 23 09.4**	**+0.5**
NSY	**Sanyi**	**1.60**	**287**	*e*P		**Pn**	**12 22 50.1**	**+0.6**
	baz=285								
NSY				*e*S		**Sn**	**12 23 10.5**	**+1.5**
	baz=285								
WNT	**Mingjian**	**1.61**	**267**	*e*P		**Pn**	**12 22 50.3**	**+0.6**
	baz=265								
WNT				*e*S		**Sn**	**12 23 10.9**	**+1.6**
	baz=265								
TCU	**Taichung**	**1.63**	**277**	*e*P		**Pn**	**12 22 50.4**	**+0.6**
	baz=275								
TCU				*e*S		**Sn**	**12 23 10.3**	**+0.7**
	baz=275								
CHN5	**Tsauling**	**1.66**	**258**	P		**Pn**	**12 22 50.6**	**+0.3**
	baz=244								
CHN5				*e*S		**Sn**	**12 23 11.3**	**+0.9**
	baz=244								
TWG	**Pinlang**	**1.70**	**228**	*e*Pn		**Pn**	**12 22 49.5**	**-1.3**
TWG				*e*Sn		**Sn**	**12 23 09.6**	**-1.8**
TWG	**Pinlang**	**1.70**	**228**	*e*P		**Pn**	**12 22 49.2**	**-1.6**
	baz=239								
TWG				*e*S		**Sn**	**12 23 09.7**	**-1.7**
	baz=239								
STYT	**Tauyuan**	**1.74**	**243**	*e*P		**Pn**	**12 22 51.2**	**-0.3**
	baz=229								
STYT				*e*S		**Sn**	**12 23 12.6**	**+0.2**
	baz=229								
WGK	**Gukeng**	**1.75**	**261**	*e*P		**Pn**	**12 22 51.6**	**+0.1**
	baz=259								
WGK				*e*S		**Sn**	**12 23 13.5**	**+1.0**
	baz=259								
TPUB	**Ta-pu**	**1.79**	**249**	*e*Pn		**Pn**	**12 22 52.6**	**+0.5**
TPUB				*e*Sn		**Sn**	**12 23 16.3**	**+2.7**
CHN4	**Tsaushan**	**1.81**	**251**	*e*P		**Pn**	**12 22 53.3**	**+1.0**
	baz=249								
CHN4				*e*S		**Sn**	**12 23 15.0**	**+1.1**
	baz=249								
WTP	**Ta-pu**	**1.83**	**247**	*e*P		**Pn**	**12 22 53.0**	**+0.5**
	baz=246								
WTP				*e*S		**Sn**	**12 23 15.7**	**+1.2**
	baz=246								
CHY	**Chiayi**	**1.91**	**256**	*e*P		**Pn**	**12 22 54.0**	**+0.3**
	baz=255								
CHY				*e*S		**Sn**	**12 23 18.2**	**+1.7**
	baz=255								
CHN1	**Nanshi**	**1.92**	**247**	*e*P		**Pn**	**12 22 54.6**	**+0.7**
	baz=245								
CHN1				*e*S		**Sn**	**12 23 19.2**	**+2.3**
	baz=245								
ECL	**Taimali**	**1.93**	**226**	*e*P		**Pn**	**12 22 52.2**	**-1.8**
	baz=223								
ECL				*e*S		**Sn**	**12 23 14.7**	**-2.4**
	baz=223								
WTCT	**Ta-ch'eng**	**1.98**	**268**	*e*P		**Pn**	**12 22 55.2**	**+0.5**
	baz=266								
WTCT				*e*S		**Sn**	**12 23 19.3**	**+0.9**
	baz=266								
SSD	**Sandimen**	**2.06**	**234**	*e*P		**Pn**	**12 22 55.3**	**-0.5**
	baz=224								
SSD				*e*S		**Sn**	**12 23 21.9**	**+1.6**
	baz=224								
WSF	**Szhu**	**2.06**	**261**	*e*P		**Pn**	**12 22 56.4**	**+0.6**
	baz=260								
WSF				*e*S		**Sn**	**12 23 22.3**	**+2.0**
	baz=260								
LAY	**Lan-yu**	**2.09**	**203**	*e*P		**Pn**	**12 22 54.7**	**-1.4**
	baz=200								
CHN3	**Shinhua**	**2.10**	**246**	*e*P		**Pn**	**12 22 58.4**	**+2.0**
	baz=244								
CHN3				*e*S		**Sn**	**12 23 22.9**	**+1.6**
	baz=244								
CHN8	**Yiju**	**2.14**	**254**	*e*P		**Pn**	**12 22 57.4**	**+0.5**
	baz=252								
CHN8				*e*S		**Sn**	**12 23 24.0**	**+1.8**
	baz=252								
EAST	**Anshuo**	**2.15**	**223**	*e*P		**Pn**	**12 22 55.6**	**-1.5**
	baz=220								
JTJ	**Tarama**	**2.17**	**71**	P		**Pn**	**12 22 57.6**	**+0.4**
JTJ				*e*S		**Sn**	**12 23 23.6**	**+0.7**
TWM1	**Shoushan**	**2.18**	**239**	*e*P		**Pn**	**12 22 59.6**	**+2.2**
	baz=237								
TWM1				*e*S		**Sn**	**12 23 24.8**	**+1.6**
	baz=237								
SGLT	**Jiouru**	**2.18**	**236**	*e*P		**Pn**	**12 22 59.4**	**+2.0**
	baz=235								
SGLT				*e*S		**Sn**	**12 23 25.6**	**+2.4**
	baz=235								
SCLT	**Jiali**	**2.21**	**250**	*e*P		**Pn**	**12 22 57.6**	**-0.2**
	baz=248								
SCLT				*e*S		**Sn**	**12 23 26.7**	**+2.7**
	baz=248								
TAI1	**Yung-k'ang**	**2.23**	**246**	*e*P		**Pn**	**12 23 00.1**	**+1.9**
	baz=245								
TAI1				*e*S		**Sn**	**12 23 26.8**	**+2.2**
	baz=245								
SCZT	**Fangliau**	**2.31**	**227**	*e*P		**Pn**	**12 23 00.5**	**+1.2**
	baz=218								
SCZT				*e*S		**Sn**	**12 23 28.9**	**+2.5**
	baz=218								
TWK1	**Hengchun**	**2.52**	**217**	*e*P		**Pn**	**12 23 01.1**	**-1.0**
	baz=216								
TWK1				*e*S		**Sn**	**12 23 31.4**	**-0.1**
	baz=216								
WDGT	**Dungji**	**2.65**	**255**	*e*P		**Pn**	**12 23 03.7**	**-0.2**
	baz=254								
WDGT				*e*S		**Sn**	**12 23 33.5**	**-1.3**
	baz=254								
PNG	**Penghu**	**2.68**	**262**	*e*P		**Pn**	**12 23 04.1**	**-0.2**
	baz=261								
PNG				*e*S		**Sn**	**12 23 36.1**	**+0.6**
	baz=261								
JMJ	**Miyako jima 2**	**2.73**	**71**	*e*S		**Sn**	**12 23 39.0**	**+2.2**
JOGS	**Gusukube**	**2.81**	**73**	*e*S		**Sn**	**12 23 41.0**	**+2.2**
QZH	**Quanzhou**	**3.65**	**286**	Pn		**Pn**	**12 23 14.8**	**-2.8**
QZH				Sn		**Sn**	**12 23 55.0**	**-4.3**
QZH				smax				
	comp=N,100nm,0.7s							
QZH				smax				
	comp=E,130nm,0.8s							
JKE	**Kume jima 2**	**4.58**	**58**	P		**Pn**	**12 23 32.1**	**+1.6**
KSRS	**Korea Array**	**14.24**	**18**	P		**Pn**	**12 25 47.4**	**+4.6**
	comp=E,0.3nm,0.3s,baz=200,slow=12,SNR=14							
KSRS				LR		LR	12 31 51.8	
	comp=E,89nm,18.0s,baz=339,slow=39							
MJAR	**Matsushiro Arr**	**18.48**	**44**	P		**Pn**	**12 26 39.7**	**+3.0**
	comp=E,0.1nm,0.3s,baz=247,slow=13,SNR=3.1							
MJAR				LR		LR	12 33 32.4	
	comp=E,60nm,21.2s,baz=205,slow=36							
MJAR	**Matsushiro Arr**	**18.48**	**44**	P		**Pn**	**12 26 39.7**	**+3.0**
MJAR				LR		LR	12 33 32.4	
GTA	**Gaotai**	**24.56**	**314**	*e*P		**P**	**12 27 40.4**	**+0.6**
GTA				pP			12 27 46.9	
GTA				sP		sP	12 27 51.0	-4.2
GTA				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.0							
ASAJ	**Asahikawa**	**26.01**	**34**	LR		LR	12 37 30.9	
	comp=Z,40nm,19.4s,MS3.0,baz=282,slow=34							
SONM	**Songino Array**	**27.03**	**336**	P		**P**	**12 28 01.0**	**-1.0**
	comp=Z,2.5nm,0.9s,mb3.7,baz=150,slow=9.9,SNR=16							
SONM				LR		LR	12 39 54.1	
	comp=Z,101nm,18.9s,MS3.4,baz=54,slow=39							
SONM	**Songino Array**	**27.03**	**336**	P		**P**	**12 28 01.0**	**-1.0**
SONM				LR		LR	12 39 54.1	
MK31	**Makanchi Array**	**39.30**	**316**	*e*Pn		**P**	**12 29 47.7**	**-1.0**
MKAR	**Makanchi Array**	**39.30**	**316**	P		**P**	**12 29 47.7**	**-1.0**
	comp=Z,1.5nm,0.6s,mb3.9,baz=103,slow=10,SNR=12							
MKAR				LR		LR	12 47 23.8	
	comp=Z,26nm,18.1s,MS3.1,baz=350,slow=38							
MKAR	**Makanchi Array**	**39.30**	**316**	P		**P**	**12 29 47.7**	**-1.0**
MKAR				LR		LR	12 47 23.8	
ZALV	**Zalesovo Beam**	**41.06**	**327**	P		**P**	**12 30 01.5**	**-1.7**
	comp=Z,3.1nm,0.6s,mb4.1,baz=116,slow=7.9,SNR=17							
ZALV				LR		LR	12 48 14.4	
	comp=Z,30nm,19.1s,MS3.2,baz=93,slow=38							
ZALV	**Zalesovo Beam**	**41.06**	**327**	P		**P**	**12 30 01.5**	**-1.7**
ZALV				LR		LR	12 48 14.4	
TKM2	**Tokmak 2**	**42.81**	**308**	*e*P		**P**	**12 30 18.9**	**+1.2**
	comp=Z,2.8nm,0.9s,mb4.0							
KURK	**Kurchatov**	**43.00**	**320**	P		**P**	**12 30 17.6**	**-1.6**
	comp=Z,1.0nm,0.6s,mb3.7,baz=109,slow=8.2,SNR=9.0							
KURK	**Kurchatov**	**43.00**	**320**	P		**P**	**12 30 17.6**	**-1.6**
WRAB	**Tennant Creek**	**45.15**	**164**	*e*P		**P**	**12 30 37.3**	**+0.8**
	comp=Z,3.2nm,0.8s,mb4.2							
WRA	**Warramunga Arr**	**45.15**	**164**	P		**P**	**12 30 37.1**	**+0.5**
	comp=Z,1.8nm,0.7s,mb4.0,baz=346,slow=8.9,SNR=16							
WRA	**Warramunga Arr**	**45.15**	**164**	P		**P**	**12 30 37.1**	**+0.5**
ASAR	**Alice Springs**	**48.63**	**166**	P		**P**	**12 31 03.6**	**-0.2**
	comp=Z,0.5nm,0.5s,mb3.8,baz=355,slow=6.6,SNR=13							
ASAR	**Alice Springs**	**48.63**	**166**	P		**P**	**12 31 03.5**	**-0.2**
ABKAR	**Akbulak array**	**54.42**	**314**	*e*P		**P**	**12 31 46.8**	**0.0**
	comp=Z,1.7nm,0.7s,mb4.1							
AKTO	**Aktyubinsk**	**55.74**	**316**	LR		LR	12 55 50.7	
	comp=Z,20nm,19.3s,MS3.2,baz=258,slow=36							
FINES	**FINESS Array B**	**72.22**	**330**	LR		LR	13 07 12.9	
	comp=Z,43nm,19.1s,MS3.7,baz=329,slow=37							
BRTR	**Keskin Array B**	**74.23**	**307**	P		**P**	**12 33 55.6**	**-1.2**
	comp=Z,1.5nm,0.8s,mb4.0,baz=90,slow=4.3,SNR=4.9							
BRTR	**Keskin Array B**	**74.23**	**307**	P		**P**	**12 33 55.6**	**-1.2**
NOA	**NORSAR Array B**	**78.95**	**332**	LR		LR	13 09 25.3	
	comp=Z,14nm,19.6s,MS3.3,baz=145,slow=36							

ISK **14** *12:25:37.7, 39.96N×33.52E, h4km, MD2.7*
CSEM **14** *12:25:38.9±0.2, 39.98N×33.52E, h2km, MD3.0, Error ellipse: s-maj=4.5km s-min=3.5km az=135.0*
ISCJB **14** *12:25:39.4±0.4, 39.98N±0.03×33.51E±0.04, h10km, Error ellipse: s-maj=4.5km s-min=3.3km az=36.0*
DDA **14** *12:25:39.4, 39.99N×33.55E, h7km±3km, Md3.0*
ISC 14 12:25:39.4±0.5, 39.99N×0.03×33.51E±0.04, h0km±5km, n25, σ1s03/41, 2C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELDT	**Eldivan**	**0.50**	**353**	*e*P	**Pg**	**12 25 49.6**	**+0.6**
ELDT				*e*S	**Sg**	**12 25 57.8**	**+2.3**
ELDT	**Eldivan**	**0.50**	**353**	*e*P	**Pg**	**12 25 49.6**	**+0.6**
ELDT				*e*S	**Sg**	**12 25 57.8**	**+2.3**
BBAL	**Bala**	**0.54**	**214**	↑*i*P	**Pg**	**12 25 49.8**	**+0.1**
BBAL				*i* S	**Sg**	**12 25 58.8**	**+2.1**
BBAL	**Bala**	**0.54**	**214**	*i* P	**Pg**	**12 25 49.8**	**+0.1**
LOD	**Lodumlu**	**0.58**	**260**	*e*PG	**Pg**	**12 25 49.6**	**-1.0**
LOD				*e*SG	**Sg**	**12 25 58.5**	**+0.3**
LOD	**Lodumlu**	**0.58**	**260**	*e*Pg	**Pg**	**12 25 49.6**	**-1.0**
LOD				*e*Sg	**Sg**	**12 25 58.5**	**+0.4**
CANT	**Cankiri**	**0.62**	**8**	*e*PG	**Pg**	**12 25 51.1**	**-0.1**
AFSR	**Afˆar-Bala (A**	**0.64**	**212**	*e*PG	**Pg**	**12 25 50.3**	**-1.4**
AFSR				*e*SG	**Sg**	**12 25 59.5**	**-0.5**
AFSR	**Afˆar-Bala (A**	**0.64**	**212**	*e*Pg	**Pg**	**12 25 50.3**	**-1.4**
AFSR				*e*Sg	**Sg**	**12 25 59.5**	**-0.5**
CDAG	**Cicekdag**	**0.76**	**119**	↑*i*P	**Pg**	**12 25 53.3**	**-0.6**
CDAG				*i* S	**Sg**	**12 26 04.0**	**+0.2**
CDAG	**Cicekdag**	**0.76**	**119**	*i* P	**Pg**	**12 25 53.3**	**-0.6**
CDAG				*i* S	**Sg**	**12 26 04.0**	**+0.3**
CORM	**Corum**	**0.88**	**78**	*e*PG	**Pg**	**12 25 55.3**	**-0.9**
CORM	**Corum**	**0.88**	**78**	*e*Pg	**Pg**	**12 25 55.3**	**-0.9**
CTKT	**Corum**	**1.16**	**57**	*e*P	**Pg**	**12 26 00.9**	**-0.7**
CTKT				*e*S	**Sg**	**12 26 17.8**	**+1.1**
CTKT	**Corum**	**1.16**	**57**	*e*P	**Pg**	**12 26 00.9**	**-0.7**
CTKT				*e*S	**Sg**	**12 26 17.8**	**+1.1**
YOZ	**Yozgat**	**1.44**	**104**	*e*PN	**Pn**	**12 26 05.2**	**-1.5**
YOZ	**Yozgat**	**1.44**	**104**	*e*Pn	**Pn**	**12 26 05.2**	**-1.4**
BALT	**Daday**	**1.54**	**356**	*e*P	**Pn**	**12 26 07.9**	**-0.1**
BALT				*e*S	**Sn**	**12 26 27.9**	**-0.9**
BALT	**Daday**	**1.54**	**356**	*e*P	**Pn**	**12 26 07.9**	**-0.2**
BALT				*e*S	**Sn**	**12 26 27.9**	**-0.9**
AVNT	**Avonos**	**1.60**	**139**	*e*P	**Pn**	**12 26 09.1**	**+0.2**
AVNT				*e*S	**Sn**	**12 26 31.9**	**+1.8**
AVNT	**Avonos**	**1.60**	**139**	*e*P	**Pn**	**12 26 09.1**	**+0.3**
SVRH	**Sivrihisar-ESK**	**1.63**	**251**	*e*PN	**Pn**	**12 26 07.9**	**-1.4**
SVRH	**Sivrihisar-ESK**	**1.63**	**251**	*e*Pn	**Pn**	**12 26 07.9**	**-1.4**
KDHN	**Kadinhani**	**1.83**	**217**	*e*P	**Pn**	**12 26 12.2**	**+0.3**
KDHN				*e*S	**Sn**	**12 26 36.7**	**+0.9**
KDHN	**Kadinhani**	**1.83**	**217**	*e*P	**Pn**	**12 26 12.2**	**+0.2**
KDHN				*e*S	**Sn**	**12 26 36.7**	**+0.9**

ISCJB **14** *13:00:37.0±0.6, 37.60N±0.04×106.36E±0.06, h10km, mb3.5/5, Error ellipse: s-maj=6.6km s-min=5.5km az=150.1*
IDC **14** *13:00:37.2±1.0, 37.41N×106.16E, h0km, mb3.5/5, mb1 3.4/7, mb1mx3.3/25, mbtmp3.3/7, ML2.8/2, MS3.5/1, Ms1 3.5/1, ms1mx2.3/34, Error ellipse: s-maj=33.6km s-min=18.4km az=59.0*
BJI **14** *13:00:41.1, 37.42N×106.17E, h14km, ML3.2/11*
ISC 14 13:00:37.8±0.5, 37.52N±0.04×106.17E±0.05, h10km, n13, σ1s22/21, mb3.5/5, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LZH	**Lanzhou**	**2.35**	**233**	*e*Pg	**Pg**	**13 01 20.5**	**-2.3**
LZH				Sg	**Sg**	**13 01 52.3**	**-0.9**
LZH				smax			
	comp=N,260nm,0.8s						
LZH				smax			
	comp=E,400nm,0.8s						
XAN	**Xi'an**	**4.13**	**146**	Pn	**Pn**	**13 01 44.1**	**+3.2**
XAN				Pg	**Pg**	**13 01 51.4**	**-5.6**
XAN				Sn	**Sn**	**13 02 30.1**	**+0.8**
XAN				Sg	**Sb**	**13 02 39.8**	**-0.8**
XAN				smax			
	comp=N,28nm,0.8s						
XAN				smax			
	comp=E,11nm,0.7s						
BTO	**Baotou**	**4.30**	**43**	*e*Pg	**Pg**	**13 01 59.3**	**-0.9**
BTO				Sg	**Sg**	**13 02 55.3**	**-0.6**
BTO				smax			
	comp=N,8.0nm,0.2s						
BTO				smax			
	comp=E,12nm,0.3s						
GTA	**Gaotai**	**5.33**	**293**	Pg	**Pb**	**13 02 11.1**	**+0.1**
GTA				Sn	**Sn**	**13 03 05.0**	**+6.2**
GTA				Sg	**Sg**	**13 03 25.3**	**-3.6**
GTA				smax			
	comp=N,31nm,0.6s						
GTA				smax			
	comp=E,31nm,0.9s						
HHC	**Hu-ho-hao-te**	**5.35**	**50**	*e*Pg	**Pg**	**13 02 18.5**	**-1.8**
HHC				Sg	**Sg**	**13 03 25.3**	**-4.3**
HHC				smax			
	comp=N,65nm,0.5s						
HHC				smax			
	comp=E,59nm,0.5s						
SONM	**Songino Array**	**10.31**	**1**	Pn	**Pn**	**13 03 09.7**	**+4.1**
	comp=E,0.1nm,0.3s,baz=180,slow=15,SNR=3.3						
SONM				Sn	**Sn**	**13 05 07.7**	**+6.4**
	comp=E,0.3nm,0.3s,baz=182,slow=27,SNR=5.0						
MKAR	**Makanchi Array**	**19.91**	**305**	P	**Pn**	**13 05 11.9**	**+0.8**
	comp=E,0.0nm,0.3s,baz=109,slow=9.8,SNR=2.0						
ZALV	**Zalesovo Beam**	**22.04**	**325**	P	**P**	**13 05 32.8**	**+0.5**
	comp=E,0.4nm,0.4s,mb3.2,baz=129,slow=10,SNR=2.7						
KURK	**Kurchatov**	**23.61**	**313**	P	**P**	**13 05 50.3**	**+1.5**
	comp=E,0.2nm,0.6s,mb2.7,baz=113,slow=11,SNR=2.5						
PETK	**Petropavlovsk-**	**38.55**	**49**	P	**P**	**13 08 01.5**	**+1.2**
	comp=E,4.3nm,0.9s,mb4.2,baz=262,slow=10.0,SNR=2.4						
ASF	**Jabal al Asfar**	**55.94**	**287**	LR	LR	13 38 28.6	
	comp=E,39nm,20.2s,baz=213,slow=41						
WRA	**Warramunga Arr**	**63.01**	**150**	P	**P**	**13 11 05.1**	**+0.2**
	comp=E,0.6nm,1.1s,mb3.6,baz=343,slow=6.8,SNR=4.6						
ASAR	**Alice Springs**	**66.22**	**152**	P	**P**	**13 11 26.6**	**+0.8**
	comp=E,0.3nm,0.5s,mb3.6,baz=338,slow=6.5,SNR=9.2						

ISK **14** *13:18:46.9, 37.21N×38.71E, h8km, MD2.9*
CSEM **14** *13:18:46.7±0.4, 37.16N×38.75E, h8km, MD2.9, Error ellipse: s-maj=9.5km s-min=4.5km az=147.0*
DDA **14** *13:18:49.0, 37.26N×38.61E, h6km±6km, Md3.0*
ISC 14 13:18:46.3±2.0, 37.16N±0.08×38.71E±0.07, h1km±8km, n17, σ0s53/28, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URFA	**Urfa**	**0.30**	**17**	*e*PG	**Pg**	**13 18 52.3**	**+0.3**
URFA	**Urfa**	**0.30**	**17**	*e*Pg	**Pg**	**13 18 52.3**	**+0.3**
ATAB	**Bozova**	**0.46**	**313**	↑*i*Pg	**Pg**	**13 18 54.5**	**-0.5**
ATAB				*i* Sg	**Sg**	**13 18 59.7**	**-1.3**
MYA	**Malataya**	**1.19**	**349**	*e*PN	**Pg**	**13 19 09.3**	**+0.2**
MYA				*e*SN	**Sg**	**13 19 25.1**	**+0.5**
MYA	**Malataya**	**1.19**	**349**	*e*Pn	**Pg**	**13 19 09.3**	**+0.2**
MYA				*e*Sn	**Sg**	**13 19 25.1**	**+0.5**
GAZ	**Gaziantep**	**1.20**	**271**	*e*PN	**Pn**	**13 19 09.8**	**-0.5**
GAZ				*e*SN	**Sn**	**13 19 27.5**	**+0.4**
GAZ	**Gaziantep**	**1.20**	**271**	*e*Pn	**Pn**	**13 19 09.8**	**-0.4**
GAZ				*e*Sn	**Sn**	**13 19 27.5**	**+0.4**
AKCD	**Akcadag**	**1.30**	**331**	*i* P	**Pg**	**13 19 12.0**	**+0.8**
AKCD				*i* S	**Sg**	**13 19 28.3**	**+0.3**
AKCD	**Akcadag**	**1.30**	**331**	*i* P	**Pg**	**13 19 12.0**	**+0.8**
AKCD				*i* S	**Sg**	**13 19 28.3**	**+0.2**
SVRC	**Sivrice-ELAZID**	**1.31**	**21**	*e*PN	**Pn**	**13 19 11.3**	**-0.3**
SVRC				*e*SN	**Sn**	**13 19 29.4**	**-0.4**
SVRC	**Sivrice-ELAZID**	**1.31**	**21**	*e*Pn	**Pn**	**13 19 11.4**	**-0.3**
SVRC				*e*Sn	**Sn**	**13 19 29.4**	**-0.4**
PTK	**Pertek**	**1.81**	**17**	*e*PN	**Pn**	**13 19 18.4**	**-0.3**
PTK	**Pertek**	**1.81**	**17**	*e*Pn	**Pn**	**13 19 18.4**	**-0.3**
ANDN	**Andirin**	**1.94**	**283**	*e*P	**Pn**	**13 19 25.8**	**+5.5**
ANDN				*e*S	**Sn**	**13 19 45.6**	**+0.4**
ANDN	**Andirin**	**1.94**	**283**	*e*P	**Pn**	**13 19 25.8**	**+5.5**
ANDN				*e*S	**Sn**	**13 19 45.7**	**+0.4**
SARI	**SarD1z-Kayseri**	**2.21**	**314**	*e*PN	**Pn**	**13 19 24.4**	**+0.3**
SARI	**SarD1z-Kayseri**	**2.21**	**314**	*e*Pn	**Pn**	**13 19 24.4**	**+0.4**

SZGRF **14** *13:25:55.9, 41.55N×18.72E, h10km, Adriatic Sea*
TIR **14** *13:26:01.7±3.3, 42.71N×18.85E, h0km±15km, ML4.4*
BJI **14** *13:26:02.5, 42.50N×18.60E, h13km, mB4.8/9, mb4.6/14, Ms4.8/4, Ms7 4.6/6*
IDC **14** *13:26:02.5±0.7, 42.56N×18.38E, h0km, mb3.9/14, mb1 4.0/24, mb1mx4.0/34, mbtmp3.9/24, ML3.9/10, MS3.5/21, Ms1 3.5/21, ms1mx3.2/43, Error ellipse: s-maj=11.8km s-min=9.6km az=32.0*
ISCJB **14** *13:26:03.9±0.2, 42.57N±0.01×18.48E±0.01, h9km±1km, mb4.1/24, MS3.6/18, Error ellipse: s-maj=1.9km s-min=1.5km az=36.4*
MOS **14** *13:26:03.0±1.1, 42.50N×18.44E, h12km, mb4.3/16, Error ellipse: s-maj=4.6km s-min=3.0km az=100.5*
NEIC **14** *13:26:04.7, 42.58N×18.56E, h11km, mb4.2/8, ML4.1(PDG), MW4.2(USGS), After PDG.*
NEIC Felt at Dubrovnik, Croatia.
CSEM **14** *13:26:04.6±0.1, 42.55N×18.51E, h2km, mb4.3/7, Ms4.4, Mw4.2, Error ellipse: s-maj=2.7km s-min=2.0km az=27.0*
PDG **14** *13:26:04.2±0.1, 42.57N×18.56E, h19km, MD4.2/10, ML4.1/9, Error ellipse: s-maj=0.2km s-min=0.4km az=0.0*
BEO **14** *13:26:05.0±0.4, 42.61N×18.54E, h3km±2km, ML4.2/1*
SKO **14** *13:26:05.2, 42.65N×18.46E, h0km*
LDG **14** *13:26:05.0±0.2, 42.57N×18.65E, h10km, Ml4.6/14, Error ellipse: s-maj=4.8km s-min=3.4km az=18.0*
PRU **14** *13:26:06.8, 42.62N×18.68E, h0km, M4.2*
THE **14** *13:26:07.7, 42.59N×18.68E, h6km±4km, ML3.9/1, Error ellipse: s-maj=5.6km s-min=1.1km az=259.0*
VIE **14** *13:26:07.3±0.6, 42.64N×18.51E, h10km, mb3.9/16, ML4.0/4, Ms4.4/12, Error ellipse: s-maj=5.0km s-min=4.0km az=19.0 78 km NNW of Shkoder*
ISC 14 13:26:05.3±0.3, 42.55N±0.01×18.52E±0.01, h5km±2km, h31km±5.1km: pP-P, n555, σ1s29/770, mb4.1/24, MS3.6/18, 85C-62D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HCY	**Herceg Novi**	**0.11**	**190**	↑*i*Pg	**Pg**	**13 26 08.1**	**+0.6**
HCY				*e*Sg	**Sg**	**13 26 11.5**	**+2.5**
HCY	**Herceg Novi**	**0.11**	**190**	↑P	**Pg**	**13 26 08.0**	**+0.5**
HCY				S	**Sg**	**13 26 10.7**	**+1.7**
HCY	**Herceg Novi**	**0.11**	**190**	↑P	**Pg**	**13 26 08.0**	**+0.5**
HCY				S	**Sg**	**13 26 10.7**	**+1.7**
HCY	**Herceg Novi**	**0.11**	**190**	↑*i*Pg	**Pg**	**13 26 08.1**	**+0.6**
HCY				S	**Sg**	**13 26 10.7**	**+1.7**
HCY				*e*Sg	**Sg**	**13 26 11.5**	**+2.5**
BRY	**Bratogost**	**0.35**	**2**	↓*i*Pg	**Pg**	**13 26 11.2**	**-0.8**
BRY				*e*Sg	**Sg**	**13 26 16.7**	**+0.2**
BRY	**Bratogost**	**0.35**	**2**	P	**Pg**	**13 26

PVY	Plav	1.07	87	P	Pg	13 26 24.4	-1.4
PVY				eSg	Sg	13 26 40.2	+0.5
PVY				S	Sg	13 26 40.6	+0.9
PUK	Puka	1.14	116	iPG	Pg	13 26 26.5	-0.6
PUK				iSG	Sg	13 26 43.7	+1.9
PUK	Puka	1.14	116	iPg	Pg	13 26 26.5	-0.6
PUK				iSg	Sg	13 26 43.7	+1.9
BCI	Bajram Curri	1.16	99	iPG	Pg	13 26 25.5	-1.9
BCI				iSG	Sg	13 26 43.1	+0.7
BCI	Bajram Curri	1.16	99	iPg	Pg	13 26 25.5	-2.0
BCI				iSg	Sg	13 26 43.1	+0.6
SJES	Sjenica	1.28	56	ePg	Pg	13 26 28.3	-1.5
SJES				eSg	Sg	13 26 45.6	-0.7
BBLS	Lazići	1.46	26	⇓iPg	Pg	13 26 31.6	-1.7
BBLS				eSg	Sg	13 26 51.1	-1.1
BBLS	Lazići	1.46	26	⇓iPg	Pg	13 26 31.6	-1.7
BBLS				eSg	Sg	13 26 51.1	-1.1
TIR	Tirane	1.57	140	iPN	Pn	13 26 34.7	+1.0
TIR				iSN	Sg	13 26 59.6	+4.0
TIR	Tirane	1.57	140	ePn	Pn	13 26 34.6	+0.9
TIR				eSg	Sg	13 26 57.0	+1.4
TIR	Tirane	1.57	140	ePn	Pn	13 26 32.9	-0.8
TIR				eSn	Sg	13 26 57.6	+2.0
TIR	Tirane	1.57	140	eP	Pn	13 26 32.9	-0.8
TIR				e		13 26 57.6	
TIR	Tirane	1.57	140	ePn	Pn	13 26 32.9	-0.8
TIR				eSg	Sg	13 26 57.0	+1.4
TIR				iSn	Sg	13 26 58.6	+4.0
IVAS	Ivanjica	1.57	49	⇑iPn	Pn	13 26 33.1	-0.6
IVAS	Ivanjica	1.57	49	⇑iPn	Pn	13 26 33.1	-0.6
DIVS	Divibare	1.88	34	⇓iPn	Pn	13 26 37.8	-0.2
DIVS				eSg	Sn	13 27 02.7	+0.7
DIVS	Divibare	1.88	34	P	Pn	13 26 37.8	-0.2
DIVS				S	Sn	13 27 02.5	+0.5
DIVS	Divibare	1.88	34	⇓iPn	Pn	13 26 37.8	-0.2
DIVS				eSg	Sn	13 27 02.7	+0.7
BAI	Bari	1.90	221	ePn	Pn	13 26 37.4	-0.8
BAI				eSn	Sn	13 27 01.9	-0.5
PE1	Pezze di Greco	1.93	206	⇓iPn	Pn	13 26 37.4	-1.3
SELS	Selova	2.02	70	⇓iPn	Pn	13 26 39.8	-0.1
SELS				eSn	Sn	13 27 05.8	+0.3
SELS	Selova	2.02	70	⇓iPn	Pn	13 26 39.8	-0.1
SELS				eSn	Sn	13 27 05.8	+0.3
GRUS	Gruza	2.08	49	⇑iPn	Pn	13 26 41.0	+0.2
GRUS	Gruza	2.08	49	⇑iPn	Pn	13 26 41.0	+0.2
MS1	Monte Sant'Ang	2.10	247	ePn	Pn	13 26 40.9	-0.1
MS1				eSn	Sn	13 27 09.8	+2.4
TRUS	Trudelj	2.16	39	⇓iPn	Pn	13 26 40.5	-1.3
TRUS				eSn	Sn	13 27 09.0	+0.1
TRUS	Trudelj	2.16	39	⇓iPn	Pn	13 26 40.5	-1.3
TRUS				eSn	Sn	13 27 09.0	+0.1
SG1	Sgolgore (BA)	2.20	219	ePn	Pn	13 26 41.2	-1.2
SG1				eSn	Sn	13 27 10.5	+0.6
TAR1	Taranto	2.23	205	ePn	Pn	13 26 40.8	-2.0
CDT	Castel del Mon	2.23	230	ePn	Pn	13 26 42.1	-0.7
SKO	Skopje	2.24	104	P	Pn	13 26 44.4	+1.5
SKO				S	Sn	13 27 12.4	+1.5
SKO	Skopje	2.24	104	ePn	Pn	13 26 45.1	+2.1
SKO	Skopje	2.24	104	P	Pn	13 26 44.4	+1.5
SKO	Skopje	2.24	104	ePn	Pn	13 26 45.0	+2.1
SKO				S	Sn	13 27 12.4	+1.5
KRUS	Krusevo	2.35	119	ePn	Pn	13 26 45.3	+0.9
KRUS	Krusevo	2.35	119	ePn	Pn	13 26 45.3	+0.8
BLY	Banja Luka	2.40	337	⇑iPn	Pn	13 26 46.5	+1.4
BARS	Barje	2.44	83	⇑iPn	Pn	13 26 46.0	+0.3
BARS				eSn	Sn	13 27 17.2	+1.3
BARS	Barje	2.44	83	⇑iPn	Pn	13 26 46.0	+0.3
BARS				eSn	Sn	13 27 17.2	+1.3
KBN	Korca	2.57	138	iPN	Pn	13 26 48.0	+0.5
KBN				iSN	Sn	13 27 24.2	+5.2
KBN	Korca	2.57	138	iPn	Pn	13 26 48.0	+0.5
KBN				iSn	Sn	13 27 24.2	+5.2
BIA	Bitola	2.60	125	P	Pn	13 26 48.8	+1.0
BIA				S	Sn	13 27 20.8	+1.1
BIA	Bitola	2.60	125	ePn	Pn	13 26 50.8	+3.0
BIA	Bitola	2.60	125	P	Pn	13 26 48.8	+1.0
BIA	Bitola	2.60	125	ePn	Pn	13 26 50.7	+2.9
BIA				S	Sn	13 27 20.8	+1.1
SVIS	Svilajnac	2.60	48	⇑iPn	Pn	13 26 47.5	-0.4
FGSL	Fruska Gora	2.76	19	⇑iPn	Pn	13 26 47.9	-2.2
FGSL				eSn	Sn	13 27 23.2	-0.6
FRGS	Fruska Gora	2.76	19	⇑iPn	Pn	13 26 47.9	-2.2
FRGS				eSn	Sn	13 27 23.2	-0.6
FNA	Florina	2.77	129	P	Pn	13 26 51.7	+1.4
FNA	Florina	2.77	129	P	Pn	13 26 51.7	+1.4
BOLS	Boljevac	2.81	62	⇓iPn	Pn	13 26 49.9	-0.9
BOLS	Boljevac	2.81	62	⇓iPn	Pn	13 26 49.9	-0.9
NEST	Nestorio	2.86	138	P	Pn	13 26 52.6	+1.2
NEST	Nestorio	2.86	138	P	Pn	13 26 52.6	+1.2
SRN	Sarande	2.90	157	iPN	Pn	13 26 53.8	+1.8
SRN				iSN	Sn	13 27 34.7	+7.7
SRN	Sarande	2.90	157	iPn	Pn	13 26 53.8	+1.9
SRN				iSn	Sn	13 27 34.7	+7.6
ZAPS	Zavoj	3.10	75	⇑iPn	Pn	13 26 55.7	+0.9
ZAPS				eSn	Sn	13 27 33.1	+0.9
ZAPS	Zavoj	3.10	75	⇑iPn	Pn	13 26 55.7	+0.9
VAY	Valandovo	3.26	111	P	Pn	13 26 57.5	+0.6
VAY	Valandovo	3.26	111	ePn	Pn	13 26 57.0	+0.1
VAY	Valandovo	3.26	111	ePn	Pn	13 26 57.0	+0.1
VAY	Valandovo	3.26	111	P	Pn	13 26 57.5	+0.6
CUC	Castrocucco	3.27	219	ePn	Pn	13 26 56.9	-0.3
CUC				eSn	Sn	13 27 35.8	-0.6
CUC	Castrocucco	3.27	219	ePn	Pn	13 26 56.9	-0.2
CUC				eSn	Sn	13 27 35.8	-0.6
SISC	Sisak	3.30	333	ePn	Pn	13 26 58.7	+1.2
SISC				Sn	Sn	13 27 37.3	+0.1
SISC	Sisak	3.30	333	ePn	Pn	13 26 58.6	+1.1
SISC				Sn	Sn	13 27 37.2	+0.1
KZN	Kozani	3.32	132	P	Pn	13 26 59.2	+1.5
KZN	Kozani	3.32	132	P	Pn	13 26 59.2	+1.5
NVLJ	Novalja	3.33	308	⇑iPn	Pn	13 26 58.2	+0.3
NVLJ				Sn	Sn	13 27 38.6	+0.8
NVLJ	Novalja	3.33	308	⇑iPn	Pn	13 26 58.2	+0.3
NVLJ				Sn	Sn	13 27 38.2	+0.4
NVLJ	Novalja	3.33	308	⇑iPn	Pn	13 26 58.2	+0.3
NVLJ				Sn	Sn	13 27 38.6	+0.8
RHK3	Tenkes	3.34	357	⇓ePn	Pn	13 26 58.2	+0.2
RHK3				eSn	Sn	13 27 38.8	+0.8
VTS	Vitosha	3.46	88	⇑iPn	Pn	13 27 00.5	+0.8
VTS				eSn	Sn	13 27 41.7	+0.7
VTS	Vitosha	3.46	88	P	Pn	13 27 01.0	+1.3
VTS	Vitosha	3.46	88	⇓iP	Sn	13 27 41.3	+0.3
VTS	Vitosha	3.46	88	⇑iPn	Pn	13 27 00.5	+0.8
VTS	Vitosha	3.46	88	P	Pn	13 27 01.0	+1.3
VTS				eSn	Sn	13 27 41.7	+0.7
KNT	Kendrikon	3.55	112	P	Pn	13 27 01.5	+0.6
KNT	Kendrikon	3.55	112	P	Pn	13 27 01.5	+0.6
DJES	Djerdap	3.59	53	ePn	Pn	13 27 01.9	+0.4
PKSM	Moragy	3.66	1	⇑iPn	Pn	13 27 02.0	-0.4
PKSM				eSn	Sn	13 27 44.9	-1.0
PKSM	Moragy	3.66	1	⇑P	Pn	13 27 02.1	-0.3
PKSM	Moragy	3.66	1	⇑iP	Pn	13 27 02.1	-0.3
PKSM	Moragy	3.66	1	⇑iPn	Pn	13 27 02.0	-0.4
PKSM				eSn	Sn	13 27 44.9	-1.0
ZAG	Zagreb	3.75	332	ePn	Pn	13 27 04.8	+1.1
ZAG				Sn	Sn	13 27 47.9	-0.1
ZAG	Zagreb	3.75	332	eP	Pn	13 27 04.8	+1.2
ZAG				e		13 27 47.9	
ZAG	Zagreb	3.75	332	ePn	Pn	13 27 04.8	+1.2
ZAG				Sn	Sn	13 27 47.9	-0.1
BOJS	Bojanci	3.78	322	⇑iPn	Pn	13 27 05.0	+1.0
BOJS	Bojanci	3.78	322	iPn	Pn	13 27 05.0	+1.0
BOJS				iSn	Sn	13 27 50.5	+1.7
BOJS	Bojanci	3.78	322	⇑iPn	Pn	13 27 05.0	+1.0
BOJS				iSn	Sn	13 27 50.5	+1.7
BZS	Buzias	3.79	35	⇑iPn	Pn	13 27 03.5	-0.7
BZS				eSn	Sn	13 27 47.1	-1.9
BZS	Buzias	3.79	35	⇑P	Pn	13 27 04.2	0.0
BZS	Buzias	3.79	35	⇑iPn	Pn	13 27 04.2	0.0
BZS	Buzias	3.79	35	⇑iPn	Pn	13 27 03.5	-0.7
BZS	Buzias	3.79	35	⇑iP	Pn	13 27 04.2	0.0
BZS				eSn	Sn	13 27 47.1	-1.9
AQU	L'Aquila	3.79	269	ePn	Pn	13 27 06.1	+1.8
AQU				eSn	Sn	13 27 47.0	-2.2
AQU	L'Aquila	3.79	269	eP	Pn	13 27 06.1	+1.8
AQU				e		13 27 47.1	
AQU	L'Aquila	3.79	269	ePn	Pn	13 27 06.1	+1.8
AQU				eSn	Sn	13 27 47.0	-2.3
PTJ	Puntijarka	3.82	332	⇑iPn	Pn	13 27 05.2	+0.6
PTJ				Sn	Sn	13 27 49.9	0.0
PTJ	Puntijarka	3.82	332	⇑iP	Pn	13 27 05.2	+0.5
PTJ						13 27 49.9	
PTJ	Puntijarka	3.82	332	⇑iPn	Pn	13 27 05.2	+0.5
PTJ				Sn	Sn	13 27 49.9	0.0
PKS9	Tamasi	4.04	358	⇓ePn	Pn	13 27 07.8	+0.2
PKS9				eSn	Sn	13 27 55.7	+0.5
SRS	Serrai	4.05	109	P	Pn	13 27 08.9	+1.1
SRS	Serrai	4.05	109	P	Pn	13 27 08.9	+1.1
LKD2	Lefkada island	4.10	156	P	Pn	13 27 07.1	-1.3
LKD2	Lefkada island	4.10	156	P	Pn	13 27 07.1	-1.3
BEHE	Becsehely	4.11	343	⇑ePn	Pn	13 27 09.6	+1.0
BEHE				eSn	Sn	13 27 57.2	+0.2
NVR	Nevrokopi	4.16	105	P	Pn	13 27 10.3	+1.0
NVR	Nevrokopi	4.16	105	P	Pn	13 27 10.3	+1.0
VISS	Visnje	4.19	322	iPn	Pn	13 27 11.0	+1.3
VISS				iSn	Sn	13 28 02.2	+3.2
VISS	Visnje	4.19	322	iPn	Pn	13 27 11.0	+1.3
VISS				iSn	Sn	13 28 02.2	+3.2
CRAR	CRAIOVA	4.23	63	⇑iP	Pb	13 27 19.7	-0.4
PLG	Polygyros	4.29	119	P	Pn	13 27 12.2	+1.1
PLG	Polygyros	4.29	119	P	Pn	13 27 12.2	+1.1
SKDS	Skadanscina	4.42	314	ePn	Pn	13 27 13.3	+0.5
PKSN	Nyarlorinc	4.45	12	ePn	Pn	13 27 13.7	+0.5
PKSN				eSn	Sn	13 28 07.1	+1.1
PKS7	Kunszentmiklos	4.51	6	⇓ePn	Pn	13 27 14.2	0.0
PKS7				eSn	Sn	13 28 06.2	-0.8
LJU	Ljubljana	4.52	322	ePn	Pn	13 27 16.0	+1.8
LJU				eSn	Sn	13 28 10.0	+3.0
AGG	Agios Georgios	4.56	139	P	Pn	13 27 15.3	+0.5
AGG				S	Sn	13 28 09.3	+1.2
AGG	Agios Georgios	4.56	139	P	Pn	13 27 15.3	+0.5
AGG				S	Sn	13 28 09.3	+1.2
DEV	Deva	4.58	42	⇑iP	Pg	13 27 39.8	+6.8
JAVS	Javornik	4.63	318	iPn	Pn	13 27 16.6	+0.9
JAVS				iSn	Sn	13 28 10.5	+0.8
JAVS	Javornik	4.63	318	iPn	Pn	13 27 16.6	+0.9
JAVS				iSn	Sn	13 28 10.5	+0.7
VLS	Valsamata	4.65	159	P	Pn	13 27 14.0	-2.0
VLS	Valsamata	4.65	159	P	Pn	13 27 14.0	-2.0
TRI	Trieste	4.66	314	ePn	Pn	13 27 16.1	0.0
TRI				eSn	Sn	13 28 10.8	+0.3
TRI				eSg	Sg	13 28 37.7	+3.0
TRI	Trieste	4.66	314	eP	Pn	13 27 16.1	0.0
TRI				e		13 28 10.8	
TRI	Trieste	4.66	314	ePn	Pn	13 27 16.1	0.0
TRI				eSn	Sn	13 28 10.8	+0.3
CEL	Celeste	4.74	206	ePn	Pn	13 27 15.3	-2.0
CEL	Celeste	4.74	206	ePn	Pn	13 27 15.3	-1.9
PERS	Pernice	4.75	330	iPn	Pn	13 27 18.9	+1.4
PERS				iSn	Sn	13 28 15.2	+2.4
PERS	Pernice	4.75	330	iPn	Pn	13 27 18.9	+1.5
PERS				iSn	Sn	13 28 15.2	+2.4
LOT	Lotru	4.76	51	⇑iP	Pn	13 27 18.5	+0.9
LOT	Lotru	4.76	51	⇑iP	Pn	13 27 18.5	+0.9
VOY	Vojsko	4.81	318	⇑ePn	Pn	13 27 18.7	+0.5
VOY				eSn	Sn	13 28 15.1	+0.9
VOY	Vojsko	4.81	318	⇑ePn	Pn	13 27 18.7	+0.5
VOY				eSn	Sn	13 28 15.1	+0.9
SOKA	Soboth	4.82	330	⇑iPn	Pn	13 27 18.9	+0.6
SOKA				⇑iSn	Sn	13 28 14.8	+0.4
	106nm,0.4s						
SOKA	Soboth	4.82	330	Pn	Pn	13 27 18.9	+0.6
SOKA				Sn	Sn	13 28 14.8	+0.4
	106nm,0.4s						
PKSG		4.84	359	⇓ePn	Pn	13 27 18.7	+0.1
PKSG				eSn	Sn	13 28 13.1	-1.9
OBKA	Obir	4.87	326	⇓iPn	Pn	13 27 19.8	+0.7
	SNR=20						
OBKA				⇓iSn	Sn	13 28 15.5	-0.2
	274nm,0.5s						
OBKA	Obir	4.87	326	Pn	Pn	13 27 19.8	+0.8
	SNR=20						
OBKA				Sn	Sn	13 28 15.5	-0.2
	274nm,0.5s						
BUD	Budapest	4.94	4	⇓ePn	Pn	13 27 20.1	+0.1
BUD				eSn	Sn	13 28 16.6	-0.9
BUD	Budapest	4.94	4	⇓ePn	Pn	13 27 20.1	+0.1
BUD				eSn	Sn	13 28 16.6	-0.9
HUMR	Humele	5.09	65	⇑iP	Pn	13 27 21.5	-0.6
HUMR	Humele	5.09	65	⇑iP	Pn	13 27 21.5	-0.6
ARSA	Arzberg	5.16	337	⇑iPn	Pn	13 27 23.8	+0.8
ARSA	Arzberg	5.16	337	⇑iPn	Pn	13 27 23.9	+0.9
	SNR=82						
ARSA				⇓iSn	Sn	13 28 24.1	+1.3
	87nm,0.5s						
ARSA	Arzberg	5.16	337	⇑iPn	Pn	13 27 23.8	+0.8
ARSA				Sn	Sn	13 28 24.1	+1.3
	87nm,0.5s						
DRGR		5.18	34	⇑P	Pn	13 27 23.6	+0.3
DRGR		5.18	34	⇑iP	Pn	13 27 23.6	+0.3
DRGR		5.18	34	⇑iP	Pn	13 27 23.6	+0.3
SOP	Sopron	5.31	346	⇓ePn	Pn	13 27 25.8	+0.7
SOP				eSn	Sn	13 28 25.9	-0.8
SOP	Sopron	5.31	346	⇓ePn	Pn	13 27 25.8	+0.7
SOP				eSn	Sn	13 28 25.9	-0.8
MYKA	Terra Mystica	5.36	321	⇓ePn	Pn	13 27 26.5	+0.7
	6.4nm,0.3s						
MYKA				⇑iSn	Sn	13 28 28.7	+0.8
	100nm,0.5s						
MYKA	Terra Mystica	5.36	321	Pn	Pn	13 27 26.5	+0.7
	6.4nm,0.3s						
MYKA				Sn	Sn	13 28 28.7	+0.8
	100nm,0.5s						
RDO	Rodhopi	5.42	103	P	Pn	13 27 28.1	+1.4
RDO	Rodhopi	5.42	103	P	Pn	13 27 28.1	+1.4
PSZ	Piszkesteto	5.45	10	ePn	Pn	13 27 26.1	-0.9
	61nm,0.6s						
PSZ	Piszkesteto	5.45	10	⇑P	Pn	13 27 26.4	-0.6
PSZ	Piszkesteto	5.45	10	⇑ePn	Pn	13 27 26.3	-0.7
PSZ				eSn	Sn	13 28 28.4	-1.6
PSZ	Piszkesteto	5.45	10	⇑iP	Pn	13 27 26.4	-0.6
PSZ	Piszkesteto	5.45	10	⇑iP	Pn	13 27 26.4	-0.6
CONA	Conrad Observa	5.69	342	⇑iPn	Pn	13 27 30.9	+0.6
	SNR=14						
CONA				⇓iPg	Pg	13 27 54.7	+0.4
	51nm,0.5s						
CONA				⇑iSn	Sn	13 28 36.2	+0.2
	72nm,0.4s						
CONA				⇑iSg	Sg	13 29 14.0	+6.1
	70nm,0.6s						
CONA	Conrad Observa	5.69	342	Pn	Pn	13 27 30.9	+0.6
	SNR=14						
ZST	Bratislava	5.73	350	eP	Pn	13 27 31.6	+0.7
ZST				e		13 28 34.7	
ZST	Bratislava	5.73	350	ePN	Pn	13 27 31.6	+0.7
ZST				eSN	Sn	13 28 34.7	-2.2
KBA	Koelnbreinsper	5.83	323	⇑iPn	Pn	13 27 33.3	+1.0
	SNR=21						
KBA				⇑iSn	Sn	13 28 41.6	+2.1
	105nm,0.5s						
KBA				⇓iSg	Sg	13 29 18.8	+6.4
	83nm,0.5s						
KBA	Koelnbreinsper	5.83	323	Pn	Pn	13 27 33.3	+1.0
	SNR=21						
KBA				Sn	Sn	13 28 41.6	+2.2
	105nm,0.5s						
KBA				Sg	Sg	13 29 18.8	+6.3
	83nm,0.5s						
ALN	Alexandroupoli	5.87	104	P	Pn	13 27 34.8	+2.0
ALN	Alexandroupoli	5.87	104	P	Pn	13 27 34.8	+2.0
VYHS	Vyhne	5.94	2	eP	Pn	13 27 33.7	-0.1
VYHS				e		13 28 39.0	
VYHS	Vyhne	5.94	2	ePN	Pn	13 27 33.7	-0.1
VYHS				eSN	Sn	13 28 39.0	-3.2
ABTA	Abfaltersbach	6.00	316	iPn	Pn	13 27 34.8	+0.3
	SNR=17						
ABTA				⇑iSn	Sn	13 28 43.1	-0.4
	105nm,0.4s						
ABTA				⇑iSg	Sg	13 29 21.6	+3.9
	326nm,0.7s						
ABTA	Abfaltersbach	6.00	316	Pn	Pn	13 27 34.8	+0.3
	SNR=17						
ABTA				Sn	Sn	13 28 43.1	-0.4
	105nm,0.4s						
ABTA				Sg	Sg	13 29 21.6	+3.9
	326nm,0.7s						
SMOL	Smolenice	6.01	353	eP	Pn	13 27 35.2	+0.5
SMOL	Smolenice	6.01	353	ePN	Pn	13 27 35.2	+0.5
KOLL	Kolacno	6.03	359	eP	Pn	13 27 35.8	+0.9
KOLL				e		13 28 42.1	
KOLL	Kolacno	6.03	359	ePN	Pn	13 27 35.8	+0.9
KOLL				eSN	Sn	13 28 42.1	-2.1
MOA	Molln	6.09	332	⇓iPn	Pn	13 27 37.0	+1.2
	16nm,0.3s,SNR=30						
MOA				⇑iSn	Sn	13 28 46.8	+1.1
	216nm,0.7s						
MOA	Molln	6.09	332	Pn	Pn	13 27 37.0	+1.2
	16nm,0.3s,SNR=30						
MOA				Sn	Sn	13 28 46.8	+1.0
	216nm,0.7s						
MLR	Muntele Rosu	6.10	59	Pn	Pn	13 27 37.6	+1.6
	0.4nm,0.3s,baz=204,slow=12,SNR=10.0						
MLR				Sn	Sn	13 28 47.9	+1.8
	0.3nm,0.3s,baz=159,slow=15,SNR=3.3						
MLR				Lg		13 29 18.4	
	0.2nm,0.3s,baz=271,slow=8.2,SNR=3.8						
MLR				LR	LR	13 30 19.4	
	comp=Z,147nm,18.7s,baz=255,slow=42						
MLR	Muntele Rosu	6.10	59	Pn	Pn	13 27 37.6	+1.6
MLR				Sn	Sn	13 28 47.9	+1.8
MLR				Lg		13 29 18.4	
MLR				LR	LR	13 30 19.4	
MLR	Muntele Rosu	6.10	59	P	Pn	13 27 37.6	+1.6
MLR						13 28 47.9	
MLR				MLR	MLR		
	comp=Z,147nm,18.7s						
MLR	Muntele Rosu	6.10	59	⇑iP	Pn	13 27 37.2	+1.2
MLR	Muntele Rosu	6.10	59	⇑iP	Pn	13 27 37.2	+1.2
VLC	Villacollemand	6.14	288	Pn	Pn	13 27 36.6	0.0
TRPA	Tarpa	6.25	26	⇓iP	Pn	13 27 39.0	+1.0
ISR	Istrita	6.34	63	⇓iP	Pn	13 27 38.1	-1.2
RJOB	Jochberg	6.58	324	ePn	Pn	13 27 43.9	+1.4
UZH	Uzhgorod	6.63	22	eP	Pn	13 27 44.4	+1.2
UZH				eS	Sn	13 29 00.4	+1.4
UZH				MLR	MLR		
	comp=N,3μm,10.0s						
UZH				MLR	MLR		
	comp=E,900nm,10.0s						
UZH				MLR	MLR		
	comp=Z,2μm,10.0s						
CRVS	Cervenica-Dubn	6.67	17	eP	Pn	13 27 44.4	+0.6
CRVS				e		13 28 58.6	
CRVS				MLR	MLR		
	comp=Z,100nm,1.3s						
CRVS	Cervenica-Dubn	6.67	17	ePN	Pn	13 27 44.4	+0.6
CRVS				eSN	Sn	13 28 58.6	-1.5
PLOR	Plostina	6.71	58	⇑iP	Pn	13 27 45.9	+1.6
PLOR	Plostina	6.71	58	⇑iP	Pn	13 27 45.9	+1.6
VRI	Vrincioaia	6.76	58	⇓P	Pn	13 27 47.2	+2.2
VRI	Vrincioaia	6.76	58	⇓iP	Pn	13 27 47.2	+2.2
VRI	Vrincioaia	6.76	58	⇓iP	Pn	13 27 47.2	+2.2
WTTA	Wattenberg	6.79	316	⇓iPn	Pn	13 27 46.1	+0.7
	SNR=12						
WTTA				⇑iSn	Sn	13 29 04.2	+1.3
	comp=Z,200nm,0.4s						
WTTA	Wattenberg	6.79	316	Pn	Pn	13 27 46.1	+0.7
	SNR=12						
WTTA				Sn	Sn	13 29 04.2	+1.3
	comp=Z,200nm,0.4s						
WATA	Walderalm	6.87	317	⇑iPn	Pn	13 27 48.4	+2.0
	comp=Z,12nm,0.2s,SNR=15						
WATA				⇑iSn	Sn	13 29 06.7	+1.9
	comp=Z,71nm,0.5s						
WATA	Walderalm	6.87	317	Pn	Pn	13 27 48.4	+2.0
	comp=Z,12nm,0.2s,SNR=15						
WATA				Sn	Sn	13 29 06.7	+1.8
	comp=Z,71nm,0.5s						
VRAC	Vranov	6.89	349	Pn	Pn	13 27 46.2	-0.6
	comp=Z,0.9nm,0.3s,baz=166,slow=13,SNR=7.6						
VRAC				Sn	Sn	13 29 02.4	-3.0
	comp=Z,2.1nm,0.3s,baz=110,slow=19,SNR=3.2						
VRAC	Vranov	6.89	349	Pn	Pn	13 27 46.2	-0.6
VRAC				Sn	Sn	13 29 02.4	-3.0
VRAC	Vranov	6.89	349	P	Pn	13 27 46.2	-0.5
VRAC						13 29 02.4	
VRAC				pmax	pmax		
	comp=Z,1.0nm,0.3s						
VRAC				smax			
	comp=N,2.0nm,0.3s						
VRAC	Vranov	6.89	349	⇑iP	Pn	13 27 47.6	+0.9
VRAC	Vranov	6.89	349	ePn	Pn	13 27 47.8	+1.1
KOLS	Kolonicke sedl	6.90	21	eP	Pn	13 27 48.0	+1.1
KOLS	Kolonicke sedl	6.90	21	ePN	Pn	13 27 48.0	+1.1
BURAR	Bucovina Array	6.93	41	⇓P	Pn	13 27 49.6	+2.3
BURAR	Bucovina Array	6.93	41	⇓iP	Pn	13 27 49.6	+2.3
BURAR	Bucovina Array	6.93	41	⇓iP	Pn	13 27 49.6	+2.3
BUR08	Bucovina Ar. S	6.94	41	ePn	Pn	13 27 47.6	+0.1
NIE	Niedzica	6.98	10	ePn	Pn	13 27 49.5	+1.5
NIE				eSn	Sn	13 29 05.9	-1.7
NIE	Niedzica	6.98	10	eP	Pn	13 27 49.5	+1.5
NIE				e		13 29 05.9	
SQTA	Sankt Quirin	6.98	314	⇓ePn	Pn	13 27 49.1	+1.1
SQTA	Sankt Quirin	6.98	314	Pn	Pn	13 27 49.1	+1.1
PGF	Pioggiola	7.03	273	ePn	Pn	13 27 48.7	-0.1
PGF	Pioggiola	7.03	273	ePn	Pn	13 27 48.7	-0.1
PGF	Pioggiola	7.03	273	eP	Pn	13 27 48.7	-0.1
PGF	Pioggiola	7.03	273	ePn	Pn	13 27 48.7	-0.1
TREC	Trest	7.07	344	AMS	AMS	13 30 40.0	
	comp=N,1μm,13.2s						
MOTA	Moosalm	7.12	315	⇑iPn	Pn	13 27 50.9	+1.0
	comp=N,27nm,0.6s,SNR=20						
MOTA				⇑iSn	Sn	13 29 11.8	+0.8
	comp=N,67nm,0.4s						
MOTA	Moosalm	7.12	315	Pn	Pn	13 27 50.9	+1.0
	comp=N,27nm,0.6s,SNR=20						
MOTA				Sn	Sn	13 29 11.8	+0.8
	comp=N,67nm,0.4s						
FETA	Feichten	7.12	312	⇓iPn	Pn	13 27 50.5	+0.6
	comp=N,1.6nm,0.2s						
FETA				⇓iSn	Sn	13 29 11.9	+0.8
	comp=N,94nm,0.6s						
FETA	Feichten	7.12	312	Pn	Pn	13 27 50.5	+0.6
	comp=N,1.6nm,0.2s						
FETA				Sn	Sn	13 29 11.9	+0.8
	comp=N,94nm,0.6s						
STHS	Stebnicka Huta	7.12	14	eP	Pn	13 27 51.2	+1.3
STHS				e		13 29 11.6	
STHS	Stebnicka Huta	7.12	14	ePN	Pn	13 27 51.2	+1.3
STHS				eSN	Sn	13 29 11.6	+0.5
GEC2	GERESS Array S	7.14	333	ePn	Pn	13 27 51.3	+1.1
GEC2	GERESS Array S	7.14	333	eP	Pn	13 27 51.3	+1.1
GERES	GERESS Array B	7.14	333	Pn	Pn	13 27 48.8	-1.4
	comp=N,2.4nm,0.3s,baz=155,slow=14,SNR=32						
GERES				Sn	Sn	13 29 08.5	-3.0
	comp=N,14nm,0.3s,baz=144,slow=24,SNR=11						
GERES	GERESS Array B	7.14	333	Pn	Pn	13 27 48.8	-1.4
GERES				Sn	Sn	13 29 08.6	-3.0
GERES	GERESS Array B	7.14	333	P	Pn	13 27 48.8	-1.4
GERES						13 29 08.5	
GERES				pmax	pmax		
	comp=Z,2.0nm,0.3s						
GERES				smax			
	comp=N,14nm,0.3s						
MORC	Moravsky Berou	7.26	355	ePn	Pn	13 27 53.4	+1.6
	comp=N,16nm,0.6s						
MORC				eSn	Sn	13 29 13.3	-1.2
MORC	Moravsky Berou	7.26	355	eP	Pn	13 27 53.4	+1.6
MORC				e		13 29 13.3	
MORC				pmax	pmax		
	comp=Z,16nm,0.6s						
MORC	Moravsky Berou	7.26	355	⇑iP	Pn	13 27 53.5	+1.7
MORC	Moravsky Berou	7.26	355	⇑iP	Pn	13 27 53.5	+1.7
OKC	Ostrava-Krasne	7.29	358	eP	Pn	13 27 53.1	+0.8
OKC				e		13 29 11.7	
OKC				MLR	MLR		
	comp=Z,1μm,9.2s						
OKC	Ostrava-Krasne	7.29	358	ePN	Pn	13 27 53.1	+0.8
OKC				eSN	Sn	13 29 11.7	-3.6
OKC				AMS	AMS	13 31 00.0	
	comp=Z,1μm,9.2s						
RETA	Reutte	7.38	315	⇓ePn	Pn	13 27 54.5	+1.0
	comp=Z,15nm,0.4s						
RETA				⇓iSn	Sn	13 29 18.9	+1.3
	comp=Z,93nm,0.3s						
RETA	Reutte	7.38	315	Pn	Pn	13 27 54.5	+0.9
	comp=Z,15nm,0.4s						
RETA				Sn	Sn	13 29 18.9	+1.2
	comp=Z,93nm,0.3s						
KHC	Kasperske Hory	7.43	334	ePn	Pn	13 27 54.5	+0.4
	comp=Z,60nm,0.6s						
KHC				eSn	Sn	13 29 17.4	-1.2
KHC	Kasperske Hory	7.43	334	eP	Pn	13 27 54.5	+0.4
KHC				e		13 29 17.5	
KHC				pmax	pmax		
	comp=Z,60nm,0.6s						
KHC	Kasperske Hory	7.43	334	ePN	Pn	13 27 54.9	+0.8

KHC *ex* x 13 28 01.0
KHC *eSN* **Sn** **13 29 17.5 -1.2**
KHC AMS AMS 13 30 40.0
comp=Z,1µm,8.8s
TIRR Tirgusor 7.44 72 *ePn* **Pn** **13 27 54.5 +0.2**
TIRR *eSn* **Sn** **13 29 18.6 -0.4**
TIRR Tirgusor 7.44 72 *eP* **Pn** **13 27 54.6 +0.3**
TIRR *e* 13 29 18.6
TIRR Tirgusor 7.44 72⇑*iP* **Pn** **13 27 58.2 +3.9**
DAVOX Davos/Dischmat 7.47 307 Pn **Pn** **13 27 51.9 -2.8**
comp=Z,0.2nm,0.3s,baz=135,slow=20,SNR=1.8
DAVOX Sn **Sn** **13 29 16.9 -2.8**
comp=Z,5.4nm,0.3s,baz=153,slow=19,SNR=3.6
DAVOX Davos/Dischmat 7.47 307 Pn **Pn** **13 27 51.9 -2.8**
DAVOX Sn **Sn** **13 29 16.9 -2.8**
DAVOX Davos/Dischmat 7.47 307 P **Pn** **13 27 51.9 -2.8**
DAVOX 13 29 16.9
TUE Stuetta 7.64 304 *ePn* **Pn** **13 27 58.0 +1.0**
comp=Z,27nm,0.6s
TUE *eSn* **Sn** **13 29 19.6 -4.3**
KWP Kalwaria Pacla 7.65 21 *ePn* **Pn** **13 27 58.8 +1.6**
comp=Z,14nm,0.6s
KWP Kalwaria Pacla 7.65 21⇑P **Pn** **13 27 58.9 +1.7**
KWP Kalwaria Pacla 7.65 21⇑*iP* **Pn** **13 27 58.9 +1.7**
KWP Kalwaria Pacla 7.65 21⇑*iP* **Pn** **13 27 58.9 +1.7**
WET Wettzell 7.68 331 *ePn* **Pn** **13 27 59.5 +1.9**
WET Wettzell 7.68 331 *eP* **Pn** **13 27 59.5 +1.9**
APE Apeiranthos 7.69 133⇑P **Pn** **13 27 55.1 -2.6**
APE Apeiranthos 7.69 133⇑*iP* **Pn** **13 27 55.1 -2.6**
OJC Ojcow 7.72 6 *ePn* **Pn** **13 27 58.9 +0.8**
OJC *eSn* **Sn** **13 29 23.0 -2.8**
OJC Ojcow 7.72 6 *eP* **Pn** **13 27 58.9 +0.8**
OJC *e* 13 29 23.0
DAVA Damuels 7.75 311⇓*ePn* **Pn** **13 27 59.4 +0.9**
comp=Z,7.2nm,0.4s
DAVA ⇑*eSn* **Sn** **13 29 27.1 +0.5**
comp=Z,75nm,0.4s
DAVA Damuels 7.75 311 Pn **Pn** **13 27 59.4 +0.9**
comp=Z,7.2nm,0.4s
PRU Pruhonice 7.93 341 *eP* **Pn** **13 28 03.4 +2.4**
PRU MLR MLR
comp=Z,900nm,12.5s
PRU Pruhonice 7.93 341 *ePN* **Pn** **13 28 03.4 +2.4**
PRU AMS AMS 13 31 10.0
comp=Z,900nm,12.5s
DPC Dobruska-Polom 7.94 350 *eP* **Pn** **13 28 01.5 +0.3**
DPC MLR MLR
comp=Z,1µm,8.0s
DPC Dobruska-Polom 7.94 350 *ePN* **Pn** **13 28 01.5 +0.3**
DPC AMS AMS 13 31 40.0
comp=Z,1µm,8.0s
SBF Sospel 8.21 283 *ePn* **Pn** **13 28 03.1 -1.7**
SNR=1.0
SBF *eSn* **Sn** **13 29 31.0 -6.9**
comp=Z,72nm,0.5s
SBF Sospel 8.21 283 *ePn* **Pn** **13 28 03.1 -1.7**
SBF *eSn* **Sn** **13 29 31.0 -6.9**
SBF Sospel 8.21 283 *eP* **Pn** **13 28 03.1 -1.7**
SBF *e* 13 29 31.0
SBF Sospel 8.21 283 *ePn* **Pn** **13 28 03.1 -1.7**
SNR=1.0
SBF *eSn* **Sn** **13 29 31.0 -6.9**
comp=Z,36nm,0.5s
TOUF Mont Tournerai 8.36 284 *eP* **Pn** **13 28 08.1 +1.2**
TOUF Mont Tournerai 8.36 284 *eP* **Pn** **13 28 08.1 +1.2**
TOUF Mont Tournerai 8.36 284 *eP* **Pn** **13 28 08.1 +1.2**
TOUF Mont Tournerai 8.36 284 *eP* **Pn** **13 28 08.1 +1.2**
PVCC Panska Ves 8.43 343 AMS AMS 13 31 30.0
comp=Z,700nm,15.0s
KIS Kishinev 8.56 55 *eP* **Pn** **13 28 13.0 +3.3**
KIS LRM 13 32 00.0
comp=Z,1µm,8.0s
KIS Kishinev 8.56 55 *eP* **Pn** **13 28 13.0 +3.3**
KIS MLR MLR
comp=Z,900nm,8.0s
KIS Kishinev 8.56 55 *eP* **Pn** **13 28 13.0 +3.3**
NKC Novy Kostel 8.75 333 *eP* **Pn** **13 28 13.9 +1.6**
NKC MLR MLR
comp=Z,1µm,7.6s
NKC Novy Kostel 8.75 333 *ePN* **Pn** **13 28 13.9 +1.6**
NKC AMS AMS 13 31 40.0
comp=Z,1µm,7.6s
NKC Novy Kostel 8.75 333 *eP* **Pn** **13 28 13.9 +1.6**
comp=Z,1µm,7.6s
FRF La Foret Royal 8.76 281 *ePn* **Pn** **13 28 11.2 -1.2**
SNR=1.0
FRF *eSn* **Sn** **13 29 44.1 -7.3**
comp=Z,12nm,0.3s
FRF La Foret Royal 8.76 281 *ePn* **Pn** **13 28 11.2 -1.2**
FRF *eSn* **Sn** **13 29 44.1 -7.3**
FRF La Foret Royal 8.76 281 *eP* **Pn** **13 28 11.2 -1.2**
FRF *e* 13 29 44.1
FRF La Foret Royal 8.76 281 *ePn* **Pn** **13 28 11.2 -1.2**
SNR=1.0
FRF *eSn* **Sn** **13 29 44.1 -7.3**
comp=Z,6.2nm,0.3s
MBDF Montbardon 8.79 288 *ePn* **Pn** **13 28 11.8 -1.1**
SNR=1.0
MBDF *eSn* **Sn** **13 29 43.9 -8.5**
comp=Z,67nm,0.7s,SNR=1.0
MBDF Montbardon 8.79 288 *ePn* **Pn** **13 28 11.8 -1.1**
MBDF *eSn* **Sn** **13 29 43.9 -8.5**
MBDF Montbardon 8.79 288 *eP* **Pn** **13 28 11.8 -1.1**
MBDF *e* 13 29 43.9
MBDF Montbardon 8.79 288 *ePn* **Pn** **13 28 11.8 -1.1**
SNR=1.0
MBDF *eSn* **Sn** **13 29 43.9 -8.5**
comp=Z,34nm,0.7s,SNR=1.0
SPAK Spaichingen-Ko 8.82 312 *eP* **Pn** **13 28 09.2 -4.0**
SPAK Spaichingen-Ko 8.82 312 *eP* **Pn** **13 28 09.2 -4.0**
GVD Gavdhos 8.84 149 *ePn* **Pn** **13 28 12.2 -1.5**
GVD *eSn* **Sn** **13 29 40.8 -13**
LMR La Mourre 8.85 279 *ePn* **Pn** **13 28 12.4 -1.3**
LMR La Mourre 8.85 279 *ePn* **Pn** **13 28 12.4 -1.3**
LMR La Mourre 8.85 279 *eP* **Pn** **13 28 12.4 -1.3**
LMR La Mourre 8.85 279 *ePn* **Pn** **13 28 12.4 -1.3**
BRG Berggiesshubel 8.89 341 SG **Sn** **13 30 10.6 +16**
comp=Z,21nm,0.7s
BRG
comp=N,773nm,12.5s
BRG
comp=E,607nm,16.5s
BRG
comp=Z,703nm,13.9s
BRG Berggiesshubel 8.89 341 PG **Pn** **13 28 16.6 +2.3**
BRG *i* 13 28 20.8
BRG Berggiesshubel 8.89 341 P **Pn** **13 28 16.6 +2.3**
BRG MLR MLR
comp=N,773nm,12.5s
BRG MLR MLR
comp=E,607nm,16.5s
BRG MLR MLR
comp=Z,703nm,13.9s
BRG Berggiesshubel 8.89 341 P **Pn** **13 28 16.6 +2.3**
comp=Z,703nm,13.9s
TANN Tannenbergstha 8.90 334 *ePn* **Pn** **13 28 16.6 +2.2**
BNI Bardonecchia 8.92 290 *ePn* **Pn** **13 28 15.7 +1.1**
comp=Z,27nm,1.1s
BNI *eSn* **Sn** **13 29 45.7 -10**
BNI Bardonecchia 8.92 290 *eP* **Pn** **13 28 15.7 +1.0**
BNI *e* 13 29 45.7
BNI pmax pmax
comp=Z,27nm,1.1s
BNI Bardonecchia 8.92 290 *eP* **Pn** **13 28 15.7 +1.0**
comp=Z,27nm,1.1s
LPG La Plagne 8.98 293 *ePn* **Pn** **13 28 13.9 -1.5**
SNR=1.0
LPG *eSn* **Sn** **13 29 49.6 -7.2**
comp=Z,90nm,0.6s
LPG La Plagne 8.98 293 *ePn* **Pn** **13 28 13.9 -1.5**
LPG *eSn* **Sn** **13 29 49.6 -7.2**
LPG La Plagne 8.98 293 *eP* **Pn** **13 28 13.9 -1.5**
LPG *e* 13 29 49.6
LPG La Plagne 8.98 293 *ePn* **Pn** **13 28 13.9 -1.5**
SNR=1.0
LPG *eSn* **Sn** **13 29 49.6 -7.2**
comp=Z,45nm,0.6s
LPL La Plagne 8.99 293 *ePn* **Pn** **13 28 13.7 -2.0**
SNR=1.0
LPL *eSn* **Sn** **13 29 49.0 -8.2**
comp=Z,92nm,0.7s
LPL La Plagne 8.99 293 *ePn* **Pn** **13 28 13.7 -2.0**
LPL *eSn* **Sn** **13 29 49.0 -8.2**
LPL La Plagne 8.99 293 *eP* **Pn** **13 28 13.7 -2.0**
LPL *e* 13 29 49.0
LPL La Plagne 8.99 293 *ePn* **Pn** **13 28 13.7 -2.0**
SNR=1.0
LPL *eSn* **Sn** **13 29 49.0 -8.2**
comp=Z,46nm,0.7s
STU Stuttgart 9.01 317 Pn **Pn** **13 28 16.1 +0.3**
STU Stuttgart 9.01 317 P **Pn** **13 28 16.2 +0.3**
STU Stuttgart 9.01 317 P **Pn** **13 28 16.2 +0.3**
FELD Feldberg im Sc 9.13 309 *eP* **Pn** **13 28 17.0 -0.5**
FELD Feldberg im Sc 9.13 309 *eP* **Pn** **13 28 17.0 -0.5**
BFO Black Forest 9.20 312 *ePn* **Pn** **13 28 17.7 -0.7**
BFO Black Forest 9.20 312 *ePn* **Pn** **13 28 17.6 -0.9**
comp=Z,15nm,0.6s
BFO *eSn* **Sn** **13 29 54.0 -8.2**
BFO Black Forest 9.20 312 *eP* **Pn** **13 28 17.6 -0.8**
BFO *e* 13 29 54.0
BFO pmax pmax
comp=Z,15nm,0.6s
BFO Black Forest 9.20 312 *eP* **Pn** **13 28 17.6 -0.8**
comp=Z,15nm,0.6s
ORIF Oris-en-Rattie 9.45 289 *ePn* **Pn** **13 28 20.6 -1.3**
ORIF *eSn* **Sn** **13 30 01.3 -7.2**
comp=Z,78nm,0.7s
ORIF Oris-en-Rattie 9.45 289 *ePn* **Pn** **13 28 20.6 -1.3**
ORIF *eSn* **Sn** **13 30 01.3 -7.2**
ORIF Oris-en-Rattie 9.45 289 *eP* **Pn** **13 28 20.6 -1.3**
ORIF *e* 13 30 01.3
ORIF Oris-en-Rattie 9.45 289 *ePn* **Pn** **13 28 20.6 -1.3**
ORIF *eSn* **Sn** **13 30 01.3 -7.2**
comp=Z,39nm,0.7s
CLL Collm 9.53 339 *eP* **Pn** **13 28 28.0 +5.0**
CLL Collm 9.53 339 *ePn* **Pn** **13 28 25.0 +2.0**
CLL *eSn* **Sn** **13 29 59.0 -11**
CLL *e* 13 30 11.0
CLL *e* 13 30 28.0
CLL *eSb* Sn 13 30 38.0 +28
CLL *eSg* Sn 13 31 20.0 +70
SMRF Simiane la Rot 9.55 283 *ePn* **Pn** **13 28 21.6 -1.7**
SMRF Simiane la Rot 9.55 283 *ePn* **Pn** **13 28 21.6 -1.7**
SMRF Simiane la Rot 9.55 283 *ePn* **Pn** **13 28 21.6 -1.7**
LOMF Lomont 9.58 304 *eP* **Pn** **13 28 25.2 +1.6**
LOMF Lomont 9.58 304 *eP* **Pn** **13 28 25.2 +1.6**
LOMF Lomont 9.58 304 *eP* **Pn** **13 28 25.2 +1.6**
LOMF Lomont 9.58 304 *eP* **Pn** **13 28 25.2 +1.6**
MOF Molkenrain 9.62 307 *eP* **Pn** **13 28 24.5 +0.2**
MOF Molkenrain 9.62 307 *eP* **Pn** **13 28 24.5 +0.2**
MOF Molkenrain 9.62 307 *eP* **Pn** **13 28 24.5 +0.2**
MOF Molkenrain 9.62 307 *eP* **Pn** **13 28 24.5 +0.2**
CABF La Chapelle 9.75 299 *ePn* **Pn** **13 28 26.4 +0.3**
SNR=1.0
CABF *eSn* **Sn** **13 30 08.8 -7.1**
comp=Z,44nm,0.7s
CABF La Chapelle 9.75 299 *ePn* **Pn** **13 28 26.4 +0.3**
CABF *eSn* **Sn** **13 30 08.8 -7.1**
CABF La Chapelle 9.75 299 *eP* **Pn** **13 28 26.4 +0.3**
CABF *e* 13 30 08.8
CABF La Chapelle 9.75 299 *ePn* **Pn** **13 28 26.4 +0.3**
SNR=1.0
CABF *eSn* **Sn** **13 30 08.8 -7.1**
comp=Z,22nm,0.7s
HINF Hinteralfeld 9.77 307 *ePn* **Pn** **13 28 26.5 +0.2**
HINF *eSn* **Sn** **13 30 07.4 -8.9**
comp=Z,61nm,0.7s
HINF Hinteralfeld 9.77 307 *ePn* **Pn** **13 28 26.5 +0.2**
HINF *eSn* **Sn** **13 30 07.4 -8.9**
HINF Hinteralfeld 9.77 307 *eP* **Pn** **13 28 26.5 +0.2**
HINF *e* 13 30 07.4
HINF Hinteralfeld 9.77 307 *ePn* **Pn** **13 28 26.5 +0.2**
HINF *eSn* **Sn** **13 30 07.4 -8.9**
comp=Z,30nm,0.7s
ECH Echery 9.79 309 *ePn* **Pn** **13 28 25.5 -1.1**
comp=Z,8.4nm,0.7s
ECH *eSn* **Sn** **13 30 07.2 -10**
ECH Echery 9.79 309 *eP* **Pn** **13 28 25.5 -1.1**
ECH *e* 13 30 07.2
ECH pmax pmax
comp=Z,8.0nm,0.7s
ECH Echery 9.79 309 *eP* **Pn** **13 28 25.8 -0.8**
ECH Echery 9.79 309 *eP* **Pn** **13 28 25.8 -0.8**
CDF Champ du Feu 9.83 310 *ePn* **Pn** **13 28 24.9 -2.2**
CDF *eSn* **Sn** **13 30 08.6 -9.1**
comp=Z,19nm,0.5s,SNR=1.0
CDF Champ du Feu 9.83 310 *ePn* **Pn** **13 28 24.9 -2.2**
CDF *eSn* **Sn** **13 30 08.6 -9.1**
CDF Champ du Feu 9.83 310 *eP* **Pn** **13 28 24.9 -2.2**
CDF *e* 13 30 08.6
CDF Champ du Feu 9.83 310 *ePn* **Pn** **13 28 24.9 -2.2**
CDF *eSn* **Sn** **13 30 08.6 -9.1**
comp=Z,9.5nm,0.5s,SNR=1.0
KEST Kesra 9.86 229 LR LR 13 32 58.4
comp=Z,79nm,19.9s,baz=266,slow=42
HAU Haudompre 10.16 307 *ePn* **Pn** **13 28 30.3 -1.3**
HAU *eSn* **Sn** **13 30 17.6 -8.3**
comp=Z,106nm,0.7s
HAU Haudompre 10.16 307 *ePn* **Pn** **13 28 30.3 -1.3**
HAU *eSn* **Sn** **13 30 17.6 -8.3**
HAU Haudompre 10.16 307 *eP* **Pn** **13 28 30.3 -1.3**
HAU *e* 13 30 17.6
HAU Haudompre 10.16 307 *ePn* **Pn** **13 28 30.3 -1.3**
HAU *eSn* **Sn** **13 30 17.6 -8.3**
comp=Z,53nm,0.7s
VIVF Saint-Julien-l 10.29 288 *ePn* **Pn** **13 28 32.7 -0.7**
VIVF Saint-Julien-l 10.29 288 *ePn* **Pn** **13 28 32.7 -0.7**
VIVF Saint-Julien-l 10.29 288 *eP* **Pn** **13 28 32.7 -0.7**
VIVF Saint-Julien-l 10.29 288 *ePn* **Pn** **13 28 32.7 -0.7**
AKASG Malin Array Be 10.97 38 Pn **Pn** **13 28 44.6 +2.0**
comp=Z,1.2nm,0.3s,baz=229,slow=11,SNR=9.3
AKASG Malin Array Be 10.97 38 Pn **Pn** **13 28 44.6 +2.0**
AKASG Malin Array Be 10.97 38 P **Pn** **13 28 44.6 +1.9**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 10.97 38 P **Pn** **13 28 44.6 +1.9**
comp=Z,1.0nm,0.3s
PLDF La Plantade 11.22 293 *eP* **Pn** **13 28 44.2 -1.9**
PLDF La Plantade 11.22 293 *eP* **Pn** **13 28 44.2 -1.9**
PLDF La Plantade 11.22 293 *eP* **Pn** **13 28 44.2 -1.9**
PLDF La Plantade 11.22 293 *eP* **Pn** **13 28 44.2 -1.9**
SMF Signal de Mont 11.24 296 *ePn* **Pn** **13 28 44.4 -2.0**
SNR=1.0
SMF *eSn* **Sn** **13 30 42.8 -9.4**
comp=Z,34nm,0.5s
SMF Signal de Mont 11.24 296 *ePn* **Pn** **13 28 44.4 -2.0**
SMF *eSn* **Sn** **13 30 42.8 -9.4**
SMF Signal de Mont 11.24 296 *eP* **Pn** **13 28 44.4 -2.0**
SMF *e* 13 30 42.8
SMF Signal de Mont 11.24 296 *ePn* **Pn** **13 28 44.4 -2.0**
SNR=1.0
SMF *eSn* **Sn** **13 30 42.8 -9.4**
comp=Z,17nm,0.5s
LOR Lormes 11.41 299 *ePn* **Pn** **13 28 48.5 -0.3**
baz=119,SNR=1.0
LOR *eSn* **Sn** **13 30 48.0 -8.5**
comp=Z,16nm,0.3s,SNR=1.0
LOR Lormes 11.41 299 *ePn* **Pn** **13 28 48.5 -0.3**
LOR *eSn* **Sn** **13 30 48.0 -8.5**
LOR Lormes 11.41 299 *eP* **Pn** **13 28 48.5 -0.3**
LOR *e* 13 30 48.0
LOR Lormes 11.41 299 *ePn* **Pn** **13 28 48.5 -0.3**
SNR=1.0
LOR *eSn* **Sn** **13 30 48.0 -8.5**
comp=Z,8.1nm,0.3s,SNR=1.0
SSF Saint Saulge 11.58 298 *ePn* **Pn** **13 28 50.5 -0.5**
SNR=1.0
SSF *eSn* **Sn** **13 30 51.8 -8.8**
comp=Z,23nm,0.6s,SNR=1.0
SSF Saint Saulge 11.58 298 *ePn* **Pn** **13 28 50.5 -0.5**
SSF *eSn* **Sn** **13 30 51.8 -8.8**
SSF Saint Saulge 11.58 298 *eP* **Pn** **13 28 50.5 -0.5**
SSF *e* 13 30 51.8
SSF Saint Saulge 11.58 298 *ePn* **Pn** **13 28 50.5 -0.5**
SNR=1.0
SSF *eSn* **Sn** **13 30 51.8 -8.8**
comp=Z,11nm,0.6s,SNR=1.0
BR131 Keskin Array S 11.74 99 Pn **Pn** **13 28 56.5 +3.2**
BRTR Keskin Array B 11.74 99 Pn **Pn** **13 28 53.6 +0.3**
comp=Z,0.1nm,0.3s,baz=282,slow=7.2,SNR=2.7
BRTR Keskin Array B 11.74 99 Pn **Pn** **13 28 53.6 +0.3**
BRTR Keskin Array B 11.74 99 P **Pn** **13 28 53.7 +0.4**
BRTR Keskin Array B 11.74 99 P **Pn** **13 28 53.7 +0.4**
BGF Bois d'Agland 11.88 295 *ePn* **Pn** **13 28 53.9 -1.2**
BGF *eSn* **Sn** **13 30 58.8 -9.1**
comp=Z,30nm,0.5s
BGF Bois d'Agland 11.88 295 *ePn* **Pn** **13 28 53.9 -1.2**
BGF *eSn* **Sn** **13 30 58.8 -9.1**
BGF Bois d'Agland 11.88 295 *eP* **Pn** **13 28 53.9 -1.2**
BGF *e* 13 30 58.8
BGF Bois d'Agland 11.88 295 *ePn* **Pn** **13 28 53.9 -1.2**
BGF *eSn* **Sn** **13 30 58.8 -9.1**
comp=Z,15nm,0.5s
TCF Toulx Ste Croi 12.24 293 *ePn* **Pn** **13 29 00.0 -0.1**
SNR=1.0
TCF Toulx Ste Croi 12.24 293 *ePn* **Pn** **13 29 00.0 -0.1**
TCF Toulx Ste Croi 12.24 293 *eP* **Pn** **13 29 00.0 -0.1**
TCF Toulx Ste Croi 12.24 293 *ePn* **Pn** **13 29 00.0 -0.1**
SNR=1.0
ANN Anapa 13.87 74 *eP* **Pn** **13 29 14.1 -8.2**
MMAI Mount Meron Ar 16.37 120 Pn **Pn** **13 29 54.6 -1.0**
comp=Z,0.7nm,0.3s,baz=327,slow=10,SNR=2.5
VSR Storozhevoye 16.52 51 *eP* **Pn** **13 29 57.5 +0.1**
VSR pmax pmax
comp=N,3.0nm,0.6s
VSR pmax pmax
comp=E,8.0nm,0.6s
VSR pmax pmax
comp=Z,5.0nm,0.6s
VSU Vasula 16.74 15 *eP* **Pn** **13 30 02.1 +1.9**
VSU pmax pmax
comp=Z,34nm,0.8s
VSU Vasula 16.74 15 *eP* **Pn** **13 30 02.1 +1.9**
comp=Z,34nm,0.8s
ESDC Sonseca Array 17.18 268 P **Pn** **13 30 02.1 -3.8**
comp=Z,0.4nm,0.3s,baz=69,slow=7.0,SNR=2.9
ESDC Sonseca Array 17.18 268 P **Pn** **13 30 02.1 -3.8**
OBN Obninsk 17.23 37 Pn **Pn** **13 30 03.0 -3.3**
OBN Obninsk 17.23 37 *eP* **Pn** **13 30 07.9 +1.6**
OBN pmax pmax
comp=Z,41nm,1.2s
OBN MLR MLR
comp=Z,200nm,16.0s
OBN Obninsk 17.23 37 *eP* **Pn** **13 30 07.9 +1.6**
comp=Z,200nm,16.0s
KIV Kislovodsk 17.65 77 *eP* **Pn** **13 30 14.2 +2.6**
KIV pmax pmax
comp=Z,6.0nm,0.8s
KIV MLR MLR
comp=Z,100nm,14.0s
KIV Kislovodsk 17.65 77 *eP* **Pn** **13 30 14.2 +2.6**
comp=Z,100nm,14.0s
HFS Hagfors 17.85 352 P **Pn** **13 30 11.0 -3.0**
comp=Z,1.0nm,0.3s,baz=163,slow=11,SNR=18
HFS LR LR 13 37 35.4
comp=Z,154nm,18.7s,baz=341,slow=39
HFS Hagfors 17.85 352 P **Pn** **13 30 11.0 -3.0**
HFS LR LR 13 37 35.4
HFS Hagfors 17.85 352 P **Pn** **13 30 11.0 -3.1**
HFS pmax pmax
comp=Z,1.0nm,0.3s
HFS MLR MLR
comp=Z,154nm,18.7s
NB2 NORSAR Subarra 19.03 349 P **Pn** **13 30 26.3 -2.2**
comp=Z,4.3nm,0.7s,baz=163,slow=11
NB2 NORSAR Subarra 19.03 349 P **Pn** **13 30 26.3 -2.2**
comp=Z,4.3nm,0.7s,SNR=1.5
NOA NORSAR Array B 19.03 349 P **Pn** **13 30 24.8 -3.6**
comp=Z,0.7nm,0.3s,baz=164,slow=10,SNR=9.2
NOA LR LR 13 38 19.7
comp=Z,109nm,21.2s,baz=180,slow=39
NOA NORSAR Array B 19.03 349 P **Pn** **13 30 24.8 -3.6**
NOA LR LR 13 38 19.6
NOA NORSAR Array B 19.03 349 P **Pn** **13 30 24.8 -3.7**
NOA pmax pmax
comp=Z,1.0nm,0.3s
NOA MLR MLR
comp=Z,109nm,21.2s
FINES FINESS Array B 19.46 11 P **Pn** **13 30 30.9 -2.6**
comp=Z,0.5nm,0.3s,baz=183,slow=9.5,SNR=12
FINES LR LR 13 38 35.1
comp=Z,154nm,19.2s,baz=131,slow=39
FINES FINESS Array B 19.46 11 P **Pn** **13 30 30.9 -2.6**
FINES LR LR 13 38 35.0
FINES FINESS Array B 19.46 11 P **Pn** **13 30 30.9 -2.6**
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES MLR MLR
comp=Z,155nm,19.3s
GNI Garni 19.80 88 P **Pn** **13 30 36.1 -1.8**
comp=Z,10nm,0.6s
GNI Garni 19.80 88 *eP* **Pn** **13 30 37.2 -0.7**
GNI pmax pmax
comp=Z,18nm,1.2s
GNI Garni 19.80 88 *eP* **Pn** **13 30 37.2 -0.7**
comp=Z,18nm,1.2s
KAF Kangasniemi 20.13 11 *eP* **P** **13 30 37.6 -2.1**
KAF Kangasniemi 20.13 11 *ep* **P** **13 30 37.6 -2.1**
MDT Midelt 20.68 250 LR LR 13 38 43.1
comp=Z,75nm,18.9s,MS3.1,baz=188,slow=37
JOF Joensuu 21.74 16 *eP* **P** **13 30 57.2 +0.1**
JOF Joensuu 21.74 16 *ep* **P** **13 30 57.2 +0.1**
JOF Joensuu 21.74 16 *eP* **P** **13 30 57.2 +0.1**
KLMR Klimovskoe 22.29 28 *eP* **P** **13 31 00.2 -2.8**
KLMR pmax pmax
comp=Z,29nm,0.7s,mb4.8
TAM Tamanrasset 22.49 213 *eP* **P** **13 31 05.3 -0.1**
comp=Z,7.8nm,1.3s,mb4.0
TAM Tamanrasset 22.49 213 *eP* **P** **13 31 05.3 -0.1**
TAM pmax pmax
comp=Z,8.0nm,1.3s,mb4.0
TAM Tamanrasset 22.49 213 *eP* **P** **13 31 05.3 -0.1**
comp=Z,8.0nm,1.3s,mb4.0
APA Apatity 26.33 13⇑*iP* **P** **13 31 46.8 +5.3**
APA *i* 13 32 30.0
APA *eS* **S** **13 36 20.0 +5.5**
APA MLR MLR
comp=Z,700nm,11.0s,MS4.5
LVZ Lovozero 26.83 13 *eP* **P** **13 31 45.4 -0.7**
LVZ pmax pmax
comp=Z,14nm,1.2s,mb4.4
LVZ Lovozero 26.83 13 *eP* **P** **13 31 45.4 -0.7**
comp=Z,14nm,1.2s,mb4.4
ARCES ARCESS Array B 27.29 5 P **P** **13 31 47.2 -3.0**
comp=Z,4.4nm,0.8s,mb4.1,baz=179,slow=9.7,SNR=7.0
ARCES ARCESS Array B 27.29 5 P **P** **13 31 47.2 -3.0**
ARCES ARCESS Array B 27.29 5 P **P** **13 31 47.2 -3.0**
ARCES pmax pmax
comp=Z,4.0nm,0.8s
AKTO Aktyubinsk 28.03 60 LR LR 13 44 40.9
comp=Z,124nm,18.7s,MS3.5,baz=134,slow=40
ARU Arti 29.01 47 *eP* **P** **13 32 07.1 +1.5**
ARU 13 32 55.6
ARU S **S** **13 36 58.2 +1.2**
ARU SS SS 13 38 21.7 -38
ARU MLR MLR
comp=Z,205nm,14.0s,MS3.9
ARU Arti 29.01 47 *eP* **P** **13 32 07.1 +1.5**
ARU S **S** **13 36 58.2 +1.2**
comp=Z,205nm,14.0s
ABKAR Akbulak array 29.30 62 *eP* **P** **13 32 06.6 -1.7**
comp=Z,1.2nm,0.7s,mb3.7
ABKAR Akbulak array 29.30 62 *eP* **P** **13 32 06.6 -1.7**
comp=Z,1.2nm,0.7s,mb3.7
TORD Torodi Ar. Bea 32.73 211 P **P** **13 32 38.2 -0.6**
comp=Z,0.8nm,0.8s,mb3.7,baz=10,slow=9.0,SNR=4.6
TORD LR LR 13 47 22.8
comp=Z,53nm,19.0s,MS3.3,baz=270,slow=39
TORD Torodi Ar. Bea 32.73 211 P **P** **13 32 38.2 -0.6**
TORD LR LR 13 47 22.9
TORD Torodi Ar. Bea 32.73 211 P **P** **13 32 38.2 -0.6**
BRVK Borovoye 35.58 55 *eP* **P** **13 33 02.0 -1.2**
comp=Z,8.5nm,0.9s,mb4.7
BRVK Borovoye 35.58 55 *eP* **P** **13 33 02.2 -1.0**
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BRVK Borovoye 35.58 55 *eP* **P** **13 33 02.0 -1.2**
comp=Z,8.5nm,0.9s,mb4.7
SPITS Spitsbergen Ar 35.75 359 P **P** **13 33 02.1 -2.3**
comp=Z,5.6nm,1.0s,mb4.5,baz=170,slow=13,SNR=2.4
SPITS Spitsbergen Ar 35.75 359 P **P** **13 33 02.1 -2.3**
SPITS Spitsbergen Ar 35.75 359 P **P** **13 33 02.1 -2.3**
SPITS pmax pmax
comp=Z,6.0nm,1.0s
SPITS Spitsbergen Ar 35.75 359 P **P** **13 33 02.1 -2.3**
KKAR Karatay Array 37.62 71 *eP* **P** **13 33 20.3 -0.5**
comp=Z,1.5nm,0.7s,mb3.8
KKAR Karatay Array 37.62 71 *eP* **P** **13 33 20.3 -0.5**
KKAR pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
KKAR Karatay Array 37.62 71 *eP* **P** **13 33 20.3 -0.5**
comp=Z,1.5nm,0.7s,mb3.8
EKS2 Erkin-Say 40.04 70 *eP* **P** **13 33 40.8 -0.2**
comp=Z,4.8nm,0.6s,mb4.4

EKS2 *e* 13 33 45.8
EKS2 Erkin-Say 40.04 70 *e*P **P** **13 33 40.8 -0.2**
EKS2 *e* 13 33 45.8
EKS2 pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
EKS2 Erkin-Say 40.04 70 *e*P **P** **13 33 40.8 -0.2**
AAK Ala-Archa 40.55 70 *e*P **P** **13 33 43.8 -1.4**
comp=Z,27nm,1.1s,mb4.8
AAK Ala-Archa 40.55 70 *e*P **P** **13 33 43.8 -1.4**
AAK pmax pmax
comp=Z,27nm,1.1s,mb4.8
AAK Ala-Archa 40.55 70 *e*P **P** **13 33 43.8 -1.4**
comp=Z,27nm,1.1s,mb4.8
KURK Kurchatov 41.03 57 P **P** **13 33 46.9 -2.2**
comp=Z,0.5nm,0.5s,mb3.4,baz=286,slow=9.6,SNR=5.1
KURK Kurchatov 41.03 57 P **P** **13 33 46.9 -2.2**
KURK Kurchatov 41.03 57 P **P** **13 33 46.9 -2.3**
KURK pmax pmax
comp=Z,1.0nm,0.5s,mb3.7
KURK Kurchatov 41.03 57 P **P** **13 33 46.9 -2.3**
DBIC Dimbokro 41.28 217 P **P** **13 33 50.1 -1.4**
comp=Z,2.7nm,0.7s,mb4.0,baz=23,slow=7.7,SNR=3.6
DBIC LR LR 13 54 48.6
comp=Z,38nm,19.0s,MS3.3,baz=26,slow=42
DBIC Dimbokro 41.28 217 *e*P **P** **13 33 50.1 -1.5**
comp=Z,5.8nm,1.0s,mb4.2
DBIC Dimbokro 41.28 217 P **P** **13 33 50.1 -1.4**
DBIC pmax pmax
comp=Z,3.0nm,0.7s
DBIC MLR MLR
comp=Z,38nm,19.0s
DBIC Dimbokro 41.28 217 *e*P **P** **13 33 50.1 -1.4**
comp=Z,5.8nm,1.0s,mb4.2
KSH Kashi 42.73 74 *e*P **P** **13 34 02.5 -0.7**
KSH pP pP 13 34 07.0 +2.1
KSH sP sP 13 34 09.5 +4.0
KSH PP PP 13 35 44.3 +2.2
KSH PcP PcP 13 35 55.3 +0.6
KSH ScP ScP 13 39 44.3 -1.8
KSH PcS PcS 13 39 46.1 -0.7
KSH S **S** **13 40 24.4 -2.8**
KSH sS sS 13 40 32.0 +2.1
KSH SS SS 13 43 28.5 -8.8
KSH ScS ScS 13 44 01.3 -3.7
KSH pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
KSH pmax pmax
comp=Z,68nm,4.4s
KSH LR LR
comp=Z,84nm,5.5s
ZAA0 Zalesovo Array 44.02 51 *e*P **P** **13 34 10.1 -3.3**
ZAA0 *e* 13 34 16.1
ZALV Zalesovo Beam 44.02 51 P **P** **13 34 11.4 -2.0**
comp=Z,1.6nm,0.6s,mb3.9,baz=293,slow=8.6,SNR=12
ZALV LR LR 13 54 02.9
comp=Z,105nm,18.4s,MS3.8,baz=214,slow=38
ZALV Zalesovo Beam 44.02 51 P **P** **13 34 11.4 -2.0**
ZALV LR LR 13 54 02.9
ZALV Zalesovo Beam 44.02 51 P **P** **13 34 11.4 -2.0**
ZALV pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
ZALV MLR MLR
comp=Z,105nm,18.4s,MS3.8
ZALV Zalesovo Beam 44.02 51 P **P** **13 34 11.4 -2.0**
MK31 Makanchi Array 44.44 62 *e*P **P** **13 34 14.6 -2.3**
MK31 Makanchi Array 44.44 62 *e*P **P** **13 34 14.6 -2.2**
MK31 Makanchi Array 44.44 62 *e*P **P** **13 34 14.6 -2.2**
MKAR Makanchi Array 44.44 62 P **P** **13 34 15.1 -1.8**
comp=Z,1.1nm,0.8s,mb3.7,baz=288,slow=7.0,SNR=8.9
MKAR LR LR 13 54 05.4
comp=Z,58nm,18.2s,MS3.5,baz=180,slow=38
MKAR Makanchi Array 44.44 62 P **P** **13 34 15.1 -1.8**
MKAR LR LR 13 54 05.4
MKAR Makanchi Array 44.44 62 P **P** **13 34 15.1 -1.7**
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR MLR MLR
comp=Z,58nm,18.2s
MKAR Makanchi Array 44.44 62 P **P** **13 34 15.1 -1.7**
WMQ Urumqi 49.07 64 *e*P **P** **13 34 53.8 +0.6**
SONM Songino Array 58.91 52 P **P** **13 36 03.4 -1.5**
comp=Z,2.5nm,0.8s,mb4.3,baz=294,slow=9.3,SNR=20
SONM LR LR 14 03 16.5
comp=Z,58nm,20.5s,MS3.7,baz=2.6,slow=38
SONM Songino Array 58.91 52 P **P** **13 36 03.4 -1.5**
SONM LR LR 14 03 16.5
SONM Songino Array 58.91 52 P **P** **13 36 03.4 -1.6**
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM MLR MLR
comp=Z,58nm,20.5s
SONM Songino Array 58.91 52 P **P** **13 36 03.4 -1.6**
LZH Lanzhou 63.64 64 *e*P **P** **13 36 36.5 -0.7**
LZH pP pP 13 36 46.9 +7.9
LZH sP sP 13 36 50.6 +11
LZH pmax pmax
comp=Z,19nm,1.2s,mb5.0
HHC Hu-ho-hao-te 65.84 56 *e*P **P** **13 36 50.8 -0.7**
HHC pP pP 13 37 00.8 +7.6
HHC sP sP 13 37 05.6 +12
HHC PP PP 13 39 17.0 +1.1
HHC S S 13 45 31.6 -7.1
HHC ScS ScS 13 46 37.0 -11
HHC SS SS 13 49 49.3 -3.3
HHC pmax pmax
comp=Z,16nm,0.4s
HHC pmax pmax
comp=Z,53nm,4.9s
HHC LR LR
comp=N,120nm,23.0s
HHC LR LR
comp=E,250nm,27.0s
HHC LR LR
comp=Z,130nm,10.3s
CD2 Chengdu 66.60 69 P **P** **13 36 57.0 +0.5**
CD2 S S 13 45 47.3 -0.9
CD2 SKS 13 46 51.8
CD2 SS SS 13 50 04.4 -0.5
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,110nm,5.3s
CD2 LR LR
comp=E,200nm,7.1s
CD2 LR LR
comp=Z,170nm,6.5s
LBTB Lobatse 67.55 173 LR LR 14 09 10.6
comp=Z,42nm,18.2s,MS3.7,baz=339,slow=38
YKA Yellowknife Ar 68.76 339 P **P** **13 37 07.2 -2.4**
comp=Z,1.8nm,1.0s,mb3.9,baz=37,slow=5.8,SNR=2.5
YKA LR LR 14 09 13.1
comp=Z,4.4nm,20.6s,MS2.7,baz=195,slow=38
YKA Yellowknife Ar 68.76 339 P **P** **13 37 07.2 -2.4**
YKA LR LR 14 09 13.1
YKA Yellowknife Ar 68.76 339 P **P** **13 37 07.2 -2.4**
YKA pmax pmax
comp=Z,2.0nm,1.0s
YKA MLR MLR
comp=Z,4.0nm,20.6s
CMAR Chiang Mai Arr 70.81 82 P **P** **13 37 20.9 -2.0**
comp=Z,0.6nm,0.8s,mb3.6,baz=305,slow=7.6,SNR=3.6
CMAR Chiang Mai Arr 70.81 82 P **P** **13 37 20.9 -2.0**
CMAR Chiang Mai Arr 70.81 82 P **P** **13 37 20.9 -2.0**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CMAR Chiang Mai Arr 70.81 82 P **P** **13 37 20.9 -2.0**
BOSA Boshof 71.08 174 LR LR 14 11 28.1
comp=Z,40nm,18.4s,MS3.7,baz=177,slow=38
CN2 Changchun 72.00 47 *e*P **P** **13 37 28.0 -1.8**
ILAR Eielson Array 72.40 353 P **P** **13 37 29.4 -2.4**
comp=Z,0.9nm,1.1s,mb3.6,baz=352,slow=5.3,SNR=5.8
ILAR Eielson Array 72.40 353 P **P** **13 37 29.4 -2.4**
ILAR Eielson Array 72.40 353 P **P** **13 37 29.4 -2.4**
ILAR pmax pmax
comp=Z,1.0nm,1.2s
KSRS Korea Array 77.72 50 P **P** **13 38 01.5 -1.5**
comp=Z,1.3nm,0.8s,mb3.9,baz=311,slow=5.8,SNR=6.9
KSRS LR LR 14 15 22.3
comp=Z,32nm,21.6s,MS3.6,baz=99,slow=38
KSRS Korea Array 77.72 50 P **P** **13 38 01.5 -1.5**
KSRS pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
KSRS MLR MLR
comp=Z,32nm,21.6s,MS3.6
PETK Petropavlovsk- 78.44 24 LR LR 14 17 34.8
comp=Z,55nm,19.9s,MS3.9,baz=98,slow=39
ASAJ Asahikawa 80.26 37 LR LR 14 18 25.6
comp=Z,43nm,19.2s,MS3.8,baz=167,slow=39
FX1 Attu Island--F 82.45 15 LR LR 14 22 36.8
comp=Z,44nm,20.9s,MS3.8,baz=230,slow=41
PDAR Pinedale Array 83.09 324 P **P** **13 38 28.5 -3.2**
comp=Z,0.6nm,0.8s,mb3.7,baz=64,slow=3.4,SNR=5.7
PDAR Pinedale Array 83.09 324 P **P** **13 38 28.6 -3.2**
MJAR Matsushiro Arr 83.99 45 LR LR 14 18 14.9
comp=Z,55nm,19.4s,MS4.0,baz=290,slow=37
TXAR Lajitas Array 90.88 312 P **P** **13 39 08.0 -1.9**
comp=Z,0.9nm,0.9s,mb4.1,baz=58,slow=4.5,SNR=8.2
TXAR Lajitas Array 90.88 312 P **P** **13 39 08.0 -1.9**
TXAR Lajitas Array 90.88 312 P **P** **13 39 08.0 -1.9**
TXAR pmax pmax
comp=Z,1.0nm,0.9s
TXAR Lajitas Array 90.88 312 P **P** **13 39 08.0 -1.9**
CPUP Villa Florida 97.77 241 LR LR 14 22 18.3
comp=Z,43nm,19.3s,MS4.0,baz=63,slow=35

NOU ***14*** *13:27:36.3±1.3, 19.°19S×169.°73E, h10km, MD3.2, ML3.2*
ISCJB ***14*** *13:27:40.1±0.8, 19.°43S±0.°08×169.°19E±0.°06, h184km±7km, mb4.4/25, Error ellipse: s-maj=13.2km s-min=8.4km az=153.4*
IDC ***14*** *13:27:40.3±2.1, 19.°35S×169.°23E, h170km±18km, mb4.1/19, mb1 4.2/20, mb1mx4.2/22, mbtmp4.1/20, Error ellipse: s-maj=14.3km s-min=11.7km az=148.0*
MOS ***14*** *13:27:41.1±1.0, 19.°39S×169.°19E, h191km, mb4.5/16, Error ellipse: s-maj=15.2km s-min=10.7km az=165.4*
NEIC ***14*** *13:27:41.4±0.9, 19.°35S×169.°19E, h183km±9km, mb4.5/9, Error ellipse: s-maj=11.2km s-min=6.7km az=163.0*
LDG ***14*** *13:27:44.6±0.2, 19.°42S×168.°47E, h200km, Mb4.3/2, Error ellipse: s-maj=25.8km s-min=4.7km az=116.0*
ISC 14 13:27:40.9±0.8, 19.°40S±0.°08×169.°19E±0.°06, h176km±7km, h165km±1.0km:pP-P,n153,σ1.°06/90, mb4.4/25, 15C-5D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.48**	**218**	*e*P		**Pn**		**13 28 34.4**	**-0.9**
BAYA				*e*S		**Sn**		**13 29 15.9**	**+0.4**
BAYA				AMP				13 29 33.3	
	comp=Z,15nm,3.5s								
DZM	**Mont Dzumac**	**3.69**	**224**	*e*P		**Pn**		**13 28 37.0**	**-0.9**
DZM				*e*S		**Sn**		**13 29 23.6**	**+3.1**
DZM				AMP				13 29 39.7	
	comp=Z,1μm,1.7s								
DZM	**Mont Dzumac**	**3.69**	**224**	*e*Pn		**Pn**		**13 28 37.7**	**-0.2**
DZM				*e*Sn		**Sn**		**13 29 23.2**	**+2.7**
NOUC	**Port Laguerre**	**3.81**	**225**	*e*P		**Pn**		**13 28 39.2**	**-0.2**
NOUC				*e*S		**Sn**		**13 29 25.8**	**+2.6**
NOUC				AMP				13 29 41.0	
	comp=Z,62nm,2.0s								
MVNO	**Noumea**	**3.84**	**221**	*e*P		**Pn**		**13 28 39.4**	**-0.3**
MVNO				*e*S		**Sn**		**13 29 25.8**	**+1.9**
MSVF	**Nonsavu**	**8.57**	**80**	*e*Pn		**Pn**		**13 29 42.7**	**+1.0**
	comp=Z,7.8nm,0.6s								
MSVF	**Nonsavu**	**8.57**	**80**	*e*P		**Pn**		**13 29 42.7**	**+1.0**
MSVF				pmax	pmax				
	comp=Z,8.0nm,0.6s								
EIDS	**Eidsvold**	**17.76**	**247**	*e*P		**Pn**		**13 31 38.3**	**+1.0**
	comp=Z,32nm,0.6s								
AFI	**Afiamalu**	**19.03**	**76**	P		**P**		**13 31 49.2**	**-0.4**
	comp=Z,2.5nm,0.3s,baz=290,slow=18,SNR=6.6								
AFI	**Afiamalu**	**19.03**	**76**	P		**P**		**13 31 49.2**	**-0.4**
AFI	**Afiamalu**	**19.03**	**76**	P		**P**		**13 31 49.2**	**-0.4**
AFI				pmax	pmax				
	comp=Z,3.0nm,0.3s								
ARMA	**Armidale**	**19.31**	**232**	*e*P		**P**		**13 31 54.9**	**+2.4**
URZ	**Urewera**	**20.02**	**162**	P		**P**		**13 32 01.1**	**+1.1**
	comp=Z,9.8nm,0.6s,baz=330,slow=8.7,SNR=14								
URZ	**Urewera**	**20.02**	**162**	*e*P		**P**		**13 32 01.5**	**+1.5**
	comp=Z,16nm,0.8s								
CTA	**Charters Tower**	**21.59**	**264**	P		**P**		**13 32 17.8**	**+0.8**
	comp=Z,9.0nm,0.7s,mb4.3,baz=82,slow=11,SNR=14								
CTA	**Charters Tower**	**21.59**	**264**	*e*P		**P**		**13 32 17.9**	**+0.9**
	comp=Z,4.4nm,0.4s,mb4.2								
CTA	**Charters Tower**	**21.59**	**264**	P		**P**		**13 32 17.8**	**+0.8**
CTA	**Charters Tower**	**21.59**	**264**	P		**P**		**13 32 17.8**	**+0.8**
CTA				pmax	pmax				
	comp=Z,9.0nm,0.7s								
CTAO	**Charters Tower**	**21.59**	**264**	*e*P		**P**		**13 32 17.8**	**+0.8**
	comp=Z,9.3nm,0.8s,mb4.3								
CTAO	**Charters Tower**	**21.59**	**264**	*e*P		**P**		**13 32 17.8**	**+0.8**
CTAO				pmax	pmax				
	comp=Z,9.0nm,0.8s,mb4.2								
PMG	**Port Moresby**	**23.51**	**292**	P		**P**		**13 32 34.2**	**-0.8**
	comp=Z,20nm,0.8s,mb4.7,baz=112,slow=5.9,SNR=6.7								
PMG	**Port Moresby**	**23.51**	**292**	P		**P**		**13 32 34.2**	**-0.8**
PMG	**Port Moresby**	**23.51**	**292**	P		**P**		**13 32 34.2**	**-0.9**
PMG				pmax	pmax				
	comp=Z,20nm,0.8s								
STKA	**Stephens Creek**	**27.72**	**238**	P		**P**		**13 33 14.0**	**+1.2**
	comp=Z,7.4nm,0.4s,mb4.7,baz=56,slow=8.1,SNR=48								
STKA				PcP	PcP			13 36 24.3	-0.8
	comp=Z,2.4nm,0.6s,baz=40,slow=3.4,SNR=6.0								
STKA	**Stephens Creek**	**27.72**	**238**	*e*P		**P**		**13 33 13.9**	**+1.1**
	comp=Z,7.3nm,0.4s,mb4.8								
STKA	**Stephens Creek**	**27.72**	**238**	P		**P**		**13 33 14.0**	**+1.2**
STKA				PcP	PcP			13 36 24.3	-0.8
STKA	**Stephens Creek**	**27.72**	**238**	P		**P**		**13 33 14.0**	**+1.2**
STKA				pmax	pmax			13 36 24.3	
STKA				pmax	pmax				
	comp=Z,7.0nm,0.4s								
STKA				pmax	pmax				
	comp=Z,2.0nm,0.6s								
WB2	**Warramunga Arr**	**32.77**	**263**	*e*P		**P**		**13 33 56.8**	**-0.7**
WRAB	**Tennant Creek**	**32.77**	**263**	*e*P		**P**		**13 33 56.9**	**-0.6**
	comp=Z,6.0nm,0.8s,mb4.4								
WRAB	**Tennant Creek**	**32.77**	**263**	*e*P		**P**		**13 33 56.9**	**-0.6**
WRAB				pmax	pmax				
	comp=Z,6.0nm,0.8s,mb4.4								
WRA	**Warramunga Arr**	**32.78**	**263**	P		**P**		**13 33 57.1**	**-0.5**
	comp=Z,5.3nm,0.5s,mb4.5,baz=98,slow=8.4,SNR=84								
WRA				PcP	PcP			13 36 38.4	-0.2
	comp=Z,0.2nm,0.4s,baz=86,slow=2.9,SNR=4.8								
WRA				ScP	ScP			13 40 07.1	+0.9
	comp=Z,1.1nm,0.8s,baz=88,slow=3.9,SNR=7.5								
WRA	**Warramunga Arr**	**32.78**	**263**	P		**P**		**13 33 57.1**	**-0.5**
WRA				PcP	PcP			13 36 38.4	-0.2
WRA				ScP	ScP			13 40 07.1	+0.9
WRA	**Warramunga Arr**	**32.78**	**263**	P		**P**		**13 33 57.1**	**-0.5**
WRA								13 36 38.4	
WRA				pmax	pmax				
	comp=Z,5.0nm,0.5s								
WRA				pmax	pmax				
	comp=Z,1.0nm,0.8s								
ASAR	**Alice Springs**	**33.04**	**256**	P		**P**		**13 34 00.1**	**+0.3**
	comp=Z,34nm,0.5s,mb5.3,baz=84,slow=8.8,SNR=1088								
ASAR				ScP	ScP			13 40 08.0	+1.0
	comp=Z,0.9nm,0.7s,baz=101,slow=4.0,SNR=8.4								
ASAR	**Alice Springs**	**33.04**	**256**	P		**P**		**13 34 00.1**	**+0.3**
ASAR				ScP	ScP			13 40 08.0	+1.0
ASAR	**Alice Springs**	**33.04**	**256**	P		**P**		**13 34 00.1**	**+0.4**
ASAR				pmax	pmax				
	comp=Z,34nm,0.5s								
ASAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
FORT	**Forrest**	**38.73**	**245**	*e*P		**P**		**13 34 47.9**	**-0.2**
	comp=Z,19nm,0.6s,mb4.9								
FITZ	**Fitzroy Crossi**	**41.18**	**264**	P		**P**		**13 35 09.4**	**+1.1**
	comp=Z,21nm,0.6s,mb4.9,baz=109,slow=7.4,SNR=105								
FITZ	**Fitzroy Crossi**	**41.18**	**264**	↓*i*P		**P**		**13 35 09.3**	**+1.0**
	comp=Z,36nm,0.6s,mb5.2								
FITZ	**Fitzroy Crossi**	**41.18**	**264**	P		**P**		**13 35 09.4**	**+1.1**
VNDA	**Vanda**	**58.27**	**182**	P		**P**		**13 37 16.7**	**+0.2**
	comp=Z,0.8nm,0.5s,mb3.8,baz=14,slow=6.5,SNR=8.0								
VNDA	**Vanda**	**58.27**	**182**	P		**P**		**13 37 16.7**	**+0.2**
VNDA	**Vanda**	**58.27**	**182**	P		**P**		**13 37 16.7**	**+0.2**
VNDA				pmax	pmax				
	comp=Z,1.0nm,0.5s								
MJAR	**Matsushiro Arr**	**62.87**	**332**	P		**P**		**13 37 47.6**	**-0.5**
	comp=Z,2.5nm,0.7s,mb4.2,baz=176,slow=9.0,SNR=6.9								
MJAR	**Matsushiro Arr**	**62.87**	**332**	P		**P**		**13 37 47.6**	**-0.5**
MJAR	**Matsushiro Arr**	**62.87**	**332**	P		**P**		**13 37 47.6**	**-0.5**
MJAR				pmax	pmax				
	comp=Z,3.0nm,0.7s								
ASAJ	**Asahikawa**	**67.73**	**340**	P		**P**		**13 38 20.1**	**+0.9**
	comp=Z,5.2nm,0.6s,mb4.4,baz=220,slow=10,SNR=9.9								
ASAJ	**Asahikawa**	**67.73**	**340**	P		**P**		**13 38 20.1**	**+0.9**
ASAJ				pmax	pmax				
	comp=Z,5.0nm,0.6s								
QSPA	**South Pole Qui**	**70.65**	**180**	⇑*e*P		**P**		**13 38 37.3**	**+0.6**
	comp=Z,6.7nm,0.8s,mb4.4								
QSPA				*e*pP		pP		13 39 17.2	-1.6
FX1	**Attu Island--F**	**72.06**	**3**	P		**P**		**13 38 44.9**	**-0.5**
	comp=Z,34nm,1.0s,mb5.0,baz=320,slow=16,SNR=6.8								
FX1	**Attu Island--F**	**72.06**	**3**	P		**P**		**13 38 44.9**	**-0.5**
FX1	**Attu Island--F**	**72.06**	**3**	P		**P**		**13 38 44.9**	**-0.5**
FX1				pmax	pmax				
	comp=Z,34nm,1.0s								
PETK	**Petropavlovsk-**	**72.89**	**353**	P		**P**		**13 38 49.9**	**-0.4**
	comp=Z,6.3nm,0.7s,mb4.5,baz=134,slow=8.4,SNR=5.3								
PETK	**Petropavlovsk-**	**72.89**	**353**	P		**P**		**13 38 49.9**	**-0.4**
PETK	**Petropavlovsk-**	**72.89**	**353**	P		**P**		**13 38 49.9**	**-0.4**
PETK				pmax	pmax				
	comp=Z,6.0nm,0.7s,mb4.4								
MAW	**Mawson**	**78.27**	**202**	P		**P**		**13 39 20.4**	**-0.4**
	comp=Z,1.0nm,0.4s,mb3.8,baz=25,slow=19,SNR=4.1								
MAW	**Mawson**	**78.27**	**202**	P		**P**		**13 39 20.4**	**-0.4**
MAW	**Mawson**	**78.27**	**202**	P		**P**		**13 39 20.4**	**-0.4**
MAW				pmax	pmax				
	comp=Z,1.0nm,0.4s								
CMAR	**Chiang Mai Arr**	**78.52**	**294**	P		**P**		**13 39 24.0**	**+1.0**
	comp=Z,0.4nm,0.4s,mb3.4,baz=104,slow=3.8,SNR=3.9								
CMAR	**Chiang Mai Arr**	**78.52**	**294**	P		**P**		**13 39 24.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**78.52**	**294**	P		**P**		**13 39 24.0**	**+0.9**
KDAK	**Kodiak Island**	**83.20**	**20**	*ce*P		**P**		**13 39 47.7**	**+0.8**
BILL	**Bilibino**	**87.21**	**359**	*e*P		**P**		**13 40 05.8**	**-0.8**
BILL				pmax	pmax				
	comp=Z,4.0nm,1.0s,mb4.2								
CMB	**Columbia Colle**	**87.30**	**48**	*e*P		**P**		**13 40 08.5**	**+0.7**
	comp=Z,5.4nm,0.8s,mb4.4								
CMB	**Columbia Colle**	**87.30**	**48**	*e*P		**P**		**13 40 08.5**	**+0.7**
CMB				pmax	pmax				
	comp=Z,5.0nm,0.8s,mb4.4								
SONM	**Songino Array**	**87.32**	**323**	P		**P**		**13 40 07.1**	**-0.5**
	comp=Z,2.0nm,0.9s,mb4.0,baz=156,slow=6.7,SNR=13								
SONM	**Songino Array**	**87.32**	**323**	P		**P**		**13 40 07.1**	**-0.5**
SONM	**Songino Array**	**87.32**	**323**	P		**P**		**13 40 07.1**	**-0.5**
SONM				pmax	pmax				
	comp=Z,2.0nm,0.9s								
NVAR	**Mina Array Bea**	**88.94**	**49**	P		**P**		**13 40 16.5**	**+1.0**
	comp=Z,4.4nm,0.9s,mb4.4,baz=227,slow=8.5,SNR=22								
NVAR	**Mina Array Bea**	**88.94**	**49**	P		**P**		**13 40 16.5**	**+1.0**
SNAA	**Sanae**	**89.00**	**183**	*e*P		**P**		**13 40 14.3**	**-1.0**
	comp=Z,3.1nm,0.5s,mb4.5								
SNAA	**Sanae**	**89.00**	**183**	*e*P		**P**		**13 40 14.3**	**-0.9**
SNAA				pmax	pmax				
	comp=Z,3.0nm,0.5s								
VNA3	**Neumayer Olymp**	**89.59**	**180**	*e*		**P**		**13 40 14.7**	**-3.3**
VNA3				*e*		pP		13 40 55.7	-6.2
VNA2	**Neumayer--Watz**	**89.88**	**181**	*e*		**P**		**13 40 16.2**	**-3.2**
	baz=186,slow=5.0								
VNA2				*e*		pP		13 40 57.1	-6.2
VNA1	**Neumayer--Stat**	**90.17**	**181**	*e*		**P**		**13 40 17.9**	**-2.8**
ILAR	**Eielson Array**	**90.40**	**17**	P		**P**		**13 40 20.1**	**-1.5**
	comp=Z,1.3nm,0.6s,mb4.0,baz=235,slow=5.3,SNR=23								
ILAR	**Eielson Array**	**90.40**	**17**	P		**P**		**13 40 20.1**	**-1.5**
ILAR	**Eielson Array**	**90.40**	**17**	P		**P**		**13 40 20.1**	**-1.5**
ILAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
WVOR	**Wild Horse Val**	**90.46**	**45**	*e*P		**P**		**13 40 23.2**	**+0.8**
	comp=Z,9.2nm,1.1s,mb4.6								
WVOR	**Wild Horse Val**	**90.46**	**45**	*e*P		**P**		**13 40 23.2**	**+0.7**
WVOR				pmax	pmax				
	comp=Z,9.0nm,1.1s,mb4.6								
PDAR	**Pinedale Array**	**96.76**	**47**	P		**P**		**13 40 51.2**	**-0.2**
	comp=Z,0.3nm,0.6s,mb3.8,baz=240,slow=1.8,SNR=2.9								
PDAR	**Pinedale Array**	**96.76**	**47**	P		**P**		**13 40 51.2**	**-0.2**
TXAR	**Lajitas Array**	**96.89**	**61**	P		**P**		**13 40 52.2**	**-0.1**
	comp=Z,0.5nm,0.7s,mb3.9,baz=230,slow=6.3,SNR=7.2								
TXAR	**Lajitas Array**	**96.89**	**61**	P		**P**		**13 40 52.2**	**-0.1**
TXAR	**Lajitas Array**	**96.89**	**61**	P		**P**		**13 40 52.2**	**-0.1**
TXAR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
YKA	**Yellowknife Ar**	**100.83**	**27**	P		Pdif		13 41 09.5	0.0
	comp=Z,0.7nm,0.6s,baz=256,slow=5.2,SNR=5.3								
YKA	**Yellowknife Ar**	**100.83**	**27**	P		Pdif		13 41 09.5	0.0
YKA	**Yellowknife Ar**	**100.83**	**27**	P		Pdif		13 41 09.5	0.0
YKA				pmax	pmax				
	comp=Z,1.0nm,0.6s								
AKTK	**Aktyubinsk**	**118.15**	**317**	PKP		PKPdf		13 46 06.5	-0.2
AKTO	**Aktyubinsk**	**118.15**	**317**	PKP		PKPdf		13 46 06.5	-0.2
	comp=Z,0.5nm,0.3s,baz=66,slow=17,SNR=3.8								
AKTO	**Aktyubinsk**	**118.15**	**317**	PKIKP		PKPdf		13 46 06.5	-0.2
AKTO				pmax	pmax				
	comp=Z,1.0nm,0.3s								
ARCES	**ARCESS Array B**	**125.21**	**345**	PKP		PKPdf		13 46 19.5	-0.2
	comp=Z,2.6nm,0.4s,baz=62,slow=2.5,SNR=26								
ARCES	**ARCESS Array B**	**125.21**	**345**	PKP		PKPdf		13 46 19.5	-0.2
ARCES	**ARCESS Array B**	**125.21**	**345**	PKIKP		PKPdf		13 46 19.5	-0.2
ARCES				pmax	pmax				
	comp=Z,3.0nm,0.4s								
FINES	**FINESS Array B**	**130.72**	**338**	PKP		PKPdf		13 46 29.9	-0.6
	comp=Z,1.8nm,0.9s,baz=62,slow=3.3,SNR=4.0								
FINES	**FINESS Array B**	**130.72**	**338**	PKP		PKPdf		13 46 29.9	-0.6
FINES	**FINESS Array B**	**130.72**	**338**	PKIKP		PKPdf		13 46 29.9	-0.5
FINES				pmax	pmax				
	comp=Z,2.0nm,0.9s								
NOA	**NORSAR Array B**	**135.59**	**345**	PKP		PKPdf		13 46 39.7	+0.1
	comp=Z,0.5nm,0.6s,baz=7.1,slow=4.0,SNR=2.7								
NOA	**NORSAR Array B**	**135.59**	**345**	PKP		PKPdf		13 46 39.7	+0.1
NOA	**NORSAR Array B**	**135.59**	**345**	PKIKP		PKPdf		13 46 39.7	+0.1
NOA				pmax	pmax				
	comp=Z,1.0nm,0.6s								
AKASG	**Malin Array Be**	**135.59**	**324**	PKP		PKPdf		13 46 38.3	-1.6
	comp=Z,0.4nm,0.4s,baz=67,slow=1.7,SNR=4.2								
AKASG	**Malin Array Be**	**135.59**	**324**	PKP		PKPdf		13 46 38.3	-1.6
AKASG	**Malin Array Be**	**135.59**	**324**	PKIKP		PKPdf		13 46 38.3	-1.6
DPC	**Dobruska-Polom**	**142.34**	**331**	*e*PKIKP		PKPdf		13 46 50.5	-1.8
DPC	**Dobruska-Polom**	**142.34**	**331**	*e*PKP		PKPdf		13 46 50.5	-1.8
CLL	**Collm**	**143.04**	**335**	*e*PKIKP		PKPdf		13 46 55.0	+1.5
CLL	**Collm**	**143.04**	**335**	*e*PKPdf		PKPdf		13 46 55.0	+1.5
EKA	**Eskdalemuir Ar**	**143.66**	**353**	PKhKP		PKPpre		13 46 51.6	
	comp=Z,1.8nm,0.5s,baz=5.0,slow=3.1,SNR=9.5								
EKA	**Eskdalemuir Ar**	**143.66**	**353**	PKP		PKPpre		13 46 51.6	
EKA	**Eskdalemuir Ar**	**143.66**	**353**	PKIKP		PKPpre		13 46 51.7	
EKA				pmax	pmax				
	comp=Z,2.0nm,0.5s								
NKC	**Novy Kostel**	**144.10**	**334**

MBDF	**Montbardon**	**150.81 334**	*e*PKP1	PKPbc	13 47 12.5	+0.1
	comp=Z,16nm,0.8s					
QUIF	**Quistinic**	**150.88 349**	*e*PKP1	PKPbc	13 47 11.8	-0.7
ORIF	**Oris-en-Rattie**	**151.01 335** ⇑*i*PKP1		PKPbc	13 47 13.2	+0.3
	comp=Z,22nm,0.7s					
TCF	**Toulx Ste Croi**	**151.12 341** ⇑*i*PKP1		PKPbc	13 47 13.1	0.0
	comp=Z,16nm,0.8s					
PGF	**Pioggiola**	**151.49 328** *e*PKP1		PKPbc	13 47 14.2	+0.2
	comp=Z,45nm,0.6s					
MFF	**Saint Martin d**	**151.49 344** *e*PKP1		PKPbc	13 47 13.8	-0.1
	comp=Z,8.5nm,0.7s					
VIVF	**Saint-Julien-l**	**151.53 337** *e*PKP1		PKPbc	13 47 13.9	-0.2
	comp=Z,2.9nm,0.4s					
RJF	**Les Rejaudoux**	**152.22 341** *e*PKP1		PKPbc	13 47 15.6	0.0
CAF	**Calviac**	**152.38 340** *e*PKP1		PKPbc	13 47 16.1	+0.1
LFF	**La Frestale**	**152.78 342** *e*PKP1		PKPbc	13 47 17.6	+0.8
	comp=Z,8.8nm,0.4s					
TORD	**Torodi Ar. Bea**	**166.48 244**	PKP	PKPdf	13 47 25.3	-0.7
	comp=Z,0.6nm,0.8s,baz=100,slow=1.1,SNR=3.8					
TORD	**Torodi Ar. Bea**	**166.48 244**	PKP	PKPdf	13 47 25.3	-0.7

*IDC **14** 13:37:42.4±0.8, 18°.78N×120°.07E, h0km, mb3.7/10, mb1 3.8/11, mb1mx3.7/24, mbtmp3.7/11, ML3.5/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/31, Error ellipse: s-maj=33.5km s-min=15.5km az=67.0*

*ISCJB **14** 13:37:47.4±1.1, 18°.73N±0°.09×120°.1E±0°.1, h57km±11km, mb3.7/11, Error ellipse: s-maj=22.5km s-min=11.1km az=151.4*

*NEIC **14** 13:37:47.0±0.5, 18°.70N×120°.10E, h35km, mb4.0/2, Error ellipse: s-maj=25.6km s-min=10.1km az=61.0*

ISC 14 13:37:48.1±1.2, 18°.76N±0°.08×120°.2E±0°.1, h45km±13km, n30, σ1§02/31, mb3.7/11, 1C, Luzon

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
PIP	**Pasuquin**	**0.59 137** ⇑*i*P		**Pn**	**13 38 00.9**	**+0.7**
ABRA	**Dolores**	**1.21 156** *e*P		**Pn**	**13 38 09.0**	**+0.4**
ABRA		*e*S		**Sn**	**13 38 15.2**	**-8.6**
APYP	**Conner**	**1.34 132** *e*P		**Pn**	**13 38 13.7**	**+3.4**
APYP		*e*S		**Sn**	**13 38 26.1**	**-1.0**
KSRS	**Korea Array**	**19.82 18** P		**Pn**	**13 42 15.4**	**-1.3**
	0.1nm,0.3s,baz=198,slow=11,SNR=2.9					
CMAR	**Chiang Mai Arr**	**20.14 273** P		**P**	**13 42 17.3**	**-1.3**
	0.6nm,0.9s,baz=76,slow=11,SNR=3.0					
CMAR	**Chiang Mai Arr**	**20.14 273** P		**P**	**13 42 17.3**	**-1.3**
SONM	**Songino Array**	**31.11 342** P		**P**	**13 44 02.8**	**+0.7**
	0.4nm,0.8s,mb3.3,baz=164,slow=5.8,SNR=4.3					
SONM	**Songino Array**	**31.11 342** P		**P**	**13 44 02.8**	**+0.7**
WRAB	**Tennant Creek**	**40.88 159** *e*P		**P**	**13 45 24.6**	**-1.4**
	2.1nm,0.8s,mb3.8					
WRAB		*e*		pP	13 45 33.9	-4.3
WRA	**Warramunga Arr**	**40.89 159** P		**P**	**13 45 25.9**	**-0.1**
	0.6nm,0.7s,mb3.3,baz=341,slow=9.0,SNR=4.6					
WRA	**Warramunga Arr**	**40.89 159** P		**P**	**13 45 25.9**	**-0.1**
WB2	**Warramunga Arr**	**40.89 159** *e*P		**P**	**13 45 23.7**	**-2.4**
WB2		*e*		pP	13 45 34.2	-4.1
MK31	**Makanchi Array**	**41.76 321** *e*P		**P**	**13 45 33.1**	**+0.2**
MKAR	**Makanchi Array**	**41.76 321** P		**P**	**13 45 31.8**	**-1.1**
	1.9nm,0.9s,mb3.7,baz=116,slow=8.2,SNR=10					
MKAR	**Makanchi Array**	**41.76 321** P		**P**	**13 45 31.8**	**-1.1**
ASAR	**Alice Springs**	**44.24 162** P		**P**	**13 45 54.4**	**+1.2**
	0.5nm,0.5s,mb3.5,baz=339,slow=6.7,SNR=28					
ASAR	**Alice Springs**	**44.24 162** P		**P**	**13 45 54.4**	**+1.2**
ZALV	**Zalesovo Beam**	**44.39 331** P		**P**	**13 45 53.8**	**-0.2**
	0.6nm,0.3s,mb3.8,baz=114,slow=7.1,SNR=3.5					
ZALV	**Zalesovo Beam**	**44.39 331** P		**P**	**13 45 53.8**	**-0.2**
KURK	**Kurchatov**	**45.78 324** LR		LR	14 08 32.7	
	comp=Z,12nm,20.1s,baz=335,slow=40					
STKA	**Stephens Creek**	**54.37 158** P		**P**	**13 47 12.1**	**+1.7**
	1.3nm,0.9s,mb3.9,baz=317,slow=18,SNR=2.2					
STKA	**Stephens Creek**	**54.37 158** P		**P**	**13 47 12.1**	**+1.7**
ABKAR	**Akbulak array**	**56.66 317** *e*P		**P**	**13 47 27.3**	**+0.5**
	1.5nm,0.9s,mb4.0					
AKTK	**Aktyubinsk**	**58.09 318** P		**P**	**13 47 37.2**	**+0.4**
AKTO	**Aktyubinsk**	**58.09 318** P		**P**	**13 47 37.2**	**+0.4**
	2.0nm,0.7s,mb4.3,baz=83,slow=12,SNR=7.2					
ILAR	**Eielson Array**	**74.45 26** P		**P**	**13 49 21.6**	**+0.3**
	0.3nm,0.9s,mb3.2,baz=273,slow=6.3,SNR=4.3					
ILAR	**Eielson Array**	**74.45 26** P		**P**	**13 49 21.6**	**+0.3**
FINES	**FINESS Array B**	**75.66 330** P		**P**	**13 49 29.0**	**+0.7**
	3.1nm,0.9s,mb4.2,baz=53,slow=5.4,SNR=2.5					
FINES	**FINESS Array B**	**75.66 330** P		**P**	**13 49 29.0**	**+0.7**
CLL	**Collm**	**85.81 323** *e*P		**P**	**13 50 23.0**	**+0.2**

IDC 14 13:44:08.2±1.3, 0°.17S×125°.93E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/20, mbtmp3.5/4, Error ellipse: s-maj=131.8km s-min=21.9km az=68.0, Southern Molucca Sea

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.31 158** P		P	13 48 56.2	-0.5
	1.4nm,0.7s,baz=336,slow=11,SNR=9.3					
ASAR	**Alice Springs**	**24.61 162** P		P	13 49 30.9	+0.6
	0.5nm,0.6s,baz=344,slow=9.8,SNR=7.1					
SONM	**Songino Array**	**50.74 343** P		P	13 53 10.2	+0.4
	0.4nm,0.7s,baz=148,slow=8.5,SNR=3.1					
MKAR	**Makanchi Array**	**60.32 327** P		P	13 54 18.6	-0.2
	0.3nm,0.3s,baz=124,slow=8.3,SNR=6.1					

*IDC **14** 13:56:15.2±2.1, 18°.78N×119°.84E, h0km, mb3.8/5, mb1 3.8/5, mb1mx3.5/22, mbtmp3.8/5, Error ellipse: s-maj=261.7km s-min=19.9km az=62.0*

*ISCJB **14** 13:56:18.5±0.8, 18°.7N±0°.2×119°.6E±0°.2, h33km, mb3.7/5, Error ellipse: s-maj=42.2km s-min=10.8km az=135.5*

ISC 14 13:56:20.4±0.8, 18°.8N±0°.2×119°.8E±0°.3, h35km, n8, σ0§85/10, mb3.7/5, Philippine Islands region

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
ABRA	**Dolores**	**1.41 141** *e*P		**Pn**	**13 56 42.4**	**-1.2**
ABRA		*e*S		**Sn**	**13 56 51.8**	**-9.2**
APYP	**Conner**	**1.65 122** *e*P		**Pn**	**13 56 46.4**	**-0.6**
APYP		*e*S		**Sn**	**13 56 59.7**	**-7.3**
CAUP	**Cauayan**	**2.65 132** *e*P		**Pn**	**13 57 02.5**	**+1.8**
MKAR	**Makanchi Array**	**41.52 321** P		**P**	**14 04 04.2**	**0.0**
	1.0nm,0.8s,mb3.5,baz=115,slow=9.7,SNR=5.0					
ZALV	**Zalesovo Beam**	**44.21 331** P		**P**	**14 04 25.3**	**-0.6**
	0.2nm,0.3s,mb3.3,baz=122,slow=5.2,SNR=2.1					
ASAR	**Alice Springs**	**44.35 161** P		**P**	**14 04 27.2**	**-0.2**
	0.7nm,0.4s,mb3.7,baz=340,slow=6.8,SNR=15					
KURK	**Kurchatov**	**45.56 324** P		**P**	**14 04 37.4**	**+0.6**
	1.6nm,0.8s,mb4.0,baz=121,slow=8.1,SNR=10					
STKA	**Stephens Creek**	**54.51 157** P		**P**	**14 05 45.2**	**+0.3**
	0.9nm,0.6s,mb4.0,baz=338,slow=19,SNR=3.1					

*IDC **14** 13:58:07.0±1.3, 9°.66S×124°.19E, h0km, mb3.6/3, mb1 3.8/6, mb1mx3.6/18, mbtmp3.6/6, ML3.6/3, MS2.9/2, Ms1 2.9/2, ms1mx2.5/22, Error ellipse: s-maj=100.5km s-min=23.5km az=66.0*

*NEIC **14** 13:58:11.9±0.7, 9°.71S×124°.28E, h35km, Error ellipse: s-maj=31.7km s-min=8.4km az=60.0*

*ISCJB **14** 13:58:16.6±2.9, 10°.1S±0°.1×124°.2E±0°.1, h115km±33km, mb3.5/3, Error ellipse: s-maj=31.5km s-min=12.6km az=43.5.*

ISC 14 13:58:16.5±3.4, 10°.0S±0°.2×124°.3E±0°.1, h90km±40km, n16, σ1§18/22, mb3.5/3, Timor region

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**8.13 171**	Pn	**Pn**	**14 00 11.6**	**-0.1**
	0.5nm,0.3s,baz=356,slow=10,SNR=26					
FITZ			Sn	**Sn**	**14 01 41.5**	**-0.6**
	1.5nm,0.3s,baz=322,slow=4.0,SNR=12					
FITZ	**Fitzroy Crossi**	**8.13 171**	Pn	**Pn**	**14 00 11.6**	**-0.1**
FITZ			Sn	**Sn**	**14 01 41.5**	**-0.6**
WRA	**Warramunga Arr**	**13.83 137**	Pn	**Pn**	**14 01 29.1**	**+0.5**
	0.3nm,0.3s,baz=309,slow=14,SNR=16					
WRA			Sn	**Sn**	**14 03 59.2**	**-1.5**
	0.2nm,0.3s,baz=312,slow=22,SNR=3.7					
WRA	**Warramunga Arr**	**13.83 137**	Pn	**Pn**	**14 01 29.1**	**+0.5**
WRA			Sn	**Sn**	**14 03 59.2**	**-1.5**
WRAB	**Tennant Creek**	**13.83 137**	*e*Pn	**Pn**	**14 01 28.8**	**+0.2**
WRAB			*e*Sn	**Sn**	**14 03 58.4**	**-2.3**
WB2	**Warramunga Arr**	**13.83 137**	*e*Pn	**Pn**	**14 01 28.8**	**+0.1**
WB2			*e*Sn	**Sn**	**14 04 03.5**	**+2.5**
ASAR	**Alice Springs**	**16.38 147**	Pn	**Pn**	**14 02 03.0**	**+2.1**
	0.3nm,0.3s,baz=319,slow=11,SNR=22					
ASAR			Sn	**Sn**	**14 05 02.6**	**+0.2**
	0.2nm,0.3s,baz=313,slow=21,SNR=6.9					
ASAR	**Alice Springs**	**16.38 147**	Pn	**Pn**	**14 02 03.0**	**+2.1**
ASAR			Sn	**Sn**	**14 05 02.6**	**+0.2**
CTA	**Charters Tower**	**23.42 118**	LR	LR	14 13 02.2	
	comp=Z,42nm,18.8s,baz=52,slow=38					
NWAO	**Narrogin (SRO)**	**23.70 195**	LR	LR	14 13 33.6	
	comp=Z,18nm,21.9s,baz=279,slow=39					
SONM	**Songino Array**	**59.76 346**	P	**P**	**14 08 10.4**	**-1.4**
	0.2nm,0.4s,mb3.5,baz=134,slow=4.8,SNR=3.3					
SONM	**Songino Array**	**59.76 346**	P	**P**	**14 08 10.4**	**-1.4**
MKAR	**Makanchi Array**	**67.84 330**	P	**P**	**14 09 05.4**	**+0.4**
	0.3nm,0.5s,mb3.4,baz=127,slow=7.8,SNR=4.6					
MKAR	**Makanchi Array**	**67.84 330**	P	**P**	**14 09 05.4**	**+0.4**
ZALV	**Zalesovo Beam**	**71.95 337**	P	**P**	**14 09 30.1**	**0.0**
	0.3nm,0.4s,mb3.5,baz=151,slow=6.3,SNR=2.4					
ZALV	**Zalesovo Beam**	**71.95 337**	P	**P**	**14 09 30.1**	**0.0**

IDC 14 14:11:58.9±2.2, 5°.64S×130°.05E, h0km, mb3.4/1, mb1 3.7/4, mb1mx3.4/17, mbtmp3.5/4, ML3.3/3, Error ellipse: s-maj=78.4km s-min=29.2km az=76.0, Banda Sea

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.12 199**	Pn	**Pn**	**14 15 06.7**	**0.0**
	0.3nm,0.3s,baz=23,slow=12,SNR=17					
FITZ			Sn	**Sn**	**14 17 16.1**	**-17**
	0.3nm,0.3s,baz=18,slow=16,SNR=6.7					
WRA	**Warramunga Arr**	**14.82 164**	Pn	**Pn**	**14 15 29.5**	**-0.4**
	0.0nm,0.3s,baz=344,slow=12,SNR=3.2					
WRA			Sn	**Sn**	**14 18 04.3**	**-11**
	0.4nm,0.3s,baz=344,slow=22,SNR=9.2					
ASAR	**Alice Springs**	**18.31 169**	P	**Pn**	**14 16 14.6**	**+0.1**
	0.4nm,0.3s,baz=347,slow=11,SNR=52					
ASAR			S	**Sn**	**14 19 24.5**	**-15**
	0.1nm,0.3s,baz=347,slow=28,SNR=3.2					
MKAR	**Makanchi Array**	**67.12 326**	P	**P**	**14 22 54.5**	**+0.1**
	0.1nm,0.3s,baz=120,slow=8.7,SNR=4.1					

*ISCJB **14** 14:14:12.6±0.4, 38°.37S±0°.03×176°.20E±0°.05, h179km±3km, mb3.8/6, Error ellipse: s-maj=6.7km s-min=4.5km az=8.1*

*IDC **14** 14:14:12.6±0.5, 38°.58S×176°.28E, h157km±6km, mb3.5/4, mb1 3.7/5, mb1mx3.5/15, mbtmp3.6/5, Error ellipse: s-maj=26.0km s-min=15.5km az=133.0*

*NEIC **14** 14:14:14.7, 38°.27S×176°.23E, h160km, mb3.9/2, After WEL.*

NEIC Felt in the Eskdale-Havelock North area and at Palmerston North, Rotorua and Wellington.

*BJI **14** 14:14:14.6, 38°.30S×176°.20E, h160km*

*WEL **14** 14:14:15.0±0.2, 38°.28S×176°.25E, h157km±1km, ML5.2/23, Error ellipse: s-maj=1.2km s-min=1.0km az=90.0, 4.*

WEL Felt between Auckland, Canterbury and Gisborne, maximum reported intensity MM.

ISC 14 14:14:13.8±0.3, 38°.37S±0°.03×176°.18E±0°.05, h170km±3km, n146, σ1§03/143, mb3.8/6, 36C-2D, North Island

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
HRRZ	**Handcock Road**	**0.08 108** ⇑P	N	**Pn**	**14 14 36.0**	**-0.3**
UTU	**Utuhina**	**0.19 2** ⇑P	N	**Pn**	**14 14 36.2**	**-0.3**
PRRZ	**Plateau Road**	**0.21 129** ⇑P	N	**Pn**	**14 14 36.1**	**-0.4**
ALRZ	**Allen Road**	**0.23 148** ⇑P	N	**Pn**	**14 14 36.0**	**-0.5**
RRRZ	**Republican Roa**	**0.26 84** ⇑P	N	**Pn**	**14 14 36.0**	**-0.6**
TARZ	**Mount Tarawera**	**0.28 63** ⇑P	N	**Pn**	**14 14 36.2**	**-0.5**
OMRZ	**Omania**	**0.30 30** ⇑P	N	**Pn**	**14 14 36.1**	**-0.7**
OMRZ			SN	**Sn**	**14 14 52.4**	**-1.9**
MKRZ	**Makatiti**	**0.32 45** ⇑P	N	**Pn**	**14 14 36.7**	**-0.1**
KARZ	**Kaharoa**	**0.35 8** ⇑P	N	**Pn**	**14 14 36.2**	**-0.7**
WHTZ	**Whakaora**	**0.35 211** P	N	**Pn**	**14 14 37.2**	**+0.4**
LIRZ	**Lichensteins R**	**0.39 24** P	N	**Pn**	**14 14 36.3**	**-0.7**
WATZ	**Wairara**	**0.49 226** ⇑P	N	**Pn**	**14 14 37.7**	**+0.4**
EDRZ	**Edgecumbe**	**0.51 59** ⇑P	N	**Pn**	**14 14 36.5**	**-1.0**
HATZ	**Hinemaiaia**	**0.53 188** P	N	**Pn**	**14 14 37.7**	**+0.1**
MARZ	**Manawahe**	**0.54 46** ⇑P	N	**Pn**	**14 14 36.9**	**-0.8**
OPRZ	**Ohinepanea**	**0.60 29** ⇑P	N	**Pn**	**14 14 36.8**	**-1.1**
RATZ	**Rangitukua**	**0.60 213** ⇑P	N	**Pn**	**14 14 38.2**	**+0.4**
TGRZ	**Tauranga**	**0.64 5** P	N	**Pn**	**14 14 37.1**	**-1.0**
RITZ	**Rihia Road**	**0.66 203** P	N	**Pn**	**14 14 38.9**	**+0.7**
KATZ	**Kakaramea**	**0.72 212** P	N	**Pn**	**14 14 39.1**	**+0.6**
URZ	**Urewera**	**0.74 82** ⇑P	N	**Pn**	**14 14 37.6**	**-1.0**
URZ			SN	**Sn**	**14 14 54.7**	**-3.0**
URZ	**Urewera**	**0.74 82** P		**Pn**	**14 14 37.4**	**-1.3**
	405nm,0.3s,baz=255,slow=5.4,SNR=4241					
URZ			S	**Sn**	**14 14 54.6**	**-3.1**
	1µm,0.3s,baz=156,slow=22,SNR=119					
URZ	**Urewera**	**0.74 82** *e*Pn		**Pn**	**14 14 37.5**	**-1.1**
URZ		*e*Sn		**Sn**	**14 14 51.3**	**-6.4**
TOZ	**Tahuroa Road**	**0.83 319** P	N	**Pn**	**14 14 38.9**	**-0.4**
BKZ	**Black Stump Fm**	**0.83 163** ⇑P	N	**Pn**	**14 14 39.8**	**+0.5**
KRVZ	**Karewarewa**	**0.84 210** ⇑P	N	**Pn**	**14 14 39.9**	**+0.6**
NMHZ	**Naumai**	**0.88 147** ⇑P	N	**Pn**	**14 14 40.9**	**+1.3**
WTVZ	**West Tongariro**	**0.88 212** ⇑P	N	**Pn**	**14 14 40.2**	**+0.7**
OTVZ	**Oturere**	**0.89 207** P	N	**Pn**	**14 14 40.4**	**+0.8**
RAHZ	**Arahi**	**0.90 128** ⇑P	N	**Pn**	**14 14 40.3**	**+0.7**
NGZ	**Ngauruhoe**	**0.93 209** P	N	**Pn**	**14 14 40.6**	**+0.6**
WPVZ	**Whakapapa**	**0.97 211** ⇑P	N	**Pn**	**14 14 40.9**	**+0.6**
TUVZ	**Tukino**	**0.99 205** P	N	**Pn**	**14 14 41.4**	**+1.0**
FWVZ	**Far West T-bar**	**1.02 209** ⇑P	N	**Pn**	**14 14 41.3**	**+0.7**
DRZ	**Dome Shelter**	**1.03 208** P	N	**Pn**	**14 14 41.6**	**+1.0**
HIZ	**Hauiti**	**1.05 262** P	N	**Pn**	**14 14 41.4**	**+0.5**
TRVZ	**Turoa**	**1.06 208** ⇑P	N	**Pn**	**14 14 41.7**	**+0.9**
MWZ	**Matawai**	**1.06 89** ⇑P	N	**Pn**	**14 14 40.5**	**-0.4**
WNVZ	**Wahianoa**	**1.06 205** ⇑P	N	**Pn**	**14 14 41.9**	**+1.0**
MYRZ	**Mayor Island**	**1.08 2** P	N	**Pn**	**14 14 40.2**	**-1.0**
MOVZ	**Moawhango**	**1.09 198** ⇑P	N	**Pn**	**14 14 41.7**	**+0.6**
BHHZ	**Black Hill Sta**	**1.12 185** ⇑P	N	**Pn**	**14 14 42.2**	**+0.8**
PKVZ	**Pokaka**	**1.13 215** P	N	**Pn**	**14 14 42.4**	**+0.9**
MCHZ	**McNeill Hill**	**1.15 160** ⇑P	N	**Pn**	**14 14 43.1**	**+1.4**
MTVZ	**Mangateitei**	**1.16 208** ⇑P	N	**Pn**	**14 14 42.6**	**+0.9**
KNZ	**Kokohu**	**1.34 120** ⇑P	N	**Pn**	**14 14 43.6**	**+0.3**
VRZ	**Vera Road**	**1.35 235** P	N	**Pn**	**14 14 44.6**	**+1.2**
PRGZ	**Paritu Road**	**1.44 113** P	N	**Pn**	**14 14 44.6**	**+0.3**
CKHZ	**Cape Kidnapper**	**1.47 152** ⇑P	N	**Pn**	**14 14 45.8**	**+1.3**
MKAZ	**Moumakai**	**1.49 327** ⇓P	N	**Pn**	**14 14 44.4**	**-0.4**
KAHZ	**Kahuranaki**	**1.52 160** ⇑P	N	**Pn**	**14 14 46.5**	**+1.4**
PNHZ	**Pukenui**	**1.55 180** ⇑P	N	**Pn**	**14 14 46.1**	**+0.8**
MHGZ	**Mahia Peninsul**	**1.56 121** ⇑P	N	**Pn**	**14 14 46.3**	**+0.8**
CNGZ	**Carnagh Statio**	**1.59 95** ⇓P	N	**Pn**	**14 14 46.2**	**+0.4**
MHEZ	**Mangahewa**	**1.62 243** P	N	**Pn**	**14 14 47.6**	**+1.5**
KUZ	**Kuautunu**	**1.66 347** P	N	**Pn**	**14 14 45.5**	**-1.0**
PUZ	**Puketiti**	**1.66 80** P	N	**Pn**	**14 14 45.7**	**-0.8**
WAZ	**Wanganui**	**1.67 214** ⇑P	N	**Pn**	**14 14 47.7**	**+1.1**
RAEZ	**Rainy Point**	**1.67 236** P	N	**Pn**	**14 14 48.2**	**+1.5**
TSZ	**Takapari Road**	**1.70 186** ⇑P	N	**Pn**	**14 14 47.7**	**+0.8**
WPHZ	**Waipukurau**	**1.71 173** P	N	**Pn**	**14 14 47.9**	**+0.9**
OTAZ	**Otara**	**1.73 324** P	N	**Pn**	**14 14 46.9**	**-0.4**
PXZ	**Pawanui**	**1.75 163** ⇑P	N	**Pn**	**14 14 48.3**	**+1.0**
DREZ	**Durham Road**	**1.75 241** P	N	**Pn**	**14 14 49.0**	**+1.5**
MXZ	**Matakaoa Point**	**1.86 65** P	N	**Pn**	**14 14 47.8**	**-0.8**
NEZ	**North Egmont**	**1.86 240** P	N	**Pn**	**14 14 50.4**	**+1.8**
DFE	**Dawson Falls**	**1.89 239** P	N	**Pn**	**14 14 50.5**	**+1.7**
PKE	**Pukeiti**	**1.91 244** P	N	**Pn**	**14 14 50.5**	**+1.4**
WTAZ	**Waiatarua**	**1.92 318** P	N	**Pn**	**14 14 48.9**	**-0.4**
PRHZ	**Porangahau**	**1.93 170** P	N	**Pn**	**14 14 50.2**	**+0.9**
DVHZ	**Dannevirke**	**1.93 180** P	N	**Pn**	**14 14 49.9**	**+0.6**
KAAZ	**Kauri Point**	**1.94 322** P	N	**Pn**	**14 14 49.0**	**-0.5**
NRZ	**Ngariki Road**	**2.01 240** P	N	**Pn**	**14 14 51.4**	**+1.3**
NWEZ	**Newall Road**	**2.02 243** P	N	**Pn**	**14 14 51.8**	**+1.5**
RVAZ	**Riverhead Bore**	**2.04 321** P	N	**Pn**	**14 14 49.9**	**-0.7**
POWZ	**Post Office Ro**	**2.05 189** P	N	**Pn**	**14 14 51.2**	**+0.6**
BFZ	**Birch Farm**	**2.31 179** P	N	**Pn**	**14 14 53.7**	**+0.1**
MRZ	**Mangatainoka R**	**2.34 191** P	N	**Pn**	**14 14 53.8**	**-0.2**
TIWZ	**Tintock**	**2.42 185** P	N	**Pn**	**14 14 55.2**	**+0.4**
OGWZ	**Otaki Gorge**	**2.57 197** P	N	**Pn**	**14 14 57.0**	**+0.3**
HOWZ	**Holdsworth Sta**	**2.58 191** P	N	**Pn**	**14 14 56.8**	**0.0**
KIW	**Kapiti Island**	**2.68 201** P	N	**Pn**	**14 14 57.8**	**-0.2**
TMWZ	**Te Maipa**	**2.75 185** P	N	**Pn**	**14 14 58.8**	**0.0**
WCZ	**Waipu Caves**	**2.83 328** P	N	**Pn**	**14 14 59.4**	**-0.5**
MTW	**Mount Morrison**	**2.84 190** P	N	**Pn**	**14 14 59.6**	**-0.3**
CAW	**Cannon Point**	**2.87 197** P	N	**Pn**	**14 15 00.1**	**-0.2**
DUWZ	**D'Urville Isla**	**3.00 215** P	N	**Pn**	**14 15 01.1**	**-0.7**
TRWZ	**Traveller**	**3.05 187** P	N	**Pn**	**14 15 02.2**	**-0.3**
WEL	**Wellington**	**3.11 200** P	N	**Pn**	**14 15 02.7**	**-0.6**
MSWZ	**Moikau Station**	**3.13 193** P	N	**Pn**	**14 15 02.9**	**-0.6**
SNZO	**South Karori**	**3.15 201** P	N	**Pn**	**14 15 03.1**	**-0.7**
SNZO	**South Karori**	**3.15 201** *e*Pn		**Pn**	**14 15 03.1**	**-0.7**
TCW	**Tory Channel**	**3.20 207** P	N	**Pn**	**14 15 03.7**	**-0.7**
BHW	**Baring Head**	**3.20 198** P	N	**Pn**	**14 15 03.8**	**-0.6**
PLWZ	**Palliser**	**3.28 192** P	N	**Pn**	**14 15 04.6**	**-0.7**
TUWZ	**Tuamarina**	**3.51 209** P	N	**Pn**	**14 15 07.5**	**-0.8**
NNZ	**Nelson**	**3.58 216** P	N	**Pn**	**14 15 08.0**	**-1.1**
CMWZ	**Cape Campbell**	**3.70 203** P	N	**Pn**	**14 15 10.5**	**-0.2**
QRZ	**Quartz Range**	**3.74 228** P	N	**Pn**	**14 15 09.7**	**-1.5**
OUZ	**Omahuta**	**3.76 326** P	N	**Pn**	**14 15 11.3**	**-0.3**
OUZ	**Omahuta**	**3.76 326** *e*Pn		**Pn**	**14 15 11.4**	**-0.2**
BSWZ	**Blackbirch Sta**	**3.78 207** P	N	**Pn**	**14 15 10.8**	**-0.9**
THZ	**Tophouse**	**4.22 216** P	N	**Pn**	**14 15 16.2**	**-1.2**
KHZ	**Kahutara**	**4.52 206** P	N	**Pn**	**14 15 19.9**	**-1.3**
KHZ	**Kahutara**	**4.52 206** *e*Pn		**Pn**	**14 15 20.0**	**-1.1**
KHZ		*e*Sn		**Sn**	**14 16 12.7**	**-1.3**
DSZ	**Denniston Nort**	**4.76 224** P	N	**Pn**	**14 15 22.1**	**-2.2**
LTZ	**Lake Taylor**	**5.32 213** P	N	**Pn**	**14 15 29.4**	**-2.2**
CRLZ	**Canterbury Las**	**5.86 206** P	N	**Pn**	**14 15 36.2**	**-2.5**
MQZ	**McQueen's Vall**	**5.97 205** P	N	**Pn**	**14 15 37.5**	**-2.6**
WVZ	**Waitaha Valley**	**6.26 220** P	N	**Pn**	**14 15 40.6**	**-3.4**
RPZ	**Rata Peaks**	**6.60 214** P	N	**Pn**	**14 15 45.8**	**-2.7**
RPZ	**Rata Peaks**	**6.60 214** P	N	**Pn**	**14 15 45.9**	**-2.6**
	9.6nm,0.3s,baz=27,slow=2.0,SNR=90					
RPZ			S	**Sn**	**14 16 57.1**	**-5.9**
	21nm,0.3s,baz=38,slow=21,SNR=16					
RPZ	**Rata Peaks**	**6.60 214** *e*Pn		**Pn**	**14 15 46.5**	**-1.9**
RPZ		*e*Sn		**Sn**	**14 16 57.3**	**-5.7**
FOZ	**Fox Glacier**	**7.15 221** P	N	**Pn**	**14 15 50.4**	**-5.2**
LBZ	**Lake Benmore**	**7.52 215** P	N	**Pn**	**14 15 56.6**	**-3.9**
ODZ	**Otahua Downs**	**7.85 210** P	N	**Pn**	**14 16 02.6**	**-2.3**
ODZ	**Otahua Downs**	**7.85 210** *e*Pn		**Pn**	**14 16 02.7**	**-2.3**
ODZ		*e*Sn		**Sn**	**14 17 26.4**	**-6.4**
JCZ	**Jackson Bay**	**7.99 222** P	N	**Pn**	**14 16 02.3**	**-4.5**
TUZ	**Tuapeka**	**9.01 211** P	N	**Pn**	**14 16 18.6**	**-1.6**
MLZ	**Mavora Lakes**	**9.18 218** P	N	**Pn**	**14 16 21.6**	**-0.9**
WHZ	**Wether Hill Ro**	**9.69 216** *e*Pn		**Pn**	**14 16 27.3**	**-1.9**
APZ	**The Paps**	**10.39 213** P	N	**Pn**	**14 16 36.5**	**-1.8**
CTAO	**Charters Tower**	**31.64 297** P		**P**	**14 20 21.1**	**+0.3**
	2.6nm,0.7s,mb4.1					
ASAR	**Alice Springs**	**38.74 280** P		**P**	**14 21 23.3**	**+1.8**
	1.5nm,0.6s,mb3.8,baz=133,slow=8.3,SNR=12					
ASAR	**Alice Springs**	**38.74 280** P		**P**	**14 21 23.3**	**+1.8**
WRAB	**Tennant Creek**	**40.49 285** *e*P		**P**	**14 21 37.2**	**+1.3**
	1.8nm,0.9s,mb3.7					
WRA	**Warramunga Arr**	**40.49 285** P		**P**	**14 21 36.5**	**+0.5**
	0.4nm,0.3s,mb3.5,baz

*ISCJB **14** 14:35:33.4±0.8, 16°.4S±0°.2×175°.7W±0°.1, h381km±12km, mb3.4/6, Error ellipse: s-maj=36.9km s-min=15.2km az=150.2*
*IDC **14** 14:35:33.4±1.5, 16°.31S×175°.83W, h356km±26km, mb3.3/5, mb1 3.4/6, mb1mx3.1/19, mbtmp3.3/6, Error ellipse: s-maj=37.7km s-min=20.7km az=124.0*
*NEIC **14** 14:35:34.8±0.8, 16°.36S×175°.78W, h377km±9km, mb3.2/1, Error ellipse: s-maj=26.0km s-min=11.8km az=149.0*

ISC 14 14:35:34.1±0.8, 16°.3S±0°.2×175°.7W±0°.2, h373km±12km, n16, σ0°90/17, mb3.4/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.49**	**58**	P		**Pn**	**14 36 50.9**	**+1.4**
	8.0nm,0.3s,baz=215,slow=12,SNR=15							
AFI				S		**S**	**14 37 49.0**	**-1.5**
	3.9nm,0.3s,baz=257,slow=19,SNR=2.9							
AFI	**Afiamalu**	**4.49**	**58**	P		**Pn**	**14 36 50.9**	**+1.4**
AFI				S		**S**	**14 37 49.0**	**-1.5**
MSVF	**Nonsavu**	**6.14**	**256**	*e*Pn		**Pn**	**14 37 07.9**	**+0.7**
URZ	**Urewera**	**22.74**	**195**	P		**P**	**14 40 05.7**	**+0.5**
	1.8nm,0.3s,mb3.8,baz=304,slow=12,SNR=8.9							
URZ	**Urewera**	**22.74**	**195**	P		**P**	**14 40 05.7**	**+0.5**
STKA	**Stephens Creek**	**41.66**	**240**	P		**P**	**14 42 46.6**	**-1.1**
	0.9nm,0.5s,mb3.1,baz=81,slow=8.3,SNR=6.2							
STKA	**Stephens Creek**	**41.66**	**240**	P		**P**	**14 42 46.6**	**-1.1**
WB2	**Warramunga Arr**	**47.47**	**258**	*e*P		**P**	**14 43 32.4**	**-0.9**
WRAB	**Tennant Creek**	**47.47**	**258**	*e*P		**P**	**14 43 33.0**	**-0.3**
	0.6nm,0.5s,mb3.1							
WRA	**Warramunga Arr**	**47.48**	**258**	P		**P**	**14 43 33.3**	**-0.1**
	0.7nm,0.6s,mb3.1,baz=92,slow=7.0,SNR=20							
WRA	**Warramunga Arr**	**47.48**	**258**	P		**P**	**14 43 33.3**	**-0.1**
ASAR	**Alice Springs**	**47.72**	**253**	P		**P**	**14 43 35.2**	**0.0**
	2.5nm,0.4s,mb3.8,baz=89,slow=7.5,SNR=14							
ASAR	**Alice Springs**	**47.72**	**253**	P		**P**	**14 43 35.2**	**0.0**
ILAR	**Eielson Array**	**83.79**	**12**	P		**P**	**14 47 23.1**	**+1.1**
	0.3nm,0.5s,mb3.3,baz=215,slow=5.4,SNR=9.5							
ILAR	**Eielson Array**	**83.79**	**12**	P		**P**	**14 47 23.1**	**+1.1**
BFO	**Black Forest**	**147.92**	**355**	*e*PKPdf	PKPdf		14 54 33.0	+0.7

*DDA **14** 14:48:48.0, 39°.72N×35°.24E, h7km±6km, Md2.8*
*ISCJB **14** 14:48:52.4±0.8, 39°.20N±0°.05×34°.17E±0°.04, h0km±9km, Error ellipse: s-maj=7.6km s-min=5.7km az=175.7*
*ISK **14** 14:48:52.6, 39°.23N×34°.11E, h3km, MD2.7*
*CSEM **14** 14:48:53.0±0.3, 39°.22N×34°.16E, h8km, MD2.8, Error ellipse: s-maj=6.4km s-min=5.0km az=173.0*

ISC 14 14:48:53.2±0.8, 39°.20N±0°.05×34°.17E±0°.04, h6km±8km, n20, σ0°79/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CDAG	**Cicekdag**	**0.45**	**20**	*i* P		**Pg**	**14 49 01.0**	**-0.8**
CDAG				*i* S		**Sg**	**14 49 07.6**	**-0.1**
CDAG	**Cicekdag**	**0.45**	**20**	*i* P		**Pg**	**14 49 01.0**	**-0.9**
CDAG				*i* S		**Sg**	**14 49 07.6**	**-0.2**
AVNT	**Avonos**	**0.68**	**128**	*i* P		**Pg**	**14 49 07.4**	**+1.2**
AVNT				*i* S		**Sg**	**14 49 20.7**	**+5.7**
AVNT	**Avonos**	**0.68**	**128**	*i* P		**Pg**	**14 49 07.4**	**+1.2**
AVNT				*i* S		**Sg**	**14 49 20.7**	**+5.7**
BBAL	**Bala**	**0.88**	**293**	*i* P		**Pg**	**14 49 09.3**	**-0.8**
BBAL				*i* S		**Sg**	**14 49 22.3**	**+0.8**
BBAL	**Bala**	**0.88**	**293**	*i* P		**Pg**	**14 49 09.3**	**-0.8**
BBAL				*i* S		**Sg**	**14 49 22.3**	**+0.8**
AFSR	**Afar-Bala (A**	**0.89**	**286**	*e*PG		**Pg**	**14 49 09.3**	**-0.9**
AFSR				*e*SG		**Sg**	**14 49 21.7**	**-0.1**
AFSR	**Afar-Bala (A**	**0.89**	**286**	*e*Pg		**Pg**	**14 49 09.4**	**-0.8**
AFSR				*e*Sg		**Sg**	**14 49 21.7**	**0.0**
YOZ	**Yozgat**	**0.99**	**63**	*e*PG		**Pg**	**14 49 13.0**	**+0.8**
YOZ	**Yozgat**	**0.99**	**63**	*e*Pg		**Pg**	**14 49 13.0**	**+0.8**
CORM	**Corum**	**1.04**	**20**	*e*PG		**Pg**	**14 49 13.2**	**+0.1**
CORM	**Corum**	**1.04**	**20**	*e*Pg		**Pg**	**14 49 13.2**	**+0.1**
SULT	**Sultanhani-AKS**	**1.12**	**207**	*e*PN		**Pn**	**14 49 15.0**	**-0.4**
SULT	**Sultanhani-AKS**	**1.12**	**207**	*e*Pn		**Pn**	**14 49 15.0**	**-0.4**
ELDT	**Eldivan**	**1.41**	**336**	*i* P		**Pn**	**14 49 19.7**	**+0.3**
ELDT				*i* S		**Sb**	**14 49 39.3**	**+1.2**
ELDT	**Eldivan**	**1.41**	**336**	*i* P		**Pn**	**14 49 19.7**	**+0.3**
ELDT				*i* S		**Sb**	**14 49 39.3**	**+1.2**
KIZT	**Kizilcal**	**1.81**	**261**	*e*PN		**Pn**	**14 49 25.2**	**+0.3**
KIZT	**Kizilcal**	**1.81**	**261**	*e*Pn		**Pn**	**14 49 25.2**	**+0.3**
ERBA	**Erbaa**	**2.48**	**53**	*i* P		**Pn**	**14 49 32.5**	**-1.6**
ERBA				*i* S		Sn	14 49 37.4	-27
ERBA	**Erbaa**	**2.48**	**53**	*i* P		**Pn**	**14 49 32.5**	**-1.5**
ERBA				*i* S		Sn	14 49 37.4	-27

*DJA **14** 15:12:50, 0°.46N×127°.67E, h527km, MLv3.5/6*
*IDC **14** 15:13:19.7±0.8, 0°.24S×125°.71E, h0km, mb3.8/9, mb1 3.9/10, mb1mx3.7/22, mbtmp3.8/10, ML3.6/1, Error ellipse: s-maj=59.9km s-min=14.9km az=72.0*
*ISCJB **14** 15:13:22.2±0.5, 0°.27S±0°.07×125°.7E±0°.1, h33km, mb3.8/11, Error ellipse: s-maj=16.2km s-min=9.1km az=164.4*
*NEIC **14** 15:13:24.3±0.6, 0°.23S×125°.90E, h35km, mb4.1/3, Error ellipse: s-maj=43.1km s-min=10.5km az=69.0*

ISC 14 15:13:24.6±0.5, 0°.25S±0°.07×125°.8E±0°.1, h35km, n27, σ1ş19/26, mb3.8/11, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**1.72**	**103**	P		**Pn**	**15 13 54.2**	**+2.2**
TNTI	**Ternate**	**1.84**	**57**	P		**Pn**	**15 13 52.1**	**-1.6**
MNI	**Manado**	**1.95**	**330**	P		Px	15 14 03.5	
NLAI	**Namlea**	**3.23**	**157**	P		**Pn**	**15 14 07.9**	**-4.9**
FITZ	**Fitzroy Crossi**	**17.74**	**181**	P		**Pn**	**15 17 27.3**	**-1.7**
	0.1nm,0.3s,baz=22,slow=14,SNR=6.2							
FITZ	**Fitzroy Crossi**	**17.74**	**181**	P		**Pn**	**15 17 27.3**	**-1.7**
WRAB	**Tennant Creek**	**21.27**	**157**	*e*P		**P**	**15 18 08.0**	**-0.1**
	5.2nm,0.8s,mb3.9							
WRA	**Warramunga Arr**	**21.28**	**157**	P		**P**	**15 18 08.3**	**+0.2**
	4.7nm,0.8s,mb3.9,baz=337,slow=11,SNR=26							
WRA	**Warramunga Arr**	**21.28**	**157**	P		**P**	**15 18 08.3**	**+0.2**
WB2	**Warramunga Arr**	**21.28**	**157**	*e*P		**P**	**15 18 07.8**	**-0.3**
ASAR	**Alice Springs**	**24.57**	**162**	P		**P**	**15 18 43.0**	**+1.7**
	1.7nm,0.7s,mb3.7,baz=341,slow=8.7,SNR=21							
ASAR				PcP		PcP	15 22 18.9	0.0
	0.2nm,0.5s,baz=349,slow=2.4,SNR=4.1							
ASAR	**Alice Springs**	**24.57**	**162**	P		**P**	**15 18 43.0**	**+1.7**
ASAR				PcP		PcP	15 22 18.9	0.0
CTAO	**Charters Tower**	**28.09**	**136**	P		**P**	**15 19 10.1**	**-3.0**
	4.2nm,0.9s,mb4.1							
STKA	**Stephens Creek**	**34.81**	**156**	P		**P**	**15 20 13.3**	**+1.1**
	0.7nm,0.4s,mb3.9,baz=326,slow=9.4,SNR=5.1							
STKA	**Stephens Creek**	**34.81**	**156**	P		**P**	**15 20 13.3**	**+1.1**
KSRS	**Korea Array**	**37.56**	**3**	P		**P**	**15 20 36.3**	**+0.7**
	0.3nm,0.4s,mb3.4,baz=169,slow=9.7,SNR=3.3							
SONM	**Songino Array**	**50.79**	**343**	P		**P**	**15 22 22.5**	**+1.3**
	0.7nm,0.7s,mb3.7,baz=155,slow=7.7,SNR=6.6							
SONM	**Songino Array**	**50.79**	**343**	P		**P**	**15 22 22.5**	**+1.3**
MK31	**Makanchi Array**	**60.33**	**327**	*e*P		**P**	**15 23 29.1**	**-0.8**
MKAR	**Makanchi Array**	**60.33**	**327**	P		**P**	**15 23 29.1**	**-0.8**
	0.5nm,0.3s,mb4.0,baz=124,slow=8.0,SNR=17							
MKAR	**Makanchi Array**	**60.33**	**327**	P		**P**	**15 23 29.1**	**-0.8**
ZALV	**Zalesovo Beam**	**63.73**	**334**	P		**P**	**15 23 53.3**	**+0.7**
	0.6nm,0.5s,mb3.9,baz=124,slow=7.4,SNR=3.8							
ZALV	**Zalesovo Beam**	**63.73**	**334**	P		**P**	**15 23 53.3**	**+0.7**
KURK	**Kurchatov**	**64.62**	**329**	P		**P**	**15 23 58.9**	**+0.4**
	0.5nm,0.4s,mb3.9,baz=131,slow=6.6,SNR=13							
KURK	**Kurchatov**	**64.62**	**329**	*e*P		**P**	**15 23 58.6**	**+0.1**
	1.4nm,0.5s,mb4.2							
ILAR	**Eielson Array**	**89.06**	**25**	P		**P**	**15 26 14.9**	**-0.8**
	0.3nm,0.8s,mb3.7,baz=249,slow=5.2,SNR=4.7							
ILAR	**Eielson Array**	**89.06**	**25**	P		**P**	**15 26 14.9**	**-0.8**

JMA 14 15:28:51.4±0.4, 43°.79N×147°.78E, h0km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.54**	**255**	P		Pn	15 29 20.2	+0.1
NEM2				*e*S		Sn	15 29 40.8	0.0
JRA	**Rausu**	**1.93**	**275**	P		Pn	15 29 25.9	+0.5
JRA				*e*S		Sn	15 29 50.5	+0.2
JNK	**Nakash**	**2.23**	**266**	P		Pn	15 29 30.4	+0.8
JAK	**Akkeshi**	**2.38**	**252**	P		Pn	15 29 32.5	+0.8
JTKR	**Abashiri--Toko**	**2.81**	**275**	P		Pn	15 29 38.5	+1.0
JAR	**Ashorobuto**	**2.96**	**262**	P		Pn	15 29 41.3	+1.7
JMP	**Maruseppu**	**3.20**	**275**	P		Pn	15 29 44.3	+1.4
JCH	**Churui**	**3.44**	**252**	P		Pn	15 29 47.9	+1.7
JNBK	**Urakawa-nobuka**	**3.98**	**249**	P		Pn	15 29 55.8	+2.1

*NEIC **14** 16:38:54.8, 29°.55S×69°.56W, h126km, MG4.0(GUC), After GUC.*

GUC 14 16:38:54.8±0.8, 29°.55S×69°.56W, h126km±15km, ML4.0, 6C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**1.13**	**298**	*i* P		Pn	16 39 19.6	+0.9
LCO				*i* S		Sn	16 39 38.3	+1.6
LCO	**Las Campanas**	**1.13**	**298**	*i* P		Pn	16 39 19.6	+0.9
LCO				*i* S		Sn	16 39 38.3	+1.6
LCO				AML	AML	16 39 39.9	
	comp=N,1μm,0.3s						
TLL	**Tololo Astrono**	**1.25**	**240**	*i* P		Pn	16 39 21.2	+1.3
TLL				*i* S		Sn	16 39 40.7	+1.8
TLL	**Tololo Astrono**	**1.25**	**240**	*i* P		Pn	16 39 21.2	+1.3
TLL				*i* S		Sn	16 39 40.7	+1.8
TLL				AML	AML	16 39 42.6	
	comp=N,1μm,0.5s						
VACH	**Vallenar**	**1.43**	**312**	*e*P		Pn	16 39 22.4	+0.5
VACH				*i* S		Sn	16 39 43.1	+0.7
VACH	**Vallenar**	**1.43**	**312**	*e*P		Pn	16 39 22.4	+0.5
VACH				*i* S		Sn	16 39 43.1	+0.7
VACH				AML	AML	16 39 45.7	
	comp=E,3μm,0.3s						
LSCH	**La Serena**	**1.51**	**256**	*e*P		Pn	16 39 23.1	+0.4
LSCH				*i* S		Sn	16 39 44.4	+0.4
LSCH	**La Serena**	**1.51**	**256**	*e*P		Pn	16 39 23.1	+0.4
LSCH				*i* S		Sn	16 39 44.4	+0.4
OVCH	**Ovalle**	**1.77**	**233**	*i* P		Pn	16 39 26.3	+0.5
OVCH				*i* S		Sn	16 39 49.8	+0.3
OVCH	**Ovalle**	**1.77**	**233**	*i* P		Pn	16 39 26.3	+0.5
OVCH				*i* S		Sn	16 39 49.8	+0.3
OVCH				AML	AML	16 39 56.5	
	comp=N,661nm,0.6s						
CMCH	**Combarbala**	**2.04**	**217**	*i* P		Pn	16 39 29.4	+0.3
CMCH				*i* S		Sn	16 39 55.6	+0.2
CMCH	**Combarbala**	**2.04**	**217**	*i* P		Pn	16 39 29.4	+0.3
CMCH				*i* S		Sn	16 39 55.6	+0.2
CMCH				AML	AML	16 39 56.3	
	comp=N,2μm,0.5s						
CPCH	**Copiapo**	**2.29**	**342**	*e*P		Pn	16 39 32.4	+0.2
CPCH				*i* S		Sn	16 40 01.1	+0.2
CPCH	**Copiapo**	**2.29**	**342**	*e*P		Pn	16 39 32.4	+0.2
CPCH				*i* S		Sn	16 40 01.1	+0.2
CPCH				AML	AML	16 40 02.9	
	comp=N,3μm,0.1s						
CDCH	**Caldera**	**2.71**	**335**	*e*P		Pn	16 39 38.4	+0.8
CDCH				*i* S		Sn	16 40 10.6	+0.2
CDCH	**Caldera**	**2.71**	**335**	*e*P		Pn	16 39 38.4	+0.8
CDCH				*i* S		Sn	16 40 10.6	+0.2
CDCH				AML	AML	16 40 18.1	
	comp=N,276nm,0.4s						
CHNG	**Los Chungos**	**2.87**	**215**	*e*P		Pn	16 39 39.1	-0.4
CHNG				*e*S		Sn	16 40 13.4	-0.6
CHNG				AML	AML	16 40 25.8	
	comp=E,224nm,0.7s						
PEL	**Peldehue**	**3.71**	**195**	*e*P		Pn	16 39 51.4	+0.7
PEL				*e*S		Sn	16 40 35.0	+1.1
CLCH	**Cerro Calan**	**3.93**	**192**	*e*S		Sn	16 40 39.6	+0.7
CLCH				AML	AML	16 40 56.1	
	comp=E,147nm,0.6s						
TRQA	**Tornquist**	**10.57**	**145**	*e*Pn		Pn	16 41 21.7	-1.0

*DMN **14** 16:39:50.6±0.3, 31°.08N×83°.26E, h10km, Ml4.6/8, Error ellipse: s-maj=9.4km s-min=5.5km az=87.0*
*BJI **14** 16:39:53.9, 29°.86N×83°.51E, h22km, mB4.6/14, mb4.3/25, Ms4.3/12, Ms7 4.1/11*
*IDC **14** 16:39:55.4±0.7, 30°.21N×83°.80E, h0km, mb4.2/19, mb1 4.4/21, mb1mx4.3/29, mbtmp4.2/21, ML4.0/2, MS3.6/15, Ms1 3.6/15, ms1mx3.3/33, Error ellipse: s-maj=20.1km s-min=13.9km az=29.0*
*ISCJB **14** 16:39:56.6±0.2, 30°.45N±0°.02×83°.67E±0°.03, h10km, mb4.3/44, MS3.6/16, Error ellipse: s-maj=4.0km s-min=2.4km az=149.0*
*NEIC **14** 16:39:58.7±3.2, 30°.25N×83°.72E, h20km±20km, mb4.2/10, Error ellipse: s-maj=12.1km s-min=5.8km az=218.0*
*MOS **14** 16:39:58.3±1.3, 30°.28N×83°.69E, h29km, mb4.5/19, Error ellipse: s-maj=11.1km s-min=5.5km az=115.8*
*NDI **14** 16:40:00.5±2.3, 30°.11N×83°.68E, h10km, ML4.1, mb4.2(NEIC)*
*LDG **14** 16:40:02.2±0.3, 30°.44N×83°.52E, h60km, Mb4.6/11, Ms3.2/7, Error ellipse: s-maj=14.3km s-min=4.7km az=116.0*

ISC 14 16:39:58.2±0.2, 30°.41N±0°.02×83°.72E±0°.03, h10km, n162, σ1ş22/172, mb4.3/44, MS3.6/16, 6C-1D, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DANN	**Dangsing**	**2.06**	**179**	*e*Pn		**Pn**	**16 40 32.6**	**-0.2**
DANN				*e*Sn		**Sb**	**16 41 04.4**	**+3.2**
	620nm,0.3s							
GKN	**Gorkha**	**2.53**	**161**	*e*Pn		**Pn**	**16 40 40.6**	**+1.3**
GKN				*e*Sn		**Sb**	**16 41 15.6**	**+0.7**
	1μm,0.6s							
KOLN	**Koldanda**	**2.64**	**182**	*e*Pn		**Pn**	**16 40 42.1**	**+1.3**
KOLN				*e*Sn		**Sb**	**16 41 18.5**	**+0.6**
	1μm,0.6s							
KKN	**Kakani**	**2.95**	**152**	*e*Pn		**Pn**	**16 40 46.0**	**+0.9**
KKN				*e*Sn		**Sb**	**16 41 27.6**	**+0.6**
	330nm,0.5s							
DMN	**Daman**	**3.05**	**156**	*e*Pn		**Pn**	**16 40 47.8**	**+1.4**
DMN				*e*Sn		**Sb**	**16 41 29.4**	**-0.4**
	674nm,0.7s							
GUN	**Gumba**	**3.13**	**142**	*e*Pn		**Pn**	**16 40 48.7**	**+1.2**
GUN				*e*Sn		**Sb**	**16 41 31.7**	**-0.4**
	883nm,0.9s							
PKIN	**Phulchoki**	**3.19**	**152**	*e*Pn		**Pn**	**16 40 49.6**	**+1.3**
PKIN				*e*Sn		**Sb**	**16 41 33.3**	**-0.5**
	454nm,0.7s							
PKI	**Pulchoki**	**3.20**	**152**	*e*Pn		**Pn**	**16 40 49.5**	**+1.0**
PKI				*e*Sn		**Sb**	**16 41 33.9**	**-0.1**
	262nm,0.4s							
TAPN	**Taplejung**	**4.64**	**130**	*e*Pn		**Pn**	**16 41 09.3**	**+0.9**
ODAN	**Odare**	**4.79**	**137**	*e*Pn		**Pn**	**16 41 11.5**	**+1.1**
DDI	**Dehra Dun**	**4.89**	**270**	*e*PKP		**Pn**	**16 41 17.0**	**+5.2**
DDI				*ex*		x	16 42 57.5	
SMLA	**Simla**	**5.68**	**279**	*i* P		**Pn**	**16 41 25.5**	**+2.9**
SMLA				*i* x		**Sg**	**16 42 59.3**	**-1.3**
SMLA				AML	AML	16 43 03.7	
	comp=N,493nm,0.5s						
SMLA				AML	AML	16 43 05.4	
	comp=E,496nm,0.5s						
BISR	**Bishrakh**	**5.77**	**253**	*e*PKP		**Pn**	**16 41 23.0**	**-0.9**
NDI	**New Delhi**	**5.92**	**255**	*e*PKP		**Pn**	**16 41 26.0**	**+0.1**
NDI				*ex*		x	16 51 21.0	
AGRA	**Agra**	**5.98**	**239**	*ex*		**Pn**	**16 41 29.8**	**+3.1**
AGRA				*e*S		**Sn**	**16 42 28.8**	**-6.4**
AYAN	**Aya Nagar**	**6.06**	**253**	*e*PKP		**Pn**	**16 41 28.8**	**+0.9**
BHGR	**Bahadurgarh**	**6.15**	**255**	*e*PKP		**Pn**	**16 41 30.1**	**+1.0**
SONA	**Sohna**	**6.18**	**251**	*e*PKP		**Pn**	**16 41 31.1**	**+1.6**
LSA	**Lhasa**	**6.48**	**94**	*e*Pn		**Pn**	**16 41 36.8**	**+3.1**
	comp=E,124nm,1.1s						
LSA				*e*Sn		**Sn**	**16 42 51.2**	**+3.6**
LSA	**Lhasa**	**6.48**	**94**	*e*P		**Pn**	**16 41 36.8**	**+3.2**
LSA				*e*			16 42 51.2	
LSA				pmax	pmax			
	comp=Z,124nm,1.1s						
KUDL	**Kundal**	**6.71**	**252**	*e*PKP		**Pn**	**16 41 36.9**	**+0.2**
KUDL				*ex*		x	16 43 03.5	
BOK	**Bokaro**	**6.87**	**163**	*e*PKP		**Pn**	**16 41 38.6**	**-0.4**
KHET	**Khetri**	**7.29**	**253**	*e*PKP		**Pn**	**16 41 45.7**	**+0.9**
SHL	**Shillong**	**8.68**	**122**	*e*PKP		**Pn**	**16 42 02.5**	**-1.4**
SHL				*e*PKP			16 42 03.2	
AJM	**Ajmer**	**8.90**	**246**	*e*PKP		**Pn**	**16 42 06.0**	**-0.8**
BHPL	**Bhopal**	**9.09**	**220**	*e*PKP		**Pn**	**16 42 07.2**	**-2.3**
BHPL				*e*S		**Sn**	**16 43 40.1**	**-12**
BHPL				AML	AML	16 43 51.8	
	comp=N,50nm,0.6s						
BHPL				AML	AML	16 43 52.2	
	comp=E,50nm,0.4s						
KBL	**Kabul**	**13.05**	**292**	*e*P		**Pn**	**16 43 04.4**	**+0.8**
	comp=E,16nm,0.7s						
KBL	**Kabul**	**13.05**	**292**	*e*P		**Pn**	**16 43 04.4**	**+0.7**
KBL				pmax	pmax			
	comp=Z,16nm,0.7s						
WMQ	**Urumqi**	**13.75**	**12**	*e*P		**Pn**	**16 43 20.0**	**+6.9**
HYB	**Hyderabad**	**13.77**	**201**	*i* P		**Pn**	**16 43 10.5**	**-3.0**
HYB				*e*			16 45 35.0	
HYB				*e*S		**Sn**	**16 45 46.5**	**-0.1**
TKM2	**Tokmak 2**	**14.07**	**335**	*e*P		**Pn**	**16 43 18.4**	**+0.9**
	comp=Z,5.8nm,0.8s							
TKM2	**Tokmak 2**	**14.07**	**335**	*e*P		**Pn**	**16 43 18.4**	**+0.9**
TKM2				pmax	pmax			
	comp=Z,6.0nm,0.8s							
AAK	**Ala-Archa**	**14.26**	**331**	*e*P		**Pn**	**16 43 21.9**	**+1.9**
	comp=Z,68nm,1.0s							
AAK	**Ala-Archa**	**14.26**	**331**	*e*P		**Pn**	**16 43 21.9**	**+1.8**
AAK				pmax	pmax			
	comp=Z,68nm,1.0s							
EKS2	**Erkin-Say**	**14.59**	**330**	*e*P		**Pn**	**16 43 26.2**	**+1.6**
	comp=Z,8.5nm,0.8s							
EKS2	**Erkin-Say**	**14.59**	**330**	*e*P		**Pn**	**16 43 26.2**	**+1.6**
EKS2				pmax	pmax			
	comp=Z,9.0nm,0.8s							
GTA	**Gaotai**	**15.95**	**51**	*e*P		**Pn**	**16 43 46.1**	**+3.5**
GTA				pP	pP		16 43 49.4	+0.4
GTA				sP	sP		16 43 52.9	+2.6
GTA				S	**Sn**		**16 45 46.8**	**+6.4**
GTA				sS	sS		16 46 52.0	-6.0
GTA				pmax	pmax			
	comp=Z,11nm,1.0s							
GTA				pmax	pmax			
	comp=Z,82nm,10.0s							
GTA				LR	LR			
	comp=N,260nm,7.6s							
GTA				LR	LR			
	comp=E,270nm,6.9s							
GTA				LR	LR			
	comp=Z,290nm,12.8s							
MK31	**Makanchi Array**	**16.39**	**357**	*e*Pn		**Pn**	**16 43 49.3**	**+1.1**
MK31				*e*			16 43 52.5	
MK31	**Makanchi Array**	**16.39**	**357**	*e*P		**Pn**	**16 43 49.3**	**+1.0**
MKAR	**Makanchi Array**	**16.39**	**357**	Pn		**Pn**	**16 43 48.6**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=176,slow=10,SNR=37							
MKAR	**Makanchi Array**	**16.39**	**357**	Pn		**Pn**	**16 43 48.6**	**+0.4**
MKAR	**Makanchi Array**	**16.39**	**357**	P		**Pn**	**16 43 48.7**	**+0.4**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KK31	**Karatay Array**	**16.48**	**324**	*i* P		**Pn**	**16 43 48.6**	**-0.8**
KK31				pmax	pmax			
	comp=Z,11nm,0.8s							
KKAR	**Karatay Array**	**16.48**	**324**	*e*P		**Pn**	**16 43 47.7**	**-1.6**
	comp=Z,15nm,0.9s							
KKAR	**Karatay Array**	**16.48**	**324**	*e*P		**Pn**	**16 43 47.7**	**-1.7**
KKAR				pmax	pmax			
	comp=Z,15nm,0.9s							
KMI	**Kunming**	**17.63**	**103**	P		**Pn**	**16 44 02.1**	**-1.9**
KMI				pmax	pmax			
	comp=Z,25nm,0.9s							
LZH	**Lanzhou**	**17.75**	**66**	*e*P		**Pn**	**16 44 05.5**	**+0.1**
LZH				pP	pP		16 44 13.6	+4.6
LZH				sP	sP		16 44 19.4	+9.1
LZH				PP			16 44 21.5	
LZH				*e*S	**Sn**		**16 47 26.3**	**+3.1**
LZH				sS	sS		16 47 38.3	+3.5
LZH				pmax	pmax			
	comp=Z,19nm,1.1s							
LZH				pmax	pmax			
	comp=Z,120nm,5.7s							
LZH				LR	LR			
	comp=N,260nm,6.7s							
LZH				LR	LR			
	comp=E,290nm,5.8s							
LZH				LR	LR			
	comp=Z,320nm,6.9s							
CHTO	**Chiang Mai**	**18.00**	**126**	*e*P		**Pn**	**16 44 07.0**	**-1.6**
	comp=Z,10nm,1.0s							
CHTO	**Chiang Mai**	**18.00**	**126**	*e*P		**Pn**	**16 44 07.0**	**-1.6**
CHTO				pmax	pmax			
	comp=Z,11nm,1.0s							
CM31	**Chiang Mai Arr**	**18.25**	**127**	*e*P		**Pn**	**16 44 08.5**	**-3.1**
	comp=Z,6.8nm,0.9s							
CMAR	**Chiang Mai Arr**	**18.25**	**127**	P		**Pn**	**16 44 08.2**	**-3.4**
	comp=Z,0.2nm,0.3s,baz=310,slow=10,SNR=38							
CMAR	**Chiang Mai Arr**	**18.25**	**127**	P		**Pn**	**16 44 08.2**	**-3.4**
CMAR	**Chiang Mai Arr**	**18.25**	**127**	P		**Pn**	**16 44 08.2**	**-3.4**
GYA	**Guiyang**	**20.55**	**95**	*i* P		**P**	**16 44 36.0**	**-1.0**
GYA				pmax	pmax			
	comp=Z,20nm,0.8s							
KURK	**Kurchatov**	**20.64**	**351**	P		**P**	**16 44 37.1**	**-0.6**
	comp=Z,27nm,0.9s,baz=173,slow=10,SNR=118							
KURK	**Kurchatov**	**20.64**	**351**	P		**P**	**16 44 37.1**	**-0.6**
KURK	**Kurchatov**	**20.64**	**351**	P		**P**	**16 44 37.1**	**-0.6**
KURK				pmax	pmax			
	comp

ZEI pmax pmax
comp=Z,16nm,1.3s,mb4.8
SOKR Solikamsk 34.35 336 *c iP* **P 16 46 47.0 +2.2**
SOKR pmax pmax
comp=Z,20nm,0.9s,mb5.0
KIV Kislovodsk 35.01 304 P **P 16 46 51.2 +0.4**
comp=Z,9.6nm,0.8s,mb4.8
KIV Kislovodsk 35.01 304 *eP* **P 16 46 51.7 +0.9**
KIV pmax pmax
comp=Z,15nm,1.2s,mb4.8
CN2 Changchun 35.49 56 *eP* **P 16 46 55.3 +0.4**
CN2 *eS* **S 16 52 29.0 -1.1**
CN2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
CN2 LR LR
comp=N,300nm,14.0s,MS4.3
CN2 LR LR
comp=E,200nm,14.0s,MS4.3
CN2 LR LR
comp=Z,200nm,13.0s,MS4.1
KSRS Korea Array 37.08 67 P **P 16 47 07.0 -1.5**
comp=Z,1.4nm,0.6s,mb4.0,baz=273,slow=9.6,SNR=9.3
KSRS LR LR 17 03 36.0
comp=Z,79nm,21.5s,MS3.5,baz=319,slow=38
KSRS Korea Array 37.08 67 P **P 16 47 07.1 -1.4**
KSRS pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
KSRS MLR MLR
comp=Z,79nm,21.5s,MS3.5
ANN Anapa 38.85 305 *eP* **P 16 47 22.4 -1.0**
ANN pmax pmax
comp=Z,28nm,1.1s,mb4.9
OBN Obninsk 41.42 320 *eP* **P 16 47 43.6 -1.0**
OBN *e* 16 49 21.6
OBN pmax pmax
comp=Z,9.0nm,1.2s,mb4.3
BR131 Keskin Array S 41.57 297 *eP* **P 16 47 47.1 +1.1**
comp=Z,2.0nm,0.7s,mb3.9
BRTR Keskin Array B 41.57 297 P **P 16 47 47.5 +1.5**
comp=Z,5.7nm,1.1s,mb4.1,baz=134,slow=7.0,SNR=20
BRTR Keskin Array B 41.57 297 P **P 16 47 47.5 +1.5**
BRTR Keskin Array B 41.57 297 P **P 16 47 47.5 +1.5**
BRTR pmax pmax
comp=Z,6.0nm,1.1s
EIL Elat 41.96 282 LR LR 17 08 11.0
comp=Z,112nm,19.0s,MS3.8,baz=86,slow=40
ATD Arta Tunnel 42.25 253 LR LR 17 04 18.3
comp=Z,41nm,18.5s,MS3.4,baz=74,slow=35
AKASG Malin Array Be 44.94 313 P **P 16 48 12.7 -0.4**
comp=Z,1.3nm,0.5s,mb4.0,baz=86,slow=7.1,SNR=7.4
AKASG LR LR 17 10 14.8
comp=Z,73nm,19.5s,MS3.6,baz=105,slow=40
AKASG Malin Array Be 44.94 313 P **P 16 48 12.7 -0.4**
AKASG LR LR 17 10 14.8
AKASG Malin Array Be 44.94 313 P **P 16 48 12.7 -0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG MLR MLR
comp=Z,73nm,19.5s
MJAR Matsushiro Arr 45.36 67 P **P 16 48 15.4 -1.3**
comp=Z,1.1nm,0.6s,mb3.8,baz=269,slow=9.0,SNR=4.4
MJAR LR LR 17 09 45.8
comp=Z,33nm,18.2s,MS3.3,baz=290,slow=39
MJAR Matsushiro Arr 45.36 67 P **P 16 48 15.4 -1.3**
MJAR LR LR 17 09 45.8
MJAR Matsushiro Arr 45.36 67 P **P 16 48 15.4 -1.2**
MJAR pmax pmax
comp=Z,1.0nm,0.6s
MJAR MLR MLR
comp=Z,33nm,18.2s
JOF Joensuu 46.44 330 *eP* **P 16 48 26.5 +1.7**
JOF Joensuu 46.44 330 *ep* **P 16 48 26.5 +1.7**
FINES FINESS Array B 48.40 327 P **P 16 48 40.3 +0.3**
comp=Z,2.0nm,0.6s,mb4.3,baz=120,slow=8.5,SNR=15
FINES LR LR 17 11 00.9
comp=Z,48nm,18.3s,MS3.5,baz=80,slow=38
FINES FINESS Array B 48.40 327 P **P 16 48 40.3 +0.3**
FINES LR LR 17 11 00.9
FINES FINESS Array B 48.40 327 P **P 16 48 40.3 +0.2**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES MLR MLR
comp=Z,48nm,18.3s
KEV Kevo 50.41 338 *eP* **P 16 48 56.5 +1.2**
KEV Kevo 50.41 338 *ep* **P 16 48 56.5 +1.2**
ARCES ARCESS Array B 50.83 337 P **P 16 48 59.8 +1.3**
comp=Z,16nm,0.8s,mb5.0,baz=96,slow=8.7,SNR=22
ARCES LR LR 17 11 09.5
comp=Z,30nm,18.6s,MS3.4,baz=127,slow=37
ARCES ARCESS Array B 50.83 337 P **P 16 48 59.8 +1.3**
ARCES LR LR 17 11 09.5
ARCES ARCESS Array B 50.83 337 P **P 16 48 59.8 +1.3**
ARCES pmax pmax
comp=Z,16nm,0.8s
ARCES MLR MLR
comp=Z,30nm,18.6s
GERES GERESS Array B 55.03 311 P **P 16 49 28.7 -1.1**
comp=Z,0.3nm,0.5s,mb3.6,baz=87,slow=5.7,SNR=4.8
GERES LR LR 17 14 58.1
comp=Z,48nm,18.0s,MS3.6,baz=280,slow=38
GERES GERESS Array B 55.03 311 P **P 16 49 28.7 -1.1**
GERES LR LR 17 14 58.1
GERES GERESS Array B 55.03 311 P **P 16 49 28.7 -1.1**
GERES MLR MLR
comp=Z,48nm,18.0s
NB2 NORSAR Subarra 55.50 326 P **P 16 49 32.9 -0.1**
comp=Z,1.2nm,0.6s,mb4.1,baz=88,slow=7.4
NOA NORSAR Array B 55.50 326 P **P 16 49 32.9 -0.1**
comp=Z,4.2nm,0.9s,mb4.5,baz=88,slow=7.1,SNR=7.3
NOA LR LR 17 18 18.5
comp=Z,35nm,18.1s,MS3.5,baz=40,slow=41
NOA NORSAR Array B 55.50 326 P **P 16 49 32.9 -0.1**
NOA LR LR 17 18 18.5
NOA NORSAR Array B 55.50 326 P **P 16 49 32.9 -0.1**
NOA pmax pmax
comp=Z,4.0nm,0.9s
NOA MLR MLR
comp=Z,35nm,18.1s
PETK Petropavlovsk- 56.94 44 LR LR 17 16 02.2
comp=Z,38nm,20.0s,MS3.5,baz=140,slow=38
BILL Bilibino 59.41 26 *eP* **P 16 50 00.0 -0.5**
BILL pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
HINF Hinteralfeld 59.71 311 *eP* **P 16 50 01.7 -1.1**
comp=Z,12nm,0.9s,mb4.6
HAU Haudompre 59.99 311 *eP* **P 16 50 03.8 -1.0**
HAU *eR*
comp=Z,47nm,23.0s
LPG La Plagne 60.33 308 *eP* **P 16 50 06.8 -0.3**
comp=Z,9.1nm,0.8s,mb4.6
LPL La Plagne 60.33 308 *eP* **P 16 50 06.9 -0.3**
comp=Z,14nm,0.8s,mb4.7
SFTF Sexfontaines 60.80 311 *eP* **P 16 50 09.2 -1.1**
BAIF Baives 60.89 313 *eP* **P 16 50 10.4 -0.5**
comp=Z,6.6nm,0.6s,mb4.7
LOR Lormes 61.81 310 *eP* **P 16 50 15.7 -1.5**
LOR *eR*
comp=Z,34nm,21.0s
SMF Signal de Mont 61.98 310 *eP* **P 16 50 17.8 -0.6**
comp=Z,36nm,1.3s,mb5.0
SSF Saint Saulge 62.09 310 *eP* **P 16 50 17.9 -1.2**
comp=Z,9.2nm,0.8s,mb4.7
AVF Avril sur Loir 62.27 310 *eP* **P 16 50 19.0 -1.3**
TCF Toulx Ste Croi 63.17 310 *eP* **P 16 50 25.5 -0.8**
comp=Z,9.6nm,0.8s,mb4.7
CAF Calviac 63.67 308 *eP* **P 16 50 29.0 -0.6**
LDF La Druitiere 64.01 313 *eP* **P 16 50 31.0 -0.8**
comp=Z,19nm,1.1s,mb4.8
GRR Gorron 64.54 313 *eP* **P 16 50 33.7 -1.6**
MFF Saint Martin d 64.63 311 *eP* **P 16 50 34.6 -1.3**
ESDC Sonseca Array 69.68 305 P **P 16 51 07.6 -0.5**
comp=Z,0.4nm,0.4s,mb3.7,baz=59,slow=6.9,SNR=4.8
ESDC Sonseca Array 69.68 305 P **P 16 51 07.6 -0.5**
WRA Warramunga Arr 69.83 129 P **P 16 51 07.3 -1.8**
comp=Z,1.5nm,0.9s,mb3.9,baz=321,slow=6.3,SNR=6.7
WRA Warramunga Arr 69.83 129 P **P 16 51 07.3 -1.8**
WRA Warramunga Arr 69.83 129 P **P 16 51 07.3 -1.8**
WRA pmax pmax
comp=Z,2.0nm,0.9s
WB2 Warramunga Arr 69.84 129 *eP* **P 16 51 05.8 -3.4**
ASAR Alice Springs 72.17 132 P **P 16 51 21.1 -2.2**
comp=Z,0.7nm,0.8s,mb3.7,baz=314,slow=5.6,SNR=7.8
ASAR Alice Springs 72.17 132 P **P 16 51 21.1 -2.2**
ASAR Alice Springs 72.17 132 P **P 16 51 21.2 -2.1**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
TORD Torodi Ar. Bea 76.67 278 P **P 16 51 49.4 -0.4**
comp=Z,8.5nm,0.9s,mb4.7,baz=55,slow=4.6,SNR=48
TORD LR LR 17 28 05.3
comp=Z,44nm,18.9s,MS3.8,baz=320,slow=38
TORD Torodi Ar. Bea 76.67 278 P **P 16 51 49.4 -0.4**
TORD LR LR 17 28 05.3
ILAR Eielson Array 77.28 20 P **P 16 51 51.8 -0.6**
comp=Z,1.7nm,0.8s,mb4.0,baz=298,slow=4.8,SNR=22
ILAR PP PP 16 54 45.7 -0.1
comp=Z,0.8nm,1.0s,baz=314,slow=7.2,SNR=5.6
ILAR Eielson Array 77.28 20 P **P 16 51 51.8 -0.6**
ILAR PP PP 16 54 45.7 -0.1
ILAR Eielson Array 77.28 20 P **P 16 51 51.8 -0.6**
ILAR 16 54 45.7
ILAR pmax pmax
comp=Z,2.0nm,0.8s
ILAR pmax pmax
comp=Z,1.0nm,1.0s
BOSA Boshof 80.95 229 LR LR 17 25 01.2
comp=Z,49nm,18.9s,MS3.9,baz=253,slow=34
DBIC Dimbokro 85.44 275 P **P 16 52 36.4 -0.2**
comp=Z,4.9nm,0.8s,mb4.7,baz=29,slow=5.2,SNR=5.7
DBIC Dimbokro 85.44 275 P **P 16 52 36.4 -0.2**
DBIC Dimbokro 85.44 275 P **P 16 52 36.4 -0.2**
DBIC pmax pmax
comp=Z,5.0nm,0.8s
YKA Yellowknife Ar 86.25 8 P **P 16 52 38.2 -1.4**
comp=Z,1.6nm,0.7s,mb4.3,baz=338,slow=5.0,SNR=5.2
YKA Yellowknife Ar 86.25 8 P **P 16 52 38.2 -1.5**
YKA Yellowknife Ar 86.25 8 P **P 16 52 38.2 -1.5**
YKA pmax pmax
comp=Z,2.0nm,0.7s
MAW Mawson 98.97 188 LR LR 17 32 03.6
comp=Z,49nm,20.9s,MS4.0,baz=235,slow=32
VNA2 Neumayer--Watz 118.77 202 *e* PKPdf 16 58 42.0 -3.6
baz=38,slow=3.6
CPUP Villa Florida 145.60 267 PKPbc PKPbc 16 59 36.1 -1.2
comp=Z,0.6nm,0.4s,baz=34,slow=1.5,SNR=4.3
CPUP Villa Florida 145.60 267 PKPbc PKPbc 16 59 36.1 -1.2

TIR **14** *16:48:16.8±3.0, 41.45N×20.35E, h0km±25km, ML2.9*
ISCJB **14** *16:48:19.0±1.6, 41.36N±0.05×19.4E±0.1, h9km±10km, Error ellipse: s-maj=12.8km s-min=9.0km az=167.7*
CSEM **14** *16:48:21.7±0.7, 41.39N×19.65E, h20km, ML2.9, Error ellipse: s-maj=20.7km s-min=13.8km az=68.0*
ISC 14 16:48:20.8±1.3, 41.35N±0.06×19.5E±0.1, h17km±9km, n12, σ1=9.05/22, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.29**	**91**	*i* PG	**Pg**	**16 48 26.4**	**-0.6**
TIR				*i* SG	**Sg**	**16 48 32.7**	**+1.4**
TIR	**Tirane**	**0.29**	**91**	*i* Pg	**Pg**	**16 48 26.4**	**-0.7**
TIR				*i* Sg	**Sg**	**16 48 32.7**	**+1.4**
PUK	**Puka**	**0.75**	**24**	*i* PG	**Pg**	**16 48 33.6**	**-1.9**
PUK				*i* SG	**Sg**	**16 48 46.1**	**+0.6**
PUK	**Puka**	**0.75**	**24**	*i* Pg	**Pg**	**16 48 33.6**	**-2.0**
PUK				*i* Sg	**Sg**	**16 48 46.1**	**+0.6**
BCI	**Bajram Curri**	**1.10**	**23**	*i* PN	**Pn**	**16 48 40.4**	**-1.1**
BCI				*i* SN	**Sn**	**16 48 56.5**	**+0.2**
BCI	**Bajram Curri**	**1.10**	**23**	*i* Pn	**Pn**	**16 48 40.4**	**-1.1**
BCI				*i* Sn	**Sn**	**16 48 56.5**	**+0.2**
SRN	**Sarande**	**1.52**	**165**	*e*PN	**Pn**	**16 48 47.2**	**-0.1**
SRN				*i* SN	**Sn**	**16 49 14.5**	**+7.8**
SRN	**Sarande**	**1.52**	**165**	*e*Pn	**Pn**	**16 48 47.2**	**0.0**
SRN				*i* Sn	**Sn**	**16 49 14.5**	**+7.8**
STON	**Ston**	**2.01**	**319**	*e*Pn	**Pn**	**16 48 57.7**	**+3.7**
STON				Sn	**Sn**	**16 49 19.9**	**+1.1**
STON	**Ston**	**2.01**	**319**	*e*Pn	**Pn**	**16 48 57.6**	**+3.6**
STON				Sn	**Sn**	**16 49 19.8**	**+1.0**
NVLJ	**Novalja**	**4.66**	**315**	Sn	**Sn**	**16 50 23.9**	**-0.2**
NVLJ	**Novalja**	**4.66**	**315**	Sn	**Sn**	**16 50 23.8**	**-0.2**

ISCJB **14** *16:49:48.7±0.4, 30.21N±0.04×83.81E±0.05, h10km, mb3.8/10, Error ellipse: s-maj=6.5km s-min=6.4km az=36.4*
IDC **14** *16:49:49.0±1.3, 30.30N×83.78E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.8/27, mbtmp3.9/10, ML3.6/1, MS3.2/1, Ms1 3.2/1, ms1mx2.3/36, Error ellipse: s-maj=30.5km s-min=23.0km az=5.0*
NEIC **14** *16:49:50.1±0.8, 30.19N×83.62E, h10km, mb3.7/3, Error ellipse: s-maj=20.6km s-min=8.6km az=45.0*
MOS **14** *16:49:51.9±1.4, 30.25N×83.67E, h33km, mb4.4/5, Error ellipse: s-maj=16.6km s-min=8.9km az=115.0*
NDI **14** *16:49:56.1±2.9, 29.97N×83.80E, h10km, ML3.5, mb3.7(NEIC)*
ISC 14 16:49:50.5±0.4, 30.25N±0.04×83.86E±0.05, h10km, n52, σ1=9.16/55, mb3.8/10, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDI	**Dehra Dun**	**5.02**	**272**	*e*PKP	**Pn**	**16 51 10.4**	**+4.5**
SMLA	**Simla**	**5.83**	**280**	*i* x	**Pn**	**16 51 18.0**	**+0.9**
SMLA				*i* S	**Sn**	**16 52 25.9**	**+1.9**
SMLA				AML	AML	16 52 28.7	
	comp=E,218nm,0.5s						
SMLA				AML	AML	16 52 29.6	
	comp=N,179nm,0.2s						
SONA	**Sohna**	**6.25**	**253**	*e*PKP	**Pn**	**16 51 26.6**	**+3.8**
SONA				*ex*	x	16 52 45.4	
SONA				AML	AML	16 53 13.3	
	comp=E,34nm,0.5s						
SONA				AML	AML	16 53 21.0	
	comp=N,39nm,0.6s						
LSA	**Lhasa**	**6.35**	**93**	*e*Pn	**Pn**	**16 51 29.4**	**+5.3**
	comp=N,44nm,1.0s						
LSA	**Lhasa**	**6.35**	**93**	*e*P	**Pn**	**16 51 29.4**	**+5.3**
LSA				pmax	pmax		
	comp=Z,44nm,1.0s						
KHET	**Khetri**	**7.37**	**255**	*e*PKP	**Pn**	**16 51 40.9**	**+2.7**
KHET				*eS*	**Sn**	**16 52 59.9**	**-1.9**
HYB	**Hyderabad**	**13.66**	**202**	*i* P	**Pn**	**16 53 03.0**	**-1.4**
HYB				*e*		16 55 27.0	
HYB				*eS*	**Sn**	**16 55 36.0**	**-0.3**
AAK	**Ala-Archa**	**14.46**	**331**	*e*P	**Pn**	**16 53 15.6**	**+0.3**
	comp=Z,14nm,0.9s						
AAK	**Ala-Archa**	**14.46**	**331**	*e*P	**Pn**	**16 53 15.6**	**+0.4**
AAK				pmax	pmax		
	comp=Z,14nm,0.9s						
EKS2	**Erkin-Say**	**14.79**	**330**	*e*Pn	**Pn**	**16 53 18.6**	**-1.1**
	comp=Z,5.7nm,1.1s						
EKS2				*e*		16 53 23.3	
EKS2	**Erkin-Say**	**14.79**	**330**	*e*P	**Pn**	**16 53 18.6**	**-1.1**
EKS2				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MK31	**Makanchi Array**	**16.57**	**356**	*e*Pn	**Pn**	**16 53 42.8**	**0.0**
MK31	**Makanchi Array**	**16.57**	**356**	*e*P	**Pn**	**16 53 42.8**	**0.0**
MKAR	**Makanchi Array**	**16.57**	**356**	Pn	**Pn**	**16 53 45.5**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=178,slow=12,SNR=12						
MKAR	**Makanchi Array**	**16.57**	**356**	Pn	**Pn**	**16 53 45.5**	**+2.6**
MKAR	**Makanchi Array**	**16.57**	**356**	P	**Pn**	**16 53 45.5**	**+2.7**
KKAR	**Karatay Array**	**16.68**	**324**	*e*Pn	**Pn**	**16 53 40.8**	**-3.5**
	comp=Z,7.0nm,1.0s						
KKAR	**Karatay Array**	**16.68**	**324**	*e*P	**Pn**	**16 53 40.8**	**-3.6**
KKAR				pmax	pmax		
	comp=Z,7.0nm,1.0s						
CHTO	**Chiang Mai**	**17.81**	**126**	*e*Pn	**Pn**	**16 53 59.0**	**+0.5**
	comp=Z,8.0nm,1.3s						
CHTO	**Chiang Mai**	**17.81**	**126**	*e*P	**Pn**	**16 53 59.0**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.3s						
CM31	**Chiang Mai Arr**	**18.05**	**127**	P	**Pn**	**16 54 01.2**	**-0.3**
CMAR	**Chiang Mai Arr**	**18.05**	**127**	P	**Pn**	**16 54 03.2**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=308,slow=11,SNR=20						
CMAR	**Chiang Mai Arr**	**18.05**	**127**	P	**Pn**	**16 54 03.2**	**+1.7**
CMAR	**Chiang Mai Arr**	**18.05**	**127**	P	**Pn**	**16 54 03.3**	**+1.8**
KURK	**Kurchatov**	**20.82**	**351**	P	**P**	**16 54 30.5**	**-1.5**
	comp=Z,8.4nm,1.0s,baz=172,slow=10.0,SNR=27						
KURK	**Kurchatov**	**20.82**	**351**	P	**P**	**16 54 30.5**	**-1.5**
KURK	**Kurchatov**	**20.82**	**351**	P	**P**	**16 54 30.5**	**-1.5**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ZAA0	**Zalesovo Array**	**23.70**	**1**	*e*P	**P**	**16 55 01.6**	**-0.8**
ZALV	**Zalesovo Beam**	**23.70**	**1**	P	**P**	**16 55 01.6**	**-0.8**
	comp=Z,0.6nm,0.3s,mb3.5,baz=191,slow=11,SNR=10						
ZALV	**Zalesovo Beam**	**23.70**	**1**	P	**P**	**16 55 01.6**	**-0.8**
ZALV	**Zalesovo Beam**	**23.70**	**1**	P	**P**	**16 55 01.6**	**-0.8**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.7						
SONM	**Songino Array**	**24.65**	**38**	P	**P**	**16 55 12.3**	**+1.1**
	comp=Z,0.6nm,0.8s,mb3.2,baz=226,slow=8.3,SNR=5.0						
SONM				LR	LR	17 05 45.5	
	comp=Z,59nm,21.0s,baz=238,slow=39						
SONM	**Songino Array**	**24.65**	**38**	P	**P**	**16 55 12.3**	**+1.1**
SONM				LR	LR	17 05 45.5	
SONM	**Songino Array**	**24.65**	**38**	P	**P**	**16 55 12.3**	**+1.1**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM				MLR	MLR		
	comp=Z,59nm,21.0s						
ABKAR	**Akbulak array**	**26.24**	**323**	*e*P	**P**	**16 55 25.6**	**0.0**
	comp=Z,1.1nm,0.6s,mb3.6						
ZEI	**Tsey**	**34.16**	**303**	*e*P	**P**	**16 56 36.3**	**+0.5**
ZEI				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
KSRS	**Korea Array**	**37.03**	**67**	P	**P**	**16 57 00.5**	**0.0**
	comp=Z,0.2nm,0.3s,mb3.4,baz=275,slow=26,SNR=2.5						
KSRS	**Korea Array**	**37.03**	**67**	P	**P**	**16 57 00.5**	**0.0**
BRTR	**Keskin Array B**	**41.75**	**297**	P	**P**	**16 57 40.0**	**+0.1**
	comp=Z,2.3nm,1.2s,mb3.7,baz=123,slow=6.5,SNR=6.9						
BRTR	**Keskin Array B**	**41.75**	**297**	P	**P**	**16 57 40.0**	**+0.1**
BRTR	**Keskin Array B**	**41.75**	**297**	P	**P**	**16 57 40.1**	**+0.2**
BRTR				pmax	pmax		
	comp=Z,2.0nm,1.2s						
FINES	**FINESS Array B**	**48.61**	**327**	P	**P**	**16 58 33.8**	**-0.2**
	comp=Z,5.8nm,1.1s,mb4.5,baz=204,slow=4.2,SNR=4.9						
FINES	**FINESS Array B**	**48.61**	**327**	P	**P**	**16 58 33.8**	**-0.2**
FINES	**FINESS Array B**	**48.61**	**327**	P	**P**	**16 58 33.8**	**-0.2**
FINES				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ARCES	**ARCESS Array B**	**51.03**	**337**	P	**P**	**16 58 52.0**	**-0.4**
	comp=Z,5.0nm,0.9s,mb4.4,baz=78,slow=11,SNR=4.5						
ARCES	**ARCESS Array B**	**51.03**	**337**	P	**P**	**16 58 52.0**	**-0.4**
ARCES	**ARCESS Array B**	**51.03**	**337**	P	**P**	**16 58 52.0**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**76.81**	**278**	P	**P**	**17 01 42.2**	**-0.7**
	comp=Z,1.9nm,0.9s,mb4.0,baz=58,slow=5.2,SNR=12						
TORD	**Torodi Ar. Bea**	**76.81**	**278**	P	**P**	**17 01 42.2**	**-0.7**
ILAR	**Eielson Array**	**77.40**	**20**	P	**P**	**17 01 44.4**	**-1.0**
	comp=Z,0.5nm,0.9s,mb3.4,baz=314,slow=6.7,SNR=5.3						
ILAR	**Eielson Array**	**77.40**	**20**	P	**P**	**17 01 44.4**	**-1.0**
ILAR	**Eielson Array**	**77.40**	**20**	P	**P**	**17 01 44.4**	**-1.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						

IDC **14** *17:11:00.1±0.9, 30.15N×83.74E, h0km, mb3.7/10, mb1 3.8/11, mb1mx3.6/28, mbtmp3.7/11, ML3.6/1, Error ellipse: s-maj=33.1km s-min=17.8km az=55.0*
ISCJB **14** *17:11:01.7±3.1, 30.02N±0.09×83.50E±0.10, h23km±24km, mb3.6/12, Error ellipse: s-maj=18.8km s-min=9.0km az=42.4*
NEIC **14** *17:11:03.7±3.3, 30.09N×83.53E, h24km±25km, mb3.6/5, Error ellipse: s-maj=18.3km s-min=8.8km az=223.0*
ISC 14 17:11:04.7±3.0, 30.08N±0.09×83.55E±0.10, h30km±23km, n35, σ1=9.22/35, mb3.6/12, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**6.61**	**91**	*e*Pn	**Pn**	**17 12 41.6**	**+1.8**
	14nm,0.8s						
KBL	**Kabul**	**13.05**	**294**	Pn	**Pn**	**17 14 08.4**	**+0.3**
TKM2	**Tokmak 2**	**14.31**	**336**	*e*Pn	**Pn**	**17 14 22.6**	**-2.6**
AAK	**Ala-Archa**	**14.48**	**332**	P	**Pn**	**17 14 28.3**	**+0.8**
	11nm,1.0s						
KKAR	**Karatay Array**	**16.66**	**325**	*e*Pn	**Pn**	**17 14 53.2**	**-2.7**
	0.6nm,0.6s						
MK31	**Makanchi Array**	**16.71**	**357**	*e*Pn	**Pn**	**17 14 57.5**	**+1.0**
MKAR	**Makanchi Array**	**16.71**	**357**	Pn	**Pn**	**17 14 57.1**	**+0.6**
	0.1nm,0.3s,baz=178,slow=11,SNR=7.5						
MKAR	**Makanchi Array**	**16.71**	**357**	Pn	**Pn**	**17 14 57.1**	**+0.6**
CHTO	**Chiang Mai**	**17.93**	**125**	*e*P	**Pn**	**17 15 11.0**	**-0.9**
	2.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**18.16**	**126**	P	**Pn**	**17 15 14.4**	**-0.3**
	0.1nm,0.3s,baz=307,slow=11,SNR=9.4						
CMAR	**Chiang Mai Arr**	**18.16**	**126**	P	**Pn**	**17 15 14.4**	**-0.3**
KURK	**Kurchatov**	**20.94**	**351**	P	**P**	**17 15 42.1**	**-2.8**
	3.2nm,0.2s,baz=173,slow=9.8,SNR=7.4						
KURK	**Kurchatov**	**20.94**	**351**	P	**P**	**17 15 42.1**	**-2.8**
ZAA0	**Zalesovo Array**	**23.87**	**2**	*e*P	**P**	**17 16 14.1**	**-1.3**
ZALV	**Zalesovo Beam**	**23.87**	**2**	P	**P**	**17 16 13.8**	**-1.5**
	0.6nm,0.8s,mb3.2,baz=188,slow=10.0,SNR=3.6						
ZALV	**Zalesovo Beam**	**23.87**	**2**	P	**P**	**17 16 13.8**	**-1.5**
SONM	**Songino Array**	**24.95**	**38**	P	**P**	**17 16 25.3**	**0.0**
	0.4nm,0.7s,mb3.0,baz=233,slow=9.6,SNR=2.9						
SONM	**Songino Array**	**24.95**	**38**	P	**P**	**17 16 25.3**	**0.0**
ABKAR	**Akbulak array**	**26.22**	**324**	*e*P	**P**	**17 16 37.5**	**+0.7**
	0.7nm,0.6s,mb3.4						
TLY	**Talaya**	**26.22**	**29**	P	**P**	**17 16 38.8**	**+2.0**
	6.1nm,0.8s,mb4.2						
AKTK	**Aktyubinsk**	**27.93**	**324**	P	**P**	**17 16 53.2**	**+1.1**
AKTO	**Aktyubinsk**	**27.93**	**324**	P	**P**	**17 16 53.2**	**+1.1**
	0.4nm,0.4s,mb3.5,baz=160,slow=15,SNR=2.2						
ARU	**Arti**	**31.67**	**333**	P	**P**	**17 17 25.3**	**+0.2**
	2.0nm,0.7s,mb4.1						
FINES	**FINESS Array B**	**48.60**	**327**	P	**P**	**17 19 44.8**	**-0.4**
	1.4nm,0.8s,mb4.1,baz=84,slow=18,SNR=3.7						
FINES	**FINESS Array B**	**48.60**	**327**	P	**P**	**17 19 44.8**	**-0.4**
ARCES	**ARCESS Array B**	**51.08**	**337**	P	**P**	**17 20 04.1**	**+0.2**
	3.1nm,0.9s,mb4.2,baz=82,slow=8.7,SNR=4.7						
ARCES	**ARCESS Array B**	**51.08**	**337**	P	**P**	**17 20 04.1**	**+0.2**
WRA	**Warramunga Arr**	**69.73**	**129**	P	**P**	**17 22 10.7**	**-1.4**
	0.2nm,0.5s,mb3.3,baz=317,slow=8.2,SNR=2.3						
WRA	**Warramunga Arr**	**69.73**	**129**	P	**P**	**17 22 10.7**	**-1.4**
ASAR	**Alice Springs**	**72.06**	**132**	P	**P**	**17 22 26.2**	**+0.1**
	0.1nm,0.6s,mb2.9,baz=314,slow=5.8,SNR=3.9						
ASAR	**Alice Springs**	**72.06**	**132**	P	**P**	**17 22 26.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**76.57**	**278**	P	**P**	**17 22 54.1**	**+1.5**
	0.7nm,0.8s,mb3.6,baz=44,slow=4.3,SNR=7.9						
TORD	**Torodi Ar. Bea**	**76.57**	**278**	P	**P**	**17 22 54.1**	**+1.5**
ILAR	**Eielson Array**	**77.64**	**20**	P	**P**	**17 22 57.3**	**-0.5**
	0.3nm,1.0s,mb3.2,baz=272,slow=5.6,SNR=4.3						
ILAR	**Eielson Array**	**77.64**	**20**	P	**P**	**17 22 57.3**	**-0.5**

IDC **14** *17:34:51.9±1.5, 24.35S×115.44W, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.9/16, mbtmp3.8/4, MS3.8/12, Ms1 3.8/12, ms1mx3.6/25, Error ellipse: s-maj=48.1km s-min=36.3km az=33.0*
NEIC **14** *17:34:53.0±0.9, 24.38S×115.48W, h10km, mb4.6/2, Error ellipse: s-maj=29.5km s-min=26.2km az=56.0*
ISC 14 17:34:57.0±6.9, 23.9S±0.9×115.1W±0.9, h10km, n32, σ0=6.66/10, mb4.1/6, MS3.9/11, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**6.11**	**123**	LR	LR	17 38 10.9	
	comp=Z,1μm,18.2s,baz=294,slow=32						
RPN				T		17 42 46.4	
	14nm,0.3s,baz=262,slow=16,SNR=5.9						
RKT	**Rikitea**	**18.26**	**268**	*e*LR	LR	17 43 06.7	
	696nm,26.8s						
RKT				*e*T		17 57 17.6	
	3.4nm,0.2s						
TAOE	**Nuku Hiva Isla**	**28.24**	**298**	*e*LR	LR	17 47 49.3	
	655nm,26.4s						
TBI	**Tubuai**	**31.46**	**264**	*e*LR	LR	17 49 11.0	
	225nm,27.2s						
PPT	**Papeete**	**32.81**	**274**	*e*LR	LR	17 49 42.8	
	330nm,28.0s	

	2.2nm,0.9s,mb4.3,baz=188,slow=11,SNR=6.4						
NVAR	**Mina Array Bea**	**62.06**	**357**	P	**P**	**17 45 18.8**	**+1.2**
RPZ	**Rata Peaks**	**62.50**	**232**	LR	LR	18 05 05.4	
	comp=Z,117nm,18.1s,MS4.1,baz=2.6,slow=29						
VNDA	**Vanda**	**65.35**	**194**	LR	LR	18 05 56.6	
	comp=Z,81nm,21.4s,MS3.9,baz=98,slow=29						
PDAR	**Pinedale Array**	**66.51**	**4**	P	**P**	**17 45 45.9**	**-0.9**
	1.0nm,0.7s,mb3.9,baz=190,slow=4.6,SNR=5.9						
PDAR	**Pinedale Array**	**66.51**	**4**	P	**P**	**17 45 45.9**	**-0.9**
STKA	**Stephens Creek**	**88.16**	**236**	LR	LR	18 19 01.5	
	comp=Z,72nm,18.5s,MS4.1,baz=25,slow=30						
SCHQ	**Schefferville**	**88.61**	**26**	LR	LR	18 23 30.8	
	comp=Z,47nm,19.6s,MS3.9,baz=35,slow=33						
MAW	**Mawson**	**88.78**	**179**	LR	LR	18 24 33.3	
	comp=Z,52nm,18.6s,MS4.0,baz=289,slow=34						
FX1	**Attu Island--F**	**98.43**	**324**	LR	LR	18 23 19.9	
	comp=Z,36nm,21.8s,MS3.8,baz=171,slow=30						
ZALV	**Zalesovo Beam**	**146.46**	**339**	PKPbc	PKPbc	17 54 34.2	-3.8
	1.0nm,0.6s,baz=21,slow=3.0,SNR=5.9						
ZALV	**Zalesovo Beam**	**146.46**	**339**	PKPbc	PKPbc	17 54 34.2	-3.8
CMAR	**Chiang Mai Arr**	**147.87**	**267**	PKPbc	PKPbc	17 54 39.0	-4.1
	0.9nm,0.9s,baz=165,slow=1.8,SNR=4.5						
CMAR	**Chiang Mai Arr**	**147.87**	**267**	PKPbc	PKPbc	17 54 39.0	-4.1
BRTR	**Keskin Array B**	**149.28**	**52**	PKPbc	PKPbc	17 54 43.6	-2.5
	0.2nm,0.4s,baz=259,slow=0.8,SNR=4.4						
BRTR	**Keskin Array B**	**149.28**	**52**	PKPbc	PKPbc	17 54 43.6	-2.5
MKAR	**Makanchi Array**	**153.22**	**333**	PKPbc	PKPbc	17 54 50.9	-4.1
	0.2nm,0.6s,baz=0.0,slow=1.4,SNR=2.4						
MKAR	**Makanchi Array**	**153.22**	**333**	PKPbc	PKPbc	17 54 50.9	-4.1

*BJI **14** 17:40:00.5,7˝.42S×130˝.22E,h72km,mB4.8/5,mb4.6/11, Ms4.6/3,Ms7 4.5/4*
*IDC **14** 17:40:06.0±5.3,6˝.85S×129˝.91E,h61km±46km,mb3.8/4, mb1 4.2/6,mb1mx3.8/17,mbtmp4.0/6,ML4.8/3,Error ellipse: s-maj=73.3km s-min=19.3km az=61.0*
*NEIC **14** 17:40:07.3±1.5,6˝.91S×129˝.99E,h84km±14km,mb4.3/15, Error ellipse: s-maj=17.4km s-min=6.6km az=51.0*
*ISCJB **14** 17:40:11.4±0.5,7˝.21S±0˝.03×130˝.08E±0˝.04,h152km±5km, mb4.2/20,Error ellipse: s-maj=6.8km s-min=5.5km az=158.1*
*DJA **14** 17:40:13,7˝.21S×130˝.05E,h66km,mb4.7/16*

ISC 14 17:40:12.3±0.5,7˝.22S±0˝.04×130˝.05E±0˝.04,h141km±5km, h74km±1.0km:pP-P,n67,σ1s22/72,mb4.2/20,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.68**	**357**	P		**Pn**	**17 40 53.6**	**-1.7**
TLE	**Tual**	**3.10**	**60**	P		**Pn**	**17 41 00.2**	**-0.4**
TLE				S		**Sn**	**17 41 36.7**	**-1.2**
AAI	**Ambon**	**3.96**	**332**	P		**Pn**	**17 41 10.6**	**-1.2**
MSAI	**Masohi**	**4.00**	**344**	P		**Pn**	**17 41 11.9**	**-0.5**
NLAI	**Namlea**	**4.92**	**323**	P		**Pn**	**17 41 24.8**	**+0.2**
BBSI	**Bau Bau**	**7.63**	**283**	P		**Pn**	**17 42 02.0**	**+1.2**
	0.1nm42nm,0.9s							
MMRI	**Maumere**	**7.86**	**259**	P		**Pn**	**17 42 03.7**	**-0.2**
	0.1nm26nm,1.0s							
KDI	**Kendari**	**8.07**	**293**	P		**Pn**	**17 42 07.2**	**+0.5**
	16nm,1.1s							
BAKI	**Biak**	**8.50**	**46**	P		**Pn**	**17 42 13.9**	**+1.3**
	0.8nm3µm240nm,1.0s							
WAMI	**Wamena**	**9.24**	**69**	P		**Pn**	**17 42 25.7**	**+3.3**
	62nm,0.7s							
LUWI	**Luwuk**	**9.50**	**310**	P		**Pn**	**17 42 26.6**	**+0.7**
	21nm,0.9s							
BKSI	**Bulukumba**	**10.04**	**280**	P		**Pn**	**17 42 34.0**	**+0.9**
	9.8nm,0.8s							
MNI	**Manado**	**10.05**	**329**	P		**Pn**	**17 42 34.8**	**+1.6**
	46nm,0.5s							
SMPI	**Sarmi**	**10.07**	**59**	P		**Pn**	**17 42 33.9**	**+0.4**
	17nm,1.7s							
KAPI	**Kappang**	**10.47**	**281**	P		**Pn**	**17 42 34.8**	**-3.9**
	1.9nm,0.3s,baz=69,slow=13,SNR=3.7							
KAPI	**Kappang**	**10.47**	**281**	P		**Pn**	**17 42 34.8**	**-3.9**
SPSI	**Sidrap Palu**	**10.72**	**287**	P		**Pn**	**17 42 43.2**	**+1.0**
	30nm,0.8s							
TTSI	**Tana Toraja**	**10.99**	**292**	P		**Pn**	**17 42 47.7**	**+2.0**
	21nm,1.0s							
MRSI	**Marisa**	**11.12**	**313**	P		**Pn**	**17 42 48.0**	**+0.5**
	362nm50nm,1.0s							
FITZ	**Fitzroy Crossi**	**11.64**	**201**	P		**Pn**	**17 42 53.1**	**-1.1**
	9.8nm,0.3s,baz=37,slow=11,SNR=299							
FITZ				S		**Sn**	**17 44 59.5**	**-3.3**
	4.8nm,0.3s,baz=181,slow=16,SNR=7.8							
FITZ	**Fitzroy Crossi**	**11.64**	**201**	*e*Pn		**Pn**	**17 42 52.7**	**-1.5**
	29nm,0.4s							
FITZ				*e*Sn		**Sn**	**17 44 53.4**	**-9.4**
FITZ	**Fitzroy Crossi**	**11.64**	**201**	P		**Pn**	**17 42 53.9**	**-0.3**
	798nm40nm,0.9s							
WRAB	**Tennant Creek**	**13.31**	**162**	*e*Pn		**Pn**	**17 43 16.2**	**+0.4**
	14nm,0.6s							
WRAB				*e*Sn		**Sn**	**17 45 27.7**	**-15**
WRAB	**Tennant Creek**	**13.31**	**162**	P		**Pn**	**17 43 17.0**	**+1.1**
	38nm,0.7s							
WRA	**Warramunga Arr**	**13.32**	**162**	P		**Pn**	**17 43 16.8**	**+0.9**
	3.7nm,0.3s,baz=323,slow=15,SNR=35							
WRA				S		**Sn**	**17 45 39.3**	**-3.9**
	9.4nm,0.3s,baz=340,slow=23,SNR=14							
WRA	**Warramunga Arr**	**13.32**	**162**	P		**Pn**	**17 43 16.8**	**+0.9**
WRA				S		**Sn**	**17 45 39.3**	**-3.9**
BBKI	**Banjar Baru**	**15.59**	**283**	P		**Pn**	**17 43 47.7**	**+3.1**
ASAR	**Alice Springs**	**16.77**	**168**	P		**Pn**	**17 44 02.1**	**+3.2**
	3.3nm,0.3s,baz=343,slow=9.6,SNR=314							
ASAR				S		**S**	**17 46 57.6**	**-8.1**
	0.5nm,0.3s,baz=352,slow=28,SNR=4.9							
ASAR	**Alice Springs**	**16.77**	**168**	P		**Pn**	**17 44 02.1**	**+3.2**
ASAR				S		**S**	**17 46 57.6**	**-8.1**
MBWA	**Marble Bar**	**17.08**	**215**	*e*Pn		**Pn**	**17 44 03.7**	**+1.0**
	14nm,0.8s							
MBWA				*e*Sn		**Sn**	**17 46 54.2**	**-19**
KKM	**Kota Kinabalu**	**19.08**	**313**	*e*P		**P**	**17 44 20.7**	**-3.4**
	9.3nm,0.6s							
KSM	**Kuching**	**21.50**	**293**	*e*P		**P**	**17 44 47.2**	**-3.0**
	27nm,1.1s,mb4.6							
STKA	**Stephens Creek**	**26.80**	**158**	*e*P		**P**	**17 45 43.0**	**+3.7**
HNR	**Honiara**	**29.66**	**96**	P		**P**	**17 46 06.2**	**+1.2**
	30nm,0.9s,mb5.0							
KULM	**Kulim**	**31.86**	**292**	P		**P**	**17 46 22.5**	**-1.8**
	23nm,1.4s,mb4.7							
CM31	**Chiang Mai Arr**	**39.90**	**310**	*e*P		**P**	**17 47 31.4**	**-1.3**
	1.3nm,0.6s,mb3.7							
CMAR	**Chiang Mai Arr**	**39.90**	**310**	P		**P**	**17 47 32.2**	**-0.6**
	1.6nm,0.7s,mb3.8,baz=133,slow=7.0,SNR=14							
CMAR				PcP		PcP	17 49 37.9	+2.1
	0.6nm,0.7s,baz=125,slow=1.9,SNR=5.5							
CMAR	**Chiang Mai Arr**	**39.90**	**310**	P		**P**	**17 47 32.2**	**-0.6**
CMAR				PcP		PcP	17 49 37.9	+2.1
CHTO	**Chiang Mai**	**40.12**	**311**	*e*P		**P**	**17 47 33.4**	**-1.2**
	4.7nm,0.8s,mb4.2							
CD2	**Chengdu**	**45.51**	**328**	P		**P**	**17 48 17.8**	**0.0**
CD2				pP		pP	17 48 36.3	-13
CD2				sP		sP	17 48 45.5	-20
CD2				PP		PP	17 50 05.8	-1.4
CD2				S		**S**	**17 54 52.6**	**+3.4**
CD2				sS		sS	17 55 24.9	-19
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s,mb4.7							
CD2				pmax		pmax		
	comp=Z,100nm,7.7s							
CD2				LR		LR		
	comp=N,250nm,5.4s							
CD2				LR		LR		
	comp=Z,190nm,5.9s							
LZH	**Lanzhou**	**49.62**	**332**	*e*P		**P**	**17 48 48.8**	**-0.6**
LZH				pP		pP	17 49 06.9	-15
LZH				sP		sP	17 49 16.3	-21
LZH				pmax		pmax		
	comp=Z,18nm,1.1s,mb4.6							
HHC	**Hu-ho-hao-te**	**50.76**	**342**	*e*P		**P**	**17 48 58.6**	**+0.7**
HHC				pP		pP	17 49 16.8	-14
HHC				sP		sP	17 49 26.3	-20
HHC				PP		PP	17 50 50.8	-4.8
HHC				S		**S**	**17 56 04.8**	**+2.0**
HHC				ScS		ScS	17 58 39.3	+4.8
HHC				pmax		pmax		
	comp=Z,15nm,0.3s,mb5.1							
HHC				LR		LR		
	comp=N,68nm,4.5s							
HHC				LR		LR		
	comp=E,67nm,4.1s							
HHC				LR		LR		
	comp=Z,120nm,5.1s							
CN2	**Changchun**	**50.95**	**356**	*e*P		**P**	**17 49 00.8**	**+1.5**
ULN	**Ulaanbaatar**	**58.48**	**342**	*e*P		**P**	**17 49 50.9**	**-2.6**
	comp=Z,2.4nm,1.0s,mb4.0							
SONM	**Songino Array**	**58.66**	**342**	P		**P**	**17 49 54.8**	**+0.1**
	comp=Z,0.4nm,0.4s,mb3.6,baz=170,slow=5.3,SNR=5.2							
SONM	**Songino Array**	**58.66**	**342**	P		**P**	**17 49 54.8**	**+0.1**
WMQ	**Urumqi**	**63.60**	**327**	*e*P		**P**	**17 50 28.3**	**+0.2**
MK31	**Makanchi Array**	**68.43**	**327**	*e*P		**P**	**17 50 59.2**	**+0.3**
MKAR	**Makanchi Array**	**68.43**	**327**	P		**P**	**17 50 59.4**	**+0.5**
	comp=Z,4.2nm,0.6s,mb4.3,baz=126,slow=7.9,SNR=60							
MKAR	**Makanchi Array**	**68.43**	**327**	P		**P**	**17 50 59.4**	**+0.5**
TKM2	**Tokmak 2**	**70.18**	**321**	*e*P		**P**	**17 51 09.5**	**-0.2**
	comp=Z,3.8nm,0.8s,mb4.2							
AAK	**Ala-Archa**	**70.73**	**320**	*e*P		**P**	**17 51 13.9**	**+0.7**
	comp=Z,6.3nm,1.0s,mb4.3							
EKS2	**Erkin-Say**	**71.21**	**320**	*e*P		**P**	**17 51 16.6**	**+0.6**
	comp=Z,2.2nm,0.9s,mb3.9							
ZAA0	**Zalesovo Array**	**71.80**	**334**	*e*P		**P**	**17 51 18.0**	**-1.2**
ZALV	**Zalesovo Beam**	**71.80**	**334**	P		**P**	**17 51 18.9**	**-0.4**
	comp=Z,1.7nm,0.6s,mb3.9,baz=112,slow=5.6,SNR=10							
ZALV	**Zalesovo Beam**	**71.80**	**334**	P		**P**	**17 51 18.9**	**-0.4**
KURK	**Kurchatov**	**72.72**	**329**	*e*P		**P**	**17 51 24.8**	**-0.1**
	comp=Z,7.4nm,1.3s,mb4.3							
KKAR	**Karatay Array**	**73.53**	**319**	*e*P		**P**	**17 51 29.4**	**-0.4**
	comp=Z,0.6nm,0.5s,mb3.6							
ABKAR	**Akbulak array**	**82.70**	**322**	*e*P		**P**	**17 52 19.3**	**-0.9**
	comp=Z,0.7nm,0.5s,mb3.6							
QSPA	**South Pole Qui**	**82.76**	**180**	*e*P		**P**	**17 52 23.3**	**+3.3**
	comp=Z,1.2nm,0.6s,mb3.8							
ARU	**Arti**	**85.91**	**328**	*e*P		**P**	**17 52 34.9**	**-1.3**
TORD	**Torodi Ar. Bea**	**128.90**	**281**	PKP	PKPdf		17 59 05.7	+1.4
	comp=Z,0.6nm,1.0s,baz=97,slow=3.1,SNR=3.5							
TORD	**Torodi Ar. Bea**	**128.90**	**281**	PKP	PKPdf		17 59 05.7	+1.4
CPUP	**Villa Florida**	**145.90**	**168**	PKPbc	PKPbc		17 59 39.9	+3.9
	comp=Z,1.4nm,0.5s,baz=126,slow=5.0,SNR=5.7							
CPUP	**Villa Florida**	**145.90**	**168**	PKPbc	PKPbc		17 59 39.9	+3.9
LPAZ	**La Paz**	**150.52**	**142**	PKPbc	PKPbc		17 59 53.3	+4.9
	comp=Z,0.7nm,0.4s,baz=272,slow=6.9,SNR=4.2							
LPAZ				PKPab	PKPab		18 00 01.6	+6.3
	comp=Z,1.0nm,0.4s,baz=225,slow=1.4,SNR=4.8							
LPAZ	**La Paz**	**150.52**	**142**	PKPbc	PKPbc		17 59 53.3	+4.9
LPAZ				PKPab	PKPab		18 00 01.6	+6.3

BJI 14 17:48:47.6,37˝.47N×96˝.18E,h17km,mb3.9/2,ML3.2/5, Qinghai

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.45**	**55**	Pn	Pn	Pn	17 49 43.3	+2.8
GTA				Pg	Pg	Pg	17 49 50.8	-2.9
GTA				Sn	Sn	Sn	17 50 27.1	+6.1
GTA				Sg	Sg	Sg	17 50 38.1	-0.3
GTA				smax				
	comp=N,11nm,0.6s							
GTA				smax				
	comp=E,14nm,0.9s							

*IDC **14** 17:55:17.5±1.2,5˝.30S×151˝.56E,h54km±6km,mb3.6/9, mb1 3.9/9,mb1mx3.7/17,mbtmp3.6/9,MS3.1/3,Ms1 3.1/3, ms1mx2.7/23,Error ellipse: s-maj=39.7km s-min=16.7km az=120.0*
*ISCJB **14** 17:55:20.1±3.5,5˝.3S±0˝.1×151˝.4E±0˝.2,h89km±29km, mb3.9/14,Error ellipse: s-maj=29.4km s-min=19.1km az=8.8*
*NEIC **14** 17:55:21.1±2.7,5˝.31S×151˝.50E,h87km±22km,mb4.2/5, Error ellipse: s-maj=23.3km s-min=14.9km az=95.0*

ISC 14 17:55:21.5±3.1,5˝.3S±0˝.1×151˝.5E±0˝.2,h89km±26km,n34, c0s97/30,mb3.9/14,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.91**	**226**	P		**Pn**	**17 56 46.5**	**-0.1**
	1.8nm,0.3s,baz=14,slow=7.5,SNR=8.8							
PMG				S		**Sn**	**17 57 54.0**	**+1.1**
	9.6nm,0.3s,baz=213,slow=18,SNR=8.4							
PMG	**Port Moresby**	**5.91**	**226**	*e*Pn		**Pn**	**17 56 45.9**	**-0.7**
PMG				P			17 56 46.5	
PMG				*e*Sn		**Sn**	**17 57 50.8**	**-2.1**
PMG				S		**Sn**	**17 57 54.0**	**+1.1**
CTA	**Charters Tower**	**15.54**	**199**	LR	LR	LR	18 04 18.0	
	comp=Z,38nm,18.6s,baz=48,slow=35							
GUMO	**Guam**	**19.89**	**341**	LR	LR	LR	18 05 12.6	
	comp=Z,31nm,20.4s,baz=129,slow=30							
WRAB	**Tennant Creek**	**22.12**	**227**	*e*P		**P**	**18 00 10.7**	**+0.9**
	7.1nm,0.8s,mb4.0							
WRA	**Warramunga Arr**	**22.13**	**227**	P		**P**	**18 00 09.6**	**-0.4**
	4.3nm,0.6s,mb3.9,baz=52,slow=9.9,SNR=16							
WRA				pP			18 00 21.6	
	3.2nm,0.5s,baz=52,slow=10,SNR=8.4							
WRA	**Warramunga Arr**	**22.13**	**227**	P		**P**	**18 00 09.6**	**-0.4**
WRA				pP			18 00 21.6	
ASAR	**Alice Springs**	**24.90**	**221**	P		**P**	**18 00 36.9**	**+0.6**
	3.5nm,0.5s,mb4.0,baz=57,slow=8.7,SNR=84							
ASAR				pP			18 00 49.5	
	2.9nm,0.6s,baz=54,slow=9.4,SNR=7.5							
ASAR	**Alice Springs**	**24.90**	**221**	P		**P**	**18 00 36.9**	**+0.6**
ASAR				pP			18 00 49.5	
FITZ	**Fitzroy Crossi**	**28.27**	**241**	P		**P**	**18 01 06.0**	**-0.6**
	1.6nm,0.3s,mb4.0,baz=49,slow=10,SNR=19							
FITZ				pP		pP	18 01 20.8	-6.0
	3.1nm,0.7s,baz=67,slow=5.9,SNR=3.8							
FITZ	**Fitzroy Crossi**	**28.27**	**241**	P		**P**	**18 01 06.0**	**-0.6**
FITZ				pP		pP	18 01 20.8	-6.0
CMAR	**Chiang Mai Arr**	**56.91**	**296**	P		**P**	**18 04 59.2**	**+1.3**
	1.2nm,1.1s,mb3.9,baz=114,slow=6.0,SNR=5.1							
CMAR	**Chiang Mai Arr**	**56.91**	**296**	P		**P**	**18 04 59.2**	**+1.3**
PETK	**Petropavlovsk-**	**58.44**	**4**	LR	LR	LR	18 28 05.5	
	comp=Z,50nm,20.1s,baz=272,slow=34							
ULN	**Ulaanbaatar**	**65.75**	**329**	*e*P		**P**	**18 05 57.5**	**+0.7**
	2.9nm,1.1s,mb4.0							
SONM	**Songino Array**	**66.07**	**329**	P		**P**	**18 06 00.2**	**+1.3**
	0.7nm,0.6s,mb3.7,baz=133,slow=5.2,SNR=5.6							
SONM				pP		pP	18 06 14.9	-6.6
	0.3nm,0.4s,baz=149,slow=4.4,SNR=3.6							
SONM	**Songino Array**	**66.07**	**329**	P		**P**	**18 06 00.2**	**+1.3**
SONM				pP	pP		18 06 14.9	-6.6
VNDA	**Vanda**	**72.37**	**178**	P		**P**	**18 06 37.3**	**-0.1**
	1.9nm,1.0s,mb3.9							
MKAR	**Makanchi Array**	**79.85**	**319**	P		**P**	**18 07 19.4**	**-1.0**
	0.5nm,0.9s,mb3.3,baz=105,slow=7.8,SNR=3.7							
MKAR	**Makanchi Array**	**79.85**	**319**	P		**P**	**18 07 19.4**	**-1.0**
ZAA0	**Zalesovo Array**	**80.86**	**327**	P		**P**	**18 07 23.9**	**-1.7**
ZALV	**Zalesovo Beam**	**80.86**	**327**	P		**P**	**18 07 23.9**	**-1.7**
	0.4nm,0.5s,mb3.5,baz=72,slow=4.8,SNR=3.9							
ZALV	**Zalesovo Beam**	**80.86**	**327**	P		**P**	**18 07 23.9**	**-1.7**
ILAR	**Eielson Array**	**83.12**	**22**	P		**P**	**18 07 37.1**	**-0.1**
	0.4nm,0.6s,mb3.4,baz=256,slow=4.8,SNR=7.9							
ILAR	**Eielson Array**	**83.12**	**22**	P		**P**	**18 07 37.1**	**-0.1**
TKM2	**Tokmak 2**	**83.34**	**314**	P		**P**	**18 07 34.6**	**-4.3**
AAK	**Ala-Archa**	**84.07**	**314**	*e*P		**P**	**18 07 43.0**	**+0.4**
	4.6nm,0.8s,mb4.4							
QSPA	**South Pole Qui**	**84.65**	**180**	*e*P		**P**	**18 07 44.5**	**-0.4**
	6.7nm,1.5s,mb4.3							
NVAR	**Mina Array Bea**	**93.43**	**52**	P		**P**	**18 08 28.4**	**+1.1**
	0.1nm,0.3s,mb3.6,baz=276,slow=4.3,SNR=3.7							
NVAR	**Mina Array Bea**	**93.43**	**52**	P		**P**	**18 08 28.4**	**+1.1**
GERES	**GERESS Array B**	**123.80**	**328**	PKP	PKPdf		18 14 09.5	+0.3
	0.4nm,0.7s,baz=96,slow=5.5,SNR=3.8							
GERES	**GERESS Array B**	**123.80**	**328**	PKP	PKPdf		18 14 09.5	+0.3
TORD	**Torodi Ar. Bea**	**149.21**	**287**	PKPbc	PKPbc		18 15 00.5	-0.4
	1.6nm,0.7s,baz=80,slow=2.5,SNR=10							
TORD				pPKPbc	pPKPbc		18 15 16.4	-9.0
	1.1nm,0.7s,baz=71,slow=2.6,SNR=5.3							
TORD	**Torodi Ar. Bea**	**149.21**	**287**	PKPbc	PKPbc		18 15 00.5	-0.4
TORD				pPKPbc	pPKPbc		18 15 16.4	-9.0

*KRSC **14** 18:19:07.5±1.0,49˝.59N×156˝.50E,h117km±117km,ML4.4*
*MOS **14** 18:19:09.8±1.0,50˝.18N×155˝.25E,h134km,mb3.8/15, Error ellipse: s-maj=15.7km s-min=7.1km az=67.2*
*IDC **14** 18:19:09.5±0.8,50˝.07N×155˝.19E,h114km±6km,mb3.6/22, mb1 3.8/24,mb1mx3.7/30,mbtmp3.6/24, Error ellipse: s-maj=15.5km s-min=11.5km az=145.0*
*ISCJB **14** 18:19:10.1±0.6,50˝.13N±0˝.07×155˝.3E±0˝.1,h136km±5km, mb3.7/25,Error ellipse: s-maj=15.0km s-min=7.1km az=138.8*
*NEIC **14** 18:19:10.0±0.4,50˝.12N×155˝.15E,mb4.3/6,Error ellipse: s-maj=11.5km s-min=6.3km az=150.0*

ISC 14 18:19:11.2±0.6,50˝.12N±0˝.07×155˝.3E±0˝.1,h130km±5km, h115km±7.2km:pP-P,n104,σ1s14/120,mb3.7/25,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.76**	**42**	*i* PN		**Pn**	**18 19 32.9**	**+0.8**
SKR				*i* S		**Sn**	**18 19 48.0**	**+0.1**
SKR				pmax	pmax			
	comp=N,200nm,0.4s							
SKR				pmax	pmax			
	comp=E,100nm,0.4s							
SKR				pmax	pmax			
	comp=Z,390nm,0.4s							
SKR				pmax	pmax			
	comp=E,800nm,1.0s							
SKR				pmax	pmax			
	comp=Z,1µm,1.0s							
SKR				smax				
	comp=N,1µm,2.0s							
SKR				smax				
	comp=E,2µm,2.0s							
SKR				smax				
	comp=N,2µm,0.3s							
SKR				smax				
	comp=E,1µm,0.3s							
MIPR	**Malaya Ipel'ka**	**2.34**	**22**	*e*P		**Pn**	**18 19 49.9**	**+0.5**
MIPR				*e*S		**Sn**	**18 20 21.3**	**+2.6**
GRL	**Gorelyy**	**2.99**	**34**	*e*P		**Pn**	**18 19 58.9**	**+1.3**
GRL				*e*S		**Sn**	**18 20 36.1**	**+2.7**
RUS	**Russkaya**	**3.07**	**40**	*e*P		**Pn**	**18 19 57.1**	**-1.5**
RUS				*e*S		**Sn**	**18 20 33.3**	**-1.9**
RUS	**Russkaya**	**3.07**	**40**	PN		**Pn**	**18 19 57.1**	**-1.5**
RUS				S		**Sn**	**18 20 33.3**	**-1.9**
PETK	**Petropavlovsk-**	**3.34**	**25**	P		**Pn**	**18 20 03.3**	**+1.1**
	comp=E,7.7nm,0.3s,baz=176,slow=12,SNR=296							
PETK	**Petropavlovsk-**	**3.34**	**25**	P		**Pn**	**18 20 03.3**	**+1.1**
PETK	**Petropavlovsk-**	**3.34**	**25**	PN		**Pn**	**18 20 03.3**	**+1.1**
PETK				pmax	pmax			
	comp=Z,6.0nm,0.3s							
PET	**Petropavlovsk**	**3.58**	**34**	*e*P		**Pn**	**18 20 05.8**	**+0.5**
PET				*e*S		**Sn**	**18 20 47.4**	**+0.2**
PET	**Petropavlovsk**	**3.58**	**34**	*e*Pn		**Pn**	**18 20 04.6**	**-0.7**
PET				*e*Sn		**Sn**	**18 20 43.2**	**-4.0**
PET	**Petropavlovsk**	**3.58**	**34**	*e*PN		**Pn**	**18 20 05.7**	**+0.4**
PET				*e*S		**Sn**	**18 20 48.3**	**+1.1**
PET				pmax	pmax			
	comp=Z,13nm,0.6s							
PET				smax				
	comp=N,94nm,0.6s							
PET				smax				
	comp=E,90nm,0.5s							
AVH	**Avacha**	**3.80**	**33**	P		**Pn**	**18 20 08.3**	**0.0**
GNL	**Ganaly**	**3.94**	**23**	*e*P		**Pn**	**18 20 11.7**	**+1.7**
NLC	**Nalytchevo**	**3.96**	**38**	*e*P		**Pn**	**18 20 08.8**	**-1.5**
NLC				*e*S		**Sn**	**18 20 53.4**	**-2.7**
NLC	**Nalytchevo**	**3.96**	**38**	PN		**Pn**	**18 20 08.8**	**-1.5**
NLC				S		**Sn**	**18 20 53.4**	**-2.7**
SPN	**Mys Shipunski**	**4.18**	**43**	*e*P		**Pn**	**18 20 11.8**	**-1.5**
SPN				*e*S		**Sn**	**18 20 57.8**	**-3.7**
SPN	**Mys Shipunski**	**4.18**	**43**	PN		**Pn**	**18 20 11.8**	**-1.5**
SPN				S		**Sn**	**18 20 57.8**	**-3.7**
MKZ	**Mys Kozlova**	**5.93**	**39**	*e*P		**Pn**	**18 20 34.7**	**-2.0**
MKZ				*e*S		**Sn**	**18 21 38.3**	**-5.1**
MKZ	**Mys Kozlova**	**5.93**	**39**	PN		**Pn**	**18 20 34.7**	**-2.0**
MKZ				S		**Sn**	**18 21 38.3**	**-5.1**
TUMR	**Tumrok**	**5.95**	**28**	*e*P		**Pn**	**18 20 39.2**	**+2.3**
KBTR	**Krutoberegovo**	**7.58**	**34**	*e*P		**Pn**	**18 20 58.1**	**-0.8**
KBTR	**Krutoberegovo**	**7.58**	**34**	PN		**Pn**	**18 20 58.1**	**-0.8**
BKI	**Bering**	**8.24**	**48**	*e*S		**Sn**	**18 22 29.0**	**-10**
ASAJ	**Asahikawa**	**10.54**	**240**	P		**Pn**	**18 21 39.0**	**+0.4**
	comp=E,0.6nm,0.3s,baz=101,slow=8.8,SNR=7.5							
ASAJ	**Asahikawa**	**10.54**	**240**	PN		**Pn**	**18 21 39.0**	**+0.4**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
FX1	**Attu Island--F**	**11.46**	**69**	P		**Pn**	**18 21 49.6**	**-1.2**
	comp=Z,1.9nm,0.3s,baz=277,slow=18,SNR=8.1							
FX1				S		**Sn**	**18 23 48.3**	**-8.7**
	comp=Z,9.7nm,0.3s,baz=354,slow=21,SNR=15							
FX1	**Attu Island--F**	**11.46**	**69**	P		**Pn**	**18 21 49.6**	**-1.2**
FX1				S		**Sn**	**18 23 48.3**	**-8.7**
FX1	**Attu Island--F**	**11.46**	**69**	PN		**Pn**	**18 21 49.6**	**-1.2**
FX1				pmax	pmax			
	comp=Z,2.0nm,0.3s							
MJAR	**Matsushiro Arr**	**18.35**	**229**	P		**P**	**18 23 16.0**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=

KURK					pmax	pmax			
	comp=Z,2.0nm,0.6s,mb3.9								
KURK					pmax	pmax			
	comp=Z,2.0nm,0.9s,mb3.8								
YKA	**Yellowknife Ar**	**47.37**	**39**	P		**P**	**18 27 32.2**	**+0.7**	
	comp=Z,1.3nm,0.7s,mb3.7,baz=297,slow=6.8,SNR=3.2								
YKA	**Yellowknife Ar**	**47.37**	**39**	P		**P**	**18 27 32.2**	**+0.7**	
YKA	**Yellowknife Ar**	**47.37**	**39**	P		**P**	**18 27 32.2**	**+0.7**	
YKA					pmax	pmax			
	comp=Z,1.0nm,0.7s								
SPITS	**Spitsbergen Ar**	**49.56**	**350**	P		**P**	**18 27 48.5**	**+0.4**	
	comp=Z,20nm,1.1s,mb4.7,baz=48,slow=11,SNR=1.7								
SPITS	**Spitsbergen Ar**	**49.56**	**350**	P		**P**	**18 27 48.5**	**+0.4**	
SPITS	**Spitsbergen Ar**	**49.56**	**350**	P		**P**	**18 27 48.6**	**+0.5**	
SPITS					pmax	pmax			
	comp=Z,21nm,1.1s								
AAK	**Ala-Archa**	**53.69**	**295**	P		**P**	**18 28 18.9**	**-0.4**	
	comp=Z,3.9nm,0.6s,mb4.3								
AAK	**Ala-Archa**	**53.69**	**295**	P		**P**	**18 28 18.9**	**-0.3**	
AAK					pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.3								
CMAR	**Chiang Mai Arr**	**54.60**	**256**	P		**P**	**18 28 26.8**	**+0.6**	
	comp=Z,0.5nm,0.5s,mb3.5,baz=35,slow=7.5,SNR=6.9								
CMAR					pP	pP	18 28 53.0	-3.8	
	comp=Z,0.5nm,0.7s,baz=39,slow=5.8,SNR=3.1								
CMAR	**Chiang Mai Arr**	**54.60**	**256**	P		**P**	**18 28 26.8**	**+0.6**	
CMAR					pP	pP	18 28 53.0	-3.8	
CMAR	**Chiang Mai Arr**	**54.60**	**256**	P		**P**	**18 28 26.8**	**+0.6**	
CMAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
CMAR					pmax	pmax			
	comp=Z,1.0nm,0.7s								
ARCES	**ARCESS Array B**	**55.15**	**341**	P		**P**	**18 28 29.1**	**-0.3**	
	comp=Z,1.8nm,0.8s,mb3.9,baz=342,slow=7.6,SNR=1.5								
ARCES	**ARCESS Array B**	**55.15**	**341**	P		**P**	**18 28 29.1**	**-0.3**	
ARCES	**ARCESS Array B**	**55.15**	**341**	P		**P**	**18 28 29.1**	**-0.3**	
ARCES					pmax	pmax			
	comp=Z,2.0nm,0.8s								
ABKAR	**Akbulak array**	**57.41**	**309**	*e*P		**P**	**18 28 45.9**	**+0.1**	
	comp=Z,1.3nm,0.5s,mb4.0								
FINES	**FINESS Array B**	**61.61**	**335**	P		**P**	**18 29 12.8**	**-1.5**	
	comp=Z,3.1nm,0.8s,mb4.2,baz=25,slow=6.9,SNR=9.3								
FINES					PcP	PcP	18 29 54.5	-0.2	
	comp=Z,1.5nm,0.6s,baz=47,slow=3.4,SNR=5.9								
FINES	**FINESS Array B**	**61.61**	**335**	P		**P**	**18 29 12.8**	**-1.6**	
FINES					PcP	PcP	18 29 54.5	-0.2	
FINES	**FINESS Array B**	**61.61**	**335**	P		**P**	**18 29 12.8**	**-1.5**	
FINES							18 29 54.5		
FINES					pmax	pmax			
	comp=Z,3.0nm,0.8s								
PDAR	**Pinedale Array**	**61.62**	**56**	P		**P**	**18 29 16.9**	**+2.2**	
	comp=Z,0.5nm,0.8s,mb3.4,baz=320,slow=3.9,SNR=3.0								
PDAR	**Pinedale Array**	**61.62**	**56**	P		**P**	**18 29 16.9**	**+2.2**	
NOA	**NORSAR Array B**	**65.50**	**342**	P		**P**	**18 29 40.5**	**+0.6**	
	comp=Z,0.9nm,0.7s,mb3.7,baz=74,slow=18,SNR=4.0								
NOA	**NORSAR Array B**	**65.50**	**342**	P		**P**	**18 29 40.5**	**+0.6**	
NOA	**NORSAR Array B**	**65.50**	**342**	P		**P**	**18 29 40.5**	**+0.6**	
NOA					pmax	pmax			
	comp=Z,1.0nm,0.7s								
HFS	**Hagfors**	**65.80**	**340**	P		**P**	**18 29 42.5**	**+0.7**	
	comp=Z,2.3nm,0.8s,mb4.1,baz=73,slow=5.0,SNR=5.6								
HFS	**Hagfors**	**65.80**	**340**	P		**P**	**18 29 42.5**	**+0.7**	
HFS	**Hagfors**	**65.80**	**340**	P		**P**	**18 29 42.5**	**+0.7**	
HFS					pmax	pmax			
	comp=Z,2.0nm,0.8s								
SCHQ	**Schefferville**	**69.64**	**24**	P		**P**	**18 30 06.2**	**+0.3**	
	comp=Z,5.3nm,0.9s,mb4.3,baz=342,slow=6.4,SNR=5.4								
SCHQ	**Schefferville**	**69.64**	**24**	P		**P**	**18 30 06.2**	**+0.3**	
WRA	**Warramunga Arr**	**72.18**	**201**	P		**P**	**18 30 20.6**	**-0.9**	
	comp=Z,0.6nm,0.6s,mb3.5,baz=19,slow=6.7,SNR=2.9								
WRA	**Warramunga Arr**	**72.18**	**201**	P		**P**	**18 30 20.6**	**-0.9**	
WRA	**Warramunga Arr**	**72.18**	**201**	P		**P**	**18 30 20.6**	**-1.0**	
WRA					pmax	pmax			
	comp=Z,1.0nm,0.6s								
TXAR	**Lajitas Array**	**74.60**	**63**	P		**P**	**18 30 37.3**	**+1.4**	
	comp=Z,0.6nm,0.5s,mb3.5,baz=308,slow=7.6,SNR=2.2								
TXAR	**Lajitas Array**	**74.60**	**63**	P		**P**	**18 30 37.3**	**+1.4**	
TXAR	**Lajitas Array**	**74.60**	**63**	P		**P**	**18 30 37.3**	**+1.4**	
TXAR					pmax	pmax			
	comp=Z,1.0nm,0.5s								
ASAR	**Alice Springs**	**75.87**	**200**	P		**P**	**18 30 42.9**	**-0.1**	
	comp=Z,0.7nm,0.9s,mb3.3,baz=12,slow=5.6,SNR=10								
ASAR					pP	pP	18 31 09.7	-5.7	
	comp=Z,0.4nm,0.6s,baz=15,slow=5.6,SNR=4.5								
ASAR	**Alice Springs**	**75.87**	**200**	P		**P**	**18 30 42.9**	**-0.1**	
ASAR					pP	pP	18 31 09.7	-5.7	
ASAR	**Alice Springs**	**75.87**	**200**	P		**P**	**18 30 42.9**	**-0.1**	
ASAR					pmax	pmax			
	comp=Z,1.0nm,0.9s								
GERES	**GERESS Array B**	**76.05**	**335**	P		**P**	**18 30 43.9**	**0.0**	
	comp=Z,0.2nm,0.3s,mb3.2,baz=32,slow=6.3,SNR=4.7								
GERES	**GERESS Array B**	**76.05**	**335**	P		**P**	**18 30 43.9**	**0.0**	
GERES	**GERESS Array B**	**76.05**	**335**	P		**P**	**18 30 43.9**	**+0.1**	
BRTR	**Keskin Array B**	**76.92**	**318**	P		**P**	**18 30 47.9**	**-1.0**	
	comp=Z,0.2nm,0.5s,mb3.2,baz=9.5,slow=4.4,SNR=2.9								
BRTR	**Keskin Array B**	**76.92**	**318**	P		**P**	**18 30 47.9**	**-1.0**	
BRTR	**Keskin Array B**	**76.92**	**318**	P		**P**	**18 30 47.9**	**-1.0**	
ESDC	**Sonseca Array**	**88.75**	**344**	P		**P**	**18 31 49.7**	**-0.2**	
	comp=Z,0.6nm,0.5s,mb3.8,baz=355,slow=4.2,SNR=7.0								
ESDC	**Sonseca Array**	**88.75**	**344**	P		**P**	**18 31 49.7**	**-0.2**	

MEX 14 18:26:41.4±0.7, 16°04'N×97°59'W, h18km±41km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.62**	**304**	*e*P	Pg	18 26 51.6	-2.1
PNIG				*i* S	Sg	18 26 59.1	-3.0
VHO	**Vista Hermosa**	**1.32**	**39**	*e*P	Pn	18 27 01.6	-3.3
VHO				*i* S	Sn	18 27 16.8	-5.3
OXX	**Oaxaca**	**1.33**	**39**	*e*P	Pn	18 27 01.8	-3.4
OXX				*i* S	Sn	18 27 17.6	-4.8
UTMO	**Huajuapan**	**1.79**	**353**	*e*P	Pn	18 27 09.2	-2.3
UTMO				*i* S	Sn	18 27 30.1	-3.8
ACX	**Acapulco**	**2.33**	**291**	*i* P	Pn	18 27 16.2	-2.7
ACX				*i* S	Sn	18 27 44.7	-2.4
MEIG	**Mezcala**	**2.70**	**314**	*i* P	Pn	18 27 20.5	-3.5
MEIG				*i* S	Sn	18 27 52.8	-3.5
CMIG	**Matias Romero**	**2.80**	**68**	*e*P	Pn	18 27 23.0	-2.3
CMIG				*i* S	Sn	18 27 55.7	-3.0
PLIG	**Platanillo**	**2.97**	**322**	*e*P	Pn	18 27 24.8	-2.9
PLIG				*i* S	Sn	18 27 59.1	-3.8
PCIG		**4.22**	**94**	*i* P	Pn	18 27 38.8	-6.1
PCIG				*i* S	Sn	18 28 30.8	-3.0
TGIG		**4.35**	**80**	*i* P	Pn	18 27 48.0	+1.2
TGIG				*i* S	Sn	18 28 33.5	-3.6
CCIG	**Comitan**	**5.25**	**87**	*i* P	Pn	18 27 56.5	-2.6
CCIG				*i* S	Sn	18 28 56.2	-2.9

*ISCJB **14** 18:39:26.1±1.2, 30.8°N±0.1°×67.2°E±0.2, h10km, mb3.6/5, MS4.2/2, Error ellipse: s-maj=32.7km s-min=15.7km az=30.1*
*IDC **14** 18:39:26.3±1.4, 30.64°N×67.18°E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.3/27, mbtmp3.6/4, MS4.1/2, Ms1 4.1/2, ms1mx2.6/39, Error ellipse: s-maj=44.0km s-min=31.6km az=132.0*
*NEIC **14** 18:39:27.8±1.4, 30.78°N×67.18°E, h10km, mb3.6/3, Error ellipse: s-maj=39.8km s-min=19.2km az=120.0*

ISC 14 18:39:28.0±1.2, 30.8°N±0.1°×67.2°E±0.2, h10km, n19, σ1s50/17, mb3.6/5, MS4.2/2, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**4.07**	**22**	*e*Pn	**Pn**	**18 40 31.3**	**+0.9**
EKS2	**Erkin-Say**	**12.98**	**22**	*e*Pn	**Pn**	**18 42 32.0**	**-0.5**
	1.9nm,0.5s						
AAK	**Ala-Archa**	**13.20**	**24**	*e*Pn	**Pn**	**18 42 36.6**	**+1.1**
	9.4nm,0.5s						
TKM2	**Tokmak 2**	**13.86**	**27**	*e*Pn	**Pn**	**18 42 43.1**	**-1.3**
	3.9nm,0.8s						
ABKAR	**Akbulak array**	**19.28**	**345**	P	**Pn**	**18 43 48.2**	**-5.5**
	1.7nm,0.9s						
MK31	**Makanchi Array**	**19.80**	**32**	*e*Pn	**Pn**	**18 43 57.2**	**-2.8**
MKAR	**Makanchi Array**	**19.80**	**32**	P	**Pn**	**18 43 58.1**	**-1.9**
	0.2nm,0.3s,baz=211,slow=9.8,SNR=12						
MKAR	**Makanchi Array**	**19.80**	**32**	P	**Pn**	**18 43 58.1**	**-1.9**
KURK	**Kurchatov**	**21.68**	**20**	P	**P**	**18 44 21.6**	**+2.8**
	4.4nm,1.1s,mb3.8						
BRVK	**Borovoye**	**22.39**	**5**	*e*P	**P**	**18 44 24.9**	**-1.4**
	1.7nm,0.7s,mb3.6						
ZAA0	**Zalesovo Array**	**26.43**	**24**	*e*P	**P**	**18 45 06.8**	**+2.1**
ZALV	**Zalesovo Beam**	**26.43**	**24**	P	**P**	**18 45 06.5**	**+1.8**
	1.1nm,0.4s,mb3.7,baz=219,slow=11,SNR=8.8						
ZALV	**Zalesovo Beam**	**26.43**	**24**	P	**P**	**18 45 06.5**	**+1.8**
ASAJ	**Asahikawa**	**59.37**	**54**	LR	LR	19 16 15.8	
	comp=Z,297nm,20.6s,MS4.4,baz=150,slow=37						
TORD	**Torodi Ar. Bea**	**62.45**	**269**	P	**P**	**18 49 51.3**	**-0.5**
	0.4nm,0.7s,mb3.7,baz=57,slow=5.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**62.45**	**269**	P	**P**	**18 49 51.3**	**-0.5**
INK	**Inuvik**	**80.03**	**8**	LR	LR	19 30 50.3	
	comp=Z,54nm,18.4s,MS3.9,baz=128,slow=38						
ASAR	**Alice Springs**	**83.73**	**122**	P	**P**	**18 51 57.4**	**-0.1**
	0.2nm,0.8s,mb3.3,baz=303,slow=5.2,SNR=3.5						
ASAR	**Alice Springs**	**83.73**	**122**	P	**P**	**18 51 57.4**	**-0.1**

*ISCJB **14** 18:42:00.5±0.6, 34.61°N±0.03°×32.90°E±0.05, h10km, Error ellipse: s-maj=6.5km s-min=4.9km az=5.2*
*CSEM **14** 18:42:01.6±0.1, 34.68°N×32.95°E, h15km, Mw3.0, Error ellipse: s-maj=4.2km s-min=3.1km az=91.0*
*NIC **14** 18:42:02.8±0.2, 34.78°N×32.95°E, h11km, ML2.9, MW3.0*
*HLW **14** 18:42:07.0, 34.42°N×33.18°E, h33km±22km, Md3.0*

ISC 14 18:42:01.5±0.6, 34.65°N±0.03°×32.92°E±0.05, h10km, n21, σ0s71/30, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SZAC	**Souni-Zanaja**	**0.11**	**345**	P	**Pg**	**18 42 05.3**	**+1.0**
SZAC	**Souni-Zanaja**	**0.11**	**345**	P	**Pg**	**18 42 05.3**	**+1.0**
CSS	**Prodhromos**	**0.46**	**48**	P	**Pg**	**18 42 10.0**	**-0.6**
	11nm,0.2s						
CSS				S	**Sg**	**18 42 16.1**	**-0.6**
CSS	**Prodhromos**	**0.46**	**48**	P	**Pg**	**18 42 10.0**	**-0.6**
	11nm,0.2s						
CSS				S	**Sg**	**18 42 16.1**	**-0.6**
PPCY	**Paphos**	**0.53**	**297**	P	**Pg**	**18 42 12.9**	**+1.1**
PPCY	**Paphos**	**0.53**	**297**	P	**Pg**	**18 42 12.9**	**+1.1**
ALFC	**Alevga**	**0.57**	**333**	P	**Pg**	**18 42 12.4**	**-0.2**
	11nm,0.3s						
ALFC				S	**Sg**	**18 42 19.5**	**-0.6**
ALFC	**Alevga**	**0.57**	**333**	P	**Pg**	**18 42 12.4**	**-0.2**
	11nm,0.3s						
ALFC				S	**Sg**	**18 42 19.5**	**-0.6**
MAMC	**Mammari**	**0.57**	**25**	P	**Pg**	**18 42 11.9**	**-0.8**
MAMC	**Mammari**	**0.57**	**25**	P	**Pg**	**18 42 11.9**	**-0.8**
PHNC	**Paralimni**	**0.98**	**69**	P	**Pg**	**18 42 20.5**	**0.0**
	4.4nm,0.5s						
PHNC				S	**Sg**	**18 42 34.8**	**+1.5**
PHNC	**Paralimni**	**0.98**	**69**	P	**Pg**	**18 42 20.5**	**0.0**
	4.4nm,0.5s						
RSH		**3.74**	**169**	P	**Pn**	**18 42 58.8**	**-0.5**
AMAG	**Maghara**	**4.00**	**176**	P	**Pn**	**18 43 02.6**	**-0.4**
	baz=179						
AMAG				S	**Sn**	**18 43 44.8**	**-5.2**
	baz=179						
AMAG	**Maghara**	**4.00**	**176**	P	**Pn**	**18 43 02.6**	**-0.3**
AMAG				S	**Sn**	**18 43 44.8**	**-5.1**
HNKL	**Nakhl**	**4.79**	**169**	P	**Pn**	**18 43 13.7**	**-0.1**
	baz=171						
HNKL				S	**Sn**	**18 44 03.4**	**-6.0**
	baz=171						
HNKL	**Nakhl**	**4.79**	**169**	P	**Pn**	**18 43 13.7**	**-0.1**
SUZ		**4.80**	**181**	P	**Pn**	**18 43 14.3**	**+0.4**
	baz=184						
SUZ		**4.80**	**181**	P	**Pn**	**18 43 14.3**	**+0.5**
TR2		**6.28**	**173**	P	**Pn**	**18 43 34.0**	**-0.3**
	baz=175						
TR2				S	**Sn**	**18 44 39.5**	**-6.6**
	baz=175						
TR2		**6.28**	**173**	P	**Pn**	**18 43 34.0**	**-0.3**

*IDC **14** 19:02:19.7±1.1, 2.83°S×139.06°E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/16, mbtmp3.8/8, ML3.4/1, MS3.2/4, Ms1 3.2/4, ms1mx2.8/24, Error ellipse: s-maj=51.3km s-min=21.1km az=91.0*
*ISCJB **14** 19:02:23.5±0.9, 2.88°S±0.08°×138.7°E±0.3, h33km, mb3.7/7, Error ellipse: s-maj=37.0km s-min=11.2km az=2.9*
*NEIC **14** 19:02:24.9±0.8, 2.88°S×138.90°E, h35km, mb3.9/3, Error ellipse: s-maj=33.6km s-min=10.3km az=93.0*

ISC 14 19:02:25.4±0.9, 2.89°S±0.08°×138.7°E±0.2, h35km, n24, σ1s03/21, mb3.7/7, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRAB	**Tennant Creek**	**17.47**	**194**	*e*Pn	**Pn**	**19 06 26.6**	**+0.3**
	10.0nm,0.9s						
GUMO	**Guam**	**17.47**	**20**	LR	LR	19 11 40.4	
	comp=Z,72nm,20.1s,baz=192,slow=32						
WB2	**Warramunga Arr**	**17.48**	**194**	*e*Pn	**Pn**	**19 06 26.7**	**+0.2**
WRA	**Warramunga Arr**	**17.48**	**194**	P	**Pn**	**19 06 25.8**	**-0.8**
	0.1nm,0.3s,baz=15,slow=12,SNR=5.8						
WRA	**Warramunga Arr**	**17.48**	**194**	P	**Pn**	**19 06 25.8**	**-0.8**
CTA	**Charters Tower**	**18.62**	**157**	LR	LR	19 13 55.5	
	comp=Z,44nm,21.3s,baz=228,slow=38						
FITZ	**Fitzroy Crossi**	**19.82**	**219**	P	**Pn**	**19 06 53.6**	**-1.2**
	3.2nm,0.8s,baz=27,slow=9.2,SNR=6.8						
FITZ				LR	LR	19 15 10.1	
	comp=Z,61nm,20.4s,baz=16,slow=38						
FITZ	**Fitzroy Crossi**	**19.82**	**219**	P	**Pn**	**19 06 53.6**	**-1.2**
FITZ				LR	LR	19 15 10.2	
ASAR	**Alice Springs**	**21.17**	**192**	P	**P**	**19 07 08.7**	**+0.8**
	0.8nm,0.5s,mb3.3,baz=24,slow=11,SNR=19						
ASAR	**Alice Springs**	**21.17**	**192**	P	**P**	**19 07 08.7**	**+0.8**
JHJ	**Hachijo jima 2**	**35.82**	**2**	LR	LR	19 21 14.7	
	comp=Z,76nm,18.7s,baz=60,slow=32						
TLY	**Talaya**	**61.98**	**336**	P	**P**	**19 12 36.5**	**-5.3**
	15nm,1.2s						
MK31	**Makanchi Array**	**69.92**	**322**	P	**P**	**19 13 31.8**	**-1.3**
MKAR	**Makanchi Array**	**69.92**	**322**	P	**P**	**19 13 34.9**	**+1.8**
	0.3nm,0.4s,mb3.6,baz=96,slow=9.1,SNR=8.4						
MKAR	**Makanchi Array**	**69.92**	**322**	P	**P**	**19 13 34.9**	**+1.8**
ZALV	**Zalesovo Beam**	**72.08**	**330**	P	**P**	**19 13 46.0**	**+0.1**
	0.2nm,0.3s,mb3.5,baz=126,slow=3.9,SNR=1.9						
ZALV	**Zalesovo Beam**	**72.08**	**330**	P	**P**	**19 13 46.0**	**+0.1**
VNDA	**Vanda**	**75.61**	**175**	P	**P**	**19 14 07.0**	**+0.8**
	1.3nm,0.8s,mb3.9,baz=323,slow=4.9,SNR=6.9						
VNDA	**Vanda**	**75.61**	**175**	*e*P	**P**	**19 14 06.4**	**+0.2**
	1.3nm,0.8s,mb3.9						
VNDA				*e*PcP	PcP	19 14 19.4	+0.4
ABKAR	**Akbulak array**	**84.85**	**320**	P	**P**	**19 14 57.6**	**+1.1**
	0.2nm,0.4s,mb3.6						
ILAR	**Eielson Array**	**85.99**	**24**	P	**P**	**19 14 59.9**	**-1.9**
	0.4nm,0.7s,mb3.8,baz=242,slow=3.7,SNR=5.7						
ILAR	**Eielson Array**	**85.99**	**24**	P	**P**	**19 14 59.9**	**-1.9**
QSPA	**South Pole Qui**	**87.06**	**180**	P	**P**	**19 15 07.3**	**+0.4**
	0.9nm,0.3s,mb4.5,baz=264,slow=2.0,SNR=4.9						
QSPA	**South Pole Qui**	**87.06**	**180**	P	**P**	**19 15 07.3**	**+0.4**

CASC 14 19:06:40.4±2.9, 11.88°N×86.54°W, h129km±13km, MD3.9, ML2.7, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRUN	**El Crucero**	**0.26**	**67**	*e*P	Pn	19 06 59.3	+1.0
CRUN				*e*S	Sn	19 07 14.3	+2.6
COPN	**Copaltepe**	**0.30**	**351**	*e*P	Pn	19 06 58.5	+0.1
XAVN	**Gruta Xavier**	**0.34**	**39**	*e*P	Pn	19 06 58.8	+0.2
TICN	**Ticuantepe**	**0.34**	**64**	*e*P	Pn	19 06 59.1	+0.6
TISN	**Laguna Tiscapa**	**0.37**	**46**	*e*P	Pn	19 06 58.3	-0.4
APYN	**Apoyeque**	**0.40**	**28**	*e*P	Pn	19 06 59.1	+0.3
WILN	**Americas 2**	**0.44**	**51**	*e*P	Pn	19 06 59.0	-0.1
WILN				*e*S	Sn	19 07 13.6	+0.5
WILN				AML	AML	19 07 14.8	
	comp=E,126nm,0.4s						
APON	**Apoyo**	**0.47**	**86**	*e*P	Pn	19 06 59.4	+0.3
MOMN	**Momotombo**	**0.52**	**0**	*e*P	Pn	19 06 58.8	-0.7
MIRN	**Miramar**	**0.58**	**343**	*e*P	Pn	19 07 00.2	+0.3
HUEN		**0.58**	**39**	*e*P	Pn	19 06 59.7	-0.1
CNGN	**Cerro Negro**	**0.63**	**346**	*e*P	Pn	19 07 00.4	+0.1
CNGN				*e*S	Sn	19 07 16.4	+1.1
CONN	**Concepcion**	**0.95**	**109**	*e*P	Pn	19 07 03.1	+0.3
CRIN	**San Cristobal**	**0.95**	**329**	*e*P	Pn	19 07 03.0	+0.3
CRIN				*e*S	Sn	19 07 21.4	+1.6
GBS2	**Las Lilas**	**1.49**	**134**	*i* P	Pn	19 07 06.5	-1.9
GBS2				*i* S	Sn	19 07 28.2	-1.4
LAPC	**Finca la Perla**	**1.55**	**135**	*i* P	Pn	19 07 07.8	-1.3
NY14	**Universidad de**	**1.58**	**141**	*i* P	Pn	19 07 09.1	-0.3
JCR	**Jicaral**	**2.46**	**145**	*e*P	Pn	19 07 21.0	+0.9
JCR				*e*S	Sn	19 07 50.6	0.0
CGA2	**Cerro Gallo 2**	**2.76**	**132**	*e*P	Pn	19 07 25.4	+1.5
CGA2				*e*S	Sn	19 07 58.6	+1.3
PRS1	**Puriscal**	**2.89**	**131**	*e*P	Pn	19 07 28.1	+2.4
PRS1				*e*S	Sn	19 08 03.4	+2.9
ICR	**Volcan Irazu**	**3.27**	**125**	*e*P	Pn	19 07 35.0	+4.6
ICR				*e*S	Sn	19 08 12.9	+3.7
URSC	**Ursaca**	**3.39**	**127**	*e*P	Pn	19 07 34.8	+2.6
URSC				*e*S	Sn	19 08 15.4	+3.3
BUS	**Buena Vista**	**3.58**	**130**	*e*P	Pn	19 07 36.5	+1.8
BUS				*e*S	Sn	19 08 21.0	+4.3

*ISCJB **14** 19:10:46.9±0.4, 56.50°S±0.06°×25.14°W±0.1, h10km, mb4.7/19, MS4.1/16, Error ellipse: s-maj=12.1km s-min=8.3km az=155.8*
*NEIC **14** 19:10:47.8±4.6, 56.45°S×25.45°W, h6km±28km, mb5.0/14, Error ellipse: s-maj=9.5km s-min=8.1km az=205.0*
*IDC **14** 19:10:47.3±0.5, 56.48°S×25.45°W, h0km, mb4.7/10, mb1 4.7/11, mb1mx4.4/17, mbtmp4.6/11, ML3.7/1, MS4.1/17, Ms1 4.1/17, ms1mx3.9/23, Error ellipse: s-maj=20.6km s-min=15.9km az=76.0*
*GCMT **14** 19:10:55.3±0.3, 56.72°S×25.50°W, h23km, MW5.0, Moment Tensor Solution. s39,c49; s50,c68; Moment tensor: Scale 10^{16}Nm; M_{rr}3.31±.19; $M_{\theta\theta}$-1.00±.16; $M_{\phi\phi}$-2.30±.14; $M_{r\theta}$-1.01±.24; $M_{r\phi}$1.68±.08; $M_{\theta\phi}$0.59±.18; Best double couple: M_o3.60000×10^{16} NP1:ϕ_s154.00000°, δ37.00000°, λ103.00000°. NP2:ϕ_s317.00000°, δ54.00000°, λ80.00000°. Principal axes: T 3.5400, Plg78.0000°, Azm191.0000°; N 0.0800, Plg8.0000°, Azm323.0000°; P -3.6200, Plg9.0000°, Azm54.0000°; Data Used: II IU G IC.*

ISC 14 19:10:48.8±0.4, 56.51°S±0.06°×25.14°W±0.1, h10km, n86, σ0s91/39, mb4.7/19, MS4.1/16, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**16.00**	**159**	*e*P	**Pn**	**19 14 32.8**	**-0.7**
VNA3	**Neumayer Olymp**	**16.23**	**162**	*e*P	**Pn**	**19 14 34.6**	**-1.9**
VNA3				*e*S	**Sn**	**19 17 22.9**	**-13**
VNA2	**Neumayer--Watz**	**16.39**	**159**	*e*P	**Pn**	**19 14 37.6**	**-1.0**
	baz=330,slow=15						
SNAA	**Sanae**	**17.92**	**157**	P	**Pn**	**19 14 59.2**	**+1.5**
	0.2nm,0.3s,baz=318,slow=11,SNR=25						
SNAA				PcP	PcP	19 19 33.3	+0.4
	0.1nm,0.3s,baz=219,slow=5.8,SNR=2.6						
SNAA				LR	LR	19 20 17.3	
	comp=Z,162nm,20.8s,baz=25,slow=32						
SNAA				ScP	ScP	19 23 08.7	+1.0
	0.0nm,0.3s,baz=292,slow=5.4,SNR=2.0						
SNAA	**Sanae**	**17.92**	**157**	*e*Pn	**Pn**	**19 14 58.1**	**+0.4**
SNAA				PcP	PcP	19 19 33.3	+0.4
SNAA				LR	LR	19 20 17.3	
SNAA				ScP	ScP	19 23 08.7	+1.0
EFI	**East Falkland**	**19.64**	**270**	*e*P	**Pn**	**19 15 13.2**	**-5.4**
	62nm,1.0s						
PMSA	**Palmer Station**	**20.36**	**230**	P	**P**	**19 15 26.3**	**+1.3**
	27nm,0.5s,baz=79,slow=6.6,SNR=17						
PMSA				LR	LR	19 22 09.8	
	comp=Z,868nm,19.5s,MS4.1,baz=98,slow=34						
PMSA	**Palmer Station**	**20.36**	**230**	*e*P	**P**	**19 15 25.2**	**+0.2**
	101nm,1.1s						
PMSA				LR	LR	19 22 09.8	
MAIT	**Maitri**	**21.30**	**147**	*e*P	**P**	**19 15 36.0**	**+0.9**
USHA	**Ushuaia**	**24.04**	**256**	LR	LR	19 22 58.8	
	comp=Z,609nm,21.7s,MS4.0,baz=79,slow=30						
TRQA	**Tornquist**	**30.42**	**292**	*e*P	**P**	**19 16 58.8**	**-2.3**
	6.4nm,0.7s,mb4.5						
QSPA	**South Pole Qui**	**33.74**	**180**	P	**P**	**19 17 30.7**	**+1.0**
	29nm,0.5s,mb5.5,baz=202,slow=3.6,SNR=130						
QSPA				PcP	PcP	19 20 09.2	+0.5
	3.2nm,0.7s,baz=334,slow=3.6,SNR=3.0						
QSPA				ScP	ScP	19 23 52.6	-0.5
	1.3nm,0.5s,baz=94,slow=1.9,SNR=3.1						
QSPA	**South Pole Qui**	**33.74**	**180**	*e*P	**P**	**19 17 30.2**	**+0.5**
	37nm,0.6s,mb5.5	

0.3nm,0.8s,baz=25,slow=2.1,SNR=4.6
ASAR Alice Springs 98.24 161 P **P** **19 24 26.1 -0.1**
ASAR PKKPbc PKKPbc 19 40 56.6 +1.6
PDAR Pinedale Array 121.43 301 PKP PKPdf 19 29 40.1 -1.2
0.5nm,0.5s,baz=143,slow=6.4,SNR=5.8
PDAR Pinedale Array 121.43 301 PKP PKPdf 19 29 40.1 -1.2
NVAR Mina Array Bea 122.50 292 PKP PKPdf 19 29 43.9 +0.4
0.6nm,0.6s,baz=174,slow=2.7,SNR=5.7
NVAR Mina Array Bea 122.50 292 PKP PKPdf 19 29 43.9 +0.4
CMAR Chiang Mai Arr 123.97 109 PKP PKPdf 19 29 47.0 0.0
1.1nm,0.8s,baz=228,slow=2.9,SNR=6.8
CMAR Chiang Mai Arr 123.97 109 PKP PKPdf 19 29 47.0 0.0
FINES FINESS Array B 124.33 27 PKP PKPdf 19 29 45.5 -0.8
8.8nm,1.0s,baz=175,slow=2.0,SNR=10.0
FINES FINESS Array B 124.33 27 PKP PKPdf 19 29 45.5 -0.8
ABKAR Akbulak array 126.81 55 *e*PKPdf PKPdf 19 29 54.4 +3.0
EKS2 Erkin-Say 128.84 69 *e*PKPdf PKPdf 19 29 55.5 -0.1
MK31 Makanchi Array 136.09 71 PKPdf PKPdf 19 30 10.5 +1.5
MKAR Makanchi Array 136.09 71 PKhKP PKPpre 19 30 05.9
0.3nm,0.7s,baz=215,slow=3.8,SNR=2.9
MKAR Makanchi Array 136.09 71 PKP PKPpre 19 30 05.9
YKA Yellowknife Ar 137.19 317 PKP PKPdf 19 30 10.2 -0.4
1.4nm,0.5s,baz=126,slow=1.8,SNR=14
YKA Yellowknife Ar 137.19 317 PKP PKPdf 19 30 10.2 -0.4
ZALV Zalesovo Beam 141.68 63 PKhKP PKPpre 19 30 12.8
0.5nm,0.5s,baz=264,slow=4.5,SNR=2.8
ZALV Zalesovo Beam 141.68 63 PKP PKPpre 19 30 12.8
INK Inuvik 146.79 320 PKPbc PKPbc 19 30 29.4 0.0
3.4nm,0.5s,baz=96,slow=4.3,SNR=23
INK Inuvik 146.79 320 PKPbc PKPbc 19 30 29.4 0.0
DAWY Dawson 147.84 311 *e*PKPbc PKPbc 19 30 31.4 -1.0
BMRM Bremner River 149.15 304 *e*PKPbc PKPbc 19 30 35.8 0.0
DOT Dot Lake 149.71 309 *e*PKPbc PKPbc 19 30 36.9 -0.2
SONM Songino Array 149.76 86 PKPbc PKPbc 19 30 38.0 +0.3
2.8nm,0.5s,baz=220,slow=4.0,SNR=21
SONM Songino Array 149.76 86 PKPbc PKPbc 19 30 38.0 +0.3
PAX Paxson 150.14 307 *e*PKPbc PKPbc 19 30 38.5 +0.3
ULN Ulaanbaatar 150.14 86 *e*PKPbc PKPbc 19 30 39.1 +0.4
SML Sawmill 151.11 304 *e*PKPbc PKPbc 19 30 40.3 -0.2
ILAR Eielson Array 151.17 311 PKPbc PKPbc 19 30 40.0 -0.5
7.3nm,0.9s,baz=143,slow=4.4,SNR=59
ILAR Eielson Array 151.17 311 PKPbc PKPbc 19 30 40.0 -0.5
MCK McKinley 151.84 308 *e*PKPbc PKPbc 19 30 42.0 -0.1
KDAK Kodiak Island 151.92 295 PKPbc PKPbc 19 30 42.3 -0.2
6.6nm,0.5s,baz=183,slow=2.7,SNR=22
KDAK Kodiak Island 151.92 295 PKPbc PKPbc 19 30 42.3 -0.2
TRF Thorofare Moun 152.37 307 *e*PKPbc PKPbc 19 30 43.0 -0.4
BPAW Bear Paw Mtn. 152.80 309 *e*PKPbc PKPbc 19 30 43.7 -0.6
PPLA Purkeypile 153.11 306 *e*PKPbc PKPbc 19 30 44.3 -0.7
KSRS Korea Array 153.92 126 PKPbc PKPbc 19 30 47.0 -0.6
0.5nm,0.6s,baz=160,slow=4.0,SNR=4.2
MJAR Matsushiro Arr 157.18 144 PKPab PKPab 19 31 14.9 +0.1
0.9nm,0.5s,baz=199,slow=5.2,SNR=3.2

NIED **14** *19:14:00, 42˙40N× 143˙10E, h56km, Mw4.2 Best double couple: M◎2.61000×10¹⁵ NP1:φ₈24.00000°,δ67.00000°, λ85.00000°. NP2:φ₈217.00000°,δ24.00000°,λ102.00000°.*

ISCJB **14** *19:14:54.7±0.3, 42˙34N±0˙03× 143˙08E±0˙04, h66km±2km, mb4.3/55, Error ellipse: s-maj=5.8km s-min=3.7km az=135.4*

MOS **14** *19:14:54.5±0.9, 42˙34N× 143˙03E, h68km, mb4.5/26, Error ellipse: s-maj=9.8km s-min=6.5km az=94.8*

NEIC **14** *19:14:54.6±0.3, 42˙45N× 143˙12E, mb4.5/17, MW4.2(NIED), Error ellipse: s-maj=7.5km s-min=5.6km az=128.0*

NEIC Recorded [2 JMA] in southern Hokkaido.

BJI **14** *19:14:54.1, 42˙46N× 143˙20E, h72km, mB5.0/20, mb4.6/34, Ms4.3/16, Ms7 4.3/14*

IDC **14** *19:14:55.1±0.7, 42˙47N× 143˙08E, h50km±7km, mb3.8/16, mb1 4.0/19, mb1mx3.9/27, mbtmp3.8/19, MS3.1/5, Ms1 3.1/5, ms1mx2.7/40, Error ellipse: s-maj=17.5km s-min=12.2km az=131.0*

JMA **14** *19:14:56.1±0.1, 42˙36N× 143˙12E, h51km±1km, M4.1 Broadband fault plane solution: P waves. NP1: φ₈252.00000°,δ46.00000°,λ138.00000°. NP2: φ₈14.00000°,δ62.00000°,λ52.00000°. Principal axes: T Plg56.0000°, Azm233.0000°; N Plg33.0000°, Azm34.0000°; P Plg9.0000°, Azm130.0000°;*

JMA Felt II J1.

ISC 14 19:14:55.8±0.3, 42˙34N±0˙03× 143˙11E±0˙04, h61km±2km, h59km±5.5km:pP-P, n175, σ0.87/195, mb4.4/55, 8C-6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.27**	**257**	⇓P		**Pn**	**19 15 05.0**	**-0.8**
JNBK				*e*S		**Sn**	**19 15 12.2**	**-0.8**
JCH	**Churui**	**0.33**	**34**	⇑P		**Pn**	**19 15 05.3**	**-0.9**
JCH				S		**Sn**	**19 15 12.7**	**-1.1**
JEM	**Erimo**	**0.33**	**174**	⇑P		**Pn**	**19 15 05.9**	**-0.3**
JEM				*e*S		**Sn**	**19 15 14.0**	**+0.2**
ERM	**Erimo**	**0.33**	**174**	*e*Pn		**Pn**	**19 15 05.8**	**-0.5**
ERM				*e*Sn		**Sn**	**19 15 13.3**	**-0.5**
ERM	**Erimo**	**0.33**	**174**	*e*PN		**Pn**	**19 15 05.8**	**-0.5**
ERM				*e*			19 15 13.3	
JBT2	**Biratori 2**	**0.70**	**309**	⇓P		**Pn**	**19 15 10.0**	**-0.1**
JBT2				*e*S		**Sn**	**19 15 21.4**	**+0.8**
JOB	**Onbets**	**0.77**	**43**	⇑P		**Pn**	**19 15 11.4**	**+0.4**
JOB				*e*S		**Sn**	**19 15 22.7**	**+0.5**
JFR	**Furan**	**0.90**	**335**	⇓P		**Pn**	**19 15 11.4**	**-1.2**
JAR	**Ashorobuto**	**1.07**	**27**	⇑P		**Pn**	**19 15 14.4**	**-0.4**
JAR				*e*S		**Sn**	**19 15 28.1**	**-0.8**
JEW	**Eniwo**	**1.32**	**293**	⇓P		**Pn**	**19 15 18.6**	**+0.5**
JAB	**Ashibetsu**	**1.33**	**331**	⇓P		**Pn**	**19 15 18.8**	**+0.6**
JAK	**Akkeshi**	**1.34**	**60**	⇓P		**Pn**	**19 15 17.9**	**-0.4**
ASAJ	**Asahikawa**	**1.81**	**348**	P		**Pn**	**19 15 25.3**	**+0.6**
	50nm,0.3s,baz=202,slow=13,SNR=286							
ASAJ				S		**Sn**	**19 15 40.1**	**-6.5**
	65nm,0.3s,baz=221,slow=11,SNR=16							
ASAJ	**Asahikawa**	**1.81**	**348**	*e*Pn		**Pn**	**19 15 24.8**	**+0.1**
ASAJ	**Asahikawa**	**1.81**	**348**	PN		**Pn**	**19 15 25.3**	**+0.6**
ASAJ				S		**Sn**	**19 15 40.1**	**-6.5**
ASAJ				pmax	pmax			
	comp=Z,50nm,0.3s							
ASAJ				smax				
	comp=N,65nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**2.63**	**49**	*i* PN		**Pn**	**19 15 36.6**	**+0.8**
YUK				*e*S		**Sn**	**19 16 08.4**	**+1.9**
YUK				pmax	pmax			
	comp=N,261nm,0.4s							
YUK				pmax	pmax			
	comp=Z,887nm,0.4s							
YUK				pmax	pmax			
	comp=Z,420nm,0.5s							
YUK				smax				
	comp=N,1μm,0.5s							
YUK				smax				
	comp=E,2μm,0.5s							
YUK				smax				
	comp=N,3μm,1.0s							
YUK				smax				
	comp=E,2μm,1.0s							
KUR	**Kuril'sk**	**4.50**	**48**	*e*PN		**Pn**	**19 16 03.9**	**+2.6**
KUR				*e*S		**Sn**	**19 16 55.0**	**+2.8**
KUR				pmax	pmax			
	comp=N,250nm,0.9s							
KUR				pmax	pmax			
	comp=Z,280nm,0.9s							
KUR				smax				
	comp=N,260nm,0.7s							
KUR				smax				
	comp=E,170nm,1.0s							
YSS	**Yuzh-Sakhalins**	**4.62**	**357**	*e*Pn		**Pn**	**19 16 04.5**	**+1.5**
YSS	**Yuzh-Sakhalins**	**4.62**	**357**	*e*PN		**Pn**	**19 16 04.7**	**+1.7**
YSS				*e*S		**Sn**	**19 16 57.4**	**+2.2**
YSS				smax				
	comp=E,30nm,0.5s							
MAJO	**Matsushiro**	**6.92**	**215**	*e*P		**Pn**	**19 16 34.2**	**-0.4**
	comp=E,17nm,0.4s							
MAJO	**Matsushiro**	**6.92**	**215**	*e*PN		**Pn**	**19 16 34.2**	**-0.4**
MAJO				pmax	pmax			
	comp=Z,17nm,0.4s							
MAT	**Matsushiro**	**6.92**	**215**	P		**Pn**	**19 16 34.4**	**-0.2**
MAT				S		**Sn**	**19 17 56.9**	**+5.0**
MJAR	**Matsushiro Arr**	**6.92**	**215**	P		**Pn**	**19 16 35.0**	**+0.4**
	comp=Z,2.7nm,0.3s,baz=27,slow=13,SNR=44							
MJAR				S		**Sn**	**19 17 55.4**	**+3.5**
	baz=44,slow=11,SNR=2.2							
MJAR				LR	LR		19 19 58.9	
	comp=Z,96nm,18.3s,baz=155,slow=43							
MJAR	**Matsushiro Arr**	**6.92**	**215**	P		**Pn**	**19 16 35.0**	**+0.4**
MJAR				S		**Sn**	**19 17 55.4**	**+3.5**
MJAR				LR	LR		19 19 58.9	
MJAR	**Matsushiro Arr**	**6.92**	**215**	PN		**Pn**	**19 16 35.0**	**+0.4**
MJAR				S		**Sn**	**19 17 55.4**	**+3.5**
MJAR				pmax	pmax			
	comp=Z,3.0nm,0.3s							
MJAR				MLR	MLR			
	comp=Z,96nm,18.3s							
JHJ	**Hachijo jima 2**	**9.58**	**197**	S		**Sn**	**19 18 46.6**	**-10**
	comp=Z,18nm,0.3s,baz=252,slow=20,SNR=3.1							
MDJ	**Mudanjiang**	**10.09**	**288**	P		**Pn**	**19 17 18.0**	**+0.2**
MDJ				S		**Sn**	**19 19 10.3**	**+1.0**
MDJ				PcP	PcP		19 23 20.3	-2.8
MDJ				ScP	ScP		19 26 47.3	-2.7
MDJ				PcS	PcS		19 26 55.3	-1.1
MDJ				ScS	ScS		19 30 24.3	-0.3
MDJ				pmax	pmax			
	comp=Z,6.0nm,2.4s							
MDJ				pmax	pmax			
	comp=Z,39nm,4.2s							
MDJ	**Mudanjiang**	**10.09**	**288**	*e*P		**Pn**	**19 17 18.7**	**+0.9**
KLR	**Kul'dur**	**10.50**	**315**	*e*PN		**Pn**	**19 17 23.1**	**-0.3**
KSRS	**Korea Array**	**12.64**	**252**	P		**Pn**	**19 17 53.6**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=66,slow=13,SNR=13							
KSRS				LR	LR		19 22 14.1	
	comp=Z,61nm,20.4s,baz=348,slow=35							
KSRS	**Korea Array**	**12.64**	**252**	PN		**Pn**	**19 17 53.6**	**+0.9**
KSRS				MLR	MLR			
	comp=Z,61nm,20.4s							
CN2	**Changchun**	**13.00**	**282**	*e*P		**Pn**	**19 17 57.3**	**-0.2**
CN2				*es*P			19 18 18.3	
CN2				pmax	pmax			
	comp=Z,10.0nm,1.0s							
CN2				LR	LR			
	comp=N,200nm,13.0s							
CN2				LR	LR			
	comp=E,200nm,13.0s							
CN2				LR	LR			
	comp=Z,200nm,15.0s							
PETK	**Petropavlovsk-**	**14.54**	**37**	P		**Pn**	**19 18 14.9**	**-3.1**
	comp=Z,0.4nm,0.3s,baz=230,slow=13,SNR=8.1							
PETK	**Petropavlovsk-**	**14.54**	**37**	P		**Pn**	**19 18 14.9**	**-3.1**
PETK	**Petropavlovsk-**	**14.54**	**37**	P		**Pn**	**19 18 14.9**	**-3.1**
BJI	**Beijing**	**20.37**	**273**	P		**P**	**19 19 27.3**	**0.0**
BJI				S		**S**	**19 23 12.5**	**+0.4**
BJI				pmax	pmax			
	comp=Z,8.0nm,0.6s							
BJI				pmax	pmax			
	comp=Z,74nm,3.7s							
BJI				LR	LR			
	comp=N,75nm,25.1s							
BJI				LR	LR			
	comp=E,82nm,25.4s							
YAK	**Yakutsk**	**21.28**	**342**	*e*P		**P**	**19 19 34.0**	**-2.9**
	comp=E,16nm,0.8s,mb4.4							
YAK	**Yakutsk**	**21.28**	**342**	*e*P		**P**	**19 19 34.7**	**-2.2**
YAK				pmax	pmax			
	comp=Z,11nm,0.8s,mb4.2							
FX1	**Attu Island--F**	**22.68**	**52**	LR	LR		19 28 28.3	
	comp=Z,49nm,18.2s,baz=302,slow=36							
HHC	**Hu-ho-hao-te**	**23.57**	**277**	*e*P		**P**	**19 19 58.8**	**-2.0**
HHC				pP			19 20 12.9	
HHC				sP	sP		19 20 20.0	-2.4
HHC				PP			19 20 35.5	
HHC				S		**S**	**19 24 09.6**	**-0.7**
HHC				SS			19 24 53.6	
HHC				ScS	ScS		19 31 03.4	-0.1
HHC				pmax	pmax			
	comp=Z,9.0nm,0.3s,mb4.7							
HHC				LR	LR			
	comp=N,65nm,9.6s							
HHC				LR	LR			
	comp=E,79nm,4.7s							
HHC				LR	LR			
	comp=Z,74nm,8.8s							
ULN	**Ulaanbaatar**	**25.88**	**295**	*e*P		**P**	**19 20 21.1**	**-0.6**
	comp=Z,3.2nm,0.9s,mb3.9							
ULN	**Ulaanbaatar**	**25.88**	**295**	*e*P		**P**	**19 20 21.1**	**-0.5**
ULN				pmax	pmax			
	comp=Z,3.0nm,0.9s,mb3.8							
SONM	**Songino Array**	**26.32**	**295**	P		**P**	**19 20 25.8**	**+0.2**
	comp=Z,3.9nm,0.7s,mb4.0,baz=80,slow=8.6,SNR=30							
SONM				LR	LR		19 31 41.0	
	comp=Z,63nm,18.2s,baz=109,slow=38							
SONM	**Songino Array**	**26.32**	**295**	P		**P**	**19 20 25.8**	**+0.2**
SONM				LR	LR		19 31 41.0	
SONM	**Songino Array**	**26.32**	**295**	P		**P**	**19 20 25.8**	**+0.2**
SONM				pmax	pmax			
	comp=Z,4.0nm,0.7s							
SONM				MLR	MLR			
	comp=Z,63nm,18.2s							
ZAK	**Zakamensk**	**28.35**	**300**	*e*P		**P**	**19 20 43.4**	**-0.4**
ZAK				pmax	pmax			
	comp=Z,1.0nm,0.8s,mb3.5							
BILL	**Bilibino**	**28.57**	**18**	*e*P		**P**	**19 20 45.8**	**+0.2**
BILL				pmax	pmax			
	comp=Z,2.0nm,1.2s,mb3.7							
ENH	**Enshi**	**29.46**	**257**	*e*P		**P**	**19 20 53.2**	**-0.6**
	comp=Z,10nm,0.8s,mb4.6							
LZH	**Lanzhou**	**30.86**	**272**	*e*P		**P**	**19 21 07.3**	**+1.2**
LZH				pP	pP		19 21 24.9	+3.8
LZH				sP	sP		19 21 34.1	+5.8
LZH				pmax	pmax			
	comp=Z,20nm,1.3s,mb4.8							
GTA	**Gaotai**	**32.61**	**280**	*e*P		**P**	**19 21 22.0**	**+0.5**
GTA				pP	pP		19 21 39.8	+3.3
GTA				sP	sP		19 21 48.4	+4.7
GTA				PcP	PcP		19 24 07.8	+1.4
GTA				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.6							
CD2	**Chengdu**	**33.31**	**263**	P		**P**	**19 21 29.0**	**+1.4**
CD2				pP	pP		19 21 44.0	+1.3
CD2				sP	sP		19 21 51.3	+1.4
CD2				PP	PP		19 22 42.4	-1.4
CD2				S	S		**19 26 44.1**	**+0.3**
CD2				sS	sS		19 27 09.8	+0.4
CD2				SS	SS		19 28 51.0	-18
CD2				pmax	pmax			
	comp=Z,20nm,0.5s,mb5.3							
CD2				pmax	pmax			
	comp=Z,120nm,5.1s							
CD2				LR	LR			
	comp=E,230nm,5.4s							
CD2				LR	LR			
	comp=Z,150nm,6.7s							
GYA	**Guiyang**	**33.69**	**254**	P		**P**	**19 21 32.0**	**+0.9**
GYA				pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.8							
QIZ	**Qiongzhong**	**36.49**	**241**	P		**P**	**19 21 57.3**	**+2.1**
QIZ				S		**S**	**19 27 29.8**	**-3.1**
QIZ				pmax	pmax			
	comp=Z,12nm,1.4s,mb4.6							
QIZ				pmax	pmax			
	comp=Z,120nm,4.8s							
ZAA0	**Zalesovo Array**	**39.50**	**308**	*e*P		**P**	**19 22 19.4**	**-0.8**
ZAA0				*e*PcP	PcP		19 24 26.7	+0.1
ZALV	**Zalesovo Beam**	**39.50**	**308**	P		**P**	**19 22 19.8**	**-0.3**
	comp=Z,9.7nm,0.8s,mb4.6,baz=86,slow=7.7,SNR=46							
ZALV				PcP	PcP		19 24 27.0	+0.4
	comp=Z,2.8nm,0.6s,baz=83,slow=3.3,SNR=9.4							
ZALV				LR	LR		19 38 32.0	
	comp=Z,23nm,20.1s,baz=52,slow=36							
ZALV	**Zalesovo Beam**	**39.50**	**308**	P		**P**	**19 22 19.8**	**-0.3**
ZALV				PcP	PcP		19 24 27.0	+0.4
ZALV				LR	LR		19 38 32.0	
ZALV	**Zalesovo Beam**	**39.50**	**308**	P		**P**	**19 22 19.8**	**-0.3**
ZALV							19 24 27.0	
ZALV				pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.6							
ZALV				MLR	MLR			
	comp=Z,23nm,20.1s							
WMQ	**Urumqi**	**39.86**	**292**	P		**P**	**19 22 24.4**	**+1.2**
NVS	**Novosibirsk**	**40.30**	**309**	*e*P		**P**	**19 22 22.8**	**-3.9**
MK31	**Makanchi Array**	**42.61**	**298**	*e*P		**P**	**19 22 45.5**	**-0.3**
MK31	**Makanchi Array**	**42.61**	**298**	*i* P		**P**	**19 22 45.4**	**-0.4**
MK31				pmax	pmax			
	comp=Z,5.0nm,0.5s,mb4.5							
MKAR	**Makanchi Array**	**42.61**	**298**	P		**P**	**19 22 45.5**	**-0.2**
	comp=Z,4.3nm,0.6s,mb4.3,baz=82,slow=9.6,SNR=51							
MKAR				PcP	PcP		19 24 37.0	+0.1
	comp=Z,0.8nm,0.6s,baz=72,slow=5.4,SNR=4.0							
MKAR	**Makanchi Array**	**42.61**	**298**	P		**P**	**19 22 45.5**	**-0.2**
MKAR				PcP	PcP		19 24 37.0	+0.1
MKAR	**Makanchi Array**	**42.61**	**298**	P		**P**	**19 22 45.5**	**-0.3**
MKAR							19 24 37.0	
MKAR				pmax	pmax			
	comp=Z,4.0nm,0.6s							
KURK	**Kurchatov**	**43.86**	**304**	*e*P		**P**	**19 22 55.2**	**-0.6**
	comp=Z,17nm,0.8s,mb4.8							
KURK	**Kurchatov**	**43.86**	**304**	*c i*P		**P**	**19 22 55.1**	**-0.7**
KURK				pmax	pmax			
	comp=Z,15nm,0.8s,mb4.8							
COLA	**College**	**43.94**	**35**	*e*P		**P**	**19 22 55.8**	**-0.4**
	comp=Z,3.3nm,0.5s,mb4.3							
COLA	**College**	**43.94**	**35**	*e*P		**P**	**19 22 55.8**	**-0.4**
COLA				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.3							
SML	**Sawmill**	**44.00**	**40**	*e*P		**P**	**19 22 57.0**	**+0.2**
	comp=Z,1.3nm,0.8s,mb3.7							
SML	**Sawmill**	**44.00**	**40**	*e*P		**P**	**19 22 57.0**	**+0.2**
SML				pmax	pmax			
	comp=Z,1.0nm,0.8s,mb3.6							
CM31	**Chiang Mai Arr**	**44.28**	**251**	P		**P**	**19 22 59.2**	**-0.3**
	comp=Z,2.3nm,0.8s,mb4.0							
CMAR	**Chiang Mai Arr**	**44.28**	**251**	P		**P**	**19 23 00.3**	**+0.8**
	comp=Z,1.0nm,0.5s,mb3.8,baz=48,slow=7.7,SNR=7.4							
CMAR	**Chiang Mai Arr**	**44.28**	**251**	P		**P**	**19 23 00.3**	**+0.8**
CMAR	**Chiang Mai Arr**	**44.28**	**251**	P		**P**	**19 23 00.3**	**+0.8**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ILAR	**Eielson Array**	**44.36**	**35**	P		**P**	**19 22 59.6**	**0.0**
	comp=Z,2.6nm,1.0s,mb3.9,baz=266,slow=6.9,SNR=16							
ILAR	**Eielson Array**	**44.36**	**35**	P		**P**	**19 22 59.6**	**0.0**
ILAR	**Eielson Array**	**44.36**	**35**	P		**P**	**19 22 59.6**	**0.0**
ILAR				pmax	pmax			
	comp=Z,3.0nm,1.0s							
TAPN	**Taplejung**	**47.07**	**270**	*e*P		**P**	**19 23 21.8**	**+0.4**
	comp=Z,14nm,0.8s,mb5.0							
ODAN	**Odare**	**47.58**	**270**	*e*P		**P**	**19 23 25.9**	**+0.5**
BVA0	**Borovoye Array**	**48.10**	**309**	*i* P		**P**	**19 23 29.2**	**+0.1**
BVA0				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.1							
RAMN	**Ramite**	**48.11**	**270**	*e*P		**P**	**19 23 29.6**	**+0.1**
	comp=Z,26nm,0.7s,mb5.3							
GUN	**Gumba**	**48.12**	**272**	*e*P		**P**	**19 23 29.8**	**+0.2**
	comp=Z,26nm,0.4s							
BRVK	**Borovoye**	**48.15**	**309**	*e*P		**P**	**19 23 29.4**	**0.0**
	comp=Z,4.9nm,0.6s,mb4.7							
BRVK				*e*PcP	PcP		19 24 55.7	-0.3
BRVK	**Borovoye**	**48.15**	**309**	*e*P		**P**	**19 23 29.5**	**0.0**
BRVK				*e*			19 24 55.7	
BRVK				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.7							
TKM2	**Tokmak 2**	**48.42**	**295**	*e*P		**P**	**19 23 32.0**	**+0.2**
	comp=Z,4.6nm,0.6s,mb4.7							
TKM2	**Tokmak 2**	**48.42**	**295**	*e*P		**P**	**19 23 32.0**	**+0.3**
TKM2				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.7							
DMN	**Daman**	**48.86**	**272**	*e*P		**P**	**19 23 34.6**	**-0.6**
GKN	**Gorkha**	**48.99**	**273**	*e*P		**P**	**19 23 36.0**	**-0.3**
	comp=Z,6.7nm,0.3s,mb5.1							
INK	**Inuvik**	**49.09**	**29**	P		**P**	**19 23 36.7**	**+0.2**
	comp=Z,0.5nm,0.4s,mb3.9,baz=288,slow=8.1,SNR=6.9							
INK	**Inuvik**	**49.09**	**29**	*e*P		**P**	**19 23 36.0**	**-0.5**
INK	**Inuvik**	**49.09**	**29**	P		**P**	**19 23 36.7**	**+0.2**
INK				pmax	pmax			
	comp=Z,1.0nm,0.4s							
DANN	**Dangsing**	**49.45**	**274**	*e*P		**P**	**19 23 40.5**	**+0.7**
KSH	**Kashi**	**49.60**	**291**	*e*P		**P**	**19 23 43.3**	**+2.5**
KSH				pP	pP		19 23 58.8	+2.2
KSH				sP	sP		19 24 05.9	+2.3
KSH				PcP	PcP		19 25 04.3	+2.8
KSH				PP	PP		19 25 38.9	+3.5
KSH				ScP	ScP		19 28 53.0	+1.4
KSH				PcS	PcS		19 28 59.6	+1.4
KSH				S	S		**19 30 45.0**	**+0.6**
KSH				ScS	ScS		19 33 26.1	-0.6
KSH				SS	SS		19 34 14.6	-2.2
KSH				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3							
KSH				pmax	pmax			
	comp=Z,71nm,6.1s							
KSH				LR	LR			
	comp=Z,60nm,4.3s							
EKS2	**Erkin-Say**	**49.75**	**295**	*e*P		**P**	**19 23 40.9**	**-1.0**
	comp=Z,2.3nm,0.6s,mb4.4							
EKS2	**Erkin-Say**	**49.75**	**295**	*e*P		**P**	**19 23 40.9**	**-1.0**
EKS2				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3							
KOLN	**Koldanda**	**49.88**	**273**	*e*P		**P**	**19 23 43.4**	**+0.3**
KSM	**Kuching**	**50.20**	**225**	P		**P**	**19 23 46.6**	**+1.1**
	comp=Z,2.0nm,0.6s,mb4.3							
SIT	**Sitka**	**51.58**	**44**	*e*P		**P**	**19 23 54.3**	**-1.1**
SIT	**Sitka**	**51.58**	**44**	*e*P		**P**	**19 23 54.3**	**-1.1**
KKAR	**Karatay Array**	**51.73**	**297**	*e*P		**P**	**19 23 55.9**	**-0.9**
	comp=Z,2.0nm,0.6s,mb4.2							
KKAR	**Karatay Array**	**51.73**	**297**	*e*P		**P**	**19 23 55.9**	**-0.9**
KKAR				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2							
SVE	**Sverdlovsk**	**52.12**	**316**	⇑*i*P		**P**	**19 23 59.9**	**+0.4**
SVE				pmax	pmax			
	comp=Z,20nm,0.7s,mb5.2							
ARU	**Arti**	**53.34**	**316**	*e*P		**P**	**19 24 07.5**	**-0.9**
	comp=Z,14nm,0.9s,mb4.9							
ARU	**Arti**	**53.34**	**316**	*c i*P		**P**	**19 24 07.9**	**-0.5**
ARU				*e*			19 25 11.0	
ARU				*e*			19 26 07.0	
ARU				S	S		**19 31 36.1**	**+0.8**
ARU				SS	SS		19 35 08.0	-7.2
ARU				pmax	pmax			
	comp=Z,14nm,1.0s,mb4.8							
AB31	**Akbulak array**	**55.61**	**308**	*i* P		**P**	**19 24 24.9**	**-0.1**
AB31				pmax	pmax			
	comp=Z,4.0nm,0.3s,mb4.9							
ABKAR	**Akbulak array**	**55.61**	**308**	*e*P		**P**	**19 24 24.6**	**-0.5**
	comp=Z,3.4nm,0.3s,mb4.8							
AKTO	**Aktyubinsk**	**56.19**	**310**	*i* P		**P**	**19 24 29.0**	**-0.1**
AKTO				pmax	pmax			
	comp=Z,1.0nm

comp=Z,8.1nm,0.7s,mb4.9
KIV Kislovodsk 68.45 310 *e*P **P** 19 25 50.2 **-1.0**
KIV pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
NB2 NORSAR Subarra 69.80 337 P **P** 19 25 58.3 **-0.9**
comp=Z,1.0nm,0.7s,mb3.9,baz=36,slow=6.5
NOA NORSAR Array B 69.80 337 P **P** 19 25 58.5 **-0.7**
comp=Z,1.7nm,0.8s,mb4.1,baz=36,slow=6.3,SNR=5.9
NOA NORSAR Array B 69.80 337 P **P** 19 25 58.5 **-0.7**
NOA NORSAR Array B 69.80 337 P **P** 19 25 58.6 **-0.6**
NOA pmax pmax
comp=Z,2.0nm,0.8s
NVAR Mina Array Bea 70.83 55 P **P** 19 26 06.4 **+0.5**
comp=Z,0.9nm,0.7s,mb3.8,baz=283,slow=7.0,SNR=5.3
NVAR Mina Array Bea 70.83 55 P **P** 19 26 06.4 **+0.5**
AKASG Malin Array Be 70.91 322 P **P** 19 26 06.0 **-0.2**
comp=Z,0.8nm,0.4s,mb4.0,baz=42,slow=5.8,SNR=9.1
AKASG Malin Array Be 70.91 322 P **P** 19 26 06.0 **-0.2**
AKASG Malin Array Be 70.91 322 P **P** 19 26 06.0 **-0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
BUR08 Bucovina Ar. S 74.95 322 *e*P **P** 19 26 29.8 **-0.3**
BURAR Bucovina Array 74.96 322 ⇑*i*P **P** 19 26 30.4 **+0.2**
BR131 Keskin Array S 76.31 312 *e*P **P** 19 26 37.9 **-0.2**
comp=Z,0.8nm,0.7s,mb3.8
BRTR Keskin Array B 76.31 312 P **P** 19 26 38.4 **+0.3**
comp=Z,1.4nm,0.7s,mb4.0,baz=86,slow=3.7,SNR=11
BRTR Keskin Array B 76.31 312 P **P** 19 26 38.4 **+0.3**
BRTR Keskin Array B 76.31 312 P **P** 19 26 38.4 **+0.3**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
CLL Collm 77.14 330 *e*P **P** 19 26 41.0 **-1.5**
KHC Kasperske Hory 78.69 329 *e*P **P** 19 26 51.3 **+0.1**
KHC Kasperske Hory 78.69 329 *e*P **P** 19 26 51.3 **+0.1**
GERES GERESS Array B 78.88 329 P **P** 19 26 51.9 **-0.3**
comp=Z,0.7nm,0.6s,mb3.8,baz=34,slow=6.2,SNR=7.2
GERES GERESS Array B 78.88 329 P **P** 19 26 51.9 **-0.3**
GERES GERESS Array B 78.88 329 P **P** 19 26 51.9 **-0.3**
GERES pmax pmax
comp=Z,1.0nm,0.6s
CDF Champ du Feu 81.60 332 *e*P **P** 19 27 06.5 **-0.3**
PAGF Fort de Pagny 82.01 333 *e*P **P** 19 27 08.8 **-0.2**
comp=Z,1.5nm,0.6s,mb3.8
HINF Hinteralfeld 82.25 332 *e*P **P** 19 27 10.1 **-0.2**
HAU Haudompre 82.27 332 *e*P **P** 19 27 10.4 **+0.1**
LOR Lormes 83.75 333 *e*P **P** 19 27 17.4 **-0.6**
LDF La Druitiere 83.83 336 *e*P **P** 19 27 18.3 **-0.1**
SSF Saint Saulge 84.05 334 *e*P **P** 19 27 19.8 **+0.3**
GRR Gorron 84.23 337 *e*P **P** 19 27 19.9 **-0.5**
LPL La Plagne 84.27 331 *e*P **P** 19 27 20.7 **0.0**
LPG La Plagne 84.28 331 *e*P **P** 19 27 21.1 **+0.4**
comp=Z,4.1nm,0.6s,mb4.5
SMF Signal de Mont 84.30 333 *e*P **P** 19 27 20.4 **-0.4**
AVF Avril sur Loir 84.33 334 *e*P **P** 19 27 20.7 **-0.3**
comp=Z,5.1nm,0.5s,mb4.6
BGF Bois d'Agland 84.70 334 *e*P **P** 19 27 23.1 **+0.2**
ORIF Oris-en-Rattie 85.09 331 *e*P **P** 19 27 24.2 **-0.6**
MFF Saint Martin d 85.62 336 *e*P **P** 19 27 27.4 **0.0**
TXAR Lajitas Array 85.88 54 P **P** 19 27 30.1 **+1.0**
comp=Z,0.9nm,0.6s,mb4.2,baz=290,slow=3.6,SNR=15
TXAR pP pP 19 27 44.2 -1.9
comp=Z,0.5nm,0.6s,baz=293,slow=4.4,SNR=3.8
TXAR Lajitas Array 85.88 54 P **P** 19 27 30.1 **+1.0**
TXAR pP pP 19 27 44.2 -1.9
TXAR Lajitas Array 85.88 54 P **P** 19 27 30.1 **+1.0**
TXAR *PP pP 19 27 44.3 -1.8
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR pmax pmax
comp=Z,1.0nm,0.6s
CAF Calviac 86.40 333 *e*P **P** 19 27 31.9 **+0.6**
comp=Z,9.3nm,0.8s,mb4.8
LFF La Frestale 86.82 334 *e*P **P** 19 27 33.8 **+0.4**
ETSF Etsaut 89.07 334 *e*P **P** 19 27 44.9 **+0.8**
comp=Z,7.2nm,0.7s,mb4.8
TORD Torodi Ar. Bea 114.39 318 PKP PKiKP 19 33 27.8 -1.2
comp=Z,0.5nm,0.9s,baz=37,slow=1.7,SNR=2.4
TORD Torodi Ar. Bea 114.39 318 PKP PKiKP 19 33 27.9 -1.2

*NEIC **14** 19:31:30.6, 32°.66S×71°.64W, h23km, ML3.2(GUC), After GUC.*
GUC 14 19:31:30.6±0.7, 32°.66S×71°.64W, h23km±7km, MD3.7, ML3.2, 10C-7D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.37**	**180**	⇓*i*P	Pb	19 31 38.6	0.0
IHA				*i* S	Sb	19 31 44.2	+0.1
IHA	**Instituto Hidr**	**0.37**	**180**	⇓*i*P	Pb	19 31 38.6	0.0
IHA				*i* S	Sb	19 31 44.2	+0.1
ROCH	**El Roble**	**0.62**	**121**	⇓*i*P	Pb	19 31 42.8	+0.1
ROCH				*i* S	Sb	19 31 52.0	+0.9
ROCH				AML	AML	19 31 52.9	
comp=E,2μm,0.6s							
CHNG	**Los Chungos**	**0.78**	**9**	⇑*i*P	Pb	19 31 45.0	-0.5
CHNG				*i* S	Sb	19 31 55.6	0.0
CHNG				AML	AML	19 31 57.2	
comp=E,380nm,0.2s							
LCCH	**Las Cruces**	**0.82**	**176**	⇑*i*P	Pb	19 31 45.3	-0.9
LCCH	**Las Cruces**	**0.82**	**176**	⇑*i*P	Pb	19 31 45.3	-0.9
JACH	**Jahuel**	**0.89**	**92**	⇑*i*P	Pb	19 31 46.8	-0.5
JACH				*i* S	Sb	19 31 58.6	-0.1
JACH	**Jahuel**	**0.89**	**92**	⇑*i*P	Pb	19 31 46.8	-0.5
JACH				*i* S	Sb	19 31 58.6	-0.1
PEL	**Peldehue**	**0.94**	**121**	⇑*i*P	Pb	19 31 47.9	-0.4
PEL				*i* S	Sb	19 32 00.7	+0.4
PEL				AML	AML	19 32 01.7	
comp=E,3μm,0.4s							
RCDM	**Rinconada Maip**	**1.09**	**140**	*e*P	Pn	19 31 49.8	-0.6
RCDM				*i* S	Sb	19 32 04.1	-0.4
RCDM	**Rinconada Maip**	**1.09**	**140**	*e*P	Pn	19 31 49.8	-0.6
RCDM				*i* S	Sb	19 32 04.1	-0.4
RCDM				AML	AML	19 32 05.8	
comp=E,1μm,0.2s							
SAN	**Santiago**	**1.15**	**134**	*e*P	Pn	19 31 50.5	-0.6
SAN				*i* S	Sn	19 32 06.2	0.0
SAN	**Santiago**	**1.15**	**134**	*e*P	Pn	19 31 50.5	-0.6
SAN				*i* S	Sn	19 32 06.2	0.0
SAN				AML	AML	19 32 07.0	
comp=N,684nm,0.3s							
TACH	**Talagante**	**1.16**	**149**	⇑*i*P	Pn	19 31 51.0	-0.4
TACH				*i* S	Sn	19 32 06.1	-0.3
TACH	**Talagante**	**1.16**	**149**	⇑*i*P	Pn	19 31 51.0	-0.4
TACH				*i* S	Sn	19 32 06.1	-0.3
CLCH	**Cerro Calan**	**1.19**	**129**	⇓*i*P	Pn	19 31 51.7	-0.1
CLCH				*i* S	Sn	19 32 07.2	+0.1
CLCH				AML	AML	19 32 09.9	
comp=E,693nm,0.6s							
ANTU	**Antumapu**	**1.25**	**137**	*e*P	Pn	19 31 52.6	+0.1
ANTU				*i* S	Sn	19 32 09.0	+0.4
ANTU	**Antumapu**	**1.25**	**137**	*e*P	Pn	19 31 52.6	+0.1
ANTU				*i* S	Sn	19 32 09.0	+0.4
ANTU				AML	AML	19 32 09.8	
comp=N,603nm,0.3s							
LNV	**Longovilo**	**1.31**	**172**	*e*P	Pn	19 31 52.9	-0.6
LNV				*i* S	Sn	19 32 10.1	-0.1
LNV	**Longovilo**	**1.31**	**172**	*e*P	Pn	19 31 52.9	-0.6
LNV				*i* S	Sn	19 32 10.1	-0.1
FCH	**Farellones**	**1.32**	**121**	⇓*i*P	Pn	19 31 52.7	-0.9
FCH				*i* S	Sn	19 32 10.0	-0.4
FCH				AML	AML	19 32 11.2	
comp=N,754nm,0.2s							
PCH	**Pirque**	**1.35**	**136**	⇓*i*P	Pn	19 31 54.0	0.0
PCH				*i* S	Sn	19 32 11.9	+0.7
PCH	**Pirque**	**1.35**	**136**	⇓*i*P	Pn	19 31 54.0	0.0
PCH				*i* S	Sn	19 32 11.9	+0.7
CHCH	**Chadas Angostu**	**1.52**	**147**	*e*P	Pn	19 31 57.0	+0.6
CHCH				*i* S	Sn	19 32 16.7	+1.3
CHCH	**Chadas Angostu**	**1.52**	**147**	*e*P	Pn	19 31 57.0	+0.6
CHCH				*i* S	Sn	19 32 16.7	+1.3
CMCH	**Combarbala**	**1.57**	**20**	*e*P	Pn	19 31 57.1	0.0
CMCH				*i* S	Sn	19 32 18.0	+1.3
CMCH	**Combarbala**	**1.57**	**20**	*e*P	Pn	19 31 57.1	0.0
CMCH				*i* S	Sn	19 32 18.0	+1.3
CMCH				AML	AML	19 32 20.1	
comp=E,2μm,0.6s							
LMEL	**Las Melosas**	**1.69**	**135**	⇑*i*P	Pn	19 31 59.9	+1.1
LMEL				*i* S	Sn	19 32 22.0	+2.3
LMEL	**Las Melosas**	**1.69**	**135**	⇑*i*P	Pn	19 31 59.9	+1.1
LMEL				*i* S	Sn	19 32 22.0	+2.3
LMEL				AML	AML	19 32 23.3	
comp=N,427nm,0.1s							

CACH	**El Canelo**	**1.70**	**149**	*e*P	Pn	19 32 00.3	+1.5
CACH				*e*S	Sn	19 32 22.8	+3.0
CACH	**El Canelo**	**1.70**	**149**	*e*P	Pn	19 32 00.3	+1.5
CACH				*e*S	Sn	19 32 22.8	+3.0
TLL	**Tololo Astrono**	**2.58**	**16**	*e*P	Pn	19 32 12.7	+1.7
TLL	**Tololo Astrono**	**2.58**	**16**	*e*P	Pn	19 32 12.7	+1.7
TLL				AML	AML	19 32 55.0	
comp=N,110nm,0.8s							

*IDC **14** 19:34:00.6±1.9, 30°.44N×67°.50E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.6/29, mbtmp3.9/8, ML3.7/1, Error ellipse: s-maj=43.6km s-min=31.1km az=61.0*
*ISCJB **14** 19:34:01.9±0.9, 30°.68N±0°.09×67°.7E±0°.1, h10km, mb3.9/7, Error ellipse: s-maj=15.4km s-min=12.8km az=11.4*
*NEIC **14** 19:34:02.1±1.1, 30°.50N×67°.54E, h10km, mb3.7/2, Error ellipse: s-maj=17.4km s-min=15.6km az=166.0*
ISC 14 19:34:02.8±0.9, 30°.58N±0°.09×67°.5E±0°.1, h10km, n28, σ1§10/29, mb3.9/7, 1C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**4.15**	**17**	*e*Pn	**Pn**	**19 35 09.3**	**+3.1**
KK31	**Karatay Array**	**12.73**	**10**	P	**Pn**	**19 37 06.5**	**+2.7**
0.5nm,0.3s,baz=172,slow=12,SNR=8.1							
KK31				⇑S	Sn	19 38 44.9	-41
1.3nm,0.6s,baz=181,slow=12,SNR=5.2							
EKS2	**Erkin-Say**	**13.05**	**21**	*e*Pn	**Pn**	**19 37 07.0**	**-1.2**
2.9nm,0.6s							
EKS2				*e*Sn	**Sn**	**19 39 32.4**	**-1.1**
AAK	**Ala-Archa**	**13.26**	**23**	*e*Pn	**Pn**	**19 37 11.5**	**+0.4**
16nm,0.6s							
TKM2	**Tokmak 2**	**13.90**	**25**	*e*Pn	**Pn**	**19 37 18.9**	**-0.9**
3.5nm,0.7s							
ABKAR	**Akbulak array**	**19.53**	**345**	*e*P	**Pn**	**19 38 31.6**	**+0.1**
1.5nm,0.5s							
MK31	**Makanchi Array**	**19.82**	**31**	*e*P	**Pn**	**19 38 30.6**	**-4.3**
MKAR	**Makanchi Array**	**19.82**	**31**	P	**Pn**	**19 38 32.6**	**-2.4**
0.2nm,0.3s,baz=211,slow=11,SNR=16							
MKAR	**Makanchi Array**	**19.82**	**31**	P	**Pn**	**19 38 32.6**	**-2.4**
LSA	**Lhasa**	**20.43**	**86**	*e*P	**P**	**19 38 40.7**	**+0.4**
4.1nm,0.8s							
AKTK	**Aktyubinsk**	**21.08**	**343**	P	**P**	**19 38 47.4**	**+0.3**
AKTO	**Aktyubinsk**	**21.08**	**343**	P	**P**	**19 38 47.4**	**+0.3**
1.4nm,0.7s,mb3.4,baz=154,slow=11,SNR=6.2							
KURK	**Kurchatov**	**21.76**	**19**	P	**P**	**19 38 55.6**	**+1.2**
3.3nm,0.9s,mb3.7,baz=210,slow=10,SNR=14							
KURK	**Kurchatov**	**21.76**	**19**	P	**P**	**19 38 55.6**	**+1.2**
BRVK	**Borovoye**	**22.55**	**4**	*e*P	**P**	**19 39 02.7**	**-0.1**
ZAA0	**Zalesovo Array**	**26.49**	**23**	*e*P	**P**	**19 39 41.1**	**+1.0**
ZALV	**Zalesovo Beam**	**26.49**	**23**	P	**P**	**19 39 40.4**	**+0.4**
2.7nm,0.6s,mb3.9,baz=225,slow=11,SNR=15							
ZALV	**Zalesovo Beam**	**26.49**	**23**	P	**P**	**19 39 40.4**	**+0.4**
ARU	**Arti**	**26.61**	**349**	P	**P**	**19 39 41.4**	**+0.3**
CSS	**Prodhromos**	**29.01**	**288**	P	**P**	**19 40 00.6**	**-2.2**
FINES	**FINESS Array B**	**41.02**	**331**	P	**P**	**19 41 45.6**	**-0.3**
4.1nm,0.9s,mb4.0,baz=128,slow=9.0,SNR=5.6							
FINES	**FINESS Array B**	**41.02**	**331**	P	**P**	**19 41 45.6**	**-0.3**
ARCES	**ARCESS Array B**	**45.65**	**341**	P	**P**	**19 42 23.5**	**+0.4**
5.5nm,1.1s,mb4.4,baz=118,slow=5.2,SNR=4.7							
ARCES	**ARCESS Array B**	**45.65**	**341**	P	**P**	**19 42 23.5**	**+0.4**
ASAR	**Alice Springs**	**83.39**	**122**	P	**P**	**19 46 29.9**	**-0.6**
0.3nm,0.7s,mb4.3,baz=314,slow=5.7,SNR=4.4							
ASAR	**Alice Springs**	**83.39**	**122**	P	**P**	**19 46 29.9**	**-0.6**
YKA	**Yellowknife Ar**	**87.24**	**1**	P	**P**	**19 46 49.5**	**+0.4**
0.7nm,0.5s,mb4.2,baz=348,slow=5.2,SNR=2.5							
YKA	**Yellowknife Ar**	**87.24**	**1**	P	**P**	**19 46 49.5**	**+0.4**

*IDC **14** 19:35:35.8±1.1, 30°.23N×67°.51E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.5/28, mbtmp3.8/6, Error ellipse: s-maj=33.3km s-min=27.2km az=124.0*
*NEIC **14** 19:35:37.3±1.3, 30°.35N×67°.58E, h10km, mb3.6/2, Error ellipse: s-maj=25.6km s-min=17.8km az=96.0*
ISC 14 19:35:37.2±4.4, 30°.44N±0°.08×67°.5E±0°.2, h8km±28km, n20, σ0§99/21, mb3.8/5, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**4.29**	**17**	*e*Pn	**Pn**	**19 36 47.3**	**+4.5**
EKS2	**Erkin-Say**	**13.19**	**21**	*e*Pn	**Pn**	**19 38 45.1**	**+0.3**
EKS2				*e*Sn	**Sn**	**19 41 11.3**	**-0.3**
AAK	**Ala-Archa**	**13.39**	**23**	*e*Pn	**Pn**	**19 38 46.5**	**-1.0**
TKM2	**Tokmak 2**	**14.03**	**25**	*e*Pn	**Pn**	**19 38 56.3**	**+0.1**
3.7nm,0.9s							
ABKAR	**Akbulak array**	**19.65**	**345**	*e*P	**Pn**	**19 40 07.8**	**+0.1**
1.5nm,0.8s							
MK31	**Makanchi Array**	**19.94**	**31**	*e*P	**Pn**	**19 40 06.9**	**-4.2**
MKAR	**Makanchi Array**	**19.94**	**31**	P	**Pn**	**19 40 09.4**	**-1.8**
0.2nm,0.0s,baz=207,slow=11,SNR=2.7							
MKAR	**Makanchi Array**	**19.94**	**31**	P	**Pn**	**19 40 09.4**	**-1.8**
LSA	**Lhasa**	**20.47**	**86**	*e*P	**P**	**19 40 16.1**	**+0.8**
KURK	**Kurchatov**	**21.89**	**19**	P	**P**	**19 40 30.6**	**0.0**
0.9nm,0.5s,mb3.5,baz=210,slow=10,SNR=4.9							
KURK	**Kurchatov**	**21.89**	**19**	*e*P	**P**	**19 40 32.2**	**+1.7**
7.3nm,1.3s,mb4.0							
ZAA0	**Zalesovo Array**	**26.62**	**23**	*e*P	**P**	**19 41 17.5**	**+1.6**
ZALV	**Zalesovo Beam**	**26.62**	**23**	P	**P**	**19 41 19.4**	**+3.5**
1.6nm,0.6s,mb3.8,baz=225,slow=9.9,SNR=4.8							
ZALV	**Zalesovo Beam**	**26.62**	**23**	P	**P**	**19 41 19.4**	**+3.5**
TORD	**Torodi Ar. Bea**	**62.71**	**270**	P	**P**	**19 46 02.7**	**-0.3**
1.3nm,0.7s,mb4.2,baz=58,slow=5.8,SNR=8.8							
TORD	**Torodi Ar. Bea**	**62.71**	**270**	P	**P**	**19 46 02.7**	**-0.3**
WRA	**Warramunga Arr**	**81.44**	**119**	P	**P**	**19 47 54.2**	**-0.9**
0.4nm,0.6s,mb3.5,baz=315,slow=5.3,SNR=2.1							
WRA	**Warramunga Arr**	**81.44**	**119**	P	**P**	**19 47 54.2**	**-0.9**
ASAR	**Alice Springs**	**83.34**	**122**	P	**P**	**19 48 04.8**	**-0.2**
0.5nm,0.6s,mb3.8,baz=308,slow=5.6,SNR=11							
ASAR	**Alice Springs**	**83.34**	**122**	P	**P**	**19 48 04.8**	**-0.2**

*IDC **14** 19:46:19.6±1.2, 15°.00N×147°.93E, h0km, mb3.7/8, mb1 3.9/9, mb1mx3.8/25, mbtmp3.7/9, ML4.0/1, Error ellipse: s-maj=34.5km s-min=20.0km az=100.0*
*ISCJB **14** 19:46:22.7±0.8, 14°.9N±0°.1×147°.8E±0°.1, h33km, mb3.9/11, Error ellipse: s-maj=19.2km s-min=11.4km az=35.9*
*NEIC **14** 19:46:24.7±0.9, 14°.87N×147°.87E, h35km, mb4.3/3, Error ellipse: s-maj=22.8km s-min=13.4km az=107.0*
ISC 14 19:46:25.0±0.8, 14°.9N±0°.1×147°.8E±0°.1, h35km, n21, σ1§04/23, mb3.9/11, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**3.12**	**246**	Pn	**Pn**	**19 47 10.7**	**-1.0**
15nm,0.3s,baz=126,slow=9.1,SNR=10.0							
GUMO				Sn	**Sn**	**19 47 46.7**	**-1.0**
42nm,0.3s,baz=317,slow=23,SNR=12							
GUMO	**Guam**	**3.12**	**246**	Pn	**Pn**	**19 47 10.7**	**-1.0**
GUMO				*e*Sn	**Sn**	**19 47 43.2**	**-4.4**
WRAB	**Tennant Creek**	**37.03**	**201**	P	**P**	**19 53 30.0**	**-1.7**
4.4nm,1.0s,mb4.2							
WRA	**Warramunga Arr**	**37.04**	**201**	P	**P**	**19 53 32.7**	**+1.0**
1.6nm,0.7s,mb4.0,baz=23,slow=9.3,SNR=8.4							
WRA	**Warramunga Arr**	**37.04**	**201**	P	**P**	**19 53 32.7**	**+1.0**
ASAR	**Alice Springs**	**40.64**	**200**	P	**P**	**19 54 03.2**	**+1.4**
0.8nm,0.5s,mb3.6,baz=22,slow=7.4,SNR=7.8							
ASAR	**Alice Springs**	**40.64**	**200**	P	**P**	**19 54 03.2**	**+1.4**
CM31	**Chiang Mai Arr**	**46.84**	**281**	*e*P	**P**	**19 54 53.8**	**+1.9**
2.4nm,0.6s,mb4.3							
CMAR	**Chiang Mai Arr**	**46.84**	**281**	P	**P**	**19 54 52.6**	**+0.7**
1.0nm,0.6s,mb3.9,baz=78,slow=6.9,SNR=12							
CMAR	**Chiang Mai Arr**	**46.84**	**281**	P	**P**	**19 54 52.6**	**+0.7**
SONM	**Songino Array**	**47.38**	**323**	P	**P**	**19 54 56.4**	**+0.6**
0.5nm,0.6s,mb3.6,baz=132,slow=6.7,SNR=5.0							
SONM	**Songino Array**	**47.38**	**323**	P	**P**	**19 54 56.4**	**+0.6**
BILL	**Bilibino**	**54.46**	**8**	P	**P**	**19 55 48.4**	**-0.2**
2.3nm,0.8s,mb4.2							
ZALV	**Zalesovo Beam**	**62.27**	**323**	P	**P**	**19 56 43.3**	**-0.1**
0.2nm,0.3s,mb3.7,baz=134,slow=8.4,SNR=1.9							
ZALV	**Zalesovo Beam**	**62.27**	**323**	P	**P**	**19 56 43.3**	**-0.1**
MKAR	**Makanchi Array**	**62.57**	**315**	P	**P**	**19 56 45.3**	**-0.2**
0.2nm,0.5s,mb3.5,baz=90,slow=8.3,SNR=8.6							
MKAR	**Makanchi Array**	**62.57**	**315**	P	**P**	**19 56 45.3**	**-0.2**
KURK	**Kurchatov**	**65.46**	**319**	P	**P**	**19 57 04.1**	**-0.4**
1.2nm,0.5s,mb4.2,baz=98,slow=6.5,SNR=9.0							
KURK	**Kurchatov**	**65.46**	**319**	P	**P**	**19 57 04.1**	**-0.4**
ILAR	**Eielson Array**	**66.20**	**25**	P	**P**	**19 57 07.5**	**-1.5**
0.4nm,0.9s,mb3.4,baz=257,slow=5.4,SNR=2.4							
ILAR	**Eielson Array**	**66.20**	**25**	P	**P**	**19 57 07.5**	**-1.5**

WEL 14 19:46:26.6±0.4, 37°.78S×179°.86W, h33km, ML3.5/7, Error ellipse: s-maj=3.9km s-min=3.0km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.47**	**278**	PN	Pn	19 46 50.1	-0.6
MXZ				SN	Sn	19 47 08.4	-0.5
PUZ	**Puketiti**	**1.52**	**258**	PN	Pn	19 46 50.8	-0.6
PUZ				SN	Sn	19 47 08.3	-1.8
CNGZ	**Carnagh Statio**	**1.68**	**245**	PN	Pn	19 46 53.4	-0.3
MWZ	**Matawai**	**2.14**	**254**	PN	Pn	19 46 59.2	-0.8
MWZ				SN	Sn	19 47 24.1	-1.2
MHGZ	**Mahia Peninsul**	**2.23**	**231**	*e*PN	Pn	19 47 00.4	-0.7
KNZ	**Kokohu**	**2.30**	**237**	PN	Pn	19 47 01.4	-0.8
URZ	**Urewera**	**2.44**	**258**	PN	Pn	19 47 04.5	+0.3
URZ				SN	Sn	19 47 31.8	-1.0
BKZ	**Black Stump Fm**	**3.18**	**243**	PN	Pn	19 47 13.9	-0.4
PXZ	**Pawanui**	**3.41**	**228**	PN	Pn	19 47 15.2	-2.1
BHHZ	**Black Hill Sta**	**3.62**	**241**	PN	Pn	19 47 19.6	-0.7
DVHZ	**Dannevirke**	**3.99**	**230**	PN	Pn	19 47 23.6	-1.8
MRZ	**Mangatainoka R**	**4.56**	**230**	*e*PN	Pn	19 47 30.6	-2.7

IGQ 14 19:48:39.2, 0°.07N×80°.73W, h12km±5km, Mb4.0, Ms3.8, 1C-8D, Error ellipse: s-maj=6.4km s-min=2.7km az=49.9, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAMA	**Jama**	**0.62**	**122**	⇓P	Pg	19 48 51.4	+0.1
JAMA	**Jama**	**0.62**	**122**	⇓S	Sg	19 48 58.4	-1.0
PECV	**Mancha de Ca P**	**1.08**	**141**	⇓P	Pb	19 48 56.2	-3.6
CHIS	**Cerro-Chispas-**	**1.11**	**180**	S	Sb	19 49 11.2	-3.5
CHIS	**Cerro-Chispas-**	**1.11**	**180**	P	Pb	19 48 59.3	-1.0
PINO	**Pino**	**2.13**	**96**	P	Pn	19 49 16.9	+2.2
TERV	**Terraza Guagua**	**2.14**	**96**	P	Pn	19 49 16.2	+1.5
JUA2	**San Juan 2**	**2.14**	**97**	P	Pn	19 49 17.1	+2.3
GGP	**Refugio Guagua**	**2.15**	**96**	⇓P	Pn	19 49 16.6	+1.7
OTAV	**Otavalo**	**2.28**	**86**	⇓P	Pn	19 49 19.9	+3.1
PITA	**Cotopaxi Volc**	**2.38**	**105**	P	Pn	19 49 21.1	+3.0
PITA	**Cotopaxi Volc**	**2.38**	**105**	S	Sn	19 49 51.3	+4.2
BREF	**Cotopaxi Volca**	**2.40**	**108**	⇑P	Pn	19 49 21.8	+3.4
BMOR	**Cotopaxi Volca**	**2.40**	**109**	P	Pn	19 49 21.1	+2.7
MOV1	**Cotopaxi Vol s**	**2.42**	**109**	P	Pn	19 49 21.3	+2.8
BVC2	**Cotopaxi Volca**	**2.43**	**107**	P	Pn	19 49 21.9	+3.2
VC1	**Cotopaxi 1**	**2.43**	**107**	P	Pn	19 49 22.1	+3.3
BTAM	**Cotopaxi Volca**	**2.45**	**108**	⇓P	Pn	19 49 22.4	+3.4
COV1	**Cotopaxi Volc**	**2.49**	**107**	P	Pn	19 49 21.6	+2.0
PISA	**Pisayambo**	**2.60**	**116**	P	Pn	19 49 25.0	+4.0
IGUA	**Igualata**	**2.60**	**127**	P	Pn	19 49 23.8	+2.7
ANTI	**Antisana**	**2.62**	**101**	⇓S	Sn	19 49 58.7	+5.6
ANTI	**Antisana**	**2.62**	**101**	⇓P	Pn	19 49 25.1	+3.8
CAYR	**Refugio Cayamb**	**2.72**	**91**	P	Pn	19 49 27.6	+4.9
CAYA	**Cayambe**	**2.74**	**90**	P	Pn	19 49 27.6	+4.6
ARRY	**Arrayan**	**2.76**	**125**	P	Pn	19 49 26.6	+3.3
BULB	**Ulba Tungurahu**	**2.76**	**123**	P	Pn	19 49 26.4	+3.1

*BJI **14** 20:17:00.1, 19°.42N×121°.11E, h10km, mB4.7/35, mb4.6/50, ML4.0/2, Ms4.3/45, Ms7 4.0/44*
*NEIC **14** 20:17:00.1±2.0, 19°.16N×121°.23E, h15km±12km, mb4.8/37, Error ellipse: s-maj=5.6km s-min=4.6km az=110.0*
*MOS **14** 20:17:01.6±0.9, 19°.15N×121°.22E, h38km, mb5.0/39, Error ellipse: s-maj=9.8km s-min=6.0km az=109.0*
*IDC **14** 20:17:01.4±4.1, 19°.19N×121°.19E, h21km±26km, mb4.3/31, mb1 4.4/33, mb1mx4.4/38, mbtmp4.3/33, ML4.6/2, MS3.9/23, Ms1 4.0/23, ms1mx3.7/40, Error ellipse: s-maj=14.9km s-min=10.8km az=86.0*
*ISCJB **14** 20:17:01.5±1.0, 19°.35N±0°.02×121°.12E±0°.03, h28km±8km, mb4.6/89, MS4.0/28, Error ellipse: s-maj=5.2km s-min=3.2km az=7.5*
*MAN **14** 20:17:02, 19°.24N×121°.08E, h10km, mb5.0, ML4.0, MS4.1*
*DJA **14** 20:17:08, 19°.45N×120°.99E, h84km, mb4.7/11*
ISC 14 20:17:03.6±1.0, 19°.29N±0°.02×121°.19E±0°.03, h34km±7km, h17km±3.7km: pP-P, n267, σ1§06/281, mb4.6/92, MS4.0/28, 6C-10D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PIP	**Pasuquin**	**1.10**	**210**	⇑*i*P	**Pn**	**20 17 19.4**	**-3.2**

NJ2 pmax pmax
comp=Z,10.0nm,0.9s
NJ2 pmax pmax
comp=Z,140nm,5.9s
NJ2 LR LR
comp=N,390nm,20.0s
NJ2 LR LR
comp=E,400nm,16.6s
NJ2 LR LR
comp=Z,580nm,17.8s
KKM Kota Kinabalu 14.03 201 Pn **Pn 20 20 21.0 +0.9**
comp=Z,25nm,1.2s
GYA Guiyang 15.16 301 P **Pn 20 20 33.3 -2.1**
GYA S **Sn 20 23 22.8 +0.5**
GYA SS 20 23 41.5
GYA pmax pmax
comp=Z,20nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.8s
GYA LR LR
comp=N,530nm,14.8s
GYA LR LR
comp=E,420nm,15.0s
GYA LR LR
comp=Z,540nm,13.4s
ENH Enshi 15.24 318 *e*Pn **Pn 20 20 36.7 +0.4**
comp=Z,29nm,1.2s
SGSI Sangihe 16.07 164 P sP 20 21 01.4 -2.0
JNU Nakatsue 16.27 30 *e*Pn **Pn 20 20 50.5 +0.9**
comp=Z,32nm,1.1s
KMI Kunming 18.04 292 P **Pn 20 21 12.5 +0.8**
KMI pP pP 20 21 20.3 -0.5
KMI S **Sn 20 24 25.8 -6.3**
KMI pmax pmax
comp=Z,12nm,1.6s
KMI LR LR
comp=N,1μm,18.4s
KMI LR LR
comp=E,690nm,19.0s
KMI LR LR
comp=Z,660nm,15.9s
MNI Manado 18.09 168 P **Pn 20 21 18.6 +6.2**
XAN Xi'an 18.31 326 P **Pn 20 21 15.1 +0.2**
XAN pP pP 20 21 24.8 +1.1
XAN S **Sn 20 24 42.0 +3.6**
XAN pmax pmax
comp=Z,45nm,5.2s
XAN LR LR
comp=N,340nm,14.6s
XAN LR LR
comp=E,97nm,15.2s
XAN LR LR
comp=Z,110nm,17.3s
MRSI Marisa 18.71 178 P **Pn 20 21 24.4 +4.4**
INCN Inchon 18.74 14 *e*P **Pn 20 21 19.2 -1.0**
comp=Z,45nm,1.5s
SBUM Sibu 18.90 209 P **Pn 20 21 21.0 -1.2**
comp=Z,34nm,1.2s
KSRS Korea Array 19.03 17 P **Pn 20 21 22.6 -1.1**
comp=Z,2.2nm,0.3s,baz=197,slow=11,SNR=54
KSRS LR LR 20 29 26.0
comp=Z,301nm,19.1s,baz=194,slow=39
KSRS Korea Array 19.03 17 P **Pn 20 21 22.6 -1.1**
KSRS pmax pmax
comp=Z,2.0nm,0.3s
KSRS MLR MLR
comp=Z,301nm,19.1s
CD2 Chengdu 19.55 310 P **Pn 20 21 29.0 -0.9**
CD2 pP pP 20 21 39.1 +1.8
CD2 PP 20 21 48.3
CD2 S **Sn 20 21 01.0 -7.4**
CD2 sS sS 20 25 16.0 -5.6
CD2 SS 20 25 29.5
CD2 pmax pmax
comp=Z,60nm,0.9s
CD2 pmax pmax
comp=Z,180nm,3.7s
CD2 LR LR
comp=N,720nm,14.3s
CD2 LR LR
comp=Z,540nm,16.1s
PCI Palu 20.11 184 P sP 20 21 50.2 +2.3
CHRT Chiangrai 20.18 275 ⇓P **P 20 21 35.5 0.0**
LUWI Luwuk 20.26 175 P **P 20 21 35.3 -1.1**
comp=Z,633nmcomp=Z,64nm,1.2s
NST Nakhon Sawan 20.41 263 P **P 20 21 38.0 +0.1**
CBIJ Chichi jima 20.78 64 LR LR 20 28 32.7
comp=Z,299nm,19.7s,MS3.7,baz=286,slow=33
CHG Chiang Mai 21.04 272 ⇓P **P 20 21 44.6 -0.1**
comp=Z,11nm,1.1s,mb4.1
CHG S Px 20 21 45.1
CHTO Chiang Mai 21.04 272 *e*P **P 20 21 44.0 -0.8**
comp=Z,27nm,1.0s,mb4.5
CHTO Chiang Mai 21.04 272 *e*P **P 20 21 44.0 -0.7**
CHTO pmax pmax
comp=Z,27nm,1.0s,mb4.5
CHTO Chiang Mai 21.04 272 P **P 20 21 44.6 -0.1**
comp=Z,605nmcomp=Z,34nm,1.6s,mb4.4
CM31 Chiang Mai Arr 21.07 271 *e*P **P 20 21 44.6 -0.5**
comp=Z,110nm,1.6s,mb4.9
CMAR Chiang Mai Arr 21.07 271 P **P 20 21 44.9 -0.2**
comp=Z,13nm,1.0s,mb4.2,baz=78,slow=9.0,SNR=52
CMAR PcP PcP 20 25 52.1 +1.1
comp=Z,1.4nm,0.7s,baz=17,slow=0.5,SNR=9.9
CMAR LR LR 20 30 16.2
comp=Z,268nm,18.3s,MS3.7,baz=96,slow=38
CMAR Chiang Mai Arr 21.07 271 P **P 20 21 44.9 -0.2**
CMAR PcP PcP 20 25 52.1 +1.1
CMAR LR LR 20 30 16.2
CMAR Chiang Mai Arr 21.07 271 P **P 20 21 44.9 -0.2**
CMAR 20 25 52.1
BJT Baijiatuau 21.11 349 *e*P **P 20 21 46.7 +1.4**
comp=Z,83nm,0.8s,mb5.1
BJT Baijiatuau 21.11 349 *e*P **P 20 21 46.7 +1.4**
BJT pmax pmax
comp=Z,83nm,0.8s
BJI Beijing 21.13 349 P **P 20 21 46.5 +1.0**
BJI S **S 20 25 37.5 -1.2**
BJI pmax pmax
comp=Z,110nm,0.7s,mb5.3
BJI pmax pmax
comp=Z,81nm,3.5s
BJI LR LR
comp=N,190nm,12.0s
BJI LR LR
comp=E,290nm,18.5s
BJI LR LR
comp=Z,190nm,22.5s
BDT Bhumibol Dam 21.17 268 P **P 20 21 44.0 -2.2**
comp=Z,22nm,1.0s,mb4.5
STKI Sintang 21.35 208 P **P 20 21 48.1 0.0**
comp=Z,1μmcomp=Z,22nm,1.5s,mb4.3
LZH Lanzhou 22.66 321 *e*P **P 20 22 02.5 +0.6**
LZH PP 20 22 32.6
LZH *e*S **S 20 26 04.3 -3.8**
LZH SS 20 26 45.0
LZH pmax pmax
comp=Z,30nm,1.2s,mb4.6
LZH pmax pmax
comp=Z,200nm,4.4s
LZH LR LR
comp=N,590nm,15.0s,MS4.2
LZH LR LR
comp=E,300nm,13.8s,MS4.2
LZH LR LR
comp=Z,680nm,14.4s,MS4.2
MAJO Matsushiro 22.77 38 *e*P **P 20 22 02.6 -0.5**
comp=Z,21nm,0.9s,mb4.6
MAJO Matsushiro 22.77 38 *e*P **P 20 22 02.6 -0.5**
MAJO pmax pmax
comp=Z,21nm,0.9s,mb4.6
MAT Matsushiro 22.77 38 P **P 20 22 03.0 -0.1**
MAT S **S 20 26 11.0 +0.9**
MJAR Matsushiro Arr 22.77 38 P **P 20 22 03.1 -0.1**
comp=Z,5.0nm,0.8s,mb4.0,baz=221,slow=9.3,SNR=16
MJAR Matsushiro Arr 22.77 38 P **P 20 22 03.1 -0.1**
MJAR Matsushiro Arr 22.77 38 P **P 20 22 03.1 0.0**
HHC Hu-ho-hao-te 23.02 341 *e*P **P 20 22 06.9 +1.3**
HHC sP sP 20 22 12.3 -6.6
HHC PP 20 22 37.3
HHC PcP PcP 20 25 55.9 +1.4
HHC S **S 20 26 14.3 +0.4**
HHC sS sS 20 26 19.9 -10
HHC ScP ScP 20 29 32.3 +2.3
HHC PcS PcS 20 29 34.1 +0.6
HHC pmax pmax
comp=Z,23nm,0.7s,mb4.7
HHC pmax pmax
comp=Z,140nm,4.6s
HHC LR LR
comp=N,430nm,12.3s,MS4.3
HHC LR LR
comp=E,420nm,12.0s,MS4.3
HHC LR LR
comp=Z,350nm,12.6s,MS4.0
NLAI Namlea 23.13 165 P **P 20 22 08.4 +1.4**
SPSI Sidrap Palu 23.15 184 P **P 20 22 08.8 +1.5**
comp=Z,1μmcomp=Z,16nm,1.0s,mb4.4
BTO Baotou 23.31 338 *e*P **P 20 22 10.0 +1.3**
GUMO Guam 23.39 100 LR LR 20 29 09.5
comp=Z,240nm,20.5s,MS3.6,baz=291,slow=31
BBKI Banjar Baru 23.46 196 P **P 20 22 09.3 -1.1**
MYKOM Kota Tinggi 24.30 226 P **P 20 22 17.5 -0.7**
comp=Z,28nm,1.4s,mb4.5
KULM Kulim 24.38 238 *e*P **P 20 22 17.4 -1.4**
comp=Z,24nm,0.9s,mb4.6
KULM Kulim 24.38 238 P **P 20 22 18.1 -0.8**
comp=Z,32nm,0.9s,mb4.8
IPM Ipoh 24.57 236 *e*P **P 20 22 18.7 -1.9**
comp=Z,21nm,0.8s,mb4.7
IPM Ipoh 24.57 236 P **P 20 22 19.5 -1.1**
comp=Z,37nm,1.4s,mb4.7
CN2 Changchun 24.70 7 *e*P **P 20 22 23.3 +1.8**
CN2 *es*P sP 20 22 30.0 -5.2
CN2 *e*S **S 20 26 39.8 -1.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.5
CN2 LR LR
comp=N,400nm,16.0s,MS4.1
CN2 LR LR
comp=E,200nm,16.0s,MS4.1
CN2 LR LR
comp=Z,400nm,18.0s,MS4.0
VLA Vladivostok 25.41 18 *e*P **P 20 22 30.0 +2.0**
VLA pmax pmax
comp=Z,21nm,1.2s,mb4.5
MDJ Mudanjiang 26.21 14 P **P 20 22 35.8 +0.6**
MDJ pP pP 20 22 38.6 -6.2
MDJ sP sP 20 22 40.0 -8.9
MDJ PcP PcP 20 26 01.0 -0.5
MDJ S **S 20 27 10.1 +5.0**
MDJ ScP ScP 20 29 41.0 +2.2
MDJ PcS PcS 20 29 42.3 0.0
MDJ ScS ScS 20 33 31.4 +2.8
MDJ pmax pmax
comp=Z,10.0nm,1.0s,mb4.3
MDJ pmax pmax
comp=Z,15nm,4.6s
MDJ LR LR
comp=N,240nm,18.9s
MDJ LR LR
comp=E,210nm,13.4s
MDJ LR LR
comp=Z,250nm,21.1s,MS3.7
MDJ Mudanjiang 26.21 14 *e*P **P 20 22 35.7 +0.5**
comp=Z,32nm,1.3s,mb4.7
TSI Tuntungan 27.11 237 P **P 20 22 44.8 +1.2**
comp=Z,60nm,1.0s,mb5.1
GTA Gaotai 27.25 322 *e*P **P 20 22 45.8 +1.2**
GTA S **S 20 27 23.0 +1.4**
GTA pmax pmax
comp=Z,5.0nm,1.5s,mb3.8
GTA pmax pmax
comp=Z,93nm,7.6s
GTA LR LR
comp=N,130nm,17.5s,MS3.8
GTA LR LR
comp=E,210nm,17.1s,MS3.8
GTA LR LR
comp=Z,300nm,16.6s,MS3.9
PSI Prapat 27.25 236 P **P 20 22 44.3 -0.6**
comp=Z,6.5nm,0.7s,mb4.3,baz=23,slow=9.7,SNR=8.7
PSI LR LR 20 33 37.7
comp=Z,363nm,18.0s,MS4.0,baz=84,slow=37
PSI Prapat 27.25 236 P **P 20 22 44.3 -0.6**
PSI LR LR 20 33 37.7
PSI Prapat 27.25 236 P **P 20 22 44.3 -0.6**
SHL Shillong 27.77 288 *e*PKP **P 20 22 50.5 +1.0**
PPI Padang Panjang 28.31 228 P **P 20 22 53.8 -0.6**
LSA Lhasa 29.16 297 *e*P **P 20 23 02.6 +0.8**
comp=Z,11nm,1.0s,mb4.5
LSA Lhasa 29.16 297 *e*P **P 20 23 02.6 +0.8**
LSA pmax pmax
comp=Z,11nm,1.0s,mb4.5
ERM Erimo 29.34 35 *e*P **P 20 23 08.9 +5.7**
HIA Hailar 29.93 358 P **P 20 23 07.1 -1.2**
comp=Z,8.0nm,0.8s,mb4.5
HIA Hailar 29.93 358 P **P 20 23 07.1 -1.3**
HIA pmax pmax
comp=Z,8.0nm,0.8s
ASAJ Asahikawa 30.55 31 P **P 20 23 15.2 +1.2**
comp=Z,6.3nm,0.7s,mb4.6,baz=188,slow=19,SNR=5.0
ASAJ LR LR 20 34 49.1
comp=Z,158nm,21.6s,MS3.6,baz=213,slow=35
ASAJ Asahikawa 30.55 31 P **P 20 23 15.2 +1.3**
ASAJ pmax pmax
comp=Z,6.0nm,0.7s
ASAJ MLR MLR
comp=Z,158nm,21.6s
ULN Ulaanbaatar 30.74 341 *e*P **P 20 23 16.7 +1.2**
comp=Z,12nm,1.1s,mb4.6
ULN Ulaanbaatar 30.74 341 *e*P **P 20 23 16.7 +1.2**
ULN pmax pmax
comp=Z,12nm,1.1s,mb4.6
SONM Songino Array 30.91 340 P **P 20 23 18.2 +1.1**
comp=Z,2.1nm,0.9s,mb4.0,baz=158,slow=8.0,SNR=13
SONM LR LR 20 37 09.4
comp=Z,285nm,18.2s,MS4.0,baz=353,slow=39
SONM Songino Array 30.91 340 P **P 20 23 18.2 +1.1**
SONM LR LR 20 37 09.4
SONM Songino Array 30.91 340 P **P 20 23 18.2 +1.1**
KLR Kul'dur 31.05 13 *e*P **P 20 23 15.1 -3.2**
KLR MLR MLR
comp=Z,900nm,13.0s,MS4.6
TAPN Taplejung 31.70 291 *e*P **P 20 23 24.9 +0.6**
comp=Z,46nm,1.2s,mb5.2
ODAN Odare 31.93 290 *e*P **P 20 23 26.3 0.0**
comp=Z,31nm,0.7s,mb5.3
RAMN Ramite 32.64 290 *e*P **P 20 23 32.9 +0.4**
YSS Yuzh-Sakhalins 32.76 28 *e*P **P 20 23 34.2 +0.9**
comp=Z,15nm,0.8s,mb5.0
YSS Yuzh-Sakhalins 32.76 28 *e*P **P 20 23 33.8 +0.5**
GUN Gumba 33.38 292 *e*P **P 20 23 39.6 +0.6**
comp=Z,44nm,0.8s,mb5.4
PKI Pulchoki 33.76 291 *e*P **P 20 23 42.2 -0.1**
PKIN Phulchoki 33.77 291 *e*P **P 20 23 42.4 0.0**
KKN Kakani 33.90 291 *e*P **P 20 23 43.5 0.0**
comp=Z,33nm,1.0s,mb5.2
DMN Daman 34.03 291 *e*P **P 20 23 44.4 -0.3**
comp=Z,42nm,1.1s,mb5.3
ZAK Zakamensk 34.14 339 *e*P **P 20 23 45.7 +0.4**
ZAK pmax pmax
comp=Z,2.0nm,1.3s,mb3.9
GKN Gorkha 34.49 292 *e*P **P 20 23 47.9 -0.7**
comp=Z,36nm,1.0s,mb5.3
DANN Dangsing 35.30 292 *e*P **P 20 23 55.3 -0.3**
KOLN Koldanda 35.38 291 *e*P **P 20 23 56.2 -0.1**
comp=Z,58nm,1.3s,mb5.3
WMQ Urumqi 37.18 319 P **P 20 24 13.0 +1.5**
WMQ pP pP 20 24 17.4 -3.9
WMQ sP sP 20 24 20.0 -5.4
WMQ PP PP 20 25 40.5 +3.9
WMQ pmax pmax
comp=Z,7.0nm,1.2s,mb4.4
WMQ pmax pmax
comp=Z,130nm,4.9s
WMQ LR LR
comp=N,250nm,13.2s,MS4.3
WMQ LR LR
comp=E,280nm,15.3s,MS4.3
WMQ LR LR
comp=Z,110nm,17.9s,MS3.7
FITZ Fitzroy Crossi 37.41 173 P **P 20 24 12.5 -1.1**
comp=Z,2.2nm,0.7s,mb4.1,baz=18,slow=6.6,SNR=7.5
FITZ Fitzroy Crossi 37.41 173 P **P 20 24 12.5 -1.1**
MBWA Marble Bar 40.22 182 P **P 20 24 34.9 -2.3**
comp=Z,28nm,1.3s,mb4.8
WRAB Tennant Creek 41.06 161 *e*P **P 20 24 40.6 -3.5**
comp=Z,7.4nm,1.1s,mb4.2
WRAB Tennant Creek 41.06 161 *e*P **P 20 24 40.6 -3.5**
WRAB pmax pmax
comp=Z,7.0nm,1.1s,mb4.2
WRA Warramunga Arr 41.06 161 P **P 20 24 41.8 -2.3**
comp=Z,2.1nm,0.4s,mb4.1,baz=342,slow=9.1,SNR=18
WRA Warramunga Arr 41.06 161 P **P 20 24 41.8 -2.3**
WRA Warramunga Arr 41.06 161 P **P 20 24 41.8 -2.3**
WB2 Warramunga Arr 41.07 161 *e*P **P 20 24 41.6 -2.5**
MK31 Makanchi Array 41.96 320 *e*P **P 20 24 52.1 +0.8**
MK31 Makanchi Array 41.96 320 *e*P **P 20 24 52.1 +0.9**
MKAR Makanchi Array 41.96 320 P **P 20 24 52.2 +1.0**
comp=Z,10.0nm,0.8s,mb4.5,baz=113,slow=9.1,SNR=82
MKAR LR LR 20 43 23.1
comp=Z,77nm,18.7s,MS3.6,baz=107,slow=38
MKAR Makanchi Array 41.96 320 P **P 20 24 52.2 +1.0**
MKAR LR LR 20 43 23.1
MKAR Makanchi Array 41.96 320 P **P 20 24 52.2 +1.0**
YAK Yakutsk 43.11 6 *e*P **P 20 25 00.4 +0.1**
YAK Yakutsk 43.11 6 *e*P **P 20 25 03.0 +2.6**
YAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
KSH Kashi 43.72 307 P **P 20 25 09.1 +3.5**
KSH PP PP 20 26 53.5 +5.8
KSH PcP PcP 20 26 54.6 +2.4
KSH ScP ScP 20 30 41.3 -0.2
KSH PcS PcS 20 30 46.3 +1.3
KSH S **S 20 31 36.3 +2.7**
KSH SS SS 20 34 46.8 -3.0
KSH ScS ScS 20 35 01.3 -1.2
KSH pmax pmax
comp=Z,12nm,0.8s,mb4.7
KSH pmax pmax
comp=Z,100nm,4.5s
KSH LR LR
comp=N,130nm,5.8s
KSH LR LR
comp=E,120nm,4.9s
KSH LR LR
comp=Z,140nm,5.4s
PETK Petropavlovsk- 43.97 31 P **P 20 25 07.6 +0.2**
comp=Z,3.7nm,0.5s,mb4.3,baz=211,slow=8.3,SNR=3.9
PETK LR LR 20 44 50.8
comp=Z,113nm,19.1s,MS3.8,baz=227,slow=38
PETK Petropavlovsk- 43.97 31 P **P 20 25 07.6 +0.2**
PETK LR LR 20 44 50.8
PETK Petropavlovsk- 43.97 31 P **P 20 25 07.6 +0.2**
ZAA0 Zalesovo Array 44.41 330 *e*P **P 20 25 10.7 -0.2**
ZALV Zalesovo Beam 44.41 330 P **P 20 25 11.1 +0.2**
comp=Z,5.4nm,0.7s,mb4.4,baz=111,slow=8.1,SNR=37
ZALV LR LR 20 44 37.2
comp=Z,100nm,21.8s,MS3.7,baz=246,slow=37
ZALV Zalesovo Beam 44.41 330 P **P 20 25 11.1 +0.2**
ZALV LR LR 20 44 37.2
ZALV Zalesovo Beam 44.41 330 P **P 20 25 11.1 +0.2**
ASAR Alice Springs 44.46 163 P **P 20 25 10.1 -1.5**
comp=Z,2.0nm,0.5s,mb4.1,baz=349,slow=7.3,SNR=55
ASAR ScP ScP 20 30 45.1 +0.5
comp=Z,1.6nm,1.3s,baz=354,slow=5.0,SNR=4.2
ASAR Alice Springs 44.46 163 P **P 20 25 10.1 -1.5**
ASAR ScP ScP 20 30 45.1 +0.5
ASAR Alice Springs 44.46 163 P **P 20 25 10.1 -1.5**
TKM2 Tokmak 2 44.90 312 *e*P **P 20 25 16.3 +1.3**
comp=Z,16nm,1.7s,mb4.6
TKM2 Tokmak 2 44.90 312 *e*P **P 20 25 16.3 +1.2**
TKM2 pmax pmax
comp=Z,16nm,1.7s,mb4.6
NVS Novosibirsk 45.68 330 *e*P **P 20 25 19.2 -1.8**
NVS pmax pmax
comp=Z,17nm,1.5s,mb4.8
NVS pmax pmax
comp=N,9.0nm,1.6s
NVS pmax pmax
comp=E,6.0nm,1.3s
KURK Kurchatov 45.92 323 *e*P **P 20 25 23.3 +0.3**
comp=E,19nm,0.9s,mb5.0
KURK Kurchatov 45.92 323 *e*P **P 20 25 23.3 +0.3**
KURK pmax pmax
comp=Z,19nm,0.9s,mb5.0
EKS2 Erkin-Say 46.12 311 *e*P **P 20 25 26.3 +1.6**
comp=Z,9.7nm,1.5s,mb4.5
EKS2 Erkin-Say 46.12 311 *e*P **P 20 25 26.3 +1.6**
EKS2 pmax pmax
comp=Z,10.0nm,1.5s,mb4.5
CTA Charters Tower 46.20 147 LR LR 20 43 46.9
comp=Z,127nm,19.9s,MS3.9,baz=40,slow=35
CTAO Charters Tower 46.20 147 P **P 20 25 27.6 +2.1**
comp=Z,18nm,1.4s,mb4.8
CTAO Charters Tower 46.20 147 P **P 20 25 27.6 +2.1**
CTAO pmax pmax
comp=Z,18nm,1.4s,mb4.8
KBL Kabul 48.41 299 *e*P **P 20 25 43.5 +0.8**
comp=Z,30nm,1.1s,mb5.2
KBL Kabul 48.41 299 *e*P **P 20 25 43.5 +0.8**
KBL pmax pmax
comp=Z,30nm,1.1s,mb5.2
KKAR Karatay Array 48.55 311 *e*P **P 20 25 44.5 +0.8**
comp=Z,13nm,1.0s,mb4.9
KKAR Karatay Array 48.55 311 *e*P **P 20 25 44.5 +0.9**
KKAR pmax pmax
comp=Z,13nm,1.0s,mb4.9
SEY Seymchan 48.58 18 *i*P **P 20 25 49.1 +5.6**
BRVK Borovoye 51.59 323 *e*P **P 20 26 07.2 +0.7**
comp=Z,6.9nm,0.8s,mb4.6
BRVK Borovoye 51.59 323 *de*P **P 20 26 07.1 +0.6**
BRVK pmax pmax
comp=Z,11nm,1.0s,mb4.7
BRVK Borovoye 51.59 323 *e*P **P 20 26 07.2 +0.7**
BRVK pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
NWAO Narrogin (SRO) 52.06 184 P **P 20 26 09.2 -1.0**
comp=Z,9.4nm,0.6s,mb4.9,baz=22,slow=9.3,SNR=12
NWAO Narrogin (SRO) 52.06 184 *e*P **P 20 26 08.8 -1.3**
comp=Z,8.4nm,0.6s,mb4.8
NWAO Narrogin (SRO) 52.06 184 P **P 20 26 09.2 -0.9**
NWAO pmax pmax
comp=Z,9.0nm,0.6s
STKA Stephens Creek 54.51 159 P **P 20 26 27.7 -0.5**
comp=Z,2.7nm,0.9s,mb4.3,baz=280,slow=4.3,SNR=6.6
STKA Stephens Creek 54.51 159 *e*P **P 20 26 26.3 -1.8**
STKA Stephens Creek 54.51 159 P **P 20 26 27.7 -0.5**
STKA pmax pmax
comp=Z,3.0nm,0.9s
BILL Bilibino 56.28 19 *e*P **P 20 26 40.4 -0.1**
comp=Z,12nm,0.8s,mb5.0
BILL Bilibino 56.28 19⇑ *e*P **P 20 26 46.9 +6.4**
BILL *e* 20 28 48.4
BILL pmax pmax
comp=Z,14nm,1.2s,mb4.9
ABKAR Akbulak array 56.93 317 *e*P **P 20 26 45.2 -0.1**
comp=Z,12nm,0.8s,mb5.0
SVE Sverdlovsk 58.02 326 ⇓ *i*P **P 20 26 54.2 +1.2**
SVE pmax pmax
comp=Z,30nm,1.2s,mb5.2
AKTK Aktyubinsk 58.33 318 P **P 20 26 55.8 +0.6**
AKTO Aktyubinsk 58.33 318 P **P 20 26 55.8 +0.6**
comp=Z,4.8nm,0.5s,mb4.8,baz=99,slow=8.7,SNR=20
AKTO Aktyubinsk 58.33 318 P **P 20 26 55.8 +0.5**
AKTO pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
ARU Arti 59.05 325 *e*P **P 20 27 00.1 0.0**
comp=Z,6.9nm,0.7s,mb4.8
ARU Arti 59.05 325 *d i*P **P 20 27 00.0 -0.2**
ARU 20 27 49.7
ARU *e* 20 29 07.6
ARU S **S 20 34 59.7 -4.9**
ARU pmax pmax
comp=Z,33nm,1.7s,mb5.1
GNI Garni 67.64 306 *ce*P **P 20 27 58.9 +1.6**
GNI pmax pmax
comp=Z,6.0nm,1.0s
ZEI Tsey 67.97 309 *e*P **P 20 27 58.8 -0.6**
ZEI pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
KIV Kislovodsk 68.71 311 *e*P **P 20 28 03.6 -0.4**
comp=Z,17nm,1.0s,mb4.9
KIV Kislovodsk 68.71 311⇑ *e*P **P 20 28 04.4 +0.4**
KIV *e* pP 20 28 11.7 -2.7
KIV pmax pmax
comp=Z,15nm,0.8s,mb5.0
VRHR Novokhopersk 68.73 318 *e*P **P 20 28 02.8 -1.2**
VRHR pmax pmax
comp=N,8.0nm,0.7s
VRHR pmax pmax
comp=Z,20nm,0.7s,mb5.2
VRHR pmax pmax
comp=E,2.0nm,0.4s
KLMR Klimovskoe 69.31 329 *e*P **P 20 28 04.4 -3.0**
KLMR pmax pmax

comp=Z,34nm,1.3s,mb5.1
KLMR MLR MLR
comp=Z,438nm,14.0s,MS4.8
VSR Storozhevoye 70.26 319 *e*P **P 20 28 12.5 -0.9**
VSR pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
VSR pmax pmax
comp=N,7.0nm,0.6s
VSR pmax pmax
comp=E,10.0nm,1.2s
OBN Obninsk 71.36 323⇓ *e*P **P 20 28 20.2 +0.2**
OBN *e* 20 28 35.4
OBN *e* 20 28 44.0
OBN pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KDAK Kodiak Island 71.91 34 P **P 20 28 23.4 +0.1**
comp=Z,8.5nm,0.7s,mb4.8,baz=22,slow=21,SNR=11
KDAK Kodiak Island 71.91 34 P **P 20 28 23.4 +0.1**
KDAK Kodiak Island 71.91 34 P **P 20 28 23.4 +0.2**
MCK McKinley 72.84 28 *e*P **P 20 28 29.5 +0.8**
comp=Z,16nm,1.1s,mb4.9
MCK McKinley 72.84 28 *e*P **P 20 28 29.5 +0.8**
MCK pmax pmax
comp=Z,16nm,1.1s,mb4.9
JOF Joensuu 72.97 331 *e*P **P 20 28 29.5 0.0**
JOF Joensuu 72.97 331 *e*p **P 20 28 29.5 0.0**
PMR Palmer 73.09 30 *e*P **P 20 28 29.1 -1.1**
comp=Z,8.1nm,0.7s,mb4.8
PMR Palmer 73.09 30 *e*P **P 20 28 29.1 -1.1**
PMR pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
SML Sawmill 73.43 30 *e*P **P 20 28 31.8 -0.4**
comp=Z,3.7nm,0.9s,mb4.3
SML Sawmill 73.43 30 *e*P **P 20 28 31.8 -0.4**
SML pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
ILAR Eielson Array 73.56 27 P **P 20 28 31.9 -1.0**
comp=Z,1.0nm,0.7s,mb3.9,baz=269,slow=5.0,SNR=12
ILAR Eielson Array 73.56 27 P **P 20 28 31.9 -1.0**
ILAR Eielson Array 73.56 27 P **P 20 28 32.0 -0.9**
ARCES ARCESS Array B 74.07 339 P **P 20 28 36.4 +0.5**
comp=Z,4.2nm,0.9s,mb4.4,baz=54,slow=6.2,SNR=5.5
ARCES LR LR 21 04 52.1
comp=Z,87nm,18.8s,MS4.1,baz=15,slow=39
ARCES ARCESS Array B 74.07 339 P **P 20 28 36.4 +0.5**
ARCES LR LR 21 04 52.1
ARCES ARCESS Array B 74.07 339 P **P 20 28 36.4 +0.5**
ASF Jabal al Asfar 75.31 299 P **P 20 28 43.7 -0.1**
comp=Z,0.5nm,0.4s,mb3.8,baz=95,slow=4.9,SNR=4.0
ASF Jabal al Asfar 75.31 299 P **P 20 28 43.7 -0.1**
ASF Jabal al Asfar 75.31 299 P **P 20 28 43.7 -0.1**
FINES FINESS Array B 75.67 330 P **P 20 28 45.5 +0.3**
comp=Z,4.9nm,0.8s,mb4.5,baz=60,slow=8.2,SNR=5.8
FINES LR LR 21 04 58.9
comp=Z,107nm,18.1s,MS4.2,baz=160,slow=38
FINES FINESS Array B 75.67 330 P **P 20 28 45.5 +0.3**
FINES LR LR 21 04 58.9
FINES FINESS Array B 75.67 330 P **P 20 28 45.5 +0.3**
EGAK Eagle 75.95 26 *e*P **P 20 28 46.9 +0.1**
comp=Z,8.4nm,1.0s,mb4.6
BRTR Keskin Array B 76.11 307 P **P 20 28 47.6 -0.5**
comp=Z,0.9nm,0.6s,mb3.9,baz=131,slow=5.3,SNR=7.8
BRTR Keskin Array B 76.11 307 P **P 20 28 47.6 -0.5**
BRTR Keskin Array B 76.11 307 P **P 20 28 47.7 -0.5**
AKASG Malin Array Be 76.54 319 P **P 20 28 49.2 -1.2**
comp=Z,3.5nm,0.7s,mb4.4,baz=63,slow=5.9,SNR=12
AKASG Malin Array Be 76.54 319 P **P 20 28 49.2 -1.2**
AKASG Malin Array Be 76.54 319 P **P 20 28 49.2 -1.2**
DAWY Dawson 76.88 26 *e*P **P 20 28 52.4 +0.3**
EIL Elat 77.55 297 P **P 20 28 57.5 +1.0**
comp=Z,6.2nm,1.0s,mb4.5,baz=104,slow=6.7,SNR=3.5
EIL Elat 77.55 297 P **P 20 28 57.5 +1.0**
INK Inuvik 77.75 22 P **P 20 28 56.9 0.0**
comp=Z,6.7nm,1.0s,mb4.5,baz=301,slow=7.6,SNR=12
INK Inuvik 77.75 22 *e*P **P 20 28 56.3 -0.6**
comp=Z,16nm,1.4s,mb4.8
INK Inuvik 77.75 22 *e*P **P 20 28 56.3 -0.5**
INK pmax pmax
comp=Z,16nm,1.4s
SUW Suwalki 79.20 323 *e*P **P 20 29 04.5 -0.6**
comp=Z,37nm,0.9s,mb5.3
SUW Suwalki 79.20 323 *e*P **P 20 29 04.5 -0.6**
SUW pmax pmax
comp=Z,37nm,0.9s,mb5.3
TESR 79.29 316⇑ *i*P **P 20 29 05.5 -0.3**
VRI Vrincioaia 79.43 315⇑ *i*P **P 20 29 07.3 +0.8**
BURAR Bucovina Array 79.91 317⇓ *i*P **P 20 29 09.1 0.0**
BUR08 Bucovina Ar. S 79.91 317 *e*P **P 20 29 08.6 -0.5**
MLR Muntele Rosu 80.06 315 P **P 20 29 09.9 -0.1**
comp=Z,1.3nm,0.8s,mb3.9,baz=6.0,slow=0.8,SNR=9.7
MLR LR LR 21 08 04.9
comp=Z,28nm,19.8s,MS3.6,baz=272,slow=38
MLR Muntele Rosu 80.06 315 P **P 20 29 09.9 -0.1**
MLR LR LR 21 08 04.9
MLR Muntele Rosu 80.06 315 P **P 20 29 09.9 -0.1**
KWP Kalwaria Pacla 80.86 319⇓ *i*P **P 20 29 14.2 0.0**
HFS Hagfors 81.83 331 P **P 20 29 17.5 -1.6**
comp=Z,7.8nm,1.1s,mb4.5,baz=101,slow=6.2,SNR=4.7
HFS LR LR 21 10 21.0
comp=Z,108nm,18.1s,MS4.2,baz=251,slow=39
HFS Hagfors 81.83 331 P **P 20 29 17.5 -1.6**
HFS LR LR 21 10 21.0
HFS Hagfors 81.83 331 P **P 20 29 17.5 -1.6**
NB2 NORSAR Subarra 82.54 333 P **P 20 29 21.9 -0.9**
comp=Z,4.5nm,1.0s,mb4.5,baz=62,slow=5.3
NOA NORSAR Array B 82.54 333 P **P 20 29 22.0 -0.9**
comp=Z,1.7nm,0.9s,mb4.1,baz=63,slow=4.9,SNR=4.1
NOA LR LR 21 10 04.4
comp=Z,136nm,18.7s,MS4.3,baz=180,slow=38
NOA NORSAR Array B 82.54 333 P **P 20 29 22.0 -0.9**
NOA LR LR 21 10 04.4
NOA NORSAR Array B 82.54 333 P **P 20 29 22.0 -0.8**
VTS Vitosha 82.85 313⇓ *i*P **P 20 29 25.0 +0.2**
DLBC Dease Lake 83.15 30 P **P 20 29 28.1 +2.1**
comp=Z,3.7nm,0.8s,mb4.5,baz=10,slow=11,SNR=2.9
DLBC Dease Lake 83.15 30 P **P 20 29 28.1 +2.1**
RES Resolute Bay 83.47 9 P **P 20 29 28.0 +0.6**
comp=Z,9.1nm,0.8s,mb4.8,baz=300,slow=7.2,SNR=12
RES Resolute Bay 83.47 9 *e*P **P 20 29 27.7 +0.3**
comp=Z,17nm,1.1s,mb5.0
RES Resolute Bay 83.47 9 *e*P **P 20 29 27.7 +0.3**
RES pmax pmax
comp=Z,17nm,1.1s,mb5.0
MORC Moravsky Berou 83.94 321 *e*P **P 20 29 29.6 -0.7**
comp=Z,2.6nm,0.3s,mb4.8
MORC Moravsky Berou 83.94 321 *e*P **P 20 29 29.6 -0.7**
MORC pmax pmax
comp=Z,3.0nm,0.3s,mb4.9
KMBO Kilima Mbogo 84.65 267 *e*P **P 20 29 35.0 +0.4**
comp=Z,7.5nm,1.1s,mb4.7
KMBO Kilima Mbogo 84.65 267 *e*P **P 20 29 35.0 +0.5**
KMBO pmax pmax
comp=Z,7.0nm,1.1s
VRAC Vranov 84.70 320 LR LR 21 12 51.8
comp=Z,105nm,18.7s,MS4.2,baz=58,slow=40
BRG Berggiesshubel 85.61 323 *e*P **P 20 29 38.8 +0.1**
comp=Z,13nm,1.3s,mb5.0
BRG Berggiesshubel 85.61 323 *e*P **P 20 29 38.8 +0.2**
BRG pmax pmax
comp=Z,13nm,1.3s,mb5.0
CLL Collm 85.96 323 *e*P **P 20 29 33.0 -7.4**
GERES GERESS Array B 86.62 321 P **P 20 29 43.5 -0.2**
comp=Z,1.2nm,0.7s,mb4.2,baz=46,slow=5.8,SNR=10
GERES LR LR 21 10 54.3
comp=Z,82nm,18.5s,MS4.2,baz=294,slow=37
GERES GERESS Array B 86.62 321 P **P 20 29 43.5 -0.2**
GERES LR LR 21 10 54.3
GERES GERESS Array B 86.62 321 P **P 20 29 43.5 -0.2**
YKA Yellowknife Ar 87.46 23 P **P 20 29 47.7 +0.2**
comp=Z,7.9nm,0.7s,mb5.0,baz=308,slow=4.5,SNR=28
YKA Yellowknife Ar 87.46 23 P **P 20 29 47.7 +0.2**
YKA Yellowknife Ar 87.46 23 P **P 20 29 47.7 +0.2**
DAVOX Davos/Dischmat 89.85 320 P **P 20 29 59.3 +0.2**
comp=Z,1.9nm,0.7s,mb4.5,baz=70,slow=12,SNR=2.9
DAVOX LR LR 21 13 23.1
comp=Z,109nm,19.6s,MS4.3,baz=62,slow=38
DAVOX Davos/Dischmat 89.85 320 P **P 20 29 59.3 +0.2**
DAVOX LR LR 21 13 23.1
DAVOX Davos/Dischmat 89.85 320 P **P 20 29 59.3 +0.2**
PPT Papeete 94.96 107 LR LR 21 07 18.5
comp=Z,82nm,18.1s,MS4.2,baz=348,slow=32
VNDA Vanda 99.47 172 LR LR 21 16 27.5
comp=Z,35nm,21.5s,MS3.8,baz=327,slow=36
TORD Torodi Ar. Bea 112.26 294 PKiKP PKiKP 20 35 35.8 -1.0
comp=Z,0.5nm,0.9s,baz=333,slow=1.6,SNR=2.5
TORD Torodi Ar. Bea 112.26 294 PKPdf PKiKP 20 35 35.8 -1.0
TXAR Lajitas Array 115.12 43 PKP PKiKP 20 35 42.6 +0.6
comp=Z,0.6nm,0.7s,baz=270,slow=0.3,SNR=3.6
TXAR Lajitas Array 115.12 43 PKP PKiKP 20 35 42.5 +0.6
TXAR Lajitas Array 115.12 43 PKIKP PKiKP 20 35 42.6 +0.7
VNA2 Neumayer--Watz 120.25 197 *e* PKPdf 20 35 47.1 -3.3
baz=66,slow=1.2
VNA3 Neumayer Olymp 120.70 197 *e* PKPdf 20 35 47.9 -3.4
baz=66,slow=1.2

ISCJB ***14*** *20:19:37.8±0.3, 51.51N±0.02×16.14E±0.02, h0km, Error ellipse: s-maj=3.2km s-min=1.9km az=14.8*
NEIC ***14*** *20:19:38.7±0.4, 51.62N×16.12E, h5km, ML3.2(SZGRF), Error ellipse: s-maj=6.9km s-min=6.3km az=66.0*
IPEC ***14*** *20:19:39.8±0.2, 51.52N×16.21E, h1km±1km, ML2.7/3, Error ellipse: s-maj=1.5km s-min=0.6km az=38.0*
CSEM ***14*** *20:19:40.0±0.1, 51.51N×16.14E, h2km, ML3.6/5, Error ellipse: s-maj=3.4km s-min=2.1km az=15.0*
IDC ***14*** *20:19:40.5±0.7, 51.53N×16.00E, h0km, mb1 3.6/9, mb1mx3.4/28, mbtmp3.5/9, ML3.0/8, Error ellipse: s-maj=12.7km s-min=6.6km az=102.0*
WAR ***14*** *20:19:41.4, 51.48N×16.11E, ML2.9, Mining Induced*
BGR ***14*** *20:19:41.5±0.4, 51.48N×16.12E, h1km, ML3.2/12, Error ellipse: s-maj=5.6km s-min=2.2km az=18.0*
PRU ***14*** *20:19:41.7, 51.43N×16.10E, h0km*
VIE ***14*** *20:19:42.9±0.5, 51.27N×16.11E, h0km, mb2.6/5, ML3.2/5, Error ellipse: s-maj=3.4km s-min=2.8km az=166.0 66 km WNW of Wroclaw Suspected Mining induced.*

ISC 14 20:19:39.2±0.3, 51.53N±0.02×16.15E±0.02, h0km, n106, σ1s14/184, 5C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.69**	**173**	*e*Pg	**Pg**	**20 19 53.3**	**+0.8**
KSP				*e*Sg	**Sg**	**20 20 02.1**	**+0.7**
KSP	**Ksiaz**	**0.69**	**173**	*e*Pg	**Pg**	**20 19 53.3**	**+0.8**
KSP				*e*Sg	**Sg**	**20 20 01.3**	**-0.1**
KSP	**Ksiaz**	**0.69**	**173**	*i* Pg	**Pg**	**20 19 53.3**	**+0.8**
KSP				*e*Sg	**Sg**	**20 20 01.7**	**+0.3**
KSP				*e*L		20 20 05.0	
KSP	**Ksiaz**	**0.69**	**173**	*e*Pg	**Pg**	**20 19 53.2**	**+0.7**
baz=356							
KSP				Sg	**Sg**	**20 20 01.3**	**-0.1**
UPC	**Upice**	**1.03**	**185**	*e*PG	**Pg**	**20 19 59.3**	**+0.4**
UPC	**Upice**	**1.03**	**185**	*e*Pg	**Pg**	**20 19 59.3**	**+0.4**
baz=7.0							
DPC	**Dobruska-Polom**	**1.19**	**175**	*e*Pg	**Pg**	**20 20 02.2**	**+0.3**
DPC				*e*Sg	**Sg**	**20 20 19.4**	**+2.1**
DPC	**Dobruska-Polom**	**1.19**	**175**	*e*PG	**Pg**	**20 20 01.9**	**0.0**
DPC				*e*SG	**Sg**	**20 20 16.8**	**-0.4**
comp=Z,87nm,0.6s							
DPC	**Dobruska-Polom**	**1.19**	**175**	Pg	**Pg**	**20 20 02.2**	**+0.3**
DPC				*e*Sg	**Sg**	**20 20 16.8**	**-0.4**
baz=357							
PVCC	**Panska Ves**	**1.42**	**226**	*e*PG	**Pg**	**20 20 06.6**	**+0.3**
PVCC				*e*SG	**Sg**	**20 20 25.0**	**+0.3**
comp=Z,244nm,0.1s							
PVCC	**Panska Ves**	**1.42**	**226**	*e*Pn	**Pn**	**20 20 06.8**	**+0.6**
baz=46							
PVCC				*e*Sg	**Sg**	**20 20 25.7**	**+1.0**
baz=46							
BRG	**Berggiesshubel**	**1.54**	**246**	PN	**Pn**	**20 20 08.1**	**+0.3**
BRG				PG	**Pg**	**20 20 08.8**	**+0.1**
comp=Z,160nm,9.5s							
BRG	**Berggiesshubel**	**1.54**	**246**	*e*Pn	**Pn**	**20 20 08.7**	**+0.8**
BRG				*e*Sg	**Sg**	**20 20 29.0**	**+0.4**
BRG	**Berggiesshubel**	**1.54**	**246**	*e*Pn	**Pn**	**20 20 08.6**	**+0.8**
baz=65							
BRG				*e*Sg	**Sg**	**20 20 27.6**	**-1.0**
baz=65							
RUE	**Ruedersdorf**	**1.75**	**304**	*e*Pn	**Pn**	**20 20 09.5**	**-1.2**
RUE				*e*Sn	**Sn**	**20 20 34.0**	**+0.3**
RUE	**Ruedersdorf**	**1.75**	**304**	*e*Pn	**Pn**	**20 20 10.4**	**-0.4**
baz=122							
RUE				*e*Sn	**Sn**	**20 20 34.0**	**+0.3**
RUE				*e*Sg	**Sg**	**20 20 36.6**	**+1.2**
baz=122							
PRU	**Pruhonice**	**1.85**	**214**	*e*PG	**Pg**	**20 20 14.5**	**-0.2**
PRU				*e*SG	**Sg**	**20 20 39.2**	**+0.6**
comp=Z,83nm,0.5s							
PRU	**Pruhonice**	**1.85**	**214**	*e*Pn	**Pn**	**20 20 13.6**	**+1.4**
baz=34							
FBE	**Freiberg**	**1.86**	**252**	*e*Pn	**Pn**	**20 20 14.9**	**+2.6**
FBE				*e*Sg	**Sg**	**20 20 38.6**	**-0.4**
FBE	**Freiberg**	**1.86**	**252**	Pn	**Pn**	**20 20 14.9**	**+2.6**
FBE				Sg	**Sg**	**20 20 38.6**	**-0.4**
RAC	**Raciborz**	**1.94**	**137**	*e*Pg	**Pg**	**20 20 17.4**	**+1.0**
RAC				*e*Sg	**Sg**	**20 20 42.2**	**+0.6**
MORC	**Moravsky Berou**	**1.96**	**153**	*e*Pn	**Pn**	**20 20 13.7**	**0.0**
MORC				*e*S	**Sn**	**20 20 38.2**	**-0.8**
MORC	**Moravsky Berou**	**1.96**	**153**	*e*Pn	**Pn**	**20 20 14.1**	**+0.3**
MORC	**Moravsky Berou**	**1.96**	**153**	Pn	**Pn**	**20 20 14.1**	**+0.4**
MORC				*e*S	**Sn**	**20 20 38.2**	**-0.8**
MORC				*e*Sg	**Sg**	**20 20 39.2**	**-3.1**
comp=Z,58nm,0.4s,baz=335							
CLL	**Collm**	**1.98**	**265**	*e*Pn	**Pn**	**20 20 14.3**	**+0.3**
CLL	**Collm**	**1.98**	**265**	*e*Pn	**Pn**	**20 20 14.0**	**0.0**
CLL				*i* Pg	**Pg**	**20 20 17.0**	**-0.2**
CLL				*e*		20 20 20.0	
CLL				*i* Sg	**Sg**	**20 20 43.0**	**+0.1**
comp=Z,71nm,0.5s							
CLL	**Collm**	**1.98**	**265**	Pn	**Pn**	**20 20 14.3**	**+0.3**
CLL				*e*Sg	**Sg**	**20 20 42.6**	**-0.3**
baz=83							
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*PN	**Pn**	**20 20 15.3**	**-0.5**
OKC				*e*PG	**Pg**	**20 20 15.7**	**0.0**
OKC				*e*SG	**Sg**	**20 20 46.2**	**-0.9**
VRAC	**Vranov**	**2.24**	**173**	Pn	**Pn**	**20 20 18.1**	**+0.6**
comp=Z,1.8nm,0.3s,baz=348,slow=13,SNR=12							
VRAC				Lg		20 20 50.6	
comp=Z,8.1nm,0.3s,baz=263,slow=22,SNR=15							
VRAC	**Vranov**	**2.24**	**173**	Pn	**Pn**	**20 20 18.1**	**+0.6**
VRAC				Lg		20 20 50.6	
VRAC	**Vranov**	**2.24**	**173**	Pn	**Pn**	**20 20 18.1**	**+0.6**
VRAC				*e*Sg	**Sg**	**20 20 48.6**	**-2.6**
comp=Z,39nm,0.3s,baz=354							
VRAC				Lg		20 20 50.6	
TREC	**Trest**	**2.28**	**191**	*e*PG	**Pg**	**20 20 21.2**	**-1.6**
KRUC	**Moravsky**	**2.48**	**176**	*e*Pn	**Pn**	**20 20 21.5**	**+0.8**
baz=357							
KRUC				*e*Sg	**Sg**	**20 20 57.8**	**-0.9**
comp=Z,35nm,0.5s,baz=357							
OJC	**Ojcow**	**2.66**	**118**	*e*Pg	**Pg**	**20 20 30.9**	**+0.8**
OJC				*e*Sg	**Sg**	**20 21 06.2**	**+1.7**
OJC	**Ojcow**	**2.66**	**118**	*e*Pg	**Pg**	**20 20 30.9**	**+0.9**
OJC				*e*Sg	**Sg**	**20 21 06.2**	**+1.8**
OJC	**Ojcow**	**2.66**	**118**	Pg	**Pg**	**20 20 30.9**	**+0.8**
OJC				Sg	**Sg**	**20 21 06.2**	**+1.7**
WERD	**Werda**	**2.66**	**247**	*e*Pg	**Pg**	**20 20 30.3**	**+0.1**
WERD				*e*Sg	**Sg**	**20 21 05.4**	**+0.7**
WERD	**Werda**	**2.66**	**247**	Pg	**Pg**	**20 20 30.3**	**+0.1**
WERD				Sg	**Sg**	**20 21 05.4**	**+0.8**
NKC	**Novy Kostel**	**2.68**	**243**	*e*PN	**Pn**	**20 20 24.1**	**+0.5**
NKC				*e*PG	**Pg**	**20 20 29.8**	**-0.8**
NKC				*e*SG	**Sg**	**20 21 06.0**	**+0.7**
comp=Z,101nm,0.3s							
NKC	**Novy Kostel**	**2.68**	**243**	*e*Pn	**Pn**	**20 20 24.0**	**+0.4**
baz=60							
NKC				*e*Sg	**Sg**	**20 21 04.7**	**-0.6**
baz=60							
JAVC	**Velka Javorina**	**2.84**	**159**	*e*Pn	**Pn**	**20 20 27.7**	**+1.9**
baz=341							
KHC	**Kasperske Hory**	**2.91**	**215**	*e*Pn	**Pn**	**20 20 26.6**	**-0.2**
KHC				*e*Sn	**Sn**	**20 21 01.6**	**-0.8**
KHC				*e*Sg	**Sg**	**20 21 11.5**	**-1.2**
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN	**Pn**	**20 20 27.4**	**+0.7**
KHC				*e*PG	**Pg**	**20 20 33.1**	**-1.9**
KHC				*e*SN	**Sn**	**20 21 01.5**	**-0.9**
KHC				*e*SG	**Sg**	**20 21 11.3**	**-1.4**
comp=Z,40nm,0.6s							
KHC	**Kasperske Hory**	**2.91**	**215**	*e*Pn	**Pn**	**20 20 27.2**	**+0.5**
baz=34							
KHC				*e*Sn	**Sn**	**20 21 01.6**	**-0.8**
MOX	**Moxa**	**3.00**	**255**	*e*Pg	**Pg**	**20 20 36.8**	**+0.3**
MOX				*e*Sg	**Sg**	**20 21 15.5**	**+0.2**
MOX	**Moxa**	**3.00**	**255**	Pg	**Pg**	**20 20 36.8**	**+0.2**
MOX				Sg	**Sg**	**20 21 15.5**	**+0.1**
ROTZ	**Rotzenmuhle**	**3.07**	**236**	*e*Pn	**Pn**	**20 20 29.5**	**+0.7**
ROTZ	**Rotzenmuhle**	**3.07**	**236**	Pn	**Pn**	**20 20 29.5**	**+0.6**
GEC2	**GERESS Array S**	**3.12**	**211**	*e*Pn	**Pn**	**20 20 30.7**	**+1.2**
GEC2	**GERESS Array S**	**3.12**	**211**	Pn	**Pn**	**20 20 30.7**	**+1.2**
GERES	**GERESS Array B**	**3.12**	**211**	Pn	**Pn**	**20 20 30.3**	**+0.7**
comp=Z,1.7nm,0.3s,baz=30,slow=12,SNR=61							
GERES				Pg	**Pg**	**20 20 37.2**	**-1.7**
comp=Z,3.5nm,0.3s,baz=41,slow=16,SNR=35							
GERES				Sn	**Sn**	**20 21 03.8**	**-3.6**
comp=Z,2.2nm,0.3s,baz=28,slow=17,SNR=2.3							
GERES				Lg		20 21 16.1	
comp=Z,6.9nm,0.3s,baz=27,slow=24,SNR=13							
GERES	**GERESS Array B**	**3.12**	**211**	Pn	**Pn**	**20 20 30.3**	**+0.7**
GERES				Pg	**Pg**	**20 20 37.2**	**-1.7**
GERES				Sn	**Sn**	**20 21 03.8**	**-3.6**
GERES				Lg		20 21 16.1	
GERES	**GERESS Array B**	**3.12**	**211**	Pn	**Pn**	**20 20 30.3**	**+0.8**
SMOL	**Smolenice**	**3.13**	**164**	*e*SN	**Sg**	**20 21 17.0**	**-2.7**
WET	**Wettzell**	**3.18**	**223**	*e*Pn	**Pn**	**20 20 31.1**	**+0.7**
WET	**Wettzell**	**3.18**	**223**	Pn	**Pn**	**20 20 31.1**	**+0.7**
KOLL	**Kolacno**	**3.29**	**153**	*e*SN	**Sg**	**20 21 23.8**	**-1.0**
NIE	**Niedzica**	**3.40**	**127**	*e*P	**Pg**	**20 20 44.6**	**+0.4**
NIE				*e*S	**Sg**	**20 21 29.6**	**+1.4**
VYHS	**Vyhne**	**3.50**	**149**	*e*PN	**Pn**	**20 20 35.5**	**+0.7**
VYHS				*e*PG	**Pg**	**20 20 46.7**	**+0.5**
VYHS				*e*SN	**Sb**	**20 21 24.9**	**0.0**
VYHS	**Vyhne**	**3.50**	**149**	*e*Pn	**Pn**	**20 20 35.5**	**+0.7**
CONA	**Conrad Observa**	**3.61**	**183**⇓	*i*Pn	**Pn**	**20 20 37.1**	**+0.8**
CONA				⇓ *i*Sg	**Sg**	**20 21 34.3**	**-0.9**
comp=Z,52nm,0.7s							
CONA	**Conrad Observa**	**3.61**	**183**	Pn	**Pn**	**20 20 37.1**	**+0.8**
CONA				Sg	**Sg**	**20 21 34.3**	**-0.8**
comp=Z,52nm,0.7s							
CLZ	**Clausthal**	**3.61**	**277**	*e*Pn	**Pn**	**20 20 37.6**	**+1.2**
CLZ				*e*Sg	**Sg**	**20 21 35.1**	**0.0**
CLZ	**Clausthal**	**3.61**	**277**	Pn	**Pn**	**20 20 37.6**	**+1.3**
CLZ				Sg	**Sg**	**20 21 35.1**	**-0.1**
GRA1	**Grafenberg Arr**	**3.64**	**242**	Pn	**Pn**	**20 20 37.6**	**+0.9**
GRA1				Sg	**Sg**	**20 21 35.4**	**-0.7**
GRF	**Grafenberg Arr**	**3.64**	**242**	*e*Pn	**Pn**	**20 20 37.6**	**+0.9**
GRF				*e*Sg	**Sg**	**20 21 35.4**	**-0.7**
GRFO	**Grafenberg**	**3.64**	**242**	*e*Pn	**Pn**	**20 20 35.3**	**-3.4**
GRFO				*e*Sn	**Sn**	**20 21 23.4**	**+3.0**
GRFO				*e*Sg	**Sg**	**20 21 34.5**	**-1.6**
GRFO	**Grafenberg**	**3.64**	**242**	*e*Pn	**Pn**	**20 20 33.3**	**-3.5**
GRFO				*e*Sn	**Sn**	**20 21 23.4**	**+3.0**
BSD	**Bornholm Skovb**	**3.67**	**349**	*i* P	**Pn**	**20 20 37.0**	**-0.1**
MOA	**Molln**	**3.88**	**199**⇑	*i*Pn	**Pn**	**20 20 40.8**	**+0.8**
MOA				⇑ *i*Sg	**Sg**	**20 21 43.3**	**-0.6**
comp=Z,39nm,0.6s							
MOA	**Molln**	**3.88**	**199**	Pn	**Pn**	**20 20 40.8**	**+0.7**
MOA				Sg	**Sg**	**20 21 43.3**	**-0.5**
comp=Z,39nm,0.6s							
KECS	**Kecovo**	**4.14**	**136**	*e*SN	**Sg**	**20 21 50.2**	**-1.8**
CRVS	**Cervenica-Dubn**	**4.30**	**126**	*e*PN	**Pn**	**20 20 47.1**	**+1.2**
CRVS				*e*PG	**Pg**	**20 21 03.4**	**+1.7**
CRVS	**Cervenica-Dubn**	**4.30**	**126**	*e*Pn	**Pn**	**20 20 47.1**	**+1.2**
PSZ	**Piszkesteto**	**4.35**	**145**	*e*Pn	**Pn**	**20 20 45.9**	**-0.7**
PSZ	**Piszkesteto**	**4.35**	**145**	*e*Pn	**Pn**	**20 20 45.9**	**-0.6**
KWP	**Kalwaria Pacla**	**4.59**	**112**	*e*Pn	**Pn**	**20 20 49.5**	**-0.2**
KWP				*e*Pg	**Pg**	**20 21 04.8**	**-2.2**
KWP				*e*Sg	**Sg**	**20 22 10.1**	**+3.6**
KWP	**Kalwaria Pacla**	**4.59**	**112**⇑	*i*P	**Pg**	**20 21 05.1**	**-2.0**
KWP	**Kalwaria Pacla**	**4.59**	**112**	*e*Pn	**Pn**	**20 20 49.5**	**-0.3**
KOLS	**Kolonicke sedl**	**4.71**	**121**	*e*PN	**Pn**	**20 20 52.1**	**+0.7**
KOLS				*e*PG	**Pg**	**20 21 11.0**	**+1.6**
KOLS	**Kolonicke sedl**	**4.71**	**121**	*e*Pn	**Pn**	**20 20 52.1**	**+0.7**
KBA	**Koelnbreinsper**	**4.82**	**203**⇑	*i*Pn	**Pn**	**20 20 54.0**	**+1.1**
KBA				⇓ *i*Sg	**Sg**	**20 22 13.6**	**-0.3**
comp=Z,15nm,0.6s							
KBA	**Koelnbreinsper**	**4.82**	**203**	Pn	**Pn**	**20 20 54.0**	**+1.1**
KBA				Sg	**Sg**	**20 22 13.6**	**-0.3**
comp=Z,15nm,0.6s							
GROS	**Grobnik**	**5.09**	**185**	*i* Pn	**Pn**	**20 20 58.4**	**+1.7**
GROS				*i* Sn	**Sn**	**20 22 06.9**	**+11**
GROS	**Grobnik**	**5.09**	**185**	Pn	**Pn**	**20 20 58.4**	**+1.7**
DAVOX	**Davos/Dischmat**	**6.29**	**223**	Pn	**Pn**	**20 21 14.7**	**+1.7**
comp=Z,0.3nm,0.3s,baz=66,slow=12,SNR=2.7							
DAVOX				Lg		20 22 53.9	
comp=Z,0.4nm,0.3s,baz=196,slow=22,SNR=2.2							
DAVOX	**Davos/Dischmat**	**6.29**	**223**	Pn	**Pn**	**20 21 14.8**	**+1.7**
DAVOX				Lg		20 22 53.9	
DAVOX	**Davos/Dischmat**	**6.29**	**223**	Pn	**Pn**	**20 21 14.8**	**+1.7**
BUR08	**Bucovina Ar. S**	**7.05**	**120**	*e*Pn	**Pn**	**20 21 23.8**	**+0.2**
BUR08	**Bucovina Ar. S**	**7.05**	**120**	*e*Pn	**Pn**	**20 21 23.8**	**+0.2**
BURAR	**Bucovina Array**	**7.08**	**120**⇑	*i*P	**Pn**	**20 21 24.9**	**+1.0**
KIEV	**Kiev**	**8.26**	**91**	*e*Pn	**Pn**	**20 21 39.6**	**-0.5**
comp=Z,3.4nm,0.7s							
KIEV	**Kiev**	**8.26**	**91**	*e*Pn	**Pn**	**20 21 39.7**	**-0.5**
comp=Z,3.4nm,0.7s							
AKASG	**Malin Array Be**	**8.27**	**91**	Pn	**Pn**	**20 21 39.3**	**-1.0**
comp=Z,1.2nm,0.3s,baz=279,slow=12,SNR=9.8							
AKASG				Pg	**Pg**	**20 22 15.4**	**-2.1**
comp=Z,0.5nm,0.3s,baz=281,slow=15,SNR=5.5							
AKASG	**Malin Array Be**	**8.27**	**91**	Pn	**Pn**	**20 21 39.3**	**-1.0**
AKASG				Pg	**Pg**	**20 22 15.4**	**-2.1**
HFS	**Hagfors**	**8.73**	**352**	Pn	**Pn**	**20 21 45.1**	**-1.5**
comp=Z,0.2nm,0.3s,baz=173,slow=13,SNR=6.2							
HFS				Sn	**Sn**	**20 23 20.5**	**-5.2**
comp=Z,0.3nm,0.3s,baz=181,slow=27,SNR=5.3							
HFS	**Hagfors**	**8.73**	**352**	Pn	**Pn**	**20 21 45.

OTAV	**Otavalo**	**6.97**	**186**	*e*Pn	**Pn**	**20 43 46.3**	**-6.8**
	8.9nm,0.6s							
SDV	**Santo Domingo**	**7.18**	**76**	*e*Pn	**Pn**	**20 43 53.8**	**-2.2**
	14nm,0.5s							
SDV				*e*Sn	**Sn**	**20 45 16.3**	**+0.2**
SDDR	**Presa de Saban**	**13.25**	**27**	*e*Pn	**Pn**	**20 45 18.0**	**-0.2**
	28nm,1.3s							
TEIG	**Tepich**	**16.51**	**323**	LR	LR	20 52 16.3		
	comp=Z,72nm,19.9s,baz=309,slow=36							
CMIG	**Matias Romero**	**19.44**	**302**	LR	LR	20 53 53.5		
	comp=Z,51nm,19.8s,baz=303,slow=36							
LPAZ	**La Paz**	**25.20**	**158**	P	**P**	**20 47 30.4**	**-1.0**
	1.3nm,0.7s,mb3.5,baz=320,slow=14,SNR=4.0							
LPAZ				LR	LR	20 58 19.7		
	comp=Z,48nm,18.6s,baz=114,slow=38							
LPAZ	**La Paz**	**25.20**	**158**	*e*P	**P**	**20 47 29.6**	**-1.8**
	2.4nm,0.8s,mb3.7							
LPAZ				LR	LR	20 58 19.7		
TXAR	**Lajitas Array**	**32.89**	**315**	P	**P**	**20 48 38.9**	**-0.8**
	0.4nm,0.6s,mb3.4,baz=130,slow=7.8,SNR=6.7							
TXAR	**Lajitas Array**	**32.89**	**315**	P	**P**	**20 48 38.9**	**-0.8**
WMOK	**Wichita Mounta**	**33.57**	**328**	*e*P	**P**	**20 48 44.3**	**-1.3**
ANMO	**Albuquerque**	**38.22**	**320**	*e*P	**P**	**20 49 24.9**	**-0.4**
	1.6nm,0.7s,mb4.0							
PDAR	**Pinedale Array**	**45.17**	**327**	P	**P**	**20 50 22.4**	**+0.6**
	0.3nm,0.6s,mb3.2,baz=120,slow=8.8,SNR=3.6							
PDAR	**Pinedale Array**	**45.17**	**327**	P	**P**	**20 50 22.4**	**+0.6**
NVAR	**Mina Array Bea**	**48.02**	**317**	P	**P**	**20 50 44.9**	**+0.7**
	0.6nm,0.3s,mb3.9,baz=135,slow=7.4,SNR=3.8							
NVAR	**Mina Array Bea**	**48.02**	**317**	P	**P**	**20 50 44.9**	**+0.7**
YKA	**Yellowknife Ar**	**61.39**	**341**	P	**P**	**20 52 19.3**	**-1.1**
	0.7nm,0.7s,mb3.8,baz=123,slow=8.8,SNR=2.9							
YKA	**Yellowknife Ar**	**61.39**	**341**	P	**P**	**20 52 19.3**	**-1.1**
ESDC	**Sonseca Array**	**72.91**	**51**	P	**P**	**20 53 36.2**	**+2.5**
	0.4nm,0.5s,mb3.5,baz=258,slow=5.5,SNR=3.6							
ESDC	**Sonseca Array**	**72.91**	**51**	P	**P**	**20 53 36.2**	**+2.5**
ILAR	**Eielson Array**	**74.70**	**335**	P	**P**	**20 53 43.9**	**+0.2**
	0.5nm,0.9s,mb3.2,baz=123,slow=4.7,SNR=7.7							
ILAR	**Eielson Array**	**74.70**	**335**	P	**P**	**20 53 43.9**	**+0.2**
TORD	**Torodi Ar. Bea**	**78.10**	**78**	P	**P**	**20 54 05.3**	**+1.3**
	0.4nm,0.4s,mb3.5,baz=286,slow=6.5,SNR=4.5							
TORD	**Torodi Ar. Bea**	**78.10**	**78**	P	**P**	**20 54 05.3**	**+1.3**
ASAR	**Alice Springs**	**145.56**	**238**	PKPbc	PKPbc	21 01 42.0	-1.1
	0.7nm,0.5s,baz=108,slow=3.8,SNR=10							
ASAR	**Alice Springs**	**145.56**	**238**	PKPbc	PKPbc	21 01 42.0	-1.1
WRA	**Warramunga Arr**	**146.47**	**245**	PKPbc	PKPbc	21 01 42.5	-3.4
	0.4nm,0.8s,baz=100,slow=3.9,SNR=4.8							
WRA	**Warramunga Arr**	**146.47**	**245**	PKPbc	PKPbc	21 01 42.5	-3.4
CMAR	**Chiang Mai Arr**	**154.27**	**7**	PKPbc	PKPbc	21 02 05.5	+0.7
	0.4nm,0.6s,baz=354,slow=3.6,SNR=3.3							
CMAR	**Chiang Mai Arr**	**154.27**	**7**	PKPbc	PKPbc	21 02 05.5	+0.7

NEIC 14 20:44:07.2,54°21N×162°53W,h4km,ML3.1(AEIC),**After AEIC.,Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**0.83**	**322**	P	Pg	20 44 23.0	-0.1
FALS				S	Sg	20 44 34.8	+1.0
SDPT	**Sand Point**	**1.65**	**45**	P	Pn	20 44 34.7	-2.2
SDPT				S	Sn	20 44 56.0	-2.4
AKUT	**Akutan**	**1.91**	**269**	*e*Pn	Pn	20 44 37.8	-2.6
AKUT				*e*Sn	Sn	20 45 04.7	-0.1
UNV	**Unalaska Valle**	**2.37**	**263**	P	Pn	20 44 44.5	-2.3
CHGN	**Chignik**	**3.15**	**47**	*e*Pn	Pn	20 44 58.0	+0.5
CHGN				*e*Sn	Sn	20 45 36.6	+1.1

NEIC 14 21:04:31.6, 19°.02N×66°.24W, h25km, MD3.1(RSPR), After RSPR.

RSPR 14 21:04:31.6,19°.02N×66°.24W,h25km±29km,**MD3.1**/3, **11C-8D,Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**0.83**	**154**	*e*P	Pb	21 04 46.4	-1.0
CBYP	**Canovanas**	**0.83**	**154**	*e*S	Sb	21 05 02.9	+4.8
CBYP	**Canovanas**	**0.83**	**154**	*e*P	Pb	21 04 45.7	-1.7
CBYP	**Canovanas**	**0.83**	**154**	*e*P	Pb	21 04 46.1	-1.3
CBYP				*e*S	Sb	21 05 01.6	+3.5
CBYP	**Canovanas**	**0.83**	**154**	*e*P	Pb	21 04 45.7	-1.7
CBYP				*e*S	Sb	21 04 56.0	-2.1
AOPR	**Arecibo Observ**	**0.83**	**216**	*e*P	Pb	21 04 44.5	-2.9
AOPR	**Arecibo Observ**	**0.83**	**216**	*e*P	Pb	21 04 44.6	-2.8
AOPR	**Arecibo Observ**	**0.83**	**216**	*e*P	Pb	21 04 44.5	-2.9
AOPR				*e*S	Sb	21 05 00.2	+2.0
AOPR	**Arecibo Observ**	**0.83**	**216**	*e*P	Pb	21 04 44.6	-2.8
HUMP	**Col San Antoni**	**0.95**	**157**	*e*P	Pn	21 04 47.5	-1.8
HUMP	**Col San Antoni**	**0.95**	**157**	*e*P	Pn	21 04 47.5	-1.9
HUMP	**Col San Antoni**	**0.95**	**157**	*e*S	Sb	21 04 58.8	-2.8
HUMP	**Col San Antoni**	**0.95**	**157**	*e*P	Pn	21 04 47.5	-1.8
HUMP				*e*S	Sb	21 05 02.9	+1.3
HUMP	**Col San Antoni**	**0.95**	**157**	*e*P	Pn	21 04 47.5	-1.9
HUMP				*e*S	Sb	21 04 58.8	-2.8
CELP	**Cerrillos**	**1.00**	**199**	*e*P	Pn	21 04 47.9	-2.1
CELP				*e*S	Sb	21 05 00.8	-2.1
CELP	**Cerrillos**	**1.00**	**199**	*e*P	Pn	21 04 46.4	-3.5
CELP				*e*S	Sb	21 05 01.8	-1.1
CELP	**Cerrillos**	**1.00**	**199**	*e*P	Pn	21 04 47.9	-2.1
CELP				*e*S	Sb	21 05 00.8	-2.1
MTP	**Monte Pirata**	**1.12**	**145**	*e*P	Pn	21 04 49.8	-2.0
MTP	**Monte Pirata**	**1.12**	**145**	*e*P	Pn	21 04 49.8	-1.9
MTP	**Monte Pirata**	**1.12**	**145**	*e*S	Sn	21 05 03.3	-3.1
MTP	**Monte Pirata**	**1.12**	**145**	*e*P	Pn	21 04 49.8	-2.0
MTP				*e*S	Sn	21 05 07.1	+0.7
MTP	**Monte Pirata**	**1.12**	**145**	*e*P	Pn	21 04 49.8	-1.9
MTP				*e*S	Sn	21 05 03.3	-3.1
LSP	**Las Mesas**	**1.17**	**224**	*e*P	Pn	21 04 49.7	-2.6
LSP				*e*S	Sn	21 05 04.6	-2.8
LSP	**Las Mesas**	**1.17**	**224**	*e*P	Pn	21 04 48.3	-4.0
LSP	**Las Mesas**	**1.17**	**224**	*e*P	Pn	21 04 49.7	-2.6
LSP				*e*S	Sn	21 05 04.6	-2.8
CRPR	**Cabo Rojo, PR**	**1.31**	**220**	*e*P	Pn	21 04 52.2	-2.0
CRPR				*e*S	Sn	21 05 12.4	+1.5

IDC 14 21:14:03.2±2.1, 7°.27S×128°.49E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.4/17, mbtmp3.6/4, ML4.0/2, Error ellipse: s-maj=240.1km s-min=28.7km az=64.0
ISCJB 14 21:14:05.6±1.3, 7°.26S±0°.10×128°.8E±0°.2, h33km, mb3.4/2, Error ellipse: s-maj=25.8km s-min=13.6km az=3.1
NEIC 14 21:14:06.5±1.3, 6°.90S×129°.62E, h35km, Error ellipse: s-maj=35.7km s-min=14.8km az=70.0
AUST 14 21:15:15.0, 12°.60S×129°.80E, h0km, ML2.8

ISC 14 21:14:07.9±1.3,**7°.21S**±0°.09×**128°.9E**±0°.2,**h35**km,**n10, σ0°.92/11,mb3.4/2,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.28**	**196**	*e*P	**Pn**	**21 16 52.4**	**+5.8**
FITZ				*e*S	**Sn**	**21 18 51.6**	**+0.1**
WRA	**Warramunga Arr**	**13.71**	**158**	P	**Pn**	**21 17 19.3**	**-0.7**
	1.0nm,0.3s,baz=337,slow=14,SNR=20						
WRA				Sn	Sx	21 19 40.9	
	0.9nm,0.3s,baz=331,slow=23,SNR=11						
WRA	**Warramunga Arr**	**13.71**	**158**	P	**Pn**	**21 17 19.3**	**-0.7**
WRA				Sn	Sx	21 19 40.9	
WB2	**Warramunga Arr**	**13.72**	**158**	*e*P	**Pn**	**21 17 19.6**	**-0.4**
WB2				*e*S	Sx	21 19 39.3	
ASAR	**Alice Springs**	**17.05**	**164**	P	**Pn**	**21 18 03.2**	**-0.5**
	0.4nm,0.3s,baz=342,slow=14,SNR=11						
ASAR				S	Sx	21 21 03.1	
	0.2nm,0.3s,baz=188,slow=31,SNR=3.0						
ASAR	**Alice Springs**	**17.05**	**164**	P	**Pn**	**21 18 03.2**	**-0.5**
ASAR				S	Sx	21 21 03.1	
STKA	**Stephens Creek**	**27.25**	**156**	P	**P**	**21 19 51.1**	**+2.2**
	0.8nm,0.4s,mb3.6,baz=344,slow=7.4,SNR=3.2						
STKA	**Stephens Creek**	**27.25**	**156**	P	**P**	**21 19 51.1**	**+2.2**
MKAR	**Makanchi Array**	**67.80**	**327**	P	**P**	**21 25 01.9**	**-0.3**
	0.1nm,0.4s,mb3.2,baz=120,slow=5.2,SNR=3.1						
MKAR	**Makanchi Array**	**67.80**	**327**	P	**P**	**21 25 01.9**	**-0.4**

DJA 14 21:28:33,7°.46S×106°.38E,h24km,MLv3.5/5,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**0.48**	**21**	P	Pb	21 28 43.9	+1.0
DBJI	**Dramaga**	**0.97**	**22**	P	Pn	21 28 50.9	-0.3
DBJI				S	Sb	21 29 04.7	+1.1
CGJI	**Cibinong**	**1.08**	**321**	P	Pn	21 28 52.6	-0.1
SBJI	**Serang**	**1.35**	**349**	P	Pn	21 28 55.8	-0.6
LEM	**Lembang**	**1.38**	**63**	P	Pn	21 28 59.1	+2.3
CISI	**Cisompet, Garu**	**1.43**	**94**	P	Pn	21 28 57.4	0.0
CISI				S	Sn	21 29 15.4	0.0

DDA 14 21:32:00.7, 40°.83N×31°.92E, h13km±3km, Md3.2
CSEM 14 21:32:01.9±0.1, 40°.80N×31°.94E, h5km, MD3.3, Error ellipse: s-maj=3.7km s-min=2.5km az=174.0
ISK 14 21:32:01.2, 40°.79N×31°.94E, h5km, MD3.3
ISCJB 14 21:32:02.3±0.3, 40°.81N±0°.03×31°.92E±0°.03, h10km, Error ellipse: s-maj=3.9km s-min=2.8km az=179.0

ISC 14 21:32:01.9±0.5,**40°.80N**±0°.03×**31°.93E**±0°.03,**h1**km±4km, **n67,σ0°.77/94,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDZE	**Karadeniz Ereo**	**0.63**	**325**	*e*Pg	**Pg**	**21 32 13.9**	**-0.1**
KDZE				*e*SG	**Sg**	**21 32 23.4**	**+1.3**
KDZE	**Karadeniz Ereo**	**0.63**	**325**	*e*Pg	**Pg**	**21 32 13.9**	**-0.1**
KDZE				*e*Sg	**Sg**	**21 32 23.4**	**+1.2**
MDU	**Mudurnu**	**0.64**	**239**	*e*PG	**Pg**	**21 32 14.0**	**-0.1**
MDU				*e*SG	**Sg**	**21 32 23.3**	**+0.9**
MDU	**Mudurnu**	**0.64**	**239**	*e*Pg	**Pg**	**21 32 14.0**	**-0.1**
MDU				*e*Sg	**Sg**	**21 32 23.3**	**+0.9**
SAFT	**Safranbolu**	**0.72**	**52**	*e*PG	**Pg**	**21 32 15.6**	**-0.2**
SAFT	**Safranbolu**	**0.72**	**52**	*e*Pg	**Pg**	**21 32 15.6**	**-0.2**
LOD	**Lodumlu**	**1.11**	**145**	*e*PN	**Pg**	**21 32 22.2**	**-1.0**
LOD				*e*SN	**Sg**	**21 32 38.1**	**+0.4**
LOD	**Lodumlu**	**1.11**	**145**	*e*Pn	**Pg**	**21 32 22.2**	**-1.0**
LOD				*e*Sn	**Sg**	**21 32 38.1**	**+0.4**
GULT	**Gulveren**	**1.14**	**252**	*e*PN	**Pg**	**21 32 23.6**	**-0.2**
GULT	**Gulveren**	**1.14**	**252**	*e*Pn	**Pg**	**21 32 23.6**	**-0.1**
ELDT	**Eldivan**	**1.18**	**105**	*i*P	**Pg**	**21 32 24.0**	**-0.6**
ELDT				*i*S	**Sg**	**21 32 40.9**	**+1.0**
ELDT	**Eldivan**	**1.18**	**105**	*i*P	**Pg**	**21 32 24.0**	**-0.6**
ELDT				*i*S	**Sg**	**21 32 40.9**	**+1.0**
CANT	**Cankiri**	**1.30**	**98**	*e*PN	**Pn**	**21 32 26.5**	**-0.7**
BALT	**Daday**	**1.32**	**56**	*i*P	**Pg**	**21 32 25.5**	**-1.8**
BALT				*i*S	**Sg**	**21 32 43.4**	**-1.1**
BALT	**Daday**	**1.32**	**56**	*i*P	**Pg**	**21 32 26.2**	**-1.1**
BALT				*i*S	**Sg**	**21 32 45.0**	**+0.6**
BALT	**Daday**	**1.32**	**56**	*i*P	**Pg**	**21 32 26.2**	**-1.1**
BALT				*i*S	**Sg**	**21 32 45.0**	**+0.6**
GPA	**Golpazari**	**1.33**	**248**	*e*PN	**Pn**	**21 32 27.1**	**-0.6**
GPA	**Golpazari**	**1.33**	**248**	*e*Pn	**Pn**	**21 32 27.1**	**-0.6**
ILGA	**Ilgaz**	**1.38**	**79**	*i*P	**Pn**	**21 32 28.2**	**-0.1**
ILGA				*i*S	**Sg**	**21 32 48.5**	**+2.3**
ILGA	**Ilgaz**	**1.38**	**79**	*i*P	**Pn**	**21 32 28.9**	**+0.6**
ILGA				*i*S	**Sg**	**21 32 49.6**	**+3.4**
ILGA	**Ilgaz**	**1.38**	**79**	*i*P	**Pn**	**21 32 28.2**	**-0.1**
ILGA				*i*S	**Sg**	**21 32 48.5**	**+2.3**
SVRH	**Sivrihisar-ESK**	**1.39**	**193**	*e*PN	**Pn**	**21 32 27.7**	**-0.7**
SVRH	**Sivrihisar-ESK**	**1.39**	**193**	*e*Pn	**Pn**	**21 32 27.7**	**-0.7**
BORA	**Eskisehir**	**1.46**	**231**	*i*P	**Pn**	**21 32 28.8**	**-0.6**
BORA				*i*S	**Sg**	**21 32 49.1**	**+0.4**
BORA	**Eskisehir**	**1.46**	**231**	*i*P	**Pn**	**21 32 28.8**	**-0.5**
BORA				*i*S	**Sg**	**21 32 49.1**	**+0.5**
ESKT	**Eskisehir**	**1.52**	**213**	*e*PN	**Pn**	**21 32 29.9**	**-0.4**
ESKT	**Eskisehir**	**1.52**	**213**	*i*P	**Pn**	**21 32 26.0**	**-4.3**
ESKT				*i*S	**Sn**	**21 32 51.3**	**+0.6**
ESKT	**Eskisehir**	**1.52**	**213**	*e*Pn	**Pn**	**21 32 29.9**	**-0.4**
SEYT	**Eskypehyr**	**1.52**	**213**	*i*P	**Pn**	**21 32 26.0**	**-4.3**
SEYT				*i*S	**Sn**	**21 32 51.3**	**+0.6**
BBAL	**Bala**	**1.56**	**144**	*i*P	**Pn**	**21 32 30.3**	**-0.4**
BBAL				*i*S	**Sn**	**21 32 52.2**	**+0.7**
BBAL	**Bala**	**1.56**	**144**	*i*P	**Pn**	**21 32 31.4**	**+0.7**
BBAL				*i*S	**Sn**	**21 32 53.6**	**+2.1**
BBAL	**Bala**	**1.56**	**144**	*i*P	**Pn**	**21 32 30.3**	**-0.4**
BBAL				*i*S	**Sn**	**21 32 52.2**	**+0.7**
AFSR	**Af˙ar-Bala (A**	**1.61**	**147**	*e*PN	**Pn**	**21 32 31.4**	**-0.1**
AFSR	**Af˙ar-Bala (A**	**1.61**	**147**	*e*Pn	**Pn**	**21 32 31.4**	**-0.1**
ADVT	**Abdulvahap**	**1.71**	**258**	*e*PN	**Pn**	**21 32 32.5**	**-0.3**
ADVT	**Abdulvahap**	**1.71**	**258**	*e*Pn	**Pn**	**21 32 32.5**	**-0.3**
HRT	**Hereke**	**1.71**	**271**	*e*PN	**Pn**	**21 32 32.5**	**-0.4**
HRT	**Hereke**	**1.71**	**271**	*e*Pn	**Pn**	**21 32 32.5**	**-0.4**
SILT	**Sile**	**1.77**	**282**	*e*PN	**Pn**	**21 32 33.0**	**-0.6**
SILT	**Sile**	**1.77**	**282**	*e*Pn	**Pn**	**21 32 33.0**	**-0.6**
KIZT	**Kizilcal**	**1.92**	**181**	*e*PN	**Pn**	**21 32 35.2**	**-0.5**
KIZT	**Kizilcal**	**1.92**	**181**	*e*Pn	**Pn**	**21 32 35.2**	**-0.5**
BZK	**Bozkurt**	**1.94**	**53**	*e*PN	**Pn**	**21 32 35.7**	**-0.4**
BZK	**Bozkurt**	**1.94**	**53**	*e*Pn	**Pn**	**21 32 35.7**	**-0.4**
GEMT	**Gemlik**	**2.12**	**261**	*e*PN	**Pn**	**21 32 38.2**	**-0.2**
GEMT	**Gemlik**	**2.12**	**261**	*e*Pn	**Pn**	**21 32 38.2**	**-0.2**
BUY	**Buyukada**	**2.13**	**272**	*i*P	**Pn**	**21 32 37.7**	**-0.9**
BUY				*i*S	**Sn**	**21 33 07.7**	**+2.0**
BUY	**Buyukada**	**2.13**	**272**	*i*P	**Pn**	**21 32 37.7**	**-0.9**
BUY				*i*S	**Sn**	**21 33 07.7**	**+2.0**
CORM	**Corum**	**2.15**	**106**	*e*PN	**Pn**	**21 32 38.8**	**-0.1**
CORM	**Corum**	**2.15**	**106**	*e*Pn	**Pn**	**21 32 38.8**	**-0.1**
CDAG	**Cicekdag**	**2.21**	**121**	*i*P	**Pn**	**21 32 41.1**	**+1.4**
CDAG				*i*S	**Sn**	**21 33 11.5**	**+3.8**
CDAG	**Cicekdag**	**2.21**	**121**	*i*P	**Pn**	**21 32 41.1**	**+1.4**
CDAG				*i*S	**Sn**	**21 33 11.5**	**+3.8**
BOLV	**Bolvadin**	**2.21**	**200**	*i*P	**Pn**	**21 32 39.7**	**-0.1**
BOLV	**Bolvadin**	**2.21**	**200**	*i*P	**Pn**	**21 32 39.7**	**0.0**
KDHN	**Kadinhani**	**2.28**	**176**	*i*P	**Pn**	**21 32 39.8**	**-0.9**
KDHN				*i*S	**Sn**	**21 33 14.4**	**+5.0**
KDHN	**Kadinhani**	**2.28**	**176**	*i*P	**Pn**	**21 32 39.8**	**-0.9**
ARMT	**Armutlu**	**2.34**	**265**	*e*PN	**Pn**	**21 32 41.5**	**0.0**
ARMT	**Armutlu**	**2.34**	**265**	*e*Pn	**Pn**	**21 32 41.5**	**0.0**
CTKS	**Kestanelik-??a**	**2.62**	**281**	*e*PN	**Pn**	**21 32 45.5**	**+0.1**
CTKS	**Kestanelik-??a**	**2.62**	**281**	*e*Pn	**Pn**	**21 32 45.5**	**+0.1**
DST	**Dursunbey**	**2.80**	**246**	*e*PN	**Pn**	**21 32 48.1**	**+0.3**
DST	**Dursunbey**	**2.80**	**246**	*e*Pn	**Pn**	**21 32 48.1**	**+0.3**
YOZ	**Yozgat**	**2.84**	**113**	*e*PN	**Pn**	**21 32 48.8**	**+0.4**
YOZ	**Yozgat**	**2.84**	**113**	*e*Pn	**Pn**	**21 32 48.8**	**+0.4**
DURS	**Dursunbey**	**2.90**	**247**	*i*P	**Pn**	**21 32 49.2**	**-0.1**
DURS	**Dursunbey**	**2.90**	**247**	*i*P	**Pn**	**21 32 49.2**	**0.0**
AVNT	**Avonos**	**3.03**	**131**	*i*P	**Pb**	**21 32 55.9**	**-0.7**
AVNT				*i*S	**Sg**	**21 33 39.1**	**0.0**

BJI 14 22:07:45.4, 4°.44S×100°.62E, h10km, mB5.0/24, mb4.7/38, Ms4.5/25, Ms7 4.2/25
ISCJB 14 22:07:49.1±1.0, 3°.91S±0°.04×100°.39E±0°.04, h2km±6km, mb4.6/55, MS3.8/15, Error ellipse: s-maj=7.3km s-min=4.4km az=44.4
MOS 14 22:07:54.6±0.9, 3°.55S×100°.70E, h30km, mb4.9/17, Error ellipse: s-maj=16.7km s-min=7.5km az=109.0
IDC 14 22:07:55.9±0.8, 3°.57S×100°.72E, h25km±3km, mb4.1/15, mb1 4.3/17, mb1mx4.1/28, mbtmp4.1/17, ML3.7/2, MS3.5/8, Ms1 3.5/8, ms1mx3.1/35, Error ellipse: s-maj=24.1km s-min=11.1km az=48.0
DJA 14 22:07:55, 3°.84S×100°.42E, h95km, MLv4.8/18
NEIC 14 22:07:56.6±0.4, 3°.66S×100°.68E, h35km, mb4.6/12, Error ellipse: s-maj=13.7km s-min=6.4km az=50.0

ISC 14 22:07:51.6±1.1,**3°.88S**±0°.04×**100°.45E**±0°.04,**h4**km±7km, **h24**km±2.4km:**pP-P,n167,**σ1**29/**173,**mb4.6/**55,**MS3.8/**15, **3C-1D,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRJI	**Kerinci**	**2.05**	**30**	P	**Pn**	**22 08 30.1**	**+3.3**
KRJI				S	**Sn**	**22 08 55.2**	**+2.4**
KRJI	**Kerinci**	**2.05**	**30**	P	**Pn**	**22 08 30.8**	**+4.0**
	5µm,0.9s						
KSI	**Kapahiang**	**2.15**	**84**	P	**Pn**	**22 08 27.5**	**-0.7**
KSI				S	**Sn**	**22 08 59.0**	**+3.6**
KSI	**Kapahiang**	**2.15**	**84**	P	**Pn**	**22 08 27.0**	**-1.2**
MNAI	**Manna**	**2.54**	**101**	P	**Pn**	**22 08 34.9**	**+1.3**
MNAI	**Manna**	**2.54**	**101**	P	**Pn**	**22 08 34.8**	**+1.2**
	906nm,0.7s						
SISI	**Saibi**	**2.88**	**332**	P	**Pn**	**22 08 40.2**	**+1.9**
SISI				S	**Sn**	**22 09 12.6**	**-0.8**
PDSI	**Padang**	**2.95**	**0**	P	**Pn**	**22 08 37.6**	**-1.6**
PDSI				S	**Sn**	**22 09 16.9**	**+1.8**
PDSI	**Padang**	**2.95**	**0**	P	**Pn**	**22 08 37.7**	**-1.5**
SDSI	**Sungai Dareh**	**3.09**	**18**	P	**Pn**	**22 08 39.9**	**-1.2**
SDSI				S	**Sn**	**22 09 19.5**	**+1.0**
SDSI	**Sungai Dareh**	**3.09**	**18**	P	**Pn**	**22 08 39.8**	**-1.3**
	5µm397nm,0.9s						
PPI	**Padang Panjang**	**3.40**	**359**	P	**Pn**	**22 08 44.7**	**-0.8**
PPI				S	**Sn**	**22 09 23.3**	**-3.0**
MDSI	**Maura Dua**	**3.77**	**99**	P	**Pn**	**22 08 51.5**	**+1.0**
MDSI	**Maura Dua**	**3.77**	**99**	P	**Pn**	**22 08 51.5**	**+1.0**
	2µm152nm,1.0s						
LWLI	**Liwa**	**3.77**	**108**	P	**Pn**	**22 08 51.8**	**+1.3**
LWLI				S	**Sn**	**22 09 36.1**	**+0.7**

RGRI	**Rengat**	**3.98**	**28**	P	**Pn**	**22 08 54.4**	**+1.0**
BKNI	**Bangkinang**	**4.22**	**8**	P	**Pn**	**22 09 04.2**	**+7.5**
KLSI		**4.34**	**101**	P	**Pn**	**22 09 00.2**	**+1.8**
KLSI				S	**Sn**	**22 09 47.6**	**-1.9**
KLSI		**4.34**	**101**	P	**Pn**	**22 09 00.2**	**+1.8**
MNSI	**Mandailing Nat**	**4.73**	**349**	P	**Pn**	**22 09 03.4**	**-0.3**
CGJI	**Cibinong**	**5.88**	**118**	P	**Pn**	**22 09 19.5**	**-0.1**
	1µm81nm,0.9s						
PPBI	**Pangkal Pinang**	**5.93**	**73**	P	**Pn**	**22 09 20.4**	**+0.2**
	0.1nm2µm23nm,1.1s						
MYKOM	**Kota Tinggi**	**6.58**	**31**	P	**Pn**	**22 09 30.1**	**+0.9**
	0.3nm37nm,0.9s						
PSI	**Prapat**	**6.81**	**347**	Pn	**Pn**	**22 09 28.5**	**-3.9**
	0.6nm,0.3s,baz=174,slow=9.2,SNR=6.3						
PSI				LR	LR	22 12 47.4	
	comp=Z,609nm,19.5s,baz=143,slow=45						
PSI	**Prapat**	**6.81**	**347**	Pn	**Pn**	**22 09 28.5**	**-3.9**
PSI				LR	LR	22 12 47.4	
PSI	**Prapat**	**6.81**	**347**	P	**Pn**	**22 09 28.5**	**-3.8**
DBJI	**Dramaga**	**6.81**	**113**	P	Px	22 09 44.7	
LEM	**Lembang**	**7.71**	**113**	P	**Pn**	**22 09 48.5**	**+3.8**
TPTI		**7.81**	**335**	P	**Pn**	**22 09 47.9**	**+1.8**
	1.3nm19nm,0.7s						
CISI	**Cisompet, Garu**	**8.19**	**117**	P	**Pn**	**22 09 50.8**	**-0.4**
KULM	**Kulim**	**9.11**	**1**	P	**Pn**	**22 10 04.4**	**+0.4**
KULM	**Kulim**	**9.11**	**1**	*e*P	**Pn**	**22 10 03.8**	**-0.2**
SJI	**Sawahan**	**11.89**	**109**	P	**Pn**	**22 10 51.4**	**+9.4**
SBUM	**Sibu**	**13.34**	**62**	P	**Pn**	**22 11 05.9**	**+4.0**
BBKI	**Banjar Baru**	**14.37**	**89**	P	**Pn**	**22 11 22.4**	**+6.5**
KBKI	**Kotabaru**	**15.70**	**88**	P	sP	22 11 46.0	+6.4
KKM	**Kota Kinabalu**	**18.58**	**58**	*e*Pn	**Pn**	**22 12 07.9**	**-2.1**
	16nm,0.9s						
KKM	**Kota Kinabalu**	**18.58**	**58**	P	**Pn**	**22 12 14.9**	**+5.0**
TSM	**Tawau**	**19.21**	**65**	P	**Pn**	**22 12 15.8**	**-1.9**
SDKM	**Sandakan**	**19.21**	**61**	P	**Pn**	**22 12 16.6**	**-1.1**
KAPI	**Kappang**	**19.28**	**94**	P	**Pn**	**22 12 15.9**	**-2.6**
	0.6nm,0.3s,baz=279,slow=13,SNR=4.6						
KAPI	**Kappang**	**19.28**	**94**	*e*P	**Pn**	**22 12 16.4**	**-2.1**
	19nm,1.0s						
KAPI	**Kappang**	**19.28**	**94**	P	Px	22 12 32.2	
KDM	**Kudat**	**19.56**	**57**	P	**Pn**	**22 12 20.0**	**-1.8**
BKSI	**Bulukumba**	**19.66**	**95**	P	**Pn**	**22 12 21.6**	**-1.5**
MYLDM	**Lahad Datu**	**20.15**	**64**	P	**P**	**22 12 28.2**	**+1.1**
MYLDM	**Lahad Datu**	**20.15**	**64**	P	Px	22 12 42.7	
KDI	**Kendari**	**22.12**	**91**	P	**P**	**22 12 52.9**	**+4.6**
CM31	**Chiang Mai Arr**	**22.25**	**356**	*e*P	**P**	**22 12 49.5**	**-0.1**
	9.2nm,0.9s,mb4.2						
CMAR	**Chiang Mai Arr**	**22.25

LZH				sS	sS	22 21 41.3	+7.2		
LZH				pmax	pmax				
	comp=Z,22nm,1.0s,mb4.8								
LZH				pmax	pmax				
	comp=Z,130nm,4.1s								
LZH				LR	LR				
	comp=N,350nm,16.2s,MS4.4								
LZH				LR	LR				
	comp=E,260nm,13.0s,MS4.4								
LZH				LR	LR				
	comp=Z,500nm,17.4s,MS4.4								
GTA	**Gaotai**	**43.08**	**359**	⇑P	**P**	**22 15 52.3**	**-0.4**		
GTA				pP	pP	22 15 56.5	+2.5		
GTA				sP	sP	22 15 59.0	+4.4		
GTA				PP	PP	22 17 34.8	+2.0		
GTA				S	**S**	**22 22 18.3**	**-1.0**		
GTA				SS	SS	22 25 23.6	-8.2		
GTA				pmax	pmax				
	comp=Z,7.0nm,1.1s,mb4.3								
GTA				pmax	pmax				
	comp=Z,67nm,5.7s								
GTA				LR	LR				
	comp=N,80nm,17.1s,MS4.0								
GTA				LR	LR				
	comp=E,150nm,17.1s,MS4.0								
GTA				LR	LR				
	comp=Z,120nm,14.7s,MS3.9								
HHC	**Hu-ho-hao-te**	**45.66**	**12**	*e*P	**P**	**22 16 15.3**	**+1.9**		
HHC				pP	pP	22 16 21.0	+6.3		
HHC				sP	sP	22 16 23.4	+8.2		
HHC				PP	PP	22 18 00.4	0.0		
HHC				S	**S**	**22 22 57.8**	**+0.9**		
HHC				SS	SS	22 26 15.5	-5.8		
HHC				pmax	pmax				
	comp=Z,10.0nm,0.3s,mb5.2								
HHC				LR	LR				
	comp=N,150nm,12.3s								
HHC				LR	LR				
	comp=E,210nm,17.4s								
HHC				LR	LR				
	comp=Z,170nm,16.3s,MS4.1								
BJI	**Beijing**	**46.03**	**17**	P	**P**	**22 16 16.5**	**+0.2**		
BJI				S	**S**	**22 23 03.1**	**+0.9**		
BJI				pmax	pmax				
	comp=Z,7.0nm,0.5s,mb4.8								
BJI				pmax	pmax				
	comp=Z,57nm,3.5s								
BJI				LR	LR				
	comp=N,170nm,18.6s,MS4.2								
BJI				LR	LR				
	comp=E,130nm,15.5s,MS4.2								
BJI				LR	LR				
	comp=Z,85nm,19.6s,MS3.7								
JNU	**Nakatsue**	**46.73**	**36**	*e*P	**P**	**22 16 18.4**	**-3.5**		
	comp=Z,11nm,1.2s,mb4.7								
CTA	**Charters Tower**	**47.41**	**114**	P	**P**	**22 16 28.1**	**+0.6**		
	comp=Z,1.1nm,0.3s,mb4.2,baz=307,slow=5.1,SNR=4.2								
CTA				LR	LR	22 38 07.6			
	comp=Z,55nm,21.5s,MS3.5,baz=48,slow=38								
CTA	**Charters Tower**	**47.41**	**114**	P	**P**	**22 16 28.1**	**+0.6**		
CTA				LR	LR	22 38 07.6			
CTA	**Charters Tower**	**47.41**	**114**	P	**P**	**22 16 28.1**	**+0.6**		
STKA	**Stephens Creek**	**47.58**	**131**	P	**P**	**22 16 29.5**	**+0.8**		
	comp=Z,2.5nm,0.6s,mb4.4,baz=298,slow=9.7,SNR=6.3								
STKA	**Stephens Creek**	**47.58**	**131**	*e*P	**P**	**22 16 30.2**	**+1.6**		
	comp=Z,3.9nm,0.9s,mb4.4								
STKA	**Stephens Creek**	**47.58**	**131**	*e*P	**P**	**22 16 30.1**	**+1.5**		
STKA	**Stephens Creek**	**47.58**	**131**	*e*P	**P**	**22 16 30.1**	**+1.5**		
KSRS	**Korea Array**	**48.41**	**29**	P	**P**	**22 16 33.0**	**-2.0**		
	comp=Z,8.7nm,1.0s,mb4.8,baz=223,slow=8.5,SNR=29								
KSRS				pP	pP	22 16 40.5	+4.2		
	comp=Z,8.8nm,1.0s,baz=222,slow=8.0,SNR=9.1								
KSRS	**Korea Array**	**48.41**	**29**	P	**P**	**22 16 33.0**	**-2.0**		
KSRS				*PP	pP	22 16 40.5	+4.2		
KSRS				pmax	pmax				
	comp=Z,9.0nm,1.0s,mb4.8								
KSRS				pmax	pmax				
	comp=Z,9.0nm,1.0s,mb4.8								
KSH	**Kashi**	**48.72**	**335**	P	**P**	**22 16 36.8**	**-0.4**		
KSH				pP	pP	22 16 41.3	+2.7		
KSH				sP	sP	22 16 43.8	+4.7		
KSH				PcP	PcP	22 18 02.8	+0.4		
KSH				PP	PP	22 18 29.5	-0.9		
KSH				ScP	ScP	22 21 55.6	-2.7		
KSH				PcS	PcS	22 21 57.3	-1.2		
KSH				S	**S**	**22 23 36.6**	**-3.9**		
KSH				ScS	ScS	22 26 26.1	-4.8		
KSH				SS	SS	22 27 02.4	-8.6		
KSH				pmax	pmax				
	comp=Z,5.0nm,0.9s,mb4.5								
KSH				LR	LR				
	comp=N,58nm,5.8s								
KSH				LR	LR				
	comp=E,100nm,4.8s								
KSH				LR	LR				
	comp=Z,70nm,5.0s								
WMQ	**Urumqi**	**48.85**	**348**	P	**P**	**22 16 39.3**	**+1.1**		
WMQ				pP	pP	22 16 43.8	+4.2		
WMQ				sP	sP	22 16 46.3	+6.2		
WMQ				PP	PP	22 18 32.4	+0.8		
WMQ				S	**S**	**22 23 40.8**	**-1.5**		
WMQ				pmax	pmax				
	comp=Z,21nm,0.8s,mb5.2								
WMQ				pmax	pmax				
	comp=Z,55nm,4.0s								
WMQ				LR	LR				
	comp=N,36nm,26.1s,MS3.5								
WMQ				LR	LR				
	comp=E,56nm,28.4s,MS3.5								
WMQ				LR	LR				
	comp=Z,46nm,23.8s,MS3.4								
CMSA	**Cobar Meteorol**	**50.59**	**128**	*e*P	**P**	**22 16 53.3**	**+1.6**		
	comp=Z,40nm,0.8s,mb5.4								
TKM2	**Tokmak 2**	**51.73**	**337**	*e*P	**P**	**22 17 00.5**	**+0.5**		
	comp=Z,8.9nm,0.8s,mb4.8								
TKM2	**Tokmak 2**	**51.73**	**337**	*i* P	**P**	**22 17 00.4**	**+0.4**		
TKM2				pmax	pmax				
	comp=Z,9.0nm,0.9s,mb4.7								
SONM	**Songino Array**	**51.76**	**5**	P	**P**	**22 17 00.1**	**-0.1**		
	comp=Z,9.0nm,0.8s,mb4.8,baz=187,slow=9.4,SNR=78								
SONM				pP	pP	22 17 07.8	+6.2		
	comp=Z,14nm,0.8s,baz=184,slow=8.4,SNR=32								
SONM	**Songino Array**	**51.76**	**5**	P	**P**	**22 17 00.1**	**-0.1**		
SONM				pP	pP	22 17 07.8	+6.3		
SONM	**Songino Array**	**51.76**	**5**	P	**P**	**22 17 00.1**	**-0.1**		
SONM				*PP	pP	22 17 07.8	+6.3		
ULN	**Ulaanbaatar**	**51.85**	**6**	*e*P	**P**	**22 17 00.8**	**-0.1**		
	comp=Z,9.8nm,1.0s,mb4.7								
ULN				*e*pP	pP	22 17 08.8	+6.6		
ULN	**Ulaanbaatar**	**51.85**	**6**	*e*P	**P**	**22 17 00.8**	**-0.1**		
ULN				*e**PP	pP	22 17 08.8	+6.6		
ULN				pmax	pmax				
	comp=Z,10.0nm,1.0s,mb4.7								
ULN	**Ulaanbaatar**	**51.85**	**6**	P	**P**	**22 17 00.8**	**-0.1**		
AAK	**Ala-Archa**	**51.93**	**336**	*e*P	**P**	**22 17 01.5**	**-0.1**		
	comp=Z,12nm,0.8s,mb4.9								
AAK	**Ala-Archa**	**51.93**	**336**	*e*P	**P**	**22 17 01.5**	**0.0**		
AAK				pmax	pmax				
	comp=Z,12nm,0.8s,mb4.9								
EKS2	**Erkin-Say**	**52.25**	**335**	*e*P	**P**	**22 17 04.2**	**+0.3**		
	comp=Z,8.2nm,0.8s,mb4.7								
EKS2				*e*pP	pP	22 17 13.6	+8.3		
EKS2	**Erkin-Say**	**52.25**	**335**	*e*P	**P**	**22 17 04.2**	**+0.3**		
EKS2				*e**PP	pP	22 17 13.6	+8.4		
EKS2				pmax	pmax				
	comp=Z,8.0nm,0.8s,mb4.7								
CN2	**Changchun**	**52.53**	**23**	*e*P	**P**	**22 17 03.6**	**-2.4**		
CN2				pmax	pmax				
	comp=Z,10.0nm,1.0s,mb4.7								
MK31	**Makanchi Array**	**52.95**	**344**	*e*P	**P**	**22 17 08.3**	**-0.8**		
MK31	**Makanchi Array**	**52.95**	**344**	*ce*P	**P**	**22 17 08.1**	**-0.9**		
MK31				pmax	pmax				
	comp=Z,9.0nm,0.8s,mb4.8								
MKAR	**Makanchi Array**	**52.95**	**344**	P	**P**	**22 17 08.7**	**-0.3**		
	comp=Z,6.9nm,0.8s,mb4.7,baz=157,slow=8.4,SNR=81								
MKAR				LR	LR	22 42 00.8			
	comp=Z,27nm,21.7s,MS3.2,baz=350,slow=39								
MKAR	**Makanchi Array**	**52.95**	**344**	P	**P**	**22 17 08.7**	**-0.3**		
MKAR				LR	LR	22 42 00.8			
MKAR	**Makanchi Array**	**52.95**	**344**	P	**P**	**22 17 08.7**	**-0.3**		
MAT	**Matsushiro**	**53.46**	**38**	P	**P**	**22 17 11.0**	**-2.0**		
MJAR	**Matsushiro Arr**	**53.46**	**38**	P	**P**	**22 17 10.4**	**-2.6**		
	comp=Z,5.1nm,0.9s,mb4.4,baz=215,slow=7.8,SNR=14								
MJAR				pP	pP	22 17 18.3	+4.0		
	comp=Z,6.2nm,0.9s,baz=216,slow=8.1,SNR=9.4								
MJAR	**Matsushiro Arr**	**53.46**	**38**	P	**P**	**22 17 10.4**	**-2.6**		
MJAR				pP	pP	22 17 18.3	+4.0		
MJAR	**Matsushiro Arr**	**53.46**	**38**	P	**P**	**22 17 10.4**	**-2.6**		
MJAR				*PP	pP	22 17 18.3	+4.0		
ZAK	**Zakamensk**	**54.10**	**2**	*e*P	**P**	**22 17 17.0**	**-0.4**		
ZAK				pmax	pmax				
	comp=Z,1.0nm,0.9s,mb3.8								
TLY	**Talaya**	**55.42**	**2**	*e*P	**P**	**22 17 20.1**	**-6.8**		
TLY				pmax	pmax				
	comp=Z,9.0nm,0.9s,mb4.8								
TLY				MLR	MLR				
	comp=Z,62nm,16.0s,MS3.8								
KURK	**Kurchatov**	**57.53**	**344**	*e*P	**P**	**22 17 41.7**	**-0.3**		
	comp=Z,10nm,0.9s,mb4.9								
KURK	**Kurchatov**	**57.53**	**344**	*i* P	**P**	**22 17 41.4**	**-0.6**		
KURK				pmax	pmax				
	comp=Z,13nm,1.0s,mb4.9								
ZAA0	**Zalesovo Array**	**59.09**	**349**	*e*P	**P**	**22 17 51.9**	**-0.9**		
ZALV	**Zalesovo Beam**	**59.09**	**349**	P	**P**	**22 17 52.0**	**-0.9**		
	comp=Z,11nm,0.9s,mb4.9,baz=163,slow=5.3,SNR=48								
ZALV	**Zalesovo Beam**	**59.09**	**349**	P	**P**	**22 17 52.0**	**-0.9**		
ZALV	**Zalesovo Beam**	**59.09**	**349**	P	**P**	**22 17 52.0**	**-0.8**		
ATD	**Arta Tunnel**	**59.30**	**286**	LR	LR	22 38 49.7			
	comp=Z,29nm,18.3s,MS3.4,baz=134,slow=31								
NVS	**Novosibirsk**	**60.24**	**349**	*e*P	**P**	**22 17 57.7**	**-3.0**		
BRVK	**Borovoye**	**62.16**	**340**	*e*P	**P**	**22 18 13.3**	**-0.5**		
BRVK	**Borovoye**	**62.16**	**340**	*e*P	**P**	**22 18 13.4**	**-0.4**		
BRVK				pmax	pmax				
	comp=Z,2.0nm,0.8s,mb4.3								
YSS	**Yuzh-Sakhalins**	**62.84**	**31**	P	**P**	**22 18 17.3**	**-1.2**		
YSS	**Yuzh-Sakhalins**	**62.84**	**31**	*e*P	**P**	**22 18 16.7**	**-1.8**		
YSS				pmax	pmax				
	comp=Z,46nm,2.5s,mb5.2								
AB31	**Akbulak array**	**63.50**	**332**	*ce*P	**P**	**22 18 21.6**	**-1.2**		
AB31				pmax	pmax				
	comp=Z,7.0nm,0.7s,mb4.9								
ABKAR	**Akbulak array**	**63.50**	**332**	*e*P	**P**	**22 18 22.1**	**-0.7**		
ABKAR				*ep*P	pP	22 18 31.1	+6.9		
AKTK	**Aktyubinsk**	**65.21**	**332**	P	**P**	**22 18 33.9**	**-0.2**		
AKTO	**Aktyubinsk**	**65.21**	**332**	P	**P**	**22 18 33.9**	**-0.2**		
	comp=Z,1.1nm,0.8s,mb4.0,baz=145,slow=9.9,SNR=3.7								
AKTO	**Aktyubinsk**	**65.21**	**332**	P	**P**	**22 18 33.9**	**-0.2**		
AKTO				pmax	pmax				
	comp=Z,1.0nm,0.8s,mb3.9								
SVE	**Sverdlovsk**	**68.58**	**338**	*e*P	**P**	**22 18 55.6**	**+0.2**		
MAW	**Mawson**	**68.58**	**195**	LR	LR	22 45 41.2			
	comp=Z,43nm,19.3s,MS3.7,baz=292,slow=33								
ARU	**Arti**	**69.10**	**337**	*e*P	**P**	**22 18 57.9**	**-0.7**		
ARU	**Arti**	**69.10**	**337**	*d i*P	**P**	**22 18 58.4**	**-0.2**		
ARU				*e*		22 21 26.9			
ARU				S	S	22 28 01.0	-3.5		
ARU				SS	SS	22 32 26.3	-4.4		
ARU				pmax	pmax				
	comp=Z,13nm,1.7s,mb4.6								
YAK	**Yakutsk**	**69.44**	**14**	*e*P	**P**	**22 18 58.6**	**-2.0**		
YAK				pmax	pmax				
	comp=Z,5.0nm,0.6s,mb4.6								
BRTR	**Keskin Array B**	**74.92**	**313**	P	**P**	**22 19 34.2**	**+0.3**		
	comp=Z,0.7nm,0.6s,mb3.7,baz=117,slow=5.4,SNR=7.5								
BRTR				pP	pP	22 19 42.8	+7.5		
	comp=Z,1.5nm,0.7s,baz=131,slow=7.4,SNR=9.8								
BRTR	**Keskin Array B**	**74.92**	**313**	P	**P**	**22 19 34.2**	**+0.3**		
BRTR				pP	pP	22 19 42.8	+7.5		
BRTR	**Keskin Array B**	**74.92**	**313**	P	**P**	**22 19 34.2**	**+0.3**		
BRTR				*PP	pP	22 19 42.8	+7.5		
BOSA	**Boshof**	**75.15**	**242**	LR	LR	22 45 06.6			
	comp=Z,36nm,21.4s,MS3.6,baz=351,slow=30								
VSR	**Storozhevoye**	**75.57**	**325**	*e*P	**P**	**22 19 36.8**	**-0.6**		
VSR				*e*		22 19 45.8			
VSR				pmax	pmax				
	comp=Z,6.0nm,0.7s,mb4.6								
VSR				pmax	pmax				
	comp=N,3.0nm,0.3s								
VSR				pmax	pmax				
	comp=E,2.0nm,0.3s								
OBN	**Obninsk**	**78.62**	**328**	*e*P	**P**	**22 19 53.3**	**-1.2**		
OBN				pmax	pmax				
	comp=Z,5.0nm,1.0s,mb4.4								
MLR	**Muntele Rosu**	**81.97**	**317**	P	**P**	**22 20 13.7**	**+0.9**		
	comp=Z,0.5nm,0.8s,mb3.5,baz=258,slow=22,SNR=3.7								
MLR				pP	pP	22 20 22.8	+8.7		
	comp=Z,0.6nm,1.0s,baz=107,slow=4.6,SNR=3.6								
MLR	**Muntele Rosu**	**81.97**	**317**	P	**P**	**22 20 13.7**	**+0.9**		
MLR				pP	pP	22 20 22.8	+8.7		
MLR	**Muntele Rosu**	**81.97**	**317**	P	**P**	**22 20 13.7**	**+0.9**		
MLR				*PP	pP	22 20 22.8	+8.7		
BILL	**Bilibino**	**84.76**	**20**	*e*P	**P**	**22 20 26.8**	**+0.2**		
BILL				pmax	pmax				
	comp=Z,2.0nm,1.2s,mb4.1								
KWP	**Kalwaria Pacla**	**85.03**	**320**	P	**P**	**22 20 27.7**	**-0.7**		
KWP	**Kalwaria Pacla**	**85.03**	**320**	P	**P**	**22 20 27.7**	**-0.7**		
GERES	**GERESS Array B**	**90.75**	**319**	P	**P**	**22 20 57.6**	**+1.7**		
	comp=Z,0.4nm,0.6s,mb3.9,baz=57,slow=3.6,SNR=3.8								
GERES	**GERESS Array B**	**90.75**	**319**	P	**P**	**22 20 57.6**	**+1.7**		
GERES	**GERESS Array B**	**90.75**	**319**	P	**P**	**22 20 57.6**	**+1.7**		
MFID	**Camas Ranch**	**129.21**	**34**	*e*PKPdf	PKPdf	22 27 00.9	-0.5		
WMOK	**Wichita Mounta**	**144.49**	**28**	*e*PKPdf	PKPdf	22 27 27.5	-2.4		
WMOK	**Wichita Mounta**	**144.49**	**28**	*e*PKIKP	PKPdf	22 27 27.5	-2.4		
TXAR	**Lajitas Array**	**145.89**	**40**	PKPbc	PKPbc	22 27 33.4	+0.4		
	comp=Z,9.5nm,0.7s,baz=260,slow=1.6,SNR=44								
MIAR	**Mount Ida**	**146.82**	**21**	*e*PKPdf	PKPdf	22 27 33.3	-0.6		
MIAR				*e*PKPab	PKPab	22 27 35.4	-1.4		
JCT	**Junction City**	**147.36**	**34**	*e*PKPbc	PKPbc	22 27 36.0	-1.2		

IDC ***14*** *22:10:52.3±1.2, 34°.27N×26°.23E, h0km, mb3.8/5, mb1 3.6/11, mb1mx3.5/28, mbtmp3.5/11, ML3.5/6, Error ellipse: s-maj=24.2km s-min=21.2km az=157.0*

NEIC ***14*** *22:10:55.8, 34°.28N×26°.19E, h24km, ML3.6(ATH), After ATH.*

ISCJB ***14*** *22:10:55.1±0.3, 34°.22N±0°.02×26°.42E±0°.03, h33km, mb3.7/5, Error ellipse: s-maj=3.2km s-min=2.7km az=140.7*

ATH ***14*** *22:10:55.8, 34°.28N×26°.19E, h24km±1km, MD3.6/8*

HLW ***14*** *22:10:56.4, 34°.27N×26°.31E, h32km±28km, Md3.0, Ml3.0*

CSEM ***14*** *22:10:57.2±0.2, 34°.24N×26°.29E, h40km, ML2.9/2, Error ellipse: s-maj=5.2km s-min=3.8km az=47.0*

THE ***14*** *22:11:02.5, 34°.64N×26°.09E, h45km±3km, ML2.9/2, Error ellipse: s-maj=3.8km s-min=0.8km az=1.0*

ISC 14 22:10:56.9±0.3, 34°.24N±0°.02×26°.33E±0°.03, h35km, n106, σ1§03/139, mb3.7/5, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LAST	**Lasithi**	**1.16**	**323**	*e*PN		**Pn**	**22 11 15.6**	**-1.0**
LAST				*e*SN		**Sn**	**22 11 31.0**	**-0.2**
LAST	**Lasithi**	**1.16**	**323**	P		**Pn**	**22 11 15.5**	**-1.1**
LAST				S		**Sn**	**22 11 26.2**	**-5.0**
LAST	**Lasithi**	**1.16**	**323**	*e*Pn		**Pn**	**22 11 15.6**	**-1.0**
LAST				*e*Sn		**Sn**	**22 11 31.0**	**-0.2**
NPS	**Neapolis**	**1.18**	**330**	*e*PN		**Pn**	**22 11 16.1**	**-0.8**
NPS				*e*SN		**Sn**	**22 11 31.9**	**+0.1**
NPS	**Neapolis**	**1.18**	**330**	P		**Pn**	**22 11 16.1**	**-0.8**
NPS	**Neapolis**	**1.18**	**330**	P		**Pn**	**22 11 16.1**	**-0.8**
NPS				*e*Sn		**Sn**	**22 11 31.9**	**+0.1**
KARP	**Karpathos**	**1.48**	**27**	*e*PN		**Pn**	**22 11 23.4**	**+2.4**
KARP				*e*SN		**Sn**	**22 11 43.2**	**+4.2**
KARP	**Karpathos**	**1.48**	**27**	P		**Pn**	**22 11 23.4**	**+2.4**
KARP				S		**Sn**	**22 11 39.4**	**+0.4**
KARP	**Karpathos**	**1.48**	**27**	P		**Pn**	**22 11 23.4**	**+2.4**
KARP				S		**Sn**	**22 11 39.4**	**+0.4**
KARP				*e*Sn		**Sn**	**22 11 43.2**	**+4.2**
SIVA	**Sivas**	**1.48**	**302**	*e*PN		**Pn**	**22 11 21.2**	**+0.2**
SIVA				*e*SN		**Sn**	**22 11 39.7**	**+0.6**
SIVA	**Sivas**	**1.48**	**302**	P		**Pn**	**22 11 21.1**	**+0.1**
SIVA	**Sivas**	**1.48**	**302**	*e*Pn		**Pn**	**22 11 21.2**	**+0.2**
SIVA				*e*Sn		**Sn**	**22 11 39.7**	**+0.6**
GVD	**Gavdhos**	**1.95**	**289**	*e*PN		**Pn**	**22 11 28.0**	**+0.5**
GVD	**Gavdhos**	**1.95**	**289**	*e*P		**Pn**	**22 11 28.4**	**+0.9**
GVD	**Gavdhos**	**1.95**	**289**	P		**Pn**	**22 11 28.4**	**+0.9**
GVD	**Gavdhos**	**1.95**	**289**	*e*Pn		**Pn**	**22 11 28.0**	**+0.5**
GVD	**Gavdhos**	**1.95**	**289**	P		**Pn**	**22 11 28.4**	**+0.9**
VAM	**Vamos**	**2.11**	**304**	*e*PN		**Pn**	**22 11 30.5**	**+0.8**
VAM	**Vamos**	**2.11**	**304**	P		**Pn**	**22 11 30.1**	**+0.4**
VAM	**Vamos**	**2.11**	**304**	P		**Pn**	**22 11 30.1**	**+0.4**
VAM	**Vamos**	**2.11**	**304**	*e*Pn		**Pn**	**22 11 30.5**	**+0.8**
THR1	**Thera Island**	**2.25**	**342**	P		**Pn**	**22 11 31.1**	**-0.5**
THR1	**Thera Island**	**2.25**	**342**	P		**Pn**	**22 11 31.1**	**-0.5**
THR3	**Thira Island,**	**2.30**	**341**	P		**Pn**	**22 11 31.5**	**-0.8**
THR3	**Thira Island,**	**2.30**	**341**	P		**Pn**	**22 11 31.5**	**-0.8**
KARN	**Karanos**	**2.30**	**301**	*e*PB		**Pn**	**22 11 33.2**	**+0.9**
KARN	**Karanos**	**2.30**	**301**	P		**Pn**	**22 11 32.7**	**+0.4**
KARN	**Karanos**	**2.30**	**301**	P		**Pn**	**22 11 32.7**	**+0.4**
KARN	**Karanos**	**2.30**	**301**	*e*Pb		**Pn**	**22 11 33.2**	**+0.9**
NIS1	**Nisyros Isl.**	**2.46**	**16**	P		**Pn**	**22 11 35.1**	**+0.6**
NIS1	**Nisyros Isl.**	**2.46**	**16**	P		**Pn**	**22 11 35.1**	**+0.6**
ARG	**Arkhangelos**	**2.46**	**36**	*e*PN		**Pn**	**22 11 37.4**	**+2.9**
ARG	**Arkhangelos**	**2.46**	**36**	P		**Pn**	**22 11 37.1**	**+2.6**
ARG	**Arkhangelos**	**2.46**	**36**	P		**Pn**	**22 11 37.1**	**+2.6**
ARG	**Arkhangelos**	**2.46**	**36**	*e*Pn		**Pn**	**22 11 37.4**	**+2.9**
SLUM		**2.89**	**199**	P		**Pn**	**22 11 40.7**	**+0.2**
	baz=199							
SLUM				AMP			22 12 00.0	
	comp=E,50µm,0.3s,logA/T=5.2,baz=199							
SLUM				S		**Sn**	**22 12 13.1**	**-0.9**
	baz=199							
APE	**Apeiranthos**	**2.90**	**347**	P		**Pn**	**22 11 39.5**	**-1.1**
APE	**Apeiranthos**	**2.90**	**347**	P		**Pn**	**22 11 39.5**	**-1.1**
HMAT	**Matruh**	**3.20**	**168**	P		**Pn**	**22 11 44.4**	**-0.3**
	baz=167							
HMAT				S		**Sn**	**22 12 21.5**	**-0.1**
	baz=167							
HMAT	**Matruh**	**3.20**	**168**	P		**Pn**	**22 11 44.4**	**-0.3**
HMAT				S		**Sn**	**22 12 21.5**	**-0.1**
TURN	**Turunc**	**3.22**	**34**	*i* P		**Pn**	**22 11 42.6**	**-2.3**
TURN	**Turunc**	**3.22**	**34**	*i* P		**Pn**	**22 11 42.6**	**-2.3**
AKAS	**Kas**	**3.34**	**52**	*i* P		**Pn**	**22 11 47.3**	**+0.7**
AKAS	**Kas**	**3.34**	**52**	*i* P		**Pn**	**22 11 47.3**	**+0.7**
AKAS				*i* S		**Sn**	**22 12 22.5**	**-2.5**
KYTH	**Kithira**	**3.38**	**308**	P		**Pn**	**22 11 46.7**	**-0.5**
KYTH	**Kithira**	**3.38**	**308**	P		**Pn**	**22 11 46.7**	**-0.5**
AYDN	**Tasoluk**	**3.64**	**20**	*i* P		**Pn**	**22 11 51.9**	**+1.2**
AYDN	**Tasoluk**	**3.64**	**20**	*i* P		**Pn**	**22 11 51.9**	**+1.2**
VLI	**Veliai**	**3.72**	**313**	P		**Pn**	**22 11 50.8**	**-1.0**
VLI	**Veliai**	**3.72**	**313**	P		**Pn**	**22 11 50.8**	**-1.0**
GOLH	**Golhisar**	**3.98**	**40**	*i* P		**Pn**	**22 11 56.1**	**+0.7**
GOLH	**Golhisar**	**3.98**	**40**	*i* P		**Pn**	**22 11 56.1**	**+0.7**
GOLH				*i* S		**Sn**	**22 12 40.1**	**-0.8**
DID	**Didima**	**4.12**	**323**	P		**Pn**	**22 11 56.7**	**-0.6**
DID				S		**Sn**	**22 12 38.3**	**-5.9**
DID	**Didima**	**4.12**	**323**	P		**Pn**	**22 11 56.7**	**-0.6**
HBRG	**Burj al 'Arab**	**4.70**	**140**	P		**Pn**	**22 12 06.0**	**+0.7**
	baz=140							
KHAL	**Karahalli**	**4.85**	**31**	*i* P		**Pn**	**22 12 07.8**	**+0.4**
KHAL	**Karahalli**	**4.85**	**31**	*i* P		**Pn**	**22 12 07.8**	**+0.4**
KHAL				*i* S		**Sn**	**22 13 01.1**	**-1.2**
SWA2		**5.03**	**189**	P		**Pn**	**22 12 10.0**	**+0.1**
	baz=189							
SWA2				S		**Sn**	**22 13 06.0**	**-0.9**
	baz=189							
SWA2		**5.03**	**189**	P		**Pn**	**22 12 10.0**	**+0.1**
GAZI	**Gazipasa**	**5.29**	**66**	*i* P		**Pn**	**22 12 15.2**	**+1.9**
GAZI	**Gazipasa**	**5.29**	**66**	*i* P		**Pn**	**22 12 15.2**	**+1.8**
GAZI				*i* S		**Sn**	**22 13 08.9**	**-4.2**
CSS	**Prodhromos**	**5.82**	**81**	*e*P		**Pn**	**22 12 21.5**	**+0.8**
CSS				*e*S		**Sn**	**22 13 27.0**	**+0.9**
CSS	**Prodhromos**	**5.82**	**81**	*e*P		**Pn**	**22 12 21.5**	**+0.8**
CSS				*e*S		**Sn**	**22 13 27.0**	**+0.9**
AWBH		**6.29**	**159**	P		**Pn**	**22 12 28.2**	**+1.0**
	baz=158							
AWBH		**6.29**	**159**	P		**Pn**	**22 12 28.2**	**+1.0**
KOT	**Kottamia**	**6.34**	**131**	P		**Pn**	**22 12 28.2**	**+0.3**
	baz=131							
KOT	**Kottamia**	**6.34**	**131**	P		**Pn**	**22 12 28.2**	**+0.3**
HSAF	**As Saff**	**6.39**	**135**	P		**Pn**	**22 12 29.5**	**+0.9**
	baz=134							
HSAF	**As Saff**	**6.39**	**135**	P		**Pn**	**22 12 29.5**	**+0.9**
GLL	**Jalalah**	**6.52**	**134**	P		**Pn**	**22 12 31.1**	**+0.8**
	baz=134							
GLL	**Jalalah**	**6.52**	**134**	P		**Pn**	**

KLSI		**4.09**	**106**	P		**Pn**	**22 26 01.4**	**+0.7**
MNSI	**Mandailing Nat**	**4.52**	**345**	P		**Pn**	**22 26 06.5**	**-0.1**
PSI	**Prapat**	**6.62**	**344**	LR		LR	22 29 48.3	
	comp=Z,115nm,20.2s,baz=315,slow=44							
CMAR	**Chiang Mai Arr**	**21.98**	**355**	P		**P**	**22 29 51.4**	**+1.2**
	0.8nm,0.3s,mb3.6,baz=184,slow=8.9,SNR=11							
CMAR	**Chiang Mai Arr**	**21.98**	**355**	P		**P**	**22 29 51.5**	**+1.2**
WRA	**Warramunga Arr**	**36.53**	**119**	P		**P**	**22 32 00.7**	**-0.5**
	0.7nm,0.4s,mb3.8,baz=307,slow=9.3,SNR=13							
WRA	**Warramunga Arr**	**36.53**	**119**	P		**P**	**22 32 00.7**	**-0.5**
ASAR	**Alice Springs**	**37.70**	**125**	P		**P**	**22 32 11.6**	**+0.5**
	0.7nm,0.4s,mb3.8,baz=301,slow=7.9,SNR=13							
ASAR	**Alice Springs**	**37.70**	**125**	P		**P**	**22 32 11.6**	**+0.5**
KSRS	**Korea Array**	**48.01**	**29**	P		**P**	**22 33 34.6**	**+0.3**
	2.0nm,1.0s,mb4.1,baz=228,slow=7.1,SNR=6.2							
KSRS				pP		pP	22 33 42.2	-6.6
	0.5nm,0.3s,baz=228,slow=6.4,SNR=2.3							
SONM	**Songino Array**	**51.45**	**5**	P		**P**	**22 34 01.4**	**+1.2**
	2.0nm,0.7s,mb4.2,baz=184,slow=9.4,SNR=19							
SONM				pP		pP	22 34 09.1	-5.8
	2.9nm,0.8s,baz=181,slow=8.3,SNR=17							
SONM	**Songino Array**	**51.45**	**5**	P		**P**	**22 34 01.4**	**+1.2**
SONM				pP		pP	22 34 09.1	-5.8
MK31	**Makanchi Array**	**52.76**	**344**	*e*P		**P**	**22 34 10.0**	**0.0**
MKAR	**Makanchi Array**	**52.76**	**344**	P		**P**	**22 34 10.1**	**+0.1**
	1.5nm,0.7s,mb4.0,baz=157,slow=8.7,SNR=17							
MKAR				pP		pP	22 34 18.2	-6.6
	1.1nm,0.6s,baz=160,slow=7.2,SNR=9.2							
MKAR	**Makanchi Array**	**52.76**	**344**	P		**P**	**22 34 10.1**	**+0.1**
MKAR				pP		pP	22 34 18.2	-6.6
ZALV	**Zalesovo Beam**	**58.87**	**349**	P		**P**	**22 34 53.1**	**-0.5**
	1.4nm,0.7s,mb4.1,baz=177,slow=5.8,SNR=9.5							
ZALV	**Zalesovo Beam**	**58.87**	**349**	P		**P**	**22 34 53.1**	**-0.5**
ABKAR	**Akbulak array**	**63.40**	**331**	*e*P		**P**	**22 35 23.6**	**-0.8**
	1.2nm,0.6s,mb4.2							
ABKAR				*e*			22 35 32.0	
BRTR	**Keskin Array B**	**74.96**	**313**	P		**P**	**22 36 35.1**	**-1.1**
	0.3nm,0.7s,mb3.3,baz=93,slow=7.9,SNR=2.8							
BRTR				pP		pP	22 36 43.7	-8.0
	0.6nm,0.7s,baz=116,slow=6.6,SNR=4.3							
BRTR	**Keskin Array B**	**74.96**	**313**	P		**P**	**22 36 35.1**	**-1.1**
BRTR				pP		pP	22 36 43.7	-8.0
TXAR	**Lajitas Array**	**145.46**	**40**	PKPbc		PKPbc	22 44 35.0	+1.7
	1.4nm,0.5s,baz=226,slow=2.1,SNR=8.6							
TXAR	**Lajitas Array**	**145.46**	**40**	PKPbc		PKPbc	22 44 35.0	+1.7

NNC ***14*** *22:25:36.8*$_{\pm}$*4.0, 39.˙76*$_{N\times}$*73.˙85E, h0*^{km}*, mb3.4, mpv2.9, Error ellipse: s-maj=34.8km s-min=20.6km az=7.0*

ISC 14 22:25:32.7$_{\pm}$**3.4, 39.˙26N**$_{\pm}$**0.˙3**$_{\times}$**73.˙6E**$_{\pm}$**0.˙1, h10km, n11,**
$_{\sigma}$**0.83/13, 4C-3D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.89**	**2**	P	**Pn**	**22 26 17.8**	**-0.9**
	SNR=70						
KZA	**Kyzart**	**3.10**	**24**	P	**Pn**	**22 26 21.7**	**+0.1**
	SNR=33						
EKS2	**Erkin-Say**	**3.42**	**2**	P	**Pn**	**22 26 27.1**	**+1.1**
	SNR=12						
AAK	**Ala-Archa**	**3.46**	**11**	P	**Pn**	**22 26 25.7**	**-0.7**
	SNR=25						
KBK	**Karagaybulak**	**3.56**	**16**	P	**Pn**	**22 26 26.9**	**-1.0**
	SNR=19						
ULHL	**Ulahol**	**3.61**	**33**	P	**Pn**	**22 26 30.5**	**+1.8**
	SNR=11						
CHMS	**Chumysh**	**3.85**	**13**	P	**Pn**	**22 26 32.1**	**+0.1**
	SNR=6.3						
TKM2	**Tokmak 2**	**3.98**	**22**	⇑Pn	**Pn**	**22 26 32.9**	**-0.7**
	5.0nm,0.8s						
TKM2				⇓Lg		22 27 23.4	
	8.7nm,0.7s						
USP	**Ospenovka**	**4.08**	**9**	P	**Pn**	**22 26 40.2**	**+5.2**
	SNR=11						
KK31	**Karatay Array**	**4.50**	**330**	⇑Pn	**Pn**	**22 26 41.6**	**+0.7**
	0.2nm,0.2s,baz=133,slow=13,SNR=18						
KK31				⇑Pg	**Pb**	**22 26 51.2**	**-0.5**
	1.3nm,0.3s,baz=149,slow=16,SNR=15						
KK31				⇑Sn	**Sn**	**22 27 33.6**	**+0.4**
	6.8nm,0.6s,baz=139,slow=24,SNR=7.0						
KK31				⇓Lg		22 27 49.2	
	2.8nm,0.3s						
AB31	**Akbulak array**	**13.97**	**320**	⇓P	**Pn**	**22 28 50.3**	**-0.3**
	1.8nm,1.1s,baz=128,slow=13,SNR=7.3						

ISCJB ***14*** *22:38:39.9*$_{\pm}$*1.1, 51.˙08N*$_{\pm}$*0.˙05*$_{\times}$*178.˙42E*$_{\pm}$*0.˙03, h10*^{km}$_{\pm}$*6km, mb4.7/123, MS4.1/19, Error ellipse: s-maj=7.6km s-min=2.8km az=3.3*

IDC ***14*** *22:38:39.2*$_{\pm}$*0.5, 51.˙04N*$_{\times}$*178.˙57E, h0*^{km}*, mb4.4/25, mb1 4.5/28, mb1mx4.5/32, mbtmp4.4/28, ML4.1/3, MS3.7/11, Ms1 3.7/11, ms1mx3.5/47, Error ellipse: s-maj=16.0km s-min=10.4km az=169.0*

TEH ***14*** *22:38:42.0, 51.˙16N*$_{\times}$*178.˙39E, h10*^{km}

MOS ***14*** *22:38:43.0*$_{\pm}$*1.0, 51.˙14N*$_{\times}$*178.˙48E, h31*^{km}*, mb4.9/51, Error ellipse: s-maj=8.9km s-min=6.5km az=95.9*

BJI ***14*** *22:38:43.1, 51.˙33N*$_{\times}$*177.˙84E, h16*^{km}*, mB5.0/25, mb4.7/40, Ms4.5/23, Ms7 4.3/24*

NEIC ***14*** *22:38:43.9*$_{\pm}$*1.1, 51.˙14N*$_{\times}$*178.˙44E, h26*^{km}$_{\pm}$*7km, mb4.7/58, Error ellipse: s-maj=7.8km s-min=3.1km az=178.0*

ISC 14 22:38:44.0$_{\pm}$**0.9, 51.˙17N**$_{\pm}$**0.˙05**$_{\times}$**178.˙42E**$_{\pm}$**0.˙03, h23**^{km}$_{\pm}$**6km,**
h15^{km}$_{\pm}$**1.6km:pP-P, n491,**$_{\sigma}$**0.69/500, mb4.7/122, MS4.1/19,**
98C-81D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.59**	**69**	*e*P	**Pb**	**22 38 55.5**	**-0.3**
AMKA				*e*Sn	**Sb**	**22 39 05.1**	**+1.4**
SMY	**Shemya**	**3.09**	**302**	P	**Pn**	**22 39 31.2**	**-0.2**
SMY				S	**Sn**	**22 40 08.0**	**+0.4**
SMY	**Shemya**	**3.09**	**302**	P	**Pn**	**22 39 31.2**	**-0.2**
SMY				S	**Sn**	**22 40 08.0**	**+0.4**
ADK	**Adak**	**3.14**	**75**	P	**Pn**	**22 39 32.4**	**+0.3**
ADK				S	**Sn**	**22 40 09.3**	**+0.4**
ADK	**Adak**	**3.14**	**75**	P	**Pn**	**22 39 32.4**	**+0.3**
ADK				S	**Sn**	**22 40 09.2**	**+0.4**
FX1	**Attu Island--F**	**3.67**	**300**	Pn	**Pn**	**22 39 38.5**	**-0.8**
	35nm,0.3s,baz=145,slow=12,SNR=69						
FX1				Sn	**Sn**	**22 40 31.2**	**+9.4**
	135nm,0.3s,baz=258,slow=20,SNR=4.4						
FX1				LR	LR	22 41 07.6	
	comp=Z,1μm,20.9s,baz=112,slow=39						
FX1	**Attu Island--F**	**3.67**	**300**	P	**Pn**	**22 39 39.5**	**+0.2**
FX1				S	**Sn**	**22 40 23.6**	**+1.8**
FX1	**Attu Island--F**	**3.67**	**300**	P	**Pn**	**22 39 39.5**	**+0.2**
FX1				S	**Sn**	**22 40 23.6**	**+1.8**
NIKO	**Nikolski**	**8.05**	**72**	*e*P	**Pn**	**22 40 37.4**	**-2.0**
UNV	**Unalaska Valle**	**9.58**	**68**	*e*Pn	**Pn**	**22 41 00.7**	**+0.3**
AKUT	**Akutan**	**10.06**	**67**	*e*P	**Pn**	**22 41 06.6**	**-0.3**
	92nm,1.7s						
PEA0B	**Petropavlovsk-**	**12.87**	**287**	*e*Pn	**Pn**	**22 41 45.8**	**+0.4**
PETK	**Petropavlovsk-**	**12.87**	**287**	Pn	**Pn**	**22 41 46.8**	**+1.4**
	0.7nm,0.3s,baz=94,slow=20,SNR=13						
PETK				LR	LR	22 46 04.0	
	comp=Z,82nm,21.4s,baz=84,slow=34						
PETK	**Petropavlovsk-**	**12.87**	**287**	Pn	**Pn**	**22 41 46.8**	**+1.4**
PETK				LR	LR	22 46 04.0	
PETK	**Petropavlovsk-**	**12.87**	**287**	P	**Pn**	**22 41 46.8**	**+1.5**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PETK				MLR	MLR		
	comp=Z,82nm,21.4s						
SDPT	**Sand Point**	**13.29**	**63**	*e*P	**Pn**	**22 41 51.3**	**+0.2**
	comp=Z,5.8nm,0.3s						
TNA	**Tin City**	**16.05**	**21**	*e*P	**Pn**	**22 42 31.6**	**+3.7**
	comp=Z,46nm,1.3s						
SVW2	**Sparrevohn**	**17.45**	**45**	*e*P	**Pn**	**22 42 47.7**	**+2.2**
	comp=Z,17nm,1.0s						
OHAK	**Old Harbor**	**17.55**	**59**	*e*Pn	**Pn**	**22 42 45.7**	**-1.1**
	comp=Z,44nm,1.2s						
OHAK				*e*S	**Sn**	**22 45 55.7**	**-5.6**
BILL	**Bilibino**	**17.94**	**345**	*e*P	**Pn**	**22 42 52.4**	**+0.9**
	comp=Z,48nm,1.1s						
BILL	**Bilibino**	**17.94**	**345**	⇓*i*P	**Pn**	**22 42 54.1**	**+2.5**
BILL				pmax	pmax		
	comp=Z,14nm,1.2s						
BILL				MLR	MLR		
	comp=Z,500nm,16.0s						
KDAK	**Kodiak Island**	**18.01**	**57**	P	**Pn**	**22 42 49.8**	**-2.7**
	comp=Z,1.6nm,0.3s,baz=270,slow=8.0,SNR=21						
KDAK	**Kodiak Island**	**18.01**	**57**	P	**Pn**	**22 42 49.8**	**-2.7**
KDAK	**Kodiak Island**	**18.01**	**57**	*i* P	**Pn**	**22 42 50.9**	**-1.6**
RSO	**Redoubt South**	**18.53**	**49**	*e*Pn	**Pn**	**22 42 58.9**	**0.0**
SPU	**Mount Spurr**	**19.08**	**47**	*e*Pn	**Pn**	**22 43 04.1**	**-1.4**
PPLA	**Purkeypile**	**19.63**	**42**	*e*Pn	**Pn**	**22 43 12.3**	**+0.2**
	comp=Z,61nm,1.3s						
SLKM	**Skilak Lake**	**19.75**	**50**	*e*Pn	**Pn**	**22 43 11.2**	**-2.4**
SLKM				*e*Sn	**Sn**	**22 46 54.1**	**-0.4**
SLKM	**Skilak Lake**	**19.75**	**50**	*e*P	**Pn**	**22 43 11.2**	**-2.3**
SLKM				*e*		22 46 54.1	
SEW	**Seward**	**20.03**	**51**	*e*P	**P**	**22 43 14.4**	**-0.7**
TRF	**Thorofare Moun**	**20.64**	**41**	*e*P	**P**	**22 43 21.9**	**+0.3**
	comp=Z,26nm,0.9s						
SML	**Sawmill**	**20.97**	**47**	*e*P	**P**	**22 43 24.3**	**-0.9**
	comp=Z,7.5nm,1.0s						
SML	**Sawmill**	**20.97**	**47**	*e*P	**P**	**22 43 24.3**	**-0.9**
SML				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MCK	**McKinley**	**21.31**	**41**	*e*P	**P**	**22 43 28.8**	**0.0**
	comp=Z,20nm,1.0s,mb4.4						
MCK	**McKinley**	**21.31**	**41**	*e*P	**P**	**22 43 28.8**	**+0.1**
MCK				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.4						
COLA	**College**	**22.16**	**39**	*e*P	**P**	**22 43 37.5**	**-0.4**
	comp=Z,13nm,0.8s,mb4.4						
COLA	**College**	**22.16**	**39**	*e*P	**P**	**22 43 37.5**	**-0.4**
COLA				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.4						
COLD	**Coldfoot**	**22.35**	**32**	*e*P	**P**	**22 43 40.5**	**+0.6**
	comp=Z,13nm,1.2s,mb4.2						
ILAR	**Eielson Array**	**22.51**	**40**	P	**P**	**22 43 39.1**	**-2.5**
	comp=Z,4.6nm,0.8s,mb4.0,baz=243,slow=9.2,SNR=56						
ILAR				PcP	PcP	22 47 33.0	-1.6
	comp=Z,0.4nm,0.7s,baz=269,slow=3.6,SNR=5.6						
ILAR				ScP	ScP	22 51 08.3	-2.2
	comp=Z,0.8nm,1.1s,baz=238,slow=5.2,SNR=4.3						
ILAR	**Eielson Array**	**22.51**	**40**	P	**P**	**22 43 39.1**	**-2.5**
ILAR				PcP	PcP	22 47 33.0	-1.6
ILAR				ScP	ScP	22 51 08.3	-2.2
ILAR	**Eielson Array**	**22.51**	**40**	P	**P**	**22 43 39.1**	**-2.5**
ILAR						22 47 33.1	
ILAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BMRM	**Bremner River**	**22.55**	**50**	*e*P	**P**	**22 43 41.6**	**-0.4**
	comp=Z,54nm,1.2s,mb4.9						
PAX	**Paxson**	**22.56**	**45**	*e*P	**P**	**22 43 41.1**	**-1.1**
	comp=Z,18nm,0.9s,mb4.5						
PAX	**Paxson**	**22.56**	**45**	*e*P	**P**	**22 43 41.1**	**-1.1**
PAX				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.5						
MENT	**Mentasta**	**23.33**	**45**	*e*P	**P**	**22 43 50.2**	**0.0**
DOT	**Dot Lake**	**23.35**	**43**	*e*P	**P**	**22 43 48.0**	**-2.4**
	comp=Z,43nm,0.8s,mb4.9						
YSS	**Yuzh-Sakhalins**	**23.59**	**274**	*e*P	**P**	**22 43 52.8**	**-0.2**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.7						
EGAK	**Eagle**	**24.86**	**41**	*e*P	**P**	**22 44 03.8**	**-0.6**
	comp=Z,44nm,1.1s,mb4.9						
ASAJ	**Asahikawa**	**24.95**	**268**	P	**P**	**22 44 05.5**	**0.0**
	comp=Z,24nm,0.8s,mb4.8,baz=50,slow=6.5,SNR=11						
ASAJ				LR	LR	22 53 37.6	
	comp=Z,98nm,18.7s,MS3.3,baz=81,slow=36						
ASAJ	**Asahikawa**	**24.95**	**268**	*e*P	**P**	**22 44 05.4**	**0.0**
	comp=Z,12nm,0.9s,mb4.4						
ASAJ	**Asahikawa**	**24.95**	**268**	P	**P**	**22 44 05.5**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,24nm,0.9s						
ASAJ				MLR	MLR		
	comp=Z,98nm,18.7s						
DAWY	**Dawson**	**25.46**	**43**	*e*P	**P**	**22 44 10.2**	**+0.4**
ERM	**Erimo**	**25.68**	**263**	*e*P	**P**	**22 44 13.1**	**+1.0**
ERM				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.5						
YAK	**Yakutsk**	**28.25**	**312**	*e*P	**P**	**22 44 33.8**	**-1.1**
	comp=Z,47nm,0.9s,mb5.1						
YAK	**Yakutsk**	**28.25**	**312**	*e*P	**P**	**22 44 32.3**	**-2.6**
YAK				pmax	pmax		
	comp=Z,49nm,1.0s,mb5.1						
YAK				pmax	pmax		
	comp=E,26nm,1.1s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.1s						
YAK				MLR	MLR		
	comp=Z,209nm,17.0s,MS3.8						
YAK				MLR	MLR		
	comp=E,185nm,15.0s,MS3.9						
YAK				MLR	MLR		
	comp=N,143nm,16.0s,MS3.9						
INK	**Inuvik**	**28.64**	**35**	P	**P**	**22 44 37.7**	**-0.6**
	comp=N,8.9nm,0.8s,mb4.5,baz=247,slow=8.4,SNR=12						
INK				PcP	PcP	22 47 47.1	-1.3
	comp=N,1.3nm,0.8s,baz=252,slow=4.1,SNR=3.2						
INK	**Inuvik**	**28.64**	**35**	*e*P	**P**	**22 44 38.2**	**-0.1**
	comp=N,13nm,1.0s,mb4.6						
INK	**Inuvik**	**28.64**	**35**	P	**P**	**22 44 37.7**	**-0.6**
INK						22 47 47.1	
INK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MJAR	**Matsushiro Arr**	**32.03**	**259**	P	**P**	**22 45 08.0**	**-0.6**
	comp=Z,0.6nm,0.4s,mb3.8,baz=51,slow=9.7,SNR=4.8						
MJAR				PcP	PcP	22 47 57.0	-0.8
	comp=Z,1.5nm,0.7s,baz=50,slow=15,SNR=4.9						
MJAR	**Matsushiro Arr**	**32.03**	**259**	P	**P**	**22 45 08.0**	**-0.6**
MJAR				PcP	PcP	22 47 57.0	-0.8
MJAR	**Matsushiro Arr**	**32.03**	**259**	P	**P**	**22 45 08.0**	**-0.6**
MJAR						22 47 57.0	
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MAT	**Matsushiro**	**32.03**	**259**	P	**P**	**22 45 06.2**	**-2.4**
MDJ	**Mudanjiang**	**32.88**	**278**	P	**P**	**22 45 14.8**	**-1.1**
MDJ				pP	pP	22 45 17.6	-5.2
MDJ				PP	PP	22 46 28.5	-1.8
MDJ				PcP	PcP	22 47 57.4	-2.7
MDJ				S	**S**	**22 50 31.8**	**-0.2**
MDJ				ScP	ScP	22 51 41.1	-1.4
MDJ				PcS	PcS	22 51 44.3	-0.9
MDJ				ScS	ScS	22 55 43.3	+0.9
MDJ				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
MDJ				pmax	pmax		
	comp=Z,130nm,10.8s						
MDJ				LR	LR		
	comp=N,31nm,11.0s						
MDJ				LR	LR		
	comp=E,110nm,19.1s						
MDJ				LR	LR		
	comp=Z,160nm,17.2s						
YKA	**Yellowknife Ar**	**36.64**	**46**	P	**P**	**22 45 47.0**	**-1.2**
	comp=Z,4.4nm,0.7s,mb4.4,baz=281,slow=8.2,SNR=11						
YKA				PcP	PcP	22 48 10.1	-0.5
	comp=Z,1.0nm,0.6s,baz=289,slow=3.4,SNR=4.5						
YKA	**Yellowknife Ar**	**36.64**	**46**	P	**P**	**22 45 47.0**	**-1.2**
YKA				PcP	PcP	22 48 10.1	-0.5
YKA	**Yellowknife Ar**	**36.64**	**46**	P	**P**	**22 45 47.0**	**-1.2**
YKA						22 48 10.1	
YKA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KSRS	**Korea Array**	**37.89**	**269**	P	**P**	**22 45 59.5**	**+0.4**
	comp=Z,4.9nm,0.8s,mb4.3,baz=56,slow=8.0,SNR=22						
KSRS				LR	LR	22 58 54.1	
	comp=Z,79nm,20.6s,MS3.5,baz=55,slow=32						
KSRS	**Korea Array**	**37.89**	**269**	P	**P**	**22 45 59.5**	**+0.4**
KSRS				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
KSRS				MLR	MLR		
	comp=Z,79nm,20.6s,MS3.5						
ETW	**Entiat**	**39.02**	**70**	*e*P	**P**	**22 46 07.5**	**-1.1**
H04A	**Detroit Lake**	**39.37**	**75**	⇑P	**P**	**22 46 11.4**	**-0.1**
	baz=39						
G06A	**Carlson Farm,**	**40.02**	**74**	⇑P	**P**	**22 46 17.3**	**+0.4**
	baz=40						
C09A	**Chrisman Ranch**	**40.14**	**69**	⇑P	**P**	**22 46 17.6**	**-0.3**
	baz=40						
NEW	**Newport**	**40.59**	**68**	⇓P	**P**	**22 46 21.7**	**+0.1**
	baz=40						
NEW	**Newport**	**40.59**	**68**	*e*P	**P**	**22 46 21.0**	**-0.5**
	comp=Z,7.8nm,0.8s,mb4.4						
NEW	**Newport**	**40.59**	**68**	*e*P	**P**	**22 46 21.0**	**-0.5**
NEW				pmax	pmax		
	comp=Z,8.0nm,0.8s						
YBH	**Yreka Blue Hor**	**40.64**	**80**	*e*P	**P**	**22 46 23.4**	**+1.3**
	comp=Z,7.8nm,1.0s,mb4.3						
YBH	**Yreka Blue Hor**	**40.64**	**80**	*e*P	**P**	**22 46 23.4**	**+1.4**
YBH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
E09A	**Wood Farm, Sta**	**40.86**	**71**	⇓P	**P**	**22 46 23.9**	**+0.1**
	baz=41						
G08A	**Pilot Rock**	**41.01**	**73**	⇑P	**P**	**22 46 25.1**	**+0.1**
	baz=41						
K05A	**Summer Lake**	**41.21**	**77**	⇓P	**P**	**22 46 27.4**	**+0.7**
	baz=41						
I07A	**Izee**	**41.32**	**75**	⇑P	**P**	**22 46 27.9**	**+0.3**
	baz=41						
F10A	**Beach Ranch, E**	**41.68**	**71**	⇓P	**P**	**22 46 30.7**	**+0.1**
	baz=42						
C12B	**Naegeli Ranch,**	**41.83**	**68**	⇓P	**P**	**22 46 31.5**	**-0.2**
	baz=42						
WALA	**Waterton Lakes**	**42.05**	**65**	*e*P	**P**	**22 46 32.6**	**-1.0**
BSMT	**Bassoo Peak**	**42.16**	**67**	*e*P	**P**	**22 46 34.5**	**+0.1**
BMO	**Blue Mountains**	**42.23**	**72**	*e*P	**P**	**22 46 35.2**	**+0.2**
	comp=Z,3.5nm,0.9s,mb4.0						
J08A	**Circle Bar Ran**	**42.34**	**75**	⇓P	**P**	**22 46 36.1**	**+0.2**
	baz=42						
A14A	**Double T Ranch**	**42.38**	**65**	⇓P	**P**	**22 46 35.4**	**-0.8**
	baz=42,SNR=5.8						
D13A	**Huson**	**42.73**	**68**	⇑P	**P**	**22 46 38.4**	**-0.7**
	baz=42						
WVOR	**Wild Horse Val**	**42.75**	**76**	*e*P	**P**	**22 46 39.9**	**+0.6**
	comp=Z,15nm,0.9s,mb4.7						
WVOR	**Wild Horse Val**	**42.75**	**76**	*e*P	**P**	**22 46 39.9**	**+0.6**
WVOR				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.7						
F12A	**Elk City**	**42.97**	**70**	⇓P	**P**	**22 46 40.9**	**-0.2**
	baz=43,SNR=10						
MSO	**Missoula**	**43.17**	**68**	⇓P	**P**	**22 46 42.5**	**-0.2**
	baz=43						
MSO	**Missoula**	**43.17**	**68**	*e*P	**P**	**22 46 42.3**	**-0.3**
	comp=Z,18nm,1.6s,mb4.5						
B15A	**Bradely Ranch,**	**43.20**	**66**	⇑P	**P**	**22 46 42.4**	**-0.5**
	baz=43,SNR=6.5						
E13A	**Victor**	**43.23**	**69**	⇑P	**P**	**22 46 43.1**	**0.0**
	baz=43						
D14A	**Greenough**	**43.30**	**68**	⇓P	**P**	**22 46 43.2**	**-0.4**
	baz=43						
A16A	**West Butte Ran**	**43.43**	**64**	⇓P	**P**	**22 46 44.4**	**-0.3**
	baz=43						
C15A	**Salmond Ranch,**	**43.45**	**66**	⇓P	**P**	**22 46 44.4**	**-0.5**
	baz=43,SNR=9.0						
CHMT	**Chamberlain Mo**	**43.53**	**68**	*e*P	**P**	**22 46 45.1**	**-0.4**
B16A	**M & M Farms, S**	**43.64**	**65**	⇑P	**P**	**22 46 46.4**	**-0.1**
	baz=43						
E14A	**Clinton**	**43.66**	**68**	⇓P	**P**	**22 46 46.6**	**+0.1**
	baz=43						
BJI	**Beijing**	**43.70**	**280**	P	**P**	**22 46 45.8**	**-1.2**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.8						
H12A	**Diamond D Ranc**	**43.86**	**71**	⇑P	**P**	**22 46 48.4**	**+0.1**
	baz=44						
D15A	**Lincoln**	**43.89**	**67**	⇑P	**P**	**22 46 48.0**	**-0.4**
	baz=44						
MFID	**Camas Ranch**	**43.91**	**73**	⇑P	**P**	**22 46 48.3**	**-0.4**
	baz=44						
MFID	**Camas Ranch**	**43.91**	**73**	*e*P	**P**	**22 46 48.9**	**+0.2**
	comp=Z,6.5nm,1.1s,mb4.3						
G13A	**Cobalt**	**43.93**	**70**	⇑P	**P**	**22 46 48.4**	**-0.5**
	baz=44,SNR=8.2						
C16A	**Fuhringer Ranc**	**43.94**	**66**	⇓P	**P**	**22 46 48.1**	**-0.7**
	baz=44						
A17A	**Triple J Farms**	**43.94**	**64**	⇑P	**P**	**22 46 47.4**	**-1.4**
	baz=44						
I12A	**Atlanta**	**44.12**	**72**	⇑P	**P**	**22 46 49.8**	**-0.5**
	baz=44						
G14A	**Jackson**	**44.31**	**70**	⇑P	**P**	**22 46 51.5**	**-0.3**
	baz=44						
D16A	**Dana Ranch, Ca**	**44.46**	**67**	⇓P	**P**	**22 46 52.8**	**-0.2**
	baz=44						
F15A	**Butte**	**44.55**	**69**	⇓P	**P**	**22 46 53.5**	**-0.3**
	baz=44						
C17A	**Wharram Farm,**	**44.59**	**66**	⇓P	**P**	**22 46 53.6**	**-0.4**
	baz=44						
I13A	**Wildhorse Cree**	**44.66**	**72**	⇓P	**P**	**22 46 54.5**	**-0.1**
	baz=44,SNR=11						
HLID	**Hailey**	**44.68**	**72**	⇓P	**P**	**22 46 54.7**	**0.0**
	baz=44,SNR=9.3						
HLID	**Hailey**	**44.68**	**72**	*e*P	**P**	**22 46 54.9**	**+0.1**
	comp=Z,7.2nm,0.9s,mb4.5						
TLY	**Talaya**	**44.69**	**301**	*e*P	**P**	**22 47 03.7**	**+8.9**
TLY				*e*SS	SS	22 56 36.1	-14
TLY				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.6						
TLY				MLR	MLR		
	comp=Z,248nm,19.0s,MS4.2						
H14A	**Leadore**	**44.71**	**71**	⇓P	**P**	**22 46 55.1**	**+0.1**
	baz=44						
B18A	**Beardsley Farm**	**44.75**	**64**	⇑P	**P**	**22 46 55.0**	**-0.3**
	baz=44						

baz=46,SNR=10
YFT Old Faithful 46.30 69 eP P 22 47 08.8 +1.1
comp=Z,8.7nm,0.7s,mb4.8
K15A Arbon 46.31 72 ⇑P P 22 47 07.9 +0.2
baz=46,SNR=6.3
E19A Rath Farm, Rou 46.36 66 ⇓P P 22 47 07.9 -0.2
baz=46
IMW Indian Meadow 46.56 70 P P 22 47 10.1 +0.4
comp=Z,4.9nm,0.9s,mb4.4
FLWY Flagg Ranch 46.59 70 eP P 22 47 10.1 +0.2
comp=Z,6.4nm,0.8s,mb4.6
F19A Roth Farm, Mol 46.61 67 ⇑P P 22 47 10.0 0.0
baz=46
RRI2 Red Ridge 46.65 71 eP P 22 47 10.4 +0.1
comp=Z,5.8nm,0.6s,mb4.7
HVU Hansel Valley 46.69 73 eP P 22 47 11.0 +0.3
comp=Z,6.0nm,0.8s,mb4.6
HVU Hansel Valley 46.69 73 eP P 22 47 11.0 +0.3
HVU pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
K16A Soda Springs 46.79 72 ⇓P P 22 47 12.3 +0.9
baz=47
L15A Malad City 46.79 73 ⇑P P 22 47 11.8 +0.3
baz=47
RLMT Red Lodge 46.84 68 ⇓P P 22 47 11.9 +0.1
baz=47,SNR=6.9
RLMT Red Lodge 46.84 68 eP P 22 47 12.4 +0.6
comp=Z,11nm,1.0s,mb4.7
BGU Big Grassy Mou 47.05 74 eP P 22 47 13.6 +0.1
comp=Z,4.9nm,0.8s,mb4.5
R11A Troy Canyon, C 47.05 79 ⇑P P 22 47 13.1 -0.4
baz=47,SNR=5.6
M15A Larsen Ranch, 47.08 74 ⇓P P 22 47 14.0 +0.3
baz=47
H19A Powell 47.26 68 ⇑P P 22 47 15.1 0.0
baz=47
L16A Fish Haven 47.36 72 ⇓P P 22 47 16.3 +0.4
baz=47
N15A Stansbury Isla 47.38 74 ⇑P P 22 47 16.4 +0.3
baz=47
G20A Bridger 47.39 67 ⇓P P 22 47 15.6 -0.6
baz=47,SNR=5.5
D22A Cohagen 47.46 64 ⇑P P 22 47 17.2 +0.6
baz=47
J18A Kendall Valley 47.50 70 ⇑P P 22 47 17.1 +0.1
baz=47
HWUT Hardware Ranch 47.52 73 eP P 22 47 17.0 -0.2
DUG Dugway 47.62 75 ⇑P P 22 47 17.8 -0.2
baz=47,SNR=9.6
C23A Lambert 47.65 62 ⇓P P 22 47 17.8 -0.3
baz=47
K18A Toltan Ranch, 47.82 71 ⇓P P 22 47 20.1 +0.6
baz=48
H20A Greybull 47.94 68 ⇓P P 22 47 20.4 0.0
baz=48
BW06 Boulder Array 48.03 70 ⇑P P 22 47 20.9 -0.2
baz=48,SNR=5.9
BW06 Boulder Array 48.03 70 eP P 22 47 21.2 0.0
comp=Z,12nm,0.9s,mb4.9
PDAR Pinedale Array 48.03 70 P P 22 47 20.5 -0.6
comp=Z,2.0nm,0.8s,mb4.2,baz=297,slow=4.0,SNR=7.0
PDAR Pinedale Array 48.03 70 P P 22 47 20.6 -0.6
M17A Scullys Gap (B 48.14 72 ⇓P P 22 47 22.3 +0.3
baz=48
I20A Worland 48.18 68 ⇓P P 22 47 22.5 +0.2
baz=48
GSC Goldstone 48.21 83 P P 22 47 22.7 +0.1
comp=Z,4.8nm,0.7s,mb4.6
GSC Goldstone 48.21 83 P P 22 47 22.7 +0.1
GSC pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
L18A Fontenelle, Gr 48.25 72 ⇑P P 22 47 22.9 0.0
baz=48
K19A Absolon Red Bu 48.42 70 ⇓P P 22 47 23.9 -0.2
baz=48
J21A Lysite 48.94 69 ⇑P P 22 47 28.4 +0.4
baz=49
I22A 9 Mile Ranch, 49.17 67 ⇑P P 22 47 30.1 +0.2
baz=49
GMRC Granite Mounta 49.26 83 ⇓P P 22 47 31.2 +0.5
baz=49
J22A Midwest 49.46 68 ⇑P P 22 47 32.0 -0.1
baz=49
O19A Miners Draw (B 49.79 73 ⇑P P 22 47 34.8 +0.2
baz=50
L21A Rawlins 49.81 70 ⇓P P 22 47 34.3 -0.5
baz=50
K22A Casper 49.89 69 ⇓P P 22 47 35.3 -0.1
baz=50
M21A Separation Pea 50.03 70 ⇑P P 22 47 36.5 0.0
baz=50
P19A Cripple Cowboy 50.28 73 ⇓P P 22 47 38.2 -0.2
baz=50,SNR=5.5
O20A White River Ci 50.42 72 ⇓P P 22 47 39.5 +0.1
baz=50
S17A Black Ridge (B 50.44 77 ⇑P P 22 47 39.8 +0.3
baz=50
SPITS Spitsbergen Ar 50.45 355 LR LR 23 08 04.8
comp=Z,47nm,18.9s,MS3.5,baz=25,slow=35
N21A Black Mountain 50.46 71 ⇑P P 22 47 39.7 -0.1
baz=50
Q19A Hogan Spring (50.54 74 ⇓P P 22 47 40.2 -0.1
baz=50,SNR=6.8
J24A Dixon Ranch, L 50.57 67 ⇓P P 22 47 40.4 -0.1
baz=50
L23A Garrett 50.70 69 ⇑P P 22 47 41.2 -0.4
baz=50
P20A De Beque 50.72 73 ⇑P P 22 47 41.4 -0.3
baz=50
O21A Pagoda 50.83 72 ⇓P P 22 47 42.7 +0.2
baz=51
S18A Hurst Farm, Bl 50.90 76 ⇑P P 22 47 43.3 +0.3
baz=51
R19A Curley Farm, L 50.96 75 ⇑P P 22 47 43.4 -0.1
baz=51
N22A Wattenberg Ran 51.07 71 ⇑P P 22 47 44.5 +0.2
baz=51
ULM Lac du Bonnet 51.25 55 P P 22 47 44.8 -0.7
comp=Z,2.7nm,0.6s,mb4.3,baz=304,slow=3.6,SNR=2.9
ULM LR LR 23 09 46.5
comp=Z,194nm,21.1s,MS4.1,baz=298,slow=36
ULM Lac du Bonnet 51.25 55 P P 22 47 44.8 -0.7
ULM LR LR 23 09 46.5
ULM Lac du Bonnet 51.25 55 P P 22 47 44.8 -0.7
S19A Harvey Farm, M 51.38 75 ⇓P P 22 47 47.0 +0.2
baz=51
O22A Kremmling 51.41 71 ⇓P P 22 47 47.1 +0.2
baz=51
PV01 Paradox Valley 51.48 75 eP P 22 47 47.6 +0.2
S20A Disappointment 51.80 75 ⇑P P 22 47 50.1 +0.2
baz=52
R21A Cimarron 51.95 74 ⇑P P 22 47 51.3 +0.4
baz=52
XAN Xi'an 51.97 279 P P 22 47 50.5 -0.7
XAN pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
Q22A Crested Butte, 52.02 73 ⇑P P 22 47 51.9 +0.5
baz=52
T19A Beclabito 52.04 76 ⇑P P 22 47 51.8 +0.2
baz=52,SNR=5.6
ISCO Idaho Springs 52.20 71 ⇑P P 22 47 53.1 +0.3
baz=52
S21A Coal Bank Pass 52.25 75 ⇓P P 22 47 53.7 +0.5
baz=52
Q23A Hartsel 52.64 72 ⇓P P 22 47 56.4 +0.3
baz=52
S22A 4UR Ranch, Cre 52.78 74 ⇓P P 22 47 58.1 +1.0
baz=53
ZAA0 Zalesovo Array 52.89 312 eP P 22 47 57.0 -0.7
ZALV Zalesovo Beam 52.89 312 P P 22 47 56.6 -1.0
comp=Z,3.0nm,0.9s,mb4.2,baz=54,slow=6.7,SNR=9.6
ZALV PcP PcP 22 49 06.4 -0.1
comp=Z,3.8nm,0.8s,baz=37,slow=5.6,SNR=5.4
ZALV Zalesovo Beam 52.89 312 P P 22 47 56.6 -1.0
ZALV PcP PcP 22 49 06.4 -0.1
ZALV Zalesovo Beam 52.89 312 P P 22 47 56.6 -1.1
ZALV 22 49 06.4
ZALV pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
NVS Novosibirsk 53.07 314 ⇑iP P 22 47 56.5 -2.5
NVS pmax pmax
comp=Z,33nm,1.9s,mb4.9
U21A Nageezi 53.14 76 ⇓P P 22 48 00.5 +0.8
baz=53
T22A Edith 53.21 75 ⇑P P 22 48 00.4 +0.1
baz=53
P25A Willow Gulch B 53.24 70 ⇓P P 22 48 00.9 +0.4
baz=53
R24A Sanders Place, 53.51 72 ⇑P P 22 48 03.3 +0.8
baz=53
Q25A Bedland, Calha 53.58 71 ⇑P P 22 48 03.2 +0.2
baz=53
SDCO Great Sand Dun 53.59 73 ⇑P P 22 48 03.5 +0.5
baz=53,SNR=9.3
SDCO Great Sand Dun 53.59 73 eP P 22 48 03.7 +0.6
comp=Z,6.2nm,1.0s,mb4.5
U22A Llaves 53.66 75 ⇓P P 22 48 04.2 +0.7
baz=53
LZH Lanzhou 53.75 284 P P 22 48 04.0 -0.3
LZH pP pP 22 48 08.4 -3.0
LZH sP sP 22 48 10.3 -3.9
LZH PP PP 22 50 03.3 -1.8
LZH eS S 22 55 38.3 +1.1
LZH sS sS 22 55 46.3 -2.6
LZH SS SS 22 59 10.0 -7.6
LZH pmax pmax
comp=Z,17nm,1.3s,mb4.8
LZH pmax pmax
comp=Z,110nm,5.4s
LZH LR LR
comp=N,200nm,13.2s,MS4.5
LZH LR LR
comp=E,170nm,13.6s,MS4.5
LZH LR LR
comp=Z,400nm,16.4s,MS4.6
117A Oracle 53.79 81 ⇓P P 22 48 05.1 +0.4
baz=54
S24A Houchin Ranch, 53.83 73 ⇑P P 22 48 05.3 +0.5
baz=54
X20A Quemado 53.86 78 ⇑P P 22 48 05.7 +0.6
baz=54
SUMG Summit 53.91 13 eP P 22 48 04.6 -0.3
comp=Z,246nm,2.9s,mb5.6
SUMG Summit 53.91 13 eP P 22 48 04.6 -0.3
SUMG pmax pmax
comp=Z,246nm,2.9s
SUMG Summit 53.91 13 iP P 22 48 04.6 -0.3
comp=Z,7.8nm,0.9s,mb4.6
GTA Gaotai 54.01 290 P P 22 48 06.4 +0.3
GTA pP pP 22 48 10.4 -2.8
GTA sP sP 22 48 13.0 -3.0
GTA PP PP 22 50 11.3 +4.0
GTA S S 22 55 39.8 -0.7
GTA sS sS 22 55 48.3 -4.0
GTA pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
GTA pmax pmax
comp=Z,89nm,6.2s
GTA LR LR
comp=N,160nm,19.9s,MS4.2
GTA LR LR
comp=E,120nm,18.5s,MS4.2
GTA LR LR
comp=Z,210nm,20.4s,MS4.2
R25A Fountain Ranch 54.05 72 ⇑P P 22 48 06.4 0.0
baz=54
U23A El Rito 54.09 75 ⇓P P 22 48 07.3 +0.5
baz=54,SNR=5.4
ENH Enshi 54.16 275 eP P 22 48 06.3 -1.0
comp=Z,13nm,1.0s,mb4.8
118A Homack Ranch, 54.23 81 ⇑P P 22 48 08.1 +0.3
baz=54
S25A Robets Cordova 54.28 72 ⇓P P 22 48 08.4 +0.3
baz=54,SNR=6.6
T24A Torres, Weston 54.29 73 ⇑P P 22 48 08.4 +0.2
baz=54,SNR=5.2
X21A Alamocita Cree 54.37 78 ⇓P P 22 48 09.5 +0.7
V23A Ortiz Mt. (NFS 54.48 75 ⇑P P 22 48 10.7 +1.1
baz=54
T25A Trinidad 54.64 73 ⇑P P 22 48 11.1 +0.4
baz=54,SNR=10
Z20A Nine Sixteen R 54.76 79 ⇓P P 22 48 11.9 +0.3
baz=55
V24A Rampart Ranch, 55.05 75 ⇓P P 22 48 14.2 +0.4
baz=55,SNR=6.1
U25A Circle Dot Ran 55.13 74 ⇑P P 22 48 14.3 0.0
baz=55,SNR=5.3
X23A Hourglass Bar 55.26 76 ⇓P P 22 48 16.2 +1.0
baz=55
W24A Lazy 6 Ranch, 55.31 75 ⇑P P 22 48 16.5 +0.9
baz=55
V25A Rancho No Teng 55.37 74 ⇑P P 22 48 16.4 +0.3
baz=55,SNR=7.0
U26A Atchley Ranch, 55.53 73 ⇓P P 22 48 17.2 0.0
baz=55,SNR=5.1
220A Playas Peak, P 55.62 80 ⇑P P 22 48 18.1 +0.2
baz=55
Y23A Lovelace Mesa, 55.77 77 ⇑P P 22 48 19.4 +0.5
baz=56
W25A X Bar L Ranch, 55.88 75 ⇓P P 22 48 20.1 +0.4
baz=56,SNR=7.8
V26A Tequesquite Ra 55.90 74 ⇑P P 22 48 19.8 -0.1
baz=56,SNR=5.2
Y24A Capitan 56.16 76 ⇓P P 22 48 21.8 +0.1
baz=56,SNR=9.4
X25A Clemmons Ranch 56.22 75 ⇑P P 22 48 22.7 +0.6
baz=56
CBKS Cedar Bluff 56.31 68 ⇑P P 22 48 22.7 0.0
baz=56
Z24A Sheeppen Canyo 56.60 77 ⇑P P 22 48 25.6 +0.8
baz=56
Y25A Mesa, Roswell 56.61 76 ⇑P P 22 48 25.4 +0.5
baz=56
X26A CR and CF Fran 56.73 75 ⇑P P 22 48 26.2 +0.5
baz=56
W27A Bowe Ranch, En 56.83 74 ⇓P P 22 48 27.2 +0.7
baz=57
124A Stringfield Ra 56.98 78 ⇓P P 22 48 27.8 +0.3
baz=57
CD2 Chengdu 57.30 280 P P 22 48 30.0 +0.2
CD2 pP pP 22 48 34.6 -2.4
CD2 sP sP 22 48 37.0 -2.8
CD2 PP PP 22 50 38.6 +1.8
CD2 S S 22 56 23.3 -1.3
CD2 sS sS 22 56 31.4 -5.0
CD2 SS SS 23 00 13.6 0.0
CD2 pmax pmax
comp=Z,20nm,0.5s,mb5.4
CD2 pmax pmax
comp=Z,140nm,5.4s
CD2 LR LR
comp=E,1μm,14.9s
CD2 LR LR
comp=Z,910nm,16.1s,MS5.0
224A Cornudas Mount 57.36 78 ⇑P P 22 48 30.6 +0.3
baz=57
Z26A Caprock 57.49 76 ⇑P P 22 48 31.3 +0.1
baz=57
125A Gardner Draw, 57.49 77 ⇓P P 22 48 31.2 +0.1
baz=57,SNR=6.1
Y27A Causey 57.57 75 ⇑P P 22 48 32.2 +0.5
baz=57
AMTX Amarillo 57.79 73 ⇑P P 22 48 33.7 +0.5
baz=58
KURK Kurchatov 57.88 312 eP P 22 48 33.3 -0.4
comp=Z,19nm,1.0s,mb5.1
KURK Kurchatov 57.88 312 ciP P 22 48 33.3 -0.4
KURK pmax pmax
comp=Z,18nm,1.0s,mb5.1
126A Clayton Basin, 57.89 77 ⇑P P 22 48 33.9 -0.1
baz=58
Z27A Tatum 57.93 75 ⇑P P 22 48 34.6 +0.4
baz=58
WMQ Urumqi 57.97 301 P P 22 48 36.3 +1.9
ARCES ARCESS Array B 57.98 349 P P 22 48 33.6 -0.5
comp=Z,5.3nm,0.9s,mb4.6,baz=18,slow=9.5,SNR=6.6
ARCES LR LR 23 14 21.8
comp=Z,117nm,18.7s,MS4.0,baz=337,slow=37
ARCES ARCESS Array B 57.98 349 P P 22 48 33.6 -0.5
ARCES LR LR 23 14 21.8
ARCES ARCESS Array B 57.98 349 P P 22 48 33.6 -0.5
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES MLR MLR
comp=Z,117nm,18.7s
325A Bean Ranch, Si 58.19 78 ⇓P P 22 48 36.2 +0.1
baz=58,SNR=5.4
425A Indio Mountain 58.58 79 ⇑P P 22 48 39.2 +0.4
baz=58
GYA Guiyang 58.60 274 P P 22 48 40.0 +1.0
GYA PP PP 22 50 51.4 +2.9
GYA ScP ScP 22 53 29.0 +1.2
GYA S S 22 56 41.8 +0.1
GYA sS sS 22 56 47.8 -5.8
GYA SS SS 23 00 35.3 +1.1
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
GYA pmax pmax
comp=Z,110nm,5.8s
GYA LR LR
comp=N,490nm,19.8s,MS4.8
GYA LR LR
comp=E,480nm,20.0s,MS4.8
GYA LR LR
comp=Z,510nm,18.4s,MS4.7
APA Apatity 58.70 345 ⇑eP P 22 48 44.6 +5.5
APA MLR MLR
comp=Z,1μm,16.0s,MS5.0
MK31 Makanchi Array 58.78 307 eP P 22 48 39.0 -1.0
MK31 Makanchi Array 58.78 307 ceP P 22 48 38.6 -1.4
MK31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
MKAR Makanchi Array 58.78 307 P P 22 48 38.8 -1.1
comp=Z,5.6nm,0.8s,mb4.6,baz=52,slow=5.9,SNR=48
MKAR Makanchi Array 58.78 307 P P 22 48 38.8 -1.1
MKAR Makanchi Array 58.78 307 P P 22 48 38.8 -1.2
MKAR pmax pmax
comp=Z,6.0nm,0.8s
326A Caldwell Ranch 58.84 78 ⇑P P 22 48 40.9 +0.3
baz=59
426A McDonald Obser 59.26 78 ⇓P P 22 48 43.7 +0.2
baz=59
328A Wristen Ranch, 59.51 77 ⇑P P 22 48 45.0 -0.3
baz=59
WMOK Wichita Mounta 59.62 71 eP P 22 48 46.1 +0.1
comp=Z,7.6nm,0.9s,mb4.7
WMOK Wichita Mounta 59.62 71 eP P 22 48 46.1 +0.1
WMOK pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
526A Mary Lane Ranc 59.64 79 ⇑P P 22 48 46.4 +0.3
baz=59
BRVK Borovoye 59.92 318 eP P 22 48 48.0 +0.2
comp=Z,70nm,2.1s,mb5.3
BRVK Borovoye 59.92 318 eP P 22 48 48.0 +0.2
BRVK pmax pmax
comp=Z,70nm,2.1s,mb5.3
SOKR Solikamsk 59.95 330 ⇓iP P 22 48 49.1 +1.2
SOKR pmax pmax
comp=Z,30nm,0.9s,mb5.3
428A Kincaid Ranch, 60.04 77 ⇑P P 22 48 49.1 +0.1
baz=60,SNR=6.1
528A Cox Ranch, San 60.37 78 ⇓P P 22 48 51.2 0.0
baz=60
TXAR Lajitas Array 60.41 79 P P 22 48 50.9 -0.6
comp=Z,1.5nm,0.5s,mb4.3,baz=318,slow=5.3,SNR=7.9
TXAR Lajitas Array 60.41 79 P P 22 48 50.9 -0.6
TXAR Lajitas Array 60.41 79 P P 22 48 50.9 -0.6
TXAR pmax pmax
comp=Z,2.0nm,0.5s
627A Terlingua Ranc 60.50 79 ⇓P P 22 48 52.6 +0.5
baz=60
SVE Sverdlovsk 60.81 326 ⇑iP P 22 48 55.2 +1.4
SVE e 22 51 12.1
SVE pmax pmax
comp=Z,23nm,1.1s,mb5.2
SVE MLR MLR
comp=Z,236nm,15.0s,MS4.5
SCHQ Schefferville 61.24 37 LR LR 23 17 42.8
comp=Z,116nm,18.3s,MS4.1,baz=41,slow=38
ARU Arti 61.84 327 eP P 22 49 01.2 +0.5
comp=Z,21nm,1.0s,mb5.2
ARU Arti 61.84 327 diP P 22 49 01.0 +0.2
ARU e 22 51 15.9
ARU S S 22 57 26.9 +4.4
ARU SS SS 23 01 28.7 +5.1
ARU pmax pmax
comp=Z,31nm,1.2s,mb5.3
JCT Junction City 61.98 75 eP P 22 49 03.4 +1.3
comp=Z,7.8nm,1.0s,mb4.8
JCT Junction City 61.98 75 eP P 22 49 03.4 +1.3
JCT pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
MIAR Mount Ida 62.83 68 eP P 22 49 07.4 -0.3
comp=Z,22nm,1.0s,mb5.2
MIAR Mount Ida 62.83 68 eP P 22 49 07.4 -0.3
MIAR pmax pmax
comp=Z,21nm,1.0s,mb5.2
JOF Joensuu 63.33 344 eP P 22 49 10.9 +0.3
JOF pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
JOF Joensuu 63.33 344 ep P 22 49 10.9 +0.3
comp=Z,8.6nm,0.6s,mb5.1
KLMR Klimovskoe 63.56 339 eP P 22 49 10.9 -1.2
KLMR pmax pmax
comp=Z,20nm,1.3s,mb5.0
TKM2 Tokmak 2 64.88 308 P P 22 49 21.7 +0.7
SNR=9.0
TKM2 Tokmak 2 64.88 308 eP P 22 49 21.4 +0.4
comp=Z,8.6nm,0.8s,mb4.8
TKM2 ePcP PcP 22 49 54.3 +0.1
TKM2 Tokmak 2 64.88 308 iP P 22 49 21.4 +0.3
TKM2 pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
KAF Kangasniemi 64.91 346 eP P 22 49 19.8 -1.2
KAF Kangasniemi 64.91 346 ep P 22 49 19.8 -1.2
USP Ospenovka 65.17 309 P P 22 49 23.5 +0.6
SNR=10.0
OXF Oxford 65.26 65 eP P 22 49 23.0 -0.7
comp=Z,17nm,0.7s,mb5.2
OXF epP pP 22 49 34.1 +3.1
OXF Oxford 65.26 65 eP P 22 49 23.0 -0.7
OXF e*PP pP 22 49 34.1 +3.1
OXF pmax pmax
comp=Z,17nm,0.7s,mb5.2
KBK Karagaybulak 65.39 308 P P 22 49 24.9 +0.5
SNR=7.3
FINES FINESS Array B 65.58 346 P P 22 49 24.6 -0.8
comp=Z,8.0nm,0.8s,mb4.8,baz=26,slow=7.7,SNR=15
FINES LR LR 23 19 04.0
comp=Z,75nm,19.6s,MS3.9,baz=328,slow=37
FINES FINESS Array B 65.58 346 P P 22 49 24.6 -0.8
FINES LR LR 23 19 04.0
FINES FINESS Array B 65.58 346 P P 22 49 24.6 -0.7
FINES pmax pmax
comp=Z,8.0nm,0.8s
FINES MLR MLR
comp=Z,75nm,19.6s
AAK Ala-Archa 65.64 308 P P 22 49 26.6 +0.6
SNR=7.2
AAK Ala-Archa 65.64 308 eP P 22 49 26.4 +0.4
comp=Z,34nm,0.9s,mb5.4
AAK Ala-Archa 65.64 308 eP P 22 49 26.4 +0.4
AAK pmax pmax
comp=Z,34nm,0.9s,mb5.4
PLAL Pickwick Lake 65.68 64 eP P 22 49 25.1 -1.3
comp=Z,6.5nm,0.7s,mb4.8
LSA Lhasa 65.85 288 eP P 22 49 28.7 +1.2
comp=Z,5.4nm,0.7s,mb4.7
LSA Lhasa 65.85 288 eP P 22 49 28.7 +1.1
LSA pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
EKS2 Erkin-Say 65.97 309 P P 22 49 28.9 +0.8
SNR=10
EKS2 Erkin-Say 65.97 309 eP P 22 49 28.8 +0.7
comp=Z,11nm,0.9s,mb4.9
EKS2 Erkin-Say 65.97 309 eP P 22 49 28.8 +0.7
EKS2 pmax pmax
comp=Z,11nm,0.9s,mb4.9
AML Almayashu 66.41 308 P P 22 49 32.6 +1.6
SNR=5.1
AKTO Aktyubinsk 66.82 323 iP P 22 49 33.7 +0.2
AKTO pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
AB31 Akbulak array 67.03 321 ceP P 22 49 35.1 +0.3
AB31 pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
ABKAR Akbulak array 67.03 321 eP P 22 49 35.1 +0.3
KSH Kashi 67.20 305 P P 22 49 39.6 +3.5
KSH pP pP 22 49 44.3 +0.9
KSH sP sP 22 49 46.6 +0.5
KSH PcP PcP 22 50 06.8 +2.9
KSH PP PP 22 52 10.6 +6.8
KSH ScP 22 54 08.4
KSH PcS 22 54 10.1
KSH S S 22 58 34.3 +5.1
KSH sS sS 22 58 42.5 +1.3
KSH ScS ScS 22 59 33.8 +1.5
KSH SS SS 23 02 56.8 +8.9
KSH pmax pmax
comp=Z,18nm,0.9s,mb5.1

KSH pmax pmax
comp=Z,52nm,3.7s
KSH LR LR
comp=N,65nm,4.2s
KSH LR LR
comp=E,97nm,6.1s
KSH LR LR
comp=Z,96nm,5.2s
KK31 Karatay Array 67.22 311 *ce*P **P 22 49 36.2 +0.1**
KK31 pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
KKAR Karatay Array 67.22 311 *e*P **P 22 49 36.1 0.0**
comp=Z,7.7nm,0.8s,mb4.8
KKAR Karatay Array 67.22 311 *e*P **P 22 49 36.1 0.0**
KKAR pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
NB2 NORSAR Subarra 67.67 353 P **P 22 49 37.9 -0.8**
comp=Z,2.3nm,0.7s,mb4.3,baz=12,slow=6.5
NOA NORSAR Array B 67.67 353 P **P 22 49 37.6 -1.1**
comp=Z,2.5nm,0.7s,mb4.4,baz=11,slow=6.3,SNR=13
NOA LR LR 23 22 55.8
comp=Z,35nm,18.7s,MS3.6,baz=75,slow=39
NOA NORSAR Array B 67.67 353 P **P 22 49 37.6 -1.1**
NOA LR LR 23 22 55.8
NOA NORSAR Array B 67.67 353 P **P 22 49 37.6 -1.1**
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA MLR MLR
comp=Z,35nm,18.7s
CHTO Chiang Mai 69.02 274 *e*P **P 22 49 46.9 -0.8**
comp=Z,7.6nm,1.1s,mb4.5
CHTO Chiang Mai 69.02 274 *e*P **P 22 49 46.9 -0.8**
CHTO pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
CMAR Chiang Mai Arr 69.29 274 P **P 22 49 48.6 -0.8**
comp=Z,3.2nm,0.8s,mb4.3,baz=32,slow=7.6,SNR=16
CMAR Chiang Mai Arr 69.29 274 P **P 22 49 48.6 -0.8**
CMAR Chiang Mai Arr 69.29 274 P **P 22 49 48.6 -0.8**
CMAR pmax pmax
comp=Z,3.0nm,0.8s
OBN Obninsk 69.42 338 ⇓*i*P **P 22 49 49.6 -0.1**
OBN *e* 22 49 59.1
OBN pmax pmax
comp=Z,21nm,1.2s,mb4.9
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.1
TAPN Taplejung 69.63 288 *e*P **P 22 49 51.7 +0.3**
comp=Z,32nm,1.0s,mb5.2
ODAN Odare 70.18 288 *e*P **P 22 49 54.7 -0.1**
comp=Z,13nm,0.9s,mb4.9
GUN Gumba 70.30 290 *e*P **P 22 49 56.0 +0.5**
RAMN Ramite 70.58 289 *e*P **P 22 49 57.4 +0.1**
comp=Z,66nm,0.9s,mb5.6
KKN Kakani 70.74 290 *e*P **P 22 49 58.4 +0.2**
PKI Pulchoki 70.83 290 *e*P **P 22 49 59.1 +0.3**
PKIN Phulchoki 70.83 290 *e*P **P 22 49 59.1 +0.3**
comp=Z,22nm,0.8s,mb5.2
GKN Gorkha 70.96 291 *e*P **P 22 49 59.6 0.0**
comp=Z,37nm,0.9s,mb5.3
DMN Daman 70.98 290 *e*P **P 22 49 59.8 +0.1**
comp=Z,25nm,1.0s,mb5.1
DANN Dangsing 71.22 292 *e*P **P 22 50 01.3 +0.2**
comp=Z,55nm,0.9s,mb5.5
VRHR Novokhopersk 71.72 333 *e*P **P 22 50 02.5 -1.3**
VRHR pmax pmax
comp=Z,30nm,1.0s,mb5.2
VRHR pmax pmax
comp=N,1.0nm,0.3s
VRHR pmax pmax
comp=E,4.0nm,0.5s
KOLN Koldanda 71.75 292 *e*P **P 22 50 04.3 0.0**
comp=E,32nm,1.0s,mb5.2
VSR Storozhevoye 72.30 334 *e*P **P 22 50 05.7 -1.5**
VSR pmax pmax
comp=N,8.0nm,0.6s
VSR pmax pmax
comp=E,4.0nm,0.6s
VSR pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
KBL Kabul 74.57 306 *e*P **P 22 50 20.2 -0.7**
comp=Z,20nm,0.9s,mb5.0
KBL Kabul 74.57 306 *e*P **P 22 50 20.2 -0.7**
KBL pmax pmax
comp=Z,20nm,0.9s,mb5.0
AKASG Malin Array Be 75.18 340 P **P 22 50 23.8 -0.3**
comp=Z,5.7nm,0.5s,mb4.8,baz=22,slow=6.1,SNR=20
AKASG LR LR 23 25 34.1
comp=Z,51nm,18.2s,MS3.9,baz=10.0,slow=37
AKASG Malin Array Be 75.18 340 P **P 22 50 23.8 -0.4**
AKASG LR LR 23 25 34.1
AKASG Malin Array Be 75.18 340 P **P 22 50 23.8 -0.4**
AKASG pmax pmax
comp=Z,6.0nm,0.5s
AKASG MLR MLR
comp=Z,51nm,18.3s
AKBB Malin Array Si 75.18 340 *e*P **P 22 50 24.2 0.0**
AKBB Malin Array Si 75.18 340 *e*P **P 22 50 24.2 0.0**
KIEV Kiev 75.19 340 *e*P **P 22 50 24.0 -0.2**
comp=Z,10nm,0.6s,mb4.9
KIEV Kiev 75.19 340 *e*P **P 22 50 24.0 -0.2**
KIEV pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
OJC Ojcow 77.36 346 *e*P **P 22 50 36.5 0.0**
OJC Ojcow 77.36 346 *e*P **P 22 50 36.5 0.0**
IMYA Miami 77.45 313 *e*P **P 22 50 37.7 +0.4**
KWP Kalwaria Pacla 77.46 344 *e*P **P 22 50 37.6 +0.5**
KWP Kalwaria Pacla 77.46 344 *e*P **P 22 50 37.5 +0.4**
comp=Z,44nm,0.9s,mb5.4
KWP Kalwaria Pacla 77.46 344 *e*P **P 22 50 37.5 +0.4**
KWP pmax pmax
comp=Z,44nm,0.9s,mb5.4
KWP Kalwaria Pacla 77.46 344 ⇑*i*P **P 22 50 37.9 +0.8**
DPC Dobruska-Polom 77.72 348 *e*P **P 22 50 39.6 +1.1**
DPC Dobruska-Polom 77.72 348 *e*P **P 22 50 39.6 +1.1**
KIV Kislovodsk 77.77 329 *e*P **P 22 50 40.0 +1.1**
comp=Z,16nm,0.9s,mb4.9
KIV Kislovodsk 77.77 329 ⇓*i*P **P 22 50 40.2 +1.3**
KIV pmax pmax
comp=Z,20nm,1.0s,mb5.0
IKRD Kardeh 77.81 315 *e*P **P 22 50 37.7 -1.6**
IPAY Payeh 77.86 314 *e*P **P 22 50 40.3 +0.7**
STHS Stebnicka Huta 77.91 345 *e*P **P 22 50 40.5 +0.9**
STHS Stebnicka Huta 77.91 345 *e*P **P 22 50 40.5 +0.9**
IMOG Moghan 77.99 314 *e*P **P 22 50 41.6 +1.3**
KOLS Kolonicke sedl 78.21 344 *e*P **P 22 50 40.8 -0.5**
KOLS Kolonicke sedl 78.21 344 *e*P **P 22 50 40.8 -0.5**
PRU Pruhonice 78.29 349 *e*P **P 22 50 44.2 +2.5**
PRU Pruhonice 78.29 349 *e*P **P 22 50 44.2 +2.5**
CRVS Cervenica-Dubn 78.38 345 *e*P **P 22 50 42.9 +0.7**
CRVS pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
CRVS Cervenica-Dubn 78.38 345 *e*P **P 22 50 42.8 +0.6**
MEM Membach 78.39 355 P **P 22 50 42.4 +0.2**
comp=Z,15nm,2.8s,mb4.4
ZEI Tsey 78.43 328 *e*P **P 22 50 42.6 0.0**
ZEI pmax pmax
comp=Z,26nm,1.0s,mb5.1
SNF Seneffe 78.58 356 P **P 22 50 42.2 -1.1**
comp=Z,16nm,2.2s,mb4.6
BCLA Clavier 78.62 356 P **P 22 50 43.1 -0.4**
comp=Z,11nm,1.9s,mb4.5
BUR08 Bucovina Ar. S 78.91 342 *e*P **P 22 50 45.9 +0.7**
BURAR Bucovina Array 78.94 342 ⇓*i*P **P 22 50 46.0 +0.7**
TRPA Tarpa 78.94 344 ⇑*i*P **P 22 50 46.0 +0.7**
KECS Kecovo 78.94 345 *e*P **P 22 50 45.7 +0.4**
KECS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
KECS Kecovo 78.94 345 *e*P **P 22 50 45.7 +0.4**
GIVF Givet 78.96 356 *e*P **P 22 50 45.5 +0.1**
DOU Dourbes 78.98 356 P **P 22 50 45.1 -0.4**
BAIF Baives 79.03 356 *e*P **P 22 50 46.1 +0.3**
comp=Z,16nm,1.1s,mb4.6
VYHS Vyhne 79.19 346 *e*P **P 22 50 46.9 +0.2**
VYHS pmax pmax
comp=Z,1μm,9.9s
VYHS Vyhne 79.19 346 *e*P **P 22 50 46.9 +0.2**
WLF Walferdange 79.33 355 P **P 22 50 46.6 -0.8**
GERES GERESS Array B 79.51 350 P **P 22 50 48.0 -0.4**
comp=Z,0.8nm,0.8s,mb3.7,baz=27,slow=6.6,SNR=6.6
GERES GERESS Array B 79.51 350 P **P 22 50 48.0 -0.4**
GERES GERESS Array B 79.51 350 P **P 22 50 48.0 -0.4**
GERES pmax pmax
comp=Z,1.0nm,0.8s
TESR 79.70 341 ⇑*i*P **P 22 50 49.8 +0.3**
PLOR Plostina 80.33 340 ⇑*i*P **P 22 50 54.1 +1.2**

FLN La Foliniere 80.44 359 *e*P **P 22 50 53.5 0.0**
FLN *e*R
comp=Z,62nm,18.2s
PAGF Fort de Pagny 80.46 355 *e*P **P 22 50 54.2 +0.7**
comp=Z,8.6nm,1.1s,mb4.3
GNI Garni 80.46 326 *i* P **P 22 50 55.8 +2.1**
GNI pmax pmax
comp=Z,6.0nm,1.2s
CDF Champ du Feu 80.51 354 *e*P **P 22 50 54.0 +0.2**
comp=Z,8.2nm,0.9s,mb4.3
MEZF Maizieres J'vi 80.55 356 *e*P **P 22 50 53.6 -0.4**
LDF La Druitiere 80.61 359 *e*P **P 22 50 54.2 -0.2**
comp=Z,3.4nm,0.7s,mb4.1
WRA Warramunga Arr 80.67 222 P **P 22 50 52.5 -2.4**
comp=Z,2.1nm,0.8s,mb4.1,baz=30,slow=5.9,SNR=11
WRA Warramunga Arr 80.67 222 P **P 22 50 52.5 -2.4**
WRA Warramunga Arr 80.67 222 P **P 22 50 52.5 -2.4**
WRA pmax pmax
comp=Z,2.0nm,0.8s
GRR Gorron 80.82 360 *e*P **P 22 50 55.6 +0.1**
SFTF Sexfontaines 80.84 356 *e*P **P 22 50 55.7 +0.1**
ROSF Rostrenen 80.86 1 *e*P **P 22 50 55.9 +0.2**
ISHM Shahmirzad 80.90 318 *e*P **P 22 50 57.6 +1.4**
IANJ Anjilo 80.93 317 *e*P **P 22 50 56.8 +0.5**
SGMF Saint Gilles 80.95 1 *e*P **P 22 50 56.2 0.0**
HINF Hinteralfeld 81.13 354 *e*P **P 22 50 57.2 +0.1**
TIRR Tirgusor 81.27 339 ⇓*i*P **P 22 50 58.2 +0.3**
QUIF Quistinic 81.29 1 *e*P **P 22 50 59.0 +1.0**
SSF Saint Saulge 82.05 356 *e*P **P 22 51 01.8 -0.2**
comp=Z,4.2nm,0.7s,mb4.2
AVF Avril sur Loir 82.33 357 *e*P **P 22 51 03.6 +0.1**
CABF La Chapelle 82.38 355 *e*P **P 22 51 04.2 +0.5**
SMF Signal de Mont 82.45 356 *e*P **P 22 51 04.3 +0.1**
comp=Z,8.7nm,0.6s,mb4.5
BGF Bois d'Agland 82.58 357 *e*P **P 22 51 04.8 0.0**
MFF Saint Martin d 82.60 359 *e*P **P 22 51 04.1 -0.8**
comp=Z,13nm,0.9s,mb4.7
HYB Hyderabad 82.64 288 *i* P **P 22 51 05.0 -0.5**
IRAZ Razeghan 82.64 320 *e*P **P 22 51 01.4 -4.0**
TCF Toulx Ste Croi 82.87 357 *e*P **P 22 51 06.4 +0.1**
FITZ Fitzroy Crossi 82.97 230 P **P 22 51 05.7 -1.4**
comp=Z,6.1nm,0.9s,mb4.6,baz=22,slow=3.9,SNR=10
FITZ Fitzroy Crossi 82.97 230 P **P 22 51 05.7 -1.4**
LPL La Plagne 83.43 354 *e*P **P 22 51 10.1 +0.9**
LPG La Plagne 83.44 354 *e*P **P 22 51 09.8 +0.5**
RJF Les Rejaudoux 83.87 358 *e*P **P 22 51 11.7 +0.2**
RJF *e*R
comp=Z,60nm,21.8s
ORIF Oris-en-Rattie 84.08 355 *e*P **P 22 51 12.5 0.0**
ORIF *e*R
comp=Z,53nm,19.2s
VTS Vitosha 84.16 342 ⇑*i*P **P 22 51 13.1 +0.1**
ASAR Alice Springs 84.17 220 P **P 22 51 11.4 -1.7**
comp=Z,1.5nm,0.8s,mb4.2,baz=24,slow=5.7,SNR=13
ASAR Alice Springs 84.17 220 P **P 22 51 11.4 -1.7**
ASAR Alice Springs 84.17 220 P **P 22 51 11.5 -1.6**
ASAR pmax pmax
comp=Z,2.0nm,0.8s
VIVF Saint-Julien-l 84.20 356 *e*P **P 22 51 12.8 -0.4**
MBDF Montbardon 84.21 354 *e*P **P 22 51 13.1 -0.1**
comp=Z,12nm,0.9s,mb4.8
CAF Calviac 84.23 357 *e*P **P 22 51 12.8 -0.6**
LFF La Frestale 84.25 358 *e*P **P 22 51 13.5 +0.1**
BR131 Keskin Array S 84.38 333 *e*P **P 22 51 14.5 +0.3**
comp=Z,6.6nm,0.8s,mb4.8
BRTR Keskin Array B 84.38 333 P **P 22 51 14.1 -0.1**
comp=Z,8.3nm,0.8s,mb4.9,baz=40,slow=3.1,SNR=7.0
BRTR Keskin Array B 84.38 333 P **P 22 51 14.1 -0.1**
BRTR Keskin Array B 84.38 333 P **P 22 51 14.1 -0.1**
BRTR pmax pmax
comp=Z,8.0nm,0.8s
IDHR Dehrash 84.67 322 *e*P **P 22 51 15.0 -0.7**
IKOM Komasi 84.69 321 *e*P **P 22 51 15.3 -0.5**
LASF Ste Croix 85.02 356 *e*P **P 22 51 17.0 -0.3**
SBF Sospel 85.03 353 *e*P **P 22 51 17.6 +0.2**
comp=Z,31nm,0.6s,mb5.3
FRF La Foret Royal 85.38 354 *e*P **P 22 51 18.9 -0.2**
LMR La Mourre 85.62 354 *e*P **P 22 51 19.6 -0.7**
MTLF Montolieu 85.81 357 *e*P **P 22 51 20.9 -0.4**
EPF Esparros 86.17 359 *e*P **P 22 51 22.7 -0.4**
PGF Pioggiola 86.21 352 *e*P **P 22 51 23.5 +0.2**
ETSF Etsaut 86.31 359 *e*P **P 22 51 23.5 -0.3**
comp=Z,7.7nm,0.8s,mb4.7
STKA Stephens Creek 88.83 211 P **P 22 51 34.4 -1.3**
comp=Z,1.0nm,0.6s,mb4.3,baz=80,slow=6.1,SNR=3.1
STKA Stephens Creek 88.83 211 P **P 22 51 34.4 -1.3**
STKA Stephens Creek 88.83 211 P **P 22 51 34.4 -1.3**
ESDC Sonseca Array 89.51 2 P **P 22 51 37.9 -1.2**
comp=Z,0.9nm,0.8s,mb4.2,baz=341,slow=4.6,SNR=6.3
ESDC Sonseca Array 89.51 2 P **P 22 51 37.9 -1.2**
TORD Torodi Ar. Bea 115.89 356 PKP PKPdf 22 57 23.0 -1.9
comp=Z,0.4nm,0.7s,baz=334,slow=2.8,SNR=4.7
TORD Torodi Ar. Bea 115.89 356 PKP PKPdf 22 57 23.0 -1.9
TSUM Tsumeb 144.69 328 *e*PKPdf PKPdf 22 58 17.5 -1.3
MAW Mawson 145.25 217 PKPbc PKPbc 22 58 16.5 -1.5
comp=Z,2.6nm,0.6s,baz=78,slow=3.0,SNR=5.0
LBTB Lobatse 146.60 311 *e*PKPbc PKPbc 22 58 23.7 +0.3
BOSA Boshof 149.78 308 PKPbc PKPbc 22 58 31.3 -0.4
comp=Z,6.5nm,0.7s,baz=30,slow=3.4,SNR=15

SZGRF **14** *22:52:38.1,22.2°225×172.39E,h198km, Southeast of Loyalty Islands*
DJA **14** *22:52:44,21.761S×170.188E,h10km, mb5.8/26*
NOU **14** *22:52:54.9±1.3,20.250S×170.175E,h10km, MD3.6,ML4.0*
ISCJB **14** *22:52:59.8±0.7,21.163S±0.04×170.154E±0.04,h159km±5km, mb5.4/95, Error ellipse: s-maj=7.3km s-min=6.6km az=156.9*
MOS **14** *22:53:00.8±1.3,21.160S×170.147E,h161km, mb5.2/21, MS4.1/4, Error ellipse: s-maj=10.7km s-min=8.8km az=37.0*
NEIC **14** *22:53:00.9±0.2,21.163S×170.156E, mb5.5/38, Error ellipse: s-maj=5.3km s-min=4.8km az=121.0*
LDG **14** *22:53:00.0±0.2,21.102S×170.150E,h140km, Mb5.6/4, Ms4.1/6, Error ellipse: s-maj=23.4km s-min=4.6km az=155.0*
IDC **14** *22:53:00.3±0.8,21.163S×170.163E,h154km±6km, mb5.2/20, mb1 5.2/21,mb1mx5.1/23,mbtmp5.2/21,MS4.1/10, Ms1 4.1/10,ms1mx3.8/29,Error ellipse: s-maj=11.8km s-min=10.3km az=130.0*
BJI **14** *22:53:00.8,21.160S×170.150E,h164km, mB5.1/26, mb5.2/47*
GCMT **14** *22:53:02.5±0.1,21.162S×170.155E,h149km±1km,MW5.3, Moment Tensor Solution. s83,c129; s11,c11; Moment tensor: Scale 10^17Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mθφ0.00; Mφr0.00; Best double couple: M☉1.20000×10^17 NP1:φs96.00000°,δ53.00000°, λ13.00000°. NP2:φs358.00000°,δ80.00000°,λ142.00000°. Principal axes: T 1.2900, Plg34.0000°, Azm310.0000°; N -0.1400, Plg51.0000°, Azm165.0000°; P -1.1500, Plg17.0000°, Azm52.0000°; Data Used: ll IU IC G CN. Surface waves: sta= 97, comp=174, per= 50.*
BGS **14** *22:53:02.8±4.5,21.163S×170.156E,h157km, mb5.5(NEIC)*
ISC 14 22:53:00.6±0.6,21°63S±0.04×170°57E±0.04,h152km±4km, h163km±2.5km:pP-P,n570,σ092/234,mb5.4/95,80C-18D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.46**	**261**	*e*P	**Pn**		**22 53 53.4**	**-0.6**
BAYA				*e*S	**Sn**		**22 54 34.5**	**-0.8**
BAYA				AMP			22 54 39.5	
comp=Z,160nm,3.5s								
PLUM	**Mont Dore**	**3.70**	**259**	*e*P	**Pn**		**22 53 55.5**	**-1.5**
PLUM				*e*S	**Sn**		**22 54 42.0**	**+1.1**
PLUM				AMP			22 54 57.6	
comp=Z,1μm,0.9s								
NORM	**Noumea**	**3.84**	**260**	*e*P	**Pn**		**22 53 57.4**	**-1.4**
NORM				*e*S	**Sn**		**22 54 43.6**	**-0.5**
NORM				AMP			22 55 03.5	
comp=Z,1μm,0.0s								
DZM	**Mont Dzumac**	**3.86**	**263**	*e*Pn	**Pn**		**22 53 59.2**	**+0.1**
comp=Z,176nm,0.3s								
DZM				*e*Sn	**Sn**		**22 54 45.1**	**+0.6**
comp=Z,558nm,0.3s								
DZM	**Mont Dzumac**	**3.86**	**263**	*e*P	**Pn**		**22 53 57.9**	**-1.1**
DZM				*e*S	**Sn**		**22 54 43.6**	**-0.9**
DZM				AMP			22 54 51.3	
comp=Z,14μm,9.6s								
DZM	**Mont Dzumac**	**3.86**	**263**	*i* P	**Pn**		**22 53 59.3**	**+0.2**

DZM *e*S **Sn 22 54 41.5 -2.9**
NOUC Port Laguerre 3.99 262 *e*P **Pn 22 53 59.7 -1.1**
NOUC *e*S **Sn 22 54 49.3 +1.7**
NOUC AMP 22 54 56.9
comp=Z,666nm,6.0s
MSVF Nonsavu 8.04 62 *e*Pn **Pn 22 54 56.2 +1.6**
MSVF Nonsavu 8.04 62 *e*P **Pn 22 54 56.2 +1.6**
MSVF Nonsavu 8.04 62 Pn **Pn 22 54 56.6 +2.0**
comp=Z,2μm,0.9s,SNR=42
OUZ Omahuta 13.80 170 *e*Pn **Pn 22 56 11.2 +1.4**
FUNA Funafuti 15.46 34 *e*Pn **Pn 22 56 31.2 +0.6**
comp=Z,622nm,1.3s
HNR Honiara 15.86 318 *e*Pn **Pn 22 56 35.5 -0.1**
comp=Z,2μm,1.0s
HNR Honiara 15.86 318 *e*P **Pn 22 56 35.5 -0.1**
HNR pmax pmax
comp=Z,2μm,1.0s
URZ Urewera 17.51 163 P **Pn 22 56 55.9 +0.6**
comp=Z,1.5nm,0.3s,baz=21,slow=5.5,SNR=13
URZ LR LR 23 01 27.7
comp=Z,516nm,20.8s,baz=340,slow=29
URZ Urewera 17.51 163 *e*Pn **Pn 22 56 56.1 +0.8**
comp=Z,234nm,1.5s
EIDS Eidsvold 18.25 254 *e*Pn **Pn 22 57 05.2 +0.9**
comp=Z,211nm,0.8s
AFI Afiamalu 18.47 68 P **P 22 57 02.1 -2.9**
comp=Z,5.7nm,0.3s,baz=57,slow=5.8,SNR=9.0
AFI LR LR 23 02 05.7
comp=Z,251nm,21.9s,baz=259,slow=30
AFI Afiamalu 18.47 68 P **P 22 57 02.1 -2.9**
AFI LR LR 23 02 05.7
AFI Afiamalu 18.47 68 P **P 22 57 02.1 -2.9**
AFI pmax pmax
comp=Z,6.0nm,0.3s
AFI MLR MLR
comp=Z,251nm,21.9s
ARMA Armidale 19.12 239 *e*P **P 22 57 14.6 +2.7**
ARMA *e*S **S 23 00 46.0 +5.4**
ARMA Armidale 19.12 239 *e*Pn **Pn 22 57 14.7 +0.3**
comp=Z,148nm,0.8s
RPZ Rata Peaks 22.03 179 P **P 22 57 41.8 -0.9**
comp=Z,12nm,0.9s,mb4.3,baz=55,slow=6.1,SNR=4.1
RPZ LR LR 23 05 21.6
comp=Z,672nm,18.8s,baz=9.7,slow=34
RPZ Rata Peaks 22.03 179 P **P 22 57 41.8 -0.9**
RPZ LR LR 23 05 21.6
CTA Charters Tower 22.77 269 P **P 22 57 50.6 +0.5**
comp=Z,88nm,0.7s,mb5.3,baz=92,slow=12,SNR=64
CTA LR LR 23 05 12.9
comp=Z,486nm,20.8s,baz=91,slow=32
CTA Charters Tower 22.77 269 ⇑*i*P **P 22 57 50.9 +0.8**
comp=Z,67nm,0.6s,mb5.2
CTA *e*S **S 23 01 47.6 +0.1**
CTA Charters Tower 22.77 269 P **P 22 57 50.6 +0.5**
CTA LR LR 23 05 12.9
CTA Charters Tower 22.77 269 P **P 22 57 50.6 +0.5**
CTA pmax pmax
comp=Z,88nm,0.7s
CTA MLR MLR
comp=Z,486nm,20.8s
CTAO Charters Tower 22.77 269 *e*P **P 22 57 50.5 +0.4**
CTAO Charters Tower 22.77 269 *e*P **P 22 57 50.5 +0.4**
CTAO Charters Tower 22.77 269 P **P 22 57 50.7 +0.6**
comp=Z,3μmcomp=Z,143nm,0.8s,mb5.4
CTAO Charters Tower 22.77 269 P **P 22 57 50.7 +0.6**
comp=Z,3μmcomp=Z,143nm,0.8s,mb5.4
CNB Canberra Magne 23.03 229 *e*P **P 22 57 53.5 +1.1**
comp=Z,366nm,0.8s,mb5.9
CNB *e* 22 58 24.3
CAN Canberra 23.29 229 *e*P **P 22 57 55.3 +0.5**
comp=Z,141nm,1.4s,mb5.2
CAN Canberra 23.29 229 *e*P **P 22 57 55.3 +0.6**
CAN pmax pmax
comp=Z,141nm,1.4s,mb5.2
PMG Port Moresby 25.58 295 P **P 22 58 16.0 +0.3**
comp=Z,219nm,0.9s,mb5.8,baz=116,slow=6.5,SNR=50
PMG Port Moresby 25.58 295 *e*P **P 22 58 16.0 +0.3**
comp=Z,287nm,1.0s,mb5.9
PMG Port Moresby 25.58 295 *ce*P **P 22 58 16.0 +0.3**
PMG pmax pmax
comp=Z,309nm,1.0s
PMG Port Moresby 25.58 295 P **P 22 58 16.0 +0.3**
comp=Z,3μmcomp=Z,288nm,0.9s,mb5.9
TOO Toolangi 26.86 228 *e*P **P 22 58 27.8 +0.8**
comp=Z,69nm,0.9s,mb5.3
TOO *e* pP 22 58 58.4 -0.5
COEN Coen 27.15 282 *e*P **P 22 58 30.8 +1.1**
COEN Coen 27.15 282 P **P 22 58 31.1 +1.3**
comp=Z,3μmcomp=Z,230nm,1.3s,mb5.7
RAR Rarotonga 27.59 95 LR LR 23 07 04.9
comp=Z,272nm,18.4s,baz=278,slow=31
STKA Stephens Creek 27.73 242 P **P 22 58 35.7 +0.8**
comp=Z,62nm,0.8s,mb5.4,baz=74,slow=9.6,SNR=90
STKA PcP PcP 23 01 47.9 +0.1
comp=Z,12nm,0.8s,baz=57,slow=0.8,SNR=3.4
STKA ScP ScP 23 05 16.1 +1.8
comp=Z,16nm,0.8s,baz=71,slow=2.8,SNR=14
STKA Stephens Creek 27.73 242 *e*P **P 22 58 35.7 +0.8**
comp=Z,51nm,0.8s,mb5.3
STKA *e* 23 01 47.8
STKA *e* 23 05 16.8
STKA Stephens Creek 27.73 242 *e*P **P 22 58 35.6 +0.7**
comp=Z,17nm,0.9s,mb4.8
STKA *e*PcP PcP 23 01 47.8 +0.1
STKA Stephens Creek 27.73 242 *e*P **P 22 58 35.6 +0.7**
STKA *e* 23 01 47.8
STKA pmax pmax
comp=Z,17nm,0.9s
ASAR Alice Springs 33.84 259 P **P 22 59 27.9 -0.7**
comp=Z,97nm,0.8s,mb5.6,baz=93,slow=9.1,SNR=686
ASAR PcP PcP 23 02 03.1 -1.0
comp=Z,8.6nm,0.7s,baz=111,slow=3.3,SNR=7.1
ASAR S **S 23 04 40.2 -1.4**
comp=Z,4.7nm,0.8s,baz=91,slow=18,SNR=6.1
ASAR ScP ScP 23 05 36.0 +1.3
comp=Z,8.5nm,0.7s,baz=104,slow=3.8,SNR=15
ASAR Alice Springs 33.84 259 P **P 22 59 27.9 -0.7**
ASAR PcP PcP 23 02 03.1 -1.0
ASAR S **S 23 04 40.2 -1.4**
ASAR ScP ScP 23 05 36.0 +1.3
ASAR Alice Springs 33.84 259 P **P 22 59 28.0 -0.6**
ASAR 23 02 03.2
ASAR S **S 23 04 40.3 -1.3**
ASAR 23 05 36.0
ASAR pmax pmax
comp=Z,97nm,0.8s
ASAR smax
comp=N,5.0nm,0.9s
WB2 Warramunga Arr 33.86 266 *e*P **P 22 59 27.8 -1.0**
WRAB Tennant Creek 33.86 266 *e*P **P 22 59 27.9 -0.9**
comp=N,320nm,1.6s,mb5.8
WRAB Tennant Creek 33.86 266 *e*P **P 22 59 27.9 -0.9**
WRAB pmax pmax
comp=Z,320nm,1.6s,mb5.8
WRAB Tennant Creek 33.86 266 P **P 22 59 27.0 -1.8**
comp=Z,590nm,1.1s,mb6.2,SNR=48
WRAB Tennant Creek 33.86 266 P **P 22 59 27.5 -1.3**
comp=Z,3μmcomp=Z,203nm,1.7s,mb5.6
WRAB Tennant Creek 33.86 266 P **P 22 59 27.5 -1.3**
comp=Z,3μmcomp=Z,203nm,1.7s,mb5.6
WRA Warramunga Arr 33.87 266 P **P 22 59 27.8 -1.1**
comp=Z,83nm,0.9s,mb5.5,baz=99,slow=8.0,SNR=200
WRA PcP PcP 23 02 03.1 -1.2
comp=Z,8.7nm,0.9s,baz=95,slow=3.4,SNR=5.3
WRA ScP ScP 23 05 35.3 +0.4
comp=Z,8.0nm,0.9s,baz=89,slow=3.5,SNR=6.6
WRA LR LR 23 13 28.6
comp=Z,466nm,18.3s,baz=100,slow=36
WRA Warramunga Arr 33.87 266 P **P 22 59 27.8 -1.1**
WRA PcP PcP 23 02 03.1 -1.2
WRA ScP ScP 23 05 35.3 +0.4
WRA LR LR 23 13 28.6
WRA Warramunga Arr 33.87 266 P **P 22 59 27.8 -1.1**
WRA 23 02 03.1
WRA pmax pmax
comp=Z,83nm,0.9s
WRA MLR MLR
comp=Z,466nm,18.3s
JAY Jayapura 34.71 299 P **P 22 59 36.4 +0.2**
comp=Z,503nm,0.8s,mb6.2
TBI Tubuai 36.89 100 *e*LQ 23 08 15.3
comp=Z,758nm,35.0s
TBI *e*LR LR 23 10 03.6
comp=Z,510nm,29.5s
PPT Papeete 37.69 91 *e*LQ 23 09 00.0
comp=Z,1μm,26.5s

PPT eLR LR 23 10 27.7
comp=Z,639nm,27.8s
PPT Papeete 37.69 91 LR LR 23 12 37.3
comp=Z,157nm,21.5s,baz=281,slow=31
FORT Forrest 39.02 247⇑*iP* **P 23 00 12.3 -0.2**
comp=Z,158nm,0.6s,mb5.8
FORT Forrest 39.02 247 *eP* **P 23 00 12.2 -0.3**
comp=Z,359nm,1.2s,mb5.9
BAKI Biak 39.24 297 P **P 23 00 15.8 +1.4**
comp=Z,5μmcomp=Z,555nm,1.1s,mb6.1
TLE Tual 39.90 288 P **P 23 00 20.4 +0.4**
comp=Z,5μmcomp=Z,446nm,1.0s,mb6.0
FITZ Fitzroy Crossi 42.30 267 P **P 23 00 39.8 +0.3**
comp=Z,248nm,0.8s,mb5.9,baz=126,slow=8.0,SNR=390
FITZ pP pP 23 01 14.7 +1.6
comp=Z,61nm,1.0s,baz=109,slow=9.5,SNR=3.1
FITZ Fitzroy Crossi 42.30 267⇑*iP* **P 23 00 39.7 +0.2**
comp=Z,446nm,0.8s,mb6.2
FITZ *e*S **S 23 06 47.4 -1.6**
FITZ Fitzroy Crossi 42.30 267 *eP* **P 23 00 39.7 +0.2**
comp=Z,16nm,1.0s,mb4.6
FITZ *e*pP pP 23 01 15.1 +2.0
FITZ Fitzroy Crossi 42.30 267 P **P 23 00 39.5 0.0**
comp=Z,3μmcomp=Z,341nm,0.9s,mb6.0
BNDI Bandanaira 42.92 287 P **P 23 00 44.0 -0.6**
comp=Z,5μmcomp=Z,510nm,1.1s,mb6.1
GUMO Guam 43.14 322 P **P 23 00 46.3 0.0**
comp=Z,102nm,0.6s,mb5.7,baz=157,slow=13,SNR=9.3
GUMO Guam 43.14 322 *eP* **P 23 00 46.4 +0.2**
GUMO Guam 43.14 322 P **P 23 00 46.3 +0.1**
GUMO pmax pmax
comp=Z,102nm,0.6s,mb5.6
MSAI Masohi 44.32 288 P **P 23 00 58.3 +2.5**
comp=Z,3μmcomp=Z,22nm,0.9s,mb4.8
AAI Ambon 44.82 287 P **P 23 00 58.9 -0.8**
comp=Z,190nm,1.0s,mb5.7
NLAI Namlea 45.99 287 P **P 23 01 09.5 +0.5**
comp=Z,μmcomp=Z,275nm,1.4s,mb5.7
MBWA Marble Bar 47.16 261 *eP* **P 23 01 17.8 -0.1**
comp=Z,234nm,0.7s,mb5.9
MBWA Marble Bar 47.16 261 P **P 23 01 17.8 -0.2**
comp=Z,4μmcomp=Z,402nm,0.8s,mb6.1
MBWA Marble Bar 47.16 261 P **P 23 01 18.4 +0.4**
SNR=9.2
KLBR Kellerberrin 47.86 246⇑*iP* **P 23 01 22.7 -0.5**
comp=Z,138nm,0.5s,mb5.8
NWAO Narrogin (SRO) 48.28 245 P **P 23 01 25.9 -0.6**
comp=Z,198nm,0.7s,mb5.8,baz=95,slow=7.3,SNR=115
NWAO pP pP 23 02 02.3 +1.4
comp=Z,38nm,0.9s,baz=82,slow=9.8,SNR=3.4
NWAO Narrogin (SRO) 48.28 245 *eP* **P 23 01 25.9 -0.5**
comp=Z,173nm,0.8s,mb5.7
NWAO *e*pP pP 23 02 02.3 +1.4
NWAO Narrogin (SRO) 48.28 245 P **P 23 01 25.9 -0.5**
NWAO *PP pP 23 02 02.3 +1.4
NWAO pmax pmax
comp=Z,198nm,0.7s
NWAO pmax pmax
comp=Z,38nm,0.9s
NWAO Narrogin (SRO) 48.28 245 P **P 23 01 26.5 +0.1**
SNR=5.0
KDI Kendari 49.70 284 P **P 23 01 37.7 +0.2**
KAPI Kappang 51.87 281 P **P 23 01 52.1 -1.7**
comp=Z,146nm,0.9s,mb5.6,baz=83,slow=4.0,SNR=42
KAPI Kappang 51.87 281 *eP* **P 23 01 51.0 -2.8**
comp=Z,231nm,1.0s,mb5.8
KAPI *e*PP PP 23 03 51.0 -2.2
KAPI Kappang 51.87 281 P **P 23 01 52.1 -1.6**
comp=Z,2μmcomp=Z,256nm,1.1s,mb5.8
KAPI Kappang 51.87 281 P **P 23 01 51.8 -1.9**
SNR=21
DAV Davao City (W) 52.53 298 P **P 23 01 58.5 -0.1**
comp=Z,114nm,0.4s,mb6.0,baz=235,slow=5.8,SNR=6.1
DAV Davao City (W) 52.53 298 P **P 23 01 58.5 -0.1**
DAV Davao City (W) 52.53 298 P **P 23 01 59.5 +0.9**
SNR=5.2
VNDA Vanda 56.10 182 P **P 23 02 23.1 -0.4**
comp=Z,2.5nm,0.8s,baz=3.4,slow=7.4,SNR=12
VNDA ScP ScP 23 07 05.0 +0.5
comp=Z,1.2nm,0.8s,baz=18,slow=3.2,SNR=3.1
VNDA LR LR 23 21 15.1
comp=Z,202nm,21.5s,baz=18,slow=30
VNDA Vanda 56.10 182 *eP* **P 23 02 23.3 -0.1**
comp=Z,3.2nm,0.9s
VNDA Vanda 56.10 182 P **P 23 02 23.1 -0.3**
VNDA pmax pmax
comp=Z,3.0nm,0.8s
VNDA MLR MLR
comp=Z,202nm,21.5s
SBA Scott Base 56.30 181 *eP* **P 23 02 26.0 +1.1**
comp=Z,17nm,0.8s,mb4.9
SBA Scott Base 56.30 181 *eP* **P 23 02 26.0 +1.1**
SBA pmax pmax
comp=Z,17nm,0.8s,mb4.9
MYLDM Lahad Datu 57.54 291 P **P 23 02 41.1 +6.6**
comp=Z,1μmcomp=Z,92nm,1.2s,mb5.5
CASY Casey 58.45 204 *eP* **P 23 02 39.8 -0.3**
comp=Z,52nm,1.5s,mb5.1
UGM Wanagama 59.31 274 *eP* **P 23 02 47.0 +0.1**
comp=Z,179nm,0.9s,mb5.9
KKM Kota Kinabalu 59.94 291 *eP* **P 23 02 51.3 +0.2**
comp=Z,398nm,1.3s,mb6.1
KKM Kota Kinabalu 59.94 291 P **P 23 02 51.9 +0.8**
comp=Z,3μmcomp=Z,272nm,1.2s,mb6.0
TGY Tagaytay City 60.27 302 P **P 23 02 53.4 +0.1**
comp=Z,203nm,0.5s,mb6.2,baz=179,slow=8.3,SNR=9.2
TGY Tagaytay City 60.27 302 P **P 23 02 53.4 +0.1**
TGY Tagaytay City 60.27 302 P **P 23 02 53.4 +0.1**
TGY pmax pmax
comp=Z,203nm,0.5s
SBUM Sibu 61.82 285 P **P 23 03 04.8 +0.9**
comp=Z,943nmcomp=Z,75nm,1.4s,mb5.3
CISI Cisompet, Garu 61.95 273 P **P 23 03 04.5 -0.3**
comp=Z,0.6nmcomp=Z,2μmcomp=Z,224nm,1.0s,mb5.9
LEM Lembang 62.39 274 P **P 23 03 08.5 +0.8**
comp=Z,114nmcomp=Z,4μmcomp=Z,402nm,0.9s,mb6.2
KSM Kuching 63.13 283 *eP* **P 23 03 12.8 +0.2**
comp=Z,266nm,0.9s,mb6.1
KSM *e*PP PP 23 05 31.1 -2.2
KSM Kuching 63.13 283 P **P 23 03 12.9 +0.4**
comp=Z,3μmcomp=Z,335nm,0.9s,mb6.2
JOW Kunigami 63.23 318 P **P 23 03 12.4 -0.5**
comp=Z,64nm,0.9s,mb5.5,baz=143,slow=9.0,SNR=7.9
JOW Kunigami 63.23 318 P **P 23 03 12.4 -0.5**
DBJI Dramaga 63.29 274 P **P 23 03 13.7 0.0**
comp=Z,1.5nmcomp=Z,4μmcomp=Z,449nm,1.0s,mb6.3
SBJI Serang 64.02 274 P **P 23 03 19.2 +0.8**
comp=Z,0.8nmcomp=Z,205nm,1.4s,mb5.8
TWG Pinlang 65.40 310 *eP* **P 23 03 26.0 -1.2**
MJAR Matsushiro Arr 65.44 332 P **P 23 03 26.2 -0.9**
comp=Z,31nm,0.9s,mb5.1,baz=171,slow=7.4,SNR=80
MJAR Matsushiro Arr 65.44 332 P **P 23 03 26.2 -0.9**
MJAR Matsushiro Arr 65.44 332 P **P 23 03 26.2 -0.9**
MJAR pmax pmax
comp=Z,31nm,0.9s
MAJO Matsushiro 65.44 332 *eP* **P 23 03 26.8 -0.3**
comp=Z,81nm,1.3s,mb5.4
MAJO Matsushiro 65.44 332 *eP* **P 23 03 26.8 -0.3**
MAJO pmax pmax
comp=Z,81nm,1.3s,mb5.4
KLSI 65.84 275 P **P 23 03 29.5 -0.7**
comp=Z,0.3nmcomp=Z,5μmcomp=Z,72nm,1.1s,mb5.4
NACB Ninganchiao 65.89 311 *eP* **P 23 03 29.7 -0.5**
comp=Z,113nm,1.0s,mb5.7
TPUB Ta-pu 66.02 310 *eP* **P 23 03 30.4 -0.7**
comp=Z,122nm,1.0s,mb5.7
SSLB Suanglung 66.09 310 *eP* **P 23 03 30.6 -1.0**
comp=Z,82nm,0.9s,mb5.6
JNU Nakatsue 66.33 324 *eP* **P 23 03 32.6 -0.2**
comp=Z,19nm,1.0s,mb4.9
LWLI Liwa 66.34 274 P **P 23 03 33.4 0.0**
YHNB Yeheng 66.35 311 *eP* **P 23 03 32.5 -0.7**
comp=Z,87nm,1.0s,mb5.5
MDSI Maura Dua 66.42 275 P **P 23 03 32.7 -1.2**
comp=Z,0.4nmcomp=Z,99nm,1.3s,mb5.5
TATO Taipei 66.47 312 *eP* **P 23 03 33.9 -0.1**
comp=Z,132nm,1.3s,mb5.6
KSI Kapahiang 68.20 275 P **P 23 03 47.1 +2.0**
comp=Z,157nm,1.0s,mb5.7
QSPA South Pole Qui 68.44 180 *eP* **P 23 03 45.4 -0.1**
comp=Z,28nm,1.1s,mb4.9
MYKOM Kota Tinggi 69.13 281 P **P 23 03 51.9 +1.0**
comp=Z,1μmcomp=Z,96nm,1.3s,mb5.4
ASAJ Asahikawa 70.27 339 P **P 23 03 57.1 +0.1**
comp=Z,28nm,1.0s,mb5.0,baz=226,slow=13,SNR=7.0
ASAJ Asahikawa 70.27 339 *eP* **P 23 03 58.1 +1.0**
comp=Z,44nm,1.6s,mb4.9
ASAJ Asahikawa 70.27 339 P **P 23 03 57.2 +0.1**
ASAJ pmax pmax
comp=Z,28nm,1.0s
SSE Sheshan 70.65 316 P **P 23 03 59.3 -0.5**
SSE pmax pmax
comp=Z,53nm,0.7s,mb5.4
SSE pmax pmax
comp=Z,130nm,6.1s
SSE LR LR
comp=N,470nm,14.0s
SSE LR LR
comp=E,400nm,14.5s
SSE LR LR
comp=Z,800nm,13.7s
KSRS Korea Array 71.17 325 P **P 23 04 02.8 +0.1**
comp=Z,13nm,0.8s,mb4.7,baz=142,slow=5.7,SNR=53
KSRS PP PP 23 06 39.5 -3.4
comp=Z,1.5nm,0.7s,baz=142,slow=9.3,SNR=5.2
KSRS Korea Array 71.17 325 P **P 23 04 02.8 +0.1**
KSRS 23 06 39.5
KSRS pmax pmax
comp=Z,13nm,0.8s,mb4.7
KSRS pmax pmax
comp=Z,2.0nm,0.7s
INCN Inchon 71.88 324 *eP* **P 23 04 07.4 +0.4**
comp=Z,46nm,0.9s,mb5.2
INCN Inchon 71.88 324 P **P 23 04 07.9 +0.9**
SNR=8.3
YSS Yuzh-Sakhalins 72.74 340 *eP* **P 23 04 12.8 +1.0**
comp=Z,35nm,0.8s,mb5.1
YSS Yuzh-Sakhalins 72.74 340 *eP* **P 23 04 13.0 +1.2**
YSS pmax pmax
comp=Z,72nm,1.2s,mb5.3
NJ2 Nanjing 72.78 316 *eP* **P 23 04 12.6 +0.1**
NJ2 pP pP 23 04 51.4 +1.8
NJ2 sP sP 23 05 08.8 +2.9
NJ2 S S 23 13 23.5 -2.4
NJ2 pmax pmax
comp=Z,40nm,0.8s,mb5.2
NJ2 pmax pmax
comp=Z,210nm,4.3s
NJ2 LR LR
comp=N,630nm,14.5s
NJ2 LR LR
comp=E,1μm,15.7s
NJ2 LR LR
comp=Z,460nm,16.0s
IPM Ipoh 72.80 282 *eP* **P 23 04 13.2 +0.2**
comp=Z,166nm,1.1s,mb5.7
IPM Ipoh 72.80 282 P **P 23 04 13.4 +0.4**
comp=Z,175nm,1.2s,mb5.7
KULM Kulim 73.47 283 *eP* **P 23 04 16.8 -0.1**
comp=Z,141nm,1.2s,mb5.6
KULM *e*PP PP 23 07 00.2 -2.7
KULM Kulim 73.47 283 P **P 23 04 17.5 +0.6**
comp=Z,119nm,1.3s,mb5.5
PSI Prapat 74.05 280 P **P 23 04 19.8 -0.6**
comp=Z,59nm,0.9s,mb5.3,baz=124,slow=6.5,SNR=15
PSI Prapat 74.05 280 P **P 23 04 19.8 -0.6**
PSI Prapat 74.05 280 P **P 23 04 19.8 -0.5**
PSI pmax pmax
comp=Z,59nm,0.9s,mb5.3
PSI Prapat 74.05 280 P **P 23 04 20.0 -0.3**
comp=Z,108nm,1.2s,mb5.5
WHN Wuhan 74.87 312 P **P 23 04 24.0 -0.6**
WHN LR LR
comp=N,2μm,15.4s
WHN LR LR
comp=E,3μm,13.7s
WHN LR LR
comp=Z,3μm,13.0s
PETK Petropavlovsk- 75.26 352 P **P 23 04 26.8 +0.5**
comp=Z,27nm,0.9s,mb4.9,baz=152,slow=7.5,SNR=18
PETK Petropavlovsk- 75.26 352 P **P 23 04 26.8 +0.5**
PETK Petropavlovsk- 75.26 352 P **P 23 04 26.8 +0.5**
PETK pmax pmax
comp=Z,27nm,0.9s,mb4.9
MDJ Mudanjiang 75.81 331 P **P 23 04 29.8 +0.1**
MDJ pP pP 23 05 07.8 +0.7
MDJ sP sP 23 05 25.6 +2.3
MDJ PP PP 23 07 19.8 -2.4
MDJ S S 23 14 01.3 +2.2
MDJ ScS ScS 23 14 28.4 -1.2
MDJ SS SS 23 18 54.8 -0.2
MDJ pmax pmax
comp=Z,23nm,1.1s,mb4.7
MDJ pmax pmax
comp=Z,140nm,5.1s
MDJ LR LR
comp=N,150nm,20.8s
MDJ LR LR
comp=E,180nm,18.7s
MDJ LR LR
comp=Z,110nm,20.8s
MDJ Mudanjiang 75.81 331 *eP* **P 23 04 29.8 +0.1**
comp=Z,24nm,1.3s,mb4.7
NIKO Nikolski 76.41 13 *eP* **P 23 04 32.4 -0.5**
SNY Shenyang 76.65 326⇓P **P 23 04 33.0 -1.5**
SNY S S 23 14 08.3 -0.2
SNY pmax pmax
comp=Z,10.0nm,1.3s,mb4.3
SNY LR LR
comp=N,190nm,13.2s
SNY LR LR
comp=E,460nm,16.2s
SNY LR LR
comp=Z,470nm,15.0s
MAW Mawson 76.70 202 P **P 23 04 35.2 +0.8**
comp=Z,21nm,0.7s,mb4.9,baz=113,slow=8.4,SNR=34
MAW Mawson 76.70 202⇑*iP* **P 23 04 34.9 +0.5**
comp=Z,19nm,0.8s,mb4.8
MAW Mawson 76.70 202 *eP* **P 23 04 34.8 +0.3**
MAW Mawson 76.70 202 P **P 23 04 35.2 +0.8**
MAW pmax pmax
comp=Z,21nm,0.7s
CN2 Changchun 77.14 328 *eP* **P 23 04 37.1 -0.1**
CN2 *e*pP pP 23 05 17.0 +2.3
CN2 *e*S S 23 14 12.8 -0.8
CN2 pmax pmax
comp=Z,60nm,0.9s,mb5.2
CN2 pmax pmax
comp=Z,300nm,4.0s
CN2 LR LR
comp=N,400nm,14.0s
CN2 LR LR
comp=E,400nm,14.0s
CN2 LR LR
comp=Z,300nm,14.0s
ENH Enshi 78.15 309 *eP* **P 23 04 42.8 -0.3**
comp=Z,94nm,0.9s,mb5.4
ENH *e*PcP PcP 23 04 51.6 -0.4
GYA Guiyang 78.20 305⇑*iP* **P 23 04 43.8 +0.3**
GYA PcP PcP 23 04 54.6 +2.2
GYA pP pP 23 05 25.8 +4.7
GYA sP sP 23 05 44.3 +7.0
GYA PP PP 23 07 46.0 +3.4
GYA S S 23 14 25.4 -0.4
GYA SKS 23 14 39.8
GYA pmax pmax
comp=Z,40nm,0.7s,mb5.2
GYA pmax pmax
comp=Z,160nm,5.8s
KLR Kul'dur 78.55 335 *eP* **P 23 04 42.0 -2.8**
KLR pmax pmax
comp=Z,100nm,1.8s,mb5.1
BJT Baijiatuan 79.56 321 *eP* **P 23 04 50.9 +0.3**
BJT Baijiatuan 79.56 321 *eP* **P 23 04 50.9 +0.3**
BJT pmax pmax
comp=Z,66nm,0.8s
BJI Beijing 79.57 321 P **P 23 04 52.3 +1.7**
BJI pmax pmax
comp=Z,30nm,0.8s,mb5.0
BJI pmax pmax
comp=Z,100nm,3.5s
BJI LR LR
comp=N,310nm,16.3s
BJI LR LR
comp=E,280nm,13.0s
BJI LR LR
comp=Z,190nm,19.0s
KMI Kunming 80.59 302⇑P **P 23 04 57.8 +1.4**
KMI pP pP 23 05 40.8 +6.5
KMI pmax pmax
comp=Z,76nm,1.0s,mb5.3
CM31 Chiang Mai Arr 80.61 294 *eP* **P 23 04 57.8 +1.0**
comp=Z,52nm,1.0s,mb5.1
CMAR Chiang Mai Arr 80.61 294 P **P 23 04 58.2 +1.5**
comp=Z,34nm,0.9s,mb5.0,baz=134,slow=4.1,SNR=101
CMAR PP PP 23 07 54.5 -8.2
comp=Z,1.7nm,0.9s,baz=128,slow=5.9,SNR=3.3
CMAR Chiang Mai Arr 80.61 294 P **P 23 04 58.2 +1.5**
CMAR PP PP 23 07 54.5 -8.2
CMAR Chiang Mai Arr 80.61 294 P **P 23 04 58.3 +1.6**
CMAR pmax pmax
comp=Z,34nm,0.9s
CMAR pmax pmax
comp=Z,2.0nm,0.9s
XAN Xi'an 80.64 312 P **P 23 04 56.8 +0.3**
XAN pmax pmax
comp=Z,21nm,1.1s,mb4.7
XAN pmax pmax
comp=Z,24nm,4.5s
XAN LR LR
comp=N,380nm,15.5s
XAN LR LR
comp=E,100nm,17.3s
XAN LR LR
comp=Z,140nm,17.6s
CHTO Chiang Mai 80.77 294 *eP* **P 23 04 58.6 +1.1**
CHTO *e*PP PP 23 08 03.1 -0.9
CHTO Chiang Mai 80.77 294 *eP* **P 23 04 58.6 +1.1**
CHTO *e* 23 08 03.1
CHTO Chiang Mai 80.77 294 P **P 23 04 58.8 +1.3**
comp=Z,1μmcomp=Z,86nm,1.3s,mb5.2
CD2 Chengdu 82.67 307 P **P 23 05 07.5 +0.3**
CD2 pP pP 23 05 47.4 +2.1
CD2 sP sP 23 06 04.6 +3.2
CD2 PP PP 23 08 21.5 +2.0
CD2 S S 23 15 10.4 -1.8
CD2 sS sS 23 16 20.3 +2.3
CD2 SS SS 23 20 40.0 +1.7
CD2 pmax pmax
comp=Z,50nm,1.0s,mb5.2
CD2 pmax pmax
comp=Z,150nm,6.5s
HHC Hu-ho-hao-te 82.84 319 *eP* **P 23 05 08.4 +0.5**
HHC pP pP 23 05 49.8 +3.9
HHC sP sP 23 06 05.5 +3.5
HHC PP PP 23 08 24.1 +3.5
HHC SKS 23 15 10.1
HHC S S 23 15 17.8 +4.3
HHC pmax pmax
comp=Z,46nm,1.1s,mb5.1
HHC LR LR
comp=N,170nm,19.8s
HHC LR LR
comp=E,140nm,11.8s
HHC LR LR
comp=Z,110nm,20.1s
SYO Syowa Base 82.99 196⇓*eP* **P 23 05 06.0 -2.3**
SYO Syowa Base 82.99 196⇑*ePcP* PcP 23 05 11.0 -1.6
LZH Lanzhou 85.25 312⇑P **P 23 05 21.8 +1.6**
LZH pP pP 23 06 01.0 +2.6
LZH sP sP 23 06 20.1 +5.7
LZH PP PP 23 08 41.3 +1.0
LZH pmax pmax
comp=Z,67nm,1.3s,mb5.2
LZH pmax pmax
comp=Z,170nm,5.4s
LZH LR LR
comp=N,210nm,11.5s
LZH LR LR
comp=E,190nm,10.5s
LZH LR LR
comp=Z,300nm,14.3s
SEY Seymchan 85.50 352*ceP* **P 23 05 20.4 -0.3**
MAIT Maitri 86.65 187 *eP* **P 23 05 25.7 -0.8**
SNAA Sanae 86.83 182 *eP* **P 23 05 26.1 -1.3**
comp=Z,12nm,0.9s,mb4.7
SNAA Sanae 86.83 182 *eP* **P 23 05 26.1 -1.3**
SNAA pmax pmax
comp=Z,12nm,0.9s
CLNS Chul'man 87.07 337 *eP* **P 23 05 28.7 +0.1**
CLNS pmax pmax
comp=Z,30nm,1.0s,mb5.1
CLNS pmax pmax
comp=N,20nm,1.4s
CLNS pmax pmax
comp=E,8.0nm,1.3s
VNA3 Neumayer Olymp 87.38 180 *e* **P 23 05 26.0 -4.0**
VNA2 Neumayer--Watz 87.69 181 *e* **P 23 05 27.8 -3.7**
baz=187,slow=4.5
VNA1 Neumayer--Stat 87.97 180 *e* **P 23 05 29.7 -3.2**
ISA Isabella 88.02 50 *eP* **P 23 05 34.3 +0.6**
comp=E,4.2nm,1.0s
ISA Isabella 88.02 50 *eP* **P 23 05 34.3 +0.6**
ISA pmax pmax
comp=Z,4.0nm,1.0s
NVAR Mina Array Bea 89.45 48 P **P 23 05 39.6 -0.7**
comp=Z,3.0nm,0.9s,baz=224,slow=7.6,SNR=10.0
NVAR pP pP 23 06 17.7 -1.1
comp=Z,5.3nm,1.1s,baz=231,slow=6.9,SNR=3.6
NVAR Mina Array Bea 89.45 48 P **P 23 05 39.6 -0.7**
NVAR pP pP 23 06 17.7 -1.1
BILL Bilibino 89.46 358 *eP* **P 23 05 39.7 +0.1**
comp=Z,31nm,1.4s,mb5.0
BILL Bilibino 89.46 358⇓*eP* **P 23 05 39.8 +0.2**
BILL pmax pmax
comp=Z,27nm,1.4s,mb5.0
BILL MLR MLR
comp=Z,400nm,17.0s
ULN Ulaanbaatar 89.52 323 *eP* **P 23 05 40.6 +0.2**
ULN Ulaanbaatar 89.52 323 *eP* **P 23 05 40.6 +0.3**
YAK Yakutsk 89.52 342 *eP* **P 23 05 39.2 -0.8**
YAK Yakutsk 89.52 342 *eP* **P 23 05 38.5 -1.5**
YAK pmax pmax
comp=Z,24nm,1.0s,mb5.1
GTA Gaotai 89.66 313 P **P 23 05 42.0 +0.7**
GTA pP pP 23 06 24.9 +5.1
GTA sP sP 23 06 40.3 +4.5
GTA PP PP 23 09 17.1 +1.4
GTA SKS 23 15 56.1
GTA S S 23 16 15.1 -4.6
GTA pmax pmax
comp=Z,30nm,1.1s,mb5.1
SONM Songino Array 89.87 323 P **P 23 05 41.9 -0.1**
comp=Z,36nm,0.9s,mb5.3,baz=135,slow=4.6,SNR=32
SONM Songino Array 89.87 323 P **P 23 05 41.9 -0.1**
SONM Songino Array 89.87 323 P **P 23 05 41.9 -0.1**
SONM pmax pmax
comp=Z,36nm,0.9s
LSA Lhasa 91.83 301 *eP* **P 23 05 52.2 +0.6**
LSA Lhasa 91.83 301 *eP* **P 23 05 52.2 +0.6**
ILAR Eielson Array 92.14 17 P **P 23 05 50.4 -1.7**
comp=Z,1.4nm,0.8s,baz=237,slow=4.6,SNR=13
ILAR PKKP PKKPbc 23 23 07.0 -3.4
comp=Z,0.5nm,1.0s,baz=54,slow=1.5,SNR=4.1
ILAR LR LR 23 40 16.9
comp=Z,92nm,19.7s,baz=276,slow=31
ILAR Eielson Array 92.14 17 P **P 23 05 50.4 -1.7**
ILAR PKKP PKKPbc 23 23 07.0 -3.4
ILAR LR LR 23 40 16.9
ILAR Eielson Array 92.14 17 P **P 23 05 50.4 -1.7**
ILAR 23 23 07.0
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR pmax pmax
comp=Z,1.0nm,1.0s
ILAR MLR MLR
comp=Z,92nm,19.7s
TLY Talaya 93.42 325 *eP* **P 23 05 58.2 -0.2**
TLY Talaya 93.42 325 *eP* **P 23 05 58.2 -0.2**
TAPN Taplejung 93.70 298 *eP* **P 23 06 00.3 0.0**
comp=Z,62nm,1.2s,mb5.6
ODAN Odare 93.78 297 *eP* **P 23 06 00.7 +0.1**
comp=Z,66nm,1.0s,mb5.7
RAMN Ramite 94.47 297 *eP* **P 23 06 03.8 0.0**
comp=Z,21nm,0.9s,mb5.3
GUN Gumba 95.42 298 *eP* **P 23 06 07.8 -0.3**
comp=Z,56nm,1.2s,mb5.7
PKI Pulchoki 95.68 297 *eP* **P 23 06 09.3 0.0**
comp=Z,68nm,1.1s,mb5.9
PKIN Phulchoki 95.70 297 *eP* **P 23 06 10.0 +0.6**
comp=Z,17nm,0.7s,mb5.5
KKN Kakani 95.87 297 *eP* **P 23 06 10.0 -0.2**
comp=Z,51nm,1.0s,mb5.8
DMN Daman 95.95 297 *eP* **P 23 06 10.7 +0.2**
comp=Z,70nm,1.0s,mb5.9
GKN Gorkha 96.48 297 *eP* **P 23 06 12.2 -0.7**
comp=Z,53nm,1.0s,mb5.8

TXAR	**Lajitas Array**	**96.81**	**61**	pP	pP		23 06 51.7	-1.4	
	comp=Z,1.2nm,0.9s,baz=216,slow=4.5,SNR=2.5								
TXAR				PKKP	PKKPbc		23 22 56.7	+0.4	
	comp=Z,0.3nm,0.5s,baz=69,slow=4.9,SNR=3.6								
TXAR				LR	LR		23 40 42.8		
	comp=Z,114nm,21.2s,baz=185,slow=30								
KOLN	**Koldanda**	**97.25**	**297**	*e*P	**P**		**23 06 15.8**	**-0.6**	
	comp=Z,38nm,1.1s,mb5.6								
DANN	**Dangsing**	**97.32**	**297**	*e*P	**P**		**23 06 16.0**	**-0.7**	
WMQ	**Urumqi**	**99.75**	**313**	P	Pdif		23 06 28.8	+1.6	
MKAR	**Makanchi Array**	**104.31**	**315**	Pdiff	Pdif		23 06 49.2	+1.7	
	comp=Z,2.7nm,0.7s,baz=104,slow=5.6,SNR=4.3								
MKAR				PP	PP		23 10 57.9	-10	
	comp=Z,2.0nm,0.9s,baz=104,slow=8.2,SNR=4.6								
MKAR				PKKPbc	PKKPbc		23 22 32.0	-3.5	
	comp=Z,0.4nm,0.4s,baz=262,slow=4.0,SNR=8.0								
MKAR				PKKP	PKKPbc		23 22 50.6	+15	
	comp=Z,0.6nm,0.8s,baz=289,slow=4.4,SNR=5.1								
MKAR	**Makanchi Array**	**104.31**	**315**	Pdif	Pdif		23 06 49.2	+1.7	
MKAR				PP	PP		23 10 57.9	-10	
MKAR				PKKPbc	PKKPbc		23 22 32.0	-3.5	
MKAR				PKKP	PKKPbc		23 22 50.6	+15	
MKAR	**Makanchi Array**	**104.31**	**315**	P	Pdif		23 06 49.2	+1.8	
MKAR				pmax	pmax				
	comp=Z,3.0nm,0.7s								
MKAR				pmax	pmax				
	comp=Z,2.0nm,0.9s								
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
ZALV	**Zalesovo Beam**	**104.76**	**322**	PP	PP		23 11 13.1	+2.0	
	comp=Z,1.7nm,0.9s,baz=108,slow=4.7,SNR=4.1								
KURK	**Kurchatov**	**107.64**	**318**	PKiKP	PKiKP		23 11 08.3	-0.9	
	comp=Z,1.7nm,0.8s,baz=107,slow=1.7,SNR=8.5								
KURK				PKKP	PKKPbc		23 22 36.5	+11	
	comp=Z,0.2nm,0.6s,baz=274,slow=5.5,SNR=4.5								
KURK	**Kurchatov**	**107.64**	**318**	PKPdf	PKiKP		23 11 08.3	-0.9	
KURK				PKKP	PKKPbc		23 22 36.5	+11	
KKAR	**Karatay Array**	**111.62**	**309**	*e*PKPdf	PKiKP		23 11 15.9	-1.1	
KKAR	**Karatay Array**	**111.62**	**309**	*e*PKIKP	PKiKP		23 11 15.9	-1.1	
BRVK	**Borovoye**	**113.11**	**320**	*e*PKPdf	PKiKP		23 11 18.5	-1.0	
BRVK	**Borovoye**	**113.11**	**320**	*c* iPKIKP	PKiKP		23 11 18.6	-0.9	
BRVK				pmax	pmax				
	comp=Z,6.0nm,2.5s								
SVE	**Sverdlovsk**	**118.72**	**324**	*e*PKIKP	PKPdf		23 11 29.9	-0.3	
SVE				pmax	pmax				
	comp=Z,13nm,1.5s								
ABKAR	**Akbulak array**	**119.45**	**315**	*e*PKPdf	PKPdf		23 11 31.1	-0.7	
BOSA	**Boshof**	**119.87**	**215**	PKP	PKPdf		23 11 32.8	-0.6	
	comp=Z,2.9nm,0.8s,baz=179,slow=3.5,SNR=5.8								
BOSA	**Boshof**	**119.87**	**215**	PKP	PKPdf		23 11 32.8	-0.6	
BOSA	**Boshof**	**119.87**	**215**	PKIKP	PKPdf		23 11 32.8	-0.6	
BOSA				pmax	pmax				
	comp=Z,3.0nm,0.8s								
ARU	**Arti**	**119.89**	**324**	*e*PKPdf	PKPdf		23 11 31.4	-1.0	
ARU	**Arti**	**119.89**	**324**	*i* PKIKP	PKPdf		23 11 31.5	-0.9	
ARU							23 12 57.0		
ARU							23 18 12.2		
AKTK	**Aktyubinsk**	**120.66**	**317**	PKP	PKPdf		23 11 32.5	-1.5	
AKTO	**Aktyubinsk**	**120.66**	**317**	PKP	PKPdf		23 11 32.5	-1.5	
	comp=Z,5.3nm,0.7s,baz=54,slow=2.5,SNR=21								
AKTO	**Aktyubinsk**	**120.66**	**317**	PKIKP	PKPdf		23 11 32.6	-1.5	
AKTO				pmax	pmax				
	comp=Z,5.0nm,0.7s								
ABTO	**Aybut**	**121.05**	**278**	P	PKPdf		23 11 35.9	+0.1	
	SNR=5.0								
SPITS	**Spitsbergen Ar**	**122.10**	**354**	PKP	PKPdf		23 11 34.5	-1.7	
	comp=Z,21nm,1.0s,baz=229,slow=1.8,SNR=5.0								
SPITS	**Spitsbergen Ar**	**122.10**	**354**	PKP	PKPdf		23 11 34.5	-1.6	
SPITS	**Spitsbergen Ar**	**122.10**	**354**	PKIKP	PKPdf		23 11 34.5	-1.7	
SPITS				pmax	pmax				
	comp=Z,21nm,1.0s								
APA	**Apatity**	**126.89**	**341**	*e*PKIKP	PKPdf		23 11 50.0	+4.5	
APA				*e*			23 12 28.0		
APA				MLR	MLR				
	comp=Z,1μm,17.0s								
ARCES	**ARCESS Array B**	**127.69**	**345**	PKP	PKPdf		23 11 45.8	-1.2	
	comp=Z,6.7nm,0.7s,baz=60,slow=2.5,SNR=13								
ARCES	**ARCESS Array B**	**127.69**	**345**	PKP	PKPdf		23 11 45.8	-1.2	
ARCES	**ARCESS Array B**	**127.69**	**345**	PKIKP	PKPdf		23 11 45.8	-1.2	
ARCES				pmax	pmax				
	comp=Z,7.0nm,0.7s								
KLMR	**Klimovskoe**	**128.22**	**332**	*e*PKIKP	PKPdf		23 11 45.8	-2.5	
KLMR				pmax	pmax				
	comp=Z,29nm,1.5s								
JOF	**Joensuu**	**130.43**	**337**	*e*PKIKP	PKPdf		23 11 51.9	-0.5	
JOF				pmax	pmax				
	comp=Z,12nm,0.8s								
JOF	**Joensuu**	**130.43**	**337**	*ep*	PKPdf		23 11 51.9	-0.5	
	comp=Z,12nm,0.8s								
JOF	**Joensuu**	**130.43**	**337**	*ep*	SKPbc		23 15 01.6	-0.1	
VRHR	**Novokhopersk**	**130.78**	**320**	*e*PKIKP	PKPdf		23 11 53.1	-0.3	
VRHR				pmax	pmax				
	comp=N,10.0nm,0.7s								
VRHR				pmax	pmax				
	comp=E,10.0nm,0.7s								
VRHR				pmax	pmax				
	comp=Z,10.0nm,0.7s								
VSR	**Storozhevoye**	**132.22**	**320**	*e*PKIKP	PKPdf		23 11 54.6	-1.5	
VSR				pmax	pmax				
	comp=N,5.0nm,0.8s								
VSR				pmax	pmax				
	comp=Z,7.0nm,0.8s								
VSR				pmax	pmax				
	comp=E,3.0nm,0.4s								
KAF	**Kangasniemi**	**132.73**	**338**	*e*PKIKP	PKPdf		23 11 56.5	-0.3	
KAF	**Kangasniemi**	**132.73**	**338**	*ep*	PKPdf		23 11 56.5	-0.3	
KAF	**Kangasniemi**	**132.73**	**338**	*ep*	SKPbc		23 15 09.6	-0.4	
FINES	**FINESS Array B**	**133.26**	**337**	PKP	PKPdf		23 11 58.0	+0.2	
	comp=E,7.1nm,0.9s,baz=70,slow=2.3,SNR=12								
FINES				SKPbc	SKPbc		23 15 10.5	-1.3	
	comp=E,7.1nm,0.8s,baz=60,slow=3.4,SNR=22								
FINES	**FINESS Array B**	**133.26**	**337**	PKP	PKPdf		23 11 58.0	+0.2	
FINES				SKPbc	SKPbc		23 15 10.5	-1.3	
FINES	**FINESS Array B**	**133.26**	**337**	PKIKP	PKPdf		23 11 58.0	+0.2	
FINES				pmax	pmax				
	comp=Z,7.0nm,0.9s								
FINES				pmax	pmax				
	comp=N,7.0nm,0.8s								
NB2	**NORSAR Subarra**	**138.06**	**345**	PKPdf	PKPpre		23 11 59.8		
	comp=Z,8.5nm,1.2s,baz=6.6,slow=1.8								
NB2	**NORSAR Subarra**	**138.06**	**345**	PKPdf	PKPpre		23 11 59.8		
	baz=6.6,slow=1.8								
NOA	**NORSAR Array B**	**138.06**	**345**	PKP	PKPdf		23 12 07.5	+0.8	
	comp=Z,1.8nm,0.9s,baz=260,slow=2.8,SNR=4.3								
NOA				SKP			23 15 25.6		
	comp=Z,2.2nm,0.8s,baz=20,slow=4.2,SNR=5.2								
NOA	**NORSAR Array B**	**138.06**	**345**	PKP	PKPdf		23 12 07.5	+0.8	
NOA				SKP			23 15 25.6		
NOA	**NORSAR Array B**	**138.06**	**345**	PKIKP	PKPdf		23 12 07.5	+0.7	
NOA				pmax	pmax				
	comp=Z,2.0nm,0.9s								
NOA				pmax	pmax				
	comp=N,2.0nm,0.8s								
AKASG	**Malin Array Be**	**138.15**	**323**	PKhKP	PKPpre		23 11 57.5		
	comp=N,1.4nm,0.6s,baz=69,slow=2.7,SNR=6.3								
AKASG				PP	PP		23 14 56.5	-1.0	
	comp=N,0.2nm,0.2s,baz=53,slow=7.0,SNR=4.0								
AKASG				SKP			23 15 26.6		
	comp=N,3.2nm,0.6s,baz=48,slow=3.2,SNR=12								
AKASG	**Malin Array Be**	**138.15**	**323**	*i* PKHKP	PKPpre		23 11 57.5		
AKASG							23 14 56.6		
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.6s								
BRTR	**Keskin Array B**	**139.24**	**306**	PKhKP	PKPpre		23 12 00.2		
	comp=Z,2.5nm,0.8s,baz=139,slow=3.3,SNR=13								
BRTR				PP	PP		23 15 05.7	+0.8	
	comp=Z,1.2nm,0.9s,baz=90,slow=6.2,SNR=4.6								
BRTR	**Keskin Array B**	**139.24**	**306**	*i* PKHKP	PKPpre		23 12 00.2		
BRTR							23 15 05.7		
BRTR				pmax	pmax				
	comp=Z,3.0nm,0.8s								
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.9s								
LVV	**L'vov**	**141.44**	**325**	*i* PKIKP	PKPdf		23 12 11.9	-1.3	
TESR		**141.66**	**319**	⇑*i*P	PKPdf		23 12 08.3	-5.4	
VRI	**Vrincioaia**	**141.91**	**318**	⇓PKIKP	PKPdf		23 12 09.9	-4.3	
VRI	**Vrincioaia**	**141.91**	**318**	⇓*i*P	PKPdf		23 12 09.9	-4.3	
PLOR	**Plostina**	**141.97**	**318**	⇑PKIKP	PKPdf		23 12 10.3	-4.0	
PLOR	**Plostina**	**141.97**	**318**	⇑*i*P	PKPdf		23 12 10.3	-4.0	
BURAR	**Bucovina Array**	**141.97**	**321**	⇑PKIKP	PKPdf		23 12 10.8	-3.5	
BURAR	**Bucovina Array**	**141.97**	**321**	⇑*i*P	PKPdf		23 12 10.8	-3.5	
GRER		**141.98**	**317**	⇓*i*P	PKPdf		23 12 11.6	-2.7	
KWP	**Kalwaria Pacla**	**142.25**	**326**	⇓PKIKP	PKPdf		23 12 11.5	-3.2	
KWP	**Kalwaria Pacla**	**142.25**	**326**	⇓*i*P	PKPdf		23 12 11.5	-3.2	
ISR	**Istrita**	**142.37**	**317**	⇓PKIKP	PKPdf		23 12 11.8	-3.2	
ISR	**Istrita**	**142.37**	**317**	⇓*i*P	PKPdf		23 12 11.8	-3.2	
DOPR	**Dopca**	**142.69**	**319**	⇑*i*P	PKPdf		23 12 12.9	-2.7	
SULR		**142.75**	**317**	⇑*i*P	PKPdf		23 12 11.1	-4.6	
KOLS	**Kolonicke sedl**	**142.89**	**325**	*e*PKIKP	PKPdf		23 12 13.0	-2.9	
KOLS	**Kolonicke sedl**	**142.89**	**325**	*e*PKP	PKPdf		23 12 13.0	-2.9	
KOLS				*ep*P			23 15 41.2		
UZH	**Uzhgorod**	**143.06**	**325**	⇑*i*PKIKP	PKPdf		23 12 13.6	-2.6	
STHS	**Stebnicka Huta**	**143.15**	**326**	*e*PKIKP	PKPdf		23 12 14.8	-1.5	
STHS	**Stebnicka Huta**	**143.15**	**326**	*e*PKP	PKPdf		23 12 14.8	-1.5	
STHS				*ep*P			23 15 41.3		
TRPA	**Tarpa**	**143.21**	**324**	⇓*i*P	PKPdf		23 12 13.8	-2.6	
MDB	**Medias**	**143.22**	**320**	⇓PKIKP	PKPdf		23 12 14.8	-1.7	
MDB	**Medias**	**143.22**	**320**	⇓*i*P	PKPdf		23 12 14.8	-1.7	
CRVS	**Cervenica-Dubn**	**143.34**	**325**	*e*PKIKP	PKPdf		23 12 14.4	-2.2	
CRVS	**Cervenica-Dubn**	**143.34**	**325**	*e*PKP	PKPdf		23 12 14.4	-2.2	
CRVS				*ep*P			23 15 43.4		
OJC	**Ojcow**	**143.37**	**328**	*e*PKIKP	PKPdf		23 12 13.7	-2.9	
SZH	**Strazhica**	**143.56**	**315**	P	PKPdf		23 12 14.5	-2.7	
SZH	**Strazhica**	**143.56**	**315**	P	PKPdf		23 12 14.5	-2.7	
NIE	**Niedzica**	**143.62**	**327**	*e*PKIKP	PKPdf		23 12 15.3	-1.8	
HUMR	**Humele**	**143.62**	**317**	⇑*i*P	PKPdf		23 12 14.3	-3.0	
LOT	**Lotru**	**143.94**	**319**	⇓*i*P	PKPdf		23 12 16.3	-1.5	
PVL	**Pavlikeni**	**143.98**	**315**	P	PKPdf		23 12 16.8	-1.2	
PVL	**Pavlikeni**	**143.98**	**315**	P	PKPdf		23 12 16.8	-1.2	
KECS	**Kecovo**	**144.11**	**326**	*e*PKIKP	PKPdf		23 12 16.7	-1.3	
DEV	**Deva**	**144.23**	**320**	⇑PKIKP	PKPdf		23 12 16.9	-1.4	
DEV	**Deva**	**144.23**	**320**	⇑*i*P	PKPdf		23 12 16.9	-1.4	
ARG	**Arkhangelos**	**144.30**	**302**	*e*P	PKPdf		23 12 17.2	-1.5	
ARG	**Arkhangelos**	**144.30**	**302**	P	PKPdf		23 12 16.8	-1.9	
RUE	**Ruedersdorf**	**144.38**	**336**	*e*PKPdf	PKPdf		23 12 17.2	-1.1	
BSEG	**Bad Segeberg**	**144.43**	**340**	*e*PKPbc	PKPdf		23 12 17.1	-1.3	
BSEG	**Bad Segeberg**	**144.43**	**340**	*e*PKIKP	PKPdf		23 12 17.1	-1.3	
ALN	**Alexandroupoli**	**144.43**	**311**	P	PKPdf		23 12 16.7	-2.1	
KDZ	**Kurdzhali**	**144.58**	**312**	P	PKPdf		23 12 18.1	-0.9	
KDZ	**Kurdzhali**	**144.58**	**312**	P	PKPdf		23 12 18.1	-0.9	
RDO	**Rodhopi**	**144.69**	**312**	*e*P	PKPdf		23 12 18.0	-1.3	
RDO	**Rodhopi**	**144.69**	**312**	P	PKPdf		23 12 18.0	-1.3	
MORC	**Moravsky Berou**	**144.75**	**329**	*e*PKPbc	PKPdf		23 12 18.4	-0.7	
MORC	**Moravsky Berou**	**144.75**	**329**	*e*PKIKP	PKPdf		23 12 18.4	-0.7	
PSZ	**Piszkesteto**	**144.77**	**325**	*e*PKPbc	PKPdf		23 12 18.5	-0.7	
PSZ	**Piszkesteto**	**144.77**	**325**	⇑PKIKP	PKPdf		23 12 19.0	-0.2	
PRK	**Paraskevi**	**144.85**	**308**	*e*P	PKPdf		23 12 18.7	-0.9	
PRK	**Paraskevi**	**144.85**	**308**	P	PKPdf		23 12 18.8	-0.8	
PLD	**Plovdiv**	**144.88**	**313**	P	PKPdf		23 12 18.5	-1.0	
PLD	**Plovdiv**	**144.88**	**313**	P	PKPdf		23 12 18.5	-1.0	
DPC	**Dobruska-Polom**	**144.91**	**331**	*i* PKIKP	PKPdf		23 12 19.4	+0.1	
DPC	**Dobruska-Polom**	**144.91**	**331**	*i* PKP	PKPdf		23 12 19.4	+0.1	
UPC	**Upice**	**144.94**	**331**	*i* PKIKP	PKPdf		23 12 19.3	-0.1	
UPC	**Upice**	**144.94**	**331**	*i* PKP	PKPdf		23 12 19.3	-0.1	
VYHS	**Vyhne**	**144.96**	**327**	*e*PKIKP	PKPdf		23 12 19.5	0.0	
MPEP	**Malo Peshtene**	**144.96**	**316**	P	PKPdf		23 12 19.4	-0.2	
PGB	**Panagyurishte**	**145.04**	**314**	P	PKPbc		23 12 19.6	0.0	
PGB	**Panagyurishte**	**145.04**	**314**	P	PKPbc		23 12 19.6	0.0	
KOLL	**Kolacno**	**145.13**	**327**	*e*PKIKP	PKPdf		23 12 20.4	+0.6	
EBH	**Black Hill**	**145.15**	**354**	‖*e*P	PKPbc		23 12 18.3	-1.1	
EBH	**Black Hill**	**145.15**	**354**	P	PKPbc		23 12 18.3	-1.1	
EAB	**Aberfoyle**	**145.28**	**355**	‖*e*P	PKPdf		23 12 18.9	-0.9	
EAB	**Aberfoyle**	**145.28**	**355**	P	PKPdf		23 12 18.9	-0.9	
TIM	**Timisoara**	**145.30**	**321**	⇓PKP2	PKPab		23 12 20.6	+0.1	
ESY	**Stoneypath**	**145.38**	**353**	‖*e*P	PKPdf		23 12 19.2	-0.8	
ESY	**Stoneypath**	**145.38**	**353**	P	PKPdf		23 12 19.2	-0.8	
EAU	**Auchinoon**	**145.54**	**354**	‖*e*P	PKPdf		23 12 19.6	-0.6	
EAU	**Auchinoon**	**145.54**	**354**	P	PKPdf		23 12 19.6	-0.6	
PVCC	**Panska Ves**	**145.55**	**333**	*i* PKP2	PKPab		23 12 21.2	-0.1	
PVCC	**Panska Ves**	**145.55**	**333**	*i* PKP	PKPab		23 12 21.2	-0.1	
BRG	**Berggiesshubel**	**145.56**	**334**	⇑*i*PKP	PKPdf		23 12 21.0	+0.6	
	comp=Z,163nm,1.0s								
BRG				*i* pPKP	pPKPdf		23 13 11.3	+10	
	comp=Z,28nm,1.1s								
BRG				*e*SKP			23 15 46.7		
	comp=Z,9.6nm,1.0s								
BRG	**Berggiesshubel**	**145.56**	**334**	*e*PKPbc	PKPbc		23 12 21.0	+0.1	
BRG				*ep*PKPbc	pPKPbc		23 13 11.3	+11	
BRG	**Berggiesshubel**	**145.56**	**334**	⇑*i*PKP2	PKPbc		23 12 21.0	+0.1	
BRG				*e*			23 15 46.7		
BRG				pmax	pmax				
	comp=Z,163nm,1.0s								
EBL	**Broad Law**	**145.57**	**354**	‖*e*P	PKPdf		23 12 20.0	-0.2	
EBL	**Broad Law**	**145.57**	**354**	P	PKPdf		23 12 20.0	-0.2	
CLL	**Collm**	**145.60**	**335**	*e*PKPbc	PKPbc		23 12 20.9	-0.1	
CLL	**Collm**	**145.60**	**335**	⇑*i*PKP2	PKPbc		23 12 20.9	-0.1	
CLL				*e*			23 15 46.0		
CLL				pmax	pmax				
	comp=Z,143nm,1.0s								
SMOL	**Smolenice**	**145.66**	**328**	*e*PKP2	PKPab		23 12 22.2	+0.4	
VTS	**Vitosha**	**145.66**	**315**	⇑PKP2	PKPbc		23 12 21.0	-0.5	
NRDL	**Niedersach Rie**	**145.70**	**339**	*e*PKPbc	PKPbc		23 12 21.3	0.0	
FBE	**Freiberg**	**145.76**	**334**	*e*PKPbc	PKPbc		23 12 21.9	+0.4	
PRA	**Prague**	**145.95**	**332**	PKP	PKPdf		23 12 22.0	+0.9	
PRA				pPKP	pPKPdf		23 12 54.0	-7.6	
PRA				*ex*	x		23 13 12.0		
PRU	**Pruhonice**	**145.96**	**332**	*i* PKP2	PKPab		23 12 23.0	+0.1	
PRU	**Pruhonice**	**145.96**	**332**	*i* PKP	PKPab		23 12 23.0	+0.1	
PRU				*ep*PKP	pPKPdf		23 12 59.9	-1.7	
ZST	**Bratislava**	**146.03**	**328**	*e*PKP2	PKPab		23 12 22.8	-0.4	
ESK	**Eskdalemuir**	**146.04**	**354**	*e*P	PKPdf		23 12 19.4	-1.7	
ESK				AMB	AMB		23 12 26.1		
	comp=Z,57nm,1.9s								
ESK	**Eskdalemuir**	**146.04**	**354**	P	PKPdf		23 12 19.4	-1.7	
ESK				AMB	AMB		23 12 26.1		
	comp=Z,57nm,1.9s								
TREC	**Trest**	**146.04**	**330**	*i* PKP2	PKPbc		23 12 22.7	+0.3	
TREC	**Trest**	**146.04**	**330**	*i* PKP	PKPbc		23 12 22.7	+0.3	
APE	**Apeiranthos**	**146.09**	**305**	⇑PKIKP	PKPdf		23 12 20.3	-1.5	
CLZ	**Clausthal**	**146.15**	**338**	*e*PKPbc	PKPbc		23 12 23.0	+0.4	
CLZ	**Clausthal**	**146.15**	**338**	*e*PKP2	PKPbc		23 12 23.0	+0.4	
ECK	**Cauldkaive Hil**	**146.17**	**354**	*e*P	PKPbc		23 12 22.6	0.0	
ECK	**Cauldkaive Hil**	**146.17**	**354**	P	PKPbc		23 12 22.6	0.0	
PKSM	**Moragy**	**146.49**	**324**	⇓PKP2	PKPbc		23 12 23.7	-0.1	
TANN	**Tannenbergstha**	**146.51**	**334**	*e*PKPbc	PKPbc		23 12 23.9	+0.2	
TANN				*ep*PKPbc	pPKPbc		23 13 14.5	+11	
WERD	**Werda**	**146.55**	**335**	*e*PKPbc	PKPbc		23 12 23.9	+0.1	
WERD				*ep*PKPbc	pPKPbc		23 13 14.7	+11	
PLN	**Plauen**	**146.58**	**335**	*e*PKPbc	PKPbc		23 12 24.0	+0.1	
GUNZ	**Gunzen**	**146.60**	**334**	*e*PKPbc	PKPbc		23 12 24.3	+0.3	
GUNZ				*ep*PKPbc	pPKPbc		23 13 14.9	+11	
IBBN	**Ibbenburen**	**146.62**	**341**	*e*PKPbc	PKPbc		23 12 23.9	-0.1	
GAL1	**Galloway**	**146.62**	**355**	*e*P	PKPdf		23 12 21.6	-0.5	
GAL1				AMB	AMB		23 12 24.5		
	comp=Z,42nm,1.0s								
GAL1	**Galloway**	**146.62**	**355**	P	PKPdf		23 12 21.6	-0.5	
GAL1				AMB	AMB		23 12 24.5		
	comp=Z,42nm,1.0s								
WERN	**Wernitzgruen**	**146.65**	**334**	*e*PKPbc	PKPbc		23 12 24.5	+0.4	
NKC	**Novy Kostel**	**146.66**	**334**	*i* PKP2	PKPbc		23 12 24.4	+0.2	
NKC	**Novy Kostel**	**146.66**	**334**	*i* PKP	PKPbc		23 12 24.4	+0.2	
MOX	**Moxa**	**146.66**	**335**	*e*PKPbc	PKPbc		23 12 24.1	-0.1	
MOX	**Moxa**	**146.66**	**335**	*e*PKP2	PKPbc		23 12 24.1	-0.1	
CONA	**Conrad Observa**	**146.82**	**328**	⇑*i*PKPab	PKPbc		23 12 25.0	+0.3	
	comp=Z,94nm,1.5s,SNR=24								
XDE	**Dent Fell**	**146.87**	**354**	‖*e*P	PKPdf		23 12 23.2	+0.6	
XDE	**Dent Fell**	**146.87**	**354**	P	PKPdf		23 12 23.2	+0.6	
KHC	**Kasperske Hory**	**147.02**	**332**	*e*PKPbc	PKPbc		23 12 25.4	+0.2	
KHC	**Kasperske Hory**	**147.02**	**332**	*i* PKP2	PKPbc		23 12 25.4	+0.2	
KHC	**Kasperske Hory**	**147.02**	**332**	*i* PKP	PKPbc		23 12 25.4	+0.2	
KHC				*ep*PKP	pPKPdf		23 13 02.6	-0.8	
ROTZ	**Rotzenmuhle**	**147.12**	**334**	*e*PKPbc	PKPbc		23 12 25.9	+0.4	
UBBA	**Unterbreizbach**	**147.13**	**337**	*e*PKPbc	PKPbc		23 12 25.2	-0.3	
GEC2	**GERESS Array S**	**147.18**	**331**	*e*PKPbc	PKPbc		23 12 25.7	0.0	
GEC2	**GERESS Array S**	**147.18**	**331**	*e*PKP2	PKPbc		23 12 25.7	0.0	
GERES	**GERESS Array B**	**147.18**	**331**	PKPbc	PKPbc		23 12 25.2	-0.5	
	comp=Z,38nm,0.9s,baz=37,slow=2.5,SNR=118								
GERES	**GERESS Array B**	**147.18**	**331**	PKP2	PKPbc		23 12 25.2	-0.5	
GERES				pmax	pmax				
	comp=Z,38nm,0.9s								
WTSB	**Winterswijk**	**147.21**	**341**	*e*PKP	PKPbc		23 12 25.1	-0.5	
	comp=Z,68nm,1.1s								
WET	**Wettzell**	**147.31**	**333**	*e*PKPbc	PKPbc		23 12 26.1	+0.1	
WET	**Wettzell**	**147.31**	**333**	*e*PKP2	PKPbc		23 12 26.1	+0.1	
ARSA	**Arzberg**	**147.46**	**328**	⇑*i*PKPbc	PKPbc		23 12 26.6	+0.2	
	comp=Z,40nm,1.5s,SNR=10								
BUG	**Bochum--Univer**	**147.52**	**340**	*e*PKPbc	PKPbc		23 12 26.3	-0.2	
GRF	**Grafenberg Arr**	**147.57**	**335**	*e*PKPbc	PKPbc		23 12 26.9	+0.2	
GRF	**Grafenberg Arr**	**147.57**	**335**	*e*PKP2	PKPbc		23 12 26.9	+0.2	
GRFO	**Grafenberg**	**147.58**	**335**	*e*PKPbc	PKPbc		23 12 26.6	-0.1	
GRFO	**Grafenberg**	**147.58**	**335**	*e*PKP2	PKPbc		23 12 26.6	-0.1	
MOA	**Molln**	**147.64**	**330**	⇑*i*PKPbc	PKPbc		23 12 26.6	-0.3	
	comp=Z,34nm,1.1s,SNR=10.0								
IVA	**Berane**	**147.65**	**318**	⇑*i*PKP	PKPdf		23 12 24.4	+0.2	
PLE	**Pljevlja**	**147.72**	**319**	⇑*i*PKP	PKPbc		23 12 26.5	-0.8	
PVY	**Plav**	**147.74**	**317**	⇑*i*PKP	PKPdf		23 12 24.5	+0.1	
GVD	**Gavdhos**	**147.83**	**301**	*e*PKPbc	PKPbc		23 12 27.5	-0.4	
KBI1	**Birley Grange**	**147.85**	**351**	*e*P	PKPbc		23 12 26.4	-1.0	
KBI1	**Birley Grange**	**147.85**	**351**	P	PKPbc		23 12 26.4	-1.0	
WME	**Myndd Eilian**	**148.04**	**354**	*e*P	PKPdf		23 12 25.5	+0.9	
WME	**Myndd Eilian**	**148.04**	**354**	P	PKPdf		23 12 25.5	+0.9	
PERS	**Pernice**	**148.08**	**327**	*i* PKPdf	PKPbc		23 12 27.4	-0.7	
PERS				*i*			23 13 17.4		
UPM	**Unac-Piva**	**148.08**	**319**	⇑*i*PKP	PKPbc		23 12 27.8	-0.5	
SOKA	**Soboth**	**148.09**	**327**	⇓*i*PKPbc	PKPbc		23 12 27.4	-0.7	
	comp=Z,57nm,1.2s								
KWE	**Weaver

	comp=Z,15nm,0.7s								
LOR	**Lormes**	**152.26**	**340**	⇑*i*	PKP1	PKPbc	23 12 37.7	-0.5	
	comp=Z,44nm,0.9s								
LOR				*e*	R				
	comp=Z,61nm,20.0s								
GRR	**Gorron**	**152.43**	**348**	⇑*i*	PKP1	PKPbc	23 12 37.9	-0.6	
	comp=Z,37nm,0.9s								
SSF	**Saint Saulge**	**152.55**	**341**	⇑*i*	PKP1	PKPbc	23 12 38.3	-0.5	
	comp=Z,40nm,1.0s								
HYF	**Humbligny**	**152.62**	**342**	*e*	PKP1	PKPbc	23 12 38.9	-0.1	
LPL	**La Plagne**	**152.74**	**335**	⇑	PKP1	PKPbc	23 12 39.3	0.0	
	comp=Z,57nm,1.1s								
LPG	**La Plagne**	**152.75**	**335**	⇑	PKP1	PKPbc	23 12 39.5	+0.2	
	comp=Z,30nm,0.8s								
SMF	**Signal de Mont**	**152.81**	**340**	*e*	PKP1	PKPbc	23 12 38.6	-0.8	
	comp=Z,48nm,1.3s								
AVF	**Avril sur Loir**	**152.84**	**341**	*e*	PKP1	PKPbc	23 12 38.5	-1.0	
	comp=Z,28nm,1.2s								
SGMF	**Saint Gilles**	**152.87**	**350**	⇑	PKP1	PKPbc	23 12 38.7	-0.8	
ROSF	**Rostrenen**	**152.90**	**351**	⇑	PKP1	PKPbc	23 12 38.5	-1.0	
BNI	**Bardonecchia**	**153.14**	**334**	*e*	PKPbc	PKPbc	23 12 40.4	+0.2	
BNI	**Bardonecchia**	**153.14**	**334**	*e*	PKIKP	PKPbc	23 12 40.4	+0.2	
BGF	**Bois d'Agland**	**153.20**	**341**	⇑	PKP1	PKPbc	23 12 39.7	-0.6	
	comp=Z,13nm,0.7s								
QUIF	**Quistinic**	**153.29**	**351**	*e*	PKP1	PKPbc	23 12 39.3	-1.1	
	comp=Z,58nm,1.3s								
MBDF	**Montbardon**	**153.37**	**334**	⇑	PKP1	PKPbc	23 12 40.2	-0.5	
	comp=Z,16nm,0.8s								
PLDF	**La Plantade**	**153.48**	**339**		PKP	PKPbc	23 12 41.0	+0.1	
AGO	**Saint Agoulin**	**153.57**	**340**		PKP	PKPbc	23 12 41.1	0.0	
ORIF	**Oris-en-Rattie**	**153.57**	**335**	⇑	PKP1	PKPbc	23 12 40.8	-0.3	
	comp=Z,21nm,0.6s								
ORIF				*e*	R				
	comp=Z,68nm,20.8s								
TCF	**Toulx Ste Croi**	**153.64**	**342**	⇑	PKP1	PKPbc	23 12 40.5	-0.7	
	comp=Z,37nm,1.2s								
MFF	**Saint Martin d**	**153.97**	**345**	⇑	PKP1	PKPbc	23 12 41.2	-0.7	
	comp=Z,20nm,1.2s								
PGF	**Pioggiola**	**154.05**	**328**	⇑	PKP1	PKPbc	23 12 41.7	-0.5	
	comp=Z,43nm,0.8s								
VIVF	**Saint-Julien-l**	**154.08**	**337**	*e*	PKP1	PKPbc	23 12 41.8	-0.4	
	comp=Z,18nm,0.9s								
LBL	**Lubilhac**	**154.26**	**339**		PKP	PKPbc	23 12 42.4	-0.2	
SMRF	**Simiane la Rot**	**154.48**	**334**	*e*	PKP1	PKPbc	23 12 42.8	-0.3	
LASF	**Ste Croix**	**155.05**	**337**	*e*	PKP1	PKPdf	23 12 43.9	+8.5	
LFF	**La Frestale**	**155.29**	**343**	*e*	PKP1	PKPdf	23 12 44.4	+8.7	
KEST	**Kesra**	**158.40**	**315**		PKPab	PKPab	23 13 14.9	-0.3	
	comp=Z,8.0nm,1.0s,baz=293,slow=3.7,SNR=11								
PBRG	**Braganca**	**159.76**	**354**	*e*	PKPab	PKPab	23 13 20.2	-0.6	
POLO	**Lamas de Olo**	**160.27**	**356**	*e*	PKPab	PKPab	23 13 23.0	0.0	
PVRL	**Vila Real**	**160.36**	**356**	*e*	PKPab	PKPab	23 13 23.3	-0.2	
MVO	**Moncorvo**	**160.42**	**355**	*e*	PKPab	PKPab	23 13 23.7	0.0	
PVIS	**Viseu**	**160.93**	**356**	*e*	PKPab	PKPab	23 13 25.7	-0.2	
MTE	**Manteigas**	**161.22**	**356**	*e*	PKPab	PKPab	23 13 27.1	-0.1	
ESDC	**Sonseca Array**	**161.42**	**347**		PKPab	PKPab	23 13 27.7	-0.4	
	comp=Z,2.7nm,0.9s,baz=18,slow=4.0,SNR=12								
PCBR	**Castelo Branco**	**161.77**	**355**	*e*	PKPab	PKPab	23 13 29.4	-0.3	
PTOM	**Tomar**	**162.05**	**357**	*e*	PKPab	PKPab	23 13 30.3	-0.6	
PMRV	**Marv??o**	**162.17**	**355**	*e*	PKPab	PKPab	23 13 31.8	+0.4	
PMAFR	**Mafra**	**162.73**	**360**	*e*	PKPab	PKPab	23 13 34.0	+0.1	
PESTR	**Estremoz**	**162.75**	**355**	*e*	PKPab	PKPab	23 13 33.4	-0.6	
PBAR	**Barrancos**	**163.38**	**353**	*e*	PKPab	PKPab	23 13 36.8	0.0	
PBEJ	**Beja**	**163.60**	**356**	*e*	PKPab	PKPab	23 13 37.8	+0.1	
PVAQ	**Vaqueiros**	**164.21**	**355**	*e*	PKPab	PKPab	23 13 40.5	+0.1	
DBIC	**Dimbokro**	**164.48**	**197**		PKP	PKPdf	23 12 45.2	-1.8	
	comp=Z,8.6nm,1.0s,baz=171,slow=2.4,SNR=6.3								
DBIC					PKPab	PKPab	23 13 40.7	-1.5	
	comp=Z,8.7nm,0.8s,baz=150,slow=5.2,SNR=8.5								
DBIC	**Dimbokro**	**164.48**	**197**	*e*	PKPdf	PKPdf	23 12 46.4	-0.5	
DBIC	**Dimbokro**	**164.48**	**197**		PKIKP	PKPdf	23 12 45.2	-1.8	
DBIC							23 13 40.7		
DBIC					pmax	pmax			
	comp=Z,9.0nm,1.0s								
DBIC					pmax	pmax			
	comp=Z,9.0nm,0.9s								
TAM	**Tamanrasset**	**166.10**	**278**	*e*	PKPdf	PKPdf	23 12 48.1	+0.1	
TAM				*e*	PP	PP	23 17 40.2	+2.5	
TAM	**Tamanrasset**	**166.10**	**278**	*e*	PKIKP	PKPdf	23 12 48.2	+0.2	
TAM				*e*			23 17 40.2		
TORD	**Torodi Ar. Bea**	**166.44**	**233**		PKP	PKPdf	23 12 47.5	-1.0	
	comp=Z,4.1nm,1.0s,baz=112,slow=0.3,SNR=17								
TORD					PKPab	PKPab	23 13 49.6	-1.4	
	comp=Z,8.5nm,0.9s,baz=133,slow=4.3,SNR=24								
TORD	**Torodi Ar. Bea**	**166.44**	**233**		PKP	PKPdf	23 12 47.5	-1.0	
TORD					PKPab	PKPab	23 13 49.6	-1.4	

*CSEM **14** 22:54:10.6, 43.19N×46.25E, h6km, mb3.7, After OBN*
*MOS **14** 22:54:10.6±1.0, 43.19N×46.25E, h6km, mb3.7/1, Error ellipse: s-maj=9.4km s-min=6.2km az=29.0*
ISC 14 22:54:11.2±0.5, 43°23N±0.03×46°25E±0.03, h3km±4km, n46, σ0s97/90, 4C-2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.32**	**119**	*e*	PG	**Pg**	**22 54 19.0**	**+1.6**
DLMR				*e*	S	**Sg**	**22 54 25.0**	**+3.4**
DLMR					pmax	pmax		
	comp=Z,115nm,0.2s							
DLMR	**Dylym**	**0.32**	**119**	*e*	Pg	**Pg**	**22 54 19.0**	**+1.6**
	comp=Z,115nm,0.2s							
DLMR				*e*	Sg	**Sg**	**22 54 25.0**	**+3.4**
GRO	**Groznyy**	**0.37**	**285**	⇓	PG	**Pg**	**22 54 18.7**	**+0.3**
GRO				*i*	S	**Sg**	**22 54 24.2**	**+1.0**
GRO	**Groznyy**	**0.37**	**285**	*i*	Pg	**Pg**	**22 54 18.7**	**+0.3**
GRO				*i*	Sg	**Sg**	**22 54 24.2**	**+1.0**
DBC	**Dubki**	**0.48**	**116**	*e*	PG	**Pg**	**22 54 19.0**	**-1.3**
DBC				*i*	S	**Sg**	**22 54 25.8**	**-0.7**
DBC					pmax	pmax		
	comp=Z,52nm,0.2s							
DBC	**Dubki**	**0.48**	**116**	*e*	Pg	**Pg**	**22 54 19.0**	**-1.3**
	comp=Z,52nm,0.2s							
DBC				*i*	Sg	**Sg**	**22 54 25.8**	**-0.7**
BTLR	**Botlikh**	**0.56**	**182**	*e*	PG	**Pg**	**22 54 21.0**	**-1.0**
BTLR				*i*		**Sg**	**22 54 29.7**	**+0.4**
BTLR	**Botlikh**	**0.56**	**182**	*e*	Pg	**Pg**	**22 54 21.0**	**-1.0**
BTLR				*i*	Sg	**Sg**	**22 54 29.7**	**+0.4**
KRNR	**Karanay**	**0.63**	**129**		PG	**Pg**	**22 54 23.0**	**-0.3**
KRNR				*i*	S	**Sg**	**22 54 30.5**	**-0.9**
KRNR					pmax	pmax		
	comp=Z,29nm,0.2s							
KRNR	**Karanay**	**0.63**	**129**		Pg	**Pg**	**22 54 23.0**	**-0.3**
	comp=Z,29nm,0.2s							
KRNR				*i*	Sg	**Sg**	**22 54 30.5**	**-0.9**
UNCR	**Uncukul**	**0.65**	**142**	*e*	PG	**Pg**	**22 54 22.0**	**-1.7**
UNCR				*e*	S	**Sg**	**22 54 31.7**	**-0.5**
UNCR					pmax	pmax		
	comp=Z,27nm,0.2s							
UNCR	**Uncukul**	**0.65**	**142**	*e*	Pg	**Pg**	**22 54 22.0**	**-1.7**
	comp=Z,27nm,0.2s							
UNCR				*e*	Sg	**Sg**	**22 54 31.7**	**-0.5**
BUJR	**Buynaksk**	**0.75**	**122**		PG	**Pg**	**22 54 27.0**	**+1.4**
BUJR				*e*	S	**Sg**	**22 54 37.0**	**+1.7**
BUJR	**Buynaksk**	**0.75**	**122**		Pg	**Pg**	**22 54 27.0**	**+1.4**
BUJR				*e*	Sg	**Sg**	**22 54 37.0**	**+1.7**
XNZR	**Khunzakh**	**0.76**	**154**	*e*	PG	**Pg**	**22 54 25.0**	**-0.9**
XNZR					S	**Sg**	**22 54 36.4**	**+0.7**
XNZR	**Khunzakh**	**0.76**	**154**	*e*	Pg	**Pg**	**22 54 25.0**	**-0.9**
XNZR					Sg	**Sg**	**22 54 36.4**	**+0.7**
SNJR	**Sundja**	**1.06**	**262**	*e*	PG	**Pg**	**22 54 31.1**	**-0.4**
SNJR				*e*	S	**Sg**	**22 54 45.9**	**+0.6**
SNJR	**Sundja**	**1.06**	**262**	*e*	Pg	**Pg**	**22 54 31.1**	**-0.4**
SNJR				*e*	Sg	**Sg**	**22 54 45.9**	**+0.6**
VLKR	**Vladikavkaz**	**1.16**	**262**	*e*	PG	**Pg**	**22 54 32.8**	**-0.7**
VLKR				*e*	S	**Sg**	**22 54 48.8**	**+0.3**
VLKR	**Vladikavkaz**	**1.16**	**262**	*e*	Pg	**Pg**	**22 54 32.8**	**-0.7**
VLKR				*e*	Sg	**Sg**	**22 54 48.8**	**+0.3**
TRKR	**Terskaya**	**1.21**	**295**	⇓	PG	**Pg**	**22 54 34.1**	**-0.3**
TRKR				*i*	S	**Sg**	**22 54 52.3**	**+2.3**
TRKR	**Terskaya**	**1.21**	**295**	*i*	Pg	**Pg**	**22 54 34.1**	**-0.3**
TRKR				*i*	Sg	**Sg**	**22 54 52.3**	**+2.3**
KMKR	**Kumukh**	**1.26**	**150**	*e*	PG	**Pg**	**22 54 35.0**	**-0.4**
KMKR				*e*	S	**Sg**	**22 54 52.5**	**+0.7**
KMKR					pmax	pmax		
	comp=Z,32nm,0.3s							
KMKR	**Kumukh**	**1.26**	**150**	*e*	Pg	**Pg**	**22 54 35.0**	**-0.4**
	comp=Z,32nm,0.3s							
KMKR				*e*	Sg	**Sg**	**22 54 52.5**	**+0.7**
KMSR	**Komsomolskaya**	**1.43**	**276**	⇑	PG	**Pg**	**22 54 38.2**	**-0.5**
KMSR				*e*	S	**Sg**	**22 54 58.0**	**+0.8**
KMSR	**Komsomolskaya**	**1.43**	**276**	*i*	Pg	**Pg**	**22 54 38.2**	**-0.5**
KMSR				*e*	Sg	**Sg**	**22 54 58.0**	**+0.8**
ARNR	**Ardon**	**1.44**	**269**	*e*	PG	**Pn**	**22 54 37.8**	**-0.3**
ARNR				*e*	S	**Sn**	**22 54 57.4**	**0.0**
ARNR	**Ardon**	**1.44**	**269**	*e*	Pg	**Pn**	**22 54 37.8**	**-0.3**
ARNR				*e*	Sg	**Sn**	**22 54 57.4**	**0.0**
LACR	**Lac**	**1.48**	**255**	⇑	PG	**Pn**	**22 54 37.0**	**-1.7**
LACR				*i*	S	**Sn**	**22 54 57.6**	**-1.0**
LACR	**Lac**	**1.48**	**255**	*i*	Pg	**Pn**	**22 54 37.0**	**-1.7**
LACR				*i*	Sg	**Sn**	**22 54 57.6**	**-1.0**
PRTR	**Priterechnaya**	**1.52**	**291**	⇑	PG	**Pg**	**22 54 39.4**	**-1.0**
PRTR				*i*	S	**Sg**	**22 55 01.2**	**+1.1**
PRTR	**Priterechnaya**	**1.52**	**291**	*i*	Pg	**Pg**	**22 54 39.4**	**-1.0**
PRTR				*i*	Sg	**Sg**	**22 55 01.2**	**+1.1**
KORR	**Kora**	**1.60**	**266**	*e*	PG	**Pn**	**22 54 39.7**	**-0.6**
KORR				*e*	S	**Sn**	**22 55 01.8**	**+0.4**
KORR	**Kora**	**1.60**	**266**	*e*	Pg	**Pn**	**22 54 39.7**	**-0.6**
KORR				*e*	Sg	**Sn**	**22 55 01.8**	**+0.4**
LSNR	**Lesken**	**1.78**	**272**	*e*	PN	**Pn**	**22 54 43.0**	**+0.3**
LSNR				*e*	S	**Sg**	**22 55 07.2**	**-1.0**
LSNR	**Lesken**	**1.78**	**272**	*e*	Pn	**Pn**	**22 54 43.0**	**+0.3**
LSNR				*e*	Sg	**Sg**	**22 55 07.2**	**-1.0**
ZEI	**Tsey**	**1.78**	**256**	⇑	PN	**Pn**	**22 54 42.0**	**-0.8**
ZEI				*e*	S	**Sn**	**22 55 06.0**	**+0.1**
ZEI	**Tsey**	**1.78**	**256**	*i*	Pn	**Pn**	**22 54 42.0**	**-0.8**
ZEI				*e*	Sg	**Sn**	**22 55 06.0**	**+0.1**
TBLG	**Delisi**	**1.86**	**217**		PN	**Pn**	**22 54 45.4**	**+1.4**
TBLG					S	**Sg**	**22 55 10.6**	**-0.5**
TBLG	**Delisi**	**1.86**	**217**		P	**Pn**	**22 54 45.4**	**+1.4**
TBLG					S	**Sg**	**22 55 10.6**	**-0.5**
TBLG	**Delisi**	**1.86**	**217**		Pn	**Pn**	**22 54 45.4**	**+1.4**
TBLG					Sg	**Sg**	**22 55 10.6**	**-0.5**
MTA	**Mtatsminda**	**1.87**	**216**		P	**Pn**	**22 54 45.0**	**+1.0**
MTA					S	**Sn**	**22 55 09.5**	**+1.4**
DGRG	**David-gareji**	**1.89**	**200**		P	**Pn**	**22 54 44.5**	**+0.2**
DGRG					S	**Sg**	**22 55 12.8**	**+0.9**
DIGR	**Digorskoe uzhe**	**1.98**	**261**	*e*	PN	**Pn**	**22 54 45.6**	**+0.1**
DIGR	**Digorskoe uzhe**	**1.98**	**261**	*e*	Pn	**Pn**	**22 54 45.6**	**+0.1**
ONI	**Oni**	**2.15**	**254**		P	**Pn**	**22 54 47.5**	**-0.3**
ONI					S	**Sg**	**22 55 18.3**	**-1.9**

*IDC **14** 22:56:30.3±0.7, 2.21N×96.27E, h0km, mb4.6/21, mb1 4.6/23, mb1mx4.5/30, mbtmp4.6/23, ML4.5/2, MS4.2/6, Ms1 4.3/6, ms1mx3.6/36, Error ellipse: s-maj=25.1km s-min=13.3km az=42.0*
*ISCJB **14** 22:56:33.0±1.1, 2.23N±0.04×96.29E±0.03, h27km±8km, mb4.8/69, MS4.5/16, Error ellipse: s-maj=7.2km s-min=5.2km az=23.3*
*BJI **14** 22:56:33.6, 2.05N×96.34E, h43km, mB5.1/29, mb5.0/46, Ms4.7/33, Ms7 4.5/31*
*MOS **14** 22:56:33.4±0.8, 2.22N×96.31E, h33km, mb5.0/26, Error ellipse: s-maj=11.5km s-min=6.4km az=106.3*
*DJA **14** 22:56:34, 2.29N×96.20E, h35km, mb5.1/10*
*NEIC **14** 22:56:35.9±0.3, 2.26N×96.32E, h35km, mb4.9/14, Error ellipse: s-maj=8.6km s-min=5.2km az=26.0*
ISC 14 22:56:36.5±0.6, 2.26N±0.04×96.31E±0.04, h37km±6km, h35km±.5km:pP-P, n195, σ0s99/201, mb4.8/69, MS4.5/16, 13C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**2.56**	**61**		P	**Pn**	**22 57 16.8**	**+1.2**
TSI					S	**Sn**	**22 57 46.9**	**+1.3**
PSI	**Prapat**	**2.67**	**78**		Pn	**Pn**	**22 57 15.5**	**-1.5**
	19nm,0.3s,baz=265,slow=5.4,SNR=115							
PSI					LR	LR	22 58 08.6	
	comp=Z,2μm,21.6s,baz=60,slow=36							
PSI	**Prapat**	**2.67**	**78**		Pn	**Pn**	**22 57 15.5**	**-1.5**
PSI					LR	LR	22 58 08.6	
PSI	**Prapat**	**2.67**	**78**		P	**Pn**	**22 57 15.5**	**-1.5**
PSI	**Prapat**	**2.67**	**78**		P	**Pn**	**22 57 16.7**	**-0.3**
BSI	**Banda Aceh**	**3.37**	**343**		P	**Pn**	**22 57 24.2**	**-2.5**
MNSI	**Mandailing Nat**	**3.58**	**114**		P	**Pn**	**22 57 29.1**	**-0.5**
SISI	**Saibi**	**4.52**	**142**		P	**Pn**	**22 57 38.5**	**-4.0**
PPI	**Padang Panjang**	**4.90**	**123**		P	**Pn**	**22 57 48.3**	**+0.6**
	0.6nm3μm141nm,1.0s							
BKNI	**Bangkinang**	**5.10**	**112**		P	**Pn**	**22 57 50.3**	**-0.3**
	2.6nm4μm174nm,1.0s							
IPM	**Ipoh**	**5.20**	**65**		P	**Pn**	**22 57 52.6**	**+0.8**
IPM	**Ipoh**	**5.20**	**65**	*e*	Pn	**Pn**	**22 57 52.6**	**0.0**
IPM					S	**Sn**	**22 58 49.6**	**+1.0**
IPM	**Ipoh**	**5.20**	**65**		P	**Pn**	**22 57 51.7**	**-0.1**
	1.0nm2μm254nm,0.8s							
PDSI	**Padang**	**5.21**	**127**		P	**Pn**	**22 57 53.6**	**+1.6**
KULM	**Kulim**	**5.27**	**55**		P	**Pn**	**22 57 52.9**	**0.0**
KULM	**Kulim**	**5.27**	**55**	*e*	Pn	**Pn**	**22 57 52.6**	**-0.3**
KULM	**Kulim**	**5.27**	**55**		P	**Pn**	**22 57 52.5**	**-0.4**
	2.7nm7μm822nm,0.8s							
MYKOM	**Kota Tinggi**	**7.55**	**93**		P	**Pn**	**22 58 24.7**	**+0.5**
MYKOM	**Kota Tinggi**	**7.55**	**93**		P	**Pn**	**22 58 24.5**	**+0.3**
	0.3nm66nm,1.1s							
TPRI	**Tanjung Pinang**	**8.32**	**99**		P	**Pn**	**22 58 35.2**	**+0.5**
	15nm,0.7s							
KSI	**Kapahiang**	**8.60**	**133**		P	**Pn**	**22 58 39.5**	**+0.9**
	173nm,0.9s							
MDSI	**Maura Dua**	**10.33**	**130**		P	**Pn**	**22 59 01.3**	**-1.0**
	706nm72nm,0.8s							
LWLI	**Liwa**	**10.59**	**133**		P	Px	22 59 19.8	
PPBI	**Pangkal Pinang**	**10.76**	**114**		P	**Pn**	**22 59 09.4**	**+1.2**
	40nm,0.7s							
KLSI		**10.88**	**129**		P	**Pn**	**22 59 08.8**	**-1.1**
KSM	**Kuching**	**14.01**	**93**	*e*	Pn	**Pn**	**22 59 53.5**	**+0.8**
UBT	**Ubonrachathani**	**15.50**	**33**	⇑	P	**Pn**	**23 00 17.0**	**+4.5**
CMAR	**Chiang Mai Arr**	**16.30**	**9**		Pn	**Pn**	**23 00 22.4**	**-0.4**
	1.5nm,0.3s,baz=198,slow=11,SNR=82							
CMAR					LR	LR	23 07 24.2	
	comp=Z,1μm,19.3s,baz=192,slow=40							
CMAR	**Chiang Mai Arr**	**16.30**	**9**		Pn	**Pn**	**23 00 22.4**	**-0.4**
CMAR					LR	LR	23 07 24.2	
CMAR	**Chiang Mai Arr**	**16.30**	**9**		P	**Pn**	**23 00 22.4**	**-0.4**
CHG	**Chiang Mai**	**16.65**	**9**	⇑	P	**Pn**	**23 00 25.1**	**-2.1**
	16nm,0.8s							
CHG					S		23 00 25.3	
CHTO	**Chiang Mai**	**16.65**	**9**	*e*	Pn	**Pn**	**23 00 25.4**	**-1.8**
	14nm,1.0s							
CHTO	**Chiang Mai**	**16.65**	**9**	*e*	P	**Pn**	**23 00 25.4**	**-1.8**
CHTO					pmax	pmax		
	comp=Z,14nm,1.0s							
BTM	**Bintulu**	**16.78**	**86**		P	**Pn**	**23 00 32.0**	**+3.1**
CHRT	**Chiangrai**	**17.83**	**11**		P	**Pn**	**23 00 39.0**	**-2.8**
	comp=Z,166nm,0.8s							
KKM	**Kota Kinabalu**	**20.20**	**79**		P	**P**	**23 01 08.6**	**+0.3**
KKM	**Kota Kinabalu**	**20.20**	**79**	*e*	P	**P**	**23 01 08.4**	**+0.1**
	comp=Z,78nm,0.9s							
KDM	**Kudat**	**20.97**	**77**		P	**P**	**23 01 16.8**	**+0.1**
SDKM	**Sandakan**	**21.10**	**80**		P	**P**	**23 01 18.3**	**+0.3**
QIZ	**Qiongzhong**	**21.29**	**38**		P	**P**	**23 01 19.8**	**-0.2**
QIZ					pP		23 01 29.3	
QIZ					sP	sP	23 01 32.6	-1.8
QIZ					S	**S**	**23 05 15.6**	**+1.0**
QIZ					pmax	pmax		
	comp=Z,380nm,4.9s							
QIZ					LR	LR		
	comp=N,2μm,14.0s,MS4.7							
QIZ					LR	LR		
	comp=E,570nm,13.3s,MS4.7							
QIZ					LR	LR		
	comp=Z,3μm,13.2s,MS4.8							
KMI	**Kunming**	**23.56**	**15**		P	**P**	**23 01 43.5**	**-0.3**
KMI					pP		23 01 51.8	
KMI					S	**S**	**23 05 52.3**	**-3.0**
KMI					sS	sS	23 06 06.3	-6.2
KMI					pmax	pmax		
	comp=Z,33nm,0.8s,mb4.8							
KMI					pmax	pmax		
	comp=Z,290nm,4.7s							
KMI					LR	LR		
	comp=N,630nm,13.5s,MS4.4							
KMI					LR	LR		
	comp=E,460nm,11.3s,MS4.4							
KMI					LR	LR		
	comp=Z,830nm,14.1s,MS4.3							
SHL	**Shillong**	**23.56**	**350**	*e*	PKP	**P**	**23 01 42.0**	**-1.8**
SHL				*e*	PKP		23 05 42.0	
ODAN	**Odare**	**25.91**	**342**	*e*	P	**P**	**23 02 05.7**	**+0.5**
	comp=Z,99nm,1.0s,mb5.3							
GYA	**Guiyang**	**26.03**	**22**		P	**P**	**23 02 07.8**	**+1.5**
GYA					pP	pP	23 02 17.4	+0.6
GYA					PP		23 02 49.6	
GYA					S	**S**	**23 06 33.8**	**-1.1**
GYA					sS	sS	23 06 50.3	-2.0
GYA					SS		23 07 39.8	
GYA					ScP	ScP	23 09 11.3	+0.4
GYA					pmax	pmax		
	comp=Z,20nm,0.8s,mb4.7							
GYA					pmax	pmax		
	comp=Z,120nm,4.9s							
GYA					LR	LR		
	comp=N,510nm,14.8s,MS4.3							
GYA					LR	LR		
	comp=E,480nm,15.0s,MS4.3							
GYA					LR	LR		
	comp=Z,490nm,13.4s,MS4.2							
RAMN	**Ramite**	**26.25**	**340**	*e*	P	**P**	**23 02 09.3**	**+1.0**
	comp=Z,68nm,0.8s,mb5.2							
TAPN	**Taplejung**	**26.27**	**343**	*e*	P	**P**	**23 02 09.3**	**+0.8**
	comp=Z,117nm,1.0s,mb5.4							
PKI	**Pulchoki**	**27.24**	**338**	*e*	P	**P**	**23 02 17.8**	**+0.5**
PKIN	**Phulchoki**	**27.25**	**338**	*e*	P	**P**	**23 02 18.3**	**+1.0**
	comp=Z,34nm,0.7s,mb5.0							
GUN	**Gumba**	**27.39**	**340**	*e*	P	**P**	**23 02 19.0**	**+0.5**
	comp=Z,78nm,0.8s,mb5.3							
DMN	**Daman**	**27.39**	**338**	*e*	P	**P**	**23 02 19.7**	**+1.1**
	comp=Z,45nm,1.0s,mb4.9							
KKN	**Kakani**	**27.49**	**338**	*e*	P	**P**	**23 02 20.0**	**+0.5**
	comp=Z,41nm,0.8s,mb5.0							
LSA	**Lhasa**	**27.72**	**350**	*e*	P	**P**	**23 02 22.0**	**+0.4**
	comp=Z,59nm,1.1s,mb5.1							
LSA	**Lhasa**	**27.72**	**350**	*e*	P	**P**	**23 02 22.0**	**+0.5**
LSA					pmax	pmax		
	comp=Z,59nm,1.1s,mb5.1							
GKN	**Gorkha**	**27.92**	**338**	*e*	P	**P**	**23 02 23.7**	**+0.4**
	comp=Z,66nm,0.9s,mb5.3							
KOLN	**Koldanda**	**28.13**	**336**	*e*	P	**P**	**23 02 25.7**	**+0.5**
	comp=Z,62nm,0.9s,mb5.2							
DANN	**Dangsing**	**28.57**	**336**	*e*	P	**P**	**23 02 29.6**	**+0.5**
CD2	**Chengdu**	**29.35**	**13**		P	**P**	**23 02 38.5**	**+2.5**
CD2					pP	pP	23 02 48.0	+1.5
CD2					sP	sP	23 02 52.0	+1.0
CD2					PP	PP	23 03 34.3	-8.5
CD2					S	**S**	**23 07 28.1**	**+1.0**
CD2					sS	sS	23 07 44.3	-0.3
CD2					SS	SS	23 08 59.5	-33
CD2					pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.8							
CD2					pmax	pmax		
	comp=Z,110nm,5.7s							
CD2					LR	LR		
	comp=N,1μm,13.7s							
CD2					LR	LR		
	comp=Z,910nm,16.1s,MS4.5							
ENH	**Enshi**	**30.53**	**23**	*e*	P	**P**	**23 02 45.2**	**-1.3**
	comp=Z,20nm,1.0s,mb4.3							
QZH	**Quanzhou**	**31.15**	**42**	*e*	P	**P**	**23 02 51.4**	**-0.6**
QZH					S	**S**	**23 07 53.3**	**-2.2**
QZH					LR	LR		
	comp=N,2μm,15.8s,MS5.0							
QZH					LR	LR		
	comp=E,610nm,12.1s,MS5.0							
QZH					LR	LR		
	comp=Z,2μm,15.6s,MS4.8							
DDI	**Dehra Dun**	**32.84**	**330**	*ex*		**P**	**23 03 07.0**	**+0.3**
XAN	**Xi'an**	**33.74**	**19**		P	**P**	**23 03 13.6**	**-0.9**
XAN					pmax	pmax		
	comp=Z,24nm,0.9s,mb5.1							
XAN					pmax	pmax		
	comp=Z,31nm,4.3s							
LZH	**Lanzhou**	**34.37**	**11**	*e*	P	**P**	**23 03 18.5**	**-1.5**
LZH					pP	pP	23 03 28.0	-2.6
LZH					PP	PP	23 04 37.0	-1.4
LZH				*e*	S	**S**	**23 08 48.0**	**+2.

TKM2	**Tokmak 2**	**44.51**	**338**	*i* P		**P**	**23 04 45.0**	**+0.6**
TKM2				pmax		pmax			
	comp=Z,16nm,1.5s,mb4.6								
KBK	**Karagaybulak**	**44.52**	**337**	P		**P**	**23 04 46.5**	**+1.9**
	SNR=12								
AML	**Almayashu**	**44.58**	**336**	P		**P**	**23 04 46.2**	**+1.3**
	SNR=11								
AAK	**Ala-Archa**	**44.68**	**337**	*e*P		**P**	**23 04 45.9**	**+0.2**
	comp=Z,38nm,1.0s,mb5.2								
AAK	**Ala-Archa**	**44.68**	**337**	*e*P		**P**	**23 04 45.9**	**+0.1**
AAK				pmax		pmax			
	comp=Z,38nm,1.0s,mb5.2								
ASAR	**Alice Springs**	**44.74**	**127**	P		**P**	**23 04 45.6**	**-1.0**
	comp=Z,3.4nm,0.8s,mb4.2,baz=286,slow=6.7,SNR=5.9								
ASAR	**Alice Springs**	**44.74**	**127**	P		**P**	**23 04 45.6**	**-1.0**
ASAR	**Alice Springs**	**44.74**	**127**	P		**P**	**23 04 45.6**	**-1.0**
EKS2	**Erkin-Say**	**44.99**	**336**	P		**P**	**23 04 49.5**	**+1.3**
	SNR=10								
EKS2	**Erkin-Say**	**44.99**	**336**	*e*P		**P**	**23 04 48.6**	**+0.4**
	comp=Z,6.9nm,0.8s,mb4.5								
EKS2	**Erkin-Say**	**44.99**	**336**	*e*P		**P**	**23 04 48.6**	**+0.4**
EKS2				pmax		pmax			
	comp=Z,7.0nm,0.8s,mb4.5								
USP	**Ospenovka**	**45.22**	**338**	P		**P**	**23 04 50.7**	**+0.7**
	SNR=19								
KSRS	**Korea Array**	**45.50**	**36**	P		**P**	**23 04 51.4**	**-1.0**
	comp=Z,12nm,1.2s,mb4.6,baz=239,slow=6.9,SNR=11								
KSRS	**Korea Array**	**45.50**	**36**	P		**P**	**23 04 51.4**	**-1.0**
KSRS				pmax		pmax			
	comp=Z,12nm,1.2s,mb4.6								
MK31	**Makanchi Array**	**46.01**	**347**	*e*P		**P**	**23 04 56.1**	**-0.1**
MK31	**Makanchi Array**	**46.01**	**347**	*i* P		**P**	**23 04 56.0**	**-0.2**
MK31				pmax		pmax			
	comp=Z,71nm,1.1s,mb5.5								
MKAR	**Makanchi Array**	**46.01**	**347**	P		**P**	**23 04 55.9**	**-0.4**
	comp=Z,33nm,0.8s,mb5.3,baz=161,slow=7.9,SNR=308								
MKAR	**Makanchi Array**	**46.01**	**347**	P		**P**	**23 04 55.9**	**-0.4**
MKAR	**Makanchi Array**	**46.01**	**347**	P		**P**	**23 04 55.9**	**-0.3**
SONM	**Songino Array**	**46.23**	**9**	P		**P**	**23 04 57.7**	**-0.2**
	comp=Z,16nm,0.7s,mb5.1,baz=189,slow=8.9,SNR=118								
SONM				PcP		PcP	23 06 34.0	+0.9	
	comp=Z,4.9nm,0.8s,baz=185,slow=3.4,SNR=3.1								
SONM	**Songino Array**	**46.23**	**9**	P		**P**	**23 04 57.7**	**-0.2**
SONM				PcP		PcP	23 06 34.0	+0.9	
SONM	**Songino Array**	**46.23**	**9**	P		**P**	**23 04 57.7**	**-0.2**
SONM							23 06 34.0		
ULN	**Ulaanbaatar**	**46.37**	**10**	*e*P		**P**	**23 04 58.9**	**-0.1**
	comp=Z,63nm,1.2s,mb5.4								
ULN	**Ulaanbaatar**	**46.37**	**10**	*e*P		**P**	**23 04 58.9**	**-0.1**
ULN				pmax		pmax			
	comp=Z,63nm,1.2s,mb5.4								
KK31	**Karatay Array**	**46.72**	**334**	*i* P		**P**	**23 05 02.8**	**+0.9**
KK31				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.4								
KKAR	**Karatay Array**	**46.72**	**334**	*e*P		**P**	**23 05 02.1**	**+0.2**
KKAR	**Karatay Array**	**46.72**	**334**	*e*P		**P**	**23 05 02.1**	**+0.2**
ZAK	**Zakamensk**	**48.31**	**6**	*e*P		**P**	**23 05 13.0**	**-1.1**
ZAK				pmax		pmax			
	comp=Z,5.0nm,0.9s,mb4.5								
TLY	**Talaya**	**49.63**	**6**	*e*P		**P**	**23 05 25.3**	**+1.1**
TLY				pmax		pmax			
	comp=Z,9.0nm,0.7s,mb4.9								
TLY				MLR		MLR			
	comp=Z,264nm,18.0s,MS4.3								
KURK	**Kurchatov**	**50.55**	**346**	P		**P**	**23 05 30.6**	**-0.5**
	comp=Z,10nm,0.8s,mb4.8,baz=168,slow=6.8,SNR=107								
KURK	**Kurchatov**	**50.55**	**346**	*e*P		**P**	**23 05 30.9**	**-0.3**
	comp=Z,12nm,0.9s,mb4.8								
KURK	**Kurchatov**	**50.55**	**346**	*e*P		**P**	**23 05 30.9**	**-0.3**
KURK				pmax		pmax			
	comp=Z,12nm,0.9s,mb4.8								
MDJ	**Mudanjiang**	**51.39**	**30**	P		**P**	**23 05 37.5**	**-0.1**
MDJ				pmax		pmax			
	comp=Z,12nm,1.3s,mb4.7								
MDJ				pmax		pmax			
	comp=Z,130nm,4.8s								
MJAR	**Matsushiro Arr**	**51.52**	**43**	P		**P**	**23 05 38.8**	**0.0**
	comp=Z,2.6nm,0.8s,mb4.2,baz=231,slow=5.8,SNR=4.5								
MJAR	**Matsushiro Arr**	**51.52**	**43**	P		**P**	**23 05 38.8**	**0.0**
MJAR	**Matsushiro Arr**	**51.52**	**43**	P		**P**	**23 05 38.8**	**0.0**
PMG	**Port Moresby**	**51.96**	**104**	P		**P**	**23 05 41.7**	**-0.7**
	comp=Z,14nm,0.8s,mb5.0,baz=277,slow=8.1,SNR=4.6								
PMG	**Port Moresby**	**51.96**	**104**	P		**P**	**23 05 41.7**	**-0.7**
PMG	**Port Moresby**	**51.96**	**104**	P		**P**	**23 05 41.7**	**-0.7**
ZAA0	**Zalesovo Array**	**52.38**	**351**	*e*P		**P**	**23 05 44.5**	**-0.3**
ZALV	**Zalesovo Beam**	**52.38**	**351**	P		**P**	**23 05 44.4**	**-0.4**
	comp=Z,31nm,0.7s,mb5.4,baz=178,slow=6.7,SNR=208								
ZALV	**Zalesovo Beam**	**52.38**	**351**	P		**P**	**23 05 44.4**	**-0.4**
ZALV	**Zalesovo Beam**	**52.38**	**351**	P		**P**	**23 05 44.4**	**-0.4**
NVS	**Novosibirsk**	**53.49**	**351**	⇑ *i*P		**P**	**23 05 51.1**	**-1.9**
NVS				*e*			23 07 59.3		
NVS				*e*			23 13 31.4		
NVS				pmax		pmax			
	comp=N,11nm,0.8s								
NVS				pmax		pmax			
	comp=Z,17nm,0.8s,mb5.0								
NVS				pmax		pmax			
	comp=E,6.0nm,0.7s								
CTA	**Charters Tower**	**53.77**	**117**	P		**P**	**23 05 53.2**	**-2.5**
	comp=E,9.6nm,1.0s,mb4.7,baz=274,slow=13,SNR=4.1								
CTA	**Charters Tower**	**53.77**	**117**	P		**P**	**23 05 53.2**	**-2.5**
CTA	**Charters Tower**	**53.77**	**117**	P		**P**	**23 05 53.2**	**-2.5**
STKA	**Stephens Creek**	**54.72**	**132**	P		**P**	**23 06 02.7**	**+0.3**
	comp=E,4.9nm,0.7s,mb4.6,baz=290,slow=7.9,SNR=5.2								
STKA				LR		LR	23 31 47.7		
	comp=E,315nm,18.9s,MS4.4,baz=245,slow=39								
STKA	**Stephens Creek**	**54.72**	**132**	*e*P		**P**	**23 06 03.4**	**+1.0**
STKA	**Stephens Creek**	**54.72**	**132**	P		**P**	**23 06 02.7**	**+0.3**
STKA				pmax		pmax			
	comp=Z,5.0nm,0.7s								
STKA				MLR		MLR			
	comp=Z,315nm,18.9s								
BRVK	**Borovoye**	**55.02**	**341**	*e*P		**P**	**23 06 03.1**	**-1.1**
	comp=Z,11nm,0.8s,mb4.9								
BRVK	**Borovoye**	**55.02**	**341**	*c i*P		**P**	**23 06 03.5**	**-0.7**
BRVK				pmax		pmax			
	comp=Z,17nm,0.8s,mb5.1								
BRVK				pmax		pmax			
	comp=Z,11nm,0.7s,mb5.0								
AB31	**Akbulak array**	**56.16**	**332**	*i* P		**P**	**23 06 12.2**	**-0.3**
AB31				pmax		pmax			
	comp=Z,18nm,1.1s,mb5.0								
ABKAR	**Akbulak array**	**56.16**	**332**	*e*P		**P**	**23 06 12.2**	**-0.2**
AKTK	**Aktyubinsk**	**57.88**	**332**	P		**P**	**23 06 24.4**	**-0.2**
AKTO	**Aktyubinsk**	**57.88**	**332**	P		**P**	**23 06 24.4**	**-0.2**
	comp=Z,0.8nm,0.3s,mb4.2,baz=107,slow=5.2,SNR=6.7								
AKTO	**Aktyubinsk**	**57.88**	**332**	P		**P**	**23 06 24.4**	**-0.2**
AKTO				pmax		pmax			
	comp=Z,1.0nm,0.3s,mb4.3								
ASAJ	**Asahikawa**	**58.36**	**38**	P		**P**	**23 06 28.7**	**+0.6**
	comp=Z,6.3nm,0.6s,mb4.8,baz=320,slow=7.9,SNR=3.2								
ASAJ	**Asahikawa**	**58.36**	**38**	P		**P**	**23 06 28.7**	**+0.6**
ASAJ				pmax		pmax			
	comp=Z,6.0nm,0.6s								
YSS	**Yuzh-Sakhalins**	**59.98**	**35**	*e*P		**P**	**23 06 39.7**	**+0.4**
YSS				pmax		pmax			
	comp=Z,26nm,1.3s,mb5.1								
SVE	**Sverdlovsk**	**61.38**	**339**	⇑ *i*P		**P**	**23 06 48.6**	**0.0**
SVE				pmax		pmax			
	comp=Z,27nm,0.9s,mb5.4								
ZEI	**Tsey**	**61.62**	**318**	*e*P		**P**	**23 06 50.4**	**-0.1**
ZEI				pmax		pmax			
	comp=Z,4.0nm,1.0s,mb4.5								
ARU	**Arti**	**61.87**	**337**	*e*P		**P**	**23 06 51.1**	**-0.8**
	comp=Z,13nm,1.0s,mb5.0								
ARU	**Arti**	**61.87**	**337**	*d i*P		**P**	**23 06 51.6**	**-0.3**
ARU				*e*			23 09 05.6		
ARU				S		**S**	**23 15 14.7**	**+1.9**
ARU				SS		SS	23 19 11.9	-3.5	
ARU				pmax		pmax			
	comp=Z,14nm,1.0s,mb5.0								
KIV	**Kislovodsk**	**62.93**	**319**	P		**P**	**23 06 59.4**	**+0.2**
	comp=Z,8.4nm,1.0s,mb4.8								
KIV	**Kislovodsk**	**62.93**	**319**	*e*P		**P**	**23 06 59.3**	**+0.1**
KIV				pmax		pmax			
	comp=Z,11nm,1.7s,mb4.7								
YAK	**Yakutsk**	**64.66**	**17**	*e*P		**P**	**23 07 09.6**	**-0.7**
	comp=Z,65nm,0.8s,mb5.7								
YAK	**Yakutsk**	**64.66**	**17**	*c i*P		**P**	**23 07 09.2**	**-1.1**
YAK				*e*	*P*	pP	23 07 18.7	-2.8	
YAK				*e*			23 09 29.8		
YAK				*e*S		**S**	**23 15 41.2**	**-6.3**
YAK				*e*			23 16 18.3		
YAK				*e*SS		SS	23 19 54.2	-4.6	
YAK				*e*SSS			23 22 50.1		
YAK				pmax		pmax			
	comp=Z,53nm,0.8s,mb5.6								
YAK				pmax		pmax			
	comp=E,12nm,1.0s								
YAK				pmax		pmax			
	comp=N,20nm,1.1s								
YAK				pmax		pmax			
	comp=Z,20nm,1.3s,mb5.0								
YAK				smax					
	comp=N,72nm,10.8s								
YAK				smax					
	comp=E,25nm,7.3s								
YAK				MLR		MLR			
	comp=Z,191nm,15.0s,MS4.4								
YAK				MLR		MLR			
	comp=E,124nm,13.0s,MS4.4								
YAK				MLR		MLR			
	comp=N,116nm,15.0s,MS4.4								
SOKR	**Solikamsk**	**64.78**	**339**	⇑ *i*P		**P**	**23 07 11.8**	**+0.7**
SOKR				pmax		pmax			
	comp=Z,10.0nm,0.6s,mb5.0								
VRHR	**Novokhopersk**	**66.75**	**326**	*e*P		**P**	**23 07 22.9**	**-1.1**
VRHR				pmax		pmax			
	comp=Z,10.0nm,0.9s,mb4.8								
VRHR				pmax		pmax			
	comp=N,4.0nm,0.4s								
VRHR				pmax		pmax			
	comp=E,10.0nm,0.9s								
BR131	**Keskin Array S**	**67.74**	**312**	P		**P**	**23 07 29.9**	**-0.6**
BRTR	**Keskin Array B**	**67.74**	**312**	P		**P**	**23 07 29.5**	**-1.0**
	comp=E,1.3nm,0.7s,mb4.0,baz=111,slow=4.6,SNR=9.4								
BRTR	**Keskin Array B**	**67.74**	**312**	P		**P**	**23 07 29.5**	**-1.0**
BRTR	**Keskin Array B**	**67.74**	**312**	P		**P**	**23 07 29.5**	**-1.0**
VSR	**Storozhevoye**	**68.20**	**325**	*e*P		**P**	**23 07 32.0**	**-1.1**
VSR				pmax		pmax			
	comp=N,4.0nm,0.8s								
VSR				pmax		pmax			
	comp=E,5.0nm,0.8s								
VSR				pmax		pmax			
	comp=Z,7.0nm,0.8s,mb4.7								
OBN	**Obninsk**	**71.25**	**328**	*e*P		**P**	**23 07 51.2**	**-0.7**
OBN				pmax		pmax			
	comp=Z,16nm,1.7s,mb4.7								
KLMR	**Klimovskoe**	**72.42**	**335**	*e*P		**P**	**23 07 57.0**	**-1.7**
KLMR				pmax		pmax			
	comp=Z,23nm,1.4s,mb4.9								
SEY	**Seymchan**	**73.14**	**23**	*e*P		**P**	**23 08 02.7**	**-0.3**
AKASG	**Malin Array Be**	**73.88**	**322**	P		**P**	**23 08 06.5**	**-1.0**
	comp=Z,8nm,0.7s,mb4.3,baz=96,slow=4.9,SNR=8.7								
AKASG	**Malin Array Be**	**73.88**	**322**	P		**P**	**23 08 06.5**	**-1.0**
AKASG	**Malin Array Be**	**73.88**	**322**	P		**P**	**23 08 06.6**	**-1.0**
VRI	**Vrincioaia**	**74.24**	**317**	⇑ *i*P		**P**	**23 08 10.6**	**+0.8**
TESR		**74.44**	**318**	⇑ *i*P		**P**	**23 08 11.4**	**+0.4**
BURAR	**Bucovina Array**	**75.64**	**319**	⇓ *i*P		**P**	**23 08 18.9**	**+1.0**
BUR08	**Bucovina Ar. S**	**75.66**	**319**	*e*P		**P**	**23 08 18.5**	**+0.5**
JOF	**Joensuu**	**76.81**	**335**	*e*P		**P**	**23 08 24.8**	**+0.6**
JOF				pmax		pmax			
	comp=Z,15nm,1.0s,mb4.9								
JOF	**Joensuu**	**76.81**	**335**	*e*p		**P**	**23 08 24.8**	**+0.6**
	comp=Z,15nm,1.0s,mb4.9								
TRPA	**Tarpa**	**77.52**	**319**	⇑ *i*P		**P**	**23 08 29.9**	**+1.5**
APA	**Apatity**	**77.83**	**340**	⇑ *i*P		**P**	**23 08 26.6**	**-3.2**
APA				*i*			23 08 41.0		
APA				MLR		MLR			
	comp=Z,1μm,25.0s,MS5.1								
SUW	**Suwalki**	**78.30**	**325**	P		**P**	**23 08 32.6**	**-0.1**
SUW	**Suwalki**	**78.30**	**325**	P		**P**	**23 08 32.6**	**-0.1**
FINES	**FINESS Array B**	**78.65**	**333**	P		**P**	**23 08 34.0**	**-0.4**
	comp=Z,9.5nm,0.8s,mb4.8,baz=105,slow=8.8,SNR=20								
FINES	**FINESS Array B**	**78.65**	**333**	P		**P**	**23 08 34.0**	**-0.4**
FINES	**FINESS Array B**	**78.65**	**333**	P		**P**	**23 08 34.0**	**-0.5**
PSZ	**Piszkesteto**	**79.23**	**318**	*e*P		**P**	**23 08 38.1**	**+0.2**
	comp=Z,4.3nm,0.9s,mb4.4								
PSZ	**Piszkesteto**	**79.23**	**318**	*e*P		**P**	**23 08 38.1**	**+0.2**
PSZ				pmax		pmax			
	comp=Z,4.0nm,0.9s,mb4.3								
PSZ	**Piszkesteto**	**79.23**	**318**	⇑ *i*P		**P**	**23 08 38.7**	**+0.8**
PKSM	**Moragy**	**79.84**	**316**	⇓ *i*P		**P**	**23 08 41.6**	**+0.3**
BILL	**Bilibino**	**80.50**	**21**	*e*P		**P**	**23 08 46.9**	**+2.6**
BILL				pmax		pmax			
	comp=Z,4.0nm,1.0s,mb4.3								
ARCES	**ARCESS Array B**	**81.24**	**340**	P		**P**	**23 08 48.2**	**-0.1**
	comp=Z,7.5nm,0.8s,mb4.7,baz=99,slow=5.6,SNR=14								
ARCES				LR		LR	23 50 47.3		
	comp=Z,192nm,19.1s,MS4.5,baz=116,slow=40								
ARCES	**ARCESS Array B**	**81.24**	**340**	P		**P**	**23 08 48.2**	**-0.1**
ARCES				LR		LR	23 50 47.3		
ARCES	**ARCESS Array B**	**81.24**	**340**	P		**P**	**23 08 48.2**	**-0.1**
GERES	**GERESS Array B**	**83.43**	**319**	P		**P**	**23 09 00.8**	**+0.6**
	comp=Z,2.2nm,0.8s,mb4.2,baz=98,slow=6.0,SNR=14								
GERES	**GERESS Array B**	**83.43**	**319**	P		**P**	**23 09 00.8**	**+0.6**
GERES	**GERESS Array B**	**83.43**	**319**	P		**P**	**23 09 00.8**	**+0.6**
NB2	**NORSAR Subarra**	**85.65**	**331**	P		**P**	**23 09 10.8**	**-0.3**
	comp=Z,7.2nm,1.0s,mb4.9,baz=93,slow=5.1								
NOA	**NORSAR Array B**	**85.65**	**331**	P		**P**	**23 09 10.5**	**-0.7**
	comp=Z,3.2nm,0.9s,mb4.5,baz=97,slow=5.0,SNR=4.5								
NOA				LR		LR	23 51 43.3		
	comp=Z,109nm,19.5s,MS4.3,baz=95,slow=39								
NOA	**NORSAR Array B**	**85.65**	**331**	P		**P**	**23 09 10.5**	**-0.7**
NOA				LR		LR	23 51 43.3		
NOA	**NORSAR Array B**	**85.65**	**331**	P		**P**	**23 09 10.5**	**-0.6**
SPITS	**Spitsbergen Ar**	**85.74**	**348**	P		**P**	**23 09 10.5**	**-0.8**
	comp=Z,9.6nm,0.8s,mb5.1,baz=190,slow=7.5,SNR=3.4								
SPITS	**Spitsbergen Ar**	**85.74**	**348**	P		**P**	**23 09 10.5**	**-0.8**
SPITS	**Spitsbergen Ar**	**85.74**	**348**	P		**P**	**23 09 10.5**	**-0.8**
VNDA	**Vanda**	**87.03**	**169**	LR		LR	23 46 35.8		
	comp=Z,129nm,18.7s,MS4.4,baz=345,slow=35								
LPL	**La Plagne**	**88.11**	**315**	*e*P		**P**	**23 09 21.3**	**-2.1**
	comp=Z,59nm,1.6s,mb5.3								
TORD	**Torodi Ar. Bea**	**93.98**	**283**	P		**P**	**23 09 52.6**	**+1.2**
	comp=Z,0.4nm,0.8s,mb3.9,baz=116,slow=4.1,SNR=2.5								
TORD	**Torodi Ar. Bea**	**93.98**	**283**	P		**P**	**23 09 52.6**	**+1.2**
ILAR	**Eielson Array**	**99.07**	**23**	PP		PP	23 14 16.2	+0.7	
	comp=Z,0.4nm,0.7s,baz=302,slow=6.8,SNR=4.3								
NVAR	**Mina Array Bea**	**128.43**	**35**	PKP		PKPdf	23 15 40.5	+0.6	
	comp=Z,0.3nm,0.4s,baz=288,slow=1.4,SNR=3.8								
NVAR	**Mina Array Bea**	**128.43**	**35**	PKP		PKPdf	23 15 40.5	+0.6	
TXAR	**Lajitas Array**	**143.22**	**30**	PKP		PKPdf	23 16 05.0	-2.5	
	comp=Z,1.3nm,0.9s,baz=163,slow=0.9,SNR=4.2								
TXAR	**Lajitas Array**	**143.22**	**30**	PKP		PKPdf	23 16 05.0	-2.5	
TXAR	**Lajitas Array**	**143.22**	**30**	PKIKP		PKPdf	23 16 05.0	-2.5	

KRSC 14 22:57:46.6±0.1, 56°22N×163°07E, h14km±15km, ML3.7,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.14**	**265**	*e*P	Pg	22 57 51.0	+0.8
KBTR				*i* S	Sg	22 57 53.7	+0.9
SMKR	**Semkarok**	**0.96**	**293**	*e*P	Pb	22 58 04.5	-0.5
SMKR				*i* S	Sb	22 58 18.3	+0.7
BDR	**Baidarnaya**	**1.09**	**289**	*e*P	Pb	22 58 06.9	-0.3
BDR				*i* S	Sb	22 58 22.7	+1.4
SRKR	**Sorokina**	**1.14**	**293**	*e*P	Pb	22 58 07.7	-0.4
KLY	**Klyuchi**	**1.35**	**275**	*e*P	Pn	22 58 08.9	-2.1
KLY				*i* S	Sn	22 58 25.0	-3.7
KRSR	**Krestovskiy**	**1.40**	**271**	P	Pn	22 58 11.6	0.0
BZMR	**Bezymyannaya**	**1.47**	**260**	*e*P	Pn	22 58 14.1	+1.4
BZMR				*i* S	Sn	22 58 34.6	+2.9
KIRR	**Kirishev**	**1.55**	**261**	*e*P	Pn	22 58 14.3	+0.6
KIRR				*i* S	Sn	22 58 34.8	+1.2
KPT	**Kopyto**	**1.62**	**262**	*e*P	Pn	22 58 16.6	+2.0
KMNR	**Kamenistaya**	**1.66**	**255**	*e*P	Pn	22 58 17.0	+1.8
KMNR				*i* S	Sn	22 58 40.0	+3.7
KOZ	**Kozyrevsk**	**1.80**	**266**	*e*P	Pn	22 58 18.6	+1.5
KOZ				*i* S	Sn	22 58 42.7	+3.0
MKZ	**Mys Kozlova**	**1.83**	**205**	*e*P	Pn	22 58 18.6	+1.0
MKZ				*i* S	Sn	22 58 41.9	+1.3
SRDR	**Sredinnyy**	**1.87**	**274**	*e*P	Pn	22 58 19.3	+1.1
SRDR				*i* S	Sn	22 58 43.5	+2.0
TUMR	**Tumrok**	**1.90**	**242**	*e*P	Pn	22 58 20.1	+1.6
BKI	**Bering**	**1.93**	**121**	*e*P	Pn	22 58 20.3	+1.3
BKI				*i* S	Sn	22 58 45.1	+2.1
SPN	**Mys Shipunski**	**3.59**	**211**	*e*P	Pn	22 58 42.5	+0.7
SPN				*i* S	Sn	22 59 23.1	-0.9
NLC	**Nalytchevo**	**3.74**	**217**	*e*P	Pn	22 58 45.7	+1.9
NLC				*i* S	Sn	22 59 30.1	+2.5
AVH	**Avacha**	**3.88**	**222**	*e*P	Pn	22 58 49.0	+3.2
GNL	**Ganaly**	**3.89**	**232**	*e*P	Pn	22 58 47.9	+2.0
RUS	**Russkaya**	**4.64**	**217**	*e*P	Pn	22 58 58.1	+2.0

*ISCJB **14** 23:00:16.6±0.5, 24°.63N±0°.03×122°.90E±0°.02, h98km±4km,*

Error ellipse: s-maj=5.1km s-min=3.0km az=174.1
*JMA **14** 23:00:16.5±0.2, 24°.77N×122°.93E, h99km±2km, M3.0*
*TAP **14** 23:00:16.5, 24°.69N×122°.89E, h101km, ML4.0, C*

ISC 14 23:00:17.3±0.5, 24°.63N±0°.03×122°.90E±0°.02, h95km±5km,
n50, σ0°.89/100, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.20**	**149**	P	**Pn**	**23 00 31.1**	**+0.3**
YOJ				S	**Sn**	**23 00 42.2**	**+1.3**
IRIF	**Iriomote-Funau**	**0.81**	**111**	P	**Pn**	**23 00 35.1**	**-0.2**
IRIF				S	**Sn**	**23 00 49.3**	**+0.5**
TWB1	**Santiao Chiao**	**0.91**	**295**	*e*P	**Pn**	**23 00 35.6**	**-0.7**
	baz=284						
TWB1				S	**Sn**	**23 00 51.0**	**+0.4**
	baz=284						
TWC	**Suao**	**0.95**	**269**	*e*P	**Pn**	**23 00 36.2**	**-0.6**
	baz=264						
TWC				*e*S	**Sn**	**23 00 50.7**	**-0.7**
	baz=264						
HATJ	**Hateruma jima**	**1.01**	**125**	P	**Pn**	**23 00 37.8**	**+0.4**
HATJ				S	**Sn**	**23 00 53.8**	**+1.3**
ENA	**Nanau**	**1.07**	**259**	*e*P	**Pn**	**23 00 38.1**	**0.0**
	baz=249						
ENA				S	**Sn**	**23 00 53.1**	**-0.7**
	baz=249						
JKRS	**Kuro-shima**	**1.09**	**111**	P	**Pn**	**23 00 38.5**	**+0.2**
JKRS				S	**Sn**	**23 00 54.7**	**+0.6**
NWF	**Wu-fen Shan**	**1.10**	**293**	*i* P	**Pn**	**23 00 38.6**	**+0.1**
	baz=289						
NWF				S	**Sn**	**23 00 54.6**	**+0.2**
	baz=289						
TWE	**Neicheng**	**1.12**	**275**	P	**Pn**	**23 00 38.6**	**-0.1**
	baz=273						
TWE				*e*S	**Sn**	**23 00 54.1**	**-0.8**
	baz=273						
JIJ	**Ishigaki jima**	**1.17**	**103**	P	**Pn**	**23 00 38.8**	**-0.4**
JIJ				S	**Sn**	**23 00 55.0**	**-0.7**
ENTT	**Nioudou**	**1.21**	**271**	P	**Pn**	**23 00 40.1**	**+0.4**
	baz=261						
ENTT				*e*S	**Sn**	**23 00 56.6**	**-0.1**
	baz=261						
TWA	**Mucha**	**1.24**	**286**	*e*P	**Pn**	**23 00 39.9**	**-0.2**
	baz=282						
TWA				*e*S	**Sn**	**23 00 56.9**	**-0.4**
	baz=282						
TWD	**Chiawan**	**1.31**	**245**	*e*P	**Pn**	**23 00 40.4**	**-0.6**
	baz=234						
TWD				*e*S	**Sn**	**23 00 58.1**	**-0.7**
	baz=234						
TWY	**Chenhua**	**1.34**	**299**	*e*P	**Pn**	**23 00 41.1**	**-0.2**
	baz=295						
TWY				*e*S	**Sn**	**23 00 59.6**	**+0.1**
	baz=295						
HWA	**Hwalien**	**1.35**	**241**	*e*P	**Pn**	**23 00 40.6**	**-0.7**
	baz=237						
HWA				S	**Sn**	**23 00 58.7**	**-0.9**
	baz=237						
NSK	**Sanguang**	**1.40**	**272**	P	**Pn**	**23 00 42.3**	**+0.3**
	baz=275						
NSK				*e*S	**Sn**	**23 01 00.4**	**-0.4**
	baz=275						
NNS	**Nan Shan**	**1.40**	**262**	*e*P	**Pn**	**23 00 42.1**	**+0.1**
	baz=251						
NNS				*e*S	**Sn**	**23 01 00.5**	**-0.3**
	baz=251						
TWS1	**Kuangyinshan**	**1.42**	**289**	P	**Pn**	**23 00 42.3**	**0.0**
	baz=285						
TWS1				*e*S	**Sn**	**23 01 01.8**	**+0.6**
	baz=285						
ESL	**Shilin**	**1.57**	**239**	P	**Pn**	**23 00 43.6**	**-0.5**
	baz=235						
ESL				*e*S	**Sn**	**23 01 03.0**	**-1.5**
	baz=235						
WHF	**Hehuan Shan**	**1.57**	**252**	*i* P	**Pn**	**23 00 44.4**	**+0.3**
	baz=248						
WHF				*e*S	**Sn**	**23 01 03.9

LAY	**Lan-yu**	**2.86**	**206**	P		**Pn**	**23 01 00.3**	**-0.8**
	baz=201							
LAY				*e*S		**Sn**	**23 01 32.2**	**-2.6**
	baz=201							
TWM1	**Shoushan**	**2.90**	**232**	*e*P		**Pn**	**23 01 03.2**	**+1.7**
	baz=228							
TWM1				*e*S		**Sn**	**23 01 37.2**	**+1.6**
	baz=228							
EAST	**Anshuo**	**2.92**	**220**	*e*P		**Pn**	**23 01 00.7**	**-1.2**
	baz=218							
EAST				*e*S		**Sn**	**23 01 34.3**	**-2.0**
	baz=218							
SCZT	**Fangliau**	**3.07**	**223**	*e*P		**Pn**	**23 01 05.4**	**+1.5**
	baz=216							
SCZT				*e*S		**Sn**	**23 01 40.2**	**+0.4**
	baz=216							
PNG	**Penghu**	**3.23**	**252**	*e*P		**Pn**	**23 01 05.8**	**-0.3**
	baz=247							
PNG				*e*S		**Sn**	**23 01 41.0**	**-2.7**
	baz=247							
WDGT	**Dungji**	**3.26**	**246**	*e*P		**Pn**	**23 01 06.8**	**+0.3**
	baz=242							
WDGT				*e*S		**Sn**	**23 01 43.2**	**-1.2**
	baz=242							
JKE	**Kume jima 2**	**3.90**	**64**	P		**Pn**	**23 01 13.5**	**-1.5**
JKE				*e*S		**Sn**	**23 01 57.1**	**-2.6**

IDC ***14*** *23:02:48.4±1.2,5.˝38N×124.˝17E, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.7/24, mbtmp4.0/6, ML3.7/1, Error ellipse: s-maj=36.6km s-min=19.1km az=90.0*

ISCJB ***14*** *23:02:51.4±1.1,5.˝41N±0.˝10×124.˝3E±0.˝2, h33km, mb3.8/5, Error ellipse: s-maj=24.3km s-min=9.1km az=27.5*

ISC 14 23:02:53.4±1.0,5.˝44N±0.˝09×124.˝4E±0.˝2, h35km, n7, σ0°47/9, mb3.8/5,1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.88**	**42**	⇓*i*P	**Pn**	**23 03 08.7**	**-0.6**
GSPH				*i* S	**Sn**	**23 03 20.9**	**0.0**
DAV	**Davao City (W)**	**2.03**	**37**	Pn	**Pn**	**23 03 25.9**	**+0.7**
	20nm,0.3s,baz=282,slow=10,SNR=5.2						
DAV				Sn	**Sn**	**23 03 55.4**	**+6.1**
	66nm,0.3s,baz=334,slow=17,SNR=4.2						
FITZ	**Fitzroy Crossi**	**23.42**	**177**	P	**P**	**23 08 00.4**	**+0.7**
	3.5nm,1.0s,mb3.7,baz=349,slow=10,SNR=6.2						
WRA	**Warramunga Arr**	**27.06**	**159**	P	**P**	**23 08 32.2**	**-0.6**
	2.4nm,0.6s,mb3.9,baz=335,slow=10,SNR=14						
ASAR	**Alice Springs**	**30.39**	**162**	P	**P**	**23 09 02.2**	**-0.2**
	0.9nm,0.7s,mb3.6,baz=336,slow=6.1,SNR=5.9						
STKA	**Stephens Creek**	**40.58**	**157**	P	**P**	**23 10 29.9**	**+0.2**
	2.2nm,0.7s,mb3.9,baz=331,slow=10,SNR=3.6						
MKAR	**Makanchi Array**	**54.82**	**326**	P	**P**	**23 12 19.8**	**-0.2**
	1.3nm,0.9s,mb3.9,baz=112,slow=6.8,SNR=2.2						

ATH ***14*** *23:17:12.8, 37.˝94N×21.˝45E, h23km, MD3.2/6*

ISCJB ***14*** *23:17:13.1±0.7, 37.˝98N±0.˝05×21.˝46E±0.˝05, h26km±4km, Error ellipse: s-maj=7.7km s-min=6.7km az=174.6*

CSEM ***14*** *23:17:13.0±0.3, 37.˝97N×21.˝46E, h23km±3km, MD3.2*

THE ***14*** *23:17:13.5, 37.˝96N×21.˝50E, h0km±5km, ML2.0/3, Error ellipse: s-maj=5.6km s-min=1.1km az=275.0*

ISC 14 23:17:13.1±0.7, 37°98N±0.˝06×21°46E±0.˝05, h26km±5km, n26, σ0°66/39, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.08**	**7**	*e*PB	**Pb**	**23 17 17.4**	**-0.3**
RLS				*e*SB	**Sb**	**23 17 20.9**	**+0.1**
RLS	**Riolos of Patr**	**0.08**	**7**	*e*Pb	**Pb**	**23 17 17.4**	**-0.3**
RLS				*e*Sb	**Sb**	**23 17 20.9**	**+0.1**
LAKA	**Lakka**	**0.49**	**58**	P	**Pb**	**23 17 22.8**	**-0.3**
LAKA				S	**Sb**	**23 17 29.8**	**-0.1**
LAKA	**Lakka**	**0.49**	**58**	P	**Pb**	**23 17 22.8**	**-0.3**
LAKA				S	**Sb**	**23 17 29.8**	**-0.1**
KFL	**Anninata**	**0.54**	**284**	P	**Pb**	**23 17 24.6**	**+0.6**
KFL	**Anninata**	**0.54**	**284**	P	**Pb**	**23 17 24.6**	**+0.6**
EFP	**Efpalio**	**0.57**	**38**	*e*PN	**Pn**	**23 17 24.7**	**-0.8**
EFP				*e*SN	**Sb**	**23 17 33.8**	**+1.6**
EFP	**Efpalio**	**0.57**	**38**	P	**Pb**	**23 17 24.5**	**0.0**
EFP				S	**Sb**	**23 17 32.9**	**+0.7**
EFP	**Efpalio**	**0.57**	**38**	P	**Pb**	**23 17 24.5**	**0.0**
EFP				S	**Sb**	**23 17 32.9**	**+0.7**
KALE	**Kalithea**	**0.68**	**53**	P	**Pb**	**23 17 26.1**	**-0.2**
KALE	**Kalithea**	**0.68**	**53**	P	**Pb**	**23 17 26.1**	**-0.2**
GUR	**Goura**	**0.70**	**93**	*e*PB	**Pb**	**23 17 25.9**	**-0.8**
GUR				*e*SN	**Sn**	**23 17 36.9**	**-0.4**
GUR	**Goura**	**0.70**	**93**	P	**Pb**	**23 17 26.0**	**-0.7**
GUR				S	**Sb**	**23 17 36.1**	**+0.1**
GUR	**Goura**	**0.70**	**93**	P	**Pb**	**23 17 26.0**	**-0.7**
GUR				S	**Sb**	**23 17 36.1**	**+0.1**
GUR				*e*Sn	**Sn**	**23 17 36.9**	**-0.4**
VLS	**Valsamata**	**0.71**	**286**	*e*PN	**Pn**	**23 17 27.2**	**-0.3**
VLS	**Valsamata**	**0.71**	**286**	*e*Pn	**Pn**	**23 17 27.2**	**-0.3**
ITM	**Ithomi**	**0.88**	**155**	*e*PN	**Pn**	**23 17 29.3**	**-0.5**
ITM	**Ithomi**	**0.88**	**155**	*e*Pn	**Pn**	**23 17 29.3**	**-0.5**
DSF	**Desfina**	**0.95**	**63**	P	**Pn**	**23 17 30.7**	**0.0**
DSF	**Desfina**	**0.95**	**63**	P	**Pn**	**23 17 30.7**	**0.0**
VLX	**Vlachokerasia**	**0.95**	**129**	*e*PN	**Pn**	**23 17 30.7**	**-0.1**
VLX				*e*SN	**Sn**	**23 17 44.0**	**+0.5**
VLX	**Vlachokerasia**	**0.95**	**129**	P	**Pn**	**23 17 30.6**	**-0.2**
VLX	**Vlachokerasia**	**0.95**	**129**	*e*Pn	**Pn**	**23 17 30.7**	**-0.1**
VLX				*e*Sn	**Sn**	**23 17 44.0**	**+0.5**
DID	**Didima**	**1.49**	**108**	*e*PN	**Pn**	**23 17 40.7**	**+2.5**
DID	**Didima**	**1.49**	**108**	P	**Pn**	**23 17 40.4**	**+2.2**
DID	**Didima**	**1.49**	**108**	P	**Pn**	**23 17 40.4**	**+2.2**

CSEM ***14*** *23:21:44.9±0.2, 37.˝98N×21.˝48E, h20km, MD3.2, Error ellipse: s-maj=3.6km s-min=3.1km az=23.0*

ATH ***14*** *23:21:44.5, 37.˝97N×21.˝48E, h25km±2km, MD3.2/9*

ISCJB ***14*** *23:21:45.1±0.4, 37.˝98N±0.˝03×21.˝49E±0.˝03, h25km±4km, Error ellipse: s-maj=4.7km s-min=3.8km az=16.1*

THE ***14*** *23:21:45.0, 37.˝94N×21.˝49E, h3km±2km, ML2.1/4, Error ellipse: s-maj=2.1km s-min=0.3km az=345.0*

ISC 14 23:21:45.1±0.4, 37°98N±0.˝03×21°48E±0.˝03, h23km±4km, n33, σ0°86/62, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.08**	**351**	*e*PB	**Pb**	**23 21 48.9**	**-0.5**
RLS				*e*SB	**Sb**	**23 21 52.4**	**+0.2**
RLS	**Riolos of Patr**	**0.08**	**351**	*e*Pb	**Pb**	**23 21 48.9**	**-0.5**
RLS				*e*Sb	**Sb**	**23 21 52.4**	**+0.2**
LAKA	**Lakka**	**0.47**	**56**	P	**Pb**	**23 21 54.5**	**-0.2**
LAKA				S	**Sb**	**23 22 01.3**	**0.0**
LAKA	**Lakka**	**0.47**	**56**	P	**Pb**	**23 21 54.5**	**-0.2**
LAKA				S	**Sb**	**23 22 01.3**	**0.0**
EFP	**Efpalio**	**0.56**	**37**	*e*PN	**Pn**	**23 21 55.5**	**-2.1**
EFP				*e*SN	**Sb**	**23 22 05.5**	**+1.7**
EFP	**Efpalio**	**0.56**	**37**	P	**Pb**	**23 21 55.9**	**-0.3**
EFP				S	**Sb**	**23 22 04.6**	**+0.8**
EFP	**Efpalio**	**0.56**	**37**	*e*Pn	**Pn**	**23 21 55.5**	**-2.1**
EFP	**Efpalio**	**0.56**	**37**	P	**Pb**	**23 21 55.9**	**-0.3**
EFP				S	**Sb**	**23 22 04.6**	**+0.8**
KFL	**Anninata**	**0.56**	**283**	P	**Pb**	**23 21 56.1**	**-0.2**
KFL				S	**Sb**	**23 22 04.5**	**+0.5**
KFL	**Anninata**	**0.56**	**283**	P	**Pb**	**23 21 56.1**	**-0.2**
KFL				S	**Sb**	**23 22 04.5**	**+0.5**
KALE	**Kalithea**	**0.66**	**51**	P	**Pb**	**23 21 57.6**	**-0.4**
KALE				S	**Sb**	**23 22 07.9**	**+1.2**
KALE	**Kalithea**	**0.66**	**51**	P	**Pb**	**23 21 57.6**	**-0.4**
KALE				S	**Sb**	**23 22 07.9**	**+1.2**
GUR	**Goura**	**0.68**	**93**	*e*PB	**Pb**	**23 21 57.2**	**-1.1**
GUR				*e*SN	**Sn**	**23 22 08.3**	**-0.9**
GUR	**Goura**	**0.68**	**93**	P	**Pb**	**23 21 57.4**	**-0.9**
GUR				S	**Sb**	**23 22 07.4**	**+0.1**
GUR	**Goura**	**0.68**	**93**	P	**Pb**	**23 21 57.4**	**-0.9**
GUR				S	**Sb**	**23 22 07.4**	**+0.1**
GUR				*e*Sn	**Sn**	**23 22 08.3**	**-0.9**
VLS	**Valsamata**	**0.73**	**286**	*e*PN	**Pn**	**23 21 58.4**	**-1.6**
VLS				*e*SN	**Sn**	**23 22 10.6**	**+0.2**
VLS	**Valsamata**	**0.73**	**286**	P	**Pb**	**23 21 58.6**	**-0.6**
VLS				S	**Sb**	**23 22 10.0**	**+1.2**
VLS	**Valsamata**	**0.73**	**286**	P	**Pb**	**23 21 58.6**	**-0.6**
VLS				S	**Sb**	**23 22 10.0**	**+1.2**
VLS				*e*Sn	**Sn**	**23 22 10.6**	**+0.2**
ITM	**Ithomi**	**0.87**	**156**	*e*PB	**Pb**	**23 22 00.4**	**-1.2**
ITM				*e*SN	**Sn**	**23 22 13.7**	**-0.2**
ITM	**Ithomi**	**0.87**	**156**	P	**Pb**	**23 22 00.4**	**-1.2**
ITM				S	**Sb**	**23 22 13.0**	**+0.2**
ITM	**Ithomi**	**0.87**	**156**	P	**Pb**	**23 22 00.4**	**-1.2**
ITM				S	**Sb**	**23 22 13.0**	**+0.2**
ITM				*e*Sn	**Sn**	**23 22 13.7**	**-0.2**
VLX	**Vlachokerasia**	**0.94**	**130**	*e*PN	**Pn**	**23 22 02.2**	**-0.6**
VLX				*e*SN	**Sn**	**23 22 15.8**	**+0.3**
VLX	**Vlachokerasia**	**0.94**	**130**	P	**Pb**	**23 22 02.1**	**-0.6**
VLX				S	**Sb**	**23 22 15.3**	**+0.7**
VLX	**Vlachokerasia**	**0.94**	**130**	P	**Pb**	**23 22 02.1**	**-0.6**
VLX				S	**Sb**	**23 22 15.3**	**+0.7**
VLX				*e*Sn	**Sn**	**23 22 15.8**	**+0.3**
EVR	**Evrytania**	**0.97**	**15**	*e*PN	**Pn**	**23 22 04.0**	**+0.7**
EVR	**Evrytania**	**0.97**	**15**	*e*Pn	**Pn**	**23 22 04.0**	**+0.7**
PYL	**PYLOS**	**1.10**	**169**	*e*PN	**Pn**	**23 22 05.1**	**0.0**
PYL				*e*SN	**Sn**	**23 22 21.5**	**+1.9**
PYL	**PYLOS**	**1.10**	**169**	*e*Pn	**Pn**	**23 22 05.1**	**0.0**
PYL				*e*Sn	**Sn**	**23 22 21.5**	**+1.9**
LTK	**Loutraki**	**1.17**	**87**	*e*PN	**Pn**	**23 22 07.0**	**+0.9**
LTK	**Loutraki**	**1.17**	**87**	*e*Pn	**Pn**	**23 22 07.0**	**+0.9**
DID	**Didima**	**1.47**	**108**	*e*PN	**Pn**	**23 22 11.4**	**+1.3**
DID	**Didima**	**1.47**	**108**	P	**Pn**	**23 22 11.2**	**+1.1**
DID	**Didima**	**1.47**	**108**	P	**Pn**	**23 22 11.2**	**+1.1**

MAN 15 00:04:21, 16.˝39N×120.˝54E, h31km, mb3.8, ML2.5, MS2.1, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.04**	**108**	⇑*i*P	**Pb**	00 04 27.1	+0.9
BOLP	**Bolinao**	**0.60**	**269**	*e*P	**Pb**	00 04 33.9	+0.7
BOLP				*e*S	**Sb**	00 04 40.6	-0.8
BALP	**Baler**	**1.19**	**123**	*e*P	**Pn**	00 04 44.6	+3.1
BALP				*e*S	**Sn**	00 04 56.9	+0.4

ISCJB ***15*** *00:22:00.2±0.3, 40.˝94S±0.˝03×175.˝62E±0.˝04, h32km±3km, mb3.3/2, Error ellipse: s-maj=6.6km s-min=3.5km az=38.5*

NEIC ***15*** *00:22:00.9, 40.˝89S×175.˝56E, h27km, ML4.1(WEL), After WEL.*

NEIC Felt [IV] at Carterton and Masterton. Also felt in the Kapiti area.

WEL ***15*** *00:22:00.9±0.1, 40.˝90S×175.˝56E, h27km±1km, ML4.1/44, Error ellipse: s-maj=1.3km s-min=0.9km az=90.0, MM 5.*

WEL Felt between Manawatu, Wellington and Wairarapa, maximum reported intensity.

IDC ***15*** *00:22:01.7±8.8, 39.˝69S×174.˝93E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.6/12, mbtmp3.4/2, MS3.3/1, Ms1 3.2/1, ms1mx3.0/7, Error ellipse: s-maj=556.5km s-min=48.3km az=30.0*

ISC 15 00:22:00.5±0.3, 40°93S±0.˝03×175°62E±0.˝04, h27km±3km, n64, σ1°13/64, mb3.3/2, 6C-2D, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOWZ	**Holdsworth Sta**	**0.08**	**294**	⇓P*	**Pb**	**00 22 05.1**	**-0.2**
MTW	**Mount Morrison**	**0.24**	**201**	⇑P*	**Pb**	**00 22 07.5**	**+0.7**
TIWZ	**Timtock**	**0.26**	**53**	⇑P*	**Pb**	**00 22 07.8**	**+1.8**
TMWZ	**Te Maipa**	**0.27**	**130**	⇑P*	**Pb**	**00 22 09.0**	**+1.8**
MRZ	**Mangatainoka R**	**0.27**	**354**	⇓P*	**Pb**	**00 22 06.8**	**-0.4**
MRZ				S*	**Sb**	**00 22 11.3**	**-0.5**
OGWZ	**Otaki Gorge**	**0.36**	**289**	P*	**Pb**	**00 22 07.7**	**-0.8**
CAW	**Cannon Point**	**0.45**	**247**	P*	**Pb**	**00 22 09.6**	**-0.3**
TRWZ	**Traveller**	**0.47**	**173**	P*	**Pb**	**00 22 11.5**	**+1.3**
PAWZ	**Paruwai Farm**	**0.47**	**198**	⇑P*	**Pb**	**00 22 11.2**	**+0.9**
PAWZ				S*	**Sb**	**00 22 19.0**	**+2.1**
BFZ	**Birch Farm**	**0.54**	**62**	P*	**Pb**	**00 22 12.4**	**+1.0**
KIW	**Kapiti Island**	**0.54**	**277**	⇑P*	**Pb**	**00 22 10.8**	**-0.6**
POWZ	**Post Office Ro**	**0.55**	**12**	⇑P*	**Pb**	**00 22 11.4**	**-0.2**
MSWZ	**Moikau Station**	**0.56**	**210**	P*	**Pb**	**00 22 12.3**	**+0.6**
PLWZ	**Palliser**	**0.69**	**203**	P*	**Pb**	**00 22 14.1**	**+0.2**
WEL	**Wellington**	**0.73**	**241**	P*	**Pb**	**00 22 14.4**	**-0.2**
BHW	**Baring Head**	**0.74**	**230**	P*	**Pb**	**00 22 14.6**	**-0.1**
DVHZ	**Dannevirke**	**0.76**	**34**	P*	**Pb**	**00 22 15.1**	**+0.1**
SNZO	**South Karori**	**0.79**	**241**	P*	**Pb**	**00 22 15.2**	**-0.3**
SNZO	**South Karori**	**0.79**	**241**	*e*Pg	**Pb**	**00 22 14.9**	**-0.6**
SNZO				*e*Sg	**Sb**	**00 22 25.5**	**-0.2**
TSZ	**Takapari Road**	**0.91**	**17**	P*	**Pb**	**00 22 17.1**	**-0.5**
PRHZ	**Porangahau**	**1.02**	**50**	P*	**Pb**	**00 22 18.7**	**-0.8**
TCW	**Tory Channel**	**1.05**	**254**	P*	**Pb**	**00 22 18.9**	**-1.1**
WPHZ	**Waipukurau**	**1.07**	**36**	P*	**Pb**	**00 22 19.8**	**-0.5**
PNHZ	**Pukenui**	**1.11**	**24**	P*	**Pb**	**00 22 20.1**	**-0.8**
WAZ	**Wanganui**	**1.27**	**337**	PN	**Pn**	**00 22 23.3**	**+0.9**
DUWZ	**D'Urville Isla**	**1.29**	**275**	P*	**Pb**	**00 22 22.4**	**-1.6**
PXZ	**Pawanui**	**1.31**	**47**	P*	**Pb**	**00 22 22.2**	**-2.1**
TUWZ	**Tuamarina**	**1.36**	**248**	P*	**Pb**	**00 22 23.1**	**-2.1**
BHHZ	**Black Hill Sta**	**1.48**	**13**	PN	**Pn**	**00 22 25.6**	**+0.3**
KAHZ	**Kahuranaki**	**1.49**	**41**	PN	**Pn**	**00 22 25.0**	**-0.4**
MOVZ	**Moawhango**	**1.53**	**4**	PN	**Pn**	**00 22 26.2**	**+0.3**
BSWZ	**Blackbirch Sta**	**1.53**	**239**	PN	**Pn**	**00 22 25.1**	**-0.8**
WNVZ	**Wahianoa**	**1.60**	**359**	PN	**Pn**	**00 22 27.7**	**+0.8**
TUVZ	**Tukino**	**1.66**	**1**	*e*PN	**Pn**	**00 22 28.8**	**+1.0**
FWVZ	**Far West T-bar**	**1.68**	**355**	PN	**Pn**	**00 22 27.7**	**+0.8**
CKHZ	**Cape Kidnapper**	**1.69**	**42**	PN	**Pn**	**00 22 27.2**	**-1.0**
MCHZ	**McNeill Hill**	**1.70**	**29**	PN	**Pn**	**00 22 28.0**	**-0.3**
NNZ	**Nelson**	**1.72**	**260**	PN	**Pn**	**00 22 28.0**	**-0.5**
NGZ	**Ngauruhoe**	**1.75**	**360**	PN	**Pn**	**00 22 30.0**	**+1.0**
OTVZ	**Oturere**	**1.77**	**1**	PN	**Pn**	**00 22 30.2**	**+1.0**
WTVZ	**West Tongariro**	**1.81**	**359**	PN	**Pn**	**00 22 30.8**	**+0.9**
RAEZ	**Rainy Point**	**1.89**	**330**	PN	**Pn**	**00 22 32.6**	**+1.6**
VRZ	**Vera Road**	**1.92**	**340**	PN	**Pn**	**00 22 32.6**	**+1.3**
DFE	**Dawson Falls**	**1.98**	**324**	PN	**Pn**	**00 22 34.1**	**+2.0**
NEZ	**North Egmont**	**2.03**	**324**	PN	**Pn**	**00 22 34.8**	**+2.0**
NRZ	**Ngariki Road**	**2.05**	**320**	PN	**Pn**	**00 22 35.2**	**+2.1**
DREZ	**Durham Road**	**2.05**	**328**	PN	**Pn**	**00 22 34.9**	**+1.8**
MHEZ	**Mangahewa**	**2.10**	**331**	*e*PN	**Pn**	**00 22 35.7**	**+1.8**
KHZ	**Kahutara**	**2.15**	**226**	PN	**Pn**	**00 22 33.1**	**-1.4**
KHZ	**Kahutara**	**2.15**	**226**	*e*Pn	**Pn**	**00 22 34.3**	**-0.2**
THZ	**Tophouse**	**2.21**	**247**	PN	**Pn**	**00 22 34.0**	**-1.2**
KNZ	**Kokohu**	**2.48**	**40**	PN	**Pn**	**00 22 37.2**	**-1.8**
URZ	**Urewera**	**2.96**	**24**	*e*Pn	**Pn**	**00 22 43.4**	**-1.5**
MWZ	**Matawai**	**2.98**	**30**	PN	**Pn**	**00 22 43.6**	**-2.4**
RPZ	**Rata Peaks**	**4.38**	**229**	*e*Pn	**Pn**	**00 23 05.5**	**+0.4**
OUZ	**Omahuta**	**5.92**	**344**	*e*Pn	**Pn**	**00 23 25.4**	**-0.9**
CTZ	**Chatham Island**	**6.40**	**119**	*e*PN	**Pn**	**00 23 31.8**	**-1.1**
STKA	**Stephens Creek**	**28.69**	**277**	LR	LR	00 37 47.0	
	comp=Z,62nm,19.7s,baz=205,slow=34						
ASAR	**Alice Springs**	**38.82**	**283**	P	**P**	**00 29 22.1**	**-1.0**
	0.3nm,0.6s,mb3.2,baz=129,slow=7.5,SNR=4.3						
ASAR	**Alice Springs**	**38.82**	**283**	P	**P**	**00 29 22.1**	**-1.0**
WRA	**Warramunga Arr**	**40.80**	**288**	P	**P**	**00 29 37.4**	**-2.2**
	0.7nm,0.8s,mb3.4,baz=126,slow=8.3,SNR=4.8						
WRA	**Warramunga Arr**	**40.80**	**288**	P	**P**	**00 29 37.4**	**-2.2**
TORD	**Torodi Ar. Bea**	**151.81**	**193**	PKPbc	PKPbc	00 42 01.2	+8.2
	0.3nm,0.8s,baz=188,slow=3.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**151.81**	**193**	PKPbc	PKPbc	00 42 01.2	+8.2

ISCJB ***15*** *00:23:10.5±0.8, 34.˝42N±0.˝03×26.˝76E±0.˝03, h11km±6km, mb3.5/8, Error ellipse: s-maj=4.3km s-min=3.9km az=17.2*

ATH ***15*** *00:23:12.9, 34.˝53N×26.˝60E, h14km±3km, MD3.6/7*

CSEM ***15*** *00:23:14.6±0.2, 34.˝47N×26.˝69E, h33km, ML3.2/1, Error ellipse: s-maj=5.1km s-min=4.2km az=37.0*

HLW ***15*** *00:23:14.9, 34.˝44N×26.˝86E, h33km±3.˝7km, Md2.8, Ml2.9*

THE ***15*** *00:23:15.3, 34.˝63N×26.˝52E, h0km±3km, ML3.2/1, Error ellipse: s-maj=8.2km s-min=2.0km az=163.0*

NEIC ***15*** *00:23:15.1±0.6, 34.˝50N×26.˝71E, mb3.5/1, Error ellipse: s-maj=13.7km s-min=8.0km az=198.0*

IDC ***15*** *00:23:15.3±1.3, 34.˝50N×26.˝65E, h33km±7km, mb3.5/8, mb1 3.5/12, mb1mx3.4/27, mbtmp3.4/12, ML3.4/4, Error ellipse: s-maj=24.5km s-min=18.2km az=18.0*

ISC 15 00:23:11.6±0.9, 34°45N±0.˝03×26°69E±0.˝03, h7km±6km, h34km±2.5km: pP-P, n103, σ1°04/128, mb3.5/8, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**1.17**	**19**	*e*PB	**Pg**	**00 23 34.2**	**+0.2**
KARP				*e*SB	**Sg**	**00 23 49.3**	**+0.2**
KARP	**Karpathos**	**1.17**	**19**	P	**Pg**	**00 23 34.2**	**+0.2**
KARP				S	**Sg**	**00 23 52.0**	**+2.9**
KARP	**Karpathos**	**1.17**	**19**	*e*Pb	**Pg**	**00 23 34.2**	**+0.2**
KARP				*e*Sb	**Sg**	**00 23 49.3**	**+0.2**
NPS	**Neapolis**	**1.20**	**313**	*e*PN	**Pg**	**00 23 33.7**	**-0.9**
NPS				*e*SB	**Sg**	**00 23 48.9**	**-1.3**
NPS	**Neapolis**	**1.20**	**313**	P	**Pg**	**00 23 33.6**	**-1.0**
NPS				S	**Sg**	**00 23 49.1**	**-1.1**
NPS	**Neapolis**	**1.20**	**313**	P	**Pg**	**00 23 33.6**	**-1.0**
NPS				S	**Sg**	**00 23 49.1**	**-1.1**
LAST	**Lasithi**	**1.22**	**306**	*e*PG	**Pg**	**00 23 33.6**	**-1.4**
LAST				*e*SB	**Sg**	**00 23 49.3**	**-1.6**
LAST	**Lasithi**	**1.22**	**306**	P	**Pg**	**00 23 33.5**	**-1.5**
LAST				S	**Sg**	**00 23 50.1**	**-0.8**
LAST	**Lasithi**	**1.22**	**306**	P	**Pg**	**00 23 33.5**	**-1.5**
LAST				*e*Sb	**Sg**	**00 23 49.3**	**-1.6**
LAST				S	**Sg**	**00 23 50.1**	**-0.8**
SIVA	**Sivas**	**1.65**	**291**	*e*PB	**Pb**	**00 23 42.0**	**-0.3**
SIVA				*e*SB	**Sb**	**00 24 03.0**	**-0.2**
SIVA	**Sivas**	**1.65**	**291**	P	**Pn**	**00 23 41.8**	**+0.9**
SIVA	**Sivas**	**1.65**	**291**	P	**Pn**	**00 23 41.8**	**+0.9**
SIVA				*e*Sb	**Sb**	**00 24 03.0**	**-0.2**
ARG	**Arkhangelos**	**2.12**	**33**	*e*PN	**Pn**	**00 23 49.8**	**+2.3**
ARG	**Arkhangelos**	**2.12**	**33**	P	**Pn**	**00 23 49.9**	**+2.4**
ARG	**Arkhangelos**	**2.12**	**33**	*e*Pn	**Pn**	**00 23 49.8**	**+2.3**
THR1	**Thera Island**	**2.17**	**333**	P	**Pn**	**00 23 47.8**	**-0.3**
THR1	**Thera Island**	**2.17**	**333**	P	**Pn**	**00 23 47.8**	**-0.3**
GVD	**Gavdhos**	**2.18**	**281**	*e*Pn	**Pn**	**00 23 49.5**	**+1.2**
GVD	**Gavdhos**	**2.18**	**281**	P	**Pn**	**00 23 48.5**	**+0.3**
GVD	**Gavdhos**	**2.18**	**281**	P	**Pn**	**00 23 48.5**	**+0.3**
GVD	**Gavdhos**	**2.18**	**281**	*e*Pn	**Pn**	**00 23 49.5**	**+1.3**
NIS1	**Nisyros Isl.**	**2.19**	**10**	P	**Pn**	**00 23 50.5**	**+2.1**
NIS1	**Nisyros Isl.**	**2.19**	**10**	P	**Pn**	**00 23 50.5**	**+2.1**
THR3	**Thira Island,**	**2.22**	**332**	P	**Pn**	**00 23 48.9**	**0.0**
THR3	**Thira Island,**	**2.22**	**332**	P	**Pn**	**00 23 48.9**	**0.0**
THR2	**Thira island,**	**2.24**	**333**	P	**Pn**	**00 23 49.5**	**+0.4**
THR2	**Thira island,**	**2.24**	**333**	P	**Pn**	**00 23 49.5**	**+0.4**
VAM	**Vamos**	**2.26**	**296**	*e*PN	**Pn**	**00 23 51.2**	**+1.9**
VAM	**Vamos**	**2.26**	**296**	P	**Pn**	**00 23 51.2**	**+1.9**
VAM	**Vamos**	**2.26**	**296**	*e*Pn	**Pn**	**00 23 51.2**	**+1.9**
KARN	**Karanos**	**2.47**	**294**	*e*PN	**Pn**	**00 23 54.1**	**+1.9**
KARN	**Karanos**	**2.47**	**294**	P	**Pn**	**00 23 54.0**	**+1.8**
KARN	**Karanos**	**2.47**	**294**	P	**Pn**	**00 23 54.0**	**+1.8**
APE	**Apeiranthos**	**2.78**	**341**	P	**Pn**	**00 23 56.3**	**-0.2**
APE	**Apeiranthos**	**2.78**	**341**	P	**Pn**	**00 23 56.3**	**-0.2**
TURN	**Turunc**	**2.88**	**32**	*i* P	**Pn**	**00 23 55.6**	**-2.3**
TURN	**Turunc**	**2.88**	**32**	*i* P	**Pn**	**00 23 55.6**	**-2.3**
AKAS	**Kas**	**2.98**	**52**	*i* P	**Pn**	**00 23 59.0**	**-0.2**
AKAS	**Kas**	**2.98**	**52**	*i* P	**Pn**	**00 23 59.0**	**-0.3**
AKAS				*i* S	**Sn**	**00 24 34.7**	**-0.6**
SLUM		**3.19**	**203**	P	**Pn**	**00 24 03.5**	**+1.3**
	baz=206						
SLUM				AMP		00 24 00.0	
	comp=E,30μm,0.3s,logA/T=5.0,baz=206						
SLUM				S	**Sn**	**00 24 40.1**	**-0.5**
	baz=206						
SLUM		**3.19**	**203**	P	**Pn**	**00 24 02.9**	**+0.7**
SLUM				S	**Sn**	**00 24 39.9**	**-0.7**
AYDN	**Tasoluk**	**3.35**	**16**	*i* P	**Pn**	**00 24 05.9**	**+1.5**
AYDN	**Tasoluk**	**3.35**	**16**	*i* P	**Pn**	**00 24 05.9**	**+1.5**
HMAT	**Matruh**	**3.36**	**174**	P	**Pn**	**00 24 04.9**	**+0.4**
	baz=176						
HMAT				S	**Sn**	**00 24 43.5**	**-1.1**
	baz=176

mb1 4.2/5,mb1mx3.8/13,mbtmp3.9/5,ML4.1/2,MS3.0/1, Ms1 3.0/1,ms1mx2.1/19,Error ellipse: s-maj=67.8km s-min=25.9km az=99.0

NEIC ***15*** *00:55:46.0±1.0,3°.57S×137°.14E,h35km,mb3.9/2,Error ellipse: s-maj=37.9km s-min=14.0km az=94.0*

ISCJB ***15*** *00:55:52.9±2.5,3°.92S±0°.09×137°.2E±0°.3,h113km±22km, mb3.5/4,Error ellipse: s-maj=48.0km s-min=14.2km az=1.6*

ISC 15 00:55:58.1±2.6,4°.09S±0°.09×137°.2E±0°.3,h153km±24km, n16,σ0°83/19,mb3.5/4,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRAB	**Tennant Creek**	**16.00**	**190**	*eP*	**Pn**	**00 59 34.9**	**+0.2**
	4.4nm,0.6s						
WB2	**Warramunga Arr**	**16.01**	**190**	*eP*	**Pn**	**00 59 35.0**	**+0.2**
WRA	**Warramunga Arr**	**16.01**	**190**	Pn	**Pn**	**00 59 34.5**	**-0.3**
	1.5nm,0.3s,baz=14,slow=12,SNR=32						
WRA				Sn	**Sn**	**01 02 24.8**	**-8.6**
	0.1nm,0.3s,baz=3.7,slow=24,SNR=4.1						
WRA	**Warramunga Arr**	**16.01**	**190**	Pn	**Pn**	**00 59 34.5**	**-0.3**
WRA				Sn	**Sn**	**01 02 24.8**	**-8.6**
FITZ	**Fitzroy Crossi**	**17.97**	**218**	P	**Pn**	**00 59 57.7**	**-0.8**
	0.2nm,0.3s,baz=48,slow=13,SNR=7.8						
FITZ	**Fitzroy Crossi**	**17.97**	**218**	P	**Pn**	**00 59 57.7**	**-0.8**
GUMO	**Guam**	**19.12**	**23**	LR	LR	01 06 14.2	
	comp=Z,40nm,18.6s,baz=199,slow=34						
ASAR	**Alice Springs**	**19.73**	**189**	P	**P**	**01 00 16.7**	**+0.7**
	9.2nm,0.6s,baz=19,slow=12,SNR=76						
ASAR				S	**S**	**01 03 50.1**	**-0.1**
	8.3nm,0.8s,baz=13,slow=23,SNR=34						
ASAR	**Alice Springs**	**19.73**	**189**	P	**P**	**01 00 16.7**	**+0.7**
ASAR				S	**S**	**01 03 50.1**	**-0.1**
STKA	**Stephens Creek**	**27.94**	**172**	P	**P**	**01 01 39.5**	**+5.4**
	1.8nm,0.8s,mb3.8,baz=329,slow=12,SNR=3.4						
STKA	**Stephens Creek**	**27.94**	**172**	P	**P**	**01 01 39.5**	**+5.4**
MKAR	**Makanchi Array**	**70.00**	**323**	P	**P**	**01 06 55.0**	**+2.0**
	0.1nm,0.3s,mb3.0,baz=114,slow=6.1,SNR=3.3						
MKAR	**Makanchi Array**	**70.00**	**323**	P	**P**	**01 06 55.0**	**+2.0**
TKM2	**Tokmak 2**	**72.55**	**317**	*eP*	**P**	**01 07 07.5**	**-0.9**
	1.2nm,0.8s,mb3.7						
ILAR	**Eielson Array**	**87.69**	**25**	P	**P**	**01 08 28.2**	**-0.8**
	0.4nm,0.7s,mb3.4,baz=254,slow=4.4,SNR=4.3						
ILAR	**Eielson Array**	**87.69**	**25**	P	**P**	**01 08 28.2**	**-0.8**

WEL 15 00:56:57.6±0.1,41°.95S×174°.34E,h25km±1km,ML3.5/29, Error ellipse: s-maj=1.2km s-min=1.1km az=0.0,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.23**	**335**	P*	Pb	00 57 03.8	+0.3
CMWZ				S*	Sb	00 57 08.6	+1.0
BSWZ	**Blackbirch Sta**	**0.42**	**304**	P*	Pb	00 57 06.4	-0.1
TUWZ	**Tuamarina**	**0.60**	**330**	P*	Pb	00 57 09.5	0.0
BHW	**Baring Head**	**0.67**	**36**	P*	Pb	00 57 11.2	+0.5
BHW				S*	Sb	00 57 20.6	+1.0
SNZO	**South Karori**	**0.70**	**23**	P*	Pb	00 57 11.4	+0.2
WEL	**Wellington**	**0.74**	**26**	P*	Pb	00 57 12.2	+0.4
TCW	**Tory Channel**	**0.74**	**356**	P*	Pb	00 57 11.6	-0.2
KHZ	**Kahutara**	**0.76**	**232**	P*	Pb	00 57 12.2	+0.1
PLWZ	**Palliser**	**0.78**	**61**	P*	Pb	00 57 12.7	+0.2
MSWZ	**Moikau Station**	**0.87**	**52**	P*	Pb	00 57 13.8	-0.1
CAW	**Cannon Point**	**1.00**	**33**	P*	Pb	00 57 16.0	-0.4
NNZ	**Nelson**	**1.03**	**315**	PN	Pn	00 57 15.8	-0.6
THZ	**Tophouse**	**1.09**	**279**	P*	Pb	00 57 16.9	-0.9
TRWZ	**Traveller**	**1.15**	**62**	P*	Pb	00 57 17.2	-1.6
KIW	**Kapiti Island**	**1.17**	**22**	P*	Pb	00 57 18.5	-0.7
MTW	**Mount Morrison**	**1.18**	**48**	P*	Pb	00 57 17.8	-1.5
DUWZ	**D'Urville Isla**	**1.19**	**344**	P*	Pb	00 57 18.7	-0.8
HOWZ	**Holdsworth Sta**	**1.37**	**40**	P*	Pb	00 57 20.7	-1.9
TMWZ	**Te Maipa**	**1.44**	**55**	PN	Pn	00 57 21.2	-0.8
MRZ	**Mangatainoka R**	**1.59**	**36**	PN	Pn	00 57 23.7	-0.5
LTZ	**Lake Taylor**	**1.75**	**241**	PN	Pn	00 57 26.1	-0.2
QRZ	**Quartz Range**	**1.77**	**309**	PN	Pn	00 57 27.1	+0.5
POWZ	**Post Office Ro**	**1.89**	**35**	PN	Pn	00 57 27.7	-0.6
DSZ	**Denniston Nort**	**1.91**	**275**	PN	Pn	00 57 28.2	-0.3
DVHZ	**Dannevirke**	**2.15**	**40**	PN	Pn	00 57 30.5	-1.4
MQZ	**McQueen's Vall**	**2.15**	**215**	PN	Pn	00 57 30.1	-1.8
PNHZ	**Pukenui**	**2.47**	**35**	PN	Pn	00 57 35.3	-1.0
OTVZ	**Oturere**	**2.96**	**20**	PN	Pn	00 57 43.8	+0.8
RPZ	**Rata Peaks**	**2.99**	**233**	SN	Sn	00 58 14.8	-3.7
FOZ	**Fox Glacier**	**3.79**	**243**	PN	Pn	00 57 53.5	-0.8
LBZ	**Lake Benmore**	**3.90**	**230**	PN	Pn	00 57 55.1	-0.7
CTZ	**Chatham Island**	**6.88**	**108**	*e*PN	Pn	00 58 34.8	-2.1

ISCJB ***15*** *01:04:29.5±0.2,48°.15N±0°.01×113°.96W±0°.02,h10km, Error ellipse: s-maj=1.9km s-min=1.9km az=149.4*

NEIC ***15*** *01:04:30.0,48°.18N×113°.96W,h13km,ML3.5(BUT),After BUT.*

PGC ***15*** *01:04:31.4±2.2,48°.21N×114°.05W,h10km,ML3.1/5, 188km southwest of Lethbridge, Alberta Montana*

ISC 15 01:04:29.7±0.2,48°.14N±0°.01×113°.94W±0°.02,h10km,n72, σ18°24/146,16C-23D,Montana

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YBMT	**Yellow Bay**	**0.28**	**190**	*e*Pg	**Pg**	**01 04 36.6**	**+1.2**
BLMT	**Blacktail Moun**	**0.31**	**245**	*e*Pg	**Pg**	**01 04 36.6**	**+0.8**
C14A	**Swan Lake**	**0.40**	**161**	⇓P	**Pg**	**01 04 38.4**	**+1.0**
	baz=0.4						
C14A				⇑S	**Sg**	**01 04 43.6**	**+1.0**
	baz=0.4						
B13A	**Whitefish**	**0.42**	**304**	P	**Pg**	**01 04 37.9**	**-0.1**
	baz=0.4,SNR=308						
JTMT	**Jette**	**0.46**	**210**	*e*Pg	**Pg**	**01 04 39.2**	**+0.6**
JTMT				*e*Sg	**Sg**	**01 04 45.3**	**+0.7**
B14A	**Marquette Ranc**	**0.50**	**64**	P	**Pg**	**01 04 39.7**	**+0.4**
	baz=0.5,SNR=26						
B14A				⇓S	**Sg**	**01 04 46.3**	**+0.4**
	baz=0.5						
C13A	**Hot Springs**	**0.63**	**223**	⇑P	**Pg**	**01 04 42.4**	**+0.5**
	baz=0.6						
C13A				⇓S	**Sg**	**01 04 50.7**	**+0.6**
	baz=0.6						
SWMT	**Swartz Lake**	**0.63**	**184**	*e*Pg	**Pg**	**01 04 42.5**	**+0.6**
BSMT	**Bassoo Peak**	**0.64**	**243**	*e*Pg	**Pg**	**01 04 42.3**	**+0.3**
BSMT				*e*Sg	**Sg**	**01 04 50.9**	**+0.6**
A13A	**Flathead Natio**	**0.85**	**339**	⇓P	**Pg**	**01 04 45.7**	**-0.4**
	baz=0.8						
A13A				⇑S	**Sg**	**01 04 56.5**	**-0.7**
	baz=0.8						
A14A	**Double T Ranch**	**0.90**	**22**	⇓P	**Pg**	**01 04 46.7**	**-0.3**
	baz=0.9,SNR=228						
A14A				⇓S	**Sg**	**01 04 58.6**	**-0.1**
	baz=0.9						
WALA	**Waterton Lakes**	**0.92**	**1**	*e*Pg	**Pg**	**01 04 46.7**	**-0.7**
WALA				*e*Sg	**Sg**	**01 04 58.0**	**-1.3**
WALA	**Waterton Lakes**	**0.92**	**1**	⇑P	**Pg**	**01 04 46.9**	**-0.4**
WALA				⇓S	**Sg**	**01 04 58.1**	**-1.2**
B15A	**Bradely Ranch,**	**0.94**	**79**	⇑P	**Pg**	**01 04 47.5**	**-0.2**
	baz=0.9,SNR=1000						
B15A				⇑S	**Sg**	**01 04 59.8**	**-0.1**
	baz=0.9						
SLMT	**Seeley Lake**	**0.95**	**161**	*e*Pg	**Pg**	**01 04 48.7**	**+0.8**
SLMT				*e*Sg	**Sg**	**01 05 01.7**	**+1.4**
C15A	**Salmond Ranch,**	**0.97**	**112**	P	**Pg**	**01 04 48.3**	**0.0**
	baz=1.0,SNR=468						
C15A				⇑S	**Sg**	**01 05 01.3**	**+0.4**
	baz=1.0						
D14A	**Greenough**	**1.10**	**164**	P	**Pb**	**01 04 51.2**	**+0.5**
	baz=1.1,SNR=418						
D14A				⇓S	**Sg**	**01 05 06.0**	**+0.9**
	baz=1.1						
D13A	**Huson**	**1.10**	**199**	⇓P	**Pb**	**01 04 51.3**	**+0.4**
	baz=1.1,SNR=104						
C12B	**Naegeli Ranch,**	**1.12**	**248**	P	**Pb**	**01 04 51.5**	**+0.5**
	baz=1.1,SNR=106						
C12B				⇓S	**Sb**	**01 05 06.8**	**+1.1**
	baz=1.1						
B12A	**Libby**	**1.15**	**287**	⇓P	**Pb**	**01 04 51.5**	**-0.1**
	baz=1.1,SNR=18						
B12A				⇑S	**Sb**	**01 05 07.3**	**+0.8**
	baz=1.1						
A15A	**Johnson Ranch,**	**1.16**	**43**	⇑P	**Pb**	**01 04 50.9**	**-0.8**
	baz=1.1						
A15A				⇓S	**Sb**	**01 05 06.2**	**-0.7**
	baz=1.1						
MSO	**Missoula**	**1.31**	**180**	⇑Pb	**Pb**	**01 04 54.7**	**+0.3**
	baz=1.4,SNR=464						
MSO				⇓S	**Sb**	**01 05 12.7**	**+1.4**
	baz=1.4						
MSO	**Missoula**	**1.31**	**180**	*e*Pn	**Pn**	**01 04 54.8**	**+0.8**
MSO				*e*Sn	**Sn**	**01 05 12.3**	**+0.7**
CHMT	**Chamberlain Mo**	**1.31**	**159**	*e*Pn	**Pb**	**01 04 55.0**	**+0.5**
CHMT				*e*Sn	**Sg**	**01 05 12.7**	**+0.8**
A12A	**Yaak River Ran**	**1.39**	**306**	⇓Pb	**Pb**	**01 04 55.5**	**-0.2**
	baz=1.4,SNR=44						
A12A				⇓Sb	**Sg**	**01 05 14.5**	**+0.2**
	baz=1.4						
D12A	**Red Ives Fores**	**1.45**	**222**	⇑Pb	**Pb**	**01 04 56.5**	**-0.2**
	baz=1.5						
D15A	**Lincoln**	**1.46**	**138**	Pb	**Pb**	**01 04 57.1**	**+0.2**
	baz=1.5,SNR=502						
D15A				⇑Sb	**Sg**	**01 05 16.8**	**+0.2**
	baz=1.5						
C16A	**Fuhringer Ranc**	**1.51**	**102**	Pb	**Pb**	**01 04 57.6**	**-0.2**
	baz=1.5,SNR=1000						
C16A				⇓Sb	**Sb**	**01 05 17.7**	**+0.6**
	baz=1.5						
B16A	**M & M Farms, S**	**1.52**	**79**	Pb	**Pb**	**01 04 57.0**	**-0.9**
	baz=1.5,SNR=166						
B16A				⇑Sb	**Sb**	**01 05 17.1**	**0.0**
	baz=1.5						
E13A	**Victor**	**1.71**	**186**	Pb	**Pb**	**01 05 00.5**	**-0.6**
	baz=1.7,SNR=683						
E13A				⇑Sb	**Sg**	**01 05 24.7**	**+0.1**
	baz=1.7						
E14A	**Clinton**	**1.75**	**170**	Pb	**Pb**	**01 05 01.4**	**-0.5**
	baz=1.8,SNR=184						
A16A	**West Butte Ran**	**1.75**	**62**	⇓Pb	**Pb**	**01 05 01.2**	**-0.7**
	baz=1.7,SNR=112						
A16A				⇑Sb	**Sb**	**01 05 24.3**	**+0.3**
	baz=1.7						
D16A	**Dana Ranch, Ca**	**1.96**	**124**	⇓Pb	**Pb**	**01 05 05.1**	**-0.4**
	baz=2.0						
D16A				⇑Sb	**Sb**	**01 05 31.6**	**+1.6**
	baz=2.0						
HRY	**Holter Researc**	**2.02**	**134**	*e*Pn	**Pb**	**01 05 06.2**	**-0.3**
HRY				*e*Sg	**Sg**	**01 05 33.9**	**-0.8**
B17A	**L&G Farms, Che**	**2.11**	**85**	Pb	**Pb**	**01 05 06.9**	**-1.0**
	baz=2.1,SNR=109						
NEW	**Newport**	**2.13**	**274**	*e*Pn	**Pn**	**01 05 05.5**	**+0.3**
NEW				*e*Pg	**Pg**	**01 05 09.1**	**-1.4**
NEW				*e*Sn	**Sn**	**01 05 32.2**	**+0.4**
NEW				*e*Sg	**Sg**	**01 05 36.2**	**-1.9**
C17A	**Wharram Farm,**	**2.20**	**102**	⇑Pb	**Pb**	**01 05 09.2**	**-0.3**
	baz=2.2,SNR=266						
LRM	**Limekiln Ridge**	**2.54**	**156**	*e*Pn	**Pn**	**01 05 12.1**	**+1.3**
LRM				*e*Sg	**Sg**	**01 05 50.1**	**-1.0**
EGMT	**Eagleton**	**2.81**	**91**	*e*Pn	**Pn**	**01 05 15.7**	**+1.1**
EGMT				*e*Sg	**Sb**	**01 05 55.2**	**+0.9**
DLMT	**Dillon**	**2.93**	**161**	*e*Pn	**Pn**	**01 05 18.9**	**+2.6**
DLMT				*e*Pg	**Pg**	**01 05 24.1**	**-1.7**
DLMT				*e*Sg	**Sg**	**01 06 01.8**	**-1.9**
BOZ	**Bozeman (W)**	**2.96**	**147**	*e*Pn	**Pn**	**01 05 19.1**	**+2.5**
BOZ				*e*Pg	**Pg**	**01 05 24.6**	**-1.7**
BOZ				*e*Sg	**Sg**	**01 06 03.5**	**-1.1**
OD2	**Odessa Site #2**	**3.30**	**259**	*e*Pn	**Pn**	**01 05 22.8**	**+1.4**
OD2				*e*Pg	**Pg**	**01 05 30.6**	**-2.3**
OD2				*e*Sg	**Sg**	**01 06 12.4**	**-3.3**
MCMT	**McKenzie Canyo**	**3.40**	**167**	*e*Pn	**Pn**	**01 05 23.9**	**+1.2**
MCMT				*e*Sg	**Sg**	**01 06 17.0**	**-1.8**
QLMT	**Earthquake Lak**	**3.74**	**151**	*e*Pn	**Pn**	**01 05 27.9**	**+0.5**
QLMT				*e*Pg	**Pg**	**01 05 39.3**	**-1.9**
QLMT				*e*Sg	**Sg**	**01 06 27.2**	**-2.5**
LNOR	**Lincton Mounta**	**3.74**	**234**	*e*Pn	**Pn**	**01 05 28.5**	**+1.1**
LNOR				*e*Pg	**Pg**	**01 05 40.2**	**-1.1**
LNOR				*e*Sg	**Sg**	**01 06 26.2**	**-3.5**
GCMT	**Greycliff**	**3.75**	**127**	*e*Pn	**Pn**	**01 05 30.6**	**+3.0**
GCMT				*e*Pg	**Pb**	**01 05 37.5**	**+1.5**
GCMT				*e*Sg	**Sg**	**01 06 26.4**	**-3.8**
PNT	**Penticton**	**3.94**	**289**	⇓Pn	**Pn**	**01 05 29.9**	**-0.2**
PNT				⇑Sg	**Sb**	**01 06 29.9**	**+3.1**
BMO	**Blue Mountains**	**4.03**	**216**	*e*Pn	**Pn**	**01 05 32.3**	**+0.9**
BMO				*e*Sn	**Sn**	**01 06 22.2**	**+3.7**
BMO				*e*Sg	**Sg**	**01 06 34.8**	**-4.1**
YMR	**Madison River**	**4.04**	**148**	*e*Pn	**Pn**	**01 05 32.5**	**+1.0**
YMR				*e*Pg	**Pg**	**01 05 45.3**	**-1.7**
YMR				*e*Sn	**Sn**	**01 06 18.3**	**-0.5**
YMR				*e*Sg	**Sg**	**01 06 36.3**	**-2.9**
SLEB	**Sale Mountain**	**4.07**	**320**	⇑Pg	**Pb**	**01 05 42.7**	**+1.3**
SLEB				⇓Sg	**Sb**	**01 06 34.5**	**+3.9**
HAWA	**Hanford**	**4.19**	**247**	*e*Pn	**Pn**	**01 05 33.9**	**+0.4**
HAWA				*e*Pg	**Pg**	**01 05 46.7**	**-3.2**
HAWA				*e*Sg	**Sg**	**01 06 40.4**	**-3.7**
RSW	**Rattlesnake Hi**	**4.22**	**248**	*e*Pn	**Pn**	**01 05 35.1**	**+1.1**
RSW				*e*Sg	**Sg**	**01 06 43.4**	**-1.9**
ETW	**Entiat**	**4.33**	**265**	*e*Pn	**Pn**	**01 05 34.5**	**-1.0**
ETW				*e*Sg	**Sg**	**01 06 45.4**	**-3.4**
RLMT	**Red Lodge**	**4.41**	**131**	*e*Pn	**Pn**	**01 05 36.9**	**+0.2**
RLMT				*e*Pg	**Pg**	**01 05 50.3**	**-3.9**
RLMT				*e*Sg	**Sg**	**01 06 48.5**	**-2.9**
DOWB	**Downie Slide**	**4.49**	**320**	⇓Sg	**Sg**	**01 06 49.3**	**-4.6**
HLID	**Hailey**	**4.59**	**184**	*e*Pn	**Pn**	**01 05 40.5**	**+1.4**
HLID				*e*Sg	**Sg**	**01 06 51.9**	**-5.1**
FLWY	**Flagg Ranch**	**4.64**	**150**	*e*Pn	**Pn**	**01 05 43.6**	**+3.8**
FLWY				*e*Pg	**Pg**	**01 05 54.6**	**-4.0**
FLWY				*e*Sg	**Sg**	**01 06 56.7**	**-2.0**
IMW	**Indian Meadow**	**4.73**	**153**	*e*Pn	**Pn**	**01 05 42.9**	**+1.9**
IMW				*e*Pg	**Pg**	**01 05 57.2**	**-3.1**
IMW				*e*Sg	**Sg**	**01 06 57.7**	**-3.8**
MFID	**Camas Ranch**	**4.91**	**196**	*e*Pn	**Pn**	**01 05 45.7**	**+2.2**
MFID				*e*Pg	**Pg**	**01 06 00.3**	**-3.3**
MFID				*e*Sg	**Sg**	**01 07 03.0**	**-4.2**
MOOW	**Moose Ponds**	**4.93**	**152**	*e*Pn	**Pn**	**01 05 49.4**	**+5.7**
MOOW				*e*Sb	**Sg**	**01 07 03.6**	**-4.2**
DCID1	**Drake Creek**	**4.94**	**156**	*e*Pn	**Pn**	**01 05 45.1**	**+1.2**
DCID1				*e*Sg	**Sg**	**01 07 09.6**	**+1.4**
MNB	**Mounoet Dainar**	**4.96**	**327**	⇓Pn	**Pn**	**01 05 46.4**	**+2.2**
RPW	**Rockport**	**5.06**	**276**	*e*Pg	**Pg**	**01 06 05.2**	**-1.5**
RPW				*e*Sg	**Sg**	**01 07 11.7**	**-0.5**
LOHW	**Long Hollow**	**5.09**	**152**	*e*Pn	**Pn**	**01 05 45.9**	**-0.1**
LOHW				*e*Pg	**Pg**	**01 06 04.3**	**-2.9**
LOHW				*e*Sg	**Sg**	**01 07 10.5**	**-2.7**
TPAW	**Teton Pass**	**5.10**	**155**	*e*Pn	**Pn**	**01 05 49.0**	**+2.9**
TPAW				*e*Sg	**Sg**	**01 07 09.2**	**-4.1**
RRI2	**Red Ridge**	**5.13**	**158**	*e*Pn	**Pn**	**01 05 47.8**	**+1.3**
RRI2				*e*Sg	**Sg**	**01 07 09.5**	**-4.9**
REDW	**Red Top Meadow**	**5.25**	**155**	*e*Sg	**Sg**	**01 07 16.0**	**-2.0**
JCW	**Jim Creek**	**5.35**	**274**	*e*Pg	**Pg**	**01 06 07.1**	**-4.9**
JCW				*e*Sg	**Sg**	**01 07 20.7**	**-0.5**
LAO	**LASA Array**	**5.44**	**103**	*e*Pg	**Pg**	**01 06 08.1**	**-5.6**
	12nm,0.4s						
LON	**Longmire**	**5.52**	**258**	*e*Sg	**Sg**	**01 07 26.2**	**-0.5**
LLLB	**Lillooet**	**5.74**	**298**	⇓Sg	**Sg**	**01 07 26.2**	**-7.7**
BMW	**Boistfort Moun**	**6.53**	**259**	*e*Pg	**Pg**	**01 06 35.6**	**+0.9**
BMW				*e*Sg	**Sg**	**01 07 55.5**	**-3.7**

IDC 15 02:31:27.6±8.4,20°.28S×69°.62W,h233km±59km,mb3.2/1, mb1 3.0/2,mb1mx2.9/15,mbtmp3.0/2,MS3.0/1,Ms1 3.0/1, ms1mx2.7/3,Error ellipse: s-maj=93.5km s-min=90.0km az=156.0,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.21**	**20**	P	Pn	02 32 33.9	+0.6
	0.8nm,0.3s,baz=191,slow=4.3,SNR=27						
LPAZ				S	S	02 33 26.8	+1.5
	baz=200,slow=14,SNR=2.2						
ROSC	**El Rosal**	**25.40**	**349**	LR	LR	02 47 18.3	
	comp=Z,37nm,21.8s,baz=27,slow=37						
TORD	**Torodi Ar. Bea**	**77.58**	**71**	P	P	02 42 58.5	+0.1
	0.3nm,0.4s,baz=249,slow=5.7,SNR=6.8						
MKAR	**Makanchi Array**	**145.02**	**34**	PKPbc	PKPbc	02 50 36.0	-0.8
	0.3nm,0.7s,baz=329,slow=1.7,SNR=2.8						

ISCJB ***15*** *03:07:01.1±0.6,3°.1N±0°.2×31°.3W±0°.1,h10km,mb3.9/12, MS3.4/7,Error ellipse: s-maj=24.4km s-min=14.2km az=149.0*

IDC ***15*** *03:07:01.2±0.8,3°.06N×31°.31W,h0km,mb4.0/9,mb1 4.1/9, mb1mx4.0/22,mbtmp4.0/9,MS3.4/7,Ms1 3.4/7, ms1mx3.2/21,Error ellipse: s-maj=32.9km s-min=19.3km az=149.0*

NEIC ***15*** *03:07:02.7±0.5,3°.07N×31°.34W,h10km,mb4.2/5,Error ellipse: s-maj=18.6km s-min=10.6km az=149.0*

ISC 15 03:07:02.9±0.6,3°.1N±0°.2×31°.3W±0°.1,h10km,n26, σ0°66/22,mb3.9/12,MS3.4/7,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBIC	**Dimbokro**	**26.61**	**81**	LR	LR	03 21 09.7	
	comp=Z,95nm,18.3s,MS3.4,baz=184,slow=32						
TORD	**Torodi Ar. Bea**	**34.14**	**71**	P	**P**	**03 13 48.1**	**-0.2**
	3.1nm,0.8s,mb4.3,baz=258,slow=9.3,SNR=18						
TORD				LR	LR	03 26 44.3	
	comp=Z,55nm,19.1s,MS3.3,baz=255,slow=35						
TORD	**Torodi Ar. Bea**	**34.14**	**71**	P	**P**	**03 13 48.1**	**-0.2**
TORD				LR	LR	03 26 44.4	
CPUP	**Villa Florida**	**38.57**	**219**	P	**P**	**03 14 25.4**	**-0.7**
	0.8nm,0.5s,mb3.7,baz=25,slow=8.9,SNR=4.2						
CPUP				LR	LR	03 31 38.6	
	comp=Z,51nm,18.2s,MS3.4,baz=164,slow=38						
CPUP	**Villa Florida**	**38.57**	**219**	P	**P**	**03 14 25.4**	**-0.7**
CPUP				LR	LR	03 31 38.6	
TAM	**Tamanrasset**	**40.71**	**58**	*e*P	**P**	**03 14 45.0**	**+1.0**
	2.1nm,1.0s,mb3.7						
LPAZ	**La Paz**	**41.15**	**241**	P	**P**	**03 14 48.3**	**+0.6**
	0.9nm,0.8s,mb3.5,baz=29,slow=10,SNR=4.0						
LPAZ				LR	LR	03 33 15.6	
	comp=Z,49nm,18.8s,MS3.4,baz=162,slow=38						
LPAZ	**La Paz**	**41.15**	**241**	*e*P	**P**	**03 14 48.4**	**+0.6**
	8.3nm,1.7s,mb4.1						
LPAZ				LR	LR	03 33 15.6	
ROSC	**El Rosal**	**42.93**	**274**	LR	LR	03 32 08.4	
	comp=Z,49nm,18.1s,MS3.5,baz=27,slow=35						
ESDC	**Sonseca Array**	**44.07**	**31**	P	**P**	**03 15 10.2**	**-1.0**
	0.1nm,0.3s,mb3.0,baz=215,slow=8.9,SNR=4.6						
ESDC	**Sonseca Array**	**44.07**	**31**	P	**P**	**03 15 10.2**	**-1.0**
GERES	**GERESS Array B**	**59.58**	**33**	LR	LR	03 39 43.8	
	comp=Z,27nm,19.6s,MS3.4,baz=316,slow=33						
BOSA	**Boshof**	**62.74**	**124**	P	**P**	**03 17 28.5**	**-0.1**
	3.1nm,1.0s,mb4.4,baz=302,slow=9.5,SNR=3.6						
BOSA	**Boshof**	**62.74**	**124**	P	**P**	**03 17 28.5**	**-0.1**
NOA	**NORSAR Array B**	**66.12**	**21**	LR	LR	03 41 51.1	
	comp=Z,16nm,18.9s,MS3.2,baz=265,slow=32						
BR131	**Keskin Array S**	**68.90**	**49**	*e*P	**P**	**03 18 08.7**	**+0.5**
	1.1nm,0.6s,mb4.0						
BRTR	**Keskin Array B**	**68.90**	**49**	P	**P**	**03 18 08.8**	**+0.7**
	1.8nm,0.7s,mb4.1,baz=243,slow=6.1,SNR=14						
BRTR	**Keskin Array B**	**68.90**	**49**	P	**P**	**03 18 08.8**	**+0.7**
AKASG	**Malin Array Be**	**69.30**	**36**	P	**P**	**03 18 10.5**	**+0.1**
	1.8nm,0.7s,mb4.1,baz=245,slow=7.0,SNR=7.5						
AKASG	**Malin Array Be**	**69.30**	**36**	P	**P**	**03 18 10.5**	**+0.1**
TXAR	**Lajitas Array**	**73.11**	**300**	P	**P**	**03 18 34.8**	**+0.9**
	0.4nm,0.7s,mb3.4,baz=97,slow=7.4,SNR=3.2						
TXAR	**Lajitas Array**	**73.11**	**300**	P	**P**	**03 18 34.8**	**+0.9**
HWUT	**Hardware Ranch**	**80.66**	**311**	*e*P	**P**	**03 19 16.3**	**0.0**
	1.9nm,0.8s,mb4.1						
BRVK	**Borovoye**	**94.51**	**36**	*e*P	**P**	**03 20 23.2**	**-0.3**
	1.6nm,0.8s,mb4.5						
ILAR	**Eielson Array**	**97.84**	**337**	P	**P**	**03 20 37.3**	**-1.1**
	0.5nm,1.0s,mb4.0,baz=56,slow=3.4,SNR=4.8						
ILAR	**Eielson Array**	**97.84**	**337**	P	**P**	**03 20 37.3**	**-1.1**

DJA 15 04:01:45,0°.07N×120°.14E,h29km,MLv4.0/7,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**1.84**	**77**	P	Pn	04 02 15.1	+0.4
MRSI				S	Sn	04 02 36.6	-0.5
MSSI	**Masamba**	**2.61**	**176**	P	Pn	04 02 25.6	+0.3
MSSI				S	Sn	04 03 00.3	+4.2
LUWI	**Luwuk**	**2.85**	**113**	P	Pn	04 02 29.2	+0.6
LUWI				S	Sn	04 03 12.2	+10
SMKI	**Samarinda**	**2.98**	**260**	S	Sn	04 03 05.9	+0.9
TTSI	**Tana Toraja**	**3.11**	**186**	P	Pn	04 02 33.3	+1.1
TTSI				S	Sn	04 03 21.8	+13
SPSI	**Sidrap Palu**	**4.03**	**185**	P

RSO Redoubt South 15.31 45 *e*Pn **Pn 04 06 59.5 +1.1**
SPU Mount Spurr 15.94 44 *e*Pn **Pn 04 07 08.4 +1.9**
PET Petropavlovsk 16.16 286 *e*Pn **Pn 04 07 11.9 +2.5**
PET Petropavlovsk 16.16 286 *e*P **Pn 04 07 11.9 +2.6**
PET *e*S **S 04 10 10.9 -7.8**
PET pmax pmax
comp=Z,400nm,3.4s
PET pmax pmax
comp=Z,400nm,8.4s
PET pmax pmax
comp=Z,121nm,1.1s
PET MLR MLR
comp=Z,2µm,18.0s
PET MLR MLR
comp=Z,1µm,16.0s
SLKM Skilak Lake 16.48 47 *e*Pn **Pn 04 07 11.3 -1.9**
SLKM *e*Sn **Sn 04 10 13.2 -1.6**
SLKM Skilak Lake 16.48 47 *e*P **Pn 04 07 11.3 -1.9**
SLKM *e* 04 10 13.2
SEW Seward 16.69 49 *e*Pn **Pn 04 07 11.8 -4.0**
SEW *e*Sn **Sn 04 10 17.8 -2.2**
PEA0B Petropavlovsk- 16.73 286 *e*Pn **Pn 04 07 19.4 +3.0**
PETK Petropavlovsk- 16.73 286 Pn **Pn 04 07 15.5 -0.9**
comp=Z,4.9nm,0.3s,baz=96,slow=14,SNR=39
PETK LR LR 04 13 18.1
comp=Z,3µm,21.4s,baz=273,slow=35
PETK Petropavlovsk- 16.73 286 Pn **Pn 04 07 15.5 -0.9**
PETK LR LR 04 13 18.1
PETK Petropavlovsk- 16.73 286 P **Pn 04 07 15.5 -1.0**
PETK pmax pmax
comp=Z,5.0nm,0.3s
PETK MLR MLR
comp=Z,3µm,21.4s
PPLA Purkeypile 16.75 38 *e*Pn **Pn 04 07 18.7 +2.1**
comp=Z,109nm,0.8s
PMR Palmer 17.39 44 *e*P **Pn 04 07 22.8 -1.8**
comp=Z,9.1nm,0.4s
PMR Palmer 17.39 44 *e*P **Pn 04 07 22.8 -1.8**
PMR pmax pmax
comp=Z,9.0nm,0.4s
TRF Thorofare Moun 17.77 38 *e*Pn **Pn 04 07 29.5 +0.2**
comp=Z,226nm,1.2s
SML Sawmill 17.82 44 *e*Pn **Pn 04 07 28.9 -1.0**
comp=Z,20nm,0.9s
SML Sawmill 17.82 44 *e*P **Pn 04 07 28.9 -1.0**
SML pmax pmax
comp=Z,20nm,0.9s
BPAW Bear Paw Mtn. 17.86 36 *e*Pn **Pn 04 07 31.0 +0.6**
comp=Z,148nm,0.9s
SKR Severo-Kuril's 18.10 279 *e*P **Pn 04 07 34.0 +0.6**
SKR *e* 04 10 54.0
SKR pmax pmax
comp=Z,1µm,4.0s
SKR pmax pmax
comp=Z,130nm,1.0s
SKR smax
comp=N,3µm,22.0s
SKR smax
comp=E,7µm,22.0s
MCK McKinley 18.44 38 *e*P **Pn 04 07 35.9 -1.5**
comp=E,91nm,0.8s
MCK McKinley 18.44 38 *e*P **Pn 04 07 35.9 -1.5**
MCK pmax pmax
comp=Z,91nm,0.8s
DIV Divide 18.74 48 *e*Pn **Pn 04 07 38.9 -2.2**
comp=Z,32nm,0.4s
BILL Bilibino 18.95 338 *e*P **Pn 04 07 44.0 +0.4**
comp=Z,151nm,0.9s
BILL Bilibino 18.95 338⇑ *e*P **Pn 04 07 44.2 +0.6**
BILL pmax pmax
comp=Z,205nm,1.2s
BILL MLR MLR
comp=Z,2µm,23.0s
BMRM Bremner River 19.23 49 *e*Pn **Pn 04 07 44.1 -2.8**
comp=Z,58nm,0.8s
COLA College 19.42 36 *e*P **Pn 04 07 47.3 -1.9**
comp=Z,99nm,0.9s
COLA College 19.42 36 *e*P **Pn 04 07 47.3 -1.9**
COLA pmax pmax
comp=Z,99nm,0.9s
PAX Paxson 19.51 42 *e*P **Pn 04 07 49.0 -1.2**
comp=Z,44nm,0.7s
PAX Paxson 19.51 42 *e*P **Pn 04 07 49.0 -1.2**
PAX pmax pmax
comp=Z,44nm,0.7s
ILAR Eielson Array 19.73 37 P **Pn 04 07 48.4 -4.4**
comp=Z,2.9nm,0.3s,baz=241,slow=8.0,SNR=181
ILAR S **S 04 11 28.3 -2.3**
comp=Z,0.3nm,0.3s,baz=239,slow=17,SNR=5.6
ILAR ScP ScP 04 15 40.6 +0.9
baz=289,slow=3.6,SNR=6.6
ILAR Eielson Array 19.73 37 P **Pn 04 07 48.4 -4.4**
ILAR S **S 04 11 28.3 -2.3**
ILAR ScP ScP 04 15 40.6 +0.9
ILAR Eielson Array 19.73 37 P **Pn 04 07 48.4 -4.4**
ILAR S **S 04 11 28.3 -2.3**
ILAR pmax pmax
comp=Z,3.0nm,0.3s
COLD Coldfoot 20.01 29 *e*P **P 04 07 54.9 +0.9**
comp=Z,83nm,0.8s
MENT Mentasta 20.24 43 *e*P **P 04 07 57.4 +0.8**
DOT Dot Lake 20.35 41 *e*P **P 04 07 56.8 -1.0**
comp=Z,406nm,0.7s
SEY Seymchan 20.79 316 *ce*P **P 04 08 02.2 -0.3**
PNL Peninsula 21.52 54 *e*P **P 04 08 10.0 -0.4**
comp=Z,89nm,0.9s,mb5.2
EGAK Eagle 21.95 40 *e*P **P 04 08 13.9 -1.1**
comp=Z,142nm,0.6s,mb5.6
DAWY Dawson 22.44 42 *e*P **P 04 08 19.6 -0.6**
SKAG Skagway 23.57 55 *e*P **P 04 08 29.0 -2.7**
comp=Z,34nm,1.4s,mb4.6
WRAK Wrangell Islan 25.29 62 *e*P **P 04 08 49.5 +2.2**
comp=Z,129nm,0.9s,mb5.5
INK Inuvik 26.05 34 P **P 04 08 53.4 -0.7**
comp=Z,10.0nm,0.4s,mb4.7,baz=239,slow=8.7,SNR=59
INK PcP PcP 04 12 20.2 -0.5
comp=Z,5.2nm,0.5s,baz=203,slow=2.8,SNR=6.0
INK ScP ScP 04 15 55.4 -0.8
comp=Z,2.6nm,1.1s,baz=243,slow=5.2,SNR=4.6
INK LR LR 04 20 32.3
comp=Z,3µm,18.1s,MS4.8,baz=226,slow=40
INK Inuvik 26.05 34 *e*P **P 04 08 53.6 -0.6**
comp=Z,60nm,1.2s,mb5.0
INK *e*PcP PcP 04 12 20.8 +0.2
INK Inuvik 26.05 34 P **P 04 08 53.4 -0.7**
INK 04 12 20.2
INK pmax pmax
comp=Z,10.0nm,0.4s
INK MLR MLR
comp=Z,3µm,18.1s
DLBC Dease Lake 26.34 57 P **P 04 08 58.0 +1.2**
comp=Z,30nm,0.8s,mb4.9,baz=285,slow=9.5,SNR=26
DLBC PcP PcP 04 12 22.1 +0.7
comp=Z,3.3nm,0.8s,baz=282,slow=20,SNR=3.2
DLBC Dease Lake 26.34 57 *e*P **P 04 08 58.6 +1.8**
YSS Yuzh-Sakhalins 27.66 277 *e*P **P 04 09 08.4 -0.4**
comp=Z,73nm,1.1s,mb5.2
YSS Yuzh-Sakhalins 27.66 277 *oe*P **P 04 09 09.0 +0.2**
YSS *e* 04 09 15.1
YSS *e**PP pP 04 09 23.0 +2.1
YSS *e* 04 10 04.0
YSS *e*S **S 04 13 44.0 -3.3**
YSS *e**SS sS 04 14 06.0 -1.6
YSS *e*SSS 04 15 24.0
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.0
YSS smax
comp=E,400nm,10.0s
YSS MLR MLR
comp=E,2µm,20.0s
YSS MLR MLR
comp=Z,2µm,20.0s,MS4.7
BBB Bella Bella 28.62 70 LR LR 04 20 34.3
comp=Z,1µm,18.6s,MS4.5,baz=157,slow=36
ASAJ Asahikawa 29.06 272 P **P 04 09 21.1 -0.2**
comp=Z,23nm,0.8s,mb5.0,baz=75,slow=15,SNR=9.9
ASAJ LR LR 04 22 19.4
comp=Z,696nm,18.5s,MS4.3,baz=62,slow=39
ASAJ Asahikawa 29.06 272 *e*P **P 04 09 21.9 +0.6**
comp=Z,19nm,1.1s,mb4.7
ASAJ Asahikawa 29.06 272 P **P 04 09 21.1 -0.2**
ASAJ pmax pmax
comp=Z,23nm,0.8s
ASAJ MLR MLR
comp=Z,696nm,18.5s
ERM Erimo 29.81 268 *e*P **P 04 09 29.0 +1.1**
comp=Z,21nm,0.6s,mb5.0
ERM Erimo 29.81 268 *e*P **P 04 09 29.0 +1.0**
ERM pmax pmax
comp=Z,21nm,0.6s,mb5.0
YAK Yakutsk 31.13 311 *e*P **P 04 09 37.4 -2.0**
YAK pmax pmax
comp=E,23nm,1.2s
YAK pmax pmax
comp=Z,32nm,1.0s,mb5.1
YAK pmax pmax
comp=N,5.0nm,1.6s
YAK MLR MLR
comp=N,2µm,23.0s,MS4.9
YAK MLR MLR
comp=Z,2µm,21.0s,MS4.8
YAK MLR MLR
comp=E,2µm,21.0s,MS4.9
PGC Sidney 32.68 74 *e*P **P 04 09 53.1 0.0**
NLWA Neilton Lookou 32.97 77 *e*P **P 04 09 57.1 +1.5**
comp=E,27nm,1.0s,mb5.1
KLR Kul'dur 33.41 288 *e*P **P 04 09 54.8 -4.8**
KLR *e* 04 15 11.5
KLR pmax pmax
comp=E,63nm,2.0s
KLR pmax pmax
comp=Z,140nm,2.0s,mb5.5
KLR MLR MLR
comp=N,1µm,13.0s
KLR MLR MLR
comp=Z,2µm,13.0s,MS4.9
YKA Yellowknife Ar 33.45 47 P **P 04 09 58.6 -1.1**
comp=Z,2.2nm,0.4s,mb4.5,baz=283,slow=8.8,SNR=42
YKA PcP PcP 04 12 40.2 +0.4
comp=Z,4.5nm,0.7s,baz=284,slow=3.2,SNR=9.9
YKA LR LR 04 25 14.8
comp=Z,305nm,18.8s,MS4.0,baz=100,slow=39
YKA Yellowknife Ar 33.45 47 P **P 04 09 58.6 -1.1**
YKA PcP PcP 04 12 40.2 +0.4
YKA LR LR 04 25 14.8
YKA Yellowknife Ar 33.45 47 P **P 04 09 58.6 -1.1**
YKA 04 12 40.2
YKA pmax pmax
comp=Z,2.0nm,0.4s
YKA MLR MLR
comp=Z,305nm,18.8s
GNW Green Mountain 33.52 76 *e*P **P 04 10 01.7 +1.2**
comp=Z,7.7nm,0.7s,mb4.7
MBW Mount Baker 33.55 73 P **P 04 10 01.7 +0.9**
JCW Jim Creek 33.79 74 P **P 04 10 03.8 +1.0**
TDL Tradedollar La 34.45 77 P **P 04 10 09.6 +1.0**
LON Longmire 34.51 76 *e*P **P 04 10 10.1 +1.0**
comp=Z,19nm,0.7s,mb5.1
LON Longmire 34.51 76 *e*P **P 04 10 10.1 +1.0**
LON pmax pmax
comp=Z,19nm,0.7s,mb5.1
RCM Mount Rainier- 34.52 76 P **P 04 10 10.9 +1.7**
MPOR Mary's Peak 34.54 81 P **P 04 10 10.5 +1.2**
COR Corvallis 34.65 81 *e*P **P 04 10 03.4 -6.9**
comp=Z,20nm,0.8s,mb5.1
COR Corvallis 34.65 81 *e*P **P 04 10 03.4 -6.9**
COR pmax pmax
comp=Z,20nm,0.8s,mb5.1
WPW White Pass 34.70 76 P **P 04 10 11.2 +0.6**
ETW Entiat 35.01 74 P **P 04 10 14.2 +0.7**
BROR Big Rock Looko 35.34 81 P **P 04 10 17.3 +1.0**
CROR Criterion Ridg 35.87 79 P **P 04 10 21.2 +0.4**
RSW Rattlesnake Hi 36.03 76 *e*P **P 04 10 22.8 +0.6**
comp=Z,32nm,0.7s,mb5.4
HAWA Hanford 36.06 76 *e*P **P 04 10 22.7 +0.2**
comp=Z,32nm,0.7s,mb5.3
OD2 Odessa Site #2 36.09 74 P **P 04 10 22.8 +0.2**
H2OWA Water 36.13 76 P **P 04 10 23.7 +0.7**
MAJO Matsushiro 36.14 264 *e*P **P 04 10 22.8 -0.4**
comp=Z,47nm,0.8s,mb5.5
MAJO Matsushiro 36.14 264 *e*P **P 04 10 22.8 -0.4**
MAJO pmax pmax
comp=Z,47nm,0.8s,mb5.5
MAT Matsushiro 36.14 264 P **P 04 10 23.2 0.0**
MAT S **S 04 15 58.0 -1.5**
MJAR Matsushiro Arr 36.14 264 P **P 04 10 22.9 -0.2**
comp=Z,12nm,0.5s,mb5.0,baz=49,slow=8.1,SNR=36
MJAR PcP PcP 04 12 48.0 0.0
comp=Z,1.1nm,0.5s,baz=142,slow=0.5,SNR=4.1
MJAR LR LR 04 23 23.6
comp=Z,1µm,21.2s,MS4.6,baz=70,slow=33
MJAR Matsushiro Arr 36.14 264 P **P 04 10 22.9 -0.2**
MJAR PcP PcP 04 12 48.0 0.0
MJAR LR LR 04 23 23.6
MJAR Matsushiro Arr 36.14 264 P **P 04 10 23.0 -0.2**
MJAR 04 12 48.0
MJAR pmax pmax
comp=Z,12nm,0.5s
VLA Vladivostok 36.24 278 *e*P **P 04 10 24.3 +0.3**
VLA pmax pmax
comp=Z,56nm,1.0s,mb5.5
VIPM Ingram Point 36.34 79 P **P 04 10 25.4 +0.6**
VIPM Ingram Point 36.34 79 P **P 04 10 25.4 +0.6**
YBH Yreka Blue Hor 36.53 84 *e*P **P 04 10 27.7 +1.3**
comp=Z,10nm,0.8s,mb4.7
YBH Yreka Blue Hor 36.53 84 *e*P **P 04 10 27.7 +1.2**
YBH pmax pmax
comp=Z,10.0nm,0.8s
NEW Newport 36.63 72 *e*P **P 04 10 27.2 0.0**
comp=Z,40nm,0.8s,mb5.3
NEW Newport 36.63 72 *e*P **P 04 10 27.2 0.0**
NEW pmax pmax
comp=Z,39nm,0.8s
MDJ Mudanjiang 36.88 282 P **P 04 10 28.0 -1.4**
MDJ pP pP 04 10 39.3 -2.4
MDJ sP sP 04 10 44.3 -2.8
MDJ S **S 04 16 08.6 -2.0**
MDJ sS sS 04 16 27.8 -3.4
MDJ ScP ScP 04 16 33.8 +0.9
MDJ PcS PcS 04 16 38.4 +0.3
MDJ pmax pmax
comp=Z,17nm,1.2s,mb4.8
MDJ pmax pmax
comp=Z,100nm,4.9s
MDJ LR LR
comp=N,680nm,19.4s,MS4.7
MDJ LR LR
comp=E,1µm,21.1s,MS4.7
MDJ LR LR
comp=Z,2µm,19.8s,MS4.8
MDJ Mudanjiang 36.88 282 *e*P **P 04 10 28.1 -1.3**
comp=Z,34nm,1.1s,mb5.1
LNOR Lincton Mounta 37.08 76 *e*P **P 04 10 31.8 +0.7**
comp=Z,9.3nm,0.8s,mb4.7
LNOR Lincton Mounta 37.08 76 *e*P **P 04 10 31.8 +0.7**
LNOR pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
WDC Whiskeytown Da 37.28 86 *e*P **P 04 10 32.7 -0.1**
comp=Z,14nm,1.0s,mb4.7
WDC Whiskeytown Da 37.28 86 *e*P **P 04 10 32.7 -0.2**
WDC pmax pmax
comp=Z,14nm,1.0s,mb4.8
JHJ Hachijo jima 2 37.41 258 LR LR 04 23 42.0
comp=Z,622nm,20.5s,MS4.4,baz=201,slow=32
LBCM Butte Creek Ri 37.88 85 P **P 04 10 38.3 +0.4**
MOD Modoc 37.93 83 *e*P **P 04 10 38.8 +0.5**
comp=Z,14nm,0.7s,mb4.8
WALA Waterton Lakes 38.15 69 *e*P **P 04 10 39.9 -0.2**
comp=Z,1.2nm,1.0s,mb3.6
BMO Blue Mountains 38.19 77 *e*P **P 04 10 40.4 -0.1**
comp=Z,15nm,1.1s,mb4.6
BSMT Bassoo Peak 38.21 71 *e*P **P 04 10 40.6 0.0**
comp=Z,34nm,0.8s,mb5.1
BSMT *e*ScP ScP 04 16 39.2 +1.3
BLMT Blacktail Moun 38.38 71 *e*P **P 04 10 42.8 +0.7**
comp=Z,39nm,0.7s,mb5.2
JTMT Jette 38.55 71 *e*P **P 04 10 43.8 +0.3**
comp=Z,12nm,0.7s,mb4.7
YBMT Yellow Bay 38.66 71 *e*P **P 04 10 44.1 -0.3**
comp=Z,16nm,0.8s,mb4.8
WVOR Wild Horse Val 38.67 81 *e*P **P 04 10 44.9 +0.3**
comp=Z,22nm,0.8s,mb5.0
WVOR Wild Horse Val 38.67 81 *e*P **P 04 10 44.9 +0.4**
WVOR pmax pmax
comp=Z,22nm,0.8s,mb4.9
RES Resolute Bay 38.68 25 P **P 04 10 43.5 -0.8**
comp=Z,3.1nm,0.6s,mb4.2,baz=244,slow=12,SNR=9.0
RES PcP PcP 04 12 55.8 +0.6
comp=Z,8.9nm,0.8s,baz=300,slow=4.1,SNR=7.0
RES Resolute Bay 38.68 25 P **P 04 10 43.5 -0.7**
RES PcP PcP 04 12 55.8 +0.6
RES Resolute Bay 38.68 25 P **P 04 10 43.5 -0.8**
RES 04 12 55.8
RES pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
SWMT Swartz Lake 38.84 71 *e*P **P 04 10 45.7 -0.2**
comp=Z,15nm,0.9s,mb4.7
MSO Missoula 39.21 72 *e*P **P 04 10 49.0 0.0**
comp=Z,16nm,0.8s,mb4.8
SLMT Seeley Lake 39.27 71 *e*P **P 04 10 49.2 -0.3**
comp=Z,32nm,0.9s,mb5.0
CHMT Chamberlain Mo 39.58 71 *e*P **P 04 10 51.8 -0.3**
comp=Z,12nm,0.7s,mb4.7
CN2 Changchun 39.84 283 ⇑P **P 04 10 53.6 -0.7**
CN2 *es*P sP 04 11 11.3 -0.8
CN2 *e*S **S 04 16 53.3 -2.0**
CN2 pmax pmax
comp=Z,40nm,1.1s,mb5.1
CN2 pmax pmax
comp=Z,400nm,9.0s
CN2 LR LR
comp=N,2µm,19.0s,MS5.0
CN2 LR LR
comp=E,1µm,19.0s,MS5.0
CN2 LR LR
comp=Z,2µm,19.0s,MS4.9
MFID Camas Ranch 39.85 78 *e*P **P 04 10 54.1 -0.3**
comp=Z,9.1nm,0.7s,mb4.6
CMB Columbia Colle 40.14 88 *e*P **P 04 10 56.4 -0.4**
comp=Z,11nm,0.9s,mb4.6
CMB Columbia Colle 40.14 88 *e*P **P 04 10 56.4 -0.4**
CMB pmax pmax
comp=Z,11nm,0.9s,mb4.6
CBIJ Chichi jima 40.29 249 P **P 04 10 58.0 -0.2**
comp=Z,117nm,0.9s,mb5.6,baz=285,slow=20,SNR=4.0
HIA Hailar 40.43 293 *e*P **P 04 10 58.1 -1.0**
comp=Z,16nm,0.4s,mb5.1
HIA Hailar 40.43 293 *e*P **P 04 10 58.1 -1.0**
HIA pmax pmax
comp=Z,16nm,0.4s
HRY Holter Researc 40.52 71 *e*P **P 04 10 59.9 0.0**
comp=Z,34nm,0.8s,mb5.0
LRM Limekiln Ridge 40.61 72 *e*P **P 04 11 00.5 -0.1**
comp=Z,98nm,0.8s,mb5.5
HLID Hailey 40.64 77 *e*P **P 04 11 01.1 +0.2**
comp=Z,30nm,1.2s,mb4.8
HLID *e*ScP ScP 04 16 48.5 +1.1
DLMT Dillon 40.77 73 *e*P **P 04 11 00.9 -1.0**
comp=Z,9.2nm,0.8s,mb4.5
DLMT *e*ScP ScP 04 16 49.9 +2.1
MCMT McKenzie Canyo 40.90 74 *e*P **P 04 11 03.0 0.0**
comp=Z,22nm,0.7s,mb4.9
EGMT Eagleton 41.07 68 *e*P **P 04 11 04.1 -0.3**
comp=Z,52nm,0.8s,mb5.2
BOZ Bozeman (W) 41.19 72 *e*P **P 04 11 05.2 -0.2**
comp=Z,20nm,0.8s,mb4.8
BOZ Bozeman (W) 41.19 72 *e*P **P 04 11 05.2 -0.2**
BOZ pmax pmax
comp=Z,20nm,0.8s,mb4.8
NVAR Mina Array Bea 41.20 86 P **P 04 11 06.0 +0.5**
comp=Z,3.5nm,0.9s,mb4.0,baz=292,slow=8.3,SNR=17
NVAR ScP ScP 04 16 52.1 +2.5
comp=Z,2.4nm,0.9s,baz=284,slow=4.5,SNR=6.3
NVAR LR LR 04 25 34.2
comp=Z,658nm,18.8s,MS4.5,baz=232,slow=32
NVAR Mina Array Bea 41.20 86 P **P 04 11 06.0 +0.5**
NVAR ScP ScP 04 16 52.1 +2.5
NVAR LR LR 04 25 34.2
QLMT Earthquake Lak 41.75 73 *e*P **P 04 11 10.4 +0.4**
comp=Z,4.9nm,1.3s,mb4.0
QLMT *e*ScP ScP 04 16 54.1 +2.3
KSRS Korea Array 41.99 274 P **P 04 11 11.9 -0.2**
comp=Z,42nm,1.0s,mb5.0,baz=58,slow=7.7,SNR=11
KSRS LR LR 04 28 28.6
comp=Z,485nm,19.1s,MS4.4,baz=42,slow=36
KSRS Korea Array 41.99 274 P **P 04 11 11.9 -0.2**
KSRS pmax pmax
comp=Z,42nm,1.0s,mb5.0
KSRS MLR MLR
comp=Z,485nm,19.1s,MS4.4
SNY Shenyang 42.08 282 ⇑P **P 04 11 13.1 +0.4**
SNY S **S 04 17 19.8 -8.8**
SNY pmax pmax
comp=Z,170nm,1.1s,mb5.6
SNY pmax pmax
comp=Z,810nm,3.5s
SNY LR LR
comp=N,770nm,18.8s,MS4.6
SNY LR LR
comp=E,400nm,22.4s,MS4.6
SNY LR LR
comp=Z,650nm,21.6s,MS4.5
YMR Madison River 42.11 73 *e*P **P 04 11 13.1 +0.2**
comp=Z,26nm,0.7s,mb5.0
FFC Flin Flon 42.16 56 *e*P **P 04 11 12.9 -0.3**
comp=Z,31nm,0.8s,mb5.0
FFC Flin Flon 42.16 56 *e*P **P 04 11 12.9 -0.3**
FFC pmax pmax
comp=Z,31nm,0.8s,mb5.0
FFC Flin Flon 42.16 56 P **P 04 11 12.1 -1.1**
comp=Z,246nm,0.5s,mb6.1,SNR=16
YNR Norris Junctio 42.26 73 *e*P **P 04 11 15.1 +1.0**
comp=Z,32nm,0.8s,mb5.0
YFT Old Faithful 42.31 73 *e*P **P 04 11 16.5 +1.9**
comp=Z,21nm,0.8s,mb4.8
LKWY Lake 42.51 73 *e*P **P 04 11 17.9 +1.7**
comp=Z,38nm,0.8s,mb5.2
LKWY Lake 42.51 73 *e*P **P 04 11 17.9 +1.7**
LKWY pmax pmax
comp=Z,38nm,0.8s,mb5.2
IMW Indian Meadow 42.55 74 *e*P **P 04 11 16.8 +0.3**
comp=Z,18nm,0.9s,mb4.8
DCID1 Drake Creek 42.57 75 *e*P **P 04 11 17.0 +0.3**
comp=Z,34nm,1.0s,mb5.0
FLWY Flagg Ranch 42.59 74 *e*P **P 04 11 17.9 +1.0**
comp=Z,50nm,1.3s,mb5.1
RRI2 Red Ridge 42.63 75 *e*P **P 04 11 18.1 +0.9**
comp=Z,26nm,0.8s,mb5.0
HVU Hansel Valley 42.64 78 *e*P **P 04 11 17.6 +0.4**
comp=Z,25nm,0.8s,mb5.0
HVU Hansel Valley 42.64 78 *e*P **P 04 11 17.6 +0.3**
HVU pmax pmax
comp=Z,25nm,0.8s,mb5.0
MOOW Moose Ponds 42.75 74 *e*P **P 04 11 18.1 0.0**
comp=Z,20nm,1.3s,mb4.7
TPAW Teton Pass 42.77 75 *e*P **P 04 11 18.3 -0.1**
comp=Z,17nm,1.0s,mb4.7
INCN Inchon 42.78 274 *e*P **P 04 11 20.0 +1.5**
comp=Z,84nm,0.9s,mb5.5
INCN Inchon 42.78 274 P **P 04 11 20.5 +2.0**
SNR=8.2
ISA Isabella 42.81 89 *e*P **P 04 11 18.4 -0.4**
comp=Z,10nm,1.0s,mb4.5
ISA Isabella 42.81 89 *e*P **P 04 11 18.4 -0.4**
ISA pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
RLMT Red Lodge 42.88 72 *e*P **P 04 11 19.4 +0.2**
comp=Z,52nm,1.0s,mb5.2
REDW Red Top Meadow 42.91 75 *e*P **P 04 11 19.4 0.0**
comp=Z,16nm,1.0s,mb4.7
SNOW Snow King Moun 42.91 74 *e*P **P 04 11 20.2 +0.8**
comp=Z,18nm,1.0s,mb4.8
LOHW Long Hollow 42.91 74 *e*P **P 04 11 20.1 +0.6**
comp=Z,14nm,1.1s,mb4.6
JNU Nakatsue 42.93 266 *e*P **P 04 11 19.9 +0.1**
comp=Z,25nm,1.0s,mb4.9
BGU Big Grassy Mou 42.98 79 *e*P **P 04 11 20.1 +0.1**
comp=Z,13nm,0.9s,mb4.7
AHID Auburn Hatcher 43.09 76 *e*P **P 04 11 21.4 +0.4**
comp=Z,49nm,1.3s,mb5.1
SPUT South Promonto 43.11 78 *e*P **P 04 11 21.5 +0.4**
comp=Z,14nm,0.8s,mb4.7
HWUT Hardware Ranch 43.48 77 *e*P **P 04 11 24.5 +0.4**
comp=Z,13nm,0.8s,mb4.7
DUG Dugway 43.54 80 *e*P **P 04 11 25.0 +0.4**
comp=Z,35nm,1.0s,mb5.0
DUG Dugway 43.54 80 *e*P **P 04 11 25.0 +0.4**
DUG pmax pmax
comp=Z,35nm,1.0s,mb5.0
NOQ North Oquirrh 43.70 79 *e*P **P 04 11 25.9 0.0**
comp=Z,22nm,0.7s,mb5.0
LAO LASA Array 43.82 68 *e*P **P 04 11 26.8 +0.1**
comp=Z,33nm,0.8s,mb5.1
PD01 Pinedale Array 44.00 75 *e*P **P 04 11 28.1 -0.1**
PD02 Pinedale Array 44.01 75 *e*P **P 04 11 27.9 -0.4**
PDAR Pinedale Array 44.02 75 P **P 04 11 28.4 0.0**
comp=Z,15nm,0.8s,mb4.8,baz=310,slow=3.5,SNR=101
PDAR LR LR 04 29 45.9
comp=Z,606nm,18.7s,MS4.5,baz=311,slow=36

PDAR Pinedale Array 44.02 75 P **P** **04 11 28.4 0.0**
PDAR LR LR 04 29 45.9
DGMT Dagmar 44.03 65 *e*P **P** **04 11 28.1 -0.3**
comp=Z,38nm,0.9s,mb5.1
DGMT *e*PcP PcP 04 13 13.4 +0.2
GSC Goldstone 44.09 88 *e*P **P** **04 11 28.5 -0.6**
comp=Z,23nm,0.8s,mb5.0
GSC Goldstone 44.09 88 *e*P **P** **04 11 28.5 -0.5**
GSC pmax pmax
comp=Z,23nm,0.8s,mb5.0
JLU Jordanelle 44.14 78 *e*P **P** **04 11 29.3 0.0**
comp=Z,20nm,0.8s,mb4.9
NLU North Lily Min 44.14 79 *e*P **P** **04 11 30.0 +0.6**
comp=Z,15nm,0.8s,mb4.8
FCC Fort Churchill 44.18 48 *e*P **P** **04 11 29.4 -0.1**
FCC Fort Churchill 44.18 48 *e*P **P** **04 11 29.4 0.0**
MPU Maple Canyon 44.37 79 *e*P **P** **04 11 31.7 +0.4**
comp=Z,16nm,0.7s,mb4.9
ARUT Antelope Range 44.62 83 *e*P **P** **04 11 34.0 +0.8**
comp=Z,17nm,0.9s,mb4.9
ARUT Antelope Range 44.62 83 *e*P **P** **04 11 34.0 +0.8**
ARUT pmax pmax
comp=Z,17nm,0.9s,mb4.9
CCUT Cedar City 44.81 83 *e*P **P** **04 11 34.9 +0.1**
comp=Z,7.2nm,0.7s,mb4.6
MSU Marysvale 44.95 81 *e*P **P** **04 11 36.3 +0.4**
comp=Z,8.9nm,0.7s,mb4.7
MSU Marysvale 44.95 81 *e*P **P** **04 11 36.3 +0.4**
MSU pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
TMUT Trail Mountain 45.07 80 *e*P **P** **04 11 37.7 +0.9**
comp=Z,30nm,0.9s,mb5.1
PFO Pinyon Flat Ob 45.41 90 *e*P **P** **04 11 40.8 +1.2**
comp=Z,4.9nm,0.8s,mb4.4
PFO Pinyon Flat Ob 45.41 90 *e*P **P** **04 11 40.8 +1.2**
PFO pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
SRU San Rafael 45.60 79 *e*P **P** **04 11 41.4 +0.4**
comp=Z,30nm,0.8s,mb5.3
SRU San Rafael 45.60 79 *e*P **P** **04 11 41.4 +0.4**
SRU pmax pmax
comp=Z,30nm,0.8s,mb5.3
BAR Barrett 45.89 91 *e*P **P** **04 11 43.1 -0.3**
comp=Z,7.8nm,1.2s,mb4.5
RWWY Rawlins 46.07 74 *e*P **P** **04 11 44.4 -0.2**
comp=Z,33nm,0.8s,mb5.3
RSSD Black Hills 46.53 70 *e*P **P** **04 11 47.7 -0.5**
comp=Z,11nm,0.6s,mb5.0
RSSD *e*PcP PcP 04 13 22.3 +0.4
RSSD Black Hills 46.53 70 *e*P **P** **04 11 47.7 -0.6**
RSSD *e* 04 13 22.3
RSSD pmax pmax
comp=Z,11nm,0.6s,mb5.0
PV04 Paradox Valley 47.04 79 *e*P **P** **04 11 51.9 -0.4**
WUAZ Wupatki 47.34 84 *e*P **P** **04 11 55.0 +0.3**
comp=Z,27nm,0.9s,mb5.2
PHWY Pilot Hill 47.35 74 *e*P **P** **04 11 55.2 +0.5**
comp=Z,8.4nm,0.6s,mb4.8
PV01 Paradox Valley 47.41 79 *e*P **P** **04 11 54.8 -0.4**
comp=Z,2µm,0.7s
ULM Lac du Bonnet 47.64 59 P **P** **04 11 56.3 -0.6**
comp=Z,14nm,0.3s,mb5.4,baz=304,slow=8.0,SNR=58
ULM LR LR 04 33 09.5
comp=Z,1µm,19.6s,MS4.8,baz=85,slow=38
ULM Lac du Bonnet 47.64 59 *e*P **P** **04 11 56.4 -0.5**
comp=Z,27nm,0.8s,mb5.3
ULM Lac du Bonnet 47.64 59 *e*P **P** **04 11 56.4 -0.5**
ULM pmax pmax
comp=Z,27nm,0.8s
BJI Beijing 47.65 284 P **P** **04 11 56.8 -0.2**
BJI PP PP 04 13 47.9 -0.8
BJI S **S** **04 18 49.4 +0.1**
BJI pmax pmax
comp=Z,71nm,0.8s,mb5.8
BJI LR LR
comp=N,1µm,20.1s,MS5.0
BJI LR LR
comp=E,930nm,18.5s,MS5.0
BJI LR LR
comp=Z,1µm,20.6s,MS4.8
BJT Baijiatuan 47.67 284 *e*P **P** **04 11 57.2 0.0**
comp=Z,58nm,0.6s,mb5.8
BJT Baijiatuan 47.67 284 *e*P **P** **04 11 57.2 0.0**
BJT pmax pmax
comp=Z,58nm,0.6s
SMCO Snowmass 47.73 77 *e*P **P** **04 11 57.2 -0.5**
comp=Z,11nm,0.7s,mb5.0
TLY Talaya 47.99 304 *e*P **P** **04 11 59.3 -0.2**
TLY *e* 04 13 46.9
TLY *e*S **S** **04 18 58.0 +4.2**
TLY pmax pmax
comp=Z,22nm,1.2s,mb5.1
TLY MLR MLR
comp=Z,1µm,19.0s,MS4.9
MVCO Mesa Verde 48.03 80 *e*P **P** **04 11 60.0 -0.1**
comp=Z,22nm,0.9s,mb5.2
ISCO Idaho Springs 48.18 75 *e*P **P** **04 12 01.9 +0.8**
comp=Z,23nm,1.2s,mb5.1
ISCO Idaho Springs 48.18 75 *e*P **P** **04 12 01.9 +0.8**
ISCO pmax pmax
comp=Z,23nm,1.2s,mb5.1
ULN Ulaanbaatar 48.32 298 *e*P **P** **04 12 01.6 -0.5**
comp=Z,21nm,0.9s,mb5.2
ULN Ulaanbaatar 48.32 298 *e*P **P** **04 12 01.6 -0.5**
ULN pmax pmax
comp=Z,21nm,0.9s,mb5.2
ULN Ulaanbaatar 48.32 298 P **P** **04 12 02.3 +0.2**
comp=Z,22nm,1.0s,mb5.2
ULN Ulaanbaatar 48.32 298 P **P** **04 12 02.2 +0.1**
SNR=10.0
SONM Songino Array 48.70 298 P **P** **04 12 04.9 -0.1**
comp=Z,17nm,1.0s,mb5.0,baz=54,slow=7.8,SNR=53
SONM PcP PcP 04 13 29.0 -0.5
comp=Z,12nm,1.0s,baz=63,slow=3.1,SNR=6.9
SONM ScP ScP 04 17 21.7 +1.3
comp=Z,1.2nm,0.9s,baz=27,slow=6.6,SNR=3.2
SONM LR LR 04 34 17.9
comp=Z,2µm,19.2s,MS5.0,baz=51,slow=38
SONM Songino Array 48.70 298 P **P** **04 12 04.9 -0.1**
SONM PcP PcP 04 13 29.0 -0.5
SONM ScP ScP 04 17 21.7 +1.3
SONM LR LR 04 34 17.9
SONM Songino Array 48.70 298 P **P** **04 12 04.9 -0.1**
SONM 04 13 29.0
SONM pmax pmax
comp=Z,17nm,1.0s
SONM MLR MLR
comp=Z,2µm,19.3s
AGMN Agassiz Nation 48.76 61 *e*P **P** **04 12 04.6 -0.8**
comp=Z,42nm,0.8s,mb5.5
ZAK Zakamensk 48.91 303 ⇑*i*P **P** **04 12 06.5 -0.1**
ZAK *e* 04 13 29.8
ZAK pmax pmax
comp=Z,17nm,1.1s,mb5.0
SDCO Great Sand Dun 49.53 77 *e*P **P** **04 12 11.1 -0.4**
comp=Z,12nm,0.8s,mb5.0
KBS Kingsbay 49.80 358 *e*P **P** **04 12 12.6 -0.5**
comp=Z,39nm,0.8s,mb5.5
KBS Kingsbay 49.80 358 *ce*P **P** **04 12 14.3 +1.2**
KBS pmax pmax
comp=Z,62nm,1.0s,mb5.6
TUC Tucson 49.82 87 *e*P **P** **04 12 13.3 -0.5**
comp=Z,9.1nm,0.8s,mb4.9
TUC Tucson 49.82 87 *e*P **P** **04 12 13.4 -0.4**
TUC pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
HHC Hu-ho-hao-te 49.92 288 ⇑P **P** **04 12 14.8 +0.4**
HHC pP pP 04 12 26.8 -0.4
HHC sP sP 04 12 31.6 -0.9
HHC PcP PcP 04 13 34.8 +0.7
HHC PP PP 04 14 10.3 +1.0
HHC ScP ScP 04 17 25.0 -0.7
HHC PcS PcS 04 17 30.5 -0.5
HHC S **S** **04 19 20.5 -0.7**
HHC sS sS 04 19 40.3 -2.1
HHC ScS ScS 04 21 59.3 -2.2
HHC SS SS 04 22 49.3 -4.6
HHC pmax pmax
comp=Z,44nm,1.0s,mb5.4
HHC pmax pmax
comp=Z,380nm,6.8s
HHC LR LR
comp=N,770nm,16.9s,MS4.9
HHC LR LR
comp=E,630nm,17.1s,MS4.9
HHC LR LR
comp=Z,910nm,16.5s,MS4.9
SSE Sheshan 50.35 272 *e*P **P** **04 12 17.8 -0.1**
SSE pP pP 04 12 26.3 -4.3
SSE sP sP 04 12 30.6 -5.3
SSE S **S** **04 19 26.3 -1.2**
SSE sS sS 04 19 43.1 -5.6
SSE pmax pmax
comp=Z,18nm,0.6s,mb5.3
SSE pmax pmax
comp=Z,180nm,4.9s
SSE LR LR
comp=N,260nm,22.9s,MS4.2
SSE LR LR
comp=E,50nm,23.0s,MS4.2
SSE LR LR
comp=Z,290nm,21.6s,MS4.2
SPB4 Spitsbergen Ar 50.43 357 *e*P **P** **04 12 17.2 -0.6**
LAZ Ladron 50.70 82 *e*P **P** **04 12 20.9 +0.6**
comp=Z,9.6nm,0.9s,mb4.7
ANMO Albuquerque 50.75 81 *e*P **P** **04 12 20.2 -0.6**
comp=Z,14nm,1.2s,mb4.8
ANMO Albuquerque 50.75 81 *e*P **P** **04 12 20.2 -0.6**
ANMO pmax pmax
comp=Z,13nm,1.2s
LENM Lemitar 50.95 82 *e*P **P** **04 12 22.3 0.0**
comp=Z,9.6nm,0.7s,mb4.8
BTO Baotou 50.99 289 *e*P **P** **04 12 22.8 +0.3**
ECSD EROS Data Cent 51.06 66 *e*P **P** **04 12 21.4 -1.6**
comp=Z,21nm,0.7s,mb5.2
DAG Danmarks Havn 51.15 7 *i*P **P** **04 12 22.8 -0.5**
DAG MLR MLR
comp=Z,880nm,19.0s,MS4.8
DAG Danmarks Havn 51.15 7 *i*P **P** **04 12 22.8 -0.5**
comp=Z,12nm,1.0s,mb4.8
DAG
comp=Z,840nm,19.0s
NJ2 Nanjing 51.16 275 *e*P **P** **04 12 25.4 +1.5**
NJ2 pP pP 04 12 35.8 -0.9
NJ2 sP sP 04 12 39.1 -2.9
NJ2 S **S** **04 19 39.0 +0.4**
NJ2 sS sS 04 19 55.5 -4.4
NJ2 pmax pmax
comp=Z,40nm,0.9s,mb5.3
NJ2 pmax pmax
comp=Z,260nm,6.6s
NJ2 LR LR
comp=N,480nm,16.8s,MS4.7
NJ2 LR LR
comp=E,520nm,20.5s,MS4.7
NJ2 LR LR
comp=Z,480nm,14.8s
BNM Barren Site 51.18 82 *e*P **P** **04 12 24.6 +0.6**
comp=Z,17nm,1.0s,mb4.9
EYMN Ely 51.33 59 *e*P **P** **04 12 24.2 -0.7**
comp=Z,31nm,0.8s,mb5.3
CBKS Cedar Bluff 52.33 73 *e*P **P** **04 12 32.6 0.0**
comp=Z,80nm,0.8s,mb5.7
CBKS Cedar Bluff 52.33 73 *e*P **P** **04 12 32.6 0.0**
CBKS pmax pmax
comp=Z,80nm,0.8s,mb5.7
SUMG Summit 52.62 15 *e*P **P** **04 12 34.6 +0.4**
comp=Z,15nm,0.6s,mb5.1
SUMG Summit 52.62 15 *e*P **P** **04 12 34.7 +0.5**
SUMG pmax pmax
comp=Z,15nm,0.6s
SUMG Summit 52.62 15 *i*P **P** **04 12 34.6 +0.4**
comp=Z,15nm,0.9s,mb4.9
CPRX Cap Rock 53.64 81 *e*P **P** **04 12 42.2 0.0**
comp=Z,14nm,0.7s,mb5.0
AMTX Amarillo 53.73 78 *e*P **P** **04 12 43.7 +0.8**
comp=Z,9.5nm,0.6s,mb4.9
KSU1 Kansas State U 54.00 70 *e*P **P** **04 12 43.4 -1.4**
comp=Z,44nm,0.9s,mb5.4
SFJD Kangerlussuaq 54.66 23 *i*P **P** **04 12 48.8 -0.4**
SFJD pmax pmax
comp=Z,14nm,0.9s,mb5.0
SFJD Kangerlussuaq 54.66 23 *i*P **P** **04 12 48.8 -0.4**
comp=Z,14nm,1.0s,mb5.0
WHN Wuhan 55.00 277 P **P** **04 12 50.0 -2.2**
WHN pP pP 04 13 10.1 +5.1
WHN S **S** **04 20 30.6 -0.2**
WHN pmax pmax
comp=Z,960nm,9.8s
WHN LR LR
comp=Z,2µm,21.0s,MS5.1
JFWS Jewell Farm 55.17 63 *e*P **P** **04 12 51.7 -1.6**
comp=Z,54nm,1.1s,mb5.5
JFWS Jewell Farm 55.17 63 *e*P **P** **04 12 51.7 -1.6**
JFWS pmax pmax
comp=Z,54nm,1.1s,mb5.5
WMOK Wichita Mounta 55.60 76 *e*P **P** **04 12 56.2 -0.2**
comp=Z,34nm,0.9s,mb5.4
WMOK Wichita Mounta 55.60 76 *e*P **P** **04 12 56.2 -0.2**
WMOK pmax pmax
comp=Z,34nm,0.9s,mb5.4
ZAA0 Zalesovo Array 55.66 315 *e*P **P** **04 12 55.6 -0.9**
ZAA0 *e*PcP PcP 04 13 55.6 0.0
ZALV Zalesovo Beam 55.66 315 P **P** **04 12 55.2 -1.4**
comp=Z,2.2nm,0.4s,mb4.5,baz=53,slow=7.0,SNR=13
ZALV PcP PcP 04 13 55.4 -0.1
comp=Z,10nm,0.7s,baz=46,slow=4.3,SNR=14
ZALV LR LR 04 38 38.5
comp=Z,975nm,19.4s,MS4.9,baz=51,slow=38
ZALV Zalesovo Beam 55.66 315 P **P** **04 12 55.2 -1.4**
ZALV PcP PcP 04 13 55.4 -0.1
ZALV LR LR 04 38 38.5
ZALV Zalesovo Beam 55.66 315 P **P** **04 12 55.2 -1.4**
ZALV 04 13 55.4
ZALV pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
ZALV MLR MLR
comp=Z,975nm,19.4s,MS4.9
SSLB Suanglung 55.67 266 *e*P **P** **04 12 56.5 -0.6**
comp=Z,153nm,1.0s,mb6.0
YULB Yu-li 55.74 265 *e*P **P** **04 12 57.2 -0.4**
comp=Z,34nm,0.9s,mb5.4
NVS Novosibirsk 55.75 317 *e*P **P** **04 12 55.2 -2.0**
NVS pmax pmax
comp=Z,29nm,1.8s,mb5.0
XAN Xi'an 55.95 283 P **P** **04 12 58.8 -0.1**
XAN pP pP 04 13 11.4 -0.5
XAN sP sP 04 13 16.8 -0.3
XAN PP PP 04 15 07.9 +4.1
XAN pmax pmax
comp=Z,14nm,1.2s,mb4.9
XAN pmax pmax
comp=Z,32nm,4.3s
XAN LR LR
comp=N,400nm,18.8s,MS4.6
XAN LR LR
comp=E,200nm,17.8s,MS4.6
XAN LR LR
comp=Z,190nm,18.8s,MS4.2
TPUB Ta-pu 56.23 266 *e*P **P** **04 13 01.1 +0.1**
comp=Z,24nm,0.6s,mb5.4
TXAR Lajitas Array 56.30 84 P **P** **04 13 00.9 -0.6**
comp=Z,5.6nm,0.9s,mb4.6,baz=290,slow=5.2,SNR=26
TXAR LR LR 04 35 08.2
comp=Z,376nm,19.3s,MS4.5,baz=300,slow=34
TXAR Lajitas Array 56.30 84 P **P** **04 13 00.9 -0.6**
TXAR LR LR 04 35 08.2
TXAR Lajitas Array 56.30 84 P **P** **04 13 00.9 -0.6**
TXAR pmax pmax
comp=Z,6.0nm,0.9s
QZH Quanzhou 56.31 269 P **P** **04 13 02.8 +1.2**
QZH S **S** **04 20 43.3 -5.1**
QZH LR LR
comp=Z,1µm,22.4s,MS4.9
GLMI Grayling 56.98 58 *e*P **P** **04 13 06.2 0.0**
comp=Z,85nm,0.8s,mb5.8
LZH Lanzhou 57.61 289 *e*P **P** **04 13 12.3 +1.6**
LZH pP pP 04 13 26.9 +3.3
LZH sP sP 04 13 32.3 +3.4
LZH PP PP 04 15 21.3 +2.8
LZH *e*S **S** **04 21 03.3 -2.0**
LZH sS sS 04 21 24.3 -2.6
LZH SS SS 04 24 56.4 +1.0
LZH pmax pmax
comp=Z,120nm,1.2s,mb5.8
LZH pmax pmax
comp=Z,290nm,5.1s
LZH LR LR
comp=N,580nm,15.5s,MS5.2
LZH LR LR
comp=E,1µm,17.9s,MS5.2
LZH LR LR
comp=Z,2µm,16.8s,MS5.3
GTA Gaotai 57.71 294 ⇑P **P** **04 13 11.0 -0.3**
GTA pP pP 04 13 23.8 -0.5
GTA sP sP 04 13 29.5 -0.1
GTA S **S** **04 21 06.0 -0.5**
GTA sS sS 04 21 28.1 0.0
GTA pmax pmax
comp=Z,31nm,1.0s,mb5.3
GTA pmax pmax
comp=Z,230nm,4.0s
GTA LR LR
comp=N,1µm,18.5s,MS5.2
GTA LR LR
comp=E,1µm,18.0s,MS5.2
GTA LR LR
comp=Z,2µm,19.9s,MS5.1
CCM Cathedral Cave 57.84 68 *e*P **P** **04 13 10.2 -2.1**
comp=Z,18nm,0.8s,mb5.2
CCM Cathedral Cave 57.84 68 *e*P **P** **04 13 10.2 -2.1**
CCM pmax pmax
comp=Z,18nm,0.8s,mb5.2
JCT Junction City 57.90 80 *e*P **P** **04 13 11.6 -1.2**
comp=Z,16nm,0.7s,mb5.2
JCT Junction City 57.90 80 *e*P **P** **04 13 11.6 -1.2**
JCT pmax pmax
comp=Z,16nm,0.7s,mb5.2
KEV Kevo 58.02 351 *e*P **P** **04 13 11.4 -1.7**
KEV pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
KEV Kevo 58.02 351 *ep* **P** **04 13 11.4 -1.7**
comp=Z,4.8nm,0.5s,mb4.8
ENH Enshi 58.20 280 *e*P **P** **04 13 14.4 -0.5**
comp=Z,32nm,0.7s,mb5.5
ARCES ARCESS Array B 58.38 352 P **P** **04 13 15.1 -0.5**
comp=Z,6.0nm,0.5s,mb4.9,baz=32,slow=7.2,SNR=31
ARCES PcP PcP 04 14 06.5 +0.6
comp=Z,30nm,0.9s,baz=2.5,slow=5.5,SNR=11
ARCES LR LR 04 43 07.9
comp=Z,497nm,18.0s,MS4.7,baz=225,slow=41
ARCES ARCESS Array B 58.38 352 P **P** **04 13 15.1 -0.5**
ARCES PcP PcP 04 14 06.5 +0.6
ARCES LR LR 04 43 07.9
ARCES ARCESS Array B 58.38 352 P **P** **04 13 15.1 -0.5**
ARCES 04 14 06.6
ARCES pmax pmax
comp=Z,6.0nm,0.5s
ARCES MLR MLR
comp=Z,497nm,18.0s
ARE0 ARCESS Array S 58.38 352 *e*P **P** **04 13 14.8 -0.8**
SCHQ Schefferville 58.44 40 P **P** **04 13 15.3 -0.9**
comp=Z,11nm,0.8s,mb4.9,baz=325,slow=7.8,SNR=9.8
SCHQ Schefferville 58.44 40 P **P** **04 13 15.3 -0.9**
TRO Tromso 58.78 354 *e*P **P** **04 13 18.2 -0.2**
MIAR Mount Ida 58.86 72 *e*P **P** **04 13 18.6 -0.8**
comp=Z,39nm,0.8s,mb5.5
MIAR Mount Ida 58.86 72 *e*P **P** **04 13 18.6 -0.9**
MIAR pmax pmax
comp=Z,39nm,0.8s,mb5.5
LVZ Lovozero 58.90 347 *e*P **P** **04 13 18.1 -1.1**
LVZ pmax pmax
comp=Z,30nm,1.0s,mb5.3
KTK1 Kautokeino 59.08 352 *e*P **P** **04 13 20.3 -0.2**
OLIL Olney 59.18 65 *e*P **P** **04 13 21.0 -0.6**
comp=Z,46nm,0.6s,mb5.7
AAM Ann Arbor 59.20 60 *e*P **P** **04 13 20.9 -0.8**
comp=Z,18nm,0.4s,mb5.5
AAM Ann Arbor 59.20 60 *e*P **P** **04 13 20.9 -0.8**
AAM pmax pmax
comp=Z,18nm,0.4s,mb5.5
SIUC Southern Illin 59.24 67 *e*P **P** **04 13 20.5 -1.5**
comp=Z,35nm,0.7s,mb5.5
UALR University of 59.44 71 *e*P **P** **04 13 21.8 -1.7**
comp=Z,17nm,0.9s,mb5.1
PARMO Parma 59.65 68 *e*P **P** **04 13 24.1 -0.8**
BLO Bloomington 59.77 64 *e*P **P** **04 13 24.3 -1.4**
comp=Z,40nm,0.8s,mb5.5
BLO Bloomington 59.77 64 *e*P **P** **04 13 24.3 -1.4**
BLO pmax pmax
comp=Z,40nm,0.8s,mb5.5
UTMT University of 60.39 68 *e*P **P** **04 13 29.2 -0.8**
comp=Z,41nm,0.4s,mb5.8
WCI Wyandotte Cave 60.55 65 *e*P **P** **04 13 30.1 -1.0**
comp=Z,46nm,0.8s,mb5.7
WCI Wyandotte Cave 60.55 65 *e*P **P** **04 13 30.1 -0.9**
WCI pmax pmax
comp=Z,46nm,0.8s,mb5.7
KURK Kurchatov 60.64 316 P **P** **04 13 31.1 -0.4**
comp=Z,43nm,0.4s,mb5.9,baz=43,slow=6.7,SNR=529
KURK PcP PcP 04 14 16.0 +0.7
comp=Z,28nm,1.0s,baz=45,slow=4.0,SNR=15
KURK Kurchatov 60.64 316 *e*P **P** **04 13 31.1 -0.3**
comp=Z,53nm,0.5s,mb5.9
KURK *e*PcP PcP 04 14 15.2 -0.1
KURK Kurchatov 60.64 316 P **P** **04 13 31.1 -0.3**
KURK 04 14 16.0
KURK pmax pmax
comp=Z,43nm,0.4s,mb5.9
KURK Kurchatov 60.64 316 P **P** **04 13 31.2 -0.2**
comp=Z,670nm,0.5s,SNR=66
KURK Kurchatov 60.64 316 P **P** **04 13 32.0 +0.6**
SNR=12
STEI Steigen 60.68 356 *e*P **P** **04 13 31.0 -0.4**
STEI *e*pP pP 04 13 45.3 +0.8
ACSO Alum Creek Sta 61.00 61 *e*P **P** **04 13 33.2 -0.9**
comp=Z,17nm,0.8s,mb5.2
WVT Waverly 61.14 67 *e*P **P** **04 13 34.0 -1.1**
comp=Z,14nm,0.8s,mb5.2
WVT Waverly 61.14 67 *e*P **P** **04 13 34.0 -1.0**
WVT pmax pmax
comp=Z,15nm,0.8s,mb5.2
WMQ Urumqi 61.25 305 P **P** **04 13 35.9 +0.2**
WMQ pP pP 04 13 48.8 +0.1
WMQ sP sP 04 13 54.0 0.0
WMQ PP PP 04 15 53.3 +2.8
WMQ S **S** **04 21 51.4 -0.7**
WMQ pmax pmax
comp=Z,44nm,0.6s,mb5.8
WMQ pmax pmax
comp=Z,160nm,5.0s
WMQ LR LR
comp=N,1µm,21.6s,MS5.2
WMQ LR LR
comp=E,1µm,19.9s,MS5.2
WMQ LR LR
comp=Z,920nm,19.0s,MS5.0
CD2 Chengdu 61.25 284 P **P** **04 13 36.8 +0.9**
CD2 pP pP 04 13 49.6 +0.7
CD2 PP PP 04 15 53.8 +3.0
CD2 S **S** **04 21 50.9 -1.5**
CD2 sS sS 04 22 12.3 -1.9
CD2 SS SS 04 25 53.6 +0.9
CD2 pmax pmax
comp=Z,60nm,1.0s,mb5.7
CD2 pmax pmax
comp=Z,260nm,4.5s
CD2 LR LR
comp=N,840nm,18.4s
CD2 LR LR
comp=Z,590nm,17.3s,MS4.8
ERPA Erie 61.29 58 *e*P **P** **04 13 36.1 +0.2**
comp=Z,54nm,0.8s,mb5.7
OXF Oxford 61.35 70 *e*P **P** **04 13 35.4 -1.1**
comp=Z,102nm,0.8s,mb6.0
OXF Oxford 61.35 70 *e*P **P** **04 13 35.4 -1.1**
OXF pmax pmax
comp=Z,102nm,0.8s,mb6.0
ALLY Alegheny Colle 61.54 58 *e*P **P** **04 13 37.5 -0.1**
comp=Z,128nm,0.8s,mb6.1
SOKR Solikamsk 61.66 333 *e*P **P** **04 13 37.9 -0.3**
SOKR pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
SOKR MLR MLR
comp=Z,1µm,16.0s,MS5.1
MK31 Makanchi Array 61.80 310 *e*P **P** **04 13 38.6 -0.7**
MK31 Makanchi Array 61.80 310 *ce*P **P** **04 13 38.8 -0.5**
MK31 pmax pmax
comp=Z,9.0nm,0.3s,mb5.4
MKAR Makanchi Array 61.80 310 P **P** **04 13 38.9 -0.5**
comp=Z,21nm,0.4s,mb5.6,baz=47,slow=5.9,SNR=421
MKAR LR LR 04 42 51.0
comp=Z,819nm,19.0s,MS4.9,baz=133,slow=38
MKAR Makanchi Array 61.80 310 P **P** **04 13 38.9 -0.5**
MKAR LR LR 04 42 51.0
MKAR Makanchi Array 61.80 310 P **P** **04 13 38.9 -0.4**
MKAR pmax pmax
comp=Z,21nm,0.4s

MKAR MLR MLR
comp=Z,819nm,19.0s
PLAL Pickwick Lake 61.80 69 *e*P **P 04 13 38.0 -1.6**
comp=Z,38nm,0.8s,mb5.6
MSNY Massena 61.87 52 *e*P **P 04 13 39.2 -0.7**
comp=Z,801nm,0.9s
LONY Lake Ozonia 62.28 52 *e*P **P 04 13 41.7 -0.9**
comp=Z,31nm,0.8s,mb5.5
BVA0 Borovoye Array 62.32 322 *i* P **P 04 13 43.2 +0.5**
BVA0 pmax pmax
comp=Z,4.0nm,0.5s,mb4.8
BRVK Borovoye 62.33 322 *e*P **P 04 13 43.2 +0.4**
comp=Z,23nm,0.5s,mb5.6
BRVK *e*PcP PcP 04 14 22.1 0.0
BRVK Borovoye 62.33 322 *e*P **P 04 13 43.2 +0.4**
BRVK *e* 04 14 22.1
BRVK pmax pmax
comp=Z,23nm,0.5s,mb5.6
BRVK Borovoye 62.33 322 P **P 04 13 43.3 +0.5**
comp=Z,284nm,0.4s,SNR=13
BRVK Borovoye 62.33 322 P **P 04 13 43.3 +0.5**
SNR=7.2
FLOS Flostrand 62.35 356 *e*P **P 04 13 43.2 +0.5**
STOK Stokkvaagen 62.37 356 *e*P **P 04 13 42.7 -0.1**
MOR8 Moi Rana 62.47 356 *e*P **P 04 13 42.2 -1.3**
FRNY Flat Rock 62.62 52 *e*P **P 04 13 43.5 -1.4**
comp=Z,21nm,1.2s,mb5.2
GYA Guiyang 62.65 279 P **P 04 13 45.0 -0.3**
GYA pP pP 04 14 01.3 +2.9
GYA PcP PcP 04 14 25.6 +1.8
GYA PP PP 04 16 07.4 +4.1
GYA ScP ScP 04 18 23.9 +2.0
GYA S **S 04 22 10.0 -0.2**
GYA sS sS 04 22 31.0 -1.0
GYA SKS 04 23 31.8
GYA SS SS 04 26 16.9 +2.1
GYA pmax pmax
comp=Z,20nm,1.0s,mb5.2
GYA pmax pmax
comp=Z,120nm,5.0s
GYA LR LR
comp=N,560nm,19.8s,MS4.9
GYA LR LR
comp=E,510nm,20.0s,MS4.9
GYA LR LR
comp=Z,520nm,18.4s,MS4.7
SVE Sverdlovsk 62.76 329 ⇓ *i*P **P 04 13 47.8 +2.2**
SVE *e* 04 16 05.3
SVE *e*S **S 04 22 19.5 +8.8**
SVE pmax pmax
comp=Z,14nm,0.6s,mb5.3
SVE MLR MLR
comp=Z,1μm,17.0s,MS5.1
SWET Sewanee 62.88 67 *e*P **P 04 13 45.1 -1.6**
comp=Z,16nm,0.8s,mb5.2
NCB Newcomb 62.93 53 *e*P **P 04 13 46.5 -0.5**
comp=Z,15nm,0.8s,mb5.2
TGY Tagaytay City 62.96 258 P **P 04 13 47.7 +0.2**
comp=Z,269nm,0.3s,baz=157,slow=4.2,SNR=4.3
TGY Tagaytay City 62.96 258 P **P 04 13 47.7 +0.2**
TGY Tagaytay City 62.96 258 P **P 04 13 47.7 +0.2**
TGY pmax pmax
comp=Z,269nm,0.3s
MCWV Mont Chateau 63.11 60 *e*P **P 04 13 48.2 0.0**
comp=Z,52nm,0.8s,mb5.7
TZTN Tazewell 63.29 64 *e*P **P 04 13 48.9 -0.6**
comp=Z,25nm,0.8s,mb5.4
BINY Binghamton 63.32 55 *e*P **P 04 13 49.7 +0.1**
comp=Z,58nm,0.7s,mb5.8
MDV Middlebury 63.42 52 *e*P **P 04 13 48.6 -1.6**
SSPA Standing Stone 63.45 58 *e*P **P 04 13 50.3 -0.2**
comp=Z,46nm,0.7s,mb5.7
CPCT Cooper Cave 63.52 66 *e*P **P 04 13 48.7 -2.3**
ACCN Adirondack Com 63.63 53 *e*P **P 04 13 51.4 -0.2**
comp=Z,32nm,0.8s,mb5.4
ARU Arti 63.74 330 *e*P **P 04 13 52.2 +0.1**
comp=Z,16nm,0.6s,mb5.2
ARU *e*PcP PcP 04 14 27.8 0.0
ARU Arti 63.74 330 *d i*P **P 04 13 52.0 -0.1**
ARU *e* 04 14 26.8
ARU S **S 04 22 26.3 +3.4**
ARU SS SS 04 26 28.9 -1.4
ARU pmax pmax
comp=Z,11nm,0.6s,mb5.1
ARU MLR MLR
comp=Z,994nm,19.0s,MS5.0
ARU Arti 63.74 330 P **P 04 13 52.9 +0.8**
comp=Z,168nm,0.4s,mb6.4,SNR=6.6
TKL Tuckaleechee C 63.79 65 *e*P **P 04 13 52.1 -0.7**
TKL Tuckaleechee C 63.79 65 *e*P **P 04 13 52.1 -0.7**
JOF Joensuu 64.08 347 *e*P **P 04 13 51.9 -2.3**
JOF pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
JOF Joensuu 64.08 347 *e*p **P 04 13 51.9 -2.3**
comp=Z,4.2nm,0.4s,mb4.8
NSS Namsos 64.21 357 *e*P **P 04 13 54.0 -1.0**
ELN Prospectdale 64.36 62 *e*P **P 04 13 56.0 -0.5**
BLA Blacksburg 64.55 62 *e*P **P 04 13 57.4 -0.3**
comp=Z,31nm,0.8s,mb5.4
BLA Blacksburg 64.55 62 *e*P **P 04 13 57.4 -0.3**
BLA pmax pmax
comp=Z,31nm,0.8s,mb5.4
KLMR Klimovskoe 64.65 342 *e*P **P 04 13 56.2 -1.8**
KLMR pmax pmax
comp=Z,25nm,1.5s,mb5.0
SDMD Soldier's Deli 64.89 58 *e*P **P 04 13 59.2 -0.7**
comp=Z,36nm,0.8s,mb5.5
CPNY Central Park 65.38 55 *e*P **P 04 14 03.0 -0.1**
comp=Z,41nm,0.8s,mb5.5
CBN Corbin 65.49 59 *e*P **P 04 14 03.8 0.0**
comp=Z,22nm,0.6s,mb5.4
KAF Kangasniemi 65.50 349 *e*P **P 04 14 00.9 -2.6**
KAF pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
KAF Kangasniemi 65.50 349 *e*p **P 04 14 00.9 -2.6**
comp=Z,9.5nm,0.5s,mb5.1
WES Weston 65.53 52 *e*P **P 04 14 02.9 -1.1**
comp=Z,53nm,0.9s,mb5.6
WES Weston 65.53 52 *e*P **P 04 14 02.9 -1.1**
WES pmax pmax
comp=Z,53nm,0.9s,mb5.6
KMI Kunming 66.04 281 P **P 04 14 07.8 +0.3**
KMI pP pP 04 14 21.6 +0.9
KMI sP sP 04 14 27.6 +1.7
KMI PcP PcP 04 14 37.8 0.0
KMI PP PP 04 16 36.3 +3.3
KMI PcS 04 18 42.3
KMI S S 04 22 49.9 -2.2
KMI sS sS 04 23 12.8 -1.3
KMI SKS 04 23 56.4
KMI SS SS 04 27 06.1 -1.5
KMI pmax pmax
comp=Z,14nm,1.4s,mb4.8
KMI pmax pmax
comp=Z,260nm,3.1s
KMI LR LR
comp=N,410nm,15.6s,MS4.8
KMI LR LR
comp=E,340nm,20.2s,MS4.8
KMI LR LR
comp=Z,400nm,15.6s,MS4.7
FINES FINESS Array B 66.18 349 P **P 04 14 07.0 -0.8**
comp=Z,7.2nm,0.6s,mb4.9,baz=7.9,slow=7.6,SNR=26
FINES LR LR 04 46 36.8
comp=Z,594nm,18.3s,MS4.8,baz=331,slow=39
FINES FINESS Array B 66.18 349 P **P 04 14 07.0 -0.8**
FINES LR LR 04 46 36.8
FINES FINESS Array B 66.18 349 P **P 04 14 07.0 -0.9**
FINES pmax pmax
comp=Z,7.0nm,0.6s
FINES MLR MLR
comp=Z,594nm,18.3s
JSC Jenkinsville 66.21 65 *e*P **P 04 14 08.4 -0.1**
JSC Jenkinsville 66.21 65 *e*P **P 04 14 08.4 -0.1**
TAOE Nuku Hiva Isla 67.18 142 *e*LR LR 04 34 23.0
comp=Z,562nm,23.7s
COW Cow Castle Cre 67.19 65 *e*P **P 04 14 14.9 +0.2**
PUL Pulkovo 67.24 346 *ce*P **P 04 14 14.6 0.0**
PUL pmax pmax
comp=Z,62nm,0.7s,mb5.8
NHSC New Hope 67.69 65 *e*P **P 04 14 18.3 +0.4**
comp=Z,91nm,0.9s,mb5.8
NB2 NORSAR Subarra 67.73 357 P **P 04 14 17.5 -0.2**
comp=Z,25nm,0.9s,mb5.2,baz=4.9,slow=6.5
NOA NORSAR Array B 67.73 357 P **P 04 14 17.3 -0.4**
comp=Z,29nm,1.0s,mb5.3,baz=3.1,slow=6.4,SNR=30
NOA LR LR 04 44 07.0
comp=Z,262nm,18.4s,MS4.5,baz=355,slow=36
NOA NORSAR Array B 67.73 357 P **P 04 14 17.3 -0.5**
NOA LR LR 04 44 07.0
NOA NORSAR Array B 67.73 357 P **P 04 14 17.3 -0.4**
NOA pmax pmax
comp=Z,29nm,1.0s
NOA MLR MLR
comp=Z,262nm,18.4s
TKM2 Tokmak 2 67.85 312 P **P 04 14 19.2 +0.4**
SNR=24
TKM2 Tokmak 2 67.85 312 *e*P **P 04 14 19.2 +0.4**
comp=Z,22nm,1.0s,mb5.2
TKM2 *e*PcP PcP 04 14 45.0 -0.1
TKM2 Tokmak 2 67.85 312 *e*P **P 04 14 19.2 +0.4**
TKM2 *e* 04 14 45.0
TKM2 pmax pmax
comp=Z,22nm,1.0s,mb5.1
NAO01 NORSAR Array S 67.94 357 *e*P **P 04 14 18.9 -0.1**
NC602 NORSAR Array S 68.03 357 *e*P **P 04 14 19.8 +0.2**
USP Ospenovka 68.10 312 P **P 04 14 20.7 +0.4**
SNR=40
CHMS Chumysh 68.19 312 P **P 04 14 21.9 +1.0**
SNR=9.1
KBK Karagaybulak 68.36 312 P **P 04 14 23.1 +1.1**
SNR=19
ASK Askoy 68.40 360 *e*P **P 04 14 21.6 -0.3**
RUND Rundenannen 68.47 360 *e*P **P 04 14 22.1 -0.2**
AAK Ala-Archa 68.59 312 P **P 04 14 24.5 +1.1**
SNR=10
AAK Ala-Archa 68.59 312 *e*P **P 04 14 23.7 +0.3**
comp=Z,99nm,0.6s,mb5.9
AAK Ala-Archa 68.59 312 *e*P **P 04 14 23.7 +0.3**
AAK pmax pmax
comp=Z,99nm,0.6s,mb5.9
AAK Ala-Archa 68.59 312 P **P 04 14 24.0 +0.6**
comp=Z,266nm,0.5s,mb6.4,SNR=26
LRW Lerwick 68.64 3 *e*P **P 04 14 22.0 -1.4**
LRW AMB AMB 04 14 25.6
comp=Z,260nm,2.9s,mb5.7
LRW Lerwick 68.64 3 P **P 04 14 22.0 -1.4**
LRW AMB AMB 04 14 25.6
comp=Z,260nm,2.9s,mb5.7
KZA Kyzart 68.67 311 P **P 04 14 25.5 +1.6**
SNR=22
PMG Port Moresby 68.84 220 *e*P **P 04 14 25.2 0.0**
PMG Port Moresby 68.84 220 *e*P **P 04 14 25.2 0.0**
EKS2 Erkin-Say 68.90 313 P **P 04 14 27.0 +1.7**
SNR=23
ODD1 Odda 68.97 359 *e*P **P 04 14 25.5 +0.1**
KONO Kongsberg 69.18 357 *e*P **P 04 14 28.3 +1.5**
AB31 Akbulak array 69.26 325 *ce*P **P 04 14 27.7 +0.3**
AB31 pmax pmax
comp=Z,23nm,0.5s,mb5.4
ABKAR Akbulak array 69.26 325 *e*P **P 04 14 27.8 +0.3**
comp=Z,17nm,0.4s,mb5.3
ABKAR *e*PcP PcP 04 14 50.7 -0.2
AML Almayashu 69.35 312 P **P 04 14 30.5 +2.4**
SNR=20
LSA Lhasa 69.61 292 *e*P **P 04 14 31.7 +1.8**
comp=Z,100nm,1.0s,mb5.7
LSA Lhasa 69.61 292 *e*P **P 04 14 31.7 +1.7**
LSA pmax pmax
comp=Z,100nm,1.0s,mb5.7
MOS Moscow 69.78 341 *e*P **P 04 14 26.5 -4.1**
KK31 Karatay Array 70.03 315 *ce*P **P 04 14 32.5 +0.2**
KK31 pmax pmax
comp=Z,25nm,0.4s,mb5.5
KKAR Karatay Array 70.03 315 *e*P **P 04 14 32.2 -0.1**
comp=Z,28nm,0.4s,mb5.5
KKAR Karatay Array 70.03 315 *e*P **P 04 14 32.2 -0.1**
KKAR pmax pmax
comp=Z,28nm,0.4s,mb5.5
KSH Kashi 70.31 309 ⇑ *i*P **P 04 14 38.1 +4.0**
KSH pP pP 04 14 51.1 +3.8
KSH sP sP 04 14 56.4 +3.8
KSH PcP PcP 04 14 59.1 +3.6
KSH PP PP 04 17 16.8 +7.2
KSH S S 04 23 46.3 +3.7
KSH sS sS 04 24 09.1 +4.4
KSH SKS 04 24 31.8
KSH ScS ScS 04 24 33.9 +1.0
KSH SS SS 04 28 21.0 +8.3
KSH pmax pmax
comp=Z,45nm,0.7s,mb5.5
KSH pmax pmax
comp=Z,130nm,2.6s,mb5.4
KSH LR LR
comp=N,430nm,15.2s,MS5.0
KSH LR LR
comp=E,460nm,17.5s,MS5.0
KSH LR LR
comp=Z,900nm,16.7s,MS5.1
SNART Snartemo 70.54 359 *e*P **P 04 14 36.7 +1.6**
OBN Obninsk 70.58 341 *e*P **P 04 14 34.9 -0.5**
OBN *e*PP pP 04 14 43.7 -5.0
OBN *e* 04 14 57.0
OBN *e* 04 17 09.0
OBN *e*S S 04 23 47.6 +2.4
OBN pmax pmax
comp=Z,11nm,0.6s,mb5.0
OBN MLR MLR
comp=Z,400nm,23.0s,MS4.6
MCD Coleburn Disti 71.10 5 *e*P **P 04 14 38.6 0.0**
MCD Coleburn Disti 71.10 5 P **P 04 14 38.6 0.0**
MDO Dochfour 71.19 5 *e*P **P 04 14 38.9 -0.2**
MDO Dochfour 71.19 5 P **P 04 14 38.9 -0.2**
IZAR Zarasai 71.70 348 *e*P **P 04 14 42.0 -0.2**
IZAR AMB AMB 04 14 43.1
comp=Z,11nm,1.2s,mb4.7
ISAL Salakas 71.89 348 *e*P **P 04 14 42.9 -0.4**
IDID Didziasalis 72.06 347 *e*P **P 04 14 43.9 -0.5**
IDID AMB AMB 04 14 44.5
comp=Z,23nm,1.2s,mb5.0
IIGN Ignalina 72.09 347 *e*P **P 04 14 44.3 -0.3**
IIGN AMB AMB 04 14 47.7
comp=Z,13nm,1.0s,mb4.8
KKM Kota Kinabalu 72.12 257 *e*P **P 04 14 44.9 -0.4**
PPT Papeete 72.26 155 *e*S S 04 24 01.8 -3.5
comp=Z,1μm,26.2s
PPT *e*LR LR 04 36 47.0
comp=Z,892nm,21.2s,baz=345
PPT Papeete 72.26 155 LR LR 04 42 44.4
comp=Z,929nm,18.2s,MS5.1,baz=345,slow=33
SHL Shillong 72.28 289 ⇑ *i*P **P 04 14 46.0 -0.1**
comp=Z,14nm,1.3s,mb4.7
SHL *e*S S 04 24 09.0 +3.3
MSAI Masohi 72.33 240 P **P 04 14 52.7 +6.2**
comp=Z,769nmcomp=Z,16nm,0.8s,mb5.0
EBH Black Hill 72.42 5 ⇑ *e*P **P 04 14 46.4 -0.1**
EBH Black Hill 72.42 5 P **P 04 14 46.4 -0.1**
EAB Aberfoyle 72.44 5 ⇑ *e*P **P 04 14 46.7 +0.1**
EAB Aberfoyle 72.44 5 P **P 04 14 46.7 +0.1**
PGBU Glenifferbraes 72.80 6 *e*P **P 04 14 48.1 -0.7**
PGBU AMB AMB 04 14 55.1
comp=Z,134nm,3.1s
PGBU Glenifferbraes 72.80 6 P **P 04 14 48.1 -0.7**
PGBU AMB AMB 04 14 55.1
comp=Z,134nm,3.1s
EAU Auchinoon 72.83 5 ⇑ *e*P **P 04 14 49.2 +0.3**
EAU Auchinoon 72.83 5 P **P 04 14 49.2 +0.3**
CHTO Chiang Mai 73.07 279 *e*P **P 04 14 51.0 +0.1**
comp=Z,16nm,0.9s,mb5.0
CHTO *e*PcP PcP 04 15 05.5 -2.0
CHTO Chiang Mai 73.07 279 *e*P **P 04 14 51.0 +0.1**
CHTO *e* pP 04 15 05.5 +1.2
CHTO pmax pmax
comp=Z,16nm,0.9s,mb5.0
CHTO Chiang Mai 73.07 279 P **P 04 14 52.1 +1.2**
comp=Z,477nmcomp=Z,22nm,1.1s,mb5.0
MRSI Marisa 73.13 249 P **P 04 14 51.2 -0.1**
comp=Z,39nm,0.9s,mb5.3
CMAR Chiang Mai Arr 73.34 279 P **P 04 14 52.4 -0.1**
comp=Z,4.2nm,0.6s,mb4.5,baz=25,slow=6.8,SNR=20
CMAR LR LR 04 49 52.2
comp=Z,379nm,19.1s,MS4.7,baz=35,slow=38
CMAR Chiang Mai Arr 73.34 279 P **P 04 14 52.4 -0.1**
CMAR LR LR 04 49 52.2
CMAR Chiang Mai Arr 73.34 279 P **P 04 14 52.4 -0.1**
CMAR pmax pmax
comp=Z,4.0nm,0.6s
CMAR MLR MLR
comp=Z,379nm,19.1s
TAPN Taplejung 73.37 293 *e*P **P 04 14 53.8 +1.2**
comp=Z,377nm,1.1s,mb6.2
ESK Eskdalemuir 73.37 5 *e*P **P 04 14 51.2 -1.0**
ESK Eskdalemuir 73.37 5 P **P 04 14 51.2 -1.0**
ESK Eskdalemuir 73.37 5 *e*P **P 04 14 52.2 +0.1**
comp=Z,33nm,1.0s,mb5.2
ESK Eskdalemuir 73.37 5 *e*P **P 04 14 52.2 +0.1**
ESK pmax pmax
comp=Z,33nm,1.0s,mb5.2
SUW Suwalki 73.79 349 *e*P **P 04 14 54.5 -0.2**
SUW Suwalki 73.79 349 *e*P **P 04 14 53.6 -1.0**
comp=Z,68nm,0.8s,mb5.6
SUW Suwalki 73.79 349 *e*P **P 04 14 53.6 -1.0**
SUW pmax pmax
comp=Z,69nm,0.8s,mb5.6
AGT Agartala 73.92 288 *e*PKP **P 04 14 54.0 -1.9**
AGT *ex* x 04 15 13.0
ODAN Odare 73.92 293 *e*P **P 04 14 56.7 +0.8**
GUN Gumba 73.99 295 *e*P **P 04 14 57.5 +1.3**
comp=Z,351nm,0.5s,mb6.5
BDT Bhumibol Dam 74.22 278 P **P 04 14 58.0 +0.3**
comp=Z,8.9nm,0.8s,mb4.8
RAMN Ramite 74.31 293 *e*P **P 04 14 59.0 +0.9**
comp=Z,464nm,1.0s,mb6.4
KKN Kakani 74.42 295 *e*P **P 04 14 59.7 +0.9**
PKI Pulchoki 74.52 295 *e*P **P 04 15 00.2 +0.9**
PKIN Phulchoki 74.52 295 *e*P **P 04 15 00.6 +1.3**
comp=Z,173nm,1.0s,mb5.9
GKN Gorkha 74.62 296 *e*P **P 04 15 00.6 +0.7**
DMN Daman 74.66 295 *e*P **P 04 15 01.0 +0.9**
DANN Dangsing 74.85 296 *e*P **P 04 15 02.3 +1.1**
BSEG Bad Segeberg 74.88 357 *e*P **P 04 15 01.4 +0.5**
comp=Z,60nm,0.9s,mb5.5
BSEG Bad Segeberg 74.88 357 *e*P **P 04 15 01.5 +0.6**
comp=Z,60nm,0.9s,mb5.5
BSEG Bad Segeberg 74.88 357 *e*P **P 04 15 01.5 +0.6**
BSEG pmax pmax
comp=Z,60nm,0.9s,mb5.5
DZM Mont Dzumac 75.01 198 *e*LR LR 04 37 58.9
comp=Z,578nm,21.7s
GKP Gorka Klasztor 75.13 352 *e*P **P 04 15 02.0 -0.4**
GKP Gorka Klasztor 75.13 352 *e*P **P 04 15 02.0 -0.4**
KOLN Koldanda 75.38 296 *e*P **P 04 15 05.1 +0.8**
FOEL Foel Wylfa 75.79 5 *e*P **P 04 15 05.3 -0.9**
FOEL AMB AMB 04 15 06.8
comp=Z,91nm,1.2s,mb5.6
FOEL Foel Wylfa 75.79 5 P **P 04 15 05.3 -0.9**
FOEL AMB AMB 04 15 06.8
comp=Z,91nm,1.2s,mb5.6
AKASG Malin Array Be 76.15 344 P **P 04 15 07.0 -1.2**
comp=Z,5.7nm,0.4s,mb4.9,baz=17,slow=5.9,SNR=20
AKASG LR LR 04 51 60.0
comp=Z,675nm,19.9s,MS5.0,baz=15,slow=38
AKASG Malin Array Be 76.15 344 P **P 04 15 07.0 -1.2**
AKASG LR LR 04 51 60.0
AKASG Malin Array Be 76.15 344 P **P 04 15 07.0 -1.3**
AKASG pmax pmax
comp=Z,6.0nm,0.4s
AKASG MLR MLR
comp=Z,675nm,19.9s
AKBB Malin Array Si 76.15 344 *e*P **P 04 15 06.7 -1.6**
AKBB Malin Array Si 76.15 344 *e*P **P 04 15 06.7 -1.6**
KIEV Kiev 76.16 344 *e*P **P 04 15 07.2 -1.1**
comp=Z,12nm,0.6s,mb5.0
KIEV Kiev 76.16 344 *e*P **P 04 15 07.2 -1.1**
KIEV pmax pmax
comp=Z,12nm,0.6s,mb5.0
NRDL Niedersach Rie 76.32 357 *e*P **P 04 15 09.4 +0.2**
comp=Z,186nm,2.9s,mb5.5
DDI Dehra Dun 76.43 302 *e*PKP **P 04 15 10.0 -0.3**
IBBN Ibbenburen 76.58 358 *e*P **P 04 15 11.2 +0.5**
comp=Z,58nm,1.1s,mb5.4
IBBN Ibbenburen 76.58 358 *e*P **P 04 15 11.3 +0.6**
comp=Z,58nm,1.1s,mb5.4
CAL Calcutta 76.67 289 *ex* pP 04 15 28.8 +3.6
MCH1 Michaelchurch 76.69 5 AMB AMB 04 15 23.5
comp=Z,63nm,2.2s,mb5.2
MCH1 Michaelchurch 76.69 5 AMB AMB 04 15 23.5
comp=Z,63nm,2.2s,mb5.2
WTSB Winterswijk 76.93 359 *e*P **P 04 15 12.8 +0.1**
comp=Z,29nm,1.0s,mb5.2
CLZ Clausthal 76.97 357 *e*P **P 04 15 13.6 +0.7**
comp=Z,40nm,0.9s,mb5.3
CLZ Clausthal 76.97 357 *e*P **P 04 15 13.5 +0.6**
comp=Z,40nm,0.9s,mb5.3
CLZ Clausthal 76.97 357 *e*P **P 04 15 13.6 +0.7**
CLZ pmax pmax
comp=Z,40nm,0.9s,mb5.3
HGH Gray Hill 77.06 5 *e*P **P 04 15 12.8 -0.6**
HGH Gray Hill 77.06 5 P **P 04 15 12.8 -0.6**
TTSI Tana Toraja 77.21 248 P **P 04 15 15.1 +0.3**
comp=Z,36nm,1.3s,mb5.2
KKR Kurukshetra 77.37 302 *e*PKP **P 04 15 15.9 +0.4**
CLL Collm 77.38 355 *e*P **P 04 15 14.8 -0.4**
comp=Z,15nm,1.1s,mb4.8
CLL Collm 77.38 355 *e*P **P 04 15 14.9 -0.3**
comp=Z,16nm,0.8s,mb5.0
CLL Collm 77.38 355 ⇑ *i*P **P 04 15 15.0 -0.2**
CLL *i* 04 15 19.8
CLL pmax pmax
comp=Z,16nm,0.8s,mb5.0
CLL MLR MLR
comp=Z,400nm,17.8s,MS4.8
CLL Collm 77.38 355 ⇑ *i*P **P 04 15 15.0 -0.2**
comp=Z,16nm,0.8s,mb5.0
CLL *i* 04 15 19.8
CLL *e*PS 04 25 43.0
CLL *e*PPS 04 26 01.0
CLL *e*SS SS 04 30 11.0 +12
CLL *e*SSS 04 33 36.0
CLL *e* 04 35 18.0
SBUM Sibu 77.38 258 P **P 04 15 16.9 +1.1**
comp=Z,2μmcomp=Z,18nm,1.2s,mb4.9
BUG Bochum--Univer 77.45 359 *e*P **P 04 15 15.7 +0.1**
comp=Z,32nm,1.2s,mb5.1
BUG Bochum--Univer 77.45 359 *e*P **P 04 15 15.7 +0.1**
comp=Z,32nm,1.2s,mb5.1
WOL Wolverton 77.46 4 *e*P **P 04 15 14.9 -0.8**
WOL AMB AMB 04 15 17.9
comp=Z,111nm,1.6s,mb5.5
WOL Wolverton 77.46 4 P **P 04 15 14.9 -0.8**
WOL AMB AMB 04 15 17.9
comp=Z,111nm,1.6s,mb5.5
NEUB Neuenburg 77.54 356 *e*P **P 04 15 16.3 +0.2**
comp=Z,45nm,1.0s,mb5.3
NEUB Neuenburg 77.54 356 *e*P **P 04 15 16.4 +0.3**
comp=Z,44nm,0.9s,mb5.4
KBL Kabul 77.61 311 *e*P **P 04 15 16.8 0.0**
comp=Z,76nm,0.9s,mb5.6
KBL Kabul 77.61 311 *e*P **P 04 15 16.8 0.0**
KBL pmax pmax
comp=Z,76nm,0.9s,mb5.6
KSP Ksiaz 77.61 353 *e*P **P 04 15 16.7 +0.2**
FBE Freiberg 77.74 355 *e*P **P 04 15 17.5 +0.3**
comp=Z,37nm,1.1s,mb5.2
FBE Freiberg 77.74 355 *e*P **P 04 15 17.6 +0.4**
comp=Z,37nm,1.1s,mb5.2
BRG Berggiesshubel 77.75 354 *i*P **P 04 15 17.1 -0.2**
comp=Z,18nm,0.8s,mb5.0
BRG S S 04 25 05.0 -0.8
BRG SS SS 04 30 19.0 +14
BRG
comp=N,346nm,24.1s
BRG
comp=E,254nm,22.2s
BRG
comp=Z,386nm,15.7s
BRG Berggiesshubel 77.75 354 *e*P **P 04 15 17.1 -0.2**
comp=Z,17nm,0.8s,mb5.0
BRG Berggiesshubel 77.75 354 *e*P **P 04 15 17.2 -0.1**
comp=Z,18nm,0.8s,mb5.0
BRG Berggiesshubel 77.75 354 *i*P **P 04 15 17.1 -0.2**
BRG S S 04 25 05.0 -0.8
BRG pmax pmax
comp=Z,18nm,0.8s,mb5.0
BRG MLR MLR
comp=N,346nm,24.1s,MS4.7
BRG MLR MLR
comp=E,254nm,22.2s,MS4.7
BRG MLR MLR
comp=Z,386nm,15.7s
TGUH Tegucigalpa,Un 77.76 83 *e*P **P 04 15 18.3 +0.5**
comp=Z,36nm,1.0s,mb5.2
LVV L'vov 77.79 348 *e*P **P 04 15 17.1 -0.4**
LVV MLR MLR
comp=N,400nm,20.0s,MS4.9
LVV MLR MLR

LVV MLR MLR
comp=E,500nm,20.0s,MS4.9

TBI Tubuai 77.81 156 *e*S S 04 25 06.1 -0.7
comp=Z,500nm,20.0s,MS4.8
TBI *e*LR LR 04 39 12.1
comp=Z,591nm,29.0s

OJC Ojcow 77.91 350 *e*P **P 04 15 17.7 -0.5**
OJC Ojcow 77.91 350 *e*P **P 04 15 17.8 -0.4**
UPC Upice 77.97 353 *e*P **P 04 15 18.4 -0.1**
UPC Upice 77.97 353⇑ *e*P **P 04 15 18.4 -0.1**
SPSI Sidrap Palu 77.98 248 P **P 04 15 21.3 +2.2**
comp=Z,745nm,22.0s,baz=338
comp=Z,20nm,1.0s,mb5.0

PVCC Panska Ves 78.06 354 *e*P **P 04 15 19.1 +0.1**
PVCC MLR MLR
comp=Z,500nm,15.0s,MS5.0

PVCC Panska Ves 78.06 354⇑ *e*P **P 04 15 19.1 +0.1**
PVCC AMS AMS 05 00 50.0
comp=Z,500nm,15.0s

DPC Dobruska-Polom 78.10 353⇑ *i*P **P 04 15 19.4 +0.1**
DPC MLR MLR
comp=Z,300nm,15.8s,MS4.7

DPC Dobruska-Polom 78.10 353⇑ *i*P **P 04 15 19.4 +0.1**
DPC AMS AMS 05 00 10.0
comp=Z,300nm,15.8s

MOX Moxa 78.11 356 *e*P **P 04 15 19.4 +0.1**
comp=Z,20nm,1.0s,mb5.0

MOX Moxa 78.11 356 *e*P **P 04 15 19.5 +0.2**
comp=Z,19nm,1.0s,mb5.0

MOX Moxa 78.11 356 *e*P **P 04 15 19.5 +0.2**
MOX pmax pmax
comp=Z,19nm,1.0s,mb5.0

BEBN Eben Emael 78.11 360 P **P 04 15 18.8 -0.5**
comp=Z,8.5nm,1.2s,mb4.5

BISR Bishrakh 78.14 301 *e*PKP **P 04 15 18.2 -1.6**
HGN Heimansgroeve 78.14 359 *e*P **P 04 15 19.5 +0.1**
comp=Z,30nm,0.8s,mb5.3

KWP Kalwaria Pacla 78.15 348 *e*P **P 04 15 20.0 +0.4**
KWP Kalwaria Pacla 78.15 348 *e*P **P 04 15 19.2 -0.3**
comp=Z,37nm,0.9s,mb5.3

KWP Kalwaria Pacla 78.15 348 *e*P **P 04 15 19.2 -0.3**
KWP pmax pmax
comp=Z,37nm,0.9s,mb5.3

KWP Kalwaria Pacla 78.15 348⇓ *i*P **P 04 15 20.0 +0.5**
NDI New Delhi 78.17 301 *ex* **P 04 15 16.7 -3.3**
DYA Yadsworthy 78.19 6 *e*P **P 04 15 18.0 -1.8**
DYA AMB AMB 04 15 21.0
comp=Z,66nm,1.3s,mb5.4

DYA Yadsworthy 78.19 6 P **P 04 15 18.0 -1.8**
DYA AMB AMB 04 15 21.0
comp=Z,66nm,1.3s,mb5.4

PLN Plauen 78.24 355 *e*P **P 04 15 20.1 +0.1**
comp=Z,63nm,1.0s,mb5.5

PLN Plauen 78.24 355 *e*P **P 04 15 20.2 +0.2**
comp=Z,63nm,1.0s,mb5.5

WERD Werda 78.27 355 *e*P **P 04 15 20.3 +0.1**
comp=Z,159nm,2.9s,mb5.4

WERD Werda 78.27 355 *e*P **P 04 15 20.4 +0.2**
comp=Z,159nm,2.9s,mb5.4

MEM Membach 78.30 359 P **P 04 15 21.1 +0.7**
comp=Z,19nm,1.1s,mb4.9

BHGR Bahadurgarh 78.32 301 *e*PKP **P 04 15 21.1 +0.3**
GUNZ Gunzen 78.36 355 *e*P **P 04 15 20.9 +0.3**
comp=Z,15nm,1.2s,mb4.8

GUNZ Gunzen 78.36 355 *e*P **P 04 15 21.0 +0.4**
comp=Z,152nm,2.8s,mb5.4

AYAN Aya Nagar 78.38 301 *e*PKP **P 04 15 20.8 -0.3**
AYAN AMb AMB 04 15 22.0
comp=Z,20nm,0.9s,mb5.0

SNF Seneffe 78.40 0 P **P 04 15 20.7 -0.2**
comp=Z,12nm,1.2s,mb4.7

WERN Wernitzgruen 78.43 355 *e*P **P 04 15 21.4 +0.3**
comp=Z,26nm,1.0s,mb5.1

WERN Wernitzgruen 78.43 355 *e*P **P 04 15 21.5 +0.4**
comp=Z,26nm,1.0s,mb5.1

OKC Ostrava-Krasne 78.45 351 *e*P **P 04 15 21.4 +0.2**
OKC MLR MLR
comp=Z,600nm,19.6s,MS4.9

OKC Ostrava-Krasne 78.45 351⇑ *e*P **P 04 15 21.4 +0.2**
OKC AMS AMS 04 48 50.0
comp=Z,600nm,19.6s

NKC Novy Kostel 78.48 355⇑ *i*P **P 04 15 21.4 +0.1**
NKC Novy Kostel 78.48 355⇑ *i*P **P 04 15 21.4 +0.1**
BCLA Clavier 78.49 360 P **P 04 15 21.6 +0.2**
comp=Z,15nm,1.4s,mb4.7

MORC Moravsky Berou 78.57 352 *e*P **P 04 15 21.4 -0.4**
comp=Z,4.9nm,0.9s,mb4.4

MORC Moravsky Berou 78.57 352 *e*P **P 04 15 21.4 -0.4**
MORC pmax pmax
comp=Z,5.0nm,0.9s,mb4.4

PRU Pruhonice 78.59 354 *e*P **P 04 15 22.6 +0.6**
PRU Pruhonice 78.59 354⇓ *e*P **P 04 15 22.6 +0.6**
PRU AMS AMS 04 53 40.0

TNS Taunus Mts 78.65 358 *e*P **P 04 15 22.6 +0.3**
comp=Z,28nm,1.1s,mb5.1

TNS Taunus Mts 78.65 358 *e*P **P 04 15 22.7 +0.4**
comp=Z,278nm,3.0s

TNS Taunus Mts 78.65 358 *e*P **P 04 15 22.7 +0.4**
TNS pmax pmax
comp=Z,278nm,3.0s

GIVF Givet 78.81 0 *e*P **P 04 15 23.5 +0.3**
comp=Z,70nm,1.1s,mb5.2

DOU Dourbes 78.81 0 P **P 04 15 23.4 +0.2**
comp=Z,13nm,1.0s,mb4.8

KAPI Kappang 78.84 247 P **P 04 15 22.9 -1.0**
comp=Z,3.6nm,0.5s,mb4.6,baz=79,slow=5.8,SNR=5.1

KAPI Kappang 78.84 247 P **P 04 15 22.9 -1.0**
BAIF Baives 78.85 0⇑ *i*P **P 04 15 23.9 +0.5**
comp=Z,34nm,0.7s,mb5.1

BKSI Bulukumba 78.88 247 P **P 04 15 23.7 -0.3**
comp=Z,449nmcomp=Z,34nm,1.0s,mb5.2

KOLS Kolonicke sedl 78.89 348 *e*P **P 04 15 23.7 +0.1**
KOLS pmax pmax
comp=Z,11nm,1.3s,mb4.6

KOLS Kolonicke sedl 78.89 348 *e*P **P 04 15 23.7 +0.1**
CTA Charters Tower 78.91 217 P **P 04 15 22.6 -1.3**
comp=Z,2.2nm,0.4s,mb4.4,baz=4.6,slow=6.3,SNR=5.3

CTA Charters Tower 78.91 217 P **P 04 15 22.6 -1.3**
CTA Charters Tower 78.91 217 P **P 04 15 22.6 -1.3**
CTA pmax pmax
comp=Z,2.0nm,0.4s

CTAO Charters Tower 78.91 217 *e*P **P 04 15 22.6 -1.4**
comp=Z,6.4nm,0.9s,mb4.5

CTAO Charters Tower 78.91 217 *e*P **P 04 15 22.6 -1.3**
CTAO pmax pmax
comp=Z,6.0nm,0.9s,mb4.5

CTAO Charters Tower 78.91 217 P PcP 04 15 33.2 +0.8
comp=Z,17nm,1.0s

AGRA Agra 78.93 300 *e*PKP **P 04 15 24.4 +0.1**
ROTZ Rotzenmuhle 78.96 355 *e*P **P 04 15 24.5 +0.5**
comp=Z,123nm,2.9s,mb5.3

GRF Grafenberg Arr 79.08 356 *e*P **P 04 15 25.3 +0.7**
comp=Z,33nm,0.9s,mb5.3

GRF *e*L 05 00 38.2
comp=Z,343nm,18.8s

GRF Grafenberg Arr 79.08 356 *e*P **P 04 15 25.4 +0.8**
comp=Z,33nm,0.9s,mb5.3

GRF Grafenberg Arr 79.08 356 *e*P **P 04 15 25.4 +0.8**
GRF pmax pmax
comp=Z,33nm,0.9s,mb5.3

GRFO Grafenberg 79.08 356 *e*P **P 04 15 24.9 +0.2**
comp=Z,21nm,0.8s,mb5.1

GRFO Grafenberg 79.08 356 *e*P **P 04 15 24.9 +0.3**
GRFO pmax pmax
comp=Z,21nm,0.8s,mb5.1

UZH Uzhgorod 79.19 348 *e*P **P 04 15 24.0 -1.2**
UZH *e* 04 15 31.9
UZH *i* pP 04 15 36.3 -2.4
UZH *e*S S 04 25 19.0 -2.2

RUP Ruppelstein 79.19 359 *e*P **P 04 15 25.5 +0.2**
RUP Ruppelstein 79.19 359 *e*P **P 04 15 25.5 +0.2**
TREC Trest 79.22 353 *e*P **P 04 15 25.1 -0.3**
TREC MLR MLR
comp=Z,500nm,15.8s,MS5.0

TREC Trest 79.22 353⇑ *e*P **P 04 15 25.1 -0.3**
TREC AMS AMS 04 54 10.0
comp=Z,500nm,15.8s

WLF Walferdange 79.24 359 P **P 04 15 26.6 +1.0**
comp=Z,12nm,1.0s,mb4.8

WLF Walferdange 79.24 359 *e*P **P 04 15 26.2 +0.7**
comp=Z,21nm,0.9s,mb5.1

WLF Walferdange 79.24 359 *e*P **P 04 15 26.3 +0.8**
comp=Z,130nm,2.3s,mb5.5

WLF Walferdange 79.24 359 *e*P **P 04 15 25.6 0.0**
comp=Z,19nm,0.9s,mb5.0

WLF Walferdange 79.24 359 *e*P **P 04 15 25.6 +0.1**

WLF pmax pmax
comp=Z,19nm,0.9s,mb5.0

TOD Tromm 79.25 357 *e*P **P 04 15 25.9 +0.3**
TOD Tromm 79.25 357 *e*P **P 04 15 25.9 +0.3**
KSM Kuching 79.32 259 *e*P **P 04 15 26.2 -0.2**
comp=Z,38nm,1.0s,mb5.3

KSM Kuching 79.32 259 P **P 04 15 26.3 -0.2**
comp=Z,618nmcomp=Z,40nm,1.2s,mb5.2

KHET Khetri 79.41 302 *e*PKP **P 04 15 26.8 0.0**
KHET AMb AMB 04 15 28.0
comp=Z,47nm,0.8s,mb5.5

KIV Kislovodsk 79.50 333 *e*P **P 04 15 27.5 +0.4**
comp=Z,15nm,0.9s,mb4.9

KIV Kislovodsk 79.50 333 *e*P **P 04 15 27.5 +0.5**
KIV *e*S S 04 25 27.6 +2.9
KIV pmax pmax
comp=Z,13nm,1.0s,mb4.8

KHC Kasperske Hory 79.51 354 *e*P **P 04 15 26.9 -0.1**
comp=Z,16nm,1.0s,mb4.9

KHC Kasperske Hory 79.51 354 *e*P **P 04 15 26.9 -0.1**
KHC pmax pmax
comp=Z,16nm,1.0s,mb4.9

KHC Kasperske Hory 79.51 354⇑ *i*P **P 04 15 27.2 +0.2**
KHC AMS AMS 05 00 20.0
comp=Z,400nm,15.3s

WET Wettzell 79.54 355 *e*P **P 04 15 27.2 0.0**
comp=Z,21nm,1.5s,mb4.8

WET Wettzell 79.54 355 *e*P **P 04 15 27.2 0.0**
WET pmax pmax
comp=Z,21nm,1.5s,mb4.8

KECS Kecovo 79.55 350 *e*P **P 04 15 27.4 +0.2**
KECS pmax pmax
comp=Z,5.0nm,1.1s,mb4.4

KECS Kecovo 79.55 350 *e*P **P 04 15 27.4 +0.2**
ABKT Ailbek 79.58 320 P **P 04 15 28.2 +0.6**
comp=Z,264nm,0.8s,mb6.2,SNR=5.5

TRPA Tarpa 79.65 348⇑ *i*P **P 04 15 27.8 0.0**
VYHS Vyhne 79.71 351 *e*P **P 04 15 27.9 -0.2**
VYHS Vyhne 79.71 351 *e*P **P 04 15 27.9 -0.2**
BUR08 Bucovina Ar. S 79.75 346 *e*P **P 04 15 28.5 +0.1**
BURAR Bucovina Array 79.78 346⇑ *i*P **P 04 15 28.3 -0.2**
GEC2 GERESS Array S 79.79 354 *e*P **P 04 15 28.5 0.0**
comp=Z,9.0nm,1.0s,mb4.7

GEC2 GERESS Array S 79.79 354 *e*P **P 04 15 28.6 +0.1**
comp=Z,9.0nm,1.0s,mb4.7

GEC2 GERESS Array S 79.79 354 *e*P **P 04 15 28.6 +0.1**
GEC2 pmax pmax
comp=Z,9.0nm,1.0s,mb4.7

GERES GERESS Array B 79.79 354 P **P 04 15 28.5 0.0**
comp=Z,7.6nm,0.9s,mb4.6,baz=20,slow=4.3,SNR=39

GERES GERESS Array B 79.79 354 P **P 04 15 28.5 0.0**
GERES GERESS Array B 79.79 354 P **P 04 15 28.5 0.0**
GERES pmax pmax
comp=Z,8.0nm,0.9s

KIS Kishinev 79.79 344 *e*P **P 04 15 28.0 -0.6**
KIS *e*L 04 50 16.0
KIS LRM 04 57 16.0
comp=Z,800nm,17.0s

KIS Kishinev 79.79 344 *e*P **P 04 15 28.0 -0.6**
KIS *e* 04 15 33.0
LANF Langenberg 79.90 358 *e*P **P 04 15 29.4 +0.3**
LANF Langenberg 79.90 358 *e*P **P 04 15 29.4 +0.3**
LANF Langenberg 79.90 358 *e*P **P 04 15 29.4 +0.3**
FLN La Foliniere 80.04 4⇑ *i*P **P 04 15 29.9 0.0**
comp=Z,60nm,1.0s,mb5.2

FLN *e*R
comp=Z,458nm,18.8s

STU Stuttgart 80.08 357 *e*P **P 04 15 30.2 +0.1**
comp=Z,21nm,1.1s,mb5.0

STU Stuttgart 80.08 357 *e*P **P 04 15 30.2 +0.1**
STU pmax pmax
comp=Z,21nm,1.1s,mb5.0

PSZ Piszkesteto 80.17 350 *e*P **P 04 15 30.6 0.0**
comp=Z,7.0nm,0.9s,mb4.6

PSZ Piszkesteto 80.17 350 *e*P **P 04 15 30.6 0.0**
PSZ pmax pmax
comp=Z,7.0nm,0.9s,mb4.6

PSZ Piszkesteto 80.17 350⇑ *e*P **P 04 15 31.0 +0.4**
PSZ Piszkesteto 80.17 350⇓ *i*P **P 04 15 32.1 +1.5**
ZST Bratislava 80.17 352 *e*P **P 04 15 31.2 +0.6**
ZST pmax pmax
comp=Z,13nm,0.9s,mb4.9

ZST Bratislava 80.17 352 *e*P **P 04 15 31.2 +0.6**
LDF La Druitiere 80.22 3⇑ *i*P **P 04 15 30.7 -0.2**
comp=Z,23nm,0.4s,mb5.2

ZEI Tsey 80.24 332 *e*P **P 04 15 30.6 -0.5**
ZEI pmax pmax
comp=Z,19nm,1.0s,mb5.0

BST Brest 80.31 6 *e*P **P 04 15 31.5 +0.2**
BST Brest 80.31 6 *e*P **P 04 15 31.5 +0.2**
ROSF Rostrenen 80.33 6 *e*P **P 04 15 31.7 +0.3**
comp=Z,9.5nm,0.6s,mb4.6

PAGF Fort de Pagny 80.36 359⇑ *i*P **P 04 15 32.4 +0.8**
comp=Z,28nm,0.9s,mb4.9

GRR Gorron 80.40 4 *e*P **P 04 15 32.1 +0.3**
comp=Z,94nm,1.1s,mb5.3

MEZF Maizieres J'vi 80.41 360 *e*P **P 04 15 32.5 +0.6**
comp=Z,78nm,1.0s,mb5.3

SGMF Saint Gilles 80.45 5 *e*P **P 04 15 32.4 +0.3**
comp=Z,30nm,0.5s,mb5.2

CDF Champ du Feu 80.48 358⇑ *i*P **P 04 15 32.5 +0.2**
comp=Z,25nm,1.0s,mb4.8

BFO Black Forest 80.54 358 *e*P **P 04 15 32.2 -0.4**
comp=Z,4.0nm,0.8s,mb4.4

BFO Black Forest 80.54 358 *e*P **P 04 15 32.2 -0.4**
BFO pmax pmax
comp=Z,4.0nm,0.8s,mb4.4

CONA Conrad Observa 80.55 353⇑ *i*P **P 04 15 33.2 +0.6**
comp=Z,13nm,1.0s,mb4.8,SNR=7.6

TESR 80.63 345⇑ *i*P **P 04 15 33.0 -0.1**
ECH Echery 80.68 359 *e*P **P 04 15 33.4 0.0**
comp=Z,16nm,0.9s,mb4.9

ECH Echery 80.68 359 *e*P **P 04 15 33.4 +0.1**
ECH pmax pmax
comp=Z,16nm,0.9s,mb5.0

ECH Echery 80.68 359 *e*P **P 04 15 33.5 +0.2**
THEF They Montfort 80.68 359 *e*P **P 04 15 33.7 +0.4**
THEF They Montfort 80.68 359 *e*P **P 04 15 33.7 +0.4**
THEF They Montfort 80.68 359 *e*P **P 04 15 33.7 +0.4**
BUD Budapest 80.69 350⇑ *e*P **P 04 15 33.6 +0.2**
SFTF Sexfontaines 80.71 360⇑ *i*P **P 04 15 33.9 +0.4**
comp=Z,116nm,1.0s,mb5.5

SIM Simferopol' 80.71 339 P **P 04 15 36.1 +2.5**
SIM 04 18 45.7
SIM pmax pmax
comp=Z,49nm,9.5s

SOP Sopron 80.73 352⇑ *e*P **P 04 15 34.1 +0.5**
QUIF Quistinic 80.75 6 *e*P **P 04 15 34.0 +0.3**
comp=Z,22nm,0.8s,mb4.8

SPAK Spaichingen-Ko 80.76 357 *e*P **P 04 15 34.1 +0.4**
HAU Haudompre 80.90 359⇑ *i*P **P 04 15 34.8 +0.3**
comp=Z,47nm,1.1s,mb5.0

HAU *e*R
comp=Z,562nm,18.2s

DGRG David-gareji 81.00 330 P **P 04 15 35.7 +0.6**
FELD Feldberg im Sc 81.00 358 *e*P **P 04 15 34.8 -0.3**
HINF Hinteralfeld 81.08 359 *e*P **P 04 15 35.5 0.0**
ARSA Arzberg 81.25 353⇑ *i*P **P 04 15 36.8 +0.4**
comp=Z,10nm,1.1s,mb4.7,SNR=7.4

VRI Vrincioaia 81.25 345⇓ *i*P **P 04 15 36.6 +0.2**
MOTA Moosalm 81.43 356⇑ *i*P **P 04 15 37.5 +0.2**
comp=Z,7.6nm,0.9s,mb4.6

TLCR 81.55 343⇑ *i*P **P 04 15 39.0 +1.0**
LOMF Lomont 81.55 359 *e*P **P 04 15 38.0 0.0**
LOMF Lomont 81.55 359 *e*P **P 04 15 38.0 0.0**
LOMF Lomont 81.55 359 *e*P **P 04 15 38.0 0.0**
KBA Koelnbreinsper 81.57 354 *i* P **P 04 15 38.9 +0.8**
comp=Z,32nm,0.9s,mb5.2,SNR=17

HYF Humbligny 81.62 2⇑ *i*P **P 04 15 39.0 +0.6**
LOR Lormes 81.64 1⇑ *i*P **P 04 15 38.8 +0.4**
comp=Z,66nm,1.1s,mb5.2

LOR *e*R
comp=Z,634nm,18.5s

FETA Feichten 81.77 356⇑ *i*P **P 04 15 39.7 +0.6**
comp=Z,15nm,1.0s,mb4.9

SSF Saint Saulge 81.84 1⇑ *i*P **P 04 15 39.9 +0.4**
comp=Z,30nm,0.8s,mb5.0

SOKA Soboth 81.85 353⇑ *i*P **P 04 15 39.8 +0.3**
comp=Z,18nm,0.9s,mb5.0

PKSM Moragy 81.99 350⇑ *i*P **P 04 15 41.7 +1.4**
ISR Istrita 82.00 345⇑ *i*P **P 04 15 41.8 +1.4**
OBKA Obir 82.06 353⇑ *i*P **P 04 15 41.6 +1.0**
comp=Z,27nm,1.3s,mb5.0,SNR=6.2

EIDS Eidsvold 82.11 211 *e*P **P 04 15 39.9 -1.1**
comp=Z,12nm,0.9s,mb4.8

AVF Avril sur Loir 82.11 1⇑ *i*P **P 04 15 41.3 +0.4**
comp=Z,56nm,1.1s,mb5.1

MFF Saint Martin d 82.21 4⇑ *i*P **P 04 15 41.9 +0.4**
comp=Z,51nm,0.9s,mb5.2

SMF Signal de Mont 82.26 1⇑ *i*P **P 04 15 42.1 +0.4**
comp=Z,58nm,1.0s,mb5.2

CABF La Chapelle 82.30 359⇑ *i*P **P 04 15 42.7 +0.8**
comp=Z,32nm,0.9s,mb4.9

TIRR Tirgusor 82.32 343⇓ *i*P **P 04 15 43.0 +0.9**
BGF Bois d'Agland 82.34 1 *e*P **P 04 15 42.5 +0.4**
comp=Z,52nm,1.1s,mb5.1

KULM Kulim 82.35 269 *e*P **P 04 15 42.3 -0.4**
comp=Z,10nm,0.8s,mb4.8

BHPL Bhopal 82.38 298 *e*PKP **P 04 15 42.2 -0.5**
GNI Garni 82.38 330 *e*P **P 04 15 43.5 +1.1**
comp=Z,10.0nm,0.8s,mb4.8

GNI Garni 82.38 330 *e*P **P 04 15 43.5 +1.0**
GNI pmax pmax
comp=Z,10.0nm,0.8s

SULR 82.48 345⇑ *i*P **P 04 15 42.0 -0.9**
TCF Toulx Ste Croi 82.60 2⇑ *i*P **P 04 15 43.6 +0.1**
comp=Z,57nm,1.1s,mb5.2

IPM Ipoh 82.74 268 *e*P **P 04 15 43.5 -1.2**
comp=Z,5.9nm,0.4s,mb5.0

IPM Ipoh 82.74 268 P **P 04 15 44.6 -0.1**
comp=Z,24nm,1.5s,mb5.0

AGO Saint Agoulin 82.85 1 *e*P **P 04 15 45.6 +0.8**
AGO Saint Agoulin 82.85 1 *e*P **P 04 15 45.6 +0.8**
PLDF La Plantade 82.94 1 *e*P **P 04 15 46.2 +1.0**
PLDF La Plantade 82.94 1 *e*P **P 04 15 46.2 +1.0**
PLDF La Plantade 82.94 1 *e*P **P 04 15 46.2 +1.0**
NGP Nagpur 83.12 295 *ex* **P 04 15 44.0 -2.6**
NGP AMb AMB 04 15 45.4
comp=Z,98nm,1.4s,mb5.7

PYM Petit Puy Mans 83.15 1 *e*P **P 04 15 47.9 +1.6**
PYM Petit Puy Mans 83.15 1 *e*P **P 04 15 47.9 +1.6**
PYM Petit Puy Mans 83.15 1 *e*P **P 04 15 47.9 +1.6**
RJF Les Rejaudoux 83.56 2⇑ *i*P **P 04 15 48.8 +0.3**
RJF *e*R
comp=Z,695nm,19.5s

LBL Lubilhac 83.67 1 *e*P **P 04 15 49.9 +0.9**
LBL Lubilhac 83.67 1 *e*P **P 04 15 49.9 +0.9**
LBL Lubilhac 83.67 1 *e*P **P 04 15 49.9 +0.9**
WRAB Tennant Creek 83.74 227 P **P 04 15 55.9 +6.3**
comp=Z,25nm,1.4s,mb5.1

WB2 Warramunga Arr 83.75 227 *e*P **P 04 15 47.7 -1.9**
WRA Warramunga Arr 83.76 227 P **P 04 15 47.8 -1.8**
comp=Z,1.3nm,0.4s,mb4.4,baz=33,slow=5.8,SNR=17

WRA PKKPbc PKKPbc 04 34 05.8 +1.1
comp=Z,0.5nm,0.4s,baz=219,slow=2.2,SNR=8.2

WRA Warramunga Arr 83.76 227 P **P 04 15 47.8 -1.8**
WRA PKKPbc PKKPbc 04 34 05.8 +1.1
WRA Warramunga Arr 83.76 227 P **P 04 15 47.8 -1.8**
WRA pmax pmax
comp=Z,1.0nm,0.4s

WRA pmax pmax
comp=Z,1.0nm,0.4s

BNI Bardonecchia 83.85 359 *e*P **P 04 15 51.3 +1.3**
comp=Z,11nm,0.9s,mb5.0

BNI Bardonecchia 83.85 359 *e*P **P 04 15 51.3 +1.3**
BNI pmax pmax
comp=Z,11nm,0.9s,mb5.0

LFF La Frestale 83.91 3⇑ *i*P **P 04 15 50.9 +0.7**
comp=Z,23nm,0.5s,mb5.3

SZH Strazhica 83.91 345 P **P 04 15 48.0 -2.3**
CAF Calviac 83.96 2⇑ *i*P **P 04 15 51.2 +0.7**
ORIF Oris-en-Rattie 83.99 359 *e*P **P 04 15 51.1 +0.4**
ORIF *e*R
comp=Z,400nm,18.8s

VIVF Saint-Julien-l 84.06 0 *e*P **P 04 15 52.0 +1.0**
comp=Z,21nm,0.8s,mb5.0

MPEP Malo Peshtene 84.16 346 P **P 04 15 50.4 -1.2**
MBDF Montbardon 84.17 359 *e*P **P 04 15 51.6 0.0**
AKL Akola 84.62 297 *e*PKP **P 04 15 55.4 +1.1**
AKL AMb AMB 04 16 02.8
comp=Z,42nm,1.9s,mb5.2

PPBI Pangkal Pinang 84.73 260 P **P 04 15 54.7 -0.1**
comp=Z,3µmcomp=Z,23nm,1.0s,mb5.3

VTS Vitosha 84.99 347⇑ *i*P **P 04 15 55.8 0.0**
EPON Pontenova 85.00 9 P **P 04 15 56.5 +0.7**
comp=Z,16nm,0.5s,mb5.4

EMAZ Mazaricos 85.19 10 P **P 04 15 56.6 -0.2**
comp=Z,59nm,1.2s,mb5.6

EARI Arriondas 85.20 7 P **P 04 15 56.9 +0.1**
comp=Z,95nm,1.8s,mb5.6

STS Santiago 85.30 10 P **P 04 15 57.5 +0.2**
comp=Z,4.1nm,0.5s,mb4.8

STS Santiago 85.30 10 P **P 04 15 57.5 +0.2**
STS pmax pmax
comp=Z,4.0nm,0.5s,mb4.8

PSI Prapat 85.36 269 P **P 04 15 57.9 -0.1**
comp=Z,20nm,0.6s,mb5.5,baz=34,slow=2.0,SNR=14

PSI Prapat 85.36 269 P **P 04 15 57.9 -0.1**
PSI Prapat 85.36 269 P **P 04 15 57.9 -0.1**
PSI pmax pmax
comp=Z,20nm,0.6s,mb5.4

PSI Prapat 85.36 269 P **P 04 15 58.4 +0.4**
comp=Z,614nmcomp=Z,46nm,1.1s,mb5.5

ELAN Lanestosa 85.40 6 P **P 04 15 58.7 +0.9**
comp=Z,158nm,1.4s,mb6.0

EALK Alkurruntz 85.53 5 P **P 04 15 59.0 +0.5**
comp=Z,6.5nm,0.7s,mb5.0

MTLF Montolieu 85.54 2 *e*P **P 04 15 59.2 +0.7**
ELIZ Elizondo 85.58 5 P **P 04 15 58.7 0.0**
comp=Z,5.3nm,0.5s,mb5.0

ELIZ Elizondo 85.58 5 P **P 04 15 58.7 0.0**
ELIZ pmax pmax
comp=Z,5.0nm,0.5s,mb5.0

RZN Rozhen 85.64 345 P **P 04 15 58.7 -0.3**
SJPF Ste Jean 85.65 5 *e*P **P 04 15 59.3 +0.3**
comp=Z,17nm,0.7s,mb5.1

BR131 Keskin Array S 85.79 338 *e*P **P 04 16 00.1 +0.3**
comp=Z,4.6nm,0.6s,mb4.9

BRTR Keskin Array B 85.79 338 P **P 04 15 59.6 -0.2**
comp=Z,6.8nm,0.5s,mb5.1,baz=28,slow=2.2,SNR=32

BRTR LR LR 05 04 02.1
comp=Z,270nm,18.7s,MS4.7,baz=26,slow=42

BRTR Keskin Array B 85.79 338 P **P 04 15 59.6 -0.2**
BRTR LR LR 05 04 02.1
BRTR Keskin Array B 85.79 338 P **P 04 15 59.7 -0.1**
BRTR pmax pmax
comp=Z,7.0nm,0.5s

EPF Esparros 85.80 3 *e*P **P 04 15 59.8 0.0**
comp=Z,6.9nm,0.5s,mb4.8

ETSF Etsaut 85.89 4 *e*P **P 04 16 00.9 +0.6**
comp=Z,8.2nm,0.5s,mb4.9

MMB Musomiste 85.89 346 P **P 04 15 59.0 -1.3**
EBIE Bielsa 85.89 4 P **P 04 16 02.8 +1.3**
comp=Z,34nm,1.6s,mb5.3

PGAV Gavieira, Arco 86.24 10 *e*LR LR 04 45 08.0
comp=Z,326nm,18.0s

AQU L'Aquila 86.27 354 *e*P **P 04 16 02.6 +0.5**
comp=Z,25nm,1.0s,mb5.4

AQU L'Aquila 86.27 354 *e*P **P 04 16 02.6 +0.5**
AQU pmax pmax
comp=Z,25nm,1.0s,mb5.4

PGF Pioggiola 86.30 357 *e*P **P 04 16 02.5 +0.2**
comp=Z,39nm,1.0s,mb5.3

ELOB Lobios 86.36 10 P **P 04 16 02.6 0.0**
comp=Z,13nm,0.8s,mb5.2

HYB Hyderabad 86.37 293⇑ *i*P **P 04 16 02.5 -0.5**
CLLI Llivia 86.40 2 P **P 04 16 04.6 +1.8**
FITZ Fitzroy Crossi 86.41 235 P **P 04 16 02.5 -0.5**
comp=Z,9.3nm,0.8s,mb5.0,baz=151,slow=1.9,SNR=36

FITZ Fitzroy Crossi 86.41 235 *e*P **P 04 16 00.8 -2.2**
comp=Z,26nm,0.8s,mb5.5

FITZ Fitzroy Crossi 86.41 235 *e*P **P 04 16 01.4 -1.6**
comp=Z,16nm,0.8s,mb5.3

FITZ Fitzroy Crossi 86.41 235 P **P 04 16 02.7 -0.3**
comp=Z,407nmcomp=Z,20nm,0.9s,mb5.3

ECAL Calabor 86.42 9 P **P 04 16 04.0 +1.2**
comp=Z,60nm,1.6s,mb5.6

CSOR Sort 86.48 3 P **P 04 16 04.5 +1.4**
comp=Z,175nm,2.1s,mb5.9

PBRG Braganca 86.55 9 *e*P **P 04 16 03.3 -0.2**
comp=Z,23nm,1.5s,mb5.2

PBRG Braganca 86.55 9 *e*LR LR 04 49 12.1
comp=Z,384nm,18.0s

LRS Lares 86.68 65 *e*P **P 04 16 05.5 +1.0**
POLO Lamas de Olo 86.87 10 *e*P **P 04 16 06.4 +1.3**
comp=Z,9.6nm,0.8s,mb5.1

PVRL Vila Real 86.98 10 *e*P **P 04 16 05.3 -0.3**
comp=Z,26nm,1.2s,mb5.3

ESAC San Caprasio 87.07 4 P **P 04 16 08.5 +2.5**
comp=Z,3.1nm,0.4s,mb4.9

MVO Moncorvo 87.16 9 P **P 04 16 06.4 -0.1**

MVO	**Moncorvo**	**87.16**	**9**	*e*P		**P**	**04 16 06.7**	**+0.2**	
	comp=Z,24nm,1.2s,mb5.3								
MVO	**Moncorvo**	**87.16**	**9**	eLR		LR	04 53 46.3		
	comp=Z,308nm,20.0s								
ASAR	**Alice Springs**	**87.19**	**226**	P		**P**	**04 16 05.4**	**-1.3**	
	comp=Z,2.5nm,0.5s,mb4.7,baz=22,slow=5.0,SNR=36								
ASAR	**Alice Springs**	**87.19**	**226**	P		**P**	**04 16 05.4**	**-1.3**	
ASAR	**Alice Springs**	**87.19**	**226**	P		**P**	**04 16 05.4**	**-1.3**	
ASAR				pmax	pmax				
	comp=Z,3.0nm,0.5s								
PDSI	**Padang**	**87.28**	**265**	P		**P**	**04 16 07.0**	**-0.4**	
	comp=Z,48nm,1.1s,mb5.7								
EPOB	**Poblet**	**87.50**	**3**	P		**P**	**04 16 08.5**	**+0.4**	
	comp=Z,1.5nm,0.5s,mb4.5								
PVIS	**Viseu**	**87.51**	**10**	*e*P		**P**	**04 16 08.6**	**+0.4**	
	comp=Z,29nm,1.3s,mb5.3								
MTE	**Manteigas**	**87.86**	**10**	*e*P		**P**	**04 16 09.8**	**-0.1**	
	comp=Z,30nm,1.7s,mb5.2								
MTE	**Manteigas**	**87.86**	**10**	eLQ			04 48 43.5		
MTE				eLR		LR	04 58 06.0		
	comp=Z,278nm,18.0s								
ETOR	**Torete**	**87.89**	**5**	P		**P**	**04 16 09.3**	**-0.7**	
	comp=Z,6.0nm,0.4s,mb5.2								
ETOR	**Torete**	**87.89**	**5**	P		**P**	**04 16 09.3**	**-0.7**	
ETOR				pmax	pmax				
	comp=Z,6.0nm,0.4s,mb5.2								
GUD	**Guadarrama**	**87.92**	**7**	P		**P**	**04 16 10.7**	**+0.6**	
	comp=Z,5.3nm,0.6s,mb5.0								
GUD	**Guadarrama**	**87.92**	**7**	P		**P**	**04 16 10.7**	**+0.5**	
GUD				pmax	pmax				
	comp=Z,5.0nm,0.6s,mb4.9								
POO	**Poona**	**88.13**	**298**	*e*PKP		**P**	**04 16 11.3**	**-0.2**	
EPLA	**Plasencia**	**88.34**	**8**	P		**P**	**04 16 11.7**	**-0.4**	
	comp=Z,24nm,1.2s,mb5.3								
EPLA	**Plasencia**	**88.34**	**8**	P		**P**	**04 16 11.7**	**-0.4**	
EPLA				pmax	pmax				
	comp=Z,24nm,1.2s,mb5.3								
PCBR	**Castelo Branco**	**88.42**	**10**	*e*P		**P**	**04 16 13.2**	**+0.7**	
	comp=Z,18nm,1.4s,mb5.1								
EMOS	**Mosqueruela**	**88.42**	**4**	P		**P**	**04 16 13.0**	**+0.5**	
	comp=Z,67nm,1.4s,mb5.7								
PTOM	**Tomar**	**88.54**	**10**	*e*P		**P**	**04 16 13.2**	**+0.1**	
	comp=Z,13nm,1.4s,mb5.1								
PMRV	**Marv??o**	**88.84**	**10**	*e*P		**P**	**04 16 14.8**	**+0.3**	
	comp=Z,21nm,1.2s,mb5.3								
PMRV	**Marv??o**	**88.84**	**10**	eLR		LR	04 53 07.1		
	comp=Z,217nm,20.0s								
ESDC	**Sonseca Array**	**88.90**	**7**	P		**P**	**04 16 14.8**	**0.0**	
	comp=Z,2.5nm,0.5s,mb4.8,baz=352,slow=4.3,SNR=29								
ESDC	**Sonseca Array**	**88.90**	**7**	P		**P**	**04 16 14.7**	**-0.1**	
	comp=Z,5.2nm,1.1s,mb4.8								
ESLA	**Sonseca Array**	**88.90**	**7**	*e*P		**P**	**04 16 14.9**	**+0.1**	
	comp=Z,2.5nm,1.0s,mb4.5								
PMAFR	**Mafra**	**89.09**	**11**	*e*P		**P**	**04 16 14.8**	**-0.9**	
	comp=Z,67nm,1.5s,mb5.8								
PMAFR	**Mafra**	**89.09**	**11**	eLQ			04 50 28.4		
PMAFR				eLR		LR	04 58 15.1		
	comp=Z,423nm,18.0s								
PESTR	**Estremoz**	**89.37**	**10**	*e*P		**P**	**04 16 16.5**	**-0.5**	
	comp=Z,18nm,2.0s,mb5.0								
PESTR	**Estremoz**	**89.37**	**10**	eLR		LR	04 53 14.5		
	comp=Z,314nm,16.0s								
EBAD	**Badajoz**	**89.54**	**9**	P		**P**	**04 16 17.5**	**-0.3**	
	comp=Z,1.3nm,0.6s,mb4.4								
EVO	**Evora**	**89.66**	**10**	*e*P		**P**	**04 16 18.8**	**+0.4**	
	comp=Z,20nm,1.7s,mb5.2								
PNCL	**Nicolau / Gran**	**90.02**	**11**	eLR		LR	04 50 54.7		
	comp=Z,432nm,18.0s								
PBAR	**Barrancos**	**90.12**	**9**	*e*P		**P**	**04 16 20.5**	**0.0**	
	comp=Z,26nm,1.3s,mb5.4								
PBAR	**Barrancos**	**90.12**	**9**	eLR		LR	04 53 39.2		
	comp=Z,329nm,18.0s								
EADA	**Adamuz**	**90.35**	**8**	P		**P**	**04 16 22.2**	**+0.6**	
	comp=Z,1.6nm,0.8s,mb4.4								
CSS	**Prodhromos**	**90.40**	**337**	*e*P		**P**	**04 16 21.1**	**-0.9**	
	comp=Z,19nm,0.8s,mb5.5								
PCVE	**Castro Verde**	**90.55**	**10**	eLR		LR	04 51 27.4		
	comp=Z,455nm,18.0s								
EMIN	**Mina Concepcio**	**90.56**	**9**	P		**P**	**04 16 22.3**	**-0.2**	
	comp=Z,1.1nm,0.6s,mb4.4								
MORF	**Marmelete**	**90.80**	**11**	eLQ			04 51 45.6		
MORF				eLR		LR	04 56 27.4		
	comp=Z,434nm,18.0s								
PVAQ	**Vaqueiros**	**90.81**	**10**	eLR		LR	04 49 57.0		
	comp=Z,364nm,18.0s								
EQES	**Quesada**	**90.83**	**6**	P		**P**	**04 16 24.1**	**+0.3**	
	comp=Z,1.1nm,0.7s,mb4.3								
PBDV	**Barranco-do-Ve**	**90.94**	**10**	eLR		LR	04 55 54.8		
	comp=Z,410nm,18.0s								
PFVI	**Vila Bisbo**	**90.95**	**11**	*e*P		**P**	**04 16 24.3**	**-0.1**	
	comp=Z,85nm,1.6s,mb5.8								
PFVI	**Vila Bisbo**	**90.95**	**11**	eLR		LR	04 51 02.3		
	comp=Z,356nm,18.0s								
STKA	**Stephens Creek**	**91.33**	**216**	P		**P**	**04 16 25.3**	**-0.6**	
	comp=Z,2.0nm,0.5s,mb4.7,baz=0.1,slow=6.2,SNR=8.7								
STKA				LR		LR	04 53 51.5		
	comp=Z,466nm,18.4s,MS5.0,baz=279,slow=33								
STKA	**Stephens Creek**	**91.33**	**216**	*e*P		**P**	**04 16 25.5**	**-0.4**	
	comp=Z,5.4nm,0.7s,mb5.0								
STKA	**Stephens Creek**	**91.33**	**216**	*e*P		**P**	**04 16 25.3**	**-0.6**	
	comp=Z,1.5nm,0.8s,mb4.4								
STKA	**Stephens Creek**	**91.33**	**216**	*e*P		**P**	**04 16 25.3**	**-0.6**	
STKA				pmax	pmax				
	comp=Z,1.0nm,0.8s								
ELOJ	**Sierra Loja**	**91.40**	**7**	P		**P**	**04 16 27.0**	**+0.5**	
	comp=Z,11nm,0.8s,mb5.2								
ELOJ	**Sierra Loja**	**91.40**	**7**	P		**P**	**04 16 27.0**	**+0.5**	
ELOJ				pmax	pmax				
	comp=Z,11nm,0.8s,mb5.2								
ESPR	**Espera**	**91.53**	**9**	P		**P**	**04 16 27.4**	**+0.3**	
	comp=Z,0.8nm,0.5s,mb4.3								
SDV	**Santo Domingo**	**91.95**	**73**	*e*P		**P**	**04 16 29.1**	**-0.3**	
	comp=Z,4.1nm,0.6s,mb4.9								
ROSC	**El Rosal**	**92.87**	**79**	P		**P**	**04 16 31.8**	**-1.8**	
	comp=Z,4.2nm,0.4s,mb5.2,baz=270,slow=20,SNR=2.4								
ROSC				LR		LR	04 57 36.3		
	comp=Z,156nm,21.9s,MS4.4,baz=202,slow=35								
ROSC	**El Rosal**	**92.87**	**79**	P		**P**	**04 16 31.8**	**-1.8**	
ROSC				LR		LR	04 57 36.3		
ARQ	**Araqi**	**92.88**	**314**	P		**P**	**04 16 33.7**	**+0.2**	
	SNR=14								
JMDO	**Jabal Madar**	**92.99**	**312**	P		**P**	**04 16 34.4**	**+0.3**	
	SNR=6.4								
BSY	**Bisya**	**93.08**	**313**	P		**P**	**04 16 34.7**	**+0.2**	
	SNR=9.4								
PMOZ	**Porto Moniz, M**	**93.83**	**19**	eLR		LR	04 56 03.3		
	comp=Z,408nm,18.0s								
OTAV	**Otavalo**	**93.93**	**85**	*e*P		**P**	**04 16 39.5**	**+1.0**	
	comp=Z,5.9nm,1.1s,mb4.9								
TORD	**Torodi Ar. Bea**	**115.60**	**4**	PKP		PKPdf	04 22 02.1	-0.6	
	comp=Z,1.8nm,0.5s,baz=346,slow=2.4,SNR=52								
TORD				PKKP		PKKPbc	04 32 47.5	+14	
	comp=Z,1.5nm,0.8s,baz=178,slow=2.6,SNR=7.3								
TORD	**Torodi Ar. Bea**	**115.60**	**4**	PKP		PKPdf	04 22 02.1	-0.6	
TORD				PKKP		PKKPbc	04 32 47.5	+14	
DBIC	**Dimbokro**	**121.48**	**11**	PKP		PKPdf	04 22 13.6	-0.5	
	comp=Z,2.1nm,0.4s,baz=329,slow=1.5,SNR=12								
DBIC	**Dimbokro**	**121.48**	**11**	*e*PKPdf		PKPdf	04 22 13.5	-0.6	
DBIC	**Dimbokro**	**121.48**	**11**	PKIKP		PKPdf	04 22 13.6	-0.5	
DBIC				pmax	pmax				
	comp=Z,2.0nm,0.4s								
KMBO	**Kilima Mbogo**	**122.95**	**320**	*e*PKPdf		PKPdf	04 22 17.9	+1.0	
KMBO	**Kilima Mbogo**	**122.95**	**320**	*e*PKIKP		PKPdf	04 22 17.9	+0.9	
CPUP	**Villa Florida**	**127.24**	**86**	PKP		PKPdf	04 22 23.3	-1.4	
	comp=Z,1.5nm,0.6s,baz=223,slow=0.9,SNR=4.5								
CPUP	**Villa Florida**	**127.24**	**86**	*e*PKPdf		PKPdf	04 22 19.9	-4.8	
CPUP				PKP		PKPdf	04 22 23.3	-1.4	
CPUP	**Villa Florida**	**127.24**	**86**	PKIKP		PKPdf	04 22 23.3	-1.4	
CPUP				pmax	pmax				
	comp=Z,2.0nm,0.6s								
QSPA	**South Pole Qui**	**141.22**	**180**	*e*PKPpre		PKPpre	04 22 42.6		
QSPA				*e*PKPdf		PKPdf	04 22 48.9	-0.4	
TSUM	**Tsumeb**	**146.30**	**338**	*e*PKPbc		PKPbc	04 23 01.9	+0.8	
MAW	**Mawson**	**148.00**	**218**	PKPbc		PKPbc	04 23 04.0	-0.4	
	comp=Z,11nm,0.8s,baz=294,slow=2.8,SNR=14								
MAW	**Mawson**	**148.00**	**218**	*e*PKPbc		PKPbc	04 23 03.7	-0.7	
MAW	**Mawson**	**148.00**	**218**	PKP2		PKPbc	04 23 04.0	-0.4	
MAW				pmax	pmax				
	comp=Z,11nm,0.8s								
LBTB	**Lobatse**	**149.23**	**321**	*e*PKPbc		PKPbc	04 23 09.0	+0.1	
LBTB	**Lobatse**	**149.23**	**321**	*e*PKP2		PKPbc	04 23 09.0	+0.1	
BOSA	**Boshof**	**152.57**	**319**	PKPbc		PKPbc	04 23 17.3	+0.7	
	comp=Z,18nm,0.5s,baz=27,slow=2.7,SNR=56								
BOSA	**Boshof**	**152.57**	**319**	*e*PKPbc		PKPbc	04 23 16.5	-0.2	
BOSA	**Boshof**	**152.57**	**319**	*e*PKIKP		PKPbc	04 23 16.5	-0.1	
SYO	**Syowa Base**	**155.96**	**210**	*e*PKPdf		pPKPdf	04 23 31.6	+4.3	
SYO	**Syowa Base**	**155.96**	**210**	*e*PKPab		PKPab	04 23 40.8	+0.2	
VNA3	**Neumayer Olymp**	**159.07**	**167**	*e*		PKPdf	04 23 12.7	-4.2	
SNAA	**Sanae**	**159.42**	**173**	PKP		PKPdf	04 23 18.5	+1.2	
	comp=Z,0.3nm,1.0s,baz=259,slow=1.5,SNR=2.8								
SNAA				PKPab		PKPab	04 23 53.2	-2.2	
	comp=Z,0.9nm,0.9s,baz=240,slow=2.8,SNR=6.1								
SNAA	**Sanae**	**159.42**	**173**	PKP		PKPdf	04 23 18.5	+1.2	
SNAA				PKPab		PKPab	04 23 53.2	-2.2	
SNAA	**Sanae**	**159.42**	**173**	PKIKP		PKPdf	04 23 18.5	+1.2	
SNAA							04 23 53.2		
SNAA				pmax	pmax				
	comp=Z,1.0nm,0.9s								
VNA2	**Neumayer--Watz**	**159.67**	**168**	*e*		PKPdf	04 23 15.7	-1.9	

KRSC 15 04:27:36.6±0.3, 56°22N×162°97E, h15km±15km, ML3.6,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.09**	**262**	*e*P		Pg		04 27 41.4	+1.7
KBTR				*e*S		Sg		04 27 44.4	+2.7
SMKR	**Semkarok**	**0.91**	**294**	*e*P		Pb		04 27 54.8	+0.7
SMKR				*e*S		Sb		04 28 08.1	+2.1
BDR	**Baidarnaya**	**1.04**	**290**	*e*P		Pb		04 27 57.1	+0.8
BDR				*e*S		Sb		04 28 12.4	+2.7
SRKR	**Sorokina**	**1.09**	**294**	*e*P		Pn		04 27 57.8	+0.7
KLY	**Klyuchi**	**1.30**	**275**	*e*P		Pn		04 27 59.4	-0.7
KLY				*e*S		Sb		04 28 16.3	-0.8
MKZ	**Mys Kozlova**	**1.81**	**203**	*e*P		Pn		04 28 08.9	+1.7
MKZ				*e*S		Sn		04 28 33.3	+3.5
SPN	**Mys Shipunski**	**3.57**	**210**	*e*P		Pn		04 28 33.3	+2.0
SPN				*e*S		Sn		04 29 13.3	+0.2
NLC	**Nalytchevo**	**3.71**	**216**	*e*S		Sn		04 29 19.5	+2.9
GNL	**Ganaly**	**3.85**	**231**	*e*P		Pn		04 28 38.5	+3.3

*IDC **15** 04:52:49.3±13.0, 26°21N×126°98E, h0km, mb3.9/3, mb1 3.9/3, mb1mx3.5/22, mbtmp3.9/3, Error ellipse: s-maj=384.3km s-min=139.2km az=10.0*
*ISCJB **15** 04:52:57.3±0.4, 26°15N±0°07×126°86E±0°06, h82km±5km, mb3.8/3, Error ellipse: s-maj=13.8km s-min=4.0km az=142.4*
*JMA **15** 04:52:58.5±0.1, 26°11N×126°88E, h74km±1km, M3.4*
JMA Felt I J1.

ISC 15 04:52:58.2±0.4, 26°13N±0°06×126°88E±0°06, H77km±5km, n19, σ0°90/34, mb3.8/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.22**	**337**	P		P	**Pn**	**04 53 09.8**	**+0.1**
JKE				S		S	**Sn**	**04 53 18.0**	**-0.1**
JAGN	**Aguni-jima**	**0.56**	**35**	P		P	**Pn**	**04 53 12.6**	**+0.4**
JAGN				S		S	**Sn**	**04 53 22.8**	**+0.2**
NAH1	**Naha**	**0.73**	**84**	P		P	**Pn**	**04 53 14.2**	**+0.3**
NAH1				*e*S		S	**Sn**	**04 53 25.5**	**-0.1**
JJT2	**Tamagusuku 2**	**0.78**	**89**	P		P	**Pn**	**04 53 14.8**	**+0.4**
JJT2				S		S	**Sn**	**04 53 27.4**	**+0.9**
JIH	**Iheya**	**1.33**	**47**	P		P	**Pn**	**04 53 22.2**	**+1.1**
JIH				S		S	**Sn**	**04 53 38.5**	**+0.1**
JOW	**Kunigami**	**1.43**	**60**	P		P	**Pn**	**04 53 23.0**	**+0.5**
JOW				*e*S		S	**Sn**	**04 53 40.9**	**+0.1**
JOGS	**Gusukube**	**1.90**	**225**	P		P	**Pn**	**04 53 29.9**	**+1.2**
JOGS				*e*S		S	**Sn**	**04 53 52.5**	**+0.6**
JMJ	**Miyako jima 2**	**1.94**	**228**	P		P	**Pn**	**04 53 29.5**	**+0.3**
JMJ				*e*S		S	**Sn**	**04 53 53.1**	**+0.3**
JTJ	**Tarama**	**2.46**	**234**	P		P	**Pn**	**04 53 36.0**	**-0.2**
JTJ				S		S	**Sn**	**04 54 03.9**	**-1.5**
JTK	**Tokunoshima**	**2.48**	**48**	P		P	**Pn**	**04 53 36.6**	**+0.2**
JTK				S		S	**Sn**	**04 54 04.2**	**-1.5**
JIJ	**Ishigaki jima**	**3.04**	**235**	P		P	**Pn**	**04 53 42.9**	**-1.1**
JIJ				*e*S		S	**Sn**	**04 54 16.0**	**-3.3**
JKRS	**Kuro-shima**	**3.21**	**235**	P		P	**Pn**	**04 53 47.5**	**+1.2**
JKRS				*e*S		S	**Sn**	**04 54 23.4**	**-0.1**
JAM	**Amami Oshima**	**3.33**	**46**	P		P	**Pn**	**04 53 47.9**	**0.0**
JAM				S		S	**Sn**	**04 54 24.5**	**-1.8**
IRIF	**Iriomote-Funau**	**3.37**	**239**	P		P	**Pn**	**04 53 47.5**	**-0.9**
IRIF				*e*S		S	**Sn**	**04 54 23.5**	**-3.8**
YOJ	**Yonaguni jima**	**3.88**	**246**	P		P	**Pn**	**04 53 55.6**	**+0.2**
JMZ	**Minamidaito 2**	**3.92**	**94**	P		P	**Pn**	**04 53 53.1**	**-2.9**
JMZ				S		S	**Sn**	**04 54 33.1**	**-7.7**
MKAR	**Makanchi Array**	**40.70**	**312**	P		P	**P**	**05 00 31.6**	**+0.4**
	0.6nm,0.4s,mb3.7,baz=102,slow=9.3,SNR=13								
ZALV	**Zalesovo Beam**	**41.60**	**323**	P		P	**P**	**05 00 38.6**	**+0.3**
	0.5nm,0.4s,mb3.6,baz=116,slow=9.3,SNR=3.9								
FINES	**FINESS Array B**	**72.36**	**330**	P		P	**P**	**05 04 16.6**	**+1.1**
	3.8nm,1.0s,mb4.2,baz=62,slow=6.9,SNR=5.5								

NNC 15 05:08:17.4±3.3, 38°54N×69°31E, h0km, mb3.7, mpv3.3, 2C-1D, Error ellipse: s-maj=33.7km s-min=31.0km az=32.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.65**	**11**	Pn		Pn		05 09 31.4	+2.5
	0.4nm,0.2s,baz=199,slow=16,SNR=28				⇓	Pg		05 09 42.5	-4.0
KK31									
	2.9nm,0.4s,baz=192,slow=16,SNR=19				⇑	Lg		05 10 43.7	
KK31									
	11nm,0.6s								
TKM2	**Tokmak 2**	**6.48**	**45**	⇑Pn		Pn		05 09 54.5	+0.6
	5.0nm,1.0s								
AB31	**Akbulak array**	**12.66**	**331**	P		Pn		05 11 19.6	+1.1
	0.6nm,0.5s,baz=223,slow=38,SNR=13								

IDC 15 05:14:42.5±1.8, 10°48S×164°60E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/17, mbtmp3.9/4, Error ellipse: s-maj=94.0km s-min=30.3km az=134.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.10**	**222**	P		P		05 20 53.2	-0.6
	2.0nm,0.8s,baz=28,slow=11,SNR=5.0								
WRA	**Warramunga Arr**	**30.63**	**249**	P		P		05 20 59.2	+0.5
	1.6nm,0.6s,baz=78,slow=9.0,SNR=17								
WRA				PcP		PcP		05 23 57.3	-0.1
	0.3nm,0.6s,baz=75,slow=3.1,SNR=5.8								
ASAR	**Alice Springs**	**32.05**	**242**	P		P		05 21 11.2	0.0
	1.5nm,0.6s,baz=64,slow=10,SNR=23								
ASAR				PcP		PcP		05 24 00.7	-0.4
	0.6nm,0.7s,baz=84,slow=2.5,SNR=5.5								
ILAR	**Eielson Array**	**83.34**	**19**	P		P		05 27 11.1	+0.1
	0.2nm,0.8s,baz=235,slow=6.2,SNR=4.2								

*IDC **15** 05:27:10.9±1.0, 31°54N×104°11E, h0km, mb3.6/8, mb1 3.7/9, mb1mx3.5/26, mbtmp3.6/9, ML3.0/1, Error ellipse: s-maj=36.2km s-min=17.2km az=55.0*
*NEIC **15** 05:27:12.9±0.6, 31°55N×104°08E, h10km, mb4.3/2, Error ellipse: s-maj=21.9km s-min=9.4km az=49.0*
*BJI **15** 05:27:13.2, 31°47N×104°13E, h17km, ML3.4/10*

ISC 15 05:27:11.5±1.8, 31°52N±0°05×104°11E±0°06, h2km±11km, n26, σ0°85/31, mb3.7/8, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**4.56**	**357**	*e*Pg		**Pg**		**05 28 43.4**	**+4.4**
LZH				Sg		**Sg**		**05 29 38.8**	**+0.7**
LZH				smax					
	comp=N,19nm,0.6s								
LZH				smax					
	comp=E,69nm,0.8s								
XAN	**Xi'an**	**4.77**	**57**	Pn		**Pn**		**05 28 25.5**	**+1.1**
XAN				Sn		**Sn**		**05 29 20.8**	**+0.6**
XAN				Sg		**Sg**		**05 29 43.4**	**-1.2**
XAN				smax					
	comp=N,65nm,0.7s								
XAN				smax					
	comp=E,41nm,0.8s								
ENH	**Enshi**	**4.78**	**104**	*e*Pn		**Pn**		**05 28 27.3**	**+2.7**
GYA	**Guiyang**	**5.51**	**155**	*e*Pg		**Pb**		**05 28 48.5**	**0.0**
GYA				Sn		**Sn**		**05 29 38.6**	**-0.1**
GYA				Sg		**Sg**		**05 30 03.3**	**-5.3**
GYA				smax					
	comp=N,40nm,0.7s								
GYA				smax					
	comp=E,60nm,0.9s								
CMAR	**Chiang Mai Arr**	**13.82**	**201**	Pn		**Pn**		**05 30 37.2**	**+8.7**
	comp=E,0.3nm,0.3s,baz=6.8,slow=9.4,SNR=12								
CMAR	**Chiang Mai Arr**	**13.82**	**201**	Pn		**Pn**		**05 30 37.2**	**+8.7**
SONM	**Songino Array**	**16.39**	**5**	Pn		**Pn**		**05 31 01.4**	**-1.3**
	comp=E,0.1nm,0.3s,baz=188,slow=8.4,SNR=2.5								
SONM	**Songino Array**	**16.39**	**5**	Pn		**Pn**		**05 31 01.4**	**-1.3**
KSRS	**Korea Array**	**20.48**	**67**	P		**P**		**05 31 50.3**	**-0.3**
	comp=E,0.5nm,0.3s,baz=263,slow=9.1,SNR=4.3								
MK31	**Makanchi Array**	**22.68**	**319**	*e*P		**P**		**05 32 14.5**	**+0.4**
MKAR	**Makanchi Array**	**22.68**	**319**	P		**P**		**05 32 14.6**	**+0.5**
	comp=E,0.6nm,0.6s,mb3.2,baz=116,slow=11,SNR=11								
MKAR	**Makanchi Array**	**22.68**	**319**	P		**P**		**05 32 14.6**	**+0.5**
ZAA0	**Zalesovo Array**	**26.36**	**334**	*e*P		**P**		**05 32 49.1**	**+0.3**
ZALV	**Zalesovo Beam**	**26.36**	**334**	P		**P**		**05 32 49.1**	**+0.3**
	comp=E,1.9nm,0.6s,mb3.8,baz=136,slow=10,SNR=9.8								
ZALV	**Zalesovo Beam**	**26.36**	**334**	P		**P**		**05 32 49.1**	**+0.3**
KURK	**Kurchatov**	**26.92**	**323**	P		**P**		**05 32 52.6**	**-1.4**
	comp=E,0.8nm,0.4s,mb3.6,baz=129,slow=8.9,SNR=12								
KURK	**Kurchatov**	**26.92**	**323**	*e*P		**P**		**05 32 54.6**	**+0.6**
	comp=E,3.3nm,1.3s,mb3.7								
FINES	**FINESS Array B**	**57.23**	**326**	P		**P**		**05 36 58.9**	**-1.1**
	comp=E,1.6nm,0.8s,mb4.1,baz=79,slow=9.9,SNR=4.5								
FINES	**FINESS Array B**	**57.23**	**326**	P		**P**		**05 36 58.9**	**-1.1**
WRAB	**Tennant Creek**	**58.81**	**146**	*e*P		**P**		**05 37 11.4**	**-0.1**
	comp=E,7.0nm,1.2s,mb4.6								
WRA	**Warramunga Arr**	**58.81**	**146**	P		**P**		**05 37 11.2**	**-0.4**
	comp=E,0.5nm,0.5s,mb3.8,baz=339,slow=7.6,SNR=10								
WRA	**Warramunga Arr**	**58.81**	**146**	P		**P**		**05 37 11.2**	**-0.4**
ASAR	**Alice Springs**	**61.84**	**149**	P		**P**		**05 37 32.3**	**+0.1**
	comp=E,0.3nm,0.8s,mb3.5,baz=353,slow=6.7,SNR=3.2								
ASAR	**Alice Springs**	**61.84**	**149**	P		**P**		**05 37 32.3**	**+0.1**
ILAR	**Eielson Array**	**69.46**	**26**	P		**P**		**05 38 20.2**	**-0.8**
	comp=E,0.2nm,0.5s,mb3.3,baz=293,slow=4.8,SNR=6.2								
ILAR	**Eielson Array**	**69.46**	**26**	P		**P**		**05 38 20.2**	**-0.8**

*ISCJB **15** 05:34:54.8±0.5, 52°57S±0°07×17°4E±0°2, h10km, mb4.0/14, MS3.9/2, Error ellipse: s-maj=18.4km s-min=10.3km az=5.0*
*IDC **15** 05:34:54.8±0.6, 52°44S×17°70E, h0km, mb4.0/13, mb1 4.1/13, mb1mx4.0/17, mbtmp4.0/13, MS3.9/2, Ms1 3.9/2, ms1mx3.3/21, Error ellipse: s-maj=24.3km s-min=17.0km az=78.0*
*NEIC **15** 05:34:56.2±0.5, 52°42S×17°69E, h10km, mb4.4/6, Error ellipse: s-maj=20.7km s-min=13.5km az=83.0*

ISC 15 05:34:56.8±0.5, 52°62S±0°07×17°4E±0°2, h10km, n42, σ1°45/32, mb4.0/14, MS3.9/2, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**20.37**	**8**	P		P		**05 39 34.9**	**+1.6**
	15nm,1.0s,baz=165,slow=12,SNR=8.4								
SUR	**Sutherland**	**20.37**	**8**	*e*P		**P**		**05 39 35.5**	**+2.2**
	12nm,0.8s								
SNAA	**Sanae**	**21.12**	**198**	P		**P**		**05 39 42.9**	**+1.7**
	4.3nm,0.8s,mb3.8,baz=43,slow=8.9,SNR=45								
SNAA	**Sanae**	**21.12**	**198**	*e*P		**P**		**05 39 42.4**	**+1.2**
	16nm,0.9s,mb4.3								
VNA2	**Neumayer--Watz**	**21.49**	**202**	*e*		*e*		**05 39 43.5**	**-1.7**
	baz=26,slow=11								
VNA1	**Neumayer--Stat**	**21.50**	**203**	*e*		*e*		**05 39 44.0**	**-1.3**
VNA1						*e*		05 39 48.1	
VNA3	**Neumayer Olymp**	**22.25**	**203**	*e*		*e*		**05 39 51.2**	**-2.0**
VNA3						*e*		05 39 55.0	
BOSA	**Boshof**	**24

	5.8nm,1.2s,mb4.4							
SBA	**Scott Base**	**55.34**	**195**	*e*P		**P**	**05 48 28.9**	**+0.6**
	1.5nm,0.7s,mb4.1							
VNA3	**Neumayer Olymp**	**56.04**	**157**	*e*		**P**	**05 48 32.5**	**-0.9**
VNA2	**Neumayer--Watz**	**56.84**	**157**	*e*		**P**	**05 48 38.4**	**-0.7**
	baz=236,slow=9.0							
SNAA	**Sanae**	**58.01**	**158**	P		**P**	**05 48 47.0**	**-0.3**
	0.3nm,0.9s,mb3.3,baz=273,slow=7.1,SNR=3.3							
SNAA	**Sanae**	**58.01**	**158**	P		**P**	**05 48 47.0**	**-0.3**
SJG	**San Juan**	**63.00**	**36**	LR		LR	06 14 25.5	
	comp=Z,55nm,19.4s,MS3.7,baz=104,slow=34							
TXAR	**Lajitas Array**	**65.55**	**356**	P		**P**	**05 49 44.2**	**+5.6**
	1.0nm,0.9s,mb3.8,baz=169,slow=9.7,SNR=3.7							
TXAR	**Lajitas Array**	**65.55**	**356**	P		**P**	**05 49 44.2**	**+5.6**
TKL	**Tuckaleechee C**	**73.33**	**14**	LR		LR	06 17 18.5	
	comp=Z,46nm,18.7s,MS3.8,baz=252,slow=31							
NVAR	**Mina Array Bea**	**76.43**	**345**	P		**P**	**05 50 44.9**	**+0.5**
	2.0nm,0.8s,mb4.1,baz=177,slow=6.9,SNR=11							
NVAR	**Mina Array Bea**	**76.43**	**345**	P		**P**	**05 50 44.9**	**+0.5**
PDAR	**Pinedale Array**	**79.34**	**353**	P		**P**	**05 50 59.9**	**-0.6**
	1.3nm,0.9s,mb3.9,baz=167,slow=7.0,SNR=7.6							
PDAR	**Pinedale Array**	**79.34**	**353**	P		**P**	**05 50 59.9**	**-0.6**
PD02	**Pinedale Array**	**79.36**	**353**	*e*P		**P**	**05 51 00.6**	**0.0**
BOSA	**Boshof**	**97.29**	**134**	LR		LR	06 32 35.3	
	comp=Z,55nm,18.6s,MS4.1,baz=349,slow=33							

*ISCJB **15** 06:16:20.0±0.7, 10°.61S±0°.05×108°.27E±0°.05, h10km, mb3.5/5, Error ellipse: s-maj=8.6km s-min=6.0km az=38.4*
*IDC **15** 06:16:22.9±3.1, 10°.02S×108°.93E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.6/18, mbtmp3.6/6, ML3.4/1, MS2.9/1, Ms1 3.1/1, ms1mx2.4/17, Error ellipse: s-maj=132.9km s-min=21.4km az=48.0*
*DJA **15** 06:16:23, 10°.62S×108°.12E, h30km, MLv4.5/6*
ISC 15 06:16:21.9±0.7, 10°.61S±0°.05×108°.27E±0°.05, h10km, n24, σ1s16/28, mb3.5/5, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
XMIS	**Christmas Isla**	**2.57**	**273**	P	**Pn**	**06 17 01.9**	**-1.7**
XMIS				S	**Sn**	**06 17 28.9**	**-6.1**
CISI	**Cisompet, Garu**	**3.07**	**352**	P	**Pn**	**06 17 10.6**	**+0.1**
CISI				S	**Sn**	**06 17 46.1**	**-1.1**
UGM	**Wanagama**	**3.49**	**40**	P	**Pn**	**06 17 15.8**	**-0.4**
UGM				S	**Sn**	**06 17 55.2**	**-2.4**
UGM	**Wanagama**	**3.49**	**40**	P	**Pg**	**06 17 27.4**	**-1.3**
	264nm,1.1s,1.0nm						
PCJI	**Pacitan**	**3.74**	**50**	P	**Pn**	**06 17 19.3**	**-0.5**
LEM	**Lembang**	**3.81**	**350**	P	**Pn**	**06 17 26.7**	**+6.0**
SKJI	**Sukabumi**	**3.96**	**335**	S	**Sn**	**06 18 08.3**	**-1.0**
DBJI	**Dramaga**	**4.30**	**339**	P	**Sn**	**06 18 19.5**	**+1.8**
	131nm,0.7s,8μm						
PWJI	**Pagerwojo**	**4.34**	**54**	P	**Pn**	**06 17 28.8**	**+0.9**
PWJI				S	**Sn**	**06 18 12.9**	**-5.7**
PWJI	**Pagerwojo**	**4.34**	**54**	P	**Pn**	**06 17 29.4**	**+1.5**
CBJI	**Citeko**	**4.39**	**341**	P	**Sn**	**06 18 13.7**	**-6.3**
	813nm,0.6s						
SJI	**Sawahan**	**4.49**	**51**	P	**Pn**	**06 17 30.9**	**+0.9**
CGJI	**Cibinong**	**4.72**	**327**	P	**Pn**	**06 17 34.3**	**+1.2**
JAGI	**Jajag, Banyuwa**	**6.18**	**70**	P	**Pn**	**06 17 54.8**	**+1.5**
	49nm,0.7s						
SRBI	**Singaraja**	**7.30**	**70**	P	**Pn**	**06 18 09.6**	**+0.9**
MDSI	**Maura Dua**	**7.31**	**326**	P	**Pn**	**06 18 08.8**	**0.0**
	419nm11nm,1.1s						
TPI	**Tanjungpandan**	**7.83**	**356**	P	**Pb**	**06 18 40.4**	**+2.6**
FITZ	**Fitzroy Crossi**	**18.39**	**116**	P	**Pn**	**06 20 36.8**	**-0.4**
	0.1nm,0.3s,baz=281,slow=10,SNR=3.6						
FITZ				S	**Sn**	**06 23 43.0**	**-20**
	0.1nm,0.3s,baz=125,slow=14,SNR=3.0						
WRA	**Warramunga Arr**	**26.77**	**113**	P	**P**	**06 22 01.0**	**-1.2**
	0.6nm,0.8s,mb3.2,baz=287,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**27.66**	**121**	P	**P**	**06 22 10.5**	**+0.3**
	0.4nm,0.7s,mb3.1,baz=297,slow=9.7,SNR=4.0						
CMAR	**Chiang Mai Arr**	**30.31**	**342**	LR	LR	06 34 06.8	
	comp=Z,26nm,20.9s,baz=165,slow=36						
SONM	**Songino Array**	**58.21**	**359**	P	**P**	**06 26 16.5**	**+0.4**
	0.3nm,0.5s,mb3.6,baz=186,slow=8.1,SNR=4.0						
MKAR	**Makanchi Array**	**61.69**	**340**	P	**P**	**06 26 40.7**	**+0.7**
	0.7nm,0.7s,mb3.9,baz=146,slow=8.6,SNR=7.0						
ZALV	**Zalesovo Beam**	**67.32**	**345**	P	**P**	**06 27 15.8**	**-1.0**
	0.3nm,0.4s,mb3.7,baz=168,slow=7.4,SNR=2.4						

*ISCJB **15** 06:25:22.9±0.6, 40°.80N±0°.04×31°.96E±0°.05, h8km±8km, Error ellipse: s-maj=6.6km s-min=5.4km az=42.3*
*CSEM **15** 06:25:22.6±0.3, 40°.78N×32°.00E, h12km, MD2.7, Error ellipse: s-maj=10.6km s-min=7.0km az=140.0*
*ISK **15** 06:25:22.6, 40°.80N×31°.97E, h11km, MD2.7*
ISC 15 06:25:23.4±0.6, 40°.79N±0°.04×31°.96E±0°.05, h12km±6km, n14, σ0s88/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGKT	**Sivrigoynuk**	**0.22**	**162**	*i* P	**Pg**	**06 25 28.1**	**-0.1**
SGKT	**Sivrigoynuk**	**0.22**	**162**	*i* P	**Pg**	**06 25 28.0**	**-0.1**
SGKT				*i* S	**Sg**	**06 25 31.4**	**0.0**
MDU	**Mudurnu**	**0.65**	**241**	*e*PG	**Pg**	**06 25 35.5**	**-0.6**
MDU				*e*SG	**Sg**	**06 25 45.8**	**+1.1**
MDU	**Mudurnu**	**0.65**	**241**	*e*Pg	**Pg**	**06 25 35.5**	**-0.6**
MDU				*e*Sg	**Sg**	**06 25 45.8**	**+1.1**
KDZE	**Karadeniz Ereo**	**0.66**	**323**	*e*PG	**Pg**	**06 25 35.7**	**-0.5**
KDZE				*e*SG	**Sg**	**06 25 45.0**	**+0.2**
KDZE	**Karadeniz Ereo**	**0.66**	**323**	*e*Pg	**Pg**	**06 25 35.7**	**-0.5**
KDZE				*e*Sg	**Sg**	**06 25 45.0**	**+0.2**
SAFT	**Safranbolu**	**0.71**	**50**	*e*PG	**Pg**	**06 25 36.6**	**-0.6**
SAFT				*e*SG	**Sg**	**06 25 46.8**	**+0.3**
SAFT	**Safranbolu**	**0.71**	**50**	*e*Pg	**Pg**	**06 25 36.6**	**-0.6**
SAFT				*e*Sg	**Sg**	**06 25 46.8**	**+0.3**
GULT	**Gulveren**	**1.16**	**253**	*e*PN	**Pn**	**06 25 45.4**	**0.0**
GULT	**Gulveren**	**1.16**	**253**	*e*Pn	**Pn**	**06 25 45.4**	**0.0**
BALT	**Daday**	**1.31**	**55**	*i* P	**Pn**	**06 25 44.5**	**-2.9**
BALT				*i* S	**Sb**	**06 26 06.3**	**+1.7**
BALT	**Daday**	**1.31**	**55**	*i* P	**Pn**	**06 25 44.5**	**-2.9**
BALT				*i* S	**Sb**	**06 26 06.3**	**+1.7**
SVRH	**Sivrihisar-ESK**	**1.38**	**194**	*e*PN	**Pn**	**06 25 48.4**	**0.0**
SVRH	**Sivrihisar-ESK**	**1.38**	**194**	*e*Pn	**Pn**	**06 25 48.4**	**0.0**

TRN 15 06:36:21.3, 13°.20N×61°.37W, h140km, MD3.5, M3.4(FDF), 2C-5D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FCV	**Fort Charlotte**	**0.13**	**109**	⇓*i* P	Pn	06 36 41.1	+0.9
FCV				*e*S	Sn	06 36 55.8	+1.3
SVB	**Belmont**	**0.14**	**59**	*e*P	Pn	06 36 41.4	+1.2
SVB				*e*S	Sn	06 36 55.0	+0.5
SVV	**Soufriere Volc**	**0.19**	**52**	⇑*i* P	Pn	06 36 41.7	+1.4
SVV				*e*S	Sn	06 36 56.4	+1.6
SSV	**Crater Summit**	**0.21**	**54**	⇑*e*P	Pn	06 36 41.8	+1.4
MCLT	**Moule a Chique**	**0.66**	**40**	*e*P	Pn	06 36 44.1	+1.7
MCLT				*e*S	Sn	06 36 59.8	+1.3
SLB	**Belfond**	**0.70**	**27**	⇓*i* P	Pn	06 36 45.0	+2.2
SLB				*e*S	Sn	06 37 00.6	+1.6
SLPE	**Piton Saint Es**	**0.74**	**30**	*e*P	Pn	06 36 44.4	+1.4
SLPE				*e*S	Sn	06 37 01.6	+2.1
SLW	**Petit Monier**	**0.92**	**27**	*e*P	Pn	06 36 46.1	+1.6
SLW				*e*S	Sn	06 37 05.0	+2.9
GRW	**Mount Saint Ca**	**1.07**	**195**	⇓*i* P	Pn	06 36 46.5	+0.7
GRW				*e*S	Sn	06 37 05.8	+1.4
BIM	**Bigot**	**1.34**	**13**	*e*P	Pn	06 36 49.3	+0.9
MVM	**Montagne Vaucl**	**1.42**	**19**	⇓*i* P	Pn	06 36 50.6	+1.3
MVM				⇓*e*S	Sn	06 37 13.8	+3.1
FDF	**Fort de France**	**1.54**	**8**	*e*P	Pn	06 36 51.5	+1.0
TRN	**Trinidad (W)**	**2.54**	**181**	*e*S	Sn	06 37 34.0	-0.2

MEX 15 06:41:01.2±0.8, 14°.56N×94°.02W, h5km, MD3.8, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.38**	**34**	*i* P	Pn	06 41 22.4	-4.6
PCIG				*i* S	Sb	06 41 40.2	-5.1
THIG		**1.73**	**78**	*i* P	Pn	06 41 28.3	-3.7
THIG				*i* S	Sn	06 41 49.8	-4.7
TGIG		**2.37**	**21**	*e*P	Pn	06 41 38.5	-2.2
TGIG				*i* S	Sn	06 42 06.5	-3.6
CCIG	**Comitan**	**2.50**	**46**	*e*P	Pn	06 41 40.1	-2.4
CCIG				*i* S	Sn	06 42 09.8	-3.5
CMIG	**Matias Romero**	**2.65**	**342**	*e*P	Pn	06 41 41.3	-3.2
CMIG				*i* S	Sn	06 42 13.6	-3.5
PNIG	**Pinotepa**	**4.36**	**295**	*e*P	Pn	06 42 06.3	-1.8
PNIG				*i* S	Sn	06 42 55.9	-3.4

*CSEM **15** 06:49:14.5±0.9, 38°.48N×25°.32E, h2km, MD2.8, Error ellipse: s-maj=18.0km s-min=8.8km az=107.0*
*ISCJB **15** 06:49:15.4±1.2, 38°.46N±0°.04×25°.45E±0°.08, h10km, Error ellipse: s-maj=8.9km s-min=5.4km az=170.9*
*ATH **15** 06:49:15.9, 38°.53N×25°.26E, h45km, MD3.3/3*
*DDA **15** 06:49:15.1, 38°.52N×25°.45E, h5km±4km, Md2.8*
ISC 15 06:49:15.1±1.7, 38°.50N±0°.04×25°.39E±0°.09, h7km±8km, n14, σ0s85/25, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.96**	**98**	*i* P	**Pg**	**06 49 33.8**	**+0.2**
URLA				*i* S	**Sg**	**06 49 46.1**	**+0.1**
URLA	**Izmir**	**0.96**	**98**	*i* P	**Pg**	**06 49 33.8**	**+0.3**
URLA				*i* S	**Sg**	**06 49 46.1**	**+0.1**
PRK	**Paraskevi**	**1.02**	**42**	*e*P	**Pg**	**06 49 35.8**	**+1.1**
PRK				*e*S	**Sg**	**06 49 49.3**	**+1.4**
PRK	**Paraskevi**	**1.02**	**42**	*e*P	**Pg**	**06 49 35.8**	**+1.1**
PRK				*e*S	**Sg**	**06 49 49.3**	**+1.4**
AYVA	**Ayvalik**	**1.30**	**51**	*i* P	**Pn**	**06 49 38.3**	**-1.4**
AYVA				*i* S	**Sb**	**06 49 56.9**	**+0.1**
AYVA	**Ayvalik**	**1.30**	**51**	*i* P	**Pn**	**06 49 38.3**	**-1.4**
AYVA				*i* S	**Sb**	**06 49 56.9**	**+0.1**
SMG	**Samos**	**1.39**	**124**	*e*P	**Pn**	**06 49 41.7**	**+0.8**
SMG				*e*S	**Sb**	**06 50 00.2**	**+0.9**
SMG	**Samos**	**1.39**	**124**	*e*P	**Pn**	**06 49 41.7**	**+0.8**
SMG				*e*S	**Sb**	**06 50 00.2**	**+0.9**
APE	**Apeiranthos**	**1.43**	**175**	*e*P	**Pn**	**06 49 41.0**	**-0.5**
APE	**Apeiranthos**	**1.43**	**175**	*e*P	**Pn**	**06 49 41.0**	**-0.5**
BOZC	**Bozcaada**	**1.44**	**21**	*i* P	**Pn**	**06 49 41.5**	**-0.2**
BOZC				*i* S	**Sn**	**06 50 01.1**	**+0.3**
BALY	**Balya**	**2.13**	**54**	*i* P	**Pg**	**06 49 55.4**	**-0.6**
BALY				*i* S	**Sg**	**06 50 22.0**	**-1.7**
BALY	**Balya**	**2.13**	**54**	*i* S	**Sg**	**06 50 22.0**	**-1.7**
AYDN	**Tasoluk**	**2.14**	**112**	*i* P	**Pg**	**06 49 56.2**	**+0.2**
AYDN				*i* S	**Sg**	**06 50 23.0**	**-0.8**

IGQ 15 06:54:15.4, 0°.85N×79°.73W, h7km±3km, Mb4.2, Ms4.0, 10C-7D, Error ellipse: s-maj=3.7km s-min=1.7km az=70.7, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GOLV	**Golondrinas**	**0.88**	**137**	⇑S	Sg	06 54 45.3	+1.7
GOLV	**Golondrinas**	**0.88**	**137**	⇑P	Pg	06 54 33.1	+0.9
JAMA	**Jama**	**1.20**	**203**	⇑S	Sg	06 54 54.3	+0.2
JAMA	**Jama**	**1.20**	**203**	⇑P	Pg	06 54 37.9	-0.6
LITE	**Lita**	**1.37**	**92**	⇓S	Sb	06 55 00.2	+1.2
LITE	**Lita**	**1.37**	**92**	⇓P	Pn	06 54 41.1	+0.2
OTAV	**Otavalo**	**1.42**	**115**	⇓S	Sb	06 55 00.8	+0.2
OTAV	**Otavalo**	**1.42**	**115**	⇓P	Pn	06 54 42.5	+0.9
PINO	**Pino**	**1.51**	**132**	⇓P	Pn	06 54 44.0	+1.2
YANA	**Yana**	**1.51**	**130**	⇓S	Sn	06 55 03.1	+0.3
YANA	**Yana**	**1.51**	**130**	⇓P	Pn	06 54 43.9	+1.1
TERV	**Terraza Guagua**	**1.52**	**132**	P	Pn	06 54 44.1	+1.1
GGP	**Refugio Guagua**	**1.53**	**132**	⇑P	Pn	06 54 43.8	+0.6
JUA2	**San Juan 2**	**1.55**	**133**	P	Pn	06 54 44.3	+1.0
PECV	**Mancha de Ca P**	**1.65**	**191**	P	Pn	06 54 46.6	+1.9
CAYA	**Cayambe**	**1.91**	**114**	P	Pn	06 54 52.0	+3.7
PITA	**Cotopaxi Volc**	**1.91**	**137**	P	Pn	06 54 50.8	+2.4
CAYR	**Refugio Cayamb**	**1.92**	**116**	S	Sn	06 55 18.5	+5.7
CAYR	**Refugio Cayamb**	**1.92**	**116**	P	Pn	06 54 51.8	+3.3
BREF	**Cotopaxi Volca**	**1.99**	**139**	P	Pn	06 54 52.1	+2.6
VC1	**Cotopaxi 1**	**1.99**	**138**	P	Pn	06 54 52.8	+3.2
BVC2	**Cotopaxi Volca**	**2.00**	**139**	P	Pn	06 54 52.3	+2.7
BTAM	**Cotopaxi Volca**	**2.02**	**139**	P	Pn	06 54 52.9	+3.0
MOV1	**Cotopaxi Vol s**	**2.02**	**140**	P	Pn	06 54 52.7	+2.8
BMOR	**Cotopaxi Volca**	**2.02**	**141**	P	Pn	06 54 52.1	+2.2
ANTI	**Antisana**	**2.04**	**129**	⇑P	Pn	06 54 52.9	+2.8
COV1	**Cotopaxi Volc**	**2.05**	**137**	S	Sn	06 55 20.1	+4.0
COV1	**Cotopaxi Volc**	**2.05**	**137**	P	Pn	06 54 52.3	+2.0
TAMB	**Tambo**	**2.06**	**138**	P	Pn	06 54 53.8	+3.4
CHIS	**Cerro-Chispas-**	**2.13**	**208**	P	Pn	06 54 53.3	+1.8
CHAR	**Charly**	**2.26**	**114**	P	Pn	06 54 58.5	+5.2
PISA	**Pisayambo**	**2.33**	**145**	P	Pn	06 54 58.4	+4.2
IGUA	**Igualata**	**2.57**	**155**	P	Pn	06 55 01.8	+4.3
IGUA	**Igualata**	**2.57**	**155**	S	Sn	06 55 33.7	+4.7
BRUN	**Tungurahua Vol**	**2.62**	**150**	P	Pn	06 55 03.6	+5.5
BULB	**Ulba Tungurahu**	**2.63**	**150**	⇑S	Sn	06 55 36.8	+6.3
BULB	**Ulba Tungurahu**	**2.63**	**150**	⇑P	Pn	06 55 02.8	+4.4
BMAS	**Trigal station**	**2.66**	**152**	S	Sn	06 55 36.1	+5.0
BMAS	**Trigal station**	**2.66**	**152**	P	Pn	06 55 02.4	+3.8
ARRY	**Arrayan**	**2.67**	**151**	⇑S	Sn	06 55 35.5	+4.0
ARRY	**Arrayan**	**2.67**	**151**	⇑P	Pn	06 55 02.2	+3.4
PAT1	**Patacocha**	**2.68**	**151**	P	Pn	06 55 03.1	+4.2
RIOE	**Riobamba**	**2.81**	**157**	P	Pn	06 55 04.7	+3.9

*CNRM **15** 06:58:40.2, 36°.15N×8°.11W, h30km, MD3.1*
*ISCJB **15** 06:58:41.0±0.6, 36°.43N±0°.03×7°.68W±0°.03, h10km, Error ellipse: s-maj=5.2km s-min=2.3km az=28.9*
*MDD **15** 06:58:42.0±0.6, 36°.17N×7°.93W, h40km±31km, mb4.0/36, Error ellipse: s-maj=7.0km s-min=4.6km az=56.0, PRIMO*
*NEIC **15** 06:58:42.6, 36°.31N×7°.87W, h19km, MN2.8(MDD), After MDD.*
*INMG **15** 06:58:43.8±1.1, 36°.32N×7°.91W, h18km±4km, ML2.7, Error ellipse: s-maj=3.8km s-min=3.8km az=23.0*
*CSEM **15** 06:58:43.1±0.2, 36°.40N×7°.75W, h20km, ML3.5/15, Error ellipse: s-maj=5.4km s-min=2.4km az=31.0*
*IGIL **15** 06:58:43.2, 36°.30N×7°.91W, h17km, ML2.9*
*LDG **15** 06:58:43.7±0.2, 36°.25N×7°.87W, h25km, Ml3.4/4, Error ellipse: s-maj=3.5km s-min=1.8km az=28.0*
ISC 15 06:58:42.1±0.5, 36°.43N±0°.03×7°.72W±0°.03, h10km, n180, σ1s18/340, 4D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PBDV	**Barranco-do-Ve**	**0.83**	**348**	*e*P	**Pg**	**06 59 00.2**	**+2.1**
PBDV				*e*S	**Sg**	**06 59 12.9**	**+4.0**
	71nm,0.2s						
PBDV	**Barranco-do-Ve**	**0.83**	**348**	*e*P	**Pg**	**06 59 00.2**	**+2.1**
PBDV				*e*S	**Sg**	**06 59 12.9**	**+4.0**
PBDV				A		06 59 18.2	
	71nm,0.2s						
PVAQ	**Vaqueiros**	**0.97**	**360**	*e*P	**Pg**	**06 59 02.5**	**+1.7**
PVAQ				*e*S	**Sg**	**06 59 16.8**	**+3.4**
	207nm,0.3s						
PVAQ	**Vaqueiros**	**0.97**	**360**	*e*P	**Pg**	**06 59 02.5**	**+1.7**
PVAQ				*e*S	**Sg**	**06 59 16.8**	**+3.4**
PVAQ				A		06 59 17.8	
	207nm,0.3s						
EGRO	**El Granado**	**1.12**	**10**	P	**Pb**	**06 59 04.7**	**+1.2**
EGRO				S	**Sb**	**06 59 20.6**	**+2.5**
EGRO	**El Granado**	**1.12**	**10**	P	**Pb**	**06 59 04.7**	**+1.2**
	11nm,0.4s,SNR=26						
EGRO				S	**Sb**	**06 59 20.6**	**+2.5**
	42nm,0.3s,SNR=17						
EGRO	**El Granado**	**1.12**	**10**	P	**Pb**	**06 59 04.7**	**+1.2**
	11nm,0.4s,SNR=26						
EGRO				S	**Sb**	**06 59 20.6**	**+2.5**
	42nm,0.3s,SNR=17						
PFVI	**Vila Bisbo**	**1.14**	**308**	P	**Pb**	**06 59 02.0**	**-1.8**
PFVI				S	**Sb**	**06 59 16.4**	**-2.2**
PFVI	**Vila Bisbo**	**1.14**	**308**	P	**Pb**	**06 59 02.0**	**-1.8**
	12nm,0.3s,SNR=134						
PFVI				S	**Sb**	**06 59 16.4**	**-2.2**
	24nm,0.3s,SNR=6.9						
PFVI	**Vila Bisbo**	**1.14**	**308**	P	**Pb**	**06 59 02.0**	**-1.8**
	12nm,0.3s,SNR=134						
PFVI				*e*S	**Sb**	**06 59 16.8**	**-1.8**
	49nm,0.2s						
PFVI	**Vila Bisbo**	**1.14**	**308**	⇓*e*P	**Pb**	**06 59 02.0**	**-1.8**
PFVI				*e*S	**Sb**	**06 59 16.8**	**-1.8**
PFVI				A		06 59 18.3	
	49nm,0.2s						
MORF	**Marmelete**	**1.15**	**320**	P	**Pb**	**06 59 02.1**	**-1.9**
	SNR=7.9						
MORF				S	**Sb**	**06 59 17.8**	**-1.3**
	SNR=7.9						
MORF	**Marmelete**	**1.15**	**320**	⇓*e*P	**Pb**	**06 59 03.0**	**-1.1**
MORF				*e*S	**Sb**	**06 59 18.8**	**-0.3**
MORF				A		06 59 19.0	
	136nm,0.1s						
PCVE	**Castro Verde**	**1.23**	**348**	⇓*e*P	**Pn**	**06 59 05.8**	**+0.5**
PCVE				*e*S	**Sb**	**06 59 22.3**	**+1.0**
PCVE				A		06 59 23.4	

	114nm,0.4s							
PTEO	**Sao Teotonio**	**1.38**	**324**	*e*P		**Pn**	**06 59 06.5**	**-0.8**
PTEO				*e*S		**Sn**	**06 59 23.8**	**-1.8**
	60nm,0.2s							
PTEO	**Sao Teotonio**	**1.38**	**324**	*e*P		**Pn**	**06 59 06.5**	**-0.8**
PTEO				*e*S		**Sn**	**06 59 23.8**	**-1.8**
PTEO				A			06 59 26.2	
	60nm,0.2s							
MESJ	**Messejana**	**1.46**	**344**	*e*P		**Pn**	**06 59 08.8**	**+0.2**
MESJ				*e*			06 59 09.1	
	baz=126,slow=7.4							
MESJ				*e*S		**Sn**	**06 59 27.0**	**-0.8**
MESJ	**Messejana**	**1.46**	**344**	P		**Pn**	**06 59 08.3**	**-0.2**
	SNR=7.9							
MESJ				S		**Sn**	**06 59 27.5**	**-0.3**
	SNR=7.9							
ESPR	**Espera**	**1.56**	**73**	P		**Pn**	**06 59 09.9**	**+0.1**
ESPR				S		**Sn**	**06 59 30.2**	**+0.2**
ESPR	**Espera**	**1.56**	**73**	P		**Pn**	**06 59 09.9**	**+0.1**
	18nm,0.2s,SNR=37							
ESPR				S		**Sn**	**06 59 30.2**	**+0.2**
	26nm,0.2s							
ESPR	**Espera**	**1.56**	**73**	P		**Pn**	**06 59 09.9**	**+0.1**
	18nm,0.2s,SNR=37							
ESPR				S		**Sn**	**06 59 30.2**	**+0.1**
	26nm,0.2s							
EMIN	**Mina Concepcio**	**1.57**	**32**	P		**Pn**	**06 59 10.9**	**+0.8**
EMIN				S		**Sn**	**06 59 31.3**	**+0.8**
EMIN	**Mina Concepcio**	**1.57**	**32**	P		**Pn**	**06 59 10.9**	**+0.8**
	1.7nm,0.3s,SNR=43							
EMIN				S		**Sn**	**06 59 31.3**	**+0.8**
	19nm,0.3s,SNR=25							
EMIN	**Mina Concepcio**	**1.57**	**32**	P		**Pn**	**06 59 10.9**	**+0.9**
	1.7nm,0.3s,SNR=43							
EMIN				S		**Sn**	**06 59 31.3**	**+0.8**
	19nm,0.3s,SNR=25							
PBEJ	**Beja**	**1.60**	**356**	*e*Pn		**Pn**	**06 59 11.0**	**+0.6**
PBEJ				*e*Sn		**Sn**	**06 59 31.8**	**+0.7**
	32nm,0.4s							
PBEJ	**Beja**	**1.60**	**356**	*e*Pn		**Pn**	**06 59 11.0**	**+0.6**
PBEJ				*e*Sn		**Sn**	**06 59 31.8**	**+0.7**
PBEJ				A			06 59 32.3	
	32nm,0.4s							
PNCL	**Nicolau / Gran**	**1.80**	**339**	*e*Pn		**Pn**	**06 59 12.8**	**-0.4**
PNCL				*e*Sn		**Sn**	**06 59 34.9**	**-1.1**
	42nm,0.3s							
PNCL	**Nicolau / Gran**	**1.80**	**339**	*e*Pn		**Pn**	**06 59 12.8**	**-0.4**
PNCL				*e*Sn		**Sn**	**06 59 34.9**	**-1.1**
PNCL				A			06 59 35.1	
	42nm,0.3s							
PBAR	**Barrancos**	**1.82**	**17**	*e*Pn		**Pn**	**06 59 14.4**	**+0.9**
	20nm,0.5s							
PBAR	**Barrancos**	**1.82**	**17**	*e*Pn		**Pn**	**06 59 14.4**	**+0.9**
PBAR				A			06 59 54.0	
	20nm,0.5s							
EVO	**Evora**	**2.11**	**354**	*e*Pn		**Pn**	**06 59 17.7**	**+0.3**
EVO				*e*Sn		**Sn**	**06 59 42.8**	**-0.9**
EVO				*e*Sg		**Sg**	**06 59 54.3**	**+4.4**
	30nm,0.2s							
EVO	**Evora**	**2.11**	**354**	*e*Pn		**Pn**	**06 59 17.9**	**+0.5**
EVO				*e*Sn		**Sn**	**06 59 43.4**	**-0.3**
	43nm,0.1s							
EVO	**Evora**	**2.11**	**354**	*e*Pn		**Pn**	**06 59 17.9**	**+0.5**
EVO				*e*Sn		**Sn**	**06 59 43.4**	**-0.3**
EVO				A			06 59 47.3	
	43nm,0.1s							
EVOP	**Sao Brissos**	**2.12**	**351**	*e*Pn		**Pn**	**06 59 17.7**	**+0.2**
EVOP				*e*Sn		**Sn**	**06 59 42.8**	**-1.1**
EVOP				*e*Sg		**Sg**	**06 59 54.3**	**+4.1**
EVOP	**Sao Brissos**	**2.12**	**351**	*e*Pn		**Pn**	**06 59 17.7**	**+0.2**
EVOP				*e*Sn		**Sn**	**06 59 42.8**	**-1.1**
EVOP				*e*Sg		**Sg**	**06 59 54.3**	**+4.1**
	15nm,0.2s							
MOE	**Montemor**	**

ERON S Sn 07 00 10.1 -0.3
ERON Agron 3.19 78 P Pn 06 59 32.7 +0.3
comp=N,0.3nm,0.1s,SNR=7.9
ERON S Sn 07 00 10.1 -0.3
comp=N,2.1nm,0.1s,SNR=7.9
ERON Agron 3.19 78 P Pn 06 59 32.7 +0.4
comp=N,0.3nm,0.1s,SNR=7.9
ERON S Sn 07 00 10.1 -0.4
comp=N,2.1nm,0.1s,SNR=7.9
PTOM Tomar 3.23 350 *e*Pn Pn 06 59 33.3 +0.5
PTOM *e*Sn Sn 07 00 10.0 -1.3
PTOM A 07 00 13.1
comp=N,23nm,0.2s
EGUA Guajares 3.36 82 P Pn 06 59 34.9 +0.3
EGUA S Sn 07 00 13.5 -1.1
EGUA Guajares 3.36 82 P Pn 06 59 34.9 +0.3
comp=N,1.1nm,0.2s,SNR=7.9
EGUA S Sn 07 00 13.5 -1.1
comp=N,38nm,0.6s,SNR=7.9
EGUA Guajares 3.36 82 P Pn 06 59 34.9 +0.3
comp=N,1.1nm,0.2s,SNR=7.9
EGUA S Sn 07 00 13.5 -1.1
comp=N,38nm,0.6s,SNR=7.9
PCBR Castelo Branco 3.41 3 *e*Pn Pn 06 59 36.0 +0.7
PCBR *e*Sn Sn 07 00 15.1 -0.7
comp=N,11nm,0.4s
PCBR Castelo Branco 3.41 3 *e*Pn Pn 06 59 36.0 +0.7
PCBR *e*Sn Sn 07 00 15.1 -0.7
PCBR A 07 00 16.7
comp=N,11nm,0.4s
ECOG Cogollos-Vega 3.43 75 P Pn 06 59 35.9 +0.3
ECOG S Sn 07 00 16.3 -0.1
ECOG Cogollos-Vega 3.43 75 P Pn 06 59 35.9 +0.3
comp=N,3.1nm,0.1s,SNR=7.9
ECOG S Sn 07 00 16.3 -0.1
comp=N,12nm,0.3s,SNR=7.9
ECOG Cogollos-Vega 3.43 75 P Pn 06 59 35.9 +0.3
comp=N,3.1nm,0.1s,SNR=7.9
ECOG S Sn 07 00 16.3 0.0
comp=N,12nm,0.3s,SNR=7.9
EQUE Quentar 3.52 76 P Pn 06 59 37.2 +0.4
comp=N,0.8nm,0.1s,SNR=7.9
EQUE S Sn 07 00 17.6 -0.8
comp=N,2.9nm,0.2s,SNR=7.9
TZK Tazeka 3.71 128 P Pn 06 59 35.0 -4.5
TZK S Sn 07 00 17.0 -6.3
TZK Tazeka 3.71 128 *i* P Pn 06 59 35.0 -4.5
TZK *i* S Sn 07 00 17.0 -6.3
EPLA Plasencia 3.85 19 P Pn 06 59 41.1 -0.3
EPLA S Sn 07 00 25.1 -1.5
EPLA Plasencia 3.85 19 P Pn 06 59 41.1 -0.3
comp=N,3.2nm,0.6s,SNR=15
EPLA S Sn 07 00 25.1 -1.5
comp=N,6.3nm,0.3s,SNR=14
EPLA Plasencia 3.85 19 P Pn 06 59 41.1 -0.2
comp=N,3.2nm,0.6s,SNR=15
EPLA S Sn 07 00 25.1 -1.5
comp=N,6.3nm,0.3s,SNR=14
EQES Quesada 3.96 68 P Pn 06 59 43.0 +0.1
EQES S Sn 07 00 29.0 -0.2
EQES Quesada 3.96 68 P Pn 06 59 43.0 +0.1
comp=N,1.0nm,0.4s,SNR=8.1
EQES S Sn 07 00 29.0 -0.2
comp=N,9.3nm,0.2s,SNR=7.9
EQES Quesada 3.96 68 P Pn 06 59 43.0 +0.2
comp=N,1.0nm,0.4s,SNR=8.1
EQES S Sn 07 00 29.0 -0.2
comp=N,9.3nm,0.2s,SNR=7.9
MTE Manteigas 3.97 2 *e*Pn Pn 06 59 43.5 +0.6
MTE *e*Sn Sn 07 00 28.6 -0.9
comp=N,14nm,0.3s
MTE Manteigas 3.97 2 *e*Pn Pn 06 59 43.5 +0.6
MTE *e*Sn Sn 07 00 28.6 -0.9
MTE A 07 00 30.5
comp=N,14nm,0.3s
CZD Col de Zad 4.04 146 P Pn 06 59 40.0 -4.0
CZD S Sn 07 00 22.0 -9.3
CZD Col de Zad 4.04 146 *i* P Pn 06 59 40.0 -4.0
KIB El Ksiba 4.09 160 P Pn 06 59 39.0 -5.6
KIB S Sn 07 00 20.0 -12
KIB El Ksiba 4.09 160 *i* P Pn 06 59 39.0 -5.6
PVIS Viseu 4.28 358 *e*Pn Pn 06 59 47.7 +0.4
PVIS *e*Sn Sn 07 00 35.5 -1.7
comp=N,8.2nm,0.3s
PVIS Viseu 4.28 358 *e*Pn Pn 06 59 47.7 +0.4
PVIS *e*Sn Sn 07 00 35.5 -1.7
PVIS A 07 00 38.2
comp=N,8.2nm,0.3s
EHUE Huescar 4.32 70 P Pn 06 59 47.9 +0.1
EHUE S Sn 07 00 37.0 -1.2
EHUE Huescar 4.32 70 P Pn 06 59 47.9 +0.1
comp=N,2.5nm,0.1s,SNR=7.9
EHUE S Sn 07 00 37.0 -1.2
comp=N,3.3nm,0.2s,SNR=7.9
EHUE Huescar 4.32 70 P Pn 06 59 47.9 +0.1
comp=N,2.5nm,0.1s,SNR=7.9
EHUE S Sn 07 00 37.0 -1.2
comp=N,3.3nm,0.2s,SNR=7.9
ESDC Sonseca Array 4.39 41 P Pn 06 59 49.9 +1.2
ESDC S Sn 07 00 39.6 -0.2
ESDC Sonseca Array 4.39 41 P Pn 06 59 49.9 +1.2
comp=N,0.3nm,0.3s,baz=226,slow=13,SNR=5.3
ESDC S Sn 07 00 39.6 -0.2
comp=N,1.6nm,0.3s,baz=225,slow=23,SNR=8.6
ESDC Sonseca Array 4.39 41 P Pn 06 59 49.9 +1.2
comp=N,0.3nm,0.3s,baz=226,slow=13,SNR=5.3
ESDC S Sn 07 00 39.6 -0.3
comp=N,1.6nm,0.3s,baz=225,slow=23,SNR=8.6
EVIA Vianos 4.69 60 P Pn 06 59 53.0 0.0
EVIA S Sn 07 00 45.9 -1.5
EVIA Vianos 4.69 60 P Pn 06 59 53.0 0.0
comp=N,1.2nm,0.1s,SNR=7.9
EVIA S Sn 07 00 45.9 -1.5
comp=N,5.0nm,0.2s,SNR=6.8
EVIA Vianos 4.69 60 P Pn 06 59 53.0 +0.1
comp=N,1.2nm,0.1s,SNR=7.9
EVIA S Sn 07 00 45.9 -1.5
comp=N,5.0nm,0.2s,SNR=6.8
MVO Moncorvo 4.76 6 P Pn 06 59 54.7 +0.9
MVO S Sn 07 00 46.5 -2.4
MVO Moncorvo 4.76 6 P Pn 06 59 54.7 +0.9
comp=N,2.9nm,0.2s,SNR=20
MVO S Sn 07 00 46.5 -2.4
comp=N,6.9nm,0.4s,SNR=6.4
MVO Moncorvo 4.76 6 *e*Pn Pn 06 59 54.5 +0.7
MVO Moncorvo 4.76 6 P Pn 06 59 54.7 +0.9
comp=N,2.9nm,0.2s,SNR=20
MVO S Sn 07 00 46.5 -2.5
comp=N,6.9nm,0.4s,SNR=6.4
MVO *e*Sn Sn 07 00 46.8 -2.2
comp=N,9.8nm,0.4s
MVO Moncorvo 4.76 6 *e*Pn Pn 06 59 54.5 +0.7
MVO *e*Sn Sn 07 00 46.8 -2.2
MVO A 07 00 49.8
comp=N,9.8nm,0.4s
PVRL Vila Real 4.84 360 *e*Pn Pn 06 59 55.4 +0.5
PVRL *e*Sn Sn 07 00 49.1 -1.9
comp=N,8.6nm,0.1s
PVRL Vila Real 4.84 360 *e*Pn Pn 06 59 55.4 +0.5
PVRL *e*Sn Sn 07 00 49.1 -1.9
PVRL A 07 00 52.0
comp=N,8.6nm,0.1s
CIA Chichaoua 4.93 190 P Pn 06 59 46.0 -10
CIA S Sn 07 00 36.0 -17
POLO Lamas de Olo 4.94 359 *e*Pn Pn 06 59 56.8 +0.5
POLO *e*Sn Sn 07 00 51.2 -2.2
comp=N,4.9nm,0.4s
POLO Lamas de Olo 4.94 359 *e*Pn Pn 06 59 56.8 +0.5
POLO *e*Sn Sn 07 00 51.2 -2.2
POLO A 07 00 54.0
comp=N,4.9nm,0.4s
GUD Guadarrama 5.05 32 P Pn 06 59 59.3 +1.5
GUD S Sn 07 00 54.7 -1.4
GUD Guadarrama 5.05 32 P Pn 06 59 59.3 +1.5
comp=N,2.6nm,0.2s,SNR=7.9
GUD S Sn 07 00 54.7 -1.4
comp=N,3.8nm,0.2s,SNR=7.9
GUD Guadarrama 5.05 32 P Pn 06 59 59.3 +1.5
comp=N,2.6nm,0.2s,SNR=7.9
GUD S Sn 07 00 54.7 -1.4
comp=N,3.8nm,0.2s,SNR=7.9
ZFT Errachidia 5.20 147 P Pn 06 59 55.0 -4.8
ZFT S Sn 07 00 51.0 -8.8
ZFT Errachidia 5.20 147 *i* P Pn 06 59 55.0 -4.8
PCAB Cabril 5.28 357 *e*Pn Pn 07 00 01.4 +0.4
PCAB *e*Sn Sn 07 00 59.2 -2.6
comp=N,5.2nm,0.3s
PCAB Cabril 5.28 357 *e*Pn Pn 07 00 01.4 +0.4
PCAB *e*Sn Sn 07 00 59.2 -2.6
PCAB A 07 01 02.8
comp=N,5.2nm,0.3s
EMUR La Murta 5.36 73 P Pn 07 00 02.0 -0.1
EMUR S Sn 07 01 00.9 -3.0
EMUR La Murta 5.36 73 P Pn 07 00 02.0 -0.1
comp=N,1.4nm,0.3s,SNR=7.9
EMUR S Sn 07 01 00.9 -3.0
comp=N,4.8nm,0.5s,SNR=7.9
EMUR La Murta 5.36 73 P Pn 07 00 02.0 -0.1
comp=N,1.4nm,0.3s,SNR=7.9
EMUR S Sn 07 01 00.9 -3.0
comp=N,4.8nm,0.5s,SNR=7.9
ETOB Tobarra 5.38 64 P Pn 07 00 01.9 -0.4
ETOB S Sn 07 01 01.5 -2.8
ETOB Tobarra 5.38 64 P Pn 07 00 01.9 -0.4
comp=N,1.3nm,0.3s,SNR=11
ETOB S Sn 07 01 01.5 -2.8
comp=N,13nm,1.1s
ETOB Tobarra 5.38 64 P Pn 07 00 01.9 -0.4
comp=N,1.3nm,0.3s,SNR=11
ETOB S Sn 07 01 01.5 -2.8
comp=N,13nm,1.1s
PBRG Braganca 5.42 8 *e*Pn Pn 07 00 03.3 +0.4
PBRG *e*Sn Sn 07 01 02.9 -2.4
comp=N,4.3nm,0.6s
PBRG Braganca 5.42 8 *e*Pn Pn 07 00 03.3 +0.4
PBRG *e*Sn Sn 07 01 02.9 -2.4
PBRG A 07 01 05.0
comp=N,4.3nm,0.6s
ELOB Lobios 5.44 357 P Pn 07 00 03.7 +0.5
ELOB S Sn 07 01 02.3 -3.4
ELOB Lobios 5.44 357 P Pn 07 00 03.7 +0.5
comp=N,3.7nm,0.3s,SNR=30
ELOB S Sn 07 01 02.3 -3.4
comp=N,3.0nm,0.5s
ELOB Lobios 5.44 357 P Pn 07 00 03.7 +0.6
comp=N,3.7nm,0.3s,SNR=30
PGAV Gavieira, Arco 5.54 356 *e*Pn Pn 07 00 05.1 +0.5
PGAV Gavieira, Arco 5.54 356 *e*Pn Pn 07 00 05.1 +0.5
PGAV *e*Sn Sn 07 01 05.4 -3.0
PGAV A 07 01 08.7
comp=N,7.2nm,0.2s
ECAL Calabor 5.56 8 P Pn 07 00 05.7 +0.9
ECAL S Sn 07 01 05.6 -3.0
ECAL Calabor 5.56 8 P Pn 07 00 05.7 +0.9
comp=N,3.5nm,0.3s,SNR=7.7
ECAL S Sn 07 01 05.6 -3.0
comp=N,6.8nm,0.7s
ECAL Calabor 5.56 8 P Pn 07 00 05.7 +0.9
comp=N,3.5nm,0.3s,SNR=7.7
EZAM Zamans 5.76 353 P Pn 07 00 08.2 +0.6
EZAM S Sn 07 01 09.9 -3.8
EZAM Zamans 5.76 353 P Pn 07 00 08.2 +0.6
comp=N,5.0nm,0.2s,SNR=7.9
EZAM S Sn 07 01 09.9 -3.8
comp=N,8.9nm,0.8s,SNR=7.9
EZAM Zamans 5.76 353 P Pn 07 00 08.2 +0.6
comp=N,5.0nm,0.2s,SNR=7.9
ETOR Torete 6.23 44 P Pn 07 00 14.7 +0.7
ETOR S Sn 07 01 23.4 -1.9
ETOR Torete 6.23 44 P Pn 07 00 14.7 +0.7
comp=N,4.2nm,0.7s,SNR=9.0
ETOR S Sn 07 01 23.4 -1.9
comp=N,14nm,0.4s,SNR=7.9
ETOR Torete 6.23 44 P Pn 07 00 14.7 +0.7
comp=N,4.2nm,0.7s,SNR=9.0
ETOR S Sn 07 01 23.5 -1.8
comp=N,14nm,0.4s,SNR=7.9
EBEN Beniarda 6.37 67 P Pn 07 00 15.8 -0.1
EBEN S Sn 07 01 25.3 -3.3
EBEN Beniarda 6.37 67 P Pn 07 00 15.8 -0.1
comp=N,0.9nm,0.3s,SNR=7.9
EBEN S Sn 07 01 25.3 -3.3
comp=N,5.4nm,0.3s,SNR=7.9
EBEN Beniarda 6.37 67 P Pn 07 00 15.8 -0.1
comp=N,0.9nm,0.3s,SNR=7.9
EMAZ Mazaricos 6.58 352 P Pn 07 00 19.4 +0.5
EMAZ S Sn 07 01 29.9 -4.1
EMAZ Mazaricos 6.58 352 P Pn 07 00 19.4 +0.5
comp=N,3.8nm,0.3s,SNR=12
EMAZ S Sn 07 01 29.9 -4.1
comp=N,1.6nm,0.3s,SNR=5.0
EMAZ Mazaricos 6.58 352 P Pn 07 00 19.4 +0.5
comp=N,3.8nm,0.3s,SNR=12
YBT Youssef Ben Ta 6.73 193 P Pn 07 00 13.0 -8.0
YBT S Sn 07 01 20.0 -18
EMOS Mosqueruela 6.91 53 P Pn 07 00 25.1 +1.7
EMOS S Sn 07 01 39.4 -2.7
EMOS Mosqueruela 6.91 53 P Pn 07 00 25.1 +1.7
comp=N,0.7nm,0.3s,SNR=7.9
EMOS S Sn 07 01 39.4 -2.7
comp=N,15nm,0.8s,SNR=7.9
EMOS Mosqueruela 6.91 53 P Pn 07 00 25.1 +1.7
comp=N,0.7nm,0.3s,SNR=7.9
EMOS S Sn 07 01 39.4 -2.6
comp=N,15nm,0.8s,SNR=7.9
EARI Arriondas 7.13 15 P Pn 07 00 26.9 +0.6
EARI S Sn 07 01 43.8 -3.5
EARI Arriondas 7.13 15 P Pn 07 00 26.9 +0.6
comp=N,0.7nm,0.4s,SNR=7.9
EARI S Sn 07 01 43.8 -3.5
comp=N,3.7nm,0.5s,SNR=7.9
EARI Arriondas 7.13 15 P Pn 07 00 26.9 +0.6
comp=N,0.7nm,0.4s,SNR=7.9
ELAN Lanestosa 7.55 25 P Pn 07 00 33.4 +1.3
ELAN S Sn 07 01 54.1 -3.6
ELAN Lanestosa 7.55 25 P Pn 07 00 33.4 +1.3
comp=N,0.5nm,0.4s,SNR=7.9
ELAN S Sn 07 01 54.1 -3.6
comp=N,4.2nm,0.7s,SNR=7.9
ELAN Lanestosa 7.55 25 P Pn 07 00 33.4 +1.3
comp=N,0.5nm,0.4s,SNR=7.9
IEPA Eparoz 8.06 36 P Pn 07 00 40.4 +1.3
comp=N,0.9nm,0.4s,SNR=7.9
IEPA S Sn 07 02 05.8 -4.5
comp=N,5.9nm,0.7s,SNR=7.9
IEPA Eparoz 8.06 36 P Pn 07 00 40.4 +1.3
comp=N,0.9nm,0.4s,SNR=7.9
IELO Elcoad 8.12 36 P Pn 07 00 41.2 +1.2
comp=N,1.3nm,0.5s,SNR=7.9
IELO S Sn 07 02 07.7 -4.2
comp=N,3.0nm,0.4s,SNR=7.9
IELO Elcoad 8.12 36 P Pn 07 00 41.2 +1.2
comp=N,1.3nm,0.5s,SNR=7.9
EALK Alkurruntz 8.29 33 P Pn 07 00 43.5 +1.2
EALK S Sn 07 02 11.4 -4.6
EALK Alkurruntz 8.29 33 P Pn 07 00 43.5 +1.2
comp=N,1.1nm,0.3s,SNR=7.9
EALK S Sn 07 02 11.4 -4.6
comp=N,12nm,0.5s,SNR=7.9
EALK Alkurruntz 8.29 33 P Pn 07 00 43.5 +1.2
comp=N,1.1nm,0.3s,SNR=7.9
SJPF Ste Jean 8.34 35 *e*Pn Pn 07 00 43.9 +1.0
SJPF *e*Sn Sn 07 02 13.1 -4.0
comp=N,3.3nm,0.4s
SJPF Ste Jean 8.34 35 *e*Pn Pn 07 00 43.9 +1.0
SJPF *e*Sn Sn 07 02 13.1 -4.0
SJPF Ste Jean 8.34 35 P Pn 07 00 43.9 +1.0
SJPF S Sn 07 02 13.1 -4.0
comp=N,1.7nm,0.4s
SJPF Ste Jean 8.34 35 *e*Pn Pn 07 00 43.9 +1.0
ETSF Etsaut 8.49 38 *e*Pn Pn 07 00 46.3 +1.2
ETSF *e*Sn Sn 07 02 16.9 -4.0
comp=N,3.9nm,0.5s
ETSF Etsaut 8.49 38 *e*Pn Pn 07 00 46.3 +1.2
ETSF *e*Sn Sn 07 02 16.9 -4.0
ETSF Etsaut 8.49 38 P Pn 07 00 46.3 +1.2
ETSF S Sn 07 02 16.9 -4.0
comp=N,1.9nm,0.5s
ETSF Etsaut 8.49 38 *e*Pn Pn 07 00 46.3 +1.2
EBIE Bielsa 8.71 42 P Pn 07 00 49.6 +1.6
EBIE S Sn 07 02 22.4 -3.8
EBIE Bielsa 8.71 42 P Pn 07 00 49.6 +1.6
comp=N,5.8nm,1.0s,SNR=7.2
EBIE S Sn 07 02 22.4 -3.8
comp=N,4.8nm,0.5s,SNR=7.9
EBIE Bielsa 8.71 42 P Pn 07 00 49.6 +1.6
comp=N,5.8nm,1.0s,SNR=7.2
EPF Esparros 9.05 41 *e*Pn Pn 07 00 52.6 -0.1
EPF *e*Sn Sn 07 02 29.6 -5.0
comp=N,1.2nm,0.2s
EPF Esparros 9.05 41 *e*Pn Pn 07 00 52.6 -0.1
EPF S Sn 07 02 29.6 -5.0
comp=N,0.6nm,0.2s
EPF Esparros 9.05 41 *e*Pn Pn 07 00 52.6 -0.1
MTLF Montolieu 10.29 45 *e*Pn Pn 07 01 10.6 +1.0
MTLF Montolieu 10.29 45 P Pn 07 01 10.6 +1.0
MTLF Montolieu 10.29 45 *e*Pn Pn 07 01 10.6 +1.0

IDC ***15*** *07:13:36.7±36.0, 20°32S×170°76E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.9/15, mbtmp4.0/4, Error ellipse: s-maj=627.8km s-min=114.7km az=81.0*
NOU ***15*** *07:13:55.9±0.8, 20°20S×169°71E, h10km, MD2.9, ML3.2*
ISC 15 07:13:56.5±2.4, 19°5S±0°2×168°9E±0°3, h35km, n9, σ1°30/13, mb3.9/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.22**	**215**	*e*P	**Pn**	**07 14 44.2**	**-0.4**
BAYA				*e*S	**Sn**	**07 15 19.0**	**-2.7**
BAYA				AMP		07 15 22.6	
	comp=Z,32nm,3.5s						
DZM	**Mont Dzumac**	**3.41**	**221**	*e*P	**Pn**	**07 14 48.6**	**+1.4**
DZM				*e*S	**Sn**	**07 15 27.2**	**+0.8**
DZM				AMP		07 15 30.7	
	comp=Z,1μm,4.3s						
PLUM	**Mont Dore**	**3.45**	**217**	*e*S	**Sn**	**07 15 26.4**	**-1.0**
NORM	**Noumea**	**3.50**	**219**	*e*P	**Pn**	**07 14 48.8**	**+0.3**
NORM				*e*S	**Sn**	**07 15 27.8**	**-0.9**
NOUC	**Port Laguerre**	**3.52**	**222**	*e*P	**Pn**	**07 14 50.6**	**+1.9**
NOUC				*e*S	**Sn**	**07 15 31.7**	**+2.5**
NOUC				AMP		07 15 40.6	
	comp=Z,72nm,2.5s						
STKA	**Stephens Creek**	**27.40**	**238**	P	**P**	**07 19 33.5**	**-5.3**
	comp=Z,1.1nm,0.6s,mb3.5,baz=60,slow=8.1,SNR=3.1						
WRA	**Warramunga Arr**	**32.46**	**263**	P	**P**	**07 20 23.2**	**-0.6**
	comp=Z,0.8nm,0.5s,mb3.9,baz=92,slow=8.5,SNR=46						
ASAR	**Alice Springs**	**32.71**	**256**	P	**P**	**07 20 24.5**	**-1.4**
	comp=Z,1.3nm,0.5s,mb4.1,baz=92,slow=9.2,SNR=26						
FITZ	**Fitzroy Crossi**	**40.85**	**265**	P	**P**	**07 21 35.5**	**+0.2**
	comp=Z,1.5nm,0.5s,mb3.9,baz=108,slow=9.7,SNR=9.4						

ISCJB ***15*** *07:16:44.7±0.8, 71°6N±0°1×11°7W±0°2, h10km, Error ellipse: s-maj=19.8km s-min=6.0km az=28.9*
CSEM ***15*** *07:16:45.4±0.3, 71°57N×11°64W, h5km, ML2.7, Error ellipse: s-maj=18.5km s-min=6.0km az=27.0*
BER ***15*** *07:16:49.4±0.5, 71°68N×11°16W, h2km, MD2.8, ML2.7*
ISC 15 07:16:46.0±0.8, 71°6N±0°1×11°5W±0°2, h10km, n11, σ0°76/16, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMI	**Jan Mayen**	**1.11**	**123**	*e*P	**Pb**	**07 17 07.7**	**+0.5**
JMI				*e*S	**Sg**	**07 17 21.6**	**+0.1**
JMI				AML	AML	07 17 26.9	
	comp=Z,136nm,0.3s						
JMI	**Jan Mayen**	**1.11**	**123**	*e*P	**Pb**	**07 17 07.7**	**+0.5**
	SNR=53						
JMI				*e*S	**Sg**	**07 17 21.6**	**0.0**
	comp=Z,136nm,0.3s,SNR=53						
JNW	**Jan Mayen West**	**1.13**	**116**	*e*P	**Pb**	**07 17 08.2**	**+0.5**
JNW				*e*S	**Sb**	**07 17 21.5**	**-1.0**
JNW				AML	AML	07 17 23.9	
	comp=Z,156nm,0.3s						
JNW	**Jan Mayen West**	**1.13**	**116**	*e*P	**Pb**	**07 17 08.2**	**+0.5**
	SNR=53						
JNW				*e*S	**Sb**	**07 17 21.5**	**-0.9**
	comp=Z,156nm,0.3s,SNR=53						
JNE	**Jan Mayen East**	**1.19**	**117**	*e*P	**Pb**	**07 17 09.0**	**+0.4**
JNE				AML	AML	07 17 25.2	
	comp=Z,147nm,0.2s						
JNE	**Jan Mayen East**	**1.19**	**117**	*e*P	**Pb**	**07 17 09.0**	**+0.4**
	SNR=53						
SCO	**Scoresbysund**	**3.57**	**257**	*i* P	**Pn**	**07 17 40.2**	**-1.1**
DAG	**Danmarks Havn**	**5.59**	**343**	*i* P	**Pn**	**07 18 08.4**	**-0.6**
DAG				*e*S	**Sn**	**07 19 04.4**	**-8.7**
DAG	**Danmarks Havn**	**5.59**	**343**	*i* P	**Pn**	**07 18 08.4**	**-0.6**
SUMG	**Summit**	**8.33**	**290**	*i* P	**Pn**	**07 18 47.8**	**+1.2**
SUMG	**Summit**	**8.33**	**290**	*e*P	**Pn**	**07 18 47.8**	**+1.2**

IDC ***15*** *07:31:34.2±1.3, 2°50S×127°86E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.6/19, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=93.9km s-min=14.0km az=72.0*
DJA ***15*** *07:31:39, 2°13S×128°22E, h9km, MLv3.5/5*
ISCJB ***15*** *07:31:40.9±0.9, 2°14S±0°06×128°26E±0°09, h60km±10km, mb3.8/3, Error ellipse: s-maj=15.7km s-min=9.2km az=157.4*
ISC 15 07:31:42.2±1.0, 2°28S±0°07×128°28E±0°09, h76km±9km, n8, σ1°56/12, mb3.8/3, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**1.24**	**149**	P	**Pn**	**07 32 03.2**	**-0.9**
MSAI				S	**Sn**	**07 32 23.0**	**+2.6**
AAI	**Ambon**	**1.40**	**184**	P	**Pn**	**07 32 07.0**	**+0.9**
NLAI	**Namlea**	**1.52**	**231**	P	**Pn**	**07 32 06.2**	**-1.4**
NLAI				S	**Sn**	**07 32 27.8**	**+1.0**
LBMI	**Labuha**	**1.81**	**334**	P	**Pn**	**07 32 08.3**	**-3.2**
WRA	**Warramunga Arr**	**18.53**	**162**	P	**Pn**	**07 35 51.2**	**-2.5**
	0.2nm,0.3s,baz=342,slow=13,SNR=12						
WRA				S	**S**	**07 39 19.2**	**-1.0**
	0.0nm,0.3s,baz=332,slow=22,SNR=2.7						
ASAR	**Alice Springs**	**21.95**	**166**	P	**P**	**07 36 30.1**	**+0.4**
	3.2nm,0.6s,mb3.8,baz=347,slow=12,SNR=44						
ASAR				S	**S**	**07 40 27.5**	**-0.3**
	1.0nm,0.8s,baz=348,slow=22,SNR=6.4						
KSRS	**Korea Array**	**39.53**	**360**	P	**P**	**07 39 07.9**	**+2.2**
	1.0nm,0.5s,mb3.9,baz=178,slow=9.2,SNR=6.2						
KURK	**Kurchatov**	**67.62**	**328**	P	**P**	**07 42 32.6**	**+1.7**
	0.3nm,0.3s,mb3.6,baz=122,slow=7.1,SNR=4.5						

IDC 15 07:33:43.6±1.9, 0°29N×125°95E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/18, mbtmp3.5/3, MS3.2/1, Ms1 3.2/1, ms1mx2.2/15, Error ellipse: s-maj=165.6km s-min=26.5km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.72**	**158**	P	P	07 38 36.0	-0.7
	2.6nm,0.6s,baz=336,slow=12,SNR=6.2						
ASAR	**Alice Springs**	**25.04**	**163**	P	P	07 39 10.2	+0.6
	0.3nm,0.5s,baz=344,slow=10,SNR=5.3						
PSI	**Prapat**	**27.12**	**276**	LR	LR	07 51 45.4	
	comp=Z,48nm,18.6s,baz=42,slow=40						
MKAR	**Makanchi Array**	**59.95**	**327**	P	P	07 43 51.8	0.0
	0.2nm,0.3s,baz=122,slow=7.1,SNR=5.2						

ISCJB ***15*** *07:35:00.8±1.5, 37°67N±0°06×96°03E±0°05, h7km±9km, mb3.9/10, Error ellipse: s-maj=9.9km s-min=5.8km az=13.8*
IDC ***15*** *07:35:01.6±0.8, 37°68N×96°10E, h0km, mb3.9/10, mb1 4.0/13, mb1mx3.9/27, mbtmp3.8/13, ML3.9/3, MS2.9/1, Ms1 3.1/1, ms1mx2.0/37, Error ellipse: s-maj=29.6km s-min=15.3km az=45.0*
NEIC ***15*** *07:35:03.2±0.4, 37°69N×96°00E, h10km, mb3.8/3, Error ellipse: s-maj=16.3km s-min=6.4km az=45.0*
BJI ***15*** *07:35:03.9, 37°59N×96°01E, h10km, mB4.2/1, mb4.4/4, ML3.9/11, Ms3.7/8, Ms7 3.5/4*
ISC 15 07:35:02.8±1.5, 37°66N±0°06×96°04E±0°05, h7km±10km, n38, σ0°95/45, mb3.9/10, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**3.44**	**58**	Pn	**Pb**	**07 36 02.0**	**-1.9**
GTA				Pg	**Pg**	**07 36 08.9**	**+0.3**
GTA				Sn	**Sb**	**07 36 44.3**	**-1.5**
GTA				Sg	**Sg**	**07 36 55.1**	**+2.0**
GTA				smax			
	comp=N,78nm,0.8s						
GTA				smax			
	comp=E,58nm,0.9s						
GTA				LR	LR		
	comp=N,850nm,9.7s						
GTA				LR	LR		
	comp=E,790nm,7.8s						
GTA				LR	LR		
	comp=Z,540nm,8.3s						

LZH	Lanzhou	6.45	102	*e*Pg	x		07 37 41.5	
LZH				Sg	**Sg**		**07 38 29.1**	**-0.7**
LZH				smax				
	comp=N,120nm,0.8s							
LZH				smax				
	comp=E,62nm,1.0s							
LZH	**Lanzhou**	**6.45**	**102**	*e*Pg	**Pb**		**07 36 56.6**	**+1.3**
LZH				Sn	**Sn**		**07 37 52.4**	**+0.5**
LZH				smax				
	comp=N,59nm,0.5s							
LZH				smax				
	comp=E,60nm,0.8s							
LZH				LR	LR			
	comp=N,160nm,4.5s							
LZH				LR	LR			
	comp=Z,240nm,5.3s							
WMQ	**Urumqi**	**8.83**	**317**	P	**Pn**		**07 37 15.1**	**+4.5**
WMQ				S	**Sn**		**07 38 51.4**	**+1.1**
WMQ				smax				
	comp=N,51nm,1.2s							
WMQ				smax				
	comp=E,51nm,1.0s							
SONM	**Songino Array**	**12.68**	**33**	Pn	**Pn**		**07 38 07.8**	**+4.4**
	comp=E,0.7nm,0.3s,baz=216,slow=15,SNR=13							
SONM	**Songino Array**	**12.68**	**33**	Pn	**Pn**		**07 38 07.8**	**+4.4**
ENH	**Enshi**	**13.37**	**120**	*e*Pn	**Pn**		**07 38 13.4**	**+0.6**
MK31	**Makanchi Array**	**13.66**	**316**	*e*Pn	**Pn**		**07 38 16.7**	**-0.1**
MKAR	**Makanchi Array**	**13.66**	**316**	Pn	**Pn**		**07 38 15.1**	**-1.7**
	comp=E,0.4nm,0.3s,baz=136,slow=13,SNR=28							
MKAR				Sn	**Sn**		**07 40 42.0**	**-6.7**
	comp=E,0.1nm,0.3s,baz=123,slow=21,SNR=3.2							
MKAR	**Makanchi Array**	**13.66**	**316**	Pn	**Pn**		**07 38 15.1**	**-1.7**
MKAR				Sn	**Sn**		**07 40 42.0**	**-6.7**
TLY	**Talaya**	**15.01**	**19**	*e*P	**Pn**		**07 38 30.6**	**-4.5**
	comp=E,8.6nm,0.8s							
TKM2	**Tokmak 2**	**16.45**	**295**	*e*P	**Pn**		**07 38 52.3**	**-1.6**
	comp=E,7.7nm,0.8s							
AAK	**Ala-Archa**	**17.19**	**294**	*e*P	**Pn**		**07 39 03.8**	**+0.5**
	comp=E,7.0nm,0.6s							
KURK	**Kurchatov**	**18.00**	**322**	P	**Pn**		**07 39 13.1**	**-0.2**
	comp=E,0.1nm,0.3s,baz=135,slow=11,SNR=10							
KURK	**Kurchatov**	**18.00**	**322**	*e*P	**Pn**		**07 39 13.1**	**-0.2**
	comp=E,3.4nm,0.9s							
ZALV	**Zalesovo Beam**	**18.03**	**338**	P	**Pn**		**07 39 12.7**	**-0.9**
	comp=E,0.1nm,0.3s,baz=147,slow=13,SNR=2.4							
ZALV	**Zalesovo Beam**	**18.03**	**338**	P	**Pn**		**07 39 12.7**	**-0.9**
CMAR	**Chiang Mai Arr**	**19.30**	**172**	P	**Pn**		**07 39 28.6**	**-0.6**
	comp=E,0.7nm,0.3s,baz=339,slow=12,SNR=4.9							
CMAR				LR	LR		07 46 57.0	
	comp=E,36nm,18.4s,baz=185,slow=37							
CMAR	**Chiang Mai Arr**	**19.30**	**172**	P	**Pn**		**07 39 28.6**	**-0.6**
CMAR				LR	LR		07 46 57.0	
KSRS	**Korea Array**	**25.21**	**81**	P	**P**		**07 40 28.2**	**-0.8**
	comp=E,4.4nm,0.5s,mb4.2,baz=286,slow=8.2,SNR=16							
AKTK	**Aktyubinsk**	**29.82**	**308**	P	**P**		**07 41 11.3**	**+1.1**
AKTO	**Aktyubinsk**	**29.82**	**308**	P	**P**		**07 41 11.3**	**+1.1**
	comp=E,1.7nm,0.5s,mb4.0,baz=123,slow=6.7,SNR=5.8							
BRTR	**Keskin Array B**	**47.87**	**293**	P	**P**		**07 43 41.5**	**+0.3**
	comp=E,0.6nm,0.4s,mb3.9,baz=87,slow=6.3,SNR=3.7							
BRTR	**Keskin Array B**	**47.87**	**293**	P	**P**		**07 43 41.5**	**+0.3**
AKASG	**Malin Array Be**	**48.07**	**308**	P	**P**		**07 43 42.3**	**-0.3**
	comp=E,0.3nm,0.4s,mb3.7,baz=71,slow=6.4,SNR=3.0							
AKASG	**Malin Array Be**	**48.07**	**308**	P	**P**		**07 43 42.3**	**-0.3**
FINES	**FINESS Array B**	**48.38**	**323**	P	**P**		**07 43 45.2**	**+0.4**
	comp=E,1.3nm,0.8s,mb4.0,baz=179,slow=9.2,SNR=4.0							
FINES	**FINESS Array B**	**48.38**	**323**	P	**P**		**07 43 45.2**	**+0.4**
ARCES	**ARCESS Array B**	**48.50**	**334**	P	**P**		**07 43 45.9**	**+0.2**
	comp=E,8.8nm,1.2s,mb4.7,baz=87,slow=7.5,SNR=3.8							
ARCES	**ARCESS Array B**	**48.50**	**334**	P	**P**		**07 43 45.9**	**+0.2**
ILAR	**Eielson Array**	**66.74**	**25**	P	**P**		**07 45 54.3**	**+0.2**
	comp=E,0.5nm,0.8s,mb3.6,baz=298,slow=4.2,SNR=6.0							
ILAR	**Eielson Array**	**66.74**	**25**	P	**P**		**07 45 54.3**	**+0.2**
WRA	**Warramunga Arr**	**67.69**	**141**	P	**P**		**07 46 00.3**	**-0.4**
	comp=E,1.2nm,0.9s,mb3.9,baz=339,slow=6.6,SNR=8.6							
WRA	**Warramunga Arr**	**67.69**	**141**	P	**P**		**07 46 00.3**	**-0.4**
ASAR	**Alice Springs**	**70.63**	**143**	P	**P**		**07 46 19.2**	**+0.3**
	comp=E,0.7nm,0.7s,mb3.7,baz=328,slow=6.9,SNR=7.3							
ASAR	**Alice Springs**	**70.63**	**143**	P	**P**		**07 46 19.2**	**+0.3**
ESDC	**Sonseca Array**	**73.71**	**308**	P	**P**		**07 46 37.5**	**+0.3**
	comp=E,0.4nm,0.4s,mb3.7,baz=35,slow=5.9,SNR=3.9							
ESDC	**Sonseca Array**	**73.71**	**308**	P	**P**		**07 46 37.5**	**+0.3**

NEIC 15 07:39:11.1, 54°.65N×163°.53W, h5km, ML3.5(PMR), **ML3.1**(AEIC), **After AEIC., Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
FALS	**False Pass**	**0.22**	**17**	P		Pg	07 39 15.9	+0.5
FALS				S		Sg	07 39 19.9	+1.6
AKUT	**Akutan**	**1.41**	**249**	P		Pn	07 39 35.3	-2.0
AKUT				S		Sb	07 39 54.0	-2.1
SDPT	**Sand Point**	**1.89**	**67**	P		Pn	07 39 43.3	-0.7
UNV	**Unalaska Valle**	**1.92**	**246**	P		Pn	07 39 42.8	-1.6
CHGN	**Chignik**	**3.35**	**58**	*e*P		Pn	07 40 04.3	+0.3

CASC 15 07:43:24.6±1.7, 11°.80N×87°.22W, h19km±16km, MD3.6, ML2.5, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
CNGN	**Cerro Negro**	**0.86**	**36**	*e*P		Pb	07 43 40.5	-0.4
CNGN				*e*S		Sb	07 43 52.1	+0.1
CNGN				AML		AML	07 44 00.5	
	comp=E,117nm,0.2s							
CRUN	**El Crucero**	**0.92**	**79**	*e*P		Pb	07 43 40.1	-1.8
TICN	**Ticuantepe**	**0.99**	**77**	*e*P		Pb	07 43 43.1	-0.1
WILN	**Americas 2**	**1.07**	**71**	*e*P		Pb	07 43 43.6	-0.8
APON	**Apoyo**	**1.13**	**84**	*e*P		Pn	07 43 45.4	0.0
HUEN		**1.15**	**62**	*e*P		Pn	07 43 45.2	-0.5
CONN	**Concepcion**	**1.58**	**99**	*e*P		Pn	07 43 51.0	-0.5
CNCH	**Conchagua**	**1.58**	**338**	*e*P		Pn	07 43 51.5	-0.1
CNCH				*e*S		Sn	07 44 12.6	+1.1
BLLM	**Bellamira**	**1.91**	**329**	*e*P		Pn	07 43 55.6	-0.5
SNVI	**San Vicente**	**2.40**	**319**	*e*S		Sn	07 44 34.3	+2.7
LFRS	**El Faro**	**2.55**	**315**	*e*P		Pn	07 44 05.0	0.0
LFRS				*e*S		Sn	07 44 35.7	+0.2

IDC ***15*** *07:45:18.4±1.1, 6°.32S×146°.83E, h0km, mb3.7/8, mb1 3.9/10, mb1mx3.9/17, mbtmp3.7/10, ML3.0/2, MS3.5/1, Ms1 3.4/1, ms1mx2.3/17, Error ellipse: s-maj=35.4km s-min=15.0km az=89.0*

ISCJB ***15*** *07:45:22.7±3.0, 6°.3S±0°.1×146°.6E±0°.1, h40km±28km, mb3.7/9, Error ellipse: s-maj=22.3km s-min=18.3km az=168.7*

NEIC ***15*** *07:45:23.6±0.8, 6°.40S×146°.75E, h35km, mb4.1/3, Error ellipse: s-maj=22.2km s-min=11.9km az=98.0*

ISC 15 07:45:25.0±2.9, 6°.4S±0°.1×146°.6E±0°.1, h44km±28km, n24, σ1§11/25, mb3.7/9, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**3.06**	**170**	Pn		**Pn**	**07 46 10.2**	**-0.7**
	5.0nm,0.3s,baz=355,slow=6.5,SNR=11							
PMG				Pg		**Pn**	**07 46 16.3**	**+5.3**
	8.2nm,0.3s,baz=356,slow=13,SNR=16							
PMG				Sn		**Sn**	**07 46 47.7**	**+1.3**
	5.4nm,0.3s,baz=221,slow=20,SNR=7.6							
PMG				Lg			07 47 01.2	
	10nm,0.3s,baz=168,slow=19,SNR=4.4							
PMG	**Port Moresby**	**3.06**	**170**	Pn		**Pn**	**07 46 10.2**	**-0.7**
PMG				Sn		**Sn**	**07 46 47.7**	**+1.3**
PMG				Lg			07 47 01.2	
WRAB	**Tennant Creek**	**17.98**	**220**	*e*P		**Pn**	**07 49 31.2**	**-0.7**
	5.9nm,0.9s							
WB2	**Warramunga Arr**	**17.99**	**220**	*e*P		**Pn**	**07 49 31.3**	**-0.7**
WRA	**Warramunga Arr**	**18.00**	**220**	P		**Pn**	**07 49 31.6**	**-0.5**
	0.1nm,0.3s,baz=45,slow=12,SNR=19							
WRA	**Warramunga Arr**	**18.00**	**220**	P		**Pn**	**07 49 31.6**	**-0.5**
ASAR	**Alice Springs**	**21.09**	**214**	P		**P**	**07 50 06.3**	**+0.5**
	0.6nm,0.6s,mb3.1,baz=47,slow=9.3,SNR=15							
ASAR	**Alice Springs**	**21.09**	**214**	P		**P**	**07 50 06.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**23.54**	**238**	P		**P**	**07 50 31.0**	**-0.7**
	2.2nm,0.8s,mb3.6,baz=68,slow=10,SNR=5.4							
FITZ	**Fitzroy Crossi**	**23.54**	**238**	*e*P		**P**	**07 50 32.2**	**+0.6**
	6.8nm,1.0s,mb4.0							
STKA	**Stephens Creek**	**25.80**	**190**	P		**P**	**07 50 51.7**	**-0.3**
	1.3nm,0.8s,mb3.5,baz=22,slow=5.4,SNR=3.0							
STKA				LR		LR	08 02 23.2	
	comp=Z,92nm,18.5s,baz=24,slow=40							
STKA	**Stephens Creek**	**25.80**	**190**	P		**P**	**07 50 51.7**	**-0.4**
STKA				LR		LR	08 02 23.2	

KSRS	**Korea Array**	**46.96**	**340**	P		**P**	**07 53 50.6**	**-1.1**
	0.5nm,0.6s,mb3.6,baz=168,slow=7.5,SNR=4.3							
CMAR	**Chiang Mai Arr**	**53.08**	**299**	P		**P**	**07 54 39.4**	**+0.9**
	1.1nm,0.3s,mb4.2,baz=123,slow=6.4,SNR=7.3							
CMAR	**Chiang Mai Arr**	**53.08**	**299**	P		**P**	**07 54 39.4**	**+0.9**
SONM	**Songino Array**	**64.54**	**331**	P		**P**	**07 55 59.5**	**+2.0**
	0.2nm,0.5s,mb3.4,baz=132,slow=6.2,SNR=2.1							
SONM	**Songino Array**	**64.54**	**331**	P		**P**	**07 55 59.5**	**+2.0**
MKAR	**Makanchi Array**	**77.53**	**321**	P		**P**	**07 57 17.8**	**+1.6**
	0.1nm,0.4s,mb3.1,baz=119,slow=4.5,SNR=2.5							
MKAR	**Makanchi Array**	**77.53**	**321**	P		**P**	**07 57 17.8**	**+1.6**
QSPA	**South Pole Qui**	**83.60**	**180**	*e*P		**P**	**07 57 47.6**	**-0.5**
	2.2nm,1.0s,mb4.2							
ILAR	**Eielson Array**	**85.97**	**23**	P		**P**	**07 57 57.6**	**-2.7**
	0.9nm,0.6s,mb4.2,baz=257,slow=5.4,SNR=7.8							
ILAR	**Eielson Array**	**85.97**	**23**	P		**P**	**07 57 57.6**	**-2.7**
TORD	**Torodi Ar. Bea**	**144.80**	**284**	PKPbc		PKPdf	08 04 56.8	-1.5
	2.3nm,0.9s,baz=78,slow=3.4,SNR=12							
TORD	**Torodi Ar. Bea**	**144.80**	**284**	PKPbc		PKPdf	08 04 56.8	-1.5

NEIC ***15*** *08:03:32.3, 32°.57S×71°.67W, h15km, ML3.0(GUC), After GUC.*

GUC 15 08:03:32.3±0.8, 32°.57S×71°.67W, h15km±4km, MD3.8, ML3.0, 8C-11D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.45**	**177**	*e*P		Pg	08 03 41.6	+0.2
IHA				*i* S		Sg	08 03 47.7	+0.3
IHA	**Instituto Hidr**	**0.45**	**177**	*e*P		Pg	08 03 41.6	+0.2
IHA				*i* S		Sg	08 03 47.7	+0.3
ROCH	**El Roble**	**0.68**	**126**	⇑*i*P		Pg	08 03 45.3	-0.3
ROCH	**El Roble**	**0.68**	**126**	⇓*i*P		Pg	08 03 45.3	-0.3
ROCH				⇑*i*P			08 03 45.3	
ROCH				*i* S		Sg	08 03 54.9	+0.3
ROCH				AML		AML	08 03 56.7	
	comp=N,738nm,0.2s							
CHNG	**Los Chungos**	**0.70**	**12**	⇑*i*P		Pg	08 03 45.2	-0.9
CHNG				*i* S		Sg	08 03 54.8	-0.5
CHNG				AML		AML	08 03 55.4	
	comp=E,715nm,0.3s							
LCCH	**Las Cruces**	**0.90**	**175**	⇓*i*P		Pb	08 03 48.4	-1.3
LCCH	**Las Cruces**	**0.90**	**175**	⇓*i*P		Pb	08 03 48.4	-1.3
JACH	**Jahuel**	**0.91**	**97**	⇑*i*P		Pb	08 03 48.8	-1.1
JACH				*i* S		Sb	08 04 01.3	-0.5
JACH	**Jahuel**	**0.91**	**97**	⇑*i*P		Pb	08 03 48.8	-1.1
JACH				*i* S		Sb	08 04 01.3	-0.5
PEL	**Peldehue**	**1.00**	**125**	⇑*i*P		Pb	08 03 50.4	-0.9
PEL				*i* S		Sb	08 04 04.0	-0.4
PEL				AML		AML	08 04 04.9	
	comp=E,2μm,0.3s							
SAN	**Santiago**	**1.22**	**136**	*e*P		Pn	08 03 53.5	-1.3
SAN				*i* S		Sb	08 04 10.0	-0.6
SAN	**Santiago**	**1.22**	**136**	*e*P		Pn	08 03 53.5	-1.3
SAN				*i* S		Sb	08 04 10.0	-0.6
STL	**Santa Lucia**	**1.22**	**135**	*e*P		Pn	08 03 52.4	-2.4
STL				*i* S		Sb	08 04 09.0	-1.5
STL				AML		AML	08 04 14.1	
	comp=N,120nm,0.2s							
TACH	**Talagante**	**1.24**	**151**	*e*P		Pn	08 03 54.2	-0.9
TACH				*i* S		Sb	08 04 09.9	-1.3
TACH	**Talagante**	**1.24**	**151**	*e*P		Pn	08 03 54.2	-0.9
TACH				*i* S		Sb	08 04 09.9	-1.3
CLCH	**Cerro Calan**	**1.25**	**131**	⇓*i*P		Pn	08 03 54.2	-1.1
CLCH				*i* S		Sb	08 04 11.2	-0.4
CLCH				AML		AML	08 04 13.2	
	comp=N,388nm,0.4s							
CLCH				AML		AML	08 04 24.4	
	comp=E,430nm,0.6s							
ANTU	**Antumapu**	**1.32**	**139**	AML		AML	08 04 18.0	
	comp=N,630nm,0.2s							
FCH	**Farellones**	**1.38**	**123**	⇓*i*P		Pn	08 03 57.5	+0.5
FCH				*i* S		Sn	08 04 15.9	+0.9
FCH				AML		AML	08 04 17.1	
	comp=N,547nm,0.2s							
LNV	**Longovilo**	**1.40**	**171**	*e*P		Pn	08 03 56.0	-1.2
LNV				*i* S		Sn	08 04 13.8	-1.6
LNV	**Longovilo**	**1.40**	**171**	*e*P		Pn	08 03 56.0	-1.2
LNV				*i* S		Sn	08 04 13.8	-1.6
PCH	**Pirque**	**1.42**	**138**	⇓*i*P		Pn	08 03 56.9	-0.7
PCH	**Pirque**	**1.42**	**138**	⇓*i*P		Pn	08 03 56.9	-0.7
CMCH	**Combarbala**	**1.51**	**22**	⇓*i*P		Pn	08 03 57.3	-1.4
CMCH				*i* S		Sn	08 04 16.7	-1.4
CMCH	**Combarbala**	**1.51**	**22**	⇓*i*P		Pn	08 03 57.3	-1.4
CMCH				*i* S		Sn	08 04 16.7	-1.4
CMCH				AML		AML	08 04 21.6	
	comp=N,2μm,0.8s							
CHCH	**Chadas Angostu**	**1.60**	**148**	*e*P		Pn	08 04 00.2	+0.1
CHCH				*i* S		Sn	08 04 21.2	+0.8
CHCH	**Chadas Angostu**	**1.60**	**148**	*e*P		Pn	08 04 00.2	+0.1
CHCH				*i* S		Sn	08 04 21.2	+0.8
LMEL	**Las Melosas**	**1.77**	**136**	⇑*i*P		Pn	08 04 02.5	+0.2
LMEL				*i* S		Sn	08 04 24.9	+0.4
LMEL	**Las Melosas**	**1.77**	**136**	⇑*i*P		Pn	08 04 02.5	+0.2
LMEL				*i* S		Sn	08 04 24.9	+0.4
LMEL				AML		AML	08 04 29.7	
	comp=N,406nm,0.2s							
CACH	**El Canelo**	**1.78**	**150**	⇓*i*P		Pn	08 04 03.1	+0.6
CACH	**El Canelo**	**1.78**	**150**	⇓*i*P		Pn	08 04 03.1	+0.6

ISCJB ***15*** *08:06:03.9±1.1, 38°.69N±0°.07×35°.68E±0°.07, h15km±9km, Error ellipse: s-maj=12.7km s-min=9.4km az=16.1*

CSEM ***15*** *08:06:04.0±0.5, 38°.79N×35°.66E, h10km, MD2.6, Error ellipse: s-maj=13.7km s-min=6.1km az=10.0*

ISK ***15*** *08:06:04.0, 39°.04N×35°.91E, h5km, MD2.6*

DDA ***15*** *08:06:05.5, 38°.85N×35°.57E, h7km±1km, Md2.9*

ISC 15 08:06:04.2±1.0, 38°.72N±0°.08×35°.66E±0°.05, h13km±6km, n14, σ0§96/24, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BNN	**Bunyan**	**0.20**	**48**	*e*PG		**Pg**	**08 06 08.2**	**-0.4**
BNN				*e*SG		**Sg**	**08 06 12.4**	**+0.8**
BNN	**Bunyan**	**0.20**	**48**	*e*Pg		**Pg**	**08 06 08.3**	**-0.3**
BNN				*e*Sg		**Sg**	**08 06 12.4**	**+0.7**
AVNT	**Avonos**	**0.63**	**276**	*e*P		**Pg**	**08 06 16.6**	**+0.1**
AVNT				*e*S		**Sg**	**08 06 25.2**	**+0.3**
AVNT	**Avonos**	**0.63**	**276**	*e*P		**Pg**	**08 06 16.6**	**+0.1**
AVNT				*e*S		**Sg**	**08 06 25.2**	**+0.4**
SARI	**SarD1z-Kayseri**	**0.81**	**92**	*e*PG		**Pg**	**08 06 19.0**	**-1.0**
SARI				*e*SG		**Sg**	**08 06 31.0**	**+0.4**
SARI	**SarD1z-Kayseri**	**0.81**	**92**	*e*Pg		**Pg**	**08 06 19.0**	**-0.9**
SARI				*e*Sg		**Sg**	**08 06 31.0**	**+0.4**
YOZ	**Yozgat**	**0.96**	**344**	*e*PG		**Pg**	**08 06 19.8**	**-2.9**
YOZ	**Yozgat**	**0.96**	**344**	*e*Pg		**Pg**	**08 06 19.8**	**-2.9**
CDAG	**Cicekdag**	**1.35**	**313**	*e*P		**Pn**	**08 06 28.6**	**-0.1**
CDAG				*e*S		**Sn**	**08 06 45.9**	**-0.6**
CDAG	**Cicekdag**	**1.35**	**313**	*e*P		**Pn**	**08 06 28.6**	**-0.1**
CDAG				*e*S		**Sn**	**08 06 45.9**	**-0.5**
CORM	**Corum**	**1.66**	**332**	*e*PN		**Pn**	**08 06 33.1**	**+0.1**
CORM	**Corum**	**1.66**	**332**	*e*Pn		**Pn**	**08 06 33.1**	**+0.1**
CTKT	**Corum**	**2.02**	**341**	*e*P		**Pn**	**08 06 40.8**	**+2.9**
CTKT				*e*S		**Sn**	**08 07 03.0**	**+0.1**
CTKT	**Corum**	**2.02**	**341**	*e*P		**Pn**	**08 06 40.8**	**+2.9**
CTKT				*e*S		**Sn**	**08 07 03.0**	**+0.1**

NEIC ***15*** *08:23:31.9, 65°.02N×133°.76W, h1km, ML3.3(PGC), ML3.1(AEIC), After PGC.*

PGC 15 08:23:31.9, 65°.02N×133°.76W, h1km, ML3.3/3, 12D, 271km Sse of Fort McPherson, Nt Northern Yukon Territory, Canada, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
DAWY	**Dawson**	**2.61**	**251**	P		Pn	08 24 14.8	-0.3
DAWY				S		Sn	08 24 46.7	-0.8
DAWY	**Dawson**	**2.61**	**251**	⇑Pn		Pn	08 24 14.7	-0.5
DAWY				⇓Sg		Sg	08 24 49.2	-6.5
EGAK	**Eagle**	**3.16**	**269**	P		Pn	08 24 21.5	-1.2
EGAK				S		Sn	08 24 59.7	-1.3
INK	**Inuvik**	**3.31**	**2**	*e*Pn		Pn	08 24 23.6	-1.1
INK				*e*S		Sn	08 25 16.7	+12
INK	**Inuvik**	**3.31**	**2**	⇓Pn		Pn	08 24 23.3	-1.4
INK				⇓Sn		Sn	08 25 01.0	-3.6
INK				⇑Sg		Sg	08 25 16.1	-1.9
BCA3	**Beaver Creek A**	**4.03**	**245**	P		Pn	08 24 33.9	-0.8
WHY	**Whitehorse**	**4.40**	**187**	Pn		Pn	08 24 38.9	-0.8
WHY				Sg		Sg	08 25 45.3	-7.9
WHY	**Whitehorse**	**4.40**	**187**	⇓Pn		Pn	08 24 39.0	-0.8
WHY				⇓Sg		Sg	08 25 45.3	-7.9
DOT	**Dot Lake**	**4.69**	**258**	*e*Pn		Pn	08 24 41.8	-1.8
DOT				*e*S		Sn	08 25 52.2	+14
MENT	**Mentasta**	**4.86**	**249**	*e*Pn		Pn	08 24 44.7	-1.3
MENT				*e*S		Sn	08 25 58.2	+16
BM3	**Burnt Mountain**	**5.01**	**304**	P		Pn	08 24 46.6	-1.4
SKAG	**Skagway**	**5.62**	**188**	P		Pn	08 24 55.9	-0.6
PLBC	**Pleasant Camp**	**5.71**	**193**	Pn		Pn	08 24 57.8	+0.1
PLBC				Sg		Sg	08 26 26.2	-8.9
PLBC	**Pleasant Camp**	**5.71**	**193**	⇓Pn		Pn	08 24 57.8	+0.1
PLBC				⇑Sg		Sg	08 26 26.2	-8.9
DLBC	**Dease Lake**	**6.83**	**163**	Pn		Pn	08 25 12.8	-0.3
DLBC				Sg		Sg	08 27 00.7	-10
DLBC	**Dease Lake**	**6.83**	**163**	⇑Pn		Pn	08 25 12.8	-0.3
DLBC				⇓Sg		Sg	08 27 00.7	-10
GALN	**Gameti Lake**	**7.14**	**90**	Pn		Pn	08 25 16.2	-1.0
GALN				Sn		Sn	08 26 31.1	-7.8
GALN	**Gameti Lake**	**7.14**	**90**	⇑Pn		Pn	08 25 16.2	-1.0
GALN				⇓Sn		Sn	08 26 31.1	-7.8
CTLN	**Castor Lake**	**7.62**	**86**	Pn		Pn	08 25 21.8	-2.0
CTLN				Sn		Sn	08 26 42.6	-8.0
CTLN	**Castor Lake**	**7.62**	**86**	⇑Pn		Pn	08 25 21.8	-2.0
CTLN				⇓Sn		Sn	08 26 42.6	-8.0
FNBB	**Fort Nelson**	**7.96**	**136**	⇓Sg		Sg	08 27 41.1	-5.9
YKW3	**Yellowknife Ar**	**8.81**	**97**	Pn		Pn	08 25 38.2	-2.0
YKW3				Sn		Sn	08 27 09.0	-11
YKW3	**Yellowknife Ar**	**8.81**	**97**	⇓Pn		Pn	08 25 38.2	-2.0
YKW3				⇑Sn		Sn	08 27 09.0	-11
JERN	**Jeri Cho Mine,**	**9.30**	**74**	⇑Pn		Pn	08 25 44.9	-1.9
JERN				⇓Sn		Sn	08 27 23.1	-8.8

BJI ***15*** *08:27:14.5, 37°.57N×96°.06E, h12km, ML3.6/8, Ms3.2/2, Ms7 2.9/1*

IDC ***15*** *08:27:15.6±4.3, 37°.77N×95°.83E, h0km, mb3.5/2, mb1 3.5/6, mb1mx3.4/27, mbtmp3.5/6, ML3.3/3, MS2.4/1, Ms1 2.4/1, ms1mx2.1/37, Error ellipse: s-maj=90.4km s-min=27.4km az=27.0*

ISCJB ***15*** *08:27:17.8±1.3, 38°.3N±0°.1×95°.95E±0°.07, h10km, mb3.4/2, Error ellipse: s-maj=17.5km s-min=7.7km az=12.7*

ISC 15 08:27:18.4±1.3, 38°.1N±0°.1×95°.88E±0°.07, h10km, n8, σ1§56/10, mb3.4/2, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
GTA	**Gaotai**	**3.34**	**66**	Pg		**Pg**	**08 28 18.6**	**-3.7**
GTA				Sg		**Sg**	**08 29 04.8**	**-0.7**
GTA				smax				
	comp=N,60nm,1.1s							
GTA				smax				
	comp=E,28nm,1.0s							
GTA				LR	LR			
	comp=N,140nm,8.5s							
GTA				LR	LR			
	comp=E,200nm,8.8s							
GTA				LR	LR			
	comp=Z,210nm,11.1s							
LZH	**Lanzhou**	**6.68**	**105**	*e*Pg	x		08 29 49.8	
LZH				Sg	**Sb**		**08 30 34.9**	**+0.4**
LZH				smax				
	comp=N,19nm,0.6s							
LZH				smax				
	comp=E,44nm,0.7s							
SONM	**Songino Array**	**12.38**	**35**	Pn		**Pn**	**08 30 16.6**	**+2.0**
	comp=E,0.2nm,0.3s,baz=217,slow=15,SNR=6.3							
MKAR	**Makanchi Array**	**13.24**	**315**	Pn		**Pn**	**08 30 23.6**	**-2.7**
	comp=E,0.1nm,0.3s,baz=126,slow=13,SNR=4.2							
MKAR				Sn		**Sn**	**08 32 48.5**	**-5.1**
	comp=E,0.1nm,0.3s,baz=128,slow=26,SNR=2.9							
ZALV	**Zalesovo Beam**	**17.56**	**338**	P		**Pn**	**08 31 25.2**	**+2.2**
	com

PDAR	**Pinedale Array**	**70.12**	**329**	P	**P**	**09 00 26.5**	**+0.4**
PDAR				pP	pP	09 01 20.6	+3.8
ULM	**Lac du Bonnet**	**70.88**	**342**	P	**P**	**09 00 28.1**	**-2.4**
	3.3nm,0.4s,mb4.3,baz=147,slow=6.6,SNR=12						
ULM	**Lac du Bonnet**	**70.88**	**342**	P	**P**	**09 00 28.1**	**-2.4**
NVAR	**Mina Array Bea**	**71.89**	**321**	P	**P**	**09 00 37.1**	**+0.2**
	0.8nm,1.0s,mb3.3,baz=152,slow=5.8,SNR=3.7						
NVAR	**Mina Array Bea**	**71.89**	**321**	P	**P**	**09 00 37.1**	**+0.3**
HLID	**Hailey**	**73.14**	**327**	*e*P	**P**	**09 00 44.8**	**+0.7**
	1.2nm,0.7s,mb3.6						
QSPA	**South Pole Qui**	**73.39**	**180**	*e*P	**P**	**09 00 46.9**	**+1.8**
	6.0nm,0.9s,mb4.2						
MFID	**Camas Ranch**	**73.79**	**326**	*e*P	**P**	**09 00 48.7**	**+0.8**
	3.2nm,1.0s,mb3.9						
TORD	**Torodi Ar. Bea**	**75.70**	**71**	P	**P**	**09 00 58.3**	**-1.2**
	20nm,0.7s,mb4.8,baz=254,slow=5.9,SNR=97						
TORD				pP	pP	09 01 48.3	-2.6
	0.6nm,0.6s,baz=260,slow=5.8,SNR=1.4						
TORD	**Torodi Ar. Bea**	**75.70**	**71**	P	**P**	**09 00 58.3**	**-1.2**
TORD				pP	pP	09 01 48.3	-2.6
MDT	**Midelt**	**78.65**	**51**	P	**P**	**09 01 15.8**	**+0.3**
	1.4nm,0.5s,mb3.8,baz=282,slow=5.1,SNR=4.8						
MDT	**Midelt**	**78.65**	**51**	P	**P**	**09 01 15.8**	**+0.3**
ETW	**Entiat**	**78.94**	**327**	*e*P	**P**	**09 01 17.9**	**+1.2**
	24nm,1.5s,mb4.6						
ESDC	**Sonseca Array**	**82.41**	**45**	P	**P**	**09 01 34.1**	**-1.2**
	0.6nm,0.5s,mb3.5,baz=258,slow=5.7,SNR=6.3						
ESDC	**Sonseca Array**	**82.41**	**45**	P	**P**	**09 01 34.1**	**-1.2**
BOSA	**Boshof**	**85.56**	**118**	P	**P**	**09 01 53.1**	**+1.5**
	0.7nm,0.5s,mb3.6,baz=218,slow=1.7,SNR=3.1						
BOSA	**Boshof**	**85.56**	**118**	P	**P**	**09 01 53.1**	**+1.5**
YKA	**Yellowknife Ar**	**86.80**	**341**	P	**P**	**09 01 56.2**	**-0.5**
	1.5nm,0.6s,mb3.9,baz=134,slow=4.7,SNR=25						
YKA	**Yellowknife Ar**	**86.80**	**341**	P	**P**	**09 01 56.2**	**-0.5**
MAW	**Mawson**	**88.80**	**163**	P	**P**	**09 02 07.6**	**+1.3**
	1.8nm,0.7s,mb4.0,baz=194,slow=4.2,SNR=3.7						
ASAR	**Alice Springs**	**134.10**	**209**	PKP	PKPdf	09 08 29.7	-0.1
	0.3nm,1.0s,baz=124,slow=1.2,SNR=3.1						
ASAR				SKPbc	SKPbc	09 11 39.1	+0.4
	0.7nm,0.5s,baz=144,slow=4.2,SNR=8.4						
ASAR	**Alice Springs**	**134.10**	**209**	PKP	PKPdf	09 08 29.7	-0.1
ASAR				SKPbc	SKPbc	09 11 39.1	+0.4
WRA	**Warramunga Arr**	**137.02**	**213**	PKP	PKPdf	09 08 35.0	-0.2
	0.2nm,0.3s,baz=149,slow=1.7,SNR=7.3						
WRA				SKPbc	SKPbc	09 11 48.0	+0.1
	0.8nm,0.6s,baz=147,slow=2.6,SNR=7.2						
WRA	**Warramunga Arr**	**137.02**	**213**	PKP	PKPdf	09 08 35.0	-0.2
WRA				SKPbc	SKPbc	09 11 48.0	+0.1
KURK	**Kurchatov**	**137.27**	**30**	PKP	PKPdf	09 08 33.0	-1.8
	0.6nm,0.7s,baz=300,slow=2.4,SNR=3.4						
KURK				SKP		09 11 48.3	
	0.2nm,0.5s,baz=300,slow=3.9,SNR=3.1						
KURK	**Kurchatov**	**137.27**	**30**	PKP	PKPdf	09 08 33.0	-1.8
KURK				SKP		09 11 48.3	
ZAA0	**Zalesovo Array**	**137.61**	**23**	*e*PKPdf	PKPdf	09 08 36.0	+0.8
ZALV	**Zalesovo Beam**	**137.61**	**23**	PKP	PKPdf	09 08 34.3	-0.9
	2.3nm,0.6s,baz=292,slow=3.1,SNR=12						
ZALV				pPKP	pPKPdf	09 09 33.1	+2.1
	0.7nm,0.7s,baz=354,slow=1.4,SNR=1.8						
ZALV				SKPbc	SKPbc	09 11 48.7	+0.3
	1.0nm,0.6s,baz=303,slow=2.3,SNR=5.3						
ZALV	**Zalesovo Beam**	**137.61**	**23**	PKP	PKPdf	09 08 34.3	-0.9
ZALV				pPKP	pPKPdf	09 09 33.1	+2.1
ZALV				SKPbc	SKPbc	09 11 48.7	+0.3
MKAR	**Makanchi Array**	**141.68**	**32**	PKhKP	PKPpre	09 08 36.5	
	0.2nm,0.5s,baz=338,slow=2.4,SNR=5.8						
MKAR				SKPbc	SKPbc	09 11 59.3	-0.3
	0.3nm,0.7s,baz=276,slow=4.2,SNR=2.3						
MKAR	**Makanchi Array**	**141.68**	**32**	PKP	PKPpre	09 08 36.5	
MKAR				SKPbc	SKPbc	09 11 59.3	-0.3
SONM	**Songino Array**	**148.78**	**6**	PKPbc	PKPbc	09 08 59.9	+0.8
	6.3nm,0.6s,baz=324,slow=2.1,SNR=33						
SONM	**Songino Array**	**148.78**	**6**	PKPbc	PKPbc	09 08 59.9	+0.8

MEX 15 08:50:09.1±1.0,15°90N×97°01W,h28km±15km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.88**	**99**	*e*P		Pn	08 50 23.5	-2.1
HUIG				*i* S		Sb	08 50 34.1	-3.1
PNIG	**Pinotepa**	**1.18**	**295**	*e*P		Pn	08 50 27.5	-2.1
PNIG				*i* S		Sn	08 50 40.9	-3.9
VHO	**Vista Hermosa**	**1.19**	**13**	*i* P		Pn	08 50 27.5	-2.4
VHO				*i* S		Sn	08 50 42.3	-2.9
OXX	**Oaxaca**	**1.21**	**13**	*i* P		Pn	08 50 30.1	+0.1
OXX				*i* S		Sn	08 50 43.4	-2.1
UTMO	**Huajuapan**	**2.06**	**339**	*e*P		Pn	08 50 40.6	-1.2
UTMO				*i* S		Sn	08 51 04.6	-2.0
CMIG	**Matias Romero**	**2.36**	**60**	*i* P		Pn	08 50 43.1	-2.9
CMIG				*i* S		Sn	08 51 11.1	-2.9
ACX	**Acapulco**	**2.89**	**290**	*i* P		Pn	08 50 52.2	-1.1
ACX				*i* S		Sn	08 51 21.5	-5.7
MEIG	**Mezcala**	**3.20**	**309**	*i* S		Sn	08 51 31.7	-3.2
CAIG	**El Cayaco**	**3.32**	**290**	*e*P		Pn	08 50 58.0	-1.2
CAIG				*i* S		Sn	08 51 31.5	-6.3
ZIIG	**Zihuatanejo**	**4.59**	**292**	*e*P		Pn	08 51 16.4	-0.3

*GCMT **15** 09:02:45.2±0.4,25°.82N×110°.17W,h12km,MW4.8, Moment Tensor Solution. s16,c16; s60,c86; Moment tensor: Scale 10^16Nm; Mrr-0.12±.08; Mθθ-1.77±.07; Mϕϕ1.89±.08; Mrθ-1.08±.19; Mrϕ-0.57±.07; Mθϕ0.76±.22; Best double couple: M₀2.30000×10^16 NP1:ϕs₂36.00000°, δ55.00000°,λ-3.00000°. NP2:ϕs127.00000°,δ88.00000°, λ-145.00000°. Principal axes: T 2.3500, Plg22.0000°, Azm256.0000°; N -0.0400, Plg55.0000°, Azm130.0000°; P -2.3100, Plg25.0000°, Azm357.0000°; Data Used: II G IU IC CN.*

*IDC **15** 09:02:45.0±1.1,25°.99N×109°.94W,h0km,mb3.9/6, mb1 4.0/10,mb1mx3.9/26,mbtmp3.8/10,ML3.3/4,MS4.0/29, Ms1 4.0/29,ms1mx3.9/40 Error ellipse: s-maj=20.6km s-min=17.5km az=149.0*

*NEIC **15** 09:02:45.3±1.0,25°.69N×110°.24W,h10km,mb4.2/36, Error ellipse: s-maj=14.5km s-min=6.8km az=215.0*

*MEX **15** 09:02:45.5±0.4,25°.73N×110°.74W,h15km±7km,MD4.2*

*BJI **15** 09:02:45.2,25°.80N×110°.20W,h10km,mB5.3/2, mb5.0/2, Ms5.4/2, Ms7 5.0/2*

ISC 15 09:02:46.5±2.0,25°64N±0°.04×110°28W±0°.05, h21km±16km,n118,σ1s31/98,mb4.2/22,MS4.0/25, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.54**	**181**	*e*P		**Pn**	**09 03 10.8**	**-1.8**
LPIG				*i* S		**Sn**	**09 03 30.4**	**-1.6**
SRIG	**Santa Rosalia**	**2.42**	**314**	*i* P		**Pn**	**09 03 17.7**	**-9.1**
SRIG				*i* S		**Sn**	**09 03 41.3**	**-13**
HSIG		**3.41**	**350**	*i* P		**Pn**	**09 03 33.3**	**-5.1**
HSIG				*i* S		**Sn**	**09 04 11.7**	**-6.5**
MAIG	**Mazatlaan**	**4.28**	**124**	*i* P		**Pn**	**09 03 52.6**	**+2.3**
MAIG				*i* S		**Sb**	**09 04 46.4**	**-5.9**
TUC	**Tucson**	**6.66**	**356**	*e*Pn		**Pn**	**09 04 18.8**	**-4.2**
TUC				*e*Sg		**Sb**	**09 06 07.8**	**+7.2**
TXAR	**Lajitas Array**	**6.93**	**56**	Pn		**Pn**	**09 04 20.4**	**-6.3**
	0.8nm,0.3s,baz=233,slow=13,SNR=40							
TXAR				Sn		**Sn**	**09 05 36.2**	**-8.6**
	3.4nm,0.3s,baz=230,slow=20,SNR=5.1							
TXAR				Lg			09 06 10.6	
	6.6nm,0.3s,baz=240,slow=30,SNR=7.1							
TXAR	**Lajitas Array**	**6.93**	**56**	Pn		**Pn**	**09 04 20.4**	**-6.3**
TXAR				Sn		**Sn**	**09 05 36.2**	**-8.6**
TXAR				Lg			09 06 10.6	
GLA	**Glamis**	**8.38**	**333**	*e*Pn		**Pn**	**09 04 47.4**	**+0.8**
CLNB	**Carlsbad**	**8.65**	**39**	*e*Pn		**Pn**	**09 04 48.5**	**-1.9**
LENM	**Lemitar**	**8.96**	**18**	*e*Pn		**Pn**	**09 04 52.4**	**-2.3**
	6.3nm,1.0s							
BAR	**Barrett**	**8.96**	**323**	*e*Pn		**Pn**	**09 05 00.7**	**+6.0**
BNM	**Barren Site**	**9.05**	**20**	*e*Pn		**Pn**	**09 04 53.9**	**-1.9**
	7.1nm,0.9s							
LAZ	**Ladron**	**9.14**	**17**	*e*Pn		**Pn**	**09 04 55.7**	**-1.4**
PFO	**Pinyon Flat Ob**	**9.58**	**327**	*e*Pn		**Pn**	**09 05 04.4**	**+1.2**
ANMO	**Albuquerque**	**9.84**	**19**	Pn		**Pn**	**09 05 01.4**	**-5.3**
	0.0nm,0.3s,baz=218,slow=18,SNR=3.4							
ANMO				Lg			09 07 46.0	
	0.4nm,0.3s,baz=29,slow=18,SNR=3.7							
ANMO				LR		LR	09 09 20.8	
	comp=Z,800nm,21.0s,baz=64,slow=42							
ANMO	**Albuquerque**	**9.84**	**19**	*e*Pn		**Pn**	**09 05 05.0**	**-1.7**
ANMO				Lg			09 07 46.0	
ANMO				LR		LR	09 09 20.8	

WUAZ	**Wupatki**	**9.88**	**355**	Pn		**Pn**	**09 05 06.7**	**-0.6**
JCT	**Junction City**	**10.43**	**60**	*e*Pn		**Pn**	**09 05 15.0**	**+0.3**
MVCO	**Mesa Verde**	**11.63**	**7**	*e*Pn		**Pn**	**09 05 30.4**	**-0.7**
CCUT	**Cedar City**	**12.16**	**348**	*e*Pn		**Pn**	**09 05 41.0**	**+2.6**
ISA	**Isabella**	**12.22**	**327**	*e*Pn		**Pn**	**09 05 40.4**	**+1.2**
PV01	**Paradox Valley**	**12.54**	**6**	*e*Pn		**Pn**	**09 05 42.3**	**-1.2**
	616nm,1.5s							
PV04	**Paradox Valley**	**12.76**	**5**	*e*Pn		**Pn**	**09 05 47.6**	**+0.9**
MSU	**Marysvale**	**12.93**	**353**	*e*Pn		**Pn**	**09 05 49.2**	**+0.3**
SRU	**San Rafael**	**13.43**	**359**	*e*Pn		**Pn**	**09 05 55.2**	**-0.5**
WMOK	**Wichita Mounta**	**13.44**	**45**	*e*Pn		**Pn**	**09 05 56.3**	**+0.4**
MTUM	**Tungsten Hills**	**13.64**	**331**	*e*Pn		**Pn**	**09 06 03.7**	**+5.2**
SMCO	**Snowmass**	**13.78**	**11**	*e*Pn		**Pn**	**09 05 59.5**	**-1.0**
NVAR	**Mina Array Bea**	**14.44**	**334**	Pn		**Pn**	**09 06 11.2**	**+1.6**
	0.1nm,0.3s,baz=154,slow=10,SNR=3.8							
NVAR				LR		LR	09 11 07.6	
	comp=Z,320nm,20.4s,baz=212,slow=35							
NVAR	**Mina Array Bea**	**14.44**	**334**	Pn		**Pn**	**09 06 11.2**	**+1.6**
NVAR				LR		LR	09 11 07.6	
DUG	**Dugway**	**14.66**	**352**	*e*P		**Pn**	**09 06 18.6**	**+6.0**
JLU	**Jordanelle**	**14.95**	**357**	*e*Pn		**Pn**	**09 06 17.5**	**+1.0**
WCN	**Washoe City**	**15.78**	**332**	*e*Pn		**Pn**	**09 06 28.5**	**+1.2**
	20nm,1.2s							
BMN	**Battle Mountai**	**15.84**	**340**	*e*Pn		**Pn**	**09 06 32.3**	**+4.2**
	14nm,1.1s							
HWUT	**Hardware Ranch**	**15.96**	**356**	*e*Pn		**Pn**	**09 06 30.2**	**+0.6**
	16nm,1.3s							
CMIG	**Matias Romero**	**16.66**	**118**	Pn		**Pn**	**09 06 37.9**	**-0.9**
	0.2nm,0.3s,baz=311,slow=9.9,SNR=12							
CMIG				LR		LR	09 12 57.0	
	comp=Z,778nm,18.5s,baz=279,slow=37							
CMIG	**Matias Romero**	**16.66**	**118**	Pn		**Pn**	**09 06 37.9**	**-0.9**
CMIG				LR		LR	09 12 57.0	
MIAR	**Mount Ida**	**16.94**	**55**	*e*Pn		**Pn**	**09 06 42.7**	**+0.5**
	16nm,0.9s							
BW06	**Boulder Array**	**17.09**	**2**	*e*Pn		**Pn**	**09 06 45.4**	**+1.5**
	43nm,1.9s							
PDAR	**Pinedale Array**	**17.09**	**2**	Pn		**Pn**	**09 06 40.9**	**-3.1**
	0.0nm,0.3s,baz=158,slow=9.6,SNR=8.5							
PDAR				Lg			09 11 38.0	
	0.1nm,0.3s,baz=200,slow=21,SNR=3.2							
PDAR				LR		LR	09 13 24.1	
	comp=Z,876nm,20.1s,baz=184,slow=38							
PDAR	**Pinedale Array**	**17.09**	**2**	Pn		**Pn**	**09 06 40.9**	**-3.1**
PDAR				Lg			09 11 38.0	
PDAR				LR		LR	09 13 24.1	
PD01	**Pinedale Array**	**17.10**	**2**	*e*Pn		**Pn**	**09 06 42.2**	**-1.9**
PD02	**Pinedale Array**	**17.10**	**2**	*e*Pn		**Pn**	**09 06 43.9**	**-0.2**
RRI2	**Red Ridge**	**17.68**	**357**	*e*P		**Pn**	**09 06 56.6**	**+5.3**
	15nm,1.5s							
REDW	**Red Top Meadow**	**17.68**	**359**	*e*Pn		**Pn**	**09 06 51.3**	**0.0**
	17nm,1.5s							
SNOW	**Snow King Moun**	**17.78**	**359**	*e*Pn		**Pn**	**09 06 54.3**	**+1.8**
	66nm,2.1s							
LOHW	**Long Hollow**	**17.93**	**359**	*e*Pn		**Pn**	**09 06 53.8**	**-0.5**
	13nm,1.4s							
UALR	**University of**	**17.95**	**55**	*e*Pn		**Pn**	**09 06 56.3**	**+1.6**
	25nm,0.9s							
MOOW	**Moose Ponds**	**18.07**	**359**	*e*Pn		**Pn**	**09 06 58.6**	**+2.6**
	14nm,1.6s							
HLID	**Hailey**	**18.19**	**350**	*e*Pn		**Pn**	**09 06 57.7**	**+0.2**
	59nm,2.7s							
MOD	**Modoc**	**18.21**	**335**	*e*Pn		**Pn**	**09 06 58.7**	**+0.9**
	20nm,1.6s							
IMW	**Indian Meadow**	**18.22**	**358**	*e*Pn		**Pn**	**09 06 59.5**	**+1.6**
	79nm,2.6s							
MFID	**Camas Ranch**	**18.30**	**347**	*e*Pn		**Pn**	**09 07 00.6**	**+1.7**
	56nm,2.6s							
FLWY	**Flagg Ranch**	**18.40**	**359**	*e*Pn		**Pn**	**09 06 59.0**	**-1.1**
	36nm,1.5s							
MCMT	**McKenzie Canyo**	**19.25**	**354**	*e*P		**Pn**	**09 07 10.4**	**0.0**
	4.8nm,1.1s							
RLMT	**Red Lodge**	**19.45**	**2**	*e*P		**Pn**	**09 07 11.4**	**-1.4**
	18nm,1.6s							
HBAR	**Harrisburg**	**19.54**	**55**	*e*P		**Pn**	**09 07 12.8**	**-1.1**
DLMT	**Dillon**	**19.76**	**355**	*e*Pn		**Pn**	**09 07 17.9**	**+1.4**
	15nm,1.3s							
CCM	**Cathedral Cave**	**20.31**	**48**	*e*P		**P**	**09 07 21.6**	**+0.6**
	8.4nm,0.8s							
TEIG	**Tepich**	**20.96**	**100**	LR		LR	09 16 30.0	
	comp=Z,595nm,21.2s,MS3.9,baz=306,slow=40							
LNOR	**Lincton Mounta**	**21.18**	**344**	*e*P		**P**	**09 07 30.4**	**+0.1**
	14nm,1.2s,mb4.2							
ECSD	**EROS Data Cent**	**21.21**	**28**	*e*P		**P**	**09 07 30.0**	**-0.6**
	15nm,1.3s,mb4.2							
PLAL	**Pickwick Lake**	**21.27**	**59**	*e*P		**P**	**09 07 31.9**	**+0.5**
	16nm,0.9s,mb4.4							
MSO	**Missoula**	**21.34**	**353**	*e*P		**P**	**09 07 31.1**	**-0.9**
	7.9nm,1.1s,mb4.0							
CHMT	**Chamberlain Mo**	**21.36**	**354**	*e*P		**P**	**09 07 31.3**	**-0.9**
SIUC	**Southern Illin**	**21.53**	**51**	*e*P		**P**	**09 07 35.5**	**+1.3**
	52nm,0.8s,mb5.0							
SLMT	**Seeley Lake**	**21.71**	**354**	*e*P		**P**	**09 07 34.1**	**-1.8**
WVT	**Waverly**	**21.87**	**56**	*e*P		**P**	**09 07 37.1**	**-0.7**
	13nm,0.8s,mb4.4							
HAWA	**Hanford**	**21.99**	**343**	*e*P		**P**	**09 07 37.9**	**-1.0**
	116nm,2.8s,mb4.8							
RSW	**Rattlesnake Hi**	**22.00**	**343**	*e*P		**P**	**09 07 38.2**	**-0.9**
SWMT	**Swartz Lake**	**22.02**	**353**	*e*P		**P**	**09 07 38.6**	**-0.7**
	4.6nm,1.1s,mb3.8							
JTMT	**Jette**	**22.29**	**353**	*e*P		**P**	**09 07 41.2**	**-0.9**
	3.1nm,1.0s,mb3.7							
USIN	**University of**	**22.74**	**52**	*e*P		**P**	**09 07 49.2**	**+2.1**
	33nm,1.0s,mb4.7							
OLIL	**Olney**	**22.79**	**50**	*e*P		**P**	**09 07 49.5**	**+1.9**
	24nm,0.9s,mb4.6							
LON	**Longmire**	**22.98**	**339**	*e*P		**P**	**09 07 46.9**	**-2.6**
	9.3nm,1.0s,mb4.2							
SWET	**Sewanee**	**23.01**	**60**	*e*P		**P**	**09 07 51.4**	**+1.4**
WCI	**Wyandotte Cave**	**23.83**	**52**	*e*P		**P**	**09 07 59.9**	**+1.9**
	15nm,1.1s,mb4.3							
CPCT	**Cooper Cave**	**24.18**	**60**	*e*P		**P**	**09 08 07.7**	**+6.4**
TKL	**Tuckaleechee C**	**24.82**	**60**	P		**P**	**09 08 05.3**	**-1.8**
	4.3nm,1.0s,mb4.0,baz=224,slow=13,SNR=2.8							
TKL				LR		LR	09 18 32.3	
	comp=Z,752nm,18.6s,MS4.2,baz=258,slow=39							
TKL	**Tuckaleechee C**	**24.82**	**60**	P		**P**	**09 08 05.3**	**-1.8**
TKL				LR		LR	09 18 32.3	
AGMN	**Agassiz Nation**	**25.29**	**23**	*e*P		**P**	**09 08 10.5**	**-0.8**
	9.6nm,0.9s,mb4.3							
ULM	**Lac du Bonnet**	**26.97**	**21**	P		**P**	**09 08 24.9**	**-1.5**
	2.4nm,0.8s,mb3.8,baz=199,slow=13,SNR=2.3							
ULM				LR		LR	09 19 23.6	
	comp=Z,327nm,19.4s,MS3.9,baz=321,slow=38							
ULM	**Lac du Bonnet**	**26.97**	**21**	P		**P**	**09 08 24.9**	**-1.5**
ULM				LR		LR	09 19 23.6	
BBB	**Bella Bella**	**29.75**	**338**	LR		LR	09 20 32.4	
	comp=Z,282nm,18.3s,MS3.9,baz=201,slow=36							
DLBC	**Dease Lake**	**35.62**	**342**	LR		LR	09 24 11.6	
	comp=Z,347nm,19.4s,MS4.1,baz=158,slow=36							
YKA	**Yellowknife Ar**	**36.95**	**357**	P		**P**	**09 09 52.0**	**-1.8**
	0.6nm,0.9s,mb3.4,baz=171,slow=8.1,SNR=3.2							
YKA				LR		LR	09 25 37.8	
	comp=Z,61nm,19.3s,MS3.4,baz=45,slow=38							
YKA	**Yellowknife Ar**	**36.95**	**357**	P		**P**	**09 09 52.0**	**-1.8**
YKA				LR		LR	09 25 37.8	
OTAV	**Otavalo**	**39.77**	**124**	*e*P		**P**	**09 10 18.9**	**+0.9**
	4.8nm,1.0s,mb4.2							
ROSC	**El Rosal**	**40.15**	**115**	LR		LR	09 29 03.1	
	comp=Z,116nm,18.9s,MS3.8,baz=11,slow=39							
SDV	**Santo Domingo**	**41.16**	**107**	*e*P		**P**	**09 10 29.2**	**-0.3**
	8.7nm,0.9s,mb4.4							
INK	**Inuvik**	**44.93**	**348**	LR		LR	09 29 53.8	
	comp=Z,307nm,18.4s,MS4.3,baz=306,slow=36							
ATAH	**Atahualpa**	**44.97**	**132**	P		**P**	**09 11 03.0**	**+2.7**
	2.8nm,0.9s,mb4.1,baz=351,slow=5.1,SNR=2.2							
ILAR	**Eielson Array**	**45.62**	**339**	P		**P**	**09 11 04.7**	**-0.2**
	0.8nm,0.9s,mb3.6,baz=150,slow=7.7,SNR=8.3							
ILAR				LR		LR	09 32 39.6	
	comp=Z,190nm,18.5s,MS4.1,baz=119,slow=40							
ILAR	**Eielson Array**	**45.62**	**339**	P		**P**	**09 11 04.7**	**-0.2**
ILAR				LR		LR	09 32 39.6	
RES	**Resolute Bay**	**49.74**	**5**	LR		LR	09 33 52.8	
	comp=Z,122nm,20.8s,MS3.9,baz=235,slow=38							
PPT	**Papeete**	**57.51**	**226**	*e*LR		LR	09 29 24.0	
	342nm,28.0s							
PPT	**Papeete**	**57.51**	**226**	LR		LR	09 31 58.6	
	comp=Z,109nm,22.0s,MS3.9,baz=342,slow=30							
TBI	**Tubuai**	**61.74**	**221**	*e*LR		LR	09 31 15.8	
	110nm,28.8s							
PETK	**Petropavlovsk-**	**71.08**	**320**	LR		LR	09 41 58.7	
	comp=Z,14nm,20.2s,MS3.2,baz=277,slow=33							
AFI	**Afiamalu**	**71.61**	**244**	LR		LR	09 37 44.8	
	comp=Z,120nm,20.2s,MS4.2,baz=343,slow=29							
SPITS	**Spitsbergen Ar**	**71.94**	**10**	LR		LR	09 45 42.6	
	comp=Z,312nm,21.7s,MS4.5,baz=320,slow=36							

CPUP	**Villa Florida**	**72.65**	**131**	LR		LR	09 42 44.0
	comp=Z,48nm,20.7s,MS3.8,baz=166,slow=33						
ARCES	**ARCESS Array B**	**79.90**	**14**	LR		LR	09 50 46.3
	comp=Z,122nm,18.9s,MS4.3,baz=330,slow=36						
NOA	**NORSAR Array B**	**81.58**	**25**	LR		LR	09 49 24.1
	comp=Z,77nm,18.1s,MS4.1,baz=180,slow=34						
ESDC	**Sonseca Array**	**85.53**	**48**	LR		LR	09 52 42.7
	comp=Z,147nm,18.1s,MS4.4,baz=265,slow=35						
FINES	**FINESS Array B**	**86.35**	**19**	P		**P**	**09 15 27.3**	**+0.6**
	4.2nm,1.0s,mb4.6,baz=316,slow=3.8,SNR=5.1							
GERES	**GERESS Array B**	**90.58**	**33**	LR		LR	09 56 18.9	
	comp=Z,151nm,18.9s,MS4.5,baz=130,slow=36							
MJAR	**Matsushiro Arr**	**90.65**	**311**	LR		LR	09 51 03.5	
	comp=Z,55nm,21.7s,MS4.0,baz=85,slow=32							
JHJ	**Hachijo jima 2**	**91.39**	**308**	LR		LR	09 52 36.7	
	comp=Z,24nm,20.1s,MS3.6,baz=354,slow=33							
DZM	**Mont Dzumac**	**93.60**	**247**	*e*LR		LR	09 46 23.2	
	223nm,24.9s							
CN2	**Changchun**	**94.08**	**323**	*e*P		**P**	**09 16 04.8**	**+1.5**
KEST	**Kesra**	**96.47**	**45**	LR		LR	09 59 15.4	
	comp=Z,43nm,18.4s,MS4.0,baz=119,slow=35							
GUMO	**Guam**	**97.15**	**289**	LR		LR	09 50 14.9	
	comp=Z,106nm,20.4s,MS4.3,baz=97,slow=29							
ZALV	**Zalesovo Beam**	**99.67**	**351**	LR		LR	10 02 54.0	
	comp=Z,42nm,21.3s,MS3.9,baz=33,slow=36							
SONM	**Songino Array**	**99.77**	**336**	LR		LR	10 03 12.8	
	comp=Z,75nm,20.7s,MS4.2,baz=34,slow=36							
CD2	**Chengdu**	**115.02**	**328**	PKP		PKiKP	09 21 29.4	+3.1
CD2				PP		PP	09 22 31.3	+6.8
CD2				PKS			09 25 04.4	
CD2				SKS		SKSdf	09 28 40.5	+3.0
CD2				SKKS		SKKSac	09 29 24.6	-1.6
CD2				AMB		AMB		
	comp=Z,70nm,6.5s							
CD2				LR		LR		
	comp=N,190nm,6.5s							
CD2				LR		LR		
	comp=Z,130nm,7.7s							
WRA	**Warramunga Arr**	**120.66**	**261**	PKP		PKPdf	09 21 40.2	+2.9
	comp=Z,1.1nm,0.9s,baz=69,slow=2.1,SNR=5.1							
ASAR	**Alice Springs**	**122.16**	**257**	PKP		PKPdf	09 21 42.9	+2.8
	comp=Z,0.9nm,0.9s,baz=63,slow=2.3,SNR=6.4							

*IDC **15** 09:03:53.8±0.8,7°.01S×106°.50E,h0km,mb3.7/9, mb1 3.8/9,mb1mx3.7/20,mbtmp3.7/9,MS3.2/4,Ms1 3.2/4, ms1mx2.7/32,Error ellipse: s-maj=40.7km s-min=15.3km az=53.0*

*NEIC **15** 09:03:57.7±0.5,7°.40S×106°.13E,h35km,mb4.1/5,Error ellipse: s-maj=17.1km s-min=10.0km az=222.0*

NEIC Felt [II] at Cisarua and Sukabumi.

*ISCJB **15** 09:04:02.3±0.5,7°.44S±0°.06×106°.48E±0°.04,h79km±6km, mb3.9/13,Error ellipse: s-maj=10.4km s-min=4.3km az=25.7*

*DJA **15** 09:04:02

*ISCJB **15** 09:09:32.7±1.0, 40.42N±0.05×21.8E±0.1, h14km±7km, Error ellipse: s-maj=19.2km s-min=7.9km az=1.2*
*CSEM **15** 09:09:32.8±0.2, 40.38N×21.81E, h15km, MD2.9, Error ellipse: s-maj=6.3km s-min=4.0km az=83.0*
*ATH **15** 09:09:33.5, 40.37N×21.84E, h10km±1km, MD2.9/4*
ISC 15 09:09:32.9±0.9, 40.39N±0.05×21.8E±0.1, h16km±7km, n12, σ0.9s34/16, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.09**	**199**	*e*Pg		**Pg**		**09 09 36.1**	**0.0**
KZN				*e*Sg		**Sg**		**09 09 38.2**	**0.0**
KZN	**Kozani**	**0.09**	**199**	*e*Pg		**Pg**		**09 09 36.1**	**0.0**
KZN				*e*Sg		**Sg**		**09 09 38.2**	**0.0**
LIT	**Litokhoron**	**0.60**	**119**	*e*PB		**Pb**		**09 09 44.3**	**-0.7**
LIT	**Litokhoron**	**0.60**	**119**	*e*Pb		**Pb**		**09 09 44.3**	**-0.7**
THL	**Klokotos Trika**	**0.84**	**169**	*e*PB		**Pb**		**09 09 49.1**	**0.0**
THL				*e*SB		**Sb**		**09 10 00.5**	**+0.4**
THL	**Klokotos Trika**	**0.84**	**169**	*e*Pb		**Pb**		**09 09 49.1**	**0.0**
THL				*e*Sb		**Sb**		**09 10 00.5**	**+0.4**
KRUS	**Krusevo**	**1.07**	**337**	*e*Pg		**Pg**		**09 09 53.3**	**-0.2**
KRUS	**Krusevo**	**1.07**	**337**	*e*Pg		**Pg**		**09 09 53.3**	**-0.2**
VAY	**Valandovo**	**1.10**	**32**	*e*Pg		**Pg**		**09 09 54.7**	**+0.6**
VAY	**Valandovo**	**1.10**	**32**	*e*Pg		**Pg**		**09 09 54.6**	**+0.5**
PLG	**Polygyros**	**1.25**	**90**	*e*PB		**Pb**		**09 09 56.2**	**+0.1**
PLG	**Polygyros**	**1.25**	**90**	*e*Pb		**Pb**		**09 09 56.2**	**+0.1**

IDC 15 09:24:36.0±1.6, 28.92S×61.53E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.7/22, mbtmp3.8/5, MS3.6/4, Ms1 3.5/4, ms1mx3.1/35, Error ellipse: s-maj=60.4km s-min=31.9km az=25.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**38.72**	**179**	LR		LR	LR	09 43 39.5	
	comp=Z,40nm,20.3s,baz=105,slow=30								
ATD	**Arta Tunnel**	**44.08**	**333**	LR		LR	LR	09 47 34.9	
	comp=Z,22nm,19.3s,baz=339,slow=31								
CMAR	**Chiang Mai Arr**	**59.37**	**42**	P		P		09 34 39.8	-0.4
	1.6nm,0.5s,baz=243,slow=8.0,SNR=6.9								
ASAR	**Alice Springs**	**64.19**	**104**	P		P		09 35 12.9	+0.1
	0.6nm,1.0s,baz=244,slow=6.2,SNR=6.1								
WRA	**Warramunga Arr**	**65.99**	**100**	P		P		09 35 24.7	+0.1
	0.3nm,0.7s,baz=247,slow=5.8,SNR=5.6								
TORD	**Torodi Ar. Bea**	**71.31**	**297**	P		P		09 35 57.6	-0.1
	0.6nm,1.1s,baz=141,slow=7.1,SNR=3.6								
BRTR	**Keskin Array B**	**73.06**	**338**	LR		LR		10 05 26.4	
	comp=Z,48nm,19.2s,baz=117,slow=34								
AKTO	**Aktyubinsk**	**79.07**	**358**	LR		LR		10 06 35.0	
	comp=Z,113nm,18.0s,baz=71,slow=32								
ZALV	**Zalesovo Beam**	**84.96**	**14**	P		P		09 37 13.3	+0.7
	1.0nm,0.5s,baz=206,slow=6.3,SNR=5.1								

*IDC **15** 09:35:45.4±1.0, 12.87N×93.21E, h0km, mb3.9/12, mb1 4.0/13, mb1mx3.9/25, mbtmp3.9/13, ML4.2/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/39, Error ellipse: s-maj=30.5km s-min=18.1km az=50.0*
*ISCJB **15** 09:35:47.2±5.1, 12.9N±0.1×93.33E±0.10, h23km±36km, mb3.8/13, Error ellipse: s-maj=17.5km s-min=15.2km az=152.7*
*NEIC **15** 09:35:50.8±0.8, 12.93N×93.29E, h35km, mb3.8/1, Error ellipse: s-maj=16.3km s-min=12.5km az=57.0*
ISC 15 09:35:49.8±5.2, 12.9N±0.1×93.27E±0.10, h28km±37km, n25, σ0.9s57/26, mb3.8/13, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.76**	**44**	Pn		**Pn**		**09 37 42.5**	**+1.4**
	0.9nm,0.3s,baz=235,slow=16,SNR=29								
CMAR				Sn		**Sn**		**09 39 08.3**	**+0.2**
	0.6nm,0.3s,baz=234,slow=27,SNR=5.4								
CMAR	**Chiang Mai Arr**	**7.76**	**44**	Pn		**Pn**		**09 37 42.5**	**+1.4**
CMAR				Sn		**Sn**		**09 39 08.3**	**+0.2**
CHTO	**Chiang Mai**	**8.02**	**42**	*e*Pn		**Pn**		**09 37 43.2**	**-1.3**
	4.1nm,0.6s								
PSI	**Prapat**	**11.49**	**150**	LR		LR		09 43 06.9	
	comp=Z,57nm,20.0s,baz=55,slow=38								
MK31	**Makanchi Array**	**35.02**	**347**	*e*P		**P**		**09 42 40.2**	**+0.2**
MKAR	**Makanchi Array**	**35.02**	**347**	P		**P**		**09 42 40.2**	**+0.3**
	1.9nm,0.8s,mb4.1,baz=162,slow=8.6,SNR=22								
MKAR	**Makanchi Array**	**35.02**	**347**	P		**P**		**09 42 40.2**	**+0.3**
SONM	**Songino Array**	**36.51**	**15**	P		**P**		**09 42 53.0**	**+0.3**
	0.8nm,0.9s,mb3.6,baz=197,slow=9.3,SNR=6.4								
SONM	**Songino Array**	**36.51**	**15**	P		**P**		**09 42 53.0**	**+0.3**
KSRS	**Korea Array**	**39.40**	**45**	P		**P**		**09 43 16.4**	**-0.9**
	1.3nm,0.8s,mb3.7,baz=248,slow=8.1,SNR=4.9								
KSRS				LR		LR		10 01 09.8	
	comp=Z,27nm,18.2s,baz=220,slow=39								
KURK	**Kurchatov**	**39.55**	**345**	P		**P**		**09 43 17.6**	**-0.7**
	2.3nm,0.8s,mb4.0,baz=164,slow=7.9,SNR=19								
KURK	**Kurchatov**	**39.55**	**345**	P		**P**		**09 43 17.6**	**-0.7**
ZAA0	**Zalesovo Array**	**41.49**	**352**	*e*P		**P**		**09 43 33.9**	**-0.4**
ZALV	**Zalesovo Beam**	**41.49**	**352**	P		**P**		**09 43 34.0**	**-0.3**
	2.1nm,0.6s,mb4.0,baz=172,slow=9.3,SNR=11								
ZALV	**Zalesovo Beam**	**41.49**	**352**	P		**P**		**09 43 34.0**	**-0.3**
ABKAR	**Akbulak array**	**45.46**	**330**	*e*P		**P**		**09 44 06.8**	**+0.5**
	0.6nm,0.5s,mb3.7								
WRA	**Warramunga Arr**	**51.95**	**128**	P		**P**		**09 44 57.0**	**+0.3**
	0.3nm,0.8s,mb3.3,baz=305,slow=9.3,SNR=3.1								
WRA	**Warramunga Arr**	**51.95**	**128**	P		**P**		**09 44 57.0**	**+0.3**
ASAR	**Alice Springs**	**53.85**	**132**	P		**P**		**09 45 10.5**	**-0.2**
	0.4nm,0.6s,mb3.5,baz=310,slow=7.1,SNR=3.8								
ASAR	**Alice Springs**	**53.85**	**132**	P		**P**		**09 45 10.5**	**-0.2**
BRTR	**Keskin Array B**	**58.57**	**309**	P		**P**		**09 45 44.1**	**-0.2**
	0.8nm,0.8s,mb3.8,baz=90,slow=8.7,SNR=3.4								
FINES	**FINESS Array B**	**67.90**	**331**	P		**P**		**09 46 45.5**	**-0.1**
	6.0nm,1.1s,mb4.5,baz=142,slow=9.6,SNR=6.5								
ARCES	**ARCESS Array B**	**70.27**	**340**	P		**P**		**09 47 00.5**	**+0.2**
	2.6nm,0.9s,mb4.2,baz=96,slow=8.7,SNR=4.7								
GERES	**GERESS Array B**	**73.55**	**317**	P		**P**		**09 47 20.7**	**+0.4**
	1.0nm,0.7s,mb3.9,baz=90,slow=5.3,SNR=7.8								
ILAR	**Eielson Array**	**90.43**	**22**	P		**P**		**09 48 48.6**	**+0.1**
	0.2nm,0.7s,mb3.6,baz=301,slow=5.0,SNR=3.8								

IDC 15 09:35:53.0±3.2, 10.82S×118.27E, h0km, mb3.6/2, mb1 3.4/5, mb1mx3.3/17, mbtmp3.3/5, ML3.0/3, Error ellipse: s-maj=225.5km s-min=23.2km az=50.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.16**	**136**	Pn		Pn	Pn	09 38 19.3	-0.9
	0.2nm,0.3s,baz=318,slow=15,SNR=11								
FITZ				Sn		Sn	Sn	09 40 03.3	-12
	0.5nm,0.3s,baz=161,slow=19,SNR=11								
WRA	**Warramunga Arr**	**17.94**	**122**	P		Pn	Pn	09 40 04.4	+0.4
	0.0nm,0.3s,baz=297,slow=14,SNR=4.2								
WRA				S		Sn	Sn	09 43 08.5	-16
	0.1nm,0.3s,baz=287,slow=22,SNR=4.3								
ASAR	**Alice Springs**	**19.62**	**133**	P		Pn	Pn	09 40 23.7	-0.7
	0.1nm,0.3s,baz=312,slow=13,SNR=7.1								
ASAR				S		Sn	Sn	09 43 50.4	-15
	0.1nm,0.3s,baz=304,slow=23,SNR=4.4								
MKAR	**Makanchi Array**	**65.75**	**334**	P		P		09 46 40.0	+0.4
	0.1nm,0.3s,baz=142,slow=5.9,SNR=3.0								
ZALV	**Zalesovo Beam**	**70.48**	**340**	P		P		09 47 09.0	-0.2
	0.5nm,0.6s,baz=155,slow=4.8,SNR=2.6								

*OMAN **15** 09:47:25.6±99.0, 26.50N×58.38E, h29km±999km, Error ellipse: s-maj=160.9km s-min=48.6km az=13.0*
*ISCJB **15** 09:47:32.0±1.9, 25.8N±0.1×58.1E±0.2, h10km, Error ellipse: s-maj=26.2km s-min=8.3km az=148.2*
*CSEM **15** 09:47:35.6±1.2, 25.60N×58.01E, h10km, ML4.0, Error ellipse: s-maj=37.5km s-min=12.3km az=56.0*
*KISR **15** 09:47:39.5±0.6, 26.11N×57.21E, h34km±999km, ML4.0*
ISC 15 09:47:35.6±1.9, 25.6N±0.1×58.0E±0.2, h10km, n23, σ1.9s08/29, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HATD	**Hatta, Dubai**	**1.88**	**245**	P		**Pn**		**09 48 06.4**	**-1.4**
	SNR=14								
HATD	**Hatta, Dubai**	**1.88**	**245**	P		**Pn**		**09 48 06.4**	**-1.3**
	SNR=14								
ASHO	**Ashiyiah**	**2.00**	**243**	P		**Pn**		**09 48 07.9**	**-1.5**
	SNR=43								
ASHO	**Ashiyiah**	**2.00**	**243**	P		**Pn**		**09 48 07.9**	**-1.5**
	SNR=43								
HOQ	**Hoqain**	**2.13**	**198**	P		**Pn**		**09 48 09.1**	**-2.1**
	SNR=31								
HOQ	**Hoqain**	**2.13**	**198**	P		**Pn**		**09 48 09.1**	**-2.1**
	SNR=31								
ASUD	**Al Ashush, Dub**	**2.63**	**248**	P		**Pn**		**09 48 19.8**	**+1.8**
	SNR=37								
ASUD	**Al Ashush, Dub**	**2.63**	**248**	P		**Pn**		**09 48 19.8**	**+1.8**
	SNR=37								
ARQ	**Araqi**	**2.65**	**211**	P		**Pn**		**09 48 19.3**	**+0.9**
	SNR=29								
ARQ	**Araqi**	**2.65**	**211**	P		**Pn**		**09 48 19.3**	**+0.9**
	SNR=29								
BSY	**Bisya**	**2.96**	**195**	P		**Pn**		**09 48 23.7**	**+1.1**
	SNR=19								
BSYO	**Bisya**	**2.96**	**194**	P		**Pn**		**09 48 23.7**	**+1.0**
	SNR=19								
WBK	**Wadi Bani Khal**	**3.12**	**164**	P		**Pn**		**09 48 24.0**	**-0.9**
	SNR=30								
WBK	**Wadi Bani Khal**	**3.12**	**164**	P		**Pn**		**09 48 24.0**	**-0.9**
	SNR=30								
JMDO	**Jabal Madar**	**3.24**	**179**	P		**Pn**		**09 48 26.9**	**+0.4**
	SNR=12								
JMDO	**Jabal Madar**	**3.24**	**179**	P		**Pn**		**09 48 26.9**	**+0.4**
	SNR=12								
QRN	**Al-Qurain**	**9.51**	**291**	*e*P		**Pn**		**09 49 52.5**	**-0.1**
RDF	**Al-Radifah**	**9.87**	**292**	*e*P		**Pn**		**09 49 57.5**	**-0.1**
RDF				*e*S		**Sn**		**09 51 41.5**	**-7.0**
RDF				AML		AML		09 51 42.0	
	comp=Z,6.6nm,0.5s								
RDF	**Al-Radifah**	**9.87**	**292**	*e*P		**Pn**		**09 49 57.5**	**0.0**
RDF				*e*S		**Sn**		**09 51 41.5**	**-7.0**
NAY	**Al-Naaiem**	**10.23**	**293**	*e*P		**Pn**		**09 50 02.5**	**+0.1**
NAY				*e*S		**Sn**		**09 51 49.8**	**-7.4**
NAY				AML		AML		09 51 51.5	
	comp=Z,4.8nm,0.6s								
NAY	**Al-Naaiem**	**10.23**	**293**	*e*P		**Pn**		**09 50 02.5**	**+0.1**
NAY				*e*S		**Sn**		**09 51 49.8**	**-7.3**
MIB	**Mutribah**	**10.33**	**296**	*e*P		**Pn**		**09 50 04.2**	**+0.4**
MIB				*e*S		**Sn**		**09 51 52.3**	**-7.5**
MIB				AML		AML		09 51 52.9	
	comp=Z,6.7nm,0.4s								
MIB	**Mutribah**	**10.33**	**296**	*e*P		**Pn**		**09 50 04.2**	**+0.3**
MIB				*e*S		**Sn**		**09 51 52.3**	**-7.5**

MAN 15 09:48:19, 13.75N×122.54E, h27km, mb3.8, ML2.6, MS2.2, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**0.18**	**329**	⇓*i*P			Pb	09 48 26.5	+1.8
GQP				*i* S			Sb	09 48 31.8	+3.3
AUQP	**San Andres**	**0.45**	**163**	*e*P			Pb	09 48 27.6	-0.8
AUQP				*e*S			Sb	09 48 33.5	-1.3
BOAC	**Boac**	**0.73**	**247**	*e*P			Pb	09 48 35.6	+2.3
BOAC				*e*S			Sb	09 48 45.1	+2.2
PVCP	**Virac**	**1.58**	**95**	*e*P			Pn	09 48 45.9	+0.7

*NEIC **15** 09:48:26.0±1.9, 5.44S×152.14E, h35km, Error ellipse: s-maj=67.8km s-min=15.6km az=121.0*
*IDC **15** 09:48:32.2±4.3, 5.40S×151.67E, h77km±28km, mb3.7/7, mb1 4.0/8, mb1mx3.7/17, mbtmp3.8/8, Error ellipse: s-maj=66.9km s-min=20.8km az=117.0*
*ISCJB **15** 09:48:33.2±4.0, 5.4S±0.2×151.5E±0.3, h94km±31km, mb3.8/8, Error ellipse: s-maj=62.5km s-min=23.2km az=29.0*
ISC 15 09:48:34.2±3.7, 5.5S±0.2×151.7E±0.3, h95km±28km, n20, σ0.5s51/20, mb3.8/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.92**	**228**	P		**Pn**		**09 49 59.9**	**+0.4**
	26nm,0.3s,baz=50,slow=6.8,SNR=73								
PMG				S		**Sn**		**09 51 05.4**	**-0.6**
	7.3nm,0.3s,baz=0.0,slow=20,SNR=7.8								
PMG	**Port Moresby**	**5.92**	**228**	P		**Pn**		**09 49 59.9**	**+0.4**
PMG				S		**Sn**		**09 51 05.4**	**-0.6**
WRAB	**Tennant Creek**	**22.13**	**228**	*e*P		**P**		**09 53 22.2**	**0.0**
	7.1nm,0.5s,mb4.2								
WB2	**Warramunga Arr**	**22.14**	**228**	*e*P		**P**		**09 53 22.1**	**0.0**
WRA	**Warramunga Arr**	**22.15**	**228**	P		**P**		**09 53 22.4**	**+0.1**
	8.0nm,0.7s,mb4.2,baz=51,slow=10,SNR=71								
WRA				ScP		ScP		10 00 47.5	+2.4
	0.8nm,1.0s,baz=53,slow=2.9,SNR=5.9								
WRA	**Warramunga Arr**	**22.15**	**228**	P		**P**		**09 53 22.4**	**+0.1**
WRA				ScP		ScP		10 00 47.5	+2.4
ASAR	**Alice Springs**	**24.89**	**222**	P		**P**		**09 53 48.9**	**+0.7**
	6.6nm,0.6s,mb4.2,baz=55,slow=8.8,SNR=65								
ASAR	**Alice Springs**	**24.89**	**222**	P		**P**		**09 53 48.9**	**+0.7**
FITZ	**Fitzroy Crossi**	**28.34**	**242**	P		**P**		**09 54 18.9**	**-0.4**
	4.3nm,0.4s,mb4.3,baz=68,slow=6.7,SNR=22								
FITZ	**Fitzroy Crossi**	**28.34**	**242**	*e*P		**P**		**09 54 19.1**	**-0.2**
SONM	**Songino Array**	**66.29**	**328**	P		**P**		**09 59 13.1**	**+0.8**
	0.2nm,0.3s,mb3.4,baz=134,slow=4.2,SNR=2.7								
SONM	**Songino Array**	**66.29**	**328**	P		**P**		**09 59 13.1**	**+0.8**
MKAR	**Makanchi Array**	**80.08**	**319**	P		**P**		**10 00 33.7**	**+0.2**
	0.2nm,0.5s,mb3.2,baz=92,slow=7.2,SNR=3.9								
MKAR	**Makanchi Array**	**80.08**	**319**	P		**P**		**10 00 33.7**	**+0.2**
ZALV	**Zalesovo Beam**	**81.08**	**327**	P		**P**		**10 00 38.0**	**-0.6**
	0.4nm,0.3s,mb3.7,baz=86,slow=4.8,SNR=3.3								
ZALV	**Zalesovo Beam**	**81.08**	**327**	P		**P**		**10 00 38.0**	**-0.6**
ILAR	**Eielson Array**	**83.21**	**22**	P		**P**		**10 00 48.7**	**-0.8**
	0.1nm,0.5s,mb2.9,baz=262,slow=5.4,SNR=3.6								
ILAR	**Eielson Array**	**83.21**	**22**	P		**P**		**10 00 48.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**149.41**	**287**	PKPbc		PKPbc		10 08 13.2	0.0
	0.5nm,0.5s,baz=51,slow=1.5,SNR=4.6								
TORD	**Torodi Ar. Bea**	**149.41**	**287**	PKPbc		PKPbc		10 08 13.2	0.0

*ISCJB **15** 09:52:50.9±0.3, 34.43N±0.02×119.01W±0.02, h31km±3km, Error ellipse: s-maj=3.5km s-min=2.7km az=141.2*
*NEIC **15** 09:52:51.0, 34.45N×119.01W, h27km, ML3.5(PAS), After PAS.*
NEIC Felt [III] at Camarillo; [II] at Fillmore and Newbury Park. Also felt at Agoura Hills, Los Angeles, Moorpark, Ojai, Santa Clarita, Santa Paula, Simi Valley, Thousand Oaks, Ventura, West Hills, Westlake Village and Woodland Hills.
ISC 15 09:52:51.1±0.3, 34.43N±0.02×119.01W±0.02, h26km±3km, n40, σ0.9s75/70, 13C-32D, Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OSI	**Osito Adit**	**0.30**	**53**	⇑P		**Pb**		**09 52 57.9**	**-0.3**
	baz=0.3								
OSI				⇓S		**Sb**		**09 53 02.8**	**-0.2**
	baz=0.3								
OSI	**Osito Adit**	**0.30**	**53**	*e*Pg		**Pb**		**09 52 58.0**	**-0.2**
OSI				*e*Sg		**Sb**		**09 53 02.9**	**-0.1**
BLG	**Laguna Peak**	**0.33**	**188**	P		**Pb**		**09 52 58.7**	**+0.2**
	baz=0.3,SNR=110								
BLG				⇓S		**Sb**		**09 53 04.1**	**+0.5**
	baz=0.3								
SBC	**Santa Barbara**	**0.58**	**271**	P		**Pb**		**09 53 02.8**	**+0.1**
	baz=0.6,SNR=104								
SBC				⇓S		**Sb**		**09 53 11.6**	**+1.1**
	baz=0.6								
DECC	**Green Verdugo**	**0.59**	**108**	P		**Pb**		**09 53 02.6**	**-0.3**
	baz=0.6,SNR=28								
DECC				⇓S		**Sb**		**09 53 11.1**	**+0.2**
	baz=0.6								
BSC	**Santa Cruz Isl**	**0.68**	**230**	P		**Pb**		**09 53 03.5**	**-0.7**
	baz=0.7,SNR=27								
BSC				⇑S		**Sb**		**09 53 13.0**	**-0.2**
	baz=0.7								
ARVC	**Arvin**	**0.71**	**12**	⇓P		**Pb**		**09 53 04.3**	**-0.5**
	baz=0.7								
ARVC				⇑S		**Sb**		**09 53 13.8**	**-0.4**
	baz=0.7								
PASC	**Pasadena Art C**	**0.73**	**111**	*e*Pg		**Pb**		**09 53 04.4**	**-0.8**
PASC				*e*Sg		**Sb**		**09 53 14.9**	**0.0**
PKM	**Peak Mountain**	**0.81**	**305**	⇓P		**Pb**		**09 53 06.2**	**-0.4**
	baz=0.8,SNR=55								
PKM				⇓S		**Sb**		**09 53 17.2**	**+0.1**
	baz=0.8								
MWC	**Mount Wilson**	**0.82**	**105**	*e*Pg		**Pb**		**09 53 06.1**	**-0.6**
FMP	**Fort Macarthur**	**0.93**	**140**	P		**Pn**		**09 53 08.2**	**-0.4**
	baz=0.9,SNR=71								
FMP				⇓S		**Sb**		**09 53 20.8**	**+0.2**
	baz=0.9								
EDW2	**Edwards Air Fo**	**0.95**	**62**	P		**Pn**		**09 53 08.4**	**-0.5**
	baz=0.9,SNR=1000								
EDW2				⇓S		**Sb**		**09 53 20.7**	**-0.5**
	baz=0.9								
BFSC	**Mount Baldy Ra**	**1.14**	**99**	⇓Pb		**Pb**		**09 53 11.4**	**-0.7**
	baz=1.1,SNR=205								
BFSC				⇓Sb		**Sb**		**09 53 26.6**	**+0.2**
	baz=1.1								
CIS	**Catalina Islan**	**1.14**	**153**	Pn		**Pn**		**09 53 10.7**	**-0.7**
	baz=1.2,SNR=98								
CIS				⇓Sn		**Sn**		**09 53 25.5**	**-0.7**
	baz=1.2								
SMMC	**Simmler**	**1.19**	**317**	⇓Pn		**Pn**		**09 53 12.0**	**-0.1**
	baz=1.2,SNR=94								
SMMC				⇓Sn		**Sn**		**09 53 27.9**	**+0.4**
	baz=1.2								
ISA	**Isabella**	**1.30**	**20**	⇓Pb		**Pb**		**09 53 14.2**	**-0.7**
	baz=1.3,SNR=635								
ISA				⇓Sn		**Sn**		**09 53 29.9**	**-0.3**
	baz=1.3								
ISA	**Isabella**	**1.30**	**20**	*e*Pg		**Pn**		**09 53 14.0**	**+0.3**
ISA				*e*Sg		**Sn**		**09 53 30.6**	**+0.3**
VES	**Vestal, Richgr**	**1.41**	**358**	⇑Pn		**Pn**		**09 53 14.9**	**-0.2**
	baz=1.4,SNR=127								
VES				⇓Sn		**Sn**		**09 53 32.4**	**-0.4**
	baz=1.4								
SCI	**San Clemente I**	**1.50**	**165**	⇓Pn		**Pn**		**09 53 16.1**	**-0.3**
	baz=1.5								
SCI				⇓Sb		**Sb**		**09 53 38.3**	**+1.4**
	baz=1.5								
LRMC	**Laurel Mountai**	**1.51**	**46**	⇓Pn		**Pn**		**09 53 16.4**	**0.0**
	baz=1.5,SNR=18								
LRMC				⇓Sn		**Sn**		**09 53 35.0**	**-0.2**
	baz=1.5								
RRX	**Edison Barstow**	**1.72**	**74**	⇓Pb		**Pb**		**09 53 21.1**	**-0.9**
	baz=1.7								
MURC	**Murrieta**	**1.72**	**118**	⇑Pn		**Pn**		**09 53 19.3**	**-0.1**
	baz=1.7,SNR=17								
MURC				⇓Sb		**Sb**		**09 53 44.5**	**+1.4**
	baz=1.7								
BBRC	**Big Bear Solar**	**1.74**	**95**	⇓Pb		**Pb**		**09 53 21.1**	**-1.2**
	baz=1.7								
BBRC				⇓Sb		**Sb**		**09 53 44.4**	**+0.7**
	baz=1.7								
RCTC	**Rector, Farmer**	**1.88**	**354**	⇓Pn		**Pn**		**09 53 21.2**	**-0.4**
	baz=1.9,SNR=28								
RCTC				⇑Sn		**Sn**		**09 53 44.7**	**+0.2**
	baz=1.9								
GSC	**Goldstone**	**2.01**	**64**	*e*Pn		**Pn**		**09 53 23.2**	**-0.1**
MPMC	**Manual Prospec**	**2.05**	**37**	⇑Pn		**Pn**		**09 53 23.9**	**0.0**
	baz=2.0								
MPMC				⇑Pb		**Pb**		**09 53 27.7**	**+0.1**
	baz=2.0								
CWC	**Cottonwood Cre**	**2.14**	**21**	⇓Pb		**Pb**		**09 53 28.8**	**-0.4**
	baz=2.1								
CWC				⇓Sb		**Sb**		**09 53 56.0**	**+0.6**
	baz=2.1								
109C	**Camp Elliot, M**	**2.21**	**134**	⇑Pn		**Pn**		**09 53 25.4**	**-0.8**
	baz=2.2,SNR=6.8								
HEC	**Hector,Ludlow**	**2.25**	**79**	⇓Pn		**Pn**		**09 53 26.9**	**+0.3**
	baz=2.2,SNR=12								
PFO	**Pinyon Flat Ob**	**2.28**	**110**	Pn		**Pn**		**09 53 27.6**	**+0.6**
	baz=2.3,SNR=19								
PFO	**Pinyon Flat Ob**	**2.28**	**110**	*e*Pn		**Pn**		**09 53 27.9**	**+0.9**
BAR	**Barrett**	**2.62**	**131**	*e*Pn		**Pn**		**09 53 31.3**	**-0.5**
BAR				*e*Sn		**Sn**		**09 54 02.3**	**-0.5**
MONP	**Monument Peak**	**2.65**	**125**	⇓Pn		**Pn**		**09 53 32.6**	**+0.4**
	baz=2.7,SNR=49								
MONP				⇓Sn		**Sn**		**09 54 04.1**	**+0.6**
	baz=2.7								
GMRC	**Granite Mounta**	**2.79**	**82**	⇑Pn		**Pn**		**09 53 34.0**	**0.0**
	baz=2.8								
GMRC				⇓Sn		**Sn**		**09 54 06.3**	**-0.5**
	baz=2.8								
GMRC				⇑Sb		**Sb**		**09 54 16.6**	**+2.7**
	baz=2.8								
GRAC	**Grapevine Rang**	**2.89**	**27**	⇑Pn		**Pn**		**09 53 36.4**	**+0.9**
	baz=2.9,SNR=26								
MTUM	**Tungsten Hills**	**2.94**	**7**	*e*Pn		**Pn**		**09 53 38.9**	**+2.8**
SAO	**San Andreas Ge**	**3.06**	**320**	*e*Pn		**Pn**		**09 53 37.1**	**-0.7**
SAO				*e*Sn		**Sn**		**09 54 11.8**	**-1.7**
NEE2	**Needles Airpor**	**3.64**	**83**	⇑Pn		**Pn**		**09 53 46.1**	**+0.3**
	baz=3.6,SNR=7.4								
CMB	**Columbia Colle**	**3.76**	**343**	*e*Pn		**Pn**		**09 53 48.7**	**+1.2**
WCN	**Washoe City**	**

ASAR Alice Springs 20.94 196 P **P** **10 17 11.3 +1.9**
4.2nm,0.6s,baz=30,slow=10,SNR=68
ASAR S **S** **10 20 59.3 +2.9**
1.9nm,0.8s,baz=10,slow=27,SNR=4.2
ASAR Alice Springs 20.94 196 P **P** **10 17 11.3 +1.9**
ASAR S **S** **10 20 59.3 +2.9**
STKA Stephens Creek 28.30 177 LR LR 10 30 52.2
comp=Z,88nm,18.1s,baz=205,slow=39
JOW Kunigami 32.20 340 LR LR 10 28 35.1
comp=Z,1μm,21.5s,baz=110,slow=30
MKAR Makanchi Array 71.21 322 P **P** **10 23 43.3 +1.1**
0.2nm,0.6s,mb3.1,baz=108,slow=9.3,SNR=2.9
MKAR Makanchi Array 71.21 322 P **P** **10 23 43.3 +1.1**
ZALV Zalesovo Beam 73.26 330 P **P** **10 23 53.8 -0.4**
0.3nm,0.4s,mb3.4,baz=114,slow=7.0,SNR=2.4
ZALV Zalesovo Beam 73.26 330 P **P** **10 23 53.8 -0.4**
ILAR Eielson Array 85.97 24 P **P** **10 25 01.8 -0.9**
0.6nm,0.8s,mb3.6,baz=264,slow=4.8,SNR=6.7
ILAR Eielson Array 85.97 24 P **P** **10 25 01.8 -0.9**

IDC 15 10:14:54.0±15.0, 33°41'N×68°00'E, h0km, mb3.6/2, mb1 3.4/4, mb1mx3.2/27, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=346.4km s-min=32.0km az=155.0, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**17.23**	**35**	Pn	Pn	10 18 53.6	-2.3
	0.1nm,0.3s,baz=218,slow=14,SNR=3.4						
KURK	**Kurchatov**	**18.97**	**21**	P	Pn	10 19 15.2	-2.1
	0.1nm,0.3s,baz=211,slow=10,SNR=4.3						
ZALV	**Zalesovo Beam**	**23.74**	**25**	P	P	10 20 09.0	+1.2
	0.8nm,0.3s,baz=212,slow=10,SNR=4.9						
BRTR	**Keskin Array B**	**28.19**	**293**	P	P	10 20 48.3	+0.1
	0.3nm,0.4s,baz=92,slow=9.6,SNR=2.3						

IDC 15 10:21:05.7±2.4, 16°03'S×173°39'W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.8/18, mbtmp3.7/5, MS3.3/1, Ms1 3.3/1, ms1mx2.6/28, Error ellipse: s-maj=140.7km s-min=23.5km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.62**	**37**	Pn	Pn	10 21 45.2	-4.1
	14nm,0.3s,baz=11,slow=2.2,SNR=27						
AFI				Sn	Sn	10 22 11.7	-10
	79nm,0.3s,baz=69,slow=22,SNR=15						
WRA	**Warramunga Arr**	**49.71**	**257**	P	P	10 29 59.1	-0.9
	0.3nm,0.4s,baz=96,slow=6.3,SNR=8.6						
WRA				PcP	PcP	10 31 22.1	+0.8
	0.3nm,0.7s,baz=87,slow=4.0,SNR=3.2						
ASAR	**Alice Springs**	**49.92**	**252**	P	P	10 30 01.3	-0.3
	0.8nm,0.4s,baz=90,slow=7.5,SNR=28						
GUMO	**Guam**	**50.68**	**303**	LR	LR	10 46 31.1	
	comp=Z,37nm,21.9s,baz=99,slow=30						
NVAR	**Mina Array Bea**	**74.79**	**42**	P	P	10 32 48.3	+0.5
	0.6nm,0.7s,baz=223,slow=10,SNR=5.4						
PDAR	**Pinedale Array**	**82.73**	**42**	P	P	10 33 30.9	-0.6
	0.7nm,0.7s,baz=207,slow=3.0,SNR=5.7						
ILAR	**Eielson Array**	**83.06**	**11**	P	P	10 33 32.4	-0.2
	0.4nm,0.6s,baz=233,slow=6.1,SNR=12						
BRTR	**Keskin Array B**	**146.64**	**320**	PKPbc	PKPbc	10 40 50.2	+0.6
	0.8nm,0.7s,baz=63,slow=0.6,SNR=4.6						
GERES	**GERESS Array B**	**146.76**	**351**	PKPbc	PKPbc	10 40 50.0	+0.3
	0.4nm,0.7s,baz=46,slow=4.2,SNR=3.9						

IDC 15 10:27:52.3±1.9, 6°37S×147°04E, h0km, mb3.0/2, mb1 3.4/4, mb1mx3.2/16, mbtmp3.1/4, ML2.4/2, Error ellipse: s-maj=60.0km s-min=26.1km az=107.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.02**	**178**	Pn	Pn	10 28 41.3	-0.2
	1.1nm,0.3s,baz=0.0,slow=20,SNR=4.3						
PMG				Sn	Sn	10 29 18.8	+0.3
	0.9nm,0.3s,baz=180,slow=20,SNR=3.6						
WRA	**Warramunga Arr**	**18.29**	**221**	P	Pn	10 32 06.8	-0.8
	0.0nm,0.3s,baz=45,slow=12,SNR=4.7						
ASAR	**Alice Springs**	**21.34**	**215**	P	P	10 32 41.9	+0.7
	0.2nm,0.5s,baz=43,slow=9.5,SNR=4.2						
ILAR	**Eielson Array**	**85.80**	**23**	P	P	10 40 33.5	+0.1
	0.5nm,1.1s,baz=254,slow=5.5,SNR=4.1						

*IDC **15** 10:52:51.8±1.0, 47°.76N×69°.87W, h0km, mb3.6/5, mb1 3.9/8, mb1mx3.6/28, mbtmp3.7/8, ML2.9/3, MS2.9/2, Ms1 3.0/2, ms1mx2.2/43, Error ellipse: s-maj=21.3km s-min=8.5km az=134.0*
*BJI **15** 10:52:51.4, 47°.70N×69°.70W, h10km, mB5.3/4, mb5.3/5, Ms5.3/3, Ms7 4.9/2*
*ISCJB **15** 10:52:53.3±0.4, 47°.72N±0°.03×69°.73W±0°.03, h21km±2km, mb3.5/5, MS2.9/2, Error ellipse: s-maj=4.9km s-min=3.1km az=144.7*
*NEIC **15** 10:52:53.4, 47°.74N×69°.71W, h20km, MN4.2(OTT), MN4.2(WES), MW3.6(SLM). After OTT.*
NEIC Widely felt in the St. Lawrence Valley region. Felt at Van Buren, Maine.
*OTT **15** 10:52:54.4±0.2, 47°.74N×69°.74W, h13km±1km, MN4.2/25*
OTT 17km southwest from Riviere-du-Loup, Qc, Felt Charlevoix Seismic Zone, Qc.

ISC 15 10:52:53.4±0.3, 47°73'N±0°02×69°74'W±0°03, h12km±2km, n86, σ1°17/107, mb3.5/5, MS2.9/2, 8C-14D, Gaspe Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
A21	**Saint Andre**	**0.04**	**127**	Pg	**Pg**	**10 52 56.7**	**+0.9**
A21				Sg	**Sg**	**10 52 58.3**	**+0.9**
A21	**Saint Andre**	**0.04**	**127**	↑Pg	**Pg**	**10 52 56.7**	**+0.9**
A21				SG	**Sg**	**10 52 58.3**	**+0.9**
A21				Trac		10 52 58.6	
	comp=Z,78μm,0.1s						
A64	**Saint Simeon**	**0.14**	**314**	Pg	**Pg**	**10 52 57.7**	**+0.8**
A64				Sg	**Sg**	**10 53 00.2**	**+0.9**
A64	**Saint Simeon**	**0.14**	**314**	↑Pg	**Pg**	**10 52 57.7**	**+0.8**
A64				SG	**Sg**	**10 53 00.2**	**+0.9**
A64				Trac		10 53 00.3	
	comp=Z,9μm,0.1s						
A16	**Riviere Ouelle**	**0.32**	**215**	Pg	**Pg**	**10 53 00.8**	**+0.9**
A16	**Riviere Ouelle**	**0.32**	**215**	↑Pg	**Pg**	**10 53 00.8**	**+0.9**
A16				SG	**Sg**	**10 53 05.3**	**+1.2**
A16				Trac		10 53 05.9	
	comp=Z,2μm,0.1s						
LMQ	**La Malbaie**	**0.43**	**245**	Pg	**Pg**	**10 53 02.5**	**+0.5**
LMQ				Sg	**Sg**	**10 53 08.7**	**+0.9**
LMQ	**La Malbaie**	**0.43**	**245**	↓Pg	**Pg**	**10 53 02.5**	**+0.5**
LMQ				SG	**Sg**	**10 53 08.7**	**+0.9**
LMQ				Trac		10 53 09.3	
	comp=Z,6μm,0.1s						
A54	**Misere**	**0.53**	**239**	Pg	**Pg**	**10 53 04.1**	**+0.4**
A54				Sg	**Sg**	**10 53 11.7**	**+0.9**
A54	**Misere**	**0.53**	**239**	↓Pg	**Pg**	**10 53 04.1**	**+0.4**
A54				SG	**Sg**	**10 53 11.7**	**+0.9**
A54				Trac		10 53 12.0	
	comp=Z,2μm,0.1s						
SFA	**Sept-Chutes**	**0.95**	**231**	↑Pg	**Pg**	**10 53 11.0**	**-0.8**
SFA				SG	**Sg**	**10 53 24.5**	**+0.2**
BCLQ	**Boischatel**	**1.26**	**231**	↓Pg	**Pg**	**10 53 15.8**	**-1.9**
BCLQ				SG	**Sg**	**10 53 33.0**	**-1.1**
STOQ	**Stoneham**	**1.32**	**238**	↓Pg	**Pg**	**10 53 16.9**	**-1.9**
STOQ				SG	**Sg**	**10 53 34.9**	**-1.1**
QCQ	**Quebec**	**1.41**	**228**	Pg	**Pg**	**10 53 18.7**	**-1.8**
QCQ	**Quebec**	**1.41**	**228**	↑Pg	**Pg**	**10 53 18.7**	**-1.8**
QCQ				SG	**Sg**	**10 53 37.9**	**-1.0**
QCQ				Trac		10 53 40.7	
	comp=Z,1μm,0.3s						
PQI	**Presque Isle**	**1.58**	**131**	*eP*	**Pn**	**10 53 21.6**	**+0.4**
PQI				*eS*	**Sn**	**10 53 42.7**	**+1.1**
PQI	**Presque Isle**	**1.58**	**131**	↓Pg	**Pg**	**10 53 21.9**	**-1.9**
PQI				SG	**Sg**	**10 53 43.2**	**-1.1**
CNQ	**Baie Comeau**	**1.93**	**35**	Pn	**Pn**	**10 53 27.3**	**+1.4**
CNQ				Sg	**Sg**	**10 53 53.3**	**-2.0**
CNQ	**Baie Comeau**	**1.93**	**35**	↓PN	**Pn**	**10 53 27.3**	**+1.4**
CNQ				SG	**Sg**	**10 53 53.3**	**-2.0**
CNQ				Trac		10 53 55.7	
	comp=Z,841nm,0.2s						
LATQ	**La Tuque**	**2.09**	**262**	↓PN	**Pn**	**10 53 28.7**	**+0.6**
LATQ				SG	**Sg**	**10 53 56.8**	**-3.7**
LATQ				Trac		10 53 59.9	
	comp=Z,498nm,0.1s						
GSQ	**Grosses Roches**	**2.12**	**55**	↓PN	**Pn**	**10 53 29.7**	**+1.1**
GSQ				Trac		10 54 02.2	
	comp=Z,796nm,0.2s						
DPQ	**Saint Jean**	**2.32**	**244**	↓PN	**Pn**	**10 53 31.7**	**+0.4**
DPQ				SG	**Sg**	**10 54 06.2**	**-1.8**
DPQ				Trac		10 54 07.5	
	comp=Z,488nm,0.2s						
ICQ	**Pointe Anglais**	**2.43**	**42**	↑PN	**Pn**	**10 53 32.7**	**-0.1**
ICQ				SN	**Sn**	**10 54 01.5**	**-0.9**
ICQ				LG		10 54 06.9	
PKME	**Peaks-Kenny Pk**	**2.49**	**173**	*ePn*	**Pn**	**10 53 34.5**	**+0.9**
PKME				*eSn*	**Sn**	**10 54 07.5**	**+3.7**
PKME	**Peaks-Kenny Pk**	**2.49**	**173**	↓PN	**Pn**	**10 53 34.8**	**+1.2**
PKME				SN	**Sn**	**10 54 05.8**	**+1.9**
PKME				Trac		10 54 19.1	
	comp=Z,404nm,0.3s						
BATG	**Bathurst New B**	**2.54**	**99**	↑PN	**Pn**	**10 53 33.9**	**-0.4**
BATG				SN	**Sn**	**10 54 04.6**	**-0.5**
BATG				Trac		10 54 17.7	
	comp=Z,247nm,0.1s						
MNQ	**Manicouagan**	**2.88**	**12**	↓PN	**Pn**	**10 53 38.0**	**-1.0**
MNQ				LG		10 54 18.6	
MNQ				Trac		10 54 26.2	
	comp=Z,222nm,0.2s						
MOQ	**Mont Orford**	**2.98**	**217**	PN	**Pn**	**10 53 39.4**	**-0.9**
MOQ				SN	**Sn**	**10 54 15.3**	**-0.6**
MOQ				LG		10 54 24.9	
MOQ				Trac		10 54 28.8	
	comp=Z,384nm,0.3s						
WVL	**Waterville**	**3.17**	**179**	*ePn*	**Pn**	**10 53 42.1**	**-0.9**
GGN	**Saint George**	**3.29**	**141**	↓PN	**Pn**	**10 53 44.4**	**-0.3**
GGN				SN	**Sn**	**10 54 22.9**	**-0.8**
GGN				Trac		10 54 42.2	
	comp=Z,108nm,0.1s						
EMMW	**East Machias**	**3.41**	**151**	*ePn*	**Pn**	**10 53 45.3**	**-1.1**
EMMW				*eSn*	**Sn**	**10 54 25.1**	**-1.5**
EMMW	**East Machias**	**3.41**	**151**	↑PN	**Pn**	**10 53 45.3**	**-1.0**
EMMW				SN	**Sn**	**10 54 24.8**	**-1.8**
MNT	**Montreal**	**3.48**	**232**	↓PN	**Pn**	**10 53 47.5**	**+0.2**
MNT				SN	**Sn**	**10 54 27.6**	**-0.8**
MNT				Trac		10 54 44.3	
	comp=Z,188nm,0.2s						
TRQ	**Mont Tremblant**	**3.62**	**247**	↓PN	**Pn**	**10 53 48.9**	**-0.3**
TRQ				SN	**Sn**	**10 54 33.6**	**+1.7**
TRQ				LG		10 54 44.4	
TRQ				Trac		10 54 47.4	
	comp=Z,365nm,0.3s						
LBNH	**Lisbon**	**3.81**	**204**	*ePn*	**Pn**	**10 53 53.2**	**+1.4**
LBNH				*eSn*	**Sn**	**10 54 34.9**	**-1.5**
LMN	**Caledonia Moun**	**3.88**	**117**	Trac		10 54 52.0	
	comp=Z,29nm,0.1s						
FRNY	**Flat Rock**	**3.94**	**224**	*ePn*	**Pn**	**10 53 53.4**	**-0.2**
FRNY				*eSn*	**Sn**	**10 54 37.9**	**-1.7**
HNH	**Hanover**	**4.40**	**205**	*ePn*	**Pn**	**10 54 00.3**	**+0.4**
MDV	**Middlebury**	**4.44**	**214**	*ePn*	**Pn**	**10 54 02.4**	**+2.0**
MDV				*eSn*	**Sn**	**10 54 51.5**	**-0.4**
FFD	**Franklin Falls**	**4.47**	**198**	*ePn*	**Pn**	**10 54 01.4**	**+0.6**
MSNY	**Massena**	**4.47**	**234**	*ePn*	**Pn**	**10 54 07.5**	**+6.5**
MSNY				*eSn*	**Sn**	**10 54 52.1**	**-0.7**
LONY	**Lake Ozonia**	**4.58**	**229**	*ePn*	**Pn**	**10 54 02.6**	**+0.2**
WBO	**Williamsburg**	**4.70**	**237**	Trac		10 55 19.8	
	comp=Z,147nm,0.3s						
OTT	**Ottawa**	**4.74**	**243**	Trac		10 55 23.5	
	comp=Z,369nm,0.4s						
NCB	**Newcomb**	**4.89**	**221**	*ePn*	**Pn**	**10 54 06.4**	**-0.2**
NCB				*eSn*	**Sn**	**10 55 05.7**	**+2.6**
ACCN	**Adirondack Com**	**5.15**	**214**	*ePn*	**Pn**	**10 54 11.5**	**+1.3**
	28nm,0.6s						
VLDQ	**Val d'Or**	**5.20**	**277**	Trac		10 55 46.1	
	comp=Z,107nm,0.2s						
HAL	**Halifax**	**5.27**	**124**	Trac		10 55 17.3	
	comp=Z,23nm,0.1s						
HRV	**Adam Dziewonsk**	**5.38**	**194**	*ePn*	**Pn**	**10 54 14.7**	**+1.3**
WES	**Weston**	**5.46**	**192**	*ePn*	**Pn**	**10 54 15.3**	**+0.8**
	94nm,0.5s						
CRLO	**Chalk River**	**5.50**	**255**	Trac		10 55 47.9	
	comp=Z,133nm,0.3s						
TRY	**Troy**	**5.71**	**210**	*ePn*	**Pn**	**10 54 18.1**	**+0.1**
	27nm,0.6s						
QUA2	**Belchertown**	**5.76**	**200**	*ePn*	**Pn**	**10 54 20.2**	**+1.7**
	91nm,0.5s						
KGNO	**Kingston**	**5.87**	**236**	Trac		10 56 00.9	
	comp=Z,57nm,0.2s						
BRYW	**Bryant College**	**5.95**	**193**	*ePn*	**Pn**	**10 54 22.1**	**+0.9**
	117nm,0.6s						
EEO	**Eldee**	**6.45**	**264**	Trac		10 56 18.3	
	comp=Z,164nm,0.3s						
LG4Q	**La Grande 4**	**6.52**	**337**	Trac		10 56 18.6	
	comp=Z,170nm,0.4s						
BINY	**Binghamton**	**7.08**	**221**	*ePn*	**Pn**	**10 54 37.1**	**+0.4**
	56nm,0.5s						
SADO	**Sadowa**	**7.16**	**249**	Pn	**Pn**	**10 54 35.9**	**-1.8**
	1.0nm,0.3s,baz=73,slow=13,SNR=14						
SADO				Sn	**Sn**	**10 55 53.6**	**-5.3**
	8.3nm,0.3s,baz=98,slow=11,SNR=6.7						
SADO				Lg		10 56 29.2	
	15nm,0.3s,baz=330,slow=19,SNR=7.5						
SADO	**Sadowa**	**7.16**	**249**	Pn	**Pn**	**10 54 35.9**	**-1.8**
SADO				Sn	**Sn**	**10 55 53.6**	**-5.3**
SADO				Lg		10 56 29.2	
SADO	**Sadowa**	**7.16**	**249**	Trac		10 56 36.8	
	comp=Z,139nm,0.4s						
SCHQ	**Schefferville**	**7.34**	**13**	Pn	**Pn**	**10 54 38.7**	**-1.6**
	1.6nm,0.3s,baz=170,slow=18,SNR=23						
SCHQ				Sn	**Sn**	**10 55 58.6**	**-4.7**
	11nm,0.3s,baz=100,slow=19,SNR=13						
SCHQ				Lg		10 56 34.4	
	12nm,0.3s,baz=291,slow=15,SNR=6.6						
SCHQ	**Schefferville**	**7.34**	**13**	*ePn*	**Pn**	**10 54 37.9**	**-2.3**
SCHQ				*eSn*	**Sn**	**10 55 59.6**	**-3.7**
SCHQ	**Schefferville**	**7.34**	**13**	Trac		10 56 44.3	
	comp=Z,56nm,0.3s						
PAL	**Palisades**	**7.36**	**205**	Pn	**Pn**	**10 54 42.6**	**+2.1**
	34nm,0.6s						
ERPA	**Erie**	**9.18**	**236**	Trac		10 57 44.1	
	comp=Z,62nm,0.4s						
VIMO	**Victor Mine**	**10.30**	**305**	Trac		10 58 17.0	
	comp=Z,94nm,0.6s						
ULM	**Lac du Bonnet**	**17.31**	**288**	Pn	**Pn**	**10 56 48.5**	**-6.1**
	0.4nm,0.3s,baz=92,slow=11,SNR=4.8						
ULM	**Lac du Bonnet**	**17.31**	**288**	*ePn*	**Pn**	**10 56 49.9**	**-4.7**
ULM				*eSn*	**Sn**	**10 59 53.4**	**-13**
PDAR	**Pinedale Array**	**28.24**	**275**	P	**P**	**10 58 43.9**	**-2.1**
	0.2nm,0.7s,mb2.8,baz=62,slow=11,SNR=2.5						
PDAR	**Pinedale Array**	**28.24**	**275**	P	**P**	**10 58 44.0**	**-2.1**
YKA	**Yellowknife Ar**	**28.89**	**317**	P	**P**	**10 58 51.0**	**-0.6**
	0.4nm,0.7s,mb3.3,baz=94,slow=9.4,SNR=3.0						
YKA	**Yellowknife Ar**	**28.89**	**317**	P	**P**	**10 58 51.0**	**-0.6**
TXAR	**Lajitas Array**	**31.93**	**247**	P	**P**	**10 59 20.0**	**+1.2**
	0.2nm,0.5s,mb3.2,baz=55,slow=7.8,SNR=3.3						
TXAR	**Lajitas Array**	**31.93**	**247**	P	**P**	**10 59 20.0**	**+1.2**
NOA	**NORSAR Array B**	**45.89**	**42**	LR	LR	11 20 09.0	
	comp=Z,16nm,18.3s,MS3.0,baz=320,slow=36						
HFS	**Hagfors**	**47.37**	**43**	LR	LR	11 19 44.3	
	comp=Z,9.0nm,18.8s,MS2.8,baz=306,slow=34						
ARCES	**ARCESS Array B**	**48.02**	**28**	P	**P**	**11 01 32.1**	**+0.4**
	3.9nm,0.9s,mb4.4,baz=308,slow=6.0,SNR=6.1						
ARCES	**ARCESS Array B**	**48.02**	**28**	P	**P**	**11 01 32.1**	**+0.4**
TORD	**Torodi Ar. Bea**	**67.91**	**95**	P	**P**	**11 03 51.8**	**-0.1**
	0.9nm,0.9s,mb3.8,baz=304,slow=6.7,SNR=5.2						
WMQ	**Urumqi**	**86.69**	**16**	*eP*	**P**	**11 05 38.6**	**+1.9**
CN2	**Changchun**	**87.88**	**349**	*eP*	**P**	**11 05 44.3**	**+1.8**
HHC	**Hu-ho-hao-te**	**91.80**	**359**	*eP*	**P**	**11 06 01.4**	**+0.5**
HHC				PP	PP	11 09 42.1	+3.5
HHC				SKS		11 16 33.3	
HHC				S	S	11 16 59.3	-2.1
HHC				ScS	ScS	11 17 01.5	-2.6
HHC				SS	SS	11 23 08.1	+1.1
HHC				pmax	pmax		
	comp=Z,15nm,0.8s						
HHC				pmax	pmax		
	comp=Z,90nm,8.1s						
HHC				LR	LR		
	comp=N,77nm,18.6s						
HHC				LR	LR		
	comp=E,65nm,18.6s						
CD2	**Chengdu**	**101.50**	**6**	P	Pdif	11 06 46.4	+1.3
CD2				PP	PP	11 10 57.9	+4.2
CD2				SKS		11 17 25.4	
CD2				S	Sdif	11 18 22.8	-2.5
CD2				SS	SS	11 25 26.4	+2.0
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				pmax	pmax		
	comp=Z,60nm,4.5s						
CD2				LR	LR		
	comp=N,170nm,5.3s						
CD2				LR	LR		
	comp=Z,120nm,6.6s						
WRA	**Warramunga Arr**	**146.09**	**317**	PKPbc	PKPbc	11 12 33.1	-0.1
	comp=Z,0.6nm,0.5s,baz=30,slow=2.9,SNR=16						
ASAR	**Alice Springs**	**149.48**	**314**	PKPbc	PKPbc	11 12 42.0	-0.3
	comp=Z,0.8nm,0.6s,baz=19,slow=2.2,SNR=17						

*NEIC **15** 11:16:48.0, 32°.13S×71°.82W, h32km, ML3.1(GUC), After GUC.*

GUC 15 11:16:48.0±0.8, 32°13'S×71°82'W, h32km±4km, MD3.5, ML3.1, 4C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.36**	**48**	↓*i*P	Pb	11 16 56.4	-0.1
CHNG				*i* S	Sb	11 17 02.3	+0.1
ROCH	**El Roble**	**1.08**	**141**	*i* P	Pn	11 17 07.4	+0.4
ROCH				*i* S	Sn	11 17 22.0	+1.1
ROCH	**El Roble**	**1.08**	**141**	*i* P	Pn	11 17 07.4	+0.4
ROCH				*i* S	Sn	11 17 22.0	+1.1
JACH	**Jahuel**	**1.18**	**118**	↑*i*P	Pn	11 17 08.9	+0.7
JACH				*i* S	Sn	11 17 24.5	+1.4
JACH	**Jahuel**	**1.18**	**118**	↑*i*P	Pn	11 17 08.9	+0.7
JACH				*i* S	Sn	11 17 24.5	+1.4
CMCH	**Combarbala**	**1.18**	**36**	↓*i*P	Pn	11 17 09.0	+0.7
CMCH				*i* S	Sn	11 17 24.6	+1.4
CMCH	**Combarbala**	**1.18**	**36**	↓*i*P	Pn	11 17 09.0	+0.7
CMCH				*i* S	Sn	11 17 24.6	+1.4
CMCH				AML	AML	11 17 30.8	
	comp=E,906nm,0.6s						
LCCH	**Las Cruces**	**1.36**	**171**	*eP*	Pn	11 17 11.4	+0.6
LCCH	**Las Cruces**	**1.36**	**171**	*eP*	Pn	11 17 11.4	+0.6
PEL	**Peldehue**	**1.39**	**137**	↑*i*P	Pn	11 17 12.3	+1.1
PEL				*i* S	Sn	11 17 31.0	+2.4
PEL				AML	AML	11 17 32.2	
	comp=E,697nm,0.3s						
CLCH	**Cerro Calan**	**1.66**	**140**	↓*i*P	Pn	11 17 16.8	+1.8
CLCH				*i* S	Sn	11 17 38.7	+3.5
CLCH				AML	AML	11 17 43.8	
	comp=N,336nm,0.5s						
FCH	**Farellones**	**1.76**	**133**	↑*i*P	Pn	11 17 18.3	+2.0
FCH				*i* S	Sn	11 17 41.6	+4.1
FCH				AML	AML	11 17 43.6	
	comp=E,156nm,0.2s						
LMEL	**Las Melosas**	**2.19**	**142**	AML	AML	11 17 57.1	
	comp=N,159nm,0.1s						

IDC 15 11:23:25.3±9.0, 19°36S×68°80W, h0km, mb4.2/2, mb1 3.9/3, mb1mx3.7/16, mbtmp3.9/3, ML2.9/1, Error ellipse: s-maj=220.7km s-min=39.2km az=82.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.12**	**12**	Pn	Pn	11 24 16.0	+0.2
	1.1nm,0.3s,baz=193,slow=7.4,SNR=13						
LPAZ				Sn	Sn	11 24 56.7	+2.9
	0.4nm,0.3s,baz=221,slow=9.1,SNR=4.1						
DBIC	**Dimbokro**	**68.04**	**74**	P	P	11 34 26.5	-0.7
	5.0nm,1.0s,baz=231,slow=6.5,SNR=3.1						
TORD	**Torodi Ar. Bea**	**76.55**	**71**	P	P	11 35 18.8	+0.8
	0.9nm,0.9s,baz=244,slow=5.1,SNR=4.5						

*ISCJB **15** 11:41:52.2±0.9, 35°.07N±0°.03×37°.05E±0°.05, h6km±7km, Error ellipse: s-maj=6.5km s-min=4.4km az=178.0*
*CSEM **15** 11:41:52.4±0.2, 35°.07N×37°.04E, h10km, Mc2.0, Error ellipse: s-maj=4.3km s-min=3.4km az=103.0*
*DDA **15** 11:41:52.7, 35°.21N×37°.09E, h6km±7km, Md3.1*
*NSSC **15** 11:41:52, 35°.08N×37°.04E, h12km±1km*

ISC 15 11:41:52.6±0.6, 35°07'N±0°03×37°05E±0°04, h11km±5km, n27, σ0°87/46, 12D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFRA	**Kufra**	**0.25**	**305**	↑P	**Pg**	**11 41 57.0**	**-0.8**
KFRA				↓S	**Sg**	**11 42 02.0**	**+0.7**
KFRA	**Kufra**	**0.25**	**305**	↑*i*P	**Pg**	**11 41 57.8**	**0.0**
KFRA				↓*i*S	**Sg**	**11 42 02.0**	**+0.7**
BIDA	**Albida**	**0.60**	**265**	↑P	**Pg**	**11 42 03.0**	**-1.3**
BIDA				↓S	**Sg**	**11 42 13.0**	**+0.8**
BIDA	**Albida**	**0.60**	**265**	↑*i*P	**Pg**	**11 42 04.0**	**-0.3**
BIDA				↓*i*S	**Sg**	**11 42 13.3**	**+1.1**
WRDH	**Warideh**	**0.68**	**310**	↑P	**Pg**	**11 42 05.0**	**-0.9**
WRDH				↓S	**Sg**	**11 42 15.0**	**+0.2**
WRDH	**Warideh**	**0.68**	**310**	↑*i*P	**Pg**	**11 42 05.7**	**-0.2**
WRDH				↓*i*S	**Sg**	**11 42 15.4**	**+0.6**
ROOS	**tI_alroos**	**0.92**	**168**	↑P	**Pg**	**11 42 10.0**	**-0.3**
ROOS				↓S	**Sg**	**11 42 23.0**	**+0.8**
ROOS	**tI_alroos**	**0.92**	**168**	↑*i*P	**Pg**	**11 42 10.2**	**-0.1**
ROOS				↓*i*S	**Sg**	**11 42 23.6**	**+1.4**
FKH	**Fakeheh**	**0.99**	**213**	*eP*	**Pg**	**11 42 10.6**	**-1.0**
FKH	**Fakeheh**	**0.99**	**213**	*eP*	**Pg**	**11 42 10.6**	**-1.0**
HWQ	**Hawqa**	**1.20**	**229**	*eP*	**Pn**	**11 42 14.3**	**-1.1**
HWQ	**Hawqa**	**1.20**	**229**	*eP*	**Pn**	**11 42 14.3**	**-1.1**
YAYL	**Yayladag**	**1.23**	**322**	*i* P	**Pn**	**11 42 15.2**	**-0.6**
YAYL				*i* S	**Sb**	**11 42 32.1**	**+0.2**
YAYL	**Yayladag**	**1.23**	**322**	*i* P	**Pn**	**11 42 15.2**	**-0.7**
YAYL				*i* S	**Sb**	**11 42 32.1**	**+0.2**
JHLN	**Al Jahlan**	**1.29**	**62**	↑P	**

AOPR					*e*S		**Sn**	**11 59 26.1**	**+0.6**	
OBIP	**Obispado Ponce**	**1.75**	**97**	⇓	*e*P		**Pn**	**11 59 03.8**	**-0.2**	
OBIP	**Obispado Ponce**	**1.75**	**97**	⇓	*e*P		**Pn**	**11 59 03.8**	**-0.2**	
OBIP					*e*S		**Sn**	**11 59 28.8**	**+0.2**	
CELP	**Cerrillos**	**1.77**	**96**	⇓	*e*P		**Pn**	**11 59 04.0**	**-0.3**	
CELP					*e*S		**Sn**	**11 59 30.5**	**+1.4**	
CELP	**Cerrillos**	**1.77**	**96**	⇓	*e*P		**Pn**	**11 59 04.0**	**-0.3**	
CELP					*e*S		**Sn**	**11 59 30.5**	**+1.4**	
ICM	**Isla Caja Muer**	**1.86**	**102**	⇓	*e*P		**Pn**	**11 59 05.6**	**+0.3**	
ICM	**Isla Caja Muer**	**1.86**	**102**	⇓	*e*P		**Pn**	**11 59 05.6**	**+0.3**	
ICM					*e*S		**Sn**	**11 59 31.3**	**+0.5**	
SJG	**San Juan**	**2.18**	**94**		*e*S		**Sn**	**11 59 37.5**	**0.0**	
SJG	**San Juan**	**2.18**	**94**	⇑	*e*P		**Pn**	**11 59 08.9**	**0.0**	
SJG	**San Juan**	**2.18**	**94**	⇓	*e*P		**Pn**	**11 59 08.5**	**-0.5**	
SJG					*e*S		**Sn**	**11 59 37.7**	**+0.2**	
SJG	**San Juan**	**2.18**	**94**		P		**Pn**	**11 59 08.8**	**-0.2**	
	71nm,0.3s,baz=276,slow=8.0,SNR=64									
SJG					S		**Sn**	**11 59 37.6**	**+0.2**	
	151nm,0.3s,baz=322,slow=22,SNR=20									
SJG	**San Juan**	**2.18**	**94**	⇑	*e*P		**Pn**	**11 59 08.9**	**0.0**	
SJG					*e*S		**Sn**	**11 59 37.5**	**0.0**	
CPD	**Cerro la Pandu**	**2.41**	**95**	⇑	*e*P		**Pn**	**11 59 11.9**	**+0.2**	
CPD	**Cerro la Pandu**	**2.41**	**95**	⇑	*e*P		**Pn**	**11 59 11.9**	**+0.2**	
CBYP	**Canovanas**	**2.45**	**90**	⇑	*e*P		**Pn**	**11 59 11.8**	**-0.5**	
CBYP	**Canovanas**	**2.45**	**90**	⇑	*e*P		**Pn**	**11 59 11.8**	**-0.5**	
CBYP					*e*S		**Sn**	**11 59 43.5**	**+0.2**	
HUMP	**Col San Antoni**	**2.46**	**93**	⇑	*e*P		**Pn**	**11 59 11.7**	**-0.7**	
HUMP	**Col San Antoni**	**2.46**	**93**	⇑	*e*P		**Pn**	**11 59 11.7**	**-0.7**	
HUMP					*e*S		**Sn**	**11 59 42.7**	**-0.8**	
MTP	**Monte Pirata**	**2.75**	**93**	⇓	*e*P		**Pn**	**11 59 15.7**	**-0.2**	
MTP					*e*S		**Sn**	**11 59 50.6**	**+0.7**	
MTP	**Monte Pirata**	**2.75**	**93**	⇓	*e*P		**Pn**	**11 59 15.7**	**-0.2**	
MTP					*e*S		**Sn**	**11 59 50.6**	**+0.7**	
SDDR	**Presa de Saban**	**2.79**	**285**	⇑	*e*P		**Pn**	**11 59 16.4**	**-0.2**	
SDDR	**Presa de Saban**	**2.79**	**285**	⇑	*e*P		**Pn**	**11 59 16.4**	**-0.2**	
SDDR					*e*S		**Sn**	**11 59 53.4**	**+2.4**	
STVI	**Saint Thomas**	**3.31**	**88**	⇓	*e*P		**Pn**	**11 59 22.8**	**-0.2**	
STVI	**Saint Thomas**	**3.31**	**88**	⇓	*e*P		**Pn**	**11 59 22.8**	**-0.2**	
STVI					*e*S		**Sn**	**12 00 01.2**	**-1.4**	
TBVI	**Tortola**	**3.63**	**87**	⇑	*e*P		**Pn**	**11 59 26.2**	**-1.1**	
TBVI					*e*S		**Sn**	**12 00 09.5**	**-0.6**	
TBVI	**Tortola**	**3.63**	**87**	⇑	*e*P		**Pn**	**11 59 26.2**	**-1.1**	
TBVI					*e*S		**Sn**	**12 00 09.5**	**-0.6**	
ABV	**Anegada**	**3.92**	**83**	⇓	*e*P		**Pn**	**11 59 30.6**	**-0.4**	
ABV					*e*S		**Sn**	**12 00 14.8**	**-2.1**	
SABA	**Saba**	**4.99**	**97**	⇑	*e*P		**Pn**	**11 59 46.0**	**+0.9**	
SABA	**Saba**	**4.99**	**97**	⇑	*e*P		**Pn**	**11 59 46.0**	**+0.9**	
SDV	**Santo Domingo**	**9.58**	**193**		*e*Pn		**Pn**	**12 00 47.7**	**+1.2**	
	7.2nm,0.4s									
SDV					*e*Sn		**Sn**	**12 02 31.9**	**-0.8**	
ROSC	**El Rosal**	**14.53**	**204**		P		**Pn**	**12 01 53.2**	**+2.5**	
	2.4nm,0.3s,baz=87,slow=12,SNR=16									
ROSC	**El Rosal**	**14.53**	**204**		*e*Pn		**Pn**	**12 01 54.1**	**+3.4**	
TEIG	**Tepich**	**18.84**	**279**		P		**P**	**12 02 39.6**	**-1.0**	
	0.4nm,0.3s,baz=66,slow=10,SNR=6.6									
TEIG	**Tepich**	**18.84**	**279**		P		**P**	**12 02 39.6**	**-1.0**	
JSC	**Jenkinsville**	**19.62**	**327**		*e*P		**P**	**12 02 59.2**	**+10**	
OTAV	**Otavalo**	**20.45**	**210**		*e*P		**P**	**12 02 58.8**	**+0.7**	
	20nm,1.1s									
TXAR	**Lajitas Array**	**33.94**	**296**		P		**P**	**12 04 60.0**	**-1.2**	
	1.4nm,0.6s,mb3.9,baz=113,slow=10,SNR=13									
TXAR	**Lajitas Array**	**33.94**	**296**		P		**P**	**12 04 60.0**	**-1.2**	
LPAZ	**La Paz**	**34.35**	**179**		P		**P**	**12 05 03.4**	**-1.4**	
	1.2nm,0.5s,mb3.9,baz=351,slow=1.8,SNR=4.3									
LPAZ	**La Paz**	**34.35**	**179**		P		**P**	**12 05 03.4**	**-1.4**	
SCHQ	**Schefferville**	**36.50**	**2**		P		**P**	**12 05 23.1**	**+0.3**	
	8.8nm,0.7s,mb4.5,baz=197,slow=8.6,SNR=18									
SCHQ	**Schefferville**	**36.50**	**2**		P		**P**	**12 05 23.1**	**+0.3**	
PDAR	**Pinedale Array**	**42.44**	**314**		P		**P**	**12 06 12.1**	**0.0**	
	0.2nm,0.5s,mb3.0,baz=108,slow=12,SNR=2.9									
PDAR					pP		pP	12 06 43.9	-0.9	
	0.8nm,1.0s,baz=119,slow=9.0,SNR=3.4									
PDAR	**Pinedale Array**	**42.44**	**314**		P		**P**	**12 06 12.1**	**0.0**	
PDAR					pP		pP	12 06 43.9	-0.9	
NVAR	**Mina Array Bea**	**47.63**	**306**		P		**P**	**12 06 53.2**	**+0.1**	
	0.5nm,0.4s,mb3.5,baz=89,slow=7.7,SNR=12									
NVAR					pP		pP	12 07 26.4	0.0	
	1.0nm,0.9s,baz=104,slow=4.8,SNR=3.5									
NVAR	**Mina Array Bea**	**47.63**	**306**		P		**P**	**12 06 53.2**	**+0.1**	
NVAR					pP		pP	12 07 26.4	0.0	
CFAA	**Coronel Fontan**	**49.60**	**180**		P		**P**	**12 07 06.0**	**-2.1**	
	0.4nm,0.6s,mb3.2,baz=356,slow=7.1,SNR=10									
CFAA	**Coronel Fontan**	**49.60**	**180**		P		**P**	**12 07 06.0**	**-2.1**	
YKA	**Yellowknife Ar**	**54.43**	**336**		P		**P**	**12 07 42.1**	**-1.4**	
	0.5nm,0.6s,mb3.4,baz=111,slow=6.8,SNR=4.4									
YKA	**Yellowknife Ar**	**54.43**	**336**		P		**P**	**12 07 42.1**	**-1.4**	
EVO	**Evora**	**55.86**	**56**		*e*P		**P**	**12 07 53.5**	**-0.7**	
	6.2nm,0.7s,mb4.3									
MDT	**Midelt**	**58.59**	**62**		P		**P**	**12 08 15.0**	**+1.5**	
	1.1nm,0.7s,mb3.8,baz=311,slow=7.3,SNR=5.7									
ESDC	**Sonseca Array**	**59.05**	**54**		P		**P**	**12 08 17.2**	**+0.6**	
	3.1nm,0.7s,mb4.2,baz=272,slow=7.0,SNR=18									
QUIF	**Quistinic**	**60.13**	**45**		*e*P		**P**	**12 08 24.1**	**+0.3**	
SGMF	**Saint Gilles**	**60.56**	**44**		*e*P		**P**	**12 08 27.1**	**+0.4**	
SJPF	**Ste Jean**	**61.19**	**50**		*e*P		**P**	**12 08 31.9**	**+0.8**	
ETSF	**Etsaut**	**61.68**	**51**		*e*P		**P**	**12 08 35.8**	**+1.4**	
FLN	**La Foliniere**	**61.98**	**44**		*e*P		**P**	**12 08 36.5**	**+0.2**	
MFF	**Saint Martin d**	**62.08**	**46**		*e*P		**P**	**12 08 37.4**	**+0.4**	
	7.5nm,0.5s,mb4.5									
LDF	**La Druitiere**	**62.21**	**44**		*e*P		**P**	**12 08 37.9**	**+0.1**	
	5.1nm,0.6s,mb4.3									
EPF	**Esparros**	**62.34**	**51**		*e*P		**P**	**12 08 39.6**	**+0.8**	
	16nm,0.8s,mb4.6									
LFF	**La Frestale**	**62.65**	**48**		*e*P		**P**	**12 08 41.1**	**+0.3**	
	7.7nm,0.6s,mb4.4									
RJF	**Les Rejaudoux**	**63.21**	**48**	⇑	*i*P		**P**	**12 08 44.5**	**0.0**	
	7.3nm,0.6s,mb4.4									
CAF	**Calviac**	**63.59**	**48**		*e*P		**P**	**12 08 47.2**	**+0.2**	
	13nm,0.9s,mb4.5									
TCF	**Toulx Ste Croi**	**63.70**	**47**		*e*P		**P**	**12 08 47.7**	**0.0**	
	6.5nm,0.7s,mb4.2									
MTLF	**Montolieu**	**63.71**	**50**		*e*P		**P**	**12 08 48.1**	**+0.3**	
	7.3nm,0.7s,mb4.3									
BGF	**Bois d'Agland**	**64.15**	**47**		*e*P		**P**	**12 08 50.5**	**-0.1**	
	4.3nm,0.6s,mb4.2									
AVF	**Avril sur Loir**	**64.50**	**46**		*e*P		**P**	**12 08 52.5**	**-0.4**	
	6.7nm,0.9s,mb4.2									
SMF	**Signal de Mont**	**64.83**	**46**		*e*P		**P**	**12 08 54.9**	**-0.1**	
	5.1nm,0.7s,mb4.2									
LOR	**Lormes**	**64.84**	**46**		*e*P		**P**	**12 08 54.8**	**-0.3**	
	5.1nm,0.5s,mb4.3									
LASF	**Ste Croix**	**64.89**	**49**		*e*P		**P**	**12 08 56.1**	**+0.7**	
SFTF	**Sexfontaines**	**65.63**	**45**		*e*P		**P**	**12 08 59.5**	**-0.7**	
MEZF	**Maizieres J'vi**	**65.64**	**44**		*e*P		**P**	**12 09 00.3**	**+0.1**	
	13nm,0.6s,mb4.7									
LPL	**La Plagne**	**66.88**	**48**		*e*P		**P**	**12 09 09.1**	**+0.9**	
LPG	**La Plagne**	**66.89**	**48**		*e*P		**P**	**12 09 08.7**	**+0.5**	
TORD	**Torodi Ar. Bea**	**67.35**	**83**		P		**P**	**12 09 10.8**	**-0.9**	
	0.9nm,0.7s,mb3.7,baz=286,slow=5.9,SNR=7.1									
ILAR	**Eielson Array**	**68.70**	**333**		P		**P**	**12 09 18.1**	**-1.1**	
	0.3nm,0.4s,mb3.3,baz=92,slow=4.6,SNR=16									
ILAR					pP		pP	12 09 53.4	-1.4	
	0.3nm,0.7s,baz=101,slow=4.5,SNR=2.6									
GERES	**GERESS Array B**	**71.34**	**44**		P		**P**	**12 09 37.9**	**+2.2**	
	0.5nm,0.7s,mb3.3,baz=318,slow=1.8,SNR=3.8									
FINES	**FINESS Array B**	**76.26**	**30**		P		**P**	**12 10 03.9**	**-0.1**	
	2.6nm,0.7s,mb4.0,baz=256,slow=3.4,SNR=10									
BRTR	**Keskin Array B**	**87.41**	**49**		P		**P**	**12 11 02.1**	**-0.6**	
	0.9nm,0.6s,mb3.8,baz=268,slow=3.7,SNR=3.6									
WMQ	**Urumqi**	**114.44**	**19**		PKP	PKiKP		12 16 51.3	-3.2	
CN2	**Changchun**	**116.93**	**349**		*e*PKP	PKPdf		12 16 56.6	-2.7	
HHC	**Hu-ho-hao-te**	**121.18**	**0**		*e*PKP	PKPdf		12 17 02.3	-5.3	
HHC					sPKP			12 18 00.9		
HHC					PP	PP		12 18 35.6	-2.6	
HHC					PKS			12 20 37.5		
HHC					SKS	SKSdf		12 23 56.5	-9.5	
HHC					SKKS	SKKSac		12 25 11.1	-13	
HHC					SS	SS		12 34 50.0	-8.7	
HHC					AMB	AMB				
	comp=Z,42nm,9.4s									
HHC					LR	LR				
	comp=N,62nm,19.8s									
HHC					LR	LR				
	comp=E,77nm,20.4s									
HHC					LR	LR				
	comp=Z,45nm,19.3s									
CD2	**Chengdu**	**130.52**	**9**		PKP	PKPdf		12 17 21.8	-3.9	
CD2					sPKP			12 18 21.0		
CD2					PP	PP		12 19 40.0	-0.2	
CD2					PKS			12 20 56.8		
CD2					SKS	SKSdf		12 24 15.5	-8.3	
CD2					SKKS	SKKSac		12 26 13.4	-11	
CD2					SS	SS		12 36 49.0	-6.7	
CD2					AMB	AMB				
	comp=Z,110nm,6.5s									
STKA	**Stephens Creek**	**149.74**	**238**		PKPbc	PKPbc		12 18 02.9	-2.0	
	comp=Z,4.0nm,1.0s,baz=114,slow=6.7,SNR=4.1									
WRA	**Warramunga Arr**	**158.42**	**262**		PKPab	PKPab		12 18 45.6	-2.3	
	comp=Z,0.5nm,0.5s,baz=86,slow=4.1,SNR=13									
ASAR	**Alice Springs**	**158.47**	**252**		PKPab	PKPab		12 18 45.5	-2.5	
	comp=Z,1.3nm,0.8s,baz=112,slow=4.3,SNR=8.9									

IDC 15 12:10:25.7±7.6, 2°04S×100°92E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/21, mbtmp3.4/3, Error ellipse: s-maj=399.8km s-min=27.0km az=53.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**37.18**	**121**	P		P	12 17 38.6	-0.2
	0.3nm,0.4s,baz=304,slow=8.6,SNR=7.7							
ASAR	**Alice Springs**	**38.49**	**127**	P		P	12 17 50.0	+0.1
	0.4nm,0.5s,baz=302,slow=8.0,SNR=11							
MKAR	**Makanchi Array**	**51.31**	**344**	P		P	12 19 31.7	0.0
	0.1nm,0.3s,baz=168,slow=8.9,SNR=3.5							

*IDC **15** 12:31:13.1±6.8, 17°61S×178°72W, h570km±80km, mb3.1/8, mb1 3.4/8, mb1mx3.2/16, mbtmp3.1/8, Error ellipse: s-maj=47.5km s-min=26.2km az=148.0*
*ISCJB **15** 12:31:14.7±1.5, 17°6S±0°3×178°9W±0°2, h605km±15km, mb3.5/9, Error ellipse: s-maj=58.7km s-min=18.1km az=149.1*
*NEIC **15** 12:31:15.1±1.1, 17°62S×178°76W, h595km±10km, mb4.0/2, Error ellipse: s-maj=42.5km s-min=12.6km az=149.0*

ISC 15 12:31:15.3±1.4, 17°6S±0°3×178°8W±0°2, h596km±14km, n22, σ0°62/20, mb3.5/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.03**	**267**	*e*P		**P**	**12 37 34.1**	**-1.2**
DZM	**Mont Dzumac**	**14.59**	**250**	*e*P		**P**	**12 34 21.5**	**+1.6**
EIDS	**Eidsvold**	**29.04**	**249**	*e*P		**P**	**12 36 28.6**	**-0.5**
	2.8nm,0.7s,mb4.0							
STKA	**Stephens Creek**	**38.47**	**241**	P		**P**	**12 37 47.9**	**+0.2**
	3.9nm,0.5s,mb4.2,baz=92,slow=9.7,SNR=12							
STKA	**Stephens Creek**	**38.47**	**241**	P		**P**	**12 37 47.9**	**+0.2**
WRAB	**Tennant Creek**	**44.33**	**259**	*e*P		**P**	**12 38 33.5**	**-0.6**
	2.7nm,0.6s,mb4.0							
WRA	**Warramunga Arr**	**44.34**	**259**	P		**P**	**12 38 33.3**	**-0.9**
	2.2nm,0.5s,mb4.0,baz=96,slow=7.1,SNR=120							
WRA				PcP		PcP	12 40 04.8	-0.1
	0.2nm,0.4s,baz=97,slow=4.0,SNR=3.2							
WRA	**Warramunga Arr**	**44.34**	**259**	P		**P**	**12 38 33.3**	**-0.9**
WRA				PcP		PcP	12 40 04.8	-0.1
ASAR	**Alice Springs**	**44.53**	**254**	P		**P**	**12 38 35.5**	**-0.1**
	18nm,0.6s,baz=88,slow=8.4,SNR=365							
ASAR	**Alice Springs**	**44.53**	**254**	P		**P**	**12 38 35.5**	**-0.1**
MJAR	**Matsushiro Arr**	**67.46**	**324**	P		**P**	**12 41 13.6**	**+0.7**
	0.6nm,0.5s,mb3.2,baz=164,slow=6.2,SNR=4.7							
MJAR	**Matsushiro Arr**	**67.46**	**324**	P		**P**	**12 41 13.6**	**+0.7**
NVAR	**Mina Array Bea**	**79.45**	**44**	P		**P**	**12 42 20.8**	**-0.2**
	0.5nm,0.7s,mb3.0,baz=228,slow=10,SNR=4.1							
NVAR	**Mina Array Bea**	**79.45**	**44**	P		**P**	**12 42 20.8**	**-0.2**
ILAR	**Eielson Array**	**85.68**	**13**	P		**P**	**12 42 51.1**	**-0.4**
	0.2nm,0.9s,mb2.8,baz=212,slow=5.1,SNR=4.9							
ILAR	**Eielson Array**	**85.68**	**13**	P		**P**	**12 42 51.1**	**-0.4**
TXAR	**Lajitas Array**	**86.14**	**58**	P		**P**	**12 42 55.0**	**+0.5**
	0.3nm,0.6s,mb3.1,baz=218,slow=6.9,SNR=3.4							
TXAR	**Lajitas Array**	**86.14**	**58**	P		**P**	**12 42 55.0**	**+0.5**
PDAR	**Pinedale Array**	**87.38**	**44**	P		**P**	**12 42 59.9**	**-0.2**
	0.5nm,0.6s,mb3.4,baz=220,slow=3.5,SNR=4.3							
PDAR	**Pinedale Array**	**87.38**	**44**	P		**P**	**12 42 59.9**	**-0.2**
BRTR	**Keskin Array B**	**144.32**	**315**	PKP		PKPdf	12 49 45.3	+0.7
	0.6nm,0.7s,baz=0.0,slow=2.9,SNR=3.2							
BRTR	**Keskin Array B**	**144.32**	**315**	PKP		PKPdf	12 49 45.3	+0.7

*ISCJB **15** 12:37:36.7±0.4, 43°18N±0°03×46°12E±0°02, h0km±4km, Error ellipse: s-maj=4.7km s-min=2.1km az=19.8*
*CSEM **15** 12:37:36.8, 43°19N×46°08E, h10km, mb4.1, After OBN MOS **15** 12:37:36.8±1.3, 43°19N×46°08E, h10km, mb4.1/1, Error ellipse: s-maj=9.9km s-min=6.0km az=28.2*

ISC 15 12:37:37.4±0.4, 43°20N±0°03×46°12E±0°02, h8km±3km, n51, σ0°96/102, 4C-5D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GRO	**Groznyy**	**0.29**	**294**	⇓	*i*Pg	**Pg**	**12 42 1.1**	**-1.1**
GRO					*i* S	**Sg**	**12 37 47.3**	**+0.2**
GRO	**Groznyy**	**0.29**	**294**	⇑	*i*Pg	**Pg**	**12 37 42.1**	**-1.1**
GRO					*i* Sg	**Sg**	**12 37 47.3**	**+0.2**
DLMR	**Dylym**	**0.40**	**109**		*e*PG	**Pg**	**12 37 46.5**	**+1.3**
DLMR					S	**Sg**	**12 37 51.5**	**+1.0**
DLMR					pmax	pmax		
	comp=Z,115nm,0.2s							
DLMR	**Dylym**	**0.40**	**109**		*e*Pg	**Pg**	**12 37 46.5**	**+1.3**
	comp=Z,115nm,0.2s							
DLMR					Sg	**Sg**	**12 37 51.5**	**+1.0**
BTLR	**Botlikh**	**0.55**	**172**		*e*PG	**Pg**	**12 37 46.8**	**-1.2**
BTLR					*e*S	**Sg**	**12 37 55.0**	**-0.1**
BTLR					pmax	pmax		
	comp=Z,106nm,0.2s							
BTLR	**Botlikh**	**0.55**	**172**		*e*Pg	**Pg**	**12 37 46.8**	**-1.2**
	comp=Z,106nm,0.2s							
BTLR					*e*Sg	**Sg**	**12 37 55.0**	**-0.1**
DBC	**Dubki**	**0.55**	**109**	⇑	*i*PG	**Pg**	**12 37 46.6**	**-1.5**
DBC					*i* S	**Sg**	**12 37 54.8**	**-0.6**
DBC					pmax	pmax		
	comp=Z,52nm,0.2s							
DBC	**Dubki**	**0.55**	**109**		*i* Pg	**Pg**	**12 37 46.6**	**-1.5**
	comp=Z,52nm,0.2s							
DBC					*i* Sg	**Sg**	**12 37 54.8**	**-0.6**
KRNR	**Karanay**	**0.69**	**123**		*e*PG	**Pg**	**12 37 50.2**	**-0.5**
KRNR					*i* S	**Sg**	**12 37 59.0**	**-0.7**
KRNR					pmax	pmax		
	comp=Z,57nm,0.2s							
KRNR	**Karanay**	**0.69**	**123**		*e*Pg	**Pg**	**12 37 50.2**	**-0.5**
	comp=Z,57nm,0.2s							
KRNR					*i* Sg	**Sg**	**12 37 59.0**	**-0.7**
XNZR	**Khunzakh**	**0.79**	**147**		*e*PG	**Pg**	**12 37 51.3**	**-1.3**
XNZR					*e*S	**Sg**	**12 38 03.0**	**+0.1**
XNZR	**Khunzakh**	**0.79**	**147**		*e*Pg	**Pg**	**12 37 51.3**	**-1.3**
XNZR					*e*Sg	**Sg**	**12 38 03.0**	**+0.1**
BUJR	**Buynaksk**	**0.82**	**117**		PG	**Pg**	**12 37 54.0**	**+0.8**
BUJR					*e*S	**Sg**	**12 38 04.2**	**+0.3**
BUJR	**Buynaksk**	**0.82**	**117**		Pg	**Pg**	**12 37 54.0**	**+0.8**
BUJR					*e*Sg	**Sg**	**12 38 04.2**	**+0.3**
SNJR	**Sundja**	**0.96**	**262**	⇑	*i*PG	**Pg**	**12 37 55.5**	**-0.4**
SNJR					*i* S	**Sg**	**12 38 10.1**	**+1.6**
SNJR	**Sundja**	**0.96**	**262**		*i* Pg	**Pg**	**12 37 55.5**	**-0.4**
SNJR					*i* Sg	**Sg**	**12 38 10.1**	**+1.6**
VLKR	**Vladikavkaz**	**1.06**	**262**	⇓	*i*PG	**Pg**	**12 37 57.2**	**-0.7**
VLKR					*e*S	**Sg**	**12 38 13.0**	**+1.3**
VLKR	**Vladikavkaz**	**1.06**	**262**		*i* Pg	**Pg**	**12 37 57.2**	**-0.7**
VLKR					*e*Sg	**Sg**	**12 38 13.0**	**+1.3**
TRKR	**Terskaya**	**1.13**	**298**	⇑	*i*PG	**Pg**	**12 37 58.5**	**-0.7**
TRKR					*i* S	**Sg**	**12 38 15.5**	**+1.6**
TRKR	**Terskaya**	**1.13**	**298**		*i* Pg	**Pg**	**12 37 58.5**	**-0.7**
TRKR					*i* Sg	**Sg**	**12 38 15.5**	**+1.6**
MNSR	**Manas**	**1.28**	**113**		PG	**Pg**	**12 38 04.0**	**+2.0**
MNSR					*i* S	**Sg**	**12 38 19.0**	**+0.4**
MNSR	**Manas**	**1.28**	**113**		Pg	**Pg**	**12 38 04.0**	**+2.0**
MNSR					*i* Sg	**Sg**	**12 38 19.0**	**+0.4**
KMKR	**Kumukh**	**1.29**	**146**		PG	**Pn**	**12 38 00.5**	**-1.3**
KMKR					*e*S	**Sb**	**12 38 18.5**	**-0.2**
KMKR					pmax	pmax		
	comp=Z,70nm,0.2s							
KMKR	**Kumukh**	**1.29**	**146**		Pg	**Pn**	**12 38 00.5**	**-1.3**
	comp=Z,70nm,0.2s							
KMKR					*e*Sg	**Sb**	**12 38 18.5**	**-0.2**
KMSR	**Komsomolskaya**	**1.34**	**278**	⇓	*i*PG	**Pn**	**12 38 01.8**	**-0.6**
KMSR					*i* S	**Sg**	**12 38 21.3**	**+0.7**
KMSR	**Komsomolskaya**	**1.34**	**278**		*i* Pg	**Pn**	**12 38 01.8**	**-0.6**
KMSR					*i* Sg	**Sg**	**12 38 21.3**	**+0.7**
ARNR	**Ardon**	**1.34**	**270**		*e*PG	**Pn**	**12 38 01.6**	**-0.8**
ARNR					*i* S	**Sg**	**12 38 21.1**	**+0.5**
ARNR	**Ardon**	**1.34**	**270**		*e*Pg	**Pn**	**12 38 01.6**	**-0.8**
ARNR					*i* Sg	**Sg**	**12 38 21.1**	**+0.5**
LACR	**Lac**	**1.39**	**255**	⇓	*i*PG	**Pn**	**12 38 01.2**	**-1.9**
LACR					*i* S	**Sb**	**12 38 21.1**	**-0.3**
LACR	**Lac**	**1.39**	**255**		*i* Pg	**Pn**	**12 38 01.2**	**-1.9**
LACR					*i* Sg	**Sb**	**12 38 21.1**	**-0.3**
PRTR	**Priterechnaya**	**1.44**	**293**	⇓	*i*PG	**Pn**	**12 38 03.4**	**-0.4**
PRTR					*i* S	**Sg**	**12 38 24.2**	**+0.4**
PRTR	**Priterechnaya**	**1.44**	**293**		*i* Pg	**Pn**	**12 38 03.4**	**-0.4**
PRTR					*i* Sg	**Sg**	**12 38 24.2**	**+0.4**
KORR	**Kora**	**1.50**	**266**	⇑	*i*PG	**Pn**	**12 38 04.2**	**-0.5**
KORR					*i* S	**Sg**	**12 38 25.7**	**0.0**
KORR	**Kora**	**1.50**	**266**		*i* Pg	**Pn**	**12 38 04.2**	**-0.5**
KORR					*i* Sg	**Sg**	**12 38 25.7**	**0.0**
URKR	**Urkarakh**	**1.53**	**132**		*e*PG	**Pn**	**12 38 05.0**	**0.0**
URKR					*i* S	**Sg**	**12 38 27.0**	**+0.5**
URKR	**Urkarakh**	**1.53**	**132**		*e*Pg	**Pn**	**12 38 05.0**	**0.0**
URKR					*i* Sg	**Sg**	**12 38 27.0**	**+0.5**
LSNR	**Lesken**	**1.68**	**273**		*e*PN	**Pn**	**12 38 06.8**	**-0.3**
LSNR					*i* S	**Sg**	**12 38 30.3**	**-1.2**
LSNR	**Lesken**	**1.68**	**273**		*e*Pn	**Pn**	**12 38 06.8**	**-0.3**
LSNR					*i* Sg	**Sg**	**12 38 30.3**	**-1.2**
ZEI	**Tsey**	**1.68**	**256**		*e*PN	**Pn**	**12 38 06.0**	**-1.1**
ZEI					*i* S	**Sn**	**12 38 29.0**	**+0.1**
ZEI	**Tsey**	**1.68**	**256**		*e*Pn	**Pn**	**12 38 06.0**	**-1.1**
ZEI					*i* Sg	**Sn**	**12 38 29.0**	**+0.1**
TBLG	**Delisi**	**1.79**	**215**		*e*PN	**Pn**	**12 38 09.2**	**+0.6**
TBLG					*e*S	**Sg**	**12 38 34.5**	**-0.4**
TBLG	**Delisi**	**1.79**	**215**		P	**Pn**	**12 38 09.2**	**+0.6**
TBLG					S	**Sg**	**12 38 34.5**	**-0.4**
TBLG	**Delisi**	**1.79**	**215**		*e*Pn	**Pn**	**12 38 09.2**	**+0.6**
TBLG					*e*Sg	**Sg**	**12 38 34.5**	**-0.4**
MTA	**Mtatsminda**	**1.80**	**213**		P	**Pn**	**12 38 09.3**	**+0.6**
MTA					S	**Sg**	**12 38 34.8**	**-0.4**
DGRG	**David-gareji**	**1.84**	**198**		P	**Pn**	**12 38 10.3**	**+1.0**
DGRG					S	**Sg**	**12 38 37.1**	**+0.6**
DIGR	**Digorskoe uzhe**	**1.88**	**262**		*e*PN	**Pn**	**12 38 09.0**	**-0.9**
DIGR

BKNI	**Bangkinang**	**9.51**	**325**	P		**Pn**	**13 03 03.8**	**-0.6**
	993nm106nm,0.9s							
SISI	**Saibi**	**9.61**	**310**	P		**Pn**	**13 03 03.4**	**-2.3**
	8µm295nm,0.8s							
MTNI	**Mataram**	**9.66**	**97**	P		**Pn**	**13 03 03.6**	**-2.8**
	6µm305nm,0.8s							
KSM	**Kuching**	**9.73**	**23**	*e*Pn		**Pn**	**13 03 08.4**	**+1.0**
	11nm,0.6s							
KSM	**Kuching**	**9.73**	**23**	P		**Pn**	**13 03 14.9**	**+7.5**
COCO	**West Island**	**10.56**	**243**	*e*Pn		**Pn**	**13 03 20.7**	**+1.9**
COCO				*e*Sn		**Sn**	**13 05 07.7**	**-7.6**
COCO	**West Island**	**10.56**	**243**	*e*P		**Pn**	**13 03 20.7**	**+2.0**
MNSI	**Mandailing Nat**	**10.76**	**320**	P		**Pn**	**13 03 19.0**	**-2.5**
	1µm50nm,0.3s							
SBUM	**Sibu**	**11.46**	**30**	P		Px	13 03 43.3	
BMNI	**Bima**	**12.14**	**96**	P		**Pn**	**13 03 36.1**	**-4.0**
	1µm76nm,0.7s							
PSI	**Prapat**	**12.74**	**323**	LR		LR	13 08 57.9	
	comp=Z,82nm,21.3s,baz=144,slow=40							
KAPI	**Kappang**	**13.43**	**80**	*e*Pn		**Pn**	**13 03 53.6**	**-3.6**
	30nm,1.0s							
KAPI	**Kappang**	**13.43**	**80**	P		**Pn**	**13 04 03.4**	**+6.2**
SPSI	**Sidrap Palu**	**13.69**	**76**	P		**Pn**	**13 04 00.7**	**0.0**
	16nm,0.8s							
BKSI	**Bulukumba**	**13.74**	**82**	P		**Pn**	**13 04 00.8**	**-0.4**
	415nm45nm,1.1s							
KULM	**Kulim**	**14.01**	**335**	*e*P		**Pn**	**13 04 01.6**	**-3.2**
	17nm,1.1s							
TTSI	**Tana Toraja**	**14.01**	**72**	P		**Pn**	**13 04 08.7**	**+3.9**
	20nm,1.0s							
MMRI	**Maumere**	**15.64**	**95**	P		**Pn**	**13 04 18.3**	**-7.4**
BBSI	**Bau Bau**	**16.12**	**84**	P		**Pn**	**13 04 33.4**	**+1.8**
	895nm93nm,0.9s							
KDI	**Kendari**	**16.45**	**78**	P		**Pn**	**13 04 37.2**	**+1.5**
	319nm30nm,1.0s							
KKM	**Kota Kinabalu**	**16.62**	**36**	*e*P		**Pn**	**13 04 39.0**	**+1.1**
	20nm,0.8s							
KKM	**Kota Kinabalu**	**16.62**	**36**	P		**Pn**	**13 04 38.9**	**+1.0**
	16nm,0.9s							
MRSI	**Marisa**	**17.36**	**63**	P		**Pn**	**13 04 46.7**	**-0.2**
	20nm,1.0s							
LUWI	**Luwuk**	**17.48**	**69**	P		**Pn**	**13 04 49.0**	**+0.6**
	656nm79nm,1.2s							
MBWA	**Marble Bar**	**18.64**	**138**	*e*P		**Pn**	**13 05 03.0**	**+0.7**
MBWA				*e*S		**S**	**13 08 10.8**	**-18**
MBWA	**Marble Bar**	**18.64**	**138**	*e*P		**Pn**	**13 05 02.4**	**+0.1**
	11nm,0.4s							
MBWA				*e*Sn		**Sn**	**13 08 11.1**	**-20**
NLAI	**Namlea**	**20.97**	**79**	P		**P**	**13 05 26.7**	**+0.4**
	526nm48nm,0.9s							
FITZ	**Fitzroy Crossi**	**21.41**	**121**	P		**P**	**13 05 31.5**	**+0.5**
	12nm,0.8s,mb4.3,baz=276,slow=5.9,SNR=20							
FITZ				S		**S**	**13 09 21.1**	**-2.5**
	3.3nm,0.8s,baz=145,slow=12,SNR=3.2							
FITZ				LR		LR	13 13 42.7	
	comp=Z,36nm,19.1s,baz=285,slow=36							
FITZ	**Fitzroy Crossi**	**21.41**	**121**	*e*P		**P**	**13 05 31.4**	**+0.4**
	19nm,0.6s,mb4.6							
FITZ				*e*S		**S**	**13 09 21.9**	**-1.7**
FITZ	**Fitzroy Crossi**	**21.41**	**121**	P		**P**	**13 05 31.5**	**+0.5**
FITZ				S		**S**	**13 09 21.1**	**-2.4**
FITZ				LR		LR	13 13 42.7	
FITZ	**Fitzroy Crossi**	**21.41**	**121**	P		**P**	**13 05 32.2**	**+1.2**
	18nm,0.9s,mb4.4							
AAI	**Ambon**	**21.95**	**81**	P		**P**	**13 05 35.9**	**-0.8**
	1µm76nm,0.5s,mb5.3							
LBMI	**Labuha**	**22.05**	**73**	P		**P**	**13 05 38.3**	**+0.4**
	34nm,1.5s,mb4.5							
MEEK	**Meekatharra**	**22.23**	**150**	*e*P		pP	13 05 51.3	-6.2
	29nm,0.3s							
MEEK				*e*S		**S**	**13 09 38.4**	**-0.1**
TNTI	**Ternate**	**22.41**	**69**	P		**P**	**13 05 40.8**	**-0.9**
	82nm,1.1s,mb5.0							
CM31	**Chiang Mai Arr**	**26.88**	**344**	*e*P		**P**	**13 06 20.6**	**-2.2**
	2.2nm,0.5s,mb3.9							
CMAR	**Chiang Mai Arr**	**26.88**	**344**	P		**P**	**13 06 21.2**	**-1.6**
	2.9nm,0.6s,mb4.0,baz=181,slow=8.6,SNR=20							
CMAR	**Chiang Mai Arr**	**26.88**	**344**	P		**P**	**13 06 21.2**	**-1.6**
CMAR	**Chiang Mai Arr**	**26.88**	**344**	P		**P**	**13 06 21.2**	**-1.6**
CHTO	**Chiang Mai**	**27.22**	**344**	*e*P		**P**	**13 06 23.2**	**-2.6**
	2.2nm,0.7s,mb3.8							
CHTO	**Chiang Mai**	**27.22**	**344**	*e*P		**P**	**13 06 23.3**	**-2.5**
CHTO				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb3.8							
WRA	**Warramunga Arr**	**29.68**	**117**	P		**P**	**13 06 48.3**	**+0.5**
	comp=Z,4.2nm,0.5s,mb4.3,baz=293,slow=10,SNR=77							
WRA	**Warramunga Arr**	**29.68**	**117**	P		**P**	**13 06 48.3**	**+0.5**
WRA	**Warramunga Arr**	**29.68**	**117**	P		**P**	**13 06 48.3**	**+0.5**
WRAB	**Tennant Creek**	**29.69**	**117**	*e*P		**P**	**13 06 48.3**	**+0.4**
	comp=Z,5.5nm,0.6s,mb4.4							
WRAB	**Tennant Creek**	**29.69**	**117**	*e*P		**P**	**13 06 48.3**	**+0.5**
WRAB				pmax		pmax		
	comp=Z,6.0nm,0.6s,mb4.4							
WRAB	**Tennant Creek**	**29.69**	**117**	P		**P**	**13 06 48.8**	**+1.0**
WB2	**Warramunga Arr**	**29.69**	**117**	*e*P		**P**	**13 06 48.2**	**+0.4**
ASAR	**Alice Springs**	**30.81**	**124**	P		**P**	**13 06 58.6**	**+0.9**
	comp=Z,3.4nm,0.9s,mb4.1,baz=296,slow=7.4,SNR=42							
ASAR	**Alice Springs**	**30.81**	**124**	P		**P**	**13 06 58.6**	**+0.9**
ASAR	**Alice Springs**	**30.81**	**124**	P		**P**	**13 06 58.6**	**+0.9**
QIS	**Mount Isa**	**34.56**	**115**	*e*P		**P**	**13 07 31.4**	**+0.9**
PMG	**Port Moresby**	**40.27**	**96**	*e*P		**P**	**13 08 18.7**	**-0.1**
	comp=Z,12nm,0.8s,mb4.8							
PMG	**Port Moresby**	**40.27**	**96**	*e*P		**P**	**13 08 18.7**	**-0.1**
PMG				pmax		pmax		
	comp=Z,12nm,0.8s							
CTAO	**Charters Tower**	**40.48**	**112**	*e*P		**P**	**13 08 21.3**	**+0.8**
CTAO				*e*		pP	13 08 41.0	-0.7
CTAO	**Charters Tower**	**40.48**	**112**	*e*P		**P**	**13 08 21.3**	**+0.8**
CTAO				*e*		pP	13 08 41.0	-0.6
STKA	**Stephens Creek**	**40.67**	**131**	P		**P**	**13 08 23.9**	**+2.0**
	comp=Z,52nm,0.6s,mb5.6,baz=305,slow=7.8,SNR=153							
STKA	**Stephens Creek**	**40.67**	**131**	*e*P		**P**	**13 08 23.8**	**+1.9**
	comp=Z,32nm,0.4s,mb5.5							
STKA	**Stephens Creek**	**40.67**	**131**	P		**P**	**13 08 23.9**	**+2.0**
STKA	**Stephens Creek**	**40.67**	**131**	P		**P**	**13 08 23.9**	**+2.0**
CMSA	**Cobar Meteorol**	**43.64**	**129**	*e*P		**P**	**13 08 48.4**	**+2.4**
	comp=Z,57nm,0.6s,mb5.5							
GTA	**Gaotai**	**47.11**	**353**	*e*P		**P**	**13 09 12.8**	**-0.5**
GTA				pP		pP	13 09 16.8	-18
GTA				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.3							
KSRS	**Korea Array**	**49.04**	**23**	P		**P**	**13 09 27.1**	**-1.1**
	comp=Z,1.8nm,0.8s,mb4.1,baz=213,slow=9.0,SNR=8.6							
KSRS	**Korea Array**	**49.04**	**23**	P		**P**	**13 09 27.1**	**-1.1**
KSRS				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.1							
MJAR	**Matsushiro Arr**	**52.99**	**32**	P		**P**	**13 09 54.7**	**-3.1**
	comp=Z,0.9nm,0.5s,mb4.1,baz=216,slow=8.4,SNR=5.7							
MJAR	**Matsushiro Arr**	**52.99**	**32**	P		**P**	**13 09 54.7**	**-3.1**
MJAR	**Matsushiro Arr**	**52.99**	**32**	P		**P**	**13 09 54.7**	**-3.1**
SONM	**Songino Array**	**55.13**	**360**	P		**P**	**13 10 12.3**	**-0.8**
	comp=Z,0.8nm,0.4s,mb4.1,baz=181,slow=8.5,SNR=9.1							
SONM				PcP		PcP	13 11 14.4	+1.1
	comp=Z,0.1nm,0.3s,baz=176,slow=2.8,SNR=6.2							
SONM	**Songino Array**	**55.13**	**360**	P		**P**	**13 10 12.3**	**-0.8**
SONM				PcP		PcP	13 11 14.4	+1.1
SONM	**Songino Array**	**55.13**	**360**	P		**P**	**13 10 12.3**	**-0.8**
SONM							13 11 14.4	
ULN	**Ulaanbaatar**	**55.16**	**0**	*e*P		**P**	**13 10 13.0**	**-0.3**
ULN	**Ulaanbaatar**	**55.16**	**0**	*e*P		**P**	**13 10 13.0**	**-0.4**
TKM2	**Tokmak 2**	**57.54**	**333**	*e*P		**P**	**13 10 29.3**	**-1.1**
	comp=Z,2.4nm,0.5s,mb4.5							
TKM2	**Tokmak 2**	**57.54**	**333**	*e*P		**P**	**13 10 29.3**	**-1.1**
TKM2				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.4							
AAK	**Ala-Archa**	**57.81**	**332**	LR		LR	13 36 36.9	
	comp=Z,54nm,18.3s,baz=330,slow=38							
EKS2	**Erkin-Say**	**58.16**	**332**	*e*P		**P**	**13 10 34.1**	**-0.7**
EKS2	**Erkin-Say**	**58.16**	**332**	*e*P		**P**	**13 10 34.1**	**-0.6**
MK31	**Makanchi Array**	**58.21**	**341**	*e*P		**P**	**13 10 33.5**	**-1.5**
MK31	**Makanchi Array**	**58.21**	**341**	*c*e*P		**P**	**13 10 33.4**	**-1.6**
MK31				pmax		pmax		
	comp=Z,1.0nm,0.3s,mb4.3							
MKAR	**Makanchi Array**	**58.21**	**341**	P		**P**	**13 10 33.6**	**-1.3**
	comp=Z,2.8nm,0.4s,mb4.6,baz=152,slow=8.1,SNR=69							
MKAR	**Makanchi Array**	**58.21**	**341**	P		**P**	**13 10 33.6**	**-1.3**
MKAR	**Makanchi Array**	**58.21**	**341**	P		**P**	**13 10 33.7**	**-1.3**
KURK	**Kurchatov**	**62.83**	**340**	P		**P**	**13 11 04.8**	**-1.4**
	comp=Z,3.2nm,0.6s,mb4.4,baz=152,slow=6.2,SNR=35							
KURK				PcP		PcP	13 11 43.9	0.0
	comp=Z,1.5nm,0.6s,baz=157,slow=3.6,SNR=7.6							
KURK	**Kurchatov**	**62.83**	**340**	P		**P**	**13 11 04.8**	**-1.4**
KURK				PcP		PcP	13 11 43.9	0.0
KURK	**Kurchatov**	**62.83**	**340**	P		**P**	**13 11 04.9**	**-1.4**
KURK							13 11 43.9	

ZAA0	**Zalesovo Array**	**63.92**	**346**	*e*P		**P**	**13 11 11.1**	**-2.4**
ZALV	**Zalesovo Beam**	**63.92**	**346**	P		**P**	**13 11 11.8**	**-1.7**
	comp=Z,1.9nm,0.3s,mb4.4,baz=159,slow=5.9,SNR=15							
ZALV	**Zalesovo Beam**	**63.92**	**346**	P		**P**	**13 11 11.8**	**-1.7**
ZALV	**Zalesovo Beam**	**63.92**	**346**	P		**P**	**13 11 11.8**	**-1.7**
BRVK	**Borovoye**	**67.72**	**337**	*e*P		**P**	**13 11 36.8**	**-1.1**
	comp=Z,4.0nm,0.5s,mb4.5							
BRVK	**Borovoye**	**67.72**	**337**	*i* P		**P**	**13 11 37.2**	**-0.7**
BRVK				pmax		pmax		
	comp=Z,9.0nm,2.0s,mb4.2							
AB31	**Akbulak array**	**69.61**	**330**	*c*e*P		**P**	**13 11 49.5**	**-0.2**
AB31				pmax		pmax		
	comp=Z,8.0nm,0.4s,mb4.9							
ABKAR	**Akbulak array**	**69.61**	**330**	*e*P		**P**	**13 11 49.4**	**-0.3**
	comp=Z,9.1nm,0.5s,mb4.9							
YAK	**Yakutsk**	**71.66**	**11**	*e*P		**P**	**13 11 60.0**	**-1.9**
YAK	**Yakutsk**	**71.66**	**11**	*e*P		**P**	**13 12 00.0**	**-1.9**
SVE	**Sverdlovsk**	**74.28**	**336**	*i* *e*P		**P**	**13 12 18.7**	**+1.2**
SVE				pmax		pmax		
	comp=Z,14nm,0.7s,mb4.8							
ARU	**Arti**	**74.88**	**335**	*e*P		**P**	**13 12 21.4**	**+0.5**
	comp=Z,5.0nm,0.4s,mb4.6							
ARU	**Arti**	**74.88**	**335**	*e*P		**P**	**13 12 21.5**	**+0.5**
ARU				pmax		pmax		
	comp=Z,5.0nm,0.4s,mb4.6							
ZEI	**Tsey**	**75.64**	**318**	*e*P		**P**	**13 12 26.7**	**+1.1**
ZEI				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.4							
KIV	**Kislovodsk**	**76.93**	**318**	*e*P		**P**	**13 12 35.6**	**+2.7**
KIV				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.1							
ANN	**Anapa**	**80.74**	**318**	*e*P		**P**	**13 12 53.8**	**+0.1**
ANN				pmax		pmax		
	comp=Z,10.0nm,0.7s,mb4.8							
BRTR	**Keskin Array B**	**81.80**	**312**	P		**P**	**13 13 00.9**	**+1.5**
	comp=Z,1.8nm,0.5s,mb4.1,baz=129,slow=6.2,SNR=11							
BRTR	**Keskin Array B**	**81.80**	**312**	P		**P**	**13 13 00.9**	**+1.5**
BRTR	**Keskin Array B**	**81.80**	**312**	P		**P**	**13 13 01.0**	**+1.5**
VSR	**Storozhevoye**	**82.00**	**324**	*e*P		**P**	**13 13 00.9**	**+0.7**
VSR				pmax		pmax		
	comp=N,6.0nm,0.6s							
VSR				pmax		pmax		
	comp=E,5.0nm,0.6s							
VSR				pmax		pmax		
	comp=Z,20nm,0.6s,mb5.1							
QSPA	**South Pole Qui**	**82.46**	**180**	*e*P		**P**	**13 13 04.9**	**+2.7**
	comp=Z,2.1nm,0.9s,mb4.0							
OBN	**Obninsk**	**84.89**	**327**	*i* *e*P		**P**	**13 13 17.4**	**+2.4**
OBN				*e*			13 16 33.4	
OBN				pmax		pmax		
	comp=Z,15nm,0.7s,mb5.0							
AKASG	**Malin Array Be**	**87.79**	**322**	P		**P**	**13 13 30.6**	**+1.3**
	comp=Z,2.2nm,0.6s,mb4.4,baz=99,slow=4.0,SNR=5.0							
AKASG	**Malin Array Be**	**87.79**	**322**	P		**P**	**13 13 30.6**	**+1.3**
AKASG	**Malin Array Be**	**87.79**	**322**	P		**P**	**13 13 30.6**	**+1.3**
JOF	**Joensuu**	**89.98**	**334**	*e*P		**P**	**13 13 39.4**	**+0.1**
JOF				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.7							
JOF	**Joensuu**	**89.98**	**334**	*e*p		**P**	**13 13 39.4**	**+0.1**
	comp=Z,3.7nm,0.6s,mb4.7							
FINES	**FINESS Array B**	**92.00**	**332**	P		**P**	**13 13 50.2**	**+1.5**
	comp=Z,1.8nm,0.7s,mb4.4,baz=112,slow=4.2,SNR=9.0							
FINES	**FINESS Array B**	**92.00**	**332**	P		**P**	**13 13 50.2**	**+1.5**
FINES	**FINESS Array B**	**92.00**	**332**	P		**P**	**13 13 50.2**	**+1.5**
KAF	**Kangasniemi**	**92.03**	**332**	*e*P		**P**	**13 13 47.0**	**-1.8**
KAF	**Kangasniemi**	**92.03**	**332**	*e*p		**P**	**13 13 47.0**	**-1.8**
ARCES	**ARCESS Array B**	**93.86**	**340**	P		**P**	**13 13 57.7**	**+0.6**
	comp=Z,4.7nm,1.0s,mb4.8,baz=84,slow=4.8,SNR=7.0							
ARCES	**ARCESS Array B**	**93.86**	**340**	P		**P**	**13 13 57.7**	**+0.6**
ARCES	**ARCESS Array B**	**93.86**	**340**	P		**P**	**13 13 57.7**	**+0.6**
PDAR	**Pinedale Array**	**132.73**	**36**	PKP	PKPdf		13 19 58.4	+3.4
	comp=Z,0.3nm,0.6s,baz=264,slow=3.4,SNR=3.9							
PDAR	**Pinedale Array**	**132.73**	**36**	PKP	PKPdf		13 19 58.4	+3.4
TXAR	**Lajitas Array**	**144.31**	**49**	PKP	PKPdf		13 20 18.3	+1.7
	comp=Z,0.4nm,0.6s,baz=205,slow=4.0,SNR=3.7							
TXAR	**Lajitas Array**	**144.31**	**49**	PKP	PKPdf		13 20 18.3	+1.7
TXAR	**Lajitas Array**	**144.31**	**49**	PKIKP	PKPdf		13 20 18.3	+1.8
JCT	**Junction City**	**146.43**	**44**	*e*PKPdf	PKPdf		13 20 21.0	+0.8
JCT				*e*PKPbc	PKPbc		13 20 24.1	+2.6
MIAR	**Mount Ida**	**147.39**	**32**	*e*PKPbc	PKPbc		13 20 25.2	+1.0
TZTN	**Tazewell**	**149.71**	**16**	*e*PKPbc	PKPbc		13 20 31.2	+1.1
TKL	**Tuckaleechee C**	**150.48**	**17**	PKPbc	PKPbc		13 20 33.8	+1.8
	comp=Z,2.2nm,0.5s,baz=119,slow=6.3,SNR=5.9							
TKL	**Tuckaleechee C**	**150.48**	**17**	PKPbc	PKPbc		13 20 33.8	+1.8

IDC 15 13:26:26.5±3.4, 25°25N×109°51W, h0km, mb3.7/2, mb1 3.8/6, mb1mx3.7/23, mbtmp3.5/6, ML3.4/4, MS2.8/4, Ms1 2.7/4, ms1mx2.5/33, Error ellipse: s-maj=49.8km s-min=21.8km az=160.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**6.60**	**51**	Pn	Pn	13 28 04.1	-0.7
	0.6nm,0.3s,baz=226,slow=14,SNR=23						
TXAR				Pg	Pg	13 28 29.5	-3.6
	0.4nm,0.3s,baz=221,slow=17,SNR=11						
TXAR				Sn	Sn	13 29 19.7	-1.1
	1.8nm,0.3s,baz=229,slow=18,SNR=12						
TXAR				Lg		13 29 55.7	
	1.8nm,0.3s,baz=238,slow=30,SNR=10						
ANMO	**Albuquerque**	**10.02**	**15**	Pn	Pn	13 28 53.9	+2.2
	0.1nm,0.3s,baz=214,slow=10,SNR=4.4						
ANMO				Lg		13 31 43.7	
	0.1nm,0.3s,baz=303,slow=15,SNR=2.4						
ANMO				LR	LR	13 32 23.9	
	comp=Z,82nm,20.1s,baz=205,slow=36						
NVAR	**Mina Array Bea**	**15.11**	**333**	Pn	Pn	13 30 03.5	+2.3
	0.1nm,0.3s,baz=149,slow=13,SNR=3.2						
CMIG	**Matias Romero**	**15.87**	**118**	LR	LR	13 35 28.2	
	comp=Z,32nm,21.8s,baz=140,slow=34						
PDAR	**Pinedale Array**	**17.48**	**360**	P	Pn	13 30 32.9	+1.3
	0.0nm,0.3s,baz=171,slow=10,SNR=6.9						
TKL	**Tuckaleechee C**	**24.43**	**59**	LR	LR	13 42 09.7	
	comp=Z,40nm,21.8s,baz=148,slow=39						
YKA	**Yellowknife Ar**	**37.39**	**356**	LR	LR	13 49 48.3	
	comp=Z,4.6nm,18.6s,baz=55,slow=38						
INK	**Inuvik**	**45.47**	**348**	P	P	13 34 47.1	+0.2
	1.6nm,0.5s,baz=139,slow=9.7,SNR=7.3						
ILAR	**Eielson Array**	**46.24**	**339**	P	P	13 34 53.0	-0.1
	0.4nm,0.9s,baz=148,slow=5.3,SNR=4.9						

IDC 15 13:27:50.1±2.1, 4°32N×126°90E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/20, mbtmp3.6/3, MS4.1/1, Ms1 4.1/1, ms1mx2.4/29, Error ellipse: s-maj=158.6km s-min=25.1km az=66.0

ISCJB 15 13:28:03.6±1.0, 3°84N±0°07×126°5E±0°1, h107km±12km, mb3.4/3, Error ellipse: s-maj=18.7km s-min=10.1km az=166.2

DJA 15 13:28:07, 3°40N×126°48E, h10km, MLv4.4/6

MAN 15 13:28:57, 7°56N×124°47E, h37km, mb4.4, ML3.2, MS3.1

ISC 15 13:28:04.7±1.0, 3°85N±0°07×126°5E±0°1, h104km±12km, n18, σ1°05/19, mb3.4/3, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**0.99**	**261**	P	Pn	13 28 25.1	-0.2
SGSI				S	Sn	13 28 40.3	-0.6
MNI	**Manado**	**2.91**	**215**	P	Pn	13 28 49.2	-0.2
MNI				S	Sn	13 29 22.6	-1.2
TNTI	**Ternate**	**3.18**	**164**	P	Pn	13 28 52.7	-0.3
KMSI	**Cibinong**	**4.12**	**218**	P	Pn	13 29 06.3	+0.7
BUKP	**Musuan**	**4.25**	**340**	*e*P	Pn	13 29 11.3	+3.9
LBMI	**Labuha**	**4.57**	**167**	P	Pn	13 29 12.6	+0.9
CGP	**Cagayan de Oro**	**4.92**	**339**	*i* P	Pn	13 29 08.2	-8.2
PAGZ	**Pagadian**	**5.04**	**322**	*e*P	Pn	13 29 17.9	-0.2
PAGZ				*e*S	Px	13 29 31.1	
IPIL	**Ipil**	**5.53**	**315**	*e*P	Pn	13 29 25.1	+0.4
MRSI	**Marisa**	**5.66**	**234**	P	Pn	13 29 27.7	+1.3
	2µm164nm,0.5s						
LUWI	**Luwuk**	**6.12**	**218**	P	Pn	13 29 35.3	+2.5
	0.3nm917nm98nm,0.9s						
NLAI	**Namlea**	**7.07**	**175**	P	Pn	13 29 44.6	-1.0
	6µm166nm,0.5s						
KDI	**Kendari**	**8.67**	**207**	P	Pn	13 30 06.0	-1.4
	539nm23nm,0.8s						
TTSI	**Tana Toraja**	**9.57**	**224**	P	Pn	13 30 20.4	+0.8
JOW	**Kunigami**	**22.92**	**4**	LR	LR	13 39 48.9	
	comp=Z,504nm,21.6s,baz=326,slow=32						
WRA	**Warramunga Arr**	**24.86**	**162**	P	P	13 33 17.6	-0.2
	1.6nm,0.6s,mb3.6,baz=344,slow=10.0,SNR=11						
ASAR	**Alice Springs**	**28.28**	**166**	P	P	13 33 48.8	+0.3
	0.3nm,0.6s,mb3.0,baz=342,slow=7.4,SNR=7.1						
MKAR	**Makanchi Array**	**57.33**	**325**	P	P	13 37 38.8	-3.0
	0.3nm,0.4s,mb3.7,baz=143,slow=6.5,SNR=8.8						

JMA 15 13:32:10.5±0.1, 28°64N×143°04E, h27km, M4.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.71**	**206**	P	Pn	13 32 39.3	+0.7
CBIJ				*e*S	Sn	13 33 00.9	+1.3
JHHJ	**Haha-jima-NKT**	**2.14**	**201**	*e*S	Sn	13 33 11.4	+1.2
BSO3	**Boso 3**	**6.51**	**341**	P	Pn	13 33 47.0	+2.5
BSO3				*e*S	Sn	13 35 02.8	+5.0
JYT	**Yasato**	**7.94**	**343**	P	Pn	13 34 07.0	+2.9
JYT				*e*S	Sn	13 35 32.0	-1.0
JRY	**Ryogami san**	**8.14**	**336**	P	Pn	13 34 10.3	+3.4
JHO	**Hitachi**	**8.22**	**346**	P	Pn	13 34 08.6	+0.7
JHO				*e*S	Sn	13 35 37.7	-2.1

MAN 15 13:35:04, 7°28N×124°27E, h32km, mb4.1, ML2.9, MS2.6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**0.98**	**53**	*e*P	Pn	13 35 22.2	+0.7
PAGZ	**Pagadian**	**1.05**	**303**	*e*P	Pn	13 35 27.4	+4.9
PAGZ				*e*S	Sn	13 35 35.4	-0.7
IPIL	**Ipil**	**1.76**	**287**	*e*P	Pn	13 35 34.9	+2.6

IDC 15 13:41:36.0±1.7, 3°19S×146°86E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.6/17, mbtmp3.7/5, MS2.9/2, Ms1 2.9/2, ms1mx2.4/24, Error ellipse: s-maj=81.3km s-min=26.5km az=120.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**16.81**	**182**	Pn	Pn	13 45 31.6	-1.3
	baz=45,slow=16,SNR=3.2						
WRA	**Warramunga Arr**	**20.66**	**215**	P	P	13 46 16.8	-0.7
	3.9nm,0.8s,baz=39,slow=10,SNR=16						
ASAR	**Alice Springs**	**23.91**	**210**	P	P	13 46 52.1	+0.5
	1.1nm,0.7s,baz=37,slow=8.2,SNR=15						
FITZ	**Fitzroy Crossi**	**25.54**	**233**	P	P	13 47 07.1	+0.4
	2.7nm,0.8s,baz=64,slow=6.8,SNR=6.4						
FITZ				LR	LR	13 56 57.8	
	comp=Z,30nm,18.2s,baz=156,slow=36						
KSRS	**Korea Array**	**44.09**	**338**	LR	LR	14 05 47.4	
	comp=Z,12nm,19.1s,baz=311,slow=33						
ILAR	**Eielson Array**	**82.97**	**23**	P	P	13 54 02.7	+0.1
	0.3nm,0.8s,baz=241,slow=4.9,SNR=4.9						

MEX 15 13:42:30.1±1.2, 15°31N×98°97W, h16km±52km, MD3.6, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**1.35**	**37**	*e*P	Pn	13 42 50.2	-4.1
PNIG				*i* S	Sn	13 43 07.2	-4.7
ACX	**Acapulco**	**1.77**	**331**	*i* P	Pn	13 42 57.3	-2.8
ACX				*i* S	Sn	13 43 17.3	-5.0
CAIG	**El Cayaco**	**2.13**	**324**	*i* P	Pn	13 43 01.9	-3.2
C

	14nm,0.2s,SNR=7.9							
EIBI				S	Sn	13 57 21.6	-1.8	
	15nm,0.2s,SNR=7.9							
EIBI	**Ibiza**	**2.97**	**340**	P	**Pn**	13 56 48.7	+1.0	
	14nm,0.2s,SNR=7.9							
EIBI				S	Sn	13 57 21.6	-1.8	
	15nm,0.2s,SNR=7.9							
CART	**Cartagena**	**3.20**	**296**	*e*Pn	**Pn**	13 56 49.8	-1.1	
CART				*e*Sn	**Sn**	13 57 28.4	-0.8	
CART	**Cartagena**	**3.20**	**296**	*e*Pn	**Pn**	13 56 49.8	-1.1	
CART				*e*Sn	**Sn**	13 57 28.4	-0.7	
ODZI	**Dziouia**	**3.27**	**254**	P	Px	13 56 28.0		
ODZI	**Dziouia**	**3.27**	**254**	P	Px	13 56 28.0		
ODZI	**Dziouia**	**3.27**	**254**	P	Px	13 56 28.0		
EBEN	**Beniarda**	**3.34**	**318**	P	**Pn**	13 56 53.6	+0.7	
EBEN				S	**Sn**	13 57 32.7	0.0	
EBEN	**Beniarda**	**3.34**	**318**	P	**Pn**	13 56 53.6	+0.7	
	1.1nm,0.3s,SNR=7.9							
EBEN				S	**Sn**	13 57 32.7	0.0	
	3.3nm,0.3s,SNR=7.9							
EBEN	**Beniarda**	**3.34**	**318**	P	**Pn**	13 56 53.6	+0.7	
	1.1nm,0.3s,SNR=7.9							
EBEN				S	**Sn**	13 57 32.7	0.0	
	3.3nm,0.3s,SNR=7.9							
OLHC	**Oulhaca**	**3.43**	**255**	P	Px	13 56 30.0		
OLHC	**Oulhaca**	**3.43**	**255**	P	Px	13 56 30.0		
OLHC	**Oulhaca**	**3.43**	**255**	P	Px	13 56 30.0		
EMUR	**La Murta**	**3.48**	**299**	P	**Pn**	13 56 55.3	+0.5	
EMUR				S	**Sn**	13 57 34.9	-1.1	
EMUR	**La Murta**	**3.48**	**299**	P	**Pn**	13 56 55.3	+0.5	
	2.4nm,0.2s,SNR=7.9							
EMUR				S	**Sn**	13 57 34.9	-1.1	
	8.4nm,0.6s,SNR=7.9							
EMUR	**La Murta**	**3.48**	**299**	P	**Pn**	13 56 55.3	+0.5	
	2.4nm,0.2s,SNR=7.9							
EMUR				S	**Sn**	13 57 34.9	-1.1	
	8.4nm,0.6s,SNR=7.9							
ETOS	**Mallorca**	**3.53**	**2**	P	**Pn**	13 56 56.1	+0.6	
ETOS				S	**Sn**	13 57 36.7	-0.6	
ETOS	**Mallorca**	**3.53**	**2**	P	**Pn**	13 56 56.1	+0.6	
	9.1nm,0.2s,SNR=7.9							
ETOS				S	**Sn**	13 57 36.7	-0.6	
	15nm,0.5s,SNR=7.9							
ETOS	**Mallorca**	**3.53**	**2**	P	**Pn**	13 56 56.2	+0.7	
ETOS				S	**Sn**	13 57 36.7	-0.6	
	15nm,0.5s,SNR=7.9							
ETOB	**Tobarra**	**4.10**	**307**	P	**Pn**	13 57 05.0	+1.7	
ETOB				S	**Sn**	13 57 52.1	+0.8	
ETOB	**Tobarra**	**4.10**	**307**	P	**Pn**	13 57 05.0	+1.7	
	4.9nm,0.2s,SNR=18							
ETOB				S	**Sn**	13 57 52.1	+0.8	
	6.3nm,0.4s							
ETOB	**Tobarra**	**4.10**	**307**	P	**Pn**	13 57 05.0	+1.7	
	4.9nm,0.2s,SNR=18							
ETOB				S	**Sn**	13 57 52.1	+0.9	
	6.3nm,0.4s							
ECHE	**Chera**	**4.39**	**321**	P	**Pn**	13 57 09.1	+1.8	
ECHE				S	**Sn**	13 57 59.5	+1.0	
ECHE	**Chera**	**4.39**	**321**	P	**Pn**	13 57 09.1	+1.8	
	2.3nm,0.2s,SNR=7.9							
ECHE				S	**Sn**	13 57 59.5	+1.0	
	2.7nm,0.4s,SNR=7.9							
ECHE	**Chera**	**4.39**	**321**	P	**Pn**	13 57 09.1	+1.8	
	2.3nm,0.2s,SNR=7.9							
ECHE				S	**Sn**	13 57 59.5	+1.0	
	2.7nm,0.4s,SNR=7.9							
EHUE	**Huescar**	**4.46**	**292**	P	**Pn**	13 57 10.0	+1.8	
EHUE				S	**Sn**	13 58 00.3	+0.1	
EHUE	**Huescar**	**4.46**	**292**	P	**Pn**	13 57 10.0	+1.8	
	1.0nm,0.2s,SNR=7.9							
EHUE				S	**Sn**	13 58 00.3	+0.1	
	1.7nm,0.2s,SNR=7.9							
EHUE	**Huescar**	**4.46**	**292**	P	**Pn**	13 57 10.0	+1.8	
	1.0nm,0.2s,SNR=7.9							
EHUE				S	**Sn**	13 58 00.3	+0.2	
	1.7nm,0.2s,SNR=7.9							
EVIA	**Vianos**	**4.73**	**302**	P	**Pn**	13 57 12.4	+0.4	
EVIA				S	**Sn**	13 58 06.2	-0.7	
EVIA	**Vianos**	**4.73**	**302**	P	**Pn**	13 57 12.4	+0.4	
	1.5nm,0.2s,SNR=7.9							
EVIA				S	**Sn**	13 58 06.2	-0.7	
	3.1nm,0.4s,SNR=7.9							
EVIA	**Vianos**	**4.73**	**302**	P	**Pn**	13 57 12.4	+0.4	
	1.5nm,0.2s,SNR=7.9							
EVIA				S	**Sn**	13 58 06.2	-0.6	
	3.1nm,0.4s,SNR=7.9							
EMOS	**Mosqueruela**	**4.79**	**330**	P	**Pn**	13 57 14.3	+1.6	
EMOS				S	**Sn**	13 58 07.4	-0.8	
EMOS	**Mosqueruela**	**4.79**	**330**	P	**Pn**	13 57 14.3	+1.6	
	3.8nm,0.1s,SNR=28							
EMOS				S	**Sn**	13 58 07.4	-0.8	
	3.4nm,0.2s							
EMOS	**Mosqueruela**	**4.79**	**330**	P	**Pn**	13 57 14.3	+1.6	
	3.8nm,0.1s,SNR=28							
EMOS				S	**Sn**	13 58 07.4	-0.8	
	3.4nm,0.2s							
EQES	**Quesada**	**4.81**	**291**	P	**Pn**	13 57 14.0	+0.9	
EQES				S	**Sn**	13 58 08.9	-0.1	
EQES	**Quesada**	**4.81**	**291**	P	**Pn**	13 57 14.0	+0.9	
	2.3nm,0.2s,SNR=13							
EQES				S	**Sn**	13 58 08.9	-0.1	
	5.4nm,0.5s							
EQES	**Quesada**	**4.81**	**291**	P	**Pn**	13 57 14.0	+0.9	
	2.3nm,0.2s,SNR=13							
EQES				S	**Sn**	13 58 08.9	0.0	
	5.4nm,0.5s							
EQUE	**Quentar**	**4.96**	**283**	P	**Pn**	13 57 14.8	-0.3	
	3.2nm,0.3s,SNR=7.9							
EQUE				S	**Sn**	13 58 11.6	-1.0	
	4.2nm,0.4s,SNR=7.9							
EQUE	**Quentar**	**4.96**	**283**	P	**Pn**	13 57 14.8	-0.4	
	3.2nm,0.3s,SNR=7.9							
EQUE				S	**Sn**	13 58 11.6	-1.0	
	4.2nm,0.4s,SNR=7.9							
EGUA	**Guajares**	**5.01**	**279**	P	**Pn**	13 57 14.8	-1.1	
EGUA				S	**Sn**	13 58 09.8	-4.1	
EGUA	**Guajares**	**5.01**	**279**	P	**Pn**	13 57 14.8	-1.1	
	9.3nm,0.4s,SNR=7.9							
EGUA	**Guajares**	**5.01**	**279**	P	**Pn**	13 57 14.8	-1.1	
	9.3nm,0.4s,SNR=7.9							
EGUA				S	**Sn**	13 58 09.8	-4.1	
	26nm,0.6s,SNR=7.9							
ECOG	**Cogollos-Vega**	**5.07**	**284**	P	**Pn**	13 57 17.5	+0.8	
ECOG				S	**Sn**	13 58 13.1	-2.2	
ECOG	**Cogollos-Vega**	**5.07**	**284**	P	**Pn**	13 57 17.5	+0.8	
	5.6nm,0.2s,SNR=7.9							
ECOG				S	**Sn**	13 58 13.1	-2.2	
	2.4nm,0.2s,SNR=7.9							
ECOG	**Cogollos-Vega**	**5.07**	**284**	P	**Pn**	13 57 17.5	+0.8	
	5.6nm,0.2s,SNR=7.9							
ECOG				S	**Sn**	13 58 13.1	-2.2	
	2.4nm,0.2s,SNR=7.9							
ERON	**Agron**	**5.22**	**281**	P	**Pn**	13 57 19.9	+1.1	
ERON				S	**Sn**	13 58 17.3	-1.8	
ERON	**Agron**	**5.22**	**281**	P	**Pn**	13 57 19.9	+1.1	
	3.3nm,0.2s,SNR=7.9							
ERON				S	**Sn**	13 58 17.3	-1.8	
	1.6nm,0.4s,SNR=7.9							
ERON	**Agron**	**5.22**	**281**	P	**Pn**	13 57 19.9	+1.1	
	3.3nm,0.2s,SNR=7.9							
ERON				S	**Sn**	13 58 17.3	-1.8	
	1.6nm,0.4s,SNR=7.9							
EPOB	**Poblet**	**5.25**	**347**	P	**Pn**	13 57 20.0	+0.9	
EPOB				S	**Sn**	13 58 18.1	-1.6	
EPOB	**Poblet**	**5.25**	**347**	P	**Pn**	13 57 20.0	+0.9	
	1.6nm,0.2s,SNR=8.6							
EPOB				S	**Sn**	13 58 18.1	-1.6	
	2.2nm,0.3s							
EPOB	**Poblet**	**5.25**	**347**	P	**Pn**	13 57 20.0	+0.9	
	1.6nm,0.2s,SNR=8.6							
KEST	**Kesra**	**5.48**	**93**	Pn	**Pn**	13 57 21.9	-0.4	
	0.2nm,0.3s,baz=270,slow=1.6,SNR=5.5							
KEST				Sn	**Sn**	13 58 24.1	-1.2	
	0.1nm,0.3s,baz=19,slow=18,SNR=1.9							
KEST	**Kesra**	**5.48**	**93**	*e*Pn	**Pn**	13 57 21.2	-1.0	
KEST				Pn	**Pn**	13 57 21.9	-0.4	
KEST				Sn	**Sn**	13 58 24.1	-1.2	
KEST	**Kesra**	**5.48**	**93**	Pn	**Pn**	13 57 21.9	-0.4	
ELOJ	**Sierra Loja**	**5.52**	**282**	P	**Pn**	13 57 23.6	+0.8	
ELOJ	**Sierra Loja**	**5.52**	**282**	P	**Pn**	13 57 23.6	+0.8	
	1.8nm,0.3s,SNR=7.9							
ELOJ	**Sierra Loja**	**5.52**	**282**	P	**Pn**	13 57 23.6	+0.8	
	1.8nm,0.3s,SNR=7.9							
CFON	**Fontmartina**	**5.52**	**359**	P	**Pn**	13 57 23.5	+0.7	
CFON				S	**Sn**	13 58 23.7	-2.7	
CFON	**Fontmartina**	**5.52**	**359**	P	**Pn**	13 57 23.5	+0.7	
	3.5nm,0.3s,SNR=15							
CFON				S	**Sn**	13 58 23.7	-2.7	
	4.4nm,0.2s							
CFON	**Fontmartina**	**5.52**	**359**	P	**Pn**	13 57 23.5	+0.6	
	3.5nm,0.3s,SNR=15							
EMIR	**Miracle**	**5.74**	**352**	P	**Pn**	13 57 27.7	+1.9	
EMIR				S	**Sn**	13 58 31.3	-0.4	
EMIR	**Miracle**	**5.74**	**352**	P	**Pn**	13 57 27.7	+1.9	
	6.7nm,0.2s,SNR=14							
EMIR				S	**Sn**	13 58 31.3	-0.4	
	6.3nm,0.2s							
EMIR	**Miracle**	**5.74**	**352**	P	**Pn**	13 57 27.7	+1.9	
	6.7nm,0.2s,SNR=14							
EMIR				S	**Sn**	13 58 31.3	-0.3	
	6.3nm,0.2s							
ETOR	**Torete**	**5.86**	**323**	P	**Pn**	13 57 28.8	+1.2	
ETOR	**Torete**	**5.86**	**323**	P	**Pn**	13 57 28.8	+1.2	
	3.3nm,0.3s,SNR=6.2							
ETOR	**Torete**	**5.86**	**323**	P	**Pn**	13 57 28.8	+1.3	
	3.3nm,0.3s,SNR=6.2							
EMIJ	**Mijas**	**5.97**	**275**	P	**Pn**	13 57 26.4	-2.7	
EMIJ				S	**Sn**	13 58 28.2	-9.3	
EMIJ	**Mijas**	**5.97**	**275**	P	**Pn**	13 57 26.3	-2.7	
	1.4nm,0.1s,SNR=9.3							
EMIJ				S	**Sn**	13 58 28.2	-9.3	
	2.8nm,0.3s,SNR=7.9							
EMIJ	**Mijas**	**5.97**	**275**	P	**Pn**	13 57 26.4	-2.6	
ESAC	**San Caprasio**	**5.98**	**337**	P	**Pn**	13 57 29.4	+0.2	
ESAC				S	**Sn**	13 58 36.0	-1.8	
ESAC	**San Caprasio**	**5.98**	**337**	P	**Pn**	13 57 29.4	+0.2	
	4.9nm,0.3s,SNR=7.9							
ESAC				S	**Sn**	13 58 36.0	-1.8	
	9.0nm,0.3s,SNR=7.9							
ESAC	**San Caprasio**	**5.98**	**337**	P	**Pn**	13 57 29.4	+0.2	
	4.9nm,0.3s,SNR=7.9							
EADA	**Adamuz**	**6.06**	**291**	P	**Pn**	13 57 29.3	-0.9	
EADA				S	**Sn**	13 58 38.3	-1.3	
EADA	**Adamuz**	**6.06**	**291**	P	**Pn**	13 57 29.3	-0.9	
	0.4nm,0.2s,SNR=7.9							
EADA				S	**Sn**	13 58 38.3	-1.3	
	1.7nm,0.4s,SNR=7.9							
EADA	**Adamuz**	**6.06**	**291**	P	**Pn**	13 57 29.3	-0.9	
	0.4nm,0.2s,SNR=7.9							
EADA				S	**Sn**	13 58 38.3	-1.3	
	1.7nm,0.4s,SNR=7.9							
EJON	**La Jonquera**	**6.21**	**2**	P	**Pn**	13 57 33.7	+1.4	
EJON				S	**Sn**	13 58 40.9	-2.4	
EJON	**La Jonquera**	**6.21**	**2**	P	**Pn**	13 57 33.7	+1.4	
	2.0nm,0.2s,SNR=7.9							
EJON				S	**Sn**	13 58 40.9	-2.4	
	5.7nm,0.4s,SNR=7.9							
EJON	**La Jonquera**	**6.21**	**2**	P	**Pn**	13 57 33.7	+1.4	
	2.0nm,0.2s,SNR=7.9							
ESDC	**Sonseca Array**	**6.23**	**305**	Pn	**Pn**	13 57 33.4	+0.8	
	0.7nm,0.3s,baz=115,slow=13,SNR=7.7							
ESDC				Sn	**Sn**	13 58 51.3	+7.5	
	0.2nm,0.3s,baz=125,slow=26,SNR=2.6							
ESDC	**Sonseca Array**	**6.23**	**305**	P	**Pn**	13 57 33.4	+0.8	
ESDC				S	**Sn**	13 58 42.6	-1.3	
ESDC	**Sonseca Array**	**6.23**	**305**	P	**Pn**	13 57 33.4	+0.8	
	1.3nm,0.4s,baz=114,slow=14,SNR=6.4							
ESDC				S	**Sn**	13 58 42.6	-1.3	
	0.7nm,0.3s,SNR=7.9							
ESDC	**Sonseca Array**	**6.23**	**305**	P	**Pn**	13 57 33.4	+0.8	
	1.3nm,0.4s,SNR=6.4							
ESDC				S	**Sn**	13 58 42.6	-1.2	
	0.7nm,0.3s,SNR=7.9							
ESLA	**Sonseca Array**	**6.23**	**305**	*e*Pn	**Pn**	13 57 34.2	+1.6	
ESLA				*e*S	**Sn**	13 58 58.3	+14	
ESLA	**Sonseca Array**	**6.23**	**305**	*e*Pn	**Pn**	13 57 34.2	+1.6	
CSOR	**Sort**	**6.24**	**350**	P	**Pn**	13 57 34.4	+1.7	
CSOR				S	**Sn**	13 58 42.6	-1.5	
CSOR	**Sort**	**6.24**	**350**	P	**Pn**	13 57 34.4	+1.7	
	1.3nm,0.2s,SNR=10							
CSOR				S	**Sn**	13 58 42.6	-1.5	
	9.4nm,1.0s,SNR=7.9							
CSOR	**Sort**	**6.24**	**350**	P	**Pn**	13 57 34.4	+1.7	
	1.3nm,0.2s,SNR=10							
CLLI	**Llivia**	**6.26**	**356**	P	**Pn**	13 57 34.2	+1.3	
CLLI				S	**Sn**	13 58 41.5	-3.0	
CLLI	**Llivia**	**6.26**	**356**	P	**Pn**	13 57 34.2	+1.3	
	3.2nm,0.4s,SNR=8.7							
CLLI				S	**Sn**	13 58 42.1	-2.4	
	1.0nm,0.3s,SNR=7.9							
CLLI	**Llivia**	**6.26**	**356**	P	**Pn**	13 57 34.2	+1.3	
	3.2nm,0.4s,SNR=8.7							
VSL	**Villasalto**	**6.26**	**57**	*e*Pn	**Pn**	13 57 31.1	-1.9	
VSL				*e*Sn	**Sn**	13 58 40.7	-3.9	
EBIE	**Bielsa**	**6.72**	**344**	P	**Pn**	13 57 38.6	-0.7	
EBIE				S	**Sn**	13 58 53.9	-2.0	
EBIE	**Bielsa**	**6.72**	**344**	P	**Pn**	13 57 39.4	+0.1	
	1.0nm,0.5s,SNR=7.9							
EBIE				S	**Sn**	13 58 53.9	-2.0	
	1.0nm,0.4s,SNR=7.9							
EBIE	**Bielsa**	**6.72**	**344**	P	**Pn**	13 57 38.6	-0.7	
	1.0nm,0.5s,SNR=7.9							
GUD	**Guadarrama**	**6.90**	**312**	P	**Pn**	13 57 42.7	+0.9	
GUD	**Guadarrama**	**6.90**	**312**	P	**Pn**	13 57 42.7	+0.9	
	1.9nm,0.3s,SNR=7.9							
GUD	**Guadarrama**	**6.90**	**312**	P	**Pn**	13 57 42.7	+0.9	
	1.9nm,0.3s,SNR=7.9							
IEPA	**Eparoz**	**7.19**	**337**	P	**Pn**	13 57 48.0	+2.2	
	1.0nm,0.3s,SNR=7.9							
IEPA	**Eparoz**	**7.19**	**337**	P	**Pn**	13 57 48.0	+2.2	
	1.0nm,0.3s,SNR=7.9							
IELO	**Elcoad**	**7.24**	**337**	P	**Pn**	13 57 47.9	+1.4	
	0.6nm,0.2s,SNR=7.9							
IELO	**Elcoad**	**7.24**	**337**	P	**Pn**	13 57 47.9	+1.5	
	0.6nm,0.2s,SNR=7.9							
IZUN	**Zunzarren**	**7.33**	**336**	P	**Pn**	13 57 49.8	+2.2	
	0.9nm,0.1s,SNR=7.9							
IZUN	**Zunzarren**	**7.33**	**336**	P	**Pn**	13 57 49.8	+2.2	
	0.9nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**7.59**	**284**	P	**Pn**	13 57 51.8	+0.6	
EMIN				S	**Sn**	13 59 12.9	-4.4	
EMIN	**Mina Concepcio**	**7.59**	**284**	P	**Pn**	13 57 51.8	+0.6	
	0.5nm,0.2s,SNR=7.9							
EMIN				S	**Sn**	13 59 12.9	-4.4	
	0.9nm,0.4s,SNR=7.9							
EMIN	**Mina Concepcio**	**7.59**	**284**	P	**Pn**	13 57 51.8	+0.6	
	0.5nm,0.2s,SNR=7.9							
EALK	**Alkurruntz**	**7.67**	**337**	P	**Pn**	13 57 54.4	+2.2	
EALK				S	**Sn**	13 59 15.7	-3.4	
EALK	**Alkurruntz**	**7.67**	**337**	P	**Pn**	13 57 54.4	+2.2	
	1.9nm,0.4s,SNR=5.7							
EALK				S	**Sn**	13 59 15.7	-3.4	
	5.3nm,0.7s,SNR=7.9							
EALK	**Alkurruntz**	**7.67**	**337**	P	**Pn**	13 57 54.4	+2.1	
	1.9nm,0.4s,SNR=5.7							
EGRO	**El Granado**	**8.20**	**282**	P	**Pn**	13 57 59.3	-0.3	
EGRO	**El Granado**	**8.20**	**282**	P	**Pn**	13 57 59.3	-0.3	
	0.9nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**8.20**	**282**	P	**Pn**	13 57 59.3	-0.3	
	0.9nm,0.2s,SNR=7.9							
ELAN	**Lanestosa**	**8.40**	**328**	P	**Pn**	13 58 03.4	+1.0	
ELAN	**Lanestosa**	**8.40**	**328**	P	**Pn**	13 58 03.4	+1.0	
	1.1nm,0.2s,SNR=6.9							
ELAN	**Lanestosa**	**8.40**	**328**	P	**Pn**	13 58 03.4	+1.1	
	1.1nm,0.2s,SNR=6.9							
MVO	**Moncorvo**	**9.00**	**306**	P	**Pn**	13 58 10.9	+0.2	
MVO	**Moncorvo**	**9.00**	**306**	P	**Pn**	13 58 10.9	+0.2	
	0.6nm,0.2s,SNR=7.9							
MVO	**Moncorvo**	**9.00**	**306**	P	**Pn**	13 58 10.9	+0.3	
	0.6nm,0.2s,SNR=7.9							
ECAL	**Calabor**	**9.24**	**311**	P	**Pn**	13 58 14.7	+0.9	
ECAL	**Calabor**	**9.24**	**311**	P	**Pn**	13 58 14.7	+0.9	
	3.0nm,0.3s,SNR=5.2							
ECAL	**Calabor**	**9.24**	**311**	P	**Pn**	13 58 14.7	+0.9	
	3.0nm,0.3s,SNR=5.2							
PFVI	**Vila Bisbo**	**9.24**	**279**	P	**Pn**	13 58 13.5	-0.4	
PFVI	**Vila Bisbo**	**9.24**	**279**	P	**Pn**	13 58 13.5	-0.4	
	3.4nm,0.4s,SNR=7.9							
PFVI	**Vila Bisbo**	**9.24**	**279**	P	**Pn**	13 58 13.5	-0.4	
	3.4nm,0.4s,SNR=7.9							
EARI	**Arriondas**	**9.28**	**322**	P	**Pn**	13 58 16.6	+2.2	
EARI	**Arriondas**	**9.28**	**322**	P	**Pn**	13 58 16.6	+2.2	
	4.7nm,0.7s,SNR=7.9							
EARI	**Arriondas**	**9.28**	**322**	P	**Pn**	13 58 16.6	+2.2	
	4.7nm,0.7s,SNR=7.9							
PMAFR	**Mafra**	**9.83**	**290**	P	**Pn**	13 58 23.3	+1.4	
	3.4nm,0.3s,SNR=7.9							
PMAFR	**Mafra**	**9.83**	**290**	P	**Pn**	13 58 23.3	+1.4	
	3.4nm,0.3s,SNR=7.9							
ELOB	**Lobios**	**10.03**	**307**	P	**Pn**	13 58 26.2	+1.6	
	0.2nm,0.2s							
ELOB	**Lobios**	**10.03**	**307**	P	**Pn**	13 58 26.2	+1.6	
	0.2nm,0.2s,SNR=7.9							
ELOB	**Lobios**	**10.03**	**307**	P	**Pn**	13 58 26.2	+1.5	
	0.2nm,0.2s,SNR=7.9							
TORD	**Torodi Ar. Bea**	**23.00**	**182**	P	**P**	14 01 07.2	+1.5	
	0.6nm,1.0s,mb3.0,baz=356,slow=8.3,SNR=2.2							
KURK	**Kurchatov**	**54.65**	**49**	P	**P**	14 05 27.4	-1.9	
	0.2nm,0.5s,mb3.4,baz=278,slow=7.8,SNR=3.5							
KURK	**Kurchatov**	**54.65**	**49**	P	**P**	14 05 27.4	-1.9	
KURK	**Kurchatov**	**54.65**	**49**	P	**P**	14 05 27.4	-2.0	
MKAR	**Makanchi Array**	**58.19**	**53**	P	**P**	14 05 52.6	-2.1	
	0.4nm,0.6s,mb3.6,baz=305,slow=6.2,SNR=6.3							
MKAR	**Makanchi Array**	**58.19**	**53**	P	**P**	14 05 52.6	-2.1	
MKAR	**Makanchi Array**	**58.19**	**53**	P	**P**	14 05 52.6	-2.1	

ISCJB ***15*** *14:22:36.5±0.5, 66.34N±0.06×157.3W±0.1, h10km, mb4.5/8, MS4.4/3, Error ellipse: s-maj=8.7km s-min=5.5km az=25.1*
NEIC ***15*** *14:22:38.0, 66.43N×157.59W, h10km, mb4.2/3, ML4.5(AEIC), After AEIC.*
BJI ***15*** *14:22:38.0, 66.40N×157.30W, h10km, mB4.7/7, mb4.6/13, Ms4.7/7, Ms7 4.4/7*
ISC 15 14:22:39.3±0.5, 66.35N±0.06×157.0W±0.1, h10km, (h15km±1.7km:pP-P), n38, σ0.94/42, mb4.5/8, MS4.4/3, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IM3	**Indian Mountai**	**1.38**	**104**	P	**Pn**	**14 23 03.9**	**-0.7**
IM3				S	**Sb**	**14 23 24.1**	**+1.4**
IMA2	**Indian Mountai**	**1.38**	**100**	*e*Pn	**Pn**	**14 23 04.5**	**-0.1**
IMA2				*e*S	**Sb**	**14 23 24.6**	**+1.8**
COLD	**Coldfoot**	**2.84**	**69**	P	**Pn**	**14 23 23.9**	**-0.7**
CHUM	**Lake Minchumin**	**3.18**	**139**	P	**Pn**	**14 23 29.9**	**+0.6**
BPAW	**Bear Paw Mtn.**	**3.40**	**129**	P	**Pn**	**14 23 32.4**	**+0.1**
TT01	**Tatalina**	**3.49**	**172**	P	**Pn**	**14 23 31.6**	**-1.9**
MDM	**Murphy Dome**	**3.90**	**107**	P	**Pn**	**14 23 38.4**	**-0.8**
PPLA	**Purkeypile**	**4.04**	**147**	P	**Pn**	**14 23 41.3**	**+0.2**
COLA	**College**	**4.08**	**107**	P	**Pn**	**14 23 41.5**	**-0.2**
TRF	**Thorofare Moun**	**4.09**	**132**	P	**Pn**	**14 23 42.0**	**+0.3**
MCK	**McKinley**	**4.32**	**124**	P	**Pn**	**14 23 44.6**	**-0.3**
IL1	**Eielson Array**	**4.50**	**106**	P	**Pn**	**14 23 47.0**	**-0.4**
TNA	**Tin City**	**4.53**	**265**	P	**Pn**	**14 23 41.9**	**-6.0**
RND	**Reindeer**	**4.56**	**127**	P	**Pn**	**14 23 48.4**	**+0.1**
SKT	**Skwentna**	**5.00**	**149**	P	**Pn**	**14 23 54.3**	**0.0**
BM3	**Burnt Mountain**	**5.01**	**72**	P	**Pn**	**14 23 54.6**	**+0.2**
DHY	**Denali Highway**	**5.28**	**124**	P	**Pn**	**14 23 58.4**	**+0.3**
PMR	**Palmer**	**5.90**	**140**	*e*Pn	**Pn**	**14 24 06.6**	**-0.1**
	112nm,0.7s						
SML	**Sawmill**	**5.94**	**136**	*e*Pn	**Pn**	**14 24 06.8**	**-0.3**
	26nm,0.5s						
PAX	**Paxson**	**6.00**	**119**	*e*Pn	**Pn**	**14 24 07.8**	**-0.2**
	64nm,0.9s						
DOT	**Dot Lake**	**6.12**	**110**	*e*Pn	**Pn**	**14 24 08.8**	**-0.9**
	142nm,0.9s						
RSO	**Redoubt South**	**6.21**	**160**	*e*Pn	**Pn**	**14 24 10.1**	**-0.8**
	40nm,0.7s						
MENT	**Mentasta**	**6.66**	**115**	*e*Pn	**Pn**	**14 24 16.8**	**-0.2**
EGAK	**Eagle**	**6.76**	**96**	*e*Pn	**Pn**	**14 24 18.1**	**-0.3**
	13nm,0.3s						
DAWY	**Dawson**	**7.75**	**99**	*e*Pn	**Pn**	**14 24 31.2**	**-0.7**
KDAK	**Kodiak Island**	**8.85**	**164**	*e*Pn	**Pn**	**14 24 48.6**	**+1.6**
YAK	**Yakutsk**	**30.50**	**297**	*e*P	**P**	**14 28 58.4**	**+6.5**
MDJ	**Mudanjiang**	**43.71**	**278**	P	**P**	**14 30 46.3**	**+2.2

TRF Thorofare Moun 4.22 130 ePn Pn 14 24 37.6 +0.1
COLA College 4.25 106 P Pn 14 24 37.1 -0.9
COLA College 4.25 106 P Pn 14 24 37.1 -0.9
TNA Tin City 4.36 264 P Pn 14 24 37.7 -1.8
TNA S Sn 14 25 26.6 -3.6
MCK McKinley 4.47 122 P Pn 14 24 40.0 -0.9
MCK McKinley 4.47 122 P Pn 14 24 40.1 -0.8
IL1 Eielson Array 4.67 105 P Pn 14 24 42.4 -1.3
ILAR Eielson Array 4.67 105 Pn Pn 14 24 42.6 -1.1
52nm,0.3s,baz=292,slow=14,SNR=67
ILAR Sn Sn 14 25 37.1 -0.6
28nm,0.3s,baz=288,slow=21,SNR=8.0
ILAR Lg 14 25 58.4
71nm,0.3s,baz=304,slow=30,SNR=7.1
ILAR Eielson Array 4.67 105 Pn Pn 14 24 42.6 -1.1
ILAR Sn Sn 14 25 37.1 -0.6
ILAR Lg 14 25 58.4
ILAR Eielson Array 4.67 105 P Pn 14 24 42.6 -1.1
ILAR 14 25 37.2
HDA Harding Lake 4.80 109 P Pn 14 24 44.1 -1.5
SKT Skwentna 5.10 147 P Pn 14 24 49.7 0.0
SVW2 Sparrevohn 5.35 170 eP Pn 14 24 53.3 +0.3
DHY Denali Highway 5.43 123 P Pn 14 24 54.1 -0.1
PMR Palmer 6.02 139 eP Pn 14 25 02.3 0.0
PMR Palmer 6.02 139 eP Pn 14 25 02.3 0.0
SML Sawmill 6.06 135 ePn Pn 14 25 02.2 -0.7
SML Sawmill 6.06 135 eP Pn 14 25 02.2 -0.7
PAX Paxson 6.16 118 ePn Pn 14 25 03.2 -1.0
PAX Paxson 6.16 118 eP Pn 14 25 03.2 -1.0
RSO Redoubt South 6.28 158 ePn Pn 14 25 05.7 -0.2
311nm,0.6s
GAMB Gambell 6.56 253 ePn Pn 14 25 07.5 -2.1
124nm,0.6s
GAMB ePg Pg 14 25 31.1 -7.7
GAMB eSg Sg 14 26 57.1 -6.4
SLKM Skilak Lake 6.70 148 ePn Pn 14 25 12.7 +1.1
SLKM Skilak Lake 6.70 148 eP Pn 14 25 12.7 +1.1
MENT Mentasta 6.81 114 eP Pn 14 25 12.4 -0.8
EGAK Eagle 6.94 96 ePn Pn 14 25 13.5 -1.4
EGAK eSg Sg 14 27 07.6 -8.1
SEW Seward 7.24 146 ePn Pn 14 25 19.8 +0.8
40nm,0.5s
DIV Divide 7.36 130 ePn Pn 14 25 20.7 0.0
BMRM Bremner River 7.85 127 ePn Pn 14 25 27.5 +0.1
KDAK Kodiak Island 8.90 163 Pn Pn 14 25 42.9 +1.1
3.6nm,0.3s,baz=19,slow=7.3,SNR=23
KDAK Lg 14 28 15.8
baz=180,slow=23,SNR=3.6
KDAK LR LR 14 29 16.6
comp=Z,1µm,18.1s,baz=359,slow=38
KDAK Kodiak Island 8.90 163 ePn Pn 14 25 42.0 +0.2
KDAK Kodiak Island 8.90 163 P Pn 14 25 42.9 +1.1
KDAK pmax pmax
comp=Z,4.0nm,0.3s
KDAK MLR MLR
comp=Z,1µm,18.1s
OHAK Old Harbor 9.38 166 eP Pn 14 25 49.2 +0.9
comp=Z,11nm,0.4s
INK Inuvik 9.41 67 Pn Pn 14 25 48.1 -0.6
comp=Z,1.4nm,0.3s,baz=288,slow=20,SNR=14
INK Sn Sn 14 27 29.8 -4.6
comp=Z,2.0nm,0.3s,baz=53,slow=20,SNR=2.8
INK Lg 14 28 26.9
comp=Z,1.4nm,0.3s,baz=343,slow=19,SNR=2.6
INK Inuvik 9.41 67 ePn Pn 14 25 47.8 -0.9
INK Inuvik 9.41 67 P Pn 14 25 48.1 -0.7
INK 14 27 29.8
INK pmax pmax
comp=Z,1.0nm,0.3s
INK smax
comp=Z,2.0nm,0.3s
CHGN Chignik 10.10 183 eP Pn 14 25 58.6 +0.4
PNL Peninsula 10.56 121 Pn Pn 14 26 04.2 -0.3
SKAG Skagway 12.16 114 ePn Pn 14 26 25.9 -0.4
AKUT Akutan 12.92 202 Pn Pn 14 26 36.9 +0.2
BILL Bilibino 14.03 293 ePn Pn 14 26 50.2 -1.6
BILL Bilibino 14.03 293⇑ eP Pn 14 26 51.7 -0.1
BILL pmax pmax
comp=Z,6.0nm,0.9s
DLBC Dease Lake 14.86 109 Pn Pn 14 27 06.7 +3.6
comp=Z,0.9nm,0.3s,baz=295,slow=11,SNR=12
DLBC Lg 14 31 18.7
comp=Z,0.2nm,0.3s,baz=96,slow=25,SNR=5.6
DLBC Dease Lake 14.86 109 ePn Pn 14 27 04.2 +1.0
YKA Yellowknife Ar 18.60 82 P Pn 14 27 51.1 +0.5
comp=Z,0.4nm,0.3s,baz=302,slow=10,SNR=9.1
YKA Yellowknife Ar 18.60 82 P Pn 14 27 51.1 +0.5
YKA Yellowknife Ar 18.60 82 P Pn 14 27 51.1 +0.6
BBB Bella Bella 20.36 120 P P 14 28 11.0 +1.4
comp=Z,40nm,1.2s,baz=349,slow=4.8,SNR=5.0
BBB Bella Bella 20.36 120 P P 14 28 11.0 +1.4
SEY Seymchan 21.27 284⇑ iP P 14 28 21.3 +2.0
RES Resolute Bay 21.32 40 P P 14 28 22.6 +2.8
comp=Z,3.6nm,0.5s,mb3.9,baz=188,slow=7.9,SNR=13
RES S S 14 32 05.2 -11
comp=Z,2.6nm,0.6s,baz=307,slow=10,SNR=3.4
RES Resolute Bay 21.32 40 eP P 14 28 21.1 +1.4
comp=Z,5.7nm,0.6s,mb4.1
RES Resolute Bay 21.32 40 P P 14 28 22.6 +2.8
RES S S 14 32 05.2 -11
RES pmax pmax
comp=Z,4.0nm,0.5s,mb4.0
RES smax
comp=Z,3.0nm,0.6s
PET Petropavlovsk 25.21 260 eP P 14 28 56.1 -2.6
PET Petropavlovsk 25.21 260 eP P 14 28 56.1 -2.6
PETK Petropavlovsk- 25.52 261 P P 14 29 02.5 +0.9
comp=Z,4.4nm,0.7s,mb4.1,baz=80,slow=9.2,SNR=4.9
PETK Petropavlovsk- 25.52 261 P P 14 29 02.5 +0.9
PETK Petropavlovsk- 25.52 261 P P 14 29 02.5 +1.0
LON Longmire 27.16 119 eP P 14 29 17.5 +1.2
comp=Z,4.9nm,1.1s,mb4.0
LON Longmire 27.16 119 eP P 14 29 17.5 +1.2
LON pmax pmax
comp=Z,5.0nm,1.1s,mb4.0
JTMT Jette 29.10 108 P P 14 29 34.2 +0.5
comp=Z,3.0nm,0.9s,mb4.0
YAK Yakutsk 30.35 297 eP P 14 29 45.5 +0.9
YAK pmax pmax
comp=Z,30nm,1.9s,mb4.7
MCMT McKenzie Canyo 32.09 110 eP P 14 30 01.3 +1.2
comp=Z,1.5nm,0.7s,mb3.9
LAO LASA Array 33.11 101 eP P 14 30 09.8 +0.7
comp=Z,7.1nm,0.8s,mb4.7
IMW Indian Meadow 33.60 109 eP P 14 30 14.7 +1.4
comp=Z,4.6nm,0.8s,mb4.5
ULM Lac du Bonnet 34.43 87 P P 14 30 20.7 +0.3
comp=Z,6.1nm,0.7s,mb4.7,baz=314,slow=9.9,SNR=8.6
ULM Lac du Bonnet 34.43 87 P P 14 30 20.7 +0.3
ULM Lac du Bonnet 34.43 87 P P 14 30 20.7 +0.3
PD01 Pinedale Array 35.07 108 eP P 14 30 26.8 +0.7
PD02 Pinedale Array 35.08 108 eP P 14 30 27.1 +1.0
PDAR Pinedale Array 35.09 108 P P 14 30 27.4 +1.1
comp=Z,2.9nm,1.1s,mb4.1,baz=322,slow=4.5,SNR=8.9
PDAR Pinedale Array 35.09 108 P P 14 30 27.4 +1.1
NVAR Mina Array Bea 35.70 122 P P 14 30 32.4 +0.9
comp=Z,3.7nm,0.7s,mb4.4,baz=318,slow=7.6,SNR=27
NVAR Mina Array Bea 35.70 122 P P 14 30 32.4 +0.9
AGMN Agassiz Nation 35.97 89 eP P 14 30 33.0 -0.7
comp=Z,7.6nm,0.6s,mb4.8
YSS Yuzh-Sakhalins 36.33 268 eP P 14 30 37.0 +0.2
YSS MLR MLR
comp=Z,400nm,14.0s,MS4.3
YSS MLR MLR
comp=E,400nm,13.0s
MSU Marysvale 37.80 115 eP P 14 30 51.3 +1.9
comp=E,2.4nm,0.7s,mb4.0
MSU Marysvale 37.80 115 eP P 14 30 51.3 +1.9
MSU pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
EYMN Ely 38.01 86 eP P 14 30 52.0 +0.9
comp=Z,15nm,0.8s,mb4.8
KLR Kul'dur 38.93 280 eP P 14 30 53.7 -5.0
KLR pmax pmax
comp=Z,40nm,1.8s,mb4.8
KLR MLR MLR
comp=N,500nm,12.0s
KLR MLR MLR
comp=Z,2µm,12.0s,MS5.2
GSC Goldstone 39.04 122 eP P 14 31 00.2 +0.4
comp=Z,3.2nm,0.6s,mb4.2
GSC Goldstone 39.04 122 eP P 14 31 00.2 +0.4
GSC pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
PV01 Paradox Valley 39.48 111 eP P 14 31 04.5 +1.0

WUAZ Wupatki 40.76 116 eP P 14 31 14.8 +0.7
comp=Z,12nm,0.9s,mb4.5
MDJ Mudanjiang 43.54 278 P P 14 31 30.8 -5.9
MDJ pP pP 14 31 33.8 -6.0
MDJ ScP ScP 14 37 11.3 -4.0
MDJ PcS PcS 14 37 12.6 -4.2
MDJ S S 14 37 58.3 -6.9
MDJ SS SS 14 41 12.3 -7.0
MDJ pmax pmax
comp=Z,6.0nm,1.7s,mb4.0
MDJ pmax pmax
comp=Z,5.0nm,2.8s,mb3.8
MDJ LR LR
comp=N,280nm,15.9s,MS4.4
MDJ LR LR
comp=E,210nm,13.4s,MS4.4
MDJ LR LR
comp=Z,220nm,15.1s,MS4.2
HIA Hailar 43.58 289 eP P 14 31 37.4 +0.4
comp=Z,16nm,0.6s,mb4.9
HIA Hailar 43.58 289 eP P 14 31 37.4 +0.5
HIA pmax pmax
comp=Z,16nm,0.6s
ARE0 ARCESS Array S 44.36 359 P P 14 31 44.5 +1.6
CN2 Changchun 45.87 280 eP P 14 31 51.4 -3.9
CN2 eSP sP 14 31 58.4 -1.2
CN2 eS S 14 38 32.8 -6.2
CN2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,600nm,17.0s,MS4.7
CN2 LR LR
comp=E,400nm,17.0s,MS4.7
CN2 LR LR
comp=Z,300nm,18.0s,MS4.3
APA Apatity 46.13 354⇑ eP P 14 31 59.0 +2.0
APA MLR MLR
comp=Z,1µm,24.0s,MS4.8
MAJO Matsushiro 46.91 264 eP P 14 32 02.9 -0.7
comp=Z,4.1nm,0.7s,mb4.5
MAJO Matsushiro 46.91 264 eP P 14 32 02.9 -0.7
MAJO pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
MAT Matsushiro 46.91 264 P P 14 32 02.8 -0.8
MJAR Matsushiro Arr 46.91 264 P P 14 32 02.8 -0.8
comp=Z,1.6nm,0.6s,mb4.1,baz=15,slow=7.6,SNR=12
MJAR Matsushiro Arr 46.91 264 P P 14 32 02.8 -0.8
MJAR Matsushiro Arr 46.91 264 P P 14 32 02.8 -0.8
FRNY Flat Rock 47.65 73 eP P 14 32 09.7 +0.5
comp=Z,5.7nm,0.6s,mb4.8
ALLY Allegheny Colle 47.76 81 eP P 14 32 10.1 0.0
comp=Z,27nm,0.8s,mb5.3
MIAR Mount Ida 48.46 98 eP P 14 32 15.1 -0.5
comp=Z,4.3nm,0.6s,mb4.7
MIAR Mount Ida 48.46 98 eP P 14 32 15.1 -0.5
MIAR pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
TXAR Lajitas Array 49.15 111 P P 14 32 21.9 +0.9
comp=Z,2.5nm,0.6s,mb4.4,baz=325,slow=5.9,SNR=23
TXAR Lajitas Array 49.15 111 P P 14 32 21.9 +1.0
TXAR Lajitas Array 49.15 111 P P 14 32 21.9 +1.0
JCT Junction City 49.60 107 eP P 14 32 23.8 -0.5
comp=Z,4.3nm,0.6s,mb4.7
JCT Junction City 49.60 107 eP P 14 32 23.8 -0.5
JCT pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
SONM Songino Array 49.68 299 P P 14 32 25.3 +0.5
comp=Z,2.5nm,0.8s,mb4.3,baz=30,slow=5.2,SNR=15
SONM Songino Array 49.68 299 P P 14 32 25.3 +0.5
SONM Songino Array 49.68 299 P P 14 32 25.3 +0.5
OXF Oxford 50.16 94 eP P 14 32 28.6 0.0
comp=Z,80nm,1.0s
OXF Oxford 50.16 94 eP P 14 32 28.6 0.0
OXF pmax pmax
comp=Z,80nm,1.0s
KSRS Korea Array 50.27 274 P P 14 32 30.6 +1.2
comp=Z,1.7nm,0.6s,mb4.2,baz=25,slow=7.7,SNR=12
KSRS Korea Array 50.27 274 P P 14 32 30.6 +1.2
KSRS pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
ZAA0 Zalesovo Array 51.16 318 eP P 14 32 34.2 -1.7
ZALV Zalesovo Beam 51.16 318 P P 14 32 34.7 -1.1
comp=Z,4.8nm,0.6s,mb4.6,baz=22,slow=7.1,SNR=16
ZALV Zalesovo Beam 51.16 318 P P 14 32 34.7 -1.1
ZALV Zalesovo Beam 51.16 318 P P 14 32 34.7 -1.2
FINES FINESS Array B 52.48 358 P P 14 32 46.9 +1.3
comp=Z,1.8nm,0.8s,mb4.1,baz=14,slow=8.5,SNR=4.7
FINES LR LR 14 56 09.6
comp=Z,102nm,18.2s,MS3.9,baz=324,slow=37
FINES FINESS Array B 52.48 358 P P 14 32 46.9 +1.3
FINES LR LR 14 56 09.6
FINES FINESS Array B 52.48 358 P P 14 32 46.9 +1.3
JSC Jenkinsville 53.65 87 P P 14 32 53.5 -1.0
JSC Jenkinsville 53.65 87 P P 14 32 53.5 -1.0
HHC Hu-ho-hao-te 53.78 290 eP P 14 32 53.9 -1.5
HHC PcP PcP 14 34 00.3 -0.9
HHC PP PP 14 34 56.3 +0.3
HHC ScP ScP 14 37 56.8 -1.9
HHC PcS PcS 14 37 58.5 -1.8
HHC S S 14 40 24.8 -4.7
HHC ScS ScS 14 42 39.0 -5.4
HHC SS SS 14 44 03.9 -5.7
HHC pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
HHC pmax pmax
comp=Z,86nm,6.5s
HHC LR LR
comp=N,340nm,16.3s,MS4.6
HHC LR LR
comp=E,280nm,16.6s,MS4.6
HHC LR LR
comp=Z,360nm,16.6s,MS4.5
SVE Sverdlovsk 53.85 335 eP P 14 32 55.8 0.0
ARU Arti 54.58 336 eP P 14 33 00.2 -0.9
comp=Z,9.1nm,0.9s,mb4.8
ARU Arti 54.58 336 dP P 14 33 00.3 -0.7
ARU S S 14 40 40.2 +0.3
ARU SS SS 14 44 21.6 +0.1
ARU pmax pmax
comp=Z,17nm,1.7s,mb4.8
BRVK Borovoye 55.54 327 eP P 14 33 06.0 -2.0
comp=Z,8.1nm,0.8s,mb4.8
BRVK Borovoye 55.54 327⇓ iP P 14 33 06.4 -1.6
BRVK pmax pmax
comp=Z,21nm,2.0s,mb4.8
KURK Kurchatov 55.72 320 P P 14 33 09.6 +0.2
comp=Z,5.2nm,0.8s,mb4.6,baz=26,slow=6.6,SNR=22
KURK LR LR 15 00 44.9
comp=Z,116nm,19.7s,MS4.0,baz=20,slow=40
KURK Kurchatov 55.72 320 eP P 14 33 07.8 -1.5
comp=Z,10nm,0.8s,mb4.9
KURK Kurchatov 55.72 320⇑ iP P 14 33 08.3 -1.1
KURK pmax pmax
comp=Z,25nm,1.8s,mb4.9
MKAR Makanchi Array 58.32 316 P P 14 33 26.2 -1.6
comp=Z,2.3nm,0.8s,mb4.3,baz=29,slow=6.6,SNR=11
MKAR LR LR 14 59 48.7
comp=Z,61nm,20.0s,MS3.7,baz=188,slow=37
MKAR Makanchi Array 58.32 316 P P 14 33 26.2 -1.6
MKAR LR LR 14 59 48.7
MKAR Makanchi Array 58.32 316 P P 14 33 26.2 -1.6
GTA Gaotai 59.35 299 eP P 14 33 37.3 +2.2
GTA pP pP 14 33 41.9 +3.6
GTA sP sP 14 33 44.3 +4.7
GTA S S 14 41 49.4 +6.0
GTA sS sS 14 41 58.1 +9.5
GTA pmax pmax
comp=Z,8.0nm,1.3s,mb4.6
GTA pmax pmax
comp=Z,69nm,4.3s
GTA LR LR
comp=N,320nm,15.6s,MS4.7
GTA LR LR
comp=E,230nm,15.2s,MS4.7
GTA LR LR
comp=Z,450nm,15.2s,MS4.7
WMQ Urumqi 59.42 310 P P 14 33 37.5 +1.9
WMQ pP pP 14 33 42.1 +3.3
WMQ sP sP 14 33 44.5 +4.5
WMQ PP PP 14 35 50.5 +4.3
WMQ S S 14 41 44.3 +0.1
WMQ pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
WMQ pmax pmax
comp=Z,11nm,4.5s
WMQ LR LR
comp=N,270nm,9.0s
WMQ LR LR
comp=E,440nm,6.4s
WMQ LR LR
comp=Z,120nm,15.8s,MS4.1
AKTK Aktyubinsk 60.43 335 P P 14 33 41.9 -0.5
AKTK LR LR 15 05 42.3
AKTO Aktyubinsk 60.43 335 P P 14 33 41.9 -0.5
comp=Z,6.0nm,0.7s,mb4.8,baz=5.8,slow=5.4,SNR=11
AKTO LR LR 15 05 42.3
comp=Z,70nm,18.5s,MS3.8,baz=12,slow=42
AKTO Aktyubinsk 60.43 335 P P 14 33 41.9 -0.5
AKTO pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
LZH Lanzhou 60.85 294 eP P 14 33 42.0 -3.4
LZH pP pP 14 33 46.5 -2.1
LZH sP sP 14 33 49.0 -0.8
LZH pmax pmax
comp=Z,13nm,1.0s,mb5.0
ABKAR Akbulak array 61.23 333 eP P 14 33 47.2 -0.6
comp=Z,7.6nm,0.6s,mb5.0
AKASG Malin Array Be 63.16 355 P P 14 33 59.9 -0.8
comp=Z,0.9nm,0.4s,mb4.2,baz=5.7,slow=6.7,SNR=5.9
AKASG Malin Array Be 63.16 355 P P 14 33 59.9 -0.8
AKASG Malin Array Be 63.16 355 P P 14 33 59.9 -0.8
USP Ospenovka 63.68 320 P P 14 34 04.3 0.0
SNR=5.4
TKM2 Tokmak 2 63.72 319 P P 14 34 05.1 +0.6
SNR=5.9
TKM2 Tokmak 2 63.72 319 eP P 14 34 04.7 +0.1
comp=Z,5.7nm,0.8s,mb4.7
TKM2 Tokmak 2 63.72 319 eP P 14 34 04.7 +0.2
TKM2 pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
KBK Karagaybulak 64.14 319 P P 14 34 07.6 +0.4
SNR=5.9
AAK Ala-Archa 64.28 320 P P 14 34 10.6 +2.4
SNR=6.0
AAK Ala-Archa 64.28 320 LR LR 15 04 51.0
comp=Z,602nm,18.2s,MS4.8,baz=7.1,slow=39
AAK Ala-Archa 64.28 320 eP P 14 34 08.0 -0.2
comp=Z,46nm,1.1s,mb5.4
AAK Ala-Archa 64.28 320 eP P 14 34 08.0 -0.2
AAK pmax pmax
comp=Z,45nm,1.1s,mb5.4
EKS2 Erkin-Say 64.44 320 P P 14 34 09.6 +0.4
SNR=15
EKS2 Erkin-Say 64.44 320 eP P 14 34 09.2 0.0
comp=Z,22nm,1.2s,mb5.1
EKS2 Erkin-Say 64.44 320 eP P 14 34 09.3 +0.1
EKS2 pmax pmax
comp=Z,22nm,1.2s,mb5.1
KKAR Karatay Array 64.83 323 eP P 14 34 10.5 -1.3
comp=Z,1.2nm,0.6s,mb4.1
KKAR Karatay Array 64.83 323 eP P 14 34 10.5 -1.3
KKAR pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
GERES GERESS Array B 64.93 6 P P 14 34 12.9 +0.5
comp=Z,0.3nm,0.7s,mb3.5,baz=330,slow=3.7,SNR=3.5
GERES GERESS Array B 64.93 6 P P 14 34 12.8 +0.5
GERES GERESS Array B 64.93 6 P P 14 34 12.9 +0.5
AML Almayashu 64.95 320 P P 14 34 13.5 +0.9
SNR=7.1
CD2 Chengdu 65.50 291 P P 14 34 16.4 +0.1
CD2 pP pP 14 34 21.1 +1.5
CD2 sP sP 14 34 23.4 +2.6
CD2 PP PP 14 36 42.5 +2.5
CD2 S S 14 42 58.6 -2.3
CD2 sS sS 14 43 05.5 -0.7
CD2 SS SS 14 47 13.5 -0.1
CD2 pmax pmax
comp=Z,20nm,0.5s,mb5.4
CD2 pmax pmax
comp=Z,80nm,4.9s
CD2 LR LR
comp=N,700nm,12.5s
CD2 LR LR
comp=Z,630nm,12.5s,MS5.0
KSH Kashi 66.80 317 eP P 14 34 29.8 +5.3
KSH pP pP 14 34 34.5 +6.7
KSH sP sP 14 34 36.8 +7.8
KSH PcP PcP 14 34 56.5 +3.2
KSH PP PP 14 37 01.3 +10
KSH ScP 14 38 58.3
KSH PcS 14 38 59.9
KSH S S 14 43 25.8 +9.4
KSH sS sS 14 43 33.8 +12
KSH ScS ScS 14 44 24.3 +2.9
KSH SS SS 14 47 48.8 +15
KSH pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
KSH pmax pmax
comp=Z,37nm,4.3s
KSH LR LR
comp=N,50nm,4.9s
KSH LR LR
comp=E,56nm,4.2s
KSH LR LR
comp=Z,95nm,4.7s
GYA Guiyang 68.38 286 P P 14 34 31.8 -2.9
GYA PP PP 14 37 03.5 -1.7
GYA ScP 14 39 01.3
GYA S S 14 43 35.0 -0.8
GYA SKS 14 44 25.9
GYA SS SS 14 47 53.0 -5.5
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
GYA pmax pmax
comp=Z,110nm,5.0s
GYA LR LR
comp=N,460nm,19.6s,MS4.8
GYA LR LR
comp=E,310nm,20.2s,MS4.8
GYA LR LR
comp=Z,420nm,18.9s,MS4.7
KIV Kislovodsk 68.93 345⇑ eP P 14 34 37.9 0.0
KIV pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
KMI Kunming 71.09 289 P P 14 34 49.8 -1.6
KMI pP pP 14 34 51.6 -3.1
KMI S S 14 44 03.3 -4.4
KMI SS SS 14 48 35.6 -4.7
KMI pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
KMI pmax pmax
comp=Z,80nm,4.0s
KMI LR LR
comp=N,330nm,14.2s,MS5.0
KMI LR LR
comp=E,470nm,16.5s,MS5.0
KMI LR LR
comp=Z,150nm,15.8s,MS4.3
LSA Lhasa 71.15 301 eP P 14 34 54.6 +2.9
comp=Z,4.9nm,0.8s,mb4.5
LSA Lhasa 71.15 301 eP P 14 34 54.6 +2.8
LSA pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ESDC Sonseca Array 72.34 21 P P 14 35 01.7 +3.0
comp=Z,1.6nm,0.7s,mb4.1,baz=349,slow=5.8,SNR=9.3
ESDC LR LR 15 10 35.6
comp=Z,54nm,18.2s,MS3.9,baz=335,slow=39
ESDC Sonseca Array 72.34 21 P P 14 35 01.7 +3.0
ESDC LR LR 15 10 35.5
BRTR Keskin Array B 73.90 351 P P 14 35 09.2 +1.3
comp=Z,0.7nm,0.6s,mb3.8,baz=46,slow=3.6,SNR=4.4
BRTR Keskin Array B 73.90 351 P P 14 35 09.2 +1.3
BRTR Keskin Array B 73.90 351 P P 14 35 09.3 +1.3
CM31 Chiang Mai Arr 78.59 290 eP P 14 35 35.9 +1.1
comp=Z,1.8nm,0.6s,mb4.2
CMAR Chiang Mai Arr 78.59 290 P P 14 35 34.5 -0.3
comp=Z,2.4nm,0.7s,mb4.2,baz=5.3,slow=6.1,SNR=24
CMAR Chiang Mai Arr 78.59 290 P P 14 35 34.5 -0.3
CMAR Chiang Mai Arr 78.59 290 P P 14 35 34.6 -0.3
PPT Papeete 83.88 172 eLR LR 15 02 29.2
comp=Z,64nm,21.2s
TBI Tubuai 89.63 173 eLR LR 15 05 08.3
comp=Z,52nm,22.2s
DZM Mont Dzumac 92.27 213 eLR LR 15 06 21.4
comp=Z,189nm,31.9s
WB2 Warramunga Arr 99.75 242 eP Pdif 14 37 18.3 +0.7
WRA Warramunga Arr 99.76 242 P Pdif 14 37 18.6 +1.0
comp=Z,0.5nm,0.6s,baz=23,slow=5.4,SNR=9.9

WRA	**Warramunga Arr**	**99.76**	**242**	P	Pdif	14 37 18.6	+1.0
WRA	**Warramunga Arr**	**99.76**	**242**	P	Pdif	14 37 18.6	+1.0
SBA	**Scott Base**	**145.59**	**193**	*e*PKPdf	PKPdf	14 43 10.1	+0.5
SBA	**Scott Base**	**145.59**	**193**	*e*PKIKP	PKPdf	14 43 10.1	+0.6

*IDC **15** 15:16:54.7±1.5,23˚.39S×66˚.51W,h194km±16km,mb3.9/5, mb1 3.8/9,mb1mx3.6/20,mbtmp3.8/9,Error ellipse: s-maj=24.3km s-min=14.2km az=80.0*

*ISCJB **15** 15:16:55.0±0.7,23˚.44S±0˚.05×66˚.57W±0˚.09, h216km±10km,mb4.0/5,Error ellipse: s-maj=13.4km s-min=8.1km az=167.8*

*NEIC **15** 15:16:56.0±0.9,23˚.40S×66˚.52W,h211km±12km,mb4.4/2, Error ellipse: s-maj=15.8km s-min=11.5km az=66.0*

*GUC **15** 15:16:57.2±0.4,23˚.08S×66˚.94W,h245km,ML4.9*

ISC 15 15:16:55.9±0.7,23˚.39S±0˚.06×66˚.55W±0˚.09, h208km±10km,n33,σ0893/37,mb4.0/5,2C-2D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MACH	**Maria Elena**	**3.19**	**291**	⇑*iP*		**Pn**	**15 17 49.1**	**+0.9**
MACH				*i* S		**Sn**	**15 18 28.3**	**-0.9**
ANCH	**Antofagasta**	**3.56**	**264**	⇓*iP*		**Pn**	**15 17 54.1**	**+1.5**
ANCH				S		**Sn**	**15 18 36.4**	**-0.7**
ANCH	**Antofagasta**	**3.56**	**264**	⇓*iP*		**Pn**	**15 17 54.1**	**+1.5**
ANCH				*i* S		**Sn**	**15 18 36.4**	**-0.7**
ANCH				AML	AML		15 18 38.0	
	comp=E,1μm,0.3s							
MECH	**Mejillones**	**3.60**	**274**	⇑*iP*		**Pn**	**15 17 54.4**	**+1.3**
MECH				*i* S		**Sn**	**15 18 37.3**	**-0.7**
MECH				AML	AML		15 18 43.7	
	comp=N,1μm,0.4s							
LCO	**Las Campanas**	**6.73**	**213**	*e*P		**Pn**	**15 18 31.4**	**-1.3**
	comp=N,17nm,0.3s							
LCO				*e*S		**Sn**	**15 19 38.6**	**-11**
LPAZ	**La Paz**	**7.22**	**348**	P		**Pn**	**15 18 39.9**	**+0.8**
	comp=N,3.3nm,0.3s,baz=155,slow=7.2,SNR=81							
LPAZ				S		**Sn**	**15 19 58.6**	**-2.6**
	comp=N,1.2nm,0.3s,baz=314,slow=20,SNR=6.6							
LPAZ	**La Paz**	**7.22**	**348**	*e*Pn		**Pn**	**15 18 39.4**	**+0.3**
LPAZ				*e*S		**Sn**	**15 19 55.1**	**-6.1**
LPAZ				S		**Sn**	**15 19 58.6**	**-2.6**
CFAA	**Coronel Fontan**	**8.32**	**190**	P		**Pn**	**15 18 53.7**	**+0.4**
	comp=N,0.8nm,0.3s,baz=358,slow=12,SNR=53							
CFAA				S		**Sn**	**15 20 21.8**	**-5.3**
	comp=N,0.9nm,0.3s,baz=246,slow=12,SNR=9.9							
CFAA	**Coronel Fontan**	**8.32**	**190**	P		**Pn**	**15 18 53.7**	**+0.4**
CFAA				S		**Sn**	**15 20 21.8**	**-5.3**
CPUP	**Villa Florida**	**8.87**	**111**	P		**Pn**	**15 19 00.3**	**-0.2**
	comp=N,0.9nm,0.3s,baz=272,slow=12,SNR=20							
CPUP	**Villa Florida**	**8.87**	**111**	P		**Pn**	**15 19 00.3**	**-0.1**
CPUP				*e*			15 19 13.3	
NNA	**Nana**	**14.98**	**317**	P		**Pn**	**15 20 18.8**	**+1.1**
	comp=N,1.4nm,0.3s,baz=205,slow=13,SNR=3.9							
NNA	**Nana**	**14.98**	**317**	Pn		**Pn**	**15 20 18.2**	**+0.5**
TRQA	**Tornquist**	**15.14**	**166**	*e*P		**Pn**	**15 20 19.6**	**+0.2**
	comp=N,5.5nm,0.6s							
RCBR	**Riachuelo**	**34.28**	**64**	P		**P**	**15 23 23.1**	**+0.4**
	comp=N,13nm,1.0s,mb4.4,baz=228,slow=23,SNR=6.9							
RCBR	**Riachuelo**	**34.28**	**64**	P		**P**	**15 23 23.1**	**+0.4**
VNA3	**Neumayer Olymp**	**57.60**	**161**	*e*		**P**	**15 26 23.2**	**-0.5**
VNA1	**Neumayer--Stat**	**57.78**	**160**	*e*		**P**	**15 26 26.1**	**+1.1**
VNA2	**Neumayer--Watz**	**58.16**	**161**	*e*		**P**	**15 26 26.9**	**-0.7**
	baz=288,slow=8.1							
DBIC	**Dimbokro**	**67.21**	**72**	P		**P**	**15 27 26.6**	**-1.7**
	comp=N,1.8nm,0.5s,mb4.0,baz=237,slow=12,SNR=5.8							
DBIC	**Dimbokro**	**67.21**	**72**	P		**P**	**15 27 26.6**	**-1.7**
TORD	**Torodi Ar. Bea**	**75.96**	**69**	P		**P**	**15 28 19.8**	**-0.6**
	comp=N,2.9nm,0.4s,mb4.2,baz=259,slow=6.1,SNR=29							
TORD	**Torodi Ar. Bea**	**75.96**	**69**	P		**P**	**15 28 19.8**	**-0.6**
MDT	**Midelt**	**81.31**	**49**	P		**P**	**15 28 49.8**	**+0.6**
	comp=N,1.2nm,0.8s,mb3.6,baz=233,slow=7.2,SNR=3.8							
MDT	**Midelt**	**81.31**	**49**	P		**P**	**15 28 49.8**	**+0.6**
YKA	**Yellowknife Ar**	**93.69**	**340**	P		**P**	**15 29 48.4**	**+0.1**
	comp=N,0.6nm,0.6s,mb3.8,baz=144,slow=9.2,SNR=3.5							
YKA	**Yellowknife Ar**	**93.69**	**340**	P		**P**	**15 29 48.4**	**+0.1**
ZALV	**Zalesovo Beam**	**142.66**	**28**	PKhKP		PKPpre	15 36 00.9	
	comp=N,0.4nm,0.5s,baz=285,slow=7.1,SNR=2.1							
ZALV	**Zalesovo Beam**	**142.66**	**28**	PKP		PKPpre	15 36 00.9	
MK31	**Makanchi Array**	**145.79**	**39**	*e*PKPdf		PKPdf	15 36 11.1	+1.6
MKAR	**Makanchi Array**	**145.79**	**39**	PKPbc		PKPbc	15 36 11.3	+0.8
	comp=N,1.2nm,0.7s,baz=334,slow=2.7,SNR=16							
MKAR	**Makanchi Array**	**145.79**	**39**	PKPbc		PKPbc	15 36 11.3	+0.8
CMAR	**Chiang Mai Arr**	**165.59**	**107**	PKPab		PKPab	15 37 37.0	+0.7
	comp=N,1.0nm,0.7s,baz=250,slow=5.9,SNR=7.2							

*ISCJB **15** 15:18:16.9±0.6,37˚.24N±0˚.04×28˚.19E±0˚.05,h0km±13km, Error ellipse: s-maj=9.0km s-min=4.8km az=40.4*

*ISK **15** 15:18:16.7,37˚.23N×28˚.17E,h6km,MD2.8*

*CSEM **15** 15:18:17.0±0.2,37˚.24N×28˚.18E,h2km,MD2.8,Error ellipse: s-maj=4.6km s-min=3.5km az=36.0*

*DDA **15** 15:18:17.1,37˚.24N×28˚.17E,h7km±3km,Md2.8,Ml3.0*

ISC 15 15:18:17.3±0.5,37˚.24N±0˚.04×28˚.19E±0˚.05,h3km±12km, n22,σ0870/28,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YER	**Yerkesik**	**0.13**	**144**	*e*PG		**Pg**	**15 18 19.4**	**-0.4**
YER	**Yerkesik**	**0.13**	**144**	*e*Pg		**Pg**	**15 18 19.4**	**-0.4**
MLSB	**Milas**	**0.33**	**280**	*e*PG		**Pg**	**15 18 23.4**	**-0.3**
MLSB				*e*SG		**Sg**	**15 18 29.1**	**+1.0**
MLSB	**Milas**	**0.33**	**280**	*e*Pg		**Pg**	**15 18 23.4**	**-0.3**
MLSB				*e*Sg		**Sg**	**15 18 29.1**	**+1.0**
AYDN	**Tasoluk**	**0.49**	**330**	*i* P		**Pg**	**15 18 26.8**	**+0.1**
AYDN				*i* S		**Sg**	**15 18 33.8**	**+0.8**
AYDN	**Tasoluk**	**0.49**	**330**	*i* P		**Pg**	**15 18 26.8**	**+0.1**
AYDN				*i* S		**Sg**	**15 18 33.8**	**+0.8**
TURN	**Turunc**	**0.49**	**138**	*i* P		**Pg**	**15 18 25.7**	**-1.0**
TURN				*i* S		**Sg**	**15 18 34.2**	**+1.1**
TURN	**Turunc**	**0.49**	**138**	*i* P		**Pg**	**15 18 25.7**	**-1.0**
TURN				*i* S		**Sg**	**15 18 34.2**	**+1.1**
DAT	**Datca**	**0.70**	**224**	*e*PG		**Pg**	**15 18 30.6**	**-0.2**
DAT	**Datca**	**0.70**	**224**	*e*Pg		**Pg**	**15 18 30.6**	**-0.2**
BODT	**Bodrum**	**0.72**	**256**	*e*PG		**Pg**	**15 18 30.1**	**-1.1**
BODT	**Bodrum**	**0.72**	**256**	*e*Pg		**Pg**	**15 18 30.1**	**-1.1**
DNZL	**Cakiroluk**	**0.82**	**56**	*i* P		**Pg**	**15 18 32.8**	**-0.2**
DNZL	**Cakiroluk**	**0.82**	**56**	*i* P		**Pg**	**15 18 32.8**	**-0.2**
FETY	**Fethiye**	**0.94**	**130**	*e*PG		**Pg**	**15 18 35.8**	**+0.6**
FETY	**Fethiye**	**0.94**	**130**	*e*Pg		**Pg**	**15 18 35.8**	**+0.6**
MANT	**Manisa**	**1.28**	**13**	*i* P		**Pg**	**15 18 41.5**	**-0.5**
MANT	**Manisa**	**1.28**	**13**	*i* P		**Pg**	**15 18 41.5**	**-0.4**
KULA	**Kula-Manisa**	**1.33**	**16**	*e*PN		**Pn**	**15 18 42.0**	**-0.7**
KULA	**Kula-Manisa**	**1.33**	**16**	*e*Pn		**Pn**	**15 18 42.0**	**-0.7**
ELL	**Elmali**	**1.46**	**109**	*e*PN		**Pn**	**15 18 45.3**	**+0.8**
ELL	**Elmali**	**1.46**	**109**	*e*Pn		**Pn**	**15 18 45.3**	**+0.8**

*IDC **15** 15:20:38.7±4.9,30˚.16N×66˚.32E,h0km,mb3.7/6, mb1 3.9/6,mb1mx3.5/28,mbtmp3.7/6,MS4.1/2,Ms1 4.1/2, ms1mx3.2/28,Error ellipse: s-maj=112.1km s-min=31.1km az=80.0*

*NEIC **15** 15:20:44.8±2.0,30˚.43N×67˚.20E,h10km,mb3.8/4,Error ellipse: s-maj=37.7km s-min=14.7km az=67.0*

*ISCJB **15** 15:20:45.4±1.5,30˚.6N±0˚.1×67˚.8E±0˚.2,h10km,mb3.8/6, MS4.1/2,Error ellipse: s-maj=24.9km s-min=8.1km az=145.8*

ISC 15 15:20:46.5±1.6,30˚.5N±0˚.1×67˚.7E±0˚.2,h10km,n38, σ1863/35,mb3.8/6,MS4.1/2,1C-1D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KBL	**Kabul**	**4.16**	**16**	*e*Pn		**Pn**	**15 21 52.1**	**+2.0**
KSH	**Kashi**	**11.24**	**35**	*e*P		**Pn**	**15 23 25.8**	**-1.4**
KSH				pP			15 23 32.8	
KSH				sP			15 23 37.8	
KSH				S	Sn		15 25 07.3	-26
KSH				sS			15 25 18.0	
KSH				pmax	pmax			
	comp=Z,110nm,4.3s							
KSH				LR	LR			
	comp=N,2μm,11.0s							
KSH				LR	LR			
	comp=E,2μm,9.1s							
KSH				LR	LR			
	comp=Z,4μm,14.2s							
KK31	**Karatay Array**	**12.75**	**9**	⇓Pn		**Pn**	**15 23 51.0**	**+3.1**
	comp=Z,0.9nm,0.5s,baz=186,slow=16,SNR=6.5							
KKAR	**Karatay Array**	**12.75**	**9**	*e*Pn		**Pn**	**15 23 48.1**	**+0.3**
	comp=Z,4.3nm,0.4s							
EKS2	**Erkin-Say**	**13.06**	**20**	*e*Pn		**Pn**	**15 23 49.4**	**-2.5**
	comp=Z,13nm,0.5s							
AAK	**Ala-Archa**	**13.26**	**22**	*e*Pn		**Pn**	**15 23 54.9**	**+0.2**
	comp=Z,95nm,0.8s							
TKM2	**Tokmak 2**	**13.89**	**25**	⇑Pn		**Pn**	**15 23 59.6**	**-3.8**
	comp=Z,2.7nm,0.3s							
TKM2	**Tokmak 2**	**13.89**	**25**	*e*Pn		**Pn**	**15 23 59.4**	**-4.0**
	comp=Z,40nm,0.6s							
DANN	**Dangsing**	**14.17**	**95**	*e*P		**Pn**	**15 24 06.5**	**-0.8**
GKN	**Gorkha**	**15.01**	**95**	*e*P		**Pn**	**15 24 16.6**	**-2.1**
KKN	**Kakani**	**15.61**	**96**	*e*P		**Pn**	**15 24 24.3**	**-2.3**
PKIN	**Phulchoki**	**15.76**	**96**	*e*P		**Pn**	**15 24 27.8**	**-0.8**
	comp=Z,7.3nm,0.6s							
GUN	**Gumba**	**16.10**	**95**	*e*P		**Pn**	**15 24 29.1**	**-3.8**
RAMN	**Ramite**	**16.96**	**97**	*e*P		**Pn**	**15 24 44.6**	**+0.7**
	comp=Z,20nm,0.5s							
ODAN	**Odare**	**17.67**	**97**	*e*P		**Pn**	**15 24 53.5**	**+0.8**
	comp=Z,8.9nm,0.7s							
TAPN	**Taplejung**	**17.81**	**95**	*e*P		**Pn**	**15 24 54.3**	**-0.2**
ABKAR	**Akbulak array**	**19.61**	**345**	*e*P		**Pn**	**15 25 13.9**	**-2.2**
	comp=Z,1.1nm,0.6s							
MK31	**Makanchi Array**	**19.79**	**31**	*e*P		**Pn**	**15 25 19.9**	**+1.6**
MKAR	**Makanchi Array**	**19.79**	**31**	P		**Pn**	**15 25 19.9**	**+1.6**
	comp=Z,2.3nm,0.7s,baz=209,slow=10.0,SNR=10							
MKAR	**Makanchi Array**	**19.79**	**31**	P		**Pn**	**15 25 19.9**	**+1.6**
BHD	**Baghdad**	**19.97**	**284**	*ex*		x	15 25 12.0	
BHD				*ex*		x	15 28 31.0	
BHD				*ex*		x	15 29 22.0	
LSA	**Lhasa**	**20.31**	**86**	*e*P		**P**	**15 25 25.7**	**+3.1**
	comp=Z,4.6nm,0.8s							
KURK	**Kurchatov**	**21.76**	**19**	P		**P**	**15 25 38.3**	**+0.2**
	comp=Z,2.2nm,0.6s,mb3.7,baz=210,slow=9.1,SNR=15							
KURK	**Kurchatov**	**21.76**	**19**	*e*P		**P**	**15 25 36.4**	**-1.7**
	comp=Z,4.0nm,1.1s,mb3.8							
BRVK	**Borovoye**	**22.59**	**4**	P		**P**	**15 25 45.3**	**-1.6**
ZAA0	**Zalesovo Array**	**26.48**	**23**	*e*P		**P**	**15 26 26.7**	**+3.0**
ZALV	**Zalesovo Beam**	**26.48**	**23**	P		**P**	**15 26 24.7**	**+1.0**
	comp=Z,2.9nm,0.5s,mb4.1,baz=219,slow=10,SNR=16							
ZALV	**Zalesovo Beam**	**26.48**	**23**	P		**P**	**15 26 24.7**	**+1.0**
BRTR	**Keskin Array B**	**29.18**	**298**	LR		LR	15 38 53.8	
	comp=Z,244nm,20.5s,MS3.8,baz=272,slow=39							
CHTO	**Chiang Mai**	**30.60**	**105**	P		**P**	**15 27 02.6**	**+1.8**
	comp=Z,6.9nm,1.4s,mb4.3							
CMAR	**Chiang Mai Arr**	**30.77**	**106**	P		**P**	**15 27 04.7**	**+2.4**
	comp=Z,0.3nm,0.5s,mb3.4,baz=293,slow=9.8,SNR=2.5							
CMAR	**Chiang Mai Arr**	**30.77**	**106**	P		**P**	**15 27 04.7**	**+2.4**
SONM	**Songino Array**	**34.19**	**49**	P		**P**	**15 27 36.7**	**+4.8**
	comp=Z,1.2nm,1.3s,mb3.7,baz=248,slow=14,SNR=4.2							
SONM	**Songino Array**	**34.19**	**49**	P		**P**	**15 27 36.7**	**+4.8**
KEV	**Kevo**	**45.45**	**341**	*ep*		**P**	**15 28 59.3**	**-5.9**
BOSA	**Boshof**	**71.39**	**219**	LR		LR	16 02 11.1	
	comp=Z,208nm,18.9s,MS4.4,baz=346,slow=35							
WRA	**Warramunga Arr**	**81.35**	**119**	P		**P**	**15 33 02.2**	**-1.3**
	comp=Z,0.5nm,1.0s,mb3.4,baz=306,slow=8.4,SNR=2.3							
WRA	**Warramunga Arr**	**81.35**	**119**	P		**P**	**15 33 02.2**	**-1.3**

*BJI **15** 15:21:06.5,30˚.56N×66˚.70E,h35km,mB4.8/23,mb4.5/34, Ms4.7/31,Ms7 4.4/28*

*ISCJB **15** 15:21:07.6±0.9,30˚.46N±0˚.03×67˚.61E±0˚.02,h9km±6km, mb4.5/80,MS4.3/18,Error ellipse: s-maj=5.2km s-min=3.0km az=15.7*

*IDC **15** 15:21:09.1±0.7,30˚.58N×67˚.45E,h0km,mb4.2/23, mb1 4.4/24,mb1mx4.3/32,mbtmp4.2/24,ML4.4/1,MS4.0/4, Ms1 4.0/4,ms1mx3.4/22,Error ellipse: s-maj=20.1km s-min=13.0km az=18.0*

*GCMT **15** 15:21:11.5±0.3,30˚.31N×67˚.56E,h20km±1km,MW4.8, Moment Tensor Solution. s23,c31; s63,c94; Moment tensor: Scale 10^{16}Nm; M_{rr}-0.57±.10; $M_{\theta\theta}$-1.65±.08; $M_{\phi\phi}$2.22±.09; $M_{r\theta}$-0.44±.19; $M_{\theta\phi}$-1.20±.07; $M_{\phi r}$-0.02±.16; Best double couple: $M_0$2.30000×10^{16} NP1:φ28.00000°, δ78.00000°,λ-10.00000°. NP2:φ120.00000°,δ80.00000°, λ-167.00000°. Principal axes: T 2.5700, Plg2.0000°, Azm254.0000°; N -0.4500, Plg74.0000°, Azm157.0000°; P -2.1100, Plg16.0000°, Azm344.0000°; Data Used: II IU IC G CN.*

*NEIC **15** 15:21:13.1±3.3,30˚.66N×67˚.55E,h26km±23km,mb4.5/25 Error ellipse: s-maj=10.3km s-min=6.4km az=190.0*

*MOS **15** 15:21:13.0±1.2,30˚.70N×67˚.61E,h37km,mb4.7/41, MS4.5/4,Error ellipse: s-maj=8.6km s-min=5.4km az=92.5*

ISC 15 15:21:10.0±1.1,30˚.49N±0˚.03×67˚.57E±0˚.02,h11km±7km, h34km±1.2km:pP-P,n231,σ1821/254,mb4.5/80,MS4.3/18, 5C-5D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KBL	**Kabul**	**4.22**	**17**	*e*Pn		**Pn**	**15 22 15.3**	**+1.0**
KBL	**Kabul**	**4.22**	**17**	*e*P		**Pn**	**15 22 15.3**	**+1.0**
THW	**Thamme Wali**	**4.23**	**56**	P		**Pn**	**15 22 16.3**	**+1.9**
CEP	**Cherat**	**4.96**	**47**	P		**Pn**	**15 22 26.4**	**+2.1**
CEP				S		**Sn**	**15 23 16.0**	**-5.6**
CHCP	**Chirah Chowk**	**5.77**	**55**	P		**Pn**	**15 22 38.0**	**+2.5**
AJM	**Ajmer**	**7.40**	**121**	*e*PKP		**Pn**	**15 22 57.0**	**-0.9**
AJM				*e*S		**Sn**	**15 24 20.0**	**-1.8**
BHJ	**Bhuj**	**7.45**	**165**	*e*S		**Sn**	**15 24 21.2**	**-1.7**
BHJ				*e*S		**Sn**	**15 24 22.6**	**-0.4**
KHET	**Khetri**	**7.58**	**106**	*e*PKP		**Pn**	**15 22 59.2**	**-1.3**
KHET				*e*S		**Sn**	**15 24 17.9**	**-8.5**
BHK	**Bhakra**	**7.65**	**81**	*e*PKP		**Pn**	**15 23 02.3**	**+0.9**
KUDL	**Kundal**	**8.13**	**105**	*e*PKP		**Pn**	**15 23 07.7**	**-0.3**
KUDL				*e*S		**Sn**	**15 24 36.0**	**-3.8**
SDNR	**Sundarnagar**	**8.13**	**81**	*e*PKP		**Pn**	**15 23 09.0**	**+1.0**
SDNR				*e*S		**Sn**	**15 24 32.0**	**-7.8**
SMLA	**Simla**	**8.28**	**83**	*i* P		**Pn**	**15 23 11.4**	**+1.5**
SMLA				*i* x		**Sn**	**15 24 43.3**	**-0.1**
SMLA				AML	AML		15 24 46.0	
	comp=N,2μm,0.3s							
SMLA				⇓AML	AML		15 24 46.5	
	comp=E,2μm,0.3s							
AYAN	**Aya Nagar**	**8.57**	**101**	*e*PKP		**Pn**	**15 23 13.8**	**-0.2**
AYAN				*e*S		**Sn**	**15 24 45.3**	**-5.2**
NDI	**New Delhi**	**8.59**	**100**	*e*PKP		**Pn**	**15 23 14.5**	**+0.2**
NDI				*e*S		**Sn**	**15 24 45.3**	**-5.8**
NDI				*e*S		**Sn**	**15 24 46.0**	**-5.1**
NDI				AML	AML		15 26 05.1	
	comp=E,34nm,0.4s							
NDI				AML	AML		15 26 08.8	
	comp=N,30nm,0.5s							
SONA	**Sohna**	**8.60**	**103**	*e*PKP		**Pn**	**15 23 15.7**	**+1.3**
SONA				*e*S		**Sn**	**15 24 46.1**	**-5.2**
DDI	**Dehra Dun**	**9.06**	**88**	*e*PKP		**Pn**	**15 23 21.0**	**+0.3**
DDI				*ex*		**Sn**	**15 25 04.0**	**+1.4**
AGRA	**Agra**	**9.66**	**107**	*e*PKP		**Pn**	**15 23 29.6**	**+0.7**
AGRA				*ex*		**Sn**	**15 25 18.2**	**+0.9**
AGRA				AML	AML		15 25 45.8	
	comp=E,74nm,0.6s							
AGRA				AML	AML		15 25 46.9	
	comp=N,49nm,0.4s							
BHPL	**Bhopal**	**11.38**	**127**	*e*PKP		**Pn**	**15 23 52.6**	**+0.1**
BHPL				*e*S		**Sn**	**15 25 54.0**	**-5.5**
ASHO	**Ashiyiah**	**11.73**	**243**	P		**Pn**	**15 23 57.6**	**+0.3**
	SNR=5.8							
ARQ	**Araqi**	**12.16**	**237**	P		**Pn**	**15 24 03.8**	**+0.7**
	SNR=8.1							
KK31	**Karatay Array**	**12.80**	**10**	Sn		**Pn**	**15 24 13.8**	**+1.9**
	comp=N,3.3nm,0.5s,baz=180,slow=15,SNR=13							
KKAR	**Karatay Array**	**12.80**	**10**	*e*Pn		**Pn**	**15 24 12.1**	**+0.2**
KKAR	**Karatay Array**	**12.80**	**10**	*e*P		**Pn**	**15 24 12.1**	**+0.2**
EKS2	**Erkin-Say**	**13.12**	**21**	*e*Pn		**Pn**	**15 24 13.9**	**-2.4**
EKS2	**Erkin-Say**	**13.12**	**21**	*e*P		**Pn**	**15 24 13.9**	**-2.4**
AAK	**Ala-Archa**	**13.33**	**23**	*e*Pn		**Pn**	**15 24 18.9**	**-0.1**
	comp=N,105nm,0.8s							
AAK	**Ala-Archa**	**13.33**	**23**	*e*P		**Pn**	**15 24 18.9**	**-0.1**
AAK				pmax	pmax			
	comp=Z,105nm,0.8s							
FRU	**Bishkek**	**13.54**	**23**	*e*P		**Pn**	**15 24 21.0**	**-1.0**
FRU				*e*S		**Sn**	**15 26 52.0**	**-0.5**
FRU				pmax	pmax			
	comp=Z,120nm,2.0s							
FRU				smax				
	comp=N,120nm,2.0s							
TKM2	**Tokmak 2**	**13.96**	**25**	*e*Pn		**Pn**	**15 24 27.4**	**-0.3**
TKM2	**Tokmak 2**	**13.96**	**25**	*e*P		**Pn**	**15 24 27.4**	**-0.3**
TKM2	**Tokmak 2**	**13.96**	**25**	⇓Sn		**Pn**	**15 24 27.5**	**-0.2**
	comp=N,30nm,0.4s							
KOLN	**Koldanda**	**14.27**	**97**	*e*P		**Pn**	**15 24 29.9**	**-2.1**
	comp=N,98nm,0.8s							
DANN	**Dangsing**	**14.27**	**95**	*e*P		**Pn**	**15 24 29.7**	**-2.3**
	comp=N,120nm,0.7s							
GKN	**Gorkha**	**15.10**	**95**	*e*P		**Pn**	**15 24 40.0**	**-3.3**
	comp=N,60nm,0.6s							
DMN	**Daman**	**15.60**	**96**	*e*P		**Pn**	**15 24 47.6**	**-2.3**
KKN	**Kakani**	**15.71**	**95**	*e*P		**Pn**	**15 24 47.9**	**-3.3**
	comp=N,66nm,0.6s							
PKIN	**Phulchoki**	**15.86**	**96**	*e*P		**Pn**	**15 24 50.9**	**-2.3**
PKI	**Pulchoki**	**15.87**	**96**	*e*P		**Pn**	**15 24 50.1**	**-3.3**
GUN	**Gumba**	**16.19**	**95**	*e*P		**Pn**	**15 24 54.3**	**-3.2**
	comp=N,453nm,1.0s							
HYB	**Hyderabad**	**16.42**	**140**	*i* P		**Pn**	**15 25 05.0**	**+4.5**
HYB				*e*S		**Sn**	**15 28 07.5**	**+4.8**
HYB				*e*			15 28 16.0	
RAMN	**Ramite**	**17.06**	**97**	*e*P		**Pn**	**15 25 06.4**	**-2.1**
	comp=N,108nm,0.7s							
QRN	**Al-Qurain**	**17.18**	**269**	*e*P		**Pn**	**15 25 08.2**	**-1.8**
QRN				AMb	AMB	AMB	15 25 16.0	
	comp=Z,94nm,1.3s							
MIB	**Mutribah**	**17.52**	**273**	*e*P		**Pn**	**15 25 12.1**	**-2.0**
MIB				AMb	AMB	AMB	15 25 21.8	
	comp=Z,75nm,0.8s							
NAY	**Al-Naaiem**	**17.68**	**271**	*e*P		**Pn**	**15 25 14.1**	**-2.1**
NAY				AMb	AMB	AMB	15 25 23.3	
	comp=Z,39nm,1.1s							
ODAN	**Odare**	**17.76**	**97**	*e*P		**Pn**	**15 25 15.9**	**-1.4**
	comp=Z,193nm,1.1s							
TAPN	**Taplejung**	**17.91**	**95**	*e*P		**Pn**	**15 25 17.3**	**-1.7**
AB31	**Akbulak array**	**19.61**	**345**	*ce*P		**Pn**	**15 25 38.8**	**-0.8**
AB31				pmax	pmax			
	comp=Z,13nm,0.7s							
ABKAR	**Akbulak array**	**19.61**	**345**	*e*P		**Pn**	**15 25 38.8**	**-0.7**
	comp=Z,11nm,0.7s							
MK31	**Makanchi Array**	**19.87**	**31**	*e*Pn		**Pn**	**15 25 39.9**	**-2.8**
MK31	**Makanchi Array**	**19.87**	**31**	*i* P		**Pn**	**15 25 40.0**	**-2.7**
MK31				pmax	pmax			
	comp=Z,8.0nm,0.5s							
MKAR	**Makanchi Array**	**19.87**	**31**	P		**Pn**	**15 25 41.1**	**-1.5**
	comp=Z,1.1nm,0.3s,baz=210,slow=11,SNR=15							
MKAR	**Makanchi Array**	**19.87**	**31**	P		**Pn**	**15 25 41.1**	**-1.5**
MKAR	**Makanchi Array**	**19.87**	**31**	P		**Pn**	**15 25 41.2**	**-1.5**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
CAL	**Calcutta**	**20.17**	**108**	*ex*		x	15 29 39.1	
CAL				*ex*		x	15 31 10.7	
MAK	**Makhachkala**	**20.27**	**313**	*e*P		**P**	**15 25 49.3**	**+3.8**
MAK				*e*S		**S**	**15 29 32.2**	**-0.5**
MAK				pmax	pmax			
	comp=Z,70nm,0.7s							
LSA	**Lhasa**	**20.41**	**86**	P		**P**	**15 25 48.0**	**+0.9**
LSA				S		**S**	**15 29 34.5**	**-1.1**
LSA				pmax	pmax			
	comp=Z,20nm,1.0s							
LSA				pmax	pmax			
	comp=Z,320nm,3.0s							
LSA				LR	LR			
	comp=E,1μm,12.0s							
LSA				LR	LR			
	comp=Z,950nm,11.0s,MS4.4							
LSA	**Lhasa**	**20.41**	**86**	*e*P		**P**	**15 25 50.1**	**+3.0**
	comp=Z,48nm,1.0s							
LSA	**Lhasa**	**20.41**	**86**	*e*P		**P**	**15 25 50.1**	**+3.0**
LSA				pmax	pmax			
	comp=Z,48nm,1.0s							
WMQ	**Urumqi**	**20.77**	**45**	P		**P**	**15 25 54.0**	**+3.2**
WMQ				pP			15 26 02.9	
WMQ				sP		sP	15 26 07.3	+12
WMQ				PP			15 26 15.8	
WMQ				S		**S**	**15 29 37.5**	**-5.0**
WMQ				pmax	p

BR131 Keskin Array S 29.11 298 *e*P **P** **15 27 09.3 -1.4**
comp=Z,1.6nm,0.8s,mb3.8
BRTR Keskin Array B 29.11 298 P **P** **15 27 11.2 +0.5**
comp=Z,0.6nm,0.6s,mb3.5,baz=108,slow=8.2,SNR=4.6
BRTR Keskin Array B 29.11 298 P **P** **15 27 11.2 +0.5**
BRTR Keskin Array B 29.11 298 P **P** **15 27 11.2 +0.5**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
ATD Arta Tunnel 29.69 236 LR LR 15 40 44.9
comp=Z,356nm,21.3s,MS4.0,baz=313,slow=40
SOKR Solikamsk 29.98 349 *e*P **P** **15 27 19.0 +0.9**
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
SOKR MLR MLR
comp=Z,320nm,12.0s,MS4.2
CHTO Chiang Mai 30.69 105 *e*P **P** **15 27 25.8 +0.9**
comp=Z,14nm,1.2s,mb4.7
CHTO Chiang Mai 30.69 105 *e*P **P** **15 27 25.8 +0.9**
CHTO pmax pmax
comp=Z,14nm,1.2s,mb4.7
LZH Lanzhou 30.71 70 *e*P **P** **15 27 26.0 +1.1**
LZH pP pP 15 27 36.5 +8.1
LZH sP sP 15 27 39.0 +9.1
LZH pmax pmax
comp=Z,14nm,1.2s,mb4.7
CM31 Chiang Mai Arr 30.86 106 *e*P **P** **15 27 28.6 +2.2**
comp=Z,13nm,1.2s,mb4.6
CMAR Chiang Mai Arr 30.86 106 P **P** **15 27 29.6 +3.3**
comp=Z,1.6nm,0.7s,mb4.0,baz=298,slow=7.8,SNR=12
CMAR PcP PcP 15 30 26.0 +2.7
comp=Z,0.7nm,0.6s,baz=280,slow=4.4,SNR=4.3
CMAR Chiang Mai Arr 30.86 106 P **P** **15 27 29.6 +3.3**
CMAR PcP PcP 15 30 26.0 +2.7
CMAR Chiang Mai Arr 30.86 106 P **P** **15 27 29.7 +3.3**
CMAR 15 30 26.0
CMAR pmax pmax
comp=Z,2.0nm,0.7s
KMI Kunming 31.48 91 P **P** **15 27 35.1 +3.3**
KMI pP pP 15 27 44.5 +9.2
KMI sP sP 15 27 48.6 +12
KMI PP PP 15 28 39.4 -3.5
KMI S **S** **15 32 38.8 -1.0**
KMI pmax pmax
comp=Z,14nm,1.0s,mb4.8
KMI pmax pmax
comp=Z,120nm,4.1s
KMI LR LR
comp=N,480nm,18.7s,MS4.4
KMI LR LR
comp=E,380nm,13.9s,MS4.4
KMI LR LR
comp=Z,330nm,14.7s,MS4.1
OBN Obninsk 33.04 327⇑ *i*P **P** **15 27 45.5 +0.4**
OBN *e* 15 28 57.7
OBN pmax pmax
comp=Z,14nm,0.8s,mb4.9
TLY Talaya 33.95 41 *e*P Px 15 28 11.8
TLY *e*S **S** **15 33 12.1 -5.6**
TLY pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
TLY MLR MLR
comp=Z,642nm,19.0s,MS4.4
SONM Songino Array 34.29 49 P **P** **15 27 58.1 +2.0**
comp=Z,0.6nm,0.7s,mb3.7,baz=245,slow=8.0,SNR=3.5
SONM Songino Array 34.29 49 P **P** **15 27 58.1 +2.0**
SONM Songino Array 34.29 49 P **P** **15 27 58.1 +2.0**
SONM pmax pmax
comp=Z,1.0nm,0.7s
GYA Guiyang 34.48 87 *e*P **P** **15 27 58.8 +0.8**
GYA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ULN Ulaanbaatar 34.73 49 *e*P **P** **15 27 58.8 -1.1**
comp=Z,3.9nm,1.1s,mb4.2
ULN Ulaanbaatar 34.73 49 *e*P **P** **15 27 58.8 -1.1**
ULN pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
AKASG Malin Array Be 34.90 316 P **P** **15 28 01.4 0.0**
comp=Z,2.3nm,0.6s,mb4.3,baz=100,slow=7.2,SNR=12
AKASG Malin Array Be 34.90 316 P **P** **15 28 01.4 0.0**
AKASG Malin Array Be 34.90 316 P **P** **15 28 01.4 0.0**
AKASG pmax pmax
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 34.90 316 *e*P **P** **15 28 00.9 -0.5**
AKBB Malin Array Si 34.90 316 *e*P **P** **15 28 00.9 -0.5**
KIEV Kiev 34.91 316 *e*P **P** **15 28 01.1 -0.3**
comp=Z,5.8nm,0.9s,mb4.5
KIEV Kiev 34.91 316 *e*P **P** **15 28 01.2 -0.2**
KIEV pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
XAN Xi'an 34.98 73 P **P** **15 28 04.1 +1.9**
XAN S **S** **15 33 33.3 -0.6**
XAN pmax pmax
comp=Z,1.0nm,1.3s,mb3.6
XAN pmax pmax
comp=Z,6.0nm,3.8s
XAN LR LR
comp=N,550nm,19.7s,MS4.3
XAN LR LR
comp=E,260nm,21.0s,MS4.3
XAN LR LR
comp=Z,190nm,22.3s,MS3.8
MLR Muntele Rosu 35.64 307 P **P** **15 28 09.4 +1.6**
comp=Z,2.6nm,0.9s,mb4.1,baz=47,slow=4.9,SNR=9.4
MLR Muntele Rosu 35.64 307 P **P** **15 28 09.4 +1.6**
MLR Muntele Rosu 35.64 307 P **P** **15 28 09.4 +1.6**
MLR pmax pmax
comp=Z,3.0nm,1.0s
ENH Enshi 36.01 79 *e*P **P** **15 28 10.1 -1.0**
comp=Z,36nm,1.6s,mb5.0
HHC Hu-ho-hao-te 36.87 61 *e*P **P** **15 28 18.8 +0.5**
HHC sP sP 15 28 34.1 +11
HHC PP PP 15 29 44.6 +2.4
HHC PcP PcP 15 30 41.8 +1.8
HHC S **S** **15 33 59.5 -3.2**
HHC ScP ScP 15 34 24.8 -2.0
HHC PcS PcS 15 34 28.0 0.0
HHC ScS ScS 15 38 29.8 -4.0
HHC pmax pmax
comp=Z,15nm,0.6s,mb5.0
HHC pmax pmax
comp=Z,73nm,6.3s
HHC LR LR
comp=N,360nm,14.1s,MS4.4
HHC LR LR
comp=E,340nm,14.3s,MS4.4
HHC LR LR
comp=Z,350nm,14.4s,MS4.3
KWP Kalwaria Pacla 38.61 313 *e*P **P** **15 28 32.9 -0.1**
comp=Z,27nm,1.1s,mb4.9
KWP Kalwaria Pacla 38.61 313 *e*P **P** **15 28 32.9 -0.1**
KWP pmax pmax
comp=Z,27nm,1.1s,mb4.9
UZH Uzhgorod 38.67 311 *e*P **P** **15 28 32.0 -1.5**
UZH *i* 16 28 49.0
UZH pmax pmax
comp=E,20nm,0.9s
UZH pmax pmax
comp=Z,20nm,0.9s,mb4.8
KOLS Kolonicke sedl 38.74 312 *e*P **P** **15 28 38.2 +4.1**
QIZ Qiongzhong 39.84 97 P **P** **15 28 43.3 -0.3**
QIZ S **S** **15 34 47.8 -0.3**
QIZ pmax pmax
comp=Z,19nm,1.7s,mb4.5
QIZ LR LR
comp=N,420nm,20.8s,MS4.3
QIZ LR LR
comp=E,160nm,20.4s,MS4.3
QIZ LR LR
comp=Z,270nm,14.9s
JOF Joensuu 39.87 335 *e*P **P** **15 28 41.9 -1.4**
JOF pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
PSZ Piszkesteto 40.13 310 *e*P **P** **15 28 46.4 +0.7**
comp=Z,12nm,1.0s,mb4.6
PSZ Piszkesteto 40.13 310 *e*P **P** **15 28 46.4 +0.7**
PSZ pmax pmax
comp=Z,13nm,1.0s,mb4.6
BJI Beijing 40.38 63 P **P** **15 28 47.6 -0.3**
BJI S **S** **15 34 53.3 -2.5**
BJI pmax pmax
comp=Z,12nm,0.6s,mb4.8
BJI pmax pmax
comp=Z,110nm,3.6s
BJI LR LR
comp=N,540nm,19.1s,MS4.5
BJI LR LR
comp=E,390nm,16.8s,MS4.5
BJI LR LR
comp=Z,180nm,23.7s
FINES FINESS Array B 41.11 331 P **P** **15 28 53.2 -0.4**
comp=Z,8.0nm,1.0s,mb4.3,baz=139,slow=7.5,SNR=14
FINES FINESS Array B 41.11 331 P **P** **15 28 53.2 -0.4**
FINES FINESS Array B 41.11 331 P **P** **15 28 53.2 -0.4**
FINES pmax pmax
comp=Z,8.0nm,1.0s
KAF Kangasniemi 41.35 332 *e*P **P** **15 28 54.3 -1.3**
KAF pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
MORC Moravsky Berou 41.94 312 *e*P **P** **15 29 00.2 -0.3**
comp=Z,3.7nm,0.9s,mb4.0
MORC Moravsky Berou 41.94 312 *e*P **P** **15 29 00.2 -0.3**
MORC pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
APA Apatity 42.24 341⇓ *e*P **P** **15 29 09.4 +6.6**
APA MLR MLR
comp=Z,2μm,20.0s,MS4.9
KMBO Kilima Mbogo 42.68 228 *e*P **P** **15 29 08.5 +1.5**
comp=Z,3.1nm,1.0s,mb4.0
KMBO Kilima Mbogo 42.68 228 *e*P **P** **15 29 08.5 +1.5**
KMBO pmax pmax
comp=Z,3.0nm,1.0s
DPC Dobruska-Polom 42.79 313 *e*P **P** **15 29 08.6 +1.1**
DPC Dobruska-Polom 42.79 313 *e*P **P** **15 29 08.6 +1.1**
UPC Upice 43.01 313 *e*P **P** **15 29 05.2 -4.1**
UPC Upice 43.01 313 *e*P **P** **15 29 05.2 -4.1**
NJ2 Nanjing 43.52 74 *e*P **P** **15 29 13.4 -0.3**
NJ2 pmax pmax
comp=Z,20nm,1.0s,mb4.8
NJ2 pmax pmax
comp=Z,160nm,5.2s
NJ2 LR LR
comp=N,320nm,18.2s,MS4.4
NJ2 LR LR
comp=E,330nm,17.2s,MS4.4
NJ2 LR LR
comp=Z,470nm,20.1s,MS4.4
GERES GERESS Array B 44.34 310 P **P** **15 29 20.4 +0.4**
comp=Z,0.9nm,0.7s,mb3.6,baz=94,slow=8.6,SNR=4.5
GERES GERESS Array B 44.34 310 P **P** **15 29 20.4 +0.4**
GERES GERESS Array B 44.34 310 P **P** **15 29 20.4 +0.4**
GERES pmax pmax
comp=Z,1.0nm,0.7s
BRG Berggiesshubel 44.36 313 *e*P **P** **15 29 21.0 +0.9**
BRG pmax pmax
comp=Z,24nm,1.7s,mb4.7
KHC Kasperske Hory 44.44 311 *e*P **P** **15 29 27.7 +6.9**
KHC Kasperske Hory 44.44 311 *e*pP pP 15 29 27.7 +3.3
ARCES ARCESS Array B 45.73 341 P **P** **15 29 30.8 0.0**
comp=Z,4.9nm,0.7s,mb4.5,baz=123,slow=8.8,SNR=12
ARCES ARCESS Array B 45.73 341 P **P** **15 29 30.8 0.0**
ARCES ARCESS Array B 45.73 341 P **P** **15 29 30.8 0.0**
ARCES pmax pmax
comp=Z,5.0nm,0.7s
CN2 Changchun 47.11 57 *e*P **P** **15 29 43.8 +1.8**
NB2 NORSAR Subarra 47.64 327 P **P** **15 29 45.0 -0.8**
comp=Z,36nm,2.0s,mb5.1,baz=107,slow=7.9
NOA NORSAR Array B 47.64 327 P **P** **15 29 44.7 -1.1**
comp=Z,3.1nm,0.9s,mb4.4,baz=103,slow=7.8,SNR=4.9
NOA NORSAR Array B 47.64 327 P **P** **15 29 44.7 -1.1**
NOA NORSAR Array B 47.64 327 P **P** **15 29 44.7 -1.1**
NOA pmax pmax
comp=Z,3.0nm,0.9s
PGF Pioggiola 47.72 302 *e*P **P** **15 29 45.9 -0.8**
comp=Z,87nm,1.2s,mb5.4
KEST Kesra 48.44 292 P **P** **15 29 52.8 +0.4**
comp=Z,1.5nm,0.8s,mb4.1,baz=46,slow=4.0,SNR=3.6
KEST Kesra 48.44 292 P **P** **15 29 52.8 +0.4**
SBF Sospel 48.74 303 *e*P **P** **15 29 54.7 +0.1**
comp=Z,65nm,0.9s,mb5.3
LPG La Plagne 49.09 306 *e*P **P** **15 29 57.4 +0.2**
comp=Z,14nm,0.8s,mb4.7
LPL La Plagne 49.10 306 *e*P **P** **15 29 56.8 -0.5**
comp=Z,17nm,0.9s,mb4.8
MBDF Montbardon 49.13 305 *e*P **P** **15 29 57.5 -0.1**
comp=Z,28nm,1.0s,mb4.9
CABF La Chapelle 49.47 307 *e*P **P** **15 30 00.0 -0.2**
PAGF Fort de Pagny 49.61 310 *e*P **P** **15 30 01.8 +0.6**
ORIF Oris-en-Rattie 49.75 305 *e*P **P** **15 30 01.1 -1.2**
ORIF *e*R
comp=Z,223nm,20.8s
KSRS Korea Array 49.79 65 P **P** **15 30 03.9 +1.1**
comp=Z,1.7nm,0.7s,mb4.2,baz=271,slow=7.7,SNR=7.1
KSRS Korea Array 49.79 65 P **P** **15 30 03.9 +1.1**
KSRS pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
MDJ Mudanjiang 50.01 55 P **P** **15 30 03.4 -0.9**
MDJ pP pP 15 30 12.5 +4.6
MDJ sP sP 15 30 16.3 +7.0
MDJ ScP ScP 15 35 17.1 -2.7
MDJ PcS PcS 15 35 20.8 -0.2
MDJ S **S** **15 37 11.3 -3.6**
MDJ pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
MDJ pmax pmax
comp=Z,48nm,3.8s
MDJ LR LR
comp=N,240nm,16.0s,MS4.5
MDJ LR LR
comp=E,310nm,17.9s,MS4.5
MDJ LR LR
comp=Z,400nm,20.9s,MS4.4
SFTF Sexfontaines 50.09 309 *e*P **P** **15 30 04.9 +0.1**
comp=Z,18nm,0.8s,mb4.8
YAK Yakutsk 50.53 33 *e*P **P** **15 30 05.5 -2.5**
comp=Z,24nm,0.7s,mb5.2
YAK Yakutsk 50.53 33 *e*P **P** **15 30 06.0 -2.0**
YAK pmax pmax
comp=Z,17nm,1.0s,mb4.9
BAIF Baives 50.55 312 *e*P **P** **15 30 08.1 -0.2**
comp=Z,17nm,1.1s,mb4.6
VIVF Saint-Julien-l 50.61 305 *e*P **P** **15 30 08.5 -0.3**
comp=Z,17nm,0.9s,mb4.7
LOR Lormes 50.95 308 *e*P **P** **15 30 11.2 -0.1**
LOR *e*R
comp=Z,205nm,22.2s
SMF Signal de Mont 51.01 307 *e*P **P** **15 30 11.9 +0.1**
comp=Z,16nm,0.8s,mb4.7
SSF Saint Saulge 51.20 308 *e*P **P** **15 30 12.8 -0.5**
comp=Z,8.0nm,0.9s,mb4.4
TCF Toul-Ste Croi 52.17 307 *e*P **P** **15 30 20.3 -0.2**
CAF Calvias 52.44 305 *e*P **P** **15 30 22.9 +0.4**
MTLF Montolieu 52.56 303 *e*P **P** **15 30 23.3 -0.2**
LDF La Druitiere 53.48 310 *e*P **P** **15 30 29.6 -0.6**
comp=Z,5.1nm,0.7s,mb4.3
GRR Gorron 53.99 310 *e*P **P** **15 30 34.0 +0.1**
ETSF Etsaut 54.64 303 *e*P **P** **15 30 39.0 +0.3**
comp=Z,16nm,0.9s,mb4.8
SJPF Ste Jean 55.08 304 *e*P **P** **15 30 42.1 +0.2**
ESDC Sonseca Array 57.86 300 P **P** **15 31 01.1 -0.7**
comp=Z,1.2nm,0.7s,mb4.1,baz=70,slow=7.4,SNR=8.3
ESDC Sonseca Array 57.86 300 P **P** **15 31 01.1 -0.7**
ESLA Sonseca Array 57.86 300 P **P** **15 31 00.8 -0.9**
comp=Z,1.3nm,0.9s,mb4.0
MJAR Matsushiro Arr 58.01 64 P **P** **15 31 04.6 +1.7**
comp=Z,0.8nm,0.9s,mb3.8,baz=286,slow=10,SNR=4.9
MJAR Matsushiro Arr 58.01 64 P **P** **15 31 04.6 +1.7**
MJAR Matsushiro Arr 58.01 64 P **P** **15 31 04.6 +1.7**
MJAR pmax pmax
comp=Z,1.0nm,0.9s
YSS Yuzh-Sakhalins 58.73 51 *e*P **P** **15 31 06.1 -1.6**
YSS MLR MLR
comp=E,500nm,15.0s
YSS MLR MLR
comp=Z,500nm,15.0s,MS4.8
DAG Danmarks Havn 59.71 345 *i*P **P** **15 31 13.7 -0.3**
MVO Moncorvo 59.73 303 *e*P **P** **15 31 17.6 +2.9**
comp=Z,12nm,1.9s,mb4.6
PBAR Barrancos 60.57 299 *e*P **P** **15 31 20.4 -0.2**
comp=Z,16nm,1.6s,mb4.9
PESTR Estremoz 60.78 300 *e*P **P** **15 31 27.6 +5.6**
TORD Torodi Ar. Bea 62.76 270 P **P** **15 31 34.9 -0.7**
comp=Z,3.6nm,0.8s,mb4.6,baz=58,slow=6.0,SNR=16
TORD Torodi Ar. Bea 62.76 270 P **P** **15 31 34.9 -0.7**
BILL Bilibino 65.25 24 P **P** **15 31 49.7 -1.5**
BILL pmax pmax
comp=Z,1.0nm,0.7s,mb4.0
LBTB Lobatse 68.29 221 *e*P **P** **15 32 12.0 +0.9**
comp=Z,5.9nm,1.0s,mb4.6
LBTB Lobatse 68.29 221 *e*P **P** **15 32 12.0 +0.9**
LBTB pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
BOSA Boshof 71.30 219 *e*P **P** **15 32 31.8 +2.3**
comp=Z,4.9nm,0.9s,mb4.4
BOSA Boshof 71.30 219 *e*P **P** **15 32 31.8 +2.3**
BOSA pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
SUR Sutherland 76.63 219 P **P** **15 33 02.4 +1.7**
comp=Z,132nm,2.0s,mb5.5
COLD Coldfoot 78.50 14 *e*P **P** **15 33 11.2 +0.5**
comp=Z,2.2nm,0.8s,mb4.1
INK Inuvik 80.25 8 P **P** **15 33 20.4 +0.1**
comp=Z,5.9nm,0.8s,mb4.6,baz=6.2,slow=8.4,SNR=14
INK Inuvik 80.25 8 *e*P **P** **15 33 20.8 +0.5**
comp=Z,6.8nm,1.0s,mb4.5
INK Inuvik 80.25 8 *e*P **P** **15 33 20.8 +0.5**
INK pmax pmax
comp=Z,7.0nm,1.0s
COLA College 81.01 15 *e*P **P** **15 33 24.6 +0.2**
comp=Z,4.5nm,1.1s,mb4.3
COLA College 81.01 15 *e*P **P** **15 33 24.6 +0.2**
COLA pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
ILAR Eielson Array 81.31 14 P **P** **15 33 25.9 -0.1**
comp=Z,1.8nm,1.1s,mb3.9,baz=321,slow=4.5,SNR=9.5
ILAR PP PP 15 36 34.4 +3.5
comp=Z,0.7nm,0.9s,baz=319,slow=8.2,SNR=5.5
ILAR Eielson Array 81.31 14 P **P** **15 33 25.9 -0.1**
ILAR PP PP 15 36 34.4 +3.5
ILAR Eielson Array 81.31 14 P **P** **15 33 25.9 -0.1**
ILAR 15 36 34.4
ILAR pmax pmax
comp=Z,2.0nm,1.1s
ILAR pmax pmax
comp=Z,1.0nm,1.0s
WRA Warramunga Arr 81.42 119 P **P** **15 33 28.4 +1.1**
comp=Z,1.8nm,0.9s,mb4.0,baz=321,slow=4.9,SNR=9.2
WRA Warramunga Arr 81.42 119 P **P** **15 33 28.4 +1.1**
WRA Warramunga Arr 81.42 119 P **P** **15 33 28.4 +1.2**
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRAB Tennant Creek 81.42 119 *e*P **P** **15 33 28.8 +1.5**
comp=Z,5.3nm,1.0s,mb4.4
WRAB Tennant Creek 81.42 119 *e*P **P** **15 33 28.8 +1.5**
WRAB pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
ASAR Alice Springs 83.33 122 P **P** **15 33 38.2 +1.1**
comp=Z,1.8nm,0.8s,mb4.2,baz=309,slow=5.3,SNR=12
ASAR Alice Springs 83.33 122 P **P** **15 33 38.2 +1.1**
ASAR Alice Springs 83.33 122 P **P** **15 33 38.3 +1.2**
ASAR pmax pmax
comp=Z,2.0nm,0.8s
KDAK Kodiak Island 85.82 20 P **P** **15 33 50.6 +1.3**
comp=Z,6.0nm,0.7s,mb4.9,baz=286,slow=7.4,SNR=4.2
KDAK Kodiak Island 85.82 20 P **P** **15 33 50.6 +1.3**
KDAK Kodiak Island 85.82 20 P **P** **15 33 50.6 +1.3**
KDAK pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
YKA Yellowknife Ar 87.33 1 P **P** **15 33 56.9 +0.3**
comp=Z,5.2nm,0.8s,mb4.8,baz=350,slow=4.9,SNR=14
YKA Yellowknife Ar 87.33 1 P **P** **15 33 56.9 +0.3**
YKA Yellowknife Ar 87.33 1 P **P** **15 33 56.9 +0.3**
YKA pmax pmax
comp=Z,5.0nm,0.8s
MAW Mawson 97.86 182 LR LR 16 10 18.1
comp=Z,91nm,18.8s,MS4.3,baz=184,slow=30

MAN 15 16:00:15.15±0.65N×119.93E,h36km,mb4.1,ML2.9,MS2.6, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCZP	**Santa Cruz**	**0.13**	**351**	*e*P		Pn 16 00 22.7	+1.3
SCZP				*e*S		Sn 16 00 24.8	-0.8
BOLP	**Bolinao**	**0.73**	**359**	*e*P		Pn 16 00 29.9	+1.1
BOLP				*e*S		Sn 16 00 34.9	-3.8
PCPH	**Palayan**	**1.12**	**94**⇑	*e*P		Pn 16 00 34.5	+0.2
BALP	**Baler**	**1.59**	**86**	*e*P		Pn 16 00 42.1	+1.6

SKHL ***15*** *16:03:52.3±0.4, 46.49N×140.96E, h10km, mb3.8/1*
JMA 15 16:03:51.5±0.3, 46.41N×140.97E, h0km, M3.2, 1D, Primorye

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWK2	**Keihoku**	**1.27**	**149**	P		Pg 16 04 15.7	-0.1
JWK2				*e*S		Sg 16 04 32.8	+0.5
JRR	**Rishiri**	**1.29**	**169**	P		Pg 16 04 16.6	+0.3
JRR				*e*S		Sg 16 04 35.0	+1.9
YSS	**Yuzh-Sakhalins**	**1.34**	**65**⇓	*i*Pg		Pg 16 04 17.5	+0.3
YSS				AMB	AMB	16 04 17.9	
	40nm,0.4s						
YSS				*e*Sg		Sg 16 04 35.4	+0.7
YSS				A		16 04 36.8	
	80nm,0.3s						
YSS				A		16 04 36.8	
	120nm,0.3s						
JSE	**Soyaes**	**1.84**	**141**	P		Pn 16 04 24.2	-0.1
JSE				*e*S		Sn 16 04 46.4	-1.9

ISCJB ***15*** *16:04:22.0±0.3, 15.09N±0.04×61.21W±0.07, h154km±2km, mb3.6/10, Error ellipse: s-maj=12.5km s-min=5.0km az=158.2*
IDC ***15*** *16:04:22.2±0.5, 15.10N×61.25W, h140km±3km, mb3.5/9, mb1 3.7/9, mb1mx3.4/22, mbtmp3.5/9, Error ellipse: s-maj=17.3km s-min=5.6km az=83.0*
NEIC ***15*** *16:04:22.6±0.6, 15.13N×61.28W, h143km±5km, mb3.9/1, Error ellipse: s-maj=12.0km s-min=8.7km az=216.0*
TRN ***15*** *16:04:22.0, 15.10N×61.15W, h149km, MD3.3, M3.4(FDF)*
ISC 15 16:04:23.1±0.3, 15.08N±0.04×61.24W±0.07, h150km±2km, n51, σ0.80/63, mb3.6/10, 3C-8D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DSHT	**Scott's Head**	**0.19**	**316**⇓	*e*P		**Pn 16 04 44.0**	**+0.8**
DSHT				*e*S		**Sn 16 04 58.8**	**+0.1**
DFBT	**Forest Bistro**	**0.20**	**325**⇓	*e*P		**Pn 16 04 44.1**	**+0.9**
DFBT				*e*S		**Sn 16 04 59.0**	**+0.3**
DPMT	**Pointe Michel**	**0.22**	**323**⇑	*e*P		**Pn 16 04 44.2**	**+0.9**
DPMT				*e*S		**Sn 16 04 59.0**	**+0.2**
MDN	**Morne-Daniel**	**0.28**	**328**⇓	*e*P		**Pn 16 04 44.4**	**+0.9**
MDN				*e*S		**Sn 16 04 59.8**	**+0.7**
FDF	**Fort de France**	**0.35**	**166**	*e*Pn		**Pn 16 04 43.1**	**-0.6**
FDF				*e*Sn		**Sn 16 04 58.5**	**-1.0**
FDF	**Fort de France**	**0.35**	**166**⇓	*i*P		**Pn 16 04 43.6**	**-0.1**
FDF				⇓*e*S		**Sn 16 04 59.2**	**-0.3**
BIM	**Bigot**	**0.58**	**164**	*e*P		**Pn 16 04 44.6**	**-0.3**
BIM				*e*S		**Sn 16 05 01.8**	**+0.4**
MVM	**Montagne Vaucl**	**0.62**	**148**⇓	*i*P		**Pn 16 04 44.4**	**-0.6**
MGG	**Marie-Galante**	**0.84**	**355**	*e*P		**Pn 16 04 46.0**	**-0.6**
TBG	**Guadaloupe-3**	**0.86**	**333**	*e*P		**Pn 16 04 46.4**	**-0.3**
HMG	**Houelmont**	**1.00**	**334**	*e*P		**Pn 16 04 47.7**	**-0.2**
PHG	**Guadaloupe-2**	**1.01**	**337**	*e*P		**Pn 16 04 48.2**	**+0.4**
DOG	**Dongo Capester**	**1.01**	**339**	*e*P		**Pn 16 04 47.8**	**-0.2**
SCG	**Saint Claude**	**1.04**	**336**⇓	*i*P		**Pn 16 04 48.2**	**+0.1**
SCG				⇓*e*S		**Sn 16 05 07.1**	**-0.2**
BCG	**Bois Riant Cap**	**1.06**	**340**	*e*P		**Pn 16 04 48.2**	**-0.1**
SLW	**Petit Monier**	**1.09**	**165**	*e*P		**Pn 16 04 48.0**	**-0.7**
SLW	**Petit Monier**	**1.09**	**165**⇑	*e*P		**Pn 16 04 49.9**	**+1.3**
SLW				*e*S		**Sn 16 05 06.5**	**-1.7**
SLW				*e*S		**Sn 16 05 08.4**	**+0.3**
SLPE	**Piton Saint Es**	**1.25**	**169**⇑	*e*P		**Pn 16 04 50.4**	**+0.3**
SLB	**Belfond**	**1.26**	**171**	*e*P		**Pn 16 04 50.4**	**+0.2**
MCLT	**Moule a Chique**	**1.39**	**168**	*e*P		**Pn 16 04 52.3**	**+0.8**
MCLT				*e*S		**Sn 16 05 12.8**	**-0.5**
SSV	**Crater Summit**	**1.74**	**179**	*e*P		**Pn 16 04 56.0**	**+0.7**
SVV	**Soufriere Volc**	**1.75**	**179**	*e*P		**Pn 16 04 56.1**	**+0.8**
SVB	**Belmont**	**1.80**	**180**	*e*P		**Pn 16 04 55.9**	**+0.0**
SVB				*e*S		**Sn 16 05 20.3**	**-0.7**
BBGH	**Gun Hill**	**2.52**	**140**	*e*Pn		**Pn 16 05 04.7**	**+0.3**
BBGH				*e*Sn		**Sn 16 05 33.4**	**-3.0**
ANWB	**Willy Bob**	**2.63**	**349**	*e*Pn		**Pn 16 05 03.7**	**-2.1**
ANWB				*e*Sn		**Sn 16 05 32.8**	**-6.0**
SKI	**Saint Kitts**	**2.67**	**327**	*e*S		**Sn 16 05 39.7**	**+0.1**
CBYP	**Canovanas**	**5.45**	**306**	*e*Pn		**Pn 16 05 41.6**	**-0.8**
AGPR	**Aguadilla, PR**	**6.56**	**302**	Pn		**Pn 16 05 54.9**	**-2.3**
SDV	**Santo Domingo**	**11.06**	**237**	P		**Pn 16 07 04.3**	**+7.2**
ROSC	**El Rosal**	**16.40**	**233**	*e*Pn		**Pn 16 08 06.1**	**+1.2**
OTAV	**Otavalo**	**22.51**	**231**	*e*P		**P 16 09 09.2**	**-1.4**
	6.1nm,1.1s,mb3.9						
TXAR	**Lajitas Array**	**41.53**	**297**	P		**P 16 11 56.4**	**+0.4**
	0.2nm,0.4s,mb3.1,baz=113,slow=6.9,SNR=6.3						

TXAR	**Lajitas Array**	**41.53**	**297**	P	**P**	**16 11 56.4**	**+0.4**
ULM	**Lac du Bonnet**	**44.89**	**329**	P	**P**	**16 12 21.9**	**-0.7**
	0.9nm,0.3s,mb3.9,baz=121,slow=5.6,SNR=1.8						
ULM	**Lac du Bonnet**	**44.89**	**329**	P	**P**	**16 12 21.9**	**-0.7**
PDAR	**Pinedale Array**	**49.61**	**314**	P	**P**	**16 12 59.5**	**+0.2**
	0.5nm,0.4s,mb3.5,baz=119,slow=10,SNR=5.9						
PDAR	**Pinedale Array**	**49.61**	**314**	P	**P**	**16 12 59.5**	**+0.2**
NVAR	**Mina Array Bea**	**55.07**	**306**	P	**P**	**16 13 40.7**	**+1.2**
	0.8nm,0.9s,mb3.4,baz=106,slow=5.2,SNR=4.0						
NVAR	**Mina Array Bea**	**55.07**	**306**	P	**P**	**16 13 40.7**	**+1.2**
DBIC	**Dimbokro**	**55.87**	**92**	P	**P**	**16 13 45.4**	**-0.2**
	4.7nm,0.9s,mb4.3,baz=222,slow=8.0,SNR=3.7						
DBIC	**Dimbokro**	**55.87**	**92**	P	**P**	**16 13 45.4**	**-0.2**
TORD	**Torodi Ar. Bea**	**60.88**	**83**	P	**P**	**16 14 20.4**	**0.0**
	0.9nm,0.4s,mb3.9,baz=284,slow=6.5,SNR=8.2						
TORD	**Torodi Ar. Bea**	**60.88**	**83**	P	**P**	**16 14 20.4**	**0.0**
KEST	**Kesra**	**65.70**	**57**	P	**P**	**16 14 53.1**	**+1.3**
	1.0nm,0.8s,mb3.7,baz=184,slow=13,SNR=2.0						
KEST	**Kesra**	**65.70**	**57**	P	**P**	**16 14 53.1**	**+1.3**
ILAR	**Eielson Array**	**74.63**	**334**	P	**P**	**16 15 45.1**	**-0.5**
	0.1nm,0.5s,mb2.7,baz=78,slow=5.4,SNR=5.0						
ILAR	**Eielson Array**	**74.63**	**334**	P	**P**	**16 15 45.1**	**-0.5**
FINES	**FINESS Array B**	**75.61**	**30**	P	**P**	**16 15 51.6**	**+0.3**
	3.0nm,0.9s,mb3.9,baz=284,slow=5.6,SNR=3.7						
FINES	**FINESS Array B**	**75.61**	**30**	P	**P**	**16 15 51.6**	**+0.3**
ASAR	**Alice Springs**	**163.37**	**237**	PKPab	PKPab	16 24 58.9	-1.4
	0.3nm,0.9s,baz=123,slow=3.8,SNR=4.2						
WRA	**Warramunga Arr**	**164.38**	**250**	PKPab	PKPab	16 25 04.1	-0.8
	0.4nm,0.5s,baz=104,slow=4.2,SNR=9.7						

CSEM ***15*** *16:13:15.4, 43.03N×45.65E, h21km, mb3.9, After OBN MOS* ***15*** *16:13:15.4±1.4, 43.03N×45.65E, h21km, mb3.9/1, Error ellipse: s-maj=12.3km s-min=7.0km az=24.6*

ISC 15 16:13:16.7±0.9, 43.13N±0.04×45.73E±0.03, h28km±7km, n44, σ1§19/81, 4C-5D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
GRO	**Groznyy**	**0.19**	**5**	⇓*i*	*i*Pg	**Pb**	**16 13 26.5**	**+3.9**
GRO	**Groznyy**	**0.19**	**5**	*i*	*i*Pg	**Pb**	**16 13 26.5**	**+3.9**
BTLR	**Botlikh**	**0.59**	**142**	*e*	*e*PG	**Pb**	**16 13 29.8**	**+1.3**
BTLR				*e*S		**Sb**	**16 13 41.2**	**+4.7**
BTLR				pmax	pmax			
	comp=Z,73nm,0.3s							
BTLR	**Botlikh**	**0.59**	**142**	*e*	Pg	**Pb**	**16 13 29.8**	**+1.3**
	comp=Z,73nm,0.3s							
BTLR				*e*Sg		**Sb**	**16 13 41.2**	**+4.7**
SNJR	**Sundja**	**0.67**	**265**	⇓*i*	*i*PG	**Pn**	**16 13 29.5**	**-0.8**
SNJR				*i*	S	**Sb**	**16 13 42.7**	**+3.8**
SNJR	**Sundja**	**0.67**	**265**	*i*	Pg	**Pn**	**16 13 29.5**	**-0.8**
SNJR				*i*	Sg	**Sb**	**16 13 42.7**	**+3.8**
VLKR	**Vladikavkaz**	**0.77**	**264**	⇓*i*	*i*PG	**Pn**	**16 13 31.0**	**-0.7**
VLKR				*e*S		**Sn**	**16 13 44.5**	**+2.2**
VLKR	**Vladikavkaz**	**0.77**	**264**	*i*	Pg	**Pn**	**16 13 31.0**	**-0.7**
VLKR				*e*Sg		**Sn**	**16 13 44.5**	**+2.2**
DBC	**Dubki**	**0.81**	**97**	*e*	PG	**Pn**	**16 13 30.9**	**-1.3**
DBC				*e*S		**Sn**	**16 13 43.7**	**+0.4**
DBC				pmax	pmax			
	comp=Z,52nm,0.2s							
DBC	**Dubki**	**0.81**	**97**	*e*	Pg	**Pn**	**16 13 30.9**	**-1.3**
	comp=Z,52nm,0.2s							
DBC				*e*Sg		**Sn**	**16 13 43.7**	**+0.4**
UNCR	**Uncukul**	**0.89**	**117**	*e*	PG	**Pn**	**16 13 32.0**	**-1.2**
UNCR				*e*S		**Sn**	**16 13 45.5**	**+0.4**
UNCR				pmax	pmax			
	comp=Z,54nm,0.2s							
UNCR	**Uncukul**	**0.89**	**117**	*e*	Pg	**Pn**	**16 13 32.0**	**-1.2**
	comp=Z,54nm,0.2s							
UNCR				*e*Sg		**Sn**	**16 13 45.5**	**+0.4**
KRNR	**Karanay**	**0.92**	**109**	⇑*i*	*i*PG	**Pn**	**16 13 32.5**	**-1.1**
KRNR				*i*	S	**Sn**	**16 13 46.5**	**+0.7**
KRNR				pmax	pmax			
	comp=Z,51nm,0.2s							
KRNR	**Karanay**	**0.92**	**109**	*i*	Pg	**Pn**	**16 13 32.5**	**-1.1**
	comp=Z,51nm,0.2s							
KRNR				*i*	Sg	**Sn**	**16 13 46.5**	**+0.7**
XNZR	**Khunzakh**	**0.93**	**129**	*e*	PG	**Pn**	**16 13 33.1**	**-0.7**
XNZR				*e*	S	**Sn**	**16 13 48.0**	**+1.9**
XNZR	**Khunzakh**	**0.93**	**129**	*e*	Pg	**Pn**	**16 13 33.1**	**-0.7**
XNZR				*e*	Sg	**Sn**	**16 13 48.0**	**+1.9**
TRKR	**Terskaya**	**0.94**	**310**	⇓*i*	*i*PG	**Pn**	**16 13 33.1**	**-0.8**
TRKR				*i*	S	**Sn**	**16 13 48.5**	**+2.1**
TRKR	**Terskaya**	**0.94**	**310**	*i*	Pg	**Pn**	**16 13 33.1**	**-0.8**
TRKR				*i*	Sg	**Sn**	**16 13 48.5**	**+2.1**
BUJR	**Buynaksk**	**1.06**	**106**	*e*	PG	**Pn**	**16 13 35.0**	**-0.6**
BUJR				*i*	S	**Sn**	**16 13 50.8**	**+1.5**
BUJR	**Buynaksk**	**1.06**	**106**	*e*	Pg	**Pn**	**16 13 35.0**	**-0.6**
BUJR				*i*	Sg	**Sn**	**16 13 50.8**	**+1.5**
ARNR	**Ardon**	**1.06**	**274**	*e*	PG	**Pn**	**16 13 34.6**	**-1.0**
ARNR				*i*	S	**Sn**	**16 13 50.9**	**+1.5**
ARNR	**Ardon**	**1.06**	**274**	*e*	Pg	**Pn**	**16 13 34.6**	**-1.0**
ARNR				*i*	Sg	**Sn**	**16 13 50.9**	**+1.5**
ARKR	**Arakani**	**1.07**	**119**	*e*	PG	**Pn**	**16 13 35.0**	**-0.7**
ARKR				*e*	S	**Sn**	**16 13 51.0**	**+1.4**
ARKR	**Arakani**	**1.07**	**119**	*e*	Pg	**Pn**	**16 13 35.0**	**-0.7**
ARKR				*e*	Sg	**Sn**	**16 13 51.0**	**+1.4**
KMSR	**Komsomolskaya**	**1.08**	**284**	⇑*i*	*i*PG	**Pn**	**16 13 34.9**	**-0.9**
KMSR				*i*	S	**Sn**	**16 13 51.5**	**+1.7**
KMSR	**Komsomolskaya**	**1.08**	**284**	*i*	Pg	**Pn**	**16 13 34.9**	**-0.9**
KMSR				*i*	Sg	**Sn**	**16 13 51.5**	**+1.7**
KORR	**Kora**	**1.22**	**269**	⇓*i*	*i*PG	**Pn**	**16 13 36.1**	**-1.6**
KORR				*i*	S	**Sn**	**16 13 53.7**	**+0.5**
KORR	**Kora**	**1.22**	**269**	*i*	Pg	**Pn**	**16 13 36.1**	**-1.6**
KORR				*i*	Sg	**Sn**	**16 13 53.7**	**+0.5**
PRTR	**Priterechnaya**	**1.22**	**301**	⇑*i*	*i*PG	**Pn**	**16 13 36.6**	**-1.3**
PRTR				*i*	S	**Sn**	**16 13 54.4**	**+1.0**
PRTR	**Priterechnaya**	**1.22**	**301**	*i*	Pg	**Pn**	**16 13 36.6**	**-1.3**
PRTR				*i*	Sg	**Sn**	**16 13 54.4**	**+1.0**
MAK	**Makhachkala**	**1.31**	**97**	*e*	PG	**Pn**	**16 13 38.2**	**-0.9**
MAK				*e*			16 13 56.1	
MAK				pmax	pmax			
	comp=Z,93nm,0.3s							
MAK	**Makhachkala**	**1.31**	**97**	*e*	Pg	**Pn**	**16 13 38.2**	**-0.9**
	comp=Z,93nm,0.3s							
MAK				*e*Sg		**Sn**	**16 13 56.1**	**+0.5**
ZEI	**Tsey**	**1.39**	**256**	⇑*i*	*i*PG	**Pn**	**16 13 37.2**	**-2.9**
ZEI				*i*	S	**Sn**	**16 13 55.9**	**-1.6**
ZEI	**Tsey**	**1.39**	**256**	*i*	Pg	**Pn**	**16 13 37.2**	**-2.9**
ZEI				*i*	Sg	**Sn**	**16 13 55.9**	**-1.6**
KMKR	**Kumukh**	**1.42**	**134**	*e*	PG	**Pn**	**16 13 39.7**	**-0.8**
KMKR				*e*	S	**Sn**	**16 13 58.5**	**+0.2**
KMKR				pmax	pmax			
	comp=Z,56nm,0.2s							
KMKR	**Kumukh**	**1.42**	**134**	*e*	Pg	**Pn**	**16 13 39.7**	**-0.8**
	comp=Z,56nm,0.2s							
KMKR				*e*Sg		**Sn**	**16 13 58.5**	**+0.2**
TBLG	**Delisi**	**1.58**	**208**	*e*	PG	**Pn**	**16 13 42.9**	**+0.2**
TBLG	**Delisi**	**1.58**	**208**	*i*	P	**Pn**	**16 13 42.9**	**+0.2**
TBLG				*i*	S	**Sn**	**16 14 02.1**	**0.0**
TBLG	**Delisi**	**1.58**	**208**	*e*	Pg	**Pn**	**16 13 42.9**	**+0.2**
DIGR	**Digorskoe uzhe**	**1.59**	**262**	*e*	PG	**Pn**	**16 13 39.0**	**-3.9**
DIGR	**Digorskoe uzhe**	**1.59**	**262**	*e*	Pg	**Pn**	**16 13 39.0**	**-3.9**
MTA	**Mtatsminda**	**1.59**	**206**	P	Pg	**Pn**	**16 13 42.9**	**0.0**
MTA				S		**Sn**	**16 14 02.2**	**-0.3**
DGRG	**David-gareji**	**1.70**	**189**	P	Pg	**Pn**	**16 13 42.3**	**-2.1**
DGRG				S		**Sn**	**16 14 05.8**	**+0.8**
ONI	**Oni**	**1.76**	**253**	P	Pg	**Pn**	**16 13 44.3**	**-0.9**
ONI				S		**Sn**	**16 14 07.9**	**+1.3**

ISCJB ***15*** *16:13:32.6±0.7, 32.07S±0.02×71.83W±0.08, h43km±5km, mb4.3/10, Error ellipse: s-maj=10.9km s-min=3.8km az=176.1*

IDC ***15*** *16:13:33.0±7.5, 32.00S×72.03W, h33km±49km, mb4.1/7, mb1 4.0/9, mb1mx3.9/17, mbtmp4.0/9, ML4.2/2, Error ellipse: s-maj=58.3km s-min=20.5km az=112.0*

NEIC ***15*** *16:13:33.8±0.8, 32.09S×71.80W, h39km±6km, mb4.4/8, MD4.2(GUC), Error ellipse: s-maj=12.4km s-min=5.0km az=95.0*

GUC ***15*** *16:13:33.0±0.9, 32.11S×71.70W, h30km±3km, MD4.2, ML4.1*

ISC 15 16:13:33.5±0.7, 32.08S±0.02×71.83W±0.08, h36km±6km, n74, σ1§00/96, mb4.3/10, 13C-16D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.34**	**55**	⇑*i*	*i*P	**Pn**	**16 13 40.5**	**-1.5**
CHNG				*i*	S	**Sn**	**16 13 45.5**	**-2.2**
CHNG				AML	AML	16 13 46.0		
	comp=E,40μm,0.2s							
IHA	**Instituto Hidr**	**0.96**	**171**	*i*	P	**Pn**	**16 13 49.8**	**-0.6**
IHA				*i*	S	**Sn**	**16 14 01.8**	**-1.0**
IHA	**Instituto Hidr**	**0.96**	**171**	*i*	P	**Pn**	**16 13 49.8**	**-0.6**
IHA				*i*	S	**Sn**	**16 14 01.8**	**-1.0**
ROCH	**El Roble**	**1.13**	**143**	*i*	P	**Pn**	**16 13 51.6**	**-1.1**
ROCH				*i*	S	**Sn**	**16 14 05.7**	**-1.3**
ROCH	**El Roble**	**1.13**	**143**	⇓*i*	P	**Pn**	**16 13 51.6**	**-1.1**
ROCH				*i*	P		16 13 51.6	
ROCH				*i*	S	**Sn**	**16 14 05.7**	**-1.3**
ROCH				*e*	S	**Sn**	**16 14 05.9**	**-1.1**
ROCH				AML	AML		16 14 10.1	
	comp=N,9μm,0.4s							
CMCH	**Combarbala**	**1.14**	**38**	⇓*i*	P	**Pn**	**16 13 52.2**	**-0.7**
CMCH					S	**Sn**	**16 14 06.7**	**-0.6**
CMCH	**Combarbala**	**1.14**	**38**	⇓*i*	P	**Pn**	**16 13 52.2**	**-0.7**
CMCH				*i*	S	**Sn**	**16 14 06.7**	**-0.6**
CMCH				AML	AML		16 14 10.6	
	comp=N,26μm,0.9s							
JACH	**Jahuel**	**1.20**	**120**	⇑*i*	P	**Pn**	**16 13 52.4**	**-1.4**
JACH	**Jahuel**	**1.20**	**120**	⇑*i*	P	**Pn**	**16 13 52.4**	**-1.4**
LCCH	**Las Cruces**	**1.41**	**171**	⇓*i*	P	**Pn**	**16 13 56.8**	**+0.2**
LCCH				*i*	S	**Sn**	**16 14 14.0**	**+0.1**
LCCH	**Las Cruces**	**1.41**	**171**	⇓*i*	P	**Pn**	**16 13 56.8**	**+0.2**
LCCH				*i*	S	**Sn**	**16 14 14.0**	**+0.1**
PEL	**Peldehue**	**1.43**	**138**	⇑*i*	P	**Pn**	**16 13 56.4**	**-0.6**
PEL				*i*	S	**Sn**	**16 14 14.6**	**+0.1**
PEL				AML	AML		16 14 16.1	
	comp=N,10μm,0.3s							
OVCH	**Ovalle**	**1.56**	**20**	*e*	P	**Pn**	**16 14 00.1**	**+1.4**
OVCH				*i*	S	**Sn**	**16 14 19.9**	**+2.2**
OVCH	**Ovalle**	**1.56**	**20**	*e*	P	**Pn**	**16 14 00.1**	**+1.4**
OVCH				*i*	S	**Sn**	**16 14 19.9**	**+2.2**
OVCH				AML	AML		16 14 24.0	
	comp=N,5μm,0.2s							
STL	**Santa Lucia**	**1.68**	**144**	*e*	P	**Pn**	**16 13 59.1**	**-1.2**
STL				*i*	S	**Sn**	**16 14 19.8**	**-0.9**
STL				AML	AML		16 14 25.6	
	comp=E,656nm,0.4s							
SAN	**Santiago**	**1.69**	**145**	⇓*i*	P	**Pn**	**16 14 00.4**	**0.0**
SAN				*i*	S	**Sn**	**16 14 21.2**	**+0.5**
SAN	**Santiago**	**1.69**	**145**	⇓*i*	P	**Pn**	**16 14 00.4**	**0.0**
SAN				*i*	S	**Sn**	**16 14 21.2**	**+0.5**
CLCH	**Cerro Calan**	**1.71**	**141**	⇓*i*	P	**Pn**	**16 14 00.5**	**-0.2**
CLCH				*i*	S	**Sn**	**16 14 21.8**	**+0.5**
CLCH				AML	AML		16 14 36.0	
	comp=E,5μm,0.5s							
CLCH				AML	AML		16 14 36.5	
	comp=E,6μm,0.6s							
TACH	**Talagante**	**1.74**	**155**	⇑*i*	P	**Pn**	**16 14 01.6**	**+0.5**
TACH				*i*	S	**Sn**	**16 14 22.7**	**+0.6**
TACH	**Talagante**	**1.74**	**155**	⇑*i*	P	**Pn**	**16 14 01.6**	**+0.5**
TACH				*i*	S	**Sn**	**16 14 22.7**	**+0.6**
LACH	**Col Las Americ**	**1.75**	**142**	⇓*i*	P	**Pn**	**16 14 01.6**	**+0.2**
LACH				AML	AML		16 14 30.2	
	comp=N,2μm,0.8s							
FSR	**Penalolen**	**1.77**	**142**	⇓*i*	P	**Pn**	**16 14 02.0**	**+0.3**
FSR				*e*	S	**Sn**	**16 14 24.3**	**+1.3**
FSR	**Penalolen**	**1.77**	**142**	⇓*i*	P	**Pn**	**16 14 02.0**	**+0.3**
FSR				*e*	S	**Sn**	**16 14 24.3**	**+1.3**
FSR				AML	AML		16 14 31.3	
	comp=N,974nm,0.5s							
ANTU	**Antumapu**	**1.79**	**146**	⇑*i*	P	**Pn**	**16 14 01.9**	**0.0**
ANTU	**Antumapu**	**1.79**	**146**	⇑*i*	P	**Pn**	**16 14 01.9**	**0.0**
ANTU				AML	AML		16 14 29.6	
	comp=N,3μm,0.3s							
FCH	**Farellones**	**1.80**	**134**	⇓*i*	P	**Pn**	**16 14 00.7**	**-1.2**
FCH				*i*	S	**Sn**	**16 14 23.4**	**-0.1**
FCH				AML	AML		16 14 24.4	
	comp=E,5μm,0.3s							
PCH	**Pirque**	**1.89**	**145**	⇓*i*	P	**Pn**	**16 14 03.3**	**0.0**
PCH				*i*	S	**Sn**	**16 14 26.9**	**+1.0**
PCH	**Pirque**	**1.89**	**145**	⇓*i*	P	**Pn**	**16 14 03.3**	**0.0**
PCH				*i*	S	**Sn**	**16 14 26.9**	**+1.0**
LNV	**Longovilo**	**1.91**	**170**		P	**Pn**	**16 14 03.0**	**-0.4**
LNV	**Longovilo**	**1.91**	**170**	⇑*i*	P	**Pn**	**16 14 03.0**	**-0.4**
CHCH	**Chadas Angostu**	**2.10**	**152**	⇓*i*	P	**Pn**	**16 14 06.5**	**+0.4**
CHCH				*i*	S	**Sn**	**16 14 32.3**	**+1.4**
CHCH	**Chadas Angostu**	**2.10**	**152**	⇓*i*	P	**Pn**	**16 14 06.5**	**+0.4**
CHCH				*i*	S	**Sn**	**16 14 32.3**	**+1.4**
LMEL	**Las Melosas**	**2.23**	**143**	⇑*i*	P	**Pn**	**16 14 08.6**	**+0.7**
LMEL				*i*	S	**Sn**	**16 14 35.5**	**+1.3**
LMEL	**Las Melosas**	**2.23**	**143**	⇑*i*	P	**Pn**	**16 14 08.6**	**+0.7**
LMEL				*i*	S	**Sn**	**16 14 35.5**	**+1.3**
LMEL				AML	AML		16 14 45.2	
	comp=N,3μm,0.2s							
CACH	**El Canelo**	**2.28**	**154**	⇑*i*	P	**Pn**	**16 14 09.8**	**+1.2**
CACH	**El Canelo**	**2.28**	**154**	⇑*i*	P	**Pn**	**16 14 09.8**	**+1.2**
CFAA	**Coronel Fontan**	**3.09**	**82**	Pn		**Pn**	**16 14 21.9**	**+2.1**
	comp=N,6.9nm,0.3s,baz=247,slow=10,SNR=196							
CFAA				Pg		**Pn**	**16 14 33.9**	**+14**
	comp=N,13nm,0.3s,baz=252,slow=16,SNR=34							
CFAA				Sn		**Sn**	**16 15 02.0**	**+6.6**
	comp=N,3.9nm,0.3s,baz=17,slow=14,SNR=7.7							
CFAA	**Coronel Fontan**	**3.09**	**82**	Pn		**Pn**	**16 14 21.9**	**+2.1**
CFAA				Pg		**Pn**	**16 14 33.9**	**+14**
CFAA				Sn		**Sn**	**16 15 02.0**	**+6.6**
LCO	**Las Campanas**	**3.21**	**18**	*e*Pn		**Pn**	**16 14 22.1**	**+0.8**
LCO				*e*Sn		**Sn**	**16 14 59.5**	**+1.2**
TRQA	**Tornquist**	**10.03**	**129**	*e*Pn		**Pn**	**16 15 54.9**	**0.0**
CPUP	**Villa Florida**	**13.89**	**69**	Pn		**Pn**	**16 16 51.5**	**+3.6**
	comp=N,0.6nm,0.3s,baz=229,slow=19,SNR=2.6							
CPUP	**Villa Florida**	**13.89**	**69**	*e*Pn		**Pn**	**16 16 48.1**	**+0.2**
LPAZ	**La Paz**	**16.07**	**13**	Pn		**Pn**	**16 17 21.8**	**+5.0**
	comp=N,0.1nm,0.3s,baz=189,slow=8.5,SNR=12							
LPAZ	**La Paz**	**16.07**	**13**	*e*Pn		**Pn**	**16 17 11.6**	**-5.2**
	comp=N,2.6nm,0.8s							
USHA	**Ushuaia**	**22.87**	**175**	P		**P**	**16 18 35.2**	**+1.7**
	comp=N,11nm,0.9s,mb4.3,baz=300,slow=6.4,SNR=3.6							
USHA	**Ushuaia**	**22.87**	**175**	P		**P**	**16 18 35.2**	**+1.7**
VNA3	**Neumayer Olymp**	**51.07**	**158**	*e*		**P**	**16 22 29.6**	**-2.2**
VNA3				*e*		pP	16 22 38.1	-4.3
VNA2	**Neumayer--Watz**	**51.72**	**158**	*e*		**P**	**16 22 34.6**	**-2.0**
VNA2				*e*		pP	16 22 42.9	-4.4
SNAA	**Sanae**	**53.30**	**158**	P		**P**	**16 22 48.9**	**+0.6**
	comp=N,1.6nm,0.8s,mb4.0,baz=276,slow=7.5,SNR=25							
SNAA	**Sanae**	**53.30**	**158**	*e*P		**P**	**16 22 48.6**	**+0.3**
	comp=N,5.9nm,0.9s,mb4.5							
QSPA	**South Pole Qui**	**58.15**	**180**	P		**P**	**16 23 24.5**	**+1.4**
	comp=N,3.1nm,0.8s,mb4.4,baz=153,slow=2.0,SNR=8.9							
QSPA	**South Pole Qui**	**58.15**	**180**	*e*P		**P**	**16 23 24.2**	**+1.2**
	comp=N,4.8nm,1.1s,mb4.4							
CLNB	**Carlsbad**	**70.80**	**332**	*e*P		**P**	**16 24 46.0**	**-0.3**
	comp=N,0.9nm,0.4s,mb4.0							
WMOK	**Wichita Mounta**	**71.13**	**337**	*e*P		**P**	**16 24 41.1**	**-7.0**
	comp=N,7.2nm,1.1s,mb4.5							
DBIC	**Dimbokro**	**74.40**	**72**	P		**P**	**16 25 07.6**	**-0.5**
	comp=N,3.0nm,0.8s,mb4.3,baz=196,slow=7.6,SNR=2.3							
DBIC	**Dimbokro**	**74.40**	**72**	*e*P		**P**	**16 25 07.2**	**-0.9**
	comp=N,5.4nm,0.9s,mb4.5							
MAW	**Mawson**	**74.97**	**164**	P		**P**	**16 25 10.8**	**+0.3**
	comp=N,3.6nm,1.0s,mb4.3,baz=194,slow=6.5,SNR=6.7							
MAW	**Mawson**	**74.97**	**164**	P		**P**	**16 25 10.6**	**+0.1**
	comp=N,1.7nm,1.0s,mb3.9							
BOSA	**Boshof**	**80.81**	**118**	P		**P**	**16 25 43.6**	**-0.1**
	comp=N,2.1nm,0.9s,mb4.1,baz=261,slow=5.9,SNR=4.0							
BOSA	**Boshof**	**80.81**	**118**	P		**P**	**16 25 43.6**	**-0.1**
LBTB	**Lobatse**	**82.95**	**115**	*e*P		**P**	**16 25 54.2**	**-0.9**
	comp=N,2.7nm,0.8s,mb4.3							
TORD	**Torodi Ar. Bea**	**83.39**	**70**	P		**P**	**16 25 56.8**	**-0.5**
	comp=N,2.5nm,0.7s,mb4.3,baz=264,slow=4.2,SNR=12							
TORD	**Torodi Ar. Bea**	**83.39**	**70**	P		**P**	**16 25 56.8**	**-0.5**
ASAR	**Alice Springs**	**119.36**	**207**	PKP	PKPdf		16 32 18.4	-1.1
	comp=N,0.3nm,0.7s,baz=143,slow=2.5,SNR=4.4							
ASAR	**Alice Springs**	**119.36**	**207**	PKP	PKPdf		16 32 18.4	-1.1
WRA	**Warramunga Arr**	**122.52**	**209**	PKP	PKPdf		16 32 25.2	-0.4
	comp=N,0.4nm,0.5s,baz=158,slow=1.6,SNR=13							
WRA	**Warramunga Arr**	**122.52**	**209**	PKP	PKPdf		16 32 25.2	-0.4
KURK	**Kurchatov**	**151.33**	**41**	PKPbc	PKPbc		16 33 23.6	+0.8
	comp=N,2.9nm,0.6s,baz=303,slow=3.0,SNR=25							
KURK				pPKPbc	pPKPbc		16 33 32.1	-2.3
	comp=N,1.3nm,0.6s,baz=298,slow=3.0,SNR=6.7							
KURK	**Kurchatov**	**151.33**	**41**	PKPbc	PKPbc		16 33 23.6	+0.8
KURK				pPKPbc	pPKPbc		16 33 32.1	-2.3
ZAA0	**Zalesovo Array**	**152.50**	**30**	*e*PKPbc	PKPbc		16 33 25.4	+0.1
ZAA0				*e*PKPab	PKPab		16 33 34.2	-1.6
ZALV	**Zalesovo Beam**	**152.50**	**30**	PKPbc	PKPbc		16 33 26.0	+0.6
	comp=N,2.5nm,0.5s,baz=305,slow=3.3,SNR=17							
ZALV				pPKPbc	pPKPbc		16 33 35.1	-1.8
	comp=N,3.2nm,0.8s,baz=290,slow=3.1,SNR=9.3							
ZALV	**Zalesovo Beam**	**152.50**	**30**	PKPbc	PKPbc		16 33 26.0	+0.6
ZALV				pPKPbc	pPKPbc		16 33 35.1	-1.8
MKAR	**Makanchi Array**	**155.34**	**46**	PKPab	PKPab		16 33 48.2	+0.1
	comp=N,0.8nm,0.7s,baz=279,slow=3.9,SNR=6.5							
MKAR	**Makanchi Array**	**155.34**	**46**	PKPab	PKPab		16 33 48.2	+0.1

CSEM ***15*** *16:14:22.2, 12.01N×44.06E, h10km, ML4.0, After DHMR*

DHMR 15 16:14:22.2±1.2, 12.01N×44.06E, h10km, ML4.0, 2C, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
ADEN	**Aden**	**1.18**	**50**	*i*	P	**Pb**	**16 14 44.9**	**+0.2**
ADEN				*i*	S	**Sb**	**16 15 00.9**	**+0.8**
ADEN				AML	AML		16 15 11.0	
	comp=E,3μm,0.5s							
ADEN	**Aden**	**1.18**	**50**	*i*	P	**Pb**	**16 14 44.9**	**+0.2**
ADEN				*i*	S	**Sb**	**16 15 00.9**	**+0.8**
	comp=E,2μm,0.5s							
UDYN	**Al 'Udayn**	**1.94**	**357**	⇑*i*	P	Pn	16 14 56.6	+1.2
UDYN				*i*	S	Sn	16 15 23.5	+3.7
UDYN				AML	AML		16 15 30.4	
	comp=Z,2μm,0.8s							
UDYN	**Al 'Udayn**	**1.94**	**357**	⇑*i*	P	Pn	16 14 56.6	+1.3
UDYN				*i*	S	Sn	16 15 23.5	+3.7
	comp=Z,768nm,0.8s							
LBOS		**2.18**	**32**	*i*	P	Pn	16 15 00.9	+2.4
LBOS				*i*	S	Sn	16 15 30.1	+4.4
BDHA	**Al Bayda'**	**2.44**	**37**	*i*	P	Pn	16 15 04.2	+2.0
BDHA				*i*	S	Sn	16 15 37.2	+5.1
BDHA				AML	AML		16 15 43.3	
	comp=N,2μm,0.6s							
BDHA	**Al Bayda'**	**2.44**	**37**	*i*	P	Pn	16 15 04.2	+2.0
BDHA				*i*	S	Sn	16 15 37.2	+5.0
	comp=N,854nm,0.6s							
DHBB	**Dhamar BB**	**2.56**	**7**	*i*	P	Pn	16 15 06.4	+2.6
DHBB				*i*	S	Sn	16 15 42.0	+6.8
HAJJ	**Hajjah**	**3.69**	**353**	*i*	P	Pn	16 15 21.7	+2.3
HAJJ				*i*	S	Sn	16 16 08.7	+5.8
HAJJ				AML	AML		16 16 26.5	
	comp=E,404nm,0.7s							
HAJJ	**Hajjah**	**3.69**	**353**	*i*	P	Pn	16 15 21.7	+2.4
HAJJ				*i*	S	Sn	16 16 08.7	+5.7
	comp=E,202nm,0.7s							

ISCJB ***15*** *16:15:02.1±0.5, 24.26N±0.08×65.37E±0.05, h10km, mb3.8/14, MS2.9/4, Error ellipse: s-maj=11.2km s-min=6.2km az=162.8*

IDC ***15*** *16:15:03.0±1.0, 24.27N×65.48E, h0km, mb3.9/12, mb1 4.0/12, mb1mx3.7/28, mbtmp3.

RSSD				*e*Sg	Sg	16 23 41.5	-5.6		
ECSD	**EROS Data Cent**	**4.44**	**146**	Pn	Pn	16 22 32.2	-1.5		
ECSD				*e*Pg	Pg	16 22 49.7	-2.7		
ECSD				*e*Sn	Sn	16 23 21.1	-3.8		
EPLO	**Experimental L**	**4.74**	**60**	Pn	Pn	16 22 37.3	-0.6		
EPLO				Sn	Sn	16 23 31.0	-1.4		
EPLO				Lg		16 23 51.9			
EPLO	**Experimental L**	**4.74**	**60**	PN	Pn	16 22 37.3	-0.6		
EPLO				SN	Sn	16 23 31.0	-1.3		
EPLO				LG		16 23 51.9			
EPLO				Trac		16 24 00.9			
	comp=Z,1.9nm,0.0s								
EYMN	**Ely**	**5.79**	**82**	Pn	Pn	16 22 51.9	-0.5		
EYMN				Sn	Sn	16 23 55.8	-2.4		
EYMN				Lg		16 24 24.6			
EYMN	**Ely**	**5.79**	**82**	PN	Pn	16 22 51.9	-0.4		
EYMN				SN	Sn	16 23 55.8	-2.4		
EYMN				LG		16 24 24.6			
ATKO	**Atikokan Iron**	**5.81**	**73**	Pn	Pn	16 22 52.2	-0.4		
ATKO				Sn	Sn	16 23 54.1	-4.6		
ATKO				Lg		16 24 10.2			
ATKO	**Atikokan Iron**	**5.81**	**73**	PN	Pn	16 22 52.2	-0.4		
ATKO				SN	Sn	16 23 54.1	-4.6		
ATKO				LG		16 24 10.2			
ATKO				Trac		16 24 17.7			
	comp=Z,3.4nm,0.1s								
SOLO	**Sioux Lookout**	**5.86**	**61**	Sn	Sn	16 23 54.1	-5.7		
SOLO	**Sioux Lookout**	**5.86**	**61**	SN	Sn	16 23 54.1	-5.7		
TBO	**Thunder Bay**	**7.23**	**77**	Sn	Sn	16 24 25.7	-7.8		
TBO				Lg		16 24 48.8			
TBO	**Thunder Bay**	**7.23**	**77**	SN	Sn	16 24 25.7	-7.8		
TBO				LG		16 24 48.8			
TBO				Trac		16 24 57.1			
	comp=Z,1.1nm,0.1s								
FFC	**Flin Flon**	**7.38**	**351**	Pn	Pn	16 23 12.2	-1.9		
FFC				Sn	Sn	16 24 32.9	-4.3		
FFC	**Flin Flon**	**7.38**	**351**	PN	Pn	16 23 12.2	-1.9		
FFC				SN	Sn	16 24 32.9	-4.3		
PKLO	**Pickle Lake**	**7.49**	**54**	Pn	Pn	16 23 14.1	-1.6		
PKLO				Sn	Sn	16 24 33.6	-6.5		
PKLO	**Pickle Lake**	**7.49**	**54**	PN	Pn	16 23 14.1	-1.6		
PKLO				SN	Sn	16 24 33.6	-6.5		
NANO	**Nakina Ontario**	**9.09**	**67**	Sn	Sn	16 25 13.5	-5.7		
NANO	**Nakina Ontario**	**9.09**	**67**	SN	Sn	16 25 13.5	-5.7		
PNPO	**Pukaskwa Natio**	**9.29**	**78**	Sn	Sn	16 25 17.4	-6.9		
PNPO	**Pukaskwa Natio**	**9.29**	**78**	SN	Sn	16 25 17.4	-6.9		

IDC 15 16:22:07.3±3.7, 25.12N×109.48W, h0km, mb3.1/1, mb1 3.6/5, mb1mx3.5/22, mbtmp3.2/5, ML3.5/4, MS3.2/1, Ms1 3.2/1, ms1mx2.4/17, Error ellipse: s-maj=50.6km s-min=23.0km az=160.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TXAR	**Lajitas Array**	**6.66**	**50**	Pn		Pn	16 23 46.5	0.0
	0.3nm,0.3s,baz=223,slow=13,SNR=14							
TXAR				Sn		Sn	16 25 01.0	-2.1
	1.1nm,0.3s,baz=234,slow=18,SNR=9.8							
TXAR				Lg			16 25 38.3	
	1.4nm,0.3s,baz=230,slow=28,SNR=9.1							
ANMO	**Albuquerque**	**10.14**	**14**	Pn		Pn	16 24 35.7	+1.5
	0.1nm,0.3s,baz=190,slow=14,SNR=4.0							
ANMO				Lg			16 27 29.2	
	0.1nm,0.3s,baz=255,slow=16,SNR=2.3							
NVAR	**Mina Array Bea**	**15.23**	**333**	Pn		Pn	16 25 45.9	+2.2
	0.1nm,0.3s,baz=153,slow=10.0,SNR=4.1							
NVAR	**Mina Array Bea**	**15.23**	**333**	Pn		Pn	16 25 45.9	+2.2
PDAR	**Pinedale Array**	**17.60**	**360**	P		Pn	16 26 15.2	+1.3
	0.0nm,0.3s,baz=176,slow=10,SNR=7.3							
TEIG	**Tepich**	**20.15**	**100**	LR		LR	16 36 46.7	
	comp=Z,75nm,19.8s,baz=360,slow=44							
ILAR	**Eielson Array**	**46.37**	**339**	P		P	16 30 35.1	+0.2
	0.3nm,0.9s,baz=165,slow=7.5,SNR=3.6							

ISCJB ***15*** *16:32:52.8±0.2, 51.51N±0.02×16.12E±0.02, h0km, mb3.7/8, Error ellipse: s-maj=2.2km s-min=1.8km az=0.1*
MOS ***15*** *16:32:53.5±1.1, 51.62N×16.11E, h10km, mb3.9/3, Error ellipse: s-maj=6.9km s-min=4.2km az=76.2*
LDG ***15*** *16:32:54.9±0.3, 51.47N×16.09E, h1km, Ml4.0/5, Error ellipse: s-maj=7.2km s-min=3.4km az=15.0, Suspected Mining induced.*
CSEM ***15*** *16:32:54.7±0.1, 51.53N×16.13E, h2km, ML3.5/16, ML4.0/5, Error ellipse: s-maj=2.2km s-min=1.9km az=162.0*
NEIC ***15*** *16:32:54.6±0.3, 51.56N×16.01E, h5km, mb3.9/2, ML3.5(SZGRF), Error ellipse: s-maj=6.5km s-min=4.7km az=158.0*
IDC ***15*** *16:32:56.0±0.6, 51.49N×15.96E, h0km, mb3.6/6, mb1 3.8/14, mb1mx3.6/30, mbtmp3.6/14, ML3.4/8, Error ellipse: s-maj=11.7km s-min=6.7km az=110.0*
BGR ***15*** *16:32:56.5±0.4, 51.47N×16.09E, h1km, ML3.5/16, Error ellipse: s-maj=5.6km s-min=2.2km az=19.0*
WAR ***15*** *16:32:56.6, 51.49N×16.09E, ML3.2, Mining Induced*
STR ***15*** *16:32:57.4±2.1, 52.03N×15.39E, h1km, Ml4.1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
UPP ***15*** *16:32:57.8, 51.63N×15.24E, h0km, ML2.5, Suspected Mining explosion.*
VIE ***15*** *16:32:57.0±0.6, 51.33N×16.04E, h1km, mb3.0/7, ML3.2/9, Error ellipse: s-maj=3.9km s-min=2.8km az=17.0 72 km WNW of Wroclaw Suspected Mining induced.*
PRU ***15*** *16:32:58.8, 51.37N×16.13E, h0km, M3.9*

ISC 15 16:32:54.7±0.2, 51.52N±0.01×16.11E±0.02, h0km, n256, σ0.98/346, mb3.7/8, 13C-7D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSP	**Ksiaz**	**0.69**	**170**	*e*Pg		**Pg**	**16 33 08.6**	**+0.8**
KSP				*e*Sg		**Sg**	**16 33 17.3**	**+0.6**
KSP	**Ksiaz**	**0.69**	**170**	*e*Pg		**Pg**	**16 33 08.6**	**+0.8**
KSP				*e*Sg		**Sg**	**16 33 18.1**	**+1.4**
KSP	**Ksiaz**	**0.69**	**170**	*i* Pg		**Pg**	**16 33 08.6**	**+0.8**
KSP				*i* Sg		**Sg**	**16 33 17.3**	**+0.6**
KSP	**Ksiaz**	**0.69**	**170**	Pg		**Pg**	**16 33 08.6**	**+0.8**
KSP				Sg		**Sg**	**16 33 18.1**	**+1.4**
UPC	**Upice**	**1.02**	**184**	*e*P		**Pg**	**16 33 14.6**	**+0.5**
UPC	**Upice**	**1.02**	**184**	*e*PG		**Pg**	**16 33 14.6**	**+0.5**
UPC	**Upice**	**1.02**	**184**	*e*P		**Pg**	**16 33 14.6**	**+0.5**
DPC	**Dobruska-Polom**	**1.18**	**173**	*e*P		**Pg**	**16 33 17.3**	**+0.1**
DPC				*e*			16 33 32.2	
DPC					smax			
	comp=N,304nm,0.7s							
DPC	**Dobruska-Polom**	**1.18**	**173**	*e*Pg		**Pg**	**16 33 17.4**	**+0.1**
DPC				*e*Sg		**Sg**	**16 33 32.6**	**+0.1**
DPC	**Dobruska-Polom**	**1.18**	**173**	*e*PG		**Pg**	**16 33 17.3**	**+0.1**
DPC				*e*SG		**Sg**	**16 33 32.2**	**-0.3**
	comp=Z,304nm,0.7s							
DPC	**Dobruska-Polom**	**1.18**	**173**	*e*P		**Pg**	**16 33 17.3**	**+0.1**
	comp=Z,304nm,0.7s							
DPC				*e*S		**Sg**	**16 33 32.2**	**-0.3**
DPC				Sg		**Sg**	**16 33 32.6**	**+0.1**
PVCC	**Panska Ves**	**1.39**	**225**	*e*P		**Pg**	**16 33 21.4**	**+0.1**
PVCC				*e*			16 33 39.6	
PVCC					smax			
	comp=N,776nm,0.2s							
PVCC	**Panska Ves**	**1.39**	**225**	*e*Pg		**Pg**	**16 33 21.4**	**+0.1**
PVCC				*e*SG		**Sg**	**16 33 39.6**	**+0.3**
	comp=Z,776nm,0.2s							
PVCC	**Panska Ves**	**1.39**	**225**	*e*P		**Pg**	**16 33 21.4**	**+0.1**
	comp=Z,776nm,0.2s							
PVCC				*e*S		**Sg**	**16 33 39.6**	**+0.3**
KRLC	**Kraliky**	**1.51**	**163**	*e*PG		**Pg**	**16 33 22.8**	**-0.7**
BRG	**Berggiesshubel**	**1.51**	**245**	PN		**Pn**	**16 33 22.5**	**-0.4**
BRG				PG		**Pg**	**16 33 24.3**	**+0.7**
BRG				SG		**Sg**	**16 33 44.0**	**+0.9**
	comp=Z,323nm,0.4s							
BRG	**Berggiesshubel**	**1.51**	**245**	P		**Pn**	**16 33 22.5**	**-0.4**
BRG							16 33 44.0	
BRG					smax			
	comp=N,323nm,0.4s							
BRG	**Berggiesshubel**	**1.51**	**245**	P		**Pn**	**16 33 22.5**	**-0.4**
RUE	**Ruedersdorf**	**1.73**	**305**	*e*Pn		**Pn**	**16 33 25.5**	**-0.4**
RUE				*e*Sn		**Sn**	**16 33 51.0**	**+2.2**
RUE	**Ruedersdorf**	**1.73**	**305**	*e*Pn		**Pn**	**16 33 25.5**	**-0.5**
RUE				*e*Sn		**Sn**	**16 33 51.0**	**+2.3**
PRU	**Pruhonice**	**1.83**	**214**	*e*P		**Pn**	**16 33 27.8**	**+0.5**
PRU				*e*			16 33 53.3	
PRU					smax			
	comp=N,146nm,0.6s							
PRU	**Pruhonice**	**1.83**	**214**	*e*PN		**Pn**	**16 33 27.8**	**+0.5**
PRU				*e*PG		**Pg**	**16 33 29.8**	**+0.1**
PRU				*e*SG		**Sg**	**16 33 53.3**	**-0.1**
	comp=Z,146nm,0.6s							
PRU	**Pruhonice**	**1.83**	**214**	*e*P		**Pn**	**16 33 27.8**	**+0.5**
PRU				*e*S		**Sg**	**16 33 53.3**	**-0.1**
	comp=Z,146nm,0.6s							
FBE	**Freiberg**	**1.83**	**252**	*e*Pn		**Pn**	**16 33 27.4**	**0.0**
FBE				*e*Pg		**Pg**	**16 33 29.6**	**-0.1**
FBE				*e*Sg		**Sg**	**16 33 53.9**	**+0.3**
FBE	**Freiberg**	**1.83**	**252**	Pn		**Pn**	**16 33 27.4**	**0.0**
RAC	**Raciborz**	**1.95**	**137**	*e*P		**Pg**	**16 33 32.1**	**0.0**
RAC				*e*		**Sg**	**16 33 57.1**	**-0.3**
RAC	**Raciborz**	**1.95**	**137**	*e*P		**Pg**	**16 33 32.1**	**0.0**
RAC				*e*S		**Sg**	**16 33 57.1**	**-0.3**
CLL	**Collm**	**1.96**	**265**	*e*P		**Pn**	**16 33 29.0**	**-0.1**
CLL				*i*			16 33 57.5	
CLL	**Collm**	**1.96**	**265**	*e*Pn		**Pn**	**16 33 28.8**	**-0.3**
CLL				*e*Sg		**Sg**	**16 33 58.0**	**+0.4**
CLL	**Collm**	**1.96**	**265**	*e*Pn		**Pn**	**16 33 29.0**	**-0.1**
CLL				*e*Pg		**Pg**	**16 33 32.0**	**-0.2**
CLL				*e*			16 33 36.0	
CLL				*i* Sg		**Sg**	**16 33 57.5**	**0.0**
	comp=Z,111nm,0.8s							
CLL				*i*			16 34 07.3	
CLL	**Collm**	**1.96**	**265**	*e*P		**Pn**	**16 33 29.0**	**-0.1**
CLL				*i* S		**Sg**	**16 33 57.5**	**0.0**
CLL				Sg		**Sg**	**16 33 58.0**	**+0.5**
MORC	**Moravsky Berou**	**1.97**	**152**	*e*Pn		**Pn**	**16 33 28.8**	**-0.4**
MORC				*e*Sn		**Sn**	**16 33 56.6**	**+2.1**
MORC	**Moravsky Berou**	**1.97**	**152**	*e*P		**Pn**	**16 33 28.8**	**-0.4**
MORC				*e*			16 33 56.7	
MORC	**Moravsky Berou**	**1.97**	**152**	*e*Pn		**Pn**	**16 33 29.2**	**-0.1**
MORC				*e*Sg		**Sg**	**16 33 56.6**	**-1.3**
MORC	**Moravsky Berou**	**1.97**	**152**	*e*P		**Pn**	**16 33 28.8**	**-0.4**
MORC				Sg		**Sg**	**16 33 56.6**	**-1.3**
OKC	**Ostrava-Krasne**	**2.13**	**142**	*e*Pn		**Pn**	**16 33 31.0**	**-0.4**
OKC				*e*Pg		**Pg**	**16 33 35.2**	**-0.2**
OKC				*e*Sg		**Sg**	**16 34 02.0**	**-0.9**
OKC	**Ostrava-Krasne**	**2.13**	**142**	Pn		**Pn**	**16 33 31.0**	**-0.4**
OKC	**Ostrava-Krasne**	**2.13**	**142**	Pg		**Pg**	**16 33 35.2**	**-0.2**
OKC				Sg		**Sg**	**16 34 02.0**	**-0.9**
VRAC	**Vranov**	**2.24**	**172**	Pn		**Pn**	**16 33 33.4**	**+0.5**
	comp=Z,4.0nm,0.3s,baz=346,slow=16,SNR=22							
VRAC				Lg			16 34 06.0	
	comp=Z,14nm,0.3s,baz=262,slow=23,SNR=7.7							
VRAC	**Vranov**	**2.24**	**172**	Pn		**Pn**	**16 33 33.4**	**+0.5**
VRAC				Lg			16 34 06.0	
VRAC	**Vranov**	**2.24**	**172**	P		**Pn**	**16 33 33.4**	**+0.5**
VRAC					pmax	pmax		
	comp=Z,4.0nm,0.3s							
VRAC	**Vranov**	**2.24**	**172**	*e*Pn		**Pn**	**16 33 33.3**	**+0.4**
VRAC				*e*Sg		**Sg**	**16 34 05.4**	**-1.1**
VRAC				Lg			16 34 06.0	
TREC	**Trest**	**2.26**	**190**	*e*P		**Pg**	**16 33 37.0**	**-1.0**
TREC	**Trest**	**2.26**	**190**	*e*PG		**Pg**	**16 33 37.0**	**-1.0**
TREC	**Trest**	**2.26**	**190**	*e*P		**Pg**	**16 33 37.0**	**-1.0**
TANN	**Tannenbergstha**	**2.56**	**246**	*e*Pn		**Pn**	**16 33 38.0**	**+0.6**
TANN				*e*Sg		**Sg**	**16 34 15.5**	**-1.3**
TANN	**Tannenbergstha**	**2.56**	**246**	Pn		**Pn**	**16 33 38.0**	**+0.7**
TANN				Sg		**Sg**	**16 34 15.5**	**-1.3**
WERD	**Werda**	**2.63**	**247**	*e*Pn		**Pn**	**16 33 38.7**	**+0.3**
WERD				*e*Sg		**Sg**	**16 34 18.6**	**-0.7**
WERD	**Werda**	**2.63**	**247**	Pn		**Pn**	**16 33 38.7**	**+0.3**
WERD				Sg		**Sg**	**16 34 18.6**	**-0.6**
NKC	**Novy Kostel**	**2.66**	**242**	*e*P		**Pn**	**16 33 39.2**	**+0.6**
NKC				*e*			16 34 20.7	
NKC					smax			
	comp=N,159nm,0.4s							
NKC	**Novy Kostel**	**2.66**	**242**	*e*PN		**Pn**	**16 33 39.2**	**+0.6**
NKC				*e*PG		**Pg**	**16 33 46.3**	**+0.8**
NKC				*e*SG		**Sg**	**16 34 20.7**	**+0.8**
	comp=Z,159nm,0.4s							
NKC	**Novy Kostel**	**2.66**	**242**	*e*P		**Pn**	**16 33 39.2**	**+0.6**
OJC	**Ojcow**	**2.67**	**118**	*e*Pn		**Pn**	**16 33 37.7**	**-1.2**
OJC				*e*Pg		**Pg**	**16 33 46.1**	**+0.2**
OJC				*e*Sg		**Sg**	**16 34 22.0**	**+1.5**
OJC	**Ojcow**	**2.67**	**118**	*e*P		**Pn**	**16 33 37.7**	**-1.2**
OJC	**Ojcow**	**2.67**	**118**	*e*P		**Pn**	**16 33 37.7**	**-1.2**
KHC	**Kasperske Hory**	**2.89**	**215**	*e*Pn		**Pn**	**16 33 41.5**	**-0.4**
KHC				*e*Pb		**Pb**	**16 33 47.9**	**+0.9**
KHC				*e*Sn		**Sn**	**16 34 13.1**	**-4.2**
KHC	**Kasperske Hory**	**2.89**	**215**	*e*P		**Pn**	**16 33 41.9**	**0.0**
KHC				*e*			16 34 16.5	
KHC	**Kasperske Hory**	**2.89**	**215**	*e*PN		**Pn**	**16 33 41.9**	**0.0**
KHC				*e*PG		**Pg**	**16 33 48.4**	**-1.6**
KHC				*e*SN		**Sn**	**16 34 16.5**	**-0.8**
KHC				*e*SG		**Sg**	**16 34 26.7**	**-0.8**
	comp=Z,85nm,0.6s							
KHC	**Kasperske Hory**	**2.89**	**215**	*e*Pn		**Pn**	**16 33 41.5**	**-0.4**
KHC	**Kasperske Hory**	**2.89**	**215**	*e*P		**Pn**	**16 33 41.9**	**0.0**
KHC	**Kasperske Hory**	**2.89**	**215**	*e*Pb		**Pb**	**16 33 47.9**	**+0.9**
KHC				*e*S		**Sn**	**16 34 16.5**	**-0.8**
MOX	**Moxa**	**2.97**	**255**	*e*P		**Pn**	**16 33 43.1**	**+0.2**
MOX	**Moxa**	**2.97**	**255**	*e*Pn		**Pn**	**16 33 43.1**	**+0.1**
MOX	**Moxa**	**2.97**	**255**	Pn		**Pn**	**16 33 43.1**	**+0.2**
ROTZ	**Rotzenmuhle**	**3.04**	**236**	*e*Pn		**Pn**	**16 33 44.5**	**+0.5**
ROTZ	**Rotzenmuhle**	**3.04**	**236**	Pn		**Pn**	**16 33 44.5**	**+0.5**
GEC2	**GERESS Array S**	**3.09**	**211**	*e*P		**Pn**	**16 33 45.0**	**+0.3**
GEC2	**GERESS Array S**	**3.09**	**211**	*e*Pn		**Pn**	**16 33 45.0**	**+0.3**
GEC2	**GERESS Array S**	**3.09**	**211**	Pn		**Pn**	**16 33 45.0**	**+0.3**
GERES	**GERESS Array B**	**3.09**	**211**	Pn		**Pn**	**16 33 45.0**	**+0.3**
	comp=Z,4.7nm,0.3s,baz=31,slow=12,SNR=142							
GERES				Pg		**Pg**	**16 33 52.0**	**-1.9**
	comp=Z,8.9nm,0.3s,baz=28,slow=17,SNR=51							
GERES				Lg			16 34 32.0	
	comp=Z,14nm,0.3s,baz=31,slow=26,SNR=12							
GERES	**GERESS Array B**	**3.09**	**211**	Pn		**Pn**	**16 33 45.0**	**+0.3**
GERES				Pg		**Pg**	**16 33 52.0**	**-1.9**
GERES				Lg			16 34 32.0	
GERES	**GERESS Array B**	**3.09**	**211**	P		**Pn**	**16 33 45.0**	**+0.3**
GERES					pmax	pmax		
	comp=Z,5.0nm,0.3s							
GERES					pmax	pmax		
	comp=Z,9.0nm,0.3s							
GERES	**GERESS Array B**	**3.09**	**211**	P		**Pn**	**16 33 45.0**	**+0.3**
GERES	**GERESS Array B**	**3.09**	**211**	Pg		**Pg**	**16 33 52.0**	**-1.9**
SMOL	**Smolenice**	**3.13**	**164**	*e*P		**Pg**	**16 33 54.2**	**-0.4**
SMOL	**Smolenice**	**3.13**	**164**	*e*PG		**Pg**	**16 33 54.2**	**-0.4**
SMOL	**Smolenice**	**3.13**	**164**	*e*Pg		**Pg**	**16 33 54.2**	**-0.4**
WET	**Wettzell**	**3.15**	**222**	*e*P		**Pn**	**16 33 45.8**	**+0.3**
WET	**Wettzell**	**3.15**	**222**	*e*Pn		**Pn**	**16 33 45.8**	**+0.3**
WET	**Wettzell**	**3.15**	**222**	Pn		**Pn**	**16 33 45.8**	**+0.3**
KOLL	**Kolacno**	**3.29**	**152**	*e*P		**Pn**	**16 33 47.0**	**-0.4**
KOLL	**Kolacno**	**3.29**	**152**	*e*PN		**Pn**	**16 33 47.0**	**-0.4**
KOLL				*e*SG		**Sg**	**16 34 40.0**	**-0.4**
KOLL	**Kolacno**	**3.29**	**152**	*e*P		**Pn**	**16 33 47.0**	**-0.4**
KOLL				*e*Sg		**Sg**	**16 34 40.0**	**-0.4**
ZST	**Bratislava**	**3.39**	**169**	*e*SN		**Sg**	**16 34 41.2**	**-2.3**
NIE	**Niedzica**	**3.41**	**126**	*e*P		**Pg**	**16 34 00.0**	**0.0**
NIE				*e*S		**Sg**	**16 34 45.1**	**+0.9**
NIE	**Niedzica**	**3.41**	**126**	*e*P		**Pg**	**16 34 00.0**	**0.0**
VYHS	**Vyhne**	**3.50**	**149**	*e*P		**Pn**	**16 33 50.0**	**-0.3**
VYHS	**Vyhne**	**3.50**	**149**	*e*PN		**Pn**	**16 33 50.0**	**-0.3**
VYHS				*e*PG		**Pg**	**16 34 01.1**	**-0.6**
VYHS	**Vyhne**	**3.50**	**149**	*e*P		**Pn**	**16 33 50.0**	**-0.3**
CLZ	**Clausthal**	**3.59**	**277**	*e*P		**Pn**	**16 33 52.6**	**+1.2**
CLZ	**Clausthal**	**3.59**	**277**	*e*Pn		**Pn**	**16 33 52.6**	**+1.1**
CLZ	**Clausthal**	**3.59**	**277**	Pn		**Pn**	**16 33 52.6**	**+1.2**
CONA	**Conrad Observa**	**3.60**	**183**	⇑*i*Pn		**Pn**	**16 33 51.8**	**+0.1**
	SNR=13							
CONA				⇓*i*Sg		**Sg**	**16 34 50.0**	**-0.2**
	comp=Z,87nm,0.5s							
CONA	**Conrad Observa**	**3.60**	**183**	Pn		**Pn**	**16 33 51.8**	**+0.2**
	SNR=13							
CONA				Sg		**Sg**	**16 34 50.0**	**-0.2**
	comp=Z,87nm,0.5s							
GRA1	**Grafenberg Arr**	**3.61**	**241**	Pn		**Pn**	**16 33 52.6**	**+0.8**
GRF	**Grafenberg Arr**	**3.61**	**241**	*e*P		**Pn**	**16 33 52.6**	**+0.8**
GRF	**Grafenberg Arr**	**3.61**	**241**	*e*Pn		**Pn**	**16 33 52.6**	**+0.8**
GRFO	**Grafenberg**	**3.61**	**241**	*e*Pn		**Pn**	**16 33 52.0**	**+0.2**
GRFO				*e*Pg		**Pg**	**16 34 04.0**	**+0.1**
GRFO				*e*Sg		**Sg**	**16 34 50.9**	**+0.2**
GRFO	**Grafenberg**	**3.61**	**241**	*e*P		**Pn**	**16 33 52.0**	**+0.2**
GRFO	**Grafenberg**	**3.61**	**241**	*e*P		**Pn**	**16 33 52.0**	**+0.2**
GRFO	**Grafenberg**	**3.61**	**241**	*e*Pg		**Pg**	**16 34 04.0**	**+0.1**
MOA	**Molln**	**3.87**	**199**	⇑*i*Pn		**Pn**	**16 33 55.8**	**+0.5**
	SNR=9.0							
MOA				⇓*i*Sg		**Sg**	**16 34 58.2**	**-0.6**
	comp=Z,116nm,0.8s							
MOA	**Molln**	**3.87**	**199**	Pn		**Pn**	**16 33 55.8**	**+0.5**
	SNR=9.0							
MOA				Sg		**Sg**	**16 34 58.2**	**-0.6**
	comp=Z,116nm,0.8s							
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*P		**Pn**	**16 33 56.8**	**+1.1**
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*PN		**Pn**	**16 33 56.8**	**+1.1**
STHS				*e*PG		**Pg**	**16 34 09.8**	**+0.5**
STHS				*e*SG		**Sg**	**16 35 04.3**	**+4.5**
STHS	**Stebnicka Huta**	**3.90**	**121**	*e*P		**Pn**	**16 33 56.8**	**+1.1**
KECS	**Kecovo**	**4.15**	**135**	*e*P		**Pn**	**16 33 58.4**	**-0.8**
KECS	**Kecovo**	**4.15**	**135**	*e*PN		**Pn**	**16 33 58.4**	**-0.8**
KECS				*e*PG		**Pg**	**16 34 15.1**	**+1.0**
KECS	**Kecovo**	**4.15**	**135**	*e*P		**Pn**	**16 33 58.4**	**-0.8**
ARSA	**Arzberg**	**4.29**	**185**	⇓*i*Pn		**Pn**	**16 34 02.4**	**+1.2**
	SNR=5.2							
ARSA				⇑*i*Sg		**Sg**	**16 35 12.5**	**0.0**
	comp=Z,76nm,0.7s							
ARSA	**Arzberg**	**4.29**	**185**	Pn		**Pn**	**16 34 02.4**	**+1.3**
	SNR=5.2							
ARSA				Sg		**Sg**	**16 35 12.5**	**+0.1**
	comp=Z,76nm,0.7s							
PSZ	**Piszkesteto**	**4.36**	**144**	*e*Pn		**Pn**	**16 34 01.7**	**-0.4**
PSZ	**Piszkesteto**	**4.36**	**144**	*e*P		**Pn**	**16 34 01.7**	**-0.4**
PSZ	**Piszkesteto**	**4.36**	**144**	⇑*i*P		**Pn**	**16 34 03.6**	**+1.5**
PSZ	**Piszkesteto**	**4.36**	**144**	*e*P		**Pn**	**16 34 01.7**	**-0.4**
KWP	**Kalwaria Pacla**	**4.61**	**112**	*e*Pn		**Pn**	**16 34 04.5**	**-1.0**
KWP				*e*Pg		**Pg**	**16 34 20.2**	**-2.7**
KWP	**Kalwaria Pacla**	**4.61**	**112**	*e*P		**Pn**	**16 34 04.5**	**-1.0**
KWP	**Kalwaria Pacla**	**4.61**	**112**	⇑*i*P		**Pg**	**16 34 21.1**	**-1.8**
KWP	**Kalwaria Pacla**	**4.61**	**112**	*e*P		**Pn**	**16 34 04.5**	**-1.0**
KOLS	**Kolonicke sedl**	**4.73**	**121**	*e*P		**Pn**	**16 34 06.8**	**-0.3**
KOLS	**Kolonicke sedl**	**4.73**	**121**	*e*PN		**Pn**	**16 34 06.8**	**-0.3**
KOLS				*e*PG		**Pg**	**16 34 23.7**	**-1.5**
KOLS	**Kolonicke sedl**	**4.73**	**121**	*e*P		**Pn**	**16 34 06.8**	**-0.3**
KBA	**Koelnbreinsper**	**4.80**	**203**	⇑*i*Pn		**Pn**	**16 34 09.2**	**+1.1**
KBA	**Koelnbreinsper**	**4.80**	**203**	Pn		**Pn**	**16 34 09.2**	**+1.1**
UZH	**Uzhgorod**	**4.92**	**124**	*e*P		**Pn**	**16 34 17.0**	**+7.2**
UZH				*e*S		**Sn**	**16 35 15.0**	**+7.7**
UZH					smax			
	comp=N,40nm,1.0s							
UZH					smax			
	comp=E,40nm,1.0s							
SUW	**Suwalki**	**4.96**	**57**	Pn		**Pn**	**16 34 10.8**	**+0.4**
SUW	**Suwalki**	**4.96**	**57**	P		**Pn**	**16 34 10.8**	**+0.4**
SUW	**Suwalki**	**4.96**	**57**	P		**Pn**	**16 34 10.8**	**+0.4**
TOD	**Tromm**	**5.04**	**250**	P		**Pn**	**16 34 10.4**	**-1.0**
TOD				S		**Sn**	**16 35 11.6**	**+1.4**
TOD	**Tromm**	**5.04**	**250**	P		**Pn**	**16 34 10.4**	**-1.0**
TOD				S		**Sn**	**16 35 11.6**	**+1.4**
TOD	**Tromm**	**5.04**	**250**	P		**Pn**	**16 34 10.4**	**-1.0**
TOD				S		**Sn**	**16 35 11.6**	**+1.4**
WATA	**Walderalm**	**5.13**	**217**	⇑*i*Pn		**Pn**	**16 34 13.5**	**+0.9**
	SNR=9.4							
WATA				⇓*i*Sg		**Sg**	**16 35 40.8**	**+1.5**
	comp=E,19nm,0.5s							
WATA	**Walderalm**	**5.13**	**217**

AKASG	**Malin Array Be**	**8.29**	**91**	*e*P		**Pn**	**16 34 54.9**	**-1.2**
	comp=Z,2.0nm,0.3s							
AKASG	**Malin Array Be**	**8.29**	**91**	Pn		**Pn**	**16 34 55.9**	**-0.2**
AKBB	**Malin Array Si**	**8.29**	**91**	*e*Pn		**Pn**	**16 34 56.3**	**+0.3**
AKBB				*e*Pg		**Pg**	**16 35 32.4**	**-1.0**
AKBB	**Malin Array Si**	**8.29**	**91**	*e*P		**Pn**	**16 34 56.3**	**+0.2**
AKBB	**Malin Array Si**	**8.29**	**91**	*e*P		**Pn**	**16 34 56.3**	**+0.2**
BACU	**Backbrunna**	**8.37**	**3**	P		**Pn**	**16 34 57.3**	**+0.2**
LPL	**La Plagne**	**8.65**	**230**	*e*P		**Pn**	**16 35 02.5**	**+1.6**
LPL	**La Plagne**	**8.65**	**230**	*e*P		**Pn**	**16 35 02.5**	**+1.6**
LPL	**La Plagne**	**8.65**	**230**	*e*P		**Pn**	**16 35 02.5**	**+1.6**
LPL	**La Plagne**	**8.65**	**230**	*e*P		**Pn**	**16 35 02.5**	**+1.6**
LPG	**La Plagne**	**8.65**	**229**	*e*Sg		**Sg**	**16 37 24.7**	**-7.6**
	comp=Z,21nm,1.0s							
FLYU	**Flymyra**	**8.69**	**6**	P		**Pn**	**16 35 01.3**	**-0.1**
HFS	**Hagfors**	**8.74**	**352**	Pn		**Pn**	**16 35 02.0**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=185,slow=16,SNR=6.5							
HFS	**Hagfors**	**8.74**	**352**	Pn		**Pn**	**16 35 02.0**	**-0.1**
HFS	**Hagfors**	**8.74**	**352**	P		**Pn**	**16 35 02.0**	**-0.1**
HFS	**Hagfors**	**8.74**	**352**	P		**Pn**	**16 35 02.0**	**-0.1**
LOR	**Lormes**	**9.05**	**247**	*e*Pn		**Pn**	**16 35 02.7**	**-3.7**
	baz=66							
LOR	**Lormes**	**9.05**	**247**	*e*Pn		**Pn**	**16 35 02.7**	**-3.7**
LOR	**Lormes**	**9.05**	**247**	*e*P		**Pn**	**16 35 02.7**	**-3.7**
MBDF	**Montbardon**	**9.23**	**226**	*e*P		**Pn**	**16 35 12.2**	**+3.4**
MBDF	**Montbardon**	**9.23**	**226**	*e*P		**Pn**	**16 35 12.2**	**+3.4**
MBDF	**Montbardon**	**9.23**	**226**	*e*P		**Pn**	**16 35 12.2**	**+3.4**
NOA	**NORSAR Array B**	**9.92**	**346**	Pn		**Pn**	**16 35 16.6**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=164,slow=12,SNR=1.5							
NOA	**NORSAR Array B**	**9.92**	**346**	Pn		**Pn**	**16 35 16.6**	**-1.7**
NOA	**NORSAR Array B**	**9.92**	**346**	P		**Pn**	**16 35 16.6**	**-1.7**
NOA	**NORSAR Array B**	**9.92**	**346**	P		**Pn**	**16 35 16.6**	**-1.7**
FINES	**FINESS Array B**	**11.35**	**25**	Pn		**Pn**	**16 35 36.5**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=201,slow=11,SNR=12							
FINES				Sn		**Sn**	**16 37 34.9**	**-10**
	comp=Z,0.3nm,0.3s,baz=188,slow=18,SNR=3.9							
FINES	**FINESS Array B**	**11.35**	**25**	Pn		**Pn**	**16 35 36.5**	**-1.3**
FINES				Sn		**Sn**	**16 37 34.9**	**-10**
FINES	**FINESS Array B**	**11.35**	**25**	P		**Pn**	**16 35 36.6**	**-1.3**
FINES							16 37 34.9	
FINES	**FINESS Array B**	**11.35**	**25**	P		**Pn**	**16 35 36.6**	**-1.3**
KAF	**Kangasniemi**	**11.98**	**24**	*e*P		**Pn**	**16 35 43.8**	**-2.6**
KAF				pmax	pmax			
	comp=Z,2.0nm,0.6s							
KAF	**Kangasniemi**	**11.98**	**24**	*e*p		**Pn**	**16 35 43.8**	**-2.6**
	comp=Z,1.7nm,0.6s							
EKA	**Eskdalemuir Ar**	**12.10**	**296**	Pn		**Pn**	**16 35 45.8**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=104,slow=20,SNR=2.0							
EKA	**Eskdalemuir Ar**	**12.10**	**296**	Pn		**Pn**	**16 35 45.8**	**-2.3**
EKA	**Eskdalemuir Ar**	**12.10**	**296**	P		**Pn**	**16 35 45.8**	**-2.3**
OBN	**Obninsk**	**12.74**	**66**⇓	*e*P		**Pn**	**16 35 56.6**	**-0.2**
OBN				pmax	pmax			
	comp=Z,5.0nm,0.9s							
OBN	**Obninsk**	**12.74**	**66**	*e*P		**Pn**	**16 35 56.6**	**-0.2**
	comp=Z,5.0nm,0.9s							
JOF	**Joensuu**	**14.03**	**30**	*e*P		**Pn**	**16 36 13.6**	**-0.8**
JOF				pmax	pmax			
	comp=Z,3.0nm,0.8s							
JOF	**Joensuu**	**14.03**	**30**	*e*p		**Pn**	**16 36 13.6**	**-0.8**
	comp=Z,2.7nm,0.8s							
JOF	**Joensuu**	**14.03**	**30**	*e*P		**Pn**	**16 36 13.6**	**-0.8**
	comp=Z,3.0nm,0.8s							
ARCES	**ARCESS Array B**	**18.61**	**10**	Pn		**Pn**	**16 37 09.9**	**-3.5**
	comp=Z,0.4nm,0.3s,baz=190,slow=12,SNR=11							
ARCES	**ARCESS Array B**	**18.61**	**10**	Pn		**Pn**	**16 37 09.9**	**-3.5**
ARCES	**ARCESS Array B**	**18.61**	**10**	P		**Pn**	**16 37 09.9**	**-3.5**
ARU	**Arti**	**25.13**	**62**	*e*P		**P**	**16 38 21.4**	**+0.5**
	comp=Z,3.3nm,0.7s,mb4.2							
ARU	**Arti**	**25.13**	**62**	P		**P**	**16 38 20.8**	**-0.2**
ARU	**Arti**	**25.13**	**62**	P		**P**	**16 38 20.8**	**-0.2**
AKTK	**Aktyubinsk**	**26.15**	**76**	P		**P**	**16 38 31.1**	**+0.8**
AKTK	**Aktyubinsk**	**26.15**	**76**	P		**P**	**16 38 31.1**	**+0.8**
	comp=Z,1.0nm,0.6s,mb3.6							
AKTO	**Aktyubinsk**	**26.15**	**76**	P		**P**	**16 38 31.1**	**+0.8**
	comp=Z,1.2nm,0.6s,mb3.7,baz=287,slow=9.9,SNR=5.2							
AKTO	**Aktyubinsk**	**26.15**	**76**	P		**P**	**16 38 31.1**	**+0.8**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.6							
KURK	**Kurchatov**	**38.18**	**66**	P		**P**	**16 40 16.0**	**+0.5**
	comp=Z,0.6nm,0.6s,mb3.5,baz=297,slow=9.3,SNR=6.9							
KURK	**Kurchatov**	**38.18**	**66**	P		**P**	**16 40 15.6**	**+0.1**
	comp=Z,0.9nm,0.8s,mb3.5							
KURK	**Kurchatov**	**38.18**	**66**	P		**P**	**16 40 15.6**	**+0.1**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.8s,mb3.6							
KURK	**Kurchatov**	**38.18**	**66**	P		**P**	**16 40 15.6**	**+0.1**
	comp=Z,0.9nm,0.8s,mb3.5							
TORD	**Torodi Ar. Bea**	**40.01**	**202**	P		**P**	**16 40 31.0**	**-0.1**
	comp=Z,0.8nm,0.8s,mb3.4,baz=14,slow=7.2,SNR=5.1							
TORD	**Torodi Ar. Bea**	**40.01**	**202**	P		**P**	**16 40 31.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**40.01**	**202**	P		**P**	**16 40 31.0**	**-0.1**
ZALV	**Zalesovo Beam**	**40.19**	**59**	P		**P**	**16 40 34.9**	**+2.6**
	comp=Z,0.3nm,0.3s,mb3.4,baz=300,slow=10,SNR=3.9							
ZALV	**Zalesovo Beam**	**40.19**	**59**	P		**P**	**16 40 34.9**	**+2.6**
ZALV	**Zalesovo Beam**	**40.19**	**59**	*e*P		**P**	**16 40 35.6**	**+3.3**
YKA	**Yellowknife Ar**	**59.85**	**336**	P		**P**	**16 43 01.7**	**+0.4**
	comp=Z,0.5nm,0.6s,mb3.7,baz=33,slow=6.9,SNR=3.6							
YKA	**Yellowknife Ar**	**59.85**	**336**	P		**P**	**16 43 01.7**	**+0.4**
YKA	**Yellowknife Ar**	**59.85**	**336**	P		**P**	**16 43 01.7**	**+0.4**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**59.85**	**336**	P		**P**	**16 43 01.7**	**+0.4**
	comp=Z,1.0nm,0.6s,mb4.0							
PDAR	**Pinedale Array**	**74.93**	**322**	P		**P**	**16 44 39.1**	**+1.9**
	comp=Z,0.3nm,0.5s,mb3.6,baz=52,slow=9.6,SNR=2.6							
PDAR	**Pinedale Array**	**74.93**	**322**	P		**P**	**16 44 39.1**	**+1.9**

GUC 15 16:33:25.6±0.6, 32.39S×71.77W, h34km±11km, MD3.6, ML2.7, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.55**	**24**	⇓*i*P	Pb	16 33 36.8	-0.3
CHNG				*i* S	Sb	16 33 45.0	+0.1
CHNG				AML	AML	16 33 45.5	
	comp=E,305nm,0.5s						
ROCH	**El Roble**	**0.86**	**133**	⇓*i*P	Pn	16 33 42.1	+0.8
ROCH				*i* S	Sn	16 33 54.1	+1.4
ROCH				AML	AML	16 33 56.7	
	comp=N,455nm,0.3s						
PEL	**Peldehue**	**1.18**	**130**	⇑*i*P	Pn	16 33 47.4	+1.7
PEL				*i* S	Sn	16 34 03.4	+2.8
PEL				AML	AML	16 34 05.0	
	comp=E,746nm,0.3s						
CMCH	**Combarbala**	**1.38**	**28**	⇓*i*P	Pn	16 33 49.4	+1.0
CMCH				*i* S	Sn	16 34 07.7	+2.3
CMCH				AML	AML	16 34 10.2	
	comp=E,588nm,0.8s						
CLCH	**Cerro Calan**	**1.44**	**134**	⇓*i*P	Pn	16 33 51.6	+2.3
CLCH				*e*S	Sn	16 34 10.8	+3.8
CLCH				AML	AML	16 34 18.6	
	comp=N,215nm,0.6s						
ANTU	**Antumapu**	**1.51**	**141**	AML	AML	16 34 15.7	
	comp=N,157nm,0.3s						
FCH	**Farellones**	**1.55**	**127**	⇑*i*P	Pn	16 33 53.0	+2.2
FCH				*i* S	Sn	16 34 14.0	+4.1
FCH				AML	AML	16 34 15.7	
	comp=E,117nm,0.2s						
LMEL	**Las Melosas**	**1.96**	**138**	AML	AML	16 34 30.4	
	comp=N,129nm,0.2s						

*NEIC **15** 16:42:12.8±0.6, 51.62N×16.06E, h5km, ML3.1(SZGRF), Error ellipse: s-maj=9.2km s-min=7.4km az=167.0*
*ISCJB **15** 16:42:12.2±0.3, 51.47N±0.02×16.15E±0.02, h0km, Error ellipse: s-maj=3.1km s-min=2.0km az=17.1*
*VIE **15** 16:42:13.6±0.4, 51.52N×16.10E, h1km, mb2.8/4, ML3.4/4, Error ellipse: s-maj=2.7km s-min=2.0km az=10.0 79 km NW of Wroclaw Suspected Mining induced.*
*CSEM **15** 16:42:13.4±0.1, 51.54N×16.14E, h2km, ML3.1/14, Error ellipse: s-maj=3.6km s-min=2.3km az=17.0*
*LDG **15** 16:42:14.1±0.8, 51.43N×16.06E, h1km, Ml3.5/3, Error ellipse: s-maj=20.9km s-min=6.9km az=8.0, Suspected Mining induced.*
*BGR **15** 16:42:14.3±0.5, 51.50N×16.16E, h1km, ML3.1/14, Error ellipse: s-maj=6.7km s-min=3.3km az=27.0*
*PRU **15** 16:42:15.6, 51.43N×16.14E, h0km*
*WAR **15** 16:42:15, 51.46N×16.10E, ML3.1, Mining Induced*
*IDC **15** 16:42:15.2±0.8, 51.48N×15.96E, h0km, mb1 3.7/7, mb1mx3.4/27, mbtmp3.6/7, ML3.3/7, Error ellipse: s-maj=13.7km s-min=7.4km az=108.0*

ISC 15 16:42:13.5±0.3, 51.50N±0.02×16.13E±0.02, h0km, n130, σ1s02/199, 8C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**171**	*e*Pg	**Pg**	**16 42 26.9**	**+0.6**
KSP				*e*Sg	**Sg**	**16 42 35.3**	**+0.4**
KSP	**Ksiaz**	**0.67**	**171**	*e*Pg	**Pg**	**16 42 26.9**	**+0.6**
KSP				*e*Sg	**Sg**	**16 42 35.4**	**+0.5**
KSP	**Ksiaz**	**0.67**	**171**	*i* Pg	**Pg**	**16 42 26.8**	**+0.5**
KSP				*i* Sg	**Sg**	**16 42 35.3**	**+0.4**
KSP				eL		16 42 39.3	
KSP	**Ksiaz**	**0.67**	**171**	Pg	**Pg**	**16 42 26.9**	**+0.6**
KSP				Sg	**Sg**	**16 42 35.4**	**+0.5**
UPC	**Upice**	**1.00**	**184**	*e*PG	**Pg**	**16 42 32.9**	**+0.3**
DPC	**Dobruska-Polom**	**1.16**	**174**	*e*Pg	**Pg**	**16 42 35.6**	**-0.1**
DPC				*e*Sg	**Sg**	**16 42 52.5**	**+1.8**
DPC	**Dobruska-Polom**	**1.16**	**174**	*e*PG	**Pg**	**16 42 35.6**	**-0.1**
DPC				*e*SG	**Sg**	**16 42 50.3**	**-0.4**
	comp=Z,102nm,0.5s						
DPC	**Dobruska-Polom**	**1.16**	**174**	Pg	**Pg**	**16 42 35.6**	**-0.1**
DPC				Sg	**Sg**	**16 42 52.5**	**+1.8**
PVCC	**Panska Ves**	**1.39**	**226**	*e*PG	**Pg**	**16 42 39.9**	**-0.2**
PVCC				*e*SG	**Sg**	**16 42 58.0**	**0.0**
	comp=Z,353nm,0.3s						
BRG	**Berggiesshubel**	**1.51**	**246**	PN	**Pn**	**16 42 41.2**	**-0.6**
BRG				PG	**Pg**	**16 42 42.7**	**+0.2**
BRG				SG	**Sg**	**16 43 02.4**	**+0.3**
	comp=Z,140nm,0.4s						
BRG	**Berggiesshubel**	**1.51**	**246**	*e*Pn	**Pn**	**16 42 41.3**	**-0.5**
BRG				*e*Pg	**Pg**	**16 42 42.7**	**+0.2**
BRG				*e*Sg	**Sg**	**16 43 02.6**	**+0.5**
BRG	**Berggiesshubel**	**1.51**	**246**	Pn	**Pn**	**16 42 41.3**	**-0.5**
RUE	**Ruedersdorf**	**1.75**	**305**	*e*Pn	**Pn**	**16 42 44.8**	**-0.3**
RUE				*e*Pg	**Pg**	**16 42 48.3**	**+1.2**
RUE				*e*Sn	**Sn**	**16 43 10.5**	**+2.3**
RUE	**Ruedersdorf**	**1.75**	**305**	*e*Pn	**Pn**	**16 42 44.8**	**-0.3**
PRU	**Pruhonice**	**1.82**	**214**	*e*PN	**Pn**	**16 42 46.4**	**+0.4**
PRU				*e*PG	**Pg**	**16 42 48.2**	**-0.2**
PRU				*e*SG	**Sg**	**16 43 11.0**	**-1.0**
	comp=Z,62nm,0.4s						
FBE	**Freiberg**	**1.84**	**253**	*e*Pg	**Pg**	**16 42 48.5**	**-0.3**
FBE				*e*Sg	**Sg**	**16 43 12.3**	**-0.3**
FBE	**Freiberg**	**1.84**	**253**	Pg	**Pg**	**16 42 48.5**	**-0.3**
FBE				Sg	**Sg**	**16 43 12.3**	**-0.3**
RAC	**Raciborz**	**1.93**	**137**	*e*Pg	**Pg**	**16 42 50.4**	**-0.1**
RAC				*e*Sg	**Sg**	**16 43 15.2**	**-0.3**
MORC	**Moravsky Berou**	**1.95**	**152**	*e*Pn	**Pn**	**16 42 47.3**	**-0.4**
MORC				*e*Sn	**Sn**	**16 43 13.9**	**+1.0**
MORC	**Moravsky Berou**	**1.95**	**152**	*e*Pn	**Pn**	**16 42 47.6**	**-0.2**
MORC				*e*Pg	**Pg**	**16 42 50.1**	**-0.7**
MORC				*e*Sg	**Sg**	**16 43 14.7**	**-1.3**
MORC	**Moravsky Berou**	**1.95**	**152**	Pn	**Pn**	**16 42 47.6**	**-0.2**
MORC	**Moravsky Berou**	**1.95**	**152**	Pg	**Pg**	**16 42 50.1**	**-0.7**
MORC				*e*Sn	**Sn**	**16 43 13.9**	**+1.0**
MORC				*e*Sg	**Sg**	**16 43 14.5**	**-1.5**
CLL	**Collm**	**1.97**	**266**	*e*Pg	**Pg**	**16 42 50.1**	**-1.1**
CLL				*e*Sg	**Sg**	**16 43 17.1**	**+0.3**
CLL	**Collm**	**1.97**	**266**	*i* Pn	**Pn**	**16 42 47.9**	**-0.2**
CLL				*e*Pg	**Pg**	**16 42 50.0**	**-1.2**
CLL				*i*		16 42 54.5	
CLL				*e*		16 43 05.0	
CLL				*i* Sg	**Sg**	**16 43 16.8**	**+0.1**
	comp=Z,49nm,0.7s						
CLL	**Collm**	**1.97**	**266**	Pg	**Pg**	**16 42 50.1**	**-1.1**
CLL				Sg	**Sg**	**16 43 17.1**	**+0.4**
OKC	**Ostrava-Krasne**	**2.10**	**142**	*e*Pg	**Pg**	**16 42 53.1**	**-0.6**
OKC				*e*Sg	**Sg**	**16 43 19.9**	**-1.1**
OKC	**Ostrava-Krasne**	**2.10**	**142**	*e*PG	**Pg**	**16 42 53.2**	**-0.6**
OKC				*e*SG	**Sg**	**16 43 19.3**	**-1.7**
	comp=Z,143nm,0.7s						
OKC	**Ostrava-Krasne**	**2.10**	**142**	Pg	**Pg**	**16 42 53.2**	**-0.6**
OKC				Sg	**Sg**	**16 43 19.9**	**-1.1**
VRAC	**Vranov**	**2.21**	**172**	Pn	**Pn**	**16 42 52.1**	**+0.6**
	comp=Z,5.4nm,0.3s,baz=336,slow=13,SNR=26						
VRAC				Lg		16 43 25.2	
	comp=Z,17nm,0.3s,baz=266,slow=22,SNR=6.2						
VRAC	**Vranov**	**2.21**	**172**	Pn	**Pn**	**16 42 52.1**	**+0.6**
VRAC				Lg		16 43 25.2	
VRAC	**Vranov**	**2.21**	**172**	Pn	**Pn**	**16 42 52.1**	**+0.6**
VRAC				*e*Sg	**Sg**	**16 43 23.2**	**-1.4**
VRAC				Lg		16 43 25.2	
TREC	**Trest**	**2.25**	**191**	*e*PN	**Pn**	**16 42 52.6**	**+0.7**
TREC				*e*PG	**Pg**	**16 42 55.8**	**-0.8**
TANN	**Tannenbergstha**	**2.56**	**246**	*e*Pn	**Pn**	**16 42 56.4**	**+0.1**
TANN	**Tannenbergstha**	**2.56**	**246**	Pn	**Pn**	**16 42 56.4**	**+0.2**
WERD	**Werda**	**2.64**	**248**	*e*Pn	**Pn**	**16 42 57.6**	**+0.3**
WERD				*e*Pg	**Pg**	**16 43 03.2**	**-0.8**
WERD	**Werda**	**2.64**	**248**	Pn	**Pn**	**16 42 57.6**	**+0.3**
OJC	**Ojcow**	**2.66**	**117**	*e*Pg	**Pg**	**16 43 05.3**	**+0.9**
OJC				*e*Sg	**Sg**	**16 43 40.2**	**+1.4**
OJC	**Ojcow**	**2.66**	**117**	*e*Pn	**Pn**	**16 42 56.3**	**-1.2**
OJC	**Ojcow**	**2.66**	**117**	Pn	**Pn**	**16 42 56.3**	**-1.2**
OJC	**Ojcow**	**2.66**	**117**	*e*Pg	**Pg**	**16 43 05.3**	**+0.9**
OJC				*e*Sg	**Sg**	**16 43 40.2**	**+1.4**
NKC	**Novy Kostel**	**2.66**	**243**	*e*PN	**Pn**	**16 42 57.9**	**+0.4**
NKC				*e*PG	**Pg**	**16 43 04.2**	**-0.2**
NKC				*e*SG	**Sg**	**16 43 39.9**	**+1.1**
	comp=Z,77nm,0.4s						
KHC	**Kasperske Hory**	**2.88**	**216**	*e*Pn	**Pn**	**16 42 59.8**	**-0.8**
KHC				*e*Pg	**Pg**	**16 43 06.6**	**-2.1**
KHC				*e*Sn	**Sn**	**16 43 34.5**	**-1.4**
KHC				*e*Sg	**Sg**	**16 43 47.4**	**+1.4**
KHC	**Kasperske Hory**	**2.88**	**216**	*e*PN	**Pn**	**16 43 01.1**	**+0.5**
KHC				*e*PG	**Pg**	**16 43 06.8**	**-1.9**
KHC				*e*SN	**Sn**	**16 43 35.3**	**-0.7**
KHC				*e*SG	**Sg**	**16 43 45.0**	**-1.1**
	comp=Z,42nm,0.4s						
KHC	**Kasperske Hory**	**2.88**	**216**	*e*Pn	**Pn**	**16 42 59.8**	**-0.8**
MOX	**Moxa**	**2.97**	**255**	*e*Pn	**Pn**	**16 43 02.1**	**+0.2**
MOX	**Moxa**	**2.97**	**255**	Pn	**Pn**	**16 43 02.1**	**+0.2**
ROTZ	**Rotzenmuhle**	**3.04**	**237**	*e*Pn	**Pn**	**16 43 03.2**	**+0.4**
ROTZ	**Rotzenmuhle**	**3.04**	**237**	Pn	**Pn**	**16 43 03.2**	**+0.4**
GEC2	**GERESS Array S**	**3.08**	**211**	*e*Pn	**Pn**	**16 43 04.2**	**+0.7**
GEC2	**GERESS Array S**	**3.08**	**211**	Pn	**Pn**	**16 43 04.2**	**+0.8**
GERES	**GERESS Array B**	**3.08**	**211**	Pn	**Pn**	**16 43 04.1**	**+0.7**
	comp=Z,2.6nm,0.3s,baz=27,slow=12,SNR=75						
GERES				Pg	**Pg**	**16 43 10.5**	**-2.1**
	comp=Z,9.7nm,0.3s,baz=22,slow=16,SNR=73						
GERES				Lg		16 43 51.0	
	comp=Z,6.7nm,0.3s,baz=26,slow=26,SNR=5.8						
GERES	**GERESS Array B**	**3.08**	**211**	Pn	**Pn**	**16 43 04.1**	**+0.7**
GERES				Pg	**Pg**	**16 43 10.5**	**-2.1**
GERES				Lg		16 43 51.0	
GERES	**GERESS Array B**	**3.08**	**211**	Pn	**Pn**	**16 43 04.1**	**+0.7**
SMOL	**Smolenice**	**3.10**	**164**	*e*PG	**Pg**	**16 43 12.5**	**-0.5**
SMOL				*e*SG	**Sg**	**16 43 53.3**	**+0.1**
SMOL	**Smolenice**	**3.10**	**164**	*e*Pg	**Pg**	**16 43 12.5**	**-0.5**
SMOL				*e*Sg	**Sg**	**16 43 53.3**	**+0.1**
WET	**Wettzell**	**3.15**	**223**	*e*Pn	**Pn**	**16 43 04.4**	**+0.1**
WET	**Wettzell**	**3.15**	**223**	Pn	**Pn**	**16 43 04.4**	**+0.1**
KOLL	**Kolacno**	**3.27**	**153**	*e*SG	**Sg**	**16 43 58.1**	**-0.5**
KOLL	**Kolacno**	**3.27**	**153**	*e*Sg	**Sg**	**16 43 58.1**	**-0.5**
ZST	**Bratislava**	**3.37**	**169**	*e*PN	**Pg**	**16 43 15.3**	**-2.7**
ZST				*e*SG	**Sg**	**16 43 59.6**	**-2.1**
NIE	**Niedzica**	**3.39**	**126**	*e*P	**Pg**	**16 43 17.9**	**-0.5**
NIE				*e*S	**Sg**	**16 44 02.7**	**+0.4**
VYHS	**Vyhne**	**3.48**	**149**	*e*PN	**Pn**	**16 43 09.3**	**+0.5**
VYHS				*e*SG	**Sg**	**16 43 59.6**	**-5.6**
VYHS	**Vyhne**	**3.48**	**149**	*e*Pn	**Pn**	**16 43 09.3**	**+0.5**
CONA	**Conrad Observa**	**3.58**	**183**	⇑*i*Pn	**Pn**	**16 43 10.9**	**+0.6**
CONA	**Conrad Observa**	**3.58**	**183**	Pn	**Pn**	**16 43 10.9**	**+0.7**
CLZ	**Clausthal**	**3.60**	**278**	*e*Pn	**Pn**	**16 43 11.4**	**+0.8**
CLZ	**Clausthal**	**3.60**	**278**	Pn	**Pn**	**16 43 11.4**	**+0.9**
GRA1	**Grafenberg Arr**	**3.61**	**242**	Pn	**Pn**	**16 43 11.3**	**+0.6**
GRF	**Grafenberg Arr**	**3.61**	**242**	*e*Pn	**Pn**	**16 43 11.3**	**+0.6**
GRFO	**Grafenberg**	**3.62**	**242**	*e*Pn	**Pn**	**16 43 10.9**	**+0.2**
GRFO				*e*Pg	**Pg**	**16 43 24.8**	**+2.1**
GRFO				*e*Sg	**Sg**	**16 44 08.9**	**-0.7**
GRFO	**Grafenberg**	**3.62**	**242**	*e*Pn	**Pn**	**16 43 10.9**	**+0.2**
BSD	**Bornholm Skovb**	**3.69**	**349**	*i* P	**Pn**	**16 43 11.6**	**-0.2**
BSD				*i* S	**Sn**	**16 43 52.7**	**-3.2**
MOA	**Molln**	**3.85**	**199**	⇓*i*Pn	**Pn**	**16 43 14.3**	**+0.3**
MOA				⇑*i*Sg	**Sg**	**16 44 21.6**	**+4.4**
	comp=Z,50nm,0.5s						
MOA	**Molln**	**3.85**	**199**	Pn	**Pn**	**16 43 14.3**	**+0.4**
MOA				Sg	**Sg**	**16 44 21.6**	**+4.4**
	comp=Z,50nm,0.5s						
STHS	**Stebnicka Huta**	**3.88**	**121**	*e*PN	**Pn**	**16 43 14.7**	**+0.4**
STHS				*e*PG	**Pg**	**16 43 28.6**	**+0.8**
STHS				*e*SG	**Sg**	**16 44 21.5**	**+3.5**
STHS	**Stebnicka Huta**	**3.88**	**121**	*e*Pn	**Pn**	**16 43 14.7**	**+0.4**
KECS	**Kecovo**	**4.12**	**135**	*e*PN	**Pn**	**16 43 17.3**	**-0.4**
KECS				*e*PG	**Pg**	**16 43 33.9**	**+1.4**
KECS				*e*SG	**Sg**	**16 44 22.9**	**-3.1**
KECS	**Kecovo**	**4.12**	**135**	*e*Pn	**Pn**	**16 43 17.3**	**-0.4**
ARSA	**Arzberg**	**4.27**	**186**	⇓*i*Pn	**Pn**	**16 43 20.0**	**+0.2**
ARSA				⇓*i*Sg	**Sg**	**16 44 33.2**	**+2.5**
	comp=Z,44nm,1.1s						
ARSA	**Arzberg**	**4.27**	**186**	Pn	**Pn**	**16 43 20.0**	**+0.2**
ARSA				Sg	**Sg**	**16 44 33.2**	**+2.5**
	comp=Z,44nm,1.1s						
PSZ	**Piszkesteto**	**4.34**	**144**	*e*Pn	**Pn**	**16 43 21.4**	**+0.7**
PSZ	**Piszkesteto**	**4.34**	**144**	⇑*i*P	**Pn**	**16 43 21.9**	**+1.2**
PSZ	**Piszkesteto**	**4.34**	**144**	*e*Pn	**Pn**	**16 43 21.4**	**+0.8**
PSZ	**Piszkesteto**	**4.34**	**144**	⇑*i*P	**Pn**	**16 43 21.9**	**+1.2**
KWP	**Kalwaria Pacla**	**4.59**	**111**	*e*Pn	**Pn**	**16 43 24.1**	**-0.1**
KWP	**Kalwaria Pacla**	**4.59**	**111**	*e*Pn	**Pn**	**16 43 24.1**	**0.0**
KOLS	**Kolonicke sedl**	**4.71**	**121**	*e*PN	**Pn**	**16 43 26.0**	**+0.3**
KOLS				*e*PG	**Pg**	**16 43 45.1**	**+1.4**
KOLS	**Kolonicke sedl**	**4.71**	**121**	*e*Pn	**Pn**	**16 43 26.0**	**+0.3**
PKSM	**Moragy**	**5.55**	**162**	⇑*i*P	**Pn**	**16 43 38.7**	**+1.5**
PKSM	**Moragy**	**5.55**	**162**	⇑*i*P	**Pn**	**16 43 38.7**	**+1.5**
GBRS	**Gornja Briga**	**6.04**	**189**	*i* Pn	**Pn**	**16 43 45.2**	**+1.2**
DAVOX	**Davos/Dischmat**	**6.25**	**223**	Pn	**Pn**	**16 43 47.3**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=340,slow=11,SNR=2.6						
DAVOX				Lg		16 45 30.4	
	comp=Z,0.7nm,0.3s,baz=218,slow=19,SNR=3.3						
DAVOX	**Davos/Dischmat**	**6.25**	**223**	Pn	**Pn**	**16 43 47.3**	**+0.3**
DAVOX				Lg		16 45 30.4	
DAVOX	**Davos/Dischmat**	**6.25**	**223**	Pn	**Pn**	**16 43 47.3**	**+0.3**
CDF	**Champ du Feu**	**6.50**	**245**	*e*Pn	**Pn**	**16 43 48.8**	**-1.5**
CDF				*e*Sg	**Sg**	**16 45 35.7**	**-6.3**
	comp=Z,19nm,0.8s						
CDF	**Champ du Feu**	**6.50**	**245**	*e*Pn	**Pn**	**16 43 48.8**	**-1.5**
CDF				*e*Sg	**Sg**	**16 45 35.7**	**-6.3**
CDF	**Champ du Feu**	**6.50**	**245**	*e*Pn	**Pn**	**16 43 48.8**	**-1.5**
BUR08	**Bucovina Ar. S**	**7.05**	**120**	*e*Pn	**Pn**	**16 43 58.2**	**+0.4**
BUR08	**Bucovina Ar. S**	**7.05**	**120**	*e*Pn	**Pn**	**16 43 58.2**	**+0.4**
**HIN

ONI	**Oni**	**2.16 248**	P		**Pn**	**16 46 53.7**	**-0.4**
ONI			S		**Sn**	**16 47 22.1**	**+1.0**
ONI	**Oni**	**2.16 248**	P		**Pn**	**16 46 53.7**	**-0.5**
KIV	**Kislovodsk**	**2.58 283**	*e*PN		**Pn**	**16 46 58.4**	**-1.6**
KIV			pmax	pmax			
	comp=Z,5.0nm,1.0s						
KIV	**Kislovodsk**	**2.58 283**	*e*Pn		**Pn**	**16 46 58.4**	**-1.6**
	comp=Z,5.0nm,1.0s						
AKH	**Akhalkalaki**	**2.82 226**	P		**Pn**	**16 47 04.9**	**+1.7**
AKH			S		**Sn**	**16 47 39.0**	**+1.6**
AKH	**Akhalkalaki**	**2.82 226**	P		**Pn**	**16 47 04.9**	**+1.7**
AKH			S		**Sn**	**16 47 39.0**	**+1.6**
DOMR	**Dombai**	**3.32 269**	*i* PN		**Pn**	**16 47 09.7**	**-0.4**
DOMR	**Dombai**	**3.32 269**	*i* Pn		**Pn**	**16 47 09.7**	**-0.4**
GNI	**Garni**	**3.43 199**	*e*PN		**Pn**	**16 47 13.3**	**+1.6**
GNI	**Garni**	**3.43 199**	*e*Pn		**Pn**	**16 47 13.3**	**+1.6**

*ISCJB **15** 16:48:08.4±0.7,43.37N±0.06×46.18E±0.04,h6km±4km, Error ellipse: s-maj=9.9km s-min=4.3km az=13.4*
*CSEM **15** 16:48:10.0,43.24N×46.02E,h8km,mb4.0,After OBN MOS **15** 16:48:10.2±1.0,43.24N×46.02E,h8km,mb4.0/1,Error ellipse: s-maj=18.3km s-min=9.1km az=0.6*

ISC 15 16:48:09.3±0.8,43.39N±0.06×46.17E±0.04,h9km±4km, n29,σ1.00/58,3C-2D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GRO	**Groznyy**	**0.32 258**		*e*PG	**Pg**	**16 48 14.8**	**-0.7**
GRO				*i* S	**Sg**	**16 48 20.2**	**+0.4**
GRO	**Groznyy**	**0.32 258**		*e*Pg	**Pg**	**16 48 14.8**	**-0.7**
GRO				*i* Sg	**Sg**	**16 48 20.2**	**+0.4**
SNJR	**Sundja**	**1.05 253**		⇓*i*PG	**Pg**	**16 48 28.6**	**-0.7**
SNJR				*i* S	**Sg**	**16 48 43.5**	**+0.6**
SNJR	**Sundja**	**1.05 253**		*i* Pg	**Pg**	**16 48 28.6**	**-0.7**
SNJR				*i* Sg	**Sg**	**16 48 43.5**	**+0.6**
MAK	**Makhachkala**	**1.06 113**		*e*PG	**Pg**	**16 48 31.6**	**+1.9**
MAK				*e*	**Sg**	**16 48 43.2**	**-0.3**
MAK				smax			
	comp=E,4.0nm,0.5s						
MAK				smax			
	comp=N,3.0nm,0.5s						
MAK	**Makhachkala**	**1.06 113**		*e*Pg	**Pg**	**16 48 31.6**	**+1.9**
MAK				*e*Sg	**Sg**	**16 48 43.2**	**-0.3**
	comp=N,3.0nm,0.5s						
TRKR	**Terskaya**	**1.10 288**		⇑*i*PG	**Pg**	**16 48 31.1**	**+0.7**
TRKR				*i* S	**Sg**	**16 48 48.2**	**+3.5**
TRKR	**Terskaya**	**1.10 288**		*i* Pg	**Pg**	**16 48 31.1**	**+0.7**
TRKR				*i* Sg	**Sg**	**16 48 48.2**	**+3.5**
VLKR	**Vladikavkaz**	**1.15 253**		*e*PG	**Pg**	**16 48 30.1**	**-1.2**
VLKR				*i* S	**Sg**	**16 48 46.4**	**+0.3**
VLKR	**Vladikavkaz**	**1.15 253**		*e*Pg	**Pg**	**16 48 30.1**	**-1.2**
VLKR				*i* Sg	**Sg**	**16 48 46.4**	**+0.3**
KMSR	**Komsomolskaya**	**1.37 270**		⇑*i*PG	**Pg**	**16 48 34.8**	**-0.8**
KMSR				*i* S	**Sg**	**16 48 54.5**	**+1.1**
KMSR	**Komsomolskaya**	**1.37 270**		*i* Pg	**Pg**	**16 48 34.8**	**-0.8**
KMSR				*i* Sg	**Sg**	**16 48 54.5**	**+1.1**
ARNR	**Ardon**	**1.40 262**		*e*PG	**Pn**	**16 48 34.4**	**-0.5**
ARNR				*i* S	**Sg**	**16 48 54.2**	**0.0**
ARNR	**Ardon**	**1.40 262**		*e*Pg	**Pn**	**16 48 34.4**	**-0.5**
ARNR				*i* Sg	**Sg**	**16 48 54.2**	**0.0**
PRTR	**Priterechnaya**	**1.42 285**		⇑*i*PG	**Pg**	**16 48 35.9**	**-0.6**
PRTR				*i* S	**Sg**	**16 48 57.1**	**+2.1**
PRTR	**Priterechnaya**	**1.42 285**		*i* Pg	**Pg**	**16 48 35.9**	**-0.6**
PRTR				*i* Sg	**Sg**	**16 48 57.1**	**+2.1**
KORR	**Kora**	**1.57 260**		*e*PG	**Pn**	**16 48 36.9**	**-0.3**
KORR				*e*S	**Sn**	**16 48 58.6**	**+0.9**
KORR	**Kora**	**1.57 260**		*e*Pg	**Pn**	**16 48 36.9**	**-0.3**
KORR				*e*Sg	**Sn**	**16 48 58.6**	**+0.9**
ZEI	**Tsey**	**1.78 250**		⇓*i*PG	**Pn**	**16 48 38.4**	**-1.7**
ZEI				*i* S	**Sn**	**16 49 01.8**	**-1.0**
ZEI	**Tsey**	**1.78 250**		*i* Pg	**Pn**	**16 48 38.4**	**-1.7**
ZEI				*i* Sg	**Sn**	**16 49 01.8**	**-1.0**
DIGR	**Digorskoe uzhe**	**1.96 256**		*e*PN	**Pn**	**16 48 41.5**	**-1.1**
DIGR				*e*S	**Sn**	**16 49 07.6**	**+0.3**
DIGR	**Digorskoe uzhe**	**1.96 256**		*e*Pn	**Pn**	**16 48 41.5**	**-1.1**
DIGR				*e*Sg	**Sn**	**16 49 07.6**	**+0.3**
TBLG	**Delisi**	**1.97 213**		*e*PN	**Pn**	**16 48 42.7**	**0.0**
TBLG				*e*S	**Sn**	**16 49 07.1**	**-0.4**
TBLG	**Delisi**	**1.97 213**		P	**Pn**	**16 48 42.7**	**0.0**
TBLG				S	**Sn**	**16 49 07.1**	**-0.4**
TBLG	**Delisi**	**1.97 213**		*e*Pn	**Pn**	**16 48 42.7**	**0.0**
TBLG				*e*Sg	**Sn**	**16 49 07.1**	**-0.4**
MTA	**Mtatsminda**	**1.98 212**		P	**Pn**	**16 48 42.9**	**0.0**
MTA				S	**Sn**	**16 49 07.7**	**0.0**
DGRG	**David-gareji**	**2.02 197**		P	**Pn**	**16 48 43.2**	**-0.3**
DGRG				S	**Sn**	**16 49 10.4**	**+1.5**
GOR	**Gori**	**2.07 228**		P	**Pg**	**16 48 49.6**	**+0.7**
GOR				S	**Sn**	**16 49 11.5**	**+1.5**
ONI	**Oni**	**2.15 249**		P	**Pg**	**16 48 49.8**	**-0.6**
ONI				S	**Sg**	**16 49 16.1**	**-2.3**

*NEIC **15** 16:51:09.4,32.38S×71.81W,h25km,ML3.4(GUC),After GUC.*

GUC 15 16:51:09.4±0.8,32.38S×71.81W,h25km±4km,MD3.8, ML3.4,6C-11D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.56**	**28**	⇓*i*P	Pb	16 51 20.3	-0.2
CHNG				*i* S	Sb	16 51 28.6	+0.5
CHNG				AML	AML	16 51 29.0	
	comp=E,2μm,0.4s						
IHA	**Instituto Hidr**	**0.66**	**168**	*e*P	Pb	16 51 22.3	-0.1
IHA				*i* S	Sb	16 51 31.5	+0.3
IHA	**Instituto Hidr**	**0.66**	**168**	*e*P	Pb	16 51 22.3	-0.1
IHA				*i* S	Sb	16 51 31.5	+0.3
ROCH	**El Roble**	**0.90**	**132**	⇑*i*P	Pb	16 51 25.7	-0.7
ROCH				S	Sb	16 51 37.8	0.0
ROCH	**El Roble**	**0.90**	**132**	⇑*i*P	Pb	16 51 25.7	-0.7
ROCH				⇓*i*P		16 51 25.7	
ROCH				*i* S	Sb	16 51 37.7	-0.2
ROCH				*i* S	Sb	16 51 37.8	0.0
ROCH				AML	AML	16 51 40.3	
	comp=N,2μm,0.3s						
JACH	**Jahuel**	**1.07**	**107**	⇓*i*P	Pn	16 51 28.4	-0.4
JACH				*i* S	Sb	16 51 42.9	+0.1
JACH	**Jahuel**	**1.07**	**107**	⇓*i*P	Pn	16 51 28.4	-0.4
JACH				*i* S	Sb	16 51 42.9	+0.1
LCCH	**Las Cruces**	**1.12**	**170**	*e*P	Pn	16 51 28.9	-0.5
LCCH				*i* S	Sn	16 51 43.5	-0.6
LCCH	**Las Cruces**	**1.12**	**170**	*e*P	Pn	16 51 28.9	-0.5
LCCH				*i* S	Sn	16 51 43.5	-0.6
PEL	**Peldehue**	**1.22**	**129**	⇑*i*P	Pn	16 51 30.9	+0.1
PEL				*i* S	Sn	16 51 47.0	+0.4
PEL				AML	AML	16 51 49.8	
	comp=E,3μm,0.3s						
CMCH	**Combarbala**	**1.38**	**30**	⇑*i*P	Pn	16 51 32.9	-0.2
CMCH				*i* S	Sn	16 51 51.5	+1.0
CMCH	**Combarbala**	**1.38**	**30**	⇑*i*P	Pn	16 51 32.9	-0.2
CMCH				*i* S	Sn	16 51 51.5	+1.0
CMCH				AML	AML	16 51 53.8	
	comp=E,3μm,0.5s						
SAN	**Santiago**	**1.45**	**138**	*e*P	Pn	16 51 34.6	+0.6
SAN				*i* S	Sn	16 51 53.1	+0.9
SAN	**Santiago**	**1.45**	**138**	*e*P	Pn	16 51 34.6	+0.6
SAN				*i* S	Sn	16 51 53.1	+0.9
TACH	**Talagante**	**1.47**	**150**	⇓*i*P	Pn	16 51 34.8	+0.5
TACH				*i* S	Sn	16 51 53.9	+1.2
TACH	**Talagante**	**1.47**	**150**	⇓*i*P	Pn	16 51 34.8	+0.5
TACH				*i* S	Sn	16 51 53.9	+1.2
CLCH	**Cerro Calan**	**1.48**	**134**	⇑*i*P	Pn	16 51 35.1	+0.6
CLCH				*i* S	Sn	16 51 54.6	+1.7
CLCH				AML	AML	16 52 02.3	
	comp=N,943nm,0.5s						
CLCH				AML	AML	16 52 02.3	
	comp=E,1μm,0.7s						
ANTU	**Antumapu**	**1.55**	**141**	*e*P	Pn	16 51 36.0	+0.7
ANTU				*i* S	Sn	16 51 56.4	+1.7
ANTU	**Antumapu**	**1.55**	**141**	*e*P	Pn	16 51 36.0	+0.7
ANTU				*i* S	Sn	16 51 56.4	+1.7
ANTU				AML	AML	16 52 01.4	
	comp=E,567nm,0.5s						
FCH	**Farellones**	**1.59**	**127**	⇓*i*P	Pn	16 51 36.8	+0.8
FCH				*i* S	Sn	16 51 57.9	+2.1
FCH				AML	AML	16 51 59.7	
	comp=E,484nm,0.2s						
PCH	**Pirque**	**1.65**	**139**	⇓*i*P	Pn	16 51 38.0	+1.2
PCH				*i* S	Sn	16 51 59.4	+2.1
PCH	**Pirque**	**1.65**	**139**	⇓*i*P	Pn	16 51 38.0	+1.2
PCH				*i* S	Sn	16 51 59.4	+2.1
CHCH	**Chadas Angostu**	**1.83**	**148**	*e*P	Pn	16 51 40.4	+1.1
CHCH				*i* S	Sn	16 52 03.4	+1.7
CHCH	**Chadas Angostu**	**1.83**	**148**	*e*P	Pn	16 51 40.4	+1.1
CHCH				*i* S	Sn	16 52 03.4	+1.7
OVCH	**Ovalle**	**1.84**	**17**	*e*P	Pn	16 51 40.3	+0.9
OVCH	**Ovalle**	**1.84**	**17**	*e*P	Pn	16 51 40.3	+0.9
OVCH				AML	AML	16 52 11.5	
	comp=N,615nm,0.2s						
LMEL	**Las Melosas**	**1.99**	**138**	*e*P	Pn	16 51 43.1	+1.6
LMEL				*i* S	Sn	16 52 09.4	+3.7
LMEL	**Las Melosas**	**1.99**	**138**	*e*P	Pn	16 51 43.1	+1.6
LMEL				*i* S	Sn	16 52 09.4	+3.7
LMEL				AML	AML	16 52 14.8	
	comp=N,387nm,0.2s						
CACH	**El Canelo**	**2.01**	**150**	⇓*i*P	Pn	16 51 43.6	+1.8
CACH				*i* S	Sn	16 52 10.3	+4.2
CACH	**El Canelo**	**2.01**	**150**	⇓*i*P	Pn	16 51 43.6	+1.8
CACH				*i* S	Sn	16 52 10.3	+4.2

*ISCJB **15** 16:56:16.7±0.5,34.65N±0.07×137.05E±0.08, h343km±5km,mb3.2/5,Error ellipse: s-maj=11.6km s-min=9.9km az=161.0*
*JMA **15** 16:56:16.7±0.4,34.56N×137.05E,h343km±4km,M2.7*
*IDC **15** 16:56:18.3±0.7,34.79N×137.01E,h341km±13km,mb3.0/5, mb1 3.0/9,mb1mx2.8/29,mbtmp2.9/9,Error ellipse: s-maj=32.7km s-min=10.5km az=66.0*

ISC 15 16:56:17.7±0.5,34.66N±0.07×137.05E±0.08,h337km±4km, n29,σ0.80/38,mb3.2/5,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAA	**Atsumi**	**0.08**	**109**	P	**Pn**	**16 56 59.7**	**-0.2**
JIE	**Ise**	**0.39**	**227**	P	**Pn**	**16 57 00.1**	**-0.2**
HMMJ	**Hamamatsu 2**	**0.58**	**70**	P	**Pn**	**16 57 00.6**	**0.0**
JAO	**Obara**	**0.63**	**15**	P	**Pn**	**16 57 00.9**	**+0.2**
JKN2	**Miekihoku**	**0.77**	**237**	P	**Pn**	**16 57 00.1**	**-1.1**
TK02	**Tokai 2**	**0.92**	**140**	P	**Pn**	**16 57 01.7**	**0.0**
JNY	**Yasuok**	**0.96**	**43**	P	**Pn**	**16 57 02.1**	**+0.3**
JGM	**Miyama**	**1.08**	**345**	P	**Pn**	**16 57 02.5**	**+0.3**
JGM				S	**S**	**16 57 38.2**	**+0.3**
JYN	**Shimob**	**1.48**	**55**	P	**Pn**	**16 57 04.7**	**+0.4**
JWT	**Wachi**	**1.49**	**295**	P	**Pn**	**16 57 04.0**	**-0.4**
JWZ	**Kozaga**	**1.58**	**225**	P	**Pn**	**16 57 03.7**	**-1.3**
JOD2	**Odawara 2**	**1.78**	**70**	P	**Pn**	**16 57 06.5**	**+0.3**
JRY	**Ryogami san**	**2.03**	**48**	P	**Pn**	**16 57 09.0**	**+1.1**
JRY				*e*S	**S**	**16 57 50.4**	**+2.3**
MAT	**Matsushiro**	**2.10**	**26**	P	**Pn**	**16 57 08.9**	**+0.5**
MAT				S	**S**	**16 57 49.8**	**+0.7**
MAT	**Matsushiro**	**2.10**	**26**	P	**Pn**	**16 57 09.0**	**+0.6**
MJAR	**Matsushiro Arr**	**2.10**	**26**	P	**Pn**	**16 57 09.0**	**+0.6**
	1.5nm,0.3s,baz=208,slow=8.8,SNR=46						
MJAR				S	**S**	**16 57 49.4**	**+0.3**
	0.3nm,0.3s,baz=189,slow=18,SNR=8.2						
JHU	**Hanno**	**2.18**	**56**	P	**Pn**	**16 57 09.6**	**+0.6**
JHU				S	**S**	**16 57 49.7**	**-0.4**
JAG	**Ashikaga**	**2.63**	**47**	P	**Pn**	**16 57 12.1**	**-0.6**
JAG				S	**S**	**16 57 56.0**	**-0.9**
BSO4	**Boso 4**	**2.72**	**82**	P	**Pn**	**16 57 13.6**	**+0.1**
BSO4				S	**S**	**16 57 58.5**	**+0.2**
JHJ	**Hachijo jima 2**	**2.74**	**123**	P	**Pn**	**16 57 14.2**	**+0.5**
	4.0nm,0.3s,baz=342,slow=20,SNR=2.8						
JHJ				S	**S**	**16 58 03.4**	**+4.7**
	4.6nm,0.3s,baz=107,slow=19,SNR=4.9						
BSO3	**Boso 3**	**2.85**	**86**	S	**S**	**16 57 58.8**	**-1.6**
JYT	**Yasato**	**3.00**	**58**	P	**Pn**	**16 57 15.4**	**-0.6**
JYT				S	**S**	**16 57 59.6**	**-3.3**
KSRS	**Korea Array**	**7.90**	**293**	P	**Pn**	**16 58 10.3**	**-0.1**
	0.2nm,0.3s,baz=106,slow=13,SNR=7.0						
ASAJ	**Asahikawa**	**10.37**	**23**	P	**Pn**	**16 58 39.1**	**-0.8**
	0.3nm,0.3s,baz=232,slow=12,SNR=5.1						
ZALV	**Zalesovo Beam**	**40.97**	**315**	P	**P**	**17 03 28.1**	**-0.4**
	0.2nm,0.4s,mb2.7,baz=102,slow=7,SNR=2.3						
MKAR	**Makanchi Array**	**42.43**	**304**	P	**P**	**17 03 40.1**	**-0.2**
	0.4nm,0.4s,mb2.9,baz=83,slow=10,SNR=9.5						
WRA	**Warramunga Arr**	**54.36**	**183**	P	**P**	**17 05 10.6**	**0.0**
	0.7nm,0.4s,mb3.4,baz=360,slow=7.6,SNR=22						
ASAR	**Alice Springs**	**58.08**	**183**	P	**P**	**17 05 38.6**	**+2.0**
	0.2nm,0.4s,mb2.8,baz=19,slow=12,SNR=11						
FINES	**FINESS Array B**	**69.23**	**331**	P	**P**	**17 06 47.9**	**-0.5**
	3.7nm,1.0s,mb4.1,baz=46,slow=8.0,SNR=1.3						

FUNV 15 17:24:38.6,6.75N×73.33W,h144km,MW3.6,1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**1.50**	**42**	⇑*i*P	Pn	17 25 07.1	-0.5
CAPV				*e*S	Sn	17 25 28.1	-1.8
VIGV	**El Vigia**	**2.85**	**43**	*e*P	Pn	17 25 23.0	-0.8
VIGV				*e*S	Sn	17 25 55.8	-2.9
SOCV	**Socops**	**2.89**	**58**	*e*P	Pn	17 25 23.5	-0.8
SOCV				*e*S	Sn	17 25 56.1	-3.4
ELOV	**Elorza**	**3.83**	**86**	*e*P	Pn	17 25 35.8	-0.6
VIRV	**Villa del Rosa**	**3.84**	**14**	*e*P	Pn	17 25 34.7	-1.9
VIRV				*e*S	Sn	17 26 17.7	-4.0
CURV	**Curarigua**	**4.65**	**46**	*e*P	Pn	17 25 45.8	-1.5
CURV				*e*S	Sn	17 26 35.6	-5.2
BAUV	**El Baul**	**5.67**	**67**	*e*P	Pn	17 25 58.6	-2.4
BAUV				*e*S	Sn	17 26 58.0	-7.2
MAPV	**Macapo**	**5.71**	**57**	*e*P	Pn	17 25 59.5	-1.9
MONV	**Montecano**	**6.14**	**32**	*e*P	Pn	17 26 04.8	-2.4

IDC 15 17:42:24.2±4.1,20.67S×177.24W,h0km,mb3.4/2, mb1 3.7/2,mb1mx3.5/15,mbtmp3.4/2,Error ellipse: s-maj=102.3km s-min=42.5km az=38.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**45.17**	**257**	P	P	17 50 42.5	-0.5
	0.3nm,0.6s,baz=93,slow=8.1,SNR=6.9						
WRA	**Warramunga Arr**	**45.28**	**262**	P	P	17 50 44.2	+0.3
	0.2nm,0.3s,baz=96,slow=8.1,SNR=20						
VNDA	**Vanda**	**57.81**	**185**	P	P	17 52 16.7	-0.1
	baz=24,slow=10.0						
AKASG	**Malin Array Be**	**143.50**	**332**	PKP	PKPdf	18 02 00.5	-0.2
	0.6nm,0.3s,baz=43,slow=3.9,SNR=6.8						

*ISCJB **15** 17:50:21.8±0.4,57.30S±0.06×25.01W±0.1,h10km, mb4.8/23,MS4.4/19,Error ellipse: s-maj=10.6km s-min=7.4km az=137.8*
*IDC **15** 17:50:26.7±2.2,57.30S×25.12W,h25km±13km,mb4.6/11, mb1 4.6/13,mb1mx4.5/18,mbtmp4.6/13,ML4.4/1, MS4.2/18, Ms1 4.2/18,ms1mx4.0/28,Error ellipse: s-maj=16.9km s-min=14.5km az=43.0*
*BJI **15** 17:50:27.3,57.20S×24.90W,h39km,mB5.1/6,Ms5.4/5, Ms7 5.0/5*
*NEIC **15** 17:50:27.0±2.5,57.20S×24.89W,h36km±22km,mb4.9/22, Error ellipse: s-maj=13.7km s-min=9.4km az=209.0*

ISC 15 17:50:23.7±0.4,57.31S±0.06×25.0W±0.1,h10km,n105, σ1.30/46,mb4.8/23,MS4.4/19,2C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**15.17**	**158**	*e*P	**Pn**	**17 53 55.5**	**-2.2**
VNA3	**Neumayer Olymp**	**15.40**	**161**	*e*P	**Pn**	**17 53 58.1**	**-2.6**
VNA3				*e*		17 54 08.6	
VNA2	**Neumayer--Watz**	**15.56**	**158**	*e*P	**Pn**	**17 54 00.7**	**-2.1**
	baz=324,slow=14						
VNA2				*e*		17 54 10.3	
SNAA	**Sanae**	**17.09**	**156**	P	**Pn**	**17 54 23.6**	**+1.3**
	1.2nm,0.3s,baz=330,slow=14,SNR=95						
SNAA				PcP	PcP	17 59 07.2	+0.8
	0.1nm,0.3s,baz=227,slow=3.9,SNR=3.3						
SNAA				LR	LR	18 00 18.7	
	comp=Z,189nm,18.3s,baz=30,slow=35						
SNAA				ScP	ScP	18 02 39.2	-1.8
	0.0nm,0.3s,baz=252,slow=3.2,SNR=3.5						
SNAA				T		18 10 36.8	
	0.1nm,0.3s,baz=335,slow=18,SNR=4.0						
SNAA	**Sanae**	**17.09**	**156**	*e*Pn	**Pn**	**17 54 23.2**	**+0.8**
	83nm,1.0s						
EFI	**East Falkland**	**19.88**	**272**	*e*P	**Pn**	**17 54 55.7**	**-0.7**
	35nm,0.6s						
PMSA	**Palmer Station**	**20.03**	**232**	P	**P**	**17 54 58.1**	**+1.8**
	1.9nm,0.3s,baz=64,slow=9.6,SNR=9.4						
PMSA				LR	LR	18 01 30.8	
	comp=Z,1μm,20.6s,MS4.2,baz=29,slow=33						
PMSA	**Palmer Station**	**20.03**	**232**	*e*P	**P**	**17 54 57.5**	**+1.2**
	28nm,0.7s						
MAIT	**Maitri**	**20.51**	**146**	*e*P	**P**	**17 55 02.2**	**+0.7**
MAIT				*e*		17 55 03.1	
MAIT				*e*		17 57 04.3	
USHA	**Ushuaia**	**24.06**	**257**	P	**P**	**17 55 38.8**	**0.0**
	19nm,0.9s,mb4.5,baz=118,slow=7.8,SNR=8.0						
USHA				LR	LR	18 02 58.3	
	comp=Z,1μm,19.4s,MS4.3,baz=75,slow=31						
USHA	**Ushuaia**	**24.06**	**257**	P	**P**	**17 55 38.8**	**0.0**
USHA				LR	LR	18 02 58.3	
TRQA	**Tornquist**	**30.93**	**292**	*e*P	**P**	**17 56 40.6**	**+0.2**
	21nm,1.4s,mb4.8						
QSPA	**South Pole Qui**	**32.93**	**180**	P	**P**	**17 56 59.2**	**+1.5**
	17nm,0.5s,mb5.3,baz=207,slow=2.4,SNR=372						
QSPA				PcP	PcP	17 59 42.0	+0.6
	3.0nm,0.7s,baz=236,slow=7.3,SNR=2.6						
QSPA				ScP	ScP	18 03 23.1	-2.1
	3.0nm,0.9s,baz=314,slow=2.4,SNR=5.6						
QSPA				LR	LR	18 10 12.0	
	comp=Z,709nm,18.9s,MS4.4,baz=16,slow=36						
QSPA	**South Pole Qui**	**32.93**	**180**	⇑*i*P	**P**	**17 56 59.1**	**+1.5**
	17nm,0.5s,mb5.2						
QSPA				*e*PcP	PcP	17 59 41.7	+0.4
QSPA				*e*ScP	ScP	18 03 22.4	-2.8
MAW	**Mawson**	**38.41**	**142**	P	**P**	**17 57 45.2**	**+0.5**
	4.7nm,0.7s,mb4.3,baz=144,slow=12,SNR=9.9						
MAW				PcP	PcP	17 59 58.4	+0.7
	3.8nm,0.8s,baz=278,slow=6.3,SNR=3.5						
MAW				LR	LR	18 11 15.8	
	comp=Z,272nm,18.9s,MS4.1,baz=256,slow=32						
MAW	**Mawson**	**38.41**	**142**	*e*P	**P**	**17 57 45.3**	**+0.6**
	3.0nm,1.1s,mb3.9						
CPUP	**Villa Florida**	**38.55**	**310**	P	**P**	**17 57 46.0**	**-0.3**
	4.7nm,0.5s,mb4.5,baz=136,slow=7.0,SNR=16						
CPUP	**Villa Florida**	**38.55**	**310**	*e*P	**P**	**17 57 45.8**	**-0.6**
	50nm,0.8s,mb5.3						
CFAA	**Coronel Fontan**	**39.16**	**292**	P	**P**	**17 57 51.4**	**0.0**
	0.2nm,0.3s,baz=150,slow=5.6,SNR=5.2						
CFAA				ScP	ScP	18 03 46.4	-2.4
	0.2nm,0.6s,baz=148,slow=8.0,SNR=4.3						
CFAA	**Coronel Fontan**	**39.16**	**292**	P	**P**	**17 57 51.4**	**0.0**
CFAA				ScP	ScP	18 03 46.4	-2.4
LCO	**Las Campanas**	**42.51**	**292**	P	**P**	**17 58 18.4**	**-0.6**
	6.8nm,0.9s,mb4.4						
SBA	**Scott Base**	**44.90**	**184**	*e*P	**P**	**17 58 39.5**	**+1.8**
	7.7nm,0.8s,mb4.6						
BOSA	**Boshof**	**45.16**	**72**	P	**P**	**17 58 41.7**	**+1.4**
	5.8nm,1.0s,mb4.4,baz=226,slow=9.5,SNR=5.9						
BOSA				LR	LR	18 14 17.9	
	comp=Z,484nm,18.3s,MS4.5,baz=196,slow=32						
BOSA	**Boshof**	**45.16**	**72**	*e*P	**P**	**17 58 40.7**	**+0.4**
	18nm,1.3s,mb4.8						
LBTB	**Lobatse**	**48.26**	**70**	P	**P**	**17 59 06.2**	**+1.5**
	7.5nm,1.1s,mb4.6,baz=265,slow=5.1,SNR=3.7						
LBTB	**Lobatse**	**48.26**	**70**	*e*P	**P**	**17 59 02.2**	**-2.5**
	11nm,1.1s,mb4.8						
TSUM	**Tsumeb**	**49.29**	**58**	*e*P	**P**	**17 59 11.8**	**-0.8**
	15nm,1.4s,mb4.8						
RCBR	**Riachuelo**	**52.06**	**346**	LR	LR	18 18 41.4	
	comp=Z,204nm,18.3s,MS4.2,baz=48,slow=33						
LPAZ	**La Paz**	**52.09**	**304**	P	**P**	**17 59 34.6**	**+0.9**
	11nm,0.4s,mb5.2,baz=147,slow=6.3,SNR=45						
LPAZ	**La Paz**	**52.09**	**304**	*e*P	**P**	**17 59 34.5**	**+0.8**
	18nm,0.6s,mb5.2						
CASY	**Casey**	**52.30**	**159**	⇑*i*P	**P**	**17 59 36.0**	**+1.3**
	17nm,0.8s,mb5.0						
LSZ	**Lusaka**	**57.74**	**66**	*e*P	**P**	**18 00 14.5**	**-0.2**
	14nm,1.3s,mb4.8						
NNA	**Nana**	**59.91**	**297**	P	**P**	**18 00 27.1**	**-2.6**
	32nm,1.2s,mb5.2						
MSKU	**Masuku**	**63.39**	**44**	LR	LR	18 22 49.3	
	comp=Z,555nm,20.7s,MS4.4,baz=153,slow=31						
DBIC	**Dimbokro**	**65.85**	**22**	P	**P**	**18 01 09.7**	**+0.5**
	2.2nm,0.5s,mb4.5,baz=151,slow=4.5,SNR=6.6						
DBIC				LR	LR	18 22 57.3	
	comp=Z,184nm,19.2s,MS4.3,baz=166,slow=30						
DBIC	**Dimbokro**	**65.85**	**22**	*e*P	**P**	**18 01 07.4**	**-1.8**
	11nm,1.1s,mb4.8						
OTAV	**Otavalo**	**71.36**	**302**	*e*P	**P**	**18 01 43.4**	**-0.3**
	10nm,0.9s,mb4.8						
TORD	**Torodi Ar. Bea**	**73.60**	**27**	P

GYA				PKP	PKPdf	18 09 40.5	-0.4	
GYA				sPKP		18 09 56.8		
GYA				PP	PP	18 12 15.4	+3.7	
GYA				AMB	AMB			
	comp=Z,120nm,8.0s							
KURK	**Kurchatov**	**136.85**	**65**	PKhKP	PKPpre	18 09 42.1		
	comp=Z,0.7nm,0.8s,baz=231,slow=2.8,SNR=5.8							
KURK				PKP	PKPdf	18 09 47.0	+1.8	
	comp=Z,0.4nm,0.6s,baz=230,slow=2.6,SNR=4.9							
KURK	**Kurchatov**	**136.85**	**65**	PKP	PKPpre	18 09 42.1		
KURK				PKP	PKPdf	18 09 47.0	+1.8	
WMQ	**Urumqi**	**136.98**	**78**	PKP	PKPdf	18 09 46.5	+0.8	
YKA	**Yellowknife Ar**	**137.92**	**316**	PKP	PKPdf	18 09 47.2	+0.3	
	comp=Z,1.7nm,0.5s,baz=137,slow=2.0,SNR=6.9							
YKA				SKPbc	SKPbc	18 13 19.1	-1.4	
	comp=Z,2.0nm,0.8s,baz=129,slow=2.8,SNR=5.7							
YKA	**Yellowknife Ar**	**137.92**	**316**	PKP	PKPdf	18 09 47.2	+0.3	
YKA				SKPbc	SKPbc	18 13 19.1	-1.4	
GTA	**Gaotai**	**140.46**	**93**	*e*PKPbc	PKPdf	18 09 59.8	+7.5	
GTA				sPKP		18 10 14.1		
ZAA0	**Zalesovo Array**	**141.84**	**64**	*e*PKPdf	PKPpre	18 09 47.6		
ZALV	**Zalesovo Beam**	**141.84**	**64**	PKhKP	PKPpre	18 09 50.1		
	comp=Z,0.9nm,0.6s,baz=239,slow=3.5,SNR=7.1							
ZALV				PKP	PKPdf	18 09 55.4	+1.1	
	comp=Z,0.5nm,0.3s,baz=260,slow=4.4,SNR=4.9							
ZALV	**Zalesovo Beam**	**141.84**	**64**	PKP	PKPpre	18 09 50.1		
ZALV				PKP	PKPdf	18 09 55.4	+1.1	
INK	**Inuvik**	**147.55**	**319**	*e*PKPbc	PKPbc	18 10 06.0	-0.4	
HHC	**Hu-ho-hao-te**	**147.80**	**102**	*e*PKPbc	PKPdf	18 10 03.0	-2.0	
HHC				pPKP	pPKPdf	18 10 15.3	+6.9	
HHC				sPKP		18 10 19.1		
HHC				PP	PP	18 13 37.3	+1.7	
HHC				SKS	SKSdf	18 17 05.5	-7.6	
HHC				SKKS	SKKSac	18 20 21.8	-4.6	
HHC				SS	SS	18 32 35.5	-4.8	
HHC				AMB	AMB			
	comp=Z,57nm,9.0s							
HHC				LR	LR			
	comp=N,88nm,20.5s,MS4.8							
HHC				LR	LR			
	comp=E,120nm,20.5s,MS4.8							
HHC				LR	LR			
	comp=Z,130nm,21.1s,MS4.7							
DAWY	**Dawson**	**148.53**	**310**	*e*PKPbc	PKPbc	18 10 07.7	-1.4	
EGAK	**Eagle**	**149.48**	**311**	*e*PKPbc	PKPbc	18 10 10.3	-1.1	
SONM	**Songino Array**	**149.59**	**87**	PKPbc	PKPbc	18 10 12.8	+0.6	
	comp=Z,3.9nm,0.6s,baz=231,slow=2.7,SNR=38							
SONM	**Songino Array**	**149.59**	**87**	PKPbc	PKPbc	18 10 12.8	+0.6	
ULN	**Ulaanbaatar**	**149.97**	**87**	*e*PKPdf	PKPdf	18 10 05.8	-2.5	
DOT	**Dot Lake**	**150.38**	**308**	*e*PKPbc	PKPbc	18 10 14.3	+0.6	
ILAR	**Eielson Array**	**151.86**	**310**	PKPbc	PKPbc	18 10 17.1	0.0	
	comp=Z,5.1nm,0.8s,baz=133,slow=2.3,SNR=39							
ILAR	**Eielson Array**	**151.86**	**310**	PKPbc	PKPbc	18 10 17.1	0.0	
COLA	**College**	**152.28**	**310**	*e*PKPdf	PKPdf	18 10 11.6	+0.3	
COLA				*e*PKPbc	PKPbc	18 10 17.4	-0.6	
KDAK	**Kodiak Island**	**152.45**	**293**	*e*PKPbc	PKPbc	18 10 18.6	0.0	
MCK	**McKinley**	**152.50**	**307**	*e*PKPbc	PKPbc	18 10 18.4	-0.2	
TRF	**Thorofare Moun**	**153.03**	**306**	*e*PKPbc	PKPbc	18 10 19.5	-0.2	
KSRS	**Korea Array**	**153.27**	**126**	PKPbc	PKPbc	18 10 21.5	+0.4	
	comp=Z,1.3nm,0.6s,baz=182,slow=1.8,SNR=5.9							
BPAW	**Bear Paw Mtn.**	**153.47**	**307**	*e*PKPbc	PKPbc	18 10 20.6	-0.1	
PPLA	**Purkeypile**	**153.75**	**304**	*e*PKPbc	PKPbc	18 10 22.3	+1.0	
MJAR	**Matsushiro Arr**	**156.39**	**144**	PKPab	PKPab	18 10 47.0	+0.6	
	comp=Z,2.7nm,0.8s,baz=193,slow=5.3,SNR=8.8							
MJAR	**Matsushiro Arr**	**156.39**	**144**	PKPab	PKPab	18 10 47.0	+0.6	
CN2	**Changchun**	**157.09**	**113**	*e*PKP	PKPdf	18 10 19.1	+0.5	
CN2				PP	PP	18 14 32.3	+3.9	
CN2				SS	SS	18 34 21.3	-1.0	
CN2				AMB	AMB			
	comp=Z,200nm,3.0s							
CN2				LR	LR			
	comp=N,200nm,15.0s,MS5.2							
CN2				LR	LR			
	comp=E,200nm,15.0s,MS5.2							
CN2				LR	LR			
	comp=Z,200nm,19.0s,MS5.0							

*ISCJB **15** 18:06:07.5±1.2, 10°.40N±0°.08×60°.29W±0°.08, h90km±11km, Error ellipse: s-maj=14.1km s-min=11.9km az=148.7*
*FUNV **15** 18:06:07.7, 10°.43N×60°.06W, h58km, MW3.8*
*TRN **15** 18:06:10.2, 10°.52N×60°.45W, h89km, MD3.2*

ISC 15 18:06:08.7±1.2, 10°.39N±0°.08×60°.28W±0°.07, h77km±15km, n14, σ0s87/22, 2C, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TBH	**Brigand Hill**	**0.79**	**277**	⇑*iP*	**Pn**	**18 06 26.4**	**+1.3**
TBH				*eS*	**Sn**	**18 06 37.1**	**-0.1**
TPR	**Prospect**	**0.94**	**328**	*eP*	**Pn**	**18 06 26.7**	**-0.2**
TPR				*eS*	**Sn**	**18 06 39.6**	**-0.7**
TOSP	**Speyside**	**0.94**	**344**	*eP*	**Pn**	**18 06 28.0**	**+1.0**
TOSP				*eS*	**Sn**	**18 06 40.1**	**-0.3**
TRN	**Trinidad (W)**	**1.14**	**283**	*eP*	**Pn**	**18 06 28.9**	**-0.4**
TRN				*eS*	**Sn**	**18 06 43.7**	**-1.0**
GUIV	**Guiria**	**1.93**	**278**	*eP*	**Pn**	**18 06 39.9**	**+0.2**
GUIV				*eS*	**Sn**	**18 07 04.0**	**+0.8**
GUNV	**Guanoco**	**2.63**	**265**	⇑*iP*	**Pn**	**18 06 50.2**	**+1.2**
GUNV				*eS*	**Sn**	**18 07 21.6**	**+1.5**
RIOV	**Rio Grande**	**2.76**	**214**	*eP*	**Pn**	**18 06 51.2**	**+0.5**
CRUV	**Carupano**	**2.93**	**276**	*eP*	**Pn**	**18 06 52.8**	**-0.2**
PCRV	**Puerto La Cruz**	**4.30**	**268**	*eP*	**Pn**	**18 07 11.0**	**-0.7**
LUEV	**Luepa**	**4.66**	**195**	*eP*	**Pn**	**18 07 15.4**	**-1.3**
CUPV	**Cœpira**	**5.44**	**267**	*eP*	**Pn**	**18 07 28.3**	**+1.0**
CUPV				*eS*	**Sn**	**18 08 26.9**	**-1.6**
BIRV	**Birongo**	**5.90**	**271**	*eP*	**Pn**	**18 07 33.8**	**+0.3**
BAUV	**El Baul**	**7.79**	**260**	*eP*	**Pn**	**18 07 58.8**	**-0.6**
BAUV				*eS*	**Sn**	**18 09 20.6**	**-5.5**
MAPV	**Macapo**	**8.07**	**267**	*eP*	**Pn**	**18 08 02.8**	**-0.5**

*IDC **15** 18:14:50.4±1.6, 0°.76N×97°.32E, h0km, mb3.6/6, mb1 3.6/8, mb1mx3.5/24, mbtmp3.5/8, ML3.3/2, MS4.2/1, Ms1 4.2/1, ms1mx2.4/30, Error ellipse: s-maj=51.9km s-min=20.1km az=60.0*
*ISCJB **15** 18:14:53.2±0.9, 0°.83N±0°.09×97°.3E±0°.1, h33km, mb3.6/6, Error ellipse: s-maj=17.9km s-min=12.6km az=163.1*
*NEIC **15** 18:14:54.8±0.7, 0°.83N×97°.34E, h30km, mb4.0/1, Error ellipse: s-maj=13.9km s-min=9.6km az=72.0*

ISC 15 18:14:55.7±0.9, 0°.84N±0°.09×97°.4E±0°.1, h35km, n22, σ0s68/21, mb3.6/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**2.49**	**39**	Pn	**Pn**	**18 15 33.2**	**-0.5**
	2.7nm,0.3s,baz=279,slow=8.1,SNR=5.8						
PSI	**Prapat**	**2.49**	**39**	Pn	**Pn**	**18 15 33.2**	**-0.5**
IPM	**Ipoh**	**5.13**	**45**	*e*Pn	**Pn**	**18 16 11.4**	**+1.3**
	8.1nm,0.8s						
KULM	**Kulim**	**5.50**	**36**	*e*Pn	**Pn**	**18 16 14.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**17.57**	**5**	P	**Pn**	**18 18 56.4**	**-1.6**
	0.1nm,0.3s,baz=198,slow=11,SNR=6.9						
CMAR	**Chiang Mai Arr**	**17.57**	**5**	P	**Pn**	**18 18 56.4**	**-1.6**
WRA	**Warramunga Arr**	**41.70**	**122**	P	**P**	**18 22 41.0**	**-0.4**
	0.1nm,0.3s,mb2.9,baz=306,slow=9.0,SNR=4.8						
WRA	**Warramunga Arr**	**41.70**	**122**	P	**P**	**18 22 41.0**	**-0.4**
ASAR	**Alice Springs**	**43.05**	**127**	P	**P**	**18 22 52.2**	**-0.1**
	0.4nm,0.7s,mb3.2,baz=296,slow=7.5,SNR=9.2						
ASAR	**Alice Springs**	**43.05**	**127**	P	**P**	**18 22 52.2**	**-0.1**
SONM	**Songino Array**	**47.46**	**8**	P	**P**	**18 23 27.5**	**+0.6**
	0.3nm,0.4s,mb3.6,baz=191,slow=9.9,SNR=5.0						
SONM	**Songino Array**	**47.46**	**8**	P	**P**	**18 23 27.5**	**+0.6**
MK31	**Makanchi Array**	**47.62**	**346**	*e*P	**P**	**18 23 28.8**	**+0.5**
MKAR	**Makanchi Array**	**47.62**	**346**	P	**P**	**18 23 29.1**	**+0.8**
	0.9nm,0.5s,mb4.1,baz=158,slow=9.2,SNR=21						
MKAR	**Makanchi Array**	**47.62**	**346**	P	**P**	**18 23 29.1**	**+0.8**
KURK	**Kurchatov**	**52.18**	**345**	P	**P**	**18 24 02.9**	**+0.1**
	0.5nm,0.7s,mb3.6,baz=166,slow=7.2,SNR=7.1						
KURK	**Kurchatov**	**52.18**	**345**	*e*P	**P**	**18 24 02.5**	**-0.3**
	2.1nm,1.0s,mb4.0						
CTA	**Charters Tower**	**52.19**	**116**	LR	LR	18 50 58.6	
	comp=Z,219nm,18.0s,baz=219,slow=42						
STKA	**Stephens Creek**	**52.99**	**132**	*e*P	**P**	**18 24 09.2**	**0.0**
ZAA0	**Zalesovo Array**	**53.93**	**351**	*e*P	**P**	**18 24 15.0**	**-0.6**
ZALV	**Zalesovo Beam**	**53.93**	**351**	P	**P**	**18 24 15.9**	**+0.3**
	0.7nm,0.3s,mb4.0,baz=179,slow=7.4,SNR=8.2						
ZALV	**Zalesovo Beam**	**53.93**	**351**	P	**P**	**18 24 15.9**	**+0.3**

*ISCJB **15** 18:21:02.7±1.0, 20°.02S±0°.05×69°.3W±0°.2, h106km±11km, mb3.9/7, Error ellipse: s-maj=25.1km s-min=7.6km az=7.9*
*NEIC **15** 18:21:03.9±1.0, 19°.98S×69°.35W, h99km±10km, Error ellipse: s-maj=19.7km s-min=10.1km az=91.0*
*IDC **15** 18:21:04.6±2.6, 19°.93S×69°.25W, h104km±20km, mb3.7/7, mb1 3.9/9, mb1mx3.7/17, mbtmp3.7/9, Error ellipse: s-maj=24.3km s-min=18.6km az=77.0*

ISC 15 18:21:04.1±0.9, 20°.01S±0°.05×69°.3W±0°.2, h103km±10km, n31, σ0s76/23, mb3.9/7, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.87**	**17**	P	**Pn**	**18 22 02.9**	**+1.3**
	13nm,0.3s,baz=189,slow=5.3,SNR=350						
LPAZ				S	**Sn**	**18 22 45.5**	**-0.6**
	1.0nm,0.3s,baz=253,slow=14,SNR=2.0						
LPAZ	**La Paz**	**3.87**	**17**	*e*Pn	**Pn**	**18 22 02.2**	**+0.6**
LPAZ				P		18 22 02.9	
LPAZ				S	**Sn**	**18 22 45.5**	**-0.6**
LCO	**Las Campanas**	**9.05**	**188**	*e*Pn	**Pn**	**18 23 11.6**	**-0.2**
LCO				*e*Sn	**Sn**	**18 24 51.6**	**-0.4**
CFAA	**Coronel Fontan**	**11.59**	**175**	P	**Pn**	**18 23 46.9**	**+0.6**
	0.2nm,0.3s,baz=15,slow=13,SNR=17						
CFAA	**Coronel Fontan**	**11.59**	**175**	P	**Pn**	**18 23 46.9**	**+0.6**
OTAV	**Otavalo**	**22.02**	**335**	*e*P	**P**	**18 25 49.7**	**-0.6**
RCBR	**Riachuelo**	**35.40**	**71**	P	**P**	**18 27 50.9**	**+0.5**
	4.4nm,0.5s,mb4.5,baz=230,slow=23,SNR=6.8						
RCBR	**Riachuelo**	**35.40**	**71**	P	**P**	**18 27 50.9**	**+0.5**
TXAR	**Lajitas Array**	**59.19**	**325**	P	**P**	**18 30 54.1**	**-0.4**
	0.2nm,0.4s,mb3.5,baz=144,slow=7.0,SNR=4.8						
TXAR	**Lajitas Array**	**59.19**	**325**	P	**P**	**18 30 54.1**	**-0.4**
PDAR	**Pinedale Array**	**72.63**	**330**	P	**P**	**18 32 21.0**	**+0.7**
	0.2nm,0.6s,mb3.1,baz=126,slow=15,SNR=3.7						
PDAR	**Pinedale Array**	**72.63**	**330**	P	**P**	**18 32 21.0**	**+0.7**
ULM	**Lac du Bonnet**	**73.78**	**343**	P	**P**	**18 32 26.0**	**-1.0**
	2.1nm,0.5s,mb4.1,baz=150,slow=2.3,SNR=5.3						
ULM	**Lac du Bonnet**	**73.78**	**343**	P	**P**	**18 32 26.0**	**-1.0**
NVAR	**Mina Array Bea**	**74.08**	**322**	P	**P**	**18 32 30.6**	**+1.6**
	0.8nm,0.8s,mb3.5,baz=152,slow=6.2,SNR=5.3						
NVAR	**Mina Array Bea**	**74.08**	**322**	P	**P**	**18 32 30.6**	**+1.6**
TORD	**Torodi Ar. Bea**	**77.23**	**71**	P	**P**	**18 32 46.5**	**-0.9**
	1.1nm,0.4s,mb4.0,baz=252,slow=5.6,SNR=25						
TORD	**Torodi Ar. Bea**	**77.23**	**71**	P	**P**	**18 32 46.5**	**-0.9**
YKA	**Yellowknife Ar**	**89.66**	**341**	P	**P**	**18 33 49.9**	**-0.1**
	2.6nm,0.6s,mb4.5,baz=134,slow=4.8,SNR=13						
YKA	**Yellowknife Ar**	**89.66**	**341**	P	**P**	**18 33 49.9**	**-0.1**
ASAR	**Alice Springs**	**131.04**	**209**	PKP	PKPdf	18 40 05.7	+1.1
WRA	**Warramunga Arr**	**134.03**	**212**	PKP	PKPdf	18 40 10.1	-0.1
	0.5nm,0.5s,baz=128,slow=1.6,SNR=16						
ASAR	**Alice Springs**	**131.04**	**209**	PKP	PKPdf	18 40 05.7	+1.1
WRA	**Warramunga Arr**	**134.03**	**212**	PKP	PKPdf	18 40 10.1	-0.1
	0.5nm,0.5s,baz=146,slow=1.6,SNR=13						
WRA	**Warramunga Arr**	**134.03**	**212**	PKP	PKPdf	18 40 10.1	-0.1
TKM2	**Tokmak 2**	**142.76**	**44**	*e*PKPdf	PKPdf	18 40 28.0	+2.6
MKAR	**Makanchi Array**	**144.64**	**34**	PKP	PKPdf	18 40 27.3	-1.3
	0.2nm,0.5s,baz=323,slow=3.5,SNR=3.7						
MKAR	**Makanchi Array**	**144.64**	**34**	PKP	PKPdf	18 40 27.3	-1.3
MJAR	**Matsushiro Arr**	**150.83**	**310**	PKPbc	PKPbc	18 40 45.1	+0.2
	0.9nm,0.7s,baz=106,slow=1.5,SNR=3						
MJAR	**Matsushiro Arr**	**150.83**	**310**	PKPbc	PKPbc	18 40 45.1	+0.2
SONM	**Songino Array**	**152.02**	**6**	PKPbc	PKPbc	18 40 48.3	+1.1
	1.1nm,0.5s,baz=302,slow=1.5,SNR=13						
SONM	**Songino Array**	**152.02**	**6**	PKPbc	PKPbc	18 40 48.3	+1.1

*NNC **15** 18:33:32.5±6.0, 40°.16N×73°.66E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=55.8km s-min=26.6km az=2.0*

ISC 15 18:33:25.1±3.3, 39°.4N±0°.2×73°.6E±0°.1, h10km, n10, σ1s11/13, 3C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**2.78**	**1**	P	**Pn**	**18 34 09.3**	**-0.4**
	SNR=55						
KZA	**Kyzart**	**2.99**	**24**	P	**Pn**	**18 34 11.0**	**-1.5**
	SNR=13						
EKS2	**Erkin-Say**	**3.31**	**2**	P	**Pn**	**18 34 17.1**	**+0.1**
	SNR=13						
AAK	**Ala-Archa**	**3.35**	**11**	P	**Pn**	**18 34 19.8**	**+2.4**
	SNR=24						
KBK	**Karagaybulak**	**3.45**	**16**	P	**Pn**	**18 34 19.5**	**+0.6**
	SNR=7.5						
ULHL	**Ulahol**	**3.51**	**34**	P	**Pn**	**18 34 21.6**	**+1.9**
	SNR=14						
TKM2	**Tokmak 2**	**3.87**	**22**	⇓Pn	**Pn**	**18 34 23.7**	**-0.9**
	1.6nm,0.4s						
TKM2				⇓Pg	**Pb**	**18 34 31.9**	**-1.4**
	3.0nm,0.3s						
USP	**Ospenovka**	**3.97**	**9**	P	**Pn**	**18 34 30.6**	**+4.7**
	SNR=12						
KK31	**Karatay Array**	**4.42**	**329**	Pn	**Pn**	**18 34 32.7**	**+0.4**
	0.4nm,0.2s,baz=139,slow=15,SNR=48						
KK31				⇑Pg	**Pb**	**18 34 42.7**	**-0.1**
	1.5nm,0.3s,baz=141,slow=16,SNR=15						
KK31				⇑Sn	**Sn**	**18 35 24.2**	**+0.4**
	4.5nm,0.3s,baz=133,slow=21						
KK31				⇑Lg		18 35 40.1	
	3.4nm,0.3s,baz=136,slow=28						
AB31	**Akbulak array**	**13.91**	**320**	P	**Pn**	**18 36 41.2**	**-0.9**
	0.1nm,0.3s,baz=123,slow=14,SNR=5.6						

*ISCJB **15** 18:39:41.6±3.9, 30°.0N±0°.1×83°.3E±0°.2, h20km±29km, mb3.7/8, Error ellipse: s-maj=27.7km s-min=9.9km az=141.1*
*IDC **15** 18:39:41.7±1.0, 30°.06N×83°.65E, h0km, mb3.5/6, mb1 3.6/8, mb1mx3.4/27, mbtmp3.5/8, ML3.1/1, Error ellipse: s-maj=33.0km s-min=20.3km az=65.0*
*NEIC **15** 18:39:43.8±5.7, 30°.11N×83°.44E, h17km±36km, mb3.9/5, Error ellipse: s-maj=22.7km s-min=9.3km az=49.0*

ISC 15 18:39:44.3±3.8, 30°.0N±0°.1×83°.3E±0°.2, h25km±29km, n27, σ1s03/26, mb3.7/8, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**6.80**	**91**	*e*Pn	**Pn**	**18 41 22.8**	**+0.3**
	13nm,0.8s						
TKM2	**Tokmak 2**	**14.27**	**336**	*e*Pn	**Pn**	**18 42 56.7**	**-7.9**
EKS2	**Erkin-Say**	**14.75**	**331**	*e*Pn	**Pn**	**18 43 10.8**	**-0.3**
KKAR	**Karatay Array**	**16.59**	**325**	*e*Pn	**Pn**	**18 43 33.2**	**-1.7**
	1.2nm,0.7s						
MK31	**Makanchi Array**	**16.75**	**358**	*e*Pn	**Pn**	**18 43 38.6**	**+1.6**
MKAR	**Makanchi Array**	**16.75**	**358**	Pn	**Pn**	**18 43 37.4**	**+0.4**
	0.1nm,0.3s,baz=177,slow=9.2,SNR=8.6						
MKAR	**Makanchi Array**	**16.75**	**358**	Pn	**Pn**	**18 43 37.4**	**+0.4**
CHTO	**Chiang Mai**	**18.06**	**125**	*e*Pn	**Pn**	**18 43 53.4**	**-0.2**
	1.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**18.30**	**126**	P	**Pn**	**18 43 56.5**	**0.0**
	baz=302,slow=12,SNR=8.6						
CMAR	**Chiang Mai Arr**	**18.30**	**126**	P	**Pn**	**18 43 56.5**	**0.0**
KURK	**Kurchatov**	**20.95**	**352**	P	**P**	**18 44 23.8**	**-1.3**
	3.6nm,1.0s,baz=173,slow=9.9,SNR=17						
KURK	**Kurchatov**	**20.95**	**352**	P	**P**	**18 44 23.8**	**-1.3**
ZAA0	**Zalesovo Array**	**23.92**	**2**	*e*P	**P**	**18 44 56.1**	**+0.2**
ZALV	**Zalesovo Beam**	**23.92**	**2**	P	**P**	**18 44 56.6**	**+0.7**
	0.9nm,0.6s,mb3.4,baz=184,slow=12,SNR=5.9						
ZALV	**Zalesovo Beam**	**23.92**	**2**	P	**P**	**18 44 56.6**	**+0.7**
SONM	**Songino Array**	**25.10**	**38**	P	**P**	**18 45 07.2**	**+0.5**
	0.4nm,0.8s,mb3.0,baz=237,slow=10,SNR=2.9						
SONM	**Songino Array**	**25.10**	**38**	P	**P**	**18 45 07.2**	**+0.5**
ABKAR	**Akbulak array**	**26.14**	**324**	*e*P	**P**	**18 45 18.4**	**+2.3**
	1.7nm,0.8s,mb3.6						
TLY	**Talaya**	**26.36**	**29**	*e*P	**P**	**18 45 16.4**	**-1.7**
	11nm,0.8s,mb4.5						
CLL	**Collm**	**55.18**	**314**	L		18 49 00.0	
	comp=Z,100nm,19.8s						
WRA	**Warramunga Arr**	**69.86**	**129**	P	**P**	**18 50 53.4**	**+0.4**
	comp=Z,0.3nm,0.8s,mb3.3,baz=326,slow=6.3,SNR=7.1						
WRA	**Warramunga Arr**	**69.86**	**129**	P	**P**	**18 50 53.4**	**+0.4**
ASAR	**Alice Springs**	**72.18**	**132**	P	**P**	**18 51 06.5**	**-0.5**
	comp=Z,0.5nm,1.1s,mb3.4,baz=319,slow=6.4,SNR=3.1						
ASAR	**Alice Springs**	**72.18**	**132**	P	**P**	**18 51 06.5**	**-0.5**
TORD	**Torodi Ar. Bea**	**76.38**	**277**	P	**P**	**18 51 35.6**	**+3.8**
	comp=Z,1.1nm,0.8s,mb3.9,baz=55,slow=4.4,SNR=8.4						
TORD	**Torodi Ar. Bea**	**76.38**	**277**	P	**P**	**18 51 35.6**	**+3.8**
EGAK	**Eagle**	**79.34**	**18**	*e*P	**P**	**18 51 46.7**	**-0.7**
	comp=Z,10nm,1.0s,mb4.7						

*BJI **15** 19:11:21.5, 60°.86N×166°.12E, h16km, mB4.9/18, mb4.7/37, Ms4.4/15, Ms7 4.0/13*
*ISCJB **15** 19:11:23.0±0.2, 60°.84N±0°.03×165°.72E±0°.04, h10km, mb4.5/84, MS3.5/17, Error ellipse: s-maj=4.2km s-min=2.9km az=163.3*
*NERS **15** 19:11:23.7, 60°.97N×165°.53E, h0km*
*IDC **15** 19:11:23.2±0.4, 60°.81N×165°.64E, h0km, mb4.2/28, mb1 4.4/29, mb1mx4.4/35, mbtmp4.3/29, ML3.9/1, MS3.4/13, Ms1 3.5/13, ms1mx3.1/49, Error ellipse: s-maj=12.1km s-min=10.0km az=24.0*
*MOS **15** 19:11:23.7±1.2, 60°.83N×165°.80E, h18km, mb4.6/46, Error ellipse: s-maj=12.4km s-min=6.1km az=95.5*
*KRSC **15** 19:11:23.3±1.9, 60°.89N×165°.98E, h16km±15km, ML4.4*
*NEIC **15** 19:11:25.3±2.4, 60°.76N×165°.67E, h16km±15km, mb4.5/41, Error ellipse: s-maj=5.5km s-min=3.3km az=169.0*

ISC 15 19:11:25.0±0.2, 60°.84N±0°.03×165°.75E±0°.04, h10km, (h18km±1.8km:pP-P), n229, σ1s05/242, mb4.5/84, MS3.5/17, 8C-1D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PALN	**Palana**	**3.40**	**241**	*e*P	**Pn**	**19 12 17.5**	**-0.4**
PALN				*i* S	**Sn**	**19 12 56.7**	**-1.5**
SMKR	**Semkarok**	**4.82**	**209**	*e*P	**Pn**	**19 12 37.9**	**+0.5**
SRKR	**Sorokina**	**4.83**	**212**	*e*P	**Pn**	**19 12 40.4**	**+2.8**
KBTR	**Krutoberegovo**	**4.89**	**200**	*e*P	**Pn**	**19 12 39.2**	**+0.8**
KBTR				*i* S	**Sn**	**19 13 34.6**	**-0.4**
KBTR	**Krutoberegovo**	**4.89**	**200**	PN	**Pn**	**19 12 39.2**	**+0.8**
OMS	**Omsukchan**	**5.04**	**294**	*i* P	**Pn**	**19 12 41.4**	**+0.9**
OMS				Pmax		19 12 42.3	
	600nm,0.3s						
OMS				*e*S	**Sn**	**19 13 39.3**	**+0.6**
OMS				Smax		19 13 44.1	
	2µm,0.8s						
BKI	**Bering**	**5.65**	**179**	P	**Pn**	**19 12 48.9**	**0.0**
BKI	**Bering**	**5.65**	**179**	PN	**Pn**	**19 12 48.9**	**0.0**
TLAR	**Talaya**	**6.51**	**278**	*i* P	**Pn**	**19 13 02.3**	**+1.7**
TLAR				Pmax		19 13 10.9	
	70nm,0.5s						
TLAR				*e*S	**Sn**	**19 14 14.4**	**-0.3**
MKZ	**Mys Kozlova**	**6.66**	**201**	*e*P	**Pn**	**19 13 05.6**	**+2.9**
MKZ				*i* S	**Sn**	**19 14 19.2**	**+0.7**
MKZ	**Mys Kozlova**	**6.66**	**201**	PN	**Pn**	**19 13 05.6**	**+2.9**
SEY	**Seymchan**	**6.66**	**294**	⇓*i* PN	**Pn**	**19 13 03.5**	**+0.8**
SEY	**Seymchan**	**6.66**	**294**	*e*P	**Pn**	**19 13 03.4**	**+0.7**
SEY				Pmax		19 13 03.9	
	60nm,0.4s						
SEY				*e*		19 13 11.1	
SEY				*e*		19 13 47.1	
SEY				*e*Sg	**Sg**	**19 14 50.1**	**-8.3**
SEY				Sgmax		19 15 08.3	
	770nm,0.6s						
BILL	**Bilibino**	**7.23**	**2**	*e*P	**Pn**	**19 13 10.9**	**+0.4**
BILL				*i* S	**Sn**	**19 14 29.8**	**-2.8**
BILL	**Bilibino**	**7.23**	**2**	*e*Pn	**Pn**	**19 13 11.1**	**+0.6**
	25nm,0.6s						
BILL				*e*Sn	**Sn**	**19 14 39.1**	**+6.6**
BILL	**Bilibino**	**7.23**	**2**	*e*Pn	**Pn**	**19 13 11.1**	**+0.6**
BILL				*e*		19 14 39.2	
BILL				pmax	pmax		
	comp=Z,25nm,0.6s						
BILL	**Bilibino**	**7.23**	**2**	*e*P	**Pn**	**19 13 10.7**	**+0.2**
BILL				Pmax		19 13 12.5	
	comp=Z,10.0nm,0.6s						
BILL				*e*S	**Sn**	**19 14 39.8**	**+7.2**
BILL				*e*Sg	**Sg**	**19 15 11.5**	**-5.3**
BILL				Sgmax		19 15 18.2	
	comp=Z,840nm,0.8s						
BILL				Sgmax		19 15 28.1	
	comp=Z,90nm,0.8s						
BILL				Sgmax		19 15 29.0	
	comp=Z,320nm,1.1s						
BILL				Sgmax		19 15 29.0	
	comp=Z,90

DOT Dot Lake 23.05 61 *e*P P **19 16 29.4 -0.5**
comp=Z,73nm,1.2s,mb5.0
EGAK Eagle 23.96 58 *e*P P **19 16 37.5 -1.5**
comp=Z,13nm,0.7s,mb4.5
DAWY Dawson 24.91 59 *e*P P **19 16 47.0 -0.5**
INK Inuvik 26.05 48 P P **19 16 58.3 +0.4**
comp=Z,2.8nm,0.5s,mb4.1,baz=295,slow=11,SNR=15
INK PcP PcP 19 20 25.1 0.0
comp=Z,1.1nm,0.6s,baz=302,slow=3.1,SNR=4.1
INK LR LR 19 28 44.2
comp=Z,99nm,19.9s,MS3.4,baz=332,slow=40
INK Inuvik 26.05 48 *e*P P **19 16 58.3 +0.4**
comp=Z,4.9nm,0.8s,mb4.1
INK Inuvik 26.05 48 P P **19 16 58.3 +0.4**
INK 19 20 25.1
INK pmax pmax
comp=Z,3.0nm,0.5s
INK MLR MLR
comp=Z,99nm,19.9s
MDJ Mudanjiang 26.79 249 P P **19 17 04.8 0.0**
MDJ pP pP 19 17 07.8 0.0
MDJ sP sP 19 17 09.3 +0.3
MDJ S **S** **19 21 40.8 +0.3**
MDJ sS sS 19 21 46.0 +0.5
MDJ ScP ScP 19 24 08.3 +1.3
MDJ PcS PcS 19 24 09.5 +1.1
MDJ pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
MDJ LR LR
comp=N,93nm,24.5s,MS3.3
MDJ LR LR
comp=E,58nm,22.9s,MS3.3
MJAR Matsushiro Arr 29.94 228 P P **19 17 30.6 -2.2**
comp=E,2.4nm,1.0s,mb3.9,baz=26,slow=6.0,SNR=7.9
MJAR LR LR 19 31 41.8
comp=E,58nm,18.7s,MS3.2,baz=20,slow=41
MJAR Matsushiro Arr 29.94 228 P P **19 17 30.6 -2.2**
MJAR LR LR 19 31 41.8
MJAR Matsushiro Arr 29.94 228 P P **19 17 30.6 -2.3**
MJAR pmax pmax
comp=Z,2.0nm,1.0s
MJAR MLR MLR
comp=Z,58nm,18.7s
DLBC Dease Lake 31.40 65 P P **19 17 46.4 +0.8**
comp=Z,3.4nm,0.8s,mb4.2,baz=294,slow=13,SNR=2.8
DLBC Dease Lake 31.40 65 P P **19 17 46.4 +0.8**
JHJ Hachijo jima 2 32.47 223 LR LR 19 31 06.8
comp=Z,51nm,19.6s,MS3.2,baz=60,slow=36
KSRS Korea Array 33.30 243 LR LR 19 32 40.9
comp=Z,43nm,18.2s,MS3.2,baz=168,slow=38
ULN Ulaanbaatar 35.32 276 *e*P P **19 18 20.2 +0.4**
comp=Z,3.2nm,0.8s,mb4.3
ULN Ulaanbaatar 35.32 276 *e*P P **19 18 20.2 +0.3**
ULN pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
YKA Yellowknife Ar 35.60 52 P P **19 18 21.9 -0.2**
comp=Z,3.8nm,0.8s,mb4.4,baz=303,slow=8.2,SNR=7.7
YKA PcP PcP 19 20 50.8 +0.4
comp=Z,1.8nm,0.8s,baz=312,slow=3.8,SNR=5.9
YKA LR LR 19 35 35.0
comp=Z,4.8nm,18.6s,baz=180,slow=41
YKA Yellowknife Ar 35.60 52 P P **19 18 21.9 -0.2**
YKA PcP PcP 19 20 50.8 +0.4
YKA LR LR 19 35 35.0
YKA Yellowknife Ar 35.60 52 P P **19 18 21.9 -0.2**
YKA 19 20 50.8
YKA pmax pmax
comp=Z,4.0nm,0.8s
SONM Songino Array 35.66 276 P P **19 18 23.6 +0.8**
comp=Z,2.6nm,0.8s,mb4.2,baz=62,slow=8.1,SNR=11
SONM PcP PcP 19 20 50.9 0.0
comp=Z,0.9nm,0.6s,baz=56,slow=1.6,SNR=5.4
SONM Songino Array 35.66 276 P P **19 18 23.6 +0.8**
SONM PcP PcP 19 20 50.9 0.0
SONM Songino Array 35.66 276 P P **19 18 23.6 +0.8**
SONM 19 20 50.9
SONM pmax pmax
comp=Z,3.0nm,0.8s
BJI Beijing 36.63 258 P P **19 18 31.0 -0.1**
BJI pmax pmax
comp=Z,24nm,0.8s,mb5.1
BJT Baijiatuan 36.65 258 P P **19 18 30.3 -1.1**
comp=Z,37nm,1.2s,mb5.1
BJT Baijiatuan 36.65 258 P P **19 18 30.3 -1.0**
BJT pmax pmax
comp=Z,37nm,1.2s
HHC Hu-ho-hao-te 38.24 264 *e*P P **19 18 43.8 -0.9**
HHC sP sP 19 18 51.8 +2.7
HHC PP PP 19 20 14.0 +2.0
HHC PcP PcP 19 20 59.3 +0.5
HHC S **S** **19 24 34.8 -3.4**
HHC ScP ScP 19 24 44.4 -1.8
HHC PcS PcS 19 24 46.1 -1.6
HHC SS SS 19 27 12.8 -13
HHC ScS ScS 19 28 52.5 -3.3
HHC pmax pmax
comp=Z,14nm,0.6s,mb4.9
HHC pmax pmax
comp=Z,110nm,6.1s
HHC LR LR
comp=N,120nm,14.4s,MS4.0
HHC LR LR
comp=E,140nm,14.3s,MS4.0
HHC LR LR
comp=Z,110nm,14.7s,MS3.8
SPITS Spitsbergen Ar 39.99 351 P P **19 18 59.1 +0.2**
comp=Z,4.7nm,0.6s,mb4.4,baz=32,slow=7.8,SNR=10
SPITS Spitsbergen Ar 39.99 351 P P **19 18 59.1 +0.2**
SPITS Spitsbergen Ar 39.99 351 P P **19 18 59.2 +0.2**
SPITS pmax pmax
comp=Z,5.0nm,0.6s
ZAA0 Zalesovo Array 41.51 298 *e*P P **19 19 11.0 -0.8**
ZALV Zalesovo Beam 41.51 298 P P **19 19 11.6 -0.1**
comp=Z,1.1nm,0.6s,mb3.6,baz=41,slow=7.1,SNR=7.6
ZALV Zalesovo Beam 41.51 298 P P **19 19 11.6 -0.1**
ZALV Zalesovo Beam 41.51 298 P P **19 19 11.6 -0.2**
ZALV pmax pmax
comp=Z,1.0nm,0.6s,mb3.6
NVS Novosibirsk 41.58 300 *e*P P **19 19 11.4 -0.9**
NVS pmax pmax
comp=Z,16nm,1.1s,mb4.6
NVS pmax pmax
comp=N,5.0nm,1.2s
NVS pmax pmax
comp=E,10.0nm,1.3s
NJ2 Nanjing 41.87 248 *e*P P **19 19 18.3 +3.3**
NJ2 S **S** **19 25 34.0 +1.3**
NJ2 sS sS 19 25 46.5 +8.7
NJ2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.6
NJ2 pmax pmax
comp=Z,160nm,3.6s
NJ2 LR LR
comp=N,110nm,22.0s,MS3.9
NJ2 LR LR
comp=E,140nm,19.5s,MS3.9
LON Longmire 42.72 75 P P **19 19 21.1 -0.6**
comp=E,5.2nm,1.2s,mb4.1
LON Longmire 42.72 75 P P **19 19 21.1 -0.7**
LON pmax pmax
comp=Z,5.0nm,1.2s,mb4.1
GTA Gaotai 45.09 273 *e*P P **19 19 41.3 +0.4**
GTA pP pP 19 19 47.3 +3.3
GTA sP sP 19 19 50.1 +4.9
GTA S **S** **19 26 19.3 -0.3**
GTA sS sS 19 26 28.3 +3.5
GTA pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
GTA pmax pmax
comp=Z,91nm,4.5s
GTA LR LR
comp=N,94nm,16.4s,MS4.0
GTA LR LR
comp=E,100nm,16.8s,MS4.0
GTA LR LR
comp=Z,130nm,18.5s,MS3.9
BSMT Bassoo Peak 45.19 69 *e*P P **19 19 42.6 +1.1**
comp=Z,7.1nm,1.3s,mb4.3
BSMT *e*PcP PcP 19 21 22.0 +0.5
FFC Flin Flon 45.66 54 *e*P P **19 19 43.8 -1.4**
comp=Z,19nm,1.4s,mb4.8
FFC Flin Flon 45.66 54 *e*P P **19 19 43.8 -1.4**
FFC pmax pmax
comp=Z,19nm,1.4s,mb4.8
LZH Lanzhou 45.73 266 *e*P P **19 19 46.3 +0.4**
LZH pP pP 19 19 51.9 +2.8
LZH sP sP 19 19 55.5 +5.2
LZH pmax pmax
comp=Z,15nm,1.0s,mb4.9
KURK Kurchatov 46.48 299 P P **19 19 52.6 +0.9**
comp=Z,22nm,0.7s,mb5.2,baz=42,slow=7.9,SNR=210
KURK PP PP 19 21 37.1 -3.4
comp=Z,3.4nm,0.8s,baz=48,slow=9.9,SNR=6.5
KURK LR LR 19 41 16.1
comp=Z,46nm,20.4s,MS3.4,baz=5.0,slow=38
KURK Kurchatov 46.48 299⇑ *i*P P **19 19 51.8 +0.1**
comp=Z,24nm,0.8s,mb5.2
KURK *e*PP PP 19 21 36.2 -4.2
KURK Kurchatov 46.48 299 P P **19 19 52.6 +0.9**
KURK 19 21 37.1
KURK pmax pmax
comp=Z,22nm,0.7s,mb5.2
KURK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
KURK MLR MLR
comp=Z,46nm,20.4s,MS3.4
ARCES ARCESS Array B 46.87 342 P P **19 19 53.7 -0.7**
comp=Z,2.6nm,0.7s,mb4.2,baz=32,slow=7.1,SNR=4.6
ARCES PcP PcP 19 21 25.6 -1.4
comp=Z,7.6nm,1.0s,baz=38,slow=5.1,SNR=4.4
ARCES ARCESS Array B 46.87 342 P P **19 19 53.7 -0.8**
ARCES PcP PcP 19 21 25.6 -1.4
ARCES ARCESS Array B 46.87 342 P P **19 19 53.7 -0.8**
ARCES 19 21 25.6
ARCES pmax pmax
comp=Z,3.0nm,0.7s
APA Apatity 47.28 337⇑ *e*P P **19 19 55.0 -2.7**
APA *e*S **S** **19 26 44.0 -6.4**
WMQ Urumqi 47.55 286 P P **19 20 00.8 +0.7**
MK31 Makanchi Array 47.80 293 *e*P P **19 20 01.1 -0.9**
MK31 *e*PP PP 19 21 53.1 -0.3
MK31 Makanchi Array 47.80 293 *i*P P **19 20 01.1 -0.9**
MK31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
MKAR Makanchi Array 47.80 293 P P **19 20 01.3 -0.7**
comp=Z,4.0nm,0.6s,mb4.7,baz=34,slow=6.1,SNR=56
MKAR PP PP 19 21 49.0 -4.5
comp=Z,1.6nm,0.8s,baz=45,slow=8.6,SNR=4.8
MKAR Makanchi Array 47.80 293 P P **19 20 01.3 -0.7**
MKAR PP PP 19 21 49.0 -4.5
MKAR Makanchi Array 47.80 293 P P **19 20 01.3 -0.7**
MKAR 19 21 49.0
MKAR pmax pmax
comp=Z,4.0nm,0.6s
MKAR pmax pmax
comp=Z,2.0nm,0.8s
BVA0 Borovoye Array 48.15 306 *i*P P **19 20 04.5 -0.2**
BVA0 pmax pmax
comp=Z,3.0nm,1.4s,mb4.1
BRVK Borovoye 48.17 306 *e*P P **19 20 04.6 -0.2**
comp=Z,21nm,1.1s,mb5.1
BRVK Borovoye 48.17 306⇑ *i*P P **19 20 05.3 +0.5**
BRVK pmax pmax
comp=Z,12nm,0.8s,mb5.0
HLID Hailey 48.58 73 *e*P P **19 20 07.9 -0.2**
comp=Z,2.0nm,0.8s,mb4.2
HLID *e*PcP PcP 19 21 34.2 +0.6
SVE Sverdlovsk 48.85 315⇑ *i*P P **19 20 11.2 +1.2**
SVE pmax pmax
comp=Z,11nm,0.9s,mb4.9
GUMO Guam 49.57 207 *e*P P **19 20 13.8 -2.1**
comp=Z,290nm,1.3s
GUMO Guam 49.57 207 *e*P P **19 20 13.8 -2.1**
RLMT Red Lodge 49.76 68 *e*P P **19 20 18.2 +1.1**
comp=Z,7.7nm,1.0s,mb4.7
ARU Arti 49.87 316 *e*P P **19 20 16.8 -1.0**
comp=Z,5.2nm,0.8s,mb4.6
ARU Arti 49.87 316 *c i*P P **19 20 18.1 +0.3**
ARU S **S** **19 27 25.2 -2.0**
ARU SS SS 19 30 55.4 -3.7
ARU pmax pmax
comp=Z,11nm,1.2s,mb4.8
FLWY Flagg Ranch 49.90 69 *e*P P **19 20 19.1 +0.9**
comp=Z,7.1nm,0.8s,mb4.8
FLWY *e*PcP PcP 19 21 39.5 +1.1
IMW Indian Meadow 49.94 70 *e*P P **19 20 20.4 +1.9**
comp=Z,3.3nm,0.8s,mb4.4
IMW *e*PcP PcP 19 21 39.5 +1.0
CD2 Chengdu 49.96 262 P P **19 20 18.5 -0.3**
CD2 pP pP 19 20 24.5 +2.5
CD2 sP sP 19 20 27.4 +4.2
CD2 PP PP 19 22 14.0 +0.5
CD2 S **S** **19 27 25.8 -3.2**
CD2 sS sS 19 27 35.8 +1.6
CD2 SS SS 19 30 54.6 -6.9
CD2 pmax pmax
comp=Z,20nm,0.5s,mb5.4
CD2 pmax pmax
comp=Z,110nm,5.9s
CD2 LR LR
comp=E,180nm,8.3s
CD2 LR LR
comp=Z,150nm,6.0s
RRI2 Red Ridge 50.19 70 *e*P P **19 20 21.1 +0.8**
comp=Z,4.9nm,0.9s,mb4.5
LOHW Long Hollow 50.31 70 *e*P P **19 20 21.9 +0.7**
comp=Z,3.2nm,0.8s,mb4.4
NVAR Mina Array Bea 50.72 80 P P **19 20 25.7 +1.2**
comp=Z,1.0nm,0.6s,mb3.9,baz=311,slow=8.4,SNR=7.8
NVAR PcP PcP 19 21 41.1 -0.4
comp=Z,1.1nm,0.7s,baz=273,slow=4.0,SNR=6.1
NVAR Mina Array Bea 50.72 80 P P **19 20 25.7 +1.2**
NVAR PcP PcP 19 21 41.1 -0.4
PD01 Pinedale Array 51.43 70 *e*P P **19 20 30.5 +0.7**
PD02 Pinedale Array 51.44 70 *e*P P **19 20 29.6 -0.2**
PDAR Pinedale Array 51.45 70 P P **19 20 30.9 +1.0**
comp=Z,4.0nm,0.7s,mb4.4,baz=320,slow=2.7,SNR=32
PDAR PcP PcP 19 21 44.0 -0.1
comp=Z,1.2nm,0.8s,baz=349,slow=1.9,SNR=3.1
PDAR LR LR 19 41 26.5
comp=Z,62nm,21.4s,MS3.6,baz=351,slow=35
PDAR Pinedale Array 51.45 70 P P **19 20 30.9 +1.0**
PDAR PcP PcP 19 21 44.0 -0.1
PDAR LR LR 19 41 26.6
ULM Lac du Bonnet 51.49 54 P P **19 20 30.0 0.0**
comp=Z,4.8nm,0.8s,mb4.5,baz=323,slow=8.1,SNR=5.2
ULM Lac du Bonnet 51.49 54 P P **19 20 30.0 0.0**
ULM Lac du Bonnet 51.49 54 P P **19 20 30.0 -0.1**
KLMR Klimovskoe 51.79 330 *e*P P **19 20 31.1 -1.1**
KLMR pmax pmax
comp=Z,25nm,1.8s,mb4.8
JOF Joensuu 51.81 335 *e*P P **19 20 30.3 -2.0**
JOF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
JOF Joensuu 51.81 335 *e*p P **19 20 30.3 -2.0**
comp=Z,2.8nm,0.7s,mb4.3
GYA Guiyang 52.27 257 *e*P P **19 20 37.0 +0.8**
GYA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
KAF Kangasniemi 53.52 338 *e*P P **19 20 43.2 -1.8**
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
KAF Kangasniemi 53.52 338 *e*p P **19 20 43.2 -1.8**
comp=Z,2.9nm,0.6s,mb4.4
MSU Marysvale 53.58 75 *e*P P **19 20 46.5 +0.8**
comp=Z,1.7nm,0.9s,mb4.0
MSU *e*PcP PcP 19 21 53.6 +1.4
MSU Marysvale 53.58 75 *e*P P **19 20 46.5 +0.7**
MSU *e* 19 21 53.6
MSU pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
TKM2 Tokmak 2 53.80 294 P P **19 20 48.2 +0.9**
SNR=7.3
TKM2 Tokmak 2 53.80 294 *e*P P **19 20 47.4 +0.1**
comp=Z,5.5nm,0.9s,mb4.5
TKM2 Tokmak 2 53.80 294 *e*P P **19 20 47.4 +0.1**
TKM2 pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
USP Ospenovka 54.01 296 P P **19 20 49.6 +0.8**
SNR=9.7
CHMS Chumysh 54.12 295 P P **19 20 50.3 +0.8**
SNR=8.6
FINES FINESS Array B 54.19 337 P P **19 20 49.0 -0.8**
comp=Z,2.3nm,0.7s,mb4.2,baz=27,slow=10,SNR=8.7
FINES FINESS Array B 54.19 337 P P **19 20 49.0 -0.8**
FINES FINESS Array B 54.19 337 P P **19 20 49.0 -0.8**
FINES pmax pmax
comp=Z,2.0nm,0.7s
KBK Karagaybulak 54.30 295 P P **19 20 52.1 +1.2**
SNR=6.7
AAK Ala-Archa 54.52 295 P P **19 20 53.4 +0.9**
SNR=11
AAK Ala-Archa 54.52 295 *i*P P **19 20 53.4 +0.9**
KZA Kyzart 54.63 294 P P **19 20 54.5 +1.2**
SNR=5.4
EKS2 Erkin-Say 54.82 296 P P **19 20 55.6 +1.0**
SNR=7.3
EKS2 Erkin-Say 54.82 296 *e*P P **19 20 55.1 +0.5**
comp=Z,7.4nm,0.8s,mb4.8
EKS2 Erkin-Say 54.82 296 *e*P P **19 20 55.2 +0.5**
EKS2 pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
AKTK Aktyubinsk 54.91 312 P P **19 20 55.5 +0.3**
AKTO Aktyubinsk 54.91 312 P P **19 20 55.5 +0.3**
comp=Z,2.0nm,0.6s,mb4.3,baz=36,slow=7.1,SNR=5.7
AKTO Aktyubinsk 54.91 312 P P **19 20 55.5 +0.3**
AKTO pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
AB31 Akbulak array 55.17 310 *i*P P **19 20 57.1 0.0**
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
ABKAR Akbulak array 55.17 310 *e*P P **19 20 57.1 0.0**
comp=Z,2.1nm,0.6s,mb4.3
ABKAR *e*PcP PcP 19 21 57.2 -0.9
AML Almayashu 55.28 295 P P **19 20 59.7 +1.6**
SNR=7.3
KMI Kunming 55.28 259 P P **19 20 58.3 +0.1**
KMI pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SMCO Snowmass 55.48 70 *e*P P **19 20 60.0 +0.4**
comp=Z,3.0nm,0.9s,mb4.3
KK31 Karatay Array 55.89 298 P P **19 21 02.0 -0.4**
KK31 pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
KKAR Karatay Array 55.89 298 *e*P P **19 21 02.0 -0.4**
comp=Z,10nm,0.9s,mb4.8
KKAR Karatay Array 55.89 298 *e*P P **19 21 02.0 -0.4**
KKAR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KSH Kashi 56.36 292 *e*P P **19 21 10.3 +4.5**
KSH pP pP 19 21 14.8 +5.8
KSH sP sP 19 21 17.3 +7.1
KSH PcP PcP 19 22 06.4 +3.5
KSH PP PP 19 23 17.8 +6.9
KSH ScP ScP 19 26 03.8 +1.9
KSH PcS PcS 19 26 05.6 +2.2
KSH S **S** **19 29 00.0 +4.1**
KSH ScS ScS 19 30 55.4 +0.7
KSH SS SS 19 32 48.1 +6.0
KSH pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
KSH pmax pmax
comp=Z,50nm,3.0s
KSH LR LR
comp=N,50nm,4.0s
KSH LR LR
comp=E,38nm,4.0s
KSH LR LR
comp=Z,50nm,3.4s
ECSD EROS Data Cent 56.40 60 *e*P P **19 21 06.0 -0.1**
comp=Z,7.3nm,1.0s,mb4.7
NB2 NORSAR Subarra 56.88 346 P P **19 21 08.6 -0.6**
comp=Z,2.4nm,0.5s,mb4.5,baz=15,slow=7.4
NOA NORSAR Array B 56.88 346 P P **19 21 08.8 -0.4**
comp=Z,3.0nm,0.6s,mb4.5,baz=14,slow=7.3,SNR=8.4
NOA NORSAR Array B 56.88 346 P P **19 21 08.8 -0.4**
NOA NORSAR Array B 56.88 346 P P **19 21 08.8 -0.4**
NOA pmax pmax
comp=Z,3.0nm,0.6s
LSA Lhasa 57.12 273 *e*P P **19 21 11.6 +0.2**
comp=Z,2.0nm,0.6s,mb4.3
LSA Lhasa 57.12 273 *e*P P **19 21 11.6 +0.3**
LSA pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
SDCO Great Sand Dun 57.32 70 *e*P P **19 21 12.8 +0.2**
comp=Z,2.7nm,1.1s,mb4.2
ANMO Albuquerque 59.16 73 LR LR 19 48 11.7
comp=Z,42nm,18.9s,MS3.6,baz=346,slow=37
VRHR Novokhopersk 59.78 323 *e*P P **19 21 27.9 -1.7**
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,6.0nm,0.7s
VRHR pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
VSR Storozhevoye 60.38 324 *e*P P **19 21 32.7 -1.0**
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,9.0nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
SADO Sadowa 62.36 47 LR LR 19 51 52.8
comp=Z,30nm,19.8s,MS3.5,baz=10,slow=39
CHTO Chiang Mai 62.47 259 *e*P P **19 21 47.6 -0.6**
comp=Z,3.6nm,0.9s,mb4.5
CHTO Chiang Mai 62.47 259 *e*P P **19 21 47.6 -0.7**
CHTO pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
CM31 Chiang Mai Arr 62.78 259 *e*P P **19 21 49.9 -0.4**
comp=Z,1.4nm,0.5s,mb4.3
CMAR Chiang Mai Arr 62.78 259 P P **19 21 50.0 -0.3**
comp=Z,1.5nm,0.7s,mb4.2,baz=4.8,slow=6.2,SNR=15
CMAR LR LR 19 52 02.4
comp=Z,36nm,18.3s,MS3.5,baz=30,slow=39
CMAR Chiang Mai Arr 62.78 259 P P **19 21 50.0 -0.3**
CMAR LR LR 19 52 02.4
CMAR Chiang Mai Arr 62.78 259 P P **19 21 50.1 -0.2**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CMAR MLR MLR
comp=Z,36nm,18.3s
WMOK Wichita Mounta 62.86 67 P P **19 21 48.2 -2.5**
comp=Z,7.3nm,0.9s,mb4.8
WMOK Wichita Mounta 62.86 67 P P **19 21 48.2 -2.5**
WMOK pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
AKASG Malin Array Be 63.46 331 P P **19 21 53.5 -0.9**
comp=Z,2.4nm,0.7s,mb4.4,baz=26,slow=6.4,SNR=6.3
AKASG Malin Array Be 63.46 331 P P **19 21 53.5 -0.9**
AKASG Malin Array Be 63.46 331 P P **19 21 53.5 -0.9**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
KBL Kabul 63.59 294 *e*P P **19 21 53.9 -1.6**
comp=Z,6.6nm,0.9s,mb4.7
KBL Kabul 63.59 294 *e*P P **19 21 53.9 -1.6**
KBL pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
TXAR Lajitas Array 65.13 74 P P **19 22 05.2 -0.5**
comp=Z,1.3nm,0.8s,mb4.0,baz=318,slow=7.3,SNR=9.4
TXAR Lajitas Array 65.13 74 P P **19 22 05.2 -0.5**
TXAR Lajitas Array 65.13 74 P P **19 22 05.2 -0.5**
TXAR pmax pmax
comp=Z,1.0nm,0.8s
KIV Kislovodsk 65.79 318 P P **19 22 09.0 -0.8**
KIV Kislovodsk 65.79 318⇑ *e*P P **19 22 11.8 +2.0**
KIV pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
CLL Collm 66.08 342 *e*P P **19 22 12.0 +0.5**
CLL *e* 19 22 42.0
CLL Collm 66.08 342 *e*P P **19 22 12.0 +0.5**
CLL *e*PcP PcP 19 22 42.0 +0.1
ZEI Tsey 66.45 317 *e*P P **19 22 13.6 -0.4**
ZEI pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
DPC Dobruska-Polom 66.47 339 *e*P P **19 22 14.2 +0.2**
DPC Dobruska-Polom 66.47 339 *e*P P **19 22 14.2 +0.2**
MORC Moravsky Berou 66.80 338 *e*P P **19 22 15.2 -0.9**
comp=Z,3.3nm,0.8s,mb4.4
MORC Moravsky Berou 66.80 338 *e*P P **19 22 15.2 -0.9**
MORC pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
BUR08 Bucovina Ar. S 67.26 332 *e*P P **19 22 19.0 0.0**
KHC Kasperske Hory 68.11 341 *e*P P **19 22 24.0 -0.4**
KHC Kasperske Hory 68.11 341 *e*P P **19 22 24.0 -0.4**
GERES GERESS Array B 68.36 341 P P **19 22 25.9 -0.1**
comp=Z,1.0nm,0.7s,mb4.0,baz=27,slow=4.5,SNR=9.6
GERES GERESS Array B 68.36 341 P P **19 22 25.9 -0.1**
GERES GERESS Array B 68.36 341 P P **19 22 26.0 0.0**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GNI Garni 68.50 315 P P **19 22 28.3 +1.4**
comp=Z,1.4nm,0.4s,mb4.3,baz=270,slow=3.0,SNR=3.8
GNI Garni 68.50 315 P P **19 22 28.4 +1.4**
GNI Garni 68.50 315 *ce*P P **19 22 29.6 +2.6**

GNI						pmax	pmax				
	comp=Z,6.0nm,1.0s										
TKL	**Tuckaleechee C**	**68.50**	**55**	LR	LR	19 54 45.8					
	comp=Z,45nm,18.1s,MS3.8,baz=264,slow=38										
BR131	**Keskin Array S**	**72.44**	**323**	*e*P	**P**	**19 22 51.5**	**+0.4**				
	comp=Z,1.0nm,0.6s,mb3.9										
BRTR	**Keskin Array B**	**72.44**	**323**	P	**P**	**19 22 51.9**	**+0.8**				
	comp=Z,1.4nm,0.7s,mb4.0,baz=53,slow=3.9,SNR=9.2										
BRTR	**Keskin Array B**	**72.44**	**323**	P	**P**	**19 22 51.9**	**+0.8**				
BRTR	**Keskin Array B**	**72.44**	**323**	P	**P**	**19 22 51.9**	**+0.8**				
BRTR				pmax	pmax						
	comp=Z,1.0nm,0.7s										
MMAI	**Mount Meron Ar**	**78.09**	**319**	P	**P**	**19 23 23.4**	**-0.3**				
	comp=Z,1.2nm,0.6s,mb4.0,baz=38,slow=7.3,SNR=3.4										
ESDC	**Sonseca Array**	**79.49**	**352**	P	**P**	**19 23 30.6**	**-0.6**				
	comp=Z,0.4nm,0.5s,mb3.6,baz=1.1,slow=5.6,SNR=9.4										
ESDC	**Sonseca Array**	**79.49**	**352**	P	**P**	**19 23 30.6**	**-0.6**				
CTAO	**Charters Tower**	**82.17**	**198**	P	**P**	**19 23 44.8**	**-0.8**				
	comp=Z,6.4nm,1.0s,mb4.5										
CTAO	**Charters Tower**	**82.17**	**198**	P	**P**	**19 23 44.8**	**-0.8**				
CTAO				pmax	pmax						
	comp=Z,6.0nm,1.0s,mb4.5										
WRAB	**Tennant Creek**	**84.39**	**210**	*e*P	**P**	**19 23 56.2**	**-0.9**				
	comp=Z,3.2nm,0.8s,mb4.5										
WRAB	**Tennant Creek**	**84.39**	**210**	*e*P	**P**	**19 23 56.2**	**-0.8**				
WRAB				pmax	pmax						
	comp=Z,3.0nm,0.8s,mb4.5										
WRA	**Warramunga Arr**	**84.40**	**210**	P	**P**	**19 23 56.5**	**-0.6**				
	comp=Z,3.2nm,0.8s,mb4.5,baz=15,slow=5.4,SNR=34										
WRA	**Warramunga Arr**	**84.40**	**210**	P	**P**	**19 23 56.5**	**-0.6**				
WRA	**Warramunga Arr**	**84.40**	**210**	P	**P**	**19 23 56.5**	**-0.6**				
WRA				pmax	pmax						
	comp=Z,3.0nm,0.8s										
ASAR	**Alice Springs**	**88.08**	**209**	P	**P**	**19 24 14.3**	**-0.9**				
	comp=Z,0.9nm,0.8s,mb4.1,baz=13,slow=4.7,SNR=14										
ASAR	**Alice Springs**	**88.08**	**209**	P	**P**	**19 24 14.3**	**-0.9**				
ASAR	**Alice Springs**	**88.08**	**209**	P	**P**	**19 24 14.3**	**-0.9**				
ASAR				pmax	pmax						
	comp=Z,1.0nm,0.8s										
QSPA	**South Pole Qui**	**150.61**	**180**	PKPbc	PKPbc	19 31 14.3	-0.6				
	comp=Z,10nm,0.9s,baz=315,slow=0.9,SNR=38										
QSPA	**South Pole Qui**	**150.61**	**180**	*e*PKPbc	PKPbc	19 31 13.6	-1.3				

IDC 15 19:23:55.2±6.9, 15°07'S×166°43'E, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.6/18, mbtmp3.9/3, Error ellipse: s-maj=343.0km s-min=33.3km az=144.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**30.95**	**256**	P	P	19 30 13.7	-0.6
	0.8nm,0.9s,baz=86,slow=7.6,SNR=6.3						
ASAR	**Alice Springs**	**31.79**	**249**	P	P	19 30 22.2	+0.6
	4.2nm,0.9s,baz=78,slow=9.0,SNR=32						
ILAR	**Eielson Array**	**87.10**	**18**	P	P	19 36 42.5	+0.1
	0.4nm,0.7s,baz=239,slow=5.1,SNR=8.3						

IDC 15 19:28:58.8±26.0, 22°74'S×171°82'W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/18, mbtmp4.1/4, MS3.5/1, Ms1 3.5/1, ms1mx2.6/24, Error ellipse: s-maj=488.8km s-min=159.1km az=77.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**39.03**	**266**	P	P	19 36 27.7	+0.3
	2.9nm,0.5s,baz=92,slow=11,SNR=4.1						
STKA	**Stephens Creek**	**42.11**	**247**	P	P	19 36 51.2	-1.6
	0.7nm,0.4s,baz=99,slow=13,SNR=3.9						
ASAR	**Alice Springs**	**49.63**	**258**	P	P	19 37 52.3	0.0
	0.6nm,0.4s,baz=92,slow=6.9,SNR=34						
WRA	**Warramunga Arr**	**50.00**	**263**	P	P	19 37 55.8	+0.7
	1.2nm,0.3s,baz=100,slow=7.1,SNR=40						
FITZ	**Fitzroy Crossi**	**58.42**	**262**	LR	LR	20 02 03.4	
	comp=Z,33nm,18.2s,baz=71,slow=34						

*ISCJB **15** 19:53:02.5±0.6, 28°.98N±0°.05×139°.4E±0°.2, h492km±9km, mb3.3/6, Error ellipse: s-maj=21.0km s-min=8.0km az=172.2*
*JMA **15** 19:53:02.1±0.1, 28°.99N×139°.64E, h509km, M3.6*
*IDC **15** 19:53:03.2±0.7, 28°.99N×139°.38E, h481km±15km, mb3.0/6, mb1 3.1/10, mb1mx2.8/27, mbtmp3.1/10, Error ellipse: s-maj=36.7km s-min=12.4km az=69.0*

ISC 15 19:53:03.7±0.6, 29°03'N±0°.05×139°5'E±0°.2, h487km±9km, n24, σ0s95/34, mb3.3/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.07**	**128**	P	**P**	**19 54 13.3**	**-0.8**
	20nm,0.3s,baz=94,slow=20,SNR=26						
CBIJ				S	**S**	19 55 10.6	-0.8
	21nm,0.3s,baz=136,slow=22,SNR=8.7						
CBIJ	**Chichi jima**	**3.07**	**128**	P	**P**	**19 54 13.7**	**-0.5**
CBIJ				*e*S	**S**	19 55 10.4	-1.0
JHJ2	**Mitsune**	**4.08**	**4**	P	**P**	**19 54 22.8**	**+1.0**
JHJ2				*e*S	**S**	19 55 25.1	-0.5
JHJ	**Hachijo jima 2**	**4.09**	**4**	P	**P**	**19 54 22.9**	**+1.0**
	16nm,0.3s,baz=76,slow=17,SNR=5.0						
JHJ				S	**S**	19 55 19.8	-5.9
	8.5nm,0.3s,baz=75,slow=19,SNR=2.2						
TK02	**Tokai 2**	**5.12**	**344**	P	**P**	**19 54 32.9**	**+2.0**
BSO1	**Boso 1**	**5.75**	**12**	P	**P**	**19 54 38.6**	**+1.7**
BSO1				*e*S	**S**	19 55 52.2	-1.0
BSO3	**Boso 3**	**5.82**	**8**	P	**P**	**19 54 40.2**	**+2.6**
BSO3				*e*S	**S**	19 55 53.6	-0.9
JKN2	**Miekihoku**	**5.87**	**333**	P	**P**	**19 54 39.1**	**+1.1**
BSO4	**Boso 4**	**5.99**	**7**	P	**P**	**19 54 40.4**	**+1.2**
BSO4				*e*S	**S**	19 55 57.2	-0.2
HMMJ	**Hamamatsu 2**	**6.00**	**346**	P	**P**	**19 54 38.8**	**-0.5**
JOD2	**Odawara 2**	**6.23**	**357**	P	**P**	**19 54 42.7**	**+1.2**
JRY	**Ryogami san**	**6.99**	**356**	P	**P**	**19 54 49.4**	**+0.2**
JRY				*e*S	**S**	19 56 15.0	-0.6
JAG	**Ashikaga**	**7.38**	**360**	P	**P**	**19 54 52.6**	**+0.6**
JAG				*e*S	**S**	19 56 21.6	-1.4
MJAR	**Matsushiro Arr**	**7.57**	**352**	P	**P**	**19 54 54.7**	**-0.4**
	0.8nm,0.3s,baz=174,slow=11,SNR=18						
MAT	**Matsushiro**	**7.57**	**352**	P	**P**	**19 54 54.9**	**-0.2**
MAT	**Matsushiro**	**7.57**	**352**	P	**P**	**19 54 54.6**	**-0.5**
JHO	**Hitachi**	**7.62**	**7**	P	**P**	**19 54 56.1**	**+0.5**
JHO				*e*S	**S**	19 56 26.9	-0.6
JOW	**Kunigami**	**10.14**	**260**	P	**P**	**19 55 21.2**	**-1.3**
	0.7nm,0.3s,baz=86,slow=13,SNR=2.5						
SONM	**Songino Array**	**31.67**	**316**	P	**P**	**19 58 45.9**	**0.0**
	0.5nm,0.4s,mb3.3,baz=124,slow=8.7,SNR=6.3						
MKAR	**Makanchi Array**	**47.40**	**308**	P	**P**	**20 00 52.1**	**-0.8**
	0.3nm,0.4s,mb3.0,baz=87,slow=9.6,SNR=8.5						
WRA	**Warramunga Arr**	**48.93**	**186**	P	**P**	**20 01 04.0**	**-0.7**
	0.7nm,0.5s,mb3.3,baz=3.7,slow=7.9,SNR=17						
KURK	**Kurchatov**	**49.93**	**313**	P	**P**	**20 01 11.4**	**-0.2**
	1.2nm,0.4s,mb3.6,baz=92,slow=8.5,SNR=8.9						
ASAR	**Alice Springs**	**52.66**	**186**	P	**P**	**20 01 32.4**	**+0.5**
	0.3nm,0.5s,mb2.8,baz=16,slow=12,SNR=6.1						
FINES	**FINESS Array B**	**75.15**	**333**	P	**P**	**20 03 55.0**	**-0.1**
	4.9nm,1.1s,mb4.0,baz=48,slow=2.8,SNR=5.2						

*CSEM **15** 19:57:53.9, 43°.21N×46°.19E, h8km, mb3.8, After OBN MOS **15** 19:57:53.9±1.1, 43°.21N×46°.19E, h8km, mb3.8/1, Error ellipse: s-maj=10.5km s-min=6.4km az=25.4*

ISC 15 19:57:53.5±0.7, 43°32'N±0°.05×46°26'E±0°.04, h3km±4km, n46, σ0s97/89, 5C-5D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GRO	**Groznyy**	**0.37**	**270**	↓*i*PG	**Pg**	**19 58 00.7**	**+0.2**
GRO				*i* S	**Sg**	19 58 05.7	+0.4
GRO	**Groznyy**	**0.37**	**270**	*i* Pg	**Pg**	**19 58 00.7**	**+0.2**
GRO				*i* Sg	**Sg**	19 58 05.7	+0.4
DLMR	**Dylym**	**0.37**	**132**	↑*i*PG	**Pg**	**19 58 04.2**	**+3.6**
DLMR				*e*S	**Sg**	19 58 12.8	+7.4
DLMR				pmax	pmax		
	comp=Z,69nm,0.2s						
DLMR	**Dylym**	**0.37**	**132**	*i* Pg	**Pg**	**19 58 04.2**	**+3.6**
	comp=Z,69nm,0.2s						
DLMR				*e*Sg	**Sg**	19 58 12.8	+7.4
DBC	**Dubki**	**0.52**	**125**	*e*PG	**Pg**	**19 58 03.6**	**+0.2**
DBC				*i* S	**Sg**	19 58 11.3	+1.2
DBC				pmax	pmax		
	comp=Z,52nm,0.2s						
DBC	**Dubki**	**0.52**	**125**	*e*Pg	**Pg**	**19 58 03.6**	**+0.2**
	comp=Z,52nm,0.2s						
DBC				*i* Sg	**Sg**	19 58 11.3	+1.2
KRNR	**Karanay**	**0.69**	**136**	*e*PG	**Pg**	**19 58 07.0**	**+0.4**
KRNR				*i* S	**Sg**	19 58 16.0	+0.5
KRNR	**Karanay**	**0.69**	**136**	*e*Pg	**Pg**	**19 58 07.0**	**+0.4**
KRNR				*i* Sg	**Sg**	19 58 16.0	+0.5
UNCR	**Uncukul**	**0.72**	**147**	*e*PG	**Pg**	**19 58 06.5**	**-0.8**
UNCR				*e*S	**Sg**	19 58 16.5	-0.2
UNCR				pmax	pmax		
	comp=Z,27nm,0.2s						
UNCR	**Uncukul**	**0.72**	**147**	*e*Pg	**Pg**	**19 58 06.5**	**-0.8**
	comp=Z,27nm,0.2s						
UNCR				*e*Sg	**Sg**	19 58 16.5	-0.2
XNZR	**Khunzakh**	**0.85**	**157**	*e*PG	**Pg**	**19 58 08.8**	**-0.9**
XNZR				*e*S	**Sg**	19 58 20.2	-0.4
XNZR				pmax	pmax		
	comp=Z,88nm,0.1s						
XNZR	**Khunzakh**	**0.85**	**157**	*e*Pg	**Pg**	**19 58 08.8**	**-0.9**
	comp=Z,88nm,0.1s						
XNZR				*e*Sg	**Sg**	19 58 20.2	-0.4
ARKR	**Arakani**	**0.90**	**143**	PG	**Pg**	**19 58 11.0**	**+0.3**
ARKR				*e*S	**Sg**	19 58 22.5	+0.1
ARKR	**Arakani**	**0.90**	**143**	Pg	**Pg**	**19 58 11.0**	**+0.3**
ARKR				*e*Sg	**Sg**	19 58 22.5	+0.1
SNJR	**Sundja**	**1.09**	**257**	*e*PG	**Pg**	**19 58 14.0**	**-0.3**
SNJR				*e*S	**Sg**	19 58 28.5	+0.2
SNJR	**Sundja**	**1.09**	**257**	*e*Pg	**Pg**	**19 58 14.0**	**-0.3**
SNJR				*e*Sg	**Sg**	19 58 28.5	+0.2
TRKR	**Terskaya**	**1.18**	**290**	*e*PG	**Pg**	**19 58 17.0**	**+0.9**
TRKR				*i* S	**Sg**	19 58 33.8	+2.5
TRKR	**Terskaya**	**1.18**	**290**	*e*Pg	**Pg**	**19 58 17.0**	**+0.9**
TRKR				*i* Sg	**Sg**	19 58 33.8	+2.5
VLKR	**Vladikavkaz**	**1.19**	**257**	↑*i*PG	**Pg**	**19 58 15.6**	**-0.6**
VLKR				*e*S	**Sg**	19 58 31.3	-0.3
VLKR	**Vladikavkaz**	**1.19**	**257**	*i* Pg	**Pg**	**19 58 15.6**	**-0.6**
VLKR				*e*Sg	**Sg**	19 58 31.3	-0.3
KMKR	**Kumukh**	**1.34**	**152**	*e*PG	**Pg**	**19 58 19.0**	**-0.2**
KMKR				*e*S	**Sg**	19 58 36.0	-0.6
KMKR				pmax	pmax		
	comp=Z,42nm,0.2s						
KMKR	**Kumukh**	**1.34**	**152**	*e*Pg	**Pg**	**19 58 19.0**	**-0.2**
	comp=Z,42nm,0.2s						
KMKR				*e*Sg	**Sg**	19 58 36.0	-0.6
KMSR	**Komsomolskaya**	**1.43**	**273**	↓*i*PG	**Pn**	**19 58 20.1**	**-0.2**
KMSR				*i* S	**Sg**	19 58 39.7	+0.2
KMSR	**Komsomolskaya**	**1.43**	**273**	*i* Pn	**Pn**	**19 58 20.1**	**-0.2**
KMSR				*i* Sg	**Sg**	19 58 39.7	+0.2
ARNR	**Ardon**	**1.45**	**265**	↓*i*PG	**Pn**	**19 58 20.1**	**-0.4**
ARNR				*i* S	**Sb**	19 58 39.6	-0.3
ARNR	**Ardon**	**1.45**	**265**	*i* Pg	**Pn**	**19 58 20.1**	**-0.4**
ARNR				*i* Sg	**Sb**	19 58 39.6	-0.3
PRTR	**Priterechnaya**	**1.50**	**287**	↑*i*PG	**Pg**	**19 58 21.7**	**-0.5**
PRTR				*i* S	**Sg**	19 58 42.5	+0.9
PRTR	**Priterechnaya**	**1.50**	**287**	*i* Pg	**Pg**	**19 58 21.7**	**-0.5**
PRTR				*i* Sg	**Sg**	19 58 42.5	+0.9
LACR	**Lac**	**1.52**	**252**	↑*i*PG	**Pn**	**19 58 19.3**	**-2.2**
LACR				*i* S	**Sn**	19 58 39.2	-2.5
LACR	**Lac**	**1.52**	**252**	*i* Pg	**Pn**	**19 58 19.3**	**-2.2**
LACR				*i* Sg	**Sn**	19 58 39.2	-2.5
KORR	**Kora**	**1.62**	**262**	*e*PG	**Pn**	**19 58 22.6**	**-0.2**
KORR				*i* S	**Sn**	19 58 44.0	-0.1
KORR	**Kora**	**1.62**	**262**	*e*Pg	**Pn**	**19 58 22.6**	**-0.2**
KORR				*i* Sg	**Sn**	19 58 44.0	-0.1
LSNR	**Lesken**	**1.78**	**269**	↓*i*PN	**Pn**	**19 58 25.3**	**+0.2**
LSNR				*i* S	**Sn**	19 58 48.5	+0.3
LSNR	**Lesken**	**1.78**	**269**	*i* Pn	**Pn**	**19 58 25.3**	**+0.2**
LSNR				*i* Sg	**Sn**	19 58 48.5	+0.3
ZEI	**Tsey**	**1.81**	**253**	↑*i*PN	**Pn**	**19 58 24.2**	**-1.3**
ZEI				*i* S	**Sn**	19 58 47.4	-1.6
ZEI	**Tsey**	**1.81**	**253**	*i* Pn	**Pn**	**19 58 24.2**	**-1.3**
ZEI				*i* Sg	**Sn**	19 58 47.4	-1.6
TBLG	**Delisi**	**1.94**	**216**	*e*PN	**Pn**	**19 58 27.4**	**+0.1**
TBLG				*e*S	**Sn**	19 58 52.1	-0.1
TBLG	**Delisi**	**1.94**	**216**	P	**Pn**	**19 58 27.4**	**0.0**
TBLG				S	**Sn**	19 58 52.1	-0.1
TBLG	**Delisi**	**1.94**	**216**	*e*Pn	**Pn**	**19 58 27.4**	**+0.1**
TBLG				*e*Sg	**Sn**	19 58 52.1	-0.1
MTA	**Mtatsminda**	**1.95**	**214**	P	**Pn**	**19 58 27.5**	**0.0**
MTA				S	**Sn**	19 58 53.1	+0.6
DGRG	**David-gareji**	**1.98**	**200**	P	**Pn**	**19 58 28.4**	**+0.5**
DGRG				S	**Sn**	19 58 55.3	+2.2
DIGR	**Digorskoe uzhe**	**2.00**	**259**	↓*i*PN	**Pn**	**19 58 27.5**	**-0.6**
DIGR	**Digorskoe uzhe**	**2.00**	**259**	*i* Pn	**Pn**	**19 58 27.5**	**-0.6**
GOR	**Gori**	**2.07**	**231**	P	**Pg**	**19 58 31.3**	**-1.8**
GOR				S	**Sn**	19 58 56.4	+1.1
ONI	**Oni**	**2.18**	**251**	P	**Pn**	**19 58 30.0**	**-0.6**
ONI				S	**Sn**	19 58 59.9	+1.8
AKH	**Akhalkalaki**	**2.80**	**228**	P	**Sn**	**19 59 16.0**	**+2.7**

KRSC 15 20:02:19.8±0.4, 51°51N×159°95E, h31km±31km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**1.28**	**317**	*e*P	Pn	20 02 42.4	+0.9
RUS				*i* S	Sn	20 02 59.1	+1.5
GRL	**Gorelyy**	**1.56**	**313**	*e*P	Pn	20 02 47.6	+2.3
GRL				*i* S	Sn	20 03 07.7	+3.2
SPN	**Mys Shipunski**	**1.59**	**2**	*e*P	Pn	20 02 48.0	+2.2
SPN				*i* S	Sn	20 03 08.9	+3.6
NLC	**Nalytchevo**	**1.71**	**348**	*e*P	Pn	20 02 49.4	+2.1
PET	**Petropavlovsk**	**1.71**	**333**	*e*P	Pn	20 02 49.5	+2.1
PET				*i* S	Sn	20 03 11.9	+3.6
AVH	**Avacha**	**1.91**	**338**	*e*P	Pn	20 02 53.1	+3.0
MIPR	**Malaya Ipel'ka**	**2.12**	**292**	*e*P	Pn	20 02 54.9	+1.8
GNL	**Ganaly**	**2.51**	**332**	*e*P	Pn	20 03 01.6	+3.2
MKZ	**Mys Kozlova**	**3.23**	**19**	*e*P	Pn	20 03 10.6	+2.2
MKZ				*i* S	Sn	20 03 46.4	+0.6
KBTR	**Krutoberegovo**	**5.00**	**19**	*e*P	Pn	20 03 35.7	+3.1

*GEN **15** 20:06:47.7, 44°.78N×6°.67E, h3km, ML1.2*
*LDG **15** 20:06:47.9±0.1, 44°.80N×6°.68E, h2km, Md1.7/1, Ml2.2/5, Error ellipse: s-maj=1.0km s-min=0.7km az=51.0*
*STR **15** 20:06:49.8±0.6, 44°.76N×6°.83E, h5km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

CSEM 15 20:06:47.5±0.1, 44°79N×6°70E, h12km, ML1.9/9, Error ellipse: s-maj=2.3km s-min=1.9km az=71.0, France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBDF	**Montbardon**	**0.08**	**137**	*e*Pg	Pg	20 06 50.0	-0.1
MBDF				*e*Sg	Sg	20 06 51.1	-0.8
	157nm,0.3s						
MBDF	**Montbardon**	**0.08**	**137**	*e*Pg	Pg	20 06 50.0	-0.1
MBDF				*e*Sg	Sg	20 06 51.1	-0.8
	79nm,0.3s						
OG22	**Abries**	**0.18**	**78**	Pg	Pg	20 06 52.0	+0.5
OG22				Sg	Sg	20 06 54.8	+0.5
OG22	**Abries**	**0.18**	**78**	Pg	Pg	20 06 52.0	+0.5
OG22				Sg	Sg	20 06 54.8	+0.5
RS2	**Reno Superiore**	**0.54**	**48**	P	Pg	20 06 58.6	+0.5
ORIF	**Oris-en-Rattie**	**0.59**	**283**	*e*Pg	Pg	20 06 59.1	0.0
ORIF				*e*Sg	Sg	20 07 06.5	-0.4
	8.4nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.59**	**283**	*e*Pg	Pg	20 06 59.1	0.0
ORIF				*e*Sg	Sg	20 07 06.5	-0.4
	4.2nm,0.2s						
STV	**Sant Anna di V**	**0.70**	**140**	P	Pg	20 07 01.2	+0.1
STV				S	Sg	20 07 10.4	0.0
LPG	**La Plagne**	**0.71**	**3**	*e*Pg	Pg	20 07 01.6	+0.3
LPG				*e*Sg	Sg	20 07 10.9	+0.2
	2.8nm,0.2s						
LPG	**La Plagne**	**0.71**	**3**	*e*Pg	Pg	20 07 01.6	+0.3
LPG				*e*Sg	Sg	20 07 10.9	+0.2
	1.4nm,0.2s						
LPL	**La Plagne**	**0.73**	**2**	*e*Pg	Pg	20 07 02.0	+0.3
LPL				*e*Sg	Sg	20 07 11.4	+0.2
	2.4nm,0.2s						
LPL	**La Plagne**	**0.73**	**2**	*e*Pg	Pg	20 07 02.0	+0.3
LPL				*e*Sg	Sg	20 07 11.4	+0.2
	1.2nm,0.2s						
TOUF	**Mont Tournerai**	**0.87**	**153**	Pg	Pg	20 07 04.8	+0.5
TOUF				Sg	Sg	20 07 17.0	+1.4
TOUF	**Mont Tournerai**	**0.87**	**153**	Pg	Pg	20 07 04.8	+0.5
TOUF				Sg	Sg	20 07 17.0	+1.4
AUTN	**L'Aution**	**0.95**	**146**	Pg	Pg	20 07 06.5	+0.7
AUTN				Sg	Sg	20 07 18.1	-0.1
AUTN	**L'Aution**	**0.95**	**146**	Pg	Pg	20 07 06.5	+0.7
AUTN				Sg	Sg	20 07 18.1	-0.1
LUCF	**Luceram**	**1.01**	**152**	Pg	Pg	20 07 08.4	+1.5
LUCF				Sg	Sg	20 07 20.9	+0.9
SAOF	**Saorge**	**1.01**	**142**	Pg	Pg	20 07 06.8	-0.1
SAOF				Sg	Sg	20 07 20.4	+0.3
SAOF	**Saorge**	**1.01**	**142**	Pg	Pg	20 07 06.8	-0.1
SAOF				Sg	Sg	20 07 20.4	+0.3
MONE	**Monesi**	**1.04**	**133**	P	Pb	20 07 07.2	-0.2
MONE				S	Sb	20 07 20.2	-0.7
TRAV	**Traversella**	**1.04**	**45**	P	Pb	20 07 07.5	+0.1
TRAV				S	Sb	20 07 20.8	-0.2
SBF	**Sospel**	**1.06**	**150**	*e*Pg	Pg	20 07 08.2	+0.2
SBF				*e*Sg	Sg	20 07 22.1	+0.2
	12nm,0.2s						
SBF	**Sospel**	**1.06**	**150**	*e*Pg	Pg	20 07 08.2	+0.2
SBF				*e*Sg	Sg	20 07 22.1	+0.2
	5.9nm,0.2s						
RONM	**Roccetta Nervi**	**1.12**	**144**	P	Pb	20 07 07.9	-0.8
RONM				S	Sb	20 07 21.5	-1.7
SMRF	**Simiane la Rot**	**1.14**	**225**	*e*P	Pb	20 07 10.9	+1.8
SMRF				*e*Sg	Sg	20 07 24.1	-0.2
	3.0nm,0.3s						
SMRF	**Simiane la Rot**	**1.14**	**225**	*e*P	Pb	20 07 10.9	+1.8
SMRF				*e*Sg	Sg	20 07 24.1	-0.2
	1.5nm,0.3s						
FRF	**La Foret Royal**	**1.23**	**182**	*e*Pg	Pg	20 07 11.0	-0.1
FRF				*e*Sg	Sg	20 07 27.0	0.0
	5.3nm,0.2s						
FRF	**La Foret Royal**	**1.23**	**182**	*e*Pg	Pg	20 07 11.0	-0.1
FRF				*e*Sg	Sg	20 07 27.0	0.0
	2.7nm,0.2s						
IMI	**Imperia**	**1.23**	**135**	P	Pn	20 07 09.8	-0.6
IMI				S	Sb	20 07 24.5	-1.9
PCP	**Piancastagn**	**1.34**	**100**	P	Pn	20 07 12.3	+0.3
PCP				S	Sb	20 07 28.5	-1.2
VIVF	**Saint-Julien-l**	**1.44**	**273**	*e*Pg	Pg	20 07 14.7	-0.5
VIVF				*e*Sg	Sg	20 07 33.2	-0.7
	1.5nm,0.3s						
VIVF	**Saint-Julien-l**	**1.44**	**273**	*e*Pg	Pg	20 07 14.7	-0.5
VIVF				*e*Sg	Sg	20 07 33.2	-0.7
	0.8nm,0.3s						
LMR	**La Mourre**	**1.46**	**185**	*e*Pg	Pg	20 07 15.4	-0.1
LMR				*e*Sg	Sg	20 07 34.2	-0.2
	10nm,0.3s						
LMR	**La Mourre**	**1.46**	**185**	*e*Pg	Pg	20 07 15.4	-0.1
LMR				*e*Sg	Sg	20 07 34.2	-0.2
	5.1nm,0.3s						

*ISCJB **15** 20:08:18.8±0.3, 42°.70N±0°.01×23°.26E±0°.02, h5km±2km, mb3.5/4, Error ellipse: s-maj=2.2km s-min=1.7km az=168.4*
*NEIC **15** 20:08:20.0, 42°.68N×23°.21E, h8km, ML3.9(THE), ML3.5(BUC), After BUC.*
NEIC Felt at Sofia.
*CSEM **15** 20:08:19.5±0.1, 42°.67N×23°.29E, h2km, ML3.9/11, Error ellipse: s-maj=2.0km s-min=1.7km az=77.0*
*SOF **15** 20:08:19.0, 42°.65N×23°.34E, h10km, MD3.7*
*SKO **15** 20:08:19.6, 42°.71N×23°.42E, h9km, M3.9, ML4.2*
*IDC **15** 20:08:19.3±1.0, 42°.68N×23°.29E, h0km, mb3.6/4, mb1 3.4/9, mb1mx3.3/26, mbtmp3.3/9, ML3.1/5, MS3.0/2, Ms1 3.0/2, ms1mx2.3/36, Error ellipse: s-maj=13.2km s-min=11.6km az=141.0*
*BEO **15** 20:08:19.0±0.3, 42°.67N×23°.35E, h5km±1km, ML3.6/1*
*THE **15** 20:08:21.1, 42°.61N×23°.25E, h5km±1km, ML3.9/11, Error ellipse: s-maj=2.9km s-min=1.1km az=343.0*

ISC 15 20:08:20.1±0.3, 42°68N±0°.01×23°27E±0°.02, h7km±2km, n258, σ1s08/372, mb3.5/4, 39C-32D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VTS	**Vitosha**	**0.09**	**207**	*e*Pg	**Pg**	**20 08 21.5**	**-0.7**
VTS				*i* Sg	**Sg**	20 08 23.4	-0.2
VTS	**Vitosha**	**0.09**	**207**	P	**Pg**	**20 08 21.0**	**-1.2**
VTS				S	**Sg**	20 08 23.3	-0.3
VTS	**Vitosha**	**0.09**	**207**	P	**Pg**	**20 08 21.0**	**-1.2**
VTS				S	**Sg**	20 08 23.3	-0.3
VTS	**Vitosha**	**0.09**	**207**	↓*i*P	**Pg**	**20 08 21.6**	**-0.6**
VTS				S	**

PVL	Pavlikeni	1.61	70	*i*	P	Pn	20 08 46.1	-2.9
PVL	Pavlikeni	1.61	70	*i*	P	Pn	20 08 46.1	-2.9
PVL	Pavlikeni	1.61	70	*i*	P	Pn	20 08 46.1	-2.9
PVL	Pavlikeni	1.61	70	*i*	P	Pn	20 08 46.1	-2.9
SELS	Selova	1.67	290	⇓	*i*Pn	Pn	20 08 49.5	-0.2
SELS					*e*Sn	Sn	20 09 12.9	+1.5
SELS					*e*Sg	Sg	20 09 13.1	-0.5
SELS					*i* Sg	Sg	20 09 15.3	+1.7
SELS	Selova	1.67	290	⇓	*i*Pn	Pn	20 08 49.5	-0.2
SELS					*e*Sn	Sn	20 09 12.9	+1.5
SELS					*i* Sg	Sg	20 09 15.3	+1.7
DIM	Dimitrovgrad	1.79	110		P	Pn	20 08 51.1	-0.4
DIM	Dimitrovgrad	1.79	110		P	Pn	20 08 51.1	-0.4
DIM	Dimitrovgrad	1.79	110		P	Pn	20 08 51.1	-0.4
DIM	Dimitrovgrad	1.79	110		P	Pn	20 08 51.1	-0.4
ZIMR		1.82	57	⇑	*i*P	Pn	20 08 51.8	-0.1
ZIMR		1.82	57		S	Sn	20 09 17.2	+2.0
GRG	Griva	1.83	201		P	Pn	20 08 52.5	+0.5
GRG					S	Sn	20 09 14.1	-1.4
GRG	Griva	1.83	201		P	Pn	20 08 52.5	+0.5
GRG					S	Sn	20 09 14.1	-1.4
GRG	Griva	1.83	201		P	Pn	20 08 52.5	+0.5
GRG					S	Sn	20 09 14.1	-1.4
SOH	Sokhos	1.85	178		P	Pn	20 08 52.3	0.0
SOH					S	Sn	20 09 16.2	+0.3
SOH	Sokhos	1.85	178		P	Pn	20 08 52.3	0.0
SOH					S	Sn	20 09 16.2	+0.3
KAVA	Kavala	1.92	150		P	Pn	20 08 53.1	-0.1
KAVA					S	Sn	20 09 18.8	+1.2
KAVA	Kavala	1.92	150		P	Pn	20 08 53.1	-0.1
KAVA					S	Sn	20 09 18.8	+1.2
KRUS	Krusevo	1.99	230	*i*	Pn	Pn	20 08 54.2	+0.1
KRUS	Krusevo	1.99	230	*i*	Pn	Pn	20 08 54.2	0.0
THE	Thessaloniki	2.05	186		P	Pn	20 08 55.3	+0.3
THE					S	Sn	20 09 21.1	+0.2
THE	Thessaloniki	2.05	186		P	Pn	20 08 55.3	+0.3
THE					S	Sn	20 09 21.1	+0.2
DJES	Djerdap	2.06	345	⇓	*i*Pn	Pn	20 08 55.7	+0.5
DJES					*e*Sn	Sn	20 09 19.9	-1.2
DJES					*e*Sg	Sg	20 09 25.8	-0.5
HORT	Hortiatis	2.08	183		P	Pn	20 08 55.4	0.0
HORT					S	Sn	20 09 21.8	+0.3
HORT	Hortiatis	2.08	183		P	Pn	20 08 55.4	0.0
HORT					S	Sn	20 09 21.8	+0.3
SVIS	Svilajnac	2.18	318	*e*Pn		Pn	20 08 57.0	+0.2
SVIS					*i* Sn	Sn	20 09 25.2	+1.2
BIA	Bitola	2.20	222		P	Pn	20 08 57.1	+0.1
BIA	Bitola	2.20	222	*i*	Pn	Pn	20 08 57.6	+0.6
BIA	Bitola	2.20	222		P	Pn	20 08 57.1	+0.1
BIA	Bitola	2.20	222	*i*	Pn	Pn	20 08 57.6	+0.6
GRUS	Gruza	2.22	304	⇑	*i*Pn	Pn	20 08 57.4	0.0
GRUS					*e*Sn	Sn	20 09 26.6	+1.5
GRUS					*i* Sg	Sg	20 09 32.1	+0.6
GRUS	Gruza	2.22	304	⇑	*i*Pn	Pn	20 08 57.4	0.0
GRUS					*i* Sg	Sg	20 09 32.1	+0.6
RDO	Rodhopi	2.28	131		P	Pn	20 08 57.5	-0.7
RDO					S	Sn	20 09 27.3	+0.7
RDO	Rodhopi	2.28	131		P	Pn	20 08 57.5	-0.7
RDO					S	Sn	20 09 27.3	+0.7
PLG	Polygyros	2.30	177		P	Pn	20 08 58.5	0.0
PLG					S	Sn	20 09 27.0	-0.1
PLG	Polygyros	2.30	177		P	Pn	20 08 58.5	0.0
PLG					S	Sn	20 09 27.0	-0.1
FNA	Florina	2.36	217		P	Pn	20 09 00.0	+0.8
FNA	Florina	2.36	217		P	Pn	20 09 00.0	+0.8
OUR	Ouranopolis	2.40	167		P	Pn	20 08 59.5	-0.3
OUR					S	Sn	20 09 28.7	-0.7
OUR	Ouranopolis	2.40	167		P	Pn	20 08 59.5	-0.3
OUR					S	Sn	20 09 28.7	-0.7
IVAS	Ivanjica	2.45	293	*e*Pn		Sn	20 09 00.7	+0.2
IVAS					*e*Sn	Sn	20 09 31.9	+1.2
IVAS	Ivanjica	2.45	293	*e*Pn		Sn	20 09 00.7	+0.2
IVAS					*e*Sn	Sn	20 09 31.9	+1.2
JMB	Yambol	2.46	94	*i*	P	Pn	20 09 00.0	-0.6
JMB	Yambol	2.46	94	*i*	P	Pn	20 09 00.0	-0.6
JMB	Yambol	2.46	94	*i*	P	Pn	20 09 00.0	-0.6
JMB	Yambol	2.46	94	*i*	P	Pn	20 09 00.0	-0.6
SJES	Sjenica	2.49	285	⇓	*i*Pn	Pn	20 09 02.2	+1.2
SJES					*e*Sg	Sg	20 09 39.5	-0.4
TRUS	Trudelj	2.59	308	⇑	*i*Pn	Pn	20 09 01.9	-0.6
TRUS					*e*Sn	Sn	20 09 34.3	+0.1
TRUS	Trudelj	2.59	308	⇑	*i*Pn	Pn	20 09 01.9	-0.6
TRUS					*e*Sn	Sn	20 09 34.3	+0.1
BUC1	Bucharest	2.62	49		S	Sn	20 09 35.0	+0.2
BUC1	Bucharest	2.62	49		S	Sn	20 09 35.0	+0.2
LIT	Litokhoron	2.64	193		P	Pn	20 09 02.8	-0.3
LIT					S	Sn	20 09 34.8	-0.5
LIT	Litokhoron	2.64	193		P	Pn	20 09 02.8	-0.3
LIT					S	Sn	20 09 34.8	-0.5
ALN	Alexandroupoli	2.73	130		P	Pn	20 09 04.2	-0.2
ALN					S	Sn	20 09 39.3	+1.6
ALN	Alexandroupoli	2.73	130		P	Pn	20 09 04.2	-0.2
ALN					S	Sn	20 09 39.3	+1.6
INCR	INCERC-Sediu C	2.75	49		S	Sn	20 09 39.3	+1.3
INCR	INCERC-Sediu C	2.75	49		S	Sn	20 09 39.3	+1.3
PAIG	Paliouri	2.76	173		P	Pn	20 09 04.4	-0.4
PAIG	Paliouri	2.76	173		P	Pn	20 09 04.4	-0.4
DIVS	Divibare	2.78	302	⇑	*i*Pn	Pn	20 09 04.8	-0.2
DIVS					*e*Sn	Sn	20 09 39.1	+0.3
DIVS	Divibare	2.78	302		P	Pn	20 09 04.8	-0.2
DIVS	Divibare	2.78	302		P	Pn	20 09 04.8	-0.2
SULR		2.95	46	⇑	*i*P	Pn	20 09 07.2	-0.2
SULR		2.95	46		S	Sn	20 09 44.7	+1.6
SULR		2.95	46	⇑	*i*P	Pn	20 09 07.2	-0.2
SULR					S	Sn	20 09 44.7	+1.6
BBLS	Lazi?i	3.06	294	*e*Pn		Pn	20 09 10.3	+1.4
BBLS					*e*Sg	Sg	20 09 58.1	-0.2
BBLS	Lazi?i	3.06	294	*e*Pn		Pn	20 09 10.3	+1.4
BBLS					*e*Sg	Sg	20 09 58.1	-0.2
PRD	Provadia	3.08	79		P	Pn	20 09 14.6	+5.4
PRD	Provadia	3.08	79		P	Pn	20 09 14.6	+5.4
PRD	Provadia	3.08	79		P	Pn	20 09 14.6	+5.4
LIA	Limnos Island	3.13	152		P	Pn	20 09 09.2	-0.6
LIA					S	Sn	20 09 48.9	+1.5
LIA	Limnos Island	3.13	152		P	Pn	20 09 09.2	-0.6
LIA					S	Sn	20 09 48.9	+1.5
BZS	Buzias	3.17	339	⇑	*i*Pn	Pn	20 09 09.4	-1.0
BZS					*e*Sg	Sg	20 10 01.1	-0.8
BZS	Buzias	3.17	339		P	Pn	20 09 09.5	-0.9
BZS					S	Sn	20 09 48.3	-0.1
BZS	Buzias	3.17	339	⇓	*i*P	Pn	20 09 09.5	-0.9
BZS	Buzias	3.17	339		S	Sn	20 09 48.3	-0.2
BZS	Buzias	3.17	339		P	Pn	20 09 09.5	-0.9
BZS					S	Sn	20 09 48.3	-0.2
BZS					*e*Sg	Sg	20 10 01.1	-0.8
DEV	Deva	3.22	355		P	Pn	20 09 11.5	+0.5
DEV					S	Sn	20 09 50.2	+0.5
DEV	Deva	3.22	355	⇑	*i*P	Pn	20 09 11.5	+0.5
DEV	Deva	3.22	355		S	Sn	20 09 50.2	+0.6
DEV	Deva	3.22	355		P	Pn	20 09 11.5	+0.5
DEV					S	Sn	20 09 50.2	+0.6
NEO	Neokhori	3.37	181		P	Pn	20 09 12.8	-0.3
NEO					S	Sn	20 09 51.5	-1.8
NEO	Neokhori	3.37	181		P	Pn	20 09 12.8	-0.3
NEO					S	Sn	20 09 51.5	-1.8
TIM	Timisoara	3.40	335		S	Sg	20 10 14.3	+5.2
ISR	Istrita	3.40	43	⇑	*i*P	Pn	20 09 14.5	+0.9
ISR	Istrita	3.40	43		S	Sn	20 09 56.0	+1.8
ISR	Istrita	3.40	43	⇑	*i*P	Pn	20 09 14.5	+0.9
ISR					S	Sn	20 09 56.0	+1.8
MLR	Muntele Rosu	3.41	34	Pn		Pn	20 09 15.8	+2.1
	comp=E,0.9nm,0.3s,baz=241,slow=4.6,SNR=25							
MLR					Sn	Sn	20 09 54.2	-0.3
	comp=E,2.2nm,0.3s,baz=170,slow=13,SNR=6.4							
MLR					Lg		20 10 11.5	
	comp=E,3.3nm,0.3s,baz=304,slow=21,SNR=7.4							
MLR	Muntele Rosu	3.41	34	Pn		Pn	20 09 15.8	+2.1
MLR					Sn	Sn	20 09 54.2	-0.3
MLR					Lg		20 10 11.5	
MLR	Muntele Rosu	3.41	34	⇓	*i*P	Pn	20 09 15.0	+1.3
MLR	Muntele Rosu	3.41	34	⇓	*i*P	Pn	20 09 15.0	+1.3
MLR	Muntele Rosu	3.41	34		Pn	Pn	20 09 15.8	+2.1
MLR					Sn	Sn	20 09 54.2	-0.3
MLR					S	Sn	20 09 55.5	+1.0
PGOR	Pogoanele	3.50	49	⇓	*i*P	Pn	20 09 15.8	+0.9
PGOR	Pogoanele	3.50	49		S	Sn	20 09 56.9	+0.4
PGOR	Pogoanele	3.50	49	⇓	*i*P	Pn	20 09 15.8	+0.9
PGOR					S	Sn	20 09 56.9	+0.4
AMRR	Amara	3.53	55	⇓	*i*P	Pn	20 09 16.0	+0.6
AMRR	Amara	3.53	55	⇓	*i*P	Pn	20 09 57.9	+0.5
AMRR	Amara	3.53	55	⇓	*i*P	Pn	20 09 16.0	+0.6
AMRR					S	Sn	20 09 57.9	+0.5
MDB	Medias	3.56	13	⇑	*i*P	Pn	20 09 17.7	+2.0
MDB	Medias	3.56	13	⇑	*i*P	Pn	20 09 17.7	+2.0
MDB					S	Sn	20 09 58.7	+0.7
DOPR	Dopca	3.63	24	⇓	*i*P	Pn	20 09 17.0	+0.3
DOPR	Dopca	3.63	24		S	Sn	20 09 57.9	-1.8
DOPR	Dopca	3.63	24	⇓	*i*P	Pn	20 09 17.0	+0.3
DOPR					S	Sn	20 09 57.9	-1.8
PSN	Preselentsi	3.74	73		P	Pn	20 09 17.6	-0.6
PSN	Preselentsi	3.74	73		P	Pn	20 09 17.6	-0.6
PSN	Preselentsi	3.74	73		P	Pn	20 09 17.6	-0.6
PSN	Preselentsi	3.74	73		P	Pn	20 09 17.6	-0.6
GRER		3.80	43	⇑	*i*P	Pn	20 09 19.6	+0.5
GRER		3.80	43		S	Sn	20 10 08.3	+4.2
GRER		3.80	43	⇑	*i*P	Pn	20 09 19.6	+0.5
GRER					S	Sn	20 10 08.3	+4.2
CVD	Cernavoda	3.84	63	⇓	*i*P	Pn	20 09 20.5	+1.0
CVD	Cernavoda	3.84	63		S	Sn	20 10 05.3	+0.4
CVD	Cernavoda	3.84	63	⇓	*i*P	Pn	20 09 20.5	+1.0
CVD					S	Sn	20 10 05.3	+0.4
PLOR	Plostina	4.00	36	⇑	*i*P	Pn	20 09 22.9	+1.1
PLOR	Plostina	4.00	36	⇑	*i*P	Pn	20 09 22.9	+1.1
PLOR					S	Sn	20 10 05.9	-3.0
VRI	Vrincioaia	4.04	37	⇑	*i*P	Pn	20 09 24.4	+2.0
VRI	Vrincioaia	4.04	37		S	Sn	20 10 11.6	+1.6
VRI	Vrincioaia	4.04	37	⇑	*i*P	Pn	20 09 24.4	+2.0
VRI					S	Sn	20 10 11.6	+1.6
MANR	Mangalia	4.05	72	⇑	*i*P	Pn	20 09 22.9	+0.4
MANR	Mangalia	4.05	72	⇑	*i*P	Pn	20 09 22.9	+0.4
MANR					S	Sn	20 10 09.6	-0.6
STON	Ston	4.10	275	*e*Pn		Pn	20 09 24.4	+1.2
STON					Sn	Sn	20 10 09.6	-1.8
STON	Ston	4.10	275	*e*Pn		Pn	20 09 24.3	+1.1
STON					Sn	Sn	20 10 09.6	-1.8
PRK	Paraskevi	4.11	145		P	Pn	20 09 24.1	+0.8
PRK	Paraskevi	4.11	145		P	Pn	20 09 24.1	+0.8
ODB	Odobesti	4.13	40	⇑	*i*P	Pn	20 09 26.0	+2.5
ODB	Odobesti	4.13	40		S	Sn	20 10 15.5	+3.5
ODB	Odobesti	4.13	40	⇑	*i*P	Pn	20 09 26.0	+2.5
ODB					S	Sn	20 10 15.5	+3.5
DRGR		4.13	355	⇓	*i*P	Pn	20 09 23.6	0.0
DRGR		4.13	355	⇓	*i*P	Pn	20 09 23.6	0.0
DRGR					S	Sn	20 10 12.8	+0.6
TIRR	Tirgusor	4.14	63	⇓	*i*P	Pn	20 09 23.4	-0.4
TIRR	Tirgusor	4.14	63	⇓	*i*P	Pn	20 09 23.4	-0.4
TIRR					S	Sn	20 10 11.2	-1.3
TESR		4.53	31	⇓	*i*P	Pn	20 09 29.6	+0.5
TESR		4.53	31		S	Sn	20 10 20.9	-1.2
TESR		4.53	31	⇓	*i*P	Pn	20 09 29.6	+0.5
TESR					S	Sn	20 10 20.9	-1.2
TLCR		4.73	56	⇑	*i*P	Pn	20 09 31.9	+0.1
TLCR		4.73	56	⇑	*i*P	Pn	20 09 31.9	+0.1
TLCR					S	Sn	20 10 24.2	-2.7
RHK3	Tenkes	4.82	313	⇓	*e*Pn	Pn	20 09 33.0	-0.1
RHK3					*e*Sn	Sn	20 10 26.4	-2.8
PKSM	Moragy	4.84	318	⇑	*i*P	Pn	20 09 33.0	-0.4
PKSM	Moragy	4.84	318		S	Sn	20 10 28.1	-1.6
PKSM	Moragy	4.84	318	⇑	*i*P	Pn	20 09 33.0	-0.4
PKSM	Moragy	4.84	318	⇓	*e*Pn	Pn	20 09 33.3	-0.1
PKSN	Nyarlorinc	4.87	331	*e*Pn		Pn	20 09 33.4	-0.3
PKSN					*e*Sn	Sn	20 10 29.0	-1.2
BURAR	Bucovina Array	5.13	15	⇓	*i*P	Pn	20 09 38.0	+0.7
BURAR	Bucovina Array	5.13	15	⇓	*i*P	Pn	20 09 38.0	+0.7
BUR08	Bucovina Ar. S	5.15	15	*e*Pn		Pn	20 09 37.8	+0.1
BUR08	Bucovina Ar. S	5.15	15	*e*Pn		Pn	20 09 37.8	+0.2
LEOM	Leova	5.20	41	⇑	*i*P	Pn	20 09 37.5	-0.8
LEOM	Leova	5.20	41	⇑	*i*P	Pn	20 09 37.5	-0.8
LEOM					S	Sn	20 10 36.3	-2.3
PKS7	Kunszentmiklos	5.25	328	*e*Pn		Pn	20 09 38.5	-0.5
PKS9	Tamasi	5.29	319	*e*Sn		Sn	20 10 38.9	-1.7
TRPA	Tarpa	5.48	355	⇓	*i*P	Pb	20 09 52.7	-3.4
BUD	Budapest	5.67	329	*e*Pn		Pn	20 09 43.3	-1.4
BUD					*e*Sn	Sn	20 10 49.4	-0.6
BUD	Budapest	5.67	329	*e*Pn		Pn	20 09 43.3	-1.4
BUD					*e*Sn	Sn	20 10 49.4	-0.6
PSZ	Piszkesteto	5.76	337	*e*Pn		Pn	20 09 45.4	-0.5
	comp=E,8.4nm,0.7s							
PSZ	Piszkesteto	5.76	337	⇓	*e*Pn	Pn	20 09 45.9	0.0
PSZ					*e*Sn	Sn	20 10 48.9	-3.3
PSZ	Piszkesteto	5.76	337	⇑	*i*P	Pn	20 09 46.2	+0.3
PSZ	Piszkesteto	5.76	337		S	Sn	20 10 50.5	-1.7
PSZ	Piszkesteto	5.76	337	*e*Pn		Pn	20 09 45.4	-0.5
	comp=E,8.4nm,0.7s							
PSZ	Piszkesteto	5.76	337	⇑	*i*P	Pn	20 09 46.2	+0.3
PSZ					S	Sn	20 10 50.5	-1.7
PKSG		5.84	325	*e*Pn		Pn	20 09 47.4	+0.3
KIS	Kishinev	5.85	41	*i*		Sn	20 10 45.0	-10
BEHE	Becsehely	5.99	312	*e*Sn		Sn	20 10 57.9	0.0
KECS	Kecovo	6.13	342	*e*PN		Pn	20 09 52.7	+1.7
KECS					*e*SN	Sn	20 10 59.5	-1.8
KECS	Kecovo	6.13	342	*e*Pn		Pn	20 09 52.7	+1.7
KECS					*e*Sn	Sn	20 10 59.5	-1.8
GOLS	Golise	6.41	304	*e*Pn		Pn	20 09 55.7	+0.8
GOLS					*e*Sn	Sn	20 11 05.7	-2.6
GOLS	Golise	6.41	304	*e*Pn		Pn	20 09 55.7	+0.8
VYHS	Vyhne	6.60	333	*e*PN		Pn	20 09 56.9	-0.5
VYHS					*e*PG	Px	20 10 05.4	
VYHS					*e*SN	Sn	20 11 10.6	-2.2
VYHS	Vyhne	6.60	333	*e*PN		Pn	20 09 56.9	-0.5
KOLL	Kolacno	6.82	332	*e*PN		Pn	20 10 00.9	+0.5
KOLL					*e*SN	Sn	20 11 17.1	-1.2
KOLL	Kolacno	6.82	332	*e*Pn		Pn	20 10 00.9	+0.5
SOP	Sopron	6.89	319	⇓	*e*Pn	Pn	20 10 02.8	+1.3
SOP					*e*Sn	Sn	20 11 17.5	-2.7
SOP	Sopron	6.89	319	⇓	*e*Pn	Pn	20 10 02.8	+1.3
VRAC	Vranov	8.10	327	Pn		Pn	20 10 20.5	+2.5
	comp=E,0.3nm,0.3s,baz=132,slow=14,SNR=3.0							
VRAC					Sn	Sn	20 11 46.9	-2.9
	comp=E,0.2nm,0.3s,baz=53,slow=15,SNR=2.1							
VRAC	Vranov	8.10	327	Pn		Pn	20 10 20.5	+2.5
VRAC					Sn	Sn	20 11 46.9	-2.9
VRAC	Vranov	8.10	327	Pn		Pn	20 10 20.5	+2.5
MORC	Moravsky Berou	8.13	333	*e*Pn		Pn	20 10 18.9	+0.3
MORC	Moravsky Berou	8.13	333	*e*Pn		Pn	20 10 18.9	+0.4
BR131	Keskin Array S	8.36	107	Pn		Pn	20 10 21.0	-0.6
BR131	Keskin Array S	8.36	107	Pn		Pn	20 10 21.0	-0.6
BRTR	Keskin Array B	8.36	107	Pn		Pn	20 10 20.1	-1.6
	comp=E,0.1nm,0.3s,baz=279,slow=14,SNR=5.0							
BRTR	Keskin Array B	8.36	107	Pn		Pn	20 10 20.1	-1.6
BRTR	Keskin Array B	8.36	107	Pn		Pn	20 10 20.0	-1.6
AKASG	Malin Array Be	9.01	25	Pn		Pn	20 10 30.0	-0.5
	comp=E,0.5nm,0.3s,baz=216,slow=12,SNR=3.3							
AKASG	Malin Array Be	9.01	25	Pn		Pn	20 10 30.0	-0.5
AKASG	Malin Array Be	9.01	25	Pn		Pn	20 10 30.0	-0.5
GERES	GERESS Array B	9.09	316	Pn		Pn	20 10 32.8	+1.1
	comp=E,0.1nm,0.3s,baz=131,slow=14,SNR=3.1							
GERES	GERESS Array B	9.09	316	Pn		Pn	20 10 32.8	+1.1
GERES	GERESS Array B	9.09	316	Pn		Pn	20 10 32.8	+1.1
KHC	Kasperske Hory	9.34	317	*e*SN		Sn	20 12 24.7	+4.5
ASF	Jabal al Asfar	15.05	130	LR		LR	20 17 50.9	
	comp=E,19nm,18.8s,baz=74,slow=38							
TORD	Torodi Ar. Bea	34.84	219	P		P	20 15 12.8	+1.0
	comp=E,0.9nm,0.7s,mb3.8,baz=33,slow=9.0,SNR=11							
TORD	Torodi Ar. Bea	34.84	219	P		P	20 15 12.8	+1.0
TORD	Torodi Ar. Bea	34.84	219	P		P	20 15 12.8	+1.0
ZALV	Zalesovo Beam	41.20	52	P		P	20 16 04.6	-0.5
	comp=E,0.5nm,0.6s,mb3.4,baz=285,slow=8.7,SNR=4.3							
ZALV	Zalesovo Beam	41.20	52	P		P	20 16 04.6	-0.5
ZALV	Zalesovo Beam	41.20	52	P		P	20 16 04.6	-0.5
MKAR	Makanchi Array	41.28	63	P		P	20 16 05.4	-0.4
	comp=E,0.3nm,0.9s,mb2.9,baz=271,slow=9.9,SNR=2.2							
MKAR	Makanchi Array	41.28	63	P		P	20 16 05.4	-0.4
MKAR	Makanchi Array	41.28	63	P		P	20 16 05.4	-0.5
DBIC	Dimbokro	43.61	223	P		P	20 16 24.3	-0.8
	comp=E,2.1nm,0.7s,mb4.0,baz=29,slow=13,SNR=2.5							
DBIC	Dimbokro	43.61	223	P		P	20 16 24.3	-0.8
DBIC	Dimbokro	43.61	223	P		P	20 16 24.3	-0.9
PETK	Petropavlovsk-	76.85	26	LR		LR	20 58 52.0	
	comp=E,19nm,18.4s,baz=137,slow=40							

NEIC ***15*** *20:29:13.6±3.9, 3°.99S×152°.35E, h266km±29km, mb3.8/3, Error ellipse: s-maj=47.4km s-min=19.3km az=80.0*
IDC ***15*** *20:29:16.5±13.0, 4°.18S×152°.29E, h286km±114km, mb3.1/4, mb1 3.3/5, mb1mx3.0/16, mbtmp3.2/5, Error ellipse: s-maj=83.0km s-min=32.7km az=71.0*
ISC 15 20:29:17.2±4.2, 4°.2S±0°.2×152°.0E±0°.3, h276km±30km, n21, σ0s74/20, mb3.8/8, 2D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	Port Moresby	7.08	222	Pn		Pn	20 30 59.5	+0.3
PMG				*e*S		S	20 32 20.7	-0.7
CTA	Charters Tower	16.79	199	P		P	20 32 56.5	+1.3
	0.6nm,0.3s,baz=35,slow=11,SNR=5.9							
CTA	Charters Tower	16.79	199	P		P	20 32 56.5	+1.3
CTAO	Charters Tower	16.79	199	*e*P		P	20 32 56.5	+1.2
	4.2nm,0.7s							
WRAB	Tennant Creek	23.26	226	⇓	*i*P	P	20 34 00.8	+0.1
	40nm,0.6s,mb4.9							
WB2	Warramunga Arr	23.26	226	⇓	*i*P	P	20 34 01.0	+0.2
WRA	Warramunga Arr	23.27	226	P		P	20 34 01.2	+0.4
	38nm,0.6s,mb4.9,baz=50,slow=9.9,SNR=200							
WRA	Warramunga Arr	23.27	226	P		P	20 34 01.2	+0.4
ASAR	Alice Springs	26.09	220	P		P	20 34 26.1	0.0
	1.8nm,0.4s,mb3.8,baz=54,slow=8.8,SNR=37							
ASAR	Alice Springs	26.09	220	P		P	20 34 26.1	0.0
STKA	Stephens Creek	29.25	198	P		P	20 34 52.6	-1.5
	1.0nm,0.4s,mb3.6,baz=18,slow=14,SNR=4.7							
STKA	Stephens Creek	29.25	198	P		P	20 34 52.6	-1.5
KSM	Kuching	42.01	277	*e*P		P	20 36 42.3	0.0
	1.6nm,0.5s,mb3.5							
CMAR	Chiang Mai Arr	56.85	295	P		P	20 38 34.7	+0.7
	0.4nm,0.7s,mb3.0,baz=111,slow=4.9,SNR=3.6							
CMAR	Chiang Mai Arr	56.85	295	P		P	20 38 34.7	+0.7
CHTO	Chiang Mai	56.96	295	P		P	20 38 34.9	+0.3
	3.0nm,1.1s,mb3.6							
MKAR	Makanchi Array	79.30	319	P		P	20 40 51.2	-1.1
	0.3nm,0.7s,mb3.1,baz=106,slow=4.8,SNR=3.8							
MKAR	Makanchi Array	79.30	319	P		P	20 40 51.2	-1.1
ZAA0	Zalesovo Array	80.16	326	*e*P		P	20 40 52.3	-4.5
TORD	Torodi Ar. Bea	149.32	289	PKPbc		PKPbc	20 48 33.5	-1.0
	0.4nm,0.3s,baz=81,slow=2.4,SNR=25							
TORD	Torodi Ar. Bea	149.32	289	PKPbc		PKPbc	20 48 33.5	-1.0

JMA ***15*** *20:39:19.9±0.2, 30°.08N×131°.38E, h31km±2km, M3.4*
ISCJB ***15*** *20:39:20.1±0.9, 30°.05N±0°.05×131°.36E±0°.07, h45km±7km, mb3.8/8, Error ellipse: s-maj=11.6km s-min=6.7km az=34.9*
NEIC ***15*** *20:39:22.7±1.1, 30°.10N×131°.27E, h49km±13km, mb4.1/1, Error ellipse: s-maj=26.7km s-min=11.4km az=127.0*
IDC ***15*** *20:39:23.4±2.6, 30°.02N×131°.19E, h57km±23km, mb3.5/6, mb1 3.5/9, mb1mx3.3/28, mbtmp3.4/9

JOD2	**Odawara 2**	**7.92**	**353**	P	**Pn**	**20 51 27.9**	**+1.4**
JOD2				*eS*	**S**	**20 52 58.2**	**-1.2**
JRY	**Ryogami san**	**8.69**	**353**	P	**Pn**	**20 51 36.5**	**+1.1**
JRY				*eS*	**S**	**20 53 13.6**	**-2.1**
JAG	**Ashikaga**	**9.04**	**356**	P	**Pn**	**20 51 39.5**	**0.0**
JAG				*eS*	**S**	**20 53 20.0**	**-3.4**
JHO	**Hitachi**	**9.21**	**2**	P	**Pn**	**20 51 41.9**	**+0.5**
JHO				*eS*	**S**	**20 53 22.8**	**-4.1**
MJAR	**Matsushiro Arr**	**9.29**	**350**	P	**Pn**	**20 51 42.1**	**-0.4**
	0.3nm,0.3s,baz=164,slow=5.7,SNR=4.5						
FITZ	**Fitzroy Crossi**	**47.38**	**199**	P	**P**	**20 57 30.0**	**-0.5**
	0.4nm,0.4s,mb3.1,baz=11,slow=10,SNR=2.4						
WRA	**Warramunga Arr**	**47.39**	**188**	P	**P**	**20 57 29.1**	**-1.5**
	0.9nm,0.4s,mb3.5,baz=5.1,slow=7.7,SNR=10						
ASAR	**Alice Springs**	**51.12**	**187**	P	**P**	**20 57 57.0**	**-1.4**
	0.3nm,0.5s,mb2.8,baz=358,slow=4.4,SNR=6.6						
ILAR	**Eielson Array**	**58.29**	**29**	P	**P**	**20 58 48.7**	**0.0**
	0.2nm,0.8s,mb2.5,baz=250,slow=5.1,SNR=3.7						
YKA	**Yellowknife Ar**	**72.70**	**28**	P	**P**	**21 00 20.3**	**+0.3**
	0.4nm,0.4s,mb3.3,baz=299,slow=6.2,SNR=3.5						
NVAR	**Mina Array Bea**	**81.69**	**51**	P	**P**	**21 01 11.0**	**+1.2**
	0.4nm,0.5s,mb3.4,baz=276,slow=3.5,SNR=3.0						

*IDC **15** 21:24:33.2±1.4,38°.13N×21°.67E,h0km,mb3.6/6, mb1 3.7/6,mb1mx3.5/25,mbtmp3.6/6,Error ellipse: s-maj=38.2km s-min=25.5km az=129.0*
*ISCJB **15** 21:24:34.4±0.4,37°.95N±0°.02×21°.57E±0°.03,h9km±3km, mb3.4/6,Error ellipse: s-maj=3.8km s-min=3.0km az=169.2*
*CSEM **15** 21:24:35.5±0.2,37°.96N×21°.63E,h10km,ML3.5/11,Error ellipse: s-maj=3.9km s-min=3.2km az=47.0*
*ATH **15** 21:24:35.0,37°.99N×21°.59E,h22km±1km,ML3.3*
*THE **15** 21:24:35.8,37°.98N×21°.65E,h0km±3km,ML3.5/11,Error ellipse: s-maj=3.1km s-min=1.1km az=267.0*

ISC 15 21:24:35.7±0.3,37°.97N±0°.02×21°.62E±0°.03,h12km±2km, n108,σ1§11/146,mb3.4/6,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPR	**University Cam**	**0.35**	**23**	*e*PB	**Pg**	**21 24 42.7**	**+0.1**
UPR				*e*SB	**Sg**	**21 24 48.5**	**+1.2**
UPR	**University Cam**	**0.35**	**23**	P	**Pg**	**21 24 42.7**	**+0.1**
UPR				S	**Sg**	**21 24 48.6**	**+1.3**
UPR	**University Cam**	**0.35**	**23**	P	**Pg**	**21 24 42.7**	**+0.1**
UPR				S	**Sg**	**21 24 47.9**	**+0.6**
UPR				*e*Sb	**Sg**	**21 24 48.5**	**+1.2**
LAKA	**Lakka**	**0.40**	**46**	P	**Pg**	**21 24 43.4**	**-0.1**
LAKA				S	**Sg**	**21 24 49.1**	**+0.2**
LAKA	**Lakka**	**0.40**	**46**	P	**Pg**	**21 24 43.4**	**-0.1**
LAKA				S	**Sg**	**21 24 48.4**	**-0.5**
EFP	**Efpalio**	**0.52**	**26**	P	**Pg**	**21 24 45.1**	**-0.7**
EFP				S	**Sg**	**21 24 53.5**	**+0.9**
EFP	**Efpalio**	**0.52**	**26**	P	**Pg**	**21 24 45.2**	**-0.6**
EFP				S	**Sg**	**21 24 52.8**	**+0.2**
GUR	**Goura**	**0.57**	**93**	*e*PN	**Pg**	**21 24 46.3**	**-0.6**
GUR				*e*SN	**Sg**	**21 24 55.0**	**+0.5**
GUR	**Goura**	**0.57**	**93**	P	**Pg**	**21 24 46.3**	**-0.6**
GUR				S	**Sg**	**21 24 54.7**	**+0.2**
GUR	**Goura**	**0.57**	**93**	P	**Pg**	**21 24 46.3**	**-0.6**
GUR				S	**Sg**	**21 24 54.2**	**-0.3**
KALE	**Kalithea**	**0.59**	**44**	P	**Pg**	**21 24 46.5**	**-0.7**
KALE				S	**Sg**	**21 24 55.6**	**+0.5**
KALE	**Kalithea**	**0.59**	**44**	P	**Pg**	**21 24 46.5**	**-0.7**
KALE				S	**Sg**	**21 24 55.2**	**+0.1**
KFL	**Anninata**	**0.67**	**283**	P	**Pg**	**21 24 48.6**	**-0.1**
KFL				S	**Sg**	**21 25 00.4**	**+2.9**
KFL	**Anninata**	**0.67**	**283**	P	**Pg**	**21 24 48.5**	**-0.2**
KFL				S	**Sg**	**21 24 59.5**	**+2.0**
ITM	**Ithomi**	**0.82**	**162**	*e*PN	**Pg**	**21 24 51.8**	**+0.3**
ITM				*e*SN	**Sg**	**21 25 04.3**	**+2.0**
ITM	**Ithomi**	**0.82**	**162**	P	**Pg**	**21 24 51.9**	**+0.4**
ITM	**Ithomi**	**0.82**	**162**	P	**Pg**	**21 24 51.9**	**+0.4**
ITM				*e*Sn	**Sg**	**21 25 04.3**	**+2.0**
VLS	**Valsamata**	**0.84**	**285**	*e*PN	**Pg**	**21 24 50.9**	**-0.9**
VLS	**Valsamata**	**0.84**	**285**	P	**Pg**	**21 24 50.9**	**-0.9**
VLS				S	**Sg**	**21 25 04.3**	**+1.5**
VLS	**Valsamata**	**0.84**	**285**	P	**Pg**	**21 24 50.9**	**-0.9**
VLS				S	**Sg**	**21 25 04.3**	**+1.5**
DSF	**Desfina**	**0.84**	**58**	P	**Pg**	**21 24 50.8**	**-1.2**
DSF				S	**Sg**	**21 25 03.4**	**+0.4**
DSF	**Desfina**	**0.84**	**58**	P	**Pg**	**21 24 50.8**	**-1.2**
DSF				S	**Sg**	**21 25 02.8**	**-0.2**
VLX	**Vlachokerasia**	**0.85**	**134**	*e*PN	**Pg**	**21 24 51.5**	**-0.5**
VLX	**Vlachokerasia**	**0.85**	**134**	P	**Pg**	**21 24 51.8**	**-0.2**
VLX				S	**Sg**	**21 25 04.3**	**+1.2**
VLX	**Vlachokerasia**	**0.85**	**134**	P	**Pg**	**21 24 51.5**	**-0.5**
VLX				S	**Sg**	**21 25 03.2**	**+0.1**
EVR	**Evrytania**	**0.96**	**9**	*e*PN	**Pg**	**21 24 53.0**	**-1.2**
EVR	**Evrytania**	**0.96**	**9**	P	**Pg**	**21 24 53.0**	**-1.2**
EVR				S	**Sg**	**21 25 09.4**	**+2.6**
EVR	**Evrytania**	**0.96**	**9**	P	**Pg**	**21 24 53.0**	**-1.2**
LTK	**Loutraki**	**1.07**	**86**	*e*PN	**Pg**	**21 24 55.2**	**-1.0**
LTK	**Loutraki**	**1.07**	**86**	P	**Pg**	**21 24 55.0**	**-1.2**
LTK	**Loutraki**	**1.07**	**86**	P	**Pg**	**21 24 55.0**	**-1.2**
PYL	**PYLOS**	**1.07**	**175**	*e*PN	**Pg**	**21 24 55.8**	**-0.5**
PYL				*e*SN	**Sg**	**21 25 10.7**	**+0.5**
PYL	**PYLOS**	**1.07**	**175**	P	**Pg**	**21 24 55.9**	**-0.4**
PYL	**PYLOS**	**1.07**	**175**	P	**Pg**	**21 24 55.6**	**-0.7**
PYL				*e*Sn	**Sg**	**21 25 10.7**	**+0.5**
PYL				S	**Sg**	**21 25 10.4**	**+1.9**
LKD2	**Lefkada island**	**1.11**	**318**	P	**Pg**	**21 24 55.5**	**-1.6**
LKD2	**Lefkada island**	**1.11**	**318**	P	**Pg**	**21 24 55.5**	**-1.6**
AGG	**Agios Georgios**	**1.20**	**28**	*e*PN	**Pn**	**21 24 56.8**	**-1.4**
AGG	**Agios Georgios**	**1.20**	**28**	P	**Pn**	**21 24 56.8**	**-1.4**
AGG				S	**Sb**	**21 25 13.6**	**0.0**
AGG	**Agios Georgios**	**1.20**	**28**	P	**Pn**	**21 24 56.8**	**-1.4**
AGG				S	**Sb**	**21 25 13.6**	**0.0**
LKR	**Lokris**	**1.29**	**57**	*e*PN	**Pn**	**21 24 58.6**	**-0.8**
LKR	**Lokris**	**1.29**	**57**	P	**Pn**	**21 24 58.6**	**-0.8**
LKR				S	**Sb**	**21 25 17.9**	**+1.7**
LKR	**Lokris**	**1.29**	**57**	P	**Pn**	**21 24 58.6**	**-0.8**
LKR				S	**Sb**	**21 25 17.9**	**+1.7**
ATAL	**Atalanti**	**1.32**	**56**	P	**Pn**	**21 24 59.2**	**-0.7**
ATAL				S	**Sb**	**21 25 17.6**	**+0.3**
ATAL	**Atalanti**	**1.32**	**56**	P	**Pn**	**21 24 59.2**	**-0.7**
ATAL				S	**Sb**	**21 25 17.6**	**+0.3**
DYR	**Agios Nikonas**	**1.33**	**154**	P	**Pn**	**21 25 00.1**	**+0.1**
DID	**Didima**	**1.36**	**109**	*e*PB	**Pn**	**21 25 00.1**	**-0.4**
DID	**Didima**	**1.36**	**109**	P	**Pn**	**21 25 00.1**	**-0.4**
	995nm,0.6s						
DID				S	**Sn**	**21 25 20.6**	**+2.2**
DID	**Didima**	**1.36**	**109**	P	**Pn**	**21 25 00.1**	**-0.4**
	995nm,0.6s						
DID				S	**Sn**	**21 25 18.5**	**+0.1**
NAIG	**Nisos Aigina**	**1.50**	**97**	*e*PB	**Pn**	**21 25 02.1**	**-0.2**
NAIG	**Nisos Aigina**	**1.50**	**97**	*e*Pb	**Pn**	**21 25 02.1**	**-0.2**
THL	**Klokotos Trika**	**1.63**	**11**	*e*PN	**Pn**	**21 25 05.2**	**+1.1**
THL	**Klokotos Trika**	**1.63**	**11**	P	**Pn**	**21 25 05.2**	**+1.1**
THL	**Klokotos Trika**	**1.63**	**11**	P	**Pn**	**21 25 05.2**	**+1.1**
VLI	**Veliai**	**1.63**	**139**	P	**Pg**	**21 25 06.4**	**-0.5**
VLI				S	**Sg**	**21 25 28.3**	**+0.2**
VLI	**Veliai**	**1.63**	**139**	P	**Pg**	**21 25 06.4**	**-0.5**
ATH	**Athens Observa**	**1.66**	**89**	*e*PN	**Pn**	**21 25 05.7**	**+1.2**
ATH	**Athens Observa**	**1.66**	**89**	P	**Pn**	**21 25 04.6**	**+0.1**
ATH				S	**Sn**	**21 25 28.9**	**+3.2**
ATH	**Athens Observa**	**1.66**	**89**	P	**Pn**	**21 25 04.6**	**+0.1**
ATH	**Athens Observa**	**1.66**	**89**	*e*Pn	**Pn**	**21 25 05.7**	**+1.2**
VLY	**Voula,Athens**	**1.73**	**93**	*e*PN	**Pn**	**21 25 05.7**	**+0.3**
VLY	**Voula,Athens**	**1.73**	**93**	P	**Pn**	**21 25 05.0**	**-0.4**
VLY	**Voula,Athens**	**1.73**	**93**	P	**Pn**	**21 25 05.0**	**-0.4**
VLY	**Voula,Athens**	**1.73**	**93**	*e*Pn	**Pn**	**21 25 05.7**	**+0.3**
PTL	**Penteli**	**1.78**	**87**	*e*PB	**Pn**	**21 25 05.8**	**-0.4**
PTL	**Penteli**	**1.78**	**87**	P	**Pn**	**21 25 05.7**	**-0.5**
PTL	**Penteli**	**1.78**	**87**	P	**Pn**	**21 25 05.7**	**-0.5**
NEO	**Neokhori**	**1.84**	**43**	P	**Pn**	**21 25 07.9**	**+0.9**
NEO	**Neokhori**	**1.84**	**43**	P	**Pn**	**21 25 07.9**	**+0.9**
MEV	**Metsovon**	**1.84**	**351**	P	**Pg**	**21 25 09.4**	**-1.6**
MEV	**Metsovon**	**1.84**	**351**	P	**Pg**	**21 25 09.4**	**-1.6**
KYTH	**Kithira**	**2.03**	**146**	P	**Pg**	**21 25 12.6**	**-1.9**
AOS	**Alonnisos**	**2.14**	**55**	P	**Pn**	**21 25 10.3**	**-0.9**
AOS	**Alonnisos**	**2.14**	**55**	P	**Pn**	**21 25 10.3**	**-0.9**
LIT	**Litokhoron**	**2.24**	**17**	*e*PB	**Pn**	**21 25 13.5**	**+1.0**
LIT	**Litokhoron**	**2.24**	**17**	*e*Pb	**Pn**	**21 25 13.5**	**+1.0**
KEK	**Kerkira**	**2.25**	**321**	*e*PB	**Pn**	**21 25 13.8**	**+1.2**
KEK	**Kerkira**	**2.25**	**321**	*e*Pb	**Pn**	**21 25 13.8**	**+1.2**
KZN	**Kozani**	**2.34**	**3**	*e*PB	**Pn**	**21 25 15.4**	**+1.5**
KZN	**Kozani**	**2.34**	**3**	*e*Pb	**Pn**	**21 25 15.4**	**+1.5**
PLG	**Polygyros**	**2.79**	**30**	*e*PN	**Pn**	**21 25 20.9**	**+0.8**
PLG	**Polygyros**	**2.79**	**30**	*e*Pn	**Pn**	**21 25 20.9**	**+0.8**
FNA	**Florina**	**2.82**	**356**	P	**Pn**	**21 25 21.9**	**+1.4**
FNA	**Florina**	**2.82**	**356**	P	**Pn**	**21 25 21.9**	**+1.4**
SOH	**Sokhos**	**3.15**	**25**	*e*PN	**Pn**	**21 25 26.3**	**+1.2**
SOH	**Sokhos**	**3.15**	**25**	*e*Pn	**Pn**	**21 25 26.3**	**+1.2**
APE	**Apeiranthos**	**3.24**	**105**	*e*PN	**Pn**	**21 25 25.9**	**-0.3**
APE	**Apeiranthos**	**3.24**	**105**	*e*Pn	**Pn**	**21 25 25.9**	**-0.3**
LIA	**Limnos Island**	**3.39**	**54**	*e*PN	**Pn**	**21 25 28.2**	**-0.1**
LIA	**Limnos Island**	**3.39**	**54**	*e*Pn	**Pn**	**21 25 28.2**	**-0.1**
CHOS	**Chios island**	**3.52**	**82**	*e*PN	**Pn**	**21 25 30.5**	**+0.3**
CHOS	**Chios island**	**3.52**	**82**	*e*Pn	**Pn**	**21 25 30.5**	**+0.3**
SMG	**Samos**	**4.14**	**92**	*e*PN	**Pn**	**21 25 39.2**	**+0.6**
SMG	**Samos**	**4.14**	**92**	*e*Pn	**Pn**	**21 25 39.2**	**+0.6**
TAR1	**Taranto**	**4.22**	**309**	*e*Pn	**Pn**	**21 25 49.3**	**+0.5**
BARS	**Barje**	**4.85**	**2**	*e*Pn	**Pn**	**21 25 49.3**	**+0.9**
STON	**Ston**	**5.74**	**330**	*e*Pn	**Pn**	**21 25 58.4**	**-2.2**
STON				Sn	**Sn**	**21 26 48.4**	**-18**
STON	**Ston**	**5.74**	**330**	*e*Pn	**Pn**	**21 25 58.3**	**-2.3**
GRUS	**Gruza**	**5.96**	**354**	*e*Pn	**Pn**	**21 26 03.4**	**-0.2**
DIVS	**Divibare**	**6.25**	**349**	*e*Pn	**Pn**	**21 26 07.5**	**-0.1**
MLR	**Muntele Rosu**	**8.19**	**22**	Pn	**Pn**	**21 26 37.2**	**+3.1**
	0.0nm,0.3s,baz=270,slow=6.1,SNR=2.3						
BOJS	**Bojanci**	**8.91**	**330**	*i* Pn	**Pn**	**21 26 43.2**	**-0.8**
BOJS	**Bojanci**	**8.91**	**330**	Pn	**Pn**	**21 26 43.2**	**-0.8**
FINES	**FINESS Array B**	**23.67**	**5**	P	**P**	**21 29 44.4**	**-2.4**
	1.3nm,0.7s,mb3.5,baz=186,slow=11,SNR=2.8						
NOA	**NORSAR Array B**	**24.00**	**348**	P	**P**	**21 29 48.1**	**-1.8**
	0.7nm,0.7s,mb3.2,baz=163,slow=9.4,SNR=2.9						
TORD	**Torodi Ar. Bea**	**30.42**	**221**	P	**P**	**21 30 48.8**	**+0.9**
	0.4nm,0.9s,mb3.1,baz=28,slow=8.7,SNR=4.4						
KURK	**Kurchatov**	**41.71**	**53**	P	**P**	**21 32 22.6**	**-1.5**
	0.7nm,0.6s,mb3.4,baz=283,slow=8.2,SNR=6.8						
MKAR	**Makanchi Array**	**44.68**	**58**	P	**P**	**21 32 46.8**	**-1.3**
	0.4nm,0.5s,mb3.5,baz=273,slow=7.1,SNR=8.2						
ZALV	**Zalesovo Beam**	**45.19**	**48**	P	**P**	**21 32 49.1**	**-3.0**
	1.0nm,0.5s,mb3.9,baz=279,slow=8.1,SNR=7.1						

*IDC **15** 21:25:23.2±1.3,38°.09N×21°.60E,h0km,mb3.7/5, mb1 3.6/7,mb1mx3.5/27,mbtmp3.5/7,ML3.1/2,Error ellipse: s-maj=31.7km s-min=21.4km az=122.0*
*ISCJB **15** 21:25:25.1±0.4,37°.97N±0°.02×21°.60E±0°.03,h7km±3km, mb3.6/5,Error ellipse: s-maj=3.5km s-min=3.2km az=0.6*
*CSEM **15** 21:25:25.6±0.2,37°.98N×21°.62E,h10km,ML3.5,Error ellipse: s-maj=3.4km s-min=3.1km az=76.0*
*ATH **15** 21:25:25.3,37°.99N×21°.59E,h18km±1km,ML3.5*
*THE **15** 21:25:25.8,37°.97N×21°.65E,h0km±2km,ML3.6/12,Error ellipse: s-maj=2.6km s-min=0.9km az=267.0*

ISC 15 21:25:25.8±0.4,37°.98N±0°.02×21°.61E±0°.03,h11km±3km, n81,σ1§03/120,mb3.6/5,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPR	**University Cam**	**0.33**	**24**	*e*PB	**Pg**	**21 25 32.8**	**+0.3**
UPR				*e*SB	**Sg**	**21 25 37.4**	**+0.5**
UPR	**University Cam**	**0.33**	**24**	P	**Pg**	**21 25 32.6**	**+0.1**
UPR				S	**Sg**	**21 25 38.7**	**+1.8**
UPR	**University Cam**	**0.33**	**24**	P	**Pg**	**21 25 32.6**	**+0.1**
UPR				*e*Sb	**Sg**	**21 25 37.4**	**+0.5**
UPR				S	**Sg**	**21 25 37.8**	**+0.9**
LAKA	**Lakka**	**0.39**	**48**	P	**Pg**	**21 25 33.3**	**-0.2**
LAKA				S	**Sg**	**21 25 38.6**	**-0.1**
LAKA	**Lakka**	**0.39**	**48**	P	**Pg**	**21 25 33.3**	**-0.2**
LAKA				S	**Sg**	**21 25 38.6**	**-0.1**
EFP	**Efpalio**	**0.50**	**27**	P	**Pg**	**21 25 35.2**	**-0.4**
EFP				S	**Sg**	**21 25 44.1**	**+1.8**
EFP	**Efpalio**	**0.50**	**27**	P	**Pg**	**21 25 35.2**	**-0.4**
EFP				S	**Sg**	**21 25 43.1**	**+0.8**
GUR	**Goura**	**0.58**	**94**	*e*PN	**Pg**	**21 25 36.3**	**-0.8**
GUR				*e*SN	**Sg**	**21 25 45.1**	**+0.4**
GUR	**Goura**	**0.58**	**94**	P	**Pg**	**21 25 36.2**	**-0.9**
GUR				S	**Sg**	**21 25 43.9**	**-0.8**
GUR	**Goura**	**0.58**	**94**	*e*Pn	**Pg**	**21 25 36.3**	**-0.8**
GUR				S	**Sg**	**21 25 43.9**	**-0.8**
KALE	**Kalithea**	**0.58**	**45**	P	**Pg**	**21 25 36.4**	**-0.8**
KALE				S	**Sg**	**21 25 46.1**	**+1.2**
KALE	**Kalithea**	**0.58**	**45**	P	**Pg**	**21 25 36.6**	**-0.6**
KALE				S	**Sg**	**21 25 45.0**	**+0.1**
KFL	**Anninata**	**0.66**	**281**	P	**Pg**	**21 25 38.5**	**-0.2**
KFL				S	**Sg**	**21 25 50.2**	**+2.8**
KFL	**Anninata**	**0.66**	**281**	P	**Pg**	**21 25 38.6**	**-0.1**
KFL				S	**Sg**	**21 25 49.6**	**+2.2**
VLS	**Valsamata**	**0.83**	**284**	*e*PN	**Pg**	**21 25 41.0**	**-0.9**
VLS	**Valsamata**	**0.83**	**284**	P	**Pg**	**21 25 40.8**	**-1.1**
VLS				S	**Sg**	**21 25 53.9**	**+1.2**
VLS	**Valsamata**	**0.83**	**284**	P	**Pg**	**21 25 40.8**	**-1.1**
VLS				S	**Sg**	**21 25 53.9**	**+1.2**
DSF	**Desfina**	**0.84**	**59**	P	**Pg**	**21 25 40.9**	**-1.1**
DSF				S	**Sg**	**21 25 53.1**	**+0.1**
DSF	**Desfina**	**0.84**	**59**	P	**Pg**	**21 25 40.9**	**-1.1**
DSF				S	**Sg**	**21 25 52.6**	**-0.4**
ITM	**Ithomi**	**0.84**	**163**	*e*PN	**Pg**	**21 25 41.8**	**-0.3**
ITM				*e*SN	**Sg**	**21 25 54.0**	**+1.0**
ITM	**Ithomi**	**0.84**	**163**	P	**Pg**	**21 25 41.6**	**-0.5**
ITM	**Ithomi**	**0.84**	**163**	P	**Pg**	**21 25 41.6**	**-0.5**
ITM				*e*Sn	**Sg**	**21 25 54.0**	**+1.0**
VLX	**Vlachokerasia**	**0.86**	**135**	*e*PN	**Pg**	**21 25 41.9**	**-0.6**
VLX				*e*SN	**Sg**	**21 25 55.3**	**+1.6**
VLX	**Vlachokerasia**	**0.86**	**135**	P	**Pg**	**21 25 41.8**	**-0.6**
VLX				S	**Sg**	**21 25 53.8**	**+0.1**
VLX	**Vlachokerasia**	**0.86**	**135**	P	**Pg**	**21 25 41.8**	**-0.7**
VLX				S	**Sg**	**21 25 53.8**	**+0.1**
VLX				*e*Sn	**Sg**	**21 25 55.3**	**+1.6**
EVR	**Evrytania**	**0.94**	**9**	*e*PN	**Pg**	**21 25 43.6**	**-0.5**
EVR	**Evrytania**	**0.94**	**9**	P	**Pg**	**21 25 43.5**	**-0.6**
EVR				S	**Sg**	**21 25 58.9**	**+2.5**
EVR	**Evrytania**	**0.94**	**9**	P	**Pg**	**21 25 43.5**	**-0.6**
EVR				S	**Sg**	**21 25 58.9**	**+2.5**
LTK	**Loutraki**	**1.07**	**87**	*e*PB	**Pg**	**21 25 45.0**	**-1.4**
LTK	**Loutraki**	**1.07**	**87**	P	**Pg**	**21 25 44.4**	**-2.0**
LTK	**Loutraki**	**1.07**	**87**	P	**Pg**	**21 25 44.4**	**-2.0**
LTK	**Loutraki**	**1.07**	**87**	*e*Pb	**Pg**	**21 25 45.0**	**-1.4**
PYL	**PYLOS**	**1.09**	**175**	*e*PN	**Pg**	**21 25 46.4**	**-0.4**
PYL	**PYLOS**	**1.09**	**175**	P	**Pg**	**21 25 46.1**	**-0.7**
PYL	**PYLOS**	**1.09**	**175**	P	**Pg**	**21 25 45.7**	**-1.1**
PYL	**PYLOS**	**1.09**	**175**	*e*Pn	**Pg**	**21 25 46.4**	**-0.4**
LKD2	**Lefkada island**	**1.10**	**317**	P	**Pg**	**21 25 45.7**	**-1.3**
LKD2	**Lefkada island**	**1.10**	**317**	P	**Pg**	**21 25 45.7**	**-1.3**
AGG	**Agios Georgios**	**1.18**	**28**	*e*PN	**Pn**	**21 25 48.5**	**+0.3**
AGG	**Agios Georgios**	**1.18**	**28**	P	**Pb**	**21 25 47.2**	**-1.0**
AGG				S	**Sb**	**21 26 04.2**	**+0.7**
AGG	**Agios Georgios**	**1.18**	**28**	P	**Pb**	**21 25 47.2**	**-1.0**
AGG	**Agios Georgios**	**1.18**	**28**	*e*Pn	**Pn**	**21 25 48.5**	**+0.3**
AGG				S	**Sb**	**21 26 04.2**	**+0.7**
LKR	**Lokris**	**1.28**	**58**	*e*PB	**Pn**	**21 25 48.7**	**-0.9**
LKR	**Lokris**	**1.28**	**58**	P	**Pn**	**21 25 48.6**	**-1.0**
LKR				S	**Sb**	**21 26 07.1**	**+0.8**
LKR	**Lokris**	**1.28**	**58**	P	**Pn**	**21 25 48.6**	**-1.0**
LKR				S	**Sb**	**21 26 07.1**	**+0.8**
ATAL	**Atalanti**	**1.31**	**57**	P	**Pn**	**21 25 49.6**	**-0.5**
ATAL				S	**Sb**	**21 26 07.4**	**+0.1**
ATAL	**Atalanti**	**1.31**	**57**	P	**Pn**	**21 25 49.6**	**-0.5**
ATAL				S	**Sb**	**21 26 07.4**	**+0.1**
DYR	**Agios Nikonas**	**1.35**	**155**	P	**Pn**	**21 25 50.9**	**+0.4**
DID	**Didima**	**1.37**	**110**	*e*PB	**Pn**	**21 25 50.6**	**-0.3**
DID	**Didima**	**1.37**	**110**	P	**Pn**	**21 25 50.8**	**-0.1**
DID				S	**Sn**	**21 26 10.0**	**+1.0**
DID	**Didima**	**1.37**	**110**	P	**Pn**	**21 25 50.8**	**-0.1**
DID				S	**Sn**	**21 26 09.9**	**+0.9**
NAIG	**Nisos Aigina**	**1.50**	**98**	*e*PN	**Pn**	**21 25 53.1**	**+0.5**
NAIG	**Nisos Aigina**	**1.50**	**98**	*e*Pn	**Pn**	**21 25 53.1**	**+0.5**
THL	**Klokotos Trika**	**1.61**	**11**	*e*PN	**Pn**	**21 25 55.7**	**+1.5**
THL	**Klokotos Trika**	**1.61**	**11**	P	**Pn**	**21 25 55.6**	**+1.4**
THL	**Klokotos Trika**	**1.61**	**11**	P	**Pn**	**21 25 55.6**	**+1.4**
VLI	**Veliai**	**1.65**	**140**	*e*PN	**Pn**	**21 25 56.2**	**+1.6**
VLI	**Veliai**	**1.65**	**140**	P	**Pn**	**21 25 55.3**	**+0.7**
VLI				S	**Sn**	**21 26 17.7**	**+2.0**
VLI	**Veliai**	**1.65**	**140**	P	**Pn**	**21 25 56.2**	**+1.6**
VLI	**Veliai**	**1.65**	**140**	*e*Pn	**Pn**	**21 26 17.7**	**+2.0**
VLI				S	**Sn**	**21 26 17.7**	**+2.0**
ATH	**Athens Observa**	**1.66**	**90**	*e*PN	**Pn**	**21 25 55.5**	**+0.6**
ATH	**Athens Observa**	**1.66**	**90**	P	**Pn**	**21 25 55.1**	**+0.2**
ATH				S	**Sg**	**21 26 19.0**	**-0.3**
ATH	**Athens Observa**	**1.66**	**90**	P	**Pn**	**21 25 55.1**	**+0.2**
ATH	**Athens Observa**	**1.66**	**90**	*e*Pn	**Pn**	**21 25 55.5**	**+0.6**
ATH				S	**Sg**	**21 26 19.0**	**-0.3**
VLY	**Voula,Athens**	**1.73**	**94**	*e*PB	**Pn**	**21 25 56.1**	**+0.3**
VLY	**Voula,Athens**	**1.73**	**94**	*e*Pb	**Pn**	**21 25 56.1**	**+0.3**
PTL	**Penteli**	**1.78**	**87**	*e*PN	**Pn**	**21 25 57.5**	**+1.0**
PTL	**Penteli**	**1.78**	**87**	P	**Pn**	**21 25 56.5**	**0.0**
PTL	**Penteli**	**1.78**	**87**	P	**Pn**	**21 25 56.5**	**0.0**
PTL	**Penteli**	**1.78**	**87**	*e*Pn	**Pn**	**21 25 57.5**	**+1.0**
NEO	**Neokhori**	**1.83**	**43**	*e*PN	**Pn**	**21 25 57.8**	**+0.7**
NEO	**Neokhori**	**1.83**	**43**	*e*Pn	**Pn**	**21 25 57.8**	**+0.7**
AOS	**Alonnisos**	**2.14**	**56**	P	**Pn**	**21 26 02.3**	**+0.9**
AOS	**Alonnisos**	**2.14**	**56**	P	**Pn**	**21 26 02.3**	**+0.9**
MLR	**Muntele Rosu**	**8.17**	**22**	Pn	**Pn**	**21 27 24.4**	**+0.1**
	0.0nm,0.3s,baz=207,slow=16,SNR=2.1						
GERES	**GERESS Array B**	**12.28**	**335**	Pn	**Pn**	**21 28 19.4**	**-1.1**
	0.1nm,0.3s,baz=168,slow=15,SNR=3.9						
FINES	**FINESS Array B**	**23.65**	**5**	P	**P**	**21 30 34.3**	**-2.6**
	5.1nm,1.0s,mb3.9,baz=193,slow=7.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**30.43**	**221**	P	**P**	**21 31 38.6**	**+0.3**
	0.2nm,0.5s,mb3.1,baz=30,slow=9.1,SNR=3.1						
KURK	**Kurchatov**	**41.70**	**53**	P	**P**	**21 33 12.7**	**-1.6**
	0.4nm,0.4s,mb3.4,baz=280,slow=8.5,SNR=4.4						
MKAR	**Makanchi Array**	**44.67**	**58**	P	**P**	**21 33 36.1**	**-2.3**
	0.4nm,0.4s,mb3.6,baz=275,slow=7.1,SNR=6.4						
ZALV	**Zalesovo Beam**	**45.18**	**48**	P	**P**	**21 33 41.0**	**-1.3**
	1.0nm,0.5s,mb4.0,baz=274,slow=9.2,SNR=4.4						

IDC 15 21:29:25.1±1.9,8°.31S×129°.14E,h0km,mb3.4/1, mb1 3.5/3,mb1mx3.3/16,mbtmp3.3/3,ML3.4/2,Error ellipse: s-maj=102.0km s-min=31.7km az=66.0,Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**12.62**	**157**	Pn	Pn	**21 32 25.4**	**-0.6**
	0.3nm,0.3s,baz=336,slow=13,SNR=21						
WRA					Sn	**21 34 42.0**	**-5.4**
	0.3nm,0.3s,baz=329,slow=23,SNR=6.3						
ASAR	**Alice Springs**	**15.94**	**164**	Pn	Pn	**21 33 11.8**	**+0.9**

ASAR Alice Springs 38.33 166 P P 21 48 02.1 +2.4
0.5nm,0.5s,mb3.5,baz=346,slow=6.9,SNR=8.3
MKAR Makanchi Array 48.33 322 P P 21 49 19.9 -0.4
0.4nm,0.7s,mb3.5,baz=125,slow=7.2,SNR=3.8
KURK Kurchatov 52.33 325 P P 21 49 49.9 -0.6
0.6nm,0.7s,mb3.7,baz=121,slow=8.1,SNR=4.9

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*SZGRF **15** 21:58:22.7, 22°.25S × 165°.70E, h33km, New Caledonia*
*NOU **15** 21:58:24.0 ± 0.6, 18°.94S × 168°.78E, h30km, MD3.7, ML3.6*
*LDG **15** 21:58:24.3 ± 0.2, 18°.72S × 168°.12E, h10km, Mb5.1/4, Error ellipse: s-maj=18.2km s-min=4.4km az=106.0*
*ISCJB **15** 21:58:26.0 ± 1.0, 19°.09S ± 0°.04 × 168°.51E ± 0°.04, h33km ± 8km, mb4.9/70, MS4.2/15, Error ellipse: s-maj=7.2km s-min=6.2km az=31.7*
*MOS **15** 21:58:28.7 ± 1.4, 18°.97S × 168°.47E, h54km, mb5.1/20, Error ellipse: s-maj=10.8km s-min=8.7km az=8.1*
*GCMT **15** 21:58:29.0 ± 0.3, 18°.99S × 168°.51E, h28km ± 1km, MW5.0, Moment Tensor Solution. s38,c52; s66,c95; Moment tensor: Scale 10^{16}Nm; M_{rr}=-0.78±.16; $M_{\theta\theta}$3.40±.13; $M_{\phi\phi}$-2.62±.13; $M_{r\theta}$0.13±.24; $M_{r\phi}$2.19±.11; $M_{\theta\phi}$-2.84±.30; Best double couple: $M_0$4.70000×10^{16} NP1:$\phi_1$292.00000°, δ59.00000°, λ-17.00000°. NP2:$\phi_2$31.00000°, δ75.00000°, λ-148.00000°. Principal axes: T 4.2500, Plg11.0000°, Azm158.0000°; N 0.8400, Plg55.0000°, Azm53.0000°; P -5.1000, Plg33.0000°, Azm255.0000°; Data Used: II IU IC G CN.*
*NEIC **15** 21:58:30.2 ± 1.0, 19°.09S × 168°.50E, h58km ± 9km, mb5.0/41 Error ellipse: s-maj=7.7km s-min=7.0km az=172.0*
*IDC **15** 21:58:31.9 ± 3.9, 19°.07S × 168°.54E, h75km ± 35km, mb4.5/18, mb1 4.7/19, mb1mx4.6/22, mbtmp4.6/19, ML2.7/1, MS4.1/8, Ms1 4.1/8, ms1mx3.8/22, Error ellipse: s-maj=15.7km s-min=14.1km az=29.0*
*BJI **15** 21:58:31.8, 18°.66S × 168°.43E, h70km, mB5.0/24, mb4.8/41, Ms4.8/22, Ms7 4.3/22*
*DJA **15** 21:58:56, 19°.42S × 167°.67E, h262km, mb4.9/21*
ISC 15 21:58:28.0 ± 0.9, 19°.11S ± 0°.04 × 168°.54E ± 0°.05, h37km ± 8km, h70km ± 2.0km: pP-P, n322, σ1s08/179, mb4.9/71, MS4.2/15, 11C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.41**	**207**	*e*P	**Pn**	**21 59 17.2**	**-1.4**
BAYA				*e*S	**Sn**	**21 59 56.8**	**-1.0**
BAYA				AMP		21 59 59.9	
	comp=Z,206nm,2.9s						
DZM	**Mont Dzumac**	**3.54**	**213**	*e*Pn	**Pn**	**21 59 19.6**	**-0.9**
	comp=Z,290nm,0.3s						
DZM				*e*Sn	**Sn**	**21 59 59.8**	**-1.4**
	comp=Z,2μm,0.3s						
DZM	**Mont Dzumac**	**3.54**	**213**	*e*Pn	**Pn**	**21 59 19.6**	**-0.9**
DZM				*e*S	**Sn**	**22 00 01.6**	**+0.4**
NOUC	**Port Laguerre**	**3.64**	**215**	*e*P	**Pn**	**21 59 21.2**	**-0.7**
NOUC				*e*S	**Sn**	**22 00 03.7**	**0.0**
NOUC				AMP		22 00 09.0	
	comp=Z,754nm,1.7s						
MVNO	**Noumea**	**3.71**	**212**	*e*P	**Pn**	**21 59 22.1**	**-0.7**
MVNO				*e*S	**Sn**	**22 00 04.6**	**-0.7**
MVNO				AMP		22 00 06.2	
	comp=Z,244nm,3.2s						
MSVF	**Nonsavu**	**9.13**	**83**	*e*Pn	**Pn**	**22 00 41.5**	**+4.3**
MSVF	**Nonsavu**	**9.13**	**83**	*e*P	**Pn**	**22 00 41.5**	**+4.3**
MSVF	**Nonsavu**	**9.13**	**83**	Pn	**Pn**	**22 00 41.0**	**+3.8**
	comp=Z,1μm,1.2s,SNR=13						
HNR	**Honiara**	**12.72**	**318**	*e*Pn	**Pn**	**22 01 25.9**	**-0.6**
HNR	**Honiara**	**12.72**	**318**	*e*P	**Pn**	**22 01 25.9**	**-0.5**
OUZ	**Omahuta**	**16.66**	**165**	*e*Pn	**Pn**	**22 02 20.6**	**+1.9**
	comp=Z,124nm,0.8s						
EIDS	**Eidsvold**	**17.32**	**246**	*e*P	**Pn**	**22 02 29.8**	**+2.8**
	comp=Z,301nm,0.8s						
EIDS	**Eidsvold**	**17.32**	**246**	*e*Pn	**Pn**	**22 02 29.6**	**+2.7**
	comp=Z,82nm,0.9s						
ARMA	**Armidale**	**19.02**	**230**	*e*P	**Pn**	**22 02 49.6**	**+1.9**
ARMA				*e*S	**S**	**22 06 16.0**	**-4.8**
ARMA	**Armidale**	**19.02**	**230**	*e*P	**Pn**	**22 02 48.9**	**+1.2**
	comp=Z,35nm,0.9s						
AFI	**Afiamalu**	**19.56**	**78**	P	**Pn**	**22 02 53.6**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=240,slow=20,SNR=3.0						
AFI				LR	LR	22 08 50.9	
	comp=Z,840nm,21.3s,baz=258,slow=32						
AFI	**Afiamalu**	**19.56**	**78**	P	**Pn**	**22 02 53.6**	**-0.7**
AFI				LR	LR	22 08 50.9	
AFI	**Afiamalu**	**19.56**	**78**	P	**Pn**	**22 02 53.6**	**-0.7**
URZ	**Urewera**	**20.49**	**160**	P	**P**	**22 03 04.4**	**+1.7**
	comp=Z,47nm,0.7s,baz=7.8,slow=3.4,SNR=32						
URZ	**Urewera**	**20.49**	**160**	*e*P	**P**	**22 03 04.3**	**+1.6**
	comp=Z,289nm,1.6s						
CTA	**Charters Tower**	**21.02**	**264**	P	**P**	**22 03 10.5**	**+1.9**
	comp=Z,77nm,0.7s,mb5.1,baz=89,slow=11,SNR=88						
CTA	**Charters Tower**	**21.02**	**264**	*e*P	**P**	**22 03 10.5**	**+1.9**
	comp=Z,41nm,0.6s,mb4.9						
CTA				*e*S	**S**	**22 07 06.8**	**+5.9**
CTA	**Charters Tower**	**21.02**	**264**	P	**P**	**22 03 10.5**	**+1.9**
CTA	**Charters Tower**	**21.02**	**264**	P	**P**	**22 03 10.5**	**+1.9**
CTAO	**Charters Tower**	**21.02**	**264**	*e*P	**P**	**22 03 10.3**	**+1.6**
	comp=Z,66nm,0.7s,mb5.1						
CTAO				pmax	pmax		
	comp=Z,66nm,0.7s,mb5.1						
CTAO	**Charters Tower**	**21.02**	**264**	P	**P**	**22 03 10.4**	**+1.8**
	comp=Z,1μmcomp=Z,108nm,1.2s,mb5.0						
SNZO	**South Karori**	**22.75**	**168**	*e*P	**P**	**22 03 28.0**	**+1.1**
	comp=Z,83nm,1.0s,mb5.1						
PMG	**Port Moresby**	**22.83**	**292**	P	**P**	**22 03 29.4**	**+1.3**
	comp=Z,40nm,0.8s,mb4.9,baz=100,slow=6.2,SNR=14						
PMG	**Port Moresby**	**22.83**	**292**	*e*P	**P**	**22 03 28.9**	**+0.8**
	comp=Z,39nm,0.8s,mb4.9						
PMG	**Port Moresby**	**22.83**	**292**	*e*P	**P**	**22 03 28.9**	**+0.8**
PMG				pmax	pmax		
	comp=Z,39nm,0.8s						
PMG	**Port Moresby**	**22.83**	**292**	P	**P**	**22 03 29.6**	**+1.5**
	comp=Z,830nmcomp=Z,51nm,1.0s,mb4.9						
CNB	**Canberra Magne**	**23.42**	**223**	*e*P	**P**	**22 03 35.4**	**+1.4**
	comp=Z,550nm,0.6s						
QLP	**Quilpie**	**23.58**	**247**	*e*P	**P**	**22 03 35.9**	**+0.4**
KHZ	**Kahutara**	**23.62**	**171**	*e*P	**P**	**22 03 35.5**	**-0.2**
	comp=Z,100nm,0.9s,mb5.2						
CAN	**Canberra**	**23.66**	**223**	*e*P	**P**	**22 03 37.6**	**+1.4**
	comp=Z,20nm,0.6s,mb4.7						
CAN				*e*		22 04 00.1	
CAN	**Canberra**	**23.66**	**223**	*e*P	**P**	**22 03 37.6**	**+1.5**
CAN				*e*		22 04 00.1	
CAN				pmax	pmax		
	comp=Z,20nm,0.6s,mb4.7						
RPZ	**Rata Peaks**	**24.63**	**176**	P	**P**	**22 03 46.3**	**+1.4**
	comp=Z,39nm,0.8s,mb5.0,baz=302,slow=4.0,SNR=8.9						
RPZ	**Rata Peaks**	**24.63**	**176**	*e*P	**P**	**22 03 44.9**	**0.0**
	comp=Z,60nm,0.9s,mb5.1						
COEN	**Coen**	**24.84**	**278**	*e*P	**P**	**22 03 47.7**	**+0.6**
	comp=Z,290nm,0.8s,mb5.9						
COEN	**Coen**	**24.84**	**278**	P	**P**	**22 03 48.7**	**+1.6**
	comp=Z,61nm,0.8s,mb5.2						
TOO	**Toolangi**	**27.27**	**223**	*e*P	**P**	**22 04 10.0**	**+1.1**
	comp=Z,86nm,0.9s,mb5.3						
STKA	**Stephens Creek**	**27.36**	**237**	P	**P**	**22 04 10.9**	**+1.1**
	comp=Z,20nm,0.5s,mb4.9,baz=73,slow=9.1,SNR=97						
STKA	**Stephens Creek**	**27.36**	**237**	*e*P	**P**	**22 04 10.5**	**+0.7**
	comp=Z,18nm,0.5s,mb4.9						
STKA	**Stephens Creek**	**27.36**	**237**	*e*P	**P**	**22 04 10.6**	**+0.8**
	comp=Z,4.1nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**27.36**	**237**	*e*P	**P**	**22 04 10.6**	**+0.8**
STKA				pmax	pmax		
	comp=Z,4.0nm,0.4s						
RAR	**Rarotonga**	**29.79**	**99**	LR	LR	22 13 48.1	
	comp=Z,189nm,20.3s,MS3.7,baz=299,slow=31						
WB2	**Warramunga Arr**	**32.21**	**263**	*e*P	**P**	**22 04 51.3**	**-1.6**
WRAB	**Tennant Creek**	**32.21**	**263**	*e*P	**P**	**22 04 51.4**	**-1.5**
	comp=Z,22nm,0.9s,mb5.0						
WRAB	**Tennant Creek**	**32.21**	**263**	*e*P	**P**	**22 04 51.4**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.0						
WRAB	**Tennant Creek**	**32.21**	**263**	P	**P**	**22 04 51.3**	**-1.6**
	comp=Z,130nm,0.5s,mb6.0,SNR=12						
WRAB	**Tennant Creek**	**32.21**	**263**	P	**P**	**22 04 51.4**	**-1.5**
	comp=Z,36nm,1.0s,mb5.2						
WRA	**Warramunga Arr**	**32.22**	**263**	P	**P**	**22 04 51.6**	**-1.3**
	comp=Z,6.9nm,0.4s,mb4.8,baz=86,slow=8.4,SNR=75						
WRA				PcP	PcP	22 07 39.8	-1.3
	comp=Z,1.4nm,0.9s,baz=89,slow=3.9,SNR=4.3						
WRA				LR	LR	22 18 33.6	
	comp=Z,401nm,18.8s,MS4.1,baz=80,slow=37						
WRA	**Warramunga Arr**	**32.22**	**263**	P	**P**	**22 04 51.6**	**-1.3**
WRA				PcP	PcP	22 07 39.8	-1.3
WRA				LR	LR	22 18 33.6	
WRA	**Warramunga Arr**	**32.22**	**263**	P	**P**	**22 04 51.7**	**-1.2**
WRA						22 07 39.8	
ASAR	**Alice Springs**	**32.52**	**256**	P	**P**	**22 04 55.2**	**-0.3**
	comp=Z,64nm,0.5s,mb5.8,baz=82,slow=8.6,SNR=815						
ASAR	**Alice Springs**	**32.52**	**256**	P	**P**	**22 04 55.2**	**-0.3**
ASAR	**Alice Springs**	**32.52**	**256**	P	**P**	**22 04 55.3**	**-0.3**
TLE	**Tual**	**37.35**	**286**	P	**P**	**22 05 37.6**	**+0.3**
	comp=Z,28nm,1.1s,mb5.0						
FORT	**Forrest**	**38.31**	**244**	*e*P	**P**	**22 05 45.2**	**-0.1**
	comp=Z,26nm,0.6s,mb5.3						
FORT	**Forrest**	**38.31**	**244**	*e*P	**P**	**22 05 45.3**	**0.0**
	comp=Z,26nm,0.6s,mb5.2						
TBI	**Tubuai**	**39.28**	**104**	*e*LQ		22 14 58.3	
	comp=Z,1μm,30.2s						
TBI				*e*LR	LR	22 16 43.0	
	comp=Z,429nm,30.5s						
PPT	**Papeete**	**39.72**	**95**	*e*S	**S**	**22 11 58.3**	**-0.4**
	comp=Z,92nm,28.5s						
PPT				*e*LQ		22 15 09.5	
	comp=Z,1μm,30.5s						
PPT				*e*LR	LR	22 17 03.1	
	comp=Z,539nm,28.8s						
PPT	**Papeete**	**39.72**	**95**	LR	LR	22 18 12.5	
	comp=Z,182nm,19.1s,MS3.9,baz=290,slow=30						
GUMO	**Guam**	**39.99**	**323**	LR	LR	22 19 57.1	
	comp=Z,235nm,19.5s,MS4.0,baz=160,slow=32						
FITZ	**Fitzroy Crossi**	**40.60**	**264**	*e*P	**P**	**22 06 04.1**	**-0.4**
	comp=Z,123nm,0.7s,mb5.7						
FITZ	**Fitzroy Crossi**	**40.60**	**264**	P	**P**	**22 06 04.3**	**-0.2**
	comp=Z,946nmcomp=Z,104nm,0.9s,mb5.5						
SWI	**Sorong**	**40.79**	**292**	P	**P**	**22 06 05.5**	**-0.6**
	comp=Z,56nm,0.8s,mb5.3						
MBWA	**Marble Bar**	**45.73**	**259**	*e*P	**P**	**22 06 45.8**	**-0.2**
MBWA	**Marble Bar**	**45.73**	**259**	*e*P	**P**	**22 06 46.0**	**0.0**
	comp=Z,47nm,0.9s,mb5.4						
MBWA	**Marble Bar**	**45.73**	**259**	P	**P**	**22 06 46.4**	**+0.4**
	comp=Z,66nm,0.9s,mb5.5						
MMRI	**Maumere**	**46.02**	**276**	P	**P**	**22 06 48.3**	**0.0**
	comp=Z,61nm,0.9s,mb5.5						
MEEK	**Meekatharra**	**46.38**	**251**	*e*P	**P**	**22 06 50.8**	**-0.2**
	comp=Z,248nm,0.5s						
KDI	**Kendari**	**47.27**	**283**	P	**P**	**22 06 59.0**	**+0.9**
	comp=Z,332nmcomp=Z,17nm,1.2s,mb4.8						
NWAO	**Narrogin (SRO)**	**47.69**	**243**	P	**P**	**22 07 00.7**	**-0.5**
	comp=Z,9.8nm,0.7s,mb5.0,baz=96,slow=11,SNR=6.8						
NWAO	**Narrogin (SRO)**	**47.69**	**243**	P	**P**	**22 07 00.7**	**-0.5**
NWAO	**Narrogin (SRO)**	**47.69**	**243**	P	**P**	**22 07 00.7**	**-0.4**
LUWI	**Luwuk**	**48.29**	**286**	P	**P**	**22 07 06.8**	**+0.8**
	comp=Z,37nm,0.9s,mb5.4						
KAPI	**Kappang**	**49.55**	**280**	*e*P	**P**	**22 07 14.9**	**-0.7**
	comp=Z,18nm,0.8s,mb5.2						
KAPI	**Kappang**	**49.55**	**280**	P	**P**	**22 07 15.2**	**-0.5**
	comp=Z,420nmcomp=Z,32nm,1.0s,mb5.3						
CBIJ	**Chichi jima**	**52.56**	**330**	LR	LR	22 29 41.0	
	comp=Z,161nm,18.5s,MS4.1,baz=256,slow=36						
SBA	**Scott Base**	**58.79**	**180**	*e*P	**P**	**22 08 23.0**	**+1.0**
	comp=Z,14nm,1.0s,mb5.0						
SBA	**Scott Base**	**58.79**	**180**	*e*P	**P**	**22 08 23.0**	**+0.9**
SBA				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
CASY	**Casey**	**59.98**	**203**	*e*P	**P**	**22 08 30.4**	**0.0**
	comp=Z,4.7nm,0.8s,mb4.6						
KSM	**Kuching**	**60.70**	**283**	*e*P	**P**	**22 08 36.3**	**0.0**
	comp=Z,10nm,0.8s,mb5.0						
MJAR	**Matsushiro Arr**	**62.33**	**333**	P	**P**	**22 08 45.3**	**-1.4**
	comp=Z,10nm,0.9s,mb5.0,baz=170,slow=7.7,SNR=20						
MJAR	**Matsushiro Arr**	**62.33**	**333**	P	**P**	**22 08 45.3**	**-1.4**
MJAR	**Matsushiro Arr**	**62.33**	**333**	P	**P**	**22 08 45.3**	**-1.4**
MAJO	**Matsushiro**	**62.33**	**333**	*e*P	**P**	**22 08 45.8**	**-0.9**
	comp=Z,17nm,0.9s,mb5.2						
MAJO	**Matsushiro**	**62.33**	**333**	*e*P	**P**	**22 08 45.8**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.2						
MAT	**Matsushiro**	**62.33**	**333**	P	**P**	**22 08 45.6**	**-1.1**
MAT				*e*S	**S**	**22 17 09.0**	**-1.6**
ASAJ	**Asahikawa**	**67.25**	**340**	*e*P	**P**	**22 09 19.6**	**+1.0**
	comp=Z,11nm,0.8s,mb4.9						
KSRS	**Korea Array**	**68.03**	**326**	P	**P**	**22 09 24.8**	**+1.1**
	comp=Z,1.3nm,0.9s,mb3.9,baz=141,slow=4.7,SNR=4.2						
NJ2	**Nanjing**	**69.66**	**316**	*e*P	**P**	**22 09 33.3**	**-0.6**
NJ2				pP	pP	22 09 52.8	+7.7
NJ2				sP	sP	22 10 00.4	+11
NJ2				S	S	22 18 35.0	-5.0
NJ2				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
NJ2				pmax	pmax		
	comp=Z,80nm,4.4s						
NJ2				LR	LR		
	comp=N,140nm,16.0s,MS4.5						
NJ2				LR	LR		
	comp=E,140nm,14.9s,MS4.5						
NJ2				LR	LR		
	comp=Z,120nm,15.2s,MS4.3						
YSS	**Yuzh-Sakhalins**	**69.74**	**341**	*e*P	**P**	**22 09 35.1**	**+1.0**
	comp=Z,24nm,0.9s,mb5.1						
YSS	**Yuzh-Sakhalins**	**69.74**	**341**	*i*P	**P**	**22 09 37.0**	**+2.9**
YSS				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.3						
QSPA	**South Pole Qui**	**70.95**	**180**	P	**P**	**22 09 41.5**	**+0.4**
	comp=Z,10.0nm,0.8s,mb4.8,baz=21,slow=0.8,SNR=34						
QSPA	**South Pole Qui**	**70.95**	**180**	*e*P	**P**	**22 09 41.0**	**-0.1**
	comp=Z,35nm,1.4s,mb5.1						
KULM	**Kulim**	**71.06**	**283**	P	**P**	**22 09 40.2**	**-2.8**
	comp=Z,8.1nm,1.0s,mb4.6						
PSI	**Prapat**	**71.75**	**280**	P	**P**	**22 09 45.7**	**-1.4**
	comp=Z,11nm,0.9s,mb4.8,baz=234,slow=1.6,SNR=12						
PSI	**Prapat**	**71.75**	**280**	P	**P**	**22 09 45.7**	**-1.4**
PSI	**Prapat**	**71.75**	**280**	P	**P**	**22 09 45.7**	**-1.4**
PSI	**Prapat**	**71.75**	**280**	P	**P**	**22 09 46.2**	**-0.9**
	comp=Z,19nm,1.1s,mb4.9						
PETK	**Petropavlovsk-**	**72.52**	**353**	P	**P**	**22 09 50.8**	**0.0**
	comp=Z,2.9nm,0.5s,mb4.5,baz=141,slow=7.1,SNR=3.4						
PETK				LR	LR	22 36 07.0	
	comp=Z,145nm,21.2s,MS4.2,baz=333,slow=31						
PETK	**Petropavlovsk-**	**72.52**	**353**	P	**P**	**22 09 50.8**	**0.0**
PETK				LR	LR	22 36 07.0	
PETK	**Petropavlovsk-**	**72.52**	**353**	P	**P**	**22 09 50.8**	**0.0**
MDJ	**Mudanjiang**	**72.69**	**332**	P	**P**	**22 09 52.9**	**+0.9**
MDJ				pP	pP	22 10 09.4	+6.2
MDJ				sP	sP	22 10 16.3	+8.9
MDJ				S	S	22 19 15.9	+1.2
MDJ				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
MDJ				pmax	pmax		
	comp=Z,70nm,3.4s						
MDJ				LR	LR		
	comp=N,57nm,34.7s,MS3.8						
MDJ				LR	LR		
	comp=E,74nm,34.7s,MS3.8						
MDJ				LR	LR		
	comp=Z,35nm,37.7s,MS3.4						
MDJ	**Mudanjiang**	**72.69**	**332**	*e*P	**P**	**22 09 53.2**	**+1.2**
	comp=Z,8.6nm,0.8s,mb4.7						
CN2	**Changchun**	**74.00**	**329**	*e*P	**P**	**22 10 00.4**	**+0.7**
CN2				*ep*P	pP	22 10 17.0	+6.0
CN2				*e*S	S	22 19 27.8	-1.8
CN2				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
ENH	**Enshi**	**75.08**	**310**	*e*P	**P**	**22 10 05.8**	**-0.6**
	comp=Z,9.8nm,0.9s,mb4.7						
GYA	**Guiyang**	**75.21**	**305**	P	**P**	**22 10 08.0**	**+0.9**
GYA				pP	pP	22 10 27.0	+8.6
GYA				sP	sP	22 10 35.3	+13
GYA				PP	PP	22 12 58.9	+2.8
GYA				S	S	22 19 40.0	-3.7
GYA				SKS		22 20 05.4	
GYA				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
GYA				pmax	pmax		
	comp=Z,140nm,5.9s						
GYA				LR	LR		
	comp=N,560nm,22.6s,MS4.9						
GYA				LR	LR		
	comp=E,510nm,23.2s,MS4.9						
GYA				LR	LR		
	comp=Z,620nm,20.9s,MS4.9						
KLR	**Kul'dur**	**75.48**	**336**	*e*P	**P**	**22 10 05.3**	**-2.9**
BJT	**Baijiatuan**	**76.41**	**321**	*e*P	**P**	**22 10 12.1**	**-1.6**
BJT	**Baijiatuan**	**76.41**	**321**	*e*P	**P**	**22 10 12.1**	**-1.6**
BJI	**Beijing**	**76.42**	**321**	P	**P**	**22 10 14.8**	**+1.0**
BJI				S	S	22 19 56.3	-0.3
BJI				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
BJI				pmax	pmax		
	comp=Z,96nm,3.9s						
BJI				LR	LR		
	comp=N,110nm,24.5s,MS4.3						
BJI				LR	LR		
	comp=E,140nm,25.1s,MS4.3						
BJI				LR	LR		
	comp=Z,44nm,21.6s,MS3.7						
XAN	**Xi'an**	**77.54**	**313**	P	**P**	**22 10 20.5**	**+0.3**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
XAN				pmax	pmax		
	comp=Z,11nm,3.5s						
KMI	**Kunming**	**77.65**	**302**	P	**P**	**22 10 22.3**	**+1.3**
KMI				PcP	PcP	22 10 32.6	+1.5
KMI				pP	pP	22 10 41.1	+8.8
KMI				sP	sP	22 10 48.6	+12
KMI				S	S	22 20 05.3	-5.2
KMI				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
KMI				pmax	pmax		
	comp=Z,60nm,3.1s						
KMI				LR	LR		
	comp=N,150nm,16.1s,MS4.5						
KMI				LR	LR		
	comp=E,92nm,13.2s,MS4.5						
KMI				LR	LR		
	comp=Z,120nm,19.4s						
CM31	**Chiang Mai Arr**	**77.85**	**294**	*e*P	**P**	**22 10 23.1**	**+0.9**
	comp=Z,5.1nm,0.9s,mb4.5						
CMAR	**Chiang Mai Arr**	**77.85**	**294**	P	**P**	**22 10 23.3**	**+1.1**
	comp=Z,3.2nm,0.8s,mb4.3,baz=133,slow=4.4,SNR=26						
CMAR	**Chiang Mai Arr**	**77.85**	**294**	P	**P**	**22 10 23.3**	**+1.1**
CMAR	**Chiang Mai Arr**	**77.85**	**294**	P	**P**	**22 10 23.3**	**+1.1**
CHTO	**Chiang Mai**	**78.00**	**295**	*e*P	**P**	**22 10 23.4**	**+0.4**
	comp=Z,12nm,1.2s,mb4.7						
CHTO	**Chiang Mai**	**78.00**	**295**	*e*P	**P**	**22 10 23.4**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
CHTO	**Chiang Mai**	**78.00**	**295**	P	**P**	**22 10 24.0**	**+0.9**
	comp=Z,12nm,1.2s,mb4.7						
MAW	**Mawson**	**78.31**	**202**	LR	LR	22 41 05.5	
	comp=Z,176nm,19.9s,MS4.4,baz=99,slow=33						
CD2	**Chengdu**	**79.64**	**308**	P	**P**	**22 10 32.1**	**+0.3**
CD2				pP	pP	22 10 52.4	+9.2
CD2				sP	sP	22 11 00.8	+13
CD2				PP	PP	22 13 36.1	+2.9
CD2				S	S	22 20 27.3	-4.3
CD2				SKS		22 20 37.3	
CD2				sS	sS	22 21 01.9	+12
CD2				SS	SS	22 25 38.6	-2.3
CD2				pmax	pmax		
	comp=Z,20nm,0.5s,mb5.3						
CD2				pmax	pmax		
	comp=Z,60nm,5.3s						
CD2				LR	LR		
	comp=E,180nm,5.4s						
CD2				LR	LR		
	comp=Z,150nm,8.3s						
HHC	**Hu-ho-hao-te**	**79.69**	**320**	*e*P	**P**	**22 10 32.8**	**+0.9**
HHC				PcP	PcP	22 10 40.3	+0.7
HHC				pP	pP	22 10 51.0	+7.8
HHC				sP	sP	22 10 59.5	+12
HHC				PP	PP	22 13 36.6	+3.1
HHC				S	S	22 20 28.1	-3.7
HHC				SKS		22 20 38.3	
HHC				ScS	ScS	22 20 46.8	-6.3
HHC				sS	sS	22 21 00.9	+10
HHC				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.0						
HHC				pmax	pmax		
	comp=Z,76nm,8.2s						
HHC				LR	LR		
	comp=N,110nm,18.3s,MS4.4						
HHC				LR	LR		
	comp=E,100nm,17.8s,MS4.4						
HHC				LR	LR		
	comp=Z,69nm,17.8s,MS4.0						
HIA	**Hailar**	**80.67**	**330**	*e*P	**P**	**22 10 37.5**	**+0.6**
	comp=Z,3.0nm,0.4s,mb4.6						
HIA	**Hailar**	**80.67**	**330**	*e*P	**P**	**22 10 37.6**	**+0.7**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
LZH	**Lanzhou**	**82.15**	**312**	*e*P	**P**	**22 10 47.4**	**+2.3**
LZH				pP	pP	22 11 04.3	+7.8
LZH				sP	sP	22 11 12.9	+12
LZH				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
KDAK	**Kodiak Island**	**83.13**	**20**	P	**P**	**22 10 52.4**	**+2.7**
	comp=Z,3.8nm,0.6s,mb4.6,baz=246,slow=10.0,SNR=4.1						
KDAK	**Kodiak Island**	**83.13**	**20**	P	**P**	**22 10 52.4**	**+2.7**
KDAK	**Kodiak Island**	**83.13**	**20**	*i* P	**P**	**22 10 56.1**	**+6.4**
SYO	**Syowa Base**	**84.88**	**196**	*ie*P	**P**	**22 10 57.5**	**-1.1**
ULN	**Ulaanbaatar**	**86.37**	**324**	*e*P	**P**	**22 11 06.2**	**0.0**
	comp=Z,18nm,1.2s,mb5.2						
ULN	**Ulaanbaatar**	**86.37**	**324**	*e*P	**P**	**22 11 06.2**	**0.0**
ULN				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.2						
ULN	**Ulaanbaatar**	**86.37**	**324**	P	**P**	**22 11 07.2**	**+1.0**
	comp=Z,15nm,1.4s,mb5.0		

VNA3	Neumayer Olymp	89.88	181	*e*		P		22 11 19.4	-3.3
VNA2	Neumayer--Watz	90.16	181	*e*		P		22 11 20.8	-3.3
	baz=187,slow=4.9								
TLY	Talaya	90.28	326	*e*P		P		22 11 31.6	+6.9
TLY				*e*S		S		22 22 03.0	-13
TLY				pmax		pmax			
	comp=Z,7.0nm,0.9s,mb5.0								
TLY				MLR		MLR			
	comp=Z,35nm,17.0s,MS3.9								
ILAR	Eielson Array	90.30	18	P		P		22 11 21.4	-3.2
	comp=Z,1.9nm,0.7s,mb4.5,baz=238,slow=4.7,SNR=17								
ILAR	Eielson Array	90.30	18	P		P		22 11 21.4	-3.2
ILAR	Eielson Array	90.30	18	P		P		22 11 21.4	-3.1
VNA1	Neumayer--Stat	90.45	181	*e*		P		22 11 23.6	-1.8
HAWA	Hanford	91.82	41	*e*P		P		22 11 32.1	+0.1
	comp=Z,12nm,1.2s,mb5.1								
EGAK	Eagle	92.02	19	*e*P		P		22 11 31.1	-1.4
	comp=Z,6.5nm,0.9s,mb5.0								
INK	Inuvik	96.63	18	P		P		22 11 51.1	-2.5
	comp=Z,1.5nm,0.8s,mb4.5,baz=235,slow=7.6,SNR=4.0								
INK	Inuvik	96.63	18	P		P		22 11 51.1	-2.5
INK	Inuvik	96.63	18	P		P		22 11 51.1	-2.5
WMQ	Urumqi	96.64	314	P		P		22 11 53.8	-0.4
WMQ				LR		LR			
	comp=N,41nm,21.6s								
WMQ				LR		LR			
	comp=E,53nm,30.3s								
WMQ				LR		LR			
	comp=Z,63nm,30.3s								
TXAR	Lajitas Array	97.28	62	P		P		22 11 56.7	-0.8
	comp=Z,1.3nm,0.8s,mb4.4,baz=237,slow=4.2,SNR=13								
TXAR	Lajitas Array	97.28	62	P		P		22 11 56.7	-0.8
TXAR	Lajitas Array	97.28	62	P		P		22 11 56.7	-0.8
YKA	Yellowknife Ar	100.85	27	P		Pdif		22 12 12.0	-1.0
	comp=Z,2.3nm,0.6s,baz=255,slow=4.6,SNR=11								
YKA	Yellowknife Ar	100.85	27	P		Pdif		22 12 12.1	-1.0
YKA	Yellowknife Ar	100.85	27	P		Pdif		22 12 12.1	-1.0
MKAR	Makanchi Array	101.18	316	P		Pdif		22 12 15.5	+1.0
	comp=Z,0.6nm,0.5s,baz=109,slow=2.2,SNR=4.1								
MKAR	Makanchi Array	101.18	316	P		Pdif		22 12 15.5	+1.0
MKAR	Makanchi Array	101.18	316	P		Pdif		22 12 15.5	+1.0
ZALV	Zalesovo Beam	101.61	323	P		Pdif		22 12 16.0	-0.4
	comp=Z,0.4nm,0.6s,baz=104,slow=6.1,SNR=3.1								
ZALV	Zalesovo Beam	101.61	323	P		Pdif		22 12 16.0	-0.4
ZALV	Zalesovo Beam	101.61	323	P		Pdif		22 12 16.0	-0.4
ARCES	ARCESS Array B	124.77	345	PKP		PKPdf		22 17 21.0	-2.2
	comp=Z,3.3nm,0.7s,baz=37,slow=3.0,SNR=23								
ARCES	ARCESS Array B	124.77	345	PKP		PKPdf		22 17 21.0	-2.2
ARCES	ARCESS Array B	124.77	345	PKIKP		PKPdf		22 17 21.0	-2.1
ZEI	Tsey	128.02	310	*e*PKIKP		PKPdf		22 17 31.6	+1.5
ZEI				pmax		pmax			
	comp=Z,3.0nm,1.0s								
MOS	Moscow	128.22	327	*e*PKIKP		PKPdf		22 17 21.8	-8.3
FINES	FINESS Array B	130.22	337	PKP		PKPdf		22 17 31.6	-2.2
	comp=Z,3.4nm,1.0s,baz=90,slow=5.6,SNR=4.4								
FINES	FINESS Array B	130.22	337	PKP		PKPdf		22 17 31.6	-2.2
FINES	FINESS Array B	130.22	337	PKIKP		PKPdf		22 17 31.6	-2.1
AKASG	Malin Array Be	135.00	324	PKP		PKPdf		22 17 42.6	-0.5
	comp=Z,1.0nm,0.6s,baz=51,slow=1.9,SNR=4.1								
AKASG	Malin Array Be	135.00	324	PKP		PKPdf		22 17 42.6	-0.5
AKASG	Malin Array Be	135.00	324	PKIKP		PKPdf		22 17 42.6	-0.5
NOA	NORSAR Array B	135.15	345	PKP		PKPdf		22 17 42.1	-0.9
	comp=Z,1.6nm,0.9s,baz=61,slow=1.9,SNR=2.6								
NOA	NORSAR Array B	135.15	345	PKP		PKPdf		22 17 42.1	-0.9
NOA	NORSAR Array B	135.15	345	PKIKP		PKPdf		22 17 42.1	-0.9
BRTR	Keskin Array B	136.21	308	PKP		PKPdf		22 17 45.6	-0.1
	comp=Z,0.5nm,0.8s,baz=150,slow=1.8,SNR=3.0								
BRTR	Keskin Array B	136.21	308	PKP		PKPdf		22 17 45.6	-0.1
BRTR	Keskin Array B	136.21	308	PKIKP		PKPdf		22 17 45.6	-0.1
DPC	Dobruska-Polom	141.79	331	*e*PKIKP		PKPdf		22 17 53.9	-1.7
DPC	Dobruska-Polom	141.79	331	*e*PKP		PKPdf		22 17 53.9	-1.7
CLL	Collm	142.52	335	*e*PKIKP		PKPdf		22 18 00.0	+3.2
CLL	Collm	142.52	335	*e*PKiKP		PKiKP		22 18 00.0	+0.1
PRU	Pruhonice	142.85	332	*e*PKIKP		PKPdf		22 17 59.8	+2.3
PRU	Pruhonice	142.85	332	*e*PKP		PKPdf		22 17 59.8	+2.3
PRU				*ex*		x		22 18 26.8	
KHC	Kasperske Hory	143.91	332	*e*PKPdf		PKPdf		22 17 57.5	-1.8
KHC	Kasperske Hory	143.91	332	*e*PKIKP		PKPdf		22 17 56.5	-2.8
KHC	Kasperske Hory	143.91	332	*e*PKP		PKPdf		22 17 56.5	-2.8
KHC				*ep*PKP		pPKPdf		22 18 22.5	+11
GERES	GERESS Array B	144.06	331	PKP		PKPdf		22 17 57.1	-2.5
	comp=Z,3.0nm,0.8s,baz=26,slow=4.0,SNR=16								
GERES	GERESS Array B	144.06	331	PKP		PKPdf		22 17 57.1	-2.5
GERES	GERESS Array B	144.06	331	PKIKP		PKPdf		22 17 57.1	-2.5
GRF	Grafenberg Arr	144.49	334	*e*PKPbc		PKPdf		22 17 58.5	-1.8
GRF	Grafenberg Arr	144.49	334	*e*PKIKP		PKPdf		22 17 58.5	-1.8
GRFO	Grafenberg	144.49	334	*e*PKPdf		PKPdf		22 18 00.0	-0.3
GRFO	Grafenberg	144.49	334	*e*PKIKP		PKPdf		22 18 00.0	-0.3
MOA	Molln	144.52	330	⇑*i*PKPdf		PKPdf		22 17 58.7	-1.7
	comp=Z,19nm,0.9s,SNR=7.4								
PERS	Pernice	144.94	328	*e*PKPbc		PKPdf		22 17 59.8	-1.4
PERS				*i*				22 18 04.3	
SOKA	Soboth	144.95	328	⇑*i*PKPdf		PKPdf		22 17 59.9	-1.4
	comp=Z,26nm,0.6s								
RCBR	Riachuelo	145.45	133	PKPbc		PKPbc		22 18 00.9	-2.2
	comp=Z,14nm,0.8s,baz=53,slow=22,SNR=5.5								
RCBR	Riachuelo	145.45	133	PKPbc		PKPbc		22 18 00.9	-2.2
KBA	Koelnbreinsper	145.50	330	⇑*i*PKPab		PKPab		22 18 02.0	-0.6
	comp=Z,23nm,1.2s,SNR=6.8								
TOD	Tromm	145.51	337	PKP		PKPdf		22 18 00.8	-1.3
TOD	Tromm	145.51	337	PKIKP		PKPdf		22 18 00.8	-1.3
HGN	Heimansgroeve	145.53	340	*e*P		PKPdf		22 18 01.6	-0.5
	comp=Z,29nm,1.5s								
BEBN	Eben Emael	145.58	341	PKP		PKPdf		22 18 02.6	+0.4
MEM	Membach	145.64	340	PKP		PKPdf		22 18 01.2	-1.1
MEM				APKP				22 18 13.1	
LJU	Ljubljana	145.64	327	*i* PKPbc		PKPbc		22 18 02.9	+0.1
ABH	Alteburg	145.74	338	PKP		PKPdf		22 18 02.0	-0.5
VOY	Vojsko	145.97	328	*e*PKPbc		PKPbc		22 18 02.4	-1.4
VOY				*e*				22 18 11.2	
BCLA	Clavier	146.03	341	PKP		PKPdf		22 18 03.7	+0.8
BCLA				APKP				22 18 11.7	
STU	Stuttgart	146.03	335	*e*PKPdf		PKPdf		22 18 03.5	+0.5
STU	Stuttgart	146.03	335	*e*PKP2		PKPdf		22 18 03.5	+0.5
RUP	Ruppelstein	146.06	338	PKP		PKPdf		22 18 02.5	-0.5
RUP	Ruppelstein	146.06	338	PKP2		PKPdf		22 18 02.5	-0.5
ABTA	Abfaltersbach	146.14	330	⇑*i*PKPab		PKPbc		22 18 03.9	-0.4
	comp=Z,20nm,0.9s,SNR=7.6								
WATA	Walderalm	146.14	331	⇓*i*PKPab		PKPbc		22 18 04.1	-0.2
	comp=Z,11nm,0.8s,SNR=9.2								
WTTA	Wattenberg	146.17	331	⇑*i*PKPab		PKPbc		22 18 03.9	-0.4
	comp=Z,8nm,1.1s,SNR=9.8								
SNF	Seneffe	146.26	342	PKP		PKPdf		22 18 03.2	-0.1
MOTA	Moosalm	146.34	332	⇑*i*PKPab		PKPbc		22 18 04.1	-0.7
	comp=Z,18nm,0.7s,SNR=22								
RETA	Reutte	146.39	332	⇑*i*PKPab		PKPbc		22 18 04.1	-0.8
	comp=Z,7.7nm,0.6s,SNR=10								
LANF	Langenberg	146.40	337	PKP		PKPbc		22 18 04.7	-0.2
LANF	Langenberg	146.40	337	PKP2		PKPbc		22 18 04.7	-0.2
LANF	Langenberg	146.40	337	PKP		PKPbc		22 18 04.7	-0.2
WLF	Walferdange	146.40	339	PKP		PKPbc		22 18 04.4	-0.5
WLF				APKP				22 18 12.5	
WLF	Walferdange	146.40	339	*e*PKPdf		PKPbc		22 18 04.5	-0.4
WLF	Walferdange	146.40	339	*e*PKP2		PKPbc		22 18 04.5	-0.4
GIVF	Givet	146.45	341	*e*PKP1		PKPbc		22 18 03.8	-1.3
	comp=Z,47nm,1.1s								
DOU	Dourbes	146.53	341	PKP		PKPdf		22 18 04.3	+0.5
DOU				APKP				22 18 13.2	
BAIF	Baives	146.68	342	*e*PKP1		PKPbc		22 18 04.7	-1.0
	comp=Z,34nm,0.9s								
BFO	Black Forest	146.73	336	*e*PKPdf		PKPdf		22 18 04.9	+0.7
BFO	Black Forest	146.73	336	*e*PKP2		PKPdf		22 18 04.9	+0.7
SPAK	Spaichingen-Ko	146.73	335	PKP		PKPdf		22 18 04.9	+0.7
FETA	Feichten	146.76	332	⇑*i*PKPab		PKPbc		22 18 05.9	-0.2
	comp=Z,22nm,0.9s,SNR=21								
DAVA	Damuels	146.92	333	*i* PKPab		PKPbc		22 18 06.8	+0.3
	comp=Z,25nm,1.3s,SNR=9.5								
CDF	Champ du Feu	147.06	337	*e*PKP1		PKPbc		22 18 05.8	-1.1
	comp=Z,59nm,1.0s								
FELD	Feldberg im Sc	147.23	336	PKP		PKPbc		22 18 07.6	+0.3
ECH	Echery	147.27	337	*e*PKPdf		PKPdf		22 18 06.1	+1.0
ECH	Echery	147.27	337	*e*PKP2		PKPdf		22 18 06.1	+1.0
ECH	Echery	147.27	337	PKP		PKPbc		22 18 07.3	-0.2
DAVOX	Davos/Dischmat	147.32	332	PKPbc		PKPbc		22 18 07.2	-0.4
	comp=Z,21nm,0.5s,baz=289,slow=1.2,SNR=55								
DAVOX	Davos/Dischmat	147.32	332	PKPbc		PKPbc		22 18 07.2	-0.4
DAVOX	Davos/Dischmat	147.32	332	PKP2		PKPbc		22 18 07.2	-0.4
PAGF	Fort de Pagny	147.50	339	*e*PKP1		PKPbc		22 18 07.3	-0.8
	comp=Z,10.6nm,0.8s								
THEF	They Montfort	147.69	338	PKP		PKPbc		22 18 08.8	+0.2
THEF	They Montfort	147.69	338	PKP2		PKPbc		22 18 08.8	+0.2
THEF	They Montfort	147.69	338	PKP		PKPbc		22 18 08.8	+0.2
HINF	Hinteralfeld	147.72	337	*e*PKP1		PKPbc		22 18 07.3	-1.4
	comp=Z,15nm,0.8s								
HAU	Haudompre	147.74	337	*e*PKP1		PKPbc		22 18 07.6	-1.2
	comp=Z,37nm,1.0s								
MEZF	Maizieres J'vi	147.77	339	*e*PKP1		PKPbc		22 18 08.1	-0.7
	comp=Z,113nm,1.2s								
TUE	Stuetta	147.79	333	*e*PKPbc		PKPbc		22 18 08.9	0.0
SFTF	Sexfontaines	148.03	339	*e*PKP1		PKPbc		22 18 08.5	-1.0
	comp=Z,66nm,1.1s								
LOMF	Lomont	148.11	336	PKP		PKPbc		22 18 10.0	+0.2
LOMF	Lomont	148.11	336	PKP2		PKPbc		22 18 10.0	+0.2
LOMF	Lomont	148.11	336	PKP		PKPbc		22 18 10.0	+0.2
CABF	La Chapelle	149.01	336	*e*PKP1		PKPbc		22 18 11.4	-0.7
	comp=Z,34nm,0.7s								
FLN	La Foliniere	149.12	346	*e*PKP1		PKPbc		22 18 10.7	-1.6
	comp=Z,22nm,0.5s								
LDF	La Druitiere	149.19	345	*e*PKP1		PKPbc		22 18 10.7	-1.8
	comp=Z,13nm,0.5s								
LOR	Lormes	149.24	339	*e*PKP1		PKPbc		22 18 11.5	-1.2
	comp=Z,36nm,0.9s								
SSF	Saint Saulge	149.54	340	*e*PKP1		PKPbc		22 18 12.2	-1.2
	comp=Z,41nm,1.0s								
GRR	Gorron	149.55	346	*e*PKP1		PKPbc		22 18 12.0	-1.4
	comp=Z,59nm,1.0s								
LPL	La Plagne	149.65	334	*e*PKP1		PKPbc		22 18 13.1	-0.6
	comp=Z,27nm,1.0s								
LPG	La Plagne	149.66	334	*e*PKP1		PKPbc		22 18 13.2	-0.6
	comp=Z,39nm,0.9s								
SMF	Signal de Mont	149.79	339	*e*PKP1		PKPbc		22 18 12.7	-1.3
	comp=Z,59nm,1.2s								
AVF	Avril sur Loir	149.83	340	*e*PKP1		PKPbc		22 18 12.6	-1.5
	comp=Z,23nm,1.1s								
SGMF	Saint Gilles	150.04	348	*e*PKP1		PKPbc		22 18 12.9	-1.7
	comp=Z,18nm,0.7s								
BNI	Bardonecchia	150.05	334	*e*PKPbc		PKPbc		22 18 14.8	+0.1
BNI	Bardonecchia	150.05	334	*e*PKP2		PKPbc		22 18 14.8	+0.1
ROSF	Rostrenen	150.10	349	*e*PKP1		PKPbc		22 18 13.0	-1.7
BGF	Bois d'Agland	150.20	340	*e*PKP1		PKPbc		22 18 13.6	-1.4
	comp=Z,59nm,1.2s								
MBDF	Montbartin	150.28	333	*e*PKP1		PKPbc		22 18 15.1	-0.2
	comp=Z,32nm,1.1s								
PLDF	La Plantade	150.46	338	PKP		PKPbc		22 18 15.9	+0.2
PLDF	La Plantade	150.46	338	PKIKP		PKPbc		22 18 15.9	+0.2
PLDF	La Plantade	150.46	338	PKP		PKPbc		22 18 15.9	+0.2
QUIF	Quistinic	150.48	349	*e*PKP1		PKPbc		22 18 13.6	-2.1
	comp=Z,14nm,0.7s								
ORIF	Oris-en-Rattie	150.49	335	*e*PKP1		PKPbc		22 18 14.7	-1.1
	comp=Z,40nm,0.9s								
TCF	Toulx Ste Croi	150.64	340	*e*PKP1		PKPbc		22 18 14.7	-1.4
	comp=Z,39nm,0.9s								
SSB	Saint Sauveur	150.71	337	*e*PKPbc		PKPbc		22 18 14.7	-1.6
SSB	Saint Sauveur	150.71	337	*e*PKIKP		PKPbc		22 18 14.7	-1.6
PYM	Petit Puy Mans	150.86	339	PKP		PKPbc		22 18 16.9	+0.3
PYM	Petit Puy Mans	150.86	339	PKIKP		PKPbc		22 18 16.9	+0.3
PYM	Petit Puy Mans	150.86	339	PKP		PKPbc		22 18 16.9	+0.3
PGF	Pioggiola	150.92	328	*e*PKP1		PKPbc		22 18 15.6	-1.3
	comp=Z,70nm,0.7s								
VIVF	Saint-Julien-l	151.02	336	*e*PKP1		PKPbc		22 18 16.6	-0.4
	comp=Z,63nm,1.2s								
MFF	Saint Martin d	151.04	344	*e*PKP1		PKPbc		22 18 15.5	-1.5
	comp=Z,44nm,1.0s								
LBL	Lubilhac	151.22	338	PKP		PKPbc		22 18 17.6	+0.1
LBL	Lubilhac	151.22	338	PKIKP		PKPbc		22 18 17.6	+0.1
LBL	Lubilhac	151.22	338	PKP		PKPbc		22 18 17.6	+0.1
FRF	La Foret Royal	151.26	332	*e*PKP1		PKPbc		22 18 16.8	-0.8
	comp=Z,106nm,1.4s								
SMRF	Simiane la Rot	151.39	334	*e*PKP1		PKPbc		22 18 17.2	-0.7
RJF	Les Rejaudoux	151.74	340	*e*PKP1		PKPbc		22 18 17.3	-1.4
	comp=Z,27nm,1.1s								
CAF	Calviac	151.90	339	*e*PKP1		PKPbc		22 18 18.0	-1.1
LASF	Ste Croix	151.99	336	*e*PKP1		PKPbc		22 18 18.2	-1.1
LFF	La Frestale	152.31	341	*e*PKP1		PKPbc		22 18 18.6	-1.4
ETSF	Etsaut	154.56	341	*e*PKP1		PKPbc		22 18 24.3	-0.7
ESDC	Sonseca Array	158.51	344	PKPab		PKPab		22 18 55.2	-1.3
	comp=Z,1.1nm,0.8s,baz=26,slow=3.7,SNR=7.2								
EVO	Evora	160.41	352	*e*PKP2		PKPab		22 19 04.0	-0.8
	comp=Z,10nm,1.0s								
TORD	Torodi Ar. Bea	166.05	247	PKP		PKPdf		22 18 28.4	-1.6
	comp=Z,1.8nm,1.0s,baz=301,slow=1.5,SNR=7.8								
TORD				PKPab		PKPab		22 19 29.7	-0.7
	comp=Z,3.7nm,0.9s,baz=93,slow=4.0,SNR=12								
TORD	Torodi Ar. Bea	166.05	247	PKP		PKPdf		22 18 28.4	-1.6
TORD				PKPab		PKPab		22 19 29.7	-0.7

IDC ***15*** *22:04:45.8±1.3, 19°.22S×169°.34E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/14, mbtmp3.9/6, MS3.9/2, Ms1 3.9/2, ms1mx3.1/26, Error ellipse: s-maj=37.5km s-min=36.0km az=131.0*

ISCJB ***15*** *22:04:47.8±6.0, 19°.3S±0°.1×169°.2E±0°.2, h19km±41km, mb3.8/6, MS3.8/2, Error ellipse: s-maj=29.7km s-min=11.9km az=34.2*

NOU ***15*** *22:04:49.5±0.9, 19°.83S×170°.07E, h30km, ML2.9*

ISC 15 22:04:49.0±5.9, 19°.3S±0°.1×169°.3E±0°.2, h17km±36km, n14, σ0§96/12, mb3.8/6, MS3.8/2, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
BAYA	Yate Dam	3.62	218	*e*P	Pn	22 05 44.4	0.0	
BAYA				*e*S	Sn	22 06 24.5	-2.2	
BAYA				AMP		22 06 42.8		
	comp=Z,14nm,0.0s							
NORM	Noumea	3.92	221	*e*S	Sn	22 06 33.9	-0.1	
NORM				AMP		22 06 38.9		
	comp=Z,334nm,1.9s							
NOUC	Port Laguerre	3.94	224	*e*S	Sn	22 06 36.3	+1.7	
NOUC				AMP		22 06 50.4		
	comp=Z,54nm,0.8s							
URZ	Urewera	20.10	162	LR	LR	22 15 32.2		
	comp=Z,220nm,20.4s,MS3.5,baz=159,slow=32							
WRA	Warramunga Arr	32.87	263	P	P	22 11 21.1	-1.2	
	comp=Z,0.3nm,0.5s,mb3.5,baz=101,slow=8.2,SNR=4.5							
ASAR	Alice Springs	33.14	256	P	P	22 11 25.1	+0.4	
	comp=Z,3.9nm,0.8s,mb4.4,baz=84,slow=8.7,SNR=19							
NWAO	Narrogin (SRO)	48.21	243	LR	LR	22 32 53.6		
	comp=Z,213nm,19.1s,MS4.1,baz=138,slow=35							
QSPA	South Pole Qui	70.77	180	P	P	22 16 04.6	+0.7	
	comp=Z,2.4nm,0.8s,mb4.2,baz=90,slow=1.2,SNR=7.4							
CMAR	Chiang Mai Arr	78.55	294	P	P	22 16 50.9	+0.9	
	comp=Z,0.6nm,0.9s,mb3.5,baz=128,slow=5.8,SNR=4.3							
SONM	Songino Array	87.27	323	P	P	22 17 34.8	+0.2	
	comp=Z,0.5nm,0.7s,mb3.9,baz=141,slow=4.8,SNR=3.1							
VNA3	Neumayer Olymp	89.70	180	*e*	P	22 17 46.0	+0.1	
VNA3				*e*		22 19 19.7		
VNA2	Neumayer--Watz	90.00	181	*e*	P	22 17 47.3	+0.1	
	baz=194,slow=4.0							
VNA2				*e*		22 19 21.5		
ILAR	Eielson Array	90.27	17	P	P	22 17 47.3	-1.1	
	comp=Z,0.2nm,0.6s,mb3.6,baz=239,slow=4.7,SNR=3.5							
GERES	GERESS Array B	144.55	332	PKP	PKPdf	22 24 21.9	-2.6	
	comp=Z,0.7nm,0.8s,baz=35,slow=3.6,SNR=3.4							

IDC 15 22:11:25.4±4.3, 4°.25N×123°.37E, h614km±73km, mb3.0/6, mb1 3.1/6, mb1mx2.7/22, mbtmp3.0/6, Error ellipse: s-maj=158.4km s-min=16.8km az=69.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
WRA	Warramunga Arr	26.35	156	P	P	22 16 14.7	-0.3	
	1.8nm,0.3s,baz=339,slow=9.7,SNR=36							
ASAR	Alice Springs	29.59	160	P	P	22 16 43.4	+0.4	
	0.8nm,0.4s,baz=340,slow=6.9,SNR=14							
SONM	Songino Array	45.81	344	P	P	22 18 54.3	+0.5	
	0.5nm,0.5s,baz=55,slow=8.9,SNR=3.2							
MKAR	Makanchi Array	55.25	327	P	P	22 20 02.3	+0.2	
	0.9nm,0.3s,baz=123,slow=7.7,SNR=40							
ZALV	Zalesovo Beam	58.64	334	P	P	22 20 25.0	-0.1	
	0.3nm,0.4s,baz=147,slow=8.1,SNR=2.7							
KURK	Kurchatov	59.53	329	P	P	22 20 30.8	-0.2	
	0.7nm,0.4s,baz=133,slow=6.3,SNR=5.8							
TORD	Torodi Ar. Bea	119.57	288	PKP	PKPdf	22 29 07.6	-0.1	
	0.2nm,0.8s,baz=76,slow=3.2,SNR=3.5							

NEIC ***15*** *22:24:40.6±3.7, 2°.53S×146°.21E, h64km±39km, mb4.3/2, Error ellipse: s-maj=36.6km s-min=20.8km az=122.0*

IDC ***15*** *22:24:40.6±6.1, 2°.49S×146°.09E, h54km±62km, mb3.6/8, mb1 3.9/9, mb1mx3.7/18, mbtmp3.7/9, ML3.2/1, MS3.4/1, Ms1 3.3/1, ms1mx2.3/26, Error ellipse: s-maj=43.7km s-min=29.4km az=120.0*

ISC 15 22:24:38.8±4.2, 2°.4S±0°.2×146°.0E±0°.2, h36km±46km, n26, σ0§81/23, mb4.0/8, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
PMG	Port Moresby	7.02	171	P	Pn	22 26 19.8	+0.6	
	2.5nm,0.3s,baz=4.7,slow=6.8,SNR=12							
PMG	Port Moresby	7.02	171	*e*Pn	Pn	22 26 18.6	-0.6	
WRAB	Tennant Creek	20.81	212	*e*P	P	22 29 17.2	-0.1	
	19nm,1.4s							
WB2	Warramunga Arr	20.82	212	*e*P	P	22 29 17.3	0.0	
WRA	Warramunga Arr	20.82	212	P	P	22 29 17.4	-0.1	
	1.8nm,0.5s,baz=33,slow=12,SNR=14							
WRA	Warramunga Arr	20.82	212	P	P	22 29 17.4	-0.1	
ASAR	Alice Springs	24.16	208	P	P	22 29 52.4	+0.6	
	2.3nm,0.8s,mb3.6,baz=38,slow=8.7,SNR=19							
ASAR	Alice Springs	24.16	208	P	P	22 29 52.4	+0.6	
FITZ	Fitzroy Crossi	25.35	231	P	P	22 30 02.8	0.0	
	1.7nm,0.7s,mb3.7,baz=24,slow=10.0,SNR=3.4							
FITZ	Fitzroy Crossi	25.35	231	P	P	22 30 02.8	0.0	
STKA	Stephens Creek	29.59	188	LR	LR	22 43 41.5		
	comp=Z,64nm,18.0s,baz=22,slow=39							
PSI	Prapat	47.38	276	P	P	22 33 09.0	-1.0	
	2.6nm,0.7s,mb4.3,baz=73,slow=11,SNR=3.9							
PSI	Prapat	47.38	276	P	P	22 33 09.0	-1.0	
CMAR	Chiang Mai Arr	50.77	296	P	P	22 33 36.9	+1.0	
	1.3nm,0.8s,mb3.9,baz=116,slow=6.2,SNR=8.9							
CMAR	Chiang Mai Arr	50.77	296	P	P	22 33 36.9	+1.0	
MKAR	Makanchi Array	74.15	320	P	P	22 36 12.7	+1.0	
	0.9nm,0.8s,mb3.8,baz=104,slow=6.1,SNR=5.4							
MKAR	Makanchi Array	74.15	320	P	P	22 36 12.7	+1.0	
ZALV	Zalesovo Beam	75.50	328	P	P	22 36 19.1	-0.2	
	1.9nm,0.8s,mb4.1,baz=125,slow=4.0,SNR=7.0							
ZALV	Zalesovo Beam	75.50	328	P	P	22 36 19.1	-0.2	
KURK	Kurchatov	77.79	323	P	P	22 36 33.1	+0.7	
	4.5nm,0.3s,mb4.9,baz=108,slow=5.9,SNR=4.2							
KURK	Kurchatov	77.79	323	*e*P	P	22 36 33.4	+1.0	
	4.0nm,1.0s,mb4.3							
EKS2	Erkin-Say

TKM2	**Tokmak 2**	**4.68**	**57**	P		**Pn**	**22 36 03.3**	**+1.0**
	SNR=7.1								
TKM2	**Tokmak 2**	**4.68**	**57**	⇓Pn		**Pn**	**22 36 02.5**	**+0.1**
	12nm,0.4s								
TKM2				⇓Lg			22 37 13.4		
	43nm,0.7s								
TKM2	**Tokmak 2**	**4.68**	**57**	*e*Pn		**Pn**	**22 36 02.7**	**+0.3**
ULHL	**Ulahol**	**4.84**	**67**	P		**Pn**	**22 36 03.8**	**-0.7**
	SNR=9.4								
KBL	**Kabul**	**6.01**	**190**	*e*Pn		**Pn**	**22 36 19.9**	**-0.8**
KBL				*e*S		**Sn**	**22 37 30.3**	**+0.7**
MK31	**Makanchi Array**	**10.76**	**50**	Pn		**Pn**	**22 37 24.4**	**-1.3**
	1.0nm,0.6s,baz=234,slow=14,SNR=16								
MK31	**Makanchi Array**	**10.76**	**50**	*e*Pn		**Pn**	**22 37 25.1**	**-0.6**
MKAR	**Makanchi Array**	**10.76**	**50**	Pn		**Pn**	**22 37 24.1**	**-1.6**
	0.3nm,0.3s,baz=234,slow=15,SNR=19								
MKAR				Lg			22 40 27.9		
	0.2nm,0.3s,baz=242,slow=27,SNR=3.1								
MKAR	**Makanchi Array**	**10.76**	**50**	Pn		**Pn**	**22 37 24.1**	**-1.6**
MKAR				Lg			22 40 27.9		
AB31	**Akbulak array**	**11.41**	**324**	P		**Pn**	**22 37 34.6**	**0.0**
	1.7nm,0.5s,baz=137,slow=14,SNR=44								
AB31				⇑S		**Sn**	**22 39 37.1**	**-4.8**
	1.3nm,0.3s,baz=130,slow=26,SNR=7.8								
ABKAR	**Akbulak array**	**11.41**	**324**	*e*Pn		**Pn**	**22 37 34.6**	**0.0**
	4.7nm,0.6s								
ABKAR				*e*S		**Sn**	**22 39 36.5**	**-5.5**
KURK	**Kurchatov**	**11.78**	**27**	Lg			22 40 58.5		
	0.2nm,0.3s,baz=211,slow=29,SNR=6.4								
AKTK	**Aktyubinsk**	**13.12**	**323**	Pn		**Pn**	**22 37 58.8**	**+0.8**
AKTK				Sn		**Sn**	**22 40 22.5**	**-1.4**
AKTO	**Aktyubinsk**	**13.12**	**323**	⇑Pn		**Pn**	**22 37 58.6**	**+0.6**
	0.8nm,0.9s								
AKTO				⇑S		**Sn**	**22 40 21.2**	**-2.7**
	2.3nm,1.6s								
AKTO	**Aktyubinsk**	**13.12**	**323**	Pn		**Pn**	**22 37 58.8**	**+0.8**
	0.5nm,0.3s,baz=133,slow=16,SNR=10								
AKTO				Sn		**Sn**	**22 40 22.5**	**-1.4**
	0.5nm,0.3s,baz=45,slow=20,SNR=6.1								
ZAA0	**Zalesovo Array**	**16.66**	**31**	*e*Pn		**Pn**	**22 38 46.2**	**+1.1**
ZALV	**Zalesovo Beam**	**16.66**	**31**	Pn		**Pn**	**22 38 43.4**	**-1.7**
	0.7nm,0.3s,baz=228,slow=12,SNR=18								
ZALV	**Zalesovo Beam**	**16.66**	**31**	Pn		**Pn**	**22 38 43.5**	**-1.7**
FINES	**FINESS Array B**	**33.90**	**323**	P		**P**	**22 41 35.5**	**+1.1**
	2.0nm,0.4s,mb4.4,baz=116,slow=9.6,SNR=18								
FINES				pP		pP	22 41 38.8	+1.4	
	3.2nm,0.6s,baz=119,slow=10,SNR=2.6								
FINES	**FINESS Array B**	**33.90**	**323**	P		**P**	**22 41 35.5**	**+1.1**
FINES				pP		pP	22 41 38.8	+1.4	
ARCES	**ARCESS Array B**	**37.26**	**336**	P		**P**	**22 42 04.5**	**+1.4**
	3.2nm,0.9s,mb4.2,baz=103,slow=7.7,SNR=6.0								
ARCES				pP		pP	22 42 07.4	+1.3	
	1.7nm,0.8s,baz=103,slow=8.8,SNR=1.3								
ARCES	**ARCESS Array B**	**37.26**	**336**	P		**P**	**22 42 04.5**	**+1.4**
ARCES				pP		pP	22 42 07.5	+1.3	
TORD	**Torodi Ar. Bea**	**65.30**	**266**	P		**P**	**22 45 33.2**	**-0.8**
	0.4nm,0.9s,mb3.5,baz=44,slow=4.5,SNR=4.8								
TORD	**Torodi Ar. Bea**	**65.30**	**266**	P		**P**	**22 45 33.2**	**-0.9**
WRA	**Warramunga Arr**	**84.59**	**122**	P		**P**	**22 47 21.8**	**-3.5**
	0.2nm,0.6s,mb3.4,baz=324,slow=4.5,SNR=3.0								
WRA	**Warramunga Arr**	**84.59**	**122**	P		**P**	**22 47 21.8**	**-3.6**

GUC 15 22:36:55.9±0.8, 23.00°S×70.17°W, h55km±16km, ML3.6, 2C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MECH	**Mejillones**	**0.27**	**248**	⇓*i*P		Pn	22 37 05.3	+0.1
MECH				*i* S		Sn	22 37 12.7	+0.7
MECH					AML	AML	22 37 19.8	
	comp=N,4μm,0.5s							
ANCH	**Antofagasta**	**0.71**	**198**	⇑*i*P		Pn	22 37 10.2	+0.2
ANCH				*i* S		Sn	22 37 20.3	0.0
ANCH					AML	AML	22 37 22.4	
	comp=E,3μm,0.1s							
MACH	**Maria Elena**	**0.89**	**26**	⇑*i*P		Pn	22 37 13.3	+1.0
MACH				*i* S		Sn	22 37 26.1	+1.8

MEX 15 22:54:48.6±0.8, 15.67°N×94.16°W, h66km±16km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCIG		**0.91**	**87**	*e*P		Pn	22 55 04.4	-1.3
PCIG				*e*S		Sn	22 55 16.4	-2.0
TGIG		**1.49**	**42**	*e*P		Pn	22 55 11.3	-2.0
TGIG				*i* S		Sn	22 55 30.3	-1.6
CMIG	**Matias Romero**	**1.58**	**334**	*e*P		Pn	22 55 13.3	-1.2
CMIG				*i* S		Sn	22 55 32.9	-1.1
SCX	**San Cristobal**	**1.81**	**54**	*e*P		Pn	22 55 17.5	-0.1
SCX				*e*S		Sn	22 55 37.4	-2.3
HUIG	**Huatulco**	**1.88**	**273**	*e*P		Pn	22 55 17.6	-0.9
HUIG				*i* S		Sn	22 55 38.9	-2.4
THIG		**1.98**	**112**	*e*P		Pn	22 55 18.0	-1.9
THIG				*i* S		Sn	22 55 42.8	-0.9
CCIG	**Comitan**	**2.04**	**72**	*e*P		Pn	22 55 19.1	-1.6
CCIG				*i* S		Sn	22 55 42.8	-2.4
VHO	**Vista Hermosa**	**2.84**	**300**	*i* P		Pn	22 55 29.9	-1.6
VHO				*i* S		Sn	22 56 03.8	-0.8
PNIG	**Pinotepa**	**3.88**	**281**	*e*P		Pn	22 55 44.8	-1.0
PNIG				*i* S		Sn	22 56 28.3	-1.8

IDC 15 22:57:56.1±21.0, 8.63S×154.19E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/15, mbtmp3.6/3, Error ellipse: s-maj=338.8km s-min=88.4km az=34.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.25**	**238**	P		P	23 02 54.0	-0.8
	2.0nm,0.9s,baz=61,slow=9.6,SNR=5.7							
ASAR	**Alice Springs**	**24.51**	**230**	P		P	23 03 19.3	+2.0
	0.6nm,0.9s,baz=52,slow=11,SNR=5.1							
STKA	**Stephens Creek**	**25.92**	**205**	P		P	23 03 29.0	-1.1
	2.9nm,0.8s,baz=26,slow=13,SNR=5.5							

ISCJB ***15*** *22:59:47.3±0.7, 32.15°N±0.02°×104.77°E±0.02°, h1km±4km, mb4.8/103, MS4.4/18, Error ellipse: s-maj=3.4km s-min=3.0km az=173.6*

IDC ***15*** *22:59:48.4±0.4, 32.10°N×104.70°E, h0km, mb4.5/31, mb1 4.6/34, mb1mx4.6/41, mbtmp4.5/34, ML4.2/3, MS4.2/12, Ms1 4.2/12, ms1mx3.8/54, Error ellipse: s-maj=11.6km s-min=9.6km az=34.0*

BJI ***15*** *22:59:49.0, 32.15°N×104.81°E, h11km, mB4.8/15, mb4.8/33, ML5.0/22, Ms5.0/56, Ms7 4.7/38*

NEIC ***15*** *22:59:50.5±0.1, 32.14°N×104.75°E, h10km, mb4.8/44, Error ellipse: s-maj=4.0km s-min=3.3km az=57.0*

NEIC Felt at Chengdu.

MOS ***15*** *22:59:51.1±0.9, 32.09°N×104.81°E, h30km, mb5.0/56, MS4.1/12, Error ellipse: s-maj=7.3km s-min=4.6km az=110.7*

GCMT ***15*** *22:59:52.2±0.3, 32.14°N×104.74°E, h29km±1km, MW5.0, Moment Tensor Solution. s16,c17; s57,c85; Moment tensor: Scale 10¹⁶Nm; Mrr 1.18±.20; Mθθ -2.13±.15; Mφφ 0.95±.14; Mrθ -0.11±.20; Mrφ 3.09±.11; Mθφ 0.34±.20; Best double couple: M₀ 3.50000×10¹⁶ NP1: φs 77.00000°, δ 83.00000°, λ 3.00000°. NP2: φs 346.00000°, δ 87.00000°, λ 172.00000°. Principal axes: T 2.9000, Plg8.0000°, Azm301.0000°; N 1.1600, Plg82.0000°, Azm143.0000°; P -4.0600, Plg3.0000°, Azm32.0000°; Data Used: IU II G IC.*

DJA ***15*** *22:59:59, 32.27N×104.78E, h81km, mb4.8/7*

ISC 15 22:59:49.9±0.7, 32.13N±0.02×104.75E±0.02, h6km±4km, n343, σ1°§10/369, mb4.7/103, MS4.4/18, 27C-14D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CD2	**Chengdu**	**1.48**	**215**	Pg		**Pg**	**23 00 18.0**	**-0.3**
CD2				Sg		**Sg**	**23 00 39.9**	**+2.3**
CD2				smax				
	comp=N,132μm,0.9s							
CD2				smax				
	comp=E,50μm,0.7s							
XAN	**Xi'an**	**3.99**	**60**	Pn		**Pn**	**23 00 52.6**	**+1.0**
XAN				Pg		**Pg**	**23 01 03.5**	**-2.9**
XAN				Sn		**Sn**	**23 01 38.8**	**+0.2**
XAN				Sg		**Sg**	**23 01 51.9**	**-6.1**
XAN				smax				
	comp=N,8μm,0.8s							
XAN				smax				
	comp=E,3μm,0.9s							
XAN				LR		LR		
	comp=N,19μm,7.4s							
XAN				LR		LR		
	comp=E,4μm,5.8s							
LZH	**Lanzhou**	**4.02**	**349**	*i* Pn		**Pn**	**23 00 54.0**	**+2.0**
LZH				Pg		**Pg**	**23 01 04.8**	**-2.1**
LZH				Sn		**Sn**	**23 01 39.4**	**0.0**
LZH				Sg		**Sg**	**23 01 53.8**	**-5.2**
LZH				smax				
	comp=N,8μm,0.6s							
LZH				LR		LR		
	comp=N,16μm,5.7s							
LZH				LR		LR		
	comp=E,42μm,7.3s							
LZH				LR		LR		
	comp=Z,17μm,5.9s							
ENH	**Enshi**	**4.46**	**113**	*e*Pn		**Pn**	**23 00 59.7**	**+1.5**
ENH				*e*Pg		**Pg**	**23 01 11.6**	**-3.9**
ENH				*e*Sg		**Sg**	**23 02 13.8**	**+0.5**
GYA	**Guiyang**	**5.89**	**163**	⇑*i*Pn		**Pn**	**23 01 18.5**	**+0.7**
GYA				Sn		**Sn**	**23 02 23.1**	**-2.6**
GYA				Sg		**Sg**	**23 02 57.1**	**-2.1**
GYA				smax				
	comp=N,3μm,1.1s							
GYA				smax				
	comp=E,3μm,0.7s							
GYA				LR		LR		
	comp=N,6μm,4.1s							
GYA				LR		LR		
	comp=E,3μm,4.7s							
GYA				LR		LR		
	comp=Z,6μm,4.6s							
KMI	**Kunming**	**7.20**	**195**	Pn		**Pn**	**23 01 37.1**	**+1.3**
KMI				Sn		**Sn**	**23 02 56.8**	**-1.1**
KMI				smax				
	comp=N,300nm,1.8s							
KMI				smax				
	comp=E,380nm,2.2s							
KMI				LR		LR		
	comp=N,6μm,8.1s							
KMI				LR		LR		
	comp=E,7μm,9.8s							
GTA	**Gaotai**	**8.29**	**332**	⇑P		**Pn**	**23 01 50.8**	**+0.1**
GTA				pP			23 01 54.8	
GTA				sP			23 01 56.8	
GTA				S		**Sn**	**23 03 26.9**	**+2.2**
GTA				sS			23 03 31.6	
GTA				pmax		pmax		
	comp=Z,7.0nm,1.0s							
GTA				pmax		pmax		
	comp=Z,75nm,4.0s							
GTA				LR		LR		
	comp=N,7μm,13.8s							
GTA				LR		LR		
	comp=E,9μm,13.3s							
GTA				LR		LR		
	comp=Z,3μm,9.7s							
WHN	**Wuhan**	**8.36**	**98**	⇓P		**Pn**	**23 01 49.8**	**-1.9**
WHN				S		**Sn**	**23 03 20.3**	**-6.2**
WHN				LR		LR		
	comp=N,51μm,6.9s							
WHN				LR		LR		
	comp=E,16μm,5.0s							
WHN				LR		LR		
	comp=Z,24μm,9.5s							
BTO	**Baotou**	**9.46**	**25**	*e*P		**Pn**	**23 02 06.8**	**0.0**
BTO				LR		LR		
	comp=N,2μm,8.2s							
HHC	**Hu-ho-hao-te**	**10.28**	**30**	*e*P		**Pn**	**23 02 18.8**	**+0.8**
HHC				PP			23 02 27.1	
HHC				S		**Sn**	**23 04 14.9**	**+1.4**
HHC				SS			23 04 27.9	
HHC				PcS		PcS	23 11 57.1	-1.9
HHC				ScS		ScS	23 15 28.9	-4.3
HHC				pmax		pmax		
	comp=Z,29nm,0.5s							
HHC				LR		LR		
	comp=N,3μm,8.7s							
HHC				LR		LR		
	comp=E,2μm,8.2s							
TIA	**Tai'an**	**11.03**	**65**	*e*P		**Pn**	**23 02 29.0**	**+0.8**
TIA				S		**Sn**	**23 04 31.0**	**-0.9**
TIA				LR		LR		
	comp=N,2μm,13.0s							
TIA				LR		LR		
	comp=E,3μm,10.3s							
TIA				LR		LR		
	comp=Z,3μm,9.3s							
GZH	**Guangzhou**	**11.79**	**138**	P		**Pn**	**23 02 34.8**	**-4.0**
GZH				S		**Sn**	**23 04 42.5**	**-8.2**
GZH				LR		LR		
	comp=N,1μm,3.2s							
GZH				LR		LR		
	comp=E,2μm,4.2s							
LSA	**Lhasa**	**11.93**	**262**	P		**Pn**	**23 02 42.8**	**+2.3**
LSA				pP			23 02 49.8	
LSA				pmax		pmax		
	comp=Z,30nm,0.8s							
LSA				LR		LR		
	comp=N,4μm,12.0s							
LSA				LR		LR		
	comp=E,2μm,8.0s							
LSA				LR		LR		
	comp=Z,930nm,8.0s							
LSA	**Lhasa**	**11.93**	**262**	*e*Pn		**Pn**	**23 02 42.2**	**+1.7**
	comp=Z,20nm,0.9s							
LSA	**Lhasa**	**11.93**	**262**	*e*P		**Pn**	**23 02 42.2**	**+1.7**
LSA				pmax		pmax		
	comp=Z,20nm,0.9s							
NJ2	**Nanjing**	**11.96**	**87**	*e*P		**Pn**	**23 02 45.8**	**+4.7**
NJ2				pP			23 02 50.3	
NJ2				sP			23 02 54.3	
NJ2				S		**Sn**	**23 04 58.6**	**+3.7**
NJ2				sS			23 05 05.5	
NJ2				pmax		pmax		
	comp=Z,20nm,0.5s							
NJ2				pmax		pmax		
	comp=Z,150nm,3.5s							
NJ2				LR		LR		
	comp=N,3μm,12.0s							
NJ2				LR		LR		
	comp=E,2μm,12.1s							
NJ2				LR		LR		
	comp=Z,2μm,12.6s							
BJT	**Baijiatuan**	**12.13**	**46**	*e*Pn		**Pn**	**23 02 44.5**	**+1.3**
	comp=Z,57nm,0.8s							
BJT	**Baijiatuan**	**12.13**	**46**	*e*P		**Pn**	**23 02 44.5**	**+1.2**
BJT				pmax		pmax		
	comp=Z,57nm,0.8s							
BJI	**Beijing**	**12.15**	**46**	P		**Pn**	**23 02 43.6**	**+0.1**
BJI				LR		LR		
	comp=N,4μm,14.9s							
BJI				LR		LR		
	comp=E,5μm,14.3s							
CHRT	**Chiangrai**	**13.00**	**201**	P		**Pn**	**23 02 57.5**	**+2.3**
	comp=E,105nm,1.5s							
SHL	**Shillong**	**13.03**	**243**	⇑*i*P		**Pn**	**23 02 56.5**	**+0.9**
SHL				*ex*		x	23 26 16.0	
QIZ	**Qiongzhong**	**13.83**	**159**	P		**Pn**	**23 03 13.9**	**+7.3**
QIZ				S		**Sn**	**23 05 42.5**	**+2.0**
QIZ				pmax		pmax		
	comp=Z,23nm,1.7s							
QIZ				pmax		pmax		
	comp=Z,85nm,4.9s							
QIZ				LR		LR		
	comp=N,2μm,10.2s							
QIZ				LR		LR		
	comp=E,3μm,13.4s							
QIZ				LR		LR		
	comp=Z,2μm,9.8s							
QIZ	**Qiongzhong**	**13.83**	**159**	*e*Pn		**Pn**	**23 03 05.8**	**-0.8**
	comp=Z,31nm,1.1s							
QZH	**Quanzhou**	**14.11**	**117**	*e*P		**Pn**	**23 03 10.9**	**+0.5**
QZH				S		**Sn**	**23 05 51.3**	**+3.9**
QZH				LR		LR		
	comp=N,6μm,7.8s							
QZH				LR		LR		
	comp=E,7μm,6.4s							
QZH				LR		LR		
	comp=Z,6μm,7.7s							
CHG	**Chiang Mai**	**14.25**	**203**	⇓P		**Pn**	**23 03 22.7**	**+10**
	comp=Z,17nm,0.9s							
CHTO	**Chiang Mai**	**14.25**	**203**	*e*Pn		**Pn**	**23 03 13.5**	**+1.1**
	comp=Z,14nm,0.8s							
CHTO	**Chiang Mai**	**14.25**	**203**	*e*P		**Pn**	**23 03 13.5**	**+1.1**
CHTO				pmax		pmax		
	comp=Z,14nm,0.8s							
CHTO	**Chiang Mai**	**14.25**	**203**	P		**Pn**	**23 03 18.3**	**+5.9**
	comp=Z,25nm,0.9s							
CM31	**Chiang Mai Arr**	**14.59**	**202**	*e*Pn		**Pn**	**23 03 17.0**	**+0.1**
	comp=Z,8.1nm,0.5s							
CMAR	**Chiang Mai Arr**	**14.59**	**202**	Pn		**Pn**	**23 03 17.2**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=11,slow=11,SNR=34							
CMAR				Lg			23 07 44.3	
	comp=Z,0.3nm,0.3s,baz=17,slow=25,SNR=2.5							
CMAR				LR		LR	23 09 46.5	
	comp=Z,270nm,20.9s,baz=19,slow=41							
CMAR	**Chiang Mai Arr**	**14.59**	**202**	Pn		**Pn**	**23 03 17.2**	**+0.3**
CMAR				Lg			23 07 44.3	
CMAR				LR		LR	23 09 46.5	
CMAR	**Chiang Mai Arr**	**14.59**	**202**	P		**Pn**	**23 03 17.3**	**+0.4**
CMAR				MLR		MLR		
	comp=Z,270nm,20.9s							
TAPN	**Taplejung**	**15.54**	**257**	*e*P		**Pn**	**23 03 28.6**	**-1.1**
	comp=Z,100nm,1.1s							
BDT	**Bhumibol Dam**	**15.71**	**201**	P		**Pn**	**23 03 27.0**	**-4.9**
	comp=Z,27nm,0.9s							
SONM	**Songino Array**	**15.74**	**4**	Pn		**Pn**	**23 03 31.9**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=184,slow=12,SNR=29							
SONM				Lg			23 08 07.1	
	comp=Z,0.3nm,0.3s,baz=183,slow=26,SNR=2.9							
SONM				LR		LR	23 10 29.4	
	comp=Z,972nm,19.0s,baz=184,slow=41							
SONM	**Songino Array**	**15.74**	**4**	Pn		**Pn**	**23 03 31.9**	**-0.2**
SONM				Lg			23 08 07.1	
SONM				LR		LR	23 10 29.4	
SONM	**Songino Array**	**15.74**	**4**	P		**Pn**	**23 03 31.9**	**-0.2**
SONM				pmax		pmax		
	comp=Z,1.0nm,0.3s							
SONM				MLR		MLR		
	comp=Z,972nm,19.0s							
ULN	**Ulaanbaatar**	**15.81**	**6**	*e*Pn		**Pn**	**23 03 33.5**	**+0.5**
	comp=Z,20nm,0.8s							
ULN				*e*S		**Sn**	**23 06 24.5**	**-4.1**
ULN	**Ulaanbaatar**	**15.81**	**6**	*e*P		**Pn**	**23 03 33.6**	**+0.5**
ULN				*e*S		**Sn**	**23 06 24.5**	**-4.1**
ULN				pmax		pmax		
	comp=Z,20nm,0.8s							
ULN	**Ulaanbaatar**	**15.81**	**6**	P		**Pn**	**23 03 33.7**	**+0.6**
	comp=Z,387nmcomp=Z,22nm,1.3s							
ODAN	**Odare**	**15.99**	**255**	*e*P		**Pn**	**23 03 33.5**	**-2.1**
	comp=Z,106nm,0.9s							
SSLB	**Suanglung**	**16.54**	**116**	*e*Pn		**Pn**	**23 03 44.0**	**+1.4**
	comp=Z,135nm,1.2s							
RAMN	**Ramite**	**16.61**	**257**	*e*P		**Pn**	**23 03 41.5**	**-2.0**
	comp=Z,148nm,1.1s							
NACB	**Ninganchiao**	**16.83**	**114**	*e*Pn		**Pn**	**23 03 48.7**	**+2.5**
	comp=Z,94nm,1.3s							
GUN	**Gumba**	**16.87**	**260**	*e*P		**Pn**	**23 03 45.7**	**-1.1**
	comp=Z,120nm,0.8s							
NST	**Nakhon Sawan**	**16.91**	**195**	P		**Pn**	**23 03 49.5**	**+2.2**
PKI	**Pulchoki**	**17.38**	**260**	*e*P		**Pn**	**23 03 51.4**	**-1.7**
	comp=Z,110nm,0.9s							
PKIN	**Phulchoki**	**17.39**	**260**	*e*P		**Pn**	**23 03 51.8**	**-1.4**
	comp=Z,68nm,0.6s							
KKN	**Kakani**	**17.41**	**261**	*e*P		**Pn**	**23 03 51.3**	**-2.2**
	comp=Z,58nm,0.7s							
DMN	**Daman**	**17.62**	**260**	*e*P		**Pn**	**23 03 53.7**	**-2.4**
	comp=Z,114nm,1.0s							
WMQ	**Urumqi**	**17.76**	**316**	P		**Pn**	**23 03 59.3**	**+1.5**
WMQ				pP		pP	23 04 02.8	+2.5
WMQ				sP		sP	23 04 06.3	+5.2
WMQ				PP			23 04 14.0	
WMQ				S		**Sn**	**23 07 15.3**	**-0.6**
WMQ				ScS		ScS	23 15 49.5	-1.7
WMQ				pmax		pmax		
	comp=Z,14nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,280nm,4.8s							
WMQ				LR		LR		
	comp=N,5μm,13.2s							
WMQ				LR		LR		
	comp=E,2μm,14.1s							
SNY	**Shenyang**	**17.86**	**52**	⇑P		**Pn**	**23 03 58.8**	**-0.1**
SNY				S		**Sn**	**23 07 16.6**	**-1.6**
SNY				pmax		pmax		
	comp=Z,9.0nm,0.7s							
SNY				pmax		pmax		
	comp=Z,190nm,6.5s							
SNY				LR		LR		
	comp=N,2μm,19.0s							
SNY				LR		LR		
	comp=E,710nm,20.4s							
GKN	**Gorkha**	**17.88**	**262**	*e*P		**Pn**	**23 03 57.4**	**-2.0**
	comp=E,90nm,0.9s							
ZAK	**Zakamensk**	**18.27**	**357**	*e*P		**Pn**	**23 04 04.0**	**+0.1**
ZAK				pmax		pmax		
	comp=Z,12nm,1.3s							
DANN	**Dangsing**	**18.52**	**264**	*e*P		**Pn**	**23 04 05.3**	**-1.9**
	comp=Z,47nm,0.6s							
KOLN	**Koldanda**	**18.83**	**262**	*e*P		**Pn**	**23 04 08.4**	**-2.5**
	comp=Z,121nm,0.9s							
TLY	**Talaya**	**19.55**	**358**	*e*P		**Pn**	**23 04 21.6**	**+2.1**
	comp=Z,23nm,1.3s							
TLY	**Talaya**	**19.55**	**358**	*e*P		**Pn**	**23 04 21.4**	**+1.9**
TLY				pmax		pmax		
	comp=Z,18nm,1.3s							
TLY				MLR		MLR		
	comp=Z,592nm,12.0s							
MOY	**Mondy**	**19.72**	**353**	*e*P		**Pn**	**23 04 22.7**	**+1.3**
MOY				pmax		pmax		
	comp=Z,43nm,1.8s							
KSRS	**Korea Array**	**19.74**	**68**	P		**Pn**	**23 04 21.1**	**-0.8**
	comp=Z,1.9nm,0.3s,baz=256,slow=10,SNR=52							
KSRS				S		**Sn**	**23 08 06.8**	**+3.0**
	comp=Z,0.2nm,0.3s,baz=253,slow=15,SNR=4.4							
KSRS				Lg			23 10 08.4	
	comp=Z,0.1nm,0.3s,baz=247,slow=27,SNR=2.5							
KSRS				LR		LR	23 12 26.2	
	comp=Z,478nm,18.3s,baz=263,slow=38							
KSRS	**Korea Array**	**19.74**	**68**	P		**Pn**	**23 04 21.1**	**-0.8**
KSRS				pmax		pmax		
	comp=Z,2.0nm,0.3s							
KSRS				MLR		MLR		
	comp=Z,478nm,18.3s							
NNT	**Nongplab**	**19.99**	**194**	P		**Pn**	**23 04 25.0**	**+0.1**
CN2	**Changchun**	**19.99**	**48**	*e*P		**Pn**	**23 04 24.3**	**-0.5**
CN2				*es*P		sP	23 04 32.9	+7.4
CN2				*e*S		**Sn**	**23 08 03.1**	**-6.7**
CN2				pmax		pmax		
	comp=Z,40nm,0.7s							
CN2				pmax		pmax		
	comp=Z,200nm,4.0s							
CN2				LR		LR		
	comp=N,900nm,15.0s							
CN2				LR		LR		
	comp=E,1μm,15.0s							
CN2				LR		LR		
	comp=Z,1μm,16.0s							
IRK	**Irkutsk**	**20.10**	**359**	⇓*i*P		**P**	**23 04 26.5**	**+2.3**
IRK				pmax		pmax		
	comp=Z,190nm,1.0s							
HIA	**Hailar**	**20.48**	**29**	*e*P		**P**	**23 04 29.9**	**+1.5**
	comp=Z,49nm,1.0s							
HIA	**Hailar**	**20.48**	**29**	*e*P		**P**	**23 04 29.9**	**+1.5**
HIA				pmax		pmax		
	comp=Z,49nm,1.0s							
JOW	**Kunigami**	**21.13**	**98**	P		**P**	**23 04 36.1**	**+0.5**
	comp=Z,23nm,0.4s,mb4.8,baz=197,slow=3.7,SNR=12							
JOW				LR		LR	23 12 32.1	
	comp=Z,564nm,20.8

MDJ sP sP 23 04 59.9 +1.8
MDJ S **S** **23 09 06.5 -0.2**
MDJ sS sS 23 09 11.6 +2.0
MDJ ScP ScP 23 12 23.1 -0.4
MDJ PcS PcS 23 12 24.4 +0.4
MDJ pmax pmax
comp=Z,11nm,1.0s,mb4.2
MDJ pmax pmax
comp=Z,21nm,2.6s,mb4.1
MDJ Mudanjiang 23.02 50 *e*P **P** **23 04 56.3 +0.6**
comp=Z,15nm,0.8s,mb4.5
AGRA Agra 23.77 265 *e*PKP **P** **23 05 03.6 +0.2**
AGRA AMb AMB 23 05 05.5
comp=Z,39nm,0.2s,mb5.5
NDI New Delhi 23.97 269 *e*PKP **P** **23 05 04.0 -1.2**
NDI *e*PKP 23 05 05.9
AYAN Aya Nagar 24.10 269 *e*PKP **P** **23 05 06.6 +0.2**
AYAN AMb AMB 23 05 12.9
comp=Z,30nm,0.9s,mb4.7
SONA Sohna 24.20 268 *e*PKP **P** **23 05 07.5 +0.2**
SONA AMb AMB 23 05 14.1
comp=Z,34nm,0.6s,mb4.9
BHGR Bahadurgarh 24.20 269 *ex* **P** **23 05 03.0 -4.4**
KSH Kashi 24.40 296 P **P** **23 05 12.4 +3.4**
KSH pP 23 05 16.6
KSH sP sP 23 05 19.4 +7.8
KSH PP 23 05 48.6
KSH PcP PcP 23 08 51.3 +3.1
KSH S **S** **23 09 30.3 +1.2**
KSH sS sS 23 09 37.3 +5.3
KSH SS 23 10 25.8
KSH ScP ScP 23 12 28.3 +0.9
KSH PcS PcS 23 12 29.9 +1.9
KSH ScS ScS 23 16 14.8 0.0
KSH pmax pmax
comp=Z,22nm,0.7s,mb4.7
KSH LR LR
comp=N,540nm,8.2s
KSH LR LR
comp=E,540nm,8.4s
KSH LR LR
comp=Z,1μm,11.1s,MS4.6
KHET Khetri 25.33 268 *e*PKP **P** **23 05 18.1 +0.5**
KHET AMb AMB 23 05 23.8
comp=Z,27nm,1.5s,mb4.5
TKM2 Tokmak 2 25.39 303 P **P** **23 05 19.4 +1.5**
SNR=19
TKM2 Tokmak 2 25.39 303 *e*P **P** **23 05 18.8 +0.9**
comp=Z,14nm,0.8s,mb4.6
TKM2 Tokmak 2 25.39 303 *e*P **P** **23 05 18.8 +0.8**
TKM2 pmax pmax
comp=Z,14nm,0.8s,mb4.5
KZA Kyzart 25.43 301 P **P** **23 05 20.4 +2.0**
SNR=19
BHPL Bhopal 25.71 257 *e*PKP **P** **23 05 20.8 -0.3**
KBK Karagaybulak 25.78 303 P **P** **23 05 23.4 +1.8**
SNR=25
ZAA0 Zalesovo Array 26.05 333 *e*P **P** **23 05 23.6 -0.2**
ZALV Zalesovo Beam 26.05 333 P **P** **23 05 23.6 -0.2**
comp=Z,8.8nm,0.5s,mb4.6,baz=135,slow=9.7,SNR=75
ZALV LR LR 23 16 15.1
comp=Z,329nm,19.9s,MS3.9,baz=309,slow=38
ZALV Zalesovo Beam 26.05 333 P **P** **23 05 23.6 -0.2**
ZALV LR LR 23 16 15.1
ZALV Zalesovo Beam 26.05 333 P **P** **23 05 23.6 -0.2**
ZALV pmax pmax
comp=Z,9.0nm,0.5s,mb4.6
ZALV MLR MLR
comp=Z,329nm,19.9s,MS3.9
FRU Bishkek 26.06 303 *e*P **P** **23 05 26.0 +1.9**
FRU *e* 23 05 59.0
FRU pmax pmax
comp=Z,40nm,2.0s,mb4.6
AAK Ala-Archa 26.10 302 LR LR 23 17 43.5
comp=Z,2μm,18.9s,MS4.6,baz=102,slow=41
AAK Ala-Archa 26.10 302 *e*P **P** **23 05 25.7 +1.2**
comp=Z,83nm,1.3s,mb5.1
AAK Ala-Archa 26.10 302 *e*P **P** **23 05 25.7 +1.3**
AAK pmax pmax
comp=Z,83nm,1.3s,mb5.1
USP Ospenovka 26.25 304 P **P** **23 05 26.8 +1.0**
SNR=20
KLR Kul'dur 26.46 42 *e*P **P** **23 05 24.6 -3.0**
KLR MLR MLR
comp=N,2μm,12.0s
KLR MLR MLR
comp=Z,4μm,12.0s,MS5.1
AML Almayashu 26.57 301 P **P** **23 05 30.9 +2.2**
SNR=11
EKS2 Erkin-Say 26.62 302 *e*P **P** **23 05 30.1 +0.9**
comp=Z,6.3nm,0.9s,mb4.2
EKS2 Erkin-Say 26.62 302 *e*P **P** **23 05 30.1 +1.0**
EKS2 pmax pmax
comp=Z,6.0nm,0.9s,mb4.1
KURK Kurchatov 26.77 322 P **P** **23 05 30.2 -0.2**
comp=Z,6.2nm,0.8s,mb4.2,baz=126,slow=9.6,SNR=48
KURK LR LR 23 15 32.0
comp=Z,582nm,18.7s,MS4.2,baz=120,slow=35
KURK Kurchatov 26.77 322 *e*P **P** **23 05 30.1 -0.3**
comp=Z,15nm,0.9s,mb4.5
KURK Kurchatov 26.77 322 *e*P **P** **23 05 30.1 -0.3**
KURK pmax pmax
comp=Z,15nm,0.9s,mb4.5
NVS Novosibirsk 27.34 332 *e*P **P** **23 05 37.3 +1.9**
NVS *e*S **S** **23 10 12.1 -3.3**
NVS pmax pmax
comp=Z,32nm,2.0s,mb4.5
NVS pmax pmax
comp=E,11nm,1.3s
NVS smax
comp=E,38nm,2.6s
IPM Ipoh 27.73 188 P sP 23 05 49.2 +7.4
HYB Hyderabad 27.84 245 *i* P **P** **23 05 43.0 +2.7**
MAJO Matsushiro 27.89 72 *e*P **P** **23 05 39.3 -1.4**
comp=E,5.6nm,0.7s,mb4.3
MAJO Matsushiro 27.89 72 *e*P **P** **23 05 39.3 -1.3**
MAJO pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
MAT Matsushiro 27.89 72 P **P** **23 05 38.9 -1.7**
MJAR Matsushiro Arr 27.89 72 P **P** **23 05 39.4 -1.3**
comp=Z,3.1nm,0.7s,mb4.0,baz=273,slow=11,SNR=16
MJAR LR LR 23 15 43.5
comp=Z,269nm,20.2s,MS3.8,baz=260,slow=34
MJAR Matsushiro Arr 27.89 72 P **P** **23 05 39.4 -1.3**
MJAR LR LR 23 15 43.5
MJAR Matsushiro Arr 27.89 72 P **P** **23 05 39.4 -1.3**
MJAR pmax pmax
comp=Z,3.0nm,0.7s
MJAR MLR MLR
comp=Z,269nm,20.2s
KKM Kota Kinabalu 28.08 155 *e*P **P** **23 05 42.4 0.0**
comp=Z,32nm,1.2s,mb4.8
KKAR Karatay Array 29.06 302 *e*P **P** **23 05 51.4 +0.4**
comp=Z,2.3nm,0.5s,mb4.2
KKAR Karatay Array 29.06 302 *e*P **P** **23 05 51.4 +0.4**
KKAR pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
TSI Tuntungan 29.07 193 P **P** **23 05 53.8 +2.6**
comp=Z,91nm,0.9s,mb5.5
JHJ Hachijo jima 2 29.45 79 LR LR 23 17 40.8
comp=Z,483nm,20.1s,MS4.1,baz=272,slow=36
PSI Prapat 29.68 192 P **P** **23 05 56.9 +0.2**
comp=Z,12nm,0.7s,mb4.7,baz=360,slow=10,SNR=16
PSI Prapat 29.68 192 P **P** **23 05 56.9 +0.2**
PSI pmax pmax
comp=Z,12nm,0.7s,mb4.7
PSI Prapat 29.68 192 P **P** **23 05 57.1 +0.4**
comp=Z,20nm,1.0s,mb4.8
MYLDM Lahad Datu 29.74 151 P **P** **23 06 00.1 +2.9**
comp=Z,42nm,1.5s,mb4.9
KBL Kabul 29.83 284 *e*P **P** **23 05 59.0 +1.1**
comp=Z,16nm,1.0s,mb4.7
KBL Kabul 29.83 284 *e*P **P** **23 05 59.0 +1.1**
KBL pmax pmax
comp=Z,16nm,1.0s,mb4.7
SBUM Sibu 30.35 165 P **P** **23 06 04.8 +2.2**
ASAJ Asahikawa 31.82 57 P **P** **23 06 14.3 -1.0**
comp=Z,6.7nm,1.0s,mb4.4,baz=258,slow=9.3,SNR=4.7
ASAJ LR LR 23 18 35.6
comp=Z,365nm,19.2s,MS4.1,baz=287,slow=35
ASAJ Asahikawa 31.82 57 P **P** **23 06 14.4 -0.9**
ASAJ pmax pmax
comp=Z,7.0nm,1.0s
ASAJ MLR MLR
comp=Z,365nm,19.2s

BKNI Bangkinang 31.83 187 P **P** **23 06 24.7 +9.1**
BRVK Borovoye 32.41 320 *e*P **P** **23 06 21.1 +0.7**
comp=Z,4.4nm,0.6s,mb4.5
BRVK Borovoye 32.41 320↓ *e*P **P** **23 06 20.4 0.0**
BRVK pmax pmax
comp=Z,14nm,1.9s,mb4.5
YSS Yuzh-Sakhalins 32.48 52 *e*P **P** **23 06 21.7 +0.6**
YSS MLR MLR
comp=N,500nm,15.0s
YSS MLR MLR
comp=Z,500nm,15.0s,MS4.3
CBIJ Chichi jima 32.82 89 LR LR 23 18 39.3
comp=Z,315nm,18.8s,MS4.0,baz=300,slow=34
YAK Yakutsk 33.95 21 *e*P **P** **23 06 34.0 +0.3**
comp=Z,39nm,0.8s,mb5.4
YAK Yakutsk 33.95 21 *e*P **P** **23 06 33.0 -0.8**
YAK pmax pmax
comp=Z,28nm,0.9s,mb5.2
YAK MLR MLR
comp=N,222nm,12.0s,MS4.4
YAK MLR MLR
comp=E,316nm,11.0s,MS4.4
YAK MLR MLR
comp=Z,388nm,12.0s,MS4.3
ABKAR Akbulak array 37.41 311 *e*P **P** **23 07 03.8 +0.2**
comp=Z,7.4nm,0.5s,mb4.8
ABKAR *e*PP PP 23 08 32.8 +4.0
AKTK Aktyubinsk 38.85 312 P **P** **23 07 16.3 +0.6**
AKTO Aktyubinsk 38.85 312 P **P** **23 07 16.3 +0.6**
comp=Z,4.2nm,0.5s,mb4.4,baz=88,slow=10,SNR=22
AKTO Aktyubinsk 38.85 312 P **P** **23 07 16.3 +0.6**
AKTO pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
SVE Sverdlovsk 39.01 323 *e*P **P** **23 07 17.6 +0.6**
SVE pmax pmax
comp=Z,20nm,0.8s,mb4.9
SVE MLR MLR
comp=Z,384nm,13.0s,MS4.4
ARU Arti 39.97 321 *e*P **P** **23 07 25.2 +0.3**
comp=Z,20nm,0.6s,mb5.0
ARU Arti 39.97 321 *d i*P **P** **23 07 24.7 -0.3**
ARU *e* 23 08 57.4
ARU PPP 23 09 19.9
ARU S **S** **23 13 29.2 -1.3**
ARU SS SS 23 16 19.0 -7.9
ARU pmax pmax
comp=Z,19nm,0.6s,mb5.0
SOKR Solikamsk 41.86 325 *d i*P **P** **23 07 41.2 +0.7**
SOKR pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
SOKR MLR MLR
comp=Z,310nm,15.0s,MS4.3
PETK Petropavlovsk- 43.08 45 P **P** **23 07 50.5 0.0**
comp=Z,4.0nm,0.6s,mb4.3,baz=225,slow=5.9,SNR=4.6
PETK Petropavlovsk- 43.08 45 P **P** **23 07 50.5 0.0**
PETK Petropavlovsk- 43.08 45 P **P** **23 07 50.5 0.0**
PETK pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
PET Petropavlovsk 43.64 45 *e*P **P** **23 07 56.0 +1.0**
PET pmax pmax
comp=Z,18nm,1.0s,mb4.8
GNI Garni 48.31 297 *e*P **P** **23 08 32.1 0.0**
comp=Z,13nm,1.3s,mb4.8
GNI Garni 48.31 297 *e*P **P** **23 08 32.1 0.0**
GNI pmax pmax
comp=Z,13nm,1.3s
ZEI Tsey 48.52 301 *e*P **P** **23 08 33.5 -0.1**
ZEI pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
KIV Kislovodsk 49.22 303 *e*P **P** **23 08 39.7 +0.7**
comp=Z,12nm,0.9s,mb4.9
KIV Kislovodsk 49.22 303↓ *e*P **P** **23 08 39.6 +0.6**
KIV *e*S **S** **23 15 42.1 -3.0**
KIV pmax pmax
comp=Z,29nm,1.4s,mb5.1
VRHR Novokhopersk 49.26 312 *e*P **P** **23 08 38.5 -0.7**
VRHR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
VRHR pmax pmax
comp=N,1.0nm,0.4s
VRHR pmax pmax
comp=E,10.0nm,0.8s
BILL Bilibino 50.02 26 *e*P **P** **23 08 44.6 -0.1**
comp=E,6.2nm,0.4s,mb5.0
BILL Bilibino 50.02 26↓ *e*P **P** **23 08 44.5 -0.2**
BILL *e* 23 08 55.9
BILL pmax pmax
comp=Z,28nm,2.5s,mb4.8
KLMR Klimovskoe 50.54 325 *e*P **P** **23 08 44.5 -4.3**
KLMR pmax pmax
comp=Z,34nm,1.0s,mb5.2
VSR Storozhevoye 50.80 312 *e*P **P** **23 08 50.5 -0.4**
VSR pmax pmax
comp=N,7.0nm,0.8s
VSR pmax pmax
comp=E,8.0nm,0.8s
VSR pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
OBN Obninsk 52.09 317 *e*P **P** **23 09 01.4 +0.9**
OBN *e* 23 10 56.2
OBN pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
ANN Anapa 52.80 304 *e*P **P** **23 09 05.4 -0.5**
ANN *e*S **S** **23 16 36.0 +1.3**
ANN pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
LVZ Lovozero 53.19 334 *e*P **P** **23 09 08.3 -0.1**
LVZ Lovozero 53.19 334 *e*P **P** **23 09 08.3 -0.1**
APA Apatity 53.64 333↑ *e*P **P** **23 09 11.0 -0.8**
APA MLR MLR
comp=Z,1μm,12.0s,MS5.2
FITZ Fitzroy Crossi 53.81 155 *e*P **P** **23 09 13.1 -0.5**
comp=Z,6.6nm,0.6s,mb4.7
FITZ Fitzroy Crossi 53.81 155 *e*P **P** **23 09 13.2 -0.3**
comp=Z,6.0nm,0.9s,mb4.5
JOF Joensuu 54.46 327 *e*P **P** **23 09 15.9 -1.9**
JOF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
JOF Joensuu 54.46 327 *ep* **P** **23 09 15.9 -1.9**
comp=Z,6.7nm,0.7s,mb4.7
SIM Simferopol' 55.08 305 P **P** **23 09 22.6 0.0**
SIM S **S** **23 17 18.5 +13**
SIM pmax pmax
comp=Z,14nm,0.7s,mb5.1
SIM MLR MLR
comp=Z,280nm,18.0s,MS4.4
KEV Kevo 56.02 336 *e*P **P** **23 09 27.6 -1.4**
KEV pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
KEV Kevo 56.02 336 *ep* **P** **23 09 27.6 -1.4**
comp=Z,9.5nm,0.7s,mb4.9
ARCES ARCESS Array B 56.55 336 P **P** **23 09 32.2 -0.6**
comp=Z,5.2nm,0.7s,mb4.7,baz=88,slow=8.6,SNR=21
ARCES ARCESS Array B 56.55 336 P **P** **23 09 32.2 -0.6**
ARCES ARCESS Array B 56.55 336 P **P** **23 09 32.2 -0.6**
ARCES pmax pmax
comp=Z,5.0nm,0.7s
BR131 Keskin Array S 56.72 299 *e*P **P** **23 09 34.6 +0.2**
comp=Z,1.1nm,0.6s,mb4.1
BRTR Keskin Array B 56.72 299 P **P** **23 09 34.2 -0.2**
comp=Z,1.7nm,0.8s,mb4.1,baz=91,slow=5.8,SNR=11
BRTR Keskin Array B 56.72 299 P **P** **23 09 34.2 -0.2**
BRTR Keskin Array B 56.72 299 P **P** **23 09 34.2 -0.2**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
KAF Kangasniemi 56.84 327 *e*P **P** **23 09 32.8 -2.1**
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
KAF Kangasniemi 56.84 327 *ep* **P** **23 09 32.8 -2.1**
comp=Z,4.9nm,0.6s,mb4.7
FINES FINESS Array B 57.03 326 P **P** **23 09 35.7 -0.6**
comp=Z,13nm,0.8s,mb5.0,baz=101,slow=7.5,SNR=65
FINES FINESS Array B 57.03 326 P **P** **23 09 35.7 -0.6**
FINES FINESS Array B 57.03 326 P **P** **23 09 35.7 -0.6**
FINES pmax pmax
comp=Z,13nm,0.8s
AKASG Malin Array Be 57.09 313 P **P** **23 09 36.0 -0.9**
comp=Z,4.8nm,0.6s,mb4.7,baz=69,slow=6.5,SNR=10
AKASG Malin Array Be 57.09 313 P **P** **23 09 36.0 -0.9**
AKASG Malin Array Be 57.09 313 P **P** **23 09 36.0 -0.9**
AKASG pmax pmax
comp=Z,5.0nm,0.6s
KIEV Kiev 57.10 313 *e*P **P** **23 09 35.9 -1.1**
comp=Z,3.8nm,0.7s,mb4.5
KIEV Kiev 57.10 313 *e*P **P** **23 09 35.9 -1.1**
KIEV pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
MMAI Mount Meron Ar 57.42 291 P **P** **23 09 39.5 -0.1**
comp=Z,1.1nm,0.7s,mb4.0,baz=90,slow=5.8,SNR=3.5
SPITS Spitsbergen Ar 58.48 346 P **P** **23 09 46.6 +0.3**
comp=Z,5.1nm,0.7s,mb4.7,baz=62,slow=9.1,SNR=4.0
SPITS Spitsbergen Ar 58.48 346 P **P** **23 09 46.6 +0.3**
SPITS Spitsbergen Ar 58.48 346 P **P** **23 09 46.6 +0.3**
SPITS pmax pmax
comp=Z,5.0nm,0.7s
TLCR 58.66 307↑ P **P** **23 09 48.8 +0.7**
TLCR 58.66 307↑ *i*P **P** **23 09 48.8 +0.7**
COEN Coen 58.77 135 *e*P **P** **23 09 48.9 -0.2**
comp=Z,39nm,0.6s,mb5.6
COEN Coen 58.77 135 *e*P **P** **23 09 49.1 0.0**
comp=Z,68nm,0.8s,mb5.7
WRAB Tennant Creek 59.02 147 *e*P **P** **23 09 50.7 0.0**
comp=Z,14nm,0.6s,mb5.2
WRAB Tennant Creek 59.02 147 *e*P **P** **23 09 50.7 0.0**
WRAB pmax pmax
comp=Z,14nm,0.6s,mb5.2
WRA Warramunga Arr 59.03 147 P **P** **23 09 50.5 -0.2**
comp=Z,8.1nm,0.5s,mb5.0,baz=340,slow=7.3,SNR=46
WRA Warramunga Arr 59.03 147 P **P** **23 09 50.5 -0.2**
WRA Warramunga Arr 59.03 147 P **P** **23 09 50.5 -0.3**
WRA pmax pmax
comp=Z,8.0nm,0.5s
WB2 Warramunga Arr 59.03 147 *e*P **P** **23 09 50.7 -0.1**
TIRR Tirgusor 59.14 306↑ P **P** **23 09 51.8 +0.4**
TIRR Tirgusor 59.14 306↑ *i*P **P** **23 09 51.8 +0.4**
GHRR 59.38 308↓ *i*P **P** **23 09 50.9 -2.1**
TESR 59.76 309↓ *i*P **P** **23 09 55.5 -0.1**
VRI Vrincioaia 59.89 308↑ P **P** **23 09 57.4 +0.9**
VRI Vrincioaia 59.89 308↑ *i*P **P** **23 09 57.4 +0.9**
PLOR Plostina 59.95 308↑ P **P** **23 09 57.9 +1.0**
PLOR Plostina 59.95 308↑ *i*P **P** **23 09 57.9 +1.0**
ISR Istrita 60.23 307↑ P **P** **23 10 00.7 +1.8**
ISR Istrita 60.23 307↑ *i*P **P** **23 10 00.7 +1.8**
BURAR Bucovina Array 60.39 310↑ P **P** **23 10 00.4 +0.5**
BURAR Bucovina Array 60.39 310↑ *i*P **P** **23 10 00.3 +0.4**
BUR08 Bucovina Ar. S 60.40 310 *e*P **P** **23 10 00.4 +0.4**
MLR Muntele Rosu 60.52 308↑ P **P** **23 10 02.2 +1.3**
MLR Muntele Rosu 60.52 308↑ *i*P **P** **23 10 02.2 +1.3**
LVV L'vov 60.53 313 *e*P **P** **23 10 00.0 -0.9**
KWP Kalwaria Pacla 61.41 313 *e*P **P** **23 10 07.3 +0.4**
comp=Z,32nm,1.0s,mb5.4
KWP Kalwaria Pacla 61.41 313 *e*P **P** **23 10 07.3 +0.5**
KWP pmax pmax
comp=Z,32nm,1.0s,mb5.4
KWP Kalwaria Pacla 61.41 313↑ *i*P **P** **23 10 07.7 +0.9**
TRPA Tarpa 61.97 311↑ *i*P **P** **23 10 11.3 +0.7**
UZH Uzhgorod 61.97 312 *e*P **P** **23 10 10.6 0.0**
UZH *e* 23 10 21.2
ASAR Alice Springs 62.09 150 P **P** **23 10 11.6 -0.1**
comp=Z,2.9nm,0.5s,mb4.7,baz=334,slow=6.6,SNR=50
ASAR Alice Springs 62.09 150 P **P** **23 10 11.6 -0.1**
ASAR Alice Springs 62.09 150 P **P** **23 10 11.6 0.0**
ASAR pmax pmax
comp=Z,3.0nm,0.5s
DRGR 62.27 310↑ P **P** **23 10 13.1 +0.4**
DRGR 62.27 310↑ *i*P **P** **23 10 13.1 +0.4**
KECS Kecovo 63.16 312 *e*P **P** **23 10 19.7 +1.2**
KECS pmax pmax
comp=Z,2.0nm,1.3s,mb4.1
KECS Kecovo 63.16 312 *e*P **P** **23 10 19.7 +1.2**
VTS Vitosha 63.32 305↓ P **P** **23 10 19.5 -0.2**
VTS Vitosha 63.32 305↓ *i*P **P** **23 10 19.5 -0.2**
BZS Buzias 63.37 309↑ P **P** **23 10 20.2 +0.2**
BZS Buzias 63.37 309↑ *i*P **P** **23 10 20.2 +0.2**
PSZ Piszkesteto 63.72 312↓ P Px 23 10 32.4
PSZ Piszkesteto 63.72 312↓ *i*P **P** **23 10 32.4 +10**
NB2 NORSAR Subarra 64.09 327 P **P** **23 10 23.3 -1.2**
comp=Z,4.6nm,0.7s,mb4.6,baz=75,slow=6.9
NOA NORSAR Array B 64.09 327 P **P** **23 10 23.3 -1.2**
comp=Z,6.3nm,0.8s,mb4.7,baz=72,slow=6.5,SNR=9.2
NOA NORSAR Array B 64.09 327 P **P** **23 10 23.3 -1.2**
NOA NORSAR Array B 64.09 327 P **P** **23 10 23.3 -1.2**
NOA pmax pmax
comp=Z,6.0nm,0.8s
OKC Ostrava-Krasne 64.16 314 *e*P **P** **23 10 23.9 -1.2**
OKC Ostrava-Krasne 64.16 314 *e*P **P** **23 10 23.9 -1.2**
VYHS Vyhne 64.19 313 *e*P **P** **23 10 25.4 0.0**
VYHS Vyhne 64.19 313 *e*P **P** **23 10 25.3 -0.1**
KOLL Kolacno 64.43 313 *e*P **P** **23 10 26.9 0.0**
KOLL Kolacno 64.43 313 *e*P **P** **23 10 26.9 0.0**
DPC Dobruska-Polom 65.08 315 *e*P **P** **23 10 31.7 +0.5**
DPC Dobruska-Polom 65.08 315 *e*P **P** **23 10 31.7 +0.5**
PKSM Moragy 65.11 310↑ P **P** **23 10 31.6 +0.2**
PKSM Moragy 65.11 310↑ *i*P **P** **23 10 31.6 +0.2**
UPC Upice 65.21 315 *e*P **P** **23 10 36.2 +4.2**
UPC Upice 65.21 315 *e*P **P** **23 10 36.2 +4.2**
ZST Bratislava 65.38 313 *e*P **P** **23 10 33.0 -0.1**
ZST Bratislava 65.38 313 *e*P **P** **23 10 33.0 -0.1**
CTA Charters Tower 65.39 137 P **P** **23 10 31.7 -1.8**
comp=Z,2.3nm,0.5s,mb4.5,baz=350,slow=3.9,SNR=4.7
CTA Charters Tower 65.39 137 P **P** **23 10 31.7 -1.8**
CTA Charters Tower 65.39 137 P **P** **23 10 31.7 -1.7**
CTA pmax pmax
comp=Z,2.0nm,0.5s
NWAO Narrogin (SRO) 65.77 168 P **P** **23 10 34.6 -1.0**
comp=Z,6.0nm,0.5s,mb4.9,baz=358,slow=7.6,SNR=9.3
NWAO Narrogin (SRO) 65.77 168 P **P** **23 10 34.6 -1.0**
NWAO Narrogin (SRO) 65.77 168 P **P** **23 10 34.7 -1.0**
NWAO pmax pmax
comp=Z,6.0nm,0.5s
PRU Pruhonice 66.28 315 *e*P **P** **23 10 43.2 +4.3**
PRU Pruhonice 66.28 315 *e*P **P** **23 10 43.2 +4.3**
COLD Coldfoot 66.31 24 *e*P **P** **23 10 38.8 0.0**
comp=Z,6.7nm,0.8s,mb4.7
CLL Collm 66.68 317 *e*P **P** **23 10 43.0 +1.5**
CLL *e* 23 10 49.0
CLL Collm 66.68 317 *e*P **P** **23 10 43.0 +1.5**
CLL *e*(sP) sP 23 10 49.0 +4.9
GERES GERESS Array B 67.22 314 P **P** **23 10 44.4 -0.6**
comp=Z,2.3nm,0.9s,mb4.2,baz=76,slow=4.1,SNR=7.2
GERES GERESS Array B 67.22 314 P **P** **23 10 44.4 -0.6**
GERES GERESS Array B 67.22 314 P **P** **23 10 44.4 -0.6**
GERES pmax pmax
comp=Z,2.0nm,0.9s
BPAW Bear Paw Mtn. 67.44 27 *e*P **P** **23 10 46.1 0.0**
comp=Z,8.6nm,0.8s,mb4.8
PPLA Purkeypile 67.50 29 *e*P **P** **23 10 46.5 +0.1**
comp=Z,15nm,0.6s,mb5.2
TRF Thorofare Moun 68.02 28 *e*P **P** **23 10 49.8 +0.1**
comp=Z,6.8nm,0.8s,mb4.7
COLA College 68.27 26 *e*P **P** **23 10 51.1 -0.2**
comp=Z,11nm,0.9s,mb4.9
COLA College 68.27 26 *e*P **P** **23 10 51.1 -0.1**
COLA pmax pmax
comp=Z,11nm,0.9s,mb4.9
RSO Redoubt South 68.36 31 *e*P **P** **23 10 52.7 +0.8**
comp=Z,26nm,0.8s,mb5.3
MCK McKinley 68.41 27 *e*P **P** **23 10 51.8 -0.4**
comp=Z,5.1nm,0.7s,mb4.7
MCK McKinley 68.41 27 *e*P **P** **23 10 51.8 -0.4**
MCK pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
ILAR Eielson Array 68.68 26 P **P** **23 10 52.1 -1.7**
comp=Z,1.2nm,0.6s,mb4.0,baz=290,slow=5.4,SNR=21
ILAR Eielson Array 68.68 26 P **P** **23 10 52.1 -1.7**
ILAR Eielson Array 68.68 26 P **P** **23 10 52.1 -1.7**
ILAR pmax pmax
comp=Z,1.0nm,0.6s
PMR Palmer 69.38 29 *e*P **P** **23 10 57.5 -0.7**
comp=Z,12nm,0.6s,mb5.0
PMR Palmer 69.38 29 *e*P **P** **23 10 57.6 -0.6**
PMR pmax pmax
comp=Z,12nm,0.6s,mb5.0
QLP Quilpie 69.46 143 *e*P **P** **23 10 59.3 +0.2**
SML Sawmill 69.60 29 *e*P **P** **23 10 59.2 -0.4**
comp=Z,3.5nm,0.7s,mb4.4
SML Sawmill 69.60 29 *e*P **P** **23 10 59.3 -0.3**
SML pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
KDAK Kodiak Island 69.68 34 P **P** **23 10 58.8 -1.4**
comp=Z,14nm,0.8s,mb4.9,baz=314,slow=7.6,SNR=10
KDAK Kodiak Island 69.68 34 P **P** **23 10 58.8 -1.4**
KDAK Kodiak Island 69.68 34 P **P** **23 10 58.8 -1.4**
KDAK pmax pmax
comp=Z,14nm,0.8s,mb4.9
PAX Paxson 70.15 27 *e*P **P** **23 11 02.3 -0.7**
comp=Z,4.1nm,0.7s,mb4.5
PAX Paxson 70.15 27 *e*P **P** **23 11 02.3 -0.6**
PAX pmax pmax
comp=Z,4.0nm,0.7s,mb4.5

DOT	**Dot Lake**	**70.32**	**26**	*e*P		**P**		**23 11 02.9**	**-1.1**
	comp=Z,13nm,0.6s,mb5.0									
DAVOX	**Davos/Dischmat**	**70.43**	**313**	P		**P**		**23 11 04.7**	**-0.2**
	comp=Z,7.7nm,0.9s,mb4.6,baz=76,slow=8.0,SNR=6.4									
DAVOX	**Davos/Dischmat**	**70.43**	**313**	P		**P**		**23 11 04.7**	**-0.2**
DAVOX	**Davos/Dischmat**	**70.43**	**313**	P		**P**		**23 11 04.7**	**-0.2**
EGAK	**Eagle**	**70.74**	**24**	*e*P		**P**		**23 11 05.8**	**-0.7**
	comp=Z,3.9nm,0.7s,mb4.5									
INK	**Inuvik**	**71.01**	**20**	P		**P**		**23 11 07.7**	**-0.5**
	comp=Z,7.7nm,0.8s,mb4.7,baz=330,slow=5.5,SNR=25									
INK	**Inuvik**	**71.01**	**20**	*e*P		**P**		**23 11 07.0**	**-1.1**
	comp=Z,7.9nm,0.8s,mb4.7									
INK	**Inuvik**	**71.01**	**20**	P		**P**		**23 11 07.7**	**-0.4**
INK				pmax	pmax					
	comp=Z,8.0nm,0.8s									
CDF	**Champ du Feu**	**71.27**	**316**	*e*P		**P**		**23 11 09.5**	**-0.5**
	comp=Z,20nm,1.2s,mb4.6									
WLF	**Walferdange**	**71.34**	**317**	P		**P**		**23 11 13.9**	**+3.5**
BMRM	**Bremner River**	**71.57**	**29**	*e*P		**P**		**23 11 11.6**	**-0.1**
	comp=Z,18nm,0.9s,mb5.0									
KMBO	**Kilima Mbogo**	**71.68**	**257**	*e*P		**P**		**23 11 13.8**	**+0.8**
	comp=Z,7.1nm,1.0s,mb4.5									
KMBO	**Kilima Mbogo**	**71.68**	**257**	*e*P		**P**		**23 11 13.9**	**+0.9**
KMBO				pmax	pmax					
	comp=Z,7.0nm,1.0s									
DAWY	**Dawson**	**71.78**	**25**	*e*P		**P**		**23 11 12.4**	**-0.5**
PAGF	**Fort de Pagny**	**72.11**	**316**	*e*P		**P**		**23 11 14.8**	**-0.3**
BAIF	**Baives**	**72.26**	**318**	*e*P		**P**		**23 11 15.7**	**-0.3**
EIDS	**Eidsvold**	**72.28**	**137**	*e*P		**P**		**23 11 16.3**	**0.0**
	comp=Z,17nm,1.3s,mb4.8									
MEZF	**Maizieres J'vi**	**72.53**	**317**	*e*P		**P**		**23 11 17.0**	**-0.6**
STKA	**Stephens Creek**	**72.57**	**148**	*e*P		**P**		**23 11 17.4**	**-0.5**
	comp=Z,3.3nm,0.5s,mb4.6,baz=5.3,slow=12,SNR=17									
STKA	**Stephens Creek**	**72.57**	**148**	*e*P		**P**		**23 11 17.4**	**-0.5**
	comp=Z,2.8nm,0.4s,mb4.5									
STKA	**Stephens Creek**	**72.57**	**148**	P		**P**		**23 11 17.4**	**-0.5**
STKA	**Stephens Creek**	**72.57**	**148**	P		**P**		**23 11 17.5**	**-0.4**
RES	**Resolute Bay**	**72.67**	**5**	P		**P**		**23 11 17.9**	**-0.2**
	comp=Z,4.2nm,0.9s,mb4.4,baz=350,slow=4.0,SNR=4.7									
RES	**Resolute Bay**	**72.67**	**5**	P		**P**		**23 11 17.9**	**-0.2**
RES	**Resolute Bay**	**72.67**	**5**	P		**P**		**23 11 17.9**	**-0.1**
RES				pmax	pmax					
	comp=Z,4.0nm,0.9s,mb4.3									
SFTF	**Sexfontaines**	**72.68**	**316**	*e*P		**P**		**23 11 17.8**	**-0.7**
	comp=Z,7.7nm,0.7s,mb4.5									
CABF	**La Chapelle**	**72.82**	**314**	*e*P		**P**		**23 11 18.8**	**-0.6**
LPG	**La Plagne**	**72.95**	**313**	*e*P		**P**		**23 11 20.4**	**+0.2**
	comp=Z,28nm,0.8s,mb4.9									
LPL	**La Plagne**	**72.95**	**313**	*e*P		**P**		**23 11 20.4**	**+0.2**
	comp=Z,59nm,1.1s,mb5.1									
SBF	**Sospel**	**73.30**	**311**	*e*P		**P**		**23 11 21.6**	**-0.7**
MBDF	**Montbardon**	**73.31**	**313**	*e*P		**P**		**23 11 22.3**	**0.0**
ORIF	**Oris-en-Rattie**	**73.77**	**313**	*e*P		**P**		**23 11 24.8**	**-0.2**
	comp=Z,32nm,1.1s,mb4.9									
LMR	**La Mourre**	**74.14**	**311**	*e*P		**P**		**23 11 27.2**	**0.0**
SSF	**Saint Saulge**	**74.15**	**316**	*e*P		**P**		**23 11 26.3**	**-0.9**
	comp=Z,16nm,1.1s,mb4.5									
SMF	**Signal de Mont**	**74.16**	**315**	*e*P		**P**		**23 11 26.5**	**-0.7**
	comp=Z,16nm,0.9s,mb4.6									
CMSA	**Cobar Meteorol**	**74.23**	**144**	*e*P		**P**		**23 11 28.1**	**+0.4**
	comp=Z,26nm,0.4s,mb5.5									
AVF	**Avril sur Loir**	**74.37**	**316**	*e*P		**P**		**23 11 27.7**	**-0.8**
	comp=Z,12nm,0.9s,mb4.5									
VIVF	**Saint-Julien-l**	**74.55**	**313**	*e*P		**P**		**23 11 28.9**	**-0.6**
LDF	**La Druitiere**	**75.45**	**318**	*e*P		**P**		**23 11 33.7**	**-1.0**
	comp=Z,4.1nm,0.7s,mb4.2									
GRR	**Gorron**	**75.97**	**319**	*e*P		**P**		**23 11 37.1**	**-0.6**
	comp=Z,68nm,1.3s,mb5.1									
MFF	**Saint Martin d**	**76.53**	**317**	*e*P		**P**		**23 11 40.4**	**-0.5**
SGMF	**Saint Gilles**	**77.00**	**319**	*e*P		**P**		**23 11 42.5**	**-1.0**
	comp=Z,45nm,1.3s,mb4.9									
DLBC	**Dease Lake**	**78.89**	**26**	P		**P**		**23 11 53.7**	**-0.1**
	comp=Z,2.5nm,0.7s,mb4.2,baz=298,slow=1.8,SNR=3.9									
DLBC	**Dease Lake**	**78.89**	**26**	P		**P**		**23 11 53.7**	**-0.1**
YKA	**Yellowknife Ar**	**80.55**	**17**	P		**P**		**23 12 02.2**	**-0.5**
	comp=Z,6.4nm,0.6s,mb4.7,baz=328,slow=5.2,SNR=28									
YKA	**Yellowknife Ar**	**80.55**	**17**	P		**P**		**23 12 02.2**	**-0.5**
YKA	**Yellowknife Ar**	**80.55**	**17**	P		**P**		**23 12 02.2**	**-0.6**
YKA				pmax	pmax					
	comp=Z,6.0nm,0.6s									
ESDC	**Sonseca Array**	**82.73**	**313**	P		**P**		**23 12 14.4**	**-0.3**
	comp=Z,1.5nm,0.8s,mb4.1,baz=38,slow=5.3,SNR=7.5									
ESDC	**Sonseca Array**	**82.73**	**313**	P		**P**		**23 12 14.4**	**-0.3**
EVO	**Evora**	**85.93**	**314**	*e*P		**P**		**23 12 31.3**	**+0.3**
	comp=Z,12nm,1.1s,mb4.8									
LSZ	**Lusaka**	**87.03**	**250**	*e*P		**P**		**23 12 36.7**	**0.0**
	comp=Z,11nm,1.1s,mb5.0									
LSZ	**Lusaka**	**87.03**	**250**	*e*P		**P**		**23 12 36.7**	**0.0**
LSZ				pmax	pmax					
	comp=Z,11nm,1.1s,mb5.0									
TORD	**Torodi Ar. Bea**	**93.84**	**288**	P		**P**		**23 13 07.5**	**-1.1**
	comp=Z,0.6nm,1.0s,mb4.0,baz=61,slow=4.8,SNR=6.0									
TORD	**Torodi Ar. Bea**	**93.84**	**288**	P		**P**		**23 13 07.5**	**-1.1**
URZ	**Urewera**	**97.12**	**131**	LR		LR		23 52 21.3		
	comp=Z,2µm,21.2s,MS5.5,baz=8.7,slow=32									
SDV	**Santo Domingo**	**138.98**	**353**	*e*PKPdf		PKPdf		23 19 14.2	-4.0	

MEX ***15*** *23:03:14.3±0.4, 12.˚20N×89.˚10W, h65km±51km, MD5.0*
NEIC ***15*** *23:03:16.6±0.2, 13.˚05N×88.˚75W, h48km, mb5.4/200, ME5.1, MS5.3/167, MW5.7, MW5.7, MD6.0(SNET), Error ellipse: s-maj=5.9km s-min=3.9km az=40.0, Moment Tensor Solution. s114 Moment tensor: Scale 10¹⁷Nm; Mrr=1.20; Mθθ=0.17; Mφφ=1.03; Mrθ=4.18; Mθφ=0.59; Mφr=2.84; Best double couple: M₀5.20000×10¹⁷ NP1:φ₅173.00000°, δ9.00000°, λ-43.00000°. NP2:φ₅305.00000°, δ84.00000°, λ-97.00000°. Principal axes: T 5.1200, Plg38.0000°, Azm41.0000°; N 0.1900, Plg6.0000°, Azm306.0000°; P -5.3000, Plg50.0000°, Azm207.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*
NEIC Felt [VI] at La Libertad and San Salvador; [V] at Antiguo Cuscatlan and Nueva San Salvador; [IV] at Mejicanos. Also felt at Ayutuxtepeque, Chinameca, Colon, Delgado, Ilopango, Quezaltepeque, San Marcos, Sensuntepeque, Soyapango and Zacatecoluca. Felt [III] at Tegucigalpa, Honduras. Also felt at San Pedro Sula. Felt [II] at Managua, Nicaragua. Felt at Antigua Guatemala, Guatemala and Panajachel, Guatemala.
BJI ***15*** *23:03:16.5, 13.˚00N×88.˚90W, h49km, mB5.5/22, Ms5.9/26, Ms7 5.8/24*
ISCJB ***15*** *23:03:17.4±0.1, 13.˚13N±0.˚02×88.˚82W±0.˚02, h70km, mb5.2/315, Error ellipse: s-maj=3.5km s-min=1.8km az=35.0*
CASC ***15*** *23:03:18.7±2.3, 12.˚99N×89.˚03W, h43km±24km, MD4.8, ML5.5, mb5.4(NEIC)*
GCMT ***15*** *23:03:20.7±0.1, 12.˚97N×89.˚08W, h64km±1km, MW5.8, Moment Tensor Solution. s108,c240; s30,c31; Moment tensor: Scale 10¹⁷Nm; Mrr0.19±.06; Mθθ-1.15±.06; Mφφ0.97±.07; Mrθ5.24±.06; Mθφ0.94±.05; Mφr-3.52±.06; Best double couple: M₀6.40000×10¹⁷ NP1:φ₅245.00000°, δ7.00000°, λ30.00000°. NP2:φ₅125.00000°, δ87.00000°, λ96.00000°. Principal axes: T 5.8100, Plg48.0000°, Azm42.0000°; N 1.1700, Plg6.0000°, Azm305.0000°; P -6.9800, Plg41.0000°, Azm210.0000°; Data Used: II IU IC G CN. Surface waves: sta=107, comp=228, per= 50.*
IDC ***15*** *23:03:20.1±0.6, 13.˚32N×88.˚53W, h74km±3km, mb4.8/38, mb1 4.8/38, mb1mx4.8/40, mbtmp4.8/38, MS5.2/34, Ms1 5.2/34, ms1mx5.2/40 Error ellipse: s-maj=13.4km s-min=7.6km az=67.0*
MOS ***15*** *23:03:21.4±1.1, 13.˚32N×88.˚61W, h99km, mb5.2/58, MS5.3/54, Error ellipse: s-maj=6.9km s-min=4.3km az=98.2*
SZGRF ***15*** *23:03:26.6, 13.˚86N×85.˚41W, h33km, mb4.9, Nicaragua*
ISC 15 23:03:19.3±0.1, 13.˚14N±0.˚02×88.˚81W±0.˚02, h72km, h72km±1.0km:pP-P, n942, σ1ᵍ44/746, mb5.2/315, 25C-23D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AIES	**Las Flores**	**0.39**	**324**		*e*P		**Pn**	**23 03 28.8**	**-2.5**
AIES					*e*S		**Sn**	**23 03 37.7**	**-2.6**
AIES					AML		AML	23 03 39.4	
	comp=Z,277µm,0.3s								
SNVI	**San Vicente**	**0.47**	**357**		*e*P		**Pn**	**23 03 31.2**	**-0.9**
LFRS	**El Faro**	**0.54**	**334**		*e*P		**Pn**	**23 03 30.7**	**-2.0**
BLLM	**Bellamira**	**0.64**	**62**		*i*P		**Pn**	**23 03 34.9**	**+1.2**
SNET	**Serv Nac Est T**	**0.68**	**323**		*e*P		**Pn**	**23 03 32.1**	**-2.1**
SNET					AML		AML	23 03 34.2	
	comp=Z,223µm,0.2s								
SNET					*e*S		**Sn**	**23 03 43.6**	**-1.5**
BOQS	**Boqueron**	**0.75**	**323**		*i*P		**Pn**	**23 03 33.1**	**-1.8**
CAHU	**Cacacuatique**	**0.86**	**43**		*i*P		**Pn**	**23 03 37.8**	**+1.6**
CNCH	**Conchagua**	**0.96**	**82**		*e*P		**Pn**	**23 03 38.9**	**+1.4**
SBLS	**San Blas**	**1.05**	**312**		*e*P		**Pn**	**23 03 36.4**	**-2.2**
SNJE	**San Jose**	**1.06**	**313**		*e*P		**Pn**	**23 03 36.3**	**-2.3**
SONS	**Sonsonate**	**1.06**	**304**		*e*P		**Pn**	**23 03 36.0**	**-2.7**
SONS					*e*S		**Sn**	**23 03 50.0**	**-3.1**
SONS					AML		AML	23 03 51.7	
	comp=Z,130µm,0.4s								
RTR	**El Retiro**	**1.11**	**313**		*e*P		**Pn**	**23 03 37.3**	**-2.0**
RBDL	**Robledal**	**1.29**	**319**		*e*P		**Pn**	**23 03 39.9**	**-1.7**
TGUH	**Tegucigalpa,Un**	**1.75**	**58**		*e*Pn		**Pn**	**23 03 50.5**	**+2.8**
TGUH					*e*S		**Sn**	**23 04 14.6**	**+5.3**
TGUH	**Tegucigalpa,Un**	**1.75**	**58**		*e*P		**Pn**	**23 03 50.1**	**+2.4**
TGUH					*e*S		**Sn**	**23 04 15.5**	**+6.2**
CRIN	**San Cristobal**	**1.77**	**104**		*e*P		**Pn**	**23 03 49.4**	**+1.5**
CRIN					*e*S		**Sn**	**23 04 15.3**	**+5.6**
CRIN					AML		AML	23 04 22.2	
	comp=N,188µm,0.3s								
IXG	**Ixpaco**	**1.90**	**303**		*e*P		**Pn**	**23 03 47.8**	**-1.8**
NBG	**Las Nubes**	**2.07**	**314**		*e*P		**Pn**	**23 03 52.2**	**+0.2**
PSG	**Pto de San Jos**	**2.08**	**293**		*e*P		**Pn**	**23 03 51.7**	**-0.4**
PCG	**Pacaya**	**2.14**	**306**		*e*P		**Pn**	**23 03 52.4**	**-0.5**
CNGN	**Cerro Negro**	**2.16**	**107**		*e*P		**Pn**	**23 03 53.8**	**+0.6**
CNGN					AML		AML	23 04 26.5	
	comp=E,39µm,0.5s								
MIRN	**Miramar**	**2.17**	**108**		*e*P		**Pn**	**23 03 53.9**	**+0.7**
GCG	**Guatemala City**	**2.21**	**311**		*e*P		**Pn**	**23 03 53.0**	**-0.7**
GCG					*e*S		**Sn**	**23 04 33.0**	**+13**
MOMN	**Momotombo**	**2.33**	**108**		*e*P		**Pn**	**23 03 56.5**	**+1.0**
FUG	**Fuego 3**	**2.36**	**304**		*e*P		**Pn**	**23 03 54.7**	**-1.2**
COPN	**Copaltepe**	**2.37**	**113**		*e*P		**Pn**	**23 03 56.0**	**+0.1**
FG6		**2.46**	**305**		*e*P		**Pn**	**23 03 56.6**	**-0.6**
APYN	**Apoyeque**	**2.57**	**110**		*e*P		**Pn**	**23 03 59.5**	**+0.8**
XAVN	**Gruta Xavier**	**2.62**	**112**		*e*P		**Pn**	**23 03 59.9**	**+0.6**
TISN	**Laguna Tiscapa**	**2.67**	**111**		*e*P		**Pn**	**23 04 00.7**	**+0.6**
HUEN		**2.70**	**107**		*e*P		**Pn**	**23 04 01.2**	**+0.8**
CRUN	**El Crucero**	**2.71**	**115**		*e*P		**Pn**	**23 04 01.9**	**+1.3**
WILN	**Americas 2**	**2.74**	**110**		*e*P		**Pn**	**23 04 02.0**	**+1.0**
TICN	**Ticuantepe**	**2.75**	**113**		*e*P		**Pn**	**23 04 02.1**	**+0.9**
APON	**Apoyo**	**2.94**	**114**		*e*P		**Pn**	**23 04 04.7**	**+1.0**
JAT	**Jato**	**2.98**	**293**		*e*P		**Pn**	**23 04 02.4**	**-1.9**
CONN	**Concepcion**	**3.49**	**116**		*e*P		**Pn**	**23 04 12.5**	**+1.4**
THIG		**3.78**	**298**		*e*P		**Pn**	**23 04 13.9**	**-1.3**
THIG					*e*S		**Sn**	**23 04 59.5**	**+1.0**
GBS2	**Las Lilas**	**4.00**	**124**		*i*P		**Pn**	**23 04 19.4**	**+1.2**
GBS3	**Finca Las Im˜¡**	**4.04**	**125**		*i*P		**Pn**	**23 04 20.6**	**+1.9**
NY14	**Universidad de**	**4.05**	**127**		*i*P		**Pn**	**23 04 20.0**	**+1.1**
GB1A	**Boringuen Arri**	**4.06**	**124**		*i*P		**Pn**	**23 04 19.4**	**+0.4**
LAPC	**Finca la Perla**	**4.06**	**125**		*i*P		**Pn**	**23 04 19.8**	**+0.8**
GPS1	**Guardaparques**	**4.12**	**124**		*i*P		**Pn**	**23 04 20.6**	**+0.8**
GPS1					*i*S		**Sn**	**23 05 06.6**	**-0.3**
GPS2	**Hotel Rinc˜‡n**	**4.13**	**125**		*i*P		**Pn**	**23 04 21.6**	**+1.5**
CCIG	**Comitan**	**4.48**	**315**		*e*P		**Pn**	**23 04 25.9**	**+1.1**
CCIG					*e*S		**Sn**	**23 05 23.9**	**+8.2**
AMAS	**Alto Masis**	**4.50**	**123**		*i*P		**Pn**	**23 04 26.7**	**+1.6**
CHPA	**Chiripa**	**4.67**	**125**		*i*P		**Pn**	**23 04 28.4**	**+1.2**
JTS	**JuntasAbangare**	**4.72**	**126**		*e*Pn		**Pn**	**23 04 29.6**	**+1.6**
JTS					*e*S		**Sn**	**23 05 29.3**	**+7.7**
JTS	**JuntasAbangare**	**4.72**	**126**		*e*P		**Pn**	**23 04 29.6**	**+1.6**
JTS					*e*S		**Sn**	**23 05 29.3**	**+7.7**
JCR	**Jicaral**	**4.88**	**132**		*e*P		**Pn**	**23 04 32.3**	**+2.0**
PCIG		**4.97**	**301**		*e*P		**Pn**	**23 04 30.9**	**-0.6**
PCIG					*e*S		**Sn**	**23 05 29.1**	**+1.4**
SCX	**San Cristobal**	**5.14**	**315**		*e*P		**Pn**	**23 04 35.7**	**+2.0**
SCX					*i*S		**Sn**	**23 05 41.7**	**+10**
CGA2	**Cerro Gallo 2**	**5.27**	**126**		*e*P		**Pn**	**23 04 38.5**	**+3.0**
PRS1	**Puriscal**	**5.41**	**125**		*e*P		**Pn**	**23 04 40.4**	**+3.0**
TGIG		**5.52**	**312**		*e*P		**Pn**	**23 04 39.4**	**+0.5**
TGIG					*i*S		**Sn**	**23 05 46.9**	**+5.9**
LAJ	**Bijagual**	**5.63**	**125**		*e*P		**Pn**	**23 04 39.5**	**-1.0**
SJS	**Escuela Geolog**	**5.64**	**124**		*e*P		**Pn**	**23 04 44.2**	**+3.5**
ICR	**Volcan Irazu**	**5.80**	**122**		*e*P		**Pn**	**23 04 47.2**	**+4.3**
QCR	**Quepos**	**5.87**	**129**		*e*P		**Pn**	**23 04 46.4**	**+2.7**
URSC	**Urasca**	**5.93**	**125**		*e*P		**Pn**	**23 04 47.3**	**+2.7**
BUS	**Buena Vista**	**6.10**	**125**		*e*P		**Pn**	**23 04 50.4**	**+3.5**
CMIG	**Matias Romero**	**7.06**	**305**		P		**Pn**	**23 04 59.5**	**-0.5**
	comp=E,21nm,0.3s,baz=121,slow=12,SNR=72								
CMIG					S		**Sn**	**23 06 32.8**	**+14**
	comp=E,106nm,0.3s,baz=198,slow=20,SNR=5.9								
CMIG					ScP		ScP	23 15 12.1	+3.1
	comp=E,0.3nm,0.3s,baz=36,slow=5.7,SNR=3.6								
CMIG	**Matias Romero**	**7.06**	**305**		P		**Pn**	**23 04 59.5**	**-0.5**
CMIG					S		**Sn**	**23 06 32.8**	**+14**
CMIG					ScP		ScP	23 15 12.1	+3.1
CMIG	**Matias Romero**	**7.06**	**305**		*i*P		**Pn**	**23 04 59.4**	**-0.5**
CMIG					*e*S		**Sn**	**23 06 22.3**	**+3.5**
TEIG	**Tepich**	**7.07**	**4**		P		**Pn**	**23 05 03.1**	**+3.0**
	comp=E,111nm,0.3s,baz=189,slow=10,SNR=172								
TEIG					S		**Sn**	**23 06 28.2**	**+9.2**
	comp=E,51nm,0.3s,baz=0.0,slow=18,SNR=2.2								
TEIG					LR		LR	23 08 18.7	
	comp=E,38µm,21.6s,baz=191,slow=44								
TEIG	**Tepich**	**7.07**	**4**		*e*Pn		**Pn**	**23 05 02.5**	**+2.4**
	comp=E,2µm,1.1s								
TEIG					*e*S		**Sn**	**23 06 22.3**	**+3.4**
ACR	**Cerro Adams**	**7.11**	**128**		*e*P		**Pn**	**23 05 03.6**	**+2.8**
HUIG	**Huatulco**	**7.53**	**291**		*e*P		**Pn**	**23 05 03.5**	**-3.0**
HUIG					*e*S		**Sn**	**23 06 28.6**	**-1.9**
VHO	**Vista Hermosa**	**8.59**	**298**		*e*P		**Pn**	**23 05 20.1**	**-0.8**
VHO					*e*S		**Sn**	**23 06 57.6**	**+1.3**
BCIP	**Isla Barro Col**	**9.65**	**113**		*e*Pn		**Pn**	**23 05 37.4**	**+1.9**
BCIP					*e*S		**Sn**	**23 07 37.8**	**+16**
SOR	**Soroa**	**11.07**	**29**		*e*P		**Pn**	**23 05 58.8**	**+4.0**
	baz=206								
SOR					*e*S		**Sn**	**23 08 05.3**	**+8.3**
	comp=N,3µm,4.8s								
SOR					*e*				
	comp=E,3µm,3.6s								
MCJ	**Malvern**	**11.73**	**65**		*i*P		**Pn**	**23 06 08.0**	**+4.2**
MBJ	**Montego Bay**	**11.77**	**62**		*i*P		**Pn**	**23 06 09.3**	**+5.0**
MTDJ	**Mount Denham**	**11.98**	**64**		*e*Pn		**Pn**	**23 06 11.3**	**+4.2**
	comp=E,3µm,1.3s								
MTDJ					*e*ScP		ScP	23 15 17.1	+2.4
BBJ	**Bamboo Saint A**	**12.28**	**63**		*e*P		**Pn**	**23 06 17.0**	**+5.8**
STH	**Stony Hill**	**12.56**	**65**		*i*P		**Pn**	**23 06 21.0**	**+5.9**
HOJ	**Hope**	**12.59**	**66**		*i*P		**Pn**	**23 06 20.9**	**+5.5**
GWJ	**Greenwich**	**12.63**	**66**		*i*P		**Pn**	**23 06 22.0**	**+5.9**
CMJ	**Castle Mountai**	**12.97**	**66**		*i*P		**Pn**	**23 06 26.8**	**+6.1**
LMGC	**Las Mercedes**	**13.24**	**57**		*e*P		**Pn**	**23 06 28.0**	**+3.7**
	baz=237								
LMGC					*e*S		**Sn**	**23 08 54.6**	**+4.7**
	comp=N,6µm,19.0s								
LMGC					*e*				
	comp=E,12µm,23.3s								
PAYG	**Puerto Ayora**	**13.80**	**186**		*e*Pn		**Pn**	**23 06 33.3**	**+1.6**
RCC	**Rio Carpintero**	**14.30**	**60**		*i*P		**Pn**	**23 06 40.3**	**+2.1**
	baz=245								
RCC					*e*S		**Sn**	**23 09 15.9**	**+0.4**
	comp=N,214nm,2.1s								
GTBY	**Guantanamo Bay**	**14.77**	**61**		*e*Pn		**Pn**	**23 06 47.4**	**+3.1**
	comp=N,4µm,1.9s								
MOAC	**Moa**	**15.21**	**59**		*e*P		**Pn**	**23 06 54.5**	**+4.4**
	baz=249								
MOAC					*e*S		**S**	**23 09 41.9**	**-8.5**
	comp=N,170nm,6.4s								
MOAC					*e*				
	comp=E,142nm,4.4s								
MASC	**Masc**	**15.62**	**61**		*e*P		**Pn**	**23 06 58.6**	**+3.4**
	baz=243								
MASC					*e*S		**S**	**23 10 01.4**	**+2.7**
	comp=N,1µm,4.1s								
MASC					*e*				
	comp=E,3µm,5.4s								
DWPF	**Disney**	**16.41**	**24**		*e*Pn		**Pn**	**23 07 08.3**	**+3.1**
	comp=E,3µm,1.7s								
OTAV	**Otavalo**	**16.42**	**140**		*e*Pn		**Pn**	**23 07 07.9**	**+2.5**
	comp=E,100nm,1.5s								
OTAV					*e*ScP		ScP	23 15 27.5	+5.1
ROSC	**El Rosal**	**16.49**	**119**		P		**Pn**	**23 07 10.2**	**+4.0**
	comp=E,2.7nm,0.3s,baz=300,slow=11,SNR=52								
ROSC					S		**S**	**23 10 18.8**	**+2.2**
	comp=E,0.2nm,0.3s,baz=84,slow=17,SNR=1.4								
ROSC					ScP		ScP	23 15 28.3	+5.7
	comp=E,1.2nm,0.3s,baz=297,slow=4.5,SNR=11								
ROSC	**El Rosal**	**16.49**	**119**		*e*Pn		**Pn**	**23 07 10.2**	**+4.0**
KVTX	**Kingsville**	**16.66**	**331**		*e*Pn		**Pn**	**23 07 10.4**	**+2.2**
	comp=E,384nm,1.1s								
SDDR	**Presa de Saban**	**17.81**	**69**		*e*Pn		**Pn**	**23 07 25.9**	**+3.5**
	comp=E,107nm,0.8s								
SDDR					*e*S		ScP	23 15 27.9	+2.7
BRAL	**Brewton**	**17.86**	**5**		*e*Pn		**Pn**	**23 07 26.6**	**+3.6**
	comp=E,1µm,1.6s								
HKT	**Hockley**	**17.95**	**340**		*e*Pn		**Pn**	**23 07 26.1**	**+2.1**
HKT	**Hockley**	**17.95**	**340**		*e*P		**P**	**23 07 26.1**	**+2.1**
SDV	**Santo Domingo**	**18.34**	**101**		*e*Pn		**Pn**	**23 07 29.5**	**+0.7**
	comp=E,369nm,0.8s								
SDV					*e*			23 10 57.5	
SDV					*e*ScP		ScP	23 15 28.9	+2.6
VBMS	**Vicksburg**	**19.06**	**356**		*e*P		**Pn**	**23 07 39.9**	**+2.7**
	comp=E,2µm,1.5s								
VBMS					ScP		ScP	23 15 30.2	+2.6
NATX	**Nacogdoches**	**19.30**	**345**		*e*P		**Pn**	**23 07 41.2**	**+1.0**
	comp=E,869nm,1.2s								
NATX					*e*ScP		ScP	23 15 31.2	+3.0
JCT	**Junction City**	**20.02**	**331**		*e*P		**P**	**23 07 47.0**	**+0.6**
	comp=E,649nm,1.6s								
JCT					*e*ScP		ScP	23 15 32.1	+2.2
JCT					LR		LR		
	comp=Z,3µm,19.0s								
JCT	**Junction City**	**20.02**	**331**		*e*P		**P**	**23 07 47.0**	**+0.7**
JCT					pmax		pmax		
	comp=Z,649nm,1.6s								
JCT					MLR		MLR		
	comp=Z,3µm,19.0s								
RFTA	**Plano**	**21.05**	**341**		*e*P		**P**	**23 07 59.0**	**+1.6**
TXAR	**Lajitas Array**	**21.21**	**322**		P		**P**	**23 08 00.1**	**+0.9**
	comp=E,41nm,0.6s,mb5.0,baz=144,slow=11,SNR=216								
TXAR					PcP		PcP	23 12 03.4	+1.3
	comp=Z,21nm,1.0s,baz=116,slow=2.1,SNR=8.0								
TXAR					ScP		ScP	23 15 34.6	+1.8
	comp=Z,12nm,0.8s,baz=134,slow=3.9,SNR=19								
TXAR					LR		LR	23 17 52.8	
	comp=Z,2µm,22.0s,baz=255,slow=41								
TXAR					P3KPbc			23 42 02.5	
	comp=Z,0.4nm,0.7s,baz=288,slow=5.1,SNR=4.4								
TXAR	**Lajitas Array**	**21.21**	**322**		P		**P**	**23 08 00.1**	**+0.9**
TXAR					PcP		PcP	23 12 03.4	+1.3
TXAR					ScP		ScP	23 15 34.6	+1.8
TXAR					LR		LR	23 17 52.9	
TXAR	**Lajitas Array**	**21.21**	**322**		P		**P**	**23 08 00.1**	**+1.0**
TXAR								23 12 03.4	
OXF	**Oxford**	**21.29**	**359**		*e*P		**P**	**23 08 01.8**	**+1.9**
	comp=Z,764nm,1.4s,mb5.8								
OXF					*e*S		**S**	**23 11 55.3**	**+3.0**
OXF					*e*ScP		ScP	23

comp=Z,297nm,1.0s,mb5.6
SIUC Southern Illin 24.48 359 *e*P P **23 08 32.9 +1.3**
comp=Z,200nm,0.9s,mb5.5
SIUC *e*ScP ScP 23 15 41.9 +0.7
AMTX Amarillo 24.59 334 *e*P P **23 08 32.9 +0.3**
comp=Z,950nm,1.5s,mb6.0
AMTX *e* 23 12 09.8
AMTX *e*ScP ScP 23 15 43.1 +1.5
AMTX LR LR
comp=Z,3µm,22.0s
USIN University of 24.75 2 *e*P P **23 08 35.2 +1.1**
comp=Z,312nm,1.3s,mb5.6
USIN *e*ScP ScP 23 15 42.1 +0.2
CCM Cathedral Cave 24.91 355 *e*P P **23 08 36.2 +0.7**
comp=Z,279nm,0.8s,mb5.7
CCM *e*PcP PcP 23 12 09.2 -0.4
CCM *e*ScP ScP 23 15 43.3 +0.9
CCM Cathedral Cave 24.91 355 *e*P P **23 08 36.2 +0.7**
CCM *e* 23 12 09.2
CCM pmax pmax
comp=Z,279nm,0.8s,mb5.7
WCI Wyandotte Cave 25.09 5 *e*P P **23 08 37.4 +0.2**
comp=Z,191nm,1.1s,mb5.4
WCI *e* pP 23 08 54.9 +0.8
WCI *e*ScP ScP 23 15 41.7 -1.1
WCI Wyandotte Cave 25.09 5 *e*P P **23 08 37.4 +0.3**
WCI *e* pP 23 08 54.9 +0.8
WCI pmax pmax
comp=Z,191nm,1.1s,mb5.4
BLA Blacksburg 25.12 16 *e*P P **23 08 39.5 +2.0**
comp=Z,206nm,1.1s,mb5.5
BLA LR LR
comp=Z,4µm,20.0s
BLA Blacksburg 25.12 16 *e*P P **23 08 39.5 +2.0**
BLA pmax pmax
comp=Z,206nm,1.1s,mb5.5
BLA MLR MLR
comp=Z,4µm,20.0s
VWCC Virginia Weste 25.28 17 *e*P P **23 08 41.1 +2.2**
SLM Saint Louis 25.43 357 *e*P P **23 08 40.5 +0.4**
comp=Z,78nm,0.6s,mb5.3
SLM *e* pP 23 08 58.1 +1.0
SLM Saint Louis 25.43 357 *e*P P **23 08 40.6 +0.4**
SLM *e* pP 23 08 58.1 +1.0
SLM pmax pmax
comp=Z,78nm,0.6s,mb5.3
OLIL Olney 25.50 1 *e*P P **23 08 41.9 +1.0**
comp=Z,356nm,1.4s,mb5.6
OLIL *e*ScP ScP 23 15 45.0 +0.9
BLO Bloomington 26.01 4 *e*P P **23 08 45.9 +0.4**
comp=Z,112nm,1.1s,mb5.2
BLO *e*PcP PcP 23 12 11.3 -0.7
BLO *e*ScP ScP 23 15 46.0 +0.5
BLO Bloomington 26.01 4 *e*P P **23 08 45.9 +0.4**
BLO *e* 23 12 11.3
BLO pmax pmax
comp=Z,112nm,1.1s,mb5.2
ANWB Willy Bob 26.43 77 PFAKE 23 09 00.0 +10
ANWB LR LR
comp=Z,8µm,20.0s
BNM Barren Site 26.45 325 *e*P P **23 08 50.6 +1.1**
comp=Z,34nm,0.9s,mb4.8
BNM *e*PcP PcP 23 12 15.5 +2.3
BNM *e*ScP ScP 23 15 49.7 +2.8
GRGR Grenville 26.52 89 PFAKE 23 09 00.0 +10
GRGR LR LR
comp=Z,4µm,22.0s
LPM Los Pinos Moun 26.57 326 *e*P P **23 08 51.4 +0.8**
comp=Z,37nm,1.2s,mb4.8
LPM *e*PcP PcP 23 12 14.7 +1.2
LPM *e*ScP ScP 23 15 51.3 +4.1
LENM Lemitar 26.65 325 *e*P P **23 08 52.9 +1.6**
comp=Z,90nm,1.5s,mb5.1
LENM *e*PcP PcP 23 12 15.9 +2.3
KSU1 Kansas State U 26.77 346 *e*P P **23 08 52.6 +0.3**
comp=Z,84nm,0.8s,mb5.3
KSU1 *e*ScP ScP 23 15 50.8 +3.1
KSU1 LR LR
comp=Z,6µm,22.0s
FDF Fort de France 26.89 83 *e*P P **23 08 54.0 +0.4**
comp=Z,79nm,0.8s,mb5.3
FDF LR LR
comp=Z,4µm,21.0s
FDF Fort de France 26.89 83 *e*P P **23 08 54.1 +0.4**
FDF pmax pmax
comp=Z,79nm,0.8s,mb5.3
FDF MLR MLR
comp=Z,4µm,21.0s
LAZ Ladron 26.92 325 *e*P P **23 08 55.3 +1.6**
comp=Z,65nm,1.8s,mb4.9
LAZ *e*PcP PcP 23 12 16.4 +2.2
ANMO Albuquerque 26.95 327 P P **23 08 55.1 +1.0**
comp=Z,5.3nm,0.5s,mb4.3,baz=117,slow=11,SNR=27
ANMO PcP PcP 23 12 14.8 +0.4
comp=Z,18nm,1.0s,baz=124,slow=5.1,SNR=4.3
ANMO ScP ScP 23 15 49.6 +1.3
comp=Z,12nm,0.8s,baz=150,slow=5.6,SNR=13
ANMO Albuquerque 26.95 327 *e*P P **23 08 55.1 +1.0**
comp=Z,82nm,1.6s,mb5.0
ANMO *e*PcP PcP 23 12 16.1 +1.8
ANMO *e*ScP ScP 23 15 50.4 +2.0
ANMO LR LR
comp=Z,2µm,21.0s
ANMO Albuquerque 26.95 327 *e*P P **23 08 55.1 +1.1**
ANMO *e* 23 12 16.1
ANMO pmax pmax
comp=Z,82nm,1.6s
ANMO MLR MLR
comp=Z,2µm,21.0s
CBN Corbin 26.96 20 *e*P P **23 08 55.8 +1.8**
comp=Z,560nm,1.4s,mb5.9
CBN LR LR
comp=Z,3µm,19.0s
CBKS Cedar Bluff 27.35 341 *e*P P **23 08 58.0 +0.5**
comp=Z,120nm,1.0s,mb5.4
CBKS *e*ScP ScP 23 15 51.0 +1.6
CBKS LR LR
comp=Z,4µm,22.0s
CBKS Cedar Bluff 27.35 341 *e*P P **23 08 58.0 +0.5**
CBKS pmax pmax
comp=Z,120nm,1.0s,mb5.4
CBKS MLR MLR
comp=Z,4µm,22.0s
ACSO Alum Creek Sta 27.47 10 *e*P P **23 08 59.6 +1.0**
comp=Z,245nm,1.4s,mb5.5
ACSO LR LR
comp=Z,6µm,21.0s
MCWV Mont Chateau 27.58 15 PFAKE 23 09 10.0 +10
MCWV LR LR
comp=Z,7µm,22.0s
NNA Nana 27.64 154 P P **23 09 02.0 +1.7**
comp=Z,30nm,0.8s,mb4.9,baz=319,slow=9.1,SNR=9.2
NNA Nana 27.64 154 *e*P P **23 09 02.4 +2.0**
comp=Z,86nm,1.2s,mb5.2
NNA LR LR
comp=Z,2µm,21.0s
NNA Nana 27.64 154 *e*P P **23 09 02.4 +2.0**
NNA pmax pmax
comp=Z,86nm,1.2s
NNA MLR MLR
comp=Z,2µm,21.0s
NNA Nana 27.64 154 P P **23 09 02.9 +2.5**
comp=Z,316nm,0.8s,mb5.9,SNR=5.5
TUC Tucson 27.73 317 *e*P P **23 09 02.6 +1.5**
comp=Z,7.7nm,1.0s,mb4.2
TUC *e*ScP ScP 23 15 52.4 +1.6
TUC LR LR
comp=Z,6µm,20.0s
TUC Tucson 27.73 317 *e*P P **23 09 02.6 +1.6**
TUC pmax pmax
comp=Z,35nm,1.0s,mb4.8
TUC MLR MLR
comp=Z,7µm,20.0s
SDMD Soldier's Deli 28.23 20 *e*P P **23 09 07.2 +1.9**
comp=Z,82nm,0.7s,mb5.4
BBGH Gun Hill 28.48 87 PFAKE 23 09 20.0 +12
BBGH LR LR
comp=Z,8µm,21.0s
SDCO Great Sand Dun 28.67 332 PFAKE 23 09 20.0 +11
SDCO LR LR
comp=Z,1µm,19.0s
SCIA State Center 28.92 353 *e*P P **23 09 11.7 +0.3**
comp=Z,87nm,0.8s,mb5.4
SCIA *e*ScP ScP 23 15 55.2 +1.0
SCIA LR LR
comp=Z,12µm,22.0s

SSPA Standing Stone 29.02 17 *e*P P **23 09 13.7 +1.3**
comp=Z,281nm,1.8s,mb5.6
SSPA *e* pP 23 09 30.5 +1.0
BBSR BB Station 29.22 45 *e*P P **23 09 16.1 +1.8**
comp=Z,184nm,1.0s,mb5.7
BBSR LR LR
comp=Z,7µm,22.0s
ALLY Alegheny Colle 29.39 13 *e*P P **23 09 16.2 +0.6**
comp=Z,98nm,1.2s,mb5.3
ALLY *e* pP 23 09 33.9 +1.1
AAM Ann Arbor 29.40 8 *e*P P **23 09 16.4 +0.7**
comp=Z,47nm,0.5s,mb5.4
AAM LR LR
comp=Z,9µm,21.0s
AAM Ann Arbor 29.40 8 *e*P P **23 09 16.4 +0.7**
AAM pmax pmax
comp=Z,47nm,0.5s,mb5.4
AAM MLR MLR
comp=Z,9µm,21.0s
JFWS Jewell Farm 29.70 358 *e*P P **23 09 19.0 +0.6**
comp=Z,47nm,0.6s,mb5.3
JFWS *e*S S **23 14 10.3 +1.3**
JFWS *e*ScP ScP 23 15 57.5 +0.8
JFWS LR LR
comp=Z,10µm,22.0s
JFWS Jewell Farm 29.70 358 *e*P P **23 09 19.0 +0.7**
JFWS *e*S S **23 14 10.3 +1.3**
JFWS pmax pmax
comp=Z,47nm,0.6s,mb5.3
JFWS MLR MLR
comp=Z,10µm,22.0s
MVCO Mesa Verde 29.74 327 PFAKE 23 09 30.0 +11
MVCO LR LR
comp=Z,2µm,20.0s
ERPA Erie 29.88 13 *e*P P **23 09 20.5 +0.6**
comp=Z,47nm,0.6s,mb5.3
ERPA *e* pP 23 09 38.3 +1.2
ERPA LR LR
comp=Z,4µm,22.0s
OGNE Ogallala 30.02 340 *e*P P **23 09 22.2 +1.0**
comp=Z,272nm,1.4s,mb5.7
OGNE LR LR
comp=Z,5µm,22.0s
WUAZ Wupatki 30.17 321 *e*P P **23 09 24.1 +1.4**
comp=Z,37nm,1.1s,mb4.9
WUAZ *e*PcP PcP 23 12 22.0 -0.4
WUAZ *e*ScP ScP 23 16 01.2 +2.8
WUAZ LR LR
comp=Z,4µm,20.0s
ISCO Idaho Springs 30.41 334 *e*P P **23 09 26.0 +1.3**
ISCO LR LR
comp=Z,4µm,22.0s
ISCO Idaho Springs 30.41 334 *e*P P **23 09 26.0 +1.3**
ISCO MLR MLR
comp=Z,4µm,22.0s
PAL Palisades 30.68 22 *e*P P **23 09 28.8 +1.8**
comp=Z,28nm,0.6s,mb5.2
PAL *e* pP 23 09 46.2 +2.1
PAL Palisades 30.68 22 *e*P P **23 09 28.8 +1.8**
PAL pmax pmax
comp=Z,28nm,0.6s,mb5.2
GLA Glamis 30.92 314 *e*P P **23 09 30.9 +1.6**
comp=Z,46nm,1.1s,mb5.1
GLA *e*PcP PcP 23 12 23.9 -0.5
GLA *e*ScP ScP 23 16 03.3 +2.3
GLA Glamis 30.92 314 *e*P P **23 09 30.9 +1.6**
GLA *e* 23 12 23.9
GLA pmax pmax
comp=Z,46nm,1.1s,mb5.1
BINY Binghamton 31.03 19 *e*P P **23 09 31.5 +1.4**
comp=Z,277nm,1.4s,mb5.8
BINY LR LR
comp=Z,3µm,20.0s
ECSD EROS Data Cent 31.22 349 *e*P P **23 09 31.1 -0.6**
comp=Z,145nm,1.3s,mb5.5
ECSD *e*PcP PcP 23 12 23.2 -1.7
ECSD *e*S S **23 14 32.2 -0.6**
ECSD *e*ScP ScP 23 16 01.5 -0.2
ECSD LR LR
comp=Z,7µm,22.0s
PHWY Pilot Hill 31.60 336 *e*P P **23 09 36.4 +1.2**
comp=Z,186nm,1.5s,mb5.6
PHWY *e*PcP PcP 23 12 26.9 +0.9
PHWY *e*ScP ScP 23 16 05.5 +2.4
GLMI Grayling 31.78 6 *e*P P **23 09 36.8 +0.1**
comp=Z,88nm,0.8s,mb5.5
GLMI LR LR
comp=Z,7µm,22.0s
BAR Barrett 32.04 312 *e*P P **23 09 40.3 +1.2**
comp=Z,22nm,1.0s,mb4.8
BAR *e*PcP PcP 23 12 27.1 -0.3
BAR *e*ScP ScP 23 16 05.4 +0.6
TRY Troy 32.27 21 *e*P P **23 09 41.6 +0.6**
comp=Z,91nm,0.8s,mb5.6
TRY *e* pP 23 09 58.3 +0.1
LDFC Landfair 32.27 317 *e*P P **23 09 43.5 +2.3**
LDFC *e*PcP PcP 23 12 29.6 +1.6
LDFC *e*ScP ScP 23 16 07.8 +2.3
QUA2 Belchertown 32.36 23 *e*P P **23 09 42.7 +0.9**
comp=Z,54nm,1.0s,mb5.2
QUA2 *e* pP 23 10 00.9 +1.9
PFO Pinyon Flat Ob 32.37 314 *e*P P **23 09 43.7 +1.7**
comp=Z,12nm,0.8s,mb4.7
PFO *e*PcP PcP 23 12 27.5 -0.8
PFO *e*ScP ScP 23 16 06.3 +0.5
PFO LR LR
comp=Z,3µm,21.0s
PFO Pinyon Flat Ob 32.37 314 *e*P P **23 09 43.7 +1.7**
PFO *e* 23 12 27.5
PFO pmax pmax
comp=Z,16nm,0.8s,mb4.8
PFO MLR MLR
comp=Z,4µm,21.0s
SADO Sadowa 32.59 13 P P **23 09 43.9 +0.1**
comp=Z,57nm,0.5s,mb5.6,baz=221,slow=8.6,SNR=53
SADO ScP ScP 23 16 05.4 -0.9
comp=Z,18nm,0.7s,baz=181,slow=5.6,SNR=6.9
SADO LR LR 23 23 36.0
comp=Z,5µm,21.9s,baz=209,slow=38
SADO Sadowa 32.59 13 P P **23 09 43.9 +0.1**
SADO ScP ScP 23 16 05.4 -0.9
SADO LR LR 23 23 36.0
RWWY Rawlins 32.65 334 *e*P P **23 09 45.9 +1.6**
comp=Z,325nm,1.5s,mb5.9
MVU Marysvale 32.70 325 PFAKE 23 10 00.0 +15
MVU LR LR
comp=Z,4µm,21.0s
CCUT Cedar City 32.72 322 *e*P P **23 09 46.8 +1.7**
comp=Z,25nm,1.1s,mb5.0
CCUT *e*PcP PcP 23 12 28.0 -1.2
CCUT *e*ScP ScP 23 16 07.6 +0.7
ACCN Adirondack Com 32.85 21 *e*P P **23 09 47.0 +1.0**
comp=Z,31nm,0.8s,mb5.2
ACCN *e* pP 23 10 04.9 +1.6
WES Weston 32.85 24 *e*P P **23 09 46.6 +0.5**
comp=Z,1µm,1.8s,mb6.5
WES Weston 32.85 24 *e*P P **23 09 46.6 +0.5**
WES pmax pmax
comp=Z,1µm,1.8s,mb6.5
HRV Adam Dziewonsk 32.86 24 *e*P P **23 09 48.3 +2.1**
comp=Z,328nm,1.8s,mb5.9
HRV Adam Dziewonsk 32.86 24 *e*P P **23 09 48.3 +2.1**
HRV pmax pmax
comp=Z,329nm,1.8s,mb5.9
ARUT Antelope Range 32.92 323 *e*P P **23 09 48.9 +2.1**
comp=Z,24nm,0.9s,mb5.0
ARUT *e*ScP ScP 23 16 10.8 +3.1
ARUT Antelope Range 32.92 323 *e*P P **23 09 48.9 +2.1**
ARUT pmax pmax
comp=Z,24nm,0.9s,mb5.0
NCB Newcomb 33.18 19 *e*P P **23 09 49.5 +0.5**
comp=Z,231nm,1.8s,mb5.7
NCB LR LR
comp=Z,3µm,20.0s
MPU Maple Canyon 33.46 327 *e*P P **23 09 52.7 +1.2**
comp=Z,75nm,1.3s,mb5.4
MPU *e*PcP PcP 23 12 33.3 +2.1
MPU *e*ScP ScP 23 16 11.4 +1.9
RSSD Black Hills 33.52 340 *e*P P **23 09 53.5 +1.6**
comp=Z,73nm,0.8s,mb5.6
RSSD *e*PcP PcP 23 12 27.9 -3.3
RSSD *e*ScP ScP 23 16 09.4 -0.2
RSSD Black Hills 33.52 340 *e*P P **23 09 53.5 +1.6**
RSSD *e* 23 12 28.0
RSSD pmax pmax
comp=Z,73nm,0.8s,mb5.6
GSC Goldstone 33.54 316 *e*P P **23 09 53.5 +1.3**
comp=Z,60nm,1.6s,mb5.2
GSC *e*PcP PcP 23 12 31.9 +0.4
GSC *e*ScP ScP 23 16 11.2 +1.4
GSC Goldstone 33.54 316 *e*P P **23 09 53.5 +1.3**
GSC *e* 23 12 31.9
GSC pmax pmax
comp=Z,60nm,1.6s,mb5.2
FFD Franklin Falls 33.65 23 *e*P P **23 09 55.1 +2.1**
comp=Z,45nm,0.8s,mb5.3
LONY Lake Ozonia 33.65 18 *e*P P **23 09 53.8 +0.8**
comp=Z,316nm,1.6s,mb5.9
LONY LR LR
comp=Z,3µm,22.0s
NLU North Lily Min 33.65 327 *e*P P **23 09 55.5 +2.4**
comp=Z,104nm,1.9s,mb5.3
NLU *e*PcP PcP 23 12 32.8 +1.1
NLU *e*ScP ScP 23 16 10.1 0.0
JLU Jordanelle 33.80 328 *e*P P **23 09 55.9 +1.5**
MWC Mount Wilson 33.82 313 *e*P P **23 09 56.5 +1.8**
comp=Z,32nm,0.9s,mb5.2
MWC *e*PcP PcP 23 12 31.2 -1.1
MWC *e*ScP ScP 23 16 13.8 +2.9
MWC Mount Wilson 33.82 313 *e*P P **23 09 56.5 +1.8**
MWC *e* 23 12 31.2
MWC pmax pmax
comp=Z,32nm,0.9s,mb5.2
PASC Pasadena Art C 33.89 313 *e*P P **23 09 56.2 +1.0**
comp=Z,46nm,1.3s,mb5.2
PASC *e*PcP PcP 23 12 34.1 +1.6
PASC *e*ScP ScP 23 16 12.8 +1.6
FRNY Flat Rock 34.16 19 *e*P P **23 09 58.0 +0.6**
comp=Z,773nm,2.1s,mb6.2
FRNY *e* pP 23 10 15.9 +1.2
NOQ North Oquirrh 34.18 328 *e*P P **23 09 58.9 +1.1**
comp=Z,145nm,1.4s,mb5.6
NOQ *e*ScP ScP 23 16 14.0 +2.0
LBNH Lisbon 34.21 22 *e*P P **23 09 58.8 +0.9**
comp=Z,108nm,1.6s,mb5.4
LBNH LR LR
comp=Z,4µm,19.0s
LBNH Lisbon 34.21 22 *e*P P **23 09 58.8 +0.9**
LBNH pmax pmax
comp=Z,109nm,1.6s,mb5.4
LBNH MLR MLR
comp=Z,4µm,19.0s
DUG Dugway 34.22 326 *e*P P **23 09 59.7 +1.6**
comp=Z,24nm,1.3s,mb4.9
DUG *e*ScP ScP 23 16 12.6 +0.4
DUG LR LR
comp=Z,4µm,19.0s
DUG Dugway 34.22 326 *e*P P **23 09 59.7 +1.7**
DUG pmax pmax
comp=Z,24nm,1.3s,mb4.9
DUG MLR MLR
comp=Z,4µm,19.0s
BW06 Boulder Array 34.55 333 *e*P P **23 10 01.7 +0.9**
comp=Z,23nm,0.9s,mb5.0
BW06 *e*PcP PcP 23 12 34.3 +0.1
BW06 LR LR
comp=Z,3µm,19.0s
PDAR Pinedale Array 34.55 333 P P **23 10 01.3 +0.5**
comp=Z,10.0nm,0.7s,mb4.8,baz=134,slow=10,SNR=10
PDAR PcP PcP 23 12 33.8 -0.4
comp=Z,9.4nm,0.5s,baz=148,slow=5.3,SNR=17
PDAR ScP ScP 23 16 14.3 +1.0
comp=Z,25nm,1.1s,baz=140,slow=4.7,SNR=20
PDAR PKiKP PKiKP 23 19 56.5 -0.6
comp=Z,2.2nm,0.9s,baz=98,slow=1.8,SNR=5.2
PDAR LR LR 23 26 56.1
comp=Z,3µm,21.5s,baz=154,slow=41
PDAR P3KPbc 23 40 57.8
comp=Z,0.3nm,0.5s,baz=270,slow=0.5,SNR=3.5
PDAR Pinedale Array 34.55 333 P P **23 10 01.3 +0.5**
PDAR PcP PcP 23 12 33.8 -0.4
PDAR ScP ScP 23 16 14.2 +1.0
PD02 Pinedale Array 34.56 333 *e*P P **23 10 01.1 +0.2**
PD02 *e*PcP PcP 23 12 34.6 +0.4
PD01 Pinedale Array 34.57 333 *e*P P **23 10 01.2 +0.2**
PD01 *e*PcP PcP 23 12 33.8 -0.5
PD01 *e*ScP ScP 23 16 12.0 -1.3
HWUT Hardware Ranch 34.60 329 *e*P P **23 10 01.9 +0.6**
HWUT *e*PcP PcP 23 12 35.0 +0.6
HWUT *e*ScP ScP 23 16 14.8 +1.3
HWUT LR LR
comp=Z,1µm,21.0s
DAC Darwin (Calif) 34.62 317 PFAKE 23 10 10.0 +8.5
DAC LR LR
comp=Z,6µm,22.0s
EYMN Ely 34.77 357 *e*P P **23 10 02.0 -0.7**
comp=Z,339nm,1.5s,mb6.0
EYMN *e* 23 15 25.6
EYMN LR LR
comp=Z,7µm,22.0s
SPUT South Promonto 34.83 328 *e*P P **23 10 04.0 +0.7**
comp=Z,344nm,2.0s,mb5.8
SPUT *e*ScP ScP 23 16 16.2 +1.9
BGU Big Grassy Mou 34.86 327 *e*P P **23 10 04.4 +0.9**
comp=Z,77nm,1.4s,mb5.3
BGU *e*PcP PcP 23 12 35.7 +0.5
ISA Isabella 34.87 315 *e*P P **23 10 03.6 -0.2**
comp=Z,23nm,1.1s,mb4.9
ISA *e*PcP PcP 23 12 35.5 +0.2
ISA Isabella 34.87 315 *e*P P **23 10 03.6 -0.2**
ISA *e* 23 12 35.5
ISA pmax pmax
comp=Z,23nm,1.1s,mb4.9
AHID Auburn Hatcher 35.26 331 *e*P P **23 10 07.8 +0.8**
comp=Z,271nm,1.5s,mb5.9
AHID LR LR
comp=Z,5µm,20.0s
HVU Hansel Valley 35.34 328 *e*P P **23 10 08.6 +0.9**
comp=Z,288nm,2.0s,mb5.8
HVU *e*PcP PcP 23 12 37.1 +0.5
HVU Hansel Valley 35.34 328 *e*P P **23 10 08.6 +0.9**
HVU *e* 23 12 37.1
HVU pmax pmax
comp=Z,288nm,2.0s,mb5.8
WVL Waterville 35.34 24 *e*P P **23 10 08.6 +1.0**
comp=Z,816nm,1.8s,mb6.3
TPH Tonopah 35.42 320 PFAKE 23 10 20.0 +12
TPH LR LR
comp=Z,6µm,20.0s
AGMN Agassiz Nation 35.54 352 *e*P P **23 10 09.1 -0.2**
comp=Z,73nm,0.6s,mb5.8
AGMN *e*S S **23 15 38.7 -1.0**
AGMN LR LR
comp=Z,10µm,21.0s
SNOW Snow King Moun 35.63 332 *e*P P **23 10 11.6 +1.4**
comp=Z,71nm,0.6s,mb5.8
SNOW *e*ScP ScP 23 16 23.4 +6.3
LPAZ La Paz 35.68 144 P P **23 10 13.2 +2.4**
comp=Z,45nm,0.7s,mb5.5,baz=326,slow=9.7,SNR=164
LPAZ ScP ScP 23 16 23.4 +5.7
comp=Z,4.3nm,0.8s,baz=5.7,slow=10,SNR=5.2
LPAZ La Paz 35.68 144 *e*P P **23 10 12.5 +1.7**
comp=Z,47nm,0.7s,mb5.5
LPAZ LR LR
comp=Z,2µm,22.0s
LPAZ La Paz 35.68 144 *e*P P **23 10 12.5 +1.7**
LPAZ pmax pmax
comp=Z,47nm,0.7s
LPAZ MLR MLR
comp=Z,2µm,22.0s
LOHW Long Hollow 35.68 332 *e*P P **23 10 11.4 +0.8**
LOHW *e*ScP ScP 23 16 18.7 +1.3
TPAW Teton Pass 35.75 332 *e*P P **23 10 12.9 +1.8**
comp=Z,388nm,1.8s,mb6.0
TPAW *e*ScP ScP 23 16 20.7 +3.1
RRI2 Red Ridge 35.81 331 *e*P P **23 10 12.3 +0.7**
comp=Z,416nm,1.8s,mb6.1
RRI2 *e*PcP PcP 23 12 39.0 +1.1
RRI2 *e*ScP ScP 23 16 18.9 +1.1
MOOW Moose Ponds 35.85 332 *e*P P **23 10 12.7 +0.7**
MOOW *e*PcP PcP 23 12 37.3 -0.7
MOOW *e*ScP ScP 23 16 18.3 +0.3
DCID1 Drake Creek 35.93 332 *e*P P **23 10 14.1 +1.3**
comp=Z,264nm,1.6s,mb5.9
DCID1 *e*ScP ScP 23 16 20.5 +2.2
PKME Peaks-Kenny Pk 36.07 24 *e*P P **23 10 15.5 +1.7**
comp=Z,234nm,1.8s,mb5.8
PKME *e* pP 23 10 33.3 +2.0
PKME LR LR
comp=Z,8µm,22.0s

FLWY **Flagg Ranch 36.10 333** *e*P P **23 10 16.0 +1.9**
comp=Z,185nm,1.5s,mb5.8
FLWY *e*ScP ScP 23 16 20.1 +1.2
NVAR **Mina Array Bea 36.31 319** P P **23 10 17.6 +1.5**
comp=Z,5.3nm,0.5s,mb4.7,baz=132,slow=7.1,SNR=46
NVAR pP pP 23 10 35.8 +2.3
comp=Z,21nm,0.8s,baz=133,slow=6.9,SNR=12
NVAR PcP PcP 23 12 41.0 +1.5
comp=Z,4.5nm,0.5s,baz=126,slow=4.6,SNR=11
NVAR ScP ScP 23 16 21.8 +2.0
comp=Z,29nm,0.8s,baz=127,slow=4.2,SNR=27
NVAR PKiKP PKiKP 23 19 59.9 +1.2
comp=Z,1.2nm,0.7s,baz=151,slow=2.1,SNR=4.0
NVAR LR LR 23 26 56.1
comp=Z,6µm,20.9s,baz=235,slow=39
NVAR Mina Array Bea 36.31 319 P P **23 10 17.6 +1.5**
NVAR pP pP 23 10 35.8 +2.3
NVAR PcP PcP 23 12 41.0 +1.5
NVAR ScP ScP 23 16 21.8 +2.0
RLMT Red Lodge 36.32 335 *e*P P **23 10 16.6 +0.6**
comp=Z,79nm,1.1s,mb5.6
RLMT *e*ScP ScP 23 16 21.8 +2.1
RLMT LR LR
comp=Z,5µm,22.0s
LKWY Lake 36.35 334 *e*P P **23 10 19.1 +2.8**
comp=Z,149nm,1.6s,mb5.7
LKWY LR LR
comp=Z,4µm,20.0s
LKWY Lake 36.35 334 *e*P P **23 10 19.1 +2.9**
LKWY pmax pmax
comp=Z,149nm,1.6s,mb5.7
LKWY MLR MLR
comp=Z,4µm,20.0s
EMMW East Machias 36.36 26 *e*P P **23 10 17.1 +0.8**
comp=Z,1µm,1.6s,mb6.6
EMMW *e* pP 23 10 34.9 +1.1
YFT Old Faithful 36.45 333 *e*P P **23 10 19.4 +2.3**
comp=Z,317nm,1.6s,mb6.0
YFT *e*PcP PcP 23 12 41.6 +1.9
YFT *e*ScP ScP 23 16 23.4 +3.2
LAO LASA Array 36.51 340 *e*P P **23 10 18.2 +0.6**
comp=Z,517nm,1.5s,mb6.2
LAO LR LR
comp=Z,2µm,20.0s
YNR Norris Junctio 36.59 334 *e*P P **23 10 20.2 +1.9**
comp=Z,79nm,1.4s,mb5.5
YNR *e*ScP ScP 23 16 24.4 +3.7
YMR Madison River 36.67 333 *e*P P **23 10 20.7 +1.7**
comp=Z,160nm,1.2s,mb5.8
YMR *e* pP 23 10 37.4 +0.9
YMR *e*ScP ScP 23 16 23.4 +2.4
BMN Battle Mountai 36.87 323 *e*P P **23 10 21.9 +1.2**
comp=Z,16nm,0.8s,mb5.0
BMN LR LR
comp=Z,4µm,20.0s
BMN Battle Mountai 36.87 323 *e*P P **23 10 22.0 +1.2**
BMN pmax pmax
comp=Z,16nm,0.8s,mb5.0
BMN MLR MLR
comp=Z,4µm,20.0s
QLMT Earthquake Lak 37.01 333 *e*P P **23 10 23.2 +1.4**
comp=Z,44nm,2.0s,mb5.0
QLMT *e*ScP ScP 23 16 23.9 +1.7
GCMT Greycliff 37.03 336 *e*P P **23 10 22.3 +0.3**
comp=Z,43nm,0.7s,mb5.5
GCMT *e*ScP ScP 23 16 23.3 +1.0
CMB Columbia Colle 37.44 317 *e*P P **23 10 26.3 +0.7**
comp=Z,45nm,1.5s,mb5.2
CMB *e*PcP PcP 23 12 44.3 +1.4
CMB Columbia Colle 37.44 317 *e*P P **23 10 26.3 +0.6**
CMB *e* 23 12 44.3
CMB pmax pmax
comp=Z,45nm,1.5s,mb5.2
ULM Lac du Bonnet 37.46 353 P P **23 10 24.6 -1.0**
comp=Z,33nm,0.5s,mb5.5,baz=167,slow=10,SNR=84
ULM ScP ScP 23 16 23.5 -0.3
comp=Z,25nm,0.8s,baz=182,slow=4.7,SNR=8.0
ULM LR LR 23 27 42.6
comp=Z,8µm,21.8s,baz=170,slow=39
ULM Lac du Bonnet 37.46 353 *e*P P **23 10 24.6 -0.9**
comp=Z,233nm,1.4s,mb5.9
ULM LR LR
comp=Z,12µm,22.0s
ULM Lac du Bonnet 37.46 353 *e*P P **23 10 24.6 -1.0**
ULM pmax pmax
comp=Z,233nm,1.4s
ULM MLR MLR
comp=Z,12µm,22.0s
HLID Hailey 37.47 329 *e*P P **23 10 26.2 +0.5**
comp=Z,167nm,2.0s,mb5.6
HLID *e*PcP PcP 23 12 44.7 +1.8
HLID LR LR
comp=Z,3µm,19.0s
DGMT Dagmar 37.47 343 *e*P P **23 10 26.5 +0.8**
comp=Z,312nm,0.9s,mb6.2
DGMT *e*ScP ScP 23 16 25.1 +1.2
DGMT LR LR
comp=Z,4µm,21.0s
MCMT McKenzie Canyo 37.65 332 *e*P P **23 10 29.0 +1.7**
comp=Z,42nm,0.8s,mb5.3
MCMT *e* pP 23 10 46.0 +1.3
MCMT *e*ScP ScP 23 16 29.6 +4.9
BOZ Bozeman (W) 37.74 334 *e*P P **23 10 29.0 +1.0**
comp=Z,79nm,1.3s,mb5.4
BOZ *e* 23 16 25.3
BOZ LR LR
comp=Z,3µm,19.0s
BOZ Bozeman (W) 37.74 334 *e*P P **23 10 29.0 +1.0**
BOZ pmax pmax
comp=Z,79nm,1.3s,mb5.4
BOZ MLR MLR
comp=Z,3µm,19.0s
DLMT Dillon 37.94 332 *e*P P **23 10 30.6 +0.8**
comp=Z,254nm,1.8s,mb5.8
DLMT *e*ScP ScP 23 16 27.4 +1.7
MFID Camas Ranch 38.09 328 *e*P P **23 10 32.0 +1.1**
comp=Z,28nm,1.1s,mb5.0
MFID *e*PcP PcP 23 12 46.0 +1.2
MFID *e*ScP ScP 23 16 28.5 +2.2
LRM Limekiln Ridge 38.23 333 *e*P P **23 10 33.2 +1.0**
comp=Z,783nm,1.1s,mb6.5
LRM *e* pP 23 10 49.6 -0.1
LRM *e*ScP ScP 23 16 28.8 +2.0
HRY Holter Researc 38.66 334 *e*P P **23 10 36.4 +0.6**
EGMT Eagleton 38.91 338 *e*P P **23 10 38.9 +1.1**
comp=Z,246nm,0.9s,mb6.0
EGMT LR LR
comp=Z,2µm,21.0s
WVOR Wild Horse Val 38.97 324 *e*P P **23 10 39.0 +0.6**
comp=Z,33nm,1.1s,mb5.1
WVOR LR LR
comp=Z,4µm,20.0s
WVOR Wild Horse Val 38.97 324 *e*P P **23 10 39.0 +0.6**
WVOR pmax pmax
comp=Z,33nm,1.1s,mb5.1
WVOR MLR MLR
comp=Z,4µm,20.0s
CHMT Chamberlain Mo 39.43 333 *e*P P **23 10 42.8 +0.7**
comp=Z,57nm,1.5s,mb5.2
CHMT *e*ScP ScP 23 16 35.6 +4.2
MOD Modoc 39.61 322 *e*P P **23 10 43.6 -0.2**
comp=Z,29nm,1.1s,mb5.0
MOD *e*ScP ScP 23 16 35.1 +2.8
MSO Missoula 39.67 333 *e*P P **23 10 44.3 +0.1**
comp=Z,105nm,1.6s,mb5.4
MSO *e*ScP ScP 23 16 33.8 +1.5
MSO LR LR
comp=Z,1µm,22.0s
SLMT Seeley Lake 39.79 334 *e*P P **23 10 45.3 +0.2**
comp=Z,18nm,0.9s,mb4.9
BMO Blue Mountains 39.85 328 *e*P P **23 10 45.0 -0.7**
comp=Z,47nm,1.5s,mb5.1
BMO *e*ScP ScP 23 16 34.6 +1.6
BMO LR LR
comp=Z,3µm,20.0s
SWMT Swartz Lake 40.21 333 *e*P P **23 10 48.6 -0.1**
comp=Z,22nm,1.0s,mb5.0
SWMT *e*ScP ScP 23 16 36.1 +1.7
YBMT Yellow Bay 40.49 334 *e*P P **23 10 52.5 +1.6**
comp=Z,5.3nm,0.5s,mb4.6
YBMT *e*ScP ScP 23 16 35.9 +0.4
JTMT Jette 40.52 333 *e*P P **23 10 51.2 0.0**
comp=Z,92nm,1.8s,mb5.3
JTMT *e*ScP ScP 23 16 36.4 +0.7
BSMT Bassoo Peak 40.82 333 *e*P P **23 10 54.3 +0.6**
comp=Z,67nm,1.7s,mb5.2
BSMT *e*ScP ScP 23 16 37.5 +0.7
YBH Yreka Blue Hor 40.98 320 *e*P P **23 10 55.2 +0.1**
comp=Z,3.7nm,0.6s,mb4.4
YBH *e*PcP PcP 23 12 54.6 +0.6
YBH Yreka Blue Hor 40.98 320 *e*P P **23 10 55.2 +0.2**
YBH *e* 23 12 54.6
YBH pmax pmax
comp=Z,4.0nm,0.6s
LNOR Lincton Mounta 41.05 328 *e*P P **23 10 57.3 +1.7**
comp=Z,4.0nm,0.5s,mb4.5
LNOR Lincton Mounta 41.05 328 *e*P P **23 10 57.3 +1.7**
LNOR pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
KHMM Horse Mountain 41.15 319 *e*P P **23 10 57.8 +1.3**
comp=Z,22nm,0.9s,mb5.0
KHMM *e*PcP PcP 23 12 56.4 +1.8
KHMM *e*ScP ScP 23 16 40.8 +2.5
WALA Waterton Lakes 41.38 335 *e*P P **23 10 59.0 +0.8**
comp=Z,7.6nm,1.8s,mb4.2
HUMO Hull Mountain 41.62 321 *e*P P **23 11 00.6 +0.2**
comp=Z,4.2nm,0.8s,mb4.2
HAWA Hanford 42.04 328 *e*P P **23 11 03.4 -0.3**
comp=Z,5.1nm,0.6s,mb4.4
HAWA *e*ScP ScP 23 16 44.2 +2.5
HAWA LR LR
comp=Z,3µm,19.0s
NEW Newport 42.17 332 *e*P P **23 11 04.4 -0.3**
comp=Z,12nm,0.7s,mb4.7
NEW *e*ScP ScP 23 16 42.2 +0.1
NEW LR LR
comp=Z,2µm,19.0s
NEW Newport 42.17 332 *e*P P **23 11 04.4 -0.3**
NEW pmax pmax
comp=Z,12nm,0.7s
NEW MLR MLR
comp=Z,2µm,19.0s
OD2 Odessa Site #2 42.31 330 *e*P P **23 11 05.7 -0.1**
comp=Z,164nm,1.8s,mb5.5
HOOD Mount Hood Mea 42.48 325 *e*P P **23 11 08.2 +0.9**
comp=Z,136nm,0.7s,mb5.8
KEBM Eden Butte 42.61 321 *e*P P **23 11 10.2 +1.9**
comp=Z,80nm,1.1s,mb5.4
FFC Flin Flon 42.76 349 *e*P P **23 11 09.6 +0.3**
comp=Z,103nm,0.8s,mb5.6
FFC *e*ScP ScP 23 16 46.5 +2.1
FFC LR LR
comp=Z,7µm,22.0s
FFC Flin Flon 42.76 349 *e*P P **23 11 09.6 +0.2**
FFC pmax pmax
comp=Z,103nm,0.8s,mb5.6
FFC MLR MLR
comp=Z,7µm,22.0s
FFC Flin Flon 42.76 349 P P **23 11 09.8 +0.4**
comp=Z,620nm,0.7s,mb6.5,SNR=31
ETW Entiat 43.26 329 *e*P P **23 11 14.1 +0.6**
comp=Z,188nm,2.3s,mb5.4
ETW *e*ScP ScP 23 16 47.8 +1.2
LON Longmire 43.47 327 *e*P P **23 11 15.1 -0.1**
comp=Z,13nm,1.0s,mb4.6
LON Longmire 43.47 327 *e*P P **23 11 15.1 -0.1**
LON pmax pmax
comp=Z,13nm,1.0s,mb4.6
WRW Wenatchee Ridg 43.70 329 P P **23 11 17.8 +0.6**
JCW Jim Creek 44.46 329 P P **23 11 22.3 -0.8**
GNW Green Mountain 44.52 327 *e*P P **23 11 23.1 -0.6**
comp=Z,8.2nm,0.6s,mb4.6
GNW *e* 23 13 06.4
GNW *e*ScP ScP 23 16 54.1 +2.4
RPN Rapa Nui 44.71 206 P P **23 11 26.9 +1.5**
comp=Z,255nm,1.0s,mb5.9,baz=359,slow=4.7,SNR=7.3
RPN LR LR 23 25 39.6
comp=Z,3µm,19.1s,baz=118,slow=30
RPN Rapa Nui 44.71 206 *e*P P **23 11 26.8 +1.4**
comp=Z,1µm,1.6s,mb6.4
RPN LR LR
comp=Z,4µm,19.0s
RPN Rapa Nui 44.71 206 *e*P P **23 11 26.8 +1.4**
RPN pmax pmax
comp=Z,1µm,1.6s,mb6.4
RPN MLR MLR
comp=Z,4µm,19.0s
NLWA Neilton Lookou 44.97 326 *e*P P **23 11 27.6 +0.4**
comp=Z,13nm,0.7s,mb4.8
NLWA *e*ScP ScP 23 16 56.6 +3.0
NLWA LR LR
comp=Z,4µm,21.0s
SCHQ Schefferville 45.02 18 P P **23 11 27.0 -0.5**
comp=Z,70nm,0.7s,mb5.5,baz=233,slow=9.4,SNR=79
SCHQ ScP ScP 23 16 52.4 -1.2
comp=Z,12nm,0.6s,baz=255,slow=4.2,SNR=8.2
SCHQ LR LR 23 31 07.4
comp=Z,3µm,19.4s,baz=216,slow=37
SCHQ Schefferville 45.02 18 *e*P P **23 11 26.9 -0.5**
comp=Z,251nm,1.2s,mb5.8
SCHQ *e* pP 23 11 44.7 -0.7
SCHQ LR LR
comp=Z,4µm,20.0s
VDB Vedder Mountai 45.09 329 P P **23 11 27.4 -0.8**
MCW Mount Constitu 45.23 329 P P **23 11 29.1 -0.1**
MCW Mount Constitu 45.23 329 P P **23 11 29.1 -0.2**
LCO Las Campanas 45.41 158 *e*P P **23 11 32.9 +2.0**
comp=Z,184nm,1.1s,mb5.7
LCO LR LR
comp=Z,2µm,21.0s
PGC Sidney 45.53 328 *e*P P **23 11 31.1 -0.5**
comp=Z,1.1nm,0.6s,mb3.8
PGC *e*ScP ScP 23 16 59.0 +3.2
FCC Fort Churchill 45.71 356 *e*P P **23 11 33.2 +0.3**
comp=Z,11nm,1.4s,mb4.4
FCC Fort Churchill 45.71 356 *e*P P **23 11 33.2 +0.3**
FCC pmax pmax
comp=Z,11nm,1.4s,mb4.4
CMCH Combarbala 47.26 159⇑ *i*P P **23 11 46.9 +1.5**
CMCH Combarbala 47.26 159 *e*P P **23 11 46.8 +1.4**
CFAA Coronel Fontan 48.67 156 P P **23 11 57.8 +1.6**
comp=Z,8.6nm,0.8s,mb4.7,baz=335,slow=7.4,SNR=128
CFAA LR LR 23 29 01.6
comp=Z,136nm,21.3s,baz=341,slow=32
CFAA Coronel Fontan 48.67 156 P P **23 11 57.8 +1.6**
CFAA LR LR 23 29 01.6
CLCH Cerro Calan 49.45 160⇓ *i*P P **23 12 03.8 +1.6**
FCH Farellones 49.47 160⇓ *i*P P **23 12 04.0 +1.7**
CPUP Villa Florida 49.77 142 P P **23 12 05.1 +0.4**
comp=Z,4.0nm,0.4s,mb4.8,baz=314,slow=9.3,SNR=26
CPUP LR LR 23 34 54.1
comp=Z,2µm,21.7s,baz=310,slow=38
CPUP Villa Florida 49.77 142 *e*P P **23 12 05.1 +0.4**
CPUP LR LR
comp=Z,376nm,20.0s
CPUP Villa Florida 49.77 142 *e*P P **23 12 05.1 +0.4**
CPUP MLR MLR
comp=Z,376nm,20.0s
BBB Bella Bella 50.05 329 P P **23 12 08.6 +2.0**
comp=Z,5.4nm,0.6s,mb4.7,baz=113,slow=7.7,SNR=4.2
BBB LR LR 23 38 57.6
comp=Z,3µm,19.3s,baz=131,slow=43
BBB Bella Bella 50.05 329 P P **23 12 08.6 +2.0**
BBB LR LR 23 38 57.6
CCHI Chillan 51.93 163⇓ *i*P P **23 12 22.6 +1.8**
CCHI Chillan 51.93 163⇓ *i*P P **23 12 22.6 +1.8**
YKA Yellowknife Ar 52.61 345 P P **23 12 24.8 -0.6**
comp=Z,88nm,0.8s,mb5.8,baz=141,slow=7.9,SNR=8.8
YKA PcP PcP 23 13 32.1 -2.6
comp=Z,42nm,1.0s,baz=146,slow=6.7,SNR=5.2
YKA ScP ScP 23 17 23.9 -1.9
comp=Z,4.8nm,0.7s,baz=144,slow=4.2,SNR=9.2
YKA S **S** **23 19 48.7 +1.7**
comp=Z,5.3nm,1.0s,baz=146,slow=13,SNR=6.8
YKA Yellowknife Ar 52.61 345 P P **23 12 24.8 -0.6**
YKA PcP PcP 23 13 32.1 -2.6
YKA ScP ScP 23 17 23.9 -1.9
YKA S **S** **23 19 48.7 +1.7**
YKA Yellowknife Ar 52.61 345 P P **23 12 24.8 -0.7**
YKA 23 13 32.1
YKA S **S** **23 19 48.7 +1.6**
SPB Sao Paulo 54.50 132 *e*P P **23 12 40.1 +0.1**
comp=Z,136nm,1.4s,mb5.8
SPB LR LR
comp=Z,1µm,20.0s
WRAK Wrangell Islan 54.53 332 PFAKE 23 12 50.0 +10
WRAK LR LR
comp=Z,3µm,22.0s
DLBC Dease Lake 54.72 335 P P **23 12 41.6 +0.6**
comp=Z,35nm,0.8s,mb5.4,baz=137,slow=5.4,SNR=24
DLBC ScP ScP 23 17 35.5 +0.4
comp=Z,2.2nm,0.4s,baz=225,slow=1.4,SNR=3.6
DLBC LR LR 23 41 07.2
comp=Z,3µm,18.7s,baz=125,slow=42
DLBC Dease Lake 54.72 335 *e*P P **23 12 42.2 +1.3**
TAOE Nuku Hiva Isla 55.46 250 *e*S S **23 20 25.8 -1.2**
comp=Z,1µm,27.2s
TAOE *e*LR LR 23 28 38.7
comp=Z,11µm,27.3s,baz=67
RCBR Riachuelo 55.83 106 P P **23 12 48.8 -0.9**
comp=Z,16nm,0.9s,mb5.1,baz=227,slow=24,SNR=6.7
RCBR LR LR 23 38 10.4
comp=Z,2µm,21.4s,baz=139,slow=38
RCBR Riachuelo 55.83 106 *e*P P **23 12 48.9 -0.8**
comp=Z,23nm,1.0s,mb5.2
RCBR LR LR
comp=Z,3µm,20.0s
TRQA Tornquist 56.80 155 *e*P P **23 12 56.6 +0.5**
comp=Z,66nm,1.6s,mb5.4
TRQA LR LR
comp=Z,1µm,19.0s
ILCA Isla Las Cabra 56.93 166‖ *e*P P **23 12 56.3 -0.7**
HUNY Huinay 57.26 166 *e*P P **23 12 59.8 +0.5**
CAM4 Nova Friburgo 57.44 127⇓ *i*P P **23 13 00.7 -0.2**
CAM4 *i* 23 13 04.8
CAM4 *i* 23 13 07.6
CAM4 *i* pP 23 13 18.0 -1.5
CAM4 *i* 23 13 40.5
CAM4 *i* 23 13 56.6
CAM4 *i* 23 14 13.8
RKT Rikitea 57.79 232 *e*P P **23 13 03.8 +0.4**
comp=Z,187nm,1.0s,mb6.1
RKT *e*S **S** **23 20 59.4 +2.0**
comp=Z,2µm,29.2s
RKT *e*LQ 23 27 28.8
comp=Z,966nm,31.5s
RKT *e*LR LR 23 29 57.5
comp=Z,9µm,28.0s,baz=48
SFJD Kangerlussuaq 59.43 16 *e*P P **23 13 13.5 -0.6**
comp=Z,191nm,1.4s,mb5.9
SFJD LR LR
comp=Z,3µm,22.0s
SFJD Kangerlussuaq 59.43 16 *i*P P **23 13 13.5 -0.6**
SFJD pmax pmax
comp=Z,42nm,1.1s,mb5.4
SFJD MLR MLR
comp=Z,3µm,26.0s
SFJD Kangerlussuaq 59.43 16 *i*P P **23 13 13.5 -0.6**
comp=Z,42nm,1.1s,mb5.4
SFJD
comp=Z,3µm,26.0s
RES Resolute Bay 61.63 358 P P **23 13 28.6 -0.3**
comp=Z,35nm,0.6s,mb5.6,baz=137,slow=5.0,SNR=115
RES LR LR 23 41 15.7
comp=Z,3µm,20.6s,baz=162,slow=37
RES Resolute Bay 61.63 358 *e*P P **23 13 28.1 -0.9**
comp=Z,22nm,0.6s,mb5.4
RES Resolute Bay 61.63 358 *e*P P **23 13 28.1 -0.9**
RES pmax pmax
comp=Z,22nm,0.6s,mb5.4
DAWY Dawson 61.65 337 *e*P P **23 13 28.3 -1.0**
INK Inuvik 62.16 343 P P **23 13 32.5 -0.1**
comp=Z,49nm,0.8s,mb5.6,baz=149,slow=4.8,SNR=41
INK Inuvik 62.16 343 *e*P P **23 13 32.2 -0.3**
INK Inuvik 62.16 343 *e*P P **23 13 32.2 -0.4**
BMRM Bremner River 62.33 333 *e*P P **23 13 34.4 +0.5**
comp=Z,24nm,1.0s,mb5.2
EGAK Eagle 62.67 338 *e*P P **23 13 35.2 -0.8**
comp=Z,60nm,1.6s,mb5.3
EGAK LR LR
comp=Z,3µm,21.0s
PAX Paxson 63.54 335 *e*P P **23 13 41.6 -0.3**
comp=Z,66nm,1.8s,mb5.2
PAX Paxson 63.54 335 *e*P P **23 13 41.6 -0.3**
PAX pmax pmax
comp=Z,66nm,1.8s,mb5.2
SML Sawmill 64.31 333 *e*P P **23 13 46.2 -0.7**
comp=Z,7.3nm,1.1s,mb4.4
SML Sawmill 64.31 333 *e*P P **23 13 46.2 -0.8**
SML pmax pmax
comp=Z,7.0nm,1.1s,mb4.4
PMR Palmer 64.59 333 *e*P P **23 13 48.1 -0.7**
PMR Palmer 64.59 333 *e*P P **23 13 48.1 -0.7**
VAH Vaihoa 64.66 246 *e*P P **23 13 51.3 +1.3**
comp=Z,375nm,1.2s,mb6.1
PMOR Pomariorio Ree 64.81 246 *e*P P **23 13 52.4 +1.4**
comp=Z,266nm,1.3s,mb5.9
ILAR Eielson Array 64.86 336 P P **23 13 49.6 -0.8**
comp=Z,26nm,1.1s,mb5.0,baz=129,slow=4.6,SNR=76
ILAR PKPPKP 23 42 22.8
comp=Z,0.4nm,0.8s,baz=299,slow=3.2,SNR=5.0
ILAR Eielson Array 64.86 336 P P **23 13 49.6 -0.8**
ILAR P'P' 23 42 22.8
ILAR Eielson Array 64.86 336 P P **23 13 49.7 -0.8**
KDAK Kodiak Island 65.08 328 P P **23 13 52.0 0.0**
comp=Z,6.6nm,0.6s,mb4.7,baz=92,slow=5.6,SNR=10
KDAK Kodiak Island 65.08 328 P P **23 13 52.0 0.0**
KDAK LR LR
comp=Z,2µm,20.0s
KDAK Kodiak Island 65.08 328 P P **23 13 52.0 0.0**
KDAK MLR MLR
comp=Z,2µm,20.0s
COLA College 65.28 336 *e*P P **23 13 52.3 -0.9**
comp=Z,19nm,1.0s,mb4.9
COLA LR LR
comp=Z,2µm,22.0s
COLA College 65.28 336 *e*P P **23 13 52.3 -0.9**
COLA pmax pmax
comp=Z,19nm,1.0s,mb4.9
COLA MLR MLR
comp=Z,2µm,22.0s
MCK McKinley 65.28 335 *e*P P **23 13 52.6 -0.6**
comp=Z,69nm,1.4s,mb5.3
MCK McKinley 65.28 335 *e*P P **23 13 52.6 -0.6**
MCK pmax pmax
comp=Z,74nm,1.4s,mb5.3
TRF Thorofare Moun 65.74 334 *e*P P **23 13 55.6 -0.6**
comp=Z,62nm,1.1s,mb5.3
MEH Mehetia 66.08 244 *e*P P **23 13 59.3 +0.2**
comp=Z,176nm,1.1s,mb5.8
BPAW Bear Paw Mtn. 66.26 335 *e*P P **23 13 58.7 -0.8**
SUMG Summit 66.26 15 *e*P P **23 13 59.5 +0.1**
comp=Z,381nm,1.6s,mb6.0
SUMG Summit 66.26 15 *e*P P **23 13 59.5 +0.1**
SUMG pmax pmax
comp=Z,381nm,1.6s
SUMG Summit 66.26 15⇑ *i*P P **23 13 59.7 +0.3**
comp=Z,37nm,1.0s,mb5.2
SUMG *i* pP 23 14 19.3 +1.0
SUMG
comp=Z,3µm,26.0s
PPLA Purkeypile 66.38 333 *e*P P **23 13 59.2 -1.0**
comp=Z,150nm,1.7s,mb5.5
COLD Coldfoot 67.07 338 *e*P P **23 14 05.3 +0.8**
TIAR Tiarei 67.08 244 *e*P P **23 14 05.6 +0.1**
comp=Z,209nm,1.1s,mb5.9
PPT Papeete 67.28 244 *e*P P **23 14 06.8 0.0**
comp=Z,79nm,1.4s,mb5.3
PPT *e*S S 23 22 54.9 -1.9
comp=Z,692nm,24.2s
PPT *e*LR LR 23 34 13.6
comp=Z,14µm,27.5s,baz=62
PPT Papeete 67.28 244 LR LR 23 35 19.5
comp=Z,3µm,21.5s,baz=54,slow=28
PAE Paea 67.32 244 *e*P P **23 14 07.1 0.0**
comp=Z,31nm,1.1s,mb5.1
BORG Borgarnes 68.65 25 P P **23 14 14.2 -0.4**
comp=Z,16nm,0.9s,mb4.8,baz=267,slow=7.2,SNR=3.5
BORG LR LR 23 46 21.0
comp=Z,872nm,18.7s,baz=179,slow=38
BORG Borgarnes 68.65 25 P P **23 14 14.2 -0.4**
BORG LR LR 23 46 21.0
BORG Borgarnes 68.65 25 P P **23 14 14.2 -0.4**
XMAS Kiritimati 68.73 267 PFAKE 23 14 30.0 +14
XMAS LR LR
comp=Z,4µm,22.0s
TBI Tubuai 69.52 239 *e*P P **23 14 20.0 -0.7**
comp=Z,231nm,1.1s,mb5.9
TBI *e*S S 23 23 22.6 -0.6
comp=Z,972nm,28.5s
TBI *e*LR LR 23 35 20.0
comp=Z,9µm,28.2s,baz=61
EFI East Falkland 69.84 160 PFAKE 23 14 30.0 +8.0
EFI LR LR
comp=Z,2µm,21.0s
EFI East Falkland 69.84 160 *i*P P **23 14 22.6 +0.6**
USHA Ushuaia 69.87 168 P P **23 14 23.9 +1.8**
comp=Z,46nm,0.9s,mb5.3,baz=319,slow=8.2,SNR=14

USHA Ushuaia 69.87 168 P **P** **23 14 23.9 +1.8**
SCO Scoresbysund 70.04 19 *i* P **P** **23 14 21.8 -1.3**
SCO pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
SCO MLR MLR
comp=Z,6µm,26.0s
ALE Alert 70.22 4 P **P** **23 14 22.0 -2.0**
comp=Z,228nm,1.4s,mb5.8,SNR=26
DAG Danmarks Havn 72.79 13 ⇓ *i* P **P** **23 14 37.9 -1.6**
DAG MLR MLR
comp=Z,4µm,29.0s
DAG Danmarks Havn 72.79 13 ⇓ *i* P **P** **23 14 37.9 -1.6**
comp=Z,26nm,0.8s,mb5.1
DAG
comp=Z,3µm,29.0s
EMAZ Mazaricos 73.77 49 P **P** **23 14 43.3 -2.6**
comp=Z,134nm,1.5s,mb5.5
EMAZ pP pP 23 15 03.0 -2.2
PMAFR Mafra 73.78 53 *e*S S 23 24 11.9 +0.1
PMAFR Mafra 73.78 53 *e*LQ 23 34 23.5
PMAFR *e*LR LR 23 37 41.7
comp=Z,3µm,24.0s
LIS Lisbon 73.89 53 *e*P **P** **23 14 46.1 -0.6**
LIS AMS AMS 23 40 33.2
comp=E,3µm,24.9s
LIS Lisbon 73.89 53 *e*P **P** **23 14 46.1 -0.6**
STS Santiago 74.08 49 P **P** **23 14 45.0 -2.7**
comp=E,18nm,0.9s,mb4.8
STS pP pP 23 15 04.4 -2.6
STS Santiago 74.08 49 P **P** **23 14 45.0 -2.8**
STS *PP pP 23 15 04.4 -2.7
STS pmax pmax
comp=Z,18nm,0.9s,mb4.8
PFVI Vila Bisbo 74.27 55 P **P** **23 14 48.5 -0.5**
PFVI Vila Bisbo 74.27 55 *e*P **P** **23 14 49.8 +0.8**
comp=Z,90nm,1.3s,mb5.3
PFVI *e*sP sP 23 15 09.1 -7.1
PFVI *e*S S 23 24 19.2 +1.8
PFVI Vila Bisbo 74.27 55 *e*LR LR 23 37 53.4
comp=Z,2µm,22.0s
PTEO Sao Teotonio 74.32 54 *e*P **P** **23 14 50.1 +0.9**
comp=Z,67nm,1.7s,mb5.1
PTEO *e*sP sP 23 15 09.4 -7.1
PGAV Gavieira, Arco 74.35 50 *e*P **P** **23 14 49.9 +0.6**
comp=Z,49nm,1.7s,mb5.0
PGAV Gavieira, Arco 74.35 50 *e*LQ 23 34 13.8
PGAV *e*LR LR 23 38 01.9
comp=Z,3µm,22.0s
MORF Marmelete 74.39 55 *e*P **P** **23 14 49.8 +0.1**
MORF *e* 23 17 36.4
MORF *e*S S 23 24 21.1 +2.3
MORF Marmelete 74.39 55 *e*P **P** **23 14 50.7 +1.0**
comp=Z,73nm,1.6s,mb5.2
MORF *e*sP sP 23 15 10.0 -6.9
MORF *e*S S 23 24 23.0 +4.2
MORF Marmelete 74.39 55 *e*LR LR 23 38 22.4
comp=Z,3µm,22.0s
PTOM Tomar 74.40 52 *e*P **P** **23 14 50.4 +0.7**
comp=Z,73nm,1.6s,mb5.2
PNCL Nicolau / Gran 74.43 54 *e*P **P** **23 14 53.1 +3.2**
comp=Z,28nm,1.8s,mb4.7
PNCL *e*sP sP 23 15 09.5 -7.6
PNCL *e*S S 23 24 19.9 +0.8
PNCL Nicolau / Gran 74.43 54 *e*LR LR 23 37 48.4
comp=Z,3µm,20.0s
JMIC Jan Mayen 74.50 20 *e*P **P** **23 14 54.6 +4.9**
JMIC AMS AMS 23 42 06.2
comp=Z,5µm,26.8s
JMIC Jan Mayen 74.50 20 LR LR 23 47 19.8
comp=Z,866nm,21.8s,baz=263,slow=36
ELOB Lobios 74.51 50 P **P** **23 14 47.1 -3.2**
comp=Z,28nm,1.0s,mb5.0
ELOB pP pP 23 15 06.6 -2.9
MESJ Messejana 74.69 54 *e*P **P** **23 14 51.5 +0.1**
MESJ *e* 23 14 59.0
baz=267,slow=8.6
MESJ *e*PP PP 23 17 39.0 -0.2
MESJ *e*S S 23 24 24.1 +2.0
MESJ AMS AMS 23 42 30.0
comp=Z,3µm,26.9s
MESJ Messejana 74.69 54 *e*P **P** **23 14 51.5 +0.1**
MESJ *e* 23 17 38.9
MESJ *e*S S 23 24 24.1 +2.0
PVIS Viseu 74.72 51 *e*P **P** **23 14 49.9 -1.6**
comp=Z,55nm,1.5s,mb5.1
PVIS *e*sP sP 23 15 11.0 -7.7
POLO Lamas de Olo 74.74 50 *e*P **P** **23 14 50.5 -1.1**
comp=Z,13nm,1.6s,mb4.4
POLO *e*sP sP 23 15 11.1 -7.8
POLO *e*S S 23 24 18.4 -4.1
POLO Lamas de Olo 74.74 50 *e*LQ 23 35 24.8
POLO *e*LR LR 23 37 53.3
comp=Z,1µm,22.0s
EVO Evora 74.80 53 *e*P **P** **23 14 49.4 -2.6**
comp=Z,38nm,0.9s,mb4.8
EVO *e*pP pP 23 15 09.0 -2.3
EVO *e*R
comp=Z,5µm,23.0s
PVRL Vila Real 74.81 50 *e*P **P** **23 14 51.4 -0.6**
comp=Z,26nm,1.5s,mb4.7
PVRL *e*sP sP 23 15 11.9 -7.4
PCVE Castro Verde 74.85 54 *e*P **P** **23 14 54.0 +1.7**
comp=Z,34nm,1.6s,mb4.8
PCVE *e*sP sP 23 15 12.2 -7.4
PCVE Castro Verde 74.85 54 *e*LQ 23 35 27.1
PCVE *e*LR LR 23 38 07.4
comp=Z,3µm,22.0s
PBEJ Beja 74.95 54 *e*P **P** **23 14 53.7 +0.8**
comp=Z,41nm,1.7s,mb4.9
PBEJ *e*sP sP 23 15 12.8 -7.4
PBDV Barranco-do-Ve 74.97 55 *e*P **P** **23 14 54.7 +1.7**
comp=Z,74nm,1.5s,mb5.2
PBDV *e*sP sP 23 15 13.4 -6.9
PBDV Barranco-do-Ve 74.97 55 *e*LR LR 23 38 17.3
comp=Z,3µm,22.0s
MTE Manteigas 75.01 51 *e*P **P** **23 14 51.6 -1.5**
comp=Z,35nm,1.1s,mb5.0
MTE LR LR
comp=Z,3µm,21.0s
MTE Manteigas 75.01 51 *e*P **P** **23 14 51.6 -1.6**
comp=Z,52nm,1.3s,mb5.1
MTE *e*sP sP 23 15 13.0 -7.4
MTE *e*S S 23 24 26.5 +1.0
MTE Manteigas 75.01 51 *e*LQ 23 34 53.5
MTE *e*LR LR 23 38 32.5
comp=Z,3µm,22.0s
EPON Pontenova 75.08 48 P **P** **23 14 53.3 -0.2**
comp=Z,96nm,2.0s,mb5.2
PESTR Estremoz 75.10 53 *e*P **P** **23 14 52.1 -1.6**
comp=Z,46nm,1.5s,mb5.0
PESTR *e*sP sP 23 15 13.2 -7.8
PESTR *e*S S 23 24 27.7 +1.1
PESTR Estremoz 75.10 53 *e*LQ 23 34 54.5
PESTR *e*LR LR 23 38 14.1
comp=Z,3µm,22.0s
PCBR Castelo Branco 75.10 52 *e*P **P** **23 14 51.8 -1.9**
comp=Z,62nm,1.3s,mb5.2
PCBR *e*sP sP 23 15 13.4 -7.6
PVAQ Vaqueiros 75.13 54 *e*P **P** **23 14 55.0 +1.1**
comp=Z,76nm,1.2s,mb5.3
PVAQ *e*sP sP 23 15 13.8 -7.4
PVAQ *e*S S 23 24 29.5 +2.5
PVAQ Vaqueiros 75.13 54 *e*LQ 23 35 51.5
PVAQ *e*LR LR 23 38 17.2
comp=Z,3µm,20.0s
PMRV Marv??o 75.20 52 *e*P **P** **23 14 52.3 -2.0**
comp=Z,45nm,1.5s,mb5.0
PMRV *e*sP sP 23 15 13.6 -8.0
PMRV *e*S S 23 24 27.9 +0.2
PMRV Marv??o 75.20 52 *e*LQ 23 35 39.3
PMRV *e*LR LR 23 38 19.8
comp=Z,3µm,22.0s
EGRO El Granado 75.30 54 P **P** **23 14 55.8 +0.9**
comp=Z,12nm,1.0s,mb4.6
EGRO pP pP 23 15 14.6 +0.4
MVO Moncorvo 75.33 51 P **P** **23 14 53.4 -1.6**
MVO Moncorvo 75.33 51 *e*P **P** **23 14 54.0 -1.0**
comp=Z,44nm,1.4s,mb5.0
MVO *e*sP sP 23 15 15.2 -7.1
MVO *e*S S 23 24 28.1 -1.0
MVO Moncorvo 75.33 51 *e*LQ 23 35 10.4
MVO *e*LR LR 23 38 20.9
comp=Z,2µm,20.0s
ECAL Calabor 75.49 50 P **P** **23 14 53.8 -2.1**
comp=Z,144nm,2.0s,mb5.4

PBRG Braganca 75.50 50 *e*P **P** **23 14 56.7 +0.8**
comp=Z,47nm,1.4s,mb5.0
PBRG *e*pP pP 23 15 12.5 -2.8
PBRG *e*sP sP 23 15 15.8 -7.4
PBRG Braganca 75.50 50 *e*LR LR 23 38 16.4
comp=Z,3µm,20.0s
EBAD Badajoz 75.56 53 P **P** **23 14 55.1 -1.3**
comp=Z,9.5nm,1.2s,mb4.4
PBAR Barrancos 75.59 54 *e*P **P** **23 14 57.3 +0.7**
comp=Z,45nm,1.5s,mb5.0
PBAR *e*sP sP 23 15 16.3 -7.5
PBAR Barrancos 75.59 54 *e*LR LR 23 38 29.9
comp=Z,2µm,22.0s
EMIN Mina Concepcio 75.92 54 P **P** **23 14 56.0 -2.4**
comp=Z,27nm,1.1s,mb4.9
EPLA Plasencia 76.15 52 P **P** **23 14 58.4 -1.4**
comp=Z,42nm,1.3s,mb5.0
EPLA Plasencia 76.15 52 P **P** **23 14 58.4 -1.3**
EPLA pmax pmax
comp=Z,43nm,1.3s,mb5.0
RTC Rabat Centre 76.18 58 PFAKE 23 15 10.0 +10
RTC LR LR
comp=Z,2µm,20.0s
SFS San Fernando 76.43 55 PFAKE 23 15 10.0 +8.6
SFS LR LR
comp=Z,5µm,22.0s
ESPR Espera 76.66 55 P **P** **23 15 01.9 -0.8**
comp=Z,40nm,1.2s,mb5.0
ESK Eskdalemuir 76.82 36 PFAKE 23 15 10.0 +6.8
ESK LR LR
comp=Z,3µm,21.0s
ESK Eskdalemuir 76.82 36 *i* P **P** **23 15 03.0 -0.2**
ROSF Rostrenen 77.36 43 *e*P **P** **23 15 03.9 -2.5**
QUIF Quistinic 77.48 43 *e*P **P** **23 15 04.6 -2.4**
comp=Z,47nm,1.2s,mb4.8
EADA Adamuz 77.52 53 P **P** **23 15 05.0 -2.4**
comp=Z,87nm,1.8s,mb5.2
PAB San Pablo 77.53 52 *e*P **P** **23 15 05.9 -1.6**
comp=Z,45nm,1.4s,mb5.0
PAB LR LR
comp=Z,4µm,22.0s
PAB San Pablo 77.53 52 *e*P **P** **23 15 05.9 -1.6**
PAB pmax pmax
comp=Z,45nm,1.4s,mb5.0
PAB MLR MLR
comp=Z,4µm,22.0s
GUD Guadarrama 77.55 51 P **P** **23 15 05.6 -2.0**
comp=Z,37nm,0.8s,mb5.2
GUD Guadarrama 77.55 51 P **P** **23 15 05.6 -2.0**
GUD pmax pmax
comp=Z,37nm,0.8s,mb5.2
EMIJ Mijas 77.56 55 P **P** **23 15 08.7 +1.0**
comp=Z,39nm,1.4s,mb4.9
RAR Rarotonga 77.57 245 P **P** **23 15 09.1 +1.2**
comp=Z,12nm,0.5s,mb4.9,baz=340,slow=4.0,SNR=5.9
RAR LR LR 23 40 24.3
comp=Z,2µm,21.6s,baz=88,slow=29
RAR Rarotonga 77.57 245 P **P** **23 15 09.2 +1.2**
RAR LR LR 23 40 24.3
RAR Rarotonga 77.57 245 P **P** **23 15 09.2 +1.2**
ELAN Lanestosa 77.79 48 P **P** **23 15 05.9 -3.0**
comp=Z,73nm,1.6s,mb5.2
ESDC Sonseca Array 77.81 52 P **P** **23 15 07.4 -1.7**
comp=Z,14nm,0.9s,mb4.7,baz=287,slow=5.6,SNR=32
ESDC pP pP 23 15 28.6 +0.1
comp=Z,18nm,1.0s,baz=284,slow=5.8,SNR=9.9
ESDC LR LR 23 43 18.9
comp=Z,3µm,21.8s,baz=285,slow=31
ESDC Sonseca Array 77.81 52 P **P** **23 15 07.7 -1.4**
comp=Z,14nm,0.9s,mb4.7
ESDC pP pP 23 15 28.6 +0.1
ESLA Sonseca Array 77.81 52 *e*P **P** **23 15 07.5 -1.6**
comp=Z,11nm,1.1s,mb4.5
ESLA *e* pP 23 15 28.4 -0.1
ESLA LR LR
comp=Z,21µm,22.0s
SGMF Saint Gilles 77.85 43 *e*P **P** **23 15 07.0 -2.1**
ELOJ Sierra Loja 77.98 54 P **P** **23 15 09.4 -0.6**
comp=Z,44nm,1.3s,mb5.0
ELOJ Sierra Loja 77.98 54 P **P** **23 15 09.4 -0.6**
ELOJ pmax pmax
comp=Z,44nm,1.3s,mb5.0
MDT Midelt 78.19 59 P **P** **23 15 09.5 -1.8**
comp=Z,6.4nm,0.9s,mb4.4,baz=297,slow=6.9,SNR=9.4
MDT pP pP 23 15 31.3 +0.6
comp=Z,23nm,1.1s,baz=286,slow=6.3,SNR=14
MDT LR LR 23 43 41.3
comp=Z,3µm,21.1s,baz=306,slow=31
MDT Midelt 78.19 59 P **P** **23 15 09.5 -1.8**
MDT pP pP 23 15 31.3 +0.6
MDT LR LR 23 43 41.3
ERON Agron 78.27 55 P **P** **23 15 10.1 -1.6**
comp=Z,5.5nm,0.6s,mb4.5
ECOG Cogollos-Vega 78.43 54 P **P** **23 15 11.6 -0.9**
comp=Z,28nm,1.0s,mb4.9
ECOG Cogollos-Vega 78.43 54 P **P** **23 15 11.6 -0.9**
ECOG pmax pmax
comp=Z,28nm,1.0s,mb5.0
EQES Quesada 78.75 54 P **P** **23 15 12.2 -2.1**
comp=Z,24nm,1.3s,mb4.9
GRR Gorron 78.96 43 *e*P **P** **23 15 13.0 -2.2**
comp=Z,22nm,0.8s,mb4.7
GRR *e*pP pP 23 15 31.1 -3.6
EVIA Vianos 79.08 53 P **P** **23 15 15.7 -0.3**
comp=Z,25nm,1.0s,mb5.0
EVIA Vianos 79.08 53 P **P** **23 15 15.7 -0.3**
EVIA pmax pmax
comp=Z,25nm,1.0s,mb5.0
ETOR Torete 79.11 50 P **P** **23 15 14.3 -1.9**
comp=Z,20nm,1.0s,mb4.9
ETOR Torete 79.11 50 P **P** **23 15 14.3 -1.9**
ETOR pmax pmax
comp=Z,20nm,1.0s,mb4.9
EHUE Huescar 79.12 54 P **P** **23 15 14.8 -1.5**
comp=Z,11nm,1.0s,mb4.6
EHUE Huescar 79.12 54 P **P** **23 15 14.8 -1.5**
EHUE pmax pmax
comp=Z,11nm,1.0s,mb4.6
FLN La Foliniere 79.16 42 *e*P **P** **23 15 14.0 -2.3**
FLN *e*R
comp=Z,4µm,22.5s
EALK Alkurruntz 79.19 48 P **P** **23 15 15.1 -1.5**
comp=Z,23nm,1.2s,mb4.9
KBS Kingsbay 79.26 11 *e*P **P** **23 15 18.2 +2.0**
KBS AMS AMS 23 49 19.0
comp=Z,3µm,26.8s
KBS Kingsbay 79.26 11 PFAKE 23 15 30.0 +14
KBS LR LR
comp=Z,2µm,19.0s
KBS Kingsbay 79.26 11 ⇓ *i* P **P** **23 15 17.0 +0.7**
SJPF Ste Jean 79.41 48 *e*P **P** **23 15 16.2 -1.6**
comp=Z,153nm,1.4s,mb5.3
LDF La Druitiere 79.42 42 *e*P **P** **23 15 15.3 -2.4**
comp=Z,8.1nm,0.7s,mb4.3
MFF Saint Martin d 79.68 44 *e*P **P** **23 15 16.9 -2.2**
MFF *e*pP pP 23 15 35.5 -3.1
ETOB Tobarra 79.81 53 P **P** **23 15 20.6 +0.5**
comp=Z,20nm,1.4s,mb4.8
PMSA Palmer Station 79.92 169 P **P** **23 15 21.1 +1.3**
comp=Z,63nm,1.0s,mb5.4,baz=332,slow=4.5,SNR=6.7
PMSA Palmer Station 79.92 169 *e*P **P** **23 15 21.1 +1.2**
comp=Z,88nm,1.0s,mb5.5
PMSA LR LR
comp=Z,1µm,22.0s
ETSF Etsaut 79.92 48 *e*P **P** **23 15 19.1 -1.4**
comp=Z,114nm,1.6s,mb5.2
EMUR La Murta 80.18 53 P **P** **23 15 19.9 -2.1**
comp=Z,63nm,1.8s,mb5.1
SPA0 Spitsbergen Ar 80.31 12 *e*P **P** **23 15 22.2 +0.2**
SPITS Spitsbergen Ar 80.31 12 P **P** **23 15 21.4 -0.5**
comp=Z,6.7nm,0.5s,mb4.8,baz=289,slow=6.0,SNR=27
SPITS LR LR 23 51 39.4
comp=Z,2µm,21.0s,baz=280,slow=36
SPITS Spitsbergen Ar 80.31 12 P **P** **23 15 21.4 -0.5**
SPITS LR LR 23 51 39.4
SPITS Spitsbergen Ar 80.31 12 P **P** **23 15 21.4 -0.6**
EMOS Mosqueruela 80.37 51 P **P** **23 15 23.2 +0.2**
comp=Z,77nm,1.2s,mb5.4
EBIE Bielsa 80.47 48 P **P** **23 15 23.1 -0.4**
comp=Z,57nm,1.8s,mb5.1
LFF La Frestale 80.54 46 *e*P **P** **23 15 21.8 -2.0**
comp=Z,30nm,0.8s,mb4.9
LFF *e*pP pP 23 15 40.2 -3.2
EPF Esparros 80.56 48 *e*P **P** **23 15 22.1 -1.8**
comp=Z,92nm,1.4s,mb5.1
RJF Les Rejaudoux 81.02 46 *e*P **P** **23 15 24.2 -2.2**
comp=Z,145nm,1.6s,mb5.3
RJF *e*R
comp=Z,6µm,22.2s
CSOR Sort 81.24 49 P **P** **23 15 28.4 +0.8**
comp=Z,46nm,1.1s,mb5.2
TCF Toulx Ste Croi 81.34 45 *e*P **P** **23 15 25.5 -2.5**
comp=Z,40nm,1.3s,mb4.8
TCF *e*pP pP 23 15 44.2 -3.4
HYF Humbligny 81.46 44 *e*P **P** **23 15 26.5 -2.1**
CAF Calviac 81.47 46 *e*P **P** **23 15 26.6 -2.2**
comp=Z,65nm,1.4s,mb5.0
BGF Bois d'Agland 81.72 44 *e*P **P** **23 15 27.6 -2.5**
comp=Z,21nm,0.8s,mb4.7
MTLF Montolieu 81.86 47 *e*P **P** **23 15 28.8 -2.0**
comp=Z,58nm,1.3s,mb5.0
SNF Seneffe 81.94 40 P **P** **23 15 28.9 -2.2**
comp=Z,27nm,2.1s,mb4.7
BAIF Baives 81.98 41 *e*P **P** **23 15 29.0 -2.3**
comp=Z,79nm,1.5s,mb5.0
PYM Petit Puy Mans 81.98 45 *e*P **P** **23 15 29.5 -1.9**
PYM Petit Puy Mans 81.98 45 *e*P **P** **23 15 29.5 -1.9**
PYM Petit Puy Mans 81.98 45 *e*P **P** **23 15 29.5 -1.9**
AVF Avril sur Loir 82.02 44 *e*P **P** **23 15 28.8 -2.8**
comp=Z,30nm,1.2s,mb4.7
SSF Saint Saulge 82.08 44 *e*P **P** **23 15 29.2 -2.7**
comp=Z,56nm,1.4s,mb4.9
SSF *e*pP pP 23 15 47.8 -3.7
DOU Dourbes 82.22 40 P **P** **23 15 30.6 -1.9**
LBL Lubilhac 82.24 45 *e*P **P** **23 15 31.2 -1.6**
LBL Lubilhac 82.24 45 *e*P **P** **23 15 31.2 -1.6**
LBL Lubilhac 82.24 45 *e*P **P** **23 15 31.2 -1.6**
LOR Lormes 82.27 43 *e*P **P** **23 15 30.4 -2.5**
comp=Z,68nm,1.3s,mb5.0
LOR *e*pP pP 23 15 49.1 -3.4
LOR *e*R
comp=Z,3µm,22.0s
GIVF Givet 82.36 40 *e*P **P** **23 15 31.2 -2.1**
comp=Z,113nm,1.5s,mb5.2
GIVF *e*pP pP 23 15 49.7 -3.2
SMF Signal de Mont 82.38 44 *e*P **P** **23 15 30.6 -2.9**
comp=Z,19nm,1.0s,mb4.6
SMF *e*pP pP 23 15 49.4 -3.7
BCLA Clavier 82.60 40 P **P** **23 15 32.5 -2.0**
comp=Z,21nm,1.7s,mb4.7
DBIC Dimbokro 82.65 85 P **P** **23 15 33.7 -1.9**
comp=Z,13nm,1.0s,mb4.7,baz=274,slow=5.8,SNR=13
DBIC LR LR 23 49 09.7
comp=Z,1µm,21.8s,baz=272,slow=33
DBIC Dimbokro 82.65 85 *e*P **P** **23 15 33.5 -2.1**
comp=Z,22nm,1.2s,mb4.9
DBIC LR LR
comp=Z,1µm,22.0s
DBIC Dimbokro 82.65 85 *e*P **P** **23 15 33.5 -2.1**
DBIC pmax pmax
comp=Z,22nm,1.2s
DBIC MLR MLR
comp=Z,1µm,22.0s
BEBN Eben Emael 82.75 40 P **P** **23 15 33.8 -1.6**
STOK Stokkvaagen 82.76 23 *e*P **P** **23 15 36.0 +0.9**
MEZF Maizieres J'vi 82.82 42 *e*P **P** **23 15 33.6 -2.2**
comp=Z,19nm,0.7s,mb4.7
SFTF Sexfontaines 82.87 42 *e*P **P** **23 15 33.7 -2.3**
SFTF *e*pP pP 23 15 52.2 -3.4
LASF Ste Croix 82.89 47 *e*P **P** **23 15 34.6 -1.6**
MEM Membach 83.00 40 P **P** **23 15 34.3 -2.4**
comp=Z,19nm,1.5s,mb4.7
SSB Saint Sauveur 83.13 45 PFAKE 23 15 50.0 +13
SSB LR LR
comp=Z,2µm,21.0s
STEI Steigen 83.13 22 *e*P **P** **23 15 37.5 +0.6**
PAGF Fort de Pagny 83.25 42 *e*P **P** **23 15 35.9 -2.1**
comp=Z,9.7nm,0.8s,mb4.4
PAGF *e*pP pP 23 15 54.6 -3.0
WLF Walferdange 83.29 41 P **P** **23 15 36.6 -1.5**
comp=Z,29nm,1.8s,mb4.8
WLF Walferdange 83.29 41 *e*P **P** **23 15 35.9 -2.2**
comp=Z,3.0nm,0.5s,mb4.4
WLF Walferdange 83.29 41 PFAKE 23 15 50.0 +12
WLF LR LR
comp=Z,4µm,22.0s
VIVF Saint-Julien-l 83.30 46 *e*P **P** **23 15 36.8 -1.5**
comp=Z,52nm,1.2s,mb4.9
BILL Bilibino 83.40 339 *e*P **P** **23 15 38.0 -0.4**
comp=Z,131nm,1.4s,mb5.6
BILL *e*PP PP 23 18 47.4 -3.4
BILL LR LR
comp=Z,2µm,22.0s
BILL Bilibino 83.40 339 *c i* P **P** **23 15 37.9 -0.4**
BILL *e* 23 18 47.8
BILL *e*S S 23 25 52.9 -0.6
BILL pmax pmax
comp=Z,121nm,1.4s,mb5.5
BILL MLR MLR
comp=Z,1µm,16.0s
NB2 NORSAR Subarra 83.41 29 P **P** **23 15 37.8 -0.7**
comp=Z,2.9nm,0.7s,mb4.2,baz=286,slow=5.1
NOA NORSAR Array B 83.41 29 P **P** **23 15 37.8 -0.7**
comp=Z,5.5nm,0.8s,mb4.4,baz=287,slow=5.0,SNR=9.3
NOA pP pP 23 15 58.5 +0.3
comp=Z,6.7nm,0.9s,baz=285,slow=5.2,SNR=5.3
NOA LR LR 23 48 55.3
comp=Z,2µm,21.0s,baz=285,slow=33
NOA NORSAR Array B 83.41 29 P **P** **23 15 37.8 -0.7**
NOA pP pP 23 15 58.5 +0.4
NOA LR LR 23 48 55.3
NOA NORSAR Array B 83.41 29 P **P** **23 15 37.8 -0.7**
THEF They Montfort 83.49 42 *e*P **P** **23 15 36.4 -2.8**
THEF They Montfort 83.49 42 *e*P **P** **23 15 36.4 -2.8**
THEF They Montfort 83.49 42 *e*P **P** **23 15 36.4 -2.8**
NC602 NORSAR Array S 83.65 29 *e*P **P** **23 15 39.6 -0.2**
HAU Haudompre 83.77 42 *e*P **P** **23 15 38.5 -2.2**
comp=Z,20nm,0.9s,mb4.6
HAU *e*R
comp=Z,2µm,21.5s
TRO Tromso 83.82 20 *e*P **P** **23 15 41.0 +0.5**
RUP Ruppelstein 83.86 41 *e*P **P** **23 15 39.3 -1.7**
RUP Ruppelstein 83.86 41 *e*P **P** **23 15 39.3 -1.7**
CABF La Chapelle 83.90 44 *e*P **P** **23 15 39.3 -2.1**
comp=Z,50nm,1.2s,mb4.9
HINF Hinteralfeld 84.15 42 *e*P **P** **23 15 40.1 -2.5**
HINF *e*pP pP 23 15 58.8 -3.4
LOMF Lomont 84.23 43 *e*P **P** **23 15 40.1 -2.9**
LOMF Lomont 84.23 43 *e*P **P** **23 15 40.1 -2.9**
LOMF Lomont 84.23 43 *e*P **P** **23 15 40.1 -2.9**
ECH Echery 84.25 42 *e*P **P** **23 15 41.2 -1.9**
comp=Z,64nm,1.5s,mb5.2
ECH LR LR
comp=Z,2µm,21.0s
ECH Echery 84.25 42 *e*P **P** **23 15 41.2 -1.9**
ECH pmax pmax
comp=Z,64nm,1.5s,mb5.2
ECH MLR MLR
comp=Z,2µm,21.0s
ECH Echery 84.25 42 *e*P **P** **23 15 40.3 -2.8**
CDF Champ du Feu 84.29 42 *e*P **P** **23 15 41.2 -2.1**
comp=Z,19nm,0.9s,mb4.6
MOF Molkenrain 84.32 42 *e*P **P** **23 15 40.3 -3.2**
MOF Molkenrain 84.32 42 *e*P **P** **23 15 40.3 -3.2**
MOF Molkenrain 84.32 42 *e*P **P** **23 15 40.3 -3.2**
LANF Langenberg 84.50 41 *e*P **P** **23 15 42.0 -2.3**
LANF Langenberg 84.50 41 *e*P **P** **23 15 42.0 -2.3**
LANF Langenberg 84.50 41 *e*P **P** **23 15 42.0 -2.3**
LPL La Plagne 84.58 45 *e*P **P** **23 15 43.5 -1.3**
comp=Z,10nm,0.7s,mb4.6
LPG La Plagne 84.60 45 *e*P **P** **23 15 43.8 -1.1**
TNS Taunus Mts 84.61 40 *e*P **P** **23 15 42.6 -2.2**
comp=Z,5.0nm,0.8s,mb4.5
TNS Taunus Mts 84.61 40 *e*P **P** **23 15 42.6 -2.2**
TNS pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BNI Bardonecchia 84.65 45 PFAKE 23 16 00.0 +15
BNI LR LR
comp=Z,3µm,20.0s
BBS Basel-Blauen 84.66 43 *e*P **P** **23 15 42.7 -2.5**
BBS Basel-Blauen 84.66 43 *e*P **P** **23 15 42.7 -2.5**
MBDF Montbardon 84.79 45 *e*P **P** **23 15 44.4 -1.5**
comp=Z,13nm,0.7s,mb4.7
BSEG Bad Segeberg 84.80 36 *e*P **P** **23 15 44.0 -1.7**
comp=Z,52nm,1.5s,mb5.2
BSEG Bad Segeberg 84.80 36 *e*P **P** **23 15 44.0 -1.7**
BSEG pmax pmax
comp=Z,52nm,1.5s,mb5.2
HFS Hagfors 84.84 29 LR LR 23 49 35.8
comp=Z,2µm,20.8s,baz=278,slow=33
FELD Feldberg im Sc 84.89 42 *e*P **P** **23 15 43.7 -2.6**

LMR La Mourre 84.92 47 *e*P **P 23 15 44.5 -2.1**
FRF La Foret Royal 84.97 47 *e*P **P 23 15 44.8 -2.0**
TOD Tromm 84.98 40 *e*P **P 23 15 44.2 -2.5**
TOD Tromm 84.98 40 *e*P **P 23 15 44.2 -2.5**
BFO Black Forest 84.99 42 *e*P **P 23 15 43.9 -2.9**
comp=Z,20nm,1.5s,mb4.8
BFO Black Forest 84.99 42 *e*P **P 23 15 44.6 -2.2**
comp=Z,38nm,1.5s,mb5.1
BFO LR LR
comp=Z,2µm,20.0s
BFO Black Forest 84.99 42 *e*P **P 23 15 44.6 -2.2**
BFO pmax pmax
comp=Z,38nm,1.5s,mb5.1
BFO MLR MLR
comp=Z,2µm,20.0s
BFO Black Forest 84.99 42 P **P 23 15 44.2 -2.6**
comp=Z,78nm,1.3s,mb5.5,SNR=6.0
NRDL Niedersach Rie 85.05 37 *e*P **P 23 15 45.1 -1.9**
comp=Z,2.0nm,0.6s,mb4.2
SPAK Spaichingen-Ko 85.34 42 *e*P **P 23 15 46.4 -2.2**
CLZ Clausthal 85.38 38 *e*P **P 23 15 46.9 -1.8**
comp=Z,1.0nm,0.1s,mb4.7
CLZ Clausthal 85.38 38 *e*P **P 23 15 46.9 -1.8**
CLZ pmax pmax
comp=Z,1.0nm,0.1s,mb4.7
STU Stuttgart 85.44 41 *e*P **P 23 15 47.8 -1.2**
comp=Z,12nm,0.6s,mb5.0
STU Stuttgart 85.44 41 *e*P **P 23 15 47.8 -1.2**
STU pmax pmax
comp=Z,12nm,0.6s,mb5.0
SBF Sospel 85.45 46 *e*P **P 23 15 47.2 -2.0**
comp=Z,67nm,0.8s,mb5.3
KTK1 Kautokeino 85.47 20 *e*P **P 23 15 48.9 +0.1**
ARCES ARCESS Array B 85.97 19 P **P 23 15 50.5 -0.8**
comp=Z,5.5nm,0.6s,mb4.6,baz=271,slow=4.1,SNR=19
ARCES LR LR 23 54 36.5
comp=Z,886nm,18.3s,baz=314,slow=36
ARCES ARCESS Array B 85.97 19 P **P 23 15 50.5 -0.8**
ARCES LR LR 23 54 36.5
ARCES ARCESS Array B 85.97 19 P **P 23 15 50.5 -0.7**
ARE0 ARCESS Array S 85.97 19 *e*P **P 23 15 52.2 -1.1**
ARE0 *e*pP pP 23 16 06.3 -4.7
TUE Stuetta 86.12 43 *e*P **P 23 15 50.8 -1.7**
comp=Z,65nm,1.5s,mb5.3
TUE LR LR
comp=Z,2µm,21.0s
DAVA Damuels 86.26 42⇑ *i*P **P 23 15 51.9 -1.2**
comp=Z,51nm,1.3s,mb5.3,SNR=12
KEV Kevo 86.33 18 PFAKE 23 16 00.0 +7.0
KEV LR LR
comp=Z,2µm,22.0s
KEV Kevo 86.33 18 *e*P **P 23 15 49.1 -3.9**
KEV pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KEV Kevo 86.33 18 *e*p **P 23 15 49.1 -3.9**
comp=Z,7.7nm,0.8s,mb4.7
DAVOX Davos/Dischmat 86.40 43 P **P 23 15 52.6 -1.2**
comp=Z,9.0nm,0.8s,mb4.7,baz=258,slow=6.0,SNR=11
DAVOX LR LR 23 50 19.9
comp=Z,1µm,21.9s,baz=289,slow=33
DAVOX Davos/Dischmat 86.40 43 P **P 23 15 52.6 -1.2**
DAVOX LR LR 23 50 19.9
DAVOX Davos/Dischmat 86.40 43 P **P 23 15 52.6 -1.2**
AFI Afiamalu 86.45 255 LR LR 23 44 28.9
comp=Z,2µm,21.4s,baz=65,slow=28
MOX Moxa 86.45 39 *e*P **P 23 15 52.0 -2.0**
comp=Z,14nm,1.3s,mb4.7
MOX Moxa 86.45 39 *e*P **P 23 15 52.0 -2.0**
MOX pmax pmax
comp=Z,14nm,1.3s,mb4.7
GRF Grafenberg Arr 86.47 40 *e*P **P 23 15 52.4 -1.7**
comp=Z,12nm,1.1s,mb4.7
GRF Grafenberg Arr 86.47 40 *e*P **P 23 15 52.4 -1.7**
GRF pmax pmax
comp=Z,12nm,1.1s,mb4.7
RETA Reutte 86.79 42⇑ *i*P **P 23 15 54.1 -1.6**
comp=Z,57nm,1.5s,mb5.3,SNR=18
PLN Plauen 86.83 39 *e*P **P 23 15 53.8 -2.0**
PGF Pioggiola 86.89 47 *e*P **P 23 15 54.3 -2.0**
FETA Feichten 86.89 43⇑ *i*P **P 23 15 54.5 -1.7**
comp=Z,34nm,1.4s,mb5.1
WERD Werda 86.93 39 *e*P **P 23 15 54.3 -2.0**
GUNZ Gunzen 86.97 39 *e*P **P 23 15 54.6 -1.9**
WERN Wernitzgruen 87.02 39 *e*P **P 23 15 55.0 -1.8**
TANN Tannenbergstha 87.04 39 *e*P **P 23 15 55.1 -1.8**
comp=Z,17nm,1.2s,mb4.8
SHEL Horse Pasture 87.05 107 PFAKE 23 16 10.0 +12
SHEL LR LR
comp=Z,2µm,22.0s
ROTZ Rotzenmuhle 87.07 40 *e*P **P 23 15 55.4 -1.6**
comp=Z,4.0nm,0.9s,mb4.3
NKC Novy Kostel 87.08 39 *e*P **P 23 15 55.4 -1.7**
NKC *e* 23 26 16.9
NKC MLR MLR
comp=Z,2µm,22.5s
NKC Novy Kostel 87.08 39 *e*P **P 23 15 55.4 -1.7**
NKC *e*pP pP 23 16 14.7 -2.1
NKC *e*SKS 23 26 16.9
NKC AMS AMS 23 49 40.0
comp=Z,2µm,22.5s
CLL Collm 87.10 38 *e*P **P 23 15 54.9 -2.2**
comp=Z,9.0nm,1.0s,mb4.7
CLL Collm 87.10 38⇑ *i*P **P 23 15 55.2 -1.9**
CLL *i* *PP pP 23 16 20.0 +3.1
CLL *e* 23 26 15.0
CLL *e*S S 23 26 28.0 -2.6
CLL pmax pmax
comp=Z,46nm,1.7s,mb5.1
CLL Collm 87.10 38⇑ *i*P **P 23 15 55.2 -1.9**
comp=Z,46nm,1.7s,mb5.1
CLL *e*sP sP 23 16 17.0 -7.8
CLL *e*PP PP 23 19 22.0 +0.8
CLL *i* pPP 23 19 40.5
CLL *e*SKSac SKSac 23 26 15.0 -3.1
CLL *e*S S 23 26 28.0 -2.6
CLL *e*PS 23 27 30.0
CLL *e*PPS 23 28 01.0
CLL *e*SS SS 23 32 18.0 +3.3
CLL *e* 23 34 48.0
CLL *e*SSS 23 36 12.0
FBE Freiberg 87.43 38 *e*P **P 23 15 57.0 -1.7**
VLC Villacollemand 87.44 45 PFAKE 23 16 10.0 +11
VLC LR LR
comp=Z,2µm,22.0s
TORD Torodi Ar. Bea 87.56 77 P **P 23 15 57.3 -2.8**
comp=Z,2.4nm,0.6s,mb4.4,baz=295,slow=5.2,SNR=39
TORD PKiKP PKiKP 23 21 02.0 -1.6
comp=Z,1.0nm,1.1s,baz=248,slow=2.7,SNR=2.8
TORD PKKPbc PKKPbc 23 33 48.0 0.0
comp=Z,0.5nm,0.7s,baz=92,slow=2.0,SNR=4.1
TORD PKPPKP 23 41 54.2
comp=Z,0.5nm,1.0s,baz=143,slow=4.0,SNR=2.9
TORD LR LR 23 53 22.5
comp=Z,931nm,21.5s,baz=285,slow=34
TORD Torodi Ar. Bea 87.56 77 P **P 23 15 57.3 -2.8**
WET Wettzell 87.67 40 *e*P **P 23 15 58.3 -1.6**
comp=Z,10.0nm,0.9s,mb4.8
WET Wettzell 87.67 40 *e*P **P 23 15 58.3 -1.6**
WET pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VSL Villasalto 87.96 50 PFAKE 23 16 10.0 +8.5
VSL LR LR
comp=Z,4µm,21.0s
RJOB Jochberg 88.03 41 *e*P **P 23 15 59.7 -2.0**
comp=Z,5.0nm,0.9s,mb4.5
KHC Kasperske Hory 88.11 40 *e*P **P 23 16 00.6 -1.4**
KHC *e* 23 26 22.8
KHC MLR MLR
comp=Z,3µm,19.8s
KHC Kasperske Hory 88.11 40 *e*P **P 23 16 00.6 -1.4**
KHC *e*SKS 23 26 22.8
KHC AMS AMS 23 49 50.0
comp=Z,3µm,19.8s
ABTA Abfaltersbach 88.14 42⇓ *i*P **P 23 16 00.8 -1.5**
comp=Z,26nm,1.1s,mb5.2,SNR=7.9
GEC2 GERESS Array S 88.28 40 *e*P **P 23 16 00.9 -1.9**
comp=Z,6.0nm,1.1s,mb4.5
GEC2 GERESS Array S 88.28 40 *e*P **P 23 16 00.9 -1.9**
GEC2 pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
GERES GERESS Array B 88.28 40 P **P 23 16 01.1 -1.7**
comp=Z,3.5nm,0.8s,mb4.5,baz=288,slow=4.0,SNR=16
GERES LR LR 23 51 23.3
comp=Z,2µm,21.8s,baz=287,slow=33
GERES GERESS Array B 88.28 40 P **P 23 16 01.1 -1.8**
GERES LR LR 23 51 23.3
GERES GERESS Array B 88.28 40 P **P 23 16 01.1 -1.7**
PVCC Panska Ves 88.28 38 *e*P **P 23 16 02.4 -0.4**
PVCC MLR MLR
comp=Z,2µm,24.5s
PVCC Panska Ves 88.28 38 *e*P **P 23 16 02.4 -0.4**
PVCC AMS AMS 23 50 30.0
comp=Z,2µm,24.5s
PRA Prague 88.35 39 P **P 23 16 03.0 -0.1**
PRA AMS AMS 23 51 00.0
PRU Pruhonice 88.44 39 *e*P **P 23 16 03.0 -0.6**
PRU *e* 23 26 26.9
PRU MLR MLR
comp=Z,2µm,18.0s
PRU Pruhonice 88.44 39 *e*P **P 23 16 03.0 -0.6**
PRU *e*pP pP 23 16 20.1 -3.3
PRU *e*SKS 23 26 26.9
PRU AMS AMS 23 50 20.0
comp=Z,2µm,18.0s
KBA Koelnbreinsper 88.59 42⇑ *i*P **P 23 16 02.6 -1.8**
comp=Z,34nm,1.4s,mb5.2
TAM Tamanrasset 88.91 67 *e*P **P 23 16 04.5 -1.9**
comp=Z,3.6nm,0.9s,mb4.4
TAM LR LR
comp=Z,668nm,22.0s
TAM Tamanrasset 88.91 67 *e*P **P 23 16 04.5 -1.9**
TAM pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
TAM MLR MLR
comp=Z,668nm,22.0s
KEST Kesra 88.92 54 P **P 23 16 05.4 -0.8**
comp=Z,1.5nm,0.6s,mb4.2,baz=247,slow=3.2,SNR=11
KEST LR LR 23 50 02.6
comp=Z,577nm,21.9s,baz=340,slow=32
KEST Kesra 88.92 54 P **P 23 16 05.4 -0.8**
KEST LR LR 23 50 02.6
UPC Upice 89.16 38 *e*P **P 23 16 05.4 -1.5**
UPC Upice 89.16 38 *e*P **P 23 16 05.4 -1.5**
UPC *e*pP pP 23 16 24.3 -2.5
TREC Trest 89.25 39 *e*P **P 23 16 06.0 -1.4**
TREC *e* 23 26 28.2
TREC MLR MLR
comp=Z,3µm,22.1s
TREC Trest 89.25 39 *e*P **P 23 16 06.0 -1.4**
TREC *e*SKS 23 26 28.2
TREC AMS AMS 23 50 30.0
comp=Z,3µm,22.1s
TRI Trieste 89.29 43 PFAKE 23 16 20.0 +12
TRI LR LR
comp=Z,2µm,21.0s
DPC Dobruska-Polom 89.40 38 *e*P **P 23 16 06.5 -1.6**
DPC MLR MLR
comp=Z,2µm,25.1s
DPC Dobruska-Polom 89.40 38 *e*P **P 23 16 06.5 -1.6**
DPC AMS AMS 23 51 10.0
comp=Z,2µm,25.1s
APA Apatity 89.47 19⇓ *e*P **P 23 16 11.0 +3.0**
APA *e* 23 19 40.0
APA *i* 23 26 20.0
APA *i* 23 26 36.0
KAF Kangasniemi 89.72 25 *e*P **P 23 16 08.6 -0.7**
KAF Kangasniemi 89.72 25 *e*p **P 23 16 08.6 -0.7**
SOKA Soboth 89.81 42⇑ *i*P **P 23 16 08.0 -2.1**
comp=Z,21nm,1.4s,mb5.1
VRAC Vranov 89.92 39 LR LR 23 51 54.6
comp=Z,3µm,21.8s,baz=286,slow=32
CONA Conrad Observa 89.93 41⇑ *i*P **P 23 16 09.2 -1.4**
comp=Z,7nm,1.6s,mb5.1
FINES FINESS Array B 89.94 26 P **P 23 16 09.0 -1.3**
comp=Z,15nm,1.1s,mb5.0,baz=282,slow=2.7,SNR=10
FINES PKKPbc PKKPbc 23 33 40.4 -3.4
comp=Z,3.7nm,0.8s,baz=151,slow=4.4,SNR=6.3
FINES LR LR 23 53 39.2
comp=Z,2µm,21.8s,baz=284,slow=34
FINES FINESS Array B 89.94 26 P **P 23 16 09.0 -1.3**
FINES PKKPbc PKKPbc 23 33 40.4 -3.3
FINES LR LR 23 53 39.2
FINES FINESS Array B 89.94 26 P **P 23 16 09.0 -1.3**
AQU L'Aquila 90.07 46 PFAKE 23 16 20.0 +8.6
AQU LR LR
comp=Z,6µm,22.0s
ZST Bratislava 90.62 40 *e*P **P 23 16 12.4 -1.4**
ZST pmax pmax
comp=Z,53nm,2.0s,mb5.3
ZST Bratislava 90.62 40 *e*P **P 23 16 12.4 -1.4**
OKC Ostrava-Krasne 90.68 38 *e*P **P 23 16 12.8 -1.3**
OKC MLR MLR
comp=Z,2µm,24.7s
OKC Ostrava-Krasne 90.68 38 *e*P **P 23 16 12.8 -1.3**
OKC AMS AMS 23 51 30.0
comp=Z,2µm,24.7s
SEY Seymchan 90.80 336 *c**e*P **P 23 16 14.4 +0.1**
KOLL Kolacno 91.30 39 *e*P **P 23 16 18.0 +1.1**
KOLL Kolacno 91.30 39 *e*P **P 23 16 18.0 +1.1**
JOF Joensuu 91.32 23 *e*P **P 23 16 13.7 -3.0**
JOF Joensuu 91.32 23 *e*p **P 23 16 13.7 -3.0**
VYHS Vyhne 91.60 39 *e*P **P 23 16 16.9 -1.4**
VYHS Vyhne 91.60 39 *e*P **P 23 16 16.9 -1.4**
PSZ Piszkesteto 92.47 40 *e*P **P 23 16 22.0 -0.4**
comp=Z,45nm,1.5s,mb5.5
PSZ LR LR
comp=Z,2µm,22.0s
PSZ Piszkesteto 92.47 40 *e*P **P 23 16 22.0 -0.4**
PSZ pmax pmax
comp=Z,45nm,1.5s,mb5.5
PSZ MLR MLR
comp=Z,2µm,22.0s
PSZ Piszkesteto 92.47 40⇓ *i*P **P 23 16 20.1 -2.3**
CUC Castrocucco 92.55 48 PFAKE 23 16 30.0 +7.1
CUC LR LR
comp=Z,2µm,22.0s
PET Petropavlovsk 92.61 326 PFAKE 23 16 30.0 +7.1
PET LR LR
comp=Z,912nm,20.0s
KECS Kecovo 92.61 39 *e*P **P 23 16 21.5 -1.5**
KECS pmax pmax
comp=Z,3.0nm,1.3s,mb4.5
KECS Kecovo 92.61 39 *e*P **P 23 16 21.5 -1.5**
WDD Wield Dalam 92.91 52 PFAKE 23 16 30.0 +5.3
WDD LR LR
comp=Z,1µm,20.0s
CEL Celeste 93.18 50 PFAKE 23 16 40.0 +14
CEL LR LR
comp=Z,2µm,22.0s
KWP Kalwaria Pacla 93.49 37 PFAKE 23 16 40.0 +13
KWP LR LR
comp=Z,2µm,22.0s
UZH Uzhgorod 93.66 38⇑ *i*P **P 23 16 26.8 -1.0**
UZH *i* 23 33 41.0
MICGM Minsk 94.12 31⇑ *e*P pP 23 16 56.0 +6.3
BZS Buzias 94.46 41⇓ *i*P **P 23 16 30.0 -1.6**
DRGR 94.67 40⇓ *i*P **P 23 16 31.3 -1.2**
TIR Tirane 94.95 46 PFAKE 23 16 40.0 +6.1
TIR LR LR
comp=Z,2µm,22.0s
KLMR Klimovskoe 95.67 23 *e*P **P 23 16 29.2 -7.6**
KLMR *e* 23 20 25.9
KLMR pmax pmax
comp=Z,45nm,1.6s,mb5.7
KLMR pmax pmax
comp=Z,209nm,4.9s
KIEV Kiev 96.71 34 PFAKE 23 16 50.0 +8.3
KIEV LR LR
comp=Z,2µm,19.0s
AKASG Malin Array Be 96.71 34 P **P 23 16 38.8 -3.0**
comp=Z,1.8nm,0.8s,mb4.6,baz=324,slow=3.3,SNR=8.4
AKASG PP PP 23 20 37.1 +0.3
comp=Z,0.2nm,0.3s,baz=300,slow=6.5,SNR=8.7
AKASG PKKP PKKPbc 23 33 24.4 -1.4
comp=Z,2.7nm,0.6s,baz=82,slow=3.5,SNR=12
AKASG LR LR 23 59 04.7
comp=Z,1µm,21.3s,baz=285,slow=35
AKASG Malin Array Be 96.71 34 P **P 23 16 38.8 -3.0**
AKASG PP PP 23 20 37.1 +0.3
AKASG PKKP PKKPbc 23 33 24.4 -1.4
AKASG LR LR 23 59 04.7
AKASG Malin Array Be 96.71 34 P **P 23 16 38.8 -2.9**
AKASG 23 20 37.1
MSVF Nonsavu 96.84 253 PFAKE 23 16 50.0 +7.0
MSVF LR LR
comp=Z,2µm,22.0s
MLR Muntele Rosu 97.27 40 P **P 23 16 42.2 -2.1**
comp=Z,1.1nm,0.9s,mb4.3,baz=299,slow=4.6,SNR=7.1
MLR PKKPbc PKKPbc 23 33 24.1 0.0
comp=Z,0.6nm,0.7s,baz=124,slow=15,SNR=6.7
MLR LR LR 23 57 33.9
comp=Z,318nm,21.5s,baz=281,slow=34
MLR Muntele Rosu 97.27 40 P **P 23 16 42.2 -2.1**
MLR PKKPbc PKKPbc 23 33 24.1 0.0
MLR LR LR 23 57 33.9
MLR Muntele Rosu 97.27 40 P **P 23 16 42.2 -2.2**
MLR Muntele Rosu 97.27 40⇓ *i*P **P 23 16 41.2 -3.2**
TARA Tarawa 97.74 273 PFAKE 23 17 00.0 +13
TARA LR LR
comp=Z,2µm,19.0s
OBN Obninsk 98.00 28 PFAKE 23 17 00.0 +13
OBN LR LR
comp=Z,2µm,20.0s
OBN Obninsk 98.00 28⇑ *i*P **P 23 16 46.7 -0.8**
OBN *e* 23 20 46.2
OBN *e* 23 27 17.0
OBN *e*PS PS 23 29 38.3 -2.4
OBN pmax pmax
comp=Z,47nm,1.7s,mb5.7
MOS Moscow 98.11 27 *e*P Px 23 16 58.7
MOS *e* 23 17 36.7
KIS Kishinev 98.31 38 *e*P **P 23 16 47.0 -2.0**
KIS *e*L 23 52 42.0
KIS LRM 23 56 22.0
comp=Z,1µm,21.0s
KIS Kishinev 98.31 38 *e*P **P 23 16 47.0 -2.0**
VNA3 Neumayer Olymp 98.88 161 *e* **P 23 16 49.1 -1.8**
VNA1 Neumayer--Stat 99.19 161 *e* **P 23 16 50.8 -1.5**
YAK Yakutsk 99.22 343 PFAKE 23 17 00.0 +7.2
YAK LR LR
comp=Z,3µm,22.0s
YAK Yakutsk 99.22 343 *e*P **P 23 16 51.9 -0.9**
YAK pmax pmax
comp=Z,4.0nm,0.6s,mb5.1
VNA2 Neumayer--Watz 99.53 161 *e* Pdif 23 16 51.9 -2.4
baz=307,slow=6.4
VNA2 *e* 23 20 55.3
QSPA South Pole Qui 103.09 180 PFAKE 23 17 20.0 +10
QSPA LR LR
comp=Z,2µm,20.0s
SNZO South Karori 103.38 230 PFAKE 23 17 20.0 +8.6
SNZO LR LR
comp=Z,3µm,21.0s
YSS Yuzh-Sakhalins 104.49 326 PFAKE 23 17 30.0 +14
YSS LR LR
comp=Z,310nm,20.0s
BR131 Keskin Array S 105.03 42 PFAKE 23 21 40.0 +6.4
BR131 LR LR
comp=Z,776nm,21.0s
BRTR Keskin Array B 105.03 42 PKiKP PKiKP 23 21 32.8 -0.8
comp=Z,1.2nm,0.9s,baz=252,slow=2.8,SNR=4.3
BRTR PKKPbc PKKPbc 23 33 00.2 -1.4
comp=Z,2.0nm,0.7s,baz=162,slow=1.4,SNR=13
BRTR Keskin Array B 105.03 42 PKPdf PKiKP 23 21 32.8 -0.8
BRTR PKKPbc PKKPbc 23 33 00.2 -1.4
ARU Arti 105.55 18 *e*PKPdf PKiKP 23 21 37.5 +3.5
ARU LR LR
comp=Z,2µm,22.0s
SBA Scott Base 105.79 192 PFAKE 23 21 40.0 +6.2
SBA LR LR
comp=Z,1µm,22.0s
SOC Sochi 106.61 36 *e*P Pdif 23 17 23.9 -1.9
SOC *e* 23 21 52.7
ERM Erimo 107.26 322 PFAKE 23 21 50.0 +12
ERM LR LR
comp=Z,755nm,20.0s
CSS Prodhromos 107.27 47 PFAKE 23 21 50.0 +12
CSS LR LR
comp=Z,1µm,22.0s
KIV Kislovodsk 108.06 35 PFAKE 23 21 50.0 +11
KIV LR LR
comp=Z,917nm,22.0s
KIV Kislovodsk 108.06 35 *e*P Pdif 23 17 34.3 +2.1
KIV *e* 23 21 57.9
KIV *e* 23 28 04.7
KIV pmax pmax
comp=Z,1.0nm,0.6s
DZM Mont Dzumac 108.32 251 *e*PP PP 23 22 01.6 -3.6
comp=Z,276nm,30.1s
DZM *e*SP SP 23 31 20.6 -1.3
comp=Z,714nm,30.5s
DZM *e*LR LR 23 53 23.0
comp=Z,3µm,26.6s
TSUM Tsumeb 109.50 106 PFAKE 23 21 50.0 +7.6
TSUM LR LR
comp=Z,1µm,22.0s
MMAI Mount Meron Ar 109.74 48 PKKPbc PKKPbc 23 32 48.0 +1.2
comp=Z,4.0nm,0.6s,baz=95,slow=4.9,SNR=13
AKTO Aktyubinsk 110.36 22 PP PP 23 22 17.7 -0.4
comp=Z,1.8nm,0.6s,baz=325,slow=12,SNR=4.5
BRVK Borovoye 111.67 13 PFAKE 23 22 00.0 +14
BRVK LR LR
comp=Z,2µm,22.0s
GNI Garni 111.68 37 PFAKE 23 22 00.0 +14
GNI LR LR
comp=Z,493nm,21.0s
GNI Garni 111.68 37⇓ *i*PKIKP PKiKP 23 21 46.1 +0.1
ABKAR Akbulak array 112.03 22 *e*PKPdf PKiKP 23 21 46.1 -0.2
HNR Honiara 112.64 265 PFAKE 23 22 00.0 +12
HNR LR LR
comp=Z,959nm,22.0s
MDJ Mudanjiang 112.78 331 Pdif Pdif 23 18 10.1 +17
MDJ PP PP 23 22 56.8 +21
MDJ SS SS 23 38 24.0 +12
MDJ AMB AMB
comp=Z,200nm,8.2s
MDJ LR LR
comp=N,980nm,23.2s
MDJ LR LR
comp=E,630nm,22.5s
MDJ LR LR
comp=Z,2µm,24.8s
MDJ Mudanjiang 112.78 331 PFAKE 23 22 00.0 +12
MDJ LR LR
comp=Z,1µm,22.0s
HIA Hailar 112.95 340 PFAKE 23 22 00.0 +12
HIA LR LR
comp=Z,1µm,22.0s
ZAA0 Zalesovo Array 112.96 4 *e*PKPdf PKiKP 23 21 47.1 -0.9
ZALV Zalesovo Beam 112.96 4 PKiKP PKiKP 23 21 46.7 -1.3
comp=Z,3.2nm,0.5s,baz=281,slow=2.2,SNR=19
ZALV PP PP 23 22 34.9 -1.5
comp=Z,6.7nm,0.9s,baz=350,slow=7.5,SNR=16
ZALV SKP 23 25 17.3
comp=Z,2.0nm,0.6s,baz=279,slow=2.4,SNR=5.6
ZALV PKKPbc PKKPbc 23 32 40.1 +3.2
comp=Z,3.5nm,0.8s,baz=188,slow=2.9,SNR=13
ZALV SKKP 23 36 18.9
comp=Z,0.8nm,0.7s,baz=204,slow=3.2,SNR=4.1
ZALV Zalesovo Beam 112.96 4 PKPdf PKiKP 23 21 46.7 -1.3
ZALV PP PP 23 22 34.9 -1.5
ZALV SKP 23 25 17.3
ZALV PKKPbc PKKPbc 23 32 40.1 +3.2
ZALV SKKP 23 36 18.9
ZALV Zalesovo Beam 112.96 4 PKiKP PKiKP 23 21 46.7 -1.3
ZALV 23 22 34.9
SUR Sutherland 113.40 120 PFAKE 23 22 00.0 +11
SUR LR LR
comp=Z,1µm,21.0s
MJAR Matsushiro Arr 113.64 320 PKiKP PKiKP 23 21 49.3 -0.6
comp=Z,1.8nm,0.8s,baz=11,slow=1.2,SNR=6.7
MJAR PKKPbc PKKPbc 23 32 34.0 -0.1
comp=Z,1.8nm,1.0s,baz=215,slow=4.8,SNR=5.5
MJAR Matsushiro Arr 113.64 320 PKPdf PKiKP 23 21 49.3 -0.5
MJAR PKKPbc PKKPbc 23 32 34.0 -0.1
MJAR Matsushiro Arr 113.64 320 PKiKP PKiKP 23 21 49.3 -0.5
MAJO Matsushiro 113.64 320 PFAKE 23 22 00.0 +10
MAJO LR LR
comp=Z,755nm,22.0s
TLY Talaya 114.55 352 PFAKE 23 22 00.0 +8.9
TLY LR LR
comp=Z,1µm,22.0s
CN2 Changchun 115.29 333 *e*PKP PKPdf 23 22 00.8 +8.0
CN2 PP PP 23 23 05.0 +12
CN2 SS SS 23 38 55.0 +10
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,600nm,23.0s
CN2 LR LR
comp=E,1µm,23.0s
CN2 LR LR
comp=Z,1µm,23.0s
SYO Syowa Base 115.39 162⇑ *e*P PP 23 22 51.5 -2.6

KURK	**Kurchatov**	**115.48**	**9**	PKP	PKPdf	23 21 51.7	-1.2			
	comp=Z,3.6nm,0.6s,baz=358,slow=1.7,SNR=38									
KURK				PP	PP	23 22 55.7	+1.4			
	comp=Z,0.9nm,0.6s,baz=350,slow=5.3,SNR=4.3									
KURK				SKP		23 25 22.8				
	comp=Z,2.8nm,1.0s,baz=357,slow=1.8,SNR=6.3									
KURK				PKKPbc	PKKPbc	23 32 24.8	-3.5			
	comp=Z,2.0nm,0.6s,baz=174,slow=3.1,SNR=23									
KURK	**Kurchatov**	**115.48**	**9**	*e*PKPdf	PKPdf	23 21 52.5	-0.4			
KURK				LR	LR					
	comp=Z,3μm,22.0s									
KURK	**Kurchatov**	**115.48**	**9**	*c i*PKIKP	PKPdf	23 21 52.7	-0.2			
KURK				pmax	pmax					
	comp=Z,7.0nm,1.0s									
BOSA	**Boshof**	**117.19**	**116**	PKP	PKPdf	23 21 57.2	+0.4			
	comp=Z,28nm,0.9s,baz=283,slow=2.1,SNR=25									
BOSA				SKP		23 25 28.5				
	comp=Z,13nm,0.9s,baz=250,slow=4.8,SNR=9.8									
BOSA	**Boshof**	**117.19**	**116**	*e*PKPdf	PKPdf	23 21 58.1	+1.3			
BOSA				LR	LR					
	comp=Z,1μm,20.0s									
BOSA	**Boshof**	**117.19**	**116**	*e*PKIKP	PKPdf	23 21 58.1	+1.3			
BOSA				MLR	MLR					
	comp=Z,1μm,20.0s									
LBTB	**Lobatse**	**117.40**	**111**	*e*PKPdf	PKPdf	23 21 58.6	+1.3			
LBTB				LR	LR					
	comp=Z,1μm,22.0s									
LBTB	**Lobatse**	**117.40**	**111**	*e*PKIKP	PKPdf	23 21 58.6	+1.3			
LBTB				MLR	MLR					
	comp=Z,1μm,22.0s									
DRV	**Dumont d'Urvil**	**117.56**	**200**	PP	PP	23 23 09.0	-0.3			
DRV				SP	SP	23 32 45.0	-0.2			
DRV				R		00 00 00.0				
ULN	**Ulaanbaatar**	**117.65**	**348**	*e*PKPdf	PKPdf	23 21 57.6	+0.4			
ULN				LR	LR					
	comp=Z,1μm,22.0s									
ULN	**Ulaanbaatar**	**117.65**	**348**	*e*PKIKP	PKPdf	23 21 57.6	+0.4			
ULN				MLR	MLR					
	comp=Z,1μm,22.0s									
SONM	**Songino Array**	**117.81**	**348**	PKP	PKPdf	23 21 56.9	-0.6			
	comp=Z,4.6nm,0.6s,baz=0.7,slow=1.6,SNR=31									
SONM				PP	PP	23 23 10.8	+0.2			
	comp=Z,13nm,1.2s,baz=6.1,slow=7.2,SNR=9.9									
SONM				SKP		23 25 27.8				
	comp=Z,3.0nm,0.7s,baz=339,slow=1.6,SNR=7.9									
SONM				PKKPbc	PKKPbc	23 32 19.1	-0.9			
	comp=Z,3.4nm,0.6s,baz=194,slow=3.1,SNR=18									
SONM	**Songino Array**	**117.81**	**348**	PKP	PKPdf	23 21 56.9	-0.6			
SONM				PP	PP	23 23 10.8	+0.2			
SONM				SKP		23 25 27.8				
SONM				PKKPbc	PKKPbc	23 32 19.1	-0.9			
SONM	**Songino Array**	**117.81**	**348**	PKIKP	PKPdf	23 21 56.9	-0.6			
SONM						23 23 10.8				
MBAR	**Mbarara**	**118.87**	**83**	PFAKE		23 22 10.0	+9.5			
MBAR				LR	LR					
	comp=Z,248nm,19.0s									
KSRS	**Korea Array**	**118.98**	**327**	PKP	PKPdf	23 22 00.1	0.0			
	comp=Z,10nm,0.8s,baz=360,slow=1.9,SNR=29									
KSRS				SKP		23 25 30.9				
	comp=Z,8.7nm,0.8s,baz=15,slow=1.6,SNR=16									
LSZ	**Lusaka**	**119.08**	**100**	*e*PKPdf	PKPdf	23 22 01.7	+0.9			
LSZ				LR	LR					
	comp=Z,737nm,22.0s									
LSZ	**Lusaka**	**119.08**	**100**	*e*PKIKP	PKPdf	23 22 01.7	+0.9			
LSZ				MLR	MLR					
	comp=Z,737nm,22.0s									
INCN	**Inchon**	**119.64**	**328**	PFAKE		23 22 10.0	+8.6			
INCN				LR	LR					
	comp=Z,803nm,21.0s									
MK31	**Makanchi Array**	**119.81**	**7**	*e*PKPdf	PKPdf	23 22 00.2	-1.2			
MK31	**Makanchi Array**	**119.81**	**7**	*e*PKIKP	PKPdf	23 22 00.2	-1.2			
MKAR	**Makanchi Array**	**119.81**	**7**	PKP	PKPdf	23 21 59.9	-1.5			
	comp=Z,1.5nm,0.4s,baz=330,slow=3.2,SNR=27									
MKAR				SKP		23 25 29.7				
	comp=Z,1.8nm,0.7s,baz=345,slow=3.3,SNR=4.5									
MKAR				PKKPbc	PKKPbc	23 32 10.2	-2.6			
	comp=Z,2.0nm,0.8s,baz=153,slow=4.1,SNR=14									
MKAR	**Makanchi Array**	**119.81**	**7**	PKP	PKPdf	23 21 59.9	-1.5			
MKAR				SKP		23 25 29.7				
MKAR				PKKPbc	PKKPbc	23 32 10.2	-2.6			
MKAR	**Makanchi Array**	**119.81**	**7**	PKIKP	PKPdf	23 21 59.9	-1.5			
GUMO	**Guam**	**120.55**	**295**	PFAKE		23 22 10.0	+6.3			
GUMO				LR	LR					
	comp=Z,612nm,20.0s									
USP	**Ospenovka** SNR=9.6	**121.83**	**14**	P	PKPdf	23 22 05.5	+0.1			
CHMS	**Chumysh** SNR=5.6	**122.14**	**14**	P	PKPdf	23 22 06.1	+0.1			
EKS2	**Erkin-Say** SNR=10	**122.22**	**15**	P	PKPdf	23 22 06.8	+0.7			
EKS2	**Erkin-Say**	**122.22**	**15**	*e*PKPdf	PKPdf	23 22 06.7	+0.5			
EKS2				LR	LR					
	comp=Z,2μm,21.0s									
EKS2	**Erkin-Say**	**122.22**	**15**	*e*PKIKP	PKPdf	23 22 06.7	+0.5			
EKS2				MLR	MLR					
	comp=Z,2μm,21.0s									
BJT	**Baijiatuau**	**122.24**	**337**	PFAKE		23 22 20.0	+14			
BJT				LR	LR					
	comp=Z,2μm,22.0s									
TKM2	**Tokmak 2** SNR=8.6	**122.42**	**14**	P	PKPdf	23 22 06.6	+0.1			
TKM2	**Tokmak 2**	**122.42**	**14**	*e*PKPdf	PKPdf	23 22 06.7	+0.1			
TKM2				LR	LR					
	comp=Z,1μm,22.0s									
TKM2	**Tokmak 2**	**122.42**	**14**	*e*PKIKP	PKPdf	23 22 06.7	+0.2			
TKM2				MLR	MLR					
	comp=Z,1μm,22.0s									
AAK	**Ala-Archa**	**122.43**	**15**	*e*PKPdf	PKPdf	23 22 06.3	-0.3			
AAK				LR	LR					
	comp=Z,2μm,21.0s									
AAK	**Ala-Archa**	**122.43**	**15**	*e*PKIKP	PKPdf	23 22 06.3	-0.3			
AAK				MLR	MLR					
	comp=Z,2μm,21.0s									
MAW	**Mawson**	**122.50**	**168**	PKP	PKPdf	23 22 06.8	+1.0			
	comp=Z,8.8nm,0.7s,baz=225,slow=3.3,SNR=35									
MAW	**Mawson**	**122.50**	**168**	*e*PKP	PKPdf	23 22 06.4	+0.6			
	comp=Z,6.6nm,0.6s									
MAW	**Mawson**	**122.50**	**168**	PKPdf	PKPdf	23 22 06.6	+0.7			
MAW	**Mawson**	**122.50**	**168**	PKIKP	PKPdf	23 22 06.6	+0.8			
KBK	**Karagaybulak** SNR=7.7	**122.51**	**14**	P	PKPdf	23 22 07.1	+0.4			
AML	**Almayashu** SNR=10	**122.70**	**15**	P	PKPdf	23 22 08.1	+1.0			
HHC	**Hu-ho-hao-te**	**123.07**	**342**	*e*PKP	PKPdf	23 22 06.0	-1.9			
HHC				PP	PP	23 23 50.4	+3.7			
HHC				PKS		23 25 41.9				
HHC				AMB	AMB					
	comp=Z,150nm,9.0s									
HHC				LR	LR					
	comp=N,2μm,21.6s									
HHC				LR	LR					
	comp=E,1μm,21.3s									
HHC				LR	LR					
	comp=Z,3μm,22.2s									
WMQ	**Urumqi**	**123.23**	**3**	PKP	PKPdf	23 22 08.0	-0.1			
WMQ				PP	PP	23 23 54.0	+6.4			
WMQ				LR	LR					
	comp=N,3μm,27.3s									
WMQ				LR	LR					
	comp=E,1μm,24.3s									
WMQ				LR	LR					
	comp=Z,5μm,27.9s									
TAU	**Tasmania Unive**	**123.51**	**227**	PFAKE		23 22 20.0	+11			
TAU				LR	LR					
	comp=Z,1μm,20.0s									
CAN	**Canberra**	**123.67**	**236**	PFAKE		23 22 20.0	+11			
CAN				LR	LR					
	comp=Z,2μm,21.0s									
PMG	**Port Moresby**	**125.07**	**268**	PFAKE		23 22 20.0	+7.6			
PMG				LR	LR					
	comp=Z,786nm,20.0s									
KMBO	**Kilima Mbogo**	**125.30**	**82**	PKPdf	PKPdf	23 22 14.8	+1.9			
KMBO				LR	LR					
	comp=Z,1μm,22.0s									
KMBO	**Kilima Mbogo**	**125.30**	**82**	PKIKP	PKPdf	23 22 14.8	+1.9			
KMBO				MLR	MLR					
	comp=Z,1μm,22.0s									
CASY	**Casey**	**125.34**	**189**	PFAKE		23 22 20.0	+8.7			
CASY				LR	LR					
	comp=Z,2μm,22.0s									
KSH	**Kashi**	**125.73**	**14**	PKP	PKPdf	23 22 14.0	+1.0			
KSH				PKS		23 25 49.3				
KSH				SKS	SKSdf	23 29 14.9	-3.8			
KSH				AMB	AMB					
	comp=Z,400nm,8.4s									
KSH				LR	LR					
	comp=N,190nm,5.3s									
KSH				LR	LR					
	comp=E,180nm,6.0s									
KSH				LR	LR					
	comp=Z,140nm,5.2s									
TOO	**Toolangi**	**126.07**	**233**	*e*PKP	PKPdf	23 22 14.9	+1.3			
	comp=Z,56nm,0.6s									
TOO				*ep*PKP	pPKPdf	23 22 32.8	-1.4			
JOW	**Kunigami**	**126.37**	**318**	PKP	PKPdf	23 22 15.1	+0.5			
	comp=Z,50nm,1.1s,baz=147,slow=6.2,SNR=4.7									
JOW	**Kunigami**	**126.37**	**318**	PKP	PKPdf	23 22 15.1	+0.5			
CTA	**Charters Tower**	**126.97**	**255**	*e*PKP	PKPdf	23 22 17.1	+1.3			
	comp=Z,7.6nm,0.6s									
CTA				*ep*PKP	pPKPdf	23 22 34.6	-1.9			
CTA				*e*PP	PP	23 24 15.0	+0.2			
CTA				*e*SKP		23 25 36.9				
CTAO	**Charters Tower**	**126.97**	**255**	PKPdf	PKPdf	23 22 17.1	+1.3			
CTAO				LR	LR					
	comp=Z,2μm,22.0s									
CTAO	**Charters Tower**	**126.97**	**255**	PKIKP	PKPdf	23 22 17.1	+1.3			
CTAO				MLR	MLR					
	comp=Z,2μm,22.0s									
GTA	**Gaotai**	**127.11**	**352**	PKP	PKPdf	23 22 15.8	+0.2			
GTA				PP	PP	23 24 19.1	+5.6			
GTA				SKS	SKSdf	23 29 21.9	+0.6			
GTA				SKKS	SKKSac	23 31 06.8	+0.7			
GTA				AMB	AMB					
	comp=Z,130nm,4.7s									
GTA				LR	LR					
	comp=N,2μm,25.1s									
GTA				LR	LR					
	comp=E,730nm,22.8s									
GTA				LR	LR					
	comp=Z,3μm,26.1s									
SSE	**Sheshan**	**127.42**	**327**	*e*PKP	PKPdf	23 22 17.1	+0.6			
SSE				PP	PP	23 24 20.4	+4.2			
SSE				AMB	AMB					
	comp=Z,47nm,12.0s									
SSE				LR	LR					
	comp=N,430nm,25.1s									
SSE				LR	LR					
	comp=E,940nm,25.1s									
SSE				LR	LR					
	comp=Z,950nm,23.4s									
KBL	**Kabul**	**128.13**	**23**	PKPdf	PKPdf	23 22 17.6	-0.1			
KBL	**Kabul**	**128.13**	**23**	PKIKP	PKPdf	23 22 17.6	-0.1			
COEN	**Coen**	**129.53**	**263**	PKPdf	PKPdf	23 22 22.6	+1.8			
LZH	**Lanzhou**	**129.60**	**347**	*e*PKP	PKPdf	23 22 21.9	+1.4			
LZH				PP	PP	23 24 36.1	+6.2			
LZH				PKS		23 25 52.4				
LZH				SS	SS	23 41 50.3	+3.9			
LZH				AMB	AMB					
	comp=Z,270nm,8.4s									
LZH				LR	LR					
	comp=N,3μm,20.2s									
LZH				LR	LR					
	comp=E,700nm,18.3s									
LZH				LR	LR					
	comp=Z,3μm,20.4s									
XAN	**Xi'an**	**130.14**	**341**	PKP	PKPdf	23 22 21.5	-0.1			
STKA	**Stephens Creek**	**130.31**	**239**	PKP	PKPdf	23 22 23.3	+1.4			
	comp=Z,5.4nm,0.5s,baz=96,slow=4.2,SNR=17									
STKA				SKPbc	SKPbc	23 25 46.0	+7.2			
	comp=Z,31nm,0.9s,baz=45,slow=1.4,SNR=11									
STKA	**Stephens Creek**	**130.31**	**239**	*e*PKP	PKPdf	23 22 22.9	+1.0			
	comp=Z,9.5nm,1.5s									
STKA				*ep*PKP	pPKPdf	23 22 39.6	-2.9			
STKA				*e*SKP		23 25 47.7				
STKA	**Stephens Creek**	**130.31**	**239**	PKPdf	PKPdf	23 22 22.9	+1.0			
STKA	**Stephens Creek**	**130.31**	**239**	PKIKP	PKPdf	23 22 22.9	+1.0			
TATO	**Taipei**	**131.95**	**322**	PFAKE		23 22 40.0	+15			
TATO				LR	LR					
	comp=Z,965nm,19.0s									
YHNB	**Yeheng**	**132.25**	**322**	PFAKE		23 22 40.0	+14			
YHNB				LR	LR					
	comp=Z,651nm,22.0s									
ENH	**Enshi**	**133.38**	**338**	PKPdf	PKPdf	23 22 28.9	+1.0			
ENH				LR	LR					
	comp=Z,1μm,22.0s									
CD2	**Chengdu**	**134.57**	**345**	PKP	PKPdf	23 22 26.9	-3.1			
CD2				PP	PP	23 25 04.4	+2.5			
CD2				PKS		23 26 02.0				
CD2				AMB	AMB					
	comp=Z,290nm,10.7s									
CD2				LR	LR					
	comp=N,1μm,23.8s									
CD2				LR	LR					
	comp=Z,2μm,22.6s									
KHET	**Khetri**	**136.41**	**20**	*e*PKP	PKPdf	23 22 33.2	-0.3			
KHET				*i* x	x	23 25 59.2				
AYAN	**Aya Nagar**	**136.45**	**18**	*e*PKP	PKPdf	23 22 33.4	-0.2			
AYAN				AMb	AMB	23 22 34.7				
	comp=Z,15nm,0.8s									
SONA	**Sohna**	**136.65**	**18**	*e*PKP	PKPdf	23 22 32.8	-1.2			
SONA				*i* x	x	23 25 59.4				
LSA	**Lhasa**	**137.41**	**0**	PKPdf	PKPdf	23 22 36.2	+0.9			
LSA				LR	LR					
	comp=Z,856nm,21.0s									
LSA	**Lhasa**	**137.41**	**0**	PKIKP	PKPdf	23 22 36.2	+0.9			
LSA				MLR	MLR					
	comp=Z,856nm,21.0s									
ABPO	**Ambohimpanom**	**137.44**	**104**	PKPdf	PKPdf	23 22 38.1	+2.6			
ABPO				LR	LR					
	comp=Z,791nm,22.0s									
ABPO	**Ambohimpanom**	**137.44**	**104**	PKIKP	PKPdf	23 22 38.2	+2.6			
ABPO				MLR	MLR					
	comp=Z,791nm,22.0s									
GYA	**Guiyang**	**137.86**	**339**	Pdif	Pdif	23 19 43.0	-1.7			
GYA				PKP	PKPdf	23 22 35.4	-0.9			
GYA				PP	PP	23 25 26.3	+3.6			
GYA				PKS		23 26 08.6				
GYA				AMB	AMB					
	comp=Z,520nm,8.7s									
GYA				LR	LR					
	comp=N,6μm,23.6s									
GYA				LR	LR					
	comp=E,5μm,24.2s									
GYA				LR	LR					
	comp=Z,7μm,22.9s									
AGRA	**Agra**	**137.87**	**18**	*e*PKP	PKPdf	23 22 34.7	-1.6			
WB2	**Warramunga Arr**	**138.16**	**255**	PKPdf	PKPdf	23 22 38.1	+1.2			
WRAB	**Tennant Creek**	**138.16**	**255**	PKPdf	PKPdf	23 22 38.1	+1.2			
WRAB				LR	LR					
	comp=Z,890nm,22.0s									
WRAB	**Tennant Creek**	**138.16**	**255**	PKIKP	PKPdf	23 22 38.1	+1.2			
WRAB				MLR	MLR					
	comp=Z,890nm,22.0s									
WRA	**Warramunga Arr**	**138.17**	**255**	PKhKP	PKPpre	23 22 27.5				
	comp=Z,2.5nm,0.7s,baz=88,slow=2.9,SNR=9.4									
WRA				PKP	PKPdf	23 22 37.5	+0.5			
	comp=Z,20nm,0.7s,baz=88,slow=2.0,SNR=57									
WRA				PP	PP	23 25 24.0	-2.6			
	comp=Z,9.3nm,1.1s,baz=91,slow=6.7,SNR=14									
WRA				SKPbc	SKPbc	23 26 07.6	+2.6			
	comp=Z,25nm,0.8s,baz=92,slow=2.8,SNR=31									
WRA				SKKPbc		23 34 52.3				
	comp=Z,4.6nm,0.7s,baz=286,slow=2.9,SNR=26									
WRA	**Warramunga Arr**	**138.17**	**255**	PKP	PKPpre	23 22 27.5				
WRA				PKP	PKPdf	23 22 37.5	+0.5			
WRA				PP	PP	23 25 24.0	-2.6			
WRA				SKPbc	SKPbc	23 26 07.6	+2.6			
WRA				SKKPbc		23 34 52.3				
WRA	**Warramunga Arr**	**138.17**	**255**	PKHKP	PKPpre	23 22 27.5				
WRA						23 22 37.5				
WRA						23 25 24.0				
ASAR	**Alice Springs**	**138.28**	**249**	PKhKP	PKPpre	23 22 27.6				
	comp=Z,4.0nm,0.7s,baz=109,slow=3.2,SNR=27									
ASAR				PKP	PKPdf	23 22 38.1	+1.1			
	comp=Z,7.2nm,0.6s,baz=105,slow=2.6,SNR=20									
ASAR				PP	PP	23 25 26.0	-1.1			
	comp=Z,2.2nm,0.9s,baz=100,slow=4.9,SNR=4.5									
ASAR				SKPbc	SKPbc	23 26 07.9	+2.7			
	comp=Z,15nm,0.7s,baz=102,slow=2.8,SNR=21									
ASAR				SKKPbc		23 34 51.9				
	comp=Z,6.6nm,0.7s,baz=284,slow=4.3,SNR=61									
ASAR				SKKP		23 35 25.8				
	comp=Z,1.7nm,0.8s,baz=274,slow=4.1,SNR=5.7									
ASAR	**Alice Springs**	**138.28**	**249**	PKP	PKPpre	23 22 27.6				
ASAR				PKP	PKPdf	23 22 38.1	+1.1			
ASAR				PP	PP	23 25 26.0	-1.1			
ASAR				SKPbc	SKPbc	23 26 07.9	+2.7			
ASAR				SKKPbc		23 34 51.9				
ASAR				SKKP		23 35 25.8				
ASAR	**Alice Springs**	**138.28**	**249**	PKHKP	PKPpre	23 22 27.7				
ASAR						23 22 38.1				
ASAR						23 25 26.0				
KMI	**Kunming**	**140.34**	**343**	PKP	PKPdf	23 22 40.8	0.0			
KMI				PP	PP	23 25 42.0	+4.2			
KMI				PKS		23 26 14.6				
KMI				SS	SS	23 43 55.1	-0.3			
KMI				AMB	AMB					
	comp=Z,230nm,5.9s									
KMI				LR	LR					
	comp=N,1μm,23.0s									
KMI				LR	LR					
	comp=E,620nm,19.1s									
KMI				LR	LR					
	comp=Z,2μm,23.7s									
DAV	**Davao City (W)**	**140.37**	**298**	PFAKE		23 22 50.0	+8.9			
DAV				LR	LR					
	comp=Z,667nm,21.0s									
FORT	**Forrest**	**141.79**	**237**	*e*PKP	PKPdf	23 22 38.0	-5.2			
	comp=Z,30nm,0.6s									
FORT	**Forrest**	**141.79**	**237**	PKPdf	PKPdf	23 22 39.6	-3.6			
QIZ	**Qiongzhong**	**143.13**	**330**	PFAKE		23 23 00.0	+14			
QIZ				LR	LR					
	comp=Z,1μm,22.0s									
MSEY	**Mahe Island**	**143.78**	**80**	PKPdf	PKPdf	23 22 49.0	+1.8			
MSEY				LR	LR					
	comp=Z,696nm,20.0s									
MSEY	**Mahe Island**	**143.78**	**80**	PKIKP	PKPdf	23 22 49.0	+1.8			
MSEY				MLR	MLR					
	comp=Z,696nm,20.0s									
POO	**Poona**	**144.19**	**29**	*e*PKP	PKPdf	23 22 44.2	-3.6			
POO				AMb	AMB	23 22 47.2				
	comp=Z,63nm,0.9s									
RER	**Riviere de l'E**	**145.27**	**108**	PKPdf	PKPdf	23 22 51.5	+1.9			
RER				LR	LR					
	comp=Z,1μm,21.0s									
KAD	**Karad**	**145.40**	**29**	*e*PKP	PKPdf	23 22 48.4	-1.5			
KAD				AMb	AMB	23 22 50.1				
	comp=Z,126nm,1.2s									
CHRT	**Chiangrai**	**146.13**	**345**	P	PKPdf	23 22 50.0	-1.1			
	comp=Z,237nm,1.0s									
KMBL	**Kambalda**	**146.46**	**232**	*e*PKP	PKPdf	23 22 52.6	+1.3			
	comp=Z,887nm,0.7s									
FITZ	**Fitzroy Crossi**	**146.49**	**257**	*e*PKP	PKPdf	23 22 52.3	+0.6			
	comp=Z,77nm,0.9s									
FITZ				*ep*PKP	pPKPdf	23 23 09.9	-2.5			
FITZ	**Fitzroy Crossi**	**146.49**	**257**	PKPdf	PKPdf	23 22 52.6	+0.9			
FITZ				*e*PKPbc	PKPbc	23 22 54.3	+1.1			
HYB	**Hyderabad**	**147.18**	**23**	*i* PKP	PKPdf	23 22 54.0	+1.1			
MYLDM	**Lahad Datu**	**147.33**	**302**	P	PKPdf	23 22 55.7	+2.3			
CHG	**Chiang Mai**	**147.34**	**346**	⇑P	PKPdf	23 22 53.2	0.0			
	comp=Z,11nm,1.1s									
CHG				S		23 22 55.6				
CHTO	**Chiang Mai**	**147.34**	**346**	*e*PKPdf	PKPdf	23 22 53.1	-0.1			
CHTO				*e*PKPbc	PKPbc	23 22 54.7	-0.9			
CHTO				LR	LR					
	comp=Z,1μm,22.0s									
CHTO	**Chiang Mai**	**147.34**	**346**	*e*PKIKP	PKPdf	23 22 53.1	-0.1			
CHTO				*e*		23 22 54.7				
CHTO				MLR	MLR					
	comp=Z,1μm,22.0s									
KDM	**Kudat**	**147.66**	**307**	P	PKPdf	23 22 54.4	+0.5			
CM31	**Chiang Mai Arr**	**147.69**	**346**	*e*PKPdf	PKPdf	23 22 55.0	+1.2			
CM31				*e*PKPbc	PKPbc	23 22 57.0	+0.4			
CM31				LR	LR					
	comp=Z,835nm,22.0s									
CMAR	**Chiang Mai Arr**	**147.69**	**346**	PKP	PKPdf	23 22 54.4	+0.6			
	comp=Z,1.9nm,0.3s,baz=322,slow=2.3,SNR=5.0									
CMAR				PKPbc	PKPbc	23 22 57.1	+0.6			
	comp=Z,27nm,0.6s,baz=344,slow=3.5,SNR=107									
CMAR				SKPbc	SKPbc	23 26 29.5	+1.0			
	comp=Z,23nm,0.9s,baz=322,slow=2.5,SNR=13									
CMAR	**Chiang Mai Arr**	**147.69**	**346**	PKP	PKPdf	23 22 54.4	+0.7			
CMAR				PKPbc	PKPbc	23 22 57.1	+0.6			
CMAR				SKPbc	SKPbc	23 26 29.5	+1.0			
CMAR	**Chiang Mai Arr**	**147.69**	**346**	PKIKP	PKPdf	23 22 54.4	+0.7			
CMAR						23 22 57.2				
CMAR						23 26 29.5				
SDKM	**Sandakan**	**148.13**	**304**	P	PKPdf	23 22 55.2	+0.6			
TSM	**Tawau**	**148.34**	**301**	P	PKPdf	23 22 55.8	+0.8			
KKM	**Kota Kinabalu**	**148.67**	**306**	P	PKPdf	23 22 57.4	+1.8			
KKM	**Kota Kinabalu**	**148.67**	**306**	*e*PKPbc	PKPbc	23 23 01.1	+1.7			
KKM				LR	LR					
	comp=Z,420nm,20.0s									
NWAO	**Narrogin (SRO)**	**149.12**	**226**	*e*PKPbc	PKPbc	23 23 00.9	+1.0			
NWAO				LR	LR					
	comp=Z,663nm,20.0s									
NWAO	**Narrogin (SRO)**	**149.12**	**226**	*e*PKP2	PKPbc	23 23 00.9	+1.0			
NWAO				MLR	MLR					
	comp=Z,663nm,20.0s									
KLBR	**Kellerberrin**	**149.46**	**229**	*e*PKP	PKPdf	23 22 57.5	+1.2			
	comp=Z,81nm,0.9s									
NST	**Nakhon Sawan**	**150.04**	**343**	P	PKPbc	23 23 03.0	+0.4			
KAPI	**Kappang**	**150.69**	**283**	PKP	PKPdf	23 22 60.0	+1.3			
	comp=Z,55nm,0.8s,baz=108,slow=0.8,SNR=22				

CAHU					*e*S		**Sn**	**23 16 36.8**	**+0.2**
CNCH	**Conchagua**	**1.19**	**76**	*e*P			**Pn**	**23 16 23.4**	**+0.1**
CNCH					*e*S		**Sn**	**23 16 38.5**	**0.0**
RBDL	**Robledal**	**1.30**	**330**	*e*P			**Pn**	**23 16 24.9**	**+0.2**
RBDL					*e*S		**Sn**	**23 16 41.9**	**+0.9**
MTO2	**Montecristo 2**	**1.45**	**347**	*e*P			**Pn**	**23 16 27.0**	**+0.2**
MTO2					*e*S		**Sn**	**23 16 45.1**	**+0.4**
TGUH	**Tegucigalpa,Un**	**2.01**	**58**	*e*P			**Pn**	**23 16 34.6**	**+0.2**
TGUH					AML	AML		23 17 04.1	
	comp=N,1μm,0.4s								
COPN	**Copaltepe**	**2.50**	**108**	*e*P			**Pn**	**23 16 41.3**	**+0.2**
TISN	**Laguna Tiscapa**	**2.81**	**107**	*e*P			**Pn**	**23 16 46.5**	**+1.2**
HUEN		**2.85**	**103**	*e*P			**Pn**	**23 16 45.4**	**-0.5**
CMIG	**Matias Romero**	**6.98**	**307**	P			**Pn**	**23 17 45.8**	**+3.3**
	comp=N,0.4nm,0.3s,baz=94,slow=8.5,SNR=3.9								
CMIG					S		**Sn**	**23 19 00.7**	**+0.1**
	comp=N,0.7nm,0.3s,baz=329,slow=13,SNR=3.8								
TEIG	**Tepich**	**7.24**	**6**	P			**Pn**	**23 17 47.6**	**+1.6**
	comp=N,3.3nm,0.3s,baz=135,slow=18,SNR=5.7								
BCIP	**Isla Barro Col**	**9.78**	**112**	*e*P			**Pn**	**23 18 20.7**	**-0.1**
TXAR	**Lajitas Array**	**21.21**	**322**	P			**P**	**23 20 44.8**	**+0.9**
	comp=N,0.7nm,0.6s,mb3.2,baz=146,slow=9.7,SNR=7.8								
PDAR	**Pinedale Array**	**34.59**	**333**	PcP		PcP		23 25 18.7	-1.2
	comp=N,0.4nm,0.5s,baz=141,slow=4.6,SNR=3.6								
NVAR	**Mina Array Bea**	**36.30**	**320**	PcP		PcP		23 25 26.2	+1.2
	comp=N,0.8nm,0.7s,baz=133,slow=4.7,SNR=5.9								
YKA	**Yellowknife Ar**	**52.71**	**345**	P			**P**	**23 25 09.3**	**-2.2**
	comp=N,2.0nm,0.7s,mb4.2,baz=151,slow=6.5,SNR=6.7								
ILAR	**Eielson Array**	**64.92**	**336**	P			**P**	**23 26 34.9**	**-1.4**
	comp=N,0.4nm,0.7s,mb3.5,baz=138,slow=4.0,SNR=4.9								
CMAR	**Chiang Mai Arr**	**147.79**	**346**	PKPbc		PKPbc		23 35 39.2	-3.2
	comp=N,1.1nm,0.3s,baz=346,slow=2.9,SNR=3.5								

IDC ***15*** *23:17:35.6±3.5,8˚.28N×81˚.74W, h0km, mb3.8/10, mb1 4.1/11,mb1mx4.0/22,mbtmp3.8/11,ML3.8/1, Error ellipse: s-maj=111.0km s-min=25.4km az=24.0*

NEIC ***15*** *23:17:37.5±1.9, 7˚.52N×82˚.19W, h35km, Error ellipse: s-maj=45.6km s-min=14.3km az=189.0*

ISCJB ***15*** *23:17:41.1±4.3, 7˚.9N±0˚.4×82˚.1W±0˚.2, h67km±24km, mb3.6/10, Error ellipse: s-maj=72.8km s-min=12.7km az=19.0*

ISC 15 23:17:41.7±4.4, 7˚.9N±0˚.4×82˚.1W±0˚.2, h56km±23km, n23, σ0°89/25, mb3.7/10, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BCIP	**Isla Barro Col**	**2.57**	**61**	*e*Pn		**Pn**	**23 18 21.4**	**+0.5**
CMIG	**Matias Romero**	**15.45**	**307**	Pn		**Pn**	**23 21 14.9**	**-1.3**
	0.4nm,0.3s,baz=113,slow=13,SNR=2.4							
CMIG					Sn	**Sn**	**23 24 06.2**	**-0.2**
	0.4nm,0.3s,baz=54,slow=19,SNR=2.9							
CMIG	**Matias Romero**	**15.45**	**307**	Pn		**Pn**	**23 21 14.9**	**-1.3**
CMIG					Sn	**Sn**	**23 24 06.2**	**-0.2**
TXAR	**Lajitas Array**	**29.42**	**319**	P		**P**	**23 23 41.7**	**+1.6**
	0.8nm,1.0s,mb3.4,baz=126,slow=9.0,SNR=4.7							
TXAR	**Lajitas Array**	**29.42**	**319**	P		**P**	**23 23 41.7**	**+1.6**
ANMO	**Albuquerque**	**34.99**	**324**	P		**P**	**23 24 29.2**	**+0.5**
	0.6nm,0.5s,mb3.8,baz=149,slow=13,SNR=3.6							
ANMO	**Albuquerque**	**34.99**	**324**	P		**P**	**23 24 29.2**	**+0.5**
PDAR	**Pinedale Array**	**42.29**	**330**	P		**P**	**23 25 30.6**	**+0.8**
	0.4nm,0.5s,mb3.3,baz=126,slow=9.0,SNR=3.8							
PDAR	**Pinedale Array**	**42.29**	**330**	P		**P**	**23 25 30.6**	**+0.8**
ULM	**Lac du Bonnet**	**43.75**	**347**	P		**P**	**23 25 39.8**	**-1.7**
	5.1nm,1.0s,mb4.2,baz=144,slow=8.7,SNR=4.2							
ULM	**Lac du Bonnet**	**43.75**	**347**	P		**P**	**23 25 39.8**	**-1.7**
NVAR	**Mina Array Bea**	**44.57**	**319**	P		**P**	**23 25 49.5**	**+1.2**
	1.2nm,0.7s,mb3.9,baz=127,slow=6.9,SNR=10							
NVAR	**Mina Array Bea**	**44.57**	**319**	P		**P**	**23 25 49.5**	**+1.2**
YKA	**Yellowknife Ar**	**59.41**	**343**	P		**P**	**23 27 38.3**	**+0.1**
	1.1nm,0.5s,mb4.1,baz=140,slow=6.4,SNR=8.3							
YKA	**Yellowknife Ar**	**59.41**	**343**	P		**P**	**23 27 38.3**	**+0.1**
INK	**Inuvik**	**69.12**	**342**	P		**P**	**23 28 41.4**	**-0.2**
	0.7nm,0.4s,mb3.9,baz=106,slow=7.4,SNR=4.9							
INK	**Inuvik**	**69.12**	**342**	P		**P**	**23 28 41.4**	**-0.2**
ILAR	**Eielson Array**	**72.29**	**336**	P		**P**	**23 29 00.6**	**-0.3**
	1.0nm,1.0s,mb3.7,baz=104,slow=4.3,SNR=6.2							
ILAR	**Eielson Array**	**72.29**	**336**	P		**P**	**23 29 00.6**	**-0.3**
ESDC	**Sonseca Array**	**75.88**	**51**	P		**P**	**23 29 21.8**	**-0.7**
	0.8nm,0.8s,mb3.7,baz=270,slow=5.0,SNR=3.9							
ESDC	**Sonseca Array**	**75.88**	**51**	P		**P**	**23 29 21.8**	**-0.7**
TORD	**Torodi Ar. Bea**	**82.24**	**78**	P		**P**	**23 29 57.2**	**-0.5**
	0.3nm,1.0s,mb3.2,baz=263,slow=6.0,SNR=2.7							
TORD	**Torodi Ar. Bea**	**82.24**	**78**	P		**P**	**23 29 57.2**	**-0.5**

CASC 15 23:21:07.2±0.9, 13˚.06N×89˚.02W, h44km±14km, MD3.5, ML3.5, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.56**	**356**	*e*P		Pn	23 21 19.0	+0.1
LFRS				*e*S		Sn	23 21 28.1	+0.8
SNVI	**San Vicente**	**0.58**	**18**	*e*P		Pn	23 21 19.3	+0.2
SNVI				*e*S		Sn	23 21 28.9	+1.2
SNET	**Serv Nac Est T**	**0.66**	**342**	*e*P		Pn	23 21 20.2	0.0
SNET				*e*S		Sn	23 21 30.4	+0.9
SNET				AML	AML		23 21 31.5	
	comp=Z,2μm,0.2s							
LBRS	**Las Brisas**	**0.68**	**358**	*e*P		Pn	23 21 20.9	+0.4
LBRS				*e*S		Sn	23 21 30.0	+0.1
LFU	**La Fuente**	**0.69**	**353**	*e*P		Pn	23 21 21.1	+0.5
LFU				*e*S		Sn	23 21 31.4	+1.1
BOQS	**Boqueron**	**0.72**	**340**	*e*P		Pn	23 21 21.2	+0.2
BOQS				*e*S		Sn	23 21 31.9	+1.0
VSM	**San Miguel**	**0.82**	**63**	*e*P		Pn	23 21 22.8	+0.4
VSM				*e*S		Sn	23 21 34.8	+1.5
BLLM	**Bellamira**	**0.85**	**63**	*e*P		Pn	23 21 22.7	-0.1
BLLM				*e*S		Sn	23 21 35.5	+1.2
SBLS	**San Blas**	**0.97**	**323**	*e*P		Pn	23 21 25.1	+0.7
SBLS				*e*S		Sn	23 21 38.8	+1.8
SNJE	**San Jose**	**0.98**	**325**	*e*P		Pn	23 21 24.9	+0.2
SNJE				*e*S		Sn	23 21 38.4	+1.0
RTR	**El Retiro**	**1.03**	**324**	*e*P		Pn	23 21 25.9	+0.7
RTR				*e*S		Sn	23 21 40.3	+1.8
CAHU	**Cacacuatique**	**1.06**	**48**	*e*P		Pn	23 21 25.7	+0.1
CAHU				*e*S		Sn	23 21 40.5	+1.2
CNCH	**Conchagua**	**1.18**	**79**	*e*P		Pn	23 21 26.8	-0.4
CNCH				*e*S		Sn	23 21 42.8	+0.7
RBDL	**Robledal**	**1.23**	**328**	*e*P		Pn	23 21 28.4	+0.5
MTO2	**Montecristo 2**	**1.37**	**346**	*e*P		Pn	23 21 30.0	+0.1
TGUH	**Tegucigalpa,Un**	**1.97**	**60**	*e*P		Pn	23 21 38.3	+0.2
TGUH				AML	AML		23 22 24.0	
	comp=N,296nm,0.4s							

IDC ***15*** *23:35:56.0±1.9, 4˚.60S×153˚.11E, h0km, mb3.9/7, mb1 4.2/7, mb1mx3.9/17, mbtmp3.9/7, Error ellipse: s-maj=62.4km s-min=23.6km az=118.0*

ISCJB ***15*** *23:36:00.6±1.4, 4˚.5S±0˚.2×152˚.9E±0˚.3, h33km, mb3.9/9, Error ellipse: s-maj=44.9km s-min=10.5km az=35.6*

NEIC ***15*** *23:36:01.3±1.3, 4˚.64S×153˚.09E, h35km, mb4.2/2, Error ellipse: s-maj=44.5km s-min=14.6km az=116.0*

ISC 15 23:36:01.5±1.4, 4˚.6S±0˚.2×153˚.1E±0˚.2, h35km, n20, σ0°72/18, mb3.9/9, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.56**	**231**	Sn		**Sn**	**23 39 14.0**	**+0.2**
	2.5nm,0.3s,baz=76,slow=18,SNR=4.5							
WRAB	**Tennant Creek**	**23.75**	**229**	*e*P		**P**	**23 41 10.6**	**-0.4**
	4.5nm,0.7s,mb4.0							
WRA	**Warramunga Arr**	**23.77**	**229**	P		**P**	**23 41 11.0**	**0.0**
	6.9nm,1.0s,mb4.0,baz=53,slow=9.9,SNR=22							
WRA	**Warramunga Arr**	**23.77**	**229**	P		**P**	**23 41 11.0**	**0.0**
ASAR	**Alice Springs**	**26.47**	**223**	P		**P**	**23 41 36.8**	**+1.3**
	1.0nm,0.6s,mb3.5,baz=51,slow=9.0,SNR=15							
ASAR	**Alice Springs**	**26.47**	**223**	P		**P**	**23 41 36.8**	**+1.3**
FITZ	**Fitzroy Crossi**	**29.99**	**241**	P		**P**	**23 42 05.3**	**-1.8**
	4.6nm,0.7s,mb4.3,baz=105,slow=6.8,SNR=16							
FITZ	**Fitzroy Crossi**	**29.99**	**241**	P		**P**	**23 42 05.3**	**-1.8**
CMAR	**Chiang Mai Arr**	**58.06**	**295**	P		**P**	**23 45 52.3**	**+0.6**
	0.6nm,0.4s,mb3.9,baz=108,slow=5.5,SNR=7.7							
CMAR	**Chiang Mai Arr**	**58.06**	**295**	P		**P**	**23 45 52.3**	**+0.6**
MK31	**Makanchi Array**	**80.38**	**319**	*e*P		**P**	**23 48 09.8**	**+0.4**
MKAR	**Makanchi Array**	**80.38**	**319**	P		**P**	**23 48 09.6**	**+0.1**
	0.3nm,0.5s,mb3.5,baz=101,slow=7.5,SNR=6.2							
MKAR	**Makanchi Array**	**80.38**	**319**	P		**P**	**23 48 09.6**	**+0.1**
ZALV	**Zalesovo Beam**	**81.17**	**326**	P		**P**	**23 48 13.4**	**0.0**
	0.2nm,0.3s,mb3.5,baz=94,slow=2.0,SNR=3.6							
ZALV	**Zalesovo Beam**	**81.17**	**326**	P		**P**	**23 48 13.4**	**0.0**
ILAR	**Eielson Array**	**81.89**	**22**	P		**P**	**23 48 17.1**	**0.0**
	0.6nm,1.0s,mb3.5,baz=250,slow=5.4,SNR=3.7							
ILAR	**Eielson Array**	**81.89**	**22**	P		**P**	**23 48 17.1**	**0.0**
BRVK	**Borovoye**	**89.34**	**323**	*e*P		**P**	**23 48 53.6**	**-0.7**
	0.7nm,0.5s,mb4.2							
TORD	**Torodi Ar. Bea**	**150.52**	**289**	PKPbc		PKPbc	23 55 49.9	-0.8
	1.0nm,0.3s,baz=78,slow=2.1,SNR=14							
TORD	**Torodi Ar. Bea**	**150.52**	**289**	PKPbc		PKPbc	23 55 49.9	-0.8

IDC ***15*** *23:41:54.6±5.9, 22˚.15S×179˚.30W, h539km±66km, mb3.0/8, mb1 3.2/9, mb1mx3.2/17, mbtmp3.1/9, Error ellipse: s-maj=30.5km s-min=25.5km az=84.0*

ISCJB ***15*** *23:41:58.6±1.0, 22˚.16S±0˚.08×179˚.5W±0˚.2, h600km±11km, mb3.6/10, Error ellipse: s-maj=23.4km s-min=12.7km az=5.7*

NEIC ***15*** *23:41:58.1±1.2, 22˚.21S×179˚.42W, h582km±13km, mb4.3/3, Error ellipse: s-maj=21.1km s-min=15.7km az=116.0*

ISC 15 23:41:58.2±1.1, 22˚.25S±0˚.09×179˚.4W±0˚.2, h583km±11km, n24, σ0°82/24, mb3.6/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.09**	**332**	*e*P		**P**	**23 43 30.7**	**-0.2**
	93nm,0.5s							
MSVF				*e*S		**S**	**23 44 46.7**	**+0.3**
URZ	**Urewera**	**16.24**	**190**	P		**S**	**23 45 16.9**	**-1.4**
	1.9nm,0.3s,baz=258,slow=3.7,SNR=11							
URZ				S		**S**	**23 48 01.1**	**-0.2**
	0.3nm,0.3s,baz=237,slow=22,SNR=5.6							
URZ	**Urewera**	**16.24**	**190**	P		**P**	**23 45 16.9**	**-1.4**
URZ				S		**S**	**23 48 01.1**	**-0.2**
STKA	**Stephens Creek**	**35.87**	**246**	P		**P**	**23 48 11.2**	**+1.0**
	1.4nm,0.4s,mb3.8,baz=82,slow=7.1,SNR=3.1							
STKA	**Stephens Creek**	**35.87**	**246**	P		**P**	**23 48 11.2**	**+1.0**
ASAR	**Alice Springs**	**42.87**	**259**	P		**P**	**23 49 06.8**	**+0.4**
	2.2nm,0.9s,mb3.7,baz=92,slow=8.2,SNR=17							
ASAR	**Alice Springs**	**42.87**	**259**	P		**P**	**23 49 06.8**	**+0.4**
WRAB	**Tennant Creek**	**43.08**	**264**	*e*P		**P**	**23 49 07.7**	**-0.4**
	0.6nm,0.3s,mb3.6							
WRA	**Warramunga Arr**	**43.09**	**264**	P		**P**	**23 49 07.7**	**-0.6**
	0.6nm,0.3s,mb3.6,baz=94,slow=8.1,SNR=7.3							
WRA	**Warramunga Arr**	**43.09**	**264**	P		**P**	**23 49 07.7**	**-0.6**
FITZ	**Fitzroy Crossi**	**51.52**	**264**	P		**P**	**23 50 11.4**	**+0.1**
	0.5nm,0.3s,mb3.3,baz=80,slow=11,SNR=4.9							
FITZ	**Fitzroy Crossi**	**51.52**	**264**	P		**P**	**23 50 11.4**	**+0.1**
QSPA	**South Pole Qui**	**67.83**	**180**	*e*P		**P**	**23 52 01.1**	**+2.7**
	13nm,1.3s,mb4.2							
MJAR	**Matsushiro Arr**	**70.86**	**325**	P		**P**	**23 52 16.8**	**-0.4**
	0.6nm,0.5s,mb3.4,baz=163,slow=6.0,SNR=4.3							
MJAR	**Matsushiro Arr**	**70.86**	**325**	P		**P**	**23 52 16.8**	**-0.4**
PETK	**Petropavlovsk-**	**77.63**	**346**	P		**P**	**23 52 54.8**	**-0.1**
	3.1nm,0.7s,mb3.9,baz=140,slow=7.5,SNR=3.9							
PETK	**Petropavlovsk-**	**77.63**	**346**	P		**P**	**23 52 54.8**	**-0.1**
TXAR	**Lajitas Array**	**89.09**	**58**	P		**P**	**23 53 53.0**	**+0.6**
	0.2nm,0.6s,mb3.1,baz=232,slow=4.4,SNR=2.5							
TXAR	**Lajitas Array**	**89.09**	**58**	P		**P**	**23 53 53.0**	**+0.6**
ILAR	**Eielson Array**	**90.31**	**13**	P		**P**	**23 53 56.3**	**-0.9**
	0.2nm,0.4s,mb3.3,baz=228,slow=3.5,SNR=5.2							
ILAR	**Eielson Array**	**90.31**	**13**	P		**P**	**23 53 56.3**	**-0.9**
MMAI	**Mount Meron Ar**	**147.48**	**297**	PKPbc		PKPbc	00 00 38.6	+0.9
	2.0nm,0.8s,baz=88,slow=4.9,SNR=4.1							
TORD	**Torodi Ar. Bea**	**170.89**	**187**	PKP		PKPdf	00 01 00.7	-0.2
	0.2nm,0.4s,baz=307,slow=2.0,SNR=3.9							
TORD				PKPab		PKPab	00 02 24.4	+0.9
	0.4nm,0.8s,baz=188,slow=2.7,SNR=4.6							
TORD	**Torodi Ar. Bea**	**170.89**	**187**	PKP		PKPdf	00 01 00.7	-0.2
TORD				PKPab		PKPab	00 02 24.4	+0.9

IGQ 15 23:43:28.3, 0.68N×82.23W, h12km±30km, Mb4.4, Ms4.2, 12C-10D, Error ellipse: s-maj=33.0km s-min=6.9km az=24.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CHIS	**Cerro-Chispas-**	**2.28**	**139**	⇓S		Sn	23 44 34.2	+0.4
CHIS	**Cerro-Chispas-**	**2.28**	**139**	⇓P		Pn	23 44 06.5	+0.7
PECV	**Mancha de Ca P**	**2.62**	**124**	⇓P		Pn	23 44 08.3	-2.0
GOLV	**Golondrinas**	**3.12**	**99**	P		Pn	23 44 18.1	+0.8
PINO	**Pino**	**3.71**	**103**	⇑S		Sn	23 45 07.6	-1.6
PINO	**Pino**	**3.71**	**103**	⇑P		Pn	23 44 27.6	+2.1
TERV	**Terraza Guagua**	**3.72**	**103**	P		Pn	23 44 27.7	+2.1
JUA2	**San Juan 2**	**3.73**	**104**	P		Pn	23 44 27.8	+2.1
GGP	**Refugio Guagua**	**3.73**	**103**	⇑S		Sn	23 44 27.3	+1.6
GGP	**Refugio Guagua**	**3.73**	**103**	⇑S		Sn	23 45 07.6	-2.0
YANA	**Yana**	**3.74**	**102**	P		Pn	23 44 27.7	+1.8
OTAV	**Otavalo**	**3.80**	**97**	⇑P		Pn	23 44 28.6	+2.0
LITE	**Lita**	**3.86**	**88**	⇓P		Pn	23 44 27.7	+0.2
CAMI	**Rancho Maria**	**3.96**	**110**	P		Pn	23 44 32.6	+3.7
PITA	**Cotopaxi Volc**	**3.99**	**108**	P		Pn	23 44 32.6	+3.4
BREF	**Cotopaxi Volca**	**4.02**	**110**	⇑S		Sn	23 45 20.7	+4.0
BREF	**Cotopaxi Volca**	**4.02**	**110**	⇑P		Pn	23 44 33.4	+3.7
BMOR	**Cotopaxi Volca**	**4.02**	**110**	⇑P		Pn	23 44 33.1	+3.4
MOV1	**Cotopaxi Vol s**	**4.03**	**110**	P		Pn	23 44 33.2	+3.4
BVC2	**Cotopaxi Volca**	**4.04**	**109**	⇑P		Pn	23 44 33.7	+3.7
VC1	**Cotopaxi 1**	**4.04**	**109**	⇓P		Pn	23 44 33.6	+3.6
BTAM	**Cotopaxi Volca**	**4.06**	**109**	⇓P		Pn	23 44 34.2	+3.9
TAMB	**Tambo**	**4.09**	**110**	P		Pn	23 44 34.4	+3.7
COV1	**Cotopaxi Volc**	**4.11**	**109**	⇓P		Pn	23 44 33.7	+2.8
IGUA	**Igualata**	**4.19**	**121**	P		Pn	23 44 36.7	+4.7
PISA	**Pisayambo**	**4.21**	**114**	P		Pn	23 44 37.1	+4.7
ANTI	**Antisana**	**4.22**	**105**	P		Pn	23 44 35.9	+3.5
CAYR	**Refugio Cayamb**	**4.27**	**99**	S		Sn	23 45 26.9	+3.9
CAYR	**Refugio Cayamb**	**4.27**	**99**	P		Pn	23 44 36.8	+3.6
BBIL	**Ulba Tungurahu**	**4.30**	**120**	P		Pn	23 44 39.7	+6.2
JUI6	**Juive**	**4.30**	**119**	P		Pn	23 44 38.8	+5.2
BMAS	**Trigal station**	**4.33**	**120**	⇓S		Sn	23 45 27.4	+3.0
BMAS	**Trigal station**	**4.33**	**120**	⇓P		Pn	23 44 38.9	+4.9
RETU	**Refugio**	**4.33**	**119**	P		Pn	23 44 38.8	+4.8
RUN5	**Runtun**	**4.33**	**119**	P		Pn	23 44 40.1	+6.1
BRUN	**Tungurahua Vol**	**4.35**	**119**	⇓P		Pn	23 44 38.8	+4.5
ARRY	**Arrayan**	**4.35**	**120**	⇑S		Sn	23 45 27.2	+2.3
ARRY	**Arrayan**	**4.35**	**120**	⇑P		Pn	23 44 38.6	+4.4
BULB	**Ulba Tungurahu**	**4.36**	**119**	S		Sn	23 45 27.4	+2.3
BULB	**Ulba Tungurahu**	**4.36**	**119**	P		Pn	23 44 38.8	+4.4
PAT1	**Patacocha**	**4.37**	**120**	P		Pn	23 44 39.5	+5.0
CHAR	**Charly**	**4.62**	**100**	⇑P		Pn	23 44 43.1	+5.2

CASC 16 00:07:33.8±1.5, 12˚.99N×89˚.03W, h30km±3km, MD3.7, ML3.6, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LFRS	**El Faro**	**0.63**	**357**	*e*P		Pb	00 07 46.5	0.0
LFRS				*e*S		Sb	00 07 55.9	+0.9
SNVI	**San Vicente**	**0.65**	**17**	*e*P		Pb	00 07 47.0	+0.3
SNVI				*e*S		Sb	00 07 56.8	+1.3
SNET	**Serv Nac Est T**	**0.72**	**344**	*e*P		Pb	00 07 47.0	-1.0
SNET				*e*S		Sb	00 07 58.0	+0.4
SNET				AML	AML		00 07 59.1	
	comp=Z,2μm,0.3s							
LBRS	**Las Brisas**	**0.75**	**359**	*e*P		Pb	00 07 48.5	+0.1
LFU	**La Fuente**	**0.76**	**354**	*e*P		Pn	00 07 48.5	-0.1
BOQS	**Boqueron**	**0.78**	**342**	*e*P		Pn	00 07 48.7	-0.1
BOQS				*e*S		Sb	00 07 60.0	+0.7
VSM	**San Miguel**	**0.86**	**59**	*e*P		Pn	00 07 50.1	+0.2
VSM				*e*S		Sb	00 08 02.6	+1.2
BLLM	**Bellamira**	**0.90**	**59**	*e*P		Pn	00 07 50.4	0.0
BLLM				*e*S		Sn	00 08 03.4	+1.1
SBLS	**San Blas**	**1.02**	**326**	*e*P		Pn	00 07 52.7	+0.5
SBLS				*e*S		Sn	00 08 06.6	+1.0
SNJE	**San Jose**	**1.04**	**328**	*e*P		Pn	00 07 52.5	+0.1
SNJE				*e*S		Sn	00 08 06.9	+1.0
RTR	**El Retiro**	**1.08**	**327**	*e*P		Pn	00 07 53.2	+0.2
RTR				*e*S		Sn	00 08 08.1	+1.1
CAHU	**Cacacuatique**	**1.12**	**46**	*e*P		Pn	00 07 53.4	0.0
CAHU				*e*S		Sn	00 08 10.2	+2.4
CNCH	**Conchagua**	**1.20**	**76**	*e*P		Pn	00 07 54.2	-0.3
CNCH				*e*S		Sn	00 08 10.7	+0.8
RBDL	**Robledal**	**1.29**	**330**	*e*P		Pn	00 07 56.2	+0.4
IXG	**Ixpaco**	**1.82**	**311**	*e*P		Pn	00 08 04.0	+0.9
IXG				*e*S		Sn	00 08 25.2	+0.1
TGUH	**Tegucigalpa,Un**	**2.01**	**58**	*i* P		Pn	00 08 04.9	-0.8
FUG	**Fuego 3**	**2.28**	**310**	*e*P		Pn	00 08 10.2	+0.7
FG6		**2.38**	**311**	*e*P		Pn	00 08 14.7	+3.8
COPN	**Copaltepe**	**2.51**	**108**	*e*P		Pn	00 08 12.8	+0.1

ISCJB ***16*** *00:10:43.2±0.7, 42˚.79N±0˚.06×145˚.01E±0˚.06, h50km±5km, mb3.8/13, Error ellipse: s-maj=10.6km s-min=5.3km az=151.4*

MOS ***16*** *00:10:43.2±1.1, 42˚.72N×144˚.94E, h56km, mb4.3/7, Error ellipse: s-maj=17.6km s-min=12.0km az=84.7*

JMA ***16*** *00:10:44.1, 42˚.83N×145˚.01E, h47km±1km, M3.8*

JMA Felt I J1.

NEIC ***16*** *00:10:45.9±0.9, 42˚.76N×144˚.88E, h62km±8km, mb4.0/1, Error ellipse: s-maj=13.4km s-min=8.0km az=157.0*

IDC ***16*** *00:10:46.2±2.6, 42˚.71N×144˚.94E, h68km±19km, mb3.6/12, mb1 3.7/15, mb1mx3.6/30, mbtmp3.6/15, MS3.3/1, Ms1 3.3/1, ms1mx2.7/43, Error ellipse: s-maj=24.3km s-min=15.3km az=0.0*

ISC 16 00:10:44.2±0.7, 42˚.81N±0˚.06×145˚.01E±0˚.06, h42km±5km, n57, σ0°82/69, mb3.8/13, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.29**	**309**	P		**Pn**	**00 10 52.8**	**+0.3**
JAK				*e*S		**Sn**	**00 10 58.9**	**+0.5**
NEM2	**Nemuro 2**	**0.77**	**44**	P		**Pn**	**00 10 58.0**	**-0.6**
NEM2				*e*S		**Sn**	**00 11 07.2**	**-1.9**
JNK	**Nakash**	**0.80**	**345**	P		**Pn**	**00 10 58.8**	**-0.2**
JNK				*e*S		**Sn**	**00 11 09.1**	**-0.7**
JOB	**Onbets**	**0.87**	**277**	P		**Pn**	**00 10 59.8**	**-0.1**
JOB				*e*S		**Sn**	**00 11 11.0**	**-0.4**
JAR	**Ashorobuto**	**1.03**	**299**	P		**Pn**	**00 11 02.1**	**0.0**
JAR				*e*S		**Sn**	**00 11 14.7**	**-0.7**
JRA	**Rausu**	**1.13**	**4**	P		**Pn**	**00 11 03.4**	**-0.1**
JRA				*e*S		**Sn**	**00 11 17.4**	**-0.4**
JCH	**Churui**	**1.23**	**261**	P		**Pn**	**00 11 04.5**	**-0.3**
JCH				*e*S		**Sn**	**00 11 20.2**	**0.0**
YUK	**Yuzh-Kuril'sk**	**1.37**	**27**	*i* PN		**Pn**	**00 11 06.9**	**+0.1**
YUK				*i* S		**Sn**	**00 11 24.8**	**+1.0**
YUK				pmax	pmax			
	comp=N,151nm,0.2s							
YUK				pmax	pmax			
	comp=Z,736nm,0.2s							
YUK				pmax	pmax			
	comp=E,281nm,0.1s							
YUK				pmax	pmax			
	comp=Z,163nm,0.3s							
YUK				smax				
	comp=N,937nm,0.3s							
YUK				smax				
	comp=E,2μm,0.3s							
YUK				smax				
	comp=N,270nm,0.4s							
YUK				smax				
	comp=E,580nm,0.4s							
JTKR	**Abashiri--Toko**	**1.41**	**326**	P		**Pn**	**00 11 08.0**	**+0.7**
JTKR				*e*S		**Sn**	**00 11 25.7**	**+1.0**
ASAJ	**Asahikawa**	**2.19**	**307**	P		**Pn**	**00 11 19.6**

BBSI	Bau Bau	6.97	285	P		Pn	00 13 57.8	+2.2
FITZ	Fitzroy Crossi	11.24	198	Pn		Pn	00 14 51.9	-0.4
	0.7nm,0.3s,baz=33,slow=12,SNR=25							
FITZ					Sn	Sn	00 16 50.4	-6.2
	2.3nm,0.3s,baz=96,slow=18,SNR=8.3							
FITZ	Fitzroy Crossi	11.24	198	*eP*		Pn	00 14 51.8	-0.5
	6.6nm,0.8s							
FITZ				*eS*		Sn	00 16 49.1	-7.5
FITZ	Fitzroy Crossi	11.24	198	*ePn*		Pn	00 14 51.8	-0.4
FITZ				*eS*		Sn	00 16 44.7	-12
WRAB	Tennant Creek	13.40	159	*ePn*		Pn	00 15 19.2	-0.9
	32nm,1.2s							
WRAB				*eS*		Sn	00 17 39.2	-9.3
WRA	Warramunga Arr	13.40	159	Pn		Pn	00 15 19.3	-0.9
	1.2nm,0.3s,baz=338,slow=12,SNR=40							
WRA				Sn		Sn	00 17 41.7	-7.0
	2.8nm,0.3s,baz=334,slow=22,SNR=13							
WRA	Warramunga Arr	13.40	159	Pn		Pn	00 15 19.3	-0.9
WRA				Sn		Sn	00 17 41.7	-7.0
WB2	Warramunga Arr	13.40	159	*ePn*		Pn	00 15 19.6	-0.6
WB2				*eS*		Sn	00 17 38.4	-10
ASAR	Alice Springs	16.78	165	Pn		Pn	00 16 04.0	+1.9
	1.9nm,0.3s,baz=340,slow=9.8,SNR=108							
ASAR				Sn		Sn	00 18 59.8	-10
	0.3nm,0.3s,baz=336,slow=17,SNR=5.2							
ASAR	Alice Springs	16.78	165	Pn		Pn	00 16 04.0	+1.9
ASAR				Sn		Sn	00 18 59.8	-10
CTA	Charters Tower	20.71	129	P		P	00 16 48.6	+4.2
	4.5nm,0.7s,baz=303,slow=13,SNR=6.7							
CTA	Charters Tower	20.71	129	*eP*		P	00 16 48.9	+4.5
	4.5nm,0.9s							
CTA	Charters Tower	20.71	129	P		P	00 16 48.6	+4.2
FORT	Forrest	23.30	183	*eP*		P	00 17 12.3	+2.0
	17nm,0.8s,mb4.5							
STKA	Stephens Creek	26.92	156	P		P	00 17 46.1	+3.1
	3.6nm,0.6s,mb4.2,baz=336,slow=6.9,SNR=8.8							
STKA	Stephens Creek	26.92	156	*eP*		P	00 17 46.0	+3.0
	3.0nm,0.7s,mb4.0							
STKA	Stephens Creek	26.92	156	*eP*		P	00 17 46.0	+3.1
	1.6nm,1.0s,mb3.6							
PSI	Prapat	31.97	287	P		P	00 18 28.7	+0.8
	5.3nm,0.8s,mb4.3,baz=121,slow=5.9,SNR=7.0							
PSI	Prapat	31.97	287	*eP*		P	00 18 28.7	+0.8
TOO	Toolangi	33.45	156	*eP*		P	00 18 45.4	+5.0
	30nm,0.9s,mb5.0							
CMAR	Chiang Mai Arr	39.46	311	P		P	00 19 32.0	+0.3
	2.2nm,0.6s,mb4.0,baz=140,slow=7.7,SNR=16							
CMAR	Chiang Mai Arr	39.46	311	P		P	00 19 32.0	+0.3
ODAN	Odare	53.00	312	*eP*		P	00 21 17.2	-0.1
	11nm,0.5s,mb4.8							
TAPN	Taplejung	53.04	312	*eP*		P	00 21 17.1	-0.4
	14nm,0.6s,mb4.8							
RAMN	Ramite	53.64	311	*eP*		P	00 21 22.0	+0.1
	22nm,0.6s,mb5.1							
GUN	Gumba	54.70	312	*eP*		P	00 21 29.4	-0.2
	21nm,0.7s,mb5.0							
PKI	Pulchoki	54.86	311	*eP*		P	00 21 30.3	-0.5
DMN	Daman	55.11	311	*eP*		P	00 21 33.0	+0.5
GKN	Gorkha	55.67	311	*eP*		P	00 21 36.1	-0.5
	12nm,0.6s,mb4.9							
KOLN	Koldanda	56.33	310	*eP*		P	00 21 41.2	0.0
SONM	Songino Array	58.59	342	P		P	00 21 56.4	-0.2
	0.5nm,0.7s,mb3.5,baz=157,slow=4.8,SNR=3.9							
SONM	Songino Array	58.59	342	P		P	00 21 56.4	-0.2
MKAR	Makanchi Array	68.18	327	P		P	00 22 59.5	-0.3
	0.9nm,0.4s,mb3.8,baz=117,slow=8.0,SNR=36							
MKAR	Makanchi Array	68.18	327	P		P	00 22 59.5	-0.3
ZALV	Zalesovo Beam	71.63	334	P		P	00 23 19.9	-0.8
	0.6nm,0.4s,mb3.6,baz=141,slow=4.2,SNR=5.5							
ZALV	Zalesovo Beam	71.63	334	P		P	00 23 19.9	-0.7
KURK	Kurchatov	72.49	329	P		P	00 23 25.5	-0.3
	1.2nm,0.4s,mb3.9,baz=126,slow=5.1,SNR=24							
KURK	Kurchatov	72.49	329	P		P	00 23 25.5	-0.3

NOU ***16*** *00:18:23.9±1.4, 11˚.17S×163˚.36E, h30km, MD4.4, ML4.7*
ISCJB ***16*** *00:18:45.5±1.3, 12˚.63S±0˚.05×166˚.38E±0˚.06, h49km±11km, mb4.9/45, MS4.0/7, Error ellipse: s-maj=10.4km s-min=7.5km az=145.3*
NEIC ***16*** *00:18:46.6±1.7, 12˚.73S×166˚.56E, h54km±15km, mb4.9/19, Error ellipse: s-maj=11.9km s-min=9.9km az=80.0*
IDC ***16*** *00:18:47.3±6.4, 12˚.71S×166˚.56E, h59km±56km, mb4.3/20, mb1 4.3/21, mb1mx4.3/25, mbtmp4.2/21, ML3.7/1, MS4.1/7, Ms1 4.1/7, ms1mx3.7/27, Error ellipse: s-maj=22.5km s-min=19.3km az=97.0*
ISC 16 00:18:48.4±1.0, 12˚.65S±0˚.05×166˚.39E±0˚.06, h61km±9km, n120, σ1s01/98, mb4.9/45, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	Honiara	7.09	296	*ePn*	Pn	00 20 28.5	-1.0
HNR				*eSn*	Sn	00 21 47.8	-1.0
DZM	Mont Dzumac	9.37	180	*ePn*	Pn	00 21 03.2	+2.5
	21nm,0.3s						
DZM				*eSn*	Sn	00 22 48.0	+3.5
	10.0nm,0.3s						
DZM				*eLR*	LR	00 23 19.1	
	1µm,24.6s						
DZM	Mont Dzumac	9.37	180	*eP*	Pn	00 21 00.1	-0.5
DZM				*eS*	Sn	00 22 57.7	+13
DZM				AMP		00 23 07.6	
	comp=Z,318nm,0.0s						
DZM	Mont Dzumac	9.37	180	*ePn*	Pn	00 20 57.9	-2.8
	comp=Z,34nm,0.5s						
DZM				*eS*	Sn	00 23 03.5	+19
NOUC	Port Laguerre	9.40	180	*eP*	Pn	00 21 01.1	0.0
NOUC				*eS*	Sn	00 22 56.2	+11
BAYA	Yate Dam	9.46	177	*eP*	Pn	00 21 04.7	+2.7
NORM	Noumea	9.53	179	*eS*	Sn	00 23 02.2	+14
MSVF	Nonsavu	12.33	116	*ePn*	Pn	00 21 41.0	-0.2
	comp=Z,53nm,1.1s						
PMG	Port Moresby	19.15	278	P	Pn	00 23 09.6	+1.3
	comp=Z,0.7nm,0.3s,baz=135,slow=10.0,SNR=3.2						
PMG	Port Moresby	19.15	278	P	Pn	00 23 09.6	+1.3
EIDS	Eidsvold	19.20	227	*eP*	Pn	00 23 08.0	-0.8
	comp=Z,30nm,1.1s						
CTA	Charters Tower	20.67	246	P	P	00 23 24.7	+1.3
	comp=Z,9.6nm,0.9s,baz=81,slow=12,SNR=4.6						
CTA				LR	LR	00 30 39.4	
	comp=Z,391nm,19.0s,baz=318,slow=34						
CTA	Charters Tower	20.67	246	*eP*	P	00 23 24.7	+1.3
	comp=Z,7.9nm,0.8s						
CTA	Charters Tower	20.67	246	P	P	00 23 24.7	+1.2
CTA				LR	LR	00 30 39.4	
CTAO	Charters Tower	20.67	246	*eP*	P	00 23 24.3	+0.9
	comp=Z,11nm,0.8s						
AFI	Afiamalu	21.29	96	LR	LR	00 30 30.0	
	comp=Z,387nm,19.8s,baz=306,slow=33						
ARMA	Armidale	22.34	215	*eP*	P	00 23 41.3	+0.1
ARMA	Armidale	22.34	215	*eP*	P	00 23 41.1	-0.1
	comp=Z,118nm,1.6s,mb5.1						
RIV	Riverview	25.24	211	*eP*	P	00 24 08.9	+0.2
URZ	Urewera	27.23	161	P	P	00 24 25.6	-1.1
	comp=Z,6.1nm,0.8s,mb4.2,baz=275,slow=8.4,SNR=3.9						
URZ	Urewera	27.23	161	P	P	00 24 25.6	-1.1
CNB	Canberra Magne	27.32	211	*eP*	P	00 24 27.7	+0.2
	comp=Z,67nm,0.9s,mb5.2						
STKA	Stephens Creek	29.75	226	P	P	00 24 49.3	+0.2
	comp=Z,9.8nm,0.9s,mb4.5,baz=40,slow=8.9,SNR=7.6						
STKA				LR	LR	00 35 45.6	
	comp=Z,390nm,18.9s,baz=28,slow=34						
STKA	Stephens Creek	29.75	226	*eP*	P	00 24 49.3	+0.2
	comp=Z,6.7nm,0.6s,mb4.5						
STKA	Stephens Creek	29.75	226	*eP*	P	00 24 49.4	+0.2
	comp=Z,7.6nm,1.5s,mb4.2						
TOO	Toolangi	31.06	213	*eP*	P	00 25 00.7	+0.1
	comp=Z,53nm,0.6s,mb5.5						
RPZ	Rata Peaks	31.21	173	LR	LR	00 35 56.9	
	comp=Z,261nm,19.6s,baz=191,slow=33						
WB2	Warramunga Arr	31.55	252	*eP*	P	00 25 04.8	-0.4
WRAB	Tennant Creek	31.55	253	P	P	00 25 05.2	0.0
	comp=Z,3.7nm,1.1s,mb4.1						
WRA	Warramunga Arr	31.57	253	P	P	00 25 04.2	-1.1
	comp=Z,0.9nm,0.5s,mb3.8,baz=84,slow=8.8,SNR=4.7						
WRA	Warramunga Arr	31.57	253	P	P	00 25 04.2	-1.1
ASAR	Alice Springs	32.68	246	P	P	00 25 13.4	-1.6
	comp=Z,3.3nm,0.8s,mb4.3,baz=74,slow=9.5,SNR=17						
ASAR	Alice Springs	32.68	246	P	P	00 25 13.4	-1.6
FITZ	Fitzroy Crossi	39.61	257	P	P	00 26 14.7	+0.4
	comp=Z,6.1nm,0.7s,mb4.4,baz=129,slow=10,SNR=7.9						
FITZ	Fitzroy Crossi	39.61	257	*eP*	P	00 26 14.2	-0.1
	comp=Z,3.4nm,0.6s,mb4.2						
FITZ				*e*		00 26 20.8	
FITZ	Fitzroy Crossi	39.61	257	P	P	00 26 14.6	+0.4

FORT	Forrest	39.67	237	*eP*		P	00 26 12.1	-2.5
	comp=Z,21nm,0.7s,mb5.0							
PPT	Papeete	42.72	102	*e*LR		LR	00 38 43.0	
	comp=Z,252nm,23.8s							
PPT	Papeete	42.72	102	LR		LR	00 40 18.3	
	comp=Z,169nm,19.9s,baz=309,slow=30							
KLBR	Kellerberrin	48.41	239	*eP*		P	00 27 20.9	-3.7
	comp=Z,22nm,1.1s,mb5.1							
NWAO	Narrogin (SRO)	49.11	237	P		P	00 27 29.7	-0.3
	comp=Z,26nm,0.9s,mb5.2,baz=74,slow=7.5,SNR=9.2							
NWAO	Narrogin (SRO)	49.11	237	*eP*		P	00 27 29.7	-0.3
	comp=Z,18nm,0.8s,mb5.2							
MJAR	Matsushiro Arr	55.68	333	P		P	00 28 17.8	-0.6
	comp=Z,5.2nm,0.7s,mb4.7,baz=169,slow=8.6,SNR=19							
MJAR	Matsushiro Arr	55.68	333	P		P	00 28 17.8	-0.6
MAJO	Matsushiro	55.68	333	*eP*		P	00 28 18.0	-0.4
	comp=Z,6.7nm,0.7s,mb4.8							
MAT	Matsushiro	55.68	333	P		P	00 28 17.8	-0.6
JNU	Nakatsue	56.74	324	*eP*		P	00 28 26.4	+0.3
	comp=Z,14nm,0.9s,mb5.0							
YHNB	Yeheng	57.49	310	*eP*		P	00 28 33.0	+1.5
ASAJ	Asahikawa	60.51	340	P		P	00 28 52.5	+0.4
	comp=Z,5.9nm,0.7s,mb4.9,baz=355,slow=22,SNR=4.1							
KSRS	Korea Array	61.55	326	P		P	00 28 59.8	+0.5
	comp=Z,7.0nm,0.8s,mb4.9,baz=137,slow=7.0,SNR=19							
PSI	Prapat	68.71	278	P		P	00 29 46.0	-0.3
	comp=Z,2.9nm,0.4s,mb4.5,baz=353,slow=0.6,SNR=5.6							
PSI	Prapat	68.71	278	*eP*		P	00 29 46.0	-0.3
ENH	Enshi	69.39	309	*eP*		P	00 29 50.5	+0.3
	comp=Z,19nm,0.9s,mb5.0							
BJT	Baijiatuan	70.11	321	*eP*		P	00 29 54.9	+0.6
	comp=Z,17nm,0.6s,mb5.2							
CMAR	Chiang Mai Arr	73.33	294	P		P	00 30 15.4	+1.4
	comp=Z,9.3nm,0.9s,mb4.7,baz=122,slow=4.7,SNR=40							
CMAR	Chiang Mai Arr	73.33	294	P		P	00 30 15.4	+1.4
CHTO	Chiang Mai	73.45	294	*eP*		P	00 30 15.9	+1.1
	comp=Z,14nm,1.3s,mb4.7							
HIA	Hailar	74.07	330	*eP*		P	00 30 17.6	-0.1
	comp=Z,9.1nm,0.7s,mb4.8							
QSPA	South Pole Qui	77.36	180	*eP*		P	00 30 34.5	-1.7
	comp=Z,26nm,1.0s,mb5.1							
ULN	Ulaanbaatar	79.96	324	*eP*		P	00 30 51.3	+0.4
	comp=Z,14nm,0.7s,mb5.0							
ULN					*e*		00 30 58.8	
SONM	Songino Array	80.33	324	P		P	00 30 53.6	+0.7
	comp=Z,5.4nm,0.7s,mb4.6,baz=137,slow=6.1,SNR=21							
SONM	Songino Array	80.33	324	P		P	00 30 53.6	+0.7
SHL	Shillong	81.83	298	*e*PKP		P	00 31 04.0	+2.6
LSA	Lhasa	83.74	302	*eP*		P	00 31 12.9	+1.8
	comp=Z,4.8nm,0.6s,mb4.8							
TLY	Talaya	83.80	326	*eP*		P	00 31 11.3	+0.4
	comp=Z,7.3nm,0.8s,mb4.9							
HUMO	Hull Mountain	84.72	44	*eP*		P	00 31 17.3	+1.5
	comp=Z,99nm,3.0s							
ILAR	Eielson Array	84.83	18	P		P	00 31 13.8	-2.1
	comp=Z,2.7nm,0.6s,mb4.6,baz=236,slow=5.4,SNR=4.7							
ILAR	Eielson Array	84.83	18	P		P	00 31 13.8	-2.1
BBB	Bella Bella	85.54	34	LR		LR	01 04 10.1	
	comp=Z,132nm,18.2s,baz=170,slow=32							
TAPN	Taplejung	85.93	299	*eP*		P	00 31 23.0	+0.7
	comp=Z,20nm,1.0s,mb5.3							
ODAN	Odare	86.07	298	*eP*		P	00 31 23.5	+0.6
	comp=Z,42nm,0.9s,mb5.7							
NVAR	Mina Array Bea	86.57	50	P		P	00 31 25.5	+0.3
	comp=Z,0.9nm,0.7s,mb4.1,baz=223,slow=8.1,SNR=7.7							
NVAR	Mina Array Bea	86.57	50	P		P	00 31 25.5	+0.3
EGAK	Eagle	86.66	20	*eP*		P	00 31 26.4	+1.4
	comp=Z,30nm,2.0s,mb5.2							
RAMN	Ramite	86.77	298	*eP*		P	00 31 26.7	+0.3
	comp=Z,28nm,1.1s,mb5.4							
GUN	Gumba	87.65	299	*eP*		P	00 31 30.6	0.0
	comp=Z,20nm,0.8s,mb5.4							
PKI	Pulchoki	87.96	299	*eP*		P	00 31 32.4	+0.3
PKIN	Phulchoki	87.97	299	*eP*		P	00 31 32.5	+0.3
	comp=Z,14nm,0.6s,mb5.3							
KKN	Kakani	88.13	299	*eP*		P	00 31 33.3	+0.4
	comp=Z,31nm,0.8s,mb5.6							
DMN	Daman	88.23	299	*eP*		P	00 31 34.0	+0.6
	comp=Z,70nm,0.8s,mb5.9							
GKN	Gorkha	88.73	299	*eP*		P	00 31 35.5	-0.2
	comp=Z,46nm,0.8s,mb5.8							
KOLN	Koldanda	89.56	298	*eP*		P	00 31 39.3	-0.3
	comp=Z,28nm,1.0s,mb5.6							
DANN	Dangsing	89.57	299	*eP*		P	00 31 39.2	-0.5
MK31	Makanchi Array	95.12	317	*eP*		P	00 32 04.5	-0.4
MK31					*e*		00 32 12.6	
MKAR	Makanchi Array	95.12	317	P		P	00 32 04.7	-0.2
	comp=Z,7.2nm,0.7s,mb5.2,baz=95,slow=6.5,SNR=64							
MKAR	Makanchi Array	95.12	317	P		P	00 32 04.7	-0.2
ZAA0	Zalesovo Array	95.22	324	*eP*		P	00 32 03.7	-1.5
ZAA0					*e*		00 32 11.4	
ZALV	Zalesovo Beam	95.22	324	P		P	00 32 04.1	-1.0
	comp=Z,4.4nm,0.8s,mb5.0,baz=114,slow=4.8,SNR=24							
ZALV				LR		LR	01 13 55.2	
	comp=Z,156nm,21.7s,baz=243,slow=35							
ZALV	Zalesovo Beam	95.22	324	P		P	00 32 04.1	-1.0
ZALV				LR		LR	01 13 55.2	
SNAA	Sanae	95.56	183	*eP*		P	00 32 02.4	-4.2
	comp=Z,1.6nm,0.9s,mb4.5							
TXAR	Lajitas Array	96.04	61	P		P	00 32 07.5	-1.9
	comp=Z,0.3nm,0.9s,baz=270,slow=2.4,SNR=3.6							
TXAR	Lajitas Array	96.04	61	P		P	00 32 07.5	-1.9
YKA	Yellowknife Ar	96.10	27	P		P	00 32 07.7	-1.3
	comp=Z,0.4nm,0.5s,mb4.1,baz=256,slow=4.5,SNR=3.3							
YKA	Yellowknife Ar	96.10	27	P		P	00 32 07.7	-1.3
VNA3	Neumayer Olymp	96.26	181	*e*		P	00 32 05.5	-4.2
VNA2	Neumayer--Watz	96.52	182	*e*		P	00 32 06.3	-4.5
	baz=188,slow=4.5							
KURK	Kurchatov	98.27	320	P		P	00 32 18.2	-0.9
	comp=Z,1.0nm,0.8s,mb4.2,baz=100,slow=3.3,SNR=8.6							
KURK	Kurchatov	98.27	320	P		P	00 32 18.2	-0.9
ARCES	ARCESS Array B	118.04	345	PKP		PKPdf	00 37 26.3	-1.4
	comp=Z,4.1nm,1.0s,baz=58,slow=2.7,SNR=7.8							
ARCES	ARCESS Array B	118.04	345	PKP		PKPdf	00 37 26.3	-1.4
SFTF	Sexfontaines	141.30	340	*e*PKP1		PKPdf	00 38 11.9	-0.3
LDF	La Druitiere	142.45	345	*e*PKP1		PKPdf	00 38 11.1	-3.2
LPL	La Plagne	142.96	336	*e*PKP1		PKPdf	00 38 13.7	-1.6
LPG	La Plagne	142.97	336	*e*PKP1		PKPdf	00 38 13.5	-1.8
	comp=Z,7.4nm,0.9s							
ORIF	Oris-en-Rattie	143.79	336	*e*PKP1		PKPdf	00 38 14.3	-2.5
	comp=Z,18nm,0.8s							
TCF	Toute Ste Croi	143.90	341	*e*PKP1		PKPdf	00 38 14.2	-2.7
SBF	Sospel	144.01	334	*e*PKP1		PKPdf	00 38 14.3	-2.9
	comp=Z,74nm,1.0s							
MFF	Saint Martin d	144.30	344	*e*PKP1		PKPdf	00 38 15.4	-2.2
	comp=Z,12nm,0.7s							
VIVF	Saint-Julien-l	144.31	338	*e*PKP1		PKPdf	00 38 15.9	-1.8
PGF	Pioggiola	144.34	331	*e*PKP1		PKPdf	00 38 15.7	-2.1
	comp=Z,40nm,0.9s							
FRF	La Foret Royal	144.60	334	*e*PKP1		PKPdf	00 38 16.3	-1.9
SMRF	Simiane la Rot	144.70	336	*e*PKP1		PKPdf	00 38 16.5	-1.9
LMR	La Mourre	144.84	334	*e*PKP1		PKPdf	00 38 16.5	-2.2
RJF	Les Rejaudoux	145.00	341	*e*PKP1		PKPdf	00 38 18.0	-0.9
CAF	Calviac	145.16	340	*e*PKP1		PKPbc	00 38 18.7	-0.1
KEST	Kestel	149.07	322	PKPbc		PKPbc	00 38 29.8	-0.4
	comp=Z,3.6nm,0.7s,baz=57,slow=0.9,SNR=20							
ESDC	Sonseca Array	151.77	344	PKPbc		PKPbc	00 38 34.9	-1.5
	comp=Z,1.1nm,0.8s,baz=9.5,slow=3.3,SNR=7.8							
ESDC	Sonseca Array	151.77	344	PKPbc		PKPbc	00 38 34.9	-1.5
TORD	Torodi Ar. Bea	165.07	274	PKPab		PKPab	00 39 43.9	+0.1
	comp=Z,6.3nm,0.9s,baz=82,slow=4.8,SNR=30							
DBIC	Dimbokro	169.53	236	PKPab		PKPab	00 40 03.1	-0.3
	comp=Z,7.6nm,0.8s,baz=100,slow=3.4,SNR=6.2							

ISCJB ***16*** *00:27:54.8±3.3, 5˚.35S±0˚.1×153˚.8E±0˚.1, h60km±29km, mb3.9/6, Error ellipse: s-maj=19.2km s-min=17.2km az=147.3*
IDC ***16*** *00:27:55.1±1.1, 5˚.35S×153˚.84E, h50km±7km, mb3.9/7, mb1 4.0/8, mb1mx3.7/19, mbtmp4.0/8, Error ellipse: s-maj=25.9km s-min=16.9km az=108.0*
NEIC ***16*** *00:27:58.5±2.5, 5˚.35S×153˚.80E, h83km±20km, Error ellipse: s-maj=23.4km s-min=13.1km az=88.0*
ISC 16 00:27:58.0±2.5, 5˚.4S±0˚.1×153˚.8E±0˚.1, h75km±23km, h56km±1.1km:pP-P, n21, σ0s62/21, mb3.9/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	7.69	238	P	Pn	00 29 47.3	0.0
	6.1nm,0.3s,baz=67,slow=8.2,SNR=17						
PMG				S	Sn	00 31 12.5	-0.4
	11nm,0.3s,baz=91,slow=18,SNR=9.3						
PMG	Port Moresby	7.69	238	*ePn*	Pn	00 29 48.2	+0.9
PMG				*eS*	Sn	00 31 12.3	-0.6

DZM	Mont Dzumac	20.65	145	*e*P		P	00 32 31.5	-0.1
GUMO	Guam	20.80	335	P		P	00 32 33.1	-0.2
	16nm,0.4s,baz=167,slow=19,SNR=2.7							
GUMO	Guam	20.80	335	P		P	00 32 33.1	-0.2
WRAB	Tennant Creek	23.80	231	*ePn*		P	00 33 04.4	+0.3
WB2	Warramunga Arr	23.81	231	*ePn*		P	00 33 04.2	+0.1
WRA	Warramunga Arr	23.82	231	P		P	00 33 03.9	-0.2
	2.6nm,0.7s,mb3.7,baz=54,slow=9.5,SNR=13							
WRA				pP			00 33 16.2	
	1.0nm,0.5s,baz=50,slow=9.8,SNR=3.4							
WRA				sP		sP	00 33 22.3	-8.1
	1.0nm,0.5s,baz=48,slow=9.6,SNR=3.7							
WRA	Warramunga Arr	23.82	231	P		P	00 33 03.9	-0.2
WRA				pP			00 33 16.2	
WRA				sP		sP	00 33 22.3	-8.1
ASAR	Alice Springs	26.41	224	P		P	00 33 27.4	-0.2
	0.7nm,0.5s,mb3.3,baz=55,slow=9.0,SNR=14							
ASAR				pP		pP	00 33 40.4	-4.7
	0.3nm,0.4s,baz=57,slow=8.3,SNR=2.6							
ASAR	Alice Springs	26.41	224	P		P	00 33 27.4	-0.2
ASAR				pP		pP	00 33 40.4	-4.8
URZ	Urewera	39.02	150	P		P	00 35 17.4	+0.1
	4.6nm,0.6s,mb4.5,baz=95,slow=2.6,SNR=5.4							
URZ	Urewera	39.02	150	P		P	00 35 17.4	+0.2
CMAR	Chiang Mai Arr	58.99	295	P		P	00 37 51.6	+1.4
	3.0nm,0.8s,mb4.4,baz=119,slow=5.4,SNR=14							
CMAR	Chiang Mai Arr	58.99	295	P		P	00 37 51.6	+1.4
MKAR	Makanchi Array	81.38	319	P		P	00 40 06.7	+0.1
	0.5nm,0.6s,mb3.5,baz=97,slow=8.1,SNR=10							
MKAR				pP		pP	00 40 22.3	-4.5
	0.4nm,0.7s,baz=94,slow=7.0,SNR=2.6							
MKAR	Makanchi Array	81.38	319	P		P	00 40 06.7	+0.1
MKAR				pP		pP	00 40 22.3	-4.5
ZALV	Zalesovo Beam	82.15	326	P		P	00 40 09.1	-1.3
	0.4nm,0.3s,mb3.7,baz=127,slow=10,SNR=4.1							
ZALV				pP		pP	00 40 24.8	-5.9
	0.4nm,0.6s,baz=128,slow=9.3,SNR=2.0							
ZALV	Zalesovo Beam	82.15	326	P		P	00 40 09.1	-1.3
ZALV				pP		pP	00 40 24.8	-6.0
TORD	Torodi Ar. Bea	151.40	288	PKPbc		PKPbc	00 47 43.8	-0.4
	0.6nm,0.8s,baz=86,slow=1.4,SNR=4.8							
TORD				PKPab		PKPab	00 47 52.7	+0.1
	0.9nm,0.9s,baz=74,slow=2.9,SNR=4.1							
TORD	Torodi Ar. Bea	151.40	288	PKPbc		PKPbc	00 47 43.8	-0.4
TORD				PKPab		PKPab	00 47 52.7	+0.1

ISCJB ***16*** *00:29:53.1±0.7, 51˚.42N±0˚.04×16˚.10E±0˚.04, h0km, Error ellipse: s-maj=5.2km s-min=3.1km az=13.4*
IPEC ***16*** *00:29:53.0±0.2, 51˚.55N×16˚.21E, h0km, ML2.0/4, Error ellipse: s-maj=1.5km s-min=1.3km az=12.0*
CSEM ***16*** *00:29:53.2±0.3, 51˚.51N×16˚.16E, ml3.4/4, ML3.0/4, Error ellipse: s-maj=5.1km s-min=5.1km az=139.0*
PRU ***16*** *00:29:55.8, 51˚.40N×16˚.06E, h0km*
WAR ***16*** *00:29:55.1, 51˚.46N×16˚.11E, ML2.5, Mining Induced*
ISC 16 00:29:54.0±0.7, 51˚.46N±0˚.04×16˚.10E±0˚.04, h0km, n28, σ0s93/52, Poland

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

COV1	Cotopaxi Volc	0.38	355	⇑P		Pg	00 35 22.4 +1.4
BREF	Cotopaxi Volca	0.39	340	⇑S		Sg	00 35 28.4 +1.9
BREF	Cotopaxi Volca	0.39	340	⇑P		Pg	00 35 22.6 +1.3
RUN5	Runtun	0.39	197	⇑P		Pg	00 35 21.8 +0.5
BVC2	Cotopaxi Volca	0.39	345	⇑S		Sg	00 35 28.5 +1.9
BVC2	Cotopaxi Volca	0.39	345	⇑P		Pg	00 35 22.4 +1.0
BRUN	Tungurahua Vol	0.39	195	⇑P		Pg	00 35 21.9 +0.5
BRUN	Tungurahua Vol	0.39	195	⇑S		Sg	00 35 27.4 +0.8
VC1	Cotopaxi 1	0.41	347	⇑P		Pg	00 35 22.5 +0.8
BULB	Ulba Tungurahu	0.41	194	⇑S		Sg	00 35 27.8 +0.6
BULB	Ulba Tungurahu	0.41	194	⇑P		Pg	00 35 22.1 +0.5
CAMI	Rancho Maria	0.41	331	P		Pg	00 35 22.7 +1.0
JUI6	Juive	0.41	203	⇑P		Pg	00 35 22.0 +0.1
ULBA	Ulba	0.42	194	⇑P		Pg	00 35 22.1 +0.2
RETU	Refugio	0.43	199	⇑P		Pg	00 35 22.6 +0.4
BBIL	Ulba Tungurahu	0.45	204	⇑S		Sg	00 35 28.6 +0.3
BBIL	Ulba Tungurahu	0.45	204	⇑P		Pg	00 35 22.8 +0.4
BIL2	Estacion Bilba	0.46	205	⇓P		Pg	00 35 22.8 +0.2
PAT1	Patacocha	0.48	196	⇑P		Pg	00 35 23.4 +0.3
ARRY	Arrayan	0.49	197	⇑P		Pg	00 35 23.1 0.0
BMAS	Trigal station	0.49	200	⇑S		Sg	00 35 30.2 +0.4
BMAS	Trigal station	0.49	200	⇑P		Pg	00 35 23.4 +0.1
PITA	Cotopaxi Volc	0.49	345	⇑P		Pg	00 35 24.0 +0.7
IGUA	Igualata	0.56	216	⇑P		Pg	00 35 25.2 +0.7
ANTI	Antisana	0.60	14	⇓P		Pg	00 35 25.4 0.0
RIOE	Riobamba	0.78	204	⇑S		Sg	00 35 39.1 +0.2
RIOE	Riobamba	0.78	204	⇑P		Pg	00 35 28.6 0.0
JUA2	San Juan 2	0.87	340	⇑P		Pg	00 35 30.9 +0.5
GGP	Refugio Guagua	0.91	342	⇓P		Pg	00 35 31.9 +0.8
TERV	Terraza Guagua	0.91	341	S		Sg	00 35 45.5 +2.5
TERV	Terraza Guagua	0.91	341	P		Pg	00 35 31.7 +0.6
PINO	Pino	0.92	341	⇓P		Pg	00 35 31.6 +0.1
YANA	Yana	0.95	344	⇓P		Pg	00 35 32.1 +0.2
CAYR	Refugio Cayamb	1.09	16	⇓P		Pb	00 35 35.5 +0.9
CHAR	Charly	1.14	34	⇑S		Sb	00 35 51.2 +1.0
CHAR	Charly	1.14	34	⇑P		Pb	00 35 36.0 +0.6
LAV4	Lava4-Reventad	1.16	36	⇑S		Sb	00 35 50.7 -0.1
LAV4	Lava4-Reventad	1.16	36	⇑P		Pb	00 35 35.9 +0.2
CONE	Cono NE Rev Vo	1.17	35	⇑P		Pb	00 35 36.3 +0.4
MACE	Macas	1.21	175	⇑S		Sb	00 35 53.5 +1.1
MACE	Macas	1.21	175	⇑P		Pn	00 35 37.0 +0.5
OTAV	Otavalo	1.28	354	⇑P		Pn	00 35 37.5 +0.1
GOLV	Golondrinas	1.49	326	P		Pn	00 35 41.8 +1.4
PECV	Mancha de Ca P	1.76	278	P		Pn	00 35 50.3 +6.2
LITE	Lita	1.83	358	P		Pn	00 35 46.8 +1.6

JMA 16 00:45:15.4±0.1, 30.10N×141.54E, h47km, M4.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	3.05	169	P	Pn	00 46 02.5	+1.4
BSO1	Boso 1	4.56	354	P	Pn	00 46 24.3	+2.4
BSO1				eS	Sn	00 47 14.4	+0.8
BSO3	Boso 3	4.77	350	P	Pn	00 46 26.7	+2.0
BSO4	Boso 4	4.98	349	P	Pn	00 46 31.3	+3.7
JOO2	Odawara 2	5.55	339	P	Pn	00 46 37.9	+2.5
JHU	Hanno	6.04	342	P	Pn	00 46 45.0	+2.9
JRY	Ryogami san	6.30	340	P	Pn	00 46 48.6	+2.9
JHO	Hitachi	6.54	353	P	Pn	00 46 50.8	+1.8
JAG	Ashikaga	6.54	345	P	Pn	00 46 51.3	+2.2
JAG				eS	Sn	00 48 02.6	+0.2
MAT	Matsushiro	7.00	337	P	Pn	00 46 58.1	+2.8
MAT				S	Sn	00 48 17.3	+3.7
MAT	Matsushiro	7.00	337	P	Pn	00 46 59.4	+4.1
JMK	Ichinoseki	8.83	358	P	Pn	00 47 22.0	+1.6

IDC **16** *00:59:02.8±1.9, 63.09N×151.35W, h92km±31km, mb3.3/5, mb1 3.4/8, mb1mx3.2/26, mbtmp3.3/8, Error ellipse: s-maj=42.7km s-min=10.9km az=115.0*
ISCJB **16** *00:59:04.3±0.3, 63.08N±0.03×150.89W±0.07, h130km±3km, mb3.5/5, Error ellipse: s-maj=5.4km s-min=4.3km az=16.5*
NEIC **16** *00:59:05.9, 63.08N×150.84W, h119km, MG3.0(AEIC), After AEIC.*
ISC 16 00:59:05.4±0.3, 63.08N±0.03×150.88W±0.07, h124km±3km, n51, σ0.75/68, mb3.6/5, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	Thorofare Moun	0.46	36	P	Pn	00 59 23.9	+0.4
TRF				S	Sn	00 59 37.8	+0.5
PPLA	Purkeypile	0.62	254	P	Pn	00 59 25.2	+0.6
PPLA				S	Sn	00 59 39.4	+0.4
RND	Reindeer	0.98	69	P	Pn	00 59 27.7	+0.2
RND				S	Sn	00 59 44.1	-0.2
BPAW	Bear Paw Mtn.	1.03	358	P	Pn	00 59 28.0	0.0
BPAW				S	Sn	00 59 44.5	-0.6
CHUM	Lake Minchumin	1.03	322	P	Pn	00 59 28.3	+0.3
CHUM				S	Sn	00 59 44.8	-0.4
MCK	McKinley	1.10	52	ePn	Pn	00 59 29.0	+0.4
MCK				eS	Sn	00 59 45.6	-0.7
SKT	Skwentna	1.14	195	P	Pn	00 59 29.2	0.0
SKT				S	Sn	00 59 47.0	-0.2
DHY	Denali Highway	1.60	88	P	Pn	00 59 34.4	+0.3
SUA	Susitna One	1.62	178	P	Pn	00 59 35.4	+1.0
PMR	Palmer	1.70	150	ePn	Pn	00 59 35.3	-0.1
PMR				eS	Sn	00 59 58.9	+0.7
SML	Sawmill	1.74	136	ePn	Pn	00 59 35.6	-0.2
SML				eS	Sn	00 59 59.8	+0.7
FIB	Fire Island	1.95	170	P	Pn	00 59 39.7	+1.3
SCM	Sheep Creek Mo	2.07	125	P	Pn	00 59 39.6	-0.2
MDM	Murphy Dome	2.22	31	P	Pn	00 59 41.8	+0.1
COLA	College	2.25	35	P	Pn	00 59 42.1	+0.1
TT01	Tatalina	2.35	268	P	Pn	00 59 43.4	0.0
DDM	Donnelly Dome	2.37	70	P	Pn	00 59 44.6	+1.1
IL1	Eielson Array	2.45	44	P	Pn	00 59 44.4	-0.3
ILAR	Eielson Array	2.45	44	P	Pn	00 59 44.2	-0.4
ILAR	6.2nm,0.3s,baz=226,slow=13,SNR=528			S	Sn	01 00 13.7	-1.1
ILAR	3.1nm,0.3s,baz=240,slow=16,SNR=6.3			P	Pn	00 59 44.2	-0.4
ILAR	Eielson Array	2.45	44	S	Sn	01 00 13.7	-1.1
PAX	Paxson	2.47	90	ePn	Pn	00 59 45.4	+0.5
PAX				eS	Sn	01 00 16.3	+1.0
SLKM	Skilak Lake	2.60	173	ePn	Pn	00 59 46.6	0.0
SLKM				eS	Sn	01 00 16.1	-2.1
RSO	Redoubt South	2.77	200	ePn	Pn	00 59 49.6	+0.9
KLU	Klutina	2.81	122	P	Pn	00 59 48.6	-0.6
SVW2	Sparrevohn	2.97	230	eP	Pn	00 59 51.0	-0.4
SEW	Seward	3.06	166	ePn	Pn	00 59 52.4	-0.2
SEW				eS	Sn	01 00 24.4	-4.5
DIV	Divide	3.10	127	ePn	Pn	00 59 53.5	+0.5
DOT	Dot Lake	3.13	76	P	Pn	00 59 53.2	-0.1
DOT				S	Sn	01 00 27.8	-2.6
IM3	Indian Mountai	3.17	338	P	Pn	00 59 53.9	-0.1
BRLK	Bradley Lake	3.33	180	P	Pn	00 59 56.2	+0.2
BMRM	Bremner River	3.64	123	ePn	Pn	01 00 05.7	+5.5
BCA3	Beaver Creek A	4.14	86	P	Pn	01 00 06.3	-0.5
COLD	Coldfoot	4.18	4	ePn	Pn	01 00 07.2	-0.1
EGAK	Eagle	4.62	64	P	Pn	01 00 13.0	-0.1
BM3	Burnt Mountain	5.09	28	P	Pn	01 00 19.4	0.0
DAWY	Dawson	5.23	74	P	Pn	01 00 21.2	-0.1
KDAK	Kodiak Island	5.38	190	P	Pn	01 00 21.5	-1.9
KDAK	2.7nm,0.3s,baz=39,slow=8.4,SNR=78			S	Sn	01 01 19.5	-4.6
KDAK	2.9nm,0.3s,baz=283,slow=24,SNR=6.4			ePn	Pn	01 00 22.4	-1.0
KDAK	Kodiak Island	5.38	190	eS	Sn	01 01 17.6	-6.5
OHAK	Old Harbor	6.00	193	eP	Pn	01 00 30.0	-1.7
INK	Inuvik	8.85	46	P	Pn	01 01 11.1	+0.9
INK	0.1nm,0.3s,baz=233,slow=12,SNR=3.0 Inuvik	8.85	46	P	Pn	01 01 11.1	+0.9
RES	Resolute Bay	22.17	36	P	P	01 03 52.5	+1.7
RES	0.5nm,0.4s,mb3.2,baz=240,slow=13,SNR=5.1 Resolute Bay	22.17	36	P	P	01 03 52.5	+1.7
ARCES	3.1nm,0.8s,mb4.2,baz=356,slow=12,SNR=2.9 ARCESS Array B	47.65	2	P	P	01 07 28.0	-0.2
ARCES	ARCESS Array B	47.65	2	P	P	01 07 28.0	-0.2
SONM	Songino Array	53.81	305	P	P	01 08 15.7	+1.0
SONM	0.3nm,0.6s,mb3.5,baz=46,slow=8.3,SNR=2.2 Songino Array	53.81	305	P	P	01 08 15.7	+1.0
ZALV	Zalesovo Beam	55.49	324	P	P	01 08 26.2	-0.5
ZALV	0.2nm,0.3s,mb3.6,baz=19,slow=5.3,SNR=3.7 Zalesovo Beam	55.49	324	P	P	01 08 26.2	-0.5
MKAR	0.4nm,0.4s,mb3.7,baz=43,slow=7.0,SNR=14 Makanchi Array	62.65	322	P	P	01 09 15.2	-0.9
MKAR	Makanchi Array	62.65	322	P	P	01 09 15.2	-0.9

CASC 16 01:07:53.3±1.5, 13.09N×88.99W, h49km±19km, MD3.7, ML3.6, 1C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LFRS	El Faro	0.54	352	eP	Pn	01 08 05.2	+0.2
SNVI	San Vicente	0.54	16	eP	Pn	01 08 05.5	+0.5
SNVI				eS	Sn	01 08 14.5	+1.1
SNET	Serv Nac Est T	0.64	338	eP	Pn	01 08 06.4	+0.2
SNET	comp=Z,2μm,0.3s			AML	AML	01 08 18.0	
LBRS	Las Brisas	0.65	355	eP	Pn	01 08 07.0	+0.7
LBRS				eS	Sn	01 08 15.7	0.0
LFU	La Fuente	0.67	349	⇓eP	Pn	01 08 07.1	+0.5
BOQS	Boqueron	0.70	336	⇓eP	Pn	01 08 07.6	+0.5
BOQS				eS	Sn	01 08 18.5	+1.5
VSM	San Miguel	0.77	64	eP	Pn	01 08 08.4	+0.5
BLLM	Bellamira	0.81	64	eP	Pn	01 08 08.9	+0.5
BLLM				eS	Sn	01 08 20.3	+0.8
SBLS	San Blas	0.97	320	eP	Pn	01 08 11.2	+0.6
SBLS				eS	Sn	01 08 24.9	+1.6
SNJE	San Jose	0.98	322	eP	Pn	01 08 11.1	+0.4
SNJE				eS	Sn	01 08 25.1	+1.5
CAHU	Cacacuatique	1.01	48	⇓iP	Pn	01 08 12.0	+0.8
CAHU				eS	Sn	01 08 24.5	+0.1
RTR	El Retiro	1.03	322	eP	Pn	01 08 11.9	+0.6
RTR				eS	Sn	01 08 25.4	+0.8
CNCH	Conchagua	1.14	80	eP	Pn	01 08 13.0	+0.1
CNCH				eS	Sn	01 08 29.1	+1.7
RBDL	Robledal	1.22	326	eP	Pn	01 08 14.7	+0.7
MTO2	Montecristo 2	1.35	344	eP	Pn	01 08 16.4	+0.6
TGUH	Tegucigalpa,Un	1.93	60	eP	Pn	01 08 24.1	+0.5
COPN	Copaltepe	2.51	111	eP	Pn	01 08 29.7	-1.9

AUST 16 01:29:47.4, 31.59S×138.76E, h10km, ML2.5, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	2.43	97	eP	Pn	01 30 25.8	-1.4

IDC **16** *01:33:47.4±2.8, 9.01S×112.91E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.5/19, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=159.5km s-min=20.8km az=49.0*
ISCJB **16** *01:33:52.1±1.2, 9.6S±0.1×112.49E±0.05, h65km±14km, mb3.5/4, Error ellipse: s-maj=17.5km s-min=7.3km az=17.4*
DJA **16** *01:33:52, 9.51S×112.50E, h30km, MLv3.7/13*
ISC 16 01:33:52.6±1.2, 9.60S±0.09×112.48E±0.05, h52km±14km, n19, σ0.99/24, mb3.5/4, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRKI	Karangkates	1.43	359	P	Pn	01 34 16.1	-0.1
KRKI				S	Sn	01 34 34.7	+0.7
GMJI	Gumukmas	1.63	36	P	Pn	01 34 16.8	-2.1
PWJI	Pagerwojo	1.71	337	P	Pn	01 34 19.9	-0.1
PWJI				S	Sn	01 34 39.6	-1.0
PCJI	Pacitan	1.90	317	P	Pn	01 34 22.7	+0.1
PCJI				S	Sn	01 34 45.8	+0.4
SJI	Sawahan	1.98	339	P	Pn	01 34 24.4	+0.6
JAGI	Jajag, Banyuwa	2.00	56	P	Pn	01 34 22.4	-1.5
BLJI	Banyuglugur	2.15	31	P	Pn	01 34 26.6	+0.6
BYJI	Banyuwangi	2.31	53	P	Pn	01 34 28.6	+0.4
BYJI				S	Sn	01 34 55.4	0.0
NGJI	Ngawi	2.44	335	P	Pn	01 34 34.7	+4.7
NBBI	Negara	2.44	60	P	Pn	01 34 31.1	+1.1
UGM	Wanagama	2.56	311	P	Pn	01 34 32.0	+0.3
KMMI	Kalianget	2.93	30	P	Pn	01 34 36.2	-0.5
SRBI	Singaraja	3.09	61	P	Pn	01 34 40.4	+1.5
KHKI	Kahang-Kahang	3.32	69	P	Pn	01 34 42.3	+0.2
FITZ	Fitzroy Crossi	15.31	125	Pn	Pn	01 37 22.9	-2.6
FITZ	0.1nm,0.3s,baz=311,slow=12,SNR=5.1			Sn	Sn	01 40 03.5	-11
WRA	0.1nm,0.3s,baz=219,slow=20,SNR=1.7 Warramunga Arr	23.47	118	P	P	01 38 58.3	+0.5
ASAR	2.0nm,0.8s,mb3.6,baz=295,slow=11,SNR=11 Alice Springs	24.79	127	P	P	01 39 11.6	+1.8
MKAR	1.4nm,0.7s,mb3.6,baz=305,slow=8.9,SNR=15 Makanchi Array	62.27	337	P	P	01 44 08.0	-1.2
ZALV	0.2nm,0.5s,mb3.5,baz=154,slow=8.5,SNR=5.8 Zalesovo Beam	67.50	343	P	P	01 44 43.1	+0.1
	0.2nm,0.4s,mb3.5,baz=186,slow=2.9,SNR=2.3						

ISCJB **16** *01:43:08.2±0.7, 13.2N±0.1×50.99E±0.05, h10km, mb4.0/17, MS3.5/14, Error ellipse: s-maj=16.6km s-min=7.3km az=174.0*
CSEM **16** *01:43:08.8±0.3, 13.15N×51.05E, h2km, mb3.9/4, Error ellipse: s-maj=16.5km s-min=8.1km az=169.0*
IDC **16** *01:43:08.1±1.0, 13.06N×51.14E, h0km, mb3.9/14, mb1 4.1/15, mb1mx3.9/27, mbtmp4.0/15, ML4.6/1, MS3.6/15, Ms1 3.6/15, ms1mx3.3/35, Error ellipse: s-maj=25.4km s-min=17.9km az=12.0*
NEIC **16** *01:43:09.7±0.5, 13.06N×51.14E, h10km, mb3.9/4, Error ellipse: s-maj=12.1km s-min=7.6km az=166.0*
DHMR **16** *01:43:13.6±7.6, 13.37N×50.58E, h10km, ML3.5*
ISC 16 01:43:09.9±0.7, 13.11N±0.1×51.02E±0.06, h10km, n68, σ0.96/61, mb4.0/17, MS3.5/14, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUKL	Al Mukalla	2.35	305	iP	Pn	01 43 45.7	-2.9
MUKL				iS	Sn	01 44 11.5	-6.0
MUKL	comp=N,603nm,0.5s			AML	AML	01 44 13.2	
BDHA	Al Bayda'	5.37	280	iP	Pn	01 44 30.1	0.0
BDHA	baz=109,slow=16			e		01 44 30.3	
BDHA	Al Bayda'	5.37	280	iP	Pn	01 44 30.1	0.0
LBOS		5.67	278	iP	Pn	01 44 34.1	-0.1
LBOS	baz=172,slow=16			e		01 44 34.3	
LBOS				iS	Sn	01 45 36.8	-2.5
ATD	Arta Tunnel	8.14	260	Pn	Pn	01 45 09.8	+1.6
ATD	comp=N,7.9nm,0.3s,baz=79,slow=2.1,SNR=62			Sn	Sn	01 46 33.8	-6.6
ATD	comp=N,1.1nm,0.3s,baz=265,slow=23,SNR=1.4			LR	LR	01 47 45.4	
ATD	comp=N,853nm,18.1s,baz=103,slow=34			LR	LR	01 47 45.4	
ATD	Arta Tunnel	8.14	260	Pn	Pn	01 45 09.8	+1.6
ATD				Sn	Sn	01 46 33.8	-6.6
ATD				LR	LR	01 47 45.4	
ATD	Arta Tunnel	8.14	260	Pn	Pn	01 45 09.8	+1.6
EIL	Elat	22.20	320	LR	LR	01 56 08.4	
ASF	comp=N,111nm,19.2s,MS3.3,baz=274,slow=35 Jabal al Asfar	22.96	328	LR	LR	01 57 18.1	
MMAI	comp=N,95nm,20.5s,MS3.2,baz=263,slow=37 Mount Meron Ar	24.41	327	LR	LR	01 58 32.8	
GNI	comp=N,99nm,19.8s,MS3.3,baz=115,slow=38 Garni	27.48	350	LR	LR	02 01 57.0	
BRTR	comp=N,261nm,20.6s,MS3.8,baz=7.5,slow=41 Keskin Array B	30.61	333	P	P	01 49 25.4	+1.2
BRTR	comp=N,0.7nm,0.9s,mb3.5,baz=168,slow=6.3,SNR=4.8 Keskin Array B	30.61	333	P	P	01 49 25.4	+1.2
BRTR	Keskin Array B	30.61	333	P	P	01 49 25.4	+1.3
ABKAR	Akbulak array	36.77	10	eP	P	01 50 17.6	0.0
ABKAR	comp=N,8.5nm,1.3s,mb4.4 Akbulak array	36.77	10	eP	P	01 50 17.6	0.0
AKTO	comp=N,8.5nm,1.3s,mb4.4 Aktyubinsk	37.65	7	LR	LR	02 09 06.1	
AKASG	comp=N,217nm,19.4s,MS4.0,baz=181,slow=41 Malin Array Be	41.47	339	P	P	01 50 58.3	+1.5
AKASG	comp=N,0.5nm,0.4s,mb3.5,baz=52,slow=28,SNR=3.7 Malin Array Be	41.47	339	P	P	01 50 58.3	+1.5
AKASG	Malin Array Be	41.47	339	P	P	01 50 58.3	+1.5
MK31	Makanchi Array	42.60	32	eP	P	01 51 05.8	-0.4
MK31	Makanchi Array	42.60	32	eP	P	01 51 05.8	-0.4
MKAR	Makanchi Array	42.60	32	P	P	01 51 06.0	-0.2
MKAR	comp=N,0.5nm,0.5s,mb3.5,baz=222,slow=6.4,SNR=7.4			LR	LR	02 11 18.2	
MKAR	comp=N,59nm,19.6s,MS3.5,baz=69,slow=40 Makanchi Array	42.60	32	P	P	01 51 06.0	-0.2
MKAR				LR	LR	02 11 18.2	
MKAR	Makanchi Array	42.60	32	P	P	01 51 06.0	-0.2
BRVK	Borovoye	42.70	17	eP	P	01 51 06.6	-0.2
BRVK	comp=N,1.5nm,0.6s,mb3.9 Borovoye	42.70	17	eP	P	01 51 06.6	-0.2
	comp=N,1.5nm,0.6s,mb3.9						

KEST	Kesra	43.68	308	LR	LR	02 10 35.4	
KURK	comp=N,20nm,21.9s,MS3.0,baz=217,slow=38 Kurchatov	43.70	25	P	P	01 51 14.0	-0.9
KURK	comp=N,0.5nm,0.7s,mb3.4,baz=227,slow=8.0,SNR=7.3 Kurchatov	43.70	25	eP	P	01 51 15.7	+0.7
KURK	comp=N,1.4nm,0.8s,mb3.7 Kurchatov	43.70	25	eP	P	01 51 15.6	+0.7
TAM	comp=N,1.4nm,0.8s,mb3.7 Tamanrasset	44.19	289	eP	P	01 51 20.3	+0.9
TAM	comp=N,1.7nm,0.9s,mb3.8 Tamanrasset	44.19	289	eP	P	01 51 20.3	+1.0
CMAR	comp=N,1.7nm,0.9s,mb3.8 Chiang Mai Arr	46.31	77	P	P	01 51 35.6	-0.7
CMAR	comp=N,1.9nm,0.4s,mb4.4,baz=276,slow=8.8,SNR=15			LR	LR	02 12 17.7	
CMAR	comp=N,21nm,18.4s,MS3.1,baz=117,slow=38 Chiang Mai Arr	46.31	77	P	P	01 51 35.6	-0.7
CMAR				LR	LR	02 12 17.7	
CMAR	Chiang Mai Arr	46.31	77	P	P	01 51 35.6	-0.7
TORD	Torodi Ar. Bea	47.97	276	P	P	01 51 49.8	+0.5
TORD	comp=N,1.1nm,0.7s,mb4.0,baz=86,slow=7.7,SNR=10 Torodi Ar. Bea	47.97	276	P	P	01 51 49.8	+0.5
TORD	Torodi Ar. Bea	47.97	276	P	P	01 51 49.8	+0.5
BOSA	Boshof	48.40	211	LR	LR	02 14 15.2	
ZALV	comp=N,94nm,18.4s,MS3.8,baz=0.3,slow=39 Zalesovo Beam	48.66	26	P	P	01 51 53.0	-0.9
ZALV	comp=N,0.8nm,0.7s,mb3.9,baz=232,slow=8.9,SNR=6.3 Zalesovo Beam	48.66	26	P	P	01 51 53.0	-0.9
ZALV	Zalesovo Beam	48.66	26	P	P	01 51 53.0	-1.0
FINES	FINESS Array B	51.52	345	P	P	01 52 16.9	+1.4
FINES	comp=N,3.5nm,0.9s,mb4.3,baz=175,slow=17,SNR=3.0			LR	LR	02 14 12.7	
FINES	comp=N,107nm,19.4s,MS3.9,baz=165,slow=36 FINESS Array B	51.52	345	P	P	01 52 16.9	+1.4
FINES				LR	LR	02 14 12.7	
FINES	FINESS Array B	51.52	345	P	P	01 52 16.9	+1.4
HFS	Hagfors	54.34	338	P	P	01 52 36.3	0.0
HFS	comp=N,1.4nm,0.6s,mb4.0,baz=174,slow=16,SNR=3.4 Hagfors	54.34	338	P	P	01 52 36.3	0.0
HFS	Hagfors	54.34	338	P	P	01 52 36.3	-0.1
ESDC	Sonseca Array	54.91	309	P	P	01 52 41.3	+0.4
ESDC	comp=N,0.7nm,0.7s,mb3.8,baz=101,slow=6.8,SNR=6.0 Sonseca Array	54.91	309	P	P	01 52 41.3	+0.4
ESDC	Sonseca Array	54.91	309	P	P	01 52 41.3	+0.4
DBIC	Dimbokro	55.33	269	LR	LR	02 15 10.4	
NOA	comp=N,48nm,21.6s,MS3.5,baz=93,slow=35 NORSAR Array B	55.85	338	LR	LR	02 20 56.4	
SONM	comp=N,39nm,19.8s,MS3.5,baz=165,slow=40 Songino Array	57.34	41	P	P	01 52 57.7	-0.5
SONM	comp=N,1.2nm,0.9s,mb3.9,baz=238,slow=8.3,SNR=4.7 Songino Array	57.34	41	P	P	01 52 57.7	-0.5
SONM	Songino Array	57.34	41	P	P	01 52 57.7	-0.4
ARCES	ARCESS Array B	58.64	350	LR	LR	02 21 17.6	
SPITS	comp=N,132nm,18.4s,MS4.1,baz=359,slow=39 Spitsbergen Ar	67.30	353	P	P	01 54 04.4	0.0
SPITS	comp=N,4.6nm,0.8s,mb4.5,baz=123,slow=14,SNR=2.6 Spitsbergen Ar	67.30	353	P	P	01 54 04.4	0.0
SPITS	Spitsbergen Ar	67.30	353	P	P	01 54 04.4	0.0
WRA	Warramunga Arr	88.27	111	P	P	01 56 01.6	-0.5
WRA	comp=N,1.2nm,0.5s,mb4.4,baz=298,slow=4.1,SNR=11 Warramunga Arr	88.27	111	P	P	01 56 01.6	-0.5
WRA	Warramunga Arr	88.27	111	P	P	01 56 01.6	-0.5
ASAR	Alice Springs	88.82	114	P	P	01 56 04.1	-0.6
ASAR	comp=N,0.8nm,0.5s,mb4.3,baz=286,slow=4.8,SNR=13 Alice Springs	88.82	114	P	P	01 56 04.0	-0.6
ASAR	Alice Springs	88.82	114	P	P	01 56 04.1	-0.5
PETK	Petropavlovsk-	89.34	35	LR	LR	02 39 45.9	
	comp=N,34nm,21.8s,MS3.7,baz=240,slow=38						

NIED **16** *01:49:00, 41.50N×143.50E, h23km, Mw4.0 Best double couple: M0 1.27000×10^15 NP1:φ=281.00000°, δ=58.00000°, λ=-84.00000°. NP2:φ=90.00000°, δ=32.00000°, λ=-99.00000°.*
MOS **16** *01:49:50.7±0.9, 41.48N×143.39E, h44km, mb4.5/9, Error ellipse: s-maj=13.6km s-min=7.8km az=81.2*
ISCJB **16** *01:49:50.7±0.6, 41.48N±0.04×143.52E±0.05, h44km±4km, mb4.2/28, MS3.3/2, Error ellipse: s-maj=8.1km s-min=4.0km az=38.4*
JMA **16** *01:49:51.6±0.2, 41.51N×143.45E, h46km±3km, M4.2*
JMA Felt I J1.
NEIC **16** *01:49:53.4±0.6, 41.49N×143.35E, h51km±5km, mb4.3/8, Error ellipse: s-maj=8.3km s-min=5.9km az=128.0*
NEIC Recorded [1 JMA] in southern Hokkaido.
IDC **16** *01:49:53.5±0.7, 41.47N×143.34E, h52km±5km, mb3.9/19, mb1 4.0/22, mb1mx3.9/32, mbtmp3.9/22, MS3.2/5, Ms1 3.2/5, ms1mx2.8/38, Error ellipse: s-maj=14.1km s-min=9.6km az=87.0*
ISC 16 01:49:52.3±0.6, 41.53N±0.04×143.47E±0.05, h39km±5km, h55km±1.4km: pP-P, n111, σ0.88/115, mb4.2/28, MS3.3/2, 6C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	Erimo	0.54	334	ePn	Pn	01 50 02.8	-0.7
ERM				eSn	Sn	01 50 11.3	-0.1
ERM	Erimo	0.54	334	eP	Pn	01 50 02.8	-0

MJAR			LR	LR	01 54 23.4		
	comp=Z,160nm,19.5s,baz=50,slow=43						
MJAR	**Matsushiro Arr**	**6.45 221**	P	**Pn**	**01 51 24.9**	**+0.3**	
MJAR			LR	LR	01 54 23.4		
MJAR	**Matsushiro Arr**	**6.45 221**	P	**Pn**	**01 51 25.0**	**+0.4**	
JHJ	**Hachijo jima 2**	**8.89 200**	S	**Sn**	**01 53 26.9**	**-10**	
	comp=Z,16nm,0.3s,baz=239,slow=24,SNR=6.0						
KSRS	**Korea Array**	**12.68 256**	LR	LR	01 57 20.0		
	comp=Z,86nm,20.2s,baz=65,slow=35						
CBIJ	**Chichi jima**	**14.44 185**	S	**Sn**	**01 55 37.7**	**-15**	
	comp=Z,4.8nm,0.3s,baz=285,slow=22,SNR=5.5						
PETK	**Petropavlovsk-**	**15.04 35**	P	**Pn**	**01 53 24.6**	**+2.8**	
	comp=Z,0.1nm,0.3s,baz=215,slow=17,SNR=3.6						
PETK	**Petropavlovsk-**	**15.04 35**	P	**Pn**	**01 53 24.6**	**+2.8**	
PETK	**Petropavlovsk-**	**15.04 35**	P	**Pn**	**01 53 24.6**	**+2.8**	
SONM	**Songino Array**	**26.92 296**	P	**P**	**01 55 29.9**	**+0.3**	
	comp=Z,2.9nm,0.6s,mb4.0,baz=78,slow=8.3,SNR=22						
SONM			LR	LR	02 07 18.4		
	comp=Z,64nm,18.4s,MS3.2,baz=11,slow=39						
SONM	**Songino Array**	**26.92 296**	P	**P**	**01 55 29.9**	**+0.3**	
SONM			LR	LR	02 07 18.4		
SONM	**Songino Array**	**26.92 296**	P	**P**	**01 55 29.9**	**+0.4**	
ZAA0	**Zalesovo Array**	**40.22 309**	*e*P	**P**	**01 57 24.1**	**-0.6**	
ZALV	**Zalesovo Beam**	**40.22 309**	P	**P**	**01 57 24.4**	**-0.3**	
	comp=Z,2.9nm,0.7s,mb4.1,baz=95,slow=8.0,SNR=18						
ZALV			PcP	PcP	01 59 27.9	-0.1	
	comp=Z,0.7nm,0.4s,baz=67,slow=3.9,SNR=4.2						
ZALV	**Zalesovo Beam**	**40.22 309**	P	**P**	**01 57 24.4**	**-0.3**	
ZALV			PcP	PcP	01 59 27.9	-0.1	
ZALV	**Zalesovo Beam**	**40.22 309**	P	**P**	**01 57 24.4**	**-0.3**	
ZALV					01 59 27.9		
KDAK	**Kodiak Island**	**42.74 45**	P	**P**	**01 57 45.7**	**+0.3**	
	comp=Z,5.0nm,0.9s,mb4.2,baz=243,slow=4.5,SNR=3.9						
KDAK	**Kodiak Island**	**42.74 45**	P	**P**	**01 57 45.7**	**+0.3**	
KDAK	**Kodiak Island**	**42.74 45**	P	**P**	**01 57 45.7**	**+0.4**	
MK31	**Makanchi Array**	**43.23 298**	*e*P	**P**	**01 57 49.0**	**-0.4**	
MK31	**Makanchi Array**	**43.23 298**	*e*P	**P**	**01 57 49.1**	**-0.4**	
MKAR	**Makanchi Array**	**43.23 298**	P	**P**	**01 57 48.8**	**-0.6**	
	comp=Z,1.2nm,0.6s,mb3.8,baz=83,slow=9.3,SNR=14						
MKAR			pP	pP	01 58 02.9	+2.3	
	comp=Z,1.7nm,0.8s,baz=80,slow=8.0,SNR=6.0						
MKAR	**Makanchi Array**	**43.23 298**	P	**P**	**01 57 48.8**	**-0.6**	
MKAR			pP	pP	01 58 02.9	+2.3	
MKAR	**Makanchi Array**	**43.23 298**	P	**P**	**01 57 48.8**	**-0.7**	
MKAR			*PP	pP	01 58 02.9	+2.4	
KURK	**Kurchatov**	**44.55 305**	P	P	**01 57 59.9**	**0.0**	
	comp=Z,2.9nm,0.7s,mb4.2,baz=78,slow=8.8,SNR=23						
KURK	**Kurchatov**	**44.55 305**	*e*P	**P**	**01 57 59.2**	**-0.7**	
	comp=Z,4.6nm,0.7s,mb4.4						
KURK	**Kurchatov**	**44.55 305**	P	**P**	**01 57 59.9**	**0.0**	
KURK			pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.2						
ILAR	**Eielson Array**	**44.87 35**	P	**P**	**01 58 03.0**	**+0.7**	
	comp=Z,0.5nm,0.7s,mb3.5,baz=264,slow=6.3,SNR=9.5						
ILAR	**Eielson Array**	**44.87 35**	P	**P**	**01 58 03.0**	**+0.7**	
ILAR	**Eielson Array**	**44.87 35**	P	**P**	**01 58 03.1**	**+0.8**	
TKM2	**Tokmak 2**	**49.01 296**	*e*P	**P**	**01 58 35.0**	**0.0**	
	comp=Z,3.3nm,0.4s,mb4.7						
TKM2	**Tokmak 2**	**49.01 296**	*e*P	**P**	**01 58 35.0**	**0.0**	
TKM2			pmax	pmax			
	comp=Z,3.0nm,0.4s,mb4.7						
INK	**Inuvik**	**49.67 29**	P	**P**	**01 58 40.6**	**+1.0**	
	comp=Z,1.5nm,0.5s,mb4.3,baz=0.9,slow=3.3,SNR=11						
INK	**Inuvik**	**49.67 29**	*e*P	**P**	**01 58 40.3**	**+0.6**	
	comp=Z,7.9nm,1.4s,mb4.5						
INK	**Inuvik**	**49.67 29**	P	**P**	**01 58 40.7**	**+1.1**	
INK			pmax	pmax			
	comp=Z,2.0nm,0.5s						
PSI	**Prapat**	**55.49 238**	LR	LR	02 21 46.1		
	comp=Z,37nm,20.3s,MS3.5,baz=212,slow=34						
ABKAR	**Akbulak array**	**56.33 309**	*e*P	**P**	**01 59 28.6**	**-0.4**	
	comp=Z,1.9nm,0.6s,mb4.3						
KBL	**Kabul**	**57.37 289**	*e*P	**P**	**01 59 36.1**	**-0.4**	
	comp=Z,3.0nm,0.6s,mb4.5						
KBL	**Kabul**	**57.37 289**	*e*P	**P**	**01 59 36.1**	**-0.5**	
KBL			pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.5						
RES	**Resolute Bay**	**57.85 16**	P	**P**	**01 59 39.7**	**+0.3**	
	comp=Z,2.8nm,0.6s,mb4.5,baz=301,slow=4.1,SNR=14						
RES	**Resolute Bay**	**57.85 16**	P	**P**	**01 59 39.7**	**+0.3**	
RES	**Resolute Bay**	**57.85 16**	P	**P**	**01 59 39.7**	**+0.4**	
KEV	**Kevo**	**59.82 339**	*e*P	**P**	**01 59 56.9**	**+3.8**	
KEV	**Kevo**	**59.82 339**	*e*p	**P**	**01 59 56.9**	**+3.8**	
ARCES	**ARCESS Array B**	**60.37 339**	P	**P**	**01 59 56.8**	**0.0**	
	comp=Z,5.6nm,0.9s,mb4.6,baz=40,slow=11,SNR=3.2						
ARCES	**ARCESS Array B**	**60.37 339**	P	**P**	**01 59 56.8**	**0.0**	
ARCES	**ARCESS Array B**	**60.37 339**	P	**P**	**01 59 56.8**	**0.0**	
WRA	**Warramunga Arr**	**61.74 190**	P	**P**	**02 00 05.4**	**-1.2**	
	comp=Z,2.0nm,0.8s,mb4.3,baz=9.1,slow=7.2,SNR=9.0						
WRA			pP	pP	02 00 19.4	+1.3	
	comp=Z,2.1nm,0.7s,baz=9.3,slow=7.2,SNR=4.6						
WRA	**Warramunga Arr**	**61.74 190**	P	**P**	**02 00 05.4**	**-1.2**	
WRA			pP	pP	02 00 19.4	+1.3	
WRA	**Warramunga Arr**	**61.74 190**	P	**P**	**02 00 05.4**	**-1.2**	
WRA			*PP	pP	02 00 19.4	+1.3	
JOF	**Joensuu**	**62.77 332**	*e*P	**P**	**02 00 11.4**	**-1.7**	
JOF			pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.4						
JOF	**Joensuu**	**62.77 332**	*e*p	**P**	**02 00 11.4**	**-1.7**	
	comp=Z,1.9nm,0.6s,mb4.4						
KAF	**Kangasniemi**	**65.06 333**	*e*P	**P**	**02 00 26.3**	**-1.8**	
KAF			pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.4						
KAF	**Kangasniemi**	**65.06 333**	*e*p	**P**	**02 00 26.3**	**-1.8**	
	comp=Z,3.0nm,0.7s,mb4.4						
ASAR	**Alice Springs**	**65.47 190**	P	**P**	**02 00 30.6**	**-0.6**	
	comp=Z,1.6nm,0.8s,mb4.1,baz=12,slow=6.4,SNR=18						
ASAR			pP	pP	02 00 45.4	+2.6	
	comp=Z,1.1nm,0.7s,baz=0.6,slow=5.2,SNR=6.6						
ASAR	**Alice Springs**	**65.47 190**	P	**P**	**02 00 30.6**	**-0.6**	
ASAR			pP	pP	02 00 45.4	+2.6	
ASAR	**Alice Springs**	**65.47 190**	P	**P**	**02 00 30.6**	**-0.5**	
ASAR			*PP	pP	02 00 45.4	+2.7	
FINES	**FINESS Array B**	**65.59 332**	P	**P**	**02 00 31.2**	**-0.4**	
	comp=Z,3.3nm,0.5s,mb4.7,baz=43,slow=7.1,SNR=37						
FINES			pP	pP	02 00 46.3	+3.2	
	comp=Z,4.5nm,1.0s,baz=52,slow=7.5,SNR=1.9						
FINES	**FINESS Array B**	**65.59 332**	P	**P**	**02 00 31.2**	**-0.4**	
FINES			pP	pP	02 00 46.4	+3.2	
FINES	**FINESS Array B**	**65.59 332**	P	**P**	**02 00 31.2**	**-0.4**	
FINES			*PP	pP	02 00 46.4	+3.2	
ZEI	**Tsey**	**69.21 309**	*e*P	**P**	**02 00 54.2**	**-0.6**	
ZEI			pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.0						
HFS	**Hagfors**	**70.65 336**	P	**P**	**02 01 03.1**	**-0.3**	
	comp=Z,6.9nm,1.1s,mb4.5,baz=52,slow=9.6,SNR=8.6						
HFS	**Hagfors**	**70.65 336**	P	**P**	**02 01 03.1**	**-0.2**	
HFS	**Hagfors**	**70.65 336**	P	**P**	**02 01 03.1**	**-0.2**	
NVAR	**Mina Array Bea**	**71.07 55**	P	**P**	**02 01 08.0**	**+1.7**	
	comp=Z,0.9nm,0.7s,mb3.8,baz=290,slow=6.9,SNR=8.9						
NVAR	**Mina Array Bea**	**71.07 55**	P	**P**	**02 01 08.0**	**+1.7**	
AKASG	**Malin Array Be**	**71.72 322**	P	**P**	**02 01 09.5**	**-0.5**	
	comp=Z,1.1nm,0.3s,mb4.3,baz=43,slow=6.4,SNR=6.8						
AKASG	**Malin Array Be**	**71.72 322**	P	**P**	**02 01 09.5**	**-0.5**	
AKASG	**Malin Array Be**	**71.72 322**	P	**P**	**02 01 09.5**	**-0.5**	
DUG	**Dugway**	**73.25 51**	*e*P	**P**	**02 01 19.6**	**+0.3**	
	comp=Z,1.7nm,1.0s,mb3.9						
DUG	**Dugway**	**73.25 51**	*e*P	**P**	**02 01 19.6**	**+0.3**	
DUG			pmax	pmax			
	comp=Z,2.0nm,1.0s,mb4.0						
BW06	**Boulder Array**	**73.41 47**	*e*P	**P**	**02 01 20.9**	**+0.7**	
	comp=Z,1.0nm,0.6s,mb3.9						
PDAR	**Pinedale Array**	**73.41 47**	P	**P**	**02 01 21.0**	**+0.8**	
	comp=Z,1.3nm,0.7s,mb4.0,baz=265,slow=2.6,SNR=12						
PDAR	**Pinedale Array**	**73.41 47**	P	**P**	**02 01 21.0**	**+0.8**	
BUR08	**Bucovina Ar. S**	**75.75 322**	*e*P	**P**	**02 01 33.8**	**+0.1**	
BRTR	**Keskin Array B**	**77.06 312**	P	**P**	**02 01 41.3**	**+0.1**	
	comp=Z,0.3nm,0.6s,mb3.4,baz=128,slow=4.1,SNR=3.1						
BRTR	**Keskin Array B**	**77.06 312**	P	**P**	**02 01 41.3**	**+0.1**	
BRTR	**Keskin Array B**	**77.06 312**	P	**P**	**02 01 41.3**	**+0.1**	
TUC	**Tucson**	**79.70 56**	*e*P	**P**	**02 01 56.3**	**+0.3**	
	comp=Z,1.3nm,0.7s,mb4.0						
TUC	**Tucson**	**79.70 56**	*e*P	**P**	**02 01 56.3**	**+0.4**	
TUC			pmax	pmax			
	comp=Z,1.0nm,0.7s,mb3.9						
MMAI	**Mount Meron Ar**	**80.65 306**	P	**P**	**02 02 01.9**	**+0.8**	
	comp=Z,0.7nm,0.5s,mb3.9,baz=104,slow=6.3,SNR=3.6						
TXAR	**Lajitas Array**	**86.15 54**	P	**P**	**02 02 30.1**	**+0.7**	
	comp=Z,0.6nm,0.6s,mb4.0,baz=293,slow=4.0,SNR=9.5						
TXAR	**Lajitas Array**	**86.15 54**	P	**P**	**02 02 30.1**	**+0.7**	
TXAR	**Lajitas Array**	**86.15 54**	P	**P**	**02 02 30.1**	**+0.7**	
TORD	**Torodi Ar. Bea**	**115.17 318**	PKP	PKiKP	02 08 28.8	-0.9	
	comp=Z,0.2nm,0.4s,baz=1.8,slow=2.6,SNR=5.5						
TORD	**Torodi Ar. Bea**	**115.17 318**	PKP	PKiKP	02 08 28.8	-0.9	
SNAA	**Sanae**	**145.51 198**	*e*PKPdf	PKPdf	02 09 22.7	-2.0	
SNAA	**Sanae**	**145.51 198**	*e*PKIKP	PKPdf	02 09 22.7	-2.1	
VNA2	**Neumayer--Watz**	**147.08 197**	*e*	PKPdf	02 09 26.5	-0.9	
	baz=76,slow=0.7						
VNA2			*e*		02 09 37.8		
VNA3	**Neumayer Olymp**	**147.32 196**	*e*	PKPdf	02 09 27.5	-0.3	
VNA3			*e*		02 09 38.9		

ISCJB **16** *02:02:14.7±0.6,31°.21S±0°.05×138°.67E±0°.05,h10km, Error ellipse: s-maj=8.9km s-min=4.5km az=40.1*

IDC **16** *02:02:16.7±3.2,31°.13S×138°.75E, h0km, mb1 4.1/5, mb1mx3.8/16, mbtmp3.9/5, ML3.7/5, Error ellipse: s-maj=55.1km s-min=15.4km az=34.0*

NEIC **16** *02:02:18.0,31°.40S×138°.73E, h19km, ML4.2(AUST), After AUST.*

NEIC Felt in the Hawker area.

AUST **16** *02:02:18.2,31°.40S×138°.73E, h19km, ML4.2*

ISC 16 02:02:16.9±0.5, 31°.23S±0°.04×138°.60E±0°.05, h10km, n24, σ1s39/40, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**2.64**	**105**	Pn		**Pn**	**02 02 59.9**	**+0.4**
	4.2nm,0.3s,baz=290,slow=15,SNR=49							
STKA				Lg			02 03 36.5	
	99nm,0.3s,baz=13,slow=21,SNR=13							
STKA	**Stephens Creek**	**2.64**	**105**	*e*P		**Pn**	**02 02 59.7**	**+0.2**
STKA				*e*S		**Sn**	**02 03 32.1**	**+0.6**
	175nm,0.2s							
STKA	**Stephens Creek**	**2.64**	**105**	Pn		**Pn**	**02 02 59.9**	**+0.4**
STKA				Lg			02 03 36.5	
CMSA	**Cobar Meteorol**	**6.07**	**95**	*e*P		**Pn**	**02 03 47.6**	**+0.9**
CMSA				*e*S		**Sn**	**02 04 53.5**	**-2.7**
	98nm,0.5s							
ARPS	**Mount Arapiles**	**6.14**	**155**	*e*P		**Pn**	**02 03 46.5**	**-1.1**
ARPS				*e*S		**Sn**	**02 04 49.7**	**-8.2**
	45nm,0.2s							
QLP	**Quilpie**	**6.77**	**48**	*e*P		**Pn**	**02 03 59.9**	**+3.6**
TOO	**Toolangi**	**8.51**	**140**	*e*P		**Pn**	**02 04 19.8**	**-0.3**
TOO				*e*S		**Sn**	**02 05 43.8**	**-12**
	86nm,0.4s							
ASAR	**Alice Springs**	**8.61**	**330**	Pn		**Pn**	**02 04 24.2**	**+2.6**
	0.9nm,0.3s,baz=150,slow=13,SNR=22							
ASAR				Sn		**Sn**	**02 05 58.5**	**-0.4**
	1.7nm,0.3s,baz=152,slow=23,SNR=18							
ASAR	**Alice Springs**	**8.61**	**330**	Pn		**Pn**	**02 04 24.2**	**+2.6**
ASAR				Sn		**Sn**	**02 05 58.5**	**-0.4**
YNG	**Young**	**8.80**	**113**	*e*P		**Pn**	**02 04 24.9**	**+0.8**
YNG				*e*S		**Sn**	**02 05 55.9**	**-7.4**
	6.0nm,0.7s							
FORT	**Forrest**	**9.06**	**270**	*e*P		**Pn**	**02 04 29.0**	**+1.3**
FORT				*e*S		**Sn**	**02 06 07.0**	**-2.8**
	19nm,0.5s							
FORT	**Forrest**	**9.06**	**270**	*e*Pn		**Pn**	**02 04 28.9**	**+1.2**
	34nm,0.6s							
FORT				*e*Sn		**Sn**	**02 06 08.3**	**-1.5**
FORT				*e*Lg			02 06 58.9	
CNB	**Canberra Magne**	**9.88**	**117**	*e*P		**Pn**	**02 04 38.1**	**-0.9**
MGCD	**Mangrove Creek**	**10.78**	**104**	*e*P		**Pn**	**02 04 50.9**	**-0.3**
WB2	**Warramunga Arr**	**11.88**	**340**	*e*Pn		**Pn**	**02 05 08.2**	**+1.9**
WB2				*e*Sn		**Sn**	**02 07 16.5**	**-2.5**
WRA	**Warramunga Arr**	**11.88**	**340**	Pn		**Pn**	**02 05 08.1**	**+1.7**
	0.8nm,0.3s,baz=150,slow=12,SNR=12							
WRA				Sn		**Sn**	**02 07 17.9**	**-1.2**
	0.4nm,0.3s,baz=162,slow=24,SNR=8.3							
WRA	**Warramunga Arr**	**11.88**	**340**	Pn		**Pn**	**02 05 08.1**	**+1.7**
WRA				Sn		**Sn**	**02 07 17.9**	**-1.2**
WRAB	**Tennant Creek**	**11.89**	**340**	*e*Pn		**Pn**	**02 05 08.5**	**+2.0**
	5.3nm,0.6s							
WRAB				*e*Sn		**Sn**	**02 07 16.2**	**-3.0**
CTA	**Charters Tower**	**13.06**	**34**	Pn		**Pn**	**02 05 21.4**	**-1.1**
	0.5nm,0.3s,baz=212,slow=14,SNR=3.9							
CTA	**Charters Tower**	**13.06**	**34**	Pn		**Pn**	**02 05 21.4**	**-1.1**
CTAO	**Charters Tower**	**13.06**	**34**	*e*Pn		**Pn**	**02 05 22.6**	**0.0**
CTAO				*e*Sn		**Sn**	**02 07 47.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**17.58**	**315**	Pn		**Pn**	**02 06 21.5**	**-0.5**
	0.2nm,0.3s,baz=165,slow=10,SNR=15							
FITZ				Sn		**Sn**	**02 09 36.9**	**-1.0**
	0.2nm,0.3s,baz=270,slow=22,SNR=4.2							
FITZ	**Fitzroy Crossi**	**17.58**	**315**	*e*P		**Pn**	**02 06 21.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**17.58**	**315**	Pn		**Pn**	**02 06 21.5**	**-0.5**
FITZ				Sn		**Sn**	**02 09 36.9**	**-1.0**

AUST **16** *02:44:39.4,31°.40S×138°.63E, h22km, ML2.7*

NEIC **16** *02:44:39.0,31°.40S×138°.63E, h22km, ML2.7(AUST), After AUST.*

ISCJB **16** *02:44:42.7±1.7,30°.5S±0°.3×139°.4E±0°.3, h10km, Error ellipse: s-maj=57.8km s-min=6.0km az=138.2*

IDC **16** *02:44:43.3±3.4,30°.44S×139°.51E, h0km, mb1 2.8/3, mb1mx2.8/14, mbtmp2.6/3, ML2.6/2, Error ellipse: s-maj=140.1km s-min=13.8km az=47.0*

ISC 16 02:44:44.1±1.8, 30°.6S±0°.3×139°.4E±0°.3, h10km, n9, σ1s16/18, South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**2.29**	**125**	Pn		**Pn**	**02 45 21.5**	**-0.4**
	1.6nm,0.3s,baz=285,slow=13,SNR=11							
STKA				Pg		**Pg**	**02 45 25.1**	**-2.8**
	1.6nm,0.3s,baz=287,slow=14,SNR=20							
STKA				Sn		**Sn**	**02 45 51.5**	**+1.4**
	1.6nm,0.3s,baz=280,slow=14,SNR=4.3							
STKA				Lg			02 45 56.8	
	3.6nm,0.3s,baz=16,slow=23,SNR=10							
STKA	**Stephens Creek**	**2.29**	**125**	*e*P		**Pn**	**02 45 20.2**	**-1.7**
STKA				*e*S		**Sn**	**02 45 51.6**	**+1.5**
	4.6nm,0.3s							
STKA	**Stephens Creek**	**2.29**	**125**	Pn		**Pn**	**02 45 21.5**	**-0.4**
STKA				Pg		**Pg**	**02 45 25.1**	**-2.8**
STKA				Sn		**Sn**	**02 45 51.5**	**+1.4**
STKA				Lg			02 45 56.8	
ASAR	**Alice Springs**	**8.45**	**323**	Pn		**Pn**	**02 46 46.3**	**-0.3**
	0.0nm,0.3s,baz=147,slow=13,SNR=3.2							
ASAR				Sn		**Sn**	**02 48 21.7**	**-0.3**
	0.1nm,0.3s,baz=152,slow=22,SNR=5.0							
ASAR	**Alice Springs**	**8.45**	**323**	Pn		**Pn**	**02 46 46.3**	**-0.3**
ASAR				Sn		**Sn**	**02 48 21.7**	**-0.3**
WB2	**Warramunga Arr**	**11.54**	**336**	P		**Pn**	**02 47 29.5**	**+0.6**
WRA	**Warramunga Arr**	**11.54**	**336**	Pn		**Pn**	**02 47 29.7**	**+0.7**
	baz=152,slow=12,SNR=2.7							
WRA				Sn		**Sn**	**02 49 36.8**	**-1.2**
	0.0nm,0.3s,baz=167,slow=24,SNR=2.4							
WRA	**Warramunga Arr**	**11.54**	**336**	Pn		**Pn**	**02 47 29.6**	**+0.7**
WRA				Sn		**Sn**	**02 49 36.8**	**-1.2**
WRAB	**Tennant Creek**	**11.55**	**336**	P		**Pn**	**02 47 30.5**	**+1.4**

IDC **16** *02:52:03.5±8.4,2°.36N×126°.93E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/19, mbtmp4.1/4, Error ellipse: s-maj=135.1km s-min=100.8km az=139.0*

NEIC **16** *02:52:07.0±1.2,2°.49N×127°.04E, h35km, mb4.4/2, Error ellipse: s-maj=67.8km s-min=17.9km az=70.0*

ISCJB **16** *02:52:30.9±0.9, 1°.11N±0°.10×127°.39E±0°.08, h165km±5km, mb4.0/4, Error ellipse: s-maj=19.1km s-min=9.1km az=35.9*

DJA **16** *02:52:33, 1°.12N×127°.33E, h142km, MLv4.1/5*

ISC 16 02:52:31.7±1.0, 1°.12N±0°.10×127°.40E±0°.08, h162km±5km, n15, σ0s56/19, mb4.0/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.34**	**186**	P		**Pn**	**02 52 54.7**	**+0.8**
TNTI				S		**Sn**	**02 53 10.2**	**-0.7**
LBMI	**Labuha**	**1.75**	**177**	P		**Pn**	**02 53 04.8**	**0.0**
LBMI				S		**Sn**	**02 53 30.6**	**+0.3**
MNI	**Manado**	**2.58**	**277**	P		**Pn**	**02 53 14.9**	**+0.5**
MNI				S		**Sn**	**02 53 46.7**	**-0.7**
SGSI	**Sangihe**	**3.16**	**324**	P		**Pn**	**02 53 21.3**	**-0.3**
KMSI	**Cibinong**	**3.46**	**261**	P		**Pn**	**02 53 26.2**	**+0.8**
KMSI				S		**Sn**	**02 54 07.1**	**0.0**
FITZ	**Fitzroy Crossi**	**19.18**	**185**	P		**P**	**02 56 42.3**	**-0.6**
	1.0nm,0.4s,baz=27,slow=8.9,SNR=8.8							
FITZ	**Fitzroy Crossi**	**19.18**	**185**	P		**P**	**02 56 42.3**	**-0.6**
WRAB	**Tennant Creek**	**22.00**	**162**	*e*P		**P**	**02 57 12.6**	**-0.5**
	4.8nm,0.4s,mb4.3							
WRA	**Warramunga Arr**	**22.01**	**162**	P		**P**	**02 57 12.7**	**-0.4**
	5.1nm,0.4s,mb4.3,baz=340,slow=11,SNR=44							
WRA	**Warramunga Arr**	**22.01**	**162**	P		**P**	**02 57 12.7**	**-0.4**
WB2	**Warramunga Arr**	**22.01**	**162**	*e*P		**P**	**02 57 12.7**	**-0.5**
ASAR	**Alice Springs**	**25.43**	**166**	P		**P**	**02 57 45.0**	**+0.5**
	1.4nm,0.6s,mb3.7,baz=342,slow=8.3,SNR=31							
ASAR	**Alice Springs**	**25.43**	**166**	P		**P**	**02 57 45.0**	**+0.5**
STKA	**Stephens Creek**	**35.47**	**159**	P		**P**	**02 59 13.4**	**+0.8**
	1.0nm,0.3s,mb3.9,baz=351,slow=9.9,SNR=6.9							
STKA	**Stephens Creek**	**35.47**	**159**	P		**P**	**02 59 13.4**	**+0.8**

MOS **16** *02:52:52.4±1.1, 13°.11N×51°.12E, h11km, mb5.0/20, MS4.4/6, Error ellipse: s-maj=11.9km s-min=6.6km az=91.2*

IDC **16** *02:52:52.3±0.6, 13°.10N×51°.15E, h0km, mb4.2/25, mb1 4.3/26, mb1mx4.2/35, mbtmp4.2/26, ML4.8/1, MS4.6/1, Ms1 4.6/1, ms1mx3.3/14, Error ellipse: s-maj=15.2km s-min=13.8km az=47.0*

ISCJB **16** *02:52:52.2±0.3, 13°.04N±0°.05×51°.04E±0°.04, h10km, mb4.5/64, MS4.4/11, Error ellipse: s-maj=6.9km s-min=5.4km az=1.3*

GCMT **16** *02:52:52.7±0.2, 13°.17N×50°.84E, h12km, MW4.9, Moment Tensor Solution. s33,c40; s73,c117; Moment tensor: Scale 10^16Nm; Mrr=2.42±.09; Mθθ2.09±.08; Mφφ0.33±.11; Mrθ0.40±.23; Mθφ-1.68±.07; Mrφ0.03±.31; Best double couple: Mo2.80×10^16 NP1:ϕs129.00000°,δ42.00000°, λ-79.00000°. NP2:ϕs294.00000°,δ49.00000°, λ-100.00000°. Principal axes: T 3.1300, Plg3.0000°, Azm31.0000°; N -0.6600, Plg7.0000°, Azm300.0000°; P -2.4700, Plg82.0000°, Azm146.0000°; Data Used: II IU G IC CN.*

BJI **16** *02:52:53.9, 13°.08N×50°.98E, h18km, mB5.0/14, mb4.7/29, Ms4.6/15, Ms7 4.3/18*

CSEM **16** *02:52:53.0±0.2, 13°.15N×51°.08E, h2km, mb4.7/18, Mw4.9, Error ellipse: s-maj=7.8km s-min=7.3km az=155.0*

NEIC **16** *02:52:54.0±0.3, 13°.09N×51°.12E, h10km, mb4.7/19, Error ellipse: s-maj=8.4km s-min=7.6km az=119.0*

DHMR **16** *02:52:57.0±2.0, 13°.44N×50°.65E, h10km, ML3.6*

DJA **16** *02:52:58, 13°.47N×50°.79E, h8km, mb4.5/8*

ISC 16 02:52:55.1±1.6, 13°.03N±0°.05×51°.07E±0°.05, h17km±9km, h15km±.5km:pP-P, n203, σ1s04/203, mb4.5/64, MS4.4/11, 4C-2D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MUKL	**Al Mukalla**	**2.44**	**306**	*i* P		**Pn**	**02 53 29.7**	**-4.5**
MUKL				*i* S		**Sn**	**02 53 55.8**	**-7.9**
MUKL				AML	AML		02 53 58.9	
	comp=N,747nm,0.7s							
BDHA	**Al Bayda'**	**5.43**	**281**	*i* P		**Pn**	**02 54 14.2**	**-1.1**
BDHA				*e*			02 54 14.5	
	baz=114,slow=16							
BDHA	**Al Bayda'**	**5.43**	**281**	*i* P		**Pn**	**02 54 14.2**	**-1.1**
LBOS		**5.72**	**279**	*i* P		**Pn**	**02 54 18.1**	**-1.3**
ATD	**Arta Tunnel**	**8.17**	**260**	Pn		**Pn**	**02 54 54.5**	**+1.6**
	comp=N,11nm,0.3s,baz=111,slow=3.4,SNR=24							
ATD				LR	LR		02 57 29.6	
	comp=N,4μm,18.5s,baz=81,slow=34							
ATD	**Arta Tunnel**	**8.17**	**260**	Pn		**Pn**	**02 54 54.5**	**+1.6**
ATD				LR	LR		02 57 29.6	
ATD	**Arta Tunnel**	**8.17**	**260**	Pn		**Pn**	**02 54 54.5**	**+1.5**
QRN	**Al-Qurain**	**15.91**	**350**	*e*P		**Pn**	**02 56 40.0**	**+1.7**
QRN				AMb	AMB		02 56 55.0	
	comp=Z,147nm,1.3s							
KBD	**Kabd**	**16.37**	**349**	*e*P		**Pn**	**02 56 45.2**	**+1.1**
KBD				AMb	AMB		02 56 53.5	
	comp=Z,94nm,1.4s							
KBD	**Kabd**	**16.37**	**349**	*e*P		**Pn**	**02 56 45.2**	**+1.0**
	comp=Z,94nm,

VRHR Novokhopersk 38.73 350 *e*P **P** **03 00 18.6 +0.4**
VRHR pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
VRHR pmax pmax
comp=N,9.0nm,0.6s
VRHR pmax pmax
comp=E,5.0nm,0.5s
VSR Storozhevoye 39.29 348 *e*P **P** **03 00 24.7 +1.8**
VSR pmax pmax
comp=N,20nm,1.1s
VSR pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
VSR pmax pmax
comp=E,4.0nm,0.8s
BUR08 Bucovina Ar. S 40.71 333 *e*P **P** **03 00 34.3 -0.5**
BUR08 Bucovina Ar. S 40.71 333 *e*P **P** **03 00 34.3 -0.5**
AKASG Malin Array Be 41.57 339 P **P** **03 00 41.8 0.0**
comp=E,4.7nm,0.9s,mb4.1,baz=148,slow=7.0,SNR=15
AKASG PcP PcP 03 02 39.0 +0.1
comp=E,0.1nm,0.3s,baz=134,slow=2.2,SNR=4.4
AKASG Malin Array Be 41.57 339 P **P** **03 00 41.8 0.0**
AKASG PcP PcP 03 02 39.0 +0.1
AKASG Malin Array Be 41.57 339 P **P** **03 00 41.8 0.0**
AKASG 03 02 39.0
AKASG Malin Array Be 41.57 339 P **P** **03 00 41.8 0.0**
AKASG Malin Array Be 41.57 339 PcP PcP 03 02 39.0 +0.1
AKBB Malin Array Si 41.57 339 *e*P **P** **03 00 41.3 -0.5**
AKBB Malin Array Si 41.57 339 *e*P **P** **03 00 41.3 -0.5**
AKBB Malin Array Si 41.57 339 *e*P **P** **03 00 41.3 -0.5**
KIEV Kiev 41.57 339 *e*P **P** **03 00 41.3 -0.5**
comp=E,24nm,1.4s,mb4.6
KIEV Kiev 41.57 339 *e*P **P** **03 00 41.3 -0.5**
KIEV pmax pmax
comp=Z,24nm,1.4s,mb4.6
KIEV Kiev 41.57 339 *e*P **P** **03 00 41.3 -0.5**
comp=Z,24nm,1.4s,mb4.6
MK31 Makanchi Array 42.66 32 *e*P **P** **03 00 50.0 -0.7**
MK31 Makanchi Array 42.66 32 *e*P **P** **03 00 50.1 -0.7**
MK31 Makanchi Array 42.66 32 *e*P **P** **03 00 50.0 -0.8**
MKAR Makanchi Array 42.66 32 P **P** **03 00 49.9 -0.9**
comp=Z,1.0nm,0.5s,mb3.8,baz=221,slow=7.9,SNR=23
MKAR Makanchi Array 42.66 32 P **P** **03 00 49.9 -0.9**
MKAR Makanchi Array 42.66 32 P **P** **03 00 49.9 -0.9**
MKAR Makanchi Array 42.66 32 P **P** **03 00 49.9 -0.9**
BRVK Borovoye 42.77 17 *e*P **P** **03 00 53.8 +2.3**
comp=Z,44nm,2.1s,mb4.8
BRVK Borovoye 42.77 17‖ *e*P **P** **03 00 51.2 -0.3**
BRVK pmax pmax
comp=Z,12nm,1.4s,mb4.4
OBN Obninsk 43.49 348‖ *e*P **P** **03 01 01.5 +4.1**
OBN *e* 03 02 42.2
OBN *e*S **S** **03 07 30.8 +5.6**
OBN *e*SS SS 03 10 54.7 +15
OBN pmax pmax
comp=Z,14nm,0.7s,mb4.8
OBN MLR MLR
comp=Z,400nm,20.0s,MS4.3
OBN Obninsk 43.49 348 *e*ScS ScS 03 10 54.7 -1.6
comp=Z,400nm,20.0s
ARU Arti 43.70 6 *e*P **P** **03 00 59.0 0.0**
comp=Z,7.1nm,0.6s,mb4.6
ARU Arti 43.70 6 *c i*P **P** **03 00 58.9 0.0**
ARU *e* 03 02 39.4
ARU S **S** **03 07 27.8 -0.3**
ARU pmax pmax
comp=Z,11nm,1.0s,mb4.5
ARU Arti 43.70 6 *e*P **P** **03 00 59.0 +0.1**
comp=Z,7.1nm,0.6s,mb4.6
KURK Kurchatov 43.76 25 P **P** **03 00 58.5 -1.1**
comp=Z,1.2nm,0.5s,mb3.9,baz=224,slow=8.0,SNR=9.9
KURK Kurchatov 43.76 25 P **P** **03 00 58.5 -1.1**
KURK Kurchatov 43.76 25 P **P** **03 00 58.5 -1.1**
KURK Kurchatov 43.76 25 P **P** **03 00 58.5 -1.1**
WMQ Urumqi 43.89 39 P **P** **03 01 01.0 +0.3**
WMQ pP pP 03 01 05.5 -0.6
WMQ sP sP 03 01 08.0 -0.1
WMQ PP PP 03 02 44.8 +1.8
WMQ pmax pmax
comp=Z,18nm,1.5s,mb4.6
WMQ pmax pmax
comp=Z,190nm,3.8s
WMQ LR LR
comp=N,150nm,27.2s,MS4.0
WMQ LR LR
comp=E,230nm,26.2s,MS4.0
WMQ LR LR
comp=Z,270nm,27.2s,MS4.0
TAM Tamanrasset 44.26 289 *e*P **P** **03 01 04.3 +0.2**
comp=Z,7.0nm,1.0s,mb4.3
TAM Tamanrasset 44.26 289 *e*P **P** **03 01 04.3 +0.3**
TAM pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
TAM Tamanrasset 44.26 289 *e*P **P** **03 01 04.3 +0.3**
comp=Z,7.0nm,1.0s,mb4.3
LBTB Lobatse 45.24 213 P **P** **03 01 12.9 +1.2**
comp=Z,3.0nm,0.9s,mb4.1,baz=79,slow=16,SNR=4.3
LBTB Lobatse 45.24 213 *e*P **P** **03 01 12.4 +0.7**
comp=Z,13nm,1.1s,mb4.7
LBTB Lobatse 45.24 213 P **P** **03 01 12.9 +1.2**
LBTB pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
LBTB Lobatse 45.24 213 *e*P **P** **03 01 12.4 +0.7**
comp=Z,13nm,1.1s,mb4.7
MORC Moravsky Berou 45.79 330 *e*P **P** **03 01 15.6 -0.2**
comp=Z,4.4nm,1.0s,mb4.3
MORC Moravsky Berou 45.79 330 *e*P **P** **03 01 15.6 -0.2**
MORC pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
MORC Moravsky Berou 45.79 330 *e*P **P** **03 01 15.6 -0.2**
comp=Z,4.4nm,1.0s,mb4.3
VRAC Vranov 45.96 329 P **P** **03 01 17.8 +0.7**
comp=Z,1.3nm,0.3s,mb4.3,baz=146,slow=7.3,SNR=3.4
VRAC Vranov 45.96 329 P **P** **03 01 17.8 +0.7**
VRAC Vranov 45.96 329 P **P** **03 01 17.8 +0.7**
VRAC Vranov 45.96 329 P **P** **03 01 17.8 +0.7**
CMAR Chiang Mai Arr 46.29 77 P **P** **03 01 19.4 -0.8**
comp=Z,8.4nm,0.8s,mb4.7,baz=273,slow=8.7,SNR=32
CMAR Chiang Mai Arr 46.29 77 P **P** **03 01 19.4 -0.8**
CMAR Chiang Mai Arr 46.29 77 P **P** **03 01 19.4 -0.8**
CMAR Chiang Mai Arr 46.29 77 P **P** **03 01 19.4 -0.8**
GERES GERESS Array B 47.17 327 P **P** **03 01 26.1 -0.5**
comp=Z,0.3nm,0.4s,mb3.6,baz=172,slow=2.7,SNR=3.8
GERES GERESS Array B 47.17 327 P **P** **03 01 26.1 -0.5**
GERES GERESS Array B 47.17 327 P **P** **03 01 26.2 -0.4**
GERES GERESS Array B 47.17 327 P **P** **03 01 26.1 -0.5**
TORD Torodi Ar. Bea 48.03 276 P **P** **03 01 33.8 0.0**
comp=Z,2.2nm,0.7s,mb4.3,baz=90,slow=7.1,SNR=18
TORD PcP PcP 03 03 07.4 +5.6
comp=Z,1.0nm,0.9s,baz=78,slow=3.4,SNR=3.8
TORD Torodi Ar. Bea 48.03 276 P **P** **03 01 33.8 0.0**
TORD PcP PcP 03 03 07.4 +5.6
TORD Torodi Ar. Bea 48.03 276 P **P** **03 01 33.8 0.0**
BOSA Boshof 48.34 211 P **P** **03 01 37.6 +1.6**
comp=Z,1.9nm,0.8s,mb4.2,baz=54,slow=19,SNR=3.0
BOSA Boshof 48.34 211 *e*P **P** **03 01 37.2 +1.3**
comp=Z,11nm,1.2s,mb4.8
BOSA Boshof 48.34 211 *e*P **P** **03 01 37.2 +1.3**
BOSA pmax pmax
comp=Z,11nm,1.2s,mb4.8
BOSA Boshof 48.34 211 *e*P **P** **03 01 37.2 +1.3**
comp=Z,11nm,1.2s,mb4.8
KLMR Klimovskoe 48.49 352 *e*P **P** **03 01 35.9 -0.8**
KLMR pmax pmax
comp=Z,25nm,1.5s,mb5.0
KLMR MLR MLR
comp=Z,812nm,19.0s,MS4.7
NVS Novosibirsk 48.71 24 *e*P **P** **03 01 36.3 -2.1**
NVS pmax pmax
comp=Z,38nm,1.8s,mb5.1
NVS pmax pmax
comp=N,17nm,1.9s
ZAA0 Zalesovo Array 48.73 26 *e*P **P** **03 01 36.4 -2.2**
ZAA0 Zalesovo Array 48.73 26 *e*P **P** **03 01 36.4 -2.2**
ZALV Zalesovo Beam 48.73 26 P **P** **03 01 36.8 -1.8**
comp=N,2.6nm,0.6s,mb4.5,baz=231,slow=7.6,SNR=13
ZALV Zalesovo Beam 48.73 26 P **P** **03 01 36.8 -1.8**
ZALV Zalesovo Beam 48.73 26 P **P** **03 01 36.8 -1.8**
ZALV Zalesovo Beam 48.73 26 P **P** **03 01 36.8 -1.8**
KMI Kunming 50.02 68 P **P** **03 01 50.5 +1.5**
KMI S **S** **03 09 00.9 +1.4**
KMI pmax pmax
comp=Z,11nm,0.7s,mb5.0
KMI LR LR
comp=N,210nm,14.8s
KMI LR LR
comp=E,190nm,20.9s
KMI LR LR
comp=Z,290nm,20.5s
GTA Gaotai 50.25 49 *e*P **P** **03 01 51.9 +1.4**
GTA pP pP 03 01 56.4 +0.6
GTA sP sP 03 01 58.9 +1.0
GTA pmax pmax
comp=Z,3.0nm,1.3s,mb4.2
CD2 Chengdu 51.52 61 P **P** **03 02 01.9 +1.7**
CD2 pP pP 03 02 06.4 +0.8
CD2 sP sP 03 02 08.6 +0.9
CD2 PP PP 03 03 59.8 +2.2
CD2 S **S** **03 09 20.8 +0.6**
CD2 SS SS 03 12 54.0 -2.3
CD2 pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
CD2 pmax pmax
comp=Z,80nm,5.4s
CD2 LR LR
comp=N,200nm,14.3s
CD2 LR LR
comp=Z,250nm,23.2s
FINES FINESS Array B 51.62 345 P **P** **03 01 59.3 -1.1**
comp=Z,2.3nm,0.8s,mb4.2,baz=148,slow=11,SNR=5.9
FINES FINESS Array B 51.62 345 P **P** **03 01 59.3 -1.1**
FINES FINESS Array B 51.62 345 P **P** **03 01 59.3 -1.1**
FINES FINESS Array B 51.62 345 P **P** **03 01 59.3 -1.1**
WLF Walferdange 51.78 324 *e*P **P** **03 02 02.1 +0.3**
comp=Z,9.8nm,1.0s,mb4.7
WLF Walferdange 51.78 324 *e*P **P** **03 02 02.1 +0.3**
WLF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
WLF Walferdange 51.78 324 *e*P **P** **03 02 02.1 +0.3**
comp=Z,9.8nm,1.0s,mb4.7
LZH Lanzhou 52.49 54 *e*P **P** **03 02 13.6 +6.2**
LZH pP pP 03 02 17.3 +4.5
LZH sP sP 03 02 18.8 +4.0
LZH pmax pmax
comp=Z,14nm,1.0s,mb4.8
BCLA Clavier 52.62 325 P **P** **03 02 07.9 -0.2**
comp=Z,17nm,2.9s,mb4.5
BCLA Clavier 52.62 325 P **P** **03 02 07.8 -0.3**
comp=Z,17nm,2.9s,mb4.5
DOU Dourbes 52.87 324 P **P** **03 02 09.6 -0.3**
comp=Z,15nm,2.0s,mb4.6
DOU Dourbes 52.87 324 P **P** **03 02 09.6 -0.3**
comp=Z,15nm,2.0s,mb4.6
GYA Guiyang 53.64 67 P **P** **03 02 17.0 +1.0**
GYA PP PP 03 04 18.9 +2.1
GYA ScP ScP 03 07 20.4 +0.7
GYA S **S** **03 09 48.9 -0.3**
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
GYA pmax pmax
comp=Z,90nm,5.0s
HFS Hagfors 54.44 338 P **P** **03 02 19.8 -1.4**
comp=Z,2.2nm,0.7s,mb4.2,baz=108,slow=9.5,SNR=4.7
HFS Hagfors 54.44 338 P **P** **03 02 19.8 -1.4**
HFS Hagfors 54.44 338 P **P** **03 02 19.8 -1.4**
HFS Hagfors 54.44 338 P **P** **03 02 19.8 -1.4**
ESDC Sonseca Array 55.00 309 P **P** **03 02 25.2 -0.5**
comp=Z,2.2nm,0.8s,mb4.3,baz=94,slow=6.7,SNR=18
ESDC Sonseca Array 55.00 309 P **P** **03 02 25.2 -0.4**
ESDC Sonseca Array 55.00 309 P **P** **03 02 25.2 -0.5**
PAB San Pablo 55.27 309 *e*P **P** **03 02 27.4 -0.1**
comp=Z,21nm,1.5s,mb4.9
PAB San Pablo 55.27 309 *e*P **P** **03 02 27.5 -0.1**
PAB pmax pmax
comp=Z,21nm,1.5s,mb5.0
PAB San Pablo 55.27 309 *e*P **P** **03 02 27.5 -0.1**
comp=Z,21nm,1.5s,mb4.9
ZAK Zakamensk 56.33 37 *e*P **P** **03 02 34.4 -0.6**
ZAK pmax pmax
comp=Z,2.0nm,1.5s,mb3.9
QIZ Qiongzhong 56.60 76 P **P** **03 02 36.3 -1.2**
QIZ S **S** **03 10 29.3 +0.2**
QIZ pmax pmax
comp=Z,13nm,2.0s,mb4.6
QIZ pmax pmax
comp=Z,70nm,4.1s
QIZ LR LR
comp=Z,200nm,4.7s
SONM Songino Array 57.38 41 P **P** **03 02 42.3 -0.3**
comp=Z,2.9nm,1.0s,mb4.3,baz=236,slow=6.9,SNR=12
SONM Songino Array 57.38 41 P **P** **03 02 42.3 -0.2**
SONM Songino Array 57.38 41 P **P** **03 02 42.3 -0.2**
SONM Songino Array 57.38 41 P **P** **03 02 42.3 -0.2**
ULN Ulaanbaatar 57.81 41 P **P** **03 02 45.0 -0.6**
comp=Z,7.8nm,1.4s,mb4.5
ARCES ARCESS Array B 58.74 350 P **P** **03 02 49.9 -1.8**
comp=Z,2.5nm,0.8s,mb4.3,baz=32,slow=4.7,SNR=4.2
ARCES ARCESS Array B 58.74 350 P **P** **03 02 49.9 -1.8**
ARCES ARCESS Array B 58.74 350 P **P** **03 02 49.9 -1.8**
ARCES ARCESS Array B 58.74 350 P **P** **03 02 49.9 -1.8**
HHC Hu-ho-hao-te 59.33 50 *e*P **P** **03 02 56.8 +0.5**
HHC PcP PcP 03 03 44.3 0.0
HHC PP PP 03 05 09.9 +2.5
HHC ScP ScP 03 07 43.6 -0.9
HHC PcS PcS 03 07 45.5 -0.7
HHC S **S** **03 11 03.3 -1.0**
HHC ScS ScS 03 12 43.3 -2.7
HHC SS SS 03 14 59.6 +0.5
HHC pmax pmax
comp=Z,13nm,0.7s,mb5.1
HHC pmax pmax
comp=Z,130nm,7.5s
HHC LR LR
comp=N,120nm,17.8s,MS4.6
HHC LR LR
comp=E,360nm,17.8s,MS4.6
HHC LR LR
comp=Z,330nm,17.3s,MS4.5
EKA Eskdalemuir Ar 59.38 327 P **P** **03 02 55.1 -1.3**
comp=Z,3.3nm,1.1s,mb4.3,baz=111,slow=7.7,SNR=3.5
EKA Eskdalemuir Ar 59.38 327 P **P** **03 02 55.1 -1.3**
EKA Eskdalemuir Ar 59.38 327 P **P** **03 02 55.1 -1.2**
EKA Eskdalemuir Ar 59.38 327 P **P** **03 02 55.1 -1.2**
BJI Beijing 62.71 52 P **P** **03 03 18.1 -1.2**
BJI PP PP 03 05 35.4 -1.8
BJI S **S** **03 11 52.4 +5.0**
BJI pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
BJI LR LR
comp=N,100nm,19.5s,MS4.4
BJI LR LR
comp=E,240nm,18.1s,MS4.4
BJI LR LR
comp=Z,230nm,23.4s
NJ2 Nanjing 64.46 61 *e*P **P** **03 03 32.4 +1.4**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
NJ2 LR LR
comp=Z,90nm,15.1s,MS4.1
SPITS Spitsbergen Ar 67.39 353 P **P** **03 03 48.4 -0.7**
comp=Z,2.6nm,0.6s,mb4.4,baz=28,slow=8.8,SNR=4.4
SPITS Spitsbergen Ar 67.39 353 P **P** **03 03 48.4 -0.7**
SPITS Spitsbergen Ar 67.39 353 P **P** **03 03 48.4 -0.7**
SPITS Spitsbergen Ar 67.39 353 P **P** **03 03 48.4 -0.7**
CN2 Changchun 69.85 48 *e*P **P** **03 04 06.3 +1.3**
CN2 *e*pP pP 03 04 10.5 0.0
CN2 *e*S S 03 13 13.3 -0.7
CN2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
CN2 LR LR
comp=Z,200nm,17.0s,MS4.4
KAPI Kappang 70.52 100 P sP 03 04 20.0 +2.8
YAK Yakutsk 73.25 29 *e*P **P** **03 04 23.8 -1.3**
YAK pmax pmax
comp=Z,28nm,1.8s,mb4.9
MBWA Marble Bar 75.49 116 *e*P **P** **03 04 39.6 +0.7**
comp=Z,27nm,1.4s,mb5.0
MBWA Marble Bar 75.49 116 *e*P **P** **03 04 39.6 +0.7**
comp=Z,27nm,1.4s,mb5.0
FITZ Fitzroy Crossi 79.78 111 P **P** **03 05 02.6 -0.3**
comp=Z,5.3nm,1.0s,mb4.4,baz=319,slow=3.6,SNR=7.1
FITZ Fitzroy Crossi 79.78 111 *e*P **P** **03 05 02.3 -0.6**
comp=Z,7.5nm,1.0s,mb4.6
FITZ Fitzroy Crossi 79.78 111 *e*P **P** **03 05 02.3 -0.6**
comp=Z,7.5nm,1.0s,mb4.6
SYO Syowa Base 82.23 184‖ *e*pP pP 03 05 21.5 +1.0
SEY Seymchan 83.59 27‖ *e*P **P** **03 05 21.6 -0.6**
BILL Bilibino 87.05 20‖ *e*P **P** **03 05 40.3 +0.9**
BILL *e*S S 03 16 03.6 -14
BILL pmax pmax
comp=Z,16nm,1.8s,mb5.0
BILL MLR MLR
comp=Z,200nm,21.0s,MS4.5
WRA Warramunga Arr 88.20 111 P **P** **03 05 45.6 -0.2**
comp=Z,2.6nm,0.5s,mb4.7,baz=298,slow=4.0,SNR=22
WRA Warramunga Arr 88.20 111 P **P** **03 05 45.6 -0.2**
WRA Warramunga Arr 88.20 111 P **P** **03 05 45.7 -0.1**
WRA Warramunga Arr 88.20 111 P **P** **03 05 45.7 -0.1**
WRAB Tennant Creek 88.20 111 *e*P **P** **03 05 46.0 +0.1**
comp=Z,10nm,0.9s,mb5.1
WRAB Tennant Creek 88.20 111 *e*P **P** **03 05 46.0 +0.1**
WRAB pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
WRAB Tennant Creek 88.20 111 *e*P **P** **03 05 46.0 +0.1**
comp=Z,10nm,0.9s,mb5.1
WB2 Warramunga Arr 88.21 111 *e*P **P** **03 05 45.6 -0.2**
WB2 Warramunga Arr 88.21 111 *e*P **P** **03 05 45.6 -0.3**
ASAR Alice Springs 88.74 115 P **P** **03 05 48.1 -0.2**
comp=Z,1.7nm,0.6s,mb4.5,baz=286,slow=5.0,SNR=17
ASAR Alice Springs 88.74 115 P **P** **03 05 48.1 -0.2**
ASAR Alice Springs 88.74 115 P **P** **03 05 48.2 -0.1**
ASAR Alice Springs 88.74 115 P **P** **03 05 48.2 -0.1**
NVAR Mina Array Bea 127.86 349 PKP PKPdf 03 11 58.8 -1.5
comp=Z,0.3nm,0.7s,baz=241,slow=0.9,SNR=3.6
NVAR Mina Array Bea 127.86 349 PKP PKPdf 03 11 58.8 -1.5
NVAR Mina Array Bea 127.86 349 PKIKP PKPdf 03 11 58.8 -1.5
TXAR Lajitas Array 131.33 330 PKP PKPdf 03 12 06.1 -1.1
comp=Z,0.3nm,1.0s,baz=153,slow=18,SNR=2.8
TXAR Lajitas Array 131.33 330 PKP PKPdf 03 12 06.1 -1.1
TXAR Lajitas Array 131.33 330 PKIKP PKPdf 03 12 06.1 -1.1
TXAR Lajitas Array 131.33 330 PKIKP PKPdf 03 12 06.1 -1.1

IDC 16 02:53:18.6±0.9, 13°.09N×51°.12E, h0km, mb4.2/9, mb1 4.4/10, mb1mx4.0/25, mbtmp4.2/10, ML4.4/1, MS4.3/1, Ms1 4.3/1, ms1mx3.2/13, Error ellipse: s-maj=32.0km s-min=20.0km az=9.0, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**8.23**	**260**	Pn	Pn	02 55 21.2	+1.8
	4.7nm,0.3s,baz=228,slow=23,SNR=2.6						
MKAR	**Makanchi Array**	**42.58**	**32**	P	P	03 01 16.5	+0.3
	0.8nm,0.8s,baz=230,slow=7.5,SNR=4.3						
CMAR	**Chiang Mai Arr**	**46.23**	**77**	P	P	03 01 45.4	-0.4
	3.4nm,0.7s,baz=275,slow=9.1,SNR=4.4						
TORD	**Torodi Ar. Bea**	**48.07**	**276**	P	P	03 02 00.1	-0.2
	1.4nm,0.7s,baz=87,slow=8.3,SNR=2.7						
FINES	**FINESS Array B**	**51.57**	**345**	P	P	03 02 26.2	0.0
	4.4nm,0.8s,baz=163,slow=8.0,SNR=5.0						
ESDC	**Sonseca Array**	**55.01**	**309**	P	P	03 02 51.1	-0.8
	1.3nm,0.7s,baz=102,slow=6.3,SNR=5.6						
SONM	**Songino Array**	**57.30**	**41**	P	P	03 03 09.0	+0.8
	0.9nm,0.7s,baz=255,slow=6.6,SNR=3.7						
BORG	**Borgarnes**	**70.77**	**334**	LR	LR	03 35 38.5	
	comp=Z,202nm,18.1s,baz=47,slow=36						
FITZ	**Fitzroy Crossi**	**79.75**	**111**	P	P	03 05 28.6	-0.4
	2.0nm,0.9s,baz=288,slow=3.2,SNR=4.1						
WRA	**Warramunga Arr**	**88.17**	**111**	P	P	03 06 12.3	+0.3
	1.3nm,0.7s,baz=297,slow=4.1,SNR=5.4						
ASAR	**Alice Springs**	**88.72**	**115**	P	P	03 06 14.9	+0.4
	0.8nm,0.6s,baz=281,slow=4.4,SNR=3.5						

*JMA **16** 03:10:05.9±0.4, 25°.04N×122°.64E, h116km, M2.2*
*ISCJB **16** 03:10:06.6±0.8, 24°.83N±0°.06×122°.63E±0°.03, h117km±6km, Error ellipse: s-maj=9.3km s-min=3.7km az=173.7*
*TAP **16** 03:10:06.4, 24°.93N×122°.56E, h121km, ML3.6, C*
ISC 16 03:10:07.0±0.9, 24°.85N±0°.06×122°.63E±0°.03, h117km±6km, n28, σ0°.87/54, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.52**	**137**	P	Pn	03 10 24.5	-0.2
YOJ				*e*S	Sn	03 10 39.8	+1.8
TWB1	**Santiao Chiao**	**0.60**	**286**	*e*P	Pn	03 10 25.4	+0.2
	baz=279						
TWB1				*e*S	Sn	03 10 38.6	-0.3
	baz=279						
TWC	**Suao**	**0.74**	**252**	*i* P	Pn	03 10 26.1	-0.3
	baz=238						
TWC				S	Sn	03 10 40.6	-0.4
	baz=238						
TWE	**Neicheng**	**0.88**	**262**	P	Pn	03 10 27.5	0.0
	baz=250						
TWE				*e*S	Sn	03 10 42.6	-0.4
	baz=250						
ENA	**Nanau**	**0.91**	**243**	*i* P	Pn	03 10 27.9	+0.1
	baz=231						
ENA				S	Sn	03 10 43.7	+0.2
	baz=231						
ENTT	**Nioudou**	**0.98**	**258**	P	Pn	03 10 28.8	+0.2
	baz=252						
ENTT				*e*S	Sn	03 10 45.5	+0.6
	baz=252						
IRIF	**Iriomote-Funau**	**1.13**	**117**	P	Pn	03 10 29.6	-0.4
IRIF				S	Sn	03 10 47.6	+0.1
NSK	**Sanguang**	**1.17**	**262**	P	Pn	03 10 30.3	-0.2
	baz=264						
NSK				S	Sn	03 10 47.8	-0.4
	baz=264						
NNS	**Nan Shan**	**1.21**	**251**	P	Pn	03 10 30.9	0.0
	baz=239						
NNS				*e*S	Sn	03 10 48.9	-0.1
	baz=239						
TWD	**Chiawan**	**1.21**	**231**	*e*P	Pn	03 10 30.3	-0.6
	baz=221						
TWD				S	Sn	03 10 48.7	-0.3
	baz=221						
HATJ	**Hateruma jima**	**1.33**	**126**	P	Pn	03 10 33.0	+0.7
HATJ				S	Sn	03 10 52.3	+0.9
JKRS	**Kuro-shima**	**1.40**	**115**	P	Pn	03 10 33.3	+0.3
JKRS				S	Sn	03 10 53.2	+0.4
WHF	**Hehuan Shan**	**1.42**	**241**	*i* P	Pn	03 10 33.6	+0.3
	baz=236						
WHF				S	Sn	03 10 53.6	+0.3
	baz=236						
JIJ	**Ishigaki jima**	**1.46**	**109**	P	Pn	03 10 33.6	-0.1
JIJ				S	Sn	03 10 53.4	-0.7
NSTT	**Nanjuang**	**1.49**	**262**	*e*P	Pn	03 10 33.6	-0.5
	baz=258						
NSTT				S	Sn	03 10 53.8	-0.9
	baz=258						
ESL	**Shilin**	**1.50**	**227**	*e*P	Pn	03 10 33.1	-1.0
	baz=230						
ESL				*e*S	Sn	03 10 53.2	-1.6
	baz=230						
EHY	**Hungye**	**1.79**	**222**	*e*P	Pn	03 10 36.7	-0.9
	baz=225						
EHY				*e*S	Sn	03 10 59.0	-2.0
	baz=225						
SMLT	**Sun Moon Lake**	**1.84**	**239**	*e*P	Pn	03 10 39.4	+1.1
	baz=232						
SMLT				*e*S	Sn	03 11 03.9	+1.7
	baz=232						
TYC	**Yuchr**	**1.86**	**240**	P	Pn	03 10 39.5	+0.9
	baz=235						
TYC				S	Sn	03 11 02.7	-0.1
	baz=235						
JTJ	**Tarama**	**1.90**	**96**	P	Pn	03 10 39.1	+0.1
JTJ				S	Sn	03 11 02.7	-0.8
TWF1	**Yuli**	**1.92**	**220**	*e*P	Pn	03 10 38.6	-0.7
	baz=223						
TWF1				*e*S	Sn	03 11 02.7	-1.2
	baz=223						
CHKT	**Chengkung**	**2.09**	**214**	*e*P	Pn	03 10 40.3	-1.1
	baz=205						
CHKT				*e*S	Sn	03 11 05.7	-2.0
	baz=205						
ALS	**Alishan**	**2.13**	**232**	*e*P	Pn	03 10 43.0	+1.1
	baz=223						
ALS				*e*S	Sn	03 11 10.6	+2.0
	baz=223						
CHN5	**Tsauling**	**2.17**	**235**	*e*P	Pn	03 10 43.9	+1.5
	baz=240						
CHN5				*e*S	Sn	03 11 10.4	+0.8
	baz=240						
CHN4	**Tsaushan**	**2.38**	**232**	*e*S	Sn	03 11 14.9	+0.6
	baz=228						
STYT	**Tauyuan**	**2.39**	**226**	*e*P	Pn	03 10 45.0	-0.2
	baz=223						
STYT				*e*S	Sn	03 11 16.1	+1.5
	baz=223						
TWG	**Pinlang**	**2.47**	**216**	*e*P	Pn	03 10 45.0	-1.3
	baz=212						

CHN1	**Nanshi**	**2.53**	**230**	*e*P		**Pn**	**03 10 47.3**	**+0.3**
	baz=226							
CHN1				*e*S		**Sn**	**03 11 18.9**	**+1.1**
	baz=226							

IDC 16 03:18:11.2±39.0, **27°40N**×**70°28E**, **h0**km, **mb3.4**/3, **mb1 3.4**/3, **mb1mx3.2**/26, **mbtmp3.4**/3, **Error ellipse: s-maj=1250.0km s-min=31.5km az=138.0, India-Pakistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**21.55**	**23**	P		P	03 23 02.2	+0.1
	0.4nm,0.5s,baz=210,slow=11,SNR=6.0							
ZALV	**Zalesovo Beam**	**28.61**	**18**	P		P	03 24 09.0	0.0
	0.5nm,0.5s,baz=206,slow=9.7,SNR=3.7							
TORD	**Torodi Ar. Bea**	**65.19**	**272**	P		P	03 28 54.7	0.0
	0.3nm,0.8s,baz=60,slow=6.1,SNR=2.9							

*IDC **16** 03:47:04.6±4.1, 30°.49N×137°.74E, h322km±91km, mb2.9/3, mb1 2.9/6, mb1mx2.7/27, mbtmp2.9/6, Error ellipse: s-maj=161.7km s-min=13.6km az=67.0*
*ISCJB **16** 03:47:05.9±0.7, 31°.05N±0°.10×139°.3E±0°.4, h418km±15km, mb3.0/3, Error ellipse: s-maj=50.4km s-min=9.7km az=165.7*
*JMA **16** 03:47:09.6±0.3, 31°.20N×139°.20E, h393km±4km, M3.3*
ISC 16 03:47:07.0±0.7, **31°09N**±0°.10×**139°6E**±0°.3, **h415**km±14km, **n12**, σ1**9**15, **mb3.0**/3, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHJ2	**Mitsune**	**2.03**	**6**	P		**P**	**03 48 05.0**	**+0.6**
JHJ	**Hachijo jima 2**	**2.03**	**5**	P		**P**	**03 48 04.7**	**+0.3**
	17nm,0.3s,baz=247,slow=23,SNR=9.1							
JHJ				S		**S**	**03 48 50.4**	**-0.7**
	9.2nm,0.3s,baz=81,slow=22,SNR=1.5							
BSO1	**Boso 1**	**3.74**	**18**	P		**P**	**03 48 19.3**	**+1.8**
BSO4	**Boso 4**	**3.94**	**9**	*e*S		**S**	**03 49 18.9**	**+0.7**
CBIJ	**Chichi jima**	**4.59**	**150**	P		**P**	**03 48 26.2**	**+0.5**
	2.4nm,0.3s,baz=285,slow=20,SNR=4.4							
CBIJ				S		**S**	**03 49 28.0**	**-1.6**
	15nm,0.3s,baz=301,slow=23,SNR=3.5							
JHU	**Hanno**	**4.76**	**357**	*e*S		**S**	**03 49 27.4**	**-5.0**
JRY	**Ryogami san**	**4.95**	**354**	P		**P**	**03 48 30.0**	**+0.9**
MJAR	**Matsushiro Arr**	**5.56**	**349**	P		**P**	**03 48 35.2**	**-0.1**
	0.3nm,0.3s,baz=184,slow=6.8,SNR=4.8							
JHO	**Hitachi**	**5.57**	**8**	*e*S		**S**	**03 49 45.3**	**-2.3**
MKAR	**Makanchi Array**	**46.22**	**307**	P		**P**	**03 54 50.5**	**-2.1**
	0.4nm,0.4s,mb3.1,baz=87,slow=9.4,SNR=7.7							
WRA	**Warramunga Arr**	**50.99**	**186**	P		**P**	**03 55 29.1**	**+0.4**
	0.4nm,0.4s,mb3.0,baz=2.0,slow=7.7,SNR=10							
ASAR	**Alice Springs**	**54.71**	**186**	P		**P**	**03 55 56.2**	**+0.8**
	0.2nm,0.3s,mb2.8,baz=358,slow=4.1,SNR=5.7							

*IDC **16** 03:59:20.2±1.4, 0°.25N×126°.25E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.7/4, MS3.3/1, Ms1 3.3/1, ms1mx2.2/35, Error ellipse: s-maj=157.0km s-min=21.6km az=68.0*
*ISCJB **16** 03:59:26.6±0.8, 0°.10N±0°.09×126°.27E±0°.06, h69km±11km, mb3.6/4, Error ellipse: s-maj=14.4km s-min=9.2km az=9.4*
*DJA **16** 03:59:27, 0°.13N×126°.29E, h50km, MLv3.8/6*
ISC 16 03:59:27.5±0.8, **0°12N**±0°.09×**126°30E**±0°.06, **h56**km±11km, **n15**, σ1**9**08/15, **mb3.6**/4, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.25**	**59**	P		**Pn**	**03 59 50.2**	**+1.5**
LBMI	**Labuha**	**1.42**	**122**	P		**Pn**	**03 59 50.0**	**-1.1**
MNI	**Manado**	**1.96**	**312**	P		**Pn**	**03 59 57.4**	**-1.0**
KMSI	**Cibinong**	**2.36**	**281**	P		**Pn**	**04 00 02.7**	**-1.2**
KMSI				S		**Sn**	**04 00 32.8**	**+1.1**
LUWI	**Luwuk**	**3.71**	**252**	P		**Pn**	**04 00 23.9**	**+1.5**
KDI	**Kendari**	**5.47**	**222**	P		**Pn**	**04 00 45.7**	**-0.8**
	0.1nm652nm18nm,0.8s							
MSSI	**Masamba**	**6.54**	**246**	P		**Pn**	**04 01 06.3**	**+5.1**
PCI	**Palu**	**6.54**	**261**	P		**Pn**	**04 01 01.9**	**+0.7**
	0.1nm12nm,1.1s							
KBKI	**Kotabaru**	**10.68**	**251**	P		**Pn**	**04 02 07.3**	**+9.4**
BBKI	**Banjar Baru**	**11.99**	**253**	P		**Pn**	**04 02 15.0**	**-0.8**
WRA	**Warramunga Arr**	**21.44**	**159**	P		**P**	**04 04 10.8**	**-0.4**
	1.1nm,0.5s,mb3.5,baz=338,slow=11,SNR=7.8							
ASAR	**Alice Springs**	**24.77**	**163**	P		**P**	**04 04 45.9**	**+1.7**
	0.9nm,0.5s,mb3.6,baz=349,slow=15,SNR=14							
MJAR	**Matsushiro Arr**	**37.88**	**16**	LR		LR	04 20 35.2	
	comp=Z,45nm,19.4s,baz=215,slow=34							
SONM	**Songino Array**	**50.57**	**343**	P		**P**	**04 08 20.6**	**+0.2**
	0.3nm,0.4s,mb3.5,baz=161,slow=9.2,SNR=3.0							
MKAR	**Makanchi Array**	**60.28**	**327**	P		**P**	**04 09 29.2**	**-1.1**
	0.5nm,0.4s,mb3.9,baz=119,slow=8.1,SNR=9.7							

*CSEM **16** 04:02:34.8, 39°.39N×20°.05E, h5km, MD3.5, After ATH*
ATH 16 04:02:34.8, 39°39N×20°05E, h5km±4km, **MD3.5**/4, **Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KEK	**Kerkira**	**0.38**	**329**	*e*PG		Pg	04 02 41.9	-0.2
KEK				*e*SB		Sg	04 02 48.4	+1.4
KEK	**Kerkira**	**0.38**	**329**	*e*Pg		Pg	04 02 41.9	-0.2
KEK				*e*Sb		Sg	04 02 48.4	+1.4
JAN	**Janina**	**0.67**	**66**	*e*PG		Pg	04 02 47.5	-0.2
JAN				*e*SB		Sb	04 02 57.0	-1.7
JAN	**Janina**	**0.67**	**66**	*e*Pg		Pg	04 02 47.5	-0.2
JAN				*e*Sb		Sb	04 02 57.0	-1.7
VLS	**Valsamata**	**1.28**	**161**	*e*PB		Pb	04 02 59.4	0.0
VLS				*e*SB		Sb	04 03 18.0	+1.8
VLS	**Valsamata**	**1.28**	**161**	*e*Pb		Pb	04 02 59.4	0.0
VLS				*e*Sb		Sb	04 03 18.0	+1.8
THL	**Klokotos Trika**	**1.53**	**83**	*e*PB		Pb	04 03 04.6	+1.0
THL	**Klokotos Trika**	**1.53**	**83**	*e*Pb		Pb	04 03 04.6	+1.0
AGG	**Agios Georgios**	**1.81**	**101**	*e*PN		Pn	04 03 09.0	+2.4
AGG	**Agios Georgios**	**1.81**	**101**	*e*Pn		Pn	04 03 09.0	+2.4
LIT	**Litokhoron**	**2.01**	**69**	*e*PN		Pn	04 03 12.4	+3.0
LIT	**Litokhoron**	**2.01**	**69**	*e*Pn		Pn	04 03 12.4	+3.0
STON	**Ston**	**3.91**	**334**	*e*Pn		Pn	04 03 33.1	-2.3
STON				Sn		Sn	04 04 17.2	-4.4

IDC 16 04:13:00.4±2.2, **20°29S**×**177°51W**, **h565**km±30km, **mb3.1**/5, **mb1 3.3**/6, **mb1mx3.1**/16, **mbtmp3.2**/6, **Error ellipse: s-maj=69.0km s-min=17.6km az=142.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**8.38**	**42**	P		P	04 15 01.5	-1.0
	3.5nm,0.3s,baz=160,slow=18,SNR=5.8							
AFI				S		S	04 16 35.0	-7.5
	2.5nm,0.3s,baz=120,slow=17,SNR=2.8							
STKA	**Stephens Creek**	**38.29**	**244**	P		P	04 19 34.0	+0.6
	2.0nm,0.8s,baz=88,slow=7.5,SNR=5.4							
ASAR	**Alice Springs**	**45.01**	**256**	P		P	04 20 26.5	+0.1
	1.1nm,0.5s,baz=92,slow=7.8,SNR=26							
ASAR				S		S	04 26 24.1	-0.4
	0.5nm,0.9s,baz=90,slow=15,SNR=4.4							
WRA	**Warramunga Arr**	**45.08**	**262**	P		P	04 20 26.6	-0.4
	0.7nm,0.3s,baz=97,slow=7.3,SNR=16							
MJAR	**Matsushiro Arr**	**70.31**	**323**	P		P	04 23 17.9	+0.3
	1.5nm,0.5s,baz=161,slow=5.5,SNR=6.4							
ILAR	**Eielson Array**	**88.01**	**13**	P		P	04 24 50.9	+0.5
	0.3nm,0.4s,baz=219,slow=5.4,SNR=10							
AKASG	**Malin Array Be**	**143.05**	**332**	PKP		PKPdf	04 31 28.3	-1.9
	1.3nm,0.5s,baz=45,slow=4.7,SNR=6.7							

*HLW **16** 04:15:58.9, 34°.96N×24°.89E, h33km±21km, Md3.9, Ml4.0*
*ISCJB **16** 04:15:59.3±0.5, 34°.65N±0°.02×25°.05E±0°.03, h13km±3km, mb3.8/17, Error ellipse: s-maj=4.5km s-min=2.9km az=42.9*
*CSEM **16** 04:16:00.7±0.2, 34°.67N×25°.03E, h10km, mb3.9/7, Ms2.5, Error ellipse: s-maj=4.9km s-min=3.5km az=39.0*
*ATH **16** 04:16:01.3, 34°.75N×24°.99E, h19km±1km, MD3.6/10*
*THE **16** 04:16:02.4, 34°.80N×24°.99E, h0km±3km, ML3.6/2, Error ellipse: s-maj=5.6km s-min=1.5km az=171.0*
*NEIC **16** 04:16:04.4±0.9, 34°.71N×24°.91E, h45km±8km, mb3.9/6, Error ellipse: s-maj=10.7km s-min=7.6km az=193.0*
*IDC **16** 04:16:04.9±2.2, 34°.77N×25°.01E, h48km±24km, mb3.6/10, mb1 3.8/15, mb1mx3.7/31, mbtmp3.7/15, ML4.0/4, MS2.6/2, Ms1 2.6/2, ms1mx2.0/42, Error ellipse: s-maj=19.7km s-min=16.4km az=4.0*
*MOS **16** 04:16:05.5±1.2, 34°.87N×24°.99E, h57km, mb4.3/3, Error ellipse: s-maj=15.6km s-min=8.1km az=77.5*
ISC 16 04:16:00.5±0.6, **34°66N**±0°.02×**25°01E**±0°.03, **h7**km±3km, **n223**, σ1**9**04/253, **mb3.8**/17, **Crete**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIVA	**Sivas**	**0.39**	**335**	*e*PB		**Pg**	**04 16 07.8**	**-0.3**
SIVA				*e*SB		**Sg**	**04 16 12.7**	**-0.6**
SIVA	**Sivas**	**0.39**	**335**	P		**Pg**	**04 16 07.6**	**-0.5**
SIVA				S		**Sg**	**04 16 12.6**	**-0.7**
SIVA	**Sivas**	**0.39**	**335**	*e*Pb		**Pg**	**04 16 07.8**	**-0.3**
SIVA				*e*Sb		**Sg**	**04 16 12.7**	**-0.6**
LAST	**Lasithi**	**0.63**	**38**	*e*PN		**Pg**	**04 16 12.3**	**-0.4**
LAST				*e*SN		**Sg**	**04 16 21.1**	**+0.2**
LAST	**Lasithi**	**0.63**	**38**	P		**Pg**	**04 16 12.0**	**-0.7**
LAST				S		**Sg**	**04 16 21.0**	**+0.1**
LAST	**Lasithi**	**0.63**	**38**	P		**Pg**	**04 16 12.0**	**-0.7**
LAST	**Lasithi**	**0.63**	**38**	*e*Pn		**Pg**	**04 16 12.3**	**-0.4**
LAST				S		**Sg**	**04 16 21.0**	**+0.1**
GVD	**Gavdhos**	**0.78**	**283**	*e*PN		**Pg**	**04 16 15.6**	**+0.1**
GVD				*e*SN		**Sg**	**04 16 27.0**	**+1.4**
GVD	**Gavdhos**	**0.78**	**283**	*e*Pn		**Pg**	**04 16 15.8**	**+0.3**
GVD				*e*Sn		**Sg**	**04 16 22.1**	**-3.5**
GVD	**Gavdhos**	**0.78**	**283**	P		**Pg**	**04 16 15.5**	**0.0**
GVD				S		**Sg**	**04 16 27.7**	**+2.1**
GVD	**Gavdhos**	**0.78**	**283**	P		**Pg**	**04 16 15.5**	**0.0**
GVD				S		**Sg**	**04 16 27.7**	**+2.1**
NPS	**Neapolis**	**0.78**	**40**	*e*PB		**Pg**	**04 16 14.7**	**-0.8**
NPS				*e*SN		**Sg**	**04 16 25.6**	**0.0**
NPS	**Neapolis**	**0.78**	**40**	P		**Pg**	**04 16 14.8**	**-0.7**
NPS				S		**Sg**	**04 16 25.5**	**-0.1**
NPS	**Neapolis**	**0.78**	**40**	P		**Pg**	**04 16 14.8**	**-0.7**
NPS				S		**Sg**	**04 16 25.5**	**-0.1**
VAM	**Vamos**	**0.99**	**318**	*e*PB		**Pg**	**04 16 18.4**	**-1.2**
VAM				*e*SN		**Sg**	**04 16 32.9**	**+0.3**
VAM	**Vamos**	**0.99**	**318**	P		**Pg**	**04 16 17.9**	**-1.8**
VAM				S		**Sg**	**04 16 32.1**	**-0.5**
VAM	**Vamos**	**0.99**	**318**	P		**Pg**	**04 16 17.9**	**-1.8**
VAM	**Vamos**	**0.99**	**318**	*e*Pb		**Pg**	**04 16 18.4**	**-1.2**
VAM				S		**Sg**	**04 16 32.1**	**-0.5**
VAM				*e*Sn		**Sg**	**04 16 32.9**	**+0.3**
KARN	**Karanos**	**1.16**	**310**	*e*PB		**Pb**	**04 16 21.4**	**-1.5**
KARN				*e*SN		**Sn**	**04 16 38.0**	**-1.2**
KARN	**Karanos**	**1.16**	**310**	P		**Pg**	**04 16 20.9**	**-1.9**
KARN				S		**Sg**	**04 16 38.6**	**+0.8**
KARN	**Karanos**	**1.16**	**310**	*e*Pb		**Pb**	**04 16 21.4**	**-1.5**
KARN				*e*Sn		**Sn**	**04 16 38.0**	**-1.2**
KARN				S		**Sg**	**04 16 38.6**	**+0.8**
THR1	**Thera Island**	**1.74**	**12**	P		**Pn**	**04 16 30.4**	**-0.7**
THR1	**Thera Island**	**1.74**	**12**	P		**Pn**	**04 16 30.4**	**-0.7**
THR2	**Thira island,**	**1.81**	**11**	P		**Pn**	**04 16 31.7**	**-0.4**
THR2	**Thira island,**	**1.81**	**11**	P		**Pn**	**04 16 31.7**	**-0.4**
KARP	**Karpathos**	**1.97**	**63**	*e*PN		**Pn**	**04 16 36.7**	**+2.4**
KARP	**Karpathos**	**1.97**	**63**	P		**Pn**	**04 16 36.8**	**+2.5**
KARP	**Karpathos**	**1.97**	**63**	*e*Pn		**Pn**	**04 16 36.7**	**+2.4**
KYTH	**Kithira**	**2.28**	**316**	P		**Pn**	**04 16 39.3**	**+0.8**
KYTH	**Kithira**	**2.28**	**316**	P		**Pn**	**04 16 39.3**	**+0.8**
APE	**Apeiranthos**	**2.44**	**10**	*e*PB		**Pn**	**04 16 40.6**	**-0.1**
APE	**Apeiranthos**	**2.44**	**10**	P		**Pn**	**04 16 40.5**	**-0.2**
APE	**Apeiranthos**	**2.44**	**10**	P		**Pn**	**04 16 40.6**	**-0.2**
VLI	**Veliai**	**2.65**	**321**	*e*PB		**Pn**	**04 16 44.7**	**+1.0**
VLI	**Veliai**	**2.65**	**321**	P		**Pn**	**04 16 44.5**	**+0.8**
VLI	**Veliai**	**2.65**	**321**	P		**Pn**	**04 16 44.5**	**+0.8**
ARG	**Arkhangelos**	**2.98**	**58**	*e*PN		**Pn**	**04 16 50.4**	**+2.2**
ARG	**Arkhangelos**	**2.98**	**58**	P		**Pn**	**04 16 50.2**	**+2.0**
ARG	**Arkhangelos**	**2.98**	**58**	P		**Pn**	**04 16 50.2**	**+2.0**
SLUM		**3.17**	**177**	P		**Pn**	**04 16 50.5**	**-0.2**
	baz=175							
SLUM				S		**Sn**	**04 17 29.3**	**+0.6**
	baz=175							
SLUM		**3.17**	**177**	P		**Pn**	**04 16 51.6**	**+0.9**
SLUM				S		**Sn**	**04 17 29.2**	**+0.5**
DID	**Didima**	**3.18**	**334**	*e*PN		**Pn**	**04 16 50.8**	**-0.1**
DID	**Didima**	**3.18**	**334**	P		**Pn**	**04 16 52.0**	**+1.1**
DID				S		**Sn**	**04 17 30.0**	**+1.0**
DID	**Didima**	**3.18**	**334**	*e*Pn		**Pn**	**04 16 50.8**	**-0.1**
DID	**Didima**	**3.18**	**334**	P		**Pn**	**04 16 52.0**	**+1.1**
DID				S		**Sn**	**04 17 30.0**	**+1.0**
NAIG	**Nisos Aigina**	**3.32**	**339**	*e*PN		**Pn**	**04 16 53.6**	**+0.7**
NAIG	**Nisos Aigina**	**3.32**	**339**	*e*Pn		**Pn**	**04 16 53.6**	**+0.7**
VLY	**Voula,Athens**	**3.33**	**343**	*e*PN		**Pn**	**04 16 54.0**	**+1.0**
VLY	**Voula,Athens**	**3.33**	**343**	P		**Pn**	**04 16 53.7**	**+0.7**
VLY	**Voula,Athens**	**3.33**	**343**	P		**Pn**	**04 16 53.7**	**+0.7**
VLY	**Voula,Athens**	**3.33**	**343**	*e*Pn		**Pn**	**04 16 54.0**	**+1.0**
SMG	**Samos**	**3.38**	**25**	*e*PN		**Pn**	**04 16 54.4**	**+0.7**
SMG	**Samos**	**3.38**	**25**	*e*Pn		**Pn**	**04 16 54.4**	**+0.7**
VLX	**Vlachokerasia**	**3.44**	**323**	P		**Pn**	**04 16 55.0**	**+0.5**
VLX	**Vlachokerasia**	**3.44**	**323**	P		**Pn**	**04 16 55.0**	**+0.5**
PTL	**Penteli**	**3.50**	**345**	*e*PN		**Pn**	**04 16 56.3**	**+1.0**
PTL	**Penteli**	**3.50**	**345**	P		**Pn**	**04 16 56.0**	**+0.7**
PTL	**Penteli**	**3.50**	**345**	P		**Pn**	**04 16 56.0**	**+0.7**
PTL	**Penteli**	**3.50**	**345**	*e*Pn		**Pn**	**04 16 56.3**	**+1.0**
ITM	**Ithomi**	**3.54**	**316**	*e*PN		**Pn**	**04 16 56.9**	**+1.0**
ITM	**Ithomi**	**3.54**	**316**	*e*Pn		**Pn**	**04 16 56.9**	**+1.0**
LTK	**Loutraki**	**3.74**	**334**	*e*PN		**Pn**	**04 16 59.9**	**+1.4**
LTK	**Loutraki**	**3.74**	**334**	P		**Pn**	**04 17 00.0**	**+1.5**
LTK	**Loutraki**	**3.74**	**334**	*e*Pn		**Pn**	**04 16 59.9**	**+1.4**
GUR	**Goura**	**3.91**	**327**	*e*PN		**Pn**	**04 17 02.6**	**+1.6**
GUR	**Goura**	**3.91**	**327**	P		**Pn**	**04 17 02.5**	**+1.5**
GUR				S		**Sn**	**04 17 47.7**	**+0.6**
GUR	**Goura**	**3.91**	**327**	P		**Pn**	**04 17 02.5**	**+1.5**
GUR				S		**Sn**	**04 17 47.7**	**+0.6**
HMAT	**Matruh**	**3.97**	**153**	P		**Pn**	**04 17 01.5**	**-0.3**
	baz=153							
HMAT				S		**Sn**	**04 17 48.9**	**+0.4**
	baz=153							
HMAT	**Matruh**	**3.97**	**153**	P		**Pn**	**04 17 02.8**	**+1.1**
HMAT				S		**Sn**	**04 17 48.9**	**+0.4**
LKR	**Lokris**	**4.29**	**339**	*e*PN		**Pn**	**04 17 07.2**	**+1.0**
LKR	**Lokris**	**4.29**	**339**	P		**Pn**	**04 17 07.0**	**+0.8**
LKR	**Lokris**	**4.29**	**339**	P		**Pn**	**04 17 07.0**	**+0.8**
SWA2		**5.42**	**176**	P		**Pn**	**04 17 21.9**	**+0.2**
	baz=175							
SWA2				AMP			04 18 00.0	
	comp=N,130μm,0.5s,logA/T=5.4,baz=175							
SWA2				S		**Sn**	**04 18 24.3**	**0.0**
	baz=175							
SWA2		**5.42**	**176**	P		**Pn**	**04 17 21.9**	**+0.2**
THL	**Klokotos Trika**	**5.45**	**335**	*e*PN		**Pn**	**04 17 23.6**	**+1.6**
THL	**Klokotos Trika**	**5.45**	**335**	*e*Pn		**Pn**	**04 17 23.6**	**+1.6**
HBRG	**Burj al 'Arab**	**5.76**	**134**	P		**Pn**	**04 17 26.5**	**+0.1**
	baz=135							
PLG	**Polygyros**	**5.83**	**348**	*e*PN		**Pn**	**04 17 28.1**	**+0.7**
PLG	**Polygyros**	**5.83**	**348**	*e*Pn		**Pn**	**04 17 28.1**	**+0.7**
CSS	**Prodhromos**	**6.85**	**85**	*e*Pn		**Pn**	**04 17 43.5**	**+2.2**
CSS				*e*Sn		**Sn**	**04 18 53.6**	**-6.0**
CSS	**Prodhromos**	**6.85**	**85**	*e*Pn		**Pn**	**04 17 43.5**	**+2.1**
HNAT	**Natroun**	**6.91**	**135**	P		**Pn**	**04 17 42.6**	**+0.4**
	baz=136							
AWBH		**7.14**	**151**	P		**Pn**	**04 17 45.7**	**+0.3**
	baz=151							
AWBH		**7.14**	**151**	P		**Pn**	**04 17 45.7**	**+0.3**
AYT	**Al 'Ayyat**	**7.18**	**132**	P		**Pn**	**04 17 45.9**	**+0.1**
	baz=133							
AYT	**Al 'Ayyat**	**7.18**	**132**	P		**Pn**	**04 17 45.9**	**0.0**
KOT	**Kottamia**	**7.46**	**127**	P		**Pn**	**04 17 49.5**	**-0.2**
	baz=128							
KOT	**Kottamia**	**7.46**	**127**	P		**Pn**	**04 17 49.4**	**-0.3**
GLL	**Jalalah**	**7.62**	**130**	P		**Pn**	**04 17 51.9**	**+0.1**
	baz=131							
GLL	**Jalalah**	**7.62**	**130**	P		**Pn**	**04 17 50.6**	**-1.2**
AMAG	**Maghara**	**7.99**	**118**	P		**Pn**	**04 17 56.8**	**-0.2**
	baz=119							
BR131	**Keskin Array S**	**8.54**	**51**	*e*Pn		**Pn**	**04 18 04.6**	**+0.1**
	comp=N,1.7nm,0.7s							
BR131	**Keskin Array S**	**8.54**	**51**	*e*Pn		**Pn**	**04 18 04.6**	**+0.1**
	comp=N,1.6nm,0.7s							
BRTR	**Keskin Array B**	**8.54**	**51**	P		**Pn**	**04 18 05.0**	**+0.5**
	comp=N,0.1nm,0.3s,baz=222,slow=12,SNR=7.5							
BRTR	**Keskin Array B**	**8.54**	**51**	P		**Pn**	**04 18 05.0**	**+0.5**
BRTR	**Keskin Array B**	**8.54**	**51**	P		**Pn**	**04 18 05.0**	**+0.5**
BRTR	**Keskin Array B**	**8.54**	**51**	P		**Pn**	**04 18 05.0**	**+0.5**
MMAI	**Mount Meron Ar**	**8.80**	**98**	P		**Pn**	**04 18 08.9**	**+0.7**
	comp=N,1.6nm,0.3s,baz=289,slow=10,SNR=5.4							
MMAI				S		**Sn**	**04 19 47.3**	**-0.2**
	comp=N,4.7nm,0.3s,baz=165,slow=16,SNR=9.4							
HNKL	**Nakhl**	**8.94**	**119**	P		**Pn**	**04 18 10.7**	**+0.7**
	baz=120							
EIL	**Elat**	**9.79**	**118**	P		**Pn**	**04 18 25.5**	**+3.9**
	comp=N,1.0nm,0.3s,baz=239,slow=6.4,SNR=4.3							
EIL				S		**Sn**	**04 20 07.8**	**-4.0**
	comp=N,1.9nm,0.3s,baz=358,slow=17,SNR=6.6							
EIL	**Elat**	**9.79**	**118**	P		**Pn**	**04 18 25.5**	**+3.9**
EIL				S		**Sn**	**04 20 07.8**	**-4.0**
HKAT	**Jabal Katrina**	**9.80**	**126**	P		**Pn**	**04 18 20.4**	**-1.5**
STON	**Ston**	**9.98**	**327**	*i* Pn		**Pn**	**04 18 22.5**	**-1.7**
STON				Sn		**Sn**	**04 20 04.9**	**-12**
STON	**Ston**	**9.98**	**327**	*i* Pn		**Pn**	**04 18 22.5**	**-1.8**
MLR	**Muntele Rosu**	**10.84**	**4**	LR		LR	04 23 26.8	
	comp=N,19nm,18.7s,baz=122,slow=41							
NVLJ	**Novalja**	**12.59**	**325**	*e*Pn		**Pn**	**04 18 58.9**	**-1.0**
NVLJ				Sn		**Sn**	**04 21 09.8**	**-11**
NVLJ	**Novalja**	**12.59**	**325**	*e*Pn		**Pn**	**04 18 58.9**	**-1.0**
PSZ	**Piszkesteto**	**13.79**	**345**	*e*Pn		**Pn**	**04 19 16.3**	**+0.1**
PSZ	**Piszkesteto**	**13.79**	**345**	*e*P		**Pn**	**04 19 16.3**	**+0.1**
PSZ	**Piszkesteto**	**13.79**	**345**	*e*P		**Pn**	**04 19 16.3**	**+0.1**
MORC	**Moravsky Berou**	**16.07**	**342**	*e*Pn		**Pn**	**04 19 47.5**	**+0.8**
MORC	**Moravsky Berou**	**16.07**	**342**	*e*P		**Pn**	**04 19 47.5**	**+0.7**
MORC	**Moravsky Berou**	**16.07**	**342**	*e*Pn		**Pn**	**04 19 47.5**	**+0.7**
KIEV	**Kiev**	**16.31**	**10**	*e*Pn		**Pn**	**04 19 50.2**	**+0.3**
	comp=N,9.4nm,0.8s							
KIEV	**Kiev**	**16.31**	**10**	*e*P		**Pn**	**04 19 50.2**	**+0.3**
KIEV				pmax		pmax		
	comp=Z,9.0nm,0.8s							
KIEV	**Kiev**	**16.31**	**10**	*e*Pn		**Pn**	**04 19 50.2**	**+0.3**
	comp=Z,9.4nm,0.8s							
AKASG	**Malin Array Be**	**16.32**	**10**	P		**Pn**	**04 19 49.8**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=200,slow=11,SNR=10							
AKASG	**Malin Array Be**	**16.32**	**10**	P		**Pn**	**04 19 49.8**	**-0.2**
AKASG	**Malin Array Be**	**16.32**	**10**	P		**Pn**	**04 19 49.8**	**-0.2**
AKBB	**Malin Array Si**	**16.32**	**10**	*e*Pn		**Pn**	**04 19 50.1**	**+0.2**
AKBB	**Malin Array Si**	**16.32**	**10**	*e*P		**Pn**	**04 19 50.1**	**+0.1**
AKBB	**Malin Array Si**	**16.32**	**10**	*e*Pn		**Pn**	**04 19 50.1**	**+0.1**
GERES	**GERESS Array B**	**16.46**	**333**	P		**Pn**	**04 19 53.0**	**+1.1**
	comp=Z,2nm,0.3s,baz=146,slow=12,SNR=15							
GERES	**GERESS Array B**	**16.46**	**333**	P		**Pn**	**04 19 53.0**	**+1.1**
GERES	**GERESS Array B**	**16.46**	**333**	P		**Pn**	**04 19 53.0**	**+1.2**
GERES	**GERESS Array B**	**16.46**	**333**	P		**Pn**	**04 19 53.0**	**+1.2**
KIV	**Kislovodsk**	**16.50**	**51**	*e*Pn		**Pn**	**04 19 55.6**	**+3.2**
	comp=Z,14nm,1.0s							
KIV	**Kislovodsk**	**16.50**	**51**	*e*P		**Pn**	**04 19 55.2**	**+2.8**
KIV				pmax		pmax		
	comp=Z,16nm,1.1s							
KIV				MLR		MLR		
	comp=Z,12nm,12.0s							
KIV	**Kislovodsk**	**16.50**	**51**	*e*P		**Pn**	**04 19 55.2**	**+2.8**
	comp=Z,12nm,12.0s							
DAVOX	**Davos/Dischmat**	**16.64**	**321**	LR		LR	04 26 34.5	
	comp=Z,28nm,18.6s,baz=272,slow=38							
KHC	**Kasperske Hory**	**16.75**	**333**	*e

MK31	Makanchi Array	44.15	56	*e*P		P	04 24 08.3	-1.3
MK31	Makanchi Array	44.15	56	*e*P		P	04 24 08.4	-1.2
MK31	Makanchi Array	44.15	56	*e*P		P	04 24 08.4	-1.2
MKAR	Makanchi Array	44.15	56	P		P	04 24 08.6	-1.0
	comp=Z,3.0nm,0.8s,mb4.1,baz=276,slow=6.5,SNR=20							
MKAR	Makanchi Array	44.15	56	P		P	04 24 08.6	-1.0
MKAR	Makanchi Array	44.15	56	P		P	04 24 08.6	-1.0
MKAR	Makanchi Array	44.15	56	P		P	04 24 08.6	-1.0
NVS	Novosibirsk	44.53	45	*e*P		P	04 24 07.8	-4.7
ZALV	Zalesovo Beam	45.44	46	P		P	04 24 18.2	-1.5
	comp=Z,0.9nm,0.6s,mb3.8,baz=261,slow=8.8,SNR=5.8							
ZALV	Zalesovo Beam	45.44	46	P		P	04 24 18.2	-1.3
ZALV	Zalesovo Beam	45.44	46	P		P	04 24 18.3	-1.4
ZALV	Zalesovo Beam	45.44	46	P		P	04 24 18.3	-1.4
SONM	Songino Array	59.90	50	P		P	04 26 04.9	-2.0
	comp=Z,0.6nm,0.6s,mb3.8,baz=273,slow=6.9,SNR=3.7							
SONM	Songino Array	59.90	50	P		P	04 26 04.9	-2.0
SONM	Songino Array	59.90	50	P		P	04 26 04.9	-2.0
SONM	Songino Array	59.90	50	P		P	04 26 04.9	-2.0
ILAR	Eielson Array	80.69	356	P		P	04 28 12.2	-1.6
	comp=Z,0.2nm,0.8s,mb3.1,baz=11,slow=2.8,SNR=5.2							
ILAR	Eielson Array	80.69	356	P		P	04 28 12.2	-1.6
ILAR	Eielson Array	80.69	356	P		P	04 28 12.2	-1.6
ILAR	Eielson Array	80.69	356	P		P	04 28 12.2	-1.6
WRA	Warramunga Arr	116.66	97	PKP		PKPdf	04 34 44.5	-1.3
	comp=Z,0.2nm,0.7s,baz=311,slow=1.8,SNR=2.7							
WRA	Warramunga Arr	116.66	97	PKP		PKPdf	04 34 44.5	-1.2
WRA	Warramunga Arr	116.66	97	PKIKP		PKPdf	04 34 44.5	-1.3
WRA	Warramunga Arr	116.66	97	PKIKP		PKPdf	04 34 44.5	-1.3

THE **16** *04:23:32.7, 38.24N 22.21E, 0.0km 3.3km, ML 3.1/6, Error ellipse: s-maj=3.3km s-min=0.8km az=210.0*
ATH **16** *04:23:32.2, 38.24N 22.17E, 1.21km 1.1km, ML 2.9*
IDC **16** *04:23:32.2 1.4, 38.00N 22.48E, 10.0km, mb3.5/5, mb1 3.6/6, mb1mx3.4/26, mbtmp3.5/6, ML 2.8/1, MS 3.0/2, Ms1 3.0/2, ms1mx2.1/35, Error ellipse: s-maj=35.3km s-min=21.3km az=137.0*
CSEM **16** *04:23:32.5 0.1, 38.24N 22.22E, 5.0km, ML 3.1/6, Error ellipse: s-maj=3.1km s-min=2.7km az=62.0*
ISCJB **16** *04:23:32.4 0.3, 38.23N 0.02 22.20E 0.02, 8.0km 3km, mb3.6/4, Error ellipse: s-maj=3.3km s-min=2.8km az=41.6*
NEIC **16** *04:23:37.5 1.0, 38.07N 22.29E, 35.0km, Error ellipse: s-maj=22.3km s-min=14.4km az=156.0*

ISC 16 04:23:33.0 0.3, 38°24N 0.02 22°20E 0.02, 8 km 3 km, n109, 0 89/140, mb 3.6/4, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	Kalithea	0.16	344	P	Pg	04 23 36.3	0.0
KALE				S	Sg	04 23 39.1	+0.5
KALE	Kalithea	0.16	344	P	Pg	04 23 36.3	0.0
KALE				S	Sg	04 23 39.1	+0.5
LAKA	Lakka	0.17	271	P	Pg	04 23 36.6	+0.1
LAKA				S	Sg	04 23 39.1	+0.2
LAKA	Lakka	0.17	271	P	Pg	04 23 36.6	+0.1
LAKA				S	Sg	04 23 39.1	+0.2
EFP	Efpalio	0.30	310	*e*PB	Pg	04 23 38.8	0.0
EFP				*e*SB	Sg	04 23 43.8	+1.1
EFP	Efpalio	0.30	310	P	Pg	04 23 38.8	0.0
EFP	Efpalio	0.30	310	P	Pg	04 23 38.8	0.0
EFP				S	Sg	04 23 43.7	+1.0
DSF	Desfina	0.31	56	P	Pg	04 23 38.7	-0.4
DSF				S	Sg	04 23 43.6	+0.3
DSF	Desfina	0.31	56	P	Pg	04 23 38.8	-0.3
DSF				S	Sg	04 23 43.0	-0.3
GUR	Goura	0.32	159	*e*PB	Pg	04 23 39.1	-0.2
GUR				*e*SB	Sg	04 23 44.2	+0.6
GUR	Goura	0.32	159	P	Pg	04 23 39.1	-0.2
GUR				S	Sg	04 23 43.9	+0.3
GUR	Goura	0.32	159	P	Pg	04 23 39.0	-0.3
GUR				S	Sg	04 23 43.9	+0.3
GUR				*e*Sb	Sg	04 23 44.2	+0.6
UPR	University Cam	0.33	278	*e*PB	Pg	04 23 39.6	+0.3
UPR				*e*SB	Sg	04 23 44.0	+0.3
UPR	University Cam	0.33	278	P	Pg	04 23 39.5	+0.2
UPR	University Cam	0.33	278	P	Pg	04 23 39.5	+0.2
UPR				S	Sg	04 23 44.1	+0.4
LTK	Loutraki	0.65	109	*e*PN	Pg	04 23 45.2	-0.2
LTK				*e*SN	Sg	04 23 54.6	+0.8
LTK	Loutraki	0.65	109	P	Pg	04 23 45.0	-0.4
LTK	Loutraki	0.65	109	P	Pg	04 23 45.0	-0.4
LTK				S	Sg	04 23 53.1	-0.7
EVR	Evrytania	0.74	336	*e*PN	Pg	04 23 46.7	-0.6
EVR	Evrytania	0.74	336	P	Pg	04 23 46.8	-0.5
EVR	Evrytania	0.74	336	P	Pg	04 23 46.8	-0.5
LKR	Lokris	0.75	57	*e*PB	Pg	04 23 46.3	-1.2
LKR				*e*SN	Sg	04 23 58.1	+0.8
LKR	Lokris	0.75	57	P	Pg	04 23 46.0	-1.5
LKR	Lokris	0.75	57	P	Pg	04 23 46.1	-1.5
LKR	Lokris	0.75	57	*e*Pb	Pg	04 23 46.3	-1.2
AGG	Agios Georgios	0.79	8	*e*PB	Pg	04 23 47.0	-1.2
AGG				*e*SN	Sg	04 23 58.4	-0.1
AGG	Agios Georgios	0.79	8	P	Pg	04 23 46.9	-1.3
AGG				S	Sg	04 23 58.3	-0.1
AGG	Agios Georgios	0.79	8	*e*Pb	Pg	04 23 47.0	-1.2
AGG				S	Sg	04 23 58.3	-0.1
ATAL	Atalanti	0.79	55	P	Pg	04 23 47.1	-1.1
ATAL				S	Sg	04 23 59.5	+1.0
ATAL	Atalanti	0.79	55	P	Pg	04 23 47.1	-1.1
ATAL				S	Sg	04 23 59.5	+1.0
VLX	Vlachokerasia	0.88	170	*e*PN	Pg	04 23 48.8	-1.0
VLX				*e*SN	Sg	04 24 02.2	+1.0
VLX	Vlachokerasia	0.88	170	P	Pg	04 23 48.8	-1.0
VLX				S	Sg	04 24 01.2	0.0
VLX	Vlachokerasia	0.88	170	P	Pg	04 23 48.8	-1.0
VLX				S	Sg	04 24 01.2	0.0
VLX				*e*Sn	Sg	04 24 02.2	+1.0
ITM	Ithomi	1.08	191	*e*PN	Pg	04 23 52.5	-1.1
ITM	Ithomi	1.08	191	P	Pg	04 23 52.5	-1.1
ITM	Ithomi	1.08	191	P	Pg	04 23 52.5	-1.1
DID	Didima	1.10	131	*e*PN	Pg	04 23 53.4	-0.7
DID				*e*SN	Sg	04 24 09.5	+1.1
DID	Didima	1.10	131	P	Pg	04 23 53.4	-0.7
DID	Didima	1.10	131	P	Pg	04 23 53.4	-0.7
DID				S	Sg	04 24 08.5	+0.1
DID				*e*Sn	Sg	04 24 09.5	+1.1
KFL	Anninata	1.12	264	P	Pg	04 23 54.0	-0.4
KFL	Anninata	1.12	264	P	Pg	04 23 54.0	-0.4
NAIG	Nisos Aigina	1.13	115	*e*PN	Pg	04 23 54.7	+0.1
NAIG	Nisos Aigina	1.13	115	*e*Pn	Pg	04 23 54.7	+0.1
ATH	Athens Observa	1.23	102	*e*PN	Pn	04 23 56.5	+0.1
ATH				*e*SN	Sn	04 24 13.0	-0.2
ATH	Athens Observa	1.23	102	P	Pn	04 23 56.1	-0.3
ATH	Athens Observa	1.23	102	P	Pn	04 23 56.1	-0.3
ATH	Athens Observa	1.23	102	*e*Pn	Pn	04 23 56.5	+0.1
ATH				*e*Sn	Sn	04 24 13.0	-0.2
VLS	Valsamata	1.27	268	*e*PN	Pn	04 23 56.0	-0.9
VLS	Valsamata	1.27	268	*e*Pn	Pn	04 23 56.0	-0.9
VLY	Voula,Athens	1.32	106	*e*PN	Pn	04 23 57.5	-0.2
VLY	Voula,Athens	1.32	106	P	Pn	04 23 57.6	-0.1
VLY	Voula,Athens	1.32	106	*e*Pn	Pn	04 23 57.5	-0.2
PTL	Penteli	1.33	98	*e*PN	Pn	04 23 57.7	-0.1
PTL	Penteli	1.33	98	*e*Pn	Pn	04 23 57.7	-0.1
THL	Klokotos Trika	1.33	354	*e*PN	Pn	04 23 57.7	-0.2
THL	Klokotos Trika	1.33	354	P	Pn	04 23 57.9	0.0
THL	Klokotos Trika	1.33	354	P	Pn	04 23 57.9	0.0
NEO	Neokhori	1.34	37	*e*PN	Pn	04 23 57.6	-0.3
NEO	Neokhori	1.34	37	*e*Pn	Pn	04 23 57.6	-0.3
PYL	PYLOS	1.39	195	*e*PN	Pn	04 23 57.7	-0.9
PYL	PYLOS	1.39	195	P	Pn	04 23 58.1	-0.5
PYL	PYLOS	1.39	195	*e*Pn	Pn	04 23 57.7	-0.9
PYL	PYLOS	1.39	195	P	Pn	04 23 58.1	-0.5
DYR	Agios Nikonas	1.48	176	P	Pn	04 23 59.3	-0.5
VLI	Veliai	1.63	159	*e*PN	Pn	04 24 01.8	-0.1
VLI	Veliai	1.63	159	P	Pn	04 24 01.8	-0.1
VLI	Veliai	1.63	159	P	Pn	04 24 01.8	-0.1
JAN	Janina	1.76	324	P	Pn	04 24 06.1	+2.3
JAN	Janina	1.76	324	P	Pn	04 24 06.1	+2.3
LIT	Litokhoron	1.87	7	*e*PN	Pn	04 24 05.2	-0.1
LIT	Litokhoron	1.87	7	P	Pn	04 24 04.8	-0.5
LIT	Litokhoron	1.87	7	P	Pn	04 24 04.8	-0.5
LIT	Litokhoron	1.87	7	*e*Pn	Pn	04 24 05.2	-0.1
KYTH	Kithira	2.07	161	*e*PN	Pn	04 24 09.8	+1.9
KYTH	Kithira	2.07	161	P	Pn	04 24 09.1	+1.2
KYTH	Kithira	2.07	161	P	Pn	04 24 09.1	+1.2
KYTH	Kithira	2.07	161	*e*Pn	Pn	04 24 09.8	+1.9
KZN	Kozani	2.09	351	*e*PN	Pn	04 24 09.6	+1.3
KZN	Kozani	2.09	351	*e*Pn	Pn	04 24 09.6	+1.3
SOH	Sokhos	2.73	19	*e*PN	Pn	04 24 17.5	+0.4
SOH	Sokhos	2.73	19	*e*Pn	Pn	04 24 17.5	+0.4
CHOS	Chios island	3.04	86	*e*PN	Pn	04 24 21.8	+0.5
CHOS	Chios island	3.04	86	*e*Pn	Pn	04 24 21.8	+0.5
ALN	Alexandroupoli	3.99	47	*e*PN	Pn	04 24 34.2	-0.1
ALN	Alexandroupoli	3.99	47	*e*Pn	Pn	04 24 34.2	-0.1
STON	Ston	5.76	325	*e*Pn	Pn	04 24 57.7	-0.9
STON				Sn	Sn	04 26 02.0	-2.8
STON	Ston	5.76	325	*e*Pn	Pn	04 24 57.7	-0.9
MLR	Muntele Rosu	7.77	20	Pn	Pn	04 25 30.8	+4.6
	0.0nm,0.3s,baz=203,slow=9.8,SNR=4.4						
MLR	Muntele Rosu	7.77	20	Pn	Pn	04 25 30.8	+4.6
NVLJ	Novalja	8.38	321	*i* Pn	Pn	04 25 34.1	-0.5
NVLJ				Sn	Sn	04 27 05.4	-3.9
NVLJ	Novalja	8.38	321	*i* Pn	Pn	04 25 34.1	-0.5
BRTR	Keskin Array B	9.04	77	Pn	Pn	04 25 46.6	+2.9
	0.1nm,0.3s,baz=267,slow=14,SNR=3.1						
BRTR	Keskin Array B	9.04	77	Pn	Pn	04 25 46.6	+2.9
MMAI	Mount Meron Ar	11.94	112	LR	LR	04 31 08.8	
	comp=Z,21nm,19.6s,baz=15,slow=39						
ESDC	Sonseca Array	20.38	282	P	P	04 28 12.1	+2.1
	0.6nm,0.7s,baz=76,slow=10,SNR=5.0						
ESDC	Sonseca Array	20.38	282	P	P	04 28 12.1	+2.1
ESDC	Sonseca Array	20.38	282	P	P	04 28 12.1	+2.1
HFS	Hagfors	22.57	349	P	P	04 28 36.9	+3.6
	3.7nm,0.8s,mb3.9,baz=158,slow=20,SNR=3.1						
HFS	Hagfors	22.57	349	P	P	04 28 36.9	+3.6
TORD	Torodi Ar. Bea	30.93	222	P	P	04 29 51.4	+1.1
	0.2nm,0.4s,mb3.3,baz=37,slow=8.8,SNR=6.0						
TORD	Torodi Ar. Bea	30.93	222	P	P	04 29 51.4	+1.1
TORD	Torodi Ar. Bea	30.93	222	P	P	04 29 51.4	+1.1
MKAR	Makanchi Array	44.15	59	P	P	04 31 41.6	-0.2
	0.4nm,0.4s,mb3.5,baz=277,slow=7.0,SNR=9.0						
MKAR	Makanchi Array	44.15	59	P	P	04 31 41.6	-0.2
MKAR	Makanchi Array	44.15	59	P	P	04 31 41.6	-0.2
ZALV	Zalesovo Beam	44.67	48	P	P	04 31 45.2	-0.7
	0.7nm,0.4s,mb3.8,baz=268,slow=8.4,SNR=5.1						
ZALV	Zalesovo Beam	44.67	48	P	P	04 31 45.2	-0.7
ZALV	Zalesovo Beam	44.67	48	P	P	04 31 45.2	-0.7
ASAJ	Asahikawa	81.92	39	LR	LR	05 15 40.2	
	comp=Z,24nm,18.9s,baz=225,slow=38						

ISCJB **16** *04:29:50.5 1.4, 17.1S 0.5 179.0W 0.3, h534km 23km, mb3.7/9, Error ellipse: s-maj=93.9km s-min=14.2km az=154.4*
IDC **16** *04:29:51.4 2.1, 17.2S 178.9W, h535km, 29km, mb3.2/8, mb1 3.6/9, mb1mx3.4/18, mbtmp3.3/9, Error ellipse: s-maj=72.7km s-min=12.7km az=152.0*
NEIC **16** *04:29:51.5 0.9, 17.1S 178.9W, h537km 13km, mb3.8/1, Error ellipse: s-maj=56.3km s-min=8.5km az=154.0*

ISC 16 04:29:51.5 1.4, 17.2S 179.0W 0.3, h535 km 21 km, n24, 0 8/28/20, mb 3.7/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.65	66	P	P	04 31 45.4	0.0
	3.7nm,0.3s,baz=238,slow=3.6,SNR=4.9						
AFI	Afiamalu	7.65	66	P	P	04 31 45.4	0.0
CTAO	Charters Tower	33.05	259	*e*P	P	04 35 43.0	0.0
	1.9nm,0.6s,mb3.8						
STKA	Stephens Creek	38.52	240	P	P	04 36 28.0	-0.2
	4.5nm,0.5s,mb4.3,baz=88,slow=9.0,SNR=20						
STKA	Stephens Creek	38.52	240	P	P	04 36 28.0	-0.2
WB2	Warramunga Arr	44.23	259	*e*P	P	04 37 13.4	-0.2
WRA	Warramunga Arr	44.25	259	P	P	04 37 13.4	-0.3
	1.3nm,0.5s,mb3.7,baz=92,slow=7.0,SNR=30						
WRA	Warramunga Arr	44.25	259	P	P	04 37 13.4	-0.3
ASAR	Alice Springs	44.48	254	P	P	04 37 15.6	+0.1
	15nm,0.5s,mb4.7,baz=89,slow=8.2,SNR=291						
ASAR	Alice Springs	44.48	254	P	P	04 37 15.6	+0.1
FITZ	Fitzroy Crossi	52.63	260	P	P	04 38 16.8	+0.8
	0.3nm,0.3s,mb3.1,baz=95,slow=4.6,SNR=9.0						
FITZ	Fitzroy Crossi	52.63	260	P	P	04 38 16.8	+0.8
NVAR	Mina Array Bea	79.26	44	P	P	04 41 01.3	-0.2
	0.6nm,0.6s,mb3.1,baz=222,slow=8.8,SNR=7.8						
NVAR	Mina Array Bea	79.26	44	P	P	04 41 01.3	-0.2
ILAR	Eielson Array	85.29	13	P	P	04 41 31.3	-0.1
	0.3nm,0.4s,mb3.2,baz=222,slow=5.3,SNR=23						
ILAR	Eielson Array	85.29	13	P	P	04 41 31.3	-0.1
TXAR	Lajitas Array	86.05	58	P	P	04 41 36.1	+0.3
	0.8nm,0.7s,mb3.5,baz=218,slow=6.4,SNR=11						
TXAR	Lajitas Array	86.05	58	P	P	04 41 36.1	+0.3
PDAR	Pinedale Array	87.19	44	P	P	04 41 40.8	-0.1
	0.7nm,0.6s,mb3.5,baz=231,slow=2.2,SNR=5.6						
PDAR	Pinedale Array	87.19	44	P	P	04 41 40.8	-0.1
GERES	GERESS Array B	146.76	345	PKPbc	PKPbc	04 48 33.5	0.0
	0.5nm,0.5s,baz=31,slow=3.1,SNR=7.7						
GERES	GERESS Array B	146.76	345	PKPbc	PKPbc	04 48 33.5	0.0
DAVOX	Davos/Dischmat	149.57	348	PKPbc	PKPbc	04 48 40.7	+0.1
	1.0nm,0.6s,baz=333,slow=12,SNR=5.5						
DAVOX	Davos/Dischmat	149.57	348	PKPbc	PKPbc	04 48 40.7	+0.1

NIED **16** *04:34:00, 42.80N 145.00E, h41km, Mw3.7 Best double couple: M 3.44000 10 14 NP1: 188.00000°, 90.00000°, -106.00000°. NP2: 98.00000°, 16.00000°, 0.00000°.*
IDC **16** *04:34:13.8 2.1, 42.86N 145.00E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.6/25, mbtmp3.7/6, ML 3.1/1, MS 2.5/1, Ms1 2.5/1, ms1mx1.9/43, Error ellipse: s-maj=48.2km s-min=24.7km az=144.0*
ISCJB **16** *04:34:17.5 0.7, 42.78N 0.05 145.06E 0.06, h50km 5km, mb3.8/9, Error ellipse: s-maj=9.6km s-min=5.6km az=139.1*
JMA **16** *04:34:18.8 0.1, 42.83N 145.01E, h47km 1km, M 3.7*
JMA Felt I J1.
NEIC **16** *04:34:19.8 1.5, 42.78N 145.06E, h55km 15km, mb3.9/5, Error ellipse: s-maj=18.9km s-min=15.5km az=148.0*

ISC 16 04:34:19.0 0.7, 42.83N 0.05 145.04E 0.06, h43 km 6 km, n28, 0 8/82/39, mb 3.8/9, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	Akkeshi	0.30	303	P	Pn	04 34 27.5	0.0
JAK				*e*S	Sn	04 34 33.8	+0.4
NEM2	Nemuro 2	0.74	44	P	Pn	04 34 32.8	-0.2
NEM2				*e*S	Sn	04 34 42.7	-0.5
JNK	Nakash	0.79	343	P	Pn	04 34 33.5	-0.1
JNK				*e*S	Sn	04 34 43.9	-0.4
JOB	Onbets	0.89	275	P	Pn	04 34 34.6	-0.4
JOB				*e*S	Sn	04 34 45.5	-1.2
JAR	Ashorobuto	1.04	297	P	Pn	04 34 36.8	-0.3
JAR				*e*S	Sn	04 34 49.4	-1.0
JRA	Rausu	1.11	3	P	Pn	04 34 38.1	+0.1
JRA				*e*S	Sn	04 34 52.1	+0.1
JCH	Churui	1.25	261	P	Pn	04 34 39.2	-0.8
JCH				*e*S	Sn	04 34 54.6	-1.1
JTKR	Abashiri--Toko	1.40	324	P	Pn	04 34 42.7	+0.6
JTKR				*e*S	Sn	04 35 00.4	+1.0
ERM	Erimo	1.61	240	*e*Pn	Pn	04 34 46.5	+1.5
ERM				*e*Sn	Sn	04 35 09.8	+5.3
ASAJ	Asahikawa	2.19	307	*e*Pn	Pn	04 34 54.0	+1.2
ASAJ				*e*Sn	Sn	04 35 22.1	+3.4
MJAR	Matsushiro Arr	8.20	222	Pn	Pn	04 36 15.2	-0.1
	0.3nm,0.3s,baz=43,slow=15,SNR=5.3						
MJAR				Sn	Sn	04 37 47.4	+0.8
	0.3nm,0.3s,baz=190,slow=1.3,SNR=5.8						
MJAR	Matsushiro Arr	8.20	222	Pn	Pn	04 36 15.2	-0.1
MJAR				Sn	Sn	04 37 47.4	+0.8
KSRS	Korea Array	14.14	253	LR	LR	04 43 06.2	
	comp=Z,17nm,18.0s,baz=160,slow=38						
SONM	Songino Array	27.42	294	P	P	04 40 01.2	+0.9
	0.7nm,0.8s,mb3.3,baz=87,slow=12,SNR=3.6						
SONM	Songino Array	27.42	294	P	P	04 40 01.2	+0.9
COLA	College	42.72	35	*e*P	P	04 42 11.0	-0.3
	1.7nm,0.6s,mb4.0						
ILAR	Eielson Array	43.13	36	P	P	04 42 14.9	+0.2
	0.4nm,0.4s,mb3.5,baz=256,slow=5.7,SNR=16						
ILAR	Eielson Array	43.13	36	P	P	04 42 14.9	+0.2
MK31	Makanchi Array	43.65	298	*e*P	P	04 42 18.4	-0.6
MKAR	Makanchi Array	43.65	298	P	P	04 42 18.8	-0.3
	0.6nm,0.6s,mb3.5,baz=80,slow=8.8,SNR=6.5						
MKAR	Makanchi Array	43.65	298	P	P	04 42 18.8	-0.3
KURK	Kurchatov	44.77	304	P	P	04 42 28.0	+0.1
	0.8nm,0.5s,mb3.8,baz=73,slow=9.2,SNR=6.6						
KURK	Kurchatov	44.77	304	*e*P	P	04 42 26.9	-1.0
	1.1nm,0.6s,mb3.9						
RES	Resolute Bay	56.28	16	*e*P	P	04 43 54.0	-0.5
	1.5nm,0.6s,mb4.2						
ABKAR	Akbulak array	56.43	308	*e*P	P	04 43 55.4	-0.6
	0.4nm,0.4s,mb3.8						
FINES	FINESS Array B	64.98	332	P	P	04 44 56.3	+2.4
	3.3nm,0.9s,mb4.4,baz=56,slow=8.5,SNR=5.4						
FINES	FINESS Array B	64.98	332	P	P	04 44 56.3	+2.4
BOZ	Bozeman (W)	68.67	47	*e*P	P	04 45 17.1	-0.5
	1.1nm,0.6s,mb4.0						

IDC **16** *04:44:12.8 1.3, 35.65N 70.43E, h0km, mb3.9/5, mb1 4.0/8, mb1mx3.6/27, mbtmp3.8/8, ML 3.7/3, Error ellipse: s-maj=27.1km s-min=24.1km az=126.0*
ISCJB **16** *04:44:26.3 0.7, 36.47N 0.05 70.25E 0.09, h77km 12km, mb3.8/5, Error ellipse: s-maj=13.6km s-min=6.4km az=30.1*
NEIC **16** *04:44:26.2 1.1, 36.14N 70.55E, h98km 12km, mb3.9/3, Error ellipse: s-maj=17.3km s-min=10.6km az=130.0*
NNC **16** *04:44:32.3 5.1, 36.77N 70.26E, h79km 68km, mb3.6, mpv4.1, Error ellipse: s-maj=37.4km s-min=27.0km az=21.0*

ISC 16 04:44:27.3 0.7, 36.35N 0.06 70.4E 0.1, h78 km 10 km, n44, 0 1/12/57, mb 3.8/5, 9C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.12	212	*e*Pn	Pn	04 45 00.0	-0.7
KBL				*e*Sn	Sn	04 45 25.7	-0.5
AML	Almayashu	6.31	23	P	Pn	04 45 58.5	+0.8
SNR=92							
KK31	Karatay Array	6.75	1	⇑P	Pn	04 46 03.8	+0.2
	6.4nm,0.4s,baz=189,slow=14,SNR=103						
KK31				⇑S	Sn	04 47 15.9	-3.0
	8.0nm,0.3s,baz=188,slow=25,SNR=6.6						
KKAR	Karatay Array	6.75	1	*e*Pn	Pn	04 46 04.0	+0.4
	14nm,0.4s						
KKAR				*e*Sn	Sn	04 47 13.0	-6.0
EKS2	Erkin-Say	6.82	21	P	Pn	04 46 05.7	+1.0
SNR=13							
EKS2	Erkin-Say	6.82	21	*e*Pn	Pn	04 46 05.2	+0.6
	10nm,0.4s						
EKS2				*e*Sn	Sn	04 47 20.2	-0.6
KZA	Kyzart	6.85	32	P	Pn	04 46 05.8	+0.8
SNR=10							
AAK	Ala-Archa	7.03	25	P	Pn	04 46 08.0	+0.5
SNR=13							
CHMS	Chumysh	7.44	25	P	Pn	04 46 13.3	+0.2
SNR=5.6							
USP	Ospenovka	7.59	23	P	Pn	04 46 15.8	+0.6
SNR=6.3							
TKM2	Tokmak 2	7.69	30	P	Pn	04 46 16.7	+0.2
SNR=5.7							
TKM2	Tokmak 2	7.69	30	⇓P	Pn	04 46 16.4	-0.1
	6.4nm,0.6s						
TKM2				⇓S	Sn	04 47 39.7	-2.2
	18nm,0.8s						
TKM2	Tokmak 2	7.69	30	*e*Pn	Pn	04 46 16.4	-0.1
	13nm,0.8s						
TKM2				*e*Sn	Sn	04 47 38.9	-3.0
MK31	Makanchi Array	13.70	37	⇓P	Pn	04 47 38.9	+1.1
	8.9nm,0.7s,baz=223,slow=16,SNR=47						
MK31	Makanchi Array	13.70	37	*e*Pn	Pn	04 47 38.6	+0.7
MK31				*e*P		04 47 43.8	
MKAR	Makanchi Array	13.70	37	Pn	Pn	04 47 37.5	-0.4
	0.2nm,0.3s,baz=225,slow=16,SNR=20						
MKAR	Makanchi Array	13.70	37	Pn	Pn	04 47 37.5	-0.4
AB31	Akbulak array	14.99	333	⇑P	Pn	04 47 53.1	-1.6
	2.4nm,0.4s						
AB31				⇑S	Sn	04 50 30.8	-8.8
	3.8nm,0.6s						
ABKAR	Akbulak array	14.99	333	*e*Pn	Pn	04 47 53.2	-1.5
ABKAR				*e*Sn	Sn	04 50 27.3	-12
KURBB	Kurchatov Arra	15.42	20	⇑P	Pn	04 47 57.1	-3.0
	0.7nm,0.6s						
KURK	Kurchatov	15.53	20	⇓P	Pn	04 48 04.1	+2.6
	3.1nm,0.9s						
KURK	Kurchatov	15.53	20	Pn	Pn	04 47 56.8	-4.7
	0.1nm,0.3s,baz=211,slow=10,SNR=13						
KURK				Sn	Sn	04 51 04.1	+11
	0.0nm,0.3s,baz=204,slow=20,SNR=4.9						
KURK	Kurchatov	15.53	20	*e*P

JKC	**Kuchinoerabu**	**3.13**	**352**	S		**Sn**	**05 02 15.3**	**-0.7**
JAGN	**Aguni-jima**	**3.19**	**257**	S		**Sn**	**05 02 17.0**	**-0.6**
JTN	**Tanegashima 3**	**3.29**	**4**	P		**Pn**	**05 01 41.1**	**-1.0**
JTN				S		**Sn**	**05 02 18.7**	**-1.4**
JKE	**Kume jima 2**	**3.66**	**255**	P		**Pn**	**05 01 46.5**	**-0.6**
JKE				S		**Sn**	**05 02 27.5**	**-1.6**
JTSR	**Tashiro 2**	**3.80**	**3**	P		**Pn**	**05 01 48.7**	**-0.4**
JTSR				S		**Sn**	**05 02 31.1**	**-1.5**
JSU	**Suzuyama**	**4.14**	**357**	S		**Sn**	**05 02 38.9**	**-2.1**
JNAR	**Kushima--Naru**	**4.18**	**7**	P		**Pn**	**05 01 54.4**	**+0.1**
JNAR				S		**Sn**	**05 02 40.2**	**-1.8**
JNU	**Nakatsue**	**5.75**	**1**	*e*Pn		**Pn**	**05 02 15.7**	**-0.1**
	8.7nm,0.8s							
JNU				*e*Sn		**Sn**	**05 03 20.2**	**-0.3**
CBIJ	**Chichi jima**	**10.21**	**89**	Pn		**Pn**	**05 03 15.3**	**-1.8**
	5.9nm,0.3s,baz=275,slow=17,SNR=12							
CBIJ				LR		LR	05 06 29.7	
	comp=Z,82nm,21.2s,baz=318,slow=34							
KSRS	**Korea Array**	**10.34**	**348**	Pn		**Pn**	**05 03 20.8**	**+1.9**
	0.2nm,0.3s,baz=167,slow=12,SNR=4.8							
KSRS				LR		LR	05 07 38.6	
	comp=Z,62nm,19.0s,baz=156,slow=39							
GUMO	**Guam**	**19.04**	**133**	LR		LR	05 10 46.9	
	comp=Z,54nm,21.3s,baz=69,slow=32							
DAV	**Davao City (W)**	**20.76**	**195**	LR		LR	05 11 36.8	
	comp=Z,58nm,19.2s,MS3.0,baz=178,slow=31							
SONM	**Songino Array**	**27.89**	**324**	P		**P**	**05 06 40.8**	**+1.3**
	0.5nm,0.8s,mb3.2,baz=140,slow=9.5,SNR=3.8							
SONM	**Songino Array**	**27.89**	**324**	P		**P**	**05 06 40.8**	**+1.3**
MKAR	**Makanchi Array**	**42.47**	**310**	P		**P**	**05 08 45.7**	**+1.1**
	0.4nm,0.6s,mb3.2,baz=95,slow=10.0,SNR=7.5							
MKAR	**Makanchi Array**	**42.47**	**310**	P		**P**	**05 08 45.7**	**+1.1**
ZAA0	**Zalesovo Array**	**42.73**	**321**	*e*P		**P**	**05 08 48.7**	**+2.2**
ZALV	**Zalesovo Beam**	**42.73**	**321**	P		**P**	**05 08 48.5**	**+2.0**
	5.3nm,0.7s,mb4.4,baz=105,slow=8.0,SNR=25							
ZALV				LR		LR	05 30 10.9	
	comp=Z,14nm,18.3s,MS2.9,baz=74,slow=41							
ZALV	**Zalesovo Beam**	**42.73**	**321**	P		**P**	**05 08 48.5**	**+2.0**
ZALV				LR		LR	05 30 10.9	
KURK	**Kurchatov**	**45.56**	**315**	P		**P**	**05 09 10.8**	**+1.5**
	2.0nm,0.5s,mb4.3,baz=101,slow=8.6,SNR=16							
KURK	**Kurchatov**	**45.56**	**315**	P		**P**	**05 09 10.8**	**+1.5**
TKM2	**Tokmak 2**	**46.86**	**304**	*e*P		**P**	**05 09 21.5**	**+1.8**
	4.7nm,0.7s,mb4.5							
WRA	**Warramunga Arr**	**47.15**	**175**	P		**P**	**05 09 21.5**	**-0.6**
	0.8nm,0.5s,mb3.9,baz=354,slow=8.4,SNR=6.9							
WRA	**Warramunga Arr**	**47.15**	**175**	P		**P**	**05 09 21.5**	**-0.5**
ASAR	**Alice Springs**	**50.82**	**176**	P		**P**	**05 09 50.6**	**+0.5**
	0.9nm,0.5s,mb4.0,baz=6.6,slow=14,SNR=13							
ASAR	**Alice Springs**	**50.82**	**176**	P		**P**	**05 09 50.6**	**+0.5**
ILAR	**Eielson Array**	**62.39**	**29**	P		**P**	**05 11 11.8**	**-0.1**
	0.5nm,0.7s,mb3.8,baz=265,slow=5.0,SNR=8.5							
ILAR	**Eielson Array**	**62.39**	**29**	P		**P**	**05 11 11.8**	**-0.1**
INK	**Inuvik**	**66.98**	**24**	P		**P**	**05 11 42.7**	**+0.9**
	0.7nm,0.5s,mb4.0,baz=332,slow=3.3,SNR=8.2							
INK	**Inuvik**	**66.98**	**24**	P		**P**	**05 11 42.7**	**+0.9**
ARCES	**ARCESS Array B**	**69.77**	**339**	P		**P**	**05 11 59.8**	**+0.6**
	2.5nm,0.8s,mb4.2,baz=82,slow=8.3,SNR=3.6							
ARCES	**ARCESS Array B**	**69.77**	**339**	P		**P**	**05 11 59.8**	**+0.6**
FINES	**FINESS Array B**	**72.97**	**331**	P		**P**	**05 12 19.2**	**+0.5**
	2.7nm,0.6s,mb4.3,baz=77,slow=5.9,SNR=16							
FINES	**FINESS Array B**	**72.97**	**331**	P		**P**	**05 12 19.2**	**+0.5**
AKASG	**Malin Array Be**	**76.11**	**320**	P		**P**	**05 12 38.0**	**+0.9**
	1.5nm,0.6s,mb4.1,baz=59,slow=6.0,SNR=6.0							
AKASG	**Malin Array Be**	**76.11**	**320**	P		**P**	**05 12 38.0**	**+0.9**
BRTR	**Keskin Array B**	**78.09**	**309**	P		**P**	**05 12 49.7**	**+1.3**
	1.4nm,0.8s,mb4.0,baz=93,slow=6.5,SNR=7.9							
BRTR	**Keskin Array B**	**78.09**	**309**	P		**P**	**05 12 49.7**	**+1.3**
HFS	**Hagfors**	**78.85**	**333**	P		**P**	**05 12 52.9**	**+0.7**
	3.2nm,0.9s,mb4.2,baz=89,slow=7.6,SNR=4.4							
HFS	**Hagfors**	**78.85**	**333**	P		**P**	**05 12 52.9**	**+0.7**
NB2	**NORSAR Subarra**	**79.27**	**334**	P		**P**	**05 12 55.0**	**+0.5**
	comp=Z,0.8nm,0.5s,mb3.9,baz=51,slow=5.9							
NOA	**NORSAR Array B**	**79.27**	**334**	P		**P**	**05 12 55.0**	**+0.5**
	comp=Z,1.1nm,0.8s,mb3.8,baz=50,slow=5.4,SNR=3.7							
NOA	**NORSAR Array B**	**79.27**	**334**	P		**P**	**05 12 55.0**	**+0.5**
TORD	**Torodi Ar. Bea**	**116.24**	**302**	PKP		PKPdf	05 19 33.5	+0.1
	comp=Z,0.2nm,0.5s,baz=11,slow=2.9,SNR=2.8							
TORD	**Torodi Ar. Bea**	**116.24**	**302**	PKP		PKPdf	05 19 33.5	+0.1

*ISCJB **16** 05:03:03.9±0.4, 42.°70N×0.°02×23.°33E±0.°03, h2km±3km, Error ellipse: s-maj=3.5km s-min=2.4km az=143.7*
*BEO **16** 05:03:04.0±0.3, 42.°68N×23.°36E, h2km×2km, ML2.9/1*
*CSEM **16** 05:03:04.7±0.1, 42.°68N×23.°33E, h2km, MD3.2, Error ellipse: s-maj=2.9km s-min=2.2km az=50.0*
*SOF **16** 05:03:04.4, 42.°63N×23.°39E, h7km, MD3.2*
*SKO **16** 05:03:05.8, 42.°61N×23.°41E, h1km, M2.3, ML3.0*
*THE **16** 05:03:06.3, 42.°59N×23.°30E, h2km±10km, ML3.3/7, Error ellipse: s-maj=13.1km s-min=1.1km az=349.0*

ISC 16 05:03:04.7±0.4, 42.°68N±0.°02×23.°34E±0.°03, h2km±3km, n107, σ0.°86/150, 17C-5D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOF	**Sofiya**	**0.01**	**331**	*i* Pg	**Pg**	**05 03 06.0**	**+1.0**
SOF	**Sofiya**	**0.01**	**331**	*i* Pg	**Pg**	**05 03 06.0**	**+1.0**
SOF	**Sofiya**	**0.01**	**331**	*i* Pg	**Pg**	**05 03 06.0**	**+1.0**
VTS	**Vitosha**	**0.13**	**227**	i Pg	**Pg**	**05 03 06.5**	**-0.7**
VTS				*i* Sg	**Sg**	**05 03 08.5**	**-0.4**
VTS	**Vitosha**	**0.13**	**227**	P	**Pg**	**05 03 06.2**	**-1.0**
VTS				S	**Sg**	**05 03 08.4**	**-0.5**
VTS	**Vitosha**	**0.13**	**227**	*i* Pg	**Pg**	**05 03 06.9**	**-0.3**
VTS	**Vitosha**	**0.13**	**227**	*i* Pg	**Pg**	**05 03 06.9**	**-0.3**
VTS	**Vitosha**	**0.13**	**227**	P	**Pg**	**05 03 06.2**	**-1.0**
VTS	**Vitosha**	**0.13**	**227**	*i* Pg	**Pg**	**05 03 06.9**	**-0.3**
VTS				*i* Sg	**Sg**	**05 03 08.5**	**-0.4**
PGB	**Panagyurishte**	**0.63**	**102**	*i* Pg	**Pg**	**05 03 16.9**	**+0.3**
PGB	**Panagyurishte**	**0.63**	**102**	*i* Pg	**Pg**	**05 03 16.9**	**+0.3**
PGB	**Panagyurishte**	**0.63**	**102**	*i* Pg	**Pg**	**05 03 16.9**	**+0.3**
ZAPS	**Zavoj**	**0.79**	**319**	i Pg	**Pg**	**05 03 20.9**	**+1.2**
ZAPS				*i* Sg	**Sg**	**05 03 31.1**	**+1.2**
KKB	**Krupnik**	**0.83**	**193**	*i* Pg	**Pg**	**05 03 20.8**	**+0.1**
KKB	**Krupnik**	**0.83**	**193**	*i* Pg	**Pg**	**05 03 20.8**	**+0.1**
KKB	**Krupnik**	**0.83**	**193**	*i* Pg	**Pg**	**05 03 20.8**	**+0.1**
MMB	**Musomiste**	**1.13**	**165**	*i* P	**Pg**	**05 03 26.7**	**+0.4**
MMB	**Musomiste**	**1.13**	**165**	*i* P	**Pg**	**05 03 26.7**	**+0.4**
MMB	**Musomiste**	**1.13**	**165**	*i* P	**Pg**	**05 03 26.7**	**+0.4**
BARS	**Barje**	**1.13**	**277**	i Pg	**Pg**	**05 03 26.0**	**-0.3**
BARS				*i* Sg	**Sg**	**05 03 41.5**	**+0.6**
BARS	**Barje**	**1.13**	**277**	i Pg	**Pg**	**05 03 26.0**	**-0.3**
PLD	**Plovdiv**	**1.16**	**119**	i Pg	**Pg**	**05 03 25.7**	**-1.3**
PLD				*e*Sg	**Sg**	**05 03 40.8**	**-1.2**
PLD	**Plovdiv**	**1.16**	**119**	*i* Pg	**Pg**	**05 03 26.1**	**-0.9**
PLD	**Plovdiv**	**1.16**	**119**	*i* Pg	**Pg**	**05 03 26.1**	**-0.9**
PLD	**Plovdiv**	**1.16**	**119**	*i* Pg	**Pg**	**05 03 26.1**	**-0.9**
PLD				*e*Sg	**Sg**	**05 03 40.8**	**-1.2**
NVR	**Nevrokopi**	**1.39**	**163**	*e*P	**Pn**	**05 03 31.0**	**0.0**
NVR	**Nevrokopi**	**1.39**	**163**	P	**Pn**	**05 03 30.5**	**-0.5**
NVR				S	**Sg**	**05 03 49.3**	**+0.1**
NVR	**Nevrokopi**	**1.39**	**163**	P	**Pn**	**05 03 30.5**	**-0.5**
NVR				S	**Sg**	**05 03 49.3**	**+0.1**
RZN	**Rozhen**	**1.43**	**134**	*i* P	**Pn**	**05 03 31.0**	**-0.5**
RZN	**Rozhen**	**1.43**	**134**	*i* P	**Pn**	**05 03 31.0**	**-0.5**
RZN	**Rozhen**	**1.43**	**134**	*i* P	**Pn**	**05 03 31.0**	**-0.5**
VAY	**Valandovo**	**1.47**	**203**	P	**Pn**	**05 03 31.8**	**-0.4**
VAY				S	**Sb**	**05 03 51.0**	**-0.9**
VAY	**Valandovo**	**1.47**	**203**	*e*Pn	**Pn**	**05 03 31.8**	**-0.4**
VAY				*i* Sn	**Sn**	**05 03 52.2**	**+0.2**
VAY				eLg		05 03 53.8	
	comp=N,485nm,0.5s						
VAY	**Valandovo**	**1.47**	**203**	P	**Pn**	**05 03 31.8**	**-0.4**
VAY				S	**Sb**	**05 03 51.0**	**-0.9**
VAY				*i* Sn	**Sn**	**05 03 52.2**	**+0.2**
VAY				eLg		05 03 53.8	
	comp=N,485nm,0.5s						
BOLS	**Boljevac**	**1.53**	**319**	*e*Pg	**Pn**	**05 03 32.2**	**-0.8**
BOLS				*e*Sg	**Sn**	**05 03 52.8**	**-0.6**
BOLS	**Boljevac**	**1.53**	**319**	*e*Pg	**Pn**	**05 03 32.2**	**-0.8**
BOLS				*e*Sg	**Sn**	**05 03 52.8**	**-0.6**
KNT	**Kendrikon**	**1.55**	**192**	P	**Pn**	**05 03 33.5**	**+0.2**
KNT				S	**Sn**	**05 03 53.6**	**-0.4**
KNT	**Kendrikon**	**1.55**	**192**	P	**Pn**	**05 03 33.5**	**+0.2**
KNT				S	**Sn**	**05 03 53.6**	**-0.4**
PVL	**Pavlikeni**	**1.56**	**69**	*i* Pg	**Pn**	**05 03 31.8**	**-1.6**
PVL	**Pavlikeni**	**1.56**	**69**	*i* Pg	**Pn**	**05 03 31.8**	**-1.6**
SRS	**Serrai**	**1.57**	**173**	P	**Pn**	**05 03 33.7**	**+0.1**
SRS				S	**Sn**	**05 03 54.2**	**-0.3**
SRS	**Serrai**	**1.57**	**173**	P	**Pn**	**05 03 33.7**	**+0.1**
SRS				S	**Sn**	**05 03 54.2**	**-0.3**
SKO	**Skopje**	**1.58**	**244**	*e*Pn	**Pn**	**05 03 35.5**	**+1.9**
SKO				eLg		05 03 59.6	
	comp=E,52nm,0.3s						
SKO	**Skopje**	**1.58**	**244**	*e*Pn	**Pn**	**05 03 35.4**	**+1.8**
SKO				eLg		05 03 59.5	
	comp=E,52nm,0.3s						
SELS	**Selova**	**1.72**	**289**	*e*Pn	**Pn**	**05 03 35.0**	**-0.5**
SELS				*e*Sn	**Sn**	**05 03 59.2**	**+1.2**
DIM	**Dimitrovgrad**	**1.75**	**110**	P	**Pn**	**05 03 36.5**	**+0.6**
DIM	**Dimitrovgrad**	**1.75**	**110**	P	**Pn**	**05 03 36.5**	**+0.6**
DIM	**Dimitrovgrad**	**1.75**	**110**	P	**Pn**	**05 03 36.5**	**+0.6**
KDZ	**Kurdzhali**	**1.86**	**123**	*i* P	**Pn**	**05 03 36.8**	**-0.7**
KDZ	**Kurdzhali**	**1.86**	**123**	*i* P	**Pn**	**05 03 36.8**	**-0.7**
KDZ	**Kurdzhali**	**1.86**	**123**	*i* P	**Pn**	**05 03 36.8**	**-0.7**
SOH	**Sokhos**	**1.86**	**180**	P	**Pn**	**05 03 37.8**	**+0.3**
SOH				S	**Sn**	**05 04 02.0**	**+0.5**
SOH	**Sokhos**	**1.86**	**180**	P	**Pn**	**05 03 37.8**	**+0.3**
SOH				S	**Sn**	**05 04 02.0**	**+0.5**
GRG	**Griva**	**1.86**	**202**	P	**Pn**	**05 03 37.9**	**+0.4**
GRG	**Griva**	**1.86**	**202**	P	**Pn**	**05 03 37.9**	**+0.4**
KAVA	**Kavala**	**1.90**	**152**	P	**Pn**	**05 03 38.3**	**+0.3**
KAVA				S	**Sn**	**05 04 03.1**	**+0.6**
KAVA	**Kavala**	**1.90**	**152**	P	**Pn**	**05 03 38.3**	**+0.3**
KAVA				S	**Sn**	**05 04 03.1**	**+0.6**
SZH	**Strazhica**	**1.99**	**72**	*i* P	**Pn**	**05 03 40.0**	**+0.7**
SZH	**Strazhica**	**1.99**	**72**	*i* P	**Pn**	**05 03 40.0**	**+0.7**
SZH	**Strazhica**	**1.99**	**72**	*i* P	**Pn**	**05 03 40.0**	**+0.7**
KRUS	**Krusevo**	**2.04**	**231**	*e*Pn	**Pn**	**05 03 39.8**	**-0.1**
KRUS	**Krusevo**	**2.04**	**231**	*e*Pn	**Pn**	**05 03 39.7**	**-0.2**
THE	**Thessaloniki**	**2.07**	**188**	P	**Pn**	**05 03 40.5**	**+0.2**
THE				S	**Sn**	**05 04 06.2**	**-0.4**
THE	**Thessaloniki**	**2.07**	**188**	P	**Pn**	**05 03 40.5**	**+0.2**
THE				S	**Sn**	**05 04 06.2**	**-0.4**
DJES	**Djerdap**	**2.07**	**344**	*e*Pn	**Pn**	**05 03 40.1**	**-0.3**
DJES				*e*Sn	**Sn**	**05 04 05.2**	**-1.6**
HORT	**Hortiatis**	**2.09**	**185**	P	**Pn**	**05 03 40.7**	**0.0**
HORT				S	**Sn**	**05 04 06.6**	**-0.6**
HORT	**Hortiatis**	**2.09**	**185**	P	**Pn**	**05 03 40.7**	**0.0**
HORT				S	**Sn**	**05 04 06.6**	**-0.6**
SVIS	**Svilajnac**	**2.21**	**316**	*e*Pn	**Pn**	**05 03 43.4**	**+1.0**
SVIS				*e*Sg	**Sg**	**05 04 14.7**	**-1.0**
BIA	**Bitola**	**2.24**	**223**	*e*Pn	**Pn**	**05 03 44.9**	**+2.1**
BIA	**Bitola**	**2.24**	**223**	*e*Pn	**Pn**	**05 03 44.8**	**+2.1**
RDO	**Rodhopi**	**2.25**	**132**	*e*P	**Pn**	**05 03 43.0**	**+0.2**
RDO	**Rodhopi**	**2.25**	**132**	P	**Pn**	**05 03 42.6**	**-0.2**
RDO				S	**Sn**	**05 04 11.8**	**+0.7**
RDO	**Rodhopi**	**2.25**	**132**	P	**Pn**	**05 03 42.6**	**-0.2**
RDO				S	**Sn**	**05 04 11.8**	**+0.7**
GRUS	**Gruza**	**2.26**	**303**	i Pn	**Pn**	**05 03 42.9**	**-0.2**
GRUS				*e*Sn	**Sn**	**05 04 12.5**	**+1.0**
PLG	**Polygyros**	**2.31**	**178**	*e*P	**Pn**	**05 03 44.0**	**+0.4**
PLG	**Polygyros**	**2.31**	**178**	P	**Pn**	**05 03 43.9**	**+0.3**
PLG				S	**Sn**	**05 04 11.7**	**-0.9**
PLG	**Polygyros**	**2.31**	**178**	P	**Pn**	**05 03 43.9**	**+0.3**
PLG				S	**Sn**	**05 04 11.7**	**-0.9**
OUR	**Ouranopolis**	**2.39**	**168**	P	**Pn**	**05 03 44.7**	**-0.2**
OUR	**Ouranopolis**	**2.39**	**168**	P	**Pn**	**05 03 44.7**	**-0.2**
JMB	**Yambol**	**2.41**	**94**	P	**Pn**	**05 03 44.0**	**-1.0**
JMB	**Yambol**	**2.41**	**94**	P	**Pn**	**05 03 44.0**	**-1.0**
JMB	**Yambol**	**2.41**	**94**	P	**Pn**	**05 03 44.0**	**-1.0**
IVAS	**Ivanjica**	**2.50**	**292**	i Pn	**Pn**	**05 03 46.7**	**+0.4**
IVAS				*e*Sg	**Sg**	**05 04 23.5**	**-1.4**
IVAS	**Ivanjica**	**2.50**	**292**	i Pn	**Pn**	**05 03 46.7**	**+0.4**
IVAS				*e*Sg	**Sg**	**05 04 23.5**	**-1.4**
SJES	**Sjenica**	**2.54**	**284**	*e*Pn	**Pn**	**05 03 47.4**	**+0.6**
SJES				*e*Sg	**Sg**	**05 04 26.1**	**+0.5**
DIVS	**Divibare**	**2.82**	**301**	*e*Pn	**Pn**	**05 03 50.4**	**-0.3**
DIVS				*e*Sn	**Sn**	**05 04 24.1**	**-1.2**
DIVS	**Divibare**	**2.82**	**301**	*e*Pn	**Pn**	**05 03 50.4**	**-0.3**
DIVS				*e*Sn	**Sn**	**05 04 24.1**	**-1.2**
ROIA	**ROIAK**	**3.00**	**81**	*i* P	**Pn**	**05 03 53.8**	**+0.6**
ROIA	**ROIAK**	**3.00**	**81**	*i* P	**Pn**	**05 03 53.8**	**+0.6**
BZS	**Buzias**	**3.19**	**338**	*i* Pn	**Pn**	**05 03 54.7**	**-1.0**
BZS				*e*Sg	**Sg**	**05 04 45.7**	**-1.3**
BZS	**Buzias**	**3.19**	**338**	i P	**Pg**	**05 04 05.4**	**-0.3**
MLR	**Muntele Rosu**	**3.38**	**33**	i P	**Pn**	**05 04 02.9**	**+4.5**
MLR	**Muntele Rosu**	**3.38**	**33**	i P	**Pn**	**05 04 02.9**	**+4.5**
DOPR	**Dopca**	**3.60**	**23**	i P	**Pn**	**05 04 04.8**	**+3.4**
DOPR	**Dopca**	**3.60**	**23**	i P	**Pn**	**05 04 04.8**	**+3.4**
PLOR	**Plostina**	**3.96**	**36**	i P	**Pn**	**05 04 08.2**	**+1.8**
PLOR	**Plostina**	**3.96**	**36**	i P	**Pn**	**05 04 08.2**	**+1.8**
VRI	**Vrincioaia**	**4.01**	**36**	i P	**Pn**	**05 04 09.1**	**+2.1**
VRI	**Vrincioaia**	**4.01**	**36**	i P	**Pn**	**05 04 09.1**	**+2.1**
TIRR	**Tirgusor**	**4.09**	**63**	i P	**Pn**	**05 04 08.6**	**+0.4**
TIRR	**Tirgusor**	**4.09**	**63**	i P	**Pn**	**05 04 08.6**	**+0.4**
DRGR		**4.13**	**354**	i P	**Pn**	**05 04 15.4**	**+6.6**
STON	**Ston**	**4.16**	**275**	*e*Pn	**Pn**	**05 04 08.7**	**-0.3**
STON				Sn	**Sn**	**05 04 58.6**	**+0.5**
STON	**Ston**	**4.16**	**275**	*e*Pn	**Pn**	**05 04 08.7**	**-0.4**
STON				Sn	**Sn**	**05 04 58.6**	**+0.4**
TLCR		**4.68**	**56**	i P	**Pn**	**05 04 16.2**	**-0.1**
TLCR		**4.68**	**56**	i P	**Pn**	**05 04 16.2**	**-0.1**
VYHS	**Vyhne**	**6.62**	**333**	*e*PN	**Pn**	**05 04 39.5**	**-3.3**

*IDC **16** 05:08:05.5±1.3, 38.°16N×22.°15E, h0km, mb3.5/6, mb1 3.6/7, mb1mx3.5/28, mbtmp3.5/7, ML3.0/1, Error ellipse: s-maj=31.0km s-min=19.8km az=135.0*
*ATH **16** 05:08:11.8, 38.°24N×22.°22E, h51km±2km, ML3.1*
*ISCJB **16** 05:08:11.8±0.2, 38.°26N±0.°02×22.°20E±0.°03, h60km±3km, mb3.6/5, Error ellipse: s-maj=3.6km s-min=3.1km az=143.7*
*CSEM **16** 05:08:12.6±0.1, 38.°24N×22.°19E, h50km±2km, ML3.3/10, Error ellipse: s-maj=3.6km s-min=3.0km az=50.0*
*THE **16** 05:08:13.0, 38.°26N×22.°24E, h48km±2km, ML3.3/10, Error ellipse: s-maj=2.2km s-min=1.0km az=249.0*
*NEIC **16** 05:08:13.0, 38.°26N×22.°24E, h48km, MG3.3(THE), After THE.*

ISC 16 05:08:12.6±0.2, 38.°27N±0.°02×22.°20E±0.°03, h54km±3km, n184, σ1.°00/247, mb3.6/5, 5C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KALE	**Kalithea**	**0.13**	**341**	P	**Pn**	**05 08 20.8**	**-0.2**
KALE	**Kalithea**	**0.13**	**341**	P	**Pn**	**05 08 20.8**	**-0.2**
KALE	**Kalithea**	**0.13**	**341**	P	**Pn**	**05 08 20.8**	**-0.2**
LAKA	**Lakka**	**0.17**	**260**	P	**Pn**	**05 08 20.6**	**-0.6**
LAKA				S	**Sn**	**05 08 26.5**	**-0.9**
LAKA	**Lakka**	**0.17**	**260**	P	**Pn**	**05 08 20.6**	**-0.6**
LAKA				S	**Sn**	**05 08 26.5**	**-0.9**
LAKA	**Lakka**	**0.17**	**260**	P	**Pn**	**05 08 20.6**	**-0.6**
LAKA				S	**Sn**	**05 08 26.5**	**-0.9**
EFP	**Efpalio**	**0.28**	**305**	*e*P	**Pn**	**05 08 21.5**	**-0.4**
EFP				*e*S	**Sn**	**05 08 28.8**	**+0.2**
EFP	**Efpalio**	**0.28**	**305**	*e*P	**Pn**	**05 08 21.5**	**-0.4**
EFP				*e*S	**Sn**	**05 08 28.4**	**-0.2**
EFP	**Efpalio**	**0.28**	**305**	P	**Pn**	**05 08 21.4**	**-0.5**
EFP				S	**Sn**	**05 08 28.7**	**+0.1**
EFP	**Efpalio**	**0.28**	**305**	*e*P	**Pn**	**05 08 21.5**	**-0.4**
EFP				S	**Sn**	**05 08 27.8**	**-0.8**
DSF	**Desfina**	**0.30**	**61**	P	**Pn**	**05 08 22.1**	**0.0**
DSF				S	**Sn**	**05 08 29.1**	**+0.2**
DSF	**Desfina**	**0.30**	**61**	P	**Pn**	**05 08 22.1**	**0.0**
DSF				S	**Sn**	**05 08 27.6**	**-1.3**
UPR	**University Cam**	**0.32**	**273**	*e*P	**Pn**	**05 08 21.6**	**-0.7**
UPR				*e*S	**Sn**	**05 08 29.0**	**-0.3**
UPR	**University Cam**	**0.32**	**273**	*e*P	**Pn**	**05 08 21.7**	**-0.6**
UPR				*e*S	**Sn**	**05 08 29.2**	**-0.1**
UPR	**University Cam**	**0.32**	**273**	P	**Pn**	**05 08 21.2**	**-1.1**
UPR				S	**Sn**	**05 08 28.8**	**-0.5**
UPR	**University Cam**	**0.32**	**273**	*e*P	**Pn**	**05 08 21.7**	**-0.6**
UPR				S	**Sn**	**05 08 28.8**	**-0.5**
GUR	**Goura**	**0.35**	**161**	*e*P	**Pn**	**05 08 22.3**	**-0.3**
GUR				*e*S	**Sn**	**05 08 29.5**	**-0.2**
GUR	**Goura**	**0.35**	**161**	*e*P	**Pn**	**05 08 22.3**	**-0.3**
GUR				*e*S	**Sn**	**05 08 29.3**	**-0.4**
GUR	**Goura**	**0.35**	**161**	P	**Pn**	**05 08 22.1**	**-0.5**
GUR				S	**Sn**	**05 08 29.2**	**-0.5**
GUR	**Goura**	**0.35**	**161**	P	**Pn**	**05 08 22.1**	**-0.5**
GUR				S	**Sn**	**05 08 29.2**	**-0.5**
LTK	**Loutraki**	**0.66**	**112**	*e*P	**Pn**	**05 08 25.8**	**-0.2**
LTK				*e*S	**Sn**	**05 08 35.7**	**0.0**
LTK	**Loutraki**	**0.66**	**112**	*e*P	**Pn**	**05 08 25.8**	**-0.2**
LTK				*e*S	**Sn**	**05 08 35.5**	**-0.2**
LTK	**Loutraki**	**0.66**	**112**	P	**Pn**	**05 08 25.7**	**-0.3**
LTK	**Loutraki**	**0.66**	**112**	P	**Pn**	**05 08 25.7**	**-0.3**
LTK				*e*S	**Sn**	**05 08 35.5**	**-0.2**
EVR	**Evrytania**	**0.71**	**335**	*e*P	**Pn**	**05 08 27.5**	**+0.8**
EVR	**Evrytania**	**0.71**	**335**	*e*P	**Pn**	**05 08 27.4**	**+0.7**
EVR				*e*S	**Sn**	**05 08 39.0**	**+2.0**
EVR	**Evrytania**	**0.71**	**335**	P	**Pn**	**05 08 27.6**	**+0.9**
EVR	**Evrytania**	**0.71**	**335**	*e*P	**Pn**	**05 08 27.4**	**+0.7**
EVR				*e*S	**Sn**	**05 08 39.0**	**+2.0**
LKR	**Lokris**	**0.74**	**59**	*e*P	**Pn**	**05 08 27.1**	**+0.1**
LKR				*e*S	**Sn**	**05 08 38.3**	**+0.8**
LKR	**Lokris**	**0.74**	**59**	*e*P	**Pn**	**05 08 27.0**	**0.0**
LKR				*e*S	**Sn**	**05 08 37.6**	**+0.1**
LKR	**Lokris**	**0.74**	**59**	P	**Pn**	**05 08 27.0**	**0.0**
LKR				S	**Sn**	**05 08 36.9**	**-0.6**
LKR	**Lokris**	**0.74**	**59**	P	**Pn**	**05 08 27.0**	**0.0**
LKR				S	**Sn**	**05 08 36.9**	**-0.6**
AGG	**Agios Georgios**	**0.76**	**8**	*e*P	**Pn**	**05 08 27.4**	**+0.1**
AGG				*e*S	**Sn**	**05 08 38.5**	**+0.5**
AGG	**Agios Georgios**	**0.76**	**8**	P	**Pn**	**05 08 27.5**	**+0.2**
AGG				S	**Sn**	**05 08 38.4**	**+0.4**
AGG	**Agios Georgios**	**0.76**	**8**	P	**Pn**	**05 08 27.5**	**+0.2**
AGG				S	**Sn**	**05 08 38.4**	**+0.4**
ATAL	**Atalanti**	**0.77**	**57**	P	**Pn**	**05 08 27.6**	**+0.2**
ATAL				S	**Sn**	**05 08 38.3**	**0.0**
ATAL	**Atalanti**	**0.77**	**57**	P	**Pn**	**05 08 27.6**	**+0.2**
ATAL				S	**Sn**	**05 08 38.3**	**0.0**
VLX	**Vlachokerasia**	**0.91**	**171**	*e*P	**Pn**	**05 08 29.1**	**-0.1**
VLX	**Vlachokerasia**	**0.91**	**171**	*e*P	**Pn**	**05 08 29.1**	**-0.1**
VLX				*e*S	**Sn**	**05 08 40.6**	**-0.8**
VLX	**Vlachokerasia**	**0.91**	**171**	P	**Pn**	**05 08 29.1**	**-0.1**
VLX	**Vlachokerasia**	**0.91**	**171**	P	**Pn**	**05 08 29.1**	**-0.1**
VLX				S	**Sn**	**05 08 40.8**	**-0.6**
ITM	**Ithomi**	**1.11**	**191**	*e*P	**Pn**	**05 08 32.6**	**+0.8**
ITM				*e*S	**Sn**	**05 08 47.3**	**+1.2**
ITM	**Ithomi**	**1.11**	**191**	*e*P	**Pn**	**05 08 32.6**	**+0.8**
ITM	**Ithomi**	**1.11**	**191**	P	**Pn**	**05 08 32.6**	**+0.8**
**

BAI	**Bari**	**4.98**	**306**	*e*Pn	**Pn**	**05 09 23.9**	**-0.9**
CDT	**Castel del Mon**	**5.36**	**303**	*e*Pn	**Pn**	**05 09 29.7**	**-0.3**
STON	**Ston**	**5.73**	**325**	*e*Pn	**Pn**	**05 09 32.0**	**-3.0**
STON				*e*Sn	**Sn**	**05 10 31.9**	**-7.5**
MLR	**Muntele Rosu**	**7.74**	**20**	Pn	**Pn**	**05 10 04.3**	**+1.8**
	0.1nm,0.3s,baz=188,slow=6.1,SNR=4.5						
MLR	**Muntele Rosu**	**7.74**	**20** ⇑	*i*P	**Pn**	**05 10 04.3**	**+1.8**
MLR	**Muntele Rosu**	**7.74**	**20**	Pn	**Pn**	**05 10 05.5**	**+3.0**
MLR	**Muntele Rosu**	**7.74**	**20** ⇑	*i*P	**Pn**	**05 10 04.3**	**+1.8**
MLR	**Muntele Rosu**	**7.74**	**20** ⇑	*i*P	**Pn**	**05 10 05.5**	**+3.0**
PLOR	**Plostina**	**8.27**	**22** ⇑	*i*P	**Pn**	**05 10 15.4**	**+5.7**
VRI	**Vrincioaia**	**8.30**	**22** ⇓	*i*P	**Pn**	**05 10 14.6**	**+4.4**
NVLJ	**Novalja**	**8.35**	**321**	*e*Pn	**Pn**	**05 10 08.7**	**-2.2**
NVLJ				Sn	**Sn**	**05 11 36.3**	**-7.4**
BOJS	**Bojanci**	**8.89**	**327**	*i* Pn	**Pn**	**05 10 16.1**	**-2.1**
BOJS				*i* Sn	**Sn**	**05 11 50.1**	**-6.7**
BOJS	**Bojanci**	**8.89**	**327**	*i* Pn	**Pn**	**05 10 16.1**	**-2.1**
BOJS				*i* Sn	**Sn**	**05 11 50.1**	**-6.7**
BRTR	**Keskin Array B**	**9.03**	**77**	Pn	**Pn**	**05 10 23.7**	**+3.5**
	0.1nm,0.3s,baz=262,slow=11,SNR=2.3						
BRTR	**Keskin Array B**	**9.03**	**77**	Pn	**Pn**	**05 10 23.7**	**+3.5**
JAVS	**Javornik**	**9.72**	**324**	*i* Pn	**Pn**	**05 10 27.5**	**-2.1**
JAVS				*i* Sn	**Sn**	**05 12 09.3**	**-7.8**
JAVS	**Javornik**	**9.72**	**324**	*i* Pn	**Pn**	**05 10 27.5**	**-2.1**
JAVS				*i* Sn	**Sn**	**05 12 09.3**	**-7.9**
PERS	**Pernice**	**9.86**	**330**	*i* Pn	**Pn**	**05 10 29.1**	**-2.4**
PERS				*i* Sn	**Sn**	**05 12 14.1**	**-6.5**
PERS	**Pernice**	**9.86**	**330**	*i* Pn	**Pn**	**05 10 29.1**	**-2.4**
PERS				*i* Sn	**Sn**	**05 12 14.1**	**-6.5**
ESDC	**Sonseca Array**	**20.37**	**282**	P	**P**	**05 12 43.7**	**-0.8**
	0.4nm,0.5s,baz=78,slow=11,SNR=5.6						
ESDC	**Sonseca Array**	**20.37**	**282**	P	**P**	**05 12 43.7**	**-0.8**
ESDC	**Sonseca Array**	**20.37**	**282**	P	**P**	**05 12 43.7**	**-0.8**
HFS	**Hagfors**	**22.54**	**349**	P	**P**	**05 13 06.3**	**-1.3**
	3.1nm,0.9s,mb3.8,baz=158,slow=12,SNR=5.4						
EKA	**Eskdalemuir Ar**	**24.13**	**323**	P	**P**	**05 13 23.4**	**+0.3**
	3.7nm,1.1s,mb3.7,baz=120,slow=9.6,SNR=4.0						
TORD	**Torodi Ar. Bea**	**30.95**	**222**	P	**P**	**05 14 23.7**	**-0.8**
	0.7nm,0.5s,mb3.7,baz=32,slow=9.3,SNR=14						
TORD	**Torodi Ar. Bea**	**30.95**	**222**	P	**P**	**05 14 23.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**30.95**	**222**	P	**P**	**05 14 23.7**	**-0.8**
KURK	**Kurchatov**	**41.16**	**54**	P	**P**	**05 15 51.2**	**-0.1**
	0.3nm,0.3s,mb3.4,baz=282,slow=8.7,SNR=4.2						
KURK	**Kurchatov**	**41.16**	**54**	P	**P**	**05 15 51.2**	**-0.1**
KURK	**Kurchatov**	**41.16**	**54**	P	**P**	**05 15 51.2**	**-0.2**
MKAR	**Makanchi Array**	**44.13**	**59**	P	**P**	**05 16 15.4**	**0.0**
	0.2nm,0.4s,mb3.2,baz=272,slow=7.3,SNR=5.6						
MKAR	**Makanchi Array**	**44.13**	**59**	P	**P**	**05 16 15.4**	**0.0**
MKAR	**Makanchi Array**	**44.13**	**59**	P	**P**	**05 16 15.4**	**-0.1**

NIED ***16*** *05:11:00, 39.00N×142.30E, h53km, Mw3.5 Best double couple: M01.77000×10^14 NP1:φ=296.00000°, δ57.00000°, λ65.00000°. NP2:φ=156.00000°, δ40.00000°, λ123.00000°.*

ISCJB ***16*** *05:11:29.7±1.0, 38.98N±0.05×142.3E±0.1, h62km±8km, mb3.4/4, Error ellipse: s-maj=15.9km s-min=6.0km az=22.7*

JMA ***16*** *05:11:30.3±0.1, 38.98N×142.30E, h53km±1km, M3.6*

JMA Felt I J1.

NEIC ***16*** *05:11:30.3, 38.98N×142.31E, h53km, MG3.6(JMA), After JMA.*

IDC ***16*** *05:11:33.8±4.2, 38.89N×142.22E, h89km±39km, mb3.0/4, mb1 3.2/5, mb1mx3.0/25, mbtmp3.0/5, Error ellipse: s-maj=33.2km s-min=25.5km az=87.0*

ISC 16 05:11:30.7±1.1, 39.00N±0.05×142.3E±0.1, h54km±9km, n21, σ=0.74/33, mb3.4/4, 1C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.49**	**280**	⇓P	**Pn**	**05 11 42.0**	**-0.1**
OFUJ				S	**Sn**	**05 11 50.2**	**-0.2**
MIYJ	**Miyakonagasawa**	**0.69**	**328**	⇓P	**Pn**	**05 11 44.2**	**-0.2**
MIYJ				S	**Sn**	**05 11 54.4**	**0.0**
JMK	**Ichinoseki**	**0.84**	**267**	⇓P	**Pn**	**05 11 46.2**	**-0.2**
JMK				S	**Sn**	**05 11 57.7**	**-0.2**
JOM	**Ohasama**	**0.91**	**302**	⇓P	**Pn**	**05 11 47.3**	**0.0**
JOM				S	**Sn**	**05 11 59.8**	**+0.2**
JTH	**Tanohata**	**1.00**	**341**	P	**Pn**	**05 11 48.4**	**-0.1**
JTH				S	**Sn**	**05 12 01.7**	**+0.1**
JOU	**Okura**	**1.42**	**244**	⇓P	**Pn**	**05 11 53.7**	**-0.5**
JOU				*e*S	**Sn**	**05 12 11.6**	**-0.2**
JANG	**Nango**	**1.50**	**337**	⇓P	**Pn**	**05 11 55.0**	**-0.2**
JANG				*e*S	**Sn**	**05 12 13.8**	**+0.1**
JYK	**Kaneyama**	**1.51**	**268**	⇓P	**Pn**	**05 11 55.4**	**0.0**
JYK				*e*S	**Sn**	**05 12 13.5**	**-0.5**
JMM	**Marumori**	**1.63**	**227**	⇑P	**Pn**	**05 11 56.2**	**-0.5**
JMM				S	**Sn**	**05 12 15.4**	**-1.5**
MJAR	**Matsushiro Arr**	**4.06**	**234**	P	**Pn**	**05 12 31.9**	**+1.6**
	1.0nm,0.3s,baz=38,slow=12,SNR=19						
MJAR				S	**Sn**	**05 13 27.8**	**+11**
	0.4nm,0.3s,baz=35,slow=24,SNR=3.1						
MJAR	**Matsushiro Arr**	**4.06**	**234**	P	**Pn**	**05 12 31.9**	**+1.6**
MJAR				S	**Sn**	**05 13 27.8**	**+11**
MAJO	**Matsushiro**	**4.06**	**234**	*e*Pn	**Pn**	**05 12 31.9**	**+1.6**
MAT	**Matsushiro**	**4.06**	**234**	P	**Pn**	**05 12 31.9**	**+1.6**
MAT				*e*S	**Sn**	**05 13 17.3**	**+0.8**
MKAR	**Makanchi Array**	**43.70**	**301**	P	**P**	**05 19 30.0**	**-0.1**
	0.2nm,0.5s,mb3.1,baz=83,slow=12,SNR=3.6						
MKAR	**Makanchi Array**	**43.70**	**301**	P	**P**	**05 19 30.1**	**-0.1**
KURK	**Kurchatov**	**45.30**	**307**	P	**P**	**05 19 42.9**	**0.0**
	0.7nm,0.5s,mb3.8,baz=83,slow=8.4,SNR=6.4						
KURK	**Kurchatov**	**45.30**	**307**	P	**P**	**05 19 42.9**	**0.0**
ILAR	**Eielson Array**	**47.47**	**33**	P	**P**	**05 20 00.1**	**+0.4**
	0.3nm,0.6s,mb3.4,baz=266,slow=6.4,SNR=7.5						
ILAR	**Eielson Array**	**47.47**	**33**	P	**P**	**05 20 00.1**	**+0.4**
WRA	**Warramunga Arr**	**59.10**	**189**	P	**P**	**05 21 23.9**	**-1.5**
	0.3nm,0.7s,mb3.4,baz=6.0,slow=7.3,SNR=2.5						
WRA	**Warramunga Arr**	**59.10**	**189**	P	**P**	**05 21 23.9**	**-1.5**

CSEM ***16*** *05:20:02.4, 45.53N×14.28E, h0km, ML0.7, After LJU*

LJU 16 05:20:02.4, 45.53N×14.29E, h5km, ML0.7, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDS	**Knezji Dol**	**0.07**	**94**	*i* Pg	Pg	05 20 04.0	0.0
KNDS				*i* Sg	Sg	05 20 05.3	+0.2
KNDS							
	comp=Z,34nm,0.1s						
KNDS	**Knezji Dol**	**0.07**	**94**	*i* Pg	Pg	05 20 04.0	0.0
KNDS				*i* Sg	Sg	05 20 05.3	+0.2
	comp=Z,34nm,0.1s						
SKDS	**Skadanscina**	**0.19**	**274**	⇑*i*Pg	Pg	05 20 06.1	0.0
SKDS				*i* Sg	Sg	05 20 09.3	+0.6
SKDS							
	comp=Z,4.0nm,0.0s						
SKDS	**Skadanscina**	**0.19**	**274**	⇑*i*Pg	Pg	05 20 06.1	-0.1
SKDS				*i* Sg	Sg	05 20 09.3	+0.6
	comp=Z,4.0nm,0.0s						
CEY	**Cerknica**	**0.23**	**26**	*i* Pg	Pg	05 20 06.6	-0.2
CEY				*i* Sg	Sg	05 20 10.4	+0.4
CEY							
	comp=Z,3.0nm,0.1s						
CEY	**Cerknica**	**0.23**	**26**	*i* Pg	Pg	05 20 06.6	-0.3
CEY				*i* Sg	Sg	05 20 10.4	+0.5
	comp=Z,3.0nm,0.1s						
GBRS	**Gornja Briga**	**0.37**	**90**	*i* Pg	Pg	05 20 09.6	+0.1
GBRS				*i* Sg	Sg	05 20 15.2	+0.9
	comp=Z,3.0nm,0.1s						

IDC ***16*** *05:43:13.8±1.4, 40.48N×124.34W, h0km, mb4.1/8, mb1 4.4/11, mb1mx4.1/27, mbtmp4.2/11, ML4.0/3, MS3.6/23, Ms1 3.6/23, ms1mx3.4/49, Error ellipse: s-maj=28.6km s-min=13.7km az=38.0*

ISCJB ***16*** *05:43:14.3±0.8, 40.33N±0.02×124.56W±0.05, h23km±6km, mb4.5/13, MS3.8/19, Error ellipse: s-maj=6.6km s-min=3.5km az=166.2*

NEIC ***16*** *05:43:15.0, 40.32N×124.61W, h20km, mb4.7/15, MW4.6(BRK), After NCEDC.*

NEIC Felt [IV] at Ferndale, Hydesville, Petrolia, Redcrest, Rio Dell, Scotia and Whitethorn; [III] at Eureka, Fortuna, Garberville, Loleta and Myers Flat; [II] at Arcata and Bayside. Felt from Trinidad to Littleriver and at Ukiah.

BJI ***16*** *05:43:15.0, 40.30N×124.60W, h19km, mB5.1/6, mb5.1/9, Ms5.0/4, Ms7 4.4/4*

ISC 16 05:43:14.2±1.1, 40.29N±0.03×124.67W±0.05, h9km±6km, n157, σ=1$45/146, mb4.5/14, MS3.8/19, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**0.92**	**50**	*e*Pg	**Pg**	**05 43 30.9**	**-1.0**
KHMM				*e*Sg	**Sg**	**05 43 40.7**	**-3.1**
KCPM	**Cahto Peak**	**1.03**	**126**	*e*Pg	**Pg**	**05 43 32.8**	**-1.1**
KIPM	**Iron Peak**	**1.03**	**118**	*e*Pg	**Pg**	**05 43 32.7**	**-1.2**
KRMB	**Red Mountain**	**1.36**	**25**	*e*Pn	**Pn**	**05 43 36.8**	**-2.5**
KRMB				*e*Sn	**Sn**	**05 43 52.8**	**-4.6**
WDC	**Whiskeytown Da**	**1.65**	**79**	*e*Pn	**Pn**	**05 43 41.0**	**-2.3**
HOPS	**Hopland**	**1.79**	**136**	*e*Pn	**Pn**	**05 43 43.2**	**-1.9**
HOPS				*e*Sn	**Sn**	**05 44 06.0**	**-2.0**
KBO	**Bosley Butte**	**1.95**	**10**	*e*Pn	**Pn**	**05 43 44.9**	**-2.5**
YBH	**Yreka Blue Hor**	**2.06**	**45**	*e*Pn	**Pn**	**05 43 47.2**	**-1.8**
YBH				*e*Sn	**Sn**	**05 44 12.2**	**-2.6**
MCCM	**Marconi Confer**	**2.55**	**147**	*e*Pn	**Pn**	**05 43 53.5**	**-2.2**
MCCM				*e*Sn	**Sn**	**05 44 19.5**	**-7.5**
KEBM	**Edson Butte**	**2.59**	**5**	*e*Pn	**Pn**	**05 43 56.6**	**+0.4**
HUMO	**Hull Mountain**	**2.65**	**28**	*e*Pn	**Pn**	**05 43 55.0**	**-2.0**
HUMO				*e*Sn	**Sn**	**05 44 25.8**	**-3.5**
SAC	**San Andreas**	**3.22**	**146**	*e*Pn	**Pn**	**05 44 02.4**	**-2.6**
MOD	**Modoc**	**3.67**	**63**	*e*Pn	**Pn**	**05 44 09.0**	**-2.0**
WCN	**Washoe City**	**3.91**	**103**	*e*Pn	**Pn**	**05 44 13.7**	**-0.6**
CMB	**Columbia Colle**	**4.02**	**123**	*e*Pn	**Pn**	**05 44 15.0**	**-0.9**
SAO	**San Andreas Ge**	**4.33**	**143**	*e*Pn	**Pn**	**05 44 17.5**	**-2.7**
COR	**Corvallis**	**4.41**	**13**	*e*Pn	**Pn**	**05 44 22.7**	**+1.5**
HEBO	**Mount Hebo**	**4.96**	**7**	*e*Pn	**Pn**	**05 44 28.0**	**-0.8**
WVOR	**Wild Horse Val**	**5.02**	**63**	*e*Pn	**Pn**	**05 44 27.1**	**-2.5**
WVOR				*e*Sn	**Sn**	**05 45 24.9**	**-2.8**
NVAR	**Mina Array Bea**	**5.27**	**109**	Pn	**Pn**	**05 44 32.8**	**-0.3**
	12nm,0.3s,baz=286,slow=15,SNR=313						
NVAR				Lg		05 45 52.2	
	2.8nm,0.3s,baz=113,slow=37,SNR=3.6						
NVAR				LR	LR	05 46 26.7	
	comp=Z,606nm,18.3s,baz=138,slow=37						
NVAR	**Mina Array Bea**	**5.27**	**109**	Pn	**Pn**	**05 44 32.8**	**-0.3**
NVAR				Lg		05 45 52.2	
NVAR				LR	LR	05 46 26.7	
HOOD	**Mount Hood Mea**	**5.49**	**23**	*e*Pn	**Pn**	**05 44 44.5**	**+8.4**
HOOD				*e*Pb	**Pb**	**05 44 56.2**	**+6.0**
BMN	**Battle Mountai**	**5.69**	**86**	*e*Pn	**Pn**	**05 44 37.1**	**-1.7**
BMW	**Boistfort Moun**	**6.27**	**9**	*e*Pn	**Pn**	**05 44 47.3**	**+0.6**
BMW				*e*Pb	**Pb**	**05 45 01.7**	**-1.7**
ISA	**Isabella**	**6.73**	**131**	*e*Pn	**Pn**	**05 44 54.2**	**+1.1**
LON	**Longmire**	**6.78**	**17**	*e*Pn	**Pn**	**05 44 53.9**	**+0.1**
BMO	**Blue Mountains**	**7.09**	**48**	*e*Pn	**Pn**	**05 44 58.1**	**+0.1**
NLWA	**Neilton Lookou**	**7.12**	**4**	*e*Pn	**Pn**	**05 44 58.2**	**-0.2**
RSW	**Rattlesnake Hi**	**7.13**	**30**	*e*Pn	**Pn**	**05 44 59.1**	**+0.5**
HAWA	**Hanford**	**7.15**	**30**	*e*Pn	**Pn**	**05 44 59.4**	**+0.5**
LNOR	**Lincton Mounta**	**7.27**	**38**	*e*Pn	**Pn**	**05 44 59.9**	**-0.6**
MFID	**Camas Ranch**	**7.30**	**62**	*e*Pn	**Pn**	**05 44 59.3**	**-1.6**
OSI	**Osito Adit**	**7.38**	**138**	*e*Pn	**Pn**	**05 45 03.9**	**+1.8**
	134nm,0.4s						
GNW	**Green Mountain**	**7.39**	**10**	*e*Pn	**Pn**	**05 45 03.7**	**+1.5**
ETW	**Entiat**	**7.95**	**22**	*e*Pn	**Pn**	**05 45 11.2**	**+1.4**
GSC	**Goldstone**	**7.97**	**126**	*e*Pn	**Pn**	**05 45 10.8**	**+0.7**
PASC	**Pasadena Art C**	**8.00**	**138**	*e*Pn	**Pn**	**05 45 10.4**	**-0.1**
MWC	**Mount Wilson**	**8.03**	**137**	*e*Pn	**Pn**	**05 45 10.6**	**-0.3**
JCW	**Jim Creek**	**8.14**	**13**	*e*Pn	**Pn**	**05 45 14.3**	**+1.9**
OD2	**Odessa Site #2**	**8.30**	**29**	*e*Pn	**Pn**	**05 45 14.2**	**-0.4**
HLID	**Hailey**	**8.31**	**64**	*e*Pn	**Pn**	**05 45 14.0**	**-0.8**
PGC	**Sidney**	**8.40**	**6**	*e*Pn	**Pn**	**05 45 15.5**	**-0.5**
	0.6nm,0.8s						
PGC				*e*Sn	**Sn**	**05 46 43.8**	**-7.1**
BGU	**Big Grassy Mou**	**8.88**	**82**	*e*Pn	**Pn**	**05 45 21.8**	**-0.7**
	19nm,0.9s						
DUG	**Dugway**	**9.07**	**87**	*e*Pn	**Pn**	**05 45 25.9**	**+0.7**
ARUT	**Antelope Range**	**9.09**	**102**	*e*Pn	**Pn**	**05 45 25.7**	**+0.3**
	12nm,1.0s						
HVU	**Hansel Valley**	**9.11**	**77**	*e*Pn	**Pn**	**05 45 26.5**	**+0.7**
CCUT	**Cedar City**	**9.22**	**104**	*e*Pn	**Pn**	**05 45 29.7**	**+2.3**
SPUT	**South Promonto**	**9.32**	**80**	*e*Pn	**Pn**	**05 45 29.7**	**+1.0**
	20nm,1.1s						
PFO	**Pinyon Flat Ob**	**9.36**	**133**	*e*Pn	**Pn**	**05 45 29.3**	**+0.1**
NEW	**Newport**	**9.63**	**32**	*e*Pn	**Pn**	**05 45 33.5**	**+0.7**
NLU	**North Lily Min**	**9.65**	**88**	*e*Pn	**Pn**	**05 45 31.9**	**-1.3**
MCMT	**McKenzie Canyo**	**9.82**	**59**	*e*Pn	**Pn**	**05 45 35.7**	**+0.2**
	6.4nm,0.7s						
MSU	**Marysvale**	**9.83**	**96**	*e*Pn	**Pn**	**05 45 36.9**	**+1.3**
BAR	**Barrett**	**9.95**	**137**	*e*Pn	**Pn**	**05 45 35.8**	**-1.5**
BAR				*e*Sn	**Sn**	**05 47 24.6**	**-4.6**
MPU	**Maple Canyon**	**9.98**	**87**	*e*Pn	**Pn**	**05 45 36.2**	**-1.6**
HWUT	**Hardware Ranch**	**10.00**	**78**	*e*Pn	**Pn**	**05 45 39.2**	**+1.2**
JLU	**Jordanelle**	**10.08**	**84**	*e*Pn	**Pn**	**05 45 41.0**	**+1.9**
MSO	**Missoula**	**10.16**	**46**	*e*Pn	**Pn**	**05 45 40.5**	**+0.4**
DLMT	**Dillon**	**10.21**	**56**	*e*Pn	**Pn**	**05 45 41.2**	**+0.5**
DAU	**Daniels Canyon**	**10.24**	**85**	*e*Pn	**Pn**	**05 45 43.3**	**+2.1**
BSMT	**Bassoo Peak**	**10.37**	**40**	*e*Pn	**Pn**	**05 45 43.1**	**+0.1**
TMUT	**Trail Mountain**	**10.41**	**91**	*e*Pn	**Pn**	**05 45 46.0**	**+2.0**
RRI2	**Red Ridge**	**10.42**	**69**	*e*Pn	**Pn**	**05 45 44.7**	**+1.0**
LRM	**Limekiln Ridge**	**10.51**	**54**	*e*Pn	**Pn**	**05 45 45.5**	**+0.7**
SWMT	**Swartz Lake**	**10.54**	**43**	*e*Pn	**Pn**	**05 45 46.3**	**+0.9**
JTMT	**Jette**	**10.55**	**42**	*e*Pn	**Pn**	**05 45 46.2**	**+0.8**
DCID1	**Drake Creek**	**10.57**	**67**	*e*Pn	**Pn**	**05 45 45.6**	**-0.2**
CHMT	**Chamberlain Mo**	**10.59**	**48**	*e*Pn	**Pn**	**05 45 47.1**	**+1.0**
SLMT	**Seeley Lake**	**10.65**	**46**	*e*Pn	**Pn**	**05 45 47.1**	**+0.3**
BLMT	**Blacktail Moun**	**10.69**	**40**	*e*Pn	**Pn**	**05 45 47.6**	**+0.3**
GLA	**Glamis**	**10.70**	**129**	*e*Pn	**Pn**	**05 45 47.2**	**-0.4**
TPAW	**Teton Pass**	**10.71**	**68**	*e*Pn	**Pn**	**05 45 49.9**	**+2.2**
QLMT	**Earthquake Lak**	**10.76**	**61**	*e*Pn	**Pn**	**05 45 50.2**	**+1.8**
YBMT	**Yellow Bay**	**10.76**	**42**	*e*Pn	**Pn**	**05 45 49.5**	**+1.1**
SNOW	**Snow King Moun**	**10.85**	**68**	*e*Pn	**Pn**	**05 45 51.9**	**+2.3**
MOOW	**Moose Ponds**	**10.92**	**67**	*e*Pn	**Pn**	**05 45 52.2**	**+1.7**
BOZ	**Bozeman (W)**	**10.95**	**56**	*e*Pn	**Pn**	**05 45 50.9**	**+0.1**
SRU	**San Rafael**	**10.96**	**92**	*e*Pn	**Pn**	**05 45 54.4**	**+3.3**
LOHW	**Long Hollow**	**10.99**	**68**	*e*Pn	**Pn**	**05 45 52.9**	**+1.5**
YMR	**Madison River**	**11.02**	**62**	*e*Pn	**Pn**	**05 45 54.5**	**+2.6**
	13nm,0.9s						
FLWY	**Flagg Ranch**	**11.03**	**65**	*e*Pn	**Pn**	**05 45 53.8**	**+1.7**
YFT	**Old Faithful**	**11.04**	**63**	*e*Pn	**Pn**	**05 45 55.5**	**+3.3**
YNR	**Norris Junctio**	**11.23**	**62**	*e*Pn	**Pn**	**05 45 59.2**	**+4.4**
HRY	**Holter Researc**	**11.31**	**51**	*e*Pn	**Pn**	**05 45 55.4**	**-0.4**
WUAZ	**Wupatki**	**11.53**	**110**	*e*Pn	**Pn**	**05 46 02.3**	**+3.4**
PD01	**Pinedale Array**	**11.58**	**73**	*e*Pn	**Pn**	**05 46 00.2**	**+0.7**
PD02	**Pinedale Array**	**11.59**	**73**	*e*Pn	**Pn**	**05 46 00.6**	**+0.9**
BW06	**Boulder Array**	**11.59**	**73**	*e*Pn	**Pn**	**05 46 04.9**	**+5.1**
PDAR	**Pinedale Array**	**11.59**	**73**	Pn	**Pn**	**05 46 00.7**	**+1.0**
	0.2nm,0.3s,baz=263,slow=11,SNR=46						
PDAR				LR	LR	05 50 35.3	
	comp=Z,345nm,21.0s,baz=82,slow=39						
PDAR	**Pinedale Array**	**11.59**	**73**	Pn	**Pn**	**05 46 00.7**	**+1.0**
PDAR				LR	LR	05 50 35.3	
WALA	**Waterton Lakes**	**11.63**	**38**	*e*Pn	**Pn**	**05 45 59.4**	**-0.8**
	0.9nm,1.1s						
BBB	**Bella Bella**	**12.13**	**350**	Pn	**Pn**	**05 46 09.9**	**+2.9**
	0.2nm,0.3s,baz=186,slow=14,SNR=4.5						
BBB				LR	LR	05 50 44.1	
	comp=Z,89nm,18.5s,baz=220,slow=38						
BBB	**Bella Bella**	**12.13**	**350**	Pn	**Pn**	**05 46 09.9**	**+2.9**
BBB				LR		05 50 44.1	
RLMT	**Red Lodge**	**12.31**	**62**	*e*Pn	**Pn**	**05 46 06.7**	**-2.8**
PV04	**Paradox Valley**	**12.35**	**94**	*e*Pn	**Pn**	**05 46 12.1**	**+2.0**
MVCO	**Mesa Verde**	**12.99**	**99**	*e*Pn	**Pn**	**05 46 21.4**	**+2.6**
EGMT	**Eagleton**	**13.19**	**49**	*e*Pn	**Pn**	**05 46 21.2**	**-0.3**
TUC	**Tucson**	**13.73**	**121**	*e*Pn	**Pn**	**05 46 30.9**	**+1.9**
ISCO	**Idaho Springs**	**14.61**	**86**	*e*Pn	**Pn**	**05 46 42.2**	**+1.3**
LAO	**LASA Array**	**14.82**	**58**	*e*Pn	**Pn**	**05 46 41.0**	**-2.7**
	14nm,0.6s						
SDCO	**Great Sand Dun**	**15.11**	**94**	*e*Pn	**Pn**	**05 46 49.4**	**+1.6**
	41nm,1.4s						
LAZ	**Ladron**	**15.12**	**107**	*e*Pn	**Pn**	**05 46 49.2**	**+1.3**
	5.7nm,1.4s						
ANMO	**Albuquerque**	**15.37**	**105**	Pn	**Pn**	**05 46 51.9**	**+0.6**
	0.1nm,0.3s,baz=306,slow=13,SNR=7.0						
ANMO				LR	LR	05 53 24.9	
	comp=Z,252nm,18.4s,baz=119,slow=40						
ANMO	**Albuquerque**	**15.37**	**105**	*e*Pn	**Pn**	**05 46 51.3**	**+0.1**
	8.9nm,1.5s						
BNM	**Barren Site**	**15.61**	**107**	*e*P	**Pn**	**05 46 56.9**	**+2.5**
	9.0nm,1.2s						
RSSD	**Black Hills**	**15.75**	**69**	*e*Pn	**Pn**	**05 46 52.6**	**-3.5**
	9.2nm,0.7s						
DGMT	**Dagmar**	**16.73**	**54**	*e*Pn	**Pn**	**05 47 06.0**	**-2.6**
	188nm,1.6s						
OGNE	**Ogallala**	**17.19**	**80**	*e*Pn	**Pn**	**05 47 13.3**	**-1.2**
	154nm,1.7s						
DLBC	**Dease Lake**	**18.48**	**351**	P	**Pn**	**05 47 33.2**	**+2.9**
	0.1nm,0.3s,baz=134,slow=13,SNR=4.2						
DLBC	**Dease Lake**	**18.48**	**351**	P	**Pn**	**05 47 33.2**	**+2.9**
CBKS	**Cedar Bluff**	**19.27**	**86**	*e*P	**Pn**	**05 47 34.2**	**-5.7**
	53nm,0.8s						
TXAR	**Lajitas Array**	**20.36**	**116**	P	**P**	**05 47 52.5**	**+1.5**
	6.6nm,0.8s,baz=299,slow=9.0,SNR=74						
TXAR				LR	LR	05 56 12.1	
	comp=Z,141nm,18.2s,MS3.4,baz=0.0,slow=38						
TXAR	**Lajitas Array**	**20.36**	**116**	P	**P**	**05 47 52.5**	**+1.5**
TXAR				LR	LR	05 56 12.1	
FFC	**Flin Flon**	**20.92**	**39**	*e*P	**P**	**05 47 54.5**	**-2.4**
	97nm,1.7s						
ECSD	**EROS Data Cent**	**21.08**	**71**	*e*P	**P**	**05 47 54.0**	**-4.7**
	12nm,0.4s,mb4.6						
WMOK	**Wichita Mounta**	**21.23**	**97**	*e*P	**P**	**05 47 58.8**	**-1.6**
	68nm,2.7s,mb4.5						
KSU1	**Kansas State U**	**21.59**	**84**	*e*P	**P**	**05 48 02.0**	**-2.2**
	159nm,1.4s,mb5.3						
AGMN	**Agassiz Nation**	**22.02**	**59**	*e*P	**P**	**05 48 05.0**	**-3.7**
	53nm,0.6s,mb5.2						
JCT	**Junction City**	**22.45**	**108**	*e*P	**P**	**05 48 13.1**	**-0.3**
	72nm,2.5s,mb4.7						
ULM	**Lac du Bonnet**	**22.45**	**54**	P	**P**	**05 48 09.6**	**-3.6**
	14nm,0.6s,mb4.6,baz=258,slow=9.9,SNR=17						
ULM				LR	LR	05 57 25.7	
	comp=Z,204nm,19.6s,MS3.6,baz=322,slow=38						
ULM	**Lac du Bonnet**	**22.45**	**54**	*e*P	**P**	**05 48 09.2**	**-4.0**
	34nm,1.2s,mb4.7						
YKA	**Yellowknife Ar**	**23.05**	**12**	P	**P**	**05 48 18.4**	**-1.0**
	2.1nm,0.7s,mb3.7,baz=199,slow=11,SNR=6.9						
YKA				LR	LR	05 58 25.6	
	comp=Z,19nm,20.1s,baz=5.0,slow=40						
YKA	**Yellowknife Ar**	**23.05**	**12**	P	**P**	**05 48 18.4**	**-1.0**
YKA				LR	LR	05 58 25.6	
ILAR	**Eielson Array**	**27.69**	**340**	LR	LR	05 58 10.0	
	comp=Z,81nm,18.4s,MS3.3,baz=129,slow=32						
INK	**Inuvik**	**28.48**	**353**	LR	LR	06 00 56.0	
	comp=Z,171nm,18.2s,MS3.7,baz=323,slow=38						
TKL	**Tuckaleechee C**	**32.36**	**85**	LR	LR	06 02 30.4	
	comp=Z,139nm,21.1s,MS3.6,baz=92,slow=36						
RES	**Resolute Bay**	**37.11**	**13**	LR	LR	06 06 39.6	
	comp=Z,172nm,19.5s,MS3.9,baz=242,slow=38						
SCHQ	**Schefferville**	**40.45**	**49**	P	**P**	**

SUA	**Susitna One**	**5.94**	**145**	P	Pn	05 48 30.9	+1.2
PMR	**Palmer**	**6.23**	**138**	*e*P	Pn	05 48 35.1	+1.4
SML	**Sawmill**	**6.28**	**134**	P	Pn	05 48 35.5	+1.2
PAX	**Paxson**	**6.37**	**118**	*e*Pn	Pn	05 48 36.6	+1.0
	4.1nm,0.5s						
RSO	**Redoubt South**	**6.47**	**157**	*e*Pn	Pn	05 48 37.1	+0.1
DOT	**Dot Lake**	**6.49**	**110**	*e*Pn	Pn	05 48 37.0	-0.2
DOT				*e*Sg	Sn	05 50 19.9	+29
SCM	**Sheep Creek Mo**	**6.55**	**131**	P	Pn	05 48 38.9	+0.8
MENT	**Mentasta**	**7.02**	**114**	*e*Pn	Pn	05 48 44.2	-0.3
EGAK	**Eagle**	**7.11**	**96**	P	Pn	05 48 46.1	+0.3
KLU	**Klutina**	**7.25**	**128**	P	Pn	05 48 48.6	+0.9
SEW	**Seward**	**7.44**	**146**	*e*Pn	Pn	05 48 52.7	+2.4
HHC	**Hu-ho-hao-te**	**53.58**	**289**	*e*P	P	05 56 22.3	+0.1
HHC				sP	sP	05 56 43.3	+13
HHC				PcP	PcP	05 57 43.8	+15
HHC				PP	PP	05 58 37.8	+15
HHC				S	S	06 03 51.6	-2.4
HHC				sS	sS	06 04 13.5	+9.3
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,73nm,6.0s						
HHC				LR	LR		
	comp=N,82nm,10.2s						
HHC				LR	LR		
	comp=E,170nm,11.2s						
HHC				LR	LR		
	comp=Z,59nm,16.1s						
WMQ	**Urumqi**	**59.21**	**310**	*e*P	P	05 57 04.5	+2.3
CD2	**Chengdu**	**65.30**	**291**	P	P	05 57 43.8	+0.6
CD2				pP	pP	05 57 48.4	-1.1
CD2				sP	sP	05 57 50.8	-1.0
CD2				PP	PP	06 00 08.8	+2.3
CD2				S	S	06 06 23.8	-1.8
CD2				sS	sS	06 06 31.4	-4.5
CD2				SS	SS	06 10 37.4	-0.4
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,50nm,4.8s						
CD2				LR	LR		
	comp=N,59nm,6.2s						
CD2				LR	LR		
	comp=Z,80nm,5.7s						

*IDC **16** 06:23:05.9±0.8,4°.53N×127°.95E,h0km,mb3.9/9, mb1 4.0/9,mb1mx3.9/22,mbtmp3.9/9, Error ellipse: s-maj=55.0km s-min=14.4km az=76.0*
*ISCJB **16** 06:23:08.9±0.6,4°.5N±0°.1×127°.9E±0°.3,h33km,mb3.9/10, Error ellipse: s-maj=46.5km s-min=10.9km az=167.3*
*NEIC **16** 06:23:10.9±0.6,4°.54N×128°.05E,h35km,mb4.1/1, Error ellipse: s-maj=43.7km s-min=10.6km az=75.0*

ISC 16 06:23:11.1±0.6,4°.51N±0°.10×128°.0E±0°.3,h35km,n19, σ0s81/19,mb3.9/10,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.59**	**186**	P	**P**	**06 28 09.7**	**+1.0**
	0.8nm,0.5s,mb3.4,baz=355,slow=4.1,SNR=7.3						
FITZ	**Fitzroy Crossi**	**22.59**	**186**	P	**P**	**06 28 09.7**	**+1.0**
WRAB	**Tennant Creek**	**25.08**	**166**	*e*P	**P**	**06 28 32.2**	**-0.4**
	3.8nm,0.8s,mb4.0						
WRA	**Warramunga Arr**	**25.09**	**166**	P	**P**	**06 28 32.1**	**-0.5**
	2.4nm,0.3s,mb4.2,baz=344,slow=10,SNR=48						
WRA	**Warramunga Arr**	**25.09**	**166**	P	**P**	**06 28 32.1**	**-0.5**
WB2	**Warramunga Arr**	**25.09**	**166**	*e*P	**P**	**06 28 32.5**	**-0.1**
ASAR	**Alice Springs**	**28.59**	**169**	P	**P**	**06 29 04.2**	**+0.1**
	1.2nm,0.6s,mb3.8,baz=358,slow=9.1,SNR=28						
ASAR	**Alice Springs**	**28.59**	**169**	P	**P**	**06 29 04.2**	**+0.1**
KSRS	**Korea Array**	**32.79**	**360**	P	**P**	**06 29 41.6**	**+0.6**
	1.5nm,0.6s,mb4.1,baz=182,slow=9.5,SNR=5.0						
STKA	**Stephens Creek**	**38.43**	**161**	P	**P**	**06 30 29.7**	**+0.2**
	2.1nm,0.3s,mb4.3,baz=347,slow=7.7,SNR=18						
STKA	**Stephens Creek**	**38.43**	**161**	P	**P**	**06 30 29.7**	**+0.2**
SONM	**Songino Array**	**46.98**	**340**	P	**P**	**06 31 40.4**	**+1.7**
	0.4nm,0.6s,mb3.5,baz=158,slow=4.7,SNR=2.2						
SONM	**Songino Array**	**46.98**	**340**	P	**P**	**06 31 40.4**	**+1.7**
MKAR	**Makanchi Array**	**57.65**	**324**	P	**P**	**06 32 57.2**	**-0.7**
	1.0nm,0.7s,mb4.0,baz=121,slow=8.2,SNR=8.7						
MKAR	**Makanchi Array**	**57.65**	**324**	P	**P**	**06 32 57.2**	**-0.7**
KURK	**Kurchatov**	**61.78**	**327**	P	**P**	**06 33 24.8**	**-1.4**
	1.3nm,0.8s,mb4.1,baz=123,slow=5.9,SNR=14						
KURK	**Kurchatov**	**61.78**	**327**	P	**P**	**06 33 24.8**	**-1.4**
ILAR	**Eielson Array**	**83.86**	**25**	P	**P**	**06 35 36.5**	**-0.4**
	0.4nm,0.8s,mb3.6,baz=233,slow=5.0,SNR=6.4						
ILAR	**Eielson Array**	**83.86**	**25**	P	**P**	**06 35 36.5**	**-0.4**

IDC 16 06:28:40.1±1.9,6°.82S×129°.26E,h0km,mb4.0/1, mb1 3.8/4,mb1mx3.5/17,mbtmp3.7/4,ML3.5/3,Error ellipse: s-maj=80.8km s-min=26.6km az=76.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.76**	**197**	Pn	Pn	06 31 29.0	-0.3
	0.1nm,0.3s,baz=18,slow=13,SNR=6.0						
FITZ				Sn	Sn	06 33 25.9	-15
	0.4nm,0.3s,baz=104,slow=6.8,SNR=3.7						
WRA	**Warramunga Arr**	**13.95**	**160**	Pn	Pn	06 31 58.9	-0.3
	0.4nm,0.3s,baz=339,slow=12,SNR=18						
WRA				Sn	Sn	06 34 21.6	-13
	1.0nm,0.3s,baz=331,slow=22,SNR=14						
ASAR	**Alice Springs**	**17.33**	**166**	P	Pn	06 32 44.2	+0.5
	0.3nm,0.3s,baz=337,slow=9.1,SNR=22						
ASAR				S	Sn	06 35 45.9	-11
	0.2nm,0.3s,baz=346,slow=27,SNR=5.0						
MKAR	**Makanchi Array**	**67.67**	**327**	P	P	06 39 39.2	+0.1
	0.7nm,0.4s,baz=117,slow=8.0,SNR=16						

IDC 16 06:29:36.3±1.6,28°.01S×69°.00W,h0km,mb3.6/1, mb1 3.7/2,mb1mx3.5/15,mbtmp3.6/2,ML3.6/1,Error ellipse: s-maj=125.1km s-min=48.7km az=167.0,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**10.53**	**84**	Pn	Pn	06 32 08.0	-0.5
	0.1nm,0.3s,baz=256,slow=4.2,SNR=2.8						
TORD	**Torodi Ar. Bea**	**79.68**	**69**	P	P	06 41 46.7	+0.5
	0.4nm,0.5s,baz=254,slow=5.3,SNR=5.2						
TORD	**Torodi Ar. Bea**	**79.68**	**69**	P	P	06 41 46.7	+0.5
WRA	**Warramunga Arr**	**127.25**	**208**	PKP	PKPdf	06 48 43.3	-0.2
	0.2nm,0.6s,baz=158,slow=2.0,SNR=4.7						
ZALV	**Zalesovo Beam**	**147.76**	**29**	PKPbc	PKPbc	06 49 21.9	-0.7
	1.0nm,0.4s,baz=289,slow=4.4,SNR=6.7						
MKAR	**Makanchi Array**	**150.72**	**42**	PKPbc	PKPbc	06 49 29.8	-0.5
	0.7nm,0.6s,baz=285,slow=2.4,SNR=6.3						

*IDC **16** 06:48:05.3±2.9,30°.73S×177°.80W,h0km,mb3.8/3, mb1 4.0/4,mb1mx3.7/16,mbtmp3.8/4,ML3.6/1,Error ellipse: s-maj=66.7km s-min=34.9km az=115.0*

ISC 16 06:48:18.0±2.6,31°.2S±0°.1×178°.3W±0°.2,h77km±21km,n13, σ1s12/15,mb3.7/3,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.93**	**203**	*e*PN	**Pn**	**06 49 56.7**	**-0.1**
MXZ				*e*SN	**Sn**	**06 51 16.5**	**+2.5**
MWZ	**Matawai**	**7.89**	**204**	*e*PN	**Pn**	**06 50 09.3**	**-0.6**
URZ	**Urewera**	**7.98**	**207**	Pn	**Pn**	**06 50 11.4**	**+0.2**
	0.7nm,0.3s,baz=354,slow=19,SNR=11						
URZ				Sn	**Sn**	**06 51 47.5**	**+7.7**
	5.3nm,0.3s,baz=232,slow=21,SNR=18						
URZ	**Urewera**	**7.98**	**207**	*e*PN	**Pn**	**06 50 10.9**	**-0.3**
URZ				*e*SN	**Sn**	**06 51 42.9**	**+3.1**
MRZ	**Mangatainoka R**	**10.65**	**206**	SN	**Sn**	**06 52 44.3**	**-0.7**
KIW	**Kapiti Island**	**11.08**	**208**	*e*SN	**Sn**	**06 52 53.9**	**-1.6**
NNZ	**Nelson**	**12.02**	**212**	SN	**Sn**	**06 53 17.8**	**-0.7**
STKA	**Stephens Creek**	**34.03**	**258**	P	**P**	**06 54 57.4**	**+2.7**
	1.1nm,0.6s,mb3.9,baz=96,slow=9.2,SNR=4.2						
ASAR	**Alice Springs**	**42.80**	**268**	P	**P**	**06 56 08.1**	**-0.2**
	0.2nm,0.4s,mb3.2,baz=105,slow=7.1,SNR=5.8						
WRA	**Warramunga Arr**	**43.86**	**273**	P	**P**	**06 56 16.2**	**-0.6**
	1.0nm,0.3s,mb4.0,baz=111,slow=8.0,SNR=26						
VNA3	**Neumayer Olymp**	**77.52**	**176**	*e*	**P**	**07 00 04.7**	**-0.1**
VNA2	**Neumayer--Watz**	**77.95**	**177**	*e*	**P**	**07 00 07.2**	**0.0**
FINES	**FINESS Array B**	**145.80**	**339**	PKPbc	PKPbc	07 07 43.9	-3.7
	4.6nm,0.9s,baz=54,slow=3.8,SNR=12						

*NEIC **16** 06:48:47.3,33°.15S×70°.09W,h23km,ML3.2(GUC),After GUC.*

GUC 16 06:48:47.3±0.7,33°.15S×70°.09W,h23km±1km,MD4.0, ML3.2,11C-14D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.24**	**224**	⇑*i*P	Pb	06 48 51.5	-1.8
FCH				*i* S	Sb	06 48 55.0	-2.4
FCH				AML	AML	06 48 55.2	
	comp=N,6μm,0.2s						
CLCH	**Cerro Calan**	**0.45**	**237**	⇓*i*P	Pb	06 48 56.4	-0.2
CLCH				*i* S	Sb	06 49 03.3	+0.4
CLCH				AML	AML	06 49 05.7	
	comp=E,4μm,0.3s						
LACH	**Col Las Americ**	**0.48**	**231**	*i* P	Pb	06 48 56.7	-0.3
LACH				*e*S	Sb	06 49 03.7	0.0
FSR	**Penalolen**	**0.49**	**229**	⇓*i*P	Pb	06 48 57.2	-0.1
FSR				*i* S	Sb	06 49 04.5	+0.4
FSR	**Penalolen**	**0.49**	**229**	⇓*i*P	Pb	06 48 57.2	-0.1
FSR				*i* S	Sb	06 49 04.5	+0.4
FSR				AML	AML	06 49 04.7	
	comp=N,979nm,0.3s						
PEL	**Peldehue**	**0.50**	**271**	⇑*i*P	Pb	06 48 57.3	-0.2
PEL				*i* S	Sb	06 49 04.6	+0.2
PEL				AML	AML	06 49 04.8	
	comp=N,7μm,0.2s						
SAN	**Santiago**	**0.57**	**238**	⇑*i*P	Pb	06 48 58.5	-0.1
SAN				*i* S	Sb	06 49 06.7	+0.5
SAN	**Santiago**	**0.57**	**238**	⇑*i*P	Pb	06 48 58.5	-0.1
SAN				*i* S	Sb	06 49 06.7	+0.5
SAN				AML	AML	06 49 07.2	
	comp=N,712nm,0.4s						
PCH	**Pirque**	**0.59**	**217**	⇑*i*P	Pb	06 48 58.8	-0.1
PCH				*i* S	Sb	06 49 07.5	+0.6
PCH	**Pirque**	**0.59**	**217**	⇑*i*P	Pb	06 48 58.8	-0.1
PCH				*i* S	Sb	06 49 07.5	+0.6
ANTU	**Antumapu**	**0.62**	**228**	⇓*i*P	Pb	06 48 59.2	-0.2
ANTU				*i* S	Sb	06 49 08.0	+0.3
ANTU	**Antumapu**	**0.62**	**228**	⇓*i*P	Pb	06 48 59.2	-0.2
ANTU				*i* S	Sb	06 49 08.0	+0.3
ANTU				AML	AML	06 49 11.7	
	comp=N,1μm,0.5s						
JACH	**Jahuel**	**0.63**	**318**	⇓*i*P	Pb	06 48 59.5	-0.2
JACH				*i* S	Sb	06 49 08.5	+0.4
JACH	**Jahuel**	**0.63**	**318**	⇓*i*P	Pb	06 48 59.5	-0.2
JACH				*i* S	Sb	06 49 08.5	+0.4
LMEL	**Las Melosas**	**0.70**	**188**	⇑*i*P	Pb	06 49 00.5	-0.4
LMEL				*e*S	Sb	06 49 10.7	+0.6
LMEL	**Las Melosas**	**0.70**	**188**	⇑*i*P	Pb	06 49 00.5	-0.4
LMEL				*e*S	Sb	06 49 10.7	+0.6
LMEL				AML	AML	06 49 15.7	
	comp=N,1μm,0.2s						
ROCH	**El Roble**	**0.80**	**283**	⇓*i*P	Pb	06 49 02.6	+0.2
ROCH				*i* S	Sb	06 49 13.9	+1.1
ROCH				AML	AML	06 49 14.9	
	comp=N,3μm,0.6s						
TACH	**Talagante**	**0.87**	**235**	⇑*i*P	Pb	06 49 03.7	0.0
TACH				*i* S	Sb	06 49 15.7	+0.8
TACH	**Talagante**	**0.87**	**235**	⇑*i*P	Pb	06 49 03.7	0.0
TACH				*i* S	Sb	06 49 15.7	+0.8
CACH	**El Canelo**	**1.05**	**204**	⇓*i*P	Pn	06 49 07.4	+0.7
CACH				*i* S	Sb	06 49 22.0	+1.8
CACH	**El Canelo**	**1.05**	**204**	⇓*i*P	Pn	06 49 07.4	+0.7
CACH				*i* S	Sb	06 49 22.0	+1.8
LNV	**Longovilo**	**1.36**	**234**	⇓*i*P	Pn	06 49 11.6	+0.7
LNV				*i* S	Sn	06 49 30.2	+1.9
LNV	**Longovilo**	**1.36**	**234**	⇓*i*P	Pn	06 49 11.6	+0.7
LNV				*i* S	Sn	06 49 30.2	+1.9
CHNG	**Los Chungos**	**1.74**	**316**	⇑*i*P	Pn	06 49 18.2	+2.1
CHNG				*i* S	Sn	06 49 41.5	+3.9
CMCH	**Combarbala**	**2.12**	**338**	⇓*i*P	Pn	06 49 24.1	+2.8
CMCH				*i* S	Sn	06 49 52.9	+6.0
CMCH	**Combarbala**	**2.12**	**338**	⇓*i*P	Pn	06 49 24.1	+2.8
CMCH				*i* S	Sn	06 49 52.9	+6.0
CMCH				AML	AML	06 50 00.6	
	comp=E,2μm,0.6s						
TALC	**Talca**	**2.58**	**209**	*i* S	Sn	06 50 06.0	+7.7

IGQ 16 07:04:19.9,0°.91S×79°.64W,h107km±5km,Mb4.1,Ms3.9, 6C-20D,Error ellipse: s-maj=1.4km s-min=1.1km az=152.2,Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECV	**Mancha de Ca P**	**0.43**	**288**	⇑S	Sn	07 04 51.6	+3.5
PECV	**Mancha de Ca P**	**0.43**	**288**	⇑P	Pn	07 04 38.8	+2.8
JAMA	**Jama**	**0.86**	**319**	P	Pn	07 04 39.1	-0.4
CHIS	**Cerro-Chispas-**	**1.09**	**263**	S	Sn	07 04 59.4	+0.9
CHIS	**Cerro-Chispas-**	**1.09**	**263**	P	Pn	07 04 42.0	+0.2
IGUA	**Igualata**	**1.16**	**120**	⇓S	Sn	07 04 59.6	-0.1
IGUA	**Igualata**	**1.16**	**120**	⇓P	Pn	07 04 43.2	+0.6
CAMI	**Rancho Maria**	**1.16**	**78**	P	Pn	07 04 43.9	+1.3
BMOR	**Cotopaxi Volca**	**1.20**	**81**	⇓S	Sn	07 05 02.0	+1.4
BMOR	**Cotopaxi Volca**	**1.20**	**81**	⇓P	Pn	07 04 44.3	+1.2
NAS2	**Nasa**	**1.20**	**77**	P	Pn	07 04 44.0	+0.8
MOV1	**Cotopaxi Vol s**	**1.22**	**81**	⇓S	Sn	07 05 02.2	+1.2
MOV1	**Cotopaxi Vol s**	**1.22**	**81**	⇓P	Pn	07 04 44.4	+1.1
GOLV	**Golondrinas**	**1.22**	**24**	S	Sn	07 04 59.4	-1.7
GOLV	**Golondrinas**	**1.22**	**24**	P	Pn	07 04 42.3	-1.1
JUA2	**San Juan 2**	**1.25**	**56**	⇓P	Pn	07 04 44.9	+1.3
BVC2	**Cotopaxi Volca**	**1.26**	**78**	⇓P	Pn	07 04 45.2	+1.5
PITA	**Cotopaxi Volc**	**1.26**	**74**	⇑P	Pn	07 04 45.2	+1.4
PISA	**Pisayambo**	**1.27**	**97**	P	Pn	07 04 44.9	+1.0
BTAM	**Cotopaxi Volca**	**1.27**	**79**	⇓P	Pn	07 04 45.2	+1.3
VC1	**Cotopaxi 1**	**1.27**	**78**	⇓P	Pn	07 04 45.2	+1.3
BBIL	**Ulba Tungurahu**	**1.27**	**115**	P	Pn	07 04 45.2	+1.3
TERV	**Terraza Guagua**	**1.27**	**55**	P	Pn	07 04 45.0	+1.0
PINO	**Pino**	**1.28**	**54**	⇓P	Pn	07 04 45.1	+1.1
GGP	**Refugio Guagua**	**1.28**	**55**	⇓P	Pn	07 04 44.9	+0.9
TAMB	**Tambo**	**1.29**	**80**	⇑P	Pn	07 04 45.9	+1.7
BMAS	**Trigal station**	**1.30**	**117**	⇓P	Pn	07 04 45.0	+0.7
RETU	**Refugio**	**1.31**	**114**	P	Pn	07 04 44.8	+0.5
RIOE	**Riobamba**	**1.31**	**130**	⇓P	Pn	07 04 44.8	+0.4
RUN5	**Runtun**	**1.32**	**112**	P	Pn	07 04 45.0	+0.6
COV1	**Cotopaxi Volc**	**1.32**	**79**	P	Pn	07 04 45.0	+0.5
COV1	**Cotopaxi Volc**	**1.32**	**79**	S	Sn	07 05 04.3	+1.3
COV1	**Cotopaxi Volc**	**1.32**	**79**	P	Pn	07 04 45.6	+1.1
BRUN	**Tungurahua Vol**	**1.33**	**112**	⇓S	Sn	07 05 04.8	+1.6
BRUN	**Tungurahua Vol**	**1.33**	**112**	⇓P	Pn	07 04 45.1	+0.5
YANA	**Yana**	**1.33**	**54**	P	Pn	07 04 45.4	+0.8
BULB	**Ulba Tungurahu**	**1.34**	**113**	⇓S	Sn	07 05 05.6	+2.1
BULB	**Ulba Tungurahu**	**1.34**	**113**	⇓P	Pn	07 04 45.4	+0.7
PAT1	**Patacocha**	**1.34**	**116**	P	Pn	07 04 45.5	+0.8
ULBA	**Ulba**	**1.34**	**113**	P	Pn	07 04 45.7	+0.9
ANTI	**Antisana**	**1.55**	**73**	⇓S	Sn	07 05 10.4	+2.4
ANTI	**Antisana**	**1.55**	**73**	⇓P	Pn	07 04 48.7	+1.5
OTAV	**Otavalo**	**1.65**	**46**	⇑S	Sn	07 05 10.9	+0.8
OTAV	**Otavalo**	**1.65**	**46**	⇑P	Pn	07 04 49.8	+1.3
CAYR	**Refugio Cayamb**	**1.88**	**61**	P	Pn	07 04 55.6	+4.3
MACE	**Macas**	**1.96**	**133**	P	Pn	07 04 53.5	+1.1
LITE	**Lita**	**2.13**	**37**	P	Pn	07 04 55.2	+0.7

ATH 16 07:12:21.5,35°.36N×24°.80E,h5km±3km,MD2.7/3,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.34**	**179**	*e*PB	Pg	07 12 28.5	+0.4
SIVA				*e*SB	Sg	07 12 33.7	+1.1
LAST	**Lasithi**	**0.59**	**109**	*e*PB	Pg	07 12 33.0	+0.2
LAST				*e*SB	Sg	07 12 41.6	+1.1
GVD	**Gavdhos**	**0.78**	**229**	*e*PB	Pb	07 12 37.1	-0.5
GVD				*e*SB	Sb	07 12 47.7	-0.8

*CSEM **16** 07:12:26.5±0.2,36°.69N×26°.72E,h168km±3km,ML3.4, Error ellipse: s-maj=5.3km s-min=3.0km az=157.0*
*ATH **16** 07:12:26.7,36°.69N×26°.65E,h161km±4km*
*ISCJB **16** 07:12:30.1±0.4,36°.40N±0°.05×26°.88E±0°.05,h100km, Error ellipse: s-maj=8.3km s-min=4.5km az=149.7*
*HLW **16** 07:12:35.1,35°.99N×27°.02E,h33km±29km,Md3.8,Ml3.5*

ISC 16 07:12:30.7±0.4,36°.46N±0°.05×26°.86E±0°.05,h100km,n54, σ1s25/61,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIS1	**Nisyros Isl.**	**0.30**	**60**	P	**Pn**	**07 12 49.5**	**+4.3**
NIS1	**Nisyros Isl.**	**0.30**	**60**	P	**Pn**	**07 12 49.5**	**+4.3**
KARP	**Karpathos**	**0.94**	**165**	*e*P	**Pn**	**07 12 55.0**	**+4.6**
KARP	**Karpathos**	**0.94**	**165**	*e*P	**Pn**	**07 12 55.0**	**+4.6**
ARG	**Arkhangelos**	**1.05**	**103**	*e*P	**Pn**	**07 12 55.8**	**+4.2**
ARG	**Arkhangelos**	**1.05**	**103**	P	**Pn**	**07 12 55.8**	**+4.2**
ARG	**Arkhangelos**	**1.05**	**103**	*e*P	**Pn**	**07 12 55.8**	**+4.2**
THR2	**Thira island,**	**1.15**	**270**	P	**Pn**	**07 12 54.0**	**+1.3**
THR2	**Thira island,**	**1.15**	**270**	P	**Pn**	**07 12 54.0**	**+1.3**
THR3	**Thira Island,**	**1.18**	**268**	P	**Pn**	**07 12 54.6**	**+1.6**
THR3	**Thira Island,**	**1.18**	**268**	P	**Pn**	**07 12 54.6**	**+1.6**
THR6	**Thira Island,**	**1.18**	**266**	P	**Pn**	**07 12 54.6**	**+1.5**
THR6	**Thira Island,**	**1.18**	**266**	P	**Pn**	**07 12 54.6**	**+1.5**
APE	**Apeiranthos**	**1.23**	**300**	*e*P	**Pn**	**07 12 53.0**	**-0.6**
APE	**Apeiranthos**	**1.23**	**300**	*e*P	**Pn**	**07 12 53.0**	**-0.6**
AYDN	**Tasoluk**	**1.46**	**34**	*i* P	**Pn**	**07 12 56.6**	**+0.3**
AYDN	**Tasoluk**	**1.46**	**34**	*i* P	**Pn**	**07 12 56.7**	**+0.4**
TURN	**Turunc**	**1.46**	**73**	*i* P	**Pn**	**07 12 55.1**	**-1.3**
TURN	**Turunc**	**1.46**	**73**	*i* P	**Pn**	**07 12 55.1**	**-1.3**
NPS	**Neapolis**	**1.56**	**221**	*e*P	**Pn**	**07 12 59.3**	**+1.6**
NPS	**Neapolis**	**1.56**	**221**	P	**Pn**	**07 12 59.4**	**+1.7**
NPS	**Neapolis**	**1.56**	**221**	*e*P	**Pn**	**07 12 59.3**	**+1.6**
LAST	**Lasithi**	**1.71**	**221**	*e*P	**Pn**	**07 13 01.1**	**+1.6**
LAST	**Lasithi**	**1.71**	**221**	P	**Pn**	**07 13 01.0**	**+1.5**
LAST	**Lasithi**	**1.71**	**221**	*e*P	**Pn**	**07 13 01.1**	**+1.6**
DNZL	**Cakiroluk**	**2.14**	**54**	*i* P	**Pn**	**07 13 04.5**	**-0.6**
DNZL	**Cakiroluk**	**2.14**	**54**	*i* P	**Pn**	**07 13 04.4**	**-0.6**
DNZL				*i* S	**Sn**	**07 13 33.0**	**+1.7**
SIVA	**Sivas**	**2.20**	**230**	*e*P	**Pn**	**07 13 06.3**	**+0.5**
SIVA	**Sivas**	**2.20**	**230**	*e*P	**Pn**	**07 13 06.3**	**+0.5**
AKAS	**Kas**	**2.23**	**95**	*i* P	**Pn**	**07 13 07.0**	**+0.9**
AKAS	**Kas**	**2.23**	**95**	*i* P	**Pn**	**07 13 07.1**	**+0.9**
AKAS				*i* S	**Sn**	**07 13 34.6**	**+1.2**
VAM	**Vamos**	**2.40**	**245**	*e*P	**Pn**	**07 13 07.6**	**-0.8**
VAM	**Vamos**	**2.40**	**245**	P	**Pn**	**07 13 07.8**	**-0.6**
VAM	**Vamos**	**2.40**	**245**	*e*P	**Pn**	**07 13 07.6**	**-0.8**
KARN	**Karanos**	**2.61**	**247**	*e*P	**Pn**	**07 13 10.5**	**-0.7**
KARN	**Karanos**	**2.61**	**247**	P	**Pn**	**07 13 10.5**	**-0.7**
KARN	**Karanos**	**2.61**	**247**	*e*P	**Pn**	**07 13 10.5**	**-0.7**
GVD	**Gavdhos**	**2.77**	**235**	*e*P	**Pn**	**07 13 13.1**	**-0.3**
GVD	**Gavdhos**	**2.77**	**235**	*e*P	**Pn**	**07 13 13.1**	**-0.3**
KHAL	**Karahalli**	**2.84**	**47**	*i* P	**Pn**	**07 13 12.6**	**-1.6**
KHAL	**Karahalli**	**2.84**	**47**	*i* P	**Pn**	**07 13 12.6**	**-1.6**
KHAL				*i* S	**Sn**	**07 13 46.6**	**-1.1**
KYTH	**Kithira**	**3.09**	**268**	P	**Pn**	**07 13 14.9**	**-2.6**
KYTH	**Kithira**	**3.09**	**268**	P	**Pn**	**07 13 14.9**	**-2.6**
VLI	**Veliai**	**3.17**	**276**	P	**Pn**	**07 13 15.2**	**-3.4**
VLI	**Veliai**	**3.17**	**276**	P	**Pn**	**07 13 15.2**	**-3.4**
SLUM		**5.14**	**196**	P	**Pn**	**07 13 44.6**	**-0.6**
	baz=200						
SLUM				S	**Sn**	**07 14 36.6**	**-6.7**
	baz=200						
SLUM		**5.14**	**196**	P	**Pn**	**07 13 44.7**	**-0.5**
HMAT	**Matruh**	**5.35**	**178**	P	**Pn**	**07 13 46.9**	**-1.3**
	baz=179						
HMAT				S	**Sn**	**07 14 40.4**	**-8.0**
	baz=179						
HMAT	**Matruh**	**5.35**	**178**	P	**Pn**	**07 13 47.7**	**-0.4**
SWA2		**7.29**	**190**	P	**Pn**	**07 14 13.5**	**-0.9**
	baz=192						
SWA2				AMP		07 15 00.0	
	comp=E,30μm,0.2s,logA/T=5.1,baz=192						
SWA2				S	**Sn**	**07 15 27.6**	**-8.0**
	baz=192						
SWA2		**7.29**	**190**	P	**Pn**	**07 14 12.6**	**-1.8**
HFRF	**Wahat Farafira**	**9.36**	**172**	P	**Pn**	**07 14 41.9**	**-0.7**
	baz=172						
HFRF				S	**Sn**	**07 16 17.2**	**-8.9**
	baz=172						
HFRF	**Wahat Farafira**	**9.36**	**172**	P	**Pn**	**07 14 41.9**	**-0.7**

*IDC **16** 07:15:42.4±6.5,35°.87N×67°.18E,h0km,mb3.7/3, mb1 3.8/4,mb1mx3.3/26,mbtmp3.6/4,ML3.7/1,Error ellipse: s-maj=197.5km s-min=33.1km az=101.0*
*ISCJB **16** 07:16:20.2±2.8,36°.7N±0°.1×70°.4E±0°.4,h243km±19km, m

AKAS				*i* S		**Sg**	07 32 01.3	+3.9
AKAS	**Kas**	**0.85**	**144**	*i* P		**Pg**	07 31 45.3	-1.0
MLSB	**Milas**	**1.04**	**291**	*e*PG		**Pg**	07 31 50.2	+0.1
MLSB	**Milas**	**1.04**	**291**	*e*Pg		**Pg**	07 31 50.2	+0.1
AYDN	**Tasoluk**	**1.15**	**310**	*i* P		**Pg**	07 31 52.8	+0.6
AYDN				*i* S		**Sg**	07 32 07.9	+0.7
AYDN	**Tasoluk**	**1.15**	**310**	*i* P		**Pg**	07 31 52.8	+0.6
AYDN				*i* S		**Sg**	07 32 07.9	+0.7
DAT	**Datca**	**1.16**	**261**	*e*PN		**Pn**	07 31 51.8	-1.0
DAT	**Datca**	**1.16**	**261**	*e*Pn		**Pn**	07 31 51.8	-0.9
ANTB	**Antalya**	**1.33**	**91**	*e*PN		**Pn**	07 31 55.3	+0.2
ANTB	**Antalya**	**1.33**	**91**	*e*Pn		**Pn**	07 31 55.3	+0.2
BODT	**Bodrum**	**1.36**	**276**	*e*PN		**Pn**	07 31 55.8	+0.3
BODT	**Bodrum**	**1.36**	**276**	*e*Pn		**Pn**	07 31 55.8	+0.3
BCK	**Bucak**	**1.38**	**67**	*e*PN		**Pn**	07 31 55.9	+0.1
BCK	**Bucak**	**1.38**	**67**	*e*Pn		**Pn**	07 31 55.9	+0.1
KHAL	**Karahalli**	**1.50**	**15**	*i* P		**Pn**	07 31 57.4	-0.1
KHAL				*i* S		**Sn**	07 32 17.9	+0.7
KHAL	**Karahalli**	**1.50**	**15**	*i* P		**Pn**	07 31 57.3	-0.1
KHAL				*i* S		**Sn**	07 32 17.9	+0.7
MANT	**Manisa**	**1.60**	**348**	*i* P		**Pn**	07 31 58.7	-0.1
MANT				*i* S		**Sn**	07 32 18.8	-1.0
MANT	**Manisa**	**1.60**	**348**	*i* P		**Pn**	07 31 58.7	-0.2
MANT				*i* S		**Sn**	07 32 18.8	-1.0
GCAM	**G?zelcaml?**	**1.60**	**299**	*i* P		**Pn**	07 31 57.9	-1.0
GCAM				*i* S		**Sn**	07 32 20.6	+0.7
GCAM	**G?zelcaml?**	**1.60**	**299**	*i* P		**Pn**	07 31 57.9	-1.0
GCAM				*i* S		**Sn**	07 32 20.6	+0.7
KULA	**Kula-Manisa**	**1.61**	**351**	*e*PN		**Pn**	07 31 58.9	0.0
KULA	**Kula-Manisa**	**1.61**	**351**	*e*Pn		**Pn**	07 31 58.9	-0.1
SUTC	**Sutluce-Ispart**	**1.69**	**70**	*e*PN		**Pn**	07 32 00.5	+0.4
SUTC	**Sutluce-Ispart**	**1.69**	**70**	*e*Pn		**Pn**	07 32 00.5	+0.4
IZM	**Izmir**	**2.01**	**317**	*e*PN		**Pn**	07 32 04.8	+0.2
IZM	**Izmir**	**2.01**	**317**	*e*Pn		**Pn**	07 32 04.8	+0.3
SHUT	**Suhut-Afyon**	**2.04**	**37**	*e*PN		**Pn**	07 32 05.6	+0.7
SHUT	**Suhut-Afyon**	**2.04**	**37**	*e*Pn		**Pn**	07 32 05.6	+0.7
DEMI	**Demirci**	**2.12**	**354**	*i* P		**Pn**	07 32 05.9	-0.2
DEMI				*i* S		**Sn**	07 32 32.5	-0.2
DEMI	**Demirci**	**2.12**	**354**	*i* P		**Pn**	07 32 05.9	-0.2
DEMI				*i* S		**Sn**	07 32 32.5	-0.3
GDZ	**Gediz**	**2.19**	**10**	*i* P		**Pn**	07 32 05.9	-1.1
GDZ				*i* S		**Sn**	07 32 30.8	-3.7
GDZ	**Gediz**	**2.19**	**10**	*i* P		**Pn**	07 32 05.9	-1.1
GDZ				*i* S		**Sn**	07 32 30.8	-3.6
ALT	**Altintas**	**2.30**	**22**	*e*PN		**Pn**	07 32 09.2	+0.8
ALT	**Altintas**	**2.30**	**22**	*e*Pn		**Pn**	07 32 09.3	+0.8
HDMB	**Hadim**	**2.80**	**88**	*e*PN		**Pn**	07 32 16.2	+0.9
KONT	**Konya--Tatoy**	**2.87**	**68**	*e*PN		**Pn**	07 32 17.2	+0.9
KONT	**Konya--Tatoy**	**2.87**	**68**	*e*Pn		**Pn**	07 32 17.2	+0.9

IDC 16 07:41:21.8±7.9, 19°.86S×177°.83W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.6/15, mbtmp3.4/3, Error ellipse: s-maj=344.8km s-min=38.2km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.82**	**256**	P	P	07 49 37.5	-0.4
	0.4nm,0.6s,baz=96,slow=7.9,SNR=10.0						
WRA	**Warramunga Arr**	**44.85**	**261**	P	P	07 49 38.3	+0.3
	0.1nm,0.3s,baz=97,slow=7.6,SNR=4.3						
ILAR	**Eielson Array**	**87.66**	**13**	P	P	07 54 11.6	0.0
	0.3nm,0.6s,baz=221,slow=5.2,SNR=6.1						

*IDC **16** 08:05:06.6±1.4, 53.°97N×163.°18W, h0km, mb3.8/5, mb1 3.8/8, mb1mx3.6/29, mbtmp3.6/8, ML3.3/3, Error ellipse: s-maj=29.9km s-min=24.1km az=24.0*
*NEIC **16** 08:05:12.6, 54.°05N×162.°96W, h15km, ML3.6(PMR), ML3.5(AEIC), After AEIC.*
ISC 16 08:05:10.8±2.3, 54°.0N±0°.1×162°.91W±0°.08, h20km±15km, n14, σ1900/20, mb3.9/5, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**0.91**	**341**	P	**Pb**	**08 05 27.7**	**-0.1**
FALS				S	**Sb**	**08 05 39.8**	**+0.4**
AKUT	**Akutan**	**1.69**	**276**	P	**Pn**	**08 05 38.9**	**-0.2**
AKUT				S	**Sn**	**08 06 01.2**	**+1.0**
SDPT	**Sand Point**	**1.95**	**45**	P	**Pn**	**08 05 43.6**	**+1.0**
SDPT				S	**Sn**	**08 06 07.7**	**+1.1**
UNV	**Unalaska Valle**	**2.13**	**267**	P	**Pn**	**08 05 44.4**	**-0.7**
UNV				S	**Sn**	**08 06 11.7**	**+0.8**
CHGN	**Chignik**	**3.46**	**46**	*e*P	**Pn**	**08 06 04.5**	**+1.2**
KDAK	**Kodiak Island**	**6.93**	**53**	Pn	**Pn**	**08 06 50.0**	**-1.0**
	0.7nm,0.3s,baz=352,slow=3.0,SNR=12						
KDAK				Sn	**Sn**	**08 08 02.8**	**-6.3**
	baz=351,slow=20,SNR=3.3						
KDAK	**Kodiak Island**	**6.93**	**53**	Pn	**Pn**	**08 06 50.0**	**-1.0**
KDAK				Sn	**Sn**	**08 08 02.8**	**-6.3**
ILAR	**Eielson Array**	**13.48**	**30**	Pn	**Pn**	**08 08 18.9**	**-1.7**
	0.1nm,0.3s,baz=216,slow=13,SNR=3.4						
INK	**Inuvik**	**19.86**	**32**	P	**Pn**	**08 09 38.1**	**-3.6**
	0.1nm,0.3s,baz=273,slow=8.4,SNR=3.3						
NVAR	**Mina Array Bea**	**33.93**	**99**	P	**P**	**08 11 53.8**	**+1.5**
	0.4nm,0.7s,mb3.5,baz=297,slow=8.5,SNR=5.4						
TXAR	**Lajitas Array**	**48.93**	**96**	P	**P**	**08 13 55.3**	**+0.1**
	0.3nm,0.6s,mb3.5,baz=309,slow=6.4,SNR=4.6						
TXAR				PcP	PcP	08 15 18.4	-0.9
	0.1nm,0.5s,baz=313,slow=0.7,SNR=4.0						
ARCES	**ARCESS Array B**	**56.62**	**356**	P	**P**	**08 14 50.7**	**-0.8**
	4.6nm,0.9s,mb4.5,baz=12,slow=10,SNR=3.9						
FINES	**FINESS Array B**	**64.68**	**355**	P	**P**	**08 15 45.9**	**-0.6**
	4.7nm,1.0s,mb4.5,baz=12,slow=7.5,SNR=3.9						
MKAR	**Makanchi Array**	**65.40**	**317**	P	**P**	**08 15 50.2**	**-1.3**
	0.1nm,0.3s,mb3.3,baz=55,slow=7.6,SNR=3.0						

*IDC **16** 08:06:03.5±3.0, 32.°03S×177.°40W, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.9/17, mbtmp3.9/5, ML3.1/1, MS3.3/1, Ms1 3.2/1, ms1mx2.6/24, Error ellipse: s-maj=65.0km s-min=35.7km az=118.0*
*NEIC **16** 08:06:03.2±2.1, 32.°01S×177.°17W, h10km, mb4.4/2, Error ellipse: s-maj=43.8km s-min=15.5km az=105.0*
ISC 16 08:06:00.6±4.9, 32°.1S±0°.2×176°.3W±0°.7, h35km, n15, σ0987/17, mb4.1/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.19**	**334**	*e*Pn	**Pn**	**08 06 46.8**	**-1.4**
RAO				*e*Sn	**Sn**	**08 07 13.9**	**-11**
URZ	**Urewera**	**8.14**	**220**	Pn	**Pn**	**08 07 55.0**	**-1.2**
	0.3nm,0.3s,baz=57,slow=18,SNR=4.6						
URZ				Sn	**Sn**	**08 09 26.5**	**-0.5**
	3.2nm,0.3s,baz=149,slow=20,SNR=8.0						
URZ	**Urewera**	**8.14**	**220**	*e*Pn	**Pn**	**08 07 55.1**	**-1.1**
URZ				*e*Sn	**Sn**	**08 09 22.2**	**-4.8**
URZ				Sn	**Sn**	**08 09 26.5**	**-0.5**
EIDS	**Eidsvold**	**29.29**	**275**	P	**P**	**08 11 59.7**	**0.0**
	14nm,1.4s,mb4.5						
CTA	**Charters Tower**	**35.51**	**280**	P	**P**	**08 12 54.3**	**0.0**
	2.1nm,0.6s,mb4.2,baz=172,slow=7.1,SNR=3.2						
CTA	**Charters Tower**	**35.51**	**280**	P	**P**	**08 12 54.3**	**+0.1**
STKA	**Stephens Creek**	**35.53**	**259**	P	**P**	**08 12 55.7**	**+1.5**
	0.5nm,0.3s,mb3.9,baz=103,slow=14,SNR=2.5						
STKA				LR	LR	08 24 18.9	
	comp=Z,47nm,19.2s,baz=22,slow=32						
STKA	**Stephens Creek**	**35.53**	**259**	P	**P**	**08 12 55.7**	**+1.5**
STKA				LR	LR	08 24 18.9	
ASAR	**Alice Springs**	**44.47**	**268**	P	**P**	**08 14 08.3**	**-0.2**
	0.8nm,0.7s,mb3.5,baz=109,slow=7.5,SNR=12						
ASAR	**Alice Springs**	**44.47**	**268**	P	**P**	**08 14 08.3**	**-0.2**
WRAB	**Tennant Creek**	**45.61**	**273**	*e*P	**P**	**08 14 18.5**	**+0.8**
	1.8nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**45.62**	**273**	P	**P**	**08 14 18.4**	**+0.7**
	1.3nm,0.5s,mb4.1,baz=114,slow=7.8,SNR=9.3						
WRA	**Warramunga Arr**	**45.62**	**273**	P	**P**	**08 14 18.4**	**+0.7**
FINES	**FINESS Array B**	**147.26**	**340**	PKPbc	PKPbc	08 25 46.2	+6.8
	2.9nm,0.7s,baz=54,slow=3.3,SNR=5.8						
FINES	**FINESS Array B**	**147.26**	**340**	PKPbc	PKPbc	08 25 46.2	+6.8

*ISK **16** 08:28:45.5, 38.°72N×26.°28E, h6km, MD3.3*
*ISCJB **16** 08:28:46.4±0.4, 38.°75N±0.°02×26.°30E±0.°04, h6km±3km, Error ellipse: s-maj=4.9km s-min=2.6km az=163.7*
*CSEM **16** 08:28:46.1±0.1, 38.°73N×26.°26E, h5km, MD3.5, Error ellipse: s-maj=3.9km s-min=2.2km az=75.0*
*DDA **16** 08:28:46.2, 38.°75N×26.°29E, h35km±1km, Md3.2*
*ATH **16** 08:28:46.9, 38.°78N×26.°29E, h27km, MD3.5/5*
ISC 16 08:28:47.2±0.4, 38.°75N±0.°02×26.°31E±0.°04, h9km±3km, n84, σ0881/116, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.41**	**209**	*e*PB	**Pg**	**08 28 56.4**	**+1.1**
CHOS				*e*SB	**Sg**	**08 29 02.8**	**+2.0**
URLA	**Izmir**	**0.45**	**150**	*i* P	**Pg**	**08 28 55.5**	**-0.5**
URLA				*i* S	**Sg**	**08 29 02.5**	**+0.5**
URLA	**Izmir**	**0.45**	**150**	*i* P	**Pg**	**08 28 55.5**	**-0.5**
URLA				*i* S	**Sg**	**08 29 02.5**	**+0.6**
PRK	**Paraskevi**	**0.49**	**357**	*e*PB	**Pg**	**08 28 56.7**	**-0.2**
PRK				*e*SB	**Sg**	**08 29 04.2**	**+0.8**
PRK	**Paraskevi**	**0.49**	**357**	*e*Pb	**Pg**	**08 28 56.7**	**-0.2**
PRK				*e*Sb	**Sg**	**08 29 04.2**	**+0.8**
AYVA	**Ayvalik**	**0.63**	**28**	*i* P	**Pg**	**08 28 58.4**	**-1.1**
AYVA				*i* S	**Sg**	**08 29 07.1**	**-0.6**
AYVA	**Ayvalik**	**0.63**	**28**	*i* P	**Pg**	**08 28 58.3**	**-1.1**
AYVA				*i* S	**Sg**	**08 29 07.1**	**-0.6**
BLCB	**Balcova**	**0.68**	**122**	*e*PG	**Pg**	**08 28 59.1**	**-1.2**
BLCB				*e*SG	**Sg**	**08 29 09.2**	**0.0**
BLCB	**Balcova**	**0.68**	**122**	*e*Pg	**Pg**	**08 28 59.1**	**-1.3**
BLCB				*e*Sg	**Sg**	**08 29 09.3**	**0.0**
IZM	**Izmir**	**0.83**	**115**	*e*PG	**Pg**	**08 29 02.0**	**-1.1**
IZM				*e*SG	**Sg**	**08 29 14.2**	**+0.3**
IZM	**Izmir**	**0.83**	**115**	*e*Pg	**Pg**	**08 29 02.1**	**-1.0**
IZM				*e*Sg	**Sg**	**08 29 14.2**	**+0.3**
EZN	**Ezine**	**1.07**	**1**	*e*PN	**Pg**	**08 29 07.0**	**-0.8**
EZN				*e*SN	**Sg**	**08 29 22.8**	**+1.0**
EZN	**Ezine**	**1.07**	**1**	*e*Pn	**Pg**	**08 29 07.0**	**-0.9**
EZN				*e*Sn	**Sg**	**08 29 22.8**	**+1.0**
BOZC	**Bozcaada**	**1.11**	**350**	*i* P	**Pg**	**08 29 07.7**	**-0.8**
BOZC				*i* S	**Sg**	**08 29 23.1**	**+0.2**
SMG	**Samos**	**1.12**	**158**	*e*PN	**Pg**	**08 29 08.7**	**0.0**
SMG				*e*SN	**Sg**	**08 29 24.8**	**+1.5**
SMG	**Samos**	**1.12**	**158**	*e*Pn	**Pg**	**08 29 08.7**	**0.0**
SMG				*e*Sn	**Sg**	**08 29 24.8**	**+1.5**
AKHS	**Akhisar**	**1.18**	**83**	*i* P	**Pb**	**08 29 09.2**	**-0.6**
AKHS				*i* S	**Sb**	**08 29 26.3**	**+1.1**
AKHS	**Akhisar**	**1.18**	**83**	*i* P	**Pb**	**08 29 09.2**	**-0.6**
AKHS				*i* S	**Sb**	**08 29 26.3**	**+1.1**
AKS	**Akhisar**	**1.18**	**83**	*e*PN	**Pn**	**08 29 09.1**	**-0.8**
AKS	**Akhisar**	**1.18**	**83**	*e*Pn	**Pn**	**08 29 09.1**	**-0.8**
GCAM	**G?zelcaml?**	**1.28**	**145**	*i* P	**Pn**	**08 29 10.9**	**-0.3**
GCAM				*i* S	**Sb**	**08 29 28.4**	**+0.5**
GCAM	**G?zelcaml?**	**1.28**	**145**	*i* P	**Pn**	**08 29 10.9**	**-0.3**
GCAM				*i* S	**Sb**	**08 29 28.4**	**+0.5**
BALY	**Balya**	**1.42**	**45**	*i* P	**Pn**	**08 29 12.2**	**-0.9**
BALY				*i* S	**Sn**	**08 29 32.2**	**+0.3**
BALY	**Balya**	**1.42**	**45**	*i* P	**Pn**	**08 29 12.2**	**-0.9**
BALY				*i* S	**Sn**	**08 29 32.2**	**+0.3**
LIA	**Limnos Island**	**1.44**	**323**	*e*PN	**Pn**	**08 29 13.1**	**-0.3**
LIA				*e*SN	**Sn**	**08 29 31.6**	**-0.8**
LIA	**Limnos Island**	**1.44**	**323**	*e*Pn	**Pn**	**08 29 13.1**	**-0.3**
LIA				*e*Sn	**Sn**	**08 29 31.6**	**-0.8**
GADA	**Gvkgeada**	**1.47**	**348**	*e*PN	**Pn**	**08 29 13.6**	**-0.3**
GADA	**Gvkgeada**	**1.47**	**348**	*e*Pn	**Pn**	**08 29 13.6**	**-0.3**
BALB	**Balikesir**	**1.51**	**54**	*e*PN	**Pn**	**08 29 14.3**	**-0.1**
BALB				*e*SN	**Sn**	**08 29 35.4**	**+1.3**
BALB	**Balikesir**	**1.51**	**54**	*e*Pn	**Pn**	**08 29 14.3**	**-0.1**
BALB				*e*Sn	**Sn**	**08 29 35.4**	**+1.3**
AYDN	**Tasoluk**	**1.65**	**131**	*i* P	**Pn**	**08 29 14.8**	**-1.5**
AYDN				*i* S	**Sn**	**08 29 36.3**	**-1.2**
AYDN	**Tasoluk**	**1.65**	**131**	*i* P	**Pn**	**08 29 14.8**	**-1.5**
AYDN				*i* S	**Sn**	**08 29 36.3**	**-1.2**
GELI	**Tayfur-Gelibol**	**1.65**	**4**	*e*PN	**Pn**	**08 29 16.4**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.65**	**4**	*e*Pn	**Pn**	**08 29 16.4**	**+0.1**
LPK	**Lapseki**	**1.66**	**12**	*e*PN	**Pn**	**08 29 16.0**	**-0.4**
LPK	**Lapseki**	**1.66**	**12**	*e*Pn	**Pn**	**08 29 16.0**	**-0.4**
GONE	**Gonen-Balikesi**	**1.68**	**39**	*e*PN	**Pn**	**08 29 16.4**	**-0.3**
GONE	**Gonen-Balikesi**	**1.68**	**39**	*e*Pn	**Pn**	**08 29 16.4**	**-0.3**
MANT	**Manisa**	**1.78**	**98**	*i* P	**Pn**	**08 29 18.4**	**+0.3**
MANT				*i* S	**Sn**	**08 29 43.8**	**+2.9**
MANT	**Manisa**	**1.78**	**98**	*i* P	**Pn**	**08 29 18.4**	**+0.3**
MANT				*i* S	**Sn**	**08 29 43.8**	**+3.0**
APE	**Apeiranthos**	**1.79**	**200**	*e*PN	**Pn**	**08 29 17.3**	**-0.8**
APE	**Apeiranthos**	**1.79**	**200**	*e*PB	**Pn**	**08 29 17.8**	**-0.4**
APE	**Apeiranthos**	**1.79**	**200**	*e*Pn	**Pn**	**08 29 17.3**	**-0.9**
APE	**Apeiranthos**	**1.79**	**200**	*e*Pb	**Pn**	**08 29 17.8**	**-0.4**
KRBG	**Karabiga-Canak**	**1.81**	**25**	*e*PN	**Pn**	**08 29 18.4**	**-0.1**
KRBG	**Karabiga-Canak**	**1.81**	**25**	*e*Pn	**Pn**	**08 29 18.4**	**-0.1**
KULA	**Kula-Manisa**	**1.86**	**97**	*e*PN	**Pn**	**08 29 19.0**	**-0.2**
KULA	**Kula-Manisa**	**1.86**	**97**	*e*Pn	**Pn**	**08 29 19.0**	**-0.1**
MLSB	**Milas**	**1.86**	**141**	*e*PN	**Pn**	**08 29 18.6**	**-0.5**
MLSB	**Milas**	**1.86**	**141**	*e*Pn	**Pn**	**08 29 18.7**	**-0.5**
BODT	**Bodrum**	**1.86**	**154**	*e*PN	**Pn**	**08 29 18.5**	**-0.7**
BODT	**Bodrum**	**1.86**	**154**	*e*Pn	**Pn**	**08 29 18.5**	**-0.7**
DURS	**Dursunbey**	**1.89**	**63**	*i* P	**Pn**	**08 29 18.3**	**-1.3**
DURS	**Dursunbey**	**1.89**	**63**	*i* P	**Pn**	**08 29 18.3**	**-1.3**
ERIK	**Erikli-Kesan**	**1.92**	**5**	*e*PN	**Pn**	**08 29 20.2**	**+0.1**
ERIK	**Erikli-Kesan**	**1.92**	**5**	*e*Pn	**Pn**	**08 29 20.2**	**+0.1**
ENEZ	**Enez**	**1.99**	**357**	*e*PN	**Pn**	**08 29 20.9**	**0.0**
ENEZ	**Enez**	**1.99**	**357**	*e*Pn	**Pn**	**08 29 20.9**	**0.0**
BNT	**Bandirma**	**2.03**	**37**	*e*PN	**Pn**	**08 29 21.6**	**+0.1**
BNT	**Bandirma**	**2.03**	**37**	*e*Pn	**Pn**	**08 29 21.7**	**+0.2**
RKY	**Sarkoy-Tekirda**	**2.05**	**19**	*e*PN	**Pn**	**08 29 21.8**	**+0.1**
RKY	**Sarkoy-Tekirda**	**2.05**	**19**	*e*Pn	**Pn**	**08 29 21.8**	**0.0**
SART	**Tekirdag**	**2.05**	**19**	*i* P	**Pn**	**08 29 20.6**	**-1.1**
SART				*i* S	**Sn**	**08 29 49.0**	**+1.5**
SART	**Tekirdag**	**2.05**	**19**	*i* P	**Pn**	**08 29 20.6**	**-1.2**
SART				*i* S	**Sn**	**08 29 49.0**	**+1.6**
MFT	**Murefte**	**2.17**	**20**	*e*PN	**Pn**	**08 29 24.2**	**+0.8**
MFT	**Murefte**	**2.17**	**20**	*e*Pn	**Pn**	**08 29 24.2**	**+0.8**
KCTX	**Karacabey (Bur**	**2.19**	**46**	*e*PN	**Pn**	**08 29 23.8**	**+0.1**
KCTX	**Karacabey (Bur**	**2.19**	**46**	*e*Pn	**Pn**	**08 29 23.8**	**+0.1**
YER	**Yerkesik**	**2.25**	**135**	*e*PN	**Pn**	**08 29 24.3**	**-0.2**
YER	**Yerkesik**	**2.25**	**135**	*e*Pn	**Pn**	**08 29 24.3**	**-0.2**
DAT	**Datca**	**2.26**	**153**	*e*PN	**Pn**	**08 29 24.4**	**-0.2**
DAT	**Datca**	**2.26**	**153**	*e*Pn	**Pn**	**08 29 24.4**	**-0.2**
DNZL	**Cakiroluk**	**2.40**	**115**	*i* P	**Pn**	**08 29 26.6**	**-0.1**
DNZL	**Cakiroluk**	**2.40**	**115**	*i* P	**Pn**	**08 29 26.6**	**0.0**
SLVT	**Silivri**	**2.88**	**30**	*e*PN	**Pn**	**08 29 33.8**	**+0.6**
SLVT	**Silivri**	**2.88**	**30**	*e*Pn	**Pn**	**08 29 33.8**	**+0.7**
CTKS	**Kestanelik-??a**	**3.00**	**34**	*e*PN	**Pn**	**08 29 35.6**	**+0.8**
CTKS	**Kestanelik-??a**	**3.00**	**34**	*e*Pn	**Pn**	**08 29 35.6**	**+0.7**
EDRB	**Edirne**	**3.11**	**6**	*e*PN	**Pn**	**08 29 37.3**	**+0.9**
EDRB	**Edirne**	**3.11**	**6**	*e*Pn	**Pn**	**08 29 37.3**	**+0.9**
ISK	**Istanbul-Kandi**	**3.13**	**42**	*e*PN	**Pn**	**08 29 37.5**	**+0.8**
ISK	**Istanbul-Kandi**	**3.13**	**42**	*e*Pn	**Pn**	**08 29 37.5**	**+0.8**
KLYT	**Kilyos**	**3.27**	**39**	*e*PN	**Pn**	**08 29 39.3**	**+0.8**
KLYT	**Kilyos**	**3.27**	**39**	*e*Pn	**Pn**	**08 29 39.3**	**+0.8**

*IDC **16** 08:29:57.0±0.6, 5.°38S×102.°24E, h0km, mb4.3/16, mb1 4.4/17, mb1mx4.2/26, mbtmp4.3/17, ML4.1/1, MS3.5/9, Ms1 3.5/9, ms1mx3.1/36, Error ellipse: s-maj=22.2km s-min=12.3km az=63.0*
*ISCJB **16** 08:30:00.1±0.7, 5.°47S±0.°04×102.°23E±0.°04, h34km±6km, mb4.4/23, MS3.4/8, Error ellipse: s-maj=8.5km s-min=4.3km az=138.8*
*NEIC **16** 08:30:01.3±2.2, 5.°40S×102.°25E, h29km±15km, mb4.5/5, Error ellipse: s-maj=10.1km s-min=5.8km az=74.0*
*DJA **16** 08:30:02.7±0.3, 5°.S±3°.×10°.2E±°, h65km±5km, M4.8/3, mb4.7/23, mB5.3/8, MLv4.8/20, Mw(mB)4.7/8*
ISC 16 08:30:01.4±1.4, 5°.44S±0°.04×102°.26E±0°.04, h28km±11km, n97, σ0999/93, mb4.4/23, MS3.4/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.27**	**33**	P	**Pn**	**08 30 23.9**	**+0.5**
KSI	**Kapahiang**	**1.80**	**11**	P	**Pn**	**08 30 31.1**	**+0.5**
KSI				S	**Sn**	**08 30 53.4**	**+0.8**
LWLI	**Liwa**	**1.84**	**77**	P	**Pn**	**08 30 31.0**	**-0.2**
MDSI	**Maura Dua**	**2.13**	**64**	P	**Pn**	**08 30 35.7**	**+0.5**
KLSI		**2.57**	**73**	P	**Pn**	**08 30 42.1**	**+0.9**
KLSI				S	**Sn**	**08 31 12.6**	**+1.0**
KLI	**Kotabumi**	**2.65**	**78**	P	**Pn**	**08 30 43.6**	**+1.3**
BLSI	**Bandar Lampung**	**2.98**	**89**	P	**Pn**	**08 30 47.5**	**+0.7**
RBSI	**Rajabasa**	**3.49**	**97**	P	**Pn**	**08 30 53.9**	**0.0**
CGJI	**Cibinong**	**3.61**	**109**	P	**Pn**	**08 30 55.1**	**-0.4**
SBJI	**Serang**	**3.92**	**100**	P	**Pn**	**08 31 00.1**	**+0.4**
SKJI	**Sukabumi**	**4.55**	**110**	P	**Pn**	**08 31 09.2**	**+0.7**
DBJI	**Dramaga**	**4.61**	**104**	P	**Pn**	**08 31 09.0**	**-0.2**
DBJI				S	**Sn**	**08 32 00.7**	**-1.1**
CBJI	**Citeko**	**4.67**	**102**	P	**Pn**	**08 31 14.1**	**+4.0**
PDSI	**Padang**	**4.84**	**338**	P	**Pn**	**08 31 13.0**	**+0.6**
PDSI				S	**Sn**	**08 32 04.9**	**-2.6**
SISI	**Saibi**	**5.16**	**322**	P	**Pn**	**08 31 17.5**	**+0.6**
	1.1nm3μm274nm,0.7s						
PPI	**Padang Panjang**	**5.28**	**339**	P	**Pn**	**08 31 18.5**	**0.0**
	0.4nm2μm121nm,0.7s						
PPI				S	**Sn**	**08 32 18.4**	**-0.1**
	0.4nm2μm121nm,0.7s						
LEM	**Lembang**	**5.51**	**105**	P	**Pn**	**08 31 23.7**	**+2.1**
	0.5nm86nm,0.7s						
CISI	**Cisompet, Garu**	**5.91**	**111**	P	**Pn**	**08 31 25.6**	**-1.6**
	1.9nm7μm229nm,0.7s						
XMIS	**Christmas Isla**	**6.04**	**146**	P	**Pn**	**08 31 29.9**	**+1.0**
	3.6nm359nm,1.2s						
MNSI	**Mandailing Nat**	**6.74**	**337**	P	**Pn**	**08 31 38.4**	**-0.2**
	0.4nm2μm70nm,0.7s						
MYKOM	**Kota Tinggi**	**7.35**	**13**	P	**Pn**	**08 31 44.9**	**-2.1**
	0.2nm1μm32nm,0.4s						
UGM	**Wanagama**	**8.57**	**107**	P	**Pn**	**08 32 03.2**	**-0.5**
	101nm,1.9s						
COCO	**West Island**	**8.59**	**218**	*e*Pn	**Pn**	**08 32 03.8**	**-0.1**
	293nm,1.3s						
COCO	**West Island**	**8.59**	**218**	P	**Pn**	**08 32 04.3**	**+0.4**
	239nm,0.9s						
PSI	**Prapat**	**8.83**	**338**	Pn	**Pn**	**08 32 04.3**	**-3.0**
	2.0nm,0.3s,baz=167,slow=8.2,SNR=5.6						
PSI				LR	LR	08 36 00.1	
	comp=Z,366nm,20.3s,baz=148,slow=42						
PSI	**Prapat**	**8.83**	**338**	Pn	**Pn**	**08 32 04.3**	**-3.0**
PSI				LR	LR	08 36 00.1	
PSI	**Prapat**	**8.83**	**338**	P	**Pn**	**08 32 05.1**	**-2.2**
	13nm,1.0s						
PCJI	**Pacitan**	**9.27**	**108**	P	**Pn**	**08 32 12.4**	**-0.9**
	72nm,0.9s						
PWJI	**Pagerwojo**	**9.82**	**106**	P	**Pn**	**08 32 20.8**	**-0.1**
	47nm,0.9s						
IPM	**Ipoh**	**9.93**	**353**	*e*Pn	**Pn**	**08 32 24.4**	**+2.2**
	5.7nm,0.7s						
TPTI		**10.02**	**329**	P	**Pn**	**08 32 22.3**	**-1.2**
	11nm,0.6s						
GMJI	**Gumukmas**	**11.46**	**105**	P	**Pn**	**08 32 42.6**	**-0.7**
	24nm,1.0s						
JAGI	**Jajag, Banyuwa**	**12.19**	**105**	P	**Pn**	**08 32 52.1**	**-1.2**
	1μm50nm,0.7s						
SBUM	**Sibu**	**12.66**	**52**	P	**Pn**	**08 32 59.6**	**-0.2**
	7.2nm,1.1s						
BSI	**Banda Aceh**	**12.89**	**327**	P	**Pn**	**08 33 01.7**	**-1.2**
	26nm,1.2s

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.71**	**227**	P	P	08 44 38.0	+0.6
	1.8nm,0.7s,baz=52,slow=9.6,SNR=8.0						
ASAR	**Alice Springs**	**26.50**	**221**	P	P	08 45 02.6	-0.2
	0.2nm,0.5s,baz=54,slow=9.0,SNR=5.4						
TORD	**Torodi Ar. Bea**	**149.73**	**289**	PKPbc	PKPbc	08 59 15.8	-0.7
	0.3nm,0.3s,baz=64,slow=1.8,SNR=7.1						

*CASC **16** 08:44:57.1±1.9, 13.°00N×91.°41W, h52km±222km, MD3.7, ML3.4*
*MEX **16** 08:45:03.8±0.5, 13.°44N×91.°62W, h5km±82km, MD4.1*
ISC 16 08:45:00.6±1.0, 13.°3N±0.°1×91.°38W±0.°06, h47km±64km, n16, σ1°27/27, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.01**	**346**	*e*P	**Pn**	**08 45 19.9**	**+1.4**
FUG	**Fuego 3**	**1.23**	**25**	*e*P	**Pn**	**08 45 21.4**	**0.0**
FG6		**1.31**	**22**	*e*P	**Pn**	**08 45 22.5**	**-0.1**
FG6				*e*S	**Sn**	**08 45 37.6**	**-1.3**
NBG	**Las Nubes**	**1.60**	**39**	*e*P	**Pn**	**08 45 28.3**	**+1.8**
RTR	**El Retiro**	**1.78**	**71**	*e*P	**Pn**	**08 45 28.5**	**-0.4**
RTR				*e*S	**Sn**	**08 45 52.4**	**+2.1**
THIG		**1.79**	**331**	*i* P	**Pn**	**08 45 28.7**	**-0.4**
THIG				*i* S	**Sn**	**08 45 48.6**	**-2.0**
RBDL	**Robledal**	**1.82**	**65**	*e*P	**Pn**	**08 45 29.5**	**0.0**
RBDL				*e*S	**Sn**	**08 45 54.9**	**+3.5**
SNET	**Serv Nac Est T**	**2.12**	**80**	*e*P	**Pn**	**08 45 32.5**	**-1.1**
SNET				*e*S	**Sn**	**08 45 58.7**	**-0.1**
SNET				AML	AML	08 46 08.4	
	comp=Z,288nm,0.3s						
MTO2	**Montecristo 2**	**2.23**	**61**	*e*P	**Pn**	**08 45 35.2**	**+0.1**
LBRS	**Las Brisas**	**2.31**	**80**	*e*P	**Pn**	**08 45 34.1**	**-2.1**
SNVI	**San Vicente**	**2.49**	**83**	*e*P	**Pn**	**08 45 36.0**	**-2.6**
SNVI				*e*S	**Sn**	**08 46 07.2**	**-0.6**
PCIG		**2.96**	**323**	*i* P	**Pn**	**08 45 46.4**	**+1.3**
PCIG				*i* S	**Sn**	**08 46 18.2**	**-1.1**
CCIG	**Comitan**	**3.02**	**346**	*e*P	**Pn**	**08 45 47.7**	**+1.7**
CCIG				*i* S	**Sn**	**08 46 21.8**	**+0.8**
TGIG		**3.82**	**334**	*e*P	**Pn**	**08 45 58.4**	**+1.4**
TGIG				*i* S	**Sn**	**08 46 40.5**	**0.0**
CMIG	**Matias Romero**	**5.04**	**318**	*i* P	**Pn**	**08 46 14.8**	**+1.1**
CMIG				*i* S	**Sn**	**08 47 08.7**	**-2.0**
PNIG	**Pinotepa**	**7.20**	**296**	*i* P	**Pn**	**08 46 44.4**	**+1.1**
PNIG				*i* S	**Sn**	**08 48 03.1**	**-0.7**

WEL 16 08:45:54.6±0.3, 38.°32S×176.°16E, h137km±2km, ML3.7/8, 2C, Error ellipse: s-maj=2.5km s-min=2.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.75**	**86**	⇑PN	Pn	08 46 15.9	-0.1
URZ				SN	Sn	08 46 32.6	+0.4
BKZ	**Black Stump Fm**	**0.89**	**163**	⇑PN	Pn	08 46 17.4	+0.3
BKZ				SN	Sn	08 46 34.7	+0.4
NMHZ	**Naumai**	**0.93**	**147**	PN	Pn	08 46 18.5	+1.1
RAHZ	**Arahi**	**0.94**	**130**	PN	Pn	08 46 18.3	+0.8
FWVZ	**Far West T-bar**	**1.05**	**207**	PN	Pn	08 46 19.0	+0.5
MWZ	**Matawai**	**1.07**	**91**	PN	Pn	08 46 18.8	+0.1
MWZ				SN	Sn	08 46 36.7	-0.5
WNVZ	**Wahianoa**	**1.10**	**203**	PN	Pn	08 46 19.4	+0.4
MOMZ	**Moawhango**	**1.14**	**196**	PN	Pn	08 46 19.1	-0.2
BHHZ	**Black Hill Sta**	**1.17**	**184**	PN	Pn	08 46 19.7	0.0
BHHZ				SN	Sn	08 46 38.5	-0.5
KNZ	**Kokohu**	**1.38**	**121**	PN	Pn	08 46 21.8	0.0
PRGZ	**Paritu Road**	**1.48**	**115**	PN	Pn	08 46 23.0	+0.2
CKHZ	**Cape Kidnapper**	**1.52**	**152**	PN	Pn	08 46 23.6	+0.3
KAHZ	**Kahuranaki**	**1.58**	**160**	PN	Pn	08 46 24.2	+0.2
PNHZ	**Pukenui**	**1.60**	**179**	PN	Pn	08 46 23.7	-0.5
MHGZ	**Mahia Peninsul**	**1.60**	**122**	PN	Pn	08 46 24.4	+0.2
CNGZ	**Carnagh Statio**	**1.62**	**97**	PN	Pn	08 46 24.8	+0.4
PUZ	**Puketiti**	**1.67**	**82**	PN	Pn	08 46 24.5	-0.5
TSZ	**Takapari Road**	**1.75**	**185**	PN	Pn	08 46 25.2	-0.7
WPHZ	**Waipukurau**	**1.76**	**173**	PN	Pn	08 46 25.5	-0.6
PXZ	**Pawanui**	**1.80**	**163**	PN	Pn	08 46 26.0	-0.5
MXZ	**Matakaoa Point**	**1.85**	**67**	PN	Pn	08 46 27.0	-0.1
DVHZ	**Dannevirke**	**1.98**	**180**	PN	Pn	08 46 27.5	-1.2
PRHZ	**Porangahau**	**1.98**	**169**	PN	Pn	08 46 27.9	-0.7
POWZ	**Post Office Ro**	**2.10**	**188**	PN	Pn	08 46 28.7	-1.3
BFZ	**Birch Farm**	**2.36**	**178**	PN	Pn	08 46 31.7	-1.6
MRZ	**Mangatainoka R**	**2.39**	**191**	PN	Pn	08 46 31.7	-1.9
OGWZ	**Otaki Gorge**	**2.61**	**197**	PN	Pn	08 46 34.4	-2.0
HOWZ	**Holdsworth Sta**	**2.63**	**191**	PN	Pn	08 46 34.3	-2.3
KIW	**Kapiti Island**	**2.72**	**200**	PN	Pn	08 46 36.1	-1.7
TMWZ	**Te Maipa**	**2.80**	**184**	PN	Pn	08 46 36.4	-2.3
MTW	**Mount Morrison**	**2.88**	**190**	PN	Pn	08 46 37.2	-2.7
CAW	**Cannon Point**	**2.91**	**196**	PN	Pn	08 46 37.7	-2.5
TRWZ	**Traveller**	**3.10**	**187**	PN	Pn	08 46 39.9	-2.8
NNZ	**Nelson**	**3.60**	**216**	PN	Pn	08 46 46.0	-3.2
QRZ	**Quartz Range**	**3.76**	**227**	*e*PN	Pn	08 46 50.5	-0.8
KHZ	**Kahutara**	**4.56**	**205**	PN	Pn	08 46 58.1	-3.7

*ISK **16** 08:50:20.4, 36.°33N×29.°29E, h14km, MD3.1*
*ISCJB **16** 08:50:21.1±0.8, 36.°33N±0.°04×29.°29E±0.°05, h13km±5km, Error ellipse: s-maj=7.3km s-min=6.0km az=32.3*
*CSEM **16** 08:50:21.0±0.3, 36.°33N×29.°30E, h15km, MD2.9*
*DDA **16** 08:50:21.2, 36.°45N×29.°34E, h8km±3km, Md2.9*
ISC 16 08:50:21.6±0.8, 36.°33N±0.°04×29.°29E±0.°05, h15km±4km, n31, σ0°99/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**0.27**	**112**	*i* P	**Pg**	**08 50 27.3**	**-0.1**
AKAS				*i* S	**Sg**	**08 50 32.5**	**+1.1**
AKAS	**Kas**	**0.27**	**112**	*i* P	**Pg**	**08 50 27.3**	**-0.1**
AKAS				*i* S	**Sg**	**08 50 32.5**	**+1.1**
FETY	**Fethiye**	**0.34**	**331**	*e*Pg	**Pg**	**08 50 28.0**	**-0.7**
FETY				*e*SG	**Sg**	**08 50 33.5**	**0.0**
FETY	**Fethiye**	**0.34**	**331**	*e*Pg	**Pg**	**08 50 28.0**	**-0.7**
FETY				*e*Sg	**Sg**	**08 50 33.5**	**0.0**
ELL	**Elmali**	**0.65**	**50**	*e*PG	**Pg**	**08 50 33.4**	**-0.9**
ELL				*e*SG	**Sg**	**08 50 44.0**	**+1.2**
ELL	**Elmali**	**0.65**	**50**	*e*Pg	**Pg**	**08 50 33.4**	**-0.9**
ELL				*e*Sg	**Sg**	**08 50 44.0**	**+1.2**
TURN	**Turunc**	**0.77**	**314**	*i* P	**Pg**	**08 50 39.0**	**+2.3**
TURN				*i* S	**Sg**	**08 50 53.2**	**+6.4**
GLHS	**Glhisar (BURDU**	**0.84**	**11**	*e*PG	**Pg**	**08 50 37.0**	**-0.8**
GLHS				*e*SG	**Sg**	**08 50 48.8**	**-0.1**
GLHS	**Glhisar (BURDU**	**0.84**	**11**	*e*Pg	**Pg**	**08 50 37.0**	**-0.9**
GLHS				*e*Sg	**Sg**	**08 50 48.8**	**-0.1**
GOLH	**Golhisar**	**0.93**	**13**	*i* P	**Pb**	**08 50 37.0**	**-2.4**
GOLH				*i* S	**Sb**	**08 50 52.6**	**+1.1**
GOLH	**Golhisar**	**0.93**	**13**	*i* P	**Pb**	**08 50 37.0**	**-2.3**
GOLH				*i* S	**Sb**	**08 50 52.6**	**+1.1**
YER	**Yerkesik**	**1.14**	**315**	*e*PN	**Pn**	**08 50 42.6**	**-0.4**
YER	**Yerkesik**	**1.14**	**315**	*e*Pn	**Pn**	**08 50 42.6**	**-0.3**
DNZL	**Cakiroluk**	**1.37**	**352**	*i* P	**Pn**	**08 50 46.1**	**0.0**
DNZL				*i* S	**Sn**	**08 51 04.4**	**+0.4**
DNZL	**Cakiroluk**	**1.37**	**352**	*i* P	**Pn**	**08 50 46.1**	**0.0**
DNZL				*i* S	**Sn**	**08 51 04.4**	**+0.5**
DENT	**Denizli**	**1.43**	**352**	*e*PN	**Pn**	**08 50 46.5**	**-0.5**
DENT	**Denizli**	**1.43**	**352**	*e*Pn	**Pn**	**08 50 46.5**	**-0.6**
DAT	**Datca**	**1.44**	**286**	*e*PN	**Pn**	**08 50 46.7**	**-0.3**
DAT	**Datca**	**1.44**	**286**	*e*Pn	**Pn**	**08 50 46.7**	**-0.3**
BCK	**Bucak**	**1.53**	**42**	*e*PN	**Pn**	**08 50 48.0**	**-0.4**
BCK	**Bucak**	**1.53**	**42**	*e*Pn	**Pn**	**08 50 48.0**	**-0.4**
MLSB	**Milas**	**1.55**	**309**	*e*PN	**Pn**	**08 50 48.3**	**-0.3**
MLSB	**Milas**	**1.55**	**309**	*e*Pn	**Pn**	**08 50 48.3**	**-0.3**
AYDN	**Tasoluk**	**1.74**	**320**	*i* P	**Pn**	**08 50 52.2**	**+1.0**
AYDN				*i* S	**Sn**	**08 51 15.4**	**+2.3**
AYDN	**Tasoluk**	**1.74**	**320**	*i* P	**Pn**	**08 50 52.2**	**+1.0**
BODT	**Bodrum**	**1.75**	**295**	*e*PN	**Pn**	**08 50 50.4**	**-1.0**
BODT	**Bodrum**	**1.75**	**295**	*e*Pn	**Pn**	**08 50 50.4**	**-1.0**
SUTC	**Sutluce-Ispart**	**1.78**	**50**	*e*PN	**Pn**	**08 50 51.5**	**-0.3**
SUTC	**Sutluce-Ispart**	**1.78**	**50**	*e*Pn	**Pn**	**08 50 51.5**	**-0.3**
KHAL	**Karahalli**	**2.04**	**4**	*i* P	**Pn**	**08 50 55.8**	**+0.5**
KHAL				*i* S	**Sn**	**08 51 19.2**	**-1.3**
KHAL	**Karahalli**	**2.04**	**4**	*i* P	**Pn**	**08 50 55.8**	**+0.5**
KHAL				*i* S	**Sn**	**08 51 19.2**	**-1.3**

*IDC **16** 09:19:00.5±0.9, 12.°02N×143.°12E, h0km, mb3.9/7, mb1 4.2/8, mb1mx3.9/24, mbtmp3.9/8, ML4.0/1, MS3.0/1, Ms1 3.0/1, ms1mx2.2/35, Error ellipse: s-maj=39.3km s-min=18.1km az=116.0*

*NEIC **16** 09:19:01.8±0.6, 11.°98N×143.°23E, h10km, mb4.1/1, Error ellipse: s-maj=26.3km s-min=11.2km az=114.0*
*ISCJB **16** 09:19:03.6±0.7, 11.°9N±0.°1×143.°1E±0.°1, h33km, mb3.9/8, Error ellipse: s-maj=25.0km s-min=9.0km az=36.9*
ISC 16 09:19:05.7±0.7, 12.°0N±0.°1×143.°1E±0.°1, h35km, n18, σ0°93/19, mb3.9/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.35**	**46**	Pn	**Pn**	**09 19 40.3**	**-1.4**
	41nm,0.3s,baz=86,slow=0.8,SNR=27						
GUMO				Sn	**Sn**	**09 20 10.0**	**+0.7**
	36nm,0.3s,baz=208,slow=23,SNR=6.0						
GUMO	**Guam**	**2.35**	**46**	*e*Pn	**Pn**	**09 19 38.9**	**-2.8**
GUMO				Sn	**Sn**	**09 20 10.1**	**+0.7**
WRAB	**Tennant Creek**	**32.84**	**195**	*e*P	**P**	**09 25 35.5**	**-0.7**
	2.1nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**32.86**	**195**	P	**P**	**09 25 36.6**	**+0.3**
	1.4nm,0.9s,mb3.9,baz=16,slow=9.6,SNR=4.0						
WRA	**Warramunga Arr**	**32.86**	**195**	P	**P**	**09 25 36.6**	**+0.3**
ASAR	**Alice Springs**	**36.53**	**194**	P	**P**	**09 26 08.5**	**+0.5**
	0.3nm,0.8s,mb3.2,baz=23,slow=11,SNR=4.0						
ASAR	**Alice Springs**	**36.53**	**194**	P	**P**	**09 26 08.5**	**+0.5**
PETK	**Petropavlovsk-**	**42.67**	**13**	LR	LR	09 42 07.0	
	comp=Z,18nm,20.7s,baz=298,slow=32						
SONM	**Songino Array**	**47.12**	**327**	P	**P**	**09 27 35.1**	**+0.8**
	0.3nm,0.5s,mb3.5,baz=139,slow=5.2,SNR=3.6						
SONM	**Songino Array**	**47.12**	**327**	P	**P**	**09 27 35.1**	**+0.8**
ILAR	**Eielson Array**	**70.76**	**25**	P	**P**	**09 30 17.1**	**-1.0**
	2.0nm,0.7s,mb4.2,baz=250,slow=5.9,SNR=49						
ILAR	**Eielson Array**	**70.76**	**25**	P	**P**	**09 30 17.1**	**-1.0**
INK	**Inuvik**	**76.51**	**22**	P	**P**	**09 30 51.8**	**0.0**
	0.5nm,0.7s,mb3.6,baz=207,slow=15,SNR=3.6						
INK	**Inuvik**	**76.51**	**22**	P	**P**	**09 30 51.8**	**0.0**
NVAR	**Mina Array Bea**	**89.26**	**51**	P	**P**	**09 31 59.9**	**+1.5**
	1.3nm,0.6s,mb4.4,baz=269,slow=5.2,SNR=13						
NVAR	**Mina Array Bea**	**89.26**	**51**	P	**P**	**09 31 59.9**	**+1.5**
FINES	**FINESS Array B**	**91.91**	**335**	P	**P**	**09 32 09.6**	**-0.7**
	1.2nm,0.6s,mb4.4,baz=72,slow=6.2,SNR=5.2						
FINES	**FINESS Array B**	**91.91**	**335**	P	**P**	**09 32 09.6**	**-0.7**

IDC 16 09:22:49.0±4.5, 4.°57S×150.°50E, h0km, mb2.9/2, mb1 3.4/3, mb1mx3.2/16, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=196.4km s-min=42.3km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.84**	**214**	Pn	Pn	09 24 17.2	+0.3
	4.3nm,0.3s,baz=40,slow=7.7,SNR=12						
PMG				Sn	Sn	09 25 07.5	-17
	7.1nm,0.3s,baz=122,slow=23,SNR=7.1						
WRA	**Warramunga Arr**	**21.94**	**224**	P	P	09 27 44.2	-0.2
	0.4nm,0.5s,baz=52,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**24.84**	**219**	P	P	09 28 13.3	+0.1
	0.2nm,0.7s,baz=50,slow=9.4,SNR=2.6						
TORD	**Torodi Ar. Bea**	**148.06**	**288**	PKPbc	PKPbc	09 42 37.1	-0.6
	0.3nm,0.7s,baz=63,slow=0.6,SNR=3.0						

*ISK **16** 09:34:58.5, 37.°57N×38.°43E, h9km, MD2.8*
*ISCJB **16** 09:34:59.1±0.6, 37.°58N±0.°04×38.°44E±0.°05, h11km±6km, Error ellipse: s-maj=7.7km s-min=5.4km az=141.5*
*CSEM **16** 09:34:59.1±0.1, 37.°57N×38.°43E, h10km, MD2.8, Error ellipse: s-maj=2.7km s-min=2.3km az=145.0*
*DDA **16** 09:34:59.3, 37.°61N×38.°45E, h7km±3km, Md2.6*
ISC 16 09:34:59.4±0.6, 37.°57N±0.°04×38.°44E±0.°05, h14km±6km, n20, σ0°57/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAB	**Bozova**	**0.15**	**228**	*i* P	**Pg**	**09 35 03.1**	**-0.1**
ATAB				*i* S	**Sg**	**09 35 06.5**	**+0.6**
ATAB	**Bozova**	**0.15**	**228**	*i* P	**Pg**	**09 35 03.1**	**-0.1**
ATAB				*i* S	**Sg**	**09 35 06.5**	**+0.6**
URFA	**Urfa**	**0.33**	**113**	*e*PG	**Pg**	**09 35 05.8**	**-0.4**
URFA				*e*SG	**Sg**	**09 35 10.5**	**-0.3**
URFA	**Urfa**	**0.33**	**113**	*e*Pg	**Pg**	**09 35 05.9**	**-0.3**
URFA				*e*Sg	**Sg**	**09 35 10.5**	**-0.3**
MYA	**Malataya**	**0.75**	**359**	*e*PG	**Pg**	**09 35 13.7**	**-0.4**
MYA				*e*SG	**Sg**	**09 35 23.7**	**-0.2**
MYA	**Malataya**	**0.75**	**359**	*e*Pg	**Pg**	**09 35 13.7**	**-0.3**
MYA				*e*Sg	**Sg**	**09 35 23.7**	**-0.2**
AKCD	**Akcadag**	**0.83**	**331**	*i* P	**Pg**	**09 35 14.9**	**-0.6**
AKCD	**Akcadag**	**0.83**	**331**	*i* P	**Pg**	**09 35 14.9**	**-0.6**
ELZG	**Elazig**	**1.02**	**25**	*i* P	**Pb**	**09 35 14.7**	**-4.2**
ELZG				*i* S	**Sb**	**09 35 31.6**	**-0.6**
ELZG	**Elazig**	**1.02**	**25**	*i* P	**Pb**	**09 35 14.6**	**-4.3**
ELZG				*i* S	**Sb**	**09 35 31.6**	**-0.5**
GAZ	**Gaziantep**	**1.06**	**248**	*e*PG	**Pg**	**09 35 19.5**	**-0.4**
GAZ	**Gaziantep**	**1.06**	**248**	*e*Pg	**Pg**	**09 35 19.5**	**-0.3**
SVRC	**Sivrice-ELAZID**	**1.06**	**40**	*e*PG	**Pg**	**09 35 19.6**	**-0.2**
SVRC				*e*SG	**Sg**	**09 35 35.0**	**+1.4**
SVRC	**Sivrice-ELAZID**	**1.06**	**40**	*e*Pg	**Pg**	**09 35 19.6**	**-0.2**
SVRC				*e*Sg	**Sg**	**09 35 35.0**	**+1.4**
KMRS	**Kahramanmaras**	**1.23**	**267**	*e*PN	**Pn**	**09 35 22.1**	**0.0**
KMRS	**Kahramanmaras**	**1.23**	**267**	*e*Pn	**Pn**	**09 35 22.1**	**-0.1**
PTK	**Pertek**	**1.52**	**29**	*e*PN	**Pn**	**09 35 26.6**	**+0.4**
PTK	**Pertek**	**1.52**	**29**	*e*Pn	**Pn**	**09 35 26.6**	**+0.4**
SARI	**SarD1z-Kayseri**	**1.76**	**309**	*e*PN	**Pn**	**09 35 30.3**	**+0.8**
SARI	**SarD1z-Kayseri**	**1.76**	**309**	*e*Pn	**Pn**	**09 35 30.3**	**+0.8**

*ISCJB **16** 09:50:59.9±0.4, 59.°30N±0.°04×152.°99W±0.°09, h97km±6km, mb3.7/4, Error ellipse: s-maj=7.6km s-min=5.8km az=23.2*
*IDC **16** 09:50:59.6±1.3, 59.°39N×153.°13W, h72km±16km, mb3.5/4, mb1 3.8/8, mb1mx3.4/27, mbtmp3.6/8, Error ellipse: s-maj=16.4km s-min=11.5km az=109.0*
*NEIC **16** 09:51:02.1, 59.°32N×152.°96W, h96km, MG3.3(AEIC), After AEIC.*
ISC 16 09:51:01.1±0.4, 59.°29N±0.°04×153.°00W±0.°09, h90km±7km, n44, σ0°87/51, mb3.7/4, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLK	**Bradley Lake**	**1.18**	**65**	P	**Pn**	**09 51 22.7**	**0.0**
BRLK				S	**Sn**	**09 51 39.0**	**-0.1**
RSO	**Redoubt South**	**1.18**	**6**	*e*Pn	**Pn**	**09 51 23.3**	**+0.5**
KDAK	**Kodiak Island**	**1.53**	**172**	P	**Pn**	**09 51 27.1**	**0.0**
	7.5nm,0.3s,baz=5.0,slow=9.9,SNR=74						
KDAK				S	**Sn**	**09 51 46.3**	**-0.5**
	36nm,0.3s,baz=306,slow=23,SNR=43						
KDAK	**Kodiak Island**	**1.53**	**172**	P	**Pn**	**09 51 27.1**	**+0.1**
KDAK				S	**Sn**	**09 51 47.1**	**+0.4**
SLKM	**Skilak Lake**	**1.86**	**48**	*e*Pn	**Pn**	**09 51 30.8**	**-0.5**
SLKM				*e*Sn	**Sn**	**09 51 53.0**	**-1.3**
SEW	**Seward**	**1.98**	**64**	P	**Pn**	**09 51 32.6**	**-0.3**
OHAK	**Old Harbor**	**2.08**	**184**	P	**Pn**	**09 51 34.0**	**-0.3**
SVW2	**Sparrevohn**	**2.23**	**326**	*e*Pn	**Pn**	**09 51 35.5**	**-0.7**
FIB	**Fire Island**	**2.35**	**36**	P	**Pn**	**09 51 39.0**	**+1.2**
SUA	**Susitna One**	**2.45**	**26**	P	**Pn**	**09 51 39.9**	**+0.8**
SKT	**Skwentna**	**2.80**	**14**	P	**Pn**	**09 51 43.9**	**+0.1**
PMR	**Palmer**	**3.00**	**38**	P	**Pn**	**09 51 45.7**	**-0.8**
MID	**Middleton Isla**	**3.41**	**85**	*e*P	**Pn**	**09 51 51.5**	**-0.5**
SML	**Sawmill**	**3.42**	**40**	P	**Pn**	**09 51 51.9**	**-0.2**
PPLA	**Purkeypile**	**3.64**	**6**	P	**Pn**	**09 51 56.7**	**+1.6**
SCM	**Sheep Creek Mo**	**3.79**	**45**	P	**Pn**	**09 51 56.5**	**-0.5**
EYAK	**Cordova Ski Ar**	**3.86**	**68**	P	**Pn**	**09 51 57.2**	**-0.9**
EYAK				S	**Sn**	**09 52 38.4**	**-3.9**
TT01	**Tatalina**	**3.92**	**339**	P	**Pn**	**09 51 59.0**	**+0.1**
DIV	**Divide**	**4.05**	**60**	P	**Pn**	**09 52 00.1**	**-0.6**
KLU	**Klutina**	**4.15**	**55**	P	**Pn**	**09 52 01.5**	**-0.5**
CHGN	**Chignik**	**4.17**	**226**	*e*P	**Pn**	**09 52 03.1**	**+0.8**
TRF	**Thorofare Moun**	**4.38**	**16**	P	**Pn**	**09 52 05.7**	**+0.7**
BMRM	**Bremner River**	**4.52**	**65**	P	**Pn**	**09 52 06.3**	**-0.7**
RND	**Reindeer**	**4.59**	**24**	P	**Pn**	**09 52 07.8**	**-0.1**
CHUM	**Lake Minchumin**	**4.62**	**4**	P	**Pn**	**09 52 08.8**	**+0.4**
DHY	**Denali Highway**	**4.67**	**33**	P	**Pn**	**09 52 08.9**	**-0.2**
MCK	**McKinley**	**4.86**	**22**	P	**Pn**	**09 52 12.3**	**+0.6**
BPAW	**Bear Paw Mtn.**	**4.92**	**10**	P	**Pn**	**09 52 12.9**	**+0.5**
PAX	**Paxson**	**5.19**	**41**	P	**Pn**	**09 52 16.0**	**-0.1**
DDM	**Donnelly Dome**	**5.66**	**34**	P	**Pn**	**09 52 23.6**	**+1.2**
MENT	**Mentasta**	**5.80**	**47**	*e*P	**Pn**	**09 52 24.7**	**+0.4**
COLA	**College**	**6.10**	**21**	*e*Pn	**Pn**	**09 52 28.0**	**-0.5**
	4.6nm,0.8s						
ILAR	**Eielson Array**	**6.21**	**25**	P	**Pn**	**09 52 29.0**	**-0.9**
	0.4nm,0.3s,baz=216,slow=14,SNR=26						
ILAR				S	**Sn**	**09 53 35.5**	**-3.8**
	1.4nm,0.3s,baz=219,slow=22,SNR=9.2						
ILAR	**Eielson Array**	**6.21**	**25**	P	**Pn**	**09 52 29.0**	**-0.9**
ILAR				S	**Sn**	**09 53 35.5**	**-3.8**
SKAG	**Skagway**	**9.02**	**81**	*e*P	**Pn**	**09 53 09.4**	**+1.2**
SIT	**Sitka**	**9.60**	**96**	*e*P	**Pn**	**09 53 16.4**	**+0.3**
	16nm,0.6s						
DLBC	**Dease Lake**	**11.91**	**84**	P	**Pn**	**09 53 48.9**	**+1.4**
	3.0nm,0.3s,baz=250,slow=9.0,SNR=21						
INK	**Inuvik**	**12.41**	**35**	P	**Pn**	**09 53 57.1**	**+3.0**
	0.1nm,0.3s,baz=220,slow=10,SNR=3.5						
YKA	**Yellowknife Ar**	**18.75**	**64**	P	**Pn**	**09 55 12.6**	**-1.4**
	0.2nm,0.3s,baz=275,slow=9.8,SNR=9.2						
FX1	**Attu Island--F**	**19.77**	**266**	P	**Pn**	**09 55 23.6**	**-2.5**
	1.9nm,0.3s,baz=17,slow=11,SNR=3.3						
PETK	**Petropavlovsk-**	**27.57**	**279**	P	**P**	**09 56 38.4**	**-0.7**
	1.6nm,0.7s,mb3.7,baz=72,slow=13,SNR=7.8						
ULM	**Lac du Bonnet**	**33.19**	**80**	P	**P**	**09 57 28.8**	**+0.1**
	0.7nm,0.4s,mb3.8,baz=302,slow=11,SNR=2.8						
TXAR	**Lajitas Array**	**44.73**	**110**	P	**P**	**09 59 06.6**	**+1.5**
	0.7nm,0.8s,mb3.4,baz=331,slow=5.7,SNR=7.9						
SONM	**Songino Array**	**55.21**	**306**	P	**P**	**10 00 23.7**	**-0.4**
	0.4nm,0.5s,mb3.7,baz=36,slow=6.2,SNR=3.1						

WEL 16 10:01:27.7±0.1, 40.°88S×175.°55E, h25km, ML4.0/47, 5C-7D, Error ellipse: s-maj=0.9km s-min=0.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOWZ	**Holdsworth Sta**	**0.03**	**238**	⇓P*	Pb	10 01 31.8	-0.2
HOWZ				S*	Sb	10 01 35.0	+0.1
MRZ	**Mangatainoka R**	**0.22**	**6**	⇓P*	Pb	10 01 33.6	-0.1
MRZ				S*	Sb	10 01 37.7	0.0
MTW	**Mount Morrison**	**0.28**	**187**	⇑P*	Pb	10 01 34.4	0.0
TIWZ	**Tintock**	**0.28**	**68**	⇑P*	Pb	10 01 34.6	+0.2
TIWZ				S*	Sb	10 01 39.7	+0.7
TMWZ	**Te Maipa**	**0.34**	**131**	⇑P*	Pb	10 01 35.9	+0.5
CAW	**Cannon Point**	**0.43**	**238**	⇓P*	Pb	10 01 36.6	-0.1
KIW	**Kapiti Island**	**0.48**	**272**	⇓P*	Pb	10 01 37.7	+0.1
KIW				S*	Sb	10 01 44.8	+0.4
PAWZ	**Paruwai Farm**	**0.51**	**190**	⇑P*	Pb	10 01 38.0	0.0
PAWZ				S*	Sb	10 01 46.4	+1.3
POWZ	**Post Office Ro**	**0.52**	**19**	P*	Pb	10 01 38.3	+0.1
POWZ				S*	Sb	10 01 46.0	+0.7
TRWZ	**Traveller**	**0.53**	**168**	P*	Pb	10 01 38.4	+0.1
BFZ	**Birch Farm**	**0.57**	**69**	P*	Pb	10 01 39.3	+0.3
BFZ				S*	Sb	10 01 47.7	+1.0
MSWZ	**Moikau Station**	**0.58**	**203**	⇓P*	Pb	10 01 39.2	0.0
WEL	**Wellington**	**0.71**	**235**	P*	Pb	10 01 41.4	0.0
PLWZ	**Palliser**	**0.72**	**198**	⇓P*	Pb	10 01 41.0	-0.6
BHW	**Baring Head**	**0.73**	**224**	⇓P*	Pb	10 01 41.5	-0.3
DVHZ	**Dannevirke**	**0.75**	**39**	P*	Pb	10 01 41.9	-0.2
SNZO	**South Karori**	**0.77**	**236**	P*	Pb	10 01 42.2	-0.2

CMAR	**Chiang Mai Arr**	**19.96**	**268**	P	Pn	10 20 09.3	-0.1
	0.1nm,0.3s,baz=80,slow=10,SNR=4.2						
MJAR	**Matsushiro Arr**	**22.56**	**41**	P	P	10 20 36.9	+1.2
	1.5nm,0.8s,baz=244,slow=13,SNR=6.1						
MKAR	**Makanchi Array**	**40.32**	**319**	P	P	10 23 13.3	+0.3
	0.5nm,0.6s,baz=112,slow=9.2,SNR=5.5						
WRA	**Warramunga Arr**	**42.56**	**160**	P	P	10 23 30.9	-0.7
	2.0nm,0.8s,baz=341,slow=8.9,SNR=5.9						
ZALV	**Zalesovo Beam**	**42.81**	**330**	P	P	10 23 32.4	-0.9
	0.9nm,0.7s,baz=117,slow=7.2,SNR=6.3						
KURK	**Kurchatov**	**44.29**	**323**	P	P	10 23 44.8	-0.5
	1.2nm,0.7s,baz=122,slow=7.5,SNR=8.5						
ASAR	**Alice Springs**	**45.93**	**162**	P	P	10 23 58.9	+0.3
	0.7nm,0.9s,baz=342,slow=6.9,SNR=12						

NIED ***16*** *10:34:00,27.˙40N×143.˙00E, h8km, Mw4.1 Best double couple: M₀1.46000×10¹⁵ NP1:φ₀s4.00000°, δ69.00000°, λ99.00000°. NP2:φ₀s161.00000°, δ23.00000°, λ68.00000°.*

IDC ***16*** *10:34:05.5±0.6, 27.˙42N×142.˙79E, h0km, mb4.0/16, mb1 4.2/19, mb1mx4.1/27, mbtmp4.0/19, ML3.7/3, MS3.0/3, Ms1 3.0/3, ms1mx2.5/40, Error ellipse: s-maj=16.5km s-min=11.3km az=124.0*

ISCJB ***16*** *10:34:08.2±1.0, 27.˙56N±0.˙03×142.˙80E±0.˙09, h33km±8km, mb4.2/24, MS3.6/2, Error ellipse: s-maj=14.1km s-min=4.2km az=2.6*

JMA ***16*** *10:34:08.2±0.1, 27.˙44N×143.˙00E, h51km, M4.1*

NEIC ***16*** *10:34:10.7±0.4, 27.˙41N×142.˙71E, h35km, mb4.6/9, MW4.1(NIED), Error ellipse: s-maj=10.6km s-min=7.4km az=83.0*

ISC 16 10:34:10.6±1.5, 27°48.˙48N±0.˙02×142°71.˙72E±0.˙07, h34km±11km, n71, σ1s01/78, mb4.2/24, MS3.6/2, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.61**	**231**	Pn	**Pn**		**10 34 23.6**	**+0.8**
	617nm,0.3s,baz=283,slow=21,SNR=1076							
CBIJ				Sn	**Sn**		**10 34 31.6**	**+0.2**
	411nm,0.3s,baz=271,slow=23,SNR=24							
CBIJ	**Chichi jima**	**0.61**	**231**	P	**Pn**		**10 34 23.5**	**+0.7**
CBIJ				*e*S	**Sb**		**10 34 34.7**	**+3.3**
JHHJ	**Haha-jima-NKT**	**0.97**	**209**	P	**Pn**		**10 34 27.5**	**-0.4**
JHHJ				*e*S	**Sn**		**10 34 40.7**	**+0.2**
JHJ2	**Mitsune**	**6.14**	**337**	*e*S	**Sn**		**10 36 48.9**	**+0.9**
JHJ	**Hachijo jima 2**	**6.16**	**336**	Pn	**Pn**		**10 35 38.3**	**-0.9**
	5.0nm,0.3s,baz=60,slow=19,SNR=5.2							
JHJ				Sn	**Sn**		**10 36 47.3**	**-1.2**
	7.2nm,0.3s,baz=197,slow=19,SNR=2.5							
BSO1	**Boso 1**	**7.30**	**349**	P	**Pn**		**10 35 55.0**	**+0.2**
BSO1				*e*S	**Sn**		**10 37 15.1**	**-1.4**
BSO2	**Boso 2**	**7.44**	**347**	*e*S	**Sn**		**10 37 19.5**	**-0.3**
BSO3	**Boso 3**	**7.54**	**346**	P	**Pn**		**10 35 57.9**	**-0.1**
BSO3				*e*S	**Sn**		**10 37 23.0**	**+0.7**
BSO4	**Boso 4**	**7.75**	**345**	P	**Pn**		**10 36 00.2**	**-0.8**
BSO4				*e*S	**Sn**		**10 37 28.7**	**+1.1**
JOD2	**Odawara 2**	**8.35**	**339**	P	**Pn**		**10 36 09.7**	**+0.5**
JOD2				S	**Sn**		**10 37 45.8**	**+3.5**
JHU	**Hanno**	**8.84**	**342**	P	**Pn**		**10 36 14.9**	**-1.0**
JHU				*e*S	**Sn**		**10 37 51.2**	**-3.1**
JRY	**Ryogami san**	**9.10**	**340**	P	**Pn**		**10 36 19.8**	**+0.2**
JRY				*e*S	**Sn**		**10 38 00.6**	**-0.2**
JHO	**Hitachi**	**9.28**	**349**	*e*S	**Sn**		**10 37 59.3**	**-5.8**
JAG	**Ashikaga**	**9.33**	**344**	P	**Pn**		**10 36 22.4**	**-0.3**
JAG				*e*S	**Sn**		**10 38 03.7**	**-2.8**
JNG	**Nsakai**	**9.72**	**337**	P	**Pn**		**10 36 28.7**	**+0.7**
JNG				*e*S	**Sn**		**10 38 16.7**	**+0.8**
MJAR	**Matsushiro Arr**	**9.80**	**338**	Pn	**Pn**		**10 36 28.7**	**-0.5**
	1.2nm,0.3s,baz=167,slow=11,SNR=16							
MJAR	**Matsushiro Arr**	**9.80**	**338**	Pn	**Pn**		**10 36 28.7**	**-0.5**
MAJO	**Matsushiro**	**9.81**	**338**	*e*Pn	**Pn**		**10 36 28.6**	**-0.6**
	6.4nm,0.6s							
MAT	**Matsushiro**	**9.81**	**338**	P	**Pn**		**10 36 29.0**	**-0.2**
MAT				*e*S	**Sn**		**10 38 16.7**	**-1.4**
MAT	**Matsushiro**	**9.81**	**338**	P	**Pn**		**10 36 29.2**	**0.0**
JOW	**Kunigami**	**12.87**	**270**	LR	LR		10 41 31.4	
	comp=Z,221nm,19.7s,baz=220,slow=34							
GUMO	**Guam**	**13.97**	**171**	LR	LR		10 42 23.4	
	comp=Z,81nm,18.8s,baz=182,slow=36							
KSRS	**Korea Array**	**15.94**	**312**	Pn	**Pn**		**10 37 54.6**	**+2.4**
	0.2nm,0.3s,baz=121,slow=11,SNR=6.3							
YULB	**Yu-li**	**19.76**	**263**	*e*P	**Pn**		**10 38 39.7**	**+0.3**
	9.9nm,0.7s							
SSLB	**Suanglung**	**19.95**	**264**	*e*P	**Pn**		**10 38 39.4**	**-2.3**
	9.7nm,0.5s							
SONM	**Songino Array**	**34.76**	**316**	P	**P**		**10 40 57.7**	**+0.1**
	1.1nm,0.6s,mb4.0,baz=120,slow=5.3,SNR=10							
SONM	**Songino Array**	**34.76**	**316**	P	**P**		**10 40 57.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**41.11**	**267**	P	**P**		**10 41 50.9**	**-0.7**
	0.6nm,0.5s,mb3.5,baz=56,slow=7.0,SNR=6.1							
CMAR	**Chiang Mai Arr**	**41.11**	**267**	P	**P**		**10 41 50.9**	**-0.7**
WRAB	**Tennant Creek**	**47.83**	**191**	*e*P	**P**		**10 42 44.1**	**-0.9**
	5.5nm,0.6s,mb4.8							
WB2	**Warramunga Arr**	**47.84**	**191**	*e*P	**P**		**10 42 43.5**	**-1.6**
WRA	**Warramunga Arr**	**47.84**	**191**	P	**P**		**10 42 44.2**	**-0.9**
	3.5nm,0.4s,mb4.7,baz=11,slow=8.4,SNR=30							
WRA	**Warramunga Arr**	**47.84**	**191**	P	**P**		**10 42 44.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**48.24**	**202**	P	**P**		**10 42 47.6**	**-0.6**
	3.3nm,0.8s,mb4.4,baz=46,slow=6.6,SNR=7.5							
FITZ	**Fitzroy Crossi**	**48.24**	**202**	*e*P	**P**		**10 42 48.0**	**-0.3**
	3.3nm,0.8s,mb4.4							
ZAA0	**Zalesovo Array**	**49.51**	**319**	*e*P	**P**		**10 42 57.9**	**+0.3**
ZALV	**Zalesovo Beam**	**49.51**	**319**	P	**P**		**10 42 58.5**	**+0.9**
	2.0nm,0.7s,mb4.3,baz=97,slow=7.7,SNR=14							
ZALV	**Zalesovo Beam**	**49.51**	**319**	P	**P**		**10 42 58.5**	**+0.9**
MKAR	**Makanchi Array**	**50.59**	**309**	P	**P**		**10 43 06.5**	**+0.5**
	0.5nm,0.3s,mb3.9,baz=83,slow=11,SNR=13							
MKAR	**Makanchi Array**	**50.59**	**309**	P	**P**		**10 43 06.5**	**+0.5**
ASAR	**Alice Springs**	**51.56**	**190**	P	**P**		**10 43 12.0**	**-1.4**
	0.4nm,0.4s,mb3.7,baz=6.6,slow=6.0,SNR=18							
ASAR	**Alice Springs**	**51.56**	**190**	P	**P**		**10 43 12.0**	**-1.4**
KURK	**Kurchatov**	**53.05**	**314**	*e*P	**P**		**10 43 25.0**	**+0.8**
	2.6nm,0.4s,mb4.5							
ILAR	**Eielson Array**	**57.15**	**29**	P	**P**		**10 43 52.8**	**-0.8**
	0.8nm,1.0s,mb3.7,baz=257,slow=5.4,SNR=5.8							
ILAR	**Eielson Array**	**57.15**	**29**	P	**P**		**10 43 52.8**	**-0.8**
BRVK	**Borovoye**	**58.14**	**317**	*e*P	**P**		**10 44 01.9**	**+1.1**
	12nm,0.9s,mb4.9							
STKA	**Stephens Creek**	**59.04**	**181**	P	**P**		**10 44 05.6**	**-1.6**
	1.9nm,0.9s,mb4.1,baz=0.0,slow=12,SNR=2.9							
STKA	**Stephens Creek**	**59.04**	**181**	P	**P**		**10 44 05.6**	**-1.6**
KKAR	**Karatay Array**	**59.24**	**306**	*e*P	**P**		**10 44 09.0**	**+0.4**
	2.9nm,0.6s,mb4.5							
AFI	**Afiamalu**	**60.34**	**127**	LR	LR		11 03 39.4	
	comp=Z,484nm,20.9s,MS4.6,baz=15,slow=29							
INK	**Inuvik**	**62.48**	**25**	P	**P**		**10 44 30.7**	**+0.5**
	1.7nm,0.7s,mb4.3,baz=283,slow=7.5,SNR=8.5							
INK	**Inuvik**	**62.48**	**25**	P	**P**		**10 44 30.7**	**+0.5**
ARU	**Arti**	**64.41**	**322**	*e*P	**P**		**10 44 43.7**	**+0.6**
	6.6nm,0.6s,mb4.8							
ABKAR	**Akbulak array**	**65.16**	**314**	*e*P	**P**		**10 44 49.0**	**+0.9**
	6.7nm,0.6s,mb4.8							
YKA	**Yellowknife Ar**	**71.58**	**29**	LR	LR		11 11 59.8	
	comp=Z,3.1nm,21.6s,MS2.5,baz=130,slow=32							
ARCES	**ARCESS Array B**	**73.33**	**341**	P	**P**		**10 45 39.0**	**+0.6**
	3.8nm,0.9s,mb4.3,baz=79,slow=9.3,SNR=3.4							
ARCES	**ARCESS Array B**	**73.33**	**341**	P	**P**		**10 45 39.0**	**+0.6**
JOF	**Joensuu**	**74.94**	**334**	*e*p	**P**		**10 45 48.3**	**-0.4**
	1.9nm,0.5s,mb4.3							
KAF	**Kangasniemi**	**77.33**	**334**	*e*p	**P**		**10 46 01.3**	**-0.2**
	1.3nm,0.4s,mb4.2							
FINES	**FINESS Array B**	**77.81**	**334**	P	**P**		**10 46 04.8**	**+0.6**
	3.4nm,0.7s,mb4.4,baz=68,slow=4.5,SNR=24							
FINES	**FINESS Array B**	**77.81**	**334**	P	**P**		**10 46 04.8**	**+0.6**
NVAR	**Mina Array Bea**	**79.91**	**52**	P	**P**		**10 46 17.1**	**+0.9**
	0.9nm,0.8s,mb3.8,baz=276,slow=4.5,SNR=6.2							
NVAR	**Mina Array Bea**	**79.91**	**52**	P	**P**		**10 46 17.1**	**+0.9**
PDAR	**Pinedale Array**	**83.61**	**45**	P	**P**		**10 46 37.0**	**+1.4**
	0.8nm,0.9s,mb3.8,baz=272,slow=4.2,SNR=5.0							
PDAR	**Pinedale Array**	**83.61**	**45**	P	**P**		**10 46 37.0**	**+1.4**
BRTR	**Keskin Array B**	**86.08**	**313**	P	**P**		**10 46 48.2**	**+0.1**
	0.6nm,0.6s,mb4.0,baz=104,slow=4.5,SNR=3.9							
BRTR	**Keskin Array B**	**86.08**	**313**	P	**P**		**10 46 48.2**	**+0.1**
TXAR	**Lajitas Array**	**95.00**	**53**	P	**P**		**10 47 32.3**	**+2.2**
	0.4nm,0.9s,mb3.9,baz=294,slow=2.3,SNR=5.2							
TXAR	**Lajitas Array**	**95.00**	**53**	P	**P**		**10 47 32.3**	**+2.2**
LPAZ	**La Paz**	**149.37**	**75**	PKPbc	PKPbc		10 53 58.6	+1.9
	0.9nm,0.6s,baz=61,slow=3.2,SNR=3.7							
LPAZ	**La Paz**	**149.37**	**75**	*e*PKPbc	PKPbc		10 53 57.7	+1.0

IDC ***16*** *10:39:11.3±1.9, 0.˙18S×132.˙44E, h0km, mb3.9/4, mb1 4.0/6, mb1mx3.6/20, mbtmp3.8/6, ML3.8/2, MS2.7/1, Ms1 2.7/1, ms1mx2.1/35, Error ellipse: s-maj=68.5km s-min=26.6km az=96.0*

ISCJB ***16*** *10:39:17.0±1.5, 0.˙22S×0.˙09×133.˙00E±0.˙06, h41km±16km, mb3.8/4, Error ellipse: s-maj=15.0km s-min=10.6km az=167.8*

DJA ***16*** *10:39:17, 0.˙24S×133.˙04E, h137km, MLv4.5/5*

ISC 16 10:39:18.4±1.4, 0.˙17S±0.˙09×133°04.˙62E±0.˙07, h42km±15km, n14, σ0s93/16, mb3.8/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BAKI	**Biak**	**3.23**	**108**	P	**Pn**		**10 40 07.0**	**+0.3**
MSAI	**Masohi**	**5.18**	**232**	P	**Pn**		**10 40 34.1**	**+0.7**
	0.3nm28nm,0.7s							
MSAI				S	**Sn**		**10 41 33.8**	**+1.8**
	0.3nm28nm,0.7s							
BNDI	**Bandanaira**	**5.34**	**216**	P	**Pn**		**10 40 34.5**	**-1.1**
	1.4nm4μm145nm,0.5s							
TLE	**Tual**	**5.44**	**183**	P	**Pn**		**10 40 37.0**	**0.0**
	1.1nm4μm149nm,0.7s							
TLE				S	**Sn**		**10 41 38.5**	**+0.1**
	1.1nm4μm149nm,0.7s							
TLE	**Tual**	**5.44**	**183**	P	**Pn**		**10 40 37.4**	**+0.4**
LBMI	**Labuha**	**5.56**	**265**	P	**Pn**		**10 40 37.7**	**-0.9**
AAI	**Ambon**	**5.97**	**234**	P	**Pn**		**10 40 51.1**	**+6.8**
AAI				S	**Sn**		**10 41 50.9**	**-0.5**
FITZ	**Fitzroy Crossi**	**19.25**	**202**	P	**Pn**		**10 43 34.9**	**-5.7**
	0.2nm,0.3s,baz=38,slow=14,SNR=3.1							
WRA	**Warramunga Arr**	**19.69**	**176**	P	**Pn**		**10 43 42.4**	**-3.5**
	0.4nm,0.3s,baz=356,slow=13,SNR=4.7							
ASAR	**Alice Springs**	**23.37**	**178**	P	**P**		**10 44 23.1**	**-0.4**
	3.6nm,0.5s,mb4.0,baz=354,slow=9.5,SNR=28							
CTA	**Charters Tower**	**23.65**	**148**	P	**P**		**10 44 27.0**	**+0.9**
	1.0nm,0.4s,mb3.6,baz=330,slow=8.1,SNR=2.6							
STKA	**Stephens Creek**	**32.56**	**166**	P	**P**		**10 45 44.7**	**-0.9**
	1.5nm,0.5s,mb4.2,baz=9.5,slow=12,SNR=4.6							
PETK	**Petropavlovsk**	**56.94**	**17**	LR	LR		11 09 29.7	
	comp=Z,6.9nm,19.5s,baz=202,slow=32							
ILAR	**Eielson Array**	**85.92**	**25**	P	**P**		**10 51 54.4**	**+0.8**
	0.4nm,1.1s,mb3.6,baz=261,slow=6.0,SNR=4.6							

IDC ***16*** *10:40:14.3±0.9, 0.˙30S×133.˙09E, h0km, mb3.8/8, mb1 4.0/10, mb1mx3.9/20, mbtmp3.8/10, ML4.2/1, MS3.3/4, Ms1 3.2/4, ms1mx2.8/32, Error ellipse: s-maj=41.7km s-min=15.3km az=72.0*

ISCJB ***16*** *10:40:17.6±0.7, 0.˙40S±0.˙09×132.˙9E±0.˙2, h33km, mb3.7/8, MS3.4/3, Error ellipse: s-maj=29.1km s-min=10.8km az=165.8*

NEIC ***16*** *10:40:19.6±0.5, 0.˙35S×132.˙98E, h35km, mb3.9/3, Error ellipse: s-maj=22.9km s-min=8.3km az=75.0*

ISC 16 10:40:19.5±0.7, 0.˙42S±0.˙08×132.˙9E±0.˙2, h35km, n23, σ0s76/21, mb3.7/8, MS3.4/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.98**	**202**	P	**Pn**		**10 44 38.5**	**-0.5**
	0.6nm,0.3s,baz=23,slow=9.3,SNR=3.6							
FITZ				LR	LR		10 51 56.8	
	comp=Z,39nm,20.6s,baz=33,slow=37							
FITZ	**Fitzroy Crossi**	**18.98**	**202**	*e*P	**Pn**		**10 44 38.3**	**-0.7**
	2.8nm,0.5s							
WRAB	**Tennant Creek**	**19.45**	**176**	*e*P	**Pn**		**10 44 44.1**	**-0.5**
	4.8nm,0.6s							
WRA	**Warramunga Arr**	**19.45**	**176**	P	**Pn**		**10 44 44.0**	**-0.7**
	0.7nm,0.3s,baz=356,slow=12,SNR=5.9							
WRA	**Warramunga Arr**	**19.45**	**176**	P	**Pn**		**10 44 44.0**	**-0.7**
ASAR	**Alice Springs**	**23.13**	**178**	P	**P**		**10 45 23.9**	**+1.1**
	8.5nm,0.7s,mb4.3,baz=355,slow=11,SNR=13							
ASAR	**Alice Springs**	**23.13**	**178**	P	**P**		**10 45 23.9**	**+1.1**
CTA	**Charters Tower**	**23.50**	**147**	P	**P**		**10 45 27.8**	**+1.2**
	2.4nm,0.7s,mb3.8,baz=330,slow=12,SNR=3.6							
CTA	**Charters Tower**	**23.50**	**147**	P	**P**		**10 45 27.8**	**+1.2**
STKA	**Stephens Creek**	**32.34**	**166**	P	**P**		**10 46 45.1**	**-0.5**
	2.7nm,0.3s,mb4.5,baz=21,slow=12,SNR=11							
STKA				LR	LR		11 01 14.6	
	comp=Z,45nm,21.3s,MS3.1,baz=24,slow=39							
STKA	**Stephens Creek**	**32.34**	**166**	*e*P	**P**		**10 46 45.9**	**+0.2**
	0.7nm,0.4s,mb3.8							
KSRS	**Korea Array**	**37.97**	**354**	LR	LR		11 02 28.2	
	comp=Z,21nm,20.6s,MS2.9,baz=169,slow=35							
CMAR	**Chiang Mai Arr**	**38.31**	**301**	P	**P**		**10 47 37.8**	**+0.7**
	0.3nm,0.4s,mb3.4,baz=120,slow=8.5,SNR=3.5							
CMAR	**Chiang Mai Arr**	**38.31**	**301**	P	**P**		**10 47 37.8**	**+0.7**
SONM	**Songino Array**	**53.31**	**338**	P	**P**		**10 49 34.5**	**-0.6**
	0.3nm,0.8s,mb3.3,baz=144,slow=5.2,SNR=3.0							
SONM	**Songino Array**	**53.31**	**338**	P	**P**		**10 49 34.5**	**-0.6**
MKAR	**Makanchi Array**	**64.50**	**324**	P	**P**		**10 50 53.6**	**+0.8**
	0.2nm,0.4s,mb3.5,baz=117,slow=8.6,SNR=2.3							
MKAR	**Makanchi Array**	**64.50**	**324**	P	**P**		**10 50 53.6**	**+0.8**
ZALV	**Zalesovo Beam**	**67.12**	**331**	P	**P**		**10 51 09.3**	**-0.2**
	0.2nm,0.3s,mb3.6,baz=145,slow=5.3,SNR=2.5							
ZALV	**Zalesovo Beam**	**67.12**	**147**	P	**P**		**10 51 09.3**	**-0.2**
MAW	**Mawson**	**82.11**	**201**	LR	LR		11 30 08.4	
	comp=Z,59nm,18.6s,MS4.0,baz=84,slow=36							
ILAR	**Eielson Array**	**86.18**	**25**	P	**P**		**10 52 56.0**	**-1.0**
	0.2nm,0.6s,mb3.6,baz=234,slow=5.0,SNR=5.1							
ILAR	**Eielson Array**	**86.18**	**25**	P	**P**		**10 52 56.0**	**-1.0**

IDC ***16*** *10:50:56.2±3.2, 1.˙89N×99.˙15E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/23, mbtmp3.5/6, ML3.9/1, Error ellipse: s-maj=136.0km s-min=16.9km az=60.0*

NEIC ***16*** *10:51:00.8±1.1, 1.˙79N×99.˙03E, h35km, mb4.2/2, Error ellipse: s-maj=29.1km s-min=13.6km az=75.0*

ISCJB ***16*** *10:51:01.6±0.9, 1.˙79N±0.˙08×99.˙18E±0.˙08, h51km±10km, mb3.7/7, Error ellipse: s-maj=16.5km s-min=9.6km az=137.5*

DJA ***16*** *10:51:02, 1.˙88N×99.˙04E, h10km, MLv3.7/7*

ISC 16 10:51:02.3±0.9, 1.˙75N±0.˙08×99.˙17E±0.˙09, h41km±11km, n28, σ0s44/30, mb3.7/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MNSI	**Mandailing Nat**	**1.03**	**156**	P	**Pn**		**10 51 20.0**	**-0.3**
PSI	**Prapat**	**1.08**	**347**	Pn	**Pn**		**10 51 13.8**	**-7.2**
	16nm,0.3s,baz=163,slow=14,SNR=28							
PSI	**Prapat**	**1.08**	**347**	Pn	**Pn**		**10 51 13.8**	**-7.2**
PSI	**Prapat**	**1.08**	**347**	P	**Pn**		**10 51 15.0**	**-5.9**
TSI	**Tuntungan**	**1.84**	**341**	P	**Pn**		**10 51 31.5**	**0.0**
BKNI	**Bangkinang**	**2.34**	**127**	P	**Pn**		**10 51 44.7**	**+6.4**
TPTI		**2.49**	**307**	P	**Pn**		**10 51 40.0**	**-0.4**
TPTI				S	**Sn**		**10 52 10.1**	**+0.5**
PPI	**Padang Panjang**	**2.51**	**151**	P	**Pn**		**10 51 47.3**	**+6.7**
PDSI	**Padang**	**2.94**	**154**	P	**Pn**		**10 51 53.0**	**+6.4**
IPM	**Ipoh**	**3.29**	**34**	*e*Pn	**Pn**		**10 51 51.5**	**+0.2**
IPM				*e*S	**Sn**		**10 52 40.8**	**+12**
KULM	**Kulim**	**3.82**	**23**	*e*Pn	**Pn**		**10 51 58.0**	**-0.7**
KULM				*e*S	**Sn**		**10 52 55.2**	**+13**
KULM	**Kulim**	**3.82**	**23**	P	**Pn**		**10 51 59.2**	**+0.6**
KULM				S	**Sn**		**10 52 55.0**	**+13**
CMAR	**Chiang Mai Arr**	**16.61**	**359**	Pn	**Pn**		**10 54 48.1**	**-4.2**
	0.2nm,0.3s,baz=190,slow=12,SNR=2.8							
CMAR	**Chiang Mai Arr**	**16.61**	**359**	Pn	**Pn**		**10 54 48.1**	**-4.2**
WRA	**Warramunga Arr**	**40.68**	**124**	P	**P**		**10 58 39.6**	**+0.5**
	1.5nm,0.7s,mb3.8,baz=302,slow=9.2,SNR=8.1							
WRA	**Warramunga Arr**	**40.68**	**124**	P	**P**		**10 58 39.6**	**+0.5**
WRAB	**Tennant Creek**	**40.68**	**124**	*e*P	**P**		**10 58 39.7**	**+0.6**
	2.0nm,0.6s,mb3.9							
ASAR	**Alice Springs**	**42.18**	**129**	P	**P**		**10 58 51.0**	**-0.3**
	0.2nm,0.7s,mb2.9,baz=307,slow=7.8,SNR=3.2							
ASAR	**Alice Springs**	**42.18**	**129**	P	**P**		**10 58 51.0**	**-0.3**
SONM	**Songino Array**	**46.33**	**7**	P	**P**		**10 59 24.0**	**-0.2**
	0.5nm,0.8s,mb3.5,baz=196,slow=8.5,SNR=3.7							
SONM	**Songino Array**	**46.33**	**7**	P	**P**		**10 59 24.0**	**-0.2**
MKAR	**Makanchi Array**	**47.22**	**344**	P	**P**		**10 59 30.8**	**-0.4**
	0.6nm,0.9s,mb3.5,baz=157,slow=6.5,SNR=3.9							
MKAR	**Makanchi Array**	**47.22**	**344**	P	**P**		**10 59 30.8**	**-0.4**
KURK	**Kurchatov**	**51.80**	**344**	*e*P	**P**		**11 00 00.5**	**-5.5**
	5.8nm,1.2s,mb4.4							
ZALV	**Zalesovo Beam**	**53.36**	**349**	P	**P**		**11 00 17.3**	**-0.2**
	1.4nm,0.6s,mb4.1,baz=170,slow=7.2,SNR=9.6							
ZALV	**Zalesovo Beam**	**53.36**	**349**	P	**P**		**11 00 17.3**	**-0.2**
TXAR	**Lajitas Array**	**142.15**	**34**	PKP	PKPdf		11 10 28.7	-2.2
	0.1nm,0.4s,baz=131,slow=1.7,SNR=4.1							
TXAR	**Lajitas Array**	**142.15**	**34**	PKP	PKPdf		11 10 28.7	-2.2

IDC ***16*** *10:52:40.8±0.7, 79.˙25N×3.˙22E, h0km, mb3.8/9, mb1 4.0/16, mb1mx3.8/30, mbtmp3.9/16, ML3.4/5, MS3.3/13, Ms1 3.3/13, ms1mx3.0/38, Error ellipse: s-maj=19.1km s-min=13.7km az=37.0*

ISCJB ***16*** *10:52:40.1±0.5, 79.˙16N±0.˙07×3.˙6E±0.˙2, h10km, mb3.7/10, MS3.3/8, Error ellipse: s-maj=10.8km s-min=6.4km az=11.8*

BER ***16*** *10:52:41.3±3.5, 79.˙63N×4.˙09E, h15km, MD2.3, ML2.5, ML2.4(NAO)*

CSEM ***16*** *10:52:41.4±0.2, 79.˙33N×4.˙04E, h10km, ML2.4, Error ellipse: s-maj=11.0km s-min=5.9km az=28.0*

NEIC ***16*** *10:52:41.7±0.5, 79.˙22N×3.˙42E, h10km, mb3.9/2, Error ellipse: s-maj=12.5km s-min=8.7km az=200.0*

NAO ***16*** *10:52:42.7±3.5, 79.˙65N×5.˙73E, ML2.4*

ISC 16 10:52:41.8±0.5, 79°21.˙21N±0.˙07×3°36.˙63E±0.˙3, h10km, n70, σ1s25/73, mb3.7/10, MS3.3/8, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.61**	**96**	P*g*	**Pn**		**10 53 08.2**	**-2.0**
KBS				L*g*			10 53 25.9	
KBS	**Kingsbay**	**1.61**	**96**	*e*P	**Pn**		**10 53 08.2**	**-1.9**
KBS				*e*S	**Sn**		**10 53 27.3**	**-3.6**
KBS				AML	AML		10 53 31.5	
	comp=Z,87nm,0.5s							
KBS	**Kingsbay**	**1.61**	**96**	*e*Pn	**Pn**		**10 53 08.0**	**-2.1**
KBS	**Kingsbay**	**1.61**	**96**	*e*P	**Pn**		**10 53 08.2**	**-2.0**
	SNR=55							
KBS				*e*S	**Sn**		**10 53 27.3**	**-3.6**
	comp=Z,87nm,0.5s,SNR=55							
SPB4	**Spitsbergen Ar**	**2.71**	**106**	*e*Pn	**Pn**		**10 53 24.3**	**-1.0**
SPB4				*e*Sn	**Sn**		**10 53 58.1**	**+0.2**
SPB4	**Spitsbergen Ar**	**2.71**	**106**	*e*Pn	**Pn**		**10 53 24.3**	**-0.9**
SPB4				*e*Sn	**Sn**		**10 53 58.1**	**+0.2**
SPA0	**Spitsbergen Ar**	**2.71**	**106**	Pn	**Pn**		**10 53 24.6**	**-0.7**
	baz=311,slow=10							
SPA0				Sn	**Sn**		**10 53 54.9**	**-3.2**
	baz=312,slow=111							
SPA0	**Spitsbergen Ar**	**2.71**	**106**	Pn	**Pn**		**10 53 24.6**	**-0.7**
	baz=311,slow=9.6,SNR=163							
SPA0				Sn	**Sn**		**10 53 54.9**	**-3.2**
	baz=312,slow=58,SNR=6.8							
SPITS	**Spitsbergen Ar**	**2.71**	**106**	Pn	**Pn**		**10 53 24.5**	**-0.8**
	baz=322,slow=21,SNR=119							
SPITS				Sn	**Sn**		**10 53 55.1**	**-3.0**
	baz=270,slow=23,SNR=4.2							
SPITS				LR	LR		10 54 45.3	
	comp=Z,700nm,18.1s,baz=190,slow=44							
SPITS	**Spitsbergen Ar**	**2.71**	**106**	Pn	**Pn**		**10 53 24.5**	**-0.8**
SPITS				Sn	**Sn**		**10 53 55.1**	**-3.0**
SPITS	**Spitsbergen Ar**	**2.71**	**106**	Pn	**Pn**		**10 53 24.5**	**-0.8**
SPITS		

TGIG		**1.90**	**38**	*i* P	Pn	10 56 35.5	-3.0
TGIG				*i* S	Sn	10 56 58.7	-3.2
THIG		**2.04**	**100**	*i* P	Pn	10 56 37.9	-2.6
THIG				*i* S	Sn	10 57 01.8	-3.7
CCIG	**Comitan**	**2.35**	**65**	*e*P	Pn	10 56 42.8	-1.9
CCIG				*e*S	Sn	10 57 10.4	-2.6
VHO	**Vista Hermosa**	**2.90**	**308**	*i* P	Pn	10 56 51.2	-1.2
VHO				*i* S	Sn	10 57 23.9	-2.8
PNIG	**Pinotepa**	**3.80**	**287**	*e*P	Pn	10 57 03.0	-1.8
PNIG				*i* S	Sn	10 57 44.4	-4.6

NEIC 16 11:18:13.8, 65°.00N×149°.11W, h18km, ML3.9(PMR), **ML3.4**(AEIC), **After AEIC., Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDM	**Murphy Dome**	**0.38**	**96**	P	Pg	11 18 21.7	0.0
MDM				S	Sg	11 18 26.9	-0.1
COLA	**College**	**0.55**	**103**	P	Pg	11 18 24.7	-0.1
COLA				S	Sg	11 18 31.9	-0.3
GLM	**Gilmore Dome**	**0.73**	**90**	P	Pb	11 18 27.9	0.0
IL1	**Eielson Array**	**0.98**	**103**	P	Pb	11 18 31.9	-0.2
HDA	**Harding Lake**	**1.10**	**122**	P	Pn	11 18 33.7	-0.5
BPAW	**Bear Paw Mtn.**	**1.21**	**223**	P	Pn	11 18 35.0	-0.8
MCK	**McKinley**	**1.27**	**176**	P	Pn	11 18 36.4	-0.2
MCK				S	Sn	11 18 53.4	+0.3
RND	**Reindeer**	**1.60**	**176**	P	Pn	11 18 41.2	+0.1
RND				S	Sn	11 19 04.1	+2.8
TRF	**Thorofare Moun**	**1.64**	**199**	P	Pn	11 18 41.5	-0.1
CHUM	**Lake Minchumin**	**1.79**	**233**	P	Pn	11 18 43.0	-0.6
DDM	**Donnelly Dome**	**1.86**	**129**	P	Pn	11 18 44.1	-0.6
DHY	**Denali Highway**	**2.08**	**158**	P	Pn	11 18 48.5	+0.9
IM3	**Indian Mountai**	**2.17**	**299**	P	Pn	11 18 48.5	-0.4
COLD	**Coldfoot**	**2.28**	**349**	P	Pn	11 18 51.0	+0.5
PPLA	**Purkeypile**	**2.51**	**214**	P	Pn	11 18 53.0	-0.5
DOT	**Dot Lake**	**2.58**	**119**	*e*Pn	Pn	11 18 53.1	-1.4
DOT				*e*Pg	Pg	11 19 02.1	-1.2
DOT				*e*Sg	Sg	11 19 32.1	-4.7
PAX	**Paxson**	**2.59**	**140**	P	Pn	11 18 55.2	+0.5
BM3	**Burnt Mountain**	**3.04**	**35**	P	Pn	11 19 00.6	-0.2
MENT	**Mentasta**	**3.15**	**129**	*e*P	Pn	11 19 02.7	+0.3
SKT	**Skwentna**	**3.22**	**201**	P	Pn	11 19 03.7	+0.4
SML	**Sawmill**	**3.22**	**173**	P	Pn	11 19 03.5	+0.1
SCM	**Sheep Creek Mo**	**3.28**	**165**	P	Pn	11 19 04.7	+0.5
EGAK	**Eagle**	**3.40**	**90**	P	Pn	11 19 05.7	-0.1
PMR	**Palmer**	**3.42**	**180**	P	Pn	11 19 06.7	+0.6
TT01	**Tatalina**	**3.70**	**239**	P	Pn	11 19 08.7	-1.2
BCA3	**Beaver Creek A**	**3.76**	**118**	P	Pn	11 19 09.3	-1.5
KLU	**Klutina**	**3.80**	**156**	P	Pn	11 19 13.0	+1.6
DAWY	**Dawson**	**4.30**	**98**	P	Pn	11 19 17.8	-0.4
BMRM	**Bremner River**	**4.54**	**151**	*e*Pn	Pn	11 19 23.2	+1.8
SVW2	**Sparrevohn**	**4.90**	**220**	*e*P	Pn	11 19 31.2	+4.9

*DDA **16** 11:26:49.0, 39°.43N×33°.10E, h11km±1km, Md3.2*
*ISK **16** 11:26:48.8, 39°.44N×33°.07E, h3km, MD3.2*
*ISCJB **16** 11:26:49.3±0.6, 39°.43N±0°.03×33°.08E±0°.04, h2km±4km, Error ellipse: s-maj=6.7km s-min=3.5km az=44.2*
*CSEM **16** 11:26:49.3±0.1, 39°.44N×33°.09E, h2km, MD3.2, Error ellipse: s-maj=3.9km s-min=2.3km az=138.0*
ISC 16 11:26:49.6±0.5, 39°.44N±0°.03×33°.08E±0°.04, h2km±3km, n43, σ0s63/61, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFSR	**Afar-Bala (A**	**0.01**	**321**	*e*PG	**Pg**	**11 26 49.2**	**-0.9**
AFSR				*e*SG	**Sg**	**11 26 50.1**	**-0.3**
AFSR	**Afar-Bala (A**	**0.01**	**321**	*e*Pg	**Pg**	**11 26 49.2**	**-0.9**
AFSR				*e*Sg	**Sg**	**11 26 50.1**	**-0.4**
BBAL	**Bala**	**0.11**	**18**	*i* P	**Pg**	**11 26 51.9**	**+0.1**
BBAL				*i* S	**Sg**	**11 26 54.1**	**+0.8**
BBAL	**Bala**	**0.11**	**18**	*i* P	**Pg**	**11 26 51.9**	**+0.1**
BBAL				*i* S	**Sg**	**11 26 54.1**	**+0.8**
CDAG	**Cicekdag**	**1.02**	**79**	*i* P	**Pg**	**11 27 08.6**	**-0.5**
CDAG				*i* S	**Sg**	**11 27 22.4**	**+0.1**
CDAG	**Cicekdag**	**1.02**	**79**	*i* P	**Pg**	**11 27 08.6**	**-0.5**
CDAG				*i* S	**Sg**	**11 27 22.4**	**+0.1**
ELDT	**Eldivan**	**1.08**	**14**	*i* P	**Pg**	**11 27 09.8**	**-0.7**
ELDT				*i* S	**Sg**	**11 27 25.5**	**+1.0**
ELDT	**Eldivan**	**1.08**	**14**	*i* P	**Pg**	**11 27 09.8**	**-0.6**
ELDT				*i* S	**Sg**	**11 27 25.5**	**+1.0**
KIZT	**Kizilcal**	**1.09**	**240**	*e*PG	**Pg**	**11 27 10.2**	**-0.3**
KIZT				*e*SG	**Sg**	**11 27 25.7**	**+1.1**
KIZT	**Kizilcal**	**1.09**	**240**	*e*Pg	**Pg**	**11 27 10.2**	**-0.3**
KIZT				*e*Sg	**Sg**	**11 27 25.7**	**+1.2**
KDHN	**Kadinhani**	**1.18**	**220**	*i* P	**Pg**	**11 27 12.1**	**-0.3**
KDHN				*i* S	**Sg**	**11 27 28.3**	**+0.6**
KDHN	**Kadinhani**	**1.18**	**220**	*i* P	**Pg**	**11 27 12.1**	**-0.2**
KDHN				*i* S	**Sg**	**11 27 28.3**	**+0.6**
SVRH	**Sivrihisar-ESK**	**1.21**	**271**	*e*PN	**Pn**	**11 27 12.1**	**-1.4**
SVRH				*e*SN	**Sn**	**11 27 29.4**	**-1.0**
SVRH	**Sivrihisar-ESK**	**1.21**	**271**	*e*Pn	**Pn**	**11 27 12.1**	**-1.4**
SVRH				*e*Sn	**Sn**	**11 27 29.4**	**-0.9**
CANT	**Cankiri**	**1.24**	**19**	*e*PN	**Pn**	**11 27 13.9**	**-0.1**
CANT				*e*SN	**Sn**	**11 27 30.4**	**-0.8**
SULT	**Sultanhani-AKS**	**1.28**	**164**	*e*PN	**Pn**	**11 27 14.1**	**-0.4**
SULT	**Sultanhani-AKS**	**1.28**	**164**	*e*Pn	**Pn**	**11 27 14.1**	**-0.4**
CORM	**Corum**	**1.41**	**58**	*e*PN	**Pn**	**11 27 15.4**	**-0.8**
CORM	**Corum**	**1.41**	**58**	*e*Pn	**Pn**	**11 27 15.4**	**-0.8**
KONT	**Konya--Tatoy**	**1.59**	**201**	*e*PN	**Pn**	**11 27 18.6**	**-0.1**
KONT	**Konya--Tatoy**	**1.59**	**201**	*e*Pn	**Pn**	**11 27 18.7**	**-0.1**
ESKT	**Eskisehir**	**1.73**	**273**	*e*PN	**Pn**	**11 27 20.8**	**+0.2**
ESKT	**Eskisehir**	**1.73**	**273**	*e*Pn	**Pn**	**11 27 20.8**	**+0.2**
YOZ	**Yozgat**	**1.74**	**83**	*e*PN	**Pn**	**11 27 21.6**	**+0.8**
YOZ	**Yozgat**	**1.74**	**83**	*e*Pn	**Pn**	**11 27 21.7**	**+0.8**
TOS	**Tosya**	**1.75**	**24**	*e*PN	**Pn**	**11 27 20.8**	**-0.2**
TOS	**Tosya**	**1.75**	**24**	*e*Pn	**Pn**	**11 27 20.8**	**-0.2**
MDU	**Mudurnu**	**1.76**	**306**	*e*PN	**Pn**	**11 27 21.7**	**+0.6**
MDU	**Mudurnu**	**1.76**	**306**	*e*Pn	**Pn**	**11 27 21.7**	**+0.6**
CTKT	**Corum**	**1.77**	**47**	*i* P	**Pn**	**11 27 21.1**	**-0.1**
CTKT				*i* S	**Sn**	**11 27 44.8**	**+0.5**
CTKT	**Corum**	**1.77**	**47**	*i* P	**Pn**	**11 27 21.1**	**-0.1**
CTKT				*i* S	**Sn**	**11 27 44.8**	**+0.6**
BOLV	**Bolvadin**	**1.81**	**247**	*i* P	**Pn**	**11 27 21.3**	**-0.5**
BOLV				*i* S	**Sn**	**11 27 40.3**	**-4.9**
BOLV	**Bolvadin**	**1.81**	**247**	*i* P	**Pn**	**11 27 21.3**	**-0.4**
SAFT	**Safranbolu**	**1.82**	**351**	*e*PN	**Pn**	**11 27 22.2**	**+0.2**
SAFT	**Safranbolu**	**1.82**	**351**	*e*Pn	**Pn**	**11 27 22.2**	**+0.2**
GULT	**Gulveren**	**2.21**	**298**	*e*PN	**Pn**	**11 27 28.0**	**+0.8**
GULT	**Gulveren**	**2.21**	**298**	*e*Pn	**Pn**	**11 27 28.0**	**+0.8**
ALT	**Altintas**	**2.34**	**262**	*e*PN	**Pn**	**11 27 29.4**	**+0.4**
ALT	**Altintas**	**2.34**	**262**	*e*Pn	**Pn**	**11 27 29.4**	**+0.4**
HDMB	**Hadim**	**2.51**	**191**	*e*PN	**Pn**	**11 27 31.8**	**+0.3**
HDMB	**Hadim**	**2.51**	**191**	*e*Pn	**Pn**	**11 27 31.8**	**+0.3**
SUTC	**Sutluce-Ispart**	**2.55**	**220**	*e*PN	**Pn**	**11 27 32.5**	**+0.5**
SUTC	**Sutluce-Ispart**	**2.55**	**220**	*e*Pn	**Pn**	**11 27 32.5**	**+0.6**

*IDC **16** 11:37:34.2±0.5, 10°.80N×91°.64E, h0km, mb4.3/21, mb1 4.4/22, mb1mx4.2/28, mbtmp4.2/22, ML3.6/1, MS3.4/7, Ms1 3.4/7, ms1mx3.0/32, Error ellipse: s-maj=22.5km s-min=12.9km az=53.0*
*ISCJB **16** 11:37:37.4±0.3, 10°.84N±0°.06×91°.75E±0°.06, h33km, mb4.4/51, MS3.5/6, Error ellipse: s-maj=9.9km s-min=6.6km az=143.6*
*MOS **16** 11:37:37.4±0.9, 10°.83N×91°.81E, h33km, mb4.8/18, Error ellipse: s-maj=14.8km s-min=7.3km az=109.2*
*NEIC **16** 11:37:40.0±2.1, 10°.84N×91°.79E, h39km±19km, mb4.6/10, Error ellipse: s-maj=14.3km s-min=6.7km az=52.0*
ISC 16 11:37:39.5±0.3, 10°.83N±0°.06×91°.72E±0°.06, h35km, n131, σ0s73/123, mb4.4/51, MS3.5/6, 5C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.31**	**42**	Pn	**Pn**	**11 40 04.1**	**-0.9**
	0.1nm,0.3s,baz=234,slow=14,SNR=5.1						
CMAR				LR	LR	11 44 22.6	
	comp=Z,92nm,20.4s,baz=230,slow=39						
CMAR	**Chiang Mai Arr**	**10.31**	**42**	Pn	**Pn**	**11 40 04.1**	**-0.9**
CMAR				LR	LR	11 44 22.6	
CMAR	**Chiang Mai Arr**	**10.31**	**42**	P	**Pn**	**11 40 04.1**	**-0.9**
HYB	**Hyderabad**	**14.34**	**299**	*i* P	Px	11 41 09.5	
HYB				*e*S	**Sn**	**11 43 37.0**	**-1.0**
RAMN	**Ramite**	**16.74**	**344**	*e*P	**Pn**	**11 41 30.9**	**-0.5**
	20nm,0.5s						
TAPN	**Taplejung**	**16.86**	**348**	*e*P	**Pn**	**11 41 31.5**	**-1.3**
PKI	**Pulchoki**	**17.68**	**341**	*e*P	**Pn**	**11 41 42.8**	**-0.2**
DMN	**Daman**	**17.81**	**340**	*e*P	**Pn**	**11 41 44.0**	**-0.6**
	50nm,1.0s						
GKN	**Gorkha**	**18.33**	**340**	*e*P	**Pn**	**11 41 50.9**	**-0.1**
KOLN	**Koldanda**	**18.50**	**337**	*e*P	**Pn**	**11 41 53.3**	**+0.3**
	17nm,0.6s						
LSA	**Lhasa**	**18.78**	**358**	*e*P	**Pn**	**11 41 56.5**	**+0.1**
	10nm,0.6s						
LSA	**Lhasa**	**18.78**	**358**	*e*P	**Pn**	**11 41 56.5**	**+0.1**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
DANN	**Dangsing**	**18.96**	**338**	*e*P	**Pn**	**11 41 59.0**	**+0.4**
ENH	**Enshi**	**25.45**	**38**	*e*P	**P**	**11 43 03.3**	**-0.8**
	comp=Z,22nm,0.7s,mb4.8						
AAK	**Ala-Archa**	**35.07**	**338**	LR	LR	12 01 24.3	
	comp=Z,461nm,18.2s,MS4.3,baz=319,slow=41						
AAK	**Ala-Archa**	**35.07**	**338**	*e*P	**P**	**11 44 31.2**	**+2.1**
	comp=Z,50nm,1.2s,mb5.3						
AAK	**Ala-Archa**	**35.07**	**338**	*e*P	**P**	**11 44 31.2**	**+2.1**
AAK				pmax	pmax		
	comp=Z,50nm,1.2s,mb5.3						
EKS2	**Erkin-Say**	**35.36**	**337**	*e*P	**P**	**11 44 33.6**	**+1.9**
	comp=Z,7.1nm,0.9s,mb4.6						
EKS2	**Erkin-Say**	**35.36**	**337**	*e*P	**P**	**11 44 33.6**	**+2.0**
EKS2				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
MK31	**Makanchi Array**	**36.72**	**349**	*e*P	**P**	**11 44 43.7**	**+0.5**
MK31	**Makanchi Array**	**36.72**	**349**	*ce*P	**P**	**11 44 43.9**	**+0.7**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6						
MKAR	**Makanchi Array**	**36.72**	**349**	P	**P**	**11 44 43.9**	**+0.7**
	comp=Z,8.7nm,0.8s,mb4.6,baz=169,slow=8.4,SNR=41						
MKAR				LR	LR	12 03 46.1	
	comp=Z,25nm,18.5s,MS3.0,baz=162,slow=43						
MKAR	**Makanchi Array**	**36.72**	**349**	P	**P**	**11 44 43.9**	**+0.7**
MKAR				LR	LR	12 03 46.1	
MKAR	**Makanchi Array**	**36.72**	**349**	P	**P**	**11 44 43.9**	**+0.7**
KK31	**Karatay Array**	**37.07**	**334**	*ce*P	**P**	**11 44 47.0**	**+0.8**
KK31				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
KKAR	**Karatay Array**	**37.07**	**334**	*e*P	**P**	**11 44 47.1**	**+0.9**
	comp=Z,6.4nm,0.9s,mb4.5						
KKAR	**Karatay Array**	**37.07**	**334**	*e*P	**P**	**11 44 47.1**	**+0.9**
KKAR				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
SONM	**Songino Array**	**38.90**	**16**	P	**P**	**11 45 02.7**	**+1.1**
	comp=Z,4.0nm,0.9s,mb4.2,baz=196,slow=8.9,SNR=25						
SONM				PcP	PcP	11 47 13.0	+1.1
	comp=Z,0.9nm,0.8s,baz=18,slow=0.5,SNR=4.2						
SONM	**Songino Array**	**38.90**	**16**	P	**P**	**11 45 02.7**	**+1.1**
SONM				PcP	PcP	11 47 13.0	+1.1
SONM	**Songino Array**	**38.90**	**16**	P	**P**	**11 45 02.7**	**+1.1**
SONM						11 47 13.0	
ULN	**Ulaanbaatar**	**39.10**	**16**	*e*P	**P**	**11 45 04.6**	**+1.3**
KURK	**Kurchatov**	**41.20**	**347**	P	**P**	**11 45 20.5**	**-0.1**
	comp=Z,5.5nm,0.9s,mb4.2,baz=163,slow=7.3,SNR=16						
KURK				PcP	PcP	11 47 19.7	+0.4
	comp=Z,1.0nm,0.7s,baz=155,slow=3.0,SNR=6.0						
KURK				LR	LR	12 04 16.4	
	comp=Z,28nm,19.0s,MS3.1,baz=130,slow=39						
KURK	**Kurchatov**	**41.20**	**347**	P	**P**	**11 45 20.5**	**-0.1**
KURK				PcP	PcP	11 47 19.7	+0.4
KURK				LR	LR	12 04 16.4	
KURK	**Kurchatov**	**41.20**	**347**	P	**P**	**11 45 20.5**	**-0.1**
KURK						11 47 19.7	
KSRS	**Korea Array**	**41.94**	**45**	LR	LR	12 06 27.7	
	comp=Z,58nm,18.1s,MS3.5,baz=233,slow=41						
ZAA0	**Zalesovo Array**	**43.35**	**354**	*e*P	**P**	**11 45 38.2**	**0.0**
ZALV	**Zalesovo Beam**	**43.35**	**354**	P	**P**	**11 45 38.5**	**+0.3**
	comp=Z,4.7nm,0.6s,mb4.4,baz=174,slow=9.7,SNR=36						
ZALV				LR	LR	12 08 07.5	
	comp=Z,18nm,18.5s,MS3.0,baz=177,slow=42						
ZALV	**Zalesovo Beam**	**43.35**	**354**	P	**P**	**11 45 38.5**	**+0.3**
ZALV				LR	LR	12 08 07.5	
ZALV	**Zalesovo Beam**	**43.35**	**354**	P	**P**	**11 45 38.5**	**+0.4**
FITZ	**Fitzroy Crossi**	**44.14**	**130**	P	**P**	**11 45 45.5**	**+0.6**
	comp=Z,3.1nm,0.7s,mb4.1,baz=49,slow=2.4,SNR=9.1						
FITZ	**Fitzroy Crossi**	**44.14**	**130**	*e*P	**P**	**11 45 45.3**	**+0.4**
	comp=Z,9.1nm,0.8s,mb4.6						
AB31	**Akbulak array**	**46.51**	**332**	*ce*P	**P**	**11 46 04.3**	**+1.0**
AB31				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
ABKAR	**Akbulak array**	**46.51**	**332**	*e*P	**P**	**11 46 04.1**	**+0.8**
	comp=Z,9.4nm,1.1s,mb4.6						
AKTK	**Aktyubinsk**	**48.22**	**332**	P	**P**	**11 46 17.0**	**+0.4**
AKTO	**Aktyubinsk**	**48.22**	**332**	P	**P**	**11 46 17.0**	**+0.4**
	comp=Z,2.6nm,0.7s,mb4.4,baz=106,slow=7.5,SNR=10						
AKTO	**Aktyubinsk**	**48.22**	**332**	P	**P**	**11 46 17.0**	**+0.4**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
GNI	**Garni**	**50.67**	**314**	P	**P**	**11 46 36.1**	**+0.6**
	comp=Z,4.9nm,0.4s,mb4.8,baz=215,slow=15,SNR=5.5						
GNI	**Garni**	**50.67**	**314**	P	**P**	**11 46 36.1**	**+0.6**
GNI	**Garni**	**50.67**	**314**	*e*P	**P**	**11 46 36.0**	**+0.5**
GNI				pmax	pmax		
	comp=Z,13nm,1.2s						
SVE	**Sverdlovsk**	**51.79**	**339**	↓*i*P	**P**	**11 46 44.8**	**+1.2**
SVE				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
WRA	**Warramunga Arr**	**51.92**	**126**	P	**P**	**11 46 44.5**	**-0.6**
	comp=Z,1.2nm,0.5s,mb4.1,baz=306,slow=8.4,SNR=13						
WRA	**Warramunga Arr**	**51.92**	**126**	P	**P**	**11 46 44.5**	**-0.6**
WRA	**Warramunga Arr**	**51.92**	**126**	P	**P**	**11 46 44.5**	**-0.6**
WRAB	**Tennant Creek**	**51.92**	**126**	*e*P	**P**	**11 46 44.5**	**-0.6**
	comp=Z,4.2nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**51.92**	**126**	*e*P	**P**	**11 46 44.6**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**51.93**	**126**	*e*P	**P**	**11 46 44.9**	**-0.3**
ARU	**Arti**	**52.25**	**337**	*c i*P	**P**	**11 46 47.8**	**+0.8**
ARU				*e*		11 48 41.8	
ARU				S	**S**	**11 54 09.2**	**-0.3**
ARU				SS	SS	11 57 43.7	-3.6
ARU				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
ZEI	**Tsey**	**52.26**	**316**	*e*P	**P**	**11 46 47.2**	**-0.1**
ZEI				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.3						
KIV	**Kislovodsk**	**53.53**	**317**	*e*P	**P**	**11 46 57.5**	**+0.8**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
ASAR	**Alice Springs**	**53.64**	**130**	P	**P**	**11 46 57.7**	**-0.1**
	comp=Z,2.5nm,0.7s,mb4.3,baz=304,slow=6.8,SNR=51						
ASAR	**Alice Springs**	**53.64**	**130**	P	**P**	**11 46 57.7**	**-0.1**
ASAR	**Alice Springs**	**53.64**	**130**	P	**P**	**11 46 57.7**	**-0.1**
YAK	**Yakutsk**	**58.01**	**20**	*e*P	**P**	**11 47 27.7**	**-0.8**
YAK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
BRTR	**Keskin Array B**	**58.70**	**310**	P	**P**	**11 47 33.0**	**-0.7**
	comp=Z,2.1nm,0.8s,mb4.2,baz=110,slow=7.2,SNR=12						
BRTR	**Keskin Array B**	**58.70**	**310**	P	**P**	**11 47 33.0**	**-0.7**
BRTR	**Keskin Array B**	**58.70**	**310**	P	**P**	**11 47 33.1**	**-0.7**
OBN	**Obninsk**	**61.62**	**328**	↑*i*P	**P**	**11 47 53.8**	**+0.4**
OBN				*e**PP	pP	11 48 10.3	+6.2
OBN				*e*		11 50 08.5	
OBN				*e*S	**S**	**11 56 12.2**	**-0.9**
OBN				pmax	pmax		
	comp=Z,35nm,2.5s,mb5.0						
STKA	**Stephens Creek**	**63.87**	**134**	P	**P**	**11 48 09.1**	**+0.3**
	comp=Z,1.8nm,0.6s,mb4.3,baz=352,slow=6.9,SNR=4.5						
STKA	**Stephens Creek**	**63.87**	**134**	P	**P**	**11 48 09.1**	**+0.3**
STKA	**Stephens Creek**	**63.87**	**134**	P	**P**	**11 48 09.1**	**+0.3**
AKASG	**Malin Array Be**	**64.36**	**321**	P	**P**	**11 48 10.8**	**-1.0**
	comp=Z,0.9nm,0.6s,mb4.0,baz=97,slow=4.6,SNR=7.4						
AKASG	**Malin Array Be**	**64.36**	**321**	P	**P**	**11 48 10.8**	**-1.0**
AKASG	**Malin Array Be**	**64.36**	**321**	P	**P**	**11 48 10.8**	**-1.0**
JOF	**Joensuu**	**67.17**	**334**	*e*P	**P**	**11 48 29.6**	**0.0**
JOF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
FINES	**FINESS Array B**	**68.99**	**332**	P	**P**	**11 48 41.3**	**+0.2**
	comp=Z,5.7nm,0.8s,mb4.6,baz=95,slow=12,SNR=8.4						
FINES	**FINESS Array B**	**68.99**	**332**	P	**P**	**11 48 41.3**	**+0.2**
FINES	**FINESS Array B**	**68.99**	**332**	P	**P**	**11 48 41.3**	**+0.2**
ARCES	**ARCESS Array B**	**71.69**	**340**	P	**P**	**11 48 58.2**	**+0.8**
	comp=Z,5.6nm,0.9s,mb4.5,baz=77,slow=5.5,SNR=6.8						
ARCES	**ARCESS Array B**	**71.69**	**340**	P	**P**	**11 48 58.2**	**+0.8**
ARCES	**ARCESS Array B**	**71.69**	**340**	P	**P**	**11 48 58.2**	**+0.8**
LBTB	**Lobatse**	**73.60**	**240**	*e*P	**P**	**11 49 11.3**	**+1.7**
	comp=Z,3.1nm,0.7s,mb4.3						
LBTB	**Lobatse**	**73.60**	**240**	*e*P	**P**	**11 49 11.3**	**+1.7**
LBTB				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
GERES	**GERESS Array B**	**74.04**	**318**	P	**P**	**11 49 11.2**	**-0.6**
	comp=Z,1.8nm,0.7s,mb4.1,baz=79,slow=6.9,SNR=12						
GERES	**GERESS Array B**	**74.04**	**318**	P	**P**	**11 49 11.2**	**-0.6**
GERES	**GERESS Array B**	**74.04**	**318**	P	**P**	**11 49 11.2**	**-0.6**
CLL	**Collm**	**74.57**	**320**	*e*P	**P**	**11 49 15.0**	**+0.2**
BOSA	**Boshof**	**75.17**	**236**	P	**P**	**11 49 20.0**	**+1.3**
	comp=Z,3.1nm,0.7s,mb4.4,baz=99,slow=6.9,SNR=8.4						
BOSA	**Boshof**	**75.17**	**236**	*e*P	**P**	**11 49 19.8**	**+1.1**
	comp=Z,4.1nm,0.8s,mb4.4						
BOSA	**Boshof**	**75.17**	**236**	P	**P**	**11 49 20.0**	**+1.4**
BOSA				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
NB2	**NORSAR Subarra**	**76.00**	**330**	P	**P**	**11 49 22.5**	**-0.3**
	comp=Z,1.2nm,0.6s,mb4.0,baz=96,slow=5.3						
NOA	**NORSAR Array B**	**76.00**	**330**	P	**P**	**11 49 22.5**	**-0.3**
	comp=Z,1.8nm,0.7s,mb4.1,baz=94,slow=5.7,SNR=4.0						
NOA	**NORSAR Array B**	**76.00**	**330**	P	**P**	**11 49 22.5**	**-0.3**
NOA	**NORSAR Array B**	**76.00**	**330**	P	**P**	**11 49 22.5**	**-0.3**
KEST	**Kesra**	**77.60**	**304**	P	**P**	**11 49 31.3**	**-1.1**
	comp=Z,2.8nm,1.0s,mb4.2,baz=312,slow=1.2,SNR=5.2						
KEST	**Kesra**	**77.60**	**304**	P	**P**	**11 49 31.3**	**-1.1**
CDF	**Champ du Feu**	**78.31**	**317**	*e*P	**P**	**11 49 35.3**	**-0.7**
	comp=Z,4.7nm,0.8s,mb4.2						
HINF	**Hinteralfeld**	**78.83**	**317**	*e*P	**P**	**11 49 38.1**	**+0.3**
LPG	**La Plagne**	**78.85**	**314**	*e*P	**P**	**11 49 39.0**	**-0.1**
	comp=Z,4.7nm,0.6s,mb4.3						
LPL	**La Plagne**	**78.86**	**314**	*e*P	**P**	**11 49 39.0**	**-0.2**
	comp=Z,8.7nm,0.6s,mb4.5						
HAU	**Haudompre**	**78.95**	**317**	*e*P	**P**	**11 49 38.8**	**-0.8**
CABF	**La Chapelle**	**79.23**	**316**	*e*P	**P**	**11 49 40.9**	**-0.2**
PAGF	**Fort de Pagny**	**79.33**	**318**	*e*P	**P**	**11 49 41.2**	**-0.4**
SFTF	**Sexfontaines**	**79.81**	**317**	*e*P	**P**	**11 49 43.6**	**-0.7**
	comp=Z,1.1nm,0.8s,mb4.5						
VIVF	**Saint-Julien-l**	**80.37**	**314**	*e*P	**P**	**11 49 46.9**	**-0.5**
	comp=Z,1.7nm,0.9s,mb4.7						
LOR	**Lormes**	**80.69**	**316**	*e*P	**P**	**11 49 48.3**	**-0.7**
SMF	**Signal de Mont**	**80.77**	**316**	*e*P	**P**	**11 49 48.7**	**-0.8**
	comp=Z,5.4nm,0.7s,mb4.3						
SSF	**Saint Saulge**	**80.95**	**316**	*e*P	**P**	**11 49 49.9**	**-0.5**
	comp=Z,4.2nm,0.6s,mb4.3						
LASF	**Ste Croix**	**81.03**	**313**	*e*P	**P**	**11 49 50.9**	**0.0**
	comp=Z,32nm,1.1s,mb4.9						
AVF	**Avril sur Loir**	**81.09**	**316**	*e*P	**P**	**11 49 50.5**	**-0.7**
	comp=Z,5.7nm,0.7s,mb4.3						
BGF	**Bois d'Agland**	**81.46**	**316**	*e*P	**P**	**11 49 52.9**	**-0.2**
	comp=Z,8.5nm,0.7s,mb4.5						
CAF	**Calviac**	**82.20**	**314**	*e*P	**P**	**11 49 57.1**	**0.0**
MTLF	**Montolieu**	**82.30**	**313**	*e*P	**P**	**11 49 57.6**	**0.0**
	comp=Z,7.6nm,0.7s,mb4.5						
LDF	**La Druitiere**	**83.18**	**318**	*e*P	**P**	**11 50 01.4**	**-0.7**
	comp=Z,2.9nm

s-min=2.7km az=29.2
IDC ***16*** *12:20:32.8±0.4, 10.83N×91.69E, h0km, mb5.1/38, mb1 5.1/40, mb1mx5.0/41, mbtmp5.1/40, ML4.6/2, MS4.9/30, Ms1 4.9/30, ms1mx4.9/36, Error ellipse: s-maj=12.5km s-min=8.8km az=48.0*
BJI ***16*** *12:20:35.6, 10.93N×91.68E, h24km, mB5.4/47, mb5.4/66, Ms5.4/76, Ms7 5.3/68*
MOS ***16*** *12:20:35.0±1.0, 10.87N×91.72E, h25km, mb5.5/74, MS5.1/23, Error ellipse: s-maj=7.1km s-min=3.9km az=116.1*
NEIC ***16*** *12:20:36.9±1.7, 10.83N×91.71E, h27km±11km, mb5.4/88, Error ellipse: s-maj=5.7km s-min=3.9km az=47.0*
NEIC Felt [IV] at Port Blair.
GCMT ***16*** *12:20:38.8±0.1, 10.88N×91.82E, h12km, MW5.5, Moment Tensor Solution. s91,c160; s99,c211; Moment tensor: Scale 10^{17}Nm; M_{rr}-1.87±.02; $M_{\theta\theta}$-0.17±.02; $M_{\phi\phi}$2.04±.02; $M_{r\theta}$0.92±.05; $M_{\theta\phi}$0.55±.02; $M_{\phi r}$-0.30±.05; Best double couple: M_o2.30000×10^{17} NP1:ϕ_s216.00000°,δ49.00000°, λ-55.00000°. NP2:ϕ_s350.00000°,δ52.00000°, λ-123.00000°. Principal axes: T 2.1700, Plg1.0000°, Azm103.0000°; N 0.1500, Plg25.0000°, Azm12.0000°; P -2.3300, Plg65.0000°, Azm196.0000°; Data Used: II IU IC G CN. Surface waves from 102 sta.*
DJA ***16*** *12:20:45, 11.12N×92.07E, h82km, Mw5.4/48*
ISC 16 12:20:35.7±0.7, 10.88N±0.02×91.70E±0.02, h17km±4km, h21km±2.5km:pP-P, n798, σ1§01/736, mb5.2/275, MS5.2/82, 31C-38D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**6.43**	**146**	P	**Pn**	**12 22 05.8**	**-3.8**
NNT	**Nongplab**	**8.05**	**77**	P	**Pn**	**12 22 33.0**	**+1.0**
TPTI		**9.32**	**144**	P	Px	12 23 12.7	
NST	**Nakhon Sawan** 67nm,0.6s	**9.49**	**59**	P	**Pn**	**12 22 49.0**	**-2.7**
BDT	**Bhumibol Dam** 67nm,0.9s	**9.50**	**47**	P	**Pn**	**12 22 51.5**	**-0.3**
TSI	**Tuntungan** 6μm178nm,1.0s	**10.01**	**137**	P	**Pn**	**12 22 59.9**	**+1.1**
CM31	**Chiang Mai Arr** 30nm,0.6s	**10.29**	**42**	*e*Pn	**Pn**	**12 23 03.3**	**+0.7**
CMAR	**Chiang Mai Arr** 2.6nm,0.3s,baz=231,slow=14,SNR=24	**10.29**	**42**	Pn	**Pn**	**12 23 03.0**	**+0.4**
CMAR	comp=Z,6μm,18.0s,baz=226,slow=38			LR	LR	12 27 05.6	
CMAR	**Chiang Mai Arr**	**10.29**	**42**	Pn	**Pn**	**12 23 03.0**	**+0.4**
CMAR				LR	LR	12 27 05.6	
CMAR	**Chiang Mai Arr**	**10.29**	**42**	P	**Pn**	**12 23 03.0**	**+0.4**
KULM	**Kulim**	**10.46**	**121**	P	**Pn**	**12 23 05.1**	**+0.1**
KULM	**Kulim**	**10.46**	**121**	*e*Pn	**Pn**	**12 23 04.6**	**-0.4**
KULM	**Kulim** 1μm49nm,1.2s	**10.46**	**121**	P	**Pn**	**12 23 05.1**	**+0.1**
CHG	**Chiang Mai**	**10.55**	**41**	PG	**Pn**	**12 23 05.9**	**-0.3**
CHG				SG	Px	12 23 18.6	
CHTO	**Chiang Mai**	**10.55**	**41**	*e*Pn	**Pn**	**12 23 05.8**	**-0.4**
CHTO				*e*Sn	**Sn**	**12 25 00.9**	**-3.0**
CHTO	**Chiang Mai**	**10.55**	**41**	*e*P	**Pn**	**12 23 05.8**	**-0.4**
CHTO				*e*		12 25 00.9	
CHTO	**Chiang Mai**	**10.55**	**41**	P	**Pn**	**12 23 07.3**	**+1.1**
CHTO	**Chiang Mai** SNR=16	**10.55**	**41**	P	**Pn**	**12 23 07.5**	**+1.4**
PSI	**Prapat** 1.5nm,0.3s,baz=321,slow=14,SNR=4.2	**10.77**	**138**	Pn	**Pn**	**12 23 09.9**	**+0.7**
PSI	**Prapat**	**10.77**	**138**	Pn	**Pn**	**12 23 09.9**	**+0.7**
PSI	**Prapat**	**10.77**	**138**	P	**Pn**	**12 23 09.9**	**+0.7**
PSI	**Prapat** 64nm,1.2s,3μm	**10.77**	**138**	P	Px	12 23 20.8	
BWNR	**Bhubaneshwar**	**10.94**	**330**	*e*PKP	**Pn**	**12 23 03.0**	**-8.6**
BWNR				*e*S	**Sn**	**12 24 57.0**	**-17**
IPM	**Ipoh**	**11.22**	**124**	P	**Pn**	**12 23 14.4**	**-1.0**
IPM	**Ipoh**	**11.22**	**124**	*e*Pn	**Pn**	**12 23 13.8**	**-1.6**
IPM	**Ipoh**	**11.22**	**124**	P	**Pn**	**12 23 13.8**	**-1.6**
CHRT	**Chiangrai** 303nm,1.0s	**11.86**	**40**	⇑P	**Pn**	**12 23 23.0**	**-1.1**
CAL	**Calcutta**	**12.03**	**345**	*e*PKP	**Pn**	**12 23 26.5**	**+0.1**
CAL				*ex*	x	12 25 49.2	
MNSI	**Mandailing Nat** 1μm79nm,1.4s	**12.72**	**141**	P	**Pn**	**12 23 44.5**	**+8.6**
AGT	**Agartala**	**12.94**	**358**	*e*PKP	**Pn**	**12 23 38.0**	**-0.9**
AGT				*ex*	x	12 24 45.0	
UBT	**Ubonrachathani**	**13.68**	**70**	P	Px	12 23 59.5	
PPI	**Padang Panjang** 1μm31nm,1.3s	**14.20**	**142**	P	**Pn**	**12 24 04.3**	**+8.1**
HYB	**Hyderabad**	**14.30**	**298**	*i* P	**Pn**	**12 23 57.5**	**0.0**
HYB				*e*		12 26 25.0	
HYB				*e*S	**Sn**	**12 26 35.0**	**-0.8**
HYB	6.7nm,16.0s			LR	LR	12 30 56.0	
KGM	**Kluang**	**14.52**	**127**	P	**Pn**	**12 23 58.2**	**-2.3**
PDSI	**Padang** 250nm,0.7s	**14.60**	**143**	P	**Pn**	**12 24 07.9**	**+6.2**
SHL	**Shillong**	**14.61**	**1**	*ex*	x	12 24 12.0	
SHL				*i* x	x	12 26 37.0	
TRD	**Trivandrum**	**14.72**	**262**	*e*PKP	**Pn**	**12 24 02.5**	**-0.7**
TRD	comp=Z,115nm,0.5s			AMb	AMB	12 24 06.0	
MYKOM	**Kota Tinggi**	**15.07**	**126**	P	**Pn**	**12 24 06.0**	**-2.0**
MYKOM	**Kota Tinggi** comp=Z,2μmcomp=Z,94nm,1.5s	**15.07**	**126**	P	**Pn**	**12 24 09.7**	**+1.7**
TPRI	**Tanjung Pinang**	**16.14**	**127**	P	**Pn**	**12 24 29.9**	**+8.0**
ODAN	**Odare**	**16.41**	**346**	*e*P	**Pn**	**12 24 22.9**	**-2.3**
LATR	**Latur**	**16.44**	**299**	*e*PKP	**Pn**	**12 24 24.9**	**-0.8**
LATR				*ex*	x	12 27 30.0	
RAMN	**Ramite**	**16.69**	**344**	*e*P	**Pn**	**12 24 25.9**	**-3.0**
TAPN	**Taplejung**	**16.81**	**348**	*e*P	**Pn**	**12 24 27.9**	**-2.4**
AKL	**Akola**	**17.16**	**306**	⇑*i*P	**Pn**	**12 24 36.1**	**+1.3**
AKL	comp=Z,140nm,0.5s			AMb	AMB	12 24 41.0	
AKL				*i* x	x	12 29 33.9	
KMI	**Kunming**	**17.62**	**35**	P	**Pn**	**12 24 42.6**	**+2.1**
KMI				pP	pP	12 24 45.6	-0.6
KMI				sP	sP	12 24 47.4	-1.1
KMI				PP		12 24 58.0	
KMI				S	**Sn**	**12 27 57.3**	**+0.9**
KMI				sS	sS	12 28 01.8	-10
KMI				SS		12 28 20.8	
KMI	comp=Z,57nm,1.0s			pmax	pmax		
KMI	comp=Z,2μm,8.6s			pmax	pmax		
KMI	comp=N,9μm,16.6s			LR	LR		
KMI	comp=E,8μm,17.2s			LR	LR		
KMI	comp=Z,8μm,11.7s			LR	LR		
PKI	**Pulchoki**	**17.62**	**341**	*e*P	**Pn**	**12 24 38.0**	**-2.5**
DMN	**Daman**	**17.76**	**340**	*e*P	**Pn**	**12 24 40.0**	**-2.2**
GUN	**Gumba**	**17.80**	**343**	*e*P	**Pn**	**12 24 41.6**	**-1.1**
KKN	**Kakani**	**17.87**	**341**	*e*P	**Pn**	**12 24 42.8**	**-0.7**
GOA	**Goa**	**17.99**	**287**	*e*PKP	**Pn**	**12 24 44.5**	**-0.7**
GOA				*ex*	x	12 27 52.1	
KSI	**Kapahiang** comp=Z,303nm,0.8s	**18.06**	**143**	P	**Pn**	**12 24 47.5**	**+1.5**
KAD	**Karad**	**18.14**	**293**	*e*PKP	**Pn**	**12 24 47.6**	**+0.6**
GKN	**Gorkha**	**18.28**	**340**	*e*P	**Pn**	**12 24 48.1**	**-0.5**
BHPL	**Bhopal**	**18.34**	**314**	*e*PKP	**Pn**	**12 24 51.1**	**+1.7**
BHPL	comp=Z,75nm,0.8s			AMb	AMB	12 24 58.3	
KOLN	**Koldanda**	**18.44**	**337**	*e*P	**Pn**	**12 24 50.1**	**-0.5**
LSA	**Lhasa**	**18.73**	**359**	P	**Pn**	**12 24 52.3**	**-1.8**
LSA	comp=Z,30nm,1.1s			pmax	pmax		
LSA	comp=Z,2μm,10.7s			pmax	pmax		
LSA	comp=N,4μm,16.2s			LR	LR		
LSA	comp=E,6μm,14.2s			LR	LR		
LSA	comp=Z,8μm,17.6s			LR	LR		
LSA	**Lhasa** comp=Z,132nm,0.8s	**18.73**	**359**	*e*P	**Pn**	**12 24 55.2**	**+1.2**
LSA	**Lhasa**	**18.73**	**359**	*e*P	**Pn**	**12 24 55.3**	**+1.2**
LSA	comp=Z,132nm,0.8s			pmax	pmax		
POO	**Poona**	**18.85**	**296**	*e*PKP	**Pn**	**12 24 56.8**	**+1.1**
POO	comp=Z,139nm,1.0s			AMb	AMB	12 25 04.7	
DANN	**Dangsing**	**18.91**	**338**	*e*P	**Pn**	**12 24 56.7**	**+0.5**
QIZ	**Qiongzhong**	**19.30**	**63**	P	**Pn**	**12 24 59.8**	**-1.3**
QIZ				S	**Sn**	**12 28 37.3**	**+0.1**
QIZ	comp=N,5μm,20.0s			LR	LR		
QIZ	comp=E,3μm,14.4s			LR	LR		
QIZ	comp=Z,7μm,14.2s			LR	LR		
QIZ	**Qiongzhong** comp=Z,597nm,2.1s	**19.30**	**63**	*e*P	**Pn**	**12 24 58.8**	**-2.3**
PPBI	**Pangkal Pinang** comp=Z,3μmcomp=Z,39nm,1.0s	**19.35**	**131**	P	**Pn**	**12 24 58.7**	**-3.0**
MDSI	**Maura Dua**	**19.68**	**140**	P	**Pn**	**12 25 01.8**	**-3.9**
LWLI	**Liwa** comp=Z,3μmcomp=Z,223nm,0.7s	**20.02**	**141**	P	**P**	**12 25 13.0**	**+5.1**
KLSI	**Kuching** comp=Z,64nm,0.8s	**20.19**	**139**	P	**P**	**12 25 10.7**	**+1.0**
KSM	**Kuching**	**20.71**	**116**	P	**P**	**12 25 14.5**	**-1.0**
KSM	**Kuching** comp=Z,185nm,1.1s	**20.71**	**116**	*e*P	**P**	**12 25 13.3**	**-2.1**
KSM	**Kuching**	**20.71**	**116**	P	**P**	**12 25 15.2**	**-0.2**
TPI	**Tanjungpandan**	**20.87**	**130**	P	**P**	**12 25 23.4**	**+6.2**
GYA	**Guiyang**	**20.97**	**40**	⇓*i*P	**P**	**12 25 18.4**	**+0.3**
GYA				pP		12 25 28.6	
GYA				PP		12 25 41.0	
GYA				S	**S**	**12 29 09.0**	**-2.2**
GYA				PcP	PcP	12 29 25.9	+0.4
GYA				SS		12 29 40.0	
GYA				ScP	ScP	12 33 00.9	-0.8
GYA	comp=Z,50nm,0.7s			pmax	pmax		
GYA	comp=Z,1μm,11.3s			pmax	pmax		
GYA	comp=N,5μm,16.8s,MS5.1			LR	LR		
GYA	comp=E,4μm,15.8s,MS5.1			LR	LR		
GYA	comp=Z,7μm,17.1s,MS5.1			LR	LR		
SBUM	**Sibu**	**22.02**	**111**	P	**P**	**12 25 28.6**	**-1.0**
SBUM	**Sibu** comp=Z,2μmcomp=Z,82nm,1.4s,mb5.0	**22.02**	**111**	P	**P**	**12 25 28.1**	**-1.4**
NDI	**New Delhi**	**22.30**	**325**	*e*PKP	**P**	**12 25 29.0**	**-3.4**
NDI				*e*S	**S**	**12 29 34.0**	**-3.3**
AJM	**Ajmer**	**22.35**	**316**	*e*PKP	**P**	**12 25 33.0**	**+0.1**
STKI	**Sintang** comp=Z,140nm,1.1s,mb5.3	**22.41**	**117**	P	**P**	**12 25 33.0**	**-0.6**
BTM	**Bintulu**	**22.54**	**108**	P	**P**	**12 25 35.1**	**0.0**
CD2	**Chengdu**	**22.86**	**28**	P	**P**	**12 25 37.9**	**-0.3**
CD2				pP		12 25 42.1	
CD2				sP	sP	12 25 45.0	-0.4
CD2				PP		12 26 07.9	
CD2				S	**S**	**12 29 43.5**	**-3.8**
CD2				sS	sS	12 29 49.9	-6.0
CD2				SS		12 30 28.0	
CD2	comp=Z,370nm,1.3s,mb5.7			pmax	pmax		
CD2	comp=Z,2μm,10.7s			pmax	pmax		
CD2	comp=N,8μm,16.1s			LR	LR		
CD2	comp=Z,7μm,13.1s,MS5.3			LR	LR		
DDI	**Dehra Dun**	**23.13**	**329**	*e*PKP	**P**	**12 25 41.0**	**-0.2**
DDI				*ex*	x	12 29 59.0	
GZH	**Guangzhou**	**23.96**	**57**	P	**P**	**12 25 54.0**	**+4.7**
GZH	comp=N,6μm,16.5s,MS5.2			LR	LR		
GZH	comp=E,3μm,12.9s,MS5.2			LR	LR		
PBKI	**Pangkalan Bun** comp=E,4μmcomp=E,409nm,1.3s,mb5.7	**24.03**	**123**	P	**P**	**12 25 49.5**	**-0.5**
SMLA	**Simla**	**24.23**	**328**	*i* P	**P**	**12 25 52.9**	**+1.1**
SMLA				*i* S	**S**	**12 30 10.7**	**+1.0**
HKC	**Hong Kong Obse**	**24.31**	**59**	*e*P	**P**	**12 26 02.0**	**+9.4**
BHJ	**Bhuj** comp=Z,74nm,1.0s,mb5.1	**24.36**	**303**	*ex*	**P**	**12 25 50.4**	**-2.6**
BHJ				AMb	AMB	12 25 58.9	
SDNR	**Sundarnagar**	**24.63**	**329**	*e*PKP	**P**	**12 25 57.0**	**+1.6**
SDNR				*ex*	x	12 30 46.4	
KKM	**Kota Kinabalu**	**24.72**	**99**	P	**P**	**12 25 57.0**	**+0.7**
KKM	**Kota Kinabalu** comp=Z,316nm,1.9s,mb5.5	**24.72**	**99**	*e*P	**P**	**12 25 56.3**	**-0.1**
KKM	**Kota Kinabalu** comp=Z,2μmcomp=Z,78nm,1.7s,mb5.0	**24.72**	**99**	P	**P**	**12 25 52.7**	**-3.6**
BHK	**Bhakra**	**24.85**	**328**	*ex*	**P**	**12 26 02.0**	**+4.6**
KDM	**Kudat**	**25.14**	**97**	P	**P**	**12 26 00.4**	**+0.2**
ENH	**Enshi** comp=Z,419nm,0.9s,mb6.0	**25.42**	**38**	*e*P	**P**	**12 26 01.6**	**-1.0**
PLKI	**Palangkaraya**	**25.68**	**119**	P	**P**	**12 26 08.5**	**+3.4**
SDKM	**Sandakan**	**25.76**	**100**	P	**P**	**12 26 05.4**	**-0.4**
SMRI	**Semarang** comp=Z,3μmcomp=Z,176nm,1.1s,mb5.5	**25.80**	**133**	P	**P**	**12 26 08.5**	**+2.4**
TSM	**Tawau**	**26.75**	**102**	P	**P**	**12 26 14.4**	**-0.3**
BBKI	**Banjar Baru** comp=Z,268nm,0.8s,mb5.8	**27.09**	**120**	P	**P**	**12 26 18.9**	**+1.1**
MYLDM	**Lahad Datu**	**27.13**	**100**	P	**P**	**12 26 18.5**	**+0.3**
MYLDM	**Lahad Datu** comp=Z,2μmcomp=Z,53nm,0.8s,mb5.1	**27.13**	**100**	P	**P**	**12 26 18.6**	**+0.4**
LZH	**Lanzhou**	**27.40**	**22**	*e*P	**P**	**12 26 22.3**	**+1.9**
LZH				pP	pP	12 26 25.5	-0.1
LZH				sP	sP	12 26 29.1	+1.3
LZH				PP		12 27 08.5	
LZH				*e*S	**S**	**12 31 00.5**	**+0.6**
LZH				SS		12 32 19.0	
LZH	comp=Z,70nm,1.2s,mb5.1			pmax	pmax		
LZH	comp=Z,350nm,4.0s			pmax	pmax		
LZH	comp=N,2μm,10.7s,MS5.3			LR	LR		
LZH	comp=E,5μm,13.5s,MS5.3			LR	LR		
LZH	comp=Z,8μm,15.4s,MS5.4			LR	LR		
PWJI	**Pagerwojo**	**27.44**	**132**	P	Px	12 26 39.0	
XAN	**Xi'an**	**27.92**	**32**	P	**P**	**12 26 23.3**	**-1.8**
XAN				pP	pP	12 26 32.8	+2.5
XAN				sP	sP	12 26 36.1	+3.6
XAN				S	**S**	**12 31 01.5**	**-6.7**
XAN				SS		12 32 22.9	
XAN	comp=Z,15nm,0.9s,mb4.6			pmax	pmax		
XAN	comp=Z,180nm,9.4s			pmax	pmax		
XAN	comp=N,4μm,15.6s,MS5.1			LR	LR		
XAN	comp=E,1μm,15.6s,MS5.1			LR	LR		
XAN	comp=Z,1μm,13.1s,MS4.6			LR	LR		
KMMI	**Kalianget**	**28.44**	**128**	P	sP	12 26 40.3	+3.0
TGY	**Tagaytay City** comp=Z,102nm,0.5s,mb5.8,baz=138,slow=16,SNR=4.5	**28.72**	**81**	P	**P**	**12 26 32.3**	**-0.1**
TGY				LR	LR	12 39 05.4	
	comp=Z,18nm,18.1s,baz=81,slow=39						
TGY	**Tagaytay City**	**28.72**	**81**	P	**P**	**12 26 32.3**	**-0.1**
TGY				LR	LR	12 39 05.4	
TGY	**Tagaytay City**	**28.72**	**81**	P	**P**	**12 26 32.3**	**-0.1**
WHN	**Wuhan**	**28.73**	**44**	⇑P	**P**	**12 26 38.3**	**+6.0**
WHN				pP	pP	12 26 40.0	+2.4
WHN				S	**S**	**12 31 11.3**	**-10**
WHN	comp=Z,41nm,0.6s,mb5.3			pmax	pmax		
WHN	comp=Z,1μm,10.8s			pmax	pmax		
WHN	comp=N,14μm,16.6s,MS5.8			LR	LR		
WHN	comp=E,10μm,13.0s,MS5.8			LR	LR		
WHN	comp=Z,16μm,15.4s,MS5.8			LR	LR		
QZH	**Quanzhou**	**29.09**	**58**	⇑*i*P	**P**	**12 26 35.9**	**+0.4**
QZH				S	**S**	**12 31 27.0**	**+0.3**
QZH	comp=N,7μm,13.4s,MS5.5			LR	LR		
QZH	comp=E,3μm,12.9s,MS5.5			LR	LR		
QZH	comp=Z,7μm,15.5s,MS5.4			LR	LR		
GTA	**Gaotai**	**29.32**	**13**	⇓P	**P**	**12 26 38.5**	**+1.1**
GTA				pP	pP	12 26 42.8	+0.1
GTA				sP	sP	12 26 45.5	+0.7
GTA				PcP	PcP	12 29 45.1	+1.3
GTA				S	**S**	**12 31 31.0**	**+1.0**
GTA				sS	sS	12 31 39.0	+0.4
GTA	comp=Z,91nm,1.1s,mb5.4			pmax	pmax		
GTA	comp=Z,530nm,6.2s			pmax	pmax		
GTA	comp=N,3μm,17.6s,MS5.2			LR	LR		
GTA	comp=E,3μm,14.5s,MS5.2			LR	LR		
GTA	comp=Z,3μm,17.3s,MS5.0			LR	LR		
SRBI	**Singaraja** comp=Z,2μmcomp=Z,148nm,0.9s,mb5.7	**30.05**	**128**	P	**P**	**12 26 44.1**	**0.0**
TWG	**Pinlang** comp=Z,61nm,0.8s,mb5.4	**30.45**	**63**	*e*P	**P**	**12 26 50.2**	**+2.6**
KHKI	**Kahang-Kahang**	**30.52**	**128**	P	**P**	**12 26 47.8**	**-0.6**
SSLB	**Suanglung** comp=Z,40nm,0.8s,mb5.3	**30.66**	**61**	*e*P	**P**	**12 26 49.7**	**+0.2**
MJSI	**Majene** comp=Z,4μmcomp=Z,330nm,1.1s,mb6.1	**30.71**	**116**	P	**P**	**12 26 51.2**	**+1.2**
YULB	**Yu-li** comp=Z,47nm,0.9s,mb5.3	**30.83**	**62**	*e*P	**P**	**12 26 52.6**	**+1.7**
MTNI	**Mataram** comp=Z,8μmcomp=Z,80nm,0.7s,mb5.7	**31.13**	**128**	P	**P**	**12 26 54.5**	**+0.8**
TTSI	**Tana Toraja** comp=Z,2μmcomp=Z,108nm,1.2s,mb5.6	**31.22**	**115**	P	**P**	**12 26 55.8**	**+1.2**
YHNB	**Yeheng** comp=Z,63nm,0.8s,mb5.5	**31.32**	**60**	*e*P	**P**	**12 26 56.4**	**+1.0**
KBL	**Kabul** comp=Z,30nm,0.9s,mb5.1	**31.33**	**322**	*e*P	**P**	**12 26 55.8**	**+0.5**
KBL	**Kabul**	**31.33**	**322**	*e*P	**P**	**12 26 55.8**	**+0.5**
KBL	comp=Z,30nm,0.9s,mb5.1			pmax	pmax		
SPSI	**Sidrap Palu** comp=Z,1μmcomp=Z,56nm,1.5s,mb5.2	**31.60**	**116**	P	**P**	**12 26 57.6**	**-0.3**
KSH	**Kashi**	**31.76**	**337**	⇓*i*P	**P**	**12 26 58.6**	**-0.4**
KSH				pP	pP	12 27 02.9	-1.4
KSH				sP	sP	12 27 05.5	-0.9
KSH				PP	PP	12 28 02.3	-8.6
KSH				PcP	PcP	12 29 52.0	+1.8
KSH				S	**S**	**12 32 04.4**	**-3.9**
KSH				ScP	ScP	12 33 33.4	+0.4
KSH				PcS	PcS	12 33 35.1	+0.4
KSH				SS	SS	12 33 51.8	-33
KSH				ScS	ScS	12 37 29.5	-1.6
KSH	comp=Z,38nm,0.8s,mb5.3			pmax	pmax		
KSH	comp=N,3μm,14.7s,MS5.3			LR	LR		
KSH	comp=E,4μm,15.0s,MS5.3			LR	LR		
KSH	comp=Z,1μm,10.8s,MS4.8			LR	LR		
MRSI	**Marisa** comp=Z,1μmcomp=Z,91nm,1.4s,mb5.4	**31.78**	**107**	P	**P**	**12 26 59.4**	**-0.1**
KAPI	**Kappang** comp=Z,63nm,0.9s,mb5.4	**32.08**	**118**	*e*P	**P**	**12 27 00.6**	**-1.6**
KAPI	**Kappang** comp=Z,1μmcomp=Z,82nm,1.0s,mb5.5	**32.08**	**118**	P	**P**	**12 27 00.9**	**-1.2**
KAPI	**Kappang** SNR=17	**32.08**	**118**	P	**P**	**12 27 00.7**	**-1.5**
BKSI	**Bulukumba** comp=Z,3μmcomp=Z,263nm,1.1s,mb6.1	**32.56**	**118**	P	**P**	**12 27 05.6**	**-0.7**
TIY	**Taiyuan**	**32.57**	**31**	*e*P	**P**	**12 27 04.6**	**-1.5**
TIY				S	**S**	**12 32 17.1**	**-3.8**
TIY	comp=N,5μm,11.0s,MS5.5			LR	LR		
TIY	comp=E,2μm,10.4s,MS5.5			LR	LR		
TIY	comp=Z,5μm,12.5s,MS5.4			LR	LR		
NJ2	**Nanjing**	**32.73**	**46**	*e*P	**P**	**12 27 08.1**	**+0.4**
NJ2				pP	pP	12 27 12.5	-0.4
NJ2				sP	sP	12 27 15.1	0.0
NJ2				PP	PP	12 28 21.3	-0.5
NJ2				S	**S**	**12 32 22.0**	**-1.7**
NJ2	comp=Z,80nm,0.7s,mb5.8			pmax	pmax		
NJ2	comp=Z,620nm,7.5s			pmax	pmax		
NJ2	comp=N,6μm,15.8s,MS5.5			LR	LR		
NJ2	comp=E,5μm,19.4s,MS5.5			LR	LR		
NJ2	comp=Z,4μm,12.6s			LR	LR		
WMQ	**Urumqi**	**33.00**	**355**	P	**P**	**12 27 11.8**	**+2.0**
WMQ				pP	pP	12 27 16.1	+1.0
WMQ				sP	sP	12 27 18.8	+1.6
WMQ				S	**S**	**12 32 28.6**	**+1.1**
WMQ				sS	sS	12 32 35.9	-0.3
WMQ				ScS	ScS	12 37 36.8	-0.4
WMQ	comp=Z,63nm,1.1s,mb5.5			pmax	pmax		
WMQ	comp=Z,310nm,3.8s			pmax	pmax		
WMQ	comp=N,3μm,16.9s,MS5.3			LR	LR		
WMQ	comp=E,6μm,21.4s,MS5.3			LR	LR		
WMQ	comp=Z,2μm,19.5s,MS4.7			LR	LR		
BMNI	**Bima** comp=Z,668nmcomp=Z,61nm,0.9s,mb5.5	**33.07**	**125**	P	**P**	**12 27 10.0**	**-0.8**
LUWI	**Luwuk** comp=Z,3μmcomp=Z,206nm,1.3s,mb5.9	**33.10**	**109**	P	**P**	**12 27 11.2**	**+0.2**
DAV	**Davao City (W)** comp=Z,2μm,19.8s,MS4.8,baz=281,slow=41	**33.67**	**94**	LR	LR	12 43 33.4	
KMSI	**Cibinong** comp=Z,5μmcomp=Z,472nm,0.9s	**33.67**	**106**	P	**P**	**12 27 17.7**	**+1.6**
BTO	**Baotou**	**33.74**	**26**	*e*P	**P**	**12 27 16.1**	**-0.2**
SSE	**Sheshan**	**33.92**	**49**	*e*P	**P**	**12 27 18.8**	**+0.8**
SSE				S	**S**	**12 32 42.8**	**+0.7**
SSE	comp=Z,36nm,0.7s,mb5.4			pmax	pmax		
SSE	comp=Z,180nm,3.8s			pmax	pmax		
SSE	comp=N,3μm,18.5s,MS5.2			LR	LR		
SSE	comp=E,2μm,18.5s,MS5.2			LR	LR		
SSE	comp=Z,5μm,14.6s,MS5.4			LR	LR		
ULHL	**Ulahol** SNR=17	**34.05**	**339**	P	**P**	**12 27 20.2**	**+1.3**
KDI	**Kendari** comp=Z,826nmcomp=Z,84nm,1.2s,mb5.5	**34.13**	**114**	P	**P**	**12 27 19.9**	**-0.1**
TIA	**Tai'an**	**34.13**	**38**	P	**P**	**12 27 19.0**	**-0.8**
TIA				S	**S**	**12 32 45.3**	**0.0**
TIA	comp=Z,50nm,1.1s,mb5.4			pmax	pmax		
TIA	comp=Z,790nm,10.8s			pmax	pmax		
TIA	comp=N,4μm,15.6s,MS5.4			LR	LR		
TIA	comp=E,5μm,16.8s,MS5.4			LR	LR		
TIA	comp=Z,3μm,16.8s,MS5.1			LR	LR		
MNI	**Manado** comp=Z,3μmcomp=Z,149nm,1.1s,mb5.8	**34.22**	**104**	P	**P**	**12 27 21.9**	**+1.0**
KZA	**Kyzart** SNR=38	**34.25**	**338**	P	**P**	**12 27 22.6**	**+1.8**
KZA	**Kyzart**	**34.25**	**338**	*i* P	**P**	**12 27 22.6**	**+1.9**
HHC	**Hu-ho-hao-te**	**34.62**	**27**	⇓P	**P**	**12 27 24.9**	**+1.0**
HHC				PP	PP	12 28 41.8	-0.7
HHC				PcP	PcP	12 29 59.1	+0.9
HHC				S	**S**	**12 32 53.4**	**+0.8**
HHC				ScP	ScP	12 33 42.8	-0.1
HHC				PcS	PcS	12 33 44.8	+0.2
HHC				SS	SS	12 35 06.4	-17
HHC				ScS	ScS	12 37 44.3	-1.5
HHC	comp=Z,37nm,1.1s,mb5.2			pmax	pmax		
HHC	comp=Z,310nm,6.3s			pmax	pmax		
HHC	comp=N,2μm,15.8s,MS5.3			LR	LR		
HHC	comp=E,4μm,15.5s,MS5.3			LR	LR		
HHC	comp=Z,3μm,15.3s,MS5.2			LR	LR		
BBSI	**Bau Bau** comp=Z,2μmcomp=Z,123nm,1.0s,mb5.8	**34.77**	**116**	P	**P**	**12 27 28.0**	**+2.4**
TKM2	**Tokmak 2** SNR=24	**34.86**	**339**	P	**P**	**12 27 29.1**	**+3.1**
TKM2	**Tokmak 2**	**34.86**	**339**	*e*P	**P**	**12 27 27.6**	**+1.6**

comp=Z,23nm,1.0s,mb5.1
TKM2 Tokmak 2 34.86 339 *e*P **P** **12 27 27.6 +1.6**
TKM2 pmax pmax
comp=Z,23nm,1.0s,mb5.1
KBK Karagaybulak 34.87 338 P **P** **12 27 28.0 +2.0**
SNR=17
AML Almayashu 34.89 336 P **P** **12 27 28.3 +2.0**
SNR=105
AML Almayashu 34.89 336 *i* P **P** **12 27 28.3 +2.0**
BSY Bisya 34.97 294 P **P** **12 27 30.4 +3.1**
SNR=6.8
AAK Ala-Archa 35.01 338 P **P** **12 27 29.2 +1.9**
SNR=49
AAK Ala-Archa 35.01 338 LR LR 12 44 23.8
comp=Z,25μm,20.6s,MS6.0,baz=143,slow=41
AAK Ala-Archa 35.01 338 *e*P **P** **12 27 28.9 +1.6**
comp=Z,323nm,1.3s,mb6.1
AAK Ala-Archa 35.01 338 *e*P **P** **12 27 28.9 +1.6**
AAK pmax pmax
comp=Z,323nm,1.3s,mb6.1
AAK Ala-Archa 35.01 338 P **P** **12 27 29.0 +1.7**
comp=Z,255nm,1.2s,mb6.0,SNR=43
WSI Waingapu 35.02 125 P sP 12 27 40.2 +5.1
FRU Bishkek 35.14 338‖ *e*P **P** **12 27 30.0 +1.6**
FRU *e*S **S** **12 33 04.0 +3.4**
FRU *e* 12 33 14.0
FRU pmax pmax
comp=Z,330nm,2.6s,mb5.8
CHMS Chumysh 35.23 338 P **P** **12 27 30.7 +1.5**
SNR=19
EKS2 Erkin-Say 35.31 337 P **P** **12 27 31.4 +1.5**
SNR=47
EKS2 Erkin-Say 35.31 337 *e*P **P** **12 27 31.8 +1.9**
comp=Z,48nm,0.9s,mb5.4
EKS2 Erkin-Say 35.31 337 *e*P **P** **12 27 31.8 +1.9**
EKS2 pmax pmax
comp=Z,48nm,0.9s,mb5.4
USP Ospenovka 35.56 338 P **P** **12 27 33.3 +1.3**
SNR=44
MMRI Maumere 36.05 121 P **P** **12 27 34.7 -1.9**
comp=Z,2μmcomp=Z,170nm,1.5s,mb5.8
BJT Baijiatuau 36.23 33 *e*P **P** **12 27 38.1 +0.3**
comp=Z,95nm,0.8s,mb5.8
BJT Baijiatuau 36.23 33 *e*P **P** **12 27 38.1 +0.3**
BJT pmax pmax
comp=Z,95nm,0.8s
BJI Beijing 36.25 33 P **P** **12 27 38.1 +0.2**
BJI PP PP 12 29 02.3 +1.8
BJI S **S** **12 33 15.5 -2.2**
BJI pmax pmax
comp=Z,120nm,0.8s,mb5.9
BJI pmax pmax
comp=Z,730nm,6.9s
BJI LR LR
comp=N,3μm,15.6s,MS5.5
BJI LR LR
comp=E,5μm,15.6s,MS5.5
BJI LR LR
comp=Z,3μm,18.1s,MS5.1
MK31 Makanchi Array 36.67 349 *e*P **P** **12 27 41.9 +0.5**
MK31 Makanchi Array 36.67 349 *ce*P **P** **12 27 41.9 +0.4**
MK31 pmax pmax
comp=Z,50nm,0.7s,mb5.5
MKAR Makanchi Array 36.67 349 P **P** **12 27 42.0 +0.5**
comp=Z,54nm,0.8s,mb5.4,baz=167,slow=7.4,SNR=186
MKAR PcP PcP 12 30 05.4 +1.3
comp=Z,3.0nm,0.6s,baz=203,slow=2.8,SNR=4.3
MKAR S **S** **12 33 26.6 +2.7**
comp=Z,1.3nm,0.9s,baz=161,slow=14,SNR=2.2
MKAR LR LR 12 46 56.1
comp=Z,3μm,18.8s,MS5.0,baz=166,slow=43
MKAR Makanchi Array 36.67 349 P **P** **12 27 42.0 +0.5**
MKAR PcP PcP 12 30 05.4 +1.3
MKAR S **S** **12 33 26.6 +2.7**
MKAR LR LR 12 46 56.1
MKAR Makanchi Array 36.67 349 P **P** **12 27 42.0 +0.5**
MKAR 12 30 05.4
MKAR S **S** **12 33 26.6 +2.7**
KK31 Karatay Array 37.01 334 *c* *i*P **P** **12 27 45.2 +0.8**
KK31 pmax pmax
comp=Z,70nm,1.1s,mb5.4
KKAR Karatay Array 37.01 334 *e*P **P** **12 27 45.3 +0.8**
comp=Z,15nm,0.6s,mb5.0
KKAR Karatay Array 37.01 334 *e*P **P** **12 27 45.3 +0.9**
KKAR pmax pmax
comp=Z,15nm,0.6s,mb5.0
JOW Kunigami 37.91 60 P **P** **12 27 53.6 +1.4**
comp=Z,20nm,0.4s,mb5.2,baz=263,slow=12,SNR=27
JOW LR LR 12 44 28.3
comp=Z,2μm,21.5s,MS5.0,baz=67,slow=38
JOW Kunigami 37.91 60 *e*P **P** **12 27 53.0 +0.7**
comp=Z,44nm,1.2s,mb5.1
NLAI Namlea 37.92 110 P **P** **12 27 55.4 +2.8**
comp=Z,1μmcomp=Z,142nm,0.8s,mb5.7
DL2 Dalian 38.60 39 P **P** **12 27 58.6 +0.6**
DL2 PP PP 12 29 33.4 +6.9
DL2 S **S** **12 33 54.8 +1.2**
DL2 pmax pmax
comp=Z,100nm,1.4s,mb5.3
DL2 LR LR
comp=N,2μm,13.7s
DL2 LR LR
comp=Z,2μm,15.2s,MS5.1
SONM Songino Array 38.86 16 P **P** **12 28 00.6 +0.7**
comp=Z,48nm,1.0s,mb5.2,baz=200,slow=7.4,SNR=171
SONM PcP PcP 12 30 11.4 +0.6
comp=Z,8.3nm,0.9s,baz=199,slow=2.4,SNR=4.1
SONM LR LR 12 46 38.0
comp=Z,1μm,19.6s,MS4.8,baz=196,slow=40
SONM Songino Array 38.86 16 P **P** **12 28 00.6 +0.7**
SONM PcP PcP 12 30 11.4 +0.6
SONM LR LR 12 46 38.0
SONM Songino Array 38.86 16 P **P** **12 28 00.6 +0.7**
SONM 12 30 11.4
ULN Ulaanbaatar 39.06 16 *e*P **P** **12 28 01.8 +0.2**
comp=Z,27nm,1.0s,mb4.9
ULN Ulaanbaatar 39.06 16 *e*P **P** **12 28 01.8 +0.1**
ULN pmax pmax
comp=Z,27nm,1.0s,mb4.9
ULN Ulaanbaatar 39.06 16 P **P** **12 28 02.0 +0.3**
comp=Z,797nmcomp=Z,38nm,1.2s,mb5.0
ULN Ulaanbaatar 39.06 16 P **P** **12 28 02.9 +1.3**
SNR=20
AAI Arnbon 39.10 110 P **P** **12 28 02.1 -0.4**
comp=Z,3μmcomp=Z,298nm,0.8s,mb6.1
MSAI Masohi 39.66 109 P **P** **12 28 06.6 -0.5**
comp=Z,1μmcomp=Z,92nm,1.1s,mb5.4
ABKT Ailbek 40.37 318 P **P** **12 28 14.3 +1.6**
comp=Z,339nm,1.0s,mb6.0,SNR=15
VAN Vannovskaya 40.38 318 *i* P **P** **12 28 11.3 -1.5**
VAN *e*S **S** **12 34 22.4 +2.1**
ZAK Zakamensk 40.53 11‖ *i*P **P** **12 28 14.6 +0.8**
ZAK *e* 12 30 16.0
ZAK pmax pmax
comp=Z,11nm,2.1s,mb4.1
BNDI Bandanaira 41.00 110 P **P** **12 28 16.6 -1.6**
comp=Z,3μmcomp=Z,213nm,1.5s,mb5.5
INCN Inchon 41.04 44 *e*P **P** **12 28 17.5 -0.8**
comp=Z,19nm,0.8s,mb4.8
KURK Kurchatov 41.15 347 P **P** **12 28 18.1 -0.8**
comp=Z,47nm,1.1s,mb5.0,baz=162,slow=7.5,SNR=47
KURK PcP PcP 12 30 18.3 +0.2
comp=Z,11nm,0.9s,baz=158,slow=3.3,SNR=5.8
KURK ScP ScP 12 34 10.3 +2.9
comp=Z,3.8nm,0.9s,baz=162,slow=3.1,SNR=5.9
KURK Kurchatov 41.15 347 *e*P **P** **12 28 19.4 +0.5**
comp=Z,55nm,1.0s,mb5.1
KURK Kurchatov 41.15 347 *de*P **P** **12 28 19.6 +0.7**
KURK pmax pmax
comp=Z,79nm,1.2s,mb5.2
KURK Kurchatov 41.15 347 P **P** **12 28 19.6 +0.7**
comp=Z,313nm,1.3s,mb5.8,SNR=23
KURK Kurchatov 41.15 347 P **P** **12 28 19.7 +0.8**
SNR=33
MOY Mondy 41.37 9 *e*P **P** **12 28 22.9 +2.2**
MOY pmax pmax
comp=Z,51nm,2.2s,mb4.8
SNY Shenyang 41.59 36‖ P **P** **12 28 22.4 -0.3**
SNY S **S** **12 34 37.5 -0.6**
SNY pmax pmax
comp=Z,50nm,1.3s,mb5.0
SNY pmax pmax
comp=Z,740nm,5.5s
SNY LR LR
comp=E,3μm,16.3s
SNY LR LR
comp=Z,3μm,17.1s,MS5.2
TLY Talaya 41.83 11 *e*P **P** **12 28 25.3 +0.8**
comp=Z,21nm,1.0s,mb4.7
TLY Talaya 41.83 11 *d* *i*P **P** **12 28 26.0 +1.5**
TLY *e*PPP 12 30 16.7
TLY *e*S **S** **12 34 38.7 -2.7**
TLY *e*SS SS 12 37 40.1 -7.8
TLY *e* 12 38 22.5
TLY pmax pmax
comp=Z,22nm,1.0s,mb4.7
TLY MLR MLR
comp=Z,1μm,18.0s,MS4.9
TLY Talaya 41.83 11 P **P** **12 28 25.4 +0.9**
comp=Z,124nm,1.1s,mb5.5,SNR=6.3
TLY Talaya 41.83 11 P **P** **12 28 26.4 +1.9**
SNR=8.8
KSRS Korea Array 41.91 45 P **P** **12 28 25.4 0.0**
comp=Z,6.9nm,0.6s,mb4.5,baz=247,slow=9.0,SNR=28
KSRS LR LR 12 46 53.3
comp=Z,3μm,20.6s,MS5.1,baz=239,slow=38
MBWA Marble Bar 42.10 139 *e*P **P** **12 28 25.9 -1.2**
MBWA *e*S **S** **12 34 36.8 -9.3**
MBWA Marble Bar 42.10 139 *e*P **P** **12 28 25.9 -1.3**
comp=Z,156nm,1.9s,mb5.3
MBWA Marble Bar 42.10 139 P **P** **12 28 26.9 -0.2**
comp=Z,46nm,1.5s,mb4.9
JNU Nakatsue 42.19 52 *e*P **P** **12 28 28.4 +0.7**
comp=Z,11nm,0.8s,mb4.5
IRK Irkutsk 42.49 11 *e*P **P** **12 28 31.0 +1.1**
IRK *e* 12 30 22.3
IRK pmax pmax
comp=Z,86nm,21.1s
ZAA0 Zalesovo Array 43.30 354 *e*P **P** **12 28 36.4 0.0**
ZALV Zalesovo Beam 43.30 354 P **P** **12 28 36.5 +0.1**
comp=Z,40nm,0.7s,mb5.2,baz=169,slow=8.9,SNR=158
ZALV LR LR 12 50 50.4
comp=Z,2μm,19.2s,MS5.0,baz=174,slow=42
ZALV Zalesovo Beam 43.30 354 P **P** **12 28 36.5 +0.1**
ZALV LR LR 12 50 50.4
ZALV Zalesovo Beam 43.30 354 P **P** **12 28 36.6 +0.2**
CN2 Changchun 43.89 35 *e*P **P** **12 28 41.3 0.0**
CN2 epP pP 12 28 46.5 -0.2
CN2 esP sP 12 28 52.0 +3.2
CN2 *e*PP PP 12 30 25.5 +1.9
CN2 *e*S **S** **12 35 11.3 -0.6**
CN2 eSS SS 12 38 21.6 -6.9
CN2 pmax pmax
comp=Z,20nm,1.0s,mb4.8
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,3μm,17.0s,MS5.3
CN2 LR LR
comp=E,2μm,17.0s,MS5.3
CN2 LR LR
comp=Z,3μm,17.0s,MS5.2
TLE Tual 44.03 110 P **P** **12 28 42.4 -0.5**
comp=Z,2μmcomp=Z,170nm,0.9s,mb5.8
FITZ Fitzroy Crossi 44.18 130 P **P** **12 28 42.5 -1.5**
comp=Z,40nm,0.9s,mb5.2,baz=330,slow=9.4,SNR=39
FITZ LR LR 12 51 46.3
comp=Z,2μm,18.1s,MS5.0,baz=301,slow=42
FITZ Fitzroy Crossi 44.18 130 *e*P **P** **12 28 42.2 -1.8**
comp=Z,130nm,0.9s,mb5.7
FITZ *e*S **S** **12 35 09.4 -7.4**
FITZ Fitzroy Crossi 44.18 130 *e*P **P** **12 28 42.2 -1.8**
comp=Z,113nm,1.1s,mb5.5
FITZ Fitzroy Crossi 44.18 130 P **P** **12 28 42.7 -1.3**
comp=Z,1μmcomp=Z,97nm,1.2s,mb5.4
NVS Novosibirsk 44.36 353‖ *i*P **P** **12 28 44.6 -0.3**
NVS *i* 12 30 36.2
NVS *i*S **S** **12 35 15.9 -2.5**
NVS *i*PS 12 35 29.0
NVS *i*SS SS 12 38 21.2 -16
NVS pmax pmax
comp=Z,130nm,2.1s,mb5.3
NVS pmax pmax
comp=N,82nm,2.0s
NVS pmax pmax
comp=E,34nm,2.0s
NVS pmax pmax
comp=Z,44nm,1.8s,mb4.9
NVS pmax pmax
comp=N,9.0nm,1.7s
NVS pmax pmax
comp=E,12nm,1.5s
NVS smax
comp=N,38nm,2.9s
NVS smax
comp=E,83nm,2.5s
HIA Hailar 44.80 26 *e*P **P** **12 28 49.2 +0.7**
comp=E,106nm,1.6s,mb5.4
HIA Hailar 44.80 26 *e*P **P** **12 28 49.3 +0.8**
HIA pmax pmax
comp=Z,106nm,1.6s
KBD Kabd 44.86 301 *e*P **P** **12 28 49.0 -0.3**
KBD AMb AMB 12 28 56.5
comp=Z,67nm,1.4s,mb5.3
VOSK Vostochnaya 44.95 342 P **P** **12 28 49.6 -0.1**
VOSK pmax pmax
comp=Z,53nm,1.1s,mb5.3
NAY Al-Naaiem 45.26 300 *e*P **P** **12 28 52.4 -0.2**
NAY AMb AMB 12 28 58.1
comp=Z,44nm,1.4s,mb5.1
MIB Mutribah 45.32 301 *e*P **P** **12 28 52.6 -0.4**
MIB AMb AMB 12 28 58.0
comp=Z,56nm,1.1s,mb5.3
BVA0 Borovoye Array 45.39 342 *i* P **P** **12 28 53.2 0.0**
BVA0 pmax pmax
comp=Z,29nm,2.4s,mb4.7
BVAR Borovoye Array 45.39 342 P **P** **12 28 53.7 +0.5**
comp=Z,6.9nm,0.5s,mb4.8,baz=142,slow=7.3,SNR=46
BVAR Borovoye Array 45.39 342 P **P** **12 28 53.7 +0.5**
BVAR Borovoye Array 45.39 342 P **P** **12 28 53.7 +0.5**
BRVK Borovoye 45.45 342 *e*P **P** **12 28 53.5 -0.1**
comp=Z,39nm,1.4s,mb5.0
BRVK Borovoye 45.45 342 *de*P **P** **12 28 53.5 -0.2**
BRVK pmax pmax
comp=Z,27nm,1.2s,mb5.0
BRVK Borovoye 45.45 342 P **P** **12 28 53.9 +0.2**
comp=Z,93nm,0.8s,mb5.7,SNR=9.5
BRVK Borovoye 45.45 342 P **P** **12 28 53.7 0.0**
SNR=11
MEEK Meekatharra 45.55 145 *e*P **P** **12 28 53.9 -0.9**
comp=Z,169nm,1.0s,mb5.9
MEEK *e*S **S** **12 35 28.9 -7.4**
AB31 Akbulak array 46.45 332 *ce*P **P** **12 29 02.3 +0.7**
AB31 pmax pmax
comp=Z,20nm,0.6s,mb5.2
ABKAR Akbulak array 46.45 332 *e*P **P** **12 29 02.0 +0.4**
comp=Z,15nm,0.6s,mb5.1
MDJ Mudanjiang 46.78 37 P **P** **12 29 05.3 +1.1**
MDJ pP pP 12 29 08.3 -1.3
MDJ PP PP 12 30 55.1 +0.8
MDJ ScP ScP 12 34 31.8 +1.3
MDJ PcS PcS 12 34 32.8 +0.7
MDJ S **S** **12 35 56.3 +2.7**
MDJ sS sS 12 36 02.0 -0.5
MDJ pmax pmax
comp=Z,25nm,1.4s,mb5.0
MDJ pmax pmax
comp=Z,540nm,6.3s
MDJ LR LR
comp=N,2μm,16.3s,MS5.3
MDJ LR LR
comp=E,1μm,18.1s,MS5.3
MDJ LR LR
comp=Z,3μm,16.3s,MS5.3
MDJ Mudanjiang 46.78 37 *e*P **P** **12 29 06.0 +1.8**
comp=Z,74nm,1.6s,mb5.4
ATD Arta Tunnel 47.88 276 P **P** **12 29 17.1 +3.8**
comp=Z,19nm,0.7s,mb5.2,baz=296,slow=23,SNR=6.7
ATD LR LR 12 46 35.7
comp=Z,675nm,18.6s,MS4.7,baz=59,slow=33
ATD Arta Tunnel 47.88 276 P **P** **12 29 17.1 +3.8**
ATD LR LR 12 46 35.7
SMPI Sarmi 48.48 102 P **P** **12 29 19.9 +1.9**
comp=Z,2μmcomp=Z,113nm,1.3s,mb5.7
BHD Baghdad 48.68 305 *i* x x 12 29 17.0
BHD *i* x x 12 31 16.0
BHD *i* x x 12 36 19.0
MAJO Matsushiro 49.04 51 *e*P **P** **12 29 22.6 +0.7**
comp=Z,53nm,1.3s,mb5.4
MAJO Matsushiro 49.04 51 *e*P **P** **12 29 22.6 +0.7**
MAJO pmax pmax
comp=Z,53nm,1.3s,mb5.4
MAT Matsushiro 49.04 51 P **P** **12 29 22.5 +0.6**
MAT S **S** **12 36 26.0 +0.1**
MJAR Matsushiro Arr 49.04 51 P **P** **12 29 22.8 +0.9**
comp=Z,11nm,1.1s,mb4.8,baz=243,slow=7.6,SNR=19
MJAR PcP PcP 12 30 45.8 +0.1
comp=Z,9.8nm,0.8s,baz=237,slow=4.4,SNR=8.9
MJAR LR LR 12 54 47.0
comp=Z,1μm,18.1s,MS5.0,baz=255,slow=42
MJAR Matsushiro Arr 49.04 51 P **P** **12 29 22.8 +0.9**
MJAR PcP PcP 12 30 45.8 +0.1
MJAR LR LR 12 54 47.0
MJAR Matsushiro Arr 49.04 51 P **P** **12 29 22.8 +0.9**
MJAR 12 30 45.8
KLBR Kellerberrin 49.06 150 *e*P **P** **12 29 20.8 -1.3**
comp=Z,29nm,0.9s,mb5.3
MAK Makhachkala 49.88 318 *e*P **P** **12 29 27.6 -0.6**
MAK *e* 12 30 47.7
MAK *e* 12 31 26.0
MAK *e*PPP 12 32 24.5
MAK *e*S **S** **12 36 37.5 -0.1**
MAK *e* 12 39 21.4
MAK pmax pmax
comp=Z,31nm,0.4s,mb5.7
NWAO Narrogin (SRO) 49.91 152 P **P** **12 29 27.8 -0.8**
comp=Z,21nm,0.9s,mb5.2,baz=318,slow=7.0,SNR=9.6
NWAO LR LR 12 49 28.4
comp=Z,2μm,20.8s,MS5.1,baz=324,slow=35
NWAO Narrogin (SRO) 49.91 152 *e*P **P** **12 29 28.4 -0.1**
comp=Z,32nm,0.8s,mb5.4
NWAO Narrogin (SRO) 49.91 152 *e*P **P** **12 29 28.4 -0.1**
NWAO pmax pmax
comp=Z,32nm,0.8s
CBIJ Chichi jima 50.05 64 P **P** **12 29 29.1 -0.7**
comp=Z,76nm,0.8s,mb5.8,baz=39,slow=12,SNR=7.4
KLR Kul'dur 50.62 33 *e*P **P** **12 29 31.1 -2.6**
KLR *e* pP 12 29 37.8 -1.3
KLR *e* 12 39 23.0
KLR pmax pmax
comp=Z,160nm,1.8s,mb5.7
GNI Garni 50.63 314 P **P** **12 29 35.0 +1.1**
comp=Z,26nm,0.8s,mb5.2,baz=20,slow=7.2,SNR=13
GNI Garni 50.63 314 *e*P **P** **12 29 35.5 +1.6**
comp=Z,128nm,1.3s,mb5.7
GNI Garni 50.63 314 *de*P **P** **12 29 35.6 +1.7**
GNI pmax pmax
comp=Z,55nm,1.2s
GNI Garni 50.63 314 P **P** **12 29 36.0 +2.1**
SNR=24
DGRG David-gareji 50.68 315 P **P** **12 29 33.9 -0.4**
TBLG Delisi 51.23 315 P **P** **12 29 39.2 +0.8**
TBLG Delisi 51.23 315 P **P** **12 29 39.2 +0.7**
SVE Sverdlovsk 51.74 339‖ *e*P **P** **12 29 42.5 +0.5**
SVE *e* 12 31 47.4
SVE *e*S **S** **12 37 03.9 +1.0**
SVE pmax pmax
comp=Z,77nm,1.3s,mb5.5
SVE MLR MLR
comp=Z,3μm,21.0s,MS5.3
GOR Gori 51.76 316 P **P** **12 29 43.4 +1.0**
GUMO Guam 51.96 81 P **P** **12 29 43.8 -0.5**
comp=Z,40nm,0.6s,mb5.5,baz=176,slow=18,SNR=4.9
GUMO LR LR 12 51 16.0
comp=Z,771nm,18.9s,MS4.8,baz=273,slow=36
GUMO Guam 51.96 81 P **P** **12 29 43.8 -0.5**
GUMO LR LR 12 51 16.0
GUMO Guam 51.96 81 P **P** **12 29 43.8 -0.5**
WRA Warramunga Arr 51.97 126 P **P** **12 29 43.0 -1.3**
comp=Z,12nm,0.5s,mb5.1,baz=305,slow=8.2,SNR=90
WRA S **S** **12 36 59.3 -7.7**
comp=Z,2.8nm,1.1s,baz=298,slow=16,SNR=4.7
WRA LR LR 12 56 06.1
comp=Z,1μm,19.8s,MS4.9,baz=300,slow=41
WRA Warramunga Arr 51.97 126 P **P** **12 29 43.0 -1.3**
WRA S **S** **12 36 59.3 -7.7**
WRA LR LR 12 56 06.1
WRA Warramunga Arr 51.97 126 P **P** **12 29 43.0 -1.2**
WRA S **S** **12 36 59.3 -7.7**
WRAB Tennant Creek 51.97 126 *e*P **P** **12 29 42.7 -1.6**
comp=Z,43nm,0.7s,mb5.5
WRAB Tennant Creek 51.97 126 *e*P **P** **12 29 42.7 -1.6**
WRAB pmax pmax
comp=Z,43nm,0.7s,mb5.5
WRAB Tennant Creek 51.97 126 P **P** **12 29 43.5 -0.8**
comp=Z,414nm,0.8s,SNR=11
WRAB Tennant Creek 51.97 126 P **P** **12 29 43.6 -0.7**
comp=Z,2μmcomp=Z,110nm,0.8s,mb5.8
AKH Akhalkalaki 51.97 315 P **P** **12 29 45.4 +1.4**
WB2 Warramunga Arr 51.98 126 *e*P **P** **12 29 43.2 -1.1**
ARU Arti 52.20 337 *e*P **P** **12 29 45.0 -0.4**
comp=Z,34nm,1.0s,mb5.2
ARU Arti 52.20 337 *d* *i*P **P** **12 29 45.5 +0.1**
ARU 12 30 56.3
ARU *e* 12 31 40.6
ARU PPP 12 32 45.3
ARU S **S** **12 37 09.6 +0.4**
ARU SS SS 12 40 51.1 +4.4
ARU pmax pmax
comp=Z,43nm,1.2s,mb5.2
ARU MLR MLR
comp=Z,3μm,19.0s,MS5.4
ARU Arti 52.20 337 P **P** **12 29 45.7 +0.3**
comp=Z,189nm,0.9s,mb6.0,SNR=12
ZEI Tsey 52.21 316 *e*P **P** **12 29 46.7 +1.0**
ZEI *e* 12 30 54.2
ZEI *e* 12 31 47.8
ZEI *e*PPP 12 32 55.4
ZEI *e*S **S** **12 37 15.9 +6.1**
ZEI pmax pmax
comp=Z,58nm,1.5s,mb5.3
FURI Furi 52.22 273 *e*P **P** **12 29 49.4 +3.2**
comp=Z,269nm,1.9s,mb5.8
CLNS Chul'man 52.52 22 *e*P **P** **12 29 48.2 +0.4**
CLNS *e* 12 30 56.9
CLNS *e* 12 31 47.2
CLNS *e*PPP 12 32 53.5
CLNS *e*S **S** **12 37 10.9 -2.7**
CLNS *e* 12 39 30.1
CLNS pmax pmax
comp=Z,49nm,0.9s,mb5.4
CLNS pmax pmax
comp=N,23nm,1.0s
CLNS pmax pmax
comp=E,26nm,0.9s
CLNS pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
CLNS pmax pmax
comp=N,9.0nm,1.2s
CLNS pmax pmax
comp=E,6.0nm,1.0s
CLNS smax
comp=N,493nm,12.7s
CLNS smax
comp=E,558nm,13.4s
CLNS MLR MLR
comp=Z,2μm,14.0s,MS5.4
CLNS MLR MLR
comp=N,2μm,13.0s,MS5.3
CLNS MLR MLR
comp=E,1μm,13.0s,MS5.3
KIV Kislovodsk 53.48 317 *e*P **P** **12 29 55.9 +0.8**
comp=E,70nm,0.9s,mb5.6
KIV Kislovodsk 53.48 317 *d* *i*P **P** **12 29 56.0 +0.9**
KIV *e* 12 31 57.2
KIV *e*S **S** **12 37 27.4 +0.2**
KIV *e*SS SS 12 41 09.8 +2.3
KIV pmax pmax
comp=Z,80nm,1.1s,mb5.6
KIV pmax pmax
comp=Z,139nm,5.8s
KIV Kislovodsk 53.48 317 P **P** **12 29 56.1 +1.0**
comp=Z,447nm,0.8s,mb6.5,SNR=9.1
KIV Kislovodsk 53.48 317 P **P** **12 29 56.4 +1.3**
SNR=19
ASAR Alice Springs 53.69 130 P **P** **12 29 55.8 -1.1**
comp=Z,51nm,0.9s,mb5.5,baz=308,slow=7.2,SNR=253
ASAR S **S** **12 37 24.8 -5.6**
comp=Z,1.2nm,0.8s,baz=298,slow=13,SNR=6.0
ASAR Alice Springs 53.69 130 P **P** **12 29 55.8 -1.1**
ASAR S **S** **12 37 24.8 -5.6**
ASAR Alice Springs 53.69 130 P **P** **12 29 55.8 -1.1**
ASAR S **S** **12 37 24.8 -5.6**
FORT Forrest 54.18 141 *e*P **P** **12 29 57.8 -2.6**
comp=Z,29nm,0.7s,mb5.3
FORT Forrest 54.18 141 *e*P **P** **12 29 57.8 -2.6**
comp=Z,42nm,0.8s,mb5.4

ASF Jabal al Asfar 54.58 302 P **P** **12 30 04.5 +1.2**
comp=Z,3,3nm,0.6s,mb4.5,baz=114,slow=2.3,SNR=7.0
ASF Jabal al Asfar 54.58 302 P **P** **12 30 04.5 +1.1**
ASF Jabal al Asfar 54.58 302 P **P** **12 30 04.5 +1.1**
ASAJ Asahikawa 54.81 43 P **P** **12 30 05.8 +0.9**
comp=Z,5.5nm,0.5s,mb4.9,baz=348,slow=33,SNR=12
ASAJ Asahikawa 54.81 43 *e*P **P** **12 30 05.8 +1.0**
comp=Z,252nm,2.7s,mb5.8
SOKR Solikamsk 55.15 339 *d*P **P** **12 30 08.5 +1.6**
SOKR S **S** **12 37 40.2 -8.8**
SOKR pmax pmax
comp=Z,50nm,1.0s,mb5.5
SOKR MLR MLR
comp=Z,4μm,25.0s,MS5.4
SOC Sochi 55.35 316 *e*P **P** **12 30 07.1 -1.7**
SOC *e**PP pP 12 30 16.2 +2.0
SOC *e**SP sP 12 30 20.2 +3.9
SOC *e* 12 32 10.3
SOC *e*S **S** **12 37 48.9 -3.5**
SOC pmax pmax
comp=Z,37nm,1.1s,mb5.3
SOC MLR MLR
comp=Z,2μm,21.0s,MS5.1
KMBO Kilima Mbogo 55.43 261 *e*P **P** **12 30 11.2 +1.4**
comp=Z,222nm,2.8s,mb5.7
KMBO Kilima Mbogo 55.43 261 *e*P **P** **12 30 11.2 +1.4**
KMBO pmax pmax
comp=Z,222nm,2.8s
KMBO Kilima Mbogo 55.43 261 P **P** **12 30 12.5 +2.7**
SNR=13
YSS Yuzh-Sakhalins 55.98 40 *e*P **P** **12 30 13.4 +0.3**
comp=Z,46nm,0.8s,mb5.6
YSS Yuzh-Sakhalins 55.98 40‖ *e*P **P** **12 30 13.0 -0.2**
YSS *e* 12 30 21.5
YSS *e*PP PP 12 32 18.0 0.0
YSS *e* 12 39 52.0
YSS *e* 12 41 46.0
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.6
COEN Coen 56.70 115 *e*P **P** **12 30 19.7 +0.9**
comp=Z,112nm,1.1s,mb5.8
YUK Yuzh-Kuril'sk 57.00 44 *d*P **P** **12 30 14.1 -6.4**
YUK *i* 12 32 27.1
YUK *i* PPP 12 33 43.7
YUK *e*S **S** **12 38 09.1 -5.1**
YUK MLR MLR
comp=E,892nm,21.0s
YUK MLR MLR
comp=Z,2μm,21.0s,MS5.2
VRHR Novokhopersk 57.10 325 *e*P **P** **12 30 21.3 +0.2**
VRHR pmax pmax
comp=Z,50nm,0.9s,mb5.5
VRHR pmax pmax
comp=N,50nm,1.1s
VRHR pmax pmax
comp=E,30nm,0.6s
ANN Anapa 57.31 317 *e*P **P** **12 30 21.2 -1.5**
ANN *e*S **S** **12 38 16.2 -2.1**
ANN pmax pmax
comp=Z,26nm,1.3s,mb5.1
YAK Yakutsk 57.97 20 *e*P **P** **12 30 26.3 -0.7**
comp=Z,89nm,0.9s,mb5.8
YAK Yakutsk 57.97 20 *e*P **P** **12 30 26.5 -0.5**
YAK *e**PP pP 12 30 34.1 +1.6
YAK *e* 12 32 45.3
YAK *e*S **S** **12 38 25.4 -1.0**
YAK *e*SS SS 12 42 15.5 -1.9
YAK pmax pmax
comp=Z,79nm,1.0s,mb5.7
YAK pmax pmax
comp=E,29nm,1.4s
YAK pmax pmax
comp=N,35nm,1.4s
YAK pmax pmax
comp=Z,278nm,4.3s
YAK pmax pmax
comp=N,173nm,3.4s
YAK pmax pmax
comp=E,223nm,4.2s
YAK smax
comp=E,369nm,3.6s
YAK smax
comp=N,478nm,4.7s
YAK MLR MLR
comp=N,1μm,14.0s,MS5.3
YAK MLR MLR
comp=Z,2μm,15.0s,MS5.3
YAK MLR MLR
comp=E,933nm,12.0s,MS5.3
CSS Prodhromos 57.98 304 *e*P **P** **12 30 30.3 +2.7**
comp=E,44nm,1.4s,mb5.3
VSR Storozhevoye 58.56 324 *e*P **P** **12 30 30.7 -0.6**
VSR *e**PP pP 12 30 40.0 +3.2
VSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VSR pmax pmax
comp=N,3.0nm,0.4s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR MLR MLR
comp=Z,3μm,19.0s,MS5.4
VSR MLR MLR
comp=N,930nm,15.0s,MS5.2
VSR MLR MLR
comp=E,1μm,17.0s,MS5.2
BR131 Keskin Array S 58.66 310 *e*P **P** **12 30 31.1 -1.1**
comp=E,7.5nm,0.6s,mb4.9
BRTR Keskin Array B 58.66 310 P **P** **12 30 31.6 -0.6**
comp=E,14nm,0.8s,mb5.0,baz=118,slow=7.1,SNR=34
BRTR LR LR 13 01 06.8
comp=E,469nm,18.4s,MS4.6,baz=94,slow=42
BRTR Keskin Array B 58.66 310 P **P** **12 30 31.6 -0.6**
BRTR LR LR 13 01 06.8
BRTR Keskin Array B 58.66 310 P **P** **12 30 31.7 -0.5**
PMG Port Moresby 58.73 108 P **P** **12 30 33.3 +0.1**
comp=E,28nm,0.7s,mb5.4,baz=311,slow=3.7,SNR=11
PMG Port Moresby 58.73 108 *e*P **P** **12 30 33.4 +0.3**
comp=E,50nm,0.8s,mb5.6
PMG Port Moresby 58.73 108 *e*P **P** **12 30 33.4 +0.2**
PMG pmax pmax
comp=Z,50nm,0.8s
PMG Port Moresby 58.73 108 P **P** **12 30 36.6 +3.4**
comp=Z,862nmcomp=Z,52nm,0.9s,mb5.6
SIM Simferopol' 59.60 316 *ce*P **P** **12 30 40.3 +1.6**
SIM *e*PPP 12 34 14.0
SIM *e*S **S** **12 38 51.0 +2.8**
SIM pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
SIM MLR MLR
comp=Z,680nm,18.1s,MS4.8
MOS Moscow 61.27 329 *e*P **P** **12 30 48.6 -1.3**
MOS *e* 12 31 28.4
MOS pmax pmax
comp=Z,111nm,1.1s,mb5.9
MOS pmax pmax
comp=Z,200nm,1.5s,mb6.0
OBN Obninsk 61.56 328 *e*P **P** **12 30 52.2 +0.4**
comp=Z,41nm,0.9s,mb5.6
OBN Obninsk 61.56 328‖ *e*P **P** **12 30 51.7 -0.2**
OBN *e* 12 33 10.3
OBN *i*S **S** **12 39 13.8 +0.9**
OBN *e*SS SS 12 43 21.0 +6.9
OBN pmax pmax
comp=Z,97nm,1.2s,mb5.8
CTA Charters Tower 61.88 120 P **P** **12 30 54.8 +0.2**
comp=Z,21nm,0.9s,mb5.3,baz=292,slow=7.3,SNR=18
CTA LR LR 13 00 01.0
comp=Z,1μm,21.9s,MS5.0,baz=291,slow=38
CTA Charters Tower 61.88 120 *e*P **P** **12 30 54.6 0.0**
comp=Z,18nm,0.9s,mb5.2
CTA *e*S **S** **12 39 11.0 -7.0**
CTA Charters Tower 61.88 120 P **P** **12 30 54.8 +0.2**
CTA LR LR 13 00 00.9
CTA Charters Tower 61.88 120 P **P** **12 30 54.8 +0.2**
CTAO Charters Tower 61.88 120 *e*P **P** **12 30 54.5 -0.1**
comp=Z,38nm,1.0s,mb5.5
CTAO Charters Tower 61.88 120 *e*P **P** **12 30 54.5 -0.1**
CTAO pmax pmax
comp=Z,38nm,1.0s,mb5.5
CTAO Charters Tower 61.88 120 P **P** **12 30 54.8 +0.2**
comp=Z,1μmcomp=Z,43nm,1.6s,mb5.3
KLMR Klimovskoe 62.72 334 *e*P **P** **12 30 58.4 -1.1**
KLMR pmax pmax
comp=Z,93nm,1.4s,mb5.7
KLMR pmax pmax
comp=Z,295nm,5.2s
KLMR MLR MLR
comp=Z,2μm,20.0s,MS5.3
TIRR Tirgusor 63.44 314‖ *j*P **P** **12 31 04.0 -0.6**
TIRR Tirgusor 63.44 314‖ *j*P **P** **12 31 04.0 -0.6**
KIS Kishinev 63.69 317 *e*P **P** **12 31 07.0 +0.8**
KIS LRM 13 01 20.0
comp=Z,500nm,19.0s
STKA Stephens Creek 63.91 134 P **P** **12 31 07.3 -0.6**
comp=Z,32nm,1.0s,mb5.3,baz=313,slow=6.7,SNR=29
STKA LR LR 12 59 52.2
comp=Z,2μm,21.6s,MS5.1,baz=298,slow=37
STKA Stephens Creek 63.91 134 *e*P **P** **12 31 07.2 -0.7**
comp=Z,20nm,0.8s,mb5.2
STKA *e*S **S** **12 39 37.0 -6.1**
STKA Stephens Creek 63.91 134 *e*P **P** **12 31 07.5 -0.4**
comp=Z,23nm,1.5s,mb5.0
STKA Stephens Creek 63.91 134 *e*P **P** **12 31 07.5 -0.4**
STKA pmax pmax
comp=Z,23nm,1.5s
AKASG Malin Array Be 64.31 321 P **P** **12 31 09.0 -1.2**
comp=Z,9.7nm,0.7s,mb5.0,baz=86,slow=5.3,SNR=31
AKASG LR LR 13 06 30.2
comp=Z,602nm,18.2s,MS4.8,baz=110,slow=43
AKASG Malin Array Be 64.31 321 P **P** **12 31 09.0 -1.2**
AKASG LR LR 13 06 30.2
AKASG Malin Array Be 64.31 321 P **P** **12 31 09.0 -1.3**
AKBB Malin Array Si 64.31 321 *e*P **P** **12 31 09.0 -1.2**
AKBB Malin Array Si 64.31 321 *e*P **P** **12 31 09.0 -1.3**
KIEV Kiev 64.32 321 *e*P **P** **12 31 09.1 -1.2**
comp=Z,17nm,0.9s,mb5.1
KIEV Kiev 64.32 321 *e*P **P** **12 31 09.1 -1.2**
KIEV pmax pmax
comp=Z,17nm,0.9s,mb5.1
ISR Istrita 64.87 315‖ *j*P **P** **12 31 15.7 +1.7**
ISR Istrita 64.87 315‖ *i*P **P** **12 31 15.7 +1.7**
VRI Vrincioaia 64.88 316‖ *j*P **P** **12 31 14.6 +0.6**
VRI Vrincioaia 64.88 316‖ *i*P **P** **12 31 14.6 +0.6**
PLOR Plostina 64.93 316‖ *j*P **P** **12 31 14.9 +0.5**
PLOR Plostina 64.93 316‖ *i*P **P** **12 31 14.9 +0.5**
TESR 65.05 316‖ *i*P **P** **12 31 15.1 -0.1**
MLR Muntele Rosu 65.35 315⇑ *j*P **P** **12 31 17.8 +0.7**
MLR Muntele Rosu 65.35 315⇑ *i*P **P** **12 31 17.8 +0.7**
SKR Severo-Kuril's 65.51 39 *e*P **P** **12 31 34.0 +16**
SKR MLR MLR
comp=N,2μm,18.0s,MS5.4
SKR MLR MLR
comp=Z,2μm,18.0s,MS5.4
SKR MLR MLR
comp=E,2μm,20.0s,MS5.4
MICGM Minsk 66.10 325 *e*P **P** **12 31 20.0 -1.8**
MNK Minsk 66.12 325 *e*P **P** **12 31 20.0 -1.9**
BURAR Bucovina Array 66.21 317⇑ *j*P **P** **12 31 23.1 +0.5**
BURAR Bucovina Array 66.21 317⇑ *i*P **P** **12 31 23.1 +0.5**
BUR08 Bucovina Ar. S 66.23 317 *e*P **P** **12 31 22.8 0.0**
MMB Musomiste 66.39 311 *i*P **P** **12 31 21.6 -2.3**
PUL Pulkovo 66.43 331 *ce*P **P** **12 31 25.6 +1.8**
PUL pmax pmax
comp=Z,91nm,0.7s,mb5.9
NACGM Naroch 66.82 325 *e* **P** **12 31 22.0 -4.4**
LOT Lotru 66.86 315‖ *j*P **P** **12 31 26.8 0.0**
VTS Vitosha 66.89 312‖ *j*P **P** **12 31 26.7 -0.4**
VTS Vitosha 66.89 312‖ *i*P **P** **12 31 26.7 -0.4**
VTS Vitosha 66.89 312 P **P** **12 31 25.9 -1.2**
KKB Krupnik 66.91 311 *i*P **P** **12 31 25.4 -1.8**
IDID Didziasalis 66.95 326 AMB AMB 12 31 31.6
comp=Z,39nm,1.2s,mb5.3
PETK Petropavlovsk- 67.02 37 P **P** **12 31 26.9 -0.8**
comp=Z,4.5nm,0.9s,mb4.5,baz=214,slow=6.9,SNR=5.7
PETK LR LR 13 06 13.1
comp=Z,828nm,18.6s,MS5.0,baz=243,slow=41
PETK Petropavlovsk- 67.02 37 P **P** **12 31 26.9 -0.8**
PETK LR LR 13 06 13.1
PETK Petropavlovsk- 67.02 37 P **P** **12 31 26.9 -0.8**
JOF Joensuu 67.11 334 *e*P **P** **12 31 27.5 -0.6**
JOF pmax pmax
comp=Z,38nm,0.8s,mb5.5
JOF Joensuu 67.11 334 *ep* **P** **12 31 27.5 -0.6**
comp=Z,38nm,0.8s,mb5.5
VAY Valandovo 67.23 310 *e*P **P** **12 31 28.2 -1.1**
comp=Z,55nm,1.1s,mb5.5
IIGN Ignalina 67.24 326 *e*P **P** **12 31 29.5 +0.4**
IIGN AMB AMB 12 31 31.3
comp=Z,19nm,1.0s,mb5.1
SEY Seymchan 67.25 26 *ce*P **P** **12 31 29.4 +0.5**
IZAR Zarasai 67.33 326 *e*P **P** **12 31 30.1 +0.5**
IZAR AMB AMB 12 31 31.8
comp=Z,26nm,1.2s,mb5.1
ISAL Salakas 67.35 326 *e*P **P** **12 31 30.1 +0.4**
ISAL AMB AMB 12 31 32.0
comp=Z,20nm,1.2s,mb5.0
LVV L'vov 67.38 320 *e*P **P** **12 31 28.9 -1.1**
LVV *e*S S 12 40 19.3 -5.6
PET Petropavlovsk 67.56 37 *c i*P **P** **12 31 34.3 +3.2**
PET *i*S S 12 40 26.1 -0.9
PET pmax pmax
comp=Z,400nm,13.9s
PET pmax pmax
comp=Z,500nm,6.4s
PET pmax pmax
comp=Z,300nm,12.5s
PET MLR MLR
comp=Z,2μm,19.0s,MS5.3
PET MLR MLR
comp=Z,2μm,17.0s
DRGR 67.77 316⇑ *j*P **P** **12 31 32.8 +0.2**
DRGR 67.77 316⇑ *i*P **P** **12 31 32.8 +0.2**
VSU Vasula 67.79 329 *e*P **P** **12 31 32.1 -0.3**
VSU pmax pmax
comp=Z,50nm,1.2s,mb5.4
LSZ Lusaka 68.05 249 *e*P **P** **12 31 36.0 +1.1**
comp=Z,23nm,1.0s,mb5.2
LSZ Lusaka 68.05 249 *e*P **P** **12 31 36.0 +1.2**
LSZ pmax pmax
comp=Z,23nm,1.0s,mb5.2
LSZ Lusaka 68.05 249 P **P** **12 31 36.2 +1.3**
SNR=9.1
TRPA Tarpa 68.08 318‖ *j*P **P** **12 31 35.3 +0.8**
EIDS Eidsvold 68.12 123 *e*P **P** **12 31 35.3 +0.2**
comp=Z,30nm,1.3s,mb5.2
SKO Skopje 68.14 311 *e*P **P** **12 31 34.3 -0.7**
MOPA Mopani 68.14 239 *e*P **P** **12 31 35.3 +0.1**
BIA Bitola 68.14 310 *e*P **P** **12 31 34.0 -1.1**
KWP Kalwaria Pacla 68.19 319 *e*P **P** **12 31 35.3 +0.1**
comp=Z,50nm,0.9s,mb5.5
KWP Kalwaria Pacla 68.19 319 *e*P **P** **12 31 35.3 +0.1**
KWP pmax pmax
comp=Z,50nm,0.9s,mb5.5
KWP Kalwaria Pacla 68.19 319‖ *j*P **P** **12 31 35.4 +0.2**
APA Apatity 68.20 339⇑ *i*P **P** **12 31 35.0 +0.1**
APA *e*S S 12 40 30.0 -4.2
APA *i*PS 12 40 53.0
APA pmax pmax
comp=Z,52nm,1.0s,mb5.5
APA MLR MLR
comp=Z,3μm,16.0s,MS5.7
KRUS Krusevo 68.23 310 *e*P **P** **12 31 34.2 -1.4**
UZH Uzhgorod 68.31 318‖ *j*P **P** **12 31 37.0 +1.1**
UZH *e* 12 32 00.0
UZH *e* 12 34 13.0
UZH *e*S S 12 40 35.0 -1.2
UZH *e*PS 12 41 04.0
BZS Buzias 68.38 315⇑ *j*P **P** **12 31 36.4 0.0**
BZS Buzias 68.38 315⇑ *i*P **P** **12 31 36.4 0.0**
SUW Suwalki 68.67 324 *e*P **P** **12 31 38.3 +0.2**
SUW Suwalki 68.67 324 *e*P **P** **12 31 37.2 -0.9**
comp=Z,109nm,1.0s,mb5.7
SUW Suwalki 68.67 324 *e*P **P** **12 31 37.2 -0.9**
SUW pmax pmax
comp=Z,109nm,1.0s,mb5.7
FINES FINESS Array B 68.94 332 P **P** **12 31 39.8 +0.2**
comp=Z,28nm,0.8s,mb5.2,baz=103,slow=8.2,SNR=31
FINES LR LR 13 07 20.6
comp=Z,1μm,19.6s,MS5.2,baz=107,slow=41
FINES FINESS Array B 68.94 332 P **P** **12 31 39.8 +0.2**
FINES LR LR 13 07 20.6
FINES FINESS Array B 68.94 332 P **P** **12 31 39.8 +0.2**
KAF Kangasniemi 69.03 333 *e*P **P** **12 31 38.9 -1.3**
KAF pmax pmax
comp=Z,20nm,0.9s,mb5.0
KAF Kangasniemi 69.03 333 *ep* **P** **12 31 38.9 -1.3**
comp=Z,20nm,0.9s,mb5.0
KECS Kecovo 69.48 318 *e*P **P** **12 31 43.2 0.0**
KECS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KECS Kecovo 69.48 318 *e*P **P** **12 31 43.2 0.0**
TOO Toolangi 69.69 137 *e*P **P** **12 31 45.1 +0.5**
comp=Z,72nm,0.8s,mb5.7
TOO *e*S S 12 40 55.9 +3.2
NIE Niedzica 69.71 319 *e*P **P** **12 31 45.3 +0.7**
NIE Niedzica 69.71 319 *e*P **P** **12 31 45.3 +0.7**
PSZ Piszkesteto 69.81 317 *e*P **P** **12 31 44.2 -1.0**
comp=Z,50nm,1.4s,mb5.3
PSZ Piszkesteto 69.81 317 *e*P **P** **12 31 44.2 -1.1**
PSZ pmax pmax
comp=Z,50nm,1.4s,mb5.2
PSZ Piszkesteto 69.81 317⇑ *e*P **P** **12 31 45.3 0.0**
PSZ Piszkesteto 69.81 317‖ *j*P **P** **12 31 45.4 +0.1**
OJC Ojcow 70.14 320 *e*P **P** **12 31 46.9 -0.3**
OJC *ep*P pP 12 31 56.0 +3.2
OJC Ojcow 70.14 320 *e*P **P** **12 31 46.9 -0.3**
OJC *e**PP pP 12 31 56.0 +3.2
BUD Budapest 70.35 317 *e*P **P** **12 31 48.3 -0.3**
VYHS Vyhne 70.57 318 *e*P **P** **12 31 49.6 -0.3**
VYHS pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
VYHS Vyhne 70.57 318 *e*P **P** **12 31 49.6 -0.3**
ARMA Armidale 70.69 128 *e*P **P** **12 31 52.4 +1.5**
ARMA *e*S S 12 41 07.0 +2.2
ARMA Armidale 70.69 128 *e*P **P** **12 31 52.3 +1.3**
OKC Ostrava-Krasne 71.15 319 *e*P **P** **12 31 53.3 -0.1**
OKC *e*S S 12 41 17.7 +8.2
OKC MLR MLR
comp=Z,700nm,18.9s,MS4.9
OKC Ostrava-Krasne 71.15 319 *e*P **P** **12 31 53.3 -0.1**
OKC *e*S S 12 41 17.7 +8.2
OKC AMS AMS 13 11 20.0
comp=Z,700nm,18.9s
KEV Kevo 71.22 341 *e*P **P** **12 31 52.0 -1.4**
KEV pmax pmax
comp=Z,12nm,0.9s,mb4.8
KEV Kevo 71.22 341 *ep* **P** **12 31 52.0 -1.4**
comp=Z,12nm,0.9s,mb4.8
MORC Moravsky Berou 71.54 319 *e*P **P** **12 31 55.6 -0.2**
comp=Z,16nm,1.0s,mb4.9
MORC Moravsky Berou 71.54 319 *e*P **P** **12 31 55.6 -0.1**
MORC pmax pmax
comp=Z,16nm,1.0s,mb4.9
SLR Silverton 71.61 238 *e*P **P** **12 31 57.6 +1.0**
SLR AMS AMS 13 08 06.2
comp=Z,1μm,15.4s,MS5.3
ARCES ARCESS Array B 71.64 340 P **P** **12 31 56.6 +0.7**
comp=Z,16nm,0.8s,mb5.0,baz=93,slow=7.4,SNR=25
ARCES LR LR 13 06 43.2
comp=Z,3μm,22.0s,MS5.4,baz=113,slow=39
ARCES ARCESS Array B 71.64 340 P **P** **12 31 56.6 +0.7**
ARCES LR LR 13 06 43.2
ARCES ARCESS Array B 71.64 340 P **P** **12 31 56.7 +0.7**
ARE0 ARCESS Array S 71.64 340 *e*P **P** **12 32 01.6 +5.6**
ARE0 *e*S S 12 41 17.5 +3.0
ARE0 ARCESS Array S 71.64 340 *e*P **P** **12 31 56.3 +0.4**
ZST Bratislava 71.70 317 *e*P **P** **12 31 57.0 +0.2**
ZST Bratislava 71.70 317 *e*P **P** **12 31 57.0 +0.2**
SOP Sopron 72.03 317⇑ *e*P **P** **12 31 58.8 0.0**
CEL Celeste 72.22 307 *e*P **P** **12 31 59.5 -0.6**
comp=Z,61nm,1.1s,mb5.4
KTK1 Kautokeino 72.25 339 *e*P **P** **12 32 00.9 +1.2**
KTK1 *e*S S 12 41 21.8 +0.3
KTK1 AMS AMS 13 07 28.4
comp=Z,5μm,18.8s,MS5.8
CUC Castrocucco 72.29 309 *e*P **P** **12 31 57.8 -2.7**
comp=Z,6.7nm,0.7s,mb4.7
DPC Dobruska-Polom 72.37 319 *e*P **P** **12 32 00.7 0.0**
DPC *e* 12 42 11.5
DPC MLR MLR
comp=Z,900nm,14.7s,MS5.2
DPC Dobruska-Polom 72.37 319 *e*P **P** **12 32 00.7 0.0**
DPC *e*S S 12 41 31.2 +7.7
DPC *ex* x 12 42 11.5
DPC AMS AMS 13 15 30.0
comp=Z,900nm,14.7s
KSP Ksiaz 72.42 320 *e*P **P** **12 32 01.4 +0.3**
UPC Upice 72.58 320 *e*P **P** **12 32 02.2 +0.2**
UPC Upice 72.58 320 *e*P **P** **12 32 02.2 +0.2**
KSR Koster 72.81 239 *e*P **P** **12 32 06.3 +2.6**
PRYS Parys 72.82 237 *e*P **P** **12 32 04.5 +0.7**
PRYS AMS AMS 13 04 29.7
comp=Z,875nm,16.6s,MS5.1
TREC Trest 72.84 318 *e*P **P** **12 32 03.1 -0.4**
TREC MLR MLR
comp=Z,600nm,14.9s,MS5.0
TREC Trest 72.84 318 *e*P **P** **12 32 03.1 -0.4**
TREC AMS AMS 13 07 50.0
comp=Z,600nm,14.9s
SOKA Soboth 73.02 316⇑ *i*P **P** **12 32 04.7 0.0**
comp=Z,20nm,0.9s,mb5.0
SEK Senekal 73.13 236 *e*P **P** **12 32 06.2 +0.5**
SEK AMS AMS 12 59 57.9
comp=Z,1μm,16.0s,MS5.3
PRU Pruhonice 73.49 319 *e*P **P** **12 32 08.1 +0.7**
PRU *e*S S 12 41 42.4 +6.1
PRU *e* 12 42 15.8
PRU MLR MLR
comp=Z,600nm,15.7s,MS5.0
PRU Pruhonice 73.49 319 *e*P **P** **12 32 08.1 +0.7**
PRU *e*S S 12 41 42.4 +6.1
PRU *e*SKS 12 42 15.8
PRU AMS AMS 13 12 20.0
comp=Z,600nm,15.7s
PVCC Panska Ves 73.50 320 *e*P **P** **12 32 07.7 +0.3**
PVCC Panska Ves 73.50 320 *e*P **P** **12 32 07.7 +0.3**
LBTB Lobatse 73.61 240 *e*P **P** **12 32 09.7 +1.2**
LBTB AMS AMS 13 08 53.5
comp=Z,1μm,16.3s,MS5.2
LBTB Lobatse 73.61 240 *e*P **P** **12 32 09.7 +1.2**
comp=Z,17nm,0.6s,mb5.1
LBTB Lobatse 73.61 240 *e*P **P** **12 32 09.7 +1.2**
LBTB pmax pmax
comp=Z,17nm,0.6s,mb5.2
TRO Tromso 73.89 340 *e*P **P** **12 32 14.1 +4.7**
TRO *e*S S 12 41 46.6 +6.5
TRO AMS AMS 13 07 52.3
comp=Z,3μm,15.5s,MS5.6
GEC2 GERESS Array S 73.99 318 *e*P **P** **12 32 10.1 -0.3**
comp=Z,18nm,1.0s,mb5.0
GEC2 GERESS Array S 73.99 318 *e*P **P** **12 32 10.1 -0.3**
GEC2 pmax pmax
comp=Z,18nm,1.0s,mb5.0
GERES GERESS Array B 73.99 318 P **P** **12 32 10.4 +0.1**
comp=Z,9.9nm,0.7s,mb4.8,baz=90,slow=5.3,SNR=52
GERES LR LR 13 10 21.0
comp=Z,491nm,19.9s,MS4.8,baz=89,slow=40
GERES GERESS Array B 73.99 318 P **P** **12 32 10.4 +0.1**
GERES LR LR 13 10 21.0
GERES GERESS Array B 73.99 318 P **P** **12 32 10.5 +0.1**
KHC Kasperske Hory 74.08 318 *e*P **P** **12 32 10.8 -0.1**
comp=Z,7.4nm,0.8s,mb4.7
KHC Kasperske Hory 74.08 318 *e*P **P** **12 32 09.9 -1.0**
KHC *e*S S 12 41 50.4 +7.4
KHC *e* 12 42 23.1
KHC MLR MLR
comp=Z,700nm,17.6s,MS5.0
KHC Kasperske Hory 74.08 318 *e*P **P** **12 32 09.9 -1.0**
KHC *e*S S 12 41 50.4 +7.4
KHC *ex* x 12 42 23.1
KHC AMS AMS 13 09 40.0
comp=Z,700nm,17.6s
RUE Ruedersdorf 74.09 322 *e*P **P** **12 32 10.5 -0.3**
comp=Z,33nm,0.9s,mb5.3
RUE Ruedersdorf 74.09 322 *e*P **P** **12 32 10.8 0.0**
comp=Z,30nm,0.6s,mb5.4
BILL Bilibino 74.21 22 *e*P **P** **12 32 11.0 -0.2**
comp=Z,30nm,1.2s,mb5.1
BILL Bilibino 74.21 22⇑ *e*P **P** **12 32 11.8 +0.5**
BILL *e* 12 35 00.9
BILL pmax pmax
comp=Z,40nm,1.5s,mb5.1
BILL MLR MLR
comp=Z,1μm,18.0s,MS5.3
FBE Freiberg 74.29 320 *e*P **P** **12 32 12.1 +0.1**
comp=Z,22nm,0.9s,mb5.1
CLL Collm 74.52 320 *e*P **P** **12 32 13.0 -0.4**
comp=Z,13nm,1.2s,mb4.7
CLL Collm 74.52 320 *i*P **P** **12 32 13.3 -0.1**
CLL *i* 12 32 21.2
CLL pmax pmax
comp=Z,30nm,1.4s,mb5.0
CLL MLR MLR
comp=Z,900nm,18.1s,MS5.1

CLL **Collm** 74.52 320 *i* P P 12 32 13.3 -0.1
comp=Z,30nm,1.4s,mb5.0
CLL *i* pP pP 12 32 21.2 +2.2
CLL *e*PP PP 12 35 00.0 +0.1
CLL *e*PPP 12 36 48.0
CLL *e*S S 12 41 56.0 +8.1
CLL *e*PS 12 42 26.0
CLL *e*PPS 12 42 42.0
CLL *e*SS SS 12 46 48.0 +14
CLL *e*SSS 12 50 18.0
CLL LmV 13 11 00.0
comp=Z,900nm,18.1s
WET **Wettzell** 74.54 318 *e*P P 12 32 13.6 0.0
comp=Z,10.0nm,1.0s,mb4.7
WET **Wettzell** 74.54 318 *e*P P 12 32 13.6 0.0
WET pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
RJOB **Jochberg** 74.57 317 *e*P P 12 32 13.0 -0.8
comp=Z,8.0nm,1.2s,mb4.5
SWZ **Schweizer** 74.60 238⇑ *i*P P 12 32 15.5 +1.2
TANN **Tannenbergstha** 74.84 319 *e*P P 12 32 15.3 +0.1
comp=Z,7.0nm,1.2s,mb4.5
NKC **Novy Kostel** 74.84 319 *e*P P 12 32 15.3 0.0
NKC MLR MLR
comp=Z,900nm,15.9s,MS5.2
NKC **Novy Kostel** 74.84 319 *e*P P 12 32 15.3 0.0
NKC AMS AMS 13 11 30.0
comp=Z,900nm,15.9s
WERN **Wernitzgruen** 74.89 319 *e*P P 12 32 15.4 -0.2
comp=Z,9.0nm,1.0s,mb4.7
GUNZ **Gunzen** 74.92 319 *e*P P 12 32 15.5 -0.2
comp=Z,7.0nm,0.9s,mb4.6
BJO **Bjornoya** 74.93 345 *e*S S 12 41 57.0 +5.3
WERD **Werda** 74.94 319 *e*P P 12 32 15.5 -0.3
comp=Z,8.0nm,0.9s,mb4.7
ROTZ **Rotzenmuhle** 74.99 319 *e*P P 12 32 16.4 +0.3
comp=Z,14nm,0.9s,mb4.9
PLN **Plauen** 75.03 319 *e*P P 12 32 16.0 -0.4
comp=Z,79nm,1.6s,mb5.4
BOSA **Boshof** 75.17 236⇓ *i*P P 12 32 18.2 +0.6
BOSA AMS AMS 13 01 20.7
comp=Z,1μm,15.9s,MS5.2
BOSA **Boshof** 75.17 236 P P 12 32 18.4 +0.9
comp=Z,18nm,0.7s,mb5.1,baz=81,slow=6.3,SNR=30
BOSA LR LR 13 01 46.8
comp=Z,1μm,18.0s,MS5.2,baz=71,slow=33
BOSA **Boshof** 75.17 236 *e*P P 12 32 18.2 +0.6
comp=Z,22nm,0.7s,mb5.2
BOSA **Boshof** 75.17 236 *e*P P 12 32 18.2 +0.6
BOSA pmax pmax
comp=Z,22nm,0.7s,mb5.2
NEUB **Neuenburg** 75.29 320 *e*P P 12 32 17.2 -0.6
comp=Z,19nm,1.1s,mb4.9
WTTA **Wattenberg** 75.36 316 *i*P P 12 32 17.5 -0.8
comp=Z,17nm,0.9s,mb5.0,SNR=10
MOX **Moxa** 75.38 320 *e*P P 12 32 18.1 -0.3
comp=Z,7.0nm,0.9s,mb4.6
MOX **Moxa** 75.38 320 *e*P P 12 32 18.1 -0.3
MOX pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
GRF **Grafenberg Arr** 75.63 319 *e*P P 12 32 19.9 +0.1
comp=Z,19nm,0.9s,mb5.0
GRF *e*L 13 10 44.7
comp=Z,794nm,18.8s
GRF **Grafenberg Arr** 75.63 319 *e*P P 12 32 19.9 +0.1
GRF pmax pmax
comp=Z,19nm,0.9s,mb5.0
GRF MLR MLR
comp=Z,800nm,18.8s,MS5.0
GRFO **Grafenberg** 75.63 319 *e*P P 12 32 19.6 -0.2
comp=Z,32nm,0.9s,mb5.2
GRFO **Grafenberg** 75.63 319 *e*P P 12 32 19.6 -0.2
GRFO pmax pmax
comp=Z,32nm,0.9s,mb5.2
HVD **Gariep Dam** 75.71 234 *e*P P 12 32 21.8 +1.2
HVD AMS AMS 13 01 07.3
comp=Z,1μm,22.3s,MS5.2
MOTA **Moosalm** 75.72 316⇓ *i*P P 12 32 19.4 -1.0
comp=Z,17nm,0.8s,mb5.0,SNR=14
NC602 **NORSAR Array S** 75.77 330 *e*P P 12 32 20.8 +0.5
NSS **Namsos** 75.83 334 *e*P P 12 32 20.9 +0.3
NB2 **NORSAR Subarra** 75.94 330 P P 12 32 20.6 -0.8
comp=Z,357nm,2.5s,mb5.8,baz=96,slow=5.6
NOA **NORSAR Array B** 75.94 330 P P 12 32 20.9 -0.5
comp=Z,21nm,1.1s,mb5.0,baz=92,slow=5.7,SNR=18
NOA LR LR 13 09 07.9
comp=Z,1μm,21.1s,MS5.1,baz=100,slow=38
NOA **NORSAR Array B** 75.94 330 P P 12 32 20.9 -0.5
NOA LR LR 13 09 07.9
NOA **NORSAR Array B** 75.94 330 P P 12 32 20.9 -0.5
RETA **Reutte** 75.95 316 *i*P P 12 32 21.1 -0.6
comp=Z,25nm,1.3s,mb5.0,SNR=12
FETA **Feichten** 75.98 316⇑ *i*P P 12 32 21.5 -0.4
comp=Z,20nm,1.1s,mb5.0
CLZ **Clausthal** 76.17 321 *e*P P 12 32 22.6 -0.3
comp=Z,25nm,1.0s,mb5.1
CLZ **Clausthal** 76.17 321 *e*P P 12 32 22.6 -0.3
CLZ pmax pmax
comp=Z,25nm,1.0s,mb5.1
BSEG **Bad Segeberg** 76.21 323 *e*P P 12 32 23.0 -0.1
comp=Z,892nm,4.8s
BSEG **Bad Segeberg** 76.21 323 *e*P P 12 32 23.0 -0.1
BSEG pmax pmax
comp=Z,892nm,4.8s
FX1 **Attu Island--F** 76.26 38 P P 12 32 23.3 -0.1
comp=Z,11nm,0.5s,mb5.0,baz=270,slow=7.1,SNR=4.7
FX1 LR LR 13 10 53.0
comp=Z,668nm,18.5s,MS5.0,baz=100,slow=40
FX1 **Attu Island--F** 76.26 38 P P 12 32 23.3 -0.1
FX1 LR LR 13 10 53.0
FX1 **Attu Island--F** 76.26 38 P P 12 32 23.3 -0.1
NRDL **Niedersach Rie** 76.33 322 *e*P P 12 32 23.4 -0.4
comp=Z,20nm,1.5s,mb4.8
SPA0 **Spitsbergen Ar** 76.42 348 *e*P P 12 32 24.4 +0.5
SPA0 *e*S S 12 42 09.6 +1.5
SPA0 *e*SS SS 12 47 11.4 +9.2
SPB4 **Spitsbergen Ar** 76.42 348 *e*P P 12 32 23.9 +0.1
DAVA **Damuels** 76.55 316⇑ *i*P P 12 32 24.3 -0.8
comp=Z,25nm,0.6s,mb5.3,SNR=28
KONO **Kongsberg** 76.69 329 AMS AMS 13 10 23.7
comp=Z,2μm,24.1s,MS5.2
TUE **Stuetta** 76.94 315 *e*P P 12 32 26.7 -0.6
comp=Z,9.3nm,0.6s,mb4.9
STU **Stuttgart** 76.97 318 *e*P P 12 32 27.1 -0.4
comp=Z,16nm,0.6s,mb5.1
STU **Stuttgart** 76.97 318 *e*P P 12 32 27.1 -0.4
STU pmax pmax
comp=Z,16nm,0.6s,mb5.1
MIR **Mirnyy** 77.23 179 *e*P P 12 32 28.0 -0.4
MIR pmax pmax
comp=Z,38nm,1.4s,mb5.1
SPAK **Spaichingen-Ko** 77.26 317 *e*P P 12 32 27.2 -1.9
PGF **Pioggiola** 77.37 311 *e*P P 12 32 29.9 +0.1
TNS **Taunus Mts** 77.41 319 *e*P P 12 32 30.0 +0.1
comp=Z,162nm,3.2s
TNS **Taunus Mts** 77.41 319 *e*P P 12 32 30.0 +0.1
TNS pmax pmax
comp=Z,162nm,3.2s
KBS **Kingsbay** 77.42 349 *e*P P 12 32 34.2 +4.7
KBS AMS AMS 13 17 04.5
comp=Z,1μm,19.6s,MS5.2
KBS **Kingsbay** 77.42 349 *ce*P P 12 32 29.0 -0.5
KBS pmax pmax
comp=Z,81nm,2.5s,mb5.2
KEST **Kesra** 77.56 304 P P 12 32 30.9 -0.1
comp=Z,9.7nm,0.9s,mb4.7,baz=304,slow=1.1,SNR=23
KEST LR LR 13 09 19.8
comp=Z,216nm,18.2s,MS4.5,baz=334,slow=38
KEST **Kesra** 77.56 304 *e*P P 12 32 30.8 -0.2
BFO **Black Forest** 77.56 317 *e*P P 12 32 30.2 -0.6
comp=Z,13nm,1.0s,mb4.8
BFO **Black Forest** 77.56 317 *e*P P 12 32 30.1 -0.7
comp=Z,15nm,1.0s,mb4.9
BFO **Black Forest** 77.56 317 *e*P P 12 32 30.2 -0.6
BFO pmax pmax
comp=Z,13nm,1.0s,mb4.8
BFO **Black Forest** 77.56 317 P P 12 32 30.6 -0.2
comp=Z,78nm,1.0s,mb5.6,SNR=7.6
IBBN **Ibbenburen** 77.78 321 *e*P P 12 32 31.4 -0.5
comp=Z,13nm,1.1s,mb4.8
FELD **Feldberg im Sc** 77.80 317 *e*P P 12 32 31.3 -0.8
LANF **Langenberg** 77.88 318 *e*P P 12 32 32.0 -0.5
LANF **Langenberg** 77.88 318 *e*P P 12 32 32.0 -0.5
LANF **Langenberg** 77.88 318 *e*P P 12 32 32.0 -0.5
BUG **Bochum--Univer** 78.11 320 *e*P P 12 32 33.4 -0.4
comp=Z,111nm,2.4s,mb5.4

CASY **Casey** 78.19 172 *e*P P 12 32 33.4 -0.4
CASY **Casey** 78.19 172 *e*P P 12 32 33.1 -0.7
comp=Z,32nm,1.4s,mb5.1
CDF **Champ du Feu** 78.26 317 *e*P P 12 32 33.9 -0.8
comp=Z,22nm,0.9s,mb4.8
RUP **Ruppelstein** 78.33 319 *e*P P 12 32 33.7 -1.3
RUP **Ruppelstein** 78.33 319 *e*P P 12 32 33.7 -1.3
ECH **Echery** 78.35 317 *e*P P 12 32 36.2 +1.0
comp=Z,15nm,1.4s,mb4.7
ECH **Echery** 78.35 317 *e*P P 12 32 36.2 +1.0
ECH pmax pmax
comp=Z,15nm,1.4s,mb4.7
MOF **Molkenrain** 78.39 317 *e*P P 12 32 34.2 -1.2
MOF **Molkenrain** 78.39 317 *e*P P 12 32 34.2 -1.2
MOF **Molkenrain** 78.39 317 *e*P P 12 32 34.2 -1.2
SBF **Sospel** 78.43 313 *e*P P 12 32 35.0 -0.7
HINF **Hinteralfeld** 78.58 317 *e*P P 12 32 35.7 -0.7
comp=Z,17nm,0.9s,mb4.7
LPG **La Plagne** 78.80 314 *e*P P 12 32 37.6 -0.1
comp=Z,29nm,0.6s,mb5.1
LPL **La Plagne** 78.81 314 *e*P P 12 32 37.6 -0.2
comp=Z,66nm,0.7s,mb5.3
MBDF **Montbardon** 78.84 314 *e*P P 12 32 37.7 -0.3
comp=Z,30nm,0.8s,mb5.0
TSUM **Tsumeb** 78.88 248 *e*P P 12 32 40.1 +1.5
comp=Z,81nm,2.0s,mb5.3
BNI **Bardonecchia** 78.89 314 *e*P P 12 32 37.4 -0.8
comp=Z,18nm,0.8s,mb5.1
BNI **Bardonecchia** 78.89 314 *e*P P 12 32 37.4 -0.8
BNI pmax pmax
comp=Z,18nm,0.8s,mb5.0
HAU **Haudompre** 78.90 317 *e*P P 12 32 37.5 -0.7
comp=Z,49nm,0.9s,mb5.1
HAU *e*R
comp=Z,720nm,21.2s
WLF **Walferdange** 78.92 319 P P 12 32 39.3 +1.1
comp=Z,23nm,1.9s,mb4.8
MEM **Membach** 78.95 320 P P 12 32 38.6 +0.2
FRF **La Foret Royal** 79.02 312 *e*P P 12 32 37.5 -1.5
comp=Z,61nm,1.2s,mb5.1
LMR **La Mourre** 79.14 312 *e*P P 12 32 38.9 -0.7
CABF **La Chapelle** 79.18 316 *e*P P 12 32 39.6 -0.2
comp=Z,74nm,1.1s,mb5.2
PAGF **Fort de Pagny** 79.28 318 *e*P P 12 32 39.7 -0.6
comp=Z,9.9nm,0.9s,mb4.4
BCLA **Clavier** 79.42 319 P P 12 32 42.6 +1.6
ORIF **Oris-en-Rattie** 79.46 314 *e*P P 12 32 41.0 -0.3
comp=Z,22nm,0.7s,mb4.9
ORIF *e*R
comp=Z,859nm,20.2s
MEZF **Maizieres J'vi** 79.73 318 *e*P P 12 32 42.1 -0.6
comp=Z,55nm,1.1s,mb5.1
GIVF **Givet** 79.75 319 *e*P P 12 32 42.3 -0.5
SMRF **Simiane la Rot** 79.76 313 *e*P P 12 32 42.2 -0.8
comp=Z,19nm,0.8s,mb4.8
SFTF **Sexfontaines** 79.76 317 *e*P P 12 32 42.3 -0.6
comp=Z,92nm,1.0s,mb5.4
DOU **Dourbes** 79.89 319 P P 12 32 44.1 +0.6
comp=Z,28nm,3.8s
SNF **Seneffe** 80.06 320 P P 12 32 44.7 +0.2
comp=Z,24nm,2.5s,mb4.7
SUR **Sutherland** 80.08 234 *e*P P 12 32 46.6 +1.7
comp=Z,92nm,1.4s,mb5.5
SUR **Sutherland** 80.08 234 P P 12 32 46.8 +1.9
comp=Z,197nm,0.7s,mb6.2,SNR=5.1
BAIF **Baives** 80.14 319 *e*P P 12 32 44.6 -0.3
comp=Z,53nm,1.1s,mb5.1
DZM **Mont Dzumac** 80.23 115 *e*P P 12 32 46.7 +0.8
comp=Z,47nm,1.4s,mb5.2
DZM *e*S S 12 42 44.7 -6.2
comp=Z,466nm,24.6s
DZM *e*SS SS 12 48 00.5 -1.8
comp=Z,620nm,34.0s
DZM *e*LR LR 12 57 52.1
comp=Z,1μm,25.2s
DZM **Mont Dzumac** 80.23 115 *e*P P 12 32 46.3 +0.4
VIVF **Saint-Julien-l** 80.32 314 *e*P P 12 32 45.5 -0.5
comp=Z,43nm,0.7s,mb5.2
SSB **Saint Sauveur** 80.37 314 *e*P P 12 32 46.0 -0.3
comp=Z,15nm,0.6s,mb5.1
SSB **Saint Sauveur** 80.37 314 *e*P P 12 32 46.0 -0.3
SSB pmax pmax
comp=Z,15nm,0.6s,mb5.1
LOR **Lormes** 80.64 316 *e*P P 12 32 47.0 -0.7
comp=Z,60nm,0.9s,mb5.2
LOR *e*R
comp=Z,719nm,22.2s
SMF **Signal de Mont** 80.72 316 *e*P P 12 32 47.3 -0.8
comp=Z,26nm,0.6s,mb5.0
SSF **Saint Saulge** 80.90 316 *e*P P 12 32 48.5 -0.6
comp=Z,20nm,0.7s,mb4.8
PLDF **La Plantade** 80.94 315 *e*P P 12 32 49.3 0.0
PLDF **La Plantade** 80.94 315 *e*P P 12 32 49.3 0.0
PLDF **La Plantade** 80.94 315 *e*P P 12 32 49.3 0.0
LASF **Ste Croix** 80.98 313 *e*P P 12 32 49.5 -0.1
comp=Z,42nm,0.8s,mb5.1
MAW **Mawson** 80.99 191 P P 12 32 49.1 +0.2
comp=Z,8.0nm,0.8s,mb4.7,baz=11,slow=8.6,SNR=14
MAW LR LR 13 04 01.2
comp=Z,546nm,18.1s,MS5.0,baz=28,slow=32
MAW **Mawson** 80.99 191 *e*P P 12 32 49.2 +0.2
comp=Z,6.3nm,0.7s,mb4.7
MAW **Mawson** 80.99 191 *e*P P 12 32 49.1 +0.1
comp=Z,2.0nm,0.8s,mb4.1
MAW **Mawson** 80.99 191 *e*P P 12 32 49.1 +0.1
MAW pmax pmax
comp=Z,2.0nm,0.8s
AVF **Avril sur Loir** 81.04 316 *e*P P 12 32 49.0 -0.8
comp=Z,22nm,0.6s,mb5.0
AGO **Saint Agoulin** 81.27 315 *e*P P 12 32 51.0 -0.1
AGO **Saint Agoulin** 81.27 315 *e*P P 12 32 51.0 -0.1
PYM **Petit Puy Mans** 81.39 315 *e*P P 12 32 51.5 -0.2
PYM **Petit Puy Mans** 81.39 315 *e*P P 12 32 51.5 -0.2
PYM **Petit Puy Mans** 81.39 315 *e*P P 12 32 51.5 -0.2
BGF **Bois d'Agland** 81.41 316 *e*P P 12 32 51.5 -0.3
comp=Z,31nm,0.8s,mb5.0
TCF **Toulx Ste Croi** 81.88 316 *e*P P 12 32 54.1 -0.2
comp=Z,47nm,1.2s,mb5.0
CAF **Calviac** 82.16 314 *e*P P 12 32 55.7 -0.1
comp=Z,27nm,0.9s,mb4.9
MTLF **Montlieu** 82.25 313 *e*P P 12 32 56.1 -0.2
comp=Z,37nm,0.7s,mb5.1
TAM **Tamanrasset** 82.37 292 *e*P P 12 32 58.6 +1.3
comp=Z,25nm,1.2s,mb5.0
TAM **Tamanrasset** 82.37 292 *e*P P 12 32 58.7 +1.4
TAM pmax pmax
comp=Z,25nm,1.2s,mb5.0
RJF **Les Rejaudoux** 82.49 315 *e*P P 12 32 57.5 0.0
comp=Z,46nm,0.9s,mb5.1
RJF *e*R
comp=Z,575nm,21.2s
LFF **La Frestale** 83.08 314 *e*P P 12 33 00.6 0.0
comp=Z,43nm,1.0s,mb5.2
JMIC **Jan Mayen** 83.10 341 *e*P P 12 33 06.4 +6.3
JMIC *e*S S 12 43 18.9 +0.1
LDF **La Druitiere** 83.13 318 *e*P P 12 33 00.0 -0.8
comp=Z,17nm,0.6s,mb5.0
FLN **La Foliniere** 83.34 318 *e*P P 12 33 01.1 -0.7
comp=Z,35nm,0.9s,mb5.1
FLN *e*R
comp=Z,821nm,22.2s
XAL **Allendale** 83.44 325 *e*P P 12 33 00.3 -1.8
MFF **Saint Martin d** 83.45 316 *e*P P 12 33 01.8 -0.6
comp=Z,48nm,0.7s,mb5.3
GRR **Gorron** 83.65 318 *e*P P 12 33 02.9 -0.5
EPF **Esparros** 83.66 312 *e*P P 12 33 03.2 -0.4
comp=Z,9.8nm,0.8s,mb4.7
RESF **Ens** 83.69 312 *e*P P 12 33 03.8 0.0
RESF **Ens** 83.69 312 *e*P P 12 33 03.8 0.0
ESK **Eskdalemuir** 83.92 325 *e*P P 12 33 03.9 -0.8
DAG **Danmarks Havn** 84.04 347 *i*P P 12 33 03.8 -1.1
HLM1 **Long Mynd** 84.23 322 *e*P P 12 33 04.8 -1.5
HLM1 AMB AMB 12 33 15.1
comp=Z,37nm,2.3s,mb5.1
ETSF **Etsaut** 84.33 312 *e*P P 12 33 07.1 +0.1
comp=Z,16nm,0.7s,mb5.0
HGH **Gray Hill** 84.34 321 *e*P P 12 33 05.8 -1.1
FOEL **Foel Wylfa** 84.35 323 *e*P P 12 33 05.1 -1.8
FOEL AMB AMB 12 33 11.7
comp=Z,52nm,1.4s,mb5.5
MCH1 **Michaelchurch** 84.39 322 AMB AMB 12 33 21.4
comp=Z,83nm,2.6s,mb5.4
MCH1 **Michaelchurch** 84.39 322 AMB AMB 12 33 21.4
comp=Z,83nm,2.6s,mb5.4
SJPF **Ste Jean** 84.78 313 *e*P P 12 33 09.4 +0.1
comp=Z,17nm,0.7s,mb5.0

SGMF **Saint Gilles** 84.79 318 *e*P P 12 33 08.6 -0.6
comp=Z,18nm,0.8s,mb5.0
KPL **Plockton** 84.87 327 *e*P P 12 33 07.9 -1.5
KPL AMB AMB 12 33 12.3
comp=Z,156nm,3.2s
ROSF **Rostrenen** 85.24 318 *e*P P 12 33 10.8 -0.7
comp=Z,29nm,0.9s,mb5.1
QUIF **Quistinic** 85.25 318 *e*P P 12 33 10.6 -1.0
comp=Z,7.8nm,0.5s,mb4.8
ALE **Alert** 85.99 357 P P 12 33 14.0 -0.6
comp=Z,79nm,0.8s,mb6.0,SNR=8.6
ESDC **Sonseca Array** 87.45 310 P P 12 33 22.8 +0.2
comp=Z,2.5nm,0.6s,mb4.6,baz=61,slow=5.1,SNR=16
ESDC LR LR 13 18 08.9
comp=Z,253nm,19.8s,MS4.6,baz=90,slow=40
ESDC **Sonseca Array** 87.45 310 P P 12 33 22.8 +0.2
ESDC LR LR 13 18 08.9
ESLA **Sonseca Array** 87.45 310 *e*P P 12 33 22.6 +0.1
comp=Z,12nm,0.8s,mb4.2
SYO **Syowa Base** 87.57 197⇓ *e*P P 12 33 21.6 -0.7
SYO **Syowa Base** 87.57 197⇓ *e*PcZP 12 33 25.2
TORD **Torodi Ar. Bea** 87.57 283 P P 12 33 23.8 +0.2
comp=Z,4.4nm,0.9s,mb4.7,baz=87,slow=4.5,SNR=27
TORD PP PP 12 36 49.7 +0.9
comp=Z,2.8nm,1.0s,baz=91,slow=6.7,SNR=4.5
TORD PKKPbc PKKPbc 12 51 11.4 -0.5
comp=Z,0.5nm,0.5s,baz=288,slow=1.8,SNR=5.6
TORD LR LR 13 12 37.1
comp=Z,930nm,21.6s,MS5.2,baz=60,slow=36
TORD **Torodi Ar. Bea** 87.57 283 P P 12 33 23.8 +0.2
TORD PP PP 12 36 49.7 +0.9
TORD PKKPbc PKKPbc 12 51 11.4 -0.5
TORD LR LR 13 12 37.1
PAB **San Pablo** 87.77 310 *e*P P 12 33 23.8 -0.3
comp=Z,10.0nm,1.1s,mb5.0
PAB **San Pablo** 87.77 310 *e*P P 12 33 23.8 -0.3
PAB pmax pmax
comp=Z,10.0nm,1.1s,mb5.0
PBRG **Braganca** 89.04 312 *e*LR LR 13 05 14.0
comp=Z,358nm,22.0s
MVO **Moncorvo** 89.40 312 *e*P P 12 33 32.6 +0.8
comp=Z,20nm,2.6s,mb5.0
MVO **Moncorvo** 89.40 312 *e*PP PP 12 37 00.2 -2.4
MVO **Moncorvo** 89.40 312 *e*SS SS 12 50 25.3 +9.2
MVO **Moncorvo** 89.40 312 *e*LR LR 13 04 50.1
comp=Z,353nm,20.0s
POLO **Lamas de Olo** 89.91 312 *e*PP PP 12 37 04.5 -2.2
POLO **Lamas de Olo** 89.91 312 *e*LR LR 13 05 29.6
comp=Z,200nm,20.0s
MTE **Manteigas** 89.96 311 *e*P P 12 33 35.1 +0.7
comp=Z,18nm,1.1s,mb5.3
MTE **Manteigas** 89.96 311 *e*P P 12 33 33.2 -1.2
comp=Z,31nm,2.2s,mb5.2
MTE **Manteigas** 89.96 311 *e*PP PP 12 36 57.4 -10
MTE **Manteigas** 89.96 311 *e*SS SS 12 50 26.6 +2.3
MTE **Manteigas** 89.96 311 *e*LR LR 13 05 24.7
comp=Z,268nm,18.0s
PCBR **Castelo Branco** 90.05 311 *e*P P 12 33 35.3 +0.5
comp=Z,19nm,1.4s,mb5.2
PMRV **Marv??o** 90.09 310 *e*P P 12 33 35.1 +0.1
comp=Z,28nm,1.4s,mb5.4
PMRV **Marv??o** 90.09 310 *e*PP PP 12 37 06.5 -1.7
PMRV **Marv??o** 90.09 310 *e*SS SS 12 50 31.4 +5.2
PMRV **Marv??o** 90.09 310 *e*LR LR 13 05 06.1
comp=Z,279nm,20.0s
PGAV **Gavieira, Arco** 90.10 313 *e*PP PP 12 37 15.8 +7.6
PGAV **Gavieira, Arco** 90.10 313 *e*SS SS 12 50 24.9 -1.4
PGAV **Gavieira, Arco** 90.10 313 *e*LR LR 13 05 29.1
comp=Z,371nm,20.0s
PBAR **Barrancos** 90.12 309 *e*P P 12 33 35.9 +0.7
comp=Z,45nm,1.7s,mb5.5
PBAR **Barrancos** 90.12 309 *e*LR LR 13 04 09.8
comp=Z,363nm,18.0s
PVIS **Viseu** 90.14 311 *e*P P 12 33 35.5 +0.2
comp=Z,24nm,2.0s,mb5.2
PESTR **Estremoz** 90.37 310 *e*P P 12 33 36.2 -0.2
comp=Z,20nm,2.0s,mb5.1
PESTR **Estremoz** 90.37 310 *e*LR LR 13 05 12.6
comp=Z,389nm,20.0s
SUMG **Summit** 90.69 347 *e*P P 12 33 38.1 +1.0
comp=Z,28nm,1.0s,mb5.5
SUMG **Summit** 90.69 347 *e*P P 12 33 38.1 +1.0
SUMG pmax pmax
comp=Z,28nm,1.0s
SUMG **Summit** 90.69 347⇓ *i*P P 12 33 38.8 +1.7
comp=Z,18nm,1.1s,mb5.3
EVO **Evora** 90.78 309 *e*P P 12 33 38.9 +0.6
comp=Z,32nm,1.1s,mb5.3
EVO *e*R
comp=Z,490nm,20.2s
EVO **Evora** 90.78 309 *e*P P 12 33 38.7 +0.4
comp=Z,23nm,2.5s,mb5.1
PBEJ **Beja** 90.79 309 *e*P P 12 33 39.5 +1.2
comp=Z,19nm,1.3s,mb5.3
PTOM **Tomar** 90.80 310 *e*P P 12 33 39.0 +0.7
comp=Z,46nm,1.3s,mb5.7
PVAQ **Vaqueiros** 90.83 308 *e*P P 12 33 39.6 +1.1
comp=Z,54nm,1.5s,mb5.7
PVAQ **Vaqueiros** 90.83 308 *e*PP PP 12 36 57.3 -17
PVAQ **Vaqueiros** 90.83 308 *e*SS SS 12 50 44.7 +7.6
PVAQ **Vaqueiros** 90.83 308 *e*LR LR 13 05 47.3
comp=Z,288nm,20.0s
PCVE **Castro Verde** 91.02 308 *e*PP PP 12 37 09.3 -6.3
PCVE **Castro Verde** 91.02 308 *e*SS SS 12 50 44.6 +4.8
PCVE **Castro Verde** 91.02 308 *e*LR LR 13 06 04.4
comp=Z,324nm,18.0s
PBDV **Barranco-do-Ve** 91.03 308 *e*PP PP 12 37 08.9 -6.9
PBDV **Barranco-do-Ve** 91.03 308 *e*SS SS 12 50 48.2 +8.2
PBDV **Barranco-do-Ve** 91.03 308 *e*LR LR 13 08 55.7
comp=Z,391nm,18.0s
SVW2 **Sparrevohn** 91.17 27 *e*P P 12 33 41.5 +1.9
comp=Z,34nm,1.0s,mb5.6
PNCL **Nicolau / Gran** 91.28 309 *e*P P 12 33 41.4 +0.8
comp=Z,36nm,1.4s,mb5.5
PNCL **Nicolau / Gran** 91.28 309 *e*PP PP 12 37 24.3 +6.7
PNCL **Nicolau / Gran** 91.28 309 *e*SS SS 12 50 43.2 -0.2
PNCL **Nicolau / Gran** 91.28 309 *e*LR LR 13 05 57.1
comp=Z,309nm,18.0s
PTEO **Sao Teotonio** 91.57 309 *e*P P 12 33 42.6 +0.6
comp=Z,64nm,1.6s,mb5.7
MORF **Marmelete** 91.57 308 *e*PP PP 12 37 27.9 +7.9
MORF **Marmelete** 91.57 308 *e*LR LR 13 09 20.7
comp=Z,374nm,18.0s
PMAFR **Mafra** 91.63 310 *e*PP PP 12 37 26.4 +6.0
PMAFR **Mafra** 91.63 310 *e*SS SS 12 50 50.9 +2.4
PMAFR **Mafra** 91.63 310 *e*LR LR 13 05 50.2
comp=Z,277nm,18.0s
BPAW **Bear Paw Mtn.** 91.69 23 *e*P P 12 33 42.1 +0.2
comp=Z,26nm,0.9s,mb5.6
PFVI **Vila Bisbo** 91.75 308 *e*PP PP 12 37 31.7 +10
PFVI **Vila Bisbo** 91.75 308 *e*SS SS 12 50 53.0 +2.6
PFVI **Vila Bisbo** 91.75 308 *e*LR LR 13 05 58.3
comp=Z,373nm,18.0s
PPLA **Purkeypile** 91.80 24 *e*P P 12 33 42.9 +0.5
comp=Z,30nm,1.2s,mb5.5
TRF **Thorofare Moun** 92.28 23 *e*P P 12 33 44.7 0.0
comp=Z,13nm,0.9s,mb5.3
COLA **College** 92.46 22 *e*P P 12 33 44.9 -0.6
comp=Z,4.9nm,1.0s,mb4.8
COLA **College** 92.46 22 *e*P P 12 33 44.9 -0.6
COLA pmax pmax
comp=Z,5.0nm,1.0s,mb4.8
MCK **McKinley** 92.66 23 *e*P P 12 33 45.8 -0.6
comp=Z,22nm,1.0s,mb5.5
MCK **McKinley** 92.66 23 *e*P P 12 33 45.8 -0.6
MCK pmax pmax
comp=Z,23nm,1.0s,mb5.6
ILAR **Eielson Array** 92.87 21 P P 12 33 46.1 -1.2
comp=Z,4.9nm,0.8s,mb5.0,baz=293,slow=4.3,SNR=41
ILAR PP PP 12 37 30.5 +1.3
comp=Z,0.6nm,0.4s,baz=302,slow=6.3,SNR=13
ILAR PKKPbc PKKPbc 12 51 01.6 +1.4
comp=Z,0.4nm,0.8s,baz=151,slow=1.1,SNR=5.8
ILAR LR LR 13 23 09.2
comp=Z,956nm,18.1s,MS5.3,baz=132,slow=40
ILAR **Eielson Array** 92.87 21 P P 12 33 46.1 -1.2
ILAR PP PP 12 37 30.5 +1.3
ILAR PKKPbc PKKPbc 12 51 01.6 +1.4
ILAR LR LR 13 23 09.2
ILAR **Eielson Array** 92.87 21 P P 12 33 46.2 -1.1
ILAR 12 37 30.5
ILAR 12 51 01.6
PMR **Palmer** 93.69 25 *e*P P 12 33 50.6 -0.5
comp=Z,8.8nm,0.7s,mb5.3
PMR **Palmer** 93.69 25 *e*P P 12 33 50.7 -0.5
PMR pmax pmax

comp=Z,9.0nm,0.7s,mb5.3
RC01 Rabbit Creek A 93.69 25 *e*P **P 12 33 50.9 -0.3**
comp=Z,32nm,1.0s,mb5.7
OHAK Old Harbor 93.93 30 *e*P **P 12 33 53.0 +0.6**
comp=Z,50nm,1.1s,mb5.9
KDAK Kodiak Island 94.01 29 P **P 12 33 52.7 -0.1**
comp=Z,17nm,0.8s,mb5.5,baz=242,slow=2.6,SNR=8.4
KDAK Kodiak Island 94.01 29 P **P 12 33 52.7 -0.1**
KDAK Kodiak Island 94.01 29 P **P 12 33 52.7 -0.1**
RES Resolute Bay 94.50 2 *e*P **P 12 33 55.0 +0.3**
comp=Z,19nm,0.9s,mb5.5
RES Resolute Bay 94.50 2 *e*P **P 12 33 55.0 +0.3**
RES pmax pmax
comp=Z,19nm,0.9s,mb5.5
DOT Dot Lake 94.52 22 *e*P **P 12 33 54.9 -0.1**
comp=Z,16nm,0.8s,mb5.5
INK Inuvik 94.77 15 P **P 12 33 55.2 -0.8**
comp=Z,4.5nm,0.8s,mb5.0,baz=328,slow=6.8,SNR=21
INK Inuvik 94.77 15 *e*P **P 12 33 55.4 -0.6**
comp=Z,11nm,1.1s,mb5.2
INK Inuvik 94.77 15 *e*P **P 12 33 55.4 -0.6**
INK pmax pmax
comp=Z,11nm,1.1s
MENT Mentasta 95.06 22 *e*P **P 12 33 58.2 +0.8**
DBIC Dimbokro 95.14 278 P **P 12 33 59.8 +0.9**
comp=Z,5.7nm,1.0s,mb5.0,baz=303,slow=1.7,SNR=3.6
DBIC LR LR 13 18 55.2
comp=Z,599nm,18.3s,MS5.1,baz=48,slow=37
DBIC Dimbokro 95.14 278 P **P 12 33 59.8 +0.9**
DBIC LR LR 13 18 55.2
DBIC Dimbokro 95.14 278 P **P 12 33 59.8 +0.9**
SBA Scott Base 97.45 168 *e*P **P 12 34 08.9 +1.0**
comp=Z,91nm,2.4s,mb5.8
SBA Scott Base 97.45 168 *e*P **P 12 34 08.9 +1.0**
SBA pmax pmax
comp=Z,91nm,2.4s,mb5.8
FFC Flin Flon 113.63 9 *i* PKIKP PKiKP 12 39 12.2 -0.9
HUMO Hull Mountain 118.04 28 *e*PKPdf PKPdf 12 39 21.8 -0.1
MOD Modoc 119.81 27 *e*PKPdf PKPdf 12 39 25.7 +0.3
MFID Camas Ranch 120.42 23 *e*PKPdf PKPdf 12 39 26.8 +0.3
PPT Papeete 120.44 104 *e*PP PP 12 40 49.4 -4.5
comp=Z,73nm,24.0s
PPT Papeete 120.44 104 *e*PS PS 12 50 40.3 -4.8
PPT eLR LR 13 16 30.7
comp=Z,1μm,31.5s
TBI Tubuai 120.63 111 *e*PS PS 12 50 40.9 -5.7
comp=Z,202nm,26.0s
TBI *e*SS SS 12 57 24.6 -0.5
comp=Z,331nm,36.5s
TBI eLR LR 13 16 25.7
comp=Z,962nm,37.2s
HLID Hailey 120.82 22 *e*PKPdf PKPdf 12 39 27.5 +0.2
RLMT Red Lodge 121.13 17 *e*PKPdf PKPdf 12 39 28.5 +0.7
LOHW Long Hollow 122.09 19 *e*PKPdf PKPdf 12 39 29.7 0.0
WCN Washoe City 122.13 29 *e*PKPdf PKPdf 12 39 30.2 +0.3
WCN Washoe City 122.13 29 *e*PKIKP PKPdf 12 39 30.2 +0.3
SNOW Snow King Moun 122.17 19 *e*PKPdf PKPdf 12 39 30.4 +0.5
REDW Red Top Meadow 122.23 19 *e*PKPdf PKPdf 12 39 30.1 +0.1
CMB Columbia Colle 122.83 30 *e*PKPdf PKPdf 12 39 30.2 -1.1
CMB Columbia Colle 122.83 30 *e*PKIKP PKPdf 12 39 30.2 -1.1
PD01 Pinedale Array 123.16 19 *e*PKPdf PKPdf 12 39 31.2 -0.6
PD02 Pinedale Array 123.17 19 *e*PKPdf PKPdf 12 39 31.3 -0.5
PDAR Pinedale Array 123.18 19 PKP PKPdf 12 39 31.6 -0.3
comp=Z,3.0nm,0.9s,baz=45,slow=1.5,SNR=20
PDAR Pinedale Array 123.18 19 PKP PKPdf 12 39 31.6 -0.3
NVAR Mina Array Bea 123.51 28 PKP PKPdf 12 39 33.5 +1.0
comp=Z,4.7nm,0.7s,baz=283,slow=1.7,SNR=37
NVAR PKKPbc PKKPbc 12 49 21.6 -0.5
comp=Z,0.6nm,0.8s,baz=134,slow=6.6,SNR=3.8
NVAR Mina Array Bea 123.51 28 PKP PKPdf 12 39 33.5 +1.0
NVAR PKKPbc PKKPbc 12 49 21.6 -0.5
HWUT Hardware Ranch 123.55 21 *e*PKPdf PKPdf 12 39 32.5 -0.1
DUG Dugway 124.34 23 *e*PKPdf PKPdf 12 39 34.5 +0.4
DUG Dugway 124.34 23 *e*PKIKP PKPdf 12 39 34.5 +0.4
ECSD EROS Data Cent 125.12 7 *e*PKPdf PKPdf 12 39 34.9 -0.7
PHWY Pilot Hill 125.72 16 *e*PKPdf PKPdf 12 39 36.4 -0.4
MSU Marysvale 126.04 23 *e*PKPdf PKPdf 12 39 38.8 +1.3
MSU Marysvale 126.04 23 *e*PKIKP PKPdf 12 39 38.8 +1.4
ARUT Antelope Range 126.16 25 *e*PKPdf PKPdf 12 39 39.2 +1.5
ARUT Antelope Range 126.16 25 *e*PKIKP PKPdf 12 39 39.2 +1.5
GSC Goldstone 126.74 29 *e*PKPdf PKPdf 12 39 39.9 +1.0
GSC Goldstone 126.74 29 *e*PKIKP PKPdf 12 39 39.9 +1.0
SMCO Snowmass 127.25 18 *e*PKPdf PKPdf 12 39 40.0 +0.3
TAOE Nuku Hiva Isla 128.93 93 eLR LR 13 20 23.8
comp=Z,1μm,36.9s
LAZ Ladron 131.55 21 *e*PKPdf PKPdf 12 39 48.0 0.0
BNM Barren Site 131.95 21 *e*PKPdf PKPdf 12 39 48.6 -0.2
TUC Tucson 131.97 26 *e*PKPdf PKPdf 12 39 50.5 +1.6
TUC Tucson 131.97 26 *e*PKIKP PKPdf 12 39 50.5 +1.6
WVT Waverly 133.24 359 *e*PKPdf PKPdf 12 39 50.9 -0.3
WVT Waverly 133.24 359 *e*PKIKP PKPdf 12 39 50.9 -0.3
RKT Rikitea 133.93 112 eLR LR 13 22 35.4
comp=Z,814nm,36.8s
MIAR Mount Ida 134.55 6 *e*PKPdf PKPdf 12 39 53.8 +0.1
MIAR Mount Ida 134.55 6 *e*PKIKP PKPdf 12 39 53.8 +0.1
TXAR Lajitas Array 137.36 20 PKhKP PKPpre 12 39 48.0
comp=Z,0.6nm,0.8s,baz=256,slow=1.5,SNR=9.0
TXAR PKP PKPdf 12 39 59.4 +0.3
comp=Z,2.1nm,0.8s,baz=208,slow=0.3,SNR=14
TXAR Lajitas Array 137.36 20 PKP PKPdf 12 39 59.4 +0.3
TXAR Lajitas Array 137.36 20 PKIKP PKPdf 12 39 59.4 +0.3
JCT Junction City 137.42 15 *e*PKPdf PKPdf 12 39 59.0 -0.2
JCT Junction City 137.42 15 *e*PKIKP PKPdf 12 39 59.0 -0.2
LRS Lares 144.10 324 *e*PKPdf PKPdf 12 40 09.5 -2.0
TRQA Tornquist 144.11 217 *e*PKPdf PKPdf 12 40 08.0 -2.9
CELP Cerrillos 144.11 323 *e*PKPdf PKPdf 12 40 09.1 -2.4
OBIP Obispado Ponce 144.15 323 *e*PKPdf PKPdf 12 40 09.2 -2.4
LSP Las Mesas 144.33 324 *e*PKPdf PKPdf 12 40 10.2 -1.7
CRPR Cabo Rojo, PR 144.48 324 *e*PKPdf PKPdf 12 40 10.2 -2.0
SDDR Presa de Saban 145.91 330 *e*PKPdf PKPdf 12 40 14.9 +0.3
CPUP Villa Florida 146.99 238 PKPbc PKPbc 12 40 16.6 -1.6
comp=Z,9.1nm,0.8s,baz=66,slow=3.5,SNR=10
GWJ Greenwich 149.04 338 *e*P PKPdf 12 40 23.9 +4.0
STH Stony Hill 149.07 338 *i* P PKPdf 12 40 24.6 +4.8
HOJ Hope 149.11 338 *i* P PKPdf 12 40 24.4 +4.5
YHJ Yallahs 149.12 338 *e*P PKPdf 12 40 24.9 +5.0
MTDJ Mount Denham 149.19 340 *e*PKPbc PKPbc 12 40 24.4 +0.1
MCJ Malvern 149.52 340 *i* P PKPdf 12 40 23.5 +2.9
LPAZ La Paz 159.67 252 PKP PKPdf 12 40 35.5 +0.9
comp=Z,2.2nm,0.8s,baz=36,slow=4.1,SNR=8.9
LPAZ PKKP 12 48 48.0
comp=Z,0.6nm,0.3s,baz=21,slow=2.0,SNR=6.9
LPAZ La Paz 159.67 252 *e*PKPdf PKPdf 12 40 35.0 +0.4
LPAZ *e*PKPab PKPab 12 41 13.7 +0.6
LPAZ La Paz 159.67 252 *e*PKIKP PKPdf 12 40 35.0 +0.4
OTAV Otavalo 165.24 318 *e*PKPdf PKPdf 12 40 41.0 +0.7
OTAV *e*PKPab PKPab 12 41 38.9 +1.4

IDC ***16*** *12:25:03.3±1.1, 10.68N×91.52E, h0km, mb4.3/12, mb1 4.4/12, mb1mx4.1/25, mbtmp4.3/12, Error ellipse: s-maj=52.5km s-min=15.2km az=58.0*
ISCJB ***16*** *12:25:06.6±0.8, 10.8N±0.1×91.7E±0.2, h33km, mb4.3/14, Error ellipse: s-maj=30.5km s-min=11.0km az=147.1*
NEIC ***16*** *12:25:09.2±0.8, 10.83N×91.70E, h35km, mb4.6/3, Error ellipse: s-maj=30.3km s-min=11.3km az=57.0*
ISC 16 12:25:08.8±0.8, 10.8N±0.1×91.7E±0.2, h35km, n31, σ0s91/27, mb4.3/14, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KSM	**Kuching**	**20.71**	**115**	*e*P	**P**		**12 29 48.0**	**+1.7**
ENH	**Enshi**	**25.49**	**38**	*e*P	**P**		**12 30 32.1**	**-1.9**
	38nm,0.8s,mb5.0							
MKAR	**Makanchi Array**	**36.74**	**349**	P	**P**		**12 32 12.6**	**-0.1**
	3.1nm,0.6s,mb4.3,baz=165,slow=9.1,SNR=8.4							
MKAR	**Makanchi Array**	**36.74**	**349**	P	**P**		**12 32 12.6**	**-0.1**
SONM	**Songino Array**	**38.93**	**16**	P	**P**		**12 32 31.4**	**+0.1**
	4.1nm,1.0s,mb4.1,baz=207,slow=5.8,SNR=3.6							
SONM	**Songino Array**	**38.93**	**16**	P	**P**		**12 32 31.4**	**+0.1**
KURK	**Kurchatov**	**41.21**	**347**	P	**P**		**12 32 50.1**	**0.0**
	2.9nm,0.9s,mb3.9,baz=163,slow=7.1,SNR=5.7							
KURK	**Kurchatov**	**41.21**	**347**	P	**P**		**12 32 50.1**	**0.0**
ZALV	**Zalesovo Beam**	**43.38**	**354**	P	**P**		**12 33 08.0**	**+0.3**
	3.4nm,0.6s,mb4.3,baz=169,slow=8.4,SNR=6.2							
ZALV	**Zalesovo Beam**	**43.38**	**354**	P	**P**		**12 33 08.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**44.16**	**130**	P	**P**		**12 33 13.9**	**-0.5**
	3.1nm,0.6s,mb4.2,baz=318,slow=7.4,SNR=5.5							
FITZ	**Fitzroy Crossi**	**44.16**	**130**	*e*P	**P**		**12 33 13.9**	**-0.5**
	3.4nm,0.6s,mb4.2							
WRA	**Warramunga Arr**	**51.94**	**126**	P	**P**		**12 34 14.1**	**-0.6**
	1.6nm,0.4s,mb4.3,baz=306,slow=8.3,SNR=12							
WRA	**Warramunga Arr**	**51.94**	**126**	P	**P**		**12 34 14.1**	**-0.6**
WRAB	**Tennant Creek**	**51.95**	**126**	*e*P	**P**		**12 34 13.9**	**-0.8**
	3.3nm,0.5s,mb4.5							
ASAR	**Alice Springs**	**53.66**	**130**	P	**P**		**12 34 27.4**	**+0.2**
	6.2nm,0.7s,mb4.7,baz=304,slow=6.6,SNR=11							
ASAR	**Alice Springs**	**53.66**	**130**	P	**P**		**12 34 27.4**	**+0.2**
STKA	**Stephens Creek**	**63.88**	**134**	P	**P**		**12 35 38.0**	**-0.2**
	1.6nm,0.4s,mb4.4,baz=302,slow=9.8,SNR=4.2							
STKA	**Stephens Creek**	**63.88**	**134**	P	**P**		**12 35 38.0**	**-0.2**
PETK	**Petropavlovsk-**	**67.09**	**37**	P	**P**		**12 36 01.3**	**+2.6**
	3.1nm,0.9s,mb4.3,baz=269,slow=6.9,SNR=3.3							
PETK	**Petropavlovsk-**	**67.09**	**37**	P	**P**		**12 36 01.2**	**+2.6**
FINES	**FINESS Array B**	**68.99**	**332**	P	**P**		**12 36 10.7**	**+0.2**
	3.7nm,0.8s,mb4.4,baz=111,slow=7.6,SNR=4.5							
FINES	**FINESS Array B**	**68.99**	**332**	P	**P**		**12 36 10.7**	**+0.2**
ARCES	**ARCESS Array B**	**71.70**	**340**	P	**P**		**12 36 26.2**	**-0.6**
	1.6nm,0.7s,mb4.1,baz=90,slow=6.1,SNR=4.3							
ARCES	**ARCESS Array B**	**71.70**	**340**	P	**P**		**12 36 26.2**	**-0.6**
GERES	**GERESS Array B**	**74.03**	**318**	P	**P**		**12 36 41.5**	**+0.4**
	0.5nm,0.6s,mb3.6,baz=78,slow=5.3,SNR=3.5							
GERES	**GERESS Array B**	**74.03**	**318**	P	**P**		**12 36 41.5**	**+0.4**
NVAR	**Mina Array Bea**	**123.58**	**28**	PKP	PKPdf		12 44 05.2	+2.1
	0.7nm,0.7s,baz=297,slow=2.4,SNR=4.3							
NVAR	**Mina Array Bea**	**123.58**	**28**	PKP	PKPdf		12 44 05.2	+2.1
TXAR	**Lajitas Array**	**137.44**	**20**	PKP	PKPdf		12 44 31.6	+2.0
	0.8nm,1.0s,baz=188,slow=2.5,SNR=3.7							
TXAR	**Lajitas Array**	**137.44**	**20**	PKP	PKPdf		12 44 31.6	+2.0

IDC 16 12:29:35.3±3.0, 10.68N×91.51E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/24, mbtmp3.6/6, Error ellipse: s-maj=127.4km s-min=22.9km az=62.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MKAR	**Makanchi Array**	**36.83**	**349**	P	**P**		12 36 45.3	+0.3
	0.9nm,0.6s,baz=163,slow=7.7,SNR=6.5							
SONM	**Songino Array**	**39.10**	**16**	P	**P**		12 37 04.3	+0.1
	0.5nm,0.6s,baz=193,slow=9.8,SNR=3.7							
KURK	**Kurchatov**	**41.30**	**348**	P	**P**		12 37 21.5	-0.9
	0.6nm,0.7s,baz=169,slow=7.3,SNR=3.7							
ZALV	**Zalesovo Beam**	**43.48**	**354**	P	**P**		12 37 39.9	-0.3
	0.8nm,0.5s,baz=166,slow=7.5,SNR=3.9							
WRA	**Warramunga Arr**	**52.00**	**126**	P	**P**		12 38 46.5	-0.3
	0.1nm,0.3s,baz=305,slow=8.6,SNR=2.7							
ASAR	**Alice Springs**	**53.70**	**130**	P	**P**		12 38 59.6	+0.3
	0.4nm,0.7s,baz=305,slow=7.3,SNR=4.2							

ISCJB ***16*** *12:39:52.2±1.0, 6.84N±0.08×73.0W±0.1, h169km±12km, Error ellipse: s-maj=20.0km s-min=8.3km az=33.0*
FUNV ***16*** *12:39:54.1, 6.75N×73.02W, h166km, MW3.0*
IDC ***16*** *12:39:57.7±10.0, 6.12N×72.67W, h0km, mb3.5/2, mb1 3.9/3, mb1mx3.5/22, mbtmp3.4/3, Error ellipse: s-maj=203.5km s-min=30.1km az=116.0*
ISC 16 12:39:53.0±1.1, 6.84N±0.08×73.0W±0.1, h166km±12km, n12, σ0s82/14, 1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CAPV	**Capacho**	**1.24**	**35**	*i* P	**Pn**		**12 40 22.3**	**+0.8**
CAPV				*e*S	**Sn**		**12 40 44.2**	**+0.9**
ROSC	**El Rosal**	**2.36**	**213**	Pn	**Pn**		**12 40 33.6**	**+0.3**
	7.0nm,0.3s,baz=84,slow=22,SNR=38							
ROSC				Sn	**Sn**		**12 41 03.6**	**-0.8**
	13nm,0.3s,baz=80,slow=19,SNR=11							
SOCV	**Socops**	**2.59**	**56**	*e*P	**Pn**		**12 40 37.0**	**+0.9**
SOCV				*e*S	**Sn**		**12 41 07.3**	**-2.1**
VIRV	**Villa del Rosa**	**3.69**	**10**	*e*P	**Pn**		**12 40 50.0**	**+0.2**
VIRV				*e*S	**Sn**		**12 41 33.1**	**-0.9**
CURV	**Curarigua**	**4.38**	**44**	*e*P	**Pn**		**12 40 59.2**	**+0.6**
TEPV	**Terepaima**	**4.90**	**50**	*e*P	**Pn**		**12 41 05.5**	**0.0**
BAUV	**El Baul**	**5.37**	**67**	*e*P	**Pn**		**12 41 11.1**	**-0.4**
MAPV	**Macapo**	**5.41**	**56**	*e*P	**Pn**		**12 41 13.0**	**+0.9**
MONV	**Montecano**	**5.91**	**30**	*e*P	**Pn**		**12 41 18.1**	**-0.6**
CUPV	**Cœpira**	**7.84**	**65**	*e*P	**Pn**		**12 41 44.1**	**-0.2**
TXAR	**Lajitas Array**	**36.52**	**312**	P	pP		12 47 10.4	-7.7
	0.4nm,0.6s,baz=139,slow=8.4,SNR=4.9							
NVAR	**Mina Array Bea**	**51.53**	**315**	P	pP		12 49 12.4	-7.2
	0.4nm,0.5s,baz=134,slow=7.2,SNR=5.7							

IDC 16 12:50:39.6±1.2, 2.63N×123.80E, h0km, mb3.3/4, mb1 3.4/4, mb1mx3.3/21, mbtmp3.3/4, Error ellipse: s-maj=70.3km s-min=21.6km az=71.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JOW	**Kunigami**	**24.45**	**10**	P	P		12 56 01.8	+1.6
	15nm,0.8s							
WRA	**Warramunga Arr**	**24.70**	**156**	P	P		12 56 02.2	-0.4
	0.6nm,0.7s,baz=341,slow=10,SNR=4.6							
ASAR	**Alice Springs**	**27.93**	**160**	P	P		12 56 32.5	+0.8
	0.1nm,0.5s,baz=342,slow=8.8,SNR=3.7							
MKAR	**Makanchi Array**	**56.83**	**327**	P	P		13 00 25.6	-0.2
	0.3nm,0.6s,baz=116,slow=7.8,SNR=4.5							
KURK	**Kurchatov**	**61.13**	**329**	P	P		13 00 54.6	-1.0
	0.3nm,0.6s,baz=124,slow=6.5,SNR=5.9							

IDC 16 13:19:21.6±2.2, 52.66N×171.53E, h0km, mb3.3/2, mb1 3.7/3, mb1mx3.3/26, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=88.0km s-min=17.4km az=175.0, Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
FX1	**Attu Island--F**	**1.02**	**77**	Pn	Pn		13 19 42.2	-0.9
	138nm,0.3s,baz=324,slow=3.5,SNR=418							
FX1				Sn	Sn		13 19 56.3	-1.8
	302nm,0.3s,baz=155,slow=19,SNR=32							
PETK	**Petropavlovsk-**	**8.38**	**279**	Pn	Pn		13 21 23.3	-0.9
	0.4nm,0.3s,baz=90,slow=19,SNR=14							
ILAR	**Eielson Array**	**24.24**	**44**	P	P		13 24 39.9	+0.2
	0.4nm,0.9s,baz=252,slow=6.9,SNR=4.3							
TXAR	**Lajitas Array**	**64.23**	**75**	P	P		13 29 58.3	+0.1
	0.3nm,0.5s,baz=304,slow=5.4,SNR=9.2							

IDC 16 13:23:52.4±14.0, 9.46N×90.27E, h0km, mb3.6/3, mb1 3.7/3, mb1mx3.3/23, mbtmp3.6/3, Error ellipse: s-maj=688.1km s-min=28.0km az=62.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MKAR	**Makanchi Array**	**37.82**	**351**	P	P		13 31 10.7	+0.2
	0.5nm,0.6s,baz=179,slow=8.8,SNR=5.4							
ZALV	**Zalesovo Beam**	**44.58**	**355**	P	P		13 32 05.8	-0.3
	0.4nm,0.5s,baz=176,slow=8.9,SNR=4.0							
ASAR	**Alice Springs**	**53.88**	**128**	P	P		13 33 17.8	0.0
	0.7nm,0.7s,baz=303,slow=7.3,SNR=12							

IDC ***16*** *13:36:32.4±0.5, 8.67S×110.33E, h0km, mb4.4/19, mb1 4.5/20, mb1mx4.4/22, mbtmp4.4/20, ML4.2/1, MS3.8/8, Ms1 3.8/8, ms1mx3.3/38, Error ellipse: s-maj=22.8km s-min=13.4km az=20.8*
BJI ***16*** *13:36:35.6, 9.00S×110.20E, h43km, mB5.0/11, mb4.8/20, Ms4.5/10, Ms7 4.3/9*
MOS ***16*** *13:36:36.9±0.9, 8.61S×110.44E, h43km, mb4.8/11, Error ellipse: s-maj=15.8km s-min=8.8km az=110.4*
NEIC ***16*** *13:36:40.5±1.3, 8.77S×110.32E, h63km±10km, mb4.4/13, Error ellipse: s-maj=13.0km s-min=6.5km az=49.0*
NEIC Felt [III] at Klaten, Kotagede and Wonosari.
ISCJB ***16*** *13:36:40.1±0.4, 8.85S±0.04×110.33E±0.02, h80km±3km, mb4.5/43, Error ellipse: s-maj=6.8km s-min=3.1km az=15.0*
DJA ***16*** *13:36:41.1±0.6, 9°S±3°×110°E±°, h25km±6km, M5.0/2, mB5.4/17, mb5.0/23, MLv5.2/32, Mw(mB)4.9/17*
ISC 16 13:36:41.5±0.4, 8.84S±0.04×110.32E±0.02, h75km±3km, h51km±1.9km: pP-P, n205, σ1s29/190, mb4.5/43, 3C-2D, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
UGM	**Wanagama**	**0.94**	**12**	P	**Pn**		**13 36 57.7**	**-1.9**
YOGI	**Yogyakarta**	**1.02**	**358**	P	**Pn**		**13 36 58.7**	**-1.8**
YOGI				S	**Sn**		**13 37 13.4**	**-1.3**
PCJI	**Pacitan**	**1.06**	**53**	P	**Pn**		**13 36 58.2**	**-2.8**
PCJI				S	**Sn**		**13 37 12.1**	**-3.5**
PWJI	**Pagerwojo**	**1.68**	**61**	P	**Pn**		**13 37 07.6**	**-1.3**
PWJI				S	**Sn**		**13 37 27.5**	**-2.2**
CLJI	**Cilicap**	**1.71**	**311**	P	**Pn**		**13 37 09.0**	**-0.4**
CLJI				S	**Sn**		**13 37 30.9**	**+0.4**
SMRI	**Semarang**	**1.79**	**4**	P	**Pn**		**13 37 11.7**	**+1.3**
SJI	**Sawahan**	**1.80**	**52**	P	**Pn**		**13 37 09.9**	**-0.7**
SJI				S	**Sn**		**13 37 32.7**	**0.0**
NGJI	**Ngawi**	**1.85**	**38**	P	**Pn**		**13 37 13.3**	**+2.1**
CMJI	**Cimerak**	**2.13**	**299**	S	**Sn**		**13 37 40.1**	**-0.6**
KRKI	**Karangkates**	**2.21**	**72**	P	**Pn**		**13 37 15.1**	**-1.0**
KRKI				S	**Sn**		**13 37 41.9**	**-0.7**
CISI	**Cisompet, Garu**	**2.79**	**297**	P	**Pn**		**13 37 23.5**	**-0.4**
GRJI	**Gresik**	**2.87**	**48**	S	**Sn**		**13 37 58.8**	**+0.4**
JCJI	**Jatiwangi**	**3.10**	**319**	P	**Pn**		**13 37 27.0**	**-1.1**
JCJI				S	**Sn**		**13 38 02.6**	**-1.5**
GMJI	**Gumukmas**	**3.14**	**80**	P	**Pn**		**13 37 28.5**	**-0.1**
GMJI				S	**Sn**		**13 38 06.3**	**+1.3**
LEM	**Lembang**	**3.35**	**307**	P	**Pn**		**13 37 33.6**	**+2.1**
BLJI	**Banyuglugur**	**3.42**	**72**	P	**Pn**		**13 37 32.1**	**-0.3**
BLJI				S	**Sn**		**13 38 13.0**	**+1.2**
JAGI	**Jajag, Banyuwa**	**3.80**	**85**	P	**Pn**		**13 37 36.6**	**-1.1**
KMMI	**Kalianget**	**4.02**	**64**	P	**Pn**		**13 37 39.8**	**-0.9**
BYJI	**Banyuwangi**	**4.04**	**81**	P	**Pn**		**13 37 45.3**	**+4.4**
SKJI	**Sukabumi**	**4.15**	**296**	P	**Pn**		**13 37 46.9**	**+4.4**
DBJI	**Dramaga**	**4.21**	**302**	P	**Pn**		**13 37 45.6**	**+2.4**
DBJI				S	**Sn**		**13 38 36.1**	**+4.9**
NBBI	**Negara**	**4.27**	**84**	P	**Pn**		**13 37 48.3**	**+4.2**
IGBI	**Denpasar**	**4.76**	**90**	P	**Pn**		**13 37 51.1**	**+0.3**
XMIS	**Christmas Isla**	**4.89**	**250**	*e*P	**Pn**		**13 37 50.0**	**-2.5**
	493nm,0.2s							
XMIS				*e*S	**Sn**		**13 38 38.0**	**-10**
XMIS	**Christmas Isla**	**4.89**	**250**	P	**Pn**		**13 37 50.2**	**-2.3**
SRBI	**Singaraja**	**4.89**	**82**	P	**Pn**		**13 37 52.0**	**-0.6**
CGJI	**Cibinong**	**5.10**	**295**	P	**Pn**		**13 37 55.7**	**+0.4**
	1.4nm248nm,0.8s							
KHKI	**Kahang-Kahang**	**5.25**	**85**	P	**Pn**		**13 37 56.4**	**-1.0**
	1.9nm5μm212nm,0.7s							
KHKI				S	**Sn**		**13 38 58.4**	**+1.8**
	1.9nm5μm212nm,0.7s							
MTNI	**Mataram**	**5.78**	**88**	P	**Pn**		**13 38 03.8**	**-0.9**
	2.8nm290nm,0.9s							
MTNI				S	**Sn**		**13 39 11.2**	**+1.5**
	2.8nm290nm,0.9s							
PBKI	**Pangkalan Bun**	**6.24**	**12**	P	**Pn**		**13 38 12.2**	**+1.2**
	1.2nm3μm205nm,0.6s							
KLI	**Kotabumi**	**6.71**	**306**	P	**Pn**		**13 38 24.7**	**+7.2**
KLSI		**6.92**	**306**	P	**Pn**		**13 38 22.7**	**+2.4**
BBKI	**Banjar Baru**	**6.98**	**40**	P	**Pn**		**13 38 23.9**	**+2.8**
	0.6nm3μm154nm,1.0s							
LWLI	**Liwa**	**7.29**	**301**	P	**Pn**		**13 38 30.5**	**+5.2**
	1.1nm5μm127nm,0.5s							
MDSI	**Maura Dua**	**7.48**	**305**	P	**Pn**		**13 38 30.7**	**+2.7**
	0.2nm41nm,0.8s							
PPBI	**Pangkal Pinang**	**7.84**	**328**	P	**Pn**		**13 38 34.5**	**+1.7**
	0.2nm3μm56nm,0.9s							
KBKI	**Kotabaru**	**8.00**	**47**	P	**Pn**		**13 38 36.7**	**+1.6**
	0.2nm2μm54nm,0.9s							
BMNI	**Bima**	**8.28**	**89**	P	**Pn**		**13 38 37.5**	**-1.3**
	2μm82nm,1.1s							
LHSI	**Lahat**	**8.40**	**306**	P	**Pn**		**13 38 42.5**	**+2.0**
	8.4nm,1.2s							
STKI	**Sintang**	**8.92**	**7**	P	**Pn**		**13 38 49.2**	**+1.5**
	9μm46nm,0.7s							
KSI	**Kapahiang**	**9.25**	**303**	P	**Pn**		**13 38 52.8**	**+0.6**
	119nm,0.7s							
WSI	**Waingapu**	**9.88**	**96**	P	**Pn**		**13 38 59.4**	**-1.3**
	255nm,0.4s							
KAPI	**Kappang**	**10.10**	**69**	*e*P	**Pn**		**13 39 02.2**	**-1.5**
	80nm,1.1s							
KAPI	**Kappang**	**10.10**	**69**	P	**Pn**		**13 39 04.5**	**+0.8**
	625nm63nm,1.3s							
KSM	**Kuching**	**10.25**	**360**	P	**Pn**		**13 39 06.0**	**+0.3**
	8.8nm,0.8s							
BKSI	**Bulukumba**	**10.33**	**71**	P	**Pn**		**13 39 08.9**	**+2.0**
	510nm52nm,0.8s							
SPSI	**Sidrap Palu**	**10.56**	**63**	P	**Pn**		**13 39 11.5**	**+1.5**
	431nm36nm,1.1s							
TTSI	**Tana Toraja**	**11.06**	**59**	P	**Pn**		**13 39 20.2**	**+3.4**
	592nm39nm,1.0s							
SBUM	**Sibu**	**11.38**	**10**	P	**Pn**		**13 39 23.0**	**+1.9**
	14nm,1.5s							
MMRI	**Maumere**	**11.78**	**90**	P	**Pn**		**13 39 26.7**	**+0.1**
	58nm,0.9s							
KDI	**Kendari**	**13.14**	**69**	P	**Pn**		**13 39 54.6**	**+9.5**
LUWI	**Luwuk**	**14.62**	**59**	P	**Pn**		**13 40 10.7**	**+6.3**
	2μm94nm,1.3s							
MRSI	**Marisa**	**14.82**	**52**	P	**Pn**		**13 40 09.2**	**+2.1**
MBWA	**Marble Bar**	**15.24**	**145**	*e*P	**Pn**		**13 40 07.5**	**-4.9**
MBWA				*e*S	S		13 42 39.1

GYA Guiyang 35.27 354 *e*P **P 13 43 33.0 +3.9**
GYA pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
PMG Port Moresby 36.36 94 *e*P **P 13 43 48.4 +10**
STKA Stephens Creek 36.98 133 P **P 13 43 42.6 -1.0**
comp=Z,2.1nm,0.3s,mb4.5,baz=0.6,slow=10.0,SNR=3.1
STKA PcP PcP 13 46 05.6 +2.1
comp=Z,6.9nm,0.5s,baz=335,slow=2.7,SNR=4.5
STKA LR LR 13 58 43.2
comp=Z,158nm,19.2s,baz=304,slow=36
STKA Stephens Creek 36.98 133 P **P 13 43 42.6 -1.0**
STKA PcP PcP 13 46 05.6 +2.1
STKA LR LR 13 58 43.2
STKA Stephens Creek 36.98 133 P **P 13 43 42.7 -1.0**
STKA 13 46 05.6
CD2 Chengdu 40.02 351 P **P 13 44 12.3 +3.2**
CD2 pP pP 13 44 24.8 -2.6
CD2 sP sP 13 44 30.0 -6.0
CD2 PP PP 13 45 49.8 +7.2
CD2 S **S 13 50 17.3 +7.8**
CD2 sS sS 13 50 37.8 -2.9
CD2 pmax pmax
comp=Z,20nm,0.5s,mb5.2
CD2 pmax pmax
comp=Z,160nm,5.4s
CD2 LR LR
comp=N,260nm,10.7s
CD2 LR LR
comp=Z,220nm,10.7s
HYB Hyderabad 40.82 310 *i* P **P 13 44 16.0 0.0**
NJ2 Nanjing 41.47 11 *e*P **P 13 44 12.4 -8.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
ODAN Odare 41.89 329 *e*P **P 13 44 23.6 -0.9**
comp=Z,7.7nm,0.6s,mb4.6
TAPN Taplejung 42.12 329 *e*P **P 13 44 25.9 -0.6**
comp=Z,12nm,0.8s,mb4.7
GUN Gumba 43.52 328 *e*P **P 13 44 37.9 +0.1**
comp=Z,18nm,0.6s,mb5.0
DMN Daman 43.70 327 *e*P **P 13 44 37.5 -1.7**
comp=Z,7.1nm,0.5s,mb4.7
GKN Gorkha 44.26 327 *e*P **P 13 44 42.4 -1.3**
comp=Z,3.4nm,0.2s,mb4.7
KOLN Koldanda 44.65 325 *e*P **P 13 44 44.8 -2.0**
DANN Dangsing 45.01 326 *e*P **P 13 44 48.7 -1.0**
LZH Lanzhou 45.10 353 *e*P **P 13 44 53.0 +2.8**
LZH pP pP 13 45 05.5 -3.3
LZH sP sP 13 45 10.8 -6.6
LZH pmax pmax
comp=Z,14nm,1.1s,mb4.6
KSRS Korea Array 48.91 19 P **P 13 45 19.1 -0.9**
comp=Z,3.3nm,0.9s,mb4.3,baz=198,slow=8.0,SNR=8.6
KSRS Korea Array 48.91 19 P **P 13 45 19.1 -0.8**
KSRS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
MAJO Matsushiro 52.20 28 *e*P **P 13 45 42.8 -1.9**
comp=Z,13nm,0.8s,mb5.0
MAJO Matsushiro 52.20 28 *e*P **P 13 45 42.8 -1.9**
MAJO pmax pmax
comp=Z,13nm,0.8s,mb5.0
MAT Matsushiro 52.20 28 P **P 13 45 42.7 -2.0**
MJAR Matsushiro Arr 52.20 28 P **P 13 45 43.0 -1.6**
comp=Z,15nm,0.7s,mb5.1,baz=211,slow=8.7,SNR=52
MJAR Matsushiro Arr 52.20 28 P **P 13 45 43.0 -1.6**
MJAR Matsushiro Arr 52.20 28 P **P 13 45 43.0 -1.7**
CN2 Changchun 54.16 13 *e*P **P 13 46 04.3 +5.3**
WMQ Urumqi 56.30 340 P **P 13 46 16.3 +2.0**
ULN Ulaanbaatar 56.53 357 *e*P **P 13 46 16.0 +0.1**
comp=Z,2.4nm,0.9s,mb4.2
ULN Ulaanbaatar 56.53 357 *e*P **P 13 46 16.0 +0.1**
ULN pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
SONM Songino Array 56.53 357 P **P 13 46 15.9 0.0**
comp=Z,1.6nm,0.7s,mb4.1,baz=170,slow=8.4,SNR=12
SONM PcP PcP 13 47 12.8 +1.0
comp=Z,2.0nm,0.8s,baz=182,slow=5.0,SNR=7.3
SONM Songino Array 56.53 357 P **P 13 46 15.9 0.0**
SONM PcP PcP 13 47 12.8 +1.0
SONM Songino Array 56.53 357 P **P 13 46 15.9 0.0**
SONM 13 47 12.8
ASAJ Asahikawa 60.27 26 LR LR 14 10 57.8
comp=Z,44nm,21.1s,baz=338,slow=34
TKM2 Tokmak 2 60.46 331 *e*P **P 13 46 43.4 0.0**
comp=Z,4.1nm,0.8s,mb4.5
TKM2 Tokmak 2 60.46 331 *e*P **P 13 46 43.4 +0.1**
TKM2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
MK31 Makanchi Array 60.76 338 *e*P **P 13 46 44.7 -0.7**
MK31 *e* pP 13 46 59.1 -5.6
MK31 Makanchi Array 60.76 338 *e*P **P 13 46 44.7 -0.6**
MK31 *e* pP 13 46 59.1 -5.6
MKAR Makanchi Array 60.76 338 P **P 13 46 44.6 -0.7**
comp=Z,1.4nm,0.4s,mb4.4,baz=152,slow=7.4,SNR=48
MKAR Makanchi Array 60.76 338 P **P 13 46 44.6 -0.7**
MKAR Makanchi Array 60.76 338 P **P 13 46 44.6 -0.7**
YSS Yuzh-Sakhalins 62.60 24 *e*P **P 13 46 57.9 +0.2**
YSS pmax pmax
comp=Z,79nm,2.5s,mb5.2
KURK Kurchatov 65.38 338 P **P 13 47 14.8 -1.0**
comp=Z,1.1nm,0.5s,mb3.9,baz=150,slow=5.6,SNR=9.7
KURK Kurchatov 65.38 338 *e*P **P 13 47 15.3 -0.5**
comp=Z,1.1nm,0.5s,mb3.9
KURK Kurchatov 65.38 338 *ce*P **P 13 47 16.0 +0.2**
KURK pmax pmax
comp=Z,4.0nm,1.2s,mb4.1
ZAA0 Zalesovo Array 66.17 344 *e*P **P 13 47 19.3 -1.5**
ZALV Zalesovo Beam 66.17 344 P **P 13 47 20.5 -0.3**
comp=Z,1.1nm,0.4s,mb4.1,baz=134,slow=4.3,SNR=11
ZALV Zalesovo Beam 66.17 344 P **P 13 47 20.5 -0.3**
ZALV Zalesovo Beam 66.17 344 P **P 13 47 20.5 -0.3**
MAW Mawson 66.60 198 P **P 13 47 25.0 +1.6**
comp=Z,2.3nm,0.8s,mb4.0,baz=37,slow=13,SNR=4.2
MAW LR LR 14 09 28.6
comp=Z,100nm,20.9s,baz=206,slow=30
MAW Mawson 66.60 198 P **P 13 47 25.0 +1.5**
MAW LR LR 14 09 28.6
MAW Mawson 66.60 198 P **P 13 47 25.0 +1.5**
ATD Arta Tunnel 70.08 286 LR LR 14 16 03.3
comp=Z,42nm,18.1s,baz=62,slow=34
BVAR Borovoye Array 70.36 336 P **P 13 47 47.0 -0.1**
comp=Z,1.7nm,0.6s,mb4.0,baz=141,slow=9.3,SNR=9.8
BVAR Borovoye Array 70.36 336 P **P 13 47 47.0 -0.1**
BVAR Borovoye Array 70.36 336 P **P 13 47 47.0 -0.1**
YAK Yakutsk 72.25 9 *e*P **P 13 47 56.8 -1.4**
YAK pmax pmax
comp=Z,43nm,1.0s,mb5.2
YAK pmax pmax
comp=N,12nm,1.1s
YAK pmax pmax
comp=E,13nm,1.5s
AB31 Akbulak array 72.69 328 *i* P **P 13 48 00.9 -0.3**
AB31 pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
ABKAR Akbulak array 72.69 328 *e*P **P 13 48 00.9 -0.2**
comp=Z,6.3nm,0.6s,mb4.6
ABKAR *e* pP 13 48 15.8 -5.3
PETK Petropavlovsk- 73.64 28 P **P 13 48 07.2 +0.6**
comp=Z,13nm,0.9s,mb4.7,baz=191,slow=3.8,SNR=22
PETK Petropavlovsk- 73.64 28 P **P 13 48 07.2 +0.6**
PETK Petropavlovsk- 73.64 28 P **P 13 48 07.3 +0.6**
SYO Syowa Base 74.93 201 ‖ *e*P **P 13 48 14.8 +0.8**
ARU Arti 77.71 333 *e*P **P 13 48 28.4 -1.4**
ARU pmax pmax
comp=Z,5.0nm,1.3s,mb4.1
SEY Seymchan 78.47 18 *ce*P **P 13 48 33.0 -0.9**
ZEI Tsey 79.18 317 *e*P **P 13 48 38.9 +0.6**
ZEI pmax pmax
comp=Z,9.0nm,1.4s,mb4.4
KIV Kislovodsk 80.45 317 *e*P **P 13 48 47.2 +2.1**
KIV pmax pmax
comp=Z,8.0nm,1.3s,mb4.4
ASF Jabal al Asfar 80.90 305 P **P 13 48 48.7 +0.9**
comp=Z,1.9nm,0.7s,mb4.0,baz=299,slow=1.9,SNR=4.7
ASF Jabal al Asfar 80.90 305 P **P 13 48 48.7 +0.9**
ASF Jabal al Asfar 80.90 305 P **P 13 48 48.7 +0.9**
BOSA Boshof 81.52 242 P **P 13 48 54.0 +2.8**
comp=Z,2.5nm,0.7s,mb4.2,baz=326,slow=22,SNR=7.3
BOSA LR LR 14 16 19.6
comp=Z,68nm,20.0s,baz=352,slow=29
BOSA Boshof 81.52 242 P **P 13 48 54.0 +2.8**
BOSA LR LR 14 16 19.6
BOSA Boshof 81.52 242 P **P 13 48 54.0 +2.8**
BR131 Keskin Array S 85.51 311 *e*P **P 13 49 12.0 +0.7**
comp=Z,4.5nm,0.7s,mb4.5
BRTR Keskin Array B 85.51 311 P **P 13 49 11.8 +0.4**
comp=Z,3.4nm,0.8s,mb4.3,baz=126,slow=6.3,SNR=21
BRTR Keskin Array B 85.51 311 P **P 13 49 11.8 +0.4**
BRTR Keskin Array B 85.51 311 P **P 13 49 11.8 +0.5**
BILL Bilibino 86.18 18 ‖ *e*P **P 13 49 14.8 +0.8**
BILL *e**PP pP 13 49 36.9 +2.4
BILL *e*S S 13 59 38.5 -3.9
BILL pmax pmax
comp=Z,10.0nm,1.9s,mb4.4
OBN Obninsk 88.06 327 ‖ *i*P **P 13 49 24.3 +0.9**
OBN *e**PP pP 13 49 38.9 -5.0
OBN *e*S SKSac 13 59 47.5 +2.4
OBN pmax pmax
comp=Z,29nm,1.2s,mb5.2
SNAA Sanae 88.75 197 *e*P **P 13 49 27.3 +0.9**
comp=Z,9.6nm,1.5s,mb4.6
SNAA Sanae 88.75 197 *e*P **P 13 49 27.3 +0.9**
SNAA pmax pmax
comp=Z,10.0nm,1.5s
KIS Kishinev 90.65 317 *e*P **P 13 49 28.0 -7.7**
AKASG Malin Array Be 91.18 321 P **P 13 49 37.6 -0.4**
comp=Z,1.0nm,0.6s,mb4.2,baz=75,slow=6.3,SNR=6.1
AKASG Malin Array Be 91.18 321 P **P 13 49 37.6 -0.4**
AKASG Malin Array Be 91.18 321 P **P 13 49 37.7 -0.4**
FINES FINESS Array B 94.95 331 P **P 13 49 56.0 +0.8**
comp=Z,7.7nm,1.1s,mb5.0,baz=114,slow=8.5,SNR=6.0
FINES FINESS Array B 94.95 331 P **P 13 49 56.0 +0.8**
FINES FINESS Array B 94.95 331 P **P 13 49 56.0 +0.8**
ARCES ARCESS Array B 96.41 339 P **P 13 50 01.2 -0.5**
comp=Z,4.3nm,0.9s,mb4.9,baz=69,slow=6.6,SNR=6.5
ARCES ARCESS Array B 96.41 339 P **P 13 50 01.2 -0.5**
ARCES ARCESS Array B 96.41 339 P **P 13 50 01.2 -0.5**
NVAR Mina Array Bea 127.41 48 PKP PKPdf 13 55 40.9 +2.8
comp=Z,0.6nm,0.6s,baz=252,slow=2.6,SNR=6.4
NVAR Mina Array Bea 127.41 48 PKP PKPdf 13 55 40.9 +2.8
PDAR Pinedale Array 131.44 39 PKP PKPdf 13 55 46.5 +1.0
comp=Z,0.3nm,0.7s,baz=171,slow=1.7,SNR=3.1
PDAR Pinedale Array 131.44 39 PKP PKPdf 13 55 46.5 +1.0
TXAR Lajitas Array 142.18 53 PKhKP PKPpre 13 56 01.9
comp=Z,0.5nm,0.7s,baz=284,slow=2.3,SNR=8.0
TXAR Lajitas Array 142.18 53 PKP PKPpre 13 56 01.9
TXAR Lajitas Array 142.18 53 PKIKP PKPpre 13 56 01.9
JCT Junction City 144.59 48 *e*PKP PKPdf 13 56 10.1 +0.1
JCT Junction City 144.59 48 *e*PKIKP PKPdf 13 56 10.1 +0.1
CCM Cathedral Cave 145.01 30 *e*PKP PKPdf 13 56 10.7 +0.2
CCM Cathedral Cave 145.01 30 *e*PKIKP PKPdf 13 56 10.7 +0.2
OLIL Olney 145.94 26 *e*PKP PKPdf 13 56 13.3 +1.2
BLO Bloomington 146.23 24 *e*PKPbc PKPbc 13 56 14.8 +1.1
BLO Bloomington 146.23 24 *e*PKP2 PKPab 13 56 14.8 +0.3
MIAR Mount Ida 146.31 37 *e*PKPbc PKPbc 13 56 15.4 +1.3
MIAR Mount Ida 146.31 37 *e*PKP2 PKPab 13 56 15.4 +0.4
ACSO Alum Creek Sta 146.57 19 *e*PKPbc PKPbc 13 56 15.5 +0.8
UALR University of 146.87 35 *e*PKPbc PKPbc 13 56 16.8 +1.1
WCI Wyandotte Cave 147.13 25 *e*PKPbc PKPbc 13 56 17.3 +1.0
WCI Wyandotte Cave 147.13 25 *e*PKP2 PKPab 13 56 17.3 -0.7
WVT Waverly 148.20 29 *e*PKPbc PKPbc 13 56 20.4 +1.1
WVT Waverly 148.20 29 *e*PKP2 PKPab 13 56 20.4 -1.9
OXF Oxford 148.68 32 *e*PKPdf PKPdf 13 56 17.5 +0.7
OXF *e*PKPbc PKPbc 13 56 21.5 +0.9
OXF *e*PKPab PKPab 13 56 25.3 +1.0
OXF Oxford 148.68 32 *e*PKIKP PKPdf 13 56 17.5 +0.7
OXF *e* 13 56 21.5
OXF *e* 13 56 25.3
PLAL Pickwick Lake 149.00 30 *e*PKPbc PKPbc 13 56 21.9 +0.5

*ISCJB **16** 13:41:20.0±6.4, 10°.77N±0°.09×91°.8E±0°.1, h7km±39km, mb4.2/19, Error ellipse: s-maj=26.1km s-min=9.7km az=150.4*
*IDC **16** 13:41:20.6±0.9, 10°.76N×91°.68E, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.0/26, mbtmp4.1/13, ML3.8/1, MS3.4/1, Ms1 3.4/1, ms1mx2.4/47, Error ellipse: s-maj=41.6km s-min=14.6km az=59.0*
*NEIC **16** 13:41:25.8±4.2, 10°.80N×91°.82E, h33km±28km, mb4.3/6, Error ellipse: s-maj=23.3km s-min=7.0km az=64.0*
ISC 16 13:41:21.9±6.8, 10°.76N±0°.09×91°.7E±0°.1, h9km±42km, n50, σ0s69/44, mb4.2/19, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**10.39**	**42**	Pn	**Pn**	**13 43 52.4**	**+1.2**
	0.2nm,0.3s,baz=231,slow=13,SNR=4.6						
CMAR	**Chiang Mai Arr**	**10.39**	**42**	Pn	**Pn**	**13 43 52.4**	**+1.2**
KULM	**Kulim**	**10.40**	**121**	*e*P	**Pn**	**13 43 50.5**	**-0.9**
IPM	**Ipoh**	**11.16**	**123**	*e*P	**Pn**	**13 44 01.1**	**-0.7**
HYB	**Hyderabad**	**14.35**	**299**	*i* P	**Pn**	**13 44 51.0**	**+5.6**
HYB				*e*S	**Sn**	**13 47 24.0**	**-0.9**
LSA	**Lhasa**	**18.86**	**359**	*e*P	**Pn**	**13 45 42.6**	**-0.3**
	32nm,1.2s						
ENH	**Enshi**	**25.52**	**38**	*e*P	**P**	**13 46 49.7**	**-1.2**
	28nm,0.7s,mb4.9						
MKAR	**Makanchi Array**	**36.79**	**349**	P	**P**	**13 48 30.6**	**+0.6**
	4.0nm,0.8s,mb4.3,baz=163,slow=8.9,SNR=5.7						
MKAR	**Makanchi Array**	**36.79**	**349**	P	**P**	**13 48 30.6**	**+0.6**
KKAR	**Karatay Array**	**37.12**	**334**	*e*P	**P**	**13 48 34.2**	**+1.3**
	7.3nm,1.1s,mb4.4						
SONM	**Songino Array**	**38.98**	**16**	P	**P**	**13 48 48.0**	**-0.4**
	4.9nm,1.1s,mb4.2,baz=198,slow=8.6,SNR=10						
SONM	**Songino Array**	**38.98**	**16**	P	**P**	**13 48 48.0**	**-0.4**
ULN	**Ulaanbaatar**	**39.19**	**16**	*e*P	**P**	**13 48 49.6**	**-0.5**
	3.0nm,1.0s,mb4.0						
KURK	**Kurchatov**	**41.27**	**347**	P	**P**	**13 49 07.7**	**+0.3**
	2.7nm,0.9s,mb3.9,baz=160,slow=7.3,SNR=7.3						
KURK	**Kurchatov**	**41.27**	**347**	*e*P	**P**	**13 49 07.5**	**+0.1**
	5.8nm,1.0s,mb4.2						
ZAA0	**Zalesovo Array**	**43.43**	**354**	*e*P	**P**	**13 49 24.8**	**-0.2**
ZALV	**Zalesovo Beam**	**43.43**	**354**	P	**P**	**13 49 25.1**	**+0.1**
	3.9nm,0.7s,mb4.2,baz=170,slow=9.0,SNR=8.8						
ZALV	**Zalesovo Beam**	**43.43**	**354**	P	**P**	**13 49 25.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**44.11**	**130**	P	**P**	**13 49 30.8**	**-0.1**
	3.6nm,0.8s,mb4.2,baz=322,slow=5.5,SNR=7.6						
FITZ	**Fitzroy Crossi**	**44.11**	**130**	P	**P**	**13 49 30.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**44.11**	**130**	*e*	**P**	**13 49 30.4**	**-0.5**
WRA	**Warramunga Arr**	**51.90**	**126**	P	**P**	**13 50 31.3**	**0.0**
	1.4nm,0.3s,mb4.3,baz=300,slow=9.9,SNR=8.2						
WRA	**Warramunga Arr**	**51.90**	**126**	P	**P**	**13 50 31.3**	**0.0**
WRAB	**Tennant Creek**	**51.90**	**126**	*e*P	**P**	**13 50 31.0**	**-0.3**
ASAR	**Alice Springs**	**53.61**	**130**	P	**P**	**13 50 44.2**	**+0.3**
	3.1nm,0.7s,mb4.4,baz=309,slow=7.0,SNR=17						
ASAR	**Alice Springs**	**53.61**	**130**	P	**P**	**13 50 44.2**	**+0.3**
ASF	**Jabal al Asfar**	**54.64**	**302**	LR	LR	14 17 17.7	
	comp=Z,29nm,18.4s,baz=26,slow=40						
STKA	**Stephens Creek**	**63.83**	**134**	P	**P**	**13 51 55.9**	**+1.0**
	1.3nm,0.4s,mb4.3,baz=194,slow=23,SNR=8.2						
STKA	**Stephens Creek**	**63.83**	**134**	*e*P	**P**	**13 51 55.8**	**+0.8**
	0.3nm,0.4s,mb3.7						
CMSA	**Cobar Meteorol**	**66.63**	**131**	*e*P	**P**	**13 52 14.3**	**+1.2**
	29nm,1.0s,mb5.3						
FINES	**FINESS Array B**	**69.05**	**332**	P	**P**	**13 52 27.7**	**-0.1**
	6.2nm,0.9s,mb4.5,baz=128,slow=12,SNR=4.7						
FINES	**FINESS Array B**	**69.05**	**332**	P	**P**	**13 52 27.7**	**-0.1**
ARCES	**ARCESS Array B**	**71.75**	**340**	P	**P**	**13 52 44.9**	**+0.7**
	1.7nm,0.8s,mb4.0,baz=99,slow=7.6,SNR=7.3						
ARCES	**ARCESS Array B**	**71.75**	**340**	P	**P**	**13 52 44.9**	**+0.7**
GERES	**GERESS Array B**	**74.08**	**318**	P	**P**	**13 52 58.8**	**+0.3**
	1.0nm,0.9s,mb3.8,baz=72,slow=5.7,SNR=4.8						
GERES	**GERESS Array B**	**74.08**	**318**	P	**P**	**13 52 58.8**	**+0.3**
CDF	**Champ du Feu**	**78.35**	**317**	*e*P	**P**	**13 53 22.5**	**-0.2**
	4.2nm,0.8s,mb4.1						
LPG	**La Plagne**	**78.89**	**314**	*e*P	**P**	**13 53 26.3**	**+0.5**
	1.9nm,0.5s,mb4.0						
LPL	**La Plagne**	**78.90**	**314**	*e*P	**P**	**13 53 26.2**	**+0.4**
LOR	**Lormes**	**80.73**	**316**	*e*P	**P**	**13 53 35.6**	**-0.1**
SMF	**Signal de Mont**	**80.80**	**316**	*e*P	**P**	**13 53 36.0**	**-0.1**
SSF	**Saint Saulge**	**80.99**	**316**	*e*P	**P**	**13 53 37.1**	**0.0**
	1.6nm,0.5s,mb3.9						
ILAR	**Eielson Array**	**92.99**	**21**	P	**P**	**13 54 34.0**	**-1.5**
	0.5nm,0.8s,mb4.0,baz=305,slow=4.2,SNR=5.3						
ILAR	**Eielson Array**	**92.99**	**21**	P	**P**	**13 54 34.0**	**-1.5**
PDAR	**Pinedale Array**	**123.30**	**19**	PKP	PKPdf	14 00 18.2	-1.5
	0.2nm,0.6s,baz=316,slow=2.5,SNR=3.1						
PDAR	**Pinedale Array**	**123.30**	**19**	PKP	PKPdf	14 00 18.2	-1.5
NVAR	**Mina Array Bea**	**123.62**	**28**	PKP	PKPdf	14 00 20.9	+0.5
	0.4nm,0.5s,baz=289,slow=1.9,SNR=4.2						
NVAR	**Mina Array Bea**	**123.62**	**28**	PKP	PKPdf	14 00 20.9	+0.5
TXAR	**Lajitas Array**	**137.48**	**20**	PKP	PKPdf	14 00 48.6	+1.6
	0.2nm,0.6s,baz=217,slow=4.4,SNR=3.3						
TXAR	**Lajitas Array**	**137.48**	**20**	PKP	PKPdf	14 00 48.6	+1.6

*IDC **16** 13:46:20.8±0.5, 10°.83N×91°.73E, h0km, mb4.3/22, mb1 4.4/23, mb1mx4.3/27, mbtmp4.3/23, ML4.0/1, MS3.7/2, Ms1 3.7/2, ms1mx2.8/45, Error ellipse: s-maj=20.5km s-min=12.7km az=54.0*
*ISCJB **16** 13:46:23.1±1.4, 10°.81N±0°.04×91°.77E±0°.04, h29km±9km, mb4.5/68, MS3.9/7, Error ellipse: s-maj=7.8km s-min=6.3km az=29.1*
*MOS **16** 13:46:24.5±0.9, 10°.86N×91°.83E, h38km, mb5.0/15, Error ellipse: s-maj=12.1km s-min=6.6km az=104.6*
*BJI **16** 13:46:25.2, 10°.68N×91°.86E, h55km, mB4.8/14, mb4.6/35, Ms4.0/14, Ms7 3.8/13*
*NEIC **16** 13:46:26.4±1.2, 10°.84N×91°.79E, h38km±11km, mb4.6/11, Error ellipse: s-maj=12.5km s-min=5.8km az=63.0*
ISC 16 13:46:26.0±0.8, 10°.82N±0°.05×91°.74E±0°.04, h35km±7km, h44km±2.2km: pP-P, n194, σ0s82/185, mb4.5/68, MS3.9/7, 2C-3D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPTI		**9.25**	**144**	P	Px	13 49 15.4	
	712nm,1.2s,2.8nm						
CMAR	**Chiang Mai Arr**	**10.30**	**42**	Pn	**Pn**	**13 48 51.0**	**-0.4**
	0.4nm,0.3s,baz=237,slow=16,SNR=7.0						
CMAR	**Chiang Mai Arr**	**10.30**	**42**	Pn	**Pn**	**13 48 51.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**10.30**	**42**	P	**Pn**	**13 48 51.0**	**-0.4**
KULM	**Kulim**	**10.39**	**121**	*e*P	**Pn**	**13 48 52.7**	**0.0**
	27nm,1.4s						
CHTO	**Chiang Mai**	**10.56**	**40**	*e*P	**Pn**	**13 48 55.5**	**+0.6**
	4.6nm,0.7s						
CHTO				S	**Sn**	**13 50 48.2**	**-3.9**
CHTO	**Chiang Mai**	**10.56**	**40**	*e*P	**Pn**	**13 48 55.5**	**+0.5**
CHTO				S	**Sn**	**13 50 48.2**	**-3.9**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
PSI	**Prapat**	**10.69**	**138**	LR	LR	13 53 50.4	
	comp=Z,349nm,18.5s,baz=302,slow=42						
BWNR	**Bhubaneshwar**	**11.01**	**329**	*e*PKP	**Pn**	**13 48 52.0**	**-9.1**
BWNR				*e*S	**Sn**	**13 50 46.0**	**-17**
IPM	**Ipoh**	**11.15**	**124**	*e*P	**Pn**	**13 49 01.1**	**-1.9**
HYB	**Hyderabad**	**14.36**	**299**	*i* P	**Pn**	**13 49 54.0**	**+7.0**
HYB				*e*		13 52 15.0	
HYB				*e*S	**Sn**	**13 52 23.5**	**-1.6**
SHL	**Shillong**	**14.66**	**1**	*ex*	**Pn**	**13 49 57.0**	**+6.0**
ODAN	**Odare**	**16.47**	**346**	*e*P	**Pn**	**13 50 14.4**	**-0.1**
	comp=Z,14nm,0.5s						
TAPN	**Taplejung**	**16.87**	**348**	*e*P	**Pn**	**13 50 17.6**	**-1.9**
	comp=Z,46nm,0.9s						
KMI	**Kunming**	**17.64**	**35**	P	**Pn**	**13 50 30.3**	**+1.2**
KMI				pmax	pmax		
	comp=Z,9.0nm,0.8s						
PKI	**Pulchoki**	**17.69**	**341**	*e*P	**Pn**	**13 50 29.9**	**+0.2**
	comp=Z,58nm,0.9s						
PKIN	**Phulchoki**	**17.70**	**341**	*e*P	**Pn**	**13 50 30.4**	**+0.6**
	comp=Z,34nm,0.7s						
DMN	**Daman**	**17.82**	**340**	*e*P	**Pn**	**13 50 31.5**	**+0.1**
	comp=Z,38nm,0.8s						
GUN	**Gumba**	**17.87**	**343**	*e*P	**Pn**	**13 50 31.9**	**0.0**
KKN	**Kakani**	**17.94**	**341**	*e*P	**Pn**	**13 50 33.2**	**+0.5**
KAD	**Karad**	**18.20**	**293**	*e*PKP	**Pn**	**13 50 36.8**	**+0.8**
KAD				AMb	AMB	13 50 44.4	
	comp=Z,15nm,1.3s						
KAD				*ex*	x	13 53 44.1	
GKN	**Gorkha**	**18.34**	**340**	*e*P	**Pn**	**13 50 38.1**	**+0.4**
	comp=Z,56nm,0.6s						
BHPL	**Bhopal**	**18.41**	**314**	*e*PKP	**Pn**	**13 50 38.4**	**-0.2**
BHPL				AMb	AMB	13 50 41.2	
	comp=Z,22nm,1.0s						
BHPL				*ex*	x	13 53 44.9	
KOLN	**Koldanda**	**18.51**	**337**	*e*P	**Pn**	**13 50 40.7**	**+0.9**
	comp=Z,35nm,0.5s						
LSA	**Lhasa**	**18.79**	**358**	*e*P	**Pn**	**13 50 42.8**	**-0.3**
	comp=Z,16nm,0.6s						
LSA	**Lhasa**	**18.79**	**358**	*e*P	**Pn**	**13 50 42.8**	**-0.3**
LSA				pmax	pmax		
	comp=Z,16nm,0.6s						
POO	**Poona**	**18.91**	**296**	*e*PKP	**Pn**	**13 50 42.8**	**-1.9**
POO				AMb	AMB	13 50 49.7	
	comp=Z,25nm,1.8s						
POO				*ex*	x	13 53 54.4	
DANN	**Dangsing**	**18.97**	**338**	*e*P	**Pn**	**13 50 44.8**	**-0.5**
	comp=Z,42nm,0.5s						
KSM	**Kuching**	**20.65**	**115**	P	pP	13 51 12.9	+0.8
	comp=Z,21nm,1.1s						
BLSI	**Bandar Lampung**	**20.96**	**139**	P	pP	13 51 20.2	+4.7
	comp=Z,104nm,0.4s						
GYA	**Guiyang**	**20.99**	**40**	P	**P**	**13 51 06.8**	**+0.4**
GYA				pP		13 51 19.0	
GYA				sP	sP	13 51 25.6	+5.5
GYA				PP		13 51 32.3	
GYA				S	**S**	**13 54 54.8**	**-3.6**
GYA				sS	sS	13 55 13.3	+0.1
GYA				ScP	ScP	13 58 45.8	-1.5
GYA				pmax	pmax		
	comp=Z,20nm,0.7s						
GYA				pmax	pmax		
	comp=Z,90nm,4.7s						
GYA				LR	LR		
	comp=N,450nm,14.8s,MS4.1						
GYA				LR	LR		
	comp=E,410nm,13.8s,MS4.1						
GYA				LR	LR		
	comp=Z,330nm,12.1s,MS3.9						
SBUM	**Sibu**	**21.96**	**111**	P	pP	13 51 23.0	-3.3
	comp=Z,9.7nm,1.0s						
STKI	**Sintang**	**22.34**	**117**	P	pP	13 51 31.7	+1.3
	comp=Z,20nm,1.2s,comp=Z,5μm						
CD2	**Chengdu**	**22.89**	**27**	P	**P**	**13 51 27.0**	**+0.3**
CD2				pP		13 51 38.4	
CD2				sP	sP	13 51 44.0	+3.5
CD2				PP		13 51 57.3	
CD2				S	**S**	**13 55 29.1**	**-5.1**
CD2				sS	sS	13 55 48.3	-2.1
CD2				SS		13 56 15.0	
CD2				pmax	pmax		
	comp=Z,30nm,0.8s,mb4.8						
CD2				pmax	pmax		
	comp=Z,150nm,10.3s						
CD2				LR	LR		
	comp=N,300nm,14.3s						
CD2				LR	LR		
	comp=Z,650nm,14.3s,MS4.2						
ENH	**Enshi**	**25.44**	**38**	*e*P	**P**	**13 51 49.3**	**-1.4**
	comp=Z,40nm,0.8s,mb5.0						
MYLDM	**Lahad Datu**	**27.08**	**100**	P	pP	13 52 15.6	-0.1
	comp=Z,18nm,1.9s						
LZH	**Lanzhou**	**27.44**	**22**	*e*P	**P**	**13 52 10.0**	**+1.4**
LZH				pP	pP	13 52 19.5	+0.8
LZH				sP	sP	13 52 24.0	+1.1
LZH				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.5						
XAN	**Xi'an**	**27.95**	**32**	P	**P**	**13 52 12.0**	**-1.2**
XAN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.9						
WHN	**Wuhan**	**28.75**	**44**	P	**P**	**13 52 18.1**	**-2.2**
GTA	**Gaotai**	**29.36**	**13**	*e*P	**P**	**13 52 27.4**	**+1.7**
GTA				pP	pP	13 52 38.8	+3.0
GTA				sP	sP	13 52 44.8	+4.7
GTA			

WMQ pP pP 13 53 12.0 +3.6
WMQ sP sP 13 53 17.3 +4.7
WMQ PP PP 13 54 11.8 -1.6
WMQ pmax pmax
comp=Z,11nm,1.1s,mb4.7
WMQ LR LR
comp=N,85nm,18.9s
WMQ LR LR
comp=E,110nm,26.4s
WMQ LR LR
comp=Z,51nm,22.1s,MS3.2
HHC Hu-ho-hao-te 34.65 27 *e*P **P 13 53 12.8 +0.7**
HHC pP pP 13 53 25.0 +2.8
HHC sP sP 13 53 30.5 +4.0
HHC PP PP 13 54 30.3 -0.7
HHC PcP PcP 13 55 46.8 +1.0
HHC S **S 13 58 38.8 -0.6**
HHC sS sS 13 58 58.9 +2.8
HHC ScP ScP 13 59 26.6 -2.0
HHC PcS PcS 13 59 31.3 -1.0
HHC SS SS 14 00 52.8 -18
HHC ScS ScS 14 03 28.3 -3.3
HHC pmax pmax
comp=Z,20nm,0.6s,mb5.2
HHC pmax pmax
comp=Z,110nm,6.0s
HHC LR LR
comp=N,150nm,14.0s,MS4.0
HHC LR LR
comp=E,140nm,13.5s,MS4.0
HHC LR LR
comp=Z,120nm,13.3s,MS3.8
TKM2 Tokmak 2 34.93 339 P **P 13 53 13.4 -1.0**
comp=Z,3.3nm,1.0s,mb4.2
TKM2 Tokmak 2 34.93 339 P **P 13 53 13.4 -1.1**
TKM2 pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
AAK Ala-Archa 35.08 338 *e*P **P 13 53 16.9 +1.1**
comp=Z,80nm,1.3s,mb5.5
AAK Ala-Archa 35.08 338 *e*P **P 13 53 16.9 +1.1**
AAK pmax pmax
comp=Z,80nm,1.3s,mb5.5
EKS2 Erkin-Say 35.38 337 *e*P **P 13 53 20.3 +2.0**
comp=Z,9.4nm,0.8s,mb4.8
EKS2 Erkin-Say 35.38 337 *e*P **P 13 53 20.3 +2.0**
EKS2 pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MK31 Makanchi Array 36.73 349 *e*P **P 13 53 30.4 +0.6**
MK31 Makanchi Array 36.73 349 *e*P **P 13 53 30.4 +0.5**
MKAR Makanchi Array 36.73 349 P **P 13 53 30.5 +0.6**
comp=Z,10nm,0.8s,mb4.7,baz=167,slow=8.2,SNR=56
MKAR Makanchi Array 36.73 349 P **P 13 53 30.5 +0.6**
MKAR Makanchi Array 36.73 349 P **P 13 53 30.5 +0.6**
SONM Songino Array 38.90 16 P **P 13 53 49.3 +1.1**
comp=Z,6.8nm,0.9s,mb4.4,baz=200,slow=8.0,SNR=35
SONM PcP PcP 13 55 59.2 +0.7
comp=Z,0.5nm,0.8s,baz=184,slow=2.3,SNR=3.5
SONM LR LR 14 10 07.1
comp=Z,96nm,18.9s,MS3.6,baz=160,slow=37
SONM Songino Array 38.90 16 P **P 13 53 49.3 +1.1**
SONM PcP PcP 13 55 59.2 +0.7
SONM LR LR 14 10 07.1
SONM Songino Array 38.90 16 P **P 13 53 49.3 +1.2**
SONM 13 55 59.2
AAI Ambon 39.05 110 P pP 13 53 59.6 -0.5
comp=Z,38nm,1.2s
ULN Ulaanbaatar 39.11 16 P **P 13 53 49.0 -0.9**
comp=Z,3.2nm,0.9s,mb4.0
ULN Ulaanbaatar 39.11 16 P **P 13 53 49.0 -0.9**
ULN pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
MSAI Masohi 39.60 109 P pP 13 54 00.1 -4.7
comp=Z,13nm,0.9s,comp=Z,496nm
ZAK Zakamensk 40.57 11 *e*P **P 13 54 02.7 +0.7**
ZAK pmax pmax
comp=Z,2.0nm,1.5s,mb3.5
KURK Kurchatov 41.21 347 P **P 13 54 07.2 0.0**
comp=Z,7.1nm,0.9s,mb4.3,baz=165,slow=7.4,SNR=20
KURK Kurchatov 41.21 347 *e*P **P 13 54 07.7 +0.5**
comp=Z,13nm,1.2s,mb4.4
KURK Kurchatov 41.21 347 *e*P **P 13 54 07.9 +0.6**
KURK pmax pmax
comp=Z,20nm,1.7s,mb4.5
SNY Shenyang 41.61 36 ⇑P **P 13 54 11.1 +0.4**
KSRS Korea Array 41.93 45 P **P 13 54 11.9 -1.5**
comp=Z,0.9nm,0.6s,mb3.6,baz=242,slow=9.4,SNR=3.7
KSRS Korea Array 41.93 45 P **P 13 54 11.9 -1.5**
KSRS pmax pmax
comp=Z,1.0nm,0.6s,mb3.6
ZAA0 Zalesovo Array 43.37 354 *e*P **P 13 54 24.8 0.0**
ZALV Zalesovo Beam 43.37 354 P **P 13 54 25.1 +0.3**
comp=Z,12nm,0.8s,mb4.7,baz=170,slow=9.9,SNR=42
ZALV Zalesovo Beam 43.37 354 P **P 13 54 25.1 +0.3**
ZALV Zalesovo Beam 43.37 354 P **P 13 54 25.1 +0.3**
CN2 Changchun 43.91 35 *e*P **P 13 54 29.5 +0.2**
CN2 pmax pmax
comp=Z,20nm,1.0s,mb4.8
TLE Tual 43.97 110 P pP 13 54 39.2 -1.4
comp=Z,23nm,1.5s
FITZ Fitzroy Crossi 44.11 130 P **P 13 54 31.3 +0.1**
comp=Z,2.2nm,0.6s,mb4.1,baz=285,slow=8.0,SNR=11
FITZ Fitzroy Crossi 44.11 130 *e*P **P 13 54 30.8 -0.5**
comp=Z,22nm,1.1s,mb4.8
FITZ Fitzroy Crossi 44.11 130 P pP 13 54 39.2 -2.5
comp=Z,22nm,1.1s
NVS Novosibirsk 44.42 353 *e*P **P 13 54 29.0 -4.2**
NVS *e* 13 56 13.8
NVS pmax pmax
comp=N,10.0nm,2.0s
NVS pmax pmax
comp=Z,27nm,2.0s,mb4.6
NVS pmax pmax
comp=E,14nm,2.2s
BVAR Borovoye Array 45.46 342 P **P 13 54 41.8 +0.3**
comp=E,2.3nm,0.9s,mb4.0,baz=148,slow=8.4,SNR=7.6
BVAR Borovoye Array 45.46 342 P **P 13 54 41.8 +0.3**
BVAR Borovoye Array 45.46 342 P **P 13 54 41.8 +0.3**
BRVK Borovoye 45.52 342 *e*P **P 13 54 42.1 +0.1**
comp=E,3.9nm,0.9s,mb4.3
BRVK Borovoye 45.52 342 *e*P **P 13 54 42.1 +0.1**
BRVK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
MJAR Matsushiro Arr 49.04 51 PcP PcP 13 56 33.5 +0.2
comp=Z,1.1nm,0.8s,baz=258,slow=4.8,SNR=3.9
GNI Garni 50.70 314 *e*P **P 13 55 24.4 +2.2**
GNI pmax pmax
comp=Z,15nm,1.2s
SVE Sverdlovsk 51.81 339 ⇓*i*P **P 13 55 31.3 +1.0**
SVE *e*PPP 13 58 30.9
SVE *e*S **S 14 03 03.1 +13**
SVE pmax pmax
comp=Z,20nm,1.3s,mb4.9
WRA Warramunga Arr 51.90 126 P **P 13 55 30.2 -1.2**
comp=Z,6.6nm,0.6s,mb4.8,baz=304,slow=8.7,SNR=19
WRA Warramunga Arr 51.90 126 P **P 13 55 30.2 -1.2**
WRA Warramunga Arr 51.90 126 P **P 13 55 30.3 -1.2**
WRAB Tennant Creek 51.90 126 *e*P **P 13 55 31.9 +0.4**
comp=Z,9.0nm,0.6s,mb4.9
WRAB Tennant Creek 51.90 126 *e*P **P 13 55 31.9 +0.4**
WRAB pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
WRAB Tennant Creek 51.90 126 P pP 13 55 40.3 -1.8
ARU Arti 52.27 337 *d*i*P* **P 13 55 33.8 +0.1**
ARU 13 57 30.7
ARU S **S 14 02 54.6 -1.7**
ARU pmax pmax
comp=Z,15nm,1.7s,mb4.7
ZEI Tsey 52.28 316 *e*P **P 13 55 34.5 +0.5**
KIV Kislovodsk 53.55 317 *e*P **P 13 55 44.7 +1.3**
KIV pmax pmax
comp=Z,12nm,0.7s,mb4.9
ASAR Alice Springs 53.62 130 P **P 13 55 44.9 +0.8**
comp=Z,1.1nm,0.5s,mb4.0,baz=301,slow=6.8,SNR=12
ASAR Alice Springs 53.62 130 P **P 13 55 44.9 +0.8**
ASAR Alice Springs 53.62 130 P **P 13 55 44.9 +0.8**
VRHR Novokhopersk 57.17 325 *e*P **P 13 56 09.5 +0.1**
VRHR pmax pmax
comp=N,6.0nm,0.4s
VRHR pmax pmax
comp=Z,7.0nm,0.4s,mb5.0
VRHR pmax pmax
comp=E,10.0nm,0.5s
YAK Yakutsk 58.01 20 *e*P **P 13 56 15.0 0.0**
YAK pmax pmax
comp=Z,38nm,2.5s,mb5.0

BR131 Keskin Array S 58.72 310 *e*P **P 13 56 19.7 -0.8**
comp=Z,1.1nm,0.6s,mb4.1
BR131 *e* 13 56 25.5
BRTR Keskin Array B 58.72 310 P **P 13 56 19.9 -0.6**
comp=Z,2.4nm,0.8s,mb4.3,baz=119,slow=7.2,SNR=14
BRTR Keskin Array B 58.72 310 P **P 13 56 19.9 -0.6**
BRTR Keskin Array B 58.72 310 P **P 13 56 19.9 -0.6**
OBN Obninsk 61.63 328‖ *e*P **P 13 56 39.6 -0.5**
OBN *e*S **S 14 04 56.1 -3.8**
OBN pmax pmax
comp=Z,4.0nm,0.5s,mb4.8
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.0
KLMR Klimovskoe 62.78 334 *e*P **P 13 56 47.1 -0.6**
KLMR pmax pmax
comp=Z,21nm,1.2s,mb5.1
STKA Stephens Creek 63.84 134 P **P 13 56 55.5 +0.3**
comp=Z,3.6nm,0.9s,mb4.4,baz=333,slow=9.0,SNR=3.0
STKA Stephens Creek 63.84 134 P **P 13 56 55.5 +0.3**
STKA Stephens Creek 63.84 134 P **P 13 56 55.5 +0.3**
AKASG Malin Array Be 64.38 321 P **P 13 56 57.8 -0.6**
comp=Z,1.5nm,0.8s,mb4.1,baz=93,slow=4.7,SNR=9.4
AKASG Malin Array Be 64.38 321 P **P 13 56 57.8 -0.6**
AKASG Malin Array Be 64.38 321 P **P 13 56 57.8 -0.6**
BUR08 Bucovina Ar. S 66.30 317 *e*P **P 13 57 11.5 +0.6**
JOF Joensuu 67.18 334 *e*P **P 13 57 15.7 -0.5**
JOF pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
JOF Joensuu 67.18 334 *ep* **P 13 57 15.7 -0.5**
comp=Z,10nm,0.8s,mb4.9
FINES FINESS Array B 69.01 332 P **P 13 57 28.4 +0.6**
comp=Z,6.8nm,0.8s,mb4.7,baz=123,slow=7.0,SNR=9.4
FINES FINESS Array B 69.01 332 P **P 13 57 28.4 +0.6**
FINES FINESS Array B 69.01 332 P **P 13 57 28.4 +0.7**
KAF Kangasniemi 69.10 333 *e*P **P 13 57 21.8 -6.5**
KAF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
KAF Kangasniemi 69.10 333 *ep* **P 13 57 21.8 -6.5**
comp=Z,3.4nm,0.8s,mb4.3
OJC Ojcow 70.21 320 *e*P **P 13 57 35.4 +0.1**
OJC Ojcow 70.21 320 *e*P **P 13 57 35.4 +0.1**
ARCES ARCESS Array B 71.70 340 P **P 13 57 43.5 -0.6**
comp=Z,3.4nm,0.8s,mb4.3,baz=91,slow=4.9,SNR=5.6
ARCES ARCESS Array B 71.70 340 P **P 13 57 43.5 -0.6**
ARCES ARCESS Array B 71.70 340 P **P 13 57 43.5 -0.6**
DPC Dobruska-Polom 72.44 319 *e*P **P 13 57 49.5 +0.7**
DPC Dobruska-Polom 72.44 319 *e*P **P 13 57 49.5 +0.7**
GERES GERESS Array B 74.06 318 P **P 13 57 58.8 +0.3**
comp=Z,2.0nm,0.7s,mb4.1,baz=84,slow=5.5,SNR=16
GERES GERESS Array B 74.06 318 P **P 13 57 58.8 +0.3**
GERES GERESS Array B 74.06 318 P **P 13 57 58.8 +0.4**
KHC Kasperske Hory 74.15 318 *e*P **P 13 57 58.8 -0.2**
KHC Kasperske Hory 74.15 318 *e*P **P 13 57 58.8 -0.2**
BILL Bilibino 74.25 22‖ *e*P **P 13 57 58.8 -0.4**
BILL *e* 14 00 39.2
BILL *e*SS SS 14 12 19.2 +3.3
BILL pmax pmax
comp=Z,2.0nm,1.2s,mb3.9
BILL MLR MLR
comp=Z,100nm,23.0s,MS4.0
CLL Collm 74.59 320 *e*P **P 13 58 01.0 -0.5**
CLL Collm 74.59 320 *e*P **P 13 58 01.0 -0.5**
BOSA Boshof 75.18 237 P **P 13 58 07.2 +1.9**
comp=Z,3.6nm,0.8s,mb4.4,baz=26,slow=5.2,SNR=7.5
BOSA Boshof 75.18 237 P **P 13 58 07.2 +1.9**
BOSA Boshof 75.18 237 P **P 13 58 07.2 +1.9**
NOA NORSAR Array B 76.01 330 P **P 13 58 08.9 -0.5**
comp=Z,2.6nm,0.8s,mb4.2,baz=92,slow=5.5,SNR=4.9
NOA NORSAR Array B 76.01 330 P **P 13 58 08.9 -0.5**
NOA NORSAR Array B 76.01 330 P **P 13 58 08.9 -0.5**
PGF Pioggiola 77.44 311 *e*P **P 13 58 18.0 +0.1**
KEST Kesra 77.62 304 P **P 13 58 18.2 -0.9**
comp=Z,1.7nm,0.8s,mb4.0,baz=3.6,slow=3.1,SNR=3.9
KEST Kesra 77.62 304 P **P 13 58 18.2 -0.9**
CDF Champ du Feu 78.33 317 *e*P **P 13 58 22.2 -0.5**
comp=Z,7.1nm,0.9s,mb4.3
SBF Sospel 78.50 313 *e*P **P 13 58 23.1 -0.6**
LPG La Plagne 78.87 314 *e*P **P 13 58 25.8 0.0**
comp=Z,14nm,0.9s,mb4.6
LPL La Plagne 78.88 314 *e*P **P 13 58 25.9 +0.1**
comp=Z,16nm,0.9s,mb4.7
MBDF Montbardon 78.91 314 *e*P **P 13 58 27.1 +1.1**
comp=Z,9.8nm,0.9s,mb4.4
HAU Haudompre 78.97 317 *e*P **P 13 58 25.7 -0.6**
comp=Z,13nm,0.9s,mb4.6
CABF La Chapelle 79.25 316 *e*P **P 13 58 27.7 -0.1**
comp=Z,12nm,0.9s,mb4.5
PAGF Fort de Pagny 79.35 318 *e*P **P 13 58 27.9 -0.4**
comp=Z,4.3nm,1.0s,mb4.0
ORIF Oris-en-Rattie 79.53 314 *e*P **P 13 58 29.1 -0.3**
comp=Z,13nm,1.0s,mb4.4
MEZF Maizieres J'vi 79.80 318 *e*P **P 13 58 30.4 -0.3**
SMRF Simiane la Rot 79.83 313 *e*P **P 13 58 31.1 +0.1**
SFTF Sexfontaines 79.83 317 *e*P **P 13 58 30.6 -0.3**
comp=Z,10nm,0.6s,mb4.6
BAIF Baives 80.22 319 *e*P **P 13 58 32.9 -0.1**
VIVF Saint-Julien-l 80.39 314 *e*P **P 13 58 33.9 -0.1**
comp=Z,8.5nm,0.7s,mb4.5
LOR Lormes 80.71 316 *e*P **P 13 58 35.1 -0.6**
comp=Z,7.8nm,0.7s,mb4.4
SMF Signal de Mont 80.79 316 *e*P **P 13 58 35.6 -0.5**
comp=Z,5.8nm,0.6s,mb4.4
SSF Saint Saulge 80.97 316 *e*P **P 13 58 36.8 -0.3**
LASF Ste Croix 81.05 313 *e*P **P 13 58 37.7 +0.1**
AVF Avril sur Loir 81.11 316 *e*P **P 13 58 37.3 -0.5**
comp=Z,5.3nm,0.7s,mb4.3
BGF Bois d'Agland 81.48 316 *e*P **P 13 58 39.8 0.0**
TCF Toulx Ste Croi 81.95 316 *e*P **P 13 58 42.1 -0.2**
CAF Calviac 82.22 314 *e*P **P 13 58 43.8 0.0**
MTLF Montolieu 82.32 313 *e*P **P 13 58 44.3 0.0**
comp=Z,9.1nm,0.8s,mb4.5
RJF Les Rejaudoux 82.56 315 *e*P **P 13 58 45.7 +0.2**
comp=Z,6.8nm,0.7s,mb4.5
LFF La Frestale 83.16 314 *e*P **P 13 58 48.8 +0.2**
LDF La Druitiere 83.20 318 *e*P **P 13 58 48.3 -0.5**
comp=Z,4.0nm,0.7s,mb4.3
FLN La Foliniere 83.41 318 *e*P **P 13 58 49.4 -0.4**
comp=Z,18nm,1.0s,mb4.8
MFF Saint Martin d 83.52 316 *e*P **P 13 58 50.1 -0.3**
comp=Z,14nm,0.8s,mb4.8
SJPF Ste Jean 84.84 313 *e*P **P 13 58 57.5 +0.3**
ROSF Rostrenen 85.31 318 *e*P **P 13 58 59.1 -0.4**
ESDC Sonseca Array 87.52 310 P **P 13 59 10.8 +0.3**
comp=Z,0.5nm,0.6s,mb4.0,baz=49,slow=4.3,SNR=4.0
ESDC Sonseca Array 87.52 310 P **P 13 59 10.8 +0.3**
TORD Torodi Ar. Bea 87.62 283 P **P 13 59 11.8 +0.3**
comp=Z,0.5nm,0.6s,mb3.9,baz=92,slow=3.9,SNR=5.4
TORD Torodi Ar. Bea 87.62 283 P **P 13 59 11.8 +0.3**
ILAR Eielson Array 92.90 21 P **P 13 59 34.5 -0.7**
comp=Z,0.8nm,0.7s,mb4.2,baz=300,slow=4.5,SNR=11
ILAR Eielson Array 92.90 21 P **P 13 59 34.5 -0.7**
ILAR Eielson Array 92.90 21 P **P 13 59 34.5 -0.6**
INK Inuvik 94.81 15 P **P 13 59 43.0 -0.8**
comp=Z,0.8nm,0.9s,mb4.2,baz=14,slow=19,SNR=3.0
INK Inuvik 94.81 15 P **P 13 59 43.0 -0.8**
INK Inuvik 94.81 15 P **P 13 59 43.0 -0.8**
PDAR Pinedale Array 123.22 19 PKP PKPdf 14 05 19.8 +0.4
comp=Z,0.5nm,0.6s,baz=63,slow=0.7,SNR=4.5
PDAR Pinedale Array 123.22 19 PKP PKPdf 14 05 19.8 +0.4
NVAR Mina Array Bea 123.54 28 PKP PKPdf 14 05 21.8 +1.6
comp=Z,0.3nm,0.5s,baz=346,slow=2.0,SNR=6.4
NVAR Mina Array Bea 123.54 28 PKP PKPdf 14 05 21.8 +1.6
CPUP Villa Florida 146.99 238 PKPbc PKPbc 14 06 06.3 +0.5
comp=Z,3.1nm,0.9s,baz=116,slow=6.5,SNR=3.2
CPUP Villa Florida 146.99 238 PKPbc PKPbc 14 06 06.3 +0.5

IDC ***16*** *13:53:34.5±4.1,36.88S×178.63E,h0km,mb3.4/2, mb1 3.7/2,mb1mx3.6/13,mbtmp3.4/2,Error ellipse: s-maj=80.7km s-min=32.4km az=110.0*
WEL ***16*** *13:53:35.7±0.4,37.55S×179.34E,h12km,ML3.8/8,Error ellipse: s-maj=3.0km s-min=2.4km az=90.0*
ISC 16 13:53:34.6±1.4,37.64S±0.07×179.44E±0.08,h24km±9km, n45,σ1s11/50,mb3.4/2,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.90**	**275**	P*	**Pb**	**13 53 51.0**	**-0.5**
MXZ				S*	**Sb**	**13 54 01.3**	**-1.8**
PUZ	**Puketiti**	**1.03**	**245**	P*	**Pb**	**13 53 53.9**	**+0.2**
PUZ				S*	**Sb**	**13 54 07.9**	**+1.1**
CNGZ	**Carnagh Statio**	**1.29**	**229**	PN	**Pn**	**13 53 59.0**	**+2.0**
MWZ	**Matawai**	**1.66**	**245**	PN	**Pn**	**13 54 03.1**	**+0.8**
MWZ				*e*SN	**Sn**	**13 54 22.5**	**-0.2**

PRGZ Paritu Road 1.77 223 PN **Pn 13 54 04.1 +0.4**
MHGZ Mahia Peninsul 1.93 218 PN **Pn 13 54 07.3 +1.4**
URZ Urewera 1.94 251 PN **Pn 13 54 07.1 +1.0**
URZ Urewera 1.94 251 Pn **Pn 13 54 07.2 +1.1**
21nm,0.3s,baz=62,slow=3.0,SNR=214
URZ Sn **Sn 13 54 31.1 +1.4**
29nm,0.3s,baz=23,slow=17,SNR=12
KNZ Kokohu 1.96 225 PN **Pn 13 54 07.0 +0.7**
RAHZ Arahi 2.25 235 PN **Pn 13 54 11.7 +1.5**
OPRZ Ohinepanea 2.29 264 PN **Pn 13 54 11.1 +0.2**
OPRZ SN **Sn 13 54 37.5 -0.9**
TARZ Mount Tarawera 2.39 255 PN **Pn 13 54 13.5 +1.2**
RRRZ Republican Roa 2.41 252 PN **Pn 13 54 13.3 +0.8**
NMHZ Naumai 2.53 234 PN **Pn 13 54 15.7 +1.6**
ALRZ Allen Road 2.61 248 PN **Pn 13 54 16.0 +0.8**
CKHZ Cape Kidnapper 2.73 222 PN **Pn 13 54 17.6 +0.6**
BKZ Black Stump Fm 2.77 236 PN **Pn 13 54 18.3 +0.8**
KAHZ Kahuranaki 2.94 222 PN **Pn 13 54 20.3 +0.5**
KUZ Kuaotunu 3.10 286 PN **Pn 13 54 21.9 -0.1**
PXZ Pawanui 3.12 219 PN **Pn 13 54 22.1 -0.2**
BHHZ Black Hill Sta 3.23 234 PN **Pn 13 54 24.4 +0.7**
KRVZ Karewarewa 3.32 243 PN **Pn 13 54 22.8 -2.2**
WPHZ Waipukurau 3.37 223 PN **Pn 13 54 25.6 -0.1**
PNHZ Pukenui 3.40 227 PN **Pn 13 54 26.1 0.0**
PRHZ Porangahau 3.41 219 PN **Pn 13 54 26.0 -0.3**
WPVZ Whakapapa 3.43 242 PN **Pn 13 54 27.3 +0.8**
MKAZ Moumakai 3.44 278 PN **Pn 13 54 27.2 +0.5**
FWVZ Far West T-bar 3.45 241 PN **Pn 13 54 27.6 +0.7**
FWVZ SN **Sn 13 55 05.9 -1.1**
WNVZ Wahianoa 3.45 240 PN **Pn 13 54 27.4 +0.6**
TSZ Takapari Road 3.63 227 PN **Pn 13 54 28.9 -0.5**
OTAZ Otara 3.66 279 PN **Pn 13 54 28.5 -1.3**
DVHZ Dannevirke 3.68 223 PN **Pn 13 54 29.4 -0.5**
BFZ Birch Farm 3.92 218 PN **Pn 13 54 32.2 -1.1**
POWZ Post Office Ro 3.96 225 PN **Pn 13 54 33.5 -0.3**
MRZ Mangatainoka R 4.25 224 PN **Pn 13 54 36.8 -1.1**
WCZ Waipu Caves 4.43 291 PN **Pn 13 54 41.3 +1.0**
MTW Mount Morrison 4.65 220 PN **Pn 13 54 41.7 -1.6**
CAW Cannon Point 4.84 223 PN **Pn 13 54 43.9 -2.0**
TUWZ Tuamarina 5.69 227 PN **Pn 13 54 54.5 -3.1**
THZ Tophouse 6.50 229 PN **Pn 13 55 06.5 -2.3**
KHZ Kahutara 6.58 222 PN **Pn 13 55 07.5 -2.2**
LTZ Lake Taylor 7.51 225 PN **Pn 13 55 18.6 -4.0**
ASAR Alice Springs 41.19 276 P **P 14 01 16.4 -0.9**
0.3nm,0.5s,mb3.1,baz=118,slow=7.3,SNR=10
WRA Warramunga Arr 42.83 281 P **P 14 01 26.4 -4.4**
0.4nm,0.3s,mb3.6,baz=120,slow=7.9,SNR=9.9
ARCES ARCESS Array B 145.09 344 PKP PKPdf 14 13 10.5 +1.7
1.3nm,0.6s,baz=22,slow=3.9,SNR=6.9

ISCJB ***16*** *14:03:21.4±0.4,36.55N±0.04×26.83E±0.04,h147km±5km, mb3.5/3,Error ellipse: s-maj=7.2km s-min=4.5km az=16.0*
CSEM ***16*** *14:03:21.9±0.1,36.62N×26.90E,h134km±2km,ML3.4/3, Error ellipse: s-maj=5.7km s-min=3.4km az=33.0*
NEIC ***16*** *14:03:22.3±0.8,36.57N×26.85E,h139km±12km,mb3.5/1, Error ellipse: s-maj=16.0km s-min=9.8km az=165.0*
IDC ***16*** *14:03:24.2±3.7,36.51N×27.05E,h154km±38km,mb3.3/3, mb1 3.2/6,mb1mx3.0/26,mbtmp3.2/6,Error ellipse: s-maj=47.1km s-min=19.0km az=136.0*
ATH ***16*** *14:03:25.3,36.57N×26.65E,h36km±9km,MD3.1/6*
THE ***16*** *14:03:25.0,36.54N×26.79E,h159km±9km,ML3.4/3,Error ellipse: s-maj=9.6km s-min=1.6km az=142.0*
HLW ***16*** *14:03:28.7,36.08N×27.31E,h31km±31km,Md3.5,Ml3.5*
ISC 16 14:03:22.3±0.4,36.56N±0.04×26.82E±0.04,h142km±5km, n84,σ0s99/105,mb3.5/3,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**1.05**	**165**	*e*PN	**Pn**	**14 03 46.3**	**-0.4**
KARP	**Karpathos**	**1.05**	**165**	P	**Pn**	**14 03 47.4**	**+0.7**
KARP				S	**Sn**	**14 04 05.7**	**+0.4**
KARP	**Karpathos**	**1.05**	**165**	*e*Pn	**Pn**	**14 03 46.3**	**-0.4**
KARP	**Karpathos**	**1.05**	**165**	P	**Pn**	**14 03 47.4**	**+0.7**
KARP				S	**Sn**	**14 04 05.7**	**+0.4**
ARG	**Arkhangelos**	**1.11**	**108**	*e*PN	**Pn**	**14 03 47.9**	**+0.7**
ARG	**Arkhangelos**	**1.11**	**108**	P	**Pn**	**14 03 47.9**	**+0.7**
ARG				S	**Sn**	**14 04 06.4**	**+0.2**
ARG	**Arkhangelos**	**1.11**	**108**	*e*Pn	**Pn**	**14 03 47.9**	**+0.7**
THR1	**Thera Island**	**1.12**	**261**	P	**Pn**	**14 03 47.7**	**+0.4**
THR1	**Thera Island**	**1.12**	**261**	P	**Pn**	**14 03 47.7**	**+0.4**
SMG	**Samos**	**1.15**	**1**	*e*PN	**Pn**	**14 03 46.6**	**-1.0**
SMG	**Samos**	**1.15**	**1**	*e*Pn	**Pn**	**14 03 46.6**	**-1.0**
THR3	**Thira Island,**	**1.16**	**263**	P	**Pn**	**14 03 48.1**	**+0.4**
THR3	**Thira Island,**	**1.16**	**263**	P	**Pn**	**14 03 48.1**	**+0.4**
THR6	**Thira Island,**	**1.17**	**260**	P	**Pn**	**14 03 48.4**	**+0.6**
THR6	**Thira Island,**	**1.17**	**260**	P	**Pn**	**14 03 48.4**	**+0.6**
NPS	**Neapolis**	**1.62**	**218**	*e*PN	**Pn**	**14 03 52.0**	**-0.6**
NPS	**Neapolis**	**1.62**	**218**	P	**Pn**	**14 03 53.3**	**+0.7**
NPS				S	**Sn**	**14 04 15.4**	**-0.4**
NPS	**Neapolis**	**1.62**	**218**	*e*Pn	**Pn**	**14 03 52.0**	**-0.6**
NPS	**Neapolis**	**1.62**	**218**	P	**Pn**	**14 03 53.3**	**+0.7**
NPS				S	**Sn**	**14 04 15.4**	**-0.4**
LAST	**Lasithi**	**1.77**	**218**	P	**Pn**	**14 03 54.9**	**+0.6**
LAST	**Lasithi**	**1.77**	**218**	P	**Pn**	**14 03 54.9**	**+0.6**
SIVA	**Sivas**	**2.25**	**227**	P	**Pn**	**14 04 01.1**	**+1.2**
SIVA				S	**Sn**	**14 04 28.6**	**-0.1**
SIVA	**Sivas**	**2.25**	**227**	P	**Pn**	**14 04 01.1**	**+1.2**
SIVA				S	**Sn**	**14 04 28.6**	**-0.1**
VAM	**Vamos**	**2.42**	**242**	*e*PN	**Pn**	**14 04 02.7**	**+0.7**
VAM	**Vamos**	**2.42**	**242**	P	**Pn**	**14 04 02.5**	**+0.5**
VAM	**Vamos**	**2.42**	**242**	*e*Pn	**Pn**	**14 04 02.7**	**+0.7**
KARN	**Karanos**	**2.62**	**245**	P	**Pn**	**14 04 05.4**	**+0.8**
KARN				S	**Sn**	**14 04 35.6**	**-1.5**
KARN	**Karanos**	**2.62**	**245**	P	**Pn**	**14 04 05.4**	**+0.8**
GVD	**Gavdhos**	**2.81**	**233**	*e*PN	**Pn**	**14 04 08.3**	**+1.4**
GVD				*e*SN	**Sn**	**14 04 40.3**	**-1.0**
GVD	**Gavdhos**	**2.81**	**233**	*e*P	**Pn**	**14 04 07.3**	**+0.9**
GVD	**Gavdhos**	**2.81**	**233**	P	**Pn**	**14 04 08.2**	**+1.3**
GVD				S	**Sn**	**14 04 41.6**	**+0.3**
GVD	**Gavdhos**	**2.81**	**233**	P	**Pn**	**14 04 08.2**	**+1.3**
GVD				*e*Sn	**Sn**	**14 04 40.3**	**-1.0**
GVD				S	**Sn**	**14 04 41.6**	**+0.3**
DID	**Didima**	**3.02**	**289**	P	**Pn**	**14 04 10.1**	**+0.5**
DID				S	**Sn**	**14 04 48.0**	**+1.9**
DID	**Didima**	**3.02**	**289**	P	**Pn**	**14 04 10.1**	**+0.5**
DID				S	**Sn**	**14 04 48.0**	**+1.9**
KYTH	**Kithira**	**3.07**	**266**	P	**Pn**	**14 04 10.6**	**+0.4**
KYTH	**Kithira**	**3.07**	**266**	P	**Pn**	**14 04 10.6**	**+0.4**
VLI	**Veliai**	**3.13**	**274**	P	**Pn**	**14 04 11.3**	**+0.3**
VLI				S	**Sn**	**14 04 46.1**	**-2.5**
VLI	**Veliai**	**3.13**	**274**	P	**Pn**	**14 04 11.3**	**+0.3**
ITM	**Ithomi**	**3.98**	**280**	P	**Pn**	**14 04 23.0**	**+1.1**
ITM				S	**Sn**	**14 05 06.2**	**-2.1**
ITM	**Ithomi**	**3.98**	**280**	P	**Pn**	**14 04 23.0**	**+1.1**
PYL	**PYLOS**	**4.10**	**276**	P	**Pn**	**14 04 23.0**	**-0.5**
PYL				S	**Sn**	**14 05 08.6**	**-2.5**
PYL	**PYLOS**	**4.10**	**276**	P	**Pn**	**14 04 23.0**	**-0.5**
SLUM		**5.23**	**195**	P	**Pn**	**14 04 39.4**	**+0.8**
baz=202
SLUM S **Sn 14 05 34.5 -3.6**
baz=202
SLUM 5.23 195 P **Pn 14 04 39.2 +0.6**
HMAT Matruh 5.46 178 P **Pn 14 04 41.8 +0.1**
baz=183
HMAT AMP 14 05 00.0
comp=E,40μm,0.2s,logA/T=5.3,baz=183
HMAT S **Sn 14 05 35.7 -7.8**
baz=183
HMAT Matruh 5.46 178 P **Pn 14 04 42.5 +0.8**
CSS Prodhromos 5.53 105 *e*P **Pn 14 04 40.8 -1.7**
CSS Prodhromos 5.53 105 *e*P **Pn 14 04 40.8 -1.8**
BR131 Keskin Array S 6.23 57 *e*P **Pn 14 04 52.6 +0.7**
comp=E,2.6nm,0.9s
BRTR Keskin Array B 6.23 57 P **Pn 14 04 52.8 +0.8**
comp=E,0.1nm,0.3s,baz=233,slow=12,SNR=10
BRTR Keskin Array B 6.23 57 P **Pn 14 04 52.8 +0.8**
KOT Kottamia 7.83 146 P **Pn 14 05 12.6 -0.9**
baz=147
KOT S **Sn 14 06 30.3 -10**
baz=147
KOT Kottamia 7.83 146 P **Pn 14 05 12.6 -0.8**
MMAI Mount Meron Ar 7.89 114 P **Pn 14 05 13.4 -0.9**
comp=E,5.3nm,0.3s,baz=304,slow=12,SNR=12
HHAG Hagoal 7.93 145 P **Pn 14 05 14.3 -0.5**
baz=145
HHAG Hagoal 7.93 145 P **Pn 14 05 14.3 -0.5**
AMAG Maghara 7.95 136 P **Pn 14 05 14.1 -0.9**
baz=136
AMAG Maghara 7.95 136 P **Pn 14 05 14.1 -0.9**

HSAF	**As Saff**	**7.98**	**149**	P	**Pn**	**14 05 14.4 -1.0**
	baz=149					
HSAF	**As Saff**	**7.98**	**149**	P	**Pn**	**14 05 15.5 +0.1**
GLL	**Jalalah**	**8.08**	**148**	P	**Pn**	**14 05 16.4 -0.4**
	baz=149					
GLL	**Jalalah**	**8.08**	**148**	P	**Pn**	**14 05 16.4 -0.4**
SUZ		**8.38**	**141**	P	**Pn**	**14 05 20.5 -0.3**
	baz=141					
SUZ		**8.38**	**141**	P	**Pn**	**14 05 21.0 +0.2**
HNKL	**Nakhl**	**8.92**	**136**	P	**Pn**	**14 05 27.9 -0.2**
	baz=135					
HNKL				S	**Sn**	**14 06 57.0 -10**
	baz=135					
HNKL	**Nakhl**	**8.92**	**136**	P	**Pn**	**14 05 27.9 -0.2**
CUC	**Castrocucco**	**9.31**	**295**	*eP*	**Pn**	**14 05 32.1 -1.1**
CUC	**Castrocucco**	**9.31**	**295**	*eP*	**Pn**	**14 05 32.1 -1.0**
HFRF	**Wahat Farafira**	**9.47**	**172**	P	**Pn**	**14 05 36.7 +1.4**
	baz=174					
HFRF	**Wahat Farafira**	**9.47**	**172**	P	**Pn**	**14 05 36.7 +1.3**
EIL	**Elat**	**9.67**	**133**	P	**Pn**	**14 05 37.8 -0.3**
	comp=E,0.5nm,0.3s,baz=333,slow=12,SNR=6.9					
EIL	**Elat**	**9.67**	**133**	P	**Pn**	**14 05 37.8 -0.3**
EIL	**Elat**	**9.67**	**133**	P	**Pn**	**14 05 37.8 -0.3**
TORD	**Torodi Ar. Bea**	**32.42**	**230**	P	**P**	**14 09 40.5 +1.7**
	comp=E,0.6nm,0.4s,mb3.7,baz=34,slow=8.9,SNR=11					
TORD	**Torodi Ar. Bea**	**32.42**	**230**	P	**P**	**14 09 40.5 +1.7**
TORD	**Torodi Ar. Bea**	**32.42**	**230**	P	**P**	**14 09 40.5 +1.6**
MK31	**Makanchi Array**	**41.88**	**58**	*eP*	**P**	**14 10 59.1 +0.8**
MK31	**Makanchi Array**	**41.88**	**58**	*eP*	**P**	**14 10 59.1 +0.8**
MKAR	**Makanchi Array**	**41.88**	**58**	P	**P**	**14 10 58.7 +0.4**
	comp=E,0.2nm,0.3s,mb3.2,baz=270,slow=8.3,SNR=6.9					
MKAR	**Makanchi Array**	**41.88**	**58**	P	**P**	**14 10 58.7 +0.4**
MKAR	**Makanchi Array**	**41.88**	**58**	P	**P**	**14 10 58.7 +0.4**
ZALV	**Zalesovo Beam**	**43.06**	**47**	P	**P**	**14 11 06.7 -1.0**
	comp=E,0.6nm,0.4s,mb3.6,baz=274,slow=8.5,SNR=4.0					
ZALV	**Zalesovo Beam**	**43.06**	**47**	P	**P**	**14 11 06.7 -1.0**
ZALV	**Zalesovo Beam**	**43.06**	**47**	P	**P**	**14 11 06.7 -1.0**

*IDC **16** 14:09:40.2±1.9, 15°.74S×172°.90W, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.8/20, mbtmp3.8/6, MS3.0/1, Ms1 3.0/1, ms1mx2.3/28, Error ellipse: s-maj=98.8km s-min=21.2km az=144.0*

*ISCJB **16** 14:09:45.1±1.8, 15°.2S×173°.03W±0°.5, h33km, mb3.7/6, Error ellipse: s-maj=113.9km s-min=10.9km az=147.1*

*NEIC **16** 14:09:46.4±1.6, 15°.53S×173°.03W, h35km, mb3.9/1, Error ellipse: s-maj=88.0km s-min=16.3km az=144.0*

ISC 16 14:09:47.0±1.8, 15°.1S±0°.7×173°.2W±0°.4, h35km, n16, σ1^{s}23/15, mb3.7/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.85**	**49**	Pn	**Pn**	**14 10 17.1**	**+0.9**
	176nm,0.3s,baz=190,slow=2.0,SNR=408						
AFI				Sn	**Sn**	**14 10 36.6**	**-1.8**
	519nm,0.3s,baz=33,slow=24,SNR=39						
AFI				LR	LR	14 10 59.2	
	comp=Z,360nm,21.8s,baz=191,slow=37						
AFI	**Afiamalu**	**1.85**	**49**	Pn	**Pn**	**14 10 17.1**	**+0.9**
AFI				Sn	**Sn**	**14 10 36.6**	**-1.8**
AFI				LR	LR	14 10 59.2	
WRA	**Warramunga Arr**	**50.08**	**257**	P	**P**	**14 18 38.1**	**-0.8**
	0.6nm,0.5s,mb3.9,baz=91,slow=6.9,SNR=24						
WRA	**Warramunga Arr**	**50.08**	**257**	P	**P**	**14 18 38.1**	**-0.8**
ASAR	**Alice Springs**	**50.37**	**252**	P	**P**	**14 18 40.0**	**-1.1**
	2.0nm,0.7s,mb4.2,baz=88,slow=8.6,SNR=43						
ASAR	**Alice Springs**	**50.37**	**252**	P	**P**	**14 18 40.0**	**-1.1**
HLID	**Hailey**	**79.31**	**39**	*eP*	**P**	**14 21 51.3**	**+2.3**
	1.2nm,0.8s,mb3.9						
ANMO	**Albuquerque**	**80.49**	**50**	P	**P**	**14 21 55.8**	**+0.1**
	0.4nm,0.4s,mb3.7,baz=230,slow=5.2,SNR=3.7						
ANMO	**Albuquerque**	**80.49**	**50**	P	**P**	**14 21 55.8**	**+0.1**
PDAR	**Pinedale Array**	**81.95**	**42**	P	**P**	**14 22 02.5**	**-0.7**
	0.4nm,0.8s,mb3.4,baz=195,slow=4.0,SNR=3.8						
PDAR	**Pinedale Array**	**81.95**	**42**	P	**P**	**14 22 02.5**	**-0.7**
ILAR	**Eielson Array**	**82.16**	**11**	P	**P**	**14 22 05.0**	**+1.2**
	0.1nm,0.6s,mb2.9,baz=239,slow=6.5,SNR=4.7						
ILAR	**Eielson Array**	**82.16**	**11**	P	**P**	**14 22 05.0**	**+1.2**
BR131	**Keskin Array S**	**146.07**	**321**	*e*PKPbc	PKPbc	14 29 25.8	+2.2
BRTR	**Keskin Array B**	**146.07**	**321**	PKPbc	PKPbc	14 29 25.8	+2.2
	1.1nm,0.7s,baz=64,slow=2.9,SNR=6.3						
BRTR	**Keskin Array B**	**146.07**	**321**	PKPbc	PKPbc	14 29 25.8	+2.2

MEX 16 14:20:43.5±0.7, 15°.20N×93°.52W, h75km±13km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.58**	**30**	*eP*	Pn	14 20 56.3	-1.3
PCIG				*i* S	Sn	14 21 06.6	-1.3
THIG		**1.25**	**103**	*eP*	Pn	14 21 03.6	-1.7
THIG				*i* S	Sn	14 21 20.2	-1.5
TGIG		**1.62**	**14**	*eP*	Pn	14 21 09.2	-1.0
TGIG				*i* S	Sn	14 21 28.1	-2.2
CCIG	**Comitan**	**1.71**	**51**	*eP*	Pn	14 21 10.9	-0.5
CCIG				*i* S	Sn	14 21 30.9	-1.7
SCX	**San Cristobal**	**1.75**	**29**	*i* P	Pn	14 21 11.4	-0.5
SCX				*i* S	Sn	14 21 32.0	-1.5
CMIG	**Matias Romero**	**2.29**	**325**	*eP*	Pn	14 21 18.8	-0.5
CMIG				*i* S	Sn	14 21 44.1	-2.5
HUIG	**Huatulco**	**2.56**	**283**	*eP*	Pn	14 21 21.2	-1.6
HUIG				*i* S	Sn	14 21 51.0	-2.0
VHO	**Vista Hermosa**	**3.61**	**302**	*i* P	Pn	14 21 36.1	-0.9
VHO				*i* S	Sn	14 22 17.5	-1.0
PNIG	**Pinotepa**	**4.59**	**286**	*i* P	Pn	14 21 49.8	-0.6
PNIG				*i* S	Sn	14 22 41.8	-0.8
UTMO	**Huajuapan**	**4.87**	**303**	*i* P	Pn	14 21 54.4	0.0
UTMO				*i* S	Sn	14 22 49.2	-0.2

*IDC **16** 14:27:33.4±1.7, 10°.76N×91°.77E, h0km, mb3.9/8, mb1 3.9/9, mb1mx3.7/26, mbtmp3.8/9, ML3.9/1, Error ellipse: s-maj=61.7km s-min=17.1km az=64.0*

*NEIC **16** 14:27:39.6±2.7, 10°.84N×91°.90E, h42km±22km, mb4.0/5, Error ellipse: s-maj=24.5km s-min=7.0km az=57.0*

ISC 16 14:27:39.5±4.4, 10°.8N±0°.2×91°.9E±0°.2, h41km±36km, n25, σ0^{s}27/25, mb3.9/11, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**10.20**	**41**	Pn	**Pn**	**14 30 03.3**	**-0.2**
	0.3nm,0.3s,baz=234,slow=15,SNR=4.1						
CMAR	**Chiang Mai Arr**	**10.20**	**41**	Pn	**Pn**	**14 30 03.3**	**-0.2**
LSA	**Lhasa**	**18.78**	**358**	*eP*	**Pn**	**14 31 56.6**	**+0.3**
	6.4nm,0.6s						
ENH	**Enshi**	**25.34**	**38**	*eP*	**P**	**14 33 02.6**	**-0.2**
	15nm,0.8s,mb4.6						
MK31	**Makanchi Array**	**36.75**	**349**	*eP*	**P**	**14 34 42.9**	**-0.2**
MKAR	**Makanchi Array**	**36.75**	**349**	P	**P**	**14 34 43.1**	**+0.1**
	2.8nm,0.8s,mb4.2,baz=169,slow=8.3,SNR=18						
MKAR	**Makanchi Array**	**36.75**	**349**	P	**P**	**14 34 43.1**	**+0.1**
KKAR	**Karatay Array**	**37.14**	**334**	*eP*	**P**	**14 34 46.5**	**+0.2**
	1.1nm,0.8s,mb3.7						
SONM	**Songino Array**	**38.85**	**16**	P	**P**	**14 35 01.3**	**+0.6**
	2.1nm,0.9s,mb3.9,baz=198,slow=8.9,SNR=15						
SONM	**Songino Array**	**38.85**	**16**	P	**P**	**14 35 01.3**	**+0.6**
KURK	**Kurchatov**	**41.23**	**347**	P	**P**	**14 35 20.0**	**-0.5**
	2.0nm,0.9s,mb3.7,baz=163,slow=7.4,SNR=12						
KURK	**Kurchatov**	**41.23**	**347**	*eP*	**P**	**14 35 20.5**	**+0.1**
	4.3nm,1.3s,mb3.9						
ZAA0	**Zalesovo Array**	**43.37**	**354**	*eP*	**P**	**14 35 37.5**	**-0.3**
ZALV	**Zalesovo Beam**	**43.37**	**354**	P	**P**	**14 35 37.7**	**-0.1**
	3.2nm,0.8s,mb4.1,baz=170,slow=9.9,SNR=14						
ZALV	**Zalesovo Beam**	**43.37**	**354**	P	**P**	**14 35 37.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**44.01**	**130**	P	**P**	**14 35 43.1**	**-0.3**
	2.0nm,0.8s,mb3.9,baz=320,slow=7.9,SNR=4.4						
FITZ	**Fitzroy Crossi**	**44.01**	**130**	P	**P**	**14 35 43.1**	**-0.3**
ABKAR	**Akbulak array**	**46.58**	**331**	*eP*	**P**	**14 36 03.2**	**-0.2**
	1.9nm,1.1s,mb3.9						
WRA	**Warramunga Arr**	**51.79**	**126**	P	**P**	**14 36 43.5**	**-0.1**
	0.3nm,0.5s,mb3.5,baz=306,slow=8.4,SNR=4.6						
WRA	**Warramunga Arr**	**51.79**	**126**	P	**P**	**14 36 43.5**	**-0.1**
WB2	**Warramunga Arr**	**51.80**	**126**	*eP*	**P**	**14 36 43.9**	**+0.2**
ASAR	**Alice Springs**	**53.51**	**130**	P	**P**	**14 36 56.7**	**+0.4**
	0.8nm,0.8s,mb3.7,baz=305,slow=7.6,SNR=14						
ASAR	**Alice Springs**	**53.51**	**130**	P	**P**	**14 36 56.7**	**+0.4**
ILAR	**Eielson Array**	**92.84**	**22**	P	**P**	**14 40 47.6**	**-0.1**
	0.1nm,0.6s,mb3.4,baz=325,slow=4.5,SNR=4.1						
ILAR	**Eielson Array**	**92.84**	**22**	P	**P**	**14 40 47.6**	**-0.1**

*IDC **16** 14:40:27.4±1.3, 10°.79N×91°.84E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.7/25, mbtmp4.0/9, ML4.0/1, Error ellipse: s-maj=52.7km s-min=17.9km az=64.0*

*ISCJB **16** 14:40:30.5±4.2, 10°.8N±0°.1×91°.87E±0°.09, h33km±29km, mb4.0/11, Error ellipse: s-maj=21.1km s-min=10.2km az=32.9*

*NEIC **16** 14:40:33.1±3.0, 10°.82N×91°.89E, h39km±23km, mb3.9/4, Error ellipse: s-maj=28.1km s-min=8.1km az=55.0*

ISC 16 14:40:32.6±1.7, 10°.83N±0°.10×91°.82E±0°.07, h37km±15km, n35, σ0^{s}72/34, mb4.0/11, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**10.25**	**41**	Pn	**Pn**	**14 42 56.2**	**-1.0**
	0.3nm,0.3s,baz=236,slow=15,SNR=6.0						
CMAR	**Chiang Mai Arr**	**10.25**	**41**	Pn	**Pn**	**14 42 56.2**	**-1.0**
CHTO	**Chiang Mai**	**10.51**	**40**	*eP*	**Pn**	**14 43 01.7**	**+0.9**
HYB	**Hyderabad**	**14.43**	**298**	*i* P	**Pn**	**14 43 57.0**	**+2.5**
HYB				*e*S	**Sn**	**14 46 32.0**	**-1.4**
PKI	**Pulchoki**	**17.72**	**341**	*eP*	**Pn**	**14 44 36.4**	**-0.1**
DMN	**Daman**	**17.85**	**340**	*eP*	**Pn**	**14 44 38.0**	**-0.2**
	14nm,0.9s						
GUN	**Gumba**	**17.89**	**343**	*eP*	**Pn**	**14 44 37.4**	**-1.3**
	4.0nm,0.3s						
KKN	**Kakani**	**17.96**	**341**	*eP*	**Pn**	**14 44 39.2**	**-0.3**
GKN	**Gorkha**	**18.37**	**339**	*eP*	**Pn**	**14 44 44.2**	**-0.4**
KOLN	**Koldanda**	**18.54**	**337**	*eP*	**Pn**	**14 44 46.9**	**+0.3**
LSA	**Lhasa**	**18.79**	**358**	*eP*	**Pn**	**14 44 50.2**	**+0.6**
	6.0nm,0.6s						
ENH	**Enshi**	**25.39**	**38**	*eP*	**P**	**14 45 56.4**	**-0.2**
	17nm,0.8s,mb4.6						
MK31	**Makanchi Array**	**36.75**	**349**	*eP*	**P**	**14 47 36.5**	**+0.1**
MKAR	**Makanchi Array**	**36.75**	**349**	P	**P**	**14 47 37.0**	**+0.5**
	2.9nm,0.8s,mb4.2,baz=167,slow=8.2,SNR=21						
MKAR	**Makanchi Array**	**36.75**	**349**	P	**P**	**14 47 37.0**	**+0.5**
KKAR	**Karatay Array**	**37.12**	**334**	*eP*	**P**	**14 47 40.0**	**+0.4**
	1.1nm,0.7s,mb3.8						
SONM	**Songino Array**	**38.88**	**16**	P	**P**	**14 47 55.1**	**+0.7**
	1.9nm,0.9s,mb3.8,baz=201,slow=7.4,SNR=12						
SONM	**Songino Array**	**38.88**	**16**	P	**P**	**14 47 55.1**	**+0.7**
KURK	**Kurchatov**	**41.23**	**347**	P	**P**	**14 48 13.5**	**-0.4**
	1.3nm,0.9s,mb3.6,baz=163,slow=6.8,SNR=9.4						
KURK	**Kurchatov**	**41.23**	**347**	*eP*	**P**	**14 48 14.3**	**+0.4**
ZALV	**Zalesovo Beam**	**43.37**	**354**	P	**P**	**14 48 31.6**	**+0.4**
	2.2nm,0.6s,mb4.1,baz=176,slow=9.7,SNR=15						
ZALV	**Zalesovo Beam**	**43.37**	**354**	P	**P**	**14 48 31.6**	**+0.4**
ABKAR	**Akbulak array**	**46.56**	**332**	*eP*	**P**	**14 48 57.0**	**+0.4**
	0.7nm,0.6s,mb3.8						
WRA	**Warramunga Arr**	**51.83**	**126**	P	**P**	**14 49 37.1**	**-0.3**
	0.6nm,0.5s,mb3.8,baz=306,slow=8.6,SNR=7.9						
WRA	**Warramunga Arr**	**51.83**	**126**	P	**P**	**14 49 37.1**	**-0.3**
WRAB	**Tennant Creek**	**51.84**	**126**	P	**P**	**14 49 37.4**	**-0.1**
WB2	**Warramunga Arr**	**51.84**	**126**	*eP*	**P**	**14 49 37.0**	**-0.5**
ASAR	**Alice Springs**	**53.55**	**130**	P	**P**	**14 49 50.2**	**+0.1**
	1.5nm,0.7s,mb4.0,baz=304,slow=7.2,SNR=29						
ASAR				PcP	PcP	14 50 57.0	+0.4
	0.6nm,0.8s,baz=297,slow=4.0,SNR=4.1						
ASAR	**Alice Springs**	**53.55**	**130**	P	**P**	**14 49 50.2**	**+0.1**
ASAR				PcP	PcP	14 50 57.0	+0.4
ARCES	**ARCESS Array B**	**71.73**	**340**	P	**P**	**14 51 51.1**	**+0.5**
	8.0nm,1.1s,mb4.6,baz=106,slow=6.7,SNR=4.2						
ARCES	**ARCESS Array B**	**71.73**	**340**	P	**P**	**14 51 51.1**	**+0.5**
ILAR	**Eielson Array**	**92.87**	**22**	P	**P**	**14 53 40.6**	**-0.8**
	0.4nm,0.7s,mb4.0,baz=306,slow=4.8,SNR=5.3						
ILAR	**Eielson Array**	**92.87**	**22**	P	**P**	**14 53 40.6**	**-0.8**
NVAR	**Mina Array Bea**	**123.50**	**28**	PKP	PKPdf	14 59 28.3	+1.8
	0.3nm,0.6s,baz=310,slow=3.1,SNR=3.2						
NVAR	**Mina Array Bea**	**123.50**	**28**	PKP	PKPdf	14 59 28.2	+1.8

*ISCJB **16** 14:54:20.7±0.6, 47°.38N±0°.09×153°.3E±0°.1, h55km, mb3.7/13, Error ellipse: s-maj=17.3km s-min=5.8km az=138.1*

*NEIC **16** 14:54:22.7±0.8, 47°.37N×153°.40E, mb4.2/1, Error ellipse: s-maj=22.4km s-min=9.9km az=138.0*

*IDC **16** 14:54:22.2±0.6, 47°.41N×153°.15E, h55km±6km, mb3.4/11, mb1 3.6/12, mb1mx3.5/26, mbtmp3.4/12, MS2.8/1, Ms1 2.8/1, ms1mx2.1/27, Error ellipse: s-maj=21.7km s-min=14.9km az=122.0*

*MOS **16** 14:54:24.7±1.9, 47°.44N×153°.14E, h95km, mb3.9/3, Error ellipse: s-maj=18.9km s-min=8.7km az=60.5*

ISC 16 14:54:23.1±0.6, 47°.40N±0°.09×153°.3E±0°.1, h57km, h57km±1.7km: pP-P, n54, σ1^{s}20/57, mb3.7/13, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.77**	**28**	*e*PN	**Pn**	**14 55 27.0**	**+8.4**
SKR				*e*S	**Sn**	**14 56 07.5**	**+5.9**
SKR				pmax	pmax		
	comp=N,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,80nm,0.4s						
SKR				smax			
	comp=E,110nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**6.21**	**240**	*i* PN	**Pn**	**14 55 52.3**	**+0.2**
YUK				*i* S	**Sn**	**14 57 01.3**	**-0.4**
YUK				pmax	pmax		
	comp=E,9.0nm,0.1s						
YUK				pmax	pmax		
	comp=N,21nm,0.2s						
YUK				pmax	pmax		
	comp=Z,56nm,0.2s						
YUK				smax			
	comp=E,62nm,0.5s						
YUK				smax			
	comp=N,132nm,0.7s						
PEA0B	**Petropavlovsk-**	**6.37**	**24**	*e*P	**Pn**	**14 55 55.1**	**+0.9**
PETK	**Petropavlovsk-**	**6.37**	**24**	P	**Pn**	**14 55 55.4**	**+1.2**
	comp=N,0.7nm,0.3s,baz=183,slow=14,SNR=21						
PETK	**Petropavlovsk-**	**6.37**	**24**	P	**Pn**	**14 55 55.4**	**+1.2**
PETK	**Petropavlovsk-**	**6.37**	**24**	PN	**Pn**	**14 55 55.4**	**+1.2**
PET	**Petropavlovsk**	**6.59**	**29**	P	**Pn**	**14 55 57.5**	**+0.4**
PET	**Petropavlovsk**	**6.59**	**29**	PN	**Pn**	**14 55 57.6**	**+0.4**
YSS	**Yuzh-Sakhalins**	**7.22**	**270**	*e*P	**Pn**	**14 56 08.3**	**+2.4**
	comp=N,19nm,0.6s						
YSS	**Yuzh-Sakhalins**	**7.22**	**270**	*e*PN	**Pn**	**14 56 08.3**	**+2.4**
YSS				pmax	pmax		
	comp=Z,19nm,0.6s						
ASAJ	**Asahikawa**	**8.19**	**250**	P	**Pn**	**14 56 20.8**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=80,slow=14,SNR=6.9						
ASAJ				LR	LR	14 59 11.7	
	comp=Z,69nm,19.7s,baz=12,slow=36						
ASAJ	**Asahikawa**	**8.19**	**250**	P	**Pn**	**14 56 21.5**	**+2.3**
ASAJ	**Asahikawa**	**8.19**	**250**	PN	**Pn**	**14 56 20.8**	**+1.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,69nm,19.7s						
ERM	**Erimo**	**9.02**	**237**	*e*PN	**Pn**	**14 56 30.3**	**-0.2**
MJA0	**Matsu Arr-Jizo**	**15.57**	**231**	*e*P	**Pn**	**14 58 01.7**	**+2.8**
MJAR	**Matsushiro Arr**	**15.59**	**231**	P	**Pn**	**14 58 00.6**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=32,slow=9.0,SNR=9.8						
MJAR	**Matsushiro Arr**	**15.59**	**231**	P	**Pn**	**14 58 00.6**	**+1.4**
MJAR	**Matsushiro Arr**	**15.59**	**231**	P	**Pn**	**14 58 00.6**	**+1.4**
BILL	**Bilibino**	**21.73**	**13**	*e*P	**P**	**14 59 09.8**	**+0.6**
BILL				*e*S	**S**	**15 03 12.3**	**+6.3**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb3.7						
COLA	**College**	**35.54**	**39**	*e*P	**P**	**15 01 14.8**	**+0.6**
	comp=Z,1.9nm,0.6s,mb4.2						
COLA	**College**	**35.54**	**39**	*e*P	**P**	**15 01 14.8**	**+0.6**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ILAR	**Eielson Array**	**35.95**	**39**	P	**P**	**15 01 17.8**	**0.0**
	comp=Z,0.3nm,0.6s,mb3.4,baz=258,slow=6.5,SNR=7.2						
ILAR	**Eielson Array**	**35.95**	**39**	P	**P**	**15 01 17.8**	**0.0**
ILAR	**Eielson Array**	**35.95**	**39**	P	**P**	**15 01 17.8**	**+0.1**
ZALV	**Zalesovo Beam**	**42.35**	**305**	P	**P**	**15 02 09.1**	**-2.1**
	comp=Z,0.3nm,0.4s,mb3.3,baz=64,slow=8.6,SNR=2.5						
ZALV	**Zalesovo Beam**	**42.35**	**305**	P	**P**	**15 02 09.1**	**-2.1**
ZALV	**Zalesovo Beam**	**42.35**	**305**	P	**P**	**15 02 09.1**	**-2.1**
KURK	**Kurchatov**	**47.13**	**303**	P	**P**	**15 02 47.9**	**-1.4**
	comp=Z,0.6nm,0.7s,mb3.6,baz=70,slow=8.4,SNR=4.2						
KURK	**Kurchatov**	**47.13**	**303**	P	**P**	**15 02 47.9**	**-1.4**
KURK	**Kurchatov**	**47.13**	**303**	P	**P**	**15 02 47.9**	**-1.4**
CMAR	**Chiang Mai Arr**	**52.67**	**256**	P	**P**	**15 03 31.3**	**-0.3**
	comp=Z,1.0nm,0.7s,mb3.9,baz=37,slow=7.7,SNR=12						
CMAR	**Chiang Mai Arr**	**52.67**	**256**	P	**P**	**15 03 31.3**	**-0.3**
CMAR	**Chiang Mai Arr**	**52.67**	**256**	P	**P**	**15 03 31.3**	**-0.3**
UCH	**Uchtor**	**53.90**	**296**	P	**P**	**15 03 39.7**	**-0.7**
	SNR=6.0						

FINES	**FINES Array B**	**63.52**	**335**	P	**P**	**15 04 45.9**	**-1.0**
	comp=Z,1.3nm,0.5s,mb4.2,baz=31,slow=7.2,SNR=13					
FINES				pP	pP	15 05 00.2	-2.1
	comp=Z,2.3nm,0.8s,baz=41,slow=5.8,SNR=1.8					
FINES	**FINES Array B**	**63.52**	**335**	P	**P**	**15 04 45.9**	**-1.0**
FINES				pP	pP	15 05 00.2	-2.1
FINES	**FINES Array B**	**63.52**	**335**	P	**P**	**15 04 45.9**	**-1.0**
PDAR	**Pinedale Array**	**64.25**	**54**	P	**P**	**15 04 53.2**	**+1.2**
	comp=Z,0.3nm,0.7s,mb3.4,baz=343,slow=1.9,SNR=2.5					
PDAR				pP	pP	15 05 07.7	+0.2
	comp=Z,0.6nm,0.7s,baz=310,slow=2.9,SNR=4.7					
PDAR	**Pinedale Array**	**64.25**	**54**	P	**P**	**15 04 53.2**	**+1.2**
PDAR				pP	pP	15 05 07.7	+0.2
NOA	**NORSAR Array B**	**67.66**	**341**	P	**P**	**15 05 12.5**	**-1.1**
	comp=Z,1.5nm,0.8s,mb4.1,baz=28,slow=6.2,SNR=3.4					
NOA	**NORSAR Array B**	**67.66**	**341**	P	**P**	**15 05 12.5**	**-1.1**
NOA	**NORSAR Array B**	**67.66**	**341**	P	**P**	**15 05 12.5**	**-1.1**
WRA	**Warramunga Arr**	**69.17**	**199**	P	**P**	**15 05 21.5**	**-1.9**
	comp=Z,0.2nm,0.4s,mb3.4,baz=19,slow=6.8,SNR=3.7					
WRA				pP	pP	15 05 37.0	-2.0
	comp=Z,0.2nm,0.3s,baz=15,slow=6.5,SNR=2.4					
WRA	**Warramunga Arr**	**69.17**	**199**	P	**P**	**15 05 21.5**	**-1.9**
WRA				pP	pP	15 05 37.0	-2.0
WRA	**Warramunga Arr**	**69.17**	**199**	P	**P**	**15 05 21.5**	**-1.9**
ASAR	**Alice Springs**	**72.87**	**199**	P	**P**	**15 05 45.3**	**-0.4**
	comp=Z,0.7nm,0.7s,mb3.7,baz=9.5,slow=5.9,SNR=13					
ASAR				pP	pP	15 06 01.2	-0.2
	comp=Z,0.6nm,0.8s,baz=12,slow=6.1,SNR=5.1					
ASAR	**Alice Springs**	**72.87**	**199**	P	**P**	**15 05 45.3**	**-0.4**
ASAR				pP	pP	15 06 01.2	-0.2
ASAR	**Alice Springs**	**72.87**	**199**	*e*P	**P**	**15 05 45.3**	**-0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**77.05**	**61**	P	**P**	**15 06 09.2**	**-0.9**
	comp=Z,0.3nm,0.6s,mb3.4,baz=308,slow=4.8,SNR=4.4					
TXAR				pP	pP	15 06 25.2	-0.6
	comp=Z,0.8nm,0.6s,baz=298,slow=3.5,SNR=8.1					
TXAR	**Lajitas Array**	**77.05**	**61**	P	**P**	**15 06 09.2**	**-0.9**
TXAR				pP	pP	15 06 25.2	-0.6
TXAR	**Lajitas Array**	**77.05**	**61**	P	**P**	**15 06 09.2**	**-0.9**
TXAR				*PP	pP	15 06 25.2	-0.7
GERES	**GERESS Array B**	**77.94**	**334**	P	**P**	**15 06 13.3**	**-1.4**
	comp=Z,0.4nm,0.6s,mb3.5,baz=31,slow=6.2,SNR=3.6					
GERES	**GERESS Array B**	**77.94**	**334**	P	**P**	**15 06 13.3**	**-1.4**
GERES	**GERESS Array B**	**77.94**	**334**	P	**P**	**15 06 13.3**	**-1.4**

FUNV 16 14:57:53.8, 9°.54N×62°.12W, h16km, MW3.5, 1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUNV	**Guanoco**	**1.01**	**307**	⇓*e*P	Pb	14 58 11.8	-1.2
GUNV				*e*S	Sb	14 58 25.9	-0.2
GUIV	**Guiria**	**1.10**	**355**	*e*P	Pb	14 58 13.6	-0.9
GUIV				*e*S	Sb	14 58 28.2	-0.4
ORIV	**Oritupano**	**1.35**	**250**	*e*P	Pn	14 58 17.6	-0.4
ORIV				*e*S	Sn	14 58 35.4	-0.3
RIOV	**Rio Grande**	**1.50**	**168**	*e*P	Pn	14 58 20.7	+0.7
RIOV				*e*S	Sn	14 58 39.3	0.0
CRUV	**Carupano**	**1.57**	**316**	*e*P	Pn	14 58 20.4	-0.7
CRUV				*e*S	Sn	14 58 38.4	-2.7
GURV	**El Guri**	**2.01**

	3.2nm,0.8s						
BVA0	**Borovoye Array**	**16.33**	**359**	P	**Pn**	15 04 38.1	+0.3
	0.7nm,1.3s,baz=156,slow=11,SNR=13						
BVAR	**Borovoye Array**	**16.33**	**359**	P	**Pn**	15 04 37.9	+0.1
	0.7nm,0.3s,baz=151,slow=9.7,SNR=10						
BVAR	**Borovoye Array**	**16.33**	**359**	P	**Pn**	15 04 37.9	+0.1
BRVK	**Borovoye**	**16.36**	**359**	⇑P	**Pn**	15 04 38.9	+0.7
	5.9nm,1.0s						
BRVK	**Borovoye**	**16.36**	**359**	*e*P	**Pn**	15 04 38.2	0.0
	2.3nm,0.4s						
AKTK	**Aktyubinsk**	**16.56**	**330**	P	**Pn**	15 04 41.4	+0.8
AKTO	**Aktyubinsk**	**16.56**	**330**	⇓P	**Pn**	15 04 41.6	+1.0
	0.8nm,0.9s						
AKTO	**Aktyubinsk**	**16.56**	**330**	P	**Pn**	15 04 41.4	+0.8
	0.6nm,0.3s,baz=141,slow=11,SNR=11						
ZAA0	**Zalesovo Array**	**19.77**	**25**	*e*P	**P**	15 05 14.4	-0.2
ZALV	**Zalesovo Beam**	**19.77**	**25**	P	**P**	15 05 14.0	-0.6
	1.7nm,0.5s,baz=220,slow=11,SNR=12						
ZALV	**Zalesovo Beam**	**19.77**	**25**	P	**P**	15 05 14.0	-0.6
MMAI	**Mount Meron Ar**	**29.24**	**273**	P	**P**	15 06 39.6	-3.6
	1.0nm,0.4s,mb3.8,baz=55,slow=5.5,SNR=3.3						
CMAR	**Chiang Mai Arr**	**30.64**	**119**	P	**P**	15 06 54.2	-1.4
	0.3nm,0.5s,mb3.1,baz=294,slow=6.7,SNR=3.8						
CMAR	**Chiang Mai Arr**	**30.64**	**119**	P	**P**	15 06 54.2	-1.4
FINES	**FINESS Array B**	**37.26**	**326**	P	**P**	15 07 53.2	+1.1
	3.5nm,0.9s,mb3.9,baz=126,slow=8.0,SNR=9.9						
FINES	**FINESS Array B**	**37.26**	**326**	P	**P**	15 07 53.2	+1.1
ARCES	**ARCESS Array B**	**40.92**	**338**	P	**P**	15 08 23.4	+1.1
	2.0nm,0.7s,mb3.6,baz=117,slow=8.2,SNR=8.1						
ARCES	**ARCESS Array B**	**40.92**	**338**	P	**P**	15 08 23.4	+1.1
NOA	**NORSAR Array B**	**44.16**	**323**	P	**P**	15 08 49.0	+0.5
	1.8nm,0.9s,mb3.4,baz=97,slow=8.1,SNR=2.9						
NOA	**NORSAR Array B**	**44.16**	**323**	P	**P**	15 08 49.0	+0.5
WRA	**Warramunga Arr**	**82.18**	**122**	P	**P**	15 12 55.5	-3.2
	0.2nm,0.3s,mb3.2,baz=326,slow=4.8,SNR=6.4						
WRA	**Warramunga Arr**	**82.18**	**122**	P	**P**	15 12 55.5	-3.2
WB2	**Warramunga Arr**	**82.19**	**122**	*e*P	**P**	15 12 55.6	-3.2
ASAR	**Alice Springs**	**84.45**	**125**	P	**P**	15 13 07.3	-2.9
	0.4nm,0.6s,mb3.3,baz=310,slow=5.1,SNR=11						
ASAR	**Alice Springs**	**84.45**	**125**	P	**P**	15 13 07.3	-2.9

IDC ***16*** *15:10:00.6±2.9, 10°.73N×91°.80E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.3/24, mbtmp3.5/6, Error ellipse: s-maj=123.5km s-min=20.2km az=62.0*
ISCJB ***16*** *15:10:03.3±2.3, 10°.7N±0°.3×91°.8E±0°.6, h33km, mb3.4/6, Error ellipse: s-maj=96.5km s-min=14.6km az=151.5*
NEIC ***16*** *15:10:05.8±1.6, 10°.78N×91°.83E, h35km, Error ellipse: s-maj=72.8km s-min=11.1km az=62.0*
ISC 16 15:10:05.7±2.2, 10°.8N±0°.3×91°.8E±0°.6, h35km, n14, σ0§36/14, mb3.4/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MK31	**Makanchi Array**	**36.81**	**349**	*e*P	**P**		**15 17 10.2**	**0.0**
MKAR	**Makanchi Array**	**36.81**	**349**	P	**P**		**15 17 10.4**	**+0.2**
	0.6nm,0.6s,mb3.6,baz=173,slow=8.3,SNR=7.2							
MKAR	**Makanchi Array**	**36.81**	**349**	P	**P**		**15 17 10.4**	**+0.2**
SONM	**Songino Array**	**38.95**	**16**	P	**P**		**15 17 28.2**	**-0.1**
	0.3nm,0.5s,mb3.3,baz=196,slow=8.8,SNR=3.7							
SONM	**Songino Array**	**38.95**	**16**	P	**P**		**15 17 28.2**	**-0.1**
KURK	**Kurchatov**	**41.29**	**347**	P	**P**		**15 17 47.0**	**-0.6**
	0.4nm,0.7s,mb3.1,baz=167,slow=7.9,SNR=3.9							
KURK	**Kurchatov**	**41.29**	**347**	P	**P**		**15 17 47.0**	**-0.6**
ZALV	**Zalesovo Beam**	**43.44**	**354**	P	**P**		**15 18 05.6**	**+0.6**
	0.6nm,0.5s,mb3.5,baz=169,slow=8.8,SNR=4.4							
ZALV	**Zalesovo Beam**	**43.44**	**354**	P	**P**		**15 18 05.6**	**+0.6**
WRA	**Warramunga Arr**	**51.82**	**126**	P	**P**		**15 19 10.2**	**-0.4**
	0.2nm,0.4s,mb3.4,baz=301,slow=9.9,SNR=2.7							
WRA	**Warramunga Arr**	**51.82**	**126**	P	**P**		**15 19 10.2**	**-0.4**
WB2	**Warramunga Arr**	**51.83**	**126**	*e*P	**P**		**15 19 10.7**	**0.0**
ASAR	**Alice Springs**	**53.53**	**130**	P	**P**		**15 19 23.6**	**+0.4**
	0.5nm,0.7s,mb3.6,baz=307,slow=7.0,SNR=10							
ASAR	**Alice Springs**	**53.53**	**130**	P	**P**		**15 19 23.6**	**+0.4**

DDA ***16*** *15:12:32.2, 40°.80N×27°.35E, h19km±1km, Md3.2*
ISCJB ***16*** *15:12:33.1±0.3, 40°.80N±0°.02×27°.39E±0°.03, h11km±2km, Error ellipse: s-maj=4.4km s-min=3.0km az=154.9*
CSEM ***16*** *15:12:33.5±0.1, 40°.79N×27°.38E, h12km, MD3.0, Error ellipse: s-maj=2.9km s-min=1.9km az=155.0*
ISK ***16*** *15:12:33.3, 40°.76N×27°.39E, h14km, MD3.0, ML3.0*
ATH ***16*** *15:12:36.0, 40°.71N×27°.21E, h37km±6km, MD3.6/5*
ISC 16 15:12:33.6±0.3, 40°.79N±0°.03×27°.38E±0°.03, h13km±2km, n77, σ0§54/98, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MFT	**Murefte**	**0.08**	**265**	P	**Pg**		**15 12 36.7**	**+0.5**
MFT				*e*SG	**Sg**		**15 12 38.6**	**+0.5**
MFT	**Murefte**	**0.08**	**265**	*i* Pg	**Pg**		**15 12 36.7**	**+0.5**
MFT				*e*Sg	**Sg**		**15 12 38.6**	**+0.5**
SART	**Tekirdag**	**0.18**	**236**	*i* P	**Pg**		**15 12 36.6**	**-1.1**
SART				*i* S	**Sg**		**15 12 40.2**	**-0.4**
SART	**Tekirdag**	**0.18**	**236**	*i* P	**Pg**		**15 12 36.6**	**-1.1**
SART				*i* S	**Sg**		**15 12 40.2**	**-0.3**
RKY	**Sarkoy-Tekirda**	**0.19**	**236**	*e*PG	**Pg**		**15 12 38.0**	**+0.3**
RKY				*e*SG	**Sg**		**15 12 41.0**	**+0.4**
RKY	**Sarkoy-Tekirda**	**0.19**	**236**	*e*Pg	**Pg**		**15 12 38.0**	**+0.3**
RKY				*e*Sg	**Sg**		**15 12 41.0**	**+0.4**
TKR	**Tekirdag**	**0.23**	**31**	*e*PG	**Pg**		**15 12 39.3**	**+0.8**
TKR	**Tekirdag**	**0.23**	**31**	*e*Pg	**Pg**		**15 12 39.3**	**+0.8**
KRBG	**Karabiga-Canak**	**0.41**	**189**	*e*PG	**Pg**		**15 12 41.7**	**+0.1**
KRBG				*e*SG	**Sg**		**15 12 47.3**	**+0.2**
KRBG	**Karabiga-Canak**	**0.41**	**189**	*e*Pg	**Pg**		**15 12 41.7**	**+0.1**
KRBG				*e*Sg	**Sg**		**15 12 47.3**	**+0.3**
LPK	**Lapseki**	**0.63**	**229**	*e*PG	**Pg**		**15 12 45.1**	**-0.8**
LPK				*e*SG	**Sg**		**15 12 54.7**	**+0.5**
LPK	**Lapseki**	**0.63**	**229**	*e*Pg	**Pg**		**15 12 45.1**	**-0.8**
LPK				*e*Sg	**Sg**		**15 12 54.7**	**+0.5**
ERIK	**Erikli-Kesan**	**0.67**	**260**	*e*PG	**Pg**		**15 12 46.8**	**+0.2**
ERIK	**Erikli-Kesan**	**0.67**	**260**	*e*Pg	**Pg**		**15 12 46.8**	**+0.2**
SLVT	**Silivri**	**0.76**	**55**	*e*PG	**Pg**		**15 12 48.8**	**+0.4**
SLVT	**Silivri**	**0.76**	**55**	*e*Pg	**Pg**		**15 12 48.8**	**+0.4**
GONE	**Gonen-Balikesi**	**0.78**	**163**	*e*PG	**Pg**		**15 12 48.3**	**-0.4**
GONE	**Gonen-Balikesi**	**0.78**	**163**	*e*Pg	**Pg**		**15 12 48.3**	**-0.4**
GELI	**Tayfur-Gelibol**	**0.80**	**241**	*e*PG	**Pg**		**15 12 48.8**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.80**	**241**	*e*Pg	**Pg**		**15 12 48.8**	**-0.2**
ELBA	**Catalca**	**0.87**	**66**	*i* P	**Pg**		**15 12 48.8**	**-1.6**
ELBA				*i* S	**Sg**		**15 13 01.1**	**-0.6**
ELBA	**Catalca**	**0.87**	**66**	*i* P	**Pg**		**15 12 48.8**	**-1.6**
ELBA				*i* S	**Sg**		**15 13 01.1**	**-0.6**
ENEZ	**Enez**	**0.94**	**267**	*e*PG	**Pg**		**15 12 52.0**	**+0.4**
ENEZ	**Enez**	**0.94**	**267**	*e*Pg	**Pg**		**15 12 52.0**	**+0.4**
CTKS	**Kestenelik-??a**	**0.96**	**62**	*e*PG	**Pg**		**15 12 52.1**	**0.0**
CTKS	**Kestenelik-??a**	**0.96**	**62**	*e*Pg	**Pg**		**15 12 52.1**	**0.0**
CTYL	**Yal??k??y-??at**	**0.97**	**45**	*e*PG	**Pg**		**15 12 52.5**	**+0.3**
CTYL	**Yal??k??y-??at**	**0.97**	**45**	*e*Pg	**Pg**		**15 12 52.6**	**+0.4**
ALN	**Alexandroupoli**	**1.02**	**276**	*e*PN	**Pg**		**15 12 53.3**	**+0.1**
ALN				*e*SN	**Sg**		**15 13 06.5**	**0.0**
ALN	**Alexandroupoli**	**1.02**	**276**	*e*Pn	**Pg**		**15 12 53.3**	**+0.1**
ALN				*e*Sn	**Sg**		**15 13 06.5**	**0.0**
BALY	**Balya**	**1.07**	**170**	*i* P	**Pg**		**15 12 53.3**	**-0.8**
BALY				*i* S	**Sg**		**15 13 07.7**	**-0.3**
BALY	**Balya**	**1.07**	**170**	*i* P	**Pg**		**15 12 53.3**	**-0.8**
BALY				*i* S	**Sg**		**15 13 07.7**	**-0.3**
BGKT	**Bogazkoy**	**1.12**	**69**	*e*PN	**Pg**		**15 12 54.9**	**-0.3**
BGKT	**Bogazkoy**	**1.12**	**69**	*e*Pn	**Pg**		**15 12 54.9**	**-0.3**
ARMT	**Armutlu**	**1.15**	**101**	*e*PN	**Pn**		**15 12 55.1**	**-0.3**
ARMT	**Armutlu**	**1.15**	**101**	*e*Pn	**Pn**		**15 12 55.1**	**-0.3**
EDRB	**Edirne**	**1.16**	**336**	*e*PN	**Pg**		**15 12 55.8**	**0.0**
EDRB	**Edirne**	**1.16**	**336**	*e*Pn	**Pg**		**15 12 55.8**	**0.0**
BALB	**Balikesir**	**1.21**	**162**	*e*PN	**Pn**		**15 12 56.0**	**-0.3**
BALB	**Balikesir**	**1.21**	**162**	*e*Pn	**Pn**		**15 12 56.0**	**-0.3**
MDNY	**Mudanya-Bursa**	**1.22**	**110**	*e*PN	**Pn**		**15 12 56.2**	**-0.1**
MDNY	**Mudanya-Bursa**	**1.22**	**110**	*e*Pn	**Pn**		**15 12 56.2**	**-0.2**
EZN	**Ezine**	**1.26**	**220**	*e*PN	**Pn**		**15 12 56.9**	**0.0**
EZN	**Ezine**	**1.26**	**220**	*e*Pn	**Pn**		**15 12 56.9**	**0.0**
GADA	**Gvkgeada**	**1.28**	**242**	*e*PN	**Pn**		**15 12 56.6**	**-0.5**
GADA	**Gvkgeada**	**1.28**	**242**	*e*Pn	**Pn**		**15 12 56.7**	**-0.5**
ISK	**Istanbul-Kandi**	**1.30**	**77**	*e*PN	**Pn**		**15 12 57.4**	**0.0**
ISK	**Istanbul-Kandi**	**1.30**	**77**	*e*Pn	**Pn**		**15 12 57.4**	**-0.1**
KLYT	**Kilyos**	**1.34**	**69**	*e*PN	**Pn**		**15 12 58.2**	**+0.3**
KLYT	**Kilyos**	**1.34**	**69**	*e*Pn	**Pn**		**15 12 58.2**	**+0.2**
BOZC	**Bozcaada**	**1.39**	**227**	*i* P	**Pn**		**15 12 57.6**	**-1.1**
BOZC				*i* S	**Sn**		**15 13 16.8**	**-0.1**
GEMT	**Gemlik**	**1.42**	**104**	*e*PN	**Pn**		**15 12 58.9**	**-0.2**
GEMT	**Gemlik**	**1.42**	**104**	*e*Pn	**Pn**		**15 12 58.9**	**-0.2**
RDO	**Rodhopi**	**1.44**	**285**	*e*PN	**Pn**		**15 12 59.8**	**+0.4**
RDO				*e*SN	**Sn**		**15 13 17.7**	**-0.5**
RDO	**Rodhopi**	**1.44**	**285**	*e*Pn	**Pn**		**15 12 59.8**	**+0.4**
RDO				*e*Sn	**Sn**		**15 13 17.7**	**-0.5**
DURS	**Dursunbey**	**1.46**	**145**	*i* P	**Pn**		**15 13 00.1**	**+0.6**
DURS				*i* S	**Sn**		**15 13 19.3**	**+0.8**
DURS	**Dursunbey**	**1.46**	**145**	*i* P	**Pn**		**15 13 00.1**	**+0.5**
DURS				*i* S	**Sn**		**15 13 19.3**	**+0.8**
DST	**Dursunbey**	**1.52**	**141**	*e*PN	**Pn**		**15 13 00.7**	**+0.2**
DST	**Dursunbey**	**1.52**	**141**	*e*Pn	**Pn**		**15 13 00.7**	**+0.2**
YLV	**Yalova**	**1.53**	**98**	*e*PN	**Pn**		**15 13 00.7**	**+0.1**
YLV	**Yalova**	**1.53**	**98**	*e*Pn	**Pn**		**15 13 00.7**	**+0.1**
HRT	**Hereke**	**1.74**	**88**	*e*PN	**Pn**		**15 13 03.8**	**+0.3**
HRT	**Hereke**	**1.74**	**88**	*e*Pn	**Pn**		**15 13 03.8**	**+0.4**
SILT	**Sile**	**1.75**	**77**	*e*PN	**Pn**		**15 13 03.8**	**+0.2**
SILT	**Sile**	**1.75**	**77**	*e*Pn	**Pn**		**15 13 03.8**	**+0.2**
PRK	**Paraskevi**	**1.77**	**209**	*e*PN	**Pn**		**15 13 04.2**	**+0.4**
PRK	**Paraskevi**	**1.77**	**209**	*e*Pn	**Pn**		**15 13 04.2**	**+0.4**
LIA	**Limnos Island**	**1.90**	**243**	*e*PN	**Pn**		**15 13 04.6**	**-1.1**
LIA	**Limnos Island**	**1.90**	**243**	*e*Pn	**Pn**		**15 13 04.6**	**-1.1**
AKS	**Akhisar**	**1.94**	**170**	*e*PN	**Pn**		**15 13 06.3**	**+0.1**
AKS	**Akhisar**	**1.94**	**170**	*e*Pn	**Pn**		**15 13 06.3**	**0.0**
KULA	**Kula-Manisa**	**2.48**	**156**	*e*PN	**Pn**		**15 13 14.2**	**+0.5**
KULA	**Kula-Manisa**	**2.48**	**156**	*e*Pn	**Pn**		**15 13 14.2**	**+0.5**
CHOS	**Chios island**	**2.61**	**204**	*e*PN	**Pn**		**15 13 16.9**	**+1.4**
CHOS	**Chios island**	**2.61**	**204**	*e*Pn	**Pn**		**15 13 16.9**	**+1.4**
ALT	**Altintas**	**2.72**	**129**	*e*PN	**Pn**		**15 13 17.4**	**+0.4**
ALT	**Altintas**	**2.72**	**129**	*e*Pn	**Pn**		**15 13 17.4**	**+0.4**

IDC 16 15:20:21.1±12.0, 2°.13N×127°.05E, h88km±116km, mb3.3/5, mb1 3.5/5, mb1mx3.2/19, mbtmp3.3/5, Error ellipse: s-maj=115.5km s-min=25.5km az=63.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
FITZ	**Fitzroy Crossi**	**20.15**	**184**	P	**P**		15 24 49.9	+1.5
	2.3nm,1.0s,baz=9.5,slow=6.1,SNR=3.3							
WRA	**Warramunga Arr**	**23.07**	**162**	P	**P**		15 25 18.9	-0.3
	0.8nm,0.3s,baz=338,slow=10,SNR=16							
ASAR	**Alice Springs**	**26.49**	**166**	P	**P**		15 25 50.2	-0.1
	0.4nm,0.3s,baz=345,slow=7.9,SNR=22							
ASAR				PcP	PcP		15 29 13.2	-0.2
	0.2nm,0.5s,baz=355,slow=2.1,SNR=4.8							
STKA	**Stephens Creek**	**36.53**	**159**	P	**P**		15 27 17.9	-0.3
	1.7nm,0.7s,baz=11,slow=10,SNR=3.2							
MKAR	**Makanchi Array**	**59.05**	**326**	P	**P**		15 30 11.8	-0.1
	0.2nm,0.4s,baz=112,slow=7.9,SNR=4.7							

ISCJB ***16*** *15:21:06.3±0.5, 37°.57N±0°.08×135°.63E±0°.09, h357km±7km, mb2.9/4, Error ellipse: s-maj=14.3km s-min=8.3km az=142.1*
JMA ***16*** *15:21:06.5±0.3, 37°.54N×135°.60E, h356km±3km, M2.8*
IDC ***16*** *15:21:06.9±1.1, 37°.74N×135°.76E, h354km±16km, mb2.7/4, mb1 3.0/7, mb1mx2.8/28, mbtmp2.8/7, Error ellipse: s-maj=23.1km s-min=16.4km az=62.0*
NEIC ***16*** *15:21:07.0±0.7, 37°.64N×135°.58E, h349km±12km, mb4.0/1, Error ellipse: s-maj=21.0km s-min=12.6km az=87.0*
ISC 16 15:21:07.3±0.5, 37°.58N±0°.08×135°.62E±0°.09, h348km±7km, n33, σ0§59/40, mb2.9/4, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
JKG	**Kaga**	**1.42**	**156**	P	**Pn**		**15 21 54.7**	**-0.1**
JTT	**Ttatey**	**1.68**	**125**	P	**Pn**		**15 21 56.7**	**+0.4**
JKY	**Yasaka**	**1.99**	**192**	P	**Pn**		**15 21 58.1**	**-0.3**
JSD	**Sado**	**2.14**	**77**	P	**Pn**		**15 21 59.4**	**+0.1**
JWT	**Wachi**	**2.30**	**184**	P	**Pn**		**15 22 00.6**	**0.0**
JWT				*e*S	**S**		**15 22 42.2**	**-1.2**
JNG	**Nsakai**	**2.31**	**120**	P	**Pn**		**15 22 01.0**	**+0.4**
MAJO	**Matsushiro**	**2.31**	**116**	*e*P	**Pn**		**15 22 00.8**	**+0.1**
MAT	**Matsushiro**	**2.31**	**116**	P	**Pn**		**15 22 00.7**	**0.0**
MAT	**Matsushiro**	**2.31**	**116**	P	**Pn**		**15 22 00.8**	**+0.1**
MJAR	**Matsushiro Arr**	**2.32**	**116**	P	**Pn**		**15 22 01.2**	**+0.5**
	2.8nm,0.3s,baz=293,slow=9.7,SNR=50							
MJAR				S	**S**		**15 22 36.6**	**-7.0**
	baz=44,slow=53,SNR=2.3							
MJAR	**Matsushiro Arr**	**2.32**	**116**	P	**Pn**		**15 22 01.2**	**+0.5**
MJAR				S	**S**		**15 22 36.6**	**-7.0**
JHK	**Hiroka**	**2.73**	**96**	P	**Pn**		**15 22 03.7**	**-0.3**
JRY	**Ryogami san**	**3.06**	**120**	P	**Pn**		**15 22 07.5**	**+0.5**
JYN	**Shimob**	**3.14**	**131**	P	**Pn**		**15 22 07.5**	**-0.3**
JIE	**Ise**	**3.30**	**164**	P	**Pn**		**15 22 09.8**	**+0.5**
JOD2	**Odawara 2**	**3.63**	**129**	P	**Pn**		**15 22 12.2**	**-0.2**
JFT	**Otama**	**3.75**	**90**	P	**Pn**		**15 22 14.4**	**+0.9**
JMM	**Marumori**	**4.11**	**84**	P	**Pn**		**15 22 17.3**	**+0.1**
JMM				*e*S	**S**		**15 23 13.2**	**-0.5**
JFK	**Kawauchi**	**4.19**	**91**	P	**Pn**		**15 22 17.3**	**-0.7**
JFK				*e*S	**S**		**15 23 11.4**	**-3.7**
JRG	**Rokugo**	**4.33**	**64**	P	**Pn**		**15 22 20.5**	**+1.0**
JRG				*e*S	**S**		**15 23 17.5**	**-0.3**
JMK	**Ichinoseki**	**4.62**	**71**	P	**Pn**		**15 22 23.3**	**+0.8**
KSRS	**Korea Array**	**6.12**	**271**	P	**Pn**		**15 22 40.2**	**+0.9**
	0.1nm,0.3s,baz=80,slow=13,SNR=4.8							
ERM	**Erimo**	**7.30**	**50**	*e*P	**Pn**		**15 22 52.8**	**-0.1**
ASAJ	**Asahikawa**	**8.40**	**37**	P	**Pn**		**15 23 05.2**	**-0.7**
	5.4nm,0.3s,baz=233,slow=8.8,SNR=81							
ASAJ				S	**S**		**15 24 36.3**	**-6.5**
	0.3nm,0.3s,baz=287,slow=19,SNR=3.6							
ASAJ	**Asahikawa**	**8.40**	**37**	*e*P	**Pn**		**15 23 05.2**	**-0.7**
	7.7nm,0.6s							
SONM	**Songino Array**	**23.66**	**305**	P	**P**		**15 25 47.9**	**-0.6**
	0.3nm,0.5s,mb2.8,baz=117,slow=11,SNR=3.6							
SONM	**Songino Array**	**23.66**	**305**	P	**P**		**15 25 47.9**	**-0.6**
MKAR	**Makanchi Array**	**39.89**	**301**	P	**P**		**15 28 07.7**	**-0.7**
	0.2nm,0.5s,mb2.6,baz=83,slow=12,SNR=2.9							
MKAR	**Makanchi Array**	**39.89**	**301**	P	**P**		**15 28 07.7**	**-0.7**
WRA	**Warramunga Arr**	**57.23**	**181**	P	**P**		**15 30 19.2**	**0.0**
	0.6nm,0.4s,mb3.3,baz=358,slow=7.5,SNR=13							
WRA	**Warramunga Arr**	**57.23**	**181**	P	**P**		**15 30 19.2**	**0.0**
ASAR	**Alice Springs**	**60.94**	**182**	P	**P**		**15 30 44.8**	**+0.3**
	0.2nm,0.5s,mb2.8,baz=4.7,slow=6.7,SNR=5.4							
ASAR	**Alice Springs**	**60.94**	**182**	P	**P**		**15 30 44.8**	**+0.3**

CSEM ***16*** *15:37:39.5±0.3, 43°.23N×46°.24E, h5km, mb4.2, Error ellipse: s-maj=7.8km s-min=3.1km az=23.0*
MOS ***16*** *15:37:39.4±1.1, 43°.21N×46°.27E, h10km, mb4.2/1, Error ellipse: s-maj=10.1km s-min=6.9km az=29.2*
ISC 16 15:37:38.6±0.7, 43°.33N±0°.04×46°.34E±0°.03, h1km±4km, n48, σ1§16/93, 7C-4D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
GRO	**Groznyy**	**0.43**	**269**	⇑*i*PG	**Pg**		**15 37 46.9**	**0.0**
GRO				*i* S	**Sg**		**15 37 53.2**	**+0.7**
GRO	**Groznyy**	**0.43**	**269**	*i* Pg	**Pg**		**15 37 46.9**	**0.0**
GRO				*i* Sg	**Sg**		**15 37 53.2**	**+0.7**
DBC	**Dubki**	**0.47**	**131**	⇑*i*PG	**Pg**		**15 37 50.5**	**+2.8**
DBC				*i* S	**Sg**		**15 37 57.6**	**+3.8**
DBC				pmax	pmax			
	comp=Z,259nm,0.2s							
DBC	**Dubki**	**0.47**	**131**	*i* Pg	**Pg**		**15 37 50.5**	**+2.8**
	comp=Z,259nm,0.2s							
DBC				*i* Sg	**Sg**		**15 37 57.6**	**+3.8**
KRNR	**Karanay**	**0.65**	**140**	*e*PG	**Pg**		**15 37 51.2**	**+0.1**
KRNR				*i* S	**Sg**		**15 38 00.0**	**+0.5**
KRNR				pmax	pmax			
	comp=Z,57nm,0.2s							
KRNR	**Karanay**	**0.65**	**140**	*e*Pg	**Pg**		**15 37 51.2**	**+0.1**
	comp=Z,57nm,0.2s							
KRNR				*i* Sg	**Sg**		**15 38 00.0**	**+0.5**
BTLR	**Botlikh**	**0.67**	**188**	⇑*i*PG	**Pg**		**15 37 50.4**	**-1.1**
BTLR				S	**Sg**		**15 37 58.0**	**-2.2**
BTLR	**Botlikh**	**0.67**	**188**	*i* Pg	**Pg**		**15 37 50.4**	**-1.1**
BTLR				Sg	**Sg**		**15 37 58.0**	**-2.2**
UNCR	**Uncukul**	**0.70**	**152**	*e*PG	**Pg**		**15 37 51.5**	**-0.5**
UNCR				S	**Sg**		**15 38 01.0**	**-0.1**
UNCR				pmax	pmax			
	comp=Z,135nm,0.2s							
UNCR	**Uncukul**	**0.70**	**152**	*e*Pg	**Pg**		**15 37 51.5**	**-0.5**
	comp=Z,135nm,0.2s							
UNCR				Sg	**Sg**		**15 38 01.0**	**-0.1**
BUJR	**Buynaksk**	**0.76**	**132**	*e*PG	**Pg**		**15 37 53.2**	**+0.1**
BUJR				*i* S	**Sg**		**15 38 05.8**	**+2.9**
BUJR	**Buynaksk**	**0.76**	**132**	*e*Pg	**Pg**		**15 37 53.2**	**+0.1**
BUJR				*i* Sg	**Sg**		**15 38 05.8**	**+2.9**
SNJR	**Sundja**	**1.15**	**257**	*e*PG	**Pg**		**15 38 00.0**	**-0.6**
SNJR				*i* S	**Sg**		**15 38 15.6**	**+0.1**
SNJR	**Sundja**	**1.15**	**257**	*e*Pg	**Pg**		**15 38 00.0**	**-0.6**
SNJR				*i* Sg	**Sg**		**15 38 15.6**	**+0.1**
TRKR	**Terskaya**	**1.23**	**289**	⇑*i*PG	**Pg**		**15 38 02.8**	**+0.5**
TRKR				*i* S	**Sg**		**15 38 21.0**	**+2.7**
TRKR	**Terskaya**	**1.23**	**289**	*i* Pg	**Pg**		**15 38 02.8**	**+0.5**
TRKR				*i* Sg	**Sg**		**15 38 21.0**	**+2.7**
VLKR	**Vladikavkaz**	**1.25**	**257**	*e*PG	**Pn**		**15 38 01.6**	**-1.6**
VLKR				*e*S	**Sg**		**15 38 18.6**	**-0.2**
VLKR	**Vladikavkaz**	**1.25**	**257**	*e*Pg	**Pn**		**15 38 01.6**	**-1.6**
VLKR				*e*Sg	**Sg**		**15 38 18.6**	**-0.2**
KMKR	**Kumukh**	**1.32**	**155**	*e*PG	**Pn**		**15 38 03.0**	**-1.2**
KMKR				*e*S	**Sg**		**15 38 21.0**	**-0.1**
KMKR				pmax	pmax			
	comp=Z,70nm,0.2s							
KMKR	**Kumukh**	**1.32**	**155**	*e*Pg	**Pn**		**15 38 03.0**	**-1.2**
	comp=Z,70nm,0.2s							
KMKR				*e*Sg	**Sg**		**15 38 21.0**	**-0.1**
KMSR	**Komsomolskaya**	**1.50**	**272**	⇑*i*PG	**Pg**		**15 38 07.1**	**-0.2**
KMSR				*i* S	**Sg**		**15 38 27.8**	**+1.1**
KMSR	**Komsomolskaya**	**1.50**	**272**	*i* Pg	**Pg**		**15 38 07.1**	**-0.2**
KMSR				*i* Sg	**Sg**		**15 38 27.8**	**+1.1**
ARNR	**Ardon**	**1.51**	**265**	⇓*i*PG	**Pn**		**15 38 06.2**	**-0.7**
ARNR				*i* S	**Sg**		**15 38 26.8**	**-0.4**
ARNR	**Ardon**	**1.51**	**265**	*i* Pg	**Pn**		**15 38 06.2**	**-0.7**
ARNR				*i* Sg	**Sg**		**15 38 26.8**	**-0.4**
PRTR	**Priterechnaya**	**1.56**	**286**	⇓*i*PG	**Pg**		**15 38 07.9**	**-0.5**
PRTR				*i* S	**Sg**		**15 38 30.1**	**+1.5**
PRTR	**Priterechnaya**	**1.56**	**286**	*i* Pg	**Pg**		**15 38 07.9**	**-0.5**
PRTR				*i* Sg	**Sg**		**15 38 30.1**	**+1.5**
KORR	**Kora**	**1.68**	**262**	⇓*i*PG	**Pn**		**15 38 08.0**	**-1.2**
KORR				*i* S	**Sg**		**15 38 30.6**	**-

	baz=282							
ELDTW				*e*S		**Sn**	**16 13 52.3**	**-0.8**
	baz=282							
ENA	**Nanau**	**1.72**	**323**	P		**Pn**	**16 13 32.4**	**-0.1**
	baz=316							
ENA				*e*S		**Sn**	**16 13 52.6**	**-0.7**
	baz=316							
JIJ	**Ishigaki jima**	**1.75**	**41**	P		**Pn**	**16 13 32.6**	**-0.3**
JIJ				S		**Sn**	**16 13 52.5**	**-1.5**
TWC	**Suao**	**1.81**	**329**	*e*P		**Pn**	**16 13 33.8**	**0.0**
	baz=331							
TWC				*e*S		**Sn**	**16 13 53.2**	**-2.4**
	baz=331							
YUS	**Yu-Shan**	**1.82**	**284**	P		**Pn**	**16 13 34.3**	**+0.4**
	baz=284							
YUS				*e*S		**Sn**	**16 13 54.8**	**-0.9**
	baz=284							
ECL	**Taimali**	**1.83**	**256**	P		**Pn**	**16 13 33.4**	**-0.6**
	baz=255							
ECL				*e*S		**Sn**	**16 13 53.5**	**-2.4**
	baz=255							
WHF	**Hehuan Shan**	**1.83**	**307**	P		**Pn**	**16 13 33.8**	**-0.3**
	baz=299							
WHF				*e*S		**Sn**	**16 13 54.5**	**-1.5**
	baz=299							
NNS	**Nan Shan**	**1.95**	**315**	*e*P		**Pn**	**16 13 36.0**	**+0.3**
	baz=323							
NNS				*e*S		**Sn**	**16 13 58.1**	**-0.8**
	baz=323							
STYT	**Tauyuan**	**1.95**	**274**	P		**Pn**	**16 13 35.8**	**+0.1**
	baz=277							
STYT				*e*S		**Sn**	**16 13 57.8**	**-1.2**
	baz=277							
ALS	**Alishan**	**1.96**	**284**	⇑ *i*P		**Pn**	**16 13 36.6**	**+0.8**
	baz=277							
ALS				*e*S		**Sn**	**16 13 58.3**	**-0.8**
	baz=277							
TWT	**Tachien**	**1.96**	**308**	*e*P		**Pn**	**16 13 35.9**	**+0.1**
	baz=301							
TWT				*e*S		**Sn**	**16 13 58.0**	**-1.3**
	baz=301							
EGS		**1.98**	**334**	*e*P		**Pn**	**16 13 38.0**	**+1.9**
	baz=328							
EGS				*e*S		**Sn**	**16 13 58.9**	**-0.9**
	baz=328							
EAST	**Anshuo**	**1.98**	**251**	P		**Pn**	**16 13 36.1**	**-0.1**
	baz=250							
EAST				*e*S		**Sn**	**16 13 59.1**	**-0.7**
	baz=250							
ENTT	**Nioudou**	**1.98**	**323**	P		**Pn**	**16 13 36.6**	**+0.4**
	baz=317							
ENTT				*e*S		**Sn**	**16 13 59.2**	**-0.6**
	baz=317							
SMLT	**Sun Moon Lake**	**1.99**	**295**	⇑ *i*P		**Pn**	**16 13 36.6**	**+0.3**
	baz=301							
SMLT				*e*S		**Sn**	**16 13 58.9**	**-1.1**
	baz=301							
TWE	**Neicheng**	**2.00**	**327**	*e*P		**Pn**	**16 13 36.4**	**+0.1**
	baz=328							
TWE				*e*S		**Sn**	**16 13 59.8**	**-0.3**
	baz=328							
TYC	**Yuchr**	**2.04**	**295**	P		**Pn**	**16 13 37.2**	**+0.4**
	baz=302							
TYC				*e*S		**Sn**	**16 14 01.0**	**-0.1**
	baz=302							
SSD	**Sandimen**	**2.09**	**262**	P		**Pn**	**16 13 37.6**	**0.0**
	baz=267							
WTP	**Ta-pu**	**2.09**	**276**	⇑ *i*P		**Pn**	**16 13 38.6**	**+1.1**
	baz=280							
WTP				*e*S		**Sn**	**16 14 03.9**	**+1.5**
	baz=280							
CHN5	**Tsauling**	**2.09**	**286**	⇑ *i*P		**Pn**	**16 13 39.0**	**+1.4**
	baz=293							
CHN5				*e*S		**Sn**	**16 14 03.4**	**+1.0**
	baz=293							
CHN4	**Tsaushan**	**2.12**	**279**	*e*P		**Pn**	**16 13 39.5**	**+1.5**
	baz=278							
CHN4				*e*S		**Sn**	**16 14 04.1**	**+1.0**
	baz=278							
TSEB	**Hengchuen, Pin**	**2.15**	**238**	*e*P		**Pn**	**16 13 38.8**	**+0.3**
	baz=238							
TSEB				*e*S		**Sn**	**16 14 03.9**	**-0.1**
	baz=238							
CHN1	**Nanshi**	**2.16**	**274**	*i* P		**Pn**	**16 13 40.3**	**+1.7**
	baz=280							
CHN1				*e*S		**Sn**	**16 14 07.2**	**+3.0**
	baz=280							
WNT	**Mingjian**	**2.17**	**293**	*e*P		**Pn**	**16 13 40.6**	**+1.8**
	baz=299							
WNT				*e*S		**Sn**	**16 14 05.8**	**+1.3**
	baz=299							
SCZT	**Fangliau**	**2.19**	**252**	*e*P		**Pn**	**16 13 39.8**	**+0.9**
	baz=252							
SCZT				*e*S		**Sn**	**16 14 04.7**	**-0.1**
	baz=252							
TWK1	**Hengchun**	**2.21**	**240**	*e*P		**Pn**	**16 13 39.0**	**-0.1**
	baz=239							
TWK1				*e*S		**Sn**	**16 14 04.5**	**-0.8**
	baz=239							
WGK	**Gukeng**	**2.22**	**287**	*e*P		**Pn**	**16 13 39.6**	**+0.3**
	baz=295							
WGK				*e*S		**Sn**	**16 14 06.8**	**+1.3**
	baz=295							
SGLT	**Jiouru**	**2.22**	**262**	*e*P		**Pn**	**16 13 43.5**	**+4.1**
	baz=265							
HEN	**Hengchun**	**2.23**	**243**	*e*P		**Pn**	**16 13 39.2**	**-0.4**
	baz=233							
HEN				*e*S		**Sn**	**16 14 05.0**	**-0.9**
	baz=233							
NWF	**Wu-fen Shan**	**2.25**	**334**	*e*P		**Pn**	**16 13 40.1**	**+0.4**
	baz=348							
NWF				*e*S		**Sn**	**16 14 03.8**	**-2.4**
	baz=348							
TWA	**Mucha**	**2.25**	**329**	*e*P		**Pn**	**16 13 41.3**	**+1.5**
	baz=330							
TWA				*e*S		**Sn**	**16 14 07.0**	**+0.5**
	baz=330							
TWM1	**Shoushan**	**2.27**	**265**	P		**Pn**	**16 13 42.7**	**+2.7**
	baz=263							
TCU	**Taichung**	**2.29**	**299**	P		**Pn**	**16 13 42.3**	**+1.9**
	baz=303							
TCU				*e*S		**Sn**	**16 14 10.2**	**+2.8**
	baz=303							
CHY	**Chiayi**	**2.30**	**282**	*e*P		**Pn**	**16 13 42.5**	**+2.1**
	baz=281							
JTJ	**Tarama**	**2.30**	**46**	P		**Pn**	**16 13 40.7**	**+0.2**
JTJ				*e*S		**Sn**	**16 14 07.0**	**-0.7**
CHN3	**Shinhua**	**2.31**	**271**	*e*P		**Pn**	**16 13 43.7**	**+3.1**
	baz=271							
TWQ1	**Liyutan**	**2.32**	**304**	P		**Pn**	**16 13 42.6**	**+1.8**
	baz=313							
TWQ1				*e*S		**Sn**	**16 14 09.3**	**+1.3**
	baz=313							
NSTT	**Nanjuang**	**2.33**	**313**	*e*P		**Pn**	**16 13 42.6**	**+1.7**
	baz=314							
NSTT				S		**Sn**	**16 14 08.3**	**+0.1**
	baz=314							
NSY	**Sanyi**	**2.37**	**306**	*e*P		**Pn**	**16 13 40.8**	**-0.6**
	baz=306							
NSY				*e*S		**Sn**	**16 14 10.1**	**+0.9**
	baz=306							
TWS1	**Kuangyinshan**	**2.44**	**327**	*e*P		**Pn**	**16 13 43.5**	**+1.1**
	baz=328							
TWS1				*e*S		**Sn**	**16 14 11.7**	**+0.7**
	baz=328							
NCU	**National Centr**	**2.46**	**321**	*e*P		**Pn**	**16 13 42.2**	**-0.4**
	baz=323							
NCU				*e*S		**Sn**	**16 14 12.0**	**+0.6**
	baz=323							
HSN	**Hsinchu**	**2.47**	**315**	*e*P		**Pn**	**16 13 43.0**	**+0.2**
	baz=331							
HSN				*e*S		**Sn**	**16 14 12.0**	**+0.4**
	baz=331							
CHN8	**Yiju**	**2.47**	**277**	*e*P		**Pn**	**16 13 41.3**	**-1.5**
	baz=277							
CHN8				*e*S		**Sn**	**16 14 13.5**	**+1.8**
	baz=277							
TWY	**Chenhua**	**2.50**	**333**	*e*P		**Pn**	**16 13 44.4**	**+1.1**
	baz=344							
TWY				*e*S		**Sn**	**16 14 13.1**	**+0.6**
	baz=344							
WSF	**Szhu**	**2.51**	**284**	*e*P		**Pn**	**16 13 44.9**	**+1.6**
	baz=284							
WTCT	**Ta-ch'eng**	**2.52**	**289**	*e*P		**Pn**	**16 13 43.1**	**-0.3**
	baz=279							

*ISCJB **16** 16:43:26.9±0.2, 36°.59N±0°.03×26°.92E±0°.02, h146km±3km,*

mb3.8/9, Error ellipse: s-maj=4.3km s-min=2.7km az=172.0

*NIC **16** 16:43:26.4±0.2, 36°.74N×27°.10E, h140km, mb4.0, ML3.4, MW3.2*

*CSEM **16** 16:43:27.7±0.1, 36°.63N×26°.92E, h143km±1km, MD3.3, Mw3.2, Error ellipse: s-maj=4.0km s-min=3.0km az=177.0*

*IDC **16** 16:43:27.1±2.1, 36°.69N×26°.79E, h134km±22km, mb3.6/9, mb1 3.7/12, mb1mx3.5/28, mbtmp3.7/12, Error ellipse: s-maj=20.0km s-min=15.3km az=146.0*

*ATH **16** 16:43:28.8, 36°.70N×26°.62E, h13km±1km, MD3.7/15*

*DDA **16** 16:43:28.2, 36°.48N×27°.22E, h12km±1km, Md3.1*

*NEIC **16** 16:43:28.4±0.7, 36°.60N×26°.90E, h150km±11km, mb4.5/3, Error ellipse: s-maj=12.8km s-min=8.6km az=176.0*

*ISK **16** 16:43:29.2, 36°.71N×26°.89E, h124km, MD3.3*

*THE **16** 16:43:31.6, 36°.66N×26°.81E, h129km±7km, ML3.7/3, Error ellipse: s-maj=8.2km s-min=1.2km az=136.0*

ISC 16 16:43:27.9±0.2, 36°.59N±0°.03×26°.92E±0°.02, h141km±3km, n169, σ1§03/228, mb3.8/9, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAT	**Datca**	**0.55**	**75**	*e*PG	**Pn**	**16 43 48.7**	**+0.2**
DAT	**Datca**	**0.55**	**75**	*e*Pg	**Pn**	**16 43 48.7**	**+0.2**
MLSB	**Milas**	**0.98**	**44**	*e*PG	**Pn**	**16 43 51.0**	**-0.7**
MLSB	**Milas**	**0.98**	**44**	*e*Pg	**Pn**	**16 43 51.0**	**-0.7**
ARG	**Arkhangelos**	**1.04**	**111**	*e*PG	**Pn**	**16 43 53.2**	**+1.0**
ARG				*e*SB	**Sn**	**16 44 11.8**	**+1.2**
ARG	**Arkhangelos**	**1.04**	**111**	P	**Pn**	**16 43 53.3**	**+1.1**
ARG				S	**Sn**	**16 44 11.3**	**+0.7**
ARG	**Arkhangelos**	**1.04**	**111**	P	**Pn**	**16 43 53.3**	**+1.1**
ARG				S	**Sn**	**16 44 11.3**	**+0.7**
KARP	**Karpathos**	**1.06**	**169**	*e*PB	**Pn**	**16 43 52.6**	**+0.2**
KARP				*e*SB	**Sn**	**16 44 09.0**	**-1.9**
KARP	**Karpathos**	**1.06**	**169**	P	**Pn**	**16 43 53.4**	**+1.0**
KARP				S	**Sn**	**16 44 11.6**	**+0.7**
KARP	**Karpathos**	**1.06**	**169**	*e*Pb	**Pn**	**16 43 52.6**	**+0.2**
KARP	**Karpathos**	**1.06**	**169**	P	**Pn**	**16 43 53.4**	**+1.0**
KARP				*e*Sb	**Sn**	**16 44 09.0**	**-1.9**
KARP				S	**Sn**	**16 44 11.6**	**+0.7**
THR1	**Thera Island**	**1.20**	**260**	P	**Pn**	**16 43 54.0**	**+0.4**
THR1	**Thera Island**	**1.20**	**260**	P	**Pn**	**16 43 54.0**	**+0.4**
THR2	**Thira island,**	**1.20**	**264**	P	**Pn**	**16 43 54.1**	**+0.4**
THR2	**Thira island,**	**1.20**	**264**	P	**Pn**	**16 43 54.1**	**+0.4**
APE	**Apeiranthos**	**1.21**	**294**	*e*PN	**Pn**	**16 43 53.9**	**+0.1**
APE	**Apeiranthos**	**1.21**	**294**	*e*PB	**Pn**	**16 43 47.2**	**-6.6**
APE	**Apeiranthos**	**1.21**	**294**	*e*Pn	**Pn**	**16 43 53.9**	**+0.1**
YER	**Yerkesik**	**1.22**	**63**	*e*PN	**Pn**	**16 43 54.7**	**+0.9**
YER				*e*SN	**Sn**	**16 44 13.0**	**-0.7**
YER	**Yerkesik**	**1.22**	**63**	*e*Pn	**Pn**	**16 43 54.7**	**+0.8**
YER				*e*Sn	**Sn**	**16 44 13.0**	**-0.7**
THR3	**Thira Island,**	**1.24**	**262**	P	**Pn**	**16 43 54.4**	**+0.4**
THR3	**Thira Island,**	**1.24**	**262**	P	**Pn**	**16 43 54.4**	**+0.4**
TURN	**Turunc**	**1.38**	**78**	*i* P	**Pn**	**16 43 52.8**	**-2.7**
TURN				*i* S	**Sn**	**16 44 09.9**	**-6.6**
TURN	**Turunc**	**1.38**	**78**	*i* P	**Pn**	**16 43 52.8**	**-2.7**
NPS	**Neapolis**	**1.70**	**219**	*e*PG	**Pn**	**16 43 59.5**	**+0.5**
NPS				*e*SB	**Sn**	**16 44 21.5**	**-1.2**
NPS	**Neapolis**	**1.70**	**219**	P	**Pn**	**16 43 59.6**	**+0.6**
NPS				S	**Sn**	**16 44 22.3**	**-0.4**
NPS	**Neapolis**	**1.70**	**219**	P	**Pn**	**16 43 59.6**	**+0.6**
NPS				*e*Sb	**Sn**	**16 44 21.5**	**-1.2**
NPS				S	**Sn**	**16 44 22.3**	**-0.4**
FETY	**Fethiye**	**1.74**	**88**	*e*PN	**Pn**	**16 43 59.2**	**-0.3**
FETY	**Fethiye**	**1.74**	**88**	*e*Pn	**Pn**	**16 43 59.2**	**-0.2**
LAST	**Lasithi**	**1.84**	**220**	*e*PN	**Pn**	**16 44 01.3**	**+0.7**
LAST				*e*SN	**Sn**	**16 44 25.6**	**-0.1**
LAST	**Lasithi**	**1.84**	**220**	P	**Pn**	**16 44 01.3**	**+0.7**
LAST				S	**Sn**	**16 44 25.6**	**-0.1**
LAST	**Lasithi**	**1.84**	**220**	*e*Pn	**Pn**	**16 44 01.3**	**+0.7**
LAST				*e*Sn	**Sn**	**16 44 25.6**	**-0.1**
CHOS	**Chios island**	**1.92**	**339**	*e*PN	**Pn**	**16 44 00.8**	**-0.7**
CHOS	**Chios island**	**1.92**	**339**	P	**Pn**	**16 44 00.9**	**-0.6**
CHOS	**Chios island**	**1.92**	**339**	P	**Pn**	**16 44 00.9**	**-0.6**
DNZL	**Cakiroluk**	**2.02**	**56**	*i* P	**Pn**	**16 44 03.4**	**+0.6**
DNZL				*i* S	**Sn**	**16 44 29.1**	**-0.4**
DNZL	**Cakiroluk**	**2.02**	**56**	*i* P	**Pn**	**16 44 03.3**	**+0.6**
DNZL				*i* S	**Sn**	**16 44 29.1**	**-0.4**
DENT	**Denizli**	**2.05**	**55**	*e*PN	**Pn**	**16 44 03.4**	**+0.4**
DENT	**Denizli**	**2.05**	**55**	*e*Pn	**Pn**	**16 44 03.4**	**+0.4**
GLHS	**Glhisar (BURDU**	**2.15**	**74**	*e*PN	**Pn**	**16 44 05.3**	**+1.1**
GLHS	**Glhisar (BURDU**	**2.15**	**74**	*e*Pn	**Pn**	**16 44 05.3**	**+1.1**
AKAS	**Kas**	**2.20**	**98**	*i* P	**Pn**	**16 44 03.4**	**-1.5**
AKAS				*i* S	**Sn**	**16 44 30.8**	**-2.4**
AKAS	**Kas**	**2.20**	**98**	*i* P	**Pn**	**16 44 11.3**	**-1.5**
AKAS				*i* S	**Sn**	**16 44 30.8**	**-2.4**
GOLH	**Golhisar**	**2.21**	**72**	*i* P	**Pn**	**16 44 05.1**	**0.0**
GOLH				*i* S	**Sn**	**16 44 32.8**	**-0.8**
GOLH	**Golhisar**	**2.21**	**72**	*i* P	**Pn**	**16 44 05.1**	**+0.1**
GOLH				*i* S	**Sn**	**16 44 32.8**	**-0.8**
SIVA	**Sivas**	**2.32**	**228**	*e*PN	**Pn**	**16 44 07.6**	**+1.2**
SIVA				*e*SN	**Sn**	**16 44 36.1**	**+0.2**
SIVA	**Sivas**	**2.32**	**228**	P	**Pn**	**16 44 07.6**	**+1.2**
SIVA				S	**Sn**	**16 44 36.6**	**+0.7**
SIVA	**Sivas**	**2.32**	**228**	*e*Pn	**Pn**	**16 44 07.6**	**+1.2**
SIVA				*e*Sn	**Sn**	**16 44 36.1**	**+0.2**
SIVA				S	**Sn**	**16 44 36.6**	**+0.7**
KULA	**Kula-Manisa**	**2.37**	**35**	*e*PN	**Pn**	**16 44 06.8**	**-0.2**
KULA	**Kula-Manisa**	**2.37**	**35**	*e*Pn	**Pn**	**16 44 06.8**	**-0.1**
ELL	**Elmali**	**2.41**	**85**	*e*PN	**Pn**	**16 44 08.9**	**+1.5**
ELL	**Elmali**	**2.41**	**85**	*e*Pn	**Pn**	**16 44 08.9**	**+1.5**
VAM	**Vamos**	**2.50**	**243**	*e*PN	**Pn**	**16 44 09.4**	**+0.8**
VAM				*e*SN	**Sn**	**16 44 38.5**	**-1.4**
VAM	**Vamos**	**2.50**	**243**	P	**Pn**	**16 44 09.4**	**+0.8**
VAM				S	**Sn**	**16 44 38.2**	**-1.7**
VAM	**Vamos**	**2.50**	**243**	*e*Pn	**Pn**	**16 44 09.4**	**+0.8**
VAM				S	**Sn**	**16 44 38.2**	**-1.7**
VAM				*e*Sn	**Sn**	**16 44 38.5**	**-1.4**
KARN	**Karanos**	**2.71**	**245**	*e*PN	**Pn**	**16 44 12.1**	**+0.9**
KARN				*e*SN	**Sn**	**16 44 43.1**	**-1.4**
KARN	**Karanos**	**2.71**	**245**	P	**Pn**	**16 44 12.1**	**+0.9**
KARN				S	**Sn**	**16 44 43.0**	**-1.5**
KARN	**Karanos**	**2.71**	**245**	*e*Pn	**Pn**	**16 44 12.1**	**+0.9**
KARN				*e*Sn	**Sn**	**16 44 43.1**	**-1.4**
KHAL	**Karahalli**	**2.71**	**48**	*i* P	**Pn**	**16 44 10.8**	**-0.4**
KHAL				*i* S	**Sn**	**16 44 44.0**	**-0.7**
KHAL	**Karahalli**	**2.71**	**48**	*i* P	**Pn**	**16 44 10.8**	**-0.4**
KHAL				*i* S	**Sn**	**16 44 44.0**	**-0.6**
KORT	**Korkueli**	**2.79**	**80**	*i* P	**Pn**	**16 44 13.4**	**+1.2**
KORT				*i* S	**Sn**	**16 44 47.7**	**+1.4**
KORT	**Korkueli**	**2.79**	**80**	*i* P	**Pn**	**16 44 13.4**	**+1.3**
KORT				*i* S	**Sn**	**16 44 47.7**	**+1.5**
VLY	**Voula,Athens**	**2.79**	**298**	*e*PN	**Pn**	**16 44 12.2**	**0.0**
VLY	**Voula,Athens**	**2.79**	**298**	P	**Pn**	**16 44 12.2**	**0.0**
VLY	**Voula,Athens**	**2.79**	**298**	*e*Pn	**Pn**	**16 44 12.2**	**0.0**
GVD	**Gavdhos**	**2.89**	**234**	*e*P	**Pn**	**16 44 14.6**	**+1.1**
GVD				*e*S	**Sn**	**16 44 43.8**	**-4.9**
GVD	**Gavdhos**	**2.89**	**234**	P	**Pn**	**16 44 14.8**	**+1.3**
GVD				S	**Sn**	**16 44 48.7**	**0.0**
GVD	**Gavdhos**	**2.89**	**234**	*e*P	**Pn**	**16 44 14.6**	**+1.1**
GVD				S	**Sn**	**16 44 48.7**	**0.0**
NAIG	**Nisos Aigina**	**2.98**	**294**	*e*PB	**Pn**	**16 44 14.5**	**-0.1**
ANTB	**Antalya**	**3.02**	**83**	*e*PN	**Pn**	**16 44 16.7**	**+1.6**
ANTB	**Antalya**	**3.02**	**83**	*e*Pn	**Pn**	**16 44 16.7**	**+1.6**
BCK	**Bucak**	**3.06**	**72**	*e*PN	**Pn**	**16 44 16.8**	**+1.1**
BCK	**Bucak**	**3.06**	**72**	*e*Pn	**Pn**	**16 44 16.8**	**+1.1**
DID	**Didima**	**3.08**	**288**	*e*PN	**Pn**	**16 44 16.0**	**+0.1**
DID	**Didima**	**3.08**	**288**	*e*Pn	**Pn**	**16 44 16.0**	**+0.1**
KYTH	**Kithira**	**3.15**	**266**	*e*PN	**Pn**	**16 44 16.9**	**+0.2**
KYTH	**Kithira**	**3.15**	**266**	P	**Pn**	**16 44 17.2**	**+0.5**
KYTH	**Kithira**	**3.15**	**266**	*e*Pn	**Pn**	**16 44 16.9**	**+0.2**
KYTH	**Kithira**	**3.15**	**266**	P	**Pn**	**16 44 17.2**	**+0.5**
VLI	**Veliai**	**3.20**	**273**	*e*PN	**Pn**	**16 44 17.5**	**0.0**
VLI				*e*SN	**Sn**	**16 44 52.8**	**-3.0**
VLI	**Veliai**	**3.20**	**273**	P	**Pn**	**16 44 17.5**	**0.0**
VLI				S	**Sn**	**16 44 52.9**	**-2.9**
VLI	**Veliai**	**3.20**	**273**	*e*Pn	**Pn**	**16 44 17.5**	**0.0**
VLI				S	**Sn**	**16 44 52.9**	**-2.9**
LTK	**Loutraki**	**3.46**	**296**	*e*PN	**Pn**	**16 44 20.9**	**+0.1**
LTK	**Loutraki**	**3.46**	**296**	P	**Pn**	**16 44 21.1**	**+0.3**
LTK	**Loutraki**	**3.46**	**296**	P	**Pn**	**16 44 21.1**	**+0.3**
VLX	**Vlachokerasia**	**3.72**	**283**	*e*PN	**Pn**	**16 44 24.9**	**+0.7**
VLX	**Vlachokerasia**	**3.72**	**283**	P	**Pn**	**16 44 25.1**	**+0.9**
VLX				S	**Sn**	**16 45 05.6**	**-2.2**
VLX	**Vlachokerasia**	**3.72**	**283**	*e*Pn	**Pn**	**16 44 21.9**	**-2.3**
VLX	**Vlachokerasia**	**3.72**	**283**	P	**Pn**	**16 44 25.1**	**+0.9**
VLX				S	**Sn**	**16 45 05.6**	**-2.2**
GUR	**Goura**	**3.89**	**292**	*e*PN	**Pn**	**16 44 27.2**	**+0.8**
GUR	**Goura**	**3.89**	**292**	*e*Pn	**Pn**	**16 44 27.2**	**+0.8**
ITM	**Ithomi**	**4.04**	**280**	P	**Pn**	**16 44 29.4**	**+0.9**
ITM				S	**Sn**	**16 45 14.1**	**-1.4**
ITM	**Ithomi**	**4.04**	**280**	P	**Pn**	**16 44 29.4**	**+0.9**
ITM				S	**Sn**	**16 45 14.1**	**-1.4**
AGG	**Agios Georgios**	**4.37**	**305**	*e*PN	**Pn**	**16 44 34.3**	**+1.6**
AGG	**Agios Georgios**	**4.37**	**305**	*e*Pn	**Pn**	**16 44 34.3**	**+1.6**
PPCY	**Paphos**	**4.73**	**109**	P	**Pn**	**16 44 36.9**	**-0.6**
PPCY	**Paphos**	**4.73**	**109**	P	**Pn**	**16 44 36.9**	**-0.6**
ALFC	**Alevga**	**4.83**	**106**	P	**Pn**	**16 44 37.8**	**-1.1**
	3.5nm,0.2s						
ALFC				S	**Sn**	**16 45 33.2**	**-0.9**
ALFC	**Alevga**	**4.83**	**106**	P	**Pn**	**16 44 37.8**	**-1.1**
	3.5nm,0.2s						
ALFC				S	**Sn**	**16 45 33.2**	**-0.9**
SZAC	**Souni-Zanaja**	**5.19**	**109**	P	**Pn**	**16 44 42.5**	**-1.1**
SZAC	**Souni-Zanaja**	**5.19**	**109**	P	**Pn**	**16 44 42.5**	**-1.1**
SLUM		**5.28**	**196**	P	**Pn**	**16 44 45.2**	**+0.3**
MAMC	**Mammari**	**5.31**	**104**	P	**Pn**	**16 44 43.8**	**-1.4**
MAMC	**Mammari**	**5.31**	**104**	P	**Pn**	**16 44 43.8**	**-1.4**
CSS	**Prodhromos**	**5.46**	**105**	P	**Pn**	**16 44 46.4**	**-0.9**
	0.5nm,0.2s						
CSS				S	**Sn**	**16 45 49.0**	**-0.2**
CSS	**Prodhromos**	**5.46**	**105**	*e*P	**Pn**	**16 44 46.4**	**-0.8**
	14nm,0.4s						
CSS	**Prodhromos**	**5.46**	**105**	P	**Pn**	**16 44 46.4**	**-0.9**
	0.5nm,0.2s						
CSS				S	**Sn**	**16 45 49.0**	**-0.2**
HMAT	**Matruh**	**5.48**	**178**	P	**Pn**	**16 44 48.4**	**+0.8**
PHNC	**Paralimni**	**5.99**	**103**	P	**Pn**	**16 44 53.7**	**-0.7**
	0.3nm,0.3s						
PHNC				S	**Sn**	**16 46 01.4**	**-0.6**
PHNC	**Paralimni**	**5.99**	**103**	P	**Pn**	**16 44 53.7**	**-0.7**
	0.3nm,0.3s						
PHNC				S	**Sn**	**16 46 01.4**	**-0.6**
BRTR	**Keskin Array B**	**6.15**	**57**	P	**Pn**	**16 44 58.0**	**+1.6**
	0.3nm,0.3s,baz=226,slow=15,SNR=11						
BRTR				S	**Sn**	**16 46 08.2**	**+2.5**
	0.1nm,0.3s,baz=224,slow=24,SNR=6.9						
BRTR	**Keskin Array B**	**6.15**	**57**	P	**Pn**	**16 44 58.0**	**+1.6**
BRTR				S	**Sn**	**16 46 08.2**	**+2.5**
BRTR	**Keskin Array B**	**6.15**	**57**	P	**Pn**	**16 44 58.0**	**+1.5**
BR131	**Keskin Array S**	**6.15**	**57**	*e*P	**Pn**	**16 44 58.5**	**+2.0**
	0.9nm,0.6s						
BR131	**Keskin Array S**	**6.15**	**57**	*e*P	**Pn**	**16 44 58.5**	**+2.0**
	0.9nm,0.6s						
SWA2		**7.43**	**190**	P	**Pn**	**16 45 13.4**	**-0.3**
KOT	**Kottamia**	**7.81**	**147**	P	**Pn**	**16 45 18.9**	**+0.1**
MMAI	**Mount Meron Ar**	**7.83**	**115**	P	**Pn**	**16 45 18.4**	**-0.7**
	22nm,0.3s,baz=307,slow=11,SNR=104						
MMAI				S	**Sn**	**16 46 43.2**	**-3.2**
	2.9nm,0.3s,baz=319,slow=15,SNR=3.6						
AMAG	**Maghara**	**7.92**	**137**	P	**Pn**	**16 45 19.7**	**-0.5**
GLL	**Jalalah**	**8.06**	**149**	P	**Pn**	**16 45 22.4**	**+0.2**
SUZ		**8.36**	**142**	P	**Pn**	**16 45 26.4**	**+0.3**
HNKL	**Nakhl**	**8.89**	**136**	P	**Pn**	**16 45 33.3**	**+0.1**
ASF	**Jabal al Asfar**	**9.35**	**115**	P	**Pn**	**16 45 40.1**	**+0.8**
	2.1nm,0.3s,baz=169,slow=6.2,SNR=12						
ASF	**Jabal al Asfar**	**9.35**	**115**	P	**Pn**	**16 45 40.1**	**+0.8**
CUC	**Castrocucco**	**9.37**	**295**	*e*P	**Pn**	**16 45 37.7**	**-1.8**
	9.0nm,0.6s						
CUC	**Castrocucco**	**9.37**	**295**	*e*P	**Pn**	**16 45 37.7**	**-1.8**
	9.0nm,0.6s						
HFRF	**Wahat Farafira**	**9.49**	**172**	P	**Pn**	**16 45 41.3**	**+0.1**
EIL	**Elat**	**9.64**	**133**	P	**Pn**	**16 45 42.9**	**-0.4**
	2.0nm,0.3s,baz=346,slow=10,SNR=17						
EIL				S	**Sn**	**16 47 25.1**	**-4.8**
	1.9nm,0.3s,baz=343,slow=21,SNR=9.9						
EIL	**Elat**	**9.64**	**133**	P	**Pn**	**16 45 42.9**	**-0.4**
EIL				S	**Sn**	**16 47 25.1**	**-4.8**
EIL	**Elat**	**9.64**	**133**	P	**Pn**	**16 45 42.8**	**-0.4**
TR2		**9.99**	**143**	P	**Pn**	**16 45 48.3**	**+0.4**
HKAT	**Jabal Katrina**	**10.01**	**141**	P	**Pn**	**16 45 48.9**	**+0.7**
TR1		**10.42**	**143**	P	**Pn**	**16 45 53.5**	**-0.1**
HDK2	**Wahat Dakhilah**	**12.35**	**171**	P	**Pn**	**16 46 23.1**	**+4.1**
AKASG	**Malin Array Be**	**14.21**	**6**	P	**Pn**	**16 46 44.4**	**+1.9**
	0.8nm

s-maj=4.7km s-min=3.6km az=64.0 Broadband fault plane solution: P waves. NP1:ϕ_s270.00000°,δ70.00000°, λ90.00000°. NP2:ϕ_s90.00000°,δ20.00000°,λ90.00000°. Principal axes: T Plg65.0000°, Azm180.0000°; N Plg0.0000°, Azm0.0000°; P Plg25.0000°, Azm360.0000°; Complex earthquake, with at least two events about 4 seconds apart observed on broadband displacement seismograms. Depth from synthetics of broadband displacement seismograms based on first event. Energy computed from BB mechanism.

NEIC At least six people killed, 77 injured, 10,000 people displaced, 1,000 buildings damaged and communications disrupted in the Buol area and in Gorontalo. Felt [VII] at Baolan; [VI] at Gorontalo and Tolitoli; [IV] at Manado and Poso; [III] at Luwuk. Also felt at Kolaka, Kuta, Makasar, Palu and Ujung Bulu. Felt [IV] at Bandar Seri Begawan, Brunei and [II] at Darwin, Australia. Felt at Kunak and Sandakan, Malaysia and at General Santos and Koronadal, Philippines.

MOS ***16*** *17:02:34.1±1.3,1°.28N×122°.10E,h51km,mb6.5/57, MS7.0/101 Error ellipse: s-maj=7.0km s-min=4.1km az=115.0*

DJA ***16*** *17:02:35.3±0.6,1°N±2°×12°2E±°,h36km±6km,M7.8/4, mB7.4/102,mb6.7/104,MLv7.3/17,Mw(mB)7.5/102, Mwp8.0/53*

GCMT ***16*** *17:02:43.8±0.1,1°.50N×122°.05E,h29km,MW7.3,Moment Tensor Solution. s124,c325; s99,c304; Moment tensor: Scale 10^{20}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{r\phi}$0.00; $M_{\theta\phi}$0.00; Best double couple: $M_0$1.30000×10^{20} NP1:ϕ_s92.00000°,δ20.00000°,λ84.00000°. NP2: ϕ_s278.00000°,δ70.00000°,λ92.00000°. Principal axes: T 1.3000, Plg65.0000°, Azm191.0000°; N 0.0400, Plg2.0000°, Azm97.0000°; P -1.3300, Plg25.0000°, Azm6.0000°; Data Used: II IU CN IC G. LP body wave period 50 sec. Mantle wave period 150 sec. Mantle waves from 122 sta. Surface waves: sta=120, comp=288, per= 50.*

SZGRF ***16*** *17:02:55.5,2°.52N×122°.30E,h33km,mb7.1,Celebes Sea*
ISC 16 17:02:32.8±0.1,1°.35N±0°.01×122°.16E±0°.01,h28km,
h28km±1.7km:pP-P,n2090,σ1932/1183,mb6.3/256,
MS7.0/273,294C-253D,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.90**	**194**	P		**Pn**		**17 02 48.0**	**-1.6**
MRSI				S		**Sb**		**17 03 04.1**	**+2.7**
KMSI	**Cibinong**	**1.98**	**113**	P		**Pn**		**17 03 06.1**	**+1.7**
LUWI	**Luwuk**	**2.45**	**166**	P		**Pn**		**17 03 13.4**	**+2.4**
MNI	**Manado**	**2.68**	**88**	P		**Pn**		**17 03 13.6**	**-0.5**
SGSI	**Sangihe**	**4.08**	**55**	P		**Pn**		**17 03 34.4**	**+1.0**
MSSI	**Masamba**	**4.29**	**205**	P		**Pn**		**17 03 38.7**	**+2.4**
TTSI	**Tana Toraja**	**4.96**	**208**	P		**Pn**		**17 03 47.4**	**+2.0**
TSM	**Tawau**	**5.19**	**304**	P		**Pn**		**17 03 48.1**	**-0.5**
TNTI	**Ternate**	**5.24**	**96**	P		**Pn**		**17 03 50.9**	**+1.6**
SMKI	**Samarinda**	**5.27**	**250**	P		**Pn**		**17 03 50.8**	**+1.1**
MYLDM	**Lahad Datu**	**5.28**	**316**	P		**Pn**		**17 03 52.0**	**+2.1**
MYLDM	**Lahad Datu**	**5.28**	**316**	P		**Pn**		**17 03 50.3**	**+0.5**
KDI	**Kendari**	**5.29**	**175**	P		**Pn**		**17 03 51.3**	**+1.2**
SPSI	**Sidrap Palu**	**5.80**	**204**	P		**Pn**		**17 03 58.2**	**+1.2**
MJSI	**Majene**	**5.82**	**213**	P		**Pn**		**17 03 59.6**	**+2.3**
CTBH	**Cotabato--PC H**	**6.19**	**20**	⇓P	*e*	**Pn**		**17 04 00.3**	**-2.1**
KCP	**Kidapawan**	**6.33**	**27**	⇓P	*e*	**Pn**		**17 04 04.2**	**-0.1**
KCP					*i*	**Sn**		**17 05 34.7**	**+19**
IPIL	**Ipil**	**6.41**	**4**	P	*e*	**Pn**		**17 04 05.2**	**-0.2**
SDKM	**Sandakan**	**6.54**	**311**	P		**Pn**		**17 04 09.3**	**+2.1**
PAGZ	**Pagadian**	**6.57**	**11**	P	*e*	**Pn**		**17 04 06.2**	**-1.3**
DAV	**Davao City (W)**	**6.62**	**31**	Pn		**Pn**		**17 04 10.0**	**+1.7**
	363nm,0.3s,baz=200,slow=1.6,SNR=159								
DAV				Sn		**Sn**		**17 05 30.9**	**+7.9**
	baz=216,slow=19,SNR=1.4								
DAV	**Davao City (W)**	**6.62**	**31**	P	*e*	**Pn**		**17 04 10.4**	**+2.0**
	52μm,1.1s								
DAV	**Davao City (W)**	**6.62**	**31**	P		**Pn**		**17 04 10.1**	**+1.7**
DAV	**Davao City (W)**	**6.62**	**31**	⇓P	*e*	**Pn**		**17 04 10.2**	**+1.8**
DAV	**Davao City (W)**	**6.62**	**31**	P		**Pn**		**17 04 10.2**	**+1.8**
	SNR=1126								
NLAI	**Namlea**	**6.72**	**133**	P		**Pn**		**17 04 11.3**	**+1.6**
KAPI	**Kappang**	**6.77**	**201**	P	*e*	**Pn**		**17 04 10.7**	**+0.3**
	22μm,1.1s								
KAPI	**Kappang**	**6.77**	**201**	P		**Pn**		**17 04 10.1**	**-0.2**
KAPI	**Kappang**	**6.77**	**201**	P		**Pn**		**17 04 10.7**	**+0.4**
	SNR=1774								
BBSI	**Bau Bau**	**6.81**	**177**	P		**Pn**		**17 04 13.2**	**+2.3**
MATI	**Mati**	**6.89**	**36**	P	*e*	**Pn**		**17 04 11.6**	**-0.5**
BKSI	**Bulukumba**	**6.94**	**197**	P		**Pn**		**17 04 13.6**	**+1.0**
BUKP	**Musuan**	**7.10**	**24**	P	*e*	**Pn**		**17 04 14.8**	**-0.1**
DCPH	**Dipolog City**	**7.28**	**9**	⇑P	*e*	**Pn**		**17 04 18.2**	**+0.8**
CGP	**Cagayan de Oro**	**7.49**	**20**	P	*e*	**Pn**		**17 04 19.7**	**-0.6**
KKM	**Kota Kinabalu**	**7.55**	**308**	P		**Pn**		**17 04 22.3**	**+1.3**
KKM	**Kota Kinabalu**	**7.55**	**308**	eP		**Pn**		**17 04 21.4**	**+0.4**
	4μm,0.6s								
KKM	**Kota Kinabalu**	**7.55**	**308**	P		**Pn**		**17 04 21.3**	**+0.3**
	23nm6μm,1.0s								
KBKI	**Kotabaru**	**7.57**	**232**	P		**Pn**		**17 04 20.7**	**-0.6**
KDM	**Kudat**	**7.67**	**316**	P		**Pn**		**17 04 24.7**	**+2.0**
AAI	**Ambon**	**7.83**	**130**	P		**Pn**		**17 04 27.1**	**+2.1**
SNPH	**Sibulan**	**8.01**	**8**	eP		**Pn**		**17 04 29.4**	**+2.0**
MSAI	**Masohi**	**8.22**	**125**	P		**Pn**		**17 04 32.4**	**+2.2**
	4μm,1.1s								
TBP	**Tagbilaran**	**8.46**	**11**	eP		**Pn**		**17 04 36.0**	**+2.5**
BBKI	**Banjar Baru**	**8.74**	**237**	P		**Pn**		**17 04 38.0**	**+0.5**
SCPH	**Surigao**	**9.00**	**21**	⇓eP		**Pn**		**17 04 40.3**	**-0.7**
LLP	**Lapu-Lapu**	**9.09**	**11**	eP		**Pn**		**17 04 43.0**	**+0.9**
BTM	**Bintulu**	**9.26**	**282**	P		**Pn**		**17 04 45.4**	**+0.9**
SWI	**Sorong**	**9.36**	**104**	P		**Pn**		**17 04 48.4**	**+2.5**
	3μm,1.1s								
BNDI	**Bandanaira**	**9.69**	**127**	P		**Pn**		**17 04 51.8**	**+1.3**
MMRI	**Maumere**	**9.92**	**180**	P		**Pn**		**17 04 56.0**	**+2.4**
	3μm,1.2s								
SBUM	**Sibu**	**10.00**	**276**	P		**Pn**		**17 04 57.0**	**+2.3**
SBUM	**Sibu**	**10.00**	**276**	P		**Pn**		**17 04 55.3**	**+0.6**
	872nm,1.3s								
PLP	**Palo**	**10.14**	**16**	⇓eP		**Pn**		**17 04 58.1**	**+1.4**
BUSP	**Coron**	**10.76**	**350**	eP		**Pn**		**17 05 06.7**	**+1.5**
STKI	**Sintang**	**10.76**	**263**	P		**Pn**		**17 05 06.8**	**+1.6**
	2μm,2.1s								
OTRP	**Odiongan**	**10.94**	**359**	eP		**Pn**		**17 05 11.6**	**+4.0**
MMPH	**Masbate**	**11.03**	**7**	eP		**Pn**		**17 05 12.0**	**+3.1**
WSI	**Waingapu**	**11.10**	**190**	P		**Pn**		**17 05 14.1**	**+4.3**
	7μm,1.4s								
PBKI	**Pangkalan Bun**	**11.24**	**249**	P		**Pn**		**17 05 12.3**	**+0.6**
	3μm,0.9s								
MTNI	**Mataram**	**11.58**	**211**	P		**Pn**		**17 05 18.5**	**+2.1**
	4μm,1.0s								
KHKI	**Kahang-Kahang**	**11.66**	**214**	P		**Pn**		**17 05 19.1**	**+1.7**
	2μm,1.9s								
SRBI	**Singaraja**	**11.66**	**216**	P		**Pn**		**17 05 19.3**	**+1.9**
	4μm,1.7s								
KMMI	**Kalianget**	**11.69**	**224**	P		**Pn**		**17 05 20.8**	**+3.0**
	6μm,1.4s								
KSM	**Kuching**	**11.85**	**271**	P		**Pn**		**17 05 21.7**	**+1.6**
KSM	**Kuching**	**11.85**	**271**	eP		**Pn**		**17 05 20.1**	**0.0**
	4μm,1.3s								
KSM	**Kuching**	**11.85**	**271**	P		**Pn**		**17 05 20.7**	**+0.6**
	2μm,1.5s								
AUQP	**San Andres**	**11.90**	**2**	eP		Px		17 05 30.9	
BOAC	**Boac**	**12.03**	**359**	eP		**Pn**		**17 05 28.7**	**+6.1**
NBBI	**Negara**	**12.24**	**218**	P		**Pn**		**17 05 28.2**	**+2.8**
BYJI	**Banyuwangi**	**12.28**	**219**	P		**Pn**		**17 05 30.3**	**+4.3**
IGBI	**Denpasar**	**12.29**	**215**	P		**Pn**		**17 05 29.4**	**+3.4**
	8μm,1.0s								
PVCP	**Virac**	**12.32**	**9**	eP		**Pn**		**17 05 31.2**	**+4.7**
BLJI	**Banyuglugur**	**12.44**	**223**	P		**Pn**		**17 05 31.2**	**+3.1**
	2μm,1.4s								
LUBP	**Lubang**	**12.45**	**351**	eP		**Pn**		**17 05 30.3**	**+2.1**
GQP	**Guinayangan**	**12.48**	**1**	⇓eP		**Pn**		**17 05 32.3**	**+3.7**
JAGI	**Jajag, Banyuwa**	**12.61**	**219**	P		**Pn**		**17 05 33.2**	**+2.8**
	6μm,1.7s								
TLE	**Tual**	**12.64**	**123**	P		**Pn**		**17 05 31.3**	**+0.5**
	9μm,1.2s								
TGY	**Tagaytay City**	**12.73**	**355**	Pn		**Pn**		**17 05 35.3**	**+3.3**
	37nm,0.3s,baz=168,slow=19,SNR=21								
TGY				LR		LR		17 11 05.0	
	comp=Z,2μm,18.4s,baz=149,slow=40								
TGY	**Tagaytay City**	**12.73**	**355**	Pn		**Pn**		**17 05 35.3**	**+3.3**
TGY				LR		LR		17 11 05.0	
TGY	**Tagaytay City**	**12.73**	**355**	P		**Pn**		**17 05 35.3**	**+3.3**
GMJI	**Gumukmas**	**12.92**	**222**	P		**Pn**		**17 05 36.8**	**+2.1**
	3μm,1.0s								
POLP	**Polilio Island**	**13.29**	**359**	eP		**Pn**		**17 05 44.4**	**+4.7**
KRKI	**Karangkates**	**13.53**	**226**	P		**Pn**		**17 05 46.3**	**+3.3**
	6μm,1.8s								
SJI	**Sawahan**	**13.75**	**229**	P		**Pn**		**17 05 49.5**	**+3.5**
	3μm,1.3s								
NGJI	**Ngawi**	**13.75**	**231**	P		**Pn**		**17 05 50.4**	**+4.4**
	4μm,2.1s								
PWJI	**Pagerwojo**	**13.91**	**228**	P		**Pn**		**17 05 51.1**	**+2.9**
	3μm,2.6s								
BAKI	**Biak**	**14.17**	**100**	P		**Pn**		**17 05 53.7**	**+1.9**
	3μm,1.3s								
BALP	**Baler**	**14.31**	**358**	eP		**Pn**		**17 05 56.7**	**+3.0**
SMRI	**Semarang**	**14.37**	**234**	P		**Pn**		**17 05 57.1**	**+2.6**
	4μm,1.7s								
PCJI	**Pacitan**	**14.49**	**229**	P		**Pn**		**17 05 59.6**	**+3.5**
	6μm,1.5s								
SCZP	**Santa Cruz**	**14.50**	**351**	eP		**Pn**		**17 05 57.7**	**+1.4**
UGM	**Wanagama**	**14.81**	**231**	P		**Pn**		**17 06 07.0**	**+6.4**
	4μm,1.9s								
YOGI	**Yogyakarta**	**14.94**	**232**	P		**Pn**		**17 06 07.0**	**+4.8**
TPI	**Tanjungpandan**	**15.07**	**254**	P		**Pn**		**17 06 04.4**	**+0.5**
	1μm,1.9s								
BOLP	**Bolinao**	**15.10**	**352**	eP		**Pn**		**17 06 05.3**	**+1.0**
PALP	**Palanan**	**15.61**	**1**	eP		**Pn**		**17 06 12.6**	**+1.6**
JCJI	**Jatiwangi**	**15.91**	**241**	P		**Pn**		**17 06 20.8**	**+5.9**
CLJI	**Cilicap**	**15.91**	**235**	P		**Pn**		**17 06 19.7**	**+4.8**
	7μm,2.6s								
CVP	**Callao Caves**	**16.25**	**359**	⇓eP		**Pn**		**17 06 22.1**	**+2.9**
ABRA	**Dolores**	**16.26**	**355**	eP		**Pn**		**17 06 19.1**	**-0.2**
PPBI	**Pangkal Pinang**	**16.40**	**258**	P		**Pn**		**17 06 20.1**	**-1.1**
	1μm,1.4s								
APYP	**Conner**	**16.43**	**357**	eP		**Pn**		**17 06 23.8**	**+2.2**
LEM	**Lembang**	**16.64**	**241**	P		**Pn**		**17 06 25.5**	**+1.3**
	5μm,2.1s								
CISI	**Cisompet, Garu**	**16.83**	**238**	P		**Pn**		**17 06 27.7**	**+1.1**
	6μm,1.0s								
SMPI	**Sarmi**	**16.87**	**101**	P		**Pn**		**17 06 28.3**	**+1.1**
	2μm,1.4s								
CBJI	**Citeko**	**17.12**	**243**	P		**Pn**		**17 06 32.0**	**+1.7**
TNG	**Tangerang**	**17.20**	**244**	P		**Pn**		**17 06 33.5**	**+2.2**
	7μm,1.6s								
TNG				P				17 06 33.9	
	5μm,1.6s								
DBJI	**Dramaga**	**17.27**	**243**	P		**Pn**		**17 06 32.4**	**+0.2**
	5μm,1.9s								
SBJI	**Serang**	**17.64**	**245**	P		**Pn**		**17 06 37.7**	**+0.9**
	9μm,1.4s								
SKJI	**Sukabumi**	**17.65**	**242**	P		**Pn**		**17 06 38.3**	**+1.5**
RBSI	**Rajabasa**	**17.89**	**246**	P		**Pn**		**17 06 42.1**	**+2.3**
	5μm,0.9s								
PMBI	**Palembang**	**17.90**	**256**	P		**Pn**		**17 06 43.3**	**+3.4**
	7μm,1.4s								
BLSI	**Bandar Lampung**	**18.17**	**248**	P		**Pn**		**17 06 44.5**	**+1.3**
	4μm,1.5s								
CGJI	**Cibinong**	**18.24**	**244**	P		**Pn**		**17 06 44.2**	**0.0**
MYKOM	**Kota Tinggi**	**18.31**	**272**	P		**Pn**		**17 06 45.0**	**0.0**
MYKOM	**Kota Tinggi**	**18.31**	**272**	P		**Pn**		**17 06 44.5**	**-0.5**
	1μm,1.1s								
KLI	**Kotabumi**	**18.36**	**250**	P		**Pn**		**17 06 46.6**	**+1.0**
	5μm,1.4s								
KLSI		**18.42**	**251**	P		**Pn**		**17 06 46.2**	**-0.1**
	9μm,1.1s								
KGM	**Kluang**	**18.85**	**272**	P		**Pn**		**17 06 52.0**	**+0.5**
MDSI	**Maura Dua**	**18.88**	**252**	P		**Pn**		**17 06 51.1**	**-0.8**
	3μm,2.3s								
JAY	**Jayapura**	**18.93**	**102**	P		**Pn**		**17 06 53.8**	**+1.3**
	848nm,2.2s								
LWLI	**Liwa**	**19.16**	**251**	P		**Pn**		**17 06 55.6**	**+0.3**
FITZ	**Fitzroy Crossi**	**19.63**	**170**	P		**Pn**		**17 06 58.1**	**-2.7**
	29nm,0.3s,baz=3.4,slow=9.9,SNR=388								
FITZ				S		**Sn**		**17 10 37.8**	**-2.8**
	5.0nm,0.3s,baz=284,slow=17,SNR=2.5								
FITZ				LR		LR		17 14 31.5	
	comp=Z,547μm,21.9s,baz=246,slow=37								
FITZ	**Fitzroy Crossi**	**19.63**	**170**	⇑P	*i*	**Pn**		**17 06 58.2**	**-2.6**
	5μm,1.0s								
FITZ					*e*	**Sn**		**17 10 38.6**	**-2.0**
FITZ	**Fitzroy Crossi**	**19.63**	**170**	eP		**Pn**		**17 06 58.3**	**-2.5**
	5μm,1.2s								
FITZ	**Fitzroy Crossi**	**19.63**	**170**	P		**Pn**		**17 06 57.9**	**-2.9**
	5μm,1.2s								
RGRI	**Rengat**	**19.90**	**265**	P		**Pn**		**17 07 03.9**	**-0.2**
	6μm,1.1s								
MNAI	**Manna**	**20.01**	**253**	P		**P**		**17 07 05.8**	**+2.2**
KSI	**Kapahiang**	**20.18**	**256**	P		**P**		**17 07 06.2**	**+0.8**
XMIS	**Christmas Isla**	**20.20**	**234**	eP		**P**		**17 07 03.0**	**-2.6**
	11μm,0.9s								
XMIS					*e*	**S**		**17 10 46.9**	**-4.2**
XMIS	**Christmas Isla**	**20.20**	**234**	P		**P**		**17 07 04.7**	**-0.9**
MMPI	**Merauke**	**20.62**	**119**	P		**P**		**17 07 13.4**	**+3.3**
	6μm,2.3s								
SDSI	**Sungai Dareh**	**20.86**	**264**	P		**P**		**17 07 14.1**	**+1.4**
	5μm,1.4s								
KRJI	**Kerinci**	**20.98**	**261**	P		**P**		**17 07 17.1**	**+3.0**
BKNI	**Bangkinang**	**21.14**	**267**	P		**P**		**17 07 16.3**	**+0.4**
QIZ	**Qiongzhong**	**21.32**	**326**	P		**P**		**17 07 18.3**	**+0.7**
QIZ					sP	sP		17 07 30.6	+1.8
QIZ					S	**S**		**17 11 16.1**	**+3.0**
QIZ					sS	sS		17 11 28.8	+3.5
QIZ					pmax	pmax			
	comp=Z,37μm,11.8s								
QIZ					LR	LR			
	comp=N,175μm,22.3s,MS6.5								
QIZ					LR	LR			
	comp=E,47μm,18.0s,MS6.5								
QIZ					LR	LR			
	comp=Z,349μm,22.4s,MS6.7								
QIZ	**Qiongzhong**	**21.32**	**326**	eP		**P**		**17 07 17.9**	**+0.2**
	comp=Z,5μm,1.5s,mb6.6								
QIZ					LR	LR			
	comp=Z,335μm,21.0s,MS6.7								
IPM	**Ipoh**	**21.34**	**279**	P		**P**		**17 07 18.0**	**+0.1**
IPM	**Ipoh**	**21.34**	**279**	eP		**P**		**17 07 17.8**	**-0.1**
	comp=Z,3μm,1.2s,mb6.4								
IPM	**Ipoh**	**21.34**	**279**	P		**P**		**17 07 17.6**	**-0.3**
	comp=Z,2μm,1.0s,mb6.3								
TWG	**Pinlang**	**21.37**	**357**	eP		**P**		**17 07 18.0**	**-0.1**
	comp=Z,2μm,1.1s,mb6.3								
PDSI	**Padang**	**21.82**	**264**	P		**P**		**17 07 23.0**	**-0.1**
	comp=Z,7μm,1.6s,mb6.8								
KULM	**Kulim**	**21.83**	**281**	P		**P**		**17 07 23.2**	**0.0**
KULM	**Kulim**	**21.83**	**281**	eP		**P**		**17 07 22.6**	**-0.5**
	comp=Z,3μm,1.2s,mb6.5								
KULM					LR	LR			
	comp=Z,920μm,19.0s,MS7.2								
KULM	**Kulim**	**21.83**	**281**	P		**P**		**17 07 22.6**	**-0.6**
	comp=Z,922nm,1.4s,mb6.0								
PPI	**Padang Panjang**	**21.84**	**265**	P		**P**		**17 07 23.6**	**+0.3**
	comp=Z,2μm,1.8s,mb6.2								
UBT	**Ubonrachathani**	**21.84**	**310**	⇑P		**P**		**17 07 25.0**	**+1.7**
	comp=Z,347nm,0.7s,mb5.9								
TPUB	**Ta-pu**	**21.87**	**356**	eP		**P**		**17 07 23.1**	**-0.4**
	comp=Z,4μm,1.1s,mb6.8								
YULB	**Yu-li**	**21.93**	**358**	eP		**P**		**17 07 21.7**	**-2.4**
	comp=Z,1μm,1.1s,mb6.3								
HKC	**Hong Kong Obse**	**22.23**	**340**	⇓P	*i*	**P**		**17 07 28.0**	**+0.7**
SNG	**Songkhla**	**22.24**	**286**	P		**P**		**17 07 28.0**	**+0.4**
	comp=Z,2μm,1.1s,mb6.3								
SSLB	**Suanglung**	**22.33**	**357**	eP		**P**		**17 07 27.0**	**-1.5**
	comp=Z,2μm,1.1s,mb6.4								
MBWA	**Marble Bar**	**22.50**	**186**	eP		**P**		**17 07 27.4**	**-2.8**
	comp=Z,105nm,1.1s,mb5.2								
MBWA					LR	LR			
	comp=Z,617μm,21.0s,MS7.0								
MBWA	**Marble Bar**	**22.50**	**186**	P		**P**		**17 07 27.9**	**-2.3**
	comp=Z,6μm,0.9s,mb7.0								
MBWA	**Marble Bar**	**22.50**	**186**	P		**P**		**17 07 28.1**	**-2.1**
	SNR=122								
MNSI	**Mandailing Nat**	**22.59**	**269**	P		**P**		**17 07 31.1**	**-0.2**
	comp=Z,3μm,1.5s,mb6.5								
NACB	**Ningamchiao**	**22.69**	**359**	eP		**P**		**17 07 30.3**	**-1.9**
	comp=Z,870nm,1.1s,mb6.1								
YHNB	**Yeheng**	**23.19**	**358**	eP		**P**		**17 07 36.2**	**-1.3**
	comp=Z,3μm,1.4s,mb6.5								
YHNB					LR	LR			
	comp=Z,247μm,19.0s,MS6.7								
SISI	**Saibi**	**23.22**	**264**	P		**P**		**17 07 37.4**	**-0.6**
	comp=Z,6μm,1.4s,mb6.8								
GZH	**Guangzhou**	**23.24**	**339**	P		**P**		**17 07 41.8**	**+3.7**
GZH					LR	LR			
	comp=N,115μm,18.4s,MS6.7								
GZH					LR	LR			
	comp=E,188μm,17.3s,MS6.7								
GZH					LR	LR			
	comp=Z,302μm,16.1s,MS6.8								
PSI	**Prapat**	**23.27**	**274**	P		**P**		**17 07 37.9**	**-0.6**
	comp=Z,463nm,1.0s,mb5.9,baz=92,slow=8.0,SNR=162								
PSI					S	**S**		**17 11 50.0**	**+0.9**
	comp=Z,65nm,0.9s,baz=66,slow=20,SNR=2.9								
PSI					LR	LR		17 17 49.6	
	comp=Z,956μm,20.7s,MS7.2,baz=100,slow=40								
PSI	**Prapat**	**23.27**	**274**	P		**P**		**17 07 37.9**	**-0.6**
PSI					S	**S**		**17 11 50.0**	**+0.9**
PSI					LR	LR		17 17 49.6	
PSI	**Prapat**	**23.27**	**274**	P		**P**		**17 07 37.9**	**-0.6**
PSI					S	**S**		**17 11 50.0**	**+1.0**
PSI	**Prapat**	**23.27**	**274**	P		**P**		**17 07 37.6**	**-0.9**
	comp=Z,3μm,2.3s,mb6.4								
TATO	**Taipei**	**23.49**	**358**	eP		**P**		**17 07 38.2**	**-2.5**
	comp=Z,2μm,1.2s,mb6.4								
TATO					LR	LR			
	comp=Z,297μm,20.0s,MS6.8								
TATO	**Taipei**	**23.49**	**358**	P		**P**		**17 07 40.8**	**+0.1**
	SNR=16								
TSI	**Tuntungan**	**23.67**	**276**	P		**P**		**17 07 42.6**	**+0.2**
	comp=Z,9μm,2.0s,mb6.8								
QZH	**Quanzhou**	**23.70**	**352**	⇓P	*i*	**P**		**17 07 41.0**	**-1.6**
QZH					S	**S**		**17 11 44.0**	**-12**
QZH					pmax	pmax			
	comp=Z,5μm,1.9s,mb6.7								
QZH					pmax	pmax			
	comp=Z,56μm,4.3s								
QZH					LR	LR			
	comp=N,184μm,13.8s,MS6.8								
QZH					LR	LR			
	comp=E,104μm,12.3s,MS6.8								
QZH					LR	LR			
	comp=Z,348μm,17.5s								
KKTK	**Khon Kaen**	**24.18**	**309**	P		**P**		**17 07 48.5**	**+1.5**
WRAB	**Tennant Creek**	**24.30**	**151**	eP		**P**		**17 07 46.6**	**-1.4**
WRAB					S	**S**			
	comp=Z,5μm,1.2s,mb6.8								
WRAB					LR	LR			
	comp=Z,489μm,20.0s,MS7.0								
WRAB	**Tennant Creek**	**24.30**	**151**	eP		**P**		**17 07 46.6**	**-1.4**
WRAB					pmax	pmax			
	comp=Z,5μm,1.2s,mb6.8								
WRAB					MLR	MLR			
	comp=Z,489μm,20.0s,MS7.0								
WRAB	**Tennant Creek**	**24.30**	**151**	P		**P**		**17 07 46.3**	**-1.7**
	comp=Z,18μm,0.9s,mb7.5								
WRAB	**Tennant Creek**	**24.30**	**151**	P		**P**		**17 07 45.9**	**-2.1**
	comp=Z,7μm,1.1s,mb7.0								
WRA	**Warramunga Arr**	**24.30**	**151**	P		**P**		**17 07 46.0**	**-2.1**
	comp=Z,362nm,0.9s,mb5.8,baz=329,slow=9.8,SNR=248								
WRA					S	**S**		**17 12 08.4**	**+2.9**
	comp=Z,70nm,0.9s,baz=339,slow=13,SNR=4.1								
WRA					LR	LR		17 17 38.5	
	comp=Z,483μm,19.2s,MS7.0,baz=330,slow=38								
WRA					PKiKP	PKiKP		17 19 10.4	-0.1
	comp=Z,5.7nm,0.6s,baz=318,slow=1.1,SNR=6.4								
WRA	**Warramunga Arr**	**24.30**	**151**	P		**P**		**17 07 46.0**	**-2.1**
WRA					S	**S**		**17 12 08.4**	**+2.9**
WRA					LR	LR		17 17 38.5	
WRA	**Warramunga Arr**	**24.30**	**151**	P		**P**		**17 07 46.0**	**-2.0**
WRA					S	**S**		**17 12 08.4**	**+2.9**
WB2	**Warramunga Arr**	**24.30**	**151**	eP		**P**		**17 07 46.8**	**-1.3**
NNT	**Nongplab**	**24.87**	**298**	P		**P**		**17 07 55.0**	**+1.6**
	comp=Z,2μm,0.8s,mb6.7								
TPTI		**25.03**	**275**	P		**P**		**17 07 54.6**	**-0.3**
	comp=Z,787nm,1.0s,mb6.2								
GIRL	**Giralia**	**25.07**	**198**	eP		**P**		**17 07 52.9**	**-2.1**
	comp=Z,12μm,1.3s,mb7.3								
GUMO	**Guam**	**25.55**	**60**	P		**P**		**17 08 02.5**	**+3.0**
	comp=Z,258nm,0.7s,mb5.9,baz=240,slow=8.9,SNR=10								
GUMO					S	**S**		**17 12 31.1**	**+5.4**
	comp=Z,100nm,0.9s,ba

CHTO					MLR	MLR			
	comp=Z,402μm,21.0s,MS7.0								
CHTO	**Chiang Mai**	**28.62**	**309**		P	**P**	**17**	**08**	**27.9 +0.8**
	comp=Z,1μm,1.4s,mb6.4								
CHTO	**Chiang Mai**	**28.62**	**309**		P	**P**	**17**	**08**	**28.6 +1.5**
	SNR=126								
GYA	**Guiyang**	**29.07**	**330**	⇓	*i*P	**P**	**17**	**08**	**32.0 +1.0**
GYA					pP	pP	17	08	42.5 +3.3
GYA					PP	PP	17	09	24.8 -12
GYA					S	**S**	**17**	**13**	**20.4 -0.6**
GYA					sS	sS	17	13	38.0 +3.3
GYA					ScP	ScP	17	15	18.6 -0.1
GYA					ScS	ScS	17	19	11.8 -1.0
GYA					pmax	pmax			
	comp=Z,1μm,1.0s,mb6.6								
GYA					LR	LR			
	comp=N,183μm,19.8s,MS6.8								
GYA					LR	LR			
	comp=E,141μm,21.6s,MS6.8								
GYA					LR	LR			
	comp=Z,203μm,22.3s,MS6.7								
SSE	**Sheshan**	**29.60**	**358**	⇓	P	**P**	**17**	**08**	**36.9 +1.3**
SSE					pP	pP	17	08	43.1 -0.7
SSE					S	**S**	**17**	**13**	**30.8 +1.7**
SSE					sS	sS	17	13	42.4 -0.4
SSE					pmax	pmax			
	comp=Z,20μm,12.0s								
SSE					LR	LR			
	comp=N,143μm,18.5s,MS6.7								
SSE					LR	LR			
	comp=E,90μm,18.5s,MS6.7								
SSE					LR	LR			
	comp=Z,187μm,20.0s,MS6.7								
WHN	**Wuhan**	**29.96**	**346**	⇓	P	**P**	**17**	**08**	**40.1 +1.3**
WHN					pP	pP	17	08	52.4 +5.3
WHN					S	**S**	**17**	**13**	**39.3 +4.4**
WHN					pmax	pmax			
	comp=Z,18μm,4.9s								
WHN					LR	LR			
	comp=N,364μm,19.7s,MS7.1								
WHN					LR	LR			
	comp=E,268μm,19.8s,MS7.1								
WHN					LR	LR			
	comp=Z,413μm,19.7s,MS7.1								
KMI	**Kunming**	**30.17**	**323**	⇓	P	**P**	**17**	**08**	**43.0 +2.3**
KMI					pP	pP	17	08	50.1 +1.1
KMI					sP	sP	17	08	53.4 +1.0
KMI					PP	PP	17	09	41.9 -7.2
KMI					S	**S**	**17**	**13**	**37.0 -1.3**
KMI					sS	sS	17	13	51.5 -0.4
KMI					SS	SS	17	15	19.9 -28
KMI					pmax	pmax			
	comp=Z,5μm,4.8s								
KMI					LR	LR			
	comp=N,151μm,17.6s,MS6.9								
KMI					LR	LR			
	comp=E,219μm,17.0s,MS6.9								
KMI					LR	LR			
	comp=Z,299μm,29.4s								
NJ2	**Nanjing**	**30.70**	**354**	*e*	P	**P**	**17**	**08**	**47.3 +2.0**
NJ2					pP	pP	17	08	56.8 +3.3
NJ2					sP	sP	17	09	00.8 +3.8
NJ2					PP	PP	17	09	49.6 -5.3
NJ2					S	**S**	**17**	**13**	**49.0 +2.6**
NJ2					sS	sS	17	14	02.0 +2.0
NJ2					pmax	pmax			
	comp=Z,44μm,10.5s								
NJ2					LR	LR			
	comp=N,421μm,19.6s,MS7.1								
NJ2					LR	LR			
	comp=E,263μm,23.0s,MS7.1								
NJ2					LR	LR			
	comp=Z,496μm,25.4s,MS7.1								
ENH	**Enshi**	**31.18**	**338**	*e*	P	**P**	**17**	**08**	**50.0 +0.5**
	comp=Z,1.8nm,0.4s								
ENH					LR	LR			
	comp=Z,209μm,21.0s,MS6.8								
CTA	**Charters Tower**	**31.81**	**133**		P	**P**	**17**	**08**	**55.5 +0.2**
	comp=Z,528nm,1.1s,mb6.3,baz=313,slow=10,SNR=94								
CTA					S	**S**	**17**	**14**	**07.3 +3.3**
	comp=Z,121nm,1.1s,baz=303,slow=18,SNR=2.0								
CTA	**Charters Tower**	**31.81**	**133**	⇑	*i*P	**P**	**17**	**08**	**55.3 0.0**
	comp=Z,384nm,0.9s,mb6.2								
CTA					*e*S	**S**	**17**	**13**	**56.6 -7.5**
CTA	**Charters Tower**	**31.81**	**133**		P	**P**	**17**	**08**	**55.5 +0.2**
CTA					S	**S**	**17**	**14**	**07.3 +3.3**
CTA	**Charters Tower**	**31.81**	**133**		P	**P**	**17**	**08**	**55.5 +0.2**
CTA					S	**S**	**17**	**14**	**07.4 +3.3**
CTAO	**Charters Tower**	**31.81**	**133**	*e*	P	**P**	**17**	**08**	**55.2 -0.1**
	comp=Z,589nm,0.9s,mb6.4								
CTAO					LR	LR			
	comp=Z,321μm,19.0s,MS7.0								
CTAO	**Charters Tower**	**31.81**	**133**	*e*	P	**P**	**17**	**08**	**55.2 -0.1**
CTAO					pmax	pmax			
	comp=Z,589nm,0.9s,mb6.4								
CTAO					MLR	MLR			
	comp=Z,321μm,19.0s,MS7.0								
CTAO	**Charters Tower**	**31.81**	**133**		P	**P**	**17**	**08**	**55.7 +0.4**
	comp=Z,790nm,1.9s,mb6.2								
CBIJ	**Chichi jima**	**32.01**	**35**		P	**P**	**17**	**08**	**56.3 -0.6**
	comp=Z,614nm,1.0s,mb6.4,baz=230,slow=4.2,SNR=12								
CBIJ					S	**S**	**17**	**14**	**03.5 -3.5**
	comp=Z,25nm,0.8s,baz=270,slow=20,SNR=1.6								
CBIJ					LR	LR	17	20	59.6
	comp=Z,62μm,19.2s,MS6.3,baz=207,slow=34								
FORT	**Forrest**	**32.44**	**171**	⇑	*i*P	**P**	**17**	**08**	**58.5 -2.2**
	comp=Z,2μm,0.7s,mb7.1								
FORT					*e*S	**S**	**17**	**14**	**12.5 -1.2**
FORT	**Forrest**	**32.44**	**171**	*e*	P	**P**	**17**	**08**	**58.5 -2.2**
	comp=Z,2μm,0.8s,mb7.1								
JNU	**Nakatsue**	**32.65**	**14**	*e*	P	**P**	**17**	**09**	**01.0 -1.4**
	comp=Z,202nm,1.3s,mb5.9								
KLBR	**Kellerberrin**	**33.03**	**187**	*e*	P	**P**	**17**	**09**	**02.7 -3.1**
	comp=Z,2μm,1.2s,mb6.8								
CD2	**Chengdu**	**34.18**	**331**		P	**P**	**17**	**09**	**16.3 +0.5**
CD2					pP	pP	17	09	22.3 -1.8
CD2					sP	sP	17	09	25.1 -2.5
CD2					PP	PP	17	10	32.3 -1.3
CD2					S	**S**	**17**	**14**	**42.4 +1.7**
CD2					SS	SS	17	16	52.8 -17
CD2					pmax	pmax			
	comp=Z,700nm,0.9s,mb6.6								
CD2					pmax	pmax			
	comp=Z,34μm,5.9s								
CD2					LR	LR			
	comp=N,176μm,19.0s								
CD2					LR	LR			
	comp=Z,263μm,19.0s,MS7.0								
NWAO	**Narrogin (SRO)**	**34.41**	**187**		P	**P**	**17**	**09**	**15.5 -2.3**
	comp=Z,264nm,0.9s,mb6.2,baz=20,slow=9.9,SNR=77								
NWAO					S	**S**	**17**	**14**	**40.4 -3.8**
	comp=Z,47nm,0.9s,baz=12,slow=12,SNR=2.2								
NWAO					LR	LR	17	25	53.9
	comp=Z,396μm,18.0s,MS7.2,baz=50,slow=41								
NWAO	**Narrogin (SRO)**	**34.41**	**187**	*e*	P	**P**	**17**	**09**	**15.2 -2.6**
	comp=Z,740nm,0.9s,mb6.6								
NWAO					LR	LR			
	comp=Z,358μm,20.0s,MS7.1								
NWAO	**Narrogin (SRO)**	**34.41**	**187**		P	**P**	**17**	**09**	**15.5 -2.3**
NWAO					S	**S**	**17**	**14**	**40.4 -3.8**
NWAO					pmax	pmax			
	comp=Z,264nm,0.9s								
NWAO					smax				
	comp=N,47nm,0.9s								
NWAO					MLR	MLR			
	comp=Z,396μm,18.0s								
NWAO	**Narrogin (SRO)**	**34.41**	**187**		P	**P**	**17**	**09**	**16.0 -1.7**
	SNR=52								
XAN	**Xi'an**	**34.80**	**341**		P	**P**	**17**	**09**	**20.5 -0.7**
XAN					pP	pP	17	09	29.4 -0.1
XAN					sP	sP	17	09	33.3 +0.4
XAN					PP	PP	17	10	41.1 +0.7
XAN					S	**S**	**17**	**14**	**51.3 +1.1**
XAN					pmax	pmax			
	comp=Z,7μm,9.7s								
XAN					LR	LR			
	comp=N,163μm,29.8s,MS6.7								
XAN					LR	LR			
	comp=E,120μm,33.1s,MS6.7								
XAN					LR	LR			
	comp=Z,78μm,31.5s,MS6.2								
TIA	**Tai'an**	**35.00**	**353**		P	**P**	**17**	**09**	**23.0 +0.2**
TIA					pP	pP	17	09	33.0 +1.8
TIA					S	**S**	**17**	**14**	**47.4 -5.8**
TIA					pmax	pmax			
	comp=Z,150nm,2.3s,mb5.5								
TIA					LR	LR			
	comp=N,217μm,25.2s								
TIA					LR	LR			
	comp=E,75μm,19.2s								
TIA					LR	LR			
	comp=Z,274μm,23.9s,MS6.9								
JHJ	**Hachijo jima 2**	**35.67**	**26**		P	**P**	**17**	**09**	**30.4 +1.7**
	comp=Z,73nm,0.6s,mb5.8,baz=213,slow=11,SNR=3.5								
JHJ					S	**S**	**17**	**15**	**07.8 +4.1**
	comp=Z,77nm,0.8s,baz=102,slow=20,SNR=3.3								
INCN	**Inchon**	**36.19**	**6**	*e*	P	**P**	**17**	**09**	**33.5 +0.5**
	comp=Z,119nm,0.8s,mb5.9								
INCN					LR	LR			
	comp=Z,129μm,21.0s,MS6.7								
KSRS	**Korea Array**	**36.31**	**8**		P	**P**	**17**	**09**	**35.2 +1.0**
	comp=Z,44nm,1.0s,mb5.3,baz=182,slow=10,SNR=46								
KSRS					S	**S**	**17**	**15**	**19.5 +6.2**
	comp=Z,2.0nm,0.9s,baz=190,slow=20,SNR=2.9								
KSRS					LR	LR	17	24	46.2
	comp=Z,114μm,21.4s,MS6.6,baz=197,slow=37								
KSRS	**Korea Array**	**36.31**	**8**		P	**P**	**17**	**09**	**35.2 +1.1**
KSRS					S	**S**	**17**	**15**	**19.5 +6.2**
KSRS					pmax	pmax			
	comp=Z,44nm,1.0s,mb5.3								
KSRS					smax				
	comp=N,2.0nm,0.9s								
KSRS					MLR	MLR			
	comp=Z,114μm,21.4s,MS6.6								
TIY	**Taiyuan**	**37.28**	**347**	*e*	P	**P**	**17**	**09**	**43.0 +0.7**
TIY					pP	pP	17	09	52.8 +2.1
TIY					PP	PP	17	11	13.5 +5.8
TIY					S	**S**	**17**	**15**	**28.1 +0.1**
TIY					SS	SS	17	18	00.3 -12
TIY					pmax	pmax			
	comp=Z,15μm,5.3s								
TIY					LR	LR			
	comp=N,160μm,20.2s								
TIY					LR	LR			
	comp=E,30μm,13.1s								
TIY					LR	LR			
	comp=Z,152μm,19.6s,MS6.8								
DL2	**Dalian**	**37.38**	**359**	⇓	P	**P**	**17**	**09**	**43.0 -0.2**
DL2					S	**S**	**17**	**15**	**30.8 +1.3**
DL2					pmax	pmax			
	comp=Z,500nm,0.9s,mb6.3								
DL2					pmax	pmax			
	comp=Z,5μm,8.3s								
DL2					LR	LR			
	comp=N,72μm,18.8s								
DL2					LR	LR			
	comp=Z,139μm,37.7s								
STKA	**Stephens Creek**	**37.84**	**153**		P	**P**	**17**	**09**	**46.1 -1.0**
	comp=Z,535nm,1.0s,mb6.2,baz=324,slow=8.2,SNR=175								
STKA					S	**S**	**17**	**15**	**34.6 -2.0**
	comp=Z,29nm,0.9s,baz=343,slow=17,SNR=1.8								
STKA					LR	LR	17	28	03.9
	comp=Z,564μm,18.4s,MS7.4,baz=208,slow=41								
STKA	**Stephens Creek**	**37.84**	**153**	⇑	*i*P	**P**	**17**	**09**	**46.0 -1.1**
	comp=Z,982nm,0.9s,mb6.5								
STKA					*e*PP	PP	17	11	20.6 +6.7
STKA					*e*S	**S**	**17**	**15**	**29.9 -6.7**
STKA	**Stephens Creek**	**37.84**	**153**	*e*	P	**P**	**17**	**09**	**45.8 -1.3**
STKA	**Stephens Creek**	**37.84**	**153**	*e*	P	**P**	**17**	**09**	**45.8 -1.3**
MAJO	**Matsushiro**	**38.03**	**21**	*e*	P	**P**	**17**	**09**	**47.3 -1.5**
	comp=Z,788nm,1.2s,mb6.3								
MAJO					LR	LR			
	comp=Z,168μm,19.0s,MS6.9								
MAJO	**Matsushiro**	**38.03**	**21**	*e*	P	**P**	**17**	**09**	**47.3 -1.5**
MAJO					pmax	pmax			
	comp=Z,789nm,1.2s,mb6.3								
MAJO					MLR	MLR			
	comp=Z,168μm,19.0s,MS6.9								
MAT	**Matsushiro**	**38.03**	**21**		P	**P**	**17**	**09**	**47.2 -1.6**
MAT					S	**S**	**17**	**15**	**39.0 -0.5**
MJAR	**Matsushiro Arr**	**38.03**	**21**		P	**P**	**17**	**09**	**47.3 -1.4**
	comp=Z,100nm,0.8s,mb5.6,baz=199,slow=8.8,SNR=96								
MJAR					S	**S**	**17**	**15**	**40.0 +0.5**
	comp=Z,4.1nm,0.8s,baz=169,slow=7.2,SNR=2.6								
MJAR					LR	LR	17	25	06.4
	comp=Z,130μm,21.4s,MS6.7,baz=215,slow=36								
MJAR	**Matsushiro Arr**	**38.03**	**21**		P	**P**	**17**	**09**	**47.3 -1.4**
MJAR					S	**S**	**17**	**15**	**40.0 +0.5**
MJAR					LR	LR	17	25	06.4
MJAR	**Matsushiro Arr**	**38.03**	**21**		P	**P**	**17**	**09**	**47.3 -1.5**
MJAR					S	**S**	**17**	**15**	**40.0 +0.5**
LZH	**Lanzhou**	**38.51**	**336**	⇓	*i*P	**P**	**17**	**09**	**54.3 +1.5**
LZH					pP	pP	17	10	00.8 -0.3
LZH					sP	sP	17	10	03.4 -1.2
LZH					PP	PP	17	11	26.3 +5.0
LZH					*e*S	**S**	**17**	**15**	**51.6 +4.8**
LZH					sS	sS	17	16	02.0 +1.4
LZH					SS	SS	17	18	35.1 -1.9
LZH					pmax	pmax			
	comp=Z,24μm,6.8s								
LZH					LR	LR			
	comp=N,180μm,15.8s								
LZH					LR	LR			
	comp=Z,305μm,16.6s,MS7.2								
EIDS	**Eidsvold**	**38.59**	**135**	*e*	P	**P**	**17**	**09**	**52.0 -1.6**
	comp=Z,3.3nm,1.3s								
BJT	**Baijiatuau**	**38.87**	**353**	*e*	P	**P**	**17**	**09**	**56.4 +0.6**
	comp=Z,311nm,0.8s,mb6.1								
BJT					LR	LR			
	comp=Z,173μm,22.0s,MS6.8								
BJT	**Baijiatuau**	**38.87**	**353**	*e*	P	**P**	**17**	**09**	**56.4 +0.7**
BJT					pmax	pmax			
	comp=Z,311nm,0.8s								
BJT					MLR	MLR			
	comp=Z,173μm,22.0s								
BJI	**Beijing**	**38.89**	**353**		P	**P**	**17**	**09**	**56.4 +0.5**
BJI					pP	pP	17	10	04.1 -0.2
BJI					sP	sP	17	10	06.9 -0.8
BJI					PP	PP	17	11	28.8 +3.4
BJI					S	**S**	**17**	**16**	**01.8 +9.4**
BJI					sS	sS	17	16	11.4 +5.2
BJI					pmax	pmax			
	comp=Z,13μm,9.4s								
BJI					LR	LR			
	comp=N,100μm,22.9s,MS6.8								
BJI					LR	LR			
	comp=E,104μm,19.8s,MS6.8								
HNR	**Honiara**	**39.13**	**107**	*e*	P	**P**	**17**	**09**	**57.6 -0.7**
	comp=E,3μm,1.1s,mb6.9								
HNR					LR	LR			
	comp=Z,107μm,21.0s,MS6.7								
HNR	**Honiara**	**39.13**	**107**	*e*	P	**P**	**17**	**09**	**57.6 -0.7**
HNR					pmax	pmax			
	comp=Z,3μm,1.1s,mb6.9								
HNR					MLR	MLR			
	comp=Z,107μm,21.0s,MS6.7								
SNY	**Shenyang**	**40.31**	**2**	⇓	P	**P**	**17**	**10**	**07.6 -0.1**
SNY					S	**S**	**17**	**16**	**16.3 +2.6**
SNY					pmax	pmax			
	comp=Z,300nm,2.4s,mb5.6								
SNY					pmax	pmax			
	comp=Z,8μm,12.0s								
SNY					LR	LR			
	comp=N,153μm,19.0s,MS6.9								
SNY					LR	LR			
	comp=E,74μm,18.2s,MS6.9								
SNY					LR	LR			
	comp=Z,196μm,19.0s,MS7.0								
HHC	**Hu-ho-hao-te**	**40.47**	**348**	⇓	P	**P**	**17**	**10**	**10.3 +1.3**
HHC					pP	pP	17	10	18.4 +1.0
HHC					sP	sP	17	10	21.3 +0.5
HHC					PP	PP	17	11	47.6 +5.0
HHC					PcP	PcP	17	12	11.5 0.0
HHC					ScP	ScP	17	15	58.0 -1.1
HHC					PcS	PcS	17	16	02.0 0.0
HHC					S	**S**	**17**	**16**	**19.6 +3.5**
HHC					sS	sS	17	16	30.3 +0.4
HHC					SS	SS	17	19	13.9 -2.3
HHC					ScS	ScS	17	20	12.3 -0.9
HHC					pmax	pmax			
	comp=Z,77nm,0.9s,mb5.4								
HHC					pmax	pmax			
	comp=Z,12μm,6.2s								
HHC					LR	LR			
	comp=N,85μm,17.0s,MS6.8								
HHC					LR	LR			
	comp=E,85μm,17.3s,MS6.8								
HHC					LR	LR			
	comp=Z,122μm,16.8s,MS6.8								
BTO	**Baotou**	**40.59**	**346**	*e*	P	**P**	**17**	**10**	**10.4 +0.3**
BTO					S	**S**	**17**	**16**	**09.8 -8.1**
BTO					LR	LR			
	comp=N,36μm,19.6s,MS6.3								
BTO					LR	LR			
	comp=E,28μm,19.1s,MS6.3								
LSA	**Lhasa**	**40.80**	**317**		P	**P**	**17**	**10**	**14.5 +2.6**
LSA					pmax	pmax			
	comp=Z,60nm,0.8s,mb5.3								
LSA					pmax	pmax			
	comp=Z,22μm,6.8s								
LSA					LR	LR			
	comp=N,118μm,31.1s,MS6.8								
LSA					LR	LR			
	comp=E,212μm,34.9s,MS6.8								
LSA					LR	LR			
	comp=Z,309μm,36.1s,MS6.9								
LSA	**Lhasa**	**40.80**	**317**	*e*	P	**P**	**17**	**10**	**14.2 +2.3**
	comp=Z,2μm,1.4s,mb6.5								
LSA					LR	LR			
	comp=Z,124μm,21.0s,MS6.7								
LSA	**Lhasa**	**40.80**	**317**	*e*	P	**P**	**17**	**10**	**14.2 +2.3**
LSA					pmax	pmax			
	comp=Z,2μm,1.4s,mb6.5								
LSA					MLR	MLR			
	comp=Z,124μm,21.0s,MS6.7								
ODAN	**Odare**	**41.91**	**310**	*e*	P	**P**	**17**	**10**	**22.7 +1.5**
	comp=Z,5μm,1.5s,mb7.0								
TAPN	**Taplejung**	**41.93**	**311**	*e*	P	**P**	**17**	**10**	**23.6 +2.3**
	comp=Z,3μm,1.1s,mb6.8								
ARMA	**Armidale**	**42.26**	**141**	⇑	*i*P	**P**	**17**	**10**	**24.4 +0.5**
ARMA					*e*PP	PP	17	12	04.5 +2.3
ARMA					*e*S	**S**	**17**	**16**	**45.2 +2.3**
ARMA	**Armidale**	**42.26**	**141**	*e*	P	**P**	**17**	**10**	**24.4 +0.5**
	comp=Z,583nm,0.8s,mb6.3								
CN2	**Changchun**	**42.37**	**4**	⇓	P	**P**	**17**	**10**	**23.8 -0.7**
CN2					*e*sP	sP	17	10	35.3 -1.1
CN2					*e*PP	PP	17	12	05.3 +2.2
CN2					*e*S	**S**	**17**	**16**	**44.8 +0.7**
CN2					pmax	pmax			
	comp=Z,130nm,1.2s,mb5.4								
CN2					pmax	pmax			
	comp=Z,10μm,10.0s								
CN2					LR	LR			
	comp=N,83μm,18.0s,MS6.8								
CN2					LR	LR			
	comp=E,58μm,18.0s,MS6.8								
CN2					LR	LR			
	comp=Z,87μm,22.0s,MS6.6								
VLA	**Vladivostok**	**42.49**	**11**	*d*	*i*P	**P**	**17**	**10**	**24.0 -1.5**
VLA					*i*		17	12	03.6
VLA					*e*		17	12	16.4
VLA					*i*S	**S**	**17**	**16**	**45.0 -0.9**
VLA					pmax	pmax			
	comp=Z,126nm,1.6s,mb5.3								
GTA	**Gaotai**	**43.02**	**334**	⇓	P	**P**	**17**	**10**	**31.6 +1.7**
GTA					pP	pP	17	10	39.1 +0.7
GTA					sP	sP	17	10	42.4 +0.6
GTA					S	**S**	**17**	**16**	**56.6 +2.8**
GTA					sS	sS	17	17	09.0 +1.3
GTA					SS	SS	17	20	03.1 -3.5
GTA					pmax	pmax			
	comp=Z,9μm,7.1s								
GTA					LR	LR			
	comp=N,86μm,19.0s,MS7.0								
GTA					LR	LR			
	comp=E,145μm,19.2s,MS7.0								
GTA					LR	LR			
	comp=Z,148μm,19.9s,MS6.9								
MDJ	**Mudanjiang**	**43.58**	**8**		P	**P**	**17**	**10**	**34.8 +0.4**
MDJ					pP	pP	17	10	43.5 +0.7
MDJ					sP	sP	17	10	47.8 +1.6
MDJ					S	**S**	**17**	**17**	**05.8 +3.9**
MDJ					sS	sS	17	17	20.0 +4.2
MDJ					pmax	pmax			
	comp=Z,140nm,1.1s,mb5.6								
MDJ					pmax	pmax			
	comp=Z,12μm,7.7s								
MDJ					LR	LR			
	comp=N,113μm,28.1s,MS6.7								
MDJ					LR	LR			
	comp=E,52μm,29.9s,MS6.7								
MDJ					LR	LR			
	comp=Z,154μm,26.4s,MS6.8								
MDJ	**Mudanjiang**	**43.58**	**8**	*e*	P	**P**	**17**	**10**	**34.4 0.0**
	comp=Z,1μm,1.3s,mb6.5								
MDJ					LR	LR			
	comp=Z,117μm,20.0s,MS6.8								
GUN	**Gumba**	**43.61**	**311**	*e*	P	**P**	**17**	**10**	**36.4 +1.5**
	comp=Z,2μm,0.8s,mb6.8								
PKI	**Pulchoki**	**43.79**	**310**	*e*	P	**P**	**17**	**10**	**38.2 +1.8**
	comp=Z,2μm,1.2s,mb6.7								
KKN	**Kakani**	**44.00**	**310**	*e*	P	**P**	**17**	**10**	**39.9 +1.8**
	comp=Z,4μm,1.5s,mb6.9								
DMN	**Daman**	**44.05**	**310**	*e*	P	**P**	**17**	**10**	**40.4 +2.0**
	comp=Z,2μm,1.0s,mb6.8								
CAN	**Canberra**	**44.27**	**148**	*e*	P	**P**	**17**	**10**	**40.1 0.0**
	comp=Z,3μm,1.4s,mb6.8								
CAN					LR	LR			
	comp=Z,250μm,20.0s,MS7.1								
CAN	**Canberra**	**44.27**	**148**	*e*	P	**P**	**17**	**10**	**40.1 0.0**
CAN					pmax	pmax			
	comp=Z,3μm,1.4s,mb6.8								
CAN					MLR	MLR			
	comp=Z,250μm,20.0s,MS7.1								
TOO	**Toolangi**	**44.34**	**153**	⇑	*i*P	**P**	**17**	**10**	**40.6 0.0**
	comp=Z,4μm,1.1s,mb7.1								
TOO					*e*PP	PP	17	12	24.8 +0.4
TOO					*e*S	**S**	**17**	**17**	**15.3 +2.1**
RIV	**Riverview**	**44.36**	**145**	*e*	P	**P**	**17**	**10**	**42.8 +2.0**
CNB	**Canberra Magne**	**44.46**	**148**	*e*	P	**P**	**17**	**10**	**41.6 0.0**
	comp=Z,2μm,0.8s,mb6.9								
CNB					*e*PP	PP	17	12	25.1 -0.6
CNB					*e*S	**S**	**17**	**17**	**30.1 +15**
GKN	**Gorkha**	**44.60**	**310**	*e*	P	**P**	**17**	**10**	**44.5 +1.6**
	comp=Z,4μm,1.3s,mb7.1								
ERM	**Erimo**	**44.67**	**22**	*e*	P	**P**	**17**	**10**	**43.6 +0.5**
	comp=Z,411nm,0.9s,mb6.3								
ERM					LR	LR			
	comp=Z,110μm,22.0s,MS6.7								
ERM	**Erimo**	**44.67**	**22**	*e*	P	**P**	**17**	**10**	**43.7 +0.6**
ERM					pmax	pmax			
	comp=Z,411nm,0.9s,mb6.3								
ERM					MLR	MLR			
	comp=Z,110μm,22.0s,MS6.7								
KOLN	**Koldanda**	**45.29**	**309**	*e*	P	**P**	**17**	**10**	**50.1 +1.8**
	comp=Z,1μm,0.9s,mb6.7								
DANN	**Dangsing**	**45.45**	**310**	*e*	P	**P**	**17**	**10**	**51.4 +1.8**
	comp=Z,2μm,0.9s,mb6.8								
TRD	**Trivandrum**	**45.56**	**281**	*e*	PKP	**P**	**17**	**10**	**50.6 0.0**
TRD					AMb	AMB	17	11	03.9
	comp=Z,2μm,1.0s,mb7.0								
HYB	**Hyderabad**	**45.73**	**293**	⇑	*i*P	**P**	**17**	**10**	**52.0 0.0**
	comp=

comp=N,9μm,21.0s,MS6.0
YUK MLR MLR
comp=E,15μm,21.0s,MS6.0
HIA Hailar 47.78 358 *e*P **P 17 11 07.9 +0.5**
comp=E,896nm,1.3s,mb6.6
HIA LR LR
comp=Z,152μm,19.0s,MS7.0
HIA Hailar 47.78 358 *e*P **P 17 11 07.9 +0.4**
HIA pmax pmax
comp=Z,896nm,1.3s
HIA MLR MLR
comp=Z,152μm,19.0s
LATR Latur 47.82 294 *e*PKP **P 17 11 09.8 +1.4**
AKL Akola 48.06 297 *e*PKP **P 17 11 10.9 +0.7**
AKL *i* S **S 17 18 06.5 -0.6**
ULN Ulaanbaatar 48.15 346 *e*P **P 17 11 11.6 +1.3**
comp=Z,942nm,1.1s,mb6.7
ULN LR LR
comp=Z,127μm,19.0s,MS6.9
ULN Ulaanbaatar 48.15 346 *e*P **P 17 11 11.6 +1.3**
ULN pmax pmax
comp=Z,942nm,1.1s,mb6.7
ULN MLR MLR
comp=Z,127μm,19.0s,MS6.9
ULN Ulaanbaatar 48.15 346 P **P 17 11 11.2 +0.9**
comp=Z,430nm,2.0s,mb6.1
ULN Ulaanbaatar 48.15 346 P **P 17 11 11.1 +0.7**
SNR=327
SONM Songino Array 48.28 346 P **P 17 11 12.4 +1.1**
comp=Z,110nm,0.7s,mb6.0,baz=164,slow=7.4,SNR=242
SONM S **S 17 18 13.7 +4.4**
comp=Z,4.9nm,1.0s,baz=169,slow=8.7,SNR=1.9
SONM PKPPKP 17 42 15.9
comp=Z,3.0nm,0.9s,baz=235,slow=0.9,SNR=6.2
SONM Songino Array 48.28 346 P **P 17 11 12.4 +1.1**
SONM S **S 17 18 13.7 +4.4**
SONM P'P' 17 42 15.9
SONM Songino Array 48.28 346 P **P 17 11 12.4 +1.1**
SONM S **S 17 18 13.7 +4.4**
KLR Kul'dur 48.40 8⇑ *i*P **P 17 11 09.0 -3.3**
BHPL Bhopal 48.52 300 *e*PKP **P 17 11 13.8 +0.1**
BHPL AMb AMB 17 11 31.2
comp=Z,668nm,0.8s,mb6.7
YSS Yuzh-Sakhalins 48.84 19 *e*P **P 17 11 14.9 -0.8**
comp=Z,948nm,1.6s,mb6.6
YSS LR LR
comp=Z,25μm,20.0s,MS6.2
YSS Yuzh-Sakhalins 48.84 19*d i*P **P 17 11 16.0 +0.3**
YSS *e**SP sP 17 11 32.0 +4.4
YSS *e* 17 12 44.0
YSS *e*S **S 17 18 14.0 -3.3**
YSS pmax pmax
comp=E,370nm,2.0s
YSS pmax pmax
comp=Z,490nm,2.0s,mb6.2
YSS pmax pmax
comp=E,2μm,10.0s
YSS pmax pmax
comp=Z,5μm,10.0s
YSS pmax pmax
comp=N,4μm,18.0s
YSS smax
comp=E,92μm,24.0s
YSS MLR MLR
comp=Z,65μm,18.0s,MS6.7
NOUC Port Laguerre 48.96 121 *e*P **P 17 11 17.1 0.0**
DZM Mont Dzumac 49.07 121 *e*P **P 17 11 18.7 +0.8**
comp=Z,3μm,1.3s,mb7.1
DZM *e*S **S 17 18 27.3 +6.0**
comp=Z,145μm,34.7s
DZM *e*LR LR 17 25 32.4
comp=Z,195μm,28.0s
DZM Mont Dzumac 49.07 121 *e*P **P 17 11 16.7 -1.2**
DZM Mont Dzumac 49.07 121 *e*P **P 17 11 18.7 +0.8**
comp=Z,1μm,1.2s,mb6.8
MOO Moorlands 49.10 156 *e*P **P 17 11 17.5 -0.2**
comp=Z,2μm,1.2s,mb7.0
MOO *e*S **S 17 18 10.0 -11**
HMDM Hanimaadhoo 49.13 278 P **P 17 11 22.4 +3.9**
comp=Z,1μm,2.1s,mb6.6
TAU Tasmania Unive 49.54 156 *e*P **P 17 11 20.7 -0.4**
comp=Z,1μm,1.3s,mb6.7
TAU LR LR
comp=Z,476μm,20.0s,MS7.5
TAU Tasmania Unive 49.54 156 *e*P **P 17 11 20.7 -0.4**
TAU pmax pmax
comp=Z,1μm,1.3s,mb6.7
TAU MLR MLR
comp=Z,476μm,20.0s,MS7.5
TAU Tasmania Unive 49.54 156 P **P 17 11 22.0 +0.9**
comp=Z,2μm,1.1s,mb7.0,SNR=10
AGRA Agra 49.56 305 *e*PKP **P 17 11 21.3 -0.3**
GOA Goa 49.69 289 *e*PKP **P 17 11 22.6 -0.1**
GOA *e*S **S 17 18 30.2 0.0**
KAD Karad 49.74 292 *e*PKP **P 17 11 23.0 -0.1**
KAD AMb AMB 17 11 35.9
comp=Z,1μm,1.3s,mb6.7
POO Poona 50.34 293 *e*PKP **P 17 11 25.1 -2.5**
POO AMb AMB 17 11 40.5
comp=Z,750nm,1.1s,mb6.6
DGAR Diego Garcia 50.35 259 *e*P **P 17 11 27.5 -0.3**
comp=Z,16μm,1.8s,mb7.7
DGAR LR LR
comp=Z,301μm,22.0s,MS7.3
DGAR Diego Garcia 50.35 259 *e*P **P 17 11 27.5 -0.3**
DGAR MLR MLR
comp=Z,301μm,22.0s,MS7.3
DGAR Diego Garcia 50.35 259 P **P 17 11 28.3 +0.5**
comp=Z,14μm,2.4s,mb7.6,SNR=14
DGAR Diego Garcia 50.35 259 P **P 17 11 28.4 +0.6**
SNR=30
BISR Bishrakh 50.51 307 *e*PKP **P 17 11 28.3 -0.5**
SONA Sohna 50.67 306 *e*PKP **P 17 11 30.1 +0.1**
SONA AMb AMB 17 11 40.5
comp=Z,772nm,0.8s,mb6.7
AYAN Aya Nagar 50.73 306 *e*PKP **P 17 11 30.0 -0.5**
NDI New Delhi 50.74 307 *ex* **P 17 11 28.0 -2.5**
NDI *e*S **S 17 18 44.0 -0.4**
DDI Dehra Dun 50.77 309⇑ *ix* pP 17 11 39.0 -0.3
DDI *ex* x 17 18 29.0
BHGR Bahadurgarh 50.96 307 *e*PKP **P 17 11 32.8 +0.6**
KUDL Kundal 51.11 306 *e*PKP **P 17 11 33.3 0.0**
KUDL AMb AMB 17 11 43.4
comp=Z,471nm,1.0s,mb6.4
ZAK Zakamensk 51.42 345 *e*P **P 17 11 36.2 +1.0**
ZAK pmax pmax
comp=Z,226nm,1.3s,mb5.9
KKR Kurukshetra 51.58 308 *e*PKP **P 17 11 37.9 +1.1**
KHET Khetri 51.63 305 *e*PKP **P 17 11 36.6 -0.6**
SMLA Simla 51.81 310 AMb AMB 17 11 42.9
comp=Z,4μm,0.6s,mb7.5
SMLA *i* S **S 17 19 00.2 +1.1**
AJM Ajmer 52.01 303 *e*PKP **P 17 11 39.0 -1.1**
WMQ Urumqi 52.21 329 P **P 17 11 42.8 +1.6**
WMQ pP pP 17 11 48.8 -1.0
WMQ sP sP 17 11 51.6 -1.6
WMQ PcP PcP 17 12 54.3 +1.7
WMQ PP PP 17 13 42.0 +2.1
WMQ S **S 17 19 04.9 +0.6**
WMQ ScS ScS 17 21 28.4 -1.0
WMQ pmax pmax
comp=Z,570nm,1.5s,mb6.3
WMQ pmax pmax
comp=Z,14μm,8.6s
WMQ LR LR
comp=N,135μm,21.2s,MS7.0
WMQ LR LR
comp=E,94μm,22.6s,MS7.0
WMQ LR LR
comp=Z,125μm,32.3s
BHK Bhakra 52.51 309 *e*PKP **P 17 11 45.0 +1.3**
TLY Talaya 52.52 346 *e*P **P 17 11 45.0 +1.6**
comp=Z,1μm,1.1s,mb6.8
TLY LR LR
comp=Z,92μm,21.0s,MS6.8
TLY Talaya 52.52 346*d i*P **P 17 11 44.8 +1.5**
TLY *e* 17 13 44.0
TLY *e*S **S 17 19 09.2 +1.0**
TLY *e* 17 19 31.0
TLY *e*SSS 17 24 37.1
TLY pmax pmax
comp=Z,1μm,1.0s,mb6.7
TLY MLR MLR
comp=Z,86μm,22.0s,MS6.8
TLY Talaya 52.52 346 P **P 17 11 44.7 +1.4**
comp=Z,1μm,0.8s,mb6.9,SNR=44
TLY Talaya 52.52 346 P **P 17 11 45.3 +2.0**
SNR=91
IRK Irkutsk 52.88 346 *e*P **P 17 11 47.6 +1.6**
IRK *e*S **S 17 19 05.8 -7.3**
MOY Mondy 53.20 344 *e*P **P 17 11 50.1 +1.7**
MOY pmax pmax
comp=Z,3μm,3.4s
BHJ Bhuj 55.33 297 *ex* PcP 17 13 04.9 -0.1
CLNS Chul'man 55.36 2 *e*P **P 17 12 04.6 +0.6**
CLNS *e**PP pP 17 12 17.0 +4.3
CLNS *e* 17 13 05.5
CLNS *e* 17 14 06.6
CLNS *e*PPP 17 15 19.0
CLNS *e*S **S 17 19 45.9 -0.6**
CLNS pmax pmax
comp=E,20nm,1.1s
CLNS pmax pmax
comp=N,100nm,1.5s
CLNS pmax pmax
comp=Z,144nm,1.4s,mb5.8
CLNS pmax pmax
comp=Z,91nm,1.2s,mb5.7
CLNS pmax pmax
comp=E,127nm,1.2s
CLNS pmax pmax
comp=N,127nm,1.1s
CLNS smax
comp=N,10μm,12.5s
CLNS smax
comp=E,5μm,15.1s
CLNS MLR MLR
comp=Z,43μm,17.0s,MS6.6
CLNS MLR MLR
comp=N,41μm,16.0s
KSH Kashi 56.62 318⇑ *i*P **P 17 12 15.3 +1.9**
KSH pP pP 17 12 21.3 -0.8
KSH sP sP 17 12 24.1 -1.3
KSH PcP PcP 17 13 11.3 +1.7
KSH PP PP 17 14 22.8 +3.2
KSH ScP ScP 17 17 08.3 +0.9
KSH PcS PcS 17 17 10.5 +0.3
KSH S **S 17 20 04.4 +0.6**
KSH ScS ScS 17 21 59.8 -1.2
KSH SS SS 17 23 52.8 +1.0
KSH pmax pmax
comp=Z,160nm,0.9s,mb6.0
KSH pmax pmax
comp=Z,1μm,3.8s
KSH LR LR
comp=N,109μm,21.7s,MS7.0
KSH LR LR
comp=E,52μm,19.1s,MS7.0
KSH LR LR
comp=Z,71μm,21.3s,MS6.7
SKR Severo-Kuril's 56.93 25⇓ *i*P **P 17 12 22.0 +6.6**
SKR *i* S **S 17 20 18.0 +10**
SKR *e* 17 22 02.0
SKR pmax pmax
comp=Z,2μm,1.4s,mb6.8
SKR pmax pmax
comp=N,2μm,2.0s
SKR pmax pmax
comp=E,2μm,2.0s
SKR pmax pmax
comp=Z,18μm,6.0s
SKR pmax pmax
comp=N,10μm,10.0s
SKR pmax pmax
comp=E,12μm,10.0s
SKR MLR MLR
comp=N,12μm,20.0s,MS6.5
SKR MLR MLR
comp=E,33μm,20.0s,MS6.5
SKR MLR MLR
comp=Z,67μm,20.0s,MS6.7
MK31 Makanchi Array 57.03 328 *e*P **P 17 12 17.1 +0.9**
MK31 Makanchi Array 57.03 328 *i* P **P 17 12 16.8 +0.6**
MK31 pmax pmax
comp=Z,2μm,1.7s,mb7.0
MKAR Makanchi Array 57.03 328 P **P 17 12 17.0 +0.8**
comp=Z,44nm,0.4s,mb5.8,baz=128,slow=8.9,SNR=194
MKAR S **S 17 20 13.0 +3.9**
comp=Z,5.3nm,1.1s,baz=118,slow=18,SNR=2.2
MKAR LR LR 17 39 46.5
comp=Z,78μm,21.2s,MS6.8,baz=247,slow=39
MKAR PKP2bc 17 42 10.2
comp=Z,10.0nm,1.0s,baz=318,slow=1.9,SNR=6.2
MKAR Makanchi Array 57.03 328 P **P 17 12 17.0 +0.8**
MKAR S **S 17 20 12.9 +3.9**
MKAR LR LR 17 39 46.5
MKAR⇑ *e* 17 42 10.2
MKAR Makanchi Array 57.03 328 P **P 17 12 17.0 +0.8**
MKAR S **S 17 20 13.0 +4.0**
FUNA Funafuti 57.68 101 *e*P **P 17 12 22.5 +1.1**
comp=Z,1μm,1.3s,mb6.8
FUNA LR LR
comp=Z,50μm,19.0s,MS6.6
ULHL Ulahol 57.85 321 P **P 17 12 24.9 +2.9**
SNR=13
AAA Alma-Ata 57.97 322 *i* P **P 17 12 27.6 +4.7**
AAA *i* S **S 17 20 25.0 +3.5**
AAA pmax pmax
comp=Z,34μm,6.1s
AAA smax
comp=E,57μm,11.3s
AAA MLR MLR
comp=Z,85μm,25.0s,MS6.8
MSVF Nonsavu 58.18 112 *e*P **P 17 12 25.9 +1.1**
comp=Z,468nm,1.0s,mb6.5
MSVF LR LR
comp=Z,62μm,21.0s,MS6.7
MSVF Nonsavu 58.18 112 *e*P **P 17 12 25.9 +1.1**
MSVF pmax pmax
comp=Z,468nm,1.0s,mb6.5
MSVF MLR MLR
comp=Z,62μm,21.0s,MS6.7
MSVF Nonsavu 58.18 112 P **P 17 12 27.0 +2.2**
comp=Z,2μm,1.0s,mb7.0,SNR=31
KZA Kyzart 58.40 320 P **P 17 12 28.3 +2.4**
SNR=54
TKM2 Tokmak 2 58.61 321 P **P 17 12 28.7 +1.4**
SNR=114
TKM2 Tokmak 2 58.61 321 *e*P **P 17 12 28.6 +1.2**
comp=Z,136nm,1.0s,mb5.9
TKM2 LR LR
comp=Z,79μm,21.0s,MS6.8
TKM2 Tokmak 2 58.61 321 *e*P **P 17 12 28.6 +1.2**
TKM2 pmax pmax
comp=Z,136nm,1.0s,mb5.9
TKM2 MLR MLR
comp=Z,79μm,21.0s,MS6.8
KBK Karagaybulak 58.88 321 P **P 17 12 30.9 +1.6**
SNR=89
UCH Uchtor 58.94 320 P **P 17 12 33.1 +3.4**
SNR=21
AAK Ala-Archa 59.16 321 P **P 17 12 32.1 +0.9**
SNR=48
AAK Ala-Archa 59.16 321 *e*P **P 17 12 31.9 +0.7**
comp=Z,16nm,1.0s,mb5.0
AAK Ala-Archa 59.16 321 *e*P **P 17 12 31.9 +0.7**
AAK Ala-Archa 59.16 321 P **P 17 12 33.5 +2.3**
comp=Z,1μm,1.5s,mb6.7,SNR=61
CHMS Chumysh 59.19 321 P **P 17 12 30.8 -0.5**
SNR=40
FRU Bishkek 59.19 321⇑ *e*P **P 17 12 34.0 +2.7**
FRU *i* S **S 17 20 43.5 +6.2**
FRU *e*SS SS 17 24 38.0 +5.9
FRU pmax pmax
comp=Z,3μm,2.0s,mb6.9
FRU smax
comp=E,16μm,5.0s
FRU MLR MLR
comp=Z,195μm,26.0s,MS7.1
PEA0B Petropavlovsk- 59.39 24 *e*P **P 17 12 33.1 +0.6**
PETK Petropavlovsk- 59.39 24 P **P 17 12 33.5 +0.9**
comp=Z,51nm,1.0s,mb5.5,baz=206,slow=4.8,SNR=36
PETK S **S 17 20 57.5 +18**
comp=Z,16nm,1.2s,baz=224,slow=12,SNR=3.0
PETK LR LR 17 37 54.5
comp=Z,39μm,21.1s,MS6.5,baz=231,slow=36
PETK PKP2bc 17 42 00.8
comp=Z,10nm,1.0s,baz=132,slow=6.4,SNR=4.3
PETK Petropavlovsk- 59.39 24 P **P 17 12 33.5 +0.9**
PETK S **S 17 20 57.5 +18**
PETK LR LR 17 37 54.5
PETK⇑ *e* 17 42 00.8
PETK Petropavlovsk- 59.39 24 P **P 17 12 33.5 +0.9**
PETK S **S 17 20 57.5 +18**
AML Almayashu 59.42 320 P **P 17 12 35.1 +2.1**
SNR=46
KBL Kabul 59.44 310 *e*P **P 17 12 33.5 +0.2**
comp=Z,1μm,1.0s,mb6.8
KBL Kabul 59.44 310 *e*P **P 17 12 33.5 +0.3**
KBL pmax pmax
comp=Z,1μm,1.0s,mb6.8
USP Ospenovka 59.48 321 P **P 17 12 34.7 +1.4**
SNR=86
EKS2 Erkin-Say 59.63 320 P **P 17 12 36.3 +1.9**
SNR=39
EKS2 Erkin-Say 59.63 320 *e*P **P 17 12 36.1 +1.7**
comp=Z,2μm,1.7s,mb6.9
EKS2 LR LR
comp=Z,87μm,22.0s,MS6.8
EKS2 Erkin-Say 59.63 320 *e*P **P 17 12 36.1 +1.7**
EKS2 pmax pmax
comp=Z,2μm,1.7s,mb6.9
EKS2 MLR MLR
comp=Z,87μm,22.0s,MS6.8
PET Petropavlovsk 59.72 25 *e*P **P 17 12 35.4 +0.6**
comp=Z,1μm,1.4s,mb6.7
PET LR LR
comp=Z,52μm,20.0s,MS6.7
PET Petropavlovsk 59.72 25*d i*P **P 17 12 35.6 +0.8**
PET *i* S **S 17 20 39.2 -4.7**
PET *e*SS SS 17 24 33.9 -6.2
PET pmax pmax
comp=Z,17μm,11.3s
PET pmax pmax
comp=Z,21μm,7.7s
PET pmax pmax
comp=Z,599nm,1.4s,mb6.4
PET smax
comp=E,38μm,18.5s
PET MLR MLR
comp=Z,57μm,19.0s,MS6.7
PET MLR MLR
comp=Z,44μm,18.0s
OUZ Omahuta 60.21 132 *e*P **P 17 12 39.9 +1.3**
comp=Z,1μm,1.5s,mb6.6
ZAA0 Zalesovo Array 60.74 336 *e*P **P 17 12 41.4 -0.4**
ZALV Zalesovo Beam 60.74 336 P **P 17 12 41.9 +0.1**
comp=Z,116nm,1.0s,mb6.0,baz=128,slow=6.1,SNR=197
ZALV S **S 17 20 60.0 +3.0**
comp=Z,5.3nm,1.1s,baz=148,slow=6.6,SNR=1.9
ZALV LR LR 17 39 03.4
comp=Z,50μm,21.9s,MS6.6,baz=9.3,slow=36
ZALV PKP2bc 17 41 59.0
comp=Z,18nm,1.1s,baz=286,slow=3.5,SNR=7.2
ZALV Zalesovo Beam 60.74 336 P **P 17 12 41.9 +0.1**
ZALV S **S 17 20 60.0 +3.0**
ZALV LR LR 17 39 03.4
ZALV⇑ *e* 17 41 59.0
ZALV Zalesovo Beam 60.74 336 P **P 17 12 41.9 +0.1**
ZALV S **S 17 21 00.0 +3.0**
YAK Yakutsk 60.79 4 *e*P **P 17 12 42.0 -0.1**
comp=Z,806nm,0.8s,mb6.9
YAK LR LR
comp=Z,64μm,20.0s,MS6.8
YAK Yakutsk 60.79 4 *e*P **P 17 12 41.6 -0.4**
YAK *e**PP pP 17 13 03.4 +13
YAK *e* 17 13 29.3
YAK *e* 17 14 56.0
YAK *e*S **S 17 20 57.0 -0.3**
YAK *e*SS SS 17 25 00.4 +3.8
YAK pmax pmax
comp=Z,831nm,1.4s,mb6.7
YAK pmax pmax
comp=N,197nm,1.2s
YAK pmax pmax
comp=E,51nm,1.4s
YAK pmax pmax
comp=Z,4μm,3.8s
YAK pmax pmax
comp=N,3μm,2.6s
YAK pmax pmax
comp=E,378nm,1.6s
YAK smax
comp=E,13μm,9.1s
YAK smax
comp=N,37μm,10.8s
YAK MLR MLR
comp=N,58μm,21.0s,MS6.8
YAK MLR MLR
comp=Z,61μm,19.0s,MS6.8
YAK MLR MLR
comp=E,29μm,16.0s,MS6.8
WCZ Waipu Caves 61.07 133 *e*PN **P 17 12 45.3 +0.9**
JCZ Jackson Bay 61.39 143 PN **P 17 12 47.5 +1.1**
KURK Kurchatov 61.40 330 P **P 17 12 46.5 +0.2**
comp=E,253nm,1.0s,mb6.3,baz=126,slow=6.5,SNR=191
KURK S **S 17 21 09.7 +4.4**
comp=E,4.2nm,1.0s,baz=126,slow=9.3,SNR=2.5
KURK PKP2bc 17 41 56.8
comp=E,5.6nm,0.9s,baz=289,slow=3.2,SNR=8.3
KURK Kurchatov 61.40 330 *e*P **P 17 12 46.6 +0.3**
comp=E,651nm,0.8s,mb6.8
KURK LR LR
comp=Z,98μm,20.0s,MS7.0
KURK Kurchatov 61.40 330 *e*P **P 17 12 46.6 +0.3**
KURK pmax pmax
comp=Z,651nm,0.8s,mb6.8
KURK MLR MLR
comp=Z,98μm,20.0s,MS7.0
KURK Kurchatov 61.40 330 P **P 17 12 46.5 +0.2**
comp=Z,3μm,1.0s,mb7.3
KURK Kurchatov 61.40 330 P **P 17 12 46.9 +0.6**
SNR=287
PYZ Puysegur Point 61.41 146 PN **P 17 12 46.9 +0.4**
FOZ Fox Glacier 61.66 142 PN **P 17 12 48.6 +0.4**
MLZ Mavora Lakes 61.77 145 PN **P 17 12 48.3 -0.6**
OTAZ Otara 61.93 134 *e*PN **P 17 12 51.7 +1.6**
KK31 Karatay Array 61.95 319 *i* P **P 17 12 51.1 +0.9**
KK31 pmax pmax
comp=Z,1μm,1.5s,mb6.8
KKAR Karatay Array 61.95 319 *e*P **P 17 12 50.6 +0.4**
comp=Z,266nm,1.0s,mb6.3
KKAR Karatay Array 61.95 319 *e*P **P 17 12 50.6 +0.4**
KKAR pmax pmax
comp=Z,266nm,1.0s,mb6.3
NVS Novosibirsk 62.03 336⇑ *i*P **P 17 12 50.6 +0.1**
NVS *i* S **S 17 21 14.1 +0.8**
NVS *e* 17 22 28.7
NVS pmax pmax
comp=Z,4μm,2.5s,mb7.1
NVS pmax pmax
comp=N,2μm,2.3s
NVS pmax pmax
comp=E,2μm,2.3s
WVZ Waitaha Valley 62.05 142 PN **P 17 12 49.7 -1.1**
MKAZ Moumakai 62.17 134 PN **P 17 12 52.9 +1.1**
LBZ Lake Benmore 62.41 143 PN **P 17 12 52.8 -0.5**
KUZ Kuaotunu 62.42 133 PN **P 17 12 54.3 +0.8**
APZ The Paps 62.53 146 PN **P 17 12 53.5 -0.5**
RPZ Rata Peaks 62.58 142 P **P 17 12 54.4 0.0**
comp=E,1μm,1.0s,mb7.0,baz=314,slow=5.2,SNR=71
RPZ S **S 17 21 29.2 +8.6**
comp=E,146nm,1.2s,baz=54,slow=21,SNR=6.5
RPZ LR LR 17 41 09.2
comp=E,385μm,19.9s,MS7.6,baz=298,slow=37
RPZ Rata Peaks 62.58 142 *e*P **P 17 12 54.2 -0.2**
comp=E,2μm,1.0s,mb7.3
RPZ Rata Peaks 62.58 142 PN **P 17 12 54.3 -0.1**
TOZ Tahuroa Road 62.68 134 PN **P 17 12 56.7 +1.5**
THZ Tophouse 62.76 139 PN **P 17 12 55.6 0.0**
NNZ Nelson 62.80 139 PN **P 17 12 57.5 +1.6**
LTZ Lake Taylor 62.86 141 PN **P 17 12 56.9 +0.7**
ODZ Otahua Downs 63.05 143 *e*P **P 17 12 57.4 -0.1**
comp=E,1μm,1.3s,mb6.9
ODZ Otahua Downs 63.05 143 PN **P 17 12 57.2 -0.2**
FWVZ Far West T-bar 63.38 136 PN **P 17 13 01.1 +1.3**
MCQ Macquarie Isla 63.39 157 *e*P **P 17 13 00.2 +0.7**
MCQ Macquarie Isla 63.39 157 *e*P **P 17 13 00.2 +0.7**
WNVZ Wahianoa 63.44 136 PN **P 17 13 01.7 +1.5**
OPRZ Ohinepanea 63.48 134 *e*PN **P 17 13 02.0 +1.5**
KHZ Kahutara 63.49 140 *e*P **P 17 12 59.7 -0.8**
comp=E,2μm,1.4s,mb7.1
KHZ Kahutara 63.49 140 PN **P 17 12 59.7 -0.8**
MIDW Midway 63.52 59 PFAKE 17 13 10.0 +9.0
MIDW LR LR
comp=Z,40μm,20.0s,MS6.6

MQZ McQueen's Vall 63.57 141 PN **P** **17 13 01.6 +0.6**
SNZO South Karori 63.73 138 *e*P **P** **17 12 59.8 -2.3**
comp=Z,1µm,0.8s,mb7.0
SNZO LR LR
comp=Z,192µm,21.0s,MS7.3
OGWZ Otaki Gorge 63.81 138 PN **P** **17 13 01.7 -0.9**
CAW Cannon Point 63.88 138 PN **P** **17 13 02.1 -0.9**
BKZ Black Stump Fm 63.99 135 PN **P** **17 13 03.8 -0.1**
MRZ Mangatainoka R 64.02 137 *e*PN **P** **17 13 02.8 -1.2**
POWZ Post Office Ro 64.03 137 *e*PN **P** **17 13 03.1 -0.9**
URZ Urewera 64.05 134 P **P** **17 13 03.6 -0.7**
comp=Z,376nm,0.9s,mb6.4,baz=287,slow=5.3,SNR=45
URZ S **S** **17 21 40.3 +1.1**
comp=Z,22nm,1.0s,baz=27,slow=21,SNR=7.0
URZ Urewera 64.05 134 *e*P **P** **17 13 03.2 -1.0**
comp=Z,1µm,1.1s,mb6.8
URZ Urewera 64.05 134 PN **P** **17 13 03.2 -1.1**
NMHZ Naumai 64.19 135 PN **P** **17 13 05.5 +0.3**
MWZ Matawai 64.38 134 PN **P** **17 13 06.4 -0.1**
TRWZ Traveller 64.43 138 *e*PN **P** **17 13 05.9 -0.8**
BFZ Birch Farm 64.48 137 PN **P** **17 13 06.5 -0.6**
PXZ Pawanui 64.62 136 PN **P** **17 13 07.6 -0.4**
MXZ Matakaoa Point 64.64 133 PN **P** **17 13 09.6 +1.5**
RAO Raoul Island 64.75 123 P **P** **17 13 09.8 +0.7**
comp=Z,677nm,0.8s,mb6.7
RAO LR LR
comp=Z,78µm,22.0s,MS6.9
RAO Raoul Island 64.75 123 P **P** **17 13 09.8 +0.7**
RAO pmax pmax
comp=Z,677nm,0.8s,mb6.7
RAO MLR MLR
comp=Z,78µm,22.0s,MS6.9
PUZ Puketitti 64.80 134 PN **P** **17 13 08.9 -0.2**
WBK Wadi Bani Khal 64.81 294 P **P** **17 13 09.3 -0.3**
SNR=35
CNGZ Carnagh Statio 64.93 134 PN **P** **17 13 10.0 0.0**
SEY Seymchan 65.42 15*de*P **P** **17 13 13.8 +1.1**
JMDO Jabal Madar 65.56 294 P **P** **17 13 13.9 -0.6**
SNR=73
SMDO Samad 65.72 295 P **P** **17 13 15.9 +0.4**
SNR=32
FX1 Attu Island--F 66.43 31 P **P** **17 13 21.6 +2.2**
comp=Z,229nm,1.0s,mb6.2,baz=225,slow=4.3,SNR=12
FX1 S S 17 22 10.5 +2.8
comp=Z,29nm,0.9s,baz=197,slow=14,SNR=2.0
FX1 Attu Island--F 66.43 31 P **P** **17 13 21.6 +2.2**
FX1 S S 17 22 10.5 +2.8
FX1 Attu Island--F 66.43 31 P **P** **17 13 21.6 +2.2**
FX1 S S 17 22 10.5 +2.7
BSY Bisya 66.45 294 P **P** **17 13 20.6 +0.5**
SNR=50
HOQ Hoqain 66.48 295 P **P** **17 13 21.2 +0.9**
SNR=40
MRIV Mauritius Mete 66.83 247 *e*P **P** **17 13 20.3 -2.3**
SMY Shemya 66.83 31 *e*P **P** **17 13 21.2 -0.8**
comp=Z,1µm,1.6s,mb6.6
SMY Shemya 66.83 31 *e*P **P** **17 13 21.2 -0.8**
SMY pmax pmax
comp=Z,1µm,1.6s,mb6.6
MSEY Mahe Island 66.89 264 *e*P **P** **17 13 23.8 +0.7**
comp=Z,2µm,1.4s,mb6.8
MSEY LR LR
comp=Z,196µm,20.0s,MS7.3
MSEY Mahe Island 66.89 264 *e*P **P** **17 13 23.8 +0.7**
MSEY pmax pmax
comp=Z,2µm,1.4s,mb6.8
MSEY MLR MLR
comp=Z,196µm,20.0s,MS7.3
MSEY Mahe Island 66.89 264 P **P** **17 13 23.9 +0.8**
comp=Z,4µm,1.4s,mb7.2,SNR=41
MSEY Mahe Island 66.89 264 P **P** **17 13 23.4 +0.2**
SNR=53
BVA0 Borovoye Array 66.90 329 *i* P **P** **17 13 22.4 0.0**
BVA0 pmax pmax
comp=Z,2µm,4.0s
BVAR Borovoye Array 66.90 329 P **P** **17 13 22.4 0.0**
comp=Z,96nm,1.0s,mb5.8,baz=130,slow=5.8,SNR=161
BVAR S S 17 22 16.1 +2.6
comp=Z,7.2nm,1.2s,baz=128,slow=9.3,SNR=2.2
BVAR PKP2bc 17 41 49.2
comp=Z,2.8nm,1.0s,baz=270,slow=2.9,SNR=5.9
BVAR Borovoye Array 66.90 329 P **P** **17 13 22.4 0.0**
BVAR S S 17 22 16.1 +2.6
BVAR ⇑*e* 17 41 49.2
BVAR Borovoye Array 66.90 329 P **P** **17 13 22.4 0.0**
BVAR S S 17 22 16.1 +2.6
BRVK Borovoye 66.97 329 *e*P **P** **17 13 22.6 -0.3**
comp=Z,2µm,1.4s,mb6.8
BRVK LR LR
comp=Z,98µm,20.0s,MS7.0
BRVK Borovoye 66.97 329*ce*P **P** **17 13 22.6 -0.2**
BRVK pmax pmax
comp=Z,233nm,1.0s,mb6.2
BRVK Borovoye 66.97 329 P **P** **17 13 22.1 -0.7**
comp=Z,1µm,1.0s,mb6.9
BRVK Borovoye 66.97 329 P **P** **17 13 22.6 -0.2**
SNR=236
AFI Afiamalu 67.15 106 P **P** **17 13 25.9 +1.2**
comp=Z,243nm,1.2s,mb6.1,baz=265,slow=7.8,SNR=12
AFI LR LR 17 40 29.0
comp=Z,27µm,18.9s,MS6.5,baz=272,slow=34
AFI Afiamalu 67.15 106 P **P** **17 13 25.9 +1.2**
AFI LR LR 17 40 29.0
AFI Afiamalu 67.15 106 P **P** **17 13 25.9 +1.2**
ARQ Araqi 67.16 295 P **P** **17 13 25.3 +0.7**
SNR=44
PAF Port-aux-Franc 67.34 214 *e*P **P** **17 13 27.4 +2.1**
comp=Z,2µm,1.7s,mb6.8
PAF LR LR
comp=Z,125µm,21.0s,MS7.1
PAF Port-aux-Franc 67.34 214 *e*P **P** **17 13 27.4 +2.1**
PAF pmax pmax
comp=Z,2µm,1.7s,mb6.8
PAF MLR MLR
comp=Z,125µm,21.0s,MS7.1
HATD Hatta, Dubai 67.74 296 P **P** **17 13 29.6 +1.3**
SNR=15
BANOM Banah 67.77 297 P **P** **17 13 29.8 +1.4**
SNR=6.4
ASHO Ashiyiah 67.78 296 P **P** **17 13 30.0 +1.5**
SNR=17
CASY Casey 67.99 185 *e*P **P** **17 13 26.8 -2.2**
CASY *e*S S 17 22 21.1 -5.0
CASY Casey 67.99 185 *e*P **P** **17 13 26.7 -2.3**
comp=Z,302nm,0.9s,mb6.3
CASY LR LR
comp=Z,249µm,19.0s,MS7.5
ASUD Al Ashush, Dub 68.43 296 P **P** **17 13 34.3 +1.7**
SNR=19
RBK Rabkut 68.59 288 P **P** **17 13 32.9 -0.8**
SNR=112
RER Riviere de l'E 68.60 247 *e*P **P** **17 13 34.7 +1.0**
comp=Z,747nm,1.0s,mb6.6
RER LR LR
comp=Z,449µm,22.0s,MS7.7
JOHN Johnston Islan 68.85 73 *e*P **P** **17 13 33.4 -2.0**
JOHN LR LR
comp=Z,59µm,21.0s,MS6.8
ABKT Ailbek 68.88 310 P **P** **17 13 35.4 +0.2**
comp=Z,2µm,0.8s,mb7.1,SNR=74
VAN Vannovskaya 68.89 310 *i* P **P** **17 13 33.8 -1.5**
VAN S S 17 22 30.7 -7.2
DRV Dumont d'Urvil 69.05 172 P **P** **17 13 40.0 +4.4**
DRV S S 17 22 37.0 -1.6
DRV SS SS 17 27 17.0 +12
DRV L 17 30 00.0
DRV R 17 35 00.0
ABTO Aybut 69.44 288 P **P** **17 13 38.1 -0.9**
SNR=116
MIR Mirnyy 70.86 192⇑*i* P **P** **17 13 45.0 -1.7**
MIR *e* 17 14 06.0
MIR *e* 17 16 19.0
MIR *e*S S 17 23 03.0 +3.1
MIR pmax pmax
comp=Z,336nm,1.8s,mb6.0
MIR pmax pmax
comp=Z,32µm,15.0s
MIR pmax pmax
comp=N,13µm,18.0s
MIR pmax pmax
comp=E,4µm,16.0s
MIR smax
comp=N,40µm,20.0s
MIR smax
comp=E,28µm,20.0s
AB31 Akbulak array 71.16 322 *i* P **P** **17 13 49.1 +0.2**
AB31 pmax pmax
comp=Z,858nm,1.4s,mb6.5
ABKAR Akbulak array 71.16 322 *e*P **P** **17 13 48.4 -0.5**
comp=Z,20nm,1.5s,mb4.8
ADK Adak 71.50 35 P **P** **17 13 52.8 +1.9**
comp=Z,508nm,1.1s,mb6.4
ADK LR LR
comp=Z,46µm,20.0s,MS6.7
ADK Adak 71.50 35 P **P** **17 13 52.8 +1.9**
ADK pmax pmax
comp=Z,508nm,1.1s,mb6.4
ADK MLR MLR
comp=Z,46µm,20.0s,MS6.7
AKTK Aktyubinsk 72.73 323 P **P** **17 13 58.0 -0.3**
AKTK S S 17 23 23.9 +1.8
AKTO Aktyubinsk 72.73 323 P **P** **17 13 58.0 -0.3**
comp=Z,25nm,0.7s,mb5.2,baz=106,slow=7.6,SNR=53
AKTO S S 17 23 23.9 +1.8
comp=Z,2.1nm,0.8s,baz=218,slow=19,SNR=3.2
AKTO Aktyubinsk 72.73 323 P **P** **17 13 58.0 -0.4**
AKTO S S 17 23 23.9 +1.8
BILL Bilibino 73.04 16 *e*P **P** **17 13 58.1 -1.7**
comp=Z,182nm,1.1s,mb5.9
BILL LR LR
comp=Z,40µm,21.0s,MS6.7
BILL Bilibino 73.04 16⇑*e*P **P** **17 13 59.5 -0.3**
BILL *e* 17 16 41.9
BILL *i* S S 17 23 25.4 +0.5
BILL pmax pmax
comp=Z,93nm,1.7s,mb5.4
BILL MLR MLR
comp=Z,45µm,23.0s,MS6.7
MUKL Al Mukalla 73.33 285 *e*P **P** **17 14 02.0 -0.5**
SVE Sverdlovsk 73.64 330*d* *i*P **P** **17 14 04.1 +0.5**
SVE *i* S S 17 23 29.9 -2.3
SVE *e* 17 24 25.1
SVE *e*SS SS 17 28 16.4 +0.7
SVE pmax pmax
comp=Z,928nm,1.2s,mb6.6
SVE pmax pmax
comp=Z,26µm,24.7s
SVE smax
comp=E,82µm,25.0s
SVE MLR MLR
comp=E,74µm,24.0s,MS7.0
SVE MLR MLR
comp=N,46µm,22.0s,MS7.0
SVE MLR MLR
comp=Z,63µm,24.0s,MS6.8
ARU Arti 74.55 329 *e*P **P** **17 14 07.9 -1.0**
comp=Z,723nm,1.1s,mb6.5
ARU LR LR
comp=Z,105µm,21.0s,MS7.1
ARU Arti 74.55 329*c* *i*P **P** **17 14 07.7 -1.2**
ARU *e* 17 16 55.6
ARU *e*PPP 17 18 46.1
ARU S S 17 23 41.3 -1.1
ARU SS SS 17 28 22.4 -7.1
ARU SSS 17 31 44.3
ARU pmax pmax
comp=Z,182nm,1.7s,mb5.7
ARU pmax pmax
comp=Z,17µm,18.6s
ARU Arti 74.55 329 P **P** **17 14 08.6 -0.3**
comp=Z,2µm,1.3s,mb6.9,SNR=21
QRN Al-Qurain 75.55 299 *e*P **P** **17 14 14.1 -1.2**
QRN AMb AMB 17 14 23.8
comp=Z,556nm,1.1s,mb6.4
KBD Kabd 75.79 300 *e*P **P** **17 14 15.1 -1.6**
KBD AMb AMB 17 14 40.9
comp=Z,502nm,1.2s,mb6.3
UMR Umm Al-Rimmam 75.81 300 *e*P **P** **17 14 15.8 -0.9**
UMR AMb AMB 17 14 25.4
comp=Z,565nm,1.0s,mb6.4
MIB Mutribah 76.17 300 *e*P **P** **17 14 18.0 -0.8**
MIB AMb AMB 17 14 26.8
comp=Z,643nm,0.9s,mb6.5
NAY Al-Naaiem 76.19 300 *e*P **P** **17 14 17.4 -1.6**
NAY AMb AMB 17 14 27.5
comp=Z,230nm,1.4s,mb5.9
NIKO Nikolski 76.38 36 P **P** **17 14 21.0 +1.5**
comp=Z,1µm,1.5s,mb6.6
SOKR Solikamsk 76.57 332*c* *i*P **P** **17 14 20.2 -0.2**
SOKR S S 17 24 01.3 -3.3
SOKR pmax pmax
comp=Z,200nm,1.9s,mb5.7
SOKR MLR MLR
comp=Z,71µm,21.0s,MS7.0
BDHA Al Bayda' 76.67 284⇑*e*P **P** **17 14 21.6 -0.2**
LBOS 76.97 284⇑*e*P **P** **17 14 23.4 -0.2**
DHBB Dhamar BB 77.83 285⇑*e*P **P** **17 14 28.2 -0.2**
DHBB AMb AMB 17 14 31.7
comp=Z,2µm,2.1s,mb6.6
MAK Makhachkala 77.87 314*c* *i*P **P** **17 14 28.9 +0.8**
MAK *e* pP 17 14 37.3 +0.3
MAK *i* S S 17 24 21.0 +1.6
MAK *i* 17 24 41.5
MAK *e*SS SS 17 29 21.7 +1.2
MAK pmax pmax
comp=Z,11µm,3.4s
MAK pmax pmax
comp=N,4µm,3.8s
MAK pmax pmax
comp=E,5µm,3.7s
MAK pmax pmax
comp=N,926nm,2.2s
MAK pmax pmax
comp=Z,1µm,1.8s,mb6.5
MAK pmax pmax
comp=E,1µm,1.8s
MAK smax
comp=N,78µm,9.9s
MAK smax
comp=E,79µm,10.2s
MAK MLR MLR
comp=E,57µm,25.0s
MAK MLR MLR
comp=Z,68µm,20.0s,MS7.0
UNV Unalaska Valle 77.97 35 *e*P **P** **17 14 29.8 +1.4**
comp=Z,618nm,1.3s,mb6.4
AKUT Akutan 78.46 35 *e*P **P** **17 14 34.9 +3.8**
comp=Z,652nm,1.2s,mb6.4
BHD Baghdad 79.05 303 *i* x x 17 14 32.0
BHD *i* x x 17 17 22.0
BHD *i* x x 17 19 10.0
BHD *i* x x 17 24 29.0
BHD *i* x x 17 25 10.0
DGRG David-gareji 79.21 312 P **P** **17 14 35.1 -0.4**
DGRG S S 17 24 34.7 +0.8
ATD Arta Tunnel 79.26 281 P **P** **17 14 37.6 +1.3**
comp=Z,84nm,1.0s,mb5.6,baz=94,slow=5.6,SNR=14
ATD S S 17 24 37.6 +2.2
comp=Z,2.1nm,0.3s,baz=127,slow=20,SNR=2.0
ATD LR LR 17 49 16.2
comp=Z,56µm,20.9s,MS6.9,baz=95,slow=35
ATD Arta Tunnel 79.26 281 P **P** **17 14 37.6 +1.3**
ATD S S 17 24 37.6 +2.2
ATD LR LR 17 49 16.2
RAR Rarotonga 79.37 112 P **P** **17 14 40.4 +3.6**
comp=Z,17nm,0.4s,mb5.3,baz=270,slow=5.7,SNR=9.1
RAR S S 17 24 40.6 +4.4
comp=Z,6.0nm,0.6s,baz=243,slow=9.0,SNR=2.0
RAR Rarotonga 79.37 112 *e*P **P** **17 14 38.9 +2.1**
comp=Z,2µm,2.3s,mb6.6
RAR LR LR
comp=Z,21µm,19.0s,MS6.5
RAR Rarotonga 79.37 112 P **P** **17 14 40.4 +3.6**
RAR S S 17 24 40.6 +4.3
RAR pmax pmax
comp=Z,17nm,0.4s
RAR smax
comp=N,6.0nm,0.6s
GNI Garni 79.52 310 *e*P **P** **17 14 37.2 0.0**
GNI Garni 79.52 310 P **P** **17 14 38.6 +1.4**
comp=N,31nm,0.9s,mb5.2,baz=36,slow=8.7,SNR=21
GNI S S 17 24 39.3 +2.1
comp=N,1.0nm,0.3s,baz=133,slow=19,SNR=1.8
GNI LR LR 17 52 59.6
comp=N,19µm,20.7s,MS6.4,baz=345,slow=38
GNI Garni 79.52 310 *e*P **P** **17 14 38.3 +1.1**
comp=N,2µm,1.8s,mb6.8
GNI LR LR
comp=Z,42µm,22.0s,MS6.7
GNI Garni 79.52 310 P **P** **17 14 38.6 +1.4**
GNI S S 17 24 39.3 +2.1
GNI pmax pmax
comp=Z,31nm,0.9s
GNI smax
comp=N,1.0nm,0.3s
GNI MLR MLR
comp=Z,19µm,20.7s
GNI Garni 79.52 310 P **P** **17 14 38.7 +1.5**
SNR=54
MTA Mtatsminda 79.67 312 P **P** **17 14 37.9 -0.2**
MTA S S 17 24 35.8 -2.9
TBLG Delisi 79.72 312 *i* P **P** **17 14 39.3 +1.0**
TBLG *i* S S 17 24 43.8 +4.6
TBLG Delisi 79.72 312 P **P** **17 14 39.3 +1.0**
TBLG S S 17 24 43.8 +4.6
FALS False Pass 79.96 34 *e*P **P** **17 14 40.6 +1.3**
comp=Z,441nm,0.6s,mb6.6
MAW Mawson 79.98 200 P **P** **17 14 37.5 -1.6**
comp=Z,83nm,1.0s,mb5.6,baz=49,slow=6.4,SNR=29
MAW S S 17 24 40.9 0.0
comp=Z,2.9nm,1.1s,baz=49,slow=19,SNR=2.2
MAW PKKP PKKPbc 17 33 22.6 -4.8
comp=Z,1.9nm,0.6s,baz=225,slow=5.7,SNR=4.3
MAW LR LR 17 49 50.7
comp=Z,133µm,18.5s,MS7.3,baz=47,slow=36
MAW Mawson 79.98 200⇑*i* P **P** **17 14 37.0 -2.1**
comp=Z,106nm,1.0s,mb5.7
MAW *e*S S 17 24 37.9 -3.0
MAW Mawson 79.98 200 *e*P **P** **17 14 36.8 -2.3**
comp=Z,276nm,1.7s,mb5.9
MAW LR LR
comp=Z,298µm,22.0s,MS7.6
MAW Mawson 79.98 200 P **P** **17 14 37.5 -1.6**
MAW S S 17 24 40.9 0.0
MAW pmax pmax
comp=Z,83nm,1.0s
MAW smax
comp=N,3.0nm,1.1s
MAW MLR MLR
comp=Z,133µm,18.5s
CLDR Calditan 80.03 309 *e*P **P** **17 14 39.5 -0.5**
KIP Kipapa 80.03 69 PFAKE 17 14 50.0 +10
KIP LR LR
comp=Z,57µm,20.0s,MS6.9
HON Honolulu 80.04 69 P **P** **17 14 41.8 +1.4**
HON Honolulu 80.04 69 P **P** **17 14 41.8 +1.4**
CUKT Cukurca 80.07 307 *e*P **P** **17 14 39.2 -1.0**
GOR Gori 80.22 312 P **P** **17 14 45.0 +4.0**
XMAS Kiritimati 80.35 88 *e*P **P** **17 14 41.8 -0.5**
comp=Z,409nm,1.3s,mb6.2
XMAS LR LR
comp=Z,44µm,21.0s,MS6.8
ZEI Tsey 80.47 313 *e*P **P** **17 14 42.2 -0.1**
ZEI *i* S S 17 24 46.8 -0.3
ZEI pmax pmax
comp=Z,365nm,1.0s,mb6.3
ZEI pmax pmax
comp=E,274nm,0.7s
ZEI pmax pmax
comp=N,502nm,1.6s
ZEI pmax pmax
comp=Z,7µm,8.2s
ZEI smax
comp=N,15µm,9.2s
ZEI smax
comp=E,11µm,10.2s
TNA Tin City 80.55 23 P **P** **17 14 44.9 +2.6**
comp=E,162nm,1.2s,mb5.8
AKH Akhalkalaki 80.61 312 P **P** **17 14 43.9 +0.8**
AKH S S 17 24 52.6 +4.0
ONI Oni 80.77 313 P **P** **17 14 44.3 +0.3**
ONI S S 17 24 33.5 -17
AGRB Hanur-Agry 80.79 310 *e*P **P** **17 14 44.9 +0.8**
KIV Kislovodsk 81.48 314 *e*P **P** **17 14 48.0 +0.3**
comp=E,497nm,1.4s,mb6.2
KIV LR LR
comp=Z,49µm,22.0s,MS6.8
KIV Kislovodsk 81.48 314*c* *i*P **P** **17 14 47.2 -0.5**
KIV *e*S S 17 24 54.3 -3.3
KIV *e*SS SS 17 30 06.8 -7.7
KIV *e*SSS 17 33 40.5
KIV pmax pmax
comp=Z,814nm,3.8s
KIV pmax pmax
comp=Z,69nm,0.9s,mb5.6
KIV MLR MLR
comp=Z,67µm,20.0s,MS7.0
KIV Kislovodsk 81.48 314 P **P** **17 14 48.5 +0.8**
comp=Z,404nm,0.8s,mb6.4,SNR=32
KIV Kislovodsk 81.48 314 P **P** **17 14 48.7 +1.0**
SNR=52
VNDA Vanda 81.69 172 *e*P **P** **17 14 46.5 -1.6**
comp=Z,8.2nm,0.4s,mb5.0
VNDA Vanda 81.69 172 *e*P **P** **17 14 46.5 -1.6**
VNDA pmax pmax
comp=Z,8.0nm,0.4s
SDPT Sand Point 81.71 34 *e*P **P** **17 14 49.7 +1.1**
comp=Z,483nm,1.2s,mb6.3
BCA Borcka 82.01 312 *e*P **P** **17 14 50.1 -0.4**
EZM Erzurum 82.07 310 *e*P **P** **17 14 52.6 +1.8**
KHU Kahuku 82.21 71 *e*P **P** **17 14 50.1 -1.9**
KHU Kahuku 82.21 71 *e*P **P** **17 14 50.2 -1.8**
PZAR Pazar-Rize 82.53 311 *e*P **P** **17 14 55.5 +2.2**
PUH Pauahi 82.59 71 *e*P **P** **17 14 52.5 -1.5**
SBA Scott Base 82.65 171 *e*P **P** **17 14 52.3 -0.9**
comp=Z,175nm,0.9s,mb6.1
SBA LR LR
comp=Z,166µm,22.0s,MS7.4
SBA Scott Base 82.65 171 *e*P **P** **17 14 52.3 -0.8**
SBA pmax pmax
comp=Z,175nm,0.9s,mb6.1
SBA MLR MLR
comp=Z,166µm,22.0s,MS7.4
BINT Bingol 82.67 309 *e*P **P** **17 14 58.6 +4.6**
STCH Steam Cracks 82.67 71 P **P** **17 14 54.7 +0.2**
VRHR Novokhopersk 83.00 321 *e*P **P** **17 14 54.4 -1.1**
VRHR *e**SP sP 17 15 06.1 -1.7
VRHR *e*S S 17 25 10.3 -2.6
VRHR pmax pmax
comp=E,30nm,1.4s
VRHR pmax pmax
comp=Z,30nm,1.4s,mb5.1
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR smax
comp=E,300nm,1.8s
CHGN Chignik 83.01 34 *e*P **P** **17 14 57.1 +1.7**
ERZN Erzincan 83.31 310 *e*P **P** **17 15 00.5 +3.1**
FURI Furi 83.36 279 *e*P **P** **17 14 59.5 +1.4**
FURI S S 17 25 23.5 +5.6
KTUT Trabzon 83.37 311 *e*P **P** **17 14 57.3 -0.3**
PTK Pertek 83.52 309 *e*P **P** **17 14 57.9 -0.5**
GUMT Gumushane 83.55 310 *e*P **P** **17 14 58.9 +0.3**
SVRC Sivrice-ELAZID 83.56 308 *e*P **P** **17 14 58.9 +0.3**
SOC Sochi 83.59 314*c* *i*P **P** **17 14 57.1 -1.6**
SOC *e**PP pP 17 15 08.2 +0.5
SOC *e* 17 18 10.1
SOC *i* S S 17 25 16.2 -3.0
SOC pmax pmax
comp=Z,3µm,3.9s
SOC pmax pmax
comp=Z,126nm,1.3s,mb5.9
SOC MLR MLR
comp=Z,79µm,24.0s,MS7.0
EZC Erzincan 83.60 310 *e*P **P** **17 15 00.8 +1.9**
URFA Urfa 83.89 307 *e*P **P** **17 14 59.5 -0.8**
ESPY Espiye-Giresun 84.15 311 *e*P **P** **17 15 01.4 -0.2**
VSR Storozhevoye 84.56 321 *e*P **P** **17 15 02.6 -0.8**
VSR *e**SP sP 17 15 14.5 -1.2
VSR *e* 17 18 17.6
VSR *e*S S 17 25 20.1 -8.4
VSR pmax pmax
comp=Z,80nm,1.4s,mb5.7
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,50nm,1.0s
VSR pmax pmax
comp=Z,3µm,4.3s
VSR pmax pmax
comp=N,400nm,2.8s
VSR pmax pmax
comp=E,2µm,5.2s
VSR smax
comp=E,33µm,8.2s
VSR smax
comp=Z,14µm,10.3s

VSR smax
comp=N,23µm,9.4s
VSR MLR MLR
comp=E,96µm,24.0s,MS7.2
VSR MLR MLR
comp=Z,137µm,24.0s,MS7.3
VSR MLR MLR
comp=N,57µm,22.0s,MS7.2
VOR Voronezh 84.58 322 eP P 17 15 03.0 -0.5
VOR eS S 17 25 26.0 -2.7
VOR pmax pmax
comp=Z,1µm,1.6s,mb6.8
DARE Darende-Malaty 84.76 309 eP P 17 15 05.8 +1.0
KMBO Kilima Mbogo 84.94 269 eP P 17 15 06.9 +0.7
KMBO Kilima Mbogo 84.94 269 eP P 17 15 05.7 -0.5
comp=Z,577nm,1.3s,mb6.5
KMBO LR LR
comp=Z,161µm,22.0s,MS7.4
KMBO Kilima Mbogo 84.94 269 eP P 17 15 05.7 -0.5
KMBO pmax pmax
comp=Z,577nm,1.3s
KMBO MLR MLR
comp=Z,161µm,22.0s
KMBO Kilima Mbogo 84.94 269 P P 17 15 06.3 +0.1
SNR=271
SVW2 Sparrevohn 85.07 29 eP P 17 15 08.6 +2.8
comp=Z,84nm,0.9s,mb5.9
GAZ Gaziantep 85.16 307 eP P 17 15 07.0 +0.2
RSDY Resadiye-TOKAT 85.19 310 eP P 17 15 07.2 +0.3
KLMR Klimovskoe 85.23 331c iP P 17 15 06.5 -0.1
KLMR eS S 17 25 27.0 -7.9
KLMR pmax pmax
comp=Z,1µm,1.4s,mb6.8
KLMR pmax pmax
comp=Z,6µm,9.6s
KUZU Kuzuini 85.26 307 iP P 17 15 05.3 -1.9
ASF Jabal al Asfar 85.27 302 P P 17 15 07.6 +0.2
comp=Z,49nm,1.0s,mb5.6,baz=357,slow=4.4,SNR=49
ASF S S 17 25 41.2 +4.8
comp=Z,0.9nm,0.5s,baz=71,slow=2.9,SNR=2.8
ASF PKPPKP 17 41 18.6
comp=Z,1.1nm,0.4s,baz=320,slow=7.9,SNR=2.0
ASF Jabal al Asfar 85.27 302 P P 17 15 07.6 +0.2
ASF S S 17 25 41.2 +4.8
ASF P'P' 17 41 18.6
ASF Jabal al Asfar 85.27 302 P P 17 15 07.6 +0.1
ASF S S 17 25 41.2 +4.7
ANN Anapa 85.31 315c iP P 17 15 05.6 -1.7
ANN i 17 18 27.5
ANN iS S 17 25 25.4 -11
ANN eSS SS 17 31 06.8 -4.3
ANN eSSS 17 34 35.2
ANN pmax pmax
comp=Z,410nm,1.0s,mb6.5
ANN pmax pmax
comp=N,97nm,1.1s
ANN pmax pmax
comp=E,52nm,1.1s
ANN pmax pmax
comp=Z,10µm,11.2s
ANN pmax pmax
comp=N,2µm,11.3s
ANN pmax pmax
comp=E,3µm,11.3s
ANN smax
comp=N,20µm,15.8s
ANN smax
comp=Z,19µm,15.8s
ANN smax
comp=E,51µm,15.7s
KMRS Kahramanmaras 85.42 307 eP P 17 15 07.9 -0.2
SARI SarD1z-Kayseri 85.62 309 eP P 17 15 09.1 +0.1
FKH Fakeheh 85.73 304 eP P 17 15 11.1 +1.4
TOKT Tokat 85.78 310 eP P 17 15 10.1 +0.3
MOS Moscow 85.81 326 eP P 17 15 09.2 -0.4
MOS e 17 18 29.3
MOS ePPP 17 20 20.4
MOS eS S 17 25 31.7 -9.0
MOS e 17 26 37.6
MOS eSS SS 17 31 21.1 +3.3
MOS eSSS 17 34 49.9
MOS pmax pmax
comp=Z,2µm,2.6s,mb7.0
MOS pmax pmax
comp=Z,400nm,1.5s,mb6.4
MOS smax
comp=E,47µm,12.7s
ANDN Andirin 85.86 307 iP P 17 15 08.5 -1.7
OHAK Old Harbor 85.91 33 eP P 17 15 12.2 +2.1
comp=E,148nm,1.0s,mb6.2
HTY Hatay 85.99 306 eP P 17 15 11.1 +0.1
YAYL Yayladag 86.02 306 iP P 17 15 06.4 -4.7
HWQ Hawqa 86.11 304 eP P 17 15 11.6 0.0
KVT Kavak 86.19 311 eP pP 17 15 25.6 +4.8
RCY Rachaya 86.19 303 eP P 17 15 11.9 -0.1
KOZT Kozan 86.27 307 eP P 17 15 12.0 -0.3
BNN Bunyan 86.29 309 eP P 17 15 11.0 -1.3
KDAK Kodiak Island 86.33 32 P P 17 15 13.1 +1.0
comp=E,29nm,0.7s,mb5.6,baz=265,slow=9.6,SNR=14
KDAK S S 17 25 45.4 -0.3
comp=E,9.6nm,1.0s,baz=274,slow=15,SNR=2.2
KDAK Kodiak Island 86.33 32 eP P 17 15 13.8 +1.7
comp=E,383nm,1.3s,mb6.5
KDAK LR LR
comp=Z,46µm,22.0s,MS6.8
KDAK Kodiak Island 86.33 32 P P 17 15 13.1 +1.0
KDAK S S 17 25 45.4 -0.3
KDAK pmax pmax
comp=Z,29nm,0.7s,mb5.6
KDAK smax
comp=N,10.0nm,1.0s
KDAK Kodiak Island 86.33 32 P P 17 15 14.0 +1.9
comp=N,434nm,1.5s,mb6.5,SNR=9.2
CEYT Ceyhan 86.33 307 eP P 17 15 13.6 +1.0
BHL Bhannes 86.35 304 eP P 17 15 12.6 -0.2
OBN Obninsk 86.37 325 eP P 17 15 11.0 -1.4
comp=N,952nm,1.4s,mb6.8
OBN LR LR
comp=Z,71µm,20.0s,MS7.1
OBN Obninsk 86.37 325⇑ eP P 17 15 10.3 -2.1
OBN iS S 17 25 34.8 -11
OBN pmax pmax
comp=Z,221nm,1.7s,mb6.1
OBN MLR MLR
comp=Z,73µm,23.0s,MS7.0
OBN Obninsk 86.37 325 P P 17 15 12.6 +0.2
comp=Z,2µm,1.6s,mb7.2,SNR=14
RSO Redoubt South 86.40 30 eP P 17 15 13.5 +1.1
comp=Z,373nm,1.0s,mb6.6
MMAI Mount Meron Ar 86.55 303 P P 17 15 13.8 0.0
comp=Z,77nm,1.0s,mb5.9,baz=91,slow=5.0,SNR=32
MMAI S S 17 25 51.5 +2.6
comp=Z,0.2nm,0.3s,baz=58,slow=8.7,SNR=2.4
MMAI PKKP PKKPbc 17 33 15.1 +4.5
comp=Z,2.0nm,0.6s,baz=242,slow=3.1,SNR=2.4
KRTS Karatas 86.62 306 eP P 17 15 15.1 +1.1
YOZ Yozgat 86.71 309 eP P 17 15 14.6 +0.2
PPLA Purkeypile 86.81 27 eP P 17 15 14.6 +0.2
comp=Z,136nm,0.8s,mb6.2
KARA Karaisali 86.88 307 eP P 17 15 14.8 -0.5
EIL Elat 86.91 299 P P 17 15 15.3 -0.3
comp=Z,55nm,1.1s,mb5.7,baz=94,slow=1.1,SNR=34
EIL S S 17 25 50.4 -2.2
comp=Z,2.3nm,0.7s,baz=90,slow=18,SNR=1.6
EIL PKPPKP 17 41 13.8
comp=Z,2.5nm,0.7s,baz=329,slow=3.0,SNR=2.3
EIL Elat 86.91 299 P P 17 15 15.3 -0.3
EIL S S 17 25 50.4 -2.2
EIL P'P' 17 41 13.8
AVNT Avonos 87.06 309 iP P 17 15 13.9 -2.2
GULE Gulek 87.11 307 iP P 17 15 10.7 -5.7
CTKT Corum 87.13 310 iP P 17 15 12.8 -3.6
CORM Corum 87.25 310 eP P 17 15 15.9 -1.1
MERS Mersin 87.31 307 eP P 17 15 16.5 -0.9
BPAW Bear Paw Mtn. 87.41 26 eP P 17 15 16.9 -0.3
comp=Z,13nm,1.9s,mb4.8
CDAG Cicekdag 87.44 309 iP P 17 15 09.6 -8.4
EREN Erenkoy 87.59 305 eP P 17 15 18.2 -0.5
SLKM Skilak Lake 87.65 30 eP P 17 15 18.0 -0.5
SLKM Skilak Lake 87.65 30 eP P 17 15 18.0 -0.5
SIM Simferopol' 87.67 315ce P P 17 15 16.9 -2.0
SIM e 17 25 43.0
SIM eS S 17 25 56.0 -3.2
SIM pmax pmax
comp=Z,6µm,11.9s

PHNC Paralimni 87.70 305 P P 17 15 19.8 +0.5
comp=Z,6.7nm,1.2s
TRF Thorofare Moun 87.70 27 eP P 17 15 18.6 -0.1
comp=Z,211nm,1.1s,mb6.3
TOS Tosya 87.72 311 eP P 17 15 19.8 +0.6
BZK Bozkurt 87.73 312 eP P 17 15 17.3 -2.0
LVZ Lovozero 87.82 338 P P 17 15 18.6 -0.5
comp=Z,260nm,0.9s,mb6.5
LVZ LR LR
comp=Z,117µm,22.0s,MS7.2
LVZ Lovozero 87.82 338 eP P 17 15 19.7 +0.6
LVZ pmax pmax
comp=Z,150nm,1.2s,mb6.1
LVZ MLR MLR
comp=Z,124µm,25.0s,MS7.2
COLD Coldfoot 87.84 23 eP P 17 15 19.9 +0.6
comp=Z,86nm,0.8s,mb6.0
ILGA Ilgaz 87.95 311 iP P 17 15 17.1 -3.3
BR131 Keskin Array S 88.01 310 eP P 17 15 19.3 -1.4
comp=Z,58nm,0.8s,mb5.9
BR131 LR LR
comp=Z,32µm,20.0s,MS6.7
BRTR Keskin Array B 88.01 310 P P 17 15 19.8 -0.9
comp=Z,38nm,1.0s,mb5.6,baz=109,slow=3.5,SNR=64
BRTR PP PP 17 18 48.8 +1.5
comp=Z,5.7nm,0.9s,baz=101,slow=7.1,SNR=2.3
BRTR S SKSac 17 25 49.0 +1.5
comp=Z,1.9nm,0.9s,baz=52,slow=5.7,SNR=3.3
BRTR PKKPbc PKKPbc 17 33 06.3 -1.0
comp=Z,3.4nm,1.1s,baz=232,slow=5.8,SNR=4.6
BRTR PKPPKP 17 41 11.8
comp=Z,0.8nm,0.8s,baz=227,slow=1.9,SNR=3.7
BRTR Keskin Array B 88.01 310 P P 17 15 19.8 -0.9
BRTR PP PP 17 18 48.8 +1.5
BRTR S SKSac 17 25 49.0 +1.6
BRTR PKKPbc PKKPbc 17 33 06.3 -1.0
BRTR P'P' 17 41 11.8
BRTR Keskin Array B 88.01 310 P P 17 15 19.8 -0.9
BRTR 17 18 48.8
BRTR S SKSac 17 25 49.0 +1.5
CANT Cankiri 88.02 310 eP P 17 15 19.8 -0.9
SEW Seward 88.03 30 eP P 17 15 20.9 +0.6
comp=Z,318nm,1.2s,mb6.4
LFK Lefkose 88.11 305 eP P 17 15 20.9 -0.4
SULT Sultanhani-AKS 88.11 308 eP P 17 15 20.4 -0.8
BALT Daday 88.19 311 iP P 17 15 17.1 -4.4
PMR Palmer 88.20 29 eP P 17 15 22.5 +1.4
comp=Z,36nm,1.3s,mb5.4
PMR Palmer 88.20 29 eP P 17 15 22.5 +1.4
PMR pmax pmax
comp=Z,36nm,1.3s,mb5.4
CSS Prodhromos 88.28 305 P P 17 15 21.8 -0.2
comp=Z,4.1nm,0.8s
CSS Prodhromos 88.28 305 eP P 17 15 20.9 -1.1
CSS Prodhromos 88.28 305 eP P 17 15 22.1 +0.1
CSS Prodhromos 88.28 305 eP P 17 15 19.7 -2.3
comp=Z,444nm,1.1s,mb6.6
CSS LR LR
comp=Z,72µm,21.0s,MS7.1
CSS Prodhromos 88.28 305 P P 17 15 20.9 -1.1
APA Apatity 88.28 337⇑ iP P 17 15 21.5 +0.2
APA i 17 15 32.6
APA i 17 25 41.0
APA iS S 17 26 01.0 -3.2
APA iPS 17 27 03.0
APA iSS SS 17 31 52.0 -1.5
APA pmax pmax
comp=Z,65nm,1.3s,mb5.7
APA pmax pmax
comp=Z,13µm,18.0s
APA MLR MLR
comp=Z,80µm,25.0s,MS7.0
MCK McKinley 88.31 26 eP P 17 15 20.6 -1.0
comp=Z,51nm,1.2s,mb5.6
MCK McKinley 88.31 26 eP P 17 15 20.6 -0.9
MCK pmax pmax
comp=Z,51nm,1.2s,mb5.6
MAMC Mammari 88.37 305 P P 17 15 22.5 0.0
BBAL Bala 88.41 309 iP P 17 15 19.2 -3.3
SML Sawmill 88.58 28 eP P 17 15 22.7 -0.2
comp=Z,76nm,1.0s,mb6.0
SML Sawmill 88.58 28 eP P 17 15 22.7 -0.2
SML pmax pmax
comp=Z,76nm,1.0s,mb6.0
SYO Syowa Base 88.58 201⇓ iX P 17 15 19.0 -3.7
SYO Syowa Base 88.58 201 eSH S 17 26 06.0 -0.9
LEF Lefka 88.64 305 eP P 17 15 22.3 -1.5
SAFT Safranbolu 88.72 311 eP P 17 15 24.2 +0.1
PAE Paea 88.74 108 eP P 17 15 28.5 +3.9
comp=Z,58nm,1.2s,mb5.8
PPT Papeete 88.74 107 eP P 17 15 28.9 +4.3
comp=Z,358nm,1.5s,mb6.5
PPT eS S 17 26 12.8 +2.3
comp=Z,205µm,32.2s
PPT eLQ 17 40 06.3
comp=Z,90µm,30.5s
PPT eLR LR 17 43 53.5
comp=Z,70µm,30.0s
PPT Papeete 88.74 107 P P 17 15 23.7 -0.9
comp=Z,36nm,1.0s,mb5.7,baz=287,slow=11,SNR=2.3
PPT Papeete 88.74 107 P P 17 15 23.7 -0.9
PPT LR LR
comp=Z,2µm,19.0s,MS5.6
PPT Papeete 88.74 107 P P 17 15 23.7 -0.9
COLA College 88.78 25 eP P 17 15 21.9 -1.8
comp=Z,78nm,0.9s,mb6.0
COLA LR LR
comp=Z,26µm,21.0s,MS6.6
COLA College 88.78 25 eP P 17 15 21.9 -1.8
COLA pmax pmax
comp=Z,78nm,0.9s,mb6.0
COLA MLR MLR
comp=Z,26µm,21.0s,MS6.6
ALFC Alevga 88.87 305 P P 17 15 23.9 -1.0
comp=Z,3.8nm,0.9s
HDMB Hadim 88.94 307 eP P 17 15 24.2 -1.0
TIAR Tiarei 88.96 107 eP P 17 15 29.8 +4.2
comp=Z,369nm,1.0s,mb6.7
KONT Konya--Tatoy 89.02 308 eP P 17 15 24.2 -1.3
TBI Tubuai 89.04 113 eP P 17 15 29.4 +3.5
comp=Z,672nm,1.2s,mb6.8
TBI Tubuai 89.04 113 ePP PP 17 18 57.9 +1.9
comp=Z,15µm,30.8s
TBI eS S 17 26 15.8 +2.8
comp=Z,136µm,34.0s
TBI eLQ 17 40 14.0
comp=Z,83µm,44.0s
TBI eLR LR 17 44 03.9
comp=Z,49µm,25.5s
GAZI Gazipasa 89.09 306 iP P 17 15 22.4 -3.4
PPCY Paphos 89.09 305 P P 17 15 24.8 -1.1
ILAR Eielson Array 89.19 25 P P 17 15 24.8 -0.8
comp=Z,5.4nm,0.8s,mb4.9,baz=261,slow=5.0,SNR=11
ILAR S SKSac 17 25 54.1 +0.6
comp=Z,1.1nm,1.0s,baz=270,slow=4.2,SNR=2.8
ILAR PKKPbc PKKPbc 17 33 01.8 -3.6
comp=Z,7.2nm,0.8s,baz=122,slow=3.2,SNR=19
ILAR PKPPKP 17 41 07.0
comp=Z,4.0nm,1.0s,baz=31,slow=0.7,SNR=9.5
ILAR Eielson Array 89.19 25 P P 17 15 24.8 -0.8
ILAR S SKSac 17 25 54.1 +0.6
ILAR PKKPbc PKKPbc 17 33 01.8 -3.6
ILAR P'P' 17 41 07.0
ILAR Eielson Array 89.19 25 P P 17 15 24.8 -0.9
ILAR S SKSac 17 25 54.1 +0.6
JOF Joensuu 89.20 333 eP P 17 15 23.7 -2.0
JOF pmax pmax
comp=Z,93nm,0.8s,mb6.2
JOF Joensuu 89.20 333 ep P 17 15 23.7 -2.0
comp=Z,93nm,0.8s,mb6.2
KDHN Kadinhani 89.20 308 iP P 17 15 18.1 -8.2
SGKT Sivrigoynuk 89.21 310 iP P 17 15 22.4 -3.9
KIZT Kizilcal 89.38 309 eP P 17 15 26.7 -0.5
SVRH Sivrihisar-ESK 89.65 309 eP P 17 15 28.8 +0.5
KDZE Karadeniz Ereo 89.66 311 eP P 17 15 27.3 -1.1
PUL Pulkovo 89.78 330 eP P 17 15 28.4 -0.1
PUL pmax pmax
comp=Z,80nm,0.6s,mb6.2
DIV Divide 89.83 29 eP P 17 15 29.0 +0.3
comp=Z,336nm,1.2s,mb6.5
MDU Mudurnu 89.86 310 eP P 17 15 26.4 -3.0
PAX Paxson 89.89 27 eP P 17 15 27.6 -1.3
comp=Z,48nm,1.9s,mb5.5
PAX Paxson 89.89 27 eP P 17 15 27.6 -1.4
PAX pmax pmax
comp=Z,48nm,1.9s,mb5.5
BOLV Bolvadin 90.11 309 iP P 17 15 24.6 -6.0
SUTC Sutluce-Ispart 90.11 307 eP P 17 15 29.5 -1.1
ESKT Eskisehir 90.16 309 eP P 17 15 29.1 -1.7
ESKT Eskisehir 90.16 309 iP P 17 15 24.6 -6.2
MEH Mehetia 90.19 108 eP P 17 15 35.1 +3.7
comp=Z,477nm,1.1s,mb6.7
PMOR Pomariorio Ree 90.29 105 eP P 17 15 35.8 +3.9
comp=Z,1µm,1.1s,mb7.2
GULT Gulveren 90.39 310 eP P 17 15 32.0 +0.1
BMRM Bremner River 90.40 29 P P 17 15 31.6 +0.1
comp=Z,193nm,1.1s,mb6.3
ANTB Antalya 90.41 307 eP P 17 15 32.0 0.0
SHUT Suhut-Afyon 90.43 308 eP P 17 15 30.4 -1.7
BCK Bucak 90.44 307 eP P 17 15 31.3 -0.8
BORA Eskisehir 90.46 310 iP P 17 15 28.8 -3.3
DOT Dot Lake 90.48 26 eP P 17 15 31.9 +0.2
comp=Z,10nm,0.5s,mb5.4
KEV Kevo 90.53 340 eP P 17 15 32.5 +0.6
comp=Z,71nm,0.9s,mb6.0
KEV LR LR
comp=Z,84µm,22.0s,MS7.1
KEV Kevo 90.53 340 eP P 17 15 32.5 +0.6
KEV pmax pmax
comp=Z,71nm,0.9s,mb6.0
KEV MLR MLR
comp=Z,84µm,22.0s,MS7.1
KEV Kevo 90.53 340 ep P 17 15 30.4 -1.5
comp=Z,37nm,0.8s,mb5.8
SPNC Sapanca-Adapaz 90.54 311 eP P 17 15 32.9 +0.4
KORT Korkueli 90.65 307 iP P 17 15 28.8 -4.3
MENT Mentasta 90.69 27 eP P 17 15 30.8 -1.9
ALT Altintas 90.75 309 eP P 17 15 31.3 -2.2
ALT Altintas 90.75 309 iP P 17 15 34.2 +0.6
AKASG Malin Array Be 90.83 321 P P 17 15 32.1 -1.5
comp=Z,12nm,0.7s,mb5.3,baz=76,slow=4.1,SNR=30
AKASG S SKSac 17 26 02.8 -0.8
comp=Z,0.6nm,0.6s,baz=108,slow=3.0,SNR=3.0
AKASG PKKPbc PKKPbc 17 32 59.3 -1.5
comp=Z,1.0nm,0.4s,baz=273,slow=3.3,SNR=7.3
AKASG PKPPKP 17 41 06.3
comp=Z,0.2nm,0.2s,baz=298,slow=1.6,SNR=4.9
AKASG LR LR 18 00 37.8
comp=Z,58µm,21.1s,MS7.0,baz=80,slow=38
AKASG Malin Array Be 90.83 321 P P 17 15 32.1 -1.5
AKASG S SKSac 17 26 02.8 -0.8
AKASG PKKPbc PKKPbc 17 32 59.3 -1.5
AKASG P'P' 17 41 06.3
AKASG LR LR 18 00 37.8
AKASG Malin Array Be 90.83 321 P P 17 15 32.1 -1.5
AKASG S SKSac 17 26 02.8 -0.8
AKBB Malin Array Si 90.83 321 eP P 17 15 32.1 -1.6
AKBB Malin Array Si 90.83 321 eP P 17 15 32.1 -1.5
KIEV Kiev 90.84 321 eP P 17 15 32.1 -1.6
comp=Z,538nm,1.8s,mb6.6
KIEV LR LR
comp=Z,66µm,22.0s,MS7.0
KIEV Kiev 90.84 321 eP P 17 15 32.1 -1.6
KIEV pmax pmax
comp=Z,538nm,1.8s,mb6.6
KIEV MLR MLR
comp=Z,66µm,22.0s,MS7.0
CAVI Cavuskoy 90.91 310 eP P 17 15 33.2 -1.1
ADVT Abdulvahap 90.98 310 eP P 17 15 33.2 -1.4
ELL Elmali 91.01 307 eP P 17 15 33.5 -1.3
HRT Hereke 91.02 311 eP P 17 15 33.2 -1.5
SILT Sile 91.02 311 eP P 17 15 32.3 -2.5
ARCES ARCESS Array B 91.08 340 P P 17 15 33.9 -0.5
comp=Z,14nm,0.8s,mb5.3,baz=86,slow=3.9,SNR=9.6
ARCES S SKSac 17 26 04.5 +0.2
comp=Z,4.0nm,0.9s,baz=108,slow=2.0,SNR=2.3
ARCES PKKPbc PKKPbc 17 32 59.0 -1.7
comp=Z,2.3nm,0.4s,baz=222,slow=1.2,SNR=13
ARCES ARCESS Array B 91.08 340 P P 17 15 33.9 -0.5
ARCES S SKSac 17 26 04.5 +0.2
ARCES PKKPbc PKKPbc 17 32 59.0 -1.7
ARCES ARCESS Array B 91.08 340 P P 17 15 33.9 -0.5
ARCES S SKSac 17 26 04.5 +0.2
ARE0 ARCESS Array S 91.08 340 eP P 17 15 34.0 -0.4
ARE0 eSKS SKSac 17 25 59.9 -4.4
ARE0 eSS SS 17 32 44.5 +11
ARE0 ARCESS Array S 91.08 340 eP P 17 15 32.7 -1.7
POGA Pongola 91.10 243 eP P 17 15 34.2 -1.2
POGA AMB AMB 17 15 40.0
comp=Z,1µm,1.0s,mb7.1
MOPA Mopani 91.23 247 eP P 17 15 36.0 -0.1
MOPA AMB AMB 17 15 39.8
comp=Z,616nm,3.0s
YLV Yalova 91.25 310 eP P 17 15 36.7 +0.8
GOLH Golhisar 91.27 307 iP P 17 15 28.8 -7.2
KHAL Karahalli 91.27 308 iP P 17 15 27.8 -8.2
QSPA South Pole Qui 91.28 180 P P 17 15 34.1 -1.0
comp=Z,56nm,0.6s,mb6.0,baz=325,slow=2.0,SNR=125
QSPA South Pole Qui 91.28 180 eP P 17 15 33.8 -1.3
comp=Z,4.4nm,0.4s,mb5.1
QSPA LR LR
comp=Z,166µm,20.0s,MS7.5
AKAS Kas 91.28 306 iP P 17 15 27.8 -8.3
KIS Kishinev 91.31 317⇑ iP P 17 15 34.0 -2.0
comp=Z,9µm,12.0s
KIS Kishinev 91.31 317 iPP PP 17 19 23.0 +10
comp=Z,8µm,17.0s
KIS Kishinev 91.31 317 iPS PS 17 27 23.0 -22
KIS iSS SS 17 32 34.0 -4.3
KIS LRM 18 11 50.0
comp=Z,28µm,18.0s
KIS Kishinev 91.31 317c iP P 17 15 34.0 -2.0
KIS i 17 19 23.0
KIS i 17 26 04.0
KIS iS S 17 26 36.0 +2.9
KIS iSS SS 17 32 34.0 -4.3
KIS pmax pmax
comp=Z,9µm,12.0s
KIS pmax pmax
comp=E,3µm,14.0s
KIS pmax pmax
comp=Z,8µm,17.0s
KIS smax
comp=N,36µm,22.0s
KIS smax
comp=E,19µm,13.0s
GLHS Glhisar (BURDU 91.32 307 eP P 17 15 33.8 -2.4
GEMT Gemlik 91.40 310 eP P 17 15 35.1 -1.5
MIGM Minsk 91.41 324⇑ eP P 17 15 35.0 -1.2
TLCR 91.42 315 ⇑P P 17 15 36.4 -0.1
TLCR 91.42 315⇑ iP P 17 15 36.4 -0.1
MNK Minsk 91.43 324⇑ eP P 17 15 35.0 -1.3
MNK e 17 19 16.0
MNK ePPP 17 21 10.0
MNK e 17 26 04.0
MNK eS S 17 26 32.0 -1.9
MNK ePS PS 17 27 40.0 -6.1
MNK eSS SS 17 32 32.0 -7.7
MNK eSSS 17 36 16.0
MNK pmax pmax
comp=Z,160nm,1.6s,mb6.1
MNK pmax pmax
comp=Z,26µm,16.0s
MNK smax
comp=N,101µm,20.0s
MNK smax
comp=E,142µm,22.0s
MNK MLR MLR
comp=Z,229µm,26.0s,MS7.5
MNK MLR MLR
comp=N,142µm,23.0s,MS7.5
MNK MLR MLR
comp=E,142µm,23.0s,MS7.5
BUY Buyukada 91.43 311 iP P 17 15 28.8 -7.9
MBAR Mbarara 91.44 269 eP P 17 15 37.5 +0.2
MBAR Mbarara 91.44 269 P P 17 15 38.7 +1.4
comp=E,199nm,0.9s,mb6.4,SNR=15
ISK Istanbul-Kandi 91.47 311 eP P 17 15 32.9 -3.9
KLYT Kilyos 91.47 311 eP P 17 15 35.4 -1.4
KAF Kangasniemi 91.56 332 eP P 17 15 35.1 -1.7
KAF pmax pmax
comp=Z,47nm,0.6s,mb6.0
KAF Kangasniemi 91.56 332 ep P 17 15 35.1 -1.7
comp=Z,47nm,0.6s,mb6.0
MDNY Mudanya-Bursa 91.64 310 eP P 17 15 35.7 -1.9
EGAK Eagle 91.64 25 eP P 17 15 35.6 -1.5
comp=Z,696nm,0.4s,mb7.3
EGAK LR LR
comp=Z,27µm,21.0s,MS6.7

ARMT Armutlu 91.64 310 *e*P P **17 15 35.1 -2.6**
DNZL Cakiroluk 91.65 308 *i* P P **17 15 28.8 -8.9**
MANR Mangalia 91.66 314⇑*i*P P **17 15 40.3 +2.6**
DENT Denizli 91.66 308 *e*P P **17 15 37.6 -0.2**
BGKT Bogazkoy 91.68 311 *e*P P **17 15 35.1 -2.7**
FETY Fethiye 91.68 307 *e*P P **17 15 34.5 -3.5**
VSU Vasula 91.71 328 *e*P P **17 15 38.3 +0.8**
VSU pmax pmax
comp=Z,65nm,1.2s,mb5.8
VSU MLR MLR
comp=Z,105μm,26.0s,MS7.2
LEOM Leova 91.73 316⇑P P **17 15 41.2 +3.3**
LEOM Leova 91.73 316⇑*i*P P **17 15 41.2 +3.3**
FINES FINESS Array B 91.74 331 P P **17 15 36.0 -1.6**
comp=Z,14nm,0.7s,mb5.4,baz=72,slow=4.5,SNR=19
FINES S SKSac 17 26 07.8 -0.5
comp=Z,7.1nm,1.1s,baz=101,slow=7.2,SNR=2.3
FINES PKKPbc PKKPbc 17 32 57.6 -1.2
comp=Z,4.0nm,0.8s,baz=146,slow=3.0,SNR=6.4
FINES FINESS Array B 91.74 331 P P **17 15 36.0 -1.6**
FINES S SKSac 17 26 07.8 -0.5
FINES PKKPbc PKKPbc 17 32 57.6 -1.2
FINES FINESS Array B 91.74 331 P P **17 15 36.0 -1.6**
FINES S SKSac 17 26 07.8 -0.5
FINES 17 32 57.6
FINES pmax pmax
comp=Z,14nm,0.7s
TIRR Tirgusor 91.75 314⇑*i*P PKKPbc 17 33 01.2 +3.0
CTKS Kestanelik-??a 91.87 311 *e*P P **17 15 35.7 -3.0**
CFR Carcaliu 91.90 315⇓P P **17 15 40.2 +1.5**
CFR Carcaliu 91.90 315⇓*i*P P **17 15 40.2 +1.5**
SPA0 Spitsbergen Ar 91.90 349 *e*P P **17 15 37.0 -1.1**
SPITS Spitsbergen Ar 91.90 349 P P **17 15 36.8 -1.3**
comp=Z,25nm,0.7s,mb5.7,baz=59,slow=5.2,SNR=46
SPITS S SKSac 17 26 06.2 -2.5
comp=Z,8.7nm,1.2s,baz=358,slow=6.0,SNR=2.1
SPITS Spitsbergen Ar 91.90 349 P P **17 15 36.8 -1.3**
SPITS S SKSac 17 26 06.2 -2.5
SPITS Spitsbergen Ar 91.90 349 P P **17 15 36.8 -1.3**
SPITS S SKSac 17 26 06.2 -2.5
SPB4 Spitsbergen Ar 91.91 349 *e*P P **17 15 36.8 -1.3**
KULA Kula-Manisa 91.91 308 *e*P P **17 15 37.9 -1.1**
KTK1 Kautokeino 91.95 339 *e*P P **17 15 43.0 +4.5**
KTK1 AMB AMB 17 15 52.0
comp=Z,234nm,2.9s,mb6.0
KTK1 *e*SKS 17 26 08.0
KTK1 *e*SS SS 17 32 55.2 +8.8
PSN Preselentsi 91.96 314 P P **17 15 40.0 +0.9**
IDID Didziasalis 91.99 325 *e*P P **17 15 38.7 -0.3**
IDID AMB AMB 17 15 51.4
comp=Z,113nm,1.4s,mb6.0
DURS Dursunbey 92.00 310 *i* P P **17 15 34.2 -5.2**
NACGM Naroch 92.01 325 *e*P P **17 15 36.0 -3.0**
CTYL Yal??k??y-??at 92.02 311 *e*P P **17 15 37.3 -2.1**
SLVT Silivri 92.10 311 *e*P P **17 15 37.9 -1.9**
BJO Bjornoya 92.17 345 *e*P P **17 15 44.0 +4.6**
BJO *e*SKS 17 26 09.2
BJO *e*SS SS 17 32 59.5 +10
BJO AMS AMS 18 03 22.3
comp=Z,51μm,18.5s,MS7.0
IZAR Zarasai 92.23 326 *e*P P **17 15 39.8 -0.3**
IZAR AMB AMB 17 15 52.4
comp=Z,94nm,1.5s,mb5.9
IIGN Ignalina 92.28 325 *e*P P **17 15 40.0 -0.3**
IIGN AMB AMB 17 15 52.8
comp=Z,110nm,1.2s,mb6.1
ISAL Salakas 92.32 326 *e*P P **17 15 40.2 -0.2**
ISAL AMB AMB 17 15 52.9
comp=Z,79nm,1.2s,mb5.9
BNT Bandirma 92.37 310 *e*P P **17 15 39.5 -1.6**
BALB Balikesir 92.45 310 *e*P P **17 15 39.8 -1.7**
ARG Arkhangelos 92.47 306 *e*P P **17 15 42.0 +0.4**
ARG Arkhangelos 92.47 306 *e*P P **17 15 42.1 +0.5**
ARG Arkhangelos 92.47 306 P P **17 15 39.5 -2.1**
PETR 92.49 316⇑*i*P P **17 15 42.6 +1.1**
DAWY Dawson 92.50 26 *e*P P **17 15 40.9 -0.1**
KBS Kingsbay 92.51 350 *e*P P **17 15 43.0 +2.1**
KBS AMB AMB 17 15 53.8
comp=Z,179nm,2.2s,mb6.1
KBS *e*SKS 17 26 12.2
KBS *e*SS SS 17 33 02.4 +8.2
KBS AMS AMS 18 02 52.4
comp=Z,53μm,23.7s,MS6.9
KBS Kingsbay 92.51 350 *e*P P **17 15 40.9 0.0**
comp=Z,220nm,1.3s,mb6.4
KBS LR LR
comp=Z,66μm,22.0s,MS7.0
KBS Kingsbay 92.51 350 *e*P P **17 15 40.9 0.0**
KBS pmax pmax
comp=Z,220nm,1.3s,mb6.4
KBS MLR MLR
comp=Z,66μm,22.0s,MS7.0
AKHS Akhisar 92.55 309 *i* P P **17 15 36.3 -5.6**
GONE Gonen-Balikesi 92.57 310 *e*P P **17 15 40.1 -1.9**
TKR Tekirdag 92.62 311 *e*P P **17 15 43.2 +1.0**
BALY Balya 92.64 310 *i* P P **17 15 37.4 -4.9**
MLSB Milas 92.69 307 *e*P P **17 15 41.3 -1.2**
GRER 92.70 315⇓*i*P P **17 15 43.4 +1.0**
MFT Murefte 92.83 311 *e*P P **17 15 40.9 -2.3**
TESR 92.83 317⇓*i*P P **17 15 41.5 -1.5**
VRI Vrincioaia 92.83 316⇓P P **17 15 42.4 -0.6**
VRI Vrincioaia 92.83 316⇓*i*P P **17 15 42.4 -0.6**
VRI Vrincioaia 92.83 316⇓*i*P PKKPbc 17 33 00.1 +4.6
KRBG Karabiga-Canak 92.84 310 *e*P P **17 15 40.7 -2.5**
DAT Datca 92.88 307 *e*P P **17 15 42.6 -0.9**
PLOR Plostina 92.89 316⇑P P **17 15 42.9 -0.4**
PLOR Plostina 92.89 316⇑*i*P P **17 15 42.9 -0.4**
PLOR Plostina 92.89 316⇑*i*P PKKPbc 17 32 56.5 +1.2
SART Tekirdag 92.91 311 *i* P P **17 15 34.2 -9.4**
RKY Sarkoy-Tekirda 92.92 311 *e*P P **17 15 42.6 -1.0**
IZM Izmir 93.02 308 *e*P P **17 15 43.5 -0.5**
KSD Kokstad 93.05 240 *e*P P **17 15 44.0 -0.4**
KSD AMB AMB 17 15 51.4
comp=Z,1μm,2.6s,mb6.9
BODT Bodrum 93.07 307 *e*P P **17 15 42.3 -2.1**
PNL Peninsula 93.11 30 *e*P P **17 15 45.9 +1.9**
comp=Z,451nm,1.4s,mb6.7
EDRB Edirne 93.15 312 *e*P P **17 15 42.3 -2.3**
BLCB Balcova 93.19 308 *e*P P **17 15 42.3 -2.6**
LPK Lapseki 93.26 310 *e*P P **17 15 42.3 -2.9**
SULR 93.27 315⇓*i*P P **17 15 46.7 +1.6**
KARP Karpathos 93.30 306 *e*P P **17 15 43.5 -1.9**
KARP Karpathos 93.30 306 *e*P P **17 15 45.5 +0.1**
KARP Karpathos 93.30 306 P P **17 15 43.9 -1.5**
TRO Tromso 93.34 340 *e*P P **17 15 44.6 -0.2**
TRO *e*SKS 17 26 16.7
TRO *e*SS SS 17 33 18.5 +12
TRO AMS AMS 18 01 06.9
comp=Z,57μm,17.2s,MS7.1
SMG Samos 93.40 308 *e*P P **17 15 45.6 -0.3**
SMG Samos 93.40 308 *e*P P **17 15 43.7 -2.2**
MLR Muntele Rosu 93.41 316 P P **17 15 44.2 -1.5**
comp=Z,5.7nm,1.0s,mb5.0,baz=36,slow=3.4,SNR=20
MLR PKKPbc PKKPbc 17 32 53.8 -0.1
comp=Z,1.9nm,0.9s,baz=165,slow=2.5,SNR=5.6
MLR Muntele Rosu 93.41 316 P P **17 15 44.2 -1.5**
MLR PKKPbc PKKPbc 17 32 53.8 -0.1
MLR Muntele Rosu 93.41 316⇑P P **17 15 44.7 -1.0**
MLR Muntele Rosu 93.41 316⇑*i*P P **17 15 44.7 -1.0**
MLR Muntele Rosu 93.41 316⇑*i*P PKKPbc 17 32 54.3 +0.4
ERIK Erikli-Kesan 93.42 311 *e*P P **17 15 45.7 -0.2**
GELI Tayfur-Gelibol 93.47 310 *e*P P **17 15 46.0 -0.1**
URLA Izmir 93.54 308 *i* P P **17 15 39.5 -7.0**
SZH Strazhica 93.63 313 *i* P P **17 15 44.6 -2.2**
EZN Ezine 93.63 310 *e*P P **17 15 45.4 -1.5**
ENEZ Enez 93.69 311 *e*P P **17 15 43.8 -3.3**
BURAR Bucovina Array 93.70 318⇑P P **17 15 46.0 -1.0**
BURAR Bucovina Array 93.70 318⇑*i*P P **17 15 46.0 -1.0**
BURAR Bucovina Array 93.70 318⇑*i*P PKKPbc 17 32 55.3 +2.0
BUR08 Bucovina Ar. S 93.71 318 *e*P P **17 15 45.6 -1.4**
PRK Paraskevi 93.72 309 *e*P P **17 15 46.6 -0.7**
PRK Paraskevi 93.72 309 *e*P P **17 15 45.4 -1.9**
PRK Paraskevi 93.72 309 P P **17 15 43.9 -3.4**
ALN Alexandroupoli 93.75 311 *e*P P **17 15 46.2 -1.2**
ALN Alexandroupoli 93.75 311 *e*P P **17 15 46.1 -1.3**
ALN Alexandroupoli 93.75 311 P P **17 15 44.0 -3.4**
BOZC Bozcaada 93.84 310 *i* P P **17 15 41.6 -6.2**
GADA Gvkgeada 93.93 310 *e*P P **17 15 48.2 0.0**
CHOS Chios island 93.96 308 *e*P P **17 15 47.8 -0.6**
CHOS Chios island 93.96 308 *e*P P **17 15 46.0 -2.4**
CHOS Chios island 93.96 308 P P **17 15 46.0 -2.4**
INK Inuvik 94.02 21 P P **17 15 47.2 -0.8**
comp=Z,37nm,1.0s,mb5.8,baz=291,slow=5.8,SNR=44
INK PKKPbc PKKPbc 17 32 43.1 -10
comp=Z,7.7nm,0.8s,baz=106,slow=1.6,SNR=3.2
INK Inuvik 94.02 21 *e*P P **17 15 46.9 -1.1**
comp=Z,18nm,1.0s,mb5.5
INK Inuvik 94.02 21 P P **17 15 47.3 -0.7**
INK pmax pmax
comp=Z,37nm,1.0s
VOIR 94.04 316⇑*i*P PKKPbc 17 32 58.4 +6.1
SIGR SIGRI 94.05 309 P P **17 15 47.6 -1.2**
PVL Pavlikeni 94.07 313 *i* P P **17 15 49.9 +1.1**
SLR Silverton 94.08 244 *e*P P **17 15 48.0 -1.2**
SLR AMB AMB 17 15 53.9
comp=Z,761nm,1.1s,mb7.0
ERPM east rand prop 94.11 244 *e*P P **17 15 48.8 -0.6**
ERPM AMB AMB 17 15 53.3
comp=Z,386nm,1.1s,mb6.7
RDO Rodhopi 94.11 311 *e*P P **17 15 46.6 -2.5**
RDO Rodhopi 94.11 311 *e*P P **17 15 46.0 -3.1**
RDO Rodhopi 94.11 311 P P **17 15 44.8 -4.3**
LSZ Lusaka 94.19 255 *e*P P **17 15 49.5 -0.4**
LSZ Lusaka 94.19 255 *e*P P **17 15 48.7 -1.2**
comp=Z,840nm,1.3s,mb7.0
LSZ LR LR
comp=Z,286μm,22.0s,MS7.7
LSZ Lusaka 94.19 255 *e*P P **17 15 48.7 -1.2**
LSZ pmax pmax
comp=Z,840nm,1.3s,mb7.0
LSZ MLR MLR
comp=Z,286μm,22.0s,MS7.7
LSZ Lusaka 94.19 255 P P **17 15 48.7 -1.2**
SNR=197
HUMR Humele 94.19 315⇓*i*P P **17 15 49.0 -0.3**
SUW Suwalki 94.20 324 *e*P P **17 15 49.5 +0.4**
SUW *e*SKS 17 26 21.6
SUW *e*S S 17 26 57.5 -1.0
SUW *e*SS SS 17 33 45.5 +26
SUW LMZ 18 00 35.6
comp=Z,92μm,25.9s
SUW Suwalki 94.20 324 *e*P P **17 15 47.9 -1.2**
comp=Z,310nm,1.1s,mb6.7
SUW Suwalki 94.20 324 *e*P P **17 15 49.5 +0.4**
SUW *e* 17 26 21.6
SUW *e*S S 17 26 57.5 -1.0
SUW MLR MLR
comp=Z,92μm,25.9s,MS7.1
LVV L'vov 94.23 320 *e*P P **17 15 49.3 -0.1**
LVV *e* 17 26 14.9
LVV *e*S S 17 26 55.9 -3.0
LVV *e*PS PS 17 28 13.3 -4.0
LVV *e*SSS 17 36 56.1
LVV MLR MLR
comp=E,62μm,23.0s,MS7.1
LVV MLR MLR
comp=N,33μm,22.0s,MS7.1
LVV MLR MLR
comp=Z,77μm,22.0s,MS7.1
APE Apeiranthos 94.49 307 *e*P P **17 15 48.9 -2.0**
APE Apeiranthos 94.49 307 *e*P P **17 15 50.4 -0.5**
APE Apeiranthos 94.49 307 P P **17 15 49.3 -1.6**
LIA Limnos Island 94.50 310 *e*P P **17 15 49.5 -1.4**
LIA Limnos Island 94.50 310 P P **17 15 48.3 -2.6**
NPS Neapolis 94.58 305 *e*P P **17 15 51.0 -0.3**
NPS Neapolis 94.58 305 *e*P P **17 15 50.1 -1.2**
NPS Neapolis 94.58 305 P P **17 15 48.6 -2.7**
SEK Senekal 94.63 242 *e*P P **17 15 50.7 -1.0**
SEK AMB AMB 17 15 58.2
comp=Z,407nm,2.5s,mb6.4
PLD Plovdiv 94.64 312 P P **17 15 51.8 +0.3**
PLD Plovdiv 94.64 312 P P **17 15 51.5 0.0**
KLOF Kloof 94.68 244 *e*P P **17 15 51.9 -0.1**
KLOF AMB AMB 17 15 56.6
comp=Z,414nm,1.1s,mb6.8
LAST Lasithi 94.70 305 *e*P P **17 15 49.5 -2.4**
LAST Lasithi 94.70 305 *e*P P **17 15 51.5 -0.4**
PRYS Parys 94.89 243 *e*P P **17 15 51.4 -1.5**
PRYS AMB AMB 17 15 57.2
comp=Z,537nm,1.1s,mb6.9
KAVA Kavala 94.90 311 P P **17 15 49.7 -3.0**
LOT Lotru 94.94 316⇑*i*P PKKPbc 17 32 50.7 +0.8
STEI Steigen 95.06 339 *e*P P **17 15 52.6 -0.1**
KWP Kalwaria Pacla 95.11 320 *e*P P **17 15 54.3 +0.9**
KWP *e*SKS 17 26 33.6
KWP *e*S S 17 27 05.9 -0.7
KWP LMZ 18 02 42.4
comp=Z,83μm,23.5s
KWP Kalwaria Pacla 95.11 320 *e*P P **17 15 52.3 -1.1**
comp=Z,135nm,1.0s,mb6.3
KWP LR LR
comp=Z,75μm,22.0s,MS7.1
KWP Kalwaria Pacla 95.11 320 *e*P P **17 15 54.3 +0.9**
KWP *e*S S 17 27 05.9 -0.7
KWP MLR MLR
comp=Z,83μm,23.5s,MS7.1
KWP Kalwaria Pacla 95.11 320⇑*i*P P **17 15 52.8 -0.6**
SKAG Skagway 95.19 30 *e*P P **17 15 55.4 +1.9**
comp=Z,149nm,1.2s,mb6.3
SIVA Sivas 95.26 305 *e*P P **17 15 54.6 +0.2**
KSR Koster 95.33 244 *e*P P **17 15 55.8 +0.8**
KSR AMB AMB 17 16 02.3
comp=Z,35nm,2.4s,mb5.4
NVR Nevrokopi 95.35 312 *e*P P **17 15 53.8 -0.9**
NVR Nevrokopi 95.35 312 *e*P P **17 15 52.9 -1.8**
NVR Nevrokopi 95.35 312 P P **17 15 51.7 -3.0**
OUR Ouranopolis 95.37 311 P P **17 15 49.7 -5.1**
TRPA Tarpa 95.43 318⇓*i*P P **17 15 53.2 -1.7**
TRPA Tarpa 95.43 318⇓*i*P PKKPbc 17 32 48.3 -0.4
GRM Grahamstown 95.47 237 *e*P P **17 15 55.1 -0.3**
GRM AMB AMB 17 16 02.6
comp=Z,302nm,1.8s,mb6.4
DRGR 95.50 317⇑P P **17 15 53.2 -2.0**
DRGR 95.50 317⇑*i*P P **17 15 53.2 -2.0**
UZH Uzhgorod 95.52 319⇑*i*P P **17 15 55.4 +0.1**
UZH *i* 17 16 10.2
UZH *i* 17 19 54.0
UZH *i* 17 26 29.0
UZH *i* S S 17 27 06.6 -3.6
UZH *i* SS SS 17 33 40.0 +1.6
UZH MLR MLR
comp=N,9μm,23.0s,MS6.8
UZH MLR MLR
comp=E,40μm,23.0s,MS6.8
UZH MLR MLR
comp=Z,16μm,23.0s,MS6.4
AOS Alonnisos 95.58 309 P P **17 15 51.0 -4.8**
SRS Serrai 95.58 311 P P **17 15 51.5 -4.3**
PAIG Paliouri 95.65 310 P P **17 15 52.2 -3.9**
SIT Sitka 95.67 32 *e*P P **17 15 57.7 +1.9**
comp=Z,118nm,1.5s,mb6.1
SIT Sitka 95.67 32 *e*P P **17 15 57.7 +1.9**
SIT pmax pmax
comp=Z,118nm,1.5s,mb6.1
VTS Vitosha 95.69 313 P P **17 15 51.5 -4.7**
VTS Vitosha 95.69 313⇓P P **17 15 55.0 -1.2**
VTS Vitosha 95.69 313⇓*i*P P **17 15 55.0 -1.2**
VTS Vitosha 95.69 313 P P **17 15 56.8 +0.6**
PTL Penteli 95.71 308 *e*P P **17 15 55.3 -1.1**
PTL Penteli 95.71 308 P P **17 15 53.1 -3.3**
VAM Vamos 95.72 306 *e*P P **17 15 56.0 -0.5**
VAM Vamos 95.72 306 *e*P P **17 15 56.1 -0.4**
VAM Vamos 95.72 306 P P **17 15 54.6 -1.9**
PLG Polygyros 95.78 311 *e*P P **17 15 56.6 -0.1**
PLG Polygyros 95.78 311 *e*P P **17 15 54.6 -2.1**
PLG Polygyros 95.78 311 P P **17 15 52.6 -4.1**
VLY Voula,Athens 95.79 308 *e*P P **17 15 54.2 -2.6**
VLY Voula,Athens 95.79 308 *e*P P **17 15 52.2 -4.6**
VLY Voula,Athens 95.79 308 P P **17 15 53.1 -3.7**
SOH Sokhos 95.79 311 *e*P P **17 15 56.1 -0.6**
SOH Sokhos 95.79 311 *e*P P **17 15 55.1 -1.6**
SOH Sokhos 95.79 311 P P **17 15 53.9 -2.8**
ATH Athens Observa 95.84 308 *e*P P **17 15 56.6 -0.4**
ATH Athens Observa 95.84 308 *e*P P **17 15 57.0 0.0**
ATH Athens Observa 95.84 308 P P **17 15 51.6 -5.4**
GVD Gavdhos 95.87 305 *e*P P **17 15 56.8 -0.4**
GVD Gavdhos 95.87 305 P P **17 15 56.2 -1.0**
comp=Z,115nm,0.8s,mb6.4
MOR8 Moi Rana 95.87 337 *e*P P **17 15 54.2 -2.3**
MOR8 *e*pP pP 17 16 02.9 -2.7
KKB Krupnik 95.87 312 P P **17 15 55.7 -1.4**
KARN Karanos 95.95 306 *e*P P **17 15 57.7 +0.1**
KARN Karanos 95.95 306 *e*P P **17 15 56.5 -1.1**
BEL Belsk 95.97 322 *e*P P **17 15 58.0 +0.7**
BEL *e*SKS 17 26 38.2
BEL *e*S S 17 27 15.0 +1.0
BEL *e*SS SS 17 33 45.5 +0.9
BEL LMZ 18 00 28.3
comp=Z,108μm,28.3s
BEL Belsk 95.97 322 *e*P P **17 15 58.0 +0.7**
BEL *e*S S 17 27 15.0 +1.1
BEL *e*SS SS 17 33 45.5 +1.0
HORT Hortiatis 96.01 311 P P **17 15 54.2 -3.5**
NAIG Nisos Aigina 96.04 308 *e*P P **17 15 59.2 +1.3**
NEO Neokhori 96.07 310 *e*P P **17 15 57.2 -0.8**
STHS Stebnicka Huta 96.08 320 *e*P P **17 15 58.0 +0.2**
STHS pmax pmax
comp=Z,16nm,1.4s,mb5.3
STHS Stebnicka Huta 96.08 320 *e*P P **17 15 58.0 +0.2**
KNT Kendrikon 96.09 311 P P **17 15 54.4 -3.7**
THE Thessaloniki 96.11 311 P P **17 15 54.5 -3.7**
DID Didima 96.27 308 *e*P P **17 15 55.0 -4.0**
DID Didima 96.27 308 *e*P P **17 16 00.0 +1.0**
DID Didima 96.27 308 P P **17 15 54.6 -4.4**
ATAL Atalanti 96.30 309 P P **17 15 55.0 -4.1**
LKR Lokris 96.32 309 *e*P P **17 15 57.2 -2.0**
LKR Lokris 96.32 309 *e*P P **17 15 58.1 -1.1**
LKR Lokris 96.32 309 P P **17 15 56.7 -2.5**
VAY Valandovo 96.32 312 P P **17 15 54.6 -4.5**
VAY Valandovo 96.32 312 *e*P P **17 15 58.9 -0.3**
comp=Z,488nm,2.2s,mb6.5
STOK Stokkvaagen 96.37 337 *e*PP PP 17 20 00.1 +7.8
STOK *e*SKS 17 26 32.4
STOK AMS AMS 18 07 08.2
comp=Z,93μm,22.2s,MS7.2
BZS Buzias 96.42 316⇓P P **17 15 58.4 -1.1**
BZS Buzias 96.42 316⇓*i*P P **17 15 58.4 -1.1**
BZS Buzias 96.42 316⇑*i*P PKKPbc 17 32 45.4 -0.6
LTK Loutraki 96.42 308 *e*P P **17 15 57.6 -2.1**
LTK Loutraki 96.42 308 *e*P P **17 15 55.9 -3.8**
LTK Loutraki 96.42 308 P P **17 15 57.1 -2.6**
HVD Gariep Dam 96.43 240 *e*P P **17 15 58.9 -0.9**
HVD AMB AMB 17 16 05.4
comp=Z,219nm,2.5s,mb6.1
GRG Griva 96.49 311 P P **17 15 55.9 -4.0**
LBTB Lobatse 96.52 245 *e*P P **17 15 58.8 -1.6**
LBTB AMB AMB 17 16 04.7
comp=Z,274nm,5.5s
LBTB Lobatse 96.52 245 P P **17 15 58.2 -2.2**
comp=Z,109nm,1.0s,mb6.2,baz=116,slow=5.2,SNR=28
LBTB LR LR 17 53 52.0
comp=Z,118μm,21.9s,MS7.3,baz=112,slow=32
LBTB Lobatse 96.52 245 *e*P P **17 15 58.0 -2.4**
comp=Z,172nm,0.9s,mb6.5
LBTB LR LR
comp=Z,126μm,21.0s,MS7.4
LBTB Lobatse 96.52 245 P P **17 15 58.2 -2.2**
LBTB pmax pmax
comp=Z,109nm,1.0s,mb6.2
LBTB MLR MLR
comp=Z,118μm,21.9s,MS7.3
LIT Litokhoron 96.53 310 *e*P P **17 15 59.0 -1.1**
LIT Litokhoron 96.53 310 *e*P P **17 15 59.5 -0.6**
LIT Litokhoron 96.53 310 P P **17 15 56.2 -3.9**
VLI Veliai 96.59 307 *e*P P **17 15 57.8 -2.7**
VLI Veliai 96.59 307 *e*P P **17 16 00.2 -0.3**
VLI Veliai 96.59 307 P P **17 15 56.9 -3.6**
NIE Niedzica 96.68 320 *e*P P **17 16 01.2 +0.6**
NIE *e*pP pP 17 16 06.3 -3.4
NIE Niedzica 96.68 320 *e*P P **17 16 01.2 +0.6**
SWZ Schweizer 96.69 243 *e*P P **17 15 59.8 -1.4**
SWZ AMB AMB 17 16 05.5
comp=Z,279nm,4.9s
BOSA Boshof 96.71 242 *e*P P **17 15 58.6 -2.6**
BOSA AMB AMB 17 16 05.6
comp=Z,252nm,4.9s
BOSA Boshof 96.71 242 P P **17 15 59.2 -2.0**
comp=Z,54nm,1.1s,mb5.9,baz=103,slow=4.9,SNR=26
BOSA PKKPbc PKKPbc 17 32 46.0 +1.4
comp=Z,4.8nm,0.9s,baz=288,slow=3.2,SNR=4.6
BOSA LR LR 17 54 17.4
comp=Z,91μm,20.5s,MS7.2,baz=87,slow=32
BOSA Boshof 96.71 242 *e*P P **17 15 57.9 -3.2**
comp=Z,249nm,1.4s,mb6.5
BOSA LR LR
comp=Z,96μm,21.0s,MS7.2
BOSA Boshof 96.71 242 P P **17 15 59.2 -2.0**
BOSA pmax pmax
comp=Z,54nm,1.1s,mb5.9
BOSA MLR MLR
comp=Z,91μm,20.5s,MS7.2
DSF Desfina 96.72 309 P P **17 15 56.6 -4.4**
KECS Kecovo 96.73 319 *e*P P **17 16 00.4 -0.4**
KECS Kecovo 96.73 319 *e*P P **17 16 00.4 -0.4**
AGG Agios Georgios 96.79 309 *e*P P **17 15 57.1 -4.2**
AGG Agios Georgios 96.79 309 *e*P P **17 15 59.3 -2.0**
AGG Agios Georgios 96.79 309 P P **17 15 56.7 -4.6**
OJC Ojcow 96.87 321 *e*P P **17 16 01.5 +0.1**
OJC *e*pP pP 17 16 07.0 -3.5
OJC *e*SKSac SKSac 17 26 36.3 -0.2
OJC *e*S S 17 27 21.1 -0.7
OJC *e*SS SS 17 33 56.2 -1.2
OJC L 18 03 18.9
comp=Z,101nm,23.3s
OJC Ojcow 96.87 321 *e*P P **17 16 01.5 +0.1**
OJC *e* 17 26 36.3
OJC *e*S S 17 27 21.1 -0.7
OJC *e*SS SS 17 33 56.2 -1.2
OJC MLR MLR
comp=Z,101μm,23.3s,MS7.2
BUFB Buffelsbos 96.90 236 *e*P P **17 16 01.6 -0.3**
GUR Goura 96.92 308 *e*P P **17 15 58.2 -3.7**
GUR Goura 96.92 308 *e*P P **17 15 59.3 -2.6**
GUR Goura 96.92 308 P P **17 15 58.2 -3.7**
VLX Vlachokerasia 96.96 308 *e*P P **17 16 01.3 -0.8**
VLX Vlachokerasia 96.96 308 *e*P P **17 16 00.7 -1.4**
VLX Vlachokerasia 96.96 308 P P **17 15 59.6 -2.5**
THL Klokotos Trika 96.97 310 *e*P P **17 15 59.6 -2.5**
THL Klokotos Trika 96.97 310 *e*P P **17 16 00.7 -1.4**
THL Klokotos Trika 96.97 310 P P **17 15 57.5 -4.6**
KALE Kalithea 97.02 309 P P **17 16 00.8 -1.6**
KZN Kozani 97.05 311 *e*P P **17 16 01.3 -1.2**
KZN Kozani 97.05 311 P P **17 15 56.9 -5.6**
SKO Skopje 97.07 312 P P **17 16 02.3 -0.2**
SKO Skopje 97.07 312 *e*P P **17 16 02.2 -0.3**
comp=Z,581nm,2.5s,mb6.6
LAKA Lakka 97.17 309 P P **17 16 00.4 -2.6**
EFP Efpalio 97.20 309 *e*P P **17 16 04.2 +1.0**
EFP Efpalio 97.20 309 *e*P P **17 16 00.2 -3.0**
EFP Efpalio 97.20 309 P P **17 16 00.2 -3.0**
EVR Evrytania 97.21 309 *e*P P **17 16 00.6 -2.6**
PSZ Piszkesteto 97.21 319 *e*P P **17 16 01.7 -1.3**
comp=Z,191nm,1.5s,mb6.3
PSZ LR LR
comp=Z,46μm,22.0s,MS6.9
PSZ Piszkesteto 97.21 319 *e*P P **17 16 01.7 -1.3**
PSZ pmax pmax
comp=Z,191nm,1.5s,mb6.3
PSZ MLR MLR
comp=Z,46μm,22.0s,MS6.9
PSZ Piszkesteto 97.21 319 *e*P P **17 15 59.3 -3.7**
PSZ Piszkesteto 97.21 319⇓*i*P P **17 16 03.9 +0.9**
FNA Florina 97.29 311 P P **17 16 00.6 -2.9**
BIA Bitola 97.29 311 *e*P P **17 16 03.1 -0.4**
KRUS Krusevo 97.30 312 *e*P P **17 16 03.2 -0.4**
UPR University Cam 97.31 309 *e*P P **17 16 05.3 +1.6**
UPR University Cam 97.31 309 P P **17 15 59.4 -4.3**
ITM Ithomi 97.34 308 *e*P P **17 15 54.3 -10**
ITM Ithomi 97.34 308 *e*P P **17 16 02.3 -1.6**
ITM Ithomi 97.34 308 P P **17 16 00.9 -3.0**
NSS Namsos 97.36 336 *e*P P **17 16 05.7 +2.4**
NSS *e*SKS 17 26 37.3
NSS *e*SS SS 17 34 10.2 +6.7
NSS AMS AMS 18 01 22.2
comp=Z,81μm,25.5s,MS7.1
WRAK Wrangell Islan 97.41 33 *e*P P **17 16 03.2 -0.5**
comp=Z,272nm,1.5s,mb6.5
WRAK LR LR
comp=Z,23μm,19.0s,MS6.7
PYL PYLOS 97.53 307 *e*P P **17 15 57.8 -6.9**
PYL PYLOS 97.53 307 *e*P P **17 15 57.4 -7.3**
PYL PYLOS 97.53 307 P P **17 16 00.9 -3.8**
NEST Nestorio 97.59 311 P P **17 16 01.1 -3.8**
KBN Korca 97.75 311 *e*P P **17 16 00.8 -4.9**
DIVS Divibare 97.79 315 P P **17 16 02.3 -3.4**
TAOE Nuku Hiva Isla 97.80 99 *e*S S 17 27 30.2 -1.1
comp=Z,105μm,28.5s
TAOE *e*SP SP 17 28 55.8 +1.6

	comp=Z,30µm,31.8s							
TAOE				*e*LR		LR	17 47 54.3	
	comp=Z,50µm,25.9s							
VYHS	**Vyhne**	**97.81**	**319**	*e*P		**P**	**17 16 04.8**	**-0.9**
VYHS				pmax		pmax		
	comp=Z,34nm,2.4s,mb5.5							
VYHS	**Vyhne**	**97.81**	**319**	*e*P		**P**	**17 16 04.8**	**-0.9**
VYHS				*e*PP		PP	17 20 11.5	+7.6
GKP	**Gorka Klasztor**	**97.81**	**324**	*e*P		**P**	**17 16 05.7**	**+0.1**
GKP				*e*SKS			17 26 46.8	
GKP				*e*S		S	17 27 28.9	-0.9
GKP				*e*SS		SS	17 34 34.2	+24
GKP				LMZ			18 03 25.7	
	comp=Z,91µm,23.6s							
GKP	**Gorka Klasztor**	**97.81**	**324**	*e*P		**P**	**17 16 05.7**	**+0.1**
GKP				*e*S		S	17 27 28.9	-0.8
GKP				MLR		MLR		
	comp=Z,91µm,23.6s,MS7.2							
JAN	**Janina**	**97.84**	**310**	*e*P		**P**	**17 16 08.6**	**+2.5**
JAN	**Janina**	**97.84**	**310**	P		**P**	**17 16 02.5**	**-3.6**
PHP	**Peshkopia**	**97.85**	**312**	*i* P		**P**	**17 16 12.8**	**+6.8**
BUD	**Budapest**	**97.87**	**318**	*e*P		**P**	**17 16 06.6**	**+0.6**
NVL	**N'lazarevskaya**	**97.89**	**198**	*e*P		**P**	**17 16 01.8**	**-3.7**
NVL				*e*'SP		sP	17 16 18.8	+0.9
NVL				*e*			17 20 00.5	
NVL				*i* S		SKSac	17 26 38.1	-2.8
NVL				MLR		MLR		
	comp=Z,128µm,17.0s,MS7.5							
MAIT	**Maitri**	**97.91**	**198**	⇑*i*P		**P**	**17 16 01.3**	**-4.3**
MAIT				*e*P			17 16 04.3	
HFS	**Hagfors**	**97.94**	**331**	P		**P**	**17 16 04.1**	**-1.9**
	comp=Z,5.9nm,0.6s,mb5.3,baz=89,slow=7.4,SNR=12							
HFS				PKKPbc		PKKPbc	17 32 41.4	-0.8
	comp=Z,2.4nm,0.5s,baz=220,slow=3.8,SNR=7.2							
HFS	**Hagfors**	**97.94**	**331**	P		**P**	**17 16 04.1**	**-1.9**
HFS				PKKPbc		PKKPbc	17 32 41.4	-0.8
OKC	**Ostrava-Krasne**	**97.98**	**321**	*e*P		**P**	**17 16 06.1**	**-0.3**
OKC				*e*			17 20 14.1	
OKC				*e*			17 27 33.8	
OKC				MLR		MLR		
	comp=Z,66µm,23.0s,MS7.1							
OKC	**Ostrava-Krasne**	**97.98**	**321**	*e*P		**P**	**17 16 06.1**	**-0.3**
OKC				*ex*		x	17 16 09.9	
OKC				*e*PP		PP	17 20 14.1	+8.9
OKC				*e*SKS			17 26 46.8	
OKC				*e*S		S	17 27 33.8	+2.4
OKC				*ex*		x	17 34 29.7	
OKC				*e*PKPPKP			17 40 47.4	
OKC				AMS		AMS	18 03 50.0	
	comp=Z,66µm,23.0s							
BCI	**Bajram Curri**	**98.02**	**313**	*i* P		**P**	**17 16 05.0**	**-1.8**
KOLL	**Kolacno**	**98.07**	**319**	*e*PP		PP	17 20 17.4	+11
DLBC	**Dease Lake**	**98.10**	**30**	P		**P**	**17 16 07.7**	**+0.9**
	comp=Z,30nm,1.2s,mb5.7,baz=297,slow=4.6,SNR=16							
DLBC				LR		LR	17 58 01.7	
	comp=Z,27µm,21.9s,MS6.7,baz=286,slow=34							
DLBC	**Dease Lake**	**98.10**	**30**	*e*P		**P**	**17 16 06.4**	**-0.3**
LKD2	**Lefkada island**	**98.12**	**309**	P		**P**	**17 16 06.1**	**-1.2**
PUK	**Puka**	**98.20**	**313**	*i* P		**P**	**17 16 05.0**	**-2.6**
IGT	**Igoumenitsa**	**98.26**	**310**	P		**P**	**17 16 05.7**	**-2.2**
VLS	**Valsamata**	**98.26**	**309**	*e*P		**P**	**17 16 08.2**	**+0.2**
VLS	**Valsamata**	**98.26**	**309**	*e*P		**P**	**17 16 03.8**	**-4.2**
VLS	**Valsamata**	**98.26**	**309**	P		**P**	**17 16 06.3**	**-1.7**
TIR	**Tirane**	**98.33**	**312**	*i* P		**P**	**17 16 09.8**	**+1.6**
TIR	**Tirane**	**98.33**	**312**	PFAKE			17 16 20.0	+12
TIR				LR		LR		
	comp=Z,42µm,22.0s,MS6.9							
PKSM	**Moragy**	**98.36**	**317**	⇑P		**P**	**17 16 11.1**	**+2.9**
PKSM	**Moragy**	**98.36**	**317**	⇑*i*P		**P**	**17 16 11.1**	**+2.9**
PKSM	**Moragy**	**98.36**	**317**	⇓*i*P		PKKPbc	17 32 43.9	+3.3
MORC	**Moravsky Berou**	**98.38**	**321**	*e*P		**P**	**17 16 07.2**	**-1.1**
	comp=Z,275nm,2.0s,mb6.4							
MORC	**Moravsky Berou**	**98.38**	**321**	*e*P		**P**	**17 16 07.2**	**-1.0**
MORC				pmax		pmax		
	comp=Z,275nm,2.0s,mb6.4							
SRN	**Sarande**	**98.46**	**310**	*i* P		**P**	**17 16 03.8**	**-5.0**
KEK	**Kerkira**	**98.64**	**310**	*e*P		**P**	**17 16 08.2**	**-1.4**
KEK	**Kerkira**	**98.64**	**310**	P		**P**	**17 16 08.0**	**-1.6**
BSD	**Bornholm Skovb**	**98.69**	**326**	*i* P		**P**	**17 16 09.8**	**+0.3**
BSD				*i*			17 26 45.2	
BSD				MLR		MLR		
	comp=Z,63µm,20.0s,MS7.1							
NC602	**NORSAR Array S**	**98.78**	**332**	*e*P		**P**	**17 16 11.6**	**+1.9**
NB2	**NORSAR Subarra**	**98.83**	**333**	P		**P**	**17 16 08.6**	**-1.4**
	comp=Z,47nm,1.0s,mb6.0,baz=73,slow=4.6							
NOA	**NORSAR Array B**	**98.83**	**333**	P		**P**	**17 16 09.0**	**-0.9**
	comp=Z,11nm,1.1s,mb5.3,baz=69,slow=4.5,SNR=8.4							
NOA				PKKPbc		PKKPbc	17 32 38.7	-1.1
	comp=Z,1.7nm,0.9s,baz=277,slow=4.5,SNR=3.0							
NOA				LR		LR	18 07 47.0	
	comp=Z,59µm,19.2s,MS7.1,baz=60,slow=40							
NOA	**NORSAR Array B**	**98.83**	**333**	P		**P**	**17 16 09.0**	**-0.9**
NOA				PKKPbc		PKKPbc	17 32 38.7	-1.1
NOA				LR		LR	18 07 47.0	
NOA	**NORSAR Array B**	**98.83**	**333**	P		**P**	**17 16 09.0**	**-1.0**
PKA	**Prieska**	**98.84**	**240**	*e*P		**P**	**17 16 09.6**	**-1.2**
PKA				AMB		AMB	17 16 15.4	
	comp=Z,68nm,4.3s							
KSP	**Ksiaz**	**98.93**	**322**	*e*P		**P**	**17 16 11.6**	**+1.0**
KSP				*e*SKS			17 26 52.9	
KSP				*e*S		S	17 27 37.6	-1.7
KSP				*e*SS		SS	17 34 45.9	+20
KSP				LMZ			18 02 23.5	
	comp=Z,113µm,26.7s							
DAG	**Danmarks Havn**	**98.96**	**352**	*e*P		**P**	**17 16 11.5**	**+1.2**
DAG				*i* S		SKSac	17 26 42.2	-4.0
DAG	**Danmarks Havn**	**98.96**	**352**	*i* P		**P**	**17 16 11.5**	**+1.2**
DAG	**Danmarks Havn**	**98.96**	**352**	*i* S		SKSac	17 26 42.5	-3.7
DAG				*i* S		SKSac	17 26 42.2	-4.0
DAG								
	comp=Z,42µm,26.0s							
ZST	**Bratislava**	**99.00**	**319**	*e*P		**P**	**17 16 10.6**	**-0.4**
ZST	**Bratislava**	**99.00**	**319**	PDIF		**P**	**17 16 10.6**	**-0.4**
ZST				*e*PP		PP	17 20 17.1	+4.1
DPC	**Dobruska-Polom**	**99.02**	**321**	*e*P		**P**	**17 16 11.5**	**+0.4**
DPC				*e*			17 20 11.1	
DPC				*e*			17 26 46.5	
DPC				*e*			17 27 40.7	
DPC				*e*SS		SS	17 34 33.8	+6.2
DPC				MLR		MLR		
	comp=Z,104µm,23.8s,MS7.2							
DPC	**Dobruska-Polom**	**99.02**	**321**	*e*PDIFF		**P**	**17 16 11.5**	**+0.4**
DPC				*e*PP		PP	17 20 11.1	-2.0
DPC				*e*SKS			17 26 46.5	
DPC				*e*S		S	17 27 40.7	+0.6
DPC				*e*SS		SS	17 34 33.8	+6.2
DPC				*e*PKPPKP			17 40 50.0	
DPC				AMS		AMS	18 02 30.0	
	comp=Z,104µm,23.8s							
NAO01	**NORSAR Array S**	**99.05**	**332**	*e*P		**P**	**17 16 12.6**	**+1.7**
	comp=Z,24nm,0.9s,mb5.7							
NAO01				LR		LR		
	comp=Z,72µm,20.0s,MS7.2							
VRAC	**Vranov**	**99.09**	**320**	P		**P**	**17 16 10.9**	**-0.5**
	comp=Z,16nm,1.1s,mb5.5,baz=75,slow=4.2,SNR=10							
VRAC				PP		PP	17 20 08.1	-5.6
	comp=Z,18nm,1.1s,baz=68,slow=9.1,SNR=3.7							
VRAC	**Vranov**	**99.09**	**320**	P		**P**	**17 16 10.9**	**-0.5**
VRAC				PP		PP	17 20 08.1	-5.6
VRAC	**Vranov**	**99.09**	**320**	P		**P**	**17 16 10.9**	**-0.5**
UPC	**Upice**	**99.18**	**322**	*e*P		**P**	**17 16 12.1**	**+0.3**
UPC	**Upice**	**99.18**	**322**	*e*PDIFF		**P**	**17 16 12.1**	**+0.3**
UPC				*e*pP		pP	17 16 18.1	-2.8
UPC				*e*PKPPKP			17 40 54.5	
OSL	**Oslo**	**99.42**	**332**	*e*PP		PP	17 20 15.1	-0.8
SOP	**Sopron**	**99.47**	**319**	*e*P		**P**	**17 16 13.6**	**+0.5**
TREC	**Trest**	**99.79**	**320**	*e*P		Pdif	17 16 17.3	+2.9
TREC				*e*			17 20 18.4	
TREC				*e*			17 26 51.8	
TREC				*e*			17 27 49.7	
TREC				*e*SS		SS	17 34 51.8	+13
TREC				MLR		MLR		
	comp=Z,71µm,21.4s,MS7.1							
TREC	**Trest**	**99.79**	**320**	*e*PDIFF		Pdif	17 16 17.3	+2.9
TREC				*e*PP		PP	17 20 18.4	-0.6
TREC				*e*SKS			17 26 51.8	
TREC				*e*S		S	17 27 49.7	+3.1
TREC				*ex*		x	17 34 51.8	
TREC				AMS		AMS	18 08 00.0	
	comp=Z,71µm,21.4s							
CONA	**Conrad Observa**	**99.87**	**319**	⇑*i*Pdiff		Pdif	17 16 15.5	+0.8
	comp=Z,3µm,10.4s							
COP	**Copenhagen**	**99.89**	**327**	*e*P		Pdif	17 16 15.3	+0.5
COP				*i*			17 26 52.7	
COP				MLR		MLR		
	comp=Z,21µm,22.0s,MS6.6							
COP	**Copenhagen**	**99.89**	**327**	*i* P		Pdif	17 16 15.3	+0.5
COP				*i*			17 26 52.7	
COP								
	comp=Z,21µm,22.0s							
MOL	**Molde**	**99.91**	**335**	*e*P		Pdif	17 16 18.9	+4.0
MOL				*e*SKS			17 26 52.6	
MOL				*e*SS		SS	17 34 42.2	+3.0
MOL				AMS		AMS	18 06 11.3	
	comp=Z,84µm,20.8s,MS7.2							
RUE	**Ruedersdorf**	**100.04**	**324**	*e*Pdif		Pdif	17 16 12.7	-2.7
	comp=Z,164nm,1.2s							
KONO	**Kongsberg**	**100.06**	**332**	*e*		Pdif	17 16 21.7	+6.1
KONO				*e*SKS			17 26 52.6	
KONO				*e*SS		SS	17 34 47.3	+5.8
KONO				AMS		AMS	18 08 44.6	
	comp=Z,59µm,17.4s,MS7.2							
KONO	**Kongsberg**	**100.06**	**332**	PFAKE			17 16 30.0	+14
KONO				LR		LR		
	comp=Z,66µm,21.0s,MS7.1							
PVCC	**Panska Ves**	**100.07**	**322**	*e*P		Pdif	17 16 16.9	+1.3
PVCC				*e*			17 26 52.3	
PVCC				*e*			17 27 50.7	
PVCC				*e*SS		SS	17 34 52.1	+10
PVCC				MLR		MLR		
	comp=Z,111µm,25.5s,MS7.3							
PVCC	**Panska Ves**	**100.07**	**322**	*e*PDIFF		Pdif	17 16 16.9	+1.3
PVCC				*e*pP			17 16 22.2	
PVCC				*e*SKS			17 26 52.3	
PVCC				*e*S		Sdif	17 27 50.7	+2.0
PVCC				*e*SS		SS	17 34 52.1	+10
PVCC				AMS		AMS	18 02 50.0	
	comp=Z,111µm,25.5s							
LLD	**Lille Linde**	**100.12**	**327**	*i* P		Pdif	17 16 09.8	-6.0
LLD				*i*			17 26 45.2	
LLD								
	comp=Z,63µm,20.0s							
PRU	**Pruhonice**	**100.22**	**321**	*e*P		Pdif	17 16 17.5	+1.2
PRU				*e*			17 26 52.4	
PRU				*e*			17 27 52.7	
PRU				*e*SS		SS	17 34 55.8	+11
PRU				MLR		MLR		
	comp=Z,99µm,23.9s,MS7.2							
PRU	**Pruhonice**	**100.22**	**321**	*e*PDIFF		Pdif	17 16 17.5	+1.2
PRU				*e*pP			17 16 22.6	
PRU				*e*PP		PP	17 20 12.3	-10
PRU				*e*SKS			17 26 52.4	
PRU				*e*S		Sdif	17 27 52.7	+2.8
PRU				*ex*		x	17 34 55.8	
PRU				*e*PKPPKP			17 40 49.2	
PRU				AMS		AMS	18 03 20.0	
	comp=Z,99µm,23.9s							
UPI	**Upington**	**100.24**	**242**	*e*P		Pdif	17 16 16.0	-0.4
UPI				AMB		AMB	17 16 22.0	
	comp=Z,140nm,4.3s							
ARSA	**Arzberg**	**100.25**	**318**	⇓*i*Pdiff		Pdif	17 16 15.0	-1.4
	comp=Z,3µm,10.4s							
PRA	**Prague**	**100.27**	**321**	PDIFF		Pdif	17 16 18.0	+1.5
PRA				*ex*		x	17 20 40.0	
PRA				SKS			17 26 52.0	
PRA				S		Sdif	17 27 53.0	+2.7
PRA				*ex*		x	17 29 20.0	
PRA				*ex*		x	17 34 50.0	
PRA				*ex*		x	17 39 40.0	
PRA				*ex*		x	17 43 06.0	
PRA				AMS		AMS	18 03 00.0	
SUR	**Sutherland**	**100.31**	**237**	*e*P		Pdif	17 16 16.8	+0.1
SUR				AMB		AMB	17 16 22.6	
	comp=Z,160nm,4.3s							
SUR	**Sutherland**	**100.31**	**237**	*e*P		Pdif	17 16 16.0	-0.7
	comp=Z,128nm,1.0s							
SUR				LR		LR		
	comp=Z,221µm,20.0s,MS7.7							
SUR	**Sutherland**	**100.31**	**237**	P		Pdif	17 16 19.2	+2.5
	SNR=9.7							
PERS	**Pernice**	**100.66**	**318**	*e*Pdiff		Pdif	17 16 17.5	-0.7
PERS				*e*SKSac		SKSac	17 26 54.0	-1.7
PERS				*e*SP		SP	17 29 33.2	+10
SOKA	**Soboth**	**100.70**	**318**	⇓*i*Pdiff		Pdif	17 16 19.2	+0.8
	comp=Z,3µm,11.0s							
CLL	**Collm**	**100.82**	**323**	*e*Pdiff		Pdif	17 16 19.7	+0.8
CLL				*e*PP		PP	17 20 42.7	+16
CLL	**Collm**	**100.82**	**323**	*e*P		Pdif	17 16 19.0	+0.1
CLL				*e*			17 20 24.0	
CLL				*e*			17 26 56.0	
CLL				MLR		MLR		
	comp=Z,69µm,24.9s,MS7.1							
CLL	**Collm**	**100.82**	**323**	*e*Pdif		Pdif	17 16 19.0	+0.1
CLL				*e*pPdif			17 16 30.0	
CLL				*e*			17 16 46.0	
CLL				*e*			17 20 10.0	
CLL				*e*PP		PP	17 20 24.0	-2.7
CLL				*e*			17 20 43.0	
CLL				*i* (pPKiKP)			17 20 53.2	
CLL				*e*PPP			17 22 33.0	
CLL				*e*SKSac		SKSac	17 26 56.0	-0.3
CLL				*e*Sdif		Sdif	17 28 00.0	+5.1
CLL				*e*PS		PS	17 29 28.0	-0.7
CLL				*e*PPS			17 30 30.0	
CLL				*e*PKKPdf		PKKPdf	17 32 34.0	-5.1
CLL				*i* pPKKPdf			17 32 45.3	
	comp=Z,37nm,1.4s							
CLL				*e*			17 33 02.0	
CLL				*e*SS		SS	17 34 53.0	+0.4
CLL				*e*SSS			17 38 39.0	
CLL				*e*			17 40 18.0	
CLL				*e*PKPPKPdf			17 40 45.0	
CLL				*e*			17 43 00.0	
BOJS	**Bojanci**	**100.83**	**317**	*e*Pdiff		Pdif	17 16 18.2	-0.7
BOJS				*e*PP		PP	17 20 13.3	-14
BOJS				*e*PKiKP		PKiKP	17 20 44.9	-0.1
BOJS				*e*SKSac		SKSac	17 26 55.2	-1.5
BOJS				*e*Sdiff		Sdif	17 27 55.5	+0.6
BOJS				*e*SS		SS	17 34 54.7	+1.6
RES	**Resolute Bay**	**100.92**	**9**	P		Pdif	17 16 21.1	+1.7
	comp=Z,7.9nm,0.9s,baz=312,slow=4.6,SNR=8.0							
RES				PP		PP	17 20 30.0	+3.2
	comp=Z,7.2nm,1.0s,baz=309,slow=7.3,SNR=2.3							
RES	**Resolute Bay**	**100.92**	**9**	*e*Pdif		Pdif	17 16 19.9	+0.5
	comp=Z,29nm,1.0s							
RES	**Resolute Bay**	**100.92**	**9**	P		Pdif	17 16 21.1	+1.7
RES							17 20 30.0	
RES				pmax		pmax		
	comp=Z,8.0nm,0.9s							
RES				pmax		pmax		
	comp=Z,7.0nm,1.0s							
MOA	**Molln**	**100.93**	**319**	⇑*i*Pdiff		Pdif	17 16 20.4	+1.0
	comp=Z,3µm,9.1s							
ELIM	**Elim**	**100.99**	**235**	*e*P		Pdif	17 16 20.4	+0.7
JMIC	**Jan Mayen**	**101.04**	**345**	*e*P		Pdif	17 16 27.8	+7.9
JMIC				*e*SKS			17 26 59.9	
JMIC				*e*SS		SS	17 34 58.1	+3.6
VISS	**Visnje**	**101.04**	**317**	*e*Pdiff		Pdif	17 16 19.9	0.0
GEC2	**GERESS Array S**	**101.04**	**320**	*e*Pdiff		Pdif	17 16 20.9	+1.0
GEC2				*e*PP		PP	17 20 45.8	+17
GEC2				*e*SKSac		SKSac	17 26 57.6	+0.1
GEC2				*e*SS		SS	17 34 51.5	-4.4
GEC2	**GERESS Array S**	**101.04**	**320**	*e*P		Pdif	17 16 20.9	+1.0
GEC2				*e*			17 26 57.6	
GEC2				*e*SS		SS	17 34 51.5	-4.4
GERES	**GERESS Array B**	**101.04**	**320**	P		Pdif	17 16 19.8	-0.2
	comp=Z,6.8nm,1.0s,baz=81,slow=4.2,SNR=17							
GERES				PKKPbc		PKKPbc	17 32 31.3	-1.8
	comp=Z,5.2nm,1.0s,baz=222,slow=1.3,SNR=6.5							
GERES				PKPPKP			17 40 40.5	
	comp=Z,0.5nm,0.8s,baz=142,slow=5.0,SNR=3.6							
GERES	**GERESS Array B**	**101.04**	**320**	P		Pdif	17 16 19.8	-0.2
GERES				PKKPbc		PKKPbc	17 32 31.3	-1.8
GERES				P'P'			17 40 40.5	
GERES	**GERESS Array B**	**101.04**	**320**	P		Pdif	17 16 19.8	-0.1
KHC	**Kasperske Hory**	**101.05**	**321**	*e*PDIFF		Pdif	17 16 23.0	+3.0
KHC				*e*PKKP		PKKPbc	17 32 32.0	-1.1
LJU	**Ljubljana**	**101.19**	**317**	*e*Pdiff		Pdif	17 16 18.1	-2.6
LJU				*e*PP		PP	17 20 20.0	-10
LJU				*e*PKiKP		PKiKP	17 20 42.1	-3.5
LJU				*e*SKSac		SKSac	17 26 56.3	-2.1
LJU				*e*Sdiff		Sdif	17 27 55.5	-2.5
LJU				*e*SS		SS	17 35 05.0	+6.8
CVNA	**Calvinia**	**101.28**	**238**	*e*P		Pdif	17 16 22.2	+1.2
CVNA				AMB		AMB	17 16 26.5	
	comp=Z,180nm,4.3s							
MUD	**Monsted U'grnd**	**101.38**	**329**	*e*P		Pdif	17 16 20.9	-0.5
MUD				*i* S		SKSac	17 26 59.6	+0.8
MUD	**Monsted U'grnd**	**101.38**	**329**	*i* P		Pdif	17 16 20.9	-0.5
FOO	**Floro**	**101.38**	**334**	*e*P		Pdif	17 16 24.7	+3.2
FOO				*e*SKS			17 26 59.6	
FOO				*e*SS		SS	17 35 05.6	+5.9
FOO				AMS		AMS	18 03 50.7	
	comp=Z,69µm,23.4s,MS7.1							
NKC	**Novy Kostel**	**101.46**	**322**	*e*P		Pdif	17 16 22.0	+0.2
NKC				*e*			17 27 00.8	
NKC				*e*			17 28 02.7	
NKC				*e*SS		SS	17 35 07.5	+6.0
NKC				MLR		MLR		
	comp=Z,93µm,25.9s,MS7.2							
NKC	**Novy Kostel**	**101.46**	**322**	*e*PDIFF		Pdif	17 16 22.0	+0.2
NKC				*e*pP			17 16 27.6	
NKC				*e*SKS			17 27 00.8	
NKC				*e*S		Sdif	17 28 02.7	+2.5
NKC				*e*SS		SS	17 35 07.5	+6.0
NKC				AMS		AMS	18 03 30.0	
	comp=Z,93µm,25.9s							
WET	**Wettzell**	**101.49**	**321**	*e*Pdiff		Pdif	17 16 23.1	+1.2
WET				*e*PP		PP	17 20 49.1	+17
WET				*e*SKSac		SKSac	17 27 00.1	+0.5
WET				*e*SS		SS	17 34 58.9	-3.1
WET	**Wettzell**	**101.49**	**321**	*e*P		Pdif	17 16 23.1	+1.2
WET				*e*			17 27 00.1	
WET				*e*SS		SS	17 34 58.9	-3.1
CER	**Ceres**	**101.49**	**236**	*e*P		Pdif	17 16 21.5	-0.5
CER				AMB		AMB	17 16 28.9	
	comp=Z,20nm,2.5s							
JAVS	**Javornik**	**101.55**	**317**	*e*Pdiff		Pdif	17 16 21.1	-1.1
JAVS				*e*SKSac		SKSac	17 26 58.7	-1.3
JAVS				*e*SP		SP	17 29 33.9	+1.1
BSEG	**Bad Segeberg**	**101.60**	**326**	*e*Pdiff		Pdif	17 16 24.2	+1.8
BSEG				*e*PP		PP	17 20 49.2	+17
BSEG				*e*SKSac		SKSac	17 27 01.5	+1.5
BSEG				*e*SS		SS	17 34 58.5	-4.7
BSEG	**Bad Segeberg**	**101.60**	**326**	*e*P		Pdif	17 16 24.2	+1.8
BSEG				*e*SS		SS	17 34 58.5	-4.7
CUC	**Castrocucco**	**101.61**	**311**	*e*Pdif		Pdif	17 16 22.8	+0.3
	comp=Z,27nm,1.5s							
CUC				LR		LR		
	comp=Z,22µm,21.0s,MS6.7							
VOY	**Vojsko**	**101.63**	**318**	*e*Pdiff		Pdif	17 16 21.3	-1.2
VOY				*e*			17 16 29.5	
VOY				*e*			17 17 01.1	
VOY				*e*PKiKP		PKiKP	17 20 42.8	-3.6
MYKA	**Terra Mystica**	**101.65**	**318**	⇓*i*Pdiff		Pdif	17 16 21.6	-1.0
	comp=Z,2µm,10.4s							
SNART	**Snartemo**	**101.69**	**331**	*e*		Pdif	17 16 31.0	+8.2
SNART				*e*PP		PP	17 20 37.1	+4.2
ROTZ	**Rotzenmuhle**	**101.74**	**322**	*e*Pdiff		Pdif	17 16 24.5	+1.5
ROTZ				*e*PP		PP	17 20 50.5	+17
ROTZ				*e*SKSac		SKSac	17 27 02.1	+1.3
ROTZ				*e*SS		SS	17 35 02.5	-2.9
SNAA	**Sanae**	**101.75**	**195**	*e*P		Pdif	17 16 16.8	-6.2
SNAA	**Sanae**	**101.75**	**195**	P		Pdif	17 16 21.4	-1.7
	comp=Z,6.4nm,0.9s,baz=118,slow=3.0,SNR=39							
SNAA				PKKPbc		PKKPbc	17 32 30.1	-1.7
	comp=Z,2.7nm,1.0s,baz=283,slow=6.0,SNR=4.2							
SNAA				PKPPKP			17 40 45.0	
	comp=Z,1.1nm,0.8s,baz=338,slow=4.1,SNR=6.6							
SNAA	**Sanae**	**101.75**	**195**	*e*Pdif		Pdif	17 16 18.7	-4.4
	comp=Z,41nm,1.1s							
SNAA	**Sanae**	**101.75**	**195**	P		Pdif	17 16 21.4	-1.7
SNAA				pmax		pmax		
	comp=Z,6.0nm,1.0s							
BER	**Bergen**	**101.76**	**333**	*e*P		Pdif	17 16 24.6	+1.5
BER				AMS		AMS	18 08 48.0	
	comp=Z,79µm,19.0s,MS7.2							
TRI	**Trieste**	**101.79**	**317**	PFAKE			17 16 30.0	+6.7
TRI				LR		LR		
	comp=Z,75µm,22.0s,MS7.2							
MOX	**Moxa**	**101.85**	**322**	*e*Pdiff		Pdif	17 16 24.6	+1.1
MOX				*e*PP		PP	17 20 50.6	+16
MOX				*e*SKSac		SKSac	17 27 01.4	+0.1
MOX				*e*SS		SS	17 35 02.7	-4.2
MOX	**Moxa**	**101.85**	**322**	*e*P		Pdif	17 16 24.6	+1.1
MOX				*e*			17 27 01.4	
MOX				*e*SS		SS	17 35 02.7	-4.2
CEL	**Celeste**	**101.89**	**309**	Pdif		Pdif	17 16 22.9	-0.8
	comp=Z,169nm,1.5s							
CEL				LR		LR		
	comp=Z,31µm,21.0s,MS6.8							
RJOB	**Jochberg**	**101.92**	**319**	*e*Pdiff		Pdif	17 16 24.3	+0.5
RJOB				*e*PP		PP	17 20 53.3	+18
RJOB				*e*SKSac		SKSac	17 26 59.6	-2.1
RJOB				*e*SS		SS	17 35 02.8	-5.2
NRDL	**Niedersach Rie**	**102.18**	**325**	*e*Pdiff		Pdif	17 16 26.6	+1.6
NRDL				*e*PP		PP	17 20 53.2	+16
NRDL				*e*SKSac		SKSac	17 27 03.7	+0.9
NRDL				*e*SS		SS	17 35 05.4	-6.0

TNS					*e*SKSac	SKSac	17 27 12.9	+2.0		
TNS					*e*SS	SS	17 35 31.4	-3.8		
TNS	**Taunus Mts**	**103.91**	**323**		*e*P	Pdif	17 16 34.1	+1.4		
TNS					*e*SS	SS	17 35 31.4	-3.8		
STU	**Stuttgart**	**103.92**	**321**		*e*PP	PP	17 21 06.4	+16		
STU					*e*SKSac	SKSac	17 27 10.4	-0.7		
STU					*e*SS	SS	17 35 31.0	-4.5		
DAVA	**Damuels**	**103.94**	**320**	⇑	*i* Pdiff	Pdif	17 16 32.0	-0.8		
	comp=Z,2µm,9.2s									
DAVOX	**Davos/Dischmat**	**104.09**	**319**		Pdiff	Pdif	17 16 33.7	+0.2		
	comp=Z,15nm,1.0s,baz=315,slow=2.9,SNR=8.7									
DAVOX					PKiKP	PKiKP	17 20 51.1	+0.2		
	comp=Z,8.7nm,1.0s,baz=56,slow=5.4,SNR=3.4									
DAVOX					PKKPbc	PKKPbc	17 32 25.0	+0.9		
	comp=Z,13nm,1.0s,baz=238,slow=7.4,SNR=6.4									
DAVOX	**Davos/Dischmat**	**104.09**	**319**		Pdif	Pdif	17 16 33.7	+0.2		
DAVOX	**Davos/Dischmat**	**104.09**	**319**		P	Pdif	17 16 33.7	+0.2		
BUG	**Bochum--Univer**	**104.19**	**324**	*e*	PP	PP	17 21 08.1	+16		
TSUM	**Tsumeb**	**104.21**	**251**	*e*	P	Pdif	17 16 35.8	+1.8		
TSUM	**Tsumeb**	**104.21**	**251**	*e*	Pdif	Pdif	17 16 34.3	+0.3		
	comp=Z,292nm,2.2s									
TSUM					LR	LR				
	comp=Z,235µm,21.0s,MS7.7									
WTSB	**Winterswijk**	**104.27**	**325**	*e*	Pdif	Pdif	17 16 34.0	-0.3		
	comp=Z,123nm,4.1s									
WTSB	**Winterswijk**	**104.27**	**325**	*e*	PP	PP	17 21 04.3	+12		
SCO	**Scoresbysund**	**104.49**	**348**	*e*	P	Pdif	17 16 35.9	+0.7		
VLC	**Villacollemand**	**104.52**	**316**		PFAKE		17 16 50.0	+15		
VLC					LR	LR				
	comp=Z,60µm,21.0s,MS7.1									
TUE	**Stuetta**	**104.54**	**319**		Pdif	Pdif	17 16 34.1	-1.4		
	comp=Z,18nm,1.4s									
TUE					LR	LR				
	comp=Z,73µm,22.0s,MS7.2									
BFO	**Black Forest**	**104.60**	**321**	*e*	Pdiff	Pdif	17 16 36.4	+0.6		
BFO				*e*	PP	PP	17 21 11.5	+16		
BFO				*e*	SKSac	SKSac	17 27 13.5	-0.7		
BFO				*e*	SS	SS	17 35 41.3	-3.6		
BFO	**Black Forest**	**104.60**	**321**		PFAKE		17 16 50.0	+14		
BFO					LR	LR				
	comp=Z,52µm,20.0s,MS7.1									
BFO	**Black Forest**	**104.60**	**321**	*e*	P	Pdif	17 16 36.4	+0.6		
BFO				*e*			17 27 13.5			
BFO				*e*	SS	SS	17 35 41.3	-3.6		
LRW	**Lerwick**	**104.76**	**334**	*e*	P	Pdif	17 16 37.8	+1.4		
LRW					AMB	AMB	17 16 39.5			
	comp=Z,372nm,5.0s									
LRW				*e*			17 20 47.5			
LRW					AMS	AMS	18 07 24.3			
	comp=Z,64µm,21.6s,MS7.1									
LRW	**Lerwick**	**104.76**	**334**		P	Pdif	17 16 37.8	+1.4		
LRW					AMB	AMB	17 16 39.5			
	comp=Z,372nm,5.0s									
LRW							17 20 47.5			
LRW					AMS	AMS	18 07 24.3			
	comp=Z,64µm,21.6s									
PGC	**Sidney**	**104.84**	**39**		Pdif	Pdif	17 16 39.1	+2.3		
	comp=Z,3.4nm,1.7s									
NLWA	**Neilton Lookou**	**105.00**	**40**	*e*	Pdif	Pdif	17 16 39.7	+2.2		
	comp=Z,31nm,1.0s									
NLWA					LR	LR				
	comp=Z,24µm,19.0s,MS6.8									
SUMG	**Summit**	**105.18**	**354**	*i*	P	Pdif	17 16 40.4	+2.1		
SUMG				*i*			17 27 16.8			
SUMG				*i*			17 27 18.9			
SUMG										
	comp=Z,34µm,21.0s									
HGN	**Heimansgroeve**	**105.22**	**324**	*e*	Pdif	Pdif	17 16 40.0	+1.5		
HGN	**Heimansgroeve**	**105.22**	**324**	*e*	PP	PP	17 21 11.0	+11		
HGN	**Heimansgroeve**	**105.22**	**324**	*e*	SKS	SKSac	17 26 57.0	-20		
HGN	**Heimansgroeve**	**105.22**	**324**	*e*	Sdif	Sdif	17 28 36.0	+4.4		
HGN	**Heimansgroeve**	**105.22**	**324**	*e*	ScSP	SP	17 30 07.7	-3.3		
HGN	**Heimansgroeve**	**105.22**	**324**	*e*	SS	SS	17 36 01.6	+8.5		
CDF	**Champ du Feu**	**105.24**	**321**	*e*	P	Pdif	17 16 38.2	-0.4		
	comp=Z,120nm,1.7s									
ECH	**Echery**	**105.38**	**321**	*e*	PKiKP	PKiKP	17 20 50.8	-2.4		
ECH					LR	LR				
	comp=Z,48µm,22.0s,MS7.0									
E03A	**Lebam**	**105.47**	**41**	⇓	Pdiff	Pdif	17 16 40.9	+1.3		
	baz=106									
E03A				⇑	SKSac	SKSac	17 27 20.8	+2.6		
	baz=106									
WLF	**Walferdange**	**105.49**	**323**	*e*	PP	PP	17 21 17.9	+16		
WLF	**Walferdange**	**105.49**	**323**		PFAKE		17 21 00.0	+6.7		
WLF					LR	LR				
	comp=Z,66µm,22.0s,MS7.1									
A05A	**Maple Falls**	**105.57**	**38**	⇑	Pdiff	Pdif	17 16 42.2	+2.1		
	baz=106									
A05A				⇑	SKSac	SKSac	17 27 20.2	+1.6		
	baz=106									
GNW	**Green Mountain**	**105.61**	**40**	*e*	Pdif	Pdif	17 16 41.8	+1.6		
	comp=Z,21nm,1.4s									
PGF	**Pioggiola**	**105.95**	**315**	*e*	P	Pdif	17 16 41.7	-0.1		
	comp=Z,122nm,1.5s									
JCW	**Jim Creek**	**105.95**	**39**	*e*	Pdif	Pdif	17 16 44.2	+2.5		
	comp=Z,80nm,1.3s									
SOFL	**Sornfelli, Far**	**106.05**	**338**	*e*	P	Pdif	17 16 42.2	0.0		
SOFL					AMB	AMB	17 16 55.0			
	comp=Z,365nm,3.9s									
SOFL					AMS	AMS	18 07 58.4			
	comp=Z,61µm,19.7s,MS7.2									
SOFL	**Sornfelli, Far**	**106.05**	**338**		P	Pdif	17 16 42.2	0.0		
SOFL					AMB	AMB	17 16 55.0			
	comp=Z,365nm,3.9s									
SOFL					AMS	AMS	18 07 58.4			
	comp=Z,61µm,19.7s									
RPW	**Rockport**	**106.12**	**38**	*e*	Pdif	Pdif	17 16 46.6	+4.0		
	comp=Z,13nm,1.3s									
D05A	**Enumclaw**	**106.27**	**40**	⇑	Pdiff	Pdif	17 16 45.0	+1.9		
	baz=106									
D05A				⇓	SKSac	SKSac	17 27 23.8	+2.0		
	baz=106									
LON	**Longmire**	**106.54**	**40**		Pdif	Pdif	17 16 44.1	-0.3		
	comp=Z,14nm,1.3s									
LON	**Longmire**	**106.54**	**40**		P	Pdif	17 16 44.1	-0.3		
LON					pmax	pmax				
	comp=Z,14nm,1.3s									
VSL	**Villasalto**	**106.54**	**312**		PFAKE		17 21 10.0	+14		
VSL					LR	LR				
	comp=Z,20µm,20.0s,MS6.7									
LPG	**La Plagne**	**106.56**	**318**	*e*	P	Pdif	17 16 44.6	+0.1		
	comp=Z,29nm,1.1s									
LPL	**La Plagne**	**106.57**	**319**	*e*	P	Pdif	17 16 44.5	0.0		
	comp=Z,36nm,1.2s									
BNI	**Bardonecchia**	**106.76**	**318**		PFAKE		17 21 10.0	+14		
BNI					LR	LR				
	comp=Z,61µm,22.0s,MS7.1									
H04A	**Detroit Lake**	**107.00**	**42**	⇓	Pdiff	Pdif	17 16 47.9	+1.5		
	baz=107									
H04A				⇑	SKSac	SKSac	17 27 25.9	+0.8		
	baz=107									
KHMM	**Horse Mountain**	**107.12**	**46**	*e*	PKPdf	PKiKP	17 20 59.9	+3.3		
HUMO	**Hull Mountain**	**107.14**	**44**	*e*	Pdif	Pdif	17 16 46.7	-0.3		
	comp=Z,13nm,1.1s									
ETW	**Entiat**	**107.17**	**39**	*e*	Pdif	Pdif	17 16 48.9	+1.8		
	comp=Z,13nm,0.9s									
FRF	**La Foret Royal**	**107.28**	**317**	*e*	P	Pdif	17 16 47.0	-0.6		
	comp=Z,29nm,1.1s									
KEST	**Kesra**	**107.57**	**308**		Pdiff	Pdif	17 16 49.1	+0.2		
	comp=Z,1.4nm,0.9s,baz=90,slow=7.1,SNR=2.6									
KEST					PKiKP	PKiKP	17 20 57.5	-0.1		
	comp=Z,3.4nm,0.8s,baz=129,slow=5.6,SNR=2.3									
KEST	**Kesra**	**107.57**	**308**		Pdif	Pdif	17 16 49.1	+0.2		
KEST					PKPdf	PKiKP	17 20 57.5	-0.1		
YBH	**Yreka Blue Hor**	**107.59**	**45**	*e*	Pdif	Pdif	17 16 51.7	+2.6		
	comp=Z,12nm,1.2s									
YBH	**Yreka Blue Hor**	**107.59**	**45**	*e*	P	Pdif	17 16 51.7	+2.7		
YBH					pmax	pmax				
	comp=Z,12nm,1.2s									
LOR	**Lormes**	**107.80**	**321**	*e*	P	Pdif	17 16 49.7	-0.3		
EDI	**Edinburgh**	**107.83**	**331**	*e*	P	Pdif	17 16 49.9	-0.2		
EDI					AMB	AMB	17 16 55.2			
	comp=Z,83nm,4.2s									
EDI				*e*			17 21 04.8			
EDI					AMS	AMS	18 13 17.9			
	comp=Z,70µm,21.2s,MS7.2									
EDI	**Edinburgh**	**107.83**	**331**		P	Pdif	17 16 49.9	-0.2		
EDI					AMB	AMB	17 16 55.2			
	comp=Z,83nm,4.2s									
EDI							17 21 04.8			
EDI					AMS	AMS	18 13 17.9			
	comp=Z,70µm,21.2s									
G06A	**Carlson Farm,**	**107.84**	**41**	⇓	Pdiff	Pdif	17 16 51.4	+1.3		
	baz=108									
ELSH	**Elham, Standar**	**107.84**	**325**	*e*	P	Pdif	17 16 49.9	-0.3		
ELSH					AMB	AMB	17 16 57.3			
	comp=Z,112nm,1.2s									
ELSH				*e*			17 20 58.5			
ELSH	**Elham, Standar**	**107.84**	**325**		P	Pdif	17 16 49.9	-0.3		
ELSH					AMB	AMB	17 16 57.3			
	comp=Z,112nm,1.2s									
ELSH							17 20 58.5			
E07A	**Sunnyside**	**107.86**	**40**	⇑	Pdiff	Pdif	17 16 52.2	+2.0		
	baz=108									
F07A	**Phinny Hill Vi**	**108.06**	**40**	⇑	Pdiff	Pdif	17 16 52.2	+1.1		
	baz=108									
WDC	**Whiskeytown Da**	**108.07**	**46**		Pdif	Pdif	17 16 51.0	-0.2		
	comp=Z,13nm,1.3s									
WDC				*e*	PKiKP	PKiKP	17 20 58.9	+0.5		
WDC	**Whiskeytown Da**	**108.07**	**46**		P	Pdif	17 16 51.0	-0.2		
WDC					pmax	pmax				
	comp=Z,13nm,1.3s									
SSB	**Saint Sauveur**	**108.10**	**319**		PFAKE		17 21 10.0	+12		
SSB					LR	LR				
	comp=Z,31µm,20.0s,MS6.9									
EKA	**Eskdalemuir Ar**	**108.12**	**331**		Pdiff	Pdif	17 16 56.3	+4.9		
	comp=Z,2.9nm,1.0s,baz=61,slow=5.8,SNR=3.0									
EKA					PKiKP	PKiKP	17 20 58.2	+0.2		
	comp=Z,2.8nm,0.9s,baz=36,slow=3.9,SNR=2.8									
EKA					PKKPbc	PKKPbc	17 32 10.0	-2.0		
	comp=Z,2.7nm,0.9s,baz=251,slow=2.8,SNR=8.9									
EKA	**Eskdalemuir Ar**	**108.12**	**331**		Pdif	Pdif	17 16 56.3	+4.9		
EKA					PKPdf	PKiKP	17 20 58.2	+0.2		
EKA					PKKPbc	PKKPbc	17 32 10.0	-2.0		
EKA	**Eskdalemuir Ar**	**108.12**	**331**		P	Pdif	17 16 56.3	+4.9		
HAWA	**Hanford**	**108.13**	**40**	*e*	Pdif	Pdif	17 16 52.5	+1.0		
	comp=Z,66nm,1.8s									
HAWA					LR	LR				
	comp=Z,32µm,21.0s,MS6.8									
ESK	**Eskdalemuir**	**108.15**	**331**	*e*	P	Pdif	17 16 52.0	+0.5		
ESK					AMB	AMB	17 17 09.7			
	comp=Z,110nm,4.0s									
ESK				*e*			17 21 05.1			
ESK					AMS	AMS	18 07 56.3			
	comp=Z,46µm,24.0s,MS7.0									
ESK	**Eskdalemuir**	**108.15**	**331**		P	Pdif	17 16 52.0	+0.5		
ESK					AMB	AMB	17 17 09.7			
	comp=Z,110nm,4.0s									
ESK							17 21 05.1			
ESK					AMS	AMS	18 07 56.3			
	comp=Z,46µm,24.0s									
ESK	**Eskdalemuir**	**108.15**	**331**		PFAKE		17 21 10.0	+12		
ESK					LR	LR				
	comp=Z,52µm,20.0s,MS7.1									
KPL	**Plockton**	**108.22**	**333**	*e*	P	Pdif	17 16 52.3	+0.5		
KPL					AMB	AMB	17 16 57.2			
	comp=Z,107nm,2.8s									
KPL				*e*			17 21 02.6			
KPL					AMS	AMS	18 07 30.5			
	comp=Z,61µm,25.8s,MS7.0									
KPL	**Plockton**	**108.22**	**333**		P	Pdif	17 16 52.3	+0.5		
KPL					AMB	AMB	17 16 57.2			
	comp=Z,107nm,2.8s									
KPL							17 21 02.6			
KPL					AMS	AMS	18 07 30.5			
	comp=Z,61µm,25.8s									
OD2	**Odessa Site #2**	**108.27**	**39**		Pdif	Pdif	17 16 53.3	+1.2		
	comp=Z,59nm,1.8s									
C09A	**Chrisman Ranch**	**108.38**	**38**	⇑	Pdiff	Pdif	17 16 55.1	+2.5		
	baz=108									
E08A	**Dider Farm, El**	**108.40**	**40**	⇑	Pdiff	Pdif	17 16 55.1	+2.5		
	baz=108									
KESW	**Keswick, Cumbr**	**108.48**	**330**	*e*	P	Pdif	17 16 53.2	+0.3		
KESW					AMB	AMB	17 17 09.2			
	comp=Z,81nm,2.7s									
KESW				*e*			17 20 50.7			
KESW	**Keswick, Cumbr**	**108.48**	**330**		P	Pdif	17 16 53.2	+0.3		
KESW					AMB	AMB	17 17 09.2			
	comp=Z,81nm,2.7s									
KESW							17 20 50.7			
PGBU	**Glenifferbraes**	**108.51**	**331**	*e*	P	Pdif	17 16 53.9	+0.7		
PGBU				*e*			17 20 57.0			
PGBU					AMS	AMS	18 13 37.1			
	comp=Z,66µm,20.8s,MS7.2									
PGBU	**Glenifferbraes**	**108.51**	**331**		P	Pdif	17 16 53.9	+0.7		
PGBU							17 20 57.0			
PGBU					AMS	AMS	18 13 37.1			
	comp=Z,66µm,20.8s									
K05A	**Summer Lake**	**108.54**	**44**	⇓	Pdiff	Pdif	17 16 55.8	+2.5		
	baz=109									
MSKU	**Masuku**	**108.58**	**269**		PKiKP	PKiKP	17 21 00.1	-0.1		
	comp=Z,13nm,0.7s,baz=62,slow=3.5,SNR=2.4									
MSKU	**Masuku**	**108.58**	**269**		PKPdf	PKiKP	17 21 00.1	-0.1		
STNC	**Stoke**	**108.77**	**328**	*e*	P	Pdif	17 16 55.4	+1.2		
STNC					AMB	AMB	17 17 06.9			
	comp=Z,125nm,2.1s									
STNC				*e*			17 21 09.9			
STNC					AMS	AMS	18 12 40.2			
	comp=Z,36µm,21.2s,MS6.9									
STNC	**Stoke**	**108.77**	**328**		P	Pdif	17 16 55.4	+1.2		
STNC					AMB	AMB	17 17 06.9			
	comp=Z,125nm,2.1s									
STNC							17 21 09.9			
STNC					AMS	AMS	18 12 40.2			
	comp=Z,36µm,21.2s									
BORG	**Borgarnes**	**108.88**	**344**		PFAKE		17 21 10.0	+11		
BORG					LR	LR				
	comp=Z,44µm,22.0s,MS7.0									
NEW	**Newport**	**108.89**	**37**	⇑	Pdiff	Pdif	17 16 57.2	+2.4		
	baz=109									
NEW	**Newport**	**108.89**	**37**	*e*	Pdif	Pdif	17 16 53.7	-1.1		
	comp=Z,15nm,1.2s									
NEW					LR	LR				
	comp=Z,25µm,20.0s,MS6.8									
NEW	**Newport**	**108.89**	**37**	*e*	P	Pdif	17 16 53.7	-1.1		
NEW					pmax	pmax				
	comp=Z,15nm,1.2s									
NEW					MLR	MLR				
	comp=Z,25µm,20.0s									
G08A	**Pilot Rock**	**108.92**	**41**	⇓	Pdiff	Pdif	17 16 56.5	+1.5		
	baz=109									
E09A	**Wood Farm, Sta**	**108.97**	**39**	⇓	Pdiff	Pdif	17 16 57.3	+2.2		
	baz=109									
I07A	**Izee**	**109.01**	**42**	⇑	Pdiff	Pdif	17 16 58.2	+2.8		
	baz=109									
WOL	**Wolverton**	**109.09**	**326**	*e*	P	Pdif	17 16 55.5	-0.2		
WOL					AMB	AMB	17 17 01.9			
	comp=Z,112nm,5.4s									
WOL				*e*			17 21 01.0			
WOL					AMS	AMS	18 09 26.9			
	comp=Z,52µm,25.7s,MS7.0									
WOL	**Wolverton**	**109.09**	**326**		P	Pdif	17 16 55.5	-0.2		
WOL					AMB	AMB	17 17 01.9			
	comp=Z,112nm,5.4s									
WOL							17 21 01.0			
WOL					AMS	AMS	18 09 26.9			
	comp=Z,52µm,25.7s									
GAL1	**Galloway**	**109.13**	**331**	*e*	P	Pdif	17 16 57.4	+1.5		
GAL1					AMB	AMB	17 17 02.6			
	comp=Z,111nm,3.9s									
GAL1					AMS	AMS	18 14 10.0			
	comp=Z,48µm,19.5s,MS7.1									
GAL1	**Galloway**	**109.13**	**331**		P	Pdif	17 16 57.4	+1.5		
GAL1					AMB	AMB	17 17 02.6			
	comp=Z,111nm,3.9s									
GAL1					AMS	AMS	18 14 10.0			
	comp=Z,48µm,19.5s									
MOD	**Modoc**	**109.23**	**45**		Pdif	Pdif	17 16 56.1	-0.2		
SWN1	**Swindon**	**109.31**	**327**	*e*	P	Pdif	17 16 58.5	+1.8		
SWN1					AMB	AMB	17 17 04.8			
	comp=Z,119nm,1.9s									
SWN1				*e*			17 21 12.2			
SWN1					AMS	AMS	18 14 07.7			
	comp=Z,48µm,20.9s,MS7.0									
SWN1	**Swindon**	**109.31**	**327**		P	Pdif	17 16 58.5	+1.8		
SWN1					AMB	AMB	17 17 04.8			
	comp=Z,119nm,1.9s									
SWN1							17 21 12.2			
SWN1					AMS	AMS	18 14 07.7			
	comp=Z,48µm,20.9s									
FOEL	**Foel Wylfa**	**109.39**	**328**	*e*	P	Pdif	17 16 56.6	-0.4		
FOEL					AMB	AMB	17 17 16.8			
	comp=Z,104nm,3.3s									
FOEL	**Foel Wylfa**	**109.39**	**328**		P	Pdif	17 16 56.6	-0.4		
FOEL					AMB	AMB	17 17 16.8			
	comp=Z,104nm,3.3s									
HLM1	**Long Mynd**	**109.41**	**328**	*e*	P	Pdif	17 16 58.9	+1.8		
HLM1					AMB	AMB	17 17 18.5			
	comp=Z,77nm,3.7s									
HLM1	**Long Mynd**	**109.41**	**328**		P	Pdif	17 16 58.9	+1.8		
HLM1					AMB	AMB	17 17 18.5			
	comp=Z,77nm,3.7s									
A12A	**Yaak River Ran**	**109.48**	**36**	⇑	Pdiff	Pdif	17 16 59.1	+1.6		
	baz=110									
C11A	**Tepee Creek (N**	**109.60**	**38**	⇓	Pdiff	Pdif	17 16 59.3	+1.3		
	baz=110									
B12A	**Libby**	**109.73**	**37**	⇓	Pdiff	Pdif	17 17 00.7	+2.1		
	baz=110									
MCH1	**Michaelchurch**	**109.73**	**328**		AMS	AMS	18 10 27.4			
	comp=Z,43µm,22.5s,MS7.0									
F10A	**Beach Ranch, E**	**109.77**	**40**	⇑	Pdiff	Pdif	17 17 00.4	+1.6		
	baz=110									
WLF1	**Llynfaes**	**109.80**	**329**	*e*	P	Pdif	17 16 59.7	+0.8		
WLF1					AMB	AMB	17 17 05.5			
	comp=Z,66nm,4.4s									
WLF1				*e*			17 21 06.5			
WLF1					AMS	AMS	18 15 01.1			
	comp=Z,36µm,18.6s,MS7.0									
WLF1	**Llynfaes**	**109.80**	**329**		P	Pdif	17 16 59.7	+0.8		
WLF1					AMB	AMB	17 17 05.5			
	comp=Z,66nm,4.4s									
WLF1							17 21 06.5			
WLF1					AMS	AMS	18 15 01.1			
	comp=Z,36µm,18.6s									
J08A	**Circle Bar Ran**	**109.97**	**43**	⇑	Pdiff	Pdif	17 17 02.3	+2.7		
	baz=110									
C12B	**Naegeli Ranch,**	**110.13**	**37**	⇑	Pdiff	Pdif	17 17 03.3	+3.0		
	baz=110									
BMO	**Blue Mountains**	**110.17**	**41**		PFAKE		17 21 10.0	+7.8		
BMO					LR	LR				
	comp=Z,19µm,21.0s,MS6.6									
WVOR	**Wild Horse Val**	**110.20**	**44**		PFAKE		17 21 10.0	+7.6		
WVOR					LR	LR				
	comp=Z,35µm,21.0s,MS6.9									
B13A	**Whitefish**	**110.44**	**36**	⇑	Pdiff	Pdif	17 17 04.7	+3.0		
	baz=110									
WALA	**Waterton Lakes**	**110.45**	**36**		PKiKP	PKiKP	17 21 02.2	-0.4		
CMB	**Columbia Colle**	**110.46**	**48**	*e*	PKiKP	PKiKP	17 21 03.3	+0.4		
CMB	**Columbia Colle**	**110.46**	**48**	*e*	PKiKP	PKiKP	17 21 03.3	+0.3		
BSMT	**Bassoo Peak**	**110.48**	**37**		Pdif	Pdif	17 17 03.6	+1.7		
BSMT					PKiKP	PKiKP	17 21 00.7	-2.0		
WCN	**Washoe City**	**110.51**	**47**	⇓	Pdiff	Pdif	17 17 04.5	+2.5		
	baz=110									
MFF	**Saint Martin d**	**110.58**	**322**	*e*	P	Pdif	17 17 02.9	+0.6		
	comp=Z,59nm,1.6s									
E12A	**Beaver Dam Sad**	**110.63**	**39**	⇑	PKiKP	PKiKP	17 21 04.1	+1.0		
	baz=111									
A14A	**Double T Ranch**	**110.78**	**36**	⇓	PKiKP	PKiKP	17 21 05.1	+1.9		
	baz=111									
YBMT	**Yellow Bay**	**110.94**	**37**		PKiKP	PKiKP	17 21 02.8	-0.7		
D13A	**Huson**	**111.02**	**38**	⇓	PKiKP	PKiKP	17 21 04.8	+1.0		
	baz=111									
F12A	**Elk City**	**111.11**	**39**	⇑	PKiKP	PKiKP	17 21 02.9	-1.1		
	baz=111									
SWMT	**Swartz Lake**	**111.11**	**37**	*e*	PKiKP	PKiKP	17 21 04.3	+0.4		
C14A	**Swan Lake**	**111.14**	**37**	⇑	PKiKP	PKiKP	17 21 02.9	-1.1		
	baz=111									
B14A	**Marquette Ranc**	**111.15**	**36**	⇑	PKiKP	PKiKP	17 21 05.0	+1.1		
	baz=111									
A15A	**Johnson Ranch,**	**111.17**	**35**	⇓	PKiKP	PKiKP	17 21 04.3	+0.3		
	baz=111									
G12A	**Big Creek, Yel**	**111.33**	**40**	⇓	PKiKP	PKiKP	17 21 05.0	+0.6		
	baz=111									
MSO	**Missoula**	**111.46**	**38**	⇑	PKiKP	PKiKP	17 21 04.6	0.0		
	baz=112									
MSO	**Missoula**	**111.46**	**38**	*e*	PKPdf	PKiKP	17 21 04.2	-0.4		
MSO					LR	LR				
	comp=Z,13µm,20.0s,MS6.5									
E13A	**Victor**	**111.48**	**38**	⇓	PKiKP	PKiKP	17 21 04.6	0.0		
	baz=112									
SLMT	**Seeley Lake**	**111.54**	**37**	*e*	PKiKP	PKiKP	17 21 04.6	-0.2		
B15A	**Bradely Ranch,**	**111.59**	**36**	⇑	PKiKP	PKiKP	17 21 04.7	-0.1		
	baz=112									
D14A	**Greenough**	**111.61**	**37**	⇓	PKiKP	PKiKP	17 21 05.3	+0.4		
	baz=112									
SFJD	**Kangerlussuaq**	**111.61**	**357**	*e*	PKiKP	PKiKP	17 21 03.0	-1.3		
SFJD					LR	LR				
	comp=Z,28µm,20.0s,MS6.8									
SFJD	**Kangerlussuaq**	**111.61**	**357**	*e*	PKiKP	PKiK

J13A	Cove Ranch, Pi	112.82	41	⇑PKiK	PKiKP	17 21 07.1	-0.2
	baz=113						
LRM	Limekiln Ridge	112.84	38	*e*PKiK	PKiKP	17 21 07.2	0.0
A18A	Metzger Ranch,	112.85	34	⇑PKiK	PKiKP	17 21 07.2	0.0
	baz=113						
C17A	Wharram Farm,	112.98	36	⇓PKiK	PKiKP	17 21 06.8	-0.6
	baz=113						
MCMT	McKenzie Canyo	113.05	39	*e*PKiK	PKiKP	17 21 08.8	+1.1
I14A	Mackay	113.06	40	⇑PKiK	PKiKP	17 21 06.9	-0.8
	baz=113						
GRAC	Grapevine Rang	113.06	49	⇑Pdiff	Pdif	17 17 15.1	+1.7
	baz=113						
G15A	Dillon	113.12	39	⇓PKiK	PKiKP	17 21 08.6	+0.8
	baz=113						
DAC	Darwin (Calif)	113.15	49	PFAKE		17 21 20.0	+12
DAC				LR	LR		
	comp=Z,36µm,21.0s,MS6.9						
B18A	Beardsley Farm	113.16	35	⇓PKiK	PKiKP	17 21 08.2	+0.4
	baz=113						
DECC	Green Verdugo	113.25	52	⇑PKiK	PKiKP	17 21 09.3	+0.9
	baz=113						
D17A	Six Diamond Ra	113.26	36	⇓PKiK	PKiKP	17 21 08.8	+0.7
	baz=113						
H15A	Lima	113.27	39	⇑PKiK	PKiKP	17 21 09.5	+1.4
	baz=113						
MPMC	Manual Prospec	113.30	50	⇑PKiK	PKiKP	17 21 09.1	+0.7
	baz=113						
EDW2	Edwards Air Fo	113.31	51	⇑PKiK	PKiKP	17 21 09.3	+0.8
	baz=113						
LRMC	Laurel Mountai	113.34	50	⇑PKiK	PKiKP	17 21 09.7	+1.2
	baz=113						
F16A	Kennard Place,	113.36	38	⇑PKiK	PKiKP	17 21 09.7	+1.4
	baz=113						
EGMT	Eagleton	113.36	35	⇑PKiK	PKiKP	17 21 09.1	+0.9
	baz=113						
EGMT	Eagleton	113.36	35	*e*PKiK	PKiKP	17 21 07.9	-0.3
EGMT				LR	LR		
	comp=Z,25µm,21.0s,MS6.8						
PASC	Pasadena Art C	113.39	52	*e*PKiK	PKiKP	17 21 09.2	+0.6
FFC	Flin Flon	113.40	26	*e*PKiK	PKiKP	17 21 09.1	+1.1
FFC				LR	LR		
	comp=Z,35µm,22.0s,MS6.9						
FFC	Flin Flon	113.40	26	*e*PKIK	PKiKP	17 21 09.1	+1.1
FFC				MLR	MLR		
	comp=Z,35µm,22.0s,MS6.9						
BOZ	Bozeman (W)	113.43	38	⇓PKiK	PKiKP	17 21 10.6	+2.2
	baz=113						
BOZ	Bozeman (W)	113.43	38	PKiK	PKiKP	17 21 08.6	+0.2
BOZ				LR	LR		
	comp=Z,21µm,20.0s,MS6.7						
BOZ	Bozeman (W)	113.43	38	PKIK	PKiKP	17 21 08.6	+0.2
BOZ				MLR	MLR		
	comp=Z,21µm,20.0s,MS6.7						
EBNR	Beni Rached	113.44	311	P	PP	17 22 01.7	+2.0
FMP	Fort Macarthur	113.45	52	⇓Pdiff	Pdif	17 17 16.6	+1.5
	baz=114						
CIS	Catalina Islan	113.46	53	⇓PKiK	PKiKP	17 21 11.2	+2.4
	baz=114						
A19A	Klindworth Far	113.46	34	⇓PKiK	PKiKP	17 21 11.0	+2.6
	baz=114						
MWC	Mount Wilson	113.47	52	*e*PKiK	PKiKP	17 21 09.7	+0.9
MWC	Mount Wilson	113.47	52	*e*PKiKP	PKiKP	17 21 09.7	+0.9
SCI	San Clemente I	113.48	53	⇑Pdiff	Pdif	17 17 18.2	+3.0
	baz=114						
E17A	Martinsdale	113.50	37	⇑PKiK	PKiKP	17 21 11.2	+2.7
	baz=114						
G16A	Moss Hill, Enn	113.52	39	⇓PKiK	PKiKP	17 21 11.1	+2.5
	baz=114						
B19A	Brinkman Farms	113.60	34	⇓PKiK	PKiKP	17 21 11.0	+2.4
	baz=114						
ECHA	Ech Chlef	113.61	311	P	PP	17 21 55.4	-5.5
FURC	Furnace Creek,	113.64	49	⇑PKiK	PKiKP	17 21 11.1	+2.1
	baz=114						
I15A	Monteview	113.66	40	⇓PKiK	PKiKP	17 21 11.5	+2.6
	baz=114						
D18A	Linhart Farms,	113.76	36	⇓PKiK	PKiKP	17 21 11.1	+2.1
	baz=114						
BFSC	Mount Baldy Ra	113.78	52	⇓PKiK	PKiKP	17 21 10.9	+1.5
	baz=114						
K14A	Jones Ranch, D	113.85	42	⇑PKiK	PKiKP	17 21 10.9	+1.6
	baz=114						
TAM	Tamanrasset	113.87	296	PFAKE		17 21 20.0	+10
TAM				LR	LR		
	comp=Z,71µm,22.0s,MS7.2						
EANR	'Ain N'Sour	113.88	311	P	PP	17 21 53.0	-10
R11A	Troy Canyon, C	113.89	47	⇓PKiK	PKiKP	17 21 10.9	+1.4
	baz=114						
F17A	Fitzpatrick Pl	113.89	37	⇑PKiK	PKiKP	17 21 11.1	+1.8
	baz=114						
C19A	Slack Wire Ran	113.92	35	⇑PKiK	PKiKP	17 21 11.0	+1.7
	baz=114						
ETRT	Tiaret	113.92	310	P	PP	17 22 13.7	+10
QLMT	Earthquake Lak	113.94	39	*e*PKiK	PKiKP	17 21 05.4	-4.0
A20A	Cobblestone Ra	113.94	34	⇑PKiK	PKiKP	17 21 11.0	+1.8
	baz=114						
J15A	Blackfoot	113.96	41	⇑PKiK	PKiKP	17 21 11.1	+1.6
	baz=114						
E18A	Harlowton	114.02	37	⇑PKiK	PKiKP	17 21 11.4	+2.0
	baz=114						
L14A	Malta	114.03	42	⇑PKiK	PKiKP	17 21 12.1	+2.5
	baz=114						
RRX	Edison Barstow	114.08	51	⇓Pdiff	Pdif	17 17 20.1	+2.2
	baz=114						
GSC	Goldstone	114.08	50	⇓PKiK	PKiKP	17 21 12.2	+2.3
	baz=114						
GSC	Goldstone	114.08	50	*e*PKiK	PKiKP	17 21 11.7	+1.7
GSC	Goldstone	114.08	50	*e*PKiK	PKiKP	17 21 11.7	+1.7
H16A	Russell Place,	114.11	39	⇓PKiK	PKiKP	17 21 12.0	+2.3
	baz=114						
B20A	Solberg Farm,	114.13	34	⇓PKiK	PKiKP	17 21 11.4	+1.8
	baz=114						
G17A	Pierce Place,	114.13	38	⇓PKiK	PKiKP	17 21 11.9	+2.2
	baz=114						
K15A	Arbon	114.22	41	⇓PKiK	PKiKP	17 21 12.0	+2.0
	baz=114						
SHOC	Shoshone	114.28	49	⇓PKiK	PKiKP	17 21 12.0	+1.7
	baz=114						
YMR	Madison River	114.31	39	PKiK	PKiKP	17 21 09.9	-0.1
D19A	Cripps Ranch,	114.32	36	⇓PKiK	PKiKP	17 21 12.1	+2.1
	baz=114						
BBRC	Big Bear Solar	114.35	51	⇑Pdiff	Pdif	17 17 21.4	+2.3
	baz=114						
MURC	Murrieta	114.35	52	⇓PKiK	PKiKP	17 21 11.9	+1.4
	baz=114						
I16A	Newdale	114.35	40	⇓PKiK	PKiKP	17 21 12.0	+1.8
	baz=114						
A21A	Bergtoll Ranch	114.43	33	⇑PKiK	PKiKP	17 21 12.0	+1.8
	baz=114						
HVU	Hansel Valley	114.46	42	*e*PKiK	PKiKP	17 21 10.6	+0.1
HVU	Hansel Valley	114.46	42	*e*PKiK	PKiKP	17 21 10.6	+0.1
F18A	Big Timber	114.47	37	⇓PKiK	PKiKP	17 21 11.9	+1.6
	baz=114						
J16A	Bone	114.55	40	⇓PKiK	PKiKP	17 21 11.6	+1.0
	baz=115						
GCMT	Greycliff	114.55	37	*e*PKiK	PKiKP	17 21 10.9	+0.4
HEC	Hector,Ludlow	114.61	50	⇓PKiK	PKiKP	17 21 12.9	+1.9
	baz=115						
L15A	Malad City	114.62	42	⇓PKiK	PKiKP	17 21 12.2	+1.5
	baz=115						
BGU	Big Grassy Mou	114.65	43	*e*PKiK	PKiKP	17 21 11.8	+0.9
109C	Camp Elliot, M	114.66	53	⇑PKiK	PKiKP	17 21 12.9	+1.7
	baz=115						
H17A	Grant Village	114.68	39	⇑PKiK	PKiKP	17 21 13.0	+2.1
	baz=115						
IMW	Indian Meadow	114.69	40	*e*PKiK	PKiKP	17 21 09.3	-1.5
B21A	Ellsworth Farm	114.70	34	⇓PKiK	PKiKP	17 21 13.1	+2.4
	baz=115						
RRI2	Red Ridge	114.71	40	PKiK	PKiKP	17 21 10.6	-0.3
LKWY	Lake	114.71	39	PFAKE		17 21 20.0	+9.1
LKWY				LR	LR		
	comp=Z,50µm,22.0s,MS7.1						
TUQ	Turquoise Moun	114.71	50	⇑Pdiff	Pdif	17 17 23.6	+2.9
	baz=115						
E19A	Rath Farm, Rou	114.74	36	⇓PKiK	PKiKP	17 21 12.7	+1.8
	baz=115						
FLWY	Flagg Ranch	114.75	39	*e*PKiK	PKiKP	17 21 13.1	+2.2
K16A	Soda Springs	114.77	41	⇑PKiK	PKiKP	17 21 12.0	+1.0
	baz=115						
D20A	Manuel Ranch,	114.79	35	⇑PKiK	PKiKP	17 21 12.4	+1.5
	baz=115						
M15A	Larsen Ranch,	114.81	42	⇓PKiK	PKiKP	17 21 12.7	+1.6
	baz=115						
G18A	Lazy EL Ranch,	114.86	38	⇓Pdiff	Pdif	17 17 23.8	+2.5
	baz=115						
TPAW	Teton Pass	114.88	40	*e*PKiK	PKiKP	17 21 14.0	+2.7
SPUT	South Promonto	114.88	43	*e*PKiK	PKiKP	17 21 13.1	+1.8
MOOW	Moose Ponds	114.89	40	PKiK	PKiKP	17 21 09.2	-2.1
I17A	Pilgrim Ck.	114.91	39	⇑PKiK	PKiKP	17 21 12.8	+1.5
	baz=115						
PFO	Pinyon Flat Ob	114.93	52	⇓PKiK	PKiKP	17 21 12.6	+1.0
	baz=115						
PFO	Pinyon Flat Ob	114.93	52	*e*PKiK	PKiKP	17 21 11.3	-0.3
PFO				LR	LR		
	comp=Z,34µm,20.0s,MS7.0						
PFO	Pinyon Flat Ob	114.93	52	*e*PKiK	PKiKP	17 21 11.3	-0.3
PFO				MLR	MLR		
	comp=Z,34µm,20.0s,MS7.0						
F19A	Roth Farm, Mol	114.96	37	⇑Pdiff	Pdif	17 17 23.6	+1.8
	baz=115						
A22A	Carney Farms,	114.98	33	⇓PKiK	PKiKP	17 21 12.6	+1.4
	baz=115						
C21A	Desert Coulee	114.98	34	⇑PKiK	PKiKP	17 21 12.5	+1.2
	baz=115						
REDW	Red Top Meadow	115.00	40	*e*PKiK	PKiKP	17 21 10.6	-0.9
SNOW	Snow King Moun	115.02	40	PKiK	PKiKP	17 21 10.6	-0.9
N15A	Stansbury Isla	115.02	43	⇑PKiK	PKiKP	17 21 12.3	+0.7
	baz=115						
LOHW	Long Hollow	115.04	40	*e*PKiK	PKiKP	17 21 11.9	+0.4
BAR	Barrett	115.07	53	*e*PKiK	PKiKP	17 21 13.8	+1.8
J17A	Brown Place, J	115.09	40	⇑PKiK	PKiKP	17 21 12.6	+1.0
	baz=115						
E20A	Meyer Farm, Mu	115.10	36	⇑PKiK	PKiKP	17 21 13.3	+1.7
	baz=115						
H18A	Shoshone NF, C	115.11	38	⇑Pdiff	Pdif	17 17 25.1	+2.6
	baz=115						
DUG	Dugway	115.11	44	⇑PKiK	PKiKP	17 21 13.2	+1.4
	baz=115						
DUG	Dugway	115.11	44	*e*PKiK	PKiKP	17 21 11.4	-0.4
DUG				LR	LR		
	comp=Z,26µm,22.0s,MS6.8						
DUG	Dugway	115.11	44	*e*PKIK	PKiKP	17 21 11.4	-0.4
DUG				MLR	MLR		
	comp=Z,26µm,22.0s,MS6.8						
AHID	Auburn Hatcher	115.12	41	PFAKE		17 21 20.0	+8.3
AHID				LR	LR		
	comp=Z,32µm,20.0s,MS6.9						
R13A	O'Grain Ranch,	115.13	46	⇓PKiK	PKiKP	17 21 14.1	+2.2
	baz=115						
RLMT	Red Lodge	115.13	38	⇓PKiK	PKiKP	17 21 13.6	+1.9
	baz=115						
RLMT	Red Lodge	115.13	38	*e*PKPdf	PKiKP	17 21 12.9	+1.2
RLMT				LR	LR		
	comp=Z,20µm,20.0s,MS6.7						
GMRC	Granite Mounta	115.15	50	⇑PKiK	PKiKP	17 21 13.9	+1.9
	baz=115						
BELC	Belle Mtn. Jos	115.16	51	⇓PKiK	PKiKP	17 21 13.8	+1.7
	baz=115						
P14A	Drum Mountains	115.19	45	⇓PKiK	PKiKP	17 21 13.8	+1.9
	baz=115						
MONP	Monument Peak	115.20	53	⇓PKiK	PKiKP	17 21 14.1	+2.0
	baz=115						
K17A	Gardner Place,	115.24	41	⇑PKiK	PKiKP	17 21 13.4	+1.5
	baz=115						
Q14A	Sevier Lake (B	115.30	45	⇑PKiK	PKiKP	17 21 13.5	+1.4
	baz=115						
O15A	The Old Anders	115.32	44	⇑PKiK	PKiKP	17 21 13.7	+1.5
	baz=115						
B22A	Reddig Ranch S	115.33	33	⇓PKiK	PKiKP	17 21 13.7	+1.7
	baz=113						
HWUT	Hardware Ranch	115.34	42	*e*PKPdf	PKPdf	17 21 12.4	+0.3
HWUT				LR	LR		
	comp=Z,29µm,22.0s,MS6.8						
NOQ	North Oquirrh	115.39	43	*e*PKPdf	PKPdf	17 21 13.5	+1.2
M16A	Huntsville	115.43	42	⇓PKiK	PKiKP	17 21 14.3	+1.9
	baz=115						
D21A	La Casa Ranch	115.46	35	⇑PKiK	PKiKP	17 21 14.4	+2.2
	baz=116						
F20A	Billings	115.46	37	⇓PKiK	PKiKP	17 21 14.8	+2.5
	baz=116						
I18A	Diamond G Ranc	115.50	39	⇑PKiK	PKiKP	17 21 14.6	+2.2
	baz=116						
DVTC	Desert V Tower	115.53	53	⇓PKiK	PKiKP	17 21 14.9	+2.1
	baz=116						
H19A	Powell	115.53	38	⇑PKiK	PKiKP	17 21 14.5	+2.0
	baz=116						
A23A	Redstone	115.56	32	⇑PKiK	PKiKP	17 21 15.0	+2.6
	baz=116						
L17A	Cokeville	115.58	41	⇑PKiK	PKiKP	17 21 14.1	+1.4
	baz=116						
J18A	Kendall Valley	115.61	40	⇑PKiK	PKiKP	17 21 14.4	+1.7
	baz=116						
ARUT	Antelope Range	115.67	46	PKPdf	PKPdf	17 21 13.4	+0.5
ARUT	Antelope Range	115.67	46	PKiKP	PKPdf	17 21 13.4	+0.5
SWSC	Sam W. Stewart	115.68	52	⇑PKiK	PKiKP	17 21 14.7	+1.6
	baz=116						
E21A	Keefer Ranch,	115.70	35	⇑PKiK	PKiKP	17 21 14.9	+2.2
	baz=116						
BC3	Big Chuckawall	115.70	51	⇑PKiK	PKiKP	17 21 14.5	+1.4
	baz=116						
C22A	Vida	115.71	34	⇑PKiK	PKiKP	17 21 14.2	+1.5
	baz=116						
G20A	Bridger	115.72	37	⇓PKiK	PKiKP	17 21 14.4	+1.6
	baz=116						
NLU	North Lily Min	115.73	44	*e*PKPdf	PKPdf	17 21 13.7	+0.7
P15A	Leamington	115.75	44	⇓PKiK	PKiKP	17 21 14.3	+1.3
	baz=116						
N16A	Rees Ranch, Co	115.75	43	⇑PKiK	PKiKP	17 21 14.5	+1.5
	baz=116						
IRM	Iron Mountain	115.76	51	⇑PKiK	PKiKP	17 21 14.3	+1.1
	baz=116						
CCUT	Cedar City	115.82	47	*e*PKPdf	PKPdf	17 21 14.6	+1.4
I19A	Meeteetse	115.85	39	⇓PKiK	PKiKP	17 21 14.4	+1.4
	baz=116						
K18A	Toltan Ranch,	115.87	40	⇓PKiK	PKiKP	17 21 13.6	+0.5
	baz=116						
D22A	Cohagen	115.88	35	⇑PKiK	PKiKP	17 21 13.7	+0.7
	baz=116						
NEE2	Needles Airpor	115.95	50	⇓Pdiff	Pdif	17 17 29.8	+3.6
	baz=116						
M17A	Scullys Gap (B	116.00	42	⇑PKiK	PKiKP	17 21 13.9	+0.4
	baz=116						
MPU	Maple Canyon	116.01	44	*e*PKPdf	PKPdf	17 21 13.2	-0.3
A24A	Westby	116.05	32	⇓PKiK	PKiKP	17 21 14.2	+0.9
	baz=116						
F21A	Absaloka Mine,	116.06	36	⇑PKiK	PKiKP	17 21 14.3	+0.9
	baz=116						
C23A	Lambert	116.06	34	⇑PKiK	PKiKP	17 21 14.2	+0.8
	baz=116						
DAU	Daniels Canyon	116.09	43	*e*PKPdf	PKPdf	17 21 15.0	+1.3
DAU	Daniels Canyon	116.09	43	*e*PKiKP	PKPdf	17 21 15.0	+1.3
PD01	Pinedale Array	116.10	40	*e*PKPdf	PKPdf	17 21 12.9	-0.7
ESDC	Sonseca Array	116.10	316	PKP	PKPdf	17 21 13.5	-0.2
	comp=Z,7.0nm,0.9s,baz=78,slow=1.3,SNR=9.7						
ESDC				PKKPbc	PKKPbc	17 31 44.6	-0.3
	comp=Z,1.4nm,0.7s,baz=254,slow=3.8,SNR=4.2						
ESDC	Sonseca Array	116.10	316	PKP	PKPdf	17 21 13.5	-0.2
ESDC				PKKPbc	PKKPbc	17 31 44.6	-0.3
ESLA	Sonseca Array	116.10	316	*e*PKPdf	PKPdf	17 21 13.1	-0.6
ESLA				LR	LR		
	comp=Z,180µm,21.0s,MS7.7						
PD02	Pinedale Array	116.11	40	*e*PKPdf	PKPdf	17 21 12.8	-0.8
LAO	LASA Array	116.11	35	⇓PKiK	PKiKP	17 21 14.6	+1.1
	baz=116						
LAO	LASA Array	116.11	35	*e*PKPdf	PKPdf	17 21 14.0	+0.5
LAO				LR	LR		
	comp=Z,23µm,19.0s,MS6.8						
BW06	Boulder Array	116.12	40	⇑PKiK	PKiKP	17 21 14.3	+0.7
	baz=116						
BW06	Boulder Array	116.12	40	PFAKE		17 21 30.0	+16
BW06				LR	LR		
	comp=Z,30µm,21.0s,MS6.9						
PDAR	Pinedale Array	116.12	40	Pdiff	Pdif	17 17 39.0	+12
	comp=Z,0.5nm,0.8s,baz=291,slow=2.5,SNR=3.0						
PDAR				PKP	PKPdf	17 21 14.4	+0.8
	comp=Z,26nm,1.2s,baz=273,slow=1.6,SNR=11						
PDAR				PKKPbc	PKKPbc	17 31 43.2	-1.8
	comp=Z,25nm,0.8s,baz=124,slow=4.5,SNR=18						
PDAR	Pinedale Array	116.12	40	Pdif	Pdif	17 17 39.0	+12
PDAR				PKP	PKPdf	17 21 14.4	+0.8
PDAR				PKKPbc	PKKPbc	17 31 43.2	-1.8
N17A	Moffit Pass	116.14	42	⇑PKiK	PKiKP	17 21 14.1	+0.4
	baz=116						
J19A	Crowheart	116.20	39	⇑PKiK	PKiKP	17 21 14.4	+0.6
	baz=116						
DGMT	Dagmar	116.21	32	⇓PKiK	PKiKP	17 21 14.2	+0.6
	baz=116						
DGMT	Dagmar	116.21	32	*e*PKPdf	PKPdf	17 21 13.3	-0.3
DGMT				LR	LR		
	comp=Z,23µm,22.0s,MS6.8						
L18A	Fontenelle, Gr	116.21	41	⇑PKiK	PKiKP	17 21 14.0	+0.2
	baz=116						
H20A	Greybull	116.23	38	⇓PKiK	PKiKP	17 21 14.4	+0.6
	baz=116						
MVU	Marysvale	116.25	45	PFAKE		17 21 30.0	+16
MVU				LR	LR		
	comp=Z,35µm,22.0s,MS6.9						
MSU	Marysvale	116.28	45	*e*PKPdf	PKPdf	17 21 14.9	+0.8
MSU	Marysvale	116.28	45	*e*PKIKP	PKPdf	17 21 14.9	+0.8
G21A	Lodge Grass	116.33	37	⇑PKiK	PKiKP	17 21 14.6	+0.6
	baz=116						
R15A	Junction	116.33	46	⇓PKiK	PKiKP	17 21 15.0	+0.8
	baz=116						
W13A	Hualapai Mount	116.39	49	⇑PKiK	PKiKP	17 21 14.8	+0.4
	baz=116						
Y12C	Blythe	116.39	51	⇑PKiK	PKiKP	17 21 14.7	+0.2
	baz=116						
E22A	Miles City	116.40	35	⇓PKiK	PKiKP	17 21 14.6	+0.5
	baz=116						
GLA	Glamis	116.40	52	⇓PKiK	PKiKP	17 21 15.2	+0.7
	baz=116						
GLA	Glamis	116.40	52	PKPdf	PKPdf	17 21 16.5	+2.0
GLA	Glamis	116.40	52	PKIKP	PKPdf	17 21 16.5	+2.0
D23A	Lindsay	116.41	34	⇓PKiK	PKiKP	17 21 13.8	-0.3
	baz=116						
M18A	Lyman	116.42	42	⇓PKiK	PKiKP	17 21 15.2	+0.9
	baz=116						
PAB	San Pablo	116.43	316	*e*PKPdf	PKPdf	17 21 14.2	-0.1
PAB				LR	LR		
	comp=Z,40µm,22.0s,MS7.0						
PAB	San Pablo	116.43	316	*e*PKIKP	PKPdf	17 21 14.2	-0.1
PAB				MLR	MLR		
	comp=Z,40µm,22.0s,MS7.0						
I20A	Worland	116.43	38	⇑PKiK	PKiKP	17 21 15.1	+0.9
	baz=116						
PDMCI	Parker Dam,Lak	116.49	50	⇓PKiK	PKiKP	17 21 15.1	+0.5
	baz=116						
O17A	Robinson Place	116.54	43	⇓PKiK	PKiKP	17 21 14.9	+0.4
	baz=117						
K19A	Absolon Red Bu	116.55	40	⇑PKiK	PKiKP	17 21 14.9	+0.4
	baz=117						
PMSA	Palmer Station	116.56	177	PFAKE		17 21 20.0	+6.2
PMSA				LR	LR		
	comp=Z,95µm,19.0s,MS7.4						
L19A	Farson	116.57	41	⇑PKiK	PKiKP	17 21 15.1	+0.6
	baz=117						
TMUT	Trail Mountain	116.62	44	*e*PKPdf	PKPdf	17 21 13.9	-0.8
C24A	Savage	116.64	33	⇓PKiK	PKiKP	17 21 15.7	+1.2
	baz=117						
E23A	Ismay	116.74	35	⇓PKiK	PKiKP	17 21 15.9	+1.2
	baz=117						
H21A	Big Horn, Sher	116.74	37	⇑PKiK	PKiKP	17 21 16.1	+1.4
	baz=117						
J20A	Shoshoni	116.76	39	⇑PKiK	PKiKP	17 21 15.8	+0.9
	baz=117						
Q16A	Castle Valley	116.81	45	⇓PKiK	PKiKP	17 21 15.6	+0.5
	baz=117						
R16A	Teasdale	116.87	45	⇑PKiK	PKiKP	17 21 16.2	+0.9
	baz=117						
NRS	Narsarsuaq	116.93	353	*i* P	PKKPdf	17 32 25.5	+16
NRS	comp=Z,8.1nm,1.0s			*i*		17 32 49.7	
D24A	Glendive	116.94	34	⇓PKiK	PKiKP	17 21 15.9	+0.8
	baz=117						
K20A	Yellowstone Ra	116.95	40	⇑PKiK	PKiKP	17 21 15.9	+0.7
	baz=117						
M19A	Rock Springs	116.99	41	⇓PKiK	PKiKP	17 21 16.1	+0.8
	baz=117						
PBRG	Braganca	116.99	319	*e*Pdif	Pdif	17 17 33.8	+3.0
PBRG	Braganca	116.99	319	PKP	PKPdf	17 21 20.8	+5.4
PBRG				*i* P		17 22 35.6	
PBRG	Braganca	116.99	319	*e*SS	SS	17 38 33.2	+2.6
PBRG	Braganca	116.99	319	*e*LQ		17 53 54.2	
PBRG				*e*LR	LR	17 59 51.1	
	comp=Z,43µm,20.0s						
O18A	Roosevelt	117.01	43	⇑PKiK	PKiKP	17 21 16.1	+0.6
	baz=117						
I21A	Big Trails, Te	117.02	38	⇓PKiK	PKiKP	17 21 16.1	+0.7
	baz=117						
S16A	Weppner Ranch,	117.03	46	⇓PKiK	PKiKP	17 21 16.7	+1.2
	baz=117						
U15A	North Rim	117.06	47	⇑PKiK	PKiKP	17 21 17.1	+1.4
	baz=117						
P18A	Preston Nutter	117.14	43	⇑PKiK	PKiKP	17 21 17.1	+1.3
	baz=117						
J21A	Lysite	117.17	39	⇑PKiK	PKiKP	17 21 16.7	+1.1
	baz=117						
H22A	Clearmont	117.18	37	⇓PKiK	PKiKP	17 21 16.5	+0.8
	baz=117						
SRU	San Rafael	117.18	44	⇓PKiK	PKiKP	17 21 16.5	+0.7
	baz=117						
SRU	San Rafael	117.18	44	*e*PKPdf	PKPdf	17 21 16.0	+0.2
SRU	San Rafael	117.18	44	*e*PKiKP	PKPdf	17 21 16.0	+0.2
Z13A	Yuma Proving G	117.27	51	⇑PKiK	PKiKP	17 21 17.1	+0.9
	baz=117						
N19A	John Jarvie Ra	117.27	42	⇑PKiK	PKiKP	17 21 16.4	+0.5
	baz=117						
L20A	Wamsutter	117.28	40	⇓PKiK	PKiKP	17 21 16.3	+0.4
	baz=117						
113A	Mohawk Valley,	117.34	52	⇑PKiK	PKiKP	17 21 17.4	+1.0
	baz=117						
R17A	Hanksville Air	117.35	45	⇑PKiK	PKiKP	17 21 17.1

WUAZ Wupatki 118.11 48 *e*PKPdf PKPdf 17 21 17.6 -0.1
WUAZ LR LR
comp=Z,34µm,20.0s,MS7.0
Q19A Hogan Spring (118.12 44 ⇓PKiKP PKiKP 17 21 18.2 +0.5
baz=118
W16A Flagstaff 118.16 49 ⇑PKiKP PKiKP 17 21 18.2 +0.3
baz=118
H24A Dirks Ranch, A 118.16 36 ⇓PKiKP PKiKP 17 21 18.0 +0.4
baz=118
RWWY Rawlins 118.17 40 *e*PKPdf PKPdf 17 21 17.4 -0.2
U17A Shonto 118.18 47 ⇑PKiKP PKiKP 17 21 18.3 +0.5
baz=118
S18A Hurst Farm, Bl 118.18 45 ⇓PKiKP PKiKP 17 21 18.2 +0.4
baz=118
MTE Manteigas 118.21 318 PKPdf PKPdf 17 21 19.0 +1.3
MTE LR LR
comp=Z,42µm,21.0s,MS7.0
MTE Manteigas 118.21 318 *e*Pdif Pdif 17 17 39.5 +3.3
MTE Manteigas 118.21 318 PKP PKPdf 17 21 17.7 0.0
MTE Manteigas 118.21 318 *e*PP PP 17 22 36.5 +3.6
MTE *e*SKS SKSac 17 28 11.5 +1.6
MTE Manteigas 118.21 318 *e*SS SS 17 38 51.4 +4.9
MTE Manteigas 118.21 318 *e*LQ 17 54 18.2
MTE *e*LR LR 18 00 13.3
comp=Z,37µm,22.0s
O20A White River Ci 118.26 42 ⇑PKiKP PKiKP 17 21 18.4 +0.6
baz=118
PVIS Viseu 118.28 319 PKP PKPdf 17 21 18.3 +0.4
PVIS *i* P 17 22 49.1
J23A Dilts Ranch, B 118.31 38 ⇑PKiKP PKiKP 17 21 19.1 +1.3
baz=118
214A Organ Pipe Nat 118.39 52 ⇓PKiKP PKiKP 17 21 19.1 +0.7
baz=118
Z15A Gila River Ind 118.40 51 ⇑PKiKP PKiKP 17 21 19.4 +1.0
baz=118
R19A Curley Farm, L 118.43 44 ⇑PKiKP PKiKP 17 21 18.7 +0.4
baz=118
N21A Black Mountain 118.43 41 ⇓PKiKP PKiKP 17 21 18.5 +0.3
baz=118
PCBR Castelo Branco 118.43 318 *e*Pdif Pdif 17 17 35.5 -1.7
PCBR Castelo Branco 118.43 318 PKP PKPdf 17 21 18.9 +0.7
PCBR Castelo Branco 118.43 318 *e*PP PP 17 22 32.2 -2.3
P20A De Beque 118.46 43 ⇑PKiKP PKiKP 17 21 18.7 +0.4
baz=118
L22A Ellis Ranch, M 118.49 39 ⇑PKiKP PKiKP 17 21 18.2 0.0
baz=118
V17A Tonalea, Kykot 118.50 48 ⇑PKiKP PKiKP 17 21 18.3 -0.2
baz=118
X16A Lo Mia Camp, P 118.50 49 ⇓PKiKP PKiKP 17 21 18.8 +0.3
baz=118
T18A Mexican Hat 118.52 46 ⇓PKiKP PKiKP 17 21 18.2 -0.3
baz=118
PTO Porto 118.53 319 PKP PKPdf 17 21 19.1 +0.8
115A Sonoran Desert 118.57 51 ⇓PKiKP PKiKP 17 21 18.3 -0.4
baz=119
PMRV Marv??o 118.57 317 *e*PKP PKPdf 17 21 18.8 +0.3
PMRV *i* P 17 22 46.2
PMRV Marv??o 118.57 317 *e*SS SS 17 38 50.9 -0.4
PMRV Marv??o 118.57 317 *e*LQ 17 54 39.4
PMRV *e*LR LR 17 58 17.1
comp=Z,31µm,20.0s
I24A Kuemmerle Ranc 118.62 37 ⇑PKiKP PKiKP 17 21 18.2 -0.2
baz=119
PV04 Paradox Valley 118.63 44 *e*PKPdf PKPdf 17 21 17.5 -1.1
Y16A Circle Bar Ran 118.69 50 ⇓PKiKP PKiKP 17 21 19.4 +0.5
baz=119
M22A Cedar Creek Ra 118.71 40 ⇑PKiKP PKiKP 17 21 19.3 +0.6
baz=119
O21A Pagoda 118.74 42 ⇓PKiKP PKiKP 17 21 19.5 +0.7
baz=119
S19A Harvey Farm, M 118.77 45 ⇑PKiKP PKiKP 17 21 19.2 +0.2
baz=119
W17A Winslow 118.78 48 ⇓PKiKP PKiKP 17 21 20.2 +1.2
baz=119
Q20A Ridgley Place, 118.79 43 ⇓PKiKP PKiKP 17 21 20.2 +1.3
baz=119
RSSD Black Hills 118.82 36 *e*PKPdf PKPdf 17 21 17.6 -1.2
RSSD Black Hills 118.82 36 *e*PKIKP PKPdf 17 21 17.6 -1.2
U18A Rough Rock, Ch 118.83 47 ⇑PKiKP PKiKP 17 21 18.6 -0.5
baz=119
J24A Dixon Ranch, L 118.89 37 ⇓PKiKP PKiKP 17 21 18.9 -0.1
baz=119
L23A Garrett 118.91 39 ⇓PKiKP PKiKP 17 21 19.7 +0.6
baz=119
PBAR Barrancos 118.92 316 *e*Pdif Pdif 17 17 39.8 +0.4
PBAR Barrancos 118.92 316 PKP PKPdf 17 21 19.4 +0.2
PBAR Barrancos 118.92 316 *e*PP PP 17 22 41.0 +3.1
PBAR Barrancos 118.92 316 *e*SS SS 17 39 00.4 +4.5
PBAR Barrancos 118.92 316 *e*LQ 17 54 51.4
PBAR *e*LR LR 18 01 55.5
comp=Z,47µm,24.0s
Z16A Peralta Trail, 118.94 50 ⇓PKiKP PKiKP 17 21 20.3 +0.9
baz=119
PESTR Estremoz 118.98 317 *e*Pdif Pdif 17 17 42.0 +2.3
PESTR Estremoz 118.98 317 PKP PKPdf 17 21 20.0 +0.7
PESTR *i* P 17 22 49.1
PESTR Estremoz 118.98 317 *e*SS SS 17 38 54.8 -1.8
PESTR Estremoz 118.98 317 *e*LQ 17 55 20.7
PESTR *e*LR LR 18 00 52.1
comp=Z,43µm,22.0s
PV01 Paradox Valley 118.98 44 *e*PKPdf PKPdf 17 21 20.0 +0.7
MDND Maddock 119.01 31 ⇑PKiKP PKiKP 17 21 20.2 +1.1
baz=119
X17A Forest Lakes 119.02 49 ⇓PKiKP PKiKP 17 21 20.3 +0.8
baz=119
116A Eloy 119.03 51 ⇑PKiKP PKiKP 17 21 20.3 +0.7
baz=119
P21A Newcastle 119.09 42 ⇑PKiKP PKiKP 17 21 20.2 +0.6
baz=119
R20A Redvale 119.09 44 ⇓PKiKP PKiKP 17 21 20.1 +0.5
baz=119
V18A Ganado 119.09 47 ⇓PKiKP PKiKP 17 21 19.9 +0.3
baz=119
SFS San Fernando 119.10 314 PFAKE 17 21 30.0 +10
SFS LR LR
comp=Z,80µm,20.0s,MS7.3
N22A Wattenberg Ran 119.11 41 ⇓PKiKP PKiKP 17 21 19.9 +0.4
baz=119
K24A Anderson Ranch 119.13 38 ⇑PKiKP PKiKP 17 21 20.1 +0.6
baz=119
PTOM Tomar 119.17 318 PKP PKPdf 17 21 23.7 +4.1
PTOM Tomar 119.17 318 *e*PP PP 17 22 40.4 +0.8
ULM Lac du Bonnet 119.18 27 PKP PKPdf 17 21 19.0 -0.3
comp=Z,16nm,0.7s,baz=314,slow=1.8,SNR=18
ULM PKKPab PKKPab 17 31 34.3 -1.2
comp=Z,3.4nm,0.7s,baz=136,slow=7.0,SNR=4.5
ULM Lac du Bonnet 119.18 27 *e*PKPdf PKPdf 17 21 16.7 -2.6
ULM LR LR
comp=Z,42µm,21.0s,MS7.0
ULM Lac du Bonnet 119.18 27 *e*PKIKP PKPdf 17 21 16.7 -2.6
ULM MLR MLR
comp=Z,42µm,21.0s
M23A Laramie 119.24 40 ⇑PKiKP PKiKP 17 21 21.5 +1.8
baz=119
TORD Torodi Ar. Bea 119.24 286 Pdiff Pdif 17 17 53.2 +12
comp=Z,0.4nm,0.9s,baz=91,slow=5.4,SNR=2.5
TORD PKP PKPdf 17 21 20.2 -0.2
comp=Z,42nm,0.8s,baz=62,slow=1.8,SNR=31
TORD PKKPbc PKKPbc 17 31 32.2 -0.9
comp=Z,4.1nm,1.1s,baz=198,slow=1.8,SNR=2.6
TORD Torodi Ar. Bea 119.24 286 Pdif Pdif 17 17 53.2 +12
TORD PKP PKPdf 17 21 20.2 -0.2
TORD PKKPbc PKKPbc 17 31 32.2 -0.9
Y17A Roosevelt 119.25 50 ⇓PKiKP PKiKP 17 21 21.2 +1.2
baz=119
T19A Beclabito 119.26 46 ⇓PKiKP PKiKP 17 21 21.5 +1.6
baz=119
S20A Disappointment 119.27 44 ⇑PKiKP PKiKP 17 21 21.3 +1.3
baz=119
Q21A Lamborn Mesa, 119.34 43 ⇑PKiKP PKiKP 17 21 21.9 +1.9
baz=119
U19A Dine' College, 119.37 46 ⇑PKiKP PKiKP 17 21 21.5 +1.3
baz=119
O22A Kremmling 119.37 41 ⇑PKiKP PKiKP 17 21 21.6 +1.5
baz=119
N23A Red Feather La 119.39 40 ⇑PKiKP PKiKP 17 21 21.6 +1.5
baz=119
EVO Evora 119.43 317 *e*PKIKP PKPdf 17 21 20.5 +0.4
comp=Z,128nm,1.0s
EVO Evora 119.43 317 *e*Pdif Pdif 17 17 42.3 +0.6
EVO Evora 119.43 317 PKP PKPdf 17 21 21.5 +1.4
EVO Evora 119.43 317 *e*PP PP 17 22 46.3 +4.9
L24A Wheatland 119.43 39 ⇓PKiKP PKiKP 17 21 22.4 +2.3
baz=119
MDT Midelt 119.43 309 PKP PKPdf 17 21 20.7 +0.3
comp=Z,16nm,0.9s,baz=90,slow=1.8,SNR=10.0
MDT PKKPab PKKPab 17 31 37.3 +2.7
comp=Z,9.7nm,1.0s,baz=244,slow=2.9,SNR=4.8
MDT Midelt 119.43 309 PKP PKPdf 17 21 20.7 +0.3
MDT PKKPab PKKPab 17 31 37.3 +2.7
216A Three Points, 119.44 52 ⇑PKiKP PKiKP 17 21 22.0 +1.6
baz=120
MVCO Mesa Verde 119.46 45 ⇑PKiKP PKiKP 17 21 22.0 +1.7
baz=120
MVCO Mesa Verde 119.46 45 *e*PKPdf PKPdf 17 21 20.5 +0.3
MVCO LR LR
comp=Z,43µm,20.0s,MS7.1
PHWY Pilot Hill 119.49 40 *e*PKPdf PKPdf 17 21 21.2 +1.0
W18A Petrified Fore 119.49 48 ⇓PKiKP PKiKP 17 21 22.1 +1.6
baz=120
P22A Eagle 119.52 42 ⇓PKiKP PKiKP 17 21 22.0 +1.6
baz=120
PBEJ Beja 119.57 316 PKP PKPdf 17 21 20.9 +0.5
SMCO Snowmass 119.58 43 *e*PKPdf PKPdf 17 21 20.7 +0.2
X18A Snowflake 119.58 49 ⇓PKiKP PKiKP 17 21 22.0 +1.4
baz=120
R21A Cimarron 119.58 44 ⇓PKiKP PKiKP 17 21 22.3 +1.8
baz=120
Z17A San Carlos Hig 119.69 50 ⇑PKiKP PKiKP 17 21 22.2 +1.3
baz=120
V19A Window Rock 119.74 47 ⇓PKiKP PKiKP 17 21 22.3 +1.4
baz=120
S21A Coal Bank Pass 119.75 44 ⇑PKiKP PKiKP 17 21 22.4 +1.6
baz=120
W19A Sanders 119.75 48 ⇓PKiKP PKiKP 17 21 22.3 +1.4
baz=120
PVAQ Vaqueiros 119.75 315 *e*Pdif Pdif 17 17 47.6 +4.5
PVAQ Vaqueiros 119.75 315 *e*PKP PKPdf 17 21 21.8 +1.0
PVAQ *i* P 17 22 55.5
PVAQ Vaqueiros 119.75 315 *e*SS SS 17 39 08.1 +1.4
PVAQ Vaqueiros 119.75 315 *e*LQ 17 55 14.0
PVAQ *e*LR LR 18 01 53.5
comp=Z,30µm,18.0s
O23A Lake Granby, G 119.76 41 ⇑PKiKP PKiKP 17 21 22.2 +1.4
baz=120
Q22A Crested Butte, 119.78 43 ⇓PKiKP PKiKP 17 21 22.0 +1.1
baz=120
M24A Cheyenne 119.81 39 ⇓PKiKP PKiKP 17 21 22.3 +1.4
baz=120
U20A Newcomb 119.83 46 ⇓PKiKP PKiKP 17 21 22.5 +1.4
baz=120
Y18A Canyon Day Jun 119.83 49 ⇓PKiKP PKiKP 17 21 22.4 +1.2
baz=120
TUC Tucson 119.84 51 *e*PKPdf PKPdf 17 21 21.8 +0.7
TUC LR LR
comp=Z,32µm,21.0s,MS6.9
TUC Tucson 119.84 51 *e*PKIKP PKPdf 17 21 21.8 +0.7
TUC MLR MLR
comp=Z,32µm,21.0s,MS6.9
PCVE Castro Verde 119.87 316 *e*Pdif Pdif 17 17 44.8 +1.1
PCVE Castro Verde 119.87 316 *e*PKP PKPdf 17 21 22.4 +1.4
PCVE Castro Verde 119.87 316 *e*PP PP 17 22 50.3 +5.8
PCVE Castro Verde 119.87 316 *e*SS SS 17 39 09.8 +1.6
PCVE Castro Verde 119.87 316 *e*LQ 17 55 20.7
PCVE *e*LR LR 18 02 06.1
comp=Z,36µm,20.0s
MESJ Messejana 119.90 316 *e* Pdif 17 17 55.6 +12
baz=63,slow=5.9
MESJ *e*P 17 21 21.5
MESJ *e*PP PP 17 22 44.5 -0.1
MESJ *e*S SKSac 17 28 13.9 -2.2
MESJ AMS AMS 18 17 42.3
comp=Z,48µm,21.3s,MS7.1
MESJ Messejana 119.90 316 *e*PKIKP PKPdf 17 21 21.4 +0.3
MESJ *e* 17 22 44.5
MESJ *e*S SKSac 17 28 13.8 -2.3
PBDV Barranco-do-Ve 119.98 315 *e*Pdif Pdif 17 17 52.3 +8.2
PBDV Barranco-do-Ve 119.98 315 PKP PKPdf 17 21 23.9 +2.6
PBDV *i* P 17 22 56.0
PBDV Barranco-do-Ve 119.98 315 *e*SS SS 17 39 16.0 +6.4
PBDV Barranco-do-Ve 119.98 315 *e*LQ 17 52 48.7
PBDV *e*LR LR 18 02 03.2
comp=Z,39µm,20.0s
PNCL Nicolau / Gran 119.98 316 *e*Pdif Pdif 17 17 52.8 +8.7
PNCL Nicolau / Gran 119.98 316 *e*PKP PKPdf 17 21 21.9 +0.7
PNCL *i* P 17 22 54.3
PNCL Nicolau / Gran 119.98 316 *e*SS SS 17 39 15.4 +5.8
PNCL Nicolau / Gran 119.98 316 *e*LQ 17 53 45.8
PNCL *e*LR LR 17 59 47.2
comp=Z,35µm,24.0s
PLML Palmela 120.03 317 *e*PKP PKPdf 17 21 23.5 +2.2
217A Green Valley 120.03 52 ⇓PKiKP PKiKP 17 21 22.7 +1.2
baz=120
PMAFR Mafra 120.08 318 *e*PKP PKPdf 17 21 23.0 +1.6
PMAFR Mafra 120.08 318 *e*PP PP 17 22 46.9 +1.0
PMAFR *i* P 17 22 58.9
PMAFR Mafra 120.08 318 *e*LQ 17 56 01.4
PMAFR *e*LR LR 18 01 17.9
comp=Z,31µm,24.0s
LIS Lisbon 120.11 317 *e*P PKPdf 17 21 20.5 -0.9
LIS *e*PP PP 17 22 45.7 -0.4
LIS *e*S SKSac 17 28 17.2 +0.5
LIS AMS AMS 18 23 42.3
comp=E,34µm,16.9s
LIS Lisbon 120.11 317 *e*PKIKP PKPdf 17 21 20.5 -1.0
LIS *e* 17 22 45.7
LIS *e*S SKSac 17 28 17.2 +0.4
N24A Carr 120.11 40 ⇑PKiKP PKiKP 17 21 22.5 +1.0
baz=120
Z18A Geronimo 120.11 50 ⇓Pdiff Pdif 17 17 46.6 +1.9
baz=120
V20A Brimhall 120.12 47 ⇓PKiKP PKiKP 17 21 22.5 +0.9
baz=120
ISCO Idaho Springs 120.18 41 ⇑PKiKP PKiKP 17 21 22.5 +0.8
baz=120
ISCO Idaho Springs 120.18 41 *e*PKPdf PKPdf 17 21 21.1 -0.5
ISCO LR LR
comp=Z,25µm,21.0s,MS6.8
ISCO Idaho Springs 120.18 41 *e*PKIKP PKPdf 17 21 21.1 -0.4
ISCO MLR MLR
comp=Z,25µm,21.0s,MS6.8
P23A Jefferson 120.24 42 ⇓PKiKP PKiKP 17 21 23.0 +1.2
baz=120
T21A Navajo Lake 120.25 45 ⇑PKiKP PKiKP 17 21 22.8 +0.9
baz=120
118A Homack Ranch, 120.34 51 ⇑PKiKP PKiKP 17 21 22.6 +0.4
baz=120
Y19A Nutrioso 120.34 49 ⇑PKiKP PKiKP 17 21 22.6 +0.5
baz=120
O24A Longmont 120.36 41 ⇑PKiKP PKiKP 17 21 22.7 +0.7
baz=120
S22A 4UR Ranch, Cre 120.38 44 ⇑PKiKP PKiKP 17 21 22.6 +0.5
baz=120
PTEO Sao Teotonio 120.39 316 PKP PKPdf 17 21 22.5 +0.5
PTEO *i* P 17 23 13.0
W20A Ramah 120.40 47 ⇓PKiKP PKiKP 17 21 22.8 +0.6
baz=120
U21A Nageezi 120.42 46 ⇑PKiKP PKiKP 17 21 23.2 +1.0
baz=120
MORF Marmelete 120.46 316 *e*PKIKP PKPdf 17 21 23.5 +1.3
MORF *e* 17 22 47.8
MORF *e*S SKSac 17 28 17.9 -0.1
MORF Marmelete 120.46 316 PKP PKPdf 17 21 23.9 +1.7
MORF Marmelete 120.46 316 *e*PP PP 17 22 50.5 +2.0
MORF Marmelete 120.46 316 *e*SS SS 17 39 27.0 +11
MORF Marmelete 120.46 316 *e*LR LR 18 03 05.8
comp=Z,33µm,22.0s
Q23A Hartsel 120.49 42 ⇓PKiKP PKiKP 17 21 23.1 +0.8
baz=120
218A Dragoon 120.55 51 ⇓PKiKP PKiKP 17 21 23.2 +0.6
baz=121
AGMN Agassiz Nation 120.56 29 PKPdf PKPdf 17 21 20.8 -1.2
AGMN LR LR
comp=Z,37µm,20.0s,MS7.0
Z19A T-Link Ranch, 120.62 50 ⇓PKiKP PKiKP 17 21 23.4 +0.7
baz=121
X20A Quemado 120.66 48 ⇑PKiKP PKiKP 17 21 23.6 +0.8
baz=121
RTC Rabat Centre 120.66 311 PFAKE 17 21 30.0 +7.3
RTC LR LR
comp=Z,33µm,20.0s,MS7.0
PFVI Vila Bisbo 120.66 315 *e*Pdif Pdif 17 17 52.1 +4.9
PFVI Vila Bisbo 120.66 315 *e*PKP PKPdf 17 21 24.6 +2.0
PFVI *i* P 17 22 58.9
PFVI Vila Bisbo 120.66 315 *e*SS SS 17 39 23.1 +4.7
PFVI Vila Bisbo 120.66 315 *e*LQ 17 56 10.1
PFVI *e*LR LR 18 02 25.9
comp=Z,39µm,20.0s
T22A Edith 120.68 45 ⇑PKiKP PKiKP 17 21 23.8 +1.1
baz=121
V21A Milan 120.72 46 ⇑PKiKP PKiKP 17 21 23.7 +0.8
baz=121
P24A Kohler Place, 120.79 41 ⇑PKiKP PKiKP 17 21 23.9 +1.1
baz=121
119A Ashpeak Ranch, 120.81 50 ⇓PKiKP PKiKP 17 21 24.0 +0.9
baz=121
318A Bisbee 120.81 52 ⇑PKiKP PKiKP 17 21 24.0 +0.9
baz=121
Q24A Divide 120.92 42 ⇓PKiKP PKiKP 17 21 24.3 +1.2
baz=121
S23A Nye Farm, Mont 120.97 44 ⇑PKiKP PKiKP 17 21 24.9 +1.6
baz=121
U22A Llaves 121.02 45 ⇑PKiKP PKiKP 17 21 24.7 +1.3
baz=121
Y20A Horse Springs, 121.02 49 ⇓PKiKP PKiKP 17 21 24.6 +1.2
baz=121
W21A San Fidel 121.03 47 ⇑PKiKP PKiKP 17 21 24.8 +1.3
baz=121
219A White Tail Can 121.15 51 ⇓PKiKP PKiKP 17 21 24.9 +1.1
baz=121
V22A San Miguel Ran 121.20 46 ⇓PKiKP PKiKP 17 21 24.9 +1.2
baz=121
Z20A Nine Sixteen R 121.20 49 ⇓PKiKP PKiKP 17 21 25.0 +1.1
baz=121
X21A Alamocita Cree 121.23 48 ⇑PKiKP PKiKP 17 21 24.6 +0.8
baz=121
P25A Willow Gulch B 121.28 41 ⇑PKiKP PKiKP 17 21 24.8 +1.0
baz=121
T23A Casias Ranch, 121.28 44 ⇓PKiKP PKiKP 17 21 24.8 +1.0
baz=121
SDCO Great Sand Dun 121.30 43 ⇑PKiKP PKiKP 17 21 24.6 +0.7
baz=121
SDCO Great Sand Dun 121.30 43 *e*PKPdf PKPdf 17 21 24.1 +0.4
SDCO LR LR
comp=Z,36µm,21.0s,MS7.0
R24A Sanders Place, 121.32 43 ⇓PKiKP PKiKP 17 21 25.0 +1.1
baz=121
319A Douglas 121.39 52 ⇑PKiKP PKiKP 17 21 25.2 +1.0
baz=121
120A U Bar Ranch, L 121.41 50 ⇑PKiKP PKiKP 17 21 25.3 +1.0
baz=121
Y21A Point of Rocks 121.50 48 ⇓PKiKP PKiKP 17 21 25.2 +0.8
baz=122
U23A El Rito 121.51 45 ⇑PKiKP PKiKP 17 21 25.8 +1.4
baz=122
Q25A Bedland, Calha 121.54 42 ⇑PKiKP PKiKP 17 21 25.2 +0.9
baz=122
BRSD Miller 121.54 34 ⇓PKiKP PKiKP 17 21 26.0 +1.9
baz=122
S24A Houchin Ranch, 121.55 43 ⇑PKiKP PKiKP 17 21 26.0 +1.6
baz=122
LAZ Ladron 121.73 47 *e*PKPdf PKPdf 17 21 24.8 +0.1
220A Playas Peak, P 121.76 51 ⇓PKiKP PKiKP 17 21 26.2 +1.2
baz=122
V23A Ortiz Mt. (NFS 121.80 46 ⇓PKiKP PKiKP 17 21 26.1 +1.1
baz=122
Z21A St. Cloud Mine 121.81 49 ⇑PKiKP PKiKP 17 21 26.3 +1.2
baz=122
OGNE Ogallala 121.85 38 ⇑PKiKP PKiKP 17 21 26.3 +1.4
baz=122
OGNE Ogallala 121.85 38 PFAKE 17 21 40.0 +15
OGNE LR LR
comp=Z,26µm,21.0s,MS6.8
R25A Fountain Ranch 121.92 42 ⇓PKiKP PKiKP 17 21 26.2 +1.1
baz=122
T24A Torres, Weston 121.94 44 ⇑PKiKP PKiKP 17 21 26.6 +1.4
baz=122
LENM Lemitar 121.95 48 *e*PKPdf PKPdf 17 21 26.0 +0.9
ANMO Albuquerque 121.97 47 PKP PKPdf 17 21 25.9 +0.8
comp=Z,11nm,0.7s,baz=212,slow=1.7,SNR=13
ANMO PKKPab PKKPab 17 31 22.4 -1.2
comp=Z,14nm,0.9s,baz=111,slow=7.0,SNR=8.8
ANMO Albuquerque 121.97 47 *e*PKPdf PKPdf 17 21 25.0 -0.1
ANMO LR LR
comp=Z,31µm,22.0s,MS6.9
ANMO Albuquerque 121.97 47 PKIKP PKPdf 17 21 25.9 +0.8
ANMO pmax pmax
comp=Z,11nm,0.7s
320A Kipp Ranch, An 121.99 51 ⇓PKiKP PKiKP 17 21 26.7 +1.3
baz=122
Y22D IRIS PASSCAL I 122.03 48 ⇑PKiKP PKiKP 17 21 26.6 +1.1
baz=122
Y22A Socorro 122.06 48 ⇑PKiKP PKiKP 17 21 26.5 +1.0
baz=122
121A Cooks Peak, D 122.06 50 ⇓PKiKP PKiKP 17 21 26.1 +0.6
baz=122
S25A Robets Cordova 122.07 43 ⇑PKiKP PKiKP 17 21 26.5 +1.0
baz=122
W23A Werner Place, 122.10 46 ⇓PKiKP PKiKP 17 21 26.3 +0.7
baz=122
U24A Moreno Valley 122.11 45 ⇓PKiKP PKiKP 17 21 26.4 +0.9
baz=122
LPM Los Pinos Moun 122.14 47 *e*PKPdf PKPdf 17 21 25.4 -0.1
BNM Barren Site 122.22 48 *e*PKPdf PKPdf 17 21 26.6 +0.9
221A Mesquite Ranch 122.29 50 ⇑PKiKP PKiKP 17 21 26.8 +0.8
baz=122
X23A Hourglass Bar 122.34 47 ⇑PKiKP PKiKP 17 21 26.9 +0.8
baz=122
T25A Trinidad 122.35 43 ⇑PKiKP PKiKP 17 21 26.8 +0.8
baz=122
Z22A Elephant Butte 122.37 49 ⇓PKiKP PKiKP 17 21 27.0 +0.8
baz=122
V24A Rampart Ranch, 122.45 45 ⇓PKiKP PKiKP 17 21 27.7 +1.5
baz=122
122A Conniff Cattle 122.59 49 ⇓PKiKP PKiKP 17 21 27.7 +1.2
baz=123
W24A Lazy 6 Ranch, 122.61 46 ⇑PKiKP PKiKP 17 21 27.6 +1.1
baz=123
U25A Circle Dot Ran 122.73 44 ⇓PKiKP PKiKP 17 21 27.7 +1.0
baz=123
Y23A Lovelace Mesa, 122.74 47 ⇓PKiKP PKiKP 17 21 27.8 +0.9
baz=123
222A Williams Famil 122.77 50 ⇑PKiKP PKiKP 17 21 27.7 +0.8
baz=123
EYMN Ely 122.83 26 *e*PKPdf PKPdf 17 21 27.1 +0.8
EYMN LR LR
comp=Z,22µm,21.0s,MS6.8
V25A Rancho No Teng 122.86 45 ⇑PKiKP PKiKP 17 21 28.0 +1.0
baz=123
X24A Lazy VL Ranch, 122.90 47 ⇑PKiKP PKiKP 17 21 28.3 +1.2
baz=123
Z23A Rita Site, Whi 122.92 48 ⇑PKiKP PKiKP 17 21 28.1 +0.9
baz=123
123A Bell Site, Whi 123.17 49 ⇑PKiKP PKiKP 17 21 29.0 +1.2
baz=123
U26A Atchley Ranch, 123.19 44 ⇓PKiKP PKiKP 17 21 28.1 +0.4
baz=123
Y24A Capitan 123.20 47 ⇓PKiKP PKiKP 17 21 28.3 +0.5
baz=123
W25A X Bar L Ranch, 123.28 45 ⇓PKiKP PKiKP 17 21 28.8 +0.9
baz=123
ECSD EROS Data Cent 123.29 33 *e*PKPdf PKPdf 17 21 26.4 -1.0
ECSD LR LR
comp=Z,31µm,21.0s,MS6.9
223A Chaparral, Ant 123.33 50 ⇑PKiKP PKiKP 17 21 28.9 +0.8
baz=123
V26A Tequesquite Ra 123.47 44 ⇑PKiKP PKiKP 17 21 28.9 +0.7
baz=124
X25A Clemmons Ranch 123.47 46 ⇓PKiKP PKiKP 17 21 29.0 +0.8
baz=124
SCHQ Schefferville 123.52 6 PKP PKPdf 17 21 28.1 +0.6
comp=Z,32nm,0.8s,baz=330,slow=2.8,SNR=18
SCHQ PKKP PKKPbc 17 31 56.8 +39
comp=Z,11nm,0.9s,baz=4.6,slow=9.4,SNR=4.2
SCHQ Schefferville 123.52 6 *e*PKPdf PKPdf 17 21 26.9 -0.6
SCHQ LR LR
comp=Z,42µm,22.0s,MS7.0
Z24A Sheeppen Canyo 123.53 48 ⇓PKiKP PKiKP 17 21 29.0 +0.6
baz=124
Y25A Mesa, Roswell 123.74 47 ⇓PKiKP PKiKP 17 21 27.4 -1.4
baz=124
124A Stringfield Ra 123.75 49 ⇑PKiKP PKiKP 17 21 27.5 -1.4
baz=124
W26A Owens Ranch, T 123.84 45 ⇑PKiKP PKiKP 17 21 28.0 -1.0
baz=124
BGNE Belgrade 123.92 36 ⇓PKiKP PKiKP 17 21 27.8 -1.1
baz=124
224A Cornudas Mount 123.98 49 ⇑PKiKP PKiKP 17 21 28.2 -1.2
baz=124
Z25A Roswell 124.03 48 ⇑PKiKP PKiKP 17 21 28.7 -0.7
baz=124
X26A CR and CF Fran 124.07 46 ⇓PKiKP PKiKP 17 21 28.4 -1.0
baz=124
SPMN St. Paul 124.22 29 ⇑PKiKP PKiKP 17 21 29.1 -0.3
baz=124
324A Moseley Ranch, 124.30 50 ⇑PKiKP PKiKP 17 21 29.1 -0.9
baz=124
W27A Bowe Ranch, En 124.35 45 ⇓PKiKP PKiKP 17 21 29.5 -0.6
baz=124

125A	**Gardner Draw,** baz=124	**124.37**	**48**	⇑PKiKP	PKiKP	17 21 29.3	-0.9	
Y26A	**Elida** baz=124	**124.37**	**46**	⇓PKiKP	PKiKP	17 21 29.4	-0.7	
RPN	**Rapa Nui** comp=Z,175nm,1.1s,baz=343,slow=3.1,SNR=3.4	**124.42**	**122**	PKP	PKPdf	17 21 30.2	+0.1	
RPN RPN	**Rapa Nui** comp=Z,42μm,20.0s,MS7.1	**124.42**	**122**	*e*PKPdf LR	PKPdf LR	17 21 29.9	-0.1	
RPN RPN	**Rapa Nui** comp=Z,42μm,20.0s,MS7.1	**124.42**	**122**	*e*PKiKP MLR	PKPdf MLR	17 21 29.9	-0.2	
225A	**Deer Hill, Car** baz=124	**124.50**	**49**	⇑PKiKP	PKiKP	17 21 29.6	-0.8	
CBKS	**Cedar Bluff** baz=124	**124.52**	**39**	⇑PKiKP	PKiKP	17 21 29.6	-0.6	
CBKS CBKS	**Cedar Bluff** comp=Z,37μm,21.0s,MS7.0	**124.52**	**39**	*e*PKPdf LR	PKPdf LR	17 21 29.3	-0.6	
CBKS CBKS	**Cedar Bluff** comp=Z,37μm,21.0s,MS7.0	**124.52**	**39**	*e*PKiKP MLR	PKPdf MLR	17 21 29.3	-0.6	
X27A	**F and S Farms,** baz=124	**124.53**	**45**	⇓PKiKP	PKiKP	17 21 29.8	-0.6	
Z26A	**Caprock** baz=125	**124.58**	**47**	⇓PKiKP	PKiKP	17 21 29.4	-1.1	
325A	**Bean Ranch, Si** baz=125	**124.72**	**50**	⇓PKiKP	PKiKP	17 21 29.9	-0.9	
CPRX	**Cap Rock**	**124.78**	**47**	*e*PKPdf	PKPdf	17 21 30.3	-0.3	
126A	**Clayton Basin,** baz=125	**124.85**	**48**	⇑PKiKP	PKiKP	17 21 30.2	-0.9	
Y27A	**Causey** baz=125	**124.87**	**46**	⇓PKiKP	PKiKP	17 21 30.1	-1.0	
425A	**Indio Mountain** baz=125	**124.97**	**50**	⇑PKiKP	PKiKP	17 21 30.1	-1.3	
TRIS TRIS	**Tristan da Cun** comp=Z,38μm,20.0s,MS7.1	**125.05**	**224**	PFAKE LR	LR	17 21 40.0	+9.0	
226A	**Malaga, Loving** baz=125	**125.06**	**49**	⇓PKiKP	PKiKP	17 21 30.3	-1.2	
MSTX	**Muleshoe** baz=125	**125.11**	**46**	⇑PKiKP	PKiKP	17 21 30.7	-0.9	
Z27A	**Tatum** baz=125	**125.11**	**47**	⇑PKiKP	PKiKP	17 21 30.7	-0.9	
CLNB	**Carlsbad**	**125.13**	**48**	*e*PKPdf	PKPdf	17 21 31.1	-0.2	
COWI COWI	**Conover** comp=Z,31μm,21.0s,MS7.0	**125.28**	**26**	PKPdf LR	PKPdf LR	17 21 30.6	-0.6	
127A	**Arkansas Junct** baz=125	**125.32**	**48**	⇓PKiKP	PKiKP	17 21 31.2	-0.8	
AMTX	**Amarillo** baz=125	**125.41**	**44**	⇓PKiKP	PKiKP	17 21 31.6	-0.5	
AMTX AMTX	**Amarillo** comp=Z,27μm,20.0s,MS6.9	**125.41**	**44**	*e*PKPdf LR	PKPdf LR	17 21 31.3	-0.4	
326A	**Caldwell Ranch** baz=126	**125.50**	**49**	⇓PKiKP	PKiKP	17 21 31.5	-0.9	
227A	**Bennet, Jal** baz=126	**125.69**	**48**	⇑PKiKP	PKiKP	17 21 31.8	-1.0	
426A	**McDonald Obser** baz=126	**125.76**	**50**	⇑PKiKP	PKiKP	17 21 31.2	-1.8	
526A	**Mary Lane Ranc** baz=126	**125.99**	**51**	⇓PKiKP	PKiKP	17 21 32.1	-1.3	
USHA	**Ushuaia** comp=Z,132nm,0.9s,baz=141,slow=2.8,SNR=20	**125.99**	**172**	PKP	PKPdf	17 21 32.8	+0.5	
USHA	**Ushuaia**	**125.99**	**172**	PKP	PKPdf	17 21 32.8	+0.5	
427A	**Hayter Ranch,** baz=126	**126.16**	**50**	⇑PKiKP	PKiKP	17 21 32.2	-1.6	
626A	**Big Bend Ranch** baz=126	**126.18**	**51**	⇓PKiKP	PKiKP	17 21 32.0	-1.8	
KSU1 KSU1	**Kansas State U** comp=Z,43μm,20.0s,MS7.1	**126.28**	**37**	*e*PKPdf LR	PKPdf LR	17 21 32.2	-1.1	
527A	**Woodward Ranch** baz=126	**126.32**	**50**	⇓PKiKP	PKiKP	17 21 33.2	-0.8	
328A	**Wristen Ranch,** baz=126	**126.35**	**49**	⇓PKiKP	PKiKP	17 21 33.0	-1.1	
SCIA SCIA	**State Center** comp=Z,25μm,22.0s,MS6.8	**126.36**	**32**	*e*PKPdf LR	PKPdf LR	17 21 32.9	-0.4	
DBIC	**Dimbokro**	**126.53**	**279**	*e*P	PKPdf	17 21 34.5	+0.1	
DBIC	**Dimbokro** comp=Z,62nm,0.8s,baz=83,slow=3.1,SNR=20	**126.53**	**279**	PKP	PKPdf	17 21 33.8	-0.7	
DBIC DBIC	**Dimbokro** comp=Z,67μm,22.0s,MS7.3	**126.53**	**279**	*e*PKPdf LR	PKPdf LR	17 21 33.5	-1.0	
DBIC DBIC	**Dimbokro** comp=Z,67μm,22.0s	**126.53**	**279**	*e*PKiKP MLR	PKPdf MLR	17 21 33.5	-1.0	
TXAR	**Lajitas Array** comp=Z,7.0nm,0.6s,baz=321,slow=1.3,SNR=35	**126.64**	**51**	PKP	PKPdf	17 21 34.3	+0.1	
TXAR				SKKPbc		17 34 57.0		
TXAR	**Lajitas Array** comp=Z,7.3nm,0.9s,baz=116,slow=6.1,SNR=4.9	**126.64**	**51**	PKP	PKPdf	17 21 34.3	+0.1	
TXAR				SKKPbc		17 34 57.0		
TXAR	**Lajitas Array**	**126.64**	**51**	PKiKP	PKPdf	17 21 34.3	0.0	
SHEL SHEL	**Horse Pasture** comp=Z,139μm,21.0s,MS7.6	**126.67**	**251**	*e*PKPdf LR	PKPdf LR	17 21 34.4	-0.2	
SHEL SHEL	**Horse Pasture** comp=Z,139μm,21.0s,MS7.6	**126.67**	**251**	*e*PKiKP MLR	PKPdf MLR	17 21 34.4	-0.2	
428A	**Kincaid Ranch,** baz=127	**126.76**	**49**	⇑PKiKP	PKiKP	17 21 34.1	-0.9	
627A	**Terlingua Ranc** baz=127	**126.81**	**51**	⇓PKiKP	PKiKP	17 21 34.3	-0.8	
528A	**Cox Ranch, San** baz=127	**126.94**	**50**	⇓PKiKP	PKiKP	17 21 34.5	-0.8	
JFWS JFWS	**Jewell Farm** comp=Z,44μm,22.0s,MS7.1	**127.17**	**30**	*e*PKPdf LR	PKPdf LR	17 21 32.9	-2.0	
JFWS JFWS	**Jewell Farm** comp=Z,44μm,22.0s,MS7.1	**127.17**	**30**	*e*PKiKP MLR	PKPdf MLR	17 21 32.9	-2.0	
WMOK WMOK	**Wichita Mounta** comp=Z,25μm,21.0s,MS6.9	**127.49**	**43**	*e*PKPdf LR	PKPdf LR	17 21 32.5	-3.3	
WMOK WMOK	**Wichita Mounta** comp=Z,25μm,21.0s,MS6.9	**127.49**	**43**	*e*PKiKP MLR	PKPdf MLR	17 21 32.5	-3.2	
GLMI GLMI	**Grayling** comp=Z,26μm,20.0s,MS6.9	**128.22**	**24**	PKPdf LR	PKPdf LR	17 21 37.4	+0.6	
PMAR	**Madeira**	**128.62**	**315**	*e*Pdif	Pdif	17 18 25.7	+3.2	
PMAR	**Madeira**	**128.62**	**315**	*e*PP	PP	17 23 48.3	+5.1	
TUL1	**Tulsa** baz=129	**128.77**	**40**	⇓PKiKP	PKiKP	17 21 37.6	-1.2	
JCT	**Junction City** baz=129	**129.04**	**48**	⇑PKiKP	PKiKP	17 21 37.9	-1.6	
JCT JCT	**Junction City** comp=Z,27μm,21.0s,MS6.9	**129.04**	**48**	*e*PKPdf LR	PKPdf LR	17 21 37.9	-0.9	
JCT JCT	**Junction City** comp=Z,27μm,21.0s,MS6.9	**129.04**	**48**	*e*PKiKP MLR	PKPdf MLR	17 21 37.9	-0.9	
HDIL HDIL	**Hopedale** comp=Z,26μm,22.0s,MS6.9	**129.39**	**31**	*e*PKPdf LR	PKPdf LR	17 21 38.5	-0.7	
EFI EFI	**East Falkland** comp=Z,145μm,22.0s,MS7.6	**129.85**	**180**	*e*PKPdf LR	PKPdf LR	17 21 39.5	-0.2	
EFI EFI	**East Falkland** comp=Z,145μm,22.0s,MS7.6	**129.85**	**180**	*e*PKiKP MLR	PKPdf MLR	17 21 39.5	-0.2	
RFTA	**Plano**	**129.90**	**43**	*e*PKPdf	PKPdf	17 21 40.2	-0.2	
CCM	**Cathedral Cave**	**130.12**	**35**	*e*PKPdf	PKPdf	17 21 40.2	-0.4	
CCM	**Cathedral Cave**	**130.12**	**35**	*e*PKiKP	PKPdf	17 21 40.2	-0.4	
SFIN	**Scholer Farm** baz=131	**130.63**	**29**	⇑PKiKP	PKiKP	17 21 41.7	-0.7	
AAM AAM	**Ann Arbor** comp=Z,30μm,22.0s,MS6.9	**130.69**	**25**	PFAKE LR	LR	17 21 50.0	+8.4	
MIAR MIAR	**Mount Ida** comp=Z,32μm,22.0s,MS7.0	**131.04**	**40**	*e*PKPpre LR	PKPpre LR	17 21 36.4		
MIAR MIAR	**Mount Ida** comp=Z,32μm,22.0s,MS7.0	**131.04**	**40**	*e*PKiKP MLR	PKPpre MLR	17 21 36.4		
PQI	**Presque Isle**	**131.35**	**9**	PKPdf	PKPdf	17 21 43.2	+0.5	
OLIL	**Olney**	**131.36**	**32**	*e*PKPdf	PKPdf	17 21 43.5	+0.5	
SIUC	**Southern Illin**	**131.50**	**33**	*e*PKPdf	PKPdf	17 21 42.9	-0.4	
UALR	**University of**	**131.67**	**39**	*e*PKPdf	PKPdf	17 21 44.5	+0.8	
BLO	**Bloomington**	**131.84**	**30**	PKPdf	PKPdf	17 21 44.1	+0.3	
BLO	**Bloomington**	**131.84**	**30**	PKiKP	PKPdf	17 21 44.2	+0.3	
LONY LONY	**Lake Ozonia** comp=Z,30μm,22.0s,MS7.0	**131.86**	**16**	*e*PKPdf LR	PKPdf LR	17 21 44.2	+0.5	
FRNY	**Flat Rock**	**131.92**	**15**	*e*PKPdf	PKPdf	17 21 43.9	+0.1	
PARMO	**Parma**	**131.94**	**35**	*e*PKPdf	PKPdf	17 21 44.8	+0.7	
KVTX KVTX	**Kingsville** comp=Z,24μm,21.0s,MS6.9	**131.96**	**50**	*e*PKPdf LR	PKPdf LR	17 21 45.7	+1.3	
NATX NATX	**Nacogdoches** comp=Z,38μm,22.0s,MS7.1	**132.02**	**43**	*e*PKPdf LR	PKPdf LR	17 21 46.4	+2.0	
USIN	**University of**	**132.16**	**32**	*e*PKPdf	PKPdf	17 21 43.2	-1.2	
HBAR	**Harrisburg**	**132.18**	**37**	*e*PKPdf	PKPdf	17 21 45.4	+0.8	
GNAR	**Gosnell**	**132.28**	**36**	*e*PKPdf	PKPdf	17 21 47.0	+2.2	
ERPA ERPA	**Erie** comp=Z,25μm,21.0s,MS6.9	**132.32**	**22**	PFAKE LR	LR	17 22 00.0	+15	
PKME PKME	**Peaks-Kenny Pk** comp=Z,38μm,20.0s,MS7.1	**132.48**	**11**	*e*PKPdf LR	PKPdf LR	17 21 46.3	+1.4	
GLAT	**Glass**	**132.49**	**35**	*e*PKPdf	PKPdf	17 21 46.6	+1.4	
NCB NCB	**Newcomb** comp=Z,27μm,22.0s,MS6.9	**132.56**	**16**	*e*PKPdf LR	PKPdf LR	17 21 44.1	-0.9	
ALLY	**Alegheny Colle**	**132.66**	**23**	PKPdf	PKPdf	17 21 46.5	+1.2	
ACSO ACSO	**Alum Creek Sta** comp=Z,33μm,22.0s,MS7.0	**132.67**	**26**	*e*PKPdf LR	PKPdf LR	17 21 45.4	0.0	
WCI	**Wyandotte Cave**	**132.67**	**31**	*e*PKPpre	PKPpre	17 21 32.3		
WCI	**Wyandotte Cave**	**132.67**	**31**	*e*PKHKP	PKPpre	17 21 32.3		
UTMT	**University of**	**132.68**	**34**	*e*PKPdf	PKPdf	17 21 44.9	-0.6	
HALT	**Halls**	**132.71**	**35**	*e*PKPdf	PKPdf	17 21 46.8	+1.1	
MDV	**Middlebury**	**132.81**	**15**	*e*PKPdf	PKPdf	17 21 45.0	-0.6	
LBNH LBNH	**Lisbon** comp=Z,32μm,22.0s,MS7.0	**132.90**	**14**	*e*PKPdf LR	PKPdf LR	17 21 49.1	+3.4	
LBNH LBNH	**Lisbon** comp=Z,32μm,22.0s,MS7.0	**132.90**	**14**	*e*PKiKP MLR	PKPdf MLR	17 21 49.1	+3.4	
WVL	**Waterville**	**133.09**	**12**	*e*PKPdf	PKPdf	17 21 46.4	+0.4	
ACCN	**Adirondack Com**	**133.25**	**16**	*e*PKPdf	PKPdf	17 21 47.2	+0.8	
HNH	**Hanover**	**133.31**	**14**	*e*PKPdf	PKPdf	17 21 45.9	-0.6	
WVT WVT	**Waverly**	**133.41**	**34**	*e*PKPpre PKPdf	PKPpre PKPdf	17 21 30.9 17 21 47.3	+0.4	
WVT WVT	**Waverly**	**133.41**	**34**	*e*PKHKP	PKPpre	17 21 30.9 17 21 47.3		
OXF OXF	**Oxford** comp=Z,34μm,21.0s,MS7.0	**133.64**	**37**	*e*PKPpre LR	PKPpre LR	17 21 37.9		
OXF OXF	**Oxford** comp=Z,34μm,21.0s,MS7.0	**133.64**	**37**	*e*PKHKP MLR	PKPpre MLR	17 21 37.9		
BINY BINY	**Binghamton** comp=Z,41μm,20.0s,MS7.1	**133.65**	**19**	*e*PKPdf LR	PKPdf LR	17 21 47.5	+0.3	
TRY	**Troy**	**133.86**	**16**	*e*PKPdf	PKPdf	17 21 48.2	+0.6	
PLAL PLAL	**Pickwick Lake** comp=Z,29μm,21.0s,MS7.0	**134.09**	**35**	*e*PKPdf LR	PKPdf LR	17 21 46.8	-1.4	
SSPA	**Standing Stone**	**134.39**	**21**	*e*PKPdf	PKPdf	17 21 48.9	+0.3	
MCWV MCWV	**Mont Chateau** comp=Z,48μm,22.0s,MS7.2	**134.48**	**24**	PKPdf LR	PKPdf LR	17 21 48.1	-0.7	
VBMS VBMS	**Vicksburg** comp=Z,33μm,22.0s,MS7.0	**134.49**	**40**	*e*PKPdf LR	PKPdf LR	17 21 45.8	-3.3	
HRV	**Adam Dziewonsk**	**134.62**	**14**	*e*PKPdf	PKPdf	17 21 50.4	+1.4	
HRV	**Adam Dziewonsk**	**134.62**	**14**	*e*PKiKP	PKPdf	17 21 50.4	+1.4	
SWET	**Sewanee**	**135.13**	**33**	*e*PKPdf	PKPpre	17 21 36.7		
BRYW	**Bryant College**	**135.18**	**15**	PKPdf	PKPdf	17 21 49.4	-0.7	
TZTN	**Tazewell**	**135.36**	**30**	*e*PKPpre	PKPpre	17 21 37.8		
CPCT	**Cooper Cave**	**135.71**	**32**	*e*PKPpre	PKPpre	17 21 37.9		
SDMD	**Soldier's Deli**	**135.85**	**21**	*e*PKPdf	PKPdf	17 21 50.5	-0.9	
TKL	**Tuckaleechee C**	**135.93**	**31**	*e*PKPpre	PKPpre	17 21 40.8		
TKL	**Tuckaleechee C**	**135.93**	**31**	*e*PKHKP	PKPpre	17 21 40.8		
BBTS BBTS	**Babate** comp=Z,49nm,0.8s,baz=81,slow=3.2,SNR=3.6	**136.13**	**293**	PKP SKPbc	PKPdf SKPbc	17 21 52.5 17 25 28.8	-0.1 +6.0	
BBTS BBTS	**Babate** comp=Z,40nm,0.7s,baz=56,slow=3.7,SNR=4.4	**136.13**	**293**	PKP SKPbc	PKPdf SKPbc	17 21 52.5 17 25 28.8	-0.1 +6.0	
BLA BLA	**Blacksburg** comp=Z,46μm,21.0s,MS7.2	**136.29**	**26**	PFAKE LR	LR	17 22 00.0	+7.7	
CBN CBN	**Corbin** comp=Z,36μm,22.0s,MS7.1	**136.71**	**23**	*e*PKPdf LR	PKPdf LR	17 21 53.2	+0.2	
BRAL BRAL	**Brewton** comp=Z,35μm,22.0s,MS7.1	**137.49**	**38**	PFAKE LR	LR	17 22 10.0	+15	
KMSC	**Kings Mountain** baz=138	**137.56**	**29**	⇓PKiKP	PKiKP	17 21 54.5	-2.1	
JSC	**Jenkinsville**	**138.28**	**30**	*e*PKPpre	PKPpre	17 21 47.0		
JSC	**Jenkinsville**	**138.28**	**30**	*e*PKHKP	PKPpre	17 21 47.0		
CNNC CNNC	**Cliffs of the** comp=Z,30μm,20.0s,MS7.0	**139.05**	**25**	PFAKE LR	LR	17 22 10.0	+13	
NHSC NHSC	**New Hope** comp=Z,31μm,21.0s,MS7.0	**139.76**	**30**	PFAKE LR	LR	17 22 10.0	+11	
CCHI	**Chillan**	**142.53**	**161**	⇑*i*P	PKPdf	17 21 57.8	-5.8	
CCHI	**Chillan**	**142.53**	**161**	⇑*i*P	PKPdf	17 21 57.8	-5.8	
DWPF	**Disney**	**142.97**	**36**	PKPdf	PKPdf	17 22 05.1	+0.4	
TEIG TEIG	**Tepich** comp=Z,23μm,22.0s,MS6.9	**143.26**	**53**	*e*PKPdf LR	PKPdf LR	17 22 05.3	-0.1	
TRQA TRQA	**Tornquist** comp=Z,130μm,22.0s,MS7.7	**143.28**	**175**	*e*PKPpre LR	PKPpre LR	17 22 00.2		
NICH	**Los Niches**	**144.27**	**161**	⇑*i*P	PKPdf	17 22 03.8	-3.0	
LMEL	**Las Melosas**	**145.66**	**162**	⇑*i*P	PKPdf	17 22 09.2	0.0	
LMEL	**Las Melosas**	**145.66**	**162**	⇑*i*P	PKPdf	17 22 09.2	0.0	
BBSR BBSR	**BB Station** comp=Z,36μm,22.0s,MS7.1	**145.84**	**10**	*e*PKP LR	PKPdf LR	17 22 11.5	+1.9	
CLCH	**Cerro Calan**	**145.97**	**161**	⇑*i*P	PKPdf	17 22 09.4	-0.4	
FCH	**Farellones**	**146.11**	**161**	⇑*i*P	PKPdf	17 22 10.7	+0.7	
PEL	**Peldehue**	**146.15**	**160**	⇓*i*P	PKPdf	17 22 09.4	-0.7	
LPA LPA	**La Plata** comp=Z,3μm,1.0s	**146.62**	**180**	*de*PKP PP	PKPdf PP	17 22 13.0 17 25 38.0	+2.2 +3.9	
LPA				PPP		17 28 51.0		
LPA				SDIFF		17 34 16.0		
LPA				PSP		17 38 13.0		
TGUH TGUH	**Tegucigalpa,Un** comp=Z,25μm,22.0s,MS7.0	**147.06**	**61**	*e*PKPbc LR	PKPbc LR	17 22 13.3	-0.8	
PAYG PAYG	**Puerto Ayora** comp=Z,35μm,22.0s,MS7.1	**147.55**	**89**	*e*PKPbc LR	PKPbc LR	17 22 16.1	+0.5	
CMCH	**Combarbala**	**147.83**	**158**	⇑*i*P	PKPdf	17 22 14.8	+1.9	
CMCH	**Combarbala**	**147.83**	**158**	⇑*i*P	PKPdf	17 22 14.8	+1.9	
CFAA	**Coronel Fontan** comp=Z,19nm,0.5s,baz=203,slow=3.8,SNR=73	**148.34**	**163**	PKPbc	PKPbc	17 22 16.8	-0.4	
CFAA	**Coronel Fontan**	**148.34**	**163**	PKPbc	PKPbc	17 22 16.8	-0.4	
LCO LCO	**Las Campanas** comp=Z,45μm,21.0s,MS7.2	**149.88**	**157**	*e*PKPdf LR	PKPdf LR	17 22 16.6	+0.3	
JTS JTS	**JuntasAbangare** comp=Z,27μm,21.0s,MS7.0	**150.64**	**66**	*e*PKPdf LR	PKPdf LR	17 22 17.5	-0.4	
JTS JTS	**JuntasAbangare** comp=Z,27μm,21.0s	**150.64**	**66**	*e*PKiKP MLR	PKPdf MLR	17 22 17.5	-0.4	
NEJ	**Negril**	**151.96**	**45**	*e*P	PKPab	17 22 32.0	-3.4	
MTDJ MTDJ	**Mount Denham** comp=Z,46μm,21.0s,MS7.3	**152.54**	**44**	*e*PKPbc LR	PKPbc LR	17 22 27.1	-0.5	
MCJ	**Malvern**	**152.63**	**45**	*e*P	PKPdf	17 22 29.4	+8.6	
GTBY GTBY	**Guantanamo Bay** comp=Z,31μm,22.0s,MS7.1	**152.90**	**38**	*e*PKPdf LR	PKPdf LR	17 22 21.0	-0.2	
STH	**Stony Hill**	**153.14**	**43**	⇑*i*P	PKPdf	17 22 23.1	+1.5	
GWJ	**Greenwich**	**153.20**	**43**	*e*P	PKPdf	17 22 26.1	+4.5	
HOJ	**Hope**	**153.23**	**43**	*e*P	PKPdf	17 22 23.0	+1.3	
YHJ	**Yallahs**	**153.48**	**43**	*e*P	PKPdf	17 22 22.4	+0.4	
CAM4	**Nova Friburgo**	**154.38**	**214**	⇓*i*P	PKPdf	17 22 22.8	-0.4	
CAM4				*i*		17 22 28.4		
CAM4				*i*		17 22 36.8		
CAM4				*i*		17 22 44.4		
CAM4				*i*		17 22 46.2		
CAM4				*i*		17 22 50.2		
CAM4				*i*		17 22 52.5		
CAM4				*i*		17 23 02.7		
CAM4				*i*		17 23 20.4		
CAM4				*i*		17 23 23.3		
CPUP	**Villa Florida** comp=Z,25nm,0.7s,baz=143,slow=1.8,SNR=22	**155.16**	**181**	PKP	PKPdf	17 22 23.9	-0.3	
CPUP CPUP	**Villa Florida** comp=Z,11μm,19.0s,MS6.7	**155.16**	**181**	PKP LR	PKPdf LR	17 22 23.9	-0.3	
CPUP CPUP	**Villa Florida** comp=Z,11μm,19.0s	**155.16**	**181**	PKiKP MLR	PKPdf MLR	17 22 23.9	-0.3	
SPB SPB	**Sao Paulo** comp=Z,70μm,22.0s,MS7.4	**155.70**	**204**	*e*PKPdf LR	PKPdf LR	17 22 24.4	-0.6	
BCIP BCIP	**Isla Barro Col** comp=Z,45μm,21.0s,MS7.3	**155.72**	**64**	*e*PKPdf LR	PKPdf LR	17 22 24.4	-0.8	
SDDR SDDR	**Presa de Saban** comp=Z,53μm,22.0s,MS7.3	**155.85**	**33**	*e*PKPdf LR	PKPdf LR	17 22 25.0	-0.3	
RCBR RCBR	**Riachuelo** comp=Z,28nm,0.8s,baz=134,slow=0.7,SNR=11	**157.67**	**258**	PKP PKPab	PKPdf PKPab	17 22 26.2 17 22 58.4	-1.6 -1.7	
RCBR RCBR	**Riachuelo** comp=Z,158μm,22.0s,MS7.8	**157.67**	**258**	*e*PKPdf LR	PKPdf LR	17 22 26.7	-1.1	
NNA	**Nana** comp=Z,64nm,1.1s,baz=197,slow=1.5,SNR=13	**158.39**	**120**	PKP	PKPdf	17 22 28.4	-0.2	
NNA NNA	**Nana** comp=Z,41μm,21.0s,MS7.2	**158.39**	**120**	*e*PKPdf LR	PKPdf LR	17 22 28.9	+0.3	
NNA NNA	**Nana** comp=Z,41μm,21.0s	**158.39**	**120**	*e*PKiKP MLR	PKPdf MLR	17 22 28.9	+0.3	
LRS	**Lares**	**158.56**	**24**	*e*PKPdf	PKPdf	17 22 27.8	-0.9	
CRPR	**Cabo Rojo, PR**	**158.71**	**25**	*e*PKPdf	PKPdf	17 22 26.5	-2.4	
ATAH	**Atahualpa** comp=Z,50nm,1.1s,baz=288,slow=2.8,SNR=34	**158.72**	**106**	PKP	PKPdf	17 22 29.5	+0.5	
CELP	**Cerrillos**	**158.87**	**24**	*e*PKPdf	PKPdf	17 22 29.1	0.0	
OBIP	**Obispado Ponce**	**158.88**	**24**	*e*PKPdf	PKPdf	17 22 27.8	-1.3	
SJG	**San Juan** comp=Z,13nm,0.8s,baz=38,slow=2.3,SNR=3.1	**159.00**	**23**	PKP	PKPdf	17 22 28.6	-0.6	
SJG SJG	**San Juan** comp=Z,63μm,22.0s,MS7.4	**159.00**	**23**	*e*PKPdf LR	PKPdf LR	17 22 28.2	-1.0	
SJG SJG	**San Juan** comp=Z,63μm,22.0s	**159.00**	**23**	*e*PKiKP MLR	PKPdf MLR	17 22 28.2	-1.0	
ICM	**Isla Caja Muer**	**159.05**	**24**	PKPdf	PKPdf	17 22 28.4	-1.0	
STVI	**Saint Thomas**	**159.21**	**19**	*e*PKPdf	PKPdf	17 22 28.5	-1.0	
MTP	**Monte Pirata**	**159.24**	**21**	*e*PKPdf	PKPdf	17 22 29.2	-0.3	
OTAV OTAV	**Otavalo** comp=Z,78μm,21.0s,MS7.5	**159.33**	**86**	*e*PKPdf LR	PKPdf LR	17 22 29.9	+0.1	
ANWB ANWB	**Willy Bob** comp=Z,56μm,21.0s	**160.70**	**11**	*e*PKPdf LR	PKPdf LR	17 22 29.0	-2.1	
BPA	**Boggy Peak**	**161.29**	**12**	*e*P	PKPdf	17 22 32.2	+0.3	
LPAZ LPAZ	**La Paz** comp=Z,121nm,1.2s,baz=316,slow=2.0,SNR=81	**162.02**	**146**	PKP PKPab	PKPdf PKPab	17 22 33.0 17 23 20.1	+0.5 +1.5	
LPAZ LPAZ	**La Paz** comp=Z,39nm,0.6s,baz=212,slow=3.2,SNR=7.8	**162.02**	**146**	*e*PKPdf LR	PKPdf LR	17 22 33.2	+0.7	
LPAZ LPAZ	**La Paz** comp=Z,63μm,21.0s	**162.02**	**146**	*e*PKPdf LR	PKPdf LR	17 22 33.3	+0.7	
LPAZ LPAZ	**La Paz** comp=Z,63μm,21.0s	**162.02**	**146**	*e*PKiKP MLR	PKPdf MLR	17 22 33.3	+0.7	
PHG	**Guadaloupe-2**	**162.34**	**12**	*e*P	PKPdf	17 22 37.1	+4.2	
ROSC	**El Rosal** comp=Z,41nm,1.1s,baz=300,slow=1.8,SNR=21	**162.41**	**69**	PKP	PKPdf	17 22 33.5	+0.4	
ROSC	**El Rosal**	**162.41**	**69**	*e*PKPdf	PKPdf	17 22 33.1	0.0	
TBG	**Guadaloupe-3**	**162.50**	**12**	*e*P	PKPdf	17 22 34.0	+0.9	
MDN	**Morne-Daniel**	**163.07**	**12**	*e*P	PKPdf	17 22 36.7	+3.0	
FDF FDF	**Fort de France** comp=Z,51μm,21.0s	**163.69**	**11**	*e*PKPdf LR	PKPdf LR	17 22 34.2	0.0	
FDF FDF	**Fort de France** comp=Z,51μm,21.0s	**163.69**	**11**	*e*PKiKP MLR	PKPdf MLR	17 22 34.2	0.0	
FDF	**Fort de France**	**163.69**	**11**	*e*P	PKPdf	17 22 35.0	+0.8	
SDV SDV	**Santo Domingo** comp=Z,36μm,20.0s	**163.69**	**51**	*e*PKPdf LR	PKPdf LR	17 22 32.5	-1.8	
BIM	**Bigot**	**163.91**	**11**	*e*P	PKPdf	17 22 35.9	+1.4	
BBGH BBGH	**Gun Hill** comp=Z,101μm,22.0s	**165.50**	**7**	PKPdf LR	PKPdf LR	17 22 35.3	-0.6	
GRGR GRGR	**Grenville** comp=Z,28μm,22.0s	**166.08**	**16**	PFAKE LR	LR	17 22 50.0	+14	
ALNG	**Atlantic LNG**	**167.92**	**18**	*e*P	PKPdf	17 22 34.5	-3.3	

IDC 16 17:29:46.6±9.6, 28°24S×179°74W, h425km±189km, mb2.8/4, mb1 3.0/5, mb1mx3.0/15, mbtmp2.9/5, Error ellipse: s-maj=224.8km s-min=83.5km az=99.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 1.4nm,0.3s,baz=276,slow=5.8,SNR=10	**10.34**	**194**	P	P	P	17 32 07.9	+0.6
URZ				S	S	S	17 34 02.3	-0.9
STKA	**Stephens Creek** 1.8nm,0.9s,baz=90,slow=10,SNR=2.9	**33.54**	**254**	P	P	P	17 35 49.9	+0.8
ASAR	**Alice Springs** 0.3nm,0.5s,baz=91,slow=7.2,SNR=7.6	**41.74**	**265**	P	P	P	17 36 56.9	+0.1
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=108,slow=8.1,SNR=8.1	**42.52**	**271**	P	P	P	17 37 02.2	-0.8
FITZ	**Fitzroy Crossi** 0.8nm,0.8s,baz=97,slow=8.1,SNR=5.2	**50.86**	**269**	P	P	P	17 38 06.7	0.0

*BJI **16** 17:34:35.7, 1°.35N×122°.32E, h25km, mB5.8/3, mb5.3/50, Ms6.0/17, Ms7 5.8/16*
*ISCJB **16** 17:34:36.9±0.1, 1°.39N±0°.02×122°.17E±0°.02, h32km, mb5.5/163, MS6.1/9, Error ellipse: s-maj=2.6km s-min=2.1km az=13.9*
*MOS **16** 17:34:37.2±1.1, 1°.30N×122°.09E, h35km, mb5.8/47, MS6.5/4, Error ellipse: s-maj=

IPIL **Ipil** 6.37 4 *eP* Pn 17 36 10.0 -0.6
SDKM **Sandakan** 6.51 311 P Pn 17 36 12.6 -0.1
PAGZ **Pagadian** 6.53 11 *eP* Pn 17 36 12.7 -0.1
DAV **Davao City (W)** 6.59 31 Pn Pn 17 36 15.2 +1.6
309nm,0.3s,baz=204,slow=1.6,SNR=180
DAV Sn **Sn** 17 37 32.7 +5.1
baz=131,slow=19,SNR=2.4
DAV LR LR 17 39 09.9
comp=Z,53µm,20.5s,baz=330,slow=40
DAV **Davao City (W)** 6.59 31 *e*Pn Pn 17 36 15.3 +1.6
5µm,0.8s
DAV **Davao City (W)** 6.59 31 P Pn 17 36 15.0 +1.3
19nm7µm,1.0s
DAV **Davao City (W)** 6.59 31⇓ *eP* Pn 17 36 14.9 +1.3
DAV **Davao City (W)** 6.59 31 P Pn 17 36 15.3 +1.7
SNR=212
NLAI **Namlea** 6.75 133 P Pn 17 36 17.0 +1.2
5.8nm828nm,0.9s
KAPI **Kappang** 6.80 201 *eP* Pn 17 36 15.9 -0.7
629nm,0.8s
KAPI **Kappang** 6.80 201 P Pn 17 36 16.1 -0.5
3.1nm820nm,1.2s
KAPI **Kappang** 6.80 201 P Pn 17 36 16.6 -0.1
SNR=146
BBSI **Bau Bau** 6.84 177 P Pn 17 36 19.0 +1.8
9.9nm3µm,1.1s
MATI **Mati** 6.86 36 *eP* Pn 17 36 16.6 -0.8
BKSI **Bulukumba** 6.97 197 P Pn 17 36 19.5 +0.5
3.1nm780nm,1.2s
BUKP **Musuan** 7.06 24 *eP* Pn 17 36 19.9 -0.3
DCPH **Dipolog City** 7.24 9⇑ *eP* Pn 17 36 23.0 +0.4
CGP **Cagayan de Oro** 7.46 20 *eP* Pn 17 36 24.7 -0.9
KKM **Kota Kinabalu** 7.52 308 P Pn 17 36 26.9 +0.4
KKM **Kota Kinabalu** 7.52 308 *eP* Pn 17 36 25.8 -0.7
KKM **Kota Kinabalu** 7.52 308 P Pn 17 36 26.1 -0.4
1.7nm439nm,0.9s
KBKI **Kotabaru** 7.59 232 P Pn 17 36 25.8 -1.7
616nm,1.0s
KDM **Kudat** 7.64 316 P Pn 17 36 30.3 +2.2
AAI **Ambon** 7.86 130 P Pn 17 36 32.9 +1.8
3.8nm888nm,0.9s
SNPH **Sibulan** 7.97 8⇑ *eP* Pn 17 36 33.7 +1.1
MSAI **Masohi** 8.24 125 P Pn 17 36 38.5 +2.2
735nm,0.9s
TBP **Tagbilaran** 8.42 12 *eP* Pn 17 36 40.8 +2.0
BBKI **Banjar Baru** 8.77 237 P Pn 17 36 43.1 -0.5
967nm,1.2s
SCPH **Surigao** 8.97 22⇓ *eP* Pn 17 36 47.1 +0.8
LLP **Lapu-Lapu** 9.05 11 *eP* Pn 17 36 47.7 +0.3
BTM **Bintulu** 9.25 281 P Pn 17 36 49.7 -0.5
SWI **Sorong** 9.37 104 P Pn 17 36 54.2 +2.4
274nm,1.0s
BNDI **Bandamaira** 9.71 127 P Pn 17 36 58.1 +1.5
2µm,1.2s
MMRI **Maumere** 9.96 180 P Pn 17 37 01.5 +1.5
531nm,1.5s
SBUM **Sibu** 9.99 276 P Pn 17 37 00.9 +0.5
SBUM **Sibu** 9.99 276 P Pn 17 37 00.8 +0.4
140nm,1.4s
RCP **Roxas** 10.12 3 *eP* Pn 17 37 04.1 +2.0
STKI **Sintang** 10.77 263 P Pn 17 37 11.6 +0.6
149nm,1.2s
WSI **Waingapu** 11.14 190 P Pn 17 37 19.1 +2.9
764nm,1.4s
PBKI **Pangkalan Bun** 11.25 249 P Pn 17 37 15.0 -2.7
297nm,1.1s
MTNI **Mataram** 11.62 211 P Pn 17 37 23.2 +0.6
308nm,1.2s
KHKI **Kahang-Kahang** 11.69 214 P Pn 17 37 25.4 +1.8
175nm,1.3s
SRBI **Singaraja** 11.69 216 P Pn 17 37 24.2 +0.5
158nm,1.2s
KMMI **Kalianget** 11.71 224 P Pn 17 37 24.4 +0.4
262nm,1.3s
KSM **Kuching** 11.85 271 P Pn 17 37 25.7 -0.2
KSM **Kuching** 11.85 271 *eP* Pn 17 37 25.3 -0.6
170nm,1.3s
KSM **Kuching** 11.85 271 P Pn 17 37 26.2 +0.3
116nm,1.2s
BOAC **Boac** 11.99 358 *eP* Pn 17 37 29.8 +2.0
NBBI **Negara** 12.27 218 P Pn 17 37 33.0 +1.4
541nm,1.8s
PVCP **Virac** 12.28 9 *eP* Pn 17 37 35.9 +4.1
BYJI **Banyuwangi** 12.32 219 P Pn 17 37 34.8 +2.6
510nm,1.3s
IGBI **Denpasar** 12.32 214 P Pn 17 37 34.2 +1.9
492nm,1.4s
BLJI **Banyuglugur** 12.47 223 P Pn 17 37 37.1 +2.8
100nm,1.5s
JAGI **Jajag, Banyuwa** 12.64 219 P Pn 17 37 38.2 +1.5
357nm,1.4s
TLE **Tual** 12.66 124 P Pn 17 37 38.1 +1.2
755nm,1.0s
TGY **Tagaytay City** 12.69 355 Pn Pn 17 37 40.7 +3.4
20nm,0.3s,baz=292,slow=7.3,SNR=19
TGY Sn **Sn** 17 39 59.5 +2.0
71nm,0.3s,baz=204,slow=12,SNR=6.0
TGY **Tagaytay City** 12.69 355 Pn Pn 17 37 40.7 +3.4
TGY Sn **Sn** 17 39 59.5 +2.0
TGY **Tagaytay City** 12.69 355 P Pn 17 37 40.7 +3.4
TGY 17 39 59.5
GMJI **Gumukmas** 12.95 222 P Pn 17 37 42.7 +1.8
182nm,1.2s
POLP **Polilio Island** 13.25 359 *eP* Pn 17 37 48.2 +3.2
KRKI **Karangkates** 13.56 225 P Pn 17 37 52.1 +2.9
286nm,1.1s
NGJI **Ngawi** 13.78 231 P Pn 17 37 59.0 +6.8
202nm,1.4s
SJI **Sawahan** 13.78 229 P Pn 17 37 53.1 +0.9
174nm,1.4s
PWJI **Pagerwojo** 13.94 228 P Pn 17 37 55.4 +1.0
174nm,1.9s
BAKI **Biak** 14.18 100 P Pn 17 37 59.5 +1.9
467nm,1.4s
BALP **Baler** 14.27 358 *eP* Pn 17 38 01.1 +2.2
SMRI **Semarang** 14.39 234 P Pn 17 38 07.0 +6.4
339nm,1.4s
SCZP **Santa Cruz** 14.46 351 *eP* Pn 17 38 02.6 +1.1
PCJI **Pacitan** 14.52 229 P Pn 17 38 04.1 +1.8
275nm,1.6s
UGM **Wanagama** 14.84 231 P Pn 17 38 12.9 +6.2
341nm,1.6s
YOGI **Yogyakarta** 14.96 232 P Pn 17 38 14.8 +6.5
1µm,1.2s
BOLP **Bolinao** 15.06 352 *eP* Pn 17 38 10.1 +0.5
TPI **Tanjungpandan** 15.08 254 P Pn 17 38 09.1 -0.8
66nm,1.1s
JCJI **Jatiwangi** 15.93 240 P Pn 17 38 26.6 +5.7
638nm,1.4s
CLJI **Cilicap** 15.94 235 P Pn 17 38 25.5 +4.5
514nm,1.7s
CVP **Callao Caves** 16.21 359 *eP* Pn 17 38 17.7 -6.8
ABRA **Dolores** 16.22 355 *eP* Pn 17 38 25.1 +0.5
APYP **Conner** 16.39 357 *eP* Pn 17 38 27.8 +1.0
PPBI **Pangkal Pinang** 16.41 258 P Pn 17 38 25.4 -1.6
110nm,1.3s
LEM **Lembang** 16.66 240 P Pn 17 38 32.7 +2.5
327nm,1.0s
CISI **Cisompet, Garu** 16.85 238 P Pn 17 38 33.3 +0.7
718nm,1.1s
SMPI **Sarmi** 16.88 101 P Pn 17 38 34.0 +1.0
217nm,1.2s
CBJI **Citeko** 17.14 243 P Pn 17 38 36.9 +0.6
1µm,1.3s
TNG **Tangerang** 17.22 244 P Pn 17 38 39.2 +2.0
692nm,1.2s
TNG P 17 38 39.3
447nm,1.2s
DBJI **Dramaga** 17.29 243 P Pn 17 38 38.0 -0.1
312nm,1.5s
SBJI **Serang** 17.66 245 P Pn 17 38 43.5 +0.8
864nm,1.4s
SKJI **Sukabumi** 17.67 242 P Pn 17 38 43.2 +0.4
739nm,1.3s
RBSI **Rajabasa** 17.91 246 P Pn 17 38 47.1 +1.4
4µm538nm,0.9s
PMBI **Palembang** 17.91 256 P Pn 17 38 47.4 +1.6
891nm,1.2s
BLSI **Bandar Lampung** 18.18 248 P Pn 17 38 50.2 +1.1
291nm,0.8s
CGJI **Cibinong** 18.26 244 P Pn 17 38 49.5 -0.6
MYKOM **Kota Tinggi** 18.31 271 P Pn 17 38 49.8 -0.9
MYKOM **Kota Tinggi** 18.31 271 P Pn 17 38 49.7 -1.0
100nm,1.1s
KLI **Kotabumi** 18.37 250 P Pn 17 38 51.7 +0.2
549nm,1.2s

KLSI **18.44 251** P Pn 17 38 50.8 -1.4
593nm,1.1s
KGM **Kluang** 18.85 272 P Pn 17 38 56.7 -0.5
MDSI **Maura Dua** 18.90 252 P Pn 17 38 57.0 -0.8
328nm,1.2s
JAY **Jayapura** 18.94 102 P Pn 17 38 57.9 -0.4
132nm,1.1s
LWLI **Liwa** 19.18 250 P Pn 17 39 00.5 -0.6
2µm,1.0s
FITZ **Fitzroy Crossi** 19.67 170 P Pn 17 39 04.4 -2.6
7.5nm,0.3s,baz=2.6,slow=8.8,SNR=256
FITZ S **Sn** 17 42 43.5 -3.5
0.7nm,0.3s,baz=343,slow=20,SNR=4.6
FITZ **Fitzroy Crossi** 19.67 170 *eP* Pn 17 39 04.0 -3.0
6.1nm,0.5s
FITZ **Fitzroy Crossi** 19.67 170 P Pn 17 39 03.9 -3.1
319nm,1.2s
RGRI **Rengat** 19.91 265 P Pn 17 39 08.6 -1.3
665nm,1.3s
MNAI **Manna** 20.03 253 P P 17 39 10.1 +0.7
1µm,1.2s
KSI **Kapahiang** 20.19 256 P P 17 39 11.3 +0.1
945nm,1.2s
XMIS **Christmas Isla** 20.23 234 *eP* P 17 39 05.5 -6.0
904nm,0.9s
XMIS **Christmas Isla** 20.23 234 P P 17 39 09.9 -1.6
3µm,1.1s
FRIM **Kepong** 20.60 275 P P 17 39 20.3 +4.7
MMPI **Merauke** 20.63 119 P P 17 39 18.0 +2.0
871nm,1.4s
SDSI **Sungai Dareh** 20.86 264 P P 17 39 19.2 +0.7
663nm,1.1s
KRJI **Kerinci** 20.99 261 P P 17 39 21.5 +1.7
3µm,1.2s
BKNI **Bangkinang** 21.15 267 P P 17 39 21.9 +0.3
748nm,1.1s,mb5.9
QIZ **Qiongzhong** 21.29 326 P P 17 39 22.9 0.0
QIZ S **S** 17 43 21.5 +3.8
QIZ pmax pmax
comp=Z,68nm,1.8s,mb4.7
QIZ LR LR
comp=N,16µm,16.6s,MS5.6
QIZ LR LR
comp=E,13µm,17.6s,MS5.7
QIZ LR LR
comp=Z,27µm,17.1s,MS5.7
QIZ **Qiongzhong** 21.29 326 *eP* P 17 39 23.2 +0.3
comp=Z,181nm,1.0s,mb5.4
TWG **Pinlang** 21.33 357 *eP* P 17 39 23.5 +0.1
comp=Z,214nm,0.9s,mb5.5
IPM **Ipoh** 21.33 279 P P 17 39 23.8 +0.3
IPM **Ipoh** 21.33 279 P P 17 39 23.1 -0.4
comp=Z,301nm,1.2s,mb5.5
UBT **Ubonrachathani** 21.82 310 ⇑P P 17 39 29.0 +0.4
KULM **Kulim** 21.82 281 P P 17 39 28.5 -0.3
KULM **Kulim** 21.82 281 *eP* P 17 39 27.8 -1.0
comp=Z,261nm,1.2s,mb5.5
KULM **Kulim** 21.82 281 P P 17 39 28.1 -0.7
comp=Z,211nm,1.2s,mb5.4
PDSI **Padang** 21.82 264 P P 17 39 28.2 -0.6
comp=Z,647nm,1.3s,mb5.9
TPUB **Ta-pu** 21.83 356 *eP* P 17 39 28.4 -0.4
comp=Z,479nm,0.9s,mb5.9
PPI **Padang Panjang** 21.84 265 P P 17 39 28.5 -0.5
comp=Z,224nm,1.0s,mb5.5
YULB **Yu-li** 21.89 358 *eP* P 17 39 27.8 -1.5
comp=Z,276nm,1.2s,mb5.5
SSLB **Suanglung** 22.29 357 *eP* P 17 39 32.7 -1.0
comp=Z,129nm,0.8s,mb5.4
MBWA **Marble Bar** 22.54 186 *eP* P 17 39 33.3 -3.0
comp=Z,178nm,1.0s,mb5.5
MBWA **Marble Bar** 22.54 186 P P 17 39 33.3 -3.0
comp=Z,205nm,1.2s,mb5.4
MBWA **Marble Bar** 22.54 186 P P 17 39 34.0 -2.3
SNR=15
MNSI **Mandailing Nat** 22.59 269 P P 17 39 35.9 -1.1
comp=Z,337nm,0.9s,mb5.8
NACB **Ninganchiao** 22.65 359 P P 17 39 37.5 0.0
comp=Z,60nm,1.0s,mb5.0
YHNB **Yeheng** 23.15 358 *eP* P 17 39 42.0 -0.8
comp=Z,227nm,1.3s,mb5.4
SISI **Saibi** 23.23 263 P P 17 39 42.0 -1.7
comp=Z,667nm,1.0s,mb6.0
PSI **Prapat** 23.27 274 P P 17 39 43.5 -0.6
comp=Z,227nm,1.1s,mb5.5,baz=98,slow=7.1,SNR=91
PSI S **S** 17 43 52.4 -1.8
comp=Z,9.8nm,0.8s,baz=126,slow=18,SNR=2.3
PSI ScP ScP 17 47 06.2 -0.8
comp=Z,8.8nm,0.8s,baz=210,slow=5.2,SNR=4.5
PSI **Prapat** 23.27 274 P P 17 39 43.5 -0.6
PSI S **S** 17 43 52.4 -1.8
PSI ScP ScP 17 47 06.2 -0.8
PSI **Prapat** 23.27 274 P P 17 39 43.5 -0.6
PSI S **S** 17 43 52.4 -1.8
PSI **Prapat** 23.27 274 P P 17 39 43.0 -1.1
comp=Z,310nm,1.4s,mb5.5
TATO **Tatei** 23.45 358 P P 17 39 43.5 -2.3
comp=Z,177nm,1.1s,mb5.4
QZH **Quanzhou** 23.67 352 P P 17 39 45.9 -1.9
QZH pmax pmax
comp=Z,620nm,1.7s,mb5.8
TSI **Tuntungan** 23.67 276 P P 17 39 48.3 +0.3
comp=Z,1µm,1.3s,mb6.1
KKTK **Khon Kaen** 24.16 309 P P 17 39 53.4 +1.0
comp=Z,247nm,0.9s,mb5.6
WRAB **Tennant Creek** 24.33 151 P P 17 39 52.0 -1.9
comp=Z,960nm,1.3s,mb6.1,SNR=47
WRAB **Tennant Creek** 24.33 151 P P 17 39 52.4 -1.5
comp=Z,309nm,1.6s,mb5.5
WRA **Warramunga Arr** 24.33 151 P P 17 39 52.0 -1.9
comp=Z,116nm,1.1s,mb5.2,baz=336,slow=9.3,SNR=133
WRA S **S** 17 44 16.1 +4.8
comp=Z,21nm,1.1s,baz=331,slow=18,SNR=4.4
WRA ScP ScP 17 47 09.1 -0.6
comp=Z,5.5nm,1.1s,baz=338,slow=3.1,SNR=4.6
WRA PKiKP PKiKP 17 51 13.5 -2.5
comp=Z,1.0nm,0.6s,baz=304,slow=1.4,SNR=8.9
WRA pPKiKP 17 51 25.9
comp=Z,1.7nm,0.8s,baz=308,slow=1.6,SNR=4.1
WRA **Warramunga Arr** 24.33 151 P P 17 39 52.0 -1.9
WRA S **S** 17 44 16.1 +4.8
WRA ScP ScP 17 47 09.1 -0.6
WRA **Warramunga Arr** 24.33 151 P P 17 39 52.1 -1.8
WRA S **S** 17 44 16.1 +4.9
WB2 **Warramunga Arr** 24.34 151 *eP* P 17 39 52.0 -2.0
TPTI **25.03 275** P P 17 39 59.7 -0.7
comp=Z,117nm,1.1s,mb5.3
GUMO **Guam** 25.53 61 P P 17 40 06.5 +1.7
comp=Z,72nm,0.8s,mb5.2,baz=240,slow=8.1,SNR=3.0
GUMO **Guam** 25.53 61 P P 17 40 06.5 +1.6
GUMO **Guam** 25.53 61 P P 17 40 06.5 +1.6
GUMO **Guam** 25.53 61 P P 17 40 06.4 +1.5
comp=Z,244nm,0.9s,mb5.7
COEN **Coen** 25.81 127 *eP* P 17 40 06.4 -1.1
comp=Z,1µm,0.7s,mb6.5
COEN **Coen** 25.81 127 P P 17 40 06.5 -0.9
comp=Z,251nm,1.1s,mb5.6
NST **Nakhon Sawan** 25.95 304 P P 17 40 10.0 +1.3
JOW **Kunigami** 25.97 13 P P 17 40 09.2 +0.5
comp=Z,48nm,0.9s,mb5.0,baz=190,slow=11
JOW **Kunigami** 25.97 13 P P 17 40 09.2 +0.5
PMG **Port Moresby** 27.11 114 P P 17 40 19.3 +0.1
comp=Z,101nm,1.0s,mb5.3,baz=297,slow=11,SNR=18
PMG **Port Moresby** 27.11 114 *eP* P 17 40 18.5 -0.7
comp=Z,176nm,1.0s,mb5.5
PMG **Port Moresby** 27.11 114 *eP* P 17 40 18.5 -0.7
PMG pmax pmax
comp=Z,176nm,1.0s
PMG **Port Moresby** 27.11 114 P P 17 40 19.0 -0.2
comp=Z,184nm,1.0s,mb5.5
BSI **Banda Aceh** 27.12 279 P P 17 40 17.6 -1.7
comp=Z,97nm,1.3s,mb5.2
ASAR **Alice Springs** 27.40 156 P P 17 40 20.1 -1.6
comp=Z,7.3nm,0.7s,mb4.3,baz=340,slow=13,SNR=97
ASAR PcP PcP 17 43 39.7 -0.5
comp=Z,11nm,0.8s,baz=326,slow=3.0,SNR=5.7
ASAR ScP ScP 17 47 17.1 -1.3
comp=Z,5.2nm,0.9s,baz=343,slow=3.9,SNR=5.2
ASAR PKiKP PKiKP 17 51 16.9 -0.8
comp=Z,1.3nm,0.9s,baz=337,slow=1.8,SNR=4.8
ASAR pPKiKP 17 51 27.4
comp=Z,2.9nm,0.9s,baz=207,slow=0.4,SNR=5.8
ASAR **Alice Springs** 27.40 156 P P 17 40 20.1 -1.6
ASAR PcP PcP 17 43 39.7 -0.5
ASAR ScP ScP 17 47 17.1 -1.3
ASAR **Alice Springs** 27.40 156 P P 17 40 20.1 -1.6
ASAR 17 43 39.7

CM31 **Chiang Mai Arr** 28.40 308 *eP* P 17 40 30.4 -0.3
comp=Z,9.3nm,0.7s,mb4.5
CMAR **Chiang Mai Arr** 28.40 308 P P 17 40 31.6 +0.9
comp=Z,4.5nm,0.9s,baz=140,slow=7.6,SNR=26
CMAR PcP PcP 17 43 42.4 -0.4
comp=Z,18nm,1.1s,baz=158,slow=1.6,SNR=8.3
CMAR pPcP 17 43 53.9
comp=Z,12nm,0.9s,baz=180,slow=2.0,SNR=9.8
CMAR ScP ScP 17 47 22.1 +0.4
comp=Z,9.3nm,1.1s,baz=164,slow=1.9,SNR=11
CMAR PKiKP PKiKP 17 51 17.6 -0.8
comp=Z,0.9nm,0.9s,baz=270,slow=0.5,SNR=4.2
CMAR pPKiKP 17 51 28.2
comp=Z,2.1nm,0.9s,baz=270,slow=1.4,SNR=7.7
CMAR **Chiang Mai Arr** 28.40 308 P P 17 40 31.6 +0.9
CMAR PcP PcP 17 43 42.4 -0.4
CMAR pPcP 17 43 53.9
CMAR ScP ScP 17 47 22.1 +0.4
CMAR **Chiang Mai Arr** 28.40 308 P P 17 40 31.7 +1.0
CMAR 17 43 42.4
CHRT **Chiangrai** 28.58 311 ⇓P P 17 40 31.0 -1.2
comp=Z,163nm,1.0s,mb5.7
CHG **Chiang Mai** 28.60 309 ⇑P P 17 40 37.7 +5.2
comp=Z,32nm,1.5s,mb4.8
CHTO **Chiang Mai** 28.60 309 *eP* P 17 40 33.2 +0.7
comp=Z,58nm,1.1s,mb5.2
CHTO **Chiang Mai** 28.60 309 *eP* P 17 40 33.2 +0.7
CHTO pmax pmax
comp=Z,58nm,1.1s,mb5.2
CHTO **Chiang Mai** 28.60 309 P P 17 40 33.1 +0.6
comp=Z,75nm,1.2s,mb5.3
CHTO **Chiang Mai** 28.60 309 P P 17 40 33.9 +1.4
SNR=17
GYA **Guiyang** 29.04 330 P P 17 40 38.9 +2.6
GYA pP pP 17 40 48.8 +2.9
GYA sP sP 17 40 54.0 +4.1
GYA PP PP 17 41 35.3 -7.0
GYA PcP PcP 17 43 44.9 +0.7
GYA S **S** 17 45 28.0 +2.4
GYA sS sS 17 45 44.3 +2.8
GYA SS Sx 17 46 59.0
GYA ScP ScP 17 47 22.5 -1.0
GYA ScS ScS 17 51 16.6 -1.0
GYA pmax pmax
comp=Z,30nm,1.0s,mb5.0
GYA LR LR
comp=N,2µm,15.0s,MS5.0
GYA LR LR
comp=E,1µm,14.8s,MS5.0
KMI **Kunming** 30.14 323 P P 17 40 46.8 +0.8
KMI S **S** 17 45 46.1 +3.2
KMI pmax pmax
comp=Z,19nm,1.5s,mb4.6
KMI LR LR
comp=N,15µm,16.8s,MS6.0
KMI LR LR
comp=E,21µm,14.8s,MS6.0
KMI LR LR
comp=Z,20µm,23.5s
NJ2 **Nanjing** 30.66 354 *eP* P 17 40 52.1 +1.6
NJ2 pmax pmax
comp=Z,20nm,0.9s,mb5.0
CTA **Charters Tower** 31.84 133 P P 17 41 01.5 +0.4
comp=Z,195nm,1.2s,mb5.8,baz=314,slow=10,SNR=45
CTA **Charters Tower** 31.84 133 ⇑*i*P P 17 41 01.0 -0.1
comp=Z,107nm,1.2s,mb5.5
CTA **Charters Tower** 31.84 133 P P 17 41 01.5 +0.4
CTA **Charters Tower** 31.84 133 P P 17 41 01.5 +0.4
CTAO **Charters Tower** 31.84 133 *eP* P 17 41 00.5 -0.5
comp=Z,168nm,1.1s,mb5.8
CTAO **Charters Tower** 31.84 133 *eP* P 17 41 00.5 -0.6
CTAO pmax pmax
comp=Z,168nm,1.1s,mb5.8
CTAO **Charters Tower** 31.84 133 P P 17 41 01.2 +0.1
comp=Z,179nm,1.3s,mb5.7
CBIJ **Chichi jima** 31.97 35 P P 17 41 02.4 +0.2
comp=Z,225nm,0.8s,mb6.0,baz=233,slow=19,SNR=12
FORT **Forrest** 32.48 171 ⇑*i*P P 17 41 04.5 -2.1
comp=Z,152nm,0.7s,mb5.9
FORT **Forrest** 32.48 171 *eP* P 17 41 04.4 -2.2
comp=Z,188nm,0.8s,mb6.0
JNU **Nakatsue** 32.61 14 *eP* P 17 41 06.9 -0.8
comp=Z,18nm,1.0s,mb5.0
KLBR **Kellerberrin** 33.07 187 ⇑*i*P P 17 41 08.6 -3.1
comp=Z,178nm,1.4s,mb5.8
CD2 **Chengdu** 34.15 331 P P 17 41 21.3 +0.2
CD2 pP pP 17 41 25.8 -5.0
CD2 PP PP 17 42 37.1 -1.8
CD2 S **S** 17 46 47.6 +2.3
CD2 SS SS 17 48 59.3 -15
CD2 pmax pmax
comp=Z,130nm,0.9s,mb5.9
NWAO **Narrogin (SRO)** 34.45 187 P P 17 41 21.2 -2.5
comp=Z,61nm,1.1s,mb5.5,baz=15,slow=8.8,SNR=15
NWAO **Narrogin (SRO)** 34.45 187 *eP* P 17 41 21.4 -2.4
comp=Z,268nm,1.6s,mb5.9
NWAO **Narrogin (SRO)** 34.45 187 *eP* P 17 41 21.4 -2.3
NWAO pmax pmax
comp=Z,268nm,1.6s
KSRS **Korea Array** 36.28 8 P P 17 41 39.9 +0.5
comp=Z,21nm,1.0s,mb5.0,baz=183,slow=10,SNR=25
KSRS PcP PcP 17 44 02.7 -1.3
comp=Z,9.9nm,1.1s,baz=187,slow=3.0,SNR=4.4
KSRS pPcP 17 44 15.2
comp=Z,14nm,0.8s,baz=186,slow=2.8,SNR=10
KSRS **Korea Array** 36.28 8 P P 17 41 39.9 +0.5
KSRS 17 44 02.7
KSRS pmax pmax
comp=Z,21nm,1.0s,mb5.0
KSRS pmax pmax
comp=Z,15nm,0.9s,mb4.9
DL2 **Dalian** 37.34 359 ⇑P P 17 41 49.1 +0.7
DL2 pmax pmax
comp=Z,70nm,1.2s,mb5.4
SHL **Shillong** 37.80 312 *e*PKP P 17 41 54.0 +1.4
STKA **Stephens Creek** 37.87 153 P P 17 41 52.1 -0.9
comp=Z,130nm,0.9s,mb5.6,baz=327,slow=10,SNR=55
STKA **Stephens Creek** 37.87 153 ⇑*i*P P 17 41 52.1 -0.9
comp=Z,106nm,0.9s,mb5.6
STKA **Stephens Creek** 37.87 153 *eP* P 17 41 52.0 -0.9
comp=Z,45nm,1.1s,mb5.1
STKA **Stephens Creek** 37.87 153 *eP* P 17 41 52.1 -0.9
STKA pmax pmax
comp=Z,45nm,1.1s
MAJO **Matsushiro** 38.00 21 *eP* P 17 41 52.4 -1.6
comp=Z,73nm,1.1s,mb5.3
MAJO **Matsushiro** 38.00 21 *eP* P 17 41 52.4 -1.6
MAJO pmax pmax
comp=Z,73nm,1.1s,mb5.3
MAT **Matsushiro** 38.00 21 P P 17 41 52.5 -1.5
MJAR **Matsushiro Arr** 38.00 21 P P 17 41 52.9 -1.1
comp=Z,41nm,1.0s,mb5.1,baz=201,slow=9.9,SNR=43
MJAR PcP PcP 17 44 09.1 -0.1
comp=Z,12nm,1.1s,baz=214,slow=2.9,SNR=3.8
MJAR ScP ScP 17 47 54.5 -0.1
comp=Z,5.2nm,1.1s,baz=214,slow=2.9,SNR=5.6
MJAR **Matsushiro Arr** 38.00 21 P P 17 41 52.9 -1.1
MJAR PcP PcP 17 44 09.1 -0.1
MJAR ScP ScP 17 47 54.5 -0.1
MJAR **Matsushiro Arr** 38.00 21 P P 17 41 52.9 -1.1
MJAR 17 44 09.1
MJAR 17 47 54.6
LZH **Lanzhou** 38.48 336 *eP* P 17 41 57.8 -0.2
LZH pmax pmax
comp=Z,35nm,1.4s,mb4.9
LZH pmax pmax
comp=Z,12µm,6.0s
EIDS **Eidsvold** 38.61 135 *eP* P 17 41 57.3 -2.1
comp=Z,113nm,1.3s,mb5.4
BJT **Baijiatuao** 38.83 353 *eP* P 17 42 01.2 +0.3
comp=Z,69nm,1.0s,mb5.3
BJT **Baijiatuao** 38.83 353 *eP* P 17 42 01.3 +0.3
BJT pmax pmax
comp=Z,69nm,1.0s
BJI **Beijing** 38.85 353 P P 17 42 01.3 +0.2
BJI pmax pmax
comp=Z,24nm,1.2s,mb4.8
HNR **Honiara** 39.14 107 *eP* P 17 42 03.2 -0.8
comp=Z,186nm,0.9s,mb5.8
HNR **Honiara** 39.14 107 *eP* P 17 42 03.2 -0.7
HNR pmax pmax
comp=Z,186nm,0.9s,mb5.8
HHC **Hu-ho-hao-te** 40.43 348 ⇓P P 17 42 15.4 +1.1
HHC S **S** 17 48 25.1 +4.5
HHC sS sS 17 48 41.3 +4.6
HHC pmax pmax

comp=Z,44nm,0.8s,mb5.2
HHC LR LR
comp=N,10µm,11.8s,MS6.0
HHC LR LR
comp=E,8µm,13.2s,MS6.0
HHC LR LR
comp=Z,10µm,15.9s,MS5.8
LSA Lhasa 40.77 317 *e*P **P 17 42 19.6 +2.3**
comp=Z,80nm,1.0s,mb5.3
LSA Lhasa 40.77 317 *e*P **P 17 42 19.6 +2.3**
LSA pmax pmax
comp=Z,80nm,1.0s,mb5.3
VIS Vishakhapatnam 41.45 295 *e*PKP **P 17 42 20.4 -2.6**
VIS AMb AMB 17 42 21.4
comp=Z,142nm,1.6s,mb5.3
ODAN Odare 41.89 310 *e*P **P 17 42 27.5 +1.0**
comp=Z,204nm,0.9s,mb5.8
TAPN Taplejung 41.91 311 *e*P **P 17 42 27.8 +1.2**
comp=Z,155nm,0.8s,mb5.7
ARMA Armidale 42.29 141⇑ *i*P **P 17 42 30.5 +0.8**
ARMA Armidale 42.29 141 *e*P **P 17 42 30.5 +0.8**
comp=Z,87nm,1.0s,mb5.3
CN2 Changchun 42.33 4 *e*P **P 17 42 29.8 0.0**
CN2 pmax pmax
comp=Z,40nm,1.0s,mb5.0
VLA Vladivostok 42.45 11⇓ *e*P **P 17 42 32.4 +1.6**
VLA S **S 17 48 54.3 +3.9**
VLA pmax pmax
comp=Z,48nm,1.7s,mb4.8
GTA Gaotai 42.98 334 *e*P **P 17 42 36.9 +1.7**
GTA pP pP 17 42 41.4 -3.6
GTA sP sP 17 42 43.9 -5.1
GTA pmax pmax
comp=Z,49nm,2.1s,mb4.9
MDJ Mudanjiang 43.54 8 P **P 17 42 40.0 +0.4**
MDJ pP pP 17 42 48.9 -0.6
MDJ sP sP 17 42 52.6 -0.8
MDJ pmax pmax
comp=Z,54nm,1.0s,mb5.2
MDJ Mudanjiang 43.54 8 *e*P **P 17 42 40.3 +0.7**
comp=Z,70nm,0.8s,mb5.4
GUN Gumba 43.58 311 *e*P **P 17 42 41.4 +1.2**
comp=Z,200nm,0.7s,mb5.9
PKI Pulchoki 43.77 310 *e*P **P 17 42 42.6 +0.8**
comp=Z,109nm,0.8s,mb5.6
KKN Kakani 43.98 310 *e*P **P 17 42 44.5 +1.1**
comp=Z,68nm,0.8s,mb5.4
DMN Daman 44.02 310 *e*P **P 17 42 45.0 +1.2**
comp=Z,399nm,1.1s,mb6.1
CAN Canberra 44.31 148 *e*P **P 17 42 46.3 +0.4**
comp=Z,140nm,0.9s,mb5.7
CAN Canberra 44.31 148 *e*P **P 17 42 46.3 +0.4**
CAN pmax pmax
comp=Z,140nm,0.9s,mb5.7
TOO Toolangi 44.38 153 *e*P **P 17 42 46.6 +0.2**
comp=Z,686nm,1.5s,mb6.2
CNB Canberra Magne 44.50 148⇑ *i*P **P 17 42 47.5 +0.1**
comp=Z,351nm,1.1s,mb6.0
GKN Gorkha 44.58 310 *e*P **P 17 42 49.0 +0.8**
comp=Z,364nm,1.1s,mb6.1
ERM Erimo 44.63 22 *ce*P **P 17 42 50.1 +1.7**
ERM pmax pmax
comp=Z,102nm,1.2s,mb5.5
KOLN Koldanda 45.26 309 *e*P **P 17 42 54.8 +1.1**
comp=Z,216nm,0.8s,mb6.0
DANN Dangsing 45.42 310 *e*P **P 17 42 55.7 +0.8**
comp=Z,380nm,0.9s,mb6.2
HYB Hyderabad 45.72 293 *i* P **P 17 42 56.0 -1.4**
HYB *e* pP 17 43 06.5 -0.8
ASAJ Asahikawa 46.25 20 P **P 17 43 01.4 +0.3**
comp=Z,47nm,0.9s,mb5.4,baz=235,slow=14,SNR=18
ASAJ Asahikawa 46.25 20 *e*P **P 17 43 01.7 +0.5**
comp=Z,43nm,1.0s,mb5.3
ASAJ Asahikawa 46.25 20 P **P 17 43 01.5 +0.3**
ASAJ pmax pmax
comp=Z,47nm,0.9s
HIA Hailar 47.74 358 *e*P **P 17 43 13.2 +0.5**
comp=Z,118nm,1.3s,mb5.8
HIA Hailar 47.74 358 *e*P **P 17 43 13.2 +0.5**
HIA pmax pmax
comp=Z,118nm,1.3s
ULN Ulaanbaatar 48.11 346 *e*P **P 17 43 17.1 +1.5**
comp=Z,115nm,1.0s,mb5.9
ULN Ulaanbaatar 48.11 346 *e*P **P 17 43 17.1 +1.5**
ULN pmax pmax
comp=Z,115nm,1.0s,mb5.9
ULN Ulaanbaatar 48.11 346 P **P 17 43 16.8 +1.2**
comp=Z,138nm,1.1s,mb5.9
SONM Songino Array 48.24 346 P **P 17 43 17.0 +0.4**
comp=Z,38nm,0.9s,mb5.4,baz=162,slow=7.4,SNR=34
SONM pP pP 17 43 25.3 -1.3
comp=Z,78nm,0.8s,baz=162,slow=7.6,SNR=18
SONM PKPPKP 18 14 18.5
comp=Z,0.8nm,1.1s,baz=336,slow=3.2,SNR=3.6
SONM Songino Array 48.24 346 P **P 17 43 17.0 +0.4**
SONM pP pP 17 43 25.3 -1.3
SONM P'P' 18 14 18.5
SONM Songino Array 48.24 346 P **P 17 43 17.0 +0.4**
SONM *PP pP 17 43 25.3 -1.3
BHPL Bhopal 48.50 300 *e*PKP **P 17 43 18.7 -0.4**
BHPL AMb AMB 17 43 21.3
comp=Z,135nm,0.9s,mb6.0
YSS Yuzh-Sakhalins 48.80 19 *e*P **P 17 43 21.0 0.0**
YSS *e* pP 17 43 31.5 +0.6
YSS MLR MLR
comp=Z,18µm,18.0s,MS6.1
NOUC Port Laguerre 48.98 121 *e*P **P 17 43 21.8 -1.0**
DZM Mont Dzumac 49.09 121 *e*P **P 17 43 24.3 +0.7**
comp=Z,124nm,1.3s,mb5.8
HMDM Hanimaadhoo 49.12 278 P **P 17 43 24.7 +0.7**
comp=Z,203nm,1.4s,mb6.0
AGRA Agra 49.54 305 *e*PKP **P 17 43 24.4 -2.6**
AGRA AMb AMB 17 43 28.5
comp=Z,72nm,0.5s,mb6.0
TAU Tasmania Unive 49.57 156 P **P 17 43 26.0 -0.9**
comp=Z,113nm,1.1s,mb5.8
TAU Tasmania Unive 49.57 156 P **P 17 43 26.0 -0.9**
TAU pmax pmax
comp=Z,113nm,1.1s,mb5.8
KAD Karad 49.73 292 *e*PKP **P 17 43 27.5 -1.1**
KAD AMb AMB 17 43 30.0
comp=Z,94nm,0.7s,mb5.9
POO Poona 50.33 293 *e*PKP **P 17 43 32.9 -0.2**
POO AMb AMB 17 43 34.4
comp=Z,100nm,0.2s,mb6.4
BISR Bishrakh 50.49 307 *e*PKP **P 17 43 33.6 -0.6**
SONA Sohna 50.65 306 *e*PKP **P 17 43 35.3 0.0**
SONA AMb AMB 17 43 36.9
comp=Z,134nm,1.3s,mb5.7
AYAN Aya Nagar 50.70 306 *e*PKP **P 17 43 35.4 -0.4**
AYAN AMb AMB 17 43 37.3
comp=Z,127nm,0.8s,mb5.9
BHGR Bahadurgarh 50.94 307 *e*PKP **P 17 43 36.5 -1.0**
KUDL Kundal 51.09 306 *e*PKP **P 17 43 38.3 -0.4**
KUDL AMb AMB 17 43 39.9
comp=Z,101nm,0.8s,mb5.8
ZAK Zakamensk 51.38 345 *e*P **P 17 43 41.6 +1.1**
ZAK *e* 17 44 54.7
ZAK pmax pmax
comp=Z,44nm,1.0s,mb5.3
KKR Kurukshetra 51.56 308 *e*PKP **P 17 43 42.0 -0.2**
KHET Khetri 51.61 305 *e*PKP **P 17 43 42.3 -0.3**
KHET AMb AMB 17 43 43.7
comp=Z,94nm,0.8s,mb5.8
WMQ Urumqi 52.18 329 P **P 17 43 48.3 +1.8**
WMQ pP pP 17 43 52.8 -3.8
WMQ sP sP 17 43 55.3 -5.2
WMQ PP PP 17 45 47.5 +2.3
WMQ pmax pmax
comp=Z,150nm,0.8s,mb6.0
TLY Talaya 52.48 346 *e*P **P 17 43 50.0 +1.4**
comp=Z,126nm,0.8s,mb5.9
TLY *e* pP 17 44 00.9 +2.2
TLY Talaya 52.48 346 *e*P **P 17 43 50.0 +1.4**
TLY *e* pP 17 44 00.9 +2.3
TLY pmax pmax
comp=Z,126nm,0.8s,mb5.9
TLY Talaya 52.48 346 P **P 17 43 50.4 +1.8**
comp=Z,1µm,0.8s,SNR=8.2
IRK Irkutsk 52.84 346 *e*P **P 17 43 51.1 -0.2**
IRK pmax pmax
comp=Z,187nm,1.9s,mb5.7
MK31 Makanchi Array 57.00 328 *e*P **P 17 44 22.1 +0.6**
MK31 *e* pP 17 44 33.0 +1.4
MK31 Makanchi Array 57.00 328 *ce*P **P 17 44 22.1 +0.6**
MK31 pmax pmax
comp=Z,97nm,0.8s,mb5.9
MKAR Makanchi Array 57.00 328 P **P 17 44 22.4 +0.9**
comp=Z,17nm,0.5s,mb5.4,baz=128,slow=8.7,SNR=170
MKAR pP pP 17 44 30.2 -1.4
comp=Z,74nm,0.7s,baz=124,slow=8.1,SNR=29
MKAR PcP PcP 17 45 14.2 -2.2
comp=Z,39nm,1.1s,baz=129,slow=4.6,SNR=2.3
MKAR Makanchi Array 57.00 328 P **P 17 44 22.4 +0.9**
MKAR pP pP 17 44 30.2 -1.4
MKAR PcP PcP 17 45 14.2 -2.2
MKAR Makanchi Array 57.00 328 P **P 17 44 22.4 +0.9**
MKAR *PP pP 17 44 30.2 -1.4
MKAR 17 45 14.2
KZA Kyzart 58.37 320 P **P 17 44 33.7 +2.5**
SNR=6.5
TKM2 Tokmak 2 58.59 321 P **P 17 44 34.2 +1.5**
SNR=8.1
TKM2 Tokmak 2 58.59 321 *eP* **P 17 44 34.0 +1.3**
TKM2 *e* pP 17 44 45.0 +2.2
TKM2 Tokmak 2 58.59 321 *eP* **P 17 44 34.0 +1.3**
TKM2 *e* pP 17 44 45.1 +2.2
KBK Karagaybulak 58.85 321 P **P 17 44 36.6 +2.0**
SNR=9.6
UCH Uchtor 58.91 320 P **P 17 44 37.6 +2.6**
SNR=5.3
AAK Ala-Archa 59.13 321 *eP* **P 17 44 37.1 +0.6**
AAK *e* pP 17 44 48.9 +2.2
AAK Ala-Archa 59.13 321 *eP* **P 17 44 37.1 +0.6**
AAK *e* pP 17 44 48.9 +2.2
CHMS Chumysh 59.16 321 P pP 17 44 48.6 +1.8
SNR=5.4
PETK Petropavlovsk- 59.35 24 P **P 17 44 38.6 +0.8**
comp=Z,24nm,0.9s,mb5.2,baz=188,slow=2.7,SNR=10
PETK Petropavlovsk- 59.35 24 P **P 17 44 38.6 +0.8**
PETK Petropavlovsk- 59.35 24 P **P 17 44 38.6 +0.8**
PETK pmax pmax
comp=Z,24nm,1.0s,mb5.2
AML Almayashu 59.39 320 P **P 17 44 40.3 +2.0**
SNR=8.0
KBL Kabul 59.41 310 *eP* **P 17 44 38.7 +0.1**
comp=Z,142nm,0.8s,mb6.0
KBL *e* pP 17 44 48.4 -0.4
KBL Kabul 59.41 310 *eP* **P 17 44 38.7 +0.1**
KBL *e* pP 17 44 48.4 -0.4
KBL pmax pmax
comp=Z,142nm,0.8s,mb6.0
USP Ospenovka 59.45 321 P **P 17 44 39.5 +0.8**
SNR=11
EKS2 Erkin-Say 59.60 320 P **P 17 44 41.7 +1.9**
SNR=6.6
EKS2 Erkin-Say 59.60 320 *eP* **P 17 44 41.6 +1.8**
EKS2 Erkin-Say 59.60 320 *eP* **P 17 44 41.6 +1.8**
PET Petropavlovsk 59.69 25 *eP* **P 17 44 41.0 +0.8**
comp=Z,98nm,1.6s,mb5.6
PET Petropavlovsk 59.69 25 *eP* **P 17 44 42.1 +2.0**
PET pmax pmax
comp=Z,78nm,1.7s,mb5.5
ZAA0 Zalesovo Array 60.71 336 *eP* **P 17 44 47.1 0.0**
ZALV Zalesovo Beam 60.71 336 P **P 17 44 46.9 -0.2**
comp=Z,48nm,0.8s,mb5.7,baz=125,slow=6.8,SNR=26
ZALV pP pP 17 44 56.6 -0.6
comp=Z,136nm,0.9s,baz=121,slow=6.3,SNR=35
ZALV PKPPKP 18 14 03.0
comp=Z,0.3nm,0.3s,baz=356,slow=2.0,SNR=4.6
ZALV Zalesovo Beam 60.71 336 P **P 17 44 46.9 -0.2**
ZALV pP pP 17 44 56.6 -0.6
ZALV P'P' 18 14 03.0
ZALV Zalesovo Beam 60.71 336 P **P 17 44 46.9 -0.2**
ZALV *PP pP 17 44 56.7 -0.6
YAK Yakutsk 60.76 4 *eP* **P 17 44 47.6 +0.3**
YAK Yakutsk 60.76 4 *eP* **P 17 44 46.4 -0.9**
YAK *e* pP 17 44 57.1 -0.3
YAK pmax pmax
comp=Z,74nm,0.9s,mb5.8
YAK pmax pmax
comp=N,56nm,1.4s
YAK pmax pmax
comp=E,10.0nm,1.8s
KURK Kurchatov 61.36 330 P **P 17 44 52.2 +0.6**
comp=E,52nm,0.8s,mb5.7,baz=118,slow=5.6,SNR=132
KURK pP pP 17 45 01.8 0.0
comp=E,153nm,0.9s,baz=124,slow=6.4,SNR=32
KURK Kurchatov 61.36 330 P **P 17 44 52.2 +0.6**
KURK pP pP 17 45 01.8 0.0
KURK Kurchatov 61.36 330 P **P 17 44 52.2 +0.6**
KURK *PP pP 17 45 01.8 0.0
KURK Kurchatov 61.36 330 P **P 17 44 52.0 +0.4**
comp=E,2µm,0.9s,SNR=22
KURK Kurchatov 61.36 330 P **P 17 44 52.8 +1.2**
SNR=16
KK31 Karatay Array 61.92 319 *ce*P **P 17 44 56.4 +0.9**
KK31 pmax pmax
comp=Z,49nm,0.9s,mb5.6
KKAR Karatay Array 61.92 319 *eP* **P 17 44 55.5 -0.1**
KKAR Karatay Array 61.92 319 *eP* **P 17 44 55.5 0.0**
NVS Novosibirsk 62.00 336 *i* P pP 17 45 06.4 +0.4
NVS *i* S **S 17 53 16.6 -1.3**
NVS *e*PS 17 53 35.2
NVS pmax pmax
comp=N,80nm,0.8s
NVS pmax pmax
comp=E,72nm,0.8s
NVS pmax pmax
comp=Z,145nm,0.8s,mb6.2
NVS smax
comp=N,68nm,2.3s
NVS smax
comp=E,46nm,1.9s
LBZ Lake Benmore 62.44 143 *e*PN **P 17 44 58.6 -0.4**
RPZ Rata Peaks 62.61 142 P **P 17 45 00.1 0.0**
comp=E,294nm,1.0s,mb6.4,baz=315,slow=2.9,SNR=27
RPZ Rata Peaks 62.61 142 *eP* **P 17 45 00.1 -0.1**
comp=E,544nm,1.2s,mb6.6
RPZ Rata Peaks 62.61 142 *e*PN **P 17 44 58.5 -1.6**
ODZ Otahua Downs 63.08 143 PN **P 17 45 01.0 -2.2**
MCQ Macquarie Isla 63.42 157 *eP* **P 17 45 05.3 0.0**
comp=E,17µm,1.1s
MCQ Macquarie Isla 63.42 157 *eP* **P 17 45 05.2 -0.1**
comp=E,45µm,1.2s
MCQ Macquarie Isla 63.42 157 *eP* **P 17 45 05.2 -0.1**
KHZ Kahutara 63.52 140 *eP* **P 17 45 05.8 -0.4**
comp=E,357nm,1.3s,mb6.2
KHZ Kahutara 63.52 140 PN **P 17 45 05.6 -0.6**
SNZO South Karori 63.76 138 *eP* **P 17 45 06.6 -1.2**
comp=E,383nm,0.9s,mb6.4
URZ Urewera 64.08 134 P **P 17 45 09.5 -0.4**
comp=E,130nm,1.1s,mb5.8,baz=337,slow=3.4,SNR=11
URZ Urewera 64.08 134 *eP* **P 17 45 09.6 -0.4**
comp=E,180nm,1.1s,mb6.0
SEY Seymchan 65.38 15 *eP* **P 17 45 19.3 +1.4**
JMDO Jabal Madar 65.55 294 P **P 17 45 19.2 -0.7**
SNR=8.5
FX1 Attu Island--F 66.39 31 P **P 17 45 25.7 +1.0**
comp=E,53nm,1.0s,mb5.5,baz=214,slow=11,SNR=4.3
FX1 Attu Island--F 66.39 31 P **P 17 45 25.7 +1.0**
FX1 Attu Island--F 66.39 31 P **P 17 45 25.7 +1.0**
MRIV Mauritius Mete 66.85 247 *eP* **P 17 45 25.4 -2.8**
BVA0 Borovoye Array 66.87 329 P **P 17 45 27.9 +0.2**
BVA0 pmax pmax
comp=Z,38nm,1.1s,mb5.3
BVAR Borovoye Array 66.87 329 P **P 17 45 27.4 -0.3**
comp=Z,42nm,0.9s,mb5.5,baz=126,slow=7.3,SNR=82
BVAR pP pP 17 45 38.1 +0.1
comp=Z,122nm,0.9s,baz=125,slow=7.8,SNR=39
BVAR Borovoye Array 66.87 329 P **P 17 45 27.4 -0.3**
BVAR pP pP 17 45 38.0 +0.1
BVAR Borovoye Array 66.87 329 P **P 17 45 27.4 -0.3**
BVAR *PP pP 17 45 38.1 +0.1
BRVK Borovoye 66.94 329 *eP* **P 17 45 27.9 -0.2**
comp=Z,162nm,0.9s,mb6.1
BRVK Borovoye 66.94 329 *eP* **P 17 45 28.6 +0.4**
BRVK pmax pmax
comp=Z,124nm,1.1s,mb5.8
BRVK Borovoye 66.94 329 P **P 17 45 28.7 +0.5**
comp=Z,1µm,0.9s,SNR=21
BRVK Borovoye 66.94 329 P **P 17 45 29.6 +1.4**
SNR=13
AFI Afiamalu 67.16 106 P **P 17 45 29.4 -0.9**
comp=Z,88nm,1.1s,mb5.7,baz=266,slow=9.7,SNR=4.3
AFI Afiamalu 67.16 106 P **P 17 45 29.4 -0.9**
AFI Afiamalu 67.16 106 P **P 17 45 29.4 -0.9**
CASY Casey 68.03 185 *eP* **P 17 45 32.8 -2.0**
comp=Z,33nm,1.0s,mb5.3
RBK Rabkut 68.58 288 P **P 17 45 38.4 -0.9**
SNR=8.0
ABKT Ailbek 68.85 310 P **P 17 45 41.0 +0.5**
comp=Z,497nm,1.0s,mb6.4,SNR=11
ABTO Aybut 69.43 288 P **P 17 45 43.6 -0.9**
SNR=9.8
AB31 Akbulak array 71.12 322 P **P 17 45 53.6 -0.6**
AB31 pmax pmax
comp=Z,45nm,0.8s,mb5.5
ABKAR Akbulak array 71.12 322 *eP* **P 17 45 53.5 -0.8**
comp=Z,54nm,0.8s,mb5.5
ABKAR *e* pP 17 46 04.9 +0.3
BILL Bilibino 73.00 16 *eP* **P 17 46 04.9 -0.2**
comp=Z,32nm,1.2s,mb5.1
BILL Bilibino 73.00 16⇓ *eP* **P 17 46 05.6 +0.5**
BILL *e* 17 48 47.1
BILL *e*SS SS 18 00 13.0 +2.4
BILL pmax pmax
comp=Z,15nm,1.0s,mb4.9
BILL MLR MLR
comp=Z,20µm,17.0s,MS6.5
SVE Sverdlovsk 73.61 330⇑ *eP* **P 17 46 08.8 -0.1**
SVE pmax pmax
comp=Z,172nm,0.9s,mb6.0
ARU Arti 74.52 329 P **P 17 46 13.0 -1.2**
comp=Z,111nm,0.8s,mb5.8
ARU Arti 74.52 329 *d iP* **P 17 46 13.7 -0.5**
ARU pP 17 46 24.1 -0.5
ARU 17 49 05.5
ARU S S 17 55 48.1 +1.1
ARU pmax pmax
comp=Z,60nm,1.0s,mb5.5
ARU Arti 74.52 329 P **P 17 46 13.8 -0.4**
comp=Z,772nm,0.8s,mb6.7,SNR=5.5
QRN Al-Qurain 75.53 299 *eP* **P 17 46 19.7 -1.0**
QRN AMb AMB 17 46 31.5
comp=Z,134nm,0.9s,mb5.9
UMR Umm Al-Rimmam 75.80 300 *eP* **P 17 46 20.7 -1.4**
UMR AMb AMB 17 46 22.3
comp=Z,125nm,1.1s,mb5.8
RDF Al-Radifah 75.87 299 *eP* **P 17 46 21.6 -1.1**
RDF AMb AMB 17 46 23.2
comp=Z,107nm,1.2s,mb5.6
NAY Al-Naaiem 76.17 300 *eP* **P 17 46 22.6 -1.7**
NAY AMb AMB 17 46 36.6
comp=Z,56nm,1.1s,mb5.4
SOKR Solikamsk 76.54 332 *eP* **P 17 46 22.4 -3.3**
SOKR pmax pmax
comp=Z,60nm,1.7s,mb5.2
DGRG David-gareji 79.19 312 P **P 17 46 41.4 +0.5**
ATD Arta Tunnel 79.26 281 P **P 17 46 42.0 +0.2**
comp=Z,16nm,1.0s,mb4.9,baz=94,slow=2.5,SNR=4.9
ATD Arta Tunnel 79.26 281 P **P 17 46 42.0 +0.2**
GNI Garni 79.49 310 P **P 17 46 42.8 +0.2**
comp=Z,4.1nm,0.6s,mb4.6,baz=176,slow=10,SNR=6.1
GNI Garni 79.49 310 P **P 17 46 42.6 0.0**
comp=Z,37nm,0.9s,mb5.3
GNI Garni 79.49 310 *eP* **P 17 46 44.1 +1.5**
GNI pmax pmax
comp=Z,60nm,1.7s
MTA Mtatsminda 79.65 312 P **P 17 46 44.2 +0.8**
TBLG Delisi 79.69 312 P **P 17 46 44.8 +1.2**
TBLG Delisi 79.69 312 P **P 17 46 44.8 +1.1**
MAW Mawson 80.02 200 P **P 17 46 42.6 -2.2**
comp=Z,34nm,1.2s,mb5.2,baz=61,slow=6.0,SNR=11
MAW Mawson 80.02 200 *eP* **P 17 46 42.7 -2.1**
comp=Z,18nm,1.1s,mb4.9
MAW Mawson 80.02 200 P **P 17 46 42.6 -2.2**
MAW Mawson 80.02 200 P **P 17 46 42.6 -2.2**
ZEI Tsey 80.44 313 *eP* **P 17 46 45.6 -2.1**
ZEI pmax pmax
comp=Z,63nm,1.0s,mb5.5
AKH Akhalkalaki 80.58 312 P **P 17 46 50.1 +1.6**
ONI Oni 80.75 313 P **P 17 46 50.3 +1.0**
KIV Kislovodsk 81.46 314 *eP* **P 17 46 51.8 -1.2**
KIV pmax pmax
comp=Z,16nm,1.1s,mb4.9
SBA Scott Base 82.69 171 *eP* **P 17 46 57.9 -1.0**
comp=Z,53nm,1.1s,mb5.5
SBA Scott Base 82.69 171 *eP* **P 17 46 57.9 -0.9**
SBA pmax pmax
comp=Z,53nm,1.1s,mb5.5
CHGN Chignik 82.97 34 *eP* **P 17 47 00.8 +0.2**
VRHR Novokhopersk 82.97 321 *eP* **P 17 46 59.6 -1.2**
VRHR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRHR pmax pmax
comp=N,7.0nm,0.6s
VRHR pmax pmax
comp=E,3.0nm,0.4s
VSR Storozhevoye 84.53 321 *eP* **P 17 47 07.4 -1.4**
VSR pmax pmax
comp=Z,40nm,1.2s,mb5.4
VSR pmax pmax
comp=N,6.0nm,1.4s
VSR pmax pmax
comp=E,30nm,1.2s
KMBO Kilima Mbogo 84.94 269 *eP* **P 17 47 11.5 -0.2**
comp=E,46nm,1.1s,mb5.5
KMBO Kilima Mbogo 84.94 269 *eP* **P 17 47 11.5 -0.2**
KMBO pmax pmax
comp=Z,46nm,1.1s
KMBO Kilima Mbogo 84.94 269 P **P 17 47 12.6 +0.9**
SNR=13
KLMR Klimovskoe 85.20 331 *eP* **P 17 47 08.9 -3.0**
KLMR *e**PP pP 17 47 20.3 -2.2
KLMR pmax pmax
comp=Z,210nm,1.5s,mb6.0
ANN Anapa 85.28 315 *eP* **P 17 47 11.8 -0.9**
ANN *e**PP pP 17 47 18.0 -5.3
ANN pmax pmax
comp=Z,113nm,1.0s,mb6.0
MOS Moscow 85.77 326 *eP* **P 17 47 10.2 -4.7**
KDAK Kodiak Island 86.29 32 P **P 17 47 17.4 0.0**
comp=Z,9.9nm,1.0s,mb5.0,baz=320,slow=7.9,SNR=4.2
KDAK Kodiak Island 86.29 32 P **P 17 47 17.4 0.0**
KDAK Kodiak Island 86.29 32 P **P 17 47 17.5 +0.1**
OBN Obninsk 86.34 325⇓ *eP* **P 17 47 16.5 -1.2**
OBN *e*S S 17 57 40.6 -10
OBN pmax pmax
comp=Z,93nm,1.7s,mb5.7
SIM Simferopol' 87.64 315 *eP* **P 17 47 25.2 +0.9**
SIM *e* 17 50 56.0
SIM pmax pmax
comp=Z,22nm,0.9s,mb5.4
LVZ Lovozero 87.78 338 *eP* **P 17 47 23.2 -1.2**
comp=Z,70nm,0.9s,mb5.9
LVZ Lovozero 87.78 338 *eP* **P 17 47 24.6 +0.2**
LVZ pmax pmax
comp=Z,48nm,1.0s,mb5.7
BR131 Keskin Array S 87.98 310 *eP* **P 17 47 24.8 -1.3**
comp=Z,15nm,0.8s,mb5.3
BRTR Keskin Array B 87.98 310 P **P 17 47 24.7 -1.3**
comp=Z,16nm,1.1s,mb5.2,baz=108,slow=4.7,SNR=43
BRTR pP pP 17 47 34.9 -1.7
comp=Z,16nm,0.9s,baz=122,slow=4.8,SNR=14
BRTR PP PP 17 50 54.3 +1.6
comp=Z,2.8nm,1.0s,baz=125,slow=7.2,SNR=3.8
BRTR Keskin Array B 87.98 310 P **P 17 47 24.7 -1.3**
BRTR pP pP 17 47 34.9 -1.7
BRTR PP PP 17 50 54.3 +1.6
BRTR Keskin Array B 87.98 310 P **P 17 47 24.7 -1.3**
BRTR *PP pP 17 47 34.9 -1.7
BRTR 17 50 54.3
APA Apatity 88.25 337⇓ *iP* **P 17 47 24.6 -2.1**
APA *i* pP 17 47 36.0 -1.3
APA MLR MLR
comp=Z,12µm,16.0s,MS6.4
SYO Syowa Base 88.62 201⇓ *e*PcP PcP 17 47 29.6 -0.4
COLA College 88.74 25 *eP* **P 17 47 28.4 -0.7**
comp=Z,18nm,1.3s,mb5.2
COLA College 88.74 25 *eP* **P 17 47 28.4 -0.7**
COLA pmax pmax
comp=Z,18nm,1.3s,mb5.2
ILAR Eielson Array 89.16 25 P **P 17 47 29.6 -1.4**
comp=Z,3.8nm,1.0s,mb4.7,baz=254,slow=2.6,SNR=20
ILAR PP PP 17 51 03.8 +2.5
comp=Z,1.1nm,0.9s,baz=276,slow=9.0,SNR=4.2
ILAR PKKP PKKPbc 18 05 04.6 -6.3
comp=Z,1.5nm,1.0s,baz=66,slow=1.3,SNR=6.6
ILAR Eielson Array 89.16 25 P **P 17 47 29.6 -1.4**
ILAR PP PP 17 51 03.8 +2.5
ILAR PKKP PKKPbc 18 05 04.6 -6.3
ILAR Eielson Array 89.16 25 P **P 17 47 29.7 -1.3**
ILAR 17 51 03.8
JOF Joensuu 89.16 333 *eP* **P 17 47 28.4 -2.7**

JOF pmax pmax
comp=Z,29nm,0.8s,mb5.7
JOF Joensuu 89.16 333 *ep* **P 17 47 28.4 -2.7**
comp=Z,29nm,0.8s,mb5.7
PAX Paxson 89.85 27 *eP* **P 17 47 34.7 +0.4**
comp=Z,36nm,1.5s,mb5.5
PAX Paxson 89.85 27 *eP* **P 17 47 34.7 +0.4**
PAX pmax pmax
comp=Z,36nm,1.5s,mb5.5
KEV Kevo 90.50 340 *eP* **P 17 47 30.1 -7.1**
KEV pmax pmax
comp=Z,12nm,0.9s,mb5.2
KEV Kevo 90.50 340 *ep* **P 17 47 30.1 -7.1**
comp=Z,12nm,0.9s,mb5.2
MENT Mentasta 90.65 27 *eP* **P 17 47 37.7 -0.3**
AKASG Malin Array Be 90.80 321 P **P 17 47 37.4 -1.6**
comp=Z,1.4nm,0.5s,mb4.5,baz=74,slow=4.3,SNR=14
AKASG pP pP 17 47 47.7 -1.9
comp=Z,4.2nm,0.7s,baz=72,slow=5.0,SNR=9.2
AKASG Malin Array Be 90.80 321 P **P 17 47 37.4 -1.6**
AKASG pP pP 17 47 47.7 -1.9
AKASG Malin Array Be 90.80 321 P **P 17 47 37.4 -1.6**
AKASG *PP pP 17 47 47.7 -1.9
KIEV Kiev 90.81 321 *eP* **P 17 47 37.2 -1.8**
comp=Z,15nm,1.1s,mb5.2
KIEV Kiev 90.81 321 *eP* **P 17 47 37.3 -1.8**
KIEV pmax pmax
comp=Z,15nm,1.1s,mb5.2
ARCES ARCESS Array B 91.04 340 P **P 17 47 39.7 0.0**
comp=Z,6.3nm,0.9s,mb5.0,baz=90,slow=7.3,SNR=7.5
ARCES pP pP 17 47 49.0 -1.3
comp=Z,20nm,0.8s,baz=61,slow=5.6,SNR=12
ARCES PKKPbc PKKPbc 18 05 02.5 -3.8
comp=Z,2.0nm,0.9s,baz=212,slow=4.9,SNR=3.8
ARCES ARCESS Array B 91.04 340 P **P 17 47 39.7 0.0**
ARCES pP pP 17 47 49.0 -1.3
ARCES PKKPbc PKKPbc 18 05 02.5 -3.8
ARCES ARCESS Array B 91.04 340 P **P 17 47 39.7 0.0**
ARCES *PP pP 17 47 49.0 -1.3
QSPA South Pole Qui 91.31 180 *eP* **P 17 47 39.2 -1.6**
comp=Z,81nm,1.3s,mb5.9
KAF Kangasniemi 91.53 332 *eP* **P 17 47 39.7 -2.4**
KAF pmax pmax
comp=Z,12nm,0.7s,mb5.3
KAF Kangasniemi 91.53 332 *ep* **P 17 47 39.7 -2.4**
comp=Z,12nm,0.7s,mb5.3
EGAK Eagle 91.61 25 *eP* **P 17 47 41.8 -0.6**
comp=Z,26nm,1.3s,mb5.4
FINES FINESS Array B 91.71 331 P **P 17 47 43.4 +0.4**
comp=Z,2.8nm,0.7s,mb4.7,baz=82,slow=4.0,SNR=6.0
FINES pP pP 17 47 52.4 -1.2
comp=Z,10.0nm,0.8s,baz=72,slow=6.2,SNR=7.6
FINES FINESS Array B 91.71 331 P **P 17 47 43.4 +0.4**
FINES pP pP 17 47 52.4 -1.2
FINES FINESS Array B 91.71 331 P **P 17 47 43.4 +0.4**
FINES *PP pP 17 47 52.4 -1.2
TIRR Tirgusor 91.72 314 ⇑*P* **P 17 47 42.1 -1.3**
TIRR Tirgusor 91.72 314 ⇑*P* **P 17 47 42.1 -1.3**
SPB4 Spitsbergen Ar 91.87 349 *eP* **P 17 47 42.3 -1.1**
IZAR Zarasai 92.20 326 *eP* **P 17 47 45.1 -0.3**
IZAR AMB AMB 17 47 47.6
comp=Z,15nm,1.8s,mb5.0
IIGN Ignalina 92.25 325 *eP* **P 17 47 45.5 -0.2**
IIGN AMB AMB 17 47 47.8
comp=Z,13nm,1.8s,mb5.0
ISAL Salakas 92.29 326 *eP* **P 17 47 45.5 -0.3**
ISAL AMB AMB 17 47 48.0
comp=Z,16nm,1.9s,mb5.0
TESR 92.80 317 ⇑*iP* **P 17 47 47.7 -0.7**
VRI Vrincioaia 92.81 316 ⇓*P* **P 17 47 46.9 -1.5**
VRI Vrincioaia 92.81 316 ⇓⇓*P* **P 17 47 46.9 -1.5**
PLOR Plostina 92.86 316 ⇑*P* **P 17 47 47.9 -0.8**
PLOR Plostina 92.86 316 ⇑⇑*P* **P 17 47 47.9 -0.8**
MLR Muntele Rosu 93.39 316 P **P 17 47 49.3 -1.8**
comp=Z,2.5nm,1.2s,mb4.5,baz=334,slow=1.4,SNR=7.6
MLR pP pP 17 48 00.9 -0.8
comp=Z,2.2nm,0.8s,baz=152,slow=2.3,SNR=10
MLR Muntele Rosu 93.39 316 P **P 17 47 49.3 -1.8**
MLR pP pP 17 48 00.9 -0.8
MLR Muntele Rosu 93.39 316 P **P 17 47 49.3 -1.8**
MLR *PP pP 17 48 00.9 -0.8
MLR Muntele Rosu 93.39 316 ⇓⇓*iP* **P 17 47 49.8 -1.3**
BURAR Bucovina Array 93.67 318 ⇓*P* **P 17 47 51.7 -0.7**
BURAR Bucovina Array 93.67 318 ⇓⇓*iP* **P 17 47 51.7 -0.7**
BUR08 Bucovina Ar. S 93.68 318 *eP* **P 17 47 51.1 -1.3**
VOIR 94.02 316 ⇓*P* pP 17 48 04.9 +0.3
VOIR 94.02 316 ⇓⇓*iP* pP 17 48 04.9 +0.3
LSZ Lusaka 94.20 255 *eP* **P 17 47 53.4 -2.0**
comp=Z,84nm,1.1s,mb6.1
LSZ Lusaka 94.20 255 *eP* **P 17 47 53.4 -2.0**
LSZ pmax pmax
comp=Z,84nm,1.1s,mb6.1
LSZ Lusaka 94.20 255 P **P 17 47 54.6 -0.8**
SNR=18
LVV L'vov 94.20 320 *eP* **P 17 47 53.3 -1.4**
KWP Kalwaria Pacla 95.08 320 ⇑*P* **P 17 47 58.5 -0.2**
KWP Kalwaria Pacla 95.08 320 ⇑⇑*iP* **P 17 47 58.5 -0.2**
SKAG Skagway 95.15 30 *eP* **P 17 47 59.8 +0.9**
comp=Z,54nm,1.4s,mb5.8
TRPA Tarpa 95.40 318 ⇓⇓*iP* **P 17 47 59.8 -0.5**
DRGR 95.47 317 ⇑*P* **P 17 47 59.5 -1.1**
DRGR 95.47 317 ⇑⇑*iP* **P 17 47 59.5 -1.1**
UZH Uzhgorod 95.49 319 ⇑⇑*iP* **P 17 47 59.4 -1.3**
UZH *i* *i* pP 17 48 07.2 -4.1
VTS Vitosha 95.66 313 ⇑*P* **P 17 47 59.4 -2.2**
VTS Vitosha 95.66 313 ⇑⇑*iP* **P 17 47 59.3 -2.3**
STHS Stebnicka Huta 96.05 320 *eP* **P 17 48 01.3 -1.9**
STHS pmax pmax
comp=Z,11nm,1.4s,mb5.1
STHS Stebnicka Huta 96.05 320 *eP* **P 17 48 01.3 -1.9**
LBTB Lobatse 96.54 245 P **P 17 48 04.6 -1.4**
comp=Z,11nm,1.1s,mb5.2,baz=110,slow=4.3,SNR=6.0
LBTB Lobatse 96.54 245 P **P 17 48 04.6 -1.4**
LBTB Lobatse 96.54 245 P **P 17 48 04.6 -1.4**
KECS Kecovo 96.70 319 *eP* **P 17 48 05.1 -1.1**
KECS pmax pmax
comp=Z,4.0nm,1.1s,mb4.8
KECS Kecovo 96.70 319 *eP* **P 17 48 05.1 -1.1**
BOSA Boshof 96.73 242 P **P 17 48 04.8 -1.9**
comp=Z,30nm,1.2s,mb5.6,baz=84,slow=6.2,SNR=10
BOSA Boshof 96.73 242 P **P 17 48 04.8 -2.0**
BOSA Boshof 96.84 321 *eP* **P 17 48 05.8 -0.9**
OJC Ojcow 96.84 321 *eP* **P 17 48 05.8 -0.9**
OJC Ojcow 96.84 321 *eP* **P 17 48 05.8 -0.9**
VYHS Vyhne 97.78 319 *eP* **P 17 48 10.4 -0.6**
VYHS Vyhne 97.78 319 *eP* **P 17 48 10.4 -0.6**
MAIT Maitri 97.95 198 *eP* **P 17 48 09.0 -2.3**
OKC Ostrava-Krasne 97.96 321 *eP* **P 17 48 11.3 -0.5**
OKC Ostrava-Krasne 97.96 321 *eP* **P 17 48 11.3 -0.5**
NB2 NORSAR Subarra 98.80 333 P **P 17 48 22.1 +6.8**
comp=Z,15nm,1.2s,mb5.4,baz=75,slow=4.6
NOA NORSAR Array B 98.80 333 P **P 17 48 13.6 -1.7**
comp=Z,3.7nm,1.1s,mb4.8,baz=78,slow=4.3,SNR=2.9
NOA pP pP 17 48 22.2 -3.8
comp=Z,6.3nm,0.8s,baz=74,slow=4.6,SNR=9.4
NOA PP PP 17 52 12.8 -3.8
comp=Z,1.9nm,0.8s,baz=66,slow=7.7,SNR=4.2
NOA NORSAR Array B 98.80 333 P **P 17 48 13.6 -1.7**
NOA pP pP 17 48 22.2 -3.8
NOA PP PP 17 52 12.8 -3.8
NOA NORSAR Array B 98.80 333 P **P 17 48 13.6 -1.7**
NOA *PP pP 17 48 22.2 -3.8
DAG Danmarks Havn 98.92 352 *i* P **P 17 48 13.7 -1.9**
DAG *i* pP 17 48 24.0 -2.2
DAG MLR MLR
comp=Z,52μm,26.0s,MS6.9
DAG Danmarks Havn 98.92 352 *i* P **P 17 48 13.7 -1.9**
DAG *i* pP 17 48 24.0 -2.2
DAG *i* S tx 17 49 11.5
DPC Dobruska-Polom 98.99 321 *eP* **P 17 48 16.4 0.0**
DPC Dobruska-Polom 98.99 321 *eP* **P 17 48 16.4 0.0**
VRAC Vranov 99.06 320 P **P 17 48 15.3 -1.4**
comp=Z,1.3nm,0.4s,mb4.8,baz=104,slow=7.4,SNR=3.6
VRAC Vranov 99.06 320 P **P 17 48 15.3 -1.4**
VRAC Vranov 99.06 320 P **P 17 48 15.3 -1.4**
UPC Upice 99.15 322 *eP* **P 17 48 17.7 +0.6**
UPC Upice 99.15 322 *eP* **P 17 48 17.7 +0.6**
PRU Pruhonice 100.19 321 *eP* Pdif 17 48 21.9 +0.3
PRU Pruhonice 100.19 321 *eP* Pdif 17 48 21.9 +0.3
PRA Prague 100.24 321 PDIFF Pdif 17 48 20.0 -1.9
SUR Sutherland 100.33 237 P Pdif 17 48 20.8 -1.5
comp=Z,26nm,1.1s,baz=117,slow=4.5,SNR=4.6
SUR Sutherland 100.33 237 P Pdif 17 48 20.8 -1.5
CLL Collm 100.79 323 *eP* Pdif 17 48 21.0 -3.3
CLL *e* 17 52 38.0
CLL MLR MLR
comp=Z,12μm,21.3s,MS6.4
GERES GERESS Array B 101.01 320 P Pdif 17 48 24.7 -0.6
comp=Z,1.3nm,0.9s,baz=72,slow=3.5,SNR=8.2
GERES PP PP 17 52 26.9 -6.9
comp=Z,0.9nm,0.9s,baz=88,slow=7.2,SNR=3.2
GERES PKKPbc PKKPbc 18 04 30.6 -8.1
comp=Z,0.2nm,0.6s,baz=318,slow=1.3,SNR=2.8
GERES GERESS Array B 101.01 320 P Pdif 17 48 24.7 -0.6
GERES PP PP 17 52 26.9 -6.9
GERES PKKPbc PKKPbc 18 04 30.6 -8.1
GERES GERESS Array B 101.01 320 P Pdif 17 48 24.7 -0.6
LPG La Plagne 106.53 318 *eP* Pdif 17 48 49.9 +0.1
comp=Z,12nm,1.1s
LPL La Plagne 106.54 319 *eP* Pdif 17 48 50.2 +0.3
comp=Z,7.3nm,1.0s
BSMT Bassoo Peak 110.45 37 PKiKP PKiKP 17 53 05.9 -2.2
SLMT Seeley Lake 111.51 37 *e*PKiKP PKiKP 17 53 09.1 -1.0
NVAR Mina Array Bea 111.84 47 PKiKP PKiKP 17 53 12.1 +1.0
comp=Z,1.5nm,0.9s,baz=254,slow=2.9,SNR=5.3
NVAR PKKPbc PKKPbc 18 04 03.6 -1.3
comp=Z,1.1nm,0.9s,baz=99,slow=4.7,SNR=5.3
NVAR Mina Array Bea 111.84 47 PKPdf PKiKP 17 53 12.1 +1.0
NVAR PKKPbc PKKPbc 18 04 03.6 -1.3
HLID Hailey 112.56 41 *e*PKiKP PKiKP 17 53 12.3 +0.1
EGMT Eagleton 113.33 35 *e*PKiKP PKiKP 17 53 13.6 +0.1
DUG Dugway 115.08 44 *e*PKiKP PKiKP 17 53 17.7 +0.5
DUG Dugway 115.08 44 *e*PKIKP PKiKP 17 53 17.7 +0.5
PD01 Pinedale Array 116.06 40 *e*PKPdf PKPdf 17 53 19.2 +0.2
PD02 Pinedale Array 116.08 40 PKPdf PKPdf 17 53 18.9 -0.1
ESDC Sonseca Array 116.08 316 PKP PKPdf 17 53 18.4 -0.7
comp=Z,0.8nm,0.7s,baz=51,slow=2.5,SNR=7.9
ESDC pPKP pPKPdf 17 53 29.8 -0.3
comp=Z,0.7nm,0.7s,baz=17,slow=3.8,SNR=3.3
ESDC PP PP 17 54 28.5 +4.8
comp=Z,0.2nm,0.3s,baz=41,slow=7.5,SNR=2.6
ESDC PKKPab PKKPab 18 03 55.0 +0.2
comp=Z,2.6nm,1.0s,baz=257,slow=4.6,SNR=9.3
ESDC Sonseca Array 116.08 316 PKP PKPdf 17 53 18.4 -0.7
ESDC pPKP pPKPdf 17 53 29.8 -0.3
ESDC PP PP 17 54 28.5 +4.8
ESDC PKKPab PKKPab 18 03 55.0 +0.2
PDAR Pinedale Array 116.09 40 PKP PKPdf 17 53 18.9 -0.2
comp=Z,2.6nm,1.1s,baz=190,slow=0.5,SNR=9.7
PDAR pPKP pPKPdf 17 53 30.4 +0.4
comp=Z,3.3nm,0.9s,baz=233,slow=0.5,SNR=9.8
PDAR PKKPab PKKPab 18 03 52.9 -1.8
comp=Z,8.9nm,1.0s,baz=111,slow=4.9,SNR=20
PDAR Pinedale Array 116.09 40 PKP PKPdf 17 53 18.9 -0.2
PDAR pPKP pPKPdf 17 53 30.4 +0.4
PDAR PKKPab PKKPab 18 03 52.9 -1.8
MSU Marysvale 116.25 45 *e*PKPdf PKPdf 17 53 20.3 +0.8
MSU Marysvale 116.25 45 *e*PKiKP PKPdf 17 53 20.3 +0.8
PAB San Pablo 116.40 316 *e*PKPdf PKPdf 17 53 18.8 -1.0
PAB San Pablo 116.40 316 *e*PKiKP PKPdf 17 53 18.8 -1.0
PVRL Vila Real 117.86 319 *i* P pPKPdf 17 53 34.8 +0.4
POLO Lamas de Olo 117.86 319 *e*PKPdf PKPdf 17 53 23.6 +1.1
POLO *i* P 17 53 33.9
WUAZ Wupatki 118.08 48 *e*PKPdf PKPdf 17 53 24.1 +1.0
PCBR Castelo Branco 118.40 318 PKPdf PKPdf 17 53 23.4 -0.2
PCBR *i* P 17 53 34.3
RSSD Black Hills 118.79 36 *e*PKPdf PKPdf 17 53 23.7 -0.5
RSSD Black Hills 118.79 36 *e*PKiKP PKPdf 17 53 23.7 -0.5
PBAR Barrancos 118.89 316 PKPdf PKPdf 17 53 24.9 +0.3
PBAR *i* P 17 53 38.1
PESTR Estremoz 118.95 317 *e*PKPdf PKPdf 17 53 25.2 +0.5
PV01 Paradox Valley 118.95 44 *e*PKPdf PKPdf 17 53 25.4 +0.7
ULM Lac du Bonnet 119.14 27 PKP PKPdf 17 53 24.0 -0.7
comp=Z,4.1nm,0.7s,baz=272,slow=1.6,SNR=7.2
ULM pPKP pPKPdf 17 53 34.7 -0.9
comp=Z,10nm,0.8s,baz=336,slow=3.1,SNR=9.6
ULM Lac du Bonnet 119.14 27 PKP PKPdf 17 53 24.0 -0.7
ULM pPKP pPKPdf 17 53 34.7 -0.9
ULM Lac du Bonnet 119.14 27 PKiKP PKPdf 17 53 24.0 -0.7
ULM 17 53 34.7
TORD Torodi Ar. Bea 119.23 286 PKP PKPdf 17 53 24.6 -1.3
comp=Z,9.2nm,1.0s,baz=71,slow=1.6,SNR=28
TORD pPKP pPKPdf 17 53 35.8 -0.9
comp=Z,22nm,0.8s,baz=66,slow=1.8,SNR=26
TORD PKKPab PKKPab 18 03 40.3 -0.8
comp=Z,1.9nm,0.7s,baz=261,slow=3.3,SNR=7.8
TORD Torodi Ar. Bea 119.23 286 PKP PKPdf 17 53 24.6 -1.3
TORD pPKP pPKPdf 17 53 35.8 -0.9
TORD PKKPab PKKPab 18 03 40.3 -0.8
EVO Evora 119.40 317 *e*PKPdf PKPdf 17 53 26.2 +0.6
EVO *i* P 17 53 36.7
MDT Midelt 119.41 309 PKP PKPdf 17 53 25.4 -0.4
comp=Z,4.1nm,1.0s,baz=43,slow=3.9,SNR=4.2
MDT pPKP pPKPdf 17 53 35.8 -0.9
comp=Z,4.6nm,0.8s,baz=63,slow=1.8,SNR=6.3
MDT Midelt 119.41 309 PKP PKPdf 17 53 25.4 -0.4
MDT pPKP pPKPdf 17 53 35.8 -0.9
PBEJ Beja 119.54 316 *e*PKPdf PKPdf 17 53 26.4 +0.6
PBEJ *i* P 17 53 36.6
TUC Tucson 119.82 51 *e*PKPdf PKPdf 17 53 27.7 +1.1
TUC Tucson 119.82 51 *e*PKiKP PKPdf 17 53 27.7 +1.1
PCVE Castro Verde 119.85 316 *e*PKPdf PKPdf 17 53 26.6 +0.2
PCVE *i* P 17 53 37.8
PNCL Nicolau / Gran 119.96 316 *e*PKPdf PKPdf 17 53 22.6 -4.0
PNCL *i* P 17 53 37.3
ISCO Idaho Springs 120.14 41 *e*PKPdf PKPdf 17 53 26.3 -0.7
ISCO Idaho Springs 120.14 41 *e*PKiKP PKPdf 17 53 26.3 -0.7
MORF Marmelete 120.43 316 *i* P pPKPdf 17 53 38.6 +0.1
AGMN Agassiz Nation 120.52 29 *e*PKPdf PKPdf 17 53 26.7 -0.7
LAZ Ladron 121.70 47 *e*PKPdf PKPdf 17 53 31.0 +0.9
LENM Lemitar 121.93 48 *e*PKPdf PKPdf 17 53 30.7 +0.2
ANMO Albuquerque 121.94 47 *e*PKPdf PKPdf 17 53 30.9 +0.4
ANMO Albuquerque 121.94 47 *e*PKiKP PKPdf 17 53 30.9 +0.3
LPM Los Pinos Moun 122.11 47 *e*PKPdf PKPdf 17 53 31.6 +0.6
BNM Barren Site 122.19 47 *e*PKPdf PKPdf 17 53 31.8 +0.7
ECSD EROS Data Cent 123.25 33 *e*PKPdf PKPdf 17 53 32.0 -0.8
SCHQ Schefferville 123.48 6 PKP PKPdf 17 53 32.7 -0.2
comp=Z,5.5nm,0.9s,baz=342,slow=3.2,SNR=3.9
SCHQ pPKP pPKPdf 17 53 43.4 -0.4
comp=Z,18nm,0.9s,baz=326,slow=3.6,SNR=9.5
SCHQ Schefferville 123.48 6 PKP PKPdf 17 53 32.7 -0.2
SCHQ pPKP pPKPdf 17 53 43.4 -0.4
CBKS Cedar Bluff 124.49 39 *e*PKPdf PKPdf 17 53 34.1 -1.3
CBKS Cedar Bluff 124.49 39 *e*PKiKP PKPdf 17 53 34.1 -1.2
CLNB Carlsbad 125.11 48 *e*PKPdf PKPdf 17 53 36.9 +0.2
KSU1 Kansas State U 126.25 37 *e*PKPdf PKPdf 17 53 38.0 -0.7
DBIC Dimbokro 126.52 279 PKP PKPdf 17 53 38.6 -1.3
comp=Z,10nm,0.9s,baz=74,slow=1.8,SNR=8.7
DBIC pPKP pPKPdf 17 53 50.1 -0.7
comp=Z,22nm,1.0s,baz=85,slow=2.8,SNR=7.6
DBIC Dimbokro 126.52 279 PKP PKPdf 17 53 38.6 -1.3
DBIC pPKP pPKPdf 17 53 50.1 -0.7
DBIC Dimbokro 126.52 279 PKiKP PKPdf 17 53 38.7 -1.2
DBIC 17 53 50.1
TXAR Lajitas Array 126.62 51 PKP PKPdf 17 53 39.8 +0.1
comp=Z,7.6nm,1.1s,baz=270,slow=0.9,SNR=33
TXAR PKKPab 18 03 12.4
comp=Z,2.2nm,1.3s,baz=157,slow=6.8,SNR=3.8
TXAR SKKPbc 18 06 43.6
comp=Z,1.3nm,1.1s,baz=169,slow=6.4,SNR=4.7
TXAR Lajitas Array 126.62 51 PKP PKPdf 17 53 39.8 +0.1
TXAR PKKPab 18 03 12.4
TXAR SKKPbc 18 06 43.6
TXAR Lajitas Array 126.62 51 PKiKP PKPdf 17 53 39.8 +0.1
WMOK Wichita Mounta 127.46 43 *e*PKPdf PKPdf 17 53 39.3 -1.9
WMOK Wichita Mounta 127.46 43 *e*PKiKP PKPdf 17 53 39.3 -1.8
JCT Junction City 129.01 48 *e*PKPdf PKPdf 17 53 44.1 -0.1
JCT Junction City 129.01 48 *e*PKiKP PKPdf 17 53 44.2 0.0
CCM Cathedral Cave 130.09 35 *e*PKPdf PKPdf 17 53 46.1 0.0
CCM Cathedral Cave 130.09 35 *e*PKiKP PKPdf 17 53 46.1 0.0
MIAR Mount Ida 131.01 40 *e*PKPdf PKPdf 17 53 47.9 0.0
MIAR Mount Ida 131.01 40 *e*PKiKP PKPdf 17 53 47.9 0.0
WCI Wyandotte Cave 132.63 31 PKPdf PKPdf 17 53 50.7 -0.1
WCI Wyandotte Cave 132.63 31 PKiKP PKPdf 17 53 50.7 -0.2
WVT Waverly 133.38 34 *e*PKPdf PKPdf 17 53 51.5 -0.8
WVT Waverly 133.38 34 *e*PKiKP PKPdf 17 53 51.5 -0.8
OXF Oxford 133.61 37 *e*PKPdf PKPdf 17 53 52.9 0.0
OXF Oxford 133.61 37 *e*PKiKP PKPdf 17 53 52.9 +0.1
PLAL Pickwick Lake 134.06 35 *e*PKPdf PKPdf 17 53 52.5 -1.1
TRQA Tornquist 143.31 175 *e*PKPpre PKPpre 17 54 06.3
TGUH Tegucigalpa,Un 147.04 61 PKPbc PKPbc 17 54 19.2 -0.3
CFAA Coronel Fontan 148.38 163 PKPbc PKPbc 17 54 20.1 -2.7
comp=Z,5.8nm,0.9s,baz=216,slow=3.0,SNR=26
CFAA Coronel Fontan 148.38 163 PKPbc PKPbc 17 54 20.1 -2.7
LCO Las Campanas 149.92 157 *e*PKPdf PKPdf 17 54 22.6 +0.7
JTS JuntasAbangare 150.62 66 *e*PKPbc PKPbc 17 54 28.4 -0.4
JTS JuntasAbangare 150.62 66 *e*PKIKP PKPbc 17 54 28.4 -0.4
CPUP Villa Florida 155.20 181 PKP PKPdf 17 54 29.1 -0.6
comp=Z,30nm,1.1s,baz=120,slow=2.1,SNR=18
CPUP PKPab PKPab 17 54 52.8 -1.5
comp=Z,30nm,1.1s,baz=158,slow=4.4,SNR=4.9
CPUP Villa Florida 155.20 181 PKP PKPdf 17 54 29.1 -0.6
CPUP PKPab PKPab 17 54 52.8 -1.5
CPUP Villa Florida 155.20 181 PKIKP PKPdf 17 54 29.1 -0.6
CPUP 17 54 52.8
NNA Nana 158.41 120 PKP PKPdf 17 54 34.0 -0.1
comp=Z,54nm,1.2s,baz=252,slow=3.2,SNR=6.1
NNA Nana 158.41 120 PKP PKPdf 17 54 34.0 -0.1
NNA Nana 158.41 120 PKIKP PKPdf 17 54 34.0 -0.1
ATAH Atahualpa 158.73 106 PKP PKPdf 17 54 36.7 +2.2
comp=Z,32nm,1.1s,baz=289,slow=3.3,SNR=17
OTAV Otavalo 159.32 86 *e*PKPdf PKPdf 17 54 36.0 +0.8
LPAZ La Paz 162.06 146 PKP PKPdf 17 54 39.0 +0.9
comp=Z,88nm,1.3s,baz=230,slow=0.6,SNR=70
LPAZ PP PP 17 59 07.2 0.0
comp=Z,4.0nm,1.1s,baz=256,slow=4.2,SNR=4.0
LPAZ La Paz 162.06 146 *e*PKPdf PKPdf 17 54 38.9 +0.8
LPAZ La Paz 162.06 146 PKIKP PKPdf 17 54 39.0 +0.9
LPAZ 17 59 07.2
LPAZ pmax pmax
comp=Z,88nm,1.3s
LPAZ pmax pmax
comp=Z,4.0nm,1.1s
ROSC El Rosal 162.39 69 PKP PKPdf 17 54 38.7 +0.1
comp=Z,4.7nm,0.5s,baz=285,slow=22,SNR=9.0
ROSC El Rosal 162.39 69 PKP PKPdf 17 54 38.7 +0.1
SDV Santo Domingo 163.66 51 *e*PKPdf PKPdf 17 54 39.0 -0.7

DJA 16 18:00:03,1°.69N×121°.63E,h30km,MLv3.9/4,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**1.24**	**166**	P	Pn	18 00 25.7	+1.3
MRSI				S	Sn	18 00 36.8	-4.3
KMSI	**Cibinong**	**2.60**	**115**	P	Pn	18 00 43.2	+0.2
LUWI	**Luwuk**	**2.94**	**157**	P	Pn	18 00 49.2	+1.4
LUWI				S	Sn	18 01 29.0	+6.9
MNI	**Manado**	**3.22**	**94**	P	Pn	18 00 51.1	-0.4

*IDC **16** 18:07:01.4±0.9, 1°.10N×121°.94E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.6/21, mbtmp3.8/6, ML4.5/1, Error ellipse: s-maj=119.3km s-min=17.4km az=66.0*
*ISCJB **16** 18:07:05.8±0.8, 1°.20N±0°.06×121°.95E±0°.06, h51km±9km, mb3.6/6, Error ellipse: s-maj=10.4km s-min=9.0km az=142.9*
*NEIC **16** 18:07:06.7±0.6, 1°.05N×121°.92E, h35km, mb3.7/1, Error ellipse: s-maj=39.7km s-min=8.4km az=59.0*
*DJA **16** 18:07:10, 1°.01N×121°.52E, h20km, MLv4.5/10*
ISC 16 18:07:07.5±0.8, 1°.16N±0°.06×121°.98E±0°.06, h46km±9km, n25, σ1s12/26, mb3.6/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.68**	**183**	P	**Pn**	**18 07 19.7**	**-1.1**
MRSI				S	**Sn**	**18 07 29.9**	**-0.4**
KMSI	**Cibinong**	**2.09**	**106**	P	Px	18 07 52.4	
KMSI				S	Sx	18 08 21.4	
LUWI	**Luwuk**	**2.33**	**160**	P	**Pn**	**18 07 48.7**	**+5.4**
LUWI				S	**Sn**	**18 08 19.4**	**+8.8**
MNI	**Manado**	**2.88**	**84**	P	Px	18 08 04.6	
MNI				S	**Sn**	**18 08 24.8**	**+0.6**
PCI	**Palu**	**2.96**	**226**	P	**Pn**	**18 07 52.2**	**+0.2**
MSSI	**Masamba**	**4.04**	**204**	P	**Pn**	**18 08 08.7**	**+1.9**
TTSI	**Tana Toraja**	**4.70**	**207**	P	**Pn**	**18 08 16.9**	**+1.0**
KDI	**Kendari**	**5.12**	**173**	P	**Pn**	**18 08 24.4**	**+2.7**
	0.3nm20nm,0.8s						
MYLDM	**Lahad Datu**	**5.29**	**319**	P	**Pn**	**18 08 22.3**	**-1.7**
	0.6nm35nm,1.2s						
SPSI	**Sidrap Palu**	**5.54**	**203**	P	**Pn**	**18 08 27.5**	**0.0**
KKM	**Kota Kinabalu**	**7.52**	**310**	*e*P	**Pn**	**18 08 54.1**	**-0.6**
	13nm,0.7s						
FITZ	**Fitzroy Crossi**	**19.48**	**169**	P	**Pn**	**18 11 30.7**	**-1.5**
	1.2nm,0.3s,baz=6.6,slow=11,SNR=35						
FITZ	**Fitzroy Crossi**	**19.48**	**169**	*e*P	**Pn**	**18 11 30.4**	**-1.7**
WRAB	**Tennant Creek**	**24.22**	**151**	P	**P**	**18 12 19.9**	**-0.2**
	0.9nm,0.3s,mb3.7						
WRA	**Warramunga Arr**	**24.22**	**151**	P	**P**	**18 12 19.2**	**-0.9**
	0.9nm,0.4s,mb3.5,baz=331,slow=8.5,SNR=22						
WRA				PcP	PcP	18 15 59.7	-0.2
	0.2nm,0.5s,baz=325,slow=2.2,SNR=4.6						
WRA	**Warramunga Arr**	**24.22**	**151**	P	**P**	**18 12 19.2**	**-0.9**
WRA				PcP	PcP	18 15 59.7	-0.2
WB2	**Warramunga Arr**	**24.23**	**151**	*e*P	**P**	**18 12 19.0**	**-1.2**
ASAR	**Alice Springs**	**27.27**	**156**	P	**P**	**18 12 47.5**	**-0.1**
	0.8nm,0.5s,mb3.5,baz=329,slow=9.6,SNR=22						
ASAR				PcP	PcP	18 16 06.5	-0.3
	0.4nm,0.4s,baz=346,slow=2.1,SNR=9.8						
ASAR	**Alice Springs**	**27.27**	**156**	P	**P**	**18 12 47.5**	**-0.1**
ASAR				PcP	PcP	18 16 06.5	-0.3
STKA	**Stephens Creek**	**37.75**	**152**	P	**P**	**18 14 18.9**	**-0.2**
	2.5nm,0.8s,mb4.0,baz=329,slow=10,SNR=5.1						
STKA	**Stephens Creek**	**37.75**	**152**	P	**P**	**18 14 18.9**	**-0.2**
SONM	**Songino Array**	**48.42**	**346**	P	**P**	**18 15 46.9**	**+1.9**
	0.2nm,0.5s,mb3.4,baz=161,slow=7.7,SNR=3.6						
SONM	**Songino Array**	**48.42**	**346**	P	**P**	**18 15 46.9**	**+1.9**
MKAR	**Makanchi Array**	**57.10**	**328**	P	**P**	**18 16 50.0**	**+0.9**
	0.2nm,0.6s,mb3.4,baz=128,slow=8.3,SNR=7.7						
MKAR				ScP	ScP	18 21 45.9	+6.1
	1.2nm,0.9s,baz=120,slow=5.7,SNR=4.9						
MKAR	**Makanchi Array**	**57.10**	**328**	P	**P**	**18 16 50.0**	**+0.9**
MKAR				ScP	ScP	18 21 45.9	+6.1

*BJI **16** 18:20:26.9, 0°.99N×122°.02E, h20km, mB5.9/17, mb5.2/59, Ms5.7/41, Ms7 5.5/39*
*MOS **16** 18:20:31.0±1.0, 1°.14N×121°.79E, h38km, mb5.6/40, Error ellipse: s-maj=11.0km s-min=5.4km az=115.8*
*NEIC **16** 18:20:32.4±0.1, 1°.13N×121°.78E, h35km, mb5.5/56, Error ellipse: s-maj=5.6km s-min=3.5km az=66.0*
NEIC Felt [III] at Gorontalo.
*ISCJB **16** 18:20:32.7±0.3, 1°.25N±0°.02×121°.84E±0°.02, h51km±3km, mb5.4/147, MS5.5/17, Error ellipse: s-maj=3.4km s-min=2.8km az=23.2*
*IDC **16** 18:20:33.6±1.4, 1°.11N×121°.78E, h45km±12km, mb4.8/27, mb1 4.8/30, mb1mx4.8/33, mbtmp4.8/30, ML5.3/3, MS5.4/2, Ms1 5.4/2, ms1mx4.3/35, Error ellipse: s-maj=12.2km s-min=7.0km az=69.0*
*DJA **16** 18:20:35.2±0.2, 1°.N±2°.×12°.2E±°, h49km±4km, M5.9/7, mB6.2/47, mb5.6/87, MLv6.0/19, Mw(mB)6.0/47*
ISC 16 18:20:35.0±0.3, 1°.22N±0°.02×121°.84E±0°.02, h57km±2km, h34km±4.0km:pP-P, n468, σ1s20/449, mb5.4/147, MS5.5/17, 17C-20D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.75**	**172**	P	**Pn**	**18 20 46.6**	**-3.2**
KMSI	**Cibinong**	**2.24**	**107**	P	**Pn**	**18 21 10.5

4.0nm1µm,0.9s
BKSI Bulukumba 6.72 195 P **Pn** **18 22 10.9 -0.3**
2.2nm8µm715nm,1.2s
PAGZ Pagadian 6.76 13 *e*P **Pn** **18 22 09.9 -1.8**
NLAI Namlea 6.88 130 P **Pn** **18 22 14.2 +0.9**
4.8nm608nm,0.6s
DAV Davao City (W) 6.90 33 P **Pn** **18 22 13.1 -0.5**
21nm,0.3s,baz=110,slow=1.1,SNR=79
DAV S **Sn** **18 23 35.3 +4.5**
122nm,0.3s,baz=158,slow=24,SNR=7.9
DAV LR LR 18 25 05.1
comp=Z,29µm,18.0s,baz=195,slow=39
DAV Davao City (W) 6.90 33 *e*P **Pn** **18 22 13.5 -0.2**
3µm,1.3s
DAV Davao City (W) 6.90 33 P **Pn** **18 22 12.9 -0.8**
5.7nm2µm,1.2s
DAV Davao City (W) 6.90 33⇓*e*P **Pn** **18 22 13.1 -0.6**
DAV Davao City (W) 6.90 33 P **Pn** **18 22 13.2 -0.4**
SNR=114
MATI Mati 7.19 38 *e*P **Pn** **18 22 15.4 -2.2**
KBKI Kotabaru 7.23 232 P **Pn** **18 22 15.7 -2.5**
4.6nm925nm,1.5s
BUKP Musuan 7.35 26 *e*P **Pn** **18 22 17.5 -2.3**
KKM Kota Kinabalu 7.38 311 P **Pn** **18 22 19.1 -1.1**
KKM Kota Kinabalu 7.38 311 *e*P **Pn** **18 22 18.2 -2.0**
801nm,0.7s
KKM Kota Kinabalu 7.38 311 P **Pn** **18 22 18.2 -2.0**
3.9nm1µm,0.9s
CGP Cagayan de Oro 7.73 22 *e*P **Pn** **18 22 22.1 -2.8**
AAI Ambon 8.01 128 P **Pn** **18 22 30.3 +1.5**
575nm,0.8s
SNPH Sibulan 8.19 10 *e*P **Pn** **18 22 31.6 +0.3**
BBKI Banjar Baru 8.40 236 P **Pn** **18 22 32.4 -1.8**
882nm,1.1s
MSAI Masohi 8.42 123 P **Pn** **18 22 36.1 +1.7**
161nm,1.7s
TBP Tagbilaran 8.65 13 *e*P **Pn** **18 22 37.3 -0.3**
LLP Lapu-Lapu 9.28 13 *e*P **Pn** **18 22 44.0 -2.2**
SWI Sorong 9.65 102 P **Pn** **18 22 53.2 +1.9**
139nm,1.2s
SBUM Sibu 9.69 277 P **Pn** **18 22 50.8 -1.1**
SBUM Sibu 9.69 277 P **Pn** **18 22 49.4 -2.5**
126nm,1.4s
MMRI Maumere 9.80 178 P **Pn** **18 22 54.9 +1.5**
258nm,1.8s
BNDI Bandanaira 9.88 125 P **Pn** **18 22 55.7 +1.3**
741nm,1.3s
RCP Roxas 10.31 5⇓*e*P **Pn** **18 22 60.0 -0.3**
STKI Sintang 10.42 264 P **Pn** **18 23 01.8 -0.1**
269nm,1.3s
PBKI Pangkalan Bun 10.89 249 P **Pn** **18 23 06.5 -1.8**
332nm,1.1s
MTNI Mataram 11.31 210 P **Pn** **18 23 14.2 +0.2**
325nm,1.3s
SRBI Singaraja 11.36 215 P **Pn** **18 23 15.3 +0.6**
276nm,1.6s
KMMI Kalianget 11.37 224 P **Pn** **18 23 14.7 -0.1**
815nm,1.4s
KHKI Kahang-Kahang 11.37 213 P **Pn** **18 23 16.0 +1.2**
5µm254nm,1.8s
KSM Kuching 11.53 271 P **Pn** **18 23 16.3 -0.7**
KSM Kuching 11.53 271 *e*P **Pn** **18 23 15.1 -1.9**
318nm,1.3s
KSM Kuching 11.53 271 P **Pn** **18 23 17.2 +0.2**
6µm209nm,1.4s
NBBI Negara 11.94 217 P **Pn** **18 23 23.4 +0.8**
865nm,1.4s
BYJI Banyuwangi 11.98 218 P **Pn** **18 23 25.5 +2.3**
957nm,1.5s
IGBI Denpasar 12.00 214 P **Pn** **18 23 24.8 +1.4**
540nm,2.3s
BLJI Banyuglugur 12.12 223 P **Pn** **18 23 25.0 -0.1**
166nm,1.5s
JAGI Jajag, Banyuwa 12.31 218 P **Pn** **18 23 29.2 +1.6**
571nm,1.9s
GMJI Gumukmas 12.61 221 P **Pn** **18 23 32.4 +0.6**
8µm333nm,1.7s
TGY Tagaytay City 12.83 356 P **Pn** **18 23 36.0 +1.3**
17nm,0.3s,baz=150,slow=15,SNR=13
TGY Tagaytay City 12.83 356 P **Pn** **18 23 36.0 +1.3**
TGY Tagaytay City 12.83 356 P **Pn** **18 23 36.0 +1.3**
TLE Tual 12.84 122 P **Pn** **18 23 35.5 +0.6**
240nm,0.9s
KRKI Karangkates 13.21 225 P **Pn** **18 23 42.0 +2.1**
1µm,1.2s
NGJI Ngawi 13.42 230 P **Pn** **18 23 44.3 +1.5**
415nm,1.9s
SJI Sawahan 13.42 228 P **Pn** **18 23 44.0 +1.2**
7µm251nm,2.0s
PWJI Pagerwojo 13.58 227 P **Pn** **18 23 45.8 +0.8**
334nm,1.4s
SMRI Semarang 14.03 234 P **Pn** **18 23 52.5 +1.4**
546nm,1.4s
PCJI Pacitan 14.16 228 P **Pn** **18 23 54.6 +1.8**
489nm,1.4s
BAKI Biak 14.47 99 P Px 18 24 10.1
UGM Wanagama 14.48 231 P **Pn** **18 24 02.2 +5.2**
521nm,1.4s
YOGI Yogyakarta 14.60 232 P **Pn** **18 24 01.7 +3.2**
2µm,1.2s
TPI Tanjungpandan 14.72 254 P **Pn** **18 23 59.0 -1.1**
90nm,1.4s
JCJI Jatiwangi 15.56 240 P **Pn** **18 24 17.2 +6.2**
1µm,1.3s
PPBI Pangkal Pinang 16.06 258 P **Pn** **18 24 15.0 -2.3**
224nm,0.9s
LEM Lembang 16.29 240 P **Pn** **18 24 21.8 +1.5**
633nm,1.0s
CVP Callao Caves 16.38 360⇓*e*P **Pn** **18 24 22.8 +1.5**
CISI Cisompet, Garu 16.48 238 P **Pn** **18 24 23.7 +1.0**
1µm,1.4s
CBJI Citeko 16.78 243 P **Pn** **18 24 26.8 +0.4**
2µm,1.6s
TNG Tangerang 16.85 244 P **Pn** **18 24 29.5 +2.2**
1µm,1.4s
TNG P 18 24 29.5
829nm,1.7s
DBJI Dramaga 16.93 243 P **Pn** **18 24 27.3 -0.9**
630nm,1.8s
SMPI Sarmi 17.17 101 P **Pn** **18 24 37.9 +6.7**
SBJI Serang 17.30 245 P **Pn** **18 24 34.5 +1.7**
1µm,1.6s
SKJI Sukabumi 17.30 242 P **Pn** **18 24 34.1 +1.2**
1µm,1.6s
RBSI Rajabasa 17.54 246 P **Pn** **18 24 37.5 +1.7**
4µm376nm,1.4s
PMBI Palembang 17.55 256 P **Pn** **18 24 37.8 +1.9**
614nm,1.2s
BLSI Bandar Lampung 17.82 248 P **Pn** **18 24 40.0 +0.8**
344nm,1.3s
CGJI Cibinong 17.90 244 P **Pn** **18 24 39.2 -1.0**
791nm,1.5s
MYKOM Kota Tinggi 17.99 272 P **Pn** **18 24 40.7 -0.6**
MYKOM Kota Tinggi 17.99 272 P **Pn** **18 24 39.9 -1.4**
138nm,1.3s
KLI Kotabumi 18.01 250 P **Pn** **18 24 41.2 -0.4**
6µm416nm,1.3s
KLSI 18.07 251 P **Pn** **18 24 40.8 -1.5**
589nm,1.1s
MDSI Maura Dua 18.54 252 P **Pn** **18 24 46.9 -1.0**
6µm330nm,1.8s
LWLI Liwa 18.81 251 P **Pn** **18 24 51.1 -0.1**
704nm,1.6s
JAY Jayapura 19.22 101 P Px 18 25 10.4
FITZ Fitzroy Crossi 19.56 169 P **Pn** **18 24 57.6 -2.6**
14nm,0.3s,baz=2.3,slow=9.2,SNR=371
FITZ S **S** **18 28 34.4 -2.0**
baz=342,slow=19,SNR=3.8
FITZ LR LR 18 32 37.8
comp=Z,12µm,20.3s,baz=73,slow=37
FITZ Fitzroy Crossi 19.56 169 *e*P **Pn** **18 24 57.5 -2.6**
127nm,0.8s
FITZ *e*S **S** **18 28 35.0 -1.3**
FITZ Fitzroy Crossi 19.56 169 *e*P **Pn** **18 24 57.5 -2.7**
290nm,1.4s
FITZ Fitzroy Crossi 19.56 169 P **Pn** **18 24 57.2 -2.9**
283nm,1.2s
RGRI Rengat 19.57 266 P **Pn** **18 24 58.8 -1.4**
MNAI Manna 19.67 254 P **Pn** **18 25 00.6 -0.8**
1µm,2.1s
KSI Kapahiang 19.84 256 P **Pn** **18 25 01.8 -1.6**
931nm,1.3s
XMIS Christmas Isla 19.86 234 P **Pn** **18 25 00.7 -3.0**
1µm,1.3s
SDSI Sungai Dareh 20.52 264 P **P** **18 25 09.2 +0.3**
460nm,1.0s
BKNI Bangkinang 20.82 268 P **P** **18 25 11.6 -0.4**
7µm600nm,1.1s
IPM Ipoh 21.04 279 P **P** **18 25 13.7 -0.7**
IPM Ipoh 21.04 279 *e*P **P** **18 25 13.3 -1.1**
216nm,1.2s,mb5.3
IPM Ipoh 21.04 279 P **P** **18 25 13.5 -0.9**
197nm,1.0s,mb5.4
QIZ Qiongzhong 21.25 327 P **P** **18 25 17.3 +0.7**
QIZ S **S** **18 29 13.8 +4.2**
QIZ pmax pmax
comp=Z,140nm,1.7s,mb5.0
QIZ LR LR
comp=N,5µm,23.1s,MS4.9
QIZ LR LR
comp=E,2µm,20.0s,MS4.9
QIZ LR LR
comp=Z,9µm,24.0s,MS5.1
QIZ Qiongzhong 21.25 327 *e*P **P** **18 25 16.4 -0.1**
comp=Z,442nm,1.5s,mb5.6
TWG Pinlang 21.48 358 *e*P **P** **18 25 19.8 +0.8**
comp=Z,525nm,1.6s,mb5.6
PDSI Padang 21.48 264 P **P** **18 25 18.5 -0.7**
comp=Z,744nm,1.2s,mb5.9
PPI Padang Panjang 21.50 266 P **P** **18 25 18.8 -0.6**
comp=Z,241nm,1.8s,mb5.3
KULM Kulim 21.53 281 *e*P **P** **18 25 18.0 -1.7**
comp=Z,256nm,1.4s,mb5.5
KULM Kulim 21.53 281 P **P** **18 25 18.7 -1.0**
comp=Z,63nm,1.1s,mb4.9
TPUB Ta-pu 21.98 357 P **P** **18 25 24.3 -0.1**
comp=Z,436nm,1.3s,mb5.7
YULB Yu-li 22.04 359 *e*P **P** **18 25 24.4 -0.6**
comp=Z,64nm,0.9s,mb5.1
MNSI Mandailing Nat 22.26 269 P **P** **18 25 26.5 -1.0**
comp=Z,340nm,1.8s,mb5.5
MBWA Marble Bar 22.34 185 *e*P **P** **18 25 25.6 -2.6**
MBWA Marble Bar 22.34 185 *e*P **P** **18 25 25.6 -2.6**
comp=Z,422nm,1.6s,mb5.6
MBWA Marble Bar 22.34 185 P **P** **18 25 27.5 -0.7**
comp=Z,201nm,1.8s,mb5.3
MBWA Marble Bar 22.34 185 P **P** **18 25 26.5 -1.7**
SNR=19
SSLB Suanglung 22.45 358 *e*P **P** **18 25 27.9 -1.4**
comp=Z,132nm,1.0s,mb5.3
NACB Ninganchiao 22.82 359 P **P** **18 25 27.5 -5.7**
comp=Z,178nm,1.4s,mb5.3
SISI Saibi 22.89 264 P **P** **18 25 32.7 -1.4**
comp=Z,348nm,1.6s,mb5.5
PSI Prapat 22.95 274 P **P** **18 25 34.1 -0.8**
comp=Z,69nm,0.9s,mb5.1,baz=104,slow=7.0,SNR=69
PSI S **S** **18 29 42.6 +1.7**
comp=Z,1.8nm,0.4s,baz=270,slow=20,SNR=3.7
PSI Prapat 22.95 274 P **P** **18 25 34.1 -0.8**
PSI S **S** **18 29 42.6 +1.7**
PSI Prapat 22.95 274 P **P** **18 25 34.1 -0.7**
PSI S **S** **18 29 42.7 +1.7**
PSI Prapat 22.95 274 P **P** **18 25 33.8 -1.0**
comp=Z,219nm,1.9s,mb5.3
YHNB Yeheng 23.31 359 *e*P **P** **18 25 39.0 +0.8**
comp=Z,247nm,1.4s,mb5.5
TSI Tuntungan 23.36 276 P **P** **18 25 38.5 -0.4**
comp=Z,838nm,1.0s,mb6.1
QZH Quanzhou 23.79 353⇓*i*P **P** **18 25 40.6 -2.0**
QZH S **S** **18 29 55.3 +1.1**
QZH pmax pmax
comp=Z,750nm,1.4s,mb5.9
QZH LR LR
comp=N,11µm,16.2s,MS5.5
QZH LR LR
comp=E,6µm,16.8s,MS5.5
QZH LR LR
comp=Z,15µm,23.1s
KKTK Khon Kaen 24.01 310 P **P** **18 25 44.2 -0.6**
WRAB Tennant Creek 24.34 150 *e*P **P** **18 25 46.1 -1.6**
comp=Z,229nm,1.1s,mb5.5
WRAB Tennant Creek 24.34 150 *e*P **P** **18 25 46.1 -1.6**
WRAB pmax pmax
comp=Z,229nm,1.1s,mb5.5
WRAB Tennant Creek 24.34 150 P **P** **18 25 46.7 -1.0**
comp=Z,815nm,1.1s,mb6.1,SNR=27
WRAB Tennant Creek 24.34 150 P **P** **18 25 46.7 -1.0**
comp=Z,9µmcomp=Z,315nm,2.4s,mb5.3
WRA Warramunga Arr 24.35 150 P **P** **18 25 46.1 -1.6**
comp=Z,58nm,0.5s,mb5.3,baz=336,slow=8.6,SNR=686
WRA PcP PcP 18 29 26.1 -0.3
comp=Z,2.8nm,0.4s,baz=322,slow=2.3,SNR=5.2
WRA S **S** **18 30 04.7 +1.3**
comp=Z,4.2nm,0.9s,baz=326,slow=16,SNR=3.2
WRA ScP ScP 18 33 00.7 +0.3
comp=Z,2.1nm,0.8s,baz=320,slow=2.3,SNR=3.6
WRA Warramunga Arr 24.35 150 P **P** **18 25 46.1 -1.6**
WRA PcP PcP 18 29 26.1 -0.3
WRA S **S** **18 30 04.7 +1.3**
WRA ScP ScP 18 33 00.7 +0.3
WRA Warramunga Arr 24.35 150 P **P** **18 25 46.1 -1.7**
WRA 18 29 26.1
WRA S **S** **18 30 04.7 +1.3**
WB2 Warramunga Arr 24.35 150 *e*P **P** **18 25 46.1 -1.7**
NNT Nongplab 24.65 298 P **P** **18 25 52.7 +2.1**
TPTI 24.72 275 P **P** **18 25 50.5 -0.8**
comp=Z,5µmcomp=Z,139nm,1.4s,mb5.3
NST Nakhon Sawan 25.78 305 P **P** **18 26 00.0 -0.8**
COEN Coen 25.97 126 *e*P **P** **18 26 01.8 -0.8**
comp=Z,366nm,1.1s,mb5.8
COEN Coen 25.97 126 P **P** **18 26 03.6 +1.0**
comp=Z,52nm,1.2s,mb4.9
JOW Kunigami 26.20 13 P **P** **18 26 05.5 +1.0**
comp=Z,74nm,1.2s,mb5.1,baz=183,slow=13,SNR=7.5
JOW Kunigami 26.20 13 *e*P **P** **18 26 05.4 +0.8**
comp=Z,41nm,1.2s,mb4.8
BSI Banda Aceh 26.83 280 P pP 18 26 20.6 -3.9
PMG Port Moresby 27.34 113 P **P** **18 26 14.8 -0.2**
comp=Z,31nm,0.6s,mb5.1,baz=336,slow=2.5,SNR=30
PMG Port Moresby 27.34 113 *e*P **P** **18 26 14.9 -0.1**
comp=Z,28nm,0.6s,mb5.0
PMG Port Moresby 27.34 113 *e*P **P** **18 26 14.9 -0.1**
PMG pmax pmax
comp=Z,28nm,0.6s
PMG Port Moresby 27.34 113 P **P** **18 26 15.6 +0.6**
comp=Z,120nm,1.3s,mb5.3
ASAR Alice Springs 27.38 155 P **P** **18 26 13.9 -1.2**
comp=Z,33nm,0.5s,mb5.1,baz=343,slow=14,SNR=630
ASAR PcP PcP 18 29 33.0 -0.3
comp=Z,4.3nm,0.4s,baz=343,slow=2.2,SNR=10
ASAR S **S** **18 30 51.1 -0.3**
comp=Z,8.4nm,1.0s,baz=347,slow=22,SNR=5.3
ASAR ScP ScP 18 33 10.2 +1.1
comp=Z,3.0nm,0.9s,baz=339,slow=3.2,SNR=4.9
ASAR Alice Springs 27.38 155 P **P** **18 26 13.9 -1.2**
ASAR PcP PcP 18 29 33.0 -0.3
ASAR S **S** **18 30 51.1 -0.3**
ASAR ScP ScP 18 33 10.2 +1.1
ASAR Alice Springs 27.38 155 P **P** **18 26 14.0 -1.2**
ASAR 18 29 33.0
ASAR S **S** **18 30 51.1 -0.3**
BDT Bhumibol Dam 27.53 307 P **P** **18 26 17.0 +0.4**
comp=Z,36nm,1.1s,mb4.9
MEEK Meekatharra 27.87 186 *e*P **P** **18 26 17.1 -2.4**
comp=Z,787nm,1.5s,mb6.1
CM31 Chiang Mai Arr 28.25 309 *e*P **P** **18 26 22.7 -0.3**
comp=Z,59nm,1.3s,mb5.1
CMAR Chiang Mai Arr 28.25 309 P **P** **18 26 23.6 +0.6**
comp=Z,11nm,1.0s,mb4.4,baz=144,slow=7.7,SNR=65
CMAR PcP PcP 18 29 35.2 -0.2
comp=Z,7.3nm,1.2s,baz=147,slow=1.9,SNR=4.2
CMAR Chiang Mai Arr 28.25 309 P **P** **18 26 23.6 +0.6**
CMAR PcP PcP 18 29 35.2 -0.2
CMAR Chiang Mai Arr 28.25 309 P **P** **18 26 23.6 +0.6**
CMAR 18 29 35.2
CHRT Chiangrai 28.44 312⇓P **P** **18 26 23.5 -1.2**
comp=Z,132nm,1.2s,mb5.4
CHG Chiang Mai 28.45 309⇓P **P** **18 26 24.9 +0.1**
comp=Z,23nm,1.0s,mb4.8
CHG S 18 26 25.7
CHTO Chiang Mai 28.45 309 *e*P **P** **18 26 25.0 +0.2**
comp=Z,110nm,1.4s,mb5.3
CHTO Chiang Mai 28.45 309 *e*P **P** **18 26 25.0 +0.2**
CHTO pmax pmax
comp=Z,110nm,1.4s,mb5.3
CHTO Chiang Mai 28.45 309 P **P** **18 26 25.1 +0.3**
comp=Z,52nm,1.2s,mb5.0
CHTO Chiang Mai 28.45 309 P **P** **18 26 25.8 +1.0**
SNR=30
GYA Guiyang 29.03 331 P **P** **18 26 30.1 +0.3**
GYA pP pP 18 26 43.0 -1.0
GYA PP PP 18 27 28.8 -7.5
GYA PcP PcP 18 29 40.9 +3.7
GYA S **S** **18 31 22.3 +5.0**
GYA sS sS 18 31 39.0 -2.4
GYA SS SS 18 32 52.6 -30
GYA ScP ScP 18 33 17.3 +3.1
GYA ScS ScS 18 37 10.5 +2.3
GYA pmax pmax
comp=Z,20nm,1.0s,mb4.8
GYA pmax pmax
comp=Z,170nm,4.8s
GYA LR LR
comp=N,2µm,15.2s,MS4.9
GYA LR LR
comp=E,2µm,14.7s,MS4.9
GYA LR LR
comp=Z,2µm,15.0s,MS4.8
MTSU Mount Surprise 29.32 132 *e*P **P** **18 26 32.3 -0.2**
comp=Z,27nm,0.6s,mb5.2
WHN Wuhan 30.01 347⇑P **P** **18 26 40.3 +1.8**
WHN pP pP 18 26 49.9 -2.9
WHN *e*S **S** **18 31 37.8 +5.1**
WHN pmax pmax
comp=Z,39nm,1.0s,mb5.1
WHN LR LR
comp=Z,17µm,23.2s,MS5.6
KMI Kunming 30.08 324 P **P** **18 26 41.1 +1.9**
KMI pP pP 18 26 45.8 -7.6
KMI sP sP 18 26 47.6 -13
KMI S **S** **18 31 44.1 +10**
KMI pmax pmax
comp=Z,20nm,1.6s,mb4.6
KMI LR LR
comp=N,6µm,29.5s,MS5.2
KMI LR LR
comp=E,5µm,27.8s,MS5.2
KMI LR LR
comp=Z,6µm,29.5s,MS5.1
NJ2 Nanjing 30.79 355 *e*P **P** **18 26 47.1 +1.7**
NJ2 pP pP 18 26 56.6 -3.0
NJ2 sP sP 18 27 00.6 -5.7
NJ2 PP PP 18 27 49.5 -6.3
NJ2 S **S** **18 31 54.0 +9.2**
NJ2 pmax pmax
comp=Z,100nm,0.6s,mb5.8
NJ2 pmax pmax
comp=Z,6µm,8.8s
NJ2 LR LR
comp=N,39µm,18.4s,MS6.1
NJ2 LR LR
comp=E,10µm,16.3s,MS6.1
NJ2 LR LR
comp=Z,7µm,19.4s,MS5.3
ENH Enshi 31.18 339 *e*P **P** **18 26 49.2 +0.4**
comp=Z,91nm,1.3s,mb5.4
CTA Charters Tower 31.96 133 P **P** **18 26 55.4 -0.4**
comp=Z,11nm,0.7s,mb4.8,baz=308,slow=10,SNR=20
CTA PcP PcP 18 29 46.0 +1.0
comp=Z,4.6nm,0.5s,baz=295,slow=2.7,SNR=5.1
CTA Charters Tower 31.96 133 *e*P **P** **18 26 56.1 +0.3**
comp=Z,28nm,1.3s,mb4.9
CTA Charters Tower 31.96 133 P **P** **18 26 55.4 -0.4**
CTA PcP PcP 18 29 46.0 +1.0
CTA Charters Tower 31.96 133 P **P** **18 26 55.4 -0.4**
CTA 18 29 46.1
CTAO Charters Tower 31.96 133 *e*P **P** **18 26 55.5 -0.4**
comp=Z,178nm,1.8s,mb5.6
CTAO Charters Tower 31.96 133 *e*P **P** **18 26 55.5 -0.3**
CTAO pmax pmax
comp=Z,178nm,1.8s,mb5.6
CTAO Charters Tower 31.96 133 P **P** **18 26 56.4 +0.6**
comp=Z,76nm,2.3s,mb5.1
CBIJ Chichi jima 32.30 35 P **P** **18 26 58.9 +0.2**
comp=Z,94nm,0.9s,mb5.6,baz=112,slow=20,SNR=9.6
FORT Forrest 32.37 170 *e*P **P** **18 26 57.7 -1.6**
comp=Z,115nm,0.7s,mb5.8
FORT Forrest 32.37 170 *e*P **P** **18 26 57.5 -1.8**
comp=Z,188nm,0.9s,mb5.9
JNU Nakatsue 32.85 14 *e*P **P** **18 27 03.9 +0.5**
KLBR Kellerberrin 32.86 186 *e*P **P** **18 27 01.1 -2.5**
comp=Z,72nm,1.3s,mb5.4
CD2 Chengdu 34.14 332 P **P** **18 27 14.5 -0.2**
CD2 pP pP 18 27 19.0 -10
CD2 sP sP 18 27 22.5 -13
CD2 PP PP 18 28 30.4 -2.5
CD2 S **S** **18 32 40.8 +3.9**
CD2 SS SS 18 34 52.3 -14
CD2 pmax pmax
comp=Z,70nm,1.1s,mb5.5
CD2 pmax pmax
comp=Z,7µm,11.6s
CD2 LR LR
comp=N,6µm,21.4s
CD2 LR LR
comp=Z,10µm,26.2s,MS5.4
NWAO Narrogin (SRO) 34.24 187 P **P** **18 27 14.0 -1.5**
comp=Z,20nm,0.6s,mb5.2,baz=2.9,slow=9.5,SNR=19
NWAO Narrogin (SRO) 34.24 187 *e*P **P** **18 27 14.2 -1.3**
comp=Z,35nm,0.8s,mb5.3
NWAO Narrogin (SRO) 34.24 187 *e*P **P** **18 27 14.2 -1.4**
NWAO pmax pmax
comp=Z,35nm,0.8s
XAN Xi'an 34.81 341 P **P** **18 27 20.1 -0.4**
XAN pP pP 18 27 28.8 -6.1
XAN pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
XAN LR LR
comp=N,12µm,48.0s
XAN LR LR
comp=E,3µm,31.5s
XAN LR LR
comp=Z,2µm,29.8s
KSRS Korea Array 36.49 8 P **P** **18 27 35.9 +1.1**
comp=Z,14nm,1.1s,mb4.8,baz=178,slow=10,SNR=18
KSRS Korea Array 36.49 8 P **P** **18 27 35.9 +1.1**
KSRS pmax pmax
comp=Z,14nm,1.2s,mb4.8
AGT Agartala 37.22 310 *ex* x 18 27 50.0
AGT *ex* x 18 28 42.0
DL2 Dalian 37.50 360 P **P** **18 27 35.0 -8.4**
DL2 pmax pmax
comp=Z,50nm,1.8s,mb4.9
SHL Shillong 37.68 312 *e*PKP **P** **18 27 46.0 +0.9**
SHL *ex* x 18 33 33.0
STKA Stephens Creek 37.87 152 P **P** **18 27 46.0 -0.6**
comp=Z,44nm,0.7s,mb5.3,baz=325,slow=8.5,SNR=100
STKA Stephens Creek 37.87 152 *e*P **P** **18 27 46.0 -0.6**
comp=Z,69nm,1.2s,mb5.3
STKA *e*S **S** **18 33 39.1 +5.0**
STKA Stephens Creek 37.87 152 *e*P **P** **18 27 45.9 -0.8**
comp=Z,24nm,1.1s,mb4.8
STKA Stephens Creek 37.87 152 *e*P **P** **18 27 45.9 -0.7**
STKA pmax pmax
comp=Z,24nm,1.1s
MAJO Matsushiro 38.27 21 *e*P **P** **18 27 48.5 -1.4**
comp=Z,126nm,1.4s,mb5.5
MAJO Matsushiro 38.27 21 *e*P **P** **18 27 48.5 -1.4**
MAJO pmax pmax
comp=Z,126nm,1.4s,mb5.5
MAT Matsushiro 38.27 21 P **P** **18 27 48.5 -1.4**
MAT *e*S **S** **18 33 45.0 +5.0**
MJAR Matsushiro Arr 38.27 21 P **P** **18 27 49.0 -0.9**
comp=Z,25nm,1.0s,mb4.9,baz=200,slow=9.5,SNR=42
MJAR ScP ScP 18 33 47.4 +1.0
comp=Z,5.9nm,1.2s,baz=218,slow=5.2,SNR=6.0
MJAR Matsushiro Arr 38.27 21 P **P** **18 27 49.0 -0.9**
MJAR ScP ScP 18 33 47.4 +1.0
MJAR Matsushiro Arr 38.27 21 P **P** **18 27 49.0 -0.9**
MJAR 18 33 47.4
LZH Lanzhou 38.50 336 *e*P **P** **18 27 53.6 +1.8**
LZH pP pP 18 28 00.4 -5.9
LZH sP sP 18 28 02.5 -10
LZH pmax pmax
comp=Z,34nm,1.1s,mb5.0
LZH pmax pmax
comp=Z,700nm,5.3s
BJT Baijiatuau 38.96 353 *e*P **P** **18 27 56.6 +1.1**
comp=Z,44nm,0.8s,mb5.2
BJT Baijiatuau 38.96 353 *e*P **P** **18 27 56.6 +1.0**
BJT pmax pmax
comp=Z,44nm,0.8s
BJI Beijing 38.98 353 P **P** **18 27 56.3 +0.5**
BJI pmax pmax
comp=Z,71nm,1.1s,mb5.3
HNR Honiara 39.40 106 *e*P **P** **18 27 59.9 +0.2**
comp=Z,86nm,0.8s,mb5.5
HNR Honiara 39.40 106 *e*P **P** **18 27 59.9 +0.2**

HNR pmax pmax
comp=Z,86nm,0.8s,mb5.5
HHC Hu-ho-hao-te 40.53 348 *e*P **P 18 28 09.9 +1.3**
HHC sP sP 18 28 18.0 -12
HHC PP PP 18 29 47.3 +4.3
HHC PcP PcP 18 30 11.3 +1.1
HHC ScP ScP 18 33 59.3 +4.3
HHC S **S 18 34 20.3 +6.6**
HHC sS sS 18 34 26.8 -12
HHC pmax pmax
comp=E,61nm,1.1s,mb5.1
HHC pmax pmax
comp=Z,3μm,8.0s
HHC LR LR
comp=N,3μm,15.2s,MS5.4
HHC LR LR
comp=E,3μm,15.7s,MS5.4
HHC LR LR
comp=Z,4μm,14.3s,MS5.4
LSA Lhasa 40.67 317 P **P 18 28 09.5 -0.5**
LSA Lhasa 40.67 317 *e*P **P 18 28 11.4 +1.4**
comp=Z,129nm,1.5s,mb5.3
LSA Lhasa 40.67 317 *e*P **P 18 28 11.4 +1.4**
LSA pmax pmax
comp=Z,129nm,1.5s,mb5.3
ODAN Odare 41.75 311 *e*P **P 18 28 19.8 +0.9**
comp=Z,587nm,1.5s,mb6.0
TAPN Taplejung 41.77 311 *e*P **P 18 28 19.6 +0.5**
comp=Z,661nm,1.5s,mb6.1
ARMA Armidale 42.37 140 *e*P **P 18 28 25.0 +1.1**
ARMA Armidale 42.37 140 *e*P **P 18 28 24.8 +0.9**
comp=Z,40nm,0.9s,mb5.0
CN2 Changchun 42.52 4 *e*P **P 18 28 24.5 -0.3**
CN2 *e*sP sP 18 28 31.5 -15
CN2 *e*S **S 18 34 47.9 +4.9**
CN2 pmax pmax
comp=Z,20nm,1.2s,mb4.7
CN2 LR LR
comp=N,4μm,20.0s,MS5.5
CN2 LR LR
comp=E,5μm,20.0s,MS5.5
CN2 LR LR
comp=Z,8μm,20.0s,MS5.6
VLA Vladivostok 42.67 11⇑ *e*P **P 18 28 24.7 -1.4**
VLA *e*S **S 18 34 47.6 +2.3**
VLA pmax pmax
comp=Z,48nm,1.6s,mb5.0
GTA Gaotai 42.99 335 ⇓P **P 18 28 30.0 +1.2**
GTA pP pP 18 28 34.6 -8.9
GTA sP sP 18 28 37.0 -13
GTA S **S 18 34 55.8 +5.6**
GTA sS sS 18 35 03.6 -11
GTA pmax pmax
comp=Z,36nm,1.4s,mb4.9
GTA pmax pmax
comp=Z,970nm,4.7s
GTA LR LR
comp=N,5μm,19.7s,MS5.5
GTA LR LR
comp=E,4μm,19.0s,MS5.5
GTA LR LR
comp=Z,6μm,21.3s,MS5.5
YNG Young 43.24 147 *e*P **P 18 28 31.2 +0.3**
comp=Z,50nm,1.5s,mb5.0
GUN Gumba 43.44 311 *e*P **P 18 28 33.7 +1.0**
comp=Z,354nm,1.0s,mb6.0
PKI Pulchoki 43.63 310 *e*P **P 18 28 34.7 +0.6**
comp=Z,449nm,1.5s,mb6.0
MDJ Mudanjiang 43.75 8 P **P 18 28 35.0 +0.2**
MDJ pP pP 18 28 43.3 -6.3
MDJ sP sP 18 28 46.4 -10
MDJ PP PP 18 30 17.6 0.0
MDJ ScP ScP 18 34 10.0 +2.2
MDJ PcS PcS 18 34 14.5 +0.9
MDJ S **S 18 35 08.6 +7.5**
MDJ pmax pmax
comp=Z,68nm,1.7s,mb5.1
MDJ LR LR
comp=N,21μm,43.5s,MS5.7
MDJ LR LR
comp=E,7μm,45.2s,MS5.7
MDJ LR LR
comp=Z,8μm,22.6s
MDJ Mudanjiang 43.75 8 *e*P **P 18 28 35.2 +0.4**
comp=Z,180nm,1.5s,mb5.6
KKN Kakani 43.84 310 *e*P **P 18 28 36.5 +0.7**
comp=Z,500nm,1.5s,mb6.0
DMN Daman 43.88 310 *e*P **P 18 28 37.1 +0.9**
comp=Z,562nm,1.3s,mb6.1
CAN Canberra 44.34 148 *e*P **P 18 28 40.0 +0.3**
comp=Z,46nm,0.6s,mb5.4
CAN Canberra 44.34 148 *e*P **P 18 28 40.0 +0.3**
CAN pmax pmax
comp=Z,46nm,0.6s,mb5.4
TOO Toolangi 44.37 153 *e*P **P 18 28 40.0 +0.1**
comp=Z,260nm,1.3s,mb5.8
GKN Gorkha 44.44 310 *e*P **P 18 28 41.2 +0.6**
comp=Z,744nm,1.4s,mb6.2
CNB Canberra Magne 44.53 147 *e*P **P 18 28 41.4 +0.2**
comp=Z,151nm,1.2s,mb5.7
KOLN Koldanda 45.12 309 *e*P **P 18 28 46.8 +0.8**
comp=Z,90nm,0.7s,mb5.7
TRD Trivandrum 45.26 281 *e*PKP **P 18 28 46.5 -1.0**
TRD AMb AMB 18 28 50.1
comp=Z,108nm,1.0s,mb5.6
DANN Dangsing 45.28 310 *e*P **P 18 28 48.0 +0.7**
comp=Z,450nm,1.2s,mb6.2
HYB Hyderabad 45.48 293 *i* P **P 18 28 49.0 -0.1**
HYB *e* pP 18 29 01.5 -2.4
HIA Hailar 47.89 358 *e*P **P 18 29 08.0 +0.6**
comp=Z,121nm,1.4s,mb5.7
HIA Hailar 47.89 358 *e*P **P 18 29 08.0 +0.6**
HIA pmax pmax
comp=Z,121nm,1.4s
ULN Ulaanbaatar 48.20 347 *e*P **P 18 29 10.9 +1.1**
comp=Z,80nm,1.3s,mb5.6
ULN Ulaanbaatar 48.20 347 *e*P **P 18 29 10.9 +1.2**
ULN pmax pmax
comp=Z,80nm,1.3s,mb5.6
ULN Ulaanbaatar 48.20 347 P **P 18 29 11.0 +1.3**
ULN Ulaanbaatar 48.20 347 P **P 18 29 11.4 +1.6**
SNR=37
BHPL Bhopal 48.30 300 *e*PKP **P 18 29 11.0 -0.1**
SONM Songino Array 48.32 346 P **P 18 29 11.8 +1.1**
comp=Z,57nm,1.2s,mb5.5,baz=163,slow=7.3,SNR=155
SONM Songino Array 48.32 346 P **P 18 29 11.8 +1.1**
SONM Songino Array 48.32 346 P **P 18 29 11.8 +1.1**
KLR Kul'dur 48.58 9 *e*P **P 18 29 09.7 -3.0**
KLR pmax pmax
comp=Z,150nm,1.8s,mb5.7
YSS Yuzh-Sakhalins 49.06 19 *e*P **P 18 29 17.3 +0.9**
YSS pmax pmax
comp=Z,69nm,2.5s,mb5.2
DZM Mont Dzumac 49.28 121 *e*P **P 18 29 19.5 +1.0**
comp=Z,181nm,1.5s,mb5.9
AGRA Agra 49.37 306 *e*PKP **P 18 29 18.5 -0.7**
AGRA AMb AMB 18 29 22.7
comp=Z,20nm,0.0s,mb6.5
KAD Karad 49.49 292 *e*PKP **P 18 29 19.7 -0.5**
POO Poona 50.09 293 *e*PKP **P 18 29 24.2 -0.5**
POO AMb AMB 18 29 40.2
comp=Z,87nm,0.9s,mb5.8
BISR Bishrakh 50.33 307 *e*PKP **P 18 29 25.2 -1.2**
SONA Sohna 50.48 306 *e*PKP **P 18 29 27.1 -0.4**
SONA AMb AMB 18 29 44.9
comp=Z,110nm,0.8s,mb6.0
AYAN Aya Nagar 50.54 307 *e*PKP **P 18 29 27.5 -0.5**
AYAN AMb AMB 18 29 42.1
comp=Z,67nm,0.9s,mb5.6
BHGR Bahadurgarh 50.78 307 *e*PKP **P 18 29 30.0 +0.2**
KUDL Kundal 50.92 306 *e*PKP **P 18 29 30.2 -0.6**
KUDL AMb AMB 18 29 44.9
comp=Z,84nm,0.9s,mb5.7
KHET Khetri 51.45 306 *e*PKP **P 18 29 34.2 -0.6**
KHET AMb AMB 18 29 49.6
comp=Z,72nm,0.9s,mb5.6
ZAK Zakamensk 51.46 345 *e*P **P 18 29 35.6 +1.1**
ZAK *e* 18 36 54.1
ZAK pmax pmax
comp=Z,12nm,1.4s,mb4.6
SMLA Simla 51.64 310 *i* P **P 18 29 35.9 -0.4**
WMQ Urumqi 52.15 329 P **P 18 29 41.1 +1.3**
WMQ pP pP 18 29 45.6 -9.3
WMQ sP sP 18 29 48.1 -13
WMQ PP PP 18 31 40.9 +2.2
WMQ pmax pmax
comp=Z,23nm,1.1s,mb5.0
TLY Talaya 52.56 346 *e*P **P 18 29 44.2 +1.6**
comp=Z,43nm,1.1s,mb5.3
TLY Talaya 52.56 346 *e*P **P 18 29 43.6 +1.0**
TLY pmax pmax
comp=Z,44nm,1.4s,mb5.2
TLY Talaya 52.56 346 P **P 18 29 44.3 +1.7**
comp=Z,157nm,1.6s,mb5.7,SNR=6.3
TLY Talaya 52.56 346 P **P 18 29 45.2 +2.6**
SNR=9.8
IRK Irkutsk 52.93 347 *e*P **P 18 29 46.0 +0.6**
IRK *e*S **S 18 37 16.7 +6.4**
IRK pmax pmax
comp=Z,137nm,2.0s,mb5.5
CLNS Chul'man 55.50 2 *e*P **P 18 30 04.7 +0.7**
CLNS *e* 18 31 08.5
CLNS *e* 18 32 06.2
CLNS *e*S **S 18 37 42.2 -2.6**
CLNS *e*SS SS 18 41 27.1 -3.4
CLNS pmax pmax
comp=Z,44nm,1.3s,mb5.3
CLNS pmax pmax
comp=N,26nm,1.3s
CLNS pmax pmax
comp=E,13nm,1.1s
CLNS pmax pmax
comp=Z,12nm,1.3s,mb4.8
CLNS pmax pmax
comp=N,16nm,1.6s
CLNS pmax pmax
comp=E,11nm,1.3s
CLNS smax
comp=N,1μm,13.6s
CLNS smax
comp=E,1μm,15.1s
CLNS MLR MLR
comp=N,2μm,15.0s,MS5.4
CLNS MLR MLR
comp=E,2μm,17.0s,MS5.4
KSH Kashi 56.50 318 P **P 18 30 13.5 +2.0**
KSH pP pP 18 30 18.1 -8.6
KSH sP sP 18 30 20.5 -13
KSH PcP PcP 18 31 09.8 +2.1
KSH PP PP 18 32 21.0 +3.2
KSH ScP ScP 18 35 07.1 +4.6
KSH PcS PcS 18 35 08.9 +0.6
KSH S **S 18 38 02.8 +4.1**
KSH ScS ScS 18 39 58.8 +2.9
KSH SS SS 18 41 51.4 +4.5
KSH pmax pmax
comp=Z,26nm,1.1s,mb5.2
KSH pmax pmax
comp=Z,1μm,6.5s
KSH LR LR
comp=N,870nm,10.5s
KSH LR LR
comp=E,2μm,17.2s
KSH LR LR
comp=Z,2μm,15.4s,MS5.3
MK31 Makanchi Array 56.97 329 *e*P **P 18 30 15.6 +0.9**
MK31 Makanchi Array 56.97 329 P **P 18 30 15.4 +0.7**
MK31 pmax pmax
comp=Z,91nm,1.1s,mb5.7
MKAR Makanchi Array 56.97 329 P **P 18 30 15.6 +1.0**
comp=Z,9.8nm,0.8s,mb4.9,baz=126,slow=7.9,SNR=44
MKAR Makanchi Array 56.97 329 P **P 18 30 15.6 +1.0**
MKAR Makanchi Array 56.97 329 P **P 18 30 15.6 +0.9**
KZA Kyzart 58.29 321 P **P 18 30 26.2 +2.2**
SNR=19
MSVF Nonsavu 58.43 112 *e*P **P 18 30 26.9 +1.4**
MSVF Nonsavu 58.43 112 *e*P **P 18 30 26.9 +1.4**
TKM2 Tokmak 2 58.51 322 P **P 18 30 27.1 +1.5**
SNR=34
TKM2 Tokmak 2 58.51 322 *e*P **P 18 30 26.4 +0.8**
comp=Z,122nm,1.5s,mb5.7
TKM2 Tokmak 2 58.51 322 *e*P **P 18 30 26.4 +0.8**
TKM2 pmax pmax
comp=Z,122nm,1.5s,mb5.7
KBK Karagaybulak 58.78 321 P **P 18 30 30.1 +2.7**
SNR=24
AAK Ala-Archa 59.05 321 P **P 18 30 31.1 +1.7**
SNR=18
AAK Ala-Archa 59.05 321 *e*P **P 18 30 30.1 +0.8**
comp=Z,541nm,1.6s,mb6.3
AAK Ala-Archa 59.05 321 *e*P **P 18 30 30.2 +0.9**
AAK pmax pmax
comp=Z,541nm,1.6s,mb6.3
AAK Ala-Archa 59.05 321 P **P 18 30 30.6 +1.3**
comp=Z,116nm,1.5s,mb5.7,SNR=7.9
FRU Bishkek 59.08 321 *e*P pP 18 30 41.0 -3.9
FRU pmax pmax
comp=Z,140nm,2.0s,mb5.7
CHMS Chumysh 59.08 321 P **P 18 30 30.3 +0.8**
SNR=9.3
KBL Kabul 59.27 310 *e*P **P 18 30 30.9 -0.1**
comp=Z,82nm,0.9s,mb5.8
KBL Kabul 59.27 310 *e*P **P 18 30 31.0 0.0**
KBL pmax pmax
comp=Z,82nm,0.9s,mb5.8
AML Almayashu 59.31 320 P **P 18 30 32.9 +1.8**
SNR=44
USP Ospenovka 59.38 321 P **P 18 30 33.5 +1.9**
SNR=25
EKS2 Erkin-Say 59.52 320 P **P 18 30 35.1 +2.6**
SNR=10
EKS2 Erkin-Say 59.52 320 *e*P **P 18 30 34.2 +1.6**
comp=Z,63nm,1.3s,mb5.5
EKS2 Erkin-Say 59.52 320 *e*P **P 18 30 34.2 +1.6**
EKS2 pmax pmax
comp=Z,63nm,1.3s,mb5.5
PETK Petropavlovsk- 59.64 24 P **P 18 30 34.5 +1.3**
comp=Z,3.7nm,0.7s,mb4.5,baz=208,slow=5.2,SNR=11
PETK Petropavlovsk- 59.64 24 P **P 18 30 34.5 +1.3**
PETK Petropavlovsk- 59.64 24 P **P 18 30 34.5 +1.3**
ZAA0 Zalesovo Array 60.73 336 *e*P **P 18 30 40.1 -0.4**
ZALV Zalesovo Beam 60.73 336 P **P 18 30 40.8 +0.2**
comp=Z,7.1nm,0.7s,mb4.9,baz=123,slow=5.9,SNR=26
ZALV PKP2bc 19 00 04.7
comp=Z,0.4nm,0.5s,baz=273,slow=2.8,SNR=6.9
ZALV Zalesovo Beam 60.73 336 P **P 18 30 40.8 +0.2**
ZALV ⇑*e* 19 00 04.7
ZALV Zalesovo Beam 60.73 336 P **P 18 30 40.8 +0.2**
YAK Yakutsk 60.95 4 *e*P **P 18 30 42.2 +0.2**
comp=Z,80nm,0.8s,mb5.9
YAK Yakutsk 60.95 4 *e*P **P 18 30 40.5 -1.4**
YAK *e**PP pP 18 30 50.7 -6.6
YAK *e* 18 31 20.7
YAK *e*S **S 18 38 52.8 -2.9**
YAK pmax pmax
comp=Z,37nm,1.3s,mb5.3
YAK pmax pmax
comp=N,15nm,1.0s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,663nm,5.3s
YAK pmax pmax
comp=N,401nm,3.5s
YAK pmax pmax
comp=E,527nm,4.2s
YAK smax
comp=E,345nm,3.9s
YAK smax
comp=N,912nm,3.9s
YAK MLR MLR
comp=Z,7μm,31.0s,MS5.6
YAK MLR MLR
comp=E,2μm,28.0s
YAK MLR MLR
comp=N,9μm,38.0s
KURK Kurchatov 61.34 330 P **P 18 30 45.4 +0.6**
comp=N,19nm,1.0s,mb5.2,baz=129,slow=6.5,SNR=53
KURK PKP2bc 19 00 04.6
comp=N,1.5nm,1.2s,baz=289,slow=3.2,SNR=6.1
KURK Kurchatov 61.34 330 *e*P **P 18 30 45.3 +0.5**
comp=N,94nm,1.0s,mb5.9
KURK Kurchatov 61.34 330 *ce*P **P 18 30 45.9 +1.1**
KURK pmax pmax
comp=Z,64nm,1.2s,mb5.6
KURK Kurchatov 61.34 330 P **P 18 30 45.1 +0.3**
comp=Z,223nm,1.0s,mb6.2,SNR=28
KURK Kurchatov 61.34 330 P **P 18 30 46.2 +1.3**
SNR=27
KK31 Karatay Array 61.84 320 P **P 18 30 48.6 +0.3**
KK31 pmax pmax
comp=Z,34nm,1.1s,mb5.4
KKAR Karatay Array 61.84 320 *e*P **P 18 30 47.9 -0.4**
comp=Z,29nm,1.1s,mb5.3
KKAR Karatay Array 61.84 320 *e*P **P 18 30 47.9 -0.4**
KKAR pmax pmax
comp=Z,29nm,1.1s,mb5.3
NVS Novosibirsk 62.02 336⇑ *i*P **P 18 30 48.9 -0.4**
NVS *i* S **S 18 39 04.7 -4.8**
NVS *i* PS 18 39 37.4
NVS *i* 18 40 31.0
NVS *i* SS SS 18 43 14.0 +1.1
NVS pmax pmax
comp=N,145nm,2.5s
NVS pmax pmax
comp=E,87nm,2.5s
NVS pmax pmax
comp=Z,343nm,2.5s,mb6.0
NVS pmax pmax
comp=Z,70nm,2.0s,mb5.4
NVS pmax pmax
comp=N,20nm,1.9s
NVS pmax pmax
comp=E,22nm,1.8s
NVS smax
comp=N,35nm,1.9s
NVS smax
comp=E,109nm,2.1s
RPZ Rata Peaks 62.68 142 P **P 18 30 54.4 +0.4**
comp=E,41nm,0.7s,mb5.7,baz=298,slow=5.5,SNR=14
RPZ Rata Peaks 62.68 142 P **P 18 30 54.4 +0.4**
SNZO South Karori 63.85 138 *e*P **P 18 31 00.8 -0.9**
comp=E,41nm,0.6s,mb5.6
URZ Urewera 64.20 134 P **P 18 31 03.5 -0.6**
comp=E,19nm,0.5s,mb5.4,baz=277,slow=7.0,SNR=25
URZ Urewera 64.20 134 *e*P **P 18 31 03.3 -0.8**
comp=E,96nm,1.3s,mb5.7
SEY Seymchan 65.62 15*ce*P **P 18 31 13.2 +0.4**
MRIV Mauritius Mete 66.48 247 *e*P **P 18 31 17.1 -2.1**
BVA0 Borovoye Array 66.84 329 P **P 18 31 21.3 +0.4**
BVA0 pmax pmax
comp=Z,62nm,2.2s,mb5.2
BRVK Borovoye 66.91 329 *e*P **P 18 31 21.3 0.0**
comp=Z,102nm,1.3s,mb5.7
BRVK Borovoye 66.91 329*de*P **P 18 31 22.8 +1.5**
BRVK pmax pmax
comp=Z,32nm,1.2s,mb5.2
BRVK Borovoye 66.91 329 P **P 18 31 22.6 +1.3**
comp=Z,127nm,1.2s,mb5.8,SNR=14
BRVK Borovoye 66.91 329 P **P 18 31 23.3 +2.0**
SNR=21
RBK Rabkut 68.32 288 P **P 18 31 30.4 -0.5**
SNR=7.7
ABKT Ailbek 68.71 310 P **P 18 31 33.8 +0.8**
comp=Z,186nm,1.1s,mb5.9,SNR=16
ABTO Aybut 69.17 288 P **P 18 31 35.5 -0.7**
SNR=13
MIR Mirnyy 70.67 192 *e*P **P 18 31 43.0 -1.4**
MIR pmax pmax
comp=Z,38nm,1.4s,mb5.1
AB31 Akbulak array 71.06 322 P **P 18 31 47.1 0.0**
AB31 pmax pmax
comp=Z,80nm,1.1s,mb5.6
ABKAR Akbulak array 71.06 322 *e*P **P 18 31 46.8 -0.3**
comp=Z,46nm,1.0s,mb5.4
BILL Bilibino 73.25 16 *e*P **P 18 31 59.9 +0.1**
comp=Z,35nm,1.6s,mb5.0
BILL Bilibino 73.25 16⇓ *e*P **P 18 32 00.7 +0.9**
BILL *e* 18 34 44.7
BILL pmax pmax
comp=Z,17nm,2.5s,mb4.5
BILL MLR MLR
comp=Z,5μm,21.0s,MS5.8
SVE Sverdlovsk 73.59 330⇓ *e*P **P 18 32 02.8 +0.7**
SVE pmax pmax
comp=Z,108nm,1.4s,mb5.6
ARU Arti 74.49 329 *e*P **P 18 32 05.7 -1.6**
comp=Z,37nm,0.9s,mb5.3
ARU Arti 74.49 329*c i*P **P 18 32 09.4 +2.1**
ARU 18 34 52.0
ARU S S 18 41 47.1 +9.2
ARU pmax pmax
comp=Z,39nm,1.7s,mb5.1
ARU Arti 74.49 329 P **P 18 32 09.8 +2.5**
comp=Z,167nm,0.9s,mb6.0,SNR=5.7
KBD Kabd 75.57 300 *e*P **P 18 32 12.8 -1.4**
KBD AMb AMB 18 32 14.8
comp=Z,35nm,1.2s,mb5.2
UMR Umm Al-Rimmam 75.60 300 *e*P **P 18 32 12.3 -2.0**
UMR AMb AMB 18 32 28.9
comp=Z,57nm,1.2s,mb5.4
NAY Al-Naaiem 75.97 300 *e*P **P 18 32 14.8 -1.7**
NAY AMb AMB 18 32 33.1
comp=Z,62nm,1.5s,mb5.3
SOKR Solikamsk 76.53 332 *e*P **P 18 32 21.6 +2.7**
SOKR pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
MAK Makhachkala 77.73 314 *e*P **P 18 32 20.8 -5.2**
MAK *e* pP 18 32 32.5 -9.5
MAK *e*S S 18 42 13.0 -1.0
MAK *e* 18 42 35.6
MAK pmax pmax
comp=Z,107nm,1.7s,mb5.5
BHD Baghdad 78.84 304 *ex* x 18 32 31.0
DGRG David-gareji 79.05 312 P **P 18 32 34.3 +0.9**
GNI Garni 79.35 311 P **P 18 32 35.0 0.0**
comp=Z,81nm,1.4s,mb5.5
GNI Garni 79.35 311 P **P 18 32 35.1 +0.1**
GNI pmax pmax
comp=Z,81nm,1.4s
GNI Garni 79.35 311 P **P 18 32 36.7 +1.7**
SNR=5.3
MTA Mtatsminda 79.52 312 P **P 18 32 37.1 +1.2**
TBLG Delisi 79.56 312 P **P 18 32 37.5 +1.3**
TBLG Delisi 79.56 312 P **P 18 32 37.5 +1.3**
MAW Mawson 79.75 199 P **P 18 32 35.7 -0.9**
comp=Z,9.9nm,1.2s,mb4.6,baz=56,slow=8.3,SNR=6.6
MAW Mawson 79.75 199 *e*P **P 18 32 35.7 -0.9**
comp=Z,9.9nm,1.6s,mb4.5
MAW *e* pP 18 32 53.1 +0.5
MAW Mawson 79.75 199 P **P 18 32 35.7 -0.9**
MAW Mawson 79.75 199 P **P 18 32 35.7 -0.9**
ZEI Tsey 80.32 313 *e*P **P 18 32 38.9 -1.3**
ZEI pmax pmax
comp=Z,48nm,1.4s,mb5.2
AKH Akhalkalaki 80.45 312 P **P 18 32 42.6 +1.7**
ONI Oni 80.62 313 P **P 18 32 43.1 +1.2**
KIV Kislovodsk 81.34 314 P **P 18 32 46.5 +0.9**
comp=Z,46nm,1.5s,mb5.2
KIV Kislovodsk 81.34 314 *e*P **P 18 32 45.9 +0.3**
KIV *e*S S 18 42 57.4 +5.2
KIV pmax pmax
comp=Z,15nm,1.0s,mb4.9
SDPT Sand Point 82.00 34 P **P 18 32 49.8 +0.9**
comp=Z,416nm,1.5s,mb6.1
SBA Scott Base 82.57 171 *e*P **P 18 32 50.7 -0.8**
comp=Z,9.6nm,1.0s,mb4.8
SBA Scott Base 82.57 171 *e*P **P 18 32 50.7 -0.7**
SBA pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
VRHR Novokhopersk 82.90 321 *e*P **P 18 32 52.9 -0.7**
VRHR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
VRHR pmax pmax
comp=N,30nm,1.0s
VRHR pmax pmax
comp=E,20nm,1.0s
VSR Storozhevoye 84.45 321 *e*P **P 18 33 00.4 -1.2**
VSR pmax pmax
comp=Z,20nm,1.0s,mb5.2
VSR pmax pmax
comp=N,2.0nm,0.4s
VSR pmax pmax
comp=E,10.0nm,0.9s
KMBO Kilima Mbogo 84.61 269 *e*P **P 18 33 03.2 0.0**
comp=E,38nm,1.3s,mb5.4
KMBO Kilima Mbogo 84.61 269 *e*P **P 18 33 03.2 0.0**
KMBO pmax pmax
comp=Z,38nm,1.3s
KMBO Kilima Mbogo 84.61 269 P **P 18 33 03.4 +0.2**
SNR=15
ANN Anapa 85.17 315 *e*P **P 18 33 03.6 -1.7**
ANN *e*S S 18 43 24.5 -6.4
ANN pmax pmax
comp=Z,50nm,1.1s,mb5.6
ANN MLR MLR
comp=Z,3μm,21.0s,MS5.6

KLMR	**Klimovskoe**	**85.19**	**331**	*e*P		**P**	**18 33 02.5**	**-2.5**
KLMR				pmax	pmax			
	comp=Z,165nm,1.6s,mb5.9							
MOS	**Moscow**	**85.73**	**326**	*e*P		**P**	**18 33 06.2**	**-1.7**
MOS				*e*		pP	18 33 19.7	-4.3
MOS				*e*S		S	18 43 26.3	-10
OBN	**Obninsk**	**86.29**	**325**⇓	*i*P		**P**	**18 33 10.1**	**-0.5**
OBN				*e*			18 36 37.8	
OBN				pmax	pmax			
	comp=Z,73nm,1.7s,mb5.6							
BR131	**Keskin Array S**	**87.84**	**310**	*e*P		**P**	**18 33 17.8**	**-0.8**
	comp=Z,8.9nm,0.9s,mb5.0							
BRTR	**Keskin Array B**	**87.84**	**310**	P		**P**	**18 33 17.7**	**-0.8**
	comp=Z,4.1nm,0.9s,mb4.6,baz=122,slow=4.7,SNR=21							
BRTR				PP	PP		18 36 43.8	-1.2
	comp=Z,4.6nm,1.2s,baz=96,slow=5.9,SNR=3.8							
BRTR	**Keskin Array B**	**87.84**	**310**	P		**P**	**18 33 17.8**	**-0.8**
BRTR				PP	PP		18 36 43.8	-1.2
BRTR	**Keskin Array B**	**87.84**	**310**	P		**P**	**18 33 17.7**	**-0.8**
BRTR							18 36 43.8	
BRTR				pmax	pmax			
	comp=Z,4.0nm,0.9s							
BRTR				pmax	pmax			
	comp=Z,5.0nm,1.3s							
APA	**Apatity**	**88.28**	**337**⇓	*e*P		**P**	**18 33 20.0**	**0.0**
APA				*i*		pP	18 33 40.0	+3.8
APA				MLR	MLR			
	comp=Z,5µm,22.0s,MS5.9							
SYO	**Syowa Base**	**88.35**	**201**⇑	*e*X		**P**	**18 33 17.6**	**-2.7**
ILAR	**Eielson Array**	**89.45**	**25**	P		**P**	**18 33 24.2**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=256,slow=4.8,SNR=9.2							
ILAR				PKKPbc	PKKPbc		18 50 58.9	-4.4
	comp=Z,0.4nm,0.8s,baz=101,slow=2.8,SNR=5.4							
ILAR	**Eielson Array**	**89.45**	**25**	P		**P**	**18 33 24.2**	**-1.4**
ILAR				PKKPbc	PKKPbc		18 50 58.9	-4.4
ILAR	**Eielson Array**	**89.45**	**25**	P		**P**	**18 33 24.2**	**-1.3**
PAX	**Paxson**	**90.15**	**27**	*e*P		**P**	**18 33 31.1**	**+2.3**
	comp=Z,29nm,1.4s,mb5.4							
PAX	**Paxson**	**90.15**	**27**	*e*P		**P**	**18 33 31.1**	**+2.3**
PAX				pmax	pmax			
	comp=Z,29nm,1.4s,mb5.4							
AKASG	**Malin Array Be**	**90.72**	**321**	P		**P**	**18 33 30.6**	**-1.2**
	comp=Z,3.4nm,0.8s,mb4.7,baz=84,slow=3.5,SNR=10							
AKASG				PP	PP		18 37 08.5	+0.8
	comp=Z,0.8nm,0.6s,baz=76,slow=7.7,SNR=3.1							
AKASG	**Malin Array Be**	**90.72**	**321**	P		**P**	**18 33 30.6**	**-1.2**
AKASG				PP	PP		18 37 08.5	+0.8
AKASG	**Malin Array Be**	**90.72**	**321**	P		**P**	**18 33 30.6**	**-1.2**
AKASG							18 37 08.5	
ARCES	**ARCESS Array B**	**91.08**	**340**	P		**P**	**18 33 32.5**	**-0.6**
	comp=Z,5.1nm,0.9s,mb4.8,baz=83,slow=7.6,SNR=4.0							
ARCES				PKKP	PKKPbc		18 50 54.9	-4.4
	comp=Z,2.9nm,0.9s,baz=261,slow=3.6,SNR=5.7							
ARCES	**ARCESS Array B**	**91.08**	**340**	P		**P**	**18 33 32.5**	**-0.6**
ARCES				PKKP	PKKPbc		18 50 54.9	-4.4
ARCES	**ARCESS Array B**	**91.08**	**340**	P		**P**	**18 33 32.5**	**-0.6**
QSPA	**South Pole Qui**	**91.15**	**180**	P		**P**	**18 33 32.8**	**-0.4**
	comp=Z,2.8nm,0.6s,mb4.8,baz=350,slow=1.9,SNR=13							
QSPA	**South Pole Qui**	**91.15**	**180**	*e*P		**P**	**18 33 33.0**	**-0.2**
	comp=Z,111nm,2.0s,mb5.8							
FINES	**FINESS Array B**	**91.70**	**331**	P		**P**	**18 33 34.3**	**-1.8**
	comp=Z,1.5nm,0.6s,mb4.5,baz=69,slow=10,SNR=6.1							
FINES	**FINESS Array B**	**91.70**	**331**	P		**P**	**18 33 34.3**	**-1.8**
FINES	**FINESS Array B**	**91.70**	**331**	P		**P**	**18 33 34.3**	**-1.8**
EGAK	**Eagle**	**91.89**	**25**	*e*P		**P**	**18 33 37.5**	**+0.6**
	comp=Z,27nm,1.6s,mb5.3							
IZAR	**Zarasai**	**92.16**	**326**	*e*P		**P**	**18 33 37.6**	**-0.7**
IZAR				AMB	AMB		18 33 49.1	
	comp=Z,7.5nm,1.4s,mb4.8							
IIGN	**Ignalina**	**92.20**	**325**⇓	*e*P		**P**	**18 33 37.8**	**-0.8**
IIGN				AMB	AMB		18 33 47.9	
	comp=Z,10nm,1.9s,mb4.8							
ISAL	**Salakas**	**92.24**	**326**	*e*P		**P**	**18 33 38.0**	**-0.7**
ISAL				AMB	AMB		18 33 47.8	
	comp=Z,16nm,2.4s,mb4.9							
VRI	**Vrincioaia**	**92.70**	**316**⇑	P		**P**	**18 33 40.9**	**-0.1**
VRI	**Vrincioaia**	**92.70**	**316**⇑	*i*P		**P**	**18 33 40.8**	**-0.2**
PLOR	**Plostina**	**92.75**	**316**⇓	P		**P**	**18 33 40.8**	**-0.5**
PLOR	**Plostina**	**92.75**	**316**⇓	*i*P		**P**	**18 33 40.8**	**-0.5**
MLR	**Muntele Rosu**	**93.28**	**316**⇑	P		**P**	**18 33 44.5**	**+0.8**
MLR	**Muntele Rosu**	**93.28**	**316**⇑	*i*P		**P**	**18 33 44.5**	**+0.8**
BURAR	**Bucovina Array**	**93.58**	**318**⇑	P		**P**	**18 33 44.6**	**-0.5**
BURAR	**Bucovina Array**	**93.58**	**318**⇑	*i*P		**P**	**18 33 44.6**	**-0.5**
BUR08	**Bucovina Ar. S**	**93.58**	**318**	*e*P		**P**	**18 33 44.6**	**-0.5**
LSZ	**Lusaka**	**93.84**	**255**	*e*P		**P**	**18 33 45.1**	**-1.8**
	comp=Z,63nm,1.5s,mb5.8							
LSZ	**Lusaka**	**93.84**	**255**	*e*P		**P**	**18 33 45.1**	**-1.8**
LSZ				pmax	pmax			
	comp=Z,63nm,1.5s,mb5.8							
LSZ	**Lusaka**	**93.84**	**255**	P		**P**	**18 33 45.8**	**-1.1**
	SNR=11							
INK	**Inuvik**	**94.26**	**21**	P		**P**	**18 33 47.8**	**0.0**
	comp=Z,1.4nm,0.9s,mb4.4,baz=293,slow=2.3,SNR=3.5							
INK	**Inuvik**	**94.26**	**21**	P		**P**	**18 33 47.8**	**0.0**
INK	**Inuvik**	**94.26**	**21**	P		**P**	**18 33 47.8**	**+0.1**
KWP	**Kalwaria Pacla**	**94.99**	**320**	⇓P		**P**	**18 33 52.4**	**+0.9**
KWP	**Kalwaria Pacla**	**94.99**	**320**⇓	*i*P		**P**	**18 33 52.4**	**+0.9**
UZH	**Uzhgorod**	**95.40**	**319**⇑	*i*P		**P**	**18 33 53.2**	**-0.2**
UZH				*i*		pP	18 34 06.6	-3.1
BZS	**Buzias**	**96.28**	**316**	⇑P		**P**	**18 33 54.1**	**-3.4**
BZS	**Buzias**	**96.28**	**316**⇑	*i*P		**P**	**18 33 54.1**	**-3.4**
BOSA	**Boshof**	**96.37**	**242**	P		**P**	**18 33 57.4**	**-0.9**
	comp=Z,2.4nm,0.6s,mb4.8,baz=100,slow=6.1,SNR=3.7							
BOSA	**Boshof**	**96.37**	**242**	P		**P**	**18 33 57.4**	**-0.9**
BOSA	**Boshof**	**96.37**	**242**	P		**P**	**18 33 57.4**	**-0.9**
PGF	**Pioggiola**	**105.81**	**315**	*e*PP		PP	18 39 01.7	-1.6
	comp=Z,87nm,1.4s							
PAGF	**Fort de Pagny**	**106.05**	**322**	*e*PP		PP	18 39 03.4	-1.4
	comp=Z,11nm,1.2s							
LPG	**La Plagne**	**106.44**	**318**	*e*PP		PP	18 39 06.7	-1.1
	comp=Z,69nm,1.5s							
LPL	**La Plagne**	**106.45**	**318**	*e*PP		PP	18 39 06.0	-1.8
	comp=Z,133nm,1.6s							
SFTF	**Sexfontaines**	**106.61**	**321**	*e*PP		PP	18 39 08.1	-0.8
	comp=Z,93nm,1.6s							
SMF	**Signal de Mont**	**107.94**	**320**	*e*PP		PP	18 39 17.5	-1.2
	comp=Z,71nm,1.7s							
EKA	**Eskdalemuir Ar**	**108.07**	**331**	PKKPbc	PKKPbc		18 50 06.8	-3.9
	comp=Z,3.7nm,1.1s,baz=243,slow=2.7,SNR=3.9							
NVAR	**Mina Array Bea**	**112.20**	**47**	PKiKP	PKiKP		18 39 05.5	+0.8
	comp=Z,0.7nm,0.8s,baz=294,slow=0.9,SNR=4.5							
NVAR	**Mina Array Bea**	**112.20**	**47**	PKPdf	PKiKP		18 39 05.5	+0.8
DUG	**Dugway**	**115.43**	**44**	*e*PKPdf	PKPdf		18 39 11.6	+0.7
DUG	**Dugway**	**115.43**	**44**	*e*PKiKP	PKPdf		18 39 11.6	+0.7
PDAR	**Pinedale Array**	**116.42**	**40**	PKP	PKPdf		18 39 12.8	+0.1
	comp=Z,0.9nm,0.8s,baz=318,slow=1.2,SNR=5.9							
PDAR				PKKPbc	PKKPbc		18 49 39.7	-2.8
	comp=Z,0.7nm,0.9s,baz=125,slow=4.6,SNR=4.3							
PDAR	**Pinedale Array**	**116.42**	**40**	PKP	PKPdf		18 39 12.8	+0.1
PDAR				PKKPbc	PKKPbc		18 49 39.7	-2.8
MSU	**Marysvale**	**116.60**	**45**	*e*PKPdf	PKPdf		18 39 14.7	+1.5
MSU	**Marysvale**	**116.60**	**45**	*e*PKiKP	PKPdf		18 39 14.7	+1.5
TORD	**Torodi Ar. Bea**	**118.97**	**286**	PKP	PKPdf		18 39 17.1	-1.2
	comp=Z,1.8nm,0.6s,baz=62,slow=1.8,SNR=17							
TORD				PKKPab	PKKPab		18 49 34.7	-0.7
	comp=Z,0.5nm,0.7s,baz=262,slow=3.7,SNR=2.9							
TORD	**Torodi Ar. Bea**	**118.97**	**286**	PKP	PKPdf		18 39 17.1	-1.2
TORD				PKKPab	PKKPab		18 49 34.7	-0.7
EVO	**Evora**	**119.30**	**316**	*e*PKiKP	PKPdf		18 39 19.4	+1.0
	comp=Z,10.0nm,0.9s							
PV01	**Paradox Valley**	**119.30**	**44**	*e*PKPdf	PKPdf		18 39 19.3	+0.9
ULM	**Lac du Bonnet**	**119.44**	**27**	PKP	PKPdf		18 39 17.1	-1.2
	comp=Z,2.6nm,0.6s,baz=313,slow=1.5,SNR=6.2							
ULM	**Lac du Bonnet**	**119.44**	**27**	PKP	PKPdf		18 39 17.1	-1.2
ULM	**Lac du Bonnet**	**119.44**	**27**	PKiKP	PKPdf		18 39 17.1	-1.2
ANMO	**Albuquerque**	**122.29**	**47**	PKP	PKPdf		18 39 25.9	+1.6
	comp=Z,2.7nm,0.9s,baz=276,slow=2.2,SNR=7.7							
ANMO	**Albuquerque**	**122.29**	**47**	PKPdf	PKPdf		18 39 25.6	+1.3
ANMO	**Albuquerque**	**122.29**	**47**	PKiKP	PKPdf		18 39 25.9	+1.7
ANMO				pmax	pmax			
	comp=Z,3.0nm,0.9s							
BNM	**Barren Site**	**122.54**	**47**	*e*PKPdf	PKPdf		18 39 26.0	+1.3
TXAR	**Lajitas Array**	**126.98**	**51**	PKP	PKPdf		18 39 33.8	+0.4
	comp=Z,0.9nm,0.6s,baz=238,slow=3.1,SNR=13							
TXAR	**Lajitas Array**	**126.98**	**51**	PKP	PKPdf		18 39 33.8	+0.4
TXAR	**Lajitas Array**	**126.98**	**51**	PKiKP	PKPdf		18 39 33.8	+0.4
TKL	**Tuckaleechee C**	**136.21**	**31**	PKP	PKPdf		18 39 50.3	-0.4
	comp=Z,3.1nm,0.5s,baz=270,slow=3.8,SNR=6.5							
TKL	**Tuckaleechee C**	**136.21**	**31**	PKP	PKPdf		18 39 50.3	-0.4
TKL	**Tuckaleechee C**	**136.21**	**31**	PKiKP	PKPdf		18 39 50.3	-0.4
PAYG	**Puerto Ayora**	**147.88**	**89**	PKPbc	PKPbc		18 40 16.8	+1.8
LCO	**Las Campanas**	**149.89**	**158**	*e*PKPdf	PKPdf		18 40 15.4	+0.6
LCO				*e*PKPbc	PKPbc		18 40 20.6	+0.9
CAM4	**Nova Friburgo**	**154.09**	**215**⇓	*i*P	PKPbc		18 40 30.2	+0.8
CAM4				*i*			18 40 33.6	
CAM4				*i*			18 40 39.0	
CAM4				*i*			18 40 48.8	
CAM4				*i*			18 40 52.3	
CAM4				*i*			18 41 00.1	
CAM4				*i*			18 41 05.6	
CPUP	**Villa Florida**	**155.03**	**182**	PKPbc	PKPdf		18 40 30.6	+8.2
	comp=Z,2.9nm,0.8s,baz=179,slow=2.2,SNR=4.1							
CPUP	**Villa Florida**	**155.03**	**182**	PKPbc	PKPdf		18 40 30.6	+8.2
CPUP	**Villa Florida**	**155.03**	**182**	PKiKP	PKPdf		18 40 30.6	+8.2
OTAV	**Otavalo**	**159.66**	**86**	*e*PKPdf	PKPdf		18 40 30.1	+1.5
LPAZ	**La Paz**	**162.09**	**147**	PKP	PKPdf		18 40 32.5	+1.3
	comp=Z,19nm,1.3s,baz=248,slow=2.5,SNR=20							
LPAZ				PKPab	PKPab		18 41 19.4	+1.8
	comp=Z,5.6nm,0.5s,baz=204,slow=2.8,SNR=18							
LPAZ	**La Paz**	**162.09**	**147**	PKP	PKPdf		18 40 32.5	+1.3
LPAZ				PKPab	PKPab		18 41 19.4	+1.8
LPAZ	**La Paz**	**162.09**	**147**	PKiKP	PKPdf		18 40 32.5	+1.4
ROSC	**El Rosal**	**162.75**	**69**	PKP	PKPdf		18 40 31.1	-0.8
	comp=Z,2.3nm,0.3s,baz=246,slow=1.0,SNR=6.6							
ROSC	**El Rosal**	**162.75**	**69**	PKP	PKPdf		18 40 31.1	-0.8
SDV	**Santo Domingo**	**164.02**	**51**	*e*PKPdf	PKPdf		18 40 32.5	-0.5

ISCJB ***16*** *18:31:07.6±2.2, 1.7N±0.2×122.0E±0.1, h53km±15km, mb3.3/3, Error ellipse: s-maj=29.2km s-min=14.4km az=146.6*

IDC ***16*** *18:31:07.8±1.6, 1.25N×122.28E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/21, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=147.7km s-min=23.5km az=64.0*

DJA ***16*** *18:31:07, 1.75N×121.93E, h30km, MLv4.2/5*

ISC 16 18:31:09.2±2.1, 1.6N±0.2×122.0E±0.1, h47km±16km, n10, σ1s22/12, mb3.3/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.15**	**183**	P		**Pn**		**18 31 28.1**	**-0.8**
MRSI				S		**Sn**		**18 31 42.8**	**-0.6**
KMSI	**Cibinong**	**2.24**	**118**	P		**Pn**		**18 31 45.0**	**+1.1**
LUWI	**Luwuk**	**2.76**	**164**	P		**Pn**		**18 31 52.8**	**+1.7**
LUWI				S		**Sn**		**18 32 29.9**	**+6.7**
MNI	**Manado**	**2.85**	**94**	P		**Pn**		**18 31 50.9**	**-1.3**
PCI	**Palu**	**3.32**	**221**	P		**Pn**		**18 31 58.0**	**-0.7**
TTSI	**Tana Toraja**	**5.13**	**205**	P		**Pn**		**18 32 25.2**	**+1.6**
FITZ	**Fitzroy Crossi**	**19.93**	**170**	P		**Pn**		**18 35 37.3**	**-2.0**
	0.1nm,0.3s,baz=359,slow=13,SNR=4.2								
WRA	**Warramunga Arr**	**24.62**	**151**	P		**P**		**18 36 25.1**	**-0.2**
	0.3nm,0.4s,mb3.2,baz=326,slow=10,SNR=6.5								
ASAR	**Alice Springs**	**27.68**	**156**	P		**P**		**18 36 54.1**	**+1.1**
	0.4nm,0.9s,mb3.1,baz=327,slow=9.1,SNR=3.1								
MKAR	**Makanchi Array**	**56.71**	**328**	P		**P**		**18 40 56.4**	**+8.3**
	0.3nm,0.4s,mb3.7,baz=132,slow=9.0,SNR=4.2								

DJA 16 18:51:47, 2.75N×121.46E, h10km, MLv3.8/4, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**2.31**	**168**	P		Pn		18 52 27.3	+2.2
MRSI				S		Sn		18 52 54.2	+0.6
MNI	**Manado**	**3.62**	**111**	P		Pn		18 52 43.5	+0.4
MYLDM	**Lahad Datu**	**3.81**	**309**	P		Pn		18 52 45.9	+0.1
PCI	**Palu**	**3.98**	**204**	P		Pn		18 52 48.9	+0.8
LUWI	**Luwuk**	**3.99**	**161**	P		Pn		18 52 48.9	+0.7
LUWI				S		Sn		18 53 40.9	+5.8

ISCJB ***16*** *19:12:38.8±0.4, 43.62S±0.03×72.59W±0.08, h10km, mb4.6/21, Error ellipse: s-maj=8.4km s-min=4.6km az=166.8*

GUC ***16*** *19:12:38.2±0.8, 43.59S×72.63W, h8km±6km, ML4.5*

IDC ***16*** *19:12:44.7±6.9, 43.53S×72.34W, h33km±50km, mb4.4/11, mb1 4.4/11, mb1mx4.4/15, mbtmp4.3/11, ML2.8/1, Error ellipse: s-maj=28.5km s-min=14.9km az=79.0*

NEIC ***16*** *19:12:44.7±1.4, 43.55S×72.44W, h36km±11km, mb4.9/13, ML4.5(GUC), Error ellipse: s-maj=17.4km s-min=9.1km az=65.0*

NEIC Felt [IV] at Balmaceda; [III] at La Junta and Puyuguapi; [II] at Chaiten and Futaleufu.

BJI ***16*** *19:12:48.5, 43.60S×72.00W, h78km, mB5.2/4, Ms5.3/1, Ms7 5.3/1*

ISC 16 19:12:40.5±0.4, 43.58S±0.04×72.67W±0.08, h10km, n87, σ1s59/61, mb4.6/21, 1C-2D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
QLLN	**Quelln**	**0.84**	**304**	*e*P		**Pg**		**19 12 54.1**	**-2.6**
QLLN				*e*S		**Sg**		**19 13 06.2**	**-1.4**
QLLN				AML	AML			19 13 22.0	
	comp=N,40µm,0.5s								
HUNY	**Huinay**	**1.21**	**9**⇓	*e*P		**Pn**		**19 13 00.1**	**-3.3**
HUNY				*e*S		**Sb**		**19 13 17.1**	**-2.1**
HUNY				AML	AML			19 13 24.3	
	comp=E,7µm,0.5s								
ILCA	**Isla Las Cabra**	**1.52**	**4**⇓	*e*P		**Pn**		**19 13 05.6**	**-2.1**
ILCA				*e*S		**Sn**		**19 13 25.6**	**-1.9**
HOCH	**HornopirØn**	**1.68**	**7**	*e*P		**Pn**		**19 13 08.8**	**-1.2**
HOCH				*e*S		**Sn**		**19 13 34.4**	**+3.0**
HOCH				AML	AML			19 13 39.9	
	comp=E,7µm,0.7s								
PMCH	**Puerto Montt**	**2.09**	**355**	*e*P		**Pn**		**19 13 15.9**	**+0.3**
PMCH				*e*S		**Sn**		**19 13 44.3**	**+2.6**
PMCH	**Puerto Montt**	**2.09**	**355**	*e*P		**Pn**		**19 13 15.9**	**+0.3**
PMCH				*e*S		**Sn**		**19 13 44.3**	**+2.6**
PMCH				AML	AML			19 13 53.0	
	comp=E,7µm,0.4s								
PUYE	**Entre Lagos**	**2.89**	**1**	P		**Pn**		**19 13 28.3**	**+1.7**
PUYE	**Entre Lagos**	**2.89**	**1**	*e*P		**Pn**		**19 13 28.3**	**+1.7**
TRQA	**Tornquist**	**9.80**	**59**	*e*P		**Pn**		**19 15 02.2**	**+0.8**
	comp=E,28nm,0.8s								
CFAA	**Coronel Fontan**	**12.45**	**18**	Pn		**Pn**		**19 15 36.8**	**-0.9**
	comp=E,0.1nm,0.3s,baz=198,slow=14,SNR=7.9								
CFAA	**Coronel Fontan**	**12.45**	**18**	Pn		**Pn**		**19 15 36.8**	**-0.9**
EFI	**East Falkland**	**12.74**	**135**	*e*P		**Pn**		**19 15 42.1**	**+0.5**
LCO	**Las Campanas**	**14.62**	**7**	*e*P		**Pn**		**19 16 13.5**	**+6.1**
	comp=E,39nm,1.1s								
CPUP	**Villa Florida**	**21.25**	**41**	P		**P**		**19 17 27.9**	**+1.1**
	comp=E,4.3nm,0.7s,mb3.9,baz=226,slow=7.6,SNR=4.5								
CPUP	**Villa Florida**	**21.25**	**41**	P		**P**		**19 17 27.9**	**+1.1**
	comp=E,11nm,0.7s,mb4.3								
LPAZ	**La Paz**	**27.47**	**9**	P		**P**		**19 18 27.9**	**+1.1**
	comp=E,2.1nm,0.6s,mb3.9,baz=172,slow=5.8,SNR=9.3								
LPAZ	**La Paz**	**27.47**	**9**	*e*P		**P**		**19 18 26.8**	**0.0**
	comp=E,10nm,1.1s,mb4.3								
ATAH	**Atahualpa**	**36.64**	**350**	P		**P**		**19 19 51.7**	**+4.5**
	comp=E,4.5nm,0.7s,mb4.4,baz=96,slow=7.6,SNR=4.4								
VNA3	**Neumayer Olymp**	**40.83**	**154**	*e*		**P**		**19 20 18.2**	**-3.5**
VNA3				*e*				19 20 26.2	
VNA3				*e*				19 22 20.4	
VNA1	**Neumayer--Stat**	**41.22**	**153**	*e*		**P**		**19 20 23.0**	**-1.9**
VNA1				*e*				19 20 33.0	
VNA2	**Neumayer--Watz**	**41.53**	**153**	*e*		**P**		**19 20 25.3**	**-2.2**
	baz=288,slow=9.5								
VNA2				*e*				19 20 34.6	
VNA2				*e*				19 22 24.3	
SNAA	**Sanae**	**43.04**	**154**	P		**P**		**19 20 40.1**	**+0.3**
	comp=E,7.3nm,1.0s,mb4.3,baz=275,slow=7.4,SNR=46								
SNAA	**Sanae**	**43.04**	**154**	*e*P		**P**		**19 20 36.6**	**-3.2**
	comp=E,46nm,1.4s,mb5.0								
OTAV	**Otavalo**	**43.92**	**352**	*e*P		**P**		**19 20 49.8**	**+2.2**
	comp=E,23nm,1.4s,mb4.7								
QSPA	**South Pole Qui**	**46.67**	**180**	P		**P**		**19 21 10.3**	**+1.6**
	comp=E,23nm,0.9s,mb5.1,baz=153,slow=5.1,SNR=37								
QSPA	**South Pole Qui**	**46.67**	**180**	*e*P		**P**		**19 21 09.6**	**+0.9**
	comp=E,39nm,1.1s,mb5.2								
ROSC	**El Rosal**	**48.23**	**358**	P		**P**		**19 21 23.6**	**+2.2**
	comp=E,3.1nm,0.3s,mb4.8,baz=104,slow=14,SNR=5.2								
ROSC	**El Rosal**	**48.23**	**358**	P		**P**		**19 21 23.6**	**+2.2**
SDV	**Santo Domingo**	**52.24**	**3**	*e*P		**P**		**19 21 49.3**	**-2.5**
	comp=E,18nm,0.8s,mb5.0								
SYO	**Syowa Base**	**57.21**	**157**⇑	*e*P		**P**		**19 22 25.0**	**-2.3**
CELP	**Cerrillos**	**61.60**	**7**	*e*P		**P**		**19 22 56.7**	**-1.4**
MAW	**Mawson**	**64.17**	**163**	P		**P**		**19 23 16.0**	**+1.3**
	comp=E,12nm,1.0s,mb4.8,baz=224,slow=3.3,SNR=12								
MAW	**Mawson**	**64.17**	**163**	*e*P		**P**		**19 23 15.5**	**+0.8**
	comp=E,7.8nm,1.0s,mb4.7								
MAW	**Mawson**	**64.17**	**163**	P		**P**		**19 23 16.0**	**+1.3**
BOSA	**Boshof**	**76.17**	**116**	P		**P**		**19 24 27.8**	**-1.0**
	comp=E,5.7nm,1.1s,mb4.4,baz=321,slow=5.5,SNR=4.2								
BOSA	**Boshof**	**76.17**	**116**	*e*P		**P**		**19 24 27.4**	**-1.4**
TXAR	**Lajitas Array**	**77.92**	**333**	P		**P**		**19 24 39.4**	**+1.0**
	comp=E,3.1nm,0.9s,mb4.2,baz=152,slow=7.5,SNR=20								
TXAR	**Lajitas Array**	**77.92**	**333**	P		**P**		**19 24 39.4**	**+1.0**
DBIC	**Dimbokro**	**78.85**	**70**	P		**P**		**19 24 44.0**	**+0.1**
	comp=E,5.3nm,0.8s,mb4.5,baz=171,slow=5.6,SNR=5.2								
DBIC	**Dimbokro**	**78.85**	**70**	*e*P		**P**		**19 24 43.5**	**-0.5**
	comp=E,8.3nm,0.9s,mb4.7								
CPRX	**Cap Rock**	**81.39**	**334**	*e*P		**P**		**19 25 00.7**	**+3.5**
	comp=E,0.9nm,0.2s,mb3.9								
CCM	**Cathedral Cave**	**82.98**	**345**	*e*P		**P**		**19 25 05.1**	**-0.3**
	comp=E,15nm,0.8s,mb5.1								
BNM	**Barren Site**	**83.33**	**332**	*e*P		**P**		**19 25 08.6**	**+1.3**
	comp=E,15nm,1.4s,mb4.8								
LPM	**Los Pinos Moun**	**83.48**	**332**	*e*P		**P**		**19 25 09.4**	**+1.3**
	comp=E,17nm,1.5s,mb4.9								
LAZ	**Ladron**	**83.73**	**332**	*e*P		**P**		**19 25 10.7**	**+1.4**
	comp=E,16nm,1.6s,mb4.9								
PV01	**Paradox Valley**	**87.60**	**332**	*e*P		**P**		**19 25 30.0**	**+1.5**
	comp=E,1µm,1.3s								
TORD	**Torodi Ar. Bea**	**87.96**	**70**	P		**P**		**19 25 29.0**	**-1.8**
	comp=E,2.3nm,0.8s,mb4.5,baz=230,slow=4.0,SNR=12								
TORD	**Torodi Ar. Bea**	**87.96**	**70**	P		**P**		**19 25 29.0**	**-1.8**
MSU	**Marysvale**	**89.20**	**330**	P		**P**		**19 25 37.7**	**+1.6**
	comp=E,5.7nm,1.1s,mb4.8								
NVAR	**Mina Array Bea**	**91.49**	**326**	P		**P**		**19 25 48.8**	**+2.0**
	comp=E,0.9nm,0.8s,mb4.1,baz=150,slow=6.6,SNR=5.6								
NVAR	**Mina Array Bea**	**91.49**	**326**	P		**P**		**19 25 48.8**	**+2.0**
PDAR	**Pinedale Array**	**92.10**	**334**	P		**P**		**19 25 49.8**	**+0.3**
	comp=E,2.9nm,1.0s,mb4.6,baz=139,slow=5.3,SNR=9.3								
PDAR	**Pinedale Array**	**92.10**	**334**	P		**P**		**19 25 49.8**	**+0.3**
PD02	**Pinedale Array**	**92.11**	**334**	*e*P		**P**		**19 25 49.2**	**-0.3**
PD01	**Pinedale Array**	**92.12**	**334**	*e*P		**P**		**19 25 48.0**	**-1.6**
GERES	**GERESS Array B**	**119.03**	**49**	PKP	PKPdf			19 31 28.4	-0.2
	comp=E,1.3nm,0.7s,baz=190,slow=2.4,SNR=9.0								
GERES	**GERESS Array B**	**119.03**	**49**	PKP	PKPdf			19 31 28.4	-0.2
ILAR	**Eielson Array**	**122.40**	**331**	PKP

	0.5nm93nm,0.7s								
KBKI	**Kotabaru**	**7.75**	**234**	P		**Pn**	19 18 03.9	**-0.2**	
	0.3nm69nm,1.0s								
KKM	**Kota Kinabalu**	**7.76**	**307**	*e*P		**Pn**	19 17 60.0	**-4.3**	
	11nm,0.6s								
KKM	**Kota Kinabalu**	**7.76**	**307**	P		**Pn**	19 18 01.4	**-2.9**	
BBKI	**Banjar Baru**	**8.93**	**238**	P		**Pn**	19 18 21.8	**+1.5**	
	0.2nm50nm,0.7s								
TLE	**Tual**	**12.41**	**124**	P		**Pn**	19 19 09.5	**+1.6**	
	21nm,1.9s								
TGJI	**Tegal**	**15.56**	**238**	P		pP	19 20 02.8	-2.9	
TNG	**Tangerang**	**17.41**	**245**	P		**Pn**	19 20 15.7	**+2.9**	
TNG				P			19 20 15.2		
	623nm,0.4s								
FITZ	**Fitzroy Crossi**	**19.56**	**171**	P		**Pn**	19 20 36.2	**-2.5**	
	1.0nm,0.3s,baz=5.6,slow=7.5,SNR=44								
FITZ	**Fitzroy Crossi**	**19.56**	**171**	*e*P		**Pn**	19 20 36.1	**-2.6**	
	10nm,0.5s								
FITZ	**Fitzroy Crossi**	**19.56**	**171**	*e*P		**Pn**	19 20 36.1	**-2.5**	
MBWA	**Marble Bar**	**22.49**	**187**	*e*P		**P**	19 21 06.7	**-1.7**	
	2.2nm,0.4s,mb3.9								
WRAB	**Tennant Creek**	**24.15**	**152**	*e*P		**P**	19 21 24.4	**-0.1**	
	11nm,1.2s,mb4.2								
WRAB	**Tennant Creek**	**24.15**	**152**	*e*P		**P**	19 21 24.4	**-0.1**	
WRAB				pmax	pmax				
	comp=Z,11nm,1.2s,mb4.2								
WRA	**Warramunga Arr**	**24.15**	**152**	P		**P**	19 21 23.8	**-0.7**	
	comp=Z,2.5nm,0.4s,mb4.0,baz=327,slow=10,SNR=65								
WRA	**Warramunga Arr**	**24.15**	**152**	P		**P**	19 21 23.8	**-0.7**	
WRA	**Warramunga Arr**	**24.15**	**152**	P		**P**	19 21 23.8	**-0.7**	
WB2	**Warramunga Arr**	**24.16**	**152**	*e*P		**P**	19 21 24.1	**-0.4**	
ASAR	**Alice Springs**	**27.23**	**156**	P		**P**	19 21 53.6	**+1.3**	
	comp=Z,0.6nm,0.5s,mb3.4,baz=344,slow=14,SNR=18								
ASAR				PcP	PcP		19 25 11.4	+0.2	
	comp=Z,0.2nm,0.4s,baz=349,slow=2.4,SNR=6.1								
ASAR	**Alice Springs**	**27.23**	**156**	P		**P**	19 21 53.6	**+1.3**	
ASAR				PcP	PcP		19 25 11.4	+0.2	
ASAR	**Alice Springs**	**27.23**	**156**	P		**P**	19 21 53.7	**+1.3**	
ASAR							19 25 11.5		
MEEK	**Meekatharra**	**28.03**	**187**	*e*P		**P**	19 21 57.3	**-2.2**	
	comp=Z,44nm,0.6s,mb5.3								
WHN	**Wuhan**	**30.05**	**346**	P		**P**	19 22 10.5	**-6.9**	
STKA	**Stephens Creek**	**37.69**	**153**	P		**P**	19 23 23.9	**+0.3**	
	comp=Z,5.7nm,0.9s,mb4.3,baz=334,slow=7.4,SNR=8.4								
STKA	**Stephens Creek**	**37.69**	**153**	*e*P		**P**	19 23 23.5	**-0.1**	
	comp=Z,4.4nm,0.9s,mb4.2								
STKA	**Stephens Creek**	**37.69**	**153**	P		**P**	19 23 23.9	**+0.3**	
STKA	**Stephens Creek**	**37.69**	**153**	P		**P**	19 23 23.9	**+0.3**	
ULN	**Ulaanbaatar**	**48.24**	**346**	P		**P**	19 24 49.8	**+1.2**	
	comp=Z,3.6nm,1.1s,mb4.3								
ULN	**Ulaanbaatar**	**48.24**	**346**	P		**P**	19 24 49.8	**+1.2**	
ULN				pmax	pmax				
	comp=Z,4.0nm,1.1s,mb4.4								
SONM	**Songino Array**	**48.37**	**346**	P		**P**	19 24 50.6	**+1.0**	
	comp=Z,1.7nm,0.7s,mb4.2,baz=162,slow=8.2,SNR=16								
SONM	**Songino Array**	**48.37**	**346**	P		**P**	19 24 50.6	**+1.0**	
SONM	**Songino Array**	**48.37**	**346**	P		**P**	19 24 50.6	**+1.0**	
MK31	**Makanchi Array**	**57.19**	**328**	*e*P		**P**	19 25 55.3	**+0.6**	
MK31	**Makanchi Array**	**57.19**	**328**	*e*P		**P**	19 25 55.3	**+0.6**	
MKAR	**Makanchi Array**	**57.19**	**328**	P		**P**	19 25 55.3	**+0.6**	
	comp=Z,1.7nm,0.5s,mb4.3,baz=129,slow=8.3,SNR=30								
MKAR	**Makanchi Array**	**57.19**	**328**	P		**P**	19 25 55.3	**+0.7**	
MKAR	**Makanchi Array**	**57.19**	**328**	P		**P**	19 25 55.3	**+0.6**	
YAK	**Yakutsk**	**60.81**	**4**	*e*P		**P**	19 26 26.9	**+7.5**	
YAK				pmax	pmax				
	comp=Z,6.0nm,0.5s,mb5.0								
ZALV	**Zalesovo Beam**	**60.88**	**336**	P		**P**	19 26 19.4	**-0.7**	
	comp=Z,0.6nm,0.5s,mb4.0,baz=128,slow=6.1,SNR=4.8								
ZALV	**Zalesovo Beam**	**60.88**	**336**	P		**P**	19 26 19.4	**-0.7**	
ZALV	**Zalesovo Beam**	**60.88**	**336**	P		**P**	19 26 19.4	**-0.7**	
KURK	**Kurchatov**	**61.55**	**330**	*e*P		**P**	19 26 24.7	**0.0**	
	comp=Z,10nm,0.9s,mb5.0								
KURK	**Kurchatov**	**61.55**	**330**	*e*P		**P**	19 26 24.7	**0.0**	
KURK				pmax	pmax				
	comp=Z,10.0nm,0.9s,mb5.0								
BRVK	**Borovoye**	**67.13**	**329**	*e*P		**P**	19 27 00.9	**-0.2**	
BRVK				pmax	pmax				
	comp=Z,5.0nm,1.2s,mb4.4								
BILL	**Bilibino**	**73.00**	**16**↑	*e*P		**P**	19 27 44.9	**+8.1**	
BILL				*e*			19 30 26.1		
BILL				*e*S		S	19 37 08.7	+10	
BILL				pmax	pmax				
	comp=Z,14nm,2.5s,mb4.5								
BILL				MLR	MLR				
	comp=Z,3μm,18.0s								
TORD	**Torodi Ar. Bea**	**119.49**	**286**	PKP		PKPdf	19 34 57.3	-0.5	
	comp=Z,0.2nm,0.4s,baz=91,slow=1.4,SNR=5.8								
TORD	**Torodi Ar. Bea**	**119.49**	**286**	PKP		PKPdf	19 34 57.3	-0.5	

*IDC **16** 19:25:18.3±7.2,40.°40S×174.°54E,h0km,mb3.4/2, mb1 3.7/2,mb1mx3.5/12,mbtmp3.4/2,Error ellipse: s-maj=439.9km s-min=45.5km az=32.0*

*ISCJB **16** 19:25:48.5±0.3,40.°86S±0.°04×172.°78E±0.°06,h221km±4km, mb3.1/2,Error ellipse: s-maj=9.2km s-min=3.6km az=42.4*

*WEL **16** 19:25:50.8±0.2,40.°84S×172.°83E,h211km±1km,ML4.8/20, Error ellipse: s-maj=2.0km s-min=1.7km az=90.0*

WEL Felt in the Wellington region, maximum reported intensity MM 4.

ISC 16 19:25:49.3±0.4,**40.°85S**±0.°04×**172.°79E**±0.°06,**h217**km±4km, **n97**,σ0.°77/104,**mb3.1/2,5C-1D,Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
QRZ	**Quartz Range**	**0.20**	**277**	↑P	N	**Pn**	**19 26 18.6**		**+1.0**
QRZ					N	**S**	**19 26 38.9**		**-0.7**
NNZ	**Nelson**	**0.58**	**129**	↑P	N	**Pn**	**19 26 19.5**		**+0.9**
NNZ					N	**S**	**19 26 40.8**		**-0.7**
DUWZ	**D'Urville Isla**	**0.86**	**87**	↓P	N	**Pn**	**19 26 20.9**		**+0.9**
DUWZ					N	**S**	**19 26 42.6**		**-1.2**
THZ	**Tophouse**	**0.91**	**175**	P	N	**Pn**	**19 26 21.3**		**+1.1**
THZ					N	**S**	**19 26 43.9**		**-0.6**
TUWZ	**Tuamarina**	**1.05**	**124**	↑P	N	**Pn**	**19 26 22.1**		**+1.1**
DSZ	**Dennistone Nort**	**1.16**	**219**	P	N	**Pn**	**19 26 22.7**		**+0.9**
TCW	**Tory Channel**	**1.18**	**108**	↑P	N	**Pn**	**19 26 23.1**		**+1.1**
BSWZ	**Blackbirch Sta**	**1.19**	**137**	↑P	N	**Pn**	**19 26 23.1**		**+1.1**
BSWZ					N	**S**	**19 26 47.1**		**-0.6**
SNZO	**South Karori**	**1.52**	**108**	P	N	**Pn**	**19 26 25.2**		**+0.6**
WEL	**Wellington**	**1.56**	**107**	P	N	**Pn**	**19 26 25.7**		**+0.7**
KIW	**Kapiti Island**	**1.61**	**91**	P	N	**Pn**	**19 26 26.1**		**+0.7**
KHZ	**Kahutara**	**1.66**	**160**	P	N	**Pn**	**19 26 26.3**		**+0.5**
BHW	**Baring Head**	**1.67**	**110**	P	N	**Pn**	**19 26 26.4**		**+0.5**
CAW	**Cannon Point**	**1.75**	**99**	P	N	**Pn**	**19 26 27.2**		**+0.6**
OGWZ	**Otaki Gorge**	**1.81**	**90**	P	N	**Pn**	**19 26 28.0**		**+0.8**
DFE	**Dawson Falls**	**1.83**	**34**	P	N	**Pn**	**19 26 27.9**		**+0.5**
NEZ	**North Egmont**	**1.87**	**33**	P	N	**Pn**	**19 26 28.2**		**+0.3**
PKE	**Pukeiti**	**1.90**	**29**	P	N	**Pn**	**19 26 28.6**		**+0.5**
MSWZ	**Moikau Station**	**1.94**	**108**	P	N	**Pn**	**19 26 29.0**		**+0.5**
LTZ	**Lake Taylor**	**1.97**	**191**	P	N	**Pn**	**19 26 29.6**		**+0.9**
DREZ	**Durham Road**	**1.98**	**34**	P	N	**Pn**	**19 26 29.4**		**+0.5**
RAEZ	**Rainy Point**	**1.99**	**39**	P	N	**Pn**	**19 26 29.5**		**+0.5**
PLWZ	**Palliser**	**1.99**	**112**	P	N	**Pn**	**19 26 29.5**		**+0.6**
WAZ	**Wanganui**	**2.01**	**58**	P	N	**Pn**	**19 26 29.9**		**+0.8**
PAWZ	**Paruwai Farm**	**2.06**	**106**	P	N	**Pn**	**19 26 30.1**		**+0.5**
PAWZ					N	**S**	**19 26 58.7**		**-2.5**
HOWZ	**Holdsworth Sta**	**2.07**	**92**	P	N	**Pn**	**19 26 30.3**		**+0.6**
MTW	**Mount Morrison**	**2.08**	**99**	P	N	**Pn**	**19 26 30.3**		**+0.6**
MRZ	**Mangatainoka R**	**2.13**	**86**	P	N	**Pn**	**19 26 30.8**		**+0.4**
MHEZ	**Mangahewa**	**2.13**	**34**	P	N	**Pn**	**19 26 30.8**		**+0.5**
TRWZ	**Traveller**	**2.26**	**105**	P	N	**Pn**	**19 26 32.4**		**+0.8**
VRZ	**Vera Road**	**2.29**	**42**	P	N	**Pn**	**19 26 31.8**		**-0.3**
POWZ	**Post Office Ro**	**2.31**	**80**	P	N	**Pn**	**19 26 32.8**		**+0.5**
TIWZ	**Tintock**	**2.35**	**89**	P	N	**Pn**	**19 26 33.3**		**+0.6**
TMWZ	**Te Maipa**	**2.36**	**97**	P	N	**Pn**	**19 26 33.4**		**+0.7**
PKVZ	**Pokaka**	**2.51**	**52**	P	N	**Pn**	**19 26 34.4**		**0.0**
MTVZ	**Mangateitei**	**2.52**	**55**	P	N	**Pn**	**19 26 34.6**		**+0.1**
TSZ	**Takapari Road**	**2.55**	**73**	P	N	**Pn**	**19 26 34.9**		**+0.2**
TRVZ	**Turoa**	**2.62**	**55**	P	N	**Pn**	**19 26 35.6**		**0.0**
BFZ	**Birch Farm**	**2.63**	**87**	P	N	**Pn**	**19 26 36.1**		**+0.5**
DVHZ	**Dannevirke**	**2.63**	**79**	P	N	**Pn**	**19 26 36.1**		**+0.4**
WNVZ	**Wahianoa**	**2.64**	**56**	P	N	**Pn**	**19 26 35.8**		**0.0**
DRZ	**Dome Shelter**	**2.65**	**54**	P	N	**Pn**	**19 26 36.4**		**+0.6**
FWVZ	**Far West T-bar**	**2.65**	**54**	P	N	**Pn**	**19 26 35.7**		**-0.2**
WPVZ	**Whakapapa**	**2.68**	**53**	P	N	**Pn**	**19 26 36.0**		**-0.2**
MOVZ	**Moawhango**	**2.69**	**59**	P	N	**Pn**	**19 26 35.9**		**-0.4**
MOVZ					N	**S**	**19 27 11.3**		**-1.9**
WVZ	**Waitaha Valley**	**2.70**	**214**	P	N	**Pn**	**19 26 36.5**		**+0.2**
TWVZ	**Taurewa**	**2.70**	**50**	P	N	**Pn**	**19 26 36.0**		**-0.5**
TUVZ	**Tukino**	**2.71**	**55**	P	N	**Pn**	**19 26 36.6**		**+0.1**
CRLZ	**Canterbury Las**	**2.73**	**183**	P	N	**Pn**	**19 26 36.4**		**-0.2**
NGZ	**Ngauruhoe**	**2.73**	**53**	P	N	**Pn**	**19 26 36.6**		**-0.2**
WTVZ	**West Tongariro**	**2.76**	**52**	P	N	**Pn**	**19 26 36.8**		**-0.4**
PNHZ	**Pukenui**	**2.77**	**71**	P	N	**Pn**	**19 26 37.5**		**+0.4**
PNHZ					SN	**S**	**19 27 13.1**		**-1.6**
OTVZ	**Oturere**	**2.78**	**54**	P	N	**Pn**	**19 26 37.2**		**-0.1**
KRVZ	**Karewarewa**	**2.81**	**52**	P	N	**Pn**	**19 26 37.1**		**-0.5**
HIZ	**Hauiti**	**2.83**	**35**	P	N	**Pn**	**19 26 37.4**		**-0.5**
MQZ	**McQueen's Vall**	**2.85**	**182**	P	N	**Pn**	**19 26 37.4**		**-0.6**
BHHZ	**Black Hill Sta**	**2.85**	**63**	P	N	**Pn**	**19 26 37.9**		**-0.3**
WPHZ	**Waipukurau**	**2.90**	**75**	P	N	**Pn**	**19 26 39.3**		**+0.7**
KATZ	**Kakaramea**	**2.92**	**51**	P	N	**Pn**	**19 26 38.7**		**-0.1**
PRHZ	**Porangahau**	**2.99**	**80**	P	N	**Pn**	**19 26 40.3**		**+0.6**
RITZ	**Rihia Road**	**3.01**	**53**	P	N	**Pn**	**19 26 40.2**		**+0.2**
RATZ	**Rangitukua**	**3.03**	**50**	P	N	**Pn**	**19 26 40.2**		**0.0**
WATZ	**Wairara**	**3.12**	**48**	P	N	**Pn**	**19 26 41.0**		**+0.2**
RPZ	**Rata Peaks**	**3.14**	**204**	P	N	**Pn**	**19 26 41.5**		**+0.2**
HATZ	**Hinemaiaia**	**3.21**	**53**	P	N	**Pn**	**19 26 41.5**		**-0.8**
PXZ	**Pawanui**	**3.21**	**77**	P	N	**Pn**	**19 26 42.8**		**+0.5**
KAHZ	**Kahuranaki**	**3.30**	**73**	P	N	**Pn**	**19 26 44.1**		**+0.9**
BKZ	**Black Stump Fm**	**3.31**	**61**	P	N	**Pn**	**19 26 42.8**		**-0.6**
MCHZ	**McNeill Hill**	**3.31**	**66**	P	N	**Pn**	**19 26 43.9**		**+0.5**
CKHZ	**Cape Kidnapper**	**3.49**	**71**	P	N	**Pn**	**19 26 46.4**		**+0.9**
NMHZ	**Naumai**	**3.55**	**62**	P	N	**Pn**	**19 26 46.5**		**+0.3**
FOZ	**Fox Glacier**	**3.56**	**219**	P	N	**Pn**	**19 26 44.9**		**-1.4**
ALRZ	**Allen Road**	**3.57**	**51**	P	N	**Pn**	**19 26 45.4**		**-1.1**
RAHZ	**Arahi**	**3.83**	**61**	P	N	**Pn**	**19 26 49.3**		**-0.3**
LBZ	**Lake Benmore**	**4.02**	**208**	P	N	**Pn**	**19 26 51.4**		**-0.4**
MKAZ	**Moumakai**	**4.17**	**27**	P	N	**Pn**	**19 26 54.0**		**+0.2**
KNZ	**Kokohu**	**4.18**	**66**	P	N	**Pn**	**19 26 53.3**		**-0.5**
URZ	**Urewera**	**4.23**	**54**	P	N	**Pn**	**19 26 52.7**		**-1.8**
MHGZ	**Mahia Peninsul**	**4.28**	**68**	P	N	**Pn**	**19 26 55.2**		**0.0**
PRGZ	**Paritu Road**	**4.37**	**65**	P	N	**Pn**	**19 26 54.6**		**-1.6**
JCZ	**Jackson Bay**	**4.39**	**221**	P	N	**Pn**	**19 26 55.9**		**-0.4**
MWZ	**Matawai**	**4.44**	**57**	P	N	**Pn**	**19 26 55.9**		**-1.2**
ODZ	**Otahua Downs**	**4.47**	**200**	P	N	**Pn**	**19 26 57.4**		**0.0**
CNGZ	**Carnagh Statio**	**4.80**	**62**	P	N	**Pn**	**19 27 01.2**		**-0.4**
WKZ	**Wanaka**	**4.84**	**214**	P	N	**Pn**	**19 27 00.9**		**-1.2**
PUZ	**Puketiti**	**5.06**	**59**	P	N	**Pn**	**19 27 03.3**		**-1.6**
EAZ	**Earnscleugh**	**5.07**	**209**	P	N	**Pn**	**19 27 03.4**		**-1.3**
MSZ	**Milford Sound**	**5.23**	**222**	P	N	**Pn**	**19 27 06.4**		**-0.5**
MXZ	**Matakaoa Point**	**5.40**	**54**	P	N	**Pn**	**19 27 07.7**		**-1.4**
TUZ	**Tuapeka**	**5.59**	**203**	P	N	**Pn**	**19 27 11.1**		**-0.4**
MLZ	**Mavora Lakes**	**5.62**	**215**	P	N	**Pn**	**19 27 11.5**		**-0.4**
WHZ	**Wether Hill Ro**	**6.15**	**213**	P	N	**Pn**	**19 27 17.3**		**-1.2**
SYZ	**Scrubby Hill**	**6.27**	**204**	P	N	**Pn**	**19 27 19.8**		**-0.3**
APZ	**The Paps**	**6.91**	**209**	P	N	**Pn**	**19 27 27.0**		**-1.3**
ASAR	**Alice Springs**	**36.73**	**286**	P		**P**	**19 32 37.0**		**+1.3**
	0.3nm,0.5s,mb3.1,baz=127,slow=7.2,SNR=12								
WRA	**Warramunga Arr**	**36.76**	**291**	P		**P**	**19 32 53.7**		**+0.9**
	0.2nm,0.3s,mb3.1,baz=126,slow=8.4,SNR=7.5								
TORD	**Torodi Ar. Bea**	**151.32**	**198**	PKPbc		PKPbc	19 45 16.0		-1.4
	0.2nm,0.4s,baz=132,slow=2.0,SNR=7.1								

WEL 16 19:42:11.8±0.5,**36.°42S×179.°77W,h33**km,**ML3.7/4,Error ellipse: s-maj=6.5km s-min=4.8km az=0.0,East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
MXZ	**Matakaoa Point**	**1.92**	**233**	P	N	Pn	19 42 41.0		-1.1
MXZ					SN	Sn	19 43 03.7		-1.3
PUZ	**Puketiti**	**2.28**	**223**	P	N	Pn	19 42 46.7		-0.4
CNGZ	**Carnagh Statio**	**2.61**	**217**	P	N	Pn	19 42 51.7		+0.1
MWZ	**Matawai**	**2.88**	**228**	P	N	Pn	19 42 54.8		-0.5
MWZ					SN	Sn	19 43 27.0		-1.7
URZ	**Urewera**	**3.09**	**233**	P	N	Pn	19 42 57.3		-0.9
URZ					SN	Sn	19 43 33.3		-0.7
PRGZ	**Paritu Road**	**3.12**	**216**	P	N	Pn	19 42 57.7		-0.8
KNZ	**Kokohu**	**3.29**	**217**	P	N	Pn	19 42 59.6		-1.3
BFZ	**Birch Farm**	**5.28**	**215**	P	SN	Sn	19 44 23.2		-4.7

*ISCJB **16** 19:59:23.6±0.8,1.°44N±0.°06×122.°26E±0.°05,h49km±9km, mb3.8/9,Error ellipse: s-maj=9.3km s-min=8.9km az=23.4*

*NEIC **16** 19:59:24.2±0.4,1.°30N×122.°12E,h35km,mb4.0/3,Error ellipse: s-maj=17.4km s-min=7.0km az=69.0*

*DJA **16** 19:59:24,1.°48N×122.°35E,h30km,mb4.3/5*

*IDC **16** 19:59:35.8±4.2,1.°20N×122.°18E,h148km±42km,mb3.4/7, mb1 3.5/9,mb1mx3.3/23,mbtmp3.5/9,Error ellipse: s-maj=48.6km s-min=12.1km az=73.0*

ISC 16 19:59:25.2±0.7,**1.°44N**±0.°06×**122.°29E**±0.°05,**h43**km±9km, **n35**,σ1.°**22**/36,**mb3.8**/9,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
MRSI	**Marisa**	**1.01**	**200**	P		**Pn**	**19 59 41.0**		**-2.0**
KMSI	**Cibinong**	**1.90**	**117**	P		**Pn**	**19 59 57.7**		**+2.6**
KMSI						**S**	**20 00 34.8**		**+17**
LUWI	**Luwuk**	**2.51**	**169**	P		**Pn**	**20 00 05.1**		**+1.6**
MNI	**Manado**	**2.55**	**90**	P		**Pn**	**20 00 04.0**		**-0.1**
MNI						**S**	**20 00 33.1**		**-0.8**
PCI	**Palu**	**3.38**	**227**	P		**Pn**	**20 00 10.0**		**-5.5**
MSSI	**Masamba**	**4.42**	**206**	P		**Pn**	**20 00 32.7**		**+2.8**
TTSI	**Tana Toraja**	**5.09**	**209**	P		**Pn**	**20 00 38.9**		**-0.1**
	3μm48nm,0.9s								
MYLDM	**Lahad Datu**	**5.30**	**315**	P		**Pn**	**20 00 41.7**		**-0.3**
	5μm21nm,1.8s								
SPSI	**Sidrap Palu**	**5.92**	**205**	P		**Pn**	**20 00 51.1**		**+0.6**
	37nm,0.7s								
DAV	**Davao City (W)**	**6.49**	**30**	P		Px	20 01 13.0		
	113nm,0.3s,baz=92,slow=9.1,SNR=4.8								
KAPI	**Kappang**	**6.89**	**202**	P		**Pn**	**20 01 00.0**		**-3.7**
KAPI	**Kappang**	**6.89**	**202**	P		**Pn**	**20 01 03.5**		**-0.2**
	13nm,0.7s								
BKSI	**Bulukumba**	**7.05**	**198**	P		**Pn**	**20 01 06.8**		**+0.8**
KKM	**Kota Kinabalu**	**7.59**	**307**	*e*P		**Pn**	**20 01 11.2**		**-2.2**
FITZ	**Fitzroy Crossi**	**19.69**	**171**	P		**Pn**	**20 03 49.9**		**-2.8**
	0.5nm,0.3s,baz=356,slow=6.1,SNR=26								
FITZ	**Fitzroy Crossi**	**19.69**	**171**	*e*P		**Pn**	**20 03 49.6**		**-3.1**
	2.2nm,0.5s								
WRA	**Warramunga Arr**	**24.31**	**152**	P		**P**	**20 04 38.1**		**-0.9**
	1.1nm,0.6s,mb3.4,baz=327,slow=10,SNR=29								
WRA	**Warramunga Arr**	**24.31**	**152**	P		**P**	**20 04 38.1**		**-0.9**
WB2	**Warramunga Arr**	**24.32**	**151**	*e*P		**P**	**20 04 37.1**		**-1.8**
ASAR	**Alice Springs**	**27.39**	**156**	P		**P**	**20 05 07.4**		**+0.6**
	0.3s,mb3.1,baz=346,slow=15,SNR=9.1								
ASAR	**Alice Springs**	**27.39**	**156**	P		**P**	**20 05 07.4**		**+0.6**
STKA	**Stephens Creek**	**37.85**	**153**	P		**P**	**20 06 36.7**		**-1.3**
	1.4nm,0.8s,mb3.8,baz=307,slow=13,SNR=5.2								
STKA	**Stephens Creek**	**37.85**	**153**	*e*P		**P**	**20 06 37.7**		**-0.3**
SONM	**Songino Array**	**48.23**	**346**	P		**P**	**20 08 02.8**		**+1.2**
	0.7nm,0.7s,mb3.8,baz=160,slow=8.4,SNR=7.9								
SONM	**Songino Array**	**48.23**	**346**	P		**P**	**20 08 02.8**		**+1.2**
MK31	**Makanchi Array**	**57.03**	**328**	*e*P		**P**	**20 09 07.6**		**+0.8**
MKAR	**Makanchi Array**	**57.03**	**328**	P		**P**	**20 09 07.5**		**+0.7**
	0.5nm,0.5s,mb3.8,baz=130,slow=9.5,SNR=9.9								
MKAR	**Makanchi Array**	**57.03**	**328**	P		**P**	**20 09 07.5**		**+0.7**
PETK	**Petropavlovsk**	**59.27**	**24**	P		**P**	**20 09 22.7**		**+0.4**
	1.0nm,0.4s,mb4.2,baz=126,slow=33,SNR=2.8								
PETK	**Petropavlovsk-**	**59.27**	**24**	P		**P**	**20 09 22.7**		**+0.4**
ZALV	**Zalesovo Beam**	**60.72**	**336**	P		**P**	**20 09 32.4**		**+0.2**
	0.2nm,0.4s,mb3.6,baz=131,slow=8.3,SNR=3.9								
ZALV	**Zalesovo Beam**	**60.72**	**336**	P		**P**	**20 09 32.4**		**+0.1**
KURK	**Kurchatov**	**61.39**	**330**	P		**P**	**20 09 36.8**		**0.0**
KURK	**Kurchatov**	**61.39**	**330**	*e*P		**P**	**20 09 36.9**		**+0.1**
	2.1nm,0.6s,mb4.4								
BRVK	**Borovoye**	**66.97**	**329**	*e*P		**P**	**20 10 13.2**		**-0.2**
	0.8nm,0.5s,mb4.0								

*ISCJB **16** 20:02:54.0±0.8,22.°7S±0.°2×69.°8E±0.°2,h10km,mb3.8/10, Error ellipse: s-maj=27.5km s-min=18.1km az=135.9*

*IDC **16** 20:02:54.4±1.1,22.°67S×69.°71E,h0km,mb3.9/10, mb1 4.0/10,mb1mx3.8/24,mbtmp3.9/10,Error ellipse: s-maj=35.3km s-min=22.1km az=47.0*

*NEIC **16** 20:02:55.9±0.7,22.°68S×69.°73E,h10km,Error ellipse: s-maj=24.6km s-min=16.2km az=47.0*

ISC 16 20:02:56.1±0.8,**22.°7S**±0.°2×**69.°8E**±0.°2,**h10**km,**n21**, σ0.°**86**/21,**mb3.8**/10,**Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
CMAR	**Chiang Mai Arr**	**49.86**	**37**	P		**P**	**20 11 49.3**		**-0.4**
	0.2nm,0.3s,mb3.6,baz=245,slow=27,SNR=1.5								
CMAR	**Chiang Mai Arr**	**49.86**	**37**	P		**P**	**20 11 49.3**		**-0.4**
FITZ	**Fitzroy Crossi**	**52.34**	**96**	P		**P**	**20 12 07.5**		**-1.0**
	1.7nm,0.8s,mb4.0,baz=340,slow=23,SNR=1.6								
FITZ	**Fitzroy Crossi**	**52.34**	**96**	P		**P**	**20 12 07.5**		**-1.0**
ASAR	**Alice Springs**	**58.52**	**105**	P		**P**	**20 12 54.1**		**+1.1**
	1.2nm,0.8s,mb4.0,baz=259,slow=6.0,SNR=13								
ASAR	**Alice Springs**	**58.52**	**105**	P		**P**	**20 12 54.1**		**+1.1**
WRA	**Warramunga Arr**	**59.81**	**101**	P		**P**	**20 13 02.1**		**+0.2**
	1.6nm,0.8s,mb4.1,baz=256,slow=6.8,SNR=14								
WRA	**Warramunga Arr**	**59.81**	**101**	P		**P**	**20 13 02.1**		**+0.2**
VNDA	**Vanda**	**68.48**	**166**	P		**P**	**20 13 57.6**		**-0.3**
	0.7nm,1.0s,mb3.6,baz=303,slow=6.7,SNR=1.9								
VNDA	**Vanda**	**68.48**	**166**	P		**P**	**20 13 57.6**		**-0.3**
MKAR	**Makanchi Array**	**70.07**	**9**	P		**P**	**20 14 07.8**		**-0.3**
	1.7nm,0.9s,mb4.0,baz=202,slow=6.0,SNR=8.3								
MKAR	**Makanchi Array**	**70.07**	**9**	P		**P**	**20 14 07.8**		**-0.3**
BRTR	**Keskin Array B**	**70.64**	**331**	P		**P**	**20 14 12.5**		**+0.7**
	0.3nm,0.7s,mb3.4,baz=13,slow=5.6,SNR=2.0								
BRTR	**Keskin Array B**	**70.64**	**331**	P		**P**	**20 14 12.5**		**+0.7**
ABKAR	**Akbulak array**	**72.14**	**353**	*e*P		**P**	**20 14 20.1**		**-0.5**
TORD	**Torodi Ar. Bea**	**75.55**	**291**	P		**P**	**20 14 41.3**		**0.0**
	0.7nm,1.0s,mb3.6,baz=136,slow=4.9,SNR=3.2								
TORD	**Torodi Ar. Bea**	**75.55**	**291**	P		**P**	**20 14 41.3**		**0.0**
ZALV	**Zalesovo Beam**	**77.41**	**9**	P		**P**	**20 14 49.9**		**-1.1**
	1.8nm,0.8s,mb4.1,baz=208,slow=5.0,SNR=8.5								
ZALV	**Zalesovo Beam**	**77.41**	**9**	P		**P**	**20 14 49.9**		**-1.1**
SONM	**Songino Array**	**77.53**	**24**	P		**P**	**20 14 53.8**		**+2.0**
	1.6nm,0.9s,mb3.9,baz=219,slow=3.8,SNR=5.6								
SONM	**Songino Array**	**77.53**	**24**	P		**P**	**20 14 53.8**		**+2.0**

*IDC **16** 20:20:11.0±0.8,1.°26N×122.°28E,h0km,mb3.7/8, mb1 3.9/9,mb1mx3.7/23,mbtmp3.8/9,ML4.0/1,MS4.5/1, Ms1 4.5/1,ms1mx3.1/33,Error ellipse: s-maj=114.6km s-min=15.2km az=66.0*

*DJA **16** 20:20:11,1.°89N×122.°02E,h30km,MLv4.4/9*

*NEIC **16** 20:20:16.0±0.

1.6nm,0.6s,baz=128,slow=9.2,SNR=7.9
MKAR Makanchi Array 57.12 328 P **P** **20 36 26.1 +0.5**
MKAR pP pP 20 36 36.4 -0.2
KBL Kabul 59.60 310 *eP* **P** **20 36 42.8 -0.4**
4.1nm,0.6s,mb4.6
ZALV Zalesovo Beam 60.80 336 P **P** **20 36 50.5 -0.4**
0.8nm,0.5s,mb4.1,baz=126,slow=6.8,SNR=6.6
ZALV pP pP 20 37 01.8 -0.2
0.5nm,0.3s,baz=97,slow=4.9,SNR=2.9
ZALV Zalesovo Beam 60.80 336 P **P** **20 36 50.5 -0.4**
ZALV pP pP 20 37 01.8 -0.2
KURK Kurchatov 61.48 330 P **P** **20 36 56.0 +0.3**
3.7nm,0.8s,mb4.6,baz=133,slow=6.5,SNR=18
KURK pP pP 20 37 06.0 -0.7
1.3nm,0.5s,baz=140,slow=6.5,SNR=5.7
KURK Kurchatov 61.48 330 *eP* **P** **20 36 55.7 +0.1**
KURK pP pP 20 37 06.0 -0.7
VNDA Vanda 81.71 172 P **P** **20 38 55.9 -1.1**
1.3nm,0.6s,mb4.0,baz=301,slow=5.3,SNR=14
VNDA Vanda 81.71 172 P **P** **20 38 55.9 -1.1**
TORD Torodi Ar. Bea 119.49 286 PKP PKPdf 20 45 28.4 -1.2
0.4nm,0.6s,baz=41,slow=3.1,SNR=3.0
TORD Torodi Ar. Bea 119.49 286 PKP PKPdf 20 45 28.4 -1.2

MEX 16 20:33:07.4±0.4, 17°54N×95°08W, h128km±4km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.48**	**157**	*i* P	Pn	20 33 24.8	-1.3
CMIG				*i* S	Sn	20 33 38.2	-2.1
VHO	**Vista Hermosa**	**1.65**	**254**	*i* P	Pn	20 33 35.9	-1.1
VHO				*i* S	Sn	20 33 58.7	-0.9
HUIG	**Huatulco**	**2.02**	**209**	*eP*	Pn	20 33 39.8	-1.7
HUIG				*i* S	Sn	20 34 05.7	-1.8
TGIG		**2.02**	**112**	*eP*	Pn	20 33 40.5	-1.0
TGIG				*i* S	Sn	20 34 06.2	-1.3
PCIG		**2.55**	**135**	*i* P	Pn	20 33 47.3	-0.9
PCIG				*i* S	Sn	20 34 17.9	-1.7
UTMO	**Huajuapan**	**2.61**	**277**	*i* P	Pn	20 33 47.8	-1.2
UTMO				*i* S	Sn	20 34 19.0	-1.8
CCIG	**Comitan**	**3.08**	**113**	*i* P	Pn	20 33 54.3	-0.7
CCIG				*i* S	Sn	20 34 29.7	-2.0

*IDC **16** 20:34:38.6±0.9, 1°37N×122°31E, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/23, mbtmp3.8/7, ML3.6/1, Error ellipse: s-maj=114.7km s-min=16.8km az=67.0*
*NEIC **16** 20:34:43.7±0.6, 1°30N×122°26E, h35km, mb3.8/1, Error ellipse: s-maj=26.4km s-min=9.4km az=74.0*
*ISCJB **16** 20:34:45.9±1.3, 1°25N±0.0°9×122°1E±0°1, h75km±12km, mb3.6/6, Error ellipse: s-maj=17.8km s-min=14.4km az=161.6*
*DJA **16** 20:34:53, 0°67N×122°12E, h30km, MLv4.1/5*
ISC 16 20:34:47.8±1.2, 1°21N±0°09×122°2E±0°1, h76km±13km, n26,σ1°06/23, mb3.6/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.76**	**198**	P	**Pn**	**20 34 58.8**	**-5.1**
KMSI	**Cibinong**	**1.91**	**109**	P	**Pn**	**20 35 18.6**	**+0.2**
LUWI	**Luwuk**	**2.31**	**165**	P	**Pn**	**20 35 23.6**	**-0.2**
MNI	**Manado**	**2.67**	**85**	P	Px	20 35 41.6	
TTSI	**Tana Toraja**	**4.83**	**209**	P	**Pn**	**20 35 58.8**	**+0.6**
KDI	**Kendari**	**5.15**	**175**	P	**Pn**	**20 36 03.0**	**+0.6**
SPSI	**Sidrap Palu**	**5.67**	**205**	P	**Pn**	**20 36 10.7**	**+1.1**
KAPI	**Kappang**	**6.64**	**201**	*eP*	**Pn**	**20 36 20.3**	**-2.5**
15nm,0.9s							
FITZ	**Fitzroy Crossi**	**19.48**	**170**	P	**Pn**	**20 39 08.9**	**-1.9**
0.1nm,0.3s,baz=33,slow=7.6,SNR=6.6							
FITZ	**Fitzroy Crossi**	**19.48**	**170**	*eP*	**Pn**	**20 39 08.4**	**-2.3**
WRA	**Warramunga Arr**	**24.16**	**151**	P	**P**	**20 39 56.7**	**-0.4**
2.7nm,0.9s,mb3.6,baz=334,slow=10,SNR=13							
WRA	**Warramunga Arr**	**24.16**	**151**	P	**P**	**20 39 56.7**	**-0.4**
WB2	**Warramunga Arr**	**24.17**	**151**	*eP*	**P**	**20 39 56.6**	**-0.5**
ASAR	**Alice Springs**	**27.22**	**156**	P	**P**	**20 40 26.9**	**+2.1**
0.6nm,0.7s,mb3.3,baz=344,slow=13,SNR=8.7							
ASAR	**Alice Springs**	**27.22**	**156**	P	**P**	**20 40 26.9**	**+2.1**
SONM	**Songino Array**	**48.42**	**346**	P	**P**	**20 43 21.5**	**-0.8**
0.9nm,0.7s,mb3.7,baz=158,slow=7.5,SNR=7.6							
SONM	**Songino Array**	**48.42**	**346**	P	**P**	**20 43 21.5**	**-0.8**
MK31	**Makanchi Array**	**57.16**	**328**	*eP*	**P**	**20 44 27.0**	**+0.3**
MKAR	**Makanchi Array**	**57.16**	**328**	P	**P**	**20 44 27.4**	**+0.6**
0.7nm,0.5s,mb3.9,baz=132,slow=8.3,SNR=9.9							
MKAR	**Makanchi Array**	**57.16**	**328**	P	**P**	**20 44 27.4**	**+0.6**
KURK	**Kurchatov**	**61.53**	**330**	P	**P**	**20 44 56.3**	**-0.5**
0.7nm,0.7s,mb3.8,baz=129,slow=6.2,SNR=9.4							
KURK	**Kurchatov**	**61.53**	**330**	P	**P**	**20 44 56.3**	**-0.5**
VNDA	**Vanda**	**81.55**	**172**	P	**P**	**20 46 57.5**	**+0.8**
0.8nm,0.8s,mb3.6,baz=330,slow=6.4,SNR=7.4							
VNDA	**Vanda**	**81.55**	**172**	*eP*	**P**	**20 46 57.2**	**+0.6**
0.6nm,0.6s,mb3.6							
TORD	**Torodi Ar. Bea**	**119.30**	**286**	PKP	PKPdf	20 53 31.4	+2.0
0.2nm,0.6s,baz=118,slow=1.1,SNR=1.4							
TORD	**Torodi Ar. Bea**	**119.30**	**286**	PKP	PKPdf	20 53 31.4	+2.0

IDC 16 20:39:51.5±1.5, 4°61S×137°21E, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.7/16, mbtmp3.8/6, ML3.7/2, Error ellipse: s-maj=47.2km s-min=28.4km az=95.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.49**	**190**	Pn	Pn	20 43 28.2	-3.3
1.3nm,0.3s,baz=11,slow=12,SNR=45							
FITZ	**Fitzroy Crossi**	**17.55**	**219**	P	Pn	20 43 56.1	-1.6
0.1nm,0.3s,baz=37,slow=14,SNR=4.1							
ASAR	**Alice Springs**	**19.21**	**189**	P	Pn	20 44 18.0	0.0
0.5nm,0.3s,baz=14,slow=9.8,SNR=34							
CMAR	**Chiang Mai Arr**	**44.14**	**302**	P	P	20 48 02.5	+0.4
0.6nm,0.7s,baz=125,slow=6.8,SNR=8.0							
MKAR	**Makanchi Array**	**70.39**	**323**	P	P	20 51 07.8	+0.4
0.7nm,0.5s,baz=103,slow=8.5,SNR=9.5							
KURK	**Kurchatov**	**74.42**	**326**	P	P	20 51 30.8	-0.6
0.4nm,0.8s,baz=104,slow=4.2,SNR=3.3							
ILAR	**Eielson Array**	**88.17**	**25**	P	P	20 52 44.0	-0.1
0.9nm,0.7s,baz=266,slow=4.6,SNR=13							
DIB	**Dawson Inlet,**	**93.84**	**37**	T		22 34 37.1	
SNR=1139							

DJA 16 20:42:25, 0°16N×121°69E, h30km, MLv3.7/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**1.61**	**138**	P	Pn	20 42 51.8	+0.4
KMSI	**Cibinong**	**2.33**	**80**	P	Pn	20 42 59.8	-1.5
MNI	**Manado**	**3.40**	**68**	P	Pn	20 43 17.5	+1.5
TTSI	**Tana Toraja**	**3.69**	**210**	P	Pn	20 43 19.6	-0.5
SPSI	**Sidrap Palu**	**4.52**	**205**	P	Pn	20 43 32.3	+0.8

KRSC 16 21:28:18.8±0.8, 50°30N×156°77E, h5km±5km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALID	**Alaid**	**0.96**	**307**	*eP*	Pg	21 28 38.5	+1.2
ALID				*eS*	Sg	21 28 52.3	+2.5
GRL	**Gorelyy**	**2.40**	**19**	P	Pn	21 28 58.3	-0.4
RUS	**Russkaya**	**2.40**	**26**	*eP*	Pn	21 29 00.6	+1.9
RUS				*eS*	Sn	21 29 31.2	+2.8
PET	**Petropavlovsk**	**2.97**	**23**	S	Sn	21 29 45.3	+2.8
SDLR	**Sedlovina**	**3.26**	**23**	P	Pn	21 29 12.6	+2.1
NLC	**Nalytchevo**	**3.29**	**28**	S	Sn	21 29 51.4	+1.0
SPN	**Mys Shipunski**	**3.46**	**35**	P	Pn	21 29 15.0	+1.8
SPN				S	Sn	21 29 57.2	+2.7
GNL	**Ganaly**	**3.48**	**12**	P	Pn	21 29 17.0	+3.5
MKZ	**Mys Kozlova**	**5.23**	**34**	P	Pn	21 29 38.5	+0.9
MKZ				S	Sn	21 30 38.3	+0.1

*IDC **16** 21:34:03.9±2.0, 7°.15S×150°.81E, h0km, mb3.8/6, mb1 4.1/7, mb1mx3.8/18, mbtmp3.9/7, ML2.5/1, Error ellipse: s-maj=80.6km s-min=21.4km az=128.0*
*ISCJB **16** 21:34:12.8±3.9, 7°.2S±0°.2×150°.5E±0°.3, h91km±28km, mb3.7/5, Error ellipse: s-maj=58.2km s-min=24.0km az=32.1*
*NEIC **16** 21:34:19.7±1.2, 6°.04S×148°.25E, h35km, mb3.9/2, Error ellipse: s-maj=33.8km s-min=12.7km az=102.0*
ISC 16 21:34:13.7±3.7, 7°.1S±0°.2×150°.5E±0°.3, h83km±27km, n23, σ1°04/22, mb3.7/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.04**	**234**	Pn	**Pn**	**21 35 11.9**	**-1.3**
1.9nm,0.3s,baz=55,slow=6.8,SNR=4.5							
PMG				Sn	**Sn**	**21 36 00.8**	**+1.4**
8.0nm,0.3s,baz=198,slow=20,SNR=10							
PMG	**Port Moresby**	**4.04**	**234**	Pn	**Pn**	**21 35 11.9**	**-1.3**
PMG				Sn	**Sn**	**21 36 00.8**	**+1.4**
WRAB	**Tennant Creek**	**20.22**	**229**	*eP*	**P**	**21 38 42.0**	**-0.2**
2.7nm,0.7s							
WB2	**Warramunga Arr**	**20.23**	**229**	*eP*	**P**	**21 38 42.0**	**-0.3**
WRA	**Warramunga Arr**	**20.24**	**229**	P	**P**	**21 38 42.5**	**+0.1**
1.6nm,0.6s,baz=47,slow=10,SNR=17							
WRA	**Warramunga Arr**	**20.24**	**229**	P	**P**	**21 38 42.5**	**+0.1**
ASAR	**Alice Springs**	**22.95**	**222**	P	**P**	**21 39 12.3**	**+1.1**
1.7nm,0.6s,mb3.5,baz=56,slow=8.7,SNR=18							
ASAR	**Alice Springs**	**22.95**	**222**	P	**P**	**21 39 12.3**	**+1.1**
FITZ	**Fitzroy Crossi**	**26.58**	**243**	P	**P**	**21 39 45.2**	**+0.9**
2.4nm,0.4s,mb4.1,baz=62,slow=7.5,SNR=25							
FITZ	**Fitzroy Crossi**	**26.58**	**243**	*eP*	**P**	**21 39 43.1**	**-1.2**
2.5nm,0.4s,mb4.1							
MBWA	**Marble Bar**	**32.87**	**242**	*eP*	**P**	**21 40 38.0**	**-2.0**
SBA	**Scott Base**	**71.28**	**176**	*eP*	PcP	21 45 42.5	-0.6
7.6nm,1.0s							
MKAR	**Makanchi Array**	**80.52**	**320**	P	**P**	**21 46 21.2**	**+4.4**
1.2nm,0.9s,mb3.7,baz=196,slow=35,SNR=2.5							
MKAR	**Makanchi Array**	**80.52**	**320**	P	**P**	**21 46 21.2**	**+4.4**
ZALV	**Zalesovo Beam**	**81.75**	**327**	P	**P**	**21 46 24.9**	**+1.7**
0.4nm,0.5s,mb3.5,baz=101,slow=8.0,SNR=2.5							
ZALV	**Zalesovo Beam**	**81.75**	**327**	P	**P**	**21 46 24.9**	**+1.7**
KURK	**Kurchatov**	**84.13**	**323**	P	**P**	**21 46 35.2**	**-0.3**
AAK	**Ala-Archa**	**84.55**	**314**	*eP*	**P**	**21 46 37.4**	**-0.5**
EKS2	**Erkin-Say**	**85.06**	**314**	*eP*	**P**	**21 46 39.9**	**-0.6**
ILAR	**Eielson Array**	**85.10**	**22**	P	**P**	**21 46 41.0**	**+0.9**
0.8nm,0.8s,mb3.7,baz=252,slow=4.4,SNR=5.5							
ILAR	**Eielson Array**	**85.10**	**22**	P	**P**	**21 46 41.0**	**+0.9**
TORD	**Torodi Ar. Bea**	**148.70**	**284**	PKPbc	PKPbc	21 53 54.8	+2.3
1.5nm,0.6s,baz=53,slow=2.9,SNR=20							
TORD	**Torodi Ar. Bea**	**148.70**	**284**	PKPbc	PKPbc	21 53 54.8	+2.3

*IDC **16** 21:37:55.6±0.9, 1°.25N×121°.86E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.8/22, mbtmp4.0/7, ML4.1/1, Error ellipse: s-maj=127.2km s-min=15.8km az=66.0*
*DJA **16** 21:37:59, 1°40N×122°24E, h10km, MLv4.6/10*
*ISCJB **16** 21:38:00.6±0.7, 1°48N±0°05×122°20E±0°04, h56km±8km, mb4.1/11, Error ellipse: s-maj=7.8km s-min=7.3km az=26.1*
*NEIC **16** 21:38:00.3±1.3, 1°24N×121°96E, h35km±13km, mb4.3/6, Error ellipse: s-maj=16.6km s-min=5.1km az=57.0*
ISC 16 21:38:02.3±0.7, 1°48N±0°05×122°24E±0°05, h54km±7km, n44,σ1°14/47, mb4.1/11, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**1.04**	**197**	P	**Pn**	**21 38 15.5**	**-5.2**
MRSI				S	**Sn**	**21 38 26.7**	**-7.5**
KMSI	**Cibinong**	**1.96**	**117**	P	**Pn**	**21 38 33.9**	**+0.7**
LUWI	**Luwuk**	**2.56**	**168**	P	**Pn**	**21 38 41.2**	**-0.2**
MNI	**Manado**	**2.60**	**91**	P	**Pn**	**21 38 42.2**	**+0.2**
MNI				S	**Sn**	**21 39 12.3**	**-0.1**
MSSI	**Masamba**	**4.44**	**206**	P	**Pn**	**21 39 08.5**	**+1.3**
TTSI	**Tana Toraja**	**5.10**	**208**	P	**Pn**	**21 39 15.2**	**-1.1**
0.7nm2μm153nm,0.9s							
TTSI				S	**Sn**	**21 40 15.7**	**+1.8**
0.7nm2μm153nm,0.9s							
MYLDM	**Lahad Datu**	**5.24**	**315**	P	**Pn**	**21 39 16.4**	**-1.8**
0.3nm77nm,0.8s							
KDI	**Kendari**	**5.41**	**176**	P	**Pn**	**21 39 19.2**	**-1.3**
0.2nm797nm78nm,1.6s							
SPSI	**Sidrap Palu**	**5.94**	**205**	P	**Pn**	**21 39 26.0**	**-1.8**
712nm66nm,1.1s							
MJSI	**Majene**	**5.96**	**213**	P	**Pn**	**21 39 29.9**	**+1.8**
0.5nm1μm47nm,1.3s							
NLAI	**Namlea**	**6.75**	**134**	P	**Pn**	**21 39 38.5**	**-0.4**
0.2nm1μm40nm,0.6s							
KAPI	**Kappang**	**6.91**	**201**	*ePn*	**Pn**	**21 39 34.5**	**-6.6**
BBSI	**Bau Bau**	**6.93**	**177**	P	**Pn**	**21 39 42.0**	**+0.7**
0.2nm832nm76nm,1.1s							
BKSI	**Bulukumba**	**7.08**	**197**	P	**Pn**	**21 39 44.9**	**+1.5**
KKM	**Kota Kinabalu**	**7.53**	**307**	*ePn*	**Pn**	**21 39 46.7**	**-2.9**
10nm,0.6s							
KKM	**Kota Kinabalu**	**7.53**	**307**	P	**Pn**	**21 39 50.8**	**+1.2**
KBKI	**Kotabaru**	**7.70**	**232**	P	**Pn**	**21 39 58.9**	**+7.0**
FITZ	**Fitzroy Crossi**	**19.74**	**170**	P	**Pn**	**21 42 25.3**	**-4.4**
0.4nm,0.3s,baz=359,slow=17,SNR=12							
FITZ	**Fitzroy Crossi**	**19.74**	**170**	*eP*	**Pn**	**21 42 25.3**	**-4.4**
4.4nm,0.8s							
KULM	**Kulm**	**21.88**	**280**	*eP*	**P**	**21 42 48.5**	**-2.4**
WRAB	**Tennant Creek**	**24.37**	**151**	*eP*	**P**	**21 43 14.3**	**-1.3**
1.9nm,0.4s,mb3.9							
WRA	**Warramunga Arr**	**24.37**	**151**	P	**P**	**21 43 14.0**	**-1.6**
3.0nm,0.5s,mb4.0,baz=326,slow=11,SNR=32							
WRA	**Warramunga Arr**	**24.37**	**151**	P	**P**	**21 43 14.0**	**-1.6**
WB2	**Warramunga Arr**	**24.38**	**151**	*eP*	**P**	**21 43 14.4**	**-1.2**
COEN	**Coen**	**25.80**	**127**	*eP*	**P**	**21 43 28.6**	**0.0**
ASAR	**Alice Springs**	**27.45**	**156**	P	**P**	**21 43 44.0**	**+0.6**
0.8nm,0.4s,mb3.6,baz=344,slow=14,SNR=16							
ASAR	**Alice Springs**	**27.45**	**156**	P	**P**	**21 43 44.0**	**+0.6**
CTAO	**Charters Tower**	**31.84**	**134**	*eP*	**P**	**21 44 22.6**	**+0.3**
STKA	**Stephens Creek**	**37.91**	**153**	P	**P**	**21 45 15.4**	**+0.9**
2.0nm,0.8s,mb3.9,baz=333,slow=10,SNR=3.9							
CAN	**Canberra**	**44.34**	**148**	*eP*	**P**	**21 46 07.3**	**0.0**
10nm,0.9s,mb4.5							
ULN	**Ulaanbaatar**	**48.04**	**346**	*eP*	**P**	**21 46 37.6**	**+1.4**
4.1nm,1.2s,mb4.3							
SONM	**Songino Array**	**48.17**	**346**	P	**P**	**21 46 39.3**	**+2.1**
1.2nm,0.4s,mb4.2,baz=165,slow=9.9,SNR=12							
SONM	**Songino Array**	**48.17**	**346**	P	**P**	**21 46 39.3**	**+2.1**
MK31	**Makanchi Array**	**56.96**	**328**	*eP*	**P**	**21 47 42.5**	**+0.2**
MKAR	**Makanchi Array**	**56.96**	**328**	P	**P**	**21 47 43.1**	**+0.8**
0.6nm,0.4s,mb4.0,baz=127,slow=7.9,SNR=15							
MKAR	**Makanchi Array**	**56.96**	**328**	P	**P**	**21 47 43.1**	**+0.8**
TKM2	**Tokmak 2**	**58.56**	**321**	*eP*	**P**	**21 47 54.0**	**+0.4**
AAK	**Ala-Archa**	**59.11**	**320**	*eP*	**P**	**21 47 57.9**	**+0.5**
EKS2	**Erkin-Say**	**59.58**	**320**	*eP*	**P**	**21 48 00.8**	**+0.2**
ZALV	**Zalesovo Beam**	**60.66**	**336**	P	**P**	**21 48 07.8**	**0.0**
0.8nm,0.4s,mb4.2,baz=123,slow=5.5,SNR=9.4							
ZALV	**Zalesovo Beam**	**60.66**	**336**	P	**P**	**21 48 07.8**	**0.0**
KURK	**Kurchatov**	**61.32**	**330**	*eP*	**P**	**21 48 12.1**	**-0.3**
5.2nm,1.0s,mb4.6							
BRVK	**Borovoye**	**66.90**	**329**	*eP*	**P**	**21 48 49.0**	**+0.1**
5.5nm,0.7s,mb4.1							
LBTB	**Lobatse**	**96.64**	**245**	*eP*	**P**	**21 51 25.2**	**-2.0**

MAN 16 21:38:44, 13°.50N×122°.76E, h32km, mb3.9, ML2.7, MS2.3, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AUQP	**San Andres**	**0.19**	**205**	*eP*	Pb	21 38 51.5	+1.1
AUQP				*eS*	Sb	21 38 57.2	+2.6
GQP	**Guinayangan**	**0.51**	**323**	*i* P	Pb	21 38 55.1	+0.5
GQP				*eS*	Sb	21 39 03.4	+1.5
BOAC	**Boac**	**0.89**	**268**	*eP*	Pn	21 39 03.7	+3.4
PVCP	**Virac**	**1.36**	**86**	*eP*	Pn	21 39 07.2	+0.4

IDC 16 21:43:53.1±6.9, 21°28S×175°09W, h0km, mb4.2/6, mb1 4.3/6, mb1mx4.0/20, mbtmp4.2/6, Error ellipse: s-maj=172.9km s-min=83.7km az=127.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.13**	**265**	P	P	21 50 58.9	+1.7
1.7nm,0.5s,baz=100,slow=11,SNR=4.5							
STKA	**Stephens Creek**	**39.92**	**245**	P	P	21 51 29.1	0.0
3.3nm,0.8s,baz=80,slow=9.9,SNR=6.0							
ASAR	**Alice Springs**	**46.99**	**257**	P	P	21 52 25.8	-0.5
3.6nm,0.9s,baz=90,slow=8.5,SNR=33							
WRA	**Warramunga Arr**	**47.19**	**262**	P	P	21 52 27.1	-0.7
6.3nm,0.8s,baz=100,slow=8.7,SNR=52							
FITZ	**Fitzroy Crossi**	**55.62**	**262**	P	P	21 53 30.8	-0.3
1.3nm,0.6s,baz=120,slow=8.1,SNR=7.0							
CMAR	**Chiang Mai Arr**	**92.94**	**289**	P	P	21 57 08.8	+0.1
0.2nm,0.4s,baz=114,slow=2.2,SNR=4.5							

*IDC **16** 21:53:51.1±1.2, 54°.20N×168°.45E, h0km, mb3.5/6, mb1 3.9/7, mb1mx3.6/26, mbtmp3.5/7, ML3.6/1, Error ellipse: s-maj=27.2km s-min=16.7km az=17.0*
*MOS **16** 21:53:53.6±0.9, 54°.00N×168°.54E, h27km, mb4.0/1, Error ellipse: s-maj=23.1km s-min=16.3km az=23.6*
*ISCJB **16** 21:53:55.3±0.9, 53°.98N±0°.08×168°.36E±0°.08, h50km±12km, mb3.5/6, Error ellipse: s-maj=12.7km s-min=7.5km az=4.5*
*KRSC **16** 21:53:58.4±1.1, 53°.92N×167°.77E, h21km±20km, ML4.3*
ISC 16 21:53:56.7±0.9, 53°93N±0°08×168°36E±0°08, h43km±12km, n33,σ1°69/46, mb3.5/6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.89**	**314**	*eP*	**Pn**	**21 54 25.8**	**-0.6**
BKI				*eS*	**Sn**	**21 54 45.8**	**-3.2**
BKI	**Bering**	**1.89**	**314**	PN	**Pn**	**21 54 25.8**	**-0.6**
BKI				S	**Sn**	**21 54 45.8**	**-3.2**
FX1	**Attu Island--F**	**3.06**	**108**	Pn	**Pn**	**21 54 40.6**	**-1.9**
23nm,0.3s,baz=335,slow=6.1,SNR=47							
FX1				Sn	**Sn**	**21 55 14.5**	**-3.3**
64nm,0.3s,baz=171,slow=21,SNR=12							
FX1	**Attu Island--F**	**3.06**	**108**	PN	**Pn**	**21 54 40.6**	**-1.9**
FX1						21 55 14.5	
FX1				pmax	pmax		
comp=Z,23nm,0.3s							
FX1				smax			
comp=N,64nm,0.3s							
KBTR	**Krutoberegovo**	**3.92**	**308**	*eP*	**Pn**	**21 54 54.7**	**+0.4**
KBTR				*eS*	**Sn**	**21 55 35.5**	**-3.5**
KBTR	**Krutoberegovo**	**3.92**	**308**	PN	**Pn**	**21 54 54.7**	**+0.4**
MKZ	**Mys Kozlova**	**3.94**	**282**	*eP*	**Pn**	**21 54 54.9**	**+0.3**
MKZ				*eS*	**Sn**	**21 55 36.5**	**-3.0**
MKZ	**Mys Kozlova**	**3.94**	**282**	PN	**Pn**	**21 54 54.9**	**+0.3**
BDR	**Baidarnaya**	**4.87**	**306**	P	**Pn**	**21 55 10.6**	**+3.3**
BDR				S	**Sn**	**21 56 03.5**	**+1.1**
TUMR	**Tumrok**	**4.96**	**289**	P	**Pn**	**21 55 11.0**	**+2.4**
TUMR				S	**Sn**	**21 56 04.4**	**-0.3**
KMNR	**Kamenistaya**	**5.04**	**295**	P	**Pn**	**21 55 11.4**	**+1.8**
SPN	**Mys Shipunski**	**5.04**	**264**	S	**Sn**	**21 56 03.1**	**-3.5**
KII	**Karymskiy**	**5.26**	**275**	P	**Pn**	**21 55 13.9**	**+1.2**
KII				S	**Sn**	**21 56 10.4**	**-1.5**
NLC	**Nalytchevo**	**5.43**	**266**	P	**Pn**	**21 55 15.5**	**+0.5**
NLC				*eS*	**Sn**	**21 56 12.3**	**-3.8**
NLC	**Nalytchevo**	**5.43**	**266**	PN	**Pn**	**21 55 15.5**	**+0.5**
SRDR	**Sredinnyy**	**5.51**	**299**	P	**Pn**	**21 55 19.6**	**+3.6**
AVH	**Avacha**	**5.77**	**267**	*eP*	**Pn**	**21 55 21.2**	**+1.6**
AVH				S	**Sn**	**21 56 21.0**	**-3.4**
PET	**Petropavlovsk**	**5.87**	**265**	S	**Sn**	**21 56 26.1**	**-0.8**
RUS	**Russkaya**	**6.11**	**260**	*eP*	**Pn**	**21 55 24.9**	**+0.6**
RUS				S	**Sn**	**21 56 29.9**	**-2.9**
RUS	**Russkaya**	**6.11**	**260**	PN	**Pn**	**21 55 24.9**	**+0.6**
GNL	**Ganaly**	**6.18**	**272**	*eP*	**Pn**	**21 55 27.4**	**+2.2**
GNL				S	**Sn**	**21 56 33.4**	**-1.1**
PETK	**Petropavlovsk-**	**6.41**	**267**	Pn	**Pn**	**21 55 31.0**	**+2.5**
comp=N,1.5nm,0.3s,baz=94,slow=20,SNR=14							
PETK				Sn	**Sn**	**21 56 44.0**	**+3.8**
comp=N,2.0nm,0.3s,baz=267,slow=22,SNR=6.5							
PETK	**Petropavlovsk-**	**6.41**	**267**	PN	**Pn**	**21 55 31.0**	**+2.5**
PETK				pmax	pmax		
comp=Z,2.0nm,0.3s							
ILAR	**Eielson Array**	**24.69**	**46**	P	**P**	**21 59 11.3**	**-1.8**
comp=Z,0.7nm,0.6s,mb3.4,baz=252,slow=7.3,SNR=15							
ILAR	**Eielson Array**	**24.69**	**46**	P	**P**	**21 59 11.4**	**-1.8**
NVAR	**Mina Array Bea**	**50.78**	**76**	P	**P**	**22 02 50.3**	**-1.9**
comp=Z,0.2nm,0.6s,mb3.2,baz=298,slow=7.9,SNR=2.4							
PDAR	**Pinedale Array**	**52.73**	**66**	P	**P**	**22 03 07.0**	**+0.2**
comp=Z,0.3nm,0.6s,mb4.4,baz=322,slow=5.7,SNR=1.9							
TXAR	**Lajitas Array**	**65.72**	**73**	P	**P**	**22 04 36.6**	**-0.1**
comp=Z,0.4nm,0.7s,mb3.6,baz=298,slow=2.9,SNR=5.3							
TXAR	**Lajitas Array**	**65.72**	**73**	P	**P**	**22 04 36.6**	**-0.1**
WRA	**Warramunga Arr**	**79.18**	**212**	P	**P**	**22 05 58.1**	**+1.3**
comp=Z,0.4nm,0.8s,mb3.4,baz=26,slow=6.2,SNR=2.8							
WRA	**Warramunga Arr**	**79.18**	**212**	P	**P**	**22 05 58.1**	**+1.4**
ASAR	**Alice Springs**	**82.80**	**212**	P	**P**	**22 06 18.6**	**+2.7**
comp=Z,0.6nm,0.8s,mb3.7,baz=20,slow=4.7,SNR=5.2							
ASAR	**Alice Springs**	**82.80**	**212**	P	**P**	**22 06 18.6**	**+2.7**
ASAR			

JAGI	Jajag, Banyuwa	4.42	127	P		P		22 04 53.4	-1.0
NBBI	Negara	4.75	123	P		P		22 04 56.7	-0.3
BBKI	Banjar Baru	4.85	61	P		P		22 04 57.9	0.0
SRBI	Singaraja	5.12	116	P		P		22 05 00.5	+0.4
	1.1nm3µm353nm,0.8s								
BLSI	Bandar Lampung	5.33	275	P		P		22 05 02.0	+0.1
	0.7nm2µm160nm,0.7s								
IGBI	Denpasar	5.42	124	P		P		22 05 02.1	-0.6
	1.9nm6µm198nm,0.8s								
KHKI	Kahang-Kahang	5.60	117	P		P		22 05 03.9	-0.3
	0.6nm170nm,1.1s								
STKI	Sintang	5.91	9	P		P		22 05 08.0	+0.9
	2.5nm48nm,0.9s								
KLSI		5.93	281	P		P		22 05 07.5	+0.3
	0.2nm56nm,1.6s								
KBKI	Kotabaru	6.11	66	P		P		22 05 09.5	+0.7
	0.3nm2µm102nm,1.0s								
MTNI	Mataram	6.21	117	P		P		22 05 08.5	-1.2
	3.4nm256nm,0.7s								
MDSI	Maura Dua	6.51	281	P		P		22 05 12.9	+0.4
	0.2nm66nm,0.7s								
LWLI	Liwa	6.54	277	P		P		22 05 12.5	-0.3
	1.2nm5µm365nm,0.7s								
XMIS	Christmas Isla	6.72	226	P		P		22 05 15.6	+1.1
	3.2nm1µm,0.9s								
MNAI	Manna	7.73	280	P		P		22 05 24.6	+0.5
	2.0nm490nm,0.6s								
KSI	Kapahiang	8.24	285	P		P		22 05 29.9	+0.7
	0.7nm95nm,0.5s								
SBUM	Sibu	8.38	11	P		P		22 05 31.3	+0.8
	0.2nm626nm72nm,0.8s								
KAPI	Kappang	9.17	85	*e*P		P		22 05 36.8	-1.6
	40nm,0.9s								
KAPI				S		S		22 07 23.6	-1.2
BTM	Bintulu	9.30	16	P		P		22 05 38.7	-1.1
SPSI	Sidrap Palu	9.34	79	P		P		22 05 39.8	-0.3
	18nm,0.8s								
BKSI	Bulukumba	9.51	87	P		P		22 05 42.2	+0.3
	24nm,0.7s								
TTSI	Tana Toraja	9.62	74	P		P		22 05 44.1	+1.2
	2µm23nm,1.0s								
MSSI	Masamba	10.25	72	P		P		22 05 50.8	+1.5
	242nm,0.8s								
KGM	Kluang	10.63	317	P		P		22 05 44.4	-8.9
BBSI	Bau Bau	11.94	89	P		P		22 06 07.9	+1.2
	67nm,0.8s								
KDI	Kendari	12.14	82	P		P		22 06 10.3	+1.5
	614nm25nm,1.0s								
TSM	Tawau	12.41	36	P		P		22 06 12.4	+0.9
KKM	Kota Kinabalu	13.06	26	P		P		22 06 17.0	-1.2
KKM	Kota Kinabalu	13.06	26	P		P		22 06 17.5	-0.7
KKM	Kota Kinabalu	13.06	26	*e*P		P		22 06 17.3	-0.9
	27nm,0.4s								
LUWI	Luwuk	13.06	69	P		P		22 06 20.0	+1.8
SDKM	Sandakan	13.16	30	P		P		22 06 18.9	-0.3
MYLDM	Lahad Datu	13.49	36	P		P		22 06 25.4	+2.8
KDM	Kudat	14.11	26	P		P		22 06 27.0	-2.0
PSI	Prapat	14.45	306	P		P		22 06 33.9	+1.4
	1.1nm,0.3s,baz=111,slow=8.6,SNR=5.1								
PSI	Prapat	14.45	306	P		P		22 06 33.9	+1.4
FITZ	Fitzroy Crossi	19.11	131	P		P		22 07 16.6	+0.4
	0.4nm,0.3s,baz=310,slow=7.6,SNR=12								
FITZ	Fitzroy Crossi	19.11	131	*e*P		P		22 07 16.6	+0.3
	4.0nm,0.5s								
FITZ	Fitzroy Crossi	19.11	131	P		P		22 07 16.6	+0.4
MEEK	Meekatharra	22.08	161	*e*P		P		22 07 43.8	+0.9
	25nm,0.3s,mb5.3								
KLBR	Kellerberrin	26.51	166	*e*P		P		22 08 22.9	+0.8
	7.9nm,0.5s,mb4.6								
CMAR	Chiang Mai Arr	26.71	335	P		P		22 08 25.6	+1.6
	1.4nm,0.6s,mb3.8,baz=170,slow=8.5,SNR=10								
CMAR				PcP		PcP		22 11 30.1	+1.3
	1.6nm,0.8s,baz=189,slow=2.6,SNR=8.9								
CMAR	Chiang Mai Arr	26.71	335	P		P		22 08 25.6	+1.6
CMAR				PcP		PcP		22 11 30.1	+1.3
WRA	Warramunga Arr	27.03	123	P		P		22 08 27.0	+0.2
	2.2nm,0.4s,mb4.1,baz=305,slow=9.1,SNR=47								
WRA				PcP		PcP		22 11 29.7	+0.1
	1.2nm,0.4s,baz=325,slow=2.0,SNR=15								
WRA				S		S		22 12 21.7	-4.1
	3.9nm,0.8s,baz=297,slow=18,SNR=16								
WRA	Warramunga Arr	27.03	123	P		P		22 08 27.0	+0.2
WRA				PcP		PcP		22 11 29.7	+0.1
WRA				S		S		22 12 21.7	-4.2
WB2	Warramunga Arr	27.04	123	*e*P		P		22 08 26.8	-0.1
WB2				*e*S		S		22 12 21.4	-4.6
KMBL	Kambalda	27.54	159	*e*P		P		22 08 31.5	+0.4
	41nm,0.5s,mb5.3								
NWAO	Narrogin (SRO)	27.68	168	P		P		22 08 33.2	+0.9
	6.8nm,0.5s,mb4.5,baz=322,slow=5.1,SNR=7.0								
NWAO	Narrogin (SRO)	27.68	168	P		P		22 08 33.2	+0.9
ASAR	Alice Springs	28.61	131	P		P		22 08 40.9	+0.2
	1.6nm,0.3s,mb4.1,baz=306,slow=7.9,SNR=42								
ASAR				PcP		PcP		22 11 33.9	+0.3
	0.9nm,0.4s,baz=317,slow=2.4,SNR=8.7								
ASAR				S		S		22 12 47.8	-2.7
	1.6nm,0.7s,baz=301,slow=14,SNR=11								
ASAR	Alice Springs	28.61	131	P		P		22 08 40.9	+0.2
ASAR				PcP		PcP		22 11 33.9	+0.3
ASAR				S		S		22 12 47.8	-2.7
SSLB	Suanglung	31.12	19	*e*P		P		22 09 00.7	-1.5
	25nm,0.7s,mb4.8								
CTA	Charters Tower	37.44	116	P		P		22 09 56.3	+1.2
	1.8nm,0.5s,mb3.8,baz=275,slow=9.2,SNR=3.3								
CTA	Charters Tower	37.44	116	P		P		22 09 56.3	+1.2
STKA	Stephens Creek	38.89	136	P		P		22 10 07.4	+0.6
	22nm,0.6s,mb4.9,baz=315,slow=8.2,SNR=74								
STKA				PP		PP		22 11 58.7	+4.6
	2.8nm,0.6s,baz=311,slow=9.7,SNR=2.5								
STKA				PcP		PcP		22 12 03.7	+0.5
	2.8nm,0.6s,baz=309,slow=18,SNR=3.9								
STKA	Stephens Creek	38.89	136	*e*P		P		22 10 07.4	+0.7
	12nm,0.4s,mb4.8								
STKA	Stephens Creek	38.89	136	P		P		22 10 07.4	+0.6
STKA				PP		PP		22 11 58.7	+4.6
STKA				PcP		PcP		22 12 03.7	+0.5
ODAN	Odare	39.49	326	*e*P		P		22 10 12.1	+0.5
	26nm,0.5s,mb5.0								
TAPN	Taplejung	39.70	327	*e*P		P		22 10 14.3	+1.0
	28nm,0.7s,mb4.9								
LSA	Lhasa	39.94	333	*e*P		P		22 10 15.8	+0.6
	5.2nm,0.6s,mb4.2								
GUN	Gumba	41.15	326	*e*P		P		22 10 25.4	+0.6
	30nm,0.5s,mb5.1								
PKI	Pulchoki	41.15	325	*e*P		P		22 10 24.5	-0.3
	3.6nm,0.3s,mb4.4								
PKIN	Phulchoki	41.16	325	*e*P		P		22 10 24.6	-0.3
	6.4nm,0.4s,mb4.5								
DMN	Daman	41.35	325	*e*P		P		22 10 26.6	+0.2
	18nm,0.4s,mb5.0								
KKN	Kakani	41.39	325	*e*P		P		22 10 26.8	+0.1
	7.8nm,0.6s,mb4.4								
GKN	Gorkha	41.92	325	*e*P		P		22 10 30.9	0.0
	23nm,0.3s,mb5.2								
KOLN	Koldanda	42.35	323	*e*P		P		22 10 33.9	-0.4
	17nm,0.3s,mb5.0								
DANN	Dangsing	42.69	324	*e*P		P		22 10 37.0	+0.1
	30nm,0.6s,mb5.0								
KSRS	Korea Array	45.99	19	P		P		22 11 03.1	+0.9
	1.7nm,0.8s,mb3.6,baz=183,slow=8.2,SNR=4.1								
MJAR	Matsushiro Arr	49.45	29	P		P		22 11 26.4	-1.6
	4.3nm,0.8s,mb4.0,baz=210,slow=9.3,SNR=11								
MJAR	Matsushiro Arr	49.45	29	P		P		22 11 26.4	-1.7
SONM	Songino Array	53.55	356	P		P		22 11 57.4	0.0
	0.5nm,0.5s,baz=175,slow=8.0,SNR=8.5								
SONM				PcP		PcP		22 12 55.2	+0.2
	0.9nm,0.6s,baz=176,slow=3.7,SNR=7.4								
SONM				ScP		ScP		22 15 59.6	+0.2
	1.7nm,0.7s,baz=166,slow=4.7,SNR=14								
SONM	Songino Array	53.55	356	P		P		22 11 57.4	0.0
SONM				PcP		PcP		22 12 55.2	+0.2
SONM				ScP		ScP		22 15 59.6	+0.2
KBL	Kabul	56.09	319	*e*P		P		22 12 14.0	-1.4
	1.8nm,0.5s,mb3.6								
TKM2	Tokmak 2	57.96	330	*e*P		P		22 12 28.2	+0.2
	3.4nm,0.9s,mb3.6								
MKAR	Makanchi Array	58.08	337	P		P		22 12 28.7	0.0
	4.6nm,0.4s,mb4.0,baz=151,slow=7.5,SNR=119								
MKAR				pP		pP		22 14 18.5	+0.8
	1.0nm,0.8s,baz=154,slow=7.1,SNR=3.6								
MKAR				ScP		ScP		22 16 19.9	+0.4
	0.6nm,0.7s,baz=131,slow=6.5,SNR=3.0								
MKAR	Makanchi Array	58.08	337	P		P		22 12 28.7	0.0
MKAR				pP		pP		22 14 18.5	+0.8
MKAR				ScP		ScP		22 16 19.9	+0.4
EKS2	Erkin-Say	58.69	329	*e*P		P		22 12 33.3	+0.4
	4.5nm,0.7s,mb3.8								
KKAR	Karatay Array	60.72	327	*e*P		P		22 12 45.6	-0.8
	1.4nm,0.5s,mb3.5								
ZAA0	Zalesovo Array	63.36	343	*e*P		P		22 13 02.0	-1.2
ZALV	Zalesovo Beam	63.36	343	P		P		22 13 02.4	-0.9
	3.2nm,0.4s,mb4.1,baz=162,slow=4.4,SNR=18								
ZALV				pP		pP		22 14 55.9	+0.9
	1.6nm,0.7s,baz=145,slow=5.4,SNR=7.7								
ZALV	Zalesovo Beam	63.36	343	P		P		22 13 02.4	-0.9
ZALV				pP		pP		22 14 55.9	+0.9
QRN	Al-Qurain	69.33	304	*e*P		P		22 13 39.8	-1.0
MAW	Mawson	69.54	198	P		P		22 13 42.3	+1.0
	11nm,0.7s,mb4.5,baz=54,slow=5.9,SNR=29								
MAW	Mawson	69.54	198	P		P		22 13 42.3	+1.0
RDF	Al-Radifah	69.69	304	*e*P		P		22 13 42.5	-0.5
UMR	Umm Al-Rimmam	69.76	304	*e*P		P		22 13 42.3	-1.0
UMR					AMb	AMB		22 13 43.0	
	comp=Z,50nm,0.4s,mb5.4								
NAY	Al-Naaiem	70.05	304	*e*P		P		22 13 43.7	-1.4
NAY					AMb	AMB		22 13 44.5	
	comp=Z,13nm,0.8s,mb4.5								
ABKAR	Akbulak array	70.28	327	*e*P		P		22 13 45.3	-0.7
	comp=Z,7.1nm,0.5s,mb4.5								
PETK	Petropavlovsk-	70.86	28	P		P		22 13 48.6	-0.7
	comp=Z,1.3nm,0.4s,mb3.9,baz=184,slow=1.6,SNR=4.8								
PETK	Petropavlovsk-	70.86	28	P		P		22 13 48.6	-0.7
VNDA	Vanda	76.49	170	P		P		22 14 21.6	+0.7
	comp=Z,3.5nm,0.5s,mb4.1,baz=315,slow=6.3,SNR=36								
VNDA	Vanda	76.49	170	P		P		22 14 21.6	+0.7
SYO	Syowa Base	77.83	200	*e*P		P		22 14 27.5	-0.8
ASF	Jabal al Asfar	79.41	304	P		P		22 14 38.9	+1.4
	comp=Z,4.2nm,0.8s,mb3.8,baz=304,slow=2.8,SNR=10								
ASF	Jabal al Asfar	79.41	304	P		P		22 14 38.9	+1.4
MMAI	Mount Meron Ar	80.83	305	P		P		22 14 46.5	+1.6
	comp=Z,5.0nm,0.7s,mb4.1,baz=98,slow=6.2,SNR=15								
LSZ	Lusaka	81.17	255	*e*P		P		22 14 47.5	+0.6
	comp=Z,4.8nm,0.6s,mb4.1								
LBTB	Lobatse	83.03	246	P		P		22 14 57.0	+0.8
	comp=Z,5.4nm,0.7s,mb4.2,baz=105,slow=2.8,SNR=12								
LBTB	Lobatse	83.03	246	P		P		22 14 57.0	+0.8
BOSA	Boshof	83.15	242	P		P		22 14 57.2	+0.5
	comp=Z,2.5nm,0.6s,mb4.0,baz=115,slow=5.5,SNR=12								
BOSA	Boshof	83.15	242	P		P		22 14 57.2	+0.5
BR131	Keskin Array S	83.72	311	*e*P		P		22 14 59.0	-0.4
	comp=Z,3.6nm,0.8s,mb4.0								
BRTR	Keskin Array B	83.72	311	P		P		22 14 59.1	-0.2
	comp=Z,3.2nm,0.8s,mb3.9,baz=130,slow=7.1,SNR=28								
BRTR	Keskin Array B	83.72	311	P		P		22 14 59.1	-0.2
QSPA	South Pole Qui	84.16	180	*e*P		P		22 15 01.3	+0.6
	comp=Z,3.0nm,0.5s,mb4.1								
AKASG	Malin Array Be	89.00	321	P		P		22 15 23.1	-1.0
FINES	FINESS Array B	92.44	331	P		P		22 15 39.3	-0.5
	comp=Z,3.7nm,1.0s,mb4.4,baz=126,slow=9.7,SNR=7.2								
FINES	FINESS Array B	92.44	331	P		P		22 15 39.3	-0.5
VNA2	Neumayer--Watz	93.34	197	*e*		P		22 15 42.1	-1.7
	baz=99,slow=3.6								
VNA3	Neumayer Olymp	93.83	196	*e*		P		22 15 43.9	-2.1
ILAR	Eielson Array	100.58	25	PKKPbc		PKKPbc		22 32 28.3	-3.0
	comp=Z,0.2nm,0.5s,baz=94,slow=1.3,SNR=5.1								
TORD	Torodi Ar. Bea	109.66	282	PKKP		PKiKP		22 20 56.7	-0.5
	comp=Z,0.6nm,0.6s,baz=55,slow=1.9,SNR=10								
TORD	Torodi Ar. Bea	109.66	282	PKPdf		PKiKP		22 20 56.7	-0.5
NVAR	Mina Array Bea	125.18	46	PKP		PKPdf		22 21 27.7	+1.4
	comp=Z,0.4nm,0.5s,baz=268,slow=2.7,SNR=5.6								
NVAR	Mina Array Bea	125.18	46	PKP		PKPdf		22 21 27.7	+1.4
PDAR	Pinedale Array	128.92	38	PKP		PKPdf		22 21 34.6	+1.3
	comp=Z,0.3nm,0.5s,baz=225,slow=0.9,SNR=3.3								
PDAR					SKPbc			22 24 01.7	
	comp=Z,1.5nm,0.9s,baz=250,slow=0.7,SNR=10								
PDAR	Pinedale Array	128.92	38	PKP		PKPdf		22 21 34.6	+1.3
PDAR					SKPbc			22 24 01.7	
ULM	Lac du Bonnet	130.47	22	SKPbc		SKPbc		22 24 07.7	-0.1
	comp=Z,10nm,1.0s,baz=323,slow=7.9,SNR=6.8								
SCHQ	Schefferville	131.09	358	SKPbc		SKPbc		22 24 10.3	+0.5
	comp=Z,2.9nm,0.6s,baz=349,slow=5.2,SNR=4.6								
TXAR	Lajitas Array	140.10	50	PKhKP		PKPpre		22 21 50.7	
	comp=Z,0.1nm,0.5s,baz=245,slow=1.7,SNR=4.1								
TXAR				PKP		PKPdf		22 21 56.5	+1.9
	comp=Z,0.3nm,0.6s,baz=234,slow=0.3,SNR=4.2								
TXAR					SKPbc	SKPbc		22 24 37.0	-1.3
	comp=Z,0.8nm,0.8s,baz=255,slow=0.7,SNR=9.6								
TXAR	Lajitas Array	140.10	50	PKP		PKPpre		22 21 50.7	
TXAR				PKP		PKPdf		22 21 56.5	+1.9
TXAR					SKPbc	SKPbc		22 24 37.0	-1.3
LCO	Las Campanas	145.35	178	*e*PKPdf		PKPdf		22 22 04.5	+0.7
CPUP	Villa Florida	145.96	200	PKPbc		PKPbc		22 22 07.4	+0.6
	comp=Z,5.8nm,0.5s,baz=128,slow=1.8,SNR=15								
CPUP	Villa Florida	145.96	200	PKPbc		PKPbc		22 22 07.4	+0.6
LPAZ	La Paz	158.00	183	PKPab		PKPab		22 23 01.4	+2.0
	comp=Z,1.1nm,0.6s,baz=151,slow=8.4,SNR=4.8								

*ISCJB **16** 22:33:45.6± 1.0, 1′.43N±0′.02×122′.32E±0′.03, h9km±6km, mb4.7/71, MS4.2/23, Error ellipse: s-maj=5.4km s-min=3.9km az=163.4*

*BJI **16** 22:33:45.3, 1′.20N×122′.21E, h10km, mB4.9/23, mb4.6/33, Ms4.6/28, Ms7 4.4/25*

*IDC **16** 22:33:49.0± 7.2, 1′.35N×122′.22E, h24km±48km, mb4.2/19, mb1 4.4/21, mb1mx4.3/28, mbtmp4.3/21, ML5.1/2, MS4.2/14, Ms1 4.2/14, ms1mx3.8/41, Error ellipse: s-maj=18.9km s-min=10.4km az=75.0*

*NEIC **16** 22:33:50.0± 1.8, 1′.36N×122′.25E, h31km± 13km, mb4.9/25, Error ellipse: s-maj=7.0km s-min=4.0km az=61.0*

*MOS **16** 22:33:49.0± 0.8, 1′.38N×122′.30E, h36km, mb5.0/27, MS4.1/6, Error ellipse: s-maj=13.5km s-min=6.8km az=118.7*

*DJA **16** 22:33:51.2± 0.9, 1′.N±.3′×12′.2E± ′, h18km±9km, M4.9/4, mb5.0/24, mB5.3/16, MLv5.2/15, Mw(mB)4.8/16*

ISC 16 22:33:48.2± 1.1, 1′.40N±0′.03×122′.34E±0′.03, h14km± 7km, h18km± 2.9km; pP-P, n233, σ1 25/222, mb4.7/71, MS4.2/23,
3C-1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
MRSI	Marisa	1.00	203	P	Pb	22	34	08.0	+0.7
LUWI	Luwuk	2.46	170	P	Pn	22	34	31.2	+3.2
MNI	Manado	2.50	89	P	Pn	22	34	28.5	0.0
MSSI	Masamba	4.41	207	P	Pn	22	34	57.3	+2.5
TTSI	Tana Toraja	5.08	210	P	Pn	22	35	05.9	+1.9
KDI	Kendari	5.33	177	P	Pn	22	35	09.9	+2.5
	0.9nm3µm162nm,1.0s								
MYLDM	Lahad Datu	5.36	315	P	Pn	22	35	07.8	-0.1
MYLDM	Lahad Datu	5.36	315	P	Pn	22	35	07.7	-0.2
	1.3nm4µm120nm,1.2s								
SMKI	Samarinda	5.45	250	P	Pn	22	35	12.4	+3.4
	258nm,0.9s								
SPSI	Sidrap Palu	5.92	206	P	Pn	22	35	17.7	+2.2
	3µm345nm,0.7s								
MJSI	Majene	5.95	214	P	Pn	22	35	23.2	+7.2
	2.7nm236nm,1.2s								
CTBH	Cotabato--PC H	6.09	18	*i*P	Pn	22	35	16.0	-1.8
IPIL	Ipil	6.35	2	*e*P	Pn	22	35	20.9	-0.5
PAGZ	Pagadian	6.49	9	*e*P	Pn	22	35	22.6	-0.8
DAV	Davao City (W)	6.49	30	Pn	Pn	22	35	25.2	+1.8
	60nm,0.3s,baz=102,slow=7.6,SNR=14								
DAV				Sn	Sn	22	36	39.9	+2.6
	32nm,0.3s,baz=62,slow=23,SNR=4.0								
DAV	Davao City (W)	6.49	30	*e*Pn	Pn	22	35	24.3	+0.9
DAV				Sn	Sn	22	36	40.0	+2.6
DAV	Davao City (W)	6.49	30	P	Pn	22	35	27.2	+3.8
	1.9nm6µm423nm,1.2s								
NLAI	Namlea	6.62	134	P	Pn	22	35	32.8	+7.6
	0.8nm2µm109nm,0.4s								
SDKM	Sandakan	6.64	310	P	Pn	22	35	25.0	-0.4
BBSI	Bau Bau	6.84	178	P	Pn	22	35	33.1	+4.8
	0.9nm3µm177nm,0.9s								
KAPI	Kappang	6.88	202	*e*Pn	Pn	22	35	29.5	+0.8
KAPI	Kappang	6.88	202	P	Pn	22	35	29.5	+0.8
	0.5nm1µm43nm,1.1s								
BUKP	Musuan	6.99	23	*e*P	Pn	22	35	29.9	-0.3
BUKP				*e*S	Px	22	35	59.8	
BKSI	Bulukumba	7.03	198	P	Pn	22	35	32.8	+2.0
	0.4nm1µm142nm,0.8s								
KKM	Kota Kinabalu	7.66	307	P	Pn	22	35	39.1	-0.3
KKM	Kota Kinabalu	7.66	307	*e*Pn	Pn	22	35	38.6	-0.8
KKM				*e*Sn	Sn	22	37	05.0	-1.0
KKM	Kota Kinabalu	7.66	307	P	Pn	22	35	39.2	-0.2
	0.2nm726nm48nm,1.0s								
AAI	Ambon	7.73	131	P	Pn	22	35	48.8	+8.3
	0.7nm4µm97nm,0.9s								
KDM	Kudat	7.76	315	P	Pn	22	35	40.4	-0.3
MSAI	Masohi	8.10	126	P	Pn	22	35	48.8	+3.3
	0.2nm792nm42nm,0.7s								
BBKI	Banjar Baru	8.91	237	P	Pn	22	35	57.4	+0.7
	0.7nm5µm168nm,0.7s								
BTM	Bintulu	9.42	281	P	Pn	22	36	01.6	-2.0
BNDI	Bandanaira	9.58	128	P	Px	22	36	21.7	
SBUM	Sibu	10.17	276	P	Pn	22	36	11.8	-2.0
SBUM	Sibu	10.17	276	P	Px	22	36	24.7	
KMMI	Kalianget	11.84	225	P	Pn	22	36	43.6	+6.8
	44nm,1.2s								
KSM	Kuching	12.03	270	*e*Pn	Pn	22	36	37.4	-2.0
TLE	Tual	12.52	124	P	Pn	22	36	48.3	+2.2
	52nm,0.7s								
JAGI	Jajag, Banyuwa	12.76	220	P	Px	22	37	01.3	
RBSI	Rajabasa	18.07	246	P	pP	22	38	12.4	+9.0
KLSI		18.60	251	P	Pn	22	38	06.3	+0.7
	2µm62nm,0.9s								
JAY	Jayapura	18.77	102	P	pP	22	38	21.1	+10
MDSI	Maura Dua	19.06	252	P	Pn	22	38	11.9	+0.7
	46nm,1.1s								
LWLI	Liwa	19.34	251	P	Pn	22	38	15.6	+1.1
	160nm,0.9s								
KTGM	Kuala Trenggan	19.56	282	P	Pn	22	38	10.1	-7.1
FITZ	Fitzroy Crossi	19.65	171	P	Pn	22	38	16.0	-2.1
	3.1nm,0.3s,baz=0.8,slow=8.2,SNR=100								
FITZ				LR	LR	22	47	24.1	
	comp=Z,435nm,18.4s,baz=53,slow=42								
FITZ	Fitzroy Crossi	19.65	171	*e*P	Pn	22	38	16.0	-2.1
	38nm,0.6s								
FITZ				*e*S	Sn	22	41	54.7	-4.0
FITZ	Fitzroy Crossi	19.65	171	*e*P	Pn	22	38	16.0	-2.2
	18nm,0.5s								
FITZ				LR	LR	22	47	24.1	
FITZ	Fitzroy Crossi	19.65	171	P	Pn	22	38	16.0	-2.1
	41nm,0.9s								
QIZ	Qiongzhong	21.38	326	P	P	22	38	35.3	-0.2
QIZ				S	S	22	42	34.1	+1.6
QIZ				LR	LR				
	comp=N,530nm,14.0s								
QIZ				LR	LR				
	comp=Z,580nm,14.5s,MS4.1								
QIZ	Qiongzhong	21.38	326	*e*P	P	22	38	34.4	-1.1
KULM	Kulim	21.99	281	P	P	22	38	35.7	-6.4
KULM	Kulim	21.99	281	*e*P	P	22	38	41.0	-1.2
	comp=Z,12nm,0.8s,mb4.4								
PPI	Padang Panjang	22.02	265	P	P	22	38	44.3	+1.9
	comp=Z,27nm,0.8s,mb4.7								
MBWA	Marble Bar	22.56	186	*e*P	P	22	38	45.9	-2.2
	comp=Z,14nm,0.7s,mb4.5								
MNSI	Mandailing Nat	22.76	269	P	P	22	38	50.7	+0.3
	comp=Z,625nmcomp=Z,57nm,0.7s,mb5.1								
YHNB	Yeheng	23.15	358	P	P	22	38	54.1	-0.3
PSI	Prapat	23.44	274	P	P	22	38	55.1	-2.4
	comp=Z,5.8nm,0.6s,mb4.2,baz=102,slow=5.0,SNR=8.7								
PSI				LR	LR	22	48	55.2	
	comp=Z,479nm,20.9s,MS3.9,baz=12,slow=39								
PSI	Prapat	23.44	274	P	P	22	38	55.1	-2.4
PSI				LR	LR	22	48	55.2	
PSI	Prapat	23.44	274	P	P	22	38	55.2	-2.3
QZH	Qu

comp=Z,8.8nm,0.6s,mb4.9
CD2 Chengdu 34.22 331 P **P** **22 40 35.8 +2.2**
CD2 pP pP 22 40 40.3 +2.3
CD2 sP sP 22 40 42.8 +3.0
CD2 PP PP 22 41 51.5 +0.2
CD2 S **S** **22 46 02.1 +2.1**
CD2 SS SS 22 48 13.8 -15
CD2 pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
CD2 pmax pmax
comp=Z,330nm,4.8s
CD2 LR LR
comp=N,450nm,17.8s
CD2 LR LR
comp=Z,500nm,14.9s,MS4.4
NWAO Narrogin (SRO) 34.48 188 P **P** **22 40 34.2 -1.5**
comp=Z,16nm,0.8s,mb5.0,baz=357,slow=4.7,SNR=6.5
NWAO LR LR 22 56 00.0
comp=Z,304nm,21.3s,MS4.0,baz=5.7,slow=39
NWAO Narrogin (SRO) 34.48 188 *e*P **P** **22 40 34.1 -1.6**
comp=Z,9.8nm,0.6s,mb4.9
NWAO LR LR 22 56 00.0
NWAO Narrogin (SRO) 34.48 188 P **P** **22 40 34.3 -1.5**
NWAO pmax pmax
comp=Z,16nm,0.8s
NWAO MLR MLR
comp=Z,305nm,21.3s
JHJ Hachijo jima 2 35.55 26 LR LR 22 52 39.6
comp=Z,307nm,21.3s,MS4.0,baz=234,slow=32
KSRS Korea Array 36.24 8 P **P** **22 40 50.0 -0.9**
comp=Z,0.5nm,0.3s,mb3.9,baz=188,slow=8.1,SNR=2.7
KSRS LR LR 22 56 09.1
comp=Z,330nm,19.1s,MS4.1,baz=290,slow=37
KSRS Korea Array 36.24 8 P **P** **22 40 50.0 -0.9**
KSRS pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
KSRS MLR MLR
comp=Z,331nm,19.1s,MS4.1
STKA Stephens Creek 37.80 153 P **P** **22 41 03.5 -0.7**
comp=Z,15nm,0.8s,mb4.8,baz=328,slow=9.1,SNR=25
STKA LR LR 22 58 56.6
comp=Z,305nm,18.5s,MS4.1,baz=277,slow=40
STKA Stephens Creek 37.80 153 *e*P **P** **22 41 03.6 -0.6**
comp=Z,13nm,0.9s,mb4.7
STKA Stephens Creek 37.80 153 *e*P **P** **22 41 04.1 -0.1**
comp=Z,3.1nm,0.8s,mb4.1
STKA Stephens Creek 37.80 153 P **P** **22 41 03.6 -0.6**
STKA pmax pmax
comp=Z,15nm,0.8s
STKA MLR MLR
comp=Z,305nm,18.5s
MAT Matsushiro 37.93 21 P **P** **22 41 04.2 -1.0**
MAT S **S** **22 46 55.0 -1.6**
MJAR Matsushiro Arr 37.93 21 P **P** **22 41 04.7 -0.5**
comp=Z,2.4nm,0.8s,mb4.0,baz=198,slow=9.3,SNR=5.9
MJAR LR LR 22 54 58.6
comp=Z,367nm,21.9s,MS4.1,baz=215,slow=33
MJAR Matsushiro Arr 37.93 21 P **P** **22 41 04.7 -0.5**
MJAR LR LR 22 54 58.6
MJAR Matsushiro Arr 37.93 21 P **P** **22 41 04.7 -0.5**
LZH Lanzhou 38.54 336 *e*P **P** **22 41 14.5 +4.1**
LZH pP pP 22 41 18.5 +3.7
LZH sP sP 22 41 20.0 +3.4
LZH pmax pmax
comp=Z,13nm,1.1s,mb4.6
BJI Beijing 38.87 352 P **P** **22 41 14.3 +1.2**
BJI PP PP 22 42 43.8 +1.5
BJI S **S** **22 47 11.9 +1.2**
BJI pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
BJI LR LR
comp=N,420nm,18.6s,MS4.4
BJI LR LR
comp=E,280nm,15.5s,MS4.4
BJI LR LR
comp=Z,220nm,22.2s
HHC Hu-ho-hao-te 40.46 347 *e*P **P** **22 41 26.6 +0.2**
HHC PP PP 22 43 04.6 +4.9
HHC PcP PcP 22 43 29.5 +0.4
HHC ScP ScP 22 47 16.9 -1.4
HHC PcS PcS 22 47 18.6 -0.9
HHC S **S** **22 47 36.3 +1.7**
HHC SS SS 22 50 30.4 -3.9
HHC ScS ScS 22 51 29.9 -2.3
HHC pmax pmax
comp=Z,18nm,0.7s,mb4.9
HHC pmax pmax
comp=Z,120nm,6.4s
HHC LR LR
comp=N,470nm,15.9s,MS4.5
HHC LR LR
comp=E,370nm,15.5s,MS4.5
HHC LR LR
comp=Z,470nm,16.7s,MS4.4
LSA Lhasa 40.88 316 *e*P **P** **22 41 30.8 +0.8**
LSA Lhasa 40.88 316 *e*P **P** **22 41 31.5 +1.5**
comp=Z,3.6nm,0.6s,mb4.2
LSA Lhasa 40.88 316 *e*P **P** **22 41 31.5 +1.5**
LSA pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
ODAN Odare 42.02 310 *e*P **P** **22 41 39.1 -0.3**
comp=Z,22nm,0.9s,mb4.8
TAPN Taplejung 42.03 311 *e*P **P** **22 41 40.0 +0.5**
comp=Z,16nm,0.8s,mb4.7
ARMA Armidale 42.19 141 *e*P **P** **22 41 42.3 +1.6**
ARMA Armidale 42.19 141 *e*P **P** **22 41 42.1 +1.4**
comp=Z,13nm,0.6s,mb4.8
CN2 Changchun 42.31 3 *e*P **P** **22 41 44.0 +2.5**
GTA Gaotai 43.05 334 *e*P **P** **22 41 48.6 +1.0**
GTA pP pP 22 41 53.3 +1.2
GTA S **S** **22 48 13.9 +0.9**
GTA pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
GTA pmax pmax
comp=Z,100nm,4.7s
GTA LR LR
comp=N,260nm,15.9s,MS4.4
GTA LR LR
comp=E,360nm,17.1s,MS4.4
GTA LR LR
comp=Z,430nm,16.1s,MS4.4
MDJ Mudanjiang 43.51 8 P **P** **22 41 52.3 +1.1**
MDJ pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
MDJ pmax pmax
comp=Z,110nm,4.6s
GUN Gumba 43.71 310 *e*P **P** **22 41 53.6 +0.5**
comp=Z,24nm,0.7s,mb5.0
PKI Pulchoki 43.90 310 *e*P **P** **22 41 54.3 -0.3**
comp=Z,11nm,0.7s,mb4.7
PKIN Phulchoki 43.91 310 *e*P **P** **22 41 54.3 -0.4**
comp=Z,8.0nm,0.6s,mb4.6
KKN Kakani 44.10 310 *e*P **P** **22 41 56.5 +0.2**
DMN Daman 44.15 310 *e*P **P** **22 41 57.0 +0.3**
comp=Z,25nm,0.9s,mb5.0
CAN Canberra 44.22 148 *e*P **P** **22 41 57.1 0.0**
comp=Z,9.2nm,0.5s,mb4.8
CAN Canberra 44.22 148 *e*P **P** **22 41 57.1 0.0**
CAN pmax pmax
comp=Z,9.0nm,0.5s,mb4.8
TOO Toolangi 44.30 153 *e*P **P** **22 41 58.5 +0.8**
comp=Z,32nm,0.9s,mb5.0
CNB Canberra Magne 44.41 148 *e*P **P** **22 41 58.9 +0.3**
comp=Z,39nm,0.6s,mb5.3
GKN Gorkha 44.70 310 *e*P **P** **22 42 01.1 0.0**
comp=Z,24nm,0.8s,mb5.1
KOLN Koldanda 45.39 309 *e*P **P** **22 42 06.5 -0.1**
comp=Z,18nm,0.7s,mb5.0
DANN Dangsing 45.55 310 *e*P **P** **22 42 08.2 +0.4**
comp=Z,37nm,0.7s,mb5.4
HYB Hyderabad 45.87 293 *i* P **P** **22 42 10.0 -0.5**
ASAJ Asahikawa 46.18 20 P **P** **22 42 12.6 0.0**
comp=Z,5.6nm,0.8s,mb4.6,baz=285,slow=20,SNR=3.2
ASAJ Asahikawa 46.18 20 P **P** **22 42 12.6 +0.1**
ASAJ pmax pmax
comp=Z,6.0nm,0.8s
ULN Ulaanbaatar 48.14 346 *e*P **P** **22 42 28.3 +0.5**
comp=Z,48nm,2.0s,mb5.2
ULN Ulaanbaatar 48.14 346 *e*P **P** **22 42 28.3 +0.6**
ULN pmax pmax
comp=Z,48nm,2.0s,mb5.2
SONM Songino Array 48.27 346 P **P** **22 42 29.0 +0.2**
comp=Z,6.6nm,0.7s,mb4.8,baz=162,slow=8.9,SNR=55
SONM Songino Array 48.27 346 P **P** **22 42 29.0 +0.2**
SONM Songino Array 48.27 346 P **P** **22 42 29.0 +0.2**
ZAK Zakamensk 51.42 344 *e*P **P** **22 42 52.9 +0.2**
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
WMQ Urumqi 52.26 329 P **P** **22 43 00.3 +1.2**
TLY Talaya 52.51 345 *e*P **P** **22 43 00.8 0.0**
TLY Talaya 52.51 345 *e*P **P** **22 43 04.0 +3.2**
TLY *e*S **S** **22 50 43.6 +17**
TLY pmax pmax
comp=Z,11nm,0.9s,mb4.8
TLY MLR MLR
comp=Z,194nm,18.0s,MS4.2
MOY Mondy 53.21 344 *e*P **P** **22 43 06.6 +0.7**
KSH Kashi 56.70 318 P **P** **22 43 33.1 +1.6**
KSH pP pP 22 43 37.8 +1.8
KSH PcP PcP 22 44 28.6 +1.1
KSH PP PP 22 45 40.9 +3.2
KSH ScP ScP 22 48 26.3 -0.6
KSH PcS PcS 22 48 27.9 -0.3
KSH S **S** **22 51 23.9 +0.2**
KSH ScS ScS 22 53 18.3 -2.3
KSH SS SS 22 55 13.0 +1.2
KSH pmax pmax
comp=Z,4.0nm,0.3s,mb4.9
KSH pmax pmax
comp=Z,37nm,4.0s
KSH LR LR
comp=N,120nm,5.1s
KSH LR LR
comp=E,110nm,4.8s
KSH LR LR
comp=Z,130nm,4.5s
MK31 Makanchi Array 57.08 328 *e*P **P** **22 43 33.8 -0.2**
MK31 *e*PcP PcP 22 44 27.6 -1.2
MK31 Makanchi Array 57.08 328 *e*P **P** **22 43 33.8 -0.2**
MK31 *e* 22 44 27.6
MKAR Makanchi Array 57.08 328 P **P** **22 43 34.4 +0.3**
comp=Z,3.6nm,0.5s,mb4.7,baz=124,slow=8.4,SNR=52
MKAR LR LR 23 09 33.2
comp=Z,212nm,20.9s,MS4.2,baz=354,slow=38
MKAR Makanchi Array 57.08 328 P **P** **22 43 34.4 +0.3**
MKAR LR LR 23 09 33.2
MKAR Makanchi Array 57.08 328 P **P** **22 43 34.4 +0.4**
KZA Kyzart 58.47 320 P **P** **22 43 45.4 +1.5**
SNR=5.5
TKM2 Tokmak 2 58.69 321 P **P** **22 43 46.2 +0.8**
SNR=5.4
TKM2 Tokmak 2 58.69 321 *e*P **P** **22 43 46.1 +0.8**
comp=Z,6.3nm,0.7s,mb4.8
TKM2 Tokmak 2 58.69 321 *e*P **P** **22 43 46.1 +0.7**
TKM2 pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
KBK Karagaybulak 58.96 321 P **P** **22 43 48.9 +1.6**
SNR=6.2
AAK Ala-Archa 59.23 320 P **P** **22 43 49.9 +0.8**
SNR=5.3
AAK Ala-Archa 59.23 320 *e*P **P** **22 43 49.0 -0.2**
comp=Z,14nm,0.8s,mb5.0
AAK Ala-Archa 59.23 320 *e*P **P** **22 43 49.0 -0.2**
AAK pmax pmax
comp=Z,14nm,0.8s,mb5.0
PETK Petropavlovsk- 59.28 24 LR LR 23 10 36.5
comp=Z,120nm,19.1s,MS4.0,baz=128,slow=37
AML Almayashu 59.50 320 P **P** **22 43 51.2 +0.2**
SNR=6.4
KBL Kabul 59.54 310 *e*P **P** **22 43 51.3 -0.2**
comp=Z,9.2nm,0.7s,mb4.9
KBL Kabul 59.54 310 *e*P **P** **22 43 51.3 -0.1**
KBL pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
EKS2 Erkin-Say 59.71 320 *e*P **P** **22 43 52.2 -0.2**
comp=Z,14nm,1.4s,mb4.8
EKS2 Erkin-Say 59.71 320 *e*P **P** **22 43 52.2 -0.2**
EKS2 pmax pmax
comp=Z,14nm,1.4s,mb4.8
YAK Yakutsk 60.73 4 *e*P **P** **22 43 57.7 -1.4**
YAK pmax pmax
comp=Z,31nm,1.7s,mb5.2
ZAA0 Zalesovo Array 60.77 336 *e*P **P** **22 43 58.3 -1.2**
ZALV Zalesovo Beam 60.77 336 P **P** **22 43 58.5 -1.0**
comp=Z,2.1nm,0.5s,mb4.5,baz=127,slow=6.0,SNR=13
ZALV Zalesovo Beam 60.77 336 P **P** **22 43 58.5 -1.0**
ZALV Zalesovo Beam 60.77 336 P **P** **22 43 58.5 -1.0**
KURK Kurchatov 61.44 330 *e*P **P** **22 44 03.8 -0.3**
comp=Z,14nm,0.8s,mb5.2
KURK Kurchatov 61.44 330 *e*P **P** **22 44 03.8 -0.3**
KURK pmax pmax
comp=Z,14nm,0.8s,mb5.1
KURK Kurchatov 61.44 330 P **P** **22 44 03.1 -1.0**
comp=Z,155nm,0.5s,SNR=18
KKAR Karatay Array 62.03 319 *e*P **P** **22 44 08.3 +0.1**
KKAR Karatay Array 62.03 319 *e*P **P** **22 44 08.3 +0.1**
NVS Novosibirsk 62.06 336 *e*P **P** **22 44 06.2 -2.0**
NVS pmax pmax
comp=Z,74nm,3.2s
NVS pmax pmax
comp=N,12nm,2.1s
NVS pmax pmax
comp=E,19nm,2.5s
RPZ Rata Peaks 62.51 142 *e*P **P** **22 44 12.4 +0.9**
comp=E,53nm,0.9s,mb5.7
BRVK Borovoye 67.02 329 *e*P **P** **22 44 40.2 -0.5**
comp=E,6.3nm,0.8s,mb4.7
BRVK Borovoye 67.02 329 *e*P **P** **22 44 40.2 -0.5**
BRVK pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
ABKAR Akbulak array 71.22 322 *e*P **P** **22 45 06.0 -0.9**
BILL Bilibino 72.94 16[1] *e*P **P** **22 45 16.4 -0.4**
BILL *e* 22 48 03.9
BILL pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
BILL MLR MLR
comp=Z,100nm,18.0s,MS4.1
SVE Sverdlovsk 73.69 330 *e*P **P** **22 45 21.4 0.0**
SVE pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
ARU Arti 74.60 329 *e*P **P** **22 45 25.8 -0.9**
comp=Z,9.2nm,1.1s,mb4.6
ARU Arti 74.60 329 *d i*P **P** **22 45 26.0 -0.7**
ARU S S 22 54 59.8 -2.0
ARU pmax pmax
comp=Z,10.0nm,1.7s,mb4.5
MAK Makhachkala 77.97 314 P **P** **22 45 42.3 -3.9**
MAK *e*S S 22 55 25.5 -14
MAK *e* 22 55 58.5
MAK pmax pmax
comp=Z,90nm,1.4s,mb5.5
MAW Mawson 80.08 200 P **P** **22 45 55.3 -1.9**
comp=Z,2.9nm,0.9s,mb4.2,baz=44,slow=7.9,SNR=5.0
MAW Mawson 80.08 200 *e*P **P** **22 45 55.5 -1.7**
MAW Mawson 80.08 200 P **P** **22 45 55.3 -1.9**
MAW pmax pmax
comp=Z,3.0nm,0.9s
ZEI Tsey 80.56 313 *e*P **P** **22 46 08.7 +8.3**
ZEI pmax pmax
comp=Z,6.0nm,1.6s,mb4.3
KIV Kislovodsk 81.58 314 *e*P **P** **22 46 03.6 -2.1**
KIV pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
VNDA Vanda 81.72 172 P **P** **22 46 04.5 -1.3**
comp=Z,6.1nm,0.6s,mb4.7,baz=316,slow=6.2,SNR=51
VNDA LR LR 23 23 22.5
comp=Z,214nm,21.2s,MS4.5,baz=248,slow=36
VNDA Vanda 81.72 172 *e*P **P** **22 46 04.4 -1.4**
comp=Z,6.6nm,0.6s,mb4.7
VNDA Vanda 81.72 172 P **P** **22 46 04.5 -1.3**
VNDA pmax pmax
comp=Z,6.0nm,0.6s
VNDA MLR MLR
comp=Z,214nm,21.2s
SBA Scott Base 82.67 171 *e*P **P** **22 46 11.0 +0.2**
comp=Z,52nm,2.3s,mb5.2
SBA Scott Base 82.67 171 *e*P **P** **22 46 11.0 +0.2**
SBA pmax pmax
comp=Z,52nm,2.3s,mb5.2
KMBO Kilima Mbogo 85.11 269 *e*P **P** **22 46 23.9 -0.7**
KMBO Kilima Mbogo 85.11 269 *e*P **P** **22 46 23.9 -0.7**
KLMR Klimovskoe 85.28 331 *e*P **P** **22 46 18.6 -5.8**
KLMR pmax pmax
comp=Z,46nm,1.8s,mb5.3
BRTR Keskin Array B 88.11 310 P **P** **22 46 37.2 -1.5**
comp=Z,0.4nm,0.6s,mb3.8,baz=112,slow=5.5,SNR=4.1
BRTR Keskin Array B 88.11 310 P **P** **22 46 37.2 -1.5**
BRTR Keskin Array B 88.11 310 P **P** **22 46 37.2 -1.5**
SYO Syowa Base 88.69 201[1] *e*X **P** **22 46 37.5 -3.3**
ILAR Eielson Array 89.08 25 P **P** **22 46 40.9 -1.9**
comp=Z,0.4nm,0.7s,mb3.8,baz=244,slow=5.4,SNR=9.8
ILAR LR LR 23 24 34.3
comp=Z,111nm,20.6s,MS4.3,baz=65,slow=34
ILAR Eielson Array 89.08 25 P **P** **22 46 40.9 -1.9**
ILAR LR LR 23 24 34.3
ILAR Eielson Array 89.08 25 P **P** **22 46 40.9 -1.8**
ARCES ARCESS Array B 91.09 340 P **P** **22 46 49.4 -2.7**
comp=Z,1.6nm,0.8s,mb4.4,baz=100,slow=5.0,SNR=4.2
ARCES ARCESS Array B 91.09 340 P **P** **22 46 49.4 -2.7**
ARCES ARCESS Array B 91.09 340 P **P** **22 46 49.4 -2.7**
QSPA South Pole Qui 91.32 180 *e*P **P** **22 46 52.2 -0.7**
comp=Z,5.8nm,0.8s,mb5.0
LSZ Lusaka 94.37 255 *e*P **P** **22 47 07.2 -1.1**
comp=Z,5.3nm,0.8s,mb5.0
LSZ Lusaka 94.37 255 *e*P **P** **22 47 07.2 -1.1**
LSZ pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
NOA NORSAR Array B 98.87 333 LR LR 23 37 43.4
comp=Z,195nm,19.0s,MS4.6,baz=195,slow=39
CLL Collm 100.89 323 *e*P Pdif 22 47 32.0 -4.8
CLL *e* 22 51 42.0
BMW Boistfort Moun 105.56 41 *e*Pdif Pdif 22 48 04.4 +6.8
BMW Boistfort Moun 105.56 41 *e*P Pdif 22 48 04.4 +6.8
PDAR Pinedale Array 115.97 40 PKP PKPdf 22 52 30.5 -0.5
comp=Z,0.2nm,0.6s,baz=344,slow=2.0,SNR=2.2
PDAR Pinedale Array 115.97 40 PKP PKPdf 22 52 30.5 -0.5
TORD Torodi Ar. Bea 119.40 286 PKP PKPdf 22 52 36.1 -2.2
comp=Z,1.4nm,0.6s,baz=43,slow=1.7,SNR=13
TORD Torodi Ar. Bea 119.40 286 PKP PKPdf 22 52 36.1 -2.2
TXAR Lajitas Array 126.48 51 PKP PKPdf 22 52 51.9 +0.3
comp=Z,0.3nm,0.9s,baz=352,slow=4.6,SNR=3.2
TXAR Lajitas Array 126.48 51 PKP PKPdf 22 52 51.9 +0.3
TXAR Lajitas Array 126.48 51 PKIKP PKPdf 22 52 51.9 +0.3
DBIC Dimbokro 126.69 279 PKP PKPdf 22 52 50.4 -2.0
comp=Z,2.0nm,0.6s,baz=14,slow=4.2,SNR=4.8
DBIC Dimbokro 126.69 279 PKP PKPdf 22 52 50.4 -2.0
DBIC Dimbokro 126.69 279 PKIKP PKPdf 22 52 50.4 -2.0
CPUP Villa Florida 155.21 181 PKPab PKPab 22 54 05.9 -0.6
comp=Z,2.4nm,0.6s,baz=173,slow=4.5,SNR=6.7
CPUP Villa Florida 155.21 181 PKPab PKPab 22 54 05.9 -0.6
CPUP Villa Florida 155.21 181 PKP2 PKPab 22 54 05.9 -0.6
LPAZ La Paz 161.97 146 PKPab PKPab 22 54 38.1 +2.1
comp=Z,1.4nm,0.6s,baz=187,slow=6.5,SNR=7.3
LPAZ La Paz 161.97 146 PKP2 PKPab 22 54 38.1 +2.1
LPAZ pmax pmax
comp=Z,1.0nm,0.6s

IDC 16 22:44:42.6±7.2,**0.48N**×122.63E,**h218**km±68km,**mb2.9**/4, **mb1 3.2**/5,**mb1mx2.9**/22,**mbtmp3.0**/5,**Error ellipse: s-maj=83.2km s-min=22.4km az=63.0,Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.70**	**171**	P	P	22 48 43.7	-1.1
	0.3nm,0.3s,baz=7,6,slow=10,SNR=8.8						
WRA	**Warramunga Arr**	**23.32**	**151**	P	P	22 49 31.2	-0.2
	0.7nm,0.5s,baz=327,slow=11,SNR=14						
ASAR	**Alice Springs**	**26.38**	**156**	P	P	22 50 00.3	+1.3
	0.1nm,0.4s,baz=349,slow=14,SNR=3.6						
MKAR	**Makanchi Array**	**58.01**	**328**	P	P	22 54 12.9	+0.4
	0.9nm,0.9s,baz=136,slow=8.1,SNR=5.5						
VNDA	**Vanda**	**80.77**	**172**	P	P	22 56 31.3	+0.1
	0.6nm,0.9s,baz=311,slow=7.4,SNR=2.9						
PDAR	**Pinedale Array**	**116.47**	**41**	PKP	PKPdf	23 03 00.1	-0.6
	0.7nm,0.8s,baz=57,slow=3.3,SNR=2.5						

IDC 16 22:51:34.4±1.9,**2.64N**×127.01E,**h0**km,**mb3.7**/3, **mb1 3.9**/3,**mb1mx3.4**/20,**mbtmp3.7**/3,**Error ellipse: s-maj=154.2km s-min=25.6km az=64.0,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.56**	**163**	P	P	22 56 45.0	-2.0
	0.8nm,0.5s,baz=342,slow=10,SNR=6.3						
STKA	**Stephens Creek**	**37.02**	**159**	P	P	22 58 47.3	+1.4
	1.9nm,0.8s,baz=336,slow=12,SNR=3.5						
MKAR	**Makanchi Array**	**58.61**	**326**	P	P	23 01 33.4	+0.2
	0.5nm,0.7s,baz=112,slow=8.6,SNR=3.3						

ISCJB ***16*** *23:01:04.3*±*0.4,38.02N*±*0.02*×*21.40E*±*0.02,h1*km±*3km, mb3.9/9,Error ellipse: s-maj=3.0km s-min=2.3km az=140.2*

IDC ***16*** *23:01:04.3*±*0.9,38.11N*×*21.54E,h0*km*,mb3.9/9, mb1 3.8/14,mb1mx3.7/32,mbtmp3.8/14,ML3.7/4,MS2.5/1, Ms1 2.5/1,ms1mx2.4/32,Error ellipse: s-maj=18.5km s-min=16.2km az=144.0*

CSEM ***16*** *23:01:05.9*±*0.1,38.02N*×*21.49E,h2*km*,ML3.9,Error ellipse: s-maj=3.9km s-min=3.0km az=47.0*

NEIC ***16*** *23:01:06.1,38.04N*×*21.54E,h16*km*,mb4.1/2,After ATH.*

ATH ***16*** *23:01:06.1,38.04N*×*21.54E,h16*km±*2*km*,ML3.9*

THE ***16*** *23:01:07.3,38.04N*×*21.57E,h0*km±*1*km*,ML3.7/15,Error ellipse: s-maj=2.0km s-min=0.8km az=259.0*

ISC 16 23:01:05.7±0.4,**38.03N**±0.02×**21.44E**±0.02,**h1**km±2km, **n235,**σ1**30/299,mb3.9**/9,**7C-9D,Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UPR	**University Cam**	**0.37**	**46**	*e*PB	Pg	**23 01 13.3**	**+0.4**
UPR	**University Cam**	**0.37**	**46**	P	Pg	**23 01 13.3**	**+0.4**
UPR				S	Sg	**23 01 19.4**	**+1.7**
UPR	**University Cam**	**0.37**	**46**	P	Pg	**23 01 13.3**	**+0.4**
UPR				S	Sg	**23 01 17.9**	**+0.2**
LAKA	**Lakka**	**0.47**	**63**	P	Pg	**23 01 14.5**	**-0.3**
LAKA				S	Sg	**23 01 20.3**	**-0.6**
LAKA	**Lakka**	**0.47**	**63**	P	Pg	**23 01 14.5**	**-0.3**
LAKA				S	Sg	**23 01 20.3**	**-0.6**
EFP	**Efpalio**	**0.54**	**42**	*e*PB	Pg	**23 01 16.3**	**+0.2**
EFP	**Efpalio**	**0.54**	**42**	P	Pg	**23 01 16.0**	**-0.1**
EFP				S	Sg	**23 01 24.0**	**+0.9**
EFP	**Efpalio**	**0.54**	**42**	P	Pg	**23 01 16.0**	**-0.1**
EFP	**Efpalio**	**0.54**	**42**	*e*Pb	Pg	**23 01 16.3**	**+0.2**
EFP				S	Sg	**23 01 22.8**	**-0.3**
KALE	**Kalithea**	**0.66**	**56**	P	Pg	**23 01 17.6**	**-0.7**
KALE				S	Sg	**23 01 27.6**	**+0.7**
KALE	**Kalithea**	**0.66**	**56**	P	Pg	**23 01 17.6**	**-0.7**
KALE				S	Sg	**23 01 27.6**	**+0.7**
VLS	**Valsamata**	**0.69**	**283**	*e*PN	Pg	**23 01 20.9**	**+1.9**
VLS	**Valsamata**	**0.69**	**283**	P	Pg	**23 01 20.9**	**+1.9**
VLS				S	Sg	**23 01 33.4**	**+5.5**
VLS	**Valsamata**	**0.69**	**283**	P	Pg	**23 01 20.9**	**+1.9**
GUR	**Goura**	**0.72**	**97**	P	Pg	**23 01 18.4**	**-1.1**
GUR				S	Sg	**23 01 28.5**	**-0.2**
GUR	**Goura**	**0.72**	**97**	P	Pg	**23 01 18.4**	**-1.1**
GUR				S	Sg	**23 01 27.3**	**-1.4**
ITM	**Ithomi**	**0.93**	**155**	*e*PN	Pg	**23 01 23.7**	**+0.2**
ITM	**Ithomi**	**0.93**	**155**	P	Pg	**23 01 23.6**	**+0.1**
ITM				S	Sg	**23 01 38.6**	**+3.0**
ITM	**Ithomi**	**0.93**	**155**	P	Pg	**23 01 23.6**	**+0.1**
ITM				S	Sg	**23 01 38.6**	**+3.0**
EVR	**Evrytania**	**0.93**	**18**	*e*PN	Pg	**23 01 23.7**	**+0.1**
EVR	**Evrytania**	**0.93**	**18**	P	Pg	**23 01 23.6**	**0.0**
EVR	**Evrytania**	**0.93**	**18**	P	Pg	**23 01 23.6**	**0.0**
DSF	**Desfina**	**0.94**	**65**	P	Pg	**23 01 22.3**	**-1.4**
DSF				S	Sg	**23 01 35.5**	**-0.3**
DSF	**Desfina**	**0.94**	**65**	P	Pg	**23 01 22.3**	**-1.4**
DSF				S	Sg	**23 01 35.5**	**-0.3**
LKD2	**Lefkada island**	**0.98**	**321**	P	Pg	**23 01 25.5**	**+1.0**
LKD2	**Lefkada island**	**0.98**	**321**	P	Pg	**23 01 25.5**	**+1.0**
VLX	**Vlachokerasia**	**0.99**	**131**	*e*PN	Pg	**23 01 23.9**	**-0.8**
VLX	**Vlachokerasia**	**0.99**	**131**	P	Pg	**23 01 23.7**	**-1.0**
VLX				S	Sg	**23 01 37.9**	**+0.4**
VLX	**Vlachokerasia**	**0.99**	**131**	P	Pg	**23 01 23.7**	**-1.0**
VLX				S	Sg	**23 01 37.0**	**-0.5**
PYL	**PYLOS**	**1.16**	**168**	*e*PN	Pg	**23 01 27.8**	**-0.1**
PYL	**PYLOS**	**1.16**	**168**	P	Pg	**23 01 27.5**	**-0.4**
PYL				S	Sg	**23 01 47.8**	**+5.0**
PYL	**PYLOS**	**1.16**	**168**	P	Pg	**23 01 27.5**	**-0.4**
PYL	**PYLOS**	**1.16**	**168**	*e*Pn	Pg	**23 01 27.8**	**-0.1**
LTK	**Loutraki**	**1.20**	**90**	*e*PN	Pg	**23 01 27.2**	**-1.6**
LTK	**Loutraki**	**1.20**	**90**	P	Pg	**23 01 26.9**	**-1.9**
LTK				S	Sg	**23 01 43.8**	**-0.6**
LTK	**Loutraki**	**1.20**	**90**	P	Pg	**23 01 26.9**	**-1.9**
LTK	**Loutraki**	**1.20**	**90**	*e*Pn	Pg	**23 01 27.2**	**-1.6**
LTK				S	Sg	**23 01 43.8**	**-0.6**
AGG	**Agios Georgios**	**1.21**	**35**	*e*PN	Pg	**23 01 27.8**	**-1.2**
AGG	**Agios Georgios**	**1.21**	**35**	P	Pg	**23 01 27.8**	**-1.2**
AGG				S	Sg	**23 01 46.2**	**+1.5**

AGG	Agios Georgios	1.21	35	P	Pg	23 01 27.8 -1.2
AGG				S	Sg	23 01 46.2 +1.5
LKR	Lokris	1.37	63	ePN	Pn	23 01 30.0 -2.1
LKR	Lokris	1.37	63	P	Pn	23 01 30.6 -1.5
LKR				S	Sg	23 01 49.9 +0.1
LKR	Lokris	1.37	63	ePn	Pn	23 01 30.0 -2.1
LKR	Lokris	1.37	63	P	Pn	23 01 30.6 -1.5
LKR				S	Sg	23 01 49.9 +0.1
ATAL	Atalanti	1.41	61	P	Pn	23 01 30.2 -2.3
ATAL				S	Sg	23 01 50.7 -0.2
ATAL	Atalanti	1.41	61	P	Pn	23 01 30.2 -2.3
ATAL				S	Sg	23 01 50.7 -0.2
DYR	Agios Nikonas	1.45	150	P	Pn	23 01 32.3 -0.8
DYR				S	Sg	23 01 52.7 +0.5
DID	Didima	1.51	110	P	Pn	23 01 33.0 -1.0
DID				S	Sn	23 01 54.4 +0.1
DID	Didima	1.51	110	P	Pn	23 01 33.0 -1.0
DID				S	Sn	23 01 52.0 -2.3
THL	Klokotos Trika	1.60	16	ePN	Pn	23 01 35.9 +0.7
THL	Klokotos Trika	1.60	16	P	Pn	23 01 35.2 0.0
THL				S	Sn	23 01 58.5 +2.0
THL	Klokotos Trika	1.60	16	P	Pn	23 01 35.2 0.0
THL	Klokotos Trika	1.60	16	ePn	Pn	23 01 35.9 +0.7
THL				S	Sn	23 01 58.5 +2.0
NAIG	Nisos Aigina	1.64	99	ePN	Pn	23 01 34.5 -1.2
NAIG	Nisos Aigina	1.64	99	ePn	Pn	23 01 34.5 -1.2
JAN	Janina	1.69	344	ePN	Pn	23 01 38.3 +1.9
JAN	Janina	1.69	344	P	Pn	23 01 38.5 +2.1
JAN				S	Sg	23 02 02.8 +2.7
JAN	Janina	1.69	344	ePn	Pn	23 01 38.3 +1.9
JAN				S	Sg	23 02 02.8 +2.7
IGT	Igoumenitsa	1.74	330	P	Pn	23 01 38.4 +1.3
IGT	Igoumenitsa	1.74	330	P	Pn	23 01 38.4 +1.3
MEV	Metsovon	1.76	355	P	Pn	23 01 39.2 +1.8
MEV	Metsovon	1.76	355	P	Pn	23 01 39.2 +1.8
VLI	Veliai	1.77	137	ePN	Pn	23 01 38.6 +1.1
VLI	Veliai	1.77	137	P	Pn	23 01 37.9 +0.4
VLI				S	Sn	23 02 02.2 +1.6
VLI	Veliai	1.77	137	P	Pn	23 01 37.9 +0.4
VLI	Veliai	1.77	137	ePn	Pn	23 01 38.6 +1.1
VLI				S	Sn	23 02 02.2 +1.6
ATH	Athens Observa	1.80	91	ePN	Pn	23 01 37.0 -0.9
ATH	Athens Observa	1.80	91	P	Pn	23 01 37.5 -0.4
ATH				S	Sn	23 02 01.2 -0.1
ATH	Athens Observa	1.80	91	ePn	Pn	23 01 37.0 -0.9
ATH	Athens Observa	1.80	91	P	Pn	23 01 37.5 -0.4
ATH				S	Sn	23 02 01.2 -0.1
VLY	Voula,Athens	1.87	95	ePB	Pn	23 01 37.3 -1.5
VLY	Voula,Athens	1.87	95	P	Pn	23 01 37.2 -1.6
VLY				S	Sn	23 02 02.9 -0.2
VLY	Voula,Athens	1.87	95	P	Pn	23 01 37.2 -1.6
VLY				S	Sn	23 02 02.9 -0.2
NEO	Neokhori	1.89	47	ePB	Pn	23 01 38.2 -1.0
NEO	Neokhori	1.89	47	P	Pn	23 01 38.2 -1.0
NEO				S	Sn	23 02 05.1 +1.4
NEO	Neokhori	1.89	47	ePb	Pn	23 01 38.2 -1.0
PTL	Penteli	1.91	89	ePB	Pn	23 01 38.0 -1.5
PTL	Penteli	1.91	89	P	Pn	23 01 38.1 -1.4
PTL				S	Sn	23 02 05.5 +1.3
PTL	Penteli	1.91	89	P	Pn	23 01 38.1 -1.4
PTL				S	Sn	23 02 05.5 +1.3
KEK	Kerkira	2.12	323	ePN	Pn	23 01 43.5 +1.2
KEK	Kerkira	2.12	323	P	Pn	23 01 43.7 +1.4
KEK	Kerkira	2.12	323	ePn	Pn	23 01 43.5 +1.2
KYTH	Kithira	2.16	143	P	Pg	23 01 46.5 -0.6
KYTH	Kithira	2.16	143	P	Pg	23 01 46.5 -0.6
AOS	Alonnisos	2.22	58	P	Pn	23 01 42.4 -1.4
AOS				S	Sn	23 02 11.8 -0.1
AOS	Alonnisos	2.22	58	P	Pn	23 01 42.4 -1.4
AOS				S	Sn	23 02 11.8 -0.1
LIT	Litokhoron	2.23	21	ePN	Pn	23 01 46.0 +2.2
LIT	Litokhoron	2.23	21	P	Pn	23 01 45.1 +1.3
LIT				S	Sn	23 02 12.8 +0.9
LIT	Litokhoron	2.23	21	P	Pn	23 01 45.1 +1.3
LIT	Litokhoron	2.23	21	ePn	Pn	23 01 46.0 +2.2
LIT				S	Sn	23 02 12.8 +0.9
KZN	Kozani	2.29	6	ePN	Pn	23 01 46.9 +2.2
KZN	Kozani	2.29	6	P	Pn	23 01 46.7 +2.0
KZN	Kozani	2.29	6	P	Pn	23 01 46.7 +2.0
NEST	Nestorio	2.40	353	P	Pn	23 01 48.8 +2.6
NEST	Nestorio	2.40	353	P	Pn	23 01 48.8 +2.6
PAIG	Paliouri	2.58	42	P	Pn	23 01 47.1 -1.5
PAIG	Paliouri	2.58	42	P	Pn	23 01 47.1 -1.5
FNA	Florina	2.75	359	P	Pn	23 01 52.4 +1.4
FNA	Florina	2.75	359	P	Pn	23 01 52.4 +1.4
PLG	Polygyros	2.81	33	ePN	Pn	23 01 51.2 -0.7
PLG	Polygyros	2.81	33	P	Pn	23 01 52.5 +0.6
PLG	Polygyros	2.81	33	ePn	Pn	23 01 51.2 -0.7
PLG	Polygyros	2.81	33	P	Pn	23 01 52.5 +0.6
HORT	Hortiatis	2.87	26	P	Pn	23 01 52.5 -0.1
HORT	Hortiatis	2.87	26	P	Pn	23 01 52.5 -0.1
BIA	Bitola	2.99	358	P	Pn	23 01 55.8 +1.5
BIA	Bitola	2.99	358	ePn	Pn	23 01 55.7 +1.4
BIA	Bitola	2.99	358	ePn	Pn	23 01 55.7 +1.4
GRG	Griva	3.02	14	P	Pn	23 01 55.6 +0.9
GRG	Griva	3.02	14	P	Pn	23 01 55.6 +0.9
OUR	Ouranopolis	3.03	40	P	Pn	23 01 54.3 -0.6
OUR	Ouranopolis	3.03	40	P	Pn	23 01 54.3 -0.6
SOH	Sokhos	3.16	27	P	Pn	23 01 57.6 +1.0
SOH	Sokhos	3.16	27	P	Pn	23 01 57.6 +1.0
KARN	Karanos	3.29	142	P	Pn	23 02 00.5 +2.1
KARN	Karanos	3.29	142	P	Pn	23 02 00.5 +2.1
KNT	Kendrikon	3.33	19	P	Pn	23 02 00.5 +1.6
KNT				S	Sn	23 02 40.7 +1.6
KNT	Kendrikon	3.33	19	P	Pn	23 02 00.5 +1.6
KNT				S	Sn	23 02 40.7 +1.6
APE	Apeiranthos	3.39	105	P	Pn	23 02 00.1 +0.4
APE	Apeiranthos	3.39	105	⇓iP	Pn	23 01 59.3 -0.4
APE	Apeiranthos	3.39	105	P	Pn	23 02 00.1 +0.4
VAY	Valandovo	3.40	14	P	Pn	23 02 01.6 +1.6
VAY	Valandovo	3.40	14	ePn	Pn	23 02 03.4 +3.4
VAY	Valandovo	3.40	14	P	Pn	23 02 01.6 +1.6
VAY	Valandovo	3.40	14	ePn	Pn	23 02 03.3 +3.3
VAM	Vamos	3.43	139	P	Pn	23 02 01.8 +1.5
VAM	Vamos	3.43	139	P	Pn	23 02 01.8 +1.5
LIA	Limnos Island	3.46	56	P	Pn	23 02 00.3 -0.5
LIA	Limnos Island	3.46	56	P	Pn	23 02 00.3 -0.5
SRS	Serrai	3.50	28	P	Pn	23 02 01.8 +0.4
SRS	Serrai	3.50	28	P	Pn	23 02 01.8 +0.4
TIR	Tirane	3.53	340	eP	Pn	23 01 59.7 -2.0
TIR	Tirane	3.53	340	ePn	Pn	23 01 59.7 -2.0
THR3	Thira Island,	3.55	116	P	Pn	23 02 03.5 +1.5
THR3	Thira Island,	3.55	116	P	Pn	23 02 03.5 +1.5
CHOS	Chios island	3.65	83	ePN	Pn	23 02 02.1 -1.3
CHOS	Chios island	3.65	83	P	Pn	23 02 02.5 -0.9
CHOS	Chios island	3.65	83	ePn	Pn	23 02 02.1 -1.3
CHOS	Chios island	3.65	83	P	Pn	23 02 02.5 -0.9
KAVA	Kavala	3.80	38	P	Pn	23 02 05.0 -0.4
KAVA	Kavala	3.80	38	P	Pn	23 02 05.0 -0.4
NVR	Nevrokopi	3.81	29	P	Pn	23 02 06.8 +1.3
NVR	Nevrokopi	3.81	29	P	Pn	23 02 06.8 +1.3
GVD	Gavdhos	3.83	145	ePn	Pn	23 02 04.9 -0.9
GVD				ePg	Pg	23 02 20.6 +1.5
GVD				eSg	Sg	23 03 06.7 -2.1
GVD	Gavdhos	3.83	145	P	Pn	23 02 06.3 +0.5
GVD	Gavdhos	3.83	145	ePn	Pn	23 02 04.9 -0.9
GVD	Gavdhos	3.83	145	P	Pn	23 02 06.3 +0.5
PRK	Paraskevi	3.97	71	P	Pn	23 02 07.9 +0.1
PRK	Paraskevi	3.97	71	P	Pn	23 02 07.9 +0.1
SIVA	Sivas	4.05	137	P	Pn	23 02 10.6 +1.8
SIVA	Sivas	4.05	137	P	Pn	23 02 10.6 +1.8
TAR1	Taranto	4.08	309	ePn	Pn	23 02 09.8 +0.5
PE1	Pezze di Greco	4.17	313	ePn	Pn	23 02 10.5 0.0
LAST	Lasithi	4.33	130	P	Pn	23 02 13.5 +0.8
LAST				S	Sn	23 03 05.4 +1.6
LAST	Lasithi	4.33	130	P	Pn	23 02 13.5 +0.8
NPS	Neapolis	4.34	128	P	Pn	23 02 14.5 +1.6
NPS				S	Sn	23 03 05.4 +1.3
NPS	Neapolis	4.34	128	P	Pn	23 02 14.5 +1.6
ALN	Alexandroupoli	4.57	50	P	Pn	23 02 16.5 +0.5
ALN	Alexandroupoli	4.57	50	P	Pn	23 02 16.5 +0.5
SG1	Sgolgore (BA)	4.64	309	ePn	Pn	23 02 17.7 +0.8
SG1				eSn	Sn	23 03 09.5 -1.9
BAI	Bari	4.68	313	ePn	Pn	23 02 18.2 +0.7
BARS	Barje	4.79	3	⇓iPn	Pn	23 02 19.7 +0.6
CUC	Castrocucco	4.80	296	ePn	Pn	23 02 19.2 0.0
CUC				eSn	Sn	23 03 12.7 -2.8
CUC	Castrocucco	4.80	296	ePn	Pn	23 02 19.2 0.0
CUC				eSn	Sn	23 03 12.7 -2.8

CDT	Castel del Mon	5.03	309	ePn	Pn	23 02 23.3 +1.0
KARP	Karpathos	5.21	117	P	Pn	23 02 26.9 +2.0
KARP				S	Sn	23 03 28.4 +2.8
KARP	Karpathos	5.21	117	P	Pn	23 02 26.9 +2.0
KARP				S	Sn	23 03 28.4 +2.8
SJES	Sjenica	5.35	348	⇑iPn	Pn	23 02 27.0 +0.3
GRUS	Gruza	5.88	355	⇓iPn	Pn	23 02 33.9 -0.1
BBLS	Lazići	6.03	346	⇓iPn	Pn	23 02 35.6 -0.5
DIVS	Divibare	6.16	350	⇓iPn	Pn	23 02 37.4 -0.5
TRUS	Trudelj	6.24	353	ePn	Pn	23 02 36.9 -2.0
VOIR		7.88	19	⇑iP	Pn	23 03 04.7 +3.3
MLR	Muntele Rosu	8.18	23	Pn	Pn	23 03 10.2 +4.7
	0.1nm,0.3s,baz=140,slow=7.1,SNR=4.2					
MLR	Muntele Rosu	8.18	23	Pn	Pn	23 03 10.2 +4.6
MLR	Muntele Rosu	8.18	23	⇑iP	Pn	23 03 10.5 +5.0
NVLJ	Novalja	8.19	325	ePn	Pn	23 03 05.1 -0.6
NVLJ				Sn	Sn	23 04 34.5 -4.4
NVLJ	Novalja	8.19	325	ePn	Pn	23 03 05.1 -0.6
PLOR	Plostina	8.72	25	⇑iP	Pn	23 03 18.6 +5.6
VRI	Vrincioaia	8.76	25	⇓iP	Pn	23 03 20.6 +7.0
BOJS	Bojanci	8.78	330	i Pn	Pn	23 03 13.4 -0.5
BOJS				i Sn	Sn	23 04 48.3 -5.2
BOJS	Bojanci	8.78	330	i Pn	Pn	23 03 13.4 -0.4
JAVS	Javornik	9.59	327	i Pn	Pn	23 03 24.8 0.0
JAVS				i Sn	Sn	23 05 08.8 -4.4
JAVS	Javornik	9.59	327	i Pn	Pn	23 03 24.8 0.0
BR131	Keskin Array S	9.66	76	ePn	Pn	23 03 23.5 -2.4
	0.6nm,0.4s					
BR131	Keskin Array S	9.66	76	ePn	Pn	23 03 23.5 -2.4
	0.6nm,0.4s					
BRTR	Keskin Array B	9.66	76	Pn	Pn	23 03 28.0 +2.1
	0.2nm,0.3s,baz=258,slow=12,SNR=8.1					
BRTR	Keskin Array B	9.66	76	Pn	Pn	23 03 28.0 +2.1
BRTR	Keskin Array B	9.66	76	Pn	Pn	23 03 28.0 +2.1
PERS	Pernice	9.79	333	i Pn	Pn	23 03 26.6 -1.0
PERS				i Sn	Sn	23 05 12.1 -6.1
PERS	Pernice	9.79	333	i Pn	Pn	23 03 26.6 -1.0
SOKA	Soboth	9.86	333	⇓iPn	Pn	23 03 27.7 -0.9
SOKA				⇓i Sn	Sn	23 05 13.5 -6.3
SOKA	Soboth	9.86	333	Pn	Pn	23 03 27.7 -0.8
OBKA	Obir	9.89	331	⇓iPn	Pn	23 03 27.3 -1.7
OBKA				⇓i Sn	Sn	23 05 17.1 -3.6
OBKA	Obir	9.89	331	Pn	Pn	23 03 27.3 -1.7
KEST	Kesra	9.96	260	Pn	Pn	23 03 30.2 +0.2
	0.0nm,0.3s,baz=253,slow=20,SNR=2.2					
KEST				LR	LR	23 06 57.7
	comp=Z,26nm,21.2s,baz=317,slow=35					
KEST	Kesra	9.96	260	Pn	Pn	23 03 30.2 +0.2
KEST				LR	LR	23 06 57.7
KEST	Kesra	9.96	260	Pn	Pn	23 03 30.2 +0.2
KECS	Kecovo	10.47	356	ePN	Pn	23 03 33.0 -4.0
VYHS	Vyhne	10.63	351	ePN	Pn	23 03 38.2 -0.9
VYHS	Vyhne	10.63	351	ePn	Pn	23 03 38.2 -0.9
MOA	Molln	11.13	334	⇑iPn	Pn	23 03 44.1 -1.9
MOA				⇑i Sn	Sn	23 05 47.9 -3.1
GERES	GERESS Array B	12.18	335	Pn	Pn	23 04 00.2 -0.1
	0.1nm,0.3s,baz=157,slow=14,SNR=4.6					
GERES	GERESS Array B	12.18	335	Pn	Pn	23 04 00.2 -0.1
GERES	GERESS Array B	12.18	335	Pn	Pn	23 04 00.2 -0.1
MMAI	Mount Meron Ar	12.42	110	Pn	Pn	23 04 02.0 -1.7
	0.6nm,0.3s,baz=307,slow=12,SNR=7.4					
EIL	Elat	13.97	123	Pn	Pn	23 04 21.9 -3.0
	0.2nm,0.3s,baz=0.0,slow=3.0,SNR=4.7					
EIL	Elat	13.97	123	Pn	Pn	23 04 21.9 -3.0
EIL	Elat	13.97	123	Pn	Pn	23 04 21.9 -3.0
ESDC	Sonseca Array	19.84	283	P	Pn	23 05 35.4 -4.1
	0.1nm,0.3s,baz=76,slow=8.6,SNR=2.6					
ESDC	Sonseca Array	19.84	283	P	Pn	23 05 35.4 -4.1
HFS	Hagfors	22.67	350	P	P	23 06 07.0 -1.2
	2.7nm,0.7s,mb3.9,baz=162,slow=10,SNR=8.3					
HFS	Hagfors	22.67	350	P	P	23 06 07.0 -1.2
HFS	Hagfors	22.67	350	P	P	23 06 07.0 -1.2
FINES	FINESS Array B	23.62	6	P	P	23 06 15.4 -2.7
	2.6nm,0.9s,mb3.8,baz=174,slow=15,SNR=2.9					
FINES	FINESS Array B	23.62	6	P	P	23 06 15.4 -2.7
NOA	NORSAR Array B	23.91	348	P	P	23 06 18.7 -2.2
	0.6nm,0.8s,mb3.1,baz=155,slow=9.8,SNR=4.1					
NOA	NORSAR Array B	23.91	348	P	P	23 06 18.7 -2.2
EKA	Eskdalemuir Ar	23.97	324	P	P	23 06 20.9 -0.7
	3.0nm,0.8s,mb3.9,baz=131,slow=11,SNR=6.3					
EKA	Eskdalemuir Ar	23.97	324	P	P	23 06 20.9 -0.7
EKA	Eskdalemuir Ar	23.97	324	P	P	23 06 20.9 -0.6
TORD	Torodi Ar. Bea	30.38	221	P	P	23 07 19.4 0.0
	1.5nm,0.7s,mb3.9,baz=33,slow=9.1,SNR=14					
TORD	Torodi Ar. Bea	30.38	221	P	P	23 07 19.4 0.0
TORD	Torodi Ar. Bea	30.38	221	P	P	23 07 19.4 0.0
DBIC	Dimbokro	39.28	224	P	P	23 08 36.1 -0.2
	2.8nm,0.8s,mb4.0,baz=13,slow=7.8,SNR=3.6					
DBIC	Dimbokro	39.28	224	eP	P	23 08 36.2 0.0
	1nm,1.3s,mb4.3					
DBIC	Dimbokro	39.28	224	eP	P	23 08 36.2 0.0
	11nm,1.3s,mb4.3					
KURK	Kurchatov	41.78	53	P	P	23 08 54.2 -2.4
	0.8nm,0.3s,mb4.0,baz=281,slow=8.6,SNR=7.0					
KURK	Kurchatov	41.78	53	eP	P	23 08 54.1 -2.4
	1.3nm,0.8s,mb3.7					
KURK	Kurchatov	41.78	53	eP	P	23 08 54.1 -2.5
	1.3nm,0.8s,mb3.7					
MKAR	Makanchi Array	44.76	58	P	P	23 09 18.1 -2.6
	0.8nm,0.5s,mb3.9,baz=271,slow=7.7,SNR=19					
MKAR	Makanchi Array	44.76	58	P	P	23 09 18.1 -2.6
ZALV	Zalesovo Beam	45.25	48	P	P	23 09 22.1 -2.4
	2.1nm,0.4s,mb4.4,baz=270,slow=8.6,SNR=13					
ZALV	Zalesovo Beam	45.25	48	P	P	23 09 22.1 -2.4
ZALV	Zalesovo Beam	45.25	48	P	P	23 09 22.1 -2.4

*DDA **16** 23:10:04.7,37.°45N×26.°97E,h7km±3km,Md2.9*
*ISCJB **16** 23:10:06.1±0.7,37.°50N±0.°03×27.°01E±0.°05,h8km±6km, Error ellipse: s-maj=7.6km s-min=4.3km az=161.4*
*CSEM **16** 23:10:06.3±0.2,37.°51N×27.°00E,h8km,MD2.9,Error ellipse: s-maj=5.1km s-min=3.1km az=64.0*
*ISK **16** 23:10:06.2,37.°50N×27.°05E,h9km,MD2.8*
ISC 16 23:10:06.5±0.7,**37.°50N**±0.°03×**26.°99E**±0.°06,**h8**km±8km, **n24**,σ**0**°**66**/**38**,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GCAM	G?zelcaml?	0.28	43	i P	Pg	23 10 11.8	-0.2
GCAM				i S	Sg	23 10 16.6	+0.7
GCAM	G?zelcaml?	0.28	43	i P	Pg	23 10 11.8	-0.3
GCAM				i S	Sg	23 10 16.6	+0.8
BODT	Bodrum	0.50	150	ePG	Pg	23 10 15.4	-0.9
BODT				eSG	Sg	23 10 22.9	+0.1
BODT	Bodrum	0.50	150	ePg	Pg	23 10 15.4	-0.9
BODT				eSg	Sg	23 10 22.9	+0.1
MLSB	Milas	0.66	108	ePG	Pg	23 10 19.3	+0.1
MLSB				eSG	Sg	23 10 27.1	-0.6
MLSB	Milas	0.66	108	ePg	Pg	23 10 19.3	+0.1
MLSB				eSg	Sg	23 10 27.1	-0.6
AYDN	Tasoluk	0.72	77	i P	Pg	23 10 19.6	-0.9
AYDN				i S	Sg	23 10 30.3	+0.4
AYDN	Tasoluk	0.72	77	i P	Pg	23 10 19.5	-1.0
AYDN				i S	Sg	23 10 30.3	+0.4
BLCB	Balcova	0.89	3	ePG	Pg	23 10 23.3	-0.3
BLCB				eSG	Sg	23 10 36.2	+1.1
BLCB	Balcova	0.89	3	ePg	Pg	23 10 23.3	-0.3
BLCB				eSg	Sg	23 10 36.2	+1.0
DAT	Datca	0.90	148	ePG	Pg	23 10 24.3	+0.5
DAT				eSG	Sg	23 10 36.3	+0.9
DAT	Datca	0.90	148	ePg	Pg	23 10 24.3	+0.5
DAT				eSg	Sg	23 10 36.3	+0.9
URLA	Izmir	0.92	340	i P	Pg	23 10 22.5	-1.6
URLA				i S	Sg	23 10 36.5	+0.4
URLA	Izmir	0.92	340	i P	Pg	23 10 22.5	-1.7
URLA				i S	Sg	23 10 36.5	+0.4
IZM	Izmir	0.93	13	ePG	Pg	23 10 24.2	-0.2
IZM	Izmir	0.93	13	ePg	Pg	23 10 24.2	-0.1
YER	Yerkesik	1.09	109	ePG	Pg	23 10 27.7	+0.2
YER	Yerkesik	1.09	109	ePg	Pg	23 10 27.7	+0.2
APE	Apeiranthos	1.24	250	ePN	Pn	23 10 30.9	+0.7
APE	Apeiranthos	1.24	250	ePn	Pn	23 10 30.9	+0.7
DENT	Denizli	1.64	80	ePN	Pn	23 10 35.5	-0.2
DENT	Denizli	1.64	80	ePn	Pn	23 10 35.5	-0.2
KULA	Kula-Manisa	1.67	52	ePN	Pn	23 10 35.8	-0.2
KULA	Kula-Manisa	1.67	52	ePn	Pn	23 10 35.8	-0.2

IDC 16 23:11:09.6±8.2,**8.°58S**×**122.°02E**,**h263**km±100km,**mb3.2**/1, **mb1 2.8**/4,**mb1mx2.7**/19,**mbtmp2.7**/4,**Error ellipse: s-maj=151.3km s-min=29.3km az=47.0,Flores region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	10.10	160	P	Pn	23 13 29.1	-0.1
	0.3nm,0.3s,baz=20,slow=12,SNR=13						
FITZ				S	S	23 15 22.1	-0.7
	0.3nm,0.3s,baz=0.0,slow=11,SNR=3.8						
WRA	Warramunga Arr	16.42	135	P	P	23 14 43.1	-1.2
	0.1nm,0.3s,baz=307,slow=13,SNR=7.7						
WRA				S	S	23 17 41.7	-1.0
	0.2nm,0.3s,baz=324,slow=27,SNR=6.2						
ASAR	Alice Springs	18.83	144	P	P	23 15 11.8	+1.5
	0.1nm,0.3s,baz=327,slow=13,SNR=6.1						
MKAR	Makanchi Array	65.49	331	P	P	23 21 24.7	0.0
	0.5nm,0.4s,baz=146,slow=7.4,SNR=10.0						

*IDC **16** 23:21:21.0±0.7,12.°66N×48.°19E,h0km,mb4.0/16, mb1 4.1/17,mb1mx4.0/29,mbtmp4.0/17,ML4.1/1,MS3.7/7, Ms1 3.7/7,ms1mx3.4/19,Error ellipse: s-maj=18.9km s-min=16.8km az=21.0*
*ISCJB **16** 23:21:21.0±0.5,12.°87N±0.°06×48.°05E±0.°04,h10km, mb4.0/19,MS3.6/6,Error ellipse: s-maj=8.5km s-min=5.3km az=178.8*
*CSEM **16** 23:21:22.7±0.2,12.°86N×48.°01E,h10km,ML4.1,Error ellipse: s-maj=10.5km s-min=6.8km az=169.0*
*NEIC **16** 23:21:22.4±0.4,12.°66N×48.°20E,h10km,mb3.9/4,Error ellipse: s-maj=10.3km s-min=7.6km az=140.0*
*DHMR **16** 23:21:22.4±1.2,13.°24N×47.°90E,h10km,ML4.1*
ISC 16 23:21:22.7±0.5,**12.°82N**±0.°07×**48.°00E**±0.°04,**h10**km,**n73,** σ1§**26**/**72**,**mb4.0**/19,**MS3.6**/6,**1D,Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MUKL	Al Mukalla	1.93	31	⇓iP	Pn	23 21 52.0	-3.6
MUKL				i S	Sn	23 22 14.8	-5.2
BDHA	Al Bayda'	2.63	296	i P	Pn	23 22 04.7	-0.5
BDHA				i S	Sn	23 22 36.4	-0.9
BDHA				AML	AML	23 22 40.3	
	comp=N,2μm,0.5s						
BDHA	Al Bayda'	2.63	296	i P	Pn	23 22 04.7	-0.6
BDHA				i S	Sn	23 22 36.4	-0.9
	comp=N,922nm,0.5s						
LBOS		2.88	292	i P	Pn	23 22 08.2	-0.5
LBOS				i S	Sn	23 22 43.2	-0.1
LBOS		2.88	292	i P	Pn	23 22 08.2	-0.4
LBOS				i S	Sn	23 22 43.2	-0.1
DHBB	Dhamar BB	3.92	297	i P	Pn	23 22 21.5	-1.5
DHBB				i S	Sn	23 23 08.3	-0.8
DHBB	Dhamar BB	3.92	297	i P	Pn	23 22 21.5	-1.5
DHBB				i S	Sn	23 23 08.3	-0.7
HAJJ	Hajjah	5.14	304	i S	Sn	23 23 36.7	-2.5
HAJJ				AML	AML	23 24 13.6	
	comp=Z,488nm,0.8s						
HAJJ	Hajjah	5.14	304	i S	Sn	23 23 36.7	-2.5
	comp=Z,244nm,0.8s						
ATD	Arta Tunnel	5.20	256	Pn	Pn	23 22 42.0	+1.3
	comp=Z,6.3nm,0.3s,baz=52,slow=6.5,SNR=34						
ATD				LR	LR	23 24 16.7	
	comp=Z,725nm,19.8s,baz=266,slow=33						
ATD	Arta Tunnel	5.20	256	Pn	Pn	23 22 42.0	+1.3
ATD				LR	LR	23 24 16.7	
ATD	Arta Tunnel	5.20	256	Pn	Pn	23 22 42.0	+1.4
KMBO	Kilima Mbogo	17.49	218	ePn	Pn	23 25 26.8	0.0
	comp=Z,10.0nm,1.3s						
KMBO	Kilima Mbogo	17.49	218	ePn	Pn	23 25 26.8	0.0
	comp=Z,10.0nm,1.3s						
ASF	Jabal al Asfar	21.79	334	P	P	23 26 18.0	+3.1
	comp=Z,3.3nm,1.0s,mb3.7,baz=258,slow=4.2,SNR=5.3						
ASF				LR	LR	23 35 31.0	
	comp=Z,120nm,18.8s,MS3.3,baz=221,slow=39						
ASF	Jabal al Asfar	21.79	334	P	P	23 26 18.0	+3.1
ASF				LR	LR	23 35 31.0	
MMAI	Mount Meron Ar	23.17	332	P	P	23 26 31.3	+1.8
	comp=Z,1.9nm,0.7s,mb3.6,baz=132,slow=11,SNR=4.1						
MMAI				LR	LR	23 36 05.5	
	comp=Z,204nm,18.3s,MS3.6,baz=105,slow=38

mb1 4.3/15,mb1mx4.1/28,mbtmp4.2/15,ML4.7/2,Error ellipse: s-maj=27.1km s-min=12.3km az=70.0
*NEIC **16** 23:21:26.6±3.7, 1.30N×122.16E,h18km±24km,mb4.4/4, Error ellipse: s-maj=11.0km s-min=6.3km az=75.0*
*ISCJB **16** 23:21:29.3±0.8, 1.44N±0.05×122.39E±0.06,h58km±8km, mb4.2/16,Error ellipse: s-maj=10.9km s-min=8.7km az=16.9*
*DJA **16** 23:21:32, 1.25N×122.44E,h16km,MLv4.6/10*
ISC 16 23:21:31.2±0.8,1.41N±0.05×122.38E±0.06,h57km±8km, n48,σ1§19/48,mb4.2/16,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**1.03**	**205**	P	**Pn**	**23 21 46.4**	**-3.1**
MRSI				S	**Sn**	**23 22 02.3**	**-0.7**
KMSI	**Cibinong**	**1.81**	**117**	P	**Pn**	**23 22 02.7**	**+2.8**
MNI	**Manado**	**2.46**	**89**	P	**Pn**	**23 22 07.2**	**-1.7**
LUWI	**Luwuk**	**2.47**	**171**	P	**Pn**	**23 22 10.7**	**+1.7**
MSSI	**Masamba**	**4.45**	**208**	P	**Pn**	**23 22 36.5**	**+0.4**
TTSI	**Tana Toraja**	**5.12**	**210**	P	**Pn**	**23 22 46.1**	**+0.8**
	1.3nm4µm209nm,0.8s						
KDI	**Kendari**	**5.34**	**177**	P	**Pn**	**23 22 49.5**	**+1.1**
	0.2nm772nm62nm,0.7s						
MYLDM	**Lahad Datu**	**5.38**	**314**	P	**Pn**	**23 22 56.8**	**+7.8**
	0.2nm40nm,0.9s						
SPSI	**Sidrap Palu**	**5.95**	**206**	P	**Pn**	**23 22 57.0**	**+0.3**
	102nm,1.0s						
DAV	**Davao City (W)**	**6.46**	**29**	Pn	**Pn**	**23 23 03.4**	**-0.3**
	34nm,0.3s,baz=254,slow=8.9,SNR=5.1						
DAV	**Davao City (W)**	**6.46**	**29**	Pn	**Pn**	**23 23 03.4**	**-0.3**
KAPI	**Kappang**	**6.90**	**202**	*e*Pn	**Pn**	**23 23 04.2**	**-5.6**
	23nm,0.6s						
KAPI				*e*Sn	**Sn**	**23 24 22.4**	**-4.6**
KAPI	**Kappang**	**6.90**	**202**	P	**Pn**	**23 23 08.6**	**-1.2**
	0.2nm581nm37nm,0.7s						
BKSI	**Bulukumba**	**7.06**	**199**	P	**Pn**	**23 23 15.0**	**+3.1**
	0.1nm414nm37nm,0.8s						
MDSI	**Maura Dua**	**19.11**	**252**	P	**Pn**	**23 25 51.2**	**+0.3**
FITZ	**Fitzroy Crossi**	**19.66**	**171**	P	**Pn**	**23 25 54.5**	**-2.8**
	0.9nm,0.3s,baz=0.4,slow=8.1,SNR=35						
FITZ	**Fitzroy Crossi**	**19.66**	**171**	P	**Pn**	**23 25 54.5**	**-2.8**
PSI	**Prapat**	**23.48**	**274**	P	**P**	**23 26 33.4**	**-2.7**
	2.6nm,0.3s,mb4.1,baz=112,slow=10,SNR=4.8						
PSI	**Prapat**	**23.48**	**274**	P	**P**	**23 26 33.4**	**-2.7**
WRA	**Warramunga Arr**	**24.25**	**152**	P	**P**	**23 26 42.5**	**-0.5**
	1.9nm,0.4s,mb3.9,baz=328,slow=10,SNR=19						
WRA	**Warramunga Arr**	**24.25**	**152**	P	**P**	**23 26 42.5**	**-0.5**
ASAR	**Alice Springs**	**27.33**	**156**	P	**P**	**23 27 11.3**	**+0.5**
	0.4nm,0.4s,mb3.3,baz=345,slow=15,SNR=9.1						
ASAR				PcP	PcP	23 30 29.6	+0.3
	0.3nm,0.4s,baz=342,slow=1.9,SNR=4.8						
ASAR	**Alice Springs**	**27.33**	**156**	P	**P**	**23 27 11.3**	**+0.5**
ASAR				PcP	PcP	23 30 29.6	+0.3
CTA	**Charters Tower**	**31.70**	**134**	P	**P**	**23 27 50.2**	**+0.6**
	4.6nm,1.1s,mb4.2,baz=336,slow=10.0,SNR=3.5						
CTA	**Charters Tower**	**31.70**	**134**	P	**P**	**23 27 50.2**	**+0.6**
NWAO	**Narrogin (SRO)**	**34.50**	**188**	P	**P**	**23 28 12.3**	**-1.6**
	5.3nm,0.7s,mb4.6,baz=352,slow=12,SNR=3.1						
NWAO	**Narrogin (SRO)**	**34.50**	**188**	P	**P**	**23 28 12.3**	**-1.6**
STKA	**Stephens Creek**	**37.79**	**153**	P	**P**	**23 28 41.9**	**-0.1**
	4.3nm,0.7s,mb4.3,baz=331,slow=10,SNR=9.2						
STKA	**Stephens Creek**	**37.79**	**153**	*e*P	**P**	**23 28 41.7**	**-0.3**
	0.8nm,0.7s,mb3.6						
MJAR	**Matsushiro Arr**	**37.90**	**21**	P	**P**	**23 28 41.6**	**-1.3**
	0.7nm,0.3s,mb3.9,baz=207,slow=11,SNR=3.6						
MJAR	**Matsushiro Arr**	**37.90**	**21**	P	**P**	**23 28 41.6**	**-1.3**
ARMA	**Armidale**	**42.17**	**141**	*e*P	**P**	**23 29 18.3**	**-0.1**
	16nm,1.1s,mb4.5						
SONM	**Songino Array**	**48.27**	**346**	P	**P**	**23 30 07.8**	**+1.3**
	1.4nm,0.8s,mb4.0,baz=161,slow=8.5,SNR=9.5						
SONM	**Songino Array**	**48.27**	**346**	P	**P**	**23 30 07.8**	**+1.3**
MKAR	**Makanchi Array**	**57.09**	**328**	P	**P**	**23 31 12.9**	**+1.3**
	1.0nm,0.4s,mb4.2,baz=128,slow=8.3,SNR=25						
MKAR	**Makanchi Array**	**57.09**	**328**	P	**P**	**23 31 12.9**	**+1.3**
TKM2	**Tokmak 2**	**58.70**	**321**	*e*P	**P**	**23 31 22.2**	**-0.8**
	1.1nm,0.6s,mb4.1						
AAK	**Ala-Archa**	**59.25**	**320**	*e*P	**P**	**23 31 27.0**	**+0.2**
	7.9nm,0.8s,mb4.8						
ZALV	**Zalesovo Beam**	**60.78**	**336**	P	**P**	**23 31 36.5**	**-0.5**
	0.9nm,0.5s,mb4.1,baz=122,slow=5.2,SNR=4.8						
ZALV	**Zalesovo Beam**	**60.78**	**336**	P	**P**	**23 31 36.5**	**-0.5**
KURK	**Kurchatov**	**61.45**	**330**	P	**P**	**23 31 42.1**	**+0.4**
	1.5nm,0.4s,mb4.5,baz=128,slow=6.3,SNR=8.9						
KURK	**Kurchatov**	**61.45**	**330**	P	**P**	**23 31 42.1**	**+0.4**
AKTK	**Aktyubinsk**	**72.81**	**323**	P	**P**	**23 32 54.5**	**+0.7**
AKTO	**Aktyubinsk**	**72.81**	**323**	P	**P**	**23 32 54.5**	**+0.7**
	1.7nm,0.7s,mb4.1,baz=102,slow=7.8,SNR=6.6						
VNDA	**Vanda**	**81.72**	**172**	P	**P**	**23 33 43.4**	**+0.2**
	1.9nm,0.6s,mb4.2,baz=316,slow=5.9,SNR=10						
VNDA	**Vanda**	**81.72**	**172**	P	**P**	**23 33 43.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**119.43**	**286**	PKP	PKPdf	23 40 15.1	-0.2
	0.4nm,0.5s,baz=78,slow=1.3,SNR=4.7						
TORD	**Torodi Ar. Bea**	**119.43**	**286**	PKP	PKPdf	23 40 15.1	-0.2

DJA 17 00:00:47,0.87N×121.54E,h30km,MLv3.8/4,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.56**	**134**	P	Pb	00 00 53.6	-4.8
MRSI				S	Sb	00 01 06.4	+0.2
LUWI	**Luwuk**	**2.26**	**147**	P	Pn	00 01 21.2	-1.2
LUWI				S	Sn	00 01 56.3	+7.0
PCI	**Palu**	**2.45**	**224**	P	Pn	00 01 16.3	-8.7
KMSI	**Cibinong**	**2.46**	**97**	P	Pn	00 01 31.1	+6.0
TTSI	**Tana Toraja**	**4.25**	**204**	P	Pn	00 01 52.7	+2.9

*CSEM **17** 00:13:57.2,40.51N×15.82E,h10km,MD1.7/4,After ROM*
ROM 17 00:13:57.2±0.1,40.51N×15.82E,h10km±1km,Md1.7/4, Error ellipse: s-maj=2.2km s-min=1.2km az=62.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PZUN	**Potenza**	**0.13**	**356**	Pg	Pg	00 14 00.6	+0.4
PZUN				Sg	Sg	00 14 03.5	+1.1
PZUN	**Potenza**	**0.13**	**356**	Pg	Pg	00 14 00.6	+0.4
PZUN				Sg	Sg	00 14 03.5	+1.1
MCEL	**Monticello**	**0.19**	**184**	Pg	Pg	00 14 01.6	+0.4
MCEL				Sg	Sg	00 14 05.6	+1.8
	5µm,0.3s						
MCEL	**Monticello**	**0.19**	**184**	Pg	Pg	00 14 01.6	+0.4
MCEL				Sg	Sg	00 14 05.6	+1.8
	5µm,0.3s						
SIRI	**Monte Sirino -**	**0.33**	**174**	Pg	Pg	00 14 04.4	+0.6
SIRI				Sg	Sg	00 14 10.0	+1.8
	3µm,0.2s						
SIRI	**Monte Sirino -**	**0.33**	**174**	Pg	Pg	00 14 04.4	+0.6
SIRI				Sg	Sg	00 14 10.0	+1.8
	3µm,0.2s						
MRLC	**Muro Lucano**	**0.35**	**314**	Pg	Pg	00 14 05.3	+1.2
	570nm,0.6s						
MRLC	**Muro Lucano**	**0.35**	**314**	Pg	Pg	00 14 05.3	+1.2
	570nm,0.6s						
SCHR	**S. Chirico Rap**	**0.37**	**148**	Pg	Pg	00 14 04.8	+0.4
SCHR				Sg	Sg	00 14 11.2	+1.8
	2µm,0.3s						
CDRU	**Civita di Ruta**	**0.39**	**267**	Pg	Pg	00 14 05.3	+0.4
CDRU				Sg	Sg	00 14 11.8	+1.7
	505nm,0.3s						
CDRU	**Civita di Ruta**	**0.39**	**267**	Pg	Pg	00 14 05.3	+0.4
CDRU				Sg	Sg	00 14 11.8	+1.7
	505nm,0.3s						
CMPR	**Campora**	**0.44**	**244**	Pg	Pg	00 14 06.2	+0.4
	489nm,0.4s						
CMPR	**Campora**	**0.44**	**244**	Pg	Pg	00 14 06.2	+0.4
	489nm,0.4s						

*DDA **17** 00:14:47.4,35.79N×28.01E,h47km±4km,Md3.7*
*ISCJB **17** 00:14:48.1±0.2,35.73N±0.01×28.06E±0.02,h69km±3km, mb3.9/27,Error ellipse: s-maj=2.6km s-min=2.0km az=40.2*
*NEIC **17** 00:14:48.5,35.84N×28.06E,h56km,mb3.8/2,After ATH.*
*ATH **17** 00:14:48.5,35.84N×28.06E,h56km±2km,ML3.7*
*ISK **17** 00:14:48.1,35.85N×27.93E,h21km,ML3.9*
*SGS **17** 00:14:49.7,35.85N×28.02E,h49km*
*CSEM **17** 00:14:49.7±0.1,35.75N×28.05E,h60km,mb4.0/11,Mw3.5, Error ellipse: s-maj=2.6km s-min=2.0km az=44.0*
*HLW **17** 00:14:50.3,35.68N×28.20E,h31km±41km,Md3.5,Ml3.9*
*IDC **17** 00:14:51.9±1.6,35.73N×28.29E,h90km±18km,mb3.8/11,*

mb1 3.7/21,mb1mx3.6/34,mbtmp3.6/21,Error ellipse: s-maj=13.5km s-min=12.9km az=17.0
*THE **17** 00:14:51.5,35.83N×27.97E,h30km±5km,ML3.8/5,Error ellipse: s-maj=5.8km s-min=0.7km az=101.0*
*NIC **17** 00:14:52.0±0.1,35.76N×28.26E,h40km,mb4.3,ML3.8, MW3.5*
ISC 17 00:14:49.7±0.1,35.75N±0.01×28.04E±0.02,h65km±3km, n459,σ1§10/533,mb3.9/27,2C-8D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.47**	**8**	*i*P	Pn	00 15 00.4	-1.4
ARG				*e*S	Sn	00 15 07.2	-3.4
ARG	**Arkhangelos**	**0.47**	**8**	P	Pn	00 15 00.4	-1.4
ARG				S	Sn	00 15 07.0	-3.6
ARG	**Arkhangelos**	**0.47**	**8**	*i*P	Pn	00 15 00.4	-1.4
ARG				S	Sn	00 15 07.0	-3.6
KARP	**Karpathos**	**0.75**	**255**	*e*P	Pn	00 15 04.6	-0.1
KARP	**Karpathos**	**0.75**	**255**	P	Pn	00 15 04.5	-0.2
KARP				S	Sn	00 15 14.8	-1.0
KARP	**Karpathos**	**0.75**	**255**	P	Pn	00 15 04.5	-0.2
KARP				S	Sn	00 15 14.8	-1.0
DAT	**Datca**	**1.05**	**339**	*e*PG	Pn	00 15 07.1	-1.5
DAT				*e*SG	Sn	00 15 20.3	-2.3
DAT	**Datca**	**1.05**	**339**	*e*Pg	Pn	00 15 07.1	-1.5
DAT				*e*Sg	Sn	00 15 20.3	-2.3
NIS1	**Nisyros Isl.**	**1.10**	**321**	P	Pn	00 15 07.9	-1.4
NIS1				S	Sn	00 15 21.8	-2.0
NIS1	**Nisyros Isl.**	**1.10**	**321**	P	Pn	00 15 07.9	-1.4
NIS1				S	Sn	00 15 21.8	-2.0
TURN	**Turunc**	**1.21**	**22**	*i*P	Pn	00 15 07.7	-3.0
TURN				*i*S	Sn	00 15 21.9	-4.4
TURN	**Turunc**	**1.21**	**22**	*i*P	Pn	00 15 07.7	-3.0
TURN				*i*S	Sn	00 15 21.9	-4.4
FETY	**Fethiye**	**1.22**	**43**	*e*PN	Pn	00 15 09.8	-1.0
FETY	**Fethiye**	**1.22**	**43**	Pn	Pn	00 15 09.8	-1.0
FETY	**Fethiye**	**1.22**	**43**	*e*Pn	Pn	00 15 09.8	-1.0
AKAS	**Kas**	**1.36**	**69**	*i*P	Pn	00 15 11.2	-1.3
AKAS				*i*S	Sn	00 15 30.5	+0.7
AKAS	**Kas**	**1.36**	**69**	*i*P	Pn	00 15 11.2	-1.4
AKAS				*i*S	Sn	00 15 30.5	+0.8
YER	**Yerkesik**	**1.40**	**8**	*e*PN	Pn	00 15 12.8	-0.4
YER	**Yerkesik**	**1.40**	**8**	Pn	Pn	00 15 12.9	-0.3
YER	**Yerkesik**	**1.40**	**8**	*e*Pn	Pn	00 15 12.8	-0.3
BODT	**Bodrum**	**1.44**	**336**	*e*PN	Pn	00 15 11.6	-2.1
BODT	**Bodrum**	**1.44**	**336**	Pn	Pn	00 15 11.6	-2.1
BODT	**Bodrum**	**1.44**	**336**	*e*Pn	Pn	00 15 11.6	-2.1
MLSB	**Milas**	**1.56**	**352**	*e*PN	Pn	00 15 13.6	-1.8
MLSB	**Milas**	**1.56**	**352**	Pn	Pn	00 15 13.6	-1.8
MLSB	**Milas**	**1.56**	**352**	*e*Pn	Pn	00 15 13.6	-1.7
ELL	**Elmali**	**1.81**	**56**	*e*PN	Pn	00 15 19.7	+1.1
ELL	**Elmali**	**1.81**	**56**	Pn	Pn	00 15 19.2	+0.6
ELL	**Elmali**	**1.81**	**56**	*e*Pn	Pn	00 15 19.7	+1.1
GLHS	**Glhisar (BURDU**	**1.83**	**39**	*e*PN	Pn	00 15 19.6	+0.7
GLHS	**Glhisar (BURDU**	**1.83**	**39**	Pn	Pn	00 15 19.2	+0.3
GLHS	**Glhisar (BURDU**	**1.83**	**39**	*e*Pn	Pn	00 15 19.6	+0.7
AYDN	**Tasoluk**	**1.92**	**356**	*i*P	Pn	00 15 19.8	-0.3
AYDN				*i*S	Sn	00 15 41.9	-1.3
AYDN	**Tasoluk**	**1.92**	**356**	*i*P	Pn	00 15 19.8	-0.3
AYDN				*i*S	Sn	00 15 41.8	-1.4
NPS	**Neapolis**	**2.04**	**257**	*e*P	Pn	00 15 22.2	+0.4
NPS				*e*S	Sn	00 15 45.7	-0.5
NPS	**Neapolis**	**2.04**	**257**	P	Pn	00 15 22.1	+0.3
NPS				S	Sn	00 15 45.7	-0.5
NPS	**Neapolis**	**2.04**	**257**	P	Pn	00 15 22.1	+0.3
NPS				*e*S	Sn	00 15 45.7	-0.5
GCAM	**G?zelcaml?**	**2.06**	**342**	*i*P	Pn	00 15 19.8	-2.2
GCAM				*i*S	Sn	00 15 43.3	-3.3
GCAM	**G?zelcaml?**	**2.06**	**342**	*i*P	Pn	00 15 19.8	-2.2
GCAM				*i*S	Sn	00 15 43.3	-3.3
DENT	**Denizli**	**2.16**	**21**	*e*PN	Pn	00 15 23.2	-0.1
DENT	**Denizli**	**2.16**	**21**	Pn	Pn	00 15 23.2	-0.1
DENT	**Denizli**	**2.16**	**21**	*e*Pn	Pn	00 15 23.2	-0.1
LAST	**Lasithi**	**2.17**	**255**	*e*P	Pn	00 15 24.3	+0.7
LAST	**Lasithi**	**2.17**	**255**	P	Pn	00 15 24.2	+0.6
LAST				S	Sn	00 15 49.8	+0.4
LAST	**Lasithi**	**2.17**	**255**	*e*P	Pn	00 15 24.3	+0.7
LAST				S	Sn	00 15 49.8	+0.4
THR1	**Thera Island**	**2.19**	**287**	P	Pn	00 15 23.0	-0.7
THR1	**Thera Island**	**2.19**	**287**	P	Pn	00 15 23.0	-0.7
SMG	**Samos**	**2.19**	**334**	*e*P	Pn	00 15 22.8	-0.9
SMG				*e*S	Sn	00 15 47.6	-2.1
SMG	**Samos**	**2.19**	**334**	*e*P	Pn	00 15 22.8	-0.9
SMG				*e*S	Sn	00 15 47.7	-2.1
THR2	**Thira island,**	**2.23**	**289**	P	Pn	00 15 23.6	-0.7
THR2	**Thira island,**	**2.23**	**289**	P	Pn	00 15 23.6	-0.7
THR3	**Thira Island,**	**2.24**	**288**	P	Pn	00 15 23.8	-0.7
THR3	**Thira Island,**	**2.24**	**288**	P	Pn	00 15 23.8	-0.7
KORT	**Korkueli**	**2.24**	**55**	*i*P	Pn	00 15 24.8	+0.3
KORT				*i*S	Sn	00 15 54.7	+3.6
KORT	**Korkueli**	**2.24**	**55**	*i*P	Pn	00 15 24.8	+0.3
KORT				*i*S	Sn	00 15 54.7	+3.6
ANTB	**Antalya**	**2.40**	**61**	*e*PN	Pn	00 15 28.2	+1.5
ANTB	**Antalya**	**2.40**	**61**	*e*Pn	Pn	00 15 28.2	+1.6
APE	**Apeiranthos**	**2.42**	**304**	*e*PN	Pn	00 15 26.0	-0.9
APE	**Apeiranthos**	**2.42**	**304**	*e*P	Pn	00 15 26.1	-0.8
APE				*e*S	Sn	00 15 54.0	-1.4
APE	**Apeiranthos**	**2.42**	**304**	Pn	Pn	00 15 26.0	-0.9
APE	**Apeiranthos**	**2.42**	**304**	P	Pn	00 15 26.1	-0.8
APE				S	Sn	00 15 54.2	-1.2
APE	**Apeiranthos**	**2.42**	**304**	*e*Pn	Pn	00 15 26.0	-0.9
APE				*e*S	Sn	00 15 54.0	-1.4
BCK	**Bucak**	**2.67**	**49**	*e*PN	Pn	00 15 31.4	+1.2
BCK	**Bucak**	**2.67**	**49**	Pn	Pn	00 15 31.4	+1.2
BCK	**Bucak**	**2.67**	**49**	*e*Pn	Pn	00 15 31.5	+1.2
IZM	**Izmir**	**2.72**	**347**	*e*PN	Pn	00 15 30.4	-0.6
IZM	**Izmir**	**2.72**	**347**	Pn	Pn	00 15 30.4	-0.6
IZM	**Izmir**	**2.72**	**347**	*e*Pn	Pn	00 15 30.4	-0.6
SIVA	**Sivas**	**2.74**	**256**	*e*P	Pn	00 15 33.0	+1.7
SIVA	**Sivas**	**2.74**	**256**	P	Pn	00 15 32.8	+1.5
SIVA				S	Sn	00 16 02.9	-0.3
SIVA	**Sivas**	**2.74**	**256**	*e*P	Pn	00 15 33.0	+1.7
SIVA				S	Sn	00 16 02.9	-0.3
BLCB	**Balcova**	**2.75**	**343**	*e*PN	Pn	00 15 30.8	-0.6
BLCB	**Balcova**	**2.75**	**343**	Pn	Pn	00 15 30.8	-0.6
BLCB	**Balcova**	**2.75**	**343**	*e*Pn	Pn	00 15 30.8	-0.6
KULA	**Kula-Manisa**	**2.81**	**10**	*e*PN	Pn	00 15 31.8	-0.4
KULA	**Kula-Manisa**	**2.81**	**10**	*e*Pn	Pn	00 15 31.8	-0.4
SUTC	**Sutluce-Ispart**	**2.94**	**53**	*e*PN	Pn	00 15 35.5	+1.5
SUTC	**Sutluce-Ispart**	**2.94**	**53**	*e*Pn	Pn	00 15 35.5	+1.5
CHOS	**Chios island**	**3.08**	**329**	*e*P	Pn	00 15 35.2	-0.7
CHOS	**Chios island**	**3.08**	**329**	P	Pn	00 15 35.1	-0.8
CHOS				S	Sn	00 16 10.8	-0.7
CHOS	**Chios island**	**3.08**	**329**	*e*P	Pn	00 15 35.2	-0.7
AKHS	**Akhisar**	**3.13**	**357**	*i*P	Pn	00 15 34.7	-1.9
AKHS				*i*S	Sn	00 16 10.3	-2.5
AKS	**Akhisar**	**3.13**	**357**	*e*PN	Pn	00 15 36.2	-0.4
AKS	**Akhisar**	**3.13**	**357**	Pn	Pn	00 15 36.2	-0.4
AKS	**Akhisar**	**3.13**	**357**	*e*Pn	Pn	00 15 36.2	-0.4
VAM	**Vamos**	**3.15**	**265**	*e*P	Pn	00 15 37.5	+0.6
VAM	**Vamos**	**3.15**	**265**	P	Pn	00 15 37.0	+0.1
VAM				S	Sn	00 16 13.7	+0.4
VAM	**Vamos**	**3.15**	**265**	*e*P	Pn	00 15 37.5	+0.6
GVD	**Gavdhos**	**3.36**	**256**	*e*P	Pn	00 15 41.6	+1.9
GVD	**Gavdhos**	**3.36**	**256**	*e*Pn	Pn	00 15 41.5	+1.7
GVD				*e*Sn	Sn	00 16 25.0	+6.6
GVD	**Gavdhos**	**3.36**	**256**	P	Pn	00 15 41.3	+1.6
GVD				S	Sn	00 16 19.2	+0.8
GVD	**Gavdhos**	**3.36**	**256**	*e*P	Pn	00 15 41.6	+1.9
KARN	**Karanos**	**3.38**	**265**	*e*P	Pn	00 15 40.6	+0.6
KARN	**Karanos**	**3.38**	**265**	P	Pn	00 15 40.1	+0.1
KARN				S	Sn	00 16 19.1	+0.2
KARN	**Karanos**	**3.38**	**265**	*e*P	Pn	00 15 40.6	+0.6
KARN				S	Sn	00 16 19.1	+0.2
SHUT	**Suhut-Afyon**	**3.44**	**35**	*e*PN	Pn	00 15 41.5	+0.6
SHUT	**Suhut-Afyon**	**3.44**	**35**	*e*Pn	Pn	00 15 41.5	+0.6
PPCY	**Paphos**	**3.62**	**102**	P	Pn	00 15 44.0	+0.7
PPCY	**Paphos**	**3.62**	**102**	P	Pn	00 15 44.0	+0.7
ALT	**Altintas**	**3.69**	**26**	*e*PN	Pn	00 15 44.8	+0.6
ALT	**Altintas**	**3.69**	**26**	Pn	Pn	00 15 44.8	+0.6
ALT	**Altintas**	**3.69**	**26**	*e*Pn	Pn	00 15 44.8	+0.6
ALFC	**Alevga**	**3.77**	**98**	P	Pn	00 15 45.8	+0.5
	22nm,0.2s						
ALFC				S	Sn	00 16 28.3	0.0
PRK	**Paraskevi**	**3.77**	**339**	*e*P	Pn	00 15 45.2	-0.1
PRK				*e*S	Sn	00 16 26.0	-2.3
PRK	**Paraskevi**	**3.77**	**339**	*e*P	Pn	00 15 45.2	-0.1
HDMB	**Hadim**	**3.79**	**70**	*e*Pn	Pn	00 15 48.8	+3.2
HDMB	**Hadim**	**3.79**	**70**	*e*Pn	Pn	00 15 48.8	+3.2
DST	**Dursunbey**	**3.88**	**7**	*e*PN	Pn	00 15 47.1	+0.3
DST	**Dursunbey**	**3.88**	**7**	Pn	Pn	00 15 47.1	+0.3
DST	**Dursunbey**	**3.88**	**7**	*e*Pn	Pn	00 15 47.1	+0.3
BALB	**Balikesir**	**3.89**	**358**	*e*PN	Pn	00 15 46.8	-0.2
BALB	**Balikesir**	**3.89**	**358**	Pn	Pn	00 15 46.8	-0.2
BALB	**Balikesir**	**3.89**	**358**	*e*Pn	Pn	00 15 46.8	-0.1
VLY	**Voula,Athens**	**4.01**	**303**	P	Pn	00 15 48.6	+0.1
VLY	**Voula,Athens**	**4.01**	**303**	P	Pn	00 15 48.6	+0.1
PTL	**Penteli**	**4.06**	**306**	*e*P	Pn	00 15 49.8	+0.5
PTL	**Penteli**	**4.06**	**306**	P	Pn	00 15 49.7	+0.4
PTL	**Penteli**	**4.06**	**306**	*e*P	Pn	00 15 49.8	+0.5
SZAC	**Souni-Zanaja**	**4.08**	**103**	P	Pn	00 15 50.5	+0.9
KYTH	**Kithira**	**4.09**	**279**	*e*P	Pn	00 15 50.0	+0.2
KYTH	**Kithira**	**4.09**	**279**	P	Pn	00 15 50.1	+0.3
KYTH	**Kithira**	**4.09**	**279**	P	Pn	00 15 50.1	+0.3
KONT	**Konya--Tatoy**	**4.10**	**56**	*e*PN	Pn	00 15 51.8	+2.0
KONT	**Konya--Tatoy**	**4.10**	**56**	Pn	Pn	00 15 51.8	+2.0
KONT	**Konya--Tatoy**	**4.10**	**56**	*e*Pn	Pn	00 15 51.8	+2.0
ATH	**Athens Observa**	**4.12**	**304**	*e*P	Pn	00 15 50.7	+0.6
ATH	**Athens Observa**	**4.12**	**304**	*e*P	Pn	00 15 50.7	+0.6
NAIG	**Nisos Aigina**	**4.17**	**300**	*e*P	Pn	00 15 51.2	+0.4
NAIG	**Nisos Aigina**	**4.17**	**300**	*e*P	Pn	00 15 51.2	+0.4
VLI	**Veliai**	**4.24**	**285**	*e*P	Pn	00 15 52.1	+0.3
VLI				*e*S	Sn	00 16 38.8	-1.2
VLI	**Veliai**	**4.24**	**285**	P	Pn	00 15 52.1	+0.3
VLI				S	Sn	00 16 39.6	-0.4
VLI	**Veliai**	**4.24**	**285**	*e*P	Pn	00 15 52.1	+0.3
VLI				S	Sn	00 16 39.6	-0.4
DID	**Didima**	**4.25**	**296**	*e*P	Pn	00 15 52.3	+0.5
DID	**Didima**	**4.25**	**296**	P	Pn	00 15 52.3	+0.3
DID	**Didima**	**4.25**	**296**	*e*P	Pn	00 15 52.3	+0.5
MAMC	**Mammari**	**4.26**	**96**	P	Pn	00 15 52.9	+0.8
EZN	**Ezine**	**4.29**	**342**	*e*PN	Pn	00 15 52.4	-0.1
EZN	**Ezine**	**4.29**	**342**	Pn	Pn	00 15 52.4	-0.1
EZN	**Ezine**	**4.29**	**342**	*e*Pn	Pn	00 15 52.4	-0.1
GONE	**Gonen-Balikesi**	**4.30**	**356**	*e*PN	Pn	00 15 52.8	+0.2
GONE	**Gonen-Balikesi**	**4.30**	**356**	Pn	Pn	00 15 52.8	+0.2
GONE	**Gonen-Balikesi**	**4.30**	**356**	*e*Pn	Pn	00 15 52.8	+0.2
KIZT	**Kizilcal**	**4.37**	**43**	*e*PN	Pn	00 15 54.6	+1.1
KIZT	**Kizilcal**	**4.37**	**43**	Pn	Pn	00 15 54.6	+1.1
KIZT	**Kizilcal**	**4.37**	**43**	*e*Pn	Pn	00 15 54.6	+1.0
CSS	**Prodhromos**	**4.39**	**99**	P	Pn	00 15 54.8	+1.0
	4.8nm,0.4s						
CSS				S	Sn	00 16 43.6	-0.1
CSS	**Prodhromos**	**4.39**	**99**	*e*P	Pn	00 15 54.6	+0.8
CSS	**Prodhromos**	**4.39**	**99**	*e*Pn	Pn	00 15 54.0	+0.2
CSS				*e*Sn	Sn	00 16 41.8	-1.8
CSS	**Prodhromos**	**4.39**	**99**	P	Pn	00 15 54.4	+0.6
CSS

PLG **Polygyros** 5.87 323 *e*P Pn 00 16 15.1 +1.0
PLG **Polygyros** 5.87 323 *e*P Pn 00 16 15.1 +1.0
EVR **Evrytania** 5.89 304 *e*P Pn 00 16 15.6 +1.3
EVR **Evrytania** 5.89 304 *e*P Pn 00 16 15.6 +1.3
BR131 **Keskin Array S** 5.95 46 *e*Pn Pn 00 16 15.7 +0.5
comp=E,2.7nm,0.4s
BR131 *e*Sn Sn 00 17 21.4 -0.5
BRTR **Keskin Array B** 5.95 46 P Pn 00 16 16.0 +0.8
comp=E,0.7nm,0.3s,baz=222,slow=16,SNR=21
BRTR S Sn 00 17 22.8 +0.8
comp=E,1.4nm,0.3s,baz=214,slow=27,SNR=13
BRTR **Keskin Array B** 5.95 46 P Pn 00 16 16.0 +0.8
BRTR S Sn 00 17 22.8 +0.8
THL **Klokotos Trika** 6.12 310 *e*P Pn 00 16 18.3 +0.9
THL **Klokotos Trika** 6.12 310 *e*P Pn 00 16 18.3 +0.9
LIT **Litokhoron** 6.18 316 *e*P Pn 00 16 19.5 +1.3
LIT **Litokhoron** 6.18 316 *e*P Pn 00 16 19.5 +1.3
SQR 6.42 155 P Pn 00 16 22.2 +0.5
baz=155
SQR 6.42 155 P Pn 00 16 22.2 +0.6
VLS **Valsamata** 6.44 294 *e*P Pn 00 16 23.3 +1.4
VLS **Valsamata** 6.44 294 *e*P Pn 00 16 23.3 +1.4
HNAT **Natroun** 6.47 160 P Pn 00 16 22.4 +0.1
baz=160
HNAT **Natroun** 6.47 160 P Pn 00 16 22.4 +0.1
NVR **Nevrokopi** 6.48 331 *e*P Pn 00 16 23.0 +0.6
NVR **Nevrokopi** 6.48 331 *e*P Pn 00 16 23.0 +0.6
HLW **Helwan** 6.49 154 P Pn 00 16 22.3 -0.3
baz=154
HLW S Sn 00 17 31.4 -3.8
baz=154
HLW **Helwan** 6.49 154 S Sn 00 17 31.1 -4.2
BHL **Bhannes** 6.52 104 *e*P Pn 00 16 22.9 -0.1
BHL **Bhannes** 6.52 104 *e*P Pn 00 16 22.9 -0.1
FYM **Al Fayyum** 6.54 156 P Pn 00 16 23.5 +0.2
baz=157
FYM S Sn 00 17 32.8 -3.7
baz=157
FYM **Al Fayyum** 6.54 156 P Pn 00 16 24.0 +0.7
FYM S Sn 00 17 32.8 -3.7
AYT **Al 'Ayyat** 6.57 156 P Pn 00 16 23.8 +0.2
baz=156
AYT **Al 'Ayyat** 6.57 156 P Pn 00 16 23.8 +0.1
KOT **Kottamia** 6.62 150 P Pn 00 16 24.0 -0.4
baz=151
KOT S Sn 00 17 34.7 -3.7
baz=151
KOT **Kottamia** 6.62 150 P Pn 00 16 24.2 -0.1
KOT S Sn 00 17 34.7 -3.6
HWQ **Hawqa** 6.65 100 *e*P Pn 00 16 24.8 +0.1
HWQ **Hawqa** 6.65 100 *e*P Pn 00 16 24.8 +0.1
MMAI **Mount Meron Ar** 6.67 112 P Pn 00 16 24.4 -0.6
comp=E,6.5nm,0.3s,baz=294,slow=12,SNR=50
MMAI S Sn 00 17 36.6 -2.9
comp=E,16nm,0.3s,baz=304,slow=24,SNR=14
MMAI **Mount Meron Ar** 6.67 112 P Pn 00 16 24.4 -0.6
MMAI S Sn 00 17 36.6 -2.9
AMAG **Maghara** 6.68 138 P Pn 00 16 24.9 -0.3
baz=138
AMAG **Maghara** 6.68 138 P Pn 00 16 24.9 -0.3
HHAG **Hagoal** 6.71 148 P Pn 00 16 25.5 -0.1
baz=149
HHAG S Sn 00 17 36.8 -3.7
baz=149
HHAG **Hagoal** 6.71 148 S Sn 00 17 37.1 -3.5
HRSH **Kfar Ka'horesh** 6.72 115 P Pn 00 16 25.9 +0.3
baz=134
KZN **Kozani** 6.72 314 *e*P Pn 00 16 26.6 +0.9
KZN **Kozani** 6.72 314 *e*P Pn 00 16 26.6 +0.9
RSH 6.73 134 P Pn 00 16 25.9 0.0
HSAF **As Saff** 6.79 153 P Pn 00 16 26.7 0.0
baz=154
HSAF **As Saff** 6.79 153 P Pn 00 16 26.7 0.0
SWA2 6.84 199 P Pn 00 16 27.9 +0.5
baz=201
SWA2 6.84 199 P Pn 00 16 27.9 +0.5
GLL **Jalalah** 6.88 152 P Pn 00 16 27.8 -0.2
baz=153
GLL **Jalalah** 6.88 152 P Pn 00 16 28.0 0.0
JAN **Janina** 6.91 307 *e*P Pn 00 16 28.8 +0.5
JAN **Janina** 6.91 307 *e*P Pn 00 16 28.8 +0.5
FKH **Fakeheh** 7.03 100 *e*P Pn 00 16 27.9 -2.0
FKH **Fakeheh** 7.03 100 *e*P Pn 00 16 27.9 -2.0
SUZ 7.13 144 P Pn 00 16 32.1 +0.7
baz=144
SUZ 7.13 144 P Pn 00 16 32.1 +0.7
AWBH 7.44 174 P Pn 00 16 35.9 +0.3
baz=175
AWBH 7.44 174 P Pn 00 16 35.9 +0.3
BIA **Bitola** 7.45 317 *e*Pn Pn 00 16 41.8 +6.2
ZAF 7.48 148 P Pn 00 16 36.6 +0.4
baz=148
ZAF 7.48 148 P Pn 00 16 36.6 +0.4
ZNM 7.55 146 P Pn 00 16 37.6 +0.6
baz=146
ZNM 7.55 146 P Pn 00 16 37.6 +0.6
KEK **Kerkira** 7.64 304 *e*P Pn 00 16 39.7 +1.5
KEK **Kerkira** 7.64 304 *e*P Pn 00 16 39.7 +1.5
HNKL **Nakhl** 7.65 138 P Pn 00 16 38.3 -0.1
baz=138
HNKL S Sn 00 17 57.9 -5.8
baz=138
HNKL **Nakhl** 7.65 138 P Pn 00 16 38.3 -0.2
HNKL S Sn 00 17 57.9 -5.8
KRUS **Krusevo** 7.74 319 *e*Pn Pn 00 16 42.0 +2.4
KRUS **Krusevo** 7.74 319 *e*Pn Pn 00 16 41.9 +2.4
LJBD **Adjabya** 8.14 236 *i* P Pn 00 16 44.5 -0.7
SNR=70
ASF **Jabal al Asfar** 8.17 113 P Pn 00 16 46.0 +0.5
comp=E,0.9nm,0.3s,baz=174,slow=6.3,SNR=13
ASF S Sn 00 18 14.8 -1.6
comp=E,0.6nm,0.3s,baz=299,slow=18,SNR=3.1
ASF **Jabal al Asfar** 8.17 113 P Pn 00 16 46.0 +0.5
ASF S Sn 00 18 14.8 -1.6
EIL **Elat** 8.40 134 P Pn 00 16 48.0 -0.7
comp=E,2.1nm,0.3s,baz=296,slow=5.0,SNR=21
EIL S Sn 00 18 11.2 -11
comp=E,1.3nm,0.3s,baz=327,slow=19,SNR=3.9
EIL **Elat** 8.40 134 P Pn 00 16 48.0 -0.7
EIL S Sn 00 18 11.2 -11
GRB **Gharib** 8.47 150 P Pn 00 16 49.6 -0.1
baz=151
GRB **Gharib** 8.47 150 P Pn 00 16 50.0 +0.3
BARS **Barje** 8.55 328 *i*Pn Pn 00 16 52.0 +1.3
HFRF **Wahat Farafira** 8.57 178 P Pn 00 16 51.6 +0.5
baz=179
HFRF S Sn 00 18 23.6 -2.7
baz=179
HFRF **Wahat Farafira** 8.57 178 P Pn 00 16 51.5 +0.4
HBST **Basata** 8.62 137 P Pn 00 16 52.0 +0.3
HBST S Sn 00 18 21.0 -6.3
LUJL **Ujela** 8.72 223 *i* P Pn 00 16 51.6 -1.5
SNR=70
HQLS 8.74 135 P Pn 00 16 53.1 -0.3
HQLS 8.74 135 P Pn 00 16 53.1 -0.2
TR2 8.78 145 P Pn 00 16 53.9 0.0
baz=145
TR2 8.78 145 P Pn 00 16 53.9 0.0
HKAT **Jabal Katrina** 8.79 143 P Pn 00 16 54.5 +0.4
baz=143
HKAT **Jabal Katrina** 8.79 143 P Pn 00 16 54.3 +0.3
HAQS **Haql** 8.85 137 P Pn 00 16 54.6 -0.3
TR1 9.20 145 P Pn 00 16 59.6 -0.1
baz=145
TR1 9.20 145 P Pn 00 16 59.6 -0.1
JLOS 9.41 136 P Pn 00 17 02.0 -0.6
JLOS 9.41 136 P Pn 00 17 02.0 -0.5
BDAS **Al Bad'** 9.43 139 P Pn 00 17 02.2 -0.6
BDAS **Al Bad'** 9.43 139 P Pn 00 17 02.2 -0.6
MLR **Muntele Rosu** 9.86 351 P Pn 00 17 11.8 +3.2
comp=E,0.0nm,0.3s,baz=221,slow=6.4,SNR=3.9
MLR **Muntele Rosu** 9.86 351 P Pn 00 17 11.8 +3.2
MLR **Muntele Rosu** 9.86 351 *i*P Pn 00 17 12.3 +3.7
VRI **Vrincioaia** 10.16 355 *i*P Pn 00 17 17.2 +4.6
CUC **Castrocucco** 10.55 297 *e*Pn Pn 00 17 17.8 -0.3
CUC **Castrocucco** 10.55 297 *e*Pn Pn 00 17 17.8 -0.3
NVLJ **Novalja** 13.37 315 *e*Pn Pn 00 17 56.4 0.0
NVLJ Sn Sn 00 20 17.3 -5.8
NVLJ **Novalja** 13.37 315 *e*Pn Pn 00 17 56.3 -0.1
VYHS **Vyhne** 14.44 335 *e*P Pn 00 18 15.8 +5.3
SOKA **Soboth** 14.65 322 *i*P Pn 00 18 15.5 +2.3
comp=E,3.3nm,0.6s
SOKA **Soboth** 14.65 322 P Pn 00 18 15.5 +2.3
comp=E,3.3nm,0.6s

AKASG **Malin Array Be** 14.97 3 P Pn 00 18 20.0 +2.6
comp=E,0.9nm,0.3s,baz=186,slow=9.2,SNR=5.9
AKASG **Malin Array Be** 14.97 3 P Pn 00 18 20.0 +2.6
AKASG **Malin Array Be** 14.97 3 P Pn 00 18 20.0 +2.6
KEST **Kesra** 15.19 275 P Pn 00 18 23.8 +3.5
comp=E,0.3nm,0.3s,baz=15,slow=3.0,SNR=15
KEST **Kesra** 15.19 275 P Pn 00 18 23.8 +3.5
KEST **Kesra** 15.19 275 P Pn 00 18 23.8 +3.5
VRAC **Vranov** 15.94 332 P Pn 00 18 32.3 +2.6
comp=E,0.6nm,0.3s,baz=138,slow=11,SNR=11
VRAC **Vranov** 15.94 332 P Pn 00 18 32.3 +2.6
VRAC **Vranov** 15.94 332 P Pn 00 18 32.3 +2.5
WTTA **Wattenberg** 16.80 318 *i*P Pn 00 18 42.9 +2.4
comp=E,3.4nm,0.5s
WTTA **Wattenberg** 16.80 318 P Pn 00 18 42.9 +2.4
comp=E,3.4nm,0.5s
GERES **GERESS Array B** 16.81 326 P Pn 00 18 42.3 +1.7
comp=E,0.3nm,0.3s,baz=137,slow=11,SNR=26
GERES **GERESS Array B** 16.81 326 P Pn 00 18 42.3 +1.7
GERES **GERESS Array B** 16.81 326 P Pn 00 18 42.3 +1.6
MOTA **Moosalm** 17.14 318 *i*P Pn 00 18 45.8 +1.1
comp=E,3.1nm,0.5s
MOTA **Moosalm** 17.14 318 P Pn 00 18 45.8 +1.1
comp=E,3.1nm,0.5s
FETA **Feichten** 17.16 316 *i*P Pn 00 18 46.6 +1.7
comp=E,9.3nm,0.8s
FETA **Feichten** 17.16 316 P Pn 00 18 46.6 +1.7
comp=E,9.3nm,0.8s
DAVOX **Davos/Dischmat** 17.51 315 P Pn 00 18 51.2 +2.0
comp=E,0.4nm,0.3s,baz=150,slow=14,SNR=6.0
DAVOX **Davos/Dischmat** 17.51 315 P Pn 00 18 51.2 +2.0
DAVOX **Davos/Dischmat** 17.51 315 P Pn 00 18 51.2 +2.0
DAVA **Damuels** 17.78 316 *i*P Pn 00 18 53.2 +0.6
comp=E,7.5nm,0.5s
DAVA **Damuels** 17.78 316 P Pn 00 18 53.2 +0.6
comp=E,7.5nm,0.5s
MBDF **Montbardon** 18.51 305 *e*P Pn 00 19 00.1 -1.4
comp=E,11nm,0.7s
MBDF **Montbardon** 18.51 305 *e*P Pn 00 19 00.1 -1.4
comp=E,5.3nm,0.7s
LPG **La Plagne** 18.82 308 *e*P Pn 00 19 04.1 -1.1
LPG **La Plagne** 18.82 308 *e*P Pn 00 19 04.1 -1.1
LPL **La Plagne** 18.84 308 *e*P Pn 00 19 04.1 -1.3
comp=E,7.7nm,0.5s
LPL **La Plagne** 18.84 308 *e*P Pn 00 19 04.1 -1.3
comp=E,3.8nm,0.5s
CLL **Collm** 18.94 330 *e*(P) Pn 00 19 05.0 -1.5
ORIF **Oris-en-Rattie** 19.17 305 *e*P Pn 00 19 08.1 -1.3
ORIF **Oris-en-Rattie** 19.17 305 *e*P Pn 00 19 08.1 -1.3
BFO **Black Forest** 19.23 317 *e*P Pn 00 19 10.1 0.0
comp=E,3.7nm,0.6s
BFO **Black Forest** 19.23 317 *e*P Pn 00 19 10.1 +0.1
comp=E,3.7nm,0.6s
CABF **La Chapelle** 19.71 310 *e*P Pn 00 19 11.6 -4.1
comp=E,8.5nm,0.4s
CABF **La Chapelle** 19.71 310 *e*P Pn 00 19 11.6 -4.1
comp=E,4.2nm,0.4s
HINF **Hinteralfeld** 19.80 314 *e*P Pn 00 19 13.3 -3.5
comp=E,2.7nm,0.5s
HINF **Hinteralfeld** 19.80 314 *e*P Pn 00 19 13.3 -3.5
comp=E,1.4nm,0.5s
CDF **Champ du Feu** 19.87 316 *e*P Pn 00 19 15.9 -1.6
comp=E,23nm,0.9s
CDF **Champ du Feu** 19.87 316 *e*P Pn 00 19 15.9 -1.6
comp=E,12nm,0.9s
VIVF **Saint-Julien-l** 19.96 304 *e*P Pn 00 19 15.6 -3.0
comp=E,20nm,1.0s
VIVF **Saint-Julien-l** 19.96 304 *e*P Pn 00 19 15.6 -3.0
comp=E,9.9nm,1.0s
HAU **Haudompre** 20.19 314 *e*P P 00 19 18.6 -0.3
comp=E,5.5nm,0.5s
HAU **Haudompre** 20.19 314 *e*P P 00 19 18.6 -0.3
comp=E,3.2nm,0.5s
SFTF **Sexfontaines** 21.06 313 *e*P P 00 19 28.4 +0.1
comp=E,24nm,1.0s,mb4.2
SFTF **Sexfontaines** 21.06 313 *e*P P 00 19 28.4 +0.1
comp=E,12nm,1.0s,mb4.2
SMF **Signal de Mont** 21.14 308 *e*P P 00 19 28.9 -0.2
comp=E,4.1nm,0.5s,mb3.7
SMF **Signal de Mont** 21.14 308 *e*P P 00 19 28.9 -0.2
comp=E,2.0nm,0.5s,mb3.7
MEZF **Maizieres J'vi** 21.19 314 *e*P P 00 19 29.5 -0.2
comp=E,7.9nm,0.7s,mb3.9
MEZF **Maizieres J'vi** 21.19 314 *e*P P 00 19 29.5 -0.2
comp=E,4.0nm,0.7s,mb3.9
MTLF **Montolieu** 21.26 299 *e*P P 00 19 28.9 -1.5
comp=E,5.3nm,0.5s,mb3.8
MTLF **Montolieu** 21.26 299 *e*P P 00 19 28.9 -1.5
comp=E,2.7nm,0.5s,mb3.8
LOR **Lormes** 21.37 310 *e*P P 00 19 30.6 -1.0
comp=E,5.0nm,0.7s,mb3.7
LOR **Lormes** 21.37 310 *e*P P 00 19 30.6 -1.0
comp=E,2.5nm,0.7s,mb3.7
AVF **Avril sur Loir** 21.50 308 *e*P P 00 19 32.0 -1.0
comp=E,3.2nm,0.5s,mb3.7
AVF **Avril sur Loir** 21.50 308 *e*P P 00 19 32.0 -1.0
comp=E,1.6nm,0.5s,mb3.7
SSF **Saint Saulge** 21.51 309 *e*P P 00 19 32.6 -0.5
comp=E,6.1nm,0.5s,mb4.0
SSF **Saint Saulge** 21.51 309 *e*P P 00 19 32.6 -0.5
comp=E,3.0nm,0.5s,mb4.0
BGF **Bois d'Agland** 21.74 308 *e*P P 00 19 34.4 -1.2
comp=E,11nm,0.6s,mb4.1
BGF **Bois d'Agland** 21.74 308 *e*P P 00 19 34.4 -1.2
comp=E,5.3nm,0.6s,mb4.1
BAIF **Baives** 22.44 317 *e*P P 00 19 42.3 -0.7
BAIF **Baives** 22.44 317 *e*P P 00 19 42.3 -0.7
ETSF **Etsaut** 23.18 297 *e*P P 00 19 50.8 +0.1
ETSF **Etsaut** 23.18 297 *e*P P 00 19 50.8 +0.1
SJPF **Ste Jean** 23.69 297 *e*P P 00 19 55.2 -0.2
SJPF **Ste Jean** 23.69 297 *e*P P 00 19 55.2 -0.2
MFF **Saint Martin d** 23.71 306 *e*P P 00 19 55.5 0.0
comp=E,4.5nm,0.6s,mb3.8
MFF **Saint Martin d** 23.71 306 *e*P P 00 19 55.5 0.0
comp=E,2.2nm,0.6s,mb3.8
LDF **La Druitiere** 24.35 311 *e*P P 00 20 00.7 -0.7
comp=E,6.4nm,0.3s,mb4.2
LDF **La Druitiere** 24.35 311 *e*P P 00 20 00.7 -0.7
comp=E,3.2nm,0.3s,mb4.2
FLN **La Foliniere** 24.63 311 *e*P P 00 20 03.4 -0.5
comp=E,15nm,0.3s,mb4.6
FLN **La Foliniere** 24.63 311 *e*P P 00 20 03.4 -0.5
comp=E,7.4nm,0.3s,mb4.6
GRR **Gorron** 24.74 310 *e*P P 00 20 04.6 -0.3
comp=E,16nm,0.5s,mb4.6
GRR **Gorron** 24.74 310 *e*P P 00 20 04.6 -0.3
comp=E,8.1nm,0.5s,mb4.6
ESDC **Sonseca Array** 25.55 288 P P 00 20 13.1 +0.7
comp=E,2.0nm,0.5s,mb4.0,baz=84,slow=9.9,SNR=34
ESDC **Sonseca Array** 25.55 288 P P 00 20 13.1 +0.7
ESDC **Sonseca Array** 25.55 288 P P 00 20 13.1 +0.7
FINES **FINESS Array B** 25.75 358 P P 00 20 13.7 -0.2
comp=E,3.7nm,0.9s,mb3.9,baz=174,slow=10,SNR=6.6
FINES **FINESS Array B** 25.75 358 P P 00 20 13.7 -0.2
FINES **FINESS Array B** 25.75 358 P P 00 20 13.7 -0.2
SGMF **Saint Gilles** 25.77 308 *e*P P 00 20 13.9 -0.3
SGMF **Saint Gilles** 25.77 308 *e*P P 00 20 13.9 -0.3
QUIF **Quistinic** 26.06 307 *e*P P 00 20 16.1 -0.7
comp=E,4.2nm,0.5s,mb4.0
QUIF **Quistinic** 26.06 307 *e*P P 00 20 16.1 -0.7
comp=E,2.1nm,0.5s,mb4.0
HFS **Hagfors** 26.11 344 P P 00 20 16.7 -0.5
comp=E,4.1nm,0.9s,mb4.0,baz=160,slow=9.5,SNR=6.3
HFS **Hagfors** 26.11 344 P P 00 20 16.7 -0.5
KAF **Kangasniemi** 26.41 358 *e*p P 00 20 18.8 -1.1
MDT **Midelt** 27.08 273 P P 00 20 29.6 +3.4
comp=E,1.8nm,0.6s,mb3.8,baz=83,slow=9.2,SNR=3.6
MDT **Midelt** 27.08 273 P P 00 20 29.6 +3.4
JOF **Joensuu** 27.27 3 *e*p P 00 20 26.7 -0.9
NOA **NORSAR Array B** 27.50 342 P P 00 20 26.2 -3.4
comp=E,12nm,0.8s,mb3.5,baz=134,slow=6.3,SNR=3.3
NOA **NORSAR Array B** 27.50 342 P P 00 20 26.2 -3.4
EKA **Eskdalemuir Ar** 28.97 322 P P 00 20 41.0 -1.8
comp=E,1.5nm,0.9s,mb3.7,baz=116,slow=11,SNR=3.2
EKA **Eskdalemuir Ar** 28.97 322 P P 00 20 41.0 -1.8
TORD **Torodi Ar. Bea** 32.70 233 P P 00 21 17.9 +1.9
comp=E,0.7nm,0.5s,mb3.8,baz=32,slow=8.7,SNR=16
TORD **Torodi Ar. Bea** 32.70 233 P P 00 21 17.9 +1.9
TORD **Torodi Ar. Bea** 32.70 233 P P 00 21 17.9 +1.9
ARCES **ARCESS Array B** 33.87 358 P P 00 21 25.4 -0.3
comp=E,1.7nm,0.8s,mb4.0,baz=184,slow=9.0,SNR=3.8
ARCES **ARCESS Array B** 33.87 358 P P 00 21 25.4 -0.3
ARCES **ARCESS Array B** 33.87 358 P P 00 21 25.4 -0.3
KURK **Kurchatov** 38.98 51 P P 00 22 07.2 -2.2
comp=E,0.4nm,0.6s,mb3.3,baz=275,slow=8.1,SNR=2.0
KURK **Kurchatov** 38.98 51 *e*P P 00 22 07.1 -2.3
comp=E,1.1nm,1.0s,mb3.5
MKAR **Makanchi Array** 41.48 57 P P 00 22 32.7 +2.6
comp=E,0.5nm,0.7s,mb3.3,baz=275,slow=8.5,SNR=2.5
MKAR **Makanchi Array** 41.48 57 P P 00 22 32.7 +2.6
SPITS **Spitsbergen Ar** 42.83 356 P P 00 22 41.2 +0.4
comp=E,7.3nm,0.9s,mb4.4,baz=137,slow=6.9,SNR=8.6
SPITS **Spitsbergen Ar** 42.83 356 P P 00 22 41.2 +0.4
SPITS **Spitsbergen Ar** 42.83 356 P P 00 22 41.2 +0.5
ZALV **Zalesovo Beam** 42.90 47 P P 00 22 40.4 -1.2
comp=E,0.3nm,0.4s,mb3.4,baz=278,slow=10.0,SNR=2.4
ZALV **Zalesovo Beam** 42.90 47 P P 00 22 40.4 -1.2
SCHQ **Schefferville** 64.26 320 P P 00 25 17.6 -0.2
comp=E,2.9nm,0.8s,mb4.4,baz=63,slow=6.8,SNR=3.7
SCHQ **Schefferville** 64.26 320 P P 00 25 17.6 -0.2
ULM **Lac du Bonnet** 81.11 327 P P 00 26 58.2 +0.4
comp=E,3.0nm,0.9s,mb4.2,baz=56,slow=3.6,SNR=5.1
ULM **Lac du Bonnet** 81.11 327 P P 00 26 58.2 +0.4
ULM **Lac du Bonnet** 81.11 327 P P 00 26 58.2 +0.4

IDC ***17*** *00:15:08.0±0.8, 1°.38N×122°.41E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.8/23, mbtmp3.9/9, ML3.9/1, Error ellipse: s-maj=47.7km s-min=14.9km az=64.0*
ISCJB ***17*** *00:15:13.9±0.8, 1°.30N±0°.05×122°.16E±0°.07, h60km±9km, mb4.2/13, Error ellipse: s-maj=12.7km s-min=6.5km az=150.8*
NEIC ***17*** *00:15:13.2±0.3, 1°.31N×122°.29E, h35km, mb4.5/4, Error ellipse: s-maj=13.2km s-min=5.4km az=61.0*
DJA ***17*** *00:15:15, 1°.27N×122°.19E, h30km, mb4.5/4*
ISC 17 00:15:15.5±0.8, 1°.31N±0°.05×122°.23E±0°.07, h57km±9km, n43, σ1°09/45, mb4.2/13, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	
						h m s	ISC
MRSI	**Marisa**	0.87	200	P	Pn	00 15 28.1	-3.7
KMSI	**Cibinong**	1.89	113	P	Pn	00 15 46.4	+0.9
LUWI	**Luwuk**	2.39	167	P	Pn	00 15 52.3	0.0
MNI	**Manado**	2.61	87	P	Px	00 16 11.7	
TTSI	**Tana Toraja**	4.95	209	P	Pn	00 16 28.2	+0.8
TTSI	**Tana Toraja** 2µm93nm,0.7s	4.95	209	P	Pn	00 16 28.5	+1.1
KDI	**Kendari**	5.24	176	P	Pn	00 16 33.6	+2.2
MYLDM	**Lahad Datu** 48nm,0.9s	5.36	316	P	Pn	00 16 33.0	0.0
LBMI	**Labuha**	5.61	110	P	Pn	00 16 42.7	+6.3
SPSI	**Sidrap Palu** 638nm69nm,0.8s	5.79	205	P	Pn	00 16 40.7	+1.9
SPSI	**Sidrap Palu** 644nm69nm,0.8s	5.79	205	P	Pn	00 16 40.1	+1.3
KAPI	**Kappang** 18nm,0.8s	6.75	202	*e*Pn	Pn	00 16 49.6	-2.4
KAPI				*e*Sn	Sn	00 18 07.5	-0.1
KAPI	**Kappang** 25nm,0.9s	6.75	202	P	Pn	00 16 52.3	+0.2
BKSI	**Bulukumba**	6.91	198	P	Pn	00 16 52.0	-2.3
BKSI	**Bulukumba** 26nm,0.8s	6.91	198	P	Pn	00 16 58.8	+4.5
KKM	**Kota Kinabalu**	7.63	308	*e*Pn	Pn	00 17 02.3	-1.9
KKM				*e*Sn	Sn	00 18 28.7	-0.6
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=11,slow=7.5,SNR=11	19.57	170	P	Pn	00 19 38.2	-2.6
FITZ	**Fitzroy Crossi**	19.57	170	P	Pn	00 19 38.2	-2.6
FITZ				*e*Pn	Pn	00 19 38.4	-2.4
PSI	**Prapat** 8.3nm,1.0s,mb4.1,baz=126,slow=8.7,SNR=4.3	23.34	274	P	P	00 20 20.1	+0.8
PSI	**Prapat**	23.34	274	P	P	00 20 20.1	+0.8
WRAB	**Tennant Creek** 8.6nm,1.2s,mb4.1	24.22	151	*e*P	P	00 20 27.9	+0.8
WRAB	**Tennant Creek**	24.22	151	P	P	00 20 30.5	+3.4
WRA	**Warramunga Arr** 4.4nm,0.9s,mb3.9,baz=329,slow=10,SNR=14	24.22	151	P	P	00 20 25.7	-1.5
WRA	**Warramunga Arr**	24.23	151	*e*P	P	00 20 25.7	-1.5
WB2	**Warramunga Arr**	24.23	151	*e*P	P	00 20 26.3	-0.9
COEN	**Coen** 58nm,1.0s,mb5.1	25.70	127	*e*P	P	00 20 39.5	-1.1
ASAR	**Alice Springs** 1.5nm,1.1s,mb3.4,baz=344,slow=14,SNR=6.7	27.29	156	P	P	00 20 55.2	+0.3
ASAR	**Alice Springs**	27.29	156	P	P	00 20 55.2	+0.3
STKA	**Stephens Creek** 0.8nm,0.5s,mb3.7,baz=333,slow=11,SNR=2.6	37.76	153	P	P	00 22 26.0	-0.2
STKA	**Stephens Creek**	37.76	153	P	P	00 22 26.0	-0.2
SONM	**Songino Array** 1.6nm,0.8s,mb4.1,baz=164,slow=8.6,SNR=10	48.34	346	P	P	00 23 51.8	+0.5
SONM	**Songino Array**	48.34	346	P	P	00 23 51.8	+0.5
TLY	**Talaya**	52.58	346	*e*P	P	00 24 23.4	+0.1
MK31	**Makanchi Array**	57.11	328	*e*P	P	00 24 56.6	+0.5
MKAR	**Makanchi Array** 1.4nm,0.5s,mb4.2,baz=127,slow=8.6,SNR=20	57.11	328	P	P	00 24 57.0	+0.8
MKAR	**Makanchi Array**	57.11	328	P	P	00 24 57.0	+0.8
TKM2	**Tokmak 2** 1.8nm,0.6s,mb4.3	58.70	321	*e*P	P	00 25 07.8	+0.5
AAK	**Ala-Archa** 5.6nm,0.7s,mb4.7	59.24	321	*e*P	P	00 25 12.0	+0.8
KBL	**Kabul** 3.5nm,0.6s,mb4.6	59.52	310	*e*P	P	00 25 13.8	+0.5
ZALV	**Zalesovo Beam** 0.4nm,0.4s,mb4.0,baz=114,slow=7.4,SNR=4.5	60.82	336	P	P	00 25 20.9	-0.8
ZALV	**Zalesovo Beam**	60.82	336	P	P	00 25 20.9	-0.8
KURK	**Kurchatov** 2.0nm,0.7s,mb4.3,baz=130,slow=6.6,SNR=16	61.47	330	P	P	00 25 26.0	-0.2
KURK	**Kurchatov** 5.3nm,0.7s,mb4.8	61.47	330	*e*P	P	00 25 26.1	-0.2

DJA ***17*** *00:34:20, 2°.56N×96°.75E, h3km, MLv4.5/6*
ISCJB ***17*** *00:34:22.5±0.8, 2°.60N±0°.05×96°.98E±0°.06, h59km±7km, mb4.1/16, Error ellipse: s-maj=10.8km s-min=6.3km az=149.1*
IDC ***17*** *00:34:24.4±4.9, 2°.59N×97°.00E, h56km±41km, mb3.7/11, mb1 3.9/12, mb1mx3.6/26, mbtmp3.7/12, ML4.1/1, MS3.2/1, Ms1 3.2/1, ms1mx2.4/25, Error ellipse: s-maj=49.5km s-min=13.8km az=57.0*
NEIC ***17*** *00:34:25.3±1.5, 2°.59N×97°.04E, h68km±12km, mb4.3/5, Error ellipse: s-maj=16.2km s-min=5.0km az=58.0*
ISC 17 00:34:23.8±0.8, 2°.60N±0°.05×96°.95E±0°.06, h52km±7km, n57, σ0°93/57, mb4.1/16, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	
						h m s	ISC
TPTI		0.69	19	P	Pn	00 34 35.9	-1.7
TPTI				S	Sn	00 34 46.2	-1.4
TSI	**Tuntungan**	1.85	61	P	Pn	00 34 55.7	+2.7
TSI				S	Sn	00 35 22.1	+6.9
PSI	**Prapat** 16nm,0.3s,baz=304,slow=9.3,SNR=42	1.98	84	P	Pn	00 34 55.3	+0.4
PSI	comp=Z,437nm,20.1s,baz=194,slow=46			LR	LR	00 35 53.8	
PSI	**Prapat**	1.98	84	P	Pn	00 34 55.3	+0.4
PSI				LR	LR	00 35 53.8	
PSI	**Prapat**	1.98	84	P	Pn	00 34 57.0	+2.1
MNSI	**Mandailing Nat**	3.18	124	P	Pn	00 35 11.0	-0.4
BSI	**Banda Aceh**	3.31	330	P	Pn	00 35 12.2	-1.0
IPM	**Ipoh**	4.48	65	*e*Pn	Pn	00 35 29.9	+0.8
IPM				*e*Sn	Sn	00 36 20.1	+0.1
IPM	**Ipoh**	4.48	65	P	Pn	00 35 30.9	+1.8
KULM	**Kulim**	4.56	54	*e*Pn	Pn	00 35 31.0	+0.8
KULM				*e*Sn	Sn	00 36 20.6	-1.4
KULM	**Kulim**	4.56	54	P	Pn	00 35 31.2	+1.0
PPI	**Padang Panjang**	4.59	131	P	Pn	00 35 32.8	+2.1
BKNI	**Bangkinang**	4.67	119	P	Pn	00 35 34.9	+3.1
PDSI	**Padang** 160nm,0.6s	4.95	135	P	Pn	00 35 36.7	+1.1
MDSI	**Maura Dua** 21nm,0.7s	10.09	134	P	Pn	00 36 44.6	-1.4
KLSI		10.63	133	P	Pn	00 36 52.8	-0.6
CMAR	**Chiang Mai Arr** 0.3nm,0.3s,baz=196,slow=11,SNR=7.6	15.88	7	P	Pn	00 38 04.7	+0.8
CMAR	**Chiang Mai Arr**	15.88	7	P	Pn	00 38 04.7	+0.8
MBWA	**Marble Bar**	32.49	138	P	P	00 40 49.0	-0.5
FITZ	**Fitzroy Crossi** 2.7nm,0.9s,mb4.2	34.96	127	*e*P	P	00 41 09.5	-1.6
WRA	**Warramunga Arr** 5.1nm,0.7s,mb4.3,baz=303,slow=9.1,SNR=37	42.99	123	P	P	00 42 17.8	-0.5
WRA	**Warramunga Arr**	42.99	123	P	P	00 42 17.8	-0.5
WRAB	**Tennant Creek** 11nm,1.1s,mb4.5	43.00	123	*e*P	P	00 42 17.7	-0.6
WB2	**Warramunga Arr**	43.01	123	*e*P	P	00 42 17.5	-0.9
TKM2	**Tokmak 2**	44.44	338	*e*P	P	00 42 30.2	+0.6
ASAR	**Alice Springs** 1.9nm,0.5s,mb4.1,baz=300,slow=7.7,SNR=18	44.44	128	P	P	00 42 29.6	-0.4
ASAR	**Alice Springs**	44.44	128	P	P	00 42 29.6	-0.4
AAK	**Ala-Archa**	44.62	336	*e*P

6.8nm,0.8s,mb4.5
SONM Songino Array 45.79 9 P **P** 00 42 40.5 +0.3
0.5nm,0.4s,mb3.8,baz=190,slow=8.9,SNR=8.0
SONM PcP PcP 00 44 18.1 +1.0
0.4nm,0.4s,baz=181,slow=3.7,SNR=4.6
SONM Songino Array 45.79 9 P **P** 00 42 40.5 +0.3
SONM PcP PcP 00 44 18.1 +1.0
MK31 Makanchi Array 45.83 346 *eP* **P** 00 42 40.8 +0.2
MKAR Makanchi Array 45.83 346 P **P** 00 42 40.9 +0.4
6.6nm,0.4s,mb3.9,baz=160,slow=9.1,SNR=20
MKAR Makanchi Array 45.83 346 P **P** 00 42 40.9 +0.4
KURK Kurchatov 50.38 345 P **P** 00 43 16.0 +0.4
0.8nm,0.6s,mb4.0,baz=163,slow=6.9,SNR=12
KURK PcP PcP 00 44 34.5 +1.0
0.3nm,0.6s,baz=153,slow=2.9,SNR=5.3
KURK Kurchatov 50.38 345 *eP* **P** 00 43 16.0 +0.3
KURK PcP PcP 00 44 34.5 +1.0
ZAA0 Zalesovo Array 52.14 351 *eP* **P** 00 43 28.8 +0.1
ZALV Zalesovo Beam 52.14 351 P **P** 00 43 28.5 -0.2
2.3nm,0.3s,mb4.6,baz=172,slow=7.2,SNR=20
ZALV PcP PcP 00 44 39.7 -0.2
0.6nm,0.4s,baz=174,slow=5.7,SNR=1.9
ZALV LR LR 01 07 36.4
comp=Z,24nm,21.5s,baz=255,slow=38
ZALV Zalesovo Beam 52.14 351 P **P** 00 43 28.5 -0.2
ZALV PcP PcP 00 44 39.7 -0.2
ZALV LR LR 01 07 36.4
CTAO Charters Tower 53.36 117 *eP* **P** 00 43 38.0 -0.3
STKA Stephens Creek 54.48 133 P **P** 00 43 46.0 -0.3
1.4nm,0.5s,mb4.1,baz=306,slow=4.8,SNR=7.2
STKA Stephens Creek 54.48 133 *eP* **P** 00 43 46.1 -0.2
ABKAR Akbulak array 56.17 332 *eP* **P** 00 43 58.7 +0.6
0.7nm,0.4s,mb4.0
AKTO Aktyubinsk 57.89 332 P **P** 00 44 10.9 +0.6
0.3nm,0.3s,mb3.8,baz=153,slow=4.5,SNR=2.4
AKTO Aktyubinsk 57.89 332 P **P** 00 44 10.9 +0.6
ARMA Armidale 61.56 127 *eP* **P** 00 44 36.1 +0.2
BRTR Keskin Array B 67.99 312 P **P** 00 45 17.7 0.0
0.2nm,0.4s,mb3.5,baz=129,slow=5.9,SNR=3.4
BRTR Keskin Array B 67.99 312 P **P** 00 45 17.7 0.0
CASY Casey 69.41 174 *eP* **P** 00 45 25.4 -0.5
LBTB Lobatse 74.28 243 *eP* **P** 00 45 56.0 0.0
0.5nm,0.4s,mb3.8
FINES FINESS Array B 78.65 332 P **P** 00 46 20.6 +0.6
1.4nm,0.5s,mb4.2,baz=108,slow=6.2,SNR=7.7
FINES FINESS Array B 78.65 332 P **P** 00 46 20.6 +0.6
ARCES ARCESS Array B 81.14 340 P **P** 00 46 32.8 -0.5
1.4nm,0.7s,mb4.0,baz=101,slow=5.1,SNR=6.6
ARCES ARCESS Array B 81.14 340 P **P** 00 46 32.8 -0.5
TXAR Lajitas Array 142.61 30 PKP PKPdf 00 53 49.1 -2.7
0.1nm,0.7s,baz=241,slow=1.0,SNR=4.0
TXAR Lajitas Array 142.61 30 PKP PKPdf 00 53 49.1 -2.7
CPUP Villa Florida 145.85 224 PKPbc PKPbc 00 53 58.4 +0.2
1.8nm,0.6s,baz=107,slow=4.9,SNR=6.0
CPUP Villa Florida 145.85 224 PKPbc PKPbc 00 53 58.4 +0.2

KRSC 17 00:50:17.0±0.8, **53°29N×160°38E, h40**km±30km, **ML3.6, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.29**	**228**	*i* P	Pn	00 50 25.0	-0.1
SPN				*i* S	Sn	00 50 30.6	-0.1
NLC	**Nalytchevo**	**0.63**	**260**	*i* P	Pn	00 50 29.8	+0.3
NLC				*i* S	Sn	00 50 39.2	+0.8
KII	**Karymskiy**	**0.93**	**324**	*e*P	Pn	00 50 33.8	+0.2
KII				*i* S	Sn	00 50 45.9	+0.2
AVH	**Avacha**	**0.99**	**269**	*i* P	Pn	00 50 35.3	+1.0
AVH				*i* S	Sn	00 50 48.2	+1.2
PET	**Petropavlovsk**	**1.07**	**256**	P	Pn	00 50 36.2	+0.7
PET				*i* S	Sn	00 50 49.6	+0.4
RUS	**Russkaya**	**1.42**	**234**	*e*P	Pn	00 50 40.0	-0.3
RUS				*i* S	Sn	00 50 56.5	-1.2
MKZ	**Mys Kozlova**	**1.50**	**32**	*i* P	Pn	00 50 40.2	-1.1
MKZ				*i* S	Sn	00 50 56.7	-2.9
GNL	**Ganaly**	**1.51**	**287**	*e*P	Pn	00 50 42.9	+1.4
GNL				*i* S	Sn	00 51 01.3	+1.3
TUMR	**Tumrok**	**2.00**	**356**	*e*P	Pn	00 50 49.9	+1.7
TUMR				*e*S	Sn	00 51 14.3	+2.3
KMNR	**Kamenistaya**	**2.47**	**358**	P	Pn	00 50 56.5	+1.8
SRDR	**Sredinnyy**	**3.06**	**353**	P	Pn	00 51 05.1	+2.4
KBTR	**Krutoberegovo**	**3.25**	**25**	*e*P	Pn	00 51 06.2	+0.9
KBTR				*e*S	Sn	00 51 42.2	-0.5

IDC 17 01:15:39.5±1.4, **27°37N×96°71E, h0**km, **mb3.4**/6, **mb1 3.5**/6, **mb1mx3.3**/27, **mbtmp3.4**/6, **Error ellipse: s-maj=69.5km s-min=18.7km az=64.0, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.10**	**166**	Pn	Pn	01 18 02.1	+10
0.5nm,0.3s,baz=340,slow=12,SNR=15							
SONM	**Songino Array**	**21.79**	**18**	P	P	01 20 33.1	+0.2
0.7nm,0.7s,baz=199,slow=10,SNR=6.2							
MKAR	**Makanchi Array**	**22.48**	**333**	P	P	01 20 41.5	+1.3
0.3nm,0.6s,baz=151,slow=12,SNR=4.7							
KURK	**Kurchatov**	**27.08**	**334**	P	P	01 21 23.0	-0.6
0.2nm,0.4s,baz=148,slow=10,SNR=2.3							
ZALV	**Zalesovo Beam**	**27.96**	**345**	P	P	01 21 30.8	-0.7
0.3nm,0.4s,baz=167,slow=8.4,SNR=2.4							
FITZ	**Fitzroy Crossi**	**53.19**	**145**	P	P	01 24 57.7	-1.9
0.7nm,0.8s,baz=355,slow=11,SNR=2.9							
WRA	**Warramunga Arr**	**59.50**	**138**	P	P	01 25 46.3	+1.8
0.3nm,0.5s,baz=328,slow=7.7,SNR=3.4							

IDC **17** *01:26:13.2*±*1.2, 1°.18N×122°.16E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.4/23, mbtmp3.4/5, ML3.8/1, Error ellipse: s-maj=116.7km s-min=21.0km az=68.0*
ISCJB **17** *01:26:16.6*±*0.7, 1°.40N*±*0°.07×122°.35E*±*0°.06, h33km, mb3.5/4, Error ellipse: s-maj=10.8km s-min=7.9km az=138.4*
DJA **17** *01:26:16, 1°.45N×122°.38E, h20km, mb4.3/3*
ISC 17 01:26:18.8±0.7, **1°34N**±**0°.07×122°39E**±**0°.07, h35**km, **n12,** σ**1°28/13, mb3.5/4, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.96**	**208**	P	**Pn**	**01 26 33.3**	**-2.5**
MRSI				S	**Sn**	**01 26 48.3**	**0.0**
KMSI	**Cibinong**	**1.76**	**115**	P	**Pn**	**01 26 48.0**	**+1.2**
LUWI	**Luwuk**	**2.40**	**171**	P	**Pn**	**01 26 58.8**	**+3.3**
MNI	**Manado**	**2.45**	**88**	S	**Sn**	**01 27 24.7**	**-0.4**
TTSI	**Tana Toraja** 1μm44nm,0.6s	**5.05**	**211**	P	**Pn**	**01 27 32.7**	**+0.6**
KDI	**Kendari** 391nm13nm,0.9s	**5.26**	**177**	P	**Pn**	**01 27 36.2**	**+1.2**
SPSI	**Sidrap Palu**	**5.88**	**206**	P	**Pn**	**01 27 44.3**	**+0.8**
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=6.2,slow=10,SNR=10	**19.58**	**171**	P	**Pn**	**01 30 42.8**	**-2.6**
WRA	**Warramunga Arr** 0.8nm,0.9s,mb3.2,baz=326,slow=10,SNR=6.2	**24.18**	**152**	P	**P**	**01 31 30.6**	**-1.4**
SONM	**Songino Array** 0.4nm,0.7s,mb3.6,baz=156,slow=8.9,SNR=3.0	**48.34**	**346**	P	**P**	**01 34 57.8**	**+1.0**
MKAR	**Makanchi Array** 0.7nm,0.8s,mb3.8,baz=138,slow=8.1,SNR=3.2	**57.16**	**328**	P	**P**	**01 36 02.3**	**+0.2**
KURK	**Kurchatov** 0.4nm,0.9s,mb3.6,baz=134,slow=5.3,SNR=3.4	**61.52**	**330**	P	**P**	**01 36 31.2**	**-0.9**

DDA **17** *01:52:03.3, 38°.87N×25°.99E, h7*$_{km}$*4km, Md3.0*
ISK **17** *01:52:04.1, 38°.89N×26°.04E, h3km, MD3.0*
ISCJB **17** *01:52:05.2*±*0.6, 38°.87N*±*0°.02×26°.07E*±*0°.05, h11km*±*4km, Error ellipse: s-maj=6.9km s-min=3.6km az=160.9*
CSEM **17** *01:52:05.4*±*0.2, 38°.87N×26°.08E, h10km, ML1.6/3, Error ellipse: s-maj=5.4km s-min=2.9km az=70.0*
THE **17** *01:52:05.8, 38°.88N×26°.04E, h13km*±*1km, ML1.6/3, Error ellipse: s-maj=2.7km s-min=0.8km az=89.0*
ISC 17 01:52:05.4±0.6, **38°87N**±**0°.02×26°03E**±**0°.05, h8**km±4km, **n37,** σ**0°92/58, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIGR	**SIGRI**	**0.36**	**338**	P	**Pg**	**01 52 13.1**	**+0.6**
SIGR				S	**Sg**	**01 52 18.6**	**+1.3**
SIGR	**SIGRI**	**0.36**	**338**	P	**Pg**	**01 52 13.1**	**+0.6**
SIGR				S	**Sg**	**01 52 18.6**	**+1.3**
PRK	**Paraskevi**	**0.42**	**27**	P	**Pg**	**01 52 13.5**	**0.0**
PRK				S	**Sg**	**01 52 20.4**	**+1.3**
PRK	**Paraskevi**	**0.42**	**27**	P	**Pg**	**01 52 13.5**	**0.0**
PRK				S	**Sg**	**01 52 20.4**	**+1.3**
CHOS	**Chios island**	**0.49**	**177**	P	**Pg**	**01 52 15.0**	**+0.2**
CHOS				S	**Sg**	**01 52 22.8**	**+1.6**
CHOS	**Chios island**	**0.49**	**177**	P	**Pg**	**01 52 15.0**	**+0.2**
CHOS				S	**Sg**	**01 52 22.8**	**+1.6**
AYVA	**Ayvalik**	**0.68**	**50**	*i* P	**Pg**	**01 52 16.6**	**-1.8**
AYVA				*i* S	**Sg**	**01 52 26.8**	**-0.4**
AYVA	**Ayvalik**	**0.68**	**50**	*i* P	**Pg**	**01 52 16.5**	**-1.9**
AYVA				*i* S	**Sg**	**01 52 26.8**	**-0.4**
URLA	**Izmir**	**0.68**	**139**	*i* P	**Pg**	**01 52 16.9**	**-1.5**
URLA				*i* S	**Sg**	**01 52 27.9**	**+0.6**
URLA	**Izmir**	**0.68**	**139**	*i* P	**Pg**	**01 52 17.0**	**-1.5**
URLA				*i* S	**Sg**	**01 52 27.9**	**+0.6**
BLCB	**Balcova**	**0.93**	**121**	*e*PG	**Pg**	**01 52 22.8**	**-0.5**
BLCB				*e*SG	**Sg**	**01 52 36.4**	**+1.0**
BLCB	**Balcova**	**0.93**	**121**	*e*Pg	**Pg**	**01 52 22.8**	**-0.5**
BLCB				*e*Sg	**Sg**	**01 52 36.4**	**+1.0**
BOZC	**Bozcaada**	**0.97**	**1**	*i* P	**Pg**	**01 52 22.4**	**-1.5**
BOZC				*i* S	**Sg**	**01 52 36.6**	**0.0**
EZN	**Ezine**	**0.98**	**14**	*e*PG	**Pg**	**01 52 23.6**	**-0.6**
EZN				*e*SG	**Sg**	**01 52 37.6**	**+0.7**
EZN	**Ezine**	**0.98**	**14**	*e*Pg	**Pg**	**01 52 23.6**	**-0.6**
EZN				*e*Sg	**Sg**	**01 52 37.6**	**+0.7**
IZM	**Izmir**	**1.08**	**116**	*e*PG	**Pg**	**01 52 25.0**	**-1.1**
IZM	**Izmir**	**1.08**	**116**	*e*Pg	**Pg**	**01 52 25.0**	**-1.1**
LIA	**Limnos Island**	**1.21**	**328**	P	**Pb**	**01 52 28.2**	**-0.4**
LIA				S	**Sb**	**01 52 43.6**	**-0.8**
LIA	**Limnos Island**	**1.21**	**328**	P	**Pb**	**01 52 28.2**	**-0.4**
LIA				S	**Sb**	**01 52 43.6**	**-0.8**
GADA	**Gvkgeada**	**1.32**	**356**	*e*PN	**Pn**	**01 52 30.0**	**0.0**
GADA	**Gvkgeada**	**1.32**	**356**	*e*Pn	**Pn**	**01 52 30.0**	**0.0**
BALY	**Balya**	**1.51**	**55**	*i* P	**Pn**	**01 52 31.1**	**-1.6**
BALY				*i* S	**Sn**	**01 52 54.6**	**+2.2**
BALY	**Balya**	**1.51**	**55**	*i* P	**Pn**	**01 52 31.1**	**-1.5**
BALY				*i* S	**Sn**	**01 52 54.6**	**+2.1**
GELI	**Tayfur-Gelibol**	**1.56**	**13**	*e*PN	**Pn**	**01 52 33.3**	**0.0**
GELI				*e*SN	**Sn**	**01 52 54.6**	**+0.8**
GELI	**Tayfur-Gelibol**	**1.56**	**13**	*e*Pn	**Pn**	**01 52 33.3**	**-0.1**
GELI				*e*Sn	**Sn**	**01 52 54.6**	**+0.8**
GONE	**Gonen-Balikesi**	**1.74**	**47**	*e*PN	**Pn**	**01 52 35.4**	**-0.4**
GONE	**Gonen-Balikesi**	**1.74**	**47**	*e*Pn	**Pn**	**01 52 35.4**	**-0.4**
KRBG	**Karabiga-Canak**	**1.81**	**32**	*e*PN	**Pn**	**01 52 36.6**	**-0.2**
KRBG	**Karabiga-Canak**	**1.81**	**32**	*e*Pn	**Pn**	**01 52 36.6**	**-0.2**
ERIK	**Erikli-Kesan**	**1.83**	**12**	*e*PN	**Pn**	**01 52 37.2**	**+0.1**
ERIK	**Erikli-Kesan**	**1.83**	**12**	*e*Pn	**Pn**	**01 52 37.2**	**+0.1**
ENEZ	**Enez**	**1.86**	**3**	*e*PN	**Pn**	**01 52 37.8**	**+0.2**
ENEZ	**Enez**	**1.86**	**3**	*e*Pn	**Pn**	**01 52 37.8**	**+0.3**
RKY	**Sarkoy-Tekirda**	**2.02**	**26**	*e*PN	**Pn**	**01 52 39.7**	**0.0**
RKY	**Sarkoy-Tekirda**	**2.02**	**26**	*e*Pn	**Pn**	**01 52 39.7**	**+0.1**
DST	**Dursunbey**	**2.14**	**69**	*e*PN	**Pn**	**01 52 41.5**	**+0.2**
DST	**Dursunbey**	**2.14**	**69**	*e*Pn	**Pn**	**01 52 41.5**	**+0.2**

NIED **17** *01:56:00, 37°.80N×142°.30E, h26km, Mw3.6 Best double couple: M*$_0$*3.07000×10*^{14} *NP1:*ϕ_0*182.00000°,* δ*62.00000°,* λ*53.00000°. NP2:*ϕ_0*60.00000°,* δ*45.00000°,* λ*138.00000°.*
JMA **17** *01:56:23.3*±*0.2, 37°.78N×142°.33E, h37km*±*3km, M3.9*
NEIC **17** *01:56:24.8*±*0.9, 37°.65N×142°.57E, h35km, MG3.9(JMA), Error ellipse: s-maj=21.4km s-min=13.2km az=151.0*
IDC **17** *01:56:26.4*±*5.0, 37°.61N×142°.49E, h50km*±*46km, mb3.4/7, mb1 3.5/8, mb1mx3.4/25, mbtmp3.4/8, ML3.0/1, Error ellipse: s-maj=28.3km s-min=24.9km az=58.0*
ISC 17 01:56:22.8±2.7, **37°81N**±**0°.08×142°30E**±**0°.07, h12**km±17km, **n26,** σ**1°26/33, mb3.5/7, 1C-4D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMM	**Marumori**	**1.20**	**273**	||P	**Pn**	**01 56 44.5**	**-0.9**
JMM				S	**Sb**	**01 56 59.1**	**-1.8**
JFK	**Kawauchi**	**1.22**	**249**	P	**Pn**	**01 56 44.4**	**-1.2**
JFK				*e*S	**Sb**	**01 56 59.2**	**-2.2**
JOU	**Okura**	**1.41**	**294**	||P	**Pn**	**01 56 48.2**	**-0.1**
JMK	**Ichinoseki**	**1.43**	**324**	||P	**Pn**	**01 56 48.0**	**-0.5**
JFT	**Otama**	**1.59**	**260**	||P	**Pn**	**01 56 51.0**	**+0.3**
JFT				*e*S	**Sn**	**01 57 10.3**	**-0.9**
JYS	**Shirataka**	**1.82**	**284**	P	**Pn**	**01 56 54.1**	**+0.2**
JYS				*e*S	**Sn**	**01 57 17.6**	**+0.8**
JOM	**Ohasama**	**1.84**	**335**	||P	**Pn**	**01 56 54.0**	**-0.3**
JYK	**Kaneyama**	**1.89**	**307**	P	**Pn**	**01 56 54.9**	**0.0**
MJAR	**Matsushiro Arr** 1.3nm,0.3s,baz=56,slow=9.0,SNR=8.8	**3.50**	**250**	P	**Pn**	**01 57 19.4**	**+2.3**
MJAR				S	**Sn**	**01 58 08.0**	**+9.5**
1.6nm,0.3s,baz=72,slow=12,SNR=5.4							
MJAR	**Matsushiro Arr**	**3.50**	**250**	P	**Pn**	**01 57 19.4**	**+2.3**
MJAR				S	**Sn**	**01 58 08.0**	**+9.5**
MAJO	**Matsushiro**	**3.51**	**250**	*e*Pn	**Pn**	**01 57 19.1**	**+2.0**
MAT	**Matsushiro**	**3.51**	**250**	P	**Pn**	**01 57 20.6**	**+3.5**
MAT				*e*S	**Sn**	**01 57 59.4**	**+0.9**
SONM	**Songino Array** 1.0nm,0.7s,mb3.5,baz=102,slow=8.2,SNR=7.6	**27.96**	**303**	P	**P**	**02 02 12.3**	**-0.7**
SONM	**Songino Array**	**27.96**	**303**	P	**P**	**02 02 12.3**	**-0.7**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,mb3.4,baz=81,slow=8.9,SNR=2.9	**41.92**	**312**	P	**P**	**02 04 14.3**	**+1.3**
ZALV	**Zalesovo Beam**	**41.92**	**312**	P	**P**	**02 04 14.3**	**+1.3**
MKAR	**Makanchi Array** 1.2nm,1.0s,mb3.6,baz=80,slow=10,SNR=2.7	**44.31**	**302**	P	**P**	**02 04 34.1**	**+1.6**
MKAR	**Makanchi Array**	**44.31**	**302**	P	**P**	**02 04 34.1**	**+1.6**
KURK	**Kurchatov** 1.0nm,0.6s,mb4.0,baz=82,slow=8.0,SNR=9.7	**46.02**	**308**	P	**P**	**02 04 46.9**	**+1.0**
KURK	**Kurchatov**	**46.02**	**308**	P	**P**	**02 04 46.9**	**+1.0**
ILAR	**Eielson Array** 0.4nm,0.6s,mb3.6,baz=256,slow=6.0,SNR=6.2	**48.47**	**33**	P	**P**	**02 05 04.2**	**-0.7**
ILAR	**Eielson Array**	**48.47**	**33**	P	**P**	**02 05 04.2**	**-0.7**
WRA	**Warramunga Arr** 0.2nm,0.6s,mb3.3,baz=12,slow=7.5,SNR=4.3	**57.92**	**189**	P	**P**	**02 06 12.1**	**-2.7**
WRA	**Warramunga Arr**	**57.92**	**189**	P	**P**	**02 06 12.1**	**-2.7**
PDAR	**Pinedale Array** 0.3nm,0.5s,mb3.5,baz=324,slow=2.5,SNR=3.6	**76.62**	**46**	P	**P**	**02 08 12.0**	**-1.3**
PDAR	**Pinedale Array**	**76.62**	**46**	P	**P**	**02 08 12.0**	**-1.3**

ISCJB **17** *02:00:07.6*±*1.1, 17°.52N*±*0°.07×102°.02W*±*0°.04, h31km*±*7km, mb3.4/3, Error ellipse: s-maj=11.9km s-min=5.3km az=22.2*
MEX **17** *02:00:09.3*±*0.7, 17°.59N×102°.00W, h3km*±*4km, MD3.9*
IDC **17** *02:00:14.4*±*7.9, 17°.29N×101°.65W, h110km*±*59km, mb3.3/3, mb1 3.5/5, mb1mx3.4/22, mbtmp3.1/5, Error ellipse: s-maj=106.3km s-min=31.2km az=31.0*
ISC 17 02:00:07.9±1.3, **17°53N**±**0°.07×102°03W**±**0°.04, h22**km±9km, **n14,** σ**0°74/24, mb3.4/3, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.54**	**82**	*i* P	**Pb**	**02 00 18.8**	**0.0**
ZIIG				*i* S	**Sb**	**02 00 26.0**	**-0.1**
MMIG	**Aquila**	**1.46**	**301**	*i* P	**Pn**	**02 00 33.0**	**0.0**
MMIG				*i* S	**Sn**	**02 00 50.8**	**-0.7**
CAIG	**El Cayaco**	**1.75**	**106**	*e*P	**Pn**	**02 00 36.6**	**-0.3**
CAIG				*e*S	**Sn**	**02 00 58.2**	**-0.3**
ACX	**Acapulco**	**2.17**	**107**	*i* P	**Pn**	**02 00 42.9**	**+0.1**
ACX				*i* S	**Sn**	**02 01 07.0**	**-2.0**
MOIG	**Morelia**	**2.28**	**20**	*e*P	**Pn**	**02 00 43.1**	**-1.2**
MOIG				*e*S	**Sn**	**02 01 11.6**	**-0.1**
MEIG	**Mezcala**	**2.33**	**80**	*e*P	**Pn**	**02 00 45.5**	**+0.6**
MEIG				*e*S	**Sn**	**02 01 13.3**	**+0.4**
PLIG	**Platanillo**	**2.55**	**70**	*e*P	**Pn**	**02 00 48.4**	**+0.4**
PLIG				*e*S	**Sn**	**02 01 18.2**	**-0.2**
PNIG	**Pinotepa**	**3.90**	**106**	*i* P	**Pn**	**02 01 07.3**	**+0.7**
PNIG				*i* S	**Sn**	**02 01 52.1**	**+0.4**
UTMO	**Huajuapan**	**4.04**	**85**	*e*P	**Pn**	**02 01 08.6**	**+0.2**
UTMO				*e*S	**Sn**	**02 01 56.0**	**+0.9**
CMIG	**Matias Romero** 0.3nm,0.3s,baz=301,slow=16,SNR=10	**6.84**	**93**	P	**Pn**	**02 01 46.9**	**0.0**
CMIG				S	**Sn**	**02 03 00.5**	**-3.6**
0.2nm,0.3s,baz=8.1,slow=7.1,SNR=2.3							
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=166,slow=12,SNR=7.0	**11.84**	**353**	P	**Pn**	**02 03 04.4**	**+8.8**
NVAR	**Mina Array Bea** 1.8nm,0.8s,mb3.6,baz=148,slow=10,SNR=16	**25.22**	**329**	P	**P**	**02 05 33.7**	**+1.5**
PDAR	**Pinedale Array** 0.5nm,0.8s,mb3.1,baz=159,slow=10,SNR=4.6	**25.96**	**347**	P	**P**	**02 05 39.0**	**+0.2**
ILAR	**Eielson Array** 0.4nm,0.7s,mb3.5,baz=156,slow=4.7,SNR=8.3	**55.92**	**339**	P	**P**	**02 09 43.6**	**-0.3**

ISCJB **17** *02:04:13.4*±*2.5, 25°.08N*±*0°.06×123°.43E*±*0°.05, h12km*±*18km, mb3.5/4, MS3.5/6, Error ellipse: s-maj=9.9km s-min=8.0km az=15.7*
JMA **17** *02:04:14.1*±*0.3, 25°.07N×123°.42E, h26km*±*5km, MS3.1*
IDC **17** *02:04:16.5*±*1.2, 24°.21N×121°.86E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.5/25, mbtmp3.6/5, ML3.7/1, MS3.5/6, Ms1 3.5/6, ms1mx2.9/31, Error ellipse: s-maj=74.9km s-min=20.3km az=70.0*
ISC 17 02:04:13.4±1.7, **25°08N**±**0°.07×123°46E**±**0°.05, h2**km±11km, **n16,** σ**0°30/16, mb3.5/4, MS3.5/6, Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.73**	**214**	P	**Pg**	**02 04 27.4**	**-0.1**
YOJ				*e*S	**Sg**	**02 04 37.3**	**+0.2**
IRIF	**Iriomote-Funau**	**0.78**	**162**	P	**Pg**	**02 04 28.4**	**+0.1**
IRIF				*e*S	**Sg**	**02 04 38.9**	**+0.5**
JIJ	**Ishigaki jima**	**0.94**	**139**	P	**Pg**	**02 04 31.2**	**-0.3**
JIJ				*e*S	**Sg**	**02 04 43.5**	**-0.2**
JKRS	**Kuro-shima**	**0.97**	**149**	P	**Pg**	**02 04 32.2**	**+0.1**
JKRS				*e*S	**Sg**	**02 04 44.8**	**+0.1**
HATJ	**Hateruma jima**	**1.06**	**163**	P	**Pg**	**02 04 33.3**	**-0.5**
HATJ				*e*S	**Sg**	**02 04 47.4**	**-0.2**
JTJ	**Tarama**	**1.21**	**111**	P	**Pg**	**02 04 36.4**	**-0.2**
JTJ				*e*S	**Sg**	**02 04 52.7**	**+0.4**
KSRS	**Korea Array** 0.4nm,0.3s,baz=190,slow=13,SNR=6.6	**12.91**	**16**	Pn	Px	02 07 38.2	
ASAJ	**Asahikawa** comp=Z,75nm,18.5s,MS3.2,baz=359,slow=37	**24.57**	**35**	LR	LR	02 20 31.6	
SONM	**Songino Array** 0.3nm,0.6s,mb3.0,baz=140,slow=4.7,SNR=2.6	**26.42**	**334**	P	**P**	**02 09 57.1**	**+5.7**
SONM				LR	LR	02 21 11.0	
comp=Z,86nm,18.5s,MS3.3,baz=169,slow=38							
ZALV	**Zalesovo Beam** comp=Z,40nm,18.3s,MS3.3,baz=252,slow=38	**40.66**	**325**	LR	LR	02 29 48.8	
KURK	**Kurchatov** 0.3nm,0.5s,mb3.3,baz=115,slow=9.0,SNR=2.6	**42.77**	**319**	P	**P**	**02 12 12.6**	**+0.5**
WRA	**Warramunga Arr** 0.6nm,0.4s,mb3.9,baz=347,slow=8.7,SNR=10	**45.98**	**166**	P	**P**	**02 12 37.7**	**-0.4**
ASAR	**Alice Springs** 0.3nm,0.3s,mb3.8,baz=356,slow=7.2,SNR=8.8	**49.50**	**167**	P	**P**	**02 13 05.3**	**0.0**
FINES	**FINESS Array B** comp=Z,44nm,19.3s,MS3.7,baz=146,slow=36	**71.72**	**330**	LR	LR	02 47 39.4	
HFS	**Hagfors** comp=Z,52nm,18.6s,MS3.9,baz=259,slow=40	**77.80**	**331**	LR	LR	02 56 39.5	
VRAC	**Vranov** comp=Z,16nm,20.5s,MS3.4,baz=58,slow=40	**81.58**	**321**	LR	LR	02 58 59.2	

ISCJB **17** *02:04:44.8*±*0.5, 48°.64N*±*0°.02×2°.86W*±*0°.05, h30km*±*4km, Error ellipse: s-maj=5.4km s-min=3.7km az=16.3*
CSEM **17** *02:04:45.0*±*0.2, 48°.64N×2°.94W, h15km, ML2.5/15, Error ellipse: s-maj=4.7km s-min=3.4km az=114.0*
NEIC **17** *02:04:45.2, 48°.66N×3°.02W, h2km, ML2.5(LDG), After LDG.*
LDG **17** *02:04:45.2*±*0.1, 48°.66N×3°.02W, h2km, Md2.6/3, Ml2.5/20, Error ellipse: s-maj=2.2km s-min=1.7km az=121.0*
BGS **17** *02:04:47.4*±*1.5, 48°.88N×2°.93W, h4km*±*68km, ML1.7*
ISC 17 02:04:45.2±0.5, **48°63N**±**0°.02×2°92W**±**0°.04, h20**km±2km, **n106,** σ**1°21/204, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSF	**Rostrenen** SNR=1.0	**0.37**	**219**	*e*Pg	**Pg**	**02 04 51.7**	**-1.4**
ROSF				*e*Sg	**Sg**	**02 04 57.4**	**-1.1**
32nm,0.3s							
ROSF	**Rostrenen**	**0.37**	**219**	*e*Pg	**Pg**	**02 04 51.7**	**-1.4**
ROSF				*e*Sg	**Sg**	**02 04 57.4**	**-1.1**
ROSF	**Rostrenen** SNR=1.0	**0.37**	**219**	*e*Pg	**Pg**	**02 04 51.7**	**-1.4**
ROSF				*e*Sg	**Sg**	**02 04 57.4**	**-1.1**
16nm,0.3s							
SGMF	**Saint Gilles** SNR=1.0	**0.45**	**147**	*e*Pg	**Pg**	**02 04 55.1**	**+0.7**
SGMF				*e*Sg	**Sg**	**02 05 01.6**	**+1.0**
38nm,0.3s,SNR=1.0							
SGMF	**Saint Gilles**	**0.45**	**147**	*e*Pg	**Pg**	**02 04 55.1**	**+0.7**
SGMF				*e*Sg	**Sg**	**02 05 01.6**	**+1.0**
SGMF	**Saint Gilles** SNR=1.0	**0.45**	**147**	*e*Pg	**Pg**	**02 04 55.1**	**+0.7**
SGMF				*e*Sg	**Sg**	**02 05 01.6**	**+1.0**
19nm,0.3s,SNR=1.0							
QUIF	**Quistinic**	**0.73**	**193**	*e*Pg	**Pg**	**02 04 59.4**	**-0.2**
QUIF	**Quistinic** SNR=1.0	**0.73**	**193**	*e*Pn	**Pn**	**02 05 00.7**	**+0.3**
QUIF				*e*Sg	**Sg**	**02 05 09.3**	**0.0**
QUIF				*e*Sn	**Sn**	**02 05 12.6**	**+1.7**
93nm,0.3s,SNR=1.0							
QUIF

FLN					*e*Sg		**Sg**	**02 05 38.5 +0.9**
	comp=E,13nm,0.2s								
FLN	**La Foliniere**	**1.62**	**84**		*e*Pn		**Pn**	**02 05 14.6 +1.9**
FLN					*e*Pg		**Pg**	**02 05 16.8 +0.3**
FLN					*e*Sn		**Sn**	**02 05 34.6 +1.6**
FLN					*e*Sg		**Sg**	**02 05 38.5 +0.9**
FLN	**La Foliniere**	**1.62**	**84**		*e*Pn		**Pn**	**02 05 14.6 +1.9**
	baz=256,SNR=1.0								
FLN	**La Foliniere**	**1.62**	**84**		*e*Pg		**Pg**	**02 05 16.8 +0.3**
	baz=274								
FLN					*e*Sn		**Sn**	**02 05 34.6 +1.6**
	SNR=1.0								
FLN					*e*Sg		**Sg**	**02 05 38.5 +0.9**
	comp=E,6.7nm,0.2s								
LDF	**La Druitiere**	**1.86**	**90**		*e*Pn		**Pn**	**02 05 17.6 +1.7**
	SNR=1.0								
LDF	**La Druitiere**	**1.86**	**90**		*e*Pg		**Pg**	**02 05 20.9 0.0**
	SNR=1.0								
LDF					*e*Sn		**Sn**	**02 05 40.4 +1.6**
	SNR=1.0								
LDF					*e*Sg		**Sg**	**02 05 45.8 +0.7**
	comp=E,11nm,0.2s,SNR=1.0								
LDF	**La Druitiere**	**1.86**	**90**		*e*Pn		**Pn**	**02 05 17.6 +1.7**
LDF					*e*Pg		**Pg**	**02 05 20.9 0.0**
LDF					*e*Sn		**Sn**	**02 05 40.4 +1.6**
LDF					*e*Sg		**Sg**	**02 05 45.8 +0.7**
LDF	**La Druitiere**	**1.86**	**90**		*e*Pn		**Pn**	**02 05 17.6 +1.7**
	SNR=1.0								
LDF	**La Druitiere**	**1.86**	**90**		*e*Pg		**Pg**	**02 05 20.9 0.0**
	SNR=1.0								
LDF					*e*Sn		**Sn**	**02 05 40.4 +1.6**
	SNR=1.0								
LDF					*e*Sg		**Sg**	**02 05 45.8 +0.7**
	comp=E,5.3nm,0.2s,SNR=1.0								
DYA	**Yadsworthy**	**1.92**	**340**		P		**Pn**	**02 05 16.9 +0.1**
DYA					S		**Sn**	**02 05 39.6 -0.8**
DYA					AML		AML	02 05 43.9	
	comp=E,10.0nm,0.3s								
DYA					AML		AML	02 05 45.2	
	comp=E,7.6nm,0.4s								
DYA	**Yadsworthy**	**1.92**	**340**		*e*P		**Pn**	**02 05 16.9 +0.1**
DYA					*e*S		**Sn**	**02 05 39.6 -0.8**
DYA					AML		AML	02 05 43.9	
	comp=E,10.0nm,0.3s								
DYA					AML		AML	02 05 45.2	
	comp=N,7.6nm,0.4s								
DYA	**Yadsworthy**	**1.92**	**340**		P		**Pn**	**02 05 16.9 +0.1**
DYA					S		**Sn**	**02 05 39.6 -0.8**
DYA					AML		AML	02 05 43.9	
	comp=N,10.0nm,0.3s								
DYA					AML		AML	02 05 45.2	
	comp=N,7.6nm,0.4s								
DYA	**Yadsworthy**	**1.92**	**340**		*e*P		**Pn**	**02 05 16.9 +0.1**
DYA					*e*S		**Sn**	**02 05 39.6 -0.8**
DYA					AML		AML	02 05 43.9	
	comp=E,10.0nm,0.3s								
DYA					AML		AML	02 05 45.2	
	comp=N,7.6nm,0.4s								
DYA	**Yadsworthy**	**1.92**	**340**		*e*P		**Pn**	**02 05 16.9 +0.1**
DYA					*e*S		**Sn**	**02 05 39.6 -0.8**
HTL	**Hartland**	**2.58**	**337**		S		**Sn**	**02 05 53.2 -3.3**
HTL					AML		AML	02 06 06.3	
	comp=N,8.2nm,0.4s								
HTL					AML		AML	02 06 11.7	
	comp=N,7.3nm,0.5s								
HTL	**Hartland**	**2.58**	**337**		*e*S		**Sn**	**02 05 53.2 -3.3**
HTL					AML		AML	02 06 06.3	
	comp=N,8.2nm,0.4s								
HTL					AML		AML	02 06 11.7	
	comp=E,7.3nm,0.5s								
HTL	**Hartland**	**2.58**	**337**		*e*S		**Sn**	**02 05 53.2 -3.3**
HTL					AML		AML	02 06 06.3	
	comp=N,8.2nm,0.4s								
HTL					AML		AML	02 06 11.7	
	comp=E,7.3nm,0.5s								
HTL	**Hartland**	**2.58**	**337**		*e*S		**Sn**	**02 05 53.2 -3.3**
MFF	**Saint Martin d**	**2.76**	**136**		*e*Pn		**Pn**	**02 05 30.6 +2.3**
	SNR=1.0								
MFF	**Saint Martin d**	**2.76**	**136**		*e*Pg		**Pg**	**02 05 37.4 -0.8**
MFF					*e*Sn		**Sn**	**02 06 02.0 +0.9**
MFF					*e*Sg		**Sg**	**02 06 13.7 -0.3**
	comp=E,4.0nm,0.2s,SNR=1.0								
MFF	**Saint Martin d**	**2.76**	**136**		*e*Pn		**Pn**	**02 05 30.6 +2.3**
MFF					*e*Pg		**Pg**	**02 05 37.4 -0.8**
MFF					*e*Sn		**Sn**	**02 06 02.0 +0.9**
MFF					*e*Sg		**Sg**	**02 06 13.7 -0.3**
MFF	**Saint Martin d**	**2.76**	**136**		*e*Pn		**Pn**	**02 05 30.6 +2.3**
	SNR=1.0								
MFF	**Saint Martin d**	**2.76**	**136**		*e*Pg		**Pg**	**02 05 37.4 -0.8**
MFF					*e*Sn		**Sn**	**02 06 02.0 +0.9**
MFF					*e*Sg		**Sg**	**02 06 13.7 -0.3**
	comp=E,2.0nm,0.2s,SNR=1.0								
HYF	**Humbligny**	**3.98**	**108**		*e*Pg		**Pg**	**02 06 00.1 -1.3**
HYF	**Humbligny**	**3.98**	**108**		*e*Pg		**Pg**	**02 06 00.1 -1.3**
HYF	**Humbligny**	**3.98**	**108**		*e*Pg		**Pg**	**02 06 00.1 -1.3**
TCF	**Toulx Ste Croi**	**4.20**	**122**		*e*Pn		**Pn**	**02 05 49.5 +1.5**
TCF					*e*Sn		**Sn**	**02 06 36.1 -0.3**
	comp=E,1.3nm,0.5s,SNR=1.0								
TCF	**Toulx Ste Croi**	**4.20**	**122**		*e*Pn		**Pn**	**02 05 49.5 +1.5**
TCF					*e*Sn		**Sn**	**02 06 36.1 -0.3**
TCF	**Toulx Ste Croi**	**4.20**	**122**		*e*Pn		**Pn**	**02 05 49.5 +1.5**
TCF					*e*Sn		**Sn**	**02 06 36.1 -0.3**
	comp=E,0.6nm,0.5s,SNR=1.0								
BGF	**Bois d'Agland**	**4.42**	**116**		*e*Pn		**Pn**	**02 05 52.1 +1.0**
BGF	**Bois d'Agland**	**4.42**	**116**		*e*Pn		**Pn**	**02 05 52.1 +1.0**
BGF	**Bois d'Agland**	**4.42**	**116**		*e*Pn		**Pn**	**02 05 52.1 +1.0**
LFF	**La Frestale**	**4.47**	**144**		*e*Pn		**Pn**	**02 05 53.4 +1.7**
	SNR=1.0								
LFF					*e*Sn		**Sn**	**02 06 42.4 -0.7**
	comp=E,5.7nm,0.7s,SNR=1.0								
LFF					*e*Sg		**Sg**	**02 07 07.7 -0.8**
	comp=E,2.7nm,0.3s								
LFF	**La Frestale**	**4.47**	**144**		*e*Pn		**Pn**	**02 05 53.4 +1.7**
LFF					*e*Sn		**Sn**	**02 06 42.4 -0.7**
LFF					*e*Sg		**Sg**	**02 07 07.7 -0.8**
LFF	**La Frestale**	**4.47**	**144**		*e*Pn		**Pn**	**02 05 53.4 +1.7**
	SNR=1.0								
LFF					*e*Sn		**Sn**	**02 06 42.4 -0.7**
	comp=E,2.8nm,0.7s,SNR=1.0								
LFF					*e*Sg		**Sg**	**02 07 07.7 -0.8**
	comp=E,1.4nm,0.3s								
RJF	**Les Rejaudoux**	**4.50**	**136**		*e*Pn		**Pn**	**02 05 53.5 +1.2**
	SNR=1.0								
RJF					*e*Sn		**Sn**	**02 06 42.3 -1.7**
RJF					*e*Sg		**Sg**	**02 07 07.7 -2.0**
	comp=E,2.6nm,0.3s,SNR=1.0								
RJF	**Les Rejaudoux**	**4.50**	**136**		*e*Pn		**Pn**	**02 05 53.5 +1.2**
RJF					*e*Sn		**Sn**	**02 06 42.3 -1.7**
RJF					*e*Sg		**Sg**	**02 07 07.7 -2.0**
RJF	**Les Rejaudoux**	**4.50**	**136**		*e*Pn		**Pn**	**02 05 53.5 +1.2**
	SNR=1.0								
RJF					*e*Sn		**Sn**	**02 06 42.3 -1.7**
RJF					*e*Sg		**Sg**	**02 07 07.7 -2.0**
	comp=E,1.3nm,0.3s,SNR=1.0								
SSF	**Saint Saulge**	**4.60**	**108**		*e*Pn		**Pn**	**02 05 54.5 +0.9**
	SNR=1.0								
SSF					*e*Sn		**Sn**	**02 06 46.0 -0.5**
	comp=E,0.6nm,0.3s								
SSF	**Saint Saulge**	**4.60**	**108**		*e*Pn		**Pn**	**02 05 54.5 +0.9**
SSF					*e*Sn		**Sn**	**02 06 46.0 -0.5**
SSF	**Saint Saulge**	**4.60**	**108**		*e*Pn		**Pn**	**02 05 54.5 +0.9**
	SNR=1.0								
SSF					*e*Sn		**Sn**	**02 06 46.0 -0.5**
	comp=E,0.3nm,0.3s								
AVF	**Avril sur Loir**	**4.62**	**111**		*e*Pn		**Pn**	**02 05 54.0 +0.2**
	SNR=1.0								
AVF					*e*Sn		**Sn**	**02 06 45.9 -0.9**
	comp=E,1.6nm,0.8s,SNR=1.0								
AVF	**Avril sur Loir**	**4.62**	**111**		*e*Pn		**Pn**	**02 05 54.0 +0.2**
AVF					*e*Sn		**Sn**	**02 06 45.9 -0.9**
AVF	**Avril sur Loir**	**4.62**	**111**		*e*Pn		**Pn**	**02 05 54.0 +0.2**
	SNR=1.0								
AVF					*e*Sn		**Sn**	**02 06 45.9 -0.9**
	comp=E,0.8nm,0.8s,SNR=1.0								
LOR	**Lormes**	**4.76**	**104**		*e*Pn		**Pn**	**02 05 57.0 +1.3**
	baz=286,SNR=1.0								
LOR	**Lormes**	**4.76**	**104**		*e*Pg		**Pg**	**02 06 14.2 -2.0**
	baz=282								
LOR					*e*Sn		**Sn**	**02 06 49.6 -0.6**
	comp=E,0.9nm,0.3s,SNR=1.0								
LOR	**Lormes**	**4.76**	**104**		*e*Pn		**Pn**	**02 05 57.0 +1.3**
LOR					*e*Pg		**Pg**	**02 06 14.2 -2.0**
LOR					*e*Sn		**Sn**	**02 06 49.6 -0.6**
LOR	**Lormes**	**4.76**	**104**		*e*Pn		**Pn**	**02 05 57.0 +1.3**
	baz=286,SNR=1.0								
LOR	**Lormes**	**4.76**	**104**		*e*Pg		**Pg**	**02 06 14.2 -2.0**
	baz=282								
LOR					*e*Sn		**Sn**	**02 06 49.6 -0.6**
	comp=E,0.4nm,0.3s,SNR=1.0								
BAIF	**Baives**	**4.88**	**70**		*e*Pn		**Pn**	**02 05 59.0 +1.6**
	SNR=1.0								
BAIF					*e*Sn		**Sn**	**02 06 51.2 -2.0**
	comp=E,1.4nm,0.4s,SNR=1.0								
BAIF	**Baives**	**4.88**	**70**		*e*Pn		**Pn**	**02 05 59.0 +1.6**
BAIF					*e*Sn		**Sn**	**02 06 51.2 -2.0**
BAIF	**Baives**	**4.88**	**70**		*e*Pn		**Pn**	**02 05 59.0 +1.6**
	SNR=1.0								
BAIF					*e*Sn		**Sn**	**02 06 51.2 -2.0**
	comp=E,0.7nm,0.4s,SNR=1.0								
CAF	**Calviac**	**5.04**	**135**		*e*Pn		**Pn**	**02 06 01.1 +1.4**
	SNR=1.0								
CAF					*e*Sn		**Sn**	**02 06 55.7 -1.7**
	comp=E,2.1nm,0.6s,SNR=1.0								
CAF					*e*Sg		**Sg**	**02 07 25.5 -1.6**
	comp=E,1.6nm,0.3s								
CAF	**Calviac**	**5.04**	**135**		*e*Pn		**Pn**	**02 06 01.1 +1.4**
CAF					*e*Sn		**Sn**	**02 06 55.7 -1.7**
CAF					*e*Sg		**Sg**	**02 07 25.5 -1.6**
CAF	**Calviac**	**5.04**	**135**		*e*Pn		**Pn**	**02 06 01.1 +1.4**
	SNR=1.0								
CAF					*e*Sn		**Sn**	**02 06 55.7 -1.7**
	comp=E,1.0nm,0.6s,SNR=1.0								
CAF					*e*Sg		**Sg**	**02 07 25.5 -1.6**
	comp=E,0.8nm,0.3s								
MEZF	**Maizieres J'vi**	**5.30**	**88**		*e*Pn		**Pn**	**02 06 03.4 +0.3**
	baz=273								
MEZF					*e*Sn		**Sn**	**02 07 02.0 -1.5**
	comp=E,1.0nm,0.2s								
MEZF	**Maizieres J'vi**	**5.30**	**88**		*e*Pn		**Pn**	**02 06 03.4 +0.3**
MEZF					*e*Sn		**Sn**	**02 07 02.0 -1.5**
MEZF	**Maizieres J'vi**	**5.30**	**88**		*e*Pn		**Pn**	**02 06 03.4 +0.3**
	baz=273								
MEZF					*e*Sn		**Sn**	**02 07 02.0 -1.5**
	comp=E,0.5nm,0.2s								
SFTF	**Sexfontaines**	**5.32**	**92**		*e*Sn		**Sn**	**02 07 02.9 -1.2**
	comp=E,1.7nm,0.3s								
SFTF	**Sexfontaines**	**5.32**	**92**		*e*Sn		**Sn**	**02 07 02.9 -1.2**
	comp=E,0.9nm,0.3s								
SJPF	**Ste Jean**	**5.64**	**167**		*e*Pn		**Pn**	**02 06 08.6 +0.7**
SJPF					*e*Sn		**Sn**	**02 07 10.5 -1.6**
	comp=E,1.0nm,0.2s								
SJPF	**Ste Jean**	**5.64**	**167**		*e*Pn		**Pn**	**02 06 08.6 +0.7**
SJPF					*e*Sn		**Sn**	**02 07 10.5 -1.6**
SJPF	**Ste Jean**	**5.64**	**167**		*e*Pn		**Pn**	**02 06 08.6 +0.7**
SJPF					*e*Sn		**Sn**	**02 07 10.5 -1.6**
	comp=E,0.5nm,0.2s								
ETSF	**Etsaut**	**5.96**	**163**		*e*Pn		**Pn**	**02 06 12.6 +0.3**
	SNR=1.0								
ETSF					*e*Sn		**Sn**	**02 07 18.3 -1.7**
	comp=E,4.9nm,1.0s,SNR=1.0								
ETSF	**Etsaut**	**5.96**	**163**		*e*Pn		**Pn**	**02 06 12.6 +0.3**
ETSF					*e*Sn		**Sn**	**02 07 18.3 -1.7**
ETSF	**Etsaut**	**5.96**	**163**		*e*Pn		**Pn**	**02 06 12.6 +0.3**
	SNR=1.0								
ETSF					*e*Sn		**Sn**	**02 07 18.3 -1.7**
	comp=E,2.5nm,1.0s,SNR=1.0								
EPF	**Esparros**	**6.04**	**157**		*e*Pn		**Pn**	**02 06 14.1 +0.7**
	SNR=1.0								
EPF					*e*Sn		**Sn**	**02 07 18.0 -4.0**
	comp=E,2.8nm,0.7s,SNR=1.0								
EPF	**Esparros**	**6.04**	**157**		*e*Pn		**Pn**	**02 06 14.1 +0.7**
EPF					*e*Sn		**Sn**	**02 07 18.0 -4.0**
EPF	**Esparros**	**6.04**	**157**		*e*Pn		**Pn**	**02 06 14.1 +0.7**
	SNR=1.0								
CABF	**La Chapelle**	**6.42**	**105**		*e*Pn		**Pn**	**02 06 19.1 +0.6**
	SNR=1.0								
CABF	**La Chapelle**	**6.42**	**105**		*e*Pn		**Pn**	**02 06 19.1 +0.6**
CABF	**La Chapelle**	**6.42**	**105**		*e*Pn		**Pn**	**02 06 19.1 +0.6**
	SNR=1.0								

JMA 17 02:05:55.1±0.2, 40.72N×139.12E, h15km, M1.6, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIW	**Iwasaki**	**0.69**	**100**	P	Pg	02 06 08.3	-0.2
JIW				*e*S	Sg	02 06 17.6	0.0

MOS **17** *02:11:17.0±0.9, 21.°50N×143.°20E, h300km, mb4.3/19, Error ellipse: s-maj=13.8km s-min=7.7km az=112.7*
ISCJB **17** *02:11:20.2±0.7, 21.°52N±0.°04×143.°00E±0.°03, h320km±5km, mb4.2/64, Error ellipse: s-maj=6.1km s-min=5.1km az=170.0*
IDC **17** *02:11:20.8±1.2, 21.°51N×143.°12E, h322km±11km, mb3.8/23, mb1 4.0/27, mb1mx3.9/33, mbtmp3.9/27, Error ellipse: s-maj=12.9km s-min=7.3km az=92.0*
BJI **17** *02:11:20.5, 21.°62N×143.°15E, h329km, mB4.6/11, mb4.3/25*
NEIC **17** *02:11:22.2±1.0, 21.°51N×143.°04E, h333km±10km, mb4.4/17, Error ellipse: s-maj=6.6km s-min=6.0km az=132.0*

ISC 17 02:11:21.3±0.6, 21.°56N±0.°04×143.°04E±0.°03, h317km±5km, h318km±2.4km; pP-P, n299, c0.°69/310, mb4.3/64, 75C-61D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**5.11**	**351**	P	**Pn**	**02 12 40.6**	**-0.1**
JHHJ				*e*S	**S**	**02 13 43.0**	**-1.7**
CBIJ	**Chichi jima**	**5.57**	**352**	P	**Pn**	**02 12 45.5**	**-0.4**
	76nm,0.3s,baz=304,slow=20,SNR=47						
CBIJ				S	**S**	**02 13 54.0**	**-0.3**
	25nm,0.3s,baz=312,slow=22,SNR=5.9						
CBIJ	**Chichi jima**	**5.57**	**352**	P	**Pn**	**02 12 45.4**	**-0.6**
CBIJ				*e*S	**S**	**02 13 53.0**	**-1.3**
GUMO	**Guam**	**8.11**	**167**	P	**Pn**	**02 13 16.9**	**+0.4**
	20nm,0.3s,baz=143,slow=4.9,SNR=9.8						
GUMO	**Guam**	**8.11**	**167**	*e*P	**Pn**	**02 13 17.2**	**+0.7**
GUMO	**Guam**	**8.11**	**167**	*e*P	**Pn**	**02 13 17.2**	**+0.7**
JHJ	**Hachijo jima 2**	**11.88**	**347**	P	**Pn**	**02 14 00.9**	**-1.0**
	15nm,0.3s,baz=68,slow=19,SNR=7.6						
JHJ				S	**S**	**02 16 13.3**	**-0.7**
	12nm,0.3s,baz=107,slow=20,SNR=4.1						
BSO1	**Boso 1**	**13.17**	**353**	P	**Pn**	**02 14 18.0**	**+0.5**
BSO1				*e*S	**S**	**02 16 45.6**	**+2.6**
TK02	**Tokai 2**	**13.20**	**340**	P	**Pn**	**02 14 17.5**	**-0.2**
JWZ	**Kozaga**	**13.58**	**333**	P	**Pn**	**02 14 23.7**	**+1.4**
JIE	**Ise**	**13.95**	**338**	P	**Pn**	**02 14 27.8**	**+1.1**
JOD2	**Odawara 2**	**14.09**	**347**	P	**P**	**02 14 28.8**	**+1.5**
JOD2				*e*S	**S**	**02 17 00.6**	**-1.1**
JTO	**Tosashimizu**	**14.47**	**323**	P	**P**	**02 14 35.7**	**+4.1**
JRY	**Ryogami san**	**14.86**	**347**	P	**P**	**02 14 36.3**	**+0.6**
JRY				*e*S	**S**	**02 17 15.0**	**-2.1**
MJAR	**Matsushiro Arr**	**15.51**	**345**	P	**P**	**02 14 43.5**	**+0.5**
	3.2nm,0.3s,baz=164,slow=10,SNR=13						
MJAR	**Matsushiro Arr**	**15.51**	**345**	P	**P**	**02 14 43.5**	**+0.5**
MJAR	**Matsushiro Arr**	**15.51**	**345**	P	**P**	**02 14 43.5**	**+0.5**
MAT	**Matsushiro**	**15.52**	**345**	P	**P**	**02 14 43.4**	**+0.4**
MAT				S	**S**	**02 17 28.7**	**-1.7**
MAT	**Matsushiro**	**15.52**	**345**	P	**P**	**02 14 43.4**	**+0.4**
MAT				*e*S	**S**	**02 17 26.8**	**-3.6**
YHNB	**Yeheng**	**20.16**	**283**	*e*P	**P**	**02 15 32.1**	**-0.8**
	8.4nm,0.6s						
SSLB	**Suanglung**	**20.50**	**280**	*e*P	**P**	**02 15 36.6**	**+0.3**
	15nm,0.7s						
KSRS	**Korea Array**	**20.55**	**324**	P	**P**	**02 15 36.6**	**+0.1**
	9.2nm,0.6s,baz=149,slow=8.9,SNR=25						
KSRS	**Korea Array**	**20.55**	**324**	P	**P**	**02 15 36.7**	**+0.1**
KSRS				pmax	pmax		
	comp=Z,9.0nm,0.6s						
KSAR	**Wonju Array Be**	**20.56**	**324**	P	**P**	**02 15 36.6**	**0.0**
KSAR	**Wonju Array Be**	**20.56**	**324**	P	**P**	**02 15 36.7**	**0.0**
CN2	**Changchun**	**26.56**	**331**	*e*P	**P**	**02 16 32.1**	**+1.3**
BJI	**Beijing**	**29.35**	**315**	P	**P**	**02 16 56.0**	**+0.4**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.3						
XAN	**Xi'an**	**32.49**	**300**	P	**P**	**02 17 23.9**	**+0.9**
XAN				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.4						
HHC	**Hu-ho-hao-te**	**32.83**	**313**	*e*P	**P**	**02 17 26.9**	**+1.1**
HHC				pP	pP	02 18 28.8	+1.9
HHC				PP	PP	02 18 52.5	+4.8
HHC				sP	sP	02 19 05.5	+1.8
HHC				S	**S**	**02 22 20.6**	**+1.5**
HHC				PcS	PcS	02 23 49.8	+1.7
HHC				sS	sS	02 24 08.8	-1.1
HHC				SS	SS	02 24 48.1	-8.2
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.4						
HHC				pmax	pmax		
	comp=Z,84nm,4.8s						
GYA	**Guiyang**	**33.51**	**286**	*e*P	**P**	**02 17 33.0**	**+1.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.3						
CD2	**Chengdu**	**36.29**	**293**	P	**P**	**02 17 56.5**	**+1.0**
CD2				pP	pP	02 18 59.5	+2.1
CD2				PP	PP	02 19 28.8	+3.0
CD2				sP	sP	02 19 35.4	+1.4
CD2				S	**S**	**02 23 13.6**	**+1.4**
CD2				sS	sS	02 25 04.6	+0.4
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.6						
CD2				pmax	pmax		
	comp=Z,200nm,6.5s						
LZH	**Lanzhou**	**37.01**	**302**	*e*P	**P**	**02 18 03.8**	**+2.4**
LZH				pP	pP	02 19 05.4	+1.8
LZH				sP	sP	02 19 39.0	-1.0
LZH				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.3						
KMI	**Kunming**	**37.08**	**283**	P	**P**	**02 18 02.6**	**+0.5**
KMI				pP	pP	02 19 06.3	+2.0
KMI				sP	sP	02 19 40.5	-0.3
KMI				pmax	pmax		
	comp=Z,11nm,0.5s,mb4.5						
SONM	**Songino Array**	**39.36**	**321**	P	**P**	**02 18 21.2**	**+0.5**
	comp=Z,1.1nm,0.4s,mb3.6,baz=128,slow=7.8,SNR=9.3						
SONM	**Songino Array**	**39.36**	**321**	P	**P**	**02 18 21.2**	**+0.5**
SONM	**Songino Array**	**39.36**	**321**	P	**P**	**02 18 21.2**	**+0.5**
CHTO	**Chiang Mai**	**41.38**	**274**	*e*P	**P**	**02 18 37.7**	**+0.2**
	comp=Z,3.9nm,0.4s,mb4.0						
CHTO	**Chiang Mai**	**41.38**	**274**	*e*P	**P**	**02 18 37.7**	**+0.2**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.0						
CM31	**Chiang Mai Arr**	**41.45**	**274**	P	**P**	**02 18 38.0**	**-0.1**
CMAR	**Chiang Mai Arr**	**41.45**	**274**	P	**P**	**02 18 39.0**	**+0.9**
	comp=Z,4.4nm,0.5s,mb3.9,baz=79,slow=6.2,SNR=10.0						
CMAR				PcP	PcP	02 20 27.6	-1.8
	comp=Z,0.9nm,0.4s,baz=72,slow=5.0,SNR=4.4						
CMAR	**Chiang Mai Arr**	**41.45**	**274**	P	**P**	**02 18 39.0**	**+0.9**
CMAR				PcP	PcP	02 20 27.6	-1.8
CMAR	**Chiang Mai Arr**	**41.45**	**274**	P	**P**	**02 18 39.0**	**+0.9**
CMAR						02 20 27.6	
YAK	**Yakutsk**	**41.48**	**351**	*e*P	**P**	**02 18 35.8**	**-1.9**
YAK				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.2						
WRAB	**Tennant Creek**	**42.10**	**192**	*e*P	**P**	**02 18 42.1**	**-1.0**
WRAB	**Tennant Creek**	**42.10**	**192**	*e*P	**P**	**02 18 42.1**	**-1.1**
WRA	**Warramunga Arr**	**42.11**	**192**	P	**P**	**02 18 42.0**	**-1.3**
	comp=Z,4.0nm,0.5s,mb3.9,baz=17,slow=9.0,SNR=67						
WRA				ScP	ScP	02 23 51.8	+0.7
	comp=Z,0.6nm,0.7s,baz=16,slow=4.7,SNR=4.2						
WRA				S	**S**	**02 24 36.6**	**-1.9**
	comp=Z,1.4nm,0.8s,baz=10,slow=14,SNR=7.2						
WRA	**Warramunga Arr**	**42.11**	**192**	P	**P**	**02 18 42.0**	**-1.3**
WRA				ScP	ScP	02 23 51.8	+0.7
WRA				S	**S**	**02 24 36.6**	**-1.9**
WRA	**Warramunga Arr**	**42.11**	**192**	P	**P**	**02 18 42.0**	**-1.3**
WRA				S	**S**	**02 24 36.7**	**-1.9**
FITZ	**Fitzroy Crossi**	**42.94**	**205**	P	**P**	**02 18 49.8**	**-0.1**
	comp=Z,0.9nm,0.3s,mb3.4,baz=14,slow=8.3,SNR=10.0						
FITZ	**Fitzroy Crossi**	**42.94**	**205**	P	**P**	**02 18 49.8**	**-0.1**
ASAR	**Alice Springs**	**45.82**	**192**	P	**P**	**02 19 11.0**	**-1.5**
	comp=Z,1.6nm,0.6s,mb3.5,baz=13,slow=9.0,SNR=28						
ASAR				S	**S**	**02 25 29.1**	**-2.8**
	comp=Z,1.4nm,1.0s,baz=21,slow=19,SNR=6.9						
ASAR	**Alice Springs**	**45.82**	**192**	P	**P**	**02 19 11.0**	**-1.5**
ASAR				S	**S**	**02 25 29.1**	**-2.8**
ASAR	**Alice Springs**	**45.82**	**192**	P	**P**	**02 19 11.0**	**-1.5**
PSI	**Prapat**	**46.74**	**253**	P	**P**	**02 19 19.7**	**-0.2**
	comp=Z,2.8nm,0.5s,mb3.8,baz=186,slow=6.3,SNR=4.9						
PSI	**Prapat**	**46.74**	**253**	P	**P**	**02 19 19.7**	**-0.2**
PSI	**Prapat**	**46.74**	**253**	P	**P**	**02 19 19.7**	**-0.2**
BILL	**Bilibino**	**48.68**	**11**	*de*P	**P**	**02 19 34.1**	**+0.3**
BILL				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.0						
UNV	**Unalaska Valle**	**49.80**	**37**	*e*P	**P**	**02 19 42.2**	**-0.2**
	comp=Z,14nm,0.3s,mb4.8						
AKUT	**Akutan**	**50.31**	**37**	*e*P	**P**	**02 19 46.1**	**-0.1**
	comp=Z,58nm,0.8s,mb5.

KKAR **Karatay Array** 63.04 308 *e*P P 02 21 15.7 +0.4
comp=Z,10.0nm,0.9s,mb4.5
KKAR **Karatay Array** 63.04 308 *e*P P 02 21 15.7 +0.4
KKAR pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
EGAK **Eagle** 64.67 27 *e*P P 02 21 24.9 -0.6
comp=Z,1.2nm,0.5s,mb3.8
KBL **Kabul** 65.29 299 *e*P P 02 21 30.3 +0.3
comp=Z,7.5nm,0.9s,mb4.3
KBL **Kabul** 65.29 299 *e*P P 02 21 30.3 +0.3
KBL pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
DAWY **Dawson** 65.41 28 *e*P P 02 21 30.4 +0.2
INK **Inuvik** 67.75 24 *e*P P 02 21 43.5 -1.4
comp=Z,4.7nm,0.9s,mb4.2
INK **Inuvik** 67.75 24 *e*P P 02 21 43.5 -1.3
INK pmax pmax
comp=Z,5.0nm,0.9s
ARU **Arti** 69.30 324 *d*iP P 02 21 52.2 -2.4
ARU S S 02 30 31.7 -2.9
ARU pmax pmax
comp=Z,17nm,1.7s,mb4.5
AB31 **Akbulak array** 69.56 316 P P 02 21 55.9 -0.4
AB31 pmax pmax
comp=Z,3.0nm,0.3s,mb4.5
ABKAR **Akbulak array** 69.56 316 *e*P P 02 21 56.0 -0.2
comp=Z,5.4nm,0.4s,mb4.6
AKTO **Aktyubinsk** 70.58 318 P P 02 22 01.9 -0.6
comp=Z,0.9nm,0.3s,mb3.8,baz=91,slow=5.9,SNR=11
AKTO **Aktyubinsk** 70.58 318 P P 02 22 01.9 -0.5
AKTO **Aktyubinsk** 70.58 318 P P 02 22 01.9 -0.5
SPITS **Spitsbergen Ar** 75.95 350 P P 02 22 32.6 -0.5
comp=Z,36nm,1.3s,mb4.8,baz=72,slow=8.2,SNR=12
SPITS **Spitsbergen Ar** 75.95 350 P P 02 22 32.6 -0.5
SPITS **Spitsbergen Ar** 75.95 350 P P 02 22 32.6 -0.5
NLWA **Neilton Lookou** 76.47 44 *e*P P 02 22 37.3 +0.7
YKA **Yellowknife Ar** 76.64 28 P P 02 22 36.7 -0.5
comp=Z,8.4nm,0.5s,mb4.7,baz=291,slow=6.0,SNR=26
YKA **Yellowknife Ar** 76.64 28 P P 02 22 36.7 -0.5
YKA **Yellowknife Ar** 76.64 28 P P 02 22 36.7 -0.5
E03A **Lebam** 76.92 45 ⇓P P 02 22 39.6 +0.5
baz=77
RES **Resolute Bay** 77.24 13 *e*P P 02 22 39.0 -1.4
RES **Resolute Bay** 77.24 13 *e*P P 02 22 39.0 -1.4
JCW **Jim Creek** 77.48 43 *e*P P 02 22 42.6 +0.5
comp=Z,1.5nm,0.4s,mb4.1
ARCES **ARCESS Array B** 79.01 341 P P 02 22 50.2 +0.1
comp=Z,5.3nm,0.4s,mb4.7,baz=76,slow=8.9,SNR=80
ARCES **ARCESS Array B** 79.01 341 P P 02 22 50.2 +0.1
ARCES **ARCESS Array B** 79.01 341 P P 02 22 50.2 +0.1
ARE0 **ARCESS Array S** 79.01 341 *e*P P 02 22 50.0 -0.1
G06A **Carlson Farm,** 79.28 46 ⇑P P 02 22 52.2 +0.2
baz=79
E07A **Sunnyside** 79.34 44 ⇑P P 02 22 52.7 +0.4
baz=79
F07A **Phinny Hill Vi** 79.52 45 ⇓P P 02 22 53.4 +0.1
baz=79
E08A **Dider Farm, El** 79.88 44 ⇑P P 02 22 55.3 +0.1
baz=80
C09A **Chrisman Ranch** 79.92 43 ⇑P P 02 22 55.4 +0.1
baz=80
K05A **Summer Lake** 79.95 48 ⇑P P 02 22 56.0 +0.4
baz=80
VRHR **Novokhopersk** 80.37 321 *e*P P 02 22 56.4 -1.3
VRHR pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
VRHR pmax pmax
comp=N,10.0nm,1.0s
VRHR pmax pmax
comp=E,1.0nm,0.4s
G08A **Pilot Rock** 80.37 45 ⇑P P 02 22 58.0 +0.2
baz=80
JOF **Joensuu** 80.38 334 *e*P P 02 22 55.7 -1.8
JOF pmax pmax
comp=Z,14nm,0.5s,mb5.0
JOF **Joensuu** 80.38 334 *ep* P 02 22 55.7 -1.8
comp=Z,14nm,0.5s,mb5.0
I07A **Izee** 80.44 46 ⇑P P 02 22 58.2 +0.1
baz=80
E09A **Wood Farm, Sta** 80.47 44 ⇑P P 02 22 58.5 +0.2
baz=80
NEW **Newport** 80.47 42 ⇑P P 02 22 58.4 +0.1
baz=80
NEW **Newport** 80.47 42 *e*P P 02 22 58.3 0.0
comp=Z,6.8nm,1.2s,mb4.2
NEW **Newport** 80.47 42 *e*P P 02 22 58.3 0.0
NEW pmax pmax
comp=Z,7.0nm,1.2s
A12A **Yaak River Ran** 81.13 41 ⇑P P 02 23 02.1 +0.4
baz=81
C11A **Tepee Creek (N** 81.17 42 ⇑P P 02 23 02.3 +0.3
baz=81
F10A **Beach Ranch, E** 81.25 44 ⇑P P 02 23 03.1 +0.6
baz=81
J08A **Circle Bar Ran** 81.39 47 ⇑P P 02 23 03.7 +0.5
baz=81
OBN **Obninsk** 81.53 326 *e*P P 02 22 59.9 -3.8
OBN pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
VSR **Storozhevoye** 81.74 322 *e*P P 02 23 04.1 -0.8
VSR pmax pmax
comp=Z,10.0nm,0.4s,mb4.9
VSR pmax pmax
comp=N,10.0nm,0.6s
VSR pmax pmax
comp=E,10.0nm,0.7s
A13A **Flathead Natio** 81.88 41 ⇓P P 02 23 06.3 +0.7
baz=82
WCN **Washoe City** 81.96 51 ⇑P P 02 23 06.8 +0.6
baz=82
D12A **Red Ives Fores** 82.04 43 ⇑P P 02 23 06.3 -0.2
baz=82
ZEI **Tsey** 82.05 313 *e*P P 02 23 05.6 -1.1
ZEI pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
B13A **Whitefish** 82.07 41 ⇑P P 02 23 07.1 +0.4
baz=82
E12A **Beaver Dam Sad** 82.15 43 ⇓P P 02 23 07.0 -0.1
baz=82
C13A **Hot Springs** 82.28 42 ⇑P P 02 23 07.6 -0.1
baz=82
A14A **Double T Ranch** 82.46 40 ⇓P P 02 23 08.9 +0.3
baz=82
F12A **Elk City** 82.61 44 ⇑P P 02 23 09.7 +0.2
baz=82
KAF **Kangasniemi** 82.79 335 *e*P P 02 23 08.1 -1.9
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
KAF **Kangasniemi** 82.79 335 *ep* P 02 23 08.1 -1.9
comp=Z,3.8nm,0.6s,mb4.4
B14A **Marquette Ranc** 82.80 41 ⇓P P 02 23 10.8 +0.4
baz=83
G12A **Big Creek, Yel** 82.81 44 ⇑P P 02 23 10.7 +0.2
baz=83
A15A **Johnson Ranch,** 82.88 40 ⇓P P 02 23 10.7 0.0
baz=83
SLMT **Seeley Lake** 83.13 42 *e*P P 02 23 12.2 +0.1
MFID **Camas Ranch** 83.16 46 ⇑P P 02 23 12.4 +0.1
baz=83
FINES **FINESS Array B** 83.25 334 P P 02 23 11.0 -1.4
comp=Z,6.6nm,0.5s,mb4.8,baz=68,slow=4.6,SNR=54
FINES **FINESS Array B** 83.25 334 P P 02 23 11.0 -1.4
FINES **FINESS Array B** 83.25 334 P P 02 23 11.0 -1.4
B15A **Bradely Ranch,** 83.26 41 ⇓P P 02 23 12.7 0.0
baz=83
NVAR **Mina Array Bea** 83.34 51 P P 02 23 13.4 +0.1
comp=Z,2.3nm,0.7s,mb4.1,baz=279,slow=5.4,SNR=24
NVAR **Mina Array Bea** 83.34 51 P P 02 23 13.4 +0.1
H12A **Diamond D Ranc** 83.35 45 ⇓P P 02 23 13.1 -0.2
baz=83
C15A **Salmond Ranch,** 83.45 41 ⇓P P 02 23 13.5 -0.2
baz=83
I12A **Atlanta** 83.47 46 ⇑P P 02 23 13.6 -0.2
baz=83
G13A **Cobalt** 83.54 44 ⇑P P 02 23 13.7 -0.5
baz=83,SNR=6.7
VES **Vestal, Richgr** 83.72 54 ⇑P P 02 23 14.4 -0.9
baz=84
C16A **Fuhringer Ranc** 83.97 41 ⇓P P 02 23 16.0 -0.3
baz=84
E15A **Deer Lodge** 84.00 42 ⇓P P 02 23 16.3 -0.2
baz=84,SNR=6.6
HLID **Hailey** 84.04 46 ⇑P P 02 23 16.7 -0.1
baz=84,SNR=5.1
I13A **Wildhorse Cree** 84.09 45 ⇓P P 02 23 17.2 +0.2
baz=84
A17A **Triple J Farms** 84.10 40 ⇓P P 02 23 16.8 -0.1
baz=84
MIB **Mutribah** 84.25 300 *e*P P 02 23 17.4 -0.7
MIB AMb AMB 02 23 18.8
comp=Z,28nm,0.8s,mb5.1
ISA **Isabella** 84.25 54 ⇓P P 02 23 18.0 +0.1
baz=84
J13A **Cove Ranch, Pi** 84.27 46 ⇓P P 02 23 18.2 +0.4
baz=84
H14A **Leadore** 84.29 44 ⇓P P 02 23 18.2 +0.2
baz=84
B17A **L&G Farms, Che** 84.33 40 ⇑P P 02 23 17.8 -0.3
baz=84,SNR=8.3
F15A **Butte** 84.34 43 ⇑P P 02 23 18.1 -0.1
baz=84,SNR=5.3
RDF **Al-Radifah** 84.39 299 *e*P P 02 23 18.4 -0.4
D16A **Dana Ranch, Ca** 84.42 41 ⇑P P 02 23 18.5 0.0
baz=84
I14A **Mackay** 84.53 45 ⇓P P 02 23 19.7 +0.5
baz=84
NAY **Al-Naaiem** 84.53 299 *e*P P 02 23 18.4 -1.0
NAY AMb AMB 02 23 19.7
comp=Z,14nm,0.7s,mb4.9
E16A **East Helena** 84.56 42 ⇑P P 02 23 19.3 0.0
baz=84,SNR=7.1
A18A **Metzger Ranch,** 84.62 39 ⇓P P 02 23 19.3 -0.2
baz=84,SNR=5.7
G15A **Dillon** 84.63 43 ⇓P P 02 23 19.4 -0.2
baz=84
C17A **Wharram Farm,** 84.64 41 ⇓P P 02 23 19.2 -0.5
baz=84
J14A **Carey** 84.73 45 ⇑P P 02 23 20.7 +0.5
baz=85
MPMC **Manual Prospec** 84.84 53 ⇑P P 02 23 20.8 0.0
baz=85
B18A **Beardsley Farm** 84.89 40 ⇑P P 02 23 20.8 -0.1
baz=85
D17A **Six Diamond Ra** 84.90 41 ⇓P P 02 23 20.8 -0.1
baz=85
F16A **Kennard Place,** 84.91 43 ⇑P P 02 23 20.9 -0.2
baz=85,SNR=6.1
LRMC **Laurel Mountai** 84.92 54 ⇓P P 02 23 21.1 -0.2
baz=85
BOZ **Bozeman (W)** 84.97 43 ⇑P P 02 23 21.3 0.0
baz=85
G16A **Moss Hill, Enn** 85.04 43 ⇑P P 02 23 21.6 -0.1
baz=85,SNR=5.1
EGMT **Eagleton** 85.07 40 ⇑P P 02 23 22.2 +0.4
baz=85
E17A **Martinsdale** 85.10 42 ⇓P P 02 23 22.2 +0.2
baz=85
FURC **Furnace Creek,** 85.15 53 ⇓P P 02 23 22.5 +0.1
baz=85
A19A **Klindworth Far** 85.26 39 ⇑P P 02 23 22.8 +0.1
baz=85
K14A **Jones Ranch, D** 85.29 46 ⇑P P 02 23 23.3 +0.4
baz=85
R11A **Troy Canyon, C** 85.33 51 ⇓P P 02 23 23.3 0.0
baz=85
B19A **Brinkman Farms** 85.36 39 ⇓P P 02 23 23.1 -0.1
baz=85,SNR=5.5
J15A **Blackfoot** 85.42 45 ⇑P P 02 23 24.0 +0.4
baz=85,SNR=6.7
L14A **Malta** 85.46 47 ⇓P P 02 23 24.8 +1.0
baz=85
F17A **Fitzpatrick Pl** 85.47 42 ⇑P P 02 23 23.9 +0.2
baz=85
H16A **Russell Place,** 85.62 44 ⇑P P 02 23 25.1 +0.6
baz=85
C19A **Slack Wire Ran** 85.63 40 ⇑P P 02 23 24.5 -0.1
baz=85
E18A **Harlowton** 85.64 41 ⇓P P 02 23 25.0 +0.4
baz=85
GSC **Goldstone** 85.65 54 ⇓P P 02 23 24.8 -0.1
baz=86
K15A **Arbon** 85.66 46 ⇓P P 02 23 25.4 +0.6
baz=86
G17A **Pierce Place,** 85.68 43 ⇓P P 02 23 25.6 +0.8
baz=86
I16A **Newdale** 85.83 44 ⇓P P 02 23 26.7 +1.1
baz=86
B20A **Solberg Farm,** 85.91 39 ⇓P P 02 23 25.6 -0.2
baz=86
D19A **Cripps Ranch,** 85.99 41 ⇑P P 02 23 26.2 -0.1
baz=86,SNR=5.2
J16A **Bone** 86.01 45 ⇑P P 02 23 26.8 +0.3
baz=86
L15A **Malad City** 86.05 46 ⇑P P 02 23 26.7 0.0
baz=86
H17A **Grant Village** 86.19 44 ⇓P P 02 23 28.0 +0.6
baz=86
K16A **Soda Springs** 86.22 45 ⇓P P 02 23 28.8 +1.3
baz=86
M15A **Larsen Ranch,** 86.24 47 ⇓P P 02 23 27.5 -0.1
baz=86
A21A **Bergtoll Ranch** 86.29 38 ⇑P P 02 23 27.5 -0.2
baz=86
N15A **Stansbury Isla** 86.43 47 ⇑P P 02 23 28.6 +0.1
baz=86
D20A **Manuel Ranch,** 86.48 40 ⇓P P 02 23 28.9 +0.3
baz=86
B21A **Ellsworth Farm** 86.50 39 ⇓P P 02 23 28.8 +0.1
baz=86
DUG **Dugway** 86.53 48 ⇓P P 02 23 29.0 -0.1
baz=86
PFO **Pinyon Flat Ob** 86.58 55 ⇓P P 02 23 28.9 -0.6
baz=86
P14A **Drum Mountains** 86.61 49 ⇑P P 02 23 29.2 -0.3
baz=86
L16A **Fish Haven** 86.68 46 ⇓P P 02 23 29.9 +0.2
baz=86
RLMT **Red Lodge** 86.69 43 ⇓P P 02 23 30.5 +0.8
baz=86
GMRC **Granite Mounta** 86.72 54 ⇑P P 02 23 29.9 -0.2
baz=87
Q14A **Sevier Lake (B** 86.72 49 ⇓P P 02 23 29.9 -0.1
baz=87
C21A **Desert Coulee** 86.75 39 ⇑P P 02 23 30.0 0.0
baz=87
BELC **Belle Mtn. Jos** 86.78 55 ⇓P P 02 23 30.0 -0.3
baz=87
MONP **Monument Peak** 86.90 56 ⇑P P 02 23 30.8 -0.1
baz=87
BC3 **Big Chuckawall** 87.33 55 ⇑P P 02 23 32.8 -0.2
baz=87
IRM **Iron Mountain** 87.35 54 ⇓P P 02 23 33.1 0.0
baz=87
AKASG **Malin Array Be** 87.54 324 P P 02 23 31.9 -1.8
comp=Z,0.6nm,0.4s,mb3.8,baz=50,slow=5.5,SNR=7.0
AKASG **Malin Array Be** 87.54 324 P P 02 23 31.9 -1.8
AKASG **Malin Array Be** 87.54 324 P P 02 23 31.9 -1.7
PDAR **Pinedale Array** 87.59 45 P P 02 23 33.5 -0.5
comp=Z,0.4nm,0.5s,mb3.5,baz=232,slow=1.0,SNR=6.6
PDAR **Pinedale Array** 87.59 45 P P 02 23 33.5 -0.5
GLA **Glamis** 88.06 55 ⇑P P 02 23 36.5 +0.1
baz=88
PDMCI **Parker Dam,Lak** 88.06 54 ⇓P P 02 23 36.3 -0.1
baz=88
E22A **Miles City** 88.11 40 ⇑P P 02 23 36.4 +0.1
baz=88
Q16A **Castle Valley** 88.23 49 ⇑P P 02 23 37.3 +0.2
baz=88
R16A **Teasdale** 88.29 49 ⇑P P 02 23 37.7 +0.3
baz=88
K20A **Yellowstone Ra** 88.43 44 ⇑P P 02 23 37.5 -0.5
baz=88
U15A **North Rim** 88.52 51 ⇑P P 02 23 38.4 -0.2
baz=88
P18A **Preston Nutter** 88.55 48 ⇓P P 02 23 39.0 +0.4
baz=88
SRU **San Rafael** 88.59 48 ⇑P P 02 23 38.5 -0.4
baz=88
N19A **John Jarvie Ra** 88.70 46 ⇓P P 02 23 39.2 -0.1
baz=88
R17A **Hanksville Air** 88.77 49 ⇑P P 02 23 39.6 -0.1
baz=89
Z13A **Yuma Proving G** 88.89 55 ⇓P P 02 23 40.2 -0.1
baz=89
NOA **NORSAR Array B** 89.03 339 P P 02 23 38.3 -2.1
comp=Z,0.6nm,0.6s,mb3.6,baz=38,slow=5.1,SNR=3.4
NOA **NORSAR Array B** 89.03 339 P P 02 23 38.3 -2.1
NOA **NORSAR Array B** 89.03 339 P P 02 23 38.3 -2.1
Y14A **Wickenburg** 89.06 54 ⇑P P 02 23 41.0 -0.1
baz=89
K21A **Alcova** 89.15 44 ⇓P P 02 23 41.2 -0.1
baz=89
P19A **Cripple Cowboy** 89.42 47 ⇑P P 02 23 42.6 -0.1
baz=89
Y15A **Casa Rosa Ranc** 89.56 54 ⇑P P 02 23 43.5 0.0
baz=89
N21A **Black Mountain** 89.87 46 ⇑P P 02 23 44.8 0.0
baz=90
T18A **Mexican Hat** 89.94 50 ⇑P P 02 23 44.5 -0.6
baz=90
BRTR **Keskin Array B** 90.34 313 P P 02 23 46.0 -1.0
comp=Z,1.0nm,0.8s,mb3.7,baz=88,slow=4.9,SNR=9.5
BRTR **Keskin Array B** 90.34 313 P P 02 23 46.0 -1.0
BRTR **Keskin Array B** 90.34 313 P P 02 23 46.0 -1.0
L23A **Garrett** 90.41 44 ⇑P P 02 23 46.7 -0.5
baz=90
T19A **Beclabito** 90.69 50 ⇑P P 02 23 48.6 0.0
baz=90
M23A **Laramie** 90.71 44 ⇑P P 02 23 48.7 +0.1
baz=90
Q21A **Lamborn Mesa,** 90.76 47 ⇓P P 02 23 49.2 +0.2
baz=91
U19A **Dine' College,** 90.81 50 ⇑P P 02 23 49.5 +0.4
baz=91
O22A **Kremmling** 90.81 46 ⇑P P 02 23 49.3 +0.2
baz=91
P22A **Eagle** 90.95 46 ⇑P P 02 23 50.0 +0.2
baz=91
R21A **Cimarron** 91.00 48 ⇑P P 02 23 50.5 +0.5
baz=91
MDND **Maddock** 91.04 37 ⇓P P 02 23 50.1 +0.1
baz=91
Q22A **Crested Butte,** 91.20 47 ⇓P P 02 23 51.4 +0.4
baz=91
W19A **Sanders** 91.22 51 ⇑P P 02 23 51.5 +0.4
baz=91
U20A **Newcomb** 91.26 50 ⇓P P 02 23 51.3 0.0
baz=91
X19A **St. Johns** 91.61 52 ⇓P P 02 23 53.4 +0.5
baz=91
P23A **Jefferson** 91.67 46 ⇑P P 02 23 53.7 +0.6
baz=92
118A **Homack Ranch,** 91.92 54 ⇓P P 02 23 54.7 +0.3
baz=92
Y20A **Horse Springs,** 92.52 52 ⇓P P 02 23 57.4 +0.2
baz=92
Z20A **Nine Sixteen R** 92.73 53 ⇑P P 02 23 58.6 +0.5
baz=93
S24A **Houchin Ranch,** 92.96 48 ⇓P P 02 23 59.2 +0.1
baz=93
TXAR **Lajitas Array** 98.25 54 P P 02 24 25.3 +2.1
comp=Z,0.1nm,0.6s,mb3.3,baz=277,slow=0.7,SNR=2.6
TXAR **Lajitas Array** 98.25 54 P P 02 24 25.3 +2.1
TXAR **Lajitas Array** 98.25 54 P P 02 24 25.3 +2.1
VNA2 **Neumayer--Watz** 127.67 192 *e* PKPdf 02 29 44.7 -3.5
baz=177,slow=0.9
VNA3 **Neumayer Olymp** 127.83 191 *e* PKPdf 02 29 44.6 -3.9
TORD **Torodi Ar. Bea** 128.73 309 PKP PKPdf 02 29 51.0 -0.9
comp=Z,0.4nm,0.5s,baz=22,slow=1.1,SNR=10
TORD **Torodi Ar. Bea** 128.73 309 PKP PKPdf 02 29 51.0 -0.9
LPAZ **La Paz** 150.08 85 *e*PKPbc PKPbc 02 30 36.0 +0.6

ISCJB **17** *02:25:07.8±0.7, 38°.40N±0°.04×42°.78E±0°.04, h5km±6km, Error ellipse: s-maj=6.0km s-min=5.6km az=24.5*
CSEM **17** *02:25:07.6±0.3, 38°.34N×42°.65E, h21km±3km, MD2.8, Error ellipse: s-maj=7.7km s-min=5.4km az=55.0*
DDA **17** *02:25:07.7, 38°.42N×42°.78E, h3km, Md2.8*
ISK **17** *02:25:07.2, 38°.34N×42°.61E, h21km, MD2.7*

ISC 17 02:25:08.2±0.7, 38°.38N±0°.04×42°.78E±0°.04, h9km±6km, n17, σ0°.95/30, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VANT	**Van**	**0.39**	**84**		*e*PG		**Pg**	**02 25 17.3**	**+1.6**
VANT					*e*SG		**Sg**	**02 25 26.9**	**+6.0**
VANT	**Van**	**0.39**	**84**		*e*Pg		**Pg**	**02 25 17.3**	**+1.6**
VANT					*e*Sg		**Sg**	**02 25 26.9**	**+6.1**
TATV	**Tatvan**	**0.42**	**288**		*i* P		**Pg**	**02 25 15.8**	**-0.6**
TATV					*i* S		**Sg**	**02 25 21.2**	**-0.8**
TATV	**Tatvan**	**0.42**	**288**		*i* P		**Pg**	**02 25 15.8**	**-0.6**
TATV					*i* S		**Sg**	**02 25 21.2**	**-0.8**
TUTA	**Tutak**	**1.02**	**2**		*i* P		**Pg**	**02 25 26.9**	**-0.9**
TUTA					*i* S		**Sg**	**02 25 42.4**	**+1.3**
TUTA	**Tutak**	**1.02**	**2**		*i* P		**Pg**	**02 25 26.9**	**-0.9**
TUTA					*i* S		**Sg**	**02 25 42.4**	**+1.3**
HAKT	**HAKKARI**	**1.10**	**138**		*i* P		**Pg**	**02 25 28.6**	**-0.7**
HAKT					*i* S		**Sg**	**02 25 48.1**	**+4.5**
HAKT	**HAKKARI**	**1.10**	**138**		*i* P		**Pg**	**02 25 28.6**	**-0.7**
HAKT					*i* S		**Sg**	**02 25 48.1**	**+4.5**
HKR	**Hakkari**	**1.10**	**136**		*e*PN		**Pg**	**02 25 29.4**	**+0.1**
HKR	**Hakkari**	**1.10**	**136**		*e*Pn		**Pg**	**02 25 29.4**	**0.0**
CLDR	**Caldiran**	**1.17**	**49**		*e*PN		**Pn**	**02 25 30.2**	**-0.5**
CLDR					*e*SN		**Sn**	**02 25 47.0**	**+0.2**
CLDR	**Caldiran**	**1.17**	**49**		*e*Pn		**Pn**	**02 25 30.2**	**-0.5**
CLDR					*e*Sn		**Sn**	**02 25 47.0**	**+0.2**
AGRB	**Hanur-Agry**	**1.21**	**8**		*e*PN		**Pn**	**02 25 30.6**	**-0.6**
AGRB					*e*SN		**Sn**	**02 25 47.6**	**-0.1**
AGRB	**Hanur-Agry**	**1.21**	**8**		*e*Pn		**Pn**	**02 25 30.6**	**-0.6**
AGRB					*e*Sn		**Sn**	**02 25 47.6**	**-0.1**
BEST	**Besiri**	**1.28**	**248**		*i* P		**Pn**	**02 25 33.0**	**+0.7**
BEST					*i* S		**Sb**	**02 25 50.8**	**+1.8**
CUKT	**Cukurca**	**1.31**	**150**		*e*PN		**Pn**	**02 25 31.1**	**-1.4**
CUKT	**Cukurca**	**1.31**	**150**		*e*Pn		**Pn**	**02 25 31.1**	**-1.4**

SOF **17** *02:31:08.6, 40°.74N×23°.66E, h4km, MD2.7*
ATH **17** *02:31:08.7, 40°.78N×23°.70E, h21km±2km, MD3.6/11*
THE **17** *02:31:09.8, 40°.76N×23°.69E, h8km, ML2.4/13, Error ellipse: s-maj=1.0km s-min=0.3km az=289.0*
SKO **17** *02:31:09.6, 40°.78N×23.81E, h13km, M2.0, ML2.3*
ISCJB **17** *02:31:09.2±0.3, 40°.76N±0°.02×23°.71E±0°.02, h5km±4km, Error ellipse: s-maj=3.0km s-min=2.9km az=161.8*
CSEM **17** *02:31:09.5±0.1, 40°.76N×23°.71E, h5km, MD3.6, Error ellipse: s-maj=2.5km s-min=2.4km az=82.0*

ISC 17 02:31:09.8±0.3, 40°.77N±0°.02×23°.72E±0°.03, h7km±4km, n70, σ0°.78/105, 2C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SOH	**Sokhos**	**0.28**	**282**	⇑*i*	PB		**Pg**	**02 31 15.1**	**-0.2**
SOH					*e*SB		**Sg**	**02 31 19.2**	**+0.2**
SOH	**Sokhos**	**0.28**	**282**		P		**Pg**	**02 31 19.0**	**-0.3**
SOH					S		**Sg**	**02 31 19.1**	**+0.1**
SOH	**Sokhos**	**0.28**	**282**	⇑*i*	Pb		**Pg**	**02 31 15.1**	**-0.2**
SOH					S		**Sg**	**02 31 19.1**	**+0.1**
SRS	**Serrai**	**0.36**	**345**		P		**Pg**	**02 31 16.8**	**-0.1**
SRS					S		**Sg**	**02 31 22.2**	**+0.5**
SRS	**Serrai**	**0.36**	**345**		P		**Pg**	**02 31 16.8**	**-0.1**
PLG	**Polygyros**	**0.44**	**208**		*e*PB		**Pg**	**02 31 18.3**	**0.0**
PLG					*e*SB		**Sg**	**02 31 24.3**	**+0.2**
PLG	**Polygyros**	**0.44**	**208**		P		**Pg**	**02 31 18.2**	**-0.1**
PLG					S		**Sg**	**02 31 24.2**	**+0.1**
PLG	**Polygyros**	**0.44**	**208**		P		**Pg**	**02 31 18.2**	**-0.1**
PLG					*e*Sb		**Sg**	**02 31 24.3**	**+0.2**
OUR	**Ouranopolis**	**0.48**	**155**		P		**Pg**	**02 31 19.1**	**+0.2**
OUR					S		**Sg**	**02 31 26.0**	**+0.9**
OUR	**Ouranopolis**	**0.48**	**155**		P		**Pg**	**02 31 19.1**	**+0.2**
OUR					S		**Sg**	**02 31 26.0**	**+0.9**
HORT	**Hortiatis**	**0.50**	**251**		P		**Pg**	**02 31 19.0**	**-0.4**
HORT					S		**Sg**	**02 31 25.6**	**-0.2**
HORT	**Hortiatis**	**0.50**	**251**		P		**Pg**	**02 31 19.0**	**-0.4**
HORT					S		**Sg**	**02 31 25.6**	**-0.2**
THE	**Thessaloniki**	**0.59**	**257**		P		**Pg**	**02 31 20.5**	**-0.5**
THE					S		**Sg**	**02 31 28.8**	**+0.1**
THE	**Thessaloniki**	**0.59**	**257**		P		**Pg**	**02 31 20.5**	**-0.5**
THE					S		**Sg**	**02 31 28.8**	**+0.1**
NVR	**Nevrokopi**	**0.59**	**11**		*e*PN		**Pg**	**02 31 21.1**	**-0.1**
NVR					*e*SN		**Sg**	**02 31 28.4**	**-0.6**
NVR	**Nevrokopi**	**0.59**	**11**		P		**Pg**	**02 31 21.0**	**-0.2**
NVR					S		**Sg**	**02 31 29.9**	**+0.9**
NVR	**Nevrokopi**	**0.59**	**11**		P		**Pg**	**02 31 21.0**	**-0.2**
NVR					S		**Sg**	**02 31 29.9**	**+0.9**
KAVA	**Kavala**	**0.65**	**69**		P		**Pg**	**02 31 22.2**	**0.0**
KAVA					S		**Sg**	**02 31 32.5**	**+1.8**
KAVA	**Kavala**	**0.65**	**69**		P		**Pg**	**02 31 22.2**	**0.0**
KAVA					S		**Sg**	**02 31 32.5**	**+1.8**
KNT	**Kendrikon**	**0.73**	**303**		P		**Pg**	**02 31 23.2**	**-0.7**
KNT					S		**Sg**	**02 31 34.5**	**+1.0**
KNT	**Kendrikon**	**0.73**	**303**		P		**Pg**	**02 31 23.2**	**-0.7**
MMB	**Musomiste**	**0.82**	**1**	*i*	Pg		**Pg**	**02 31 24.9**	**-0.7**
MMB	**Musomiste**	**0.82**	**1**	*i*	Pg		**Pg**	**02 31 24.9**	**-0.7**
PAIG	**Paliouri**	**0.84**	**182**		P		**Pg**	**02 31 25.3**	**-0.5**
PAIG					S		**Sg**	**02 31 37.2**	**+0.5**
PAIG	**Paliouri**	**0.84**	**182**		P		**Pg**	**02 31 25.3**	**-0.5**
PAIG					S		**Sg**	**02 31 37.2**	**+0.5**

GRG	**Griva**	**1.01 281**		P	**Pg**	**02 31 28.2**	**-1.0**
GRG				S	**Sg**	**02 31 42.8**	**+0.4**
GRG	**Griva**	**1.01 281**		P	**Pg**	**02 31 28.2**	**-1.0**
VAY	**Valandovo**	**1.03 303**		P	**Pg**	**02 31 29.1**	**-0.4**
VAY				S	**Sg**	**02 31 44.1**	**+1.2**
VAY	**Valandovo**	**1.03 303**	*i* Pg		**Pg**	**02 31 29.4**	**-0.1**
VAY			eLg			02 31 44.2	
	comp=E,49nm,0.6s						
VAY			*i* Sg		**Sg**	**02 31 44.3**	**+1.4**
VAY			eLg			02 31 45.9	
	comp=N,133nm,0.9s						
VAY	**Valandovo**	**1.03 303**		P	**Pg**	**02 31 29.1**	**-0.4**
VAY	**Valandovo**	**1.03 303**	*i* Pg		**Pg**	**02 31 29.4**	**-0.1**
VAY			S		**Sg**	**02 31 44.1**	**+1.2**
VAY			eLg			02 31 44.2	
	comp=N,49nm,0.6s						
LIT	**Litokhoron**	**1.15 235**	*e*PN		**Pg**	**02 31 31.1**	**-0.6**
LIT			*e*SN		**Sg**	**02 31 46.5**	**-0.1**
LIT	**Litokhoron**	**1.15 235**	P		**Pg**	**02 31 31.0**	**-0.7**
LIT			S		**Sg**	**02 31 47.9**	**+1.3**
LIT	**Litokhoron**	**1.15 235**	P		**Pg**	**02 31 31.0**	**-0.7**
LIT			*e*Sn		**Sg**	**02 31 46.5**	**-0.1**
LIT			S		**Sg**	**02 31 47.9**	**+1.3**
RZN	**Rozhen**	**1.19 39**	Pg		**Pg**	**02 31 33.7**	**+1.1**
RZN	**Rozhen**	**1.19 39**	Pg		**Pg**	**02 31 33.7**	**+1.1**
KKB	**Krupnik**	**1.20 337**	*e*Pg		**Pg**	**02 31 31.8**	**-1.0**
KKB	**Krupnik**	**1.20 337**	*e*Pg		**Pg**	**02 31 31.8**	**-1.0**
LIA	**Limnos Island**	**1.42 127**	*e*PN		**Pn**	**02 31 34.9**	**-1.0**
LIA	**Limnos Island**	**1.42 127**	P		**Pn**	**02 31 34.9**	**-1.0**
LIA			S		**Sb**	**02 31 55.5**	**+0.8**
LIA	**Limnos Island**	**1.42 127**	P		**Pn**	**02 31 34.9**	**-1.0**
LIA			S		**Sb**	**02 31 55.5**	**+0.8**
RDO	**Rodhopi**	**1.43 74**	*e*PN		**Pn**	**02 31 35.3**	**-0.8**
RDO	**Rodhopi**	**1.43 74**	P		**Pn**	**02 31 35.3**	**-0.8**
RDO			S		**Sn**	**02 31 55.0**	**-0.2**
RDO	**Rodhopi**	**1.43 74**	P		**Pn**	**02 31 35.3**	**-0.8**
RDO			S		**Sn**	**02 31 55.0**	**-0.2**
NEO	**Neokhori**	**1.50 195**	*e*PN		**Pn**	**02 31 36.7**	**-0.4**
NEO	**Neokhori**	**1.50 195**	*e*Pn		**Pn**	**02 31 36.7**	**-0.4**
AOS	**Alonnisos**	**1.60 175**	P		**Pn**	**02 31 37.4**	**-1.0**
AOS			S		**Sn**	**02 31 59.9**	**+0.7**
AOS	**Alonnisos**	**1.60 175**	P		**Pn**	**02 31 37.4**	**-1.0**
AOS			S		**Sn**	**02 31 59.9**	**+0.7**
THL	**Klokotos Trika**	**1.77 228**	*e*PN		**Pn**	**02 31 41.0**	**+0.2**
THL	**Klokotos Trika**	**1.77 228**	*e*Pn		**Pn**	**02 31 41.0**	**+0.2**
ALN	**Alexandroupoli**	**1.77 85**	*e*PN		**Pn**	**02 31 40.1**	**-0.7**
ALN	**Alexandroupoli**	**1.77 85**	P		**Pn**	**02 31 40.2**	**-0.6**
ALN	**Alexandroupoli**	**1.77 85**	P		**Pn**	**02 31 40.2**	**-0.6**
PGB	**Panagyurishte**	**1.81 11**	Pg		**Pg**	**02 31 43.2**	**-1.4**
PGB	**Panagyurishte**	**1.81 11**	Pg		**Pg**	**02 31 43.2**	**-1.4**
VTS	**Vitosha**	**1.86 348**	P		**Pn**	**02 31 43.4**	**+1.3**
VTS	**Vitosha**	**1.86 348**	*e*P		**Pn**	**02 31 43.5**	**+1.4**
VTS	**Vitosha**	**1.86 348**	P		**Pn**	**02 31 43.4**	**+1.3**
KRUS	**Krusevo**	**1.96 289**	*e*Pn		**Pn**	**02 31 43.2**	**-0.2**
KRUS	**Krusevo**	**1.96 289**	*e*Pn		**Pn**	**02 31 43.2**	**-0.2**
AGG	**Agios Georgios**	**2.04 212**	*e*PN		**Pn**	**02 31 44.5**	**0.0**
AGG	**Agios Georgios**	**2.04 212**	*e*Pn		**Pn**	**02 31 44.5**	**0.0**
EVR	**Evrytania**	**2.36 219**	*e*PB		**Pn**	**02 31 49.2**	**+0.3**
PRK	**Paraskevi**	**2.48 127**	*e*PN		**Pn**	**02 31 49.7**	**-0.8**
PRK	**Paraskevi**	**2.48 127**	*e*Pn		**Pn**	**02 31 49.7**	**-0.8**
BARS	**Barje**	**2.49 326**	*e*Pn		**Pn**	**02 31 51.7**	**+1.0**
MPEP	**Malo Peshtene**	**2.59**		P	**Pg**	**02 31 57.4**	**-2.0**
CHOS	**Chios island**	**2.98 142**	*e*PN		**Pn**	**02 31 57.6**	**+0.1**
CHOS	**Chios island**	**2.98 142**	*e*Pn		**Pn**	**02 31 57.6**	**+0.1**
GRUS	**Gruza**	**3.83 326**	⇓*i*Pn		**Pn**	**02 32 10.4**	**+1.3**

SKHL 17 02:41:28.9±0.5, 54°21'N×126°17'E, h7km±1km, mb3.9/4, 1C-2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KROS	**Kirovskiy**	**0.52**	**64**	⇓*i*Pg	Pg	02 41 38.4	-0.5
KROS				AMB	AMB	02 41 38.6	
	39nm,0.4s						
KROS				AMB	AMB	02 41 38.6	
	74nm,0.4s						
KROS				AMB	AMB	02 41 38.6	
	76nm,0.4s						
KROS				pPg		02 41 40.5	
KROS				*i* Sg	Sg	02 41 45.4	-0.3
KROS				A		02 41 46.2	
	290nm,0.4s						
KROS				A		02 41 46.2	
	420nm,0.4s						
KROS				A		02 41 46.2	
	99nm,0.4s						
ZEA	**Zeya**	**0.79**	**126**	⇑*i*Pg	Pg	02 41 43.4	-0.7
ZEA				AMB	AMB	02 41 43.9	
	100nm,0.2s						
ZEA				pPg		02 41 45.1	
ZEA				*i* Sg	Sg	02 41 53.6	-0.8
ZEA				A		02 41 54.1	
	280nm,0.3s						
ZEA				A		02 41 54.1	
	300nm,0.3s						
ZEA				A		02 41 54.1	
	130nm,0.3s						
TNDR	**Tynda**	**1.26**	**319**	*e*Pg	Pg	02 41 52.7	-0.4
TNDR				*e*Sg	Sg	02 42 09.7	+0.3
BMKR	**Bomnak**	**1.64**	**71**	⇓*i*Pn	Pn	02 41 57.3	-0.8
BMKR				*e*Pg	Pg	02 41 58.1	-2.2
BMKR				AMB	AMB	02 41 58.5	
	110nm,0.5s						
BMKR				*e*Sg	Sg	02 42 19.7	-1.8
BMKR				A		02 42 23.0	
	296nm,0.4s						
IENR	**Iengra**	**2.15**	**340**	*e*Pg	Pg	02 42 09.1	-1.0
IENR				*e*Sg	Sg	02 42 37.3	-0.7
CLNS	**Chul'man**	**2.73**	**345**	*e*Pg	Pg	02 42 18.2	-3.0
CLNS				*e*Sg	Sg	02 42 54.7	-1.9
TUP	**Tupik**	**3.65**	**276**	*e*Pn	Pn	02 42 25.9	+0.2
TUP				*e*Pg	Pg	02 42 34.8	-3.9
TUP				*e*Sn	Sn	02 43 09.0	+0.1
TUP				*e*Sg	Sg	02 43 21.9	-4.0
EKMR	**Ekimchan**	**4.19**	**103**	*e*Pn	Pn	02 42 32.6	-0.6
EKMR				pPn		02 42 35.5	
EKMR				*e*Pg	Pg	02 42 44.6	-4.6
EKMR				AMB	AMB	02 42 48.2	
	4.0nm,0.4s						
EKMR				*e*Sg	Sg	02 43 40.0	-3.5
EKMR				A		02 43 45.9	
	15nm,0.5s						
EKMR				A		02 43 45.9	
	9.0nm,0.5s						
EKMR				A		02 43 45.9	
	14nm,0.5s						
CRS	**Chara**	**5.23**	**304**	*e*Sg	Sg	02 44 11.5	-5.2

*IDC **17** 02:44:47.8±0.7, 18°.26N×121°.42E, h0km, mb3.8/10, mb1 4.0/10,mb1mx3.8/23,mbtmp3.8/10, MS3.3/4, Ms1 3.4/4,ms1mx3.0/23, Error ellipse: s-maj=40.1km s-min=15.9km az=63.0*
*MAN **17** 02:44:51, 18°.39N×120°.97E, h6km, mb4.8, ML3.7, MS3.7*
*ISCJB **17** 02:44:54.0±0.5, 18°.24N±0°.05×121°.05E±0°.07, h55km±6km, mb3.7/12, MS3.3/4, Error ellipse: s-maj=11.2km s-min=7.9km az=167.5*
*NEIC **17** 02:44:56.1±0.9, 18°.29N×121°.30E, h65km±10km, mb3.9/5, Error ellipse: s-maj=15.1km s-min=7.7km az=81.0*
NEIC Felt [II PIVS] at Callao Cave.

ISC 17 02:44:55.3±0.5, 18°21'N±0°.05×121°10'E±0°.08, h53km±6km, n40, σ1°$14/45, mb3.7/13, MS3.3/4, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**0.38**	**158**	*e*P	**Pn**	**02 45 04.5**	**-0.9**
APYP				*e*S	**Sn**	**02 45 13.0**	**+0.5**
ABRA	**Dolores**	**0.67**	**213**	*e*P	**Pn**	**02 45 06.3**	**-2.4**
ABRA				*e*S	**Sn**	**02 45 15.3**	**-3.2**
CVP	**Callao Caves**	**0.86**	**126**	⇓*i*P	**Pn**	**02 45 11.1**	**-0.1**
CVP				*i* S	**Sn**	**02 45 24.2**	**+1.4**
CAUP	**Cauayan**	**1.44**	**151**	*e*P	**Pn**	**02 45 22.8**	**+3.7**
CAUP				*e*S	**Sn**	**02 45 41.5**	**+4.7**
PALP	**Palanan**	**1.71**	**132**	*e*P	**Pn**	**02 45 27.7**	**+5.0**
PCPH	**Palayan**	**2.63**	**180**	⇓*e*P	**Pn**	**02 45 37.6**	**+2.2**
TGY	**Tagaytay City**	**4.09**	**182**	Pn	**Pn**	**02 45 59.7**	**+4.4**
	34nm,0.3s,baz=18,slow=20,SNR=2.8						
TGY	**Tagaytay City**	**4.09**	**182**	Pn	**Pn**	**02 45 59.7**	**+4.4**
YULB	**Yu-li**	**5.16**	**2**	*e*Pn	**Pn**	**02 46 10.8**	**+0.8**
SSLB	**Suanglung**	**5.55**	**359**	*e*Pn	**Pn**	**02 46 14.3**	**-1.0**

SSLB				*e*S	**Sn**	**02 47 11.8**	**-6.0**
YHNB	**Yeheng**	**6.43**	**2**	*e*Pn	**Pn**	**02 46 26.1**	**-1.3**
ENH	**Enshi**	**15.99**	**321**	*e*P	**Pn**	**02 48 36.8**	**0.0**
	3.6nm,0.4s						
KSM	**Kuching**	**19.72**	**214**	*e*P	**Pn**	**02 49 22.0**	**-0.5**
	25nm,1.4s						
CHTO	**Chiang Mai**	**21.01**	**275**	*e*P	**P**	**02 49 35.6**	**+1.0**
CMAR	**Chiang Mai Arr**	**21.03**	**274**	P	**P**	**02 49 35.6**	**+0.8**
	1.3nm,0.3s,mb3.8,baz=95,slow=7.2,SNR=6.4						
CMAR				LR	LR	02 58 26.8	
	comp=Z,40nm,19.1s,MS2.8,baz=100,slow=38						
CMAR	**Chiang Mai Arr**	**21.03**	**274**	P	**P**	**02 49 35.6**	**+0.8**
CMAR				LR	LR	02 58 26.9	
WRAB	**Tennant Creek**	**40.08**	**160**	*e*P	**P**	**02 52 25.1**	**-0.7**
	0.7nm,0.5s,mb3.6						
WRA	**Warramunga Arr**	**40.08**	**160**	P	**P**	**02 52 23.3**	**-2.5**
	0.4nm,0.4s,mb3.5,baz=342,slow=9.0,SNR=8.1						
WRA				PcP	PcP	02 54 31.1	+1.3
	0.7nm,0.5s,baz=344,slow=3.2,SNR=8.3						
WRA	**Warramunga Arr**	**40.08**	**160**	P	**P**	**02 52 23.3**	**-2.5**
WRA				PcP	PcP	02 54 31.1	+1.3
MKAR	**Makanchi Array**	**42.72**	**321**	P	**P**	**02 52 48.2**	**+1.0**
	0.8nm,0.6s,mb3.6,baz=113,slow=11,SNR=4.5						
MKAR				PcP	PcP	02 54 39.2	+1.2
	1.2nm,0.8s,baz=136,slow=5.2,SNR=3.2						
MKAR				LR	LR	03 11 38.2	
	comp=Z,26nm,18.2s,MS3.2,baz=173,slow=38						
MKAR	**Makanchi Array**	**42.72**	**321**	P	**P**	**02 52 48.2**	**+1.0**
MKAR				PcP	PcP	02 54 39.2	+1.2
MKAR				LR	LR	03 11 38.2	
ASAR	**Alice Springs**	**43.46**	**163**	P	**P**	**02 52 52.8**	**-0.6**
	0.5nm,0.4s,mb3.6,baz=345,slow=7.1,SNR=12						
ASAR	**Alice Springs**	**43.46**	**163**	P	**P**	**02 52 52.8**	**-0.6**
ZALV	**Zalesovo Beam**	**45.29**	**331**	P	**P**	**02 53 08.0**	**+0.4**
	0.5nm,0.5s,mb3.6,baz=108,slow=4.8,SNR=4.6						
ZALV				LR	LR	03 13 10.3	
	comp=Z,36nm,18.3s,MS3.3,baz=184,slow=38						
ZALV	**Zalesovo Beam**	**45.29**	**331**	P	**P**	**02 53 08.0**	**+0.4**
ZALV				LR	LR	03 13 10.3	
KURK	**Kurchatov**	**46.73**	**324**	P	**P**	**02 53 20.4**	**+1.4**
	2.1nm,0.7s,mb4.2,baz=119,slow=8.0,SNR=8.9						
KURK	**Kurchatov**	**46.73**	**324**	P	**P**	**02 53 20.4**	**+1.4**
BRVK	**Borovoye**	**52.40**	**324**	*e*P	**P**	**02 54 02.3**	**+0.2**
	0.9nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**53.54**	**158**	P	**P**	**02 54 10.1**	**-0.6**
	1.0nm,0.7s,mb3.9,baz=348,slow=9.3,SNR=2.9						
STKA	**Stephens Creek**	**53.54**	**158**	P	**P**	**02 54 10.1**	**-0.6**
ABKAR	**Akbulak array**	**57.65**	**317**	*e*P	**P**	**02 54 40.5**	**+0.4**
	0.6nm,0.7s,mb3.7						
ILAR	**Eielson Array**	**74.56**	**26**	P	**P**	**02 56 26.6**	**-1.6**
	0.1nm,0.5s,mb3.0,baz=265,slow=4.7,SNR=4.2						
ILAR	**Eielson Array**	**74.56**	**26**	P	**P**	**02 56 26.6**	**-1.6**
FINES	**FINESS Array B**	**76.56**	**331**	P	**P**	**02 56 39.7**	**-0.1**
	1.9nm,0.9s,mb4.0,baz=106,slow=10,SNR=3.1						
FINES	**FINESS Array B**	**76.56**	**331**	P	**P**	**02 56 39.7**	**-0.1**
HFS	**Hagfors**	**82.72**	**331**	P	**P**	**02 57 14.2**	**+0.9**
	30nm,1.4s,baz=118,slow=5.4,SNR=6.6						
HFS	**Hagfors**	**82.72**	**331**	P	**P**	**02 57 14.2**	**+0.9**
NB2	**NORSAR Subarra**	**83.45**	**333**	P	**P**	**02 57 16.5**	**-0.5**
	comp=Z,1.6nm,0.8s,mb4.1,baz=64,slow=5.3						
NOA	**NORSAR Array B**	**83.45**	**333**	P	**P**	**02 57 16.7**	**-0.3**
	comp=Z,1.4nm,0.8s,mb4.0,baz=64,slow=4.9,SNR=4.1						
NOA				LR	LR	03 37 03.2	
	comp=Z,37nm,21.9s,MS3.7,baz=0.0,slow=38						
NOA	**NORSAR Array B**	**83.45**	**333**	P	**P**	**02 57 16.7**	**-0.3**
NOA				LR	LR	03 37 03.2	

DJA 17 02:50:15, 0°.50N×120°.97E, h30km, MLv4.2/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.97**	**91**	P	Pn	02 50 29.9	-2.7
MRSI				S	Sn	02 50 44.6	-0.8
PCI	**Palu**	**1.80**	**219**	P	Pn	02 50 43.6	-0.4
LUWI	**Luwuk**	**2.37**	**130**	P	Pn	02 50 54.2	+2.4
TTSI	**Tana Toraja**	**3.71**	**198**	P	Px	02 51 28.8	
MNI	**Manado**	**3.98**	**76**	P	Pn	02 51 16.9	+2.9

CASC 17 03:12:26.0±1.3, 13°.00N×89°.06W, h43km±13km, MD3.8, ML3.7, 2C-4D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIES	**Las Flores**	**0.46**	**1**	*e*P	Pn	03 12 36.4	+0.1
AIES				AML	AML	03 12 36.8	
	comp=Z,6μm,0.1s						
AIES				*i*		03 12 36.8	
AIES				*e*S	Sn	03 12 44.5	+0.9
LFS	**El Faro**	**0.62**	**360**	⇓*i*P	Pn	03 12 38.4	-0.1
SNVI	**San Vicente**	**0.65**	**19**	*e*P	Pn	03 12 40.0	+1.1
SNET	**Serv Nac Est T**	**0.71**	**346**	⇓*i*P	Pn	03 12 39.5	-0.1
SNET				*e*S	Sn	03 12 49.5	+0.1
SNET				AML	AML	03 12 55.2	
	comp=Z,3μm,0.2s						
LBRS	**Las Brisas**	**0.74**	**1**	⇓*i*P	Pn	03 12 40.2	+0.2
VSM	**San Miguel**	**0.88**	**61**	⇓*e*P	Pn	03 12 42.2	+0.4
BLLM	**Bellamira**	**0.91**	**61**	⇑*e*P	Pn	03 12 42.6	+0.2
SBLS	**San Blas**	**1.00**	**327**	*e*P	Pn	03 12 44.2	+0.6
RTR	**El Retiro**	**1.06**	**327**	*e*P	Pn	03 12 44.9	+0.4
CAHU	**Cacacuatique**	**1.13**	**47**	⇑*e*P	Pn	03 12 45.5	+0.2
CAHU				*e*S	Sn	03 13 00.8	+1.2
CNCH	**Conchagua**	**1.22**	**77**	*e*P	Pn	03 12 46.6	0.0
CNCH				*e*S	Sn	03 13 03.3	+1.3
RBDL	**Robledal**	**1.27**	**331**	*e*P	Pn	03 12 47.6	+0.3
TGUH	**Tegucigalpa,Un**	**2.03**	**59**	*e*P	Pn	03 12 57.6	-0.1
TGUH				AML	AML	03 13 24.2	
	comp=N,522nm,0.7s						
CNGN	**Cerro Negro**	**2.35**	**102**	*e*P	Pn	03 13 01.7	-0.5

DJA 17 03:26:52, 1°.15N×121°.63E, h10km, MLv3.9/4, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.74**	**155**	P	Pg	03 27 03.2	-3.1
MRSI				S	Sg	03 27 18.7	+2.8
KMSI	**Cibinong**	**2.42**	**104**	P	Pn	03 27 34.0	+2.4
LUWI	**Luwuk**	**2.46**	**152**	P	Pn	03 27 29.7	-2.5
TTSI	**Tana Toraja**	**4.54**	**203**	P	Pn	03 28 03.2	+2.3

*NSSP **17** 03:34:54.4, 40°.97N×46°.12E, h13km, Ms3.0*
*TIF **17** 03:34:56.4, 41°.04N×45°.91E, h13km±2km*
*CSEM **17** 03:34:58.1±0.6, 41°.05N×45°.93E, h2km, ML3.1, Error ellipse: s-maj=13.8km s-min=6.8km az=57.0*
*ISCJB **17** 03:34:59.9±0.8, 41°.05N±0°.05×45°.91E±0°.08, h33km, Error ellipse: s-maj=9.6km s-min=4.5km az=145.8*

ISC 17 03:34:56.5±0.9, 41°.08N±0°.04×46°.01E±0°.07, h15km±5km, n25, σ1°$35/46, 10C-6D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGRG	**David-gareji**	**0.60**	**308**	P	**Pg**	**03 35 09.4**	**+1.0**
DGRG				S	**Sg**	**03 35 18.6**	**+2.2**
DGRG	**David-gareji**	**0.60**	**308**	P	**Pg**	**03 35 09.4**	**+1.0**
DGRG				S	**Sg**	**03 35 18.6**	**+2.2**
VADZ	**Vardenis**	**0.93**	**193**	*e*P	**Pg**	**03 35 14.2**	**-0.3**
VADZ				⇑S	**Sg**	**03 35 27.2**	**+0.5**
CKLZ	**Chkalov**	**1.04**	**262**	⇓*i*P	**Pg**	**03 35 14.9**	**-1.7**
LMTZ	**Lermontov**	**1.09**	**253**	⇑*i*P	**Pg**	**03 35 16.0**	**-1.4**
MTA	**Mtatsminda**	**1.10**	**304**	P	**Pb**	**03 35 17.3**	**0.0**
MTA				S	**Sb**	**03 35 33.0**	**+1.5**
MTA	**Mtatsminda**	**1.10**	**304**	P	**Pb**	**03 35 17.3**	**0.0**
MTA				S	**Sb**	**03 35 33.0**	**+1.6**
TBLG	**Delisi**	**1.16**	**305**	P	**Pn**	**03 35 18.2**	**0.0**
TBLG				S	**Sb**	**03 35 34.7**	**+1.7**
TBLG	**Delisi**	**1.16**	**305**	P	**Pn**	**03 35 18.2**	**0.0**
TBLG				S	**Sb**	**03 35 34.7**	**+1.7**
STEZ	**Stepenevan**	**1.22**	**267**	⇓*i*P	**Pn**	**03 35 18.1**	**-1.0**
STEZ				⇑*i*S	**Sb**	**03 35 35.0**	**+0.1**
STEZ	**Stepenevan**	**1.22**	**267**	⇑*i*P	**Pn**	**03 35 19.0**	**-0.1**
STEZ				⇑S	**Sb**	**03 35 37.0**	**+2.1**
STE	**Stepanavan**	**1.24**	**267**	⇑P	**Pn**	**03 35 19.0**	**-0.4**
STE				S	**Sb**	**03 35 37.0**	**+1.5**
GNI	**Garni**	**1.34**	**226**	⇑*i*P	**Pg**	**03 35 22.2**	**-0.2**
GNI				⇓*i*S	**Sg**	**03 35 41.5**	**+1.7**
GNI	**Garni**	**1.34**	**226**	⇑P	**Pg**	**03 35 22.2**	**-0.1**
GNI				S	**Sg**	**03 35 41.5**	**+1.7**
SPIZ	**Spitak**	**1.34**	**260**	⇑*i*P	**Pn**	**03 35 18.6**	**-2.1**
SPIZ				⇓*i*S	**Sn**	**03 35 35.8**	**-2.5**
STKZ		**1.39**	**156**	⇓*i*P	**Pg**	**03 35 24.6**	**+1.4**
STKZ				⇑*i*S	**Sg**	**03 35 41.8**	**+0.5**
STKZ		**1.39**	**156**	⇓P	**Pg**	**03 35 24.6**	**+1.4**
STKZ				S	**Sg**	**03 35 41.8**	**+0.5**
ERE	**Yerevan**	**1.48**	**233**	*e*P	**Pg**	**03 35 29.0**	**+3.9**
ERE	**Yerevan**	**1.48**	**233**	P	**Pg**	**03 35 29.0**	**+3.9**
GOR	**Gori**	**1.69**	**303**	P	**Pg**	**03 35 27.7**	**-1.2**
GOR				S	**Sg**	**03 35 51.2**	**+0.3**
GOR	**Gori**	**1.69**	**303**	P	**Pg**	**03 35 27.7**	**-1.3**
GOR				S	**Sg**	**03 35 51.2**	**+0.3**
AKH	**Akhalkalaki**	**1.93**	**281**	P	**Pg**	**03 35 31.7**	**-1.8**
AKH				S	**Sg**	**03 35 57.1**	**-1.4**
AKH	**Akhalkalaki**	**1.93**	**281**	P	**Pg**	**03 35 31.7**	**-1.8**
AKH				S	**Sg**	**03 35 57.1**	**-1.4**
ONI	**Oni**	**2.43**	**309**	P	**Pg**	**03 35 40.0**	**-3.2**
ONI				S	**Sn**	**03 36 11.1**	**+5.9**
ONI	**Oni**	**2.43**	**309**	P	**Pg**	**03 35 40.0**	**-3.2**
ONI				S	**Sn**	**03 36 11.1**	**+5.9**

*NEIC **17** 03:36:44.3, 65°.89N×140°.22W, h1km, ML3.1(PGC), ML2.9(AEIC), After PGC.*

PGC 17 03:36:44.3±22.0, 65°.89N×140°22W, h1km, ML3.1/2, 8D, 207km Nnw of Dawson, Yt Northern Yukon Territory, Canada, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGAK	**Eagle**	**1.18**	**200**	*e*Pn	Pn	03 37 05.7	-2.2
EGAK				*e*S	Sg	03 37 22.5	+0.3
DAWY	**Dawson**	**1.86**	**169**	P	Pn	03 37 16.6	-0.6
DAWY				S	Sn	03 37 41.8	+0.4
DAWY	**Dawson**	**1.86**	**169**	⇓Pn	Pn	03 37 17.1	-0.1
DAWY				⇓Sg	Sg	03 37 42.0	-2.1
BM3	**Burnt Mountain**	**2.33**	**313**	P	Pn	03 37 19.6	-4.0
DOT	**Dot Lake**	**2.79**	**218**	P	Pn	03 37 28.6	-1.4
BCA3	**Beaver Creek A**	**2.92**	**194**	P	Pn	03 37 30.4	-1.3
IL1	**Eielson Array**	**3.01**	**251**	P	Pn	03 37 29.4	-3.6
MENT	**Mentasta**	**3.33**	**209**	*e*Pn	Pn	03 37 35.6	-1.7
MENT				*e*S	Sn	03 38 29.5	+12
COLA	**College**	**3.35**	**256**	*e*Pn	Pn	03 37 36.7	-1.0
COLA				*e*S	Sn	03 38 23.5	+5.5
MDM	**Murphy Dome**	**3.48**	**258**	P	Pn	03 37 35.2	-4.2
INK	**Inuvik**	**3.57**	**44**	*e*Pn	Pn	03 37 40.1	-0.6
INK				*e*S	Sn	03 38 22.0	-1.5
INK	**Inuvik**	**3.57**	**44**	⇓Pn	Pn	03 37 40.1	-0.6
INK				⇓Sn	Sn	03 38 21.2	-2.2
PAX	**Paxson**	**3.71**	**220**	*e*Pn	Pn	03 37 42.8	+0.2
PAX				*e*S	Sn	03 38 38.6	+12
DHY	**Denali Highway**	**4.19**	**231**	P	Pn	03 37 48.2	-0.9
COLD	**Coldfoot**	**4.21**	**293**	*e*Pn	Pn	03 37 45.9	-3.5
COLD				*e*S	Sn	03 38 35.6	-3.5
MCK	**McKinley**	**4.31**	**244**	*e*Pn	Pn	03 37 47.8	-3.0
MCK				*e*Pg	Pg	03 38 02.5	-4.3
MCK				*e*S	Sn	03 38 56.3	+15
BPAW	**Bear Paw Mtn.**	**4.91**	**254**	*e*Pn	Pn	03 37 54.7	-4.4
IM3	**Indian Mountai**	**5.54**	**277**	P	Pn	03 38 03.2	-4.5
PLBC	**Pleasant Camp**	**6.70**	**163**	⇓Sg	Sg	03 40 12.9	-6.1
GALN	**Gameti Lake**	**9.84**	**90**	⇓Pn	Pn	03 39 03.9	-2.6
GALN				⇓Sn	Sn	03 40 50.1	-7.3
CTLN	**Castor Lake**	**10.26**	**87**	⇓Pn	Pn	03 39 09.9	-2.5
JERN	**Jeri Cho Mine,**	**11.68**	**76**	⇑Pn	Pn	03 39 28.6	-3.1

*IDC **17** 03:52:57.8±0.8, 3°.54S×145°.39E, h0km, mb4.4/14, mb1 4.5/16,mb1mx4.4/22,mbtmp4.4/16,ML4.4/2, MS4.3/13, Ms1 4.3/13,ms1mx4.0/31, Error ellipse: s-maj=26.3km s-min=15.1km az=103.0*
*MOS **17** 03:53:04.1±2.1, 3°.70S×145°.04E, h42km, mb4.9/10, Error ellipse: s-maj=16.8km s-min=8.5km az=95.4*
*NEIC **17** 03:53:08.4±2.0, 3°.73S×145°.39E, h86km±20km, mb4.8/12, Error ellipse: s-maj=16.4km s-min=12.6km az=127.0*
*BJI **17** 03:53:09.3, 3°.16S×144°.97E, h47km, mB5.1/27, mb4.9/39, Ms4.7/19, Ms7 4.4/22*
*ISCJB **17** 03:53:10.7±1.2, 3°.93S±0°.06×145°.27E±0°.06, h107km±10km, mb4.6/50, Error ellipse: s-maj=11.0km s-min=8.9km az=155.6*
*DJA **17** 03:53:14, 3°.65S×145°.13E, h102km, mb4.7/25*

ISC 17 03:53:09.9±0.9, 3°.83S±0°.04×145°.37E±0°.06, h88km±8km, n133, σ1°$55/131, mb4.6/50, 1D, Near north coast of New Guinea

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h m s | Res ISC |
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KAPI	**Kappang**	**25.56 266**	*e*P	**P**	**03 58 29.5**	**-1.3**
	comp=Z,30nm,1.0s,mb4.7						
KAPI	**Kappang**	**25.56 266**	P	**P**	**03 58 29.6**	**-1.3**
	comp=Z,456nmcomp=Z,34nm,1.2s,mb4.7						
BMNI	**Bima**	**26.92 259**	P	**P**	**03 58 42.2**	**-0.9**
	comp=Z,1μmcomp=Z,16nm,1.0s,mb4.5						
DZM	**Mont Dzumac**	**27.33 133**	*e*LR	LR	04 06 05.4		
	comp=Z,1μm,25.8s						
STKA	**Stephens Creek**	**28.13 187**	P	**P**	**03 58 54.5**	**+0.9**
	comp=Z,1.4nm,0.7s,mb3.6,baz=341,slow=11,SNR=3.6						
STKA			LR	LR	04 11 19.5		
	comp=Z,789nm,19.9s,baz=7.7,slow=39						
STKA	**Stephens Creek**	**28.13 187**	*e*P	**P**	**03 58 56.2**	**+2.6**
	comp=Z,2.9nm,0.8s,mb3.9						
STKA	**Stephens Creek**	**28.13 187**	P	**P**	**03 58 54.5**	**+0.9**
STKA			pmax	pmax			
	comp=Z,1.0nm,0.7s						
STKA			MLR	MLR			
	comp=Z,789nm,19.9s						
MYLDM	**Lahad Datu**	**28.29 288**	P	**P**	**03 58 56.2**	**+0.9**
	comp=Z,30nm,1.9s,mb4.5						
MBWA	**Marble Bar**	**30.29 233**	*e*P	**P**	**03 59 12.1**	**-0.9**
	comp=Z,3.5nm,0.6s,mb4.2						
FORT	**Forrest**	**31.39 209**	*e*P	**P**	**03 59 21.3**	**-1.2**
	comp=Z,20nm,0.8s,mb4.9						
SBUM	**Sibu**	**33.71 280**	P	**P**	**03 59 44.5**	**+1.5**
	comp=Z,14nm,1.9s,mb4.5						
JOW	**Kunigami**	**34.67 333**	LR	LR	04 10 50.3		
	comp=Z,838nm,20.5s,baz=137,slow=31						
KSM	**Kuching**	**35.43 278**	*e*P	**P**	**03 59 57.4**	**-0.5**
	comp=Z,36nm,1.5s,mb5.0						
KSM	**Kuching**	**35.43 278**	P	**P**	**03 59 56.3**	**-1.6**
	comp=Z,16nm,1.4s,mb4.7						
NWAO	**Narrogin (SRO)**	**39.11 219**	LR	LR	04 18 01.9		
	comp=Z,2μm,18.8s,baz=217,slow=38						
MDSI	**Maura Dua**	**41.08 268**	P	**P**	**04 00 44.0**	**-1.3**
	comp=Z,591nmcomp=Z,43nm,1.1s,mb5.2						
SSE	**Sheshan**	**41.69 328**	P	**P**	**04 00 46.9**	**-3.1**
SSE			S	**S**	**04 06 55.1**	**-5.3**
SSE			pmax	pmax			
	comp=Z,19nm,0.8s,mb4.9						
SSE			pmax	pmax			
	comp=Z,51nm,3.9s						
SSE			LR	LR			
	comp=N,370nm,19.2s						
SSE			LR	LR			
	comp=E,240nm,19.2s						
SSE			LR	LR			
	comp=Z,570nm,22.1s						
NJ2	**Nanjing**	**43.68 327**	*e*P	**P**	**04 01 08.4**	**+2.3**
NJ2			S	**S**	**04 07 25.0**	**-4.7**
NJ2			pmax	pmax			
	comp=Z,10.0nm,0.5s,mb4.8						
NJ2			LR	LR			
	comp=N,500nm,21.4s						
NJ2			LR	LR			
	comp=E,370nm,25.3s						
NJ2			LR	LR			
	comp=Z,6μm,24.5s						
KSRS	**Korea Array**	**44.16 340**	P	**P**	**04 01 07.0**	**-2.8**
	comp=Z,5.0nm,1.0s,mb4.2,baz=164,slow=9.4,SNR=10.0						
KSRS	**Korea Array**	**44.16 340**	P	**P**	**04 01 07.0**	**-2.8**
KSRS			pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.2						
KSAR	**Wonju Array Be**	**44.16 340**	P	**P**	**04 01 07.0**	**-2.9**
KSAR	**Wonju Array Be**	**44.16 340**	P	**P**	**04 01 07.0**	**-2.9**
PPI	**Padang Panjang**	**45.05 273**	P	**P**	**04 01 19.7**	**+2.3**
	comp=Z,40nm,1.0s,mb5.1						
WHN	**Wuhan**	**45.23 321**	P	**P**	**04 01 20.8**	**+2.3**
WHN			*e*S	**S**	**04 07 53.8**	**+1.6**
WHN			LR	LR			
	comp=Z,670nm,15.2s						
PSI	**Prapat**	**46.88 277**	P	**P**	**04 01 31.2**	**-0.5**
	comp=Z,12nm,0.9s,mb4.6,baz=127,slow=3.0,SNR=11						
PSI	**Prapat**	**46.88 277**	P	**P**	**04 01 31.2**	**-0.5**
PSI	**Prapat**	**46.88 277**	P	**P**	**04 01 31.2**	**-0.6**
PSI	**Prapat**	**46.88 277**	P	**P**	**04 01 30.9**	**-0.9**
	comp=Z,524nmcomp=Z,24nm,1.9s,mb4.6						
YUK	**Yuzh-Kuril'sk**	**47.64**	**0***d* *i*P	Px	04 01 48.5		
YUK			*e*		04 03 01.5		
YUK			*e*		04 03 35.5		
YUK			pmax	pmax			
	comp=N,164nm,1.3s						
YUK			pmax	pmax			
	comp=E,137nm,1.3s						
YUK			pmax	pmax			
	comp=Z,269nm,1.3s						
YUK			pmax	pmax			
	comp=Z,610nm,2.5s						
GYA	**Guiyang**	**48.03 311**	*e*P	**P**	**04 01 41.4**	**+0.9**
GYA			PcP	PcP	04 03 08.6	+1.4	
GYA			PcS	PcS	04 07 03.3	+0.1	
GYA			S	**S**	**04 08 27.4**	**-5.0**
GYA			pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.7						
GYA			pmax	pmax			
	comp=Z,90nm,4.7s						
MDJ	**Mudanjiang**	**50.25 345**	P	**P**	**04 02 01.5**	**+4.4**
MDJ			pmax	pmax			
	comp=Z,7.0nm,1.2s,mb4.5						
MDJ			pmax	pmax			
	comp=Z,62nm,3.6s						
MDJ			LR	LR			
	comp=N,120nm,39.9s						
MDJ			LR	LR			
	comp=E,170nm,29.9s						
MDJ			LR	LR			
	comp=Z,130nm,34.9s						
KMI	**Kunming**	**50.39 307**	P	**P**	**04 02 00.0**	**+1.5**
KMI			pP	pP	04 02 10.4	-10	
KMI			sP	sP	04 02 15.4	-14	
KMI			PP	PP	04 03 53.8	-1.1	
KMI			S	**S**	**04 09 03.1**	**-2.3**
KMI			sS	sS	04 09 23.0	-19	
KMI			SS	SS	04 12 31.9	-8.6	
KMI			pmax	pmax			
	comp=Z,25nm,1.1s,mb5.1						
KMI			pmax	pmax			
	comp=Z,80nm,3.7s						
KMI			LR	LR			
	comp=N,190nm,25.1s						
KMI			LR	LR			
	comp=E,140nm,25.1s						
KMI			LR	LR			
	comp=Z,280nm,26.2s						
CN2	**Changchun**	**50.69 341**	*e*P	**P**	**04 02 03.5**	**+3.1**
CMAR	**Chiang Mai Arr**	**50.80 297**	P	**P**	**04 02 00.6**	**-1.1**
	comp=Z,7.4nm,1.0s,mb4.7,baz=111,slow=4.9,SNR=8.2						
CMAR			LR	LR	04 20 39.7		
	comp=Z,120nm,21.1s,baz=291,slow=33						
CMAR	**Chiang Mai Arr**	**50.80 297**	P	**P**	**04 02 00.6**	**-1.1**
CMAR			LR	LR	04 20 39.7		
CMAR	**Chiang Mai Arr**	**50.80 297**	P	**P**	**04 02 00.6**	**-1.1**
CHTO	**Chiang Mai**	**50.93 298**	P	**P**	**04 02 02.4**	**-0.2**
	comp=Z,11nm,1.3s,mb4.7						
XAN	**Xi'an**	**50.98 321**	P	**P**	**04 02 03.6**	**+0.8**
XAN			pP	pP	04 02 18.3	-6.0	
XAN			S	**S**	**04 09 16.6**	**+3.3**
XAN			pmax	pmax			
	comp=Z,4.0nm,1.1s,mb4.4						
XAN			pmax	pmax			
	comp=Z,19nm,4.6s						
XAN			LR	LR			
	comp=N,170nm,22.8s						
XAN			LR	LR			
	comp=Z,84nm,15.9s						
BJI	**Beijing**	**51.22 331**	P	**P**	**04 02 05.5**	**+1.0**
BJI			pmax	pmax			
	comp=Z,11nm,0.7s,mb5.0						
BJI			LR	LR			
	comp=N,560nm,24.2s						
BJI			LR	LR			
	comp=E,440nm,22.7s						
BJI			LR	LR			
	comp=Z,370nm,26.1s						
CD2	**Chengdu**	**52.60 314**	P	**P**	**04 02 17.0**	**+2.1**
CD2			S	**S**	**04 09 30.3**	**-5.3**
CD2			SS	SS	04 13 09.1	-6.1	
CD2			pmax	pmax			
	comp=Z,40nm,1.2s,mb5.3						
CD2			pmax	pmax			
	comp=Z,100nm,3.8s						
HHC	**Hu-ho-hao-te**	**54.14 329**	*e*P	**P**	**04 02 29.6**	**+3.6**
HHC			PcS	PcS	04 07 31.1	+2.1	
HHC			S	**S**	**04 09 53.8**	**-2.3**
HHC			SS	SS	04 13 35.8	-3.4	
HHC			pmax	pmax			
	comp=Z,18nm,0.5s,mb5.4						
HHC			pmax	pmax			
	comp=Z,110nm,4.5s						
HHC			LR	LR			
	comp=N,310nm,17.8s						
HHC			LR	LR			
	comp=E,710nm,19.0s						
HHC			LR	LR			
	comp=Z,370nm,20.2s						
LZH	**Lanzhou**	**55.51 319**	*e*P	**P**	**04 02 36.3**	**+0.3**
LZH			pmax	pmax			
	comp=Z,14nm,1.0s,mb5.0						
LZH			pmax	pmax			
	comp=Z,160nm,4.0s						
SHL	**Shillong**	**59.48 303**	*e*PKP	**P**	**04 03 07.0**	**+2.9**
GTA	**Gaotai**	**60.04 320**	*e*P	**P**	**04 03 07.8**	**+0.2**
GTA			S	**S**	**04 11 10.4**	**-3.4**
GTA			SS	SS	04 15 05.3	-6.8	
GTA			pmax	pmax			
	comp=Z,5.0nm,1.1s,mb4.5						
GTA			pmax	pmax			
	comp=Z,140nm,4.5s						
GTA			LR	LR			
	comp=N,280nm,17.8s						
GTA			LR	LR			
	comp=E,190nm,15.2s						
GTA			LR	LR			
	comp=Z,170nm,14.0s						
FX1	**Attu Island--F**	**61.17 19**	LR	LR	04 24 43.5		
	comp=Z,279nm,19.7s,baz=39,slow=31						
ULN	**Ulaanbaatar**	**61.43 332**	P	**P**	**04 03 16.8**	**-0.1**
SONM	**Songino Array**	**61.73 331**	P	**P**	**04 03 19.9**	**+1.0**
	comp=Z,2.3nm,0.9s,mb4.2,baz=152,slow=8.4,SNR=7.6						
SONM			LR	LR	04 29 14.9		
	comp=Z,282nm,19.3s,baz=9.3,slow=35						
SONM	**Songino Array**	**61.73 331**	P	**P**	**04 03 19.9**	**+1.0**
SONM			LR	LR	04 29 14.9		
SONM	**Songino Array**	**61.73 331**	P	**P**	**04 03 19.9**	**+1.0**
ZAK	**Zakamensk**	**64.96 332**	*e*P	**P**	**04 03 39.8**	**-0.4**
ZAK			pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.1						
PPT	**Papeete**	**65.09 107**	*e*LR	LR	04 23 32.2		
	comp=Z,228nm,33.2s						
TBI	**Tubuai**	**65.72 114**	*e*LR	LR	04 23 48.3		
	comp=Z,260nm,38.5s						
YAK	**Yakutsk**	**66.77 352**	*e*P	**P**	**04 03 56.1**	**+4.6**
YAK			pmax	pmax			
	comp=Z,10.0nm,0.5s,mb4.9						
SEY	**Seymchan**	**66.79 3**	*e*P	**P**	**04 03 55.9**	**+4.2**
WMQ	**Urumqi**	**70.09 319**	P	**P**	**04 04 18.0**	**+5.3**
BILL	**Bilibino**	**73.19 8**	*e*P	**P**	**04 04 34.8**	**+4.1**
BILL			pmax	pmax			
	comp=Z,19nm,2.5s,mb4.5						
TAOE	**Nuku Hiva Isla**	**74.11 98**	*e*LR	LR	04 27 32.7		
	comp=Z,432nm,29.1s						
VNDA	**Vanda**	**74.17 176**	LR	LR	04 38 22.1		
	comp=Z,178nm,18.8s,baz=350,slow=37						
MKAR	**Makanchi Array**	**74.79 321**	P	**P**	**04 04 38.2**	**-2.3**
	comp=Z,0.8nm,0.8s,mb3.5,baz=97,slow=7.8,SNR=2.3						
MKAR			LR	LR	04 34 58.6		
	comp=Z,76nm,20.3s,baz=173,slow=34						
MKAR	**Makanchi Array**	**74.79 321**	P	**P**	**04 04 38.2**	**-2.3**
MKAR			LR	LR	04 34 58.6		
MKAR	**Makanchi Array**	**74.79 321**	P	**P**	**04 04 38.2**	**-2.3**
ZALV	**Zalesovo Beam**	**76.32 328**	P	**P**	**04 04 45.5**	**-3.6**
	comp=Z,0.3nm,0.3s,mb3.5,baz=117,slow=5.2,SNR=2.4						
ZALV			LR	LR	04 37 01.9		
	comp=Z,306nm,20.9s,baz=312,slow=35						
ZALV	**Zalesovo Beam**	**76.32 328**	P	**P**	**04 04 45.5**	**-3.5**
ZALV			LR	LR	04 37 01.9		
ZALV	**Zalesovo Beam**	**76.32 328**	P	**P**	**04 04 45.5**	**-3.6**
KSH	**Kashi**	**76.72 312**	*e*P	**P**	**04 04 56.8**	**+5.1**
KSH			PcP	PcP	04 05 07.3	+4.6	
KSH			S	S	04 14 29.5	-2.3	
KSH			ScS	ScS	04 14 57.8	-2.7	
KSH			pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.3						
KSH			pmax	pmax			
	comp=Z,89nm,4.2s						
KSH			LR	LR			
	comp=Z,85nm,4.3s						
NVS	**Novosibirsk**	**77.54 328**	*e*P	**P**	**04 04 49.9**	**-6.0**
KURK	**Kurchatov**	**78.50 323**	P	**P**	**04 05 00.7**	**-0.7**
	comp=Z,4.5nm,1.0s,mb4.3,baz=108,slow=5.4,SNR=13						
KURK	**Kurchatov**	**78.50 323**	*e*P	**P**	**04 05 01.8**	**+0.4**
KURK			pmax	pmax			
	comp=Z,14nm,1.2s,mb4.7						
KDAK	**Kodiak Island**	**78.78 29**	P	**P**	**04 05 00.9**	**-1.8**
	comp=Z,4.9nm,1.0s,mb4.3,baz=315,slow=20,SNR=1.8						
KDAK	**Kodiak Island**	**78.78 29**	P	**P**	**04 05 00.9**	**-1.8**
KDAK	**Kodiak Island**	**78.78 29**	P	**P**	**04 05 00.9**	**-1.8**
SVW2	**Sparrevohn**	**78.97 25**	*e*P	**P**	**04 05 05.9**	**+2.2**
	comp=Z,33nm,1.3s,mb5.0						
EKS2	**Erkin-Say**	**79.18 315**	*e*P	**P**	**04 05 05.4**	**+0.1**
	comp=Z,17nm,1.4s,mb4.7						
EKS2	**Erkin-Say**	**79.18 315**	*e*P	**P**	**04 05 05.4**	**+0.1**
EKS2			pmax	pmax			
	comp=Z,17nm,1.4s,mb4.7						
BPAW	**Bear Paw Mtn.**	**82.24 23**	*e*P	**P**	**04 05 24.6**	**+3.5**
	comp=Z,122nm,2.8s,mb5.2						
SML	**Sawmill**	**82.41 26**	*e*P	**P**	**04 05 26.4**	**+4.3**
	comp=Z,6.9nm,1.0s,mb4.4						
SML	**Sawmill**	**82.41 26**	*e*P	**P**	**04 05 26.4**	**+4.4**
SML			pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.5						
MAW	**Mawson**	**83.62 202**	P	**P**	**04 05 28.9**	**+0.7**
	comp=Z,0.8nm,0.5s,mb3.8,baz=27,slow=6.6,SNR=2.2						
MAW			LR	LR	04 44 17.9		
	comp=Z,179nm,18.1s,baz=80,slow=37						
MAW	**Mawson**	**83.62 202**	P	**P**	**04 05 28.9**	**+0.7**
MAW			LR	LR	04 44 17.9		
MAW	**Mawson**	**83.62 202**	P	**P**	**04 05 28.9**	**+0.7**
COLD	**Coldfoot**	**83.88 21**	*e*P	**P**	**04 05 34.0**	**+4.5**
	comp=Z,6.8nm,1.0s,mb4.4						
BVAR	**Borovoye Array**	**84.06 324**	P	**P**	**04 05 29.3**	**-1.4**
	comp=Z,9.8nm,1.0s,mb4.6,baz=104,slow=6.1,SNR=6.2						
BVAR			LR	LR	04 44 10.0		
	comp=Z,114nm,18.1s,baz=229,slow=37						
BVAR	**Borovoye Array**	**84.06 324**	P	**P**	**04 05 29.3**	**-1.4**
BVAR			LR	LR	04 44 10.0		
BVAR	**Borovoye Array**	**84.06 324**	P	**P**	**04 05 29.3**	**-1.4**
BRVK	**Borovoye**	**84.13 324**	*e*P	**P**	**04 05 30.9**	**-0.1**
	comp=Z,8.9nm,1.0s,mb4.5						
BRVK	**Borovoye**	**84.13 324**	*e*P	**P**	**04 05 31.3**	**+0.2**
BRVK			pmax	pmax			
	comp=Z,11nm,1.0s,mb4.6						
ILAR	**Eielson Array**	**84.14 24**	P	**P**	**04 05 29.4**	**-1.5**
	comp=Z,5.6nm,0.8s,mb4.4,baz=253,slow=5.2,SNR=15						
ILAR			LR	LR	04 41 36.6		
	comp=Z,133nm,19.0s,baz=288,slow=35						
ILAR	**Eielson Array**	**84.14 24**	P	**P**	**04 05 29.4**	**-1.5**
ILAR			LR	LR	04 41 36.6		
ILAR	**Eielson Array**	**84.14 24**	P	**P**	**04 05 29.4**	**-1.5**
DOT	**Dot Lake**	**84.91 25**	*e*P	**P**	**04 05 39.0**	**+4.2**
	comp=Z,536nm,3.0s						
DAWY	**Dawson**	**87.01 25**	*e*P	**P**	**04 05 44.8**	**-0.3**
DAWY			*e*		04 05 49.3		
YKA	**Yellowknife Ar**	**98.01 27**	LR	LR	04 50 15.2		
	comp=Z,11nm,18.2s,baz=130,slow=35						
TORD	**Torodi Ar. Bea**	**142.94 287**	PKP	PKPdf	04 12 32.1	-2.3	
	comp=Z,0.7nm,0.9s,baz=93,slow=2.5,SNR=5.0						
TORD	**Torodi Ar. Bea**	**142.94 287**	PKP	PKPdf	04 12 32.1	-2.3	

DJA 17 03:53:28,4.55S×125.78E,h404km,mb4.4/4,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**1.85**	**45**	P	Pn	03 54 25.2	+1.7
NLAI				S	S	03 55 09.5	+1.2
AAI	**Ambon**	**2.56**	**70**	P	Pn	03 54 29.2	+1.1
AAI				S	S	03 55 14.9	-1.8
MSAI	**Masohi**	**3.36**	**69**	P	Pn	03 54 35.3	+0.7
MSAI				S	S	03 55 28.9	+0.4
KMSI	**Cibinong**	**5.40**	**341**	P	Pn	03 54 54.5	+0.1
	5μm370nm,0.7s						
FITZ	**Fitzroy Crossi**	**13.47**	**181**	P	P	03 56 24.2	+0.5
	9.8nm,0.9s						
WRAB	**Tennant Creek**	**17.42**	**152**	P	P	03 57 08.1	+1.8

NIED ***17*** *03:55:00,43.20N×146.50E,h53km,Mw3.9 Best double couple: M₀8.89000×10¹⁴ NP1:φₛ26.00000°,δ75.00000°, λ90.00000°. NP2:φₛ207.00000°,δ15.00000°,λ92.00000°.*

MOS ***17*** *03:55:59.9±1.2,43.26N×146.45E,h66km,mb4.8/10,Error ellipse: s-maj=12.3km s-min=8.0km az=99.5*
MOS Felt (II) at Yuzhno-Kuril'sk.
ISCJB ***17*** *03:55:59.4±0.7,43.26N±0.05×146.50E±0.06,h60km±4km, mb4.2/35,Error ellipse: s-maj=8.9km s-min=5.1km az=141.1*
JMA ***17*** *03:55:59.4±0.1,43.17N×146.48E,h49km±1km,M4.2*
JMA Felt I J1.
SKHL ***17*** *03:56:00.5±0.7,43.23N×146.57E,h41km±3km,mb5.3/2*
NEIC ***17*** *03:56:02.1±1.1,43.28N×146.43E,h67km±9km,mb4.6/6, Error ellipse: s-maj=9.6km s-min=8.2km az=159.0*
IDC ***17*** *03:56:02.2±3.2,43.29N×146.40E,h68km±29km,mb3.9/24, mb1 4.0/25,mb1mx4.0/32,mbtmp3.9/25,ML3.3/1,MS2.9/1, Ms1 2.9/1,ms1mx2.1/52,Error ellipse: s-maj=17.4km s-min=13.3km az=163.0*

ISC 17 03:56:00.4±0.7,43°26N±0.05×146°50E±0.06,h52km±5km, n115,σ0°88/132,mb4.2/35,2D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.56**	**281**	P	**Pn**	**03 56 11.6**	**-0.8**
NEM2				*e*S	**Sn**	**03 56 20.4**	**-0.8**
YUK	**Yuzh-Kuril'sk**	**0.90**	**329**	*d* *i*PN	**Pn**	**03 56 16.4**	**-0.4**
YUK				*i* S	**Sn**	**03 56 28.8**	**-0.1**
YUK				pmax	pmax		
	comp=Z,485nm,0.3s						
YUK				pmax	pmax		
	comp=N,600nm,0.2s						
YUK				pmax	pmax		
	comp=E,805nm,0.2s						
YUK				pmax	pmax		
	comp=Z,3μm,0.2s						
YUK				smax			
	comp=N,11μm,0.6s						
YUK				smax			
	comp=E,18μm,0.6s						
YUK				smax			
	comp=N,18μm,1.0s						
YUK				smax			
	comp=E,24μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**0.90**	**329**	⇓ *i*P	**Pn**	**03 56 16.4**	**-0.4**
YUK				AMB	AMB	03 56 16.9	
	comp=E,3μm,0.3s						
YUK				AMB	AMB	03 56 19.7	
	comp=E,2μm,0.5s						
YUK				AMB	AMB	03 56 19.7	
	comp=E,4μm,0.1s						
YUK				AMB	AMB	03 56 19.7	
	comp=E,1μm,0.4s						
YUK				*i* S	**Sn**	**03 56 28.8**	**-0.1**
YUK				A		03 56 30.7	
	comp=E,10μm,0.5s						
YUK				A		03 56 30.7	
	comp=E,18μm,0.5s						
YUK				A		03 56 31.0	
	comp=E,22μm,1.0s						
JRA	**Rausu**	**1.21**	**305**	P	**Pn**	**03 56 20.9**	**0.0**
JRA				*e*S	**Sn**	**03 56 36.7**	**+0.5**
JNK	**Nakash**	**1.34**	**285**	P	**Pn**	**03 56 21.9**	**-0.7**
JNK				*e*S	**Sn**	**03 56 38.4**	**-0.9**
JAK	**Akkeshi**	**1.35**	**259**	P	**Pn**	**03 56 21.8**	**-1.0**
JOB	**Onbets**	**1.98**	**261**	P	**Pn**	**03 56 31.0**	**-0.5**
JOB				*e*S	**Sn**	**03 56 54.1**	**-1.0**
JAR	**Ashorobuto**	**1.99**	**272**	P	**Pn**	**03 56 31.4**	**-0.2**
JAR				*e*S	**Sn**	**03 56 55.2**	**-0.2**
JTKR	**Abashiri--Toko**	**2.01**	**292**	P	**Pn**	**03 56 32.4**	**+0.6**
JTKR				*e*S	**Sn**	**03 56 56.9**	**+1.1**
KUR	**Kuril'sk**	**2.21**	**26**	*e*PN	**Pn**	**03 56 34.5**	**0.0**
KUR				*e*S	**Sn**	**03 56 59.4**	**-1.1**
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
KUR				pmax	pmax		
	comp=N,90nm,0.3s						
KUR				pmax	pmax		
	comp=E,90nm,0.3s						
KUR				smax			
	comp=N,300nm,0.5s						
KUR				smax			
	comp=E,2μm,0.5s						
KUR	**Kuril'sk**	**2.21**	**26**	*e*P	**Pn**	**03 56 34.5**	**0.0**
KUR				AMB	AMB	03 56 35.8	
	comp=E,150nm,0.5s						
KUR				AMB	AMB	03 56 35.8	
	comp=E,90nm,0.3s						
KUR				*e*S	**Sn**	**03 56 59.4**	**-1.1**
KUR				A		03 57 06.9	
	comp=E,300nm,0.5s						
KUR				A		03 57 06.9	
	comp=E,470nm,0.5s						
JCH	**Churui**	**2.39**	**255**	P	**Pn**	**03 56 36.3**	**-0.7**
JCH				*e*S	**Sn**	**03 57 04.2**	**-0.9**
JMP	**Maruseppu**	**2.40**	**289**	P	**Pn**	**03 56 37.9**	**+0.8**
HRK	**Horoka**	**2.47**	**276**	*e*P	**Pn**	**03 56 39.1**	**+1.0**
HRK				*e*S	**Sn**	**03 57 08.2**	**+1.2**
ERM	**Erimo**	**2.76**	**244**	*e*Pn	**Pn**	**03 56 43.1**	**+1.0**
ERM				*e*S	**Sn**	**03 57 15.5**	**+1.3**
ERM	**Erimo**	**2.76**	**244**	*e*PN	**Pn**	**03 56 43.1**	**+1.0**
ERM				*e*S	**Sn**	**03 57 15.5**	**+1.3**
ERM	**Erimo**	**2.76**	**244**	*e*P	**Pn**	**03 56 43.2**	**+1.1**
ASAJ	**Asahikawa**	**2.96**	**288**	P	**Pn**	**03 56 46.1**	**+1.3**
	comp=E,2.9nm,0.3s,baz=96,slow=11,SNR=29						
ASAJ				S	**Sn**	**03 57 24.8**	**+5.8**
	comp=E,11nm,0.3s,baz=216,slow=30,SNR=10						
ASAJ				LR	LR	03 58 09.5	
	comp=E,227nm,20.4s,baz=164,slow=44						
ASAJ	**Asahikawa**	**2.96**	**288**	*e*Pn	**Pn**	**03 56 46.6**	**+1.8**
ASAJ	**Asahikawa**	**2.96**	**288**	PN	**Pn**	**03 56 46.1**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,227nm,20.4s						
YSS	**Yuzh-Sakhalins**	**4.55**	**326**	*e*PN	**Pn**	**03 57 10.0**	**+3.4**
YSS				*e*S	**Sn**	**03 57 59.0**	**+0.9**
YSS				smax			
	comp=N,60nm,0.6s						
YSS				smax			
	comp=E,60nm,1.0s						
YSS	**Yuzh-Sakhalins**	**4.55**	**326**	*e*P	**Pn**	**03 57 10.0**	**+3.4**
YSS				*e*S	**Sn**	**03 57 59.0**	**+0.9**
YSS				A		03 58 02.0	
	comp=E,60nm,1.0s						
YSS				A		03 58 02.0	
	comp=E,60nm,0.6s						
MJAR	**Matsushiro Arr**	**9.25**	**226**	P	**Pn**	**03 58 18.8**	**+7.8**
	comp=E,0.6nm,0.3s,baz=30,slow=13,SNR=7.6						
MJAR	**Matsushiro Arr**	**9.25**	**226**	P	**Pn**	**03 58 18.8**	**+7.8**
MJAR	**Matsushiro Arr**	**9.25**	**226**	PN	**Pn**	**03 58 18.8**	**+7.8**
PET	**Petropavlovsk**	**12.68**	**35**	*e*PN	**Pn**	**03 59 01.5**	**+3.7**
PET	**Petropavlovsk**	**12.68**	**35**	*e*P	**Pn**	**03 58 59.2**	**+1.4**
SEY	**Seymchan**	**20.01**	**8**	*e*P	**P**	**04 00 28.5**	**+0.1**
SONM	**Songino Array**	**28.23**	**293**	P	**P**	**04 01 48.5**	**+0.4**
	comp=E,1.9nm,0.5s,mb4.0,baz=92,slow=8.5,SNR=18						
SONM	**Songino Array**	**28.23**	**293**	P	**P**	**04 01 48.5**	**+0.4**
SONM	**Songino Array**	**28.23**	**293**	P	**P**	**04 01 48.5**	**+0.4**
KDAK	**Kodiak Island**	**39.93**	**47**	P	**P**	**04 03 28.8**	**-0.2**
	comp=E,6.5nm,0.9s,mb4.4,baz=286,slow=14,SNR=4.6						
KDAK	**Kodiak Island**	**39.93**	**47**	*i* P	**P**	**04 03 28.8**	**-0.2**
KDAK	**Kodiak Island**	**39.93**	**47**	*i* P	**P**	**04 03 29.2**	**+0.1**
ZALV	**Zalesovo Beam**	**40.92**	**307**	P	**P**	**04 03 35.0**	**-2.3**
	comp=E,0.7nm,0.4s,mb3.7,baz=79,slow=7.7,SNR=4.2						
ZALV	**Zalesovo Beam**	**40.92**	**307**	P	**P**	**04 03 35.0**	**-2.3**
ZALV	**Zalesovo Beam**	**40.92**	**307**	P	**P**	**04 03 35.0**	**-2.3**
ILAR

INK				pmax	pmax			
	comp=Z,5.0nm,0.7s							
BVAR	**Borovoye Array**	**49.45**	**309**	P	**P**	**04 04 44.5**	**-0.4**	
	comp=Z,0.7nm,0.3s,mb4.1,baz=88,slow=11,SNR=3.8							
BVAR	**Borovoye Array**	**49.45**	**309**	P	**P**	**04 04 44.5**	**-0.4**	
BVAR	**Borovoye Array**	**49.45**	**309**	P	**P**	**04 04 44.5**	**-0.4**	
BRVK	**Borovoye**	**49.50**	**310**	*eP*	**P**	**04 04 45.8**	**+0.6**	
BRVK				pmax	pmax			
	comp=Z,1.0nm,1.0s,mb3.8							
TKM2	**Tokmak 2**	**50.29**	**296**	*eP*	**P**	**04 04 52.1**	**+0.7**	
	comp=Z,5.6nm,1.0s,mb4.5							
TKM2	**Tokmak 2**	**50.29**	**296**	*eP*	**P**	**04 04 52.2**	**+0.8**	
TKM2				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.6							
DLBC	**Dease Lake**	**51.36**	**42**	P	**P**	**04 05 00.8**	**+1.6**	
	comp=Z,1.3nm,0.7s,mb4.0,baz=281,slow=5.2,SNR=2.7							
DLBC	**Dease Lake**	**51.36**	**42**	P	**P**	**04 05 00.8**	**+1.6**	
KKAR	**Karatay Array**	**53.52**	**298**	*eP*	**P**	**04 05 15.2**	**-0.3**	
	comp=Z,3.3nm,0.6s,mb4.4							
KKAR	**Karatay Array**	**53.52**	**298**	*eP*	**P**	**04 05 15.2**	**-0.3**	
KKAR				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.4							
RES	**Resolute Bay**	**55.57**	**16**	P	**P**	**04 05 29.6**	**-0.3**	
	comp=Z,7.3nm,0.6s,mb4.9,baz=328,slow=6.6,SNR=30							
RES	**Resolute Bay**	**55.57**	**16**	P	**P**	**04 05 29.6**	**-0.3**	
RES	**Resolute Bay**	**55.57**	**16**	P	**P**	**04 05 29.6**	**-0.3**	
YKA	**Yellowknife Ar**	**56.47**	**33**	P	**P**	**04 05 36.6**	**+0.1**	
	comp=Z,0.9nm,0.7s,mb3.9,baz=314,slow=3.7,SNR=3.1							
YKA	**Yellowknife Ar**	**56.47**	**33**	P	**P**	**04 05 36.6**	**+0.1**	
YKA	**Yellowknife Ar**	**56.47**	**33**	P	**P**	**04 05 36.6**	**+0.1**	
ABKAR	**Akbulak array**	**57.00**	**309**	*eP*	**P**	**04 05 40.2**	**-0.2**	
	comp=Z,4.4nm,0.4s,mb4.8							
AKTO	**Aktyubinsk**	**57.50**	**311**	P	**P**	**04 05 44.0**	**+0.1**	
	comp=Z,1.7nm,0.5s,mb4.3,baz=43,slow=11,SNR=7.8							
AKTO	**Aktyubinsk**	**57.50**	**311**	P	**P**	**04 05 44.0**	**+0.1**	
AKTO	**Aktyubinsk**	**57.50**	**311**	P	**P**	**04 05 44.0**	**+0.1**	
ARCES	**ARCESS Array B**	**59.54**	**340**	P	**P**	**04 05 57.4**	**-0.4**	
	comp=Z,1.9nm,0.7s,mb4.2,baz=32,slow=7.1,SNR=6.5							
ARCES	**ARCESS Array B**	**59.54**	**340**	P	**P**	**04 05 57.4**	**-0.4**	
ARCES	**ARCESS Array B**	**59.54**	**340**	P	**P**	**04 05 57.4**	**-0.4**	
JOF	**Joensuu**	**62.30**	**332**	*eP*	**P**	**04 06 14.8**	**-1.8**	
JOF				pmax	pmax			
	comp=Z,4.0nm,0.5s,mb4.8							
JOF	**Joensuu**	**62.30**	**332**	*ep*	**P**	**04 06 14.8**	**-1.8**	
	comp=Z,3.9nm,0.5s,mb4.8							
WRAB	**Tennant Creek**	**63.86**	**193**	P	**P**	**04 06 27.5**	**+0.1**	
	comp=Z,2.2nm,0.9s,mb4.2							
WRAB	**Tennant Creek**	**63.86**	**193**	P	**P**	**04 06 27.5**	**+0.1**	
WRAB				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.2							
WRA	**Warramunga Arr**	**63.87**	**193**	P	**P**	**04 06 26.4**	**-1.1**	
	comp=Z,0.7nm,0.7s,mb3.8,baz=11,slow=6.9,SNR=3.6							
WRA	**Warramunga Arr**	**63.87**	**193**	P	**P**	**04 06 26.4**	**-1.1**	
WRA	**Warramunga Arr**	**63.87**	**193**	P	**P**	**04 06 26.4**	**-1.1**	
KAF	**Kangasniemi**	**64.54**	**333**	*eP*	**P**	**04 06 28.8**	**-2.6**	
KAF				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.6							
KAF	**Kangasniemi**	**64.54**	**333**	*ep*	**P**	**04 06 28.8**	**-2.6**	
	comp=Z,4.0nm,0.6s,mb4.6							
FINES	**FINESS Array B**	**65.10**	**333**	P	**P**	**04 06 34.9**	**-0.2**	
	comp=Z,6.0nm,0.5s,mb4.8,baz=43,slow=7.9,SNR=33							
FINES	**FINESS Array B**	**65.10**	**333**	P	**P**	**04 06 34.9**	**-0.2**	
FINES	**FINESS Array B**	**65.10**	**333**	P	**P**	**04 06 34.9**	**-0.1**	
VSR	**Storozhevoye**	**66.80**	**319**	*eP*	**P**	**04 06 45.7**	**-0.4**	
VSR				pmax	pmax			
	comp=Z,10.0nm,0.5s,mb5.1							
VSR				pmax	pmax			
	comp=N,1.0nm,0.4s							
VSR				pmax	pmax			
	comp=E,2.0nm,0.4s							
ASAR	**Alice Springs**	**67.59**	**192**	P	**P**	**04 06 52.6**	**+1.2**	
	comp=E,0.4nm,0.8s,mb3.5,baz=29,slow=12,SNR=3.1							
ASAR	**Alice Springs**	**67.59**	**192**	P	**P**	**04 06 52.6**	**+1.2**	
ASAR	**Alice Springs**	**67.59**	**192**	P	**P**	**04 06 52.6**	**+1.2**	
NVAR	**Mina Array Bea**	**68.24**	**57**	P	**P**	**04 06 57.0**	**+1.5**	
	comp=E,0.6nm,0.7s,mb3.8,baz=282,slow=6.7,SNR=6.2							
NVAR	**Mina Array Bea**	**68.24**	**57**	P	**P**	**04 06 57.0**	**+1.5**	
KIV	**Kislovodsk**	**69.74**	**312**	*eP*	**P**	**04 07 05.4**	**+0.8**	
	comp=E,7.4nm,0.6s,mb4.8							
KIV	**Kislovodsk**	**69.74**	**312**	*eP*	**P**	**04 07 05.8**	**+1.1**	
KIV				pmax	pmax			
	comp=Z,11nm,0.7s,mb4.9							
ZEI	**Tsey**	**69.84**	**310**	*eP*	**P**	**04 07 03.9**	**-1.4**	
ZEI				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.4							
NOA	**NORSAR Array B**	**69.89**	**339**	P	**P**	**04 07 04.8**	**-0.5**	
	comp=Z,3.3nm,0.5s,mb4.5,baz=33,slow=6.2,SNR=32							
NOA	**NORSAR Array B**	**69.89**	**339**	P	**P**	**04 07 04.8**	**-0.5**	
NOA	**NORSAR Array B**	**69.89**	**339**	P	**P**	**04 07 04.8**	**-0.5**	
AKASG	**Malin Array Be**	**71.69**	**323**	P	**P**	**04 07 15.8**	**-0.6**	
	comp=Z,5.1nm,0.5s,mb4.7,baz=42,slow=6.7,SNR=24							
AKASG	**Malin Array Be**	**71.69**	**323**	P	**P**	**04 07 15.8**	**-0.6**	
AKASG	**Malin Array Be**	**71.69**	**323**	P	**P**	**04 07 15.8**	**-0.6**	
BUR08	**Bucovina Ar. S**	**75.73**	**323**	*eP*	**P**	**04 07 40.3**	**+0.2**	
CLL	**Collm**	**77.53**	**332**	*i P*	**P**	**04 07 50.5**	**+0.3**	
CLL				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.7							
CLL	**Collm**	**77.53**	**332**	*i P*	**P**	**04 07 50.5**	**+0.3**	
	comp=Z,8.0nm,0.9s,mb4.7							
BRTR	**Keskin Array B**	**77.54**	**313**	P	**P**	**04 07 51.1**	**+0.6**	
	comp=Z,1.0nm,0.7s,mb3.9,baz=72,slow=2.7,SNR=6.7							
BRTR	**Keskin Array B**	**77.54**	**313**	P	**P**	**04 07 51.1**	**+0.6**	
BRTR	**Keskin Array B**	**77.54**	**313**	P	**P**	**04 07 51.1**	**+0.6**	
GERES	**GERESS Array B**	**79.36**	**330**	P	**P**	**04 08 00.3**	**0.0**	
	comp=Z,0.4nm,0.6s,mb3.6,baz=15,slow=6.9,SNR=4.5							
GERES	**GERESS Array B**	**79.36**	**330**	P	**P**	**04 08 00.3**	**0.0**	
GERES	**GERESS Array B**	**79.36**	**330**	P	**P**	**04 08 00.3**	**0.0**	
MMAI	**Mount Meron Ar**	**81.41**	**303**	P	**P**	**04 08 12.6**	**+0.9**	
	comp=Z,0.6nm,0.3s,mb4.0,baz=37,slow=5.7,SNR=3.6							
MMAI	**Mount Meron Ar**	**81.41**	**308**	P	**P**	**04 08 12.6**	**+0.9**	
TXAR	**Lajitas Array**	**83.32**	**56**	P	**P**	**04 08 22.1**	**+0.4**	
	comp=Z,0.8nm,0.7s,mb3.8,baz=304,slow=4.2,SNR=12							
TXAR	**Lajitas Array**	**83.32**	**56**	P	**P**	**04 08 22.1**	**+0.4**	
TXAR	**Lajitas Array**	**83.32**	**56**	P	**P**	**04 08 22.1**	**+0.4**	
ESDC	**Sonseca Array**	**93.23**	**338**	P	**P**	**04 09 08.3**	**-0.8**	
	comp=Z,0.4nm,0.5s,mb4.1,baz=12,slow=3.9,SNR=6.0							
ESDC	**Sonseca Array**	**93.23**	**338**	P	**P**	**04 09 08.3**	**-0.8**	

IDC 17 04:00:32.8±1.9, 3°.33S×145°.06E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.7/17, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=129.7km s-min=28.3km az=122.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.55**	**212**	P	Pn	04 05 01.9	-1.4
	0.3nm,0.3s,baz=28,slow=11,SNR=21						
ASAR	**Alice Springs**	**22.91**	**207**	P	P	04 05 38.5	+0.1
	0.5nm,0.4s,baz=32,slow=13,SNR=7.1						
FITZ	**Fitzroy Crossi**	**24.03**	**231**	P	P	04 05 49.8	+0.2
	3.3nm,0.8s,baz=60,slow=9.7,SNR=8.6						
ILAR	**Eielson Array**	**83.81**	**24**	P	P	04 13 03.8	+0.1
	0.9nm,0.8s,baz=251,slow=5.3,SNR=4.7						

*NIED **17** 04:03:00, 36°.50N×142°.30E, h17km, Mw4.0 Best double couple: M0 1.33000×10^15 NP1:φs=349.00000°, δ=89.00000°, λ=71.00000°. NP2:φs=255.00000°, δ=19.00000°, λ=176.00000°.*
*IDC **17** 04:03:05.3±0.6, 36°.38N×142°.35E, h0km, mb3.9/16, mb1 4.1/20, mb1mx4.0/31, mbtmp4.0/20, ML3.9/4, MS3.8/6, Ms1 3.9/6, ms1mx3.2/50, Error ellipse: s-maj=17.3km s-min=14.9km az=102.0*
*NEIC **17** 04:03:07.1±4.0, 36°.45N×142°.37E, h11km±24km, mb4.5/3, MW4.0(NIED), Error ellipse: s-maj=10.4km s-min=8.0km az=128.0*
*JMA **17** 04:03:07.6±0.2, 36°.48N×142°.26E, h80km, M3.8*
*ISCJB **17** 04:03:08.4±0.4, 36°.48N±0°.04×142°.29E±0°.05, h33km, mb4.0/21, MS4.1/5, Error ellipse: s-maj=6.0km s-min=4.4km az=135.4*

ISC 17 04:03:10.5±0.4, 36°.48N±0°.04×142°.23E±0°.05, h35km, n69, σ1 9 17/72, mb4.0/21, MS4.1/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.30**	**299**	P	**Pn**	**04 03 30.8**	**-1.4**
JHO	**Hitachi**	**1.34**	**276**	P	**Pn**	**04 03 31.2**	**-1.5**
JHO				*eS*	**Sn**	**04 03 49.5**	**+0.2**
CHOJ	**Chosi**	**1.35**	**236**	P	**Pn**	**04 03 31.7**	**-1.1**
CHOJ				*eS*	**Sn**	**04 03 49.3**	**-0.2**
JFK	**Kawauchi**	**1.40**	**310**	P	**Pn**	**04 03 32.2**	**-1.4**
JMM	**Marumori**	**1.80**	**321**	P	**Pn**	**04 03 37.3**	**-1.7**
JFT	**Otama**	**1.83**	**305**	P	**Pn**	**04 03 38.5**	**-1.0**
BSO1	**Boso 1**	**2.08**	**210**	P	**Pn**	**04 03 41.2**	**-1.8**
BSO1				*eS*	**Sn**	**04 04 07.7**	**+0.1**
JAG	**Ashikaga**	**2.23**	**270**	P	**Pn**	**04 03 44.1**	**-0.9**
JAG				*eS*	**Sn**	**04 04 11.1**	**-0.3**
JMK	**Ichinoseki**	**2.60**	**342**	P	**Pn**	**04 03 48.7**	**-1.3**
JRY	**Ryogami san**	**2.73**	**261**	P	**Pn**	**04 03 50.9**	**-0.9**
JRY				*eS*	**Sn**	**04 04 22.7**	**-0.8**
JOD2	**Odawara 2**	**2.82**	**246**	P	**Pn**	**04 03 52.4**	**-0.7**
JYK	**Kaneyama**	**2.85**	**329**	P	**Pn**	**04 03 53.0**	**-0.5**
JOM	**Ohasama**	**3.08**	**346**	P	**Pn**	**04 03 55.9**	**-0.8**
MJAR	**Matsushiro Arr**	**3.24**	**272**	Pn	**Pn**	**04 03 58.6**	**-0.2**
	21nm,0.3s,baz=97,slow=8.4,SNR=92						
MJAR	**Matsushiro Arr**	**3.24**	**272**	Pn	**Pn**	**04 03 58.6**	**-0.2**
MAJO	**Matsushiro**	**3.24**	**272**	*ePn*	**Pn**	**04 03 59.8**	**+0.9**
MAT	**Matsushiro**	**3.24**	**272**	P	**Pn**	**04 03 59.7**	**+0.9**
MAT				S	**Sn**	**04 04 38.5**	**+2.4**
JHJ	**Hachijo jima 2**	**3.91**	**212**	Pn	**Pn**	**04 04 05.7**	**-2.4**
	49nm,0.3s,baz=67,slow=21,SNR=10						
ERM	**Erimo**	**5.58**	**7**	*ePn*	**Pn**	**04 04 29.3**	**-1.7**
ERM				*eS*	**Sn**	**04 05 29.8**	**-4.0**
ASAJ	**Asahikawa**	**7.64**	**2**	Pn	**Pn**	**04 04 58.9**	**-0.4**
	0.9nm,0.3s,baz=174,slow=14,SNR=6.0						
ASAJ				Sn	**Sn**	**04 06 23.4**	**-1.0**
	0.7nm,0.3s,baz=330,slow=20,SNR=6.7						
ASAJ				LR	LR	04 08 56.9	
	comp=Z,152nm,18.6s,baz=35,slow=46						
CBIJ	**Chichi jima**	**9.35**	**180**	Pn	**Pn**	**04 05 19.5**	**-3.3**
	6.5nm,0.3s,baz=279,slow=19,SNR=7.7						
KSRS	**Korea Array**	**11.49**	**279**	Pn	**Pn**	**04 05 54.9**	**+2.9**
	0.2nm,0.3s,baz=102,slow=14,SNR=7.7						
KSAR	**Wonju Array Be**	**11.52**	**279**	Pn	**Pn**	**04 05 54.9**	**+2.5**
ENH	**Enshi**	**27.94**	**267**	*eP*	**P**	**04 08 57.3**	**-0.3**
	28nm,1.0s,mb4.8						
ULN	**Ulaanbaatar**	**28.21**	**305**	*eP*	**P**	**04 09 00.6**	**+0.8**
SONM	**Songino Array**	**28.64**	**305**	P	**P**	**04 09 04.6**	**+1.1**
	9.1nm,0.8s,mb4.5,baz=100,slow=9.1,SNR=42						
SONM	**Songino Array**	**28.64**	**305**	P	**P**		
CMAR	**Chiang Mai Arr**	**41.99**	**257**	P	**P**	**04 11 00.2**	**+1.7**
	0.6nm,0.3s,mb3.7,baz=42,slow=7.3,SNR=4.4						
CMAR	**Chiang Mai Arr**	**41.99**	**257**	P	**P**	**04 11 00.2**	**+1.7**
ZAA0	**Zalesovo Array**	**42.77**	**313**	*eP*	**P**	**04 11 05.2**	**+0.9**
ZALV	**Zalesovo Beam**	**42.77**	**313**	P	**P**	**04 11 05.3**	**+1.0**
	3.5nm,1.0s,mb4.0,baz=91,slow=7.4,SNR=8.8						
ZALV	**Zalesovo Beam**	**42.77**	**313**	P	**P**	**04 11 05.3**	**+1.0**
MKAR	**Makanchi Array**	**44.97**	**303**	P	**P**	**04 11 23.1**	**+1.0**
	4.1nm,0.7s,mb4.3,baz=92,slow=10,SNR=10						
MKAR	**Makanchi Array**	**44.97**	**303**	P	**P**	**04 11 23.1**	**+1.0**
KURK	**Kurchatov**	**46.79**	**309**	P	**P**	**04 11 37.1**	**+0.8**
	3.3nm,0.7s,mb4.4,baz=85,slow=8.0,SNR=22						
KURK	**Kurchatov**	**46.79**	**309**	*eP*	**P**	**04 11 36.9**	**+0.5**
	10.0nm,0.9s,mb4.8						
ILAR	**Eielson Array**	**49.62**	**32**	P	**P**	**04 11 57.8**	**-0.3**
	0.8nm,0.8s,mb3.8,baz=269,slow=6.9,SNR=7.4						
ILAR	**Eielson Array**	**49.62**	**32**	P	**P**	**04 11 57.8**	**-0.3**
TKM2	**Tokmak 2**	**50.47**	**299**	*eP*	**P**	**04 12 07.0**	**+2.2**
	6.0nm,0.8s,mb4.7						
BVAR	**Borovoye Array**	**51.43**	**313**	P	**P**	**04 12 12.9**	**+1.0**
	0.4nm,0.4s,mb3.7,baz=81,slow=8.9,SNR=4.4						
BVAR	**Borovoye Array**	**51.43**	**313**	P	**P**	**04 12 12.9**	**+1.0**
BRVK	**Borovoye**	**51.48**	**313**	*eP*	**P**	**04 12 17.7**	**+5.4**
	3.8nm,0.8s,mb4.4						
KKAR	**Karatay Array**	**53.97**	**301**	*eP*	**P**	**04 12 31.6**	**+0.8**
INK	**Inuvik**	**54.59**	**27**	P	**P**	**04 12 35.6**	**+0.8**
	0.6nm,0.8s,mb3.7,baz=98,slow=26,SNR=3.3						
INK	**Inuvik**	**54.59**	**27**	P	**P**	**04 12 35.6**	**+0.8**
FITZ	**Fitzroy Crossi**	**56.50**	**199**	P	**P**	**04 12 49.5**	**+0.3**
	0.9nm,0.6s,mb4.0,baz=30,slow=4.9,SNR=3.1						
FITZ	**Fitzroy Crossi**	**56.50**	**199**	P	**P**	**04 12 49.5**	**+0.3**
WRAB	**Tennant Creek**	**56.59**	**189**	*eP*	**P**	**04 12 51.4**	**+1.6**
WRA	**Warramunga Arr**	**56.60**	**189**	P	**P**	**04 12 48.8**	**-1.1**
	1.2nm,0.9s,mb3.9,baz=6.7,slow=7.4,SNR=14						
WRA	**Warramunga Arr**	**56.60**	**189**	P	**P**	**04 12 48.8**	**-1.1**
ABKAR	**Akbulak array**	**58.80**	**311**	P	**P**	**04 13 05.8**	**+0.7**
	3.1nm,0.7s,mb4.5						
ASAR	**Alice Springs**	**60.33**	**189**	P	**P**	**04 13 15.2**	**-0.6**
	0.4nm,0.7s,mb3.5,baz=2.2,slow=7.7,SNR=4.9						
ASAR	**Alice Springs**	**60.33**	**189**	P	**P**	**04 13 15.2**	**-0.6**
NVAR	**Mina Array Bea**	**74.80**	**53**	P	**P**	**04 14 48.6**	**+1.4**
	0.6nm,0.8s,mb3.6,baz=280,slow=5.2,SNR=5.6						
NVAR	**Mina Array Bea**	**74.80**	**53**	P	**P**	**04 14 48.6**	**+1.4**
NB2	**NORSAR Subarra**	**74.95**	**338**	P	**P**	**04 14 56.4**	**+8.8**
	comp=Z,1.6nm,0.8s,mb4.0,baz=38,slow=5.9						
AKASG	**Malin Array Be**	**75.14**	**323**	P	**P**	**04 14 49.9**	**+1.0**
	comp=Z,0.3nm,0.4s,mb3.5,baz=45,slow=6.2,SNR=5.0						
AKASG	**Malin Array Be**	**75.14**	**323**	P	**P**	**04 14 49.9**	**+1.0**
PDAR	**Pinedale Array**	**77.59**	**46**	P	**P**	**04 15 03.1**	**+0.2**
	comp=Z,0.3nm,0.7s,mb3.3,baz=256,slow=3.6,SNR=3.2						
PDAR				LR	LR	04 48 52.3	
	comp=Z,133nm,18.3s,MS4.3,baz=256,slow=35						
PDAR	**Pinedale Array**	**77.59**	**46**	P	**P**	**04 15 03.1**	**+0.2**
PDAR				LR	LR	04 48 52.3	
ULM	**Lac du Bonnet**	**79.61**	**34**	LR	LR	04 50 47.6	
	comp=Z,203nm,19.3s,MS4.5,baz=277,slow=36						
BRTR	**Keskin Array B**	**79.71**	**312**	P	**P**	**04 15 15.5**	**+0.8**
	comp=Z,0.5nm,0.9s,mb3.4,baz=61,slow=3.6,SNR=2.9						
BRTR	**Keskin Array B**	**79.71**	**312**	P	**P**	**04 15 15.5**	**+0.8**
ASF	**Jabal al Asfar**	**82.36**	**304**	LR	LR	04 58 05.6	
	comp=Z,26nm,19.8s,MS3.6,baz=44,slow=40						
EIL	**Elat**	**85.23**	**303**	LR	LR	04 55 53.6	
	comp=Z,34nm,18.1s,MS3.8,baz=81,slow=37						
TXAR	**Lajitas Array**	**89.94**	**53**	P	**P**	**04 16 06.2**	**-0.2**
	comp=Z,0.7nm,0.8s,mb4.1,baz=284,slow=3.6,SNR=10						
TXAR				LR	LR	04 53 11.8	
	comp=Z,88nm,20.2s,MS4.2,baz=95,slow=33						
TXAR	**Lajitas Array**	**89.94**	**53**	P	**P**	**04 16 06.2**	**-0.2**
TXAR				LR	LR	04 53 11.8	
LPAZ	**La Paz**	**146.40**	**61**	PKPbc	PKPbc	04 22 49.1	+0.9
	comp=Z,1.4nm,0.8s,baz=310,slow=3.4,SNR=5.1						
LPAZ	**La Paz**	**146.40**	**61**	PKPbc	PKPbc	04 22 49.1	+0.9

*NIED **17** 04:23:00, 40°.00N×143°.50E, h14km, Mw3.9 Best double couple: M0 8.65000×10^14 NP1:φs=29.00000°, δ=68.00000°, λ=115.00000°. NP2:φs=158.00000°, δ=33.00000°, λ=43.00000°.*
*IDC **17** 04:23:33.8±1.1, 39°.94N×143°.69E, h0km, mb3.8/8, mb1 3.8/10, mb1mx3.7/27, mbtmp3.7/10, ML3.6/2, MS3.0/1, Ms1 3.0/1, ms1mx2.3/47, Error ellipse: s-maj=33.4km s-min=18.7km az=77.0*
*ISCJB **17** 04:23:35.9±1.6, 39°.93N±0°.03×143°.65E±0°.06, h26km±13km, mb3.7/8, Error ellipse: s-maj=8.2km s-min=4.6km az=24.5*
*JMA **17** 04:23:36.3±0.2, 40°.02N×143°.54E, h16km±4km, M3.9*
*NEIC **17** 04:23:39.1±3.7, 39°.89N×143°.56E, h33km±25km, MG3.9(JMA), Error ellipse: s-maj=23.5km s-min=9.5km az=98.0*

ISC 17 04:23:36.9±1.8, 39°.94N±0°.04×143°.59E±0°.07, h19km±12km, n34, σ1 9 03/46, mb3.7/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.32**	**270**	P	**Pn**	**04 23 59.5**	**-0.9**
MIYJ	**Miyakonagasawa**	**1.41**	**256**	P	**Pn**	**04 24 01.3**	**-0.3**
MIYJ				*eS*	**Sn**	**04 24 19.2**	**-0.4**
JANG	**Nango**	**1.65**	**286**	P	**Pn**	**04 24 04.0**	**-0.8**
JANG				*eS*	**Sn**	**04 24 24.6**	**-0.8**
JOM	**Ohasama**	**1.83**	**256**	P	**Pn**	**04 24 07.9**	**+0.5**
JOM				*eS*	**Sn**	**04 24 31.0**	**+1.0**
JMK	**Ichinoseki**	**2.08**	**242**	P	**Pn**	**04 24 11.0**	**+0.2**
JMK				*eS*	**Sn**	**04 24 36.6**	**+0.4**
ERM	**Erimo**	**2.10**	**351**	*ePn*	**Pn**	**04 24 12.6**	**+1.6**
ERM				*eS*	**Sn**	**04 24 38.5**	**+2.0**
JOT	**Ohata**	**2.41**	**307**	P	**Pn**	**04 24 15.3**	**0.0**
JOT				*eS*	**Sn**	**04 24 44.5**	**+0.3**
JNBK	**Urakawa-nobuka**	**2.42**	**345**	P	**Pn**	**04 24 16.0**	**+0.6**
JNBK				*eS*	**Sn**	**04 24 45.0**	**+0.5**
JCH	**Churui**	**2.67**	**356**	P	**Pn**	**04 24 18.0**	**-1.0**
JCH				*eS*	**Sn**	**04 24 48.4**	**-2.4**
JYK	**Kaneyama**	**2.70**	**249**	P	**Pn**	**04 24 20.1**	**+0.8**
JKB	**Kayabe**	**2.74**	**316**	P	**Pn**	**04 24 19.7**	**-0.2**
JKB				*eS*	**Sn**	**04 24 51.5**	**-1.0**
JMM	**Marumori**	**3.01**	**227**	P	**Pn**	**04 24 22.8**	**-0.8**
JMM				*eS*	**Sn**	**04 24 57.1**	**-2.0**
JAK	**Akkeshi**	**3.16**	**15**	P	**Pn**	**04 24 24.3**	**-1.4**
JAK				*eS*	**Sn**	**04 24 59.8**	**-3.1**
ASAJ	**Asahikawa**	**4.24**	**350**	Pn	**Pn**	**04 24 39.2**	**-1.2**
	2.5nm,0.3s,baz=120,slow=20,SNR=3.1						
ASAJ				Sn	**Sn**	**04 25 31.9**	**+2.5**
	3.0nm,0.3s,baz=156,slow=20,SNR=6.4						
ASAJ				LR	LR	04 26 41.1	
	comp=Z,163nm,18.9s,baz=319,slow=44						
MJAR	**Matsushiro Arr**	**5.43**	**233**	Pn	**Pn**	**04 24 57.6**	**+0.8**
	1.8nm,0.3s,baz=40,slow=10,SNR=12						
MJAR	**Matsushiro Arr**	**5.43**	**233**	Pn	**Pn**	**04 24 57.6**	**+0.8**
MAJO	**Matsushiro**	**5.43**	**233**	*ePn*	**Pn**	**04 24 56.4**	**-0.4**
	12nm,0.5s						
MAT	**Matsushiro**	**5.43**	**233**	P	**Pn**	**04 24 58.3**	**+1.5**
SONM	**Songino Array**	**27.73**	**299**	P	**P**	**04 29 24.9**	**+1.0**
	1.1nm,0.6s,mb3.7,baz=90,slow=8.4,SNR=8.9						
SONM	**Songino Array**	**27.73**	**299**	P	**P**	**04 29 24.9**	**+1.0**
ZALV	**Zalesovo Beam**	**41.29**	**310**	P	**P**	**04 31 21.2**	**+0.4**
	1.0nm,0.6s,mb3.6,baz=90,slow=7.2,SNR=5.2						
ZALV	**Zalesovo Beam**	**41.29**	**310**	P	**P**	**04 31 21.2**	**+0.4**
MKAR	**Makanchi Array**	**44.08**	**300**	P	**P**	**04 31 43.7**	**+0.1**
	1.5nm,0.9s,mb3.7,baz=66,slow=15,SNR=4.2						
MKAR	**Makanchi Array**	**44.08**	**300**	P	**P**	**04 31 43.7**	**+0.1**
KURK	**Kurchatov**	**45.54**	**306**	P	**P**	**04 31 55.7**	**+0.6**
	1.9nm,0.8s,mb4.1,baz=80,slow=8.5,SNR=12						
KURK	**Kurchatov**	**45.54**	**306**	P	**P**	**04 31 55.7**	**+0.6**
WRA	**Warramunga Arr**	**60.19**	**190**	P	**P**	**04 33 42.9**	**-0.7**
	0.5nm,0.6s,mb3.8,baz=8.0,slow=7.1,SNR=20						
WRA	**Warramunga Arr**	**60.19**	**190**	P	**P**	**04 33 42.9**	**-0.7**
ASAR	**Alice Springs**	**63.92**	**190**	P	**P**	**04 34 09.1**	**+0.6**
	0.2nm,0.6s,mb3.3,baz=6.1,slow=9.1,SNR=3.5						
ASAR	**Alice Springs**	**63.92**	**190**	P	**P**	**04 34 09.1**	**+0.6**
HFS	**Hagfors**	**72.13**	**336**	P	**P**	**04 34 59.9**	**+0.1**
	1.9nm,0.8s,mb4.1,baz=46,slow=6.4,SNR=5.2						
HFS	**Hagfors**	**72.13**	**336**	P	**P**	**04 34 59.9**	**+0.1**
TXAR	**Lajitas Array**	**87.01**	**54**	P	**P**	**04 36 21.6**	**+0.4**
	0.2nm,0.8s,mb3.4,baz=320,slow=4.0,SNR=2.7						
TXAR	**Lajitas Array**	**87.01**	**54**	P	**P**	**04 36 21.6**	**+0.4**

NEIC 17 04:28:36.1, 57°.95N×147°.93W, h12km, ML2.6 (AEIC), After AEIC., Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MID	**Middleton Isla**	**1.70**	**29**	P	Pn	04 29 00.4	-5.2
MID				S	Sn	04 29 20.1	-7.1
SEW	**Seward**	**2.30**	**341**	P	Pn	04 29 08.9	-4.9
SEW				S	Sn	04 29 34.5	-7.6
BRLK	**Bradley Lake**	**2.38**	**321**	P	Pn	04 29 10.7	-4.2
BRLK				S	Sn	04

CFR				*i* S		Sn	04 46 14.0	-1.2
BUC1	**Bucharest**	**1.39**	**193**	S		Sn	04 46 16.3	-0.7
BUC1	**Bucharest**	**1.39**	**193**	*i* S		Sn	04 46 16.3	-0.7
BUC1	**Bucharest**	**1.39**	**193**	*i* S		Sn	04 46 16.3	-0.7
LEOM	**Leova**	**1.46**	**57**	⇑*i* P		Pn	04 45 56.5	+0.6
LEOM	**Leova**	**1.46**	**57**	S		Sn	04 46 17.9	-0.4
LEOM	**Leova**	**1.46**	**57**	⇑*i* P		Pn	04 45 56.5	+0.6
LEOM				*i* S		Sn	04 46 17.9	-0.4
LEOM	**Leova**	**1.46**	**57**	⇑*i* P		Pn	04 45 56.5	+0.6
LEOM				*i* S		Sn	04 46 17.9	-0.4
HUMR	**Humele**	**1.57**	**222**	⇑*i* P		Pn	04 45 57.1	0.0
HUMR	**Humele**	**1.57**	**222**	S		Sn	04 46 20.0	-0.4
HUMR	**Humele**	**1.57**	**222**	⇑*i* P		Pn	04 45 57.1	0.0
HUMR				*i* S		Sn	04 46 20.0	-0.4
HUMR	**Humele**	**1.57**	**222**	⇑*i* P		Pn	04 45 57.1	0.0
HUMR				*i* S		Sn	04 46 20.0	-0.4
CVD	**Cernavoda**	**1.78**	**141**	S		Sn	04 46 22.5	-1.9
CVD	**Cernavoda**	**1.78**	**141**	*i* S		Sn	04 46 22.5	-1.9
CVD	**Cernavoda**	**1.78**	**141**	*i* S		Sn	04 46 22.5	-1.9
TIRR	**Tirgusor**	**1.86**	**131**	⇓*i* P		Pn	04 46 00.2	0.0
TIRR	**Tirgusor**	**1.86**	**131**	S		Sn	04 46 23.7	-2.3
TIRR	**Tirgusor**	**1.86**	**131**	⇓*i* P		Pn	04 46 00.2	0.0
TIRR				*i* S		Sn	04 46 23.7	-2.3
TIRR	**Tirgusor**	**1.86**	**131**	⇓*i* P		Pn	04 46 00.2	0.0
TIRR				*i* S		Sn	04 46 23.7	-2.3
MANR	**Mangalia**	**2.42**	**140**	⇑*i* P		Pn	04 46 07.0	+0.2
MANR	**Mangalia**	**2.42**	**140**	S		Sn	04 46 36.3	-1.4
MANR	**Mangalia**	**2.42**	**140**	⇑*i* P		Pn	04 46 07.0	+0.2
MANR				*i* S		Sn	04 46 36.3	-1.4
MANR	**Mangalia**	**2.42**	**140**	⇑*i* P		Pn	04 46 07.0	+0.2
MANR				*i* S		Sn	04 46 36.3	-1.4

IDC 17 04:52:59.6±1.7, 3°76.5S×146°04.8E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/17, mbtmp3.6/4, MS3.9/1, Ms1 3.9/1, ms1mx2.5/25, Error ellipse: s-maj=99.7km s-min=26.2km az=123.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.72**	**214**	P	Pn	04 57 31.4	-0.9
	0.3nm,0.3s,baz=43,slow=12,SNR=24						
ASAR	**Alice Springs**	**23.00**	**210**	P	P	04 58 07.5	+1.3
	0.6nm,0.5s,baz=37,slow=8.1,SNR=13						
FITZ	**Fitzroy Crossi**	**24.53**	**233**	P	P	04 58 19.4	-1.7
	2.1nm,0.7s,baz=71,slow=8.7,SNR=9.6						
CBIJ	**Chichi jima**	**30.90**	**353**	LR	LR	05 09 09.1	
	comp=Z,216nm,21.4s,baz=154,slow=31						
ILAR	**Eielson Array**	**83.82**	**23**	P	P	05 05 31.1	+0.5
	0.3nm,0.8s,baz=258,slow=4.3,SNR=3.1						

IDC 17 04:55:09.7±2.4, 36°.41N×142°.35E, h0km, mb3.6/5, mb1 3.6/7, mb1mx3.5/26, mbtmp3.6/7, ML3.8/1, Error ellipse: s-maj=57.6km s-min=24.8km az=71.0
ISCJB 17 04:55:11.3±2.0, 36°.45N±0°.04×142°.29E±0°.09, h21km±17km, mb3.5/5, Error ellipse: s-maj=11.9km s-min=7.4km az=173.1
JMA 17 04:55:12.4±0.3, 36°.47N×142°.25E, h72km, M3.1
NEIC 17 04:55:15.6±1.4, 36°.36N×142°.17E, h35km, MG3.1(JMA), Error ellipse: s-maj=28.2km s-min=21.2km az=223.0

ISC 17 04:55:11.3±2.1, 36°46N±0°.05×142°23E±0°.10, h8km±16km, n27, σ1°88/32, mb3.5/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.31**	**300**	P	**Pn**	**04 55 35.0**	**-0.9**
CHOJ	**Chosi**	**1.34**	**236**	P	**Pn**	**04 55 36.3**	**0.0**
JHO	**Hitachi**	**1.34**	**277**	P	**Pn**	**04 55 35.3**	**-1.0**
JFK	**Kawauchi**	**1.41**	**310**	P	**Pn**	**04 55 36.7**	**-0.5**
JMM	**Marumori**	**1.81**	**321**	P	**Pn**	**04 55 41.8**	**-0.9**
JMM				*eS*	**Sn**	**04 56 04.9**	**-0.9**
JFT	**Otama**	**1.84**	**305**	P	**Pn**	**04 55 43.5**	**+0.3**
JFT				*eS*	**Sn**	**04 56 05.9**	**-0.8**
BSO1	**Boso 1**	**2.07**	**210**	P	**Pn**	**04 55 46.0**	**-0.3**
BSO3	**Boso 3**	**2.17**	**221**	P	**Pn**	**04 55 47.5**	**-0.1**
BSO3				*eS*	**Sn**	**04 56 14.5**	**-0.1**
JFY	**Yanaizu**	**2.23**	**296**	P	**Pn**	**04 55 48.9**	**+0.4**
JAG	**Ashikaga**	**2.24**	**270**	P	**Pn**	**04 55 48.2**	**-0.4**
JAG				*eS*	**Sn**	**04 56 15.1**	**-1.2**
JOU	**Okura**	**2.27**	**327**	P	**Pn**	**04 55 49.4**	**+0.4**
JRY	**Ryogami san**	**2.72**	**262**	P	**Pn**	**04 55 55.1**	**-0.2**
MJAR	**Matsushiro Arr**	**3.24**	**273**	Pn	**Pn**	**04 56 03.1**	**+0.7**
	3.4nm,0.3s,baz=94,slow=9.2,SNR=15						
MJAR	**Matsushiro Arr**	**3.24**	**273**	Pn	**Pn**	**04 56 03.1**	**+0.7**
MAJO	**Matsushiro**	**3.24**	**273**	*ePn*	**Pn**	**04 56 03.7**	**+1.3**
MAT	**Matsushiro**	**3.24**	**273**	P	**Pn**	**04 56 03.6**	**+1.2**
MAT				S	**Sn**	**04 56 43.1**	**+2.0**
JHJ	**Hachijo jima 2**	**3.89**	**212**	Pn	**Pn**	**04 56 10.1**	**-1.2**
	18nm,0.3s,baz=11,slow=14,SNR=4.1						
SONM	**Songino Array**	**28.65**	**305**	P	**P**	**05 01 08.6**	**+0.4**
	1.2nm,0.8s,mb3.7,baz=101,slow=9.7,SNR=8.3						
SONM	**Songino Array**	**28.65**	**305**	P	**P**	**05 01 08.6**	**+0.4**
ZALV	**Zalesovo Beam**	**42.78**	**313**	P	**P**	**05 03 09.5**	**+0.5**
	0.3nm,0.4s,mb3.4,baz=79,slow=7.5,SNR=2.2						
ZALV	**Zalesovo Beam**	**42.78**	**313**	P	**P**	**05 03 09.5**	**+0.5**
MKAR	**Makanchi Array**	**44.98**	**303**	P	**P**	**05 03 29.2**	**+2.4**
	1.1nm,0.8s,mb3.7,baz=78,slow=7.7,SNR=3.1						
MKAR	**Makanchi Array**	**44.98**	**303**	P	**P**	**05 03 29.2**	**+2.4**
KURK	**Kurchatov**	**46.80**	**309**	P	**P**	**05 03 41.1**	**0.0**
	0.5nm,0.5s,mb3.7,baz=84,slow=7.9,SNR=7.0						
KURK	**Kurchatov**	**46.80**	**309**	P	**P**	**05 03 41.1**	**0.0**
WRA	**Warramunga Arr**	**56.59**	**189**	P	**P**	**05 04 54.1**	**-0.4**
	0.2nm,0.9s,mb3.1,baz=7.4,slow=7.4,SNR=3.5						
WRA	**Warramunga Arr**	**56.59**	**189**	P	**P**	**05 04 54.1**	**-0.4**

IDC 17 05:12:07.5±4.2, 58°.79N×156°.06W, h95km±58km, mb3.6/2, mb1 3.8/6, mb1mx3.4/28, mbtmp3.7/6, ML4.0/4, Error ellipse: s-maj=59.9km s-min=37.4km az=96.0
ISCJB 17 05:12:08.5±0.5, 58°.56N±0°.04×155°.4W±0°.1, h149km±7km, mb3.9/3, Error ellipse: s-maj=9.6km s-min=5.9km az=25.6
NEIC 17 05:12:11.9, 58°.53N×155°.30W, h136km, MG3.4(AEIC), After AEIC.

ISC 17 05:12:09.7±0.5, 58°56N±0°.04×155°4W±0°.1, h144km±8km, n50, σ1°08/60, mb3.9/3, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**1.66**	**117**	P	**Pn**	**05 12 40.7**	**+0.2**
	28nm,0.3s,baz=326,slow=3.6,SNR=189						
KDAK				S	**Sn**	**05 13 03.6**	**-0.4**
	18nm,0.3s,baz=231,slow=22,SNR=10						
KDAK	**Kodiak Island**	**1.66**	**117**	P	**Pn**	**05 12 40.8**	**+0.3**
KDAK				S	**Sn**	**05 13 03.5**	**-0.5**
OHAK	**Old Harbor**	**1.74**	**140**	P	**Pn**	**05 12 41.6**	**+0.3**
OHAK				S	**Sn**	**05 13 05.2**	**-0.3**
RSO	**Redoubt South**	**2.33**	**34**	*ePn*	**Pn**	**05 12 49.2**	**+0.9**
RSO				*eSn*	**Sn**	**05 13 19.3**	**+1.3**
SVW2	**Sparrevohn**	**2.55**	**358**	*eP*	**Pn**	**05 12 51.1**	**+0.1**
BRLK	**Bradley Lake**	**2.60**	**60**	P	**Pn**	**05 12 52.0**	**+0.3**
BRLK				S	**Sn**	**05 13 22.1**	**-1.9**
CHGN	**Chignik**	**2.80**	**217**	P	**Pn**	**05 12 54.3**	**+0.1**
SLKM	**Skilak Lake**	**3.27**	**51**	*ePn*	**Pn**	**05 13 01.9**	**+1.9**
SEW	**Seward**	**3.40**	**60**	P	**Pn**	**05 13 02.7**	**+0.9**
SEW				S	**Sn**	**05 13 39.0**	**-3.3**
SUA	**Susitna One**	**3.72**	**36**	P	**Pn**	**05 13 06.8**	**+0.8**
RC01	**Rabbit Creek A**	**3.81**	**46**	P	**Pn**	**05 13 07.1**	**0.0**
SKT	**Skwentna**	**3.93**	**27**	P	**Pn**	**05 13 09.7**	**+1.0**
SDPT	**Sand Point**	**4.27**	**223**	*eP*	**Pn**	**05 13 12.7**	**-0.5**
PMR	**Palmer**	**4.36**	**43**	*eP*	**Pn**	**05 13 13.6**	**-0.7**
TT01	**Tatalina**	**4.38**	**356**	P	**Pn**	**05 13 15.1**	**+0.5**
PPLA	**Purkeypile**	**4.62**	**18**	*ePn*	**Pn**	**05 13 20.9**	**+3.0**
PPLA				*eSn*	**Sn**	**05 14 13.4**	**+2.5**
SML	**Sawmill**	**4.79**	**44**	*ePn*	**Pn**	**05 13 19.1**	**-0.9**
SCM	**Sheep Creek Mo**	**5.18**	**47**	P	**Pn**	**05 13 24.6**	**-0.6**
DIV	**Divide**	**5.48**	**58**	*ePn*	**Pn**	**05 13 29.9**	**+0.7**
	32nm,0.4s						
TRF	**Thorofare Moun**	**5.49**	**25**	P	**Pn**	**05 13 29.6**	**+0.2**
KLU	**Klutina**	**5.57**	**54**	P	**Pn**	**05 13 30.3**	**-0.1**
RND	**Reindeer**	**5.80**	**30**	P	**Pn**	**05 13 32.8**	**-0.6**
BPAW	**Bear Paw Mtn.**	**5.95**	**19**	P	**Pn**	**05 13 34.7**	**-0.7**
BMRM	**Bremner River**	**5.95**	**61**	P	**Pn**	**05 13 35.9**	**+0.5**
DHY	**Denali Highway**	**5.98**	**37**	P	**Pn**	**05 13 34.9**	**-0.9**
MCK	**McKinley**	**6.05**	**28**	P	**Pn**	**05 13 36.7**	**-0.1**
PAX	**Paxson**	**6.56**	**43**	P	**Pn**	**05 13 43.5**	**-0.1**
MENT	**Mentasta**	**7.19**	**47**	*eP*	**Pn**	**05 13 53.1**	**+1.0**
MDM	**Murphy Dome**	**7.25**	**25**	P	**Pn**	**05 13 51.5**	**-1.4**
COLA	**College**	**7.27**	**26**	*ePn*	**Pn**	**05 13 52.0**	**-1.0**
	11nm,0.6s						
IL1	**Eielson Array**	**7.42**	**29**	P	**Pn**	**05 13 53.5**	**-1.5**
ILAR	**Eielson Array**	**7.42**	**29**	P	**Pn**	**05 13 53.5**	**-1.6**
	4.6nm,0.3s,baz=219,slow=14,SNR=446						
ILAR				S	**Sn**	**05 15 12.4**	**-5.3**
	0.6nm,0.3s,baz=220,slow=22,SNR=11						
ILAR	**Eielson Array**	**7.42**	**29**	P	**Pn**	**05 13 53.5**	**-1.6**
ILAR				S	**Sn**	**05 15 12.4**	**-5.3**
DOT	**Dot Lake**	**7.48**	**42**	*ePn*	**Pn**	**05 13 57.0**	**+1.1**
	20nm,0.6s						
IM3	**Indian Mountai**	**7.49**	**5**	P	**Pn**	**05 13 56.7**	**+0.6**
UNV	**Unalaska Valle**	**7.80**	**238**	*ePn*	**Pn**	**05 13 59.6**	**-0.7**
UNV				*eSn*	**Sn**	**05 15 33.8**	**+6.6**
BCA3	**Beaver Creek A**	**8.02**	**50**	P	**Pn**	**05 14 03.1**	**0.0**
PNL	**Peninsula**	**8.29**	**75**	P	**Pn**	**05 14 08.3**	**+1.5**
EGAK	**Eagle**	**9.17**	**41**	*ePn*	**Pn**	**05 14 17.4**	**-1.2**
	4.2nm,0.8s						
DAWY	**Dawson**	**9.44**	**48**	P	**Pn**	**05 14 22.9**	**+0.8**
BM3	**Burnt Mountain**	**10.13**	**24**	P	**Pn**	**05 14 28.7**	**-2.5**
DLBC	**Dease Lake**	**13.22**	**80**	P	**Pn**	**05 15 17.3**	**+5.6**
	0.5nm,0.3s,baz=243,slow=8.7,SNR=9.7						
DLBC	**Dease Lake**	**13.22**	**80**	P	**Pn**	**05 15 17.3**	**+5.6**
INK	**Inuvik**	**13.72**	**36**	P	**Pn**	**05 15 16.3**	**-1.6**
	0.1nm,0.3s,baz=248,slow=12,SNR=6.4						
INK	**Inuvik**	**13.72**	**36**	P	**Pn**	**05 15 16.3**	**-1.6**
HOPS	**Hopland**	**28.48**	**119**	*eP*	**P**	**05 17 54.1**	**+3.2**
	2.3nm,0.4s,mb4.3						
SONM	**Songino Array**	**54.65**	**305**	P	**P**	**05 21 23.9**	**+0.9**
	1.3nm,0.5s,mb3.9,baz=43,slow=6.7,SNR=9.7						
SONM	**Songino Array**	**54.65**	**305**	P	**P**	**05 21 23.9**	**+0.9**
MKAR	**Makanchi Array**	**64.79**	**320**	P	**P**	**05 22 32.0**	**-0.3**
	0.9nm,0.8s,mb3.6,baz=47,slow=7.1,SNR=3.4						
MKAR	**Makanchi Array**	**64.79**	**320**	P	**P**	**05 22 32.0**	**-0.3**

CSEM 17 05:51:38.0±0.3, 79°.34N×2°.61E, h2km, ML3.0, Error ellipse: s-maj=16.5km s-min=5.7km az=9.0
IDC 17 05:51:39.4±1.0, 79°.48N×2°.84E, h0km, mb3.7/4, mb1 4.0/7, mb1mx3.6/26, mbtmp3.8/7, ML4.0/3, MS3.0/8, Ms1 3.0/8, ms1mx2.8/44, Error ellipse: s-maj=33.7km s-min=14.9km az=30.0
NEIC 17 05:51:40.0±0.7, 79°.41N×3°.01E, h10km, Error ellipse: s-maj=25.0km s-min=10.2km az=195.0
BER 17 05:51:41.8±3.8, 80°.28N×6°.59E, h10km, MD2.1, ML2.7, ML3.0(NAO)
NAO 17 05:51:43.6±3.8, 79°.66N×5°.57E, ML3.0

ISC 17 05:51:42.3±2.8, 79°03N±0°.09×2°4E±0°.2, h26km±23km, n43, σ1°33/51, mb3.6/4, MS3.1/2, 2C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.83**	**89**	Pg	**Pn**	**05 52 08.7**	**-3.3**
KBS				Lg		05 52 28.1	
KBS	**Kingsbay**	**1.83**	**89**	⇑*i* P	**Pn**	**05 52 08.6**	**-3.4**
KBS				*eS*	**Sn**	**05 52 28.4**	**-5.9**
KBS				AML	AML	05 52 34.7	
	comp=Z,148nm,0.5s						
KBS	**Kingsbay**	**1.83**	**89**	*ePn*	**Pn**	**05 52 08.6**	**-3.4**
KBS				*eSn*	**Sn**	**05 52 30.6**	**-3.7**
KBS	**Kingsbay**	**1.83**	**89**	⇑*i* P	**Pn**	**05 52 08.6**	**-3.4**
	SNR=50						
KBS				*eS*	**Sn**	**05 52 28.2**	**-6.1**
	comp=Z,172nm,0.2s,SNR=66						
KBS				*eSn*	**Sn**	**05 52 30.6**	**-3.7**
SPB4	**Spitsbergen Ar**	**2.89**	**100**	*ePn*	**Pn**	**05 52 25.3**	**-1.2**
SPB4				*eSn*	**Sn**	**05 53 01.3**	**+1.0**
SPB4	**Spitsbergen Ar**	**2.89**	**100**	*ePn*	**Pn**	**05 52 25.3**	**-1.2**
SPB4				*eSn*	**Sn**	**05 53 01.3**	**+1.0**
SPA0	**Spitsbergen Ar**	**2.90**	**100**	Pn	**Pn**	**05 52 25.4**	**-1.2**
	baz=319,slow=12						
SPA0				Sn	**Sn**	**05 52 57.0**	**-3.5**
SPA0	**Spitsbergen Ar**	**2.90**	**100**	Pn	**Pn**	**05 52 25.4**	**-1.2**
	baz=319,slow=12,SNR=291						
SPA0				Sn	**Sn**	**05 52 57.0**	**-3.4**
	SNR=50						
SPITS	**Spitsbergen Ar**	**2.90**	**100**	Pn	**Pn**	**05 52 25.3**	**-1.3**
	baz=319,slow=11,SNR=1332						
SPITS				Sn	**Sn**	**05 53 00.7**	**+0.2**
	baz=289,slow=41,SNR=9.8						
SPITS				LR	LR	05 53 40.6	
	comp=Z,230nm,21.9s,baz=135,slow=41						
SPITS	**Spitsbergen Ar**	**2.90**	**100**	Pn	**Pn**	**05 52 25.3**	**-1.3**
SPITS				Sn	**Sn**	**05 53 00.7**	**+0.2**
SPITS				LR	LR	05 53 40.6	
SPITS	**Spitsbergen Ar**	**2.90**	**100**	Pn	**Pn**	**05 52 25.3**	**-1.3**
SPITS				Sn	**Sn**	**05 53 00.7**	**+0.3**
DAG	**Danmarks Havn**	**4.96**	**254**	*i* P	**Pn**	**05 52 55.0**	**+0.2**
DAG				*i* S	**Sn**	**05 53 49.5**	**-1.7**
ARA0	**ARCESS Array S**	**11.26**	**135**	Pn	**Pn**	**05 54 23.4**	**+2.2**
	baz=351,slow=12						
ARA0				Sn	**Sn**	**05 56 25.2**	**-0.7**
	baz=2.4,slow=22						
ARA0	**ARCESS Array S**	**11.26**	**135**	P	**Pn**	**05 54 23.4**	**+2.2**
	baz=351,slow=12,SNR=47						
ARCES	**ARCESS Array B**	**11.26**	**135**	Pn	**Pn**	**05 54 23.4**	**+2.3**
	comp=Z,0.9nm,0.3s,baz=347,slow=12,SNR=19						
ARCES				Sn	**Sn**	**05 56 25.4**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=330,slow=25,SNR=2.9						
ARCES				LR	LR	05 58 19.6	
	comp=Z,72nm,20.2s,baz=172,slow=35						
ARCES	**ARCESS Array B**	**11.26**	**135**	Pn	**Pn**	**05 54 23.4**	**+2.3**
ARCES				Sn	**Sn**	**05 56 25.4**	**-0.5**
ARCES				LR	LR	05 58 19.6	
ARCES	**ARCESS Array B**	**11.26**	**135**	Pn	**Pn**	**05 54 23.4**	**+2.2**
SUMG	**Summit**	**11.62**	**258**	*ePn*	**Pn**	**05 54 27.1**	**+1.1**
	comp=Z,10nm,0.8s						
SUMG	**Summit**	**11.62**	**258**	*i* P	**Pn**	**05 54 25.8**	**-0.2**
SUMG				*i* S	**Sn**	**05 56 29.5**	**-5.1**
SUMG	**Summit**	**11.62**	**258**	*i* P	**Pn**	**05 54 25.8**	**-0.2**
SUMG	**Summit**	**11.62**	**258**	*ePn*	**Pn**	**05 54 27.1**	**+1.1**
	comp=Z,10nm,0.8s						
NOA	**NORSAR Array B**	**18.28**	**166**	LR	LR	06 01 55.3	
	comp=Z,32nm,21.7s,baz=0.0,slow=33						
FINES	**FINESS Array B**	**19.08**	**144**	LR	LR	06 03 31.4	
	comp=Z,59nm,21.1s,baz=299,slow=37						
HFS	**Hagfors**	**19.31**	**163**	LR	LR	06 02 48.2	
	comp=Z,40nm,19.6s,baz=253,slow=34						
RES	**Resolute Bay**	**20.00**	**310**	P	**Pn**	**05 56 09.2**	**-4.9**
	comp=Z,0.5nm,0.3s,baz=26,slow=12,SNR=17						
RES				LR	LR	06 02 48.3	
	comp=Z,58nm,18.6s,baz=144,slow=34						
RES	**Resolute Bay**	**20.00**	**310**	P	**Pn**	**05 56 09.2**	**-4.9**
RES				LR	LR	06 02 48.3	
RES	**Resolute Bay**	**20.00**	**310**	P	**Pn**	**05 56 09.2**	**-4.9**
FRB	**Frobisher Bay**	**24.93**	**274**	LR	LR	06 06 58.6	
	comp=Z,37nm,21.9s,MS2.9,baz=236,slow=37						
BVAR	**Borovoye Array**	**34.35**	**97**	LR	LR	06 15 15.0	
	comp=Z,51nm,19.0s,MS3.3,baz=275,slow=41						
MKAR	**Makanchi Array**	**42.58**	**88**	P	**P**	**05 59 36.8**	**+1.3**
	comp=Z,1.1nm,0.5s,mb3.8,baz=336,slow=7.4,SNR=5.0						
MKAR	**Makanchi Array**	**42.58**	**88**	P	**P**	**05 59 36.8**	**+1.3**
MKAR	**Makanchi Array**	**42.58**	**88**	P	**P**	**05 59 36.8**	**+1.4**
TXAR	**Lajitas Array**	**64.41**	**292**	P	**P**	**06 02 16.7**	**+1.2**
	comp=Z,0.1nm,0.6s,mb3.0,baz=33,slow=5.4,SNR=3.1						
TXAR	**Lajitas Array**	**64.41**	**292**	P	**P**	**06 02 16.8**	**+1.2**
TXAR	**Lajitas Array**	**64.41**	**292**	P	**P**	**06 02 16.8**	**+1.2**
TORD	**Torodi Ar. Bea**	**65.89**	**181**	P	**P**	**06 02 29.5**	**+4.1**
	comp=Z,0.4nm,0.8s,mb3.5,baz=360,slow=5.5,SNR=4.1						
TORD	**Torodi Ar. Bea**	**65.89**	**181**	P	**P**	**06 02 29.5**	**+4.1**
CMAR	**Chiang Mai Arr**	**73.25**	**80**	P	**P**	**06 03 10.4**	**-0.3**
	comp=Z,0.6nm,0.3s,mb4.0,baz=333,slow=6.8,SNR=4.1						
CMAR	**Chiang Mai Arr**	**73.25**	**80**	P	**P**	**06 03 10.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**73.25**	**80**	P	**P**	**06 03 10.4**	**-0.3**
SNAA	**Sanae**	**150.54**	**183**	PKPbc	PKPbc	06 11 31.8	+2.6
	comp=Z,0.4nm,0.7s,baz=322,slow=1.7,SNR=9.9						
SNAA	**Sanae**	**150.54**	**183**	PKPbc	PKPbc	06 11 31.8	+2.6
SNAA	**Sanae**	**150.54**	**183**	PKPbc	PKPbc	06 11 31.8	+2.5

MOS 17 06:00:55.4±1.1, 5°.64S×128°.76E, h283km, mb5.4/35, Error ellipse: s-maj=9.4km s-min=5.3km az=108.5
BJI 17 06:00:57.0, 5°.69S×129°.01E, h31km, mB4.9/36, mb5.2/64
NEIC 17 06:00:58.9±0.5, 5°.66S×128°.80E, h306km±5km, mb5.3/70, Error ellipse: s-maj=4.6km s-min=3.1km az=64.0
NEIC Felt at Darwin, Australia.
ISCJB 17 06:00:59.2±0.2, 5°.72S±0°.02×128°.83E±0°.02, h327km±2km, mb5.3/173, Error ellipse: s-maj=3.5km s-min=3.1km az=144.4
DJA 17 06:01:00.1±0.1, 6°S±2°×12°9E±°, h314km±2km, M5.4/2, mB5.8/88, mb5.7/102, MLv5.8/14, Mw(mB)5.4/88
IDC 17 06:01:00.4±0.8, 5°.72S×128°.80E, h322km±7km, mb5.0/28, mb1 5.0/33, mb1mx5.0/35, mbtmp5.0/33, Error ellipse: s-maj=9.9km s-min=5.4km az=76.0

GCMT 17 06:01:00.7±0.3, 5°.65S×128°.80E, h315km±1km, MW5.6, Moment Tensor Solution. s75, c109; Moment tensor: Scale 10^17Nm; Mrr-1.02±.06; Mθθ0.79±.10; Mφφ0.23±.09; Mrθ-1.55±.10; Mθφ-0.24±.09; Mφr1.97±.08; Best double couple: Mo2.70000×10^17 NP1:φ283.00000°, δ12.00000°, λ-126.00000°. NP2:φ139.00000°, δ80.00000°, λ-83.00000°. Principal axes: T 2.5100, Plg35.0000°, Azm223.0000°; N 0.3200, Plg7.0000°, Azm318.0000°; P -2.8300, Plg54.0000°, Azm58.0000°; Data Used: II IU IC G CN.

ISC 17 06:01:00.5±0.3, 5°73S±0°.02×128°83E±0°.02, h325km±2km, h316km±2.0km; pP-P, n990, σ1°13/482, mb5.3/170, 198C-212D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.60**	**42**	P	**Pn**	**06 01 45.2**	**-1.6**
AAI	**Ambon**	**2.12**	**342**	P	**Pn**	**06 01 49.2**	**-1.3**
MSAI	**Masohi**	**2.37**	**2**	P	**Pn**	**06 01 49.6**	**-2.9**
MSAI				S	**S**	**06 02 26.7**	**-7.4**
NLAI	**Namlea**	**3.02**	**325**	P	**Pn**	**06 02 00.3**	**+2.1**
NLAI				S	**S**	**06 02 40.6**	**-3.9**
TLE	**Tual**	**3.88**	**89**	P	**Pn**	**06 02 05.9**	**-1.0**
TLE				S	**S**	**06 02 56.6**	**-3.6**
LBMI	**Labuha**	**5.23**	**345**	P	**Pn**	**06 02 20.7**	**-1.0**
	27nm7µm,0.6s						
BBSI	**Bau Bau**	**6.24**	**272**	P	**Pn**	**06 02 34.6**	**+1.2**
	2.5nm853nm,1.0s						
KDI	**Kendari**	**6.44**	**286**	P	**Pn**	**06 02 37.0**	**+1.3**
	2.3nm506nm,1.1s						
KDI				S	**S**	**06 03 52.6**	**-0.2**
	2.3nm506nm,1.1s						
TNTI	**Ternate**	**6.62**	**347**	P	**Pn**	**06 02 37.2**	**-0.7**
	4.6nm1µm,0.9s						
MMRI	**Maumere**	**7.16**	**246**	P	**Pn**	**06 02 44.6**	**+0.4**
	3.8nm1µm,1.0s						
LUWI	**Luwuk**	**7.63**	**307**	P	**Pn**	**06 02 52.3**	**+2.3**
	1.9nm5µm468nm,1.1s						
KMSI	**Cibinong**	**7.92**	**322**	P	**Pn**	**06 02 56.2**	**+2.8**
	6.3nm806nm,0.9s						
MNI	**Manado**	**8.16**	**331**	P	**Pn**	**06 02 56.2**	**-0.2**
	1µm,0.6s						
BAKI	**Biak**	**8.54**	**58**	P	**Pn**	**06 03 01.3**	**+0.3**
BKSI	**Bulukumba**	**8.68**	**272**	P	**Pn**	**06 03 03.2**	**+0.6**
	4µm509nm,0.7s						
MSSI	**Masamba**	**9.05**	**290**	P	**Pn**	**06 03 08.9**	**+1.8**
	294nm,0.9s						
KAPI	**Kappang**	**9.07**	**274**	*ePn*	**Pn**	**06 03 06.9**	**-0.5**
KAPI	**Kappang**	**9.07**	**274**	P	**Pn**	**06 03 07.3**	**-0.1**
	3µm335nm,1.1s						
KAPI	**Kappang**	**9.07**	**274**	P	**Pn**	**06 03 07.0**	**-0.3**
	SNR=38						
SPSI	**Sidrap Palu**	**9.20**	**281**	P	**Pn**	**06 03 09.8**	**+0.9**
	5µm602nm,1.0s						
MRSI	**Marisa**	**9.24**	**312**	P	**Pn**	**06 03 09.2**	**-0.2**
	3µm283nm,0.7s						
WSI	**Waingapu**	**9.32**	**245**	P	**Pn**	**06 03 07.8**	**-2.6**
	5µm,0.7s						
TTSI	**Tana Toraja**	**9.38**	**286**	P	**Pn**	**06 03 12.4**	**+1.4**
	5µm559nm,1.1s						
SGSI	**Sangihe**	**9.92**	**340**	P	**Pn**	**06 03 16.8**	**-0.8**
	3µm,0.7s						
MJSI	**Majene**	**10.06**	**282**	P	**Pn**	**06 03 21.4**	**+2.1**
	7µm868nm,1.2s						
**

comp=N,1µm,0.7s
LLP Lapu-Lapu 16.66 343 eP P 06 04 34.9 +0.5
PWJI Pagerwojo 17.06 261 P P 06 04 38.7 -0.2
comp=N,4µmcomp=N,364nm,0.8s
SJI Sawahan 17.07 262 P P 06 04 39.9 +1.0
comp=N,6µmcomp=N,382nm,0.8s
KKM Kota Kinabalu 17.19 313 P P 06 04 40.6 +0.4
KKM Kota Kinabalu 17.19 313 eP P 06 04 40.5 +0.3
comp=N,121nm,0.9s
KKM Kota Kinabalu 17.19 313 P P 06 04 40.6 +0.4
comp=N,2µmcomp=N,148nm,1.0s
PLP Palo 17.21 347⇓ eP P 06 04 40.7 +0.3
KDM Kudat 17.35 316 P P 06 04 41.5 -0.5
PBKI Pangkalan Bun 17.38 279 P P 06 04 42.7 +0.4
comp=N,8µmcomp=N,828nm,1.0s
PCJI Pacitan 17.70 261 P P 06 04 44.9 -0.8
comp=N,6µmcomp=N,694nm,0.7s
MBWA Marble Bar 17.70 209 eP P 06 04 44.8 -0.8
comp=N,576nm,0.7s
MBWA Marble Bar 17.70 209 P P 06 04 45.0 -0.6
comp=N,9µmcomp=N,990nm,1.0s
MBWA Marble Bar 17.70 209 P P 06 04 45.3 -0.3
SNR=36
BTM Bintulu 18.06 299 P P 06 04 50.3 +0.7
RCP Roxas 18.21 341⇑ eP P 06 04 50.1 -1.1
STKI Sintang 18.26 288 P P 06 04 53.3 +1.6
comp=N,92nm,1.0s
UGM Wanagama 18.31 262 eP P 06 04 51.4 -0.9
comp=N,317nm,0.9s
UGM Wanagama 18.31 262 P P 06 04 56.5 +4.2
comp=N,393nm,1.3s
SMRI Semarang 18.33 265 P P 06 04 53.4 +1.0
comp=N,9µmcomp=N,692nm,0.9s
SBUM Sibu 18.48 296 P P 06 04 55.0 +1.0
SBUM Sibu 18.48 296 P P 06 04 54.5 +0.5
comp=N,3µmcomp=N,262nm,1.0s
ASAR Alice Springs 18.49 165 P P 06 04 54.0 0.0
comp=N,40nm,0.3s,baz=345,slow=11,SNR=1358
ASAR S **S 06 08 07.1 -0.7**
comp=N,30nm,0.3s,baz=346,slow=21,SNR=59
ASAR ScP ScP 06 12 13.6 +1.1
comp=N,6.8nm,0.3s,baz=360,slow=2.4,SNR=6.6
ASAR P3KPbc 06 39 21.4
comp=N,0.1nm,0.3s,baz=154,slow=5.1,SNR=19
ASAR Alice Springs 18.49 165 P P 06 04 54.0 0.0
ASAR S **S 06 08 07.0 -0.7**
ASAR ScP ScP 06 12 13.6 +1.1
ASAR Alice Springs 18.49 165 P P 06 04 54.1 0.0
ASAR S **S 06 08 07.1 -0.7**
PMG Port Moresby 18.53 102 P P 06 04 55.5 +0.9
comp=N,49nm,0.3s,baz=292,slow=3.8,SNR=105
PMG Port Moresby 18.53 102 eP P 06 04 54.0 -0.5
comp=N,527nm,0.7s
PMG Port Moresby 18.53 102 P P 06 04 55.5 +0.9
PMG pmax pmax
comp=Z,49nm,0.3s
PMG Port Moresby 18.53 102 P P 06 04 54.9 +0.3
comp=Z,6µmcomp=Z,775nm,0.7s
YOGI Yogyakarta 18.53 263 P P 06 04 58.0 +3.4
comp=Z,1µm,0.9s
CLJI Cilicap 19.78 263 P P 06 05 06.0 -1.8
comp=Z,2µm,0.7s
KSM Kuching 19.84 291 P P 06 05 07.7 -0.7
KSM Kuching 19.84 291 eP P 06 05 07.5 -0.9
comp=Z,208nm,1.0s
KSM Kuching 19.84 291 P P 06 05 08.6 +0.2
comp=Z,2µmcomp=Z,244nm,1.1s
JCJI Jatiwangi 20.46 267 P P 06 05 13.9 -0.8
comp=Z,2µm,1.0s
CISI Cisompet, Garu 20.96 264 P P 06 05 16.6 -2.6
comp=Z,3µm,0.9s
LEM Lembang 21.12 266 P P 06 05 19.8 -0.9
comp=Z,10µmcomp=Z,1µm,0.9s,mb6.1
TGY Tagaytay City 21.20 338 P P 06 05 21.1 -0.3
comp=Z,1µm,0.6s,mb6.4,baz=170,slow=6.2,SNR=5.0
TGY Tagaytay City 21.20 338 P P 06 05 21.1 -0.3
TGY Tagaytay City 21.20 338 P P 06 05 21.1 -0.3
TPI Tanjungpandan 21.33 277 P P 06 05 22.7 +0.1
comp=Z,1µmcomp=Z,157nm,0.8s,mb5.3
CBJI Citeko 21.87 267 P P 06 05 25.9 -1.7
comp=Z,3µm,0.9s
DBJI Dramaga 21.97 267 P P 06 05 27.3 -1.2
comp=Z,6µmcomp=Z,525nm,1.1s,mb5.7
CTA Charters Tower 22.15 132 P P 06 05 31.2 +1.2
comp=Z,86nm,0.7s,mb5.1,baz=309,slow=11,SNR=88
CTA Charters Tower 22.15 132⇓ iP P 06 05 31.5 +1.5
comp=Z,100nm,1.1s,mb5.0
CTA eS **S 06 09 13.1 +3.0**
CTA Charters Tower 22.15 132 P P 06 05 31.2 +1.2
CTA Charters Tower 22.15 132 P P 06 05 31.2 +1.2
CTAO Charters Tower 22.15 132 eP P 06 05 31.4 +1.3
comp=Z,274nm,1.2s,mb5.4
CTAO Charters Tower 22.15 132 eP P 06 05 31.4 +1.4
CTAO pmax pmax
comp=Z,274nm,1.2s,mb5.4
CTAO Charters Tower 22.15 132 P P 06 05 31.5 +1.5
comp=Z,4µmcomp=Z,218nm,1.4s,mb5.2
SKJI Sukabumi 22.18 266 P P 06 05 31.3 +0.9
comp=Z,8µmcomp=Z,820nm,0.7s,mb6.1
SBJI Serang 22.59 268 P P 06 05 34.2 +0.1
comp=Z,4µmcomp=Z,413nm,1.1s,mb5.6
PPBI Pangkal Pinang 22.92 278 P P 06 05 36.9 -0.2
comp=Z,385nm,0.9s,mb5.6
RBSI Rajabasa 22.98 269 P P 06 05 38.1 +0.4
comp=Z,2µmcomp=Z,204nm,0.7s,mb5.5
CGJI Cibinong 23.02 267 P P 06 05 36.4 -1.7
comp=Z,7µmcomp=Z,328nm,0.5s,mb5.9
XMIS Christmas Isla 23.43 257 eP P 06 05 37.7 -4.0
comp=Z,1µm,0.7s,mb6.2
XMIS Christmas Isla 23.43 257 eP P 06 05 39.5 -2.2
comp=Z,932nm,0.8s,mb6.1
XMIS Christmas Isla 23.43 257 P P 06 05 42.2 +0.5
comp=Z,2µm,0.9s,mb6.2
KLI Kotabumi 23.89 271 P P 06 05 47.0 +1.0
comp=Z,5µmcomp=Z,322nm,0.9s,mb5.6
KLSI 24.03 271 P P 06 05 49.5 +2.3
comp=Z,4µmcomp=Z,544nm,0.9s,mb5.8
PMBI Palembang 24.15 276 P P 06 05 49.8 +1.5
comp=Z,1µm,0.9s,mb6.1
KASI Kota Agung 24.22 269 P P 06 05 48.4 -0.5
comp=Z,3µmcomp=Z,316nm,1.2s,mb5.4
MDSI Maura Dua 24.59 272 P P 06 05 53.0 +0.7
comp=Z,1µmcomp=Z,129nm,0.9s,mb5.2
LWLI Liwa 24.68 270 P P 06 05 55.2 +2.2
comp=Z,8µmcomp=Z,316nm,1.0s,mb5.5
FORT Forrest 24.93 182 eP P 06 05 54.7 -0.4
comp=Z,389nm,0.7s,mb5.7
FORT eS **S 06 09 53.5 -0.5**
FORT Forrest 24.93 182 eP P 06 05 55.3 +0.2
comp=Z,409nm,0.7s,mb5.8
GUMO Guam 24.93 40 P P 06 05 54.7 -0.6
comp=Z,357nm,0.6s,mb5.8,baz=204,slow=8.6,SNR=17
GUMO Guam 24.93 40 eP P 06 05 54.6 -0.6
comp=Z,634nm,1.0s,mb5.8
GUMO Guam 24.93 40 P P 06 05 54.7 -0.6
GUMO pmax pmax
comp=Z,357nm,0.6s,mb5.8
GUMO Guam 24.93 40 P P 06 05 54.4 -0.9
comp=Z,772nm,1.0s,mb5.9
MYKOM Kota Tinggi 26.05 286 P P 06 06 03.6 -1.6
MYKOM Kota Tinggi 26.05 286 P P 06 06 05.9 +0.6
comp=Z,1µmcomp=Z,76nm,1.0s,mb4.9
KSI Kapahiang 26.23 273 P P 06 06 11.1 +4.1
comp=Z,206nm,0.7s,mb5.5
KGM Kluang 26.62 286 P P 06 06 08.7 -1.7
RGRI Rengat 26.99 280 P P 06 06 16.5 +2.8
comp=Z,177nm,0.7s,mb5.4
KLBR Kellerberrin 27.75 201 eP P 06 06 19.8 -0.3
comp=Z,127nm,0.6s,mb5.3
BKNI Bangkinang 28.39 281 P P 06 06 25.4 -0.7
comp=Z,2µmcomp=Z,264nm,0.9s,mb5.5
STKA Stephens Creek 28.63 157 P P 06 06 28.2 +0.3
comp=Z,65nm,0.7s,mb5.0,baz=337,slow=9.5,SNR=131
STKA ScP ScP 06 12 39.9 +0.2
comp=Z,29nm,0.7s,baz=359,slow=9.8,SNR=4.4
STKA Stephens Creek 28.63 157⇑ iP P 06 06 28.5 +0.6
comp=Z,70nm,0.9s,mb4.9
STKA e 06 07 08.1
STKA eS **S 06 10 50.5 -1.6**
STKA Stephens Creek 28.63 157 eP P 06 06 28.5 +0.7
comp=Z,32nm,1.2s,mb4.4
STKA Stephens Creek 28.63 157 eP P 06 06 28.5 +0.6
STKA pmax pmax
comp=Z,32nm,1.2s
PDSI Padang 28.72 279 P P 06 06 26.7 -2.3
comp=Z,224nm,0.9s,mb5.4
PPI Padang Panjang 28.86 279 P P 06 06 28.3 -1.9
comp=Z,3µmcomp=Z,305nm,0.9s,mb5.5
NWAO Narrogin (SRO) 29.14 200 P P 06 06 32.4 0.0
comp=Z,65nm,0.7s,mb5.0,baz=26,slow=11,SNR=51
NWAO Narrogin (SRO) 29.14 200 eP P 06 06 32.5 +0.1
NWAO Narrogin (SRO) 29.14 200 P P 06 06 32.4 0.0
NWAO pmax pmax
comp=Z,65nm,0.7s
TWG Pinlang 29.37 345 eP P 06 06 31.5 -3.0
comp=Z,63nm,0.9s,mb4.8
IPM Ipoh 29.56 289 P P 06 06 35.1 -1.3
IPM Ipoh 29.56 289 eP P 06 06 35.8 -0.6
comp=Z,146nm,1.7s,mb4.9
IPM Ipoh 29.56 289 P P 06 06 35.5 -0.9
comp=Z,694nmcomp=Z,50nm,1.0s,mb4.7
YULB Yu-li 29.86 346 eP P 06 06 35.4 -3.4
comp=Z,126nm,1.6s,mb4.9
MNSI Mandailing Nat 29.92 282 P P 06 06 37.9 -1.6
comp=Z,244nm,0.9s,mb5.4
TPUB Ta-pu 29.94 345 eP P 06 06 37.5 -2.0
comp=Z,251nm,0.4s,mb5.8
SISI Saibi 30.00 277 P P 06 06 40.4 +0.2
comp=Z,388nm,1.0s,mb5.6
KULM Kulim 30.19 291 P P 06 06 40.2 -1.7
KULM Kulim 30.19 291 eP P 06 06 40.8 -1.1
comp=Z,78nm,0.9s,mb4.9
KULM Kulim 30.19 291 P P 06 06 40.6 -1.3
comp=Z,964nmcomp=Z,97nm,1.0s,mb5.0
SSLB Suanglung 30.32 346 eP P 06 06 40.1 -2.8
comp=Z,58nm,0.8s,mb4.9
NACB Ninganchiao 30.55 347 eP P 06 06 42.5 -2.3
comp=Z,76nm,0.5s,mb5.2
QIZ Qiongzhong 30.91 323 P P 06 06 46.8 -1.2
QIZ pP pP 06 07 46.1 -3.9
QIZ sP sP 06 08 21.4 -6.3
QIZ S **S 06 11 25.8 -2.1**
QIZ sS sS 06 13 16.6 -4.1
QIZ pmax pmax
comp=Z,39nm,1.4s,mb4.4
QIZ pmax pmax
comp=Z,110nm,3.8s
QIZ Qiongzhong 30.91 323 eP P 06 06 48.0 0.0
comp=Z,18nm,0.7s,mb4.4
SNG Songkhla 30.94 294 P P 06 06 48.0 -0.4
comp=Z,100nm,0.6s,mb5.2
HNR Honiara 31.05 99 P P 06 06 48.8 -0.6
comp=Z,456nm,0.7s,mb5.8,baz=261,slow=3.6,SNR=11
HNR Honiara 31.05 99 P P 06 06 48.8 -0.6
HNR Honiara 31.05 99 P P 06 06 48.8 -0.6
PSI Prapat 31.05 285 P P 06 06 47.6 -1.8
comp=Z,67nm,0.7s,mb5.0,baz=104,slow=4.3,SNR=35
PSI ScP ScP 06 12 47.5 -0.6
comp=Z,12nm,0.7s,baz=56,slow=7.3,SNR=6.7
PSI Prapat 31.05 285 P P 06 06 47.6 -1.8
PSI ScP ScP 06 12 47.5 -0.6
PSI Prapat 31.05 285 P P 06 06 47.6 -1.8
PSI Prapat 31.05 285 P P 06 06 47.8 -1.6
comp=Z,1µmcomp=Z,121nm,0.9s,mb5.1
YHNB Yeheng 31.07 347 eP P 06 06 48.0 -1.4
UBT Ubonrachathani 31.48 312 P P 06 06 52.9 -0.2
QZH Quanzhou 32.07 342⇓ iP P 06 06 55.5 -2.6
QZH S **S 06 11 40.1 -5.7**
QZH pmax pmax
comp=Z,370nm,0.7s,mb5.7
JOW Kunigami 32.37 359 P P 06 07 00.5 -0.2
comp=Z,488nm,0.7s,mb5.8,baz=184,slow=7.2,SNR=14
JOW Kunigami 32.37 359 P P 06 07 00.5 -0.2
ARMA Armidale 32.61 142⇓ iP P 06 07 03.8 +1.1
ARMA eS **S 06 11 51.2 -2.8**
ARMA Armidale 32.61 142 eP P 06 07 04.5 +1.8
comp=Z,54nm,0.9s,mb4.8
TPTI 32.85 285 P P 06 07 02.3 -2.7
comp=Z,40nm,0.9s,mb4.6
CAN Canberra 34.82 150 eP P 06 07 23.5 +1.9
comp=Z,67nm,0.5s,mb5.1
CAN Canberra 34.82 150 eP P 06 07 23.5 +1.9
CAN pmax pmax
comp=Z,67nm,0.5s,mb5.1
CNB Canberra Magne 35.00 150⇑ iP P 06 07 25.5 +2.4
comp=Z,130nm,0.4s,mb5.5
CBIJ Chichi jima 35.09 21 P P 06 07 22.2 -1.7
comp=Z,215nm,0.4s,mb5.7,baz=170,slow=6.1,SNR=43
TOO Toolangi 35.15 157⇑ iP P 06 07 26.5 +2.2
comp=Z,117nm,0.4s,mb5.5
TOO eS **S 06 12 37.7 +5.0**
BSI Banda Aceh 35.29 288 P P 06 07 22.6 -3.3
comp=Z,83nm,1.2s,mb4.8
BDT Bhumibol Dam 37.28 308 ⇓P P 06 07 43.0 +0.5
comp=Z,71nm,0.9s,mb4.9
SSE Sheshan 37.34 349 P P 06 07 42.8 +0.1
SSE sP sP 06 09 19.4 -4.3
SSE S **S 06 13 08.9 +3.0**
SSE sS sS 06 14 59.0 -1.9
SSE pmax pmax
comp=Z,190nm,0.8s,mb5.4
SSE LR LR
comp=N,110nm,23.4s
SSE LR LR
comp=E,120nm,23.5s
SSE LR LR
comp=Z,160nm,26.4s
CM31 Chiang Mai Arr 38.03 310 eP P 06 07 49.5 +0.8
comp=Z,36nm,0.8s,mb4.7
CMAR Chiang Mai Arr 38.03 310 P P 06 07 49.0 +0.3
comp=Z,43nm,1.0s,mb4.7,baz=142,slow=7.5,SNR=132
CMAR ScP ScP 06 13 15.2 +2.2
comp=Z,8.2nm,0.6s,baz=145,slow=3.1,SNR=10
CMAR Chiang Mai Arr 38.03 310 P P 06 07 49.0 +0.3
CMAR ScP ScP 06 13 15.2 +2.2
CMAR Chiang Mai Arr 38.03 310 P P 06 07 49.0 +0.3
CMAR 06 13 15.2
CHG Chiang Mai 38.24 310 ⇑P P 06 07 50.6 +0.2
comp=Z,71nm,1.0s,mb4.8
CHTO Chiang Mai 38.24 310 eP P 06 07 50.9 +0.5
comp=Z,59nm,0.9s,mb4.8
CHTO Chiang Mai 38.24 310 eP P 06 07 50.9 +0.5
CHTO pmax pmax
comp=Z,59nm,0.9s,mb4.8
CHTO Chiang Mai 38.24 310 P P 06 07 50.5 +0.1
comp=Z,769nmcomp=Z,88nm,0.9s,mb5.0
CHTO Chiang Mai 38.24 310 P P 06 07 51.1 +0.7
SNR=18
CHRT Chiangrai 38.26 312 ⇓P P 06 07 51.0 +0.4
comp=Z,290nm,0.8s,mb5.6
GYA Guiyang 38.54 327⇓ iP P 06 07 52.8 0.0
GYA pP pP 06 08 56.4 -0.5
GYA sP sP 06 09 32.1 -2.0
GYA PcP PcP 06 09 58.6 +0.5
GYA ScP ScP 06 13 15.0 +0.2
GYA S **S 06 13 22.3 -1.7**
GYA sS sS 06 15 17.5 -2.0
GYA SS SS 06 16 23.9 -5.6
GYA pmax pmax
comp=Z,40nm,0.7s,mb4.8
GYA pmax pmax
comp=Z,500nm,4.6s
WHN Wuhan 38.64 340 ⇓P P 06 07 54.3 +0.7
WHN pP pP 06 08 58.9 +1.3
WHN ScP ScP 06 13 16.1 +1.0
WHN S **S 06 13 23.8 -1.6**
WHN pmax pmax
comp=Z,350nm,0.8s,mb5.6
WHN pmax pmax
comp=Z,400nm,6.8s
JNU Nakatsue 38.68 3 eP P 06 07 53.7 -0.2
NJ2 Nanjing 38.75 346 eP P 06 07 54.9 +0.4
NJ2 pP pP 06 08 57.3 -1.3
NJ2 sP sP 06 09 36.0 +0.2
NJ2 ScP ScP 06 13 16.4 +1.0
NJ2 S **S 06 13 27.3 +0.3**
NJ2 pmax pmax
comp=Z,270nm,1.0s,mb5.4
NJ2 pmax pmax
comp=Z,350nm,5.8s
NJ2 LR LR
comp=N,320nm,11.8s
NJ2 LR LR
comp=E,340nm,10.0s
NJ2 LR LR
comp=Z,170nm,16.0s
NOUC Port Laguerre 39.69 118 eP P 06 08 02.3 0.0
NOUC eS pP 06 09 06.8 0.0
DZM Mont Dzumac 39.80 118 eP P 06 08 04.0 +0.7
comp=Z,150nm,1.4s,mb5.0
DZM Mont Dzumac 39.80 118 eP P 06 08 03.9 +0.6
comp=Z,30nm,0.8s,mb4.6
KMI Kunming 39.80 321 P P 06 08 04.3 +1.1
KMI pP pP 06 09 05.3 -2.4
KMI sP sP 06 09 41.4 -3.4
KMI S **S 06 13 42.9 +0.1**
KMI sS sS 06 15 32.6 -6.3
KMI SS SS 06 16 50.3 -4.0
KMI pmax pmax
comp=Z,26nm,1.0s,mb4.4
KMI pmax pmax
comp=Z,85nm,4.2s
KMI LR LR
comp=N,540nm,14.4s
KMI LR LR
comp=E,660nm,11.1s
KMI LR LR
comp=Z,440nm,13.0s
ENH Enshi 40.31 334 eP P 06 08 06.8 -0.5
comp=Z,65nm,0.6s,mb5.0
KSAR Wonju Array Be 42.95 359 P P 06 08 29.0 +0.6
KSAR PcP PcP 06 10 13.1 +0.7
KSAR ScP ScP 06 13 32.4 +0.4
KSAR Wonju Array Be 42.95 359 P P 06 08 29.0 +0.6
KSAR 06 10 13.1
MJAR Matsushiro Arr 42.95 11 P P 06 08 27.0 -1.4
comp=Z,204nm,0.9s,mb5.3,baz=192,slow=10,SNR=210
MJAR PcP PcP 06 10 12.4 0.0
comp=Z,12nm,0.8s,baz=188,slow=6.7,SNR=3.7
MJAR ScP ScP 06 13 31.6 -0.4
comp=Z,5.4nm,0.7s,baz=197,slow=6.2,SNR=5.4
MJAR Matsushiro Arr 42.95 11 P P 06 08 27.0 -1.4
MJAR PcP PcP 06 10 12.4 0.0
MJAR ScP ScP 06 13 31.6 -0.4
MJAR Matsushiro Arr 42.95 11 P P 06 08 27.0 -1.4
MJAR 06 10 12.4
MAJO Matsushiro 42.95 11 eP P 06 08 27.2 -1.2
comp=Z,235nm,0.8s,mb5.4
MAJO Matsushiro 42.95 11 eP P 06 08 27.2 -1.2
MAJO pmax pmax
comp=Z,235nm,0.8s,mb5.4
MAT Matsushiro 42.95 11 P P 06 08 27.1 -1.3
MAT S **S 06 14 24.0 -4.5**
KSRS Korea Array 42.97 359 P P 06 08 29.0 +0.5
comp=Z,105nm,0.7s,mb5.1,baz=176,slow=10,SNR=168
KSRS PcP PcP 06 10 13.1 +0.7
comp=Z,16nm,0.8s,baz=182,slow=4.5,SNR=8.6
KSRS ScP ScP 06 13 32.4 +0.4
comp=Z,7.3nm,0.7s,baz=186,slow=3.7,SNR=8.6
KSRS Korea Array 42.97 359 P P 06 08 29.0 +0.5
KSRS 06 10 13.1
KSRS pmax pmax
comp=Z,105nm,0.7s,mb5.1
INCN Inchon 43.03 357 eP P 06 08 29.5 +0.5
comp=Z,75nm,0.8s,mb4.9
CD2 Chengdu 43.62 328 P P 06 08 33.3 -0.5
CD2 pP pP 06 09 38.0 -1.4
CD2 sP sP 06 10 13.4 -2.8
CD2 PP PP 06 10 22.1 -1.0
CD2 S **S 06 14 31.3 -7.0**
CD2 sS sS 06 16 33.1 -3.0
CD2 SS SS 06 17 55.8 -7.8
CD2 pmax pmax
comp=Z,80nm,0.6s,mb5.0
CD2 pmax pmax
comp=Z,140nm,4.9s
XAN Xi'an 43.81 336 P P 06 08 34.4 -0.8
XAN pmax pmax
comp=Z,40nm,0.8s,mb4.6
XAN pmax pmax
comp=Z,54nm,5.9s
XAN LR LR
comp=N,250nm,14.5s
XAN LR LR
comp=E,170nm,13.6s
XAN LR LR
comp=Z,100nm,13.6s
DL2 Dalian 44.91 352 ⇓P P 06 08 44.0 +0.3
DL2 pmax pmax
comp=Z,110nm,0.7s,mb5.1
BJI Beijing 47.01 347 P P 06 08 59.9 -0.1
BJI pP pP 06 10 06.4 -0.4
BJI PcP PcP 06 10 27.0 +0.6
BJI S **S 06 15 31.3 +5.0**
BJI pmax pmax
comp=Z,390nm,0.6s,mb5.8
BJI pmax pmax
comp=Z,460nm,3.6s
SHL Shillong 47.49 313 ePKP P 06 09 04.0 0.0
SHL ex x 06 15 30.0
SNY Shenyang 47.57 355 ⇓P P 06 09 04.1 -0.1
SNY pP pP 06 10 10.4 -0.8
SNY S **S 06 15 32.5 -1.6**
SNY ScS ScS 06 18 22.5 +0.2
SNY pmax pmax
comp=Z,94nm,0.6s,mb5.2
SNY pmax pmax
comp=Z,510nm,3.5s
LZH Lanzhou 47.74 332 eP P 06 09 06.6 +0.9
LZH pP pP 06 10 11.6 -1.1
LZH PcP PcP 06 10 29.3 +0.1
LZH sP sP 06 10 45.9 -3.2
LZH PP PP 06 11 02.5 +1.5
LZH eS **S 06 15 36.3 -0.5**
LZH sS sS 06 17 32.3 -4.1
LZH SS SS 06 19 12.0 +1.8
LZH pmax pmax
comp=Z,87nm,1.0s,mb4.9
LZH pmax pmax
comp=Z,450nm,4.0s
VLA Vladivostok 48.70 3⇓ iP P 06 09 10.9 -1.9
VLA e 06 10 31.0
VLA 06 11 06.8
VLA eS **S 06 15 49.2 -0.5**
VLA pmax pmax
comp=Z,304nm,0.8s,mb5.6
HHC Hu-ho-hao-te 48.98 343 eP P 06 09 15.8 +0.8
HHC pP pP 06 10 21.8 -0.6
HHC sP sP 06 10 57.4 -1.3
HHC PP PP 06 11 14.0 +1.8
HHC S **S 06 15 54.8 +0.9**
HHC sS sS 06 17 52.4 -1.7
HHC ScS ScS 06 18 31.8 -0.1
HHC SS SS 06 19 28.8 -0.9
HHC pmax pmax
comp=Z,63nm,0.9s,mb4.8
HHC pmax pmax
comp=Z,430nm,5.8s
BTO Baotou 49.24 341 eP P 06 09 16.0 -0.9
ERM Erimo 49.28 14 eP P 06 09 17.9 +0.8
ERM Erimo 49.28 14 deP P 06 09 17.7 +0.5
ERM pmax pmax
comp=Z,92nm,1.2s,mb4.9
CN2 Changchun 49.39 357 ⇓P P 06 09 17.6 -0.4
CN2 epP pP 06 10 21.6 -3.9
CN2 PcP PcP 06 10 35.8 +0.8
CN2 esP sP 06 10 58.9 -2.9
CN2 ScP ScP 06 13 57.6 -1.1
CN2 eS **S 06 15 56.9 -2.5**
CN2 ScS ScS 06 18 34.1 -0.5
CN2 SS SS 06 19 35.9 -0.2
CN2 pmax pmax
comp=Z,90nm,0.7s,mb5.1
MSVF Nonsavu 49.50 108 eP P 06 09 21.0 +1.8
comp=Z,83nm,0.9s,mb5.0
MSVF Nonsavu 49.50 108 eP P 06 09 21.0 +1.7
MSVF pmax pmax
comp=Z,83nm,0.9s,mb5.0
MSVF Nonsavu 49.50 108 P P 06 09 21.0 +1.7
comp=Z,564nm,0.8s,mb5.8,SNR=17
FUNA Funafuti 50.02 96 eP P 06 09 24.7 +1.4
comp=Z,1µm,2.2s,mb5.8
MDJ Mudanjiang 50.12 1 P P 06 09 23.8 +0.4
MDJ PcP PcP 06 10 38.4 +0.8
MDJ sP sP 06 11 02.6 -4.7
MDJ PP PP 06 11 21.8 -0.6
MDJ ScP ScP 06 14 04.6 +2.8
MDJ S **S 06 16 09.0 -0.3**
MDJ SS SS 06 19 48.6 +1.1
MDJ pmax pmax
comp=Z,130nm,1.1s,mb5.1
MDJ pmax pmax
comp=Z,270nm,5.4s
MDJ LR LR
comp=N,160nm,28.2s
MDJ LR LR

comp=E,220nm,33.3s
MDJ LR LR
comp=Z,180nm,30.8s
MDJ Mudanjiang 50.12 1 *e*P **P 06 09 23.7 +0.3**
comp=Z,132nm,0.9s,mb5.2
LSA Lhasa 50.48 316 P **P 06 09 26.9 +0.5**
LSA pmax pmax
comp=Z,30nm,0.8s,mb4.6
LSA LR LR
comp=N,3µm,3.4s
LSA LR LR
comp=E,2µm,5.1s
LSA LR LR
comp=Z,1µm,3.5s
LSA Lhasa 50.48 316 *e*P **P 06 09 27.6 +1.2**
comp=Z,35nm,0.6s,mb4.8
LSA Lhasa 50.48 316 *e*P **P 06 09 27.7 +1.3**
LSA pmax pmax
comp=Z,35nm,0.6s,mb4.8
ASAJ Asahikawa 51.14 13 P **P 06 09 31.1 +0.1**
comp=Z,141nm,0.7s,mb5.3,baz=216,slow=5.3,SNR=58
ASAJ Asahikawa 51.14 13 *e*P **P 06 09 31.5 +0.5**
comp=Z,74nm,0.9s,mb4.9
ASAJ Asahikawa 51.14 13 P **P 06 09 31.2 +0.2**
ASAJ pmax pmax
comp=Z,141nm,0.7s
ODAN Odare 51.55 311 *e*P **P 06 09 34.6 +0.2**
comp=Z,107nm,0.4s,mb5.5
TAPN Taplejung 51.58 312 *e*P **P 06 09 34.9 +0.3**
comp=Z,210nm,0.4s,mb5.9
MDRS Chennai 51.75 291 *e*PKP **P 06 09 35.9 -0.1**
YUK Yuzh-Kuril'sk 51.86 16*c i*P **P 06 09 34.9 -1.4**
YUK *PP pP 06 10 38.8 -5.8
YUK *SP sP 06 11 10.7 -10
YUK *i* 06 11 36.6
YUK *i* S **S 06 16 30.7 -2.4**
YUK *SS sS 06 18 50.8 +16
YUK *i* SSS 06 22 22.8
YUK pmax pmax
comp=N,144nm,1.0s
YUK pmax pmax
comp=E,158nm,1.0s
YUK pmax pmax
comp=Z,794nm,1.0s,mb6.0
YUK pmax pmax
comp=Z,910nm,1.1s,mb6.0
YUK smax
comp=N,40nm,3.1s
YUK smax
comp=E,110nm,3.1s
YUK MLR MLR
comp=Z,220nm,22.0s
RAMN Ramite 52.20 311 *e*P **P 06 09 39.7 +0.6**
comp=Z,305nm,0.4s,mb6.0
WHZ Wether Hill Ro 52.40 146 *e*P **P 06 09 41.2 +0.9**
RPZ Rata Peaks 52.94 142 *e*P **P 06 09 45.7 +1.5**
comp=Z,66nm,0.7s,mb5.1
GUN Gumba 53.25 311 *e*P **P 06 09 47.1 +0.4**
comp=Z,238nm,0.4s,mb5.9
PKI Pulchoki 53.42 311 *e*P **P 06 09 48.0 0.0**
comp=Z,76nm,0.6s,mb5.2
TRD Trivandrum 53.62 285 *e*PKP **P 06 09 49.0 -0.7**
KKN Kakani 53.63 311 *e*P **P 06 09 49.6 +0.1**
comp=Z,75nm,0.4s,mb5.4
DMN Daman 53.67 310 *e*P **P 06 09 50.0 +0.2**
comp=Z,75nm,0.4s,mb5.4
YSS Yuzh-Sakhalins 53.88 12 *e*P **P 06 09 50.9 0.0**
YSS Yuzh-Sakhalins 53.88 12⇓*e*P **P 06 09 50.9 0.0**
YSS pmax pmax
comp=N,90nm,0.9s
YSS pmax pmax
comp=Z,140nm,0.9s,mb5.3
GKN Gorkha 54.23 311 *e*P **P 06 09 53.9 +0.1**
comp=Z,212nm,0.4s,mb5.8
URZ Urewera 54.37 134 *e*P **P 06 09 55.2 +0.6**
comp=Z,52nm,0.5s,mb5.1
HYB Hyderabad 54.72 296 *i* P **P 06 09 56.5 -0.9**
comp=Z,100nm,1.0s,mb5.1
HYB *e* pP 06 11 05.0 -1.5
HYB *e* S **S 06 17 12.0 -0.3**
KLR Kul'dur 54.79 2 *e*P **P 06 09 53.7 -3.6**
KLR pmax pmax
comp=E,50nm,1.2s
KLR pmax pmax
comp=Z,270nm,1.2s,mb5.5
KOLN Koldanda 54.90 310 *e*P **P 06 09 58.9 +0.3**
comp=Z,68nm,0.4s,mb5.3
DANN Dangsing 55.07 310 *e*P **P 06 10 00.0 +0.2**
comp=Z,59nm,0.4s,mb5.2
HIA Hailar 55.34 353 *e*P **P 06 10 01.5 +0.3**
comp=Z,33nm,0.6s,mb4.8
HIA Hailar 55.34 353 *e*P **P 06 10 01.5 +0.3**
HIA pmax pmax
comp=Z,33nm,0.6s
DGAR Diego Garcia 56.01 265 *e*P **P 06 10 06.1 -0.6**
comp=Z,207nm,0.7s,mb5.6
DGAR Diego Garcia 56.01 265 *e*P **P 06 10 06.1 -0.6**
DGAR pmax pmax
comp=Z,207nm,0.7s,mb5.6
ULN Ulaanbaatar 56.71 343 *e*P **P 06 10 12.2 +1.4**
comp=Z,94nm,0.8s,mb5.2
ULN Ulaanbaatar 56.71 343 *e*P **P 06 10 12.2 +1.3**
ULN pmax pmax
comp=Z,94nm,0.8s,mb5.2
ULN Ulaanbaatar 56.71 343 P **P 06 10 11.5 +0.6**
comp=Z,2µmcomp=Z,136nm,1.1s,mb5.2
ULN Ulaanbaatar 56.71 343 P **P 06 10 11.9 +1.1**
SNR=14
SONM Songino Array 56.88 342 P **P 06 10 12.7 +0.7**
comp=Z,53nm,0.7s,mb5.0,baz=157,slow=6.6,SNR=72
SONM PcP PcP 06 11 04.2 +0.8
comp=Z,11nm,0.8s,baz=131,slow=4.0,SNR=4.5
SONM S **S 06 17 42.2 +2.6**
comp=Z,1.6nm,0.9s,baz=158,slow=9.6,SNR=5.4
SONM Songino Array 56.88 342 P **P 06 10 12.7 +0.7**
SONM PcP PcP 06 11 04.2 +0.8
SONM S **S 06 17 42.2 +2.6**
SONM Songino Array 56.88 342 P **P 06 10 12.7 +0.6**
SONM 06 11 04.2
SONM S **S 06 17 42.2 +2.6**
AKL Akola 57.25 299 *e*PKP **P 06 10 14.4 -0.8**
AKL AMb AMB 06 10 15.8
comp=Z,91nm,0.8s,mb5.1
BHPL Bhopal 57.86 302 *e*PKP **P 06 10 18.5 -0.9**
AFI Afiamalu 58.95 103 P **P 06 10 27.5 +0.5**
comp=Z,31nm,0.7s,mb4.8,baz=247,slow=7.7,SNR=7.5
AFI Afiamalu 58.95 103 P **P 06 10 27.5 +0.4**
AFI Afiamalu 58.95 103 P **P 06 10 27.5 +0.4**
POO Poona 59.31 295 *e*PKP **P 06 10 28.7 -0.7**
POO AMb AMB 06 10 29.7
comp=Z,65nm,0.4s,mb5.5
ZAK Zakamensk 60.09 341⇑*i*P **P 06 10 34.4 +0.3**
ZAK pmax pmax
comp=Z,14nm,0.9s,mb4.4
NDI New Delhi 60.30 308 *ex* **P 06 10 32.4 -3.5**
TLY Talaya 61.11 342 *e*P **P 06 10 41.9 +1.0**
comp=Z,49nm,0.8s,mb5.0
TLY Talaya 61.11 342 *e*P **P 06 10 41.3 +0.4**
TLY *e* 06 20 00.0
TLY pmax pmax
comp=Z,45nm,0.8s,mb5.0
TLY Talaya 61.11 342 P **P 06 10 41.0 +0.1**
comp=Z,382nm,0.9s,mb5.8,SNR=13
TLY Talaya 61.11 342 P **P 06 10 42.2 +1.3**
SNR=8.0
IRK Irkutsk 61.42 343⇓*i*P **P 06 10 43.4 +0.5**
IRK *e*S **S 06 18 42.3 +4.9**
IRK pmax pmax
comp=Z,193nm,21.1s
WMQ Urumqi 61.70 327 P **P 06 10 45.8 +0.8**
WMQ pP pP 06 11 56.1 +0.2
WMQ sP sP 06 12 30.0 -1.2
WMQ PP PP 06 13 08.3 +2.9
WMQ S **S 06 18 41.3 0.0**
WMQ pmax pmax
comp=Z,100nm,0.8s,mb5.4
CASY Casey 61.78 188 *e*P **P 06 10 45.0 -0.1**
CASY Casey 61.78 188 *e*P **P 06 10 45.6 +0.5**
comp=Z,54nm,0.8s,mb5.1
MOY Mondy 61.94 341 *e*P **P 06 10 47.9 +1.6**
MOY pmax pmax
comp=Z,113nm,1.9s,mb5.1
CLNS Chul'man 62.43 358 *e*P **P 06 10 48.9 -0.6**
CLNS pmax pmax
comp=Z,89nm,0.8s,mb5.3
CLNS pmax pmax
comp=N,63nm,0.9s
CLNS pmax pmax
comp=E,24nm,0.8s
PEA0B Petropavlovsk- 63.49 19 *e*P **P 06 10 57.4 +0.9**
PETK Petropavlovsk- 63.49 19 P **P 06 10 57.2 +0.8**
comp=E,153nm,0.7s,mb5.7,baz=188,slow=5.4,SNR=91
PETK PcP PcP 06 11 29.4 -0.5
comp=E,29nm,0.8s,baz=184,slow=5.8,SNR=5.0
PETK Petropavlovsk- 63.49 19 P **P 06 10 57.2 +0.8**
PETK PcP PcP 06 11 29.4 -0.5
PETK Petropavlovsk- 63.49 19 P **P 06 10 57.3 +0.8**
PETK 06 11 29.5
PET Petropavlovsk 63.73 20 *e*P **P 06 10 58.9 +0.8**
comp=E,181nm,1.0s,mb5.7
PET Petropavlovsk 63.73 20 *e*P **P 06 10 58.1 0.0**
PET *e*S **S 06 19 06.9 +0.9**
PET pmax pmax
comp=Z,202nm,0.9s,mb5.8
PET pmax pmax
comp=Z,200nm,16.8s
BHJ Bhuj 64.53 299 *e*PKP **P 06 11 03.1 -0.8**
BHJ AMb AMB 06 11 03.6
comp=Z,98nm,1.4s,mb5.3
MIR Mirnyy 65.56 195 *e*P **P 06 11 10.0 +0.4**
MIR pmax pmax
comp=Z,86nm,1.4s,mb5.3
KSH Kashi 66.30 318 P **P 06 11 16.1 +1.3**
KSH PcP PcP 06 11 43.5 +1.5
KSH pP pP 06 12 27.8 +0.9
KSH sP sP 06 13 01.3 -0.6
KSH PP PP 06 13 49.3 +3.6
KSH ScP 06 15 14.5
KSH PcS 06 15 46.8
KSH S S 06 19 33.8 -3.9
KSH ScS ScS 06 20 38.3 -0.9
KSH sS sS 06 21 43.8 -1.5
KSH SS SS 06 24 04.4 +3.1
KSH pmax pmax
comp=Z,26nm,0.9s,mb5.0
KSH pmax pmax
comp=Z,94nm,4.7s
KSH LR LR
comp=N,200nm,6.4s
KSH LR LR
comp=E,130nm,5.2s
KSH LR LR
comp=Z,160nm,5.1s
MK31 Makanchi Array 66.53 327 *e*P **P 06 11 16.8 +0.7**
MK31 Makanchi Array 66.53 327 *e*P **P 06 11 16.4 +0.3**
MK31 pmax pmax
comp=Z,38nm,0.6s,mb5.3
MKAR Makanchi Array 66.53 327 P **P 06 11 16.7 +0.6**
comp=Z,43nm,0.5s,mb5.4,baz=124,slow=8.2,SNR=400
MKAR S S 06 19 51.1 +11
comp=Z,3.6nm,0.8s,baz=127,slow=16,SNR=5.4
MKAR Makanchi Array 66.53 327 P **P 06 11 16.7 +0.6**
MKAR S S 06 19 51.1 +11
MKAR Makanchi Array 66.53 327 P **P 06 11 16.7 +0.6**
MKAR S S 06 19 51.1 +11
YAK Yakutsk 67.56 0 *e*P **P 06 11 22.4 +0.2**
comp=Z,713nm,0.8s,mb6.5
YAK Yakutsk 67.56 0*d i*P **P 06 11 22.4 +0.2**
YAK *e* 06 11 46.7
YAK *e* 06 13 53.2
YAK *e*PPP 06 15 37.2
YAK *e*S S 06 19 54.3 +2.5
YAK *e* 06 20 51.2
YAK pmax pmax
comp=Z,466nm,0.7s,mb6.3
YAK pmax pmax
comp=N,123nm,1.0s
YAK pmax pmax
comp=E,17nm,0.8s
YAK pmax pmax
comp=Z,603nm,4.3s
YAK pmax pmax
comp=N,738nm,4.0s
YAK pmax pmax
comp=E,564nm,4.6s
YAK smax
comp=E,677nm,3.2s
YAK smax
comp=N,520nm,4.3s
KZA Kyzart 68.06 320 P **P 06 11 27.8 +2.0**
SNR=12
TKM2 Tokmak 2 68.27 321 P **P 06 11 28.2 +1.3**
SNR=5.6
TKM2 Tokmak 2 68.27 321 *e*P **P 06 11 28.1 +1.2**
comp=N,18nm,0.6s,mb5.0
TKM2 Tokmak 2 68.27 321 *i* P **P 06 11 28.2 +1.2**
KBK Karagaybulak 68.55 320 P **P 06 11 30.1 +1.4**
SNR=5.5
AAK Ala-Archa 68.83 320 P **P 06 11 31.9 +1.5**
SNR=20
AAK Ala-Archa 68.83 320 *i* P **P 06 11 31.8 +1.4**
FRU Bishkek 68.85 320 *e*P **P 06 11 40.0 +9.5**
FRU *e* 06 11 58.0
FRU *e* 06 20 10.0
KBL Kabul 69.06 310 *e*P **P 06 11 32.8 +0.8**
comp=N,11nm,0.7s,mb4.7
KBL Kabul 69.06 310 *e*P **P 06 11 32.8 +0.8**
KBL pmax pmax
comp=Z,11nm,0.7s,mb4.7
AML Almayashu 69.09 319 P **P 06 11 33.9 +1.8**
SNR=6.6
USP Ospenovka 69.14 321 P **P 06 11 33.3 +1.0**
SNR=16
EKS2 Erkin-Say 69.30 320 P **P 06 11 34.7 +1.4**
SNR=18
EKS2 Erkin-Say 69.30 320 *e*P **P 06 11 34.5 +1.3**
comp=Z,19nm,0.8s,mb4.9
EKS2 Erkin-Say 69.30 320 *e*P **P 06 11 34.5 +1.2**
EKS2 pmax pmax
comp=Z,19nm,0.8s,mb4.9
ZAA0 Zalesovo Array 69.94 334 *e*P **P 06 11 36.7 -0.2**
ZALV Zalesovo Beam 69.94 334 P **P 06 11 36.6 -0.3**
comp=Z,59nm,0.7s,mb5.5,baz=130,slow=5.5,SNR=160
ZALV S S 06 20 18.6 -1.2
comp=Z,0.9nm,0.4s,baz=139,slow=7.7,SNR=3.9
ZALV PKPPKP 06 39 36.9
comp=Z,0.4nm,0.3s,baz=289,slow=4.4,SNR=7.1
ZALV Zalesovo Beam 69.94 334 P **P 06 11 36.6 -0.3**
ZALV S S 06 20 18.6 -1.2
ZALV P'P' 06 39 36.9
ZALV Zalesovo Beam 69.94 334 P **P 06 11 36.6 -0.3**
ZALV S S 06 20 18.6 -1.2
MRIV Mauritius Mete 70.55 251 *e*P **P 06 11 41.2 -0.1**
SEY Seymchan 70.78 11*de*P **P 06 11 42.7 +0.9**
KURK Kurchatov 70.83 329 P **P 06 11 42.8 +0.4**
comp=Z,72nm,0.8s,mb5.5,baz=130,slow=5.0,SNR=563
KURK S S 06 20 24.4 -5.9
comp=Z,3.1nm,0.9s,baz=132,slow=13,SNR=11
KURK Kurchatov 70.83 329 P **P 06 11 42.8 +0.4**
KURK S S 06 20 24.4 -5.9
KURK Kurchatov 70.83 329 P **P 06 11 42.8 +0.4**
KURK S S 06 20 24.4 -5.9
KURK Kurchatov 70.83 329 P **P 06 11 42.0 -0.4**
comp=Z,696nm,1.0s,mb6.3,SNR=19
KURK Kurchatov 70.83 329 P **P 06 11 42.5 +0.1**
SNR=34
NVS Novosibirsk 71.22 334⇓*i*P **P 06 11 44.3 -0.3**
NVS *i* S S 06 20 31.9 -2.7
NVS *i* 06 21 09.7
NVS pmax pmax
comp=N,60nm,1.3s
NVS pmax pmax
comp=Z,121nm,1.3s,mb5.5
NVS pmax pmax
comp=E,54nm,1.1s
NVS smax
comp=N,145nm,2.5s
NVS smax
comp=E,231nm,2.5s
KKAR Karatay Array 71.62 319 *e*P **P 06 11 47.7 +0.5**
comp=E,5.1nm,0.5s,mb4.5
KKAR Karatay Array 71.62 319 *e*P **P 06 11 47.7 +0.5**
KKAR pmax pmax
comp=Z,5.0nm,0.5s,mb4.5
RER Riviere de l'E 72.20 250 *e*P **P 06 11 52.8 +1.7**
comp=Z,104nm,0.9s,mb5.6
VNDA Vanda 73.84 173 P **P 06 11 59.9 +0.3**
comp=Z,11nm,0.6s,mb4.8,baz=317,slow=7.7,SNR=91
VNDA S S 06 20 60.0 -3.5
comp=Z,2.4nm,1.2s,baz=9.6,slow=2.5,SNR=3.2
VNDA Vanda 73.84 173 P **P 06 11 59.9 +0.3**
VNDA S S 06 20 60.0 -3.5
VNDA Vanda 73.84 173 P **P 06 11 59.9 +0.3**
VNDA S S 06 21 00.0 -3.5
SBA Scott Base 74.74 172 *e*P **P 06 12 06.2 +1.4**
comp=Z,13nm,0.9s,mb4.7
SBA Scott Base 74.74 172 *e*P **P 06 12 06.2 +1.4**
SBA pmax pmax
comp=Z,13nm,0.9s,mb4.7
SMDO Samad 74.75 296 P **P 06 12 06.7 +0.8**
SNR=7.6
MAW Mawson 75.71 201 P **P 06 12 11.2 +0.8**
comp=Z,14nm,0.5s,mb5.0,baz=65,slow=7.0,SNR=36
MAW Mawson 75.71 201⇑*i*P **P 06 12 11.0 +0.6**
comp=Z,21nm,0.9s,mb4.9
MAW Mawson 75.71 201 P **P 06 12 11.2 +0.8**
MAW Mawson 75.71 201 P **P 06 12 11.2 +0.8**
VOSK Vostochnaya 75.92 328 P **P 06 12 11.0 -0.8**
VOSK pmax pmax
comp=Z,24nm,0.7s,mb5.0
BVA0 Borovoye Array 76.38 328 *i* P **P 06 12 13.6 -0.7**
BVA0 pmax pmax
comp=Z,11nm,1.3s,mb4.4
BVAR Borovoye Array 76.38 328 P **P 06 12 14.4 +0.1**
comp=Z,20nm,0.8s,mb4.9,baz=128,slow=7.2,SNR=78
BVAR Borovoye Array 76.38 328 P **P 06 12 14.4 +0.1**
BVAR Borovoye Array 76.38 328 P **P 06 12 14.4 +0.1**
BRVK Borovoye 76.45 328 *e*P **P 06 12 15.0 +0.3**
comp=Z,28nm,0.8s,mb5.0
BRVK Borovoye 76.45 328 *e*P **P 06 12 15.0 +0.3**
BRVK pmax pmax
comp=Z,28nm,0.8s,mb5.0
BRVK Borovoye 76.45 328 P **P 06 12 15.6 +0.9**
comp=Z,238nm,0.8s,mb6.0,SNR=17
BRVK Borovoye 76.45 328 P **P 06 12 15.4 +0.7**
SNR=12
RBK Rabkut 77.17 289 P **P 06 12 21.5 +2.0**
SNR=11
ABTO Aybut 78.00 289 P **P 06 12 24.7 +0.7**
SNR=8.3
BILL Bilibino 78.15 14 *e*P **P 06 12 23.6 -0.2**
comp=Z,9.8nm,0.6s,mb4.7
BILL Bilibino 78.15 14 *e*P **P 06 12 23.7 -0.1**
BILL *i* 06 12 32.7
BILL pmax pmax
comp=Z,12nm,0.9s,mb4.6
UNV Unalaska Valle 80.07 33 *e*P **P 06 12 34.9 +0.5**
comp=Z,135nm,1.1s,mb5.6
PPT Papeete 80.30 107 *e*S S 06 22 11.8 -2.9
comp=Z,408nm,24.8s
PPT *e*LR LR 06 38 14.3
comp=Z,348nm,26.2s
AKUT Akutan 80.58 33 *e*P **P 06 12 37.3 +0.2**
comp=Z,297nm,1.4s,mb5.8
AB31 Akbulak array 80.80 322 P **P 06 12 37.5 -0.9**
AB31 pmax pmax
comp=Z,19nm,0.6s,mb5.0
ABKAR Akbulak array 80.80 322 *e*P **P 06 12 38.1 -0.3**
comp=Z,19nm,0.6s,mb5.0
AKTO Aktyubinsk 82.36 322 P **P 06 12 45.9 -0.6**
AKTO pmax pmax
comp=Z,2.0nm,0.8s
SVE Sverdlovsk 83.09 329⇓*i*P **P 06 12 50.6 +0.6**
SVE *e* 06 16 10.0
SVE *e*S S 06 22 39.6 -1.9
SVE pmax pmax
comp=Z,93nm,1.4s,mb5.4
SDPT Sand Point 83.88 33 *e*P **P 06 12 54.1 0.0**
comp=Z,297nm,0.8s,mb6.2
ARU Arti 84.02 328 *e*P **P 06 12 54.4 -0.4**
comp=Z,39nm,0.8s,mb5.3
ARU Arti 84.02 328*d i*P **P 06 12 54.5 -0.3**
ARU 06 16 09.3
ARU S S 06 22 46.5 -4.3
ARU SS SS 06 28 26.8 -0.9
ARU pmax pmax
comp=Z,93nm,1.7s,mb5.3
QSPA South Pole Qui 84.24 180 P **P 06 12 55.8 +0.3**
comp=Z,17nm,0.6s,mb5.1,baz=296,slow=1.4,SNR=132
QSPA S S 06 22 44.3 -8.1
comp=Z,6.7nm,1.1s,baz=106,slow=22,SNR=25
QSPA PKKPbc PKKPbc 06 31 06.4 -3.9
comp=Z,1.4nm,0.7s,baz=322,slow=1.7,SNR=6.3
QSPA South Pole Qui 84.24 180 P **P 06 12 55.8 +0.3**
QSPA S S 06 22 44.3 -8.1
QSPA PKKPbc PKKPbc 06 31 06.4 -3.9
SYO Syowa Base 84.42 201⇓*i*P **P 06 12 55.6 -1.0**
SYO Syowa Base 84.42 201⇓*e*P **P 06 13 03.2 +6.6**
RDF Al-Radifah 85.15 300 *e*P **P 06 13 01.2 +0.2**
RDF AMb AMB 06 13 02.2
comp=Z,48nm,0.5s,mb5.6
CHGN Chignik 85.29 32 *e*P **P 06 13 00.5 -0.5**
NAY Al-Naaiem 85.47 300 *e*P **P 06 13 02.2 -0.4**
NAY AMb AMB 06 13 03.3
comp=Z,60nm,0.8s,mb5.5
MIB Mutribah 85.47 300 *e*P **P 06 13 02.2 -0.4**
MIB AMb AMB 06 13 03.5
comp=Z,64nm,0.8s,mb5.5
SOKR Solikamsk 85.94 331*d i*P **P 06 13 03.4 -0.7**
SOKR pmax pmax
comp=Z,30nm,1.0s,mb5.1
SVW2 Sparrevohn 88.07 28 *e*P **P 06 13 14.8 +0.5**
comp=Z,56nm,0.8s,mb5.5
OHAK Old Harbor 88.25 32 *e*P **P 06 13 15.3 +0.1**
comp=Z,115nm,1.0s,mb5.7
BHD Baghdad 88.48 303 *ex* x 06 13 33.0
BHD *ex* x 06 23 15.0
BHD *i* x 06 23 33.0
BHD *i* x 06 25 39.0
KDAK Kodiak Island 88.75 32 P **P 06 13 17.1 -0.4**
comp=Z,34nm,0.8s,mb5.2,baz=243,slow=9.0,SNR=29
KDAK Kodiak Island 88.75 32 P **P 06 13 17.1 -0.4**
KDAK Kodiak Island 88.75 32 *i* P **P 06 13 17.5 0.0**
KDAK Kodiak Island 88.75 32 P **P 06 13 17.0 -0.5**
comp=Z,333nm,1.1s,mb6.1,SNR=14
DGRG David-gareji 88.86 312 P **P 06 13 19.2 +0.8**
RSO Redoubt South 89.26 29 *e*P **P 06 13 20.1 +0.3**
comp=Z,55nm,0.8s,mb5.4
ZEI Tsey 90.14 313 *e*P **P 06 13 22.9 -1.5**
ZEI pmax pmax
comp=Z,12nm,1.3s,mb4.7
SLKM Skilak Lake 90.50 29 *e*P **P 06 13 25.3 -0.3**
SLKM Skilak Lake 90.50 29 *e*P **P 06 13 25.3 -0.3**
BPAW Bear Paw Mtn. 90.83 26 *e*P **P 06 13 26.7 -0.4**
comp=Z,38nm,1.1s,mb5.2
KIV Kislovodsk 91.16 314 *e*P **P 06 13 31.6 +2.5**
KIV *e* 06 23 32.7
KIV pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
PMR Palmer 91.21 28 *e*P **P 06 13 28.2 -0.7**
comp=Z,54nm,0.8s,mb5.5
PMR Palmer 91.21 28 *e*P **P 06 13 28.2 -0.7**
PMR pmax pmax
comp=Z,55nm,0.8s,mb5.5
KMBO Kilima Mbogo 91.46 269 *e*P **P 06 13 32.3 +1.1**
comp=Z,6.7nm,0.9s,mb4.6
KMBO Kilima Mbogo 91.46 269 *e*P **P 06 13 32.3 +1.1**
KMBO pmax pmax
comp=Z,7.0nm,0.9s
SML Sawmill 91.62 28 *e*P **P 06 13 30.7 -0.1**
comp=Z,36nm,0.8s,mb5.3
SML Sawmill 91.62 28 *e*P **P 06 13 30.7 -0.1**
SML pmax pmax
comp=Z,36nm,0.8s,mb5.3
MCK McKinley 91.66 26 *e*P **P 06 13 29.9 -1.0**
comp=Z,170nm,1.5s,mb5.8
MCK McKinley 91.66 26 *e*P **P 06 13 29.9 -1.0**
MCK pmax pmax
comp=Z,170nm,1.5s,mb5.8
COLD Coldfoot 91.75 23 *e*P **P 06 13 31.6 +0.4**
comp=Z,37nm,0.7s,mb5.4
COLA College 92.30 25 *e*P **P 06 13 32.5 -1.3**
comp=Z,24nm,0.8s,mb5.2
COLA College 92.30 25 *e*P **P 06 13 32.5 -1.3**
COLA pmax pmax
comp=Z,24nm,0.8s,mb5.2
ILAR Eielson Array 92.70 25 P **P 06 13 34.1 -1.6**
comp=Z,18nm,0.8s,mb5.1,baz=266,slow=4.3,SNR=177
ILAR PP PP 06 17 12.7 -10
comp=Z,2.8nm,0.8s,baz=253,slow=6.4,SNR=4.2
ILAR PKKP PKKPbc 06 30 45.4 -3.9
comp=Z,0.5nm,0.6s,baz=307,slow=0.7,SNR=7.0
ILAR SKKP 06 33 52.5
comp=Z,0.5nm,0.9s,baz=284,slow=0.2,SNR=4.5
ILAR Eielson Array 92.70 25 P **P 06 13 34.1 -1.6**
ILAR PP PP 06 17 12.7 -10

ILAR PKKP PKKPbc 06 30 45.4 -3.9
ILAR SKKP 06 33 52.5
ILAR Eielson Array 92.70 25 P **P 06 13 34.1 -1.6**
ILAR 06 30 45.4
DIV Divide 92.74 29 *e*P **P 06 13 36.5 +0.5**
comp=Z,109nm,1.0s,mb5.8
PAX Paxson 93.10 27 *e*P **P 06 13 37.6 0.0**
comp=Z,108nm,1.2s,mb5.8
PAX Paxson 93.10 27 *e*P **P 06 13 37.6 0.0**
PAX pmax pmax
comp=Z,108nm,1.2s,mb5.8
DOT Dot Lake 93.80 27 *e*P **P 06 13 40.6 -0.2**
comp=Z,148nm,0.8s,mb6.1
MENT Mentasta 93.89 27 *e*P **P 06 13 40.7 -0.5**
VSR Storozhevoye 94.21 321 *e*P **P 06 13 41.5 -1.4**
VSR pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
VSR pmax pmax
comp=N,6.0nm,0.4s
VSR pmax pmax
comp=E,4.0nm,0.4s
KLMR Klimovskoe 94.62 331 *e*P **P 06 13 37.2 -7.4**
KLMR pmax pmax
comp=Z,39nm,1.8s,mb5.1
EGAK Eagle 95.14 25 *e*P **P 06 13 46.6 -0.3**
comp=Z,266nm,0.9s,mb5.3
DAWY Dawson 95.89 26 *e*P **P 06 13 50.6 +0.4**
OBN Obninsk 95.95 325 *e*P **P 06 13 49.9 -0.9**
OBN *e* 06 24 44.7
OBN *e*PS PS 06 26 44.8 +1.4
OBN *e*SS SS 06 31 28.0 +8.8
OBN pmax pmax
comp=Z,13nm,0.4s,mb5.4
SNAA Sanae 96.62 194 P **P 06 13 54.1 +0.6**
comp=Z,1.6nm,0.9s,mb4.2,baz=113,slow=5.2,SNR=20
SNAA PKKPbc PKKPbc 06 30 33.9 -5.0
comp=Z,1.0nm,0.7s,baz=299,slow=1.9,SNR=16
SNAA Sanae 96.62 194 P **P 06 13 54.1 +0.6**
SNAA PKKPbc PKKPbc 06 30 33.9 -5.0
SNAA Sanae 96.62 194 P **P 06 13 54.1 +0.6**
BRTR Keskin Array B 97.62 309 P **P 06 13 57.7 -0.9**
comp=Z,0.4nm,0.5s,baz=100,slow=2.8,SNR=2.9
BRTR PP PP 06 17 58.4 -2.7
comp=Z,2.1nm,0.9s,baz=100,slow=7.5,SNR=3.5
BRTR Keskin Array B 97.62 309 P **P 06 13 57.7 -0.9**
BRTR PP PP 06 17 58.4 -2.7
BRTR Keskin Array B 97.62 309 P **P 06 13 57.7 -0.9**
BRTR 06 17 58.4
INK Inuvik 98.12 22 P **P 06 13 59.4 -0.9**
comp=Z,11nm,0.6s,mb5.2,baz=281,slow=4.6,SNR=59
INK PP PP 06 17 59.0 -5.1
comp=Z,4.6nm,0.9s,baz=268,slow=9.2,SNR=3.9
INK PKKPbc PKKPbc 06 30 29.7 -5.2
comp=Z,1.4nm,0.8s,baz=43,slow=3.6,SNR=7.1
INK Inuvik 98.12 22 P **P 06 13 59.4 -0.9**
INK PP PP 06 17 59.0 -5.1
INK PKKPbc PKKPbc 06 30 29.7 -5.2
INK Inuvik 98.12 22 P **P 06 13 59.4 -0.8**
INK 06 17 59.0
VNA2 Neumayer--Watz 98.20 193 *e* **P 06 13 58.5 -2.1**
baz=116,slow=3.6
VNA2 *e* 06 30 27.7
VNA3 Neumayer Olymp 98.47 193 *e* **P 06 13 59.7 -2.1**
VNA3 *e* 06 30 26.7
JOF Joensuu 98.50 333 *e*P **P 06 13 59.2 -2.8**
JOF pmax pmax
comp=Z,12nm,0.7s,mb5.2
JOF Joensuu 98.50 333 *e*p **P 06 13 59.2 -2.8**
comp=Z,12nm,0.7s,mb5.2
VNA1 Neumayer--Stat 98.60 193 *e* Pdif 06 14 00.5 -2.2
VNA1 *e* 06 30 27.3
BOSA Boshof 99.10 240 P Pdif 06 14 05.1 +0.1
comp=Z,4.2nm,0.8s,baz=107,slow=4.4,SNR=5.8
BOSA Boshof 99.10 240 P Pdif 06 14 05.1 +0.1
BOSA Boshof 99.10 240 P Pdif 06 14 05.1 +0.1
WRAK Wrangell Islan 99.62 34 *e*Pdif Pdif 06 14 08.0 +0.8
comp=Z,21nm,0.7s
ARCES ARCESS Array B 99.99 340 P Pdif 06 14 07.3 -1.6
comp=Z,12nm,0.8s,baz=88,slow=6.4,SNR=19
ARCES PKiKP PKiKP 06 18 34.1 -0.4
comp=Z,2.9nm,0.9s,baz=83,slow=3.7,SNR=7.1
ARCES PKKPbc PKKPbc 06 30 25.2 -4.4
comp=Z,2.5nm,0.8s,baz=290,slow=3.7,SNR=9.8
ARCES ARCESS Array B 99.99 340 P Pdif 06 14 07.3 -1.6
ARCES ARCESS Array B 99.99 340 P Pdif 06 14 07.3 -1.6
AKASG Malin Array Be 100.49 320 P Pdif 06 14 09.1 -2.1
comp=Z,0.2nm,0.3s,baz=67,slow=4.9,SNR=4.4
AKASG Malin Array Be 100.49 320 P Pdif 06 14 09.1 -2.1
AKASG Malin Array Be 100.49 320 P Pdif 06 14 09.1 -2.1
FINES FINESS Array B 101.10 331 P Pdif 06 14 12.4 -1.5
comp=Z,3.8nm,0.9s,baz=46,slow=8.2,SNR=3.6
FINES FINESS Array B 101.10 331 P Pdif 06 14 12.4 -1.5
FINES FINESS Array B 101.10 331 P Pdif 06 14 12.4 -1.4
RES Resolute Bay 106.66 11 *e*Pdif Pdif 06 14 38.5 -0.1
comp=Z,5.9nm,0.9s
RES Resolute Bay 106.66 11 *e*P Pdif 06 14 38.5 0.0
RES pmax pmax
comp=Z,6.0nm,0.9s
A05A Maple Falls 106.79 41 ⇑P PKiKP 06 18 47.7 +0.1
baz=107
YKA Yellowknife Ar 107.12 26 Pdiff Pdif 06 14 40.8 +0.2
comp=Z,2.8nm,0.7s,baz=292,slow=4.1,SNR=4.2
YKA PKiKP PKiKP 06 18 47.0 -0.7
comp=Z,4.7nm,0.7s,baz=296,slow=1.9,SNR=11
YKA Yellowknife Ar 107.12 26 Pdif Pdif 06 14 40.9 +0.2
YKA PKPdf PKiKP 06 18 47.0 -0.7
YKA Yellowknife Ar 107.12 26 P Pdif 06 14 40.9 +0.3
D05A Enumclaw 107.18 42 ⇓P PKiKP 06 18 49.1 +0.8
baz=107
HUMO Hull Mountain 107.24 47 *e*PKPdf PKiKP 06 18 49.9 +1.3
HFS Hagfors 107.30 332 Pdiff Pdif 06 14 39.8 -1.6
comp=Z,2.3nm,0.7s,baz=101,slow=7.5,SNR=5.1
HFS Hagfors 107.30 332 Pdif Pdif 06 14 39.8 -1.6
HFS Hagfors 107.30 332 P Pdif 06 14 39.8 -1.6
NB2 NORSAR Subarra 108.13 333 P Pdif 06 14 43.9 -1.2
comp=Z,5.4nm,1.1s,baz=66,slow=4.6
NOA NORSAR Array B 108.13 333 Pdiff Pdif 06 14 43.7 -1.4
comp=Z,1.7nm,0.8s,baz=68,slow=4.6,SNR=5.1
NOA PKiKP PKiKP 06 18 47.8 -1.8
comp=Z,1.8nm,0.8s,baz=262,slow=3.4,SNR=4.0
NOA NORSAR Array B 108.13 333 Pdif Pdif 06 14 43.7 -1.4
NOA PKPdf PKiKP 06 18 47.8 -1.8
NOA NORSAR Array B 108.13 333 P Pdif 06 14 43.7 -1.4
K05A Summer Lake 108.73 47 ⇑P PKiKP 06 18 52.7 +1.4
baz=109
I07A Izee 109.48 45 ⇑P PKiKP 06 18 53.8 +1.0
baz=109
G08A Pilot Rock 109.61 44 ⇑P PKiKP 06 18 54.0 +1.1
baz=110
E09A Wood Farm, Sta 109.90 43 ⇑P PKiKP 06 18 54.1 +0.6
baz=110
WCN Washoe City 110.14 50 ⇓P PKiKP 06 18 55.3 +1.2
baz=110
WCN Washoe City 110.14 50 *e*PKPdf PKiKP 06 18 54.2 +0.1
WCN Washoe City 110.14 50 *e*PKiKP PKiKP 06 18 54.2 +0.1
NEW Newport 110.16 41 ⇑P PKiKP 06 18 54.7 +0.8
baz=110
J08A Circle Bar Ran 110.35 46 ⇓P PKiKP 06 18 55.4 +1.0
baz=110
SMMC Simmler 110.54 55 ⇓P PKiKP 06 18 56.1 +1.1
baz=110
F10A Beach Ranch, E 110.65 43 ⇓P PKiKP 06 18 55.6 +0.7
baz=111
GERES GERESS Array B 110.71 320 PKiKP PKiKP 06 18 54.0 -0.9
comp=Z,1.8nm,0.5s,baz=108,slow=2.2,SNR=16
GERES SKP 06 21 59.1
comp=Z,1.5nm,0.5s,baz=64,slow=2.3,SNR=6.6
GERES GERESS Array B 110.71 320 PKPdf PKiKP 06 18 54.0 -0.9
GERES SKP 06 21 59.1
GERES GERESS Array B 110.71 320 PKiKP PKiKP 06 18 54.0 -0.9
GERES 06 21 59.2
PKM Peak Mountain 110.74 55 ⇑P PKiKP 06 18 56.5 +1.1
baz=111
C11A Tepee Creek (N 110.83 41 ⇑P PKiKP 06 18 56.0 +0.9
baz=111
BSC Santa Cruz Isl 111.01 56 ⇑P PKiKP 06 18 56.5 +0.5
baz=111
B12A Libby 111.09 40 ⇑P PKiKP 06 18 55.9 +0.3
baz=111
VES Vestal, Richgr 111.20 54 ⇓P PKiKP 06 18 56.8 +0.6
baz=111
NVAR Mina Array Bea 111.41 51 Pdiff Pdif 06 15 01.4 +1.7
comp=Z,2.1nm,0.9s,baz=282,slow=4.5,SNR=6.2
NVAR PKiKP PKiKP 06 18 57.0 +0.4
comp=Z,1.4nm,0.6s,baz=251,slow=2.8,SNR=8.9
NVAR PP PP 06 19 40.5 -2.2
comp=Z,3.7nm,0.9s,baz=264,slow=7.2,SNR=4.5
NVAR PKKPbc PKKPbc 06 29 53.7 0.0
comp=Z,0.5nm,0.7s,baz=140,slow=3.4,SNR=4.9
NVAR Mina Array Bea 111.41 51 Pdif Pdif 06 15 01.4 +1.7
NVAR PKPdf PKiKP 06 18 57.0 +0.4
NVAR PP PP 06 19 40.5 -2.2
NVAR PKKPbc PKKPbc 06 29 53.7 0.0
ARVC Arvin 111.52 55 ⇑P PKiKP 06 18 57.5 +0.7
baz=112
D12A Red Ives Fores 111.63 41 ⇑P PKiKP 06 18 56.9 +0.2
baz=112
A13A Flathead Natio 111.71 39 ⇓P PKiKP 06 18 57.5 +0.7
baz=112
ISA Isabella 111.72 54 ⇓P PKiKP 06 18 57.7 +0.4
baz=112
BSMT Bassoo Peak 111.78 41 *e*PKPdf PKiKP 06 18 57.3 +0.4
B13A Whitefish 111.84 40 ⇓P PKiKP 06 18 57.8 +0.8
baz=112
C13A Hot Springs 111.97 41 ⇓P PKiKP 06 18 57.6 +0.3
baz=112
F12A Elk City 112.04 43 ⇑P PKiKP 06 18 58.5 +1.0
baz=112
SCI San Clemente I 112.05 57 ⇓P PKiKP 06 18 58.4 +0.5
baz=112
CIS Catalina Islan 112.11 56 ⇓P PKiKP 06 18 58.7 +0.6
baz=112
G12A Big Creek, Yel 112.15 43 ⇑P PKiKP 06 18 58.8 +1.1
baz=112
D13A Huson 112.21 41 ⇓P PKiKP 06 18 57.8 0.0
baz=112
MFID Camas Ranch 112.22 45 ⇑P PKiKP 06 18 58.8 +0.9
baz=112
MFID Camas Ranch 112.22 45 *e*PKPdf PKiKP 06 18 59.0 +1.1
EDW2 Edwards Air Fo 112.23 55 ⇑P PKiKP 06 18 59.3 +1.1
baz=112
GRAC Grapevine Rang 112.38 52 ⇓P PKiKP 06 18 59.4 +1.0
baz=112
LRMC Laurel Mountai 112.38 54 ⇓P PKiKP 06 18 59.8 +1.3
baz=112
SWMT Swartz Lake 112.39 41 *e*PKPdf PKiKP 06 18 58.4 +0.3
MPMC Manual Prospec 112.45 53 ⇑P PKiKP 06 18 60.0 +1.3
baz=112
C14A Swan Lake 112.48 40 ⇑P PKiKP 06 18 58.4 +0.1
baz=112
WTTA Wattenberg 112.48 319 ⇑*i*PKiKP PKiKP 06 18 58.2 -0.1
comp=Z,9.0nm,0.5s
E13A Victor 112.57 42 ⇓P PKiKP 06 18 59.1 +0.6
baz=112
B14A Marquette Ranc 112.60 40 ⇑P PKiKP 06 18 59.0 +0.5
baz=112
BFSC Mount Baldy Ra 112.60 55 ⇓P PKiKP 06 18 59.0 +0.1
baz=113
I12A Atlanta 112.62 45 ⇓P PKiKP 06 18 59.9 +1.2
baz=113
MSO Missoula 112.62 41 ⇓P PKiKP 06 18 59.0 +0.4
baz=113
H12A Diamond D Ranc 112.62 44 ⇑P PKiKP 06 18 59.6 +0.9
baz=113
SLMT Seeley Lake 112.80 41 *e*PKPdf PKiKP 06 18 59.2 +0.2
D14A Greenough 112.83 41 ⇓P PKiKP 06 18 58.7 -0.3
baz=113,SNR=6.5
FURC Furnace Creek, 112.88 53 ⇓P PKiKP 06 19 00.3 +0.8
baz=113
G13A Cobalt 112.91 43 ⇓P PKiKP 06 18 59.8 +0.6
baz=113
H13A Challis 113.03 44 ⇓P PKiKP 06 19 00.6 +1.1
baz=113
E14A Clinton 113.03 42 ⇑P PKiKP 06 18 59.5 +0.1
baz=113,SNR=5.8
CHMT Chamberlain Mo 113.05 41 *e*PKPdf PKiKP 06 18 59.7 +0.3
B15A Bradely Ranch, 113.07 40 ⇓P PKiKP 06 18 59.1 -0.3
baz=113,SNR=6.1
MURC Murrieta 113.08 56 ⇑P PKiKP 06 19 00.3 +0.4
baz=113
GSC Goldstone 113.12 54 ⇑P PKiKP 06 19 01.2 +1.3
baz=113
FETA Feichten 113.14 319 ⇑*i*PKiKP PKiKP 06 19 00.2 +0.6
comp=Z,2.2nm,0.6s
HLID Hailey 113.18 45 ⇓P PKiKP 06 19 01.2 +1.4
baz=113
HLID Hailey 113.18 45 *e*PKPdf PKiKP 06 19 01.3 +1.6
C15A Salmond Ranch, 113.21 40 ⇑P PKiKP 06 18 59.6 -0.1
baz=113,SNR=9.4
F14A Wisdom 113.29 42 ⇑P PKiKP 06 19 00.9 +0.9
baz=113
I13A Wildhorse Cree 113.30 44 ⇓P PKiKP 06 19 01.4 +1.4
baz=113
G14A Jackson 113.39 43 ⇓P PKiKP 06 19 01.4 +1.3
baz=113
J13A Cove Ranch, Pi 113.39 45 ⇑P PKiKP 06 19 01.4 +1.2
baz=113
SHOC Shoshone 113.44 53 ⇓P PKiKP 06 19 01.6 +1.1
baz=113
D15A Lincoln 113.49 41 ⇑P PKiKP 06 19 00.7 +0.5
baz=113
R11A Troy Canyon, C 113.52 51 ⇓P PKiKP 06 19 01.9 +1.3
baz=114
B16A M & M Farms, S 113.58 39 ⇑P PKiKP 06 19 00.0 -0.3
baz=114,SNR=5.1
HEC Hector,Ludlow 113.59 55 ⇑P PKiKP 06 19 02.1 +1.3
baz=114
E15A Deer Lodge 113.60 42 ⇓P PKiKP 06 19 00.5 +0.1
baz=114
DAVA Damuels 113.61 319 ⇑*i*PKiKP PKiKP 06 19 01.2 +0.8
comp=Z,5.6nm,0.5s
H14A Leadore 113.63 44 ⇑P PKiKP 06 19 01.1 +0.5
baz=114
PFO Pinyon Flat Ob 113.69 56 ⇑P PKiKP 06 19 02.3 +1.3
baz=114
C16A Fuhringer Ranc 113.75 40 ⇓P PKiKP 06 19 00.6 -0.1
baz=114
I14A Mackay 113.76 44 ⇓P PKiKP 06 19 02.2 +1.3
baz=114
TUQ Turquoise Moun 113.81 54 ⇑P PKiKP 06 19 02.0 +0.8
baz=114
MONP Monument Peak 113.83 57 ⇑P PKiKP 06 19 03.1 +1.7
baz=114
F15A Butte 113.87 42 ⇓P PKiKP 06 19 02.0 +0.9
baz=114
J14A Carey 113.88 45 ⇑P PKiKP 06 19 02.4 +1.2
baz=114
MCMT McKenzie Canyo 113.92 43 *e*PKPdf PKiKP 06 19 02.6 +1.4
BELC Belle Mtn. Jos 114.00 55 ⇑P PKiKP 06 19 03.1 +1.4
baz=114
A17A Triple J Farms 114.03 38 ⇑P PKiKP 06 19 01.5 +0.3
baz=114,SNR=19
G15A Dillon 114.07 43 ⇓P PKiKP 06 19 02.7 +1.3
baz=114
D16A Dana Ranch, Ca 114.12 41 ⇑P PKiKP 06 19 02.2 +0.7
baz=114
H15A Lima 114.12 43 ⇑P PKiKP 06 19 02.7 +1.2
baz=114,SNR=8.7
GMRC Granite Mounta 114.14 55 ⇑P PKiKP 06 19 03.5 +1.6
baz=114
B17A L&G Farms, Che 114.19 39 ⇑P PKiKP 06 19 01.9 +0.4
baz=114
E16A East Helena 114.20 41 ⇑P PKiKP 06 19 02.0 +0.3
baz=114
K14A Jones Ranch, D 114.32 46 ⇓P PKiKP 06 19 03.5 +1.5
baz=114
SWSC Sam W. Stewart 114.34 57 ⇓P PKiKP 06 19 03.1 +0.7
baz=114
I15A Monteview 114.41 44 ⇓P PKiKP 06 19 03.2 +1.1
baz=114
L14A Malta 114.41 46 ⇑P PKiKP 06 19 03.5 +1.3
baz=114
C17A Wharram Farm, 114.43 40 ⇑P PKiKP 06 19 01.9 -0.2
baz=114,SNR=8.3
BC3 Big Chuckawall 114.50 56 ⇓P PKiKP 06 19 04.0 +1.4
baz=114
G16A Moss Hill, Enn 114.51 43 ⇓P PKiKP 06 19 03.2 +0.9
baz=114,SNR=5.8
A18A Metzger Ranch, 114.56 38 ⇓P PKiKP 06 19 02.1 -0.1
baz=114,SNR=7.3
J15A Blackfoot 114.61 45 ⇑P PKiKP 06 19 04.2 +1.7
baz=115,SNR=9.6
D17A Six Diamond Ra 114.64 40 ⇑P PKiKP 06 19 02.5 +0.1
baz=115
IRM Iron Mountain 114.67 55 ⇓P PKiKP 06 19 04.3 +1.3
baz=115
K15A Arbon 114.75 45 ⇓P PKiKP 06 19 04.4 +1.6
baz=115
E17A Martinsdale 114.76 41 ⇓P PKiKP 06 19 03.3 +0.6
baz=115
B18A Beardsley Farm 114.79 39 ⇓P PKiKP 06 19 03.1 +0.4
baz=115
CDF Champ du Feu 114.89 321 *e*PKiKP PKPdf 06 19 02.1 -0.8
EGMT Eagleton 114.94 39 ⇑P PKiKP 06 19 03.5 +0.5
baz=115,SNR=8.6
EGMT Eagleton 114.94 39 *e*PKPdf PKPdf 06 19 03.6 +0.6
L15A Malad City 115.03 46 ⇓P PKiKP 06 19 04.2 +0.9
baz=115,SNR=5.1
H16A Russell Place, 115.05 43 ⇓P PKiKP 06 19 05.0 +1.6
baz=115
F17A Fitzpatrick Pl 115.07 42 ⇓P PKiKP 06 19 04.6 +1.3
baz=115,SNR=11
GLA Glamis 115.12 56 ⇓P PKiKP 06 19 05.3 +1.5
baz=115
M15A Larsen Ranch, 115.13 47 ⇓P PKiKP 06 19 04.2 +0.6
baz=115
I16A Newdale 115.14 44 ⇓P PKiKP 06 19 04.8 +1.2
baz=115
Q14A Sevier Lake (B 115.14 50 ⇓P PKiKP 06 19 04.4 +0.7
baz=115
P14A Drum Mountains 115.15 49 ⇑P PKiKP 06 19 04.8 +1.2
baz=115
D18A Linhart Farms, 115.19 40 ⇑P PKiKP 06 19 03.9 +0.4
baz=115,SNR=5.5
DUG Dugway 115.19 48 ⇓P PKiKP 06 19 04.8 +1.1
baz=115
DUG Dugway 115.19 48 *e*PKPdf PKPdf 06 19 04.8 +1.1
DUG Dugway 115.19 48 *e*PKIKP PKPdf 06 19 04.8 +1.1
G17A Pierce Place, 115.20 42 ⇑P PKiKP 06 19 04.6 +1.0
baz=115
J16A Bone 115.23 45 ⇓P PKiKP 06 19 04.9 +1.1
baz=115,SNR=6.3
N15A Stansbury Isla 115.23 47 ⇑P PKiKP 06 19 04.7 +0.9
baz=115
A19A Klindworth Far 115.24 38 ⇑P PKiKP 06 19 03.8 +0.3
baz=115
Y12C Blythe 115.25 55 ⇑P PKPdf 06 19 04.9 +0.9
baz=115
E18A Harlowton 115.34 41 ⇓P PKPdf 06 19 04.4 +0.6
baz=115,SNR=5.1
HINF Hinteralfeld 115.37 321 *e*PKIKP PKPdf 06 19 03.3 -0.5
comp=Z,6.4nm,0.6s
K16A Soda Springs 115.37 45 ⇑P PKPdf 06 19 05.3 +1.3
baz=115,SNR=8.1
RRI2 Red Ridge 115.41 44 *e*PKPdf PKPdf 06 19 05.5 +1.5
O15A The Old Anders 115.43 48 ⇓P PKPdf 06 19 05.0 +0.8
baz=115
DCID1 Drake Creek 115.43 44 *e*PKPdf PKPdf 06 19 05.7 +1.6
PDMCI Parker Dam,Lak 115.46 55 ⇓P PKPdf 06 19 04.9 +0.5
baz=115
C19A Slack Wire Ran 115.48 39 ⇓P PKPdf 06 19 04.5 +0.4
baz=115,SNR=7.5
IMW Indian Meadow 115.51 44 *e*PKPdf PKPdf 06 19 05.8 +1.5
W13A Hualapai Mount 115.51 54 ⇑P PKPdf 06 19 05.8 +1.3
baz=116
HAU Haudompre 115.62 321 *e*PKIKP PKPdf 06 19 04.0 -0.3
TPAW Teton Pass 115.62 44 *e*PKPdf PKPdf 06 19 06.1 +1.6
MOOW Moose Ponds 115.69 44 *e*PKPdf PKPdf 06 19 05.9 +1.3
F18A Big Timber 115.69 41 ⇑P PKPdf 06 19 05.4 +0.8
baz=116,SNR=10.0
L16A Fish Haven 115.71 46 ⇓P PKPdf 06 19 05.6 +0.9
baz=116
REDW Red Top Meadow 115.73 44 *e*PKPdf PKPdf 06 19 06.1 +1.4
HWUT Hardware Ranch 115.73 46 *e*PKPdf PKPdf 06 19 05.6 +0.8
I17A Pilgrim Ck. 115.75 44 ⇑P PKPdf 06 19 05.9 +1.2
baz=116
A20A Cobblestone Ra 115.75 38 ⇑P PKPdf 06 19 05.4 +0.9
baz=116
GCMT Greycliff 115.76 41 *e*PKPdf PKPdf 06 19 05.8 +1.1
SNOW Snow King Moun 115.77 44 *e*PKPdf PKPdf 06 19 06.3 +1.6
M16A Huntsville 115.77 47 ⇑P PKPdf 06 19 05.4 +0.5
baz=116
D19A Cripps Ranch, 115.79 40 ⇑P PKPdf 06 19 05.0 +0.3
baz=116,SNR=7.0
LOHW Long Hollow 115.83 44 *e*PKPdf PKPdf 06 19 06.2 +1.3
J17A Brown Place, J 115.83 44 ⇓P PKPdf 06 19 06.1 +1.2
baz=116,SNR=8.0
K17A Gardner Place, 115.86 45 ⇓P PKPdf 06 19 06.0 +1.1
baz=116
B20A Solberg Farm, 115.86 38 ⇓P PKPdf 06 19 05.2 +0.4
baz=116,SNR=7.1
Z13A Yuma Proving G 116.06 56 ⇓P PKPdf 06 19 06.8 +1.2
baz=116
L17A Cokeville 116.09 46 ⇓P PKPdf 06 19 06.2 +0.8
baz=116
MSU Marysvale 116.09 50 *e*PKPdf PKPdf 06 19 07.6 +2.1
MSU Marysvale 116.09 50 *e*PKIKP PKPdf 06 19 07.6 +2.1
E19A Rath Farm, Rou 116.10 41 ⇑P PKPdf 06 19 05.5 +0.2
baz=116,SNR=7.2
H18A Shoshone NF, C 116.13 43 ⇓P PKPdf 06 19 06.9 +1.5
baz=116
P16A Fountain Green 116.20 49 ⇓P PKPdf 06 19 06.7 +1.0
baz=116
F19A Roth Farm, Mol 116.21 41 ⇓P PKPdf 06 19 06.3 +0.8
baz=116
LPG La Plagne 116.24 318 *e*PKIKP PKPdf 06 19 05.9 +0.3
comp=Z,8.3nm,0.7s
RLMT Red Lodge 116.25 42 ⇑P PKPdf 06 19 06.5 +0.9
baz=116
RLMT Red Lodge 116.25 42 *e*PKPdf PKPdf 06 19 06.4 +0.7
LPL La Plagne 116.25 318 *e*PKIKP PKPdf 06 19 05.8 +0.2
comp=Z,10.0nm,0.7s
DAU Daniels Canyon 116.29 48 *e*P PKPdf 06 19 07.2 +1.3
DAU Daniels Canyon 116.29 48 *e*PKIKP PKPdf 06 19 07.2 +1.4
CABF La Chapelle 116.29 320 *e*PKIKP PKPdf 06 19 05.9 +0.3
comp=Z,21nm,0.8s
D20A Manuel Ranch, 116.29 40 ⇑P PKPdf 06 19 05.9 +0.2
baz=116,SNR=5.4
A21A Bergtoll Ranch 116.32 37 ⇓P PKPdf 06 19 06.2 +0.6
baz=116
I18A Diamond G Ranc 116.34 44 ⇓P PKPdf 06 19 06.6 +0.7
baz=116
J18A Kendall Valley 116.35 44 ⇑P PKPdf 06 19 07.1 +1.2
baz=116,SNR=6.7
M17A Scullys Gap (B 116.42 46 ⇑P PKPdf 06 19 06.7 +0.6
baz=116,SNR=9.1
N17A Moffit Pass 116.45 47 ⇓P PKPdf 06 19 07.5 +1.3
baz=116,SNR=6.7
FFC Flin Flon 116.45 30*c* *i*PKIKP PKPdf 06 19 06.8 +1.1
Y14A Wickenburg 116.46 55 ⇓P PKPdf 06 19 07.3 +0.9
baz=116,SNR=5.5
B21A Ellsworth Farm 116.49 38 ⇓P PKPdf 06 19 06.4 +0.4
baz=116,SNR=5.4
MBDF Montbardon 116.49 318 *e*PKIKP PKPdf 06 19 06.4 +0.3
comp=Z,10nm,0.8s
U15A North Rim 116.50 52 ⇓P PKPdf 06 19 08.1 +1.8
baz=116,SNR=18
E20A Meyer Farm, Mu 116.51 40 ⇓P PKPdf 06 19 06.5 +0.4
baz=116
K18A Toltan Ranch, 116.52 45 ⇑P PKPdf 06 19 07.5 +1.3
baz=116,SNR=13
TMUT Trail Mountain 116.62 49 *e*PKPdf PKPdf 06 19 08.2 +1.7
C21A Desert Coulee 116.67 39 ⇓P PKPdf 06 19 07.0 +0.6
baz=117,SNR=13
R16A Teasdale 116.68 50 ⇑P PKPdf 06 19 08.2 +1.6
baz=117,SNR=7.9
V15A Kaibab Nationa 116.73 53 ⇑P PKPdf 06 19 08.6 +1.8
baz=117,SNR=18
O17A Robinson Place 116.73 48 ⇑P PKPdf 06 19 08.0 +1.3
baz=117,SNR=9.4
S16A Weppner Ranch, 116.73 51 ⇑P PKPdf 06 19 08.1 +1.3
baz=117,SNR=17
L18A Fontenelle, Gr 116.74 46 ⇑P PKPdf 06 19 07.8 +1.1
baz=117,SNR=22
Q16A Castle Valley 116.75 49 ⇑P PKPdf 06 19 08.0 +1.3
baz=117,SNR=7.1
F20A Billings 116.75 41 ⇓P PKPdf 06 19 07.0 +0.4
baz=117
114A Black Gap (USA 116.79 56 ⇓P PKPdf 06 19 08.1 +1.0
baz=117,SNR=15
PD01 Pinedale Array 116.79 45 *e*PKPdf PKPdf 06 19 07.1 +0.4
BW06 Boulder Array 116.81 45 ⇓P PKPdf 06 19 07.4 +0.6
baz=117,SNR=11
PDAR Pinedale Array 116.81 45 PKP PKPdf 06 19 07.0 +0.3
comp=Z,4.6nm,0.7s,baz=219,slow=1.2,SNR=28
PDAR PP PP 06 20 18.8 -1.6
comp=Z,1.8nm,1.0s,baz=282,slow=4.5,SNR=5.7
PDAR PKKPbc PKKPbc 06 29 34.5 -1.1
comp=Z,1.9nm,0.8s,baz=117,slow=5.3,SNR=7.4
PDAR SKKPbc 06 32 49.1
comp=Z,0.3nm,0.5s,baz=104,slow=6.3,SNR=3.8
PDAR Pinedale Array 116.81 45 PKP PKPdf 06 19 07.0 +0.3
PDAR PP PP 06 20 18.8 -1.6
PDAR PKKPbc PKKPbc 06 29 34.5 -1.1
PDAR SKKPbc 06 32 49.1
M18A Lyman 116.86 46 ⇑P PKPdf 06 19 07.4 +0.5
baz=117
G20A Bridger 116.92 42 ⇓P PKPdf 06 19 07.5 +0.6
baz=117,SNR=13
P17A Butcher Ranch, 116.92 48 ⇓P PKPdf 06 19 07.6 +0.5

baz=117
A22A **Carney Farms,** 116.93 37 ⇓P PKPdf 06 19 07.3 +0.5
baz=117,SNR=5.9
T16A **Glen Canyon Da** 116.98 51 ⇓P PKPdf 06 19 08.1 +0.8
baz=117,SNR=5.2
214A **Organ Pipe Nat** 117.00 57 ⇓P PKPdf 06 19 08.3 +0.8
baz=117
Y15A **Casa Rosa Ranc** 117.00 55 ⇑P PKPdf 06 19 08.4 +1.0
baz=117,SNR=10
J19A **Crowheart** 117.01 44 ⇑P PKPdf 06 19 08.0 +0.9
baz=117,SNR=7.8
ORIF **Oris-en-Rattie** 117.02 318 *e*PKIKP PKPdf 06 19 07.0 -0.1
comp=Z,9.2nm,0.7s
D21A **La Casta Ranch** 117.03 39 ⇑P PKPdf 06 19 07.6 +0.5
baz=117,SNR=8.3
LMR **La Mourre** 117.13 316 *e*PKIKP PKPdf 06 19 07.8 +0.4
KEST **Kesra** 117.14 307 PKP PKPdf 06 19 07.6 0.0
comp=Z,2.7nm,1.0s,baz=198,slow=3.2,SNR=3.5
KEST **Kesra** 117.14 307 PKP PKPdf 06 19 07.6 0.0
B22A **Reddig Ranch S** 117.16 38 ⇓P PKPdf 06 19 08.0 +0.7
baz=117,SNR=11
L19A **Farson** 117.16 45 ⇑P PKPdf 06 19 08.5 +1.0
baz=117,SNR=8.4
SRU **San Rafael** 117.18 49 ⇓P PKPdf 06 19 08.3 +0.7
baz=117,SNR=12
SRU **San Rafael** 117.18 49 *e*PKPdf PKPdf 06 19 08.2 +0.6
SRU **San Rafael** 117.18 49 *e*PKIKP PKPdf 06 19 08.3 +0.7
R17A **Hanksville Air** 117.23 50 ⇑P PKPdf 06 19 08.6 +0.9
baz=117,SNR=15
O18A **Roosevelt** 117.24 47 ⇓P PKPdf 06 19 08.8 +1.1
baz=117,SNR=7.5
P18A **Preston Nutter** 117.25 48 ⇓P PKPdf 06 19 08.8 +1.1
baz=117,SNR=6.1
N18A **Larsen Ranch,** 117.28 47 ⇓P PKPdf 06 19 08.4 +0.6
baz=117
K19A **Absolon Red Bu** 117.29 44 ⇑P PKPdf 06 19 08.3 +0.6
baz=117,SNR=15
H20A **Greybull** 117.31 42 ⇓P PKPdf 06 19 08.2 +0.5
baz=117
115A **Sonoran Desert** 117.34 56 ⇑P PKPdf 06 19 09.2 +1.0
baz=117,SNR=7.1
S17A **Black Ridge (B** 117.36 50 ⇑P PKPdf 06 19 08.8 +0.8
baz=117,SNR=18
W16A **Flagstaff** 117.40 53 ⇓P PKPdf 06 19 08.8 +0.6
baz=117
I20A **Worland** 117.41 43 ⇑P PKPdf 06 19 08.6 +0.7
baz=117,SNR=15
F21A **Absaloka Mine,** 117.41 41 ⇓P PKPdf 06 19 08.5 +0.7
baz=117,SNR=5.8
WUAZ **Wupatki** 117.43 53 ⇑P PKPdf 06 19 09.5 +1.3
baz=117,SNR=13
WUAZ **Wupatki** 117.43 53 *e*PKPdf PKPdf 06 19 09.7 +1.5
C22A **Vida** 117.45 38 ⇑P PKPdf 06 19 08.5 +0.6
baz=117,SNR=12
LOR **Lormes** 117.45 321 *e*PKIKP PKPdf 06 19 07.7 -0.2
U16A **Tuba City** 117.47 52 ⇑P PKPdf 06 19 09.8 +1.5
baz=117,SNR=17
Q18A **Rafter H Ranch** 117.48 49 ⇑P PKPdf 06 19 08.9 +0.7
baz=117,SNR=9.1
M19A **Rock Springs** 117.49 46 ⇓P PKPdf 06 19 09.1 +1.0
baz=117
EKA **Eskdalemuir Ar** 117.50 331 PKP PKPdf 06 19 08.0 +0.2
comp=Z,2.4nm,0.5s,baz=37,slow=3.3,SNR=12
EKA PKKPbc PKKPbc 06 29 32.7 -1.0
comp=Z,0.9nm,0.5s,baz=237,slow=3.7,SNR=7.2
EKA SKKPbc 06 32 45.6
comp=Z,0.8nm,0.5s,baz=247,slow=3.7,SNR=4.3
EKA **Eskdalemuir Ar** 117.50 331 PKP PKPdf 06 19 08.0 +0.2
EKA PKKPbc PKKPbc 06 29 32.7 -1.0
EKA SKKPbc 06 32 45.6
EKA **Eskdalemuir Ar** 117.50 331 PKIKP PKPdf 06 19 08.0 +0.3
EKA 06 29 32.7
D22A **Cohagen** 117.51 39 ⇑P PKPdf 06 19 09.0 +1.0
baz=117,SNR=21
T17A **Navajo Res., N** 117.52 51 ⇓P PKPdf 06 19 09.9 +1.6
baz=118,SNR=40
SMRF **Simiane la Rot** 117.55 317 *e*PKIKP PKPdf 06 19 08.6 +0.4
X16A **Lo Mia Camp, P** 117.62 54 ⇓P PKPdf 06 19 10.0 +1.4
baz=118,SNR=10
J20A **Shoshoni** 117.64 44 ⇑P PKPdf 06 19 09.3 +0.9
baz=118,SNR=14
LAO **LASA Array** 117.66 40 ⇑P PKPdf 06 19 09.4 +1.1
baz=118,SNR=12
LAO **LASA Array** 117.66 40 *e*PKPdf PKPdf 06 19 09.4 +1.1
N19A **John Jarvie Ra** 117.66 47 ⇑P PKPdf 06 19 09.1 +0.6
baz=118
K20A **Yellowstone Ra** 117.70 44 ⇓P PKPdf 06 19 09.1 +0.6
baz=118,SNR=10
SMF **Signal de Mont** 117.71 320 *e*PKIKP PKPdf 06 19 08.5 +0.1
U17A **Shonto** 117.73 52 ⇓P PKPdf 06 19 10.3 +1.6
baz=118,SNR=5.5
SSF **Saint Saulge** 117.76 321 *e*PKIKP PKPdf 06 19 08.5 0.0
comp=Z,11nm,0.7s
116A **Eloy** 117.80 56 ⇓P PKPdf 06 19 10.0 +1.0
baz=118,SNR=18
VIVF **Saint-Julien-l** 117.85 318 *e*PKIKP PKPdf 06 19 08.7 0.0
R18A **Canyonlands Na** 117.86 49 ⇑P PKPdf 06 19 09.8 +0.9
baz=118,SNR=21
C23A **Lambert** 117.86 38 ⇑P PKPdf 06 19 09.7 +1.1
baz=118,SNR=12
V17A **Tonalea, Kykot** 117.86 53 ⇓P PKPdf 06 19 10.1 +1.1
baz=118,SNR=6.1
Z16A **Peralta Trail,** 117.87 55 ⇓P PKPdf 06 19 10.2 +1.1
baz=118,SNR=7.8
O19A **Miners Draw (B** 117.88 47 ⇑P PKPdf 06 19 09.7 +0.8
baz=118,SNR=8.2
H21A **Big Horn, Sher** 117.90 42 ⇓P PKPdf 06 19 09.3 +0.5
baz=118
L20A **Wamsutter** 117.91 45 ⇑P PKPdf 06 19 10.1 +1.2
baz=118,SNR=11
E22A **Miles City** 117.93 40 ⇑P PKPdf 06 19 09.5 +0.7
baz=118,SNR=6.1
AVF **Avril sur Loir** 117.96 321 *e*PKIKP PKPdf 06 19 08.5 -0.4
comp=Z,6.8nm,0.7s
S18A **Hurst Farm, Bl** 117.97 50 ⇓P PKPdf 06 19 10.4 +1.2
baz=118,SNR=12
USHA **Ushuaia** 117.97 169 PKP PKPdf 06 19 09.8 +1.1
comp=Z,3.8nm,0.5s,baz=273,slow=5.0,SNR=6.7
USHA **Ushuaia** 117.97 169 PKP PKPdf 06 19 09.8 +1.1
I21A **Big Trails, Te** 118.03 43 ⇑P PKPdf 06 19 09.3 +0.2
baz=118,SNR=9.6
W17A **Winslow** 118.06 53 ⇓P PKPdf 06 19 10.8 +1.3
baz=118
J21A **Lysite** 118.08 43 ⇑P PKPdf 06 19 09.8 +0.6
baz=118,SNR=9.8
A24A **Westby** 118.10 37 ⇓P PKPdf 06 19 09.5 +0.4
baz=118
D23A **Lindsay** 118.11 39 ⇑P PKPdf 06 19 10.2 +1.0
baz=118,SNR=7.4
216A **Three Points,** 118.12 57 ⇑P PKPdf 06 19 10.9 +1.2
baz=118,SNR=8.3
X17A **Forest Lakes** 118.15 54 ⇑P PKPdf 06 19 11.1 +1.5
baz=118,SNR=8.7
Q19A **Hogan Spring (** 118.17 49 ⇑P PKPdf 06 19 10.8 +1.3
baz=118,SNR=14
DGMT **Dagmar** 118.18 37 ⇑P PKPdf 06 19 10.0 +0.8
baz=118
P19A **Cripple Cowboy** 118.18 48 ⇓P PKPdf 06 19 10.9 +1.4
baz=118,SNR=6.0
M20A **Sweetwater, Wa** 118.19 46 ⇑P PKPdf 06 19 10.5 +1.0
baz=118,SNR=7.1
T18A **Mexican Hat** 118.20 51 ⇓P PKPdf 06 19 10.9 +1.2
baz=118,SNR=15
Y17A **Roosevelt** 118.27 55 ⇑P PKPdf 06 19 11.1 +1.3
baz=118,SNR=7.6
E23A **Ismay** 118.32 39 ⇑P PKPdf 06 19 10.3 +0.7
baz=118,SNR=15
N20A **Spence Gulch,** 118.34 46 ⇑P PKPdf 06 19 11.0 +1.2
baz=118,SNR=12
R19A **Curley Farm, L** 118.36 49 ⇑P PKPdf 06 19 10.4 +0.5
baz=118
BGF **Bois d'Agland** 118.38 321 *e*PKIKP PKPdf 06 19 09.8 +0.1
comp=Z,15nm,0.6s
H22A **Clearmont** 118.38 42 ⇑P PKPdf 06 19 10.2 +0.4
baz=118,SNR=5.7
C24A **Savage** 118.44 38 ⇓P PKPdf 06 19 10.6 +0.8
baz=118,SNR=11
K21A **Alcova** 118.47 44 ⇓P PKPdf 06 19 10.6 +0.7
baz=118,SNR=21
V18A **Ganado** 118.52 52 ⇓P PKPdf 06 19 11.6 +1.3
baz=118,SNR=9.8
I22A **9 Mile Ranch,** 118.54 43 ⇑P PKPdf 06 19 10.7 +0.6
baz=118,SNR=9.1
O20A **White River Ci** 118.57 47 ⇓P PKPdf 06 19 11.6 +1.4
baz=118,SNR=21
117A **Oracle** 118.59 56 ⇓P PKPdf 06 19 11.6 +1.1
baz=119,SNR=11
PV04 **Paradox Valley** 118.60 49 *e*PKPdf PKPdf 06 19 11.8 +1.4
S19A **Harvey Farm, M** 118.61 50 ⇓P PKPdf 06 19 10.8 +0.4
baz=119
L21A **Rawlins** 118.61 45 ⇓P PKPdf 06 19 11.0 +0.7
baz=119,SNR=8.5
Z17A **San Carlos Hig** 118.66 55 ⇑P PKPdf 06 19 12.1 +1.5
baz=119,SNR=6.4
P20A **De Beque** 118.66 48 ⇑P PKPdf 06 19 11.9 +1.4
baz=119,SNR=12
D24A **Glendive** 118.68 39 ⇓P PKPdf 06 19 11.0 +0.8
baz=119
217A **Green Valley** 118.70 57 ⇓P PKPdf 06 19 12.3 +1.5
baz=119,SNR=8.8
J22A **Midwest** 118.72 43 ⇓P PKPdf 06 19 10.7 +0.3
baz=119,SNR=48
M21A **Separation Pea** 118.73 45 ⇓P PKPdf 06 19 11.3 +0.8
baz=119,SNR=12
X18A **Snowflake** 118.80 54 ⇑P PKPdf 06 19 12.3 +1.5
baz=119,SNR=8.3
W18A **Petrified Fore** 118.83 53 ⇑P PKPdf 06 19 12.4 +1.5
baz=119
TCF **Toulx Ste Croi** 118.89 321 *e*PKIKP PKPdf 06 19 10.8 +0.1
comp=Z,11nm,0.8s
Q20A **Ridgley Place,** 118.89 48 ⇓P PKPdf 06 19 12.4 +1.5
baz=119,SNR=18
N21A **Black Mountain** 118.90 46 ⇓P PKPdf 06 19 12.1 +1.2
baz=119,SNR=12
Y18A **Canyon Day Jun** 118.91 55 ⇓P PKPdf 06 19 12.5 +1.4
baz=119,SNR=5.4
PV01 **Paradox Valley** 118.93 49 *e*PKPdf PKPdf 06 19 12.4 +1.4
T19A **Beclabito** 118.94 51 ⇓P PKPdf 06 19 12.1 +1.1
baz=119,SNR=5.2
U19A **Dine' College,** 118.94 52 ⇓P PKPdf 06 19 12.2 +1.2
baz=119,SNR=8.3
K22A **Casper** 118.96 44 ⇓P PKPdf 06 19 11.3 +0.4
baz=119,SNR=9.2
R20A **Redvale** 119.05 49 ⇑P PKPdf 06 19 12.6 +1.4
baz=119,SNR=12
Z18A **Geronimo** 119.06 55 ⇑P PKPdf 06 19 12.4 +1.0
baz=119
O21A **Pagoda** 119.11 47 ⇓P PKPdf 06 19 12.6 +1.3
baz=119
S20A **Disappointment** 119.17 50 ⇓P PKPdf 06 19 13.1 +1.6
baz=119,SNR=13
118A **Homack Ranch,** 119.21 56 ⇑P PKPdf 06 19 12.8 +1.1
baz=119,SNR=9.0
V19A **Window Rock** 119.22 52 ⇑P PKPdf 06 19 12.9 +1.2
baz=119
L22A **Ellis Ranch, M** 119.24 45 ⇑P PKPdf 06 19 12.7 +1.2
baz=119
MVCO **Mesa Verde** 119.24 50 ⇓P PKPdf 06 19 13.1 +1.5
baz=119,SNR=15
MVCO **Mesa Verde** 119.24 50 *e*PKPdf PKPdf 06 19 13.0 +1.4
218A **Dragoon** 119.30 57 ⇓P PKPdf 06 19 13.3 +1.4
baz=119,SNR=6.6
P21A **Newcastle** 119.34 48 ⇓P PKPdf 06 19 12.9 +1.2
baz=119
X19A **St. Johns** 119.35 54 ⇑P PKPdf 06 19 13.5 +1.6
baz=119,SNR=9.7
318A **Bisbee** 119.45 57 ⇓P PKPdf 06 19 13.5 +1.2
baz=119,SNR=9.8
U20A **Newcomb** 119.45 51 ⇑P PKPdf 06 19 13.5 +1.4
baz=119,SNR=11
Q21A **Lamborn Mesa,** 119.47 48 ⇑P PKPdf 06 19 13.9 +1.9
baz=119,SNR=10
Y19A **Nutrioso** 119.49 54 ⇑P PKPdf 06 19 14.0 +1.8
baz=120,SNR=7.8
H24A **Dirks Ranch, A** 119.50 41 ⇑P PKPdf 06 19 11.9 0.0
baz=119,SNR=13
CAF **Calviac** 119.53 319 *e*PKIKP PKPdf 06 19 12.4 +0.5
R21A **Cimarron** 119.62 49 ⇓P PKPdf 06 19 14.1 +1.8
baz=120,SNR=5.4
Z19A **T-Link Ranch,** 119.64 55 ⇑P PKPdf 06 19 13.8 +1.3
baz=120
N22A **Wattenberg Ran** 119.65 46 ⇓P PKPdf 06 19 13.6 +1.3
baz=120,SNR=6.4
S21A **Coal Bank Pass** 119.65 50 ⇑P PKPdf 06 19 14.6 +2.2
baz=120,SNR=40
V20A **Brimhall** 119.65 52 ⇓P PKPdf 06 19 14.0 +1.5
baz=120,SNR=8.2
L23A **Garrett** 119.72 44 ⇑P PKPdf 06 19 12.4 0.0
baz=120
119A **Ashpeak Ranch,** 119.73 55 ⇑P PKPdf 06 19 14.2 +1.5
baz=120,SNR=6.5
RJF **Les Rejaudoux** 119.73 320 *e*PKIKP PKPdf 06 19 12.5 +0.2
O22A **Kremmling** 119.80 47 ⇓P PKPdf 06 19 13.3 +0.7
baz=120
I24A **Kuemmerle Ranc** 119.80 42 ⇓P PKPdf 06 19 12.7 +0.2
baz=120
SMCO **Snowmass** 119.80 48 *e*PKPdf PKPdf 06 19 14.6 +1.9
W20A **Ramah** 119.80 53 ⇓P PKPdf 06 19 14.6 +1.8
baz=120,SNR=17
P22A **Eagle** 119.83 47 ⇓P PKPdf 06 19 14.4 +1.7
baz=120,SNR=7.9
219A **White Tail Can** 119.94 56 ⇑P PKPdf 06 19 14.4 +1.3
baz=120,SNR=18
Q22A **Crested Butte,** 119.95 48 ⇑P PKPdf 06 19 15.0 +2.1
baz=120,SNR=22
X20A **Quemado** 119.95 53 ⇑P PKPdf 06 19 14.9 +1.8
baz=120,SNR=7.7
N23A **Red Feather La** 119.98 46 ⇓P PKPdf 06 19 13.6 +0.7
baz=120
J24A **Dixon Ranch, L** 119.98 43 ⇑P PKPdf 06 19 13.0 +0.1
baz=120
T21A **Navajo Lake** 120.04 50 ⇑P PKPdf 06 19 15.1 +1.9
baz=120,SNR=7.7
MTLF **Montolieu** 120.05 317 *e*PKIKP PKPdf 06 19 13.0 0.0
RSSD **Black Hills** 120.09 42 *e*PKPdf PKPdf 06 19 13.0 0.0
RSSD **Black Hills** 120.09 42 *e*PKIKP PKPdf 06 19 13.0 0.0
K24A **Anderson Ranch** 120.11 43 ⇓P PKPdf 06 19 13.3 +0.2
baz=120,SNR=6.6
U21A **Nageezi** 120.11 51 ⇑P PKPdf 06 19 15.2 +1.9
baz=120,SNR=22
Y20A **Horse Springs,** 120.21 54 ⇑P PKPdf 06 19 15.1 +1.5
baz=120
MFF **Saint Martin d** 120.22 322 *e*PKIKP PKPdf 06 19 13.1 -0.1
comp=Z,18nm,0.6s
Z20A **Nine Sixteen R** 120.23 55 ⇑P PKPdf 06 19 15.5 +1.9
baz=120,SNR=12
O23A **Lake Granby, G** 120.23 46 ⇑P PKPdf 06 19 15.1 +1.6
baz=120,SNR=9.4
V21A **Milan** 120.30 52 ⇑P PKPdf 06 19 15.2 +1.5
baz=120,SNR=5.5
120A **U Bar Ranch, L** 120.33 56 ⇓P PKPdf 06 19 15.7 +1.8
baz=120,SNR=19
S22A **4UR Ranch, Cre** 120.36 49 ⇑P PKPdf 06 19 15.9 +2.1
baz=120,SNR=15
LFF **La Frestale** 120.39 320 *e*PKIKP PKPdf 06 19 13.9 +0.3
comp=Z,6.7nm,0.5s
W21A **San Fidel** 120.48 52 ⇓P PKPdf 06 19 15.8 +1.8
baz=120,SNR=8.5
T22A **Edith** 120.52 50 ⇑P PKPdf 06 19 16.3 +2.2
baz=120,SNR=11
X21A **Alamocita Cree** 120.55 53 ⇑P PKPdf 06 19 16.2 +2.0
baz=120,SNR=26
220A **Playas Peak, P** 120.57 56 ⇓P PKPdf 06 19 15.7 +1.4
baz=120,SNR=18
P23A **Jefferson** 120.57 47 ⇓P PKPdf 06 19 15.8 +1.6
baz=120
ISCO **Idaho Springs** 120.59 47 ⇓P PKPdf 06 19 15.5 +1.4
baz=120
320A **Kipp Ranch, An** 120.70 57 ⇓P PKPdf 06 19 16.6 +2.0
baz=121
Q23A **Hartsel** 120.73 48 ⇓P PKPdf 06 19 16.2 +1.8
baz=121,SNR=6.6
FRB **Frobisher Bay** 120.74 9 PKP PKPdf 06 19 13.2 -0.4
comp=Z,22nm,0.7s,baz=38,slow=0.9,SNR=12
FRB **Frobisher Bay** 120.74 9 PKP PKPdf 06 19 13.2 -0.4
FRB **Frobisher Bay** 120.74 9 PKIKP PKPdf 06 19 13.3 -0.4
U22A **Llaves** 120.74 51 ⇓P PKPdf 06 19 16.6 +2.0
baz=121,SNR=20
Y21A **Point of Rocks** 120.75 54 ⇑P PKPdf 06 19 16.4 +1.8
baz=121,SNR=12
N24A **Carr** 120.76 45 ⇑P PKPdf 06 19 15.4 +0.9
baz=121
V22A **San Miguel Ran** 120.84 51 ⇓P PKPdf 06 19 16.9 +2.2
baz=121,SNR=14
O24A **Longmont** 120.87 46 ⇑P PKPdf 06 19 16.0 +1.3
baz=121
SGMF **Saint Gilles** 120.89 324 *e*PKIKP PKPdf 06 19 14.1 -0.4
comp=Z,4.8nm,0.4s
Z21A **St. Cloud Mine** 120.93 55 ⇓P PKPdf 06 19 16.5 +1.5
baz=121
S23A **Nye Farm, Mont** 120.99 49 ⇓P PKPdf 06 19 17.2 +2.2
baz=121,SNR=5.3
121A **Cookes Peak, D** 121.03 55 ⇑P PKPdf 06 19 17.0 +1.7
baz=121,SNR=23
LAZ **Ladron** 121.08 53 *e*PKPdf PKPdf 06 19 16.7 +1.5
X22A **Bernardo** 121.15 53 ⇓P PKPdf 06 19 17.2 +1.8
baz=121,SNR=10
221A **Mesquite Ranch** 121.16 56 ⇓P PKPdf 06 19 17.0 +1.5
baz=121
T23A **Casias Ranch,** 121.17 50 ⇓P PKPdf 06 19 17.2 +1.8
baz=121,SNR=21
P24A **Kohler Place,** 121.20 47 ⇓P PKPdf 06 19 16.7 +1.4
baz=121
U23A **El Rito** 121.27 51 ⇓P PKPdf 06 19 17.2 +1.7
baz=121,SNR=10.0
LENM **Lemitar** 121.27 53 *e*PKPdf PKPdf 06 19 17.1 +1.5
Y22D **IRIS PASSCAL I** 121.34 53 ⇓P PKPdf 06 19 17.4 +1.6
baz=121
Y22A **Socorro** 121.34 54 ⇑P PKPdf 06 19 17.3 +1.5
baz=121
SDCO **Great Sand Dun** 121.36 49 ⇑P PKPdf 06 19 17.4 +1.7
baz=121,SNR=16
SDCO **Great Sand Dun** 121.36 49 *e*PKPdf PKPdf 06 19 17.3 +1.6
EPF **Esparros** 121.44 318 *e*PKIKP PKPdf 06 19 16.4 +0.7
comp=Z,4.8nm,0.6s
V23A **Ortiz Mt. (NFS** 121.45 51 ⇑P PKPdf 06 19 18.3 +2.4
baz=121,SNR=16
ANMO **Albuquerque** 121.46 52 PKP PKPdf 06 19 17.3 +1.3
comp=Z,9.2nm,0.8s,baz=198,slow=3.0,SNR=61
ANMO **Albuquerque** 121.46 52 PKP PKPdf 06 19 17.3 +1.3
ANMO **Albuquerque** 121.46 52 PKIKP PKPdf 06 19 17.3 +1.3
R24A **Sanders Place,** 121.49 48 ⇑P PKPdf 06 19 17.2 +1.3
baz=121
LPM **Los Pinos Moun** 121.50 53 *e*PKPdf PKPdf 06 19 17.4 +1.3
Z22A **Elephant Butte** 121.52 54 ⇑P PKPdf 06 19 17.6 +1.4
baz=122
BNM **Barren Site** 121.55 53 *e*PKPdf PKPdf 06 19 17.8 +1.6
O25A **Wiggins** 121.56 46 ⇑P PKPdf 06 19 17.1 +1.1
baz=122
S24A **Houchin Ranch,** 121.61 49 ⇑P PKPdf 06 19 18.0 +1.9
baz=122,SNR=7.0
122A **Conniff Cattle** 121.63 55 ⇑P PKPdf 06 19 18.1 +1.7
baz=122
W23A **Werner Place,** 121.64 52 ⇑P PKPdf 06 19 17.8 +1.5
baz=122
222A **Williams Famil** 121.70 56 ⇑P PKPdf 06 19 17.8 +1.3
baz=122
P25A **Willow Gulch B** 121.74 47 ⇓P PKPdf 06 19 17.8 +1.4
baz=122,SNR=12
X23A **Hourglass Bar** 121.78 53 ⇓P PKPdf 06 19 18.1 +1.5
baz=122
Q25A **Bedland, Calha** 121.89 47 ⇓P PKPdf 06 19 17.7 +1.1
baz=122,SNR=6.7
T24A **Torres, Weston** 121.91 50 ⇑P PKPdf 06 19 18.6 +1.8
baz=122,SNR=5.7
U24A **Moreno Valley** 121.95 50 ⇑P PKPdf 06 19 18.0 +1.2
baz=122
ULM **Lac du Bonnet** 122.01 32 PKP PKPdf 06 19 15.9 -0.6
comp=Z,12nm,0.6s,baz=332,slow=2.0,SNR=25
ULM PKKPbc PKKPbc 06 29 16.4 -0.7
comp=Z,4.6nm,1.2s,baz=135,slow=18,SNR=2.9
ULM **Lac du Bonnet** 122.01 32 PKP PKPdf 06 19 15.9 -0.6
ULM PKKPbc PKKPbc 06 29 16.4 -0.7
ULM **Lac du Bonnet** 122.01 32 PKIKP PKPdf 06 19 16.0 -0.5
Y23A **Lovelace Mesa,** 122.07 53 ⇑P PKPdf 06 19 18.4 +1.2
baz=122,SNR=5.2
ETSF **Etsaut** 122.09 318 *e*PKIKP PKPdf 06 19 17.2 +0.3
comp=Z,8.9nm,0.8s
Z23A **Rita Site, Whi** 122.11 54 ⇓P PKPdf 06 19 18.9 +1.6
baz=122,SNR=14
R25A **Fountain Ranch** 122.13 48 ⇓P PKPdf 06 19 18.3 +1.1
baz=122,SNR=12
V24A **Rampart Ranch,** 122.16 51 ⇓P PKPdf 06 19 19.3 +2.0
baz=122,SNR=24
S25A **Robets Cordova** 122.18 49 ⇓P PKPdf 06 19 18.5 +1.2
baz=122,SNR=13
W24A **Lazy 6 Ranch,** 122.21 52 ⇓P PKPdf 06 19 19.2 +1.8
baz=122,SNR=16
123A **Bell Site, Whi** 122.25 55 ⇑P PKPdf 06 19 19.2 +1.7
baz=122,SNR=5.9
223A **Chaparral, Ant** 122.28 56 ⇑P PKPdf 06 19 19.1 +1.4
baz=122
T25A **Trinidad** 122.37 49 ⇓P PKPdf 06 19 19.2 +1.6
baz=122,SNR=16
SJPF **Ste Jean** 122.44 318 *e*PKIKP PKPdf 06 19 18.3 +0.7
Y24A **Capitan** 122.56 53 ⇑P PKPdf 06 19 19.7 +1.5
baz=122,SNR=36
U25A **Circle Dot Ran** 122.62 50 ⇓P PKPdf 06 19 19.6 +1.5
baz=123,SNR=12
V25A **Rancho No Teng** 122.63 51 ⇑P PKPdf 06 19 19.7 +1.5
baz=123,SNR=20
OGNE **Ogalala** 122.71 44 ⇑P PKPdf 06 19 18.8 +0.6
baz=123
Z24A **Sheeppen Canyo** 122.79 54 ⇓P PKPdf 06 19 20.3 +1.7
baz=123,SNR=28
124A **Stringfield Ra** 122.89 55 ⇑P PKPdf 06 19 20.5 +1.7
baz=123,SNR=18
W25A **X Bar L Ranch,** 122.95 51 ⇓P PKPdf 06 19 20.0 +1.2
baz=123,SNR=11
224A **Cornudas Mount** 123.00 55 ⇑P PKPdf 06 19 20.5 +1.5
baz=123,SNR=14
U26A **Atchley Ranch,** 123.12 50 ⇓P PKPdf 06 19 20.1 +1.0
baz=123,SNR=8.0
Y25A **Mesa, Roswell** 123.16 53 ⇑P PKPdf 06 19 20.3 +1.0
baz=123,SNR=17
324A **Moseley Ranch,** 123.20 56 ⇑P PKPdf 06 19 20.6 +1.2
baz=123,SNR=26
V26A **Tequesquite Ra** 123.29 51 ⇓P PKPdf 06 19 20.3 +0.8
baz=123,SNR=12
Z25A **Roswell** 123.32 54 ⇑P PKPdf 06 19 20.9 +1.3
baz=123,SNR=9.7
W26A **Owens Ranch, T** 123.53 51 ⇓P PKPdf 06 19 20.9 +1.0
baz=124,SNR=6.8
125A **Gardner Draw,** 123.55 54 ⇓P PKPdf 06 19 21.1 +1.1
baz=124,SNR=12
225A **Deer Hill, Car** 123.56 55 ⇓P PKPdf 06 19 21.5 +1.4
baz=124,SNR=10
325A **Bean Ranch, Si** 123.64 56 ⇑P PKPdf 06 19 21.2 +1.0
baz=124,SNR=9.7
X26A **CR and CF Fran** 123.66 52 ⇑P PKPdf 06 19 21.1 +0.9
baz=124,SNR=7.8
425A **Indio Mountain** 123.78 57 ⇑P PKPdf 06 19 21.5 +1.0
baz=124,SNR=16
Y26A **Elida** 123.84 53 ⇑P PKPdf 06 19 21.5 +1.0
baz=124
Z26A **Caprock** 123.92 54 ⇑P PKPdf 06 19 21.7 +0.9
baz=124
126A **Clayton Basin,** 124.07 54 ⇓P PKPdf 06 19 21.9 +0.8
baz=124,SNR=6.6
W27A **Bowe Ranch, En** 124.08 51 ⇑P PKPdf 06 19 21.9 +0.9
baz=124,SNR=6.8
226A **Malaga, Loving** 124.17 55 ⇓P PKPdf 06 19 22.1 +0.9
baz=124,SNR=16
X27A **F and S Farms,** 124.19 52 ⇓P PKPdf 06 19 22.1 +0.8
baz=124
CLNB **Carlsbad** 124.29 55 *e*PKPdf PKPdf 06 19 22.4 +0.9
Y27A **Causey** 124.38 53 ⇑P PKPdf 06 19 22.6 +0.9
baz=124,SNR=15
326A **Caldwell Ranch** 124.47 56 ⇑P PKPdf 06 19 22.3 +0.4
baz=124,SNR=14
Z27A **Tatum** 124.51 53 ⇓P PKPdf 06 19 22.3 +0.4
baz=124
127A **Arkansas Junct** 124.59 54 ⇓P PKPdf 06 19 22.7 +0.6
baz=125,SNR=5.9
426A **McDonald Obser** 124.61 57 ⇓P PKPdf 06 19 22.9 +0.8
baz=125
MSTX **Muleshoe** 124.66 52 ⇓P PKPdf 06 19 23.0 +0.8
baz=125
526A **Mary Lane Ranc** 124.71 57 ⇑P PKPdf 06 19 23.1 +0.8
baz=125
626A **Big Bend Ranch** 124.81 58 ⇓P PKPdf 06 19 23.2 +0.7
baz=125
227A **Bennet, Jal** 124.84 55 ⇑P PKPdf 06 19 23.4 +0.9
baz=125
ECSD **EROS Data Cent** 125.05 39 *e*PKPdf PKPdf 06 19 22.7 +0.1
427A **Hayter Ranch,** 125.08 56 ⇓P PKPdf 06 19 24.1 +1.1
baz=125
527A **Woodward Ranch** 125.09 57 ⇓P PKPdf 06 19 23.9 +0.8
baz=125
BGNE **Belgrade** 125.17 42 ⇑P PKPdf 06 19 23.4 +0.5
baz=125
CBKS **Cedar Bluff** 125.19 46 ⇑P PKPdf 06 19 23.4 +0.4
baz=125
AMTX **Amarillo** 125.21 51 ⇑P PKPdf 06 19 24.4 +1.2
baz=125
AMTX **Amarillo** 125.21 51 *e*PKPdf PKPdf 06 19 24.1 +0.9
TXAR **Lajitas Array** 125.26 58 PKP PKPdf 06 19 24.1 +0.7
comp=Z,3.2nm,0.5s,baz=242,slow=1.9,SNR=78
TXAR SKPbc 06 22 08.9
comp=Z,0.8nm,0.6s,baz=223,slow=3.3,SNR=5.0
TXAR PKKPbc 06 29 03.9
comp=Z,1.0nm,0.7s,baz=115,slow=6.8,SNR=13
TXAR SKKPbc 06 32 22.0
comp=Z,0.2nm,0.5s,baz=116,slow=5.1,SNR=4.5

TXAR	**Lajitas Array**	**125.26**	**58**	PKP	PKPdf	06 19 24.1	+0.7
TXAR				SKPbc		06 22 08.9	
TXAR				PKKPbc		06 29 03.9	
TXAR				SKKPbc		06 32 22.0	
TXAR	**Lajitas Array**	**125.26**	**58**	PKIKP	PKPdf	06 19 24.1	+0.7
328A	**Wristen Ranch,** baz=125	**125.41**	**55**	⇓P	PKPdf	06 19 24.4	+0.8
627A	**Terlingua Ranc** baz=125	**125.46**	**58**	⇑P	PKPdf	06 19 24.7	+0.9
428A	**Kincaid Ranch,** baz=126	**125.70**	**56**	⇑P	PKPdf	06 19 25.2	+1.0
528A	**Cox Ranch, San** baz=126	**125.78**	**57**	⇑P	PKPdf	06 19 25.3	+0.9
ESDC	**Sonseca Array** comp=Z,0.3nm,0.3s,baz=116,slow=3.0,SNR=4.0	**125.79**	**316**	PKP	PKPdf	06 19 24.7	+0.6
ESDC	**Sonseca Array**	**125.79**	**316**	PKP	PKPdf	06 19 24.7	+0.6
SPMN	**St. Paul** baz=126	**126.56**	**36**	⇓P	PKPdf	06 19 25.8	+0.4
KSU1	**Kansas State U**	**127.27**	**44**	*e*PKPdf	PKPdf	06 19 27.8	+0.8
TORD	**Torodi Ar. Bea** comp=Z,3.9nm,0.6s,baz=81,slow=1.9,SNR=26	**127.42**	**282**	PKP	PKPdf	06 19 28.0	+0.1
TORD				SKPbc		06 22 14.4	
	comp=Z,6.7nm,0.8s,baz=77,slow=3.1,SNR=13						
TORD				PKKPbc		06 28 57.6	
	comp=Z,0.9nm,0.7s,baz=280,slow=2.6,SNR=6.4						
TORD	**Torodi Ar. Bea**	**127.42**	**282**	PKP	PKPdf	06 19 28.0	+0.1
TORD				SKPbc		06 22 14.4	
TORD				PKKPbc		06 28 57.6	
WMOK	**Wichita Mounta**	**127.49**	**50**	*e*PKPdf	PKPdf	06 19 28.5	+1.0
WMOK	**Wichita Mounta**	**127.49**	**50**	*e*PKIKP	PKPdf	06 19 28.5	+1.0
JCT	**Junction City** baz=128	**128.15**	**55**	⇓P	PKPdf	06 19 29.6	+0.7
TUL1	**Tulsa** baz=129	**129.26**	**47**	⇓P	PKPdf	06 19 31.9	+1.0
SCHQ	**Schefferville** comp=Z,14nm,0.8s,baz=341,slow=2.8,SNR=19	**129.43**	**12**	PKP	PKPdf	06 19 30.9	+0.3
SCHQ				SKPbc		06 22 21.8	
	comp=Z,40nm,0.7s,baz=358,slow=2.9,SNR=28						
SCHQ	**Schefferville**	**129.43**	**12**	PKP	PKPdf	06 19 30.9	+0.3
SCHQ				SKPbc		06 22 21.8	
CCM	**Cathedral Cave**	**131.44**	**43**	*e*PKPdf	PKPdf	06 19 34.9	-0.1
CCM	**Cathedral Cave**	**131.44**	**43**	*e*PKIKP	PKPdf	06 19 34.9	0.0
MIAR	**Mount Ida**	**131.49**	**48**	*e*PKPdf	PKPdf	06 19 36.6	+1.4
MIAR	**Mount Ida**	**131.49**	**48**	*e*PKIKP	PKPdf	06 19 36.6	+1.5
SFIN	**Scholer Farm** baz=133	**132.80**	**38**	⇓P	PKPdf	06 19 38.1	+0.6
BLO	**Bloomington**	**133.88**	**39**	*e*PKPdf	PKPdf	06 19 40.9	+1.4
BLO	**Bloomington**	**133.88**	**39**	*e*PKIKP	PKPdf	06 19 40.9	+1.4
DBIC	**Dimbokro** comp=Z,2.5nm,0.4s,baz=121,slow=3.6,SNR=7.5	**133.96**	**274**	PKHKP	PKPpre	06 19 29.9	
DBIC				PKP	PKPdf	06 19 41.0	+0.7
	comp=Z,4.7nm,0.6s,baz=79,slow=2.2,SNR=8.7						
DBIC				SKPbc	SKPbc	06 22 39.1	+0.5
	comp=Z,11nm,0.4s,baz=95,slow=4.6,SNR=20						
DBIC	**Dimbokro**	**133.96**	**274**	PKP	PKPdf	06 19 41.0	+0.7
DBIC				SKPbc	SKPbc	06 22 39.1	+0.6
DBIC	**Dimbokro**	**133.96**	**274**	PKIKP	PKPdf	06 19 41.0	+0.6
WCI	**Wyandotte Cave**	**134.59**	**40**	*e*PKPdf	PKPdf	06 19 42.0	+1.2
WCI	**Wyandotte Cave**	**134.59**	**40**	*e*PKIKP	PKPdf	06 19 42.0	+1.1
WVT	**Waverly**	**134.78**	**43**	*e*PKPdf	PKPdf	06 19 42.3	+1.0
WVT	**Waverly**	**134.78**	**43**	*e*PKIKP	PKPdf	06 19 42.3	+1.0
PLAL	**Pickwick Lake**	**135.23**	**44**	*e*PKPdf	PKPdf	06 19 41.4	-0.7
CMIG	**Matias Romero** comp=Z,2.8nm,0.6s,baz=343,slow=5.6,SNR=6.0	**135.79**	**71**	PKHKP	PKPpre	06 19 33.2	
CMIG				SKPbc	SKPbc	06 22 46.2	+2.0
	comp=Z,7.5nm,0.9s,baz=294,slow=4.5,SNR=4.5						
TKL	**Tuckaleechee C** comp=Z,5.7nm,0.7s,baz=129,slow=3.3,SNR=5.9	**137.74**	**41**	SKP		06 22 50.0	
TKL	**Tuckaleechee C**	**137.74**	**41**	*e*PKPdf	PKPdf	06 19 47.4	+0.6
TKL	**Tuckaleechee C**	**137.74**	**41**	*e*PKIKP	PKPdf	06 19 47.4	+0.6
CFAA	**Coronel Fontan** comp=Z,0.3nm,0.3s,baz=204,slow=3.7,SNR=24	**139.46**	**157**	PKHKP	PKPpre	06 19 42.4	
CFAA				SKP		06 22 55.4	
	comp=Z,1.2nm,0.5s,baz=187,slow=4.1,SNR=12						
CFAA	**Coronel Fontan**	**139.46**	**157**	PKP	PKPpre	06 19 42.4	
CFAA				SKP		06 22 55.4	
KMSC	**Kings Mountain** baz=140	**139.63**	**39**	⇑P	PKPdf	06 19 52.6	+2.4
COW	**Cow Castle Cre**	**141.14**	**41**	*e*PKPdf	PKPdf	06 19 53.3	+0.3
TEIG	**Tepich** baz=304,slow=3.4	**141.19**	**65**	PKHKP	PKPpre	06 19 48.5	
TEIG	**Tepich**	**141.19**	**65**	PKP	PKPpre	06 19 48.5	
JTS	**JuntasAbangare**	**146.25**	**80**	*e*PKPbc	PKPbc	06 20 05.2	+1.1
JTS	**JuntasAbangare**	**146.25**	**80**	*e*PKP2	PKPab	06 20 05.2	-0.4
CPUP	**Villa Florida** comp=Z,6.3nm,0.4s,baz=168,slow=1.9,SNR=25	**147.58**	**170**	PKP	PKPdf	06 20 04.8	+0.4
CPUP				PKPbc	PKPbc	06 20 07.7	+0.2
	comp=Z,6.3nm,0.4s,baz=192,slow=2.2,SNR=32						
CPUP	**Villa Florida**	**147.58**	**170**	PKP	PKPdf	06 20 04.8	+0.4
CPUP				PKPbc	PKPbc	06 20 07.7	+0.2
CPUP	**Villa Florida**	**147.58**	**170**	PKIKP	PKPdf	06 20 04.8	+0.4
CPUP						06 20 07.7	
NNA	**Nana** comp=Z,19nm,0.4s,baz=244,slow=4.9,SNR=17	**148.99**	**125**	PKPbc	PKPbc	06 20 12.1	+0.7
NNA	**Nana**	**148.99**	**125**	PKPbc	PKPbc	06 20 12.1	+0.7
NNA	**Nana**	**148.99**	**125**	*c i*PKP2	PKPbc	06 20 12.6	+1.2
ATAH	**Atahualpa** comp=Z,43nm,0.7s,baz=273,slow=2.2,SNR=34	**149.98**	**115**	PKPbc	PKPbc	06 20 16.4	+2.6
ATAH	**Atahualpa**	**149.98**	**115**	PKPbc	PKPbc	06 20 16.4	+2.6
CAM4	**Nova Friburgo**	**150.85**	**197**	⇓*i*P	PKPbc	06 20 16.9	+1.3
CAM4				*i*		06 20 18.2	
CAM4				*i*		06 20 21.4	
CAM4				*i*		06 20 32.7	
CAM4				*i*		06 20 34.8	
CAM4				*i*		06 20 51.1	
CAM4				*i*		06 21 05.7	
BCIP	**Isla Barro Col**	**151.37**	**81**	*e*PKPdf	PKPdf	06 20 11.2	+0.5
BCIP				*e*PKPbc	PKPbc	06 20 16.8	-0.3
BCIP				*e*PKPab	PKPab	06 20 27.8	+1.2
OTAV	**Otavalo**	**152.22**	**100**	*e*PKPdf	PKPdf	06 20 13.6	+1.6
OTAV				*e*PKPbc	PKPbc	06 20 21.0	+1.9
LPAZ	**La Paz** comp=Z,2.5nm,0.6s,baz=269,slow=1.4,SNR=13	**152.43**	**143**	PKP	PKPdf	06 20 14.1	+1.9
LPAZ				PKPbc	PKPbc	06 20 21.5	+2.1
	comp=Z,8.1nm,0.4s,baz=237,slow=0.5,SNR=94						
LPAZ				PKPab	PKPab	06 20 32.9	+2.1
	comp=Z,12nm,0.6s,baz=246,slow=2.2,SNR=18						
LPAZ	**La Paz**	**152.43**	**143**	PKP	PKPdf	06 20 14.1	+1.9
LPAZ				PKPbc	PKPbc	06 20 21.5	+2.1
LPAZ				PKPab	PKPab	06 20 32.9	+2.1
LPAZ	**La Paz**	**152.43**	**143**	PKIKP	PKPdf	06 20 14.1	+1.9
LPAZ						06 20 32.9	
ROSC	**El Rosal** comp=Z,5.2nm,0.7s,baz=82,slow=20,SNR=9.7	**156.92**	**91**	PKP	PKPdf	06 20 19.0	+0.6
ROSC				PKPab	PKPab	06 20 52.0	+1.7
	comp=Z,16nm,0.8s,baz=282,slow=5.7,SNR=10						
ROSC	**El Rosal**	**156.92**	**91**	PKP	PKPdf	06 20 19.0	+0.6
ROSC				PKPab	PKPab	06 20 52.0	+1.7
SDV	**Santo Domingo**	**160.44**	**80**	*e*PKPdf	PKPdf	06 20 23.1	+0.5
SJG	**San Juan** comp=Z,46nm,0.7s,baz=17,slow=3.6,SNR=15	**160.88**	**49**	PKPab	PKPab	06 21 06.8	-0.4
SJG	**San Juan**	**160.88**	**49**	PKP2	PKPab	06 21 06.8	-0.4
SJG				pmax	pmax		
	comp=Z,46nm,0.7s						

NIED ***17*** *06:03:00,26˙40N×129˙00E,h14km,Mw4.4 Best double couple: M₀4.63000×10¹⁵ NP1:φs21.00000°,δ54.00000°, λ96.00000°. NP2:φs190.00000°,δ37.00000°,λ82.00000°.*
IDC ***17*** *06:03:36.2±1.4,26˙26N×128˙60E,h0km,mb4.5/9, mb1 4.4/11,mb1mx4.3/27,mbtmp4.4/11,ML3.9/1,Error ellipse: s-maj=35.8km s-min=23.1km az=67.0*
ISCJB ***17*** *06:03:37.1±0.9,26˙29N±0˙04×128˙95E±0˙03,h28km±6km, mb4.4/8,Error ellipse: s-maj=6.9km s-min=4.6km az=160.7*
JMA ***17*** *06:03:38.4±0.2,26˙38N×128˙96E,h35km±4km,M4.3*
NEIC ***17*** *06:03:39.9±1.1,26˙18N×128˙75E,h35km,mb4.4/2,Error ellipse: s-maj=18.1km s-min=11.2km az=127.0*

ISC 17 06:03:38.0±0.9,26˙30N±0˙04×128˙94E±0˙03,h25km±6km, n50,σ1°§17/59,mb4.4/8,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami** 2μm,0.3s,baz=128,slow=15,SNR=2630	**0.80**	**312**	Pn		**Pn**	**06 03 52.8**	**-0.9**
JOW				Sn		**Sn**	**06 04 04.1**	**-0.7**
	2μm,0.3s,baz=127,slow=20,SNR=41							
JOW	**Kunigami**	**0.80**	**312**	Pn		**Pn**	**06 03 52.8**	**-0.9**
JOW				Sn		**Sn**	**06 04 04.1**	**-0.7**
JOW	**Kunigami**	**0.80**	**312**	P		**Pb**	**06 03 52.7**	**-0.5**
JOW				*e*S		**Sb**	**06 04 02.5**	**-1.1**
JJT2	**Tamagusuku 2**	**1.08**	**262**	P		**Pn**	**06 03 58.1**	**+0.5**
JJT2				*e*S		**Sb**	**06 04 12.8**	**+1.1**
NAH1	**Naha**	**1.12**	**265**	P		**Pn**	**06 03 58.5**	**+0.3**
NAH1				*e*S		**Sn**	**06 04 13.2**	**+0.4**
JIH	**Iheya**	**1.14**	**310**	P		**Pn**	**06 03 58.0**	**-0.4**
JTK	**Tokunoshima**	**1.48**	**1**	P		**Pn**	**06 04 02.3**	**-0.8**
JAGN	**Aguni-jima**	**1.55**	**281**	P		**Pn**	**06 04 04.7**	**+0.7**
JKE	**Kume jima 2**	**1.93**	**271**	P		**Pn**	**06 04 09.2**	**-0.1**
JKE				*e*S		**Sn**	**06 04 33.0**	**+0.3**
JMZ	**Minamidaito 2**	**2.11**	**103**	P		**Pn**	**06 04 11.9**	**+0.1**
JMZ				*e*S		**Sn**	**06 04 35.7**	**-1.5**
JAM	**Amami Oshima**	**2.19**	**16**	P		**Pn**	**06 04 12.3**	**-0.5**
JAM				*e*S		**Sn**	**06 04 37.2**	**-1.9**
JZK	**Kikaishima**	**2.21**	**24**	P		**Pn**	**06 04 13.5**	**+0.4**
JZK				*e*S		**Sn**	**06 04 39.3**	**-0.4**
JMJ	**Miyako jima 2**	**3.61**	**247**	P		**Pn**	**06 04 33.2**	**+0.9**
JTJ	**Tarama**	**4.17**	**248**	P		**Pn**	**06 04 39.9**	**-0.2**
JJJ	**Ishigaki jima**	**4.75**	**247**	P		**Pn**	**06 04 46.9**	**-1.1**
JKRS	**Kuro-shima**	**4.91**	**246**	P		**Pn**	**06 04 49.3**	**-1.0**
YHNB	**Yeheng** 30nm,0.6s	**7.02**	**258**	*e*Pn		**Pn**	**06 05 19.5**	**+0.2**
YULB	**Yu-li** 20nm,0.3s	**7.52**	**249**	*e*Pn		**Pn**	**06 05 23.2**	**-2.9**
SSLB	**Suanglung** 37nm,0.3s	**7.66**	**253**	*e*Pn		**Pn**	**06 05 26.4**	**-1.6**
KSAR	**Wonju Array Be**	**11.15**	**356**	Pn		**Pn**	**06 06 17.2**	**+1.5**
KSRS	**Korea Array** baz=173,slow=15,SNR=6.3	**11.16**	**356**	Pn		**Pn**	**06 06 17.2**	**+1.3**
MJAR	**Matsushiro Arr** 0.7nm,0.3s,baz=234,slow=11,SNR=4.1	**12.91**	**36**	Pn		**Pn**	**06 06 44.3**	**+4.4**
MJAR	**Matsushiro Arr**	**12.91**	**36**	Pn		**Pn**	**06 06 44.3**	**+4.4**
BJT	**Baijiatuan** 32nm,0.6s	**17.34**	**325**	*e*P		**Pn**	**06 07 41.0**	**+2.7**
ENH	**Enshi** 11nm,0.7s	**17.58**	**287**	*e*Pn		**Pn**	**06 07 40.7**	**-0.7**
XAN	**Xi'an**	**18.93**	**299**	P		**Pn**	**06 07 57.9**	**+0.1**
XAN				pP		pP	06 08 04.8	+0.9
XAN				pmax		pmax		
	comp=Z,12nm,0.6s							
ASAJ	**Asahikawa** comp=Z,9.7nm,0.8s,baz=247,slow=15,SNR=5.2	**20.94**	**28**	P		**P**	**06 08 22.2**	**+3.3**
SONM	**Songino Array** comp=Z,5.4nm,0.5s,mb4.4,baz=139,slow=10,SNR=33	**27.84**	**326**	P		**P**	**06 09 27.8**	**+2.4**
SONM	**Songino Array**	**27.84**	**326**	P		**P**	**06 09 27.8**	**+2.4**
TAPN	**Taplejung** comp=Z,107nm,1.4s	**36.69**	**281**	*e*P		**S**	**06 16 29.6**	**+4.4**
ODAN	**Odare** comp=Z,45nm,0.9s	**37.04**	**280**	*e*P		**S**	**06 16 28.2**	**-2.4**
RAMN	**Ramite** comp=Z,63nm,0.8s	**37.72**	**281**	*e*P		**S**	**06 16 37.7**	**-3.2**
GUN	**Gumba** comp=Z,118nm,1.2s	**38.22**	**282**	*e*P		**S**	**06 16 51.4**	**+3.0**
PKI	**Pulchoki**	**38.68**	**282**	*e*P		**S**	**06 16 54.3**	**-1.1**
KKN	**Kakani**	**38.76**	**282**	*e*P		**S**	**06 16 56.0**	**-0.6**
DMN	**Daman** comp=Z,105nm,1.1s	**38.94**	**282**	*e*P		**S**	**06 16 56.6**	**-2.7**
GKN	**Gorkha**	**39.29**	**283**	*e*P		**S**	**06 17 04.2**	**-0.4**
DANN	**Dangsing**	**40.01**	**284**	*e*P		**S**	**06 17 15.9**	**+0.5**
KOLN	**Koldanda** comp=Z,48nm,1.0s	**40.24**	**283**	*e*P		**S**	**06 17 13.0**	**-5.8**
ZAA0	**Zalesovo Array**	**42.58**	**323**	*e*P		**P**	**06 11 31.0**	**-0.7**
ZALV	**Zalesovo Beam** comp=Z,5.7nm,0.5s,mb4.5,baz=110,slow=8.6,SNR=30	**42.58**	**323**	P		**P**	**06 11 31.1**	**-0.7**
ZALV	**Zalesovo Beam**	**42.58**	**323**	P		**P**	**06 11 31.1**	**-0.7**
WRAB	**Tennant Creek**	**46.25**	**173**	*e*P		**P**	**06 12 00.9**	**-0.5**
FINES	**FINESS Array B** comp=Z,3.6nm,0.5s,mb4.5,baz=58,slow=5.6,SNR=7.8	**73.12**	**331**	P		**P**	**06 15 06.7**	**+0.7**
AKASG	**Malin Array Be** comp=Z,4.5nm,0.6s,mb4.6,baz=59,slow=6.6,SNR=10	**75.89**	**320**	P		**P**	**06 15 23.1**	**+0.7**
BRTR	**Keskin Array B** comp=Z,6.7nm,1.0s,mb4.5,baz=95,slow=5.5,SNR=12	**77.49**	**308**	P		**P**	**06 15 33.3**	**+1.7**
NB2	**NORSAR Subarra** comp=Z,1.6nm,0.6s,mb4.1,baz=52,slow=5.6	**79.53**	**334**	P		**P**	**06 15 43.0**	**+0.6**
NOA	**NORSAR Array B** comp=Z,2.3nm,0.6s,mb4.3,baz=51,slow=5.5,SNR=6.1	**79.53**	**334**	P		**P**	**06 15 43.2**	**+0.8**
GERES	**GERESS Array B** comp=Z,1.4nm,0.6s,mb4.3,baz=53,slow=5.2,SNR=9.4	**85.53**	**323**	P		**P**	**06 16 15.9**	**+2.0**
EKA	**Eskdalemuir Ar** comp=Z,0.8nm,0.6s,mb4.2,baz=42,slow=4.7,SNR=4.7	**88.98**	**335**	P		**P**	**06 16 33.8**	**+3.3**

SZGRF ***17*** *06:36:55.9,20˙92S×174˙33W,h33km, Tonga Islands*
ISCJB ***17*** *06:37:30.0±1.2, 17˙04S±0˙06×174˙86W±0˙06, h204km±10km,mb4.4/68,Error ellipse: s-maj=12.0km s-min=6.8km az=143.6*
IDC ***17*** *06:37:30.7±1.2, 16˙98S×174˙81W,h203km±11km, mb4.1/22,mb1 4.2/23,mb1mx4.2/26,mbtmp4.1/23,MS3.9/3, Ms1 3.9/3,ms1mx3.3/28,Error ellipse: s-maj=13.3km s-min=8.3km az=125.0*
MOS ***17*** *06:37:31.2±1.6, 16˙96S×174˙86W,h206km,mb4.6/17, Error ellipse: s-maj=14.8km s-min=9.5km az=56.4*
NEIC ***17*** *06:37:34.0±1.0, 17˙03S×174˙78W,h227km±9km,mb4.5/44, Error ellipse: s-maj=12.0km s-min=6.7km az=141.0*

ISC 17 06:37:32.3±1.2, 17˙09S±0˙06×174˙81W±0˙06, h211km±11km,n263,σ0§94/150,mb4.4/68,22C-15D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 81nm,0.3s,baz=33,slow=2.7,SNR=82	**4.31**	**43**	P		**Pn**	**06 38 36.6**	**-1.8**
AFI				S		**S**	**06 39 25.2**	**-5.2**
	330nm,0.3s,baz=45,slow=20,SNR=18							
AFI				LR		LR	06 39 45.7	
	comp=Z,2μm,20.2s,baz=340,slow=32							
AFI	**Afiamalu**	**4.31**	**43**	P		**Pn**	**06 38 36.6**	**-1.8**
AFI				S		**S**	**06 39 25.2**	**-5.2**
AFI				LR		LR	06 39 45.7	
AFI	**Afiamalu**	**4.31**	**43**	P		**Pn**	**06 38 36.6**	**-1.7**
AFI				S		**S**	**06 39 25.2**	**-5.2**
MSVF	**Nonsavu** 52nm,0.9s	**6.85**	**264**	*e*Pn		**Pn**	**06 39 16.7**	**+6.1**
MSVF	**Nonsavu**	**6.85**	**264**	*e*P		**Pn**	**06 39 16.7**	**+6.1**
MSVF				pmax		pmax		
	comp=Z,52nm,0.9s							
FUNA	**Funafuti** comp=Z,3μm,1.9s	**10.33**	**325**	*e*Pn		**Pn**	**06 39 58.3**	**+2.6**
FUNA				*e*S		**S**	**06 41 56.7**	**+5.3**
DZM	**Mont Dzumac** comp=Z,37nm,1.4s	**18.34**	**251**	*e*P		**P**	**06 41 31.8**	**+0.7**
URZ	**Urewera** comp=Z,30nm,0.4s,mb5.2,baz=24,slow=2.1,SNR=23	**22.25**	**197**	P		**P**	**06 42 12.1**	**+0.4**
URZ				S		**S**	**06 46 01.1**	**+0.4**
	comp=Z,19nm,0.9s,baz=329,slow=18,SNR=4.1							
URZ	**Urewera**	**22.25**	**197**	P		**P**	**06 42 12.1**	**+0.4**
URZ				S		**S**	**06 46 01.1**	**+0.4**
PPT	**Papeete** comp=Z,222nm,21.6s,baz=106,slow=27	**24.09**	**95**	LR		LR	06 48 26.4	
TBI	**Tubuai** comp=Z,310nm,29.0s	**24.57**	**109**	*e*S		**S**	**06 46 35.3**	**-2.8**
HNR	**Honiara** comp=Z,275nm,18.3s,baz=146,slow=33	**25.70**	**284**	LR		LR	06 51 33.3	
ARMA	**Armidale**	**33.32**	**240**	*e*P		**P**	**06 43 50.5**	**+0.2**
CTA	**Charters Tower** comp=Z,5.0nm,0.9s,mb4.0,baz=86,slow=8.8,SNR=3.4	**36.97**	**259**	P		**P**	**06 44 20.2**	**-1.4**
CTA	**Charters Tower**	**36.97**	**259**	P		**P**	**06 44 20.2**	**-1.4**
RKT	**Rikitea** comp=Z,185nm,28.5s	**37.80**	**106**	*e*S		**S**	**06 50 02.0**	**-1.5**
STKA	**Stephens Creek** comp=Z,29nm,0.9s,mb4.7,baz=78,slow=9.7,SNR=35	**42.03**	**241**	P		**P**	**06 45 02.6**	**-0.6**
STKA				PcP		PcP	06 46 54.7	+0.6
	comp=Z,5.6nm,0.8s,baz=11,slow=6.2,SNR=4.7							
STKA	**Stephens Creek** comp=Z,24nm,0.9s,mb4.6	**42.03**	**241**	*e*P		**P**	**06 45 02.3**	**-0.9**
STKA				*i*			06 46 55.0	
STKA	**Stephens Creek**	**42.03**	**241**	P		**P**	**06 45 02.6**	**-0.6**
STKA				PcP		PcP	06 46 54.7	+0.6
STKA	**Stephens Creek**	**42.03**	**241**	P		**P**	**06 45 02.6**	**-0.6**
STKA							06 46 54.7	
WB2	**Warramunga Arr**	**48.15**	**258**	*e*P		**P**	**06 45 50.8**	**-0.6**
WRAB	**Tennant Creek** comp=Z,14nm,0.8s,mb4.3	**48.15**	**258**	*e*P		**P**	**06 45 52.6**	**+1.1**
WRAB	**Tennant Creek**	**48.15**	**258**	*e*P		**P**	**06 45 52.6**	**+1.1**
WRAB				pmax		pmax		
	comp=Z,14nm,0.8s,mb4.3							
WRA	**Warramunga Arr** comp=Z,3.2nm,0.6s,mb3.9,baz=96,slow=6.9,SNR=43	**48.16**	**258**	P		**P**	**06 45 50.4**	**-1.2**
WRA				PcP		PcP	06 47 14.7	-0.9
	comp=Z,5.5nm,0.7s,baz=93,slow=3.4,SNR=10.0							
WRA				ScP		ScP	06 50 48.2	-1.8
	comp=Z,1.5nm,1.0s,baz=85,slow=4.5,SNR=5.3							
WRA	**Warramunga Arr**	**48.16**	**258**	P		**P**	**06 45 50.4**	**-1.2**
WRA				PcP		PcP	06 47 14.7	-0.9
WRA				ScP		ScP	06 50 48.2	-1.8
WRA	**Warramunga Arr**	**48.16**	**258**	P		**P**	**06 45 50.4**	**-1.1**
WRA							06 47 14.7	
ASAR	**Alice Springs** comp=Z,17nm,0.7s,mb4.5,baz=88,slow=8.3,SNR=93	**48.32**	**253**	P		**P**	**06 45 51.0**	**-1.7**
ASAR				PcP		PcP	06 47 15.1	-1.1
	comp=Z,5.3nm,0.7s,baz=104,slow=3.7,SNR=9.5							
ASAR				ScP		ScP	06 50 49.6	-1.0
	comp=Z,1.2nm,0.8s,baz=93,slow=4.4,SNR=5.0							
ASAR				S		**S**	**06 52 30.1**	**-6.4**
	comp=Z,0.8nm,0.9s,baz=89,slow=17,SNR=6.0							
ASAR	**Alice Springs**	**48.32**	**253**	P		**P**	**06 45 51.0**	**-1.7**
ASAR				PcP		PcP	06 47 15.1	-1.1
ASAR				ScP		ScP	06 50 49.6	-1.0
ASAR				S		**S**	**06 52 30.1**	**-6.4**
ASAR	**Alice Springs**	**48.32**	**253**	P		**P**	**06 45 51.0**	**-1.7**
ASAR							06 47 15.1	
ASAR				S		**S**	**06 52 30.1**	**-6.4**
FORT	**Forrest** comp=Z,24nm,0.7s,mb4.7	**53.46**	**244**	*e*P		**P**	**06 46 29.9**	**-1.0**
FITZ	**Fitzroy Crossi** comp=Z,1.9nm,0.6s,mb3.9,baz=112,slow=5.8,SNR=14	**56.55**	**259**	P		**P**	**06 46 53.6**	**+0.3**
FITZ	**Fitzroy Crossi** comp=Z,4.2nm,0.9s,mb4.1	**56.55**	**259**	*e*P		**P**	**06 46 52.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**56.55**	**259**	P		**P**	**06 46 53.6**	**+0.3**
SBA	**Scott Base** comp=Z,15nm,1.0s,mb4.6	**61.47**	**184**	*e*P		**P**	**06 47 28.5**	**+2.5**
SBA	**Scott Base**	**61.47**	**184**	*e*P		**P**	**06 47 28.5**	**+2.5**
SBA				pmax		pmax		
	comp=Z,15nm,1.0s,mb4.6							
VNDA	**Vanda** comp=Z,6.0nm,0.9s,mb4.2,baz=16,slow=7.5,SNR=18	**61.56**	**186**	P		**P**	**06 47 27.7**	**+1.1**
VNDA	**Vanda**	**61.56**	**186**	P		**P**	**06 47 27.7**	**+1.1**
VNDA	**Vanda**	**61.56**	**186**	P		**P**	**06 47 27.7**	**+1.1**
KLBR	**Kellerberrin** comp=Z,20nm,0.7s,mb4.9	**62.26**	**243**	*e*P		**P**	**06 47 30.5**	**-1.6**
MJAR	**Matsushiro Arr** comp=Z,1.1nm,0.5s,mb3.8,baz=143,slow=6.0,SNR=2.8	**69.38**	**321**	P		**P**	**06 48 16.9**	**-0.3**
MJAR	**Matsushiro Arr**	**69.38**	**321**	P		**P**	**06 48 16.9**	**-0.3**
MJAR	**Matsushiro Arr**	**69.38**	**321**	P		**P**	**06 48 16.9**	**-0.3**
QSPA	**South Pole Qui** comp=Z,14nm,0.9s,mb4.6,baz=32,slow=1.3,SNR=27	**72.96**	**180**	P		**P**	**06 48 38.6**	**+0.6**
QSPA	**South Pole Qui**	**72.96**	**180**	P		**P**	**06 48 38.6**	**+0.6**
HOPS	**Hopland** comp=Z,23nm,1.6s,mb4.6	**73.83**	**40**	*e*P		**P**	**06 48 44.0**	**+0.3**
PETK	**Petropavlovsk-** comp=Z,4.1nm,0.6s,mb4.2,baz=138,slow=6.8,SNR=11	**73.83**	**343**	P		**P**	**06 48 42.1**	**-1.3**
PETK	**Petropavlovsk-**	**73.83**	**343**	P		**P**	**06 48 42.1**	**-1.3**
PETK	**Petropavlovsk-**	**73.83**	**343**	P		**P**	**06 48 42.2**	**-1.2**
MWC	**Mount Wilson** comp=Z,55nm,1.8s,mb4.9	**74.28**	**46**	*e*P		**P**	**06 48 46.4**	**0.0**
MWC	**Mount Wilson**	**74.28**	**46**	*e*P		**P**	**06 48 46.4**	**0.0**
MWC				pmax		pmax		
	comp=Z,55nm,1.8s,mb4.9							
YSS	**Yuzh-Sakhalins** comp=Z,20nm,1.3s,mb4.6	**74.30**	**331**	*e*P		**P**	**06 48 47.0**	**+0.8**
YSS				pmax		pmax		
ISA	**Isabella** comp=Z,18nm,1.4s,mb4.5	**74.80**	**45**	*e*P		**P**	**06 48 49.7**	**+0.3**
ISA	**Isabella**	**74.80**	**45**	*e*P		**P**	**06 48 49.7**	**+0.3**
ISA				pmax		pmax		
	comp=Z,18nm,1.4s,mb4.5							
CMB	**Columbia Colle** comp=Z,6.5nm,1.0s,mb4.2	**74.92**	**42**	*e*P		**P**	**06 48 49.4**	**-0.7**
CMB	**Columbia Colle**	**74.92**	**42**	*e*P		**P**	**06 48 49.4**	**-0.6**
CMB				pmax		pmax		
	comp=Z,7.0nm,1.0

TPAW	Teton Pass	83.89	41	*e*P		P	06 49 38.9	+0.6	
	comp=Z,4.5nm,0.9s,mb4.2								
BSMT	Bassoo Peak	83.92	36	*e*P		P	06 49 38.1	-0.2	
	comp=Z,5.2nm,1.1s,mb4.2								
SNOW	Snow King Moun	84.00	41	*e*P		P	06 49 39.3	+0.5	
	comp=Z,11nm,1.0s,mb4.5								
CPRX	Cap Rock	84.04	53	*e*P		P	06 49 40.0	+0.7	
	comp=Z,5.4nm,0.9s,mb4.3								
IMW	Indian Meadow	84.11	41	*e*P		P	06 49 40.0	+0.7	
	comp=Z,3.8nm,0.7s,mb4.2								
COLA	College	84.27	11	*e*P		P	06 49 37.9	-1.8	
	comp=Z,9.6nm,0.8s,mb4.6								
COLA	College	84.27	11	*e*P		P	06 49 37.9	-1.8	
COLA				pmax	pmax				
	comp=Z,10.0nm,0.8s,mb4.6								
FLWY	Flagg Ranch	84.35	41	*e*P		P	06 49 41.2	+0.6	
	comp=Z,8.6nm,1.1s,mb4.4								
ILAR	Eielson Array	84.36	12	P		P	06 49 38.2	-2.0	
	comp=Z,2.5nm,0.8s,mb4.0,baz=223,slow=5.1,SNR=27								
ILAR	Eielson Array	84.36	12	P		P	06 49 38.2	-2.0	
ILAR	Eielson Array	84.36	12	P		P	06 49 38.2	-2.0	
PD01	Pinedale Array	84.41	42	*e*P		P	06 49 40.9	0.0	
PDAR	Pinedale Array	84.42	42	P		P	06 49 39.4	-1.6	
	comp=Z,2.8nm,0.9s,mb4.0,baz=224,slow=3.8,SNR=20								
PDAR	Pinedale Array	84.42	42	P		P	06 49 39.4	-1.6	
SMCO	Snowmass	84.45	46	*e*P		P	06 49 41.4	+0.2	
	comp=Z,12nm,1.5s,mb4.4								
DAWY	Dawson	85.39	15	*e*P		P	06 49 44.3	-1.0	
EGAK	Eagle	85.57	14	*e*P		P	06 49 45.8	-0.4	
	comp=Z,53nm,1.9s,mb4.9								
MAW	Mawson	85.76	199	P		P	06 49 47.0	-0.3	
	comp=Z,9.6nm,0.9s,mb4.5,baz=139,slow=6.5,SNR=12								
MAW	Mawson	85.76	199	P		P	06 49 47.0	-0.3	
MAW	Mawson	85.76	199	P		P	06 49 47.0	-0.3	
BILL	Bilibino	86.01	353	*e*P		P	06 49 47.5	-0.8	
	comp=Z,6.6nm,0.7s,mb4.5								
BILL	Bilibino	86.01	353	⇑*e*P		P	06 49 47.7	-0.5	
BILL				pmax	pmax				
	comp=Z,11nm,0.8s,mb4.6								
COLD	Coldfoot	86.02	9	*e*P		P	06 49 48.7	+0.4	
	comp=Z,24nm,1.8s,mb4.6								
ENH	Enshi	86.69	303	*e*P		P	06 49 53.3	+0.8	
	comp=Z,61nm,1.7s,mb5.0								
INK	Inuvik	90.23	14	P		P	06 50 07.2	-1.1	
	comp=Z,2.2nm,0.9s,mb4.0,baz=247,slow=4.1,SNR=7.8								
INK	Inuvik	90.23	14	P		P	06 50 07.2	-1.1	
INK	Inuvik	90.23	14	P		P	06 50 07.2	-1.0	
SYO	Syowa Base	90.68	192	⇓*e*P		P	06 50 09.0	-1.5	
SNAA	Sanae	91.29	177	P		P	06 50 13.0	-0.3	
	comp=Z,1.7nm,1.1s,mb3.9,baz=206,slow=3.1,SNR=16								
SNAA	Sanae	91.29	177	P		P	06 50 13.0	-0.3	
SNAA	Sanae	91.29	177	P		P	06 50 13.0	-0.3	
CMAR	Chiang Mai Arr	91.87	289	P		P	06 50 18.0	+1.0	
	comp=Z,2.8nm,0.8s,mb4.3,baz=107,slow=2.1,SNR=14								
CMAR	Chiang Mai Arr	91.87	289	P		P	06 50 18.0	+1.0	
CMAR	Chiang Mai Arr	91.87	289	P		P	06 50 18.0	+1.0	
YKA	Yellowknife Ar	92.18	24	P		P	06 50 14.5	-2.9	
	comp=Z,1.0nm,0.7s,mb3.9,baz=246,slow=4.6,SNR=3.9								
YKA	Yellowknife Ar	92.18	24	P		P	06 50 14.5	-2.9	
YKA	Yellowknife Ar	92.18	24	P		P	06 50 14.5	-2.9	
CFAA	Coronel Fontan	94.61	125	P		P	06 50 30.4	+1.0	
	comp=Z,0.4nm,1.0s,mb3.5,baz=354,slow=6.6,SNR=6.4								
MKAR	Makanchi Array	111.04	314	*i* PKIKP		PKiKP	06 55 38.1	-2.3	
	comp=Z,1.2nm,0.6s,baz=115,slow=0.9,SNR=6.6								
MKAR	Makanchi Array	111.04	314	*i* PKIKP		PKiKP	06 55 38.1	-2.3	
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.6s								
BVAR	Borovoye Array	118.37	321	PKP		PKPdf	06 55 52.1	-2.2	
	comp=Z,2.9nm,0.5s,baz=98,slow=2.0,SNR=19								
BVAR	Borovoye Array	118.37	321	PKIKP		PKPdf	06 55 52.1	-2.2	
BVAR				pmax	pmax				
	comp=Z,3.0nm,0.5s								
ARU	Arti	124.05	327	*i* PKIKP		PKPdf	06 56 04.1	-1.0	
ARU							06 57 54.5		
ARU				SS	SS		07 14 17.7	-7.4	
ARCES	ARCESS Array B	126.08	351	PKP		PKPdf	06 56 07.4	-1.2	
	comp=Z,3.6nm,0.8s,baz=29,slow=2.1,SNR=12								
ARCES	ARCESS Array B	126.08	351	PKIKP		PKPdf	06 56 07.4	-1.2	
ARCES				pmax	pmax				
	comp=Z,4.0nm,0.9s								
BOSA	Boshof	130.59	203	PKP		PKPdf	06 56 18.8	+0.2	
	comp=Z,3.6nm,0.9s,baz=90,slow=1.0,SNR=2.8								
BOSA	Boshof	130.59	203	PKIKP		PKPdf	06 56 18.8	+0.3	
BOSA				pmax	pmax				
	comp=Z,4.0nm,0.9s								
FINES	FINESS Array B	133.28	346	PKP		PKPdf	06 56 23.0	+0.5	
	comp=Z,3.1nm,0.8s,baz=22,slow=6.2,SNR=3.6								
FINES	FINESS Array B	133.28	346	PKIKP		PKPdf	06 56 23.0	+0.5	
FINES				pmax	pmax				
	comp=Z,3.0nm,0.8s								
AKASG	Malin Array Be	141.34	336	PKhKP		PKPpre	06 56 33.5		
	comp=Z,0.9nm,0.6s,baz=45,slow=3.8,SNR=6.0								
AKASG	Malin Array Be	141.34	336	PKIKP		PKPpre	06 56 33.5		
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.6s								
LVV	L'vov	143.99	339	*e*PKIKP		PKPdf	06 56 39.5	-2.9	
CLL	Collm	145.30	351	⇑*i* PKP2		PKPbc	06 56 44.3	-0.5	
CLL				pmax	pmax				
	comp=Z,37nm,0.9s								
CLL	Collm	145.30	351	⇑*i* PKPbc		PKPbc	06 56 44.3	-0.5	
	comp=Z,37nm,0.9s								
CLL				⇓*i* PKiKP		PKiKP	06 56 48.3	-0.3	
	comp=Z,19nm,0.8s								
BURAR	Bucovina Array	145.39	336	⇑PKP2		PKPdf	06 56 45.1	+0.2	
BURAR	Bucovina Array	145.39	336	⇑*i* P		PKPdf	06 56 45.1	+0.2	
UPC	Upice	145.55	348	*e*PKP2		PKPbc	06 56 45.9	+0.3	
UPC	Upice	145.55	348	*e*PKP		PKPbc	06 56 45.9	+0.3	
BRG	Berggiesshubel	145.58	350	*i* P		PKPdf	06 56 45.3	+0.2	
	comp=Z,64nm,1.6s								
BRG	Berggiesshubel	145.58	350	*i* PKP2		PKPdf	06 56 45.3	+0.2	
BRG				pmax	pmax				
	comp=Z,64nm,1.6s								
UZH	Uzhgorod	145.59	340	⇑*i* PKIKP		PKPdf	06 56 44.3	-0.9	
DPC	Dobruska-Polom	145.64	347	*e*PKP2		PKPdf	06 56 45.5	+0.3	
DPC	Dobruska-Polom	145.64	347	*e*PKP		PKPdf	06 56 45.5	+0.3	
OKC	Ostrava-Krasne	145.70	345	*e*PKP2		PKPdf	06 56 45.8	+0.5	
OKC	Ostrava-Krasne	145.70	345	*e*PKP		PKPdf	06 56 45.8	+0.5	
TLCR		145.71	330	⇓PKP2		PKPbc	06 56 46.4	+0.1	
TLCR		145.71	330	⇓*i* P		PKPbc	06 56 46.4	+0.1	
KRC	Kraliky	145.80	347	*e*PKP		PKPab	06 56 46.9	-0.2	
PVCC	Panska Ves	145.81	349	*e*PKP2		PKPbc	06 56 46.3	-0.1	
PVCC	Panska Ves	145.81	349	*e*PKP		PKPbc	06 56 46.3	-0.1	
MORC	Moravsky Berou	145.90	346	⇑PKP2		PKPdf	06 56 46.2	+0.5	
MORC	Moravsky Berou	145.90	346	⇑*i* P		PKPdf	06 56 46.2	+0.5	
TRPA	Tarpa	145.94	339	⇑*i* P		PKPdf	06 56 46.5	+0.7	
VRI	Vrincioaia	146.16	333	⇑PKP2		PKPbc	06 56 47.5	-0.1	
VRI	Vrincioaia	146.16	333	⇑*i* P		PKPbc	06 56 47.5	-0.1	
KECS	Kecovo	146.29	342	*e*PKP2		PKPbc	06 56 47.6	-0.3	
KECS	Kecovo	146.29	342	*e*PKP		PKPbc	06 56 47.6	-0.3	
PRU	Pruhonice	146.33	349	*e*PKP2		PKPbc	06 56 48.3	+0.3	
PRU	Pruhonice	146.33	349	*e*PKP		PKPbc	06 56 48.3	+0.3	
NKC	Novy Kostel	146.43	352	*e*PKIKP		PKPdf	06 56 46.6	0.0	
NKC	Novy Kostel	146.43	352	*e*PKP		PKPdf	06 56 46.6	0.0	
BRTR	Keskin Array B	146.56	318	PKPbc		PKPbc	06 56 47.6	-1.3	
	comp=Z,10nm,0.7s,baz=79,slow=3.1,SNR=47								
BRTR	Keskin Array B	146.56	318	PKIKP		PKPbc	06 56 47.7	-1.3	
BRTR				pmax	pmax				
	comp=Z,10.0nm,0.7s								
VYHS	Vyhne	146.76	343	*e*PKIKP		PKPdf	06 56 47.8	+0.6	
VYHS	Vyhne	146.76	343	*e*PKP		PKPdf	06 56 47.8	+0.6	
MLR	Muntele Rosu	146.80	333	⇑PKP2		PKPbc	06 56 50.0	+0.6	
MLR	Muntele Rosu	146.80	333	⇑*i* P		PKPbc	06 56 50.0	+0.6	
TREC	Trest	146.81	348	*e*PKP2		PKPbc	06 56 49.1	-0.3	
TREC	Trest	146.81	348	*e*PKP		PKPbc	06 56 49.1	-0.3	
PSZ	Piszkesteto	146.97	342	⇓PKP2		PKPbc	06 56 49.2	-0.7	
PSZ	Piszkesteto	146.97	342	⇓*e*PKP		PKPbc	06 56 49.3	-0.6	
PSZ	Piszkesteto	146.97	342	⇓*i* P		PKPbc	06 56 49.2	-0.7	
DRGR		147.03	338	⇓PKP2		PKPbc	06 56 50.1	+0.1	
DRGR		147.03	338	⇓*i* P		PKPbc	06 56 50.1	+0.1	
GIVF	Givet	147.07	0	*e*PKP1		PKPbc	06 56 49.1	-0.9	
	comp=Z,59nm,1.3s								
BAIF	Baives	147.11	1	*e*PKP1		PKPbc	06 56 49.3	-0.8	
	comp=Z,28nm,1.0s								
GRF	Grafenberg Arr	147.12	353	*e*PKPbc		PKPbc	06 56 50.1	-0.1	
GRF	Grafenberg Arr	147.12	353	*e*PKP2		PKPbc	06 56 50.1	-0.1	
VOIR		147.22	334	⇓PKP2		PKPbc	06 56 51.2	+0.6	
VOIR		147.22	334	⇓*i* P		PKPbc	06 56 51.2	+0.6	
KHC	Kasperske Hory	147.33	350	*e*PKP2		PKPbc	06 56 50.0	-0.8	
KHC	Kasperske Hory	147.33	350	*e*PKP		PKPbc	06 56 50.0	-0.8	
ZST	Bratislava	147.48	345	*e*PKP2		PKPbc	06 56 51.0	-0.2	
ZST	Bratislava	147.48	345	*e*PKP		PKPbc	06 56 51.0	-0.2	
GERES	GERESS Array B	147.58	349	PKPbc		PKPbc	06 56 49.9	-1.6	
	comp=Z,3.1nm,0.7s,baz=22,slow=3.2,SNR=20								
GERES	GERESS Array B	147.58	349	PKIKP		PKPbc	06 56 49.9	-1.6	
GERES				pmax	pmax				
BUD	Budapest	147.62	342	⇑*e*PKP		PKPbc	06 56 51.5	-0.1	
PRD	Provadia	147.86	329	*e*P		PKPbc	06 56 51.6	-0.8	
CONA	Conrad Observa	148.03	346	⇑*i* PKPbc		PKPbc	06 56 52.2	-0.4	
	comp=Z,20nm,1.1s								
FLN	La Foliniere	148.08	7	*e*PKP1		PKPbc	06 56 51.5	-1.3	
	comp=Z,27nm,0.7s								
ROSF	Rostrenen	148.08	11	*e*PKP1		PKPbc	06 56 51.3	-1.5	
	comp=Z,15nm,0.6s								
SOP	Sopron	148.09	345	⇑*e*PKP		PKPbc	06 56 52.8	-0.1	
SGMF	Saint Gilles	148.28	10	*e*PKP1		PKPbc	06 56 51.9	-1.4	
	comp=Z,28nm,0.8s								
LDF	La Druitiere	148.29	7	*e*PKP1		PKPbc	06 56 51.9	-1.4	
	comp=Z,11nm,0.6s								
GRR	Gorron	148.40	8	*e*PKP1		PKPbc	06 56 52.5	-1.1	
	comp=Z,44nm,0.8s								
BZS	Buzias	148.42	338	⇑PKP2		PKPbc	06 56 53.5	-0.3	
BZS	Buzias	148.42	338	⇑*i* P		PKPbc	06 56 53.5	-0.3	
MOA	Molln	148.44	348	⇓*i* PKPbc		PKPbc	06 56 51.4	-2.3	
	comp=Z,18nm,1.3s								
QUIF	Quistinic	148.50	11	*e*PKP1		PKPbc	06 56 52.6	-1.3	
SZH	Strazhica	148.52	330	*e*P		PKPdf	06 56 52.1	+1.8	
PAGF	Fort de Pagny	148.62	359	*e*PKP1		PKPbc	06 56 53.7	-0.5	
	comp=Z,8.9nm,0.8s								
MEZF	Maizieres J'vi	148.68	0	*e*PKP1		PKPbc	06 56 53.7	-0.6	
CDF	Champ du Feu	148.72	357	*e*PKP1		PKPbc	06 56 53.6	-0.8	
	comp=Z,43nm,1.0s								
SFTF	Sexfontaines	148.97	0	*e*PKP1		PKPbc	06 56 54.3	-0.8	
	comp=Z,32nm,0.7s								
HAU	Haudompre	149.16	358	*e*PKP1		PKPbc	06 56 54.6	-0.9	
	comp=Z,64nm,1.3s								
HINF	Hinteralfeld	149.33	358	*e*PKP1		PKPbc	06 56 54.8	-1.2	
	comp=Z,17nm,0.8s								
SOKA	Soboth	149.39	347	⇑*i* PKPbc		PKPbc	06 56 55.4	-0.8	
	comp=Z,23nm,1.6s								
WTTA	Wattenberg	149.45	351	⇑*i* PKPbc		PKPbc	06 56 55.3	-1.0	
	comp=Z,20nm,0.9s								
MPEP	Malo Peshtene	149.45	333	*e*P		PKPbc	06 56 55.1	-1.3	
DAVA	Damuels	149.64	354	⇑*i* PKiKP		PKPbc	06 56 56.5	-0.2	
	comp=Z,18nm,0.8s								
FETA	Feichten	149.81	352	⇓*i* PKPbc		PKPbc	06 56 55.9	-1.3	
	comp=Z,21nm,1.1s								
LOR	Lormes	149.89	2	*e*PKP1		PKPbc	06 56 56.4	-1.0	
	comp=Z,26nm,0.8s								
EIL	Elat	150.05	300	PKPbc		PKPbc	06 56 58.0	-0.3	
	baz=174,slow=1.6								
SSF	Saint Saulge	150.09	2	*e*PKP1		PKPbc	06 56 57.1	-0.7	
	comp=Z,91nm,1.4s								
MFF	Saint Martin d	150.25	7	*e*PKP1		PKPbc	06 56 57.1	-1.1	
	comp=Z,14nm,0.7s								
VTS	Vitosha	150.30	333	⇓PKIKP		PKPbc	06 56 57.3	-1.2	
VTS	Vitosha	150.30	333	⇓*i* P		PKPbc	06 56 57.3	-1.2	
VTS	Vitosha	150.30	333	*e*P		PKPbc	06 56 56.7	-1.8	
AVF	Avril sur Loir	150.35	3	*e*PKP1		PKPbc	06 56 57.3	-1.2	
	comp=Z,30nm,1.1s								
SMF	Signal de Mont	150.51	2	*e*PKP1		PKPbc	06 56 57.8	-1.1	
	comp=Z,27nm,1.1s								
BGF	Bois d'Agland	150.56	3	*e*PKP1		PKPbc	06 56 58.0	-1.0	
	comp=Z,41nm,0.8s								
CABF	La Chapelle	150.56	359	*e*PKP1		PKPbc	06 56 58.7	-0.3	
	comp=Z,111nm,1.1s								
TCF	Toulx Ste Croi	150.78	4	*e*PKP1		PKPbc	06 56 58.4	-1.1	
	comp=Z,47nm,1.2s								
MMB	Musomiste	150.85	331	*e*P		PKPbc	06 56 58.0	-1.8	
KKB	Krupnik	150.93	332	*e*P		PKPbc	06 56 59.2	-0.8	
LPL	La Plagne	151.63	358	*e*PKP1		PKPbc	06 57 01.5	0.0	
	comp=Z,24nm,1.0s								
LPG	La Plagne	151.65	358	*e*PKP1		PKPbc	06 57 01.7	+0.2	
	comp=Z,35nm,1.2s								
RJF	Les Rejaudoux	151.71	5	*e*PKP1		PKPbc	06 57 00.6	-1.1	
CAF	Calviac	152.13	5	*e*PKP1		PKPbc	06 57 01.8	-0.8	
ORIF	Oris-en-Rattie	152.25	359	*e*PKP1		PKPbc	06 57 02.2	-0.7	
	comp=Z,11nm,0.9s								
VIVF	Saint-Julien-l	152.32	1	*e*PKP1		PKPbc	06 57 02.3	-0.8	
MBDF	Montbardon	152.42	358	*e*PKP1		PKPbc	06 57 02.6	-0.7	
	comp=Z,10nm,0.7s								
LASF	Ste Croix	153.08	2	*e*PKP1		PKPbc	06 57 04.2	-0.6	
MTLF	Montolieu	153.72	5	*e*PKP1		PKPbc	06 57 04.3	-1.9	
EPF	Esparros	153.82	8	*e*PKP1		PKPbc	06 57 05.5	-0.9	
ESDC	Sonseca Array	156.13	18	PKPab		PKPab	06 57 29.1	-1.1	
	comp=Z,1.6nm,0.6s,baz=334,slow=3.9,SNR=8.8								
MDT	Mindelt	162.01	28	PKP		PKPdf	06 57 08.3	-0.3	
	comp=Z,2.1nm,0.9s,baz=322,slow=3.5,SNR=3.8								
TORD	Torodi Ar. Bea	174.82	139	PKP		PKPdf	06 57 15.9	-1.7	
	comp=Z,2.6nm,0.9s,baz=149,slow=0.3,SNR=13								

*ISCJB **17** 06:46:57.0±0.6,59.°78S±0.°08×23.°6W±0.°2,h10km, mb4.3/14, Error ellipse: s-maj=15.8km s-min=10.8km az=157.5*
*IDC **17** 06:46:58.5±0.6,59.°35S×23.°82W,h0km,mb4.3/11, mb1 4.4/11,mb1mx4.2/17,mbtmp4.3/11, Error ellipse: s-maj=21.5km s-min=19.5km az=39.0*
*NEIC **17** 06:46:59.9±0.3,59.°45S×23.°72W,h10km, mb4.5/4, Error ellipse: s-maj=12.3km s-min=9.6km az=53.0*

ISC 17 06:46:59.3±0.6,59.70S±0.°08×23.7W±0.°2,h10km,n49, σ1°30/34,mb4.3/14,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s	ISC
VNA1	Neumayer--Stat	12.70	156	*e*P		Pn	06 49 58.7		-0.9	
VNA3	Neumayer Olymp	12.91	159	*e*P		Pn	06 50 00.5		-2.0	
VNA3					*e*S	Sn	06 52 15.9		-10	
VNA2	Neumayer--Watz	13.09	156	*e*P		Pn	06 50 03.6		-1.4	
	baz=326,slow=15									
VNA2					*e*S	Sn	06 52 20.0		-10	
SNAA	Sanae	14.63	154	Pn		Pn	06 50 27.8		+1.8	
	2.1nm,0.3s,baz=324,slow=14,SNR=256									
SNAA				Sn		Sn	06 52 58.7		-9.3	
	0.1nm,0.3s,baz=50,slow=16,SNR=2.6									
SNAA	Sanae	14.63	154	Pn		Pn	06 50 27.8		+1.8	
SNAA				Sn		Sn	06 52 58.7		-9.3	
USHA	Ushuaia	24.30	262	P		P	06 52 17.0		+0.6	
	22nm,1.0s,mb4.5,baz=113,slow=10,SNR=6.4									
USHA	Ushuaia	24.30	262	P		P	06 52 17.0		+0.6	
QSPA	South Pole Qui	30.54	180	P		P	06 53 16.6		+4.3	
	4.5nm,0.9s,mb4.3,baz=210,slow=8.6,SNR=9.9									
QSPA	South Pole Qui	30.54	180	*e*P		P	06 53 16.6		+4.4	
	14nm,1.3s,mb4.6									
MAW	Mawson	36.12	140	P		P	06 54 04.8		+4.0	
	5.0nm,0.8s,mb4.5,baz=248,slow=10,SNR=6.1									
MAW	Mawson	36.12	140	P		P	06 54 04.8		+4.0	
CPUP	Villa Florida	40.62	310	P		P	06 54 36.9		-2.1	
	0.2nm,0.3s,mb3.2,baz=136,slow=7.6,SNR=2.8									
CPUP	Villa Florida	40.62	310	P		P	06 54 36.9		-2.1	
VNDA	Vanda	42.99	182	*e*P		P	06 54 52.3		-5.7	
	1.8nm,0.7s,mb3.9									
BOSA	Boshof	45.30	69	P		P	06 55 17.0		0.0	
	3.8nm,1.0s,mb4.2,baz=236,slow=7.3,SNR=3.5									
BOSA	Boshof	45.30	69	P		P	06 55 17.0		0.0	
LBTB	Lobatse	48.51	67	P		P	06 55 42.0		-0.1	
	6.9nm,1.0s,mb4.6,baz=235,slow=8.4,SNR=4.8									
LBTB	Lobatse	48.51	67	P		P	06 55 42.0		-0.1	
LPAZ	La Paz	53.99	304	P		P	06 56 23.6		+0.3	
	0.9nm,0.4s,mb4.0,baz=158,slow=8.8,SNR=11									
LPAZ	La Paz	53.99	304	*e*P		P	06 56 23.6		+0.3	
LSZ	Lusaka	58.15	63	*e*P		P	06 56 53.7		+0.7	
	4.4nm,1.2s,mb4.4									
DBIC	Dimbokro	67.84	20	P		P	06 57 56.4		-1.1	
	7.0nm,1.0s,mb4.6,baz=182,slow=9.4,SNR=3.6									
DBIC	Dimbokro	67.84	20	P		P	06 57 56.4		-1.1	
TORD	Torodi Ar. Bea	75.44	26	P		P	06 58 42.7		-0.4	
	9.3nm,0.8s,mb4.8,baz=200,slow=5.2,SNR=46									
TORD	Torodi Ar. Bea	75.44	26	P		P	06 58 42.7		-0.4	
ASAR	Alice Springs	94.92	159	P		P	07 00 23.4		+1.8	
	1.6nm,1.0s,mb4.4,baz=186,slow=4.4,SNR=8.2									
ASAR	Alice Springs	94.92	159	P		P	07 00 23.4		+1.8	
WRA	Warramunga Arr	98.64	159	P		P	07 00 40.7		+2.2	
	0.3nm,0.8s,mb3.9,baz=191,slow=8.0,SNR=4.0									
WRA	Warramunga Arr	98.64	159	P		P	07 00 40.7		+2.2	
WRAB	Tennant Creek	98.65	159	*e*P		P	07 00 39.5		+1.1	
	2.2nm,1.0s,mb4.6									
NVAR	Mina Array Bea	124.44	288	PKP		PKPdf	07 05 59.4		+1.8	
	0.2nm,0.5s,baz=191,slow=1.8,SNR=4.2									
NVAR	Mina Array Bea	124.44	288	PKP		PKPdf	07 05 59.4		+1.8	
FINES	FINESS Array B	126.77	27	PKP		PKPdf	07 06 00.9		-0.4	
	2.9nm,0.8s,baz=186,slow=2.8,SNR=4.7									
FINES	FINESS Array B	126.77	27	PKP		PKPdf	07 06 00.9		-0.4	
ABKAR	Akbulak array	127.91	56	*e*PKPdf		PKPdf	07 06 04.4		+0.5	
ARCES	ARCESS Array B	133.66	22	PKP		PKPdf	07 06 14.2		0.0	
	2.5nm,0.8s,baz=222,slow=1.2,SNR=6.1									
ARCES	ARCESS Array B	133.66	22	PKP		PKPdf	07 06 14.2		0.0	
YKA	Yellowknife Ar	140.09	314	PKP		PKPdf	07 06 28.4		+2.0	
	1.4nm,0.8s,baz=139,slow=2.1,SNR=5.2									
YKA	Yellowknife Ar	140.09	314	PKP		PKPdf	07 06 28.4		+2.1	
ZALV	Zalesovo Beam	142.22	66	PKhKP		PKPpre	07 06 25.3			
	0.4nm,0.4s,baz=225,slow=3.9,SNR=3.0									
ZALV	Zalesovo Beam	142.22	66	PKP		PKPpre	07 06 25.3			
SONM	Songino Array	148.97	90	PKPbc		PKPbc	07 06 46.4		+0.2	
	5.3nm,0.9s,baz=215,slow=2.3,SNR=17									
SONM	Songino Array	148.97	90	PKPbc		PKPbc	07 06 46.4		+0.2	
INK	Inuvik	149.78	316	*e*PKPbc		PKPbc	07 06 47.8		+0.2	
DAWY	Dawson	150.55	306	*e*PKPbc		PKPbc	07 06 49.8		+0.2	
MENT	Mentasta	151.95	303	*e*PKPdf		PKPdf	07 06 46.5		+0.2	
MENT				*e*PKPbc		PKPbc	07 06 54.1		+1.3	
MENT				*e*PKPab		PKPab	07 07 03.4		+1.1	
ILAR	Eielson Array	153.86	306	PKPbc		PKPbc	07 06 57.2		+0.2	
	1.9nm,0.9s,baz=131,slow=1.2,SNR=14									
ILAR	Eielson Array	153.86	306	PKPbc		PKPbc	07 06 57.2		+0.2	
COLA	College	154.28	305	*e*PKPab		PKPab	07 07 13.1		+1.0	

*ISCJB **17** 06:49:01.6±1.3,23.°0S±0.°3×170.°8E±0.°1,h33km, mb3.8/4, Error ellipse: s-maj=44.9km s-min=8.9km az=18.9*
*IDC **17** 06:49:03.5±4.9,21.°47S×170.°18E,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.7/16,mbtmp3.8/4,MS3.2/1,Ms1 3.2/1, ms1mx2.7/22,Error ellipse: s-maj=169.7km s-min=41.5km az=146.0*
*NEIC **17** 06:49:03.9±1.8,22.°61S×170.°90E,h35km,Error ellipse: s-maj=68.0km s-min=23.7km az=166.0*

**ISC 17 06:49:03.

KOZT	**Kozan**	**1.40**	**174**	*e*PN	**Pn**	**07 04 06.1**	**+0.5**
CORM	**Corum**	**1.52**	**329**	*e*PN	**Pn**	**07 04 07.3**	**+0.2**
CORM	**Corum**	**1.52**	**329**	*e*Pn	**Pn**	**07 04 07.3**	**+0.2**
CTKT	**Corum**	**1.86**	**340**	*i* P	**Pg**	**07 04 13.2**	**-1.8**
CTKT				*i* S	**Sg**	**07 04 39.0**	**-0.1**
CTKT	**Corum**	**1.86**	**340**	*i* P	**Pg**	**07 04 13.1**	**-1.9**
CTKT				*i* S	**Sg**	**07 04 39.0**	**-0.1**

ISCJB ***17*** *07:16:57.2±0.8, 30°.8N±0°.1×83°.4E±0°.1, h10km, mb3.4/8, MS3.5/4, Error ellipse: s-maj=21.0km s-min=11.6km az=143.0*

IDC ***17*** *07:16:57.6±1.0, 30°.78N×83°.50E, h0km, mb3.6/7, mb1 3.8/9, mb1mx3.6/28, mbtmp3.6/9, ML3.5/2, MS3.6/5, Ms1 3.6/5, ms1mx2.8/47, Error ellipse: s-maj=32.5km s-min=19.7km az=67.0*

NEIC ***17*** *07:16:58.9±0.8, 30°.81N×83°.30E, h10km, mb3.7/2, Error ellipse: s-maj=22.2km s-min=12.4km az=50.0*

ISC 17 07:16:59.0±0.8, 30°.8N±0°.1×83°.5E±0°.2, h10km, n27, σ1§04/23, mb3.4/8, MS3.5/4, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDI	**Dehra Dun**	**4.68**	**265**	*e*PKP	**Pg**	**07 18 23.0**	**-5.8**
DDI				*e*S	**Sg**	**07 19 47.0**	**+18**
LSA	**Lhasa**	**6.75**	**98**	*e*Pn	**Pn**	**07 18 42.4**	**+4.2**
	17nm,0.9s						
AAK	**Ala-Archa**	**13.79**	**331**	LR	LR	07 25 47.1	
	comp=Z,515nm,21.4s,baz=262,slow=38						
MKAR	**Makanchi Array**	**15.97**	**357**	Pn	**Pn**	**07 20 43.0**	**-0.7**
	0.0nm,0.3s,baz=182,slow=14,SNR=2.3						
MKAR	**Makanchi Array**	**15.97**	**357**	Pn	**Pn**	**07 20 43.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**18.68**	**128**	P	**Pn**	**07 21 17.0**	**-0.7**
	0.3nm,0.3s,baz=305,slow=12,SNR=6.6						
CMAR	**Chiang Mai Arr**	**18.68**	**128**	P	**Pn**	**07 21 17.0**	**-0.7**
KURK	**Kurchatov**	**20.19**	**351**	P	**P**	**07 21 33.1**	**-0.6**
	4.1nm,0.9s,baz=175,slow=9.9,SNR=18						
KURK	**Kurchatov**	**20.19**	**351**	P	**P**	**07 21 33.1**	**-0.6**
ZALV	**Zalesovo Beam**	**23.13**	**2**	P	**P**	**07 22 05.1**	**0.0**
	0.6nm,0.4s,mb3.4,baz=198,slow=8.9,SNR=6.8						
ZALV	**Zalesovo Beam**	**23.13**	**2**	P	**P**	**07 22 05.1**	**0.0**
SONM	**Songino Array**	**24.42**	**39**	P	**P**	**07 22 19.3**	**+1.8**
	1.9nm,0.8s,mb3.6,baz=231,slow=9.5,SNR=11						
SONM	**Songino Array**	**24.42**	**39**	P	**P**	**07 22 19.3**	**+1.8**
ABKAR	**Akbulak array**	**25.57**	**323**	*e*P	**P**	**07 22 28.1**	**+0.1**
	1.8nm,0.8s,mb3.6						
KSRS	**Korea Array**	**37.12**	**67**	LR	LR	07 40 30.8	
	comp=Z,42nm,20.4s,MS3.2,baz=186,slow=38						
MLR	**Muntele Rosu**	**46.57**	**305**	LR	LR	07 46 44.5	
	comp=Z,8.0nm,19.1s,MS2.7,baz=121,slow=38						
JHJ	**Hachijo jima 2**	**47.35**	**72**	LR	LR	07 46 55.6	
	comp=Z,365nm,21.6s,MS4.3,baz=38,slow=38						
ESLA	**Sonseca Array**	**69.26**	**304**	*e*P	**P**	**07 28 05.9**	**-0.4**
	0.1nm,0.4s,mb3.1						
WRA	**Warramunga Arr**	**70.26**	**129**	P	**P**	**07 28 10.6**	**-2.0**
	1.1nm,0.9s,mb3.8,baz=325,slow=6.3,SNR=7.4						
WRA	**Warramunga Arr**	**70.26**	**129**	P	**P**	**07 28 10.6**	**-2.0**
NWAO	**Narrogin (SRO)**	**71.00**	**150**	LR	LR	07 59 56.9	
	comp=Z,45nm,18.2s,MS3.8,baz=232,slow=36						
ASAR	**Alice Springs**	**72.62**	**132**	P	**P**	**07 28 28.4**	**+1.6**
	0.2nm,0.6s,mb3.2,baz=312,slow=4.9,SNR=3.0						
ASAR	**Alice Springs**	**72.62**	**132**	P	**P**	**07 28 28.4**	**+1.6**
TORD	**Torodi Ar. Bea**	**76.39**	**277**	P	**P**	**07 28 50.1**	**+1.0**
	0.2nm,0.5s,mb3.3,baz=58,slow=5.3,SNR=2.8						
TORD	**Torodi Ar. Bea**	**76.39**	**277**	P	**P**	**07 28 50.0**	**+1.0**
ILAR	**Eielson Array**	**76.97**	**20**	P	**P**	**07 28 51.1**	**-0.3**
	0.5nm,0.9s,mb3.4,baz=301,slow=5.4,SNR=5.7						
ILAR	**Eielson Array**	**76.97**	**20**	P	**P**	**07 28 51.1**	**-0.3**

NNC 17 07:24:51.4±0.9, 50°.14N×77°.78E, h0km, mb3.7, mpv1.8, 14C-8D, Error ellipse: s-maj=13.9km s-min=4.1km az=126.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.65**	**47**	⇑P	**Pg**	07 25 04.2	+0.4
	0.9nm,0.6s						
KUR07				⇑S	Sg	07 25 13.4	+1.2
	1.1nm,0.5s						
KUR17	**Kurchatov Arra**	**0.66**	**42**	⇑P	**Pg**	07 25 05.3	+1.2
KUR17				⇑S	Sg	07 25 14.7	+2.0
	0.7nm,0.6s						
KUR06	**Kurchatov Arra**	**0.67**	**46**	⇑P	**Pg**	07 25 04.5	+0.3
	0.9nm,0.5s						
KUR06				⇓S	Sg	07 25 13.9	+1.1
	1.7nm,0.7s						
KUR16	**Kurchatov Arra**	**0.67**	**43**	⇑P	**Pg**	07 25 04.9	+0.6
	0.6nm,0.7s						
KUR16				⇑S	Sg	07 25 14.7	+1.8
	1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**0.68**	**45**	⇓P	**Pg**	07 25 04.9	+0.4
	2.2nm,0.5s						
KURBB				⇑S	Sg	07 25 14.8	+1.5
	7.1nm,0.7s						
KUR15	**Kurchatov Arra**	**0.69**	**46**	⇓P	**Pg**	07 25 04.7	+0.1
	0.5nm,0.5s						
KUR15				⇑S	Sg	07 25 14.3	+0.6
	1.0nm,0.8s						
KUR05	**Kurchatov Arra**	**0.70**	**44**	⇑P	**Pg**	07 25 05.1	+0.4
	0.5nm,0.6s						
KUR05				⇑S	Sg	07 25 14.3	+0.4
	0.6nm,0.5s						
KUR14	**Kurchatov Arra**	**0.71**	**47**	⇑P	**Pg**	07 25 04.5	-0.4
	0.4nm,0.5s						
KUR14				⇓S	Sg	07 25 14.9	+0.8
	0.7nm,0.5s						
KUR04	**Kurchatov Arra**	**0.72**	**43**	⇓P	**Pg**	07 25 05.6	+0.4
	0.6nm,0.6s						
KUR04				⇓S	Sg	07 25 14.9	+0.4
	0.4nm,0.6s						
KURK	**Kurchatov**	**0.79**	**43**	⇓P	**Pg**	07 25 06.2	-0.3
	7.0nm,0.6s						
KURK				⇓S	Sg	07 25 17.0	+0.3
	17nm,1.0s						
MK31	**Makanchi Array**	**4.50**	**136**	⇑Pn	Pn	07 26 04.2	+3.5
	5.3nm,1.0s,baz=323,slow=14,SNR=6.4						
MK31				⇑Sn	Sn	07 27 00.4	+6.8
	4.5nm,0.6s,baz=318,slow=29,SNR=19						

NEIC ***17*** *07:31:49.3±2.5, 23°.84N×122°.10E, h10km, Error ellipse: s-maj=27.6km s-min=10.6km az=97.0*

TAP ***17*** *07:31:53.9, 23°.95N×121°.72E, h51km, ML4.0, B*

JMA ***17*** *07:31:53.9±0.4, 23°.95N×121°.80E, h72km, M3.3*

ISCJB ***17*** *07:31:54.0±0.3, 23°.92N±0°.02×121°.80E±0°.02, h47km±4km, Error ellipse: s-maj=3.3km s-min=2.2km az=37.4*

ISC 17 07:31:54.5±0.3, 23°.93N±0°.02×121°.79E±0°.02, h44km±4km, n66, σ0§82/120, 8C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.17**	**286**	P	**Pn**	**07 32 02.2**	**+0.1**
	baz=278						
HWA				*e*S	**Sn**	**07 32 08.8**	**+1.5**
	baz=278						
TWD	**Chiawan**	**0.23**	**311**	⇓*i*P	**Pn**	**07 32 02.4**	**-0.1**
	baz=308						
TWD				S	**Sn**	**07 32 08.7**	**+0.6**
	baz=308						
ESF	**Shoufeng Towns**	**0.26**	**258**	*e*P	**Pn**	**07 32 02.5**	**-0.3**
	baz=258						
ESF				*e*S	**Sn**	**07 32 09.0**	**+0.5**
	baz=258						
NACB	**Ninganchiao**	**0.30**	**324**	*e*Pg	**Pn**	**07 32 02.1**	**-1.0**
NACB				*e*Sg	**Sn**	**07 32 07.1**	**-2.2**
TEGC	**Jichi Village**	**0.32**	**226**	P	**Pn**	**07 32 03.4**	**+0.1**
	baz=203						
TEGC				*e*S	**Sn**	**07 32 10.9**	**+1.5**
	baz=203						
ESL	**Shilin**	**0.34**	**251**	P	**Pn**	**07 32 03.0**	**-0.6**
	baz=248						
ESL				*e*S	**Sn**	**07 32 09.3**	**-0.6**
	baz=248						
ENA	**Nanau**	**0.50**	**355**	⇑*i*P	**Pn**	**07 32 05.0**	**-0.4**
	baz=7.0						
ENA				*e*S	**Sn**	**07 32 13.3**	**+0.2**
	baz=7.0						
WHF	**Hehuan Shan**	**0.53**	**294**	⇑*i*P	**Pn**	**07 32 05.3**	**-0.4**
	baz=291						
WHF				S	**Sn**	**07 32 13.4**	**-0.3**
	baz=291						
EHY	**Hungye**	**0.60**	**226**	⇓P	**Pn**	**07 32 05.5**	**-1.2**
	baz=217						
EHY				*e*S	**Sn**	**07 32 14.1**	**-1.3**
	baz=217						
NNS	**Nan Shan**	**0.64**	**323**	⇑*i*P	**Pn**	**07 32 06.6**	**-0.6**
	baz=328						
NNS				*e*S	**Sn**	**07 32 16.2**	**-0.1**
	baz=328						
TWT	**Tachien**	**0.65**	**300**	*i* P	**Pn**	**07 32 07.2**	**-0.1**
	baz=297						
TWT				S	**Sn**	**07 32 16.1**	**-0.4**
	baz=297						
TWC	**Suao**	**0.68**	**5**	⇑*i*P	**Pn**	**07 32 07.8**	**0.0**
	baz=19						
TWC				*e*S	**Sn**	**07 32 17.8**	**+0.5**
	baz=19						
YULB	**Yu-li**	**0.70**	**220**	*e*Pg	**Pn**	**07 32 06.5**	**-1.5**
TWF1	**Yuli**	**0.73**	**218**	*e*P	**Pn**	**07 32 07.1**	**-1.4**
	baz=219						
ENTT	**Nioudou**	**0.74**	**344**	⇑*i*P	**Pn**	**07 32 08.1**	**-0.5**
	baz=351						
ENTT				*e*S	**Sn**	**07 32 18.4**	**-0.3**
	baz=351						
SSLB	**Suanglung**	**0.78**	**260**	*e*Pg	**Pn**	**07 32 08.2**	**-0.9**
SSLB				*e*Sg	**Sn**	**07 32 22.8**	**+3.2**
TWE	**Neicheng**	**0.80**	**352**	⇑*i*P	**Pn**	**07 32 09.0**	**-0.4**
	baz=352						
TWE				S	**Sn**	**07 32 20.1**	**-0.1**
	baz=352						
SMLT	**Sun Moon Lake**	**0.81**	**267**	P	**Pn**	**07 32 08.9**	**-0.6**
	baz=263						
SMLT				*e*S	**Sn**	**07 32 20.6**	**+0.1**
	baz=263						
YHNB	**Yeheng**	**0.83**	**333**	*e*Pg	**Pn**	**07 32 08.9**	**-0.8**
YHNB				*e*Sg	**Sn**	**07 32 21.1**	**+0.2**
ILA	**Ilan**	**0.83**	**357**	*e*P	**Pn**	**07 32 10.3**	**+0.4**
	baz=356						
ILA				*e*S	**Sn**	**07 32 22.2**	**+1.2**
	baz=356						
NSK	**Sanguang**	**0.84**	**332**	⇑*i*P	**Pn**	**07 32 09.4**	**-0.5**
	baz=336						
NSK				S	**Sn**	**07 32 20.3**	**-0.9**
	baz=336						
TYC	**Yuchr**	**0.85**	**269**	⇑P	**Pn**	**07 32 09.6**	**-0.5**
	baz=267						
TYC				*e*S	**Sn**	**07 32 21.1**	**-0.4**
	baz=267						
YUS	**Yu-Shan**	**0.88**	**240**	P	**Pn**	**07 32 10.5**	**0.0**
	baz=229						
YUS				*e*S	**Sn**	**07 32 21.7**	**-0.4**
	baz=229						
CHKT	**Chengkung**	**0.91**	**205**	⇓P	**Pn**	**07 32 09.8**	**-1.1**
	baz=189						
CHKT				*e*S	**Sn**	**07 32 21.9**	**-1.0**
	baz=189						
EGS		**0.92**	**8**	*e*P	**Pn**	**07 32 11.3**	**+0.2**
	baz=16						
EGS				*e*S	**Sn**	**07 32 24.7**	**+1.5**
	baz=16						
ALS	**Alishan**	**0.99**	**245**	P	**Pn**	**07 32 12.2**	**+0.2**
	baz=234						
ALS				S	**Sn**	**07 32 24.9**	**+0.1**
	baz=234						
NSTT	**Nanjuang**	**1.00**	**314**	P	**Pn**	**07 32 12.2**	**+0.1**
	baz=303						
NSTT				*e*S	**Sn**	**07 32 25.4**	**+0.2**
	baz=303						
WNT	**Mingjian**	**1.01**	**267**	P	**Pn**	**07 32 12.4**	**+0.2**
	baz=265						
WNT				*e*S	**Sn**	**07 32 26.0**	**+0.6**
	baz=265						
TWQ1	**Liyutan**	**1.02**	**294**	*e*P	**Pn**	**07 32 11.9**	**-0.5**
	baz=294						
TWQ1				S	**Sn**	**07 32 25.2**	**-0.3**
	baz=294						
ELDTW	**Lidau**	**1.02**	**224**	*e*P	**Pn**	**07 32 11.2**	**-1.2**
	baz=217						
ELDTW				*e*S	**Sn**	**07 32 24.5**	**-1.1**
	baz=217						
TCU	**Taichung**	**1.04**	**282**	*e*P	**Pn**	**07 32 12.7**	**0.0**
	baz=281						
TCU				*e*S	**Sn**	**07 32 26.6**	**+0.5**
	baz=281						
NSY	**Sanyi**	**1.06**	**298**	P	**Pn**	**07 32 12.7**	**-0.1**
	baz=297						
NSY				*e*S	**Sn**	**07 32 26.3**	**-0.1**
	baz=297						
TWA	**Mucha**	**1.06**	**350**	P	**Pn**	**07 32 12.9**	**-0.1**
	baz=342						
TWA				*e*S	**Sn**	**07 32 26.8**	**+0.2**
	baz=342						
CHN5	**Tsauling**	**1.07**	**252**	*e*P	**Pn**	**07 32 13.2**	**+0.2**
	baz=249						
CHN5				*e*S	**Sn**	**07 32 27.0**	**+0.3**
	baz=249						
TATO	**Taipei**	**1.08**	**345**	*e*Pn	**Pn**	**07 32 12.6**	**-0.6**
TWB1	**Santiao Chiao**	**1.09**	**10**	*e*P	**Pn**	**07 32 13.3**	**0.0**
	baz=26						
TAP1	**Taipei**	**1.13**	**348**	*e*P	**Pn**	**07 32 13.5**	**-0.4**
	baz=352						
TAP1				*e*S	**Sn**	**07 32 27.5**	**-0.8**
	baz=352						
NWF	**Wu-fen Shan**	**1.14**	**360**	P	**Pn**	**07 32 14.1**	**+0.1**
	baz=354						
NWF				*e*S	**Sn**	**07 32 29.3**	**+0.9**
	baz=354						
WGK	**Gukeng**	**1.15**	**258**	*e*P	**Pn**	**07 32 14.7**	**+0.6**
	baz=255						
WGK				*e*S	**Sn**	**07 32 30.4**	**+1.7**
	baz=255						
NCU	**National Centr**	**1.17**	**332**	*e*P	**Pn**	**07 32 14.1**	**-0.4**
	baz=335						
NCU				*e*S	**Sn**	**07 32 29.6**	**+0.3**
	baz=335						
STYT	**Tauyuan**	**1.22**	**231**	*e*P	**Pn**	**07 32 15.1**	**+0.1**
	baz=226						
STYT				*e*S	**Sn**	**07 32 30.6**	**+0.3**
	baz=226						
TWS1	**Kuangyinshan**	**1.22**	**344**	*e*P	**Pn**	**07 32 14.8**	**-0.3**
	baz=348						
TWS1				*e*S	**Sn**	**07 32 30.6**	**+0.2**
	baz=348						
TPUB	**Ta-pu**	**1.23**	**240**	*e*Pn	**Pn**	**07 32 15.2**	**0.0**
CHN4	**Tsaushan**	**1.24**	**243**	P	**Pn**	**07 32 16.0**	**+0.7**
	baz=230						
CHN4				*e*S	**Sn**	**07 32 32.2**	**+1.3**
	baz=230						
YOJ	**Yonaguni jima**	**1.24**	**64**	*e*P	**Pn**	**07 32 15.9**	**+0.6**
	baz=68						
YOJ	**Yonaguni jima**	**1.24**	**64**	P	**Pn**	**07 32 15.5**	**+0.2**
YOJ				*e*S	**Sn**	**07 32 31.9**	**+1.1**
WTP	**Ta-pu**	**1.27**	**238**	*e*P	**Pn**	**07 32 15.9**	**+0.1**
	baz=234						
WTP				*e*S	**Sn**	**07 32 32.7**	**+1.0**
	baz=234						
TWG	**Pinlang**	**1.28**	**211**	*e*Pn	**Pn**	**07 32 15.0**	**-1.0**
TWG				*e*Sg	**Sn**	**07 32 29.8**	**-2.2**
TWG	**Pinlang**	**1.28**	**211**	*e*P	**Pn**	**07 32 14.6**	**-1.4**
	baz=196						
TWG				*e*S	**Sn**	**07 32 29.6**	**-2.3**
	baz=196						
CHY	**Chiayi**	**1.32**	**251**	*e*P	**Pn**	**07 32 17.6**	**+1.1**
	baz=248						
CHY				*e*S	**Sn**	**07 32 34.5**	**+1.6**
	baz=248						
TWY	**Chenhua**	**1.35**	**353**	*e*P	**Pn**	**07 32 16.5**	**-0.4**
	baz=345						
TWY				*e*S	**Sn**	**07 32 33.6**	**-0.1**
	baz=345						
CHN1	**Nanshi**	**1.37**	**238**	*e*P	**Pn**	**07 32 17.5**	**+0.3**
	baz=234						
CHN1				*e*S	**Sn**	**07 32 35.1**	**+1.0**
	baz=234						
WTCT	**Ta-ch'eng**	**1.38**	**268**	*e*P	**Pn**	**07 32 16.8**	**-0.5**
	baz=278						
WTCT				*e*S	**Sn**	**07 32 34.4**	**0.0**
	baz=278						
SSD	**Sandimen**	**1.58**	**222**	*e*P	**Pn**	**07 32 20.6**	**+0.5**
	baz=216						
SSD				*e*S	**Sn**	**07 32 41.2**	**+1.8**
	baz=216						
TWM1	**Shoushan**	**1.67**	**229**	*e*P	**Pn**	**07 32 23.3**	**+2.1**
	baz=226						
EAST	**Anshuo**	**1.76**	**210**	*e*P	**Pn**	**07 32 23.1**	**+0.6**
	baz=199						
IRIF	**Iriomote-Funau**	**1.82**	**77**	P	**Pn**	**07 32 23.1**	**-0.2**
IRIF				S	**Sn**	**07 32 45.6**	**+0.4**
HATJ	**Hateruma jima**	**1.85**	**86**	P	**Pn**	**07 32 24.1**	**+0.4**
HATJ				S	**Sn**	**07 32 46.4**	**+0.5**
SCZT	**Fangliau**	**1.89**	**215**	*e*P	**Pn**	**07 32 25.2**	**+1.0**
	baz=224						
SCZT				*e*S	**Sn**	**07 32 48.8**	**+2.0**
	baz=224						
LAY	**Lan-yu**	**1.89**	**187**	*e*P	**Pn**	**07 32 22.9**	**-1.4**
	baz=183						
JKRS	**Kuro-shima**	**2.05**	**81**	P	**Pn**	**07 32 27.0**	**+0.5**
JKRS				*e*S	**Sn**	**07 32 52.0**	**+1.1**
PNG	**Penghu**	**2.08**	**260**	*e*P	**Pn**	**07 32 25.7**	**-1.2**
	baz=258						
TWK1	**Hengchun**	**2.17**	**205**	*e*P	**Pn**	**07 32 27.6**	**-0.6**
	baz=194						
JIJ	**Ishigaki jima**	**2.19**	**78**	P	**Pn**	**07 32 28.2**	**-0.3**
JIJ				S	**Sn**	**07 32 53.3**	**-1.1**
JTJ	**Tarama**	**2.75**	**74**	*e*S	**Sn**	**07 33 08.7**	**+0.6**
QZH	**Quanzhou**	**3.08**	**290**	Pn	**Pn**	**07 32 36.8**	**-3.9**
QZH				Sn	**Sn**	**07 33 08.8**	**-7.5**
QZH				smax			
	comp=N,130nm,0.5s						
QZH				smax			
	comp=E,140nm,0.4s						

IDC ***17*** *07:33:33.7±1.6, 3°.77S×145°.78E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.7/17, mbtmp3.7/5, MS2.9/1, Ms1 2.9/1, ms1mx2.2/25, Error ellipse: s-maj=83.0km s-min=27.4km az=118.0*

ISCJB ***17*** *07:33:37.3±1.3, 3°.9S±0°.2×145°.9E±0°.3, h33km, mb3.5/4, Error ellipse: s-maj=56.3km s-min=20.2km az=30.9*

NEIC ***17*** *07:33:39.0±1.4, 3°.79S×145°.83E, h35km, mb3.7/1, Error ellipse: s-maj=59.7km s-min=20.9km az=120.0*

ISC 17 07:33:39.0±1.3, 3°.8S±0°.2×145°.8E±0°.4, h35km, n13, σ0§64/12, mb3.5/4, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRAB	**Tennant Creek**	**19.50**	**214**	*e*P	**Pn**	**07 38 05.4**	**+0.7**
	2.8nm,0.6s						
WB2	**Warramunga Arr**	**19.51**	**214**	*e*P	**Pn**	**07 38 04.7**	**0.0**
WRA	**Warramunga Arr**	**19.51**	**214**	P	**Pn**	**07 38 04.8**	**0.0**
	0.2nm,0.3s,baz=41,slow=12,SNR=21						
WRA	**Warramunga Arr**	**19.51**	**214**	P	**Pn**	**07 38 04.8**	**0.0**
ASAR	**Alice Springs**	**22.81**	**209**	P	**P**	**07 38 39.7**	**+0.8**
	0.5nm,0.5s,mb3.2,baz=36,slow=8.2,SNR=8.9						
ASAR	**Alice Springs**	**22.81**	**209**	P	**P**	**07 38 39.7**	**+0.8**
FITZ	**Fitzroy Crossi**	**24.27**	**233**	P	**P**	**07 38 52.1**	**-1.0**
	1.7nm,0.8s,mb3.5,baz=84,slow=10,SNR=4.0						
FITZ	**Fitzroy Crossi**	**24.27**	**233**	P	**P**	**07 38 52.1**	**-1.0**
STKA	**Stephens Creek**	**28.19**	**187**	P	**P**	**07 39 27.5**	**-0.8**
	1.5nm,0.8s,mb3.7,baz=356,slow=16,SNR=2.5						
STKA	**Stephens Creek**	**28.19**	**187**	P	**P**	**07 39 27.5**	**-0.8**
KSRS	**Korea Array**	**44.28**	**340**	LR	LR	07 58 24.9	
	comp=Z,14nm,19.7s,baz=10.0,slow=34						
ILAR	**Eielson Array**	**83.98**	**23**	P	**P**	**07 46 05.6**	**+0.3**
	0.5nm,0.9s,mb3.7,baz=258,slow=5.7,SNR=5.4						
ILAR	**Eielson Array**	**83.98**	**23**	P	**P**	**07 46 05.6**	**+0.3**

IDC ***17*** *07:49:51.3±1.2, 30°.52N×83°.27E, h0km, mb3.5/7, mb1 3.7/8, mb1mx3.5/27, mbtmp3.5/8, ML2.7/1, Error ellipse: s-maj=39.8km s-min=22.9km az=72.0*

ISCJB ***17*** *07:49:53.7±1.9, 30°.6N±0°.1×83°.2E±0°.1, h24km±16km, mb3.4/7, Error ellipse: s-maj=19.3km s-min=13.2km az=34.1*

NEIC ***17*** *07:49:53.4±0.9, 30°.62N×83°.13E, h10km, mb3.7/1, Error ellipse: s-maj=23.4km s-min=12.5km az=53.0*

ISC 17 07:49:54.7±3.7, 30°.60N±0°.1×83°.1E±0°.1, h20km±26km, n21, σ1§07/21, mb3.4/7, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDI	**Dehra Dun**	**4.34**	**268**	*ex*	**Pb**	**07 51 10.0**	**-0.4**
LSA	**Lhasa**	**7.05**	**95**	Pn	**Pn**	**07 51 37.9**	**+1.2**
MKAR	**Makanchi Array**	**16.18**	**358**	Pn	**Pn**	**07 53 40.5**	**-0.2**
	0.0nm,0.3s,baz=172,slow=14,SNR=3.0						
MKAR	**Makanchi Array**	**16.18**	**358**	Pn	**Pn**	**07 53 40.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**18.80**	**126**	P	**Pn**	**07 54 13.7**	**+0.1**
	0.5nm,0.3s,baz=303,slow=11,SNR=6.7						
CMAR	**Chiang Mai Arr**	**18.80**	**126**	P	**Pn**	**07 54 13.7**	**+0.1**
KURK	**Kurchatov**	**20.37**	**352**	P	**P**	**07 54 28.1**	**-1.7**
	1.0nm,0.2s,baz=174,slow=10.0,SNR=9.5						
KURK	**Kurchatov**	**20.37**	**352**	P	**P**	**07 54 28.1**	**-1.7**
ZALV	**Zalesovo Beam**	**23.36**	**3**	P	**P**	**07 55 02.0**	**+0.2**
	0.9nm,0.6s,mb3.4,baz=200,slow=11,SNR=2.4						
ZALV	**Zalesovo Beam**	**23.36**	**3**	P	**P**	**07 55 02.0**	**+0.2**
SONM	**Songino Array**	**24.80**	**39**	P	**P**	**07 55 15.2**	**0.0**
	1.0nm,0.8s,mb3.4,baz=218,slow=11,SNR=5.1						
SONM	**Songino Array**	**24.80**	**39**	P	**P**	**07 55 15.2**	**0.0**
ABKAR	**Akbulak array**	**25.56**	**323**	*e*P	**P**	**07 55 24.7**	**+2.6**
	1.5nm,0.8s,mb3.6						
WRA	**Warramunga Arr**	**70.38**	**129**	P	**P**	**08 01 05.7**	**-1.7**
	0.4nm,0.5s,mb3.6,baz=325,slow=6.3,SNR=11						
WRA	**Warramunga Arr**	**70.38**	**129**	P	**P**	**08 01 05.7**	**-1.7**
ASAR	**Alice Springs**	**72.71**	**132**	P	**P**	**08 01 21.0**	**-0.4**
	2.0nm,1.0s,mb3.0,baz=310,slow=5.7,SNR=2.8						
ASAR	**Alice Springs**	**72.71**	**132**	P	**P**	**08 01 21.0**	**-0.4**
TORD	**Torodi Ar. Bea**	**76.09**	**277**	P	**P**	**08 01 42.7**	**+1.3**
	0.4nm,0.7s,mb3.4,baz=39,slow=7.9,SNR=2.9						
TORD	**Torodi Ar. Bea**	**76.09**	**277**	P	**P**	**08 01 42.7**	**+1.3**
ILAR	**Eielson Array**	**77.30**	**20**	P	**P**	**08 01 47.2**	**-0.1**
	0.3nm,0.9s,mb3.2,baz=289,slow=5.6,SNR=3.4						
ILAR	**Eielson Array**	**77.30**	**20**	P	**P**	**08 01 47.2**	**-0.1**

BJI ***17*** *08:07:06.8, 5°.94S×147°.43E, h190km, mB5.0/12, mb4.5/23*

ISCJB ***17*** *08:07:10.8±0.8, 5°.37S±0°.04×147°.13E±0°.05, h188km±8km, mb4.6/39, Error ellipse: s-maj=8.3km s-min=6.1km az=8.0*

MOS ***17*** *08:07:11.0±1.0, 5°.34S×147°.03E, h193km, mb4.6/8, Error ellipse: s-maj=13.3km s-min=8.7km az=92.3*

IDC ***17*** *08:07:12.5±0.7, 5°.44S×147°.04E, h191km±5km, mb4.2/16, mb1 4.3/19, mb1mx4.2/23, mbtmp4.2/19, MS3.5/3, Ms1 3.5/3, ms1mx2.9/26, Error

WB2 **Warramunga Arr 18.98 220** *e*P **P** **08 11 20.4 +0.4**
WB2 *e*S **S** **08 14 45.1 -0.2**
WRA Warramunga Arr 18.98 220 P **P** **08 11 19.9 -0.2**
comp=Z,53nm,0.3s,baz=45,slow=11,SNR=987
WRA S **S** **08 14 44.4 -1.1**
baz=42,slow=19,SNR=15
WRA Warramunga Arr 18.98 220 P **P** **08 11 19.9 -0.2**
WRA S **S** **08 14 44.4 -1.1**
WRA Warramunga Arr 18.98 220 P **P** **08 11 19.9 -0.2**
WRA S **S** **08 14 44.4 -1.0**
NLAI Namlea 20.03 276 P **P** **08 11 29.7 -1.7**
comp=Z,1μmcomp=Z,42nm,1.1s
EIDS Eidsvold 20.17 169 *e*P **P** **08 11 34.1 +1.4**
comp=Z,26nm,0.6s
ASAR Alice Springs 22.10 214 P **P** **08 11 53.4 +0.6**
comp=Z,175nm,0.8s,mb5.6,baz=47,slow=8.7,SNR=2180
ASAR S **S** **08 15 43.6 +1.3**
comp=Z,24nm,0.7s,baz=34,slow=23,SNR=12
ASAR Alice Springs 22.10 214 P **P** **08 11 53.4 +0.6**
ASAR S **S** **08 15 43.6 +1.3**
ASAR Alice Springs 22.10 214 P **P** **08 11 53.4 +0.6**
ASAR S **S** **08 15 43.6 +1.3**
FITZ Fitzroy Crossi 24.41 237 P **P** **08 12 13.4 -0.5**
comp=Z,131nm,0.6s,baz=62,slow=11,SNR=202
FITZ Fitzroy Crossi 24.41 237⇓*iP* **P** **08 12 13.3 -0.6**
comp=Z,328nm,0.6s
FITZ Fitzroy Crossi 24.41 237 *e*P **P** **08 12 13.3 -0.6**
comp=Z,151nm,0.6s
FITZ Fitzroy Crossi 24.41 237 P **P** **08 12 13.4 -0.5**
comp=Z,246nm,0.8s,comp=Z,2μm
DZM Mont Dzumac 24.98 133 *e*P **P** **08 12 17.0 -2.1**
DZM Mont Dzumac 24.98 133 *e*P **P** **08 12 18.7 -0.4**
comp=Z,43nm,0.7s,mb5.2
ARMA Armidale 25.20 171 *e*P **P** **08 12 21.8 +0.9**
ARMA Armidale 25.20 171 *e*P **P** **08 12 22.3 +1.4**
comp=Z,32nm,0.9s,mb5.0
STKA Stephens Creek 26.77 190 P **P** **08 12 34.9 -0.2**
comp=Z,2.9nm,0.7s,mb4.0,baz=10,slow=6.4,SNR=5.6
STKA Stephens Creek 26.77 190 *e*P Px 08 12 45.7
comp=Z,55nm,0.6s
STKA Stephens Creek 26.77 190 *e*P **P** **08 12 35.8 +0.8**
comp=Z,15nm,0.8s,mb4.7
STKA Stephens Creek 26.77 190 *e*P **P** **08 12 35.8 +0.7**
STKA pmax pmax
comp=Z,15nm,0.8s
MBWA Marble Bar 30.75 237 *e*P **P** **08 13 09.6 -0.8**
comp=Z,46nm,0.7s,mb5.2
MBWA Marble Bar 30.75 237 P **P** **08 13 09.7 -0.7**
FORT Forrest 30.88 213 *e*P **P** **08 13 11.4 0.0**
comp=Z,63nm,0.6s,mb5.4
FORT Forrest 30.88 213 *e*P **P** **08 13 11.8 +0.3**
comp=Z,60nm,0.5s,mb5.5
MSVF Nonsavu 32.65 115 *e*P **P** **08 13 28.2 +1.1**
comp=Z,7.2nm,0.6s,mb4.4
MSVF Nonsavu 32.65 115 *e*P **P** **08 13 28.2 +1.2**
MSVF pmax pmax
comp=Z,7.0nm,0.6s,mb4.4
KLBR Kellerberrin 37.81 223⇓*iP* **P** **08 14 10.0 -0.9**
comp=Z,26nm,0.5s,mb5.0
NWAO Narrogin (SRO) 38.97 222 P **P** **08 14 19.6 -0.9**
comp=Z,8.6nm,0.7s,mb4.4,baz=42,slow=7.9,SNR=5.8
NWAO LR LR 08 30 49.4
comp=Z,90nm,20.9s,baz=209,slow=36
NWAO Narrogin (SRO) 38.97 222 *e*P **P** **08 14 20.0 -0.6**
comp=Z,23nm,0.9s,mb4.7
NWAO Narrogin (SRO) 38.97 222 *e*P **P** **08 14 20.0 -0.6**
NWAO pmax pmax
comp=Z,23nm,0.9s
YHNB Yeheng 39.02 321 *e*P **P** **08 14 21.9 +0.8**
comp=Z,87nm,1.2s,mb5.2
AFI Afiamalu 41.38 105 P **P** **08 14 39.2 -1.4**
comp=Z,38nm,0.9s,mb4.8,baz=5.1,slow=9.9,SNR=4.6
AFI Afiamalu 41.38 105 P **P** **08 14 39.2 -1.4**
AFI Afiamalu 41.38 105 P **P** **08 14 39.2 -1.4**
URZ Urewera 42.55 144 P **P** **08 14 50.4 +0.6**
comp=Z,10nm,0.4s,mb4.6,baz=262,slow=2.2,SNR=21
URZ Urewera 42.55 144 P **P** **08 14 50.4 +0.6**
RPZ Rata Peaks 43.56 155 P **P** **08 14 57.9 +0.1**
comp=Z,24nm,0.8s,mb4.5,baz=90,slow=2.8,SNR=6.8
RPZ Rata Peaks 43.56 155 P **P** **08 14 57.9 +0.1**
NJ2 Nanjing 45.97 326 *e*P **P** **08 15 19.8 +2.8**
NJ2 pmax pmax
comp=Z,20nm,0.6s,mb4.6
KSRS Korea Array 46.27 339 P **P** **08 15 19.3 +0.1**
comp=Z,0.9nm,0.3s,mb3.5,baz=160,slow=7.8,SNR=4.1
KSRS pP pP 08 16 00.8 -0.6
comp=Z,4.3nm,1.0s,baz=154,slow=9.1,SNR=4.0
KSRS Korea Array 46.27 339 P **P** **08 15 19.3 +0.1**
KSRS *PP pP 08 16 00.8 -0.5
KSRS pmax pmax
comp=Z,1.0nm,0.4s,mb3.5
KSRS pmax pmax
comp=Z,4.0nm,1.0s,mb3.7
KSAR Wonju Array Be 46.28 339 P **P** **08 15 19.3 0.0**
KSAR pP pP 08 16 00.8 -0.6
KSAR Wonju Array Be 46.28 339 P **P** **08 15 19.3 0.0**
KSAR *PP pP 08 16 00.8 -0.6
WHN Wuhan 47.56 321⇑*iP* **P** **08 15 30.1 +0.8**
ENH Enshi 50.57 317 *e*P **P** **08 15 52.0 -0.1**
comp=Z,14nm,0.9s,mb4.4
MDJ Mudanjiang 52.26 344 P **P** **08 16 05.5 +1.0**
MDJ pP pP 08 16 47.9 +0.3
MDJ sP sP 08 17 09.3 +0.4
MDJ S **S** **08 23 22.6 +8.2**
MDJ pmax pmax
comp=Z,4.0nm,0.8s,mb3.9
MDJ pmax pmax
comp=Z,39nm,4.5s
MDJ LR LR
comp=N,50nm,24.5s
MDJ LR LR
comp=E,62nm,23.3s
MDJ LR LR
comp=Z,110nm,19.9s
KMI Kunming 52.72 307 P **P** **08 16 09.3 +1.1**
KMI pP pP 08 16 51.6 +0.2
KMI sP sP 08 17 11.1 -1.6
KMI pmax pmax
comp=Z,7.0nm,0.8s,mb4.1
KMI pmax pmax
comp=Z,130nm,4.0s
CN2 Changchun 52.78 340 *e*P **P** **08 16 09.0 +0.8**
CMAR Chiang Mai Arr 53.05 298 P **P** **08 16 10.3 -0.4**
comp=Z,2.5nm,0.6s,mb3.8,baz=122,slow=6.0,SNR=9.7
CMAR pP pP 08 16 52.1 -1.8
comp=Z,1.3nm,0.6s,baz=121,slow=6.2,SNR=1.8
CMAR Chiang Mai Arr 53.05 298 P **P** **08 16 10.3 -0.4**
CMAR pP pP 08 16 52.1 -1.8
CMAR Chiang Mai Arr 53.05 298 P **P** **08 16 10.4 -0.3**
CMAR *PP pP 08 16 52.1 -1.9
XAN Xi'an 53.31 320 P **P** **08 16 11.8 -0.5**
XAN pmax pmax
comp=Z,7.0nm,0.9s,mb4.1
BJI Beijing 53.47 331 P **P** **08 16 20.6 +7.3**
BJI pP pP 08 16 57.1 +0.5
BJI sP sP 08 17 17.6 -0.3
BJI S **S** **08 23 32.6 +1.7**
BJI pmax pmax
comp=Z,22nm,0.8s,mb4.6
CD2 Chengdu 54.95 314 P **P** **08 16 25.8 +1.6**
CD2 pP pP 08 17 08.8 +1.0
CD2 sP sP 08 17 29.9 +1.0
CD2 PP PP 08 18 32.8 +3.3
CD2 S **S** **08 23 51.1 +0.1**
CD2 sS sS 08 25 06.8 -0.2
CD2 SS SS 08 27 37.8 0.0
CD2 pmax pmax
comp=Z,20nm,0.5s,mb4.9
CD2 pmax pmax
comp=Z,170nm,5.9s
HHC Hu-ho-hao-te 56.41 328 *e*P **P** **08 16 36.4 +2.0**
HHC pP pP 08 17 19.6 +1.4
HHC sP sP 08 17 39.9 +0.6
HHC ScS ScS 08 26 04.1 -0.1
HHC SS SS 08 28 04.3 +3.8
HHC pmax pmax
comp=Z,18nm,0.7s,mb4.7
HHC pmax pmax
comp=Z,170nm,4.3s
LZH Lanzhou 57.84 319 *e*P **P** **08 16 45.8 +1.2**
LZH pP pP 08 17 27.5 -1.1
LZH sP sP 08 17 45.6 -4.0
LZH pmax pmax
comp=Z,24nm,1.3s,mb4.7
PETK Petropavlovsk- 59.04 7 P **P** **08 16 52.5 0.0**
comp=Z,2.8nm,0.8s,mb4.0,baz=153,slow=9.1,SNR=3.0
PETK Petropavlovsk- 59.04 7 P **P** **08 16 52.5 0.0**
PETK Petropavlovsk- 59.04 7 P **P** **08 16 52.5 0.0**
FX1 Attu Island--F 62.19 18 LR LR 08 42 01.0
comp=Z,52nm,19.9s,baz=258,slow=34
GTA Gaotai 62.37 320 *e*P **P** **08 17 15.8 +0.5**
GTA pP pP 08 18 00.1 +0.2
GTA sP sP 08 18 21.5 +0.7
GTA pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
SONM Songino Array 63.97 331 P **P** **08 17 25.9 +0.3**
comp=Z,3.7nm,0.9s,mb4.0,baz=160,slow=4.9,SNR=19
SONM pP pP 08 18 11.2 +0.8
comp=Z,3.3nm,1.1s,baz=155,slow=7.8,SNR=4.8
SONM PKPPKP 08 46 20.4
comp=Z,0.7nm,0.8s,baz=346,slow=2.7,SNR=4.4
SONM Songino Array 63.97 331 P **P** **08 17 25.9 +0.3**
SONM pP pP 08 18 11.2 +0.8
SONM P'P' 08 46 20.4
SONM Songino Array 63.97 331 P **P** **08 17 25.9 +0.3**
SONM *PP pP 08 18 11.2 +0.8
ZAK Zakamensk 67.20 331⇓*iP* **P** **08 17 46.1 -0.1**
ZAK *e* pP 08 18 32.3 +0.8
ZAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
TLY Talaya 67.90 332 *e*P **P** **08 17 48.9 -1.7**
YAK Yakutsk 68.62 351 *e*P **P** **08 17 52.7 -2.1**
YAK pmax pmax
comp=Z,42nm,2.5s,mb4.6
WMQ Urumqi 72.43 319 P **P** **08 18 18.5 +0.2**
VNDA Vanda 72.44 177 P **P** **08 18 18.1 +0.2**
comp=Z,4.7nm,0.6s,mb4.3,baz=331,slow=6.9,SNR=33
VNDA Vanda 72.44 177 *e*P **P** **08 18 18.2 +0.4**
comp=Z,3.4nm,0.6s,mb4.2
VNDA Vanda 72.44 177 *e*P **P** **08 18 18.2 +0.4**
VNDA pmax pmax
comp=Z,3.0nm,0.6s
BILL Bilibino 74.57 7⇓*eP* **P** **08 18 28.1 -2.2**
BILL pmax pmax
comp=Z,11nm,1.7s,mb4.2
MKAR Makanchi Array 77.12 320 P **P** **08 18 44.5 -0.6**
comp=Z,1.6nm,0.6s,mb3.8,baz=97,slow=7.3,SNR=9.1
MKAR pP pP 08 19 30.6 -1.0
comp=Z,6.1nm,1.0s,baz=104,slow=5.8,SNR=7.6
MKAR LR LR 08 53 20.8
comp=Z,23nm,20.5s,baz=173,slow=36
MKAR Makanchi Array 77.12 320 P **P** **08 18 44.5 -0.6**
MKAR pP pP 08 19 30.6 -1.0
MKAR LR LR 08 53 20.8
MKAR Makanchi Array 77.12 320 P **P** **08 18 44.6 -0.6**
MKAR *PP pP 08 19 30.6 -1.0
ZAA0 Zalesovo Array 78.59 328 *e*P **P** **08 18 51.5 -1.6**
ZALV Zalesovo Beam 78.59 328 P **P** **08 18 51.5 -1.6**
comp=Z,3.4nm,0.7s,mb4.1,baz=113,slow=5.5,SNR=16
ZALV Zalesovo Beam 78.59 328 P **P** **08 18 51.5 -1.6**
ZALV Zalesovo Beam 78.59 328 P **P** **08 18 51.5 -1.6**
KURK Kurchatov 80.82 323⇑*eP* **P** **08 19 04.2 -1.0**
KURK *e*PP pP 08 19 53.7 +1.7
KURK pmax pmax
comp=Z,6.0nm,1.2s,mb4.1
QSPA South Pole Qui 84.50 180 P **P** **08 19 23.5 -0.2**
comp=Z,3.5nm,0.7s,mb4.2,baz=290,slow=1.1,SNR=8.2
QSPA South Pole Qui 84.50 180 P **P** **08 19 23.5 -0.2**
ILAR Eielson Array 84.96 23 P **P** **08 19 24.3 -1.8**
comp=Z,2.8nm,0.6s,mb4.2,baz=252,slow=4.6,SNR=60
ILAR Eielson Array 84.96 23 P **P** **08 19 24.3 -1.8**
ILAR Eielson Array 84.96 23 P **P** **08 19 24.3 -1.8**
BRVK Borovoye 86.44 324⇑*iP* **P** **08 19 31.9 -1.8**
BRVK pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
YBH Yreka Blue Hor 93.76 49 *e*P **P** **08 20 09.1 +0.9**
comp=Z,6.2nm,1.1s,mb4.5
YBH Yreka Blue Hor 93.76 49 *e*P **P** **08 20 09.1 +0.9**
YBH pmax pmax
comp=Z,6.0nm,1.1s
NVAR Mina Array Bea 96.99 52 P **P** **08 20 24.1 +1.1**
comp=Z,2.0nm,0.8s,mb4.4,baz=259,slow=6.1,SNR=17
NVAR Mina Array Bea 96.99 52 P **P** **08 20 24.1 +1.1**
PDAR Pinedale Array 103.51 47 Pdiff Pdif 08 20 51.8 +0.1
comp=Z,1.0nm,0.9s,baz=230,slow=2.9,SNR=7.4
PDAR Pinedale Array 103.51 47 Pdif Pdif 08 20 51.8 +0.1
LPAZ La Paz 139.02 122 SKP 08 29 32.7
comp=Z,2.0nm,0.9s,baz=159,slow=4.3,SNR=4.8
SDV Santo Domingo 142.46 83 *e*PKPdf PKPdf 08 26 20.2 -3.7
CRPR Cabo Rojo, PR 144.38 67 *e*PKPdf PKPdf 08 26 24.5 -2.6
TORD Torodi Ar. Bea 145.02 285 PKP PKPdf 08 26 26.0 -2.3
comp=Z,2.8nm,0.7s,baz=93,slow=4.4,SNR=18
TORD SKP 08 29 45.0
comp=Z,1.2nm,0.8s,baz=101,slow=1.8,SNR=3.6
TORD Torodi Ar. Bea 145.02 285 PKP PKPdf 08 26 26.0 -2.3
TORD SKP 08 29 45.0
SJG San Juan 145.22 66 PKPbc PKPbc 08 26 26.7 -1.9
comp=Z,16nm,0.6s,baz=30,slow=2.6,SNR=4.6
SJG San Juan 145.22 66 PKPbc PKPbc 08 26 26.7 -1.9
DBIC Dimbokro 152.05 274 PKPbc PKPbc 08 26 47.0 +0.5
comp=Z,5.6nm,1.1s,baz=153,slow=6.8,SNR=2.7
DBIC PKPab PKPab 08 26 56.0 -0.7
comp=Z,2.5nm,0.7s,baz=9.1,slow=1.3,SNR=3.8
DBIC Dimbokro 152.05 274 PKPbc PKPbc 08 26 47.0 +0.5
DBIC PKPab PKPab 08 26 56.0 -0.8

*ISCJB **17** 08:25:04.7±0.7, 17°.29N±0°.05×100°.77W±0°.03, h24km±7km, mb3.7/7, Error ellipse: s-maj=8.2km s-min=3.9km az=15.2*
*NEIC **17** 08:25:05.0, 17°.31N×100°.77W, h1km, mb4.2/6, MD4.0(MEX), After MEX.*
*IDC **17** 08:25:06.0±1.8, 17°.29N×100°.69W, h38km±5km, mb3.3/4, mb1 3.6/7, mb1mx3.5/24, mbtmp3.3/7, ML3.2/3, MS3.2/3, Ms1 3.2/3, ms1mx2.7/24, Error ellipse: s-maj=47.2km s-min=29.4km az=44.0*
*MEX **17** 08:25:05.8±0.5, 17°.31N×100°.77W, h1km±4km, MD4.0*
ISC 17 08:25:05.0±0.7, **17°.27N**±0°.05×**100°.77W**±0°.03, **h19**km±6km, **h38**km±2.6km**:pP-P, n35,σ1°13/48, mb3.7**/8, **Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.53**	**114**	*e*P	**Pg**	**08 25 16.3**	**+0.6**
CAIG				*i* S	**Sg**	**08 25 24.1**	**+1.3**
ZIIG	**Zihuatanejo**	**0.74**	**297**	*i* P	**Pg**	**08 25 18.9**	**-0.7**
ZIIG				*i* S	**Sg**	**08 25 29.6**	**+0.1**
ACX	**Acapulco**	**0.96**	**114**	*i* P	**Pb**	**08 25 21.8**	**-1.2**
ACX				*e*S	**Sb**	**08 25 34.6**	**-0.7**
MEIG	**Mezcala**	**1.28**	**59**	*e*P	**Pn**	**08 25 26.5**	**-1.3**
MEIG				*i* S	**Sb**	**08 25 42.7**	**-1.8**
PLIG	**Platanillo**	**1.65**	**47**	*e*P	**Pn**	**08 25 31.6**	**-1.2**
PLIG				*e*S	**Sn**	**08 25 52.9**	**-0.6**
MOIG	**Morelia**	**2.43**	**351**	*e*P	**Pn**	**08 25 43.0**	**-0.7**
MOIG				*i* S	**Sn**	**08 26 12.2**	**-0.6**
UNM	**Universidad Na**	**2.55**	**36**	*e*P	**Pn**	**08 25 44.7**	**-0.6**
UNM				*e*S	**Sn**	**08 26 16.0**	**+0.2**
MMIG	**Aquila**	**2.65**	**293**	*e*P	**Pn**	**08 25 46.5**	**-0.3**
MMIG				*e*S	**Sn**	**08 26 18.3**	**-0.1**
PNIG	**Pinotepa**	**2.68**	**109**	*e*P	**Pn**	**08 25 46.8**	**-0.3**
PNIG				*e*S	**Sn**	**08 26 18.6**	**-0.4**
PPM	**Popocatepetl**	**2.71**	**48**	*e*P	**Pn**	**08 25 47.4**	**-0.2**
PPM				*e*S	**Sn**	**08 26 21.0**	**+1.2**
UTMO	**Huajuapan**	**2.89**	**78**	*e*P	**Pn**	**08 25 49.9**	**0.0**
UTMO				*e*S	**Sn**	**08 26 25.7**	**+1.5**
TPIG	**Tehuac#an**	**3.44**	**70**	*e*P	**Pn**	**08 25 57.2**	**-0.4**
TPIG				*e*S	**Sn**	**08 26 39.8**	**+1.9**
CMIG	**Matias Romero**	**5.63**	**91**	Pn	**Pn**	**08 26 28.1**	**+0.3**
	0.9nm,0.3s,baz=193,slow=17,SNR=25						
CMIG				Pg		08 26 56.6	
	3.1nm,0.3s,baz=274,slow=18,SNR=8.9						
CMIG				Sn	**Sn**	**08 27 44.4**	**+12**
	6.2nm,0.3s,baz=54,slow=5.7,SNR=6.1						
CMIG				Lg		08 27 56.7	
	4.6nm,0.3s,baz=352,slow=18,SNR=6.2						
CMIG				LR	LR	08 29 10.7	
	comp=Z,88nm,19.7s,baz=196,slow=44						
CMIG	**Matias Romero**	**5.63**	**91**	Pn	**Pn**	**08 26 28.1**	**+0.3**
CMIG				Pg		08 26 56.6	
CMIG				Sn	**Sn**	**08 27 44.4**	**+12**
CMIG				Lg		08 27 56.7	
CMIG				LR	LR	08 29 10.7	
TXAR	**Lajitas Array**	**12.30**	**348**	Pn	**Pn**	**08 27 59.9**	**+0.8**
	0.0nm,0.3s,baz=169,slow=10,SNR=3.5						
TXAR				LR	LR	08 33 04.6	
	comp=Z,122nm,18.0s,baz=205,slow=39						
TXAR	**Lajitas Array**	**12.30**	**348**	Pn	**Pn**	**08 27 59.9**	**+0.8**
TXAR				LR	LR	08 33 04.6	
LAZ	**Ladron**	**17.99**	**343**	*e*P	**Pn**	**08 29 19.1**	**+5.1**
	4.9nm,1.0s						
ANMO Albuquerque 18.33 345 P **Pn** **08 29 17.6 -0.6**
0.1nm,0.3s,baz=153,slow=13,SNR=5.9
ANMO sP sP 08 29 30.8 +4.9
0.1nm,0.3s,baz=157,slow=11,SNR=11
ANMO LR LR 08 36 51.8
comp=Z,117nm,18.0s,baz=160,slow=38
ANMO Albuquerque 18.33 345 P **Pn** **08 29 17.6 -0.6**
ANMO *e*Pn **Pn** **08 29 21.6 +3.4**
ANMO sP sP 08 29 30.8 +4.9
ANMO LR LR 08 36 51.8
WUAZ Wupatki 20.48 335 *e*P **P** **08 29 43.3 +1.6**
20nm,0.9s
MVCO Mesa Verde 21.00 343 *e*P **P** **08 29 49.0 +1.7**
10nm,1.4s,mb4.0
PV01 Paradox Valley 21.89 343 P **P** **08 29 59.7 +2.9**
515nm,1.4s
ARUT Antelope Range 23.28 334 *e*P **P** **08 30 14.5 +2.9**
4.6nm,0.8s,mb4.0
HWUT Hardware Ranch 25.97 341 *e*P **P** **08 30 41.4 +5.0**
4.7nm,0.9s,mb4.0
NVAR Mina Array Bea 26.08 327 P **P** **08 30 37.7 +0.3**
0.5nm,0.6s,mb3.2,baz=159,slow=7.7,SNR=7.2
NVAR pP pP 08 30 48.9 +5.8
1.6nm,0.8s,baz=138,slow=11,SNR=8.6
NVAR sP sP 08 30 52.8 +7.3
4.4nm,0.8s,baz=140,slow=11,SNR=17
NVAR Mina Array Bea 26.08 327 P **P** **08 30 37.7 +0.3**
NVAR pP pP 08 30 48.9 +5.8
NVAR sP sP 08 30 52.8 +7.3
PDAR Pinedale Array 26.50 345 P **P** **08 30 40.0 -1.1**
0.6nm,0.9s,mb3.1,baz=132,slow=8.7,SNR=3.9
PDAR sP sP 08 30 55.6 +6.4
2.6nm,1.0s,baz=159,slow=8.9,SNR=8.9
PDAR Pinedale Array 26.50 345 P **P** **08 30 40.0 -1.1**
PDAR sP sP 08 30 55.6 +6.4
TPAW Teton Pass 27.53 344 *e*P **P** **08 30 54.9 +4.6**
9.8nm,1.3s,mb4.3
INK Inuvik 55.06 346 P **P** **08 34 32.6 -2.6**
1.7nm,0.9s,mb4.0,baz=148,slow=6.0,SNR=7.3
INK pP pP 08 34 43.9 +2.7
1.2nm,0.8s,baz=127,slow=3.6,SNR=2.8
INK Inuvik 55.06 346 P **P** **08 34 32.6 -2.6**
INK pP pP 08 34 43.9 +2.7
ILAR Eielson Array 56.60 338 P **P** **08 34 44.9 -1.4**
0.3nm,0.9s,mb3.3,baz=141,slow=7.6,SNR=4.0
ILAR pP pP 08 34 55.1 +2.8
0.9nm,0.9s,baz=147,slow=6.3,SNR=8.9
ILAR sP sP 08 35 00.2 +5.6
1.2nm,0.9s,baz=149,slow=6.5,SNR=9.0
ILAR Eielson Array 56.60 338 P **P** **08 34 44.9 -1.4**
ILAR pP pP 08 34 55.1 +2.8
ILAR sP sP 08 35 00.2 +5.6
WRA Warramunga Arr 127.89 258 PKP PKPdf 08 44 07.9 -2.3
0.3nm,0.7s,baz=84,slow=2.7,SNR=7.3
WRA Warramunga Arr 127.89 258 PKP PKPdf 08 44 07.9 -2.3

*NIED **17** 08:26:00,38°.00N×142°.70E, h29km, Mw4.1 Best double couple: M0 1.51000×10^15 NP1:φ≈12.00000°, δ67.00000°, λ87.00000°. NP2:φ≈199.00000°, δ23.00000°, λ96.00000°.*
*IDC **17** 08:26:55.5±0.8, 37°.98N×142°.59E, h0km, mb4.0/11, mb1 4.1/16, mb1mx4.0/30, mbtmp4.0/16, ML3.8/5, MS3.3/9, Ms1 3.3/9, ms1mx2.9/36, Error ellipse: s-maj=21.4km s-min=16.0km az=88.0*
*ISCJB **17** 08:26:58.4±1.0, 37°.99N±0°.04×142°.72E±0°.07, h35km±8km, mb4.1/15, MS3.3/8, Error ellipse: s-maj=9.9km s-min=6.8km az=23.6*
*NEIC **17** 08:26:58.0, 38°.01N×142°.67E, h30km, mb4.5/4, MW4.1(NIED), After JMA.*
*JMA **17** 08:26:58.0±0.1, 38°.01N×142°.67E, h30km±2km, MS4.3*
ISC 17 08:26:58.3±1.8, **38°.04N**±0°.04×**142°.66E**±0°.06, **h18**km±12km, **n53**,σ1°**03**/58, **mb4.1**/15, **MS3.3**/8, **6D**, **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**1.30**	**324**	⇓*iP*	**Pn**	**08 27 21.0**	**-0.5**
OFUJ				*e*S	**Sn**	**08 27 37.6**	**-0.9**
JMK	**Ichinoseki**	**1.45**	**310**	⇓*iP*	**Pn**	**08 27 23.3**	**-0.3**
JMM	**Marumori**	**1.48**	**264**	⇓*iP*	**Pn**	**08 27 23.1**	**-0.9**
JMM				*e*S	**Sn**	**08 27 41.9**	**-1.1**
JFK	**Kawauchi**	**1.56**	**245**	⇓*iP*	**Pn**	**08 27 24.1**	**-1.1**
JOU	**Okura**	**1.60**	**282**	*i*P	**Pn**	**08 27 25.7**	**0.0**
JOU				*e*S	**Sn**	**08 27 45.9**	**-0.1**
JOM	**Ohasama**	**1.79**	**324**	⇓*iP*	**Pn**	**08 27 28.6**	**+0.3**
JOM				*e*S	**Sn**	**08 27 51.1**	**+0.6**
JFT	**Otama**	**1.91**	**255**	⇓*iP*	**Pn**	**08 27 30.1**	**+0.2**
JFT				*e*S	**Sn**	**08 27 53.4**	**-0.1**
JYK	**Kaneyama**	**2.01**	**297**	P	**Pn**	**08 27 31.3**	**0.0**
JYS	**Shirataka**	**2.05**	**276**	P	**Pn**	**08 27 32.2**	**+0.3**
JYS				S	**Sn**	**08 27 57.8**	**+0.8**
JANG	**Nango**	**2.50**	**340**	P	**Pn**	**08 27 37.9**	**-0.1**
JNS	**Sasagawa**	**2.65**	**266**	P	**Pn**	**08 27 41.3**	**+1.2**
JAW	**Awa shima**	**2.72**	**280**	P	**Pn**	**08 27 42.1**	**+1.1**
MJAR	**Matsushiro Arr**	**3.85**	**249**	Pn	**Pn**	**08 27 56.8**	**+0.2**
3.3nm,0.3s,baz=52,slow=11,SNR=24							
MJAR	**Matsushiro Arr**	**3.85**	**249**	Pn	**Pn**	**08 27 56.8**	**+0.2**
MAJO	**Matsushiro**	**3.85**	**249**	*e*Pn	**Pn**	**08 27 57.9**	**+1.3**
MAT	**Matsushiro**	**3.85**	**249**	P	**Pn**	**08 27 58.2**	**+1.6**
MAT				*e*S	**Sn**	**08 28 43.1**	**+1.8**
JHJ	**Hachijo jima 2**	**5.43**	**206**	Pn	**Pn**	**08 28 17.7**	**-0.7**
25nm,0.3s,baz=36,slow=19,SNR=13							
JHJ				Sn	**Sn**	**08 29 14.4**	**-6.0**
34nm,0.3s,baz=247,slow=23,SNR=5.9							
ASAJ	**Asahikawa**	**6.08**	**360**	Pn	**Pn**	**08 28 28.4**	**+1.3**
1.3nm,0.3s,baz=218,slow=14,SNR=6.8							
ASAJ				Sn	**Sn**	**08 29 33.5**	**-2.8**
1.0nm,0.3s,baz=306,slow=19,SNR=2.7							
ASAJ				LR	LR	08 31 32.3	
comp=Z,217nm,20.6s,baz=164,slow=45							
CBIJ	**Chichi jima**	**10.91**	**182**	Pn	**Pn**	**08 29 30.2**	**-3.4**
6.0nm,0.3s,baz=304,slow=19,SNR=12							
CBIJ				Sn	**Sn**	**08 31 23.1**	**-12**
5.2nm,0.3s,baz=18,slow=20,SNR=4.1							
KSRS	**Korea Array**	**11.68**	**272**	Pn	**Pn**	**08 29 41.5**	**-2.5**
0.2nm,0.3s,baz=83,slow=14,SNR=3.1							
KSAR	**Wonju Array Be**	**11.71**	**272**	Pn	**Pn**	**08 29 41.5**	**-2.9**
GUMO	**Guam**	**24.43**	**175**	LR	LR	08 40 41.2	
comp=Z,14nm,19.7s,MS2.4,baz=39,slow=34							
SONM	**Songino Array**	**28.07**	**302**	P	**P**	**08 32 49.3**	**+0.7**
2.1nm,0.7s,mb3.9,baz=118,slow=8.4,SNR=17							
SONM				LR	LR	08 44 36.8	
comp=Z,84nm,18.6s,MS3.4,baz=195,slow=38							
SONM	**Songino Array**	**28.07**	**302**	P	**P**	**08 32 49.3**	**+0.7**
SONM				LR	LR	08 44 36.8	
ENH	**Enshi**	**28.41**	**264**	*e*P	**P**	**08 32 51.4**	**-0.4**
11nm,0.6s,mb4.7							
ZAA0	**Zalesovo Array**	**41.98**	**312**	*e*P	**P**	**08 34 48.4**	**+0.3**
ZALV	**Zalesovo Beam**	**41.98**	**312**	P	**P**	**08 34 48.2**	**+0.2**
2.4nm,0.5s,mb4.0,baz=88,slow=8.0,SNR=13							
ZALV				PcP	PcP	08 36 42.7	-0.3
0.8nm,0.5s,baz=104,slow=6.1,SNR=3.6							
ZALV	**Zalesovo Beam**	**41.98**	**312**	P	**P**	**08 34 48.2**	**+0.2**
ZALV				PcP	PcP	08 36 42.7	-0.3
CM31	**Chiang Mai Arr**	**42.71**	**255**	*e*P	**P**	**08 34 51.7**	**-2.6**
7.2nm,0.6s,mb4.6							
CMAR	**Chiang Mai Arr**	**42.71**	**255**	LR	LR	08 51 27.3	
comp=Z,15nm,21.0s,MS2.9,baz=145,slow=34							
MKAR	**Makanchi Array**	**44.43**	**301**	P	**P**	**08 35 07.8**	**-0.1**
3.5nm,0.8s,mb4.1,baz=83,slow=9.5,SNR=11							
MKAR	**Makanchi Array**	**44.43**	**301**	P	**P**	**08 35 07.8**	**-0.1**
KURK	**Kurchatov**	**46.10**	**308**	P	**P**	**08 35 21.5**	**+0.4**
6.7nm,0.7s,mb4.7,baz=82,slow=8.0,SNR=40							
KURK				LR	LR	08 55 11.3	
comp=Z,42nm,21.0s,MS3.4,baz=25,slow=37							
KURK	**Kurchatov**	**46.10**	**308**	P	**P**	**08 35 21.5**	**+0.4**
KURK				LR	LR	08 55 11.3	
ILAR	**Eielson Array**	**48.12**	**33**	P	**P**	**08 35 38.3**	**+1.7**
0.4nm,0.7s,mb3.5,baz=270,slow=6.0,SNR=5.1							
ILAR	**Eielson Array**	**48.12**	**33**	P	**P**	**08 35 38.3**	**+1.7**
HNR	**Honiara**	**49.91**	**157**	LR	LR	08 56 43.1	
comp=Z,35nm,18.9s,MS3.4,baz=94,slow=36							
TKM2	**Tokmak 2**	**50.03**	**298**	*e*P	**P**	**08 35 52.6**	**+1.0**
1.9nm,0.6s,mb4.3							
ABKAR	**Akbulak array**	**58.05**	**310**	*e*P	**P**	**08 36 49.9**	**-0.2**
2.3nm,0.8s,mb4.3							
WRA	**Warramun

0.4nm,0.7s,mb3.6,baz=355,slow=4.4,SNR=5.0
ASAR Alice Springs 61.92 189 P **P** **08 37 17.2 +0.4**
FINES FINESS Array B 68.39 332 LR LR 09 07 32.8
comp=Z,43nm,19.7s,MS3.7,baz=138,slow=36
NOA NORSAR Array B 73.64 338 P **P** **08 38 29.8 -0.4**
1.1nm,0.9s,mb3.8,baz=29,slow=8.1,SNR=2.8
NOA LR LR 09 14 59.2
comp=Z,36nm,18.0s,MS3.7,baz=0.0,slow=39
NOA NORSAR Array B 73.64 338 P **P** **08 38 29.8 -0.4**
NOA LR LR 09 14 59.2
AKASG Malin Array Be 74.11 323 P **P** **08 38 32.3 -0.9**
1.0nm,0.4s,mb4.1,baz=46,slow=5.9,SNR=4.4
AKASG Malin Array Be 74.11 323 P **P** **08 38 32.3 -0.9**
PDAR Pinedale Array 76.26 46 P **P** **08 38 46.7 +1.0**
0.2nm,0.6s,mb3.2,baz=304,slow=2.0,SNR=2.3
PDAR Pinedale Array 76.26 46 P **P** **08 38 46.7 +1.0**
GERES GERESS Array B 82.38 329 LR LR 09 22 00.1
comp=Z,29nm,18.1s,MS3.7,baz=269,slow=40

MEX 17 08:41:40.7±1.0, 17.00N×94.07W, h153km±9km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.79**	**277**	*e*P	Pn	08 42 02.3	-1.8
CMIG				*i* S	Sn	08 42 20.3	-1.6
TGIG		**0.93**	**103**	*i* P	Pn	08 42 03.7	-1.5
TGIG				*e*S	Sn	08 42 21.4	-2.4
PCIG		**1.52**	**147**	*e*P	Pn	08 42 10.0	-0.8
PCIG				*i* S	Sn	08 42 31.8	-2.0
CCIG	**Comitan**	**1.98**	**111**	*i* P	Pn	08 42 14.9	-0.9
CCIG				*i* S	Sn	08 42 41.2	-1.6
HUIG	**Huatulco**	**2.31**	**238**	*e*P	Pn	08 42 16.9	-2.7
HUIG				*i* S	Sn	08 42 47.5	-2.1
VHO	**Vista Hermosa**	**2.55**	**272**	*i* P	Pn	08 42 22.6	0.0
VHO				*i* S	Sn	08 42 53.9	-0.9
THIG		**2.71**	**140**	*i* P	Pn	08 42 23.3	-1.2
THIG				*i* S	Sn	08 42 57.2	-1.2
UTMO	**Huajuapan**	**3.66**	**284**	*i* P	Pn	08 42 35.9	-0.7
UTMO				*i* S	Sn	08 43 17.5	-2.6
PNIG	**Pinotepa**	**3.94**	**262**	*e*P	Pn	08 42 38.1	-2.1
PNIG				*i* S	Sn	08 43 24.7	-1.7

*ISCJB **17** 08:41:41.1±2.6, 7.08S±0.09×129.3E±0.1, h1km±18km, mb4.3/4, MS2.9/2, Error ellipse: s-maj=18.6km s-min=14.7km az=15.8*
*IDC **17** 08:41:42.4±1.6, 6.97S×129.23E, h0km, mb4.1/4, mb1 4.0/7, mb1mx3.8/20, mbtmp3.9/7, ML3.8/3, MS2.9/3, Ms1 2.9/3, ms1mx2.4/34, Error ellipse: s-maj=45.0km s-min=26.5km az=98.0*
*NEIC **17** 08:41:48.5±1.3, 7.09S×129.53E, h35km, mb3.8/1, Error ellipse: s-maj=21.4km s-min=17.8km az=97.0*
ISC 17 08:41:43.5±3.3, 7.03S±0.08×129.4E±0.1, h5km±23km, n23, σ1§03/27, mb4.2/4, MS2.9/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.59**	**198**	Pn	**Pn**	**08 44 28.4**	**-1.3**
	0.6nm,0.3s,baz=21,slow=14,SNR=17						
FITZ				Sn	**Sn**	**08 46 40.7**	**+1.1**
	0.5nm,0.3s,baz=111,slow=15,SNR=4.6						
FITZ				LR	LR	08 48 54.8	
	comp=Z,25nm,19.1s,baz=171,slow=37						
FITZ	**Fitzroy Crossi**	**11.59**	**198**	*e*P	**Pn**	**08 44 29.7**	**0.0**
	6.2nm,0.4s						
FITZ	**Fitzroy Crossi**	**11.59**	**198**	*e*Pn	**Pn**	**08 44 30.2**	**+0.5**
FITZ				*e*Sn	**Sn**	**08 46 38.5**	**-1.1**
WRAB	**Tennant Creek**	**13.72**	**160**	*e*Pn	**Pn**	**08 44 59.1**	**+0.3**
	9.2nm,1.0s						
WRA	**Warramunga Arr**	**13.72**	**160**	Pn	**Pn**	**08 44 57.9**	**-1.0**
	0.5nm,0.3s,baz=332,slow=13,SNR=27						
WRA				Sn	**Sn**	**08 47 32.9**	**+1.0**
	0.4nm,0.3s,baz=330,slow=24,SNR=7.7						
WRA	**Warramunga Arr**	**13.72**	**160**	Pn	**Pn**	**08 44 57.9**	**-1.0**
WRA				Sn	**Sn**	**08 47 32.9**	**+1.0**
WB2	**Warramunga Arr**	**13.73**	**160**	*e*Pn	**Pn**	**08 44 58.8**	**-0.1**
COEN	**Coen**	**15.23**	**118**	*e*P	**Pn**	**08 45 18.8**	**-0.7**
	26nm,0.6s						
MBWA	**Marble Bar**	**16.85**	**213**	*e*P	**Pn**	**08 45 44.5**	**+4.2**
	5.2nm,0.7s						
ASAR	**Alice Springs**	**17.11**	**166**	Pn	**Pn**	**08 45 43.7**	**+0.1**
	0.2nm,0.3s,baz=340,slow=13,SNR=22						
ASAR				Sn	**Sn**	**08 48 52.4**	**-2.0**
	0.1nm,0.3s,baz=352,slow=27,SNR=5.2						
ASAR	**Alice Springs**	**17.11**	**166**	Pn	**Pn**	**08 45 43.7**	**+0.1**
ASAR				Sn	**Sn**	**08 48 52.4**	**-2.0**
CTA	**Charters Tower**	**20.91**	**130**	P	**P**	**08 46 27.7**	**+0.6**
	2.9nm,0.9s,baz=322,slow=12,SNR=2.7						
CTA				LR	LR	08 55 23.1	
	comp=Z,24nm,18.5s,MS2.6,baz=232,slow=39						
CTA	**Charters Tower**	**20.91**	**130**	P	**P**	**08 46 27.7**	**+0.6**
CTA				LR	LR	08 55 23.1	
STKA	**Stephens Creek**	**27.24**	**157**	P	**P**	**08 47 29.5**	**+0.9**
	3.1nm,0.8s,mb3.9,baz=314,slow=10,SNR=6.6						
STKA				LR	LR	08 58 45.2	
	comp=Z,52nm,19.2s,MS3.1,baz=195,slow=37						
STKA	**Stephens Creek**	**27.24**	**157**	*e*P	**P**	**08 47 29.9**	**+1.3**
	2.7nm,0.8s,mb3.8						
STKA	**Stephens Creek**	**27.24**	**157**	P	**P**	**08 47 29.5**	**+0.9**
STKA				LR	LR	08 58 45.2	
NWAO	**Narrogin (SRO)**	**28.12**	**202**	P	**P**	**08 47 36.7**	**+0.2**
	3.6nm,0.6s,mb4.2,baz=12,slow=9.3,SNR=3.0						
NWAO	**Narrogin (SRO)**	**28.12**	**202**	P	**P**	**08 47 36.7**	**+0.2**
CMSA	**Cobar Meteorol**	**28.77**	**150**	*e*P	**P**	**08 47 44.2**	**+1.9**
	27nm,0.8s,mb5.0						
ILAR	**Eielson Array**	**93.64**	**25**	P	**P**	**08 54 59.4**	**-1.3**
	0.3nm,0.9s,mb3.7,baz=269,slow=5.4,SNR=3.4						
ILAR	**Eielson Array**	**93.64**	**25**	P	**P**	**08 54 59.4**	**-1.3**
LPAZ	**La Paz**	**151.09**	**143**	PKPbc	PKPbc	09 01 40.4	+1.6
	0.5nm,0.4s,baz=195,slow=1.7,SNR=2.9						
LPAZ	**La Paz**	**151.09**	**143**	PKPbc	PKPbc	09 01 40.4	+1.6

MAN 17 08:50:24, 9.32N×125.68E, h25km, mb3.8, ML2.5, MS2.1, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.36**	**189**	*e*P	Pb	08 50 34.1	+2.2
BUTP				*e*S	Sb	08 50 42.2	+4.9
SCPH	**Surigao**	**0.49**	**338**	*e*P	Pb	08 50 35.7	+1.6
BUKP	**Musuan**	**1.56**	**203**	*e*P	Pn	08 50 51.5	+1.3
BUKP				*e*S	Sn	08 50 58.0	-12

*ISCJB **17** 09:09:00.6±0.7, 38.44N±0.03×21.92E±0.05, h13km±4km, Error ellipse: s-maj=6.2km s-min=5.1km az=160.2*
*CSEM **17** 09:09:00.3±0.2, 38.41N×21.92E, h19km, MD2.9, Error ellipse: s-maj=5.3km s-min=4.4km az=64.0*
*ATH **17** 09:09:00.3, 38.42N×21.90E, h17km±2km, MD2.9/6*
*THE **17** 09:09:01.7, 38.44N×21.96E, h9km±1km, ML2.0/6, Error ellipse: s-maj=1.6km s-min=0.5km az=238.0*
ISC 17 09:09:00.7±0.8, 38.43N±0.03×21.91E±0.05, h15km±6km, n24, σ0§57/39, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EFP	**Efpalio**	**0.00**	**260**	*e*PB	**Pg**	**09 09 03.2**	**-0.2**
EFP	**Efpalio**	**0.00**	**260**	P	**Pg**	**09 09 03.2**	**-0.2**
EFP				S	**Sg**	**09 09 04.8**	**-0.4**
EFP	**Efpalio**	**0.00**	**260**	*e*Pb	**Pg**	**09 09 03.2**	**-0.2**
EFP				S	**Sg**	**09 09 04.8**	**-0.4**
KALE	**Kalithea**	**0.18**	**101**	P	**Pg**	**09 09 04.7**	**-0.4**
KALE				S	**Sg**	**09 09 07.6**	**-0.5**
LAKA	**Lakka**	**0.20**	**164**	P	**Pg**	**09 09 05.8**	**+0.5**
LAKA				S	**Sg**	**09 09 09.5**	**+1.1**
DSF	**Desfina**	**0.48**	**92**	P	**Pg**	**09 09 09.8**	**-0.6**
DSF				S	**Sg**	**09 09 16.7**	**-0.2**
DSF	**Desfina**	**0.48**	**92**	P	**Pg**	**09 09 09.8**	**-0.6**
DSF				S	**Sg**	**09 09 16.7**	**-0.2**
EVR	**Evrytania**	**0.49**	**351**	*e*PN	**Pg**	**09 09 10.4**	**-0.2**
EVR				*e*SN	**Sg**	**09 09 18.4**	**+1.2**
EVR	**Evrytania**	**0.49**	**351**	P	**Pg**	**09 09 10.8**	**+0.2**
EVR				S	**Sg**	**09 09 18.4**	**+1.2**
EVR	**Evrytania**	**0.49**	**351**	*e*Pn	**Pg**	**09 09 10.4**	**-0.2**
EVR	**Evrytania**	**0.49**	**351**	P	**Pg**	**09 09 10.8**	**+0.2**
EVR				S	**Sg**	**09 09 18.4**	**+1.2**
GUR	**Goura**	**0.60**	**145**	P	**Pg**	**09 09 12.7**	**+0.3**
GUR	**Goura**	**0.60**	**145**	P	**Pg**	**09 09 12.7**	**+0.3**
AGG	**Agios Georgios**	**0.68**	**29**	*e*PB	**Pg**	**09 09 13.2**	**-0.8**
AGG				*e*SN	**Sg**	**09 09 23.1**	**+0.1**
AGG	**Agios Georgios**	**0.68**	**29**	P	**Pg**	**09 09 14.3**	**+0.3**
AGG				S	**Sg**	**09 09 23.9**	**+0.9**
AGG	**Agios Georgios**	**0.68**	**29**	*e*Pb	**Pg**	**09 09 13.2**	**-0.8**
AGG	**Agios Georgios**	**0.68**	**29**	P	**Pg**	**09 09 14.3**	**+0.3**
AGG				*e*Sn	**Sg**	**09 09 23.1**	**+0.1**
AGG				S	**Sg**	**09 09 23.9**	**+0.9**
LKR	**Lokris**	**0.88**	**75**	*e*PN	**Pg**	**09 09 17.9**	**+0.1**
LKR				*e*SN	**Sg**	**09 09 29.8**	**+0.4**
LKR	**Lokris**	**0.88**	**75**	P	**Pb**	**09 09 17.7**	**0.0**
LKR	**Lokris**	**0.88**	**75**	*e*Pn	**Pg**	**09 09 17.9**	**+0.1**
LKR				*e*Sn	**Sg**	**09 09 29.8**	**+0.4**
VLS	**Valsamata**	**1.07**	**257**	*e*PN	**Pg**	**09 09 20.8**	**-0.6**
VLS	**Valsamata**	**1.07**	**257**	*e*Pn	**Pg**	**09 09 20.8**	**-0.6**
THL	**Klokotos Trika**	**1.14**	**4**	*e*PN	**Pg**	**09 09 21.8**	**-0.9**
THL	**Klokotos Trika**	**1.14**	**4**	*e*Pn	**Pg**	**09 09 21.8**	**-0.9**

*IDC **17** 09:48:18.8±1.1, 2.58S×145.86E, h0km, mb4.3/13, mb1 4.5/15, mb1mx4.4/21, mbtmp4.3/15, ML3.3/2, MS4.5/21, Ms1 4.5/21, ms1mx4.3/27, Error ellipse: s-maj=36.2km s-min=15.4km az=99.0*
*MOS **17** 09:48:24.3±1.9, 2.67S×145.31E, h33km, mb5.2/10, Error ellipse: s-maj=14.9km s-min=8.3km az=101.5*
*GCMT **17** 09:48:24.5±0.2, 2.46S×145.61E, h14km±1km, MW5.2, Moment Tensor Solution. s47,c74; s99,c170; Moment tensor: Scale 10^16Nm; Mrr0.12±.15; Mθθ-3.66±.13; Mϕϕ3.54±.16; Mrθ-0.88±.28; Mrϕ6.17±.15; Mθr-0.74±.29; Best double couple: M0 7.20000×10^16 NP1:ϕs165.00000°, δ82.00000°, λ176.00000°. NP2:ϕs255.00000°, δ86.00000°, λ8.00000°. Principal axes: T 7.2500, Plg9.0000°, Azm120.0000°; N -0.0200, Plg81.0000°, Azm280.0000°; P -7.2300, Plg3.0000°, Azm30.0000°; Data Used: II IU IC G CN. Surface waves from 101 sta.*
*NEIC **17** 09:48:25.9±0.4, 2.61S×145.45E, h35km, mb5.0/14 Error ellipse: s-maj=12.1km s-min=7.5km az=84.0*
*BJI **17** 09:48:26.4, 2.71S×145.38E, h47km, mB5.1/23, mb4.9/30, Ms4.8/24, Ms7 4.7/25*
*ISCJB **17** 09:48:27.3±1.2, 2.75S±0.06×145.47E±0.06, h58km±11km, mb4.7/40, MS4.5/32, Error ellipse: s-maj=10.4km s-min=8.6km az=42.1*
*DJA **17** 09:48:41, 3.15S×144.89E, h100km, mb4.7/10*
ISC 17 09:48:30.0±1.0, 2.79S±0.06×145.49E±0.06, h69km±10km, h36km±3.2km:pP-P, n132, σ1§41/126, mb4.6/40, 1C, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**4.79**	**273**	P	**Pn**	**09 49 42.7**	**+3.0**
JAY	**Jayapura**	**4.79**	**273**	P	**Pn**	**09 49 43.2**	**+3.5**
	6µm127nm,1.0s						
PMG	**Port Moresby**	**6.78**	**166**	Pn	**Pn**	**09 50 02.8**	**-4.1**
	1.7nm,0.3s,baz=355,slow=11,SNR=5.5						
PMG	**Port Moresby**	**6.78**	**166**	*e*Pn	**Pn**	**09 50 02.8**	**-4.2**
PMG	**Port Moresby**	**6.78**	**166**	*e*P	**Pn**	**09 50 02.8**	**-4.1**
PMG	**Port Moresby**	**6.78**	**166**	P	**Pn**	**09 50 04.2**	**-2.7**
PMG	**Port Moresby**	**6.78**	**166**	P	**Pn**	**09 50 04.7**	**-2.2**
	1µm67nm,1.3s						
SMPI	**Sarmi**	**6.82**	**276**	P	**Pn**	**09 50 07.1**	**-0.4**
SMPI	**Sarmi**	**6.82**	**276**	P	**Pn**	**09 50 07.1**	**-0.4**
	5µm361nm,1.4s						
WAMI	**Wamena**	**6.86**	**261**	P	**Pn**	**09 50 14.0**	**+6.0**
	256nm,0.9s						
BAKI	**Biak**	**9.51**	**279**	P	**Pn**	**09 50 48.4**	**+4.1**
	0.5nm2µ137nm,1.2s						
COEN	**Coen**	**11.34**	**192**	*e*Pn	**Pn**	**09 51 10.0**	**+0.9**
COEN	**Coen**	**11.34**	**192**	P	**Pn**	**09 51 11.2**	**+2.1**
	917nm38nm,1.5s						
COEN	**Coen**	**11.34**	**192**	P	**Pn**	**09 51 10.6**	**+1.5**
	920nm38nm,1.5s						
HNR	**Honiara**	**15.81**	**115**	*e*Pn	**Pn**	**09 52 08.8**	**+0.2**
HNR	**Honiara**	**15.81**	**115**	*e*P	**Pn**	**09 52 08.8**	**+0.3**
CTA	**Charters Tower**	**17.21**	**178**	P	**Pn**	**09 52 24.4**	**-1.5**
	0.1nm,0.3s,baz=2.8,slow=12,SNR=2.1						
CTA	**Charters Tower**	**17.21**	**178**	*e*P	**Pn**	**09 52 28.2**	**+2.2**
	8.1nm,1.5s						
CTA	**Charters Tower**	**17.21**	**178**	P	**Pn**	**09 52 24.4**	**-1.5**
CTA	**Charters Tower**	**17.21**	**178**	P	**Pn**	**09 52 24.5**	**-1.5**
CTAO	**Charters Tower**	**17.21**	**178**	*e*Pn	**Pn**	**09 52 27.6**	**+1.6**
	109nm,1.9s						
CTAO	**Charters Tower**	**17.21**	**178**	*e*P	**Pn**	**09 52 27.6**	**+1.6**
CTAO				pmax	pmax		
	comp=Z,109nm,1.9s						
CTAO	**Charters Tower**	**17.21**	**178**	P	**Pn**	**09 52 31.9**	**+5.9**
	comp=Z,654nmcomp=Z,24nm,2.4s						
LBMI	**Labuha**	**18.11**	**276**	P	**Pn**	**09 52 36.8**	**-0.2**
	comp=Z,2µmcomp=Z,73nm,2.2s						
NLAI	**Namlea**	**18.37**	**268**	P	**Pn**	**09 52 40.8**	**+0.6**
	comp=Z,1µmcomp=Z,46nm,1.2s						
TNTI	**Ternate**	**18.46**	**281**	P	**Pn**	**09 52 42.0**	**+0.8**
	comp=Z,2µmcomp=Z,74nm,1.5s						
WRAB	**Tennant Creek**	**20.22**	**212**	*e*P	**P**	**09 52 59.4**	**-0.1**
	comp=Z,85nm,1.0s						
WRAB	**Tennant Creek**	**20.22**	**212**	*e*P	**P**	**09 52 59.4**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,85nm,1.0s						
WRAB	**Tennant Creek**	**20.22**	**212**	P	**P**	**09 52 59.6**	**+0.1**
	comp=Z,2µmcomp=Z,154nm,1.8s						
WB2	**Warramunga Arr**	**20.23**	**212**	*e*P	**P**	**09 52 59.4**	**-0.2**
WRA	**Warramunga Arr**	**20.23**	**212**	P	**P**	**09 52 59.3**	**-0.3**
	comp=Z,47nm,0.9s,baz=34,slow=12,SNR=74						
WRA				LR	LR	10 01 48.2	
	comp=Z,3µm,18.4s,baz=35,slow=39						
WRA	**Warramunga Arr**	**20.23**	**212**	P	**P**	**09 52 59.3**	**-0.3**
WRA				LR	LR	10 01 48.2	
WRA	**Warramunga Arr**	**20.23**	**212**	P	**P**	**09 52 59.3**	**-0.3**
DAV	**Davao City (W)**	**22.16**	**296**	LR	LR	10 01 46.9	
	comp=Z,1µm,18.1s,baz=269,slow=36						
EIDS	**Eidsvold**	**23.09**	**167**	*e*P	**P**	**09 53 28.9**	**-1.2**
	comp=Z,27nm,1.1s,mb4.5						
ASAR	**Alice Springs**	**23.59**	**207**	P	**P**	**09 53 34.8**	**+0.1**
	comp=Z,11nm,0.8s,mb4.3,baz=38,slow=7.2,SNR=43						
ASAR	**Alice Springs**	**23.59**	**207**	P	**P**	**09 53 34.8**	**+0.1**
ASAR	**Alice Springs**	**23.59**	**207**	P	**P**	**09 53 34.8**	**+0.2**
FITZ	**Fitzroy Crossi**	**24.71**	**231**	P	**P**	**09 53 44.9**	**0.0**
	comp=Z,11nm,0.8s,mb4.3,baz=70,slow=8.1,SNR=20						
FITZ				LR	LR	10 02 46.1	
	comp=Z,428nm,19.8s,baz=50,slow=34						
FITZ	**Fitzroy Crossi**	**24.71**	**231**	*e*P	**P**	**09 53 43.8**	**-1.1**
	comp=Z,24nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**24.71**	**231**	P	**P**	**09 53 44.9**	**0.0**
FITZ				LR	LR	10 02 46.1	
SPSI	**Sidrap Palu**	**25.70**	**267**	P	**P**	**09 53 57.4**	**+3.4**
DZM	**Mont Dzumac**	**27.96**	**135**	*e*P	**P**	**09 54 19.2**	**+5.0**
	comp=Z,44nm,1.4s,mb4.8						
DZM				*e*S	**S**	**09 58 59.3**	**+5.9**
	comp=Z,372nm,31.1s						
DZM				*e*LR	LR	10 01 31.5	
	comp=Z,3µm,25.6s						
ARMA	**Armidale**	**28.09**	**169**	*e*P	**P**	**09 54 23.1**	**+7.9**
STKA	**Stephens Creek**	**29.17**	**187**	LR	LR	10 07 03.6	
	comp=Z,1µm,18.5s,baz=4.3,slow=38						
JOW	**Kunigami**	**33.81**	**332**	LR	LR	10 05 24.5	
	comp=Z,640nm,21.6s,baz=130,slow=30						
MSVF	**Nonsavu**	**35.22**	**117**	*e*P	**P**	**09 55 20.2**	**+2.3**
	comp=Z,19nm,1.2s,mb4.8						
MSVF	**Nonsavu**	**35.22**	**117**	*e*P	**P**	**09 55 20.2**	**+2.3**
MSVF				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.8						
KSM	**Kuching**	**35.43**	**276**	*e*P	**P**	**09 55 19.6**	**-0.3**
	comp=Z,22nm,1.4s,mb4.8						
MJAR	**Matsushiro Arr**	**39.71**	**351**	P	**P**	**09 55 50.4**	**-5.2**
	comp=Z,0.8nm,0.6s,mb3.8,baz=171,slow=1.1,SNR=3.5						
MJAR	**Matsushiro Arr**	**39.71**	**351**	P	**P**	**09 55 50.5**	**-5.2**
MJAR	**Matsushiro Arr**	**39.71**	**351**	P	**P**	**09 55 50.5**	**-5.1**
SSE	**Sheshan**	**40.88**	**327**	P	**P**	**09 56 03.3**	**-2.1**
SSE				pP	pP	09 56 12.3	-10
SSE				S	**S**	**10 02 14.5**	**+2.6**
SSE				sS	sS	10 02 28.0	-13
SSE				pmax	pmax		
	comp=Z,23nm,0.7s,mb5.1						
SSE				pmax	pmax		
	comp=Z,97nm,5.0s						
SSE				LR	LR		
	comp=N,480nm,33.4s						
SSE				LR	LR		
	comp=E,710nm,33.2s						
SSE				LR	LR		
	comp=Z,500nm,24.3s						
QIZ	**Qiongzhong**	**41.22**	**303**	P	**P**	**09 56 07.9**	**-0.5**
QIZ				S	**S**	**10 02 17.5**	**+0.2**
QIZ				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.8						
QIZ				pmax	pmax		
	comp=Z,95nm,6.7s						
QIZ				LR	LR		
	comp=Z,1µm,22.6s						
NJ2	**Nanjing**	**42.89**	**326**	*e*P	**P**	**09 56 20.6**	**-1.2**
NJ2				S	**S**	**10 02 39.0**	**-2.6**
NJ2				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.7						
NJ2				LR	LR		
	comp=N,2µm,21.1s						
NJ2				LR	LR		
	comp=E,480nm,21.2s						
NJ2				LR	LR		
	comp=Z,7µm,20.8s						
KSRS	**Korea Array**	**43.23**	**339**	P	**P**	**09 56 22.4**	**-2.1**
	comp=Z,0.9nm,0.4s,mb3.8,baz=157,slow=7.6,SNR=4.2						
KSRS				LR	LR	10 11 19.6	
	comp=Z,312nm,19.2s,baz=157,slow=32						
KSAR	**Wonju Array Be**	**43.23**	**339**	P	**P**	**09 56 22.4**	**-2.1**
KSAR				LR	LR	10 11 19.6	
KSAR	**Wonju Array Be**	**43.23**	**339**	P	**P**	**09 56 22.4**	**-2.1**
WHN	**Wuhan**	**44.51**	**320**	*e*P	**P**	**09 56 36.3**	**+1.5**
GYA	**Guiyang**	**47.46**	**310**	P	**P**	**09 56 59.0**	**+0.9**
GYA				pP	pP	09 57 13.4	-2.1
GYA				PP	PP	09 58 50.6	+0.6
GYA				ScP	ScP	10 02 19.0	+3.2
GYA				S	**S**	**10 03 48.9**	**+1.2**
GYA				sS	sS	10 04 05.3	-12
GYA				SS	SS	10 07 11.0	-5.5
GYA				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.8						
GYA				pmax	pmax		
	comp=Z,110nm,4.8s						
GYA				LR	LR		
	comp=N,550nm,17.2s						
GYA				LR	LR		
	comp=E,410nm,18.7s						
GYA				LR	LR		
	comp=Z,530nm,17.0s						
MDJ	**Mudanjiang**	**49.29**	**345**	P	**P**	**09 57 12.8**	**+1.0**
MDJ				sP	sP	09 57 26.0	-11
MDJ				PcP	PcP	09 58 35.0	+1.3
MDJ				PP	PP	09 59 05.6	-0.8
MDJ				S	**S**	**10 04 16.0**	**+3.1**
MDJ				pmax	pmax		
	comp=Z,180nm,3.5s						
MDJ				LR	LR		
	comp=N,180nm,36.6s						
MDJ				LR	LR		
	comp=E,530nm,28.0s						
MDJ				LR	LR		
	comp=Z,220nm,36.6s						
YSS	**Yuzh-Sakhalins**	**49.59**	**358**	*e*P	**P**	**09 57 16.1**	**+2.1**
YSS				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.8						
CN2	**Changchun**	**49.75**	**341**	*e*P	**P**	**09 57 16.3**	**+0.9**
KMI	**Kunming**	**49.87**	**306**	P	**P**	**09 57 16.8**	**+0.1**
KMI				PP	PP	09 59 09.6	-2.5
KMI				S	**S**	**10 04 26.0**	**+4.2**
KMI				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
KMI				pmax	pmax		
	comp=Z,82nm,4.0s						
KMI				LR	LR		
	comp=N,370nm,20.9s						
KMI				LR	LR		
	comp=E,390nm,20.9s						
KMI				LR	LR		
	comp=Z,560nm,32.7s						
XAN	**Xi'an**	**50.27**	**320**	P	**P**	**09 57 18.0**	**-1.5**
XAN				pP	pP	09 57 27.9	-9.2
XAN				S	**S**	**10 04 26.1**	**-0.9**
XAN				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
XAN				LR	LR		
	comp=N,310nm,15.4s						
XAN				LR	LR		
	comp=E,110nm,18.1s						
XAN				LR	LR		
	comp=Z,130nm,24.4s						
BJI	**Beijing**	**50.38**	**331**	P	**P**	**09 57 20.8**	**+0.6**
BJI				S	**S**	**10 04 34.3**	**+6.0**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
BJI				LR	LR		
	comp=N,360nm,17.1s						
BJI				LR	LR		
	comp=E,460nm,19.1s						
BJI				LR	LR		
	comp=Z,290nm,30.1s						
CMAR	**Chiang Mai Arr**	**50.44**	**297**	P	**P**	**09 57 20.6**	**-0.5**
	comp=Z,4.8nm,0.8s,mb4.5,baz=112,slow=5.5,SNR=30						
CMAR				LR	LR	10 19 03.6	
	comp=Z,347nm,18.7s,baz=287,slow=36						
CMAR	**Chiang Mai Arr**	**50.44**	**297**	P	**P**	**09 57 20.6**	**-0.5**
CMAR				LR	LR	10 19 03.6	
CMAR	**Chiang Mai Arr**	**50.44**	**297**	P	**P**	**09 57 20.6**	**-0.5**
CHTO	**Chiang Mai**	**50.56**	**297**	*e*P	**P**	**09 57 21.8**	**-0.2**
	comp=Z,18nm,1.4s,mb4.9						
CHTO	**Chiang Mai**	**50.56**	**297**	*e*P	**P**	**09 57 21.8**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.9						
CD2	**Chengdu**	**51.98**	**313**	P	**P**	**09 57 34.5**	**+2.1**
CD2				pP	pP	09 57 44.6	-5.4
CD2				sP	sP	09 57 48.3	-10
CD2				PcP	PcP	09 58 46.8	+2.8
CD2				PP	PP	09 59 33.3	+2.2
CD2				S	**S**	**10 04 53.4**	**+2.7**
CD2				sS	sS	10 05 10.8	-10
CD2				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.3						
CD2				pmax	pmax		
	comp=Z,190nm,4.2s						
CD2				LR	LR		
	comp=N,650nm,11.9s						
CD2				LR	LR		
	comp=Z,600nm,18.4s						
HHC	**Hu-ho-hao-te**	**53.33**	**328**	*e*P	**P**	**09 57 44.3**	**+2.2**
HHC				pP	pP	09 57 54.8	-5.1

GTA LR LR
comp=N,250nm,15.9s
GTA LR LR
comp=E,170nm,14.7s
GTA LR LR
comp=Z,280nm,18.0s
FX1 Attu Island--F 60.15 19 LR LR 10 20 08.3
comp=Z,633nm,19.8s,baz=265,slow=32
SONM Songino Array 60.88 331 P **P** **09 58 33.6 -1.7**
comp=Z,1.9nm,0.9s,mb4.1,baz=155,slow=6.5,SNR=9.4
SONM LR LR 10 24 15.0
comp=Z,375nm,19.9s,baz=321,slow=35
SONM Songino Array 60.88 331 P **P** **09 58 33.6 -1.7**
SONM LR LR 10 24 15.0
SONM Songino Array 60.88 331 P **P** **09 58 33.6 -1.7**
ZAK Zakamensk 64.11 331 *eP* **P** **09 58 55.2 -1.6**
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb4.0
TLY Talaya 64.82 333 *eP* **P** **09 59 00.4 -1.0**
TLY pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
PPT Papeete 65.28 108 *eS* S 10 07 47.0 +3.1
comp=Z,631nm,28.8s
PPT *eLQ* 10 15 59.1
comp=Z,1μm,33.0s
PPT *eLR* LR LR 10 18 49.8
comp=Z,757nm,27.5s
PPT Papeete 65.28 108 LR LR 10 21 47.6
comp=Z,234nm,19.9s,baz=171,slow=31
YAK Yakutsk 65.76 352 *eP* **P** **09 59 07.4 +0.1**
YAK pmax pmax
comp=Z,50nm,2.5s,mb4.9
TBI Tubuai 66.03 114 *eS* S 10 07 59.7 +6.8
comp=Z,494nm,32.0s
TBI *eLQ* 10 16 21.4
comp=Z,302nm,30.8s
TBI *eLR* LR LR 10 19 10.7
comp=Z,875nm,34.2s
WMQ Urumqi 69.39 319 P **P** **09 59 32.3 +1.7**
BILL Bilibino 72.15 8 *eP* **P** **09 59 49.4 +2.6**
BILL pmax pmax
comp=Z,22nm,2.5s,mb4.5
MKAR Makanchi Array 74.08 320 P **P** **09 59 56.4 -2.2**
comp=Z,3.1nm,1.1s,mb4.0,baz=96,slow=8.9,SNR=4.9
MKAR LR LR 10 33 50.3
comp=Z,205nm,20.3s,baz=171,slow=37
MKAR Makanchi Array 74.08 320 P **P** **09 59 56.4 -2.2**
MKAR LR LR 10 33 50.3
MKAR Makanchi Array 74.08 320 P **P** **09 59 56.4 -2.2**
VNDA Vanda 75.19 176 LR LR 10 32 17.1
comp=Z,217nm,18.4s,baz=345,slow=35
ZALV Zalesovo Beam 75.51 328 P **P** **10 00 05.0 -1.7**
comp=Z,2.9nm,0.8s,mb4.0,baz=98,slow=6.6,SNR=8.2
ZALV LR LR 10 31 39.6
comp=Z,274nm,21.0s,baz=94,slow=34
ZALV Zalesovo Beam 75.51 328 P **P** **10 00 05.0 -1.7**
ZALV LR LR 10 31 39.6
ZALV Zalesovo Beam 75.51 328 P **P** **10 00 05.0 -1.7**
KURK Kurchatov 77.75 323 P **P** **10 00 18.1 -1.3**
comp=Z,2.4nm,1.0s,mb3.9,baz=106,slow=4.9,SNR=7.3
KURK Kurchatov 77.75 323 *eP* **P** **10 00 18.7 -0.7**
comp=Z,23nm,1.5s,mb4.7
KURK Kurchatov 77.75 323 *eP* **P** **10 00 18.7 -0.8**
KURK pmax pmax
comp=Z,23nm,1.5s,mb4.7
KDAK Kodiak Island 77.81 29 LR LR 10 27 34.3
comp=Z,258nm,21.2s,baz=254,slow=30
SVW2 Sparrevohn 77.98 25 *eP* **P** **10 00 24.9 +4.4**
comp=Z,160nm,2.5s,mb5.3
AAK Ala-Archa 78.03 314 LR LR 10 34 43.2
comp=Z,2μm,20.9s,baz=90,slow=36
RKT Rikitea 79.29 113 *eLR* LR 10 25 17.4
comp=Z,572nm,29.2s
PMR Palmer 80.99 26 *eP* **P** **10 00 39.4 +2.6**
comp=Z,13nm,1.1s,mb4.7
PMR Palmer 80.99 26 *eP* **P** **10 00 39.4 +2.6**
PMR pmax pmax
comp=Z,13nm,1.1s,mb4.7
SML Sawmill 81.42 26 *eP* **P** **10 00 41.9 +2.8**
comp=Z,13nm,1.4s,mb4.6
SML Sawmill 81.42 26 *eP* **P** **10 00 41.9 +2.8**
SML pmax pmax
comp=Z,13nm,1.4s,mb4.6
MCK McKinley 81.92 24 *eP* **P** **10 00 41.2 -0.5**
comp=Z,44nm,1.6s,mb5.0
MCK McKinley 81.92 24 *eP* **P** **10 00 41.2 -0.5**
MCK pmax pmax
comp=Z,44nm,1.6s,mb5.0
COLD Coldfoot 82.87 21 *eP* **P** **10 00 50.6 +4.0**
ILAR Eielson Array 83.14 24 P **P** **10 00 43.1 -5.0**
comp=Z,2.5nm,0.8s,mb4.1,baz=255,slow=5.1,SNR=5.5
ILAR LR LR 10 39 44.6
comp=Z,215nm,18.8s,baz=71,slow=37
ILAR Eielson Array 83.14 24 P **P** **10 00 43.1 -5.0**
ILAR LR LR 10 39 44.6
ILAR Eielson Array 83.14 24 P **P** **10 00 43.1 -5.0**
BVAR Borovoye Array 83.30 324 P **P** **10 00 48.6 -0.6**
comp=Z,3.9nm,0.9s,mb4.2,baz=116,slow=6.6,SNR=12
BVAR Borovoye Array 83.30 324 P **P** **10 00 48.6 -0.6**
BVAR Borovoye Array 83.30 324 P **P** **10 00 48.6 -0.5**
BRVK Borovoye 83.37 324 *eP* **P** **10 00 49.0 -0.5**
comp=Z,15nm,1.2s,mb4.7
BRVK Borovoye 83.37 324 *eP* **P** **10 00 49.0 -0.5**
BRVK pmax pmax
comp=Z,15nm,1.2s,mb4.7
DOT Dot Lake 83.91 25 *eP* **P** **10 00 51.3 -0.8**
comp=Z,32nm,1.1s,mb5.1
MAW Mawson 84.62 202 LR LR 10 39 24.1
comp=Z,218nm,19.0s,baz=88,slow=36
EGAK Eagle 85.47 24 *eP* **P** **10 01 00.0 +0.2**
comp=Z,41nm,2.0s,mb5.0
DAWY Dawson 86.02 25 *eP* **P** **10 01 01.8 -0.7**
QSPA South Pole Qui 87.16 180 LR LR 10 35 21.0
comp=Z,124nm,21.9s,baz=3.1,slow=32
DIB Dawson Inlet, 87.44 37 T 11 36 34.9
ABKAR Akbulak array 89.18 319 *eP* **P** **10 01 16.4 -1.7**
NVAR Mina Array Bea 96.58 52 LR LR 10 39 13.7
comp=Z,480nm,19.8s,baz=248,slow=32
YKA Yellowknife Ar 97.04 27 LR LR 10 44 57.6
comp=Z,30nm,19.2s,baz=210,slow=35
TORD Torodi Ar. Bea 142.75 288 PKhKP PKPpre 10 07 52.0
comp=Z,0.7nm,0.7s,baz=66,slow=2.6,SNR=4.6
TORD Torodi Ar. Bea 142.75 288 PKP PKPpre 10 07 52.0
DBIC Dimbokro 150.21 279 PKPbc PKPbc 10 08 13.8 -0.4
comp=Z,2.2nm,0.9s,baz=39,slow=8.1,SNR=3.1

IDC ***17*** *09:51:23.0±1.5,2.°69S×146.°14E, h0km, mb4.2/9, mb1 4.4/9, mb1mx4.2/18, mbtmp4.2/9, Error ellipse: s-maj=49.2km s-min=21.0km az=108.0*
NEIC ***17*** *09:51:29.7±0.7, 2.°62S×145.°78E, h35km, mb4.6/2, Error ellipse: s-maj=23.6km s-min=9.8km az=89.0*
ISCJB ***17*** *09:51:31.2±3.7, 2.°8S±0.°1×145.°8E±0.°2, h68km±37km, mb4.1/10, Error ellipse: s-maj=30.8km s-min=20.1km az=28.5*

ISC 17 09:51:33.4±2.6, 2.°8S±0.°1×145.°8E±0.°2, h74km±26km, n31, σ1°01/29, mb4.1/10, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.72**	**169**	Pn	**Pn**	**09 53 10.5**	**+1.0**
	0.9nm,0.3s,baz=342,slow=14,SNR=3.7						
PMG	**Port Moresby**	**6.72**	**169**	Pn	**Pn**	**09 53 10.5**	**+1.0**
COEN	**Coen**	**11.42**	**193**	*e*Pn	**Pn**	**09 54 13.0**	**-0.7**
CTAO	**Charters Tower**	**17.21**	**179**	*e*Pn	**Pn**	**09 55 28.9**	**-0.2**
WRAB	**Tennant Creek**	**20.42**	**213**	*e*P	**P**	**09 56 03.6**	**-1.0**
WB2	**Warramunga Arr**	**20.42**	**212**	*e*P	**P**	**09 56 03.9**	**-0.8**
WRA	**Warramunga Arr**	**20.43**	**213**	P	**P**	**09 56 03.8**	**-1.0**
	13nm,0.9s,baz=34,slow=11,SNR=12						
WRA	**Warramunga Arr**	**20.43**	**213**	P	**P**	**09 56 03.8**	**-1.0**
EIDS	**Eidsvold**	**23.02**	**168**	*e*P	**P**	**09 56 34.3**	**+1.9**
ASAR	**Alice Springs**	**23.77**	**208**	P	**P**	**09 56 38.7**	**-0.5**
	3.8nm,0.9s,mb3.7,baz=36,slow=9.5,SNR=7.5						
ASAR	**Alice Springs**	**23.77**	**208**	P	**P**	**09 56 38.7**	**-0.5**
FITZ	**Fitzroy Crossi**	**24.99**	**231**	P	**P**	**09 56 52.5**	**+2.1**
	4.9nm,0.7s,mb4.1,baz=64,slow=12,SNR=5.1						
FITZ	**Fitzroy Crossi**	**24.99**	**231**	P	**P**	**09 56 52.5**	**+2.1**
FITZ	**Fitzroy Crossi**	**24.99**	**231**	*e*S	**P**	**09 56 52.1**	**+1.7**
CMAR	**Chiang Mai Arr**	**50.75**	**296**	P	**P**	**10 00 27.6**	**+1.2**
	2.6nm,0.8s,mb4.3,baz=125,slow=6.6,SNR=7.3						
CMAR	**Chiang Mai Arr**	**50.75**	**296**	P	**P**	**10 00 27.6**	**+1.2**
SONM	**Songino Array**	**61.04**	**331**	P	**P**	**10 01 39.3**	**-0.1**
	1.4nm,1.0s,mb4.0,baz=152,slow=5.5,SNR=4.4						
SONM	**Songino Array**	**61.04**	**331**	P	**P**	**10 01 39.3**	**-0.1**
MKAR	**Makanchi Array**	**74.29**	**320**	P	**P**	**10 03 02.4**	**-0.4**
	2.0nm,1.0s,mb3.8,baz=107,slow=7.8,SNR=3.6						
MKAR	**Makanchi Array**	**74.29**	**320**	P	**P**	**10 03 02.4**	**-0.4**
ZALV	**Zalesovo Beam**	**75.69**	**328**	P	**P**	**10 03 09.8**	**-0.9**
	0.9nm,0.3s,mb3.9,baz=73,slow=11,SNR=5.7						
ZALV	**Zalesovo Beam**	**75.69**	**328**	P	**P**	**10 03 09.8**	**-0.9**
KURK	**Kurchatov**	**77.95**	**323**	*e*P	**P**	**10 03 24.9**	**+1.4**
	6.9nm,1.0s,mb4.3						
ILAR	**Eielson Array**	**82.99**	**23**	P	**P**	**10 03 49.5**	**-0.7**
	3.1nm,0.9s,mb4.1,baz=248,slow=4.9,SNR=14						
ILAR	**Eielson Array**	**82.99**	**23**	P	**P**	**10 03 49.5**	**-0.7**
BVAR	**Borovoye Array**	**83.50**	**324**	P	**P**	**10 03 53.3**	**+0.3**
	3.2nm,0.9s,mb4.2,baz=72,slow=4.7,SNR=7.3						
BVAR	**Borovoye Array**	**83.50**	**324**	P	**P**	**10 03 53.3**	**+0.3**
BRVK	**Borovoye**	**83.57**	**324**	*e*P	**P**	**10 03 53.9**	**+0.5**
	6.3nm,1.1s,mb4.4						
DAWY	**Dawson**	**85.86**	**25**	P	**P**	**10 04 03.2**	**-1.4**
TORD	**Torodi Ar. Bea**	**143.09**	**288**	PKP	PKPdf	10 11 01.4	+1.5
	1.0nm,0.9s,baz=66,slow=1.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**143.09**	**288**	PKP	PKPdf	10 11 01.4	+1.5

NIED ***17*** *10:09:00, 40.°90N×142.°50E, h59km, Mw4.4 Best double couple: M0=4.38000×10^15 NP1:φ=234.00000°, δ=78.00000°, λ=-14.00000°. NP2:φ=328.00000°, δ=76.00000°, λ=-167.00000°.*
MOS ***17*** *10:09:52.4±0.9, 40.°82N×142.°40E, h79km, mb4.7/11, Error ellipse: s-maj=11.6km s-min=6.9km az=76.3*
ISCJB ***17*** *10:09:53.2±0.3, 40.°86N±0.°03×142.°41E±0.°05, h85km±3km, mb4.2/30, Error ellipse: s-maj=7.2km s-min=3.4km az=24.6*
NEIC ***17*** *10:09:54.2±0.6, 40.°84N×142.°38E, h80km±5km, mb4.7/6, MW4.4(NIED), Error ellipse: s-maj=9.6km s-min=5.6km az=129.0*
NEIC Recorded [2 JMA] in Aomori and Iwate and [1 JMA] in Miyagi. Also recorded [2 JMA] in southwestern Hokkaido.
JMA ***17*** *10:09:54.0±0.1, 40.°85N×142.°49E, h72km±3km, M4.3*
JMA Felt II J1.
IDC ***17*** *10:09:55.0±0.6, 40.°75N×142.°34E, h89km±5km, mb3.8/16, mb1 4.0/20, mb1mx3.9/29, mbtmp3.9/20, MS4.1/5, Ms1 4.1/5, ms1mx3.4/34, Error ellipse: s-maj=15.1km s-min=11.3km az=122.0*

ISC 17 10:09:54.1±0.3, 40.°86N±0.°03×142.°43E±0.°05, h76km±3km, h91km±1.8km: pP-P, n113, σ0s87/123, mb4.2/30, 9C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JANG	**Nango**	**0.85**	**236**	⇓P	**Pn**	**10 10 11.5**	**+0.4**
JANG				S	**Sn**	**10 10 24.4**	**+0.6**
JTH	**Tanohata**	**1.01**	**205**	⇑P	**Pn**	**10 10 12.9**	**-0.2**
JTH				S	**Sn**	**10 10 26.5**	**-0.8**
JTM	**Tenmabayashi**	**1.04**	**267**	⇓P	**Pn**	**10 10 13.7**	**+0.3**
JTM				*e*S	**Sn**	**10 10 28.1**	**+0.3**
JOT	**Ohata**	**1.17**	**297**	⇓P	**Pn**	**10 10 15.1**	**+0.1**
JOT				S	**Sn**	**10 10 30.5**	**-0.2**
ERM	**Erimo**	**1.28**	**25**	*e*Pn	**Pn**	**10 10 17.2**	**+0.8**
ERM				*e*Sn	**Sn**	**10 10 32.9**	**-0.3**
ERM	**Erimo**	**1.28**	**25**	*e*P	**Pn**	**10 10 17.2**	**+0.8**
ERM				*e*		10 10 32.9	
JNBK	**Urakawa-nobuka**	**1.44**	**10**	⇑P	**Pn**	**10 10 19.3**	**+0.8**
JNBK				*e*S	**Sn**	**10 10 38.6**	**+1.7**
JKB	**Kayabe**	**1.47**	**315**	⇑P	**Pn**	**10 10 18.8**	**-0.1**
JKB				*e*S	**Sn**	**10 10 37.1**	**-0.5**
JOM	**Ohasama**	**1.64**	**213**	⇑P	**Pn**	**10 10 21.5**	**+0.4**
JOM				S	**Sn**	**10 10 41.5**	**+0.1**
JCH	**Churui**	**1.89**	**21**	⇑P	**Pn**	**10 10 24.6**	**+0.2**
JCH				*e*S	**Sn**	**10 10 47.0**	**-0.5**
JEW	**Eniwo**	**2.11**	**340**	⇑P	**Pn**	**10 10 27.6**	**+0.2**
JEW				S	**Sn**	**10 10 52.7**	**-0.1**
JMK	**Ichinoseki**	**2.12**	**206**	⇑P	**Pn**	**10 10 27.7**	**+0.2**
JMK				*e*S	**Sn**	**10 10 52.6**	**-0.3**
JFR	**Furan**	**2.31**	**3**	⇑P	**Pn**	**10 10 30.2**	**+0.2**
JFR				*e*S	**Sn**	**10 10 57.7**	**+0.2**
ASAJ	**Asahikawa**	**3.26**	**2**	P	**Pn**	**10 10 43.5**	**+0.6**
	76nm,0.3s,baz=217,slow=10,SNR=513						
ASAJ				S	**Sn**	**10 11 19.1**	**-1.4**
	14nm,0.3s,baz=25,slow=4.2,SNR=3.6						
ASAJ	**Asahikawa**	**3.26**	**2**	*e*Pn	**Pn**	**10 10 43.1**	**+0.2**
ASAJ	**Asahikawa**	**3.26**	**2**	P	**Pn**	**10 10 43.5**	**+0.6**
ASAJ				S	**Sn**	**10 11 19.1**	**-1.4**
ASAJ				pmax	pmax		
	comp=Z,76nm,0.3s						
ASAJ				smax			
	comp=N,14nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**4.07**	**37**	*d* iP	**Pn**	**10 10 53.1**	**-0.7**
YUK				*i* S	**Sn**	**10 11 36.7**	**-3.5**
YUK				pmax	pmax		
	comp=N,23nm,0.4s						
YUK				pmax	pmax		
	comp=E,56nm,0.4s						
YUK				pmax	pmax		
	comp=Z,170nm,0.4s						
YUK				pmax	pmax		
	comp=Z,80nm,0.5s						
YUK				smax			
	comp=N,560nm,0.6s						
YUK				smax			
	comp=E,1μm,0.6s						
YUK				smax			
	comp=N,540nm,0.5s						
YUK				smax			
	comp=E,1μm,0.5s						
MAJO	**Matsushiro**	**5.43**	**219**	*e*Pn	**Pn**	**10 11 13.2**	**+0.8**
	comp=E,31nm,0.6s						
MAJO	**Matsushiro**	**5.43**	**219**	*e*P	**Pn**	**10 11 13.2**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,31nm,0.6s						
MAT	**Matsushiro**	**5.43**	**219**	P	**Pn**	**10 11 13.5**	**+1.0**
MAT				S	**Sn**	**10 12 16.2**	**+2.6**
MJAR	**Matsushiro Arr**	**5.43**	**219**	P	**Pn**	**10 11 12.5**	**0.0**
	comp=Z,3.7nm,0.3s,baz=28,slow=12,SNR=38						
MJAR	**Matsushiro Arr**	**5.43**	**219**	P	**Pn**	**10 11 12.5**	**0.0**
MJAR	**Matsushiro Arr**	**5.43**	**219**	P	**Pn**	**10 11 12.5**	**0.0**
KUR	**Kuril'sk**	**5.92**	**41**	*e*P	**Pn**	**10 11 18.8**	**-0.3**
KUR				*e*S	**Sn**	**10 12 21.5**	**-3.9**
KUR				pmax	pmax		
	comp=Z,130nm,0.8s						
KUR				smax			
	comp=N,190nm,0.8s						
KUR				smax			
	comp=E,70nm,0.5s						
YSS	**Yuzh-Sakhalins**	**6.10**	**2**	*e*Pn	**Pn**	**10 11 21.6**	**0.0**
	comp=E,116nm,0.8s						
YSS	**Yuzh-Sakhalins**	**6.10**	**2**	⇑*e*P	**Pn**	**10 11 21.9**	**+0.3**
YSS				pmax	pmax		
	comp=N,120nm,1.0s						
YSS				pmax	pmax		
	comp=Z,120nm,1.0s						
JHJ	**Hachijo jima 2**	**8.01**	**196**	P	**Pn**	**10 11 45.3**	**-2.4**
	comp=Z,38nm,0.3s,baz=80,slow=23,SNR=22						
JHJ				S	**Sn**	**10 13 09.3**	**-7.4**
	comp=Z,66nm,0.3s,baz=53,slow=22,SNR=12						
KSRS	**Korea Array**	**11.77**	**258**	P	**Pn**	**10 12 37.8**	**-1.1**
	baz=65,slow=14,SNR=2.6						
KSRS	**Korea Array**	**11.77**	**258**	P	**Pn**	**10 12 37.8**	**-1.1**
KSAR	**Wonju Array Be**	**11.80**	**258**	P	**Pn**	**10 12 37.8**	**-1.6**
KSAR	**Wonju Array Be**	**11.80**	**258**	P	**Pn**	**10 12 37.8**	**-1.6**
CBIJ	**Chichi jima**	**13.73**	**181**	P	**Pn**	**10 13 01.6**	**-3.7**
	comp=Z,19nm,0.3s,baz=281,slow=19,SNR=30						
CBIJ				S	**Sn**	**10 15 25.1**	**-11**
	comp=Z,14nm,0.3s,baz=268,slow=23,SNR=6.4						
PETK	**Petropavlovsk-**	**16.04**	**35**	P	**Pn**	**10 13 34.2**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=213,slow=13,SNR=4.7						
PETK	**Petropavlovsk-**	**16.04**	**35**	P	**Pn**	**10 13 34.2**	**-0.7**
PETK	**Petropavlovsk-**	**16.04**	**35**	P	**Pn**	**10 13 34.2**	**-0.6**
YAK	**Yakutsk**	**22.56**	**344**	P	**P**	**10 14 45.4**	**-2.2**
	comp=Z,24nm,0.6s,mb4.7						
YAK	**Yakutsk**	**22.56**	**344**	*e*P	**P**	**10 14 43.2**	**-4.4**
YAK				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.4						
SONM	**Songino Array**	**26.52**	**297**	P	**P**	**10 15 24.6**	**+0.3**
	comp=Z,2.1nm,0.6s,mb3.9,baz=86,slow=9.0,SNR=19						
SONM	**Songino Array**	**26.52**	**297**	P	**P**	**10 15 24.6**	**+0.3**
SONM	**Songino Array**	**26.52**	**297**	P	**P**	**10 15 24.6**	**+0.3**
ZALV	**Zalesovo Beam**	**40.02**	**309**	P	**P**	**10 17 20.9**	**-0.4**
	comp=Z,4.3nm,0.5s,mb4.5,baz=92,slow=8.4,SNR=20						
ZALV	**Zalesovo Beam**	**40.02**	**309**	P	**P**	**10 17 20.9**	**-0.4**
ZALV	**Zalesovo Beam**	**40.02**	**309**	P	**P**	**10 17 20.9**	**-0.4**
MK31	**Makanchi Array**	**42.87**	**299**	*e*P	**P**	**10 17 44.8**	**+0.1**
MK31	**Makanchi Array**	**42.87**	**299**	P	**P**	**10 17 45.6**	**+1.0**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
MKAR	**Makanchi Array**	**42.87**	**299**	P	**P**	**10 17 44.4**	**-0.2**
	comp=Z,2.1nm,0.5s,mb4.1,baz=86,slow=10,SNR=9.6						
MKAR	**Makanchi Array**	**42.87**	**299**	P	**P**	**10 17 44.4**	**-0.2**
MKAR	**Makanchi Array**	**42.87**	**299**	P	**P**	**10 17 44.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**43.33**	**252**	P	**P**	**10 17 48.1**	**-0.6**
	comp=Z,0.3nm,0.3s,mb3.5,baz=274,slow=14,SNR=3.7						
CMAR	**Chiang Mai Arr**	**43.33**	**252**	P	**P**	**10 17 48.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**43.33**	**252**	P	**P**	**10 17 48.1**	**-0.6**
KDAK	**Kodiak Island**	**43.77**	**45**	P	**P**	**10 17 51.5**	**-0.2**
	comp=Z,4.6nm,0.8s,mb4.3,baz=225,slow=2.9,SNR=4.3						
KDAK	**Kodiak Island**	**43.77**	**45**	P	**P**	**10 17 51.5**	**-0.2**
KDAK	**Kodiak Island**	**43.77**	**45**	P	**P**	**10 17 51.5**	**-0.3**
KURK	**Kurchatov**	**44.29**	**305**	*e*P	**P**	**10 17 55.4**	**-0.6**
	comp=Z,8.6nm,0.8s,mb4.5						
KURK	**Kurchatov**	**44.29**	**305**	*e*P	**P**	**10 17 55.4**	**-0.6**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
COLD	**Coldfoot**	**44.45**	**31**	*e*P	**P**	**10 17 57.8**	**+0.7**
COLA	**College**	**45.45**	**34**	*e*P	**P**	**10 18 06.4**	**+1.4**
	comp=Z,8.5nm,0.8s,mb4.5						
COLA	**College**	**45.45**	**34**	*e*P	**P**	**10 18 06.4**	**+1.4**
COLA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
ILAR	**Eielson Array**	**45.87**	**34**	P	**P**	**10 18 08.8**	**+0.5**
	comp=Z,3.9nm,0.8s,mb4.2,baz=260,slow=4.7,SNR=29						
ILAR				pP	pP	10 18 30.9	+3.9
	comp=Z,5.4nm,0.9s,baz=280,slow=10,SNR=9.6						
ILAR	**Eielson Array**	**45.87**	**34**	P	**P**	**10 18 08.8**	**+0.5**
ILAR				pP	pP	10 18 30.9	+3.9
ILAR	**Eielson Array**	**45.87**	**34**	P	**P**	**10 18 08.8**	**+0.5**
ILAR				*PP	pP	10 18 30.9	+3.8
EGAK	**Eagle**	**48.31**	**34**	P	**P**	**10 18 27.5**	**+0.3**
	comp=Z,9.2nm,0.8s,mb4.7						
VOSK	**Vostochnaya**	**48.39**	**310**	P	**P**	**10 18 32.7**	**+4.6**
VOSK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
TKM2	**Tokmak 2**	**48.60**	**296**	*e*P	**P**	**10 18 30.3**	**+0.4**
	comp=Z,5.4nm,0.6s,mb4.7						
TKM2	**Tokmak 2**	**48.60**	**296**	*e*P	**P**	**10 18 30.3**	**+0.5**
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
BVAO	**Borovoye Array**	**48.66**	**310**	P	**P**	**10 18 30.5**	**+0.4**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.2						
INK	**Inuvik**	**50.64**	**29**	P	**P**	**10 18 45.9**	**+0.9**
	comp=Z,1.5nm,0.5s,mb4.3,baz=311,slow=6.0,SNR=16						
INK				pP	pP	10 19 07.9	+3.9
	comp=Z,8.1nm,0.4s,baz=305,slow=6.6,SNR=11						
INK	**Inuvik**	**50.64**	**29**	P	**P**	**10 18 45.9**	**+0.9**
INK				pP	pP	10 19 07.9	+3.9
INK	**Inuvik**	**50.64**	**29**	P	**P**	**10 18 45.9**	**+0.9**
INK				*PP	pP	10 19 07.9	+3.9
KKAR	**Karatay Array**	**51.97**	**298**	P	**P**	**10 18 56.2**	**+0.9**
KKAR	**Karatay Array**	**51.97**	**298**	P	**P**	**10 18 56.2**	**+0.9**
AB31	**Akbulak array**	**56.13**	**309**	P	**P**	**10 19 24.9**	**-0.6**
AB31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
ABKAR	**Akbulak array**	**56.13**	**309**	*e*P	**P**	**10 19 25.1**	**-0.4**
	comp=Z,2.2nm,0.3s,mb4.7						
AKTO	**Aktyubinsk**	**56.76**	**310**	P	**P**	**10 19 38.3**	**+8.4**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
KEV	**Kevo**	**60.16**	**339**	*e*P	**P**	**10 19 55.2**	**+1.9**
KEV				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
ARCES	**ARCESS Array B**	**60.71**	**339**	P	**P**	**10 19 55.7**	**-1.3**
	comp=Z,2.5nm,0.8s,mb4.3,baz=56,slow=9.0,SNR=3.9						
ARCES	**ARCESS Array B**	**60.71**	**339**	P	**P**	**10 19 55.7**	**-1.3**
ARCES	**ARCESS Array B**	**60.71**	**339**	P	**P**	**10 19 55.7**	**-1.3**
WRA	**Warramunga Arr**	**60.95**	**189**	P	**P**	**10 19 57.5**	**-1.7**
	comp=Z,2.7nm,0.5s,mb4.5,baz=5.7,slow=7.0,SNR=49						
WRA	**Warramunga Arr**	**60.95**	**189**	P	**P**	**10 19 57.5**	**-1.7**
WRA	**Warramunga Arr**	**60.95**	**189**	P	**P**	**10 19 57.5**	**-1.7**
JOF	**Joensuu**	**62.98**	**331**	*e*P	**P**	**10 20 11.0**	**-1.3**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
ASAR	**Alice Springs**	**64.68**	**189**	P	**P**	**10 20 23.3**	**-0.5**
	comp=Z,2.5nm,0.7s,mb4.1,baz=4.1,slow=7.4,SNR=23						
ASAR	**Alice Springs**	**64.68**	**189**	P	**P**	**10 20 23.3**	**-0.5**
ASAR	**Alice Springs**	**64.68**	**189**	P	**P**	**10 20 23.3**	**-0.5**
KAF	**Kangasniemi**	**65.29**	**332**	*e*P	**P**	**10 20 34.9**	**+7.5**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
FINES	**FINESS Array B**	**65.81**	**332**	P	**P**	**10 20 30.3**	**-0.5**
	comp=Z,2.5nm,0.5s,mb4.3,baz=46,slow=5.5,SNR=6.0						
FINES				LR	LR	10 55 14.4	
	comp=Z,100nm,18.8s,baz=73,slow=41						
FINES	**FINESS Array B**	**65.81**	**332**	P	**P**	**10 20 30.3**	**-0.5**
FINES				LR	LR	10 55 14.4	
FINES	**FINESS Array B**	**65.81**	**332**	P	**P**	**10 20 30.3**	**-0.5**
NB2	**NORSAR Subarra**	**70.97**	**337**	P	**P**	**10 21 09.4**	**+6.4**
	comp=Z,3.7nm,0.6s,mb4.4,baz=38,slow=6.5						
NOA	**NORSAR Array B**	**70.97**	**337**	P	**P**	**10 21 03.4**	**+0.4**
	comp=Z,0.8nm,0.8s,mb3.6,baz=39,slow=6.3,SNR=2.9						
NOA				LR	LR	10 55 26.7	
	comp=Z,168nm,19.3s,baz=70,slow=38						
NOA	**NORSAR Array B**	**70.97**	**337**	P	**P**	**10 21 03.4**	**+0.4**
NOA				LR	LR	10 55 26.7	
NOA	**NORSAR Array B**	**70.97**	**337**	P	**P**	**10 21 03.4**	**+0.4**
AKASG	**Malin Array Be**	**71.77**	**322**	P	**P**	**10 21 08.8**	**+0.9**
	comp=Z,0.6nm,0.3s,mb3.9,baz=45,slow=6.5,SNR=5.0						
AKASG				LR	LR	10 54 00.2	
	comp=Z,204nm,21.9s,baz=50,slow=37						
AKASG	**Malin Array Be**	**71.77**	**322**	P	**P**	**10 21 08.8**	**+0.9**
AKASG				LR	LR	10 54 00.2	
AKASG	**Malin Array Be**	**71.77**	**322**	P	**P**	**10 21 08.9**	**+0.9**
NVAR	**Mina Array Bea**	**72.09**	**55**	P	**P**	**10 21 11.0

0.5nm,0.7s,baz=167,slow=6.8,SNR=3.5
STKA Stephens Creek 78.40 126 P P 10 30 31.2 +0.5
3.2nm,1.1s,baz=207,slow=11,SNR=3.3
ASAR Alice Springs 80.48 115 P P 10 30 42.8 +0.6
0.9nm,0.9s,baz=214,slow=4.7,SNR=9.1
WRA Warramunga Arr 83.59 113 P P 10 30 58.0 -0.6
1.1nm,1.0s,baz=217,slow=3.9,SNR=6.2
PDAR Pinedale Array 151.72 271 PKPbc PKPbc 10 38 24.4 +0.3
0.2nm,0.7s,baz=71,slow=8.7,SNR=3.1

IDC 17 10:29:36.0±1.6, 2.82S×146.03E, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.8/17, mbtmp3.8/6, MS3.6/3, Ms1 3.5/3, ms1mx2.9/21, Error ellipse: s-maj=51.6km s-min=23.3km az=110.0, Admiralty Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.49**	**213**	P		P	10 34 14.8	-0.9
	4.2nm,0.9s,baz=32,slow=12,SNR=35							
WRA				LR		LR	10 42 54.8	
	comp=Z,252nm,19.1s,baz=35,slow=39							
ASAR	**Alice Springs**	**23.82**	**208**	P		P	10 34 50.5	-0.4
	1.7nm,0.9s,baz=37,slow=8.6,SNR=20							
FITZ	**Fitzroy Crossi**	**25.10**	**231**	P		P	10 35 03.6	+0.9
	4.5nm,1.0s,baz=78,slow=9.5,SNR=6.3							
STKA	**Stephens Creek**	**29.20**	**188**	LR		LR	10 48 19.4	
	comp=Z,72nm,20.5s,baz=24,slow=38							
CMAR	**Chiang Mai Arr**	**50.94**	**296**	P		P	10 38 40.1	+0.5
	0.6nm,0.3s,baz=112,slow=6.9,SNR=4.2							
PETK	**Petropavlovsk-**	**56.58**	**8**	LR		LR	10 58 57.1	
	comp=Z,42nm,20.4s,baz=116,slow=31							
ZALV	**Zalesovo Beam**	**75.82**	**328**	P		P	10 41 24.3	+0.5
	0.5nm,0.5s,baz=73,slow=5.1,SNR=3.8							
ILAR	**Eielson Array**	**82.96**	**23**	P		P	10 42 01.8	-0.8
	0.9nm,0.9s,baz=256,slow=6.3,SNR=5.1							

IDC 17 11:05:39.3±17.0, 6.35S×153.97E, h333km±157km, mb3.0/4, mb1 3.1/4, mb1mx2.9/17, mbtmp3.0/4, Error ellipse: s-maj=103.4km s-min=41.7km az=81.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.37**	**233**	P		P	11 10 20.0	+0.7
	3.1nm,0.5s,baz=58,slow=10,SNR=43							
ASAR	**Alice Springs**	**25.86**	**226**	P		P	11 10 40.8	-0.9
	0.3nm,0.8s,baz=58,slow=9.6,SNR=4.2							
STKA	**Stephens Creek**	**27.91**	**203**	P		P	11 10 59.4	-0.3
	1.4nm,0.8s,baz=347,slow=14,SNR=3.6							
SONM	**Songino Array**	**68.25**	**328**	P		P	11 16 05.0	+0.3
	0.3nm,0.4s,baz=140,slow=5.3,SNR=4.1							
TORD	**Torodi Ar. Bea**	**151.87**	**286**	PKPbc		PKPbc	11 24 55.8	-0.3
	0.3nm,0.8s,baz=60,slow=2.8,SNR=3.1							

*ISCJB **17** 11:25:07.9±0.2, 46.10N±0.01×7.23E±0.02, h3km±2km, Error ellipse: s-maj=2.1km s-min=1.8km az=18.4*
*CSEM **17** 11:25:08.8±0.1, 46.08N×7.30E, h5km, ML2.8/23, Error ellipse: s-maj=2.2km s-min=1.6km az=94.0*
*VIE **17** 11:25:09.6±0.3, 46.02N×7.38E, h10km±2km, mb2.0/1, ML2.3/2, Error ellipse: s-maj=3.8km s-min=1.0km az=135.0 23 km S of Sion*
*GEN **17** 11:25:09.3, 46.08N×7.33E, h5km, ML2.2*
*LDG **17** 11:25:09.7±0.1, 46.10N×7.31E, h4km, Md2.8/3, Ml2.8/25, Error ellipse: s-maj=1.3km s-min=0.8km az=101.0*
*ZUR **17** 11:25:09.6, 46.10N×7.32E, h4km±1km, ML2.2/15*
*ROM **17** 11:25:09.3±0.3, 46.07N×7.33E, h9km±1km, Md2.4/9, Ml2.3/4, Error ellipse: s-maj=6.9km s-min=2.3km az=146.0*
*NEIC **17** 11:25:09.7, 46.10N×7.31E, h4km, ML2.8(LDG), After LDG.*
*STR **17** 11:25:11.7±0.2, 46.18N×7.10E, h10km, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 17 11:25:09.2±0.2, 46.10N±0.01×7.27E±0.02, h8km±2km, n203, σ1§11/339, 20C-10D, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DIX	**Grande Dixence**	**0.10**	**99**	⇓*i*Pg		**Pg**	**11 25 11.5**	**-0.1**
DIX				*i* Sg		**Sg**	**11 25 12.6**	**-0.7**
DIX	**Grande Dixence**	**0.10**	**99**	Pg		**Pg**	**11 25 11.5**	**-0.1**
DIX				Sg		**Sg**	**11 25 12.6**	**-0.7**
DIX	**Grande Dixence**	**0.10**	**99**	Pg		**Pg**	**11 25 11.5**	**-0.1**
DIX				Sg		**Sg**	**11 25 12.6**	**-0.7**
GRYON	**Gryon**	**0.19**	**325**	⇑*i*Pg		**Pg**	**11 25 13.8**	**+0.7**
	290nm,0.3s							
GRYON	**Gryon**	**0.19**	**325**	⇑*i*Pg		**Pg**	**11 25 13.8**	**+0.7**
	290nm,0.3s							
SALAN	**Lac Salanfe**	**0.21**	**283**	⇑*i*Pg		**Pg**	**11 25 14.6**	**+1.2**
	165nm,0.1s							
SALAN				*e*Sg		**Sg**	**11 25 17.9**	**+1.6**
	165nm,0.1s							
SALAN	**Lac Salanfe**	**0.21**	**283**	⇑*i*Pg		**Pg**	**11 25 14.6**	**+1.2**
	165nm,0.1s							
SALAN				*e*Sg		**Sg**	**11 25 17.9**	**+1.6**
	165nm,0.1s							
EMV	**Vieux Emosson**	**0.26**	**263**	⇓*i*Pg		**Pg**	**11 25 15.5**	**+1.2**
	607nm,0.2s							
EMV	**Vieux Emosson**	**0.26**	**263**	⇓*i*Pg		**Pg**	**11 25 15.5**	**+1.2**
	607nm,0.2s							
SENIN	**Lac Senin/Sane**	**0.27**	**5**	⇑*i*Pg		**Pg**	**11 25 14.8**	**+0.3**
	419nm,0.4s							
SENIN				*i* Sg		**Sg**	**11 25 18.6**	**+0.5**
	419nm,0.4s							
SENIN	**Lac Senin/Sane**	**0.27**	**5**	⇑*i*Pg		**Pg**	**11 25 14.8**	**+0.3**
	419nm,0.4s							
SENIN				*i* Sg		**Sg**	**11 25 18.6**	**+0.5**
	419nm,0.4s							
AIGLE	**Aigle**	**0.33**	**319**	*i* Pg		**Pg**	**11 25 16.5**	**+0.9**
	312nm,0.2s							
AIGLE	**Aigle**	**0.33**	**319**	*i* Pg		**Pg**	**11 25 16.5**	**+0.9**
	312nm,0.2s							
MRGE	**Morge**	**0.36**	**204**	Pg		**Pg**	**11 25 16.7**	**+0.5**
MRGE				Sg		**Sg**	**11 25 21.5**	**+0.6**
	405nm,0.2s							
MRGE	**Morge**	**0.36**	**204**	Pg		**Pg**	**11 25 16.7**	**+0.5**
MRGE				Sg		**Sg**	**11 25 21.5**	**+0.6**
	405nm,0.2s							
LKBD2	**Leukerbad 2**	**0.38**	**43**	⇑*i*Pg		**Pg**	**11 25 16.6**	**-0.1**
	337nm,0.2s							
LKBD2	**Leukerbad 2**	**0.38**	**43**	⇑*i*Pg		**Pg**	**11 25 16.6**	**-0.1**
	337nm,0.2s							
LKBD	**Leukerbad**	**0.38**	**41**	⇑*i*Pg		**Pg**	**11 25 16.6**	**-0.1**
	112nm,0.3s							
MMK	**Mattmark**	**0.49**	**95**	*i* Pg		**Pg**	**11 25 18.0**	**-0.7**
	165nm,0.2s							
MMK	**Mattmark**	**0.49**	**95**	Pg		**Pg**	**11 25 18.2**	**-0.5**
MMK				Sg		**Sg**	**11 25 23.7**	**-1.4**
MMK	**Mattmark**	**0.49**	**95**	*i* Pg		**Pg**	**11 25 18.0**	**-0.7**
	165nm,0.2s							
MMK				Sg		**Sg**	**11 25 23.7**	**-1.4**
WIMIS	**Wimmis**	**0.62**	**23**	⇑*i*Pg		**Pg**	**11 25 21.2**	**0.0**
	183nm,0.9s							
WIMIS	**Wimmis**	**0.62**	**23**	⇑*i*Pg		**Pg**	**11 25 21.2**	**0.0**
	183nm,0.9s							
LPL	**La Plagne**	**0.69**	**213**	*e*Pg		**Pg**	**11 25 23.0**	**+0.5**
	SNR=1.0							
LPL				*e*Sg		**Sg**	**11 25 32.7**	**+1.3**
	29nm,0.3s,SNR=1.0							
LPL	**La Plagne**	**0.69**	**213**	*e*Pg		**Pg**	**11 25 23.0**	**+0.5**
LPL				*e*Sg		**Sg**	**11 25 32.7**	**+1.3**
LPL	**La Plagne**	**0.69**	**213**	*e*Pg		**Pg**	**11 25 23.0**	**+0.5**
	SNR=1.0							
LPL				*e*Sg		**Sg**	**11 25 32.7**	**+1.3**
	14nm,0.3s,SNR=1.0							
LPG	**La Plagne**	**0.70**	**211**	*e*Pg		**Pg**	**11 25 23.2**	**+0.6**
	SNR=1.0							
LPG				*e*Sg		**Sg**	**11 25 33.1**	**+1.4**
	45nm,0.2s,SNR=1.0							
LPG	**La Plagne**	**0.70**	**211**	*e*Pg		**Pg**	**11 25 23.2**	**+0.6**
LPG				*e*Sg		**Sg**	**11 25 33.1**	**+1.4**
LPG	**La Plagne**	**0.70**	**211**	*e*Pg		**Pg**	**11 25 23.2**	**+0.6**
	SNR=1.0							
LPG				*e*Sg		**Sg**	**11 25 33.1**	**+1.4**
	23nm,0.2s,SNR=1.0							
TORNY	**Torny/Romont**	**0.71**	**343**	⇓*i*Pg		**Pg**	**11 25 24.0**	**+1.1**
	611nm,0.3s							
TORNY	**Torny/Romont**	**0.71**	**343**	⇓*i*Pg		**Pg**	**11 25 24.0**	**+1.1**
	611nm,0.3s							
GIMEL	**St. Georges /**	**0.82**	**303**	⇓*i*P1		**Pg**	**11 25 26.5**	**+1.5**
	361nm,0.2s							
GIMEL	**St. Georges /**	**0.82**	**303**	⇓*i*P		**Pg**	**11 25 26.5**	**+1.5**
	361nm,0.2s							
RSP	**Reno Superiore**	**0.95**	**180**	Pg		**Pg**	**11 25 27.0**	**-0.4**
	58nm,0.2s							
RSP	**Reno Superiore**	**0.95**	**180**	P		**Pg**	**11 25 26.6**	**-0.8**
RSP	**Reno Superiore**	**0.95**	**180**	Pg		**Pg**	**11 25 27.0**	**-0.4**
	58nm,0.2s							
RSP				S		**Sg**	**11 25 38.3**	**-1.4**
CABF	**La Chapelle**	**0.96**	**303**	*e*Pg		**Pg**	**11 25 28.7**	**+1.0**
	SNR=1.0							
CABF				*e*Sg		**Sg**	**11 25 41.2**	**+1.0**
CABF				*e*Sn		**Sn**	**11 25 42.7**	**-0.1**
	42nm,0.2s,SNR=1.0							
CABF	**La Chapelle**	**0.96**	**303**	*e*Pg		**Pg**	**11 25 28.7**	**+1.0**
CABF				*e*Sg		**Sg**	**11 25 41.2**	**+1.0**
CABF				*e*Sn		**Sn**	**11 25 42.7**	**-0.1**
CABF	**La Chapelle**	**0.96**	**303**	*e*Pg		**Pg**	**11 25 28.7**	**+1.0**
	SNR=1.0							
CABF				*e*Sg		**Sg**	**11 25 41.2**	**+1.0**
CABF				*e*Sn		**Sn**	**11 25 42.7**	**-0.1**
	21nm,0.2s,SNR=1.0							
FUSIO	**Fusio**	**1.03**	**69**	Pg		**Pg**	**11 25 28.3**	**-0.7**
FUSIO	**Fusio**	**1.03**	**69**	Pg		**Pg**	**11 25 28.3**	**-0.7**
BNI	**Bardonecchia**	**1.12**	**202**	*e*Pn		**Pn**	**11 25 33.6**	**+2.4**
BNI				*e*Sn		**Sn**	**11 25 46.2**	**-0.5**
BNI	**Bardonecchia**	**1.12**	**202**	Pg		**Pg**	**11 25 30.6**	**-0.1**
	25nm,0.4s							
BNI	**Bardonecchia**	**1.12**	**202**	Pg		**Pg**	**11 25 30.6**	**-0.1**
	25nm,0.4s							
BNI	**Bardonecchia**	**1.12**	**202**	*e*Pn		**Pn**	**11 25 33.6**	**+2.5**
MUGIO	**Muggio**	**1.25**	**97**	⇑*i*P1		**Pn**	**11 25 32.3**	**-0.6**
	80nm,0.3s							
MUGIO	**Muggio**	**1.25**	**97**	Pg		**Pg**	**11 25 32.2**	**-1.0**
MUGIO				Sg		**Sg**	**11 25 47.8**	**-1.6**
MUGIO	**Muggio**	**1.25**	**97**	⇑*i*P		**Pn**	**11 25 32.3**	**-0.6**
	80nm,0.3s							
MUGIO				Sg		**Sg**	**11 25 47.8**	**-1.6**
BALST	**Balsthal**	**1.27**	**13**	*e*Pn		**Pn**	**11 25 34.0**	**+0.8**
	446nm,0.3s							
BALST	**Balsthal**	**1.27**	**13**	*e*Pn		**Pn**	**11 25 34.0**	**+0.8**
	446nm,0.3s							
MUO	**Muotathal**	**1.29**	**47**	⇑*i*P1		**Pn**	**11 25 33.8**	**+0.4**
	388nm,0.7s							
MUO	**Muotathal**	**1.29**	**47**	⇑*i*P		**Pn**	**11 25 33.8**	**+0.4**
	388nm,0.7s							
LOMF	**Lomont**	**1.29**	**347**	Pn		**Pn**	**11 25 34.8**	**+1.4**
LOMF	**Lomont**	**1.29**	**347**	Pn		**Pn**	**11 25 34.8**	**+1.4**
LOMF	**Lomont**	**1.29**	**347**	Pn		**Pn**	**11 25 34.8**	**+1.4**
BBS	**Basel-Blauen**	**1.38**	**7**	Pn		**Pn**	**11 25 34.9**	**+0.2**
BBS				Pg		**Pg**	**11 25 36.0**	**+0.4**
BBS				Sg		**Sg**	**11 25 54.7**	**+1.2**
BBS	**Basel-Blauen**	**1.38**	**7**	Pn		**Pn**	**11 25 34.9**	**+0.2**
MBDF	**Montbardon**	**1.41**	**194**	*e*Pn		**Pn**	**11 25 34.9**	**-0.2**
	SNR=1.0							
MBDF	**Montbardon**	**1.41**	**194**	*e*Pg		**Pg**	**11 25 36.2**	**-0.1**
MBDF				*e*Sg		**Sg**	**11 25 55.0**	**+0.4**
	29nm,0.5s							
MBDF	**Montbardon**	**1.41**	**194**	*e*Pn		**Pn**	**11 25 34.9**	**-0.2**
MBDF				*e*Pg		**Pg**	**11 25 36.2**	**-0.1**
MBDF				*e*Sg		**Sg**	**11 25 55.0**	**+0.4**
MBDF	**Montbardon**	**1.41**	**194**	*e*Pn		**Pn**	**11 25 34.9**	**-0.2**
	SNR=1.0							
MBDF	**Montbardon**	**1.41**	**194**	*e*Pg		**Pg**	**11 25 36.2**	**-0.1**
MBDF				*e*Sg		**Sg**	**11 25 55.0**	**+0.4**
	15nm,0.5s							
TUE	**Stuetta**	**1.49**	**75**	*e*Pn		**Pn**	**11 25 37.7**	**+1.5**
TUE	**Stuetta**	**1.49**	**75**	*e*Pn		**Pn**	**11 25 37.7**	**+1.5**
ORIF	**Oris-en-Rattie**	**1.53**	**220**	*e*Pg		**Pg**	**11 25 38.8**	**+0.3**
ORIF				*e*Sn		**Sn**	**11 25 57.3**	**+0.6**
	SNR=1.0							
ORIF				*e*Sg		**Sg**	**11 25 58.8**	**+0.5**
	22nm,0.4s,SNR=1.0							
ORIF	**Oris-en-Rattie**	**1.53**	**220**	*e*Pg		**Pg**	**11 25 38.8**	**+0.3**
ORIF				*e*Sn		**Sn**	**11 25 57.3**	**+0.6**
ORIF				*e*Sg		**Sg**	**11 25 58.8**	**+0.5**
ORIF	**Oris-en-Rattie**	**1.53**	**220**	*e*Pg		**Pg**	**11 25 38.8**	**+0.3**
SULZ	**Cheisacher**	**1.54**	**22**	⇑*i*Pn		**Pn**	**11 25 37.5**	**+0.6**
	341nm,0.4s							
SULZ	**Cheisacher**	**1.54**	**22**	⇑*i*Pn		**Pn**	**11 25 37.5**	**+0.6**
	341nm,0.4s							
DOI	**San Damiano**	**1.59**	**180**	Pg		**Pn**	**11 25 37.3**	**-0.3**
DOI	**San Damiano**	**1.59**	**180**	Pg		**Pn**	**11 25 37.3**	**-0.3**
PZZ	**Stroppo**	**1.59**	**184**	Pg		**Pn**	**11 25 38.0**	**+0.4**
	33nm,0.4s							
PZZ	**Stroppo**	**1.59**	**184**	P		**Pn**	**11 25 37.0**	**-0.6**
PZZ	**Stroppo**	**1.59**	**184**	Pg		**Pn**	**11 25 38.0**	**+0.4**
	33nm,0.4s							
PZZ				S		**Sn**	**11 25 55.2**	**-3.1**
HINF	**Hinteralfeld**	**1.74**	**351**	*e*Pn		**Pn**	**11 25 40.3**	**+0.6**
	SNR=1.0							
HINF	**Hinteralfeld**	**1.74**	**351**	*e*Pg		**Pg**	**11 25 42.6**	**0.0**
HINF				*e*Sn		**Sn**	**11 25 59.6**	**-2.5**
	SNR=1.0							
HINF				*e*Sg		**Sg**	**11 26 04.7**	**-0.5**
	18nm,0.3s							
HINF	**Hinteralfeld**	**1.74**	**351**	*e*Pn		**Pn**	**11 25 40.3**	**+0.6**
HINF				*e*Pg		**Pg**	**11 25 42.6**	**0.0**
HINF				*e*Sn		**Sn**	**11 25 59.6**	**-2.5**
HINF				*e*Sg		**Sg**	**11 26 04.7**	**-0.5**
HINF	**Hinteralfeld**	**1.74**	**351**	*e*Pn		**Pn**	**11 25 40.3**	**+0.6**
	SNR=1.0							
HINF	**Hinteralfeld**	**1.74**	**351**	*e*Pg		**Pg**	**11 25 42.6**	**0.0**
HINF				*e*Sg		**Sg**	**11 26 04.7**	**-0.5**
	8.9nm,0.3s							
MOF	**Molkenrain**	**1.76**	**357**	Pn		**Pn**	**11 25 40.1**	**+0.2**
MOF				Pg		**Pg**	**11 25 43.2**	**+0.3**
MOF	**Molkenrain**	**1.76**	**357**	Pn		**Pn**	**11 25 40.1**	**+0.2**
MOF	**Molkenrain**	**1.76**	**357**	Pn		**Pn**	**11 25 40.1**	**+0.2**
PCP	**Piancastagn**	**1.80**	**149**	P		**Pn**	**11 25 39.8**	**-0.6**
PCP				S		**Sn**	**11 25 59.9**	**-3.5**
FELD	**Feldberg im Sc**	**1.85**	**16**	Pn		**Pn**	**11 25 41.3**	**+0.1**
FELD				Pg		**Pg**	**11 25 44.5**	**-0.2**
FELD	**Feldberg im Sc**	**1.85**	**16**	Pn		**Pn**	**11 25 41.3**	**+0.1**
STV	**Sant Anna di V**	**1.85**	**179**	P		**Pn**	**11 25 40.7**	**-0.4**
HAU	**Haudompre**	**2.01**	**342**	*e*Pn		**Pn**	**11 25 43.7**	**+0.4**
	SNR=1.0							
HAU	**Haudompre**	**2.01**	**342**	*e*Pg		**Pg**	**11 25 47.0**	**-0.7**
	SNR=1.0							
HAU				*e*Sg		**Sg**	**11 26 12.8**	**-1.0**
	19nm,0.2s,SNR=1.0							
HAU	**Haudompre**	**2.01**	**342**	*e*Pn		**Pn**	**11 25 43.7**	**+0.4**
HAU				*e*Pg		**Pg**	**11 25 47.0**	**-0.7**
HAU				*e*Sg		**Sg**	**11 26 12.8**	**-1.0**
HAU	**Haudompre**	**2.01**	**342**	*e*Pn		**Pn**	**11 25 43.7**	**+0.4**
	SNR=1.0							
HAU	**Haudompre**	**2.01**	**342**	*e*Pg		**Pg**	**11 25 47.0**	**-0.7**
	SNR=1.0							
HAU				*e*Sg		**Sg**	**11 26 12.8**	**-1.0**
	9.7nm,0.2s,SNR=1.0							
MONE	**Monesi**	**2.05**	**170**	P		**Pn**	**11 25 43.5**	**-0.3**
TOUF	**Mont Tournerai**	**2.08**	**180**	Pn		**Pn**	**11 25 47.4**	**+3.1**
TOUF				Pg		**Pg**	**11 25 50.3**	**+1.2**
TOUF	**Mont Tournerai**	**2.08**	**180**	Pn		**Pn**	**11 25 47.4**	**+3.1**
TOUF	**Mont Tournerai**	**2.08**	**180**	Pn		**Pn**	**11 25 47.4**	**+3.1**
AUTN	**L'Aution**	**2.10**	**177**	Pn		**Pn**	**11 25 47.7**	**+3.1**
AUTN	**L'Aution**	**2.10**	**177**	Pn		**Pn**	**11 25 47.7**	**+3.1**
AUTN	**L'Aution**	**2.10**	**177**	Pn		**Pn**	**11 25 47.7**	**+3.1**
SAOF	**Saorge**	**2.12**	**174**	Pn		**Pn**	**11 25 45.3**	**+0.5**
SAOF	**Saorge**	**2.12**	**174**	Pn		**Pn**	**11 25 45.3**	**+0.5**
SAOF	**Saorge**	**2.12**	**174**	Pn		**Pn**	**11 25 45.3**	**+0.5**
ECH	**Echery**	**2.12**	**358**	Pn		**Pn**	**11 25 45.2**	**+0.3**
ECH	**Echery**	**2.12**	**358**	Pn		**Pn**	**11 25 45.2**	**+0.3**
ECH	**Echery**	**2.12**	**358**	Pn		**Pn**	**11 25 45.2**	**+0.3**
DAVA	**Damuels**	**2.16**	**56**	⇑*i*Pn		**Pn**	**11 25 45.9**	**+0.5**
DAVA				⇓*i*Pg		**Pg**	**11 25 50.6**	**+0.1**
DAVA				⇓*i*Sg		**Sg**	**11 26 20.0**	**+1.5**
	5.1nm,0.2s							
DAVA	**Damuels**	**2.16**	**56**	Pn		**Pn**	**11 25 45.9**	**+0.5**
MVIF	**Mont Vial**	**2.20**	**182**	Pn		**Pn**	**11 25 48.1**	**+2.1**
MVIF	**Mont Vial**	**2.20**	**182**	Pn		**Pn**	**11 25 48.1**	**+2.1**
MVIF	**Mont Vial**	**2.20**	**182**	Pn		**Pn**	**11 25 48.1**	**+2.1**
LUCF	**Luceram**	**2.21**	**178**	Pn		**Pn**	**11 25 49.6**	**+3.6**
LUCF	**Luceram**	**2.21**	**178**	Pn		**Pn**	**11 25 49.6**	**+3.6**
LUCF	**Luceram**	**2.21**	**178**	Pn		**Pn**	**11 25 49.6**	**+3.6**
VIVF	**Saint-Julien-l**	**2.21**	**237**	*e*Pn		**Pn**	**11 25 46.2**	**+0.2**
	SNR=1.0							
VIVF	**Saint-Julien-l**	**2.21**	**237**	*e*Pg		**Pg**	**11 25 51.1**	**-0.3**
VIVF				*e*Sg		**Sg**	**11 26 20.0**	**0.0**
	28nm,0.2s							
VIVF	**Saint-Julien-l**	**2.21**	**237**	*e*Pn		**Pn**	**11 25 46.2**	**+0.2**
VIVF				*e*Pg		**Pg**	**11 25 51.1**	**-0.3**
VIVF				*e*Sg		**Sg**	**11 26 20.0**	**0.0**
VIVF	**Saint-Julien-l**	**2.21**	**237**	*e*Pn		**Pn**	**11 25 46.2**	**+0.2**
	SNR=1.0							
IMI	**Imperia**	**2.23**	**168**	P		**Pn**	**11 25 45.0**	**-1.4**
SBF	**Sospel**	**2.24**	**177**	*e*P		**Pn**	**11 25 48.2**	**+1.8**
	SNR=1.0							
SBF	**Sospel**	**2.24**	**177**	*e*Pg		**Pg**	**11 25 51.0**	**-1.0**
SBF				*e*Sg		**Sg**	**11 26 20.4**	**-0.6**
	10nm,0.3s							
SBF	**Sospel**	**2.24**	**177**	*e*P		**Pn**	**11 25 48.2**	**+1.8**
SBF				*e*Pg		**Pg**	**11 25 51.0**	**-1.0**
SBF				*e*Sg		**Sg**	**11 26 20.4**	**-0.6**
SBF	**Sospel**	**2.24**	**177**	*e*P		**Pn**	**11 25 48.2**	**+1.8**
	SNR=1.0							
SBF	**Sospel**	**2.24**	**177**	*e*Pg		**Pg**	**11 25 51.0**	**-1.0**
SBF				*e*Sg		**Sg**	**11 26 20.4**	**-0.6**
	5.1nm,0.3s							
NEGI	**Seborga**	**2.27**	**172**	P		**Pn**	**11 25 45.5**	**-1.4**
THEF	**They Montfort**	**2.30**	**338**	Pn		**Pn**	**11 25 46.6**	**-0.8**
THEF	**They Montfort**	**2.30**	**338**	Pn		**Pn**	**11 25 46.6**	**-0.8**
THEF	**They Montfort**	**2.30**	**338**	Pn		**Pn**	**11 25 46.6**	**-0.8**
CDF	**Champ du Feu**	**2.32**	**0**	*e*Pn		**Pn**	**11 25 47.2**	**-0.4**
	SNR=1.0							
CDF	**Champ du Feu**	**2.32**	**0**	*e*Pg		**Pg**	**11 25 52.5**	**-1.1**
	SNR=1.0							
CDF				*e*Sn		**Sn**	**11 26 13.3**	**-2.9**
	SNR=1.0							
CDF				*e*Sg		**Sg**	**11 26 22.8**	**-0.8**
	6.1nm,0.3s,SNR=1.0							
CDF	**Champ du Feu**	**2.32**	**0**	*e*Pn		**Pn**	**11 25 47.2**	**-0.4**
CDF				*e*Pg		**Pg**	**11 25 52.5**	**-1.1**
CDF				*e*Sn		**Sn**	**11 26 13.3**	**-2.9**
CDF				*e*Sg		**Sg**	**11 26 22.8**	**-0.8**
CDF	**Champ du Feu**	**2.32**	**0**	*e*Pn		**Pn**	**11 25 47.2**	**-0.4**
	SNR=1.0							
CDF	**Champ du Feu**	**2.32**	**0**	*e*Pg		**Pg**	**11 25 52.5**	**-1.1**
	SNR=1.0							
CDF				*e*Sn		**Sn**	**11 26 13.3**	**-2.9**
	SNR=1.0							
CDF				*e*Sg		**Sg**	**11 26 22.8**	**-0.8**
	3.0nm,0.3s,SNR=1.0							
SMF	**Signal de Mont**	**2.43**	**284**	*e*Pn		**Pn**	**11 25 48.7**	**-0.4**
	SNR=1.0							
SMF	**Signal de Mont**	**2.43**	**284**	*e*Pg		**Pg**	**11 25 55.1**	**-0.7**
SMF				*e*Sg		**Sg**	**11 26 26.9**	**-0.4**
	11nm,0.2s,SNR=1.0							
SMF	**Signal de Mont**	**2.43**	**284**	*e*Pn		**Pn**	**11 25 48.7**	**-0.4**
SMF				*e*P			11 25 51.5	
SMF				*e*Pg		**Pg**	**11 25 55.1**	**-0.7**
SMF				*e*Sg		**Sg**	**11 26 26.9**	**-0.4**
SMF	**Signal de Mont**	**2.43**	**284**	*e*Pn		**Pn**	**11 25 48.7**	**-0.4**
	SNR=1.0							
SMF	**Signal de Mont**	**2.43**	**284**	*e*Pg		**Pg**	**11 25 55.1**	**-0.7**
SMF				*e*Sg		**Sg**	**11 26 26.9**	**-0.4**
	5.7nm,0.2s,SNR=1.0							
SMRF	**Simiane la Rot**	**2.44**	**210**	*e*P		**Pn**	**11 25 51.1**	**+1.9**
SMRF				*e*Sn		**Sn**	**11 26 17.9**	**-1.2**
	6.6nm,0.4s							
SMRF	**Simiane la Rot**	**2.44**	**210**	*e*P		**Pn**	**11 25 51.1**	**+1.9**
SMRF				*e*Sn		**Sn**	**11 26 17.9**	**-1.2**
SMRF	**Simiane la Rot**	**2.44**	**210**	*e*P		**Pn**	**11 25 51.1**	**+1.9**
SMRF				*e*Sn		**Sn**	**11 26 17.9**	**-1.2**
	3.3nm,0.4s							
PLDF	**La Plantade**	**2.54**	**268**	Pn		**Pn**	**11 25 50.5**	**-0.1**
PLDF				Sg		**Sg**	**11 26 30.8**	**0.0**
PLDF	**La Plantade**	**2.54**	**268**	Pn		**Pn**	**11 25 50.5**	**-0.1**
PLDF				Sg		**Sg**	**11 26 30.8**	**0.0**
PLDF	**La Plantade**	**2.54**	**268**	Pn		**Pn**	**11 25 50.5**	**-0.1**

PYM	**Petit Puy Mans**	**2.99 265**	Pn	**Pn**	**11 25 56.7**	**-0.1**
PYM			Sg	**Sg**	**11 26 45.5**	**+0.3**
BGF	**Bois d'Agland**	**3.10 280**	*e*P	**Pn**	**11 25 59.8**	**+1.5**
	SNR=1.0					
BGF			*e*Sn	**Sn**	**11 26 33.5**	**-1.9**
	SNR=1.0					
BGF			*e*Sg	**Sg**	**11 26 47.9**	**-0.7**
	12nm,0.4s,SNR=1.0					
BGF	**Bois d'Agland**	**3.10 280**	*e*P	**Pn**	**11 25 59.8**	**+1.5**
BGF			*e*Sn	**Sn**	**11 26 33.5**	**-1.9**
BGF			*e*Sg	**Sg**	**11 26 47.9**	**-0.7**
BGF	**Bois d'Agland**	**3.10 280**	*e*P	**Pn**	**11 25 59.8**	**+1.5**
	SNR=1.0					
BGF			*e*Sn	**Sn**	**11 26 33.5**	**-1.9**
	SNR=1.0					
BGF			*e*Sg	**Sg**	**11 26 47.9**	**-0.7**
	6.0nm,0.4s,SNR=1.0					
LASF	**Ste Croix**	**3.15 231**	*e*P	**Pn**	**11 26 01.0**	**+2.0**
LASF	**Ste Croix**	**3.15 231**	*e*Pg	**Pg**	**11 26 08.1**	**-1.4**
LASF			*e*Sg	**Sg**	**11 26 49.4**	**-0.8**
	3.9nm,0.3s,SNR=1.0					
LASF	**Ste Croix**	**3.15 231**	*e*P	**Pn**	**11 26 01.0**	**+2.0**
LASF			*e*Pg	**Pg**	**11 26 08.1**	**-1.4**
LASF			*e*Sg	**Sg**	**11 26 49.4**	**-0.8**
LASF	**Ste Croix**	**3.15 231**	*e*P	**Pn**	**11 26 01.0**	**+2.0**
LASF	**Ste Croix**	**3.15 231**	*e*Pg	**Pg**	**11 26 08.1**	**-1.4**
LASF			*e*Sg	**Sg**	**11 26 49.4**	**-0.8**
	2.0nm,0.3s,SNR=1.0					
HYF	**Humbligny**	**3.39 292**	*e*P	**Pn**	**11 26 04.6**	**+2.3**
HYF	**Humbligny**	**3.39 292**	*e*P	**Pn**	**11 26 04.6**	**+2.3**
HYF	**Humbligny**	**3.39 292**	*e*P	**Pn**	**11 26 04.6**	**+2.3**
TCF	**Toulx Ste Croi**	**3.52 275**	*e*Pn	**Pn**	**11 26 05.3**	**+1.3**
	SNR=1.0					
TCF			*e*Sn	**Sn**	**11 26 43.9**	**-1.8**
	3.2nm,0.4s,SNR=1.0					
TCF	**Toulx Ste Croi**	**3.52 275**	*e*Pn	**Pn**	**11 26 05.3**	**+1.3**
TCF			*e*Sn	**Sn**	**11 26 43.9**	**-1.8**
TCF	**Toulx Ste Croi**	**3.52 275**	*e*Pn	**Pn**	**11 26 05.3**	**+1.3**
	SNR=1.0					
TCF			*e*Sn	**Sn**	**11 26 43.9**	**-1.8**
	1.6nm,0.4s,SNR=1.0					
PGF	**Pioggiola**	**3.76 160**	*e*Pn	**Pn**	**11 26 06.8**	**-0.6**
PGF			*e*Sn	**Sn**	**11 26 48.1**	**-3.7**
PGF	**Pioggiola**	**3.76 160**	*e*Pn	**Pn**	**11 26 06.8**	**-0.6**
PGF			*e*Sn	**Sn**	**11 26 48.1**	**-3.7**
PGF	**Pioggiola**	**3.76 160**	*e*Pn	**Pn**	**11 26 06.8**	**-0.6**
PGF			*e*Sn	**Sn**	**11 26 48.1**	**-3.7**
CAF	**Calviac**	**3.84 254**	*e*Pn	**Pn**	**11 26 08.4**	**-0.1**
	SNR=1.0					
CAF			*e*Sg	**Sg**	**11 27 10.0**	**-2.4**
	3.3nm,0.4s,SNR=1.0					
CAF	**Calviac**	**3.84 254**	*e*Pn	**Pn**	**11 26 08.4**	**-0.1**
CAF			*e*Sg	**Sg**	**11 27 10.0**	**-2.4**
CAF	**Calviac**	**3.84 254**	*e*Pn	**Pn**	**11 26 08.4**	**-0.1**
	SNR=1.0					
RJF	**Les Rejaudoux**	**4.11 261**	*e*P	**Pn**	**11 26 14.9**	**+2.8**
RJF			*e*Sg	**Sg**	**11 27 18.0**	**-3.0**
	2.6nm,0.3s,SNR=1.0					
RJF	**Les Rejaudoux**	**4.11 261**	*e*P	**Pn**	**11 26 14.9**	**+2.8**
RJF			*e*Sg	**Sg**	**11 27 18.0**	**-3.0**
RJF	**Les Rejaudoux**	**4.11 261**	*e*P	**Pn**	**11 26 14.9**	**+2.8**
RJF			*e*Sg	**Sg**	**11 27 18.0**	**-3.0**
	1.3nm,0.3s,SNR=1.0					
BAIF	**Baives**	**4.46 334**	*e*Pn	**Pn**	**11 26 16.3**	**-0.7**
	SNR=1.0					
BAIF	**Baives**	**4.46 334**	*e*Pn	**Pn**	**11 26 16.3**	**-0.7**
BAIF	**Baives**	**4.46 334**	*e*Pn	**Pn**	**11 26 16.3**	**-0.7**
	SNR=1.0					

IDC 17 11:29:12.5±2.4, 3°75′N×128°65′E, *h*0km, mb3.3/3, mb1 3.4/3, mb1mx3.2/21, mbtmp3.3/3, Error ellipse: s-maj=153.2km s-min=28.0km az=68.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.20 167**		P	P	11 34 30.5	-0.3
	0.3nm,0.3s,baz=347,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**27.72 170**		P	P	11 35 03.7	+1.0
	1.0nm,1.0s,baz=346,slow=12,SNR=4.4						
MKAR	**Makanchi Array**	**58.64 324**		P	P	11 39 11.2	-0.3
	0.5nm,0.6s,baz=120,slow=8.4,SNR=4.2						

*IDC **17** 11:30:48.0±1.8, 0.°80N×121.°98E, *h*0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/22, mbtmp3.5/4, ML3.5/1, MS3.2/1, Ms1 3.2/1, ms1mx2.3/21, Error ellipse: s-maj=143.3km s-min=25.4km az=71.0*

*ISCJB **17** 11:30:49.6±1.9, 0.°79N±0.°07×121.°28E±0.°08, *h*29km±14km, mb3.4/3, Error ellipse: s-maj=14.8km s-min=10.9km az=31.2*

*DJA **17** 11:30:52, 0.°67N×121.°28E, *h*30km, ML4.1/3*

ISC 17 11:30:49.9±2.0, 0.°77N±0.°08×121.°33E±0.°08, h16km±12km, n15, σ1°16/18, mb3.4/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.68 116**		P	**Pg**	**11 31 03.8**	**+0.5**
LUWI	**Luwuk**	**2.31 141**		P	**Pn**	**11 31 28.3**	**+0.9**
LUWI	**Luwuk**	**2.31 141**		P	**Pn**	**11 31 28.7**	**+1.3**
LUWI				S	**Sn**	**11 31 56.1**	**+0.6**
KMSI	**Cibinong**	**2.66 94**		P	**Pn**	**11 31 39.8**	**+7.6**
MSSI	**Masamba**	**3.46 197**		P	**Pn**	**11 31 49.8**	**+6.7**
MSSI				S	**Sn**	**11 32 24.0**	**+0.3**
TTSI	**Tana Toraja**	**4.08 202**		P	**Pn**	**11 31 51.6**	**-0.1**
TTSI	**Tana Toraja**	**4.08 202**		P	**Pn**	**11 31 51.9**	**+0.2**
TTSI				S	**Sn**	**11 32 39.2**	**0.0**
SPSI	**Sidrap Palu**	**4.96 198**		P	**Pn**	**11 32 02.9**	**-0.9**
SPSI	**Sidrap Palu**	**4.96 198**		P	**Pn**	**11 32 02.8**	**-1.0**
SPSI				S	**Sn**	**11 33 02.1**	**+1.3**
MYLDM	**Lahad Datu**	**5.21 327**		P	**Pn**	**11 32 13.5**	**+6.3**
FITZ	**Fitzroy Crossi**	**19.23 167**		P	**Pn**	**11 35 13.1**	**-1.5**
	0.1nm,0.3s,baz=338,slow=11,SNR=5.9						
PSI	**Prapat**	**22.48 275**		LR	LR	11 45 49.6	
	comp=Z,59nm,20.6s,baz=103,slow=39						
WRA	**Warramunga Arr**	**24.22 149**		P	**P**	**11 36 04.0**	**-2.0**
	0.8nm,0.6s,mb3.4,baz=326,slow=11,SNR=9.5						
ASAR	**Alice Springs**	**27.20 154**		P	**P**	**11 36 31.1**	**-1.9**
	0.5nm,0.6s,mb3.2,baz=335,slow=8.9,SNR=7.4						
SONM	**Songino Array**	**48.63 347**		P	**P**	**11 39 34.6**	**+1.6**
	0.4nm,0.7s,mb3.6,baz=160,slow=7.6,SNR=4.0						

*IDC **17** 11:31:40.6±0.4, 11.°47S×166.°38E, *h*0km, mb4.8/25, mb1 4.9/25, mb1mx4.9/27, mbtmp4.8/25, MS4.5/28, Ms1 4.5/28, ms1mx4.5/32, Error ellipse: s-maj=15.1km s-min=12.4km az=102.0*

*ISCJB **17** 11:31:46.3±1.1, 11.°51S±0.°04×166.°21E±0.°04, *h*44km±9km, mb5.1/87, MS4.6/42, Error ellipse: s-maj=6.6km s-min=6.2km az=19.4*

*MOS **17** 11:31:49.1±1.4, 11.°43S×166.°13E, *h*67km, mb5.2/16, Error ellipse: s-maj=9.3km s-min=8.1km az=6.4*

*BJI **17** 11:31:50.4, 11.°03S×166.°23E, *h*67km, mB5.3/27, mb4.9/44, Ms5.0/27, Ms7 4.7/28*

*DJA **17** 11:31:51, 11.°63S×167.°67E, *h*160km, mb5.0/10*

*GCMT **17** 11:31:51.0±0.1, 11.°56S×166.°00E, *h*48km, MW5.4, Moment Tensor Solution. s98,c177; s92,c158; Moment tensor: Scale 10^17^Nm; M_{rr}1.55±.02; $M_{\theta\theta}$-0.09±.02; $M_{\phi\phi}$-1.46±.02; $M_{r\theta}$-0.07±.02; $M_{r\phi}$0.44±.02; $M_{\theta\phi}$0.27±.02; Best double couple: $M_0$1.60000×10^17^ NP1:ϕ_s163.00000°, δ40.00000°, λ,90.00000°. NP2:ϕ_s344.00000°, δ50.00000°, λ,90.00000°. Principal axes: T 1.5800, Plg85.0000°, Azm257.0000°; N 0.0400, Plg0.0000°, Azm164.0000°; P -1.6100, Plg5.0000°, Azm74.0000°; Data Used: II IU CN IC G.*

*NEIC **17** 11:31:52.0±1.2, 11.°51S×166.°16E, *h*80km±11km, mb5.0/34 Error ellipse: s-maj=8.3km s-min=6.5km az=173.0*

ISC 17 11:31:49.8±0.9, 11.°53S±0.°04×166.°21E±0.°04, h60km±7km, h81km±2.6km; pP-P, n277, σ1°07/246, mb5.1/87, MS4.6/42, 4C-4D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.50 288**		Pn	**Pn**	**11 33 23.5**	**+0.6**
	229nm,0.3s,baz=138,slow=4.0,SNR=60						
HNR				Sn	**Sn**	**11 34 34.8**	**-1.1**
	54nm,0.3s,baz=180,slow=20,SNR=2.3						
HNR	**Honiara**	**6.50 288**		*e*Pn	**Pn**	**11 33 23.6**	**+0.6**
HNR	**Honiara**	**6.50 288**		*e*P	**Pn**	**11 33 23.6**	**+0.7**

DZM	**Mont Dzumac**	**10.48 179**		*e*Pn	**Pn**	**11 34 16.7**	**-0.7**
	22nm,0.3s						
DZM				*e*LQ		11 36 20.3	
	5μm,27.0s						
DZM				*e*LR	LR	11 36 43.8	
	10μm,25.8s						
DZM	**Mont Dzumac**	**10.48 179**		*e*Pn	**Pn**	**11 34 17.8**	**+0.4**
	31nm,0.5s						
NOUC	**Port Laguerre**	**10.51 180**		*e*P	**Pn**	**11 34 16.5**	**-1.2**
NOUC				*e*S	**Sn**	**11 36 08.5**	**-5.5**
MSVF	**Nonsavu**	**13.01 120**		*e*Pn	**Pn**	**11 34 56.2**	**+4.4**
MSVF	**Nonsavu**	**13.01 120**		*e*P	**Pn**	**11 34 56.2**	**+4.4**
PMG	**Port Moresby**	**18.86 275**		P	**Pn**	**11 36 08.5**	**+2.2**
	0.3nm,0.3s,baz=88,slow=7.9,SNR=3.4						
PMG	**Port Moresby**	**18.86 275**		*e*Pn	**Pn**	**11 36 06.1**	**-0.2**
	35nm,0.9s						
PMG	**Port Moresby**	**18.86 275**		*e*P	**Pn**	**11 36 06.1**	**-0.2**
PMG				pmax	pmax		
	comp=Z,35nm,0.9s						
PMG	**Port Moresby**	**18.86 275**		P	**Pn**	**11 36 14.5**	**+8.2**
	comp=Z,1μmcomp=Z,49nm,1.1s						
EIDS	**Eidsvold**	**19.86 224**		*e*P	**Pn**	**11 36 18.1**	**-0.1**
	comp=Z,60nm,1.0s						
CTA	**Charters Tower**	**20.99 244**		P	**P**	**11 36 30.5**	**+2.2**
	comp=Z,34nm,0.9s,baz=66,slow=11,SNR=8.0						
CTA				LR	LR	11 43 39.4	
	comp=Z,3μm,19.9s,MS4.7,baz=56,slow=34						
CTA	**Charters Tower**	**20.99 244**		*e*P	**P**	**11 36 30.2**	**+1.9**
	comp=Z,28nm,0.9s						
CTA				*e*S	**S**	**11 40 16.8**	**-2.1**
CTA	**Charters Tower**	**20.99 244**		P	**P**	**11 36 30.5**	**+2.2**
CTA				LR	LR	11 43 39.4	
CTA	**Charters Tower**	**20.99 244**		P	**P**	**11 36 30.5**	**+2.2**
CTAO	**Charters Tower**	**20.99 244**		*e*P	**P**	**11 36 30.0**	**+1.7**
	comp=Z,69nm,1.1s						
CTAO	**Charters Tower**	**20.99 244**		*e*P	**P**	**11 36 30.0**	**+1.7**
CTAO				pmax	pmax		
	comp=Z,69nm,1.1s						
CTAO	**Charters Tower**	**20.99 244**		P	**P**	**11 36 34.7**	**+6.4**
	comp=Z,801nmcomp=Z,74nm,1.3s						
AFI	**Afiamalu**	**21.60 99**		P	**P**	**11 36 35.3**	**+0.3**
	comp=Z,18nm,0.8s,mb4.5,baz=180,slow=7.1,SNR=2.1						
AFI				LR	LR	11 41 36.4	
	comp=Z,1μm,21.4s,MS4.3,baz=101,slow=28						
AFI	**Afiamalu**	**21.60 99**		P	**P**	**11 36 35.3**	**+0.3**
AFI				LR	LR	11 41 36.4	
AFI	**Afiamalu**	**21.60 99**		P	**P**	**11 36 35.3**	**+0.4**
COEN	**Coen**	**22.60 261**		*e*P	**P**	**11 36 47.6**	**+2.0**
	comp=Z,220nm,0.9s,mb5.6						
COEN	**Coen**	**22.60 261**		P	**P**	**11 36 48.0**	**+2.5**
ARMA	**Armidale**	**23.16 214**		*e*P	**P**	**11 36 51.4**	**+0.1**
ARMA				*e*S	**S**	**11 40 58.4**	**+0.1**
ARMA	**Armidale**	**23.16 214**		*e*P	**P**	**11 36 52.1**	**+0.8**
	comp=Z,50nm,0.9s,mb4.9						
CNB	**Canberra Magne**	**28.19 210**		*e*P	**P**	**11 37 37.2**	**+0.5**
	comp=Z,65nm,0.8s,mb5.3						
CNB				*e*S	**S**	**11 42 23.2**	**+5.0**
URZ	**Urewera**	**28.35 162**		P	**P**	**11 37 38.2**	**+0.1**
	comp=Z,7.5nm,0.5s,mb4.6,baz=312,slow=0.8,SNR=8.7						
URZ				LR	LR	11 47 12.9	
	comp=Z,2μm,21.6s,MS4.7,baz=339,slow=33						
URZ	**Urewera**	**28.35 162**		P	**P**	**11 37 38.2**	**+0.1**
URZ				LR	LR	11 47 12.9	
STKA	**Stephens Creek**	**30.41 224**		P	**P**	**11 37 56.9**	**+0.3**
	comp=Z,18nm,0.8s,mb4.9,baz=36,slow=8.5,SNR=25						
STKA				PcP	PcP	11 40 54.5	-0.7
	comp=Z,14nm,1.3s,baz=305,slow=0.4,SNR=3.6						
STKA				LR	LR	11 49 29.5	
	comp=Z,2μm,20.3s,MS4.8,baz=49,slow=35						
STKA	**Stephens Creek**	**30.41 224**		*e*P	**P**	**11 37 56.9**	**+0.4**
	comp=Z,15nm,0.8s,mb4.8						
STKA				*e*S	**S**	**11 42 55.2**	**+2.0**
STKA	**Stephens Creek**	**30.41 224**		*e*P	**P**	**11 37 57.0**	**+0.5**
	comp=Z,3.3nm,0.8s,mb4.1						
STKA				*e*PcP	PcP	11 40 54.5	-0.6
STKA	**Stephens Creek**	**30.41 224**		*e*P	**P**	**11 37 57.0**	**+0.5**
STKA				*e*		11 40 54.5	
STKA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WRAB	**Tennant Creek**	**31.74 251**		*e*P	**P**	**11 38 08.1**	**-0.3**
	comp=Z,34nm,1.1s,mb5.1						
WRAB	**Tennant Creek**	**31.74 251**		*e*P	**P**	**11 38 08.1**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,34nm,1.1s,mb5.1						
WRAB	**Tennant Creek**	**31.74 251**		P	**P**	**11 38 08.0**	**-0.4**
	comp=Z,142nm,1.1s,mb5.7,SNR=10						
WRAB	**Tennant Creek**	**31.74 251**		P	**P**	**11 38 08.4**	**0.0**
WB2	**Warramunga Arr**	**31.74 251**		*e*P	**P**	**11 38 07.7**	**-0.7**
WRA	**Warramunga Arr**	**31.75 251**		P	**P**	**11 38 07.8**	**-0.7**
	comp=Z,17nm,0.9s,mb4.9,baz=82,slow=9.1,SNR=60						
WRA				PcP	PcP	11 40 58.5	-0.4
	comp=Z,4.3nm,0.8s,baz=78,slow=3.0,SNR=7.2						
WRA				ScP	ScP	11 44 42.0	+4.7
	comp=Z,1.7nm,1.1s,baz=89,slow=3.2,SNR=4.8						
WRA				LR	LR	11 49 51.8	
	comp=Z,1μm,20.9s,MS4.6,baz=75,slow=34						
WRA	**Warramunga Arr**	**31.75 251**		P	**P**	**11 38 07.8**	**-0.7**
WRA				PcP	PcP	11 40 58.5	-0.4
WRA				ScP	ScP	11 44 42.0	+4.7
WRA				LR	LR	11 49 51.8	
WRA	**Warramunga Arr**	**31.75 251**		P	**P**	**11 38 07.8**	**-0.7**
WRA						11 40 58.5	
TOO	**Toolangi**	**31.90 212**		*e*P	**P**	**11 38 09.8**	**+0.2**
	comp=Z,62nm,0.8s,mb5.5						
TOO				*e*S	**S**	**11 43 20.5**	**+4.1**
RPZ	**Rata Peaks**	**32.34 173**		P	**P**	**11 38 12.7**	**-0.7**
	comp=Z,16nm,0.5s,mb5.1,baz=300,slow=6.4,SNR=12						
RPZ	**Rata Peaks**	**32.34 173**		P	**P**	**11 38 12.7**	**-0.7**
ASAR	**Alice Springs**	**32.99 244**		P	**P**	**11 38 18.2**	**-1.1**
	comp=Z,13nm,0.7s,mb4.9,baz=73,slow=9.4,SNR=88						
ASAR				PcP	PcP	11 41 01.6	-0.6
	comp=Z,3.6nm,0.6s,baz=73,slow=2.3,SNR=11						
ASAR				ScP	ScP	11 44 48.2	+6.7
	comp=Z,1.9nm,0.9s,baz=82,slow=2.8,SNR=5.5						
ASAR				P3KPbc		12 09 38.5	
	comp=Z,0.2nm,0.6s,baz=245,slow=3.8,SNR=6.1						
ASAR	**Alice Springs**	**32.99 244**		P	**P**	**11 38 18.2**	**-1.1**
ASAR				PcP	PcP	11 41 01.6	-0.6
ASAR				ScP	ScP	11 44 48.2	+6.7
ASAR				*e*		12 09 38.5	
ASAR	**Alice Springs**	**32.99 244**		P	**P**	**11 38 18.2**	**-1.1**
ASAR						11 41 01.7	
RAR	**Rarotonga**	**33.96 111**		P	**P**	**11 38 23.6**	**-4.1**
	comp=Z,31nm,0.5s,mb5.5,baz=308,slow=12,SNR=7.5						
RAR				LR	LR	11 49 16.0	
	comp=Z,3μm,21.8s,MS5.0,baz=244,slow=31						
RAR	**Rarotonga**	**33.96 111**		P	**P**	**11 38 23.6**	**-4.1**
RAR				LR	LR	11 49 16.0	
RAR	**Rarotonga**	**33.96 111**		P	**P**	**11 38 23.6**	**-4.1**
MOO	**Moorlands**	**34.98 205**		*e*P	**P**	**11 38 36.3**	**+0.1**
	comp=Z,72nm,0.8s,mb5.7						
FITZ	**Fitzroy Crossi**	**39.70 256**		P	**P**	**11 39 16.0**	**-0.6**
	comp=Z,24nm,0.8s,mb5.0,baz=88,slow=6.9,SNR=40						
FITZ				PcP	PcP	11 41 23.4	+0.9
	comp=Z,7.4nm,0.9s,baz=133,slow=4.1,SNR=4.9						
FITZ				LR	LR	11 54 52.4	
	comp=Z,2μm,19.8s,MS4.9,baz=93,slow=35						
FITZ	**Fitzroy Crossi**	**39.70 256**		*e*P	**P**	**11 39 16.1**	**-0.5**
	comp=Z,44nm,0.8s,mb5.2						
FITZ				*e*S	**S**	**11 45 02.5**	**-14**
FITZ	**Fitzroy Crossi**	**39.70 256**		P	**P**	**11 39 16.0**	**-0.6**
FITZ				PcP	PcP	11 41 23.4	+0.9
FITZ				LR	LR	11 54 52.5	
FORT	**Forrest**	**40.15 236**		*e*P	**P**	**11 39 21.1**	**+1.0**
	comp=Z,35nm,0.8s,mb5.1						
PPT	**Papeete**	**43.14 103**		*e*S	**S**	**11 46 06.6**	**-0.6**
	comp=Z,580nm,28.0s						
PPT				*e*LQ		11 50 06.3	
	comp=Z,2μm,28.8s						
PPT				*e*LR	LR	11 51 54.3	
	comp=Z,3μm,29.0s,baz=277						
PPT	**Papeete**	**43.14 103**		LR	LR	11 54 32.2	
	comp=Z,619nm,19.0s,MS4.5,baz=267,slow=32						
TBI	**Tubuai**	**43.73 112**		*e*S	**S**	**11 46 15.5**	**-0.2**
	comp=Z,420nm,29.0s						
TBI				*e*LQ		11 50 20.6	
	comp=Z,2μm,30.2s						
TBI				*e*LR	LR	11 52 11.4	
	comp=Z,4μm,28.5s,baz=283						
DAV	**Davao City (W)**	**44.45 293**		LR	LR	11 56 23.5	
	comp=Z,347nm,18.2s,MS4.3,baz=247,slow=33						
CBIJ	**Chichi jima**	**44.92 329**		LR	LR	11 56 08.0	
	comp=Z,580nm,21.0s,MS4.5,baz=322,slow=33						
WSI	**Waingapu**	**45.13 268**		P	PcP	11 41 32.5	-8.1
MBWA	**Marble Bar**	**45.48 252**		*e*P	**P**	**11 40 03.9**	**+0.4**
	comp=Z,40nm,0.9s,mb5.2						
MBWA	**Marble Bar**	**45.48 252**		P	**P**	**11 40 04.8**	**+1.4**
	comp=Z,57nm,0.9s,mb5.4						
KAPI	**Kappang**	**46.38 274**		*e*P	**P**	**11 40 10.6**	**-0.1**
	comp=Z,20nm,0.8s,mb5.1						
KAPI	**Kappang**	**46.38 274**		P	**P**	**11 40 10.0**	**-0.7**
SPSI	**Sidrap Palu**	**46.58 275**		P	pP	11 40 22.7	-4.9
PCI	**Palu**	**47.22 280**		P	**P**	**11 40 09.6**	**-7.6**
KIP	**Kipapa**	**48.03 47**		*e*P	**P**	**11 40 22.3**	**-1.0**
KLBR	**Kellerberrin**	**48.84 238**		*e*P	**P**	**11 40 28.1**	**-1.4**
	comp=Z,27nm,0.8s,mb5.3						
NWAO	**Narrogin (SRO)**	**49.58 236**		P	**P**	**11 40 34.9**	**-0.2**
	comp=Z,26nm,0.8s,mb5.3,baz=83,slow=6.1,SNR=11						
NWAO	**Narrogin (SRO)**	**49.58 236**		*e*P	**P**	**11 40 34.6**	**-0.5**
	comp=Z,37nm,1.0s,mb5.4						
NWAO				*e*pP	pP	11 40 46.5	-4.1
NWAO	**Narrogin (SRO)**	**49.58 236**		*e*P	**P**	**11 40 34.6**	**-0.5**
NWAO				pmax	pmax		
	comp=Z,37nm,1.0s						
MYLDM	**Lahad Datu**	**50.28 287**		P	**P**	**11 40 42.6**	**+1.8**
MYLDM	**Lahad Datu**	**50.28 287**		P	**P**	**11 40 43.0**	**+2.3**
MYLDM	**Lahad Datu**	**50.28 287**		P	**P**	**11 40 42.8**	**+2.1**
	comp=Z,874nmcomp=Z,66nm,1.3s,mb5.5						
SRBI	**Singaraja**	**50.32 269**		P	sP	11 41 02.9	-0.5
TSM	**Tawau**	**50.59 285**		P	**P**	**11 40 44.3**	**+1.3**
JHJ	**Hachijo jima 2**	**51.06 331**		LR	LR	12 03 00.4	
	comp=Z,316nm,18.0s,MS4.4,baz=78,slow=37						
TGY	**Tagaytay City**	**51.60 298**		P	**P**	**11 40 51.6**	**+1.0**
	comp=Z,72nm,0.3s,mb6.0,baz=277,slow=17,SNR=3.8						
TGY	**Tagaytay City**	**51.60 298**		P	**P**	**11 40 51.6**	**+1.0**
TGY	**Tagaytay City**	**51.60 298**		P	**P**	**11 40 51.6**	**+1.0**
SDKM	**Sandakan**	**51.66 287**		P	**P**	**11 40 50.2**	**-0.8**
GMJI	**Gumukmas**	**52.03 268**		P	**P**	**11 40 54.2**	**+0.4**
KDM	**Kudat**	**52.43 288**		P	**P**	**11 40 57.9**	**+1.2**
KKM	**Kota Kinabalu**	**52.71 287**		P	**P**	**11 40 59.8**	**+0.9**
KKM	**Kota Kinabalu**	**52.71 287**		*e*P	**P**	**11 40 59.6**	**+0.7**
	comp=Z,59nm,0.9s,mb5.5						
KKM	**Kota Kinabalu**	**52.71 287**		P	**P**	**11 40 58.4**	**-0.5**
	comp=Z,0.3nmcomp=Z,777nmcomp=Z,70nm,1.2s,mb5.5						
KKM	**Kota Kinabalu**	**52.71 287**		P	**P**	**11 40 59.6**	**+0.7**
	comp=Z,777nmcomp=Z,70nm,1.2s,mb5.5						
TAOE	**Nuku Hiva Isla**	**52.80 92**		*e*LR	LR	11 56 23.0	
	comp=Z,1μm,26.8s						
KRKI	**Karangkates**	**53.02 268**		P	pP	11 41 19.6	+2.8
JOW	**Kunigami**	**53.02 317**		P	**P**	**11 41 01.4**	**+0.6**
	comp=Z,31nm,0.9s,mb5.2,baz=170,slow=4.7,SNR=3.8						
JOW				LR	LR	12 02 51.1	
	comp=Z,457nm,19.7s,MS4.5,baz=144,slow=35						
JOW	**Kunigami**	**53.02 317**		P	**P**	**11 41 01.4**	**+0.6**
JOW				LR	LR	12 02 51.1	
PWJI	**Pagerwojo**	**53.67 268**		P	**P**	**11 41 05.8**	**-0.1**
SJI	**Sawahan**	**53.75 269**		P	**P**	**11 41 13.2**	**+6.7**
	comp=Z,0.4nmcomp=Z,81nm,1.1s,mb5.6						
PCJI	**Pacitan**	**54.26 268**		P	**P**	**11 41 10.4**	**+0.2**
MJAR	**Matsushiro Arr**	**54.61 332**		P	**P**	**11 41 10.1**	**-2.2**
	comp=Z,6.8nm,0.8s,mb4.7,baz=170,slow=8.5,SNR=16						
MJAR				LR	LR	12 02 18.1	
	comp=Z,320nm,21.1s,MS4.4,baz=195,slow=34						
MJAR	**Matsushiro Arr**	**54.61 332**		P	**P**	**11 41 10.1**	**-2.1**
MJAR				LR	LR	12 02 18.1	
MJAR	**Matsushiro Arr**	**54.61 332**		P	**P**	**11 41 10.1**	**-2.2**
MAT	**Matsushiro**	**54.61 332**		P	**P**	**11 41 10.6**	**-1.7**
MAT				S	**S**	**11 48 56.0**	**+8.3**
BTM	**Bintulu**	**54.82 282**		P	**P**	**11 41 15.2**	**+0.9**
SBUM	**Sibu**	**55.44 281**		P	**P**	**11 41 19.0**	**+0.2**
SBUM	**Sibu**	**55.44 281**		P	**P**	**11 41 19.7**	**+0.9**
	comp=Z,18nm,1.2s,mb5.0						
JNU	**Nakatsue**	**55.74 324**		*e*P	**P**	**11 41 20.6**	**+0.1**
	comp=Z,74nm,2.0s,mb5.4						
RKT	**Rikitea**	**56.99 110**		*e*S	**S**	**11 49 18.5**	**-1.5**
	comp=Z,280nm,29.0s						
RKT				*e*LQ		11 55 53.6	
	comp=Z,556nm,31.8s						
RKT				*e*LR	LR	11 58 20.7	
	comp=Z,3μm,27.2s,baz=274						
KSM	**Kuching**	**57.03 279**		P	**P**	**11 41 30.8**	**+0.7**

MDJ LR LR
comp=E,240nm,30.2s,MS4.4
MDJ LR LR
comp=Z,430nm,30.2s,MS4.5
VNDA Vanda 66.02 181 P **P** **11 42 28.5 -1.1**
comp=Z,6.8nm,0.9s,mb4.7,baz=352,slow=6.2,SNR=26
VNDA LR LR 12 07 23.7
comp=Z,392nm,21.0s,MS4.6,baz=31,slow=32
VNDA Vanda 66.02 181 *e*P **P** **11 42 29.3 -0.4**
comp=Z,13nm,1.1s,mb4.9
VNDA Vanda 66.02 181 *e*P **P** **11 42 29.3 -0.4**
VNDA pmax pmax
comp=Z,13nm,1.1s
SBA Scott Base 66.32 180 *e*P **P** **11 42 31.4 -0.1**
comp=Z,13nm,0.9s,mb5.0
SBA Scott Base 66.32 180 *e*P **P** **11 42 31.5 -0.1**
SBA pmax pmax
comp=Z,13nm,0.9s,mb5.0
CN2 Changchun 66.39 329 *e*P **P** **11 42 36.8 +4.3**
CN2 *e*S S 11 51 14.1 -3.9
CN2 pmax pmax
comp=Z,30nm,1.0s,mb5.3
CN2 pmax pmax
comp=Z,200nm,4.0s
IPM Ipoh 66.76 280 P **P** **11 42 36.2 +0.7**
IPM Ipoh 66.76 280 *e*P **P** **11 42 35.6 +0.2**
comp=Z,43nm,1.1s,mb5.4
IPM *e*pP pP 11 42 48.1 -3.6
KULM Kulim 67.32 281 P **P** **11 42 39.9 +0.8**
PSI Prapat 68.39 278 P **P** **11 42 44.9 -0.9**
comp=Z,13nm,0.8s,mb5.0,baz=244,slow=2.9,SNR=7.3
PSI Prapat 68.39 278 *e*P **P** **11 42 44.9 -0.9**
PSI Prapat 68.39 278 P **P** **11 42 44.9 -0.9**
ENH Enshi 68.56 309 *e*P **P** **11 42 45.5 -1.0**
comp=Z,28nm,1.0s,mb5.1
GYA Guiyang 69.07 304 P **P** **11 42 49.8 +0.1**
GYA pP pP 11 43 13.8 +7.8
GYA PP PP 11 45 26.4 +3.3
GYA ScP 11 47 08.9
GYA PcS 11 47 18.5
GYA S S 11 51 48.3 -2.4
GYA SKS 11 52 38.9
GYA SS SS 11 56 17.0 -1.0
GYA pmax pmax
comp=Z,20nm,1.0s,mb5.0
GYA pmax pmax
comp=Z,100nm,6.6s
GYA LR LR
comp=N,650nm,18.2s,MS5.0
GYA LR LR
comp=E,510nm,18.7s,MS5.0
GYA LR LR
comp=Z,630nm,19.0s,MS4.9
BJI Beijing 69.14 321 P **P** **11 42 49.5 -0.4**
BJI pP pP 11 43 11.1 +4.9
BJI S S 11 51 53.6 +2.5
BJI pmax pmax
comp=Z,20nm,1.3s,mb4.9
BJI LR LR
comp=N,470nm,30.3s,MS4.7
BJI LR LR
comp=E,480nm,30.3s,MS4.7
BJI LR LR
comp=Z,610nm,30.3s,MS4.7
XAN Xi'an 70.78 312 P **P** **11 42 59.8 -0.3**
XAN pP pP 11 43 19.3 +2.8
XAN S S 11 52 10.5 -0.1
XAN SKS 11 52 54.8
XAN SS SS 11 56 41.9 -2.3
XAN pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
XAN pmax pmax
comp=Z,56nm,7.7s
XAN LR LR
comp=N,210nm,24.0s,MS4.4
XAN LR LR
comp=E,140nm,23.1s,MS4.4
XAN LR LR
comp=Z,200nm,25.0s,MS4.3
KMI Kunming 71.76 301 P **P** **11 43 06.8 +0.6**
KMI pP pP 11 43 28.3 +5.7
KMI sP sP 11 43 35.3 +6.1
KMI PP PP 11 45 47.8 +1.4
KMI S S 11 52 20.5 -1.7
KMI sS sS 11 52 55.6 +5.7
KMI SS SS 11 57 00.4 +0.9
KMI pmax pmax
comp=Z,30nm,1.3s,mb5.1
KMI pmax pmax
comp=Z,290nm,5.5s
KMI LR LR
comp=N,200nm,22.4s,MS4.6
KMI LR LR
comp=E,330nm,27.2s,MS4.6
KMI LR LR
comp=Z,490nm,25.3s,MS4.7
CHRT Chiangrai 72.44 295 ⇓P **P** **11 43 10.0 -0.3**
comp=Z,132nm,1.0s,mb5.8
HHC Hu-ho-hao-te 72.49 320 *e*P **P** **11 43 12.3 +2.1**
HHC PP PP 11 45 57.3 +5.0
HHC S S 11 52 29.8 -0.2
HHC ScS ScS 11 53 08.6 -3.6
HHC pmax pmax
comp=Z,20nm,1.3s,mb4.9
HHC pmax pmax
comp=Z,190nm,6.4s
HHC LR LR
comp=N,380nm,20.2s,MS4.9
HHC LR LR
comp=E,540nm,22.6s,MS4.9
HHC LR LR
comp=Z,760nm,22.6s,MS4.9
CM31 Chiang Mai Arr 72.72 294 *e*P **P** **11 43 12.6 +0.6**
comp=Z,21nm,0.9s,mb5.1
CMAR Chiang Mai Arr 72.72 294 P **P** **11 43 12.8 +0.8**
comp=Z,15nm,0.8s,mb5.0,baz=121,slow=4.4,SNR=81
CMAR LR LR 12 12 43.3
comp=Z,200nm,20.9s,MS4.4,baz=292,slow=34
CMAR Chiang Mai Arr 72.72 294 P **P** **11 43 12.8 +0.8**
CMAR LR LR 12 12 43.3
CMAR Chiang Mai Arr 72.72 294 P **P** **11 43 12.9 +0.8**
CHG Chiang Mai 72.84 294 ⇑P **P** **11 43 12.9 +0.2**
comp=Z,25nm,1.3s,mb5.0
CHTO Chiang Mai 72.84 294 *e*P **P** **11 43 13.2 +0.5**
comp=Z,39nm,1.3s,mb5.2
CHTO Chiang Mai 72.84 294 *e*P **P** **11 43 13.2 +0.5**
CHTO pmax pmax
comp=Z,39nm,1.3s,mb5.2
CD2 Chengdu 73.26 307 P **P** **11 43 16.9 +1.9**
CD2 S S 11 52 37.3 -1.8
CD2 SKS 11 53 10.0
CD2 SS SS 11 57 23.6 +1.4
CD2 pmax pmax
comp=Z,50nm,0.9s,mb5.4
CD2 pmax pmax
comp=Z,260nm,5.7s
CD2 LR LR
comp=E,560nm,21.4s
CD2 LR LR
comp=Z,620nm,24.4s,MS4.8
SEY Seymchan 75.00 353 ⇑*e*P **P** **11 43 23.0 -1.4**
LZH Lanzhou 75.42 312 *e*P **P** **11 43 28.3 +0.9**
LZH pP pP 11 43 48.3 +4.4
LZH sP sP 11 43 56.8 +6.3
LZH pmax pmax
comp=Z,62nm,1.0s,mb5.5
LZH pmax pmax
comp=Z,240nm,4.1s
LZH LR LR
comp=N,100nm,8.7s
LZH LR LR
comp=E,390nm,16.2s
LZH LR LR
comp=Z,680nm,18.6s,MS5.0
KDAK Kodiak Island 76.86 21 P **P** **11 43 32.4 -2.7**
comp=Z,7.0nm,0.9s,mb4.6,baz=182,slow=4.9,SNR=4.0
KDAK Kodiak Island 76.86 21 P **P** **11 43 32.4 -2.7**
KDAK Kodiak Island 76.86 21 P **P** **11 43 32.4 -2.7**
QSPA South Pole Qui 78.48 180 *e*P **P** **11 43 43.0 -0.9**
comp=Z,50nm,0.9s,mb5.4
YAK Yakutsk 78.69 343 *e*P **P** **11 43 43.2 -2.0**
YAK pmax pmax
comp=Z,18nm,1.4s,mb4.8
ULN Ulaanbaatar 78.96 324 *e*P **P** **11 43 46.5 -0.5**
comp=Z,22nm,1.1s,mb5.0
ULN Ulaanbaatar 78.96 324 *e*P **P** **11 43 46.5 -0.5**
ULN pmax pmax
comp=Z,22nm,1.1s,mb5.0
SONM Songino Array 79.32 324 P **P** **11 43 48.3 -0.7**
comp=Z,7.2nm,0.9s,mb4.6,baz=137,slow=4.2,SNR=29
SONM LR LR 12 18 46.5
comp=Z,212nm,20.4s,MS4.5,baz=154,slow=36
SONM Songino Array 79.32 324 P **P** **11 43 48.3 -0.7**
SONM LR LR 12 18 46.5
SONM Songino Array 79.32 324 P **P** **11 43 48.3 -0.7**
BILL Bilibino 79.36 0 *e*P **P** **11 43 47.9 -0.9**
comp=Z,5.6nm,0.6s,mb4.7
BILL Bilibino 79.36 0 ⇓*i*P **P** **11 43 47.5 -1.2**
BILL *e* 11 44 17.1
BILL *e*S S 11 53 35.9 -8.6
BILL pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
GTA Gaotai 79.72 314 *e*P **P** **11 43 52.4 +1.0**
GTA pP pP 11 44 12.3 +4.3
GTA sP sP 11 44 20.3 +5.7
GTA S S 11 53 46.6 -2.9
GTA pmax pmax
comp=Z,28nm,1.1s,mb5.1
GTA pmax pmax
comp=Z,210nm,5.0s
GTA LR LR
comp=N,280nm,19.2s,MS4.8
GTA LR LR
comp=E,310nm,19.5s,MS4.8
GTA LR LR
comp=Z,490nm,20.4s,MS4.8
ZAK Zakamensk 82.36 325 *e*P **P** **11 44 04.3 -0.8**
ZAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
KCPM Cahto Peak 82.54 47 *e*P **P** **11 44 08.0 +1.7**
comp=Z,3.7nm,0.7s,mb4.5
HOPS Hopland 82.66 48 *e*P **P** **11 44 08.2 +1.2**
comp=Z,17nm,1.4s,mb4.9
TLY Talaya 82.78 326 *e*P **P** **11 44 06.9 -0.3**
TLY Talaya 82.78 326 *e*P **P** **11 44 06.2 -1.1**
TLY *e*S S 11 54 19.7 -0.9
TLY *e*SS SS 11 59 49.7 +5.1
TLY pmax pmax
comp=Z,12nm,0.9s,mb4.9
TLY MLR MLR
comp=Z,118nm,21.0s,MS4.2
KHMM Horse Mountain 82.87 46 *e*P **P** **11 44 10.0 +2.0**
comp=Z,10nm,1.3s,mb4.7
LSA Lhasa 83.00 302 *e*P **P** **11 44 11.0 +2.1**
COLA College 83.60 18 *e*P **P** **11 44 09.5 -1.7**
comp=Z,6.3nm,0.8s,mb4.8
COLA College 83.60 18 *e*P **P** **11 44 09.5 -1.7**
COLA pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
MENT Mentasta 83.62 21 *e*P **P** **11 44 10.6 -0.8**
ILAR Eielson Array 83.82 18 P **P** **11 44 10.1 -2.3**
comp=Z,2.0nm,0.8s,mb4.3,baz=271,slow=4.3,SNR=23
ILAR LR LR 12 14 30.9
comp=Z,230nm,21.8s,MS4.5,baz=116,slow=31
ILAR Eielson Array 83.82 18 P **P** **11 44 10.1 -2.3**
ILAR LR LR 12 14 30.9
ILAR Eielson Array 83.82 18 P **P** **11 44 10.1 -2.3**
YBH Yreka Blue Hor 83.90 45 *e*P **P** **11 44 14.3 +1.0**
YBH Yreka Blue Hor 83.90 45 *e*P **P** **11 44 14.3 +1.0**
DOT Dot Lake 83.97 20 *e*P **P** **11 44 12.3 -0.8**
HUMO Hull Mountain 84.05 45 *e*P **P** **11 44 14.9 +0.9**
CMB Columbia Colle 84.30 50 *e*P **P** **11 44 15.9 +0.5**
comp=Z,22nm,2.1s,mb4.9
CMB Columbia Colle 84.30 50 *e*P **P** **11 44 15.9 +0.5**
CMB pmax pmax
comp=Z,22nm,2.1s,mb4.9
MAW Mawson 84.45 202 P **P** **11 44 14.6 -1.1**
comp=Z,8.2nm,0.9s,mb4.8,baz=111,slow=6.7,SNR=9.7
MAW LR LR 12 16 20.3
comp=Z,339nm,21.4s,MS4.7,baz=96,slow=32
MAW Mawson 84.45 202 *e*P **P** **11 44 14.5 -1.1**
comp=Z,5.9nm,0.9s,mb4.7
MAW Mawson 84.45 202 *e*P **P** **11 44 15.1 -0.6**
comp=Z,2.0nm,0.9s,mb4.2
MAW Mawson 84.45 202 *e*P **P** **11 44 15.1 -0.5**
MAW pmax pmax
comp=Z,2.0nm,0.9s
MWC Mount Wilson 84.89 54 *e*P **P** **11 44 21.5 +3.0**
MWC Mount Wilson 84.89 54 *e*P **P** **11 44 21.5 +3.0**
WCN Washoe City 85.19 48 *e*P **P** **11 44 21.1 +1.3**
WCN Washoe City 85.19 48 *e*P **P** **11 44 21.1 +1.3**
TAPN Taplejung 85.24 299 *e*P **P** **11 44 20.7 +0.3**
comp=Z,103nm,1.4s,mb5.8
ODAN Odare 85.38 298 *e*P **P** **11 44 21.2 +0.1**
MTUM Tungsten Hills 85.46 51 *e*P **P** **11 44 23.0 +1.8**
MOD Modoc 85.65 46 *e*P **P** **11 44 22.7 +0.6**
EGAK Eagle 85.67 20 *e*P **P** **11 44 20.4 -1.2**
comp=Z,12nm,0.9s,mb5.1
NVAR Mina Array Bea 85.98 50 P **P** **11 44 22.9 -0.9**
comp=Z,1.2nm,0.6s,mb4.3,baz=242,slow=7.4,SNR=12
NVAR LR LR 12 14 34.1
comp=Z,975nm,21.9s,MS5.2,baz=102,slow=30
NVAR Mina Array Bea 85.98 50 P **P** **11 44 22.9 -0.9**
NVAR LR LR 12 14 34.1
RAMN Ramite 86.09 298 *e*P **P** **11 44 24.6 0.0**
comp=Z,107nm,1.4s,mb5.9
GUN Gumba 86.95 299 *e*P **P** **11 44 28.7 -0.1**
WVOR Wild Horse Val 86.99 46 *e*P **P** **11 44 30.0 +1.3**
comp=Z,9.7nm,1.3s,mb4.9
WVOR Wild Horse Val 86.99 46 *e*P **P** **11 44 30.0 +1.3**
WVOR pmax pmax
comp=Z,10.0nm,1.3s,mb4.9
PKI Pulchoki 87.27 299 *e*P **P** **11 44 29.8 -0.6**
comp=Z,102nm,1.3s,mb5.9
KKN Kakani 87.44 299 *e*P **P** **11 44 31.0 -0.2**
DMN Daman 87.54 299 *e*P **P** **11 44 31.5 -0.2**
GKN Gorkha 88.04 299 *e*P **P** **11 44 33.2 -0.8**
DANN Dangsing 88.87 299 *e*P **P** **11 44 37.1 -0.9**
comp=Z,45nm,0.8s,mb5.8
KOLN Koldanda 88.88 298 *e*P **P** **11 44 37.0 -1.0**
comp=Z,26nm,0.9s,mb5.6
PYUN Piuthan 89.48 299 *e*P **P** **11 44 39.6 -1.2**
comp=Z,40nm,1.0s,mb5.7
WMQ Urumqi 89.76 315 P **P** **11 44 41.1 -0.7**
WMQ pP pP 11 45 01.8 +3.2
WMQ sP sP 11 45 10.1 +4.9
WMQ pmax pmax
comp=Z,16nm,1.0s,mb5.3
WMQ LR LR
comp=N,140nm,31.5s,MS4.6
WMQ LR LR
comp=E,310nm,27.3s,MS4.6
WMQ LR LR
comp=Z,400nm,25.2s,MS4.7
INK Inuvik 90.21 19 P **P** **11 44 44.6 +1.3**
comp=Z,0.7nm,1.0s,baz=201,slow=1.8,SNR=3.7
INK Inuvik 90.21 19 P **P** **11 44 44.6 +1.3**
INK Inuvik 90.21 19 P **P** **11 44 44.6 +1.3**
HLID Hailey 90.29 46 *e*P **P** **11 44 44.8 +0.5**
comp=Z,54nm,2.8s,mb5.4
WUAZ Wupatki 90.53 54 *e*P **P** **11 44 48.5 +3.0**
WUAZ *e*pP pP 11 44 56.9 -5.6
MSU Marysvale 90.63 51 *e*P **P** **11 44 46.6 +0.7**
comp=Z,6.5nm,1.1s,mb4.9
MSU Marysvale 90.63 51 *e*P **P** **11 44 46.6 +0.7**
MSU pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
BSMT Bassoo Peak 91.19 41 *e*P **P** **11 44 49.6 +1.3**
HYB Hyderabad 91.19 287 *i* P **P** **11 44 49.5 +0.5**
SYO Syowa Base 91.46 197 ⇓*e*P **P** **11 44 47.6 -1.6**
SYO Syowa Base 91.46 197 ⇓*e*PcP PcP 11 44 49.7 -0.4
DLMT Dillon 92.01 44 *e*P **P** **11 44 53.2 +1.1**
comp=Z,3.6nm,0.9s,mb4.7
HRY Holter Researc 92.85 43 *e*P **P** **11 44 57.6 +1.6**
PDAR Pinedale Array 93.54 47 P **P** **11 44 58.0 -1.4**
comp=Z,0.5nm,0.5s,mb4.2,baz=235,slow=3.2,SNR=2.7
PDAR PKKPbc PKKPbc 12 02 03.6 -2.8
comp=Z,0.8nm,0.8s,baz=72,slow=5.8,SNR=5.0
PDAR LR LR 12 20 55.0
comp=Z,223nm,18.5s,MS4.7,baz=244,slow=32
PDAR Pinedale Array 93.54 47 P **P** **11 44 58.0 -1.4**
PDAR PKKPbc PKKPbc 12 02 03.6 -2.8
PDAR LR LR 12 20 55.0
DDI Dehra Dun 94.16 300 *ex* x 11 45 03.0
MK31 Makanchi Array 94.19 317 *e*P **P** **11 45 01.6 -0.6**
MK31 Makanchi Array 94.19 317 *e*P **P** **11 45 01.6 -0.6**
MKAR Makanchi Array 94.19 317 P **P** **11 45 01.4 -0.8**
comp=Z,15nm,0.8s,mb5.5,baz=98,slow=5.8,SNR=47
MKAR LR LR 12 30 32.0
comp=Z,73nm,18.3s,MS4.2,baz=169,slow=38
MKAR Makanchi Array 94.19 317 P **P** **11 45 01.4 -0.8**
MKAR LR LR 12 30 32.0
MKAR Makanchi Array 94.19 317 P **P** **11 45 01.4 -0.8**
ZAA0 Zalesovo Array 94.21 324 *e*P **P** **11 45 00.4 -1.7**
ZALV Zalesovo Beam 94.21 324 P **P** **11 45 00.5 -1.6**
comp=Z,4.5nm,0.7s,mb5.0,baz=106,slow=4.8,SNR=24
ZALV LR LR 12 27 56.7
comp=Z,128nm,21.4s,MS4.3,baz=68,slow=36
ZALV Zalesovo Beam 94.21 324 P **P** **11 45 00.5 -1.6**
ZALV LR LR 12 27 56.8
ZALV Zalesovo Beam 94.21 324 P **P** **11 45 00.5 -1.6**
ANMO Albuquerque 94.34 55 LR LR 12 19 23.6
comp=Z,405nm,21.0s,MS4.9,baz=197,slow=30
YKA Yellowknife Ar 95.19 27 LR LR 12 20 24.2
comp=Z,28nm,21.4s,MS3.7,baz=100,slow=31
TXAR Lajitas Array 95.66 61 P **P** **11 45 08.8 -0.5**
comp=Z,0.2nm,0.5s,baz=206,slow=8.2,SNR=6.5
TXAR PKKPbc PKKPbc 12 01 57.9 -2.4
comp=Z,0.2nm,0.6s,baz=106,slow=3.4,SNR=4.2
TXAR LR LR 12 21 02.5
comp=Z,410nm,18.2s,MS4.9,baz=340,slow=31
TXAR Lajitas Array 95.66 61 P **P** **11 45 08.8 -0.5**
TXAR PKKPbc PKKPbc 12 01 57.9 -2.4
TXAR LR LR 12 21 02.5
TXAR Lajitas Array 95.66 61 P **P** **11 45 08.9 -0.4**
KURK Kurchatov 97.30 320 ⇑*i*P **P** **11 45 15.9 -0.4**
KURK pmax pmax
comp=Z,11nm,1.7s,mb5.0
ARCES ARCESS Array B 116.92 346 PKP PKPdf 11 50 28.0 +0.8
comp=Z,3.5nm,0.9s,baz=93,slow=2.6,SNR=11
ARCES ARCESS Array B 116.92 346 PKP PKPdf 11 50 28.0 +0.8
ARCES ARCESS Array B 116.92 346 PKIKP PKPdf 11 50 28.0 +0.9
KIV Kislovodsk 121.89 315 *i* PKIKP PKPdf 11 50 32.7 -5.3
KIV *e* 11 52 06.6
KIV *e*PS PS 12 02 01.4 -5.0
KIV *e*SS SS 12 08 38.3 -6.6
KIV pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 122.39 339 PKP PKPdf 11 50 37.7 -0.2
comp=Z,2.1nm,0.7s,baz=350,slow=5.6,SNR=4.4
FINES FINESS Array B 122.39 339 PKP PKPdf 11 50 37.7 -0.2
FINES FINESS Array B 122.39 339 PKIKP PKPdf 11 50 37.7 -0.2
BOSA Boshof 125.08 223 PKP PKPdf 11 50 43.8 -0.4
comp=Z,4.5nm,0.7s,baz=116,slow=4.2,SNR=7.1
BOSA Boshof 125.08 223 PKP PKPdf 11 50 43.8 -0.4
BOSA Boshof 125.08 223 PKIKP PKPdf 11 50 43.8 -0.3
CLL Collm 134.73 337 *e*(PP) PP 11 53 42.0 +6.9
CLL *e*PKSbc 11 54 31.0
CLL *e*PPS 12 05 42.0
CLL *e* 12 06 54.0
CLL *e*SSS 12 16 24.0
GERES GERESS Array B 136.34 334 PKP PKPdf 11 51 03.7 -1.0
comp=Z,1.2nm,0.9s,baz=64,slow=3.1,SNR=5.1
GERES GERESS Array B 136.34 334 PKP PKPdf 11 51 03.7 -1.0
GERES GERESS Array B 136.34 334 PKIKP PKPdf 11 51 03.7 -1.0
MBDF Montbardon 142.51 336 *e*PKP1 PKPdf 11 51 09.7 -6.4
comp=Z,38nm,1.5s
ORIF Oris-en-Rattie 142.70 337 *e*PKP1 PKPdf 11 51 14.6 -1.8
comp=Z,7.9nm,0.7s
MFF Saint Martin d 143.18 344 *e*PKP1 PKPdf 11 51 15.5 -1.7
comp=Z,24nm,1.2s
PGF Pioggiola 143.28 331 *e*PKP1 PKPdf 11 51 14.9 -2.6
comp=Z,34nm,1.2s
FRF La Foret Royal 143.51 335 *e*PKP1 PKPdf 11 51 15.0 -2.9
comp=Z,83nm,1.5s
RJF Les Rejaudoux 143.89 342 *e*PKP1 PKPdf 11 51 16.6 -1.9
comp=Z,81nm,1.8s
LASF Ste Croix 144.18 338 *e*PKP1 PKPdf 11 51 17.1 -2.0
comp=Z,77nm,1.2s
LFF La Frestale 144.45 342 *e*PKP1 PKPdf 11 51 17.9 -1.6
comp=Z,36nm,1.1s
MTLF Montolieu 145.40 339 *e*PKP1 PKPbc 11 51 20.4 -0.8
comp=Z,37nm,1.1s
ETSF Etsaut 146.70 342 *e*PKP1 PKPbc 11 51 22.2 -2.9
KEST Kesra 148.08 323 PKPbc PKPbc 11 51 28.4 -0.8
comp=Z,3.6nm,0.9s,baz=286,slow=1.2,SNR=6.2
ESDC Sonseca Array 150.65 344 PKPbc PKPbc 11 51 34.6 -0.9
comp=Z,0.3nm,0.3s,baz=78,slow=1.5,SNR=2.9
ESDC PKPab PKPab 11 51 42.4 +0.1
comp=Z,1.2nm,0.5s,baz=28,slow=3.0,SNR=4.5
TORD Torodi Ar. Bea 164.79 278 PKP PKPdf 11 51 46.6 -1.4
comp=Z,1.2nm,1.0s,baz=191,slow=1.4,SNR=5.3
TORD PKPab PKPab 11 52 43.2 -0.9
comp=Z,3.9nm,0.9s,baz=78,slow=3.8,SNR=8.6
TORD PP PP 11 56 35.8 +4.9
comp=Z,1.7nm,1.0s,baz=109,slow=4.5,SNR=5.0
TORD Torodi Ar. Bea 164.79 278 PKP PKPdf 11 51 46.6 -1.4
TORD PKPab PKPab 11 52 43.2 -0.9
TORD PP PP 11 56 35.8 +4.9
DBIC Dimbokro 169.95 242 PKPab PKPab 11 53 06.0 -0.8
comp=Z,3.8nm,0.8s,baz=76,slow=6.4,SNR=3.5

*ATH **17** 11:34:51.8, 36.°72N×26.°56E, h11km±6km, MD3.4/5*
*CSEM **17** 11:34:55.2±0.4, 36.°91N×26.°46E, h20km, ML2.3/3, Error ellipse: s-maj=11.0km s-min=8.7km az=32.0*
*THE **17** 11:34:57.0, 36.°89N×26.°47E, h27km±5km, ML2.3/3, Error ellipse: s-maj=5.8km s-min=0.6km az=39.0*

ISC 17 11:34:56.0±0.6, 36.°83N±0.°04×26.°42E±0.°05, h25km±9km, n20, σ1°24/31, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIS1	**Nisyros Isl.**	**0.65**	**110**	P	**Pb**	**11 35 09.1**	**+0.3**
NIS1				S	**Sb**	**11 35 18.5**	**+1.0**
NIS1	**Nisyros Isl.**	**0.65**	**110**	P	**Pb**	**11 35 09.1**	**+0.3**
NIS1				S	**Sb**	**11 35 18.5**	**+1.0**
APE	**Apeiranthos**	**0.75**	**289**	*e*PB	**Pb**	**11 35 09.6**	**-0.7**
APE				*e*SB	**Sb**	**11 35 21.3**	**+1.2**
APE	**Apeiranthos**	**0.75**	**289**	P	**Pb**	**11 35 11.0**	**+0.7**
APE				S	**Sb**	**11 35 22.0**	**+1.9**
APE	**Apeiranthos**	**0.75**	**289**	*e*Pb	**Pb**	**11 35 09.6**	**-0.7**
APE	**Apeiranthos**	**0.75**	**289**	P	**Pb**	**11 35 11.0**	**+0.7**
APE				*e*Sb	**Sb**	**11 35 21.3**	**+1.2**
APE				S	**Sb**	**11 35 22.0**	**+1.9**
THR3	**Thira Island,**	**0.92**	**243**	P	**Pb**	**11 35 13.5**	**+0.3**
THR3	**Thira Island,**	**0.92**	**243**	P	**Pb**	**11 35 13.5**	**+0.3**
SMG	**Samos**	**0.94**	**21**	*e*PN	**Pn**	**11 35 11.4**	**-2.2**
SMG				*e*SB	**Sb**	**11 35 24.3**	**-1.3**
SMG	**Samos**	**0.94**	**21**	*e*Pn	**Pn**	**11 35 11.4**	**-2.2**
SMG				*e*Sb	**Sb**	**11 35 24.3**	**-1.3**
THR6	**Thira Island,**	**0.95**	**240**	P	**Pn**	**11 35 14.8**	**+1.2**
THR6	**Thira Island,**	**0.95**	**240**	P	**Pn**	**11 35 14.8**	**+1.2**
KARP	**Karpathos**	**1.42**	**155**	P	**Pn**	**11 35 20.5**	**+0.4**
KARP				S	**Sn**	**11 35 38.9**	**+1.0**
KARP	**Karpathos**	**1.42**	**155**	P	**Pn**	**11 35 20.5**	**+0.4**
KARP				S	**Sn**	**11 35 38.9**	**+1.0**
CHOS	**Chios island**	**1.58**	**350**	*e*PG	**Pn**	**11 35 24.0**	**+1.6**
CHOS	**Chios island**	**1.58**	**350**	*e*Pg	**Pn**	**11 35 24.0**	**+1.6**
NPS	**Neapolis**	**1.69**	**203**	*e*PB	**Pb**	**11 35 22.0**	**-4.5**
NPS				*e*SB	**Sb**	**11 35 45.1**	**-2.2**
LAST	**Lasithi**	**1.83**	**205**	*e*PG	**Pn**	**11 35 25.0**	**-0.8**
IDI	**Anoyia**	**1.97**	**219**	*e*PN	**Pn**	**11 35 26.5**	**-1.3**
IDI	**Anoyia**	**1.97**	**219**	*e*Pn	**Pn**	**11 35 26.5**	**-1.3**

*NEIC **17** 11:55:26.3, 19.°66N×68.°12W, h46km±16km, MD3.0(RSPR), After RSPR.*

RSPR 17 11:55:26.3, 19.°66N×68.°12W, h46km±16km, MD3.0/4, 8C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**1.52**	**141**	⇑*e*P	Pn	11 55 50.1	-0.9
AGPR	**Aguadilla, PR**	**1.52**	**141**	⇑*e*P	Pn	11 55 50.1	-0.9
AGPR				*e*S	Sn	11 56 08.4	-1.2
LSP	**Las Mesas**	**1.77**	**146**	⇑*e*P	Pn	11 55 53.3	-1.2
LSP				*e*S	Sn	11 56 15.2	-0.6
LSP	**Las Mesas**	**1.77**	**146**	⇑*e*P	Pn	11 55 53.3	-1.2
LSP				*e*S	Sn	11 56 15.2	-0.6
LRS	**Lares**	**1.82**	**138**	*e*Pn	Pn	11 55 54.6	-0.5
AOPR	**Arecibo Observ**	**1.84**	**135**	*e*S	Sn	11 56 16.4	-1.0
CRPR	**Cabo Rojo, PR**	**1.90**	**150**	⇑*e*P	Pn	11 55 55.0	-1.2
CRPR	**Cabo Rojo, PR**	**1.90**	**150**	⇑*e*P	Pn	11 55 55.0	-1.2
CRPR				*e*S	Sn	11 56 18.0	-1.0
CELP	**Cerrillos**	**2.15**	**137**	⇑*e*P	Pn	11 55 59.2	-0.4
CELP				*e*S	Sn	11 56 23.9	-1.1
CELP	**Cerrillos**	**2.15**	**137**	⇑*e*P	Pn	11 55 59.2	-0.4
CELP				*e*S	Sn	11 56 23.9	-1.1
OBIP	**Obispado Ponce**	**2.15**	**138**	Pn	Pn	11 55 59.1	-0.6
SDDR	**Presa de Saban**	**3.07**	**258**	*e*Pn	Pn	11 56 16.1	+3.9

ISCJB ***17*** *12:02:07.2±0.8, 47.70N±0.04×16.26E±0.05, h1km±8km, Error ellipse: s-maj=8.0km s-min=4.6km az=148.9*
IPEC ***17*** *12:02:08.5±1.8, 47.70N×16.26E, h10km, ML1.8/2, Error ellipse: s-maj=18.9km s-min=7.9km az=128.0*
CSEM ***17*** *12:02:08.2±0.2, 47.71N×16.23E, h2km, ML2.5/5, Error ellipse: s-maj=4.8km s-min=2.8km az=147.0*
VIE ***17*** *12:02:08.2±0.2, 47.69N×16.20E, h14km±2km, mb1.3/3, ML2.1/4, Error ellipse: s-maj=2.5km s-min=1.7km az=171.0 10 km ESE of Neunkirchen*

ISC 17 12:02:08.1±0.8, 47.70N±0.04×16.26E±0.05, h5km±7km, n13, σ0959/25, 5C-1D, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CONA	**Conrad Observa**	**0.36**	**311**	↑*i*	Pg	**Pg**	**12 02 15.3**	**+0.3**
	4.2nm,0.1s						
CONA				↑*i*	Sg	**Sg**	**12 02 20.3**	**+0.6**
	12nm,0.1s						
CONA	**Conrad Observa**	**0.36**	**311**	Pg		**Pg**	**12 02 15.3**	**+0.3**
	4.2nm,0.1s						
CONA				Sg		**Sg**	**12 02 20.3**	**+0.7**
	12nm,0.1s						
ARSA	**Arzberg**	**0.67**	**229**	↑*i*	Pg	**Pg**	**12 02 20.9**	**0.0**
	1.8nm,0.1s						
ARSA				↑*i*	Sg	**Sg**	**12 02 29.3**	**-0.3**
	8.5nm,0.2s						
ARSA	**Arzberg**	**0.67**	**229**	Pg		**Pg**	**12 02 20.9**	**0.0**
	1.8nm,0.1s						
ARSA				Sg		**Sg**	**12 02 29.3**	**-0.3**
	8.5nm,0.2s						
ZST	**Bratislava**	**0.76**	**48**	*e*Pg		**Pg**	**12 02 23.2**	**+0.6**
ZST				*e*Sg		**Sg**	**12 02 33.5**	**+1.1**
ZST	**Bratislava**	**0.76**	**48**	*e*Pg		**Pg**	**12 02 23.2**	**+0.6**
ZST				*e*Sg		**Sg**	**12 02 33.5**	**+1.1**
MOA	**Molln**	**1.36**	**277**	↓*i*	Pg	**Pg**	**12 02 33.5**	**-0.5**
	2.5nm,0.2s						
MOA				↑*i*	Sg	**Sg**	**12 02 51.6**	**0.0**
	4.6nm,0.1s						
MOA	**Molln**	**1.36**	**277**	Pg		**Pg**	**12 02 33.5**	**-0.6**
	2.5nm,0.2s						
MOA	**Molln**	**1.36**	**277**	*e*Pn		**Pn**	**12 02 34.1**	**+0.5**
	baz=96						
MOA				Sg		**Sg**	**12 02 51.6**	**0.0**
	4.6nm,0.1s						
KRUC	**Moravsky**	**1.37**	**4**	*e*Pg		**Pg**	**12 02 33.8**	**-0.5**
KRUC				*e*Sg		**Sg**	**12 02 51.3**	**-0.8**
	17nm,0.3s,baz=184						
VRAC	**Vranov**	**1.63**	**8**	*e*Pn		**Pn**	**12 02 37.5**	**+0.2**
	baz=188						
VRAC				*e*Sg		**Sn**	**12 02 58.2**	**-0.4**
	3.7nm,0.1s,baz=188						
VYHS	**Vyhne**	**1.90**	**64**	*e*PN		**Pn**	**12 02 41.4**	**+0.3**
VYHS				*e*SN		**Sg**	**12 03 08.1**	**-1.0**
VYHS	**Vyhne**	**1.90**	**64**	*e*Pn		**Pn**	**12 02 41.4**	**+0.3**
VYHS				*e*Sn		**Sg**	**12 03 08.1**	**-1.0**

ISCJB ***17*** *12:05:34.1±1.0, 12.69N±0.07×90.39W±0.05, h46km±8km, mb4.0/17, Error ellipse: s-maj=13.7km s-min=6.1km az=31.6*
NEIC ***17*** *12:05:34.7±0.9, 13.23N×90.01W, h10km, mb4.1/8, Error ellipse: s-maj=21.4km s-min=9.1km az=214.0*
IDC ***17*** *12:05:34.5±1.4, 13.67N×89.73W, h0km, mb3.9/8, mb1 4.2/11, mb1mx4.1/23, mbtmp4.0/11, ML3.8/3, MS3.3/2, Ms1 3.3/2, ms1mx2.8/34, Error ellipse: s-maj=40.7km s-min=22.8km az=40.0*
CASC ***17*** *12:05:34.2±1.2, 12.85N×90.41W, h10km±10km, MD3.7, ML3.8, mb4.1(NEIC)*

ISC 17 12:05:35.0±2.1, 12.73N±0.06×90.36W±0.04, h30km±15km, n59, σ1824/57, mb4.0/17, 3C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**1.32**	**33**	↑*e*P		**Pn**	**12 05 56.8**	**-0.5**
SBLS				*e*S		**Sn**	**12 06 14.6**	**+0.7**
SNJE	**San Jose**	**1.35**	**33**	*e*P		**Pn**	**12 05 57.3**	**-0.5**
RTR	**El Retiro**	**1.35**	**31**	↑*i*P		**Pn**	**12 05 57.4**	**-0.4**
SNET	**Serv Nac Est T**	**1.46**	**49**	*e*P		**Pn**	**12 05 59.4**	**+0.1**
SNET				*e*S		**Sn**	**12 06 19.2**	**+1.9**
SNET				AML		AML	12 06 24.0	
	comp=Z,2μm,0.5s						
RBDL	**Robledal**	**1.52**	**26**	↑*i*P		**Pn**	**12 05 59.8**	**-0.4**
LFRS	**El Faro**	**1.55**	**55**	*e*P		**Pn**	**12 06 00.3**	**-0.2**
LBRS	**Las Brisas**	**1.63**	**52**	*e*P		**Pn**	**12 06 02.1**	**+0.4**
PCG	**Pacaya**	**1.67**	**352**	*e*P		**Pn**	**12 06 01.4**	**-0.8**
FUG	**Fuego 3**	**1.77**	**345**	*e*P		**Pn**	**12 06 03.1**	**-0.4**
NBG	**Las Nubes**	**1.85**	**0**	*e*P		**Pn**	**12 06 05.3**	**+0.7**
FG6		**1.89**	**345**	*e*P		**Pn**	**12 06 04.4**	**-0.8**
JAT	**Jato**	**2.01**	**322**	*e*P		**Pn**	**12 06 07.1**	**+0.3**
BLLM	**Bellamira**	**2.19**	**71**	*e*P		**Pn**	**12 06 10.2**	**+0.9**
CAHU	**Cacacuatique**	**2.34**	**63**	*e*P		**Pn**	**12 06 12.6**	**+1.2**
TGUH	**Tegucigalpa,Un**	**3.28**	**66**	*e*Pn		**Pn**	**12 06 20.1**	**-4.3**
JTS	**JuntasAbangare**	**5.83**	**114**	Pn		**Pn**	**12 07 02.9**	**+3.5**
	comp=Z,4.4nm,0.3s,baz=306,slow=22,SNR=25						
JTS				Sn		**Sn**	**12 08 05.3**	**0.0**
	comp=Z,1.5nm,0.3s,baz=313,slow=19,SNR=2.2						
JTS				Lg			12 08 46.8	
	baz=142,slow=14,SNR=5.6						
JTS				LR		LR	12 09 50.2	
	comp=Z,84nm,20.1s,baz=148,slow=44						
JTS	**JuntasAbangare**	**5.83**	**114**	Pn		**Pn**	**12 07 02.9**	**+3.5**
JTS				Sn		**Sn**	**12 08 05.3**	**0.0**
JTS				Lg			12 08 46.8	
JTS				LR		LR	12 09 50.2	
CMIG	**Matias Romero**	**6.16**	**315**	Pn		**Pn**	**12 07 03.7**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=113,slow=9.0,SNR=19						
CMIG				Sn		**Sn**	**12 08 13.1**	**-0.2**
	comp=Z,1.6nm,0.3s,baz=340,slow=14,SNR=4.0						
CMIG	**Matias Romero**	**6.16**	**315**	Pn		**Pn**	**12 07 03.7**	**-0.2**
CMIG				Sn		**Sn**	**12 08 13.1**	**-0.2**
TEIG	**Tepich**	**7.72**	**15**	Pn		Px	12 07 11.7	
	comp=Z,2.7nm,0.3s,baz=225,slow=4.3,SNR=4.0						
TEIG	**Tepich**	**7.72**	**15**	*e*Pn		**Pn**	**12 07 18.2**	**-7.1**
BCIP	**Isla Barro Col**	**10.92**	**108**	Pn		**Pn**	**12 08 09.2**	**-0.2**
ROSC	**El Rosal**	**17.66**	**115**	*e*Pn		**Pn**	**12 09 38.2**	**-0.7**
TXAR	**Lajitas Array**	**20.64**	**325**	P		**P**	**12 10 13.9**	**+1.8**
	comp=Z,2.1nm,0.7s,baz=151,slow=12,SNR=40						
TXAR	**Lajitas Array**	**20.64**	**325**	P		**P**	**12 10 13.9**	**+1.8**
SWET	**Sewanee**	**22.75**	**9**	*e*P		**P**	**12 10 33.5**	**-1.2**
	comp=Z,6.6nm,0.8s,mb4.1						
TKL	**Tuckaleechee C**	**23.59**	**14**	P		**P**	**12 10 41.8**	**-1.6**
	comp=Z,1.6nm,0.4s,mb3.8,baz=210,slow=4.1,SNR=4.4						
TKL	**Tuckaleechee C**	**23.59**	**14**	P		**P**	**12 10 41.8**	**-1.6**
CCM	**Cathedral Cave**	**25.23**	**358**	*e*P		**P**	**12 10 55.9**	**-2.3**
	comp=Z,5.7nm,0.8s,mb4.2						
WCI	**Wyandotte Cave**	**25.65**	**7**	*e*P		**P**	**12 11 00.5**	**-1.5**
	comp=Z,14nm,0.8s,mb4.5						
ANMO	**Albuquerque**	**26.50**	**329**	P		**P**	**12 11 10.5**	**+0.7**
	comp=Z,0.5nm,0.5s,mb3.3,baz=135,slow=10.0,SNR=2.9						
ANMO	**Albuquerque**	**26.50**	**329**	P		**P**	**12 11 10.5**	**+0.7**
PV04	**Paradox Valley**	**30.42**	**330**	*e*P		**P**	**12 11 46.1**	**+1.4**
PDAR	**Pinedale Array**	**34.24**	**335**	P		**P**	**12 12 17.2**	**-0.9**
	comp=Z,0.2nm,0.6s,mb3.2,baz=116,slow=12,SNR=2.5						
PDAR	**Pinedale Array**	**34.24**	**335**	P		**P**	**12 12 17.2**	**-0.9**
SNOW	**Snow King Moun**	**35.31**	**334**	*e*P		**P**	**12 12 28.2**	**+0.8**
	comp=Z,6.2nm,0.8s,mb4.6						
NVAR	**Mina Array Bea**	**35.66**	**321**	P		**P**	**12 12 33.4**	**+3.0**
	comp=Z,2.9nm,0.7s,mb4.3,baz=137,slow=7.9,SNR=30						
NVAR				PcP		PcP	12 15 01.2	+2.7
	comp=Z,0.8nm,0.8s,baz=153,slow=2.8,SNR=3.9						
NVAR	**Mina Array Bea**	**35.66**	**321**	P		**P**	**12 12 33.4**	**+3.0**
NVAR				PcP		PcP	12 15 01.2	+2.7
CMB	**Columbia Colle**	**36.73**	**319**	*e*P		**P**	**12 12 42.2**	**+2.6**
	comp=Z,0.8nm,0.8s,mb3.6						
MCMT	**McKenzie Canyo**	**37.31**	**333**	*e*P		**P**	**12 12 45.7**	**+1.3**
	comp=Z,3.1nm,1.2s,mb4.0						
ULM	**Lac du Bonnet**	**37.69**	**354**	P		**P**	**12 12 44.5**	**-3.0**
	comp=Z,2.3nm,0.6s,mb4.1,baz=159,slow=8.2,SNR=3.8						
ULM	**Lac du Bonnet**	**37.69**	**354**	P		**P**	**12 12 44.5**	**-3.0**
WVOR	**Wild Horse Val**	**38.43**	**326**	*e*P		**P**	**12 12 55.4**	**+1.5**
	comp=Z,2.3nm,0.8s,mb4.0						
KHMM	**Horse Mountain**	**40.48**	**320**	*e*P		**P**	**12 13 13.3**	**+2.3**
	comp=Z,4.4nm,0.9s,mb4.2						
SCHQ	**Schefferville**	**45.88**	**19**	P		**P**	**12 13 51.5**	**-2.9**
	comp=Z,3.6nm,0.4s,mb4.7,baz=222,slow=12,SNR=6.8						
SCHQ	**Schefferville**	**45.88**	**19**	P		**P**	**12 13 51.5**	**-2.9**
CPUP	**Villa Florida**	**50.39**	**141**	LR		LR	12 36 09.6	
	comp=Z,108nm,22.0s,baz=202,slow=36						
YKA	**Yellowknife Ar**	**52.63**	**346**	P		**P**	**12 14 44.2**	**-1.7**
	comp=Z,2.5nm,0.8s,mb4.2,baz=135,slow=7.2,SNR=7.5						
YKA	**Yellowknife Ar**	**52.63**	**346**	P		**P**	**12 14 44.2**	**-1.7**
ILAR	**Eielson Array**	**64.63**	**337**	P		**P**	**12 16 08.3**	**-1.1**
	comp=Z,1.0nm,0.9s,mb3.9,baz=169,slow=4.6,SNR=10						
ILAR	**Eielson Array**	**64.63**	**337**	P		**P**	**12 16 08.3**	**-1.1**
TORD	**Torodi Ar. Bea**	**89.12**	**77**	P		**P**	**12 18 27.1**	**-1.1**
	comp=Z,0.5nm,0.8s,mb3.9,baz=291,slow=4.0,SNR=3.6						
TORD	**Torodi Ar. Bea**	**89.12**	**77**	P		**P**	**12 18 27.1**	**-1.1**
WRA	**Warramunga Arr**	**136.61**	**254**	PKP	PKPdf		12 25 02.4	+7.3
	comp=Z,0.2nm,0.6s,baz=88,slow=2.8,SNR=6.0						
WRA	**Warramunga Arr**	**136.61**	**254**	PKP	PKPdf		12 25 02.4	+7.3
ASAR	**Alice Springs**	**136.72**	**249**	PKhKP	PKPpre		12 24 54.5	
	comp=Z,0.2nm,0.9s,baz=110,slow=3.7,SNR=3.1						
ASAR	**Alice Springs**	**136.72**	**249**	PKP	PKPpre		12 24 54.5	
CMAR	**Chiang Mai Arr**	**147.68**	**343**	PKPbc	PKPbc		12 25 18.8	+1.3
	comp=Z,2.1nm,0.6s,baz=340,slow=3.3,SNR=14						
CMAR	**Chiang Mai Arr**	**147.68**	**343**	PKPbc	PKPbc		12 25 18.8	+1.3

ISCJB ***17*** *12:35:40.2±0.5, 33.41N±0.02×116.85W±0.01, h11km±3km, Error ellipse: s-maj=3.0km s-min=1.8km az=20.1*
BJI ***17*** *12:35:40.0, 33.50N×116.90W, h12km, mB5.8/4, mb5.2/2, Ms5.2/3, Ms7 4.8/3*
IDC ***17*** *12:35:41.9±2.2, 33.52N×116.68W, h0km, mb2.9/1, mb1 3.4/5, mb1mx3.4/25, mbtmp3.0/5, ML3.3/3, Error ellipse: s-maj=32.7km s-min=13.7km az=45.0*
NEIC ***17*** *12:35:42.0, 33.50N×116.86W, h12km, ML4.1(PAS), After PAS.*
NEIC Felt [IV] at Aguanga, Homeland, Julian and Pala; [III] at Aliso Viejo, Anza, Bonsall, Cathedral City, Coronado, Del Mar, Desert Hot Springs, El Cajon, Escondido, Fallbrook, Hemet, Idyllwild, Indian Wells, Indio, La Mesa, La Quinta, Lake Elsinore, Menifee, Moreno Valley, Murrieta, Nuevo, Oceanside, Palm Desert, Palm Springs, Pauma Valley, Perris, Poway, Ramona, Rancho Mirage, Rancho Santa Fe, Riverside, San Diego, San Jacinto, San Marcos, Santee, Spring Valley, Sun City, Temecula, Thousand Palms, Valley Center, Vista, Wildomar, Winchester and Yucca Valley; [II] at Alpine, Borrego Springs, Cardiff by the Sea, Carlsbad, Encinitas, La Jolla, Lakeside, Loma Linda, Mountain Center and Solana Beach. Also felt at Beaumont, Calimesa, Camp Pendleton, Chino Hills, Chula Vista, Colton, Corona, Costa Mesa, Fontana, Glendora, Hermosa Beach, Irvine, Ladera Ranch, Laguna Beach, Lake Forest, Lake Hughes, Landers, Lemon Grove, Midway City, Mission Viejo, Morongo Valley, Pine Valley, Pomona, Rancho Cucamonga, Rancho Santa Margarita, Redlands, Rialto, Santa Ysabel, Trabuco Canyon, Twentynine Palms and Warner Springs.

ISC 17 12:35:41.3±0.3, 33.46N±0.02×116.89W±0.01, h8km±2km, n153, σ1902/195, 68C-68D, Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MURC	**Murrieta**	**0.30**	**299**	P		**Pg**	**12 35 48.1**	**+0.8**
	baz=0.3,SNR=1000						
MURC				↑S		**Sg**	**12 35 52.1**	**+0.8**
	baz=0.3						
PFO	**Pinyon Flat Ob**	**0.39**	**67**	↓P		**Pg**	**12 35 48.9**	**-0.1**
	baz=0.4,SNR=1000						
PFO				↓S		**Sg**	**12 35 53.6**	**-0.5**
	baz=0.4						
PFO	**Pinyon Flat Ob**	**0.39**	**67**	*e*Pg		**Pg**	**12 35 48.8**	**-0.1**
PFO				*e*Sg		**Sg**	**12 35 54.0**	**-0.2**
109C	**Camp Elliot, M**	**0.59**	**198**	↓P		**Pg**	**12 35 53.7**	**+0.9**
	baz=0.6,SNR=1000						
109C				↑S		**Sg**	**12 36 02.5**	**+2.0**
	baz=0.6						
MONP	**Monument Peak**	**0.69**	**145**	↑P		**Pg**	**12 35 55.5**	**+1.0**
	baz=0.7,SNR=1000						
MONP				↑S		**Sg**	**12 36 04.7**	**+1.2**
	baz=0.7						
BAR	**Barrett**	**0.79**	**167**	*e*Pg		**Pg**	**12 35 57.1**	**+0.5**
BAR				*e*Sg		**Sg**	**12 36 08.2**	**+1.3**
BBRC	**Big Bear Solar**	**0.81**	**358**	↓P		**Pg**	**12 35 56.1**	**-0.7**
	baz=0.8,SNR=1000						
BBRC				↓S		**Sg**	**12 36 06.8**	**-0.5**
	baz=0.8						
BELC	**Belle Mtn. Jos**	**0.92**	**53**	↓P		**Pg**	**12 35 58.1**	**-0.9**
	baz=0.9,SNR=1000						
BELC				↑S		**Sg**	**12 36 09.6**	**-1.4**
	baz=0.9						
BFSC	**Mount Baldy Ra**	**1.01**	**321**	↑P		**Pg**	**12 35 59.8**	**-0.9**
	baz=1.0						
BFSC				↑S		**Sg**	**12 36 12.6**	**-1.3**
	baz=1.0						
DVTC	**Desert V Tower**	**1.03**	**140**	↑P		**Pg**	**12 36 01.4**	**+0.3**
	baz=1.1,SNR=222						
DVTC				↑S		**Sg**	**12 36 15.4**	**+0.8**
	baz=1.1						
SWSC	**Sam W. Stewart**	**1.05**	**119**	P		**Pg**	**12 36 00.4**	**-1.0**
	baz=1.1,SNR=1000						
SWSC				↓S		**Sg**	**12 36 14.3**	**-0.7**
	baz=1.1						
FMP	**Fort Macarthur**	**1.20**	**283**	↑P		**Pb**	**12 36 03.2**	**-1.2**
	baz=1.2,SNR=128						
FMP				↓S		**Sb**	**12 36 20.1**	**+0.1**
	baz=1.2						
BC3	**Big Chuckawall**	**1.21**	**80**	↓P		**Pb**	**12 36 02.5**	**-2.0**
	baz=1.2,SNR=424						
BC3				↑S		**Sb**	**12 36 18.9**	**-1.4**
	baz=1.2						
MWC	**Mount Wilson**	**1.24**	**309**	*e*Pn		**Pn**	**12 36 04.1**	**-0.9**
MWC				*e*Sg		**Sg**	**12 36 21.0**	**-0.3**
CIS	**Catalina Islan**	**1.27**	**268**	↑P		**Pn**	**12 36 04.2**	**-1.1**
	baz=1.3,SNR=1000						
CIS				↑Sb		**Sb**	**12 36 23.3**	**+1.4**
	baz=1.3						
PASC	**Pasadena Art C**	**1.30**	**304**	*e*Pn		**Pn**	**12 36 04.6**	**-1.1**
PASC				*e*Sg		**Sg**	**12 36 22.1**	**-1.0**
RRX	**Edison Barstow**	**1.43**	**356**	↓P		**Pn**	**12 36 06.8**	**-0.7**
	baz=1.4,SNR=194						
RRX				↓Sb		**Sb**	**12 36 25.8**	**-0.6**
	baz=1.4						
DECC	**Green Verdugo**	**1.44**	**304**	↑P		**Pn**	**12 36 06.7**	**-1.0**
	baz=1.4,SNR=163						
DECC				↓S		**Sn**	**12 36 26.0**	**-0.8**
	baz=1.4						
HEC	**Hector,Ludlow**	**1.45**	**18**	↓P		**Pn**	**12 36 06.7**	**-1.1**
	baz=1.4,SNR=1000						
HEC				↓S		**Sn**	**12 36 24.9**	**-2.0**
	baz=1.4						
SCI	**San Clemente I**	**1.47**	**252**	↓P		**Pn**	**12 36 07.7**	**-0.4**
	baz=1.5,SNR=1000						
SCI				↓S		**Sn**	**12 36 26.9**	**-0.6**
	baz=1.5						
IRM	**Iron Mountain**	**1.61**	**64**	P		**Pn**	**12 36 08.2**	**-1.8**
	baz=1.6,SNR=759						
IRM				↑Sb		**Sb**	**12 36 31.1**	**-0.6**
	baz=1.6						
GMRC	**Granite Mounta**	**1.67**	**37**	↓P		**Pn**	**12 36 09.5**	**-1.3**
	baz=1.6,SNR=312						
GMRC				↑Sb		**Sb**	**12 36 32.5**	**-0.9**
	baz=1.6						
EDW2	**Edwards Air Fo**	**1.69**	**328**	↓P		**Pn**	**12 36 10.9**	**-0.2**
	baz=1.7,SNR=1000						
EDW2				↑Sb		**Sb**	**12 36 33.7**	**-0.4**
	baz=1.7						
GLA	**Glamis**	**1.77**	**103**	↑P		**Pn**	**12 36 10.6**	**-1.7**
	baz=1.8,SNR=55						
GLA	**Glamis**	**1.77**	**103**	*e*Pn		**Pn**	**12 36 10.9**	**-1.3**
GSC	**Goldstone**	**1.84**	**2**	↓P		**Pn**	**12 36 12.6**	**-0.6**
	baz=1.8,SNR=147						
GSC				↑Sb		**Sb**	**12 36 38.1**	**-0.4**
	baz=1.8						
GSC	**Goldstone**	**1.84**	**2**	*e*Pn		**Pn**	**12 36 12.6**	**-0.6**
OSI	**Osito Adit**	**1.92**	**308**	↓P		**Pn**	**12 36 13.9**	**-0.3**
	baz=1.9						
OSI				↓Sb		**Sb**	**12 36 40.7**	**+0.2**
	baz=1.9						
OSI	**Osito Adit**	**1.92**	**308**	*e*Pn		**Pn**	**12 36 14.3**	**+0.1**
OSI				*e*Sn		**Sn**	**12 36 39.0**	**+0.5**
BLG	**Laguna Peak**	**1.93**	**290**	↓P		**Pn**	**12 36 13.3**	**-1.1**
	baz=1.9,SNR=57						
BLG				↓S		**Sn**	**12 36 37.9**	**-0.9**
	baz=1.9						
Y12C	**Blythe**	**1.99**	**81**	P		**Pn**	**12 36 13.4**	**-1.9**
	baz=2.0,SNR=118						
Y12C				↓Sb		**Sb**	**12 36 43.0**	**+0.2**
	baz=2.0						
LRMC	**Laurel Mountai**	**2.12**	**342**	↑P		**Pn**	**12 36 16.7**	**-0.4**
	baz=2.1,SNR=24						
LRMC				↑Sb		**Sb**	**12 36 47.1**	**+0.5**
	baz=2.1						
TUQ	**Turquoise Moun**	**2.13**	**22**	P		**Pn**	**12 36 16.3**	**-0.9**
	baz=2.1,SNR=51						
TUQ				↑Sb		**Sb**	**12 36 46.5**	**-0.2**
	baz=2.1						
LDFC	**Landfair**	**2.19**	**42**	*e*Pn		**Pn**	**12 36 17.2**	**-0.8**
LDFC				*e*Sn		**Sn**	**12 36 45.9**	**+0.6**
NEE2	**Needles Airpor**	**2.29**	**55**	↑P		**Pn**	**12 36 17.7**	**-1.7**
	baz=2.2						
NEE2				↑Sb		**Sb**	**12 36 51.4**	**0.0**
	baz=2.2						
ARVC	**Arvin**	**2.32**	**317**	↓P		**Pn**	**12 36 19.8**	**+0.1**
	baz=2.3,SNR=90						
ARVC				↑Sb		**Sb**	**12 36 53.2**	**+1.0**
	baz=2.3						
BSC	**Santa Cruz Isl**	**2.35**	**284**	↑P		**Pn**	**12 36 19.4**	**-0.8**
	baz=2.4						
PDMCI	**Parker Dam,Lak**	**2.44**	**69**	↓P		**Pn**	**12 36 19.9**	**-1.5**
	baz=2.4,SNR=8.8						
PDMCI				↑Sb		**Sb**	**12 36 55.8**	**+0.3**
	baz=2.4						
SHOC	**Shoshone**	**2.49**	**11**	P		**Pn**	**12 36 21.5**	**-0.6**
	baz=2.4,SNR=62						
SHOC				↑Sb		**Sb**	**12 36 58.5**	**+1.4**
	baz=2.4						
SBC	**Santa Barbara**	**2.55**	**293**	↑P		**Pn**	**12 36 22.3**	**-0.6**
	baz=2.5						
SBC				↑S		**Sn**	**12 36 53.5**	**-0.6**
	baz=2.5						
ISA	**Isabella**	**2.56**	**330**	↑P		**Pn**	**12 36 22.9**	**-0.3**
	baz=2.5,SNR=120						
ISA				↑Sb		**Sb**	**12 37 00.7**	**+1.5**
	baz=2.5						
ISA	**Isabella**	**2.56**	**330**	*e*Pn		**Pn**	**12 36 22.9**	**-0.2**
ISA				*e*Sg		**Sg**	**12 37 01.0**	**-2.6**
MPMC	**Manual Prospec**	**2.65**	**349**	↑P		**Pn**	**12 36 23.7**	**-0.5**
	baz=2.6,SNR=1000						
MPMC				↓Sb		**Sb**	**12 37 04.0**	**+2.4**
	baz=2.6						
113A	**Mohawk Valley,**	**2.71**	**104**	↑P		**Pn**	**12 36 23.7**	**-1.4**
	baz=2.7,SNR=24						
Z13A	**Yuma Proving G**	**2.72**	**94**	↓P		**Pn**	**12 36 23.4**	**-1.8**
	baz=2.7,SNR=76						
PKM	**Peak Mountain**	**2.82**	**301**	↓P		**Pn**	**12 36 26.8**	**+0.1**
	baz=2.8,SNR=15						
W13A	**Hualapai Mount**	**2.98**	**56**	P		**Pn**	**12 36 27.9**	**-0.9**
	baz=2.9,SNR=190						
W13A				↓Sb		**Sb**	**12 37 12.1**	**+1.0**
	baz=2.9						
VES	**Vestal, Richgr**	**2.99**	**323**	↑P		**Pn**	**12 36 28.9**	**-0.1**
	baz=3.0,SNR=30						
FURC	**Furnace Creek,**	**3.01**	**0**	↓P		**Pn**	**12 36 28.8**	**-0.4**
	baz=3.0,SNR=34						
CWC	**Cottonwood Cre**	**3.13**	**342**	↑P		**Pn**	**12 36 31.2**	**+0.2**
	baz=3.1,SNR=21						
SMMC	**Simmler**	**3.17**	**307**	↑P		**Pn**	**12 36 31.3**	**-0.2**
	baz=3.2,SNR=39						
Y14A	**Wickenburg**	**3.27**	**80**	↓P		**Pn**	**12 36 31.6**	**-1.3**
	baz=3.2,SNR=95						
Z14A	**Wintersburg**	**3.30**	**91**	P		**Pn**	**12 36 31.6**	**-1.6**
	baz=3.3,SNR=14						
114A	**Black Gap (USA**	**3.43**	**101**	↑P		**Pn**	**12 36 33.7**	**-1.4**
	baz=3.4,SNR=54						
GRAC	**Grapevine Rang**	**3.56**	**354**	↓P		**Pn**	**12 36 37.0**	**+0.2**
	baz=3.5						
214A	**Organ Pipe Nat**	**3.75**	**112**	↓P		**Pn**	**12 36 37.9**	**-1.5**
	baz=3.7,SNR=8.3						
Y15A	**Casa Rosa Ranc**	**3.83**	**81**	P		**Pn**	**12 36 39.4**	**-1.1**
	baz=3.8,SNR=172						
Z15A	**Gila River Ind**	**3.96**	**91**	↑P		**Pn**	**12 36 40.8**	**-1.5**
	baz=3.9						
MTUM	**Tungsten Hills**	**4.12**	**341**	*e*Pn		**Pn**	**12 36 45.7**	**+1.1**
116A	**Eloy**	**4.44**	**100**	↑P		**Pn**	**12 36 47.8**	**-1.2**
	baz=4.4,SNR=14						
Y16A	**Circle Bar Ran**	**4.53**	**83**	↑P		**Pn**	**12 36 49.4**	**-0.8**
	baz=4.5,SNR=75						
V15A	**Kaibab Nationa**	**4.54**	**57**	↑P		**Pn**	**12 36 50.4**	**0.0**
	baz=4.5						
Z16A	**Peralta Trail,**	**4.57**	**90**	↓P		**Pn**	**12 36 49.1**	**-1.6**
	baz=4.5,SNR=11						
X16A	**Lo Mia Camp, P**	**4.63**	**77**	↓P		**Pn**	**12 36 51.0**	**-0.5**
	baz=4.6,SNR=157						
W16A	**Flagstaff**	**4.73**	**68**	↑P		**Pn**	**12 36 52.8**	**-0.1**
	baz=4.7						
216A	**Three Points,**	**4.80**	**106**	↓P		**Pn**	**12 36 52.7**	**-1.1**
	baz=4.8						
U15A	**North Rim**	**4.80**	**51**	↓P		**Pn**	**12 36 54.0**	**+0.2**
	baz=4.8						
SAO	**San Andreas Ge**	**4.99**	**313**	*e*Pn		**Pn**	**12 36 56.3**	**-0.1**
CCUT	**Cedar City**	**5.00**	**

OHCM	**Honcut**		**6.94**	**329**	*e*Pn		**Pn**	**12 37 24.6**	**+1.3**
OHCM					*e*Sb		**Sb**	**12 39 01.3**	**-3.8**
Z20A	**Nine Sixteen R**		**6.95**	**91**	⇓P		**Pn**	**12 37 23.4**	**-0.1**
	baz=6.9								
BMN	**Battle Mountai**		**6.97**	**358**	*e*Pn		**Pn**	**12 37 25.3**	**+1.6**
S18A	**Hurst Farm, BI**		**7.03**	**51**	⇓P		**Pn**	**12 37 25.7**	**+1.3**
	baz=7.0								
R17A	**Hanksville Air**		**7.04**	**44**	⇑P		**Pn**	**12 37 26.1**	**+1.4**
	baz=7.0								
X20A	**Quemado**		**7.05**	**79**	⇓P		**Pn**	**12 37 25.3**	**+0.5**
	baz=7.0								
Y20A	**Horse Springs,**		**7.11**	**84**	⇓P		**Pn**	**12 37 26.2**	**+0.6**
	baz=7.1								
W20A	**Ramah**		**7.14**	**74**	⇑P		**Pn**	**12 37 26.5**	**+0.6**
	baz=7.1								
220A	**Playas Peak, P**		**7.22**	**100**	⇓P		**Pn**	**12 37 26.5**	**-0.6**
	baz=7.2								
320A	**Kipp Ranch, An**		**7.38**	**104**	⇑P		**Pn**	**12 37 30.2**	**+0.9**
	baz=7.4								
DUG	**Dugway**		**7.48**	**25**	*e*Pn		**Pn**	**12 37 33.4**	**+2.8**
R18A	**Canyonlands Na**		**7.51**	**47**	⇑P		**Pn**	**12 37 31.8**	**+0.8**
	baz=7.5								
S19A	**Harvey Farm, M**		**7.63**	**54**	⇓P		**Pn**	**12 37 34.2**	**+1.5**
	baz=7.6								
X21A	**Alamocita Cree**		**7.63**	**80**	⇑P		**Pn**	**12 37 33.8**	**+1.1**
	baz=7.6								
SRU	**San Rafael**		**7.63**	**40**	*e*Pn		**Pn**	**12 37 36.0**	**+3.3**
Y21A	**Point of Rocks**		**7.70**	**83**	⇓P		**Pn**	**12 37 34.3**	**+0.7**
	baz=7.7								
121A	**Cookes Peak, D**		**7.70**	**94**	⇑P		**Pn**	**12 37 33.8**	**+0.1**
	baz=7.7								
Z21A	**St. Cloud Mine**		**7.71**	**89**	⇓P		**Pn**	**12 37 34.0**	**+0.2**
	baz=7.7								
P17A	**Butcher Ranch,**		**7.78**	**38**	⇑P		**Pn**	**12 37 35.4**	**+0.5**
	baz=7.7								
MVCO	**Mesa Verde**		**7.81**	**59**	*e*Pn		**Pn**	**12 37 37.2**	**+2.0**
PV04	**Paradox Valley**		**8.13**	**50**	*e*Pn		**Pn**	**12 37 40.9**	**+1.3**
S20A	**Disappointment**		**8.20**	**55**	⇑P		**Pn**	**12 37 42.0**	**+1.5**
	baz=8.1								
PV01	**Paradox Valley**		**8.21**	**53**	*e*Pn		**Pn**	**12 37 41.6**	**+0.9**
	879nm,0.8s								
Y22A	**Socorro**		**8.28**	**84**	⇓P		**Pn**	**12 37 41.7**	**0.0**
	baz=8.2								
Z22A	**Elephant Butte**		**8.30**	**89**	⇓P		**Pn**	**12 37 42.1**	**+0.1**
	baz=8.3								
R20A	**Redvale**		**8.37**	**53**	⇓P		**Pn**	**12 37 44.6**	**+1.8**
	baz=8.3								
BNM	**Barren Site**		**8.57**	**83**	*e*Pn		**Pn**	**12 37 45.9**	**+0.3**
	4.6nm,0.4s								
ANMO	**Albuquerque**		**8.77**	**77**	Pn		**Pn**	**12 37 48.3**	**0.0**
	0.1nm,0.3s,baz=269,slow=15,SNR=3.2								
ANMO					Lg			12 40 15.7	
	0.1nm,0.3s,baz=283,slow=16,SNR=3.1								
ANMO	**Albuquerque**		**8.77**	**77**	*e*Pn		**Pn**	**12 37 49.4**	**+1.0**
Z23A	**Rita Site, Whi**		**8.91**	**88**	⇑P		**Pn**	**12 37 50.7**	**+0.3**
	baz=8.9								
Y23A	**Lovelace Mesa,**		**9.04**	**84**	⇓P		**Pn**	**12 37 52.3**	**+0.3**
	baz=9.0								
HWUT	**Hardware Ranch**		**9.17**	**26**	*e*Pn		**Pn**	**12 37 54.9**	**+1.1**
Y24A	**Capitan**		**9.55**	**84**	⇓P		**Pn**	**12 37 59.4**	**+0.3**
	baz=9.5								
Z24A	**Sheeppen Canyo**		**9.63**	**88**	⇓P		**Pn**	**12 38 00.2**	**-0.1**
	baz=9.6								
SMCO	**Snowmass**		**9.82**	**52**	*e*Pn		**Pn**	**12 38 04.7**	**+1.9**
PDAR	**Pinedale Array**		**10.94**	**30**	Pn		**Pn**	**12 38 20.7**	**+2.7**
	baz=210,slow=10,SNR=2.6								
PDAR					Lg			12 41 29.5	
	0.0nm,0.3s,baz=218,slow=27,SNR=2.7								
PDAR	**Pinedale Array**		**10.94**	**30**	Pn		**Pn**	**12 38 20.7**	**+2.7**
PDAR					Lg			12 41 29.5	
TXAR	**Lajitas Array**		**12.02**	**106**	Pn		**Pn**	**12 38 34.0**	**+1.1**
	0.1nm,0.3s,baz=294,slow=13,SNR=7.5								
TXAR	**Lajitas Array**		**12.02**	**106**	Pn		**Pn**	**12 38 34.0**	**+1.2**
ILAR	**Eielson Array**		**36.29**	**339**	P		**P**	**12 42 47.0**	**+2.1**
	0.3nm,1.0s,baz=152,slow=7.9,SNR=3.1								
ILAR	**Eielson Array**		**36.29**	**339**	P		**P**	**12 42 47.0**	**+2.1**
MDJ	**Mudanjiang**		**81.62**	**319**	P		**P**	**12 47 58.8**	**-1.0**
MDJ					pP		pP	12 48 01.8	-0.7
MDJ					PP		PP	12 51 04.3	-1.4
MDJ					S		S	12 58 14.1	+1.9
MDJ					pmax		pmax		
	comp=Z,220nm,5.0s								
MDJ					LR		LR		
	comp=N,890nm,27.6s								
MDJ					LR		LR		
	comp=E,2μm,27.6s								
MDJ					LR		LR		
	comp=Z,1μm,18.4s								
HHC	**Hu-ho-hao-te**		**93.62**	**325**	*e*P		**P**	**12 48 57.5**	**-0.7**
HHC					sP		sP	12 49 02.6	+0.7
HHC					PP		PP	12 52 42.6	+0.5
HHC					SKS			12 59 30.0	
HHC					S		S	13 00 00.3	-7.0
HHC					SS		SS	13 06 20.3	-3.0
HHC					pmax		pmax		
	comp=Z,16nm,0.7s								
HHC					pmax		pmax		
	comp=Z,180nm,4.8s								
HHC					LR		LR		
	comp=N,240nm,13.1s								
HHC					LR		LR		
	comp=E,230nm,14.3s								
HHC					LR		LR		
	comp=Z,95nm,14.3s								
WMQ	**Urumqi**		**99.89**	**342**	*e*P		Pdif	12 49 28.3	+1.8

OTT 17 12:42:25.8±1.2,79°.45N×115°.44W,h18km,ML3.8/5, Arctic Ocean. 263km west from Isachsen, Nu, Arctic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EUNU	**Eureka**	**5.18**	**69**	PN	Pn	12 43 42.2	+0.1
EUNU				SN	Sn	12 44 32.5	-8.8
EUNU				Trac		12 44 41.7	
	comp=Z,18nm,0.2s						
RES	**Resolute Bay**	**6.59**	**126**	PN	Pn	12 44 01.8	+0.2
RES				SN	Sn	12 45 12.3	-3.8
RES				Trac		12 45 21.9	
	comp=Z,10.0nm,0.3s						
INK	**Inuvik**	**12.16**	**213**	PN	Pn	12 45 17.2	-0.7
INK				SN	Sn	12 47 22.9	-10
INK				Trac		12 47 27.6	
	comp=Z,1.6nm,0.7s						
JERN	**Jeri Cho Mine,**	**13.55**	**173**	PN	Pn	12 45 35.9	-0.9
JERN				SN	Sn	12 47 54.6	-12
JERN				Trac		12 48 00.1	
	comp=Z,1.4nm,0.5s						
STLN	**Stellar Camp,**	**13.60**	**141**	PN	Pn	12 45 34.8	-2.6
STLN				SN	Sn	12 47 58.1	-10
BULN	**Bullion Camp,**	**14.46**	**142**	PN	Pn	12 45 46.2	-2.9
BULN				SN	Sn	12 48 12.9	-16
CTLN	**Castor Lake**	**15.11**	**181**	PN	Pn	12 45 58.3	+0.5
CTLN				SN	Sn	12 48 33.9	-10
GALN	**Gameti Lake**	**15.43**	**183**	PN	Pn	12 46 00.9	-1.2
GALN				SN	Sn	12 48 43.5	-8.7
YKW3	**Yellowknife Ar**	**16.98**	**179**	PN	Pn	12 46 21.3	-0.7
YKW3				SN	Sn	12 49 18.9	-11
YKW3				Trac		12 49 40.6	
	comp=Z,5.2nm,0.8s						

BGS ***17*** *12:55:17.7±1.7,78°.78N×116°.83W,h10km,mb5.2,MS5.4*
BJI ***17*** *12:55:19.6,79°.61N×116°.65W,h10km,mB5.7/50, mb5.3/58,Ms5.7/62,Ms7 5.5/59*
IDC ***17*** *12:55:20.9±0.3,79°.65N×115°.88W,h0km,mb5.2/39, mb1 5.3/42,mb1mx5.3/43,mbtmp5.2/42,ML5.1/2,MS5.1/47, Ms1 5.2/47,ms1mx5.1/58,Error ellipse: s-maj=10.4km s-min=8.1km az=98.0*
MOS ***17*** *12:55:21.2±1.0,79°.60N×116°.26W,h10km,mb5.6/114, MS5.2/86,Error ellipse: s-maj=24.5km s-min=3.0km az=87.3*
ISCJB ***17*** *12:55:21.0±0.6,79°.645N±0°.009×116°.21W±0°.09, h9km±3km,mb5.4/447,MS5.2/274,Error ellipse: s-maj=2.8km s-min=1.4km az=13.1*
NEIC ***17*** *12:55:22.8±0.1,79°.65N×116°.06W,h7km,mb5.4/245, MS5.2/175,MW5.7,MW5.5,MW5.7(OTT),Error ellipse: s-maj=2.9km s-min=1.8km az=112.0,Moment Tensor Solution. s106 Moment tensor: Scale 10¹⁷Nm; Mrr1.88; Mθθ-1.11; Mϕϕ-0.77; Mrθ1.34; Mθϕ-0.55; Mϕr0.68; Best double couple: M₀2.30000×10¹⁷ NP1:ϕs60.00000°, δ66.00000°, λ94.00000°. NP2:ϕs230.00000°, δ25.00000°, λ82.00000°. Principal axes: T 2.4500, Plg69.0000°, Azm336.0000°; N -0.3800, Plg3.0000°, Azm237.0000°; P -2.0800, Plg20.0000°, Azm146.0000°;*
OTT ***17*** *12:55:23.0±0.4,79°.41N×114°.96W,h18km,Mw5.7,Arctic Ocean. 252km west from Isachsen, Nu*
GCMT ***17*** *12:55:24.4±0.1,79°.59N×116°.59W,h12km,MW5.7, Moment Tensor Solution. s107,c205; s41,c49; Moment tensor: Scale 10¹⁷Nm; Mrr3.81±.03; Mθθ-2.23±.04; Mϕϕ-1.59±.04; Mrθ0.35±.10; Mθϕ-1.88±.03; Mϕr-0.91±.10; Best double couple: M₀3.90000×10¹⁷ NP1:ϕs62.00000°, δ44.00000°, λ109.00000°. NP2:ϕs217.00000°, δ49.00000°, λ73.00000°. Principal axes: T 4.0400, Plg77.0000°, Azm60.0000°; N -0.2100, Plg13.0000°, Azm229.0000°; P -3.8300, Plg2.0000°, Azm319.0000°; Data Used: II IU IC G CN. Surface waves: sta=114, comp=239, per= 50.*
DJA ***17*** *12:55:25,79°.96N×116°.11W,h10km,mb5.7/10*
SZGRF ***17*** *12:55:41.5,81°.55N×108°.49W,h33km,mb4.9,MS4.8, Arctic Ocean*

ISC 17 12:55:24.2±0.7,79°.633N±0°.009×116°.20W±0°.09, h16km±4km,h16km±2.1km:pP-P,n1696,σ0°.83/1663, mb5.4/447,MS5.2/274,306C-236D,Arctic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EUNU	**Eureka**	**5.25**	**71**	Pn	**Pn**	**12 56 38.0**	**-3.7**
EUNU				Sn	**Sn**	**12 57 32.0**	**-10**
EUNU	**Eureka**	**5.25**	**71**	PN	**Pn**	**12 56 38.0**	**-3.7**
EUNU				mb		12 56 44.1	
	comp=Z,318nm,0.2s						
EUNU				SN	**Sn**	**12 57 32.0**	**-10**
EUNU				Trac		12 57 40.5	
	comp=Z,909nm,0.3s						
RES	**Resolute Bay**	**6.81**	**126**	Pn	**Pn**	**12 56 57.1**	**-6.0**
	152nm,0.3s,baz=321,slow=12,SNR=2329						
RES				Sn	**Sn**	**12 58 09.6**	**-11**
	206nm,0.3s,baz=286,slow=15,SNR=10.0						
RES				LR	LR	13 00 12.5	
	comp=Z,22μm,18.1s,baz=324,slow=43						
RES	**Resolute Bay**	**6.81**	**126**	*e*Pn	**Pn**	**12 56 58.3**	**-4.9**
	29nm,1.2s						
RES				*e*Sn	**Sn**	**12 58 10.5**	**-10**
RES	**Resolute Bay**	**6.81**	**126**	*e*P	**Pn**	**12 56 58.3**	**-4.9**
RES				pmax	pmax		
	comp=Z,29nm,1.2s						
RES	**Resolute Bay**	**6.81**	**126**	PN	**Pn**	**12 56 57.1**	**-6.0**
RES				mb		12 57 01.0	
	comp=Z,527nm,0.1s						
RES				SN	**Sn**	**12 58 09.8**	**-10**
RES				Trac		12 58 15.3	
	comp=Z,531nm,0.2s						
ALE	**Alert**	**8.52**	**46**	Pn	**Pn**	**12 57 23.0**	**-3.5**
	comp=Z,1μm,1.1s,SNR=22						
CB31	**Cambridge Bay**	**10.94**	**159**	Pn	**Pn**	**12 57 52.9**	**-6.8**
CB31				Sn	**Sn**	**12 59 46.2**	**-15**
CB31	**Cambridge Bay**	**10.94**	**159**	PN	**Pn**	**12 57 52.9**	**-6.8**
CB31				mb		12 57 59.0	
	comp=Z,901nm,0.2s						
CB31				SN	**Sn**	**12 59 46.2**	**-15**
CB31				Trac		12 59 55.5	
	comp=Z,846nm,0.2s						
INK	**Inuvik**	**12.24**	**211**	Pn	**Pn**	**12 58 12.8**	**-4.7**
	comp=Z,8.6nm,0.3s,baz=20,slow=17,SNR=213						
INK				Sn	**Sn**	**13 00 20.1**	**-13**
	comp=Z,19nm,0.3s,baz=257,slow=15,SNR=8.6						
INK				LR	LR	13 03 46.5	
	comp=Z,5μm,20.8s,baz=125,slow=41						
INK	**Inuvik**	**12.24**	**211**	*e*Pn	**Pn**	**12 58 13.3**	**-4.2**
	comp=Z,5.8nm,1.1s						
INK				*e*Sn	**Sn**	**13 00 22.7**	**-11**
INK	**Inuvik**	**12.24**	**211**	*e*P	**Pn**	**12 58 13.3**	**-4.2**
INK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
INK	**Inuvik**	**12.24**	**211**	PN	**Pn**	**12 58 13.8**	**-3.7**
INK				mb		12 58 22.8	
	comp=Z,137nm,0.8s						
INK				SN	**Sn**	**13 00 19.6**	**-14**
INK				Trac		13 00 23.6	
	comp=Z,489nm,1.0s						
KUGN	**Kugaaruk Camp,**	**13.45**	**135**	PN	**Pn**	**12 58 24.6**	**-9.3**
KUGN				mb		12 58 29.6	
	comp=Z,221nm,0.7s						
KUGN				SN	**Sn**	**13 00 51.1**	**-11**
KUGN				Trac		13 01 17.8	
	comp=Z,634nm,1.2s						
JERN	**Jeri Cho Mine,**	**13.75**	**172**	PN	**Pn**	**12 58 31.8**	**-6.3**
JERN				mb		12 58 35.5	
	comp=Z,154nm,0.2s						
JERN				SN	**Sn**	**13 00 53.8**	**-16**
STLN	**Stellar Camp,**	**13.83**	**140**	PN	**Pn**	**12 58 31.1**	**-8.0**
STLN				mb		12 58 35.0	
	comp=Z,1μm,0.7s						
STLN				SN	**Sn**	**13 00 53.1**	**-19**
STLN				Trac		13 01 26.1	
	comp=Z,706nm,0.9s						
SRLN	**Sarcpa Lake, N**	**13.96**	**124**	PN	**Pn**	**12 58 34.0**	**-6.9**
SRLN				mb		12 58 38.3	
	comp=Z,167nm,0.5s						
BULN	**Bullion Camp,**	**14.69**	**142**	PN	**Pn**	**12 58 42.2**	**-8.7**
BULN				mb		12 58 46.2	
	comp=Z,190nm,0.3s						
BULN				SN	**Sn**	**13 01 13.5**	**-19**
BULN				Trac		13 01 36.1	
	comp=Z,450nm,0.9s						
CTLN	**Castor Lake**	**15.29**	**180**	PN	**Pn**	**12 58 51.9**	**-6.9**
CTLN				mb		12 58 56.5	
	comp=Z,34nm,0.2s						
CTLN				SN	**Sn**	**13 01 31.9**	**-16**
CTLN				Trac		13 01 47.7	
	comp=Z,263nm,0.9s						
QILN	**Qililugaq Expl**	**15.29**	**131**	PN	**Pn**	**12 58 50.0**	**-8.9**
QILN				mb		12 58 53.6	
	comp=Z,278nm,0.6s						
QILN				Trac		13 01 46.1	
	comp=Z,282nm,0.9s						
COLD	**Coldfoot**	**15.35**	**235**	*e*Pn	**Pn**	**12 58 57.4**	**-2.2**
	comp=Z,936nm,2.0s						
ROMN	**Roman Lake**	**15.41**	**183**	PN	**Pn**	**12 58 53.9**	**-6.5**
ILKN	**Indian Lake**	**15.49**	**178**	PN	**Pn**	**12 58 54.7**	**-6.9**
ILKN				mb		12 58 57.2	
	comp=Z,187nm,0.2s						
ILKN				SN	**Sn**	**13 01 35.7**	**-17**
ILKN				Trac		13 02 05.2	
	comp=Z,318nm,0.5s						
GALN	**Gameti Lake**	**15.60**	**182**	PN	**Pn**	**12 58 55.9**	**-7.0**
GALN				mb		12 59 07.7	
	comp=Z,407nm,0.7s						
GALN				SN	**Sn**	**13 01 37.4**	**-18**
WAGN	**Wager Bay**	**15.63**	**137**	PN	**Pn**	**12 58 54.5**	**-8.7**
WAGN				mb		12 58 58.1	
	comp=Z,336nm,0.3s						
WAGN				Trac		13 01 41.8	
	comp=Z,399nm,0.8s						
WAGN				SN	**Sn**	**13 01 41.9**	**-14**
NUNN	**Nunuq Camp, NU**	**16.07**	**140**	PN	**Pn**	**12 59 00.1**	**-8.8**
NUNN				mb		12 59 03.8	
	comp=Z,485nm,0.8s						
NUNN				SN	**Sn**	**13 01 47.3**	**-19**
NUNN				Trac		13 01 54.0	
	comp=Z,363nm,0.9s						
YBKN	**Baker Lake, Hu**	**16.41**	**148**	PN	**Pn**	**12 59 03.5**	**-10**
YBKN				SN	**Sn**	**13 01 56.4**	**-18**
EGAK	**Eagle**	**16.47**	**220**	*e*Pn	**Pn**	**12 59 10.4**	**-3.7**
	comp=Z,279nm,1.1s						
COKN	**Cook Lake**	**16.59**	**168**	PN	**Pn**	**12 59 08.6**	**-7.0**
COKN				mb		12 59 18.2	
	comp=Z,438nm,0.6s						
COKN				SN	Sn	13 01 54.5	-25
DAWY	**Dawson**	**16.96**	**216**	*e*Pn	**Pn**	**12 59 17.0**	**-3.3**
DAWY	**Dawson**	**16.96**	**216**	PN	**Pn**	**12 59 16.8**	**-3.5**
DAWY				mb		12 59 27.8	
	comp=Z,200nm,0.7s						
DAWY				SN	**Sn**	**13 02 10.8**	**-17**
DAWY				Trac		13 02 18.9	
	comp=Z,168nm,0.8s						
YKW3	**Yellowknife Ar**	**17.17**	**178**	PN	**Pn**	**12 59 16.7**	**-6.2**
YKW3				mb		12 59 21.7	
	comp=Z,138nm,0.4s						
YKW3				mb		12 59 21.9	
	comp=Z,87nm,0.3s						
YKW3				SN	Sn	13 02 10.0	-23
YKW3				Trac		13 02 30.6	
	comp=Z,137nm,0.4s						
ILAR	**Eielson Array**	**17.19**	**228**	Pn	**Pn**	**12 59 21.4**	**-1.7**
	comp=Z,2.4nm,0.3s,baz=13,slow=14,SNR=98						
ILAR				Sn	**Sn**	**13 02 22.0**	**-12**
	comp=Z,2.5nm,0.3s,baz=16,slow=24,SNR=6.7						
ILAR				LR	LR	13 07 11.8	
	comp=Z,4μm,20.2s,baz=29,slow=41						
ILAR				PKiKP	PKiKP	13 11 55.4	-2.2
	comp=Z,0.0nm,0.3s,baz=289,slow=0.8,SNR=4.3						
ILAR	**Eielson Array**	**17.19**	**228**	Pn	**Pn**	**12 59 21.4**	**-1.7**
ILAR				Sn	**Sn**	**13 02 22.0**	**-12**
ILAR				LR	LR	13 07 11.8	
ILAR	**Eielson Array**	**17.19**	**228**	P	**Pn**	**12 59 21.5**	**-1.7**
COLA	**College**	**17.23**	**229**	*e*Pn	**Pn**	**12 59 23.2**	**-0.4**
	comp=Z,678nm,1.4s						
COLA	**College**	**17.23**	**229**	*e*P	**Pn**	**12 59 23.2**	**-0.4**
COLA				pmax	pmax		
	comp=Z,678nm,1.4s						
YKA	**Yellowknife Ar**	**17.24**	**177**	Pn	**Pn**	**12 59 17.1**	**-6.6**
	comp=Z,31nm,0.3s,baz=352,slow=12,SNR=322						
YKA				Sn	**Sn**	**13 02 15.1**	**-20**
	comp=Z,15nm,0.3s,baz=357,slow=21,SNR=7.7						
YKA				LR	LR	13 06 17.3	
	comp=Z,723nm,19.9s,baz=350,slow=38						
YKA				P3KPbc		13 34 25.9	
	comp=Z,0.1nm,0.3s,baz=177,slow=4.3,SNR=11						
YKA	**Yellowknife Ar**	**17.24**	**177**	Pn	**Pn**	**12 59 17.1**	**-6.6**
YKA				Sn	**Sn**	**13 02 15.1**	**-20**
YKA				LR	LR	13 06 17.3	
YKA	**Yellowknife Ar**	**17.24**	**177**	P	**Pn**	**12 59 17.1**	**-6.6**
WHFN	**White Fish Lak**	**17.37**	**166**	PN	**Pn**	**12 59 19.1**	**-6.3**
WHFN				mb		12 59 28.4	
	comp=Z,424nm,0.8s						
WHFN				SN	Sn	13 02 16.7	-21
DOT	**Dot Lake**	**17.91**	**223**	*e*Pn	**Pn**	**12 59 32.3**	**+0.3**
	comp=Z,2μm,1.2s						
DAG	**Danmarks Havn**	**17.91**	**48**	*e*P	**Pn**	**12 59 30.1**	**-1.9**
DAG				*i*		13 02 43.7	
DAG				MLR	MLR		
	comp=Z,11μm,17.0s						
DAG	**Danmarks Havn**	**17.91**	**48**	*i* P	**Pn**	**12 59 30.1**	**-1.9**
	comp=Z,54nm,1.0s						
DAG				*i*		13 02 43.7	
DAG							
	comp=Z,11μm,17.0s						
SEDN	**First Sedna Si**	**17.96**	**142**	PN	**Pn**	**12 59 24.5**	**-8.1**
SEDN				mb		12 59 29.1	
	comp=Z,154nm,0.3s						
SEDN				SN	Sn	13 02 28.3	-24
SEDN				Trac		13 02 35.7	
	comp=Z,204nm,0.7s						
GDLN	**Gardenia Lake,**	**17.96**	**164**	PN	**Pn**	**12 59 26.0**	**-6.7**
GDLN				mb		12 59 34.7	
	comp=Z,100nm,0.3s						
JOSN	**Second Sedna S**	**18.00**	**142**	PN	**Pn**	**12 59 25.1**	**-8.1**
JOSN				mb		12 59 30.3	
	comp=Z,533nm,0.7s						
JOSN				SN	Sn	13 02 31.7	-22
JOSN				Trac		13 02 54.3	
	comp=Z,258nm,0.9s						
SUMG	**Summit**	**18.32**	**70**	*e*Pn	**Pn**	**12 59 30.9**	**-6.0**
	comp=Z,382nm,0.9s						
SUMG	**Summit**	**18.32**	**70**	*e*P	**Pn**	**12 59 30.9**	**-6.1**
SUMG				pmax	pmax		
	comp=Z,381nm,0.9s						
SUMG	**Summit**	**18.32**	**70**	*i* P	**Pn**	**12 59 31.4**	**-5.6**
	comp=Z,322nm,0.8s						
SUMG							
	comp=Z,10μm,19.0s						
BPAW	**Bear Paw Mtn.**	**18.40**	**233**	*e*P	**Pn**	**12 59 38.8**	**+0.7**
	comp=Z,402nm,1.2s						
MCK	**McKinley**	**18.46**	**229**	*e*Pn	**Pn**	**12 59 39.8**	**+1.0**
	comp=Z,215nm,0.7s						
MCK				*e*Sn	**Sn**	**13 02 53.1**	**-11**
MCK	**McKinley**	**18.46**	**229**	*e*P	**Pn**	**12 59 39.8**	**+1.0**
MCK				*e*		13 02 53.1	
MCK				pmax	pmax		
	comp=Z,215nm,0.7s						
MENT	**Mentasta**	**18.55**	**222**	*e*P	**Pn**	**12 59 41.4**	**+1.5**
PAX	**Paxson**	**18.74**	**224**	*e*P	**Pn**	**12 59 42.4**	**+0.3**
	comp=Z,207nm,1.0s						
PAX	**Paxson**	**18.74**	**224**	*e*P	**Pn**	**12 59 42.4**	**+0.3**
PAX				pmax	pmax		
	comp=Z,207nm,1.0s						
TRF	**Thorofare Moun**	**18.92**	**231**	*e*Pn	**Pn**	**12 59 45.4**	**+1.1**
	comp=Z,2μm,2.2s						
KBS	**Kingsbay**	**19.39**	**27**	*e*P	**Pn**	**12 59 51.8**	**+1.8**
KBS				*e*S	Sn	13 03 48.4	+22
KBS				AMS	AMS	13 07 19.1	
	comp=Z,7μm,16.9s						
KBS	**Kingsbay**	**19.39**	**27**	*e*P	**Pn**	**12 59 45.8**	**-4.1**
	comp=Z,77nm,1.0s						
KBS	**Kingsbay**	**19.39**	**27⇑**	*e*P	**Pn**	**12 59 50.8**	**+0.9**
PPLA	**Purkeypile**	**19.72**	**233**	*e*P	**Pn**	**12 59 53.8**	**-0.1**
	comp=Z,1μm,1.8s						
ARVN	**Arviat, NU**	**19.77**	**147**	PN	**Pn**	**12 59 47.1**	**-7.4**
ARVN				mb		12 59 52.4	
	comp=Z,365nm,0.7s						
ARVN				SN	Sn	13 03 14.1	-22
ARVN				Trac		13 03 18.1	
	comp=Z,239nm,0.8s						
TNA	**Tin City**	**19.78**	**255**	*e*P	**Pn**	**12 59 55.0**	**+0.4**
	comp=Z,225nm,0.7s						
WHY	**Whitehorse**	**19.88**	**208**	PN	**Pn**	**12 59 54.5**	**-1.3**
WHY				mb		13 00 05.8	
	comp=Z,1μm,2.6s						
WHY				SN	**Sn**	**13 03 24.3**	**-14**
SML	**Sawmill**	**20.23**	**227**	*e*P	**P**	**12 59 58.6**	**+0.7**
	comp=Z,356nm,1.6s						
SML	**Sawmill**	**20.23**	**227**	*e*P	**P**	**12 59 58.7**	**+0.7**
SML				pmax	pmax		
	comp=Z,356nm,1.6s						
SPB4	**Spitsbergen Ar**	**20.43**	**26**	*e*P	**P**	**12 59 59.8**	**-0.3**
SPA0	**Spitsbergen Ar**	**20.44**	**26**	*e*P	**P**	**13 00 02.1**	**+2.0**
SPITS	**Spitsbergen Ar**	**20.44**	**26**	P	**P**	**12 59 59.9**	**-0.3**
	comp=Z,13nm,0.7s,baz=27,slow=13,SNR=6.8						
SPITS				LR	LR	13 06 57.2	
	comp=Z,3μm,18.2s,MS4.7,baz=10.0,slow=34						
SPITS	**Spitsbergen Ar**	**20.44**	**26**	P	**P**	**12 59 59.9**	**-0.3**
SPITS				LR	LR	13 06 57.2	
PMR	**Palmer**	**20.54**	**228**	*e*P	**P**	**13 00 03.0**	**+1.6**
	comp=Z,70nm,0.8s						
PMR	**Palmer**	**20.54**	**228**	*e*P	**P**	**13 00 03.0**	**+1.6**
PMR				pmax	pmax		
	comp=Z,70nm,0.8s						
**DIV

DLBC LR LR 13 09 23.4
comp=Z,5µm,18.4s,MS5.0,baz=4.8,slow=39
DLBC Dease Lake 21.73 200 *e*P **P 13 00 15.1 +0.9**
DLBC Dease Lake 21.73 200 PN **P 13 00 15.0 +0.8**
DLBC mb 13 00 19.8
comp=Z,422nm,1.5s
DLBC SN **S 13 04 12.9 -0.7**
SLKM Skilak Lake 21.73 228 *e*P **P 13 00 15.5 +1.3**
SLKM Skilak Lake 21.73 228 *e*P **P 13 00 15.5 +1.3**
SVW2 Sparrevohn 21.93 236 *e*P **P 13 00 18.0 +1.7**
comp=Z,233nm,1.3s,mb5.5
AKVQ Akulivik 22.01 126 PN **P 13 00 16.1 -1.1**
AKVQ mb 13 00 23.7
comp=Z,276nm,1.2s
AKVQ SN **S 13 04 08.1 -11**
SEW Seward 22.02 227 *e*P **P 13 00 18.6 +1.3**
comp=Z,502nm,1.0s,mb5.9
FCC Fort Churchill 22.06 149 *e*P **P 13 00 14.7 -3.0**
comp=Z,0.1nm,0.7s
FCC Fort Churchill 22.06 149 *e*P **P 13 00 14.7 -3.0**
FCC Fort Churchill 22.06 149 PN **P 13 00 14.0 -3.7**
FCC mb 13 00 19.9
comp=Z,1µm,1.1s
FCC SN **S 13 04 08.7 -11**
GAMB Gambell 22.08 257 *e*P **P 13 00 21.0 +3.1**
comp=Z,1µm,1.5s,mb6.2
RSO Redoubt South 22.13 232 *e*P **P 13 00 20.5 +2.0**
BILL Bilibino 22.19 283 *e*P **P 13 00 19.6 +0.6**
comp=Z,726nm,1.5s,mb5.9
BILL LR LR
comp=Z,5µm,21.0s,MS4.9
BILL Bilibino 22.19 283 *c i*P **P 13 00 19.8 +0.8**
BILL *i* 13 00 26.7
BILL *e* 13 00 38.2
BILL *i* S **S 13 04 24.2 +1.8**
BILL *e*SS 13 04 51.5
BILL pmax pmax
comp=Z,324nm,1.6s,mb5.5
BILL MLR MLR
comp=Z,6µm,18.0s,MS5.0
MID Middleton Isla 22.28 223 *e*P **P 13 00 24.2 +4.1**
comp=Z,752nm,1.2s,mb6.0
MID Middleton Isla 22.28 223 *e*P **P 13 00 24.2 +4.1**
MID pmax pmax
comp=Z,752nm,1.2s,mb6.0
HOPEN Hopen 22.66 22 *e*P **P 13 00 23.1 -0.9**
SCO Scoresbysund 22.82 60 *i*P **P 13 00 28.8 +3.1**
SCO pmax pmax
comp=Z,79nm,1.0s,mb5.1
SCO MLR MLR
comp=Z,18µm,15.0s,MS5.6
SIT Sitka 23.48 207 *e*P **P 13 00 34.8 +2.0**
comp=Z,350nm,2.1s,mb5.4
SIT Sitka 23.48 207 *e*P **P 13 00 34.8 +2.0**
SIT pmax pmax
comp=Z,350nm,2.1s,mb5.4
WRAK Wrangell Islan 23.89 202 *e*P **P 13 00 37.1 +0.6**
comp=Z,339nm,1.6s,mb5.5
WRAK LR LR
comp=Z,4µm,19.0s,MS4.9
BJO Bjornoya 24.13 27 *e*P **P 13 00 39.3 +0.7**
BJO *e*S **S 13 05 08.8 +14**
BJO AMS AMS 13 10 05.4
comp=Z,6µm,19.9s,MS5.1
JMIC Jan Mayen 24.34 49 *e*P **P 13 00 42.6 +2.1**
JMIC *e*ScP ScP 13 07 45.1 -11
JMIC Jan Mayen 24.34 49 P **P 13 00 41.9 +1.3**
comp=Z,95nm,0.4s,mb5.5,baz=154,slow=9.1,SNR=3.7
JMIC LR LR 13 10 17.4
comp=Z,5µm,20.1s,MS5.0,baz=85,slow=37
JMIC Jan Mayen 24.34 49 P **P 13 00 41.9 +1.3**
JMIC LR LR 13 10 17.4
KDAK Kodiak Island 24.69 230 P **P 13 00 44.9 +1.0**
comp=Z,85nm,0.8s,mb5.4,baz=33,slow=6.3,SNR=58
KDAK LR LR 13 12 10.1
comp=Z,3µm,18.6s,MS4.9,baz=16,slow=41
KDAK Kodiak Island 24.69 230 *e*P **P 13 00 44.9 +1.1**
comp=Z,1µm,1.8s,mb6.2
KDAK LR LR
comp=Z,4µm,19.0s,MS4.9
KDAK Kodiak Island 24.69 230 *c e*P **P 13 00 44.9 +1.1**
KDAK Kodiak Island 24.69 230 P **P 13 00 45.0 +1.2**
comp=Z,2µm,1.0s,mb6.5,SNR=25
OHAK Old Harbor 25.33 230 *e*P **P 13 00 50.7 +1.1**
comp=Z,176nm,1.1s,mb5.5
FFC Flin Flon 25.45 161 *e*P **P 13 00 49.0 -1.8**
comp=Z,283nm,1.1s,mb5.7
FFC LR LR
comp=Z,7µm,22.0s,MS5.1
FFC Flin Flon 25.45 161 *e*P **P 13 00 49.0 -1.8**
FFC pmax pmax
comp=Z,283nm,1.1s,mb5.7
FFC MLR MLR
comp=Z,7µm,22.0s,MS5.1
FFC Flin Flon 25.45 161 P **P 13 00 49.8 -1.0**
comp=Z,490nm,0.7s,mb6.1,SNR=5.5
FFC Flin Flon 25.45 161 PN **P 13 00 48.9 -1.9**
FFC mb 13 01 02.4
comp=Z,209nm,1.0s
FFC mb 13 01 03.0
comp=Z,110nm,0.8s
SILO Sutton Inlier 27.26 139 PN **P 13 01 05.2 -1.8**
SILO mb 13 01 17.2
comp=Z,128nm,1.1s
BBB Bella Bella 27.86 196 LR LR 13 13 07.0
comp=Z,4µm,19.3s,MS5.0,baz=201,slow=38
BORG Borgarnes 28.14 65 P **P 13 01 16.2 +1.4**
comp=Z,66nm,0.8s,mb5.3,baz=284,slow=1.3,SNR=8.3
BORG LR LR 13 13 40.5
comp=Z,8µm,18.0s,MS5.4,baz=346,slow=39
BORG Borgarnes 28.14 65 P **P 13 01 16.2 +1.4**
BORG LR LR 13 13 40.5
BORG Borgarnes 28.14 65 P **P 13 01 16.2 +1.4**
TRO Tromso 28.80 31 *e*P **P 13 01 21.8 +1.1**
TRO *e*S **S 13 06 21.1 +12**
VIMO Victor Mine 29.03 138 PN **P 13 01 21.1 -1.7**
VIMO mb 13 01 31.1
comp=Z,362nm,2.2s
SEY Seymchan 29.25 291 ⇓ *e*P **P 13 01 26.2 +1.5**
KEV Kevo 29.37 25 *e*P **P 13 01 25.0 -0.7**
KEV LR LR
comp=Z,4µm,19.0s,MS5.0
KEV Kevo 29.37 25 *e*P **P 13 01 23.5 -2.2**
KEV pmax pmax
comp=Z,39nm,0.8s,mb5.2
KEV Kevo 29.37 25 *e*p **P 13 01 23.5 -2.2**
comp=Z,39nm,0.8s,mb5.2
ARCES ARCESS Array B 29.47 26 P **P 13 01 24.2 -2.4**
comp=Z,32nm,0.8s,mb5.1,baz=333,slow=6.8,SNR=29
ARCES PcP PcP 13 04 30.3 -1.0
comp=Z,15nm,0.7s,baz=314,slow=2.8,SNR=11
ARCES ARCESS Array B 29.47 26 P **P 13 01 24.2 -2.4**
ARCES PcP PcP 13 04 30.3 -1.0
ARCES ARCESS Array B 29.47 26 P **P 13 01 24.2 -2.4**
ARCES 13 04 30.3
ARE0 ARCESS Array S 29.47 26 *e*P **P 13 01 26.5 0.0**
SCHQ Schefferville 29.50 117 P **P 13 01 25.4 -1.6**
comp=Z,27nm,0.8s,mb5.0,baz=342,slow=7.6,SNR=10
SCHQ LR LR 13 13 43.5
comp=Z,9µm,18.4s,MS5.4,baz=351,slow=37
SCHQ Schefferville 29.50 117 *e*P **P 13 01 27.9 +1.0**
comp=Z,87nm,1.0s,mb5.4
SCHQ LR LR
comp=Z,6µm,22.0s,MS5.2
SCHQ Schefferville 29.50 117 PN **P 13 01 28.2 +1.2**
WEMQ Wemindji, Queb 29.55 131 PN **P 13 01 25.1 -2.4**
KTK1 Kautokeino 29.79 28 *e*P **P 13 01 29.4 0.0**
KTK1 *e*S **S 13 06 36.6 +12**
KTK1 AMS AMS 13 13 41.2
comp=Z,8µm,21.1s,MS5.3
ULM Lac du Bonnet 30.34 154 P **P 13 01 33.3 -1.1**
comp=Z,64nm,0.8s,mb5.4,baz=350,slow=8.7,SNR=44
ULM LR LR 13 14 40.5
comp=Z,20µm,19.5s,MS5.8,baz=0.0,slow=38
ULM Lac du Bonnet 30.34 154 *e*P **P 13 01 33.8 -0.6**
comp=Z,60nm,0.8s,mb5.4
ULM LR LR
comp=Z,6µm,20.0s,MS5.2
ULM Lac du Bonnet 30.34 154 *e*P **P 13 01 33.8 -0.6**
ULM pmax pmax
comp=Z,59nm,0.8s
ULM MLR MLR
comp=Z,6µm,20.0s
ULM Lac du Bonnet 30.34 154 PN **P 13 01 33.3 -1.1**
ULM mb pP 13 01 38.6 -0.8
comp=Z,260nm,2.5s

WALA Waterton Lakes 30.71 177 *e*P **P 13 01 38.9 +1.2**
comp=Z,0.9nm,0.9s
A14A Double T Ranch 30.80 176 ⇑P **P 13 01 38.3 -0.2**
baz=31,SNR=58
A15A Johnson Ranch, 30.80 176 ⇑P **P 13 01 37.8 -0.7**
baz=31,SNR=25
A12A Yaak River Ran 30.82 179 ⇑P **P 13 01 38.9 +0.2**
baz=31,SNR=7.3
A05A Maple Falls 30.83 188 ⇑P **P 13 01 38.4 -0.3**
baz=31
A17A Triple J Farms 30.87 173 ⇓P **P 13 01 38.5 -0.6**
baz=31,SNR=44
SOLO Sioux Lookout 30.89 149 PN **P 13 01 38.4 -0.9**
A18A Metzger Ranch, 30.92 172 ⇑P **P 13 01 39.1 -0.5**
baz=31,SNR=13
A21A Bergtoll Ranch 30.94 168 ⇓P **P 13 01 39.3 -0.4**
baz=31,SNR=39
A19A Klindworth Far 30.94 170 ⇑P **P 13 01 39.7 0.0**
baz=31,SNR=202
A22A Carney Farms, 30.98 167 ⇓P **P 13 01 39.4 -0.6**
baz=31,SNR=37
A20A Cobblestone Ra 31.01 169 ⇓P **P 13 01 39.6 -0.8**
baz=31,SNR=56
A23A Redstone 31.05 165 ⇓P **P 13 01 40.0 -0.8**
baz=31
NANO Nakina Ontario 31.08 143 PN **P 13 01 39.8 -1.2**
A24A Westby 31.13 164 ⇑P **P 13 01 40.9 -0.5**
baz=31,SNR=34
PGC Sidney 31.21 189 *e*P **P 13 01 41.5 -0.6**
comp=Z,3.4nm,0.9s,mb4.2
B12A Libby 31.29 179 ⇑P **P 13 01 42.8 0.0**
baz=31,SNR=15
B16A M & M Farms, S 31.38 174 ⇑P **P 13 01 43.4 -0.2**
baz=31,SNR=24
B13A Whitefish 31.39 178 ⇓P **P 13 01 43.6 -0.1**
baz=31,SNR=21
B19A Brinkman Farms 31.41 171 ⇓P **P 13 01 43.4 -0.5**
baz=31,SNR=28
B14A Marquette Ranc 31.41 176 ⇑P **P 13 01 43.7 -0.2**
baz=31,SNR=28
B18A Beardsley Farm 31.45 172 ⇑P **P 13 01 43.9 -0.3**
baz=31,SNR=29
B20A Solberg Farm, 31.45 170 ⇑P **P 13 01 43.7 -0.5**
baz=31,SNR=35
B15A Bradely Ranch, 31.47 175 ⇑P **P 13 01 44.2 -0.2**
baz=31,SNR=46
NEW Newport 31.49 181 ⇓P **P 13 01 44.7 0.0**
baz=31,SNR=23
NEW Newport 31.49 181 *e*P **P 13 01 45.4 +0.7**
comp=Z,284nm,2.5s,mb5.7
NEW LR LR
comp=Z,5µm,19.0s,MS5.2
NEW Newport 31.49 181 *e*P **P 13 01 45.4 +0.8**
NEW pmax pmax
comp=Z,284nm,2.5s
NEW MLR MLR
comp=Z,5µm,19.0s
B21A Ellsworth Farm 31.50 168 ⇓P **P 13 01 43.9 -0.7**
baz=31,SNR=8.5
B17A L&G Farms, Che 31.52 173 ⇓P **P 13 01 44.5 -0.4**
baz=31,SNR=34
DGMT Dagmar 31.58 165 ⇓P **P 13 01 45.2 -0.2**
baz=32,SNR=22
DGMT Dagmar 31.58 165 *e*P **P 13 01 45.5 +0.1**
comp=Z,262nm,1.3s,mb5.9
DGMT LR LR
comp=Z,16µm,20.0s,MS5.7
JCW Jim Creek 31.63 187 *e*P **P 13 01 45.3 -0.5**
B22A Reddig Ranch S 31.66 167 ⇓P **P 13 01 45.8 -0.3**
baz=32,SNR=38
LVZ Lovozero 31.74 21 *e*P **P 13 01 45.5 -1.1**
comp=Z,137nm,0.9s,mb5.8
LVZ LR LR
comp=Z,2µm,19.0s,MS4.8
LVZ Lovozero 31.74 21 *d i*P **P 13 01 47.0 +0.4**
LVZ pmax pmax
comp=Z,131nm,0.8s,mb5.8
LVZ Lovozero 31.74 21 P **P 13 01 45.6 -1.0**
comp=Z,877nm,0.6s,mb6.8,SNR=6.0
BLMT Blacktail Moun 31.75 178 *e*P **P 13 01 47.5 +0.6**
EGMT Eagleton 31.82 172 ⇑P **P 13 01 47.1 -0.4**
baz=32,SNR=23
EGMT Eagleton 31.82 172 *e*P **P 13 01 47.6 +0.1**
comp=Z,151nm,1.1s,mb5.7
EGMT LR LR
comp=Z,5µm,19.0s,MS5.2
YBMT Yellow Bay 31.90 177 *e*P **P 13 01 48.5 +0.3**
BSMT Bassoo Peak 31.91 178 *e*P **P 13 01 48.9 +0.6**
C09A Chrisman Ranch 31.96 183 ⇓P **P 13 01 48.4 -0.3**
baz=32,SNR=22
APA Apatity 31.98 22 ⇑ *i*P **P 13 01 48.6 -0.2**
APA *i* 13 02 50.0
APA *i* S **S 13 06 56.0 -3.0**
APA *i* SS SS 13 08 50.0 -26
APA pmax pmax
comp=Z,39nm,1.0s,mb5.2
APA MLR MLR
comp=Z,4µm,15.0s,MS5.2
C16A Fuhringer Ranc 32.00 174 ⇓P **P 13 01 48.8 -0.3**
baz=32
C15A Salmond Ranch, 32.01 175 ⇑P **P 13 01 49.0 -0.1**
baz=32,SNR=80
JTMT Jette 32.02 178 *e*P **P 13 01 49.7 +0.4**
C12B Naegeli Ranch, 32.05 179 ⇓P **P 13 01 49.4 -0.1**
baz=32,SNR=15
C13A Hot Springs 32.08 178 ⇑P **P 13 01 49.7 -0.1**
baz=32,SNR=53
C21A Desert Coulee 32.10 168 ⇓P **P 13 01 49.8 -0.2**
baz=32,SNR=9.1
C19A Slack Wire Ran 32.12 171 ⇓P **P 13 01 49.9 -0.3**
baz=32,SNR=36
C17A Wharram Farm, 32.18 173 ⇓P **P 13 01 49.9 -0.8**
baz=32,SNR=58
ETW Entiat 32.19 185 *e*P **P 13 01 50.4 -0.3**
C23A Lambert 32.20 166 ⇑P **P 13 01 50.3 -0.6**
baz=32,SNR=62
HDW Hoodsport 32.20 189 P **P 13 01 51.4 +0.6**
C22A Vida 32.22 167 ⇑P **P 13 01 50.6 -0.4**
baz=32,SNR=24
SWMT Swartz Lake 32.26 177 *e*P **P 13 01 51.8 +0.4**
AGMN Agassiz Nation 32.28 154 *e*P **P 13 01 50.3 -1.2**
comp=Z,83nm,0.8s,mb5.6
AGMN LR LR
comp=Z,4µm,22.0s,MS5.1
GNW Green Mountain 32.28 188 *e*P **P 13 01 52.2 +0.6**
comp=Z,33nm,1.0s,mb5.1
OD2 Odess Site #2 32.38 183 P **P 13 01 52.1 -0.3**
MDND Maddock 32.45 159 ⇑P **P 13 01 52.5 -0.6**
baz=32
NLWA Neilton Lookou 32.48 190 *e*P **P 13 01 54.4 +1.0**
comp=Z,50nm,0.9s,mb5.3
NLWA LR LR
comp=Z,3µm,20.0s,MS4.9
C24A Savage 32.50 165 ⇓P **P 13 01 53.6 +0.1**
baz=32,SNR=22
TBO Thunder Bay 32.51 146 PN **P 13 01 53.5 0.0**
TBO mb 13 01 55.2
comp=Z,72nm,0.9s
SLMT Seeley Lake 32.53 177 *e*P **P 13 01 54.0 +0.3**
D05A Enumclaw 32.64 187 ⇑P **P 13 01 54.6 -0.1**
baz=32,SNR=13
D18A Linhart Farms, 32.64 172 ⇓P **P 13 01 54.9 +0.2**
baz=32,SNR=72
D17A Six Diamond Ra 32.66 173 ⇑P **P 13 01 54.6 -0.3**
baz=33,SNR=28
D13A Huson 32.67 178 ⇓P **P 13 01 54.8 -0.1**
baz=33,SNR=45
D14A Greenough 32.69 177 ⇑P **P 13 01 55.4 +0.2**
baz=33,SNR=95
D19A Cripps Ranch, 32.70 171 ⇓P **P 13 01 55.3 +0.1**
baz=33,SNR=157
D15A Lincoln 32.74 175 ⇓P **P 13 01 55.5 -0.1**
baz=33,SNR=18
D16A Dana Ranch, Ca 32.77 174 ⇓P **P 13 01 55.6 -0.3**
baz=33,SNR=31
D20A Manuel Ranch, 32.80 170 ⇑P **P 13 01 55.9 -0.2**
baz=33,SNR=123
D22A Cohagen 32.81 167 ⇓P **P 13 01 56.3 +0.2**
baz=33,SNR=147
D23A Lindsay 32.82 166 ⇑P **P 13 01 56.7 +0.4**
baz=33,SNR=37
CHMT Chamberlain Mo 32.86 176 *e*P **P 13 01 56.9 +0.3**
D21A La Casta Ranch 32.86 168 ⇓P **P 13 01 56.4 -0.2**
baz=33,SNR=44
FMW Mount Fremont 32.88 187 P **P 13 01 56.5 -0.4**
SOFL Sornfelli, Far 32.91 55 AMS AMS 13 14 59.1
comp=Z,8µm,18.6s,MS5.4

D24A Glendive 32.92 165 ⇑P **P 13 01 57.1 -0.1**
baz=33,SNR=30
MSO Missoula 32.94 177 ⇑P **P 13 01 57.3 0.0**
baz=33,SNR=39
MSO Missoula 32.94 177 *e*P **P 13 01 57.5 +0.2**
comp=Z,36nm,1.0s,mb5.2
MSO LR LR
comp=Z,4µm,21.0s,MS5.1
EYMN Ely 33.00 149 *e*P **P 13 01 56.9 -1.0**
comp=Z,119nm,0.9s,mb5.8
EYMN LR LR
comp=Z,8µm,20.0s,MS5.4
LON Longmire 33.07 187 *e*P **P 13 01 58.6 +0.2**
comp=Z,57nm,0.9s,mb5.5
LON Longmire 33.07 187 *e*P **P 13 01 58.6 +0.1**
LON pmax pmax
comp=Z,57nm,0.9s,mb5.5
HRY Holter Researc 33.08 174 *e*P **P 13 01 57.8 -0.8**
WPW White Pass 33.12 187 P **P 13 01 59.1 +0.2**
E07A Sunnyside 33.23 185 ⇓P **P 13 02 00.1 +0.3**
baz=33,SNR=26
E09A Wood Farm, Sta 33.25 182 ⇑P **P 13 01 59.8 -0.2**
baz=33,SNR=65
E16A East Helena 33.26 174 ⇓P **P 13 01 59.8 -0.4**
baz=33,SNR=46
LAO LASA Array 33.27 167 ⇑P **P 13 01 59.6 -0.6**
baz=33,SNR=83
LAO LASA Array 33.27 167 *e*P **P 13 01 59.8 -0.3**
comp=Z,280nm,0.5s,mb6.5
LAO LR LR
comp=Z,20µm,22.0s,MS5.8
E18A Harlowton 33.27 172 ⇑P **P 13 02 00.0 -0.2**
baz=33,SNR=50
E08A Dider Farm, El 33.28 184 ⇑P **P 13 02 00.3 0.0**
baz=33,SNR=22
E03A Lebam 33.32 189 ⇑P **P 13 02 00.5 -0.1**
baz=33,SNR=18
E13A Victor 33.32 177 ⇑P **P 13 02 00.2 -0.5**
baz=33,SNR=55
E17A Martinsdale 33.35 173 ⇑P **P 13 02 00.6 -0.3**
baz=33,SNR=58
E14A Clinton 33.36 177 ⇓P **P 13 02 00.4 -0.5**
baz=33,SNR=20
E15A Deer Lodge 33.36 176 ⇑P **P 13 02 00.7 -0.3**
baz=33,SNR=40
BMW Boistfort Moun 33.38 189 *e*PcP PcP 13 04 36.0 -6.2
E21A Keefer Ranch, 33.38 169 ⇓P **P 13 02 01.1 -0.1**
baz=33
E20A Meyer Farm, Mu 33.38 170 ⇓P **P 13 02 00.9 -0.3**
baz=33,SNR=19
RSW Rattlesnake Hi 33.38 184 *e*P **P 13 02 01.0 -0.2**
HAWA Hanford 33.39 184 *e*P **P 13 02 00.9 -0.3**
comp=Z,22nm,0.9s,mb5.1
HAWA LR LR
comp=Z,7µm,19.0s,MS5.4
E19A Rath Farm, Rou 33.41 171 ⇓P **P 13 02 01.3 -0.1**
baz=33,SNR=40
E23A Ismay 33.49 166 ⇓P **P 13 02 02.0 -0.2**
baz=33,SNR=36
E22A Miles City 33.53 167 ⇓P **P 13 02 02.4 -0.1**
baz=33,SNR=34
YAK Yakutsk 33.65 309 *e*P **P 13 02 02.9 -0.5**
comp=Z,42nm,0.6s,mb5.5
YAK *e*PcP PcP 13 04 43.5 +0.8
YAK LR LR
comp=Z,2µm,19.0s,MS4.9
YAK Yakutsk 33.65 309 *e*P **P 13 02 02.4 -1.0**
YAK *e* 13 03 11.8
YAK *e* 13 04 42.9
YAK *e*S **S 13 07 22.3 -2.7**
YAK *e*SS SS 13 09 24.6 -25
YAK *e*SSS 13 09 52.4
YAK *e* 13 12 26.4
YAK pmax pmax
comp=Z,27nm,1.0s,mb5.1
YAK pmax pmax
comp=N,7.0nm,1.1s
YAK pmax pmax
comp=Z,385nm,3.0s
YAK pmax pmax
comp=N,597nm,3.8s
YAK pmax pmax
comp=E,350nm,3.2s
YAK smax
comp=N,556nm,10.6s
YAK smax
comp=E,412nm,14.8s
YAK MLR MLR
comp=Z,4µm,15.0s,MS5.2
YAK MLR MLR
comp=E,2µm,18.0s,MS5.2
YAK MLR MLR
comp=N,3µm,17.0s,MS5.2
F10A Beach Ranch, E 33.79 181 ⇓P **P 13 02 04.3 -0.4**
baz=34,SNR=9.0
F07A Phinny Hill Vi 33.89 185 ⇑P **P 13 02 05.6 0.0**
baz=34
LNOR Lincton Mounta 33.90 183 *e*P **P 13 02 06.7 +1.1**
comp=N,13nm,0.8s,mb4.9
LNOR Lincton Mounta 33.90 183 *e*P **P 13 02 06.7 +1.1**
LNOR pmax pmax
comp=Z,13nm,0.8s,mb4.9
F17A Fitzpatrick Pl 33.91 173 ⇑P **P 13 02 05.8 0.0**
baz=34,SNR=105
F18A Big Timber 33.94 172 ⇓P **P 13 02 05.7 -0.3**
baz=34,SNR=65
F15A Butte 33.94 175 ⇑P **P 13 02 05.4 -0.7**
baz=34,SNR=40
F14A Wisdom 33.96 176 ⇓P **P 13 02 05.7 -0.5**
baz=34,SNR=30
LRM Limekiln Ridge 33.96 175 *e*P **P 13 02 06.6 +0.4**
F12A Elk City 34.00 179 ⇓P **P 13 02 05.9 -0.6**
baz=34,SNR=98
F19A Roth Farm, Mol 34.01 171 ⇓P **P 13 02 06.3 -0.3**
baz=34,SNR=90
F16A Kennard Place, 34.01 174 ⇓P **P 13 02 06.4 -0.3**
baz=34,SNR=45
GCMT Greycliff 34.05 172 *e*P **P 13 02 07.0 0.0**
comp=Z,20nm,0.7s,mb5.2
F20A Billings 34.09 170 ⇑P **P 13 02 06.9 -0.4**
baz=34,SNR=43
F21A Absaloka Mine, 34.10 169 ⇑P **P 13 02 07.1 -0.3**
baz=34,SNR=12
BOZ Bozeman (W) 34.15 174 ⇓P **P 13 02 07.7 -0.2**
baz=34,SNR=26
BOZ Bozeman (W) 34.15 174 *e*P **P 13 02 08.3 +0.4**
comp=Z,36nm,1.0s,mb5.2
BOZ LR LR
comp=Z,2µm,22.0s,MS4.8
BOZ Bozeman (W) 34.15 174 *e*P **P 13 02 08.3 +0.4**
BOZ pmax pmax
comp=Z,36nm,1.0s,mb5.3
BOZ MLR MLR
comp=Z,2µm,22.0s,MS4.8
ADK Adak 34.20 254 PFAKE 13 02 20.0 +12
ADK LR LR
comp=Z,2µm,20.0s,MS4.9
DLMT Dillon 34.42 176 *e*P **P 13 02 10.6 +0.4**
comp=Z,23nm,0.8s,mb5.2
HOOD Mount Hood Mea 34.49 187 *e*P **P 13 02 13.0 +2.2**
comp=Z,205nm,1.0s,mb6.0
VFP Flag Point 34.49 187 P **P 13 02 11.2 +0.4**
G17A Pierce Place, 34.49 173 ⇑P **P 13 02 10.7 -0.2**
baz=34,SNR=17
G18A Lazy EL Ranch, 34.53 172 ⇓P **P 13 02 11.1 -0.1**
baz=34,SNR=27
G14A Jackson 34.53 177 ⇑P **P 13 02 11.1 0.0**
baz=34,SNR=21
G06A Carlson Farm, 34.56 186 ⇓P **P 13 02 11.4 0.0**
baz=34,SNR=22
G16A Moss Hill, Enn 34.57 175 ⇑P **P 13 02 11.9 +0.4**
baz=34,SNR=69
G15A Dillon 34.62 175 ⇓P **P 13 02 12.2 +0.3**
baz=34,SNR=32
HEBO Mount Hebo 34.66 189 *e*P **P 13 02 13.8 +1.5**
comp=Z,154nm,1.4s,mb5.7
G20A Bridger 34.66 170 ⇑P **P 13 02 12.1 -0.2**
baz=35,SNR=52
G13A Cobalt 34.67 178 ⇑P **P 13 02 12.6 +0.2**
baz=35,SNR=45
RLMT Red Lodge 34.73 171 ⇓P **P 13 02 13.3 +0.4**
baz=35,SNR=19
RLMT Red Lodge 34.73 171 *e*P **P 13 02 14.4 +1.5**
comp=Z,49nm,1.0s,mb5.4
RLMT LR LR
comp=Z,15µm,19.0s,MS5.8
BMO Blue Mountains 34.91 181 *e*P **P 13 02 14.5 +0.1**

comp=Z,16nm,0.8s,mb5.0
BMO LR LR

comp=Z,6µm,19.0s,MS5.3
MCMT McKenzie Canyo 34.95 176 *e*P **P 13 02 15.2 +0.4**
comp=Z,64nm,1.0s,mb5.5
QLMT Earthquake Lak 34.97 174 *e*P **P 13 02 16.3 +1.3**
BELQ Belleterre 34.99 134 PN **P 13 02 11.1 -4.0**
FOO Floro 35.03 45 *e*P **P 13 02 16.9 +1.6**
FOO *e*S **S 13 07 51.0 +4.7**
FX1 Attu Island--F 35.05 265 *e*P **P 13 02 16.9 +1.4**
FX1 Attu Island--F 35.05 265 *e*P **P 13 02 16.9 +1.4**
H16A Russell Place, 35.10 174 ⇓P **P 13 02 15.9 -0.2**
baz=35,SNR=85
YNR Norris Junctio 35.10 173 *e*P **P 13 02 17.4 +1.3**
comp=Z,64nm,1.1s,mb5.5
YMR Madison River 35.14 174 *e*P **P 13 02 17.0 +0.6**
comp=Z,64nm,0.9s,mb5.5
H04A Detroit Lake 35.14 187 ⇓P **P 13 02 16.4 0.0**
baz=35,SNR=15
H14A Leadore 35.16 176 ⇑P **P 13 02 16.8 +0.2**
baz=35,SNR=81
H18A Shoshone NF, C 35.16 172 ⇓P **P 13 02 17.1 +0.4**
baz=35,SNR=28
H15A Lima 35.16 176 ⇑P **P 13 02 16.7 +0.1**
baz=35,SNR=50
H19A Powell 35.19 171 ⇓P **P 13 02 17.1 +0.3**
baz=35,SNR=32
H13A Challis 35.20 178 ⇓P **P 13 02 17.4 +0.5**
baz=35,SNR=34
H12A Diamond D Ranc 35.21 178 ⇑P **P 13 02 17.4 +0.3**
baz=35,SNR=38
LKWY Lake 35.26 173 *e*P **P 13 02 19.2 +1.8**
comp=Z,121nm,0.8s,mb5.9
LKWY LR LR

comp=Z,9µm,20.0s,MS5.5
LKWY Lake 35.26 173 *e*P **P 13 02 19.2 +1.8**
LKWY pmax pmax

comp=Z,121nm,0.8s,mb5.9
LKWY MLR MLR

comp=Z,9µm,20.0s,MS5.5
COR Corvallis 35.27 189 *e*P **P 13 02 18.6 +1.1**
comp=Z,47nm,0.9s,mb5.4
COR Corvallis 35.27 189 *e*P **P 13 02 18.6 +1.1**
COR pmax pmax

comp=Z,47nm,0.9s,mb5.4
H24A Dirks Ranch, A 35.27 166 ⇓P **P 13 02 17.7 +0.1**
baz=35,SNR=39
VIPM Ingram Point 35.29 185 P **P 13 02 18.5 +0.8**
VIPM Ingram Point 35.29 185 P **P 13 02 18.5 +0.8**
H21A Big Horn, Sher 35.29 169 ⇓P **P 13 02 17.8 0.0**
baz=35,SNR=72
H22A Clearmont 35.35 168 ⇑P **P 13 02 18.0 -0.2**
baz=35,SNR=16
YFT Old Faithful 35.36 173 *e*P **P 13 02 20.4 +2.0**
comp=Z,44nm,0.9s,mb5.4
H20A Greybull 35.40 170 ⇓P **P 13 02 18.5 -0.2**
baz=35
H23A Clabaugh Cattl 35.42 167 ⇑P **P 13 02 18.9 0.0**
baz=35
H17A Grant Village 35.42 173 ⇑P **P 13 02 19.0 +0.2**
baz=35,SNR=67
BROR Big Rock Looko 35.57 188 P **P 13 02 20.2 +0.1**
SPMN St. Paul 35.58 151 ⇑P **P 13 02 19.9 -0.3**
baz=36,SNR=12
LRW Lerwick 35.60 51 AMS AMS 13 15 42.5
comp=Z,4µm,18.1s,MS5.2
I07A Izee 35.70 184 ⇓P **P 13 02 21.7 +0.5**
baz=36,SNR=48
FLWY Flagg Ranch 35.73 173 *e*P **P 13 02 22.9 +1.4**
comp=Z,160nm,0.9s,mb6.0
I15A Monteview 35.78 175 ⇓P **P 13 02 22.3 +0.3**
baz=36,SNR=42
I19A Meeteetse 35.82 171 ⇓P **P 13 02 22.6 +0.3**
baz=36,SNR=15
IRO Indian Ridge 35.82 187 P **P 13 02 22.1 -0.2**
I14A Mackay 35.84 177 ⇑P **P 13 02 22.7 +0.2**
baz=36,SNR=62
I13A Wildhorse Cree 35.85 177 ⇑P **P 13 02 22.7 +0.2**
baz=36,SNR=107
BRSD Miller 35.89 159 ⇓P **P 13 02 22.5 -0.4**
baz=36
I17A Pilgrim Ck. 35.90 173 ⇓P **P 13 02 23.6 +0.7**
baz=36,SNR=116
IMW Indian Meadow 35.91 174 *e*P **P 13 02 24.4 +1.3**
comp=Z,114nm,1.0s,mb5.8
RSSD Black Hills 35.92 165 *e*P **P 13 02 23.4 +0.3**
RSSD Black Hills 35.92 165 *e*P **P 13 02 23.4 +0.2**
I16A Newdale 35.92 174 ⇑P **P 13 02 23.2 +0.1**
baz=36,SNR=167
I20A Worland 35.93 170 ⇓P **P 13 02 23.4 +0.2**
baz=36,SNR=36
I12A Atlanta 35.97 179 ⇑P **P 13 02 23.6 +0.1**
baz=36,SNR=22
I23A Meade Ranch, G 36.02 167 ⇓P **P 13 02 23.9 -0.1**
baz=36
I22A 9 Mile Ranch, 36.05 168 ⇑P **P 13 02 24.3 0.0**
baz=36,SNR=91
MOOW Moose Ponds 36.07 173 *e*P **P 13 02 25.3 +0.9**
comp=Z,70nm,0.9s,mb5.6
I21A Big Trails, Te 36.10 169 ⇑P **P 13 02 24.5 -0.2**
baz=36,SNR=89
I18A Diamond G Ranc 36.13 172 ⇑P **P 13 02 25.0 +0.1**
baz=36,SNR=43
I24A Kuemmerle Ranc 36.16 166 ⇑P **P 13 02 25.2 0.0**
baz=36
HLID Hailey 36.20 178 ⇓P **P 13 02 25.6 +0.1**
baz=36,SNR=34
HLID Hailey 36.20 178 *e*P **P 13 02 25.3 -0.2**
comp=Z,52nm,1.4s,mb5.3
HLID LR LR

comp=Z,4µm,20.0s,MS5.2
LOHW Long Hollow 36.21 173 *e*P **P 13 02 26.4 +0.8**
comp=Z,53nm,0.9s,mb5.5
DCID1 Drake Creek 36.21 174 *e*P **P 13 02 27.4 +1.8**
comp=Z,83nm,0.9s,mb5.7
TPAW Teton Pass 36.32 174 *e*P **P 13 02 27.7 +1.2**
comp=Z,77nm,1.1s,mb5.5
NB2 NORSAR Subarra 36.34 41 P **P 13 02 25.0 -1.5**
comp=Z,36nm,0.8s,mb5.4,baz=344,slow=8.6
NOA NORSAR Array B 36.34 41 P **P 13 02 25.1 -1.4**
comp=Z,26nm,0.7s,mb5.2,baz=344,slow=8.4,SNR=54
NOA PcP PcP 13 04 49.7 -0.8
comp=Z,12nm,0.8s,baz=355,slow=3.7,SNR=8.5
NOA LR LR 13 17 36.1
comp=Z,2µm,20.6s,MS4.9,baz=335,slow=37
NOA NORSAR Array B 36.34 41 P **P 13 02 25.1 -1.4**
NOA PcP PcP 13 04 49.7 -0.9
NOA LR LR 13 17 36.1
NOA NORSAR Array B 36.34 41 P **P 13 02 25.1 -1.4**
NOA 13 04 49.7
MFID Camas Ranch 36.34 180 ⇓P **P 13 02 26.7 0.0**
baz=36,SNR=13
MFID Camas Ranch 36.34 180 *e*P **P 13 02 27.4 +0.7**
comp=Z,28nm,1.0s,mb5.2
SNOW Snow King Moun 36.35 173 *e*P **P 13 02 28.4 +1.6**
comp=Z,59nm,0.9s,mb5.5
J13A Cove Ranch, Pi 36.37 178 ⇓P **P 13 02 27.0 +0.1**
baz=36,SNR=21
J15A Blackfoot 36.38 175 ⇑P **P 13 02 27.3 +0.2**
baz=36,SNR=18
J08A Circle Bar Ran 36.41 183 ⇑P **P 13 02 27.7 +0.3**
baz=36,SNR=83
JOF Joensuu 36.44 24 *e*P **P 13 02 24.8 -2.6**
JOF pmax pmax

comp=Z,64nm,0.8s,mb5.6
JOF Joensuu 36.44 24 *e*p **P 13 02 24.8 -2.6**
comp=Z,64nm,0.8s,mb5.6
REDW Red Top Meadow 36.45 173 *e*P **P 13 02 28.9 +1.3**
comp=Z,52nm,1.0s,mb5.4
J17A Brown Place, J 36.45 173 ⇑P **P 13 02 27.7 +0.1**
baz=36,SNR=82
RRI2 Red Ridge 36.46 174 *e*P **P 13 02 28.7 +1.0**
comp=Z,77nm,1.1s,mb5.5
NAO01 NORSAR Array S 36.49 41 PFAKE 13 02 40.0 +12
NAO01 LR LR

comp=Z,4µm,21.0s,MS5.1
J16A Bone 36.52 174 ⇓P **P 13 02 28.5 +0.2**
baz=36,SNR=58
J22A Midwest 36.53 168 ⇓P **P 13 02 28.2 -0.1**
baz=36,SNR=44
J20A Shoshoni 36.53 170 ⇑P **P 13 02 28.6 +0.2**
baz=36,SNR=140
J21A Lysite 36.56 169 ⇓P **P 13 02 28.8 +0.2**
baz=36,SNR=52
J23A Dilts Ranch, B 36.57 167 ⇑P **P 13 02 28.4 -0.3**
baz=36
J19A Crowheart 36.59 171 ⇓P **P 13 02 28.9 +0.1**
baz=36,SNR=14
J18A Kendall Valley 36.62 172 ⇑P **P 13 02 29.3 +0.2**
baz=36,SNR=120
J24A Dixon Ranch, L 36.68 166 ⇑P **P 13 02 29.7 0.0**
baz=37,SNR=9.8
ECSD EROS Data Cent 36.76 156 *e*P **P 13 02 29.4 -0.8**
comp=Z,54nm,1.0s,mb5.3
ECSD LR LR

comp=Z,6µm,20.0s,MS5.4
GLMI Grayling 36.80 142 PFAKE 13 02 40.0 +9.4
GLMI LR LR

comp=Z,5µm,19.0s,MS5.3
KAF Kangasniemi 36.83 29 *e*P **P 13 02 29.0 -1.7**
KAF pmax pmax

comp=Z,19nm,0.7s,mb5.0
KAF Kangasniemi 36.83 29 *e*p **P 13 02 29.0 -1.7**
comp=Z,19nm,0.7s,mb5.0
K16A Soda Springs 36.97 174 ⇓P **P 13 02 32.4 +0.3**
baz=37,SNR=21
KEBM Edson Butte 37.01 190 *e*P **P 13 02 37.0 +4.6**
comp=Z,87nm,1.3s,mb5.4
K19A Absolon Red Bu 37.04 171 ⇓P **P 13 02 32.5 -0.2**
baz=37,SNR=76
AHID Auburn Hatcher 37.04 174 *e*P **P 13 02 33.7 +1.0**
comp=Z,58nm,1.0s,mb5.4
AHID LR LR

comp=Z,3µm,22.0s,MS5.0
K17A Gardner Place, 37.06 174 ⇓P **P 13 02 32.7 -0.2**
baz=37,SNR=16
PD02 Pinedale Array 37.06 172 *e*P **P 13 02 33.5 +0.6**
PD01 Pinedale Array 37.06 172 *e*P **P 13 02 32.8 -0.1**
K05A Summer Lake 37.07 186 ⇑P **P 13 02 33.0 0.0**
baz=37,SNR=35
BW06 Boulder Array 37.08 172 ⇓P **P 13 02 32.8 -0.2**
baz=37,SNR=69
BW06 Boulder Array 37.08 172 *e*P **P 13 02 32.8 -0.2**
comp=Z,38nm,0.9s,mb5.2
BW06 LR LR

comp=Z,4µm,19.0s,MS5.2
PDAR Pinedale Array 37.08 172 P **P 13 02 32.8 -0.2**
comp=Z,35nm,0.8s,mb5.2,baz=11,slow=6.5,SNR=92
PDAR PP PP 13 04 00.0 +2.7
comp=Z,15nm,0.8s,baz=19,slow=9.4,SNR=4.3
PDAR PcP PcP 13 04 53.0 -0.2
comp=Z,7.5nm,0.9s,baz=48,slow=1.3,SNR=4.1
PDAR PKiKP PKiKP 13 12 07.9 -2.1
comp=Z,1.7nm,0.9s,baz=45,slow=2.7,SNR=4.3
PDAR LR LR 13 18 46.5
comp=Z,5µm,19.4s,MS5.3,baz=268,slow=38
PDAR P3KPbc 13 32 58.0
comp=Z,0.8nm,0.8s,baz=152,slow=6.6,SNR=5.1
PDAR Pinedale Array 37.08 172 P **P 13 02 32.8 -0.2**
PDAR PP PP 13 04 00.0 +2.7
PDAR PcP PcP 13 04 53.0 -0.2
K15A Arbon 37.10 176 ⇑P **P 13 02 33.0 -0.2**
baz=37,SNR=30
K18A Toltan Ranch, 37.19 172 ⇑P **P 13 02 33.6 -0.3**
baz=37,SNR=88
K20A Yellowstone Ra 37.22 170 ⇑P **P 13 02 34.0 -0.2**
baz=37,SNR=29
K14A Jones Ranch, D 37.23 176 ⇓P **P 13 02 33.8 -0.5**
baz=37,SNR=46
HUMO Hull Mountain 37.24 188 *e*P **P 13 02 34.5 +0.1**
comp=Z,58nm,1.1s,mb5.3
K21A Alcova 37.28 169 ⇓P **P 13 02 34.3 -0.5**
baz=37,SNR=32
K24A Anderson Ranch 37.28 166 ⇓P **P 13 02 34.4 -0.3**
baz=37,SNR=5.3
K22A Casper 37.29 168 ⇑P **P 13 02 34.4 -0.3**
baz=37,SNR=84
MVH1 Achvaich 37.30 55⇑ *e*P **P 13 02 34.1 -0.6**
WVOR Wild Horse Val 37.33 183 *e*P **P 13 02 35.6 +0.4**
comp=Z,41nm,0.9s,mb5.3
WVOR LR LR

comp=Z,7µm,21.0s,MS5.4
WVOR Wild Horse Val 37.33 183 *e*P **P 13 02 35.6 +0.4**
WVOR pmax pmax

comp=Z,41nm,0.9s,mb5.3
WVOR MLR MLR

comp=Z,7µm,21.0s,MS5.4
FINES FINESS Array B 37.47 29 P **P 13 02 34.9 -1.3**
comp=Z,128nm,0.8s,mb5.8,baz=354,slow=10.0,SNR=90
FINES PcP PcP 13 04 53.2 -0.8
comp=Z,32nm,0.7s,baz=24,slow=2.3,SNR=8.4
FINES LR LR 13 17 22.9
comp=Z,3µm,19.9s,MS5.1,baz=354,slow=35
FINES FINESS Array B 37.47 29 P **P 13 02 34.9 -1.3**
FINES PcP PcP 13 04 53.2 -0.8
FINES LR LR 13 17 22.9
FINES FINESS Array B 37.47 29 P **P 13 02 34.9 -1.3**
FINES 13 04 53.3
KONO Kongsberg 37.50 43 *e*P **P 13 02 38.2 +1.9**
KONO *e*ScP ScP 13 08 29.8 -10
KONO Kongsberg 37.50 43 *e*P **P 13 02 36.8 +0.4**
comp=Z,25nm,0.9s,mb5.0
KONO LR LR

comp=Z,3µm,20.0s,MS5.1
KONO Kongsberg 37.50 43 *e*P **P 13 02 36.8 +0.4**
KONO pmax pmax

comp=Z,25nm,0.9s,mb5.0
KONO MLR MLR

comp=Z,3µm,20.0s,MS5.1
HFS Hagfors 37.51 39 P **P 13 02 34.9 -1.6**
comp=Z,42nm,0.8s,mb5.2,baz=12,slow=7.6,SNR=38
HFS PcP PcP 13 04 52.9 -1.2
comp=Z,20nm,0.7s,baz=266,slow=2.4,SNR=13
HFS Hagfors 37.51 39 P **P 13 02 34.9 -1.6**
HFS PcP PcP 13 04 52.9 -1.2
HFS Hagfors 37.51 39 P **P 13 02 34.9 -1.6**
HFS 13 04 52.9
PET Petropavlovsk 37.53 279 *e*P **P 13 02 37.7 +1.0**
PET LR LR

comp=Z,2µm,20.0s,MS4.8
PET Petropavlovsk 37.53 279 *e*P **P 13 02 40.7 +3.9**
PET *e*S **S 13 08 30.3 +5.7**
PET pmax pmax

comp=Z,400nm,13.7s
PET pmax pmax

comp=Z,800nm,22.2s
PETK Petropavlovsk- 37.62 280 P **P 13 02 38.0 +0.5**
comp=Z,15nm,0.8s,mb4.8,baz=68,slow=9.5,SNR=14
PETK PcP PcP 13 04 55.1 +0.5
comp=Z,9.3nm,0.8s,baz=76,slow=6.3,SNR=4.4
PETK LR LR 13 20 22.1
comp=Z,3µm,18.1s,MS5.1,baz=20,slow=40
PETK Petropavlovsk- 37.62 280 P **P 13 02 38.0 +0.5**
PETK PcP PcP 13 04 55.1 +0.5
PETK LR LR 13 20 22.1
PETK Petropavlovsk- 37.62 280 P **P 13 02 38.0 +0.5**
PETK 13 04 55.1
KPL Plockton 37.64 56 *e*P **P 13 02 36.9 -0.7**
KPL AMB AMB 13 02 46.4
comp=Z,107nm,4.3s
KPL AMS AMS 13 19 19.8
comp=Z,5µm,14.9s,MS5.5
KBO Bosley Butte 37.67 190 *e*P **P 13 02 38.1 +0.1**
comp=Z,113nm,1.6s,mb5.3
L17A Cokeville 37.71 174 ⇑P **P 13 02 38.3 -0.1**
baz=38,SNR=20
MDO Dochfour 37.74 55⇑ *e*P **P 13 02 38.0 -0.4**
L14A Malta 37.74 176 ⇑P **P 13 02 38.4 -0.2**
baz=38,SNR=52
L19A Farson 37.74 172 ⇑P **P 13 02 38.6 -0.1**
baz=38,SNR=34
L15A Malad City 37.78 175 ⇑P **P 13 02 38.7 -0.2**
baz=38,SNR=28
L16A Fish Haven 37.78 174 ⇑P **P 13 02 39.0 -0.1**
baz=38,SNR=44
KSB Sheil Bridge 37.80 56 *e*P **P 13 02 38.6 -0.4**
L23A Garrett 37.85 167 ⇓P **P 13 02 39.0 -0.6**
baz=38,SNR=23
MSNY Massena 37.86 130 *e*P **P 13 02 39.1 -0.5**
comp=Z,1µm,0.9s,mb6.6
L20A Wamsutter 37.87 170 ⇑P **P 13 02 40.0 +0.3**
baz=38,SNR=12
MOD Modoc 37.89 185 *e*P **P 13 02 41.0 +1.2**
comp=Z,39nm,0.8s,mb5.2
L18A Fontenelle, Gr 37.91 173 ⇑P **P 13 02 40.0 -0.1**
baz=38,SNR=16
L22A Ellis Ranch, M 37.91 168 ⇓P **P 13 02 40.1 0.0**
baz=38,SNR=27
L24A Wheatland 37.96 166 ⇑P **P 13 02 40.2 -0.2**
baz=38
HVU Hansel Valley 38.00 176 *e*P **P 13 02 41.3 +0.5**
comp=Z,35nm,1.0s,mb5.0
HVU Hansel Valley 38.00 176 *e*P **P 13 02 41.3 +0.5**
HVU pmax pmax

comp=Z,35nm,1.0s,mb5.0
MME1 Meikle Cairn 38.06 54⇑ *e*P **P 13 02 41.1 -0.1**
YBH Yreka Blue Hor 38.10 188 *e*P **P 13 02 41.9 +0.2**
comp=Z,13nm,0.8s,mb4.7
YBH Yreka Blue Hor 38.10 188 *e*P **P 13 02 41.9 +0.2**
YBH pmax pmax

comp=Z,13nm,0.8s
JFWS Jewell Farm 38.11 149 *e*P **P 13 02 41.0 -0.7**
comp=Z,53nm,0.8s,mb5.3
JFWS LR LR

comp=Z,6µm,19.0s,MS5.4
JFWS Jewell Farm 38.11 149 *e*P **P 13 02 41.0 -0.7**
JFWS pmax pmax

comp=Z,53nm,0.8s,mb5.3
JFWS MLR MLR

comp=Z,6µm,19.0s,MS5.4
HWUT Hardware Ranch 38.19 174 *e*P **P 13 02 42.6 +0.2**
comp=Z,60nm,1.2s,mb5.2
HWUT LR LR

comp=Z,2µm,21.0s,MS5.0
FRNY Flat Rock 38.20 129 *e*P **P 13 02 41.3 -1.2**
comp=Z,70nm,0.8s,mb5.4
RWWY Rawlins 38.22 169 *e*P **P 13 02 42.7 0.0**
comp=Z,59nm,0.9s,mb5.3
LONY Lake Ozonia 38.27 130 *e*P **P 13 02 42.6 -0.4**
LONY LR LR

comp=Z,5µm,22.0s,MS5.3
M21A Separation Pea 38.30 169 ⇓P **P 13 02 43.3 -0.1**
baz=38,SNR=90
M15A Larsen Ranch, 38.32 175 ⇑P **P 13 02 43.7 +0.2**
baz=38,SNR=25
M17A Scullys Gap (B 38.34 173 ⇓P **P 13 02 43.8 +0.1**
baz=38,SNR=34
KRMB Red Mountain 38.35 189 *e*P **P 13 02 44.5 +0.8**
comp=Z,24nm,1.2s,mb4.8
M19A Rock Springs 38.35 171 ⇓P **P 13 02 43.5 -0.2**
baz=38,SNR=19
M20A Sweetwater, Wa 38.39 170 ⇑P **P 13 02 44.1 +0.1**
baz=38,SNR=28
M18A Lyman 38.40 173 ⇑P **P 13 02 44.1 -0.1**
baz=38,SNR=12
PKME Peaks-Kenny Pk 38.40 124 PFAKE 13 03 00.0 +16
PKME LR LR

comp=Z,10µm,19.0s,MS5.6
SPUT South Promonto 38.47 175 *e*P **P 13 02 44.8 0.0**
comp=Z,22nm,1.0s,mb4.8
M16A Huntsville 38.48 174 ⇑P **P 13 02 44.9 +0.1**
baz=38
M23A Laramie 38.50 167 ⇑P **P 13 02 45.0 0.0**
baz=38,SNR=6.2
M24A Cheyenne 38.53 166 ⇑P **P 13 02 45.6 +0.3**
baz=38,SNR=9.5
PHWY Pilot Hill 38.67 167 *e*P **P 13 02 47.0 +0.6**
comp=Z,301nm,2.6s,mb5.6
SCIA State Center 38.84 152 *e*P **P 13 02 48.8 +0.9**
comp=Z,92nm,1.0s,mb5.5
SCIA LR LR

comp=Z,19µm,19.0s,MS5.9
BGU Big Grassy Mou 38.85 176 *e*P **P 13 02 48.2 +0.3**
comp=Z,49nm,1.2s,mb5.1
N18A Larsen Ranch, 38.86 172 ⇓P **P 13 02 48.2 +0.2**
baz=39,SNR=51
N17A Moffit Pass 38.87 174 ⇓P **P 13 02 48.1 -0.1**
baz=39,SNR=10
N15A Stansbury Isla 38.89 176 ⇑P **P 13 02 48.8 +0.5**
baz=39,SNR=24
N16A Rees Ranch, Co 38.91 174 ⇑P **P 13 02 48.6 +0.1**
baz=39,SNR=39
EAB Aberfoyle 38.95 56⇑ *e*P **P 13 02 48.1 -0.5**
NCB Newcomb 38.95 130 *e*P **P 13 02 48.5 -0.3**
comp=Z,81nm,0.7s,mb5.6
NCB LR LR

comp=Z,5µm,20.0s,MS5.3
N19A John Jarvie Ra 38.96 172 ⇓P **P 13 02 48.8 0.0**
baz=39,SNR=14
BGNE Belgrade 38.96 158 ⇓P **P 13 02 48.4 -0.5**
baz=39,SNR=12
KHMM Horse Mountain 38.99 189 *e*P **P 13 02 50.2 +1.1**
comp=Z,47nm,1.1s,mb5.1
EBH Black Hill 39.02 55⇑ *e*P **P 13 02 48.3 -0.9**
LBNH Lisbon 39.02 127 *e*P **P 13 02 49.4 +0.1**
comp=Z,64nm,1.2s,mb5.2
LBNH LR LR

comp=Z,6µm,19.0s,MS5.4
LBNH Lisbon 39.02 127 *e*P **P 13 02 49.4 +0.1**
LBNH pmax pmax

comp=Z,65nm,1.2s,mb5.2
LBNH MLR MLR

comp=Z,6µm,19.0s,MS5.4
WVL Waterville 39.03 125 *e*P **P 13 02 49.1 -0.4**
comp=Z,70nm,1.0s,mb5.3
KLMR Klimovskoe 39.04 19 *e*P **P 13 02 45.9 -3.4**
KLMR *e* 13 04 58.1
KLMR *e*S **S 13 08 45.9 -1.3**
KLMR pmax pmax

comp=Z,135nm,1.0s,mb5.6
KLMR pmax pmax

comp=Z,290nm,7.8s
N20A Spence Gulch, 39.04 170 ⇑P **P 13 02 49.6 0.0**
baz=39,SNR=52
N23A Red Feather La 39.06 168 ⇓P **P 13 02 49.6 -0.2**
baz=39,SNR=21
MDV Middlebury 39.07 129 *e*P **P 13 02 49.5 -0.3**
comp=Z,9µm,0.7s
N22A Wattenberg Ran 39.13 168 ⇓P **P 13 02 50.5 +0.2**
baz=39,SNR=30
NOQ North Oquirrh 39.13 175 *e*P **P 13 02 51.7 +1.3**
comp=Z,101nm,1.5s,mb5.3
N21A Black Mountain 39.14 170 ⇓P **P 13 02 50.4 +0.1**
baz=39,SNR=32
N24A Carr 39.17 166 ⇓P **P 13 02 50.9 +0.3**
baz=39,SNR=35
OGNE Ogallala 39.19 163 ⇓P **P 13 02 50.8 0.0**
baz=39,SNR=15
OGNE Ogallala 39.19 163 *e*P **P 13 02 51.3 +0.5**
comp=Z,110nm,0.9s,mb5.6
OGNE LR LR

comp=Z,14µm,20.0s,MS5.8
JLU Jordanelle 39.20 174 *e*P **P 13 02 51.0 +0.2**
comp=Z,78nm,1.3s,mb5.3
N25A Grover 39.22 165 ⇓P **P 13 02 51.2 +0.1**
baz=39
WDC Whiskeytown Da 39.25 188 *e*P **P 13 02 51.4 0.0**
comp=Z,35nm,0.9s,mb5.1
WDC Whiskeytown Da 39.25 188 *e*P **P 13 02 51.4 +0.1**
WDC pmax pmax

comp=Z,35nm,0.9s,mb5.1
PGBU Glenifferbraes 39.29 56 AMS AMS 13 18 23.4
comp=Z,4µm,19.0s,MS5.3
BMN Battle Mountai 39.33 181 *e*P **P 13 02 52.5 +0.5**
comp=Z,37nm,0.9s,mb5.1
BMN LR LR

comp=Z,6µm,22.0s,MS5.4
BMN Battle Mountai 39.33 181 *e*P **P 13 02 52.5 +0.6**
BMN pmax pmax

comp=Z,37nm,0.9s,mb5.1
BMN MLR MLR

comp=Z,6µm,22.0s,MS5.4
CLNS Chul'man 39.33 311 *e*P **P 13 02 52.2 +0.4**
CLNS *e**PP pP 13 03 00.8 +3.9
CLNS *e* 13 04 22.5
CLNS *e*PPP 13 04 45.8
CLNS *e* 13 04 59.5
CLNS *e*S **S 13 08 50.5 -1.2**
CLNS *e*SS SS 13 11 32.3 -13
CLNS pmax pmax

CLNS comp=Z,66nm,0.7s,mb5.5 pmax pmax

CLNS comp=N,55nm,0.8s pmax pmax

CLNS comp=E,31nm,0.8s pmax pmax

CLNS comp=Z,11nm,1.0s,mb4.5 pmax pmax

CLNS comp=N,18nm,0.8s pmax pmax

CLNS comp=E,7.0nm,0.7s smax

CLNS comp=N,2µm,12.1s smax

CLNS comp=E,711nm,12.8s MLR MLR

CLNS comp=Z,5µm,15.0s,MS5.5 MLR MLR

CLNS comp=N,4µm,14.0s,MS5.5 MLR MLR

CLNS comp=E,3µm,15.0s,MS5.5

EDI Edinburgh 39.38 55 *e*P **P 13 02 51.1 -1.1**
EDI AMB AMB 13 02 55.5
comp=Z,91nm,3.0s,mb5.0
EDI AMS AMS 13 18 22.7
comp=Z,4µm,19.2s,MS5.2
EDI Edinburgh 39.38 55 P **P 13 02 51.1 -1.1**
EDI AMB AMB 13 02 55.5
comp=Z,91nm,3.0s,mb5.0
EDI AMS AMS 13 18 22.7
comp=Z,4µm,19.2s
DAU Daniels Canyon 39.39 174 *e*P **P 13 02 53.0 +0.5**
DAU Daniels Canyon 39.39 174 *e*P **P 13 02 53.0 +0.5**
AAM Ann Arbor 39.40 141 *e*P **P 13 02 52.6 +0.1**
comp=Z,152nm,0.7s,mb5.8
AAM LR LR
comp=Z,6µm,22.0s,MS5.4
AAM Ann Arbor 39.40 141 *e*P **P 13 02 52.6 0.0**
AAM pmax pmax
comp=Z,152nm,0.7s,mb5.8
AAM MLR MLR
comp=Z,6µm,22.0s,MS5.4
ESY Stoneypath 39.47 54 *e*P **P 13 02 52.1 -0.8**
PUL Pulkovo 39.49 26⇑ *e*P **P 13 02 52.2 -0.9**
PUL pmax pmax
comp=Z,146nm,0.4s,mb6.1
O15A The Old Anders 39.50 176 ⇑P **P 13 02 53.9 +0.5**
baz=39,SNR=23
EBL Broad Law 39.54 55⇑ *e*P **P 13 02 53.3 -0.3**
O19A Miners Draw (B 39.55 171 ⇑P **P 13 02 53.9 +0.1**
baz=39,SNR=10
O18A Roosevelt 39.56 173 ⇑P **P 13 02 54.2 +0.3**
baz=40,SNR=12
DUG Dugway 39.58 176 ⇓P **P 13 02 54.2 +0.1**
baz=40,SNR=37
DUG Dugway 39.58 176 *e*P **P 13 02 54.6 +0.5**
comp=Z,263nm,2.3s,mb5.6
DUG LR LR
comp=Z,6µm,19.0s,MS5.5
DUG Dugway 39.58 176 *e*P **P 13 02 54.6 +0.5**
DUG pmax pmax
comp=Z,263nm,2.3s,mb5.6
DUG MLR MLR
comp=Z,6µm,19.0s,MS5.5
O16A Springville 39.59 174 ⇓P **P 13 02 54.4 +0.2**
baz=40,SNR=57
ACCN Adirondack Com 39.61 129 *e*P **P 13 02 55.0 +0.7**
comp=Z,221nm,2.1s,mb5.5
O17A Robinson Place 39.62 173 ⇓P **P 13 02 54.3 0.0**
baz=40,SNR=31
O21A Pagoda 39.68 170 ⇑P **P 13 02 54.5 -0.4**
baz=40,SNR=16
O20A White River Ci 39.74 170 ⇓P **P 13 02 55.1 -0.3**
baz=40,SNR=96
O23A Lake Granby, G 39.74 168 ⇑P **P 13 02 55.6 +0.2**
baz=40,SNR=26
O22A Kremmling 39.77 168 ⇑P **P 13 02 56.1 +0.4**
baz=40,SNR=82
MPU Maple Canyon 39.78 175 *e*P **P 13 02 56.6 +0.9**
comp=Z,105nm,1.1s,mb5.5
NLU North Lily Min 39.83 175 *e*P **P 13 02 57.0 +0.8**
comp=Z,58nm,1.0s,mb5.3
O24A Longmont 39.87 167 ⇑P **P 13 02 56.2 -0.2**
baz=40
O25A Wiggins 39.92 166 ⇓P **P 13 02 57.0 +0.2**
baz=40
EKA Eskdalemuir Ar 39.95 55 P **P 13 02 55.9 -1.1**
comp=Z,71nm,0.8s,mb5.4,baz=344,slow=8.0,SNR=64
EKA PcP PcP 13 05 01.1 -0.7
comp=Z,6.0nm,0.8s,baz=330,slow=3.7,SNR=4.2
EKA Eskdalemuir Ar 39.95 55 P **P 13 02 55.9 -1.1**
EKA PcP PcP 13 05 01.1 -0.7
EKA Eskdalemuir Ar 39.95 55 P **P 13 02 55.9 -1.1**
EKA 13 05 01.2
ESK Eskdalemuir 39.96 55⇑ *e*P **P 13 02 56.0 -1.1**
ESK AMB AMB 13 02 58.4
comp=Z,132nm,1.1s,mb5.6
ESK AMS AMS 13 20 13.0
comp=Z,5µm,16.4s,MS5.4
ESK Eskdalemuir 39.96 55 *e*P **P 13 02 56.2 -0.8**
comp=Z,116nm,1.0s,mb5.6
ESK LR LR
comp=Z,4µm,20.0s,MS5.3
ESK Eskdalemuir 39.96 55 *e*P **P 13 02 56.3 -0.8**
ESK pmax pmax
comp=Z,116nm,1.0s,mb5.6
ESK MLR MLR
comp=Z,4µm,20.0s,MS5.3
ESK Eskdalemuir 39.96 55 P **P 13 02 57.8 +0.7**
comp=Z,584nm,0.9s,mb6.3,SNR=7.5
ERPA Erie 40.02 137 PFAKE 13 03 10.0 +12
ERPA LR LR
comp=Z,5µm,22.0s,MS5.3
KIPM Iron Peak 40.05 189 *e*P **P 13 02 58.9 +0.9**
comp=Z,41nm,1.1s,mb5.1
ECK Cauldkaine Hil 40.10 55⇑ *e*P **P 13 02 58.2 -0.1**
ISCO Idaho Springs 40.17 167 ⇑P **P 13 02 59.0 +0.1**
baz=40,SNR=18
ISCO Idaho Springs 40.17 167 *e*P **P 13 02 59.5 +0.6**
comp=Z,22nm,0.8s,mb5.0
ISCO LR LR
comp=Z,10µm,22.0s,MS5.6
ISCO Idaho Springs 40.17 167 *e*P **P 13 02 59.5 +0.6**
ISCO pmax pmax
comp=Z,22nm,0.8s,mb4.9
ISCO MLR MLR
comp=Z,10µm,22.0s,MS5.6
GAL1 Galloway 40.17 56 *e*P **P 13 02 57.4 -1.5**
GAL1 AMB AMB 13 03 03.0
comp=Z,61nm,1.5s,mb5.1
GAL1 AMS AMS 13 22 31.3
comp=Z,4µm,14.2s,MS5.4
KCPM Cahto Peak 40.17 189 *e*P **P 13 02 59.8 +0.8**
comp=Z,31nm,1.1s,mb5.0
P14A Drum Mountains 40.18 176 ⇑P **P 13 02 58.8 -0.3**
baz=40,SNR=48
P16A Fountain Green 40.18 175 ⇓P **P 13 02 58.9 -0.2**
baz=40,SNR=33
P18A Preston Nutter 40.19 173 ⇓P **P 13 02 59.1 0.0**
baz=40,SNR=28
P15A Leamington 40.21 175 ⇑P **P 13 02 59.5 +0.2**
baz=40,SNR=12
P19A Cripple Cowboy 40.22 171 ⇓P **P 13 02 58.8 -0.5**
baz=40,SNR=168
SKR Severo-Kuril's 40.23 280 *e*P sP 13 03 12.0 +5.6
SKR *e* 13 04 40.0
SKR *e* 13 08 58.0
SKR *e*SS ScS 13 13 10.0 +5.8
SKR pmax pmax
comp=Z,1µm,8.0s
SKR smax
comp=E,2µm,8.0s
TRY Troy 40.25 130 *e*P **P 13 02 59.2 -0.4**
GCD Castle Douglas 40.29 56⇑ *e*P **P 13 02 59.1 -0.7**
P22A Eagle 40.33 169 ⇑P **P 13 03 00.3 +0.1**
baz=40,SNR=62
P17A Butcher Ranch, 40.34 173 ⇓P **P 13 03 00.7 +0.3**
baz=40,SNR=6.2
P20A De Beque 40.37 171 ⇓P **P 13 03 00.6 -0.1**
baz=40,SNR=40
P21A Newcastle 40.37 170 ⇓P **P 13 03 00.6 -0.1**
baz=40,SNR=31
BINY Binghamton 40.45 132 *e*P **P 13 03 02.0 +0.7**
comp=E,209nm,1.8s,mb5.6
BINY LR LR
comp=Z,6µm,19.0s,MS5.5
ALLY Alegheny Colle 40.46 137 *e*P **P 13 03 01.6 +0.2**
comp=Z,71nm,1.0s,mb5.3
OHCM Honcut 40.47 186 *e*P **P 13 03 01.0 -0.5**
WCN Washoe City 40.48 184 ⇓P **P 13 03 01.4 -0.1**
baz=40,SNR=47
WCN Washoe City 40.48 184 *e*P **P 13 03 02.3 +0.7**
comp=Z,33nm,1.0s,mb5.0
WCN Washoe City 40.48 184 *e*P **P 13 03 02.3 +0.8**
WCN pmax pmax
comp=Z,33nm,1.0s,mb5.0
VSU Vasula 40.48 29*c i*P **P 13 03 01.7 +0.4**
VSU pmax pmax
comp=Z,107nm,0.8s,mb5.6
P24A Kohler Place, 40.48 167 ⇓P **P 13 03 01.6 +0.1**
baz=40
TMUT Trail Mountain 40.50 174 *e*P **P 13 03 02.5 +0.7**
comp=Z,68nm,0.9s,mb5.3
P25A Willow Gulch B 40.51 166 ⇑P **P 13 03 01.9 0.0**
baz=40
XAL Allendale 40.55 54⇑ *e*P **P 13 03 01.8 -0.2**
MUD Monsted U'grnd 40.56 44⇓ *i*P **P 13 03 03.0 +1.0**
MUD *e*S **S 13 09 01.2 -8.8**
MUD pmax pmax
comp=Z,92nm,0.9s,mb5.4
MUD MLR MLR
comp=Z,2µm,14.0s,MS5.0
MUD Monsted U'grnd 40.56 44⇓ *i*P **P 13 03 03.0 +1.0**
comp=Z,92nm,0.9s,mb5.4
MUD *e*S **S 13 09 01.2 -8.8**
MUD
comp=Z,2µm,14.0s
P23A Jefferson 40.58 168 ⇑P **P 13 03 02.8 +0.4**
baz=40,SNR=15
GMM Mts of Mourne 40.59 58⇑ *e*P **P 13 03 01.1 -1.2**
KESW Keswick, Cumbr 40.68 55 *e*P **P 13 03 03.2 +0.1**
KESW AMB AMB 13 03 10.0
comp=Z,92nm,2.2s,mb5.0
SRU San Rafael 40.70 173 ⇓P **P 13 03 03.1 -0.3**
baz=41,SNR=42
SRU San Rafael 40.70 173 *e*P **P 13 03 03.3 -0.1**
comp=Z,28nm,0.8s,mb4.9
SRU San Rafael 40.70 173 *e*P **P 13 03 03.3 -0.1**
SRU pmax pmax
comp=Z,28nm,0.8s,mb4.9
Q18A Rafter H Ranch 40.72 173 ⇑P **P 13 03 03.5 0.0**
baz=41,SNR=46
SMCO Snowmass 40.74 169 *e*P **P 13 03 04.3 +0.7**
comp=Z,160nm,1.8s,mb5.3
GIM North Isle of 40.76 57⇑ *e*P **P 13 03 03.2 -0.5**
Q14A Sevier Lake (B 40.78 177 ⇓P **P 13 03 04.3 +0.2**
baz=41,SNR=29
HOPS Hopland 40.85 188 *e*P **P 13 03 05.0 +0.4**
comp=Z,82nm,1.3s,mb5.2
Q16A Castle Valley 40.88 174 ⇓P **P 13 03 05.1 +0.2**
baz=41,SNR=54
Q19A Hogan Spring (40.89 172 ⇓P **P 13 03 05.0 +0.1**
baz=41,SNR=21
Q20A Ridgley Place, 40.92 171 ⇑P **P 13 03 05.1 0.0**
baz=41,SNR=14
SFIN Scholer Farm 40.93 145 ⇓P **P 13 03 04.6 -0.6**
baz=41,SNR=12
SOKR Solikamsk 40.98 5*c i*P **P 13 03 05.6 +0.2**
SOKR 13 04 48.6
SOKR S **S 13 09 23.4 +7.2**
SOKR pmax pmax
comp=Z,60nm,0.9s,mb5.2
SOKR MLR MLR
comp=Z,2µm,17.0s,MS5.0
Q24A Divide 41.02 167 ⇑P **P 13 03 05.7 -0.3**
baz=41,SNR=20
Q23A Hartsel 41.05 168 ⇓P **P 13 03 06.1 -0.1**
baz=41,SNR=16
Q22A Crested Butte, 41.05 169 ⇓P **P 13 03 06.3 +0.1**
baz=41,SNR=33
Q21A Lamborn Mesa, 41.06 170 ⇓P **P 13 03 06.1 -0.2**
baz=41,SNR=15
Q25A Bedland, Calha 41.11 166 ⇑P **P 13 03 06.5 -0.2**
baz=41,SNR=12
MSU Marysvale 41.27 175 *e*P **P 13 03 09.3 +1.2**
MSU Marysvale 41.27 175 *e*P **P 13 03 09.3 +1.2**
NVAR Mina Array Bea 41.33 182 P **P 13 03 09.4 +0.8**
comp=Z,18nm,0.8s,mb4.7,baz=1.0,slow=6.4,SNR=53
NVAR PcP PcP 13 05 05.2 -1.5
comp=Z,13nm,0.8s,baz=14,slow=4.8,SNR=7.2
NVAR LR LR 13 21 18.5
comp=Z,4µm,19.0s,MS5.3,baz=360,slow=38
NVAR Mina Array Bea 41.33 182 P **P 13 03 09.4 +0.8**
NVAR PcP PcP 13 05 05.2 -1.5
NVAR LR LR 13 21 18.5
KSU1 Kansas State U 41.37 157 *e*P **P 13 03 08.8 -0.1**
comp=Z,44nm,0.6s,mb5.3
KSU1 LR LR
comp=Z,3µm,19.0s,MS5.2
R17A Hanksville Air 41.39 173 ⇓P **P 13 03 08.9 -0.1**
baz=41,SNR=32
R11A Troy Canyon, C 41.40 179 ⇑P **P 13 03 09.3 +0.1**
baz=41,SNR=37
DLF Lyons Farm 41.41 59 *e*P **P 13 03 08.3 -0.8**
R18A Canyonlands Na 41.44 173 ⇓P **P 13 03 08.9 -0.5**
baz=41,SNR=120
CBKS Cedar Bluff 41.44 160 ⇓P **P 13 03 09.0 -0.5**
baz=41,SNR=13
CBKS Cedar Bluff 41.44 160 *e*P **P 13 03 08.7 -0.8**
comp=Z,59nm,0.8s,mb5.3
CBKS LR LR
comp=Z,5µm,21.0s,MS5.4
CBKS Cedar Bluff 41.44 160 *e*P **P 13 03 08.7 -0.8**
CBKS pmax pmax
comp=Z,59nm,0.8s,mb5.3
CBKS MLR MLR
comp=Z,5µm,21.0s,MS5.4
PV04 Paradox Valley 41.46 171 *e*P **P 13 03 10.0 +0.4**
DSB Dublin 41.49 59 *e*P **P 13 03 09.4 -0.3**
R16A Teasdale 41.51 174 ⇑P **P 13 03 09.9 -0.1**
baz=41,SNR=36
ACSO Alum Creek Sta 41.52 141 *e*P **P 13 03 09.3 -0.8**
comp=Z,64nm,0.7s,mb5.4
ACSO LR LR
comp=Z,7µm,22.0s,MS5.5
R21A Cimarron 41.52 170 ⇑P **P 13 03 09.9 -0.3**
baz=41,SNR=40
R19A Curley Farm, L 41.55 172 ⇑P **P 13 03 09.9 -0.5**
baz=42,SNR=15
R15A Junction 41.57 175 ⇓P **P 13 03 11.0 +0.5**
baz=42,SNR=53
R13A O'Grain Ranch, 41.58 177 ⇑P **P 13 03 10.9 +0.2**
baz=42,SNR=56
R20A Redvale 41.68 171 ⇓P **P 13 03 11.6 +0.2**
baz=42,SNR=51
TPH Tonopah 41.68 181 PFAKE 13 03 20.0 +8.6
TPH LR LR
comp=Z,2µm,19.0s,MS5.0
MCCM Marconi Confer 41.69 188 *e*P **P 13 03 12.3 +0.8**
comp=Z,47nm,0.8s,mb5.2
COP Copenhagen 41.71 42⇓ *i*P **P 13 03 12.5 +1.0**
COP MLR MLR
comp=Z,870nm,15.0s,MS4.8
COP Copenhagen 41.71 42⇓ *i*P **P 13 03 12.5 +1.0**
COP
comp=Z,860nm,15.0s
PV01 Paradox Valley 41.73 171 *e*P **P 13 03 11.8 0.0**
comp=Z,77nm,0.8s,mb5.4
YLE Yale 41.74 129 *e*P **P 13 03 11.7 -0.2**
SSPA Standing Stone 41.74 135 *e*P **P 13 03 12.2 +0.3**
comp=Z,474nm,2.9s,mb5.6
WLF1 Llynfaes 41.75 57⇑ *e*P **P 13 03 11.8 0.0**
WLF1 AMB AMB 13 03 19.5
comp=Z,108nm,3.9s
CMB Columbia Colle 41.75 185 *e*P **P 13 03 12.0 0.0**
comp=Z,45nm,1.4s,mb4.9
CMB Columbia Colle 41.75 185 *e*P **P 13 03 12.0 0.0**
CMB pmax pmax
comp=Z,45nm,1.4s,mb4.9
R24A Sanders Place, 41.75 167 ⇓P **P 13 03 12.2 +0.2**
baz=42,SNR=16
YRC Rhoscolyn 41.76 57⇑ *e*P **P 13 03 10.4 -1.5**
WPM1 Penmaenmawr 41.85 56⇑ *e*P **P 13 03 11.7 -1.0**
R25A Fountain Ranch 41.87 166 ⇑P **P 13 03 13.3 +0.3**
baz=42,SNR=34
PAL Palisades 41.91 130 *e*P **P 13 03 14.2 +0.9**
comp=Z,42nm,0.9s,mb5.1
PAL Palisades 41.91 130 *e*P **P 13 03 14.2 +0.9**
PAL pmax pmax
comp=Z,42nm,0.9s,mb5.1
ARUT Antelope Range 41.98 177 *e*P **P 13 03 14.5 +0.6**
comp=Z,35nm,0.9s,mb5.0
ARUT Antelope Range 41.98 177 *e*P **P 13 03 14.5 +0.6**
ARUT pmax pmax
comp=Z,35nm,0.9s,mb5.0
LLD Lille Linde 42.03 42 *i*P **P 13 03 18.9 +4.8**
comp=Z,24nm,1.0s,mb4.8
LLD *i*S **S 13 09 34.2 +2.3**
LLD
comp=Z,2µm,16.0s
S20A Disappointment 42.04 171 ⇑P **P 13 03 14.3 0.0**
baz=42,SNR=41
S16A Weppner Ranch, 42.07 175 ⇑P **P 13 03 14.6 0.0**
baz=42,SNR=48
S19A Harvey Farm, M 42.10 172 ⇓P **P 13 03 14.8 0.0**
baz=42,SNR=74
S18A Hurst Farm, Bl 42.13 173 ⇑P **P 13 03 14.8 -0.3**
baz=42,SNR=50
MLAC Mammoth Lakes 42.13 183 ⇓P **P 13 03 15.2 0.0**
baz=42,SNR=22
S22A 4UR Ranch, Cre 42.17 169 ⇑P **P 13 03 15.0 -0.5**
baz=42,SNR=14
S17A Black Ridge (B 42.17 174 ⇓P **P 13 03 15.1 -0.4**
baz=42,SNR=41
BLO Bloomington 42.18 145 *e*P **P 13 03 14.5 -1.1**
comp=Z,28nm,0.7s,mb5.0
BLO Bloomington 42.18 145 *e*P **P 13 03 14.5 -1.0**
BLO pmax pmax
comp=Z,28nm,0.7s,mb5.0
KBI1 Birley Grange 42.21 54⇑ *e*P **P 13 03 14.6 -0.9**
CCUT Cedar City 42.22 177 *e*P **P 13 03 16.6 +0.8**
comp=Z,33nm,1.0s,mb4.9
SDCO Great Sand Dun 42.22 167 ⇑P **P 13 03 15.2 -0.7**
baz=42,SNR=42
SDCO Great Sand Dun 42.22 167 *e*P **P 13 03 16.0 +0.1**
comp=Z,132nm,1.8s,mb5.3
SDCO LR LR
comp=Z,5µm,21.0s,MS5.4
S21A Coal Bank Pass 42.22 170 ⇓P **P 13 03 15.5 -0.4**
baz=42,SNR=35
S23A Nye Farm, Mont 42.24 168 ⇑P **P 13 03 15.8 -0.2**
baz=42,SNR=11
SAC San Andreas 42.24 187 *e*P **P 13 03 16.2 +0.1**
SAC San Andreas 42.24 187 *e*P **P 13 03 16.2 +0.2**
STNC Stoke 42.27 55 AMS AMS 13 20 23.2
comp=Z,4µm,20.2s,MS5.3
S24A Houchin Ranch, 42.34 167 ⇑P **P 13 03 16.5 -0.3**
baz=42,SNR=56
S25A Robets Cordova 42.35 166 ⇑P **P 13 03 16.2 -0.7**
baz=42,SNR=169
SLM Saint Louis 42.35 149 *e*P **P 13 03 16.5 -0.4**
comp=Z,52nm,0.7s,mb5.3
SLM Saint Louis 42.35 149 *e*P **P 13 03 16.5 -0.4**
SLM pmax pmax
comp=Z,52nm,0.7s,mb5.3
MTUM Tungsten Hills 42.41 183 *e*P **P 13 03 18.9 +1.5**
OLIL Olney 42.46 147 *e*P **P 13 03 16.4 -1.3**
comp=Z,29nm,0.9s,mb4.9
MCWV Mont Chateau 42.46 137 *e*P **P 13 03 18.4 +0.6**
comp=Z,40nm,0.7s,mb5.2
MCWV LR LR
comp=Z,5µm,22.0s,MS5.4
BSD Bornholm Skovb 42.57 40 *i*P **P 13 03 18.9 +0.4**
BSD *i*S **S 13 09 34.2 -5.6**
BSD pmax pmax
comp=Z,24nm,1.0s,mb4.9
BSD MLR MLR
comp=Z,2µm,16.0s,MS5.2
MVL Millersville 42.57 133 *e*P **P 13 03 19.3 +0.7**
comp=Z,59nm,1.0s,mb5.3
MVCO Mesa Verde 42.65 171 ⇑P **P 13 03 18.8 -0.5**
baz=43,SNR=18
MVCO Mesa Verde 42.65 171 *e*P **P 13 03 20.2 +0.9**
comp=Z,237nm,1.8s,mb5.6
MVCO LR LR
comp=Z,3µm,19.0s,MS5.2
T18A Mexican Hat 42.69 173 ⇓P **P 13 03 19.2 -0.5**
baz=43,SNR=49
HLM1 Long Mynd 42.72 56 *e*P **P 13 03 18.1 -1.6**
HLM1 AMB AMB 13 03 20.5
comp=Z,113nm,1.1s,mb5.5
GRAC Grapevine Rang 42.75 181 ⇑P **P 13 03 19.7 -0.5**
baz=43,SNR=28
T16A Glen Canyon Da 42.81 174 ⇑P **P 13 03 20.3 -0.4**
baz=43,SNR=11
T17A Navajo Res., N 42.81 174 ⇓P **P 13 03 20.1 -0.5**
baz=43,SNR=68
CCM Cathedral Cave 42.83 151 *e*P **P 13 03 19.8 -1.0**
comp=Z,37nm,0.9s,mb5.1
CCM Cathedral Cave 42.83 151 *e*P **P 13 03 19.8 -1.0**
CCM pmax pmax
comp=Z,37nm,0.9s,mb5.1
T25A Trinidad 42.87 166 ⇓P **P 13 03 20.6 -0.5**
baz=43
T22A Edith 42.90 169 ⇑P **P 13 03 21.1 -0.3**
baz=43,SNR=38
T21A Navajo Lake 42.90 170 ⇑P **P 13 03 21.5 +0.1**
baz=43,SNR=11
T23A Casias Ranch, 42.91 168 ⇓P **P 13 03 21.3 -0.1**
baz=43,SNR=15
T24A Torres, Weston 42.91 167 ⇓P **P 13 03 21.2 -0.3**
baz=43,SNR=44
T19A Beclabito 43.02 172 ⇑P **P 13 03 22.3 0.0**
baz=43,SNR=43
SAO San Andreas Ge 43.04 186 *e*P **P 13 03 23.7 +1.2**
comp=Z,29nm,1.1s,mb4.9
SAO San Andreas Ge 43.04 186 *e*P **P 13 03 23.7 +1.2**
SAO pmax pmax
comp=Z,29nm,1.1s,mb4.9
SDMD Soldier's Deli 43.09 134 *e*P **P 13 03 24.9 +2.1**
comp=Z,42nm,1.2s,mb5.0
IZAR Zarasai 43.12 30 *e*P **P 13 03 22.4 -0.5**
IZAR AMB AMB 13 03 25.7
comp=Z,17nm,1.4s,mb4.6
WCI Wyandotte Cave 43.14 145 *e*P **P 13 03 22.4 -0.9**
comp=Z,21nm,0.9s,mb4.9
WCI Wyandotte Cave 43.14 145 *e*P **P 13 03 22.4 -0.9**
WCI pmax pmax
comp=Z,21nm,0.9s,mb4.9
BSEG Bad Segeberg 43.17 44 *e*P **P 13 03 24.0 +0.7**
comp=Z,32nm,1.1s,mb5.0
BSEG Bad Segeberg 43.17 44 *e*P **P 13 03 24.0 +0.7**
BSEG pmax pmax
comp=Z,32nm,1.1s,mb5.0
U17A Shonto 43.21 173 ⇑P **P 13 03 23.7 -0.1**
baz=43,SNR=11
FURC Furnace Creek, 43.28 181 ⇓P **P 13 03 24.6 +0.2**
baz=43,SNR=32
ISAL Salakas 43.28 30 *e*P **P 13 03 23.7 -0.5**
ISAL AMB AMB 13 03 27.1
comp=Z,24nm,1.2s,mb4.8
CWC Cottonwood Cre 43.31 182 ⇑P **P 13 03 25.0 +0.3**
baz=43,SNR=5.2
U15A North Rim 43.35 175 ⇓P **P 13 03 25.2 +0.1**
baz=43,SNR=28
SIUC Southern Illin 43.36 148 *e*P **P 13 03 24.2 -0.9**
comp=Z,49nm,0.5s,mb5.5
RCTC Rector, Farmer 43.45 184 ⇓P **P 13 03 26.3 +0.5**
baz=43
U21A Nageezi 43.46 170 ⇑P **P 13 03 25.5 -0.4**
baz=43,SNR=35
U20A Newcomb 43.48 171 ⇓P **P 13 03 26.0 -0.1**
baz=43,SNR=11
IIGN Ignalina 43.51 30 *e*P **P 13 03 25.4 -0.7**
IIGN AMB AMB 13 03 28.9
comp=Z,22nm,1.3s,mb4.7
U22A Llaves 43.53 169 ⇓P **P 13 03 26.7 +0.2**
baz=43,SNR=63
U19A Dine' College, 43.55 172 ⇓P **P 13 03 26.2 -0.4**
baz=44,SNR=31
U24A Moreno Valley 43.56 167 ⇓P **P 13 03 26.2 -0.5**
baz=44
U23A El Rito 43.60 168 ⇑P **P 13 03 26.6 -0.5**
baz=44,SNR=276
U25A Circle Dot Ran 43.61 166 ⇑P **P 13 03 26.4 -0.6**
baz=44,SNR=16
U26A Atchley Ranch, 43.64 165 ⇑P **P 13 03 27.2 -0.2**
baz=44,SNR=50
U16A Tuba City 43.65 174 ⇓P **P 13 03 26.7 -0.7**
baz=44,SNR=19
MPMC Manual Prospec 43.69 182 ⇓P **P 13 03 27.8 0.0**
baz=44,SNR=131
SVE Sverdlovsk 43.77 3⇑ *i*P **P 13 03 28.1 -0.1**
SVE *e* 13 05 15.2
SVE *e*S **S 13 09 56.3 -1.1**
SVE *e* 13 13 22.1
SVE pmax pmax
comp=Z,56nm,0.9s,mb5.3
SVE MLR MLR
comp=Z,2µm,16.0s,MS5.2
SHOC Shoshone 43.85 180 ⇑P **P 13 03 28.3 -0.7**
baz=44
VES Vestal, Richgr 43.92 183 ⇓P **P 13 03 29.2 -0.4**
baz=44,SNR=16
V15A Kaibab Nationa 43.96 175 ⇓P **P 13 03 29.8 -0.1**
baz=44,SNR=39
HTL Hartland 43.96 58 *e*P **P 13 03 29.3 -0.5**
HTL AMB AMB 13 03 32.1
comp=Z,73nm,1.0s,mb5.4
HTL AMS AMS 13 22 17.8
comp=Z,5µm,14.7s,MS5.5
NACGM Naroch 44.01 30 *e* **P 13 03 26.0 -4.1**
MOS Moscow 44.02 21 *e*P **P 13 03 28.0 -2.2**
MOS *e* 13 05 12.3
MOS *e* 13 05 47.9
MOS pmax pmax
comp=Z,186nm,0.9s,mb5.8
MOS pmax pmax
comp=Z,300nm,1.1s,mb5.9
MOS MLR MLR
comp=Z,2µm,13.0s,MS5.3
V20A Brimhall 44.06 171 ⇑P **P 13 03 30.6 -0.1**

baz=44,SNR=32
V21A Milan 44.08 170 ⇓P **P 13 03 30.9 0.0**
baz=44,SNR=27
ISA Isabella 44.09 183 ⇓P **P 13 03 31.1 +0.1**
baz=44,SNR=52
ISA Isabella 44.09 183 *e*P **P 13 03 31.8 +0.8**
comp=Z,40nm,1.0s,mb5.1
ISA Isabella 44.09 183 *e*P **P 13 03 31.8 +0.8**
ISA pmax pmax
comp=Z,40nm,1.0s,mb5.1
V18A Ganado 44.11 173 ⇓P **P 13 03 30.6 -0.5**
baz=44,SNR=35
V19A Window Rock 44.13 172 ⇑P **P 13 03 30.9 -0.4**
baz=44
WOL Wolverton 44.14 55 AMB AMB 13 03 40.6
comp=Z,126nm,2.2s,mb5.3
WOL AMS AMS 13 21 40.4
comp=Z,4μm,19.2s,MS5.3
WOL Wolverton 44.14 55 AMB AMB 13 03 40.6
comp=Z,126nm,2.2s,mb5.3
WOL AMS AMS 13 21 40.4
comp=Z,4μm,19.2s
ARU Arti 44.15 4 *e*P **P 13 03 30.7 -0.5**
ARU LR LR
comp=Z,2μm,19.0s,MS5.0
ARU Arti 44.15 4 *c i*P **P 13 03 30.7 -0.5**
ARU *e* 13 05 13.0
ARU PPP 13 05 47.3
ARU S **S 13 10 06.1 +3.2**
ARU SS SS 13 13 25.1 +5.2
ARU SSS 13 14 06.0
ARU pmax pmax
comp=Z,85nm,1.7s,mb5.2
ARU MLR MLR
comp=Z,2μm,17.0s,MS5.2
ARU Arti 44.15 4 P **P 13 03 31.1 -0.1**
comp=Z,255nm,0.7s,mb6.1,SNR=7.3
V25A Rancho No Teng 44.16 166 ⇑P **P 13 03 31.4 -0.1**
baz=44,SNR=90
V17A Tonalea, Kykot 44.18 174 ⇑P **P 13 03 31.6 -0.1**
baz=44,SNR=94
V23A Ortiz Mt. (NFS 44.19 168 ⇑P **P 13 03 31.6 -0.1**
baz=44,SNR=56
CBN Corbin 44.20 135 PFAKE 13 03 40.0 +8.1
CBN LR LR
comp=Z,4μm,19.0s,MS5.4
V26A Tequesquite Ra 44.23 165 ⇑P **P 13 03 32.1 0.0**
baz=44,SNR=109
V24A Rampart Ranch, 44.24 167 ⇓P **P 13 03 32.3 +0.1**
baz=44,SNR=77
LRMC Laurel Mountai 44.27 182 ⇓P **P 13 03 32.7 +0.3**
baz=44,SNR=29
WUAZ Wupatki 44.27 174 ⇓P **P 13 03 32.5 0.0**
baz=44,SNR=98
WUAZ Wupatki 44.27 174 *e*P **P 13 03 33.1 +0.6**
comp=Z,94nm,0.9s,mb5.5
WUAZ LR LR
comp=Z,4μm,20.0s,MS5.3
TUQ Turquoise Moun 44.31 180 ⇓P **P 13 03 32.9 +0.2**
baz=44
PARMO Parma 44.35 149 *e*P **P 13 03 32.6 -0.5**
IBBN Ibbenburen 44.43 47 *e*P **P 13 03 34.3 +0.8**
comp=Z,41nm,1.5s,mb4.9
GSC Goldstone 44.45 181 ⇑P **P 13 03 34.0 +0.2**
baz=44,SNR=65
GSC Goldstone 44.45 181 *e*P **P 13 03 35.1 +1.2**
comp=Z,62nm,1.0s,mb5.3
GSC Goldstone 44.45 181 *e*P **P 13 03 35.1 +1.3**
GSC pmax pmax
comp=Z,63nm,1.0s,mb5.3
SMMC Simmler 44.46 184 ⇓P **P 13 03 34.0 0.0**
baz=44,SNR=15
MNK Minsk 44.50 29 ⇑*e*P **P 13 03 32.0 -2.0**
MNK *e* 13 05 14.0
MNK *e*S **S 13 10 10.0 +2.0**
MNK *e*SS SS 13 13 24.0 -2.7
MNK pmax pmax
comp=Z,280nm,1.0s,mb6.0
MNK MLR MLR
comp=Z,6μm,16.0s,MS5.6
MNK MLR MLR
comp=E,7μm,16.0s
MICGM Minsk 44.50 29 ⇑*e*P **P 13 03 32.0 -2.0**
SUW Suwalki 44.54 33 *e*P **P 13 03 34.5 +0.2**
SUW *e*PcP PcP 13 05 18.2 +1.1
SUW LMZ 13 25 42.1
comp=E,2μm,15.8s
SUW Suwalki 44.54 33 *e*P **P 13 03 34.5 +0.1**
SUW Suwalki 44.54 33 *e*P **P 13 03 34.5 +0.1**
SUW *e* 13 05 18.2
SUW MLR MLR
comp=Z,2μm,15.8s,MS5.2
NRDL Niedersach Rie 44.55 45 *e*P **P 13 03 35.1 +0.6**
comp=Z,21nm,1.1s,mb4.9
OBN Obninsk 44.57 22 *e*P **P 13 03 33.7 -0.9**
comp=Z,226nm,1.3s,mb5.8
OBN *e*PcP PcP 13 05 17.6 +0.4
OBN LR LR
comp=Z,2μm,22.0s,MS5.0
OBN Obninsk 44.57 22 *c i*P **P 13 03 33.2 -1.4**
OBN *i* pP 13 03 39.0 -0.7
OBN *i* 13 05 17.5
OBN *i* S **S 13 10 11.3 +2.3**
OBN *i* SS SS 13 13 35.6 +7.5
OBN pmax pmax
comp=Z,128nm,1.0s,mb5.7
TUL1 Tulsa 44.59 156 ⇓P **P 13 03 34.6 -0.4**
baz=44,SNR=26
WTSB Winterswijk 44.63 48 ⇓*i*P **P 13 03 36.1 +0.9**
comp=Z,72nm,1.9s,mb5.2
GKP Gorka Klasztor 44.64 38 *e*P **P 13 03 32.0 -3.2**
GKP *e*pP pP 13 03 33.6 -6.7
GKP LMZ 13 24 40.9
comp=Z,3μm,16.9s
GKP Gorka Klasztor 44.64 38 *e*P **P 13 03 32.0 -3.2**
GKP *e**PP pP 13 03 33.6 -6.7
GKP MLR MLR
comp=Z,3μm,16.9s,MS5.3
W13A Hualapai Mount 44.66 177 ⇓P **P 13 03 35.3 -0.2**
baz=45,SNR=55
LDFC Landfair 44.67 179 *e*P **P 13 03 36.5 +0.9**
comp=Z,106nm,1.1s,mb5.6
W16A Flagstaff 44.69 175 ⇑P **P 13 03 36.4 +0.7**
baz=45,SNR=65
W18A Petrified Fore 44.70 172 ⇓P **P 13 03 35.7 -0.2**
baz=45,SNR=13
W19A Sanders 44.72 172 ⇑P **P 13 03 36.0 0.0**
baz=45,SNR=14
W17A Winslow 44.72 174 ⇓P **P 13 03 36.0 -0.1**
baz=45,SNR=26
W20A Ramah 44.73 171 ⇓P **P 13 03 35.9 -0.2**
baz=45,SNR=19
W24A Lazy 6 Ranch, 44.75 167 ⇑P **P 13 03 36.1 -0.1**
baz=45,SNR=57
W21A San Fidel 44.76 170 ⇓P **P 13 03 36.4 0.0**
baz=45
W23A Werner Place, 44.77 168 ⇑P **P 13 03 36.7 +0.3**
baz=45,SNR=36
W25A X Bar L Ranch, 44.78 166 ⇓P **P 13 03 36.4 -0.1**
baz=45,SNR=39
BLA Blacksburg 44.80 139 *e*P **P 13 03 36.5 -0.1**
comp=Z,43nm,0.8s,mb5.3
BLA LR LR
comp=Z,6μm,22.0s,MS5.5
BLA Blacksburg 44.80 139 *e*P **P 13 03 36.5 -0.2**
BLA pmax pmax
comp=Z,43nm,0.8s,mb5.3
BLA MLR MLR
comp=Z,6μm,22.0s,MS5.5
W22A Albuquerque 44.83 169 ⇑P **P 13 03 37.1 +0.1**
baz=45,SNR=7.4
RRX Edison Barstow 44.87 181 ⇑P **P 13 03 37.4 +0.2**
baz=45
EDW2 Edwards Air Fo 44.87 182 ⇓P **P 13 03 37.5 +0.3**
baz=45,SNR=107
PKM Peak Mountain 44.87 184 ⇓P **P 13 03 37.6 +0.4**
baz=45,SNR=8.0
HEC Hector,Ludlow 44.91 180 ⇓P **P 13 03 37.8 +0.2**
baz=45,SNR=16
W26A Owens Ranch, T 44.94 166 ⇑P **P 13 03 37.7 0.0**
baz=45,SNR=48
GMRC Granite Mounta 44.97 179 ⇑P **P 13 03 37.8 -0.2**
baz=45,SNR=14
ANMO Albuquerque 44.97 169 *e*P **P 13 03 38.1 +0.1**
comp=Z,33nm,0.9s,mb5.2
ANMO LR LR
comp=Z,6μm,21.0s,MS5.5
ANMO Albuquerque 44.97 169 *e*P **P 13 03 38.1 +0.1**
ANMO pmax pmax
comp=Z,33nm,0.9s
ANMO MLR MLR
comp=Z,6μm,21.0s
NEE2 Needles Airpor 44.98 178 ⇑P **P 13 03 38.0 -0.1**
baz=45
W27A Bowe Ranch, En 45.00 165 ⇓P **P 13 03 38.2 0.0**
baz=45,SNR=31
WVT Waverly 45.06 147 *e*P **P 13 03 37.7 -1.1**
comp=Z,176nm,2.5s,mb5.5
WVT Waverly 45.06 147 *e*P **P 13 03 37.7 -1.0**
WVT pmax pmax
comp=Z,176nm,2.5s,mb5.5
TZTN Tazewell 45.10 142 *e*P **P 13 03 38.3 -0.8**
comp=Z,32nm,0.7s,mb5.2
BUG Bochum--Univer 45.21 47 *e*P **P 13 03 40.1 +0.4**
comp=Z,17nm,1.3s,mb4.7
CLZ Clausthal 45.22 45 *e*P **P 13 03 40.8 +1.0**
comp=Z,16nm,0.9s,mb4.8
CLZ Clausthal 45.22 45 *e*P **P 13 03 40.8 +1.0**
CLZ pmax pmax
comp=Z,16nm,0.9s,mb4.8
AMTX Amarillo 45.25 163 ⇓P **P 13 03 39.9 -0.3**
baz=45
AMTX Amarillo 45.25 163 *e*P **P 13 03 40.0 -0.2**
comp=Z,30nm,0.8s,mb5.2
AMTX LR LR
comp=Z,10μm,21.0s,MS5.7
X18A Snowflake 45.29 173 ⇓P **P 13 03 40.7 +0.2**
baz=45,SNR=54
NVS Novosibirsk 45.30 344 *e*P **P 13 03 38.9 -1.5**
NVS *e*S **S 13 10 20.8 +1.2**
NVS pmax pmax
comp=Z,50nm,0.8s,mb5.4
NVS pmax pmax
comp=N,33nm,1.2s
NVS pmax pmax
comp=E,9.0nm,0.7s
NVS smax
comp=N,81nm,2.5s
NVS smax
comp=E,96nm,2.5s
X20A Quemado 45.31 171 ⇓P **P 13 03 41.0 +0.3**
baz=45,SNR=14
SBC Santa Barbara 45.33 184 ⇓P **P 13 03 41.0 +0.1**
baz=45
X23A Hourglass Bar 45.35 168 ⇑P **P 13 03 40.9 -0.1**
baz=45,SNR=5.2
HBAR Harrisburg 45.37 150 *e*P **P 13 03 39.4 -1.8**
X16A Lo Mia Camp, P 45.37 174 ⇑P **P 13 03 40.9 -0.3**
baz=45,SNR=53
X24A Lazy VL Ranch, 45.39 167 ⇓P **P 13 03 41.1 -0.2**
baz=45,SNR=23
X22A Bernardo 45.39 169 ⇑P **P 13 03 41.4 0.0**
baz=45,SNR=8.7
X19A St. Johns 45.40 172 ⇑P **P 13 03 41.1 -0.3**
baz=45,SNR=40
X27A F and S Farms, 45.41 165 ⇑P **P 13 03 41.4 -0.1**
baz=45,SNR=11
X21A Alamocita Cree 45.43 170 ⇑P **P 13 03 41.9 +0.3**
baz=45,SNR=31
PDMCI Parker Dam,Lak 45.45 178 ⇑P **P 13 03 41.9 0.0**
baz=45,SNR=28
X17A Forest Lakes 45.46 174 ⇓P **P 13 03 42.2 +0.3**
baz=45,SNR=24
X25A Clemmons Ranch 45.46 167 ⇓P **P 13 03 41.6 -0.4**
baz=45
X26A CR and CF Fran 45.47 166 ⇓P **P 13 03 42.1 +0.1**
baz=45,SNR=52
BBRC Big Bear Solar 45.48 181 ⇓P **P 13 03 42.8 +0.7**
baz=45,SNR=32
LAZ Ladron 45.49 169 *e*P **P 13 03 42.4 +0.2**
comp=E,13nm,1.0s,mb4.7
DECC Green Verdugo 45.50 182 ⇓P **P 13 03 42.0 -0.2**
baz=45
BFSC Mount Baldy Ra 45.51 182 ⇑P **P 13 03 42.8 +0.5**
baz=45,SNR=71
MWC Mount Wilson 45.53 182 *e*P **P 13 03 43.7 +1.3**
comp=E,109nm,1.1s,mb5.7
MWC Mount Wilson 45.53 182 *e*P **P 13 03 43.7 +1.3**
MWC pmax pmax
comp=Z,109nm,1.1s,mb5.7
WMOK Wichita Mounta 45.56 160 *e*P **P 13 03 41.3 -1.4**
comp=Z,181nm,1.7s,mb5.7
WMOK LR LR
comp=Z,2μm,20.0s,MS5.0
WMOK Wichita Mounta 45.56 160 *e*P **P 13 03 41.3 -1.4**
WMOK pmax pmax
comp=Z,181nm,1.7s,mb5.7
WMOK MLR MLR
comp=Z,2μm,20.0s,MS5.0
PASC Pasadena Art C 45.58 182 *e*P **P 13 03 44.2 +1.4**
comp=Z,229nm,0.9s,mb6.1
IRM Iron Mountain 45.59 179 ⇑P **P 13 03 43.1 +0.2**
baz=46,SNR=16
LPM Los Pinos Moun 45.60 169 *e*P **P 13 03 43.2 +0.2**
BLG Laguna Peak 45.65 183 ⇓P **P 13 03 43.6 +0.2**
baz=46,SNR=14
HGN Heimansgroeve 45.69 49 *e*P **P 13 03 44.1 +0.5**
comp=Z,55nm,3.6s
HGN Heimansgroeve 45.69 49 *e*S **S 13 10 30.5 +5.2**
SNF Seneffe 45.72 50 P **P 13 03 43.4 -0.4**
KLR Kul'dur 45.73 302 *e*P **P 13 03 40.6 -3.2**
KLR *e*S **S 13 10 18.0 -7.9**
KLR pmax pmax
comp=Z,220nm,1.8s,mb5.8
LENM Lemitar 45.73 169 *e*P **P 13 03 44.7 +0.6**
BELC Belle Mtn. Jos 45.74 180 ⇓P **P 13 03 44.8 +0.7**
baz=46,SNR=102
BNM Barren Site 45.76 169 *e*P **P 13 03 44.5 +0.2**
comp=Z,35nm,0.9s,mb5.3
BSC Santa Cruz Isl 45.77 184 ⇓P **P 13 03 44.6 +0.2**
baz=46
Y15A Casa Rosa Ranc 45.82 176 ⇑P **P 13 03 44.6 -0.2**
baz=46,SNR=38
Y14A Wickenburg 45.82 176 ⇑P **P 13 03 44.7 0.0**
baz=46,SNR=59
Y22D IRIS PASSCAL I 45.83 169 ⇓P **P 13 03 44.8 0.0**
baz=46,SNR=12
MEM Membach 45.86 49 P **P 13 03 44.9 0.0**
comp=Z,23nm,1.9s,mb4.8
Y21A Point of Rocks 45.87 170 ⇓P **P 13 03 45.3 +0.2**
baz=46,SNR=50
Y19A Nutrioso 45.87 172 ⇑P **P 13 03 45.1 -0.1**
baz=46,SNR=44
Y16A Circle Bar Ran 45.90 175 ⇓P **P 13 03 45.4 -0.1**
baz=46,SNR=20
BCLA Clavier 45.95 49 P **P 13 03 45.8 +0.3**
comp=Z,22nm,2.3s,mb4.7
Y20A Horse Springs, 45.95 171 ⇑P **P 13 03 45.3 -0.4**
baz=46,SNR=44
TKL Tuckaleechee C 45.95 143 P **P 13 03 44.0 -1.8**
comp=Z,11nm,0.6s,mb4.9,baz=348,slow=3.9,SNR=14
TKL PcP PcP 13 05 21.2 -1.0
comp=Z,10nm,0.7s,baz=89,slow=2.6,SNR=2.7
TKL Tuckaleechee C 45.95 143 *e*P **P 13 03 44.4 -1.4**
TKL Tuckaleechee C 45.95 143 P **P 13 03 44.0 -1.8**
TKL 13 05 21.3
TKL pmax pmax
comp=Z,11nm,0.6s,mb5.0
Y22A Socorro 45.96 169 ⇑P **P 13 03 45.8 -0.1**
baz=46,SNR=78
UALR University of 45.99 152 *e*P **P 13 03 44.7 -1.5**
comp=Z,38nm,0.7s,mb5.4
Y12C Blythe 46.00 178 ⇓P **P 13 03 46.2 +0.1**
baz=46,SNR=24
Y23A Lovelace Mesa, 46.00 168 ⇓P **P 13 03 46.1 -0.1**
baz=46,SNR=30
Y24A Capitan 46.03 168 ⇑P **P 13 03 45.9 -0.5**
baz=46,SNR=99
Y18A Canyon Day Jun 46.03 173 ⇓P **P 13 03 46.3 -0.2**
baz=46,SNR=44
FMP Fort Macarthur 46.04 182 ⇓P **P 13 03 46.3 -0.1**
baz=46
Y25A Mesa, Roswell 46.06 167 ⇓P **P 13 03 46.6 -0.1**
baz=46,SNR=59
JSA Saint Aubin 46.07 56 AMB AMB 13 03 53.9
comp=Z,43nm,4.7s
JSA AMS AMS 13 22 31.9
comp=Z,3μm,21.4s,MS5.2
JSA Saint Aubin 46.07 56 AMB AMB 13 03 53.9
comp=Z,43nm,4.7s
JSA AMS AMS 13 22 31.9
comp=Z,3μm,21.4s
CLL Collm 46.08 42 *e*P **P 13 03 46.7 +0.1**
comp=Z,14nm,0.9s,mb4.9
CLL Collm 46.08 42 *i*P **P 13 03 44.9 -1.7**
CLL *i* 13 05 23.0
CLL *e*S **S 13 10 30.0 -0.9**
CLL pmax pmax
comp=Z,51nm,1.2s,mb5.3
CLL pmax pmax
comp=Z,15nm,0.9s,mb4.9
CLL MLR MLR
comp=Z,2μm,19.5s,MS5.1
CLL Collm 46.08 42 *i*P **P 13 03 44.9 -1.7**
CLL *i* Pmax 13 03 46.9
comp=Z,51nm,1.2s
CLL *e* 13 04 14.0
CLL *e* 13 04 22.0
CLL *i* PcP PcP 13 05 23.0 +0.5
comp=Z,15nm,0.9s
CLL *i* PP PP 13 05 31.6 -2.7
comp=Z,16nm,0.8s
CLL *e*S **S 13 10 30.0 -0.9**
CLL *e* 13 11 05.0
CLL *e*SS SS 13 13 48.0 -7.2
CLL *e*SSS 13 14 42.0
CLL L 13 24 00.0
comp=N,1μm,19.1s
CLL L 13 24 00.0
comp=E,800nm,18.9s
CLL L 13 24 00.0
comp=Z,2μm,19.5s
CPCT Cooper Cave 46.08 143 *e*P **P 13 03 44.4 -2.4**
BC3 Big Chuckawall 46.09 179 ⇑P **P 13 03 47.0 +0.1**
baz=46,SNR=53
Y17A Roosevelt 46.10 174 ⇓P **P 13 03 46.7 -0.3**
baz=46,SNR=25
Y26A Elida 46.10 166 ⇑P **P 13 03 46.6 -0.3**
baz=46,SNR=21
MSTX Muleshoe 46.10 164 ⇓P **P 13 03 46.9 -0.1**
baz=46,SNR=25
ZAA0 Zalesovo Array 46.11 343 *e*P **P 13 03 45.6 -1.2**
ZALV Zalesovo Beam 46.11 343 P **P 13 03 45.5 -1.3**
comp=Z,20nm,0.8s,mb5.1,baz=2.2,slow=8.4,SNR=80
ZALV PcP PcP 13 05 21.0 -1.5
comp=Z,8.9nm,0.7s,baz=5.6,slow=4.6,SNR=5.5
ZALV PKiKP PKiKP 13 12 16.4 -1.4
comp=Z,2.9nm,0.7s,baz=253,slow=1.3,SNR=8.9
ZALV LR LR 13 25 36.9
comp=Z,510nm,18.9s,MS4.5,baz=238,slow=39
ZALV Zalesovo Beam 46.11 343 P **P 13 03 45.5 -1.3**
ZALV PcP PcP 13 05 21.1 -1.5
ZALV Zalesovo Beam 46.11 343 P **P 13 03 45.5 -1.3**
ZALV 13 05 21.1
MIAR Mount Ida 46.12 154 *e*P **P 13 03 45.9 -1.2**
comp=Z,56nm,1.1s,mb5.4
MIAR LR LR
comp=Z,1μm,19.0s,MS4.9
MIAR Mount Ida 46.12 154 *e*P **P 13 03 45.9 -1.2**
MIAR pmax pmax
comp=Z,56nm,1.1s,mb5.4
MIAR MLR MLR
comp=Z,1μm,19.0s,MS4.9
PFO Pinyon Flat Ob 46.13 180 ⇓P **P 13 03 47.2 0.0**
baz=46,SNR=15
PFO Pinyon Flat Ob 46.13 180 *e*P **P 13 03 48.3 +1.1**
PFO LR LR
comp=Z,3μm,22.0s,MS5.2
PFO Pinyon Flat Ob 46.13 180 *e*P **P 13 03 48.3 +1.1**
PFO MLR MLR
comp=Z,3μm,22.0s,MS5.2
MURC Murrieta 46.14 181 ⇑P **P 13 03 46.9 -0.4**
baz=46
BAIF Baives 46.15 50 *e*P **P 13 03 47.4 +0.3**
comp=Z,75nm,0.9s,mb5.3
YSS Yuzh-Sakhalins 46.16 291 *e*P **P 13 03 47.6 +0.4**
comp=Z,370nm,1.9s,mb6.0
YSS LR LR
comp=Z,852nm,20.0s,MS4.7
YSS Yuzh-Sakhalins 46.16 291 *e e*P **P 13 03 47.0 -0.3**
YSS *e**SP sP 13 03 56.0 +1.6
YSS *e* 13 05 29.0
YSS *e*S **S 13 10 32.0 -0.1**
YSS *e* 13 10 48.0
YSS *e*SS SS 13 13 48.0 -8.7
YSS *e*SSS 13 14 52.0
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.5
YSS pmax pmax
comp=N,30nm,0.8s
YSS pmax pmax
comp=E,50nm,0.9s
SWET Sewanee 46.16 145 *e*P **P 13 03 45.6 -1.8**
DOU Dourbes 46.16 50 P **P 13 03 46.9 -0.4**
comp=Z,17nm,1.9s,mb4.7
Y27A Causey 46.17 165 ⇓P **P 13 03 47.0 -0.5**
baz=46,SNR=88
PLAL Pickwick Lake 46.17 148 *e*P **P 13 03 45.4 -2.1**
comp=Z,37nm,0.8s,mb5.4
PLAL LR LR
comp=Z,8μm,19.0s,MS5.7
UBBA Unterbreizbach 46.18 45 *e*P **P 13 03 47.8 +0.4**
comp=Z,8.0nm,0.9s,mb4.7
GIVF Givet 46.19 50 *e*P **P 13 03 47.6 +0.1**
comp=Z,65nm,1.0s,mb5.2
IRK Irkutsk 46.30 326 *e*P **P 13 03 47.8 -0.5**
IRK *e* 13 06 18.2
IRK *e* 13 10 52.5
IRK pmax pmax
comp=Z,84nm,2.0s,mb5.3
CIS Catalina Islan 46.34 183 ⇑P **P 13 03 48.9 0.0**
baz=46
Z14A Wintersburg 46.40 176 ⇓P **P 13 03 49.0 -0.3**
baz=46,SNR=14
Z16A Peralta Trail, 46.44 174 ⇓P **P 13 03 50.0 +0.4**
baz=46
BEL Belsk 46.44 36 *e*P **P 13 03 50.4 +1.0**
BEL *e*pP pP 13 03 51.5 -3.0
BEL LMZ 13 25 17.7
comp=Z,2μm,17.2s
BEL Belsk 46.44 36 *e*P **P 13 03 50.4 +0.9**
BEL *e**PP pP 13 03 51.6 -3.0
BEL MLR MLR
comp=Z,2μm,17.2s,MS5.2
Z15A Gila River Ind 46.48 175 ⇓P **P 13 03 50.2 +0.2**
baz=46
Z17A San Carlos Hig 46.50 173 ⇓P **P 13 03 50.1 0.0**
baz=46,SNR=9.6
OXF Oxford 46.51 149 *e*P **P 13 03 49.0 -1.2**
comp=Z,132nm,0.8s,mb5.9
OXF LR LR
comp=Z,10μm,19.0s,MS5.8
OXF Oxford 46.51 149 *e*P **P 13 03 49.0 -1.2**
OXF pmax pmax
comp=Z,132nm,0.8s,mb5.9
OXF MLR MLR
comp=Z,10μm,19.0s,MS5.8
Z19A T-Link Ranch, 46.54 172 ⇓P **P 13 03 50.3 -0.1**
baz=46,SNR=12
Z13A Yuma Proving G 46.55 177 ⇓P **P 13 03 50.7 +0.2**
baz=46,SNR=23
MOX Moxa 46.55 44 *e*P **P 13 03 50.8 +0.5**
comp=Z,14nm,1.1s,mb4.8
MOX Moxa 46.55 44 *e*P **P 13 03 50.8 +0.5**
MOX pmax pmax
comp=Z,14nm,1.1s,mb4.8
TNS Taunus Mts 46.56 47 *e*P **P 13 03 51.1 +0.7**
comp=Z,21nm,1.0s,mb5.0
TNS Taunus Mts 46.56 47 *e*P **P 13 03 51.1 +0.7**
TNS pmax pmax
comp=Z,21nm,1.0s,mb5.0
Z21A St. Cloud Mine 46.56 170 ⇑P **P 13 03 50.7 +0.1**
baz=46,SNR=68
BRG Berggiesshubel 46.62 42 *e*P **P 13 03 50.8 0.0**
comp=Z,51nm,1.5s,mb5.2
BRG *i* PCP PcP 13 05 24.7 +0.3
comp=Z,11nm,0.8s
BRG PP PP 13 05 46.0 +6.0
BRG *e* 13 09 18.0
comp=Z,2.3nm,0.7s
BRG S **S 13 10 46.0 +7.4**
BRG SS SS 13 14 14.0 +10
BRG *e*PKKP 13 26 48.5
comp=Z,39nm,2.2s
BRG *e*PKPPKP 13 36 02.0
comp=Z,16nm,1.9s
BRG
comp=N,2μm,13.7s
BRG
comp=E,2μm,14.8s

BRG
comp=Z,796nm,15.8s
BRG Berggiesshubel 46.62 42 *e*P **P 13 03 51.2 +0.4**
comp=Z,8.0nm,0.8s,mb4.7
BRG Berggiesshubel 46.62 42 *e*P **P 13 03 50.8 0.0**
BRG *i* 13 05 24.7
BRG 13 05 46.0
BRG S **S 13 10 46.0 +7.4**
BRG pmax pmax
comp=Z,51nm,1.5s,mb5.2
BRG pmax pmax
comp=Z,39nm,2.2s,mb5.0
BRG pmax pmax
comp=Z,16nm,1.9s,mb4.6
BRG MLR MLR
comp=N,2µm,13.7s,MS5.4
BRG MLR MLR
comp=E,2µm,14.8s,MS5.4
Z24A Sheeppen Canyo 46.62 167 ⇑P **P 13 03 50.6 -0.4**
baz=46,SNR=81
Z22A Elephant Butte 46.64 169 ⇑P **P 13 03 51.3 +0.1**
baz=46,SNR=13
BST Brest 46.64 58 *e*P **P 13 03 50.8 -0.3**
BST Brest 46.64 58 *e*P **P 13 03 50.8 -0.3**
Z23A Rita Site, Whi 46.66 168 ⇓P **P 13 03 51.3 -0.1**
baz=47,SNR=20
GLA Glamis 46.69 178 ⇑P **P 13 03 51.6 0.0**
baz=47,SNR=12
GLA Glamis 46.69 178 *e*P **P 13 03 53.6 +1.9**
comp=E,81nm,1.3s,mb5.5
GLA Glamis 46.69 178 *e*P **P 13 03 53.6 +2.0**
GLA pmax pmax
comp=Z,81nm,1.3s,mb5.5
Z25A Roswell 46.70 167 ⇑P **P 13 03 51.1 -0.6**
baz=47,SNR=101
Z18A Geronimo 46.73 173 ⇑P **P 13 03 51.7 -0.2**
baz=47
ROSF Rostrenen 46.73 58 *e*P **P 13 03 51.5 -0.2**
comp=Z,66nm,0.8s,mb5.3
Z27A Tatum 46.73 165 ⇑P **P 13 03 51.5 -0.5**
baz=47,SNR=26
Z20A Nine Sixteen R 46.73 171 ⇓P **P 13 03 51.9 0.0**
baz=47,SNR=30
FLN La Foliniere 46.74 55 *e*P **P 13 03 51.2 -0.6**
comp=Z,86nm,1.1s,mb5.3
FLN *e*R
comp=Z,6µm,20.2s
KMSC Kings Mountain 46.74 140 ⇑P **P 13 03 51.4 -0.6**
baz=47,SNR=20
Z26A Caprock 46.74 166 ⇑P **P 13 03 51.7 -0.3**
baz=47,SNR=116
SCI San Clemente I 46.77 183 ⇓P **P 13 03 51.9 -0.3**
baz=47,SNR=20
SWSC Sam W. Stewart 46.80 180 ⇑P **P 13 03 52.3 -0.2**
baz=47,SNR=17
WLF Walferdange 46.80 49 P **P 13 03 52.2 -0.1**
WLF Walferdange 46.80 49 *e*P **P 13 03 53.4 +1.1**
comp=Z,25nm,0.9s,mb5.1
WLF Walferdange 46.80 49 *e*P **P 13 03 52.1 -0.2**
WLF LR LR
comp=Z,2µm,19.0s,MS5.2
WLF Walferdange 46.80 49 *e*P **P 13 03 52.1 -0.2**
WLF MLR MLR
comp=Z,2µm,19.0s,MS5.2
MONP Monument Peak 46.85 180 ⇑P **P 13 03 53.2 +0.3**
baz=47,SNR=30
109C Camp Elliot, M 46.85 181 ⇑P **P 13 03 53.0 +0.1**
baz=47
TANN Tannenbergstha 46.89 43 *e*P **P 13 03 53.7 +0.8**
comp=Z,19nm,1.1s,mb4.9
RUP Ruppelstein 46.89 48 *e*P **P 13 03 53.3 +0.4**
RUP Ruppelstein 46.89 48 *e*P **P 13 03 53.3 +0.4**
SGMF Saint Gilles 46.92 57 *e*P **P 13 03 52.7 -0.5**
comp=Z,40nm,1.0s,mb5.0
TLY Talaya 46.92 327 *e*P **P 13 03 53.0 -0.2**
comp=Z,27nm,0.8s,mb5.2
TLY *e*PcP PcP 13 05 26.8 +1.3
TLY LR LR
comp=Z,2µm,20.0s,MS5.0
TLY Talaya 46.92 327 *e*P **P 13 03 52.3 -0.9**
TLY *e*S **S 13 10 35.7 -7.3**
TLY pmax pmax
comp=Z,30nm,0.9s,mb5.2
TLY MLR MLR
comp=Z,3µm,16.0s,MS5.3
TLY Talaya 46.92 327 P **P 13 03 52.7 -0.5**
comp=Z,193nm,0.8s,mb6.1,SNR=6.5
TLY Talaya 46.92 327 P **P 13 03 53.0 -0.2**
SNR=6.3
KSP Ksiaz 46.92 40 *e*P **P 13 03 54.2 +1.0**
KSP *e*PcP PcP 13 05 25.9 +0.4
KSP LMZ 13 23 56.4
comp=Z,2µm,19.6s
LDF La Druitiere 46.95 55 *e*P **P 13 03 52.8 -0.7**
comp=Z,42nm,0.7s,mb5.2
113A Mohawk Valley, 46.98 177 ⇑P **P 13 03 54.2 +0.4**
baz=47,SNR=12
114A Black Gap (USA 47.01 176 ⇑P **P 13 03 54.3 +0.2**
baz=47,SNR=10
PVCC Panska Ves 47.03 41 *e*P **P 13 03 54.0 -0.1**
PVCC MLR MLR
comp=Z,2µm,16.4s,MS5.1
PVCC Panska Ves 47.03 41 *e*P **P 13 03 54.0 -0.1**
PVCC AMS AMS 13 25 20.0
comp=Z,2µm,16.4s
GRR Gorron 47.05 55 *e*P **P 13 03 54.0 -0.2**
comp=Z,155nm,1.3s,mb5.5
119A Ashpeak Ranch, 47.06 172 ⇓P **P 13 03 55.1 +0.6**
baz=47,SNR=16
BAR Barrett 47.06 181 *e*P **P 13 03 55.4 +0.9**
comp=Z,32nm,1.0s,mb5.2
CNNC Cliffs of the 47.06 136 PFAKE 13 04 10.0 +16
CNNC LR LR
comp=Z,3µm,19.0s,MS5.3
NKC Novy Kostel 47.06 43 *e*P **P 13 03 53.9 -0.4**
NKC *e*S **S 13 10 41.5 -3.5**
NKC MLR MLR
comp=Z,2µm,19.5s,MS5.1
NKC Novy Kostel 47.06 43 *e*P **P 13 03 53.9 -0.4**
NKC *e*S **S 13 10 41.5 -3.5**
NKC AMS AMS 13 24 50.0
comp=Z,2µm,19.5s
DVTC Desert V Tower 47.08 180 ⇓P **P 13 03 55.1 +0.5**
baz=47,SNR=16
QUIF Quistinic 47.16 58 *e*P **P 13 03 54.7 -0.4**
comp=Z,36nm,0.9s,mb5.0
118A Homack Ranch, 47.17 173 ⇓P **P 13 03 55.7 +0.3**
baz=47,SNR=73
MOY Mondy 47.19 329 *e*P **P 13 03 56.6 +1.3**
MOY pmax pmax
comp=Z,18nm,1.1s,mb4.9
122A Conniff Cattle 47.19 169 ⇓P **P 13 03 55.9 +0.3**
baz=47,SNR=9.1
TOD Tromm 47.21 47 *e*P **P 13 03 55.0 -0.5**
TOD Tromm 47.21 47 *e*P **P 13 03 55.0 -0.5**
116A Eloy 47.21 175 ⇓P **P 13 03 55.3 -0.4**
baz=47,SNR=6.7
117A Oracle 47.22 174 ⇑P **P 13 03 55.6 -0.1**
baz=47,SNR=42
UPC Upice 47.22 40 *e*P **P 13 03 53.1 -2.5**
UPC Upice 47.22 40 *e*P **P 13 03 53.1 -2.5**
124A Stringfield Ra 47.25 168 ⇑P **P 13 03 55.9 -0.1**
baz=47,SNR=60
123A Bell Site, Whi 47.28 169 ⇑P **P 13 03 55.9 -0.3**
baz=47
120A U Bar Ranch, L 47.30 171 ⇑P **P 13 03 55.8 -0.5**
baz=47,SNR=40
125A Gardner Draw, 47.32 167 ⇑P **P 13 03 56.4 -0.2**
baz=47,SNR=56
121A Cookes Peak, D 47.34 170 ⇓P **P 13 03 56.5 -0.2**
baz=47,SNR=57
126A Clayton Basin, 47.36 166 ⇑P **P 13 03 56.7 -0.2**
baz=47,SNR=28
127A Arkansas Junct 47.36 165 ⇑P **P 13 03 56.5 -0.3**
baz=47,SNR=11
GRA3 Grafenberg Arr 47.38 44 *e*P **P 13 03 57.9 +1.1**
DPC Dobruska-Polom 47.41 40 *e*P **P 13 03 56.7 -0.4**
comp=Z,92nm,1.1s,mb5.6
DPC Dobruska-Polom 47.41 40 *e*P **P 13 03 56.6 -0.4**
DPC *e* 13 03 58.1
DPC *e*S **S 13 10 47.6 -2.4**
DPC MLR MLR
comp=Z,2µm,16.2s,MS5.2
DPC Dobruska-Polom 47.41 40 *e*P **P 13 03 56.7 -0.3**
DPC pmax pmax
comp=Z,92nm,1.1s,mb5.6
DPC Dobruska-Polom 47.41 40 *e*P **P 13 03 56.6 -0.4**
DPC *e*pP pP 13 03 58.1 -4.1
DPC *e*S **S 13 10 47.6 -2.4**
DPC *e*SS SS 13 14 36.4 +19
DPC AMS AMS 13 32 00.0
comp=Z,2µm,16.2s
HIA Hailar 47.42 313 *e*P **P 13 03 56.7 -0.4**
comp=Z,38nm,0.7s,mb5.4
HIA LR LR
comp=Z,2µm,19.0s,MS5.1
HIA Hailar 47.42 313 *e*P **P 13 03 56.7 -0.4**
HIA pmax pmax
comp=Z,37nm,0.7s
HIA MLR MLR
comp=Z,2µm,19.0s
GRF Grafenberg Arr 47.44 44 *e*P **P 13 03 58.3 +1.0**
comp=Z,252nm,3.0s
GRF *e*L 13 24 44.9
comp=Z,1µm,21.8s
GRF Grafenberg Arr 47.44 44 *e*P **P 13 03 58.3 +1.0**
GRF pmax pmax
comp=Z,252nm,3.0s
GRF MLR MLR
comp=Z,1µm,21.8s,MS4.8
GRFO Grafenberg 47.44 44 *e*P **P 13 03 57.0 -0.3**
comp=Z,50nm,0.9s,mb5.4
GRFO Grafenberg 47.44 44 *e*P **P 13 03 57.0 -0.3**
GRFO pmax pmax
comp=Z,50nm,0.9s,mb5.4
PRA Prague 47.47 42 P **P 13 03 59.0 +1.5**
TUC Tucson 47.48 174 *e*P **P 13 03 58.3 +0.5**
comp=Z,31nm,1.0s,mb5.2
TUC LR LR
comp=Z,3µm,19.0s,MS5.3
TUC Tucson 47.48 174 *e*P **P 13 03 58.3 +0.5**
TUC pmax pmax
comp=Z,31nm,1.0s,mb5.2
TUC MLR MLR
comp=Z,3µm,19.0s,MS5.3
ROTZ Rotzenmuhle 47.49 44 *e*P **P 13 03 58.6 +0.9**
comp=Z,31nm,1.7s,mb5.0
GRA2 Grafenberg Arr 47.49 44 *e*P **P 13 03 58.8 +1.1**
BRVK Borovoye 47.51 355 *e*P **P 13 03 57.4 -0.4**
comp=Z,26nm,0.8s,mb5.3
BRVK LR LR
comp=Z,1µm,19.0s,MS5.0
BRVK Borovoye 47.51 355 *e*P **P 13 03 57.4 -0.4**
BRVK pmax pmax
comp=Z,26nm,0.8s,mb5.3
BRVK MLR MLR
comp=Z,1µm,19.0s,MS5.0
BRVK Borovoye 47.51 355 P **P 13 03 57.6 -0.2**
comp=Z,200nm,0.7s,mb6.2,SNR=14
BRVK Borovoye 47.51 355 P **P 13 03 57.9 +0.2**
SNR=15
BVA0 Borovoye Array 47.54 355 *i* P **P 13 03 57.6 -0.4**
BVA0 pmax pmax
comp=Z,14nm,1.3s,mb4.8
BVAR Borovoye Array 47.54 355 P **P 13 03 57.5 -0.5**
comp=Z,15nm,0.7s,mb5.1,baz=7.5,slow=12,SNR=61
BVAR PcP PcP 13 05 26.1 -1.5
comp=Z,28nm,0.7s,baz=336,slow=3.2,SNR=14
BVAR LR LR 13 26 32.6
comp=Z,1µm,18.9s,MS4.9,baz=194,slow=39
BVAR Borovoye Array 47.54 355 P **P 13 03 57.5 -0.5**
BVAR PcP PcP 13 05 26.1 -1.5
BVAR LR LR 13 26 32.6
BVAR Borovoye Array 47.54 355 P **P 13 03 57.5 -0.5**
BVAR 13 05 26.1
PRU Pruhonice 47.56 42 *e*P **P 13 03 59.2 +1.0**
PRU *e*S **S 13 10 47.3 -4.8**
PRU MLR MLR
comp=Z,2µm,17.2s,MS5.2
PRU Pruhonice 47.56 42 *e*P **P 13 03 59.2 +1.0**
PRU *e*S **S 13 10 47.3 -4.8**
PRU *ex* x 13 14 40.4
PRU AMS AMS 13 25 50.0
comp=Z,2µm,17.2s
GRA4 Grafenberg Arr 47.59 44 *e*P **P 13 03 59.4 +1.0**
JSC Jenkinsville 47.60 140 *e*P **P 13 03 57.4 -1.2**
JSC Jenkinsville 47.60 140 *e*P **P 13 03 57.4 -1.3**
LANF Langenberg 47.69 48 *e*P **P 13 03 59.7 +0.5**
LANF Langenberg 47.69 48 *e*P **P 13 03 59.7 +0.5**
LANF Langenberg 47.69 48 *e*P **P 13 03 59.7 +0.5**
GRB4 Grafenberg Arr 47.70 44 *e*P **P 13 04 00.2 +0.9**
CLNB Carlsbad 47.75 166 *e*P **P 13 03 59.2 -0.7**
comp=Z,17nm,0.8s,mb5.1
216A Three Points, 47.78 175 ⇑P **P 13 04 00.2 +0.1**
baz=48,SNR=19
222A Williams Famil 47.78 170 ⇑P **P 13 03 60.0 -0.2**
baz=48,SNR=17
GRB1 Grafenberg Arr 47.79 44 *e*P **P 13 04 00.9 +0.9**
214A Organ Pipe Nat 47.80 176 ⇑P **P 13 04 00.4 +0.1**
baz=48
219A White Tail Can 47.83 172 ⇓P **P 13 03 59.9 -0.5**
baz=48,SNR=73
PAGF Fort de Pagny 47.83 50 *e*P **P 13 04 00.2 -0.1**
comp=Z,23nm,1.0s,mb4.9
218A Dragoon 47.83 173 ⇑P **P 13 04 00.0 -0.5**
baz=48,SNR=36
GRB3 Grafenberg Arr 47.86 44 *e*P **P 13 04 01.5 +1.0**
221A Mesquite Ranch 47.86 170 ⇓P **P 13 04 00.3 -0.4**
baz=48,SNR=6.6
225A Deer Hill, Car 47.86 167 ⇑P **P 13 04 00.4 -0.3**
baz=48,SNR=98
224A Cornudas Mount 47.87 168 ⇓P **P 13 04 00.1 -0.7**
baz=48,SNR=77
223A Chaparral, Ant 47.90 169 ⇓P **P 13 04 00.4 -0.6**
baz=48
GRB2 Grafenberg Arr 47.91 44 *e*P **P 13 04 01.7 +0.8**
OJC Ojcow 47.93 37 *e*P **P 13 03 59.6 -1.5**
OJC *e*PcP PcP 13 05 28.6 -0.5
OJC *e*PP PP 13 05 54.6 +1.9
OJC *e*S **S 13 10 57.4 0.0**
OJC L 13 25 17.7
comp=Z,1.8nm,19.2s
OJC Ojcow 47.93 37 *e*P **P 13 04 01.7 +0.6**
comp=Z,335nm,2.9s,mb5.9
OJC *e*PcP PcP 13 05 30.2 +1.1
OJC Ojcow 47.93 37 *e*P **P 13 03 59.6 -1.5**
OJC *e* 13 05 28.6
OJC *e* 13 05 54.6
OJC *e*S **S 13 10 57.4 0.0**
OJC MLR MLR
comp=Z,2µm,19.2s,MS5.1
220A Playas Peak, P 47.94 171 ⇑P **P 13 04 00.7 -0.6**
baz=48,SNR=33
226A Malaga, Loving 47.94 166 ⇑P **P 13 04 00.7 -0.6**
baz=48
217A Green Valley 48.02 174 ⇓P **P 13 04 01.5 -0.4**
baz=48,SNR=9.4
227A Bennet, Jal 48.03 165 ⇑P **P 13 04 01.6 -0.4**
baz=48,SNR=46
GRB5 Grafenberg Arr 48.07 44 *e*P **P 13 04 02.9 +0.8**
GRC4 Grafenberg Arr 48.07 44 *e*P **P 13 04 02.9 +0.7**
SFTF Sexfontaines 48.08 50 *e*P **P 13 04 02.4 +0.2**
comp=Z,75nm,1.1s,mb5.3
STU Stuttgart 48.08 46 *e*P **P 13 04 03.0 +0.8**
comp=Z,19nm,0.6s,mb5.3
MORC Moravsky Berou 48.12 39 *e*P **P 13 04 03.2 +0.7**
comp=Z,17nm,0.8s,mb5.1
MORC Moravsky Berou 48.12 39 *e*P **P 13 04 03.2 +0.7**
MORC pmax pmax
comp=Z,17nm,0.8s,mb5.1
OKC Ostrava-Krasne 48.13 38 *e*P **P 13 04 02.6 0.0**
OKC *e*S **S 13 10 59.6 -0.5**
OKC MLR MLR
comp=Z,2µm,17.6s,MS5.0
OKC Ostrava-Krasne 48.13 38 *e*P **P 13 04 02.6 0.0**
OKC *e*S **S 13 10 59.6 -0.5**
OKC *ex* x 13 14 54.3
OKC AMS AMS 13 26 50.0
comp=Z,2µm,17.6s
GRC1 Grafenberg Arr 48.16 44 *e*P **P 13 04 03.6 +0.7**
CDF Champ du Feu 48.18 48 *e*P **P 13 04 03.5 +0.5**
comp=Z,67nm,0.9s,mb5.4
THEF They Montfort 48.19 49 *e*P **P 13 04 03.3 +0.3**
THEF They Montfort 48.19 49 *e*P **P 13 04 03.3 +0.3**
THEF They Montfort 48.19 49 *e*P **P 13 04 03.3 +0.3**
WET Wettzell 48.19 43 *e*P **P 13 04 04.2 +1.2**
comp=Z,17nm,0.9s,mb5.1
WET Wettzell 48.19 43 *e*P **P 13 04 04.2 +1.2**
WET pmax pmax
comp=Z,17nm,0.9s,mb5.1
ZAK Zakamensk 48.24 327 *e*P **P 13 04 03.3 -0.2**
ZAK *e* 13 05 31.1
ZAK pmax pmax
comp=Z,12nm,1.4s,mb4.7
GRC2 Grafenberg Arr 48.27 45 *e*P **P 13 04 04.3 +0.6**
GRC3 Grafenberg Arr 48.27 44 *e*P **P 13 04 04.4 +0.7**
KHC Kasperske Hory 48.29 43 *e*P **P 13 04 02.5 -1.3**
KHC *e* 13 04 05.0
KHC Kasperske Hory 48.29 43 *e*P **P 13 04 02.5 -1.3**
KHC *e*pP pP 13 04 05.0 -3.9
KHC *ex* x 13 04 16.0
TREC Trest 48.35 41 *e*P **P 13 04 05.2 +0.9**
TREC MLR MLR
comp=Z,2µm,16.6s,MS5.3
TREC Trest 48.35 41 *e*P **P 13 04 05.2 +0.9**
TREC AMS AMS 13 26 00.0
comp=Z,2µm,16.6s
ECH Echery 48.36 48 *e*P **P 13 04 04.0 -0.4**
comp=Z,25nm,1.1s,mb5.2
ECH LR LR
comp=Z,2µm,20.0s,MS5.1
ECH Echery 48.36 48 *e*P **P 13 04 04.0 -0.4**
ECH pmax pmax
comp=Z,25nm,1.1s,mb5.2
ECH MLR MLR
comp=Z,2µm,20.0s,MS5.1
ECH Echery 48.36 48 *e*P **P 13 04 04.6 +0.2**
318A Bisbee 48.37 173 ⇓P **P 13 04 04.2 -0.5**
baz=48,SNR=62
AKASG Malin Array Be 48.38 29 P **P 13 04 02.8 -1.8**
comp=Z,83nm,0.8s,mb5.8,baz=353,slow=8.4,SNR=98
AKASG PcP PcP 13 05 29.1 -1.6
comp=Z,21nm,0.6s,baz=352,slow=3.3,SNR=15
AKASG LR LR 13 24 04.2
comp=Z,3µm,20.3s,MS5.2,baz=345,slow=36
AKASG Malin Array Be 48.38 29 P **P 13 04 02.8 -1.8**
AKASG PcP PcP 13 05 29.1 -1.6
AKASG LR LR 13 24 04.2
AKASG Malin Array Be 48.38 29 P **P 13 04 02.8 -1.7**
AKASG 13 05 29.1
AKBB Malin Array Si 48.38 29 *e*P **P 13 04 02.8 -1.8**
AKBB Malin Array Si 48.38 29 *e*P **P 13 04 02.8 -1.7**
KIEV Kiev 48.39 29 *e*P **P 13 04 02.8 -1.8**
comp=Z,53nm,0.7s,mb5.7
KIEV LR LR
comp=Z,3µm,20.0s,MS5.2
KIEV Kiev 48.39 29 *e*P **P 13 04 02.8 -1.8**
KIEV pmax pmax
comp=Z,53nm,0.7s,mb5.7
KIEV MLR MLR
comp=Z,3µm,20.0s,MS5.2
BFO Black Forest 48.40 47 *e*P **P 13 04 05.5 +0.8**
comp=Z,16nm,1.1s,mb5.0
BFO Black Forest 48.40 47 *e*P **P 13 04 05.2 +0.4**
BFO LR LR
comp=Z,2µm,19.0s,MS5.1
BFO Black Forest 48.40 47 *e*P **P 13 04 05.5 +0.8**
BFO pmax pmax
comp=Z,16nm,1.1s,mb5.0
BFO Black Forest 48.40 47 P **P 13 04 05.7 +1.0**
comp=Z,126nm,1.0s,mb5.9,SNR=6.2
HAU Haudompre 48.45 49 *e*P **P 13 04 05.6 +0.5**
comp=Z,80nm,1.0s,mb5.4
HAU *e*R
comp=Z,2µm,18.0s
YUK Yuzh-Kuril'sk 48.46 287 *d* iP **P 13 04 01.5 -3.7**
YUK *i* S **S 13 11 01.5 -3.4**
YUK pmax pmax
comp=N,214nm,1.4s
YUK pmax pmax
comp=E,282nm,1.4s
YUK pmax pmax
comp=Z,323nm,1.4s,mb6.2
YUK pmax pmax
comp=Z,450nm,1.6s,mb6.2
YUK smax
comp=N,550nm,1.9s
YUK smax
comp=E,870nm,1.9s
YUK MLR MLR
comp=N,1µm,20.5s,MS4.9
YUK MLR MLR
comp=E,690nm,20.5s,MS4.9
YUK MLR MLR
comp=Z,4µm,20.5s,MS5.4
VRAC Vranov 48.47 40 P **P 13 04 04.6 -0.6**
comp=Z,17nm,0.9s,mb5.1,baz=353,slow=9.2,SNR=12
VRAC PcP PcP 13 05 32.3 +1.3
comp=Z,7.7nm,0.8s,baz=44,slow=1.0,SNR=3.8
VRAC LR LR 13 26 31.4
comp=Z,2µm,19.4s,MS5.0,baz=355,slow=39
VRAC Vranov 48.47 40 P **P 13 04 04.6 -0.6**
VRAC PcP PcP 13 05 32.3 +1.3
VRAC LR LR 13 26 31.4
VRAC Vranov 48.47 40 P **P 13 04 04.6 -0.6**
VRAC 13 05 32.3
324A Moseley Ranch, 48.50 168 ⇑P **P 13 04 05.0 -0.6**
baz=48,SNR=48
320A Kipp Ranch, An 48.51 171 ⇑P **P 13 04 05.2 -0.5**
baz=48,SNR=23
GEC2 GERESS Array S 48.58 43 *e*P **P 13 04 07.3 +1.2**
comp=Z,18nm,1.4s,mb4.9
GEC2 pmax pmax
comp=Z,18nm,1.4s,mb4.9
GERES GERESS Array B 48.58 43 P **P 13 04 05.2 -0.8**
comp=Z,5.3nm,0.7s,mb4.7,baz=351,slow=6.8,SNR=20
GERES PcP PcP 13 05 31.9 +0.5
comp=Z,8.6nm,0.9s,baz=0.0,slow=2.7,SNR=7.5
GERES LR LR 13 26 10.0
comp=Z,2µm,19.9s,MS5.1,baz=347,slow=38
GERES GERESS Array B 48.58 43 P **P 13 04 05.2 -0.8**
GERES PcP PcP 13 05 31.9 +0.5
GERES LR LR 13 26 10.0
GERES GERESS Array B 48.58 43 P **P 13 04 05.3 -0.8**
GERES 13 05 31.9
325A Bean Ranch, Si 48.59 167 ⇑P **P 13 04 05.3 -1.1**
baz=48,SNR=15
VSR Storozhevoye 48.62 20 *e* P **P 13 04 05.2 -1.2**
VSR *e**PP pP 13 04 14.4 +2.9
VSR pmax pmax
comp=N,60nm,0.9s
VSR pmax pmax
comp=E,10.0nm,0.9s
VSR pmax pmax
comp=Z,70nm,0.9s,mb5.7
VSR MLR MLR
comp=N,2µm,16.0s,MS5.2
VSR MLR MLR
comp=E,1µm,16.0s,MS5.2
VSR MLR MLR
comp=Z,3µm,16.0s,MS5.3
HYF Humbligny 48.65 53 *e*P **P 13 04 07.0 +0.3**
327A Balmorhea Ranc 48.66 165 ⇓P **P 13 04 06.1 -0.8**
baz=49
328A Wristen Ranch, 48.68 165 ⇓P **P 13 04 06.2 -0.8**
baz=49,SNR=91
SPAK Spaichingen-Ko 48.69 47 *e*P **P 13 04 06.7 -0.2**
VBMS Vicksburg 48.69 151 *e*P **P 13 04 07.2 +0.1**
VBMS LR LR
comp=Z,15µm,19.0s,MS6.0
326A Caldwell Ranch 48.69 166 ⇓P **P 13 04 06.2 -0.9**
baz=49,SNR=48
HINF Hinteralfeld 48.70 49 *e*P **P 13 04 07.3 +0.2**
comp=Z,79nm,1.1s,mb5.4
MOF Molkenrain 48.71 48 *e*P **P 13 04 07.3 +0.2**
MOF Molkenrain 48.71 48 *e*P **P 13 04 07.3 +0.2**
MOF Molkenrain 48.71 48 *e*P **P 13 04 07.3 +0.2**
LVV L'vov 48.77 33 *c* iP **P 13 04 08.9 +1.4**
LVV *e*S **S 13 11 12.6 +3.4**
LVV MLR MLR
comp=Z,2µm,17.0s,MS5.1
FELD Feldberg im Sc 48.80 48 *e*P **P 13 04 07.9 +0.1**
NATX Nacogdoches 48.80 155 *e*P **P 13 04 08.3 +0.3**
comp=Z,73nm,0.8s,mb5.8
KWP Kalwaria Pacla 48.82 35 *e*P **P 13 04 08.9 +0.9**
KWP LMZ 13 27 00.9
comp=Z,2µm,17.6s
KWP Kalwaria Pacla 48.82 35 *e*P **P 13 04 08.5 +0.5**
comp=Z,53nm,0.9s,mb5.6
KWP LR LR
comp=Z,2µm,19.0s,MS5.2
KWP Kalwaria Pacla 48.82 35 *e*P **P 13 04 08.5 +0.6**
KWP pmax pmax
comp=Z,53nm,0.9s,mb5.6
KWP MLR MLR
comp=Z,2µm,19.0s,MS5.2

KWP Kalwaria Pacla 48.82 35⇑*i*P P 13 04 09.5 +1.6
LOR Lormes 48.83 52 *e*P P 13 04 08.1 +0.1
comp=Z,76nm,0.9s,mb5.4
LOR *e*R
comp=Z,2µm,21.8s
STHS Stebnicka Huta 48.88 36 *e*P P 13 04 08.6 +0.2
STHS pmax pmax
comp=Z,34nm,0.9s,mb5.4
STHS Stebnicka Huta 48.88 36 *e*P P 13 04 08.6 +0.2
NHSC New Hope 48.88 139 *e*P P 13 04 08.9 +0.3
comp=Z,97nm,1.1s,mb5.8
NHSC LR LR
comp=Z,4µm,20.0s,MS5.4
VRHR Novokhopersk 48.89 18 *e*P P 13 04 06.7 -1.7
VRHR pmax pmax
comp=N,60nm,0.8s
VRHR pmax pmax
comp=Z,140nm,0.8s,mb6.0
VRHR pmax pmax
comp=E,10.0nm,0.4s
MFF Saint Martin d 48.90 55 *e*P P 13 04 08.6 +0.1
comp=E,133nm,1.0s,mb5.6
ASAJ Asahikawa 48.94 290 LR LR 13 27 20.0
comp=E,2µm,18.2s,MS5.2,baz=200,slow=39
ASAJ Asahikawa 48.94 290 *e*P P 13 04 07.5 -1.4
comp=E,11nm,0.6s,mb5.0
ASAJ *e*PcP PcP 13 05 34.6 +1.8
SSF Saint Saulge 48.98 52 *e*P P 13 04 09.2 0.0
comp=E,48nm,0.7s,mb5.3
LOMF Lomont 49.16 49 *e*P P 13 04 11.1 +0.6
LOMF Lomont 49.16 49 *e*P P 13 04 11.1 +0.6
LOMF Lomont 49.16 49 *e*P P 13 04 11.1 +0.6
427A Hayter Ranch, 49.18 165 ⇓P P **13 04 10.4 -0.5**
baz=49,SNR=80
AVF Avril sur Loir 49.22 52 *e*P P 13 04 11.2 +0.2
comp=E,160nm,1.1s,mb5.7
426A McDonald Obser 49.33 166 ⇓P P **13 04 11.5 -0.5**
baz=49,SNR=79
428A Kincaid Ranch, 49.33 165 ⇑P P **13 04 11.5 -0.6**
baz=49,SNR=56
BGF Bois d'Agland 49.38 53 *e*P P 13 04 12.3 +0.1
comp=E,180nm,1.1s,mb5.7
SMF Signal de Mont 49.43 52 *e*P P 13 04 12.6 0.0
VYHS Vyhne 49.53 38 *e*P P 13 04 13.1 -0.3
VYHS pmax pmax
comp=Z,23nm,1.0s,mb5.2
VYHS Vyhne 49.53 38 *e*P P 13 04 13.1 -0.3
VYHS *e*PCP PKKPdf 13 27 01.5 +20
RETA Reutte 49.55 45⇑*e*pP P 13 04 14.3 +0.8
comp=Z,21nm,0.8s,mb5.2
RETA ⇑*e*PcP PcP 13 05 34.9 0.0
comp=Z,17nm,0.9s
TCF Toulx Ste Croi 49.55 53 *e*P P 13 04 13.4 -0.1
comp=Z,62nm,0.9s,mb5.3
RJOB Jochberg 49.56 44 *e*P P 13 04 14.5 +0.9
comp=Z,9.0nm,1.3s,mb4.6
KURK Kurchatov 49.62 348 LR LR 13 26 57.9
comp=Z,890nm,18.8s,MS4.8,baz=30,slow=38
KURK Kurchatov 49.62 348 *e*P P 13 04 12.9 -1.1
comp=Z,77nm,1.7s,mb5.5
KURK LR LR
comp=Z,1µm,19.0s,MS5.0
KURK Kurchatov 49.62 348 *e*P P 13 04 13.0 -1.0
KURK pmax pmax
comp=Z,77nm,1.7s,mb5.5
KURK MLR MLR
comp=Z,1µm,19.0s,MS5.0
KURK Kurchatov 49.62 348 P P **13 04 13.4 -0.6**
comp=Z,125nm,1.5s,mb5.7,SNR=6.7
KURK Kurchatov 49.62 348 P P **13 04 13.7 -0.3**
SNR=13
DAVA Damuels 49.63 46⇑*e*pP P 13 04 14.6 +0.4
comp=Z,21nm,0.9s,mb5.2
MOA Molln 49.63 42⇑*i*pP P 13 04 14.1 0.0
comp=Z,18nm,1.4s,mb4.9
MOA ⇓*e*PcP PcP 13 05 35.0 -0.3
comp=Z,26nm,0.9s
KECS Kecovo 49.72 37 *e*P P 13 04 14.8 0.0
KECS pmax pmax
comp=Z,12nm,0.9s,mb4.9
KECS Kecovo 49.72 37 *e*P P 13 04 14.8 0.0
KECS *e*PCP PKKPdf 13 27 03.6 +22
MOTA Moosalm 49.73 45⇑*e*PcP PcP 13 05 35.8 +0.1
comp=Z,52nm,1.0s
JCT Junction City 49.73 161 ⇓P P **13 04 14.3 -0.8**
baz=50,SNR=45
JCT Junction City 49.73 161 *e*P P 13 04 14.0 -1.1
comp=Z,96nm,0.8s,mb5.9
JCT LR LR
comp=Z,3µm,20.0s,MS5.3
JCT Junction City 49.73 161 *e*P P 13 04 14.0 -1.1
JCT pmax pmax
comp=Z,96nm,0.8s,mb5.9
JCT MLR MLR
comp=Z,3µm,20.0s,MS5.3
CSNA Conrad Observa 49.74 41⇑*i*pP P 13 04 15.7 +0.7
comp=Z,16nm,1.1s,mb5.0
CSNA ⇑*e*PcP PcP 13 05 36.1 +0.4
comp=Z,11nm,0.8s
CONA Conrad Observa 49.74 41⇑*e*pP P 13 04 15.7 +0.7
comp=Z,18nm,1.2s,mb5.0
CONA ⇑*e*PcP PcP 13 05 36.0 +0.3
comp=Z,17nm,1.0s
UZH Uzhgorod 49.77 35*c i*P P 13 04 14.3 -0.9
UZH *e*S S **13 11 21.0 -2.2**
UZH MLR MLR
comp=Z,1µm,14.0s,MS5.0
CABF La Chapelle 49.78 50 *e*P P 13 04 15.8 +0.5
comp=Z,78nm,0.9s,mb5.5
527A Woodward Ranch 49.87 166 ⇓P P **13 04 15.3 -0.9**
baz=50,SNR=49
528A Cox Ranch, San 49.89 165 ⇑P P **13 04 15.7 -0.6**
baz=50,SNR=148
AGO Saint Agoulin 49.91 53 *e*P P 13 04 16.3 0.0
AGO Saint Agoulin 49.91 53 *e*P P 13 04 16.3 0.0
526A Mary Lane Ranc 49.93 166 ⇑P P **13 04 15.9 -0.7**
baz=50,SNR=295
FETA Feichten 50.00 46⇑*i*pP P 13 04 17.9 +1.0
comp=Z,7.1nm,0.8s,mb4.7
FETA ⇓*e*PcP PcP 13 05 36.8 +0.2
comp=Z,25nm,0.9s
PLDF La Plantade 50.06 52 *e*P P 13 04 17.3 -0.1
PLDF La Plantade 50.06 52 *e*P P 13 04 17.3 -0.1
PLDF La Plantade 50.06 52 *e*P P 13 04 17.3 -0.1
SOP Sopron 50.07 40⇓*e*P P 13 04 19.3 +1.8
DAVOX Davos/Dischmat 50.13 46 P P **13 04 18.8 +0.9**
comp=Z,24nm,0.8s,mb5.3,baz=338,slow=12,SNR=23
DAVOX LR LR 13 26 26.5
comp=Z,2µm,20.3s,MS5.0,baz=345,slow=37
DAVOX Davos/Dischmat 50.13 46 P P **13 04 18.8 +0.9**
DAVOX LR LR 13 26 26.5
DAVOX Davos/Dischmat 50.13 46 P P **13 04 18.8 +0.9**
AKTO Aktyubinsk 50.15 5 P P **13 04 17.8 -0.3**
comp=Z,24nm,0.9s,mb5.2,baz=354,slow=7.2,SNR=57
AKTO *e*PcP PcP 13 05 36.4 -0.7
comp=Z,33nm,0.6s,baz=40,slow=3.0,SNR=14
AKTO Aktyubinsk 50.15 5 P P **13 04 17.8 -0.3**
AKTO PcP PcP 13 05 36.4 -0.7
AKTO Aktyubinsk 50.15 5 P P **13 04 17.8 -0.2**
AKTO 13 05 36.4
PYM Petit Puy Mans 50.19 53 *e*P P 13 04 18.7 +0.3
PYM Petit Puy Mans 50.19 53 *e*P P 13 04 18.7 +0.3
PYM Petit Puy Mans 50.19 53 *e*P P 13 04 18.7 +0.3
SENIN Lac Senin/Sane 50.19 49 *e*P P 13 04 19.6 +1.1
comp=Z,18nm,0.8s,mb5.2
BRAL Brewton 50.21 147 PFAKE 13 04 30.0 +11
BRAL LR LR
comp=Z,9µm,19.0s,MS5.8
PSZ Piszkesteto 50.22 37 *e*P P 13 04 19.8 +1.2
PSZ LR LR
comp=Z,2µm,19.0s,MS5.0
PSZ Piszkesteto 50.22 37 *e*P P 13 04 19.8 +1.2
PSZ MLR MLR
comp=Z,2µm,19.0s,MS5.0
PSZ Piszkesteto 50.22 37⇑*e*P P 13 04 19.4 +0.8
PSZ Piszkesteto 50.22 37⇑*i*P P 13 04 19.4 +0.8
KBA Koelnbreinsper 50.28 43⇑*i*pP P 13 04 19.7 +0.7
comp=Z,12nm,0.7s,mb5.0
KBA ⇑*e*PcP PcP 13 05 38.0 +0.4
comp=Z,27nm,1.0s
TRPA Tarpa 50.29 35⇑*i*P P 13 04 20.4 +1.3
ULN Ulaanbaatar 50.34 323 *e*P P 13 04 19.6 +0.1
ULN LR LR
comp=Z,2µm,19.0s,MS5.1
ULN Ulaanbaatar 50.34 323 *e*P P 13 04 19.6 +0.1
ULN MLR MLR
comp=Z,2µm,19.0s,MS5.1
ULN Ulaanbaatar 50.34 323 P P **13 04 19.8 +0.3**
SNR=22
TUE Stuetta 50.36 47 *e*P P 13 04 20.3 +0.6
comp=Z,387nm,2.2s,mb6.0
TUE LR LR
comp=Z,2µm,20.0s,MS5.0
ARSA Arzberg 50.37 41⇑*i*pP P 13 04 20.7 +0.9
comp=Z,16nm,1.6s,mb4.8
ARSA ⇑*e*PcP PcP 13 05 37.9 -0.1
comp=Z,14nm,0.9s
RJF Les Rejaudoux 50.41 54 *e*P P 13 04 19.7 -0.4
comp=Z,36nm,0.8s,mb5.2
RJF *e*R
comp=Z,4µm,20.5s
626A Big Bend Ranch 50.44 166 ⇑P P **13 04 19.6 -0.8**
baz=50,SNR=74
SONM Songino Array 50.44 324 P P **13 04 20.4 +0.2**
comp=Z,34nm,0.8s,mb5.5,baz=360,slow=5.3,SNR=131
SONM PcP PcP 13 05 38.7 +0.5
comp=Z,18nm,0.8s,baz=334,slow=3.6,SNR=5.2
SONM LR LR 13 26 31.8
comp=Z,3µm,18.6s,MS5.3,baz=38,slow=37
SONM Songino Array 50.44 324 P P **13 04 20.4 +0.2**
SONM PcP PcP 13 05 38.7 +0.5
SONM LR LR 13 26 31.8
SONM Songino Array 50.44 324 P P **13 04 20.4 +0.1**
SONM 13 05 38.7
ABTA Abfaltersbach 50.50 44⇑*e*pP pP 13 04 20.8 -5.0
comp=Z,11nm,1.0s
ABTA ⇓*e*PcP PcP 13 05 38.5 +0.1
comp=Z,32nm,0.9s
BUD Budapest 50.55 38⇑*e*P P 13 04 23.9 +2.8
MDJ Mudanjiang 50.55 302 P P **13 04 20.8 -0.4**
MDJ pmax pmax
comp=Z,38nm,1.1s,mb5.2
MDJ pmax pmax
comp=Z,480nm,9.7s
MDJ Mudanjiang 50.55 302 P P **13 04 19.9 -1.3**
MDJ pP pP 13 04 23.3 -3.0
MDJ PcP PcP 13 05 39.1 +0.4
MDJ PP PP 13 06 13.5 -3.1
MDJ PcS PcS 13 09 35.5 -0.4
MDJ S S **13 11 34.3 0.0**
MDJ pmax pmax
comp=Z,48nm,1.5s,mb5.2
MDJ pmax pmax
comp=Z,480nm,8.7s
MDJ LR LR
comp=E,3µm,15.6s
MDJ LR LR
comp=Z,3µm,16.2s,MS5.4
MDJ Mudanjiang 50.55 302 *e*P P 13 04 21.2 0.0
comp=Z,30nm,0.8s,mb5.3
MDJ LR LR
comp=Z,2µm,20.0s,MS5.1
627A Terlingua Ranc 50.57 165 ⇓P P **13 04 20.4 -1.1**
baz=50,SNR=111
LFF La Frestale 50.65 55 *e*P P 13 04 22.0 +0.1
comp=Z,92nm,1.1s,mb5.3
TXAR Lajitas Array 50.67 166 P P **13 04 21.3 -0.9**
comp=Z,34nm,0.9s,mb5.3,baz=13,slow=7.4,SNR=72
TXAR LR LR 13 27 10.1
comp=Z,8µm,18.1s,MS5.8,baz=5.0,slow=38
TXAR Lajitas Array 50.67 166 P P **13 04 21.3 -0.9**
TXAR LR LR 13 27 10.1
TXAR Lajitas Array 50.67 166 P P **13 04 21.3 -1.0**
LBL Lubilhac 50.73 53 *e*P P 13 04 23.6 +1.1
LBL Lubilhac 50.73 53 *e*P P 13 04 23.6 +1.1
LBL Lubilhac 50.73 53 *e*P P 13 04 23.6 +1.1
MYKA Terra Mystica 50.75 43⇑*e*pP P 13 04 23.0 +0.3
comp=Z,15nm,0.9s,mb4.9
CAF Calviac 50.86 54 *e*P P 13 04 23.4 -0.1
comp=Z,70nm,1.0s,mb5.2
SSB Saint Sauveur 50.87 51 *e*P P 13 04 22.9 -0.6
comp=Z,67nm,1.3s,mb5.4
SSB LR LR
comp=Z,2µm,20.0s,MS5.0
SSB Saint Sauveur 50.87 51 *e*P P 13 04 22.9 -0.7
SSB pmax pmax
comp=Z,67nm,1.3s,mb5.4
SSB MLR MLR
comp=Z,2µm,20.0s,MS5.0
SOKA Soboth 50.88 42⇑*i*pP P 13 04 23.8 +0.2
comp=Z,12nm,1.0s,mb4.8
SOKA ⇑*e*PcP PcP 13 05 39.2 -0.7
comp=Z,34nm,0.8s
ERM Erimo 50.88 289 *e*P P 13 04 23.5 -0.2
comp=Z,98nm,0.7s,mb5.8
ERM LR LR
comp=Z,2µm,19.0s,MS5.1
ERM Erimo 50.88 289 *e*P P 13 04 23.5 -0.2
ERM pmax pmax
comp=Z,98nm,0.7s,mb5.8
ERM MLR MLR
comp=Z,2µm,19.0s,MS5.1
ERM Erimo 50.88 289 P P **13 04 24.0 +0.3**
comp=Z,893nm,0.7s,mb6.8,SNR=17
PERS Pernice 50.93 42 *e*P P 13 04 24.4 +0.4
PERS *e* 13 05 39.5
PERS *e*S S **13 11 37.6 -1.7**
LPL La Plagne 50.94 49 *e*P P 13 04 25.4 +1.3
comp=Z,99nm,1.3s,mb5.3
LPG La Plagne 50.97 49 *e*P P 13 04 25.1 +0.8
comp=Z,132nm,1.3s,mb5.4
OBKA Obir 50.98 42⇑*i*pP P 13 04 25.2 +0.8
comp=Z,31nm,1.0s,mb5.2
EPON Pontenova 51.01 63 P P **13 04 24.5 -0.1**
comp=Z,48nm,0.7s,mb5.5
BUR08 Bucovina Ar. S 51.04 33 *e*P P 13 04 24.8 0.0
BURAR Bucovina Array 51.07 33⇑P P 13 04 25.7 +0.7
BURAR Bucovina Array 51.07 33⇑*i*P P 13 04 25.7 +0.7
EMAZ Mazaricos 51.08 64 P P **13 04 25.0 -0.1**
comp=Z,25nm,0.6s,mb5.3
GORS Gorjuse 51.11 43 *e*P P 13 04 25.3 0.0
VIVF Saint-Julien-l 51.30 51 *e*P P 13 04 27.4 +0.6
comp=Z,107nm,1.4s,mb5.3
EARI Arriondas 51.34 61 P P **13 04 27.5 +0.4**
comp=Z,50nm,0.9s,mb5.5
AB31 Akbulak array 51.35 3 *i* P P 13 04 25.9 -1.2
AB31 pmax pmax
comp=Z,65nm,1.3s,mb5.4
ABKAR Akbulak array 51.35 3 *e*P P 13 04 26.3 -0.8
VOY Vojsko 51.37 43 *e*P P 13 04 27.7 +0.4
VOY *e* 13 04 36.8
BNI Bardonecchia 51.39 50 *e*P P 13 04 29.1 +1.6
comp=Z,20nm,0.9s,mb5.0
BNI LR LR
comp=Z,2µm,20.0s,MS5.2
BNI Bardonecchia 51.39 50 *e*P P 13 04 29.1 +1.6
BNI pmax pmax
comp=Z,19nm,0.9s,mb5.0
BNI MLR MLR
comp=Z,2µm,20.0s,MS5.2
ORIF Oris-en-Rattie 51.41 50 *e*P P 13 04 28.2 +0.6
comp=Z,50nm,1.1s,mb5.0
ORIF *e*R
comp=Z,2µm,21.5s
LJU Ljubljana 51.44 42 *e*P P 13 04 29.8 +2.0
TRI Trieste 51.68 43 PFAKE 13 04 40.0 +10
TRI LR LR
comp=Z,2µm,20.0s,MS5.0
ELAN Lanestosa 51.69 59 P P **13 04 31.0 +1.3**
comp=Z,20nm,0.8s,mb5.1
MBDF Montbardon 51.72 50 *e*P P 13 04 31.2 +1.2
comp=Z,73nm,1.2s,mb5.2
BBSR BB Station 51.73 122 PFAKE 13 04 40.0 +10
BBSR LR LR
comp=Z,3µm,19.0s,MS5.3
CEY Cerknica 51.73 43 *e*P P 13 04 29.8 -0.1
CEY *e* 13 05 42.5
ERUA La Rua 51.92 63 P P **13 04 31.9 +0.5**
comp=Z,12nm,1.1s,mb4.8
ERUA La Rua 51.92 63 P P **13 04 31.9 +0.5**
ERUA pmax pmax
comp=Z,12nm,1.1s,mb4.7
LASF Ste Croix 51.95 52 *e*P P 13 04 32.3 +0.6
comp=Z,75nm,1.1s,mb5.2
CN2 Changchun 51.97 306 *e*P P 13 04 40.3 +8.5
CN2 *e*pP pP 13 05 00.3 +23
CN2 *e*S S **13 11 59.8 +6.0**
CN2 SS SS 13 15 34.4 +4.3
CN2 pmax pmax
comp=Z,50nm,1.3s,mb5.3
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,2µm,15.0s,MS5.4
CN2 LR LR
comp=E,2µm,15.0s,MS5.4
CN2 LR LR
comp=Z,2µm,17.0s,MS5.2
CN2 Changchun 51.97 306 *e*P P 13 04 31.0 -0.8
CN2 *e*S S **13 11 47.8 -6.0**
CN2 SS SS 13 15 22.8 -7.3
CN2 pmax pmax
comp=Z,30nm,0.9s,mb5.2
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,1µm,15.0s,MS5.2
CN2 LR LR
comp=E,2µm,15.0s,MS5.2
CN2 LR LR
comp=Z,1µm,16.0s,MS5.1
EALK Alkurruntz 51.99 57 P P **13 04 32.5 +0.5**
comp=Z,13nm,0.6s,mb5.0
KIS Kishinev 52.02 30 *e*P P 13 04 31.0 -1.1
KIS *e*S S **13 11 53.0 -1.4**
KIS LRM 13 26 25.0
comp=Z,3µm,15.0s
ELIZ Elizondo 52.05 57 P P **13 04 33.5 +1.2**
comp=Z,10nm,0.5s,mb5.0
ELIZ Elizondo 52.05 57 P P **13 04 33.6 +1.2**
ELIZ pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
SJPF Ste Jean 52.14 57 *e*P P 13 04 32.7 -0.4
comp=Z,20nm,0.8s,mb4.8
PGAV Gavieira, Arco 52.15 64 *e*P P 13 04 33.8 +0.6
comp=Z,60nm,2.0s,mb5.2
PGAV *e*S S **13 11 55.7 -0.6**
PGAV *e*LQ 13 19 24.5
PGAV *e*LR LR 13 21 23.9
comp=Z,4µm,18.0s
ELOB Lobios 52.28 64 P P **13 04 34.9 +0.8**
comp=Z,38nm,0.9s,mb5.3
SMRF Simiane la Rot 52.29 51 *e*P P 13 04 34.9 +0.7
TESR 52.30 32⇓*i*P P 13 04 34.7 +0.5
ECAL Calabor 52.42 63 P P **13 04 36.3 +1.1**
comp=Z,54nm,0.9s,mb5.5
MTLF Montolieu 52.43 54 *e*P P 13 04 35.6 +0.4
comp=Z,76nm,1.1s,mb5.2
PCAB Cabril 52.44 64 *e*P P 13 04 35.7 +0.4
comp=Z,80nm,1.8s,mb5.3
ETSF Etsaut 52.45 57 *e*P P 13 04 36.0 +0.6
comp=Z,88nm,1.1s,mb5.3
EPF Esparros 52.46 56 *e*P P 13 04 35.0 -0.4
comp=Z,34nm,0.9s,mb5.0
TOUF Mont Tournerai 52.49 49 *e*P P 13 04 37.0 +1.3
TOUF Mont Tournerai 52.49 49 *e*P P 13 04 37.0 +1.3
TOUF Mont Tournerai 52.49 49 *e*P P 13 04 37.0 +1.3
AUTN L'Aution 52.53 49 *e*P P 13 04 37.3 +1.3
AUTN L'Aution 52.53 49 *e*P P 13 04 37.3 +1.3
AUTN L'Aution 52.53 49 *e*P P 13 04 37.3 +1.3
PBRG Braganca 52.56 63 *e*P P 13 04 35.5 -0.7
comp=Z,50nm,1.4s,mb5.3
PBRG Braganca 52.56 63 *e*LQ 13 19 09.6
PBRG *e*LR LR 13 22 04.4
comp=Z,8µm,20.0s
SAOF Saorge 52.56 49 *e*P P 13 04 35.8 -0.4
SAOF Saorge 52.56 49 *e*P P 13 04 35.8 -0.4
SAOF Saorge 52.56 49 *e*P P 13 04 35.8 -0.4
MVIF Mont Vial 52.59 49 *e*P P 13 04 37.5 +1.1
MVIF Mont Vial 52.59 49 *e*P P 13 04 37.5 +1.1
MVIF Mont Vial 52.59 49 *e*P P 13 04 37.5 +1.1
LUCF Luceram 52.62 49 *e*P P 13 04 37.5 +0.9
LUCF Luceram 52.62 49 *e*P P 13 04 37.5 +0.9
SBF Sospel 52.66 49 *e*P P 13 04 38.2 +1.3
comp=Z,134nm,0.8s,mb5.6
BZS Buzias 52.68 36⇑P P 13 04 38.0 +1.0
BZS Buzias 52.68 36⇑*i*P P 13 04 38.0 +1.0
RESF Ens 52.68 56 *e*P P 13 04 38.5 +1.4
RESF Ens 52.68 56 *e*P P 13 04 38.5 +1.4
KVTX Kingsville 52.77 159 PFAKE 13 04 50.0 +12
KVTX LR LR
comp=Z,1µm,20.0s,MS4.9
EBIE Bielsa 52.77 56 P P **13 04 39.2 +1.5**
comp=Z,36nm,0.9s,mb5.3
VLC Villacollemand 52.77 47 *e*P P 13 04 37.5 -0.2
comp=Z,146nm,1.6s,mb5.7
VLC LR LR
comp=Z,1µm,19.0s,MS5.0
REVF Revere 52.77 49 *e*P P 13 04 38.6 +0.8
REVF Revere 52.77 49 *e*P P 13 04 38.6 +0.8
REVF Revere 52.77 49 *e*P P 13 04 38.6 +0.8
POLO Lamas de Olo 52.81 64 *e*P P 13 04 38.9 +0.9
comp=Z,23nm,1.4s,mb4.9
POLO *e*S S **13 12 07.5 +2.2**
POLO *e*LQ 13 20 14.4
POLO *e*LR LR 13 21 47.7
comp=Z,2µm,18.0s
FRF La Foret Royal 52.85 50 *e*P P 13 04 38.6 +0.3
comp=Z,53nm,1.0s,mb5.1
PVRL Vila Real 52.91 64 *e*P P 13 04 39.1 +0.3
comp=Z,40nm,1.0s,mb5.3
VRI Vrincioaia 52.95 32⇑P P 13 04 40.1 +1.1
VRI Vrincioaia 52.95 32⇑*i*P P 13 04 40.1 +1.1
PLOR Plostina 52.95 32⇑P P 13 04 40.6 +1.5
PLOR Plostina 52.95 32⇑*i*P P 13 04 40.6 +1.5
GZR Gura Zlata 53.02 35⇑P P 13 04 41.0 +1.4
GZR Gura Zlata 53.02 35⇑*i*P P 13 04 41.0 +1.4
LMR La Mourre 53.05 50 *e*P P 13 04 40.4 +0.6
comp=Z,79nm,1.2s,mb5.2
MVO Moncorvo 53.13 63 P P **13 04 41.2 +0.8**
MVO Moncorvo 53.13 63 *e*P P 13 04 39.5 -1.0
comp=Z,46nm,1.1s,mb5.3
MVO *e*S S **13 12 10.7 +0.9**
MVO *e*LR LR 13 21 53.1
comp=Z,6µm,20.0s
VOIR 53.21 33⇓P P 13 04 41.4 +0.5
VOIR 53.21 33⇓*i*P P 13 04 41.4 +0.5
CSOR Sort 53.22 55 P P **13 04 42.3 +1.3**
comp=Z,58nm,0.8s,mb5.6
CLLI Llivia 53.24 54 P P **13 04 41.7 +0.5**
MLR Muntele Rosu 53.24 33 LR LR 13 28 22.6
comp=Z,724nm,18.1s,MS4.8,baz=165,slow=37
MLR Muntele Rosu 53.24 33⇓P P 13 04 42.7 +1.5
MLR Muntele Rosu 53.24 33⇓*i*P P 13 04 42.7 +1.5
SJAF Saint Jean de 53.37 54 *e*P P 13 04 42.8 +0.6
SJAF Saint Jean de 53.37 54 *e*P P 13 04 42.8 +0.6
MK31 Makanchi Array 53.38 344 *e*P P 13 04 40.8 -1.4
MK31 Makanchi Array 53.38 344 *i* P P **13 04 40.8 -1.4**
MK31 pmax pmax
comp=Z,58nm,0.9s,mb5.5
MKAR Makanchi Array 53.38 344 P P **13 04 40.6 -1.5**
comp=Z,40nm,0.7s,mb5.4,baz=7.3,slow=6.3,SNR=100
MKAR LR LR 13 29 44.1
comp=Z,1µm,18.2s,MS5.1,baz=129,slow=39
MKAR Makanchi Array 53.38 344 P P **13 04 40.6 -1.5**
MKAR LR LR 13 29 44.1
MKAR Makanchi Array 53.38 344 P P **13 04 40.7 -1.5**
EJON La Jonquera 53.41 54 P P **13 04 43.0 +0.5**
comp=Z,38nm,0.9s,mb5.3
PVIS Viseu 53.43 64 *e*P P 13 04 42.8 +0.2
comp=Z,75nm,0.8s,mb5.7
ESAC San Caprasio 53.62 57 P P **13 04 45.1 +1.2**
comp=Z,118nm,0.8s,mb5.9
EMIR Miracle 53.73 55 P P **13 04 45.2 +0.4**
comp=Z,17nm,0.7s,mb5.1
CFR Carcaliu 53.76 31⇑P P 13 04 45.7 +0.7
CFR Carcaliu 53.76 31⇑*i*P P 13 04 45.7 +0.7
MTE Manteigas 53.80 64 *e*P P 13 04 45.6 +0.3
comp=Z,67nm,0.9s,mb5.6
MTE LR LR
comp=Z,3µm,19.0s,MS5.4
MTE Manteigas 53.80 64 *e*P P 13 04 44.3 -1.0
comp=Z,75nm,1.1s,mb5.5
MTE *e*S S **13 12 20.3 +1.5**
MTE *e*LR LR 13 21 53.4
comp=Z,4µm,16.0s
TLCR 53.82 30⇓P P 13 04 46.6 +1.2
TLCR 53.82 30⇓*i*P P 13 04 46.6 +1.2
CFON Fontmartina 54.01 54 P P **13 04 48.3 +1.5**
comp=Z,19nm,0.8s,mb5.1
GUD Guadarrama 54.10 61 P P **13 04 48.4 +0.8**
comp=Z,56nm,0.9s,mb5.5
GUD Guadarrama 54.10 61 P P **13 04 48.4 +0.8**
GUD pmax pmax
comp=Z,56nm,0.9s,mb5.5
HUMR Humele 54.10 34⇑*i*P P 13 04 48.9 +1.4
PGF Pioggiola 54.17 48 *e*P P 13 04 49.2 +1.2

comp=Z,92nm,1.3s,mb5.2
SNY Shenyang 54.18 307 ⇓P **P** **13 04 48.5 +0.4**
SNY PP PP 13 06 53.3 +3.9
SNY S **S** **13 12 22.8 -1.1**
SNY SS SS 13 16 04.1 -0.8
SNY pmax pmax
comp=Z,33nm,0.7s,mb5.4
SNY pmax pmax
comp=Z,650nm,3.7s
SNY LR LR
comp=N,4μm,15.2s,MS5.7
SNY LR LR
comp=E,2μm,14.7s,MS5.7
SNY LR LR
comp=Z,4μm,15.7s,MS5.6
EPOB Poblet 54.21 56 P **P** **13 04 49.2 +0.9**
comp=Z,26nm,0.9s,mb5.2
ETOR Torete 54.26 59 P **P** **13 04 49.0 +0.3**
comp=Z,46nm,0.9s,mb5.4
ETOR Torete 54.26 59 P **P** **13 04 49.0 +0.3**
ETOR pmax pmax
comp=Z,46nm,0.9s,mb5.4
PCBR Castelo Branco 54.35 64 *e*P **P** **13 04 49.4 0.0**
comp=Z,64nm,1.6s,mb5.3
EPLA Plasencia 54.36 62 P **P** **13 04 49.5 0.0**
comp=Z,62nm,0.8s,mb5.6
EPLA Plasencia 54.36 62 P **P** **13 04 49.5 +0.1**
EPLA pmax pmax
comp=Z,62nm,0.8s,mb5.6
PTOM Tomar 54.42 65 *e*P **P** **13 04 50.9 +1.0**
comp=Z,51nm,1.0s,mb5.4
SIM Simferopol' 54.50 26 *e*P **P** **13 04 49.0 -1.4**
SIM *e*S **S** **13 12 31.0 +2.8**
SIM pmax pmax
comp=Z,270nm,10.2s
SIM MLR MLR
comp=Z,2μm,16.6s,MS5.4
PMRV Marv??o 54.77 64 *e*P **P** **13 04 52.4 0.0**
comp=Z,28nm,1.1s,mb5.2
PMRV *e*S **S** **13 12 32.5 +0.6**
PMRV *e*LQ 13 20 32.0
PMRV *e*LR LR 13 24 47.1
comp=Z,4μm,18.0s
ANN Anapa 54.90 23 *e*P **P** **13 04 53.5 +0.2**
ANN *e**PP pP 13 04 56.6 -1.8
ANN *e* 13 06 53.4
ANN *e*S **S** **13 12 38.2 +4.7**
ANN *e*SS SS 13 16 21.5 +5.5
ANN pmax pmax
comp=Z,204nm,1.5s,mb5.9
ANN MLR MLR
comp=E,907nm,17.0s
ANN MLR MLR
comp=Z,1μm,17.0s,MS5.1
PMAFR Mafra 54.92 66 *e*P **P** **13 04 53.2 -0.3**
comp=Z,162nm,0.9s,mb6.1
PMAFR Mafra 54.92 66 *e*LQ 13 19 07.4
PMAFR *e*LR LR 13 22 45.1
comp=Z,4μm,18.0s
AQU L'Aquila 54.93 44 PFAKE 13 05 10.0 +16
AQU LR LR
comp=Z,2μm,20.0s,MS5.1
EMOS Mosqueruela 54.95 57 P **P** **13 04 54.8 +1.1**
comp=Z,38nm,0.8s,mb5.5
ESDC Sonseca Array 55.08 61 P **P** **13 04 53.5 -1.2**
comp=Z,39nm,0.8s,mb5.5,baz=352,slow=8.0,SNR=114
ESDC LR LR 13 29 02.8
comp=Z,7μm,18.8s,MS5.7,baz=340,slow=37
ESDC Sonseca Array 55.08 61 P **P** **13 04 55.2 +0.6**
comp=Z,35nm,0.8s,mb5.4
ESLA Sonseca Array 55.08 61 *e*P **P** **13 04 54.3 -0.4**
ESLA LR LR
comp=Z,8.8nm,0.8s,mb4.8
comp=Z,43μm,20.0s,MS6.5
PAB San Pablo 55.14 61 *e*P **P** **13 04 54.3 -0.8**
PAB LR LR
comp=Z,7μm,20.0s,MS5.8
PAB San Pablo 55.14 61 *e*P **P** **13 04 54.3 -0.8**
PAB MLR MLR
comp=Z,7μm,20.0s,MS5.8
LIS Lisbon 55.18 66 *e*P **P** **13 04 55.3 -0.1**
LIS AMb AMB 13 04 58.6
comp=Z,118nm,1.1s,mb5.8
LIS *e*S **S** **13 12 38.2 +0.8**
LIS Lisbon 55.18 66 *e*P **P** **13 04 55.2 -0.2**
LIS *e*S **S** **13 12 38.2 +0.8**
PESTR Estremoz 55.29 64 *e*P **P** **13 04 55.8 -0.4**
comp=Z,50nm,1.1s,mb5.5
PESTR *e*S **S** **13 12 39.9 +1.1**
PESTR *e*LQ 13 19 00.1
PESTR *e*LR LR 13 24 48.9
comp=Z,4μm,18.0s
EBAD Badajoz 55.49 64 P **P** **13 04 56.8 -0.9**
comp=Z,34nm,0.8s,mb5.4
EVO Evora 55.54 65 *e*P **P** **13 04 57.4 -0.6**
comp=Z,87nm,0.9s,mb5.5
EVO *e*R
comp=Z,4μm,18.2s
EVO Evora 55.54 65 *e*P **P** **13 04 56.9 -1.1**
comp=Z,52nm,0.7s,mb5.7
ECHE Chera 55.63 58 P **P** **13 04 59.5 +0.9**
comp=Z,24nm,0.9s,mb5.2
ECHE Chera 55.63 58 P **P** **13 04 59.5 +0.9**
ECHE pmax pmax
comp=Z,24nm,0.9s,mb5.2
PNCL Nicolau / Gran 55.87 65 *e*P **P** **13 05 00.8 +0.4**
comp=Z,62nm,1.4s,mb5.4
PNCL Nicolau / Gran 55.87 65 *e*LQ 13 20 38.1
PNCL *e*LR LR 13 22 49.1
comp=Z,3μm,20.0s
WMQ Urumqi 56.03 339 P **P** **13 05 02.3 +0.8**
WMQ pP pP 13 05 06.8 +0.1
WMQ sP sP 13 05 09.3 +0.7
WMQ PP PP 13 07 08.6 +2.7
WMQ S **S** **13 12 48.3 -0.4**
WMQ sS sS 13 12 55.9 -1.4
WMQ ScS ScS 13 14 47.4 -1.9
WMQ pmax pmax
comp=Z,92nm,0.7s,mb5.9
WMQ pmax pmax
comp=Z,580nm,3.6s
WMQ LR LR
comp=N,2μm,18.5s,MS5.4
WMQ LR LR
comp=E,2μm,15.2s,MS5.4
WMQ LR LR
comp=Z,2μm,23.8s
PBAR Barrancos 56.05 64 *e*P **P** **13 05 01.9 +0.2**
comp=Z,75nm,1.1s,mb5.6
PBAR Barrancos 56.05 64 *e*LR LR 13 23 12.4
comp=Z,4μm,18.0s
PBEJ Beja 56.06 65 *e*P **P** **13 05 01.9 +0.2**
comp=Z,52nm,0.9s,mb5.6
KIV Kislovodsk 56.07 18 *e*P **P** **13 05 02.7 +1.0**
KIV LR LR
comp=Z,2μm,19.0s,MS5.2
KIV Kislovodsk 56.07 18*c i*P **P** **13 05 02.3 +0.6**
KIV *e* 13 06 00.4
KIV *e* 13 07 08.4
KIV *e*S **S** **13 12 51.8 +2.6**
KIV *e*SS SS 13 16 39.4 +4.9
KIV pmax pmax
comp=Z,40nm,1.1s,mb5.4
KIV pmax pmax
comp=Z,232nm,4.2s
KIV MLR MLR
comp=Z,2μm,16.0s,MS5.2
KIV Kislovodsk 56.07 18 P **P** **13 05 02.5 +0.8**
comp=Z,255nm,0.7s,mb6.4,SNR=6.9
KIV Kislovodsk 56.07 18 P **P** **13 05 03.0 +1.3**
SNR=11
MESJ Messejana 56.19 65 *e*P **P** **13 05 02.5 -0.2**
MESJ AMb AMB 13 05 04.9
comp=Z,62nm,1.0s,mb5.6
MESJ *e* 13 05 15.2
baz=343,slow=12
MESJ *e*S **S** **13 12 51.6 +0.7**
MESJ *e*S **S** **13 12 51.8 +0.9**
MESJ Messejana 56.19 65 *e*P **P** **13 05 02.4 -0.2**
MESJ *e*S **S** **13 12 51.5 +0.6**
SOC Sochi 56.26 21*c i*P **P** **13 05 02.3 -0.8**
SOC *e* 13 05 59.7
SOC *e* 13 07 04.3
SOC *e*S **S** **13 12 49.3 -2.4**
SOC *e*SS SS 13 16 38.9 +1.3
SOC pmax pmax
comp=Z,32nm,0.6s,mb5.5
SOC MLR MLR
comp=Z,3μm,16.0s,MS5.5
EVIA Vianos 56.32 60 P **P** **13 05 04.9 +1.4**
comp=Z,86nm,0.9s,mb5.8
EVIA Vianos 56.32 60 P **P** **13 05 04.9 +1.3**
EVIA pmax pmax
comp=Z,86nm,0.9s,mb5.8
PTEO Sao Teotonio 56.39 66 *e*P **P** **13 05 04.3 +0.2**
comp=Z,94nm,1.1s,mb5.7
PCVE Castro Verde 56.42 65 *e*P **P** **13 05 04.8 +0.5**
comp=Z,35nm,1.1s,mb5.3
PCVE *e*S **S** **13 13 03.0 +9.0**
PCVE *e*LQ 13 20 55.7
PCVE *e*LR LR 13 23 42.7
comp=Z,3μm,18.0s
EADA Adamuz 56.45 62 P **P** **13 05 05.6 +1.1**
comp=Z,53nm,0.9s,mb5.6
ETOB Tobarra 56.46 59 P **P** **13 05 06.1 +1.5**
comp=Z,67nm,0.8s,mb5.7
EMIN Mina Concepcio 56.51 64 P **P** **13 05 05.6 +0.6**
comp=Z,40nm,0.8s,mb5.5
EIBI Ibiza 56.53 56 P **P** **13 05 06.3 +1.3**
comp=Z,32nm,0.9s,mb5.3
EGRO El Granado 56.60 64 P **P** **13 05 06.0 +0.4**
comp=Z,11nm,0.8s,mb4.9
EBEN Beniarda 56.61 57 P **P** **13 05 08.5 +2.9**
comp=Z,14nm,0.8s,mb5.1
MORF Marmelete 56.64 66 *e*P **P** **13 05 05.6 -0.2**
MORF *e*S **S** **13 12 57.6 +0.8**
MORF Marmelete 56.64 66 *e*P **P** **13 05 06.2 +0.4**
comp=Z,119nm,0.4s,mb6.3
MORF *e*S **S** **13 12 51.4 -5.4**
MORF *e*LR LR 13 22 00.1
comp=Z,4μm,18.0s
PVAQ Vaqueiros 56.70 65 *e*P **P** **13 05 06.8 +0.6**
comp=Z,47nm,1.6s,mb5.3
PVAQ *e*S **S** **13 12 53.1 -4.5**
PVAQ *e*LR LR 13 22 28.1
comp=Z,3μm,18.0s
PVAQ *i* P 13 23 42.3
TIR Tirane 56.70 39 PFAKE 13 05 20.0 +14
TIR LR LR
comp=Z,1μm,19.0s,MS5.0
HHC Hu-ho-hao-te 56.74 318 *e*P **P** **13 05 09.0 +2.5**
HHC sP sP 13 05 14.8 +1.1
HHC PcP PcP 13 06 05.9 +3.6
HHC PP PP 13 07 16.1 +3.8
HHC S **S** **13 12 57.4 -0.8**
HHC SS SS 13 16 45.8 +0.5
HHC pmax pmax
comp=Z,37nm,1.0s,mb5.4
HHC pmax pmax
comp=Z,520nm,5.1s
HHC LR LR
comp=N,2μm,16.7s,MS5.5
HHC LR LR
comp=E,2μm,14.3s,MS5.5
HHC LR LR
comp=Z,3μm,17.8s,MS5.5
PFVI Vila Bisbo 56.78 66 P **P** **13 05 07.4 +0.6**
PFVI Vila Bisbo 56.78 66 *e*P **P** **13 05 07.1 +0.3**
comp=Z,112nm,1.4s,mb5.7
PFVI *e*S **S** **13 12 59.9 +1.2**
PFVI Vila Bisbo 56.78 66 *e*LR LR 13 25 07.3
comp=Z,3μm,20.0s
PBDV Barranco-do-Ve 56.82 65 *e*P **P** **13 05 07.5 +0.4**
comp=Z,74nm,1.3s,mb5.6
PBDV *e*S **S** **13 13 00.6 +1.4**
PBDV *e*LQ 13 19 50.8
PBDV *e*LR LR 13 23 34.0
comp=Z,4μm,18.0s
BJI Beijing 56.96 313 P **P** **13 05 07.9 -0.2**
BJI PP PP 13 07 12.4 -1.8
BJI S **S** **13 12 57.5 -3.5**
BJI SS SS 13 16 54.3 +5.7
BJI pmax pmax
comp=Z,35nm,0.8s,mb5.4
BJI pmax pmax
comp=Z,470nm,4.0s
BJI LR LR
comp=N,1μm,21.1s,MS5.4
BJI LR LR
comp=E,3μm,16.7s,MS5.4
BJI LR LR
comp=Z,1μm,35.1s
BJT Baijiatuau 56.98 313 *e*P **P** **13 05 07.9 -0.4**
BJT comp=Z,75nm,1.1s,mb5.6 LR LR
comp=Z,2μm,19.0s,MS5.2
BJT Baijiatuau 56.98 313 *e*P **P** **13 05 07.9 -0.3**
BJT pmax pmax
comp=Z,75nm,1.1s
BJT MLR MLR
comp=Z,2μm,19.0s
EQES Quesada 57.05 60 P **P** **13 05 10.3 +1.6**
comp=Z,62nm,0.9s,mb5.6
MAJO Matsushiro 57.06 292 *e*P **P** **13 05 08.4 -0.5**
comp=Z,35nm,0.8s,mb5.4
MAJO LR LR
comp=Z,1μm,19.0s,MS5.0
MAJO Matsushiro 57.06 292 *e*P **P** **13 05 08.4 -0.4**
MAJO pmax pmax
comp=Z,35nm,0.8s,mb5.4
MAJO MLR MLR
comp=Z,1μm,19.0s,MS5.0
MAT Matsushiro 57.06 292 P **P** **13 05 08.0 -0.8**
MAT S **S** **13 13 04.0 +1.6**
MJAR Matsushiro Arr 57.06 292 P **P** **13 05 08.2 -0.6**
comp=Z,24nm,0.7s,mb5.3,baz=0.1,slow=6.8,SNR=65
MJAR LR LR 13 32 57.8
comp=Z,1μm,18.1s,MS5.0,baz=15,slow=40
MJAR Matsushiro Arr 57.06 292 P **P** **13 05 08.2 -0.6**
MJAR LR LR 13 32 57.8
MJAR Matsushiro Arr 57.06 292 P **P** **13 05 08.2 -0.6**
ELUQ Luque 57.10 61 P **P** **13 05 10.3 +1.2**
comp=Z,20nm,0.8s,mb5.2
ELUQ Luque 57.10 61 P **P** **13 05 10.3 +1.2**
ELUQ pmax pmax
comp=Z,20nm,0.8s,mb5.2
EHUE Huescar 57.11 60 P **P** **13 05 10.4 +1.2**
comp=Z,35nm,0.9s,mb5.4
EHUE Huescar 57.11 60 P **P** **13 05 10.4 +1.2**
EHUE pmax pmax
comp=Z,35nm,0.9s,mb5.4
USP Ospenovka 57.20 351 P **P** **13 05 09.5 -0.3**
SNR=49
VSL Villasalto 57.22 48 *e*P **P** **13 05 10.8 +0.8**
comp=Z,32nm,1.0s,mb5.3
VSL LR LR
comp=Z,1μm,20.0s,MS5.1
EMUR La Murta 57.30 59 P **P** **13 05 13.3 +2.8**
comp=Z,21nm,0.9s,mb5.2
MAK Makhachkala 57.30 14 *e*P **P** **13 05 12.3 +1.8**
MAK *e* 13 06 03.9
MAK *e* 13 07 25.7
MAK *e*PPP 13 08 44.9
MAK *e*S **S** **13 13 08.4 +2.9**
MAK *e* 13 14 58.6
MAK pmax pmax
comp=Z,185nm,1.7s,mb5.8
MAK MLR MLR
comp=Z,3μm,17.0s,MS5.5
ZEI Tsey 57.32 17 *e*P **P** **13 05 11.6 +1.0**
ZEI *e*S **S** **13 13 11.8 +6.1**
ZEI pmax pmax
comp=Z,58nm,1.0s,mb5.6
DL2 Dalian 57.32 308 ⇓P **P** **13 05 10.3 -0.4**
DL2 S **S** **13 13 05.5 -0.4**
DL2 SS SS 13 16 53.8 -0.7
DL2 pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
DL2 pmax pmax
comp=Z,200nm,3.5s
DL2 LR LR
comp=N,1μm,18.0s
DL2 LR LR
comp=Z,2μm,16.7s,MS5.2
MIDW Midway 57.34 247 PFAKE 13 05 20.0 +9.1
MIDW LR LR
comp=Z,2μm,20.0s,MS5.1
KK31 Karatay Array 57.46 354 *i* P **P** **13 05 10.8 -0.8**
KK31 pmax pmax
comp=Z,26nm,0.7s,mb5.4
KKAR Karatay Array 57.46 354 *e*P **P** **13 05 11.2 -0.4**
KKAR Karatay Array 57.46 354 *e*P **P** **13 05 11.2 -0.4**
CHMS Chumysh 57.47 350 P **P** **13 05 11.2 -0.4**
SNR=11
ONI Oni 57.47 18 P **P** **13 05 13.2 +1.6**
ECOG Cogollos-Vega 57.49 61 P **P** **13 05 13.2 +1.4**
comp=Z,44nm,0.8s,mb5.5
ECOG Cogollos-Vega 57.49 61 P **P** **13 05 13.2 +1.4**
ECOG pmax pmax
comp=Z,44nm,0.8s,mb5.5
TKM2 Tokmak 2 57.52 350 P **P** **13 05 12.0 0.0**
SNR=59
TKM2 Tokmak 2 57.52 350 *e*P **P** **13 05 11.9 0.0**
TKM2 LR LR
comp=Z,1μm,19.0s,MS5.1
TKM2 Tokmak 2 57.52 350 *e*P **P** **13 05 11.9 -0.1**
TKM2 MLR MLR
comp=Z,1μm,19.0s,MS5.1
ELOJ Sierra Loja 57.52 61 P **P** **13 05 14.8 +2.7**
comp=Z,18nm,0.8s,mb5.2
ELOJ Sierra Loja 57.52 61 P **P** **13 05 14.8 +2.7**
ELOJ pmax pmax
comp=Z,18nm,0.8s,mb5.2
ESPR Espera 57.52 63 P **P** **13 05 13.4 +1.4**
comp=Z,67nm,1.0s,mb5.6
CUC Castrocucco 57.56 43 *e*P **P** **13 05 11.9 -0.4**
CUC LR LR
comp=Z,1μm,19.0s,MS5.0
CART Cartagena 57.58 58 *e*P **P** **13 05 12.7 +0.1**
comp=Z,65nm,0.8s,mb5.7
SOH Sokhos 57.60 36 P **P** **13 05 13.9 +1.3**
FRU Bishkek 57.63 351⇑ *i*P **P** **13 05 12.0 -0.8**
FRU *e*S **S** **13 13 12.0 +2.1**
FRU pmax pmax
comp=Z,180nm,2.1s,mb5.7
FRU MLR MLR
comp=Z,4μm,16.0s,MS5.7
ERON Agron 57.70 61 P **P** **13 05 15.3 +2.0**
HORT Hortiatis 57.80 36 P **P** **13 05 15.4 +1.4**
KBK Karagaybulak 57.80 350 P **P** **13 05 15.8 +1.8**
SNR=19
ALN Alexandroupoli 57.80 33 *e*P **P** **13 05 13.8 -0.2**
ALN Alexandroupoli 57.80 33 P **P** **13 05 14.1 +0.1**
KSRS Korea Array 57.82 302 P **P** **13 05 13.2 -0.9**
comp=Z,13nm,0.7s,mb5.1,baz=7.5,slow=7.1,SNR=33
KSRS PcP PcP 13 06 04.2 -2.4
comp=Z,10nm,0.9s,baz=5.5,slow=4.7,SNR=5.8
KSRS LR LR 13 31 42.3
comp=Z,2μm,18.9s,MS5.3,baz=274,slow=38
KSRS Korea Array 57.82 302 P **P** **13 05 13.3 -0.9**
KSRS 13 06 04.2
KSRS pmax pmax
comp=Z,13nm,0.7s,mb5.1
KSRS MLR MLR
comp=Z,2μm,18.9s,MS5.3
EKS2 Erkin-Say 57.83 351 P **P** **13 05 13.6 -0.6**
SNR=17
EKS2 Erkin-Say 57.83 351 *e*P **P** **13 05 13.8 -0.4**
EKS2 LR LR
comp=Z,3μm,19.0s,MS5.4
EKS2 Erkin-Say 57.83 351 *e*P **P** **13 05 13.8 -0.4**
EKS2 MLR MLR
comp=Z,3μm,19.0s,MS5.4
KSAR Wonju Array Be 57.84 302 P **P** **13 05 13.2 -1.1**
KSAR PcP PcP 13 06 04.2 -2.4
KSAR LR LR 13 31 42.3
KSAR Wonju Array Be 57.84 302 P **P** **13 05 13.3 -1.0**
KSAR 13 06 04.2
AAK Ala-Archa 57.84 351 P **P** **13 05 14.5 +0.2**
SNR=44
AAK Ala-Archa 57.84 351 *e*P **P** **13 05 14.0 -0.2**
comp=Z,244nm,1.1s,mb6.2
AAK LR LR
comp=Z,1μm,19.0s,MS5.0
AAK Ala-Archa 57.84 351 *e*P **P** **13 05 14.0 -0.2**
AAK pmax pmax
comp=Z,244nm,1.1s,mb6.2
AAK MLR MLR
comp=Z,1μm,19.0s,MS5.0
AAK Ala-Archa 57.84 351 P **P** **13 05 14.0 -0.2**
comp=Z,237nm,1.2s,mb6.1,SNR=35
SFS San Fernando 57.86 63 PFAKE 13 05 30.0 +16
SFS LR LR
comp=Z,3μm,19.0s,MS5.5
EGUA Guajares 57.92 61 P **P** **13 05 16.8 +1.9**
EGUA Guajares 57.92 61 P **P** **13 05 16.8 +1.9**
INCN Inchon 57.99 303 PFAKE 13 05 30.0 +15
INCN LR LR
comp=Z,1μm,22.0s,MS5.0
EMIJ Mijas 57.99 62 P **P** **13 05 16.7 +1.3**
comp=Z,153nm,0.7s,mb6.1
ENIJ Nijar 58.00 60 P **P** **13 05 15.9 +0.4**
ENIJ Nijar 58.00 60 P **P** **13 05 15.9 +0.4**
PLG Polygyros 58.05 36 P **P** **13 05 16.1 +0.3**
GOR Gori 58.11 17 P **P** **13 05 16.1 -0.1**
OUR Ouranopolis 58.15 35 P **P** **13 05 16.9 +0.4**
ULHL Ulahol 58.17 349 P **P** **13 05 18.1 +1.5**
SNR=17
LIT Litokhoron 58.22 37 *e*P **P** **13 05 16.7 -0.3**
KEK Kerkira 58.31 39 *e*P **P** **13 05 17.4 -0.2**
AML Almayashu 58.36 351 P **P** **13 05 18.7 +0.8**
SNR=63
KZA Kyzart 58.37 350 P **P** **13 05 18.2 +0.2**
SNR=24
TBLG Delisi 58.40 17 P **P** **13 05 19.4 +1.2**
TBLG Delisi 58.40 17 P **P** **13 05 19.4 +1.2**
MTA Mtatsminda 58.44 17 P **P** **13 05 19.1 +0.6**
JAN Janina 58.48 38 *e*P **P** **13 05 19.4 +0.6**
PAIG Paliouri 58.52 36 P **P** **13 05 18.6 -0.5**
AKH Akhalkalaki 58.65 18 P **P** **13 05 21.0 +1.0**
THL Klokotos Trika 58.70 37 *e*P **P** **13 05 19.7 -0.6**
LIA Limnos Island 58.71 34 *e*P **P** **13 05 21.3 +0.9**
DGRG David-gareji 58.71 16 P **P** **13 05 21.0 +0.6**
ARTV Artvin 58.79 19⇑ *i*P **P** **13 05 20.7 -0.2**
BOZC Bozcaada 58.85 33⇑ *i*P **P** **13 05 21.1 -0.3**
DAGI Agillar 58.89 19⇑ *i*P **P** **13 05 22.8 +1.2**
DDEM Demirkent 59.07 19⇑ *i*P **P** **13 05 22.7 -0.2**
NEO Neokhori 59.09 36 *e*P **P** **13 05 22.6 -0.4**
AGG Agios Georgios 59.27 37 *e*P **P** **13 05 23.6 -0.7**
CEL Celeste 59.28 43 *e*P **P** **13 05 23.5 -0.8**
comp=Z,19nm,0.8s,mb5.2
CEL LR LR
comp=Z,642nm,20.0s,MS4.8
AOS Alonnisos 59.29 35 P **P** **13 05 22.8 -1.6**
DURS Dursunbey 59.32 31⇑ *i*P **P** **13 05 23.8 -0.9**
GTA Gaotai 59.45 328 P **P** **13 05 25.8 +0.3**
GTA pP pP 13 05 29.9 -0.8
GTA sP sP 13 05 32.8 +0.1
GTA S **S** **13 13 32.3 -1.2**
GTA sS sS 13 13 42.3 +0.2
GTA SS SS 13 17 33.3 +5.6
GTA pmax pmax
comp=Z,25nm,1.1s,mb5.2
GTA pmax pmax
comp=Z,550nm,7.3s
GTA LR LR
comp=N,2μm,17.3s,MS5.4
GTA LR LR
comp=E,1μm,15.7s,MS5.4
GTA LR LR
comp=Z,3μm,17.1s,MS5.5
SUSE Susehri 59.52 23⇑ *i*P **P** **13 05 25.2 -0.8**
BR131 Keskin Array S 59.65 27 *e*P **P** **13 05 26.6 -0.3**
comp=Z,16nm,0.7s,mb5.2
BR131 LR LR
comp=Z,908nm,19.0s,MS4.9
BRTR Keskin Array B 59.65 27 P **P** **13 05 26.9 -0.1**
comp=Z,21nm,0.9s,mb5.2,baz=343,slow=3.9,SNR=48
BRTR PcP PcP 13 06 12.9 -0.9
comp=Z,24nm,0.8s,baz=1.3,slow=2.5,SNR=11
BRTR LR LR 13 33 45.1
comp=Z,1μm,18.5s,MS5.0,baz=358,slow=39
BRTR PKPPKP 13 34 56.4
comp=Z,0.9nm,0.7s,baz=151,slow=3.3,SNR=5.2
BRTR Keskin Array B 59.65 27 P **P** **13 05 26.9 -0.1**
BRTR PcP PcP 13 06 12.9 -0.9
BRTR LR LR 13 33 45.1
BRTR PP' 13 34 56.4
BRTR Keskin Array B 59.65 27 P **P** **13 05 26.9 0.0**
BRTR 13 06 13.0
LKR Lokris 59.71 36 *e*P **P** **13 05 27.1 -0.2**
TIY Taiyuan 59.73 316 *e*P **P** **13 05 27.3 -0.1**
TIY sP sP 13 05 35.0 +0.3
TIY S **S** **13 13 36.4 -0.8**
TIY pmax pmax
comp=Z,500nm,3.5s

TIY LR LR
comp=N,5µm,15.8s,MS5.8
TIY LR LR
comp=E,3µm,16.8s,MS5.8
TIY LR LR
comp=Z,5µm,16.0s,MS5.8
BBAL Bala 59.79 27⇑ iP P 13 05 27.7 -0.2
CDAG Cicekdag 59.81 26⇑ iP P 13 05 27.8 -0.2
EFP Efpalio 59.81 37 eP P 13 05 28.1 +0.1
EFP Efpalio 59.81 37 P P 13 05 28.0 0.0
DEMI Demirci 59.90 31⇑ iP P 13 05 28.7 +0.1
VLS Valsamata 59.91 39 eP P 13 05 29.1 +0.4
HOMI Horasan 59.92 19⇑ iP P 13 05 30.3 +1.5
GDZ Gediz 59.92 30⇑ iP P 13 05 26.0 -2.8
GNI Garni 59.98 17 LR LR 13 34 53.9
comp=Z,772nm,18.2s,MS4.9,baz=354,slow=40
GNI Garni 59.98 17 eP P 13 05 30.5 +1.4
comp=Z,71nm,1.3s,mb5.5
GNI LR LR
comp=Z,873nm,19.0s,MS4.9
GNI Garni 59.98 17 eP P 13 05 30.5 +1.4
GNI pmax pmax
comp=Z,71nm,1.3s
GNI MLR MLR
comp=Z,873nm,19.0s
GNI Garni 59.98 17 P P 13 05 30.0 +0.9
SNR=10
AKHS Akhisar 59.98 32⇑ iP P 13 05 28.7 -0.5
LAKA Lakka 60.01 37 P P 13 05 29.8 +0.4
RTC Rabat Centre 60.17 65 PFAKE 13 05 40.0 +9.4
RTC LR LR
comp=Z,717nm,20.0s,MS4.8
LTK Loutraki 60.33 36 eP P 13 05 29.0 -2.6
GUR Goura 60.35 37 eP P 13 05 31.4 -0.3
GUR Goura 60.35 37 P P 13 05 31.3 -0.4
URLA Izmir 60.37 33⇑ iP P 13 05 29.0 -2.9
BOLV Bolvadin 60.42 29⇑ iP P 13 05 29.7 -2.5
KEMA Kemaliye 60.47 22⇑ iP P 13 05 32.6 +0.1
VLY Voula,Athens 60.59 36 eP P 13 05 33.4 +0.1
TUTA Tutak 60.61 19⇑ iP P 13 05 32.9 -0.6
KHAL Karahalli 60.64 31⇑ iP P 13 05 31.9 -1.8
NAIG Nisos Aigina 60.65 36 eP P 13 05 33.7 0.0
KDHN Kadinhani 60.72 28⇑ iP P 13 05 31.7 -2.5
TEIG Tepich 60.77 150 P P 13 05 34.2 -0.5
baz=352,slow=10
TEIG Tepich 60.77 150 eP P 13 05 34.7 -0.1
comp=Z,106nm,1.2s,mb5.8
TEIG LR LR
comp=Z,2µm,20.0s,MS5.3
DID Didima 60.87 36 eP P 13 05 34.6 -0.7
KSH Kashi 60.90 349 P P 13 05 38.3 +2.8
KSH pP pP 13 05 42.8 +2.1
KSH sP sP 13 05 45.3 +2.6
KSH PcP PcP 13 06 21.3 +2.5
KSH PP PP 13 07 54.8 +5.7
KSH ScP ScP 13 10 20.8 +1.8
KSH PcS PcS 13 10 22.5 +1.1
KSH S **S 13 13 54.1 +1.9**
KSH ScS ScS 13 15 25.1 -0.1
KSH SS SS 13 17 55.3 +4.8
KSH pmax pmax
comp=Z,32nm,0.8s,mb5.5
KSH LR LR
comp=N,2µm,15.2s,MS5.6
KSH LR LR
comp=E,3µm,14.8s,MS5.6
KSH LR LR
comp=Z,2µm,13.6s,MS5.4
VLX Vlachokerasia 60.91 37 eP P 13 05 36.3 +0.8
KEST Kesra 60.92 49 P P 13 05 35.2 -0.4
comp=Z,47nm,1.0s,mb5.6,baz=288,slow=1.3,SNR=47
KEST LR LR 13 34 12.3
comp=Z,731nm,18.4s,MS4.9,baz=243,slow=38
KEST Kesra 60.92 49 eP P 13 05 35.6 0.0
BNGL BINGOL 60.96 20⇑ iP P 13 05 34.8 -1.0
SMG Samos 61.04 33 eP P 13 05 36.3 -0.1
ITM Ithomi 61.05 38 eP P 13 05 32.3 -4.2
AYDN Tasoluk 61.19 32⇑ iP P 13 05 35.1 -2.3
DNZL Cakiroluk 61.27 31⇑ iP P 13 05 36.0 -2.0
AKCD Akcadag 61.40 23⇑ iP P 13 05 38.4 -0.5
WDD Wield Dalam 61.47 44 PFAKE 13 05 50.0 +11
WDD LR LR
comp=Z,888nm,19.0s,MS4.9
APE Apeiranthos 61.54 34 eP P 13 05 37.5 -2.3
APE Apeiranthos 61.54 34 ⇑P P 13 05 39.3 -0.5
APE Apeiranthos 61.54 34⇑ iP P 13 05 39.3 -0.5
JNU Nakatsue 61.60 299 eP P 13 05 41.8 +1.6
VLI Veliai 61.62 37 eP P 13 05 38.8 -1.5
MDT Midelt 61.68 63 P P 13 05 39.9 -0.9
comp=Z,31nm,0.8s,mb5.5,baz=352,slow=6.6,SNR=52
MDT LR LR 13 32 29.7
comp=Z,2µm,18.7s,MS5.2,baz=338,slow=36
MDT Midelt 61.68 63 P P 13 05 39.9 -0.9
MDT LR 13 32 29.7
ANDN Andirin 62.00 25⇑ iP P 13 05 42.7 -0.2
GULE Gulek 62.17 26⇑ iP P 13 05 43.3 -0.7
LZH Lanzhou 62.33 324 eP P 13 05 45.5 +0.4
LZH pP pP 13 05 51.9 +1.5
LZH sP sP 13 05 55.0 +2.6
LZH PcP PcP 13 06 26.8 +2.1
LZH PP PP 13 08 05.1 +3.3
LZH eS **S 13 14 09.3 -1.0**
LZH sS sS 13 14 18.5 -0.5
LZH SS SS 13 18 16.5 +3.5
LZH pmax pmax
comp=Z,34nm,1.2s,mb5.3
LZH pmax pmax
comp=Z,250nm,6.0s
LZH LR LR
comp=N,5µm,14.7s,MS5.8
LZH LR LR
comp=E,1µm,14.2s,MS5.8
LZH LR LR
comp=Z,5µm,15.3s,MS5.8
POHA Pohakuloa 62.46 222 eP P 13 05 47.5 +1.4
HAKT HAKKARI 62.50 18⇑ iP P 13 05 44.9 -1.4
GTBY Guantanamo Bay 62.51 136 eP P 13 05 46.1 -0.4
comp=Z,92nm,1.4s,mb5.7
GTBY LR LR
comp=Z,2µm,19.0s,MS5.3
ABKT Ailbek 62.65 5 P P 13 05 47.4 +0.2
comp=Z,471nm,0.8s,mb6.7,SNR=11
AKAS Kas 62.77 31⇑ iP P 13 05 45.6 -2.4
PUH Pauahi 62.79 222 eP P 13 05 48.5 +0.2
KHU Kahuku 62.97 222 eP P 13 05 50.4 +0.9
KHU Kahuku 62.97 222 eP P 13 05 50.4 +0.8
VAM Vamos 63.05 36 eP P 13 05 47.8 -2.1
KARP Karpathos 63.21 33 eP P 13 05 49.4 -1.6
NPS Neapolis 63.34 34 eP P 13 05 49.1 -2.8
CMIG Matias Romero 63.34 157 P P 13 05 50.6 -1.5
comp=Z,9.8nm,0.8s,mb5.0,baz=5.2,slow=5.9,SNR=8.1
CMIG Matias Romero 63.34 157 P P 13 05 50.6 -1.5
XAN Xi'an 63.78 319 P P 13 05 53.9 -0.9
XAN pP pP 13 05 58.8 -1.2
XAN PP PP 13 08 14.3 -0.3
XAN S **S 13 14 26.5 -2.0**
XAN pmax pmax
comp=Z,12nm,0.8s,mb5.0
XAN pmax pmax
comp=Z,140nm,8.2s
XAN LR LR
comp=N,890nm,26.1s
XAN LR LR
comp=E,580nm,16.2s
XAN LR LR
comp=Z,380nm,24.9s,MS4.5
MTDJ Mount Denham 63.89 139 eP P 13 05 54.9 -0.7
comp=Z,76nm,0.8s,mb5.8
MTDJ LR LR
comp=Z,2µm,21.0s,MS5.2
SDDR Presa de Saban 63.94 132 eP P 13 05 55.1 -0.9
comp=Z,25nm,0.7s,mb5.4
SDDR LR LR
comp=Z,2µm,22.0s,MS5.3
CCAN Las Canadas 64.15 75 P P 13 05 58.5 +1.2
comp=Z,62nm,0.8s,mb5.7
CSS Prodhromos 64.36 28 eP P 13 05 59.5 +0.9
CSS LR LR
comp=Z,907nm,21.0s,MS4.9
CSS Prodhromos 64.36 28 P P 13 05 56.5 -2.1
CFTV Fuerteventura 64.40 73 P P 13 05 58.9 -0.1
comp=Z,71nm,0.9s,mb5.7
NJ2 Nanjing 64.45 310 eP P 13 05 57.5 -1.7
NJ2 pP pP 13 06 02.8 -1.7
NJ2 sP sP 13 06 05.3 -1.2
NJ2 S **S 13 14 32.0 -4.9**
NJ2 SS SS 13 18 47.0 +0.7
NJ2 pmax pmax
comp=Z,30nm,0.7s,mb5.4
NJ2 pmax pmax
comp=Z,480nm,8.1s
NJ2 LR LR
comp=N,3µm,16.6s,MS5.7
NJ2 LR LR
comp=E,2µm,16.7s,MS5.7
NJ2 LR LR
comp=Z,13µm,16.5s,MS6.2
EOSO Osorio 64.48 74 P P 13 06 00.5 +1.0
comp=Z,51nm,0.7s,mb5.7
SSE Sheshan 65.06 307 P P 13 06 01.8 -1.4
SSE S S 13 14 43.1 -1.3
SSE SS SS 13 18 55.1 -0.7
SSE pmax pmax
comp=Z,16nm,0.6s,mb5.2
SSE pmax pmax
comp=Z,350nm,5.5s
SSE LR LR
comp=N,2µm,15.4s,MS5.5
SSE LR LR
comp=E,1µm,15.4s,MS5.5
SSE LR LR
comp=Z,2µm,14.8s,MS5.4
CRPR Cabo Rojo, PR 65.48 128 eP P 13 06 05.6 -0.4
CELP Cerrillos 65.49 127 eP P 13 06 04.3 -1.8
SJG San Juan 65.51 127 P P 13 06 04.7 -1.5
comp=Z,7.7nm,0.3s,mb5.3,baz=338,slow=16,SNR=2.8
SJG San Juan 65.51 127 P P 13 06 04.7 -1.5
SJG LR LR
comp=Z,1µm,21.0s,MS5.2
SJG San Juan 65.51 127 P P 13 06 04.7 -1.5
SJG MLR MLR
comp=Z,1µm,21.0s
CBIJ Chichi jima 65.60 286 LR LR 13 36 30.2
comp=Z,625nm,18.0s,MS4.9,baz=210,slow=38
KBL Kabul 66.04 355 eP P 13 06 09.0 -0.5
comp=Z,28nm,0.8s,mb5.3
KBL Kabul 66.04 355 eP P 13 06 09.0 -0.5
KBL pmax pmax
comp=Z,28nm,0.8s,mb5.3
WHN Wuhan 66.55 313 ⇓P P **13 06 11.8 -1.0**
WHN S S 13 15 01.0 -1.6
WHN LR LR
comp=N,3µm,17.6s,MS6.0
WHN LR LR
comp=E,7µm,16.8s,MS6.0
WHN LR LR
comp=Z,5µm,17.2s,MS5.8
ANWB Willy Bob 66.60 122 PFAKE 13 06 30.0 +17
ANWB LR LR
comp=Z,2µm,22.0s,MS5.2
BHD Baghdad 66.81 18 *i* x x 13 06 13.0
BHD *i* x x 13 08 44.0
BHD *i* x x 13 15 05.0
BHD *i* x x 13 15 23.0
BHD *i* x x 13 16 02.0
TGUH Tegucigalpa,Un 66.97 149 PFAKE 13 06 30.0 +14
TGUH LR LR
comp=Z,1µm,19.0s,MS5.1
JOHN Johnston Islan 67.35 236 PFAKE 13 06 30.0 +12
JOHN LR LR
comp=Z,38µm,21.0s,MS6.6
ENH Enshi 67.43 318 *eP* **P 13 06 17.8 -0.6**
comp=Z,45nm,0.7s,mb5.6
ENH LR LR
comp=Z,2µm,20.0s,MS5.4
CD2 Chengdu 67.46 323 P **P 13 06 18.5 -0.1**
CD2 pP pP 13 06 24.3 +0.4
CD2 sP sP 13 06 26.5 +0.7
CD2 PP PP 13 08 49.6 +2.8
CD2 S S 13 15 12.8 -0.8
CD2 SS SS 13 19 33.8 +0.8
CD2 pmax pmax
comp=Z,120nm,0.7s,mb6.0
CD2 pmax pmax
comp=Z,550nm,6.1s
CD2 LR LR
comp=N,2µm,16.6s
CD2 LR LR
comp=Z,2µm,15.7s,MS5.5
JOW Kunigami 68.17 300 LR LR 13 36 13.3
comp=Z,865nm,18.5s,MS5.0,baz=206,slow=36
JOW Kunigami 68.17 300 *eP* **P 13 06 22.3 -0.8**
WAKE Wake Island 68.84 261 PFAKE 13 06 40.0 +13
WAKE LR LR
comp=Z,2µm,20.0s,MS5.3
SMLA Simla 69.22 348 *i* P **P 13 06 28.0 -1.6**
SMLA *i* x x 13 13 28.4
FDF Fort de France 69.58 122 PFAKE 13 06 40.0 +8.1
FDF LR LR
comp=Z,1µm,20.0s,MS5.2
LSA Lhasa 69.83 335 P **P 13 06 33.6 +0.2**
LSA S S 13 15 45.6 +3.9
LSA Lhasa 69.83 335 *eP* **P 13 06 34.3 +0.9**
comp=Z,35nm,0.7s,mb5.4
LSA LR LR
comp=Z,784nm,19.0s,MS5.0
LSA Lhasa 69.83 335 *eP* **P 13 06 34.3 +0.9**
LSA pmax pmax
comp=Z,35nm,0.7s,mb5.4
LSA MLR MLR
comp=Z,784nm,19.0s,MS5.0
KKR Kurukshetra 70.40 348 *e*PKP **P 13 06 37.5 +0.7**
MIB Mutribah 70.41 15 *eP* **P 13 06 36.2 -0.7**
MIB AMb AMB 13 06 39.6
comp=Z,474nm,0.8s,mb6.5
UMR Umm Al-Rimmam 70.67 15 *eP* **P 13 06 37.7 -0.8**
UMR AMb AMB 13 06 41.2
comp=Z,450nm,0.7s,mb6.5
JTS JuntasAbangare 70.92 147 PFAKE 13 06 50.0 +10
JTS LR LR
comp=Z,1µm,21.0s,MS5.1
JTS JuntasAbangare 70.92 147⇑ *iP* **P 13 06 38.7 -1.4**
NAY Al-Naaiem 70.95 15 *eP* **P 13 06 39.1 -1.1**
NAY AMb AMB 13 06 42.6
comp=Z,73nm,0.8s,mb5.7
TATO Taipei 71.03 306 PFAKE 13 06 50.0 +9.2
TATO LR LR
comp=Z,2µm,22.0s,MS5.2
KBD Kabd 71.05 15 *eP* **P 13 06 39.8 -1.0**
KBD AMb AMB 13 06 42.7
comp=Z,130nm,0.6s,mb6.0
RDF Al-Radifah 71.29 15 *eP* **P 13 06 41.8 -0.5**
RDF AMb AMB 13 06 45.6
comp=Z,322nm,0.8s,mb6.3
RTK Rohtak 71.33 348 *e*PKP **P 13 06 42.1 -0.5**
YHNB Yeheng 71.35 306 PFAKE 13 06 50.0 +7.3
YHNB LR LR
comp=Z,1µm,19.0s,MS5.2
BBGH Gun Hill 71.38 121 PFAKE 13 06 50.0 +7.0
BBGH LR LR
comp=Z,3µm,21.0s,MS5.6
QZH Quanzhou 71.48 309⇓ *iP* **P 13 06 44.8 +1.3**
QZH S S 13 16 03.3 +2.3
QZH LR LR
comp=N,3µm,13.0s,MS5.8
QZH LR LR
comp=E,3µm,15.2s,MS5.8
QZH LR LR
comp=Z,6µm,15.8s,MS6.0
GYA Guiyang 71.53 320 P P 13 06 43.8 0.0
GYA PcP PcP 13 07 04.6 +1.5
GYA PP PP 13 09 22.6 +0.6
GYA S S 13 16 00.3 -1.3
GYA SKS 13 16 42.8
GYA ScS ScS 13 16 44.9 -2.8
GYA SS SS 13 20 32.3 -3.5
GYA pmax pmax
comp=Z,50nm,0.8s,mb5.5
GYA pmax pmax
comp=Z,470nm,6.4s
GYA LR LR
comp=N,2µm,18.3s,MS5.5
GYA LR LR
comp=E,2µm,18.7s,MS5.5
GYA LR LR
comp=Z,2µm,17.7s,MS5.5
NDI New Delhi 71.65 348 *e*PKP **P 13 06 42.0 -2.5**
BHGR Bahadurgarh 71.66 348 *e*PKP **P 13 06 44.5 0.0**
DANN Dangsing 71.67 342 *eP* **P 13 06 44.2 -0.4**
comp=Z,689nm,0.7s,mb6.7
AYAN Aya Nagar 71.86 348 *e*PKP **P 13 06 45.2 -0.5**
PYUN Piuthan 71.96 342 *eP* **P 13 06 45.4 -0.9**
comp=Z,234nm,0.9s,mb6.1
GKN Gorkha 71.96 341 *eP* **P 13 06 45.6 -0.8**
comp=Z,364nm,0.7s,mb6.4
GUN Gumba 71.98 340 *eP* **P 13 06 46.5 +0.1**
comp=Z,775nm,0.9s,mb6.6
GRGR Grenville 72.05 123 PFAKE 13 07 00.0 +13
GRGR LR LR
comp=Z,2µm,20.0s,MS5.3
SONA Sohna 72.09 348 *e*PKP **P 13 06 47.0 -0.1**
SONA AMb AMB 13 06 50.3
comp=Z,53nm,1.1s,mb5.4
KKN Kakani 72.14 340 *eP* **P 13 06 47.4 0.0**
comp=Z,676nm,0.8s,mb6.6
KOLN Koldanda 72.25 342 *eP* **P 13 06 47.0 -1.1**
comp=Z,185nm,0.8s,mb6.1
KHET Khetri 72.31 349 *e*PKP **P 13 06 48.0 -0.4**
KHET AMb AMB 13 06 49.5
comp=Z,52nm,0.8s,mb5.5
DMN Daman 72.33 340 *eP* **P 13 06 48.4 -0.1**
comp=Z,673nm,0.8s,mb6.6
PKI Pulchoki 72.34 340 *eP* **P 13 06 48.3 -0.3**
comp=Z,324nm,0.8s,mb6.3
TAPN Taplejung 72.41 338 *eP* **P 13 06 48.8 -0.3**
comp=Z,342nm,0.8s,mb6.3
BCIP Isla Barro Col 72.56 142 PFAKE 13 07 00.0 +10
BCIP LR LR
comp=Z,2µm,21.0s,MS5.4
RAMN Ramite 72.89 339 *eP* **P 13 06 51.5 -0.4**
comp=Z,443nm,0.7s,mb6.5
ODAN Odare 72.92 338 *eP* **P 13 06 52.1 0.0**
comp=Z,374nm,0.6s,mb6.5
AGRA Agra 73.07 347 *e*PKP **P 13 06 51.6 -1.4**
TAM Tamanrasset 73.09 55 *eP* **P 13 06 52.3 -0.8**
comp=Z,34nm,0.9s,mb5.3
TAM LR LR
comp=Z,3µm,20.0s,MS5.6
TAM Tamanrasset 73.09 55 *eP* **P 13 06 52.3 -0.8**
TAM pmax pmax
comp=Z,34nm,0.9s,mb5.3
TAM MLR MLR
comp=Z,3µm,20.0s,MS5.6
KMI Kunming 73.29 323 P P 13 06 53.8 -0.5
KMI pP pP 13 07 02.8 +3.2
KMI sP sP 13 07 07.0 +5.4
KMI PP PP 13 09 37.3 +0.2
KMI S S 13 16 13.6 -8.2
KMI sS sS 13 16 29.8 -0.8
KMI SKS 13 16 52.9
KMI pmax pmax
comp=Z,47nm,1.0s,mb5.4
KMI pmax pmax
comp=Z,480nm,5.8s
KMI LR LR
comp=N,3µm,18.1s,MS5.6
KMI LR LR
comp=E,1µm,18.1s,MS5.6
KMI LR LR
comp=Z,2µm,18.6s,MS5.4
SHL Shillong 73.87 334⇑ *iP* **P 13 06 57.0 -0.7**
comp=Z,10.0nm,0.6s,mb4.9
SHL *i* x x 13 16 28.0
SDV Santo Domingo 73.97 133 *eP* **P 13 06 58.1 -0.2**
SDV LR LR
comp=Z,573nm,20.0s,MS4.9
BHPL Bhopal 77.06 347 *e*PKP **P 13 07 15.5 -0.5**
ARQ Araqi 77.16 7 P **P 13 07 15.6 -1.0**
SNR=28
BHJ Bhuj 77.27 354 *e*PKP **P 13 07 17.0 -0.2**
BHJ AMb AMB 13 08 19.6
comp=Z,81nm,0.7s,mb5.8
BBTS Babate 77.41 78 P **P 13 07 17.2 -0.9**
comp=Z,40nm,1.0s,mb5.3,baz=355,slow=5.2,SNR=8.4
BBTS LR LR 13 40 39.7
comp=Z,1µm,18.2s,MS5.3,baz=350,slow=35
BBTS Babate 77.41 78 P **P 13 07 17.2 -0.9**
BBTS LR LR 13 40 39.7
ROSC El Rosal 77.46 137 P **P 13 07 18.8 +0.5**
comp=Z,20nm,0.7s,mb5.2,baz=87,slow=8.9,SNR=11
ROSC LR LR 13 42 12.3
comp=Z,2µm,21.5s,MS5.3,baz=10,slow=36
ROSC El Rosal 77.46 137 *eP* **P 13 07 19.1 +0.7**
SMDO Samad 77.47 5 P **P 13 07 17.9 -0.4**
SNR=17
BSY Bisya 77.76 6 P **P 13 07 18.5 -1.5**
SNR=29
WBK Wadi Bani Khal 77.93 5 P **P 13 07 20.5 -0.4**
SNR=15
JMDO Jabal Madar 78.15 5 P **P 13 07 22.4 +0.2**
SNR=14
GUMO Guam 78.33 281 PFAKE 13 07 30.0 +6.8
GUMO LR LR
comp=Z,388nm,19.0s,MS4.8
QIZ Qiongzhong 78.47 316 P **P 13 07 20.5 -3.4**
QIZ sP sP 13 07 29.6 -1.6
QIZ S S 13 17 19.3 +0.3
QIZ pmax pmax
comp=Z,22nm,1.3s,mb4.9
QIZ LR LR
comp=N,2µm,15.2s
QIZ LR LR
comp=Z,2µm,14.4s,MS5.6
QIZ Qiongzhong 78.47 316 PFAKE 13 07 40.0 +16
QIZ LR LR
comp=Z,994nm,19.0s,MS5.2
CHRT Chiangrai 78.79 326⇓P **P 13 07 24.0 -1.7**
comp=Z,250nm,0.9s,mb6.1
AKL Akola 79.60 347⇓ *iP* **P 13 07 29.4 -0.7**
AKL *i* x x 13 10 37.3
CHG Chiang Mai 79.92 326⇑P **P 13 07 30.3 -1.6**
comp=Z,268nm,0.8s,mb6.2
CHTO Chiang Mai 79.92 326 *eP* **P 13 07 30.4 -1.5**
CHTO LR LR
comp=Z,1µm,19.0s,MS5.3
CHTO Chiang Mai 79.92 326 *eP* **P 13 07 30.4 -1.5**
CHTO MLR MLR
comp=Z,1µm,19.0s,MS5.3
CHTO Chiang Mai 79.92 326 P P 13 07 30.4 -1.5
comp=Z,628nmcomp=Z,30nm,1.0s,mb5.2
CHTO Chiang Mai 79.92 326 P P 13 07 30.6 -1.3
SNR=10
XMAS Kiritimati 80.16 222 PFAKE 13 07 40.0 +6.9
XMAS LR LR
comp=Z,2µm,19.0s,MS5.5
CM31 Chiang Mai Arr 80.28 326 *eP* **P 13 07 32.8 -0.9**
comp=Z,28nm,0.8s,mb5.2
CM31 LR LR
comp=Z,1µm,19.0s,MS5.3
CMAR Chiang Mai Arr 80.28 326 P P 13 07 32.6 -1.1
comp=Z,34nm,0.9s,mb5.3,baz=352,slow=5.6,SNR=112
CMAR PKKPbc PKKPbc 13 26 13.1 +1.0
comp=Z,1.6nm,1.0s,baz=212,slow=4.1,SNR=6.6
CMAR LR LR 13 45 15.2
comp=Z,1µm,18.2s,MS5.3,baz=198,slow=37
CMAR Chiang Mai Arr 80.28 326 P P 13 07 32.6 -1.1
CMAR PKKPbc PKKPbc 13 26 13.1 +1.0
CMAR LR LR 13 45 15.2
CMAR Chiang Mai Arr 80.28 326 P P 13 07 32.7 -1.1
CMAR 13 26 13.1
PAYG Puerto Ayora 81.29 154 PFAKE 13 07 50.0 +11
PAYG LR LR
comp=Z,2µm,19.0s,MS5.5
BDT Bhumibol Dam 81.47 326 P P 13 07 39.0 -1.1
comp=Z,22nm,0.8s,mb5.1
OTAV Otavalo 81.53 142 *eP* **P 13 07 40.9 +0.4**
comp=Z,12nm,0.8s,mb4.9
OTAV LR LR
comp=Z,1µm,22.0s,MS5.2
POO Poona 81.87 350 *e*PKP **P 13 07 40.5 -1.8**
TORD Torodi Ar. Bea 81.97 60 P P 13 07 40.9 -1.9
comp=Z,67nm,0.8s,mb5.6,baz=342,slow=4.2,SNR=155
TORD PKKPbc PKKPbc 13 26 09.4 +1.1
comp=Z,1.0nm,0.6s,baz=138,slow=2.9,SNR=10
TORD LR LR 13 44 57.1
comp=Z,1µm,19.0s,MS5.4,baz=350,slow=36
TORD Torodi Ar. Bea 81.97 60 P P 13 07 40.9 -1.9
TORD PKKPbc PKKPbc 13 26 09.4 +1.1
TORD LR LR 13 44 57.1
HYB Hyderabad 82.80 346 *i* P **P 13 07 46.0 -1.1**
comp=Z,110nm,1.0s,mb5.8
HYB eS S 13 18 12.0 +7.7
RBK Rabkut 82.90 9 P **P 13 07 46.6 -1.0**
SNR=20
NST Nakhon Sawan 82.91 325 P P 13 07 46.2 -1.5

ABTO	**Aybut**	**83.03**	**10**	P		**P**		**13 07 47.4**	**-0.9**
	SNR=34									
KAD	**Karad**	**83.07**	**350**	*e*PKP		**P**		**13 07 47.6**	**-1.0**
TARA	**Tarawa**	**85.27**	**251**	PFAKE				13 08 10.0	+10
TARA				LR	LR					
	comp=Z,1μm,21.0s,MS5.2									
DBIC	**Dimbokro**	**87.25**	**68**	P		**P**		**13 08 08.4**	**-1.0**
	comp=Z,18nm,1.0s,mb5.2,baz=331,slow=7.1,SNR=12									
DBIC				LR	LR			13 47 11.2		
	comp=Z,2μm,18.0s,MS5.5,baz=342,slow=36									
DBIC	**Dimbokro**	**87.25**	**68**	*e*P		**P**		**13 08 08.7**	**-0.8**
	comp=Z,11nm,0.7s,mb5.2									
DBIC				LR	LR					
	comp=Z,1μm,19.0s,MS5.3									
DBIC	**Dimbokro**	**87.25**	**68**	*e*P		**P**		**13 08 08.7**	**-0.8**
DBIC				pmax	pmax					
	comp=Z,11nm,0.7s									
DBIC				MLR	MLR					
	comp=Z,1μm,19.0s									
DAV	**Davao City (W)**	**87.98**	**299**	PFAKE				13 08 20.0	+7.0	
DAV				LR	LR					
	comp=Z,877nm,22.0s,MS5.1									
DAV	**Davao City (W)**	**87.98**	**299**	*e*P		**P**		**13 08 14.5**	**+1.5**	
DAV	**Davao City (W)**	**87.98**	**299**	P		**P**		**13 08 13.4**	**+0.5**	
	SNR=11									
ATD	**Arta Tunnel**	**88.31**	**21**	P		**P**		**13 08 17.1**	**+2.5**	
	comp=Z,8.9nm,0.5s,mb5.3,baz=316,slow=10,SNR=5.3									
ATD	**Arta Tunnel**	**88.31**	**21**	P		**P**		**13 08 17.1**	**+2.5**	
ATAH	**Atahualpa**	**88.81**	**143**	P		**P**		**13 08 17.1**	**+0.3**	
	comp=Z,13nm,0.9s,mb5.3,baz=358,slow=4.4,SNR=12									
ATAH	**Atahualpa**	**88.81**	**143**	P		**P**		**13 08 17.1**	**+0.3**	
TAOE	**Nuku Hiva Isla**	**89.24**	**204**	*e*LR		LR		13 36 40.2		
	comp=Z,1μm,22.1s									
KDM	**Kudat**	**89.46**	**308**	P		**P**		**13 08 22.9**	**+2.9**	
KKM	**Kota Kinabalu**	**90.40**	**308**	P		**P**		**13 08 25.1**	**+0.7**	
KKM	**Kota Kinabalu**	**90.40**	**308**	*e*P		**P**		**13 08 24.2**	**-0.1**	
	comp=Z,41nm,0.8s,mb5.8									
KKM				LR	LR					
	comp=Z,625nm,19.0s,MS5.1									
KKM	**Kota Kinabalu**	**90.40**	**308**	P		**P**		**13 08 26.2**	**+1.8**	
	comp=Z,937nmcomp=Z,60nm,0.9s,mb5.9									
SDKM	**Sandakan**	**90.66**	**307**	P		**P**		**13 08 25.6**	**+0.1**	
MYLDM	**Lahad Datu**	**90.92**	**306**	P		**P**		**13 08 28.9**	**+2.2**	
MYLDM	**Lahad Datu**	**90.92**	**306**	P		**P**		**13 08 29.1**	**+2.3**	
	comp=Z,1μmcomp=Z,56nm,1.8s,mb5.6									
TSM	**Tawau**	**91.88**	**306**	P		**P**		**13 08 33.9**	**+2.6**	
KULM	**Kulim**	**93.11**	**323**	P		**P**		**13 08 37.5**	**+0.6**	
KULM	**Kulim**	**93.11**	**323**	PFAKE				13 08 50.0	+13	
KULM				LR	LR					
	comp=Z,2μm,20.0s,MS5.5									
KULM	**Kulim**	**93.11**	**323**	P		sP		13 08 47.9	+3.6	
BTM	**Bintulu**	**93.64**	**311**	P		**P**		**13 08 40.2**	**+0.9**	
NNA	**Nana**	**93.78**	**142**	LR		LR		13 50 55.9		
	comp=Z,594nm,21.9s,MS5.0,baz=338,slow=36									
NNA	**Nana**	**93.78**	**142**	PFAKE				13 08 50.0	+10	
NNA				LR	LR					
	comp=Z,742nm,20.0s,MS5.1									
IPM	**Ipoh**	**93.87**	**323**	P		**P**		**13 08 40.7**	**+0.3**	
IPM	**Ipoh**	**93.87**	**323**	*e*P		**P**		**13 08 39.6**	**-0.8**	
	comp=Z,15nm,0.9s,mb5.4									
IPM	**Ipoh**	**93.87**	**323**	P		**P**		**13 08 40.4**	**0.0**	
FUNA	**Funafuti**	**93.90**	**244**	PFAKE				13 08 50.0	+10	
FUNA				LR	LR					
	comp=Z,4μm,20.0s,MS5.9									
RCBR	**Riachuelo**	**93.95**	**101**	PFAKE				13 08 50.0	+9.3	
RCBR				LR	LR					
	comp=Z,697nm,21.0s,MS5.1									
SBUM	**Sibu**	**94.49**	**311**	P		**P**		**13 08 44.4**	**+1.2**	
SBUM	**Sibu**	**94.49**	**311**	P		sP		13 08 53.3	+2.7	
KSM	**Kuching**	**95.71**	**313**	P		**P**		**13 08 49.6**	**+0.8**	
KSM	**Kuching**	**95.71**	**313**	PFAKE				13 09 00.0	+11	
KSM				LR	LR					
	comp=Z,521nm,20.0s,MS5.0									
KGM	**Kluang**	**96.04**	**320**	P		**P**		**13 08 51.2**	**+0.9**	
MYKOM	**Kota Tinggi**	**96.20**	**320**	P		**P**		**13 08 51.9**	**+0.8**	
HNR	**Honiara**	**98.10**	**262**	PFAKE				13 09 10.0	+10	
HNR				LR	LR					
	comp=Z,674nm,20.0s,MS5.1									
MSKU	**Masuku**	**98.29**	**51**	LR		LR		13 57 39.7		
	comp=Z,1μm,18.3s,MS5.5,baz=312,slow=38									
PPT	**Papeete**	**98.67**	**212**	*e*SP		SP		13 21 50.0	-5.6	
	comp=Z,290nm,26.8s									
PPT				*e*LR		LR		13 41 10.7		
	comp=Z,933nm,21.8s									
PPT	**Papeete**	**98.67**	**212**	LR		LR		13 51 24.3		
	comp=Z,704nm,19.1s,MS5.2,baz=339,slow=34									
LPAZ	**La Paz**	**99.08**	**134**	PP		PP		13 13 04.3	-2.0	
	comp=Z,2.6nm,0.8s,baz=347,slow=8.6,SNR=3.6									
LPAZ				PKKP		PKKPbc		13 25 31.2	+5.2	
	comp=Z,1.8nm,0.9s,baz=124,slow=2.5,SNR=6.5									
LPAZ				LR		LR		13 58 03.5		
	comp=Z,842nm,18.5s,MS5.3,baz=329,slow=38									
LPAZ	**La Paz**	**99.08**	**134**	PFAKE				13 09 20.0	+16	
LPAZ				LR	LR					
	comp=Z,856nm,19.0s,MS5.3									
MBAR	**Mbarara**	**99.33**	**34**	PFAKE				13 09 20.0	+15	
MBAR				LR	LR					
	comp=Z,679nm,22.0s,MS5.1									
PMG	**Port Moresby**	**100.39**	**275**	PFAKE				13 09 20.0	+10	
PMG				LR	LR					
	comp=Z,594nm,19.0s,MS5.1									
KMBO	**Kilima Mbogo**	**100.44**	**27**	PFAKE				13 09 20.0	+10	
KMBO				LR	LR					
	comp=Z,482nm,20.0s,MS5.0									
KAPI	**Kappang**	**100.74**	**303**	PFAKE				13 09 20.0	+8.2	
KAPI				LR	LR					
	comp=Z,422nm,21.0s,MS4.9									
RKT	**Rikitea**	**103.07**	**198**	*e*SP		SP		13 22 40.5	-2.0	
	comp=Z,447nm,32.8s									
RKT				*e*LR		LR		13 43 10.6		
	comp=Z,815nm,29.0s									
TBI	**Tubuai**	**104.38**	**211**	*e*LR		LR		13 43 49.9		
	comp=Z,845nm,23.0s									
MSEY	**Mahe Island**	**104.97**	**9**	PFAKE				13 09 40.0	+9.4	
MSEY				LR	LR					
	comp=Z,433nm,20.0s,MS5.0									
SHEL	**Horse Pasture**	**109.25**	**73**	PFAKE				13 14 00.0	+7.4	
SHEL				LR	LR					
	comp=Z,510nm,20.0s,MS5.1									
SPB	**Sao Paulo**	**109.34**	**115**	PFAKE				13 14 00.0	+7.4	
SPB				LR	LR					
	comp=Z,1μm,20.0s,MS5.5									
CPUP	**Villa Florida**	**110.48**	**125**	PKKPbc		PKKPbc		13 24 54.0	+2.3	
	comp=Z,0.4nm,0.4s,baz=162,slow=4.6,SNR=5.0									
CPUP	**Villa Florida**	**110.48**	**125**	PFAKE				13 14 10.0	+15	
CPUP				LR	LR					
	comp=Z,195nm,20.0s,MS4.7									
CTAO	**Charters Tower**	**110.99**	**274**	PFAKE				13 14 10.0	+14	
CTAO				LR	LR					
	comp=Z,386nm,20.0s,MS5.0									
LCO	**Las Campanas**	**111.30**	**138**	PFAKE				13 14 10.0	+14	
LCO				LR	LR					
	comp=Z,805nm,19.0s,MS5.3									
WRAB	**Tennant Creek**	**112.96**	**286**	PFAKE				13 14 10.0	+10	
WRAB				LR	LR					
	comp=Z,591nm,21.0s,MS5.2									
WRA	**Warramunga Arr**	**112.97**	**286**	Pdiff		Pdif		13 10 05.7	-0.5	
	comp=Z,1.3nm,0.9s,baz=2.4,slow=5.2,SNR=7.8									
WRA				PKiKP		PKiKP		13 13 57.5	-2.1	
	comp=Z,4.0nm,0.7s,baz=344,slow=2.1,SNR=42									
WRA				PP		PP		13 14 45.8	-2.7	
	comp=Z,4.3nm,1.0s,baz=16,slow=7.9,SNR=8.9									
WRA	**Warramunga Arr**	**112.97**	**286**	Pdif		Pdif		13 10 05.7	-0.5	
WRA				PKPdf		PKiKP		13 13 57.5	-2.1	
WRA				PP		PP		13 14 45.8	-2.7	
WRA	**Warramunga Arr**	**112.97**	**286**	P		Pdif		13 10 05.7	-0.5	
WRA								13 13 57.5		
WRA								13 14 45.8		
LSZ	**Lusaka**	**113.56**	**38**	PFAKE				13 14 10.0	+9.2	
LSZ				LR	LR					
	comp=Z,997nm,19.0s,MS5.4									
TSUM	**Tsumeb**	**116.10**	**49**	PFAKE				13 14 20.0	+14	
TSUM				LR	LR					
	comp=Z,660nm,20.0s,MS5.2									
MBWA	**Marble Bar**	**116.59**	**300**	PFAKE				13 14 20.0	+13	
MBWA				LR	LR					
	comp=Z,648nm,20.0s,MS5.2									
ASAR	**Alice Springs**	**116.68**	**285**	Pdiff		Pdif		13 10 21.8	-0.9	
	comp=Z,0.7nm,1.0s,baz=5.4,slow=5.7,SNR=5.7									
ASAR				PKP		PKPdf		13 14 04.5	-2.2	
	comp=Z,9.1nm,0.7s,baz=39,slow=1.7,SNR=77									
ASAR	**Alice Springs**	**116.68**	**285**	Pdif		Pdif		13 10 21.8	-0.9	
ASAR				PKP		PKPdf		13 14 04.5	-2.2	
ASAR	**Alice Springs**	**116.68**	**285**	P		Pdif		13 10 21.8	-0.9	
ASAR								13 14 04.5		

RMQ	**Roma**	**116.78**	**270**	*e*PKP		PKPdf		13 14 07.0	+0.3	
	comp=Z,13nm,0.9s									
ARMA	**Armidale**	**120.09**	**266**	*e*PKP		PKPdf		13 14 13.3	+0.3	
TRQA	**Tornquist**	**121.34**	**131**	PFAKE				13 14 30.0	+15	
TRQA				LR	LR					
	comp=Z,1μm,19.0s,MS5.5									
LBTB	**Lobatse**	**122.87**	**42**	PKP		PKPdf		13 14 18.3	-0.2	
	comp=Z,8.4nm,0.9s,baz=290,slow=3.8,SNR=6.8									
LBTB				PKKPab		PKKPab		13 24 18.1	+7.4	
	comp=Z,3.2nm,0.7s,baz=163,slow=4.4,SNR=5.3									
LBTB	**Lobatse**	**122.87**	**42**	PKP		PKPdf		13 14 18.3	-0.2	
LBTB				PKKPab		PKKPab		13 24 18.1	+7.4	
LBTB				LR		LR				
	comp=Z,3μm,20.0s,MS5.9									
LBTB	**Lobatse**	**122.87**	**42**	PKIKP		PKPdf		13 14 18.3	-0.2	
LBTB				MLR		MLR				
	comp=Z,3μm,20.0s,MS5.9									
STKA	**Stephens Creek**	**123.33**	**276**	PKP		PKPdf		13 14 17.8	-1.4	
	comp=Z,14nm,0.8s,baz=28,slow=2.3,SNR=18									
STKA	**Stephens Creek**	**123.33**	**276**	*e*PKP		PKPdf		13 14 15.8	-3.4	
	comp=Z,9.0nm,0.8s									
STKA	**Stephens Creek**	**123.33**	**276**	*e*PKPdf		PKPdf		13 14 16.8	-2.4	
STKA	**Stephens Creek**	**123.33**	**276**	*e*PKIKP		PKPdf		13 14 16.8	-2.4	
URZ	**Urewera**	**123.37**	**240**	PKP		PKPdf		13 14 16.9	-2.1	
	comp=Z,14nm,0.9s,baz=254,slow=6.0,SNR=6.0									
URZ	**Urewera**	**123.37**	**240**	PKP		PKPdf		13 14 16.9	-2.1	
FORT	**Forrest**	**124.64**	**290**	*e*PKP		PKPdf		13 14 19.2	-2.5	
	comp=Z,26nm,0.7s									
CNB	**Canberra Magne**	**125.27**	**267**	*e*PKP		PKPdf		13 14 22.4	-0.4	
	comp=Z,80nm,0.8s									
CAN	**Canberra**	**125.34**	**267**	PFAKE				13 14 30.0	+7.1	
CAN				LR	LR					
	comp=Z,428nm,21.0s,MS5.1									
BOSA	**Boshof**	**126.38**	**43**	PKP		PKPdf		13 14 23.8	-1.3	
	comp=Z,14nm,0.9s,baz=18,slow=1.5,SNR=12									
BOSA	**Boshof**	**126.38**	**43**	PKP		PKPdf		13 14 23.8	-1.3	
BOSA				LR	LR					
	comp=Z,1μm,20.0s,MS5.6									
BOSA	**Boshof**	**126.38**	**43**	PKIKP		PKPdf		13 14 23.8	-1.3	
BOSA				MLR	MLR					
	comp=Z,1μm,20.0s,MS5.6									
SNZO	**South Karori**	**126.73**	**241**	PFAKE				13 14 40.0	+15	
SNZO				LR	LR					
	comp=Z,579nm,21.0s,MS5.2									
KLBR	**Kellerberrin**	**127.13**	**300**	*e*PKP		PKPdf		13 14 26.1	-0.3	
	comp=Z,19nm,0.8s									
TOO	**Toolangi**	**128.16**	**270**	*e*PKP		PKPdf		13 14 27.5	-0.7	
	comp=Z,48nm,0.9s									
NWAO	**Narrogin (SRO)**	**128.52**	**300**	PFAKE				13 14 40.0	+11	
NWAO				LR	LR					
	comp=Z,366nm,21.0s,MS5.0									
SUR	**Sutherland**	**129.51**	**48**	PKP		PKPdf		13 14 31.4	+0.4	
	comp=Z,3.8nm,0.6s,baz=310,slow=6.3,SNR=4.2									
SUR	**Sutherland**	**129.51**	**48**	PKP		PKPdf		13 14 31.4	+0.4	
SUR				LR	LR					
	comp=Z,1μm,20.0s,MS5.6									
RPZ	**Rata Peaks**	**129.66**	**244**	PKP		PKPdf		13 14 30.4	-0.5	
	comp=Z,11nm,0.8s,baz=135,slow=5.7,SNR=3.7									
RPZ	**Rata Peaks**	**129.66**	**244**	PKP		PKPdf		13 14 30.4	-0.5	
EFI	**East Falkland**	**135.23**	**131**	PFAKE				13 14 50.0	+8.9	
EFI				LR	LR					
	comp=Z,1μm,19.0s,MS5.7									
USHA	**Ushuaia**	**137.03**	**141**	PKP		PKPdf		13 14 42.1	-2.2	
	comp=Z,12nm,0.8s,baz=181,slow=3.3,SNR=4.6									
USHA	**Ushuaia**	**137.03**	**141**	PKP		PKPdf		13 14 42.1	-2.2	
PMSA	**Palmer Station**	**147.24**	**141**	PKPbc		PKPbc		13 15 03.8	-0.7	
	comp=Z,83nm,0.8s,baz=344,slow=4.0,SNR=14									
PMSA	**Palmer Station**	**147.24**	**141**	*e*PKPbc		PKPbc		13 15 04.4	-0.2	
PMSA				LR		LR				
	comp=Z,746nm,19.0s,MS5.5									
VNA1	**Neumayer--Stat**	**161.05**	**102**	*e*		PKPdf		13 15 12.7	-8.5	
	baz=304,slow=4.1									
VNA1				*e*				13 16 02.7		
VNA1				*e*				13 16 11.1		
VNA3	**Neumayer Olymp**	**161.31**	**105**	*e*		PKPdf		13 15 13.0	-8.5	
	baz=304,slow=4.1									
VNA3				*e*				13 16 03.1		
VNA3				*e*				13 16 11.6		
VNA2	**Neumayer--Watz**	**161.44**	**102**	*e*		PKPdf		13 15 12.1	-10	
	baz=304,slow=4.1									
VNA2				*e*				13 16 03.4		
CASY	**Casey**	**161.73**	**290**	PFAKE				13 15 30.0	+7.9	
CASY				LR	LR					
	comp=Z,747nm,19.0s									
SBA	**Scott Base**	**162.28**	**223**	PFAKE				13 15 30.0	+7.6	
SBA				LR	LR					
	comp=Z,569nm,19.0s									
VNDA	**Vanda**	**162.63**	**226**	PKP		PKPdf		13 15 21.3	-1.4	
	comp=Z,0.8nm,0.8s,baz=22,slow=5.0,SNR=3.7									
VNDA				PKPab		PKPab		13 16 12.0	+0.5	
	comp=Z,10nm,0.8s,baz=342,slow=3.3,SNR=25									
VNDA				PP		PP		13 20 04.7	+7.5	
	comp=Z,1.3nm,0.8s,baz=62,slow=20,SNR=4.3									
VNDA	**Vanda**	**162.63**	**226**	PKP		PKPdf		13 15 21.3	-1.4	
VNDA				PKPab		PKPab		13 16 12.0	+0.5	
VNDA				PP		PP		13 20 04.7	+7.5	
VNDA				LR		LR				
	comp=Z,4μm,21.0s									
VNDA	**Vanda**	**162.63**	**226**	PKIKP		PKPdf		13 15 21.3	-1.4	
VNDA								13 20 04.7		
VNDA				MLR		MLR				
	comp=Z,4μm,21.0s									
SNAA	**Sanae**	**162.88**	**99**	PKP		PKPdf		13 15 15.8	-7.3	
	comp=Z,0.7nm,0.8s,baz=167,slow=2.8,SNR=9.3									
SNAA				PKPab		PKPab		13 16 12.3	-0.3	
	comp=Z,4.4nm,0.8s,baz=324,slow=3.2,SNR=15									
SNAA				PP		PP		13 19 57.0	-1.5	
	comp=Z,0.8nm,0.9s,baz=259,slow=5.2,SNR=1.9									
SNAA				SKKPbc				13 25 28.2		
	comp=Z,1.7nm,1.2s,baz=136,slow=4.3,SNR=3.3									
SNAA	**Sanae**	**162.88**	**99**	PKIKP		PKPdf		13 15 15.8	-7.3	
SNAA								13 19 57.0		
SNAA				pmax		pmax				
	comp=Z,1.0nm,0.8s									
SNAA				pmax		pmax				
	comp=Z,4.0nm,0.8s									
SNAA				pmax		pmax				
	comp=Z,1.0nm,0.9s									
MAIT	**Maitri**	**164.76**	**84**	*e*P		PKPab		13 16 21.9	+1.0	
NVL	**N'lazarevskaya**	**164.77**	**83**	*e*PKP2		PKPab		13 16 23.1	+2.1	
SYO	**Syowa Base**	**167.67**	**44**	*e*P		PKPab		13 16 32.2	-1.6	
MAW	**Mawson**	**167.90**	**2**	PKP		PKPdf		13 15 23.1	-4.3	
	comp=Z,2.3nm,0.8s,baz=350,slow=6.1,SNR=3.4									
MAW				PKPab		PKPab		13 16 35.1	+0.2	
	comp=Z,7.9nm,0.8s,baz=318,slow=5.1,SNR=10									
MAW				PP		PP		13 20 25.3	+0.8	
	comp=Z,4.9nm,0.9s,baz=352,slow=6.5,SNR=5.0									
MAW	**Mawson**	**167.90**	**2**	PKP		PKPdf		13 15 23.1	-4.3	
MAW				PKPab		PKPab		13 16 35.1	+0.2	
MAW				PP		PP		13 20 25.3	+0.8	
MAW				LR		LR				
	comp=Z,312nm,19.0s									
MAW	**Mawson**	**167.90**	**2**	PKIKP		PKPdf		13 15 23.1	-4.3	
MAW								13 20 25.3		
MAW				MLR		MLR				
	comp=Z,312nm,19.0s									
QSPA	**South Pole Qui**	**169.57**	**180**	PKP		PKPdf		13 15 23.0	-5.1	
	comp=Z,0.9nm,0.2s,baz=268,slow=2.9,SNR=6.4									
QSPA				PKPab		PKPab		13 16 42.5	+0.4	
	comp=Z,17nm,1.0s,baz=100,slow=1.8,SNR=12									
QSPA				PP		PP		13 20 34.6	+1.6	
	comp=Z,2.7nm,1.0s,baz=51,slow=3.6,SNR=5.4									
QSPA				SKKPbc				13 24 52.5		
	comp=Z,5.4nm,0.9s,baz=303,slow=1.4,SNR=5.6									
QSPA	**South Pole Qui**	**169.57**	**180**	PFAKE				13 15 40.0	+12	
QSPA				LR	LR					
	comp=Z,956nm,20.0s									

CSEM ***17*** *13:01:11.0, 60.65N×28.80E, h0km, ML1.5, Mining explosion. After HEL*

HEL 17 13:01:11.0±1.0, 60.65N×28.80E, h0km, ML1.5, Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.62**	**261**	PG	Pg	13 01 22.2	-0.8
VJF				SG	Sg	13 01 29.0	-2.0
VJF				RG		13 01 31.7	
VJF	**Virojoki**	**0.62**	**261**	Pg	Pg	13 01 22.1	-0.8
VJF				Sg	Sg	13 01 29.0	-2.0
VJF				Rg		13 01 31.7	
PVF	**Pernaja**	**1.45**	**267**	PG	Pg	13 01 36.4	-2.4
PVF				SG	Sg	13 01 57.6	-0.1
PVF				MSG		13 01 57.6	
	comp=Z,1.2nm,0.2s						
PVF	**Pernaja**	**1.45**	**267**	Pg	Pg	13 01 36.4	-2.4
PVF				Sg	Sg	13 01 57.5	-0.1
FIA0	**FINESS Array S**	**1.55**	**302**	PG	Pg	13 01 39.1	-1.5
	baz=127						
FIA0				SG	Sg	13 02 01.2	+0.5
FIA0				MSG		13 02 01.2	
	comp=Z,4.4nm,0.1s						
FIA0				RG		13 02 06.7	
FIA0	**FINESS Array S**	**1.55**	**302**	Pg	Pg	13 01 39.1	-1.5
FIA0				Sg	Sg	13 02 01.2	+0.5
FIA0				Rg		13 02 06.7	
KAF	**Kangasniemi**	**1.90**	**322**	PN	Pn	13 01 46.1	+1.5
KAF				SG	Sg	13 02 12.0	+0.1
KAF				MSG		13 02 12.0	
	comp=Z,1.5nm,0.1s						
KAF	**Kangasniemi**	**1.90**	**322**	Pn	Pn	13 01 46.1	+1.5
KAF				Sg	Sg	13 02 12.0	0.0
MEF	**Metsahovi**	**2.23**	**261**	PN	Pn	13 01 49.4	+0.3
MEF				SG	Sg	13 02 19.2	-3.2
MEF				MSG		13 02 19.2	
	comp=Z,2.2nm,0.1s						
MEF	**Metsahovi**	**2.23**	**261**	Pn	Pn	13 01 49.4	+0.3
MEF				Sg	Sg	13 02 19.2	-3.2
KEF	**Keuruu**	**2.43**	**311**	PN	Pn	13 01 54.3	+2.4
KEF				SG	Sg	13 02 26.2	-2.8
KEF				MSG		13 02 26.2	
	comp=Z,1.4nm,0.1s						
KEF				RG		13 02 36.9	
KEF	**Keuruu**	**2.43**	**311**	Pn	Pn	13 01 54.2	+2.3
KEF				Sg	Sg	13 02 26.2	-2.8
KEF				Rg		13 02 36.9	
SUF	**Sumiainen**	**2.43**	**330**	PN	Pn	13 01 55.4	+3.5
SUF				SG	Sg	13 02 24.9	-4.2
SUF				MSG		13 02 24.9	
	comp=Z,1.9nm,0.4s						
SUF	**Sumiainen**	**2.43**	**330**	Pn	Pn	13 01 55.4	+3.5
SUF				Sg	Sg	13 02 24.9	-4.2
JOF	**Joensuu**	**2.57**	**27**	SG	Sg	13 02 25.8	-7.8
JOF				MSG		13 02 25.8	
	comp=Z,2.7nm,0.4s						
JOF	**Joensuu**	**2.57**	**27**	Sg	Sg	13 02 25.8	-7.8

BEO 17 13:02:20.0±1.5, 42.28N×24.10E, h0km, ML1.8/3, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTS	**Vitosha**	**0.73**	**296**	*e*Pg	Pg	13 02 33.5	-0.5
VTS				*e*Sg	Sg	13 02 43.1	-0.3
ZAPS	**Zavoj**	**1.47**	**313**	*e*Pg	Pg	13 02 46.6	-1.5
ZAPS				*e*Sg	Sg	13 03 07.7	+0.6
BARS	**Barje**	**1.77**	**288**	*e*Pg	Pg	13 02 53.0	-0.9
BARS				*e*Sg	Sg	13 03 17.1	+0.2

NOU ***17*** *13:15:10.2±1.1, 9.32S×171.01E, h30km*
SZGRF ***17*** *13:16:27.5, 19.09S×172.68E, h33km, Vanuatu Islands region*
IDC ***17*** *13:16:28.8±0.4, 16.88S×172.09E, h0km, mb5.1/26, mb1 5.2/27, mb1mx5.1/28, mbtmp5.1/27, ML4.5/1, MS4.6/18, Ms1 4.6/18, ms1mx4.3/35, Error ellipse: s-maj=14.7km s-min=12.5km az=132.0*
DJA ***17*** *13:16:29, 16.96S×172.30E, h10km, Mw5.7/42*
BJI ***17*** *13:16:33.0, 16.32S×172.11E, h22km, mB5.8/19, mb5.4/47, Ms5.5/25, Ms7 5.1/25*
MOS ***17*** *13:16:33.2±1.1, 16.86S×172.00E, h35km, mb5.5/31, Error ellipse: s-maj=10.0km s-min=7.9km az=8.3*
ISCJB ***17*** *13:16:33.1±0.1, 16.92S±0.04×171.94E±0.02, h33km, mb5.4/143, MS4.8/27, Error ellipse: s-maj=5.7km s-min=2.7km az=163.4*
NEIC ***17*** *13:16:35.0±0.8, 16.84S×172.00E, h39km±7km, mb5.3/47, Error ellipse: s-maj=6.2km s-min=4.3km az=161.0*
GCMT ***17*** *13:16:36.3±0.1, 16.78S×172.00E, h12km, MW5.4, Moment Tensor Solution. s61,c109; s99,c197; Moment tensor: Scale 10^17 Nm; Mrr-1.26±.03; Mθθ1.62±.02; Mφφ-0.36±.03; Mrθ-0.10±.07; Mrφ-0.77±.02; Mθφ0.15±.08; Best double couple: M0 1.60000×10^17 NP1:φs280.00000°, δ43.00

RAR Rarotonga 27.02 104 P P 13 22 13.2 -0.9
RAR LR LR 13 29 56.0
RAR Rarotonga 27.02 104 P P 13 22 13.2 -0.9
CNB Canberra Magne 27.27 223 *eP* **P 13 22 17.2 +1.0**
comp=Z,94nm,0.8s,mb5.4
COEN Coen 27.91 272 *eP* **P 13 22 21.6 -0.5**
comp=Z,149nm,0.9s,mb5.6
COEN Coen 27.91 272 P **P 13 22 22.2 +0.1**
comp=Z,386nmcomp=Z,37nm,1.0s,mb5.0
TOO Toolangi 31.12 223 *eP* **P 13 22 50.6 +0.3**
comp=Z,55nm,0.9s,mb5.4
STKA Stephens Creek 31.32 236 P **P 13 22 52.8 +0.7**
comp=Z,24nm,0.8s,mb5.1,baz=67,slow=8.1,SNR=39
STKA LR LR 13 34 54.8
comp=Z,2µm,18.0s,MS4.7,baz=64,slow=35
STKA Stephens Creek 31.32 236 *eP* **P 13 22 52.7 +0.6**
comp=Z,21nm,0.8s,mb5.0
STKA Stephens Creek 31.32 236 *eP* **P 13 22 52.5 +0.4**
comp=Z,6.0nm,0.9s,mb4.4
STKA Stephens Creek 31.32 236 *eP* **P 13 22 52.5 +0.4**
STKA pmax pmax
comp=Z,6.0nm,0.9s
WB2 Warramunga Arr 35.79 259 *eP* **P 13 23 29.9 -1.2**
WRAB Tennant Creek 35.79 259 *eP* **P 13 23 30.0 -1.2**
comp=Z,53nm,0.9s,mb5.5
WRAB Tennant Creek 35.79 259 *eP* **P 13 23 30.0 -1.2**
WRAB pmax pmax
comp=Z,53nm,0.9s,mb5.5
WRAB Tennant Creek 35.79 259 P **P 13 23 30.0 -1.2**
comp=Z,341nm,1.0s,mb6.2,SNR=27
WRAB Tennant Creek 35.79 259 P **P 13 23 29.7 -1.5**
comp=Z,1µmcomp=Z,119nm,1.4s,mb5.6
WRA Warramunga Arr 35.80 259 P **P 13 23 29.9 -1.3**
comp=Z,44nm,1.0s,mb5.4,baz=90,slow=8.2,SNR=117
WRA S **S 13 29 05.4 -1.2**
comp=Z,3.4nm,1.3s,baz=94,slow=13,SNR=5.0
WRA PKiKP PKiKP 13 33 16.7 -2.3
comp=Z,1.2nm,1.0s,baz=23,slow=1.0,SNR=5.9
WRA LR LR 13 37 35.9
comp=Z,532nm,18.7s,MS4.3,baz=55,slow=35
WRA Warramunga Arr 35.80 259 P **P 13 23 29.9 -1.3**
WRA S **S 13 29 05.4 -1.2**
WRA Warramunga Arr 35.80 259 P **P 13 23 29.9 -1.4**
WRA S **S 13 29 05.4 -1.2**
ASAR Alice Springs 36.27 253 P **P 13 23 34.9 -0.4**
comp=Z,61nm,0.7s,mb5.6,baz=83,slow=8.9,SNR=660
ASAR Alice Springs 36.27 253 P **P 13 23 34.9 -0.4**
ASAR Alice Springs 36.27 253 P **P 13 23 34.9 -0.4**
PPT Papeete 36.68 97 *e*LQ 13 32 15.2
comp=Z,4µm,27.0s
PPT *e*LR LR 13 33 50.0
comp=Z,1µm,26.8s
TBI Tubuai 36.69 107 *e*LQ 13 32 15.0
comp=Z,595nm,26.8s
TBI *e*LR LR 13 33 52.8
comp=Z,810nm,27.0s,baz=276
TLE Tual 39.99 282 P **P 13 24 06.9 +0.1**
TLE Tual 39.99 282 P **P 13 24 07.1 +0.3**
comp=Z,2µmcomp=Z,194nm,1.2s,mb5.7
FORT Forrest 42.23 243 *eP* **P 13 24 25.0 0.0**
comp=Z,41nm,1.2s,mb4.9
BNDI Bandanaira 43.02 282 P **P 13 24 31.2 -0.4**
comp=Z,5µmcomp=Z,351nm,1.7s,mb5.8
FITZ Fitzroy Crossi 44.13 261 P **P 13 24 40.5 0.0**
comp=Z,134nm,0.9s,mb5.7,baz=98,slow=8.0,SNR=187
FITZ Fitzroy Crossi 44.13 261 *eP* **P 13 24 39.9 -0.6**
comp=Z,241nm,0.9s,mb5.9
FITZ Fitzroy Crossi 44.13 261 *eP* **P 13 24 40.4 -0.1**
comp=Z,200nm,1.1s,mb5.8
FITZ Fitzroy Crossi 44.13 261 P **P 13 24 40.7 +0.2**
comp=Z,2µmcomp=Z,192nm,1.2s,mb5.7
AAI Ambon 44.91 282 P **P 13 24 45.9 -0.9**
comp=Z,2µmcomp=Z,68nm,1.5s,mb5.3
NLAI Namlea 46.09 282 P **P 13 24 56.3 +0.2**
comp=Z,2µmcomp=Z,76nm,1.7s,mb5.4
LBMI Labuha 46.66 286 P **P 13 25 01.2 +0.6**
LBMI Labuha 46.66 286 P **P 13 25 01.1 +0.5**
comp=Z,2µmcomp=Z,116nm,1.6s,mb5.6
TAOE Nuku Hiva Isla 47.24 86 *e*LR LR 13 38 36.6
comp=Z,1µm,26.9s
TNTI Ternate 47.34 287 P **P 13 25 06.2 +0.3**
comp=Z,0.4nmcomp=Z,2µmcomp=Z,120nm,0.8s,mb5.9
TNTI Ternate 47.34 287 P **P 13 25 06.0 +0.1**
comp=Z,2µmcomp=Z,98nm,1.4s,mb5.5
MBWA Marble Bar 49.41 256 *eP* **P 13 25 21.4 -0.3**
comp=Z,101nm,0.8s,mb5.9
MBWA Marble Bar 49.41 256 P **P 13 25 21.9 +0.1**
comp=Z,2µmcomp=Z,185nm,1.0s,mb6.1
BBSI Bau Bau 49.65 277 P **P 13 25 21.9 -1.8**
comp=Z,921nmcomp=Z,53nm,1.0s,mb5.5
MNI Manado 49.92 287 P **P 13 25 25.6 -0.2**
comp=Z,4µmcomp=Z,404nm,1.0s,mb6.4
MNI Manado 49.92 287 P **P 13 25 25.5 -0.3**
comp=Z,4µmcomp=Z,404nm,1.0s,mb6.4
RKT Rikitea 50.01 106 *e*LR LR 13 40 01.3
comp=Z,563nm,25.2s
KDI Kendari 50.07 279 P **P 13 25 27.2 +0.3**
comp=Z,24nm,2.1s,mb4.9
SGSI Sangihe 50.22 290 P **P 13 25 28.2 +0.2**
comp=Z,5µmcomp=Z,495nm,1.1s,mb6.4
KMSI Cibinong 50.38 285 P **P 13 25 29.8 +0.6**
comp=Z,4µmcomp=Z,388nm,1.0s,mb6.4
LUWI Luwuk 50.91 283 P **P 13 25 33.7 +0.5**
comp=Z,3µmcomp=Z,240nm,1.3s,mb6.0
KLBR Kellerberrin 51.10 243 *eP* **P 13 25 33.2 -1.2**
comp=Z,74nm,1.1s,mb5.5
NWAO Narrogin (SRO) 51.62 241 P **P 13 25 37.8 -0.5**
comp=Z,52nm,1.0s,mb5.4,baz=88,slow=6.9,SNR=14
NWAO Narrogin (SRO) 51.62 241 *eP* **P 13 25 37.8 -0.5**
comp=Z,63nm,1.1s,mb5.5
NWAO Narrogin (SRO) 51.62 241 *eP* **P 13 25 37.8 -0.5**
NWAO pmax pmax
comp=Z,63nm,1.1s
BKSI Bulukumba 52.02 276 P **P 13 25 41.3 -0.3**
comp=Z,498nmcomp=Z,28nm,1.7s,mb4.9
MRSI Marisa 52.33 284 P **P 13 25 41.8 -1.3**
comp=Z,706nmcomp=Z,66nm,1.3s,mb5.4
CBIJ Chichi jima 52.41 326 LR LR 13 45 56.5
comp=Z,382nm,18.1s,MS4.5,baz=259,slow=34
KAPI Kappang 52.47 277 P **P 13 25 44.5 -0.4**
comp=Z,1µmcomp=Z,82nm,1.3s,mb5.5
SPSI Sidrap Palu 52.77 278 P **P 13 25 46.9 -0.2**
comp=Z,530nmcomp=Z,46nm,1.2s,mb5.3
TTSI Tana Toraja 53.01 279 P **P 13 25 48.9 0.0**
comp=Z,619nmcomp=Z,49nm,1.2s,mb5.3
DRV Dumont d'Urvil 53.97 195 P **P 13 25 53.0 -2.1**
DRV S **S 13 33 42.0 +14**
DRV SS SS 13 37 05.0 -4.5
DRV R 13 42 00.0
KHKI Kahang-Kahang 55.51 271 P **P 13 26 09.0 +1.9**
comp=Z,29nm,1.1s,mb5.2
KHKI Kahang-Kahang 55.51 271 P **P 13 26 05.8 -1.3**
comp=Z,29nm,1.1s,mb5.2
IGBI Denpasar 55.84 271 P **P 13 26 11.4 +2.0**
comp=Z,7µmcomp=Z,256nm,0.8s,mb6.3
SRBI Singaraja 55.96 272 P **P 13 26 11.6 +1.3**
comp=Z,1µmcomp=Z,61nm,1.4s,mb5.5
SMKI Samarinda 56.33 281 P **P 13 26 15.8 +2.9**
comp=Z,3µmcomp=Z,188nm,1.2s,mb6.0
SMKI Samarinda 56.33 281 P **P 13 26 15.1 +2.2**
KBKI Kotabaru 56.39 277 P **P 13 26 13.8 +0.4**
comp=Z,10µmcomp=Z,57nm,1.1s,mb5.5
MYLDM Lahad Datu 57.21 288 P **P 13 26 20.6 +1.4**
MYLDM Lahad Datu 57.21 288 P **P 13 26 21.0 +1.8**
comp=Z,2µmcomp=Z,159nm,1.4s,mb5.8
KMMI Kalianget 57.42 272 P **P 13 26 22.0 +1.3**
KMMI Kalianget 57.42 272 P **P 13 26 21.5 +0.8**
comp=Z,56nm,1.1s,mb5.5
TSM Tawau 57.43 287 P **P 13 26 21.9 +1.1**
TSM Tawau 57.43 287 P **P 13 26 21.9 +1.1**
BBKI Banjar Baru 57.60 277 P **P 13 26 23.2 +1.2**
BBKI Banjar Baru 57.60 277 P **P 13 26 23.2 +1.2**
BBKI Banjar Baru 57.60 277 P **P 13 26 23.2 +1.2**
comp=Z,133nm,1.4s,mb5.8
JHJ Hachijo jima 2 58.46 328 LR LR 13 45 37.1
comp=Z,610nm,20.8s,MS4.7,baz=127,slow=30
SDKM Sandakan 58.58 288 P **P 13 26 28.6 -0.2**
SDKM Sandakan 58.58 288 P **P 13 26 28.6 -0.2**
TGY Tagaytay City 59.06 298 P **P 13 26 32.7 +0.6**
comp=Z,101nm,0.4s,mb6.2,baz=173,slow=21,SNR=4.4
TGY Tagaytay City 59.06 298 P **P 13 26 32.7 +0.6**
TGY Tagaytay City 59.06 298 P **P 13 26 32.7 +0.7**
PWJI Pagerwojo 59.23 271 P **P 13 26 33.9 +0.5**
PWJI Pagerwojo 59.23 271 P **P 13 26 34.0 +0.6**
comp=Z,60nm,1.2s,mb5.5
SJI Sawahan 59.34 271 P **P 13 26 35.1 +1.0**
SJI Sawahan 59.34 271 P **P 13 26 35.2 +1.1**
comp=Z,58nm,1.1s,mb5.5
KDM Kudat 59.42 289 P **P 13 26 34.2 -0.5**
KKM Kota Kinabalu 59.64 288 P **P 13 26 36.8 +0.7**
KKM Kota Kinabalu 59.64 288 P **P 13 26 36.8 +0.7**
NGJI Ngawi 59.73 271 P pP 13 26 47.3 -0.2
NGJI Ngawi 59.73 271 P **P 13 26 39.6 +2.8**
PCJI Pacitan 59.79 270 P **P 13 26 38.2 +1.0**
PCJI Pacitan 59.79 270 P **P 13 26 38.4 +1.2**
comp=Z,192nm,1.1s,mb6.0
UGM Wanagama 60.49 270 P **P 13 26 43.2 +1.2**
UGM Wanagama 60.49 270 P **P 13 26 39.7 -2.3**
comp=Z,174nm,1.4s,mb5.9
JOW Kunigami 60.73 315 LR LR 13 49 08.7
comp=Z,620nm,20.0s,MS4.8,baz=128,slow=32
PBKI Pangkalan Bun 60.84 276 P **P 13 26 41.9 -2.5**
VNDA Vanda 60.88 183 P **P 13 26 42.5 -1.1**
comp=Z,3.6nm,1.0s,mb4.5,baz=1.6,slow=8.2,SNR=6.4
VNDA Vanda 60.88 183 *eP* **P 13 26 43.1 -0.6**
comp=Z,11nm,1.3s,mb4.8
VNDA Vanda 60.88 183 *eP* **P 13 26 43.1 -0.5**
VNDA pmax pmax
comp=Z,11nm,1.3s
SBA Scott Base 61.06 181 *eP* **P 13 26 45.3 +0.5**
comp=Z,22nm,1.1s,mb5.2
SBA Scott Base 61.06 181 *eP* **P 13 26 45.3 +0.5**
SBA pmax pmax
comp=Z,22nm,1.1s,mb5.2
BJII Banjamegara 61.42 271 P **P 13 26 49.9 +1.6**
BJII Banjamegara 61.42 271 P **P 13 26 49.0 +0.7**
comp=Z,58nm,1.9s,mb5.4
BTM Bintulu 61.46 283 P **P 13 26 49.5 +0.9**
BTM Bintulu 61.46 283 P **P 13 26 49.5 +0.9**
STKI Sintang 61.90 279 P **P 13 26 52.4 +0.8**
comp=Z,1.0nmcomp=Z,116nm,1.1s,mb5.9
STKI Sintang 61.90 279 P **P 13 26 52.8 +1.2**
comp=Z,116nm,1.1s,mb5.9
MJAR Matsushiro Arr 61.97 330 P **P 13 26 50.2 -1.4**
comp=Z,11nm,0.9s,mb5.0,baz=164,slow=7.3,SNR=16
MJAR Matsushiro Arr 61.97 330 P **P 13 26 50.2 -1.4**
MJAR Matsushiro Arr 61.97 330 P **P 13 26 50.2 -1.3**
MAJO Matsushiro 61.97 330 P **P 13 26 49.0 -2.5**
comp=Z,38nm,1.4s,mb5.3
MAJO Matsushiro 61.97 330 P **P 13 26 49.0 -2.5**
MAJO pmax pmax
comp=Z,38nm,1.4s,mb5.3
MAT Matsushiro 61.97 330 P **P 13 26 50.4 -1.1**
SBUM Sibu 62.00 282 P **P 13 26 53.2 +1.0**
SBUM Sibu 62.00 282 P **P 13 26 53.2 +1.0**
SBUM Sibu 62.00 282 P **P 13 26 52.6 +0.4**
comp=Z,744nmcomp=Z,57nm,1.5s,mb5.5
CISI Cisompet, Garu 63.17 270 P **P 13 26 59.7 -0.4**
comp=Z,0.6nmcomp=Z,2µmcomp=Z,158nm,1.4s,mb6.0
CISI Cisompet, Garu 63.17 270 P **P 13 26 59.1 -1.0**
comp=Z,2µmcomp=Z,158nm,1.4s,mb6.0
CASY Casey 63.32 203 *eP* **P 13 26 57.4 -2.7**
comp=Z,15nm,0.8s,mb5.2
KSM Kuching 63.46 280 P **P 13 27 02.7 +0.7**
KSM Kuching 63.46 280 P **P 13 27 02.7 +0.7**
KSM Kuching 63.46 280 *eP* **P 13 27 01.9 -0.1**
comp=Z,122nm,0.9s,mb6.0
KSM Kuching 63.46 280 P **P 13 27 01.9 -0.1**
KSM Kuching 63.46 280 P **P 13 27 02.2 +0.2**
comp=Z,1µmcomp=Z,149nm,1.2s,mb6.0
LEM Lembang 63.55 271 P **P 13 27 03.2 +0.6**
comp=Z,3µmcomp=Z,0.9nmcomp=Z,3µmcomp=Z,232nm,0.9s,mb6.2
LEM Lembang 63.55 271 P **P 13 27 03.0 +0.4**
comp=Z,3µmcomp=Z,233nm,0.9s,mb6.2
TPUB Ta-pu 64.13 307 *eP* **P 13 27 04.8 -1.4**
comp=Z,34nm,0.8s,mb5.4
CBJI Citeko 64.39 271 P **P 13 27 07.4 -0.7**
comp=Z,3.4nmcomp=Z,408nm,1.1s,mb6.4
DBJI Dramaga 64.46 271 P **P 13 27 08.6 +0.1**
comp=Z,0.9nmcomp=Z,4µmcomp=Z,266nm,1.5s,mb6.1
DBJI Dramaga 64.46 271 P **P 13 27 08.5 0.0**
comp=Z,4µmcomp=Z,266nm,1.5s,mb6.1
SKJI Sukabumi 64.52 270 P **P 13 27 09.0 0.0**
comp=Z,1.1nmcomp=Z,3µmcomp=Z,351nm,1.1s,mb6.3
SKJI Sukabumi 64.52 270 P **P 13 27 09.0 0.0**
comp=Z,3µmcomp=Z,351nm,1.1s,mb6.3
SBJI Serang 65.17 271 P **P 13 27 13.5 +0.3**
comp=Z,1.1nmcomp=Z,335nm,1.2s,mb6.2
SBJI Serang 65.17 271 P **P 13 27 12.8 -0.4**
comp=Z,334nm,1.2s,mb6.2
CGJI Cibinong 65.45 270 P **P 13 27 14.4 -0.6**
comp=Z,2µmcomp=Z,230nm,0.8s,mb6.2
BLSI Bandar Lampung 66.22 272 P **P 13 27 19.0 -0.9**
comp=Z,142nm,1.0s,mb6.0
PPBI Pangkal Pinang 66.28 275 P **P 13 27 20.8 +0.4**
comp=Z,0.2nmcomp=Z,62nm,1.2s,mb5.5
PPBI Pangkal Pinang 66.28 275 P **P 13 27 20.5 +0.1**
comp=Z,954nmcomp=Z,62nm,1.2s,mb5.5
ASAJ Asahikawa 66.37 337 P **P 13 27 20.6 +0.4**
comp=Z,25nm,0.9s,mb5.2,baz=230,slow=10,SNR=8.7
PMBI Palembang 67.36 274 P **P 13 27 29.0 +1.8**
comp=Z,1.6nmcomp=Z,416nm,1.0s,mb6.4
PMBI Palembang 67.36 274 P **P 13 27 27.7 +0.5**
comp=Z,416nm,1.0s,mb6.4
LWLI Liwa 67.45 272 P **P 13 27 27.1 -0.7**
comp=Z,270nm,1.1s,mb6.2
MDSI Maura Dua 67.48 272 P **P 13 27 26.3 -1.7**
MDSI Maura Dua 67.48 272 P **P 13 27 25.5 -2.5**
comp=Z,66nm,0.9s,mb5.7
KSRS Korea Array 68.11 323 P **P 13 27 30.6 -0.8**
comp=Z,9.9nm,1.1s,mb4.8,baz=142,slow=7.1,SNR=12
KSRS LR LR 13 52 41.7
comp=Z,183nm,21.0s,MS4.3,baz=10.0,slow=32
KSAR Wonju Array Be 68.12 323 P **P 13 27 30.6 -0.8**
KSAR LR LR 13 52 41.7
KSAR Wonju Array Be 68.12 323 P **P 13 27 30.7 -0.8**
YSS Yuzh-Sakhalins 68.76 339 *eP* **P 13 27 35.8 +0.5**
comp=Z,27nm,0.8s,mb5.2
YSS Yuzh-Sakhalins 68.76 339*ceP* **P 13 27 35.5 +0.2**
YSS *eS* S 13 36 36.0 -0.2
YSS *eSS* SS 13 41 07.0 +4.9
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.3
MYKOM Kota Tinggi 69.67 278 P **P 13 27 41.9 +0.3**
MYKOM Kota Tinggi 69.67 278 P **P 13 27 41.9 +0.3**
MYKOM Kota Tinggi 69.67 278 P **P 13 27 41.3 -0.4**
comp=Z,44nm,1.6s,mb5.2
VLA Vladivostok 70.13 330*eP* **P 13 27 41.1 -2.7**
VLA *e* 13 28 03.0
VLA *eS* S 13 36 50.0 -2.5
VLA pmax pmax
comp=Z,47nm,1.3s,mb5.3
KGM Kluang 70.24 278 P **P 13 27 45.7 +0.5**
KGM Kluang 70.24 278 P **P 13 27 45.7 +0.5**
NJ2 Nanjing 70.40 314 *eP* **P 13 27 46.0 +0.3**
NJ2 pmax pmax
comp=Z,60nm,1.2s,mb5.4
RGRI Rengat 70.45 276 P **P 13 27 47.6 +1.2**
comp=Z,266nm,0.7s,mb6.3
PETK Petropavlovsk- 70.78 351 P **P 13 27 47.1 -0.5**
comp=Z,38nm,0.9s,mb5.3,baz=152,slow=7.6,SNR=16
PETK Petropavlovsk- 70.78 351 P **P 13 27 47.1 -0.4**
PETK Petropavlovsk- 70.78 351 P **P 13 27 47.1 -0.4**
BKNI Bangkinang 71.88 276 P **P 13 27 55.4 +0.2**
comp=Z,2µmcomp=Z,200nm,1.3s,mb5.9
PDSI Padang 72.06 275 P **P 13 27 55.8 -0.4**
comp=Z,8µmcomp=Z,105nm,1.0s,mb5.7
PPI Padang Panjang 72.26 275 P **P 13 27 57.5 +0.1**
comp=Z,30nm,0.8s,mb5.3
MDJ Mudanjiang 72.36 330 P **P 13 27 57.5 +0.3**
MDJ pP pP 13 28 05.3 -2.8
MDJ sP sP 13 28 10.3 -1.9
MDJ S S 13 37 22.3 +4.1
MDJ pmax pmax
comp=Z,37nm,1.2s,mb5.2
MDJ LR LR
comp=N,330nm,37.6s,MS4.5
MDJ LR LR
comp=E,330nm,34.9s,MS4.5
MDJ LR LR
comp=Z,600nm,34.9s,MS4.6
MDJ Mudanjiang 72.36 330 *eP* **P 13 27 57.1 -0.1**
comp=Z,44nm,1.1s,mb5.3
WHN Wuhan 72.76 310 ⇑P **P 13 28 00.4 +0.4**
WHN pmax pmax
comp=Z,99nm,1.0s,mb5.7
QSPA South Pole Qui 73.17 180 P **P 13 28 01.7 0.0**
comp=Z,29nm,0.9s,mb5.2,baz=29,slow=1.7,SNR=61
QSPA South Pole Qui 73.17 180 P **P 13 28 01.7 0.0**
IPM Ipoh 73.20 280 P **P 13 28 03.2 +0.2**
IPM Ipoh 73.20 280 P **P 13 28 03.2 +0.2**
IPM Ipoh 73.20 280 *eP* **P 13 28 02.5 -0.4**
comp=Z,132nm,1.4s,mb5.7
IPM Ipoh 73.20 280 P **P 13 28 02.4 -0.6**
comp=Z,839nmcomp=Z,73nm,1.2s,mb5.5
UBT Ubonrachathani 73.37 292 P **P 13 28 04.7 +0.8**
MNSI Mandailing Nat 73.42 276 P **P 13 28 03.4 -0.9**
comp=Z,109nm,1.0s,mb5.7
KULM Kulim 73.82 281 P **P 13 28 06.6 0.0**
KULM Kulim 73.82 281 P **P 13 28 06.6 0.0**
KULM Kulim 73.82 281 *eP* **P 13 28 06.3 -0.3**
comp=Z,78nm,1.6s,mb5.4
KULM Kulim 73.82 281 P **P 13 28 06.2 -0.4**
comp=Z,705nmcomp=Z,40nm,1.5s,mb5.1
CN2 Changchun 73.86 327 ⇓P **P 13 28 06.1 -0.1**
CN2 *e*pP pP 13 28 16.5 -0.6
CN2 *e*S S 13 37 34.8 -0.6
CN2 pmax pmax
comp=Z,40nm,1.3s,mb5.2
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,500nm,15.0s,MS5.1
CN2 LR LR
comp=E,500nm,15.0s,MS5.1
CN2 LR LR
comp=Z,500nm,16.0s,MS4.9
PSI Prapat 74.66 278 P **P 13 28 10.5 -1.0**
comp=Z,50nm,1.0s,mb5.4,baz=153,slow=4.3,SNR=33
PSI Prapat 74.66 278 P **P 13 28 10.5 -1.0**
PSI Prapat 74.66 278 P **P 13 28 10.5 -1.0**
PSI Prapat 74.66 278 P **P 13 28 10.5 -1.0**
comp=Z,842nmcomp=Z,86nm,1.2s,mb5.5
KLR Kul'dur 74.85 334 *eP* **P 13 28 07.2 -4.6**
TSI Tuntungan 75.21 278 P **P 13 28 14.0 -0.7**
comp=Z,111nm,1.0s,mb5.8
ENH Enshi 76.24 308 *eP* **P 13 28 19.5 -0.7**
comp=Z,139nm,1.3s,mb5.7
GYA Guiyang 76.67 303 P **P 13 28 23.1 +0.4**
GYA pP pP 13 28 35.4 +1.7
GYA PP PP 13 31 18.0 +2.3
GYA S S 13 38 06.8 -0.5
GYA SKS 13 38 28.0
GYA SS SS 13 43 05.6 +1.8
GYA pmax pmax
comp=Z,20nm,1.0s,mb5.0
GYA pmax pmax
comp=Z,130nm,5.4s
GYA LR LR
comp=N,590nm,19.5s,MS5.1
GYA LR LR
comp=E,660nm,17.7s,MS5.1
GYA LR LR
comp=Z,550nm,18.0s,MS4.9
BJI Beijing 76.81 319 P **P 13 28 22.9 -0.3**
BJI pmax pmax
comp=Z,24nm,1.2s,mb5.0
XAN Xi'an 78.50 311 P **P 13 28 33.0 +0.2**
XAN pP pP 13 28 44.6 +0.8
XAN pmax pmax
comp=Z,15nm,1.3s,mb4.8
XAN LR LR
comp=N,3µm,15.2s
XAN LR LR
comp=Z,1µm,16.2s,MS5.3
BSI Banda Aceh 78.93 279 P **P 13 28 35.1 -0.5**
comp=Z,1µmcomp=Z,71nm,1.5s,mb5.4
KMI Kunming 79.29 300 P **P 13 28 37.3 0.0**
KMI pP pP 13 28 50.6 +2.3
KMI pmax pmax
comp=Z,58nm,1.3s,mb5.3
CHRT Chiangrai 79.75 294 ⇓P **P 13 28 40.0 +0.1**
comp=Z,395nm,1.0s,mb6.3
KDAK Kodiak Island 79.96 18 P **P 13 28 39.6 -0.6**
comp=Z,8.8nm,0.9s,mb4.7,baz=58,slow=1.9,SNR=4.8
KDAK Kodiak Island 79.96 18 P **P 13 28 39.6 -0.6**
KDAK Kodiak Island 79.96 18 P **P 13 28 39.6 -0.6**
CM31 Chiang Mai Arr 79.96 293 *eP* **P 13 28 42.0 +0.9**
comp=Z,32nm,1.0s,mb5.2
CMAR Chiang Mai Arr 79.96 293 P **P 13 28 41.8 +0.7**
comp=Z,19nm,1.0s,mb5.0,baz=118,slow=3.8,SNR=79
CMAR PKKPbc PKKPbc 13 47 25.8 -0.6
comp=Z,0.8nm,0.8s,baz=282,slow=3.8,SNR=6.1
CMAR Chiang Mai Arr 79.96 293 P **P 13 28 41.8 +0.7**
CMAR PKKPbc PKKPbc 13 47 25.8 -0.6
CMAR Chiang Mai Arr 79.96 293 P **P 13 28 41.8 +0.7**
CHG Chiang Mai 80.09 293 ⇓P **P 13 28 42.2 +0.4**
comp=Z,32nm,1.0s,mb5.2
CHTO Chiang Mai 80.09 293 *eP* **P 13 28 42.2 +0.4**
comp=Z,38nm,1.3s,mb5.2
CHTO Chiang Mai 80.09 293 *eP* **P 13 28 42.2 +0.4**
CHTO pmax pmax
comp=Z,39nm,1.3s,mb5.2
CHTO Chiang Mai 80.09 293 P **P 13 28 42.6 +0.8**
comp=Z,38nm,1.3s,mb5.2
HHC Hu-ho-hao-te 80.18 318 *eP* **P 13 28 43.3 +1.5**
HHC pP pP 13 28 54.1 +1.3
HHC sP sP 13 28 57.8 +1.0
HHC PP PP 13 31 48.9 +4.2
HHC S S 13 38 45.3 +1.0
HHC SKS 13 38 53.5
HHC SS SS 13 43 57.9 +1.9
HHC pmax pmax
comp=Z,41nm,1.0s,mb5.3
HHC pmax pmax
comp=Z,390nm,8.3s
HHC LR LR
comp=N,520nm,16.7s,MS5.1
HHC LR LR
comp=E,580nm,16.6s,MS5.1
HHC LR LR
comp=Z,540nm,15.5s,MS5.0
HIA Hailar 80.44 328 *eP* **P 13 28 42.9 -0.1**
comp=Z,43nm,1.2s,mb5.2
HIA Hailar 80.44 328 *eP* **P 13 28 42.9 -0.1**
HIA pmax pmax
comp=Z,43nm,1.2s
CD2 Chengdu 80.92 306 ⇓*i*P **P 13 28 46.9 +0.9**
CD2 pP pP 13 28 57.3 +0.3
CD2 sP sP 13 29 01.3 +0.2
CD2 PP PP 13 31 54.0 +2.9
CD2 S S 13 38 52.3 -0.2
CD2 SKS 13 38 58.4
CD2 sS sS 13 39 09.6 -1.1
CD2 SS SS 13 44 10.0 +2.5
CD2 pmax pmax
comp=Z,100nm,1.0s,mb5.7
CD2 pmax pmax
comp=Z,810nm,4.4s
CD2 LR LR
comp=N,780nm,14.9s
CD2 LR LR
comp=Z,370nm,13.7s,MS4.9
SEY Seymchan 81.02 351⇑*eP* **P 13 28 44.2 -1.6**
MAW Mawson 81.58 201 P **P 13 28 49.6 +0.7**
comp=Z,25nm,1.1s,mb5.1,baz=109,slow=7.1,SNR=22
MAW LR LR 14 02 04.7
comp=Z,441nm,20.1s,MS4.8,baz=91,slow=34
MAW Mawson 81.58 201 *eP* **P 13 28 49.1 +0.2**
comp=Z,19nm,1.1s,mb4.9
MAW Mawson 81.58 201 *eP* **P 13 28 49.1 +0.2**
comp=Z,12nm,1.4s,mb4.7
MAW Mawson 81.58 201 *eP* **P 13 28 49.1 +0.2**
MAW pmax pmax
comp=Z,12nm,1.4s
RSO Redoubt South 82.14 17 *eP* **P 13 28 50.5 -1.2**
comp=Z,36nm,0.8s,mb5.4
KCPM Cahto Peak 82.22 45 *eP* **P 13 28 52.9 +0.2**
comp=Z,25nm,1.1s,mb5.0
HOPS Hopland 82.23 45 *eP* **P 13 28 52.5 -0.2**
comp=Z,51nm,1.2s,mb5.3
KIPM Iron Peak 82.35 45 *eP* **P 13 28 53.6 +0.3**
comp=Z,69nm,1.1s,mb5.5
BSC Santa Cruz Isl 82.39 51 ⇑P **P 13 28 54.0 +0.3**
baz=82
PKM Peak Mountain 82.64 50 ⇑P **P 13 28 55.0 0.0**
baz=83,SNR=9.4
SMMC Simmler 82.69 50 ⇑P **P 13 28 55.5 +0.3**
baz=83
SCI San Clemente I 82.76 53 ⇓P **P 13 28 55.7 0.0**
baz=83
CIS Catalina Islan 83.06 52 ⇑P **P 13 28 57.0 -0.1**
baz=83,SNR=6.2
LZH Lanzhou 83.13 311 *eP* **P 13 28 58.1 +0.6**
LZH pP pP 13 29 08.3 -0.2
LZH sP sP 13 29 11.5 -1.1
LZH pmax pmax
comp=Z,41nm,1.4s,mb5.3
LZH pmax pmax

comp=Z,280nm,4.4s
LZH LR LR
comp=N,2µm,17.9s,MS5.7
LZH LR LR
comp=E,510nm,13.6s,MS5.7
LZH LR LR
comp=Z,2µm,16.8s,MS5.4
CLNS Chul'man 83.27 336 *eP* **P 13 28 58.4 +0.7**
CLNS pmax pmax
comp=Z,33nm,1.2s,mb5.2
CLNS pmax pmax
comp=N,24nm,1.3s
CLNS pmax pmax
comp=E,10.0nm,1.3s
FMP Fort Macarthur 83.27 52 ⇑P **P 13 28 58.2 -0.1**
baz=83
ARVC Arvin 83.48 50 ⇑P **P 13 28 59.3 0.0**
baz=84
VES Vestal, Richgr 83.60 50 ⇓P **P 13 28 59.9 0.0**
baz=84,SNR=9.9
RCTC Rector, Farmer 83.69 49 ⇓P **P 13 29 00.2 -0.1**
baz=84
YBH Yreka Blue Hor 83.80 43 *eP* **P 13 29 00.7 -0.1**
comp=E,34nm,1.3s,mb5.3
YBH Yreka Blue Hor 83.80 43 *eP* **P 13 29 00.7 -0.1**
YBH pmax pmax
comp=Z,34nm,1.3s
109C Camp Elliot, M 83.83 53 ⇓P **P 13 29 01.0 -0.1**
baz=84
BFSC Mount Baldy Ra 83.97 52 ⇑P **P 13 29 01.8 -0.1**
baz=84,SNR=10
ISA Isabella 83.97 50 ⇑P **P 13 29 02.0 +0.2**
baz=84,SNR=23
EDW2 Edwards Air Fo 83.99 51 ⇑P **P 13 29 02.0 +0.1**
baz=84,SNR=19
MURC Murrieta 84.05 52 ⇑P **P 13 29 02.2 -0.1**
baz=84
LBCM Butte Creek Ri 84.27 44 P **P 13 29 03.1 -0.1**
MONP Monument Peak 84.35 53 ⇓P **P 13 29 04.2 +0.3**
baz=84,SNR=24
LRMC Laurel Mountai 84.47 51 ⇓P **P 13 29 04.7 +0.4**
baz=85,SNR=11
DVTC Desert V Tower 84.50 54 ⇑P **P 13 29 04.3 -0.3**
baz=85,SNR=12
DIB Dawson Inlet, 84.52 30 T 15 02 15.4
BBRC Big Bear Solar 84.53 52 ⇑P **P 13 29 04.9 +0.1**
baz=85
MLAC Mammoth Lakes 84.56 48 ⇓P **P 13 29 05.3 +0.5**
baz=85,SNR=12
CWC Cottonwood Cre 84.59 50 ⇑P **P 13 29 04.3 -0.6**
baz=85,SNR=11
PFO Pinyon Flat Ob 84.62 53 ⇓P **P 13 29 04.6 -0.5**
baz=85,SNR=7.2
WCN Washoe City 84.65 46 ⇓P **P 13 29 05.2 0.0**
baz=85,SNR=14
WCN Washoe City 84.65 46 *eP* **P 13 29 05.0 -0.1**
comp=Z,53nm,1.7s,mb5.4
WCN Washoe City 84.65 46 *eP* **P 13 29 05.1 -0.1**
WCN pmax pmax
comp=Z,53nm,1.7s,mb5.4
DIV Divide 84.73 19 *eP* **P 13 29 04.1 -0.9**
comp=Z,26nm,1.1s,mb5.3
BILL Bilibino 84.78 358 *eP* **P 13 29 03.8 -1.3**
comp=Z,42nm,1.4s,mb5.4
BILL Bilibino 84.78 358 ⇑*iP* **P 13 29 04.3 -0.8**
BILL pmax pmax
comp=Z,39nm,1.5s,mb5.3
SWSC Sam W. Stewart 84.85 54 ⇑P **P 13 29 06.1 -0.3**
baz=85,SNR=9.8
MPMC Manual Prospec 84.86 50 ⇓P **P 13 29 06.1 -0.2**
baz=85,SNR=14
BMRM Bremner River 84.98 20 *eP* **P 13 29 05.5 -0.9**
comp=Z,27nm,1.1s,mb5.3
GSC Goldstone 85.05 51 ⇑P **P 13 29 07.2 -0.1**
baz=85,SNR=9.7
BELC Belle Mtn. Jos 85.12 52 ⇑P **P 13 29 07.7 0.0**
baz=85,SNR=19
BROR Big Rock Looko 85.19 41 P **P 13 29 07.4 -0.4**
HEC Hector,Ludlow 85.21 52 ⇓P **P 13 29 08.0 -0.1**
baz=85,SNR=6.9
NVAR Mina Array Bea 85.29 48 P **P 13 29 08.5 +0.1**
comp=Z,15nm,1.0s,mb5.1,baz=229,slow=7.5,SNR=44
NVAR LR LR 13 57 51.4
comp=Z,1µm,21.0s,MS5.3,baz=3.8,slow=29
NVAR Mina Array Bea 85.29 48 P **P 13 29 08.5 +0.1**
NVAR LR LR 13 57 51.4
GRAC Grapevine Rang 85.34 49 ⇓P **P 13 29 08.9 +0.2**
baz=86,SNR=14
BC3 Big Chuckawall 85.40 53 ⇑P **P 13 29 09.2 +0.1**
baz=86,SNR=11
YAK Yakutsk 85.44 341 *eP* **P 13 29 07.4 -1.2**
YAK pmax pmax
comp=Z,33nm,1.0s,mb5.4
YAK pmax pmax
comp=E,11nm,1.4s
K05A Summer Lake 85.45 43 ⇓P **P 13 29 09.2 +0.1**
baz=86
FURC Furnace Creek, 85.50 50 ⇑P **P 13 29 09.4 -0.1**
baz=86,SNR=12
H04A Detroit Lake 85.56 41 ⇓P **P 13 29 09.5 -0.1**
baz=86
E03A Lebam 85.63 39 ⇑P **P 13 29 09.6 -0.3**
baz=86
GLA Glamis 85.64 54 ⇑P **P 13 29 10.4 +0.1**
baz=86,SNR=6.6
SHOC Shoshone 85.69 51 ⇑P **P 13 29 10.3 -0.2**
baz=86
GMRC Granite Mounta 85.69 52 ⇑P **P 13 29 10.5 0.0**
baz=86,SNR=7.5
TUQ Turquoise Moun 85.76 51 ⇓P **P 13 29 10.6 -0.2**
baz=86
IRM Iron Mountain 85.83 53 ⇓P **P 13 29 11.7 +0.5**
baz=86,SNR=20
Y12C Blythe 86.15 53 ⇑P **P 13 29 13.0 +0.2**
baz=86,SNR=11
VFP Flag Point 86.31 40 P **P 13 29 13.3 0.0**
113A Mohawk Valley, 86.36 54 ⇓P **P 13 29 13.5 -0.3**
baz=86
VIPM Ingram Point 86.46 41 P **P 13 29 14.2 +0.1**
VIPM Ingram Point 86.46 41 P **P 13 29 14.2 +0.2**
ULN Ulaanbaatar 86.57 322 *eP* **P 13 29 14.7 +0.2**
comp=E,20nm,1.1s,mb5.3
ULN Ulaanbaatar 86.57 322 *eP* **P 13 29 14.7 +0.2**
ULN pmax pmax
comp=Z,20nm,1.1s,mb5.3
ULN Ulaanbaatar 86.57 322 P **P 13 29 14.9 +0.4**
comp=Z,18nm,1.3s,mb5.2
Z13A Yuma Proving G 86.61 54 ⇓P **P 13 29 15.0 -0.1**
baz=87,SNR=9.0
PDMCI Parker Dam,Lak 86.66 53 ⇑P **P 13 29 15.1 -0.2**
baz=87,SNR=7.9
G06A Carlson Farm, 86.79 41 ⇓P **P 13 29 15.6 0.0**
baz=87
214A Organ Pipe Nat 86.80 55 ⇑P **P 13 29 15.9 -0.1**
baz=87
D05A Enumclaw 86.88 39 ⇓P **P 13 29 16.2 +0.2**
baz=87,SNR=9.6
BMN Battle Mountai 86.90 46 *eP* **P 13 29 16.4 +0.1**
comp=Z,57nm,1.4s,mb5.6
BMN Battle Mountai 86.90 46 *eP* **P 13 29 16.4 +0.1**
BMN pmax pmax
comp=Z,57nm,1.4s,mb5.6
SONM Songino Array 86.94 322 P **P 13 29 16.5 +0.2**
comp=Z,7.0nm,0.9s,mb4.9,baz=141,slow=3.4,SNR=18
SONM Songino Array 86.94 322 P **P 13 29 16.5 +0.2**
SONM Songino Array 86.94 322 P **P 13 29 16.5 +0.2**
I07A Izee 86.97 42 ⇑P **P 13 29 16.5 -0.1**
baz=87
114A Black Gap (USA 87.04 55 ⇓P **P 13 29 16.7 -0.5**
baz=87
COLA College 87.05 16 *eP* **P 13 29 14.1 -2.3**
COLA College 87.05 16 *eP* **P 13 29 14.1 -2.3**
MCW Mount Constitu 87.12 37 P **P 13 29 17.3 +0.2**
MCW Mount Constitu 87.12 37 P **P 13 29 17.3 +0.2**
W13A Hualapai Mount 87.16 52 ⇓P **P 13 29 17.4 -0.3**
baz=87,SNR=8.3
R11A Troy Canyon, C 87.19 49 ⇓P **P 13 29 17.6 -0.2**
baz=87
ILAR Eielson Array 87.22 16 P **P 13 29 15.1 -2.2**
comp=Z,7.0nm,0.8s,mb4.9,baz=232,slow=5.3,SNR=32
ILAR LR LR 14 00 26.8
comp=Z,889nm,20.0s,MS5.2,baz=122,slow=30
ILAR Eielson Array 87.22 16 P **P 13 29 15.1 -2.2**
ILAR LR LR 14 00 26.8
ILAR Eielson Array 87.22 16 P **P 13 29 15.1 -2.2**
J08A Circle Bar Ran 87.32 43 ⇑P **P 13 29 18.1 -0.2**
baz=87
Y14A Wickenburg 87.39 54 ⇓P **P 13 29 18.9 0.0**
baz=88
JCW Jim Creek 87.40 38 *eP* **P 13 29 17.7 -0.9**
comp=Z,24nm,1.1s,mb5.3
GTA Gaotai 87.44 312 P **P 13 29 19.9 +1.0**
GTA pP pP 13 29 30.3 +0.2
GTA sP sP 13 29 34.8 +0.7
GTA S S 13 39 55.5 -1.9
GTA sS sS 13 40 14.0 -1.8
GTA SS SS 13 45 44.8 +1.3
GTA pmax pmax
comp=Z,61nm,1.2s,mb5.7
GTA pmax pmax
comp=Z,1µm,7.6s
GTA LR LR
comp=N,430nm,16.4s,MS5.1
GTA LR LR
comp=E,390nm,16.6s,MS5.1
GTA LR LR
comp=Z,510nm,15.9s,MS5.0
RPW Rockport 87.77 38 *eP* **P 13 29 12.2 -8.1**
comp=Z,5.6nm,1.0s,mb4.8
WRW Wenatchee Ridg 87.86 38 P **P 13 29 20.3 -0.4**
E07A Sunnyside 87.88 40 ⇑P **P 13 29 21.1 +0.2**
baz=88
216A Three Points, 87.88 56 ⇑P **P 13 29 21.1 -0.2**
baz=88
SYO Syowa Base 87.91 195 ⇑*eP* **P 13 29 18.3 -2.4**
SYO Syowa Base 87.91 195 ⇑*eP*cP PcP 13 29 21.2 -1.3
Y15A Casa Rosa Ranc 87.91 54 ⇑P **P 13 29 21.2 -0.1**
baz=SNR=7.5
HAWA Hanford 88.00 40 *eP* **P 13 29 21.1 -0.4**
comp=Z,9.6nm,1.0s,mb5.0
ETW Entiat 88.07 39 *eP* **P 13 29 21.2 -0.6**
comp=Z,14nm,1.0s,mb5.1
R13A O'Grain Ranch, 88.29 49 ⇑P **P 13 29 23.3 +0.3**
baz=88
217A Green Valley 88.31 56 ⇓P **P 13 29 23.1 -0.2**
baz=88,SNR=5.9
E08A Dider Farm, El 88.34 40 ⇓P **P 13 29 23.4 +0.3**
baz=88,SNR=8.5
TUC Tucson 88.53 56 *eP* **P 13 29 23.4 -0.9**
comp=Z,49nm,1.9s,mb5.5
TUC Tucson 88.53 56 *eP* **P 13 29 23.4 -0.9**
TUC pmax pmax
comp=Z,49nm,1.9s,mb5.5
Y16A Circle Bar Ran 88.55 54 ⇓P **P 13 29 24.2 -0.1**
baz=89,SNR=9.4
117A Oracle 88.65 55 ⇓P **P 13 29 25.0 +0.1**
baz=89,SNR=6.1
V15A Kaibab Nationa 88.73 52 ⇓P **P 13 29 25.6 +0.4**
baz=89,SNR=13
DLBC Dease Lake 88.76 26 P **P 13 29 24.4 -0.3**
comp=Z,8.1nm,1.1s,mb5.0,baz=165,slow=21,SNR=3.7
DLBC LR LR 14 00 52.9
comp=Z,755nm,20.0s,MS5.1,baz=55,slow=30
DLBC Dease Lake 88.76 26 P **P 13 29 24.4 -0.3**
DLBC LR LR 14 00 52.9
X16A Lo Mia Camp, P 88.77 54 ⇑P **P 13 29 25.8 +0.4**
baz=89,SNR=10
318A Bisbee 88.85 57 ⇓P **P 13 29 25.9 0.0**
baz=89
EGAK Eagle 88.86 18 *eP* **P 13 29 23.6 -1.5**
U15A North Rim 88.86 51 ⇓P **P 13 29 26.2 +0.4**
baz=89,SNR=18
E09A Wood Farm, Sta 88.92 40 ⇓P **P 13 29 26.1 +0.3**
baz=89,SNR=13
W16A Flagstaff 88.95 53 ⇓P **P 13 29 26.6 +0.4**
baz=89,SNR=6.5
OD2 Odessa Site #2 88.95 39 P **P 13 29 25.7 -0.3**
Y17A Roosevelt 88.97 54 ⇑P **P 13 29 26.6 +0.2**
baz=89,SNR=6.1
218A Dragoon 88.99 56 ⇑P **P 13 29 26.7 +0.2**
baz=89,SNR=7.6
MFID Camas Ranch 89.09 44 ⇑P **P 13 29 26.9 +0.2**
baz=89,SNR=13
Q14A Sevier Lake (B 89.10 49 ⇓P **P 13 29 27.0 +0.2**
baz=89,SNR=35
WUAZ Wupatki 89.22 53 ⇑P **P 13 29 27.8 +0.3**
baz=89,SNR=14
WUAZ Wupatki 89.22 53 *eP* **P 13 29 27.6 +0.1**
X17A Forest Lakes 89.23 54 ⇓P **P 13 29 28.2 +0.6**
baz=89,SNR=13
F10A Beach Ranch, E 89.26 41 ⇑P **P 13 29 27.2 -0.2**
baz=89,SNR=9.8
118A Homack Ranch, 89.29 56 ⇓P **P 13 29 28.2 +0.3**
baz=89,SNR=7.7
P14A Drum Mountains 89.48 48 ⇓P **P 13 29 28.7 0.0**
baz=90,SNR=12
R15A Junction 89.54 50 ⇓P **P 13 29 29.5 +0.6**
baz=90,SNR=5.8
W17A Winslow 89.57 53 ⇓P **P 13 29 29.9 +0.8**
baz=90,SNR=9.1
219A White Tail Can 89.63 56 ⇑P **P 13 29 29.5 0.0**
baz=90,SNR=11
U16A Tuba City 89.63 52 ⇑P **P 13 29 29.8 +0.4**
baz=90,SNR=20
Y18A Canyon Day Jun 89.63 55 ⇓P **P 13 29 30.2 +0.7**
baz=90,SNR=15
T16A Glen Canyon Da 89.65 51 ⇓P **P 13 29 29.6 +0.1**
baz=90,SNR=9.4
V17A Tonalea, Kykot 89.70 53 ⇓P **P 13 29 30.0 +0.3**
baz=90,SNR=24
I12A Atlanta 89.71 44 ⇑P **P 13 29 29.9 +0.3**
baz=90,SNR=12
S16A Weppner Ranch, 89.86 50 ⇑P **P 13 29 30.5 +0.1**
baz=90,SNR=16
119A Ashpeak Ranch, 89.86 56 ⇓P **P 13 29 30.7 +0.2**
baz=90
DUG Dugway 89.89 48 ⇓P **P 13 29 30.9 +0.4**
baz=90,SNR=15
DUG Dugway 89.89 48 *eP* **P 13 29 30.5 0.0**
comp=Z,31nm,1.4s,mb5.5
DUG Dugway 89.89 48 *eP* **P 13 29 30.5 0.0**
DUG pmax pmax
comp=Z,31nm,1.4s,mb5.5
X18A Snowflake 89.96 54 ⇓P **P 13 29 30.9 0.0**
baz=90,SNR=9.7
320A Kipp Ranch, An 89.99 57 ⇑P **P 13 29 31.8 +0.6**
baz=90
Z19A T-Link Ranch, 90.07 55 ⇑P **P 13 29 31.6 +0.1**
baz=90
HLID Hailey 90.09 44 ⇓P **P 13 29 31.8 +0.4**
baz=90,SNR=20
HLID Hailey 90.09 44 *eP* **P 13 29 31.5 +0.1**
comp=Z,15nm,0.9s,mb5.3
R16A Teasdale 90.14 50 ⇑P **P 13 29 32.1 +0.4**
baz=90,SNR=18
U17A Shonto 90.15 52 ⇓P **P 13 29 31.7 -0.1**
baz=90,SNR=5.5
220A Playas Peak, P 90.18 57 ⇑P **P 13 29 32.4 +0.4**
baz=90,SNR=6.6
T17A Navajo Res., N 90.18 51 ⇓P **P 13 29 32.6 +0.7**
baz=90,SNR=34
J13A Cove Ranch, Pi 90.19 44 ⇑P **P 13 29 32.4 +0.5**
baz=90,SNR=16
H12A Diamond D Ranc 90.19 43 ⇓P **P 13 29 32.0 +0.2**
baz=90,SNR=28
IRK Irkutsk 90.24 325 *eP* **P 13 29 31.0 -0.8**
IRK pmax pmax
comp=Z,67nm,1.8s,mb5.7
L14A Malta 90.30 46 ⇑P **P 13 29 32.5 +0.1**
baz=90,SNR=16
NEW Newport 90.30 39 ⇓P **P 13 29 31.9 -0.3**
baz=90
NEW Newport 90.30 39 *eP* **P 13 29 30.8 -1.4**
comp=Z,12nm,1.1s,mb5.1
NEW Newport 90.30 39 *eP* **P 13 29 30.8 -1.4**
NEW pmax pmax
comp=Z,12nm,1.1s
Y19A Nutrioso 90.30 55 ⇓P **P 13 29 33.2 +0.6**
baz=90,SNR=10
120A U Bar Ranch, L 90.31 56 ⇑P **P 13 29 32.7 0.0**
baz=90,SNR=7.1
TLY Talaya 90.33 325 *eP* **P 13 29 31.6 -0.6**
TLY pmax pmax
comp=Z,31nm,1.2s,mb5.5
TLY MLR MLR
comp=Z,990nm,16.0s,MS5.3
W18A Petrified Fore 90.33 53 ⇑P **P 13 29 32.9 +0.2**
baz=90,SNR=5.8
N15A Stansbury Isla 90.36 47 ⇑P **P 13 29 32.9 +0.2**
baz=90,SNR=12
V18A Ganado 90.39 53 ⇑P **P 13 29 33.2 +0.3**
baz=90,SNR=11
S17A Black Ridge (B 90.41 51 ⇓P **P 13 29 33.2 +0.2**
baz=90,SNR=14
F12A Elk City 90.42 42 ⇑P **P 13 29 32.6 -0.3**
baz=90,SNR=20
I13A Wildhorse Cree 90.43 44 ⇑P **P 13 29 33.0 +0.1**
baz=90,SNR=22
X19A St. Johns 90.44 54 ⇑P **P 13 29 33.2 0.0**
baz=90,SNR=8.6
K14A Jones Ranch, D 90.53 46 ⇑P **P 13 29 33.8 +0.4**
baz=91,SNR=17
Z20A Nine Sixteen R 90.54 56 ⇓P **P 13 29 33.9 +0.2**
baz=91,SNR=6.7
LSA Lhasa 90.55 301 *eP* **P 13 29 34.4 +0.6**
comp=Z,11nm,0.8s,mb5.2
LSA Lhasa 90.55 301 *eP* **P 13 29 34.4 +0.6**
LSA pmax pmax
comp=Z,11nm,0.8s,mb5.2
H13A Challis 90.59 43 ⇑P **P 13 29 34.0 +0.3**
baz=91,SNR=16
Q16A Castle Valley 90.60 49 ⇓P **P 13 29 34.3 +0.5**
baz=91,SNR=18
M15A Larsen Ranch, 90.63 47 ⇑P **P 13 29 33.9 0.0**
baz=91,SNR=15
R17A Hanksville Air 90.76 50 ⇓P **P 13 29 34.3 -0.3**
baz=91,SNR=21
G13A Cobalt 90.81 43 ⇑P **P 13 29 34.6 0.0**
baz=91,SNR=8.3
221A Mesquite Ranch 90.82 57 ⇑P **P 13 29 34.6 -0.4**
baz=91
O16A Springville 90.83 48 ⇓P **P 13 29 35.0 +0.2**
baz=91,SNR=14
L15A Malad City 90.87 46 ⇑P **P 13 29 34.9 -0.2**
baz=91,SNR=10.0
I14A Mackay 90.88 44 ⇓P **P 13 29 35.3 +0.3**
baz=91,SNR=24
T18A Mexican Hat 90.93 51 ⇑P **P 13 29 36.1 +0.7**
baz=91,SNR=37
Y20A Horse Springs, 90.97 55 ⇑P **P 13 29 36.1 +0.4**
baz=91,SNR=12
121A Cookes Peak, D 90.98 56 ⇑P **P 13 29 36.0 +0.2**
baz=91,SNR=7.0
K15A Arbon 91.03 46 ⇑P **P 13 29 36.2 +0.5**
baz=91,SNR=8.6
S18A Hurst Farm, Bl 91.03 51 ⇓P **P 13 29 36.1 +0.2**
baz=91,SNR=13
V19A Window Rock 91.06 53 ⇓P **P 13 29 36.2 +0.1**
baz=91
X20A Quenado 91.09 54 ⇑P **P 13 29 36.4 +0.2**
baz=91,SNR=8.5
P17A Butcher Ranch, 91.11 49 ⇓P **P 13 29 36.6 +0.4**
baz=91
N16A Rees Ranch, Co 91.12 48 ⇑P **P 13 29 36.5 +0.3**
baz=91,SNR=8.7
U19A Dine' College, 91.14 52 ⇓P **P 13 29 36.4 0.0**
baz=91,SNR=24
SRU San Rafael 91.14 49 ⇑P **P 13 29 36.6 +0.2**
baz=91
M16A Huntsville 91.14 47 ⇓P **P 13 29 36.1 -0.2**
baz=91,SNR=6.1
H14A Leadore 91.20 44 ⇓P **P 13 29 36.8 +0.3**
baz=91,SNR=12
W20A Ramah 91.28 54 ⇑P **P 13 29 37.3 +0.2**
baz=91,SNR=15
B12A Libby 91.31 39 ⇑P **P 13 29 37.0 +0.1**
baz=91
Z21A St. Cloud Mine 91.33 56 ⇑P **P 13 29 37.8 +0.4**
baz=91,SNR=12
R18A Canyonlands Na 91.35 50 ⇓P **P 13 29 37.4 +0.1**
baz=91,SNR=16
J15A Blackfoot 91.36 45 ⇑P **P 13 29 37.6 +0.4**
baz=92,SNR=12
O17A Robinson Place 91.37 48 ⇑P **P 13 29 38.2 +0.8**
baz=92,SNR=13
E13A Victor 91.37 42 ⇓P **P 13 29 37.4 +0.1**
baz=92
G14A Jackson 91.38 43 ⇓P **P 13 29 37.4 +0.1**
baz=92,SNR=6.9
222A Williams Famil 91.39 57 ⇑P **P 13 29 37.5 -0.1**
baz=92
Q18A Rafter H Ranch 91.42 50 ⇓P **P 13 29 37.4 -0.3**
baz=92,SNR=8.7
D13A Huson 91.46 41 ⇓P **P 13 29 37.6 0.0**
baz=92
T19A Beclabito 91.46 52 ⇑P **P 13 29 38.2 +0.3**
baz=92,SNR=5.5
A12A Yaak River Ran 91.47 39 ⇓P **P 13 29 37.9 +0.3**
baz=92
NVL N'lazarevskaya 91.50 186 *eP* **P 13 29 35.5 -2.0**
MAIT Maitri 91.51 186 *eP* **P 13 29 36.4 -1.1**
P18A Preston Nutter 91.53 49 ⇓P **P 13 29 38.2 +0.1**
baz=92
L16A Fish Haven 91.54 46 ⇑P **P 13 29 37.8 -0.3**
baz=92,SNR=7.4
V20A Brimhall 91.54 53 ⇓P **P 13 29 38.4 +0.1**
baz=92
I15A Monteview 91.55 44 ⇑P **P 13 29 38.2 0.0**
baz=92,SNR=9.0
Y21A Point of Rocks 91.56 55 ⇓P **P 13 29 39.1 +0.7**
baz=92,SNR=14
N17A Moffit Pass 91.57 48 ⇑P **P 13 29 38.7 +0.4**
baz=92
SNAA Sanae 91.61 182 P **P 13 29 36.5 -1.5**
comp=Z,6.8nm,1.1s,mb4.9,baz=190,slow=5.4,SNR=30
SNAA LR LR 14 07 57.8
comp=Z,216nm,19.4s,MS4.6,baz=219,slow=34
SNAA Sanae 91.61 182 *eP* **P 13 29 33.8 -4.2**
comp=Z,45nm,1.4s,mb5.6
SNAA Sanae 91.61 182 *eP* **P 13 29 33.8 -4.2**
SNAA pmax pmax
comp=Z,45nm,1.4s
X21A Alamocita Cree 91.61 55 ⇓P **P 13 29 38.7 +0.1**
baz=92,SNR=10
F14A Wisdom 91.65 42 ⇑P **P 13 29 39.0 +0.5**
baz=92
H15A Lima 91.68 44 ⇑P **P 13 29 39.1 +0.4**
baz=92,SNR=16
MSO Missoula 91.68 41 ⇓P **P 13 29 38.8 +0.1**
baz=92
S19A Harvey Farm, M 91.69 51 ⇓P **P 13 29 39.0 0.0**
baz=92,SNR=8.0
U20A Newcomb 91.69 53 ⇓P **P 13 29 39.2 +0.2**
baz=92
K16A Soda Springs 91.73 46 ⇑P **P 13 29 39.2 +0.2**
baz=92
R19A Curley Farm, L 91.78 51 ⇑P **P 13 29 39.3 -0.1**
baz=92,SNR=7.6
E14A Clinton 91.81 42 ⇓P **P 13 29 39.4 +0.1**
baz=92,SNR=7.4
J16A Bone 91.87 45 ⇑P **P 13 29 39.7 +0.1**
baz=92,SNR=8.9
Z22A Elephant Butte 91.87 56 ⇓P **P 13 29 39.9 0.0**
baz=92,SNR=5.6
M17A Scullys Gap (B 91.88 47 ⇓P **P 13 29 39.5 -0.2**
baz=92
O18A Roosevelt 91.92 48 ⇑P **P 13 29 40.2 +0.2**
baz=92
L17A Cokeville 91.96 47 ⇑P **P 13 29 40.1 +0.1**
baz=92
G15A Dillon 91.98 43 ⇑P **P 13 29 40.3 +0.2**
baz=92,SNR=7.9
MVCO Mesa Verde 91.98 52 ⇓P **P 13 29 40.5 +0.1**
baz=92
Q19A Hogan Spring (92.01 50 ⇑P **P 13 29 40.5 +0.1**
baz=92,SNR=10.0
D14A Greenough 92.06 41 ⇓P **P 13 29 40.0 -0.4**
baz=92
Y22A Socorro 92.09 55 ⇓P **P 13 29 40.7 -0.2**
baz=92,SNR=8.2
VNA3 Neumayer Olymp 92.10 179 *e* **P 13 29 36.0 -4.3**
V21A Milan 92.17 53 ⇑P **P 13 29 41.3 +0.1**
baz=92
I16A Newdale 92.17 45 ⇑P **P 13 29 41.4 +0.4**
baz=92
F15A Butte 92.23 43 ⇓P **P 13 29 41.1 -0.2**
baz=92,SNR=7.0
X22A Bernardo 92.24 55 ⇓P **P 13 29 41.6 0.0**
baz=92
LRM Limekiln Ridge 92.25 43 *eP* **P 13 29 41.3 -0.1**
comp=Z,94nm,1.2s,mb6.0
M18A Lyman 92.28 47 ⇓P **P 13 29 41.6 0.0**
baz=92,SNR=7.7
S20A Disappointment 92.30 51 ⇑P **P 13 29 41.9 +0.2**
baz=92,SNR=5.6
E15A Deer Lodge 92.36 42 ⇑P **P 13 29 41.9 +0.1**
baz=92
U21A Nageezi 92.36 53 ⇓P **P 13 29 42.2 +0.1**
baz=92,SNR=12
R20A Redvale 92.40 51 ⇑P **P 13 29 42.3 0.0**
baz=92,SNR=5.1
N18A Larsen Ranch, 92.41 48 ⇑P **P 13 29 42.1 -0.1**

baz=92,SNR=6.6
VNA2 Neumayer--Watz 92.42 180 e P 13 29 37.8 -4.0
baz=154,slow=4.6
P19A Cripple Cowboy 92.44 49 ⇓P P 13 29 42.1 -0.3
baz=92
G16A Moss Hill, Enn 92.46 43 ⇓P P 13 29 42.4 +0.2
baz=93
324A Moseley Ranch, 92.49 58 ⇑P P 13 29 42.8 0.0
baz=93,SNR=8.4
O19A Miners Draw (B 92.57 49 ⇑P P 13 29 43.0 +0.1
baz=93
H16A Russell Place, 92.63 44 ⇑P P 13 29 43.6 +0.5
baz=93,SNR=6.5
T21A Navajo Lake 92.64 52 ⇑P P 13 29 43.6 +0.2
baz=93
224A Cornudas Mount 92.65 57 ⇑P P 13 29 43.6 +0.1
baz=93,SNR=5.6
D15A Lincoln 92.66 42 ⇓P P 13 29 43.5 +0.3
baz=93
S21A Coal Bank Pass 92.67 52 ⇓P P 13 29 43.3 -0.1
baz=93,SNR=6.7
B14A Marquette Ranc 92.69 40 ⇓P P 13 29 43.2 -0.1
baz=93
VNA1 Neumayer--Stat 92.70 180 e P 13 29 39.7 -3.4
Q20A Ridgley Place, 92.72 50 ⇑P P 13 29 43.6 -0.1
baz=93,SNR=7.4
K18A Toltan Ranch, 92.72 46 ⇓P P 13 29 43.6 +0.1
baz=93
BOZ Bozeman (W) 92.72 43 ⇑P P 13 29 43.7 +0.2
baz=93
F16A Kennard Place, 92.78 43 ⇓P P 13 29 43.8 0.0
baz=93
I17A Pilgrim Ck. 92.81 45 ⇑P P 13 29 44.2 +0.2
baz=93
Y23A Lovelace Mesa, 92.81 56 ⇓P P 13 29 43.9 -0.2
baz=93
ANMO Albuquerque 92.81 54 eP P 13 29 44.0 -0.1
comp=Z,12nm,1.2s,mb5.2
ANMO Albuquerque 92.81 54 eP P 13 29 44.1 -0.1
ANMO pmax pmax
comp=Z,12nm,1.2s
YMR Madison River 92.81 44 P P 13 29 44.4 +0.5
comp=Z,15nm,1.1s,mb5.3
P20A De Beque 92.83 50 ⇑P P 13 29 44.1 -0.1
baz=93
325A Bean Ranch, Si 92.88 58 ⇓P P 13 29 44.0 -0.6
baz=93,SNR=7.6
C15A Salmond Ranch, 92.88 41 ⇓P P 13 29 43.9 -0.3
baz=93
124A Stringfield Ra 92.90 57 ⇓P P 13 29 44.5 -0.2
baz=93
J18A Kendall Valley 92.94 46 ⇑P P 13 29 44.4 -0.2
baz=93,SNR=6.0
H17A Grant Village 92.97 44 ⇑P P 13 29 45.4 +0.7
baz=93
L19A Farson 93.01 47 ⇑P P 13 29 45.2 +0.3
baz=93
E16A East Helena 93.02 42 ⇑P P 13 29 44.9 +0.1
baz=93
626A Big Bend Ranch 93.02 60 ⇓P P 13 29 44.9 -0.4
baz=93
R21A Cimarron 93.08 51 ⇑P P 13 29 45.2 -0.1
baz=93,SNR=7.5
PD01 Pinedale Array 93.09 46 eP P 13 29 44.5 -0.8
PDAR Pinedale Array 93.10 46 P P 13 29 44.4 -0.9
comp=Z,1.4nm,0.9s,mb4.4,baz=192,slow=2.7,SNR=8.3
PDAR Pinedale Array 93.10 46 P P 13 29 44.4 -0.9
T22A Edith 93.13 52 ⇓P P 13 29 45.4 -0.2
baz=93
O20A White River Ci 93.15 49 ⇓P P 13 29 45.8 +0.2
baz=93
G17A Pierce Place, 93.19 44 ⇑P P 13 29 46.6 +0.9
baz=93
526A Mary Lane Ranc 93.21 60 ⇑P P 13 29 46.1 0.0
baz=93
Q21A Lamborn Mesa, 93.21 50 ⇓P P 13 29 46.2 +0.3
baz=93
225A Deer Hill, Car 93.23 58 ⇑P P 13 29 46.2 0.0
baz=93
I18A Diamond G Ranc 93.24 45 ⇓P P 13 29 46.2 +0.2
baz=93
A15A Johnson Ranch, 93.25 40 ⇑P P 13 29 45.8 -0.1
baz=93
V23A Ortiz Mt. (NFS 93.28 54 ⇑P P 13 29 46.6 +0.3
baz=93
D16A Dana Ranch, Ca 93.28 42 ⇑P P 13 29 46.0 -0.1
baz=93
Y24A Capitan 93.29 56 ⇓P P 13 29 46.3 -0.1
baz=93
TXAR Lajitas Array 93.34 61 P P 13 29 46.5 -0.2
comp=Z,4.1nm,0.9s,mb4.9,baz=222,slow=5.0,SNR=19
TXAR PKKP PKKPbc 13 46 53.1 -1.3
comp=Z,0.3nm,0.7s,baz=114,slow=5.6,SNR=3.6
TXAR Lajitas Array 93.34 61 P P 13 29 46.5 -0.2
TXAR PKKP PKKPbc 13 46 53.1 -1.3
TXAR Lajitas Array 93.34 61 P P 13 29 46.5 -0.3
N20A Spence Gulch, 93.36 48 ⇓P P 13 29 46.2 -0.4
baz=94,SNR=5.4
S22A 4UR Ranch, Cre 93.42 52 ⇑P P 13 29 47.6 +0.7
baz=94
426A McDonald Obser 93.44 59 ⇑P P 13 29 47.1 -0.1
baz=94,SNR=7.6
F17A Fitzpatrick Pl 93.45 43 ⇑P P 13 29 46.8 -0.1
baz=94
U23A El Rito 93.45 53 ⇓P P 13 29 47.4 +0.3
baz=94
P21A Newcastle 93.53 50 ⇑P P 13 29 47.3 -0.1
baz=94
125A Gardner Draw, 93.53 57 ⇑P P 13 29 47.1 -0.4
baz=94
627A Terlingua Ranc 93.61 60 ⇑P P 13 29 48.1 +0.1
baz=94
K19A Absolon Red Bu 93.61 46 ⇑P P 13 29 47.4 -0.3
baz=94
J19A Crowheart 93.62 46 ⇓P P 13 29 47.6 -0.1
baz=94
527A Woodward Ranch 93.63 60 ⇓P P 13 29 48.0 0.0
baz=94,SNR=5.9
M20A Sweetwater, Wa 93.63 48 ⇑P P 13 29 47.9 +0.1
baz=94
Z25A Roswell 93.67 56 ⇑P P 13 29 48.0 -0.2
baz=94
326A Caldwell Ranch 93.67 59 ⇓P P 13 29 48.0 -0.2
baz=94
L20A Wamsutter 93.70 47 ⇑P P 13 29 48.5 +0.4
baz=94
Q22A Crested Butte, 93.71 51 ⇑P P 13 29 48.8 +0.5
baz=94
W24A Lazy 6 Ranch, 93.71 54 ⇑P P 13 29 48.4 0.0
baz=94
226A Malaga, Loving 93.80 58 ⇑P P 13 29 48.6 -0.2
baz=94
D17A Six Diamond Ra 93.87 42 ⇑P P 13 29 49.1 +0.3
baz=94
N21A Black Mountain 93.87 49 ⇑P P 13 29 48.8 -0.2
baz=94
Y25A Mesa, Roswell 93.88 56 ⇑P P 13 29 48.7 -0.4
baz=94
K20A Yellowstone Ra 93.91 47 ⇑P P 13 29 48.7 -0.4
baz=94
I19A Meeteetse 93.92 45 ⇑P P 13 29 49.0 -0.1
baz=94
C17A Wharram Farm, 93.99 41 ⇑P P 13 29 49.4 +0.1
baz=94
427A Hayter Ranch, 94.01 59 ⇑P P 13 29 49.7 -0.1
baz=94
P22A Eagle 94.05 50 ⇑P P 13 29 50.2 +0.4
baz=94
F18A Big Timber 94.07 43 ⇓P P 13 29 49.6 -0.1
baz=94
RLMT Red Lodge 94.10 44 ⇓P P 13 29 49.7 -0.2
baz=94
H19A Powell 94.14 45 ⇓P P 13 29 50.7 +0.7
baz=94
E18A Harlowton 94.17 43 ⇑P P 13 29 50.6 +0.5
baz=94
Z26A Caprock 94.25 57 ⇓P P 13 29 50.6 -0.3
baz=94
M21A Separation Pea 94.26 48 ⇓P P 13 29 50.8 +0.1
baz=94
528A Cox Ranch, San 94.31 60 ⇑P P 13 29 51.1 -0.2
baz=94
J20A Shoshoni 94.31 46 ⇓P P 13 29 51.2 +0.3
baz=94
O22A Kremmling 94.39 49 ⇓P P 13 29 51.7 +0.4
baz=94
SDCO Great Sand Dun 94.42 52 ⇓P P 13 29 51.1 -0.4
baz=94
W25A X Bar L Ranch, 94.45 55 ⇑P P 13 29 51.2 -0.5
baz=94
A17A Triple J Farms 94.49 40 ⇑P P 13 29 51.9 +0.3
baz=95
F19A Roth Farm, Mol 94.56 44 ⇓P P 13 29 52.0 +0.1
baz=95
328A Wristen Ranch, 94.65 59 ⇑P P 13 29 52.3 -0.4
baz=95
N22A Wattenberg Ran 94.65 49 ⇓P P 13 29 52.4 -0.1
baz=95
P23A Jefferson 94.66 50 ⇓P P 13 29 52.2 -0.4
baz=95
K21A Alcova 94.66 47 ⇑P P 13 29 52.4 -0.1
baz=95
U25A Circle Dot Ran 94.84 54 ⇓P P 13 29 53.1 -0.4
baz=95
E19A Rath Farm, Rou 94.86 43 ⇑P P 13 29 53.6 +0.2
baz=95
B18A Beardsley Farm 94.88 41 ⇓P P 13 29 53.4 0.0
baz=95
D19A Cripps Ranch, 95.03 42 ⇑P P 13 29 54.1 0.0
baz=95
L22A Ellis Ranch, M 95.05 48 ⇑P P 13 29 54.0 -0.3
baz=95
N23A Red Feather La 95.05 49 ⇓P P 13 29 54.1 -0.2
baz=95
S25A Robets Cordova 95.20 52 ⇑P P 13 29 54.9 -0.2
baz=95
E20A Meyer Farm, Mu 95.31 43 ⇓P P 13 29 55.2 -0.2
baz=95
U26A Atchley Ranch, 95.36 54 ⇓P P 13 29 55.8 0.0
baz=95
J22A Midwest 95.44 46 ⇓P P 13 29 56.2 +0.1
baz=96
L23A Garrett 95.59 48 ⇓P P 13 29 56.6 -0.2
baz=96
A19A Klindworth Far 95.70 41 ⇓P P 13 29 58.0 +0.9
baz=96
C21A Desert Coulee 96.39 42 ⇑P P 13 30 00.2 -0.1
baz=96
YKA Yellowknife Ar 97.39 27 P P 13 30 03.8 -0.6
comp=Z,4.9nm,1.0s,mb4.9,baz=257,slow=4.5,SNR=4.7
YKA LR LR 14 05 49.8
comp=Z,75nm,20.6s,MS4.2,baz=40,slow=30
YKA Yellowknife Ar 97.39 27 P P 13 30 03.8 -0.6
YKA LR LR 14 05 49.9
YKA Yellowknife Ar 97.39 27 P P 13 30 03.8 -0.6
D23A Lindsay 97.42 43 ⇑P P 13 30 05.3 +0.4
baz=98
WMQ Urumqi 97.47 313 P P 13 30 05.8 +0.5
WMQ Urumqi 97.47 313 P P 13 30 05.9 +0.6
WMQ pP pP 13 30 16.5 0.0
WMQ sP sP 13 30 20.4 0.0
WMQ PP PP 13 34 05.8 +2.8
WMQ pmax pmax
comp=Z,21nm,1.5s,mb5.3
WMQ pmax pmax
comp=Z,1μm,7.6s
WMQ LR LR
comp=N,800nm,16.1s,MS5.4
WMQ LR LR
comp=E,670nm,16.0s,MS5.4
WMQ LR LR
comp=Z,410nm,27.0s
C23A Lambert 97.62 42 ⇓P P 13 30 06.0 +0.2
baz=98
ZALV Zalesovo Beam 101.81 323 P Pdif 13 30 23.6 -1.0
comp=Z,6.0nm,1.0s,baz=104,slow=4.7,SNR=21
ZALV Zalesovo Beam 101.81 323 P Pdif 13 30 23.6 -1.0
ZALV Zalesovo Beam 101.81 323 P Pdif 13 30 23.6 -0.9
MKAR Makanchi Array 101.89 315 P Pdif 13 30 25.1 +0.2
comp=Z,3.8nm,0.9s,baz=115,slow=4.6,SNR=9.0
MKAR Makanchi Array 101.89 315 P Pdif 13 30 25.1 +0.2
MKAR Makanchi Array 101.89 315 P Pdif 13 30 25.2 +0.3
NVS Novosibirsk 102.90 324 i P Pdif 13 30 28.0 -1.4
KURK Kurchatov 104.98 319 PKiKP PKiKP 13 34 50.9 -2.4
comp=Z,0.6nm,0.2s,baz=77,slow=2.6,SNR=4.8
ARU Arti 116.83 325 i PKIKP PKPdf 13 35 14.7 -0.8
ARU 13 36 20.7
ABKAR Akbulak array 116.96 317 ePKPdf PKPdf 13 35 14.7 -1.3
APA Apatity 122.82 342 ⇓ePKIKP PKPdf 13 35 23.6 -3.1
ARCES ARCESS Array B 123.42 347 PKP PKPdf 13 35 26.6 -1.3
comp=Z,2.4nm,0.7s,baz=29,slow=2.1,SNR=5.2
ARCES ARCESS Array B 123.42 347 PKP PKPdf 13 35 26.6 -1.3
ARCES ARCESS Array B 123.42 347 PKIKP PKPdf 13 35 26.6 -1.2
SUR Sutherland 123.78 209 PKP PKPdf 13 35 28.9 -0.9
comp=Z,7.3nm,0.9s,baz=264,slow=20,SNR=3.6
SUR Sutherland 123.78 209 PKP PKPdf 13 35 28.9 -0.9
BOSA Boshof 124.50 216 PKP PKPdf 13 35 30.1 -1.1
comp=Z,7.3nm,1.1s,baz=187,slow=9.0,SNR=4.3
BOSA Boshof 124.50 216 PKP PKPdf 13 35 30.1 -1.1
KLMR Klimovskoe 124.61 334 ePKIKP PKPdf 13 35 23.1 -7.2
KLMR pmax pmax
comp=Z,34nm,1.4s
QRN Al-Qurain 127.52 293 eP PKPdf 13 35 36.6 -0.3
QRN AMb AMB 13 35 39.9
comp=Z,100nm,1.3s
UMR Umm Al-Rimmam 127.69 295 eP PKPdf 13 35 36.5 -0.7
RDF Al-Radifah 127.84 294 eP PKPdf 13 35 37.5 0.0
RDF AMb AMB 13 35 41.1
comp=Z,84nm,1.6s
VRHR Novokhopersk 127.94 322 ePKIKP PKPdf 13 35 36.3 -0.7
VRHR pmax pmax
comp=N,6.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s
VRHR pmax pmax
comp=E,2.0nm,0.3s
MIB Mutribah 128.01 295 eP PKPdf 13 35 36.9 -0.9
MIB AMb AMB 13 35 39.0
comp=Z,59nm,1.1s
OBN Obninsk 128.90 329 d iPKIKP PKPdf 13 35 38.9 +0.2
OBN pmax pmax
comp=Z,7.0nm,0.7s
GNI Garni 129.01 308 PKP PKPdf 13 35 39.3 -0.1
comp=Z,5.8nm,0.6s,baz=165,slow=20,SNR=4.1
GNI Garni 129.01 308 PKP PKPdf 13 35 39.3 -0.1
GNI Garni 129.01 308 ⇑iPKIKP PKPdf 13 35 40.1 +0.7
ZEI Tsey 129.06 312 i PKIKP PKPdf 13 35 35.7 -3.7
ZEI pmax pmax
comp=Z,21nm,1.9s
VSR Storozhevoye 129.32 323 ePKIKP PKPdf 13 35 39.3 -0.3
VSR pmax pmax
comp=Z,10.0nm,0.6s
VSR pmax pmax
comp=N,3.0nm,0.3s
VSR pmax pmax
comp=E,5.0nm,0.6s
KIV Kislovodsk 129.61 313 ePKIKP PKPdf 13 35 40.4 0.0
KIV pmax pmax
comp=Z,12nm,1.1s
ANN Anapa 132.91 316 i PKIKP PKPdf 13 35 40.0 -6.6
ANN pmax pmax
comp=Z,115nm,1.7s
AKASG Malin Array Be 135.02 327 PKP PKPdf 13 35 49.8 -0.6
comp=Z,3.6nm,0.9s,baz=51,slow=2.7,SNR=11
AKASG Malin Array Be 135.02 327 PKP PKPdf 13 35 49.8 -0.6
AKASG Malin Array Be 135.02 327 PKIKP PKPdf 13 35 49.8 -0.6
BRTR Keskin Array B 137.34 311 PKP PKPdf 13 35 54.4 -0.7
comp=Z,2.7nm,1.0s,baz=131,slow=5.7,SNR=5.2
BRTR Keskin Array B 137.34 311 PKP PKPdf 13 35 54.4 -0.7
BRTR Keskin Array B 137.34 311 PKIKP PKPdf 13 35 54.4 -0.7
MMAI Mount Meron Ar 137.80 301 PKP PKPdf 13 35 56.6 +0.4
comp=Z,1.6nm,0.4s,baz=47,slow=3.0,SNR=8.5
MMAI Mount Meron Ar 137.80 301 PKP PKPdf 13 35 56.6 +0.5
MLR Muntele Rosu 139.79 323 PKP PKPdf 13 35 58.6 -0.8
comp=Z,0.6nm,0.5s,baz=148,slow=9.0,SNR=3.3
MLR Muntele Rosu 139.79 323 PKP PKPdf 13 35 58.6 -0.8
MLR Muntele Rosu 139.79 323 PKIKP PKPdf 13 35 58.6 -0.8
UZH Uzhgorod 139.84 329 ePKHKP PKPpre 13 35 52.0
DPC Dobruska-Polom 141.30 335 ePKIKP PKPdf 13 35 58.5 -3.5
DPC Dobruska-Polom 141.30 335 ePKPdf PKPdf 13 35 58.5 -3.5
DPC ex x 13 36 01.0
UPC Upice 141.30 335 ePKIKP PKPdf 13 36 00.7 -1.2
UPC Upice 141.30 335 ePKPdf PKPdf 13 36 00.7 -1.2
VYHS Vyhne 141.60 331 ePKIKP PKPdf 13 35 58.2 -4.3
VYHS Vyhne 141.60 331 ePKP PKPdf 13 35 58.2 -4.3
CLL Collm 141.78 339 ePKHKP PKPpre 13 35 57.0
CLL i 13 36 02.2
CLL pmax pmax
comp=Z,7.0nm,1.2s
CLL pmax pmax
comp=Z,10.0nm,1.2s
CLL MLR MLR
comp=Z,400nm,20.2s,MS5.2
CLL Collm 141.78 339 ePKPpre PKPpre 13 35 57.0
comp=Z,7.0nm,1.2s
CLL i PKPdf PKPdf 13 36 02.2 -0.6
comp=Z,10.0nm,1.2s
CLL Lm 14 35 00.0
comp=Z,400nm,20.2s
VRAC Vranov 141.99 334 PKP PKPdf 13 36 00.4 -2.8
comp=Z,4.5nm,1.0s,baz=24,slow=3.6,SNR=5.7
VRAC Vranov 141.99 334 PKP PKPdf 13 36 00.4 -2.8
VRAC Vranov 141.99 334 PKIKP PKPdf 13 36 00.4 -2.8
PRU Pruhonice 142.29 336 ePKIKP PKPdf 13 36 00.4 -3.3
PRU Pruhonice 142.29 336 ePKPdf PKPdf 13 36 00.4 -3.3
NKC Novy Kostel 142.87 338 ePKHKP PKPpre 13 35 58.9
NKC e 13 36 04.0
NKC Novy Kostel 142.87 338 ePKPdf PKPpre 13 35 58.9
NKC ex x 13 36 04.0
SMG Samos 143.03 311 eP PKPdf 13 36 01.7 -3.7
UBBA Unterbreizbach 143.19 341 ePKPbc PKPdf 13 36 01.5 -3.8
CHOS Chios island 143.29 313 eP PKPdf 13 36 03.0 -2.9
NVR Nevrokopi 143.32 318 eP PKPdf 13 36 02.6 -3.3
KHC Kasperske Hory 143.35 336 ePKIKP PKPdf 13 36 03.5 -2.1
KHC e 13 36 09.5
KHC Kasperske Hory 143.35 336 ePKPdf PKPdf 13 36 03.5 -2.1
KHC ex x 13 36 09.5
CONA Conrad Observa 143.35 333 ⇓ePKPdf PKPdf 13 36 03.9 -1.8
comp=Z,26nm,1.3s
CSNA Conrad Observa 143.36 333 ⇓ePKPdf PKPdf 13 36 03.8 -1.8
comp=Z,26nm,1.3s
GEC2 GERESS Array S 143.53 336 ePKPbc PKPdf 13 36 02.8 -3.2
GEC2 GERESS Array S 143.53 336 ePKIKP PKPdf 13 36 02.8 -3.2
GERES GERESS Array B 143.53 336 PKP PKPdf 13 36 02.8 -3.2
comp=Z,2.8nm,0.8s,baz=37,slow=3.3,SNR=13
GERES GERESS Array B 143.53 336 PKP PKPdf 13 36 02.8 -3.2
GERES GERESS Array B 143.53 336 PKIKP PKPdf 13 36 02.8 -3.2
SRS Serrai 143.62 318 P PKPdf 13 36 02.5 -3.9
KARP Karpathos 143.63 308 eP PKPdf 13 36 04.0 -2.6
GRF Grafenberg Arr 143.75 339 ePKPbc PKPdf 13 36 03.5 -2.8
GRF Grafenberg Arr 143.75 339 ePKIKP PKPdf 13 36 03.5 -2.8
SOH Sokhos 143.93 318 eP PKPdf 13 36 03.3 -3.6
DIVS Divibare 144.01 325 P PKPdf 13 36 04.2 -2.8
MOA Molln 144.10 334 ⇓iPKPdf PKPdf 13 36 07.5 +0.5
comp=Z,18nm,1.1s,SNR=5.9
PLG Polygyros 144.11 317 eP PKPdf 13 36 04.3 -3.0
TNS Taunus Mts 144.19 342 ePKPbc PKPdf 13 36 05.1 -2.0
TNS Taunus Mts 144.19 342 ePKIKP PKPdf 13 36 05.1 -2.0
APE Apeiranthos 144.24 311 eP PKPdf 13 36 04.2 -3.4
KOGS Kog 144.29 331 ePKPbc PKPdf 13 36 05.4 -2.0
KOGS i 13 36 07.7
RCBR Riachuelo 144.38 127 ePKP PKPdf 13 36 05.3 -3.3
AOS Alonnisos 144.43 315 P PKPdf 13 36 03.4 -4.5
SKO Skopje 144.48 321 eP PKPdf 13 36 06.6 -1.3
MEM Membach 144.51 345 PKP PKPdf 13 36 06.3 -1.4
THR1 Thera Island 144.58 310 P PKPdf 13 36 05.9 -2.3
TOD Tromm 144.62 341 PKP PKPdf 13 36 05.5 -2.4
TOD Tromm 144.62 341 PKIKP PKPdf 13 36 05.5 -2.4
PERS Pernice 144.67 332 ePKPbc PKPdf 13 36 06.6 -1.4
PERS i 13 36 09.1
SOKA Soboth 144.67 332 ⇓ePKPdf PKPdf 13 36 06.4 -1.6
comp=Z,30nm,1.1s
ABH Alteburg 144.75 342 PKP PKPdf 13 36 06.1 -2.0
RJOB Jochberg 144.79 335 ePKPbc PKPdf 13 36 07.1 -1.1
NEO Neokhori 144.80 316 eP PKPdf 13 36 06.5 -2.0
BCLA Clavier 144.86 345 PKP PKPdf 13 36 07.3 -0.9
LIT Litokhoron 144.87 317 eP PKPdf 13 36 06.8 -1.8
LIT Litokhoron 144.87 317 P PKPdf 13 36 06.4 -2.2
NPS Neapolis 144.91 308 eP PKPdf 13 36 08.6 -0.2
NPS Neapolis 144.91 308 P PKPdf 13 36 07.5 -1.3
KRUS Krusevo 144.95 320 eP PKPdf 13 36 07.0 -1.7
FUR Furstenfeldbru 145.02 337 ePKPbc PKPbc 13 36 08.1 -0.2
FUR Furstenfeldbru 145.02 337 ePKIKP PKPdf 13 36 08.1 -0.5
OBKA Obir 145.02 332 ⇓ePKPdf PKPdf 13 36 07.3 -1.3
comp=Z,23nm,1.1s
SNF Seneffe 145.02 346 PKP PKPdf 13 36 07.5 -1.0
LAST Lasithi 145.05 308 P PKPbc 13 36 08.3 -0.2
RUP Ruppelstein 145.06 343 PKP PKPdf 13 36 07.2 -1.4
RUP Ruppelstein 145.06 343 PKIKP PKPdf 13 36 07.2 -1.4
KBA Koelnbreinsper 145.09 334 ⇓ePKPdf PKPdf 13 36 07.4 -1.4
comp=Z,58nm,1.4s
ATH Athens Observa 145.12 313 eP PKPbc 13 36 05.5 -3.1
VLY Voula,Athens 145.12 313 eP PKPbc 13 36 07.1 -1.6
FNA Florina 145.21 319 P PKPbc 13 36 07.6 -1.2
STU Stuttgart 145.23 340 ePKPbc PKPbc 13 36 08.7 +0.1
STU Stuttgart 145.23 340 ePKPdf PKPdf 13 36 08.1 -0.8
STU Stuttgart 145.23 340 ePKIKP PKPdf 13 36 08.1 -0.8
ATAL Atalanti 145.25 315 P PKPbc 13 36 07.1 -1.9
GIVF Givet 145.27 345 ePKP1 PKPbc 13 36 08.0 -0.7
comp=Z,149nm,1.4s
LKR Lokris 145.28 315 eP PKPbc 13 36 07.8 -1.3
MYKA Terra Mystica 145.32 333 ⇓ePKPdf PKPdf 13 36 08.1 -1.1
comp=Z,72nm,1.5s
DOU Dourbes 145.34 346 PKP PKPdf 13 36 09.0 -0.1
WLF Walferdange 145.34 344 PKP PKPdf 13 36 08.8 -0.3
WLF Walferdange 145.34 344 ePKPbc PKPbc 13 36 09.3 +0.4
WLF Walferdange 145.34 344 ePKP PKPdf 13 36 09.4 +0.3
WLF Walferdange 145.34 344 ePKIKP PKPdf 13 36 09.4 +0.3
LJU Ljubljana 145.38 332 ePKPbc PKPbc 13 36 08.3 -0.3
IDI Idovyia 145.44 308 ePKP PKPdf 13 36 09.4 -0.4
BOJS Bojanci 145.46 331 ePKPbc PKPbc 13 36 09.6 +0.1
BAIF Baives 145.46 346 ePKP1 PKPbc 13 36 08.8 -0.5
comp=Z,158nm,1.3s
THL Klokotos Trika 145.47 317 eP PKPdf 13 36 07.9 -1.7
LANF Langenberg 145.48 342 PKP PKPdf 13 36 09.6 +0.2
LANF Langenberg 145.48 342 PKIKP PKPdf 13 36 09.6 +0.2
LANF Langenberg 145.48 342 PKP PKPdf 13 36 09.6 +0.2
AGG Agios Georgios 145.54 316 eP PKPdf 13 36 08.5 -1.3
CADS Cadrg 145.59 333 ePKPbc PKPbc 13 36 08.8 -1.0
WATA Walderalm 145.59 336 ⇓iPKPab PKPab 13 36 09.4 -0.6
comp=Z,25nm,0.7s
SIVA Sivas 145.61 308 P PKPdf 13 36 10.1 +0.1
LTK Loutraki 145.62 314 eP PKPdf 13 36 08.4 -1.5
NEST Nestorio 145.62 319 P PKPdf 13 36 09.5 -0.4
WTTA Wattenberg 145.63 336 ⇓iPKPab PKPab 13 36 10.0 -0.3
comp=Z,88nm,1.2s,SNR=18
VOY Vojsko 145.68 333 ePKPbc PKPbc 13 36 09.3 -0.8
VOY e 13 36 24.7
DID Didima 145.68 313 eP PKPdf 13 36 08.4 -1.7
DID Didima 145.68 313 P PKPdf 13 36 08.4 -1.7
ABTA Abfaltersbach 145.70 335 ⇓iPKPab PKPab 13 36 09.4 -1.1
comp=Z,96nm,1.0s,SNR=9.9
MOTA Moosalm 145.76 337 ⇓iPKPab PKPab 13 36 09.9 -0.8
comp=Z,122nm,1.1s,SNR=29
RETA Reutte 145.78 337 ⇓ePKPab PKPab 13 36 10.4 -0.4
comp=Z,74nm,1.2s,SNR=18
BFO Black Forest 145.89 340 ePKPbc PKPbc 13 36 10.8 +0.1
BFO Black Forest 145.89 340 ePKPbc PKPbc 13 36 10.4 -0.3
BFO Black Forest 145.89 340 ePKP2 PKPab 13 36 10.8 -0.4
VAM Vamos 145.91 309 eP PKPdf 13 36 10.5 0.0
VAM Vamos 145.91 309 P PKPdf 13 36 11.2 +0.7
SPAK Spaichingen-Ko 145.94 340 PKP PKPdf 13 36 09.8 -0.4
EVR Evrytania 145.95 316 eP PKPdf 13 36 17.2 +6.7
KALE Kalithea 146.00 315 P PKPdf 13 36 10.2 -0.4
GUR Goura 146.09 314 eP PKPdf 13 36 11.1 +0.3
GUR Goura 146.09 314 P PKPdf 13 36 10.6 -0.2
EFP Efpalio 146.14 315 eP PKPdf 13 36 12.4 +1.6
CDF Champ du Feu 146.15 342 ePKP1 PKPbc 13 36 11.2 -0.3
comp=Z,330nm,1.4s
JAN Janina 146.17 318 eP PKPdf 13 36 12.4 +1.6
FETA Feichten 146.18 337 ⇓ePKPab PKPab 13 36 11.8 -0.5
comp=Z,78nm,1.4s,SNR=14
LAKA Lakka 146.18 315 P PKPdf 13 36 11.7 +0.8
GVD Gavdhos 146.22 308 PKPbc PKPbc 13 36 11.9 -0.3
VLI Veliai 146.26 312 eP PKPdf 13 36 10.7 -0.4
DAVA Damuels 146.27 338 ⇓ePKPab PKPab 13 36 12.0 -0.6
comp=Z,122nm,1.4s,SNR=25
LIBD Limburg 146.28 341 PKP PKPdf 13 36 11.8 +1.1
LIBD Limburg 146.28 341 PKP2 PKPdf 13 36 11.8 +1.1
VLX Vlachokerasia 146.34 313 eP PKPdf 13 36 12.1 +0.9
VLX Vlachokerasia 146.34 313 P PKPdf 13 36 11.8 +0.6
ECH Echery 146.36 342 ePKPbc PKPbc 13 36 11.7 -0.4
ECH Echery 146.36 342 ePKP2 PKPbc 13 36 11.7 -0.4
ECH Echery 146.36 342 PKP PKPdf 13 36 12.0 +1.1
FELD Feldberg im Sc 146.40 340 PKP PKPdf 13 36 11.8 +0.8
PAGF Fort de Pagny 146.47 343 ePKP1 PKPbc 13 36 12.4 0.0
comp=Z,66nm,1.4s
MOF Molkenrain 146.69 341 PKP PKPdf 13 36 12.4 +0.9
MOF Molkenrain 146.69 341 PKP2 PKPdf 13 36 12.4 +0.9
MOF Molkenrain 146.69 341 PKP PKPdf 13 36 12.4 +0.9
THEF They Montfort 146.69 343 PKP PKPdf 13 36 12.8 +1.4
THEF They Montfort 146.69 343 PKP2 PKPdf 13 36 12.8 +1.4
THEF They Montfort 146.69 343 PKP PKPdf 13 36 12.8 +1.4
DAVOX Davos/Dischmat 146.70 337 PKPbc PKPbc 13 36 13.7 +0.6
comp=Z,39nm,1.0s,baz=336,slow=2.3,SNR=22

DAVOX	**Davos/Dischmat**	**146.70**	**337**	PKPbc	PKPbc	13 36 13.7	+0.6
DAVOX	**Davos/Dischmat**	**146.70**	**337**	PKP2	PKPab	13 36 13.7	-0.6
MEZF	**Maizieres J'vi**	**146.70**	**344**	*e*PKP1	PKPbc	13 36 13.0	-0.1
	comp=Z,94nm,0.9s						
ITM	**Ithomi**	**146.75**	**313**	*e*P	PKPdf	13 36 13.7	+1.8
HAU	**Haudompre**	**146.79**	**342**	*e*PKP1	PKPbc	13 36 12.9	-0.5
	comp=Z,76nm,1.1s						
HAU				*e*R			
	comp=Z,538nm,23.0s						
KEK	**Kerkira**	**146.81**	**319**	*e*P	PKPdf	13 36 13.3	+1.4
HINF	**Hinteralfeld**	**146.81**	**342**	*e*PKP1	PKPbc	13 36 12.8	-0.6
	comp=Z,35nm,1.0s						
BBS	**Basel-Blauen**	**146.92**	**341**	PKP	PKPdf	13 36 10.0	-1.8
BBS	**Basel-Blauen**	**146.92**	**341**	PKIKP	PKPdf	13 36 10.0	-1.8
SFTF	**Sexfontaines**	**146.97**	**344**	*e*PKP1	PKPbc	13 36 13.5	-0.4
	comp=Z,143nm,1.1s						
PYL	**PYLOS**	**147.02**	**313**	*e*P	PKPdf	13 36 10.4	-2.0
VLS	**Valsamata**	**147.15**	**316**	*e*P	PKPdf	13 36 07.9	-4.6
TUE	**Stuetta**	**147.15**	**338**	*e*PKPdf	PKPdf	13 36 11.7	-0.6
TUE				*e*PKPbc	PKPbc	13 36 14.4	-0.1
LOMF	**Lomont**	**147.23**	**341**	PKP	PKPbc	13 36 14.8	+0.1
LOMF	**Lomont**	**147.23**	**341**	PKP2	PKPbc	13 36 14.8	+0.1
LOMF	**Lomont**	**147.23**	**341**	PKP	PKPbc	13 36 14.8	+0.1
FLN	**La Foliniere**	**147.61**	**351**	*e*PKP1	PKPbc	13 36 14.8	-0.8
	comp=Z,151nm,1.2s						
FLN				*e*R			
	comp=Z,416nm,20.0s						
LDF	**La Druitiere**	**147.72**	**350**	*e*PKP1	PKPbc	13 36 15.1	-0.8
	comp=Z,19nm,0.7s						
GRR	**Gorron**	**148.03**	**351**	*e*PKP1	PKPbc	13 36 16.2	-0.6
	comp=Z,252nm,1.6s						
CABF	**La Chapelle**	**148.12**	**341**	*e*PKP1	PKPbc	13 36 17.1	0.0
	comp=Z,139nm,1.2s						
LOR	**Lormes**	**148.14**	**345**	*e*PKP1	PKPbc	13 36 16.7	-0.4
	comp=Z,104nm,1.3s						
LOR				*e*R			
	comp=Z,504nm,21.0s						
ROSF	**Rostrenen**	**148.38**	**354**	*e*PKP1	PKPbc	13 36 16.7	-1.0
	comp=Z,92nm,1.1s						
SGMF	**Saint Gilles**	**148.39**	**353**	*e*PKP1	PKPbc	13 36 16.7	-1.0
	comp=Z,214nm,1.5s						
SSF	**Saint Saulge**	**148.43**	**345**	*e*PKP1	PKPbc	13 36 17.5	-0.4
	comp=Z,80nm,1.2s						
AQU	**L'Aquila**	**148.69**	**329**	*e*PKPbc	PKPbc	13 36 18.7	0.0
AQU	**L'Aquila**	**148.69**	**329**	*e*PKP2	PKPbc	13 36 18.7	0.0
AVF	**Avril sur Loir**	**148.72**	**345**	*e*PKP1	PKPbc	13 36 17.8	-0.8
	comp=Z,82nm,1.2s						
SMF	**Signal de Mont**	**148.73**	**344**	*e*PKP1	PKPbc	13 36 18.0	-0.7
	comp=Z,121nm,1.2s						
QUIF	**Quistinic**	**148.79**	**354**	*e*PKP1	PKPbc	13 36 17.8	-1.0
	comp=Z,70nm,1.3s						
LPL	**La Plagne**	**148.89**	**340**	*e*PKP1	PKPbc	13 36 19.3	+0.2
LPG	**La Plagne**	**148.90**	**340**	*e*PKP1	PKPbc	13 36 19.4	+0.3
	comp=Z,65nm,1.0s						
BGF	**Bois d'Agland**	**149.06**	**345**	*e*PKP1	PKPbc	13 36 19.0	-0.5
	comp=Z,92nm,1.2s						
BNI	**Bardonecchia**	**149.32**	**339**	*e*PKPbc	PKPbc	13 36 20.4	+0.1
BNI	**Bardonecchia**	**149.32**	**339**	*e*PKP2	PKPbc	13 36 20.4	+0.2
PLDF	**La Plantade**	**149.41**	**344**	PKP	PKPbc	13 36 21.0	+0.6
PLDF	**La Plantade**	**149.41**	**344**	PKP2	PKPbc	13 36 21.0	+0.6
PLDF	**La Plantade**	**149.41**	**344**	PKP	PKPbc	13 36 21.0	+0.6
AGO	**Saint Agoulin**	**149.46**	**345**	PKP	PKPbc	13 36 20.8	+0.3
AGO	**Saint Agoulin**	**149.46**	**345**	PKP	PKPbc	13 36 20.8	+0.3
TCF	**Toulx Ste Croi**	**149.46**	**346**	*e*PKP1	PKPbc	13 36 20.0	-0.5
	comp=Z,70nm,1.1s						
MBDF	**Montbardon**	**149.57**	**339**	*e*PKP1	PKPbc	13 36 20.3	-0.5
	comp=Z,48nm,1.1s						
MFF	**Saint Martin d**	**149.65**	**349**	*e*PKP1	PKPbc	13 36 20.3	-0.7
	comp=Z,78nm,1.2s						
ORIF	**Oris-en-Rattie**	**149.70**	**340**	*e*PKP1	PKPbc	13 36 20.9	-0.3
	comp=Z,59nm,1.0s						
ORIF				*e*R			
	comp=Z,481nm,22.8s						
PYM	**Petit Puy Mans**	**149.77**	**345**	PKP	PKPbc	13 36 21.2	-0.1
PYM	**Petit Puy Mans**	**149.77**	**345**	PKP2	PKPbc	13 36 21.2	-0.1
PYM	**Petit Puy Mans**	**149.77**	**345**	PKP	PKPbc	13 36 21.2	-0.1
SSB	**Saint Sauveur**	**149.79**	**342**	*e*PKPbc	PKPbc	13 36 21.3	-0.1
SSB	**Saint Sauveur**	**149.79**	**342**	*e*PKP2	PKPbc	13 36 21.3	-0.1
SAOF	**Saorge**	**149.93**	**337**	PKP	PKPbc	13 36 21.2	-0.6
SAOF	**Saorge**	**149.93**	**337**	PKP2	PKPbc	13 36 21.2	-0.6
SAOF	**Saorge**	**149.93**	**337**	PKP	PKPbc	13 36 21.2	-0.6
AUTN	**L'Aution**	**149.97**	**337**	PKP	PKPbc	13 36 21.7	-0.2
AUTN	**L'Aution**	**149.97**	**337**	PKP2	PKPbc	13 36 21.7	-0.2
AUTN	**L'Aution**	**149.97**	**337**	PKP	PKPbc	13 36 21.7	-0.2
TOUF	**Mont Tournerai**	**150.02**	**338**	PKP	PKPbc	13 36 21.7	-0.3
TOUF	**Mont Tournerai**	**150.02**	**338**	PKIKP	PKPbc	13 36 21.7	-0.3
TOUF	**Mont Tournerai**	**150.02**	**338**	PKP	PKPbc	13 36 21.7	-0.3
SBF	**Sospel**	**150.08**	**337**	*e*PKP1	PKPbc	13 36 21.0	-1.1
	comp=Z,304nm,1.6s						
LUCF	**Luceram**	**150.09**	**337**	PKP	PKPbc	13 36 21.7	-0.4
LUCF	**Luceram**	**150.09**	**337**	PKP	PKPbc	13 36 21.7	-0.4
CEL	**Celeste**	**150.11**	**320**	*e*PKPbc	PKPbc	13 36 20.6	-1.8
VIVF	**Saint-Julien-l**	**150.13**	**342**	*e*PKP1	PKPbc	13 36 21.8	-0.4
	comp=Z,58nm,1.0s						
MVIF	**Mont Vial**	**150.16**	**338**	PKP	PKPbc	13 36 21.9	-0.4
MVIF	**Mont Vial**	**150.16**	**338**	PKIKP	PKPbc	13 36 21.9	-0.4
MVIF	**Mont Vial**	**150.16**	**338**	PKP	PKPbc	13 36 21.9	-0.4
LBL	**Lubilhac**	**150.19**	**344**	PKP	PKPbc	13 36 22.9	+0.6
LBL	**Lubilhac**	**150.19**	**344**	PKIKP	PKPbc	13 36 22.9	+0.6
LBL	**Lubilhac**	**150.19**	**344**	PKP	PKPbc	13 36 22.9	+0.6
RJF	**Les Rejaudoux**	**150.55**	**346**	*e*PKP1	PKPbc	13 36 22.7	-0.5
	comp=Z,68nm,1.1s						
RJF				*e*R			
	comp=Z,488nm,20.8s						
PGF	**Pioggiola**	**150.57**	**334**	*e*PKP1	PKPbc	13 36 22.6	-0.7
	comp=Z,247nm,1.4s						
FRF	**La Foret Royal**	**150.63**	**338**	*e*PKP1	PKPbc	13 36 22.5	-0.9
	comp=Z,235nm,1.7s						
SMRF	**Simiane la Rot**	**150.64**	**340**	*e*PKP1	PKPbc	13 36 23.2	-0.2
	comp=Z,215nm,1.5s						
CAF	**Calviac**	**150.78**	**345**	*e*PKP1	PKPbc	13 36 23.4	-0.3
	comp=Z,48nm,1.2s						
LMR	**La Mourre**	**150.88**	**338**	*e*PKP1	PKPbc	13 36 23.2	-0.8
	comp=Z,176nm,1.6s						
LFF	**La Frestale**	**151.07**	**347**	*e*PKP1	PKPbc	13 36 23.8	-0.6
LASF	**Ste Croix**	**151.09**	**342**	*e*PKP1	PKPbc	13 36 24.0	-0.5
	comp=Z,102nm,1.3s						
MSKU	**Masuku**	**151.81**	**231**	PKPbc	PKPbc	13 36 26.4	-0.8
	comp=Z,40nm,0.7s,baz=126,slow=4.9,SNR=11						
MSKU				PKPab	PKPab	13 36 35.7	-0.3
	comp=Z,50nm,0.9s,baz=81,slow=4.8,SNR=10						
MSKU	**Masuku**	**151.81**	**231**	PKPbc	PKPbc	13 36 26.4	-0.8
MSKU				PKPab	PKPab	13 36 35.8	-0.3
MTLF	**Montolieu**	**152.22**	**344**	*e*PKP1	PKPbc	13 36 26.5	-0.6
	comp=Z,32nm,1.2s						
EPF	**Esparros**	**152.97**	**346**	*e*PKP1	PKPbc	13 36 28.0	-0.8
SJPF	**Ste Jean**	**153.22**	**349**	*e*PKP1	PKPbc	13 36 28.6	-0.7
ETSF	**Etsaut**	**153.29**	**348**	*e*PKP1	PKPbc	13 36 28.4	-1.1
	comp=Z,18nm,1.1s						
KEST	**Kesra**	**155.68**	**324**	PKPab	PKPab	13 36 51.0	-0.8
	comp=Z,6.1nm,1.1s,baz=162,slow=1.7,SNR=5.9						
KEST	**Kesra**	**155.68**	**324**	PKPab	PKPab	13 36 51.0	-0.8
ESDC	**Sonseca Array**	**157.01**	**352**	PKP	PKPdf	13 36 26.7	-0.5
	comp=Z,0.2nm,0.3s,baz=321,slow=3.3,SNR=4.5						
ESDC				PKPab	PKPab	13 36 56.9	-0.4
	comp=Z,3.4nm,0.9s,baz=9.6,slow=3.7,SNR=11						
ESDC	**Sonseca Array**	**157.01**	**352**	PKP	PKPdf	13 36 26.7	-0.5
ESDC				PKPab	PKPab	13 36 56.9	-0.4
DBIC	**Dimbokro**	**169.40**	**197**	PKP	PKPdf	13 36 38.4	-1.4
	comp=Z,6.4nm,1.0s,baz=135,slow=7.3,SNR=4.0						
DBIC				PKPab	PKPab	13 37 50.8	-1.3
	comp=Z,11nm,1.1s,baz=129,slow=6.8,SNR=4.5						
DBIC	**Dimbokro**	**169.40**	**197**	PKP	PKPdf	13 36 38.4	-1.4
DBIC				PKPab	PKPab	13 37 50.8	-1.3
DBIC	**Dimbokro**	**169.40**	**197**	PKIKP	PKPdf	13 36 38.4	-1.3
DBIC						13 37 50.8	
TORD	**Torodi Ar. Bea**	**169.91**	**250**	PKP	PKPdf	13 36 38.4	-1.6
	comp=Z,13nm,1.1s,baz=88,slow=0.8,SNR=39						
TORD				PKPab	PKPab	13 37 53.7	-1.1
	comp=Z,9.6nm,1.1s,baz=97,slow=2.6,SNR=12						
TORD				PP	PP	13 41 41.9	-3.0
	comp=Z,5.3nm,1.2s,baz=131,slow=4.2,SNR=12						
TORD	**Torodi Ar. Bea**	**169.91**	**250**	PKP	PKPdf	13 36 38.4	-1.6
TORD				PKPab	PKPab	13 37 53.7	-1.1
TORD				PP	PP	13 41 41.9	-3.0

*BJI **17** 13:16:45.0, 79˚.50N× 115˚.60W, h10km, mB5.4/19, mb4.9/36, Ms5.2/16, Ms7 4.9/16*
*ISCJB **17** 13:16:48.6±0.1, 79˚.71N±0˚.01×115˚.6W±0˚.2, h10km, mb4.8/151, MS4.7/9, Error ellipse: s-maj=3.9km s-min=1.9km az=0.3*
*MOS **17** 13:16:48.4±0.9, 79˚.60N× 115˚.67W, h12km, mb4.9/38,*

2008 NOV

Error ellipse: s-maj=37.2km s-min=4.7km az=88.7
*IDC **17** 13:16:48.4±0.3, 79˚.68N× 115˚.99W, h0km, mb4.5/34, mb1 4.6/37, mb1mx4.6/41, mbtmp4.5/37, ML4.5/2, MS4.2/4, Ms1 4.2/4, ms1mx3.5/64, Error ellipse: s-maj=11.8km s-min=9.2km az=114.0*
*NEIC **17** 13:16:50.1±0.2, 79˚.69N× 115˚.60W, h10km, mb4.7/74, Error ellipse: s-maj=4.6km s-min=3.1km az=111.0*
*OTT **17** 13:16:50.3±0.8, 79˚.37N× 115˚.04W, h18km, mb5.5/26, Arctic Ocean. Aftershock. 252km west from Isachsen, Nu*
*GCMT **17** 13:16:51.4±0.4, 79˚.61N× 116˚.81W, h21km±1km, MW5.0, Moment Tensor Solution. s21,c22; s67,c80; Moment tensor: Scale 10^16^Nm; Mrr3.55±.26; Mθθ-0.68±.15; Mϕϕ-2.87±.20; Mrθ0.06±.27; Mrϕ-0.95±.10; Mθϕ-1.02±.29; Best double couple: M○3.50000×10^16^ NP1:ϕs26.00000°, δ38.00000°, λ99.00000°. NP2:ϕs194.00000°, δ53.00000°, λ83.00000°. Principal axes: T 3.7200, Plg80.0000°, Azm74.0000°; N -0.3700, Plg6.0000°, Azm199.0000°; P -3.3500, Plg8.0000°, Azm289.0000°; Data Used: II IU IC CN G.*

ISC 17 13:16:50.5±0.1, 79˚.70N±0˚.01×115˚.6W±0˚.2, h10km, (h17km±1.8km: pP-P), n737, σ0.68/744, mb4.8/151, MS4.7/9, 170C-187D, Arctic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EUNU	**Eureka**	**5.12**	**72**	Pn	**Pn**	**13 18 06.0**	**-1.1**
EUNU				Sn	**Sn**	**13 18 58.1**	**-7.9**
EUNU	**Eureka**	**5.12**	**72**	PN	**Pn**	**13 18 06.0**	**-1.1**
EUNU				mb		13 18 07.1	
	comp=Z,98nm,0.2s						
EUNU				SN	**Sn**	**13 18 58.1**	**-7.9**
EUNU				Trac		13 19 03.9	
	comp=Z,459nm,0.8s						
RES	**Resolute Bay**	**6.76**	**127**	Pn	**Pn**	**13 18 25.4**	**-4.2**
	82nm,0.3s,baz=316,slow=12,SNR=1460						
RES				Sn	**Sn**	**13 19 36.0**	**-10**
	48nm,0.3s,baz=126,slow=15,SNR=9.2						
RES				LR	LR	13 21 39.5	
	comp=Z,717nm,21.9s,baz=144,slow=43						
RES	**Resolute Bay**	**6.76**	**127**	Pn	**Pn**	**13 18 25.4**	**-4.2**
RES				Sn	**Sn**	**13 19 36.0**	**-10**
RES				LR	LR	13 21 39.5	
RES	**Resolute Bay**	**6.76**	**127**	P	**Pn**	**13 18 25.4**	**-4.2**
RES	**Resolute Bay**	**6.76**	**127**	PN	**Pn**	**13 18 25.4**	**-4.2**
RES				mb		13 18 27.6	
	comp=Z,200nm,0.1s						
RES				SN	**Sn**	**13 19 35.9**	**-11**
RES				Trac		13 19 40.7	
	comp=Z,447nm,0.6s						
CB31	**Cambridge Bay**	**10.96**	**160**	PN	**Pn**	**13 19 20.6**	**-6.5**
CB31				mb		13 19 22.6	
	comp=Z,142nm,0.3s						
CB31				SN	**Sn**	**13 21 13.5**	**-16**
CB31				Trac		13 21 18.4	
	comp=Z,274nm,0.3s						
INK	**Inuvik**	**12.36**	**212**	Pn	**Pn**	**13 19 40.8**	**-5.4**
	2.1nm,0.3s,baz=13,slow=13,SNR=59						
INK				Sn	**Sn**	**13 21 47.4**	**-16**
	6.1nm,0.3s,baz=252,slow=25,SNR=6.8						
INK	**Inuvik**	**12.36**	**212**	*e*P	**Pn**	**13 19 40.6**	**-5.6**
	89nm,1.1s						
INK	**Inuvik**	**12.36**	**212**	P	**Pn**	**13 19 40.8**	**-5.4**
INK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
INK	**Inuvik**	**12.36**	**212**	PN	**Pn**	**13 19 40.3**	**-5.8**
INK				mb		13 19 52.8	
	comp=Z,23nm,0.7s						
INK				SN	Sn	13 21 42.4	-21
INK				Trac		13 21 51.9	
	comp=Z,33nm,0.5s						
KUGN	**Kugaaruk Camp,**	**13.42**	**136**	PN	**Pn**	**13 19 52.4**	**-8.1**
KUGN				mb		13 19 54.2	
	comp=Z,141nm,1.2s						
KUGN				SN	**Sn**	**13 22 16.1**	**-13**
KUGN				Trac		13 22 32.3	
	comp=Z,76nm,0.6s						
JERN	**Jeri Cho Mine,**	**13.80**	**173**	PN	**Pn**	**13 19 59.5**	**-6.4**
JERN				mb		13 20 00.8	
	comp=Z,82nm,0.7s						
JERN				SN	**Sn**	**13 22 21.6**	**-17**
JERN				Trac		13 22 25.6	
	comp=Z,125nm,0.6s						
STLN	**Stellar Camp,**	**13.81**	**141**	PN	**Pn**	**13 19 58.2**	**-7.7**
STLN				mb		13 20 00.6	
	comp=Z,169nm,0.5s						
STLN				SN	**Sn**	**13 22 19.7**	**-19**
STLN				Trac		13 22 39.5	
	comp=Z,252nm,1.1s						
SRLN	**Sarcpa Lake, N**	**13.91**	**125**	PN	**Pn**	**13 20 00.7**	**-6.5**
SRLN				mb		13 20 03.4	
	comp=Z,45nm,0.3s						
SRLN				SN	**Sn**	**13 22 23.0**	**-18**
BULN	**Bullion Camp,**	**14.68**	**143**	PN	**Pn**	**13 20 09.4**	**-8.3**
BULN				mb		13 20 13.4	
	comp=Z,88nm,0.3s						
BULN				SN	**Sn**	**13 22 41.8**	**-18**
BULN				Trac		13 22 53.4	
	comp=Z,90nm,0.8s						
QILN	**Qililugaq Expl**	**15.25**	**132**	PN	**Pn**	**13 20 17.7**	**-7.8**
QILN				mb		13 20 21.2	
	comp=Z,64nm,0.6s						
QILN				SN	**Sn**	**13 22 55.0**	**-19**
QILN				Trac		13 23 07.3	
	comp=Z,336nm,2.0s						
CTLN	**Castor Lake**	**15.36**	**181**	PN	**Pn**	**13 20 19.7**	**-7.1**
CTLN				mb		13 20 21.3	
	comp=Z,35nm,0.7s						
CTLN				SN	**Sn**	**13 22 56.4**	**-20**
CTLN				Trac		13 23 28.1	
	comp=Z,85nm,0.7s						
COLD	**Coldfoot**	**15.48**	**236**	*e*P	**Pn**	**13 20 24.5**	**-3.9**
	comp=Z,42nm,1.1s						
ILKN	**Indian Lake**	**15.56**	**179**	PN	**Pn**	**13 20 21.4**	**-8.1**
ILKN				mb		13 20 26.6	
	comp=Z,48nm,0.3s						
ILKN				SN	**Sn**	**13 23 01.3**	**-20**
ILKN				Trac		13 23 08.9	
	comp=Z,58nm,0.3s						
WAGN	**Wager Bay**	**15.60**	**138**	PN	**Pn**	**13 20 22.8**	**-7.2**
WAGN				mb		13 20 24.4	
	comp=Z,124nm,0.3s						
WAGN				Trac		13 23 07.2	
	comp=Z,96nm,1.0s						
WAGN				SN	**Sn**	**13 23 08.9**	**-14**
GALN	**Gameti Lake**	**15.68**	**183**	PN	**Pn**	**13 20 23.0**	**-8.0**
GALN				mb		13 20 32.9	
	comp=Z,58nm,0.7s						
GALN				SN	Sn	13 23 02.7	-22
GALN				Trac		13 23 06.7	
	comp=Z,104nm,1.1s						
NUNN	**Nunuq Camp, NU**	**16.05**	**141**	PN	**Pn**	**13 20 26.5**	**-9.3**
NUNN				mb		13 20 28.9	
	comp=Z,78nm,0.6s						
NUNN				SN	**Sn**	**13 23 13.8**	**-20**
NUNN				Trac		13 23 19.7	
	comp=Z,155nm,1.1s						
YBKN	**Baker Lake, Hu**	**16.41**	**149**	PN	**Pn**	**13 20 30.9**	**-10**
YBKN				mb		13 20 34.0	
	comp=Z,66nm,0.5s						
YBKN				SN	Sn	13 23 20.8	-22
YBKN				Trac		13 23 23.1	
	comp=Z,137nm,0.9s						
EGAK	**Eagle**	**16.59**	**220**	*e*P	**Pn**	**13 20 37.8**	**-5.0**
	comp=Z,63nm,1.0s						
COKN	**Cook Lake**	**16.63**	**169**	PN	**Pn**	**13 20 35.3**	**-8.0**
COKN				mb		13 20 44.0	
	comp=Z,103nm,0.7s						
COKN				SN	**Sn**	**13 23 27.7**	**-20**
COKN				Trac		13 23 43.7	
	comp=Z,87nm,0.8s						
DAWY	**Dawson**	**17.09**	**217**	*e*P	**Pn**	**13 20 43.3**	**-5.6**
DAWY	**Dawson**	**17.09**	**217**	PN	**Pn**	**13 20 43.1**	**-5.8**
DAWY				mb		13 20 49.8	
	comp=Z,30nm,0.6s						
DAWY				SN	Sn	13 23 37.8	-21
DAWY				Trac		13 23 49.1	
	comp=Z,17nm,0.3s						
YKW3	**Yellowknife Ar**	**17.23**	**178**	PN	**Pn**	**13 20 44.4**	**-6.4**
YKW3				mb		13 20 48.3	
	comp=Z,34nm,0.5s						
YKW3				SN	Sn	13 23 38.5	-24
YKW3				Trac		13 23 57.2	
	comp=Z,44nm,0.6s						
YKA	**Yellowknife Ar**	**17.30**	**178**	Pn	**Pn**	**13 20 44.8**	**-6.8**
	comp=Z,4.8nm,0.3s,baz=19,slow=13,SNR=82						
YKA				Sn	Sn	13 23 42.0	-22
	comp=Z,3.9nm,0.3s,baz=322,slow=27,SNR=10						
YKA	**Yellowknife Ar**	**17.30**	**178**	Pn	**Pn**	**13 20 44.9**	**-6.8**
YKA				Sn	Sn	13 23 42.0	-22
YKA	**Yellowknife Ar**	**17.30**	**178**	P	**Pn**	**13 20 44.9**	**-6.8**
ILAR	**Eielson Array**	**17.32**	**228**	Pn	**Pn**	**13 20 49.5**	**-2.3**
	comp=Z,0.6nm,0.3s,baz=13,slow=13,SNR=73						
ILAR				Sn	**Sn**	**13 23 50.2**	**-14**
	comp=Z,1.1nm,0.3s,baz=9.7,slow=27,SNR=8.3						
ILAR	**Eielson Array**	**17.32**	**228**	Pn	**Pn**	**13 20 49.5**	**-2.3**
ILAR				Sn	**Sn**	**13 23 50.2**	**-14**
ILAR	**Eielson Array**	**17.32**	**228**	P	**Pn**	**13 20 49.6**	**-2.3**
COLA	**College**	**17.35**	**230**	*e*P	**Pn**	**13 20 49.7**	**-2.6**
	comp=Z,17nm,0.6s						
COLA	**College**	**17.35**	**230**	*e*P	**Pn**	**13 20 49.7**	**-2.6**
COLA				pmax	pmax		
	comp=Z,17nm,0.6s						
WHFN	**White Fish Lak**	**17.41**	**167**	PN	**Pn**	**13 20 45.8**	**-7.2**
WHFN				mb		13 20 50.9	
	comp=Z,73nm,0.7s						
WHFN				SN	**Sn**	**13 23 47.0**	**-19**
WHFN				Trac		13 23 50.0	
	comp=Z,81nm,0.8s						
DAG	**Danmarks Havn**	**17.78**	**48**	*i* P	**Pn**	**13 21 03.2**	**+5.6**
DAG	**Danmarks Havn**	**17.78**	**48**	*i* P	**Pn**	**13 21 03.2**	**+5.6**
	comp=Z,12nm,0.9s						
SEDN	**First Sedna Si**	**17.94**	**143**	PN	**Pn**	**13 20 52.5**	**-7.2**
SEDN				mb		13 20 54.7	
	comp=Z,45nm,0.3s						
SEDN				SN	Sn	13 23 57.6	-22
SEDN				Trac		13 24 02.0	
	comp=Z,64nm,0.7s						
JOSN	**Second Sedna S**	**17.99**	**143**	PN	**Pn**	**13 20 52.5**	**-7.8**
JOSN				mb		13 20 55.1	
	comp=Z,191nm,1.0s						
JOSN				SN	**Sn**	**13 24 02.5**	**-18**
JOSN				Trac		13 24 14.9	
	comp=Z,220nm,1.7s						
GDLN	**Gardenia Lake,**	**18.00**	**165**	SN	**Sn**	**13 24 00.1**	**-20**
GDLN				Trac		13 24 07.7	
	comp=Z,21nm,0.3s						
DOT	**Dot Lake**	**18.03**	**223**	*e*P	**Pn**	**13 20 59.4**	**-1.3**
	comp=Z,112nm,0.9s						
SUMG	**Summit**	**18.19**	**70**	*i* P	**Pn**	**13 20 58.7**	**-3.9**
	comp=Z,122nm,0.8s						
MCK	**McKinley**	**18.59**	**230**	*e*P	**Pn**	**13 21 06.8**	**-0.7**
	comp=Z,6.6nm,0.8s						
MCK	**McKinley**	**18.59**	**230**	*e*P	**Pn**	**13 21 06.8**	**-0.7**
MCK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MENT	**Mentasta**	**18.68**	**222**	*e*P	**Pn**	**13 21 08.3**	**-0.2**
PAX	**Paxson**	**18.86**	**225**	*e*P	**Pn**	**13 21 10.5**	**-0.3**
	comp=Z,51nm,1.0s						
PAX	**Paxson**	**18.86**	**225**	*e*P	**Pn**	**13 21 10.5**	**-0.3**
PAX				pmax	pmax		
	comp=Z,51nm,1.0s						
TRF	**Thorofare Moun**	**19.05**	**232**	*e*P	**Pn**	**13 21 12.9**	**-0.1**
	comp=Z,44nm,0.9s						
ARVN	**Arviat, NU**	**19.77**	**148**	PN	**Pn**	**13 21 14.9**	**-6.8**
ARVN				mb		13 21 18.6	
	comp=Z,121nm,0.8s						
ARVN				SN	Sn	13 24 36.2	-27
ARVN				Trac		13 24 44.6	
	comp=Z,84nm,0.9s						
PPLA	**Purkeypile**	**19.85**	**234**	*e*P	**Pn**	**13 21 21.1**	**-1.5**
	comp=Z,104nm,1.3s						
WHY	**Whitehorse**	**19.99**	**208**	PN	**Pn**	**13 21 21.9**	**-2.4**
SPITS	**Spitsbergen Ar**	**20.33**	**26**	P	**P**	**13 21 27.8**	**+1.7**
	comp=Z,20nm,1.1s,baz=336,slow=4.3,SNR=3.0						
SPITS	**Spitsbergen Ar**	**20.33**	**26**	P	**P**	**13 21 27.8**	**+1.7**
SPITS	**Spitsbergen Ar**	**20.33**	**26**	P	**P**	**13 21 27.8**	**+1.6**
SML	**Sawmill**	**20.36**	**228**	*e*P	**P**	**13 21 26.2**	**-0.3**
	comp=Z,23nm,1.1s						
SML	**Sawmill**	**20.36**	**228**	*e*P	**P**	**13 21 26.2**	**-0.4**
SML				pmax	pmax		
	comp=Z,23nm,1.1s						
PMR	**Palmer**	**20.67**	**228**	*e*P	**P**	**13 21 30.5**	**+0.5**
	comp=Z,31nm,1.1s						
PMR	**Palmer**	**20.67**	**228**	*e*P	**P**	**13 21 30.5**	**+0.5**
PMR				pmax	pmax		
	comp=Z,31nm,1.1s						
FRB	**Frobisher Bay**	**20.68**	**113**	P	**P**	**13 21 28.1**	**-2.0**
	comp=Z,28nm,0.7s,baz=350,slow=9.6,SNR=7.6						
FRB	**Frobisher Bay**	**20.68**	**113**	P	**P**	**13 21 28.1**	**-2.0**
FRB	**Frobisher Bay**	**20.68**	**113**	P	**P**	**13 21 28.1**	**-1.9**
DIV	**Divide**	**20.68**

A17A **Triple J Farms** 30.93 174 ⇑P P 13 23 06.1 -0.9
baz=31,SNR=9.8
A18A **Metzger Ranch,** 30.97 173 ⇓P P 13 23 06.7 -0.6
baz=31
A21A **Bergtoll Ranch** 30.98 169 ⇑P P 13 23 07.1 -0.3
baz=31
A19A **Klindworth Far** 30.99 171 ⇓P P 13 23 07.7 +0.3
baz=31,SNR=22
A22A **Carney Farms,** 31.02 168 ⇑P P 13 23 07.6 -0.1
baz=31
A20A **Cobblestone Ra** 31.06 170 ⇓P P 13 23 08.4 +0.3
baz=31,SNR=5.8
A24A **Westby** 31.17 165 ⇑P P 13 23 09.1 +0.1
baz=31,SNR=6.5
PGC **Sidney** 31.30 190 *e*P P 13 23 08.4 -1.8
comp=Z,1.9nm,1.1s,mb3.8
B12A **Libby** 31.36 180 ⇓P P 13 23 10.9 +0.3
baz=31
B16A **M & M Farms, S** 31.44 175 ⇑P P 13 23 11.6 +0.1
baz=31
B13A **Whitefish** 31.45 179 ⇓P P 13 23 11.3 -0.2
baz=31
B19A **Brinkman Farms** 31.46 172 ⇓P P 13 23 11.4 -0.2
baz=31
B14A **Marquette Ranc** 31.48 177 ⇑P P 13 23 11.5 -0.2
baz=31,SNR=6.0
B18A **Beardsley Farm** 31.50 173 ⇑P P 13 23 11.2 -0.7
baz=31
B20A **Solberg Farm,** 31.50 170 ⇑P P 13 23 11.5 -0.5
baz=31
B15A **Bradely Ranch,** 31.53 176 ⇓P P 13 23 11.9 -0.4
baz=31,SNR=6.7
B21A **Ellsworth Farm** 31.54 169 ⇓P P 13 23 12.0 -0.3
baz=31,SNR=12
NEW **Newport** 31.57 182 ⇓P P 13 23 12.1 -0.5
baz=31
NEW **Newport** 31.57 182 P P 13 23 11.2 -1.3
comp=Z,4.9nm,0.8s,mb4.4
NEW **Newport** 31.57 182 P P 13 23 11.2 -1.3
NEW pmax pmax
comp=Z,5.0nm,0.8s
B17A **L&G Farms, Che** 31.58 174 ⇓P P 13 23 11.9 -0.7
baz=31,SNR=7.1
DGMT **Dagmar** 31.61 165 ⇓P P 13 23 12.5 -0.5
baz=31
DGMT **Dagmar** 31.61 165 *e*P P 13 23 13.8 +0.8
comp=Z,24nm,1.1s,mb4.9
DGMT *e* 13 23 20.1
LVZ **Lovozero** 31.64 21⇑ *e*P P 13 23 13.6 +0.6
LVZ pmax pmax
comp=Z,57nm,1.7s,mb5.1
B22A **Reddig Ranch S** 31.71 168 ⇑P P 13 23 13.6 -0.2
baz=31,SNR=6.8
JCW **Jim Creek** 31.71 188 *e*P P 13 23 12.1 -1.7
comp=Z,5.2nm,0.8s,mb4.4
EGMT **Eagleton** 31.87 173 ⇓P P 13 23 14.7 -0.5
baz=32
EGMT **Eagleton** 31.87 173 *e*P P 13 23 14.6 -0.6
comp=Z,14nm,1.0s,mb4.7
APA **Apatity** 31.88 22⇑ *e*P P 13 23 20.0 +4.9
APA *e* 13 24 24.0
APA *e*S S 13 28 30.0 +4.7
APA *i* SS SS 13 30 10.0 -31
APA pmax pmax
comp=Z,26nm,1.0s,mb5.0
APA MLR MLR
comp=Z,1µm,23.0s,MS4.6
BSMT **Bassoo Peak** 31.98 179 *e*P P 13 23 16.2 +0.1
comp=Z,2.9nm,1.0s,mb4.1
C09A **Chrisman Ranch** 32.04 183 ⇑P P 13 23 16.3 -0.4
baz=32
C16A **Fuhringer Ranc** 32.05 175 ⇑P P 13 23 16.2 -0.6
baz=32,SNR=6.6
C15A **Salmond Ranch,** 32.07 176 ⇓P P 13 23 17.1 +0.1
baz=32,SNR=13
JTMT **Jette** 32.08 178 *e*P P 13 23 17.3 +0.2
comp=Z,5.7nm,0.8s,mb4.5
C12B **Naegeli Ranch,** 32.12 180 ⇑P P 13 23 18.0 +0.6
baz=32
C13A **Hot Springs** 32.15 179 ⇑P P 13 23 17.9 +0.2
baz=32,SNR=7.4
C19A **Slack Wire Ran** 32.18 172 ⇑P P 13 23 17.3 -0.6
baz=32
C23A **Lambert** 32.24 167 ⇓P P 13 23 18.7 +0.3
baz=32,SNR=15
C17A **Wharram Farm,** 32.24 174 ⇓P P 13 23 18.0 -0.5
baz=32,SNR=12
C22A **Vida** 32.27 168 ⇑P P 13 23 18.2 -0.5
baz=32
AGMN **Agassiz Nation** 32.29 155 *e*P P 13 23 17.3 -1.6
comp=Z,12nm,0.8s,mb4.8
SWMT **Swartz Lake** 32.32 178 *e*P P 13 23 19.2 0.0
comp=Z,4.9nm,0.7s,mb4.5
GNW **Green Mountain** 32.37 189 *e*P P 13 23 18.2 -1.4
comp=Z,9.9nm,0.9s,mb4.6
OD2 **Odessa Site #2** 32.45 184 *e*P P 13 23 19.2 -1.1
comp=Z,28nm,1.2s,mb5.0
C24A **Savage** 32.54 166 ⇓P P 13 23 20.5 -0.6
baz=32
NLWA **Neilton Lookou** 32.57 190 *e*P P 13 23 21.3 0.0
comp=Z,19nm,0.9s,mb5.0
SLMT **Seeley Lake** 32.59 177 *e*P P 13 23 21.6 +0.1
comp=Z,14nm,0.7s,mb5.0
D18A **Linhart Farms,** 32.70 173 ⇑P P 13 23 22.1 -0.4
baz=32,SNR=9.6
D05A **Enumclaw** 32.72 188 ⇑P P 13 23 22.3 -0.4
baz=32
D17A **Six Diamond Ra** 32.72 174 ⇓P P 13 23 22.4 -0.2
baz=32
D13A **Huson** 32.73 179 ⇓P P 13 23 22.7 -0.1
baz=32,SNR=5.1
D19A **Cripps Ranch,** 32.75 172 ⇓P P 13 23 22.9 0.0
baz=32,SNR=24
D14A **Greenough** 32.75 177 ⇑P P 13 23 23.2 +0.2
baz=32,SNR=9.7
D15A **Lincoln** 32.80 176 ⇓P P 13 23 23.3 -0.1
baz=32,SNR=6.0
D16A **Dana Ranch, Ca** 32.83 175 ⇓P P 13 23 23.2 -0.4
baz=32
D20A **Manuel Ranch,** 32.84 171 ⇓P P 13 23 23.8 0.0
baz=32,SNR=18
D22A **Cohagen** 32.85 168 ⇑P P 13 23 24.1 +0.3
baz=32,SNR=15
D23A **Lindsay** 32.87 167 ⇓P P 13 23 23.7 -0.2
baz=33
D21A **La Casta Ranch** 32.91 169 ⇑P P 13 23 24.3 0.0
baz=33
CHMT **Chamberlain Mo** 32.92 177 *e*P P 13 23 24.6 +0.2
comp=Z,85nm,0.4s,mb6.0
D24A **Glendive** 32.96 166 ⇑P P 13 23 25.3 +0.5
baz=33
MSO **Missoula** 33.00 178 ⇑P P 13 23 25.4 +0.2
baz=33
EYMN **Ely** 33.01 150 *e*P P 13 23 24.1 -1.1
comp=Z,10nm,0.7s,mb4.9
HRY **Holter Researc** 33.14 175 *e*P P 13 23 25.5 -0.9
comp=Z,14nm,0.8s,mb5.0
LON **Longmire** 33.15 188 *e*P P 13 23 25.6 -0.8
comp=Z,12nm,0.7s,mb4.9
LON **Longmire** 33.15 188 *e*P P 13 23 25.7 -0.8
LON pmax pmax
comp=Z,12nm,0.7s,mb4.9
E07A **Sunnyside** 33.30 185 ⇑P P 13 23 27.3 -0.5
baz=33
LAO **LASA Array** 33.31 168 ⇑P P 13 23 27.8 0.0
baz=33,SNR=14
LAO **LASA Array** 33.31 168 *e*P P 13 23 27.6 -0.3
comp=Z,43nm,0.8s,mb5.4
E16A **East Helena** 33.32 175 ⇓P P 13 23 27.6 -0.4
baz=33,SNR=8.3
E18A **Harlowton** 33.32 173 ⇓P P 13 23 27.9 0.0
baz=33,SNR=8.6
E09A **Wood Farm, Sta** 33.33 183 ⇓P P 13 23 27.2 -0.8
baz=33,SNR=9.2
E13A **Victor** 33.39 178 ⇓P P 13 23 28.6 +0.1
baz=33,SNR=7.0
E03A **Lebam** 33.41 190 ⇓P P 13 23 28.7 0.0
baz=33,SNR=5.1
E17A **Martinsdale** 33.41 174 ⇑P P 13 23 28.4 -0.3
baz=33,SNR=5.6
E14A **Clinton** 33.42 177 ⇓P P 13 23 29.0 +0.2
baz=33
E15A **Deer Lodge** 33.42 176 ⇓P P 13 23 28.5 -0.3
baz=33
E20A **Meyer Farm, Mu** 33.43 171 ⇑P P 13 23 28.1 -0.7
baz=33
E19A **Rath Farm, Rou** 33.46 171 ⇓P P 13 23 28.6 -0.5
baz=33
HAWA **Hanford** 33.46 185 *e*P P 13 23 27.9 -1.3
comp=Z,4.2nm,0.8s,mb4.4
E23A **Ismay** 33.54 167 ⇓P P 13 23 30.2 +0.4
baz=33
YAK **Yakutsk** 33.70 309 *i* P P 13 23 30.2 -0.8
YAK pmax pmax
comp=Z,43nm,2.5s,mb4.9
F10A **Beach Ranch, E** 33.86 182 ⇑P P 13 23 32.0 -0.6
baz=34
F17A **Fitzpatrick Pl** 33.97 174 ⇓P P 13 23 33.3 -0.3
baz=34,SNR=12
F18A **Big Timber** 33.99 173 ⇓P P 13 23 33.9 +0.1
baz=34,SNR=7.3
F15A **Butte** 34.00 176 ⇓P P 13 23 33.7 -0.1
baz=34,SNR=6.3
F14A **Wisdom** 34.02 177 ⇓P P 13 23 33.9 -0.1
baz=34
LRM **Limekiln Ridge** 34.02 176 *e*P P 13 23 34.2 +0.2
comp=Z,58nm,0.8s,mb5.6
F19A **Roth Farm, Mol** 34.06 172 ⇑P P 13 23 34.2 -0.1
baz=34,SNR=15
F12A **Elk City** 34.07 180 ⇑P P 13 23 34.1 -0.4
baz=34,SNR=12
F16A **Kennard Place,** 34.07 175 ⇑P P 13 23 34.1 -0.4
baz=34,SNR=7.4
GCMT **Greycliff** 34.10 173 *e*P P 13 23 35.1 +0.4
comp=Z,38nm,0.8s,mb5.4
F20A **Billings** 34.13 171 ⇑P P 13 23 34.7 -0.3
baz=34
F21A **Absaloka Mine,** 34.14 169 ⇓P P 13 23 35.2 +0.1
baz=34
BOZ **Bozeman (W)** 34.21 175 ⇓P P 13 23 35.5 -0.1
baz=34,SNR=6.0
G17A **Pierce Place,** 34.55 174 ⇓P P 13 23 39.0 +0.4
baz=34
VFP **Flag Point** 34.58 187 P P 13 23 39.1 +0.3
G18A **Lazy EL Ranch,** 34.58 172 ⇑P P 13 23 38.7 -0.1
baz=34
G14A **Jackson** 34.59 177 ⇑P P 13 23 38.7 -0.3
baz=34
TDH **Tom, Dick, Har** 34.61 188 P P 13 23 39.3 +0.1
G16A **Moss Hill, Enn** 34.62 175 ⇓P P 13 23 39.1 -0.1
baz=34,SNR=8.9
G06A **Carlson Farm,** 34.64 186 ⇓P P 13 23 39.2 -0.1
baz=34,SNR=5.2
G15A **Dillon** 34.68 176 ⇑P P 13 23 39.1 -0.6
baz=34
G20A **Bridger** 34.71 171 ⇓P P 13 23 39.6 -0.4
baz=34,SNR=6.4
G13A **Cobalt** 34.74 178 ⇑P P 13 23 40.0 -0.3
baz=34,SNR=5.8
RLMT **Red Lodge** 34.78 172 ⇑P P 13 23 40.6 0.0
baz=34
MCMT **McKenzie Canyo** 35.01 177 *e*P P 13 23 42.9 +0.3
comp=Z,5.7nm,1.0s,mb4.5
QLMT **Earthquake Lak** 35.03 175 *e*P P 13 23 43.3 +0.5
comp=Z,1.5nm,1.0s,mb3.9
H16A **Russell Place,** 35.16 175 ⇑P P 13 23 44.5 +0.6
baz=35,SNR=9.1
YMR **Madison River** 35.20 174 *e*P P 13 23 44.1 -0.1
comp=Z,16nm,0.9s,mb4.9
H18A **Shoshone NF, C** 35.22 173 ⇑P P 13 23 44.5 +0.1
baz=35
H14A **Leadore** 35.22 177 ⇑P P 13 23 44.9 +0.5
baz=35,SNR=15
H15A **Lima** 35.23 176 ⇑P P 13 23 44.8 +0.4
baz=35,SNR=13
H04A **Detroit Lake** 35.23 188 ⇑P P 13 23 44.1 -0.4
baz=35
H19A **Powell** 35.24 172 ⇓P P 13 23 45.1 +0.5
baz=35
H13A **Challis** 35.27 178 ⇓P P 13 23 45.9 +1.1
baz=35,SNR=6.7
H12A **Diamond D Ranc** 35.28 179 ⇑P P 13 23 44.5 -0.4
baz=35,SNR=7.0
LKWY **Lake** 35.31 174 *e*P P 13 23 46.3 +1.1
comp=Z,25nm,0.9s,mb5.2
LKWY **Lake** 35.31 174 *e*P P 13 23 46.3 +1.1
LKWY pmax pmax
comp=Z,25nm,0.9s,mb5.1
H24A **Dirks Ranch, A** 35.31 166 ⇓P P 13 23 44.7 -0.5
baz=35
H21A **Big Horn, Sher** 35.34 169 ⇓P P 13 23 45.4 0.0
baz=35,SNR=9.6
H22A **Clearmont** 35.40 169 ⇓P P 13 23 45.4 -0.5
baz=35
H20A **Greybull** 35.45 171 ⇑P P 13 23 45.9 -0.5
baz=35
H17A **Grant Village** 35.48 174 ⇑P P 13 23 48.2 +1.6
baz=35,SNR=7.8
SPMN **St. Paul** 35.59 152 ⇑P P 13 23 47.6 0.0
baz=35
BROR **Big Rock Looko** 35.65 188 P P 13 23 47.9 -0.1
I07A **Izee** 35.77 185 ⇑P P 13 23 49.9 +0.7
baz=36,SNR=11
FLWY **Flagg Ranch** 35.79 174 *e*P P 13 23 50.7 +1.4
comp=Z,460nm,0.6s
I15A **Monteview** 35.84 176 ⇑P P 13 23 50.5 +0.7
baz=36,SNR=8.8
I19A **Meeteetse** 35.87 172 ⇑P P 13 23 49.5 -0.5
baz=36
I14A **Mackay** 35.91 177 ⇑P P 13 23 50.9 +0.6
baz=36,SNR=18
IRO **Indian Ridge** 35.91 188 P P 13 23 50.1 -0.1
I13A **Wildhorse Cree** 35.91 178 ⇓P P 13 23 50.7 +0.4
baz=36,SNR=25
I17A **Pilgrim Ck.** 35.95 174 ⇓P P 13 23 51.8 +1.1
baz=36,SNR=14
RSSD **Black Hills** 35.96 166 *e*P P 13 23 50.2 -0.5
RSSD **Black Hills** 35.96 166 *e*P P 13 23 50.2 -0.6
IMW **Indian Meadow** 35.97 174 *e*P P 13 23 51.9 +1.0
comp=Z,7.4nm,1.4s,mb4.4
I16A **Nendale** 35.98 175 ⇑P P 13 23 51.7 +0.7
baz=36,SNR=19
I20A **Worland** 35.98 171 ⇓P P 13 23 51.1 +0.1
baz=36,SNR=5.7
I12A **Atlanta** 36.03 179 ⇓P P 13 23 51.2 -0.1
baz=36
I22A **9 Mile Ranch,** 36.09 169 ⇑P P 13 23 51.9 0.0
baz=36,SNR=12
I21A **Big Trails, Te** 36.15 170 ⇑P P 13 23 52.4 0.0
baz=36,SNR=8.4
I18A **Diamond G Ranc** 36.19 173 ⇓P P 13 23 53.3 +0.6
baz=36,SNR=5.2
NB2 **NORSAR Subarra** 36.21 41 P P 13 23 52.7 0.0
comp=Z,3.5nm,0.8s,mb4.3,baz=345,slow=8.6
NOA **NORSAR Array B** 36.21 41 P P 13 23 52.1 -0.6
comp=Z,2.5nm,0.8s,mb4.2,baz=345,slow=8.3,SNR=6.4
NOA **NORSAR Array B** 36.21 41 P P 13 23 52.1 -0.6
NOA **NORSAR Array B** 36.21 41 P P 13 23 52.2 -0.5
LOHW **Long Hollow** 36.26 174 *e*P P 13 23 54.0 +0.7
comp=Z,17nm,1.0s,mb4.9
HLID **Hailey** 36.27 179 ⇑P P 13 23 53.2 -0.1
baz=36,SNR=7.0
HLID **Hailey** 36.27 179 *e*P P 13 23 53.0 -0.4
comp=Z,10nm,1.3s,mb4.6
DCID1 **Drake Creek** 36.27 175 *e*P P 13 23 54.4 +1.0
comp=Z,16nm,0.7s,mb5.1
JOF **Joensuu** 36.33 25 *e*P P 13 23 53.5 -0.2
JOF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
JOF **Joensuu** 36.33 25 *e*p P 13 23 53.5 -0.2
comp=Z,6.5nm,0.7s,mb4.7
SNOW **Snow King Moun** 36.41 174 *e*P P 13 23 54.8 +0.2
comp=Z,16nm,1.0s,mb4.9
MFID **Camas Ranch** 36.41 180 ⇑P P 13 23 54.7 +0.1
baz=36
J13A **Cove Ranch, Pi** 36.43 178 ⇓P P 13 23 55.0 +0.2
baz=36
J15A **Blackfoot** 36.45 176 ⇑P P 13 23 54.5 -0.4
baz=36
J08A **Circle Bar Ran** 36.48 184 ⇑P P 13 23 56.3 +1.1
baz=36,SNR=14
REDW **Red Top Meadow** 36.51 174 *e*P P 13 23 56.0 +0.6
comp=Z,15nm,1.1s,mb4.7
J17A **Brown Place, J** 36.51 174 ⇑P P 13 23 56.7 +1.2
baz=36,SNR=9.1
RRI2 **Red Ridge** 36.51 175 *e*P P 13 23 55.7 +0.2
comp=Z,7.2nm,0.7s,mb4.6
J22A **Midwest** 36.57 169 ⇓P P 13 23 56.0 0.0
baz=36,SNR=6.7
J20A **Shoshoni** 36.58 171 ⇑P P 13 23 56.6 +0.5
baz=36,SNR=13
J16A **Bone** 36.58 175 ⇓P P 13 23 56.9 +0.9
baz=36,SNR=7.0
J21A **Lysite** 36.61 170 ⇓P P 13 23 56.3 0.0
baz=36
J19A **Crowheart** 36.64 172 ⇓P P 13 23 56.6 0.0
baz=36
J18A **Kendall Valley** 36.67 173 ⇓P P 13 23 57.4 +0.5
baz=36,SNR=20
KAF **Kangasniemi** 36.72 29 *e*P P 13 23 56.6 -0.5
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
KAF **Kangasniemi** 36.72 29 *e*p P 13 23 56.6 -0.5
comp=Z,2.3nm,0.5s,mb4.3
ECSD **EROS Data Cent** 36.78 157 *e*P P 13 23 56.9 -0.8
comp=Z,140nm,1.1s,mb5.7
K16A **Soda Springs** 37.02 175 ⇑P P 13 24 00.1 +0.3
baz=37
K19A **Absolon Red Bu** 37.09 172 ⇓P P 13 24 00.0 -0.4
baz=37,SNR=13
K17A **Gardner Place,** 37.12 174 ⇓P P 13 24 00.8 +0.1
baz=37
PD01 **Pinedale Array** 37.12 173 *e*P P 13 24 00.2 -0.4
BW06 **Boulder Array** 37.13 173 ⇓P P 13 24 00.5 -0.2
baz=37,SNR=9.3
PDAR **Pinedale Array** 37.13 173 P P 13 24 00.6 -0.1
comp=Z,6.9nm,0.8s,mb4.5,baz=26,slow=7.5,SNR=46
PDAR PcP PcP 13 26 20.1 -0.5
comp=Z,1.7nm,0.8s,baz=102,slow=2.0,SNR=4.0
PDAR LR LR 13 38 54.2
comp=Z,557nm,18.0s,MS4.4,baz=280,slow=36
PDAR **Pinedale Array** 37.13 173 P P 13 24 00.6 -0.1
PDAR PcP PcP 13 26 20.1 -0.5
PDAR LR LR 13 38 54.1
K05A **Summer Lake** 37.15 186 ⇓P P 13 24 01.7 +0.8
baz=37,SNR=9.9
K15A **Arbon** 37.16 176 ⇓P P 13 24 01.5 +0.5
baz=37,SNR=10
K18A **Toltan Ranch,** 37.25 173 ⇓P P 13 24 02.4 +0.6
baz=37,SNR=11
K20A **Yellowstone Ra** 37.27 171 ⇓P P 13 24 01.7 -0.2
baz=37
K14A **Jones Ranch, D** 37.29 177 ⇓P P 13 24 02.6 +0.5
baz=37,SNR=8.3
K24A **Anderson Ranch** 37.32 167 ⇑P P 13 24 02.0 -0.3
baz=37
K21A **Alcova** 37.33 170 ⇑P P 13 24 02.4 0.0
baz=37,SNR=5.5
K22A **Casper** 37.33 169 ⇓P P 13 24 01.8 -0.6
baz=37,SNR=7.1
FINES **FINESS Array B** 37.36 29 P P 13 24 02.4 -0.1
comp=Z,13nm,0.7s,mb4.8,baz=0.0,slow=9.5,SNR=16
FINES PcP PcP 13 26 20.5 -0.5
comp=Z,7.6nm,0.8s,baz=354,slow=1.9,SNR=5.3
FINES **FINESS Array B** 37.36 29 P P 13 24 02.4 -0.1
FINES PcP PcP 13 26 20.5 -0.5
FINES **FINESS Array B** 37.36 29 P P 13 24 02.4 -0.1
FINES 13 26 20.5
HFS **Hagfors** 37.39 40 P P 13 24 02.2 -0.5
comp=Z,1.9nm,0.6s,mb4.1,baz=340,slow=3.9,SNR=4.9
HFS PcP PcP 13 26 20.2 -0.9
comp=Z,1.4nm,0.5s,baz=259,slow=1.5,SNR=5.9
HFS **Hagfors** 37.39 40 P P 13 24 02.2 -0.5
HFS PcP PcP 13 26 20.2 -0.9
HFS **Hagfors** 37.39 40 P P 13 24 02.2 -0.5
HFS 13 26 20.2
PETK **Petropavlovsk-** 37.72 280 P P 13 24 05.2 -0.4
comp=Z,7.8nm,0.9s,mb4.5,baz=72,slow=4.8,SNR=4.3
PETK **Petropavlovsk-** 37.72 280 P P 13 24 05.2 -0.4
PETK **Petropavlovsk-** 37.72 280 P P 13 24 05.2 -0.4
L17A **Cokeville** 37.77 174 ⇑P P 13 24 06.0 -0.1
baz=38,SNR=12
L19A **Farson** 37.80 172 ⇓P P 13 24 05.8 -0.6
baz=38,SNR=5.2
L14A **Malta** 37.80 177 ⇑P P 13 24 06.8 +0.4
baz=38,SNR=10.0
L15A **Malad City** 37.84 176 ⇑P P 13 24 06.8 0.0
baz=38,SNR=6.7
L16A **Fish Haven** 37.84 175 ⇑P P 13 24 06.5 -0.2
baz=38,SNR=7.2
L23A **Garrett** 37.90 168 ⇓P P 13 24 06.6 -0.6
baz=38
L20A **Wamsutter** 37.92 171 ⇓P P 13 24 07.3 -0.1
baz=38
L22A **Ellis Ranch, M** 37.95 169 ⇓P P 13 24 07.5 -0.2
baz=38
L18A **Fontenelle, Gr** 37.96 173 ⇑P P 13 24 07.4 -0.4
baz=38
HVU **Hansel Valley** 38.06 177 *e*P P 13 24 08.4 -0.2
comp=Z,10nm,1.0s,mb4.5
HVU **Hansel Valley** 38.06 177 *e*P P 13 24 08.4 -0.2
HVU pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
M21A **Separation Pea** 38.35 170 ⇓P P 13 24 10.6 -0.5
baz=38,SNR=8.9
M15A **Larsen Ranch,** 38.38 176 ⇓P P 13 24 10.7 -0.6
baz=38
M17A **Scullys Gap (B** 38.40 174 ⇑P P 13 24 11.2 -0.2
baz=38
M19A **Rock Springs** 38.40 172 ⇑P P 13 24 10.9 -0.6
baz=38
M20A **Sweetwater, Wa** 38.44 171 ⇑P P 13 24 11.5 -0.3
baz=38
M18A **Lyman** 38.45 173 ⇓P P 13 24 11.2 -0.7
baz=38
M16A **Huntsville** 38.54 175 ⇑P P 13 24 13.2 +0.5
baz=38,SNR=17
M23A **Laramie** 38.54 168 ⇓P P 13 24 12.1 -0.6
baz=38
M24A **Cheyenne** 38.58 167 ⇓P P 13 24 12.6 -0.3
baz=38
BGU **Big Grassy Mou** 38.91 177 *e*P P 13 24 15.3 -0.4
comp=Z,13nm,1.1s,mb4.6
N18A **Larsen Ranch,** 38.91 173 ⇓P P 13 24 15.3 -0.5
baz=39,SNR=6.9
N17A **Moffit Pass** 38.92 174 ⇓P P 13 24 15.4 -0.5
baz=39
KLMR **Klimovskoe** 38.94 19 *e*P P 13 24 14.7 -1.1
KLMR *e* 13 26 16.4
KLMR pmax pmax
comp=Z,44nm,1.5s,mb5.0
N15A **Stansbury Isla** 38.95 176 ⇑P P 13 24 16.0 -0.1
baz=39,SNR=5.3
N16A **Rees Ranch, Co** 38.97 175 ⇓P P 13 24 16.7 +0.4
baz=39,SNR=8.3
N19A **John Jarvie Ra** 39.01 172 ⇓P P 13 24 16.4 -0.2
baz=39
LBCM **Butte Creek Ri** 39.05 187 P P 13 24 17.2 +0.3
KHMM **Horse Mountain** 39.07 190 *e*P P 13 24 17.2 +0.1
comp=Z,27nm,1.4s,mb4.8
N20A **Spence Gulch,** 39.09 171 ⇓P P 13 24 17.1 -0.2
baz=39
N23A **Red Feather La** 39.10 168 ⇓P P 13 24 16.9 -0.4
baz=39
N22A **Wattenberg Ran** 39.18 169 ⇓P P 13 24 18.1 +0.1
baz=39
N21A **Black Mountain** 39.19 170 ⇑P P 13 24 17.6 -0.4
baz=39
N24A **Carr** 39.21 167 ⇓P P 13 24 18.6 +0.3
baz=39,SNR=5.5
JLU **Jordanelle** 39.25 175 *e*P P 13 24 17.8 -0.9
comp=Z,14nm,1.1s,mb4.6
CLNS **Chul'man** 39.37 311 *e*P P 13 24 18.8 -0.6
CLNS pmax pmax
comp=Z,16nm,0.8s,mb4.8
CLNS pmax pmax
comp=N,11nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,0.9s
DAU **Daniels Canyon** 39.45 175 *e*P P 13 24 19.5 -0.7
comp=E,25nm,1.3s,mb4.8
DAU **Daniels Canyon** 39.45 175 *e*P P 13 24 19.5 -0.7
DAU pmax pmax
comp=Z,25nm,1.3s,mb4.8
O19A **Miners Draw (B** 39.60 172 ⇓P P 13 24 21.5 -0.1
baz=39
O18A **Roosevelt** 39.62 173 ⇑P P 13 24 21.6 -0.1
baz=39
DUG **Dugway** 39.64 177 ⇓P P 13 24 21.9 0.0
baz=39,SNR=6.8
DUG **Dugway** 39.64 177 *e*P P 13 24 21.7 -0.1
comp=Z,9.6nm,1.0s,mb4.5
DUG **Dugway** 39.64 177 *e*P P 13 24 21.7 -0.2
DUG pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
O16A **Springville** 39.65 175 ⇓P P 13 24 22.4 +0.4
baz=39,SNR=9.5
O17A **Robinson Place** 39.67 174 ⇓P P 13 24 21.9 -0.2
baz=39
O21A **Pagoda** 39.73 170 ⇓P P 13 24 22.4 -0.2
baz=39
O23A **Lake Granby, G** 39.79 168 ⇑P P 13 24 23.4 +0.3
baz=40

O20A White River Ci 39.79 171 ⇑P P 13 24 23.2 +0.1
baz=40,SNR=12

O22A Kremmling 39.81 169 ⇑P P 13 24 23.4 +0.1
baz=40,SNR=7.8

EKA Eskdalemuir Ar 39.82 56 P P 13 24 22.9 -0.3
comp=Z,5.6nm,0.8s,mb4.3,baz=337,slow=8.2,SNR=6.5

EKA Eskdalemuir Ar 39.82 56 P P 13 24 22.9 -0.3

EKA Eskdalemuir Ar 39.82 56 P P 13 24 22.9 -0.3

NLU North Lily Min 39.89 176 eP P 13 24 24.2 +0.3
comp=Z,22nm,1.1s,mb4.8

ISCO Idaho Springs 40.21 168 ⇑P P 13 24 26.8 +0.2
baz=40

ISCO Idaho Springs 40.21 168 eP P 13 24 26.3 -0.3
comp=Z,5.8nm,0.9s,mb4.3

ISCO Idaho Springs 40.21 168 eP P 13 24 26.3 -0.3
ISCO pmax pmax
comp=Z,6.0nm,0.9s,mb4.3

P16A Fountain Green 40.24 175 ⇓P P 13 24 27.6 +0.7
baz=40,SNR=6.1

P14A Drum Mountains 40.24 177 ⇑P P 13 24 27.2 +0.3
baz=40,SNR=9.8

P18A Preston Nutter 40.25 174 ⇑P P 13 24 27.0 +0.1
baz=40

P19A Cripple Cowboy 40.27 172 ⇑P P 13 24 27.2 +0.1
baz=40,SNR=18

VSU Vasula 40.36 30⇑ eP P 13 24 28.3 +0.6
VSU pmax pmax
comp=Z,49nm,1.2s,mb5.1

P22A Eagle 40.37 169 ⇑P P 13 24 28.4 +0.5
baz=40,SNR=7.2

P20A De Beque 40.42 171 ⇑P P 13 24 28.0 -0.3
baz=40

P21A Newcastle 40.42 170 ⇓P P 13 24 28.8 +0.5
baz=40,SNR=6.2

P25A Willow Gulch B 40.55 166 ⇓P P 13 24 29.8 +0.3
baz=40

WCN Washoe City 40.55 185 ⇑P P 13 24 29.8 +0.3
baz=40,SNR=9.3

P23A Jefferson 40.63 168 ⇑P P 13 24 30.0 0.0
baz=40

SRU San Rafael 40.76 174 ⇓P P 13 24 30.8 -0.3
baz=40

SRU San Rafael 40.76 174 eP P 13 24 30.9 -0.3
comp=Z,9.7nm,0.9s,mb4.4

SRU San Rafael 40.76 174 eP P 13 24 30.9 -0.2
SRU pmax pmax
comp=Z,10.0nm,0.9s,mb4.5

Q18A Rafter H Ranch 40.77 173 ⇑P P 13 24 31.4 +0.1
baz=40,SNR=6.7

Q14A Sevier Lake (B 40.84 177 ⇓P P 13 24 32.7 +0.8
baz=40,SNR=6.1

HOPS Hopland 40.93 189 eP P 13 24 32.1 -0.5
comp=Z,26nm,1.3s,mb4.7

Q16A Castle Valley 40.94 175 ⇓P P 13 24 33.6 +0.9
baz=41,SNR=10

Q19A Hogan Spring (40.94 172 ⇑P P 13 24 32.4 -0.3
baz=41

Q20A Ridgley Place, 40.97 171 ⇓P P 13 24 32.5 -0.4
baz=41

Q24A Divide 41.06 168 ⇑P P 13 24 34.1 +0.5
baz=41

Q23A Hartsel 41.09 168 ⇑P P 13 24 34.6 +0.7
baz=41

Q22A Crested Butte, 41.10 170 ⇓P P 13 24 34.0 +0.1
baz=41

Q21A Lamborn Mesa, 41.11 170 ⇑P P 13 24 33.9 -0.2
baz=41

MSU Marysvale 41.33 176 eP P 13 24 36.3 +0.5
comp=Z,11nm,1.1s,mb4.4

MSU Marysvale 41.33 176 eP P 13 24 36.3 +0.4
MSU pmax pmax
comp=Z,11nm,1.1s,mb4.4

NVAR Mina Array Bea 41.41 183 P P 13 24 37.2 +0.7
comp=Z,7.7nm,0.9s,mb4.3,baz=360,slow=6.5,SNR=41
NVAR PcP PcP 13 26 34.2 -0.1
comp=Z,3.2nm,0.8s,baz=6.3,slow=3.6,SNR=6.1

NVAR Mina Array Bea 41.41 183 P P 13 24 37.2 +0.7
NVAR PcP PcP 13 26 34.2 -0.1

R17A Hanksville Air 41.45 174 ⇓P P 13 24 36.8 0.0
baz=41

CBKS Cedar Bluff 41.47 161 ⇑P P 13 24 36.4 -0.6
baz=41

R11A Troy Canyon, C 41.47 180 ⇓P P 13 24 37.1 +0.1
baz=41,SNR=7.3

R18A Canyonlands Na 41.49 173 ⇓P P 13 24 36.9 -0.3
baz=41,SNR=12

PV04 Paradox Valley 41.51 172 eP P 13 24 36.7 -0.6

R16A Teasdale 41.57 175 ⇓P P 13 24 38.6 +0.8
baz=41,SNR=7.5

R21A Cimarron 41.57 170 ⇑P P 13 24 38.4 +0.6
baz=41,SNR=8.3

R19A Curley Farm, L 41.60 172 ⇓P P 13 24 37.7 -0.4
baz=41

R15A Junction 41.63 176 ⇑P P 13 24 38.9 +0.6
baz=41

R13A O'Grain Ranch, 41.65 178 ⇓P P 13 24 39.2 +0.7
baz=41

R20A Redvale 41.73 171 ⇓P P 13 24 38.9 -0.3
baz=41,SNR=6.5

R24A Sanders Place, 41.79 168 ⇓P P 13 24 39.6 0.0
baz=42

CMB Columbia Colle 41.83 186 eP P 13 24 39.4 -0.6
comp=Z,4.7nm,0.9s,mb4.1

CMB Columbia Colle 41.83 186 eP P 13 24 39.4 -0.5
CMB pmax pmax
comp=Z,5.0nm,0.9s,mb4.1

R25A Fountain Ranch 41.91 167 ⇑P P 13 24 40.4 -0.2
baz=42

ARUT Antelope Range 42.04 177 eP P 13 24 42.3 +0.6
comp=Z,9.8nm,0.9s,mb4.4

ARUT Antelope Range 42.04 177 eP P 13 24 42.3 +0.6
ARUT pmax pmax
comp=Z,10.0nm,0.9s,mb4.5

S20A Disappointment 42.09 171 ⇓P P 13 24 41.9 -0.1
baz=42,SNR=5.4

S16A Weppner Ranch, 42.13 175 ⇑P P 13 24 42.7 +0.4
baz=42,SNR=7.1

S19A Harvey Farm, M 42.15 172 ⇓P P 13 24 42.4 -0.1
baz=42,SNR=10

S18A Hurst Farm, Bl 42.19 173 ⇑P P 13 24 42.9 0.0
baz=42

S22A 4UR Ranch, Cre 42.22 170 ⇓P P 13 24 43.4 +0.2
baz=42

S17A Black Ridge (B 42.23 174 ⇑P P 13 24 43.4 +0.2
baz=42,SNR=9.5

SDCO Great Sand Dun 42.26 168 ⇑P P 13 24 43.7 +0.3
baz=42

SDCO Great Sand Dun 42.26 168 eP P 13 24 43.6 +0.1
comp=Z,6.1nm,1.0s,mb4.2

S21A Coal Bank Pass 42.27 171 ⇓P P 13 24 43.8 +0.2
baz=42

S23A Nye Farm, Mont 42.28 169 ⇑P P 13 24 44.4 +0.8
baz=42

S24A Houchin Ranch, 42.38 168 ⇓P P 13 24 44.7 +0.3
baz=42,SNR=8.5

S25A Robets Cordova 42.39 167 ⇓P P 13 24 44.5 0.0
baz=42,SNR=18

MVCO Mesa Verde 42.70 172 ⇑P P 13 24 47.7 +0.6
baz=42

MVCO Mesa Verde 42.70 172 eP P 13 24 47.2 +0.1
comp=Z,18nm,1.2s,mb4.7

T18A Mexican Hat 42.74 173 ⇓P P 13 24 47.3 -0.1
baz=42,SNR=10

GRAC Grapevine Rang 42.82 182 ⇑P P 13 24 48.3 +0.3
baz=42

T17A Navajo Res., N 42.86 174 ⇓P P 13 24 48.4 0.0
baz=43,SNR=9.5

T22A Edith 42.94 170 ⇑P P 13 24 49.7 +0.6
baz=43,SNR=7.9

T21A Navajo Lake 42.95 171 ⇓P P 13 24 49.7 +0.6
baz=43

T24A Torres, Weston 42.95 168 ⇓P P 13 24 49.3 +0.3
baz=43

T19A Beclabito 43.07 172 ⇑P P 13 24 50.2 +0.1
baz=43,SNR=10

FURC Furnace Creek, 43.35 181 ⇓P P 13 24 53.0 +0.7
baz=43,SNR=8.5

CWC Cottonwood Cre 43.39 183 ⇑P P 13 24 53.3 +0.6
baz=43,SNR=6.6

U15A North Rim 43.41 176 ⇑P P 13 24 53.1 +0.3
baz=43

U21A Nageezi 43.51 171 ⇓P P 13 24 54.1 +0.5
baz=43,SNR=6.8

U20A Newcomb 43.53 172 ⇓P P 13 24 54.1 +0.3
baz=43

U22A Llaves 43.58 170 ⇓P P 13 24 55.1 +0.9
baz=43,SNR=6.2

U19A Dine' College, 43.60 173 ⇓P P 13 24 54.6 +0.3
baz=43,SNR=7.1

U25A Circle Dot Ran 43.65 167 ⇑P P 13 24 54.8 +0.1
baz=43

U23A El Rito 43.65 169 ⇑P P 13 24 55.4 +0.7
baz=43,SNR=35

U26A Atchley Ranch, 43.68 166 ⇓P P 13 24 54.5 -0.4
baz=43

SVE Sverdlovsk 43.70 3 eP P 13 24 56.0 +1.1

U16A Tuba City 43.71 175 ⇓P P 13 24 55.5 +0.3
baz=43,SNR=8.0

MPMC Manual Prospec 43.76 182 ⇓P P 13 24 56.6 +0.9
baz=44,SNR=21

VES Vestal, Richgr 44.00 184 ⇑P P 13 24 57.4 -0.1
baz=44

V15A Kaibab Nationa 44.02 176 ⇓P P 13 24 58.0 +0.3
baz=44,SNR=9.7

ARU Arti 44.07 5d iP P 13 24 58.7 +0.8
ARU e 13 26 40.5
ARU S S 13 31 32.7 +3.0
ARU SS SS 13 34 48.6 +2.4
ARU pmax pmax
comp=Z,22nm,1.7s,mb4.6

V20A Brimhall 44.11 172 ⇓P P 13 24 58.7 +0.3
baz=44,SNR=7.2

V21A Milan 44.13 171 ⇓P P 13 24 58.9 +0.3
baz=44,SNR=7.0

ISA Isabella 44.17 183 ⇓P P 13 24 59.3 +0.4
baz=44,SNR=12

V25A Rancho No Teng 44.20 167 ⇑P P 13 24 59.5 +0.3
baz=44,SNR=9.9

V23A Ortiz Mt. (NFS 44.23 169 ⇓P P 13 25 00.1 +0.7
baz=44

V17A Tonalea, Kykot 44.24 174 ⇓P P 13 24 59.7 +0.3
baz=44,SNR=19

V26A Tequesquite Ra 44.27 166 ⇓P P 13 24 59.7 0.0
baz=44,SNR=12

V24A Rampart Ranch, 44.28 168 ⇑P P 13 25 00.3 +0.4
baz=44,SNR=8.1

WUAZ Wupatki 44.33 175 ⇑P P 13 25 00.9 +0.7
baz=44,SNR=19

WUAZ Wupatki 44.33 175 eP P 13 25 00.5 +0.3
comp=Z,30nm,1.0s,mb5.0

LRMC Laurel Mountai 44.35 182 ⇓P P 13 25 01.2 +0.9
baz=44,SNR=8.2

OBN Obninsk 44.46 23⇓ iP P 13 25 01.5 +0.5
OBN i 13 25 09.6
OBN e 13 26 44.5
OBN e 13 26 51.5
OBN pmax pmax
comp=Z,52nm,1.6s,mb5.0

GSC Goldstone 44.52 181 ⇓P P 13 25 02.5 +0.8
baz=44,SNR=24

SMMC Simmler 44.54 185 ⇑P P 13 25 02.2 +0.3
baz=44

TUL1 Tulsa 44.61 157 ⇑P P 13 25 01.7 -0.7
baz=44

W13A Hualapai Mount 44.72 178 ⇑P P 13 25 04.0 +0.7
baz=44,SNR=15

W16A Flagstaff 44.75 175 ⇑P P 13 25 04.4 +0.8
baz=44,SNR=11

W18A Petrified Fore 44.76 173 ⇓P P 13 25 04.1 +0.4
baz=44,SNR=6.6

W19A Sanders 44.77 173 ⇓P P 13 25 04.3 +0.6
baz=44

W17A Winslow 44.78 174 ⇑P P 13 25 04.6 +0.8
baz=44

W20A Ramah 44.78 172 ⇑P P 13 25 03.5 -0.3
baz=44,SNR=6.6

W24A Lazy 6 Ranch, 44.79 168 ⇓P P 13 25 03.7 -0.2
baz=44

W23A Werner Place, 44.82 169 ⇓P P 13 25 04.7 +0.6
baz=44,SNR=9.7

W25A X Bar L Ranch, 44.82 167 ⇑P P 13 25 03.5 -0.7
baz=44

EDW2 Edwards Air Fo 44.94 183 ⇑P P 13 25 05.8 +0.7
baz=45,SNR=26

PKM Peak Mountain 44.95 185 ⇑P P 13 25 06.7 +1.5
baz=45

W26A Owens Ranch, T 44.98 166 ⇓P P 13 25 05.9 +0.5
baz=45

HEC Hector,Ludlow 44.98 181 ⇑P P 13 25 06.3 +0.8
baz=45

ANMO Albuquerque 45.02 169 LR LR 13 45 15.5
comp=Z,723nm,18.4s,MS4.6,baz=153,slow=38

ANMO Albuquerque 45.02 169 eP P 13 25 05.9 +0.2
comp=Z,5.6nm,1.1s,mb4.8

ANMO Albuquerque 45.02 169 eP P 13 25 05.9 +0.2
ANMO pmax pmax
comp=Z,16nm,1.1s

GMRC Granite Mounta 45.03 180 ⇓P P 13 25 06.1 +0.3
baz=45

W27A Bowe Ranch, En 45.04 165 ⇑P P 13 25 05.7 -0.1
baz=45

NVS Novosibirsk 45.26 345 iP P 13 25 05.8 -1.6

AMTX Amarillo 45.28 164 ⇓P P 13 25 07.9 +0.1
baz=45

X18A Snowflake 45.34 173 ⇑P P 13 25 08.7 +0.5
baz=45,SNR=9.4

X20A Quemado 45.36 172 ⇓P P 13 25 09.4 +1.0
baz=45

X16A Lo Mia Camp, P 45.43 175 ⇑P P 13 25 09.7 +0.7
baz=45,SNR=7.6

X24A Lazy VL Ranch, 45.44 168 ⇓P P 13 25 09.1 +0.1
baz=45

X27A F and S Farms, 45.45 166 ⇓P P 13 25 08.6 -0.5
baz=45

X19A St. Johns 45.46 173 ⇑P P 13 25 09.3 +0.1
baz=45,SNR=8.0

X21A Alamocita Cree 45.48 171 ⇓P P 13 25 10.1 +0.7
baz=45

X26A CR and CF Fran 45.51 166 ⇓P P 13 25 09.5 -0.1
baz=45,SNR=6.9

PDMCI Parker Dam,Lak 45.52 178 ⇓P P 13 25 10.0 +0.3
baz=45,SNR=7.2

X17A Forest Lakes 45.52 174 ⇓P P 13 25 10.2 +0.6
baz=45

LAZ Ladron 45.54 170 eP P 13 25 09.9 +0.1
comp=Z,27nm,2.1s,mb4.8

BBRC Big Bear Solar 45.55 182 ⇑P P 13 25 11.2 +1.2
baz=45,SNR=11

BFSC Mount Baldy Ra 45.58 182 ⇓P P 13 25 11.1 +1.0
baz=45,SNR=15

WMOK Wichita Mounta 45.59 161 eP P 13 25 08.5 -1.7
comp=Z,14nm,1.2s,mb4.8

WMOK Wichita Mounta 45.59 161 eP P 13 25 08.5 -1.7
WMOK pmax pmax
comp=Z,14nm,1.2s,mb4.8

LPM Los Pinos Moun 45.65 170 eP P 13 25 10.6 -0.1
comp=Z,8.6nm,1.1s,mb4.6

IRM Iron Mountain 45.65 179 ⇑P P 13 25 11.5 +0.7
baz=45

BLG Laguna Peak 45.72 184 ⇑P P 13 25 12.0 +0.7
baz=45

LENM Lemitar 45.78 170 eP P 13 25 11.9 +0.1
comp=Z,7.8nm,0.9s,mb4.6

KLR Kul'dur 45.78 302 eP P 13 25 07.7 -3.9

BELC Belle Mtn. Jos 45.81 180 ⇑P P 13 25 13.1 +1.1
baz=46,SNR=26

Y15A Casa Rosa Ranc 45.88 176 ⇑P P 13 25 13.0 +0.5
baz=46,SNR=7.9

Y14A Wickenburg 45.88 177 ⇑P P 13 25 13.2 +0.6
baz=46,SNR=12

Y21A Point of Rocks 45.92 171 ⇑P P 13 25 13.6 +0.7
baz=46,SNR=8.5

Y19A Nutrioso 45.93 173 ⇓P P 13 25 13.4 +0.5
baz=46,SNR=6.8

CLL Collm 45.95 43 eP P 13 25 11.0 -1.9
CLL i 13 26 49.3

CLL Collm 45.95 43 eP P 13 25 12.0 -0.9
CLL iPcP PcP 13 26 49.3 -0.1
CLL ePP PP 13 27 06.0 +5.8

Y16A Circle Bar Ran 45.96 175 ⇓P P 13 25 14.3 +1.1
baz=46,SNR=5.4

Y20A Horse Springs, 46.00 172 ⇓P P 13 25 14.1 +0.6
baz=46,SNR=9.1

Y22A Socorro 46.01 170 ⇓P P 13 25 13.8 +0.3
baz=46,SNR=10

BAIF Baives 46.02 51 eP P 13 25 13.1 -0.3
comp=Z,16nm,0.9s,mb4.6

Y23A Lovelace Mesa, 46.05 169 ⇓P P 13 25 13.8 0.0
baz=46

GIVF Givet 46.06 50 eP P 13 25 13.2 -0.6

Y12C Blythe 46.06 179 ⇑P P 13 25 14.5 +0.5
baz=46,SNR=6.8

Y24A Capitan 46.07 168 ⇓P P 13 25 14.2 +0.1
baz=46,SNR=6.8

ZALV Zalesovo Beam 46.07 343 P P 13 25 13.2 -0.6
ZALV PcP PcP 13 26 49.0 -0.8
comp=Z,2.9nm,0.7s,mb4.3,baz=359,slow=7.7,SNR=19
ZALV PcP PcP 13 26 49.0 -0.8
comp=Z,2.5nm,0.8s,baz=240,slow=2.9,SNR=5.5

ZALV Zalesovo Beam 46.07 343 P P 13 25 13.2 -0.6
ZALV 13 26 49.0

Y18A Canyon Day Jun 46.09 174 ⇑P P 13 25 14.7 +0.5
baz=46,SNR=11

Y25A Mesa, Roswell 46.10 167 ⇓P P 13 25 14.1 -0.2
baz=46,SNR=6.4

MSTX Muleshoe 46.14 165 ⇑P P 13 25 14.2 -0.3
baz=46

Y26A Elida 46.14 166 ⇓P P 13 25 14.6 0.0
baz=46

BC3 Big Chuckawall 46.16 180 ⇑P P 13 25 15.7 +1.0
baz=46,SNR=12

Y17A Roosevelt 46.16 175 ⇓P P 13 25 14.8 +0.1
baz=46,SNR=6.2

PFO Pinyon Flat Ob 46.20 181 ⇓P P 13 25 15.7 +0.6
baz=46

Y27A Causey 46.21 166 ⇑P P 13 25 14.6 -0.5
baz=46,SNR=9.6

MURC Murrieta 46.22 182 ⇑P P 13 25 14.8 -0.4
baz=46

YSS Yuzh-Sakhalins 46.23 292 iP P 13 25 15.1 -0.1
YSS pmax pmax
comp=Z,20nm,1.3s,mb4.9

CIS Catalina Islan 46.42 183 ⇓P P 13 25 16.8 0.0
baz=46

Z14A Wintersburg 46.46 177 ⇑P P 13 25 17.2 +0.1
baz=46

Z17A San Carlos Hig 46.56 174 ⇑P P 13 25 18.4 +0.5
baz=46

Z19A T-Link Ranch, 46.59 173 ⇑P P 13 25 18.5 +0.4
baz=46

ROSF Rostrenen 46.60 58 eP P 13 25 17.1 -0.9
comp=Z,13nm,1.2s,mb5.1

FLN La Foliniere 46.61 56 eP P 13 25 16.8 -1.3

Z21A St. Cloud Mine 46.62 171 ⇑P P 13 25 19.0 +0.6
baz=46,SNR=12

Z13A Yuma Proving G 46.62 178 ⇓P P 13 25 18.6 +0.3
baz=46,SNR=6.1

Z24A Sheeppen Canyo 46.67 168 ⇑P P 13 25 18.6 -0.1
baz=46,SNR=7.6

Z22A Elephant Butte 46.69 170 ⇓P P 13 25 18.9 0.0
baz=46,SNR=5.8

Z23A Rita Site, Whi 46.71 169 ⇓P P 13 25 19.4 +0.4
baz=46

Z25A Roswell 46.74 167 ⇑P P 13 25 19.2 -0.1
baz=46,SNR=12

GLA Glamis 46.76 179 ⇑P P 13 25 20.1 +0.6
baz=46

Z27A Tatum 46.77 166 ⇑P P 13 25 19.2 -0.3
baz=46,SNR=5.3

Z26A Caprock 46.78 167 ⇓P P 13 25 19.2 -0.5
baz=46,SNR=10

Z20A Nine Sixteen R 46.78 172 ⇑P P 13 25 20.0 +0.4
baz=46

SCI San Clemente I 46.84 183 ⇓P P 13 25 21.1 +1.0
baz=46,SNR=7.8

SWSC Sam W. Stewart 46.87 180 ⇑P P 13 25 21.2 +0.9
baz=47,SNR=6.1

MONP Monument Peak 46.92 181 ⇓P P 13 25 21.5 +0.8
baz=47,SNR=9.2

QUIF Quistinic 47.03 58 eP P 13 25 20.4 -1.0

113A Mohawk Valley, 47.05 178 ⇓P P 13 25 22.5 +0.8
baz=47

119A Ashpeak Ranch, 47.11 173 ⇓P P 13 25 23.0 +0.8
baz=47

118A Homack Ranch, 47.23 174 ⇑P P 13 25 23.9 +0.8
baz=47,SNR=10

117A Oracle 47.28 174 ⇓P P 13 25 24.0 +0.5
baz=47,SNR=8.6

DPC Dobruska-Polom 47.29 40 eP P 13 25 23.9 +0.5

DPC Dobruska-Polom 47.29 40 eP P 13 25 23.9 +0.5

124A Stringfield Ra 47.29 168 ⇓P P 13 25 23.5 -0.1
baz=47

120A U Bar Ranch, L 47.35 172 ⇓P P 13 25 24.6 +0.5
baz=47,SNR=5.5

125A Gardner Draw, 47.36 167 ⇓P P 13 25 24.1 -0.1
baz=47,SNR=5.7

121A Cookes Peak, D 47.38 171 ⇑P P 13 25 24.5 +0.2
baz=47,SNR=6.0

127A Arkansas Junct 47.40 166 ⇓P P 13 25 24.5 +0.1
baz=47

126A Clayton Basin, 47.40 167 ⇓P P 13 25 24.5 +0.1
baz=47

PRU Pruhonice 47.44 42 eP P 13 25 26.1 +1.6

PRU Pruhonice 47.44 42 eP P 13 25 26.1 +1.6

BRVK Borovoye 47.45 355⇑ eP P 13 25 25.4 +0.8
BRVK pmax pmax
comp=Z,12nm,1.7s,mb4.5

BVAR Borovoye Array 47.48 355 P P 13 25 24.9 0.0
comp=Z,2.1nm,0.7s,mb4.2,baz=349,slow=6.2,SNR=7.0
BVAR PcP PcP 13 26 54.6 -0.2
comp=Z,5.8nm,0.8s,baz=335,slow=1.0,SNR=7.6

BVAR Borovoye Array 47.48 355 P P 13 25 24.9 0.0
BVAR PcP PcP 13 26 54.6 -0.2

BVAR Borovoye Array 47.48 355 P P 13 25 24.9 +0.1
BVAR 13 26 54.6

TUC Tucson 47.54 174 eP P 13 25 25.8 +0.2
comp=Z,14nm,1.2s,mb4.9

TUC Tucson 47.54 174 eP P 13 25 25.8 +0.3
TUC pmax pmax
comp=Z,14nm,1.2s,mb4.9

JSC Jenkinsville 47.58 141 P P 13 25 25.5 -0.3

JSC Jenkinsville 47.58 141 P P 13 25 25.5 -0.3

216A Three Points, 47.84 175 ⇓P P 13 25 28.3 +0.4
baz=48

219A White Tail Can 47.88 173 ⇓P P 13 25 28.7 +0.6
baz=48,SNR=10.0

218A Dragoon 47.89 174 ⇑P P 13 25 28.9 +0.7
baz=48,SNR=7.0

225A Deer Hill, Car 47.90 168 ⇓P P 13 25 28.2 -0.2
baz=48,SNR=9.2

224A Cornudas Mount 47.91 168 ⇑P P 13 25 27.9 -0.5
baz=48,SNR=5.8

226A Malaga, Loving 47.98 167 ⇑P P 13 25 28.7 -0.3
baz=48

220A Playas Peak, P 47.99 172 ⇓P P 13 25 28.9 -0.2
baz=48,SNR=8.0

CDF Champ du Feu 48.05 49 eP P 13 25 29.2 -0.1

227A Bennet, Jal 48.06 166 ⇑P P 13 25 29.5 -0.2
baz=48,SNR=6.8

217A Green Valley 48.07 175 ⇑P P 13 25 29.7 +0.1
baz=48

ZAK Zakamensk 48.24 327 eP P 13 25 29.6 -1.2
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.2

ZAK pmax pmax
comp=Z,10.0nm,1.7s,mb4.6

AKASG Malin Array Be 48.27 29 P P 13 25 30.7 -0.2
comp=Z,9.3nm,0.8s,mb4.9,baz=353,slow=8.4,SNR=23
AKASG PcP PcP 13 26 56.8 -0.9
comp=Z,4.4nm,0.7s,baz=350,slow=3.4,SNR=9.5

AKASG Malin Array Be 48.27 29 P P 13 25 30.7 -0.2
AKASG PcP PcP 13 26 56.8 -0.9

AKASG Malin Array Be 48.27 29 P P 13 25 30.7 -0.3
AKASG 13 26 56.8

HAU Haudompre 48.32 50 eP P 13 25 31.2 -0.2

VRAC Vranov 48.35 40 P P 13 25 31.3 -0.3
comp=Z,1.4nm,0.5s,mb4.2,baz=349,slow=10,SNR=2.9

VRAC Vranov 48.35 40 P P 13 25 31.3 -0.3

VRAC Vranov 48.35 40 P P 13 25 31.3 -0.3

318A Bisbee 48.42 174 ⇓P P 13 25 32.3 0.0
baz=48,SNR=7.4

GERES GERESS Array B 48.46 43 P P 13 25 33.2 +0.8
comp=Z,0.8nm,0.7s,mb3.9,baz=339,slow=7.1,SNR=6.1

GERES GERESS Array B 48.46 43 P P 13 25 33.2 +0.8

GERES GERESS Array B 48.46 43 P P 13 25 33.2 +0.8

VSR Storozhevoye 48.52 21 eP P 13 25 33.0 +0.1
VSR pmax pmax
comp=Z,7.0nm,0.6s,mb4.9

VSR pmax pmax
comp=N,1.0nm,0.3s

VSR pmax pmax
comp=E,6.0nm,0.6s

324A Moseley Ranch, 48.55 168 ⇓P P 13 25 32.8 -0.5
baz=48

HINF Hinteralfeld 48.58 49 eP P 13 25 33.2 -0.2

LOR Lormes 48.70 52 eP P 13 25 33.9 -0.4
comp=E,19nm,0.9s,mb4.8

328A Wristen Ranch, 48.71 165 ⇑P P 13 25 33.5 -1.1
baz=48,SNR=10

326A Caldwell Ranch 48.73 167 ⇑P P 13 25 34.1 -0.6
baz=48

MFF Saint Martin d 48.77 56 *e*P **P 13 25 34.4 -0.4**
comp=E,17nm,0.9s,mb4.8
VRHR Novokhopersk 48.79 19 *e*P **P 13 25 33.6 -1.4**
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.7s
VRHR pmax pmax
comp=Z,20nm,0.7s,mb5.3
SSF Saint Saulge 48.85 53 *e*P **P 13 25 35.0 -0.5**
comp=Z,16nm,0.9s,mb4.7
ASAJ Asahikawa 49.02 291 P **P 13 25 34.6 -2.2**
comp=Z,7.6nm,0.7s,mb4.9,baz=322,slow=9.1,SNR=7.5
ASAJ Asahikawa 49.02 291 P **P 13 25 34.6 -2.2**
ASAJ pmax pmax
comp=Z,8.0nm,0.7s
AVF Avril sur Loir 49.09 53 *e*P **P 13 25 36.9 -0.4**
427A Hayter Ranch, 49.22 166 ⇓P **P 13 25 37.9 -0.6**
baz=49,SNR=5.1
BGF Bois d'Agland 49.25 53 *e*P **P 13 25 38.0 -0.5**
comp=Z,22nm,0.7s,mb5.0
SMF Signal de Mont 49.30 52 *e*P **P 13 25 38.2 -0.8**
comp=Z,22nm,1.0s,mb4.8
426A McDonald Obser 49.37 167 ⇑P **P 13 25 38.6 -1.1**
baz=49,SNR=7.6
428A Kincaid Ranch, 49.37 165 ⇓P **P 13 25 39.5 -0.2**
baz=49
TCF Toulx Ste Croi 49.42 54 *e*P **P 13 25 39.1 -0.7**
comp=Z,12nm,0.9s,mb4.6
KURK Kurchatov 49.58 348 P **P 13 25 41.1 +0.1**
comp=Z,4.4nm,0.9s,mb4.5,baz=2.9,slow=7.7,SNR=29
KURK PcP PcP 13 27 02.0 -0.4
comp=Z,3.8nm,0.8s,baz=354,slow=3.6,SNR=10.0
KURK Kurchatov 49.58 348 P **P 13 25 41.1 +0.1**
KURK PcP PcP 13 27 02.0 -0.4
KURK Kurchatov 49.58 348 P **P 13 25 41.2 +0.2**
KURK 13 27 02.0
CABF La Chapelle 49.65 50 *e*P **P 13 25 41.6 0.0**
JCT Junction City 49.76 162 ⇓P **P 13 25 41.6 -1.1**
baz=50,SNR=6.0
JCT Junction City 49.76 162 *e*P **P 13 25 42.0 -0.7**
comp=Z,30nm,1.0s,mb5.3
JCT Junction City 49.76 162 *e*P **P 13 25 42.0 -0.7**
JCT pmax pmax
comp=Z,30nm,1.0s,mb5.3
527A Woodward Ranch 49.91 166 ⇓P **P 13 25 43.6 -0.2**
baz=50
528A Cox Ranch, San 49.93 165 ⇑P **P 13 25 43.5 -0.4**
baz=50,SNR=8.9
526A Mary Lane Ranc 49.97 167 ⇓P **P 13 25 43.7 -0.6**
baz=50,SNR=16
DAVOX Davos/Dischmat 50.00 47 P **P 13 25 45.9 +1.7**
comp=Z,2.8nm,0.8s,mb4.3,baz=337,slow=12,SNR=3.8
DAVOX Davos/Dischmat 50.00 47 P **P 13 25 45.9 +1.7**
DAVOX Davos/Dischmat 50.00 47 P **P 13 25 45.9 +1.6**
RJF Les Rejaudoux 50.28 55 *e*P **P 13 25 45.5 -0.9**
SONM Songino Array 50.45 324 P **P 13 25 48.1 +0.4**
comp=Z,9.8nm,0.9s,mb4.8,baz=352,slow=5.7,SNR=48
SONM PcP PcP 13 27 06.1 +0.5
comp=Z,3.6nm,0.9s,baz=349,slow=2.4,SNR=4.7
SONM Songino Array 50.45 324 P **P 13 25 48.1 +0.4**
SONM PcP PcP 13 27 06.1 +0.5
SONM Songino Array 50.45 324 P **P 13 25 48.1 +0.5**
SONM 13 27 06.1
626A Big Bend Ranch 50.48 167 ⇑P **P 13 25 47.6 -0.4**
baz=50
627A Terlingua Ranc 50.61 166 ⇓P **P 13 25 48.3 -0.8**
baz=50
MDJ Mudanjiang 50.61 303 P **P 13 25 48.3 -0.6**
MDJ pmax pmax
comp=Z,20nm,3.8s
MDJ pmax pmax
comp=Z,470nm,4.6s
TXAR Lajitas Array 50.72 167 P **P 13 25 49.3 -0.6**
comp=Z,2.7nm,0.7s,mb4.3,baz=14,slow=3.6,SNR=25
TXAR Lajitas Array 50.72 167 P **P 13 25 49.3 -0.6**
TXAR Lajitas Array 50.72 167 P **P 13 25 49.3 -0.6**
ERM Erimo 50.97 290 *c i*P **P 13 25 51.3 -0.3**
ERM pmax pmax
comp=Z,49nm,1.2s,mb5.3
CN2 Changchun 52.02 307 *e*P **P 13 25 59.8 +0.3**
MLR Muntele Rosu 53.13 33 P **P 13 26 08.8 +1.2**
comp=Z,2.6nm,1.0s,mb4.1,baz=12,slow=2.3,SNR=8.2
MLR Muntele Rosu 53.13 33 P **P 13 26 08.8 +1.2**
MLR Muntele Rosu 53.13 33 P **P 13 26 08.8 +1.1**
MKAR Makanchi Array 53.34 345 P **P 13 26 08.4 -0.8**
comp=Z,7.0nm,0.8s,mb4.6,baz=5.6,slow=6.4,SNR=21
MKAR Makanchi Array 53.34 345 P **P 13 26 08.4 -0.8**
MKAR Makanchi Array 53.34 345 P **P 13 26 08.4 -0.8**
ESDC Sonseca Array 54.95 61 P **P 13 26 21.2 +0.2**
comp=Z,1.0nm,0.5s,mb4.1,baz=351,slow=7.9,SNR=15
ESDC Sonseca Array 54.95 61 P **P 13 26 21.2 +0.2**
EVO Evora 55.41 65 *e*P **P 13 26 23.0 -1.4**
comp=Z,9.6nm,0.7s,mb4.6
KIV Kislovodsk 55.97 19 *e*P **P 13 26 29.0 +0.7**
KIV pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
WMQ Urumqi 56.01 340 P **P 13 26 29.3 +0.7**
WMQ pP pP 13 26 33.9 +2.1
WMQ sP sP 13 26 36.3 +3.3
WMQ PP PP 13 28 36.1 +3.1
WMQ pmax pmax
comp=Z,17nm,0.9s,mb5.1
WMQ LR LR
comp=N,790nm,14.9s,MS5.1
WMQ LR LR
comp=E,700nm,14.4s,MS5.1
WMQ LR LR
comp=Z,410nm,29.5s
HHC Hu-ho-hao-te 56.77 318 *e*P **P 13 26 37.9 +3.9**
HHC sP sP 13 26 44.0 +5.6
HHC S **S 13 34 27.8 +1.4**
HHC ScS ScS 13 36 23.3 +0.6
HHC pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
HHC pmax pmax
comp=Z,1μm,7.0s
HHC LR LR
comp=N,840nm,14.3s,MS5.0
HHC LR LR
comp=E,520nm,15.5s,MS5.0
HHC LR LR
comp=Z,900nm,15.5s,MS5.0
BJI Beijing 56.99 314 P **P 13 26 34.9 -0.7**
BJI pmax pmax
comp=Z,18nm,0.9s,mb5.1
MAT Matsushiro 57.13 293 P **P 13 26 35.5 -1.2**
MJAR Matsushiro Arr 57.13 293 P **P 13 26 35.8 -0.9**
comp=Z,7.7nm,0.9s,mb4.8,baz=358,slow=7.2,SNR=15
MJAR Matsushiro Arr 57.13 293 P **P 13 26 35.8 -0.9**
MJAR Matsushiro Arr 57.13 293 P **P 13 26 35.8 -0.9**
USP Ospenovka 57.16 351 P **P 13 26 37.2 +0.5**
SNR=9.8
ZEI Tsey 57.22 18 *e*P **P 13 26 37.2 0.0**
ZEI pmax pmax
comp=Z,12nm,1.1s,mb4.8
TKM2 Tokmak 2 57.47 350 P **P 13 26 39.8 +0.8**
SNR=11
TKM2 Tokmak 2 57.47 350 *i*P **P 13 26 39.8 +0.8**
FRU Bishkek 57.59 351 *e*P **P 13 26 40.0 +0.2**
EKS2 Erkin-Say 57.78 352 P **P 13 26 42.3 +1.1**
SNR=5.3
AAK Ala-Archa 57.79 351 P **P 13 26 41.8 +0.6**
SNR=9.2
AAK Ala-Archa 57.79 351 *i*P **P 13 26 41.7 +0.5**
KSRS Korea Array 57.87 303 P **P 13 26 41.0 -0.9**
comp=Z,4.8nm,1.0s,mb4.5,baz=3.8,slow=7.5,SNR=6.2
KSRS Korea Array 57.87 303 P **P 13 26 41.0 -0.9**
KSRS pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
KSAR Wonju Array Be 57.89 303 P **P 13 26 41.0 -1.0**
KSAR Wonju Array Be 57.89 303 P **P 13 26 41.0 -1.0**
AML Almayashu 58.31 352 P **P 13 26 46.4 +1.5**
SNR=12
GTA Gaotai 59.45 329 *e*P **P 13 26 53.4 +0.6**
GTA pP pP 13 26 57.8 +1.8
GTA sP sP 13 27 00.8 +3.6
GTA S **S 13 35 00.4 -1.1**
GTA sS sS 13 35 08.3 +1.6
GTA SS SS 13 38 57.3 +1.7
GTA pmax pmax
comp=Z,19nm,1.1s,mb5.0
GTA pmax pmax
comp=Z,380nm,6.4s
GTA LR LR
comp=N,680nm,14.0s,MS5.0
GTA LR LR
comp=E,420nm,15.2s,MS5.0
GTA LR LR
comp=Z,650nm,15.4s,MS4.9
BRTR Keskin Array B 59.54 27 P **P 13 26 54.2 +0.7**
comp=Z,2.7nm,0.9s,mb4.3,baz=342,slow=3.2,SNR=12
BRTR PcP PcP 13 27 40.6 -0.1
comp=Z,3.2nm,0.8s,baz=14,slow=2.1,SNR=6.6
BRTR Keskin Array B 59.54 27 P **P 13 26 54.2 +0.7**
BRTR PcP PcP 13 27 40.6 -0.1
BRTR Keskin Array B 59.54 27 P **P 13 26 54.2 +0.7**
BRTR 13 27 40.7
GNI Garni 59.88 17 ⇑ *e*P **P 13 26 57.5 +1.7**
GNI pmax pmax
comp=Z,12nm,1.2s
KEST Kesra 60.79 50 P **P 13 27 02.9 +0.9**
comp=Z,2.7nm,0.7s,mb4.5,baz=328,slow=4.4,SNR=6.0
KEST Kesra 60.79 50 P **P 13 27 02.9 +0.9**
KSH Kashi 60.85 350 P **P 13 27 05.8 +3.3**
KSH pP pP 13 27 10.3 +4.6
KSH sP sP 13 27 12.8 +5.9
KSH PcP PcP 13 27 48.8 +2.8
KSH PP PP 13 29 22.3 +6.3
KSH ScP ScP 13 31 48.3 +1.4
KSH PcS PcS 13 31 50.0 +1.4
KSH S **S 13 35 21.3 +1.7**
KSH sS sS 13 35 29.8 +5.0
KSH ScS ScS 13 36 52.6 -0.4
KSH SS SS 13 39 22.8 +5.1
KSH pmax pmax
comp=Z,14nm,1.2s,mb5.0
KSH pmax pmax
comp=Z,230nm,6.9s
KSH LR LR
comp=N,200nm,8.2s
KSH LR LR
comp=E,130nm,4.9s
KSH LR LR
comp=Z,240nm,10.6s,MS4.6
MDT Midelt 61.55 63 P **P 13 27 07.6 +0.3**
comp=Z,2.6nm,0.6s,mb4.5,baz=341,slow=4.6,SNR=6.1
MDT Midelt 61.55 63 P **P 13 27 07.6 +0.4**
ISHB Shabestar 61.78 17 *e*P **P 13 27 10.0 +1.3**
LZH Lanzhou 62.34 324 *e*P **P 13 27 13.4 +0.9**
LZH pP pP 13 27 17.5 +1.8
LZH sP sP 13 27 19.4 +2.5
LZH pmax pmax
comp=Z,29nm,1.3s,mb5.2
LZH pmax pmax
comp=Z,130nm,4.5s
IKRD Kardeh 63.73 5 *e*P **P 13 27 22.8 +1.1**
XAN Xi'an 63.80 320 P **P 13 27 21.1 -1.1**
XAN pP pP 13 27 29.6 +4.1
XAN pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
IMYA Miami 64.18 4 *e*P **P 13 27 25.9 +1.2**
NJ2 Nanjing 64.49 310 *e*P **P 13 27 32.1 +5.3**
NJ2 pmax pmax
comp=Z,40nm,1.0s,mb5.4
IDMV Damavand 64.76 11 *e*P **P 13 27 29.4 +0.9**
CBIJ Chichi jima 65.69 287 P **P 13 27 32.2 -2.4**
comp=Z,43nm,0.8s,mb5.6,baz=41,slow=20,SNR=3.6
WHN Wuhan 66.58 314 P **P 13 27 39.6 -0.7**
IZEF Zefreh 67.44 11 *e*P **P 13 27 46.9 +1.1**
CD2 Chengdu 67.47 324 P **P 13 27 46.6 +0.6**
CD2 pP pP 13 27 51.3 +2.1
CD2 sP sP 13 27 53.4 +3.0
CD2 PP PP 13 30 16.8 +2.6
CD2 S S 13 36 40.9 -0.8
CD2 sS sS 13 36 48.3 +1.3
CD2 SS SS 13 41 02.0 +1.0
CD2 pmax pmax
comp=Z,30nm,0.6s,mb5.5
CD2 pmax pmax
comp=Z,310nm,10.1s
CD2 LR LR
comp=N,750nm,14.9s
CD2 LR LR
comp=Z,840nm,13.7s,MS5.1
IPIR Pirpir 67.60 12 *e*P **P 13 27 47.2 +0.4**
IBAF Bafgh 68.84 8 *e*P **P 13 27 54.3 -0.2**
IMEH Mehriz 69.01 9 *e*P **P 13 27 56.0 +0.4**
MIB Mutribah 70.31 16 *e*P **P 13 28 04.0 +0.4**
MIB AMb AMB 13 28 05.1
comp=Z,74nm,1.0s,mb5.6
KKR Kurukshetra 70.35 349 *e*PKP **P 13 28 04.5 +0.6**
UMR Umm Al-Rimmam 70.58 15 *e*P **P 13 28 05.8 +0.5**
NAY Al-Naaiem 70.86 16 *e*P **P 13 28 07.1 +0.1**
NAY AMb AMB 13 28 08.1
comp=Z,16nm,1.1s,mb4.9
RTK Rohtak 71.29 349 *e*PKP **P 13 28 09.4 -0.2**
GYA Guiyang 71.55 321 *e*P **P 13 28 14.0 +2.8**
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
BHGR Bahadurgarh 71.61 348 *e*PKP **P 13 28 09.3 -2.3**
DANN Dangsing 71.64 342 *e*P **P 13 28 11.9 +0.2**
comp=Z,160nm,0.9s,mb6.0
AYAN Aya Nagar 71.81 348 *ex* x 13 28 06.9
PYUN Piuthan 71.93 343 *e*P **P 13 28 13.1 -0.4**
comp=Z,83nm,1.1s,mb5.6
GKN Gorkha 71.93 341 *e*P **P 13 28 13.4 -0.1**
comp=Z,115nm,1.0s,mb5.8
GUN Gumba 71.95 340 *e*P **P 13 28 13.8 +0.2**
comp=Z,191nm,1.0s,mb6.0
SONA Sohna 72.05 348 *e*PKP **P 13 28 13.4 -0.7**
KKN Kakani 72.11 341 *e*P **P 13 28 15.0 +0.4**
comp=Z,168nm,0.9s,mb6.0
KOLN Koldanda 72.22 342 *e*P **P 13 28 14.7 -0.6**
comp=Z,35nm,0.9s,mb5.3
KHET Khetri 72.27 349 *e*PKP **P 13 28 15.1 -0.5**
KHET AMb AMB 13 28 17.1
comp=Z,16nm,1.4s,mb4.8
DMN Daman 72.30 341 *e*P **P 13 28 16.2 +0.5**
comp=Z,147nm,0.9s,mb5.9
PKI Pulchoki 72.32 340 *e*P **P 13 28 16.1 +0.3**
comp=Z,117nm,1.0s,mb5.8
TAPN Taplejung 72.39 338 *e*P **P 13 28 16.7 +0.4**
comp=Z,86nm,0.9s,mb5.7
RAMN Ramite 72.86 339 *e*P **P 13 28 19.1 0.0**
comp=Z,108nm,0.9s,mb5.8
ODAN Odare 72.90 339 *e*P **P 13 28 19.7 +0.4**
comp=Z,95nm,0.8s,mb5.8
AGRA Agra 73.03 347 *e*PKP **P 13 28 19.4 -0.6**
KMI Kunming 73.30 324 P **P 13 28 22.3 +0.6**
KMI pP pP 13 28 27.3 +2.4
KMI sP sP 13 28 29.6 +3.5
KMI pmax pmax
comp=Z,15nm,1.1s,mb4.8
SHL Shillong 73.86 334 ⇑ *i*P **P 13 28 25.0 0.0**
BHPL Bhopal 77.02 348 *e*PKP **P 13 28 42.4 -0.7**
BHPL AMb AMB 13 28 44.8
comp=Z,27nm,1.5s,mb5.0
CMAR Chiang Mai Arr 80.28 327 P **P 13 29 00.1 -1.0**
comp=Z,8.7nm,0.9s,mb4.7,baz=351,slow=6.3,SNR=7.2
CMAR Chiang Mai Arr 80.28 327 P **P 13 29 00.1 -1.0**
CMAR Chiang Mai Arr 80.28 327 P **P 13 29 00.1 -1.0**
POO Poona 81.82 351 *e*PKP **P 13 29 09.2 -0.2**
TORD Torodi Ar. Bea 81.84 61 P **P 13 29 08.8 -0.7**
comp=Z,7.5nm,0.8s,mb4.7,baz=332,slow=5.2,SNR=46
TORD Torodi Ar. Bea 81.84 61 P **P 13 29 08.8 -0.7**
HYB Hyderabad 82.76 346 *i*P **P 13 29 13.5 -0.8**
KAD Karad 83.03 351 *e*PKP **P 13 29 15.3 -0.3**
DBIC Dimbokro 87.12 68 P **P 13 29 35.3 -0.9**
comp=Z,2.5nm,0.8s,mb4.5,baz=336,slow=10.0,SNR=2.8
DBIC Dimbokro 87.12 68 P **P 13 29 35.3 -0.9**
DBIC Dimbokro 87.12 68 P **P 13 29 35.3 -0.9**
PSI Prapat 95.76 325 P **P 13 30 14.7 -1.7**
comp=Z,13nm,0.9s,mb5.3,baz=285,slow=0.1,SNR=5.0
PSI Prapat 95.76 325 P **P 13 30 14.7 -1.7**
PSI Prapat 95.76 325 P **P 13 30 14.7 -1.7**
WRA Warramunga Arr 113.06 286 PKiKP PKiKP 13 35 24.9 -2.3
comp=Z,0.6nm,0.6s,baz=344,slow=2.1,SNR=15
WRA PP PP 13 36 12.0 -4.5
comp=Z,1.5nm,1.0s,baz=17,slow=7.9,SNR=5.0
WRA PKKPab PKKPab 13 46 19.4 -0.9
comp=Z,0.2nm,0.6s,baz=196,slow=2.8,SNR=4.8
WRA Warramunga Arr 113.06 286 PKPdf PKiKP 13 35 24.9 -2.3
WRA PP PP 13 36 12.0 -4.5
WRA PKKPab PKKPab 13 46 19.4 -0.9
WRA Warramunga Arr 113.06 286 PKiKP PKiKP 13 35 24.9 -2.2
ASAR Alice Springs 116.77 286 PKP PKPdf 13 35 32.1 -2.1
comp=Z,1.6nm,0.7s,baz=13,slow=2.0,SNR=28
ASAR PKKPbc PKKPbc 13 45 59.5 +1.8
comp=Z,0.3nm,0.7s,baz=173,slow=3.4,SNR=4.9
ASAR Alice Springs 116.77 286 PKP PKPdf 13 35 32.1 -2.1
ASAR PKKPbc PKKPbc 13 45 59.5 +1.8
ASAR Alice Springs 116.77 286 PKIKP PKPdf 13 35 32.1 -2.1
STKA Stephens Creek 123.43 276 PKP PKPdf 13 35 44.6 -2.1
comp=Z,2.2nm,0.9s,baz=66,slow=6.9,SNR=6.1
STKA Stephens Creek 123.43 276 PKP PKPdf 13 35 44.6 -2.1
STKA Stephens Creek 123.43 276 PKIKP PKPdf 13 35 44.6 -2.1
PMSA Palmer Station 147.22 142 PKPbc PKPbc 13 36 31.7 -0.2
comp=Z,11nm,0.7s,baz=315,slow=1.4,SNR=3.2
PMSA Palmer Station 147.22 142 PKPbc PKPbc 13 36 31.7 -0.2
VNDA Vanda 162.75 227 PKPab PKPab 13 37 38.5 -0.9
comp=Z,3.1nm,0.9s,baz=342,slow=4.0,SNR=12
VNDA Vanda 162.75 227 PKP2 PKPab 13 37 38.6 -0.8
VNDA pmax pmax
comp=Z,3.0nm,0.9s
SNAA Sanae 162.78 100 PKP PKPdf 13 36 49.0 -1.4
comp=Z,0.5nm,1.0s,baz=207,slow=4.5,SNR=2.8
SNAA PKPab PKPab 13 37 38.0 -1.6
comp=Z,0.6nm,0.8s,baz=231,slow=8.0,SNR=5.8
SNAA Sanae 162.78 100 PKP PKPdf 13 36 49.0 -1.4
SNAA PKPab PKPab 13 37 38.0 -1.6
SNAA Sanae 162.78 100 PKIKP PKPdf 13 36 49.0 -1.4
SNAA 13 37 38.0
MAW Mawson 167.83 3 PKPab PKPab 13 38 02.4 +0.4
comp=Z,2.6nm,0.8s,baz=279,slow=5.4,SNR=3.6
MAW Mawson 167.83 3 PKP2 PKPab 13 38 02.4 +0.5
MAW pmax pmax
comp=Z,3.0nm,0.8s

BJI ***17*** *13:40:05.3, 79.˚70N× 115.˚50W, h10km, mB5.4/27, mb5.2/48, Ms5.3/35, Ms7 5.0/35*
ISCJB ***17*** *13:40:09.8±0.1, 79.˚707N±0.˚010× 115.˚6W±0.˙1, h10km, mb5.2/354, MS4.8/64, Error ellipse: s-maj=2.8km s-min=1.3km az=11.4*
MOS ***17*** *13:40:09.5±0.9, 79.˚62N× 115.˚69W, h10km, mb5.3/104, MS4.7/23, Error ellipse: s-maj=25.7km s-min=3.2km az=87.4*
IDC ***17*** *13:40:09.6±0.3, 79.˚67N× 115.˚82W, h0km, mb4.9/44, mb1 4.9/46, mb1mx4.9/48, mbtmp4.9/46, ML5.0/2, MS4.8/34, Ms1 4.8/34, ms1mx4.6/47, Error ellipse: s-maj=10.6km s-min=8.1km az=105.0*
OTT ***17*** *13:40:11.1±0.6, 79.˚39N× 115.˚04W, h18km, mb5.6/29, Arctic Ocean. 253km west from Isachsen, Nu*
NEIC ***17*** *13:40:11.5±0.1, 79.˚68N× 115.˚65W, h10km, mb5.1/204, ML5.7(OTT), Error ellipse: s-maj=3.0km s-min=1.8km az=110.0*
GCMT ***17*** *13:40:12.1±0.1, 79.˚64N× 116.˚09W, h12km, MW5.3, Moment Tensor Solution. s89,c140; s4,c4; Moment tensor: Scale 10*^{17}*Nm; Mrr1.13±.02; Mθθ-0.43±.02; Mφφ-0.70±.02; Mrθ0.16±.05; Mrφ-0.62±.02; Mθφ-0.11±.05; Best double couple: M01.20000×10*^{17} *NP1:φ209.00000°, δ46.00000°, λ76.00000°. NP2:φ49.00000°, δ46.00000°, λ104.00000°. Principal axes: T 1.1600, Plg80.0000°, Azm37.0000°; N 0.0400, Plg10.0000°, Azm219.0000°; P -1.2000, Plg0.0000°, Azm129.0000°; Data Used: II IU IC G CN. Surface waves: sta=102, comp=192, per= 50.*
DJA ***17*** *13:40:14, 79.˚99N× 115.˚81W, h10km, mb5.4/7*
ISC 17 13:40:10.5±1.0, 79.˚70N±0.˚01× 115.˚7W±0.˚1, h2km±6km, n1248, σ0.977/1247, mb5.2/354, MS4.8/64, 209C-212D, Arctic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUNU	**Eureka**	**5.13**	**72**	Pn	**Pn**	**13 41 26.6**	**-1.5**
EUNU	**Eureka**	**5.13**	**72**	PN	**Pn**	**13 41 26.6**	**-1.5**
EUNU				mb		13 41 28.1	
	comp=Z,300nm,0.3s						
EUNU				SN	**Sn**	**13 42 18.8**	**-9.0**
EUNU				Trac		13 42 26.9	
	comp=Z,1μm,0.5s						
RES	**Resolute Bay**	**6.77**	**127**	Pn	**Pn**	**13 41 45.9**	**-4.8**
	121nm,0.3s,baz=324,slow=13,SNR=1557						
RES				Sn	**Sn**	**13 42 56.9**	**-11**
	153nm,0.3s,baz=304,slow=23,SNR=11						
RES				LR	LR	13 45 00.2	
	comp=Z,8μm,18.3s,baz=354,slow=43						
RES	**Resolute Bay**	**6.77**	**127**	*e*Pn	**Pn**	**13 41 45.7**	**-5.0**
	2.0nm,1.0s						
RES				*e*S	**Sn**	**13 42 58.4**	**-10**
RES	**Resolute Bay**	**6.77**	**127**	*e*P	**Pn**	**13 41 45.7**	**-5.0**
RES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
RES	**Resolute Bay**	**6.77**	**127**	PN	**Pn**	**13 41 46.0**	**-4.7**
RES				mb		13 41 49.3	
	comp=Z,493nm,0.2s						
RES				SN	**Sn**	**13 42 58.2**	**-10**
RES				Trac		13 43 01.2	
	comp=Z,619nm,0.5s						
ALE	**Alert**	**8.39**	**46**	Pn	**Pn**	**13 42 12.0**	**-0.9**
	comp=Z,654nm,0.6s,SNR=19						
CB31	**Cambridge Bay**	**10.97**	**160**	PN	**Pn**	**13 42 41.5**	**-6.6**
CB31				mb		13 42 46.1	
	comp=Z,489nm,0.2s						
CB31				SN	**Sn**	**13 44 33.8**	**-17**
CB31				Trac		13 44 43.0	
	comp=Z,1μm,0.5s						
INK	**Inuvik**	**12.36**	**212**	Pn	**Pn**	**13 43 02.0**	**-5.1**
	comp=Z,6.2nm,0.3s,baz=13,slow=17,SNR=81						
INK				Sn	**Sn**	**13 45 09.2**	**-16**
	comp=Z,14nm,0.3s,baz=304,slow=31,SNR=11						
INK	**Inuvik**	**12.36**	**212**	*e*P	**Pn**	**13 43 01.9**	**-5.1**
	comp=Z,26nm,0.5s						
INK				*e*S	**Sn**	**13 45 10.5**	**-15**
INK	**Inuvik**	**12.36**	**212**	*e*P	**Pn**	**13 43 01.9**	**-5.2**
INK				pmax	pmax		
	comp=Z,26nm,0.5s						
INK	**Inuvik**	**12.36**	**212**	PN	**Pn**	**13 43 01.2**	**-5.9**
INK				mb		13 43 06.6	
	comp=Z,16nm,0.3s						
INK				SN	**Sn**	**13 45 07.0**	**-18**
INK				Trac		13 45 14.3	
	comp=Z,84nm,0.5s						
KUGN	**Kugaaruk Camp,**	**13.43**	**136**	PN	**Pn**	**13 43 13.2**	**-8.4**
KUGN				mb		13 43 20.4	
	comp=Z,64nm,0.3s						
KUGN				SN	**Sn**	**13 45 41.3**	**-10**
KUGN				Trac		13 45 51.4	
	comp=Z,283nm,1.1s						
JERN	**Jeri Cho Mine,**	**13.81**	**173**	PN	**Pn**	**13 43 20.1**	**-6.8**
JERN				mb		13 43 23.2	
	comp=Z,83nm,0.3s						
JERN				SN	Sn	13 45 38.8	-22
JERN				Trac		13 45 49.2	
	comp=Z,144nm,0.6s						
STLN	**Stellar Camp,**	**13.82**	**141**	PN	**Pn**	**13 43 19.4**	**-7.7**
STLN				mb		13 43 22.1	
	comp=Z,141nm,0.4s						
STLN				SN	**Sn**	**13 45 42.6**	**-18**
STLN				Trac		13 45 48.1	
	comp=Z,163nm,0.8s						
SRLN	**Sarcpa Lake, N**	**13.92**	**125**	PN	**Pn**	**13 43 21.0**	**-7.3**
SRLN				SN	**Sn**	**13 45 43.7**	**-19**
SRLN				Trac		13 46 07.0	
	comp=Z,122nm,0.7s						
BULN	**Bullion Camp,**	**14.69**	**143**	PN	**Pn**	**13 43 30.9**	**-7.9**
BULN				mb		13 43 34.7	
	comp=Z,95nm,0.3s						
BULN				SN	**Sn**	**13 46 02.5**	**-19**
BULN				Trac		13 46 06.6	
	comp=Z,172nm,0.7s						
QILN	**Qiliulgaq Expl**	**15.26**	**132**	PN	**Pn**	**13 43 38.4**	**-8.2**
QILN				mb		13 43 46.9	
	comp=Z,43nm,0.3s						
QILN				SN	**Sn**	**13 46 15.3**	**-21**
QILN				Trac		13 46 31.7	
	comp=Z,110nm,0.8s						
CTLN	**Castor Lake**	**15.36**	**181**	PN	**Pn**	**13 43 40.7**	**-7.1**
CTLN				mb		13 43 43.8	
	comp=Z,84nm,0.6s						
CTLN				SN	**Sn**	**13 46 22.1**	**-16**
CTLN				Trac		13 46 54.6	
	comp=Z,88nm,0.5s						
COLD	**Coldfoot**	**15.47**	**236**	*e*Pn	**Pn**	**13 43 46.3**	**-3.0**
	comp=Z,31nm,0.7s						
ILKN	**Indian Lake**	**15.56**	**179**	PN	**Pn**	**13 43 44.1**	**-6.4**
ILKN				mb		13 43 49.0	
	comp=Z,123nm,0.3s						
ILKN				SN	**Sn**	**13 46 24.1**	**-19**
ILKN				Trac		13 47 03.1	

comp=Z,294nm,0.6s
WAGN Wager Bay 15.61 138 PN **Pn** **13 43 43.4 -7.7**
WAGN mb 13 43 46.3
comp=Z,67nm,0.2s
WAGN SN **Sn** **13 46 26.4 -18**
WAGN Trac 13 46 28.0
comp=Z,358nm,1.3s
GALN Gameti Lake 15.68 183 PN **Pn** **13 43 44.6 -7.4**
GALN mb 13 43 47.0
comp=Z,101nm,0.5s
GALN SN **Sn** **13 46 26.3 -20**
GALN Trac 13 46 31.2
comp=Z,127nm,0.6s
NUNN Nunuq Camp, NU 16.06 141 PN **Pn** **13 43 49.0 -7.9**
NUNN mb 13 43 51.6
comp=Z,67nm,0.3s
NUNN SN **Sn** **13 46 40.0 -15**
NUNN Trac 13 46 50.9
comp=Z,135nm,0.8s
YBKN Baker Lake, Hu 16.42 149 PN **Pn** **13 43 51.8 -10**
YBKN mb 13 43 56.3
comp=Z,102nm,0.5s
YBKN SN Sn 13 46 42.7 -21
YBKN Trac 13 46 47.9
comp=Z,220nm,0.9s
EGAK Eagle 16.59 220 *e*P **Pn** **13 43 59.2 -4.6**
comp=Z,56nm,0.8s
COKN Cook Lake 16.64 169 PN **Pn** **13 43 56.4 -8.0**
COKN mb 13 43 59.9
comp=Z,88nm,0.5s
COKN SN Sn 13 46 47.4 -22
COKN Trac 13 46 52.5
comp=Z,211nm,1.0s
DAWY Dawson 17.08 217 *e*P **Pn** **13 44 04.6 -5.3**
DAWY Dawson 17.08 217 PN **Pn** **13 44 04.4 -5.6**
DAWY mb 13 44 17.0
comp=Z,49nm,0.8s
DAWY SN **Sn** **13 47 00.7 -19**
DAWY Trac 13 47 10.4
comp=Z,35nm,0.5s
YKW3 Yellowknife Ar 17.24 178 PN **Pn** **13 44 05.7 -6.2**
YKW3 mb 13 44 10.3
comp=Z,126nm,0.4s
YKW3 mb 13 44 10.6
comp=Z,191nm,0.5s
YKW3 SN Sn 13 47 01.8 -22
YKW3 Trac 13 47 22.1
comp=Z,89nm,0.6s
YKA Yellowknife Ar 17.30 178 Pn **Pn** **13 44 06.1 -6.6**
comp=Z,15nm,0.3s,baz=358,slow=12,SNR=180
YKA Sn **Sn** **13 47 05.7 -20**
comp=Z,8.2nm,0.3s,baz=42,slow=31,SNR=8.5
YKA LR LR 13 51 08.5
comp=Z,154nm,21.8s,baz=215,slow=38
YKA P3KPbc 14 19 13.3
comp=Z,0.1nm,0.3s,baz=165,slow=5.1,SNR=5.6
YKA Yellowknife Ar 17.30 178 Pn **Pn** **13 44 06.1 -6.6**
YKA Sn **Sn** **13 47 05.7 -20**
YKA LR LR 13 51 08.5
YKA Yellowknife Ar 17.30 178 P **Pn** **13 44 06.1 -6.6**
ILAR Eielson Array 17.31 228 Pn **Pn** **13 44 10.7 -2.1**
comp=Z,1.6nm,0.3s,baz=9.5,slow=15,SNR=82
ILAR Sn **Sn** **13 47 12.5 -13**
comp=Z,2.0nm,0.3s,baz=15,slow=25,SNR=5.9
ILAR LR LR 13 52 03.2
comp=Z,1μm,19.9s,baz=22,slow=41
ILAR Eielson Array 17.31 228 Pn **Pn** **13 44 10.7 -2.1**
ILAR Sn **Sn** **13 47 12.5 -13**
ILAR LR LR 13 52 03.2
ILAR Eielson Array 17.31 228 P **Pn** **13 44 10.7 -2.1**
COLA College 17.35 230 *e*P **Pn** **13 44 10.4 -2.9**
comp=Z,115nm,1.4s
COLA College 17.35 230 *e*P **Pn** **13 44 10.4 -2.9**
COLA pmax pmax
comp=Z,115nm,1.4s
WHFN White Fish Lak 17.41 167 PN **Pn** **13 44 07.8 -6.3**
WHFN mb 13 44 13.3
comp=Z,51nm,0.3s
WHFN SN Sn 13 47 06.3 -22
WHFN Trac 13 47 24.9
comp=Z,245nm,1.2s
DAG Danmarks Havn 17.79 48 *i* P **Pn** **13 44 16.1 -2.6**
DAG *e* 13 47 33.0
DAG MLR MLR
comp=Z,4μm,14.0s
SEDN First Sedna Si 17.95 143 PN **Pn** **13 44 13.4 -7.4**
SEDN mb 13 44 18.0
comp=Z,80nm,0.3s
SEDN SN Sn 13 47 16.8 -24
SEDN Trac 13 47 24.8
comp=Z,157nm,1.2s
GDLN Gardenia Lake, 18.00 165 PN **Pn** **13 44 15.1 -6.3**
GDLN mb 13 44 17.9
comp=Z,35nm,0.3s
GDLN SN **Sn** **13 47 23.1 -19**
GDLN Trac 13 47 25.8
comp=Z,74nm,0.3s
JOSN Second Sedna S 18.00 143 PN **Pn** **13 44 14.2 -7.2**
JOSN mb 13 44 16.5
comp=Z,120nm,0.5s
JOSN SN Sn 13 47 16.8 -25
JOSN Trac 13 47 21.6
comp=Z,300nm,1.4s
DOT Dot Lake 18.03 223 *e*P **Pn** **13 44 21.2 -0.5**
comp=Z,170nm,1.1s
SUMG Summit 18.20 70 *e*Pn **Pn** **13 44 19.3 -4.4**
comp=Z,309nm,1.0s
SUMG Summit 18.20 70 *e*P **Pn** **13 44 19.3 -4.4**
SUMG pmax pmax
comp=Z,309nm,1.0s
SUMG Summit 18.20 70 *i* P **Pn** **13 44 19.5 -4.2**
comp=Z,208nm,0.9s
SUMG *i* 13 47 25.5
MCK McKinley 18.59 230 *e*P **Pn** **13 44 28.1 -0.4**
comp=Z,85nm,1.2s
MCK McKinley 18.59 230 *e*P **Pn** **13 44 28.1 -0.4**
MCK pmax pmax
comp=Z,85nm,1.2s
MENT Mentasta 18.67 222 *e*P **Pn** **13 44 29.4 -0.2**
PAX Paxson 18.86 225 *e*P **Pn** **13 44 31.1 -0.7**
comp=Z,66nm,0.9s
PAX Paxson 18.86 225 *e*P **Pn** **13 44 31.1 -0.7**
PAX pmax pmax
comp=Z,66nm,0.9s
TRF Thorofare Moun 19.04 232 *e*P **Pn** **13 44 34.1 0.0**
comp=Z,151nm,1.2s
ARVN Arviat, NU 19.78 148 PN **Pn** **13 44 35.3 -7.5**
ARVN mb 13 44 38.9
comp=Z,281nm,1.1s
ARVN SN Sn 13 48 00.9 -24
PPLA Purkeypile 19.84 233 *e*P **Pn** **13 44 43.0 -0.6**
comp=Z,70nm,0.9s
WHY Whitehorse 19.99 208 PN **Pn** **13 44 44.0 -1.3**
WHY mb 13 44 46.6
comp=Z,146nm,1.8s
WHY SN **Sn** **13 48 16.3 -14**
WHY Trac 13 48 24.3
comp=Z,39nm,1.4s
SPITS Spitsbergen Ar 20.33 26 P **P** **13 44 45.4 -1.9**
comp=Z,15nm,1.0s,baz=288,slow=8.0,SNR=1.9
SPITS LR LR 13 52 01.4
comp=Z,2μm,18.3s,MS4.4,baz=355,slow=35
SPITS Spitsbergen Ar 20.33 26 P **P** **13 44 45.4 -1.9**
SPITS LR LR 13 52 01.4
SPITS Spitsbergen Ar 20.33 26 P **P** **13 44 45.4 -1.9**
SML Sawmill 20.35 228 *e*P **P** **13 44 47.5 -0.1**
comp=Z,28nm,1.0s
SML Sawmill 20.35 228 *e*P **P** **13 44 47.5 -0.1**
SML pmax pmax
comp=Z,28nm,1.0s
PMR Palmer 20.66 228 *e*P **P** **13 44 51.9 +0.9**
comp=Z,35nm,1.0s
PMR Palmer 20.66 228 *e*P **P** **13 44 51.9 +0.9**
PMR pmax pmax
comp=Z,35nm,1.0s
DIV Divide 20.68 224 *e*P **P** **13 44 51.1 0.0**
comp=Z,119nm,1.4s
FRB Frobisher Bay 20.69 113 P **P** **13 44 48.8 -2.5**
comp=Z,56nm,0.9s,baz=340,slow=11,SNR=12
FRB S **S** **13 48 24.2 -18**
comp=Z,62nm,1.0s,baz=74,slow=19,SNR=3.2
FRB LR LR 13 53 27.0
comp=Z,4μm,20.0s,MS4.7,baz=350,slow=38
FRB Frobisher Bay 20.69 113 P **P** **13 44 48.8 -2.5**
FRB S **S** **13 48 24.2 -18**
FRB LR LR 13 53 27.0
FRB Frobisher Bay 20.69 113 P **P** **13 44 48.8 -2.5**
FRB Frobisher Bay 20.69 113 PN **P** **13 44 47.7 -3.6**
FRB SN S 13 48 19.4 -23
BMRM Bremner River 20.69 222 *e*P **P** **13 44 50.8 -0.6**
comp=Z,57nm,1.1s
SFJD Kangerlussuaq 20.87 90 *e*P **P** **13 44 52.2 -1.0**
comp=Z,72nm,1.0s
SFJD Kangerlussuaq 20.87 90 *e*P **P** **13 44 52.3 -0.9**
SFJD pmax pmax
comp=Z,72nm,1.0s
SFJD Kangerlussuaq 20.87 90 *i* P **P** **13 44 52.1 -1.1**
comp=Z,31nm,0.9s
FNBB Fort Nelson 21.04 191 PN **P** **13 44 52.6 -2.5**
FNBB mb 13 45 04.8
comp=Z,131nm,0.8s
FNBB SN **S** **13 48 34.3 -15**
SKAG Skagway 21.21 208 *e*P **P** **13 44 58.8 +1.9**
comp=Z,1.9nm,0.7s
PNL Peninsula 21.39 214 *e*P **P** **13 44 58.6 -0.2**
comp=Z,58nm,1.2s,mb4.8
SPU Mount Spurr 21.46 232 *e*P **P** **13 44 59.7 +0.1**
DLBC Dease Lake 21.83 201 P **P** **13 45 03.2 -0.4**
comp=Z,30nm,0.9s,mb4.7,baz=4.5,slow=11,SNR=19
DLBC Dease Lake 21.83 201 *e*P **P** **13 45 02.8 -0.8**
DLBC Dease Lake 21.83 201 PN **P** **13 45 01.3 -2.3**
DLBC mb 13 45 17.1
comp=Z,234nm,1.9s
SLKM Skilak Lake 21.86 229 *e*P **P** **13 45 04.3 +0.4**
SLKM Skilak Lake 21.86 229 *e*P **P** **13 45 04.3 +0.4**
AKVQ Akulivik 21.97 127 PN **P** **13 45 03.8 -1.3**
SVW2 Sparrevohn 22.06 236 *e*P **P** **13 45 06.9 +0.9**
comp=Z,116nm,1.3s,mb5.2
FCC Fort Churchill 22.07 149 *e*P **P** **13 45 03.4 -2.8**
comp=Z,2.7nm,0.5s
FCC Fort Churchill 22.07 149 *e*P **P** **13 45 03.4 -2.7**
FCC pmax pmax
comp=Z,3.0nm,0.5s
FCC Fort Churchill 22.07 149 PN **P** **13 45 02.9 -3.2**
FCC mb 13 45 07.2
comp=Z,352nm,1.4s
SEW Seward 22.14 228 *e*P **P** **13 45 07.2 +0.2**
comp=Z,303nm,1.6s,mb5.5
RSO Reoubt South 22.25 232 *e*P **P** **13 45 09.1 +1.0**
BILL Bilibino 22.27 284 *e*P **P** **13 45 08.5 +0.3**
comp=Z,165nm,1.2s,mb5.3
BILL Bilibino 22.27 284 *d i* P **P** **13 45 09.0 +0.8**
BILL *i* 13 45 12.6
BILL *i* 13 45 32.1
BILL *e*S **S** **13 49 12.9 -0.6**
BILL pmax pmax
comp=Z,211nm,1.6s,mb5.3
BILL MLR MLR
comp=Z,3μm,17.0s,MS4.7
SCO Scoresbysund 22.70 60 *i* P **P** **13 45 17.7 +5.0**
SCO pmax pmax
comp=Z,47nm,1.0s,mb4.9
SCO MLR MLR
comp=Z,5μm,14.0s,MS5.1
WRAK Wrangell Islan 24.00 203 P **P** **13 45 26.3 +0.4**
JMIC Jan Mayen 24.22 50 LR LR 13 55 12.0
comp=Z,2μm,20.7s,MS4.5,baz=2.1,slow=37
KDAK Kodiak Island 24.82 230 P **P** **13 45 33.7 +0.3**
comp=Z,44nm,0.5s,mb5.2,baz=30,slow=7.4,SNR=85
KDAK Kodiak Island 24.82 230 *e*P **P** **13 45 33.7 +0.3**
comp=Z,49nm,0.6s,mb5.2
KDAK Kodiak Island 24.82 230 *ce*P **P** **13 45 33.7 +0.3**
KDAK Kodiak Island 24.82 230 P **P** **13 45 34.0 +0.6**
comp=Z,515nm,0.6s,mb6.2,SNR=28
OHAK Old Harbor 25.46 231 *e*P **P** **13 45 39.5 +0.3**
comp=Z,187nm,1.4s,mb5.4
FFC Flin Flon 25.49 161 *e*P **P** **13 45 38.2 -1.3**
comp=Z,45nm,0.7s,mb5.1
FFC Flin Flon 25.49 161 *e*P **P** **13 45 38.2 -1.3**
FFC pmax pmax
comp=Z,45nm,0.7s,mb5.1
FFC Flin Flon 25.49 161 PN **P** **13 45 38.7 -0.9**
FFC mb 13 45 48.7
comp=Z,34nm,0.3s
FFC SN **S** **13 50 13.2 +6.1**
SILO Sutton Inlier 27.25 139 PN **P** **13 45 53.2 -2.2**
BORG Borgarnes 28.02 66 P **P** **13 46 04.1 +1.9**
comp=Z,32nm,1.0s,mb4.9,baz=285,slow=3.6,SNR=3.3
BORG LR LR 13 58 07.3
comp=Z,3μm,18.4s,MS5.0,baz=166,slow=38
BORG Borgarnes 28.02 66 P **P** **13 46 04.1 +1.9**
BORG LR LR 13 58 07.3
BORG Borgarnes 28.02 66 P **P** **13 46 04.1 +1.9**
VIMO Victor Mine 29.02 139 PN **P** **13 46 09.9 -1.3**
KEV Kevo 29.26 26 *e*P **P** **13 46 11.6 -1.6**
KEV pmax pmax
comp=Z,18nm,0.7s,mb4.9
KEV Kevo 29.26 26 *ep* **P** **13 46 11.6 -1.6**
comp=Z,18nm,0.7s,mb4.9
SEY Seymchan 29.32 291 ⇑ *e*P **P** **13 46 14.4 +0.6**
ARCES ARCESS Array B 29.36 27 P **P** **13 46 13.6 -0.5**
comp=Z,13nm,0.7s,mb4.8,baz=346,slow=7.0,SNR=27
ARCES PcP PcP 13 49 19.1 -0.7
comp=Z,7.4nm,0.7s,baz=324,slow=6.0,SNR=6.9
ARCES LR LR 13 57 37.9
comp=Z,2μm,18.3s,MS4.7,baz=73,slow=36
ARCES ARCESS Array B 29.36 27 P **P** **13 46 13.6 -0.5**
ARCES PcP PcP 13 49 19.1 -0.7
ARCES LR LR 13 57 37.9
ARCES ARCESS Array B 29.36 27 P **P** **13 46 13.6 -0.5**
ARCES 13 49 19.1
SCHQ Schefferville 29.44 118 P **P** **13 46 13.1 -1.8**
comp=Z,16nm,0.8s,mb4.8,baz=337,slow=7.6,SNR=6.6
SCHQ LR LR 13 58 31.1
comp=Z,3μm,19.3s,MS4.9,baz=63,slow=37
SCHQ Schefferville 29.44 118 P **P** **13 46 13.1 -1.8**
SCHQ LR LR 13 58 31.1
WEMQ Wemindji, Queb 29.52 132 PN **P** **13 46 14.1 -1.5**
ULM Lac du Bonnet 30.36 155 P **P** **13 46 21.1 -2.0**
comp=Z,7.9nm,0.5s,mb4.7,baz=354,slow=7.8,SNR=16
ULM PcP PcP 13 49 21.4 -1.3
comp=Z,22nm,1.0s,baz=294,slow=4.8,SNR=4.0
ULM LR LR 13 58 37.2
comp=Z,978nm,19.5s,MS4.5,baz=183,slow=36
ULM Lac du Bonnet 30.36 155 *e*P **P** **13 46 21.4 -1.7**
comp=Z,29nm,1.1s,mb4.9
ULM Lac du Bonnet 30.36 155 *e*P **P** **13 46 21.4 -1.7**
ULM pmax pmax
comp=Z,29nm,1.1s
ULM Lac du Bonnet 30.36 155 PN **P** **13 46 21.8 -1.3**
A14A Double T Ranch 30.86 177 ⇓P **P** **13 46 27.3 -0.2**
baz=31,SNR=17
A15A Johnson Ranch, 30.87 176 ⇓P **P** **13 46 27.4 -0.2**
baz=31,SNR=9.0
A12A Yaak River Ran 30.89 180 ⇓P **P** **13 46 27.2 -0.6**
baz=31,SNR=9.0
A13A Flathead Natio 30.90 178 ⇑P **P** **13 46 27.7 -0.1**
baz=31
A05A Maple Falls 30.91 188 ⇑P **P** **13 46 28.2 +0.2**
baz=31
A17A Triple J Farms 30.93 174 ⇑P **P** **13 46 27.2 -1.0**
baz=31,SNR=15
A18A Metzger Ranch, 30.98 173 ⇓P **P** **13 46 28.2 -0.3**
baz=31
A21A Bergtoll Ranch 30.99 169 ⇑P **P** **13 46 28.4 -0.3**
baz=31,SNR=14
A19A Klindworth Far 31.00 171 ⇓P **P** **13 46 28.1 -0.6**
baz=31,SNR=18
A22A Carney Farms, 31.02 168 ⇑P **P** **13 46 29.2 +0.2**
baz=31,SNR=15
A20A Cobblestone Ra 31.07 170 ⇓P **P** **13 46 30.0 +0.6**
baz=31,SNR=7.8
A24A Westby 31.18 165 ⇓P **P** **13 46 29.7 -0.5**
baz=31,SNR=12
PGC Sidney 31.30 190 *e*P **P** **13 46 30.4 -1.0**
comp=Z,2.6nm,1.0s
B12A Libby 31.36 180 ⇓P **P** **13 46 31.5 -0.4**
baz=31
B16A M & M Farms, S 31.45 175 ⇓P **P** **13 46 32.4 -0.3**
baz=31
B13A Whitefish 31.46 178 ⇑P **P** **13 46 32.4 -0.4**
baz=31
B19A Brinkman Farms 31.46 171 ⇑P **P** **13 46 32.5 -0.3**
baz=31
B14A Marquette Ranc 31.48 177 ⇑P **P** **13 46 32.1 -0.9**
baz=31,SNR=9.9
B18A Beardsley Farm 31.50 173 ⇑P **P** **13 46 32.2 -1.0**
baz=31,SNR=6.0
B20A Solberg Farm, 31.50 170 ⇑P **P** **13 46 32.7 -0.5**
baz=31,SNR=7.3
B15A Bradely Ranch, 31.53 176 ⇓P **P** **13 46 32.5 -1.0**
baz=31,SNR=16
B21A Ellsworth Farm 31.55 169 ⇑P **P** **13 46 32.9 -0.7**
baz=31
NEW Newport 31.57 182 ⇑P **P** **13 46 32.6 -1.2**
baz=31,SNR=11
NEW Newport 31.57 182 *e*P **P** **13 46 34.3 +0.5**
comp=Z,19nm,1.1s,mb4.8
NEW Newport 31.57 182 *e*P **P** **13 46 34.3 +0.5**
NEW pmax pmax
comp=Z,19nm,1.1s
B17A L&G Farms, Che 31.58 174 ⇓P **P** **13 46 32.8 -1.1**
baz=31,SNR=11
DGMT Dagmar 31.62 165 ⇑P **P** **13 46 33.5 -0.8**
baz=32
DGMT Dagmar 31.62 165 *e*P **P** **13 46 34.3 +0.1**
comp=Z,94nm,1.4s,mb5.4
LVZ Lovozero 31.64 21 *e*P **P** **13 46 33.6 -0.6**
comp=Z,52nm,0.6s,mb5.5
LVZ Lovozero 31.64 21 *d i* P **P** **13 46 34.2 0.0**
LVZ pmax pmax
comp=Z,68nm,1.2s,mb5.3
B22A Reddig Ranch S 31.71 168 ⇑P **P** **13 46 34.1 -0.9**
baz=32,SNR=9.2
EGMT Eagleton 31.87 172 ⇓P **P** **13 46 34.9 -1.6**
baz=32
EGMT Eagleton 31.87 172 *e*P **P** **13 46 35.4 -1.1**
comp=Z,38nm,1.1s,mb5.1
APA Apatity 31.88 22 ⇓ *i* P **P** **13 46 36.0 -0.3**
APA *e*S **S** **13 51 46.0 -1.3**
APA pmax pmax
comp=Z,28nm,0.8s,mb5.1
APA MLR MLR
comp=Z,2μm,16.0s,MS4.9
YBMT Yellow Bay 31.97 178 *e*P **P** **13 46 36.7 -0.6**
BSMT Bassoo Peak 31.98 179 *e*P **P** **13 46 37.9 +0.5**
C11A Tepee Creek (N 31.99 181 ⇑P **P** **13 46 37.0 -0.5**
baz=32
C09A Chrisman Ranch 32.04 183 ⇓P **P** **13 46 37.6 -0.3**
baz=32,SNR=10
C16A Fuhringer Ranc 32.06 175 ⇓P **P** **13 46 37.6 -0.5**
baz=32,SNR=14
C14A Swan Lake 32.07 178 ⇓P **P** **13 46 37.7 -0.4**
baz=32
C15A Salmond Ranch, 32.07 176 ⇓P **P** **13 46 38.1 -0.1**
baz=32,SNR=21
JTMT Jette 32.09 178 *e*P **P** **13 46 37.8 -0.5**
C12B Naegeli Ranch, 32.12 180 ⇓P **P** **13 46 38.3 -0.3**
baz=32
C13A Hot Springs 32.15 179 ⇑P **P** **13 46 39.1 +0.3**
baz=32,SNR=35
C19A Slack Wire Ran 32.18 172 ⇓P **P** **13 46 38.6 -0.6**
baz=32
C17A Wharram Farm, 32.24 174 ⇑P **P** **13 46 39.2 -0.5**
baz=32,SNR=19
C23A Lambert 32.24 167 ⇓P **P** **13 46 40.3 +0.6**
baz=32,SNR=50
ETW Entiat 32.27 186 *e*P **P** **13 46 38.7 -1.2**
HDW Hoodsport 32.29 189 P **P** **13 46 40.3 +0.2**
AGMN Agassiz Nation 32.30 155 *e*P **P** **13 46 39.0 -1.1**
SWMT Swartz Lake 32.33 178 *e*P **P** **13 46 39.7 -0.7**
GNW Green Mountain 32.37 189 *e*P **P** **13 46 40.5 -0.3**
comp=Z,11nm,0.9s,mb4.7
OD2 Odessa Site #2 32.46 184 *e*P **P** **13 46 41.2 -0.4**
TBO Thunder Bay 32.52 147 PN **P** **13 46 40.3 -1.7**
C24A Savage 32.55 166 ⇑P **P** **13 46 42.4 +0.1**
baz=32,SNR=7.3
NLWA Neilton Lookou 32.57 190 *e*P **P** **13 46 42.7 +0.1**
comp=Z,68nm,1.4s,mb5.4
SLMT Seeley Lake 32.60 177 *e*P **P** **13 46 43.0 +0.2**
D18A Linhart Farms, 32.70 173 ⇓P **P** **13 46 43.7 0.0**
baz=33,SNR=9.1
D05A Enumclaw 32.72 188 ⇑P **P** **13 46 43.8 -0.1**
baz=33,SNR=7.5
D17A Six Diamond Ra 32.73 174 ⇑P **P** **13 46 43.8 -0.2**
baz=33,SNR=10
D13A Huson 32.74 178 ⇓P **P** **13 46 43.8 -0.2**
baz=33,SNR=13
D19A Cripps Ranch, 32.76 171 ⇓P **P** **13 46 43.9 -0.3**
baz=33,SNR=22
D14A Greenough 32.76 177 ⇑P **P** **13 46 43.8 -0.4**
baz=33,SNR=18
D12A Red Ives Fores 32.78 180 ⇓P **P** **13 46 44.3 0.0**
baz=33
D15A Lincoln 32.81 176 ⇑P **P** **13 46 44.5 -0.1**
baz=33,SNR=10
D16A Dana Ranch, Ca 32.83 175 ⇓P **P** **13 46 44.7 -0.2**
baz=33
D20A Manuel Ranch, 32.85 171 ⇓P **P** **13 46 44.7 -0.3**
baz=33,SNR=30
D22A Cohagen 32.86 168 ⇑P **P** **13 46 45.4 +0.3**
baz=33,SNR=41
D23A Lindsay 32.87 167 ⇓P **P** **13 46 45.5 +0.3**
baz=33,SNR=14
D21A La Casta Ranch 32.91 169 ⇓P **P** **13 46 45.7 +0.2**
baz=33,SNR=8.3
CHMT Chamberlain Mo 32.93 177 *e*P **P** **13 46 45.6 0.0**
D24A Glendive 32.97 166 ⇑P **P** **13 46 45.9 -0.1**
baz=33,SNR=6.7
MSO Missoula 33.01 178 ⇑P **P** **13 46 46.4 0.0**
baz=33,SNR=13
MSO Missoula 33.01 178 *e*P **P** **13 46 46.0 -0.4**
comp=Z,9.4nm,0.9s,mb4.7
EYMN Ely 33.01 150 *e*P **P** **13 46 45.2 -1.3**
comp=Z,26nm,0.9s,mb5.2
HRY Holter Researc 33.15 175 *e*P **P** **13 46 46.2 -1.4**
LON Longmire 33.15 188 *e*P **P** **13 46 46.7 -1.0**
comp=Z,89nm,1.6s,mb5.5
LON Longmire 33.15 188 *e*P **P** **13 46 46.7 -1.0**
LON pmax pmax
comp=Z,89nm,1.6s,mb5.5
WPW White Pass 33.20 187 P **P** **13 46 47.9 -0.2**
E07A Sunnyside 33.30 185 ⇓P **P** **13 46 48.3 -0.7**
baz=33,SNR=8.6
LAO LASA Array 33.31 168 ⇑P **P** **13 46 48.9 -0.2**
baz=33,SNR=18
LAO LASA Array 33.31 168 *e*P **P** **13 46 49.9 +0.8**
comp=Z,81nm,1.0s,mb5.6
E16A East Helena 33.33 175 ⇓P **P** **13 46 48.2 -1.0**
baz=33,SNR=9.5
E09A Wood Farm, Sta 33.33 183 ⇓P **P** **13 46 48.6 -0.6**
baz=33,SNR=37
E18A Harlowton 33.33 173 ⇓P **P** **13 46 48.8 -0.4**
baz=33,SNR=16
E08A Dider Farm, El 33.36 184 ⇓P **P** **13 46 49.2 -0.2**
baz=33,SNR=5.9
E13A Victor 33.39 178 ⇑P **P** **13 46 49.1 -0.6**
baz=33,SNR=13
E03A Lebam 33.41 190 ⇑P **P** **13 46 49.9 0.0**
baz=33,SNR=5.0
E17A Martinsdale 33.41 174 ⇓P **P** **13 46 49.1 -0.8**
baz=33,SNR=8.6
E12A Beaver Dam Sad 33.41 180 ⇑P **P** **13 46 49.8 -0.2**
baz=33
E14A Clinton 33.42 177 ⇓P **P** **13 46 50.0 0.0**
baz=33,SNR=12
E15A Deer Lodge 33.42 176 ⇓P **P** **13 46 49.7 -0.3**
baz=33,SNR=10
E20A Meyer Farm, Mu 33.44 171 ⇓P **P** **13 46 50.1 0.0**
baz=33
E19A Rath Farm, Rou 33.46 171 ⇓P **P** **13 46 50.7 +0.4**
baz=33
RSW Rattlesnake Hi 33.47 185 *e*P **P** **13 46 50.1 -0.2**
HAWA Hanford 33.47 185 *e*P **P** **13 46 48.7 -1.7**
comp=Z,24nm,1.1s,mb5.0
E23A Ismay 33.54 167 ⇑P **P** **13 46 51.5 +0.4**
baz=33,SNR=6.1
E22A Miles City 33.58 168 ⇑P **P** **13 46 51.6 +0.3**
baz=33,SNR=12
YAK Yakutsk 33.69 309 *e*P **P** **13 46 51.5 -0.7**
comp=Z,44nm,1.2s,mb5.3
YAK Yakutsk 33.69 309 *e*P **P** **13 46 52.1 -0.1**
YAK pmax pmax
comp=Z,20nm,1.0s,mb5.0
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK MLR MLR
comp=Z,2μm,17.0s,MS4.8
YAK MLR MLR
comp=N,1μm,18.0s,MS4.8
YAK MLR MLR
comp=E,951nm,18.0s,MS4.8
F10A Beach Ranch, E 33.86 182 ⇑P **P** **13 46 54.0 +0.2**
baz=34
F07A Phinny Hill Vi 33.97 185 ⇑P **P** **13 46 54.4 -0.4**
baz=34,SNR=5.6
F17A Fitzpatrick Pl 33.97 174 ⇓P **P** **13 46 54.9 +0.1**

baz=34,SNR=21
F18A **Big Timber** 33.99 173 ⇑P P 13 46 54.7 -0.3
baz=34,SNR=14
F15A **Butte** 34.01 176 ⇑P P 13 46 54.6 -0.5
baz=34,SNR=13
LCCM **Lewis and Clar** 34.02 175 P P 13 46 54.7 -0.5
F14A **Wisdom** 34.03 177 ⇓P P 13 46 54.8 -0.5
baz=34,SNR=8.5
LRM **Limekiln Ridge** 34.03 176 eP P 13 46 55.1 -0.1
F19A **Roth Farm, Mol** 34.06 172 ⇑P P 13 46 54.9 -0.7
baz=34,SNR=21
F12A **Elk City** 34.07 180 ⇑P P 13 46 54.9 -0.8
baz=34,SNR=41
F16A **Kennard Place,** 34.08 175 ⇓P P 13 46 54.9 -0.8
baz=34,SNR=8.6
GCMT **Greycliff** 34.11 173 eP P 13 46 55.8 -0.2
comp=E,44nm,0.9s,mb5.4
F20A **Billings** 34.14 171 ⇑P P 13 46 55.7 -0.5
baz=34
F21A **Absaloka Mine,** 34.15 169 ⇓P P 13 46 56.2 -0.1
baz=34
BOZ **Bozeman (W)** 34.21 175 ⇓P P 13 46 56.0 -0.9
baz=34,SNR=10.0
BOZ **Bozeman (W)** 34.21 175 P P 13 46 57.2 +0.3
comp=E,15nm,1.0s,mb4.9
BOZ **Bozeman (W)** 34.21 175 P P 13 46 57.2 +0.3
BOZ pmax pmax
comp=Z,15nm,1.0s,mb4.9
KIWB **Kanaga Island** 34.43 255 eP P 13 47 01.6 +2.9
DLMT **Dillon** 34.48 176 eP P 13 46 58.6 -0.6
comp=Z,11nm,0.9s,mb4.8
G17A **Pierce Place,** 34.55 174 ⇑P P 13 46 60.0 +0.1
baz=34
VFP **Flag Point** 34.58 187 P P 13 47 00.0 0.0
HOOD **Mount Hood Mea** 34.58 187 eP P 13 47 00.5 +0.5
comp=Z,119nm,1.0s,mb5.8
G18A **Lazy EL Ranch,** 34.58 172 ⇑P P 13 46 60.0 -0.1
baz=34
G14A **Jackson** 34.59 177 ⇑P P 13 46 59.9 -0.3
baz=34,SNR=15
G16A **Moss Hill, Enn** 34.63 175 ⇓P P 13 47 00.1 -0.4
baz=34,SNR=12
G06A **Carlson Farm,** 34.64 186 ⇑P P 13 47 00.2 -0.4
baz=34,SNR=14
G15A **Dillon** 34.68 176 ⇑P P 13 47 00.7 -0.3
baz=34,SNR=8.0
G12A **Big Creek, Yel** 34.70 180 ⇓P P 13 47 00.7 -0.4
baz=35
G20A **Bridger** 34.72 171 ⇑P P 13 47 00.7 -0.6
baz=35,SNR=13
G13A **Cobalt** 34.74 178 ⇑P P 13 47 01.4 0.0
baz=35,SNR=18
G21A **Lodge Grass** 34.74 170 ⇑P P 13 47 01.5 0.0
baz=35
RLMT **Red Lodge** 34.79 172 ⇑P P 13 47 02.0 +0.1
baz=35
RLMT **Red Lodge** 34.79 172 eP P 13 47 03.1 +1.3
comp=Z,18nm,1.0s,mb5.0
BMO **Blue Mountains** 34.98 182 eP P 13 47 03.2 -0.3
comp=Z,15nm,1.1s,mb4.8
MCMT **McKenzie Canyo** 35.02 177 eP P 13 47 03.7 -0.2
comp=Z,17nm,1.3s,mb4.8
QLMT **Earthquake Lak** 35.03 175 eP P 13 47 04.3 +0.3
YNR **Norris Junctio** 35.16 174 eP P 13 47 06.1 +1.0
comp=Z,33nm,1.1s,mb5.2
H16A **Russell Place,** 35.16 175 ⇓P P 13 47 05.3 +0.2
baz=35,SNR=19
YMR **Madison River** 35.20 174 P P 13 47 05.2 -0.3
comp=Z,45nm,1.2s,mb5.3
H18A **Shoshone NF, C** 35.22 173 ⇑P P 13 47 05.7 +0.1
baz=35,SNR=8.5
H14A **Leadore** 35.22 177 ⇑P P 13 47 05.8 +0.2
baz=35,SNR=25
H04A **Detroit Lake** 35.23 188 ⇑P P 13 47 05.9 +0.2
baz=35
H15A **Lima** 35.23 176 ⇑P P 13 47 05.8 +0.1
baz=35,SNR=25
H19A **Powell** 35.24 172 ⇓P P 13 47 05.9 0.0
baz=35,SNR=7.3
H13A **Challis** 35.27 178 ⇓P P 13 47 06.1 +0.1
baz=35,SNR=18
H12A **Diamond D Ranc** 35.28 179 ⇓P P 13 47 05.7 -0.4
baz=35,SNR=30
LKWY **Lake** 35.32 174 eP P 13 47 08.0 +1.6
comp=Z,52nm,1.3s,mb5.3
LKWY **Lake** 35.32 174 eP P 13 47 08.0 +1.6
LKWY pmax pmax
comp=Z,52nm,1.3s,mb5.3
H24A **Dirks Ranch, A** 35.32 166 ⇑P P 13 47 06.1 -0.4
baz=35,SNR=8.2
H21A **Big Horn, Sher** 35.34 169 ⇑P P 13 47 06.3 -0.3
baz=35,SNR=7.3
COR **Corvallis** 35.36 189 eP P 13 47 07.4 +0.6
comp=Z,110nm,1.7s,mb5.5
COR **Corvallis** 35.36 189 eP P 13 47 07.4 +0.6
COR pmax pmax
comp=Z,110nm,1.7s,mb5.5
H22A **Clearmont** 35.40 169 ⇑P P 13 47 06.8 -0.4
baz=35
YFT **Old Faithful** 35.42 174 eP P 13 47 09.2 +1.8
comp=Z,34nm,1.3s,mb5.1
H20A **Greybull** 35.46 171 ⇓P P 13 47 07.0 -0.6
baz=35,SNR=6.9
H17A **Grant Village** 35.48 174 ⇑P P 13 47 09.3 +1.4
baz=35,SNR=13
SPMN **St. Paul** 35.60 152 ⇓P P 13 47 08.4 -0.5
baz=35
BROR **Big Rock Looko** 35.65 188 P P 13 47 09.1 -0.3
FRIS **Frissel Point** 35.70 188 P P 13 47 10.1 +0.4
I07A **Izee** 35.78 185 ⇑P P 13 47 11.4 +1.0
baz=36,SNR=30
FLWY **Flagg Ranch** 35.79 174 eP P 13 47 11.4 +0.8
comp=Z,66nm,1.0s,mb5.5
I15A **Monteview** 35.85 176 ⇓P P 13 47 12.1 +1.1
baz=36,SNR=13
I19A **Meeteetse** 35.88 172 ⇑P P 13 47 10.8 -0.5
baz=36,SNR=6.5
I14A **Mackay** 35.91 177 ⇓P P 13 47 11.5 0.0
baz=36,SNR=32
I13A **Wildhorse Cree** 35.92 178 ⇓P P 13 47 11.9 +0.3
baz=36,SNR=60
I17A **Pilgrim Ck,** 35.96 174 ⇓P P 13 47 13.1 +1.2
baz=36,SNR=30
RSSD **Black Hills** 35.97 166 eP P 13 47 11.9 -0.1
comp=Z,33nm,0.9s,mb5.3
RSSD **Black Hills** 35.97 166 eP P 13 47 11.9 -0.1
RSSD pmax pmax
comp=Z,33nm,0.9s,mb5.3
IMW **Indian Meadow** 35.98 174 eP P 13 47 13.0 +0.9
comp=Z,55nm,1.1s,mb5.4
I16A **Newdale** 35.99 175 ⇑P P 13 47 12.9 +0.7
baz=36,SNR=32
I20A **Worland** 35.99 171 ⇓P P 13 47 12.5 +0.3
baz=36,SNR=9.5
I12A **Atlanta** 36.03 179 ⇓P P 13 47 12.9 +0.3
baz=36,SNR=18
RNO **Roman Nose** 36.04 190 P P 13 47 13.2 +0.5
I22A **9 Mile Ranch,** 36.10 169 ⇓P P 13 47 13.3 +0.1
baz=36,SNR=17
MOOW **Moose Ponds** 36.13 174 eP P 13 47 13.8 +0.5
comp=Z,23nm,0.9s,mb5.1
I21A **Big Trails, Te** 36.15 170 ⇓P P 13 47 13.8 +0.2
baz=36,SNR=14
I18A **Diamond G Ranc** 36.19 173 ⇓P P 13 47 14.1 +0.2
baz=36,SNR=9.7
I24A **Kuemmerle Ranc** 36.20 166 ⇑P P 13 47 14.2 +0.2
baz=36
NB2 **NORSAR Subarra** 36.22 41 P P 13 47 13.4 -0.6
comp=Z,6.8nm,0.7s,mb4.7,baz=344,slow=8.6
NOA **NORSAR Array B** 36.22 41 P P 13 47 13.3 -0.6
comp=Z,7.7nm,0.7s,mb4.8,baz=344,slow=8.4,SNR=21
NOA PcP PcP 13 49 38.4 -0.5
comp=Z,8.6nm,0.9s,baz=353,slow=3.7,SNR=7.0
NOA LR LR 14 03 28.1
comp=Z,707nm,19.0s,MS4.5,baz=340,slow=39
NOA **NORSAR Array B** 36.22 41 P P 13 47 13.3 -0.6
NOA PcP PcP 13 49 38.4 -0.5
NOA LR LR 14 03 28.1
NOA **NORSAR Array B** 36.22 41 P P 13 47 13.4 -0.6
NOA 13 49 38.4
LOHW **Long Hollow** 36.27 174 eP P 13 47 14.6 +0.1
comp=Z,24nm,1.0s,mb5.1
HLID **Hailey** 36.27 178 ⇑P P 13 47 14.3 -0.3
baz=36,SNR=17
HLID **Hailey** 36.27 178 eP P 13 47 13.6 -1.0
DCID1 **Drake Creek** 36.27 175 eP P 13 47 16.2 +1.6
comp=Z,38nm,0.9s,mb5.3

JOF **Joensuu** 36.33 25 eP P 13 47 14.6 -0.4
JOF pmax pmax
comp=Z,27nm,0.7s,mb5.3
JOF **Joensuu** 36.33 25 ep P 13 47 14.6 -0.4
comp=Z,26nm,0.7s,mb5.3
TPAW **Teton Pass** 36.38 174 eP P 13 47 16.4 +0.9
comp=Z,36nm,1.0s,mb5.2
SNOW **Snow King Moun** 36.41 174 eP P 13 47 17.1 +1.3
comp=Z,27nm,1.1s,mb5.1
MFID **Camas Ranch** 36.41 180 ⇑P P 13 47 15.6 -0.3
baz=36,SNR=13
MFID **Camas Ranch** 36.41 180 eP P 13 47 15.4 -0.4
comp=Z,29nm,1.3s,mb5.0
J13A **Cove Ranch, Pi** 36.44 178 ⇓P P 13 47 15.7 -0.3
baz=36,SNR=9.6
J15A **Blackfoot** 36.45 176 ⇑P P 13 47 16.3 +0.2
baz=36,SNR=14
J08A **Circle Bar Ran** 36.49 183 ⇑P P 13 47 16.9 +0.5
baz=36,SNR=27
REDW **Red Top Meadow** 36.51 174 eP P 13 47 17.6 +1.0
comp=Z,28nm,1.0s,mb5.0
J17A **Brown Place, J** 36.51 174 ⇑P P 13 47 17.4 +0.7
baz=36,SNR=21
RRI2 **Red Ridge** 36.52 175 eP P 13 47 17.2 +0.4
comp=Z,16nm,0.8s,mb4.9
J22A **Midwest** 36.58 169 ⇑P P 13 47 16.9 -0.4
baz=36,SNR=12
J16A **Bone** 36.59 175 ⇑P P 13 47 18.0 +0.7
baz=36,SNR=20
J20A **Shoshoni** 36.59 171 ⇑P P 13 47 17.7 +0.4
baz=36,SNR=27
J21A **Lysite** 36.61 170 ⇓P P 13 47 17.4 -0.1
baz=36,SNR=11
J19A **Crowheart** 36.65 172 ⇓P P 13 47 17.7 -0.1
baz=36
J18A **Kendall Valley** 36.68 173 ⇑P P 13 47 18.2 0.0
baz=36,SNR=29
KAF **Kangasniemi** 36.72 29 eP P 13 47 17.4 -0.9
KAF pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
KAF **Kangasniemi** 36.72 29 ep P 13 47 17.4 -0.9
comp=Z,10nm,0.6s,mb4.8
J24A **Dixon Ranch, L** 36.73 167 ⇑P P 13 47 18.5 -0.1
baz=37
ECSD **EROS Data Cent** 36.78 157 eP P 13 47 18.3 -0.7
comp=Z,27nm,1.0s,mb5.0
K16A **Soda Springs** 37.03 175 ⇓P P 13 47 21.8 +0.7
baz=37,SNR=11
K19A **Absolon Red Bu** 37.09 172 ⇑P P 13 47 21.2 -0.5
baz=37,SNR=24
AHID **Auburn Hatcher** 37.10 174 eP P 13 47 21.5 -0.2
comp=Z,30nm,1.1s,mb5.0
K17A **Gardner Place,** 37.12 174 ⇑P P 13 47 21.7 -0.2
baz=37,SNR=7.4
PD02 **Pinedale Array** 37.12 173 eP P 13 47 20.8 -1.1
PD01 **Pinedale Array** 37.12 173 eP P 13 47 21.3 -0.6
BW06 **Boulder Array** 37.13 173 ⇑P P 13 47 21.8 -0.2
baz=37,SNR=18
BW06 **Boulder Array** 37.13 173 eP P 13 47 21.6 -0.4
comp=Z,18nm,1.1s,mb4.8
PDAR **Pinedale Array** 37.13 173 P P 13 47 21.6 -0.4
comp=Z,11nm,0.6s,mb4.8,baz=26,slow=6.9,SNR=85
PDAR PcP PcP 13 49 40.9 -1.2
comp=Z,1.5nm,0.9s,baz=222,slow=2.3,SNR=4.5
PDAR PKiKP PKiKP 13 56 54.9 -4.0
comp=Z,1.3nm,1.0s,baz=49,slow=4.1,SNR=4.4
PDAR P3KPbc 14 17 46.8
comp=Z,0.8nm,0.9s,baz=183,slow=5.6,SNR=5.1
PDAR **Pinedale Array** 37.13 173 P P 13 47 21.6 -0.4
PDAR PcP PcP 13 49 40.9 -1.2
K05A **Summer Lake** 37.16 186 ⇓P P 13 47 23.0 +0.9
baz=37,SNR=29
K15A **Arbon** 37.16 176 ⇓P P 13 47 22.9 +0.7
baz=37,SNR=14
K18A **Toltan Ranch,** 37.25 173 ⇑P P 13 47 23.0 0.0
baz=37,SNR=16
K20A **Yellowstone Ra** 37.27 171 ⇓P P 13 47 22.1 -1.1
baz=37,SNR=6.7
K14A **Jones Ranch, D** 37.30 177 ⇓P P 13 47 24.0 +0.7
baz=37,SNR=20
HUMO **Hull Mountain** 37.32 189 eP P 13 47 23.0 -0.6
comp=Z,36nm,1.3s,mb5.0
K21A **Alcova** 37.33 170 ⇓P P 13 47 23.7 +0.1
baz=37,SNR=16
K24A **Anderson Ranch** 37.33 167 ⇓P P 13 47 23.3 -0.4
baz=37,SNR=5.2
K22A **Casper** 37.34 169 ⇓P P 13 47 23.0 -0.7
baz=37,SNR=15
FINES **FINESS Array B** 37.36 29 P P 13 47 23.4 -0.4
comp=Z,49nm,0.7s,mb5.4,baz=359,slow=9.5,SNR=66
FINES PcP PcP 13 49 41.2 -1.1
comp=Z,12nm,0.8s,baz=94,slow=5.7,SNR=6.2
FINES LR LR 14 02 07.9
comp=Z,936nm,19.7s,MS4.6,baz=348,slow=35
FINES **FINESS Array B** 37.36 29 P P 13 47 23.4 -0.4
FINES PcP PcP 13 49 41.2 -1.1
FINES LR LR 14 02 07.9
FINES **FINESS Array B** 37.36 29 P P 13 47 23.4 -0.3
FINES 13 49 41.3
HFS **Hagfors** 37.39 40 P P 13 47 23.3 -0.7
comp=Z,22nm,0.9s,mb5.0,baz=339,slow=6.3,SNR=19
HFS PcP PcP 13 49 41.8 -0.7
comp=Z,14nm,0.8s,baz=211,slow=1.7,SNR=6.8
HFS **Hagfors** 37.39 40 P P 13 47 23.3 -0.7
HFS PcP PcP 13 49 41.8 -0.7
HFS **Hagfors** 37.39 40 P P 13 47 23.3 -0.7
HFS 13 49 41.8
WVOR **Wild Horse Val** 37.41 184 eP P 13 47 24.4 0.0
comp=Z,33nm,1.1s,mb5.1
WVOR **Wild Horse Val** 37.41 184 eP P 13 47 24.4 +0.1
WVOR pmax pmax
comp=Z,33nm,1.1s,mb5.1
PET **Petropavlovsk** 37.62 279 eP P 13 47 27.0 +1.0
PET pmax pmax
comp=Z,93nm,1.3s,mb5.3
PETK **Petropavlovsk-** 37.71 280 P P 13 47 27.1 +0.3
comp=Z,7.3nm,1.0s,mb4.4,baz=21,slow=4.1,SNR=4.4
PETK LR LR 14 04 44.7
comp=Z,1μm,18.2s,MS4.8,baz=252,slow=39
PETK **Petropavlovsk-** 37.71 280 P P 13 47 27.1 +0.3
PETK LR LR 14 04 44.7
PETK **Petropavlovsk-** 37.71 280 P P 13 47 27.1 +0.4
L17A **Cokeville** 37.77 174 ⇓P P 13 47 27.4 +0.1
baz=38,SNR=9.2
L19A **Farson** 37.80 172 ⇓P P 13 47 26.7 -1.0
baz=38,SNR=14
L14A **Malta** 37.80 177 ⇓P P 13 47 28.1 +0.4
baz=38,SNR=30
MSNY **Massena** 37.83 131 eP P 13 47 27.2 -0.7
comp=Z,516nm,0.9s,mb6.3
L15A **Malad City** 37.84 176 ⇑P P 13 47 27.7 -0.3
baz=38,SNR=14
L16A **Fish Haven** 37.85 175 ⇓P P 13 47 28.2 +0.2
baz=38,SNR=18
L22A **Ellis Ranch, M** 37.96 169 ⇓P P 13 47 30.0 +1.0
baz=38
L18A **Fontenelle, Gr** 37.96 173 ⇓P P 13 47 28.8 -0.3
baz=38
MOD **Modoc** 37.97 186 eP P 13 47 29.3 +0.3
comp=Z,30nm,1.1s,mb4.9
HVU **Hansel Valley** 38.06 177 eP P 13 47 29.8 -0.1
comp=Z,16nm,0.8s,mb4.8
HVU **Hansel Valley** 38.06 177 eP P 13 47 29.8 -0.1
HVU pmax pmax
comp=Z,16nm,0.8s,mb4.8
JFWS **Jewell Farm** 38.12 149 eP P 13 47 29.4 -0.9
comp=Z,36nm,0.9s,mb5.1
JFWS **Jewell Farm** 38.12 149 eP P 13 47 29.4 -0.9
JFWS pmax pmax
comp=Z,36nm,0.9s,mb5.1
FRNY **Flat Rock** 38.16 130 eP P 13 47 29.6 -1.1
comp=Z,190nm,1.9s,mb5.5
YBH **Yreka Blue Hor** 38.19 189 eP P 13 47 30.0 -0.9
comp=Z,14nm,1.3s,mb4.5
YBH **Yreka Blue Hor** 38.19 189 eP P 13 47 30.0 -0.9
YBH pmax pmax
comp=Z,14nm,1.3s
LONY **Lake Ozonia** 38.24 131 eP P 13 47 35.1 +3.8
comp=Z,293nm,2.4s,mb5.6
HWUT **Hardware Ranch** 38.25 175 eP P 13 47 31.1 -0.4
comp=Z,17nm,0.8s,mb4.8
RWWY **Rawlins** 38.27 170 eP P 13 47 31.6 0.0
comp=Z,55nm,1.4s,mb5.1
M21A **Separation Pea** 38.35 170 ⇑P P 13 47 32.6 +0.3
baz=38
M15A **Larsen Ranch,** 38.38 176 ⇑P P 13 47 32.4 -0.2
baz=38,SNR=7.9

M17A **Scullys Gap (B** 38.40 174 ⇓P P 13 47 32.1 -0.6
baz=38,SNR=10
M19A **Rock Springs** 38.40 172 ⇑P P 13 47 33.1 +0.4
baz=38
KRMB **Red Mountain** 38.43 190 eP P 13 47 33.1 +0.1
comp=Z,17nm,1.4s,mb4.6
M18A **Lyman** 38.46 173 ⇓P P 13 47 33.4 +0.2
baz=38
M16A **Huntsville** 38.54 175 ⇓P P 13 47 33.8 -0.1
baz=38,SNR=37
M23A **Laramie** 38.55 168 ⇓P P 13 47 34.6 +0.6
baz=38
LTIM **Timbered Crate** 38.72 187 P P 13 47 35.5 +0.1
PHWY **Pilot Hill** 38.72 168 P P 13 47 35.2 -0.2
comp=Z,9.0nm,0.8s,mb4.5
SCIA **State Center** 38.86 153 eP P 13 47 36.5 -0.1
comp=Z,25nm,0.8s,mb5.0
BGU **Big Grassy Mou** 38.91 177 eP P 13 47 36.8 -0.3
comp=Z,31nm,1.2s,mb4.9
N18A **Larsen Ranch,** 38.92 173 ⇑P P 13 47 37.3 +0.3
baz=39
NCB **Newcomb** 38.92 131 eP P 13 47 36.0 -1.0
comp=Z,58nm,1.2s,mb5.2
N17A **Moffit Pass** 38.93 174 ⇓P P 13 47 36.1 -1.1
baz=39,SNR=10
KLMR **Klimovskoe** 38.94 19 eP P 13 47 36.6 -0.4
KLMR *e* 13 49 46.2
KLMR pmax pmax
comp=Z,143nm,1.5s,mb5.5
KLMR pmax pmax
comp=Z,125nm,5.2s
KLMR MLR MLR
comp=Z,755nm,13.0s,MS4.7
N15A **Stansbury Isla** 38.95 176 ⇓P P 13 47 36.7 -0.7
baz=39,SNR=15
N16A **Rees Ranch, Co** 38.97 175 ⇓P P 13 47 37.3 -0.2
baz=39,SNR=14
N19A **John Jarvie Ra** 39.01 172 ⇓P P 13 47 38.4 +0.5
baz=39
KHMM **Horse Mountain** 39.08 190 eP P 13 47 38.9 +0.6
comp=Z,56nm,1.3s,mb5.1
N20A **Spence Gulch,** 39.10 171 ⇓P P 13 47 39.1 +0.5
baz=39
N23A **Red Feather La** 39.11 168 ⇑P P 13 47 39.2 +0.5
baz=39
NOQ **North Oquirrh** 39.20 176 eP P 13 47 40.8 +1.4
comp=Z,42nm,1.5s,mb5.0
JLU **Jordanelle** 39.26 175 eP P 13 47 39.6 -0.3
comp=Z,13nm,0.8s,mb4.7
WDC **Whiskeytown Da** 39.34 188 eP P 13 47 39.2 -1.3
comp=Z,32nm,1.1s,mb5.0
WDC **Whiskeytown Da** 39.34 188 eP P 13 47 39.2 -1.3
WDC pmax pmax
comp=Z,32nm,1.1s,mb5.0
CLNS **Chul'man** 39.36 311 eP P 13 47 40.4 -0.2
CLNS *e*PP 13 47 49.0
CLNS *e* 13 49 13.0
CLNS *e*PPP 13 49 37.8
CLNS *e* 13 49 43.6
CLNS *e*S S 13 53 44.8 +2.7
CLNS *e*SS SS 13 56 23.6 -11
CLNS pmax pmax
comp=Z,38nm,1.1s,mb5.0
CLNS pmax pmax
comp=N,21nm,0.9s
CLNS pmax pmax
comp=E,20nm,0.9s
CLNS pmax pmax
comp=Z,8.0nm,1.3s,mb4.3
CLNS pmax pmax
comp=N,15nm,1.1s
CLNS pmax pmax
comp=E,5.0nm,1.0s
CLNS smax
comp=N,500nm,12.7s
CLNS smax
comp=E,243nm,12.7s
CLNS MLR MLR
comp=Z,1μm,14.0s,MS5.0
CLNS MLR MLR
comp=N,920nm,15.0s,MS4.9
CLNS MLR MLR
comp=E,946nm,15.0s,MS4.9
AAM **Ann Arbor** 39.39 142 eP P 13 47 40.6 -0.4
comp=E,35nm,0.7s,mb5.2
AAM **Ann Arbor** 39.39 142 eP P 13 47 40.6 -0.4
AAM pmax pmax
comp=Z,35nm,0.7s,mb5.2
BMN **Battle Mountai** 39.40 182 eP P 13 47 40.9 -0.1
comp=Z,35nm,1.0s,mb5.0
BMN **Battle Mountai** 39.40 182 eP P 13 47 40.9 -0.2
BMN pmax pmax
comp=Z,35nm,1.0s,mb5.0
DAU **Daniels Canyon** 39.45 175 eP P 13 47 41.7 +0.2
DAU **Daniels Canyon** 39.45 175 eP P 13 47 41.7 +0.2
O15A **The Old Anders** 39.56 176 ⇑P P 13 47 42.7 +0.2
baz=39,SNR=28
DUG **Dugway** 39.65 177 ⇓P P 13 47 43.5 +0.3
baz=40,SNR=16
DUG **Dugway** 39.65 177 eP P 13 47 43.4 +0.3
comp=Z,19nm,1.0s,mb4.8
DUG **Dugway** 39.65 177 eP P 13 47 43.4 +0.3
DUG pmax pmax
comp=Z,19nm,1.0s,mb4.8
O16A **Springville** 39.65 175 ⇑P P 13 47 43.1 -0.1
baz=40,SNR=11
O17A **Robinson Place** 39.68 174 ⇓P P 13 47 43.7 +0.3
baz=40
EKA **Eskdalemuir Ar** 39.83 56 P P 13 47 44.4 -0.1
comp=Z,30nm,0.9s,mb5.0,baz=343,slow=8.0,SNR=31
EKA **Eskdalemuir Ar** 39.83 56 P P 13 47 44.4 -0.1
EKA **Eskdalemuir Ar** 39.83 56 P P 13 47 44.4 -0.1
ESK **Eskdalemuir** 39.84 56 eP P 13 47 44.5 0.0
comp=Z,59nm,0.8s,mb5.4
ESK **Eskdalemuir** 39.84 56 eP P 13 47 44.6 0.0
ESK pmax pmax
comp=Z,59nm,0.8s,mb5.4
MPU **Maple Canyon** 39.84 175 eP P 13 47 44.6 -0.1
comp=Z,30nm,0.7s,mb5.1
NLU **North Lily Min** 39.90 176 eP P 13 47 45.2 0.0
comp=Z,50nm,1.3s,mb5.1
KIPM **Iron Peak** 40.13 189 eP P 13 47 46.9 -0.3
comp=Z,29nm,1.2s,mb4.9
P16A **Fountain Green** 40.25 175 ⇑P P 13 47 48.2 +0.1
baz=40,SNR=5.9
P14A **Drum Mountains** 40.25 177 ⇓P P 13 47 48.6 +0.5
baz=40,SNR=23
P18A **Preston Nutter** 40.25 174 ⇓P P 13 47 48.9 +0.8
baz=40
KCPM **Cahto Peak** 40.26 189 eP P 13 47 48.9 +0.6
comp=Z,19nm,1.2s,mb4.7
P15A **Leamington** 40.28 176 ⇓P P 13 47 48.6 +0.2
baz=40,SNR=6.6
P19A **Cripple Cowboy** 40.28 172 ⇓P P 13 47 48.3 -0.1
baz=40,SNR=8.4
VSU **Vasula** 40.37 30⇑eP P 13 47 47.7 -1.2
VSU pmax pmax
comp=Z,102nm,1.7s,mb5.3
P22A **Eagle** 40.38 169 ⇑P P 13 47 49.9 +0.7
baz=40
P17A **Butcher Ranch,** 40.40 174 ⇓P P 13 47 50.1 +0.8
baz=40
P20A **De Beque** 40.42 171 ⇓P P 13 47 50.1 +0.5
baz=40
P21A **Newcastle** 40.43 170 ⇑P P 13 47 50.5 +0.9
baz=40
MUD **Monsted U'grnd** 40.44 45 *i* P P 13 47 50.3 +0.8
MUD *i* 13 47 57.8
MUD pmax pmax
comp=Z,28nm,0.8s,mb5.0
MUD **Monsted U'grnd** 40.44 45 *i* P P 13 47 50.3 +0.8
comp=Z,28nm,0.8s,mb5.0
MUD *i* 13 47 57.8
OHCM **Honcut** 40.55 187 eP P 13 47 50.3 -0.4
WCN **Washoe City** 40.55 185 ⇓P P 13 47 51.4 +0.7
baz=40,SNR=22
WCN **Washoe City** 40.55 185 eP P 13 47 50.6 -0.1
comp=Z,35nm,1.2s,mb4.9
WCN **Washoe City** 40.55 185 eP P 13 47 50.6 -0.1
WCN pmax pmax
comp=Z,35nm,1.2s,mb4.9
P25A **Willow Gulch B** 40.56 166 ⇓P P 13 47 51.4 +0.7
baz=40
TMUT **Trail Mountain** 40.57 175 eP P 13 47 50.9 +0.1
comp=Z,55nm,1.3s,mb5.0
SRU **San Rafael** 40.76 174 ⇓P P 13 47 52.8 +0.4
baz=41

SRU **San Rafael** **40.76** 174 P **P** **13 47 52.6 +0.2**
comp=Z,17nm,0.8s,mb4.7
SRU **San Rafael** **40.76** 174 P **P** **13 47 52.6 +0.2**
SRU pmax pmax
comp=Z,17nm,0.8s,mb4.7
Q18A **Rafter H Ranch** **40.78** 173 ⇑P **P** **13 47 53.2 +0.6**
baz=41
Q14A **Sevier Lake (B** **40.85** 177 ⇑P **P** **13 47 53.6 +0.5**
baz=41,SNR=23
SOKR **Solikamsk** **40.89** 6 *e*P **P** **13 47 53.4 +0.1**
SOKR pmax pmax
comp=Z,40nm,1.3s,mb4.9
SOKR MLR MLR
comp=Z,750nm,18.0s,MS4.6
SFIN **Scholer Farm** **40.93** 146 ⇓P **P** **13 47 53.4 -0.4**
baz=41
HOPS **Hopland** **40.93** 189 *e*P **P** **13 47 53.5 -0.3**
comp=Z,68nm,1.3s,mb5.1
Q16A **Castle Valley** **40.94** 175 ⇑P **P** **13 47 54.1 +0.2**
baz=41,SNR=17
Q19A **Hogan Spring (** **40.95** 172 ⇑P **P** **13 47 54.2 +0.3**
baz=41,SNR=5.6
Q20A **Ridgley Place,** **40.97** 171 ⇑P **P** **13 47 54.4 +0.2**
baz=41
Q23A **Hartsel** **41.10** 168 ⇓P **P** **13 47 55.9 +0.7**
baz=41
Q22A **Crested Butte,** **41.10** 170 ⇑P **P** **13 47 56.3 +1.1**
baz=41
Q21A **Lamborn Mesa,** **41.11** 170 ⇑P **P** **13 47 55.9 +0.6**
baz=41
Q25A **Bedland, Calha** **41.15** 166 ⇓P **P** **13 47 56.1 +0.5**
baz=41
MSU **Marysvale** **41.33** 176 *e*P **P** **13 47 55.7 -1.4**
MSU **Marysvale** **41.33** 176 *e*P **P** **13 47 55.7 -1.4**
DSB **Dublin** **41.36** 59 *e*P **P** **13 47 56.5 -0.7**
comp=Z,28nm,0.8s,mb4.9
KSU1 **Kansas State U** **41.39** 157 *e*P **P** **13 47 56.8 -0.8**
comp=Z,29nm,0.8s,mb5.0
NVAR **Mina Array Bea** **41.41** 183 P **P** **13 47 58.2 +0.5**
comp=Z,23nm,1.0s,mb4.8,baz=7.5,slow=4.5,SNR=74
NVAR PcP PcP 13 49 55.8 +0.2
comp=Z,2.0nm,0.7s,baz=1.1,slow=3.5,SNR=5.2
NVAR **Mina Array Bea** **41.41** 183 P **P** **13 47 58.2 +0.5**
NVAR PcP PcP 13 49 55.8 +0.3
R17A **Hanksville Air** **41.45** 174 ⇓P **P** **13 47 58.6 +0.5**
baz=41
R11A **Troy Canyon, C** **41.48** 180 ⇓P **P** **13 47 58.5 +0.2**
baz=41,SNR=29
CBKS **Cedar Bluff** **41.48** 161 ⇑P **P** **13 47 57.9 -0.4**
baz=41,SNR=7.2
CBKS **Cedar Bluff** **41.48** 161 *e*P **P** **13 47 57.6 -0.7**
comp=Z,38nm,1.0s,mb5.0
CBKS **Cedar Bluff** **41.48** 161 *e*P **P** **13 47 57.6 -0.7**
CBKS pmax pmax
comp=Z,37nm,1.0s,mb5.0
R18A **Canyonlands Na** **41.50** 173 ⇑P **P** **13 47 58.5 +0.1**
baz=41,SNR=19
ACSO **Alum Creek Sta** **41.51** 141 P **P** **13 47 57.2 -1.4**
comp=Z,34nm,1.0s,mb4.9
R16A **Teasdale** **41.57** 175 ⇑P **P** **13 47 59.5 +0.5**
baz=41,SNR=18
R21A **Cimarron** **41.58** 170 ⇑P **P** **13 47 59.5 +0.4**
baz=41,SNR=14
R19A **Curley Farm, L** **41.61** 172 ⇑P **P** **13 47 60.0 +0.6**
baz=42
R15A **Junction** **41.63** 176 ⇑P **P** **13 47 59.9 +0.3**
baz=42
R13A **O'Grain Ranch,** **41.65** 178 ⇑P **P** **13 48 00.3 +0.6**
baz=42,SNR=26
R20A **Redvale** **41.73** 171 ⇑P **P** **13 48 00.3 -0.1**
baz=42,SNR=7.2
PV01 **Paradox Valley** **41.78** 172 *e*P **P** **13 48 00.5 -0.3**
comp=Z,2µm,0.9s
R24A **Sanders Place,** **41.80** 168 ⇑P **P** **13 48 01.1 +0.2**
baz=42,SNR=5.2
CMB **Columbia Colle** **41.83** 186 *e*P **P** **13 48 00.4 -0.7**
comp=Z,14nm,1.2s,mb4.5
CMB **Columbia Colle** **41.83** 186 *e*P **P** **13 48 00.4 -0.8**
CMB pmax pmax
comp=Z,14nm,1.2s,mb4.5
ARUT **Antelope Range** **42.04** 177 *e*P **P** **13 48 02.8 -0.2**
comp=Z,25nm,1.0s,mb4.8
ARUT **Antelope Range** **42.04** 177 *e*P **P** **13 48 02.8 -0.1**
ARUT pmax pmax
comp=Z,25nm,1.0s,mb4.8
S20A **Disappointment** **42.09** 171 ⇓P **P** **13 48 03.8 +0.4**
baz=42,SNR=7.0
S16A **Weppner Ranch,** **42.13** 175 ⇑P **P** **13 48 04.2 +0.6**
baz=42,SNR=25
S19A **Harvey Farm, M** **42.16** 172 ⇑P **P** **13 48 04.0 +0.2**
baz=42,SNR=16
S18A **Hurst Farm, Bl** **42.19** 173 ⇓P **P** **13 48 04.4 +0.3**
baz=42
S22A **4UR Ranch, Cre** **42.22** 170 ⇓P **P** **13 48 05.1 +0.7**
baz=42,SNR=7.4
S17A **Black Ridge (B** **42.23** 174 ⇓P **P** **13 48 04.8 +0.3**
baz=42,SNR=18
SDCO **Great Sand Dun** **42.27** 168 ⇓P **P** **13 48 05.1 +0.3**
baz=42,SNR=10
SDCO **Great Sand Dun** **42.27** 168 *e*P **P** **13 48 04.3 -0.4**
comp=Z,15nm,1.1s,mb4.5
S21A **Coal Bank Pass** **42.27** 171 ⇑P **P** **13 48 05.5 +0.7**
baz=42,SNR=8.8
CCUT **Cedar City** **42.28** 177 *e*P **P** **13 48 04.8 -0.1**
comp=Z,22nm,0.9s,mb4.8
S23A **Nye Farm, Mont** **42.29** 169 ⇑P **P** **13 48 05.6 +0.7**
baz=42,SNR=7.5
SAC **San Andreas** **42.33** 188 *e*P **P** **13 48 06.4 +1.2**
SAC **San Andreas** **42.33** 188 *e*P **P** **13 48 06.4 +1.2**
S24A **Houchin Ranch,** **42.38** 168 ⇓P **P** **13 48 06.0 +0.3**
baz=42,SNR=15
S25A **Robets Cordova** **42.39** 167 ⇓P **P** **13 48 06.3 +0.5**
baz=42,SNR=37
MTUM **Tungsten Hills** **42.48** 183 *e*P **P** **13 48 07.7 +1.2**
MVCO **Mesa Verde** **42.71** 172 ⇑P **P** **13 48 08.7 +0.3**
baz=43,SNR=5.3
MVCO **Mesa Verde** **42.71** 172 *e*P **P** **13 48 08.2 -0.1**
comp=Z,47nm,1.4s,mb5.0
T18A **Mexican Hat** **42.75** 173 ⇓P **P** **13 48 08.6 0.0**
baz=43,SNR=22
GRAC **Grapevine Rang** **42.83** 182 ⇓P **P** **13 48 09.7 +0.4**
baz=43,SNR=20
CCM **Cathedral Cave** **42.85** 151 *e*P **P** **13 48 06.8 -2.7**
comp=Z,21nm,1.0s,mb4.8
CCM **Cathedral Cave** **42.85** 151 *e*P **P** **13 48 06.8 -2.7**
CCM pmax pmax
comp=Z,21nm,1.0s,mb4.8
T17A **Navajo Res., N** **42.87** 174 ⇑P **P** **13 48 09.5 -0.1**
baz=43,SNR=23
T16A **Glen Canyon Da** **42.87** 175 ⇓P **P** **13 48 09.8 +0.2**
baz=43
T25A **Trinidad** **42.91** 167 ⇑P **P** **13 48 10.4 +0.4**
baz=43
T22A **Edith** **42.95** 170 ⇓P **P** **13 48 10.7 +0.4**
baz=43,SNR=12
T21A **Navajo Lake** **42.95** 170 ⇑P **P** **13 48 10.7 +0.4**
baz=43
T24A **Torres, Weston** **42.95** 168 ⇑P **P** **13 48 10.5 +0.2**
baz=43,SNR=10.0
T23A **Casias Ranch,** **42.96** 169 ⇑P **P** **13 48 11.0 +0.6**
baz=43
IZAR **Zarasai** **43.00** 31 *e*P **P** **13 48 11.0 +0.4**
IZAR AMB AMB 13 48 19.5
comp=Z,12nm,1.0s,mb4.6
T19A **Beclabito** **43.07** 172 ⇓P **P** **13 48 11.5 +0.2**
baz=43,SNR=7.6
SAO **San Andreas Ge** **43.12** 187 *e*P **P** **13 48 11.6 0.0**
comp=Z,37nm,1.3s,mb5.0
SAO **San Andreas Ge** **43.12** 187 *e*P **P** **13 48 11.6 -0.1**
SAO pmax pmax
comp=Z,37nm,1.3s,mb5.0
ISAL **Salakas** **43.17** 31 *e*P **P** **13 48 12.3 +0.4**
ISAL AMB AMB 13 48 21.8
comp=Z,22nm,1.2s,mb4.8
U17A **Shonto** **43.27** 174 ⇑P **P** **13 48 13.1 +0.2**
baz=43,SNR=6.6
FURC **Furnace Creek,** **43.35** 181 ⇓P **P** **13 48 13.7 +0.2**
baz=43,SNR=17
CWC **Cottonwood Cre** **43.39** 183 ⇓P **P** **13 48 14.7 +0.8**
baz=43,SNR=22
IIGN **Ignalina** **43.40** 31 *e*P **P** **13 48 14.1 +0.4**
IIGN AMB AMB 13 48 23.6
comp=Z,15nm,1.1s,mb4.7
U15A **North Rim** **43.41** 176 ⇑P **P** **13 48 13.9 -0.1**
baz=43,SNR=9.5
U21A **Nageezi** **43.51** 171 ⇓P **P** **13 48 15.5 +0.7**
baz=43,SNR=15

U20A **Newcomb** **43.54** 172 ⇓P **P** **13 48 15.4 +0.3**
baz=43,SNR=7.1
U22A **Llaves** **43.59** 170 ⇑P **P** **13 48 16.1 +0.7**
baz=44,SNR=20
U19A **Dine' College,** **43.60** 172 ⇑P **P** **13 48 16.1 +0.5**
baz=44,SNR=16
U25A **Circle Dot Ran** **43.65** 167 ⇑P **P** **13 48 16.4 +0.4**
baz=44,SNR=7.8
U23A **El Rito** **43.66** 169 ⇑P **P** **13 48 17.0 +1.0**
baz=44,SNR=48
U26A **Atchley Ranch,** **43.69** 166 ⇑P **P** **13 48 17.1 +0.8**
baz=44,SNR=16
SVE **Sverdlovsk** **43.70** 3 *i*P **P** **13 48 16.8 +0.7**
SVE *e* 13 50 01.2
SVE *e* 13 58 18.1
SVE pmax pmax
comp=Z,53nm,1.6s,mb5.0
SVE MLR MLR
comp=Z,769nm,15.0s,MS4.7
U16A **Tuba City** **43.72** 175 ⇑P **P** **13 48 16.8 +0.4**
baz=44,SNR=16
MPMC **Manual Prospec** **43.77** 182 ⇑P **P** **13 48 17.8 +0.9**
baz=44,SNR=68
MOS **Moscow** **43.91** 22 *e*P **P** **13 48 16.3 -1.6**
MOS *e* 13 49 59.2
MOS pmax pmax
comp=Z,106nm,0.9s,mb5.6
MOS MLR MLR
comp=Z,900nm,16.0s,MS4.8
VES **Vestal, Richgr** **44.00** 184 ⇑P **P** **13 48 19.1 +0.3**
baz=44,SNR=7.0
V15A **Kaibab Nationa** **44.02** 176 ⇓P **P** **13 48 19.3 +0.4**
baz=44,SNR=27
ARU **Arti** **44.07** 5 *e*P **P** **13 48 19.3 +0.2**
comp=Z,55nm,1.2s,mb5.2
ARU **Arti** **44.07** 5 *c i*P **P** **13 48 19.2 +0.1**
ARU *e* 13 50 03.0
ARU *e*PPP 13 50 37.5
ARU S **S** **13 54 52.9 +1.2**
ARU SS SS 13 58 09.5 +1.5
ARU SSS 13 58 49.8
ARU pmax pmax
comp=Z,64nm,1.7s,mb5.1
ARU MLR MLR
comp=Z,772nm,17.0s,MS4.7
ARU **Arti** **44.07** 5 P **P** **13 48 19.9 +0.8**
comp=Z,208nm,1.1s,mb5.8,SNR=7.3
V20A **Brimhall** **44.11** 172 ⇓P **P** **13 48 19.9 +0.2**
baz=44,SNR=16
V21A **Milan** **44.13** 171 ⇓P **P** **13 48 20.3 +0.5**
baz=44,SNR=47
V18A **Ganado** **44.17** 173 ⇑P **P** **13 48 20.1 0.0**
baz=44,SNR=16
ISA **Isabella** **44.17** 183 ⇑P **P** **13 48 21.1 +0.9**
baz=44,SNR=29
ISA **Isabella** **44.17** 183 *e*P **P** **13 48 20.4 +0.3**
comp=Z,39nm,1.1s,mb5.0
ISA **Isabella** **44.17** 183 *e*P **P** **13 48 20.4 +0.3**
ISA pmax pmax
comp=Z,39nm,1.1s,mb5.0
V19A **Window Rock** **44.18** 172 ⇑P **P** **13 48 20.4 +0.2**
baz=44
V25A **Rancho No Teng** **44.20** 167 ⇓P **P** **13 48 20.5 +0.1**
baz=44,SNR=36
V23A **Ortiz Mt. (NFS** **44.24** 169 ⇑P **P** **13 48 21.4 +0.7**
baz=44,SNR=16
V17A **Tonalea, Kykot** **44.24** 174 ⇑P **P** **13 48 21.2 +0.5**
baz=44,SNR=62
V26A **Tequesquite Ra** **44.28** 166 ⇓P **P** **13 48 20.8 -0.2**
baz=44,SNR=52
V24A **Rampart Ranch,** **44.29** 168 ⇑P **P** **13 48 21.4 +0.3**
baz=44,SNR=26
WUAZ **Wupatki** **44.34** 175 ⇑P **P** **13 48 22.2 +0.8**
baz=44,SNR=49
WUAZ **Wupatki** **44.34** 175 *e*P **P** **13 48 21.5 +0.1**
comp=Z,59nm,0.9s,mb5.3
LRMC **Laurel Mountai** **44.35** 182 ⇓P **P** **13 48 22.5 +0.9**
baz=44,SNR=26
TUQ **Turquoise Moun** **44.38** 180 ⇓P **P** **13 48 22.3 +0.5**
baz=44
MNK **Minsk** **44.38** 30 *e*P **P** **13 48 21.0 -0.6**
MNK pmax pmax
comp=Z,170nm,1.0s,mb5.7
MICGM **Minsk** **44.39** 30 *e*P **P** **13 48 21.0 -0.7**
SUW **Suwalki** **44.43** 34 *e*P **P** **13 48 21.3 -0.7**
comp=Z,117nm,1.2s,mb5.5
SUW **Suwalki** **44.43** 34 *e*P **P** **13 48 21.3 -0.7**
SUW pmax pmax
comp=Z,117nm,1.2s,mb5.5
OBN **Obninsk** **44.47** 22 *e*P **P** **13 48 22.3 0.0**
comp=Z,233nm,1.4s,mb5.7
OBN **Obninsk** **44.47** 22 *c i*P **P** **13 48 22.1 -0.2**
OBN *i* 13 48 26.9
OBN *i* 13 50 04.9
OBN *i* 13 50 12.8
OBN pmax pmax
comp=Z,143nm,1.2s,mb5.6
OBN MLR MLR
comp=Z,1µm,18.0s,MS4.8
GSC **Goldstone** **44.52** 181 ⇓P **P** **13 48 24.1 +1.2**
baz=44,SNR=79
GSC **Goldstone** **44.52** 181 *e*P **P** **13 48 23.4 +0.5**
comp=Z,72nm,1.1s,mb5.4
GSC **Goldstone** **44.52** 181 *e*P **P** **13 48 23.4 +0.5**
GSC pmax pmax
comp=Z,72nm,1.1s,mb5.4
SMMC **Simmler** **44.54** 185 ⇑P **P** **13 48 23.4 +0.3**
baz=44,SNR=7.5
TUL1 **Tulsa** **44.62** 157 ⇑P **P** **13 48 22.5 -1.2**
baz=44,SNR=6.9
W13A **Hualapai Mount** **44.72** 178 ⇓P **P** **13 48 25.6 +1.0**
baz=45,SNR=47
LDFC **Landfair** **44.74** 179 *e*P **P** **13 48 25.1 +0.4**
comp=Z,86nm,1.2s,mb5.5
W16A **Flagstaff** **44.75** 175 ⇓P **P** **13 48 26.1 +1.3**
baz=45,SNR=27
W18A **Petrified Fore** **44.76** 173 ⇑P **P** **13 48 25.8 +0.9**
baz=45,SNR=5.9
W19A **Sanders** **44.78** 173 ⇑P **P** **13 48 26.0 +1.0**
baz=45,SNR=5.9
W17A **Winslow** **44.78** 174 ⇓P **P** **13 48 26.1 +1.0**
baz=45,SNR=8.4
W20A **Ramah** **44.78** 172 ⇑P **P** **13 48 25.4 +0.4**
baz=45,SNR=6.9
W24A **Lazy 6 Ranch,** **44.80** 168 ⇑P **P** **13 48 25.3 +0.1**
baz=45,SNR=12
W21A **San Fidel** **44.82** 171 ⇓P **P** **13 48 25.6 +0.3**
baz=45
W23A **Werner Place,** **44.82** 169 ⇓P **P** **13 48 25.6 +0.2**
baz=45,SNR=16
W25A **X Bar L Ranch,** **44.83** 167 ⇓P **P** **13 48 25.1 -0.3**
baz=45,SNR=14
W22A **Albuquerque** **44.89** 170 ⇓P **P** **13 48 26.2 +0.3**
baz=45
RRX **Edison Barstow** **44.94** 182 ⇑P **P** **13 48 27.0 +0.7**
baz=45
EDW2 **Edwards Air Fo** **44.95** 183 ⇑P **P** **13 48 27.3 +0.9**
baz=45,SNR=67
PKM **Peak Mountain** **44.95** 185 ⇑P **P** **13 48 27.3 +0.9**
baz=45,SNR=13
W26A **Owens Ranch, T** **44.98** 166 ⇓P **P** **13 48 27.5 +0.8**
baz=45,SNR=8.6
HEC **Hector,Ludlow** **44.99** 181 ⇑P **P** **13 48 27.5 +0.8**
baz=45,SNR=24
ANMO **Albuquerque** **45.02** 169 P **P** **13 48 27.2 +0.3**
comp=Z,21nm,1.1s,mb4.9,baz=354,slow=7.7,SNR=29
ANMO PcP PcP 13 50 07.9 +0.1
comp=Z,5.1nm,1.0s,baz=358,slow=6.2,SNR=3.3
ANMO LR LR 14 08 28.7
comp=Z,5µm,18.8s,MS5.4,baz=170,slow=38
ANMO **Albuquerque** **45.02** 169 *e*P **P** **13 48 26.9 0.0**
comp=Z,23nm,1.1s,mb4.9
ANMO **Albuquerque** **45.02** 169 P **P** **13 48 27.2 +0.3**
ANMO 13 50 07.9
ANMO pmax pmax
comp=Z,21nm,1.1s
ANMO MLR MLR
comp=Z,5µm,18.8s
GMRC **Granite Mounta** **45.04** 180 ⇓P **P** **13 48 27.5 +0.4**
baz=45,SNR=9.9
W27A **Bowe Ranch, En** **45.04** 165 ⇑P **P** **13 48 26.8 -0.3**
baz=45,SNR=14
TZTN **Tazewell** **45.10** 143 *e*P **P** **13 48 26.5 -1.1**
comp=Z,38nm,1.4s,mb5.0
NVS **Novosibirsk** **45.26** 345 ⇑ *i*P **P** **13 48 27.2 -1.4**
NVS pmax pmax
comp=N,19nm,1.4s

NVS pmax pmax
comp=E,17nm,1.4s
NVS pmax pmax
comp=Z,39nm,1.4s,mb5.0
AMTX **Amarillo** **45.29** 164 ⇑P **P** **13 48 28.9 -0.1**
baz=45
AMTX **Amarillo** **45.29** 164 *e*P **P** **13 48 29.1 +0.1**
comp=Z,25nm,1.3s,mb4.9
X18A **Snowflake** **45.35** 173 ⇓P **P** **13 48 30.0 +0.5**
baz=45,SNR=15
X20A **Quemado** **45.37** 172 ⇑P **P** **13 48 30.6 +0.9**
baz=45
X16A **Lo Mia Camp, P** **45.43** 175 ⇓P **P** **13 48 30.7 +0.5**
baz=45,SNR=17
X24A **Lazy VL Ranch,** **45.44** 168 ⇓P **P** **13 48 30.5 +0.2**
baz=45,SNR=13
X22A **Bernardo** **45.45** 170 ⇑P **P** **13 48 30.9 +0.6**
baz=45
X27A **F and S Farms,** **45.45** 165 ⇑P **P** **13 48 30.4 0.0**
baz=45,SNR=5.3
X19A **St. Johns** **45.46** 173 ⇓P **P** **13 48 30.6 +0.1**
baz=45,SNR=11
X21A **Alamocita Cree** **45.48** 171 ⇓P **P** **13 48 30.9 +0.3**
baz=45,SNR=21
X25A **Clemmons Ranch** **45.51** 167 ⇑P **P** **13 48 31.2 +0.4**
baz=45
PDMCI **Parker Dam,Lak** **45.52** 178 ⇑P **P** **13 48 31.4 +0.5**
baz=45,SNR=22
X26A **CR and CF Fran** **45.52** 166 ⇓P **P** **13 48 30.9 0.0**
baz=45,SNR=16
X17A **Forest Lakes** **45.52** 174 ⇓P **P** **13 48 31.8 +0.9**
baz=45,SNR=15
LAZ **Ladron** **45.55** 170 *e*P **P** **13 48 31.6 +0.5**
comp=Z,8.7nm,1.1s,mb4.6
BBRC **Big Bear Solar** **45.56** 181 ⇓P **P** **13 48 32.0 +0.8**
baz=45,SNR=14
BFSC **Mount Baldy Ra** **45.58** 182 ⇓P **P** **13 48 32.4 +0.9**
baz=46,SNR=48
WMOK **Wichita Mounta** **45.59** 160 P **P** **13 48 28.9 -2.6**
comp=Z,21nm,0.9s,mb5.1
WMOK **Wichita Mounta** **45.59** 160 P **P** **13 48 28.9 -2.6**
WMOK pmax pmax
comp=Z,21nm,0.9s,mb5.1
MWC **Mount Wilson** **45.60** 183 *e*P **P** **13 48 32.5 +0.9**
comp=Z,111nm,1.3s,mb5.6
MWC **Mount Wilson** **45.60** 183 *e*P **P** **13 48 32.5 +0.9**
MWC pmax pmax
comp=Z,111nm,1.3s,mb5.6
LPM **Los Pinos Moun** **45.65** 170 *e*P **P** **13 48 32.0 +0.1**
IRM **Iron Mountain** **45.66** 179 ⇑P **P** **13 48 32.8 +0.8**
baz=46,SNR=13
PASC **Pasadena Art C** **45.66** 183 *e*P **P** **13 48 32.7 +0.7**
comp=Z,208nm,1.0s,mb6.0
BLG **Laguna Peak** **45.73** 184 ⇓P **P** **13 48 33.3 +0.7**
baz=46,SNR=7.1
KLR **Kul'dur** **45.77** 302 *e*P **P** **13 48 29.8 -2.9**
KLR pmax pmax
comp=Z,68nm,1.6s,mb5.3
LENM **Lemitar** **45.79** 170 *e*P **P** **13 48 33.3 +0.3**
BNM **Barren Site** **45.81** 170 *e*P **P** **13 48 33.4 +0.1**
comp=Z,28nm,1.1s,mb5.1
BELC **Belle Mtn. Jos** **45.81** 180 ⇓P **P** **13 48 34.1 +0.8**
baz=46,SNR=71
BCLA **Clavier** **45.82** 50 P **P** **13 48 32.8 -0.3**
BSC **Santa Cruz Isl** **45.85** 185 ⇑P **P** **13 48 33.9 +0.4**
baz=46
Y22D **IRIS PASSCAL I** **45.88** 170 ⇓P **P** **13 48 33.9 +0.2**
baz=46
Y15A **Casa Rosa Ranc** **45.88** 176 ⇑P **P** **13 48 34.6 +0.8**
baz=46,SNR=19
Y14A **Wickenburg** **45.89** 177 ⇑P **P** **13 48 34.8 +0.9**
baz=46,SNR=32
Y21A **Point of Rocks** **45.92** 171 ⇑P **P** **13 48 34.6 +0.5**
baz=46,SNR=34
Y19A **Nutrioso** **45.93** 173 ⇑P **P** **13 48 34.9 +0.8**
baz=46,SNR=19
TKL **Tuckaleechee C** **45.95** 143 P **P** **13 48 33.0 -1.3**
comp=Z,3.4nm,0.7s,mb4.4,baz=41,slow=7.0,SNR=3.5
TKL LR LR 14 08 47.3
comp=Z,2µm,19.2s,MS5.2,baz=356,slow=37
TKL **Tuckaleechee C** **45.95** 143 P **P** **13 48 33.0 -1.3**
TKL LR LR 14 08 47.3
TKL **Tuckaleechee C** **45.95** 143 P **P** **13 48 33.0 -1.3**
CLL **Collm** **45.96** 43 *e*P **P** **13 48 34.0 -0.2**
CLL *e* 13 50 10.0
CLL *e*S **S** **13 55 18.0 -1.1**
CLL pmax pmax
comp=Z,28nm,1.2s,mb5.1
CLL MLR MLR
comp=Z,1µm,20.0s,MS4.8
CLL **Collm** **45.96** 43 *i*P **P** **13 48 34.4 +0.2**
comp=Z,28nm,1.2s,mb5.1
CLL *e*(sP) sP 13 48 41.0 +6.0
CLL *e*PcP PcP 13 50 10.0 -0.8
CLL *e*PP PP 13 50 18.0 -3.4
CLL *e*S **S** **13 55 18.0 -1.1**
CLL LH 14 07 00.0
comp=N,700nm,20.8s
CLL LH 14 07 00.0
comp=E,200nm,18.5s
CLL LmV 14 08 00.0
comp=Z,1µm,20.0s
Y16A **Circle Bar Ran** **45.97** 175 ⇑P **P** **13 48 35.0 +0.5**
baz=46,SNR=19
Y20A **Horse Springs,** **46.00** 172 ⇑P **P** **13 48 35.5 +0.8**
baz=46,SNR=22
UALR **University of** **46.01** 153 *e*P **P** **13 48 32.7 -2.1**
comp=Z,20nm,0.7s,mb5.2
Y22A **Socorro** **46.01** 170 ⇑P **P** **13 48 35.1 +0.3**
baz=46,SNR=33
BAIF **Baives** **46.02** 51 *e*P **P** **13 48 35.0 +0.3**
comp=Z,133nm,1.0s,mb5.5
DOU **Dourbes** **46.04** 51 P **P** **13 48 35.4 +0.6**
comp=Z,12nm,1.2s,mb4.7
Y23A **Lovelace Mesa,** **46.05** 169 ⇑P **P** **13 48 35.4 +0.3**
baz=46,SNR=12
Y12C **Blythe** **46.07** 179 ⇓P **P** **13 48 35.8 +0.6**
baz=46,SNR=20
GIVF **Givet** **46.07** 50 *e*P **P** **13 48 35.2 +0.2**
comp=Z,77nm,0.9s,mb5.3
ZAA0 **Zalesovo Array** **46.07** 343 *e*P **P** **13 48 33.8 -1.2**
ZALV **Zalesovo Beam** **46.07** 343 P **P** **13 48 34.0 -1.0**
comp=Z,6.0nm,0.8s,mb4.6,baz=360,slow=7.6,SNR=30
ZALV PcP PcP 13 50 10.2 -0.9
comp=Z,5.3nm,0.8s,baz=19,slow=2.6,SNR=6.7
ZALV PKiKP PKiKP 13 57 04.0 -2.5
comp=Z,0.5nm,0.4s,baz=270,slow=1.5,SNR=4.5
ZALV **Zalesovo Beam** **46.07** 343 P **P** **13 48 34.0 -1.0**
ZALV PcP PcP 13 50 10.2 -0.9
ZALV **Zalesovo Beam** **46.07** 343 P **P** **13 48 34.0 -1.0**
ZALV 13 50 10.2
CPCT **Cooper Cave** **46.08** 144 *e*P **P** **13 48 32.6 -2.7**
Y24A **Capitan** **46.08** 168 ⇑P **P** **13 48 35.6 +0.3**
baz=46,SNR=32
Y18A **Canyon Day Jun** **46.09** 174 ⇑P **P** **13 48 36.2 +0.8**
baz=46,SNR=32
Y25A **Mesa, Roswell** **46.11** 167 ⇑P **P** **13 48 35.7 +0.1**
baz=46,SNR=25
MIAR **Mount Ida** **46.14** 155 *e*P **P** **13 48 34.2 -1.6**
comp=Z,43nm,1.1s,mb5.3
MIAR **Mount Ida** **46.14** 155 *e*P **P** **13 48 34.3 -1.5**
MIAR pmax pmax
comp=Z,43nm,1.1s,mb5.3
Y26A **Elida** **46.14** 166 ⇓P **P** **13 48 36.0 +0.1**
baz=46,SNR=12
MSTX **Muleshoe** **46.15** 165 ⇓P **P** **13 48 35.6 -0.3**
baz=46,SNR=7.0
BC3 **Big Chuckawall** **46.16** 180 ⇑P **P** **13 48 36.7 +0.7**
baz=46,SNR=35
SWET **Sewanee** **46.16** 146 *e*P **P** **13 48 33.7 -2.3**
Y17A **Roosevelt** **46.16** 174 ⇑P **P** **13 48 36.6 +0.7**
baz=46,SNR=14
PLAL **Pickwick Lake** **46.18** 148 *e*P **P** **13 48 34.0 -2.2**
comp=Z,20nm,0.9s,mb5.0
PFO **Pinyon Flat Ob** **46.21** 181 ⇓P **P** **13 48 36.6 +0.3**
baz=46,SNR=14
PFO **Pinyon Flat Ob** **46.21** 181 *e*P **P** **13 48 37.0 +0.7**
comp=Z,40nm,1.5s,mb5.1
PFO **Pinyon Flat Ob** **46.21** 181 *e*P **P** **13 48 37.0 +0.7**
PFO pmax pmax
comp=Z,40nm,1.5s,mb5.1
PFO **Pinyon Flat Ob** **46.21** 181 P **P** **13 48 36.1 -0.2**
comp=Z,87nm,1.2s,mb5.6,SNR=8.4
Y27A **Causey** **46.21** 166 ⇑P **P** **13 48 36.5 +0.1**
baz=46,SNR=31
MURC **Murrieta** **46.22** 182 ⇑P **P** **13 48 36.6 +0.2**
baz=46,SNR=6.7

YSS Yuzh-Sakhalins 46.22 292 *e*P **P** **13 48 35.8 -0.5**
comp=Z,500nm,1.2s,mb5.3
YSS Yuzh-Sakhalins 46.22 292 *e*P **P** **13 48 36.0 -0.3**
YSS pmax pmax
comp=E,40nm,1.0s
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.3
IRK Irkutsk 46.30 327 *e*P **P** **13 48 36.9 +0.1**
IRK *e* 13 50 11.3
IRK pmax pmax
comp=Z,41nm,2.6s,mb4.9
CIS Catalina Islan 46.42 183 ⇓P **P** **13 48 38.4 +0.4**
baz=46,SNR=9.0
Z14A Wintersburg 46.46 177 ⇑P **P** **13 48 38.9 +0.6**
baz=46,SNR=6.4
BRG Berggiesshubel 46.50 42 *e*P **P** **13 48 39.7 +1.3**
comp=Z,19nm,1.2s,mb4.9
BRG *e* 13 48 45.8
comp=Z,13nm,0.9s
BRG *e*PCP PcP 13 50 11.4 -1.3
comp=Z,13nm,1.0s
BRG
comp=N,576nm,23.7s
BRG
comp=E,284nm,20.9s
BRG
comp=Z,902nm,16.7s
BRG Berggiesshubel 46.50 42 *e*P **P** **13 48 39.7 +1.3**
BRG *e* 13 48 45.8
BRG *e* 13 50 11.4
BRG pmax pmax
comp=Z,19nm,1.2s,mb4.9
BRG MLR MLR
comp=N,576nm,23.7s,MS4.5
BRG MLR MLR
comp=E,284nm,20.9s,MS4.5
BRG MLR MLR
comp=Z,902nm,16.7s,MS4.8
Z16A Peralta Trail, 46.50 175 ⇑P **P** **13 48 39.3 +0.6**
baz=46
BST Brest 46.52 59 *e*P **P** **13 48 38.6 0.0**
BST Brest 46.52 59 *e*P **P** **13 48 38.6 0.0**
OXF Oxford 46.53 150 *e*P **P** **13 48 37.6 -1.3**
comp=Z,136nm,1.1s,mb5.8
OXF Oxford 46.53 150 *e*P **P** **13 48 37.6 -1.2**
OXF pmax pmax
comp=Z,136nm,1.1s,mb5.8
Z17A San Carlos Hig 46.56 174 ⇑P **P** **13 48 40.3 +1.1**
baz=46
Z19A T-Link Ranch, 46.59 173 ⇑P **P** **13 48 40.3 +0.9**
baz=46,SNR=8.6
ROSF Rostrenen 46.61 58 *e*P **P** **13 48 38.9 -0.4**
comp=Z,103nm,1.0s,mb5.4
FLN La Foliniere 46.61 55 *e*P **P** **13 48 38.7 -0.7**
comp=Z,74nm,1.0s,mb5.3
FLN *e*R
comp=Z,1µm,20.2s
Z21A St. Cloud Mine 46.62 171 ⇓P **P** **13 48 40.2 +0.7**
baz=46,SNR=35
Z13A Yuma Proving G 46.62 178 ⇓P **P** **13 48 40.0 +0.4**
baz=46,SNR=18
Z24A Sheeppen Canyo 46.67 168 ⇓P **P** **13 48 39.9 -0.1**
baz=47,SNR=20
WLF Walferdange 46.68 49 P **P** **13 48 40.0 +0.2**
comp=Z,30nm,1.1s,mb5.1
Z22A Elephant Butte 46.69 170 ⇑P **P** **13 48 39.8 -0.3**
baz=47,SNR=15
Z23A Rita Site, Whi 46.71 169 ⇑P **P** **13 48 40.0 -0.3**
baz=47,SNR=8.9
KMSC Kings Mountain 46.73 141 ⇓P **P** **13 48 39.4 -1.1**
baz=47,SNR=7.3
Z25A Roswell 46.75 167 ⇓P **P** **13 48 40.5 -0.1**
baz=47,SNR=44
GLA Glamis 46.76 179 ⇓P **P** **13 48 41.0 +0.3**
baz=47,SNR=12
GLA Glamis 46.76 179 *e*P **P** **13 48 41.0 +0.3**
comp=Z,43nm,1.0s,mb5.3
GLA Glamis 46.76 179 *e*P **P** **13 48 41.0 +0.3**
GLA pmax pmax
comp=Z,43nm,1.0s,mb5.3
RUP Ruppelstein 46.76 49 *e*P **P** **13 48 40.4 -0.1**
RUP Ruppelstein 46.76 49 *e*P **P** **13 48 40.4 -0.1**
Z27A Tatum 46.78 166 ⇓P **P** **13 48 40.6 -0.2**
baz=47,SNR=15
Z18A Geronimo 46.78 174 ⇑P **P** **13 48 41.2 +0.4**
baz=47
Z26A Caprock 46.79 167 ⇑P **P** **13 48 39.9 -1.0**
baz=47,SNR=25
Z20A Nine Sixteen R 46.79 172 ⇓P **P** **13 48 41.5 +0.5**
baz=47,SNR=17
SGMF Saint Gilles 46.80 57 *e*P **P** **13 48 40.2 -0.6**
comp=Z,38nm,1.0s,mb5.0
LDF La Druitiere 46.83 55 *e*P **P** **13 48 40.3 -0.8**
comp=Z,43nm,0.8s,mb5.1
SCI San Clemente I 46.85 183 ⇑P **P** **13 48 42.1 +0.7**
baz=47,SNR=14
SWSC Sam W. Stewart 46.87 180 ⇓P **P** **13 48 42.1 +0.6**
baz=47,SNR=12
PVCC Panska Ves 46.91 42 *e*P **P** **13 48 42.7 +1.0**
PVCC *e* 13 48 48.7
PVCC MLR MLR
comp=Z,700nm,16.3s,MS4.7
PVCC Panska Ves 46.91 42 *e*P **P** **13 48 42.7 +1.0**
PVCC *e*pP 13 48 48.7
PVCC AMS AMS 14 09 40.0
comp=Z,700nm,16.3s
TLY Talaya 46.92 327 *e*P **P** **13 48 41.5 -0.2**
comp=Z,30nm,1.1s,mb5.1
TLY Talaya 46.92 327 *e*P **P** **13 48 41.8 +0.1**
TLY *e* 13 50 13.9
TLY pmax pmax
comp=Z,25nm,1.0s,mb5.1
TLY MLR MLR
comp=Z,1µm,19.0s,MS4.8
GRR Gorron 46.92 56 *e*P **P** **13 48 41.4 -0.4**
comp=Z,82nm,1.2s,mb5.2
MONP Monument Peak 46.92 181 ⇓P **P** **13 48 42.7 +0.7**
baz=47,SNR=24
NKC Novy Kostel 46.94 44 *e*P **P** **13 48 42.6 +0.7**
NKC *e* 13 48 49.4
NKC MLR MLR
comp=Z,700nm,14.7s,MS4.8
NKC Novy Kostel 46.94 44 *e*P **P** **13 48 42.6 +0.7**
NKC *e*pP 13 48 49.4
NKC AMS AMS 14 14 20.0
comp=Z,700nm,14.7s
CPRX Cap Rock 47.03 166 *e*P **P** **13 48 42.2 -0.6**
comp=Z,28nm,1.2s,mb5.1
QUIF Quistinic 47.03 58 *e*P **P** **13 48 42.2 -0.5**
comp=Z,50nm,1.0s,mb5.1
113A Mohawk Valley, 47.05 178 ⇓P **P** **13 48 43.3 +0.3**
baz=47,SNR=12
114A Black Gap (USA 47.07 177 ⇓P **P** **13 48 43.5 +0.3**
baz=47,SNR=11
TOD Tromm 47.09 47 *e*P **P** **13 48 43.2 +0.1**
TOD Tromm 47.09 47 *e*P **P** **13 48 43.2 +0.1**
UPC Upice 47.10 41 *e*P **P** **13 48 41.5 -1.7**
UPC *e* 13 48 48.6
UPC Upice 47.10 41 *e*P **P** **13 48 41.5 -1.7**
UPC *e*pP 13 48 48.6
119A Ashpeak Ranch, 47.12 173 ⇓P **P** **13 48 43.9 +0.4**
baz=47,SNR=6.9
115A Sonoran Desert 47.13 176 ⇓P **P** **13 48 44.1 +0.5**
baz=47
BAR Barrett 47.13 181 *e*P **P** **13 48 43.6 0.0**
comp=Z,42nm,1.3s,mb5.2
DVTC Desert V Tower 47.15 181 ⇓P **P** **13 48 44.9 +1.1**
baz=47,SNR=16
MOY Mondy 47.18 330 *e*P **P** **13 48 46.0 +2.3**
MOY pmax pmax
comp=Z,68nm,2.2s,mb5.2
118A Homack Ranch, 47.23 173 ⇓P **P** **13 48 45.0 +0.7**
baz=47,SNR=37
122A Conniff Cattle 47.25 170 ⇓P **P** **13 48 45.0 +0.5**
baz=47,SNR=10
116A Eloy 47.28 175 ⇑P **P** **13 48 45.0 +0.3**
baz=47
117A Oracle 47.28 174 ⇓P **P** **13 48 45.2 +0.4**
baz=47,SNR=22
DPC Dobruska-Polom 47.29 40 *e*P **P** **13 48 45.1 +0.5**
comp=Z,42nm,1.0s,mb5.3
DPC Dobruska-Polom 47.29 40 *e*P **P** **13 48 45.0 +0.3**
DPC *e* 13 48 52.7
DPC MLR MLR
comp=Z,800nm,15.0s,MS4.8
DPC Dobruska-Polom 47.29 40 *e*P **P** **13 48 45.0 +0.3**
DPC *ex* x 13 48 52.7
DPC AMS AMS 14 16 40.0
comp=Z,800nm,15.0s
124A Stringfield Ra 47.30 168 ⇑P **P** **13 48 44.7 -0.2**
baz=47,SNR=22
GRFO Grafenberg 47.32 45 *e*P **P** **13 48 45.5 +0.6**
comp=Z,55nm,1.2s,mb5.4
GRFO Grafenberg 47.32 45 *e*P **P** **13 48 45.5 +0.6**
GRFO pmax pmax
comp=Z,55nm,1.2s,mb5.4
123A Bell Site, Whi 47.34 169 ⇓P **P** **13 48 45.2 0.0**
baz=47
PRA Prague 47.35 42 P **P** **13 48 46.0 +0.9**
120A U Bar Ranch, L 47.35 172 ⇑P **P** **13 48 45.6 +0.3**
baz=47,SNR=15
125A Gardner Draw, 47.37 167 ⇓P **P** **13 48 44.9 -0.6**
baz=47,SNR=16
121A Cookes Peak, D 47.39 171 ⇓P **P** **13 48 45.8 +0.2**
baz=47,SNR=13
127A Arkansas Junct 47.41 166 ⇑P **P** **13 48 45.6 -0.2**
baz=47
126A Clayton Basin, 47.41 167 ⇑P **P** **13 48 45.4 -0.3**
baz=47,SNR=12
PRU Pruhonice 47.44 42 *e*P **P** **13 48 46.7 +0.9**
PRU *e* 13 48 54.0
PRU MLR MLR
comp=Z,600nm,15.6s,MS4.7
PRU Pruhonice 47.44 42 *e*P **P** **13 48 46.7 +0.9**
PRU *ex* x 13 48 54.0
PRU AMS AMS 14 10 20.0
comp=Z,600nm,15.6s
HIA Hailar 47.44 313 *e*P **P** **13 48 45.0 -0.8**
comp=Z,54nm,1.3s,mb5.3
HIA Hailar 47.44 313 *e*P **P** **13 48 45.0 -0.8**
HIA pmax pmax
comp=Z,54nm,1.3s
BRVK Borovoye 47.45 355 *e*P **P** **13 48 45.3 -0.5**
comp=Z,14nm,0.9s,mb4.9
BRVK Borovoye 47.45 355 *c i*P **P** **13 48 46.0 +0.2**
BRVK pmax pmax
comp=Z,18nm,1.2s,mb4.9
BRVK Borovoye 47.45 355 P **P** **13 48 46.5 +0.7**
comp=Z,75nm,1.2s,mb5.5,SNR=7.9
BRVK Borovoye 47.45 355 P **P** **13 48 46.4 +0.6**
SNR=14
BVA0 Borovoye Array 47.48 355 *i* P **P** **13 48 46.6 +0.5**
BVA0 pmax pmax
comp=Z,18nm,2.3s,mb4.6
BVAR Borovoye Array 47.48 355 P **P** **13 48 46.4 +0.4**
comp=Z,6.7nm,0.8s,mb4.6,baz=349,slow=3.7,SNR=30
BVAR PcP PcP 13 50 16.1 -0.1
comp=Z,12nm,0.8s,baz=332,slow=2.1,SNR=6.5
BVAR Borovoye Array 47.48 355 P **P** **13 48 46.4 +0.4**
BVAR PcP PcP 13 50 16.1 -0.1
BVAR Borovoye Array 47.48 355 P **P** **13 48 46.4 +0.3**
BVAR 13 50 16.1
TUC Tucson 47.54 174 *e*P **P** **13 48 46.8 0.0**
comp=Z,24nm,1.1s,mb5.1
TUC Tucson 47.54 174 *e*P **P** **13 48 46.8 0.0**
TUC pmax pmax
comp=Z,24nm,1.1s,mb5.1
JSC Jenkinsville 47.59 141 *e*P **P** **13 48 46.1 -1.1**
JSC Jenkinsville 47.59 141 *e*P **P** **13 48 46.1 -1.0**
PAGF Fort de Pagny 47.70 50 *e*P **P** **13 48 48.6 +0.7**
comp=Z,34nm,1.0s,mb5.0
CLNB Carlsbad 47.79 167 *e*P **P** **13 48 48.2 -0.6**
comp=Z,7.8nm,1.0s,mb4.7
OJC Ojcow 47.82 37 *e*P **P** **13 48 48.1 -0.6**
OJC *e*PcP PcP 13 50 17.4 0.0
OJC Ojcow 47.82 37 *e*P **P** **13 48 48.1 -0.6**
OJC *e* 13 50 17.4
222A Williams Famil 47.84 170 ⇓P **P** **13 48 48.8 -0.3**
baz=48,SNR=5.3
216A Three Points, 47.84 175 ⇑P **P** **13 48 49.4 +0.3**
baz=48,SNR=5.1
214A Organ Pipe Nat 47.87 177 ⇓P **P** **13 48 49.7 +0.4**
baz=48
219A White Tail Can 47.88 173 ⇑P **P** **13 48 49.4 0.0**
baz=48,SNR=40
218A Dragoon 47.89 174 ⇑P **P** **13 48 49.7 +0.2**
baz=48,SNR=13
225A Deer Hill, Car 47.91 168 ⇑P **P** **13 48 49.2 -0.5**
baz=48,SNR=21
224A Cornudas Mount 47.92 168 ⇓P **P** **13 48 49.0 -0.7**
baz=48,SNR=15
SFTF Sexfontaines 47.95 51 *e*P **P** **13 48 50.0 +0.2**
comp=Z,53nm,0.9s,mb5.3
226A Malaga, Loving 47.99 167 ⇓P **P** **13 48 49.5 -0.7**
baz=48,SNR=12
220A Playas Peak, P 48.00 172 ⇓P **P** **13 48 50.3 0.0**
baz=48,SNR=17
MORC Moravsky Berou 48.00 39 *e*P **P** **13 48 49.5 -0.6**
comp=Z,10nm,0.9s,mb4.8
MORC Moravsky Berou 48.00 39 *e*P **P** **13 48 49.5 -0.6**
MORC pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MORC Moravsky Berou 48.00 39 ⇓*i*P **P** **13 48 50.6 +0.5**
OKC Ostrava-Krasne 48.01 39 *e*P **P** **13 48 50.0 -0.2**
OKC *e* 13 48 56.8
OKC MLR MLR
comp=Z,700nm,14.6s,MS4.8
OKC Ostrava-Krasne 48.01 39 *e*P **P** **13 48 50.0 -0.2**
OKC *e*pP 13 48 56.8
OKC AMS AMS 14 11 20.0
comp=Z,700nm,14.6s
CDF Champ du Feu 48.06 49 *e*P **P** **13 48 51.0 +0.4**
comp=Z,51nm,1.0s,mb5.2
THEF They Montfort 48.06 50 *e*P **P** **13 48 50.8 +0.2**
THEF They Montfort 48.06 50 *e*P **P** **13 48 50.8 +0.2**
THEF They Montfort 48.06 50 *e*P **P** **13 48 50.8 +0.2**
227A Bennet, Jal 48.07 166 ⇓P **P** **13 48 50.7 -0.2**
baz=48,SNR=10.0
217A Green Valley 48.08 174 ⇓P **P** **13 48 51.0 +0.1**
baz=48,SNR=12
KHC Kasperske Hory 48.16 43 *e*P **P** **13 48 51.5 +0.1**
KHC *e* 13 48 58.5
KHC Kasperske Hory 48.16 43 *e*P **P** **13 48 51.5 +0.1**
KHC *e*pP 13 48 58.5
ECH Echery 48.23 49 P **P** **13 48 51.4 -0.6**
comp=Z,20nm,1.0s,mb5.1
ECH Echery 48.23 49 P **P** **13 48 51.4 -0.6**
ECH pmax pmax
comp=Z,20nm,1.0s,mb5.1
ECH Echery 48.23 49 *e*P **P** **13 48 50.3 -1.7**
TREC Trest 48.23 41 AMS AMS 14 10 50.0
comp=Z,1µm,16.1s
ZAK Zakamensk 48.24 327 *e*P **P** **13 48 52.3 +0.3**
ZAK *e* 13 50 18.5
ZAK pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
AKASG Malin Array Be 48.27 29 P **P** **13 48 51.2 -1.0**
comp=Z,31nm,0.8s,mb5.4,baz=353,slow=8.3,SNR=60
AKASG PcP PcP 13 50 18.0 -1.0
comp=Z,25nm,0.9s,baz=353,slow=3.3,SNR=16
AKASG Malin Array Be 48.27 29 P **P** **13 48 51.2 -1.0**
AKASG PcP PcP 13 50 18.0 -1.0
AKASG Malin Array Be 48.27 29 P **P** **13 48 51.2 -1.0**
AKASG 13 50 18.0
AKBB Malin Array Si 48.27 29 *e*P **P** **13 48 51.7 -0.5**
AKBB Malin Array Si 48.27 29 *e*P **P** **13 48 51.7 -0.5**
KIEV Kiev 48.28 29 *e*P **P** **13 48 51.1 -1.2**
comp=Z,32nm,0.9s,mb5.3
KIEV Kiev 48.28 29 *e*P **P** **13 48 51.1 -1.2**
KIEV pmax pmax
comp=Z,32nm,0.9s,mb5.3
BFO Black Forest 48.28 48 *e*P **P** **13 48 52.6 +0.2**
comp=Z,26nm,1.0s,mb5.2
BFO Black Forest 48.28 48 *e*P **P** **13 48 52.6 +0.3**
BFO pmax pmax
comp=Z,26nm,1.0s,mb5.2
HAU Haudompre 48.33 50 *e*P **P** **13 48 53.2 +0.5**
comp=Z,78nm,1.0s,mb5.4
HAU *e*R
comp=Z,1µm,18.8s
VRAC Vranov 48.35 40 P **P** **13 48 53.0 +0.2**
comp=Z,5.7nm,0.6s,mb4.8,baz=348,slow=8.8,SNR=9.6
VRAC PcP PcP 13 50 19.1 -0.2
comp=Z,3.5nm,0.8s,baz=50,slow=0.7,SNR=4.0
VRAC LR LR 14 11 48.5
comp=Z,718nm,18.3s,MS4.7,baz=1.0,slow=39
VRAC Vranov 48.35 40 P **P** **13 48 53.0 +0.2**
VRAC PcP PcP 13 50 19.1 -0.2
VRAC LR LR 14 11 48.5
VRAC Vranov 48.35 40 P **P** **13 48 53.0 +0.1**
VRAC 13 50 19.1
VRAC Vranov 48.35 40 ⇑*i*P **P** **13 48 53.2 +0.3**
LIBD Limburg 48.36 49 *e*P **P** **13 48 53.8 +0.9**
LIBD Limburg 48.36 49 *e*P **P** **13 48 53.8 +0.9**
318A Bisbee 48.43 174 ⇑P **P** **13 48 53.7 +0.1**
baz=48,SNR=34
GERES GERESS Array B 48.46 43 P **P** **13 48 54.4 +0.7**
comp=Z,2.5nm,0.8s,mb4.3,baz=354,slow=6.7,SNR=13
GERES PcP PcP 13 50 19.4 -0.3
comp=Z,4.2nm,0.8s,baz=336,slow=2.9,SNR=6.1
GERES LR LR 14 10 16.2
comp=Z,1µm,19.3s,MS4.8,baz=3.6,slow=37
GERES GERESS Array B 48.46 43 P **P** **13 48 54.4 +0.7**
GERES PcP PcP 13 50 19.4 -0.3
GERES LR LR 14 10 16.2
GERES GERESS Array B 48.46 43 P **P** **13 48 54.4 +0.7**
GERES 13 50 19.4
319A Douglas 48.50 173 ⇓P **P** **13 48 54.4 +0.2**
baz=48
VSR Storozhevoye 48.52 21 *e*P **P** **13 48 53.9 -0.2**
VSR pmax pmax
comp=N,20nm,0.7s
VSR pmax pmax
comp=E,10.0nm,0.7s
VSR pmax pmax
comp=Z,20nm,0.7s,mb5.3
HYF Humbligny 48.53 53 *e*P **P** **13 48 54.5 +0.2**
324A Moseley Ranch, 48.55 168 ⇑P **P** **13 48 53.3 -1.3**
baz=48,SNR=23
SPAK Spaichingen-Ko 48.56 48 *e*P **P** **13 48 53.8 -0.7**
HINF Hinteralfeld 48.58 49 *e*P **P** **13 48 55.0 +0.3**
comp=Z,69nm,1.0s,mb5.3
MOF Molkenrain 48.59 49 *e*P **P** **13 48 55.0 +0.3**
MOF Molkenrain 48.59 49 *e*P **P** **13 48 55.0 +0.3**
MOF Molkenrain 48.59 49 *e*P **P** **13 48 55.0 +0.3**
325A Bean Ranch, Si 48.64 168 ⇑P **P** **13 48 54.4 -0.9**
baz=48
LVV L'vov 48.66 34 *e*P **P** **13 48 55.1 -0.1**
FELD Feldberg im Sc 48.68 48 *e*P **P** **13 48 57.3 +1.9**
VBMS Vicksburg 48.70 151 *e*P **P** **13 48 55.6 -0.2**
comp=Z,46nm,0.9s,mb5.5
LOR Lormes 48.70 52 *e*P **P** **13 48 55.7 +0.1**
comp=Z,103nm,1.0s,mb5.5
LOR *e*R
comp=Z,723nm,17.2s
KWP Kalwaria Pacla 48.71 35 *e*P **P** **13 48 55.7 +0.1**
comp=Z,10nm,0.4s,mb5.2
KWP Kalwaria Pacla 48.71 35 *e*P **P** **13 48 55.7 +0.1**
KWP pmax pmax
comp=Z,10.0nm,0.4s,mb5.2
KWP Kalwaria Pacla 48.71 35 ⇓*i*P **P** **13 48 55.2 -0.4**
328A Wristen Ranch, 48.72 165 ⇓P **P** **13 48 55.0 -0.9**
baz=49,SNR=21
326A Caldwell Ranch 48.73 167 ⇓P **P** **13 48 54.8 -1.2**
baz=49,SNR=21
STHS Stebnicka Huta 48.77 36 *e*P **P** **13 48 56.4 +0.4**
STHS pmax pmax
comp=Z,11nm,0.9s,mb4.9
STHS Stebnicka Huta 48.77 36 *e*P **P** **13 48 56.3 +0.3**
MFF Saint Martin d 48.77 56 *e*P **P** **13 48 56.2 +0.1**
comp=Z,98nm,1.0s,mb5.5
VRHR Novokhopersk 48.79 19 *e*P **P** **13 48 55.2 -1.0**
VRHR pmax pmax
comp=N,40nm,0.9s
VRHR pmax pmax
comp=E,20nm,0.9s
VRHR pmax pmax
comp=Z,50nm,0.9s,mb5.5
SSF Saint Saulge 48.86 52 *e*P **P** **13 48 56.9 +0.1**
comp=Z,95nm,1.0s,mb5.5
ASAJ Asahikawa 49.01 291 P **P** **13 48 55.9 -2.1**
comp=Z,18nm,0.9s,mb5.1,baz=63,slow=6.8,SNR=16
ASAJ Asahikawa 49.01 291 *e*P **P** **13 48 56.4 -1.6**
comp=Z,30nm,1.5s,mb5.1
ASAJ Asahikawa 49.01 291 P **P** **13 48 55.9 -2.1**
ASAJ pmax pmax
comp=Z,18nm,0.9s
AVF Avril sur Loir 49.10 53 *e*P **P** **13 48 58.7 +0.1**
comp=Z,139nm,1.0s,mb5.7
427A Hayter Ranch, 49.22 166 ⇓P **P** **13 48 59.2 -0.5**
baz=49,SNR=20
BGF Bois d'Agland 49.25 53 *e*P **P** **13 48 59.8 0.0**
comp=Z,149nm,1.0s,mb5.7
SMF Signal de Mont 49.31 52 *e*P **P** **13 49 00.2 -0.1**
comp=Z,103nm,1.0s,mb5.5
426A McDonald Obser 49.38 167 ⇓P **P** **13 48 59.7 -1.3**
baz=49,SNR=22
428A Kincaid Ranch, 49.38 165 ⇓P **P** **13 49 00.3 -0.7**
baz=49,SNR=11
VYHS Vyhne 49.41 39 *e*P **P** **13 49 00.7 -0.3**
VYHS pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
VYHS Vyhne 49.41 39 *e*P **P** **13 49 00.7 -0.3**
RETA Reutte 49.43 46 ⇑*i*PcP PcP 13 50 23.5 +0.3
comp=Z,21nm,1.2s
TCF Toulx Ste Croi 49.43 54 *e*P **P** **13 49 01.0 -0.1**
comp=Z,71nm,0.9s,mb5.4
ZST Bratislava 49.51 40 *e*P **P** **13 49 02.1 +0.4**
ZST Bratislava 49.51 40 *e*P **P** **13 49 02.0 +0.3**
MOA Molln 49.51 43 ⇑*i*PcP PcP 13 50 23.0 -0.6
comp=Z,15nm,0.9s
KURK Kurchatov 49.57 348 LR LR 14 13 25.7
comp=Z,1µm,18.9s,MS4.8,baz=25,slow=40
KURK Kurchatov 49.57 348 *e*P **P** **13 49 01.3 -0.9**
comp=Z,199nm,1.2s,mb5.0
KURK Kurchatov 49.57 348 *c i*P **P** **13 49 01.4 -0.8**
KURK pmax pmax
comp=Z,28nm,1.7s,mb5.0
KURK Kurchatov 49.57 348 P **P** **13 49 02.3 +0.1**
SNR=8.6
KECS Kecovo 49.60 37 *e*P **P** **13 49 00.8 -1.7**
KECS pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
KECS Kecovo 49.60 37 *e*P **P** **13 49 00.8 -1.7**
CONA Conrad Observa 49.62 41 ⇑*i*pP pP 13 49 03.0 -0.2
comp=Z,15nm,1.7s
UZH Uzhgorod 49.65 36 *e*P **P** **13 49 03.5 +0.7**
UZH *e*S **S** **13 56 10.1 -1.5**
CABF La Chapelle 49.66 50 *e*P **P** **13 49 03.4 +0.5**
comp=Z,112nm,1.0s,mb5.5
JCT Junction City 49.77 162 ⇑P **P** **13 49 03.1 -0.8**
baz=50,SNR=19
JCT Junction City 49.77 162 *e*P **P** **13 49 03.0 -1.0**
comp=Z,37nm,0.9s,mb5.4
JCT Junction City 49.77 162 *e*P **P** **13 49 03.0 -0.9**
JCT pmax pmax
comp=Z,37nm,0.9s,mb5.4
AGO Saint Agoulin 49.79 53 *e*P **P** **13 49 03.9 0.0**
AGO Saint Agoulin 49.79 53 *e*P **P** **13 49 03.9 0.0**
FETA Feichten 49.88 46 ⇑*i*PcP PcP 13 50 25.3 +0.4
comp=Z,14nm,1.0s
527A Woodward Ranch 49.91 166 ⇓P **P** **13 49 04.3 -0.8**
baz=50,SNR=11
528A Cox Ranch, San 49.94 165 ⇓P **P** **13 49 04.5 -0.7**
baz=50,SNR=42
PLDF La Plantade 49.94 53 *e*P **P** **13 49 06.6 +1.5**
PLDF La Plantade 49.94 53 *e*P **P** **13 49 06.6 +1.5**
PLDF La Plantade 49.94 53 *e*P **P** **13 49 06.6 +1.5**
526A Mary Lane Ranc 49.98 167 ⇓P **P** **13 49 04.8 -0.8**
baz=50,SNR=74
DAVOX Davos/Dischmat 50.01 47 P **P** **13 49 05.2 -0.4**
comp=Z,6.4nm,0.8s,mb4.7,baz=333,slow=12,SNR=9.2
DAVOX LR LR 14 08 12.6
comp=Z,577nm,20.5s,MS4.6,baz=344,slow=34
DAVOX Davos/Dischmat 50.01 47 P **P** **13 49 05.2 -0.4**
DAVOX LR LR 14 08 12.6
DAVOX Davos/Dischmat 50.01 47 P **P** **13 49 05.2 -0.3**
AKTO Aktyubinsk 50.07 5 P **P** **13 49 06.1 +0.2**
comp=Z,17nm,1.0s,mb5.0,baz=360,slow=7.3,SNR=27
AKTO PcP PcP 13 50 24.9 -0.6
comp=Z,13nm,0.7s,baz=336,slow=3.8,SNR=8.4
AKTO Aktyubinsk 50.07 5 P **P** **13 49 06.1 +0.2**
AKTO PcP PcP 13 50 24.9 -0.6
AKTO Aktyubinsk 50.07 5 P **P** **13 49 05.7 -0.3**
AKTO pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
PYM Petit Puy Mans 50.07 53 *e*P **P** **13 49 05.7 -0.3**
PYM Petit Puy Mans 50.07 53 *e*P **P** **13 49 05.7 -0.3**
PYM Petit Puy Mans 50.07 53 *e*P **P** **13 49 05.7 -0.3**
SENIN Lac Senin/Sane 50.07 49 *e*P **P** **13 49 07.4 +1.4**
comp=Z,17nm,0.9s,mb5.1
PSZ Piszkesteto 50.10 38 *e*P **P** **13 49 06.6 +0.4**
comp=Z,33nm,1.2s,mb5.2
PSZ Piszkesteto 50.10 38 *e*P **P** **13 49 06.6 +0.4**
PSZ pmax pmax
comp=Z,33nm,1.2s,mb5.2
PSZ Piszkesteto 50.10 38 ⇓*i*P **P** **13 49 07.2 +1.0**
TRPA Tarpa 50.17 36 ⇓*i*P **P** **13 49 07.4 +0.6**

TUE Stuetta 50.24 47 *e*P P 13 49 05.9 -1.4
comp=Z,36nm,1.1s,mb5.3
RJF Les Rejaudoux 50.29 55 *e*P P 13 49 07.3 -0.4
comp=Z,40nm,1.0s,mb5.1
RJF *e*R
comp=Z,1µm,21.2s
ULN Ulaanbaatar 50.34 324 *e*P P 13 49 08.2 +0.1
comp=Z,39nm,1.2s,mb5.3
ULN Ulaanbaatar 50.34 324 *e*P P 13 49 08.2 +0.1
ULN pmax pmax
comp=Z,39nm,1.2s,mb5.3
ULN Ulaanbaatar 50.34 324 P P 13 49 09.7 +1.6
SNR=7.7
ABTA Abfaltersbach 50.38 45⇑*i*PcP PcP 13 50 26.1 -0.6
comp=Z,23nm,0.9s
SONM Songino Array 50.44 324 P P 13 49 09.3 +0.4
comp=Z,18nm,1.0s,mb5.1,baz=2.9,slow=5.6,SNR=69
SONM PcP PcP 13 50 26.7 -0.3
comp=Z,9.2nm,1.0s,baz=337,slow=2.8,SNR=3.9
SONM LR LR 14 11 28.7
comp=Z,2µm,18.1s,MS5.1,baz=2.0,slow=37
SONM Songino Array 50.44 324 P P 13 49 09.3 +0.4
SONM PcP PcP 13 50 26.7 -0.3
SONM LR LR 14 11 28.7
SONM Songino Array 50.44 324 P P 13 49 09.3 +0.5
SONM 13 50 26.7
626A Big Bend Ranch 50.48 167 ⇓P P 13 49 08.7 -0.6
baz=50,SNR=21
LFF La Frestale 50.53 56 *e*P P 13 49 09.5 0.0
comp=Z,70nm,1.1s,mb5.2
MDJ Mudanjiang 50.60 303 P P 13 49 08.8 -1.3
MDJ pmax pmax
comp=Z,26nm,1.5s,mb4.9
MDJ pmax pmax
comp=Z,330nm,5.4s
MDJ Mudanjiang 50.60 303 *e*P P 13 49 09.2 -0.8
comp=Z,37nm,1.3s,mb5.2
627A Terlingua Ranc 50.61 166 ⇓P P 13 49 09.4 -1.0
baz=50,SNR=22
TXAR Lajitas Array 50.72 166 P P 13 49 10.0 -1.1
comp=Z,2.2nm,0.5s,mb4.3,baz=2.1,slow=6.7,SNR=35
TXAR LR LR 14 11 59.5
comp=Z,2µm,18.4s,MS5.2,baz=10.0,slow=38
TXAR Lajitas Array 50.72 166 P P 13 49 10.0 -1.1
TXAR LR LR 14 11 59.5
TXAR Lajitas Array 50.72 166 P P 13 49 10.0 -1.2
CAF Calviac 50.74 54 *e*P P 13 49 11.0 -0.1
comp=Z,53nm,1.1s,mb5.1
SSB Saint Sauveur 50.75 52 *e*P P 13 49 11.5 +0.3
comp=Z,29nm,0.9s,mb5.2
SSB Saint Sauveur 50.75 52 *e*P P 13 49 11.5 +0.3
SSB pmax pmax
comp=Z,29nm,0.9s,mb5.2
SOKA Soboth 50.76 42⇑*i*PcP PcP 13 50 27.3 -0.8
comp=Z,18nm,0.8s
LPL La Plagne 50.82 50 *e*P P 13 49 13.1 +1.4
comp=Z,38nm,1.0s,mb5.0
LPG La Plagne 50.84 50 *e*P P 13 49 13.4 +1.5
comp=Z,102nm,1.3s,mb5.3
EPON Pontenova 50.88 63 P P 13 49 12.6 +0.3
comp=Z,13nm,0.8s,mb4.9
BUR08 Bucovina Ar. S 50.92 33 *e*P P 13 49 12.8 +0.3
BURAR Bucovina Array 50.95 33 ⇓P P 13 49 13.2 +0.5
BURAR Bucovina Array 50.95 33 ⇓*i*P P 13 49 13.2 +0.5
ERM Erimo 50.95 290 *e*P P 13 49 12.0 -0.8
comp=Z,112nm,1.3s,mb5.6
ERM Erimo 50.95 290*ce*P P 13 49 12.4 -0.4
ERM pmax pmax
comp=Z,85nm,1.2s,mb5.5
STS Santiago 51.09 65 P P 13 49 13.4 -0.4
comp=Z,22nm,0.9s,mb5.1
STS Santiago 51.09 65 P P 13 49 13.4 -0.4
STS pmax pmax
comp=Z,22nm,0.9s,mb5.1
VIVF Saint-Julien-l 51.18 52 *e*P P 13 49 14.9 +0.5
comp=Z,39nm,1.0s,mb5.0
EARI Arriondas 51.22 61 P P 13 49 15.0 +0.3
comp=Z,76nm,1.5s,mb5.4
BNI Bardonecchia 51.27 50 *e*P P 13 49 15.8 +0.7
comp=Z,24nm,1.0s,mb5.1
BNI Bardonecchia 51.27 50 *e*P P 13 49 15.8 +0.7
BNI pmax pmax
comp=Z,24nm,1.0s,mb5.1
AB31 Akbulak array 51.27 4 *i*P P 13 49 14.9 -0.2
ABKAR Akbulak array 51.27 4 *e*P P 13 49 14.7 -0.4
ABKAR *e*PcP PcP 13 50 29.9 -0.1
ORIF Oris-en-Rattie 51.29 51 *e*P P 13 49 15.7 +0.4
comp=Z,60nm,1.3s,mb5.1
ORIF *e*R
comp=Z,742nm,20.5s
DRGR 51.51 36 ⇑P P 13 49 16.9 0.0
DRGR 51.51 36 ⇑*i*P P 13 49 16.9 0.0
ELAN Lanestosa 51.56 60 P P 13 49 18.5 +1.2
comp=Z,20nm,1.1s,mb5.0
MBDF Montbardon 51.60 50 *e*P P 13 49 18.7 +1.1
comp=Z,65nm,1.1s,mb5.2
VLA Vladivostok 51.71 300*d i*P P 13 49 18.0 -0.4
VLA pmax pmax
comp=Z,117nm,1.7s,mb5.5
ERUA La Rua 51.80 63 P P 13 49 19.6 +0.5
comp=Z,22nm,1.0s,mb5.0
ERUA La Rua 51.80 63 P P 13 49 19.6 +0.5
ERUA pmax pmax
comp=Z,22nm,1.0s,mb5.0
LASF Ste Croix 51.83 53 *e*P P 13 49 19.9 +0.6
comp=Z,97nm,1.5s,mb5.2
KIS Kishinev 51.91 30 *e*P P 13 49 28.0 +8.1
CN2 Changchun 52.01 306 *e*P P 13 49 19.8 -0.9
CN2 *es*P sP 13 49 26.8 +5.3
CN2 *e*S **S** **13 56 35.5 -8.9**
CN2 SS SS 14 00 16.3 -4.3
CN2 pmax pmax
comp=Z,30nm,1.2s,mb5.1
CN2 LR LR
comp=N,1µm,16.0s,MS5.1
CN2 LR LR
comp=E,1µm,16.0s,MS5.1
CN2 LR LR
comp=Z,1µm,18.0s,MS4.9
PGAV Gavieira, Arco 52.03 65 *e*LR LR 14 06 08.4
comp=Z,900nm,20.0s
ELOB Lobios 52.16 64 P P 13 49 21.5 -0.3
comp=Z,6.4nm,0.8s,mb4.6
SMRF Simiane la Rot 52.17 51 *e*P P 13 49 22.4 +0.5
TESR 52.19 32 ⇓*i*P P 13 49 21.8 -0.1
ECAL Calabor 52.30 63 P P 13 49 24.1 +1.2
comp=Z,9.6nm,0.7s,mb4.8
MTLF Montolieu 52.31 55 *e*P P 13 49 23.1 +0.2
comp=Z,51nm,1.2s,mb5.0
PCAB Cabril 52.32 64 *e*P P 13 49 23.7 +0.7
comp=Z,51nm,1.6s,mb5.2
ETSF Etsaut 52.33 57 *e*P P 13 49 24.7 +1.6
comp=Z,40nm,1.2s,mb4.9
EPF Esparros 52.34 56 *e*P P 13 49 22.5 -0.6
TOUF Mont Tournerai 52.37 50 *e*P P 13 49 24.3 +1.0
TOUF Mont Tournerai 52.37 50 *e*P P 13 49 24.3 +1.0
TOUF Mont Tournerai 52.37 50 *e*P P 13 49 24.3 +1.0
AUTN L'Aution 52.41 50 *e*P P 13 49 24.1 +0.5
AUTN L'Aution 52.41 50 *e*P P 13 49 24.1 +0.5
AUTN L'Aution 52.41 50 *e*P P 13 49 24.1 +0.5
PBRG Braganca 52.43 63 *e*P P 13 49 23.9 +0.1
comp=Z,28nm,1.1s,mb5.1
PBRG Braganca 52.43 63 *e*LR LR 14 06 32.4
comp=Z,3µm,20.0s
LUCF Luceram 52.50 50 *e*P P 13 49 25.5 +1.2
LUCF Luceram 52.50 50 *e*P P 13 49 25.5 +1.2
SBF Sospel 52.54 50 *e*P P 13 49 26.0 +1.4
comp=Z,77nm,1.0s,mb5.3
BZS Buzias 52.56 37 ⇓P P 13 49 25.0 +0.3
BZS Buzias 52.56 37 ⇓*i*P P 13 49 25.0 +0.3
EBIE Bielsa 52.64 57 P P 13 49 26.6 +1.2
comp=Z,26nm,1.1s,mb5.1
POLO Lamas de Olo 52.69 64 *e*P P 13 49 26.0 +0.3
comp=Z,14nm,1.5s,mb4.7
POLO Lamas de Olo 52.69 64 *e*LR LR 14 06 34.8
comp=Z,539nm,20.0s
FRF La Foret Royal 52.73 51 *e*P P 13 49 26.3 +0.3
comp=Z,74nm,1.0s,mb5.2
PVRL Vila Real 52.79 64 *e*P P 13 49 27.4 +0.9
comp=Z,30nm,1.3s,mb5.1
VRI Vrincioaia 52.83 32 ⇓P P 13 49 27.0 +0.3
VRI Vrincioaia 52.83 32 ⇓*i*P P 13 49 27.0 +0.3
PLOR Plostina 52.84 32 ⇓P P 13 49 27.4 +0.6
PLOR Plostina 52.84 32 ⇓*i*P P 13 49 27.4 +0.6
GZR Gura Zlata 52.90 36 ⇓P P 13 49 27.9 +0.6
GZR Gura Zlata 52.90 36 ⇓*i*P P 13 49 27.9 +0.6

LMR La Mourre 52.93 51 *e*P P 13 49 28.0 +0.5
comp=Z,66nm,1.1s,mb5.2
MVO Moncorvo 53.01 64 P P 13 49 28.6 +0.5
MVO Moncorvo 53.01 64 *e*P P 13 49 28.5 +0.4
comp=Z,33nm,1.2s,mb5.1
MVO Moncorvo 53.01 64 *e*LR LR 14 06 42.5
comp=Z,2µm,20.0s
VOIR 53.09 34⇑P P 13 49 33.3 +4.6
VOIR 53.09 34⇑*i*P P 13 49 33.3 +4.6
CSOR Sort 53.10 56 P P 13 49 27.6 -1.1
comp=Z,48nm,1.0s,mb5.4
CLLI Llivia 53.12 55 P P 13 49 30.6 +1.7
MLR Muntele Rosu 53.13 33 P P 13 49 30.0 +1.0
comp=Z,8.4nm,0.9s,mb4.7,baz=40,slow=0.2,SNR=28
MLR Muntele Rosu 53.13 33 P P 13 49 30.0 +1.0
MLR Muntele Rosu 53.13 33 ⇓P P 13 49 30.2 +1.3
MLR Muntele Rosu 53.13 33 ⇓*i*P P 13 49 30.2 +1.3
EJON La Jonquera 53.28 54 P P 13 49 32.0 +1.9
comp=Z,44nm,0.9s,mb5.4
PVIS Viseu 53.31 65 *e*P P 13 49 30.6 +0.3
comp=Z,36nm,1.1s,mb5.2
MK31 Makanchi Array 53.34 345 *e*P P 13 49 29.3 -1.1
MK31 Makanchi Array 53.34 345 *i* P P 13 49 29.1 -1.3
MK31 pmax pmax
comp=Z,21nm,0.9s,mb5.1
MKAR Makanchi Array 53.34 345 P P 13 49 29.4 -1.0
comp=Z,14nm,0.8s,mb4.9,baz=12,slow=6.2,SNR=32
MKAR PcP PcP 13 50 37.0 -0.8
comp=Z,9.1nm,0.9s,baz=352,slow=2.0,SNR=2.4
MKAR LR LR 14 15 10.3
comp=Z,473nm,18.8s,MS4.6,baz=179,slow=39
MKAR Makanchi Array 53.34 345 P P 13 49 29.4 -1.0
MKAR PcP PcP 13 50 37.0 -0.8
MKAR LR LR 14 15 10.3
MKAR Makanchi Array 53.34 345 P P 13 49 29.5 -0.9
MKAR 13 50 37.0
ESAC San Caprasio 53.49 57 P P 13 49 32.2 +0.5
comp=Z,118nm,1.5s,mb5.6
CFR Carcaliu 53.65 31⇑P P 13 49 31.9 -0.8
CFR Carcaliu 53.65 31⇑*i*P P 13 49 31.9 -0.8
MTE Manteigas 53.68 64 *e*P P 13 49 33.2 +0.2
comp=Z,52nm,1.4s,mb5.3
MTE Manteigas 53.68 64 *e*P P 13 49 33.7 +0.7
comp=Z,34nm,1.1s,mb5.2
MTE Manteigas 53.68 64 *e*LR LR 14 06 50.2
comp=Z,791nm,20.0s
TLCR 53.70 31⇑P P 13 49 32.4 -0.8
TLCR 53.70 31⇑*i*P P 13 49 32.4 -0.8
GUD Guadarrama 53.98 61 P P 13 49 35.3 +0.1
comp=Z,18nm,0.9s,mb5.0
GUD Guadarrama 53.98 61 P P 13 49 35.3 +0.1
GUD pmax pmax
comp=Z,18nm,0.9s,mb5.0
PGF Pioggiola 54.05 49 *e*P P 13 49 37.1 +1.4
comp=Z,76nm,1.4s,mb5.1
EPOB Poblet 54.09 56 P P 13 49 40.0 +4.0
comp=Z,35nm,1.2s,mb5.2
ETOR Torete 54.13 59 P P 13 49 35.4 -0.9
comp=Z,29nm,1.4s,mb5.0
ETOR Torete 54.13 59 P P 13 49 35.4 -1.0
ETOR pmax pmax
comp=Z,29nm,1.4s,mb5.0
PCBR Castelo Branco 54.23 64 *e*P P 13 49 37.1 0.0
comp=Z,33nm,1.1s,mb5.2
EPLA Plasencia 54.24 63 P P 13 49 36.1 -1.0
comp=Z,23nm,1.5s,mb4.9
EPLA Plasencia 54.24 63 P P 13 49 36.1 -1.0
EPLA pmax pmax
comp=Z,23nm,1.5s,mb4.9
PTOM Tomar 54.30 65 *e*P P 13 49 36.8 -0.8
PMRV Marv??o 54.65 64 *e*P P 13 49 40.1 0.0
comp=Z,24nm,1.4s,mb5.0
PMRV Marv??o 54.65 64 *e*LR LR 14 07 32.3
comp=Z,760nm,16.0s
ANN Anapa 54.79 23 *e*P P 13 49 40.1 -1.0
ANN *e**PP 13 49 43.0
ANN *e*S **S** **13 57 20.8 -1.3**
ANN pmax pmax
comp=Z,55nm,1.2s,mb5.5
ANN MLR MLR
comp=N,432nm,17.0s
ANN MLR MLR
comp=Z,723nm,17.0s,MS4.8
PMAFR Mafra 54.80 66 *e*P P 13 49 41.3 +0.1
comp=Z,75nm,1.3s,mb5.6
PMAFR Mafra 54.80 66 *e*LR LR 14 07 23.3
comp=Z,997nm,18.0s
EMOS Mosqueruela 54.82 58 P P 13 49 41.9 +0.6
comp=Z,22nm,0.9s,mb5.2
ESDC Sonseca Array 54.96 61 P P 13 49 42.1 -0.2
comp=Z,5.9nm,0.7s,mb4.8,baz=350,slow=7.8,SNR=35
ESDC LR LR 14 13 47.8
comp=Z,2µm,18.5s,MS5.2,baz=330,slow=37
ESDC Sonseca Array 54.96 61 P P 13 49 42.1 -0.3
comp=Z,22nm,0.8s,mb5.2
ESLA Sonseca Array 54.96 61 *e*P P 13 49 41.9 -0.4
comp=Z,6.9nm,1.0s,mb4.6
PAB San Pablo 55.02 62 *e*P P 13 49 42.9 +0.1
comp=Z,40nm,1.1s,mb5.4
PAB San Pablo 55.02 62 *e*P P 13 49 42.9 +0.1
PAB pmax pmax
comp=Z,40nm,1.1s,mb5.4
PESTR Estremoz 55.16 65 *e*P P 13 49 43.3 -0.6
comp=Z,34nm,1.2s,mb5.3
PESTR Estremoz 55.16 65 *e*LR LR 14 06 29.4
comp=Z,1µm,16.0s
EBAD Badajoz 55.37 64 P P 13 49 45.7 +0.4
comp=Z,8.4nm,0.7s,mb4.9
EVO Evora 55.42 65 *e*P P 13 49 44.8 -0.9
comp=Z,36nm,1.0s,mb5.0
EVO *e*R
comp=Z,2µm,20.8s
EVO Evora 55.42 65 *e*P P 13 49 45.4 -0.3
comp=Z,26nm,1.3s,mb5.1
ECHE Chera 55.51 58 P P 13 49 47.5 +1.3
comp=Z,25nm,1.1s,mb5.2
ECHE Chera 55.51 58 P P 13 49 47.6 +1.3
ECHE pmax pmax
comp=Z,25nm,1.1s,mb5.2
PNCL Nicolau / Gran 55.75 66 *e*P P 13 49 48.0 -0.1
comp=Z,36nm,1.7s,mb5.1
PNCL Nicolau / Gran 55.75 66 *e*LR LR 14 07 35.3
comp=Z,1µm,20.0s
PBAR Barrancos 55.93 64 *e*P P 13 49 49.3 -0.1
comp=Z,52nm,1.2s,mb5.4
PBAR Barrancos 55.93 64 *e*LR LR 14 07 47.8
comp=Z,907nm,18.0s
PBEJ Beja 55.94 65 *e*P P 13 49 49.5 +0.1
comp=Z,25nm,1.1s,mb5.2
KIV Kislovodsk 55.97 19 *e*P P 13 49 51.1 +1.5
KIV *e* 13 50 48.7
KIV *e*S **S** **13 57 39.3 +1.4**
KIV pmax pmax
comp=Z,12nm,0.9s,mb4.9
KIV MLR MLR
comp=Z,597nm,17.0s,MS4.8
KIV Kislovodsk 55.97 19 P P 13 49 51.6 +2.1
SNR=6.7
WMQ Urumqi 56.00 340 P P 13 49 50.3 +0.5
WMQ pP 13 49 54.8
WMQ sP sP 13 49 57.3 +6.7
WMQ PcP PcP 13 50 48.4 +0.3
WMQ PP PP 13 51 56.6 +2.5
WMQ S **S** **13 57 36.3 -2.0**
WMQ sS sS 13 57 43.9 +4.6
WMQ ScS ScS 13 59 35.4 -4.0
WMQ pmax pmax
comp=Z,42nm,1.3s,mb5.3
WMQ pmax pmax
comp=Z,280nm,7.0s
WMQ LR LR
comp=N,800nm,15.3s,MS5.1
WMQ LR LR
comp=E,700nm,14.2s,MS5.1
WMQ LR LR
comp=Z,490nm,20.5s
MESJ Messejana 56.06 66 *e*P P 13 49 48.5 -1.9
MESJ *e* 13 49 56.5
baz=107,slow=8.6
MESJ AMb AMB 13 49 59.6
comp=Z,43nm,1.3s,mb5.3
MESJ *e*S **S** **13 57 36.9 -2.5**
MESJ Messejana 56.06 66 *e*P P 13 49 48.4 -1.9
MESJ *e*S **S** **13 57 39.6 +0.3**
EVIA Vianos 56.20 60 P P 13 49 52.3 +1.0
comp=Z,23nm,0.8s,mb5.3

EVIA Vianos 56.20 60 P P 13 49 52.3 +1.0
EVIA pmax pmax
comp=Z,23nm,0.8s,mb5.3
PTEO Sao Teotonio 56.27 66 *e*P P 13 49 51.9 +0.1
comp=Z,48nm,1.9s,mb5.2
PCVE Castro Verde 56.30 65 *e*P P 13 49 49.1 -2.9
comp=Z,36nm,1.4s,mb5.2
PCVE Castro Verde 56.30 65 *e*LR LR 14 07 53.4
comp=Z,1µm,18.0s
EADA Adamuz 56.33 62 P P 13 49 52.7 +0.5
comp=Z,19nm,1.0s,mb5.1
ETOB Tobarra 56.34 59 P P 13 49 53.4 +1.1
comp=Z,43nm,1.2s,mb5.4
EMIN Mina Concepcio 56.39 64 P P 13 49 53.1 +0.5
comp=Z,7.0nm,0.7s,mb4.8
EBEN Beniarda 56.49 58 P P 13 49 54.3 +1.0
comp=Z,5.8nm,2.6s
MORF Marmelete 56.52 66 *e*P P 13 49 51.6 -2.0
MORF *e*S **S** **13 57 44.1 -1.2**
MORF Marmelete 56.52 66 *e*P P 13 49 53.7 +0.1
comp=Z,59nm,1.0s,mb5.6
MORF Marmelete 56.52 66 *e*LR LR 14 09 42.7
comp=Z,1µm,20.0s
PVAQ Vaqueiros 56.57 65 *e*P P 13 49 53.7 -0.3
comp=Z,50nm,1.3s,mb5.4
PVAQ Vaqueiros 56.57 65 *e*LR LR 14 07 17.1
comp=Z,949nm,18.0s
PFVI Vila Bisbo 56.66 66 *e*P P 13 49 54.7 +0.1
comp=Z,99nm,1.2s,mb5.7
PFVI Vila Bisbo 56.66 66 *e*LR LR 14 08 05.2
comp=Z,925nm,20.0s
PBDV Barranco-do-Ve 56.70 65 *e*P P 13 49 55.4 +0.6
comp=Z,59nm,1.3s,mb5.5
PBDV Barranco-do-Ve 56.70 65 *e*LR LR 14 07 27.4
comp=Z,1µm,20.0s
HHC Hu-ho-hao-te 56.76 318 *e*P P 13 49 55.6 +0.4
HHC sP sP 13 50 01.6 +5.6
HHC PcP PcP 13 50 51.5 +0.4
HHC PP PP 13 52 02.9 +2.0
HHC S **S** **13 57 45.4 -3.0**
HHC ScS ScS 13 59 40.6 -4.3
HHC SS SS 14 01 33.6 -1.8
HHC pmax pmax
comp=Z,18nm,1.4s,mb4.9
HHC pmax pmax
comp=Z,270nm,6.7s
HHC LR LR
comp=N,850nm,16.7s,MS5.0
HHC LR LR
comp=E,500nm,15.5s,MS5.0
HHC LR LR
comp=Z,1µm,16.6s,MS5.0
EQES Quesada 56.93 61 P P 13 49 58.3 +1.8
comp=Z,14nm,0.8s,mb5.0
ELUQ Luque 56.98 62 P P 13 49 58.2 +1.4
comp=Z,106nm,2.4s,mb5.4
ELUQ Luque 56.98 62 P P 13 49 58.2 +1.4
ELUQ pmax pmax
comp=Z,106nm,2.4s,mb5.5
BJI Beijing 56.98 314 P P 13 49 56.3 -0.5
BJI S **S** **13 57 48.3 -3.1**
BJI SS SS 14 01 31.3 -7.6
BJI pmax pmax
comp=Z,26nm,0.9s,mb5.3
BJI pmax pmax
comp=Z,250nm,8.1s
BJI LR LR
comp=N,690nm,17.9s,MS5.1
BJI LR LR
comp=E,1µm,17.9s,MS5.1
BJI LR LR
comp=Z,1µm,15.9s,MS5.0
EHUE Huescar 56.99 60 P P 13 49 57.6 +0.7
comp=Z,34nm,1.0s,mb5.3
EHUE Huescar 56.99 60 P P 13 49 57.6 +0.7
EHUE pmax pmax
comp=Z,34nm,1.0s,mb5.3
BJT Baijiatuao 57.00 314 *e*P P 13 49 56.3 -0.7
comp=Z,21nm,0.8s,mb5.2
BJT Baijiatuao 57.00 314 *e*P P 13 49 56.3 -0.7
BJT pmax pmax
comp=Z,21nm,0.8s
VSL Villasalto 57.10 49 *e*P P 13 49 57.9 +0.2
comp=Z,28nm,1.1s,mb5.2
MAJO Matsushiro 57.12 293 *e*P P 13 49 56.3 -1.5
comp=Z,35nm,1.1s,mb5.3
MAJO Matsushiro 57.12 293 *e*P P 13 49 56.3 -1.6
MAJO pmax pmax
comp=Z,35nm,1.1s,mb5.3
MJAR Matsushiro Arr 57.12 293 P P 13 49 56.9 -1.0
comp=Z,18nm,1.0s,mb5.0,baz=350,slow=6.6,SNR=22
MJAR LR LR 14 17 57.2
comp=Z,755nm,18.1s,MS4.8,baz=25,slow=40
MJAR Matsushiro Arr 57.12 293 P P 13 49 56.9 -1.0
MJAR LR LR 14 17 57.2
MJAR Matsushiro Arr 57.12 293 P P 13 49 56.9 -1.0
USP Ospenovka 57.15 351 P P 13 49 58.1 +0.1
SNR=26
EMUR La Murta 57.17 59 P P 13 49 58.9 +0.7
comp=Z,11nm,1.0s,mb4.8
ZEI Tsey 57.22 18 *e*P P 13 49 58.7 +0.2
ZEI pmax pmax
comp=Z,16nm,0.7s,mb5.2
ECOG Cogollos-Vega 57.37 61 P P 13 50 00.4 +0.9
comp=Z,6.4nm,0.4s,mb5.0
ECOG Cogollos-Vega 57.37 61 P P 13 50 00.4 +0.8
ECOG pmax pmax
comp=Z,6.0nm,0.4s,mb5.0
ONI Oni 57.37 18 P P 13 50 00.5 +0.9
ELOJ Sierra Loja 57.40 62 P P 13 50 01.3 +1.5
comp=Z,3.9nm,0.4s,mb4.7
ELOJ Sierra Loja 57.40 62 P P 13 50 01.3 +1.5
ELOJ pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
ESPR Espera 57.40 64 P P 13 50 00.2 +0.4
comp=Z,28nm,2.3s,mb4.9
KK31 Karatay Array 57.40 355 *i* P P 13 49 59.7 -0.1
KK31 pmax pmax
comp=Z,16nm,0.9s,mb5.0
KKAR Karatay Array 57.40 355 *e*P P 13 49 59.5 -0.3
KKAR Karatay Array 57.40 355 *e*P P 13 49 59.5 -0.3
CHMS Chumysh 57.41 351 P P 13 50 00.3 +0.5
SNR=5.6
TKM2 Tokmak 2 57.46 350 P P 13 50 00.7 +0.5
SNR=23
TKM2 Tokmak 2 57.46 350 *e*P P 13 50 00.3 +0.2
comp=Z,20nm,0.9s,mb5.2
TKM2 Tokmak 2 57.46 350 *e*P P 13 50 00.4 +0.2
TKM2 pmax pmax
comp=Z,20nm,0.9s,mb5.2
SOH Sokhos 57.49 36 *e*P P 13 50 00.4 0.0
ERON Agron 57.58 62 P P 13 50 01.5 +0.4
comp=Z,77nm,1.1s,mb5.6
FRU Bishkek 57.58 351 *e*P P 13 50 02.0 +1.0
ALN Alexandroupoli 57.69 34 *e*P P 13 50 01.1 -0.7
KBK Karagaybulak 57.75 351 P P 13 50 03.2 +1.0
SNR=9.8
EKS2 Erkin-Say 57.77 352 P P 13 50 01.7 -0.7
SNR=7.9
EKS2 Erkin-Say 57.77 352 *e*P P 13 50 01.3 -1.1
comp=Z,29nm,1.4s,mb5.1
EKS2 Erkin-Say 57.77 352 *e*P P 13 50 01.3 -1.1
EKS2 pmax pmax
comp=Z,29nm,1.4s,mb5.1
AAK Ala-Archa 57.78 351 P P 13 50 03.1 +0.7
SNR=20
AAK Ala-Archa 57.78 351 *e*P P 13 50 02.7 +0.3
comp=Z,95nm,1.0s,mb5.8
AAK Ala-Archa 57.78 351 *e*P P 13 50 02.7 +0.3
AAK pmax pmax
comp=Z,95nm,1.0s,mb5.8
AAK Ala-Archa 57.78 351 P P 13 50 02.8 +0.4
comp=Z,127nm,0.8s,mb6.0,SNR=15
EGUA Guajares 57.80 61 P P 13 50 03.9 +1.2
comp=Z,207nm,2.0s,mb5.8
EGUA Guajares 57.80 61 P P 13 50 03.9 +1.3
EGUA pmax pmax
comp=Z,207nm,2.0s,mb5.8
KSRS Korea Array 57.86 303 P P 13 50 02.3 -0.8
comp=Z,10nm,1.1s,mb4.8,baz=2.3,slow=6.7,SNR=12
KSRS PcP PcP 13 50 53.2 -2.3
comp=Z,6.4nm,0.9s,baz=358,slow=5.9,SNR=5.1
KSRS LR LR 14 16 31.2
comp=Z,928nm,18.7s,MS4.9,baz=30,slow=38
KSRS Korea Array 57.86 303 P P 13 50 02.3 -0.8
KSRS 13 50 53.2

KSRS pmax pmax
comp=Z,111nm,1.1s,mb4.8
KSRS MLR MLR
comp=Z,928nm,18.7s,MS4.9
EMIJ Mijas 57.87 63 P **P** **13 50 04.1 +1.0**
comp=Z,72nm,1.2s,mb5.6
ENIJ Nijar 57.88 60 P **P** **13 50 03.5 +0.3**
comp=Z,13nm,0.8s,mb5.0
ENIJ Nijar 57.88 60 P **P** **13 50 03.5 +0.3**
ENIJ pmax pmax
comp=Z,13nm,0.8s,mb5.0
KSAR Wonju Array Be 57.88 303 P **P** **13 50 02.3 -0.9**
KSAR PcP PcP 13 50 53.2 -2.3
KSAR LR LR 14 16 31.2
KSAR Wonju Array Be 57.88 303 P **P** **13 50 02.3 -0.9**
KSAR 13 50 53.2
GOR Gori 58.01 18 P **P** **13 50 06.1 +2.0**
LIT Litokhoron 58.11 37 *e*P **P** **13 50 04.4 -0.3**
KEK Kerkira 58.19 40 *e*P **P** **13 50 12.3 +7.0**
TBLG Delisi 58.30 17 *e*P **P** **13 50 07.6 +1.5**
TBLG Delisi 58.30 17 P **P** **13 50 07.6 +1.5**
AML Almayashu 58.31 352 P **P** **13 50 07.4 +1.3**
SNR=31
KZA Kyzart 58.32 350 P **P** **13 50 06.8 +0.6**
SNR=9.5
MTA Mtatsminda 58.34 17 P **P** **13 50 07.6 +1.2**
AKH Akhalkalaki 58.55 18 P **P** **13 50 09.2 +1.3**
THL Klokotos Trika 58.58 38 *e*P **P** **13 50 08.2 +0.1**
LIA Limnos Island 58.59 35 *e*P **P** **13 50 08.2 +0.1**
DGRG David-gareji 58.61 17 P **P** **13 50 03.7 -4.6**
EVR Evrytania 59.20 38 *e*P **P** **13 50 20.2 +7.8**
GTA Gaotai 59.44 329 *e*P **P** **13 50 14.3 +0.3**
GTA pP 13 50 18.6
GTA sP sP 13 50 22.1 +7.3
GTA S **S** **13 58 20.8 -2.7**
GTA sS sS 13 58 27.4 +2.9
GTA SS SS 14 02 17.3 -0.2
GTA pmax pmax
comp=Z,22nm,1.0s,mb5.1
GTA pmax pmax
comp=Z,270nm,5.5s
GTA LR LR
comp=N,640nm,16.8s,MS4.9
GTA LR LR
comp=E,390nm,14.9s,MS4.9
GTA LR LR
comp=Z,870nm,17.1s,MS5.0
BR131 Keskin Array S 59.54 27 P **P** **13 50 15.5 +0.7**
comp=Z,10nm,0.9s,mb4.9
BRTR Keskin Array B 59.54 27 P **P** **13 50 15.4 +0.7**
comp=Z,5.7nm,0.8s,mb4.7,baz=345,slow=4.1,SNR=21
BRTR PcP PcP 13 51 02.1 0.0
comp=Z,10nm,0.8s,baz=31,slow=2.9,SNR=7.4
BRTR Keskin Array B 59.54 27 P **P** **13 50 15.4 +0.7**
BRTR PcP PcP 13 51 02.1 0.0
BRTR Keskin Array B 59.54 27 P **P** **13 50 15.4 +0.7**
BRTR 13 51 02.1
LKR Lokris 59.59 37 *e*P **P** **13 50 14.7 -0.4**
VLS Valsamata 59.80 39 *e*P **P** **13 50 15.7 -0.8**
GNI Garni 59.88 17 P **P** **13 50 18.2 +1.2**
comp=Z,3.2nm,0.4s,mb4.7,baz=110,slow=4.4,SNR=5.0
GNI Garni 59.88 17 P **P** **13 50 18.2 +1.2**
GNI Garni 59.88 17 *d i*P **P** **13 50 19.3 +2.3**
GNI pmax pmax
comp=Z,25nm,1.2s
GNI Garni 59.88 17 P **P** **13 50 20.0 +3.0**
SNR=6.4
CHOS Chios island 60.18 34 *e*P **P** **13 50 17.9 -1.2**
LTK Loutraki 60.21 37 *e*P **P** **13 50 19.2 -0.2**
GUR Goura 60.23 38 *e*P **P** **13 50 19.8 +0.3**
DID Didima 60.75 37 *e*P **P** **13 50 21.1 -2.0**
TEIG Tepich 60.78 150 LR LR 14 18 07.8
comp=Z,739nm,19.2s,MS4.8,baz=29,slow=38
TEIG Tepich 60.78 150 *e*P **P** **13 50 23.0 -0.5**
KEST Kesra 60.79 50 P **P** **13 50 23.7 +0.4**
comp=Z,7.5nm,0.7s,mb4.9,baz=230,slow=0.7,SNR=20
KEST Kesra 60.79 50 *e*P **P** **13 50 23.8 +0.4**
VLX Vlachokerasia 60.79 38 *e*P **P** **13 50 24.4 +1.1**
KSH Kashi 60.85 350 P **P** **13 50 27.1 +3.4**
KSH pP 13 50 31.8
KSH sP sP 13 50 34.1 +10
KSH PcP PcP 13 51 09.5 +2.2
KSH PP PP 13 52 44.0 +6.9
KSH ScP ScP 13 55 09.3 +0.1
KSH PcS PcS 13 55 10.9 +1.0
KSH S **S** **13 58 43.8 +2.2**
KSH sS sS 13 58 52.4 +10
KSH ScS ScS 14 00 14.1 -1.1
KSH SS SS 14 02 46.1 +6.5
KSH pmax pmax
comp=Z,19nm,0.9s,mb5.2
KSH pmax pmax
comp=Z,350nm,6.2s
KSH LR LR
comp=N,800nm,16.4s,MS5.0
KSH LR LR
comp=E,320nm,14.7s,MS5.0
KSH LR LR
comp=Z,420nm,13.0s,MS4.8
SMG Samos 60.93 34 *e*P **P** **13 50 23.5 -0.7**
APE Apeiranthos 61.43 35 *e*P **P** **13 50 25.3 -2.3**
VLI Veliai 61.50 37 *e*P **P** **13 50 26.7 -1.4**
MDT Midelt 61.56 63 P **P** **13 50 28.3 -0.3**
comp=Z,8.2nm,0.8s,mb4.9,baz=356,slow=7.0,SNR=17
MDT LR LR 14 13 27.8
comp=Z,213nm,21.4s,MS4.3,baz=336,slow=32
MDT Midelt 61.56 63 P **P** **13 50 28.3 -0.3**
MDT LR LR 14 13 27.8
LZH Lanzhou 62.33 324 *e*P **P** **13 50 34.9 +1.2**
LZH pP 13 50 39.1
LZH sP sP 13 50 42.4 +7.8
LZH PP PP 13 52 54.3 +4.0
LZH *e*S **S** **13 59 01.0 +0.6**
LZH sS sS 13 59 11.0 +10
LZH SS SS 14 03 03.0 +0.1
LZH pmax pmax
comp=Z,130nm,1.5s,mb5.8
LZH pmax pmax
comp=Z,420nm,4.4s
LZH LR LR
comp=N,2μm,17.9s
LZH LR LR
comp=E,290nm,7.4s
LZH LR LR
comp=Z,3μm,16.8s,MS5.5
ABKT Ailbek 62.57 6 P **P** **13 50 36.5 +1.2**
comp=Z,157nm,1.3s,mb6.0,SNR=10.0
POHA Pohakuloa 62.58 223 *e*P **P** **13 50 36.6 +1.1**
KHU Kahuku 63.09 223 *e*P **P** **13 50 40.2 +1.3**
KHU Kahuku 63.09 223 *e*P **P** **13 50 40.2 +1.2**
CMIG Matias Romero 63.37 158 LR LR 14 23 34.7
comp=Z,486nm,18.5s,MS4.7,baz=193,slow=41
CSS Prodhromos 64.25 28 *e*P **P** **13 50 47.1 +0.6**
comp=Z,14nm,0.9s,mb5.0
NJ2 Nanjing 64.48 310 *e*P **P** **13 50 46.6 -1.4**
NJ2 S **S** **13 59 25.0 -2.4**
NJ2 pmax pmax
comp=Z,20nm,1.0s,mb5.1
NJ2 LR LR
comp=N,1μm,15.8s,MS5.3
NJ2 LR LR
comp=E,650nm,15.5s,MS5.3
NJ2 LR LR
comp=Z,3μm,16.5s,MS5.5
CBIJ Chichi jima 65.68 287 LR LR 14 20 50.8
comp=Z,215nm,18.2s,MS4.4,baz=171,slow=37
KBL Kabul 65.97 356 *e*P **P** **13 50 57.7 0.0**
comp=Z,22nm,1.0s,mb5.2
KBL Kabul 65.97 356 *e*P **P** **13 50 57.7 0.0**
KBL pmax pmax
comp=Z,23nm,1.0s,mb5.2
MMAI Mount Meron Ar 66.35 26 P **P** **13 51 00.6 +0.5**
comp=Z,11nm,1.0s,mb4.8,baz=354,slow=7.6,SNR=6.4
MMAI Mount Meron Ar 66.35 26 P **P** **13 51 00.6 +0.5**
WHN Wuhan 66.57 314 ⇑P **P** **13 51 00.1 -1.4**
ASF Jabal al Asfar 67.30 25 P **P** **13 51 06.5 +0.3**
comp=Z,13nm,0.9s,mb5.0,baz=184,slow=1.0,SNR=19
ASF Jabal al Asfar 67.30 25 P **P** **13 51 06.5 +0.3**
ASF Jabal al Asfar 67.30 25 P **P** **13 51 06.5 +0.3**
CD2 Chengdu 67.46 324 P **P** **13 51 07.6 +0.4**
CD2 pP 13 51 12.3
CD2 sP sP 13 51 14.6 +6.6
CD2 PP PP 13 53 37.8 +2.5
CD2 S S 14 00 01.4 -2.3
CD2 sS sS 14 00 08.6 +3.9
CD2 SS SS 14 04 22.9 0.0
CD2 pmax pmax
comp=Z,60nm,0.9s,mb5.6
CD2 pmax pmax
comp=Z,340nm,11.3s
CD2 LR LR
comp=N,970nm,16.6s
CD2 LR LR
comp=Z,920nm,16.1s,MS5.1
EIL Elat 69.63 27 P **P** **13 51 20.6 -0.1**
comp=Z,18nm,0.8s,mb5.1,baz=353,slow=7.1,SNR=12
EIL Elat 69.63 27 P **P** **13 51 20.6 -0.1**
LSA Lhasa 69.81 335 *e*P **P** **13 51 22.6 +0.7**
LSA Lhasa 69.81 335 *e*P **P** **13 51 23.2 +1.3**
comp=Z,43nm,0.9s,mb5.4
LSA Lhasa 69.81 335 *e*P **P** **13 51 23.2 +1.3**
LSA pmax pmax
comp=Z,43nm,0.9s,mb5.4
MIB Mutribah 70.31 16 *e*P **P** **13 51 24.9 -0.1**
MIB AMb AMB 13 51 26.9
comp=Z,154nm,0.9s,mb5.9
KKR Kurukshetra 70.35 349 *e*PKP **P** **13 51 24.7 -0.4**
UMR Umm Al-Rimmam 70.58 15 *e*P **P** **13 51 26.3 -0.3**
UMR AMb AMB 13 51 28.5
comp=Z,156nm,0.9s,mb5.9
NAY Al-Naaiem 70.86 16 *e*P **P** **13 51 27.7 -0.6**
NAY AMb AMB 13 51 29.9
comp=Z,29nm,0.9s,mb5.2
RDF Al-Radifah 71.19 16 *e*P **P** **13 51 30.7 +0.3**
RDF AMb AMB 13 51 32.9
comp=Z,110nm,1.0s,mb5.7
QRN Al-Qurain 71.39 15 *e*P **P** **13 51 31.2 -0.4**
QRN AMb AMB 13 51 33.6
comp=Z,145nm,1.1s,mb5.8
GYA Guiyang 71.54 320 P **P** **13 51 32.6 +0.1**
GYA PP PP 13 54 13.0 +2.4
GYA S S 14 00 49.4 -2.5
GYA SKS 14 01 31.8
GYA SS SS 14 05 25.9 0.0
GYA pmax pmax
comp=Z,20nm,0.8s,mb5.1
GYA pmax pmax
comp=Z,120nm,5.0s
GYA LR LR
comp=N,690nm,18.5s,MS5.1
GYA LR LR
comp=E,560nm,18.7s,MS5.1
GYA LR LR
comp=Z,650nm,19.0s,MS4.9
BHGR Bahadurgarh 71.61 348 *e*PKP **P** **13 51 32.7 -0.2**
DANN Dangsing 71.63 342 *e*P **P** **13 51 32.8 -0.2**
comp=Z,299nm,0.9s,mb6.2
AYAN Aya Nagar 71.81 348 *e*PKP **P** **13 51 33.6 -0.4**
AYAN AMb AMB 13 51 37.4
comp=Z,18nm,1.1s,mb4.9
PYUN Piuthan 71.92 343 *e*P **P** **13 51 34.0 -0.7**
comp=Z,173nm,1.0s,mb5.9
GKN Gorkha 71.93 341 *e*P **P** **13 51 34.4 -0.4**
comp=Z,161nm,0.8s,mb6.0
GUN Gumba 71.94 340 *e*P **P** **13 51 35.3 +0.4**
comp=Z,550nm,1.0s,mb6.5
SONA Sohna 72.04 348 *e*PKP **P** **13 51 35.2 -0.2**
SONA AMb AMB 13 51 37.1
comp=Z,21nm,0.7s,mb5.2
KKN Kakani 72.10 341 *e*P **P** **13 51 36.0 +0.2**
KOLN Koldanda 72.22 342 *e*P **P** **13 51 35.8 -0.7**
comp=Z,61nm,0.9s,mb5.5
KHET Khetri 72.26 349 *e*PKP **P** **13 51 36.3 -0.5**
KHET AMb AMB 13 51 40.4
comp=Z,42nm,0.9s,mb5.3
DMN Daman 72.29 341 *e*P **P** **13 51 37.3 +0.3**
PKI Pulchoki 72.31 340 *e*P **P** **13 51 37.2 +0.1**
comp=Z,325nm,1.1s,mb6.2
TAPN Taplejung 72.39 338 *e*P **P** **13 51 37.6 +0.1**
comp=Z,194nm,1.0s,mb6.0
RAMN Ramite 72.85 339 *e*P **P** **13 51 40.0 -0.3**
comp=Z,182nm,0.8s,mb6.0
ODAN Odare 72.89 339 *e*P **P** **13 51 40.8 +0.3**
comp=Z,287nm,1.1s,mb6.1
TAM Tamanrasset 72.97 56 *e*P **P** **13 51 40.8 -0.2**
comp=Z,9.8nm,0.9s,mb4.7
TAM Tamanrasset 72.97 56 *e*P **P** **13 51 40.8 -0.2**
TAM pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
AGRA Agra 73.02 347 *e*PKP **P** **13 51 40.4 -0.9**
KMI Kunming 73.29 324 P **P** **13 51 42.8 -0.1**
KMI pP 13 51 47.3
KMI sP sP 13 51 49.5 +5.7
KMI PcP PcP 13 52 00.8 +1.5
KMI PP PP 13 54 28.0 +2.4
KMI S S 14 01 11.0 -0.9
KMI SS SS 14 05 51.4 -1.3
KMI pmax pmax
comp=Z,32nm,1.3s,mb5.1
KMI LR LR
comp=N,760nm,17.6s,MS5.1
KMI LR LR
comp=E,440nm,17.6s,MS5.1
KMI LR LR
comp=Z,770nm,18.1s,MS5.0
SDV Santo Domingo 73.94 133 *e*P **P** **13 51 45.7 -1.1**
comp=Z,10nm,0.8s,mb4.8
BHPL Bhopal 77.01 348 *e*PKP **P** **13 52 03.9 -0.5**
ARQ Araqi 77.08 7 P **P** **13 52 04.4 -0.4**
SNR=8.8
BBTS Babate 77.30 78 P **P** **13 52 06.3 +0.2**
comp=Z,8.1nm,0.3s,mb5.1,baz=351,slow=2.8,SNR=4.0
BBTS Babate 77.30 78 P **P** **13 52 06.3 +0.2**
SMDO Samad 77.39 6 P **P** **13 52 06.6 +0.2**
SNR=6.9
ROSC El Rosal 77.45 138 P **P** **13 52 07.6 +0.7**
comp=Z,12nm,0.8s,mb4.9,baz=80,slow=18,SNR=5.4
ROSC LR LR 14 27 57.9
comp=Z,402nm,21.9s,MS4.7,baz=23,slow=37
ROSC El Rosal 77.45 138 P **P** **13 52 07.6 +0.7**
ROSC LR LR 14 27 57.9
BSY Bisya 77.68 7 P **P** **13 52 07.3 -0.8**
SNR=12
WBK Wadi Bani Khal 77.85 5 P **P** **13 52 09.2 +0.1**
SNR=6.4
GUMO Guam 78.41 282 LR LR 14 28 28.4
comp=Z,276nm,19.4s,MS4.6,baz=32,slow=37
CHTO Chiang Mai 79.92 327 *e*P **P** **13 52 18.9 -1.6**
comp=Z,51nm,1.6s,mb5.2
CHTO Chiang Mai 79.92 327 *e*P **P** **13 52 18.9 -1.6**
CHTO pmax pmax
comp=Z,51nm,1.6s,mb5.2
CHTO Chiang Mai 79.92 327 P **P** **13 52 19.5 -1.0**
comp=Z,21nm,1.4s,mb4.9
CHTO Chiang Mai 79.92 327 P **P** **13 52 20.0 -0.5**
SNR=6.9
CM31 Chiang Mai Arr 80.27 327 *e*P **P** **13 52 21.5 -0.9**
comp=Z,47nm,1.1s,mb5.3
CMAR Chiang Mai Arr 80.27 327 P **P** **13 52 21.5 -0.9**
comp=Z,25nm,0.9s,mb5.1,baz=348,slow=5.9,SNR=95
CMAR LR LR 14 29 54.2
comp=Z,498nm,18.1s,MS4.9,baz=286,slow=37
CMAR Chiang Mai Arr 80.27 327 P **P** **13 52 21.5 -0.9**
CMAR LR LR 14 29 54.2
CMAR Chiang Mai Arr 80.27 327 P **P** **13 52 21.5 -0.9**
OTAV Otavalo 81.53 142 *e*P **P** **13 52 28.8 -0.3**
comp=Z,20nm,1.4s,mb4.9
POO Poona 81.81 351 *e*PKP **P** **13 52 30.0 -0.6**
TGY Tagaytay City 81.83 305 P **P** **13 52 30.5 -0.3**
comp=Z,52nm,0.3s,mb5.9,baz=213,slow=16,SNR=4.4
TGY Tagaytay City 81.83 305 P **P** **13 52 30.5 -0.3**
TGY Tagaytay City 81.83 305 P **P** **13 52 30.5 -0.2**
TORD Torodi Ar. Bea 81.85 61 P **P** **13 52 29.6 -1.2**
comp=Z,23nm,0.8s,mb5.2,baz=335,slow=5.3,SNR=106
TORD PKKPbc PKKPbc 14 10 58.9 +1.5
comp=Z,0.4nm,0.4s,baz=159,slow=4.0,SNR=4.7
TORD Torodi Ar. Bea 81.85 61 P **P** **13 52 29.6 -1.2**
TORD PKKPbc PKKPbc 14 10 58.9 +1.5
HYB Hyderabad 82.75 346 *i* P **P** **13 52 35.0 -0.5**
HYB *e* 13 52 43.0
RBK Rabkut 82.82 10 P **P** **13 52 35.3 -0.5**
SNR=7.7
ABTO Aybut 82.94 11 P **P** **13 52 36.1 -0.4**
SNR=17
KAD Karad 83.02 351 *e*PKP **P** **13 52 36.7 -0.2**
DBIC Dimbokro 87.13 68 P **P** **13 52 56.5 -1.1**
comp=Z,7.3nm,0.8s,mb5.0,baz=298,slow=4.8,SNR=6.5
DBIC Dimbokro 87.13 68 *e*P **P** **13 52 56.7 -0.9**
comp=Z,25nm,1.2s,mb5.3
DBIC Dimbokro 87.13 68 *e*P **P** **13 52 56.7 -0.9**
DBIC pmax pmax
comp=Z,25nm,1.2s
DAV Davao City (W) 88.03 299 P **P** **13 53 02.1 +0.2**
comp=Z,68nm,0.3s,mb6.4,baz=188,slow=7.1,SNR=6.0
DAV LR LR 14 30 54.3
comp=Z,313nm,20.4s,MS4.7,baz=28,slow=35
DAV Davao City (W) 88.03 299 P **P** **13 53 02.1 +0.2**
DAV LR LR 14 30 54.3
ATD Arta Tunnel 88.21 21 P **P** **13 53 05.8 +3.0**
comp=Z,4.8nm,0.3s,mb5.2,baz=272,slow=22,SNR=4.2
ATD Arta Tunnel 88.21 21 P **P** **13 53 05.8 +3.0**
ATAH Atahualpa 88.81 143 P **P** **13 53 05.5 0.0**
comp=Z,5.7nm,0.8s,mb5.0,baz=12,slow=4.3,SNR=4.7
ATAH Atahualpa 88.81 143 P **P** **13 53 05.5 0.0**
MYLDM Lahad Datu 90.96 306 P **P** **13 53 17.7 +2.1**
PSI Prapat 95.75 325 P **P** **13 53 36.0 -1.6**
comp=Z,24nm,0.9s,mb5.6,baz=310,slow=4.6,SNR=15
PSI Prapat 95.75 325 P **P** **13 53 36.0 -1.6**
PSI Prapat 95.75 325 P **P** **13 53 36.1 -1.6**
PPT Papeete 98.78 213 LR LR 14 34 15.9
comp=Z,222nm,21.2s,MS4.6,baz=95,slow=33
LPAZ La Paz 99.06 134 LR LR 14 43 52.2
comp=Z,299nm,18.3s,MS4.8,baz=202,slow=39
WRA Warramunga Arr 113.04 286 Pdiff Pdif 13 54 52.4 -2.8
comp=Z,0.9nm,1.1s,baz=354,slow=4.6,SNR=3.2
WRA PKiKP PKiKP 13 58 46.2 -2.3
comp=Z,0.6nm,0.5s,baz=330,slow=2.2,SNR=4.6
WRA PKKPbc PKKPbc 14 09 32.7 +0.8
comp=Z,0.8nm,0.8s,baz=198,slow=2.5,SNR=6.1
WRA Warramunga Arr 113.04 286 Pdif Pdif 13 54 52.4 -2.8
WRA PKPdf PKiKP 13 58 46.2 -2.3
WRA PKKPbc PKKPbc 14 09 32.7 +0.8
WRA Warramunga Arr 113.04 286 P Pdif 13 54 52.4 -2.8
WRA 13 58 46.2
ASAR Alice Springs 116.76 286 PKP PKPdf 13 58 53.5 -2.1
comp=Z,2.7nm,0.8s,baz=352,slow=1.8,SNR=18
ASAR PKKPbc PKKPbc 14 09 17.8 -1.3
comp=Z,1.0nm,0.8s,baz=187,slow=4.0,SNR=7.6
ASAR Alice Springs 116.76 286 PKP PKPdf 13 58 53.5 -2.1
ASAR PKKPbc PKKPbc 14 09 17.8 -1.3
ASAR Alice Springs 116.76 286 PKIKP PKPdf 13 58 53.5 -2.0
STKA Stephens Creek 123.42 276 PKP PKPdf 13 59 06.3 -1.8
comp=Z,5.7nm,0.9s,baz=70,slow=3.8,SNR=11
STKA Stephens Creek 123.42 276 PKP PKPdf 13 59 06.3 -1.8
STKA Stephens Creek 123.42 276 PKIKP PKPdf 13 59 06.3 -1.8
BOSA Boshof 126.26 43 PKP PKPdf 13 59 12.5 -1.1
comp=Z,8.7nm,0.9s,baz=8.9,slow=3.4,SNR=6.7
BOSA Boshof 126.26 43 PKP PKPdf 13 59 12.5 -1.1
BOSA Boshof 126.26 43 PKIKP PKPdf 13 59 12.5 -1.1
PMSA Palmer Station 147.23 142 PKPbc PKPbc 13 59 52.5 -0.7
comp=Z,27nm,0.9s,baz=1.8,slow=6.1,SNR=4.5
PMSA Palmer Station 147.23 142 PKPbc PKPbc 13 59 52.5 -0.7
SNAA Sanae 162.79 100 PKPab PKPab 14 00 59.4 -1.6
comp=Z,1.5nm,0.9s,baz=341,slow=5.1,SNR=7.2
SNAA Sanae 162.79 100 PKP2 PKPab 14 00 59.4 -1.6
SNAA pmax pmax
comp=Z,2.0nm,0.9s
NVL N'lazarevskaya 164.66 84 *e*PKP2 PKPab 14 01 16.3 +7.1
NVL pmax pmax
comp=Z,15nm,0.8s
MAW Mawson 167.82 3 PKPab PKPab 14 01 23.5 +0.2
comp=Z,13nm,1.1s,baz=344,slow=9.2,SNR=8.6
MAW Mawson 167.82 3 PKP2 PKPab 14 01 23.5 +0.2
MAW pmax pmax
comp=Z,13nm,1.1s
QSPA South Pole Qui 169.65 180 PKPab PKPab 14 01 30.6 -0.5
comp=Z,8.1nm,1.1s,baz=89,slow=2.1,SNR=6.8

IDC 17 13:45:14.9±4.2, 10.°16S×165.°95E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.5/4, Error ellipse: s-maj=205.4km s-min=31.2km az=139.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.98**	**249**	P	P	13 51 43.0	0.0
	0.6nm,0.9s,baz=80,slow=9.0,SNR=4.0						
ASAR	**Alice Springs**	**33.37**	**242**	P	P	13 51 54.5	-0.6
	0.5nm,0.9s,baz=65,slow=10.0,SNR=5.5						
FITZ	**Fitzroy Crossi**	**39.81**	**254**	P	P	13 52 50.7	+0.5
	0.8nm,0.6s,baz=72,slow=6.4,SNR=4.2						
ILAR	**Eielson Array**	**82.61**	**18**	P	P	13 57 39.6	0.0
	0.2nm,0.6s,baz=241,slow=5.1,SNR=5.5						

BJI 17 13:47:15.8, 32.°18N×104.°46E, h26km, ML3.5/14, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.40**	**206**	Pg	Pn	13 47 41.4	+1.8
CD2				Sg	Sn	13 48 00.9	+3.6
CD2				smax			
	comp=N,1μm,0.7s						
CD2				smax			
	comp=E,1μm,0.6s						
LZH	**Lanzhou**	**3.93**	**353**	*e*Pg	Pn	13 48 28.8	+14
LZH				Sg	Sn	13 49 17.5	+18
LZH				smax			
	comp=N,160nm,0.9s						
LZH				smax			
	comp=E,160nm,0.6s						
XAN	**Xi'an**	**4.18**	**62**	Pn	Pn	13 48 19.9	+2.1
XAN				Pg	Pn	13 48 31.3	+13
XAN				Sg	Sn	13 49 25.4	+20
XAN				smax			
	comp=N,140nm,0.7s						
XAN				smax			
	comp=E,44nm,0.9s						

*IDC **17** 13:53:55.2±2.8, 6.°47S×128.°86E, h315km±26km, mb2.9/4, mb1 3.2/7, mb1mx3.1/19, mbtmp3.0/7, Error ellipse: s-maj=48.6km s-min=11.9km az=71.0*
*NEIC **17** 13:53:56.5±2.1, 6.°54S×128.°68E, h330km±28km, mb4.1/1, Error ellipse: s-maj=19.3km s-min=10.5km az=225.0*

ISC 17 13:53:57.0±1.7, 6.°57S±0.°07×128.°7E±0.°1, h336km±20km, n28, σ0°58'/34, mb3.7/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.84**	**194**	P	**Pn**	**13 56 37.8**	**+0.7**
	0.5nm,0.3s,baz=23,slow=13,SNR=19						
FITZ				S	**S**	**13 58 48.7**	**-0.1**
	0.7nm,0.3s,baz=182,slow=14,SNR=4.2						
FITZ	**Fitzroy Crossi**	**11.84**	**194**	*e*P	**Pn**	**13 56 37.7**	**+0.7**
	4.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**11.84**	**194**	*e*P	**Pn**	**13 56 37.7**	**+0.7**
FITZ				S	**S**	**13 58 48.7**	**-0.1**
WRAB	**Tennant Creek**	**14.38**	**158**	*e*P	**P**	**13 57 05.4**	**-0.1**
	3.4nm,0.4s						
WRA	**Warramunga Arr**	**14.38**	**158**	P	**P**	**13 57 05.2**	**-0.3**
	1.0nm,0.3s,baz=334,slow=13,SNR=72						
WRA				S	**S**	**13 59 40.1**	**-1.9**
	0.2nm,0.3s,baz=347,slow=19,SNR=5.0						
WRA	**Warramunga Arr**	**14.38**	**158**	P	**P**	**13 57 05.2**	**-0.3**
WRA				S	**S**	**13 59 40.1**	**-1.9**
COEN	**Coen**	**16.04**	**118**	*e*P	**P**	**13 57 23.4**	**-0.2**
	103nm,0.6s						
COEN	**Coen**	**16.04**	**118**	*e*P	**P**	**13 57 23.7**	**+0.1**
	144nm,0.8s						
MBWA	**Marble Bar**	**16.89**	**210**	*e*P	**P**	**13 57 32.5**	**-0.4**
KKM	**Kota Kinabalu**	**17.66**	**315**	*e*P	**P**	**13 57 40.5**	**-0.6**
ASAR	**Alice Springs**	**17.73**	**164**	P	**P**	**13 57 42.6**	**+0.9**
	0.6nm,0.3s,baz=345,slow=12,SNR=61						
ASAR				S	**S**	**14 00 49.5**	**+1.2**
	0.2nm,0.3s,baz=348,slow=21,SNR=9.6						
ASAR				ScP	ScP	14 05 08.5	+3.5
	0.1nm,0.3s,baz=353,slow=1.8,SNR=6.8						
ASAR	**Alice Springs**	**17.73**	**164**	P	**P**	**13 57 42.6**	**+0.9**
ASAR				S	**S**	**14 00 49.5**	**+1.2**
ASAR				ScP	ScP	14 05 08.5	+3.5
CMAR	**Chiang Mai Arr**	**38.45**	**311**	P	**P**	**14 00 48.0**	**+0.2**
	0.4nm,0.6s,mb2.8,baz=129,slow=7.1,SNR=3.8						
CMAR	**Chiang Mai Arr**	**38.45**	**311**	P	**P**	**14 00 48.0**	**+0.2**
ODAN	**Odare**	**51.99**	**312**	*e*P	**P**	**14 02 32.5**	**-0.5**
	7.9nm,0.6s,mb4.2						
TAPN	**Taplejung**	**52.02**	**312**	*e*P	**P**	**14 02 33.3**	**0.0**
	4.3nm,0.4s,mb4.2						
RAMN	**Ramite**	**52.63**	**311**	*e*P	**P**	**14 02 38.0**	**+0.3**
	12nm,0.6s,mb4.4						
GUN	**Gumba**	**53.69**	**312**	*e*P	**P**	**14 02 45.4**	**+0.1**
DMN	**Daman**	**54.10**	**311**	*e*P	**P**	**14 02 48.0**	**-0.3**
GKN	**Gorkha**	**54.66**	**311**	*e*P	**P**	**14 02 52.2**	**-0.1**
KOLN	**Koldanda**	**55.32**	**310**	*e*P	**P**	**14 02 57.1**	**+0.1**

9.2nm,0.6s,mb4.3
PYUN Piuthan 55.95 310 eP P 14 03 01.2 -0.2
SONM Songino Array 57.63 342 P P 14 03 13.2 +0.5
0.2nm,0.5s,mb2.7,baz=160,slow=5.9,SNR=2.8
SONM Songino Array 57.63 342 P P 14 03 13.2 +0.5
MKAR Makanchi Array 67.15 327 P P 14 04 15.6 +0.3
0.5nm,0.4s,mb3.6,baz=111,slow=8.8,SNR=4.3
MKAR Makanchi Array 67.15 327 P P 14 04 15.6 +0.3
KURK Kurchatov 71.47 329 P P 14 04 41.6 +0.1
0.6nm,0.5s,mb3.6,baz=129,slow=5.1,SNR=6.6
KURK Kurchatov 71.47 329 P P 14 04 41.6 +0.1

IDC ***17*** *14:00:54.5±1.4, 19°.13N×73°.32W, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.7/21, mbtmp3.6/5, Error ellipse: s-maj=45.9km s-min=40.2km az=47.0*
NEIC ***17*** *14:00:58.5±4.3, 19°.28N×73°.48W, h20km±29km, Error ellipse: s-maj=17.1km s-min=10.9km az=187.0*
JSN ***17*** *14:02:26.9±10.0, 18°.00N×76°.75W, h0km±72km*
ISC 17 14:00:56.5±4.3, 19°.3N±0°.1×73°.50W±0°.08, h3km±30km, n23, σ0s94/19, mb3.5/5, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GTBY	Guantanamo Bay	1.64	292	eP		Pn		14 01 25.4	-0.9
SDDR	Presa de Saban	2.12	98	eP		Pn		14 01 32.6	-0.3
YHJ	Yallahs	3.17	244	i P		Sn		14 02 32.9	+7.3
HOJ	Hope	3.34	248	i P		Sn		14 02 20.0	-10
STH	Stony Hill	3.37	249	i P		Sn		14 02 32.6	+2.1
PCJ	Portland Cotta	3.80	246	i P		Sn		14 02 34.9	-6.5
MTDJ	Mount Denham	3.97	255	eP		Pn		14 01 58.5	+0.2
MCJ	Malvern	4.20	252	i P		Sn		14 02 47.7	-3.5
BCIP	Isla Barro Col	11.80	212	eP		Pn		14 03 46.1	+0.2
TXAR	Lajitas Array	29.17	296	P		P		14 07 00.2	+0.9
0.6nm,0.8s,mb3.4,baz=116,slow=8.2,SNR=5.1									
TXAR				PcP		PcP		14 10 06.8	-0.1
0.4nm,0.8s,baz=88,slow=4.1,SNR=3.6									
TXAR	Lajitas Array	29.17	296	P		P		14 07 00.2	+0.9
TXAR				PcP		PcP		14 10 06.8	-0.1
PDAR	Pinedale Array	38.31	316	P		P		14 08 18.6	+0.1
0.3nm,0.7s,mb3.1,baz=113,slow=7.0,SNR=2.9									
PDAR	Pinedale Array	38.31	316	P		P		14 08 18.6	+0.1
NVAR	Mina Array Bea	43.13	306	P		P		14 08 59.4	+1.0
0.3nm,0.7s,mb3.1,baz=103,slow=6.6,SNR=2.2									
NVAR	Mina Array Bea	43.13	306	P		P		14 08 59.4	+1.0
ILAR	Eielson Array	65.62	333	P		P		14 11 41.5	-0.1
0.5nm,0.8s,mb3.6,baz=111,slow=5.1,SNR=4.3									
ILAR	Eielson Array	65.62	333	P		P		14 11 41.5	-0.1
ARCES	ARCESS Array B	75.19	21	P		P		14 12 39.4	-0.7
3.5nm,0.9s,mb4.3,baz=293,slow=4.7,SNR=3.7									
ARCES	ARCESS Array B	75.19	21	P		P		14 12 39.4	-0.7
WRA	Warramunga Arr	153.78	264	PKP		PKPdf		14 20 49.1	-1.0
0.4nm,0.8s,baz=90,slow=1.5,SNR=4.8									
WRA				PKPbc		PKPbc		14 20 56.2	-1.7
1.0nm,0.8s,baz=83,slow=1.7,SNR=12									
WRA	Warramunga Arr	153.78	264	PKP		PKPdf		14 20 49.1	-1.0
WRA				PKPbc		PKPbc		14 20 56.2	-1.7
ASAR	Alice Springs	154.15	255	PKPbc		PKPbc		14 20 56.4	-2.3
0.4nm,0.9s,baz=88,slow=3.9,SNR=4.4									
ASAR				PKPab		PKPab		14 21 11.5	-0.9
0.3nm,0.7s,baz=90,slow=3.2,SNR=5.6									
ASAR	Alice Springs	154.15	255	PKPbc		PKPbc		14 20 56.4	-2.3
ASAR				PKPab		PKPab		14 21 11.5	-0.9

ATH ***17*** *14:09:28.9, 36°.51N×26°.73E, h26km±1km, MD3.4/8*
ISCJB ***17*** *14:09:28.6±0.6, 36°.52N±0°.02×26°.71E±0°.03, h1km±5km, Error ellipse: s-maj=3.7km s-min=3.4km az=154.3*
ISK ***17*** *14:09:28.6, 36°.63N×26°.70E, h5km, MD3.0*
DDA ***17*** *14:09:29.6, 36°.53N×26°.74E, h4km, Md3.3*
CSEM ***17*** *14:09:29.3±0.2, 36°.52N×26°.71E, h8km, ML2.9/3, Error ellipse: s-maj=4.5km s-min=3.2km az=160.0*
THE ***17*** *14:09:29.3, 36°.56N×26°.74E, h4km±2km, ML2.9/3, Error ellipse: s-maj=2.6km s-min=0.5km az=40.0*
ISC 17 14:09:29.6±0.4, 36°.51N±0°.02×26°.72E±0°.02, h9km±4km, n59, σ0s97/88, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NIS1	Nisyros Isl.	0.38	76	P		Pg		14 09 36.9	-0.1
NIS1				S		Sg		14 09 42.0	0.0
NIS1	Nisyros Isl.	0.38	76	P		Pg		14 09 36.9	-0.1
NIS1				S		Sg		14 09 42.0	0.0
DAT	Datca	0.72	72	ePG		Pg		14 09 43.3	-0.2
DAT				eSG		Sg		14 09 54.4	+1.5
DAT	Datca	0.72	72	ePg		Pg		14 09 43.3	-0.2
DAT				eSg		Sg		14 09 54.4	+1.5
BODT	Bodrum	0.72	40	ePG		Pg		14 09 41.6	-2.0
BODT				eSG		Sg		14 09 52.5	-0.5
BODT	Bodrum	0.72	40	ePg		Pg		14 09 41.6	-1.9
BODT				eSg		Sg		14 09 52.5	-0.5
KARP	Karpathos	1.02	160	ePN		Pg		14 09 48.8	-0.5
KARP				eSN		Sg		14 10 03.2	+0.6
KARP	Karpathos	1.02	160	P		Pg		14 09 49.0	-0.3
KARP				S		Sg		14 10 04.1	+1.5
KARP	Karpathos	1.02	160	P		Pg		14 09 49.0	-0.3
KARP				eSn		Sg		14 10 03.2	+0.6
KARP				S		Sg		14 10 04.1	+1.5
THR1	Thera Island	1.03	263	P		Pg		14 09 48.8	-0.5
THR1				S		Sg		14 10 04.3	+1.6
THR1	Thera Island	1.03	263	P		Pg		14 09 48.8	-0.5
THR1				S		Sg		14 10 04.3	+1.6
THR2	Thira island,	1.04	267	P		Pg		14 09 48.9	-0.7
THR2	Thira island,	1.04	267	P		Pg		14 09 48.9	-0.7
THR3	Thira Island,	1.07	265	P		Pg		14 09 49.3	-0.8
THR3				S		Sg		14 10 05.3	+1.2
THR3	Thira Island,	1.07	265	P		Pg		14 09 49.3	-0.8
THR3				S		Sg		14 10 05.3	+1.2
APE	Apeiranthos	1.11	301	ePG		Pg		14 09 49.5	-1.3
APE				eSG		Sg		14 10 05.0	-0.3
APE	Apeiranthos	1.11	301	ePN		Pg		14 09 50.0	-0.9
APE	Apeiranthos	1.11	301	P		Pg		14 09 49.7	-1.2
APE				S		Sg		14 10 05.1	-0.1
APE	Apeiranthos	1.11	301	P		Pg		14 09 49.7	-1.2
APE	Apeiranthos	1.11	301	ePn		Pg		14 09 50.0	-0.9
APE				eSg		Sg		14 10 05.0	-0.2
MLSB	Milas	1.15	47	ePN		Pn		14 09 51.6	-0.3
MLSB	Milas	1.15	47	ePn		Pn		14 09 51.6	-0.3
ARG	Arkhangelos	1.17	104	ePN		Pn		14 09 51.2	-0.9
ARG				eSN		Sn		14 10 07.3	-0.9
ARG	Arkhangelos	1.17	104	P		Pb		14 09 51.0	-1.0
ARG	Arkhangelos	1.17	104	P		Pb		14 09 51.0	-1.0
ARG				eSn		Sn		14 10 07.3	-0.9
SMG	Samos	1.20	4	ePN		Pn		14 09 51.7	-0.9
SMG				eSN		Sn		14 10 08.6	-0.4
SMG	Samos	1.20	4	ePn		Pn		14 09 51.7	-0.9
SMG				eSn		Sn		14 10 08.6	-0.4
GCAM	G?zelcaml?	1.25	19	i P		Pn		14 09 52.5	-0.8
GCAM				i S		Sb		14 10 11.7	+2.0
GCAM	G?zelcaml?	1.25	19	i P		Pn		14 09 52.5	-0.8
GCAM				i S		Sb		14 10 11.7	+2.0
YER	Yerkesik	1.40	63	ePN		Pn		14 09 56.0	+0.7
YER	Yerkesik	1.40	63	ePn		Pn		14 09 56.0	+0.7
AYDN	Tasoluk	1.47	38	i P		Pn		14 09 56.4	0.0
AYDN				i S		Sn		14 10 19.9	+4.2
AYDN	Tasoluk	1.47	38	i P		Pn		14 09 56.4	+0.1
AYDN				i S		Sn		14 10 19.9	+4.2
NPS	Neapolis	1.54	216	ePN		Pn		14 09 56.7	-0.5
NPS	Neapolis	1.54	216	P		Pn		14 09 56.6	-0.6
NPS				S		Sn		14 10 18.2	+0.9
NPS	Neapolis	1.54	216	ePn		Pn		14 09 56.7	-0.5
NPS				S		Sn		14 10 18.2	+0.9
TURN	Turunc	1.55	76	i P		Pn		14 09 52.5	-4.9
TURN				i S		Sn		14 10 11.5	-6.2
TURN	Turunc	1.55	76	i P		Pn		14 09 52.5	-4.9
LAST	Lasithi	1.68	217	ePN		Pn		14 09 59.1	-0.1
LAST	Lasithi	1.68	217	P		Pn		14 09 59.0	-0.2
LAST	Lasithi	1.68	217	P		Pn		14 09 59.0	-0.2
URLA	Izmir	1.85	357	i P		Pn		14 10 03.2	+1.7
URLA				i S		Sg		14 10 29.9	+0.9
URLA	Izmir	1.85	357	i P		Pn		14 10 03.2	+1.7
BLCB	Balcova	1.89	8	ePN		Pn		14 10 02.0	0.0
BLCB	Balcova	1.89	8	ePn		Pn		14 10 02.1	+0.1
FETY	Fethiye	1.90	86	ePN		Pn		14 10 04.2	+2.0
FETY	Fethiye	1.90	86	ePn		Pn		14 10 04.2	+2.0
IZM	Izmir	1.93	13	ePN		Pn		14 10 02.9	+0.2
IZM	Izmir	1.93	13	ePn		Pn		14 10 02.9	+0.3
CHOS	Chios island	1.95	344	P		Pn		14 10 01.2	-1.6
CHOS	Chios island	1.95	344	P		Pn		14 10 01.2	-1.6
KULA	Kula-Manisa	2.52	37	ePN		Pn		14 10 11.7	+0.9
KULA	Kula-Manisa	2.52	37	ePn		Pn		14 10 11.7	+0.9
KYTH	Kithira	2.98	267	ePN		Pn		14 10 16.9	-0.2
KYTH	Kithira	2.98	267	P		Pn		14 10 16.8	-0.3
KYTH	Kithira	2.98	267	P		Pn		14 10 16.8	-0.3
VLI	Veliai	3.05	275	ePN		Pn		14 10 17.7	-0.3
VLI	Veliai	3.05	275	P		Pn		14 10 17.6	-0.4
VLI	Veliai	3.05	275	ePn		Pn		14 10 17.7	-0.3

IDC ***17*** *14:15:54.8±1.0, 1°.34N×122°.39E, h0km, mb4.0/6, mb1 4.1/7, mb1mx3.8/23, mbtmp4.0/7, ML4.3/1, Error ellipse: s-maj=83.4km s-min=17.4km az=65.0*
ISCJB ***17*** *14:15:58.7±0.5, 1°.47N±0°.04×122°.31E±0°.04, h50km±8km, mb3.9/7, Error ellipse: s-maj=7.4km s-min=5.9km az=179.1*
DJA ***17*** *14:15:58, 1°.50N×122°.34E, h10km, MLv4.5/14*
NEIC ***17*** *14:15:59.7±0.5, 1°.28N×122°.23E, mb3.8/2, Error ellipse: s-maj=15.7km s-min=6.8km az=64.0*
ISC 17 14:16:00.8±0.5, 1°.47N±0°.04×122°.33E±0°.05, h52km±7km, n42, σ1s11/44, mb3.9/7, 1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRSI	Marisa	1.06	201	P		Pn		14 16 15.8	-3.6
MRSI				S		Sn		14 16 24.4	-8.7
KMSI	Cibinong	1.88	118	P		Pn		14 16 31.9	+1.4
MNI	Manado	2.51	90	P		Pn		14 16 38.3	-0.9
MNI				S		Sn		14 17 06.9	-1.8
LUWI	Luwuk	2.53	170	P		Pn		14 16 40.3	+0.8
MSSI	Masamba	4.47	207	P		Pn		14 17 06.1	0.0
TTSI	Tana Toraja	5.13	209	P		Pn		14 17 15.4	+0.2
0.6nm2µm86nm,0.7s									
MYLDM	Lahad Datu	5.31	314	P		Pn		14 17 18.1	+0.5
0.2nm46nm,0.8s									
KDI	Kendari	5.40	177	P		Pn		14 17 19.1	+0.3
0.1nm572nm38nm,1.0s									
LBMI	Labuha	5.58	112	P		Pn		14 17 21.3	0.0
0.3nm829nm51nm,0.8s									
SPSI	Sidrap Palu	5.97	205	P		Pn		14 17 26.9	+0.2
0.2nm502nm62nm,0.7s									
CTBH	Cotabato--PC H	6.03	18	eP		Pn		14 17 25.8	-1.7
IPIL	Ipil	6.28	2	eP		Pn		14 17 30.7	-0.3
PAGZ	Pagadian	6.42	9	eP		Pn		14 17 32.4	-0.6
NLAI	Namlea	6.68	134	P		Pn		14 17 37.0	+0.6
0.2nm2µm38nm,0.5s									
MATI	Mati	6.71	36	eP		Pn		14 17 37.6	+0.9
BBSI	Bau Bau	6.91	178	P		Pn		14 17 40.9	+1.3
0.2nm47nm,1.1s									
BUKP	Musuan	6.93	23	eP		Pn		14 17 39.5	-0.4
KAPI	Kappang	6.93	202	eP		Pn		14 17 36.4	-3.5
18nm,0.8s									
KAPI	Kappang	6.93	202	P		Pn		14 17 38.3	-1.6
0.1nm19nm,1.0s									
BKSI	Bulukumba	7.09	198	P		Pn		14 17 41.4	-0.7
0.1nm23nm,1.0s									
KKM	Kota Kinabalu	7.61	307	eP		Pn		14 17 48.5	-0.6
AAI	Ambon	7.79	131	P		Pn		14 17 53.0	+1.4
32nm,1.0s									
MSAI	Masohi	8.15	126	P		Pn		14 17 57.6	+1.0
11nm,1.0s									
BNDI	Bandanaira	9.63	128	P		Pn		14 18 18.4	+1.5
FITZ	Fitzroy Crossi	19.72	171	P		Pn		14 20 24.7	-3.4
0.7nm,0.3s,baz=6.6,slow=11,SNR=35									
FITZ	Fitzroy Crossi	19.72	171	P		Pn		14 20 24.7	-3.4
MBWA	Marble Bar	22.63	186	eP		P		14 20 55.1	-2.3
WRAB	Tennant Creek	24.32	152	eP		P		14 21 12.9	-0.9
6.1nm,1.0s,mb4.0									
WRA	Warramunga Arr	24.32	152	P		P		14 21 12.9	-0.9
1.8nm,0.4s,mb3.9,baz=330,slow=11,SNR=56									
WRA	Warramunga Arr	24.32	152	P		P		14 21 12.9	-0.9
WB2	Warramunga Arr	24.33	152	eP		P		14 21 12.8	-1.0
ASAR	Alice Springs	27.40	156	P		P		14 21 41.2	-0.4
0.5nm,0.5s,mb3.3,baz=331,slow=7.4,SNR=16									
ASAR				PcP		PcP		14 24 59.4	-0.3
0.2nm,0.5s,baz=343,slow=2.5,SNR=3.6									
ASAR	Alice Springs	27.40	156	P		P		14 21 41.2	-0.4
ASAR				PcP		PcP		14 24 59.4	-0.3
CTA	Charters Tower	31.77	134	P		P		14 22 21.1	+0.7
2.9nm,0.6s,mb4.3,baz=315,slow=7.1,SNR=3.6									
CTA	Charters Tower	31.77	134	P		P		14 22 21.1	+0.7
STKA	Stephens Creek	37.86	153	P		P		14 23 12.5	-0.3
3.2nm,0.8s,mb4.1,baz=333,slow=10,SNR=6.8									
STKA	Stephens Creek	37.86	153	eP		P		14 23 12.4	-0.4
0.5nm,0.7s,mb3.4									
SONM	Songino Array	48.20	346	P		P		14 24 37.8	+1.6
1.1nm,0.8s,mb3.9,baz=168,slow=8.8,SNR=7.7									
SONM				pP		pP		14 24 48.7	-1.3
1.9nm,0.9s,baz=162,slow=8.2,SNR=6.7									
SONM	Songino Array	48.20	346	P		P		14 24 37.8	+1.6
SONM				pP		pP		14 24 48.7	-1.3
MKAR	Makanchi Array	57.02	328	P		P		14 25 43.9	+2.6
1.9nm,1.1s,mb4.0,baz=138,slow=8.8,SNR=3.2									
MKAR				pP		pP		14 25 54.0	-1.5
0.3nm,0.4s,baz=120,slow=8.7,SNR=2.2									
MKAR	Makanchi Array	57.02	328	P		P		14 25 43.9	+2.6
MKAR				pP		pP		14 25 54.0	-1.5
KURK	Kurchatov	61.38	330	eP		P		14 26 12.1	+0.7

OTT 17 14:18:37.2±1.4, 79°.35N×115°.16W, h18km, ML3.5/3, Arctic Ocean. Aftershock. 240km west from Isachsen, Nu, Arctic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EUNU	Eureka	5.17	68	PN		Pn		14 19 53.0	-0.4
EUNU				SN		Sn		14 20 47.7	-4.7
EUNU				Trac				14 20 49.2	
comp=Z,4.3nm,0.2s									
RES	Resolute Bay	6.49	126	PN		Pn		14 20 12.2	+0.6
RES				SN		Sn		14 21 22.8	-2.3
RES				Trac				14 21 26.0	
comp=Z,6.4nm,0.2s									
INK	Inuvik	12.11	214	PN		Pn		14 21 26.6	-1.8
INK				SN		Sn		14 23 32.0	-11
INK				Trac				14 23 38.5	
comp=Z,4.5nm,0.7s									
KUGN	Kugaaruk Camp,	13.11	135	PN		Pn		14 21 39.1	-3.0
JERN	Jeri Cho Mine,	13.44	173	PN		Pn		14 21 45.8	-0.9
JERN				SN		Sn		14 24 07.2	-8.2
STLN	Stellar Camp,	13.49	141	PN		Pn		14 21 45.0	-2.3
STLN				SN		Sn		14 24 12.6	-3.8
SRLN	Sarcpa Lake, N	13.64	125	PN		Pn		14 21 48.6	-0.7
BULN	Bullion Camp,	14.35	142	PN		Pn		14 21 55.9	-3.1
BULN				SN		Sn		14 24 30.6	-6.8
CTLN	Castor Lake	15.00	181	PN		Pn		14 22 05.4	-2.5
CTLN				SN		Sn		14 24 44.4	-8.9
GALN	Gameti Lake	15.33	184	PN		Pn		14 22 09.6	-2.5
NUNN	Nunuq Camp, NU	15.73	141	PN		Pn		14 22 14.6	-2.8
YKW3	Yellowknife Ar	16.88	179	PN		Pn		14 22 30.9	-1.2
YKW3				SN		Sn		14 25 27.9	-11
YKW3				Trac				14 25 33.3	
comp=Z,2.7nm,0.3s									
SEDN	First Sedna Si	17.61	143	PN		Pn		14 22 38.9	-2.3
JOSN	Second Sedna S	17.66	143	PN		Pn		14 22 38.2	-3.5

NEIC 17 14:27:28.9, 36°.01N×120°.88W, h12km, MW3.3(BRK), **After NCEDC., Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SAO	San Andreas Ge	0.88	329	ePg		Pg		14 27 45.0	-0.9
SAO				eSg		Sg		14 27 56.9	-0.5
ISA	Isabella	1.98	99	ePn		Pn		14 28 01.8	-0.4
ISA				eSn		Sn		14 28 26.1	-0.9
SAC	San Andreas	2.00	322	ePn		Pn		14 28 00.8	-1.6
SAC				ePg		Pg		14 28 05.3	-1.9
CMB	Columbia Colle	2.06	11	ePn		Pn		14 28 03.5	+0.2
CMB				eS		Sn		14 28 28.2	-0.6
OSI	Osito Adit	2.25	128	ePn		Pn		14 28 05.5	-0.3
MCCM	Marconi Confer	2.66	324	ePn		Pn		14 28 09.8	-1.8
PASC	Pasadena Art C	2.87	129	ePn		Pn		14 28 13.4	-1.0
MWC	Mount Wilson	2.92	127	ePn		Pn		14 28 14.2	-0.9
GSC	Goldstone	3.39	101	ePn		Pn		14 28 20.5	-1.1
WCN	Washoe City	3.40	15	Pg		Pg		14 28 25.0	-9.1
HOPS	Hopland	3.45	330	ePn		Pn		14 28 20.9	-1.5
PFO	Pinyon Flat Ob	4.36	122	ePn		Pn		14 28 33.6	-1.2

IDC 17 14:30:45.0±4.3, 18°.93N×144°.96E, h213km±18km, mb2.8/4, mb1 3.1/6, mb1mx2.9/26, mbtmp3.1/6, Error ellipse: s-maj=193.5km s-min=12.2km az=82.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	Guam	5.31	181	P		Pn		14 32 05.0	+1.4
5.6nm,0.3s,baz=21,slow=16,SNR=11									
GUMO				S		S		14 33 05.2	-0.7
4.8nm,0.3s,baz=22,slow=19,SNR=3.0									
CBIJ	Chichi jima	8.52	343	P		Pn		14 32 45.9	+1.0
1.2nm,0.3s,baz=285,slow=20,SNR=2.1									
CBIJ				S		S		14 34 19.1	-1.9
1.6nm,0.3s,baz=287,slow=19,SNR=3.3									
WRA	Warramunga Arr	40.01	196	P		P		14 37 59.5	+0.2
0.4nm,0.6s,baz=20,slow=8.8,SNR=10									
SONM	Songino Array	42.53	322	P		P		14 38 20.5	+1.0
0.2nm,0.7s,baz=124,slow=9.0,SNR=2.5									
ASAR	Alice Springs	43.69	195	P		P		14 38 28.4	-0.6
0.1nm,0.4s,baz=13,slow=6.6,SNR=8.5									
BVAR	Borovoye Array	65.85	320	P		P		14 41 07.0	-0.5
0.4nm,0.6s,baz=103,slow=6.4,SNR=2.3									

IDC ***17*** *14:41:20.0±1.1, 10°.33S×124°.17E, h0km, mb3.6/4, mb1 3.6/7, mb1mx3.5/19, mbtmp3.5/7, ML3.2/3, Error ellipse: s-maj=87.6km s-min=20.8km az=68.0*
ISCJB ***17*** *14:41:22.4±0.7, 10°.32S±0°.07×124°.6E±0°.1, h33km, mb3.6/4, Error ellipse: s-maj=18.6km s-min=6.6km az=151.2*
NEIC ***17*** *14:41:25.1±0.6, 10°.29S×124°.38E, h35km, Error ellipse: s-maj=30.9km s-min=7.8km az=60.0*
ISC 17 14:41:25.2±0.7, 10°.29S±0°.08×124°.6E±0°.1, h35km, n15, σ1s26/22, mb3.6/4, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	7.83	173	Pn		Pn		14 43 17.0	+0.4
0.4nm,0.3s,baz=356,slow=12,SNR=17									
FITZ				Sn		Sn		14 44 43.6	-0.4
0.9nm,0.3s,baz=315,slow=20,SNR=9.8									
FITZ	Fitzroy Crossi	7.83	173	P		Pn		14 43 17.0	+0.4
FITZ				Sn		Sn		14 44 43.6	-0.4
WRA	Warramunga Arr	13.43	137	Pn		Pn		14 44 35.0	+1.6
0.1nm,0.3s,baz=310,slow=15,SNR=11									
WRA				Sn		Sn		14 47 00.2	-1.2
0.2nm,0.3s,baz=309,slow=23,SNR=5.9									
WRA	Warramunga Arr	13.43	137	Pn		Pn		14 44 35.0	+1.6
WRA				Sn		Sn		14 47 00.2	-1.2
WB2	Warramunga Arr	13.44	137	P		Pn		14 44 35.7	+2.3
WB2				eS		Sn		14 47 00.5	-1.0
ASAR	Alice Springs	15.99	147	Pn		Pn		14 45 09.3	+1.8
0.1nm,0.3s,baz=319,slow=12,SNR=17									
ASAR				Sn		Sn		14 48 00.8	-3.0
0.1nm,0.3s,baz=323,slow=26,SNR=3.5									
ASAR	Alice Springs	15.99	147	Pn		Pn		14 45 09.3	+1.8
ASAR				Sn		Sn		14 48 00.8	-3.0
SONM	Songino Array	60.09	346	P		P		14 51 28.6	-0.1
0.2nm,0.7s,mb3.3,baz=166,slow=7.4,SNR=2.5									
SONM	Songino Array	60.09	346	P		P		14 51 28.6	-0.1
MKAR	Makanchi Array	68.22	330	P		P		14 52 21.9	-0.2
0.8nm,0.7s,mb3.9,baz=139,slow=8.0,SNR=3.5									
MKAR	Makanchi Array	68.22	330	P		P		14 52 21.9	-0.2
ZALV	Zalesovo Beam	72.31	337	P		P		14 52 46.2	-0.8
0.3nm,0.5s,mb3.5,baz=99,slow=7.4,SNR=3.4									
ZALV	Zalesovo Beam	72.31	337	P		P		14 52 46.1	-0.8
KURK	Kurchatov	72.68	331	P		P		14 52 48.4	-0.9
0.4nm,0.5s,mb3.6,baz=144,slow=5.4,SNR=5.0									
KURK	Kurchatov	72.68	331	P		P		14 52 48.4	-0.9

IDC 17 14:43:26.5±3.4, 22°.70N×11°.83W, h0km, mb1 3.5/2, mb1mx3.2/24, mbtmp3.5/2, ML3.6/1, Error ellipse: s-maj=156.7km s-min=57.3km az=65.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TORD	Torodi Ar. Bea	15.98	124	Pn		Pn		14 47 13.0	+0.2
baz=314,slow=12,SNR=2.5									
DBIC	Dimbokro	17.30	156	P		Pn		14 47 29.5	-0.1
0.2nm,0.3s,baz=322,slow=15,SNR=3.6									
WRA	Warramunga Arr	148.40	91	PKPbc		PKPbc		15 03 15.4	-0.3
0.5nm,1.1s,baz=292,slow=2.0,SNR=3.1									
ASAR	Alice Springs	148.53	99	PKPbc		PKPbc		15 03 15.2	-0.8
0.1nm,0.5s,baz=278,slow=3.8,SNR=4.5									

ISCJB ***17*** *14:50:04.3±0.3

comp=Z,16nm,0.6s
QILN SN Sn 14 56 13.6 -4.6
CTLN Castor Lake 15.06 184 PN Pn 14 53 37.3 -1.3
CTLN mb 14 53 38.7
comp=Z,36nm,1.1s
CTLN SN Sn 14 56 14.4 -11
WAGN Wager Bay 15.12 140 PN Pn 14 53 39.1 -0.3
WAGN mb 14 53 42.0
comp=Z,15nm,0.3s
ILKN Indian Lake 15.26 183 PN Pn 14 53 39.6 -1.6
ILKN SN Sn 14 56 19.9 -10
GALN Gameti Lake 15.40 186 PN Pn 14 53 41.8 -1.2
GALN mb 14 53 43.0
comp=Z,18nm,0.7s
GALN SN Sn 14 56 23.1 -10
NUNN Nunuq Camp, NU 15.58 143 PN Pn 14 53 44.4 -1.0
NUNN mb 14 53 46.8
comp=Z,37nm,0.9s
NUNN SN Sn 14 56 27.6 -10
YBKN Baker Lake, Hu 15.96 151 PN Pn 14 53 48.5 -1.8
YBKN mb 14 53 52.0
comp=Z,8.9nm,0.2s
YBKN SN Sn 14 56 39.3 -7.7
COKN Cook Lake 16.27 172 PN Pn 14 53 54.2 -0.1
EGAK Eagle 16.61 224 P Pn 14 53 59.2 +0.5
9.6nm,1.0s
YKW3 Yellowknife Ar 16.93 182 PN Pn 14 54 03.1 +0.5
YKW3 mb 14 54 06.1
comp=Z,12nm,0.4s
YKW3 SN Sn 14 57 00.0 -10
YKW3 Trac 14 57 14.0
comp=Z,13nm,0.7s
YKA Yellowknife Ar 16.99 182 Pn Pn 14 54 03.1 -0.3
1.7nm,0.3s,baz=358,slow=12,SNR=39
YKA Sn Sn 14 56 59.8 -12
0.4nm,0.3s,baz=358,slow=21,SNR=4.7
YKA Yellowknife Ar 16.99 182 Pn Pn 14 54 03.1 -0.3
YKA Sn Sn 14 56 59.8 -12
DAWY Dawson 17.08 221 *e*P Pn 14 54 02.2 -2.3
DAWY Dawson 17.08 221 PN Pn 14 54 02.1 -2.5
DAWY SN Sn 14 57 00.6 -13
ILAR Eielson Array 17.41 232 Pn Pn 14 54 07.2 -1.4
0.0nm,0.3s,baz=16,slow=12,SNR=7.0
ILAR Sn Sn 14 57 07.5 -15
0.1nm,0.3s,baz=16,slow=26,SNR=3.7
ILAR Eielson Array 17.41 232 Pn Pn 14 54 07.2 -1.4
ILAR Sn Sn 14 57 07.5 -15
SEDN First Sedna Si 17.48 145 PN Pn 14 54 10.0 +0.5
SEDN mb 14 54 12.4
comp=Z,61nm,0.9s
JOSN Second Sedna S 17.53 146 PN Pn 14 54 10.9 +0.8
JOSN mb 14 54 12.6
comp=Z,57nm,0.8s
JOSN SN Sn 14 57 14.2 -11
SUMG Summit 17.94 71 *e*P Pn 14 54 15.5 +0.3
46nm,1.0s
MCK McKinley 18.69 233 *e*P Pn 14 54 26.2 +1.8
15nm,1.2s
PAX Paxson 18.92 228 *e*P Pn 14 54 28.4 +1.2
12nm,1.1s
TRF Thorofare Moun 19.16 235 *e*P Pn 14 54 31.4 +1.4
30nm,1.4s
SML Sawmill 20.44 231 *e*P P 14 54 44.5 +1.4
10.0nm,1.2s
RC01 Rabbit Creek A 21.33 232 *e*P P 14 54 54.7 +2.0
35nm,1.2s,mb4.6
FCC Fort Churchill 21.61 152 *e*P P 14 55 00.3 +4.5
FCC Fort Churchill 21.61 152 PN P 14 55 00.8 +5.0
DLBC Dease Lake 21.69 204 *e*P P 14 54 59.6 +3.0
4.6nm,0.8s,mb4.0,baz=357,slow=12,SNR=5.1
DLBC Dease Lake 21.69 204 P P 14 54 59.6 +3.0
SLKM Skilak Lake 21.95 232 *e*P P 14 55 01.6 +2.1
BILL Bilibino 22.72 286 P P 14 55 05.7 -1.8
14nm,1.6s,mb4.2
KDAK Kodiak Island 24.92 233 P P 14 55 29.6 +0.8
5.0nm,0.6s,mb4.2,baz=29,slow=9.6,SNR=9.0
KDAK Kodiak Island 24.92 233 P P 14 55 29.6 +0.8
FFC Flin Flon 25.08 164 *e*P P 14 55 33.9 +3.7
ARCES ARCESS Array B 29.46 28 P P 14 56 09.8 +0.4
4.3nm,1.0s,mb4.1,baz=6.9,slow=8.3,SNR=2.6
ARCES ARCESS Array B 29.46 28 P P 14 56 09.8 +0.4
GCMT Greycliff 33.76 175 *e*P P 14 56 52.5 +5.1
6.0nm,0.8s,mb4.6
MCMT McKenzie Canyo 34.69 179 *e*P P 14 56 59.5 +4.0
0.6nm,0.6s,mb3.7
FLWY Flagg Ranch 35.45 176 *e*P P 14 57 08.1 +6.0
9.1nm,0.9s,mb4.7
IMW Indian Meadow 35.63 177 *e*P P 14 57 09.8 +6.2
9.7nm,1.1s,mb4.7
MOOW Moose Ponds 35.78 177 *e*P P 14 57 10.8 +5.9
6.1nm,1.1s,mb4.4
LOHW Long Hollow 35.92 176 *e*P P 14 57 11.5 +5.4
3.5nm,0.9s,mb4.3
TPAW Teton Pass 36.04 177 *e*P P 14 57 12.7 +5.5
2.9nm,0.8s,mb4.3
NOA NORSAR Array B 36.19 43 P P 14 57 09.9 +1.7
1.0nm,0.8s,mb3.6,baz=352,slow=7.3,SNR=2.9
NOA NORSAR Array B 36.19 43 P P 14 57 09.9 +1.7
JOF Joensuu 36.45 26 *e*p P 14 57 10.4 0.0
3.4nm,0.6s,mb4.5
PD02 Pinedale Array 36.77 175 *e*P P 14 57 17.9 +4.5
PD01 Pinedale Array 36.77 175 *e*P P 14 57 18.0 +4.7
PDAR Pinedale Array 36.78 175 P P 14 57 17.9 +4.5
1.9nm,0.8s,mb4.0,baz=22,slow=6.8,SNR=12
PDAR Pinedale Array 36.78 175 P P 14 57 17.9 +4.5
KAF Kangasniemi 36.80 30 *e*p P 14 57 12.2 -1.2
2.4nm,0.5s,mb4.3
FINES FINESS Array B 37.44 31 P P 14 57 19.3 +0.5
4.1nm,0.7s,mb4.4,baz=353,slow=12,SNR=5.8
FINES FINESS Array B 37.44 31 P P 14 57 19.3 +0.5
EKA Eskdalemuir Ar 39.68 57 P P 14 57 40.3 +2.6
8.2nm,1.0s,mb4.4,baz=332,slow=8.8,SNR=5.6
EKA Eskdalemuir Ar 39.68 57 P P 14 57 40.3 +2.6
MSU Marysvale 41.01 178 *e*P P 14 57 54.6 +5.8
2.1nm,1.0s,mb3.7
NVAR Mina Array Bea 41.13 186 P P 14 57 54.0 +4.2
1.9nm,0.9s,mb3.7,baz=4.9,slow=5.5,SNR=13
NVAR Mina Array Bea 41.13 186 P P 14 57 54.0 +4.2
PV01 Paradox Valley 41.43 174 *e*P P 14 57 57.5 +5.2
550nm,1.1s
ISA Isabella 43.89 186 *e*P P 14 58 17.0 +4.7
2.9nm,0.8s,mb4.1
WUAZ Wupatki 44.00 177 *e*P P 14 58 18.3 +5.1
8.9nm,1.0s,mb4.5
BNM Barren Site 45.45 172 *e*P P 14 58 29.7 +4.9
1.6nm,0.7s,mb4.0
ZALV Zalesovo Beam 46.47 345 P P 14 58 31.1 -1.5
0.3nm,0.4s,mb3.6,baz=0.4,slow=7.2,SNR=2.4
ZALV Zalesovo Beam 46.47 345 P P 14 58 31.1 -1.5
AKASG Malin Array Be 48.35 31 P P 14 58 46.6 -0.6
0.2nm,0.3s,mb3.6,baz=353,slow=8.6,SNR=5.5
AKASG Malin Array Be 48.35 31 P P 14 58 46.6 -0.6
JCT Junction City 49.36 164 *e*P P 14 58 59.5 +4.3
9.1nm,0.9s,mb4.8
KURK Kurchatov 49.95 350 P P 14 58 57.9 -1.6
0.5nm,0.4s,mb3.9,baz=7.7,slow=7.6,SNR=4.0
KURK PcP PcP 15 00 19.7 +0.3
0.6nm,0.2s,baz=344,slow=3.6,SNR=4.7
KURK Kurchatov 49.95 350 P P 14 58 57.9 -1.6
KURK PcP PcP 15 00 19.7 +0.3
AKTO Aktyubinsk 50.34 7 P P 14 59 01.0 -1.4
0.3nm,0.3s,mb3.8,baz=0.0,slow=10,SNR=2.5
AKTO PcP PcP 15 00 20.7 -0.1
1.2nm,0.6s,baz=342,slow=4.1,SNR=6.3
AKTO Aktyubinsk 50.34 7 P P 14 59 01.0 -1.4
AKTO PcP PcP 15 00 20.7 -0.1
TXAR Lajitas Array 50.34 169 P P 14 59 05.2 +2.6
0.5nm,0.6s,mb3.7,baz=12,slow=7.0,SNR=6.9
TXAR Lajitas Array 50.34 169 P P 14 59 05.2 +2.6
SONM Songino Array 50.91 326 P P 14 59 04.3 -2.5
1.2nm,1.0s,mb3.8,baz=6.5,slow=7.3,SNR=5.2
SONM Songino Array 50.91 326 P P 14 59 04.3 -2.5
MKAR Makanchi Array 53.73 347 P P 14 59 25.7 -2.0
2.1nm,1.0s,mb4.0,baz=353,slow=6.1,SNR=4.5
MKAR Makanchi Array 53.73 347 P P 14 59 25.7 -2.0
ESDC Sonseca Array 54.77 63 P P 14 59 37.8 +2.4
0.4nm,0.3s,mb3.9,baz=357,slow=6.4,SNR=3.3
ESDC Sonseca Array 54.77 63 P P 14 59 37.8 +2.4
BRTR Keskin Array B 59.64 29 P P 15 00 10.0 +0.2
0.6nm,0.8s,mb3.7,baz=348,slow=6.5,SNR=2.9
BRTR Keskin Array B 59.64 29 P P 15 00 09.9 +0.2
CMAR Chiang Mai Arr 80.74 329 P P 15 02 17.8 -1.4
1.4nm,1.0s,mb3.9,baz=352,slow=6.5,SNR=13
CMAR Chiang Mai Arr 80.74 329 P P 15 02 17.8 -1.4
TORD Torodi Ar. Bea 81.66 63 P P 15 02 25.4 +1.2
2.2nm,0.8s,mb4.1,baz=336,slow=5.3,SNR=14
TORD Torodi Ar. Bea 81.66 63 P P 15 02 25.4 +1.2
WRA Warramunga Arr 113.50 288 PKiKP PKiKP 15 08 42.7 -1.0
0.2nm,0.6s,baz=351,slow=2.3,SNR=4.5
WRA Warramunga Arr 113.50 288 PKPdf PKiKP 15 08 42.7 -1.0
ASAR Alice Springs 117.22 288 PKP PKPdf 15 08 49.9 -0.8
0.3nm,0.7s,baz=356,slow=1.8,SNR=7.5
ASAR Alice Springs 117.22 288 PKP PKPdf 15 08 49.9 -0.8

WEL 17 15:29:30.8±0.3, 37.10S×176.64E, h253km±3km, ML3.9/14, 1C, Error ellipse: s-maj=5.5km s-min=5.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKRZ	**Makatiti**	**1.04**	**187**	PN	Pn	15 30 06.9	+0.6
URZ	**Urewera**	**1.22**	**162**	⇑PN	Pn	15 30 07.4	0.0
URZ				SN	S	15 30 36.5	+0.2
MXZ	**Matakaoa Point**	**1.41**	**110**	PN	Pn	15 30 09.2	+0.5
MXZ				SN	S	15 30 37.9	-0.6
MWZ	**Matawai**	**1.42**	**150**	PN	Pn	15 30 08.9	+0.1
MWZ				SN	S	15 30 38.5	-0.3
PUZ	**Puketiti**	**1.61**	**127**	PN	Pn	15 30 10.2	0.0
PUZ				SN	S	15 30 40.3	-1.0
RAHZ	**Arahi**	**1.85**	**169**	PN	Pn	15 30 12.5	+0.3
RAHZ				SN	S	15 30 45.1	+0.2
CNGZ	**Carnagh Statio**	**1.86**	**138**	PN	Pn	15 30 12.6	+0.3
NMHZ	**Naumai**	**2.00**	**176**	PN	Pn	15 30 13.9	+0.5
BKZ	**Black Stump Fm**	**2.06**	**183**	PN	Pn	15 30 13.6	-0.4
BKZ				SN	S	15 30 48.0	-0.3
KNZ	**Kokohu**	**2.08**	**157**	PN	Pn	15 30 13.7	-0.6
MHGZ	**Mahia Peninsul**	**2.28**	**154**	PN	Pn	15 30 15.7	-0.4
TUVZ	**Tukino**	**2.30**	**199**	PN	Pn	15 30 16.3	+0.1
MCHZ	**McNeill Hill**	**2.34**	**179**	PN	Pn	15 30 16.5	-0.1
MOVZ	**Moawhango**	**2.41**	**197**	PN	Pn	15 30 16.5	-0.8
BHHZ	**Black Hill Sta**	**2.43**	**191**	PN	Pn	15 30 17.0	-0.4
CKHZ	**Cape Kidnapper**	**2.58**	**172**	PN	Pn	15 30 18.2	-0.7
KAHZ	**Kahuranaki**	**2.70**	**176**	PN	Pn	15 30 19.5	-0.6
PNHZ	**Pukenui**	**2.80**	**187**	PN	Pn	15 30 20.3	-1.3
PXZ	**Pawanui**	**2.93**	**177**	PN	Pn	15 30 21.2	-1.4
WAZ	**Wanganui**	**2.95**	**206**	PN	Pn	15 30 22.6	-0.2
WPHZ	**Waipukurau**	**2.96**	**183**	*e*PN	Pn	15 30 21.4	-1.6
TSZ	**Takapari Road**	**3.00**	**190**	PN	Pn	15 30 21.8	-1.5
DVHZ	**Dannevirke**	**3.21**	**186**	PN	Pn	15 30 24.1	-1.6
MRZ	**Mangatainoka R**	**3.65**	**193**	PN	Pn	15 30 28.1	-2.5
TIWZ	**Tintock**	**3.72**	**189**	PN	Pn	15 30 29.3	-2.0
OGWZ	**Otaki Gorge**	**3.88**	**197**	PN	Pn	15 30 30.9	-2.4
HOWZ	**Holdsworth Sta**	**3.89**	**193**	PN	Pn	15 30 30.6	-2.8
KIW	**Kapiti Island**	**3.99**	**199**	PN	Pn	15 30 31.9	-2.6
MTW	**Mount Morrison**	**4.15**	**192**	PN	Pn	15 30 33.2	-3.2
DUWZ	**D'Urville Isla**	**4.26**	**209**	PN	Pn	15 30 35.3	-2.4
MSWZ	**Moikau Station**	**4.44**	**194**	PN	Pn	15 30 36.2	-3.6
SNZO	**South Karori**	**4.46**	**199**	PN	Pn	15 30 37.0	-3.1
TCW	**Tory Channel**	**4.50**	**203**	PN	Pn	15 30 37.8	-2.7
PLWZ	**Palliser**	**4.59**	**193**	PN	Pn	15 30 38.3	-3.3
TUWZ	**Tuamarina**	**4.80**	**205**	PN	Pn	15 30 41.3	-2.9
NNZ	**Nelson**	**4.83**	**211**	PN	Pn	15 30 41.4	-3.1
QRZ	**Quartz Range**	**4.91**	**219**	PN	Pn	15 30 42.0	-3.5
THZ	**Tophouse**	**5.48**	**211**	PN	Pn	15 30 49.5	-2.9
KHZ	**Kahutara**	**5.82**	**203**	PN	Pn	15 30 53.6	-3.0
LTZ	**Lake Taylor**	**6.59**	**209**	PN	Pn	15 31 02.4	-3.8
MQZ	**McQueen's Vall**	**7.26**	**203**	SN	S	15 32 28.9	-9.3

IDC 17 15:31:26.2±2.1, 15.52S×173.34W, h0km, mb3.7/6, mb1 4.1/6, mb1mx3.9/19, mbtmp3.7/6, MS3.8/13, Ms1 3.8/13, ms1mx3.5/32, Error ellipse: s-maj=131.0km s-min=23.8km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.20**	**44**	Pn	Pn	15 31 58.1	-5.9
	12nm,0.3s,baz=187,slow=4.4,SNR=31						
AFI				Sn	Sn	15 32 22.5	-9.4
	40nm,0.3s,baz=229,slow=19,SNR=7.5						
AFI				LR	LR	15 32 49.4	
	comp=Z,1μm,21.1s,baz=46,slow=38						
RAR	**Rarotonga**	**14.07**	**116**	LR	LR	15 38 48.1	
	comp=Z,361nm,19.9s,baz=294,slow=31						
PAE	**Paea**	**22.87**	**99**	*e*T		16 00 23.7	
	1.2nm,0.2s						
PPT	**Papeete**	**22.87**	**98**	*e*LQ		15 41 02.4	
	789nm,27.8s						
PPT				*e*LR	LR	15 42 00.9	
	233nm,26.2s,baz=276						
PPT	**Papeete**	**22.87**	**98**	LR	LR	15 43 06.5	
	comp=Z,94nm,20.6s,baz=294,slow=31						
TBI	**Tubuai**	**23.81**	**113**	*e*LQ		15 41 28.1	
	526nm,26.2s						
TBI				*e*LR	LR	15 42 28.5	
	434nm,28.0s,baz=286						
TBI				*e*T		16 01 44.9	
	3.9nm,0.3s						
HNR	**Honiara**	**26.75**	**280**	LR	LR	15 45 56.3	
	comp=Z,122nm,18.1s,baz=135,slow=32						
RKT	**Rikitea**	**36.91**	**108**	*e*T		16 18 02.6	
	1.3nm,0.2s						
WRA	**Warramunga Arr**	**49.87**	**257**	P	P	15 40 21.8	+0.1
	0.7nm,0.7s,baz=90,slow=7.2,SNR=7.3						
ASAR	**Alice Springs**	**50.13**	**252**	P	P	15 40 23.1	-0.5
	2.4nm,0.8s,baz=89,slow=7.6,SNR=23						
VNDA	**Vanda**	**63.27**	**186**	LR	LR	16 04 53.9	
	comp=Z,67nm,20.9s,baz=360,slow=32						
NWAO	**Narrogin (SRO)**	**64.61**	**241**	LR	LR	16 05 57.4	
	comp=Z,72nm,20.3s,baz=124,slow=32						
MJAR	**Matsushiro Arr**	**69.06**	**320**	LR	LR	16 06 42.3	
	comp=Z,90nm,20.5s,baz=110,slow=31						
NVAR	**Mina Array Bea**	**74.38**	**42**	P	P	15 43 06.4	+0.5
	0.9nm,0.9s,baz=227,slow=10,SNR=3.6						
KSRS	**Korea Array**	**76.28**	**316**	LR	LR	16 10 06.8	
	comp=Z,52nm,20.4s,baz=296,slow=30						
TXAR	**Lajitas Array**	**80.63**	**56**	P	P	15 43 41.5	+0.4
	0.4nm,0.9s,baz=240,slow=7.1,SNR=2.8						
TXAR				LR	LR	16 13 17.6	
	comp=Z,58nm,20.7s,baz=185,slow=31						
PDAR	**Pinedale Array**	**82.31**	**42**	P	P	15 43 49.5	-0.3
	0.4nm,0.9s,baz=207,slow=0.6,SNR=2.9						
PDAR				LR	LR	16 17 40.8	
	comp=Z,54nm,19.0s,baz=165,slow=34						
ILAR	**Eielson Array**	**82.55**	**11**	P	P	15 43 49.6	-0.9
	0.6nm,1.1s,baz=198,slow=4.7,SNR=2.7						
CMAR	**Chiang Mai Arr**	**92.70**	**288**	LR	LR	16 20 54.7	
	comp=Z,44nm,20.0s,baz=275,slow=32						
ULM	**Lac du Bonnet**	**93.99**	**39**	LR	LR	16 19 47.3	
	comp=Z,106nm,21.6s,baz=15,slow=31						
SONM	**Songino Array**	**94.97**	**318**	LR	LR	16 21 47.1	
	comp=Z,37nm,21.8s,baz=153,slow=32						
GERES	**GERESS Array B**	**146.26**	**352**	PKPbc	PKPbc	15 51 09.9	+1.3
	0.2nm,0.3s,baz=347,slow=3.0,SNR=3.7						
BRTR	**Keskin Array B**	**146.28**	**321**	PKPbc	PKPbc	15 51 08.5	-0.5
	0.8nm,0.8s,baz=36,slow=2.7,SNR=4.7						

NEIC 17 15:32:07.4±1.6, 51.57N×173.72W, h10km, ML3.5(AEIC), Error ellipse: s-maj=23.3km s-min=12.5km az=175.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.70**	**335**	P	Pg	15 32 20.9	0.0
ATKA				S	Sg	15 32 28.8	-1.2
GSTR	**Great Sitkin T**	**1.54**	**291**	*e*P	Pn	15 32 34.8	-0.1
ADK	**Adak**	**1.87**	**281**	P	Pn	15 32 39.6	+0.2
ADK				S	Sn	15 33 01.7	-1.3
UNV	**Unalaska Valle**	**4.94**	**60**	*e*P	Pn	15 33 21.6	0.0

*NEIC **17** 15:38:26.4, 79.35N×114.48W, h18km, ML4.0(OTT), After OTT.*

OTT 17 15:38:26.4±1.6, 79.38N×114.48W, h18km, mb4.4/4, Arctic Ocean. Aftershock. 242km west from Isachsen, Nu, Arctic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EUNU	**Eureka**	**5.04**	**69**	Pn	Pn	15 39 40.4	-0.5
EUNU				Sn	Sn	15 40 27.8	-11
EUNU	**Eureka**	**5.04**	**69**	PN	Pn	15 39 40.4	-0.4
EUNU				mb		15 39 41.6	
	comp=Z,11nm,0.2s						
EUNU				SN	Sn	15 40 27.8	-11
EUNU				Trac		15 40 47.0	
	comp=Z,12nm,0.6s						
RES	**Resolute Bay**	**6.41**	**127**	*e*Pn	Pn	15 40 00.6	+1.0
RES				mb		15 40 02.2	
	comp=Z,12nm,0.1s						
RES				SN	Sn	15 41 09.0	-3.2
RES				Trac		15 41 14.3	
	comp=Z,12nm,0.3s						
CB31	**Cambridge Bay**	**10.59**	**161**	PN	Pn	15 40 56.7	-0.2
CB31				mb		15 40 58.3	
	comp=Z,7.2nm,0.2s						
CB31				SN	Sn	15 42 48.6	-6.3
CB31				Trac		15 42 56.8	
	comp=Z,15nm,0.3s						
INK	**Inuvik**	**12.21**	**215**	Pn	Pn	15 41 16.1	-2.9
INK				Sn	Sn	15 43 20.9	-13
INK	**Inuvik**	**12.21**	**215**	PN	Pn	15 41 16.1	-2.9
INK				mb		15 41 19.9	
	comp=Z,0.4nm,0.2s						
INK				SN	Sn	15 43 20.9	-13
INK				Trac		15 43 28.2	
	comp=Z,7.4nm,0.7s						
KUGN	**Kugaaruk Camp,**	**13.04**	**137**	Pn	Pn	15 41 27.4	-3.0
KUGN				Sn	Sn	15 43 33.8	-21
KUGN	**Kugaaruk Camp,**	**13.04**	**137**	PN	Pn	15 41 27.4	-3.0
KUGN				SN	Sn	15 43 33.7	-21
STLN	**Stellar Camp,**	**13.43**	**142**	PN	Pn	15 41 33.6	-2.0
STLN				mb		15 41 34.8	
	comp=Z,9.9nm,0.8s						
STLN				SN	Sn	15 43 56.5	-7.7
JERN	**Jeri Cho Mine,**	**13.46**	**175**	PN	Pn	15 41 34.7	-1.4
JERN				SN	Sn	15 43 55.6	-9.3
JERN				Trac		15 44 01.0	
	comp=Z,8.9nm,0.6s						
BULN	**Bullion Camp,**	**14.30**	**144**	PN	Pn	15 41 45.0	-2.5
BULN				mb		15 41 47.9	
	comp=Z,6.8nm,0.6s						
BULN				SN	Sn	15 44 13.5	-12
QILN	**Qililugaq Expl**	**14.89**	**133**	PN	Pn	15 41 50.1	-5.3
QILN				mb		15 41 50.9	
	comp=Z,0.8nm,0.2s						
CTLN	**Castor Lake**	**15.04**	**183**	PN	Pn	15 41 55.0	-2.6
CTLN				SN	Sn	15 44 30.9	-12
WAGN	**Wager Bay**	**15.23**	**139**	PN	Pn	15 41 57.1	-2.9
WAGN				mb		15 41 59.0	
	comp=Z,7.5nm,0.5s						
WAGN				SN	Sn	15 44 38.7	-9.2
ILKN	**Indian Lake**	**15.24**	**181**	PN	Pn	15 41 58.3	-1.8
ILKN				SN	Sn	15 44 33.9	-14
GALN	**Gameti Lake**	**15.37**	**185**	PN	Pn	15 41 58.7	-3.2
GALN				SN	Sn	15 44 39.2	-12
COLD	**Coldfoot**	**15.47**	**238**	*e*Pn	Pn	15 42 00.4	-2.8
NUNN	**Nunuq Camp, NU**	**15.67**	**142**	PN	Pn	15 42 03.1	-2.7
NUNN				SN	Sn	15 44 53.6	-5.1
YBKN	**Baker Lake, Hu**	**16.03**	**150**	PN	Pn	15 42 05.8	-4.7
YKW3	**Yellowknife Ar**	**16.91**	**180**	PN	Pn	15 42 21.1	-0.5
YKW3				mb		15 42 23.6	
	comp=Z,0.8nm,0.4s						
YKW3				Trac		15 45 22.7	
	comp=Z,2.3nm,0.5s						
SEDN	**First Sedna Si**	**17.56**	**144**	PN	Pn	15 42 27.1	-2.7
SEDN				SN	Sn	15 45 32.3	-12

OTT 17 15:48:43.3±1.0, 79.45N×115.28W, h18km, mb4.7/5, Arctic Ocean. Aftershock. 259km west from Isachsen, Nu, Arctic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EUNU	**Eureka**	**5.15**	**69**	PN	Pn	15 49 58.9	-0.4
EUNU				mb		15 50 00.1	
	comp=Z,17nm,0.3s						
EUNU				SN	Sn	15 50 54.7	-3.4
RES	**Resolute Bay**	**6.57**	**126**	PN	Pn	15 50 18.6	-0.1
RES				mb		15 50 20.6	
	comp=Z,11nm,0.1s						
RES				SN	Sn	15 51 28.6	-4.3
RES				Trac		15 51 35.9	
	comp=Z,9.2nm,0.2s						
CB31	**Cambridge Bay**	**10.71**	**160**	PN	Pn	15 51 15.6	+0.2
CB31				mb		15 51 16.9	
	comp=Z,9.6nm,0.2s						
CB31				SN	Sn	15 53 07.3	-7.1
CB31				Trac		15 53 14.9	
	comp=Z,18nm,0.2s						
INK	**Inuvik**	**12.18**	**213**	PN	Pn	15 51 35.5	0.0
INK				mb		15 51 36.5	
	comp=Z,0.4nm,0.2s						
INK				SN	Sn	15 53 44.6	-5.9
KUGN	**Kugaaruk Camp,**	**13.20**	**136**	PN	Pn	15 51 45.6	-3.8
JERN	**Jeri Cho Mine,**	**13.54**	**173**	PN	Pn	15 51 52.2	-1.9
JERN				mb		15 51 55.3	
	comp=Z,2.1nm,0.3s						
JERN				SN	Sn	15 54 13.6	-10
JERN				Trac		15 54 17.9	
	comp=Z,1.9nm,0.3s						
STLN	**Stellar Camp,**	**13.58**	**141**	PN	Pn	15 51 51.9	-2.7
STLN				mb		15 51 53.0	
	comp=Z,9.0nm,0.8s						
STLN				SN	Sn	15 54 13.4	-11
BULN	**Bullion Camp,**	**14.44**	**142**	PN	Pn	15 52 02.9	-3.4
BULN				mb		15 52 06.5	
	comp=Z,6.8nm,0.3s						
BULN				SN	Sn	15 54 33.9	-12
QILN	**Qililugaq Expl**	**15.04**	**132**	PN	Pn	15 52 11.8	-2.6
CTLN	**Castor Lake**	**15.10**	**181**	PN	Pn	15 52 13.5	-1.8
CTLN				SN	Sn	15 54 48.5	-13
ILKN	**Indian Lake**	**15.31**	**180**	PN	Pn	15 52 17.4	-0.5
ILKN				SN	Sn	15 54 58.7	-8.0
NUNN	**Nunuq Camp, NU**	**15.82**	**141**	PN	Pn	15 52 20.6	-3.9
DAWY	**Dawson**	**16.92**	**218**	PN	Pn	15 52 38.0	-0.6
YKW3	**Yellowknife Ar**	**16.98**	**179**	PN	Pn	15 52 38.9	-0.4
YKW3				mb		15 52 41.5	
	comp=Z,1.1nm,0.3s						
YKW3				SN	Sn	15 55 35.4	-12
YKW3				Trac		15 55 47.2	
	comp=Z,4.2nm,0.7s						
SEDN	**First Sedna Si**	**17.71**	**143**	PN	Pn	15 52 46.2	-2.2
JOSN	**Second Sedna S**	**17.75**	**143**	PN	Pn	15 52 44.3	-4.7

*ISCJB **17** 15:51:14.3±0.4, 24.45N±0.03×121.78E±0.02, h63km±4km, Error ellipse: s-maj=5.0km s-min=2.8km az=154.5*
*TAP **17** 15:51:14.4, 24.45N×121.73E, h60km, ML3.7, B*
*JMA **17** 15:51:14.7±0.3, 24.67N×121.85E, h70km, M2.7*

ISC 17 15:51:14.8±0.4, 24.48N±0.03×121.77E±0.02, h62km±4km, n58, σ0.94/92, 9C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.06**	**211**	⇓P	Pn	15 51 23.6	-0.4
	baz=146						
ENA				*e*S	Sn	15 51 30.3	-0.3
	baz=146						
TWC	**Suao**	**0.15**	**28**	⇓*i*P	Pn	15 51 24.3	+0.1
	baz=35						
TWC				S	Sn	15 51 31.7	+0.6
	baz=35						
ENTT	**Nioudou**	**0.25**	**310**	⇑*i*P	Pn	15 51 24.6	-0.1
	baz=317						
ENTT				*e*S	Sn	15 51 31.8	-0.2
	baz=317						
TWE	**Neicheng**	**0.26**	**338**	⇑*i*P	Pn	15 51 25.0	+0.1
	baz=345						
TWE				*e*S	Sn	15 51 32.5	+0.4
	baz=345						
ILA	**Ilan**	**0.29**	**355**	*e*P	Pn	15 51 25.4	+0.4
	baz=356						
NNS	**Nan Shan**	**0.37**	**264**	⇑*i*P	Pn	15 51 25.4	-0.2
	baz=264						
NNS				*e*S	Sn	15 51 32.6	-0.9
	baz=264		

HWA	**Hwalien**	**0.52**	**197**	*e*P	**Pn**	**15 51 26.5**	**-0.7**
	baz=204						
TWA	**Mucha**	**0.53**	**341**	⇑*i*P	**Pn**	**15 51 27.2**	**0.0**
	baz=335						
TWA				*e*S	**Sn**	**15 51 35.9**	**-0.4**
	baz=335						
TWB1	**Santiao Chiao**	**0.56**	**20**	P	**Pn**	**15 51 28.3**	**+0.7**
	baz=23						
TWB1				*e*S	**Sn**	**15 51 38.0**	**+1.1**
	baz=23						
WHF	**Hehuan Shan**	**0.57**	**235**	*e*P	**Pn**	**15 51 27.5**	**-0.2**
	baz=236						
WHF				*e*S	**Sn**	**15 51 37.2**	**+0.1**
	baz=236						
NWF	**Wu-fen Shan**	**0.59**	**1**	⇑*i*P	**Pn**	**15 51 28.4**	**+0.5**
	baz=352						
NWF				*e*S	**Sn**	**15 51 38.0**	**+0.5**
	baz=352						
TWT	**Tachien**	**0.59**	**248**	P	**Pn**	**15 51 27.9**	**0.0**
	baz=245						
TWT				S	**Sn**	**15 51 37.0**	**-0.4**
	baz=245						
TAP1	**Taipei**	**0.60**	**338**	*e*P	**Pn**	**15 51 27.0**	**-1.1**
	baz=332						
TWS1	**Kuangyinshan**	**0.70**	**332**	⇑*i*P	**Pn**	**15 51 29.1**	**0.0**
	baz=334						
TWS1				*e*S	**Sn**	**15 51 39.9**	**+0.2**
	baz=334						
NSTT	**Nanjuang**	**0.72**	**282**	⇑*i*P	**Pn**	**15 51 29.1**	**-0.3**
	baz=285						
NSTT				*e*S	**Sn**	**15 51 40.1**	**0.0**
	baz=285						
NCU	**National Centr**	**0.72**	**313**	*i* P	**Pn**	**15 51 29.4**	**-0.1**
	baz=315						
NCU				*i* S	**Sn**	**15 51 40.2**	**0.0**
	baz=315						
ESL	**Shilin**	**0.73**	**205**	*e*P	**Pn**	**15 51 27.7**	**-1.9**
	baz=203						
HSN	**Hsinchu**	**0.80**	**294**	*e*P	**Pn**	**15 51 29.8**	**-0.6**
	baz=309						
TWY	**Chenhua**	**0.81**	**349**	*e*P	**Pn**	**15 51 30.3**	**-0.2**
	baz=342						
TWQ1	**Liyutan**	**0.92**	**262**	*e*P	**Pn**	**15 51 31.6**	**-0.3**
	baz=264						
TWQ1				*e*S	**Sn**	**15 51 44.0**	**-0.6**
	baz=264						
NSY	**Sanyi**	**0.93**	**266**	⇑P	**Pn**	**15 51 32.0**	**0.0**
	baz=268						
NSY				S	**Sn**	**15 51 44.8**	**+0.1**
	baz=268						
SMLT	**Sun Moon Lake**	**0.99**	**234**	*e*P	**Pn**	**15 51 33.2**	**+0.3**
	baz=235						
SMLT				*e*S	**Sn**	**15 51 48.3**	**+2.1**
	baz=235						
TYC	**Yuchr**	**1.01**	**236**	P	**Pn**	**15 51 33.7**	**+0.6**
	baz=237						
TYC				*e*S	**Sn**	**15 51 47.2**	**+0.5**
	baz=237						
EHY	**Hungye**	**1.05**	**203**	*e*P	**Pn**	**15 51 31.5**	**-2.1**
	baz=194						
TCU	**Taichung**	**1.05**	**252**	*e*P	**Pn**	**15 51 31.6**	**-2.0**
	baz=253						
YOJ	**Yonaguni jima**	**1.13**	**91**	*e*P	**Pn**	**15 51 34.6**	**0.0**
	baz=81						
YOJ	**Yonaguni jima**	**1.13**	**91**	P	**Pn**	**15 51 34.5**	**-0.1**
YOJ				S	**Sn**	**15 51 49.0**	**-0.3**
WNT	**Mingjian**	**1.16**	**239**	*e*P	**Pn**	**15 51 35.5**	**+0.4**
	baz=251						
TWF1	**Yuli**	**1.20**	**201**	*e*P	**Pn**	**15 51 34.2**	**-1.4**
	baz=200						
YUS	**Yu-Shan**	**1.24**	**218**	*e*P	**Pn**	**15 51 36.7**	**+0.6**
	baz=212						
ALS	**Alishan**	**1.31**	**223**	⇓*i*P	**Pn**	**15 51 38.1**	**+1.1**
	baz=215						
ALS				*e*S	**Sn**	**15 51 55.8**	**+2.2**
	baz=215						
CHN5	**Tsauling**	**1.33**	**229**	*e*P	**Pn**	**15 51 37.7**	**+0.4**
	baz=241						
CHN5				*e*S	**Sn**	**15 51 55.0**	**+0.9**
	baz=241						
WGK	**Gukeng**	**1.36**	**235**	*e*P	**Pn**	**15 51 38.2**	**+0.5**
	baz=245						
CHKT	**Chengkung**	**1.42**	**195**	*e*P	**Pn**	**15 51 37.8**	**-0.7**
	baz=201						
ELDTW	**Lidau**	**1.46**	**209**	*e*P	**Pn**	**15 51 37.8**	**-1.2**
	baz=201						
WTCT	**Ta-ch'eng**	**1.50**	**246**	*e*P	**Pn**	**15 51 38.9**	**-0.6**
	baz=257						
WTCT				*e*S	**Sn**	**15 51 57.2**	**-0.8**
	baz=257						
CHN4	**Tsaushan**	**1.56**	**224**	*e*P	**Pn**	**15 51 41.3**	**+1.0**
	baz=226						
CHN4				*e*S	**Sn**	**15 52 02.2**	**+2.7**
	baz=226						
CHY	**Chiayi**	**1.57**	**232**	*e*P	**Pn**	**15 51 39.6**	**-0.9**
	baz=243						
STYT	**Tauyuan**	**1.61**	**216**	*e*P	**Pn**	**15 51 41.8**	**+0.9**
	baz=208						
STYT				*e*S	**Sn**	**15 52 03.2**	**+2.5**
	baz=208						
WTP	**Ta-pu**	**1.62**	**221**	*e*P	**Pn**	**15 51 41.6**	**+0.4**
	baz=234						
WTP				*e*S	**Sn**	**15 52 03.1**	**+2.0**
	baz=234						
WSF	**Szhu**	**1.65**	**240**	*e*P	**Pn**	**15 51 43.9**	**+2.4**
	baz=240						
CHN1	**Nanshi**	**1.72**	**222**	*e*P	**Pn**	**15 51 42.5**	**0.0**
	baz=235						
CHN1				*e*S	**Sn**	**15 52 04.5**	**+1.0**
	baz=235						
TWG	**Pinlang**	**1.77**	**201**	*e*P	**Pn**	**15 51 42.0**	**-1.3**
	baz=193						
IRIF	**Iriomote-Funau**	**1.79**	**94**	P	**Pn**	**15 51 43.0**	**-0.4**
IRIF				S	**Sn**	**15 52 04.6**	**-0.5**
CHN8	**Yiju**	**1.82**	**232**	*e*P	**Pn**	**15 51 44.2**	**+0.3**
	baz=244						
HATJ	**Hateruma jima**	**1.90**	**102**	P	**Pn**	**15 51 45.6**	**+0.7**
HATJ				S	**Sn**	**15 52 08.6**	**+0.8**
SSD	**Sandimen**	**2.02**	**212**	*e*P	**Pn**	**15 51 47.1**	**+0.5**
	baz=212						
ECL	**Taimali**	**2.02**	**202**	*e*P	**Pn**	**15 51 45.4**	**-1.2**
	baz=195						
JKRS	**Kuro-shima**	**2.05**	**96**	P	**Pn**	**15 51 47.2**	**+0.2**
JKRS				*e*S	**Sn**	**15 52 12.0**	**+0.5**
JIJ	**Ishigaki jima**	**2.16**	**93**	P	**Pn**	**15 51 48.3**	**-0.2**
JIJ				S	**Sn**	**15 52 13.3**	**-0.9**
PNG	**Penghu**	**2.22**	**246**	*e*P	**Pn**	**15 51 47.4**	**-1.9**
	baz=247						
EAST	**Anshuo**	**2.25**	**202**	*e*P	**Pn**	**15 51 49.5**	**-0.3**
	baz=195						
SCZT	**Fangliau**	**2.35**	**207**	*e*P	**Pn**	**15 51 50.0**	**-1.0**
	baz=219						
JTJ	**Tarama**	**2.67**	**86**	P	**Pn**	**15 51 56.3**	**+0.9**
JTJ				*e*S	**Sn**	**15 52 27.0**	**+0.4**
QZH	**Quanzhou**	**2.93**	**280**	Pn	**Pn**	**15 51 55.5**	**-3.5**
QZH				Sn	**Sn**	**15 52 27.3**	**-5.7**
QZH				smax			
	comp=N,80nm,0.5s						
QZH				smax			
	comp=E,80nm,0.8s						

IDC 17 16:01:51.7±5.9, 7°34S×129°16E, h0km, mb3.9/1, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML3.2/3, MS3.1/1, Ms1 3.1/1, ms1mx2.4/30, Error ellipse: s-maj=74.9km s-min=57.3km az=125.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.24**	**197**	Pn	Pn	16 04 34.7	+1.1
	0.2nm,0.3s,baz=21,slow=15,SNR=6.0						
FITZ				Sn	Sn	16 06 41.3	+1.2
	0.2nm,0.3s,baz=355,slow=18,SNR=3.7						
WRA	**Warramunga Arr**	**13.50**	**159**	Pn	Pn	16 05 03.9	-0.8
	0.1nm,0.3s,baz=337,slow=14,SNR=8.2						
WRA				Sn	Sn	16 07 36.6	+1.1
	0.1nm,0.3s,baz=337,slow=21,SNR=5.5						
ASAR	**Alice Springs**	**16.86**	**165**	Pn	Pn	16 05 49.8	+0.5
	0.1nm,0.3s,baz=342,slow=9.7,SNR=10.0						
ASAR				Sn	Sn	16 08 58.6	+1.2
	0.0nm,0.3s,baz=338,slow=25,SNR=2.8						
GUMO	**Guam**	**25.99**	**37**	LR	LR	16 16 08.8	
	comp=Z,42nm,19.1s,baz=346,slow=33						
STKA	**Stephens Creek**	**27.03**	**156**	P	P	16 07 35.4	-0.3
	2.0nm,0.9s,baz=349,slow=10,SNR=2.8						

ISCJB 17 16:09:14.8±0.3, 50°.21N±0°.01×12°.50E±0°.03, h12km±2km, Error ellipse: s-maj=2.7km s-min=2.3km az=0.2
BGR 17 16:09:15.7±0.2, 50°.22N×12°.45E, h11km±2km, ML2.6/6, Error ellipse: s-maj=2.2km s-min=1.1km az=109.0
VIE 17 16:09:15.3±0.2, 50°.17N×12°.37E, h6km±2km, mb2.2/2, ML2.9/5, Error ellipse: s-maj=2.8km s-min=2.0km az=71.0
9 km SW of Klingenthal
CSEM 17 16:09:15.5±0.1, 50°.22N×12°.48E, h10km, ML2.9/5, Error ellipse: s-maj=1.6km s-min=1.3km az=86.0
WBNET 17 16:09:16.2, 50°.22N×12°.45E, h8km, Ml2.0
PRU 17 16:09:16.4, 50°.22N×12°.49E, h0km, West Bohemia Swarm-felt In Rotava
CLL 17 16:09:16.5±0.4, 50°.N±1°×1°.2E±°, h6km±1km, ml2.4

ISC 17 16:09:15.5±0.3, 50°.22N±0°.01×12°.49E±0°.02, h11km±2km, n74, σ0.56/142, 8C-9D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KVC	**Kvetna**	**0.02**	**120**	⇑P	**Pg**	**16 09 17.7**	**+0.4**
KVC				S	**Sg**	**16 09 18.8**	**+0.2**
NKC	**Novy Kostel**	**0.03**	**303**	*e*Pg	**Pg**	**16 09 17.6**	**+0.2**
NKC				*e*Sg	**Sg**	**16 09 18.2**	**-0.6**
	comp=Z,2μm,0.2s						
NKC	**Novy Kostel**	**0.03**	**303**	*i* Pg	**Pg**	**16 09 17.5**	**+0.1**
NKC				*i* Sg	**Sg**	**16 09 18.5**	**-0.3**
NKC	**Novy Kostel**	**0.03**	**303**	⇓P	**Pg**	**16 09 17.6**	**+0.2**
NKC				S	**Sg**	**16 09 18.7**	**-0.1**
STCW	**Studenec**	**0.05**	**24**	⇑P	**Pg**	**16 09 17.9**	**+0.4**
STCW				S	**Sg**	**16 09 19.1**	**+0.1**
LBCW	**Luby**	**0.07**	**315**	⇓P	**Pg**	**16 09 17.9**	**+0.2**
LBCW				S	**Sg**	**16 09 19.3**	**-0.1**
KACW	**Kace˘ov**	**0.07**	**166**	⇑P	**Pg**	**16 09 18.3**	**+0.6**
KACW				S	**Sg**	**16 09 19.9**	**+0.5**
VAC	**Vackov**	**0.07**	**285**	⇓P	**Pg**	**16 09 17.9**	**+0.1**
VAC				S	**Sg**	**16 09 19.1**	**-0.4**
SKC	**Skalna**	**0.09**	**241**	⇓P	**Pg**	**16 09 18.1**	**+0.1**
SKC				S	**Sg**	**16 09 19.6**	**-0.3**
WERN	**Wernitzgruen**	**0.10**	**315**	*e*Pg	**Pg**	**16 09 18.3**	**+0.2**
WERN				*e*Sg	**Sg**	**16 09 19.8**	**-0.2**
WERN	**Wernitzgruen**	**0.10**	**315**	*i* Pg	**Pg**	**16 09 18.3**	**+0.2**
WERN				*i* Sg	**Sg**	**16 09 19.8**	**-0.3**
WERN				AML	AML	16 09 20.0	
	comp=E,1μm,0.1s						
WERN	**Wernitzgruen**	**0.10**	**315**	Pg	**Pg**	**16 09 18.3**	**+0.1**
WERN				Sg	**Sg**	**16 09 19.8**	**-0.3**
POCW	**Po¯¡tky**	**0.11**	**339**	⇓P	**Pg**	**16 09 18.6**	**+0.3**
POCW				S	**Sg**	**16 09 20.3**	**0.0**
ROHR	**Rohrbach**	**0.11**	**280**	*e*Pg	**Pg**	**16 09 18.3**	**0.0**
ROHR				*e*Sg	**Sg**	**16 09 19.8**	**-0.5**
ROHR	**Rohrbach**	**0.11**	**280**	*i* Pg	**Pg**	**16 09 18.2**	**0.0**
ROHR				*i* Sg	**Sg**	**16 09 19.8**	**-0.5**
ROHR				AML	AML	16 09 19.9	
	comp=N,4μm,0.1s						
ROHR	**Rohrbach**	**0.11**	**280**	Pg	**Pg**	**16 09 18.3**	**0.0**
ROHR				Sg	**Sg**	**16 09 19.8**	**-0.5**
KRCW	**Kraslice**	**0.12**	**13**	⇑P	**Pg**	**16 09 18.9**	**+0.4**
KRCW				S	**Sg**	**16 09 20.7**	**+0.2**
KOCW	**Kopaniny**	**0.17**	**287**	⇓P	**Pg**	**16 09 19.2**	**0.0**
KOCW				S	**Sg**	**16 09 21.4**	**-0.4**
GUNZ	**Gunzen**	**0.18**	**326**	*e*Pg	**Pg**	**16 09 19.6**	**+0.2**
GUNZ				*e*Sg	**Sg**	**16 09 21.9**	**-0.2**
GUNZ	**Gunzen**	**0.18**	**326**	*i* Pg	**Pg**	**16 09 19.6**	**+0.2**
GUNZ				*i* Sg	**Sg**	**16 09 21.8**	**-0.2**
GUNZ				AML	AML	16 09 22.0	
	comp=E,570nm,0.3s						
GUNZ	**Gunzen**	**0.18**	**326**	Pg	**Pg**	**16 09 19.6**	**+0.2**
GUNZ				Sg	**Sg**	**16 09 21.9**	**-0.1**
ZHC	**Zelena Hora**	**0.19**	**219**	⇓P	**Pg**	**16 09 19.7**	**+0.3**
ZHC				S	**Sg**	**16 09 22.2**	**0.0**
LACW	**Lazy**	**0.19**	**152**	⇑P	**Pg**	**16 09 20.3**	**+0.8**
LACW				S	**Sg**	**16 09 23.1**	**+1.1**
TANN	**Tannenbergstha**	**0.20**	**355**	*e*Pg	**Pg**	**16 09 20.0**	**+0.3**
TANN				*e*Sg	**Sg**	**16 09 22.6**	**0.0**
TANN	**Tannenbergstha**	**0.20**	**355**	*i* Pg	**Pg**	**16 09 20.0**	**+0.3**
TANN				*i* Sg	**Sg**	**16 09 22.6**	**0.0**
TANN				AML	AML	16 09 23.1	
	comp=E,660nm,0.3s						
TANN	**Tannenbergstha**	**0.20**	**355**	Pg	**Pg**	**16 09 20.0**	**+0.3**
TANN				Sg	**Sg**	**16 09 22.6**	**0.0**
MULD	**Muldenberg**	**0.20**	**345**	*e*Pg	**Pg**	**16 09 20.1**	**+0.3**
MULD				*e*Sg	**Sg**	**16 09 22.6**	**-0.1**
MULD	**Muldenberg**	**0.20**	**345**	*i* Pg	**Pg**	**16 09 20.0**	**+0.2**
MULD				*i* Sg	**Sg**	**16 09 22.6**	**-0.1**
MULD				AML	AML	16 09 22.8	
	comp=E,790nm,0.1s						
MULD	**Muldenberg**	**0.20**	**345**	Pg	**Pg**	**16 09 20.1**	**+0.3**
MULD				Sg	**Sg**	**16 09 22.6**	**-0.1**
VIEL	**Selb-Vielitz**	**0.25**	**263**	*i* Pg	**Pg**	**16 09 20.7**	**+0.1**
VIEL				*i* Sg	**Sg**	**16 09 23.7**	**-0.3**
WERD	**Werda**	**0.26**	**333**	*e*Pg	**Pg**	**16 09 21.0**	**+0.2**
WERD				*e*Sg	**Sg**	**16 09 24.0**	**-0.4**
WERD	**Werda**	**0.26**	**333**	*i* Pg	**Pg**	**16 09 20.9**	**+0.2**
WERD				*e*Sg	**Sg**	**16 09 24.1**	**-0.2**
WERD				AML	AML	16 09 24.9	
	comp=N,150nm,0.2s						
WERD	**Werda**	**0.26**	**333**	Pg	**Pg**	**16 09 21.0**	**+0.2**
WERD				Sg	**Sg**	**16 09 24.0**	**-0.4**
TRIB	**Obertriebel**	**0.26**	**301**	*e*Pg	**Pg**	**16 09 20.8**	**0.0**
TRIB				*e*Sg	**Sg**	**16 09 24.1**	**-0.3**
TRIB	**Obertriebel**	**0.26**	**301**	*i* Pg	**Pg**	**16 09 20.8**	**0.0**
TRIB				*i* Sg	**Sg**	**16 09 24.1**	**-0.4**
TRIB				AML	AML	16 09 24.5	
	comp=E,522nm,0.1s						
TRIB	**Obertriebel**	**0.26**	**301**	Pg	**Pg**	**16 09 20.8**	**-0.1**
TRIB				Sg	**Sg**	**16 09 24.1**	**-0.4**
PLN	**Plauen**	**0.34**	**322**	*e*Pg	**Pg**	**16 09 22.4**	**+0.1**
PLN				*e*Sg	**Sg**	**16 09 26.7**	**-0.2**
PLN	**Plauen**	**0.34**	**322**	*i* Pg	**Pg**	**16 09 22.4**	**+0.1**
PLN				*i* Sg	**Sg**	**16 09 26.6**	**-0.3**
PLN				AML	AML	16 09 26.8	
	comp=E,220nm,0.2s						
PLN	**Plauen**	**0.34**	**322**	Pg	**Pg**	**16 09 22.4**	**+0.1**
PLN				Sg	**Sg**	**16 09 26.7**	**-0.2**
SCHF	**Schoenfels**	**0.47**	**353**	*e*Pg	**Pg**	**16 09 24.8**	**+0.3**
SCHF				*e*Sg	**Sg**	**16 09 30.7**	**0.0**
SCHF	**Schoenfels**	**0.47**	**353**	*i* Pg	**Pg**	**16 09 24.8**	**+0.2**
SCHF				*i* Sg	**Sg**	**16 09 31.0**	**+0.2**
SCHF				AML	AML	16 09 31.2	
	comp=E,636nm,0.2s						
SCHF	**Schoenfels**	**0.47**	**353**	Pg	**Pg**	**16 09 24.8**	**+0.2**
SCHF				Sg	**Sg**	**16 09 30.7**	**-0.1**
ROTZ	**Rotzenmuhle**	**0.48**	**202**	*e*Pg	**Pg**	**16 09 25.2**	**+0.3**
ROTZ				*e*Sg	**Sg**	**16 09 31.6**	**+0.3**
ROTZ	**Rotzenmuhle**	**0.48**	**202**	*i* Pg	**Pg**	**16 09 25.2**	**+0.3**
ROTZ				Sg	**Sg**	**16 09 31.6**	**+0.3**
MOX	**Moxa**	**0.70**	**308**	*e*Pg	**Pg**	**16 09 29.0**	**-0.1**
MOX				*e*Sg	**Sg**	**16 09 38.0**	**-0.3**
MOX	**Moxa**	**0.70**	**308**	Pg	**Pg**	**16 09 29.0**	**-0.1**
MOX				Sg	**Sg**	**16 09 38.0**	**-0.3**
FBE	**Freiberg**	**0.90**	**38**	*e*Pg	**Pg**	**16 09 33.3**	**+0.6**
FBE				*e*Sg	**Sg**	**16 09 45.0**	**+0.5**
FBE	**Freiberg**	**0.90**	**38**	Pg	**Pg**	**16 09 33.3**	**+0.6**
FBE				Sg	**Sg**	**16 09 45.0**	**+0.6**
GRA1	**Grafenberg Arr**	**0.97**	**238**	Pg	**Pg**	**16 09 34.1**	**-0.1**
GRA1				Sg	**Sg**	**16 09 46.3**	**-0.5**
GRF	**Grafenberg Arr**	**0.97**	**238**	*e*Pg	**Pg**	**16 09 34.1**	**0.0**
GRF				*e*Sg	**Sg**	**16 09 46.3**	**-0.5**
WET	**Wettzell**	**1.10**	**167**	*e*Pg	**Pg**	**16 09 36.7**	**+0.1**
WET				*e*Sg	**Sg**	**16 09 50.7**	**-0.2**
WET	**Wettzell**	**1.10**	**167**	Pg	**Pg**	**16 09 36.7**	**+0.1**
WET				Sg	**Sg**	**16 09 50.7**	**-0.3**
BRG	**Berggiesshubel**	**1.14**	**54**	PG	**Pg**	**16 09 37.2**	**-0.1**
BRG				SG	**Sg**	**16 09 52.1**	**0.0**
	comp=E,95nm,0.4s						
BRG	**Berggiesshubel**	**1.14**	**54**	*e*Pg	**Pg**	**16 09 37.7**	**+0.4**
BRG				*e*Sg	**Sg**	**16 09 52.3**	**+0.2**
BRG	**Berggiesshubel**	**1.14**	**54**	Pg	**Pg**	**16 09 37.7**	**+0.4**
BRG				Sg	**Sg**	**16 09 52.3**	**+0.2**
CLL	**Collm**	**1.14**	**16**	*e*Pg	**Pg**	**16 09 36.9**	**-0.5**
CLL				*e*Sg	**Sg**	**16 09 52.2**	**-0.1**
CLL	**Collm**	**1.14**	**16**	*i* Pg	**Pg**	**16 09 37.3**	**-0.1**
CLL				*i*		16 09 39.4	
CLL				*i*		16 09 40.4	
CLL				*i* Sg	**Sg**	**16 09 52.9**	**+0.7**
	comp=Z,45nm,0.4s						
CLL				*i*		16 09 56.0	
CLL	**Collm**	**1.14**	**16**	Pg	**Pg**	**16 09 36.9**	**-0.5**
CLL				Sg	**Sg**	**16 09 52.2**	**0.0**
KHC	**Kasperske Hory**	**1.30**	**146**	*e*PG	**Pg**	**16 09 39.4**	**-0.9**
KHC				*e*SG	**Sg**	**16 09 56.0**	**-1.2**
PRU	**Pruhonice**	**1.34**	**99**	*e*PG	**Pg**	**16 09 41.4**	**+0.2**
PRU				*e*SG	**Sg**	**16 09 59.2**	**+0.6**
	comp=Z,71nm,0.3s						
PVCC	**Panska Ves**	**1.37**	**76**	*e*PG	**Pg**	**16 09 41.7**	**0.0**
PVCC				*e*SG	**Sg**	**16 09 59.6**	**+0.1**
	comp=Z,90nm,0.2s						
DPC	**Dobruska-Polom**	**2.46**	**85**	*e*SG	**Sg**	**16 10 32.6**	**-1.9**
	comp=Z,15nm,0.2s						
KSP	**Ksiaz**	**2.51**	**74**	*e*Pg	**Pg**	**16 10 02.6**	**-0.9**
KSP				*e*Sg	**Sg**	**16 10 35.1**	**-0.9**
KSP	**Ksiaz**	**2.51**	**74**	*e*Pg	**Pg**	**16 10 02.6**	**-0.9**
KSP				*e*Sg	**Sg**	**16 10 35.1**	**-0.9**
MOA	**Molln**	**2.64**	**153**	⇑*i*Pn	**Pn**	**16 09 58.6**	**+0.6**
MOA	**Molln**	**2.64**	**153**	Pn	**Pn**	**16 09 58.6**	**+0.6**
KRUC	**Moravsky**	**2.79**	**113**	*e*Pn	**Pn**	**16 10 00.9**	**+0.8**
KRUC				*e*Sg	**Sg**	**16 10 41.7**	**-3.3**
VRAC	**Vranov**	**2.81**	**107**	*e*Sg	**Sg**	**16 10 42.1**	**-3.6**
MOTA	**Moosalm**	**3.02**	**198**	⇓*i*Pn	**Pn**	**16 10 03.2**	**0.0**
MOTA				⇑*i*Sn	**Sn**	**16 10 39.0**	**-0.3**
MOTA				⇑*i*Sg	**Sg**	**16 10 52.4**	**+0.1**
	comp=Z,3.2nm,0.2s						
MOTA	**Moosalm**	**3.02**	**198**	Pn	**Pn**	**16 10 03.2**	**0.0**
MOTA				Sn	**Sn**	**16 10 39.0**	**-0.3**
MOTA				Sg	**Sg**	**16 10 52.4**	**+0.1**
	comp=Z,3.2nm,0.2s						
CONA	**Conrad Observa**	**3.19**	**135**	⇓*i*Pn	**Pn**	**16 10 06.7**	**+1.2**
CONA	**Conrad Observa**	**3.19**	**135**	Pn	**Pn**	**16 10 06.7**	**+1.2**
ZST	**Bratislava**	**3.64**	**122**	*e*SG	**Sg**	**16 11 08.8**	**-3.4**
ZST	**Bratislava**	**3.64**	**122**	*e*Sg	**Sg**	**16 11 08.8**	**-3.4**

IDC 17 16:11:07.6±3.5, 17°.59S×177°.06W, h290km±33km, mb3.3/5, mb1 3.6/6, mb1mx3.3/20, mbtmp3.4/6, Error ellipse: s-maj=54.1km s-min=18.3km az=109.0
ISCJB 17 16:11:10.9±1.0, 17°.9S±0°.2×176°.3W±0°.1, h330km±12km, mb3.6/5, Error ellipse: s-maj=32.1km s-min=13.0km az=142.3
NEIC 17 16:11:17.1±2.0, 17°.56S×177°.04W, h383km±21km, mb4.0/1, Error ellipse: s-maj=41.6km s-min=27.1km az=107.0

ISC 17 16:11:11.1±1.0, 18°.0S±0°.2×176°.2W±0°.1, h320km±13km, n19, σ1.45/17, mb3.6/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.48**	**272**	*e*P	**Pn**	**16 12 35.2**	**+0.2**
AFI	**Afiamalu**	**5.86**	**47**	P	**Pn**	**16 12 40.3**	**+0.8**
	3.1nm,0.3s,baz=236,slow=7.3,SNR=9.4						
AFI				S	**S**	**16 13 50.0**	**-0.9**
	2.8nm,0.3s,baz=221,slow=20,SNR=6.7						
AFI	**Afiamalu**	**5.86**	**47**	P	**Pn**	**16 12 40.3**	**+0.8**
AFI				S	**S**	**16 13 50.0**	**-0.9**
URZ	**Urewera**	**21.05**	**195**	P	**P**	**16 15 30.5**	**-0.3**
	7.3nm,0.9s,mb3.9,baz=27,slow=2.3,SNR=4.4						
URZ	**Urewera**	**21.05**	**195**	*e*P	**P**	**16 15 30.6**	**-0.2**
QSPA	**South Pole Qui**	**72.09**	**180**	P	**P**	**16 22 02.9**	**+2.4**
	2.6nm,0.8s,mb4.0,baz=76,slow=4.2,SNR=2.6						
QSPA	**South Pole Qui**	**72.09**	**180**	*e*P	**P**	**16 22 02.9**	**+2.4**
	3.5nm,1.0s,mb4.0						
NVAR	**Mina Array Bea**	**78.02**	**43**	P	**P**	**16 22 36.1**	**+1.3**
	0.6nm,0.8s,mb3.4,baz=224,slow=8.1,SNR=5.5						
NVAR	**Mina Array Bea**	**78.02**	**43**	P	**P**	**16 22 36.1**	**+1.3**
TXAR	**Lajitas Array**	**84.26**	**57**	P	**P**	**16 23 10.0**	**+2.4**
	0.2nm,0.6s,mb3.2,baz=209,slow=6.4,SNR=3.9						
TXAR	**Lajitas Array**	**84.26**	**57**	P	**P**	**16 23 10.0**	**+2.4**
ILAR	**Eielson Array**	**85.48**	**12**	P	**P**	**16 23 10.8**	**-2.0**
	0.4nm,0.4s,mb3.6,baz=224,slow=6.4,SNR=19						
ILAR	**Eielson Array**	**85.48**	**12**	P	**P**	**16 23 10.8**	**-2.0**
VNA3	**Neumayer Olymp**	**90.54**	**176**	*e*	**P**	**16 23 35.1**	**-1.7**
VNA2	**Neumayer--Watz**	**91.00**	**176**	*e*	**P**	**16 23 37.7**	**-1.2**
	baz=200,slow=3.8						
BRTR	**Keskin Array B**	**146.29**	**316**	PKPbc	PKPbc	16 30 11.9	-2.7
	0.4nm,0.5s,baz=146,slow=5.3,SNR=2.6						
BRTR	**Keskin Array B**	**146.29**	**316**	PKPbc	PKPbc	16 30 11.9	-2.7
GERES	**GERESS Array B**	**148.16**	**348**	PKPbc	PKPbc	16 30 17.1	-2.2
	0.2nm,0.2s,baz=75,slow=4.2,SNR=2.4						
GERES	**GERESS Array B**	**148.16**	**348**	PKPbc	PKPbc	16 30 17.1	-2.2

ISCJB 17 16:11:46.7±0.6, 9°.44S±0°.05×124°.24E±0°.04, h96km±6km, mb4.5/17, Error ellipse: s-maj=8.4km s-min=5.5km az=32.8
IDC 17 16:11:46.6±3.0, 9°.11S×124°.15E, h55km±26km, mb3.7/7, mb1 3.9/8, mb1mx3.7/18, mbtmp3.8/8, ML4.5/1, Error ellipse: s-maj=51.5km s-min=16.8km az=60.0
NEIC 17 16:11:48.8±1.6, 9°.30S×124°.14E, h77km±16km, mb4.5/1, Error ellipse: s-maj=31.4km s-min=10.6km az=53.0
DJA 17 16:11:48, 9°.40S×124°.20E, h70km, mb4.8/19

**ISC 17 16:11:47.9±0.5, 9°.47S±0°.04×124°.21E±0°.

ASAR			S	S	16 18 39.2	-12	
	1.6nm,0.3s,baz=321,slow=21,SNR=7.9						
ASAR	**Alice Springs**	**16.89 148**	P	Pn	16 15 40.6	+1.6	
ASAR			S	S	16 18 39.2	-12	
CBJI	**Citeko**	**17.45 279**	P	Pn	16 15 45.5	-0.5	
	240nm,0.8s						
CBJI	**Citeko**	**17.45 279**	P	Pn	16 15 43.8	-2.2	
	240nm,0.8s						
CGJI	**Cibinong**	**18.55 277**	P	Pn	16 15 57.1	-2.1	
COEN	**Coen**	**19.10 105**	*eP*	Pn	16 16 07.7	+2.0	
	54nm,0.5s						
CTA	**Charters Tower**	**23.76 119**	P	P	16 16 55.8	+3.1	
	3.5nm,0.8s,mb3.7,baz=264,slow=12,SNR=4.1						
CTA	**Charters Tower**	**23.76 119**	*eP*	P	16 16 57.9	+5.3	
	3.4nm,1.4s,mb3.5						
CTA	**Charters Tower**	**23.76 119**	P	P	16 16 55.8	+3.2	
STKA	**Stephens Creek**	**27.52 147**	P	P	16 17 31.6	+5.1	
	4.6nm,0.7s,mb4.1,baz=312,slow=7.9,SNR=13						
STKA	**Stephens Creek**	**27.52 147**	*eP*	P	16 17 31.9	+5.4	
	3.3nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**27.52 147**	P	P	16 17 31.6	+5.1	
TOO	**Toolangi**	**33.94 149**	*eP*	P	16 18 29.9	+6.9	
	20nm,0.9s,mb5.0						
CNB	**Canberra Magne**	**34.48 142**	*eP*	P	16 18 34.2	+6.5	
	22nm,0.6s,mb5.2						
CMAR	**Chiang Mai Arr**	**37.30 318**	P	P	16 18 52.0	0.0	
	0.8nm,0.4s,mb4.0,baz=143,slow=6.6,SNR=8.1						
CMAR			ScP	ScP	16 24 52.5	+3.0	
	0.3nm,0.4s,baz=177,slow=3.3,SNR=4.2						
CMAR	**Chiang Mai Arr**	**37.30 318**	P	P	16 18 52.0	0.0	
CMAR			ScP	ScP	16 24 52.5	+3.0	
LSA	**Lhasa**	**50.29 322**	*eP*	P	16 20 36.7	+0.8	
	2.6nm,0.6s,mb4.3						
ODAN	**Odare**	**50.79 316**	*eP*	P	16 20 39.9	+0.1	
TAPN	**Taplejung**	**50.89 317**	*eP*	P	16 20 40.6	+0.1	
	6.3nm,0.4s,mb5.0						
RAMN	**Ramite**	**51.39 316**	*eP*	P	16 20 44.6	+0.4	
	13nm,0.5s,mb5.2						
GUN	**Gumba**	**52.49 316**	*eP*	P	16 20 52.6	+0.2	
	18nm,0.8s,mb5.2						
PKI	**Pulchoki**	**52.60 316**	*eP*	P	16 20 53.0	-0.2	
KKN	**Kakani**	**52.83 316**	*eP*	P	16 20 54.9	0.0	
GKN	**Gorkha**	**53.41 315**	*eP*	P	16 20 58.9	-0.2	
	7.9nm,0.3s,mb5.2						
KOLN	**Koldanda**	**53.99 315**	*eP*	P	16 21 02.8	-0.6	
	5.7nm,0.4s,mb5.0						
DANN	**Dangsing**	**54.23 315**	*eP*	P	16 21 04.8	-0.3	
	13nm,0.5s,mb5.2						
PYUN	**Piuthan**	**54.62 314**	*eP*	P	16 21 07.6	-0.3	
	9.7nm,0.4s,mb5.1						
SONM	**Songino Array**	**59.20 346**	P	P	16 21 39.6	-0.3	
	0.5nm,0.6s,mb3.8,baz=167,slow=8.0,SNR=5.0						
SONM	**Songino Array**	**59.20 346**	P	P	16 21 39.6	-0.3	
MKAR	**Makanchi Array**	**67.31 330**	P	P	16 22 32.9	-0.6	
	0.6nm,0.6s,mb3.6,baz=132,slow=7.9,SNR=5.9						
MKAR	**Makanchi Array**	**67.31 330**	P	P	16 22 33.0	-0.6	
ZALV	**Zalesovo Beam**	**71.40 337**	P	P	16 22 58.8	+0.1	
	0.3nm,0.3s,mb3.6,baz=131,slow=4.0,SNR=2.5						
ZALV	**Zalesovo Beam**	**71.40 337**	P	P	16 22 58.8	+0.1	
QSPA	**South Pole Qui**	**80.53 180**	P	P	16 23 54.7	+4.5	
	1.3nm,0.9s,mb3.8,baz=24,slow=0.4,SNR=6.4						
QSPA	**South Pole Qui**	**80.53 180**	P	P	16 23 54.7	+4.5	
TORD	**Torodi Ar. Bea**	**123.61 279**	PKP	PKPdf	16 30 38.2	+1.7	
	0.2nm,0.5s,baz=102,slow=3.7,SNR=2.4						
CPUP	**Villa Florida**	**144.39 178**	PKP	PKPdf	16 31 17.1	+2.1	
	1.3nm,0.5s,baz=220,slow=1.8,SNR=4.6						
CPUP	**Villa Florida**	**144.39 178**	PKP	PKPdf	16 31 17.1	+2.1	
LPAZ	**La Paz**	**151.65 154**	PKPbc	PKPbc	16 31 38.4	+4.9	
	0.6nm,0.4s,baz=305,slow=1.5,SNR=5.4						
LPAZ	**La Paz**	**151.65 154**	PKPbc	PKPbc	16 31 38.4	+4.9	

MAN 17 16:12:41,5.50N×124.49E, h44km, mb4.6, ML3.5, MS3.4, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**1.62**	**22**	↑*iP*	Pn	16 13 09.2	+2.1
KCP				*i* S	Sn	16 13 27.9	+1.2
CTBH	**Cotabato--PC H**	**1.73**	**352**	↑*eP*	Pn	16 13 09.2	+0.5
DMPH	**Davao City--Mi**	**1.87**	**33**	↑*iP*	Pn	16 13 12.3	+1.7
DMPH				*i* S	Sn	16 13 34.9	+1.9
MATI	**Mati**	**2.27**	**51**	*eP*	Pn	16 13 17.1	+1.0
BUKP	**Musuan**	**2.43**	**13**	*eP*	Pn	16 13 19.8	+1.5
PAGZ	**Pagadian**	**2.58**	**335**	*eP*	Pn	16 13 22.6	+2.3
CGP	**Cagayan de Oro**	**2.95**	**4**	*eP*	Pn	16 13 26.6	+1.3
CGP				*i* S	Sn	16 14 01.9	+2.4
IPIL	**Ipil**	**2.97**	**320**	*eP*	Pn	16 13 27.5	+1.9

ISCJB ***17*** *16:13:26.6±0.8, 52.6°S±0.1°×18.0°E±0.2°, h10km, mb4.2/10, MS3.8/18, Error ellipse: s-maj=18.8km s-min=15.1km az=166.8*

IDC ***17*** *16:13:26.5±0.7, 52.4°S×18.2°E, h0km, mb4.2/9, mb1 4.4/9, mb1mx4.1/18, mbtmp4.2/9, MS3.8/18, Ms1 3.8/18, ms1mx3.6/27, Error ellipse: s-maj=28.0km s-min=18.2km az=62.0*

NEIC ***17*** *16:13:27.9±0.4, 52.38S×18.37E, h10km, mb4.4/2, Error ellipse: s-maj=19.0km s-min=13.1km az=59.0*

ISC 17 16:13:28.4±0.8, 52.6°S±0.1°×18.1°E±0.2°, h10km, n63, σ1°19/23, mb4.2/10, MS3.8/18, Southwest of Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAIT	**Maitri**	**18.49**	**187**	*eP*	**Pn**	**16 17 44.6**	**+0.3**
SUR	**Sutherland**	**20.28**	**7**	LR	LR	16 24 04.5	
	comp=Z,396nn,20.6s,MS3.8,baz=2.9,slow=32						
SNAA	**Sanae**	**21.28**	**198**	P	**P**	**16 18 16.2**	**+1.6**
	17nn,1.1s,mb4.3,baz=44,slow=9.5,SNR=67						
SNAA				LR	LR	16 24 18.9	
	comp=Z,105nn,21.1s,MS3.2,baz=29,slow=30						
SNAA	**Sanae**	**21.28**	**198**	P	**P**	**16 18 16.2**	**+1.6**
SNAA				LR	LR	16 24 18.9	
VNA2	**Neumayer--Watz**	**21.68**	**203**	*e*	**P**	**16 18 17.3**	**-1.6**
	baz=27,slow=9.7						
VNA1	**Neumayer--Stat**	**21.70**	**204**	*e*	**P**	**16 18 17.6**	**-1.4**
VNA3	**Neumayer Olymp**	**22.44**	**203**	*e*	**P**	**16 18 24.7**	**-2.3**
BOSA	**Boshof**	**24.52**	**15**	LR	LR	16 26 33.1	
	comp=Z,379nn,20.6s,MS3.9,baz=175,slow=32						
MAW	**Mawson**	**26.14**	**142**	P	**P**	**16 19 03.5**	**+1.2**
	4.5nn,0.8s,mb4.1,baz=303,slow=13,SNR=6.2						
MAW				LR	LR	16 27 14.2	
	comp=Z,134nn,19.1s,MS3.5,baz=296,slow=32						
MAW	**Mawson**	**26.14**	**142**	*eP*	**P**	**16 19 03.6**	**+1.4**
MAW				LR	LR	16 27 14.2	
LBTB	**Lobatse**	**28.11**	**15**	LR	LR	16 28 50.9	
	comp=Z,336nn,19.4s,MS3.9,baz=145,slow=33						
QSPA	**South Pole Qui**	**37.65**	**180**	P	**P**	**16 20 43.7**	**+0.8**
	4.3nn,0.8s,mb4.2,baz=241,slow=4.4,SNR=26						
QSPA	**South Pole Qui**	**37.65**	**180**	P	**P**	**16 20 43.7**	**+0.8**
VNDA	**Vanda**	**48.23**	**170**	P	**P**	**16 22 08.9**	**+0.3**
	0.9nn,0.4s,mb4.1,baz=90,slow=24,SNR=9.8						
VNDA				LR	LR	16 41 16.1	
	comp=Z,193nn,21.5s,MS4.0,baz=190,slow=34						
VNDA	**Vanda**	**48.23**	**170**	*eP*	**P**	**16 22 08.4**	**-0.2**
	2.5nn,0.9s,mb4.2						
VNDA				LR	LR	16 41 16.1	
TRQA	**Tornquist**	**55.30**	**251**	*eP*	**P**	**16 23 03.7**	**+1.8**
	5.1nn,0.9s,mb4.5						
CPUP	**Villa Florida**	**60.84**	**264**	P	**P**	**16 23 41.0**	**+0.2**
	3.0nn,0.7s,mb4.6,baz=117,slow=6.5,SNR=12						
CPUP				LR	LR	16 43 17.6	
	comp=Z,49nn,20.6s,MS3.6,baz=9.7,slow=29						
CPUP	**Villa Florida**	**60.84**	**264**	P	**P**	**16 23 41.0**	**+0.2**
CPUP				LR	LR	16 43 17.6	
DBIC	**Dimbokro**	**62.17**	**334**	LR	LR	16 44 32.4	
	comp=Z,82nn,21.4s,MS3.9,baz=88,slow=30						
TORD	**Torodi Ar. Bea**	**66.97**	**343**	P	**P**	**16 24 19.9**	**-1.2**
	1.8nn,1.1s,mb4.0,baz=161,slow=6.3,SNR=5.6						
TORD	**Torodi Ar. Bea**	**66.97**	**343**	P	**P**	**16 24 19.9**	**-1.2**
LPAZ	**La Paz**	**74.97**	**263**	P	**P**	**16 25 10.7**	**+0.9**
	2.7nn,1.0s,mb4.1,baz=101,slow=6.6,SNR=7.7						
LPAZ				LR	LR	16 53 44.9	
	comp=Z,44nn,19.4s,MS3.8,baz=331,slow=32						
LPAZ	**La Paz**	**74.97**	**263**	P	**P**	**16 25 10.7**	**+0.9**
LPAZ				LR	LR	16 53 44.9	
RPZ	**Rata Peaks**	**81.29**	**161**	LR	LR	17 02 01.6	
	comp=Z,81nn,19.3s,MS4.1,baz=144,slow=36						
EIL	**Elat**	**83.21**	**15**	LR	LR	17 01 46.5	
	comp=Z,74nn,18.5s,MS4.1,baz=97,slow=35						
ASAR	**Alice Springs**	**85.84**	**124**	P	**P**	**16 26 07.8**	**-0.4**
	0.9nn,0.6s,mb4.2,baz=208,slow=4.7,SNR=9.6						
ASAR	**Alice Springs**	**85.84**	**124**	P	**P**	**16 26 07.8**	**-0.4**
ASF	**Jabal al Asfar**	**85.98**	**16**	LR	LR	17 02 17.4	
	comp=Z,44nn,21.9s,MS3.8,baz=246,slow=34						

FITZ	**Fitzroy Crossi**	**86.01**	**115**	LR	LR	16 59 07.2	
	comp=Z,220nn,18.1s,MS3.6,baz=203,slow=32						
MMAI	**Mount Meron Ar**	**86.56**	**15**	LR	LR	17 01 52.4	
	comp=Z,54nn,21.4s,MS3.9,baz=210,slow=34						
PSI	**Prapat**	**86.64**	**81**	LR	LR	16 59 31.8	
	comp=Z,11nn,18.5s,MS3.3,baz=200,slow=32						
KEST	**Kesra**	**88.27**	**353**	LR	LR	17 09 35.0	
	comp=Z,29nn,18.4s,MS3.7,baz=286,slow=38						
WRA	**Warramunga Arr**	**89.16**	**122**	P	**P**	**16 26 23.5**	**-0.7**
	0.4nn,0.5s,mb4.0,baz=214,slow=4.2,SNR=5.4						
WRA	**Warramunga Arr**	**89.16**	**122**	P	**P**	**16 26 23.5**	**-0.7**
BRTR	**Keskin Array B**	**92.91**	**12**	LR	LR	17 08 47.1	
	comp=Z,47nn,20.9s,MS3.9,baz=352,slow=36						
CMAR	**Chiang Mai Arr**	**99.04**	**72**	LR	LR	17 07 30.5	
	comp=Z,33nn,19.4s,MS3.8,baz=68,slow=33						
SONM	**Songino Array**	**124.97**	**55**	PKP	PKPdf	16 32 26.5	-1.3
	1.1nn,0.8s,baz=232,slow=2.4,SNR=6.7						
SONM	**Songino Array**	**124.97**	**55**	PKP	PKPdf	16 32 26.5	-1.3
PV04	**Paradox Valley**	**141.13**	**270**	*e*P	PKPdf	16 32 59.6	+1.3
PDAR	**Pinedale Array**	**144.14**	**276**	PKP	PKPdf	16 33 01.8	-1.8
	3.7nn,0.7s,baz=127,slow=5.6,SNR=31						
PDAR	**Pinedale Array**	**144.14**	**276**	PKP	PKPdf	16 33 01.8	-1.8
PD02	**Pinedale Array**	**144.15**	**276**	*e*PKP	PKPdf	16 33 01.4	-2.1
PD01	**Pinedale Array**	**144.16**	**276**	*e*PKP	PKPdf	16 33 01.7	-1.9
DUG	**Dugway**	**144.62**	**270**	*e*PKP	PKPdf	16 33 04.0	-0.5
HWUT	**Hardware Ranch**	**144.70**	**272**	*e*P	PKPdf	16 33 03.6	-0.9
ISA	**Isabella**	**145.15**	**258**	*e*PKP	PKPdf	16 33 06.2	+0.6
BGU	**Big Grassy Mou**	**145.19**	**270**	*e*P	PKPbc	16 33 05.8	+0.6
LOHW	**Long Hollow**	**145.25**	**276**	*e*PKP	PKPdf	16 33 05.4	0.0
RLMT	**Red Lodge**	**145.25**	**279**	*e*PKP	PKPdf	16 33 05.6	+0.2
REDW	**Red Top Meadow**	**145.26**	**275**	PKP	PKPdf	16 33 07.1	+1.6
TPAW	**Teton Pass**	**145.39**	**276**	*e*PKP	PKPdf	16 33 06.2	+0.5
MOOW	**Moose Ponds**	**145.41**	**276**	*e*PKP	PKPdf	16 33 05.5	-0.2
IMW	**Indian Meadow**	**145.61**	**276**	*e*PKP	PKPdf	16 33 06.8	+0.8
NVAR	**Mina Array Bea**	**146.87**	**262**	PKPbc	PKPbc	16 33 11.6	+1.3
	4.3nn,0.8s,baz=138,slow=4.4,SNR=35						
NVAR	**Mina Array Bea**	**146.87**	**262**	PKPbc	PKPbc	16 33 11.6	+1.3
HLID	**Hailey**	**147.54**	**273**	*e*PKPbc	PKPbc	16 33 13.2	+1.2
CHMT	**Chamberlain Mo**	**148.55**	**279**	*e*PKPbc	PKPbc	16 33 14.0	-0.6
WVOR	**Wild Horse Val**	**149.49**	**268**	*e*PKPbc	PKPbc	16 33 18.7	+1.7
JTMT	**Jette**	**149.56**	**280**	*e*PKPbc	PKPbc	16 33 17.5	+0.5
BMO	**Blue Mountains**	**149.99**	**273**	*e*PKPbc	PKPbc	16 33 18.5	+0.3
YKA	**Yellowknife Ar**	**153.35**	**310**	PKPbc	PKPbc	16 33 23.7	-1.6
	2.4nn,1.0s,baz=98,slow=3.8,SNR=3.6						
YKA				PKPab	PKPab	16 33 36.7	-0.8
	2.1nn,0.8s,baz=91,slow=4.9,SNR=4.9						
YKA	**Yellowknife Ar**	**153.35**	**310**	PKPbc	PKPbc	16 33 23.7	-1.6
YKA				PKPab	PKPab	16 33 36.7	-0.8
ILAR	**Eielson Array**	**165.55**	**334**	PKPab	PKPab	16 34 31.4	+0.9
	2.0nn,0.9s,baz=16,slow=3.8,SNR=25						

MEX 17 16:23:11.9±0.8, 17.12N×101.21W, h5km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.54**	**333**	*eP*	Pg	16 23 21.9	-0.4
ZIIG				*i* S	Sg	16 23 29.9	+0.5
CAIG	**El Cayaco**	**0.90**	**94**	*eP*	Pg	16 23 26.9	-2.3
CAIG				*i* S	Sg	16 23 38.3	-2.7
ACX	**Acapulco**	**1.32**	**101**	*i* P	Pn	16 23 33.5	-3.4
ACX				*i* S	Sg	16 23 50.0	-4.2
MEIG	**Mezcala**	**1.72**	**62**	*eP*	Pn	16 23 38.3	-4.2
MEIG				*i* S	Sn	16 23 59.1	-5.6
PNIG	**Pinotepa**	**3.04**	**103**	*i* P	Pn	16 23 57.5	-3.1
PNIG				*i* S	Sn	16 24 34.0	-3.5
UTMO	**Huajuapan**	**3.33**	**77**	*i* P	Pn	16 24 02.8	-1.8
UTMO				*i* S	Sn	16 24 42.5	-2.0

ISCJB ***17*** *16:54:11.8±1.1, 41.64N±0.06°×144.3E±0.1°, h45km±9km, mb3.6/8, Error ellipse: s-maj=15.5km s-min=8.8km az=29.5*

JMA ***17*** *16:54:12.0±0.2, 41.68N×144.28E, h27km±2km, M3.4*

IDC ***17*** *16:54:13.6±3.3, 41.62N×144.18E, h42km±30km, mb3.4/8, mb1 3.5/10, mb1mx3.4/27, mbtmp3.4/10, ML2.7/1, Error ellipse: s-maj=30.2km s-min=21.1km az=117.0*

NEIC ***17*** *16:54:14.2±1.0, 41.65N×144.18E, h48km±9km, mb4.3/1, Error ellipse: s-maj=13.4km s-min=8.1km az=104.0*

ISC 17 16:54:13.4±1.1, 41.70N±0.06°×144.3E±0.1°, h38km±9km, n30, σ0°52/33, mb3.6/8, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo**	**0.88**	**291**	*eP*	**Pn**	**16 54 29.2**	**0.0**
JEM	**Erimo**	**0.88**	**292**	P	**Pn**	**16 54 29.2**	**0.0**
JCH	**Churui**	**1.13**	**324**	P	**Pn**	**16 54 32.4**	**-0.3**
JCH				*eS*	**Sn**	**16 54 46.8**	**-0.2**
JOB	**Onbets**	**1.24**	**346**	P	**Pn**	**16 54 34.7**	**+0.5**
JNBK	**Urakawa-nobuka**	**1.26**	**298**	P	**Pn**	**16 54 35.0**	**+0.5**
JAK	**Akkeshi**	**1.34**	**14**	P	**Pn**	**16 54 35.0**	**-0.5**
JAK				*eS*	**Sn**	**16 54 51.6**	**-0.5**
JAK	**Ashorobuto**	**1.64**	**347**	P	**Pn**	**16 54 39.2**	**-0.4**
ASAJ	**Asahikawa**	**2.71**	**334**	P	**Pn**	**16 54 54.2**	**-0.1**
	1.3nn,0.3s,baz=207,slow=9.0,SNR=18						
ASAJ				S	**Sn**	**16 55 31.4**	**+5.6**
	3.1nn,0.3s,baz=130,slow=29,SNR=5.2						
ASAJ	**Asahikawa**	**2.71**	**334**	*eP*	**Pn**	**16 54 55.4**	**+1.0**
MAJO	**Matsushiro**	**6.97**	**224**	*eP*	**Pn**	**16 55 53.4**	**+0.5**
MJAR	**Matsushiro Arr**	**6.97**	**224**	P	**Pn**	**16 55 52.8**	**-0.1**
	0.1nn,0.3s,baz=43,slow=14,SNR=3.3						
MJAR	**Matsushiro Arr**	**6.97**	**224**	P	**Pn**	**16 55 52.8**	**-0.1**
SONM	**Songino Array**	**27.37**	**296**	P	**P**	**16 59 55.0**	**+0.2**
	0.3nn,0.7s,mb2.9,baz=81,slow=8.9,SNR=3.0						
SONM	**Songino Array**	**27.37**	**296**	P	**P**	**16 59 55.0**	**+0.2**
MK31	**Makanchi Array**	**43.67**	**299**	P	**P**	**17 02 13.3**	**-0.8**
MKAR	**Makanchi Array**	**43.67**	**299**	P	**P**	**17 02 14.1**	**-0.1**
	0.2nn,0.5s,mb3.1,baz=79,slow=9.9,SNR=4.3						
MKAR	**Makanchi Array**	**43.67**	**299**	P	**P**	**17 02 14.1**	**-0.1**
ILAR	**Eielson Array**	**44.40**	**35**	P	**P**	**17 02 20.5**	**+0.8**
	0.6nn,1.1s,mb3.2,baz=260,slow=5.5,SNR=4.2						
ILAR	**Eielson Array**	**44.40**	**35**	P	**P**	**17 02 20.5**	**+0.8**
INK	**Inuvik**	**49.24**	**29**	P	**P**	**17 02 58.5**	**+1.0**
	1.1nn,0.4s,mb4.3,baz=264,slow=3.0,SNR=11						
INK	**Inuvik**	**49.24**	**29**	*eP*	**P**	**17 02 58.3**	**+0.7**
	1.3nn,0.4s,mb4.3						
ABKAR	**Akbulak array**	**56.68**	**309**	*eP*	**P**	**17 03 52.9**	**+0.2**
RES	**Resolute Bay**	**57.53**	**16**	P	**P**	**17 03 58.6**	**+0.3**
	3.5nn,1.0s,mb4.3,baz=260,slow=6.1,SNR=3.8						
RES	**Resolute Bay**	**57.53**	**16**	P	**P**	**17 03 58.6**	**+0.3**
WRA	**Warramunga Arr**	**62.01**	**191**	P	**P**	**17 04 28.4**	**-1.2**
	0.2nn,0.8s,mb3.3,baz=8.5,slow=6.8,SNR=4.0						
WRA	**Warramunga Arr**	**62.01**	**191**	P	**P**	**17 04 28.4**	**-1.2**
FINES	**FINESS Array B**	**65.72**	**332**	P	**P**	**17 04 53.3**	**-0.3**
	2.5nn,0.9s,mb4.3,baz=46,slow=8.2,SNR=7.1						
FINES	**FINESS Array B**	**65.72**	**332**	P	**P**	**17 04 53.3**	**-0.3**
TXAR	**Lajitas Array**	**85.57**	**54**	P	**P**	**17 06 47.7**	**0.0**
	0.1nn,0.5s,mb3.3,baz=284,slow=3.6,SNR=4.0						
TXAR	**Lajitas Array**	**85.57**	**54**	P	**P**	**17 06 47.7**	**0.0**

ISCJB ***17*** *17:04:35.3±0.7, 48.1N±0.1°×146.4E±0.3°, h492km±10km, mb3.1/8, Error ellipse: s-maj=32.2km s-min=13.7km az=40.2*

IDC ***17*** *17:04:36.0±1.5, 48.1°N×146.36E, h486km±19km, mb2.7/8, mb1 3.0/11, mb1mx2.8/27, mbtmp2.7/11, Error ellipse: s-maj=29.9km s-min=13.3km az=125.0*

NEIC ***17*** *17:04:36.2±0.6, 48.14N×146.37E, h492km±8km, mb3.3/1, Error ellipse: s-maj=23.2km s-min=10.1km az=131.0*

ISC 17 17:04:36.3±0.7, 48.1N±0.1°×146.4E±0.3°, h491km±10km, n22, σ0°55/22, mb3.1/8, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**2.72**	**245**	*eP*	**P**	**17 05 45.3**	**+0.7**
ASAJ	**Asahikawa**	**4.80**	**214**	P	**P**	**17 06 00.9**	**0.0**
	1.1nn,0.8s,baz=105,slow=6.0,SNR=12						
PETK	**Petropavlovsk-**	**8.75**	**51**	P	**P**	**17 06 39.8**	**-0.3**
	0.2nn,0.3s,baz=214,slow=8.4,SNR=7.8						
PETK	**Petropavlovsk-**	**8.75**	**51**	P	**P**	**17 06 39.8**	**-0.3**
MJAR	**Matsushiro Arr**	**13.05**	**210**	P	**P**	**17 07 25.4**	**-0.7**
	0.5nn,0.3s,baz=23,slow=10,SNR=7.4						
MJAR	**Matsushiro Arr**	**13.05**	**210**	P	**P**	**17 07 25.4**	**-0.7**
ILAR	**Eielson Array**	**38.35**	**39**	P	**P**	**17 11 13.1**	**-0.8**
	0.2nn,0.3s,mb3.0,baz=257,slow=6.0,SNR=6.2						
ILAR	**Eielson Array**	**38.35**	**39**	P	**P**	**17 11 13.1**	**-0.8**
MKAR	**Makanchi Array**	**42.21**	**293**	P	**P**	**17 11 45.0**	**-0.1**
	0.5nn,0.8s,mb3.0,baz=60,slow=8.8,SNR=4.1						
MKAR	**Makanchi Array**	**42.21**	**293**	P	**P**	**17 11 45.0**	**-0.1**
INK	**Inuvik**	**42.94**	**33**	P	**P**	**17 11 50.0**	**-0.5**
	0.3nn,0.3s,mb3.1,baz=283,slow=4.4,SNR=5.4						
INK	**Inuvik**	**42.94**	**33**	*eP*	**P**	**17 11 49.9**	**-0.6**
	0.4nn,0.4s,mb3.2						
NVAR	**Mina Array Bea**	**65.75**	**59**	P	**P**	**17 14 32.5**	**+0.7**
	0.3nn,0.5s,mb3.1,baz=312,slow=7.2,SNR=3.0						
NVAR	**Mina Array Bea**	**65.75**	**59**	P	**P**	**17 14 32.5**	**+0.7**
PDAR	**Pinedale Array**	**67.52**	**51**	P	**P**	**17 14 43.0**	**+0.4**
	0.3nn,0.4s,mb3.3,baz=297,slow=2.7,SNR=3.3						
PDAR	**Pinedale Array**	**67.52**	**51**	P	**P**	**17 14 43.0**	**+0.4**
WRA	**Warramunga Arr**	**68.62**	**192**	P	**P**	**17 14 48.9**	**-0.6**
	0.1nn,0.5s,mb2.6,baz=10,slow=5.0,SNR=4.7						
WRA	**Warramunga Arr**	**68.62**	**192**	P	**P**	**17 14 48.9**	**-0.6**
ASAR	**Alice Springs**	**72.34**	**192**	P	**P**	**17 15 12.2**	**+0.6**
	0.7nn,0.5s,mb3.4,baz=7.2,slow=5.2,SNR=23						
ASAR	**Alice Springs**	**72.34**	**192**	P	**P**	**17 15 12.2**	**+0.6**
TXAR	**Lajitas Array**	**80.67**	**56**	P	**P**	**17 15 58.1**	**+0.6**
	0.3nn,0.6s,mb3.0,baz=304,slow=4.4,SNR=4.6						
TXAR	**Lajitas Array**	**80.67**	**56**	P	**P**	**17 15 58.1**	**+0.6**

MEX 17 17:08:58.1±0.9, 17.27N×100.25W, h40km±10km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.22**	**184**	*eP*	Pn	17 09 03.7	-1.9
CAIG				*i* S	Sn	17 09 09.0	-1.7
ACX	**Acapulco**	**0.55**	**137**	*i* P	Pn	17 09 07.3	-2.2
ACX				*i* S	Sn	17 09 15.7	-1.8
MEIG	**Mezcala**	**0.89**	**43**	*eP*	Pn	17 09 12.2	-2.0
MEIG				*i* S	Sn	17 09 24.2	-1.6
ZIIG	**Zihuatanejo**	**1.20**	**286**	*eP*	Pn	17 09 17.5	-0.9
ZIIG				*i* S	Sn	17 09 31.6	-2.0
PNIG	**Pinotepa**	**2.22**	**113**	*i* P	Pn	17 09 30.4	-1.9
PNIG				*i* S	Sn	17 09 56.3	-2.2
PPM	**Popocatepetl**	**2.36**	**41**	*i* P	Pn	17 09 34.2	-0.2
PPM				*i* S	Sn	17 10 01.9	-0.3
UTMO	**Huajuapan**	**2.40**	**76**	*i* P	Pn	17 09 33.6	-1.3
UTMO				*i* S	Sn	17 10 00.5	-2.6
MMIG	**Aquila**	**3.12**	**289**	*eP*	Pn	17 09 46.0	+1.3
MMIG				*i* S	Sn	17 10 18.8	-1.9

OTT 17 17:10:02.3±0.9, 79.62N×115.80W, h18km, ML3.5/5, Arctic Ocean. Aftershock. 274km northwest from Isachsen, Nu, Arctic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EUNU	**Eureka**	**5.18**	**71**	PN	Pn	17 11 18.5	-0.3
EUNU				SN	Sn	17 12 12.9	-5.0
EUNU				Trac		17 12 17.6	
	comp=Z,4.7nm,0.5s						
RES	**Resolute Bay**	**6.74**	**126**	PN	Pn	17 11 40.0	-0.2
RES				SN	Sn	17 12 51.2	-5.2
RES				Trac		17 12 57.2

ELOV	**Elorza**	**3.39**	**85**	⇑	*i* P	**Pn**	**17 13 16.7**	**+2.4**
VIRV	**Villa del Rosa**	**3.77**	**7**	⇓	*i* P	**Pn**	**17 13 17.3**	**-1.9**
VIRV					*e* S	**Sn**	**17 13 59.6**	**-4.4**
QARV	**Quebrada Arrib**	**4.16**	**34**	⇓	*i* P	**Pn**	**17 13 24.9**	**+0.6**
QARV					*e* S	**Sn**	**17 14 10.6**	**-2.5**
SANV	**Sanarito**	**4.30**	**50**	⇑	*e* P	**Pn**	**17 13 26.9**	**+0.8**
SANV					*e* S	**Sn**	**17 14 14.8**	**-1.6**
CURV	**Curarigua**	**4.35**	**41**	⇑	*i* P	**Pn**	**17 13 27.4**	**+0.6**
CURV					*e* S	**Sn**	**17 14 15.3**	**-2.2**
DABV	**Dabajuro**	**4.71**	**28**	⇑	*e* P	**Pn**	**17 13 31.5**	**0.0**
TEPV	**Terepaima**	**4.86**	**49**	⇑	*i* P	**Pn**	**17 13 34.2**	**+0.8**
SIQV	**Siquisique**	**4.93**	**38**	⇑	*i* P	**Pn**	**17 13 34.5**	**+0.2**
BAUV	**El Baul**	**5.27**	**65**	⇑	*i* P	**Pn**	**17 13 38.9**	**0.0**
BAUV					*e* S	**Sn**	**17 14 37.5**	**-1.7**
MAPV	**Macapo**	**5.35**	**55**	⇑	*i* P	**Pn**	**17 13 40.6**	**+0.7**
IMOV	**Isla Los Monje**	**5.91**	**19**	⇑	*e* P	**Pn**	**17 13 46.1**	**-1.2**
MONV	**Montecano**	**5.92**	**29**	⇑	*e* P	**Pn**	**17 13 46.5**	**-0.9**
TURV	**Turiamo**	**6.20**	**53**		*e* P	**Pn**	**17 13 51.1**	**0.0**
MERV	**Las Mercedes**	**6.98**	**69**	⇑	*i* P	**Pn**	**17 14 02.6**	**+1.0**
BIRV	**Birongo**	**7.52**	**60**	⇑	*i* P	**Pn**	**17 14 08.4**	**-0.3**
CUPV	**Cœpira**	**7.75**	**64**	⇑	*e* P	**Pn**	**17 14 11.8**	**0.0**
OTAV	**Otavalo**	**8.52**	**221**		*e* P	**Pn**	**17 14 19.5**	**-2.5**
	6.6nm,0.6s							
MTDJ	**Mount Denham**	**12.28**	**339**		*e* P	**Pn**	**17 15 12.2**	**+0.9**
TEIG	**Tepich**	**20.07**	**313**		P	**P**	**17 16 43.0**	**+0.3**
	9.6nm,0.4s,baz=39,slow=6.0,SNR=4.8							
TEIG	**Tepich**	**20.07**	**313**		P	**P**	**17 16 43.0**	**+0.3**
LPAZ	**La Paz**	**23.36**	**168**		P	**P**	**17 17 17.1**	**+1.2**
	1.7nm,0.6s,mb3.6,baz=344,slow=5.6,SNR=6.5							
LPAZ	**La Paz**	**23.36**	**168**		P	**P**	**17 17 17.1**	**+1.2**
TXAR	**Lajitas Array**	**36.69**	**312**		P	**P**	**17 19 12.9**	**-0.3**
	1.6nm,0.6s,mb3.8,baz=127,slow=9.1,SNR=23							
TXAR					pP	pP	17 19 47.5	-0.2
	0.4nm,0.7s,baz=126,slow=9.2,SNR=2.0							
TXAR					PcP	PcP	17 21 34.1	+1.5
	1.1nm,0.8s,baz=132,slow=5.3,SNR=7.9							
TXAR	**Lajitas Array**	**36.69**	**312**		P	**P**	**17 19 12.9**	**-0.3**
TXAR					pP	pP	17 19 47.5	-0.2
TXAR					PcP	PcP	17 21 34.1	+1.5
SDCO	**Great Sand Dun**	**42.76**	**321**		*e* P	**P**	**17 20 04.0**	**+0.8**
	1.6nm,0.8s,mb3.7							
ULM	**Lac du Bonnet**	**47.44**	**340**		P	**P**	**17 20 39.3**	**-0.7**
	4.0nm,0.5s,mb4.3,baz=142,slow=9.1,SNR=8.0							
ULM	**Lac du Bonnet**	**47.44**	**340**		P	**P**	**17 20 39.3**	**-0.7**
MSU	**Marysvale**	**47.52**	**318**		*e* P	**P**	**17 20 41.7**	**+0.9**
	7.9nm,1.2s,mb4.2							
SCHQ	**Schefferville**	**48.20**	**5**		P	**P**	**17 20 46.6**	**+0.9**
	4.3nm,0.6s,mb4.3,baz=291,slow=14,SNR=5.5							
SCHQ	**Schefferville**	**48.20**	**5**		P	**P**	**17 20 46.6**	**+0.9**
PDAR	**Pinedale Array**	**48.28**	**324**		P	**P**	**17 20 46.5**	**-0.1**
	1.3nm,0.6s,mb3.7,baz=128,slow=9.5,SNR=12							
PDAR					PcP	PcP	17 22 11.3	+0.3
	0.4nm,0.7s,baz=145,slow=3.3,SNR=2.8							
PDAR	**Pinedale Array**	**48.28**	**324**		P	**P**	**17 20 46.5**	**-0.1**
PDAR					PcP	PcP	17 22 11.3	+0.3
RRI2	**Red Ridge**	**49.66**	**323**		*e* P	**P**	**17 20 57.5**	**+0.5**
	3.3nm,0.6s,mb4.1							
NVAR	**Mina Array Bea**	**51.70**	**315**		P	**P**	**17 21 13.0**	**+0.5**
	1.3nm,0.7s,mb3.7,baz=119,slow=6.8,SNR=8.8							
NVAR					PcP	PcP	17 22 24.1	+0.4
	0.7nm,0.6s,baz=157,slow=5.9,SNR=4.1							
NVAR	**Mina Array Bea**	**51.70**	**315**		P	**P**	**17 21 13.0**	**+0.5**
NVAR					PcP	PcP	17 22 24.1	+0.4
DBIC	**Dimbokro**	**67.51**	**86**		P	**P**	**17 23 01.6**	**+0.5**
	2.6nm,0.7s,mb4.1,baz=212,slow=1.8,SNR=3.9							
DBIC	**Dimbokro**	**67.51**	**86**		P	**P**	**17 23 01.6**	**+0.5**
TORD	**Torodi Ar. Bea**	**73.52**	**78**		P	**P**	**17 23 37.7**	**+0.1**
	0.3nm,0.6s,mb3.2,baz=285,slow=5.8,SNR=3.3							
TORD					pP	pP	17 24 17.0	+0.5
	0.3nm,0.8s,baz=293,slow=3.4,SNR=1.9							
TORD	**Torodi Ar. Bea**	**73.52**	**78**		P	**P**	**17 23 37.7**	**+0.1**
TORD					pP	pP	17 24 17.0	+0.5
VNA3	**Neumayer Olymp**	**88.03**	**163**		*e*	**P**	**17 24 50.2**	**-3.0**
VNA1	**Neumayer--Stat**	**88.17**	**162**		*e*	**P**	**17 24 51.8**	**-2.1**
VNA2	**Neumayer--Watz**	**88.55**	**163**		*e*	**P**	**17 24 52.7**	**-3.0**
	baz=304,slow=6.6							
ZALV	**Zalesovo Beam**	**116.69**	**15**		PKP	PKPdf	17 30 47.8	+1.1
	0.2nm,0.3s,baz=282,slow=2.9,SNR=3.7							
ZALV	**Zalesovo Beam**	**116.69**	**15**		PKP	PKPdf	17 30 47.9	+1.1
KURK	**Kurchatov**	**117.70**	**20**		PKP	PKPdf	17 30 49.6	+0.8
	0.3nm,0.7s,baz=305,slow=1.9,SNR=2.8							
KURK	**Kurchatov**	**117.70**	**20**		PKP	PKPdf	17 30 49.6	+0.8
MKAR	**Makanchi Array**	**122.32**	**20**		PKP	PKPdf	17 30 57.9	+0.1
	0.4nm,0.6s,baz=322,slow=2.6,SNR=5.3							
MKAR	**Makanchi Array**	**122.32**	**20**		PKP	PKPdf	17 30 57.9	+0.1
SONM	**Songino Array**	**125.66**	**1**		PKP	PKPdf	17 31 04.6	+0.4
	0.3nm,0.6s,baz=268,slow=0.5,SNR=4.1							
SONM					pPKP	pPKPdf	17 31 44.8	-1.7
	0.2nm,0.5s,baz=82,slow=2.0,SNR=1.5							
SONM	**Songino Array**	**125.66**	**1**		PKP	PKPdf	17 31 04.6	+0.4
SONM					pPKP	pPKPdf	17 31 44.8	-1.7
ASAR	**Alice Springs**	**149.25**	**234**		PKP	PKPdf	17 31 48.1	+0.3
	4.1nm,0.6s,baz=119,slow=3.4,SNR=6.4							
ASAR					PKPbc	PKPbc	17 31 51.5	-0.7
	4.1nm,0.6s,baz=117,slow=3.7,SNR=4.2							
ASAR					pPKPbc	pPKPbc	17 32 31.2	-3.1
	0.4nm,0.5s,baz=110,slow=3.3,SNR=1.5							
ASAR	**Alice Springs**	**149.25**	**234**		PKP	PKPdf	17 31 48.1	+0.3
ASAR					PKPbc	PKPbc	17 31 51.5	-0.7
ASAR					pPKPbc	pPKPbc	17 32 31.2	-3.0
WB2	**Warramunga Arr**	**150.49**	**241**		*e* P	PKPdf	17 31 54.6	+4.9
WRAB	**Tennant Creek**	**150.50**	**241**		*e* P	PKPdf	17 31 54.7	+4.9
WRA	**Warramunga Arr**	**150.50**	**241**		PKP	PKPdf	17 31 50.0	+0.2
	0.3nm,0.7s,baz=106,slow=2.6,SNR=9.7							
WRA					PKPbc	PKPbc	17 31 54.8	-0.5
	3.5nm,0.4s,baz=108,slow=2.6,SNR=11.8							
WRA					pPKPbc	pPKPbc	17 32 35.1	-2.3
	0.5nm,0.4s,baz=105,slow=2.8,SNR=1.8							
WRA	**Warramunga Arr**	**150.50**	**241**		PKP	PKPdf	17 31 50.0	+0.2
WRA					PKPbc	PKPbc	17 31 54.8	-0.5
WRA					pPKPbc	pPKPbc	17 32 35.1	-2.3
WRA	**Warramunga Arr**	**150.50**	**241**		P	PKPdf	17 31 50.0	+0.2
CMAR	**Chiang Mai Arr**	**153.69**	**18**		PKPbc	PKPbc	17 32 03.2	+0.7
	1.0nm,0.6s,baz=324,slow=3.4,SNR=8.8							
CMAR					pPKPbc	pPKPbc	17 32 45.2	+0.5
	0.3nm,0.6s,baz=347,slow=2.0,SNR=1.2							
CMAR	**Chiang Mai Arr**	**153.69**	**18**		PKPbc	PKPbc	17 32 03.2	+0.7
CMAR					pPKPbc	pPKPbc	17 32 45.2	+0.5

DJA 17 17:13:23.1°12N×121°31E,h10km,MLv3.7/3,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MRSI	**Marisa**	**0.90**	**135**	P		Pg	17 13 39.0	-1.3
MRSI				S		Sg	17 13 52.4	+0.4
LUWI	**Luwuk**	**2.60**	**146**	P		Pn	17 14 05.4	+0.3
KMSI	**Cibinong**	**2.73**	**101**	P		Pn	17 14 07.0	+0.2

BJI **17** *17:17:01.0,79.70N×115.40W,h10km,mB5.2/22, mb5.0/42,Ms4.8/24,Ms7 4.6/23*

IDC **17** *17:17:03.2±0.3,79.63N×115.73W,h0km,mb4.5/31, mb1 4.6/34,mb1mx4.6/37,mbtmp4.5/34,ML4.9/3,MS3.9/43, Ms1 4.0/43,ms1mx3.9/58,Error ellipse: s-maj=12.0km s-min=9.3km az=101.0*

ISCJB **17** *17:17:03.5±0.1,79.71N±0.01×115.7W±0.1,h10km, mb4.7/191,MS4.0/53,Error ellipse: s-maj=3.6km s-min=1.8km az=5.1*

MOS **17** *17:17:03.2±1.0,79.63N×115.75W,h10km,mb4.9/51, MS4.1/7,Error ellipse: s-maj=37.8km s-min=4.4km az=88.4*

NEIC **17** *17:17:05.0±0.1,79.69N×115.54W,h10km,mb4.7/95, ML5.2(OTT),Error ellipse: s-maj=4.7km s-min=3.0km az=98.0*

OTT **17** *17:17:05.2±0.9,79.33N×115.04W,h18km,ML5.2/11, Arctic Ocean. Aftershock. 252km west from Isachsen, Nu*

GCMT **17** *17:17:06.2±0.2,79.55N×116.50W,h14km,MW4.8, Moment Tensor Solution. s42,c53; s77,c108; Moment tensor: Scale 10¹⁶Nm; Mrr2.27±.10; Mθθ-1.24±.07; Mφφ-1.03±.09; Mrθ0.09±.15; Mrφ-1.18±.05; Mθφ-0.13±.19; Best double couple: M₀2.30000×10¹⁶ NP1:φ₀51.00000°, δ45.00000°, λ.96.00000° NP2:φ₀224.00000°,δ45.00000°, λ85.00000°. Principal axes: T 2.2800, Plg86.0000°, Azm52.0000°; N 0.0400, Plg4.0000°, Azm228.0000°; P -2.3200, Plg0.0000°, Azm318.0000°; Data Used: II IU IC G CN.*

ISC 17 17:17:05.4±0.1,79.70N±0.01×115.7W±0.1,h10km, (h18km±1.9km:pP-P),n797,σ0980/790,mb4.7/191,

MS4.0/53,176C-197D,Arctic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EUNU	**Eureka**	**5.14**	**72**	Pn		**Pn**	**17 18 20.9**	**-1.4**
EUNU				Sn		**Sn**	**17 19 13.0**	**-8.5**
EUNU	**Eureka**	**5.14**	**72**	PN		**Pn**	**17 18 20.9**	**-1.4**
EUNU				SN		**Sn**	**17 19 13.0**	**-8.5**
EUNU				Trac			17 19 19.7	
	comp=Z,732nm,0.8s							
RES	**Resolute Bay**	**6.78**	**127**	Pn		**Pn**	**17 18 40.4**	**-4.3**
	117nm,0.3s,baz=316,slow=14,SNR=1689							
RES				Sn		**Sn**	**17 19 51.5**	**-10**
	60nm,0.3s,baz=110,slow=15,SNR=11							
RES	**Resolute Bay**	**6.78**	**127**	*e*P		**Pn**	**17 18 39.7**	**-5.1**
	328nm,0.3s							
RES	**Resolute Bay**	**6.78**	**127**	P		**Pn**	**17 18 40.4**	**-4.3**
RES				pmax		pmax		
	comp=Z,117nm,0.3s							
RES	**Resolute Bay**	**6.78**	**127**	PN		**Pn**	**17 18 40.2**	**-4.5**
RES				SN		**Sn**	**17 19 51.3**	**-11**
RES				Trac			17 19 55.3	
	comp=Z,172nm,0.2s							
INK	**Inuvik**	**12.35**	**212**	Pn		**Pn**	**17 19 55.8**	**-5.0**
	comp=Z,2.1nm,0.3s,baz=20,slow=16,SNR=33							
INK				Sn		**Sn**	**17 22 03.1**	**-15**
	comp=Z,3.8nm,0.3s,baz=106,slow=32,SNR=9.0							
INK				LR		LR	17 25 18.4	
	comp=Z,244nm,18.3s,baz=140,slow=40							
INK	**Inuvik**	**12.35**	**212**	*e*P		**Pn**	**17 19 55.8**	**-5.1**
	comp=Z,11nm,0.5s							
INK	**Inuvik**	**12.35**	**212**	*e*P		**Pn**	**17 19 55.8**	**-5.1**
INK				pmax		pmax		
	comp=Z,11nm,0.5s							
INK	**Inuvik**	**12.35**	**212**	PN		**Pn**	**17 19 55.6**	**-5.2**
INK				SN		**Sn**	**17 22 01.0**	**-17**
INK				Trac			17 22 12.1	
	comp=Z,34nm,0.5s							
KUGN	**Kugaaruk Camp,**	**13.43**	**136**	PN		**Pn**	**17 20 06.8**	**-8.8**
KUGN				SN		**Sn**	**17 22 30.0**	**-15**
KUGN				Trac			17 22 46.0	
	comp=Z,153nm,1.4s							
JERN	**Jeri Cho Mine,**	**13.80**	**173**	PN		**Pn**	**17 20 13.7**	**-7.0**
JERN				SN		**Sn**	**17 22 33.5**	**-20**
JERN				Trac			17 22 38.1	
	comp=Z,94nm,0.7s							
STLN	**Stellar Camp,**	**13.82**	**141**	PN		**Pn**	**17 20 13.0**	**-8.0**
STLN				SN		**Sn**	**17 22 36.1**	**-18**
STLN				Trac			17 22 54.5	
	comp=Z,130nm,0.9s							
BULN	**Bullion Camp,**	**14.69**	**142**	PN		**Pn**	**17 20 23.6**	**-9.2**
BULN				SN		**Sn**	**17 22 55.4**	**-20**
BULN				Trac			17 22 59.6	
	comp=Z,175nm,1.1s							
QILN	**Qililugaq Expl**	**15.27**	**132**	PN		**Pn**	**17 20 32.4**	**-8.2**
QILN				SN		**Sn**	**17 23 13.7**	**-16**
CTLN	**Castor Lake**	**15.35**	**180**	PN		**Pn**	**17 20 33.8**	**-7.9**
CTLN				SN		**Sn**	**17 23 11.1**	**-20**
CTLN				Trac			17 23 26.8	
	comp=Z,65nm,0.8s							
COLD	**Coldfoot**	**15.46**	**236**	*e*P		**Pn**	**17 20 39.0**	**-4.0**
	comp=Z,26nm,0.8s							
ILKN	**Indian Lake**	**15.56**	**179**	PN		**Pn**	**17 20 36.8**	**-7.5**
ILKN				SN		Sn	17 23 15.4	-21
WAGN	**Wager Bay**	**15.61**	**137**	PN		**Pn**	**17 20 36.0**	**-9.1**
GALN	**Gameti Lake**	**15.67**	**183**	PN		**Pn**	**17 20 37.8**	**-8.1**
GALN				SN		**Sn**	**17 23 19.8**	**-19**
GALN				Trac			17 23 23.5	
	comp=Z,45nm,0.6s							
NUNN	**Nunuq Camp, NU**	**16.06**	**141**	PN		**Pn**	**17 20 40.9**	**-10**
NUNN				SN		**Sn**	**17 23 32.5**	**-16**
YBKN	**Baker Lake, Hu**	**16.42**	**149**	PN		**Pn**	**17 20 45.5**	**-10**
YBKN				SN		Sn	17 23 35.8	-22
EGAK	**Eagle**	**16.57**	**220**	*e*P		**Pn**	**17 20 53.1**	**-4.3**
	comp=Z,19nm,0.8s							
COKN	**Cook Lake**	**16.64**	**169**	PN		**Pn**	**17 20 50.5**	**-7.7**
DAWY	**Dawson**	**17.07**	**217**	*e*P		**Pn**	**17 20 58.5**	**-5.2**
DAWY	**Dawson**	**17.07**	**217**	PN		**Pn**	**17 20 58.2**	**-5.5**
DAWY				SN		**Sn**	**17 23 53.4**	**-20**
DAWY				Trac			17 24 05.0	
	comp=Z,9.1nm,0.4s							
YKW3	**Yellowknife Ar**	**17.23**	**178**	PN		**Pn**	**17 20 58.6**	**-7.1**
YKW3				SN		Sn	17 23 54.1	-23
YKW3				Trac			17 23 59.0	
	comp=Z,38nm,0.6s							
YKA	**Yellowknife Ar**	**17.30**	**178**	Pn		**Pn**	**17 20 59.4**	**-7.1**
	comp=Z,9.3nm,0.3s,baz=356,slow=12,SNR=110							
YKA				Sn		**Sn**	**17 23 58.3**	**-20**
	comp=Z,5.0nm,0.3s,baz=72,slow=0.4,SNR=10							
YKA				LR		LR	17 27 48.3	
	comp=Z,21nm,19.3s,baz=120,slow=37							
YKA	**Yellowknife Ar**	**17.30**	**178**	Pn		**Pn**	**17 20 59.4**	**-7.1**
YKA				Sn		**Sn**	**17 23 58.3**	**-20**
YKA				LR		LR	17 27 48.3	
YKA	**Yellowknife Ar**	**17.30**	**178**	P		**Pn**	**17 20 59.4**	**-7.1**
ILAR	**Eielson Array**	**17.30**	**228**	Pn		**Pn**	**17 21 04.5**	**-2.1**
	comp=Z,1.5nm,0.3s,baz=15,slow=11,SNR=131							
ILAR				Sn		**Sn**	**17 24 05.7**	**-13**
	comp=Z,0.4nm,0.3s,baz=10,slow=16,SNR=5.6							
ILAR				LR		LR	17 28 54.8	
	comp=Z,193nm,18.9s,baz=149,slow=41							
ILAR	**Eielson Array**	**17.30**	**228**	Pn		**Pn**	**17 21 04.5**	**-2.1**
ILAR				Sn		**Sn**	**17 24 05.7**	**-13**
ILAR				LR		LR	17 28 54.8	
ILAR	**Eielson Array**	**17.30**	**228**	P		**Pn**	**17 21 04.5**	**-2.1**
COLA	**College**	**17.33**	**230**	*e*P		**Pn**	**17 21 05.6**	**-1.4**
	comp=Z,13nm,0.6s							
COLA	**College**	**17.33**	**230**	*e*P		**Pn**	**17 21 05.6**	**-1.4**
COLA				pmax		pmax		
	comp=Z,13nm,0.6s							
WHFN	**White Fish Lak**	**17.41**	**167**	PN		**Pn**	**17 21 00.8**	**-7.1**
WHFN				SN		**Sn**	**17 24 02.4**	**-19**
DAG	**Danmarks Havn**	**17.80**	**48**	*e*P		**Pn**	**17 21 16.1**	**+3.4**
DAG	**Danmarks Havn**	**17.80**	**48**	*i* P		**Pn**	**17 21 16.1**	**+3.4**
	comp=Z,10nm,0.8s							
SEDN	**First Sedna Si**	**17.95**	**142**	PN		**Pn**	**17 21 07.2**	**-7.5**
SEDN				SN		Sn	17 24 10.2	-24
JOSN	**Second Sedna S**	**18.00**	**143**	PN		**Pn**	**17 21 07.5**	**-7.7**
JOSN				SN		Sn	17 24 14.6	-21
DOT	**Dot Lake**	**18.01**	**223**	*e*P		**Pn**	**17 21 14.6**	**-0.8**
	comp=Z,114nm,1.1s							
SUMG	**Summit**	**18.21**	**70**	*e*P		**Pn**	**17 21 13.1**	**-4.6**
	comp=Z,65nm,0.8s							
SUMG	**Summit**	**18.21**	**70**	*e*P		**Pn**	**17 21 13.1**	**-4.7**
SUMG				pmax		pmax		
	comp=Z,65nm,0.8s							
SUMG	**Summit**	**18.21**	**70**	*i* P		**Pn**	**17 21 13.2**	**-4.6**
	comp=Z,50nm,0.8s							
SUMG				*i*			17 24 20.9	
MCK	**McKinley**	**18.57**	**230**	*e*P		**Pn**	**17 21 20.7**	**-1.5**
	comp=Z,32nm,0.9s							
MCK	**McKinley**	**18.57**	**230**	*e*P		**Pn**	**17 21 20.7**	**-1.5**
MCK				pmax		pmax		
	comp=Z,31nm,0.9s							
MENT	**Mentasta**	**18.66**	**222**	*e*P		**Pn**	**17 21 22.8**	**-0.5**
PAX	**Paxson**	**18.84**	**225**	*e*P		**Pn**	**17 21 25.4**	**-0.1**
	comp=Z,26nm,1.0s							
PAX	**Paxson**	**18.84**	**225**	*e*P		**Pn**	**17 21 25.4**	**-0.1**
PAX				pmax		pmax		
	comp=Z,26nm,1.0s							
TRF	**Thorofare Moun**	**19.03**	**231**	*e*P		**Pn**	**17 21 27.9**	**+0.1**
	comp=Z,53nm,1.2s							
ARVN	**Arviat, NU**	**19.78**	**148**	PN		**Pn**	**17 21 30.0**	**-6.7**
ARVN				SN		Sn	17 24 51.4	-27
PPLA	**Purkeypile**	**19.83**	**233**	*e*P		**Pn**	**17 21 36.1**	**-1.2**
	comp=Z,72nm,1.3s							
WHY	**Whitehorse**	**19.98**	**208**	PN		**Pn**	**17 21 36.1**	**-2.9**
SML	**Sawmill**	**20.34**	**227**	*e*P		**P**	**17 21 41.2**	**-0.1**
	comp=Z,30nm,1.3s							
SML	**Sawmill**	**20.34**	**227**	*e*P		**P**	**17 21 41.2**	**-0.1**
SML				pmax		pmax		
	comp=Z,30nm,1.3s							
SPITS	**Spitsbergen Ar**	**20.34**	**26**	P		**P**	**17 21 42.4**	**+1.1**
	comp=Z,4.6nm,0.6s,baz=61,slow=12,SNR=6.0							
SPITS				LR		LR	17 29 03.9	
	comp=Z,267nm,18.1s,MS3.6,baz=45,slow=35							
SPITS	**Spitsbergen Ar**	**20.34**	**26**	P		**P**	**17 21 42.4**	**+1.1**
SPITS				LR		LR	17 29 03.9	
SPITS	**Spitsbergen Ar**	**20.34**	**26**	P		**P**	**17 21 42.4**	**+1.2**
PMR	**Palmer**	**20.65**	**228**	*e*P		**P**	**17 21 45.2**	**+0.5**
	comp=Z,16nm,0.9s							
PMR	**Palmer**	**20.65**	**228**	*e*P		**P**	**17 21 45.2**	**+0.5**
PMR				pmax		pmax		
	comp=Z,16nm,0.9s							
DIV	**Divide**	**20.66**	**224**	*e*P		**P**	**17 21 44.3**	**-0.5**

	comp=Z,14nm,0.7s							
FRB	**Frobisher Bay**	**20.70**	**113**	P		**P**	**17 21 42.8**	**-2.4**
	comp=Z,28nm,0.6s,baz=341,slow=11,SNR=10							
FRB				LR		LR	17 30 21.1	
	comp=Z,459nm,21.1s,MS3.8,baz=314,slow=39							
FRB	**Frobisher Bay**	**20.70**	**113**	P		**P**	**17 21 42.8**	**-2.4**
FRB				LR		LR	17 30 21.1	
FRB	**Frobisher Bay**	**20.70**	**113**	P		**P**	**17 21 42.8**	**-2.4**
FRB	**Frobisher Bay**	**20.70**	**113**	PN		**P**	**17 21 42.3**	**-2.9**
FRB				SN		**S**	**17 25 17.4**	**-18**
SFJD	**Kangerlussuaq**	**20.89**	**90**	*i* P		**P**	**17 21 46.2**	**-1.0**
SFJD				pmax		pmax		
	comp=Z,15nm,0.8s							
FNBB	**Fort Nelson**	**21.03**	**191**	PN		**P**	**17 21 46.5**	**-2.2**
DLBC	**Dease Lake**	**21.82**	**200**	P		**P**	**17 21 56.7**	**-0.6**
	comp=Z,20nm,1.2s,mb4.5,baz=8.0,slow=8.8,SNR=7.0							
DLBC				LR		LR	17 31 42.5	
	comp=Z,232nm,18.3s,MS3.6,baz=344,slow=40							
DLBC	**Dease Lake**	**21.82**	**200**	*e*P		**P**	**17 21 57.4**	**+0.1**
SLKM	**Skilak Lake**	**21.84**	**229**	*e*P		**P**	**17 21 57.7**	**+0.2**
SLKM	**Skilak Lake**	**21.84**	**229**	*e*P		**P**	**17 21 57.7**	**+0.2**
AKVQ	**Akulivik**	**21.98**	**127**	PN		**P**	**17 21 59.8**	**+0.9**
SVW2	**Sparrevohn**	**22.04**	**236**	*e*P		**P**	**17 22 00.5**	**+0.9**
	comp=Z,46nm,1.2s,mb4.8							
FCC	**Fort Churchill**	**22.07**	**149**	*e*P		**P**	**17 21 56.3**	**-3.6**
	comp=Z,2.8nm,0.5s,mb4.0							
FCC	**Fort Churchill**	**22.07**	**149**	*e*P		**P**	**17 21 56.3**	**-3.6**
FCC				pmax		pmax		
	comp=Z,3.0nm,0.5s,mb4.0							
FCC	**Fort Churchill**	**22.07**	**149**	PN		**P**	**17 21 56.1**	**-3.9**
FCC				SN		**S**	**17 25 48.5**	**-14**
SEW	**Seward**	**22.13**	**228**	*e*P		**P**	**17 22 00.4**	**-0.1**
	comp=Z,46nm,1.0s,mb4.9							
BILL	**Bilibino**	**22.26**	**284**	*e*P		**P**	**17 22 01.6**	**-0.3**
	comp=Z,84nm,1.3s,mb5.0							
BILL	**Bilibino**	**22.26**	**284**	*c i*P		**P**	**17 22 02.1**	**+0.2**
BILL				*e*			17 22 22.6	
BILL				*e*S		**S**	**17 26 08.1**	**+1.7**
BILL				pmax		pmax		
	comp=Z,109nm,1.6s,mb5.0							
BILL				MLR		MLR		
	comp=Z,400nm,17.0s,MS3.9							
KDAK	**Kodiak Island**	**24.80**	**230**	P		**P**	**17 22 27.7**	**+0.7**
	comp=Z,24nm,0.5s,mb5.0,baz=27,slow=6.7,SNR=58							
KDAK				PcP		PcP	17 26 02.4	-0.3
	comp=Z,3.1nm,0.7s,baz=302,slow=10,SNR=4.3							
KDAK	**Kodiak Island**	**24.80**	**230**	*e*P		**P**	**17 22 27.2**	**+0.2**
	comp=Z,19nm,0.5s,mb4.9							
KDAK	**Kodiak Island**	**24.80**	**230**	P		**P**	**17 22 27.7**	**+0.7**
KDAK							17 26 02.4	
KDAK				pmax		pmax		
	comp=Z,24nm,0.5s,mb5.0							
KDAK				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb3.9							
OHAK	**Old Harbor**	**25.44**	**231**	*e*P		**P**	**17 22 33.1**	**+0.3**
	comp=Z,35nm,0.6s,mb5.1							
FFC	**Flin Flon**	**25.49**	**161**	*e*P		**P**	**17 22 30.0**	**-3.2**
	comp=Z,21nm,0.4s,mb5.0							
FFC	**Flin Flon**	**25.49**	**161**	*e*P		**P**	**17 22 30.0**	**-3.2**
FFC				pmax		pmax		
	comp=Z,21nm,0.4s,mb5.0							
FFC	**Flin Flon**	**25.49**	**161**	PN		**P**	**17 22 30.0**	**-3

baz=32,SNR=9.8
C19A Slack Wire Ran 32.18 172 ⇓P P 17 23 31.8 -1.0
baz=32
C17A Wharram Farm, 32.24 174 ⇓P P 17 23 32.6 -0.7
baz=32,SNR=7.4
C23A Lambert 32.24 167 ⇓P P 17 23 33.0 -0.4
baz=32,SNR=17
C22A Vida 32.27 168 ⇑P P 17 23 32.1 -1.5
baz=32
AGMN Agassiz Nation 32.30 155 eP P 17 23 32.0 -1.9
comp=Z,11nm,0.8s,mb4.8
SWMT Swartz Lake 32.32 178 eP P 17 23 34.5 +0.4
comp=Z,4.0nm,0.8s,mb4.3
GNW Green Mountain 32.36 189 eP P 17 23 32.7 -1.7
comp=Z,6.4nm,1.0s,mb4.4
OD2 Odessa Site #2 32.45 184 eP P 17 23 34.4 -0.8
comp=Z,34nm,1.3s,mb5.0
SLMT Seeley Lake 32.59 177 eP P 17 23 36.7 +0.3
comp=Z,14nm,0.9s,mb4.9
D18A Linhart Farms, 32.70 173 ⇓P P 17 23 36.4 -0.9
baz=33
D17A Six Diamond Ra 32.72 174 ⇓P P 17 23 37.2 -0.4
baz=33
D13A Huson 32.73 178 ⇓P P 17 23 38.0 +0.3
baz=33,SNR=6.0
D14A Greenough 32.75 177 ⇓P P 17 23 38.3 +0.5
baz=33,SNR=10.0
D19A Cripps Ranch, 32.75 171 ⇓P P 17 23 37.4 -0.5
baz=33,SNR=7.9
D12A Red Ives Fores 32.77 180 ⇑P P 17 23 37.6 -0.4
baz=33
D15A Lincoln 32.80 176 ⇑P P 17 23 38.1 -0.2
baz=33
D16A Dana Ranch, Ca 32.83 175 ⇑P P 17 23 38.3 -0.2
baz=33
D20A Manuel Ranch, 32.84 170 ⇓P P 17 23 38.0 -0.7
baz=33,SNR=8.3
D22A Cohagen 32.85 168 ⇓P P 17 23 38.1 -0.7
baz=33
D23A Lindsay 32.87 167 ⇓P P 17 23 38.2 -0.7
baz=33
D21A La Casta Ranch 32.91 169 ⇑P P 17 23 38.7 -0.6
baz=33
CHMT Chamberlain Mo 32.92 177 eP P 17 23 38.9 -0.5
comp=Z,8.9nm,0.9s,mb4.7
D24A Glendive 32.96 166 ⇓P P 17 23 39.4 -0.3
baz=33
MSO Missoula 33.00 178 ⇓P P 17 23 40.6 +0.6
baz=33
MSO Missoula 33.00 178 eP P 17 23 39.8 -0.3
comp=Z,6.0nm,1.0s,mb4.5
EYMN Ely 33.01 150 eP P 17 23 38.9 -1.3
comp=Z,8.0nm,0.8s,mb4.7
HRY Holter Researc 33.14 175 eP P 17 23 40.4 -0.9
comp=Z,8.2nm,0.7s,mb4.8
LON Longmire 33.15 188 eP P 17 23 40.8 -0.5
comp=Z,9.3nm,0.7s,mb4.8
LON Longmire 33.15 188 eP P 17 23 40.8 -0.5
LON pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
E07A Sunnyside 33.30 185 ⇓P P 17 23 42.5 -0.1
baz=33
LAO LASA Array 33.31 168 ⇓P P 17 23 42.5 -0.3
baz=33
LAO LASA Array 33.31 168 eP P 17 23 42.9 +0.2
comp=Z,27nm,0.9s,mb5.2
E09A Wood Farm, Sta 33.32 183 ⇓P P 17 23 42.3 -0.5
baz=33,SNR=8.5
E16A East Helena 33.32 175 ⇑P P 17 23 42.4 -0.4
baz=33
E18A Harlowton 33.32 173 ⇑P P 17 23 43.3 +0.4
baz=33
E08A Dider Farm, El 33.35 184 ⇓P P 17 23 42.1 -1.0
baz=33
E13A Victor 33.38 178 ⇓P P 17 23 43.2 -0.2
baz=33
E03A Lebam 33.40 190 ⇓P P 17 23 43.5 0.0
baz=33
E17A Martinsdale 33.41 174 ⇑P P 17 23 43.5 -0.1
baz=33
E12A Beaver Dam Sad 33.41 180 ⇓P P 17 23 43.6 0.0
baz=33,SNR=21
E14A Clinton 33.41 177 ⇑P P 17 23 44.1 +0.4
baz=33,SNR=7.6
E15A Deer Lodge 33.42 176 ⇑P P 17 23 43.6 -0.1
baz=33
E23A Ismay 33.54 167 ⇑P P 17 23 44.2 -0.5
baz=33
E22A Miles City 33.57 168 ⇑P P 17 23 43.8 -1.2
baz=33
YAK Yakutsk 33.68 309 eP P 17 23 44.3 -1.5
YAK pmax pmax
comp=Z,12nm,1.4s,mb4.6
F17A Fitzpatrick Pl 33.97 174 ⇓P P 17 23 48.1 -0.3
baz=34
F18A Big Timber 33.99 172 ⇓P P 17 23 48.4 -0.3
baz=34
F15A Butte 34.00 176 ⇓P P 17 23 49.1 +0.3
baz=34
F14A Wisdom 34.02 177 ⇓P P 17 23 48.4 -0.6
baz=34
LRM Limekiln Ridge 34.02 176 eP P 17 23 48.9 0.0
comp=Z,83nm,1.3s,mb5.5
F13A Darby 34.04 178 ⇓P P 17 23 48.4 -0.7
baz=34
F19A Roth Farm, Mol 34.06 172 ⇑P P 17 23 48.8 -0.4
baz=34
F12A Elk City 34.07 179 ⇑P P 17 23 49.4 +0.1
baz=34,SNR=13
F16A Kennard Place, 34.07 175 ⇑P P 17 23 49.2 -0.2
baz=34,SNR=10.0
GCMT Greycliff 34.10 172 eP P 17 23 49.5 -0.2
comp=Z,15nm,0.6s,mb5.1
F20A Billings 34.13 171 ⇑P P 17 23 49.3 -0.6
baz=34
BOZ Bozeman (W) 34.21 175 ⇑P P 17 23 50.5 0.0
baz=34
F22A Rosebud 34.22 168 ⇑P P 17 23 50.6 0.0
baz=34
F24A Ekalaka 34.23 166 ⇑P P 17 23 50.8 +0.1
baz=34
G08A Pilot Rock 34.55 184 ⇓P P 17 23 53.4 -0.1
baz=34
G18A Lazy EL Ranch, 34.58 172 ⇑P P 17 23 53.4 -0.4
baz=34
G14A Jackson 34.59 177 ⇑P P 17 23 54.4 +0.5
baz=34,SNR=5.9
G16A Moss Hill, Enn 34.62 175 ⇓P P 17 23 54.3 +0.2
baz=34,SNR=8.8
G06A Carlson Farm, 34.63 186 ⇓P P 17 23 54.9 +0.7
baz=34
G15A Dillon 34.68 176 ⇑P P 17 23 54.6 0.0
baz=34
G12A Big Creek, Yel 34.69 180 ⇑P P 17 23 55.2 +0.4
baz=35
G20A Bridger 34.71 171 ⇓P P 17 23 53.7 -1.2
baz=35
G13A Cobalt 34.73 178 ⇓P P 17 23 55.2 +0.1
baz=35,SNR=8.5
RLMT Red Lodge 34.78 172 ⇓P P 17 23 54.9 -0.6
baz=35
RLMT Red Lodge 34.78 172 eP P 17 23 57.0 +1.5
comp=Z,6.2nm,0.9s,mb4.5
MCMT McKenzie Canyo 35.01 176 eP P 17 23 57.7 +0.2
comp=Z,3.2nm,0.9s,mb4.2
QLMT Earthquake Lak 35.03 175 eP P 17 23 58.5 +0.9
comp=Z,1.6nm,1.0s,mb3.9
FX1 Attu Island--F 35.14 265 LR LR 17 40 05.2
comp=Z,49nm,18.1s,MS3.3,baz=283,slow=39
H16A Russell Place, 35.16 174 ⇑P P 17 23 59.3 +0.6
baz=35,SNR=11
H14A Leadore 35.22 177 ⇓P P 17 23 60.0 +0.7
baz=35
H18A Shoshone NF, C 35.22 172 ⇑P P 17 23 59.2 0.0
baz=35
H04A Detroit Lake 35.22 188 ⇓P P 17 23 58.4 -0.9
baz=35
H15A Lima 35.22 176 ⇓P P 17 23 59.9 +0.6
baz=35,SNR=7.0
H13A Challis 35.26 178 ⇓P P 17 23 59.6 -0.1
baz=35,SNR=6.1
H12A Diamond D Ranc 35.27 179 ⇑P P 17 23 59.8 0.0
baz=35,SNR=8.7
LKWY Lake 35.31 173 eP P 17 24 01.4 +1.2
comp=Z,12nm,0.7s,mb4.9
LKWY Lake 35.31 173 eP P 17 24 01.4 +1.3
LKWY pmax pmax
comp=Z,12nm,0.7s,mb4.9
H24A Dirks Ranch, A 35.32 166 ⇑P P 17 23 59.5 -0.7
baz=35,SNR=8.1
H21A Big Horn, Sher 35.34 169 ⇑P P 17 23 59.7 -0.6
baz=35
H20A Greybull 35.45 170 ⇓P P 17 24 00.7 -0.6
baz=35
H17A Grant Village 35.48 174 ⇑P P 17 24 02.2 +0.6
baz=35,SNR=8.0
SPMN St. Paul 35.60 152 ⇓P P 17 24 01.8 -0.8
baz=35
I07A Izee 35.77 185 ⇓P P 17 24 04.9 +0.9
baz=36,SNR=8.4
FLWY Flagg Ranch 35.79 174 eP P 17 24 05.7 +1.5
comp=Z,19nm,0.8s,mb5.1
I19A Meeteetse 35.87 172 ⇓P P 17 24 04.9 -0.1
baz=36
I14A Mackay 35.90 177 ⇓P P 17 24 06.1 +0.9
baz=36,SNR=15
I13A Wildhorse Cree 35.91 178 ⇓P P 17 24 06.1 +0.8
baz=36,SNR=21
I17A Pilgrim Ck. 35.95 174 ⇑P P 17 24 07.0 +1.4
baz=36,SNR=7.6
RSSD Black Hills 35.96 166 eP P 17 24 05.8 +0.1
comp=Z,18nm,0.7s,mb5.1
RSSD Black Hills 35.96 166 eP P 17 24 05.8 +0.1
RSSD pmax pmax
comp=Z,18nm,0.7s,mb5.1
IMW Indian Meadow 35.97 174 eP P 17 24 06.9 +1.1
comp=Z,15nm,0.9s,mb4.9
I16A Newdale 35.98 175 ⇑P P 17 24 07.0 +1.1
baz=36,SNR=12
I20A Worland 35.98 171 ⇓P P 17 24 05.7 -0.2
baz=36
I12A Atlanta 36.03 179 ⇑P P 17 24 05.6 -0.7
baz=36,SNR=6.8
I22A 9 Mile Ranch, 36.09 169 ⇑P P 17 24 06.6 -0.2
baz=36,SNR=6.8
MOOW Moose Ponds 36.12 174 eP P 17 24 08.0 +0.9
comp=Z,7.4nm,0.8s,mb4.7
I21A Big Trails, Te 36.15 170 ⇑P P 17 24 07.8 +0.5
baz=36,SNR=6.5
I18A Diamond G Ranc 36.19 173 ⇓P P 17 24 07.7 +0.1
baz=36
NB2 NORSAR Subarra 36.23 41 P P 17 24 07.6 -0.2
comp=Z,8.1nm,0.9s,mb4.7,baz=344,slow=9.3
NOA NORSAR Array B 36.23 41 P P 17 24 07.9 +0.1
comp=Z,1.7nm,0.7s,mb4.1,baz=342,slow=8.5,SNR=5.9
NOA PcP PcP 17 26 32.2 -0.3
comp=Z,1.3nm,0.8s,baz=135,slow=22,SNR=3.3
NOA LR LR 17 39 17.3
comp=Z,92nm,18.4s,MS3.6,baz=0.0,slow=37
NOA NORSAR Array B 36.23 41 P P 17 24 07.9 +0.1
NOA PcP PcP 17 26 32.2 -0.3
NOA LR LR 17 39 17.3
NOA NORSAR Array B 36.23 41 P P 17 24 07.9 +0.1
NOA 17 26 32.2
LOHW Long Hollow 36.26 174 eP P 17 24 09.0 +0.8
comp=Z,13nm,1.0s,mb4.8
HLID Hailey 36.26 178 ⇓P P 17 24 08.7 +0.4
baz=36
HLID Hailey 36.26 178 eP P 17 24 08.1 -0.2
comp=Z,3.1nm,0.8s,mb4.3
JOF Joensuu 36.35 25 eP P 17 24 08.1 -0.7
JOF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
JOF Joensuu 36.35 25 ep P 17 24 08.1 -0.7
comp=Z,5.1nm,0.7s,mb4.6
TPAW Teton Pass 36.38 174 eP P 17 24 10.3 +1.1
comp=Z,17nm,1.1s,mb4.9
MFID Camas Ranch 36.41 180 ⇑P P 17 24 10.0 +0.5
baz=36
J13A Cove Ranch, Pi 36.43 178 ⇓P P 17 24 10.5 +0.9
baz=36
J15A Blackfoot 36.44 176 ⇓P P 17 24 10.1 +0.3
baz=36
J08A Circle Bar Ran 36.48 183 ⇓P P 17 24 11.4 +1.3
baz=36
REDW Red Top Meadow 36.51 174 eP P 17 24 10.7 +0.3
comp=Z,11nm,1.1s,mb4.6
J17A Brown Place, J 36.51 174 ⇓P P 17 24 10.7 +0.4
baz=36
J14A Carey 36.51 177 ⇓P P 17 24 10.4 +0.1
baz=36
RRI2 Red Ridge 36.51 175 eP P 17 24 11.5 +1.1
comp=Z,6.0nm,0.7s,mb4.5
J22A Midwest 36.57 169 ⇑P P 17 24 10.4 -0.5
baz=36
J16A Bone 36.58 175 ⇑P P 17 24 11.6 +0.6
baz=36,SNR=5.9
J20A Shoshoni 36.58 171 ⇓P P 17 24 11.3 +0.3
baz=36,SNR=13
J21A Lysite 36.61 170 ⇓P P 17 24 10.5 -0.7
baz=36
J19A Crowheart 36.64 172 ⇑P P 17 24 11.1 -0.4
baz=36
J18A Kendall Valley 36.67 173 ⇓P P 17 24 11.7 -0.1
baz=36,SNR=12
J24A Dixon Ranch, L 36.73 166 ⇑P P 17 24 11.4 -0.8
baz=37
KAF Kangasniemi 36.73 29 eP P 17 24 11.5 -0.6
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
KAF Kangasniemi 36.73 29 ep P 17 24 11.5 -0.6
comp=Z,2.0nm,0.5s,mb4.2
ECSD EROS Data Cent 36.78 157 eP P 17 24 11.7 -1.0
comp=Z,14nm,1.0s,mb4.7
K16A Soda Springs 37.02 175 ⇑P P 17 24 14.5 -0.2
baz=37
K19A Absolon Red Bu 37.09 172 ⇑P P 17 24 14.9 -0.4
baz=37,SNR=7.4
K17A Gardner Place, 37.12 174 ⇑P P 17 24 15.7 +0.2
baz=37
PD02 Pinedale Array 37.12 172 eP P 17 24 15.2 -0.3
PD01 Pinedale Array 37.12 173 eP P 17 24 15.0 -0.6
BW06 Boulder Array 37.13 172 ⇓P P 17 24 15.2 -0.4
baz=37,SNR=6.5
PDAR Pinedale Array 37.13 172 P P 17 24 15.6 -0.1
comp=Z,4.2nm,0.7s,mb4.4,baz=17,slow=5.9,SNR=28
PDAR LR LR 17 40 28.1
comp=Z,269nm,19.0s,MS4.1,baz=5.1,slow=38
PDAR Pinedale Array 37.13 172 P P 17 24 15.6 -0.1
PDAR LR LR 17 40 28.1
K05A Summer Lake 37.15 186 ⇓P P 17 24 17.2 +1.4
baz=37,SNR=6.3
K15A Arbon 37.16 176 ⇑P P 17 24 16.1 +0.2
baz=37
K18A Toltan Ranch, 37.25 173 ⇑P P 17 24 17.1 +0.5
baz=37,SNR=8.1
K20A Yellowstone Ra 37.27 171 ⇓P P 17 24 16.0 -0.8
baz=37
K14A Jones Ranch, D 37.29 177 ⇓P P 17 24 17.2 +0.2
baz=37
HUMO Hull Mountain 37.31 189 eP P 17 24 16.4 -0.8
comp=Z,8.8nm,1.1s,mb4.5
K21A Alcova 37.33 170 ⇓P P 17 24 16.5 -0.8
baz=37
K24A Anderson Ranch 37.33 167 ⇑P P 17 24 16.5 -0.8
baz=37
K22A Casper 37.33 169 ⇓P P 17 24 16.5 -0.9
baz=37,SNR=7.7
FINES FINESS Array B 37.38 29 P P 17 24 17.6 0.0
comp=Z,11nm,0.7s,mb4.8,baz=353,slow=9.6,SNR=28
FINES PcP PcP 17 26 35.2 -0.8
comp=Z,2.6nm,0.5s,baz=355,slow=3.3,SNR=7.1
FINES LR LR 17 39 58.2
comp=Z,142nm,18.8s,MS3.8,baz=134,slow=37
FINES FINESS Array B 37.38 29 P P 17 24 17.6 0.0
FINES PcP PcP 17 26 35.2 -0.8
FINES LR LR 17 39 58.2
FINES FINESS Array B 37.38 29 P P 17 24 17.6 +0.1
FINES 17 26 35.3
WVOR Wild Horse Val 37.40 184 eP P 17 24 18.4 +0.4
comp=Z,9.2nm,1.0s,mb4.6
WVOR Wild Horse Val 37.40 184 eP P 17 24 18.4 +0.4
WVOR pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
K26A Motz Farm, Whi 37.42 165 ⇑P P 17 24 17.6 -0.6
baz=37
K25A Mack Ranch, Ha 37.48 166 ⇓P P 17 24 17.9 -0.7
baz=37
SADO Sadowa 37.50 136 LR LR 17 39 42.3
comp=Z,202nm,19.0s,MS3.9,baz=173,slow=36
PET Petropavlovsk 37.61 279 eP P 17 24 20.8 +1.2
PET e 17 26 02.7
PET eS S 17 30 06.8 -1.8
PET pmax pmax
comp=Z,100nm,12.2s
PETK Petropavlovsk- 37.70 280 P P 17 24 20.3 -0.1
comp=Z,0.9nm,0.6s,mb3.7,baz=274,slow=28,SNR=5.2
PETK LR LR 17 41 27.0
comp=Z,193nm,18.3s,MS3.9,baz=19,slow=39
PETK Petropavlovsk- 37.70 280 P P 17 24 20.3 -0.1
PETK LR LR 17 41 27.0
PETK Petropavlovsk- 37.70 280 P P 17 24 20.3 0.0
L17A Cokeville 37.77 174 ⇑P P 17 24 20.9 -0.1
baz=38,SNR=7.0
L19A Farson 37.80 172 ⇑P P 17 24 20.5 -0.8
baz=38
L14A Malta 37.80 177 ⇑P P 17 24 22.2 +0.9
baz=38,SNR=6.5
L15A Malad City 37.84 176 ⇓P P 17 24 21.7 0.0
baz=38,SNR=5.4
L16A Fish Haven 37.84 175 ⇑P P 17 24 21.6 -0.1
baz=38
L23A Garrett 37.90 168 ⇓P P 17 24 21.2 -1.0
baz=38
L20A Wamsutter 37.92 171 ⇓P P 17 24 21.8 -0.6
baz=38
L22A Ellis Ranch, M 37.95 169 ⇓P P 17 24 22.1 -0.5
baz=38
MOD Modoc 37.96 186 eP P 17 24 21.7 -1.0
comp=Z,12nm,1.2s,mb4.5
L21A Rawlins 37.99 170 ⇑P P 17 24 22.4 -0.5
baz=38
HWUT Hardware Ranch 38.25 175 eP P 17 24 25.1 0.0
comp=Z,6.4nm,0.4s,mb4.7
M21A Separation Pea 38.35 170 ⇑P P 17 24 25.3 -0.6
baz=38,SNR=10.0
M15A Larsen Ranch, 38.38 176 ⇓P P 17 24 25.7 -0.5
baz=38
M17A Scullys Gap (B 38.40 174 ⇑P P 17 24 26.0 -0.3
baz=38,SNR=5.5
M19A Rock Springs 38.40 172 ⇑P P 17 24 25.9 -0.5
baz=38
M20A Sweetwater, Wa 38.44 171 ⇓P P 17 24 26.2 -0.5
baz=38
M16A Huntsville 38.54 175 ⇓P P 17 24 27.9 +0.3
baz=38,SNR=9.2
M22A Cedar Creek Ra 38.58 169 ⇓P P 17 24 27.7 -0.1
baz=38
BGU Big Grassy Mou 38.91 177 eP P 17 24 30.6 0.0
comp=Z,8.8nm,1.2s,mb4.4
N18A Larsen Ranch, 38.91 173 ⇓P P 17 24 30.3 -0.4
baz=39
NCB Newcomb 38.93 130 eP P 17 24 29.9 -0.9
comp=Z,13nm,0.6s,mb4.8
KLMR Klimovskoe 38.95 19 eP P 17 24 28.5 -2.3
KLMR e 17 26 38.0
KLMR pmax pmax
comp=Z,46nm,1.5s,mb5.0
N15A Stansbury Isla 38.95 176 ⇓P P 17 24 30.7 -0.3
baz=39
N16A Rees Ranch, Co 38.97 175 ⇑P P 17 24 31.4 +0.2
baz=39
BGNE Belgrade 38.99 159 ⇓P P 17 24 30.5 -0.8
baz=39
N20A Spence Gulch, 39.09 171 ⇓P P 17 24 32.0 -0.2
baz=39
N23A Red Feather La 39.11 168 ⇑P P 17 24 31.8 -0.5
baz=39
N22A Wattenberg Ran 39.18 169 ⇑P P 17 24 32.7 -0.3
baz=39
N21A Black Mountain 39.19 170 ⇓P P 17 24 32.7 -0.3
baz=39
OGNE Ogallala 39.23 164 ⇓P P 17 24 32.9 -0.4
baz=39
N25A Grover 39.26 166 ⇑P P 17 24 33.0 -0.6
baz=39
WDC Whiskeytown Da 39.33 188 eP P 17 24 33.2 -1.0
comp=Z,14nm,1.4s,mb4.5
WDC Whiskeytown Da 39.33 188 eP P 17 24 33.2 -1.0
WDC pmax pmax
comp=Z,14nm,1.4s,mb4.5
DAU Daniels Canyon 39.45 175 eP P 17 24 35.6 +0.5
comp=Z,10nm,1.0s,mb4.5
DAU Daniels Canyon 39.45 175 eP P 17 24 35.6 +0.4
DAU pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
O15A The Old Anders 39.56 176 ⇑P P 17 24 36.7 +0.6
baz=39
O19A Miners Draw (B 39.60 172 ⇓P P 17 24 36.7 +0.3
baz=40
DUG Dugway 39.64 177 ⇑P P 17 24 37.3 +0.5
baz=40,SNR=5.4
DUG Dugway 39.64 177 eP P 17 24 37.0 +0.2
comp=Z,7.2nm,1.0s,mb4.4
DUG Dugway 39.64 177 eP P 17 24 37.0 +0.2
DUG pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
O16A Springville 39.65 175 ⇓P P 17 24 37.2 +0.4
baz=40
O17A Robinson Place 39.67 174 ⇑P P 17 24 37.8 +0.7
baz=40
O21A Pagoda 39.73 170 ⇓P P 17 24 37.2 -0.3
baz=40
O20A White River Ci 39.79 171 ⇓P P 17 24 38.1 +0.1
baz=40
O22A Kremmling 39.82 169 ⇑P P 17 24 38.0 -0.2
baz=40,SNR=7.3
MPU Maple Canyon 39.84 175 eP P 17 24 38.9 +0.5
comp=Z,20nm,1.0s,mb4.8
NLU North Lily Min 39.89 176 eP P 17 24 39.3 +0.5
comp=Z,19nm,1.1s,mb4.7
ISCO Idaho Springs 40.21 168 ⇓P P 17 24 41.6 +0.1
baz=40
P14A Drum Mountains 40.24 177 ⇑P P 17 24 42.5 +0.7
baz=40,SNR=9.0
P18A Preston Nutter 40.25 173 ⇓P P 17 24 41.9 +0.1
baz=40
P15A Leamington 40.27 176 ⇓P P 17 24 42.0 0.0
baz=40
P19A Cripple Cowboy 40.27 172 ⇑P P 17 24 42.2 +0.1
baz=40,SNR=25
P20A De Beque 40.42 171 ⇓P P 17 24 42.6 -0.6
baz=40
P21A Newcastle 40.42 170 ⇓P P 17 24 42.9 -0.4
baz=40
WCN Washoe City 40.55 185 ⇓P P 17 24 44.2 -0.1
baz=40
P25A Willow Gulch B 40.55 166 ⇓P P 17 24 43.8 -0.5
baz=40
TMUT Trail Mountain 40.56 175 eP P 17 24 44.8 +0.4
comp=Z,13nm,0.7s,mb4.7
P23A Jefferson 40.63 168 ⇑P P 17 24 44.7 -0.3
baz=40
SRU San Rafael 40.76 174 ⇓P P 17 24 46.2 +0.2
baz=41
SRU San Rafael 40.76 174 eP P 17 24 45.6 -0.4
comp=Z,9.4nm,0.9s,mb4.4
SRU San Rafael 40.76 174 eP P 17 24 45.6 -0.5
SRU pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
Q18A Rafter H Ranch 40.77 173 ⇓P P 17 24 46.0 -0.2
baz=41
SMCO Snowmass 40.78 170 eP P 17 24 44.5 -1.7
comp=Z,8.4nm,1.1s,mb4.3
Q14A Sevier Lake (B 40.84 177 ⇑P P 17 24 47.4 +0.7
baz=41,SNR=7.5
SOKR Solikamsk 40.90 6 eP P 17 24 54.9 +7.9
SOKR pmax pmax
comp=Z,20nm,1.1s,mb4.7
SFIN Scholer Farm 40.93 146 ⇓P P 17 24 46.0 -1.5
baz=41
Q16A Castle Valley 40.94 175 ⇑P P 17 24 48.3 +0.8
baz=41,SNR=11
Q19A Hogan Spring (40.94 172 ⇓P P 17 24 47.1 -0.5
baz=41
Q20A Ridgley Place, 40.97 171 ⇓P P 17 24 47.8 0.0
baz=41
Q24A Divide 41.06 167 ⇓P P 17 24 48.4 -0.2
baz=41
Q23A Hartsel 41.09 168 ⇑P P 17 24 49.5 +0.6
baz=41
Q22A Crested Butte, 41.10 170 ⇓P P 17 24 48.5 -0.4
baz=41
MSU Marysvale 41.33 176 eP P 17 24 51.4 +0.6
comp=Z,7.7nm,1.0s,mb4.3
MSU Marysvale 41.33 176 eP P 17 24 51.4 +0.6
MSU pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
NVAR Mina Array Bea 41.40 183 P P 17 24 52.1 +0.8
comp=Z,6.5nm,1.1s,mb4.2,baz=6.6,slow=5.8,SNR=24
NVAR PcP PcP 17 26 49.6 +0.5
comp=Z,0.7nm,0.5s,baz=60,slow=24,SNR=5.4
NVAR LR LR 17 43 31.8

comp=Z,309nm,18.3s,MS4.2,baz=348,slow=38
NVAR Mina Array Bea 41.40 183 P P 17 24 52.1 +0.8
NVAR PcP PcP 17 26 49.6 +0.5
NVAR LR LR 17 43 31.8
R17A Hanksville Air 41.45 174 ⇓P P 17 24 52.0 +0.3
baz=41
R11A Troy Canyon, C 41.47 180 ⇑P P 17 24 52.2 +0.3
baz=41,SNR=9.4
CBKS Cedar Bluff 41.48 161 ⇓P P 17 24 51.2 -0.8
baz=41
R18A Canyonlands Na 41.49 173 ⇑P P 17 24 51.9 -0.3
baz=41,SNR=16
R16A Teasdale 41.57 175 ⇓P P 17 24 53.3 +0.6
baz=41,SNR=6.4
R21A Cimarron 41.57 170 ⇓P P 17 24 53.2 +0.4
baz=41
R15A Junction 41.63 176 ⇓P P 17 24 54.2 +1.0
baz=42
R13A O'Grain Ranch, 41.64 178 ⇓P P 17 24 54.3 +1.0
baz=42,SNR=8.3
R20A Redvale 41.73 171 ⇑P P 17 24 54.0 0.0
baz=42
PV01 Paradox Valley 41.78 172 *e*P **P 17 24 54.4 -0.1**
comp=Z,1μm,1.0s
R24A Sanders Place, 41.79 167 ⇓P P 17 24 54.5 -0.1
baz=42
R23A Moffat 41.81 168 ⇑P P 17 24 54.3 -0.4
baz=42
R25A Fountain Ranch 41.91 166 ⇓P P 17 24 55.5 0.0
baz=42
ARUT Antelope Range 42.04 177 *e*P **P 17 24 56.9 +0.3**
comp=Z,13nm,1.0s,mb4.5
ARUT Antelope Range 42.04 177 *e*P **P 17 24 56.9 +0.3**
ARUT pmax pmax
comp=Z,13nm,1.0s,mb4.5
S20A Disappointment 42.09 171 ⇑P P 17 24 57.1 +0.1
baz=42
S16A Weppner Ranch, 42.12 175 ⇓P P 17 24 57.8 +0.5
baz=42,SNR=7.1
S19A Harvey Farm, M 42.15 172 ⇓P P 17 24 57.6 +0.2
baz=42,SNR=8.4
S18A Hurst Farm, Bl 42.19 173 ⇓P P 17 24 58.0 +0.2
baz=42,SNR=10
S22A 4UR Ranch, Cre 42.22 169 ⇑P P 17 24 58.5 +0.5
baz=42
S17A Black Ridge (B 42.23 174 ⇑P P 17 24 58.1 0.0
baz=42,SNR=11
SDCO Great Sand Dun 42.26 168 ⇑P P 17 24 58.0 -0.4
baz=42,SNR=8.0
SDCO Great Sand Dun 42.26 168 *e*P **P 17 24 58.5 +0.1**
comp=Z,6.0nm,1.0s,mb4.2
S21A Coal Bank Pass 42.27 171 ⇑P P 17 24 58.2 -0.2
baz=42
S24A Houchin Ranch, 42.38 168 ⇑P P 17 24 59.6 +0.2
baz=42,SNR=9.7
S25A Robets Cordova 42.39 167 ⇑P P 17 24 59.5 +0.1
baz=42,SNR=31
MVCO Mesa Verde 42.70 171 ⇓P P 17 25 02.3 +0.3
baz=43
MVCO Mesa Verde 42.70 171 *e*P **P 17 25 02.2 +0.2**
comp=Z,5.7nm,0.8s,mb4.3
T18A Mexican Hat 42.74 173 ⇑P P 17 25 03.1 +0.8
baz=43
GRAC Grapevine Rang 42.82 182 ⇑P P 17 25 04.8 +1.9
baz=43
T17A Navajo Res., N 42.86 174 ⇓P P 17 25 03.5 +0.2
baz=43,SNR=15
T16A Glen Canyon Da 42.86 175 ⇑P P 17 25 03.9 +0.6
baz=43
T22A Edith 42.94 170 ⇑P P 17 25 04.6 +0.6
baz=43,SNR=7.1
T24A Torres, Weston 42.95 167 ⇓P P 17 25 04.4 +0.4
baz=43,SNR=6.4
T19A Beclabito 43.07 172 ⇓P P 17 25 05.2 +0.2
baz=43
U17A Shonto 43.26 174 ⇓P P 17 25 07.1 +0.6
baz=43
FURC Furnace Creek, 43.35 181 ⇓P P 17 25 09.0 +1.8
baz=43
CWC Cottonwood Cre 43.38 183 ⇑P P 17 25 09.0 +1.5
baz=43,SNR=16
U15A North Rim 43.41 176 ⇓P P 17 25 07.9 +0.2
baz=43,SNR=6.6
U21A Nageezi 43.51 171 ⇑P P 17 25 08.5 0.0
baz=43
U22A Llaves 43.58 170 ⇑P P 17 25 10.0 +0.9
baz=44
U19A Dine' College, 43.60 172 ⇑P P 17 25 09.5 +0.3
baz=44
U25A Circle Dot Ran 43.65 167 ⇑P P 17 25 09.8 +0.2
baz=44
U23A El Rito 43.65 169 ⇑P P 17 25 10.4 +0.8
baz=44
U26A Atchley Ranch, 43.68 166 ⇓P P 17 25 10.1 +0.2
baz=44,SNR=5.0
SVE Sverdlovsk 43.70 3 *e*P **P 17 25 09.8 -0.1**
SVE pmax pmax
comp=Z,27nm,1.8s,mb4.7
U16A Tuba City 43.71 175 ⇓P P 17 25 10.3 +0.2
baz=44,SNR=6.7
MPMC Manual Prospec 43.76 182 ⇑P P 17 25 12.5 +2.0
baz=44,SNR=11
VES Vestal, Richgr 43.99 184 ⇓P P 17 25 13.6 +1.2
baz=44
V15A Kaibab Nationa 44.02 176 ⇑P P 17 25 12.8 +0.2
baz=44,SNR=8.1
ARU Arti 44.08 5 *e*P **P 17 25 13.2 +0.3**
comp=Z,21nm,1.5s,mb4.7
ARU Arti 44.08 5 *e*P **P 17 25 13.2 +0.3**
ARU pmax pmax
comp=Z,21nm,1.5s,mb4.7
V20A Brimhall 44.11 172 ⇑P P 17 25 13.7 +0.4
baz=44,SNR=7.1
V21A Milan 44.13 171 ⇑P P 17 25 14.3 +0.8
baz=44
V18A Ganado 44.16 173 ⇑P P 17 25 14.7 +0.9
baz=44,SNR=9.1
ISA Isabella 44.16 183 ⇑P P 17 25 15.0 +1.2
baz=44,SNR=11
ISA Isabella 44.16 183 *e*P **P 17 25 13.8 0.0**
comp=Z,24nm,1.4s,mb4.7
ISA Isabella 44.16 183 *e*P **P 17 25 13.8 0.0**
ISA pmax pmax
comp=Z,24nm,1.4s,mb4.7
V25A Rancho No Teng 44.20 167 ⇑P P 17 25 14.2 +0.1
baz=44,SNR=15
V23A Ortiz Mt. (NFS 44.23 169 ⇑P P 17 25 14.9 +0.6
baz=44
V17A Tonalea, Kykot 44.23 174 ⇓P P 17 25 15.5 +1.1
baz=44,SNR=19
V26A Tequesquite Ra 44.28 166 ⇑P P 17 25 14.8 +0.1
baz=44
V24A Rampart Ranch, 44.29 168 ⇑P P 17 25 15.3 +0.5
baz=44
WUAZ Wupatki 44.33 175 ⇓P P 17 25 16.0 +0.9
baz=44,SNR=12
WUAZ Wupatki 44.33 175 *e*P **P 17 25 15.7 +0.6**
comp=Z,24nm,0.8s,mb5.0
LRMC Laurel Mountai 44.34 182 ⇓P P 17 25 16.5 +1.3
baz=44,SNR=11
TUQ Turquoise Moun 44.38 180 ⇓P P 17 25 16.5 +1.0
baz=44
MNK Minsk 44.40 30 *e*P **P 17 25 08.0 -7.4**
OBN Obninsk 44.48 22 *d i*P **P 17 25 16.2 +0.1**
OBN *i* 17 25 24.8
OBN *e* 17 26 58.3
OBN *e*S **S 17 32 01.8 +11**
OBN pmax pmax
comp=Z,44nm,1.6s,mb4.9
OBN MLR MLR
comp=Z,100nm,13.0s,MS3.9
GSC Goldstone 44.51 181 ⇓P P 17 25 18.1 +1.5
baz=44,SNR=11
GSC Goldstone 44.51 181 *e*P **P 17 25 17.8 +1.3**
comp=Z,30nm,1.1s,mb5.0
GSC Goldstone 44.51 181 *e*P **P 17 25 17.8 +1.2**
GSC pmax pmax
comp=Z,30nm,1.1s,mb5.0
SMMC Simmler 44.53 185 ⇓P P 17 25 16.9 +0.2
baz=44
TUL1 Tulsa 44.62 157 ⇓P P 17 25 15.8 -1.6
baz=44
W13A Hualapai Mount 44.72 178 ⇓P P 17 25 19.4 +1.1
baz=45,SNR=11
W16A Flagstaff 44.75 175 ⇓P P 17 25 19.7 +1.3
baz=45
W18A Petrified Fore 44.76 173 ⇑P P 17 25 18.8 +0.3
baz=45
W19A Sanders 44.77 173 ⇑P P 17 25 19.0 +0.4
baz=45,SNR=14
W17A Winslow 44.78 174 ⇓P P 17 25 19.6 +0.9
baz=45
W20A Ramah 44.78 172 ⇑P P 17 25 18.2 -0.5
baz=45
W24A Lazy 6 Ranch, 44.79 168 ⇓P P 17 25 18.9 +0.1
baz=45,SNR=6.6
W21A San Fidel 44.81 171 ⇑P P 17 25 19.6 +0.6
baz=45
W23A Werner Place, 44.82 169 ⇓P P 17 25 19.2 +0.2
baz=45,SNR=7.1
W25A X Bar L Ranch, 44.82 167 ⇑P P 17 25 18.6 -0.5
baz=45,SNR=7.1
EDW2 Edwards Air Fo 44.94 183 ⇑P P 17 25 20.8 +0.8
baz=45
PKM Peak Mountain 44.95 185 ⇓P P 17 25 20.9 +0.9
baz=45
HEC Hector,Ludlow 44.98 181 ⇓P P 17 25 22.0 +1.7
baz=45
W26A Owens Ranch, T 44.98 166 ⇓P P 17 25 20.9 +0.6
baz=45,SNR=5.8
ANMO Albuquerque 45.02 169 LR LR 17 45 12.2
comp=Z,370nm,21.6s,MS4.3,baz=158,slow=38
ANMO Albuquerque 45.02 169 *e*P **P 17 25 20.7 +0.1**
comp=Z,9.0nm,1.0s,mb4.5
ANMO Albuquerque 45.02 169 *e*P **P 17 25 20.7 +0.1**
ANMO pmax pmax
comp=Z,9.0nm,1.0s
GMRC Granite Mounta 45.03 180 ⇓P P 17 25 22.0 +1.3
baz=45
W27A Bowe Ranch, En 45.04 165 ⇓P P 17 25 20.0 -0.7
baz=45,SNR=5.4
AMTX Amarillo 45.28 164 ⇑P P 17 25 22.0 -0.7
baz=45
X18A Snowflake 45.34 173 ⇓P P 17 25 24.2 +1.0
baz=45,SNR=6.5
X23A Hourglass Bar 45.39 169 ⇓P P 17 25 23.1 -0.5
baz=45
X16A Lo Mia Camp, P 45.42 175 ⇓P P 17 25 24.8 +1.0
baz=45,SNR=5.4
X27A F and S Farms, 45.45 165 ⇑P P 17 25 23.8 -0.3
baz=45
X19A St. Johns 45.46 173 ⇓P P 17 25 24.5 +0.5
baz=45
X21A Alamocita Cree 45.48 171 ⇓P P 17 25 24.6 +0.4
baz=45,SNR=6.3
PDMCI Parker Dam,Lak 45.51 178 ⇑P P 17 25 25.1 +0.6
baz=45,SNR=6.3
X26A CR and CF Fran 45.52 166 ⇑P P 17 25 24.3 -0.3
baz=45,SNR=7.0
BFSC Mount Baldy Ra 45.58 182 ⇑P P 17 25 26.8 +1.7
baz=46,SNR=12
WMOK Wichita Mounta 45.59 160 *e*P **P 17 25 23.4 -1.8**
comp=Z,9.9nm,0.9s,mb4.7
WMOK Wichita Mounta 45.59 160 *e*P **P 17 25 23.4 -1.7**
WMOK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MWC Mount Wilson 45.59 183 *e*P **P 17 25 26.4 +1.2**
comp=Z,50nm,1.4s,mb5.3
MWC Mount Wilson 45.59 183 *e*P **P 17 25 26.4 +1.2**
MWC pmax pmax
comp=Z,50nm,1.4s,mb5.2
LPM Los Pinos Moun 45.65 169 *e*P **P 17 25 25.9 +0.3**
comp=Z,7.7nm,1.2s,mb4.5
IRM Iron Mountain 45.65 179 ⇓P P 17 25 26.5 +0.9
baz=46,SNR=5.6
BLG Laguna Peak 45.72 184 ⇓P P 17 25 26.8 +0.6
baz=46
KLR Kul'dur 45.77 302 *e*P **P 17 25 21.8 -4.6**
LENM Lemitar 45.78 170 *e*P **P 17 25 27.0 +0.3**
comp=Z,5.1nm,0.8s,mb4.5
BELC Belle Mtn. Jos 45.81 180 ⇓P P 17 25 28.6 +1.7
baz=46,SNR=23
BNM Barren Site 45.81 169 *e*P **P 17 25 27.1 +0.2**
comp=Z,8.8nm,1.1s,mb4.6
Y15A Casa Rosa Ranc 45.88 176 ⇑P P 17 25 28.2 +0.8
baz=46,SNR=8.2
Y14A Wickenburg 45.88 177 ⇓P P 17 25 28.4 +1.0
baz=46,SNR=10
Y21A Point of Rocks 45.92 171 ⇑P P 17 25 28.1 +0.3
baz=46,SNR=12
Y19A Nutrioso 45.93 173 ⇑P P 17 25 28.1 +0.3
baz=46
TKL Tuckaleechee C 45.95 143 P P **17 25 25.5 -2.5**
comp=Z,2.2nm,0.6s,mb4.3,baz=95,slow=4.6,SNR=5.8
TKL LR LR 17 45 41.1
comp=Z,355nm,20.0s,MS4.3,baz=161,slow=37
TKL Tuckaleechee C 45.95 143 P P **17 25 25.5 -2.5**
TKL LR LR 17 45 41.1
TKL Tuckaleechee C 45.95 143 P P **17 25 25.5 -2.5**
Y16A Circle Bar Ran 45.96 175 ⇓P P 17 25 28.7 +0.6
baz=46
CLL Collm 45.97 43 *e*P **P 17 25 28.0 +0.1**
CLL *e* 17 25 35.0
CLL *e* 17 27 04.0
CLL pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
CLL MLR MLR
comp=Z,200nm,19.9s,MS4.1
CLL Collm 45.97 43 *e*P **P 17 25 28.0 +0.1**
comp=Z,10.0nm,1.3s,mb4.6
CLL *e*(sP) sP 17 25 35.0 +2.7
CLL *e*PcP PcP 17 27 04.0 -0.4
CLL *e*PP PP 17 27 12.0 -3.3
CLL *e*S **S 17 32 18.0 +5.8**
CLL LmV 17 45 00.0
comp=Z,200nm,19.9s
Y20A Horse Springs, 46.00 171 ⇑P P 17 25 28.8 +0.5
baz=46,SNR=8.3
Y22A Socorro 46.01 170 ⇑P P 17 25 28.6 +0.2
baz=46,SNR=9.6
BAIF Baives 46.04 51 *e*P **P 17 25 28.7 +0.2**
comp=Z,29nm,0.9s,mb4.9
Y23A Lovelace Mesa, 46.05 169 ⇑P P 17 25 29.0 +0.2
baz=46
Y12C Blythe 46.06 179 ⇓P P 17 25 30.2 +1.4
baz=46
ZAA0 Zalesovo Array 46.07 343 *e*P **P 17 25 28.0 -0.7**
ZALV Zalesovo Beam 46.07 343 P P **17 25 28.1 -0.6**
comp=Z,2.3nm,0.4s,mb4.4,baz=4.4,slow=7.9,SNR=23
ZALV PcP PcP 17 27 04.1 -0.6
comp=Z,1.9nm,0.7s,baz=338,slow=3.9,SNR=3.7
ZALV LR LR 17 45 47.2
comp=Z,420nm,20.0s,MS3.4,baz=71,slow=37
ZALV Zalesovo Beam 46.07 343 P P **17 25 28.1 -0.6**
ZALV PcP PcP 17 27 04.1 -0.6
ZALV LR LR 17 45 47.2
ZALV Zalesovo Beam 46.07 343 P P **17 25 28.1 -0.6**
ZALV 17 27 04.1
Y24A Capitan 46.07 168 ⇓P P 17 25 28.8 -0.2
baz=46,SNR=10
GIVF Givet 46.08 50 *e*P **P 17 25 28.9 +0.1**
comp=Z,24nm,0.8s,mb4.8
Y18A Canyon Day Jun 46.09 173 ⇓P P 17 25 29.5 +0.4
baz=46
Y25A Mesa, Roswell 46.10 167 ⇑P P 17 25 28.9 -0.3
baz=46,SNR=7.3
Y26A Elida 46.14 166 ⇓P P 17 25 29.2 -0.3
baz=46
MIAR Mount Ida 46.14 154 *e*P **P 17 25 27.4 -2.1**
comp=Z,28nm,1.2s,mb5.1
MIAR Mount Ida 46.14 154 *e*P **P 17 25 27.4 -2.1**
MIAR pmax pmax
comp=Z,28nm,1.2s,mb5.1
MSTX Muleshoe 46.14 165 ⇓P P 17 25 29.3 -0.2
baz=46
BC3 Big Chuckawall 46.15 180 ⇑P P 17 25 30.8 +1.2
baz=46,SNR=18
Y17A Roosevelt 46.16 174 ⇓P P 17 25 30.3 +0.7
baz=46,SNR=5.2
PFO Pinyon Flat Ob 46.20 181 ⇑P P 17 25 31.4 +1.5
baz=46
Y27A Causey 46.21 165 ⇑P P 17 25 29.5 -0.5
baz=46,SNR=11
MURC Murrieta 46.21 182 ⇑P P 17 25 30.8 +0.7
baz=46
YSS Yuzh-Sakhalins 46.21 292 *i*P **P 17 25 30.1 +0.2**
YSS pmax pmax
comp=Z,40nm,1.7s,mb5.1
CIS Catalina Islan 46.41 183 ⇑P P 17 25 32.6 +1.0
baz=46,SNR=5.1
Z14A Wintersburg 46.46 177 ⇑P P 17 25 33.1 +1.1
baz=46
BRG Berggiesshubel 46.51 42 *e*(P) **P 17 25 41.2 +8.9**
comp=Z,11nm,1.4s,mb4.6
BRG Berggiesshubel 46.51 42 *e*P **P 17 25 41.2 +9.0**
BRG pmax pmax
comp=Z,11nm,1.4s,mb4.6
OXF Oxford 46.53 150 *e*P **P 17 25 30.7 -1.8**
comp=Z,51nm,0.8s,mb5.5
OXF Oxford 46.53 150 *e*P **P 17 25 30.7 -1.8**
OXF pmax pmax
comp=Z,51nm,0.8s,mb5.5
Z17A San Carlos Hig 46.56 174 ⇓P P 17 25 33.9 +1.1
baz=46
Z19A T-Link Ranch, 46.59 173 ⇓P P 17 25 34.3 +1.3
baz=46
Z13A Yuma Proving G 46.61 178 ⇑P P 17 25 34.4 +1.2
baz=46,SNR=8.2
Z21A St. Cloud Mine 46.62 171 ⇑P P 17 25 33.8 +0.6
baz=46,SNR=8.4
ROSF Rostrenen 46.62 58 *e*P **P 17 25 32.6 -0.5**
comp=Z,22nm,0.7s,mb4.9
FLN La Foliniere 46.63 55 *e*P **P 17 25 32.4 -0.8**
comp=Z,29nm,0.9s,mb4.9
FLN *e*R
comp=Z,212nm,19.2s
Z24A Sheeppen Canyo 46.67 168 ⇓P P 17 25 33.6 -0.1
baz=46,SNR=9.1
Z22A Elephant Butte 46.69 170 ⇓P P 17 25 34.1 +0.3
baz=47,SNR=6.8
Z23A Rita Site, Whi 46.71 169 ⇓P P 17 25 34.1 +0.1
baz=47
KMSC Kings Mountain 46.73 141 ⇑P P 17 25 32.9 -1.3
baz=47
Z25A Roswell 46.74 167 ⇑P P 17 25 33.8 -0.5
baz=47,SNR=11
GLA Glamis 46.76 179 ⇑P P 17 25 35.5 +1.2
baz=47
GLA Glamis 46.76 179 *e*P **P 17 25 35.8 +1.5**
comp=Z,8.5nm,0.8s,mb4.7
GLA Glamis 46.76 179 *e*P **P 17 25 35.8 +1.5**
GLA pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
Z27A Tatum 46.77 166 ⇓P P 17 25 34.5 0.0
baz=47
Z26A Caprock 46.78 166 ⇑P P 17 25 34.1 -0.5
baz=47,SNR=16
Z20A Nine Sixteen R 46.78 172 ⇑P P 17 25 34.7 +0.2
baz=47,SNR=6.8
SGMF Saint Gilles 46.81 57 *e*P **P 17 25 34.0 -0.6**
SCI San Clemente I 46.84 183 ⇓P P 17 25 36.6 +1.6
baz=47
LDF La Druitiere 46.85 55 *e*P **P 17 25 34.0 -0.9**
comp=Z,16nm,0.8s,mb4.7
SWSC Sam W. Stewart 46.86 180 ⇑P P 17 25 36.5 +1.3
baz=47
MONP Monument Peak 46.92 181 ⇑P P 17 25 37.3 +1.7
baz=47,SNR=6.6
NKC Novy Kostel 46.96 44 *e*P **P 17 25 37.3 +1.6**
NKC Novy Kostel 46.96 44 *e*P **P 17 25 37.3 +1.6**
113A Mohawk Valley, 47.04 178 ⇑P P 17 25 37.6 +1.0
baz=47
114A Black Gap (USA 47.07 177 ⇓P P 17 25 37.3 +0.6
baz=47
119A Ashpeak Ranch, 47.11 173 ⇓P P 17 25 37.7 +0.6
baz=47
115A Sonoran Desert 47.13 176 ⇓P P 17 25 38.0 +0.8
baz=47
DVTC Desert V Tower 47.15 180 ⇓P P 17 25 38.7 +1.3
baz=47
118A Homack Ranch, 47.22 173 ⇑P P 17 25 38.6 +0.6
baz=47,SNR=14
116A Eloy 47.27 175 ⇑P P 17 25 39.1 +0.7
baz=47
117A Oracle 47.28 174 ⇓P P 17 25 39.5 +1.0
baz=47,SNR=5.4
124A Stringfield Ra 47.29 168 ⇑P P 17 25 38.4 -0.1
baz=47,SNR=6.8
DPC Dobruska-Polom 47.31 40 *e*P **P 17 25 38.6 +0.2**
DPC Dobruska-Polom 47.31 40 *e*P **P 17 25 38.6 +0.2**
120A U Bar Ranch, L 47.35 172 ⇑P P 17 25 39.1 +0.1
baz=47
125A Gardner Draw, 47.37 167 ⇓P P 17 25 39.0 -0.1
baz=47,SNR=6.6
121A Cookes Peak, D 47.38 171 ⇑P P 17 25 39.4 +0.1
baz=47,SNR=7.1
127A Arkansas Junct 47.40 166 ⇑P P 17 25 38.7 -0.6
baz=47
126A Clayton Basin, 47.40 167 ⇓P P 17 25 38.6 -0.8
baz=47
BRVK Borovoye 47.45 355 *e*P **P 17 25 38.6 -0.9**
comp=Z,3.7nm,0.8s,mb4.4
BRVK Borovoye 47.45 355 *d i*P **P 17 25 40.3 +0.8**
BRVK pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
PRU Pruhonice 47.45 42 *e*P **P 17 25 40.3 +0.7**
PRU Pruhonice 47.45 42 *e*P **P 17 25 40.3 +0.7**
BVA0 Borovoye Array 47.48 355 *i*P **P 17 25 38.7 -1.1**
BVA0 pmax pmax
comp=Z,4.0nm,1.7s,mb4.1
TUC Tucson 47.54 174 *e*P **P 17 25 40.9 +0.4**
comp=Z,3.1nm,0.8s,mb4.4
TUC Tucson 47.54 174 *e*P **P 17 25 40.9 +0.5**
TUC pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
JSC Jenkinsville 47.59 141 *e*P **P 17 25 39.4 -1.4**
JSC Jenkinsville 47.59 141 *e*P **P 17 25 39.4 -1.4**
PAGF Fort de Pagny 47.72 50 *e*P **P 17 25 42.3 +0.6**
comp=Z,13nm,1.2s,mb4.5
CLNB Carlsbad 47.79 166 *e*P **P 17 25 41.8 -0.6**
comp=Z,1.7nm,0.5s,mb4.3
222A Williams Famil 47.83 170 ⇓P P 17 25 42.6 -0.1
baz=48
216A Three Points, 47.83 175 ⇓P P 17 25 43.7 +1.0
baz=48
219A White Tail Can 47.88 173 ⇓P P 17 25 43.6 +0.5
baz=48,SNR=18
221A Mesquite Ranch 47.91 171 ⇑P P 17 25 43.9 +0.6
baz=48
225A Deer Hill, Car 47.91 168 ⇓P P 17 25 43.2 -0.1
baz=48,SNR=11
224A Cornudas Mount 47.91 168 ⇑P P 17 25 43.2 -0.2
baz=48,SNR=7.3
SFTF Sexfontaines 47.97 51 *e*P **P 17 25 43.7 +0.1**
226A Malaga, Loving 47.98 167 ⇑P P 17 25 43.3 -0.6
baz=48
220A Playas Peak, P 47.99 172 ⇑P P 17 25 44.2 +0.3
baz=48,SNR=7.7
MORC Moravsky Berou 48.01 39 ⇓ *i*P **P 17 25 44.4 +0.5**
227A Bennet, Jal 48.07 166 ⇑P P 17 25 44.3 -0.3
baz=48
217A Green Valley 48.07 174 ⇓P P 17 25 44.8 +0.2
baz=48
CDF Champ du Feu 48.07 49 *e*P **P 17 25 44.8 +0.4**
comp=Z,49nm,1.5s,mb5.0
KHC Kasperske Hory 48.18 43 *e*P **P 17 25 53.5 +8.3**
ZAK Zakamensk 48.23 327 *e*P **P 17 25 43.9 -1.7**
ZAK *e* 17 27 09.4
ZAK pmax pmax
comp=Z,3.0nm,1.4s,mb4.1
AKASG Malin Array Be 48.28 29 P **P 17 25 45.3 -0.7**
comp=Z,3.9nm,0.6s,mb4.7,baz=352,slow=8.2,SNR=11
AKASG PcP PcP 17 27 11.8 -0.8
comp=Z,1.7nm,0.4s,baz=350,slow=3.5,SNR=6.6
AKASG Malin Array Be 48.28 29 P **P 17 25 45.3 -0.7**
AKASG PcP PcP 17 27 11.8 -0.8
AKASG Malin Array Be 48.28 29 P **P 17 25 45.3 -0.7**
AKASG 17 27 11.8
HAU Haudompre 48.34 50 *e*P **P 17 25 46.9 +0.4**
comp=Z,36nm,1.1s,mb5.0
HAU *e*R
comp=Z,147nm,18.5s
VRAC Vranov 48.37 40 LR LR 17 46 21.5
comp=Z,74nm,18.7s,MS3.7,baz=108,slow=36
318A Bisbee 48.42 173 ⇑P P 17 25 47.8 +0.5
baz=48,SNR=8.4
GERES GERESS Array B 48.48 43 P **P 17 25 48.2 +0.7**
comp=Z,0.2nm,0.3s,mb3.6,baz=354,slow=5.9,SNR=5.1
GERES PcP PcP 17 27 12.8 -0.5
comp=Z,0.4nm,0.6s,baz=10,slow=6.0,SNR=2.6
GERES LR LR 17 47 49.8
comp=Z,153nm,19.0s,MS4.0,baz=342,slow=38
GERES GERESS Array B 48.48 43 P **P 17 25 48.2 +0.7**
GERES PcP PcP 17 27 12.8 -0.5
GERES LR LR 17 47 49.8
GERES GERESS Array B 48.48 43 P **P 17 25 48.2 +0.7**
GERES 17 27 12.8
VSR Storozhevoye 48.53 21 *e*P **P 17 25 46.6 -1.3**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8

VSR pmax pmax
comp=E,2.0nm,0.4s
HYF Humbligny 48.54 53 *e*P **P 17 25 48.3 +0.3**
324A Moseley Ranch, 48.55 168 ⇑P **P 17 25 47.4 -0.8**
baz=48,SNR=7.3
HINF Hinteralfeld 48.60 49 *e*P **P 17 25 48.7 +0.2**
comp=E,15nm,0.9s,mb4.7
325A Bean Ranch, Si 48.64 168 ⇓P **P 17 25 47.9 -1.1**
baz=48
328A Wristen Ranch, 48.72 165 ⇓P **P 17 25 48.6 -1.0**
baz=49
LOR Lormes 48.72 52 *e*P **P 17 25 49.5 +0.1**
comp=E,46nm,1.0s,mb5.1
LOR *e*R
comp=E,159nm,17.8s
326A Caldwell Ranch 48.73 167 ⇑P **P 17 25 48.4 -1.3**
baz=49
MFF Saint Martin d 48.79 56 *e*P **P 17 25 49.9 0.0**
comp=E,49nm,1.1s,mb5.2
VRHR Novokhopersk 48.80 19 *e*P **P 17 25 48.6 -1.4**
VRHR pmax pmax
comp=N,7.0nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.7s
VRHR pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
SSF Saint Saulge 48.87 52 *e*P **P 17 25 50.6 0.0**
comp=Z,33nm,1.0s,mb5.0
AVF Avril sur Loir 49.11 53 *e*P **P 17 25 52.5 +0.1**
comp=Z,29nm,0.8s,mb5.0
425A Indio Mountain 49.22 168 ⇑P **P 17 25 52.9 -0.6**
baz=49
427A Hayter Ranch, 49.22 166 ⇓P **P 17 25 52.9 -0.5**
baz=49,SNR=8.9
BGF Bois d'Agland 49.27 53 *e*P **P 17 25 53.5 -0.1**
comp=Z,49nm,0.9s,mb5.2
SMF Signal de Mont 49.33 52 *e*P **P 17 25 54.0 0.0**
comp=Z,26nm,0.9s,mb5.0
426A McDonald Obser 49.37 167 ⇑P **P 17 25 53.6 -0.9**
baz=49,SNR=16
428A Kincaid Ranch, 49.37 165 ⇑P **P 17 25 54.1 -0.5**
baz=49,SNR=6.3
VYHS Vyhne 49.42 39 *e*P **P 17 25 54.4 -0.4**
VYHS pmax pmax
comp=Z,4.0nm,1.4s,mb4.3
VYHS Vyhne 49.42 39 *e*P **P 17 25 54.4 -0.4**
TCF Toulx Ste Croi 49.44 54 *e*P **P 17 25 54.7 -0.2**
comp=Z,23nm,0.8s,mb5.0
KURK Kurchatov 49.58 348 P **P 17 25 55.3 -0.6**
comp=Z,1.2nm,0.3s,mb4.4,baz=6.0,slow=7.5,SNR=13
KURK PcP PcP 17 27 16.4 -0.9
comp=Z,1.2nm,0.3s,baz=352,slow=3.3,SNR=8.3
KURK Kurchatov 49.58 348 P **P 17 25 55.3 -0.6**
KURK PcP PcP 17 27 16.4 -0.9
KURK Kurchatov 49.58 348 P **P 17 25 55.3 -0.6**
KURK 17 27 16.4
CABF La Chapelle 49.67 50 *e*P **P 17 25 57.2 +0.5**
comp=Z,29nm,0.9s,mb5.0
527A Woodward Ranch 49.91 166 ⇓P **P 17 25 58.2 -0.5**
baz=50
528A Cox Ranch, San 49.93 165 ⇓P **P 17 25 58.3 -0.5**
baz=50,SNR=10.0
526A Mary Lane Ranc 49.98 167 ⇓P **P 17 25 58.6 -0.6**
baz=50,SNR=38
DAVOX Davos/Dischmat 50.02 47 PcP PcP 17 27 19.7 +0.7
comp=Z,1.2nm,0.6s,baz=338,slow=11,SNR=1.8
DAVOX LR LR 17 45 52.8
comp=Z,99nm,20.5s,MS3.8,baz=121,slow=34
AKTO Aktyubinsk 50.08 5 LR LR 17 49 27.3
comp=Z,60nm,18.6s,MS3.6,baz=188,slow=39
AKTO Aktyubinsk 50.08 5 P **P 17 25 59.8 +0.1**
AKTO pmax pmax
comp=Z,2.0nm,1.3s,mb4.0
TRPA Tarpa 50.19 35 ⇑*i*P **P 17 26 01.5 +0.9**
RJF Les Rejaudoux 50.30 55 *e*P **P 17 26 01.0 -0.5**
comp=Z,17nm,0.9s,mb4.8
RJF *e*R
comp=Z,212nm,21.0s
ULN Ulaanbaatar 50.34 324 *e*P **P 17 26 01.5 -0.2**
comp=Z,13nm,1.1s,mb4.9
ULN Ulaanbaatar 50.34 324 *e*P **P 17 26 01.5 -0.2**
ULN pmax pmax
comp=Z,13nm,1.1s,mb4.9
SONM Songino Array 50.44 324 P **P 17 26 03.1 +0.6**
comp=Z,5.1nm,0.7s,mb4.7,baz=4.7,slow=7.0,SNR=41
SONM PcP PcP 17 27 21.4 +0.8
comp=Z,1.9nm,0.9s,baz=354,slow=1.8,SNR=4.0
SONM LR LR 17 48 13.1
comp=Z,179nm,19.6s,MS4.1,baz=6.5,slow=37
SONM Songino Array 50.44 324 P **P 17 26 03.1 +0.6**
SONM PcP PcP 17 27 21.4 +0.8
SONM LR LR 17 48 13.1
SONM Songino Array 50.44 324 P **P 17 26 03.1 +0.6**
SONM 17 27 21.4
626A Big Bend Ranch 50.48 167 ⇑P **P 17 26 02.2 -0.8**
baz=50,SNR=6.2
MDJ Mudanjiang 50.59 303 P **P 17 26 01.9 -1.8**
MDJ ScP ScP 17 31 17.8 +1.1
MDJ pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
MDJ pmax pmax
comp=Z,160nm,5.0s
MDJ LR LR
comp=N,70nm,21.2s
627A Terlingua Ranc 50.61 166 ⇑P **P 17 26 03.1 -0.9**
baz=50,SNR=12
TXAR Lajitas Array 50.72 166 P **P 17 26 04.0 -0.9**
comp=N,2.8nm,0.8s,mb4.2,baz=2.0,slow=6.2,SNR=28
TXAR LR LR 17 48 52.1
comp=N,333nm,18.9s,MS4.4,baz=0.0,slow=38
TXAR Lajitas Array 50.72 166 P **P 17 26 04.0 -0.9**
TXAR LR LR 17 48 52.1
TXAR Lajitas Array 50.72 166 P **P 17 26 04.0 -0.8**
CAF Calviac 50.75 54 *e*P **P 17 26 04.8 -0.1**
comp=N,11nm,0.8s,mb4.5
LPL La Plagne 50.84 50 *e*P **P 17 26 07.0 +1.5**
comp=N,5.5nm,0.8s,mb4.2
LPG La Plagne 50.86 50 *e*P **P 17 26 07.3 +1.6**
comp=N,39nm,1.2s,mb4.9
BUR08 Bucovina Ar. S 50.94 33 *e*P **P 17 26 06.7 +0.5**
ERM Erimo 50.95 290 ⇑*e*P **P 17 26 06.4 0.0**
ERM pmax pmax
comp=Z,50nm,1.0s,mb5.4
BURAR Bucovina Array 50.97 33 ⇓P **P 17 26 06.9 +0.4**
BURAR Bucovina Array 50.97 33 ⇓*i*P **P 17 26 06.9 +0.4**
VIVF Saint-Julien-l 51.20 52 *e*P **P 17 26 08.7 +0.5**
AB31 Akbulak array 51.28 4 *i*P **P 17 26 08.9 +0.1**
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
ABKAR Akbulak array 51.28 4 *e*P **P 17 26 08.3 -0.5**
comp=Z,3.1nm,0.8s,mb4.3
MBDF Montbardon 51.62 50 *e*P **P 17 26 12.7 +1.3**
comp=Z,18nm,1.0s,mb4.7
LASF Ste Croix 51.84 53 *e*P **P 17 26 13.7 +0.6**
KIS Kishinev 51.92 30 *e*P **P 17 26 16.0 +2.4**
CN2 Changchun 52.00 306 *e*P **P 17 26 13.3 -1.0**
SJPF Ste Jean 52.03 58 *e*P **P 17 26 13.9 -0.6**
PGAV Gavieira, Arco 52.05 64 *e*LQ 17 40 11.8
PGAV *e*LR LR 17 43 29.6
comp=Z,181nm,20.0s
PCAB Cabril 52.33 64 *e*P **P 17 26 24.0 +7.2**
comp=Z,19nm,1.3s,mb4.9
ETSF Etsaut 52.34 57 *e*P **P 17 26 17.6 +0.8**
comp=Z,11nm,0.8s,mb4.5
EPF Esparros 52.35 56 *e*P **P 17 26 16.7 -0.2**
comp=Z,14nm,1.1s,mb4.5
PBRG Braganca 52.45 63 *e*LR LR 17 43 45.0
comp=Z,450nm,20.0s
SBF Sospel 52.55 50 *e*P **P 17 26 19.5 +1.1**
comp=Z,35nm,0.9s,mb5.0
BZS Buzias 52.57 37 ⇓P **P 17 26 19.1 +0.6**
BZS Buzias 52.57 37 ⇓*i*P **P 17 26 19.1 +0.6**
POLO Lamas de Olo 52.70 64 *e*P **P 17 26 26.9 +7.4**
comp=Z,7.3nm,1.7s,mb4.3
POLO Lamas de Olo 52.70 64 *e*LQ 17 39 42.2
POLO *e*LR LR 17 43 30.6
comp=Z,106nm,22.0s
FRF La Foret Royal 52.74 50 *e*P **P 17 26 20.1 +0.3**
comp=Z,17nm,0.9s,mb4.7
PLOR Plostina 52.85 32 ⇑P **P 17 26 21.2 +0.6**
PLOR Plostina 52.85 32 ⇑*i*P **P 17 26 21.2 +0.6**
GZR Gura Zlata 52.92 36 ⇓P **P 17 26 21.0 0.0**
GZR Gura Zlata 52.92 36 ⇓*i*P **P 17 26 21.0 0.0**
LMR La Mourre 52.95 51 *e*P **P 17 26 21.8 +0.5**
MVO Moncorvo 53.03 64 *e*P **P 17 26 22.0 +0.1**
comp=Z,19nm,1.2s,mb4.9
MVO Moncorvo 53.03 64 *e*LR LR 17 44 26.0
comp=Z,345nm,20.0s
VOIR 53.11 34 ⇓P sP 17 26 35.1 +8.3
VOIR 53.11 34 ⇓*i*P **P 17 26 35.0 +13**
MLR Muntele Rosu 53.14 33 ⇑P **P 17 26 23.8 +1.1**
MLR Muntele Rosu 53.14 33 ⇑*i*P **P 17 26 23.8 +1.1**
MK31 Makanchi Array 53.34 345 *e*P **P 17 26 23.0 -1.1**
MK31 Makanchi Array 53.34 345 *i*P **P 17 26 23.1 -1.0**
MK31 pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
MKAR Makanchi Array 53.34 345 P **P 17 26 23.0 -1.2**
comp=Z,4.8nm,0.7s,mb4.5,baz=2.0,slow=6.3,SNR=31
MKAR PcP PcP 17 27 30.5 -0.9
comp=Z,1.7nm,0.8s,baz=6.2,slow=4.1,SNR=2.2
MKAR LR LR 17 51 25.8
comp=Z,73nm,19.4s,MS3.7,baz=91,slow=39
MKAR Makanchi Array 53.34 345 P **P 17 26 23.0 -1.2**
MKAR PcP PcP 17 27 30.5 -0.9
MKAR LR LR 17 51 25.8
MKAR Makanchi Array 53.34 345 P **P 17 26 23.0 -1.1**
MKAR 17 27 30.5
MTE Manteigas 53.69 64 *e*LQ 17 38 31.9
MTE *e*LR LR 17 43 50.5
comp=Z,169nm,20.0s
PGF Pioggiola 54.06 49 *e*P **P 17 26 30.6 +1.2**
PCBR Castelo Branco 54.25 64 *e*P **P 17 26 31.1 +0.2**
comp=Z,21nm,1.8s,mb4.8
PMRV Marv??o 54.66 64 *e*LQ 17 40 18.6
PMRV *e*LR LR 17 42 43.0
comp=Z,127nm,18.0s
PMAFR Mafra 54.82 66 *e*LR LR 17 44 13.6
comp=Z,174nm,18.0s
ESDC Sonseca Array 54.97 61 P **P 17 26 36.3 +0.1**
comp=Z,1.0nm,0.5s,mb4.1,baz=350,slow=7.8,SNR=16
ESDC LR LR 17 50 42.2
comp=Z,345nm,18.4s,MS4.5,baz=335,slow=37
ESDC Sonseca Array 54.97 61 P **P 17 26 36.3 +0.1**
ESDC LR LR 17 50 42.1
PAB San Pablo 55.04 61 *e*P **P 17 26 36.7 +0.1**
comp=Z,24nm,1.6s,mb5.0
PAB San Pablo 55.04 61 *e*P **P 17 26 36.7 +0.1**
PAB pmax pmax
comp=Z,24nm,1.6s,mb5.0
PESTR Estremoz 55.18 65 *e*LQ 17 39 49.6
PESTR *e*LR LR 17 44 25.3
comp=Z,148nm,16.0s
EVO Evora 55.44 65 ⇑*i*P **P 17 26 38.9 -0.6**
comp=Z,11nm,0.8s,mb4.6
EVO *e*R
comp=Z,216nm,18.2s
PNCL Nicolau / Gran 55.76 66 *e*P **P 17 26 41.4 -0.4**
comp=Z,26nm,1.6s,mb5.0
PNCL Nicolau / Gran 55.76 66 *e*LR LR 17 44 37.4
comp=Z,184nm,18.0s
PBAR Barrancos 55.95 64 *e*P **P 17 26 43.5 +0.4**
comp=Z,25nm,1.4s,mb5.0
PBAR Barrancos 55.95 64 *e*LR LR 17 43 22.9
comp=Z,138nm,22.0s
KIV Kislovodsk 55.98 19 *e*P **P 17 26 44.4 +1.1**
KIV *e* 17 27 41.8
KIV *e*S **S 17 34 33.6 +2.7**
KIV pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
KIV MLR MLR
comp=Z,102nm,16.0s,MS4.0
WMQ Urumqi 56.01 340 P **P 17 26 44.3 +0.8**
WMQ pP pP 17 26 48.8 +2.1
WMQ sP sP 17 26 51.3 +3.4
WMQ pmax pmax
comp=Z,16nm,0.7s,mb5.2
WMQ pmax pmax
comp=Z,150nm,4.3s
WMQ LR LR
comp=N,710nm,33.4s
WMQ LR LR
comp=E,160nm,39.0s
WMQ LR LR
comp=Z,720nm,31.0s,MS4.6
MORF Marmelete 56.53 66 *e*P **P 17 26 48.2 +0.9**
comp=Z,41nm,1.4s,mb5.3
MORF Marmelete 56.53 66 *e*LR LR 17 46 14.0
comp=Z,190nm,22.0s
PVAQ Vaqueiros 56.59 65 *e*LR LR 17 44 51.2
comp=Z,173nm,18.0s
PFVI Vila Bisbo 56.67 66 *e*LR LR 17 46 08.4
comp=Z,158nm,18.0s
PBDV Barranco-do-Ve 56.71 65 A 17 27 04.3
comp=Z,56nm,1.6s
PBDV Barranco-do-Ve 56.71 65 *e*LR LR 17 45 19.1
comp=Z,216nm,20.0s
HHC Hu-ho-hao-te 56.75 318 *e*P **P 17 26 49.0 +0.2**
HHC sP sP 17 26 55.6 +2.3
HHC PcP PcP 17 27 44.6 0.0
HHC PP PP 17 28 56.9 +2.3
HHC PcS PcS 17 31 44.6 -0.7
HHC S **S 17 34 38.3 -2.9**
HHC ScS ScS 17 36 33.6 -4.0
HHC pmax pmax
comp=Z,17nm,0.7s,mb5.2
HHC pmax pmax
comp=Z,140nm,4.4s
HHC LR LR
comp=N,240nm,16.6s,MS4.6
HHC LR LR
comp=E,320nm,16.6s,MS4.6
HHC LR LR
comp=Z,200nm,15.5s,MS4.3
BJI Beijing 56.97 314 P **P 17 26 48.9 -1.5**
BJI PP PP 17 28 56.4 -0.2
BJI S **S 17 34 43.8 -0.3**
BJI SS SS 17 38 30.9 -0.8
BJI pmax pmax
comp=Z,12nm,0.9s,mb4.9
BJI pmax pmax
comp=Z,98nm,6.3s
BJI LR LR
comp=N,400nm,17.5s,MS4.6
BJI LR LR
comp=E,190nm,18.2s,MS4.6
BJI LR LR
comp=Z,180nm,17.5s,MS4.2
MJAR Matsushiro Arr 57.11 293 P **P 17 26 50.9 -0.6**
comp=Z,2.6nm,0.6s,mb4.5,baz=56,slow=6.7,SNR=11
MJAR LR LR 17 54 59.0
comp=Z,110nm,19.3s,MS4.0,baz=135,slow=40
MJAR Matsushiro Arr 57.11 293 P **P 17 26 50.9 -0.6**
MJAR LR LR 17 54 59.0
MJAR Matsushiro Arr 57.11 293 P **P 17 26 50.9 -0.6**
ZEI Tsey 57.23 18 *e*P **P 17 26 52.0 -0.2**
ZEI pmax pmax
comp=Z,16nm,1.5s,mb4.8
KKAR Karatay Array 57.41 355 *e*P **P 17 26 53.4 -0.1**
comp=Z,1.7nm,0.5s,mb4.3
KKAR Karatay Array 57.41 355 *e*P **P 17 26 53.4 -0.1**
KKAR pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
TKM2 Tokmak 2 57.47 350 *e*P **P 17 26 54.4 +0.5**
comp=Z,14nm,1.4s,mb4.8
TKM2 Tokmak 2 57.47 350 *e*P **P 17 26 54.4 +0.5**
TKM2 pmax pmax
comp=Z,14nm,1.4s,mb4.8
FRU Bishkek 57.59 351 *e*P **P 17 26 56.0 +1.3**
FRU *e* 17 27 05.0
AAK Ala-Archa 57.79 351 *e*P **P 17 26 56.1 -0.1**
comp=Z,48nm,1.4s,mb5.3
AAK Ala-Archa 57.79 351 *e*P **P 17 26 56.1 0.0**
AAK pmax pmax
comp=Z,48nm,1.4s,mb5.3
KSRS Korea Array 57.86 303 P **P 17 26 55.6 -1.0**
comp=Z,2.4nm,0.6s,mb4.4,baz=5.0,slow=7.0,SNR=7.9
KSRS LR LR 17 53 33.0
comp=Z,120nm,18.4s,MS4.0,baz=190,slow=38
KSRS Korea Array 57.86 303 P **P 17 26 55.7 -1.0**
KSRS pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
KSRS MLR MLR
comp=Z,120nm,18.4s,MS4.0
KSAR Wonju Array Be 57.87 303 P **P 17 26 55.6 -1.2**
KSAR LR LR 17 53 33.0
KSAR Wonju Array Be 57.87 303 P **P 17 26 55.7 -1.1**
GTA Gaotai 59.44 328 *e*P **P 17 27 08.1 +0.4**
GTA pP pP 17 27 12.3 +1.4
GTA sP sP 17 27 16.1 +4.0
GTA pmax pmax
comp=Z,17nm,1.2s,mb5.0
BR131 Keskin Array S 59.56 27 *e*P **P 17 27 08.9 +0.4**
comp=Z,0.5nm,0.4s,mb3.9
BRTR Keskin Array B 59.56 27 P **P 17 27 09.1 +0.6**
comp=Z,1.9nm,0.8s,mb4.2,baz=347,slow=5.1,SNR=8.9
BRTR PcP PcP 17 27 55.6 -0.1
comp=Z,3.1nm,0.9s,baz=339,slow=2.6,SNR=5.1
BRTR Keskin Array B 59.56 27 P **P 17 27 09.1 +0.6**
BRTR PcP PcP 17 27 55.6 -0.1
BRTR Keskin Array B 59.56 27 P **P 17 27 09.1 +0.6**
BRTR 17 27 55.7
GNI Garni 59.89 17 P **P 17 27 12.6 +1.8**
comp=Z,0.9nm,0.3s,mb4.3,baz=332,slow=14,SNR=3.8
GNI LR LR 17 56 55.4
comp=Z,67nm,18.2s,MS3.8,baz=187,slow=40
GNI Garni 59.89 17 P **P 17 27 12.6 +1.8**
GNI LR LR 17 56 55.4
GNI Garni 59.89 17 *c*P **P 17 27 12.2 +1.4**
GNI pmax pmax
comp=Z,6.0nm,1.7s
TEIG Tepich 60.78 150 LR LR 17 55 00.2
comp=Z,118nm,18.4s,MS4.1,baz=315,slow=38
KEST Kesra 60.81 50 P **P 17 27 18.1 +0.9**
comp=Z,4.1nm,0.9s,mb4.5,baz=343,slow=2.5,SNR=6.9
KEST Kesra 60.81 50 *e*P **P 17 27 17.5 +0.4**
KSH Kashi 60.85 350 P **P 17 27 20.6 +3.2**
KSH pP pP 17 27 25.3 +4.7
KSH sP sP 17 27 27.6 +5.8
KSH PcP PcP 17 28 03.6 +2.7
KSH PP PP 17 29 37.1 +6.2
KSH ScP ScP 17 32 03.1 +1.3
KSH PcS PcS 17 32 04.9 +1.4
KSH S **S 17 35 36.9 +2.4**
KSH ScS ScS 17 37 07.5 -0.4
KSH SS SS 17 39 37.8 +5.2
KSH pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
KSH LR LR
comp=N,51nm,5.8s
KSH LR LR
comp=E,88nm,5.2s
KSH LR LR
comp=Z,97nm,4.9s
MDT Midelt 61.58 63 P **P 17 27 22.7 +0.4**
comp=Z,1.3nm,0.9s,mb4.1,baz=357,slow=9.1,SNR=4.9
MDT LR LR 17 53 49.7
comp=Z,86nm,19.8s,MS3.9,baz=350,slow=36
MDT Midelt 61.58 63 P **P 17 27 22.7 +0.4**
MDT LR LR 17 53 49.7
LZH Lanzhou 62.33 324 *e*P **P 17 27 27.6 +0.2**
LZH pP pP 17 27 31.9 +1.3
LZH sP sP 17 27 34.6 +2.8
LZH pmax pmax
comp=Z,28nm,1.3s,mb5.2
LZH pmax pmax
comp=Z,98nm,4.3s
LZH LR LR
comp=N,430nm,15.6s
LZH LR LR
comp=E,150nm,5.4s
LZH LR LR
comp=Z,460nm,17.3s,MS4.7
CMIG Matias Romero 63.37 158 P **P 17 27 32.2 -2.2**
comp=Z,2.3nm,0.7s,mb4.4,baz=324,slow=8.7,SNR=2.4
CMIG LR LR 17 55 01.7
comp=Z,84nm,20.0s,MS3.9,baz=4.0,slow=36
CMIG Matias Romero 63.37 158 P **P 17 27 32.2 -2.3**
CMIG LR LR 17 55 01.7
XAN Xi'an 63.79 319 P **P 17 27 36.5 -0.6**
XAN pP pP 17 27 42.3 +2.0
XAN pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
XAN LR LR
comp=N,180nm,15.5s
XAN LR LR
comp=Z,67nm,12.9s,MS4.0
NJ2 Nanjing 64.48 310 *e*P **P 17 27 38.5 -3.1**
NJ2 pmax pmax
comp=Z,20nm,1.0s,mb5.1
SJG San Juan 65.48 127 LR LR 17 53 31.2
comp=Z,125nm,21.4s,MS4.1,baz=88,slow=33
CBIJ Chichi jima 65.67 287 P **P 17 27 48.5 -1.0**
comp=Z,40nm,0.7s,mb5.5,baz=283,slow=14,SNR=3.7
CBIJ LR LR 17 57 52.4
comp=Z,40nm,20.1s,MS3.6,baz=280,slow=37
KBL Kabul 65.98 356 *e*P **P 17 27 51.0 -0.4**
comp=Z,2.9nm,0.7s,mb4.4
KBL Kabul 65.98 356 *e*P **P 17 27 51.0 -0.3**
KBL pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
WHN Wuhan 66.56 314 ⇓P **P 17 27 54.3 -0.8**
WHN pmax pmax
comp=Z,23nm,0.6s,mb5.4
ASF Jabal al Asfar 67.31 25 LR LR 18 00 06.2
comp=Z,48nm,19.7s,MS3.7,baz=253,slow=38
ENH Enshi 67.44 318 *e*P **P 17 27 59.8 -0.9**
comp=Z,5.9nm,0.6s,mb4.8
CD2 Chengdu 67.46 324 P **P 17 28 01.5 +0.7**
CD2 pP pP 17 28 06.3 +2.2
CD2 sP sP 17 28 07.5 +2.2
CD2 S S 17 36 54.8 -1.7
CD2 SS SS 17 41 15.5 -0.3
CD2 pmax pmax
comp=Z,20nm,0.5s,mb5.4
CD2 pmax pmax
comp=Z,90nm,4.0s
CD2 LR LR
comp=N,220nm,5.9s
CD2 LR LR
comp=Z,240nm,7.1s
JOW Kunigami 68.22 300 LR LR 18 02 18.6
comp=Z,131nm,18.0s,MS4.2,baz=308,slow=40
EIL Elat 69.64 27 P **P 17 28 14.8 +0.3**
comp=Z,5.5nm,0.6s,mb4.6,baz=348,slow=7.1,SNR=6.6
EIL LR LR 18 04 31.0
comp=Z,44nm,18.6s,MS3.7,baz=280,slow=41
EIL Elat 69.64 27 P **P 17 28 14.8 +0.3**
EIL LR LR 18 04 31.0
LSA Lhasa 69.81 335 P **P 17 28 16.4 +0.9**
LSA Lhasa 69.81 335 *e*P **P 17 28 16.9 +1.4**
comp=Z,19nm,1.1s,mb4.9
LSA Lhasa 69.81 335 *e*P **P 17 28 16.9 +1.4**
LSA pmax pmax
comp=Z,19nm,1.1s,mb4.9
MIB Mutribah 70.32 16 *e*P **P 17 28 18.6 0.0**
MIB AMb AMB 17 28 19.9
comp=Z,57nm,1.1s,mb5.4
NAY Al-Naaiem 70.87 16 *e*P **P 17 28 21.6 -0.4**
NAY AMb AMB 17 28 22.2
comp=Z,11nm,0.9s,mb4.8
KBD Kabd 70.96 15 *e*P **P 17 28 22.4 -0.1**
KBD AMb AMB 17 28 23.5
comp=Z,24nm,0.4s,mb5.5
QRN Al-Qurain 71.40 15 *e*P **P 17 28 25.2 0.0**
QRN AMb AMB 17 28 30.3
comp=Z,45nm,1.0s,mb5.4
GYA Guiyang 71.54 320 P **P 17 28 26.3 +0.2**
GYA PP PP 17 31 05.8 +1.5
GYA S S 17 37 43.0 -1.6
GYA SKS 17 38 25.5
GYA SS SS 17 42 20.3 +1.6
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
GYA pmax pmax
comp=Z,30nm,3.7s
GYA LR LR
comp=N,510nm,32.3s
GYA LR LR
comp=E,510nm,37.5s
GYA LR LR
comp=Z,720nm,35.3s,MS4.7
DANN Dangsing 71.64 342 *e*P **P 17 28 26.9 +0.3**
comp=Z,112nm,0.7s
PYUN Piuthan 71.93 343 *e*P **P 17 28 27.8 -0.6**
comp=Z,57nm,1.1s,mb5.4
GKN Gorkha 71.93 341 *e*P **P 17 28 28.2 -0.2**
comp=Z,74nm,0.8s,mb5.7
GUN Gumba 71.95 340 *e*P **P 17 28 29.2 +0.7**
comp=Z,140nm,1.0s
KKN Kakani 72.10 341 *e*P **P 17 28 29.8 +0.3**
comp=Z,113nm,0.9s
KOLN Koldanda 72.22 342 *e*P **P 17 28 29.7 -0.5**
comp=Z,28nm,0.8s,mb5.2
DMN Daman 72.29 341 *e*P **P 17 28 31.0 +0.4**
comp=Z,103nm,0.8s
PKI Pulchoki 72.31 340 *e*P **P 17 28 31.0 +0.3**
comp=Z,115nm,1.1s,mb5.7

TAPN	**Taplejung**	**72.39**	**338**	*e*P		**P**	**17 28 31.5**	**+0.3**
	comp=Z,42nm,0.5s,mb5.6							
RAMN	**Ramite**	**72.86**	**339**	*e*P		**P**	**17 28 33.9**	**-0.1**
	comp=Z,70nm,0.7s,mb5.7							
ODAN	**Odare**	**72.89**	**338**	*e*P		**P**	**17 28 34.6**	**+0.4**
	comp=Z,78nm,0.6s							
TAM	**Tamanrasset**	**72.98**	**56**	*e*P		**P**	**17 28 34.8**	**+0.1**
	comp=Z,1.8nm,0.8s,mb4.0							
TAM	**Tamanrasset**	**72.98**	**56**	*e*P		**P**	**17 28 34.8**	**+0.1**
TAM				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.1							
KMI	**Kunming**	**73.29**	**324**	P		**P**	**17 28 36.3**	**-0.2**
KMI				pP	pP		17 28 45.3	+5.5
KMI				pmax	pmax			
	comp=Z,11nm,1.0s,mb4.7							
KMI				LR	LR			
	comp=N,160nm,18.0s,MS4.4							
KMI				LR	LR			
	comp=E,130nm,22.3s,MS4.4							
KMI				LR	LR			
	comp=Z,150nm,15.8s							
ROSC	**El Rosal**	**77.45**	**138**	LR	LR		18 04 29.6	
	comp=Z,88nm,21.9s,MS4.0,baz=181,slow=37							
CHTO	**Chiang Mai**	**79.92**	**327**	*e*P		**P**	**17 29 13.0**	**-1.1**
	comp=Z,9.3nm,1.4s,mb4.5							
CHTO	**Chiang Mai**	**79.92**	**327**	*e*P		**P**	**17 29 13.0**	**-1.1**
CHTO				pmax	pmax			
	comp=Z,9.0nm,1.4s,mb4.5							
CM31	**Chiang Mai Arr**	**80.27**	**327**	*e*P		**P**	**17 29 15.1**	**-0.9**
	comp=Z,11nm,1.1s,mb4.7							
CMAR	**Chiang Mai Arr**	**80.27**	**327**	P		**P**	**17 29 15.0**	**-1.0**
	comp=Z,5.9nm,0.9s,mb4.5,baz=349,slow=6.0,SNR=50							
CMAR				LR	LR		18 07 15.3	
	comp=Z,81nm,19.7s,MS4.1,baz=276,slow=38							
CMAR	**Chiang Mai Arr**	**80.27**	**327**	P		**P**	**17 29 15.0**	**-1.0**
CMAR				LR	LR		18 07 15.3	
CMAR	**Chiang Mai Arr**	**80.27**	**327**	P		**P**	**17 29 15.0**	**-1.0**
TORD	**Torodi Ar. Bea**	**81.86**	**61**	P		**P**	**17 29 23.6**	**-0.9**
	comp=Z,6.6nm,0.8s,mb4.6,baz=333,slow=5.4,SNR=38							
TORD				PKKPbc	PKKPbc		17 47 52.5	+1.5
	comp=Z,0.2nm,0.4s,baz=156,slow=4.5,SNR=4.4							
TORD				LR	LR		18 06 37.0	
	comp=Z,80nm,18.7s,MS4.1,baz=355,slow=36							
TORD	**Torodi Ar. Bea**	**81.86**	**61**	P		**P**	**17 29 23.6**	**-0.9**
TORD				PKKPbc	PKKPbc		17 47 52.5	+1.5
TORD				LR	LR		18 06 37.0	
HYB	**Hyderabad**	**82.76**	**346**	*i* P		**P**	**17 29 29.0**	**-0.2**
HYB				*e*			17 29 36.5	
DBIC	**Dimbokro**	**87.14**	**68**	P		**P**	**17 29 49.4**	**-1.9**
	comp=Z,7.2nm,1.1s,mb4.8,baz=281,slow=4.2,SNR=3.1							
DBIC				LR	LR		18 08 51.5	
	comp=Z,96nm,18.1s,MS4.2,baz=358,slow=36							
DBIC	**Dimbokro**	**87.14**	**68**	P		**P**	**17 29 49.4**	**-1.9**
DBIC				LR	LR		18 08 51.5	
DBIC	**Dimbokro**	**87.14**	**68**	P		**P**	**17 29 49.4**	**-1.9**
LPAZ	**La Paz**	**99.07**	**134**	LR	LR		18 20 46.3	
	comp=Z,50nm,19.1s,MS4.0,baz=335,slow=39							
WRA	**Warramunga Arr**	**113.03**	**286**	PKiKP	PKiKP		17 35 40.1	-2.0
	comp=Z,0.5nm,0.4s,baz=342,slow=2.0,SNR=16							
ASAR	**Alice Springs**	**116.75**	**286**	PKP	PKPdf		17 35 46.9	-2.2
	comp=Z,1.4nm,0.6s,baz=39,slow=1.8,SNR=33							
ASAR				PKKPbc	PKKPbc		17 46 14.3	+1.6
	comp=Z,0.1nm,0.4s,baz=181,slow=3.1,SNR=6.8							
ASAR				PKKPab	PKKPab		17 46 21.9	+3.0
	comp=Z,0.4nm,0.6s,baz=187,slow=3.8,SNR=6.5							
ASAR	**Alice Springs**	**116.75**	**286**	PKP	PKPdf		17 35 46.9	-2.2
ASAR				PKKPbc	PKKPbc		17 46 14.3	+1.6
ASAR				PKKPab	PKKPab		17 46 21.9	+3.0
ASAR	**Alice Springs**	**116.75**	**286**	PKIKP	PKPdf		17 35 46.9	-2.2
STKA	**Stephens Creek**	**123.41**	**276**	PKP	PKPdf		17 35 59.9	-1.7
	comp=Z,1.2nm,0.4s,baz=255,slow=21,SNR=9.6							
STKA	**Stephens Creek**	**123.41**	**276**	PKIKP	PKPdf		17 35 59.9	-1.7
STKA				pmax	pmax			
	comp=Z,1.0nm,0.4s							
BOSA	**Boshof**	**126.27**	**43**	PKP	PKPdf		17 36 06.2	-1.1
	comp=Z,1.6nm,0.8s,baz=214,slow=7.3,SNR=2.1							
BOSA	**Boshof**	**126.27**	**43**	PKIKP	PKPdf		17 36 06.2	-1.0
BOSA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
VNDA	**Vanda**	**162.74**	**227**	PKP	PKPdf		17 37 04.9	-0.2
	comp=Z,0.4nm,0.3s,baz=258,slow=22,SNR=7.5							
VNDA				PKPab	PKPab		17 37 52.9	-1.4
	comp=Z,2.3nm,1.0s,baz=350,slow=4.4,SNR=6.8							
VNDA	**Vanda**	**162.74**	**227**	PKIKP	PKPdf		17 37 04.9	-0.3
VNDA							17 37 52.9	
VNDA				pmax	pmax			
	comp=Z,2.0nm,1.0s							

*ISCJB **17** 17:41:35.1±0.4,33°.46N±0°.02×116°.86W±0°.02,h6km±3km, Error ellipse: s-maj=3.0km s-min=2.2km az=19.5*
*NEIC **17** 17:41:37.1,33°.50N×116°.86W,h12km,ML3.8(PAS),After PAS.*
NEIC Felt [III] at Aguanga, Anza, Hemet, Homeland, Pauma Valley, Perris, San Diego, San Jacinto, Sun City, Vista and Winchester; [II] at Bonsall, Cathedral City, Colton, Corona, Escondido, Fallbrook, Idyllwild, Lake Elsinore, Lakeside, Menifee, Moreno Valley, Murrieta, Nuevo, Oceanside, Palm Desert, Palm Springs, Poway, Ramona, Rancho Mirage, Redlands, Riverside, San Marcos, Santee, Temecula, Valley Center and Wildomar.

ISC 17 17:41:35.8±0.3,33°.47N±0°.02×116°.89W±0°.02,h5km±3km, n80,σ0s98/115,46C-36D,Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MURC	**Murrieta**	**0.29**	**296**	⇑P	**Pg**	**17 41 43.0**	**+1.6**
	baz=0.3,SNR=1000						
MURC				⇓S	**Sg**	**17 41 47.1**	**+1.9**
	baz=0.3						
PFO	**Pinyon Flat Ob**	**0.39**	**69**	P	**Pg**	**17 41 43.7**	**+0.5**
	baz=0.3,SNR=1000						
PFO				⇑S	**Sg**	**17 41 48.4**	**+0.2**
	baz=0.3						
PFO	**Pinyon Flat Ob**	**0.39**	**69**	*e*Pg	**Pg**	**17 41 42.8**	**-0.5**
109C	**Camp Elliot, M**	**0.61**	**197**	P	**Pg**	**17 41 48.7**	**+1.2**
	baz=0.6,SNR=271						
109C				⇑S	**Sg**	**17 41 57.3**	**+1.9**
	baz=0.6						
MONP	**Monument Peak**	**0.70**	**146**	P	**Pg**	**17 41 50.3**	**+1.1**
	baz=0.7,SNR=1000						
MONP				⇑S	**Sg**	**17 41 59.4**	**+1.1**
	baz=0.7						
BBRC	**Big Bear Solar**	**0.79**	**358**	P	**Pg**	**17 41 51.1**	**+0.2**
	baz=0.8,SNR=450						
BBRC				⇓S	**Sg**	**17 42 01.4**	**+0.2**
	baz=0.8						
BAR	**Barrett**	**0.81**	**167**	*e*Pg	**Pg**	**17 41 51.4**	**0.0**
BAR				*e*Sg	**Sg**	**17 42 02.6**	**+0.8**
BELC	**Belle Mtn. Jos**	**0.91**	**54**	⇓P	**Pg**	**17 41 53.0**	**-0.2**
	baz=0.9,SNR=1000						
BELC				⇓S	**Sg**	**17 42 04.4**	**-0.6**
	baz=0.9						
BFSC	**Mount Baldy Ra**	**1.00**	**320**	⇑P	**Pg**	**17 41 54.5**	**-0.4**
	baz=1.0,SNR=312						
BFSC				⇓S	**Sg**	**17 42 07.1**	**-0.7**
	baz=1.0						
DVTC	**Desert V Tower**	**1.05**	**141**	⇓P	**Pg**	**17 41 56.2**	**+0.4**
	baz=1.1,SNR=84						
DVTC				⇑S	**Sg**	**17 42 10.2**	**+0.8**
	baz=1.1						
SWSC	**Sam W. Stewart**	**1.06**	**120**	P	**Pg**	**17 41 55.2**	**-0.8**
	baz=1.1,SNR=539						
SWSC				⇓S	**Sg**	**17 42 10.0**	**+0.2**
	baz=1.1						
FMP	**Fort Macarthur**	**1.20**	**282**	⇑P	**Pg**	**17 41 58.3**	**-0.4**
	baz=1.2						
FMP				⇑S	**Sg**	**17 42 14.7**	**+0.4**
	baz=1.2						
BC3	**Big Chuckawall**	**1.21**	**81**	P	**Pg**	**17 41 57.3**	**-1.7**
	baz=1.2,SNR=277						
BC3				⇑S	**Sg**	**17 42 13.8**	**-1.0**
	baz=1.2						
MWC	**Mount Wilson**	**1.23**	**308**	*e*Pg	**Pg**	**17 41 58.6**	**-0.7**
MWC				*e*Sg	**Sg**	**17 42 13.0**	**-2.3**
CIS	**Catalina Islan**	**1.27**	**267**	P	**Pg**	**17 41 59.1**	**-1.0**
	baz=1.3,SNR=537						
CIS				⇓S	**Sg**	**17 42 17.8**	**+1.3**
	baz=1.3						
PASC	**Pasadena Art C**	**1.28**	**303**	*e*Pg	**Pg**	**17 41 59.3**	**-1.1**
PASC				*e*Sg	**Sg**	**17 42 15.3**	**-1.8**
RRX	**Edison Barstow**	**1.41**	**356**	⇑P	**Pn**	**17 42 01.5**	**-0.6**
	baz=1.4,SNR=37						
RRX				⇑S	**Sb**	**17 42 20.1**	**-0.7**
	baz=1.4						
DECC	**Green Verdugo**	**1.43**	**303**	⇓P	**Pn**	**17 42 01.8**	**-0.6**
	baz=1.4,SNR=37						
DECC				⇑S	**Sb**	**17 42 21.1**	**-0.3**
	baz=1.4						
HEC	**Hector,Ludlow**	**1.43**	**19**	⇓P	**Pn**	**17 42 01.5**	**-0.9**
	baz=1.4,SNR=300						
HEC				⇑S	**Sb**	**17 42 20.3**	**-1.2**
	baz=1.4						
SCI	**San Clemente I**	**1.48**	**251**	P	**Pn**	**17 42 02.6**	**-0.5**
	baz=1.5,SNR=138						
SCI				⇑S	**Sn**	**17 42 21.6**	**-1.1**
	baz=1.5						
IRM	**Iron Mountain**	**1.60**	**64**	P	**Pn**	**17 42 03.1**	**-1.7**
	baz=1.6,SNR=389						
IRM				⇓Sb	**Sb**	**17 42 26.0**	**-0.3**
	baz=1.6						
GMRC	**Granite Mounta**	**1.66**	**38**	⇑P	**Pn**	**17 42 04.3**	**-1.2**
	baz=1.6,SNR=144						
GMRC				⇑Sb	**Sb**	**17 42 27.7**	**-0.2**
	baz=1.6						
EDW2	**Edwards Air Fo**	**1.68**	**327**	⇑P	**Pn**	**17 42 05.8**	**0.0**
	baz=1.7,SNR=260						
EDW2				⇓S	**Sn**	**17 42 27.5**	**-0.2**
	baz=1.7						
GLA	**Glamis**	**1.78**	**103**	P	**Pn**	**17 42 05.4**	**-1.8**
	baz=1.8,SNR=48						
GLA	**Glamis**	**1.78**	**103**	*e*Pn	**Pn**	**17 42 05.1**	**-2.1**
GSC	**Goldstone**	**1.83**	**2**	⇓P	**Pn**	**17 42 07.4**	**-0.5**
	baz=1.8,SNR=83						
GSC				⇑Sb	**Sb**	**17 42 33.4**	**+0.5**
	baz=1.8						
GSC	**Goldstone**	**1.83**	**2**	*e*Pn	**Pn**	**17 42 07.3**	**-0.6**
OSI	**Osito Adit**	**1.90**	**307**	⇓P	**Pn**	**17 42 08.3**	**-0.6**
	baz=1.9						
OSI				⇑Sb	**Sb**	**17 42 35.6**	**+0.5**
	baz=1.9						
OSI	**Osito Adit**	**1.90**	**307**	*e*Pn	**Pn**	**17 42 08.6**	**-0.3**
BLG	**Laguna Peak**	**1.92**	**290**	⇑P	**Pn**	**17 42 08.3**	**-0.9**
	baz=1.9,SNR=34						
Y12C	**Blythe**	**1.99**	**81**	P	**Pn**	**17 42 08.3**	**-1.9**
	baz=2.0,SNR=20						
Y12C				⇑Sb	**Sb**	**17 42 38.1**	**+0.4**
	baz=2.0						
LRMC	**Laurel Mountai**	**2.11**	**342**	⇓P	**Pn**	**17 42 11.3**	**-0.4**
	baz=2.1,SNR=16						
LRMC				⇓Sb	**Sb**	**17 42 42.1**	**+1.1**
	baz=2.1						
TUQ	**Turquoise Moun**	**2.11**	**22**	P	**Pn**	**17 42 11.1**	**-0.8**
	baz=2.1,SNR=44						
TUQ				⇑Sb	**Sb**	**17 42 41.6**	**+0.4**
	baz=2.1						
LDFC	**Landfair**	**2.17**	**42**	*e*Pn	**Pn**	**17 42 11.9**	**-0.7**
LDFC				*e*Pg	**Pg**	**17 42 16.0**	**-1.5**
LDFC				*e*Sn	**Sn**	**17 42 42.8**	**+2.8**
NEE2	**Needles Airpor**	**2.28**	**55**	⇑Pb	**Pb**	**17 42 17.5**	**0.0**
	baz=2.2						
NEE2				⇑Sb	**Sb**	**17 42 46.6**	**+0.6**
	baz=2.2						
ARVC	**Arvin**	**2.30**	**316**	⇓P	**Pn**	**17 42 14.2**	**-0.3**
	baz=2.3						
ARVC				⇓Sb	**Sb**	**17 42 48.1**	**+1.5**
	baz=2.3						
BSC	**Santa Cruz Isl**	**2.35**	**284**	⇑P	**Pn**	**17 42 14.2**	**-0.8**
	baz=2.4,SNR=7.8						
PDMCI	**Parker Dam,Lak**	**2.43**	**69**	⇑Sb	**Sb**	**17 42 50.6**	**+0.4**
	baz=2.4						
SHOC	**Shoshone**	**2.47**	**12**	⇑P	**Pn**	**17 42 16.1**	**-0.6**
	baz=2.4,SNR=14						
SHOC				⇑Sb	**Sb**	**17 42 53.1**	**+1.6**
	baz=2.4						
ISA	**Isabella**	**2.55**	**330**	⇑P	**Pn**	**17 42 17.5**	**-0.2**
	baz=2.5,SNR=16						
ISA				⇑Sb	**Sb**	**17 42 55.3**	**+1.7**
	baz=2.5						
ISA	**Isabella**	**2.55**	**330**	*e*Pn	**Pn**	**17 42 17.4**	**-0.4**
MPMC	**Manual Prospec**	**2.63**	**349**	⇓P	**Pn**	**17 42 18.6**	**-0.3**
	baz=2.6,SNR=15						
MPMC				⇑Sb	**Sb**	**17 42 58.4**	**+2.4**
	baz=2.6						
113A	**Mohawk Valley,**	**2.71**	**104**	⇓P	**Pn**	**17 42 19.4**	**-0.6**
	baz=2.7						
Z13A	**Yuma Proving G**	**2.72**	**95**	P	**Pn**	**17 42 18.3**	**-1.8**
	baz=2.7,SNR=16						
PKM	**Peak Mountain**	**2.81**	**301**	⇑P	**Pn**	**17 42 21.5**	**+0.1**
	baz=2.8,SNR=20						
W13A	**Hualapai Mount**	**2.97**	**56**	⇓P	**Pn**	**17 42 22.7**	**-0.9**
	baz=2.9,SNR=9.9						
W13A				⇓Sb	**Sb**	**17 43 07.1**	**+1.4**
	baz=2.9						
CWC	**Cottonwood Cre**	**3.12**	**342**	⇑P	**Pn**	**17 42 25.6**	**0.0**
	baz=3.1,SNR=10.0						
SMMC	**Simmler**	**3.16**	**306**	⇓P	**Pn**	**17 42 26.3**	**+0.1**
	baz=3.2						
Y14A	**Wickenburg**	**3.27**	**81**	⇑P	**Pn**	**17 42 26.6**	**-1.1**
	baz=3.2,SNR=9.1						
Z14A	**Wintersburg**	**3.30**	**91**	P	**Pn**	**17 42 26.7**	**-1.4**
	baz=3.3,SNR=6.3						
114A	**Black Gap (USA**	**3.44**	**101**	⇑P	**Pn**	**17 42 28.5**	**-1.5**
	baz=3.4						
Y15A	**Casa Rosa Ranc**	**3.83**	**82**	⇑P	**Pn**	**17 42 34.3**	**-1.1**
	baz=3.8						
115A	**Sonoran Desert**	**3.99**	**100**	P	**Pn**	**17 42 36.8**	**-0.8**
	baz=3.9,SNR=10						
Y16A	**Circle Bar Ran**	**4.53**	**83**	⇓P	**Pn**	**17 42 44.3**	**-0.8**
	baz=4.5,SNR=6.4						
V15A	**Kaibab Nationa**	**4.54**	**58**	⇑P	**Pn**	**17 42 45.1**	**0.0**
	baz=4.5						
X16A	**Lo Mia Camp, P**	**4.62**	**77**	⇓P	**Pn**	**17 42 45.8**	**-0.5**
	baz=4.6,SNR=41						
U15A	**North Rim**	**4.79**	**51**	⇑P	**Pn**	**17 42 48.9**	**+0.3**
	baz=4.7						
R11A	**Troy Canyon, C**	**4.98**	**12**	⇑P	**Pn**	**17 42 52.0**	**+0.8**
	baz=5.0						
CCUT	**Cedar City**	**4.98**	**34**	*e*Pn	**Pn**	**17 42 52.1**	**+0.9**
WUAZ	**Wupatki**	**4.99**	**64**	⇓P	**Pn**	**17 42 51.9**	**+0.5**
	baz=4.9						
WUAZ	**Wupatki**	**4.99**	**64**	*e*Pn	**Pn**	**17 42 51.7**	**+0.4**
ARUT	**Antelope Range**	**5.14**	**32**	*e*Pn	**Pn**	**17 42 53.8**	**+0.4**
	21nm,0.6s						
R13A	**O'Grain Ranch,**	**5.26**	**26**	⇓P	**Pn**	**17 42 56.1**	**+1.0**
	baz=5.2						
V17A	**Tonalea, Kykot**	**5.47**	**65**	⇑P	**Pn**	**17 42 58.8**	**+0.9**
	baz=5.4						
T16A	**Glen Canyon Da**	**5.63**	**50**	⇓P	**Pn**	**17 43 01.0**	**+0.9**
	baz=5.6						
X18A	**Snowflake**	**5.86**	**78**	⇓P	**Pn**	**17 43 03.5**	**+0.2**
	baz=5.8						
U17A	**Shonto**	**5.98**	**57**	⇑P	**Pn**	**17 43 06.2**	**+1.2**
	baz=5.9						
S16A	**Weppner Ranch,**	**6.05**	**44**	⇑P	**Pn**	**17 43 07.3**	**+1.4**
	baz=6.0						
T17A	**Navajo Res., N**	**6.09**	**53**	⇑P	**Pn**	**17 43 07.7**	**+1.2**
	baz=6.1						
W18A	**Petrified Fore**	**6.14**	**73**	⇓P	**Pn**	**17 43 08.6**	**+1.4**
	baz=6.1						
Q14A	**Sevier Lake (B**	**6.23**	**27**	⇓P	**Pn**	**17 43 09.4**	**+1.0**
	baz=6.2						
Z19A	**T-Link Ranch,**	**6.38**	**90**	⇓P	**Pn**	**17 43 10.2**	**-0.2**
	baz=6.3						
Y19A	**Nutrioso**	**6.38**	**84**	⇑P	**Pn**	**17 43 10.8**	**+0.4**
	baz=6.3						
W19A	**Sanders**	**6.42**	**73**	⇓P	**Pn**	**17 43 11.9**	**+0.9**
	baz=6.4						
S17A	**Black Ridge (B**	**6.47**	**48**	⇑P	**Pn**	**17 43 12.9**	**+1.3**
	baz=6.4						
T18A	**Mexican Hat**	**6.80**	**56**	⇓P	**Pn**	**17 43 17.4**	**+1.2**
	baz=6.8						
P14A	**Drum Mountains**	**6.83**	**26**	⇓P	**Pn**	**17 43 17.8**	**+1.1**
	baz=6.8						
Y20A	**Horse Springs,**	**7.11**	**84**	⇓P	**Pn**	**17 43 20.7**	**+0.2**
	baz=7.1						
Y21A	**Point of Rocks**	**7.69**	**83**	⇑P	**Pn**	**17 43 29.2**	**+0.7**
	baz=7.7						
HHC	**Hu-ho-hao-te**	**93.61**	**325**	*e*P	**P**	**17 54 52.5**	**-0.7**
HHC				sP	sP	17 55 00.3	+5.0
HHC				PP	PP	17 58 39.8	+2.8
HHC				SKS		18 05 24.5	
HHC				S	S	18 05 56.8	-5.8
HHC				sS	sS	18 06 04.8	-0.3
HHC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,200nm,7.1s						
HHC				LR	LR		
	comp=N,140nm,15.6s						
HHC				LR	LR		
	comp=E,190nm,14.4s						
HHC				LR	LR		
	comp=Z,130nm,16.7s						

*DJA **17** 17:46:44,1°.61N×122°.83E,h10km,MLv4.0/3*
*IDC **17** 17:46:49.5±1.6,0°.73N×123°.03E,h0km,mb3.3/4, mb1 3.6/5,mb1mx3.4/22,mbtmp3.4/5,Error ellipse: s-maj=146.8km s-min=22.6km az=71.0*
*ISCJB **17** 17:46:52.4±1.2,0°.8N±0°.1×123°.2E±0°.1,h33km,mb3.2/4, Error ellipse: s-maj=20.4km s-min=10.9km az=42.4*

ISC 17 17:46:54.5±1.4,0°.8N±0°.1×123°.3E±0°.1,h35km,n9,σ1s04/9, mb3.2/4,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.74**	**104**	P	Px	17 47 17.2	
MRSI	**Marisa**	**1.35**	**258**	P	**Pn**	**17 47 08.3**	**-8.5**
MNI	**Manado**	**1.72**	**67**	P	**Pn**	**17 47 19.1**	**-2.9**
MNI				S	**Sn**	**17 47 43.7**	**+0.9**
LUWI	**Luwuk**	**1.85**	**195**	P	**Pn**	**17 47 27.7**	**+4.0**
FITZ	**Fitzroy Crossi**	**18.89**	**173**	P	**Pn**	**17 51 12.1**	**-0.7**
	0.2nm,0.3s,baz=12,slow=12,SNR=8.0						
WRA	**Warramunga Arr**	**23.26**	**153**	P	**P**	**17 51 59.2**	**+0.1**
	0.3nm,0.3s,mb3.2,baz=332,slow=9.4,SNR=16						
ASAR	**Alice Springs**	**26.39**	**158**	P	**P**	**17 52 28.2**	**+0.5**
	0.1nm,0.4s,mb2.7,baz=331,slow=7.8,SNR=3.6						
STKA	**Stephens Creek**	**36.81**	**153**	P	**P**	**17 53 59.6**	**+0.5**
	1.0nm,0.7s,mb3.8,baz=335,slow=9.4,SNR=3.8						
SONM	**Songino Array**	**49.12**	**345**	P	**P**	**17 55 39.2**	**+0.6**
	0.3nm,0.9s,mb3.3,baz=163,slow=10,SNR=2.5						

OTT 17 17:50:08.2±1.2,79°.46N×114°.92W,h18km,ML3.8/3, Arctic Ocean. Aftershock. 252km northwest from Isachsen, Nu,Arctic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EUNU	**Eureka**	**5.08**	**69**	PN	Pn	17 51 23.1	-0.2
EUNU				SN	Sn	17 52 15.7	-5.7
EUNU				Trac		17 52 21.1	
	comp=Z,12nm,0.6s						
RES	**Resolute Bay**	**6.52**	**127**	PN	Pn	17 51 42.9	0.0
RES				SN	Sn	17 52 51.9	-4.8
RES				Trac		17 52 59.5	
	comp=Z,16nm,0.5s						
KUGN	**Kugaaruk Camp,**	**13.16**	**136**	PN	Pn	17 53 10.8	-2.9
STLN	**Stellar Camp,**	**13.54**	**142**	PN	Pn	17 53 16.7	-2.3
STLN				SN	Sn	17 55 39.6	-9.1
JERN	**Jeri Cho Mine,**	**13.55**	**174**	SN	Sn	17 55 35.5	-13
BULN	**Bullion Camp,**	**14.41**	**143**	PN	Pn	17 53 26.9	-3.9
BULN				SN	Sn	17 55 53.5	-16
CTLN	**Castor Lake**	**15.11**	**182**	PN	Pn	17 53 37.6	-2.7
CTLN				SN	Sn	17 56 14.9	-12
ILKN	**Indian Lake**	**15.32**	**180**	PN	Pn	17 53 41.4	-1.6
ILKN				SN	Sn	17 56 20.2	-12
GALN	**Gameti Lake**	**15.44**	**184**	PN	Pn	17 53 41.0	-3.5
GALN				SN	Sn	17 56 22.8	-12
NUNN	**Nunuq Camp, NU**	**15.78**	**141**	PN	Pn	17 53 46.0	-3.0
YKW3	**Yellowknife Ar**	**16.99**	**180**	PN	Pn	17 54 02.8	-1.6
YKW3				SN	Sn	17 56 59.5	-13
YKW3				Trac		17 57 02.0	
	comp=Z,1.7nm,0.5s						
SEDN	**First Sedna Si**	**17.67**	**143**	PN	Pn	17 54 09.2	-3.8

*IDC **17** 17:52:12.0±1.0,0°.71N×123°.17E,h0km,mb3.6/7, mb1 3.8/8,mb1mx3.6/23,mbtmp3.6/8,ML4.2/1,Error ellipse: s-maj=81.3km s-min=15.5km az=63.0*
*NEIC **17** 17:52:17.0±0.8,0°.57N×123°.04E,h35km,mb3.8/3,Error ellipse: s-maj=44.1km s-min=11.8km az=66.0*
*ISCJB **17** 17:52:29.2±0.5,0°.22N±0°.05×122°.49E±0°.06,h170km±5km, mb3.8/13,Error ellipse: s-maj=10.4km s-min=9.0km az=0.8*
*DJA **17** 17:52:32,0°.20N×122°.37E,h126km,MLv3.9/6*

ISC 17 17:52:30.3±0.4,0°.21N±0°.05×122°.45E±0°.06,h160km±4km, n34,σ0s97/37,mb3.8/13,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.58**	**298**	P	**Pn**	**17 52 51.9**	**-1.3**
MRSI				S	**Sn**	**17 53 08.4**	**-2.2**
LUWI	**Luwuk**	**1.28**	**166**	P	**Pn**	**17 52 58.4**	**-0.1**
KMSI	**Cibinong**	**1.57**	**77**	P	**Pn**	**17 53 02.4**	**+1.1**
KMSI				S	**Sn**	**17 53 26.3**	**+1.1**
MNI	**Manado**	**2.68**	**63**	P	**Pn**	**17 53 16.3**	**+2.2**
MNI				S	**Sn**	**17 53 46.6**	**-1.5**
TTSI	**Tana Toraja**	**4.17**	**219**	P	**Pn**	**17 53 34.0**	**+1.0**
SPSI	**Sidrap Palu**	**4.94**	**213**	P	**Pn**	**17 53 43.8**	**+0.7**
FITZ	**Fitzroy Crossi**	**18.46**	**170**	P	**P**	**17 56 34.1**	**+0.2**
	0.5nm,0.3s,baz=350,slow=15,SNR=22						
FITZ	**Fitzroy Crossi**	**18.46**	**170**	P	**P**	**17 56 34.1**	**+0.2**
MBWA	**Marble Bar**	**21.40**	**187**	*e*P	**P**	**17 57 05.5**	**0.0**
	3.5nm,0.8s,mb3.7						
WRAB	**Tennant Creek**	**23.16**	**150**	P	**P**	**17 57 19.3**	**-3.4**
	1.2nm,0.7s,mb3.4						
WRA	**Warramunga Arr**	**23.17**	**150**	P	**P**	**17 57 21.9**	**-0.8**
	0.3nm,0.4s,mb3.1,baz=329,slow=8.1,SNR=17						
WRA	**Warramunga Arr**	**23.17**	**150**	P	**P**	**17 57 21.9**	**-0.8**

WRA	**Warramunga Arr**	**32.89**	**195**	P	**P**	**18 07 24.1**	**+0.2**
	0.9nm,0.7s,mb3.8,baz=20,slow=9.8,SNR=9.0						
WRA	**Warramunga Arr**	**32.89**	**195**	P	**P**	**18 07 24.1**	**+0.2**
ASAR	**Alice Springs**	**36.56**	**194**	P	**P**	**18 07 56.0**	**+0.3**
	0.4nm,0.7s,mb3.4,baz=19,slow=13,SNR=6.1						
ASAR	**Alice Springs**	**36.56**	**194**	P	**P**	**18 07 56.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**43.02**	**284**	P	**P**	**18 08 50.7**	**+1.1**
	0.3nm,0.5s,mb3.2,baz=82,slow=7.0,SNR=3.9						
CMAR	**Chiang Mai Arr**	**43.02**	**284**	P	**P**	**18 08 50.7**	**+1.1**
SONM	**Songino Array**	**47.08**	**327**	P	**P**	**18 09 22.5**	**+1.0**
	0.6nm,0.6s,mb3.7,baz=145,slow=6.7,SNR=8.6						
SONM				PcP	PcP	18 10 54.2	+0.7
	0.3nm,0.7s,baz=109,slow=3.8,SNR=2.8						
SONM	**Songino Array**	**47.08**	**327**	P	**P**	**18 09 22.5**	**+1.0**
SONM				PcP	PcP	18 10 54.2	+0.7
MKAR	**Makanchi Array**	**61.46**	**317**	P	**P**	**18 11 06.7**	**+0.3**
	0.4nm,0.8s,mb3.6,baz=72,slow=6.2,SNR=3.7						
MKAR	**Makanchi Array**	**61.46**	**317**	P	**P**	**18 11 06.7**	**+0.3**
ZALV	**Zalesovo Beam**	**61.93**	**325**	P	**P**	**18 11 09.8**	**+0.4**
	0.7nm,0.4s,mb4.1,baz=104,slow=7.6,SNR=4.8						
ZALV				PcP	PcP	18 11 49.6	-0.5
	0.8nm,0.6s,baz=121,slow=4.9,SNR=4.6						
ZALV	**Zalesovo Beam**	**61.93**	**325**	P	**P**	**18 11 09.8**	**+0.4**
ZALV				PcP	PcP	18 11 49.6	-0.5
KURK	**Kurchatov**	**64.71**	**321**	*e*P	**P**	**18 11 28.7**	**+0.8**
	3.0nm,0.9s,mb4.3						
BRVK	**Borovoye**	**70.19**	**322**	*e*P	**P**	**18 12 01.9**	**-0.6**
	1.5nm,0.6s,mb4.1						
ILAR	**Eielson Array**	**70.74**	**25**	P	**P**	**18 12 04.2**	**-1.4**
	2.1nm,0.5s,mb4.3,baz=249,slow=6.0,SNR=49						
ILAR	**Eielson Array**	**70.74**	**25**	P	**P**	**18 12 04.2**	**-1.4**
INK	**Inuvik**	**76.49**	**22**	P	**P**	**18 12 38.2**	**-1.1**
	1.2nm,0.7s,mb3.9,baz=245,slow=5.2,SNR=4.5						
INK	**Inuvik**	**76.49**	**22**	P	**P**	**18 12 38.2**	**-1.1**
YKA	**Yellowknife Ar**	**85.06**	**27**	P	**P**	**18 13 24.9**	**-0.4**
	0.8nm,0.5s,mb4.1,baz=284,slow=5.4,SNR=4.3						
YKA	**Yellowknife Ar**	**85.06**	**27**	P	**P**	**18 13 24.9**	**-0.4**
JOF	**Joensuu**	**89.01**	**335**	*ep*	**P**	**18 13 42.1**	**-2.4**
	1.7nm,0.6s,mb4.5						
NVAR	**Mina Array Bea**	**89.25**	**51**	P	**P**	**18 13 47.3**	**+1.1**
	1.7nm,0.6s,mb4.6,baz=261,slow=5.9,SNR=13						
NVAR	**Mina Array Bea**	**89.25**	**51**	P	**P**	**18 13 47.3**	**+1.1**
FINES	**FINESS Array B**	**91.87**	**335**	P	**P**	**18 13 56.9**	**-1.0**
	1.0nm,0.5s,mb4.4,baz=52,slow=5.6,SNR=6.1						
FINES	**FINESS Array B**	**91.87**	**335**	P	**P**	**18 13 56.9**	**-1.0**
PDAR	**Pinedale Array**	**94.30**	**45**	P	**P**	**18 14 09.7**	**+0.2**
	0.2nm,0.5s,mb3.8,baz=309,slow=5.7,SNR=2.9						
PDAR	**Pinedale Array**	**94.30**	**45**	P	**P**	**18 14 09.7**	**+0.2**
LPAZ	**La Paz**	**149.42**	**102**	PKPbc	PKPbc	18 20 41.5	+1.6
	1.3nm,0.6s,baz=263,slow=6.2,SNR=5.2						
LPAZ	**La Paz**	**149.42**	**102**	PKPbc	PKPbc	18 20 41.5	+1.6

IDC 17 18:34:04.2±6.2, 2.56N×95.66E, h0km, mb3.7/3, mb1 3.7/5, mb1mx3.4/25, mbtmp3.6/5, ML3.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.3/31, Error ellipse: s-maj=125.4km s-min=38.3km az=25.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.27**	**86**	Pn	Pn	18 34 57.0	+0.3
	1.7nm,0.3s,baz=288,slow=5.2,SNR=7.5						
CMAR	**Chiang Mai Arr**	**16.12**	**11**	Pn	Pn	18 37 52.8	+0.6
	baz=199,slow=11,SNR=8.0						
MKAR	**Makanchi Array**	**45.57**	**347**	P	P	18 42 26.1	+0.3
	0.5nm,0.4s,baz=159,slow=8.8,SNR=24						
KSRS	**Korea Array**	**45.64**	**36**	LR	LR	19 03 07.6	
	comp=Z,26nm,21.2s,baz=205,slow=38						
SONM	**Songino Array**	**46.04**	**10**	P	P	18 42 29.2	-0.3
	0.6nm,0.7s,baz=189,slow=9.2,SNR=6.2						
ZALV	**Zalesovo Beam**	**51.99**	**352**	P	P	18 43 14.8	-0.3
	1.1nm,0.7s,baz=183,slow=10,SNR=5.2						

IDC 17 18:36:51.1±1.8, 6.80S×129.34E, h0km, mb3.7/2, mb1 3.9/5, mb1mx3.6/18, mbtmp3.8/5, ML3.8/3, Error ellipse: s-maj=75.5km s-min=25.7km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.80**	**197**	Pn	Pn	18 39 41.5	+0.7
	0.5nm,0.3s,baz=30,slow=12,SNR=24						
FITZ				Sn	Sn	18 41 40.5	-13
	0.5nm,0.3s,baz=139,slow=20,SNR=4.3						
WRA	**Warramunga Arr**	**13.94**	**160**	Pn	Pn	18 40 09.3	-0.7
	0.5nm,0.3s,baz=342,slow=13,SNR=25						
WRA				Sn	Sn	18 42 29.3	-16
	1.6nm,0.3s,baz=334,slow=22,SNR=14						
ASAR	**Alice Springs**	**17.33**	**166**	P	Pn	18 40 53.9	-0.7
	0.4nm,0.3s,baz=341,slow=9.8,SNR=47						
ASAR				S	Sn	18 43 53.4	-15
	0.4nm,0.3s,baz=124,slow=12,SNR=7.0						
STKA	**Stephens Creek**	**27.45**	**157**	P	P	18 42 39.2	+0.3
	0.6nm,0.4s,baz=336,slow=9.9,SNR=4.1						
MKAR	**Makanchi Array**	**67.70**	**327**	P	P	18 47 50.3	+0.1
	0.2nm,0.3s,baz=116,slow=8.3,SNR=4.8						

NEIC 17 18:43:07.7, 54.65N×163.57W, h5km, ML3.5(AEIC), After AEIC., Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FALS	**False Pass**	**0.23**	**23**	P	Pg	18 43 12.2	+0.1
FALS				S	Sg	18 43 16.4	+1.1
AKUT	**Akutan**	**1.39**	**249**	P	Pn	18 43 31.6	-2.0
UNV	**Unalaska Valle**	**1.90**	**246**	P	Pn	18 43 39.3	-1.3
SDPT	**Sand Point**	**1.92**	**67**	P	Pn	18 43 40.1	-0.8

IDC 17 19:08:01.3±2.1, 7.71S×119.03E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.4/20, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=220.6km s-min=23.8km az=53.0
NEIC 17 19:08:06.5±1.3, 7.71S×119.17E, h35km, mb3.4/1, Error ellipse: s-maj=40.7km s-min=11.6km az=68.0
ISCJB 17 19:08:15.0±2.0, 6.8S±0.4×120.6E±0.5, h127km±19km, mb3.6/3, Error ellipse: s-maj=106.0km s-min=16.7km az=146.5
DJA 17 19:08:24.6±1.4, 5.31S×119.69E, h106km, MLv2.7/4
ISC 17 19:08:16.5±2.3, 6.9S±0.4×120.5E±0.5, h122km±22km, n15, σ1s25/16, mb3.6/3, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKSI	**Bulukumba**	**1.56**	**346**	P	**Pn**	**19 08 47.1**	**+2.2**
BKSI				S	**Sn**	**19 09 05.0**	**-1.4**
KAPI	**Kappang**	**1.97**	**338**	*e*P	**Pn**	**19 08 48.3**	**-1.5**
KAPI	**Kappang**	**1.97**	**338**	P	**Pn**	**19 08 48.7**	**-1.0**
SPSI	**Sidrap Palu**	**2.96**	**346**	P	**Pn**	**19 09 04.9**	**+2.5**
TTSI	**Tana Toraja**	**3.84**	**350**	P	**Pn**	**19 09 13.0**	**-1.0**
WRA	**Warramunga Arr**	**18.70**	**135**	P	**P**	**19 12 26.5**	**+0.9**
	0.1nm,0.3s,baz=306,slow=12,SNR=11						
WRA	**Warramunga Arr**	**18.70**	**135**	P	**P**	**19 12 26.5**	**+0.9**
WRAB	**Tennant Creek**	**18.70**	**135**	*e*P	**P**	**19 12 26.5**	**+0.9**
	2.2nm,0.9s						
WB2	**Warramunga Arr**	**18.71**	**135**	*e*P	**P**	**19 12 24.7**	**-1.0**
ASAR	**Alice Springs**	**21.11**	**144**	P	**P**	**19 12 50.8**	**-0.8**
	0.9nm,0.6s,mb3.3,baz=315,slow=9.1,SNR=32						
ASAR	**Alice Springs**	**21.11**	**144**	P	**P**	**19 12 50.8**	**-0.8**
STKA	**Stephens Creek**	**31.74**	**144**	P	**P**	**19 14 28.6**	**-0.5**
	1.5nm,0.7s,mb3.9,baz=315,slow=13,SNR=2.9						
STKA	**Stephens Creek**	**31.74**	**144**	P	**P**	**19 14 28.6**	**-0.5**
MKAR	**Makanchi Array**	**63.26**	**332**	P	**P**	**19 18 32.2**	**+0.1**
	0.6nm,0.8s,mb3.6,baz=137,slow=8.2,SNR=3.6						
MKAR	**Makanchi Array**	**63.26**	**332**	P	**P**	**19 18 32.2**	**+0.1**

ISK 17 19:15:32.9, 39.45N×40.42E, h4km, MD3.1
ISCJB 17 19:15:33.4±0.4, 39.44N±0.02×40.44E±0.03, h10km, Error ellipse: s-maj=3.8km s-min=3.4km az=33.7
DDA 17 19:15:33.3, 39.40N×40.46E, h7km±4km, Md3.0
CSEM 17 19:15:34.1±0.2, 39.44N×40.41E, h10km, MD3.1, Error ellipse: s-maj=5.7km s-min=3.8km az=118.0
ISC 17 19:15:33.9±0.5, 39.43N±0.03×40.45E±0.03, h3km±6km, n27, σ0s98/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BINT	**Bingol**	**0.56**	**177**	*e*PG	**Pg**	**19 15 44.5**	**-0.1**
BINT				*e*SG	**Sg**	**19 15 53.5**	**+1.7**
BINT	**Bingol**	**0.56**	**177**	*e*Pg	**Pg**	**19 15 44.6**	**0.0**
BINT				*e*Sg	**Sg**	**19 15 53.5**	**+1.7**
ERZN	**Erzincan**	**0.58**	**285**	*e*PG	**Pg**	**19 15 44.2**	**-0.9**
ERZN				*e*SG	**Sg**	**19 15 52.7**	**+0.1**
KOPT	**Kop Dagi**	**0.58**	**4**	*i* P	**Pg**	**19 15 45.4**	**+0.3**
KOPT				*i* S	**Sg**	**19 15 54.6**	**+1.9**
KOPT	**Kop Dagi**	**0.58**	**4**	*i* P	**Pg**	**19 15 45.4**	**+0.3**
KOPT				*i* S	**Sg**	**19 15 54.6**	**+1.9**
BNGL	**BINGOL**	**0.73**	**131**	*i* P	**Pg**	**19 15 46.5**	**-1.3**
BNGL				*i* S	**Sg**	**19 15 57.6**	**+0.3**
EZM	**Erzurum**	**0.85**	**56**	*e*PG	**Pg**	**19 15 49.6**	**-0.6**
EZM				*e*SG	**Sg**	**19 16 02.3**	**+1.1**
ERZM	**Erzurum**	**0.85**	**56**	*i* P	**Pg**	**19 15 47.8**	**-2.4**
ERZM				*i* S	**Sg**	**19 16 01.9**	**+0.7**
ERZM	**Erzurum**	**0.85**	**56**	*i* P	**Pg**	**19 15 47.8**	**-2.4**
ERZM				*i* S	**Sg**	**19 16 01.9**	**+0.7**
EZC	**Erzincan**	**0.90**	**291**	*e*PG	**Pg**	**19 15 50.8**	**-0.5**
EZC	**Erzincan**	**0.90**	**291**	*e*Pg	**Pg**	**19 15 44.2**	**-7.0**
EZC				*e*Sg	**Sg**	**19 15 52.7**	**-10**
PTK	**Pertek**	**0.98**	**237**	*e*PG	**Pg**	**19 15 52.0**	**-0.7**
PTK				*e*SG	**Sg**	**19 16 05.8**	**+0.3**
PTK	**Pertek**	**0.98**	**237**	*e*Pg	**Pg**	**19 15 52.0**	**-0.8**
PTK				*e*Sg	**Sg**	**19 16 05.8**	**+0.3**
BAYT	**Ayd¯–ntepe-Bay**	**0.99**	**346**	*e*PG	**Pg**	**19 15 52.4**	**-0.4**
BAYT				*e*SG	**Sg**	**19 16 06.1**	**+0.5**
BAYT	**Ayd¯–ntepe-Bay**	**0.99**	**346**	*e*Pg	**Pg**	**19 15 52.4**	**-0.4**
BAYT				*e*Sg	**Sg**	**19 16 06.1**	**+0.5**
GUMT	**Gumushane**	**1.27**	**324**	*e*PN	**Pn**	**19 15 57.1**	**-1.4**
GUMT	**Gumushane**	**1.27**	**324**	*e*Pn	**Pn**	**19 15 57.1**	**-1.4**
SVRC	**Sivrice-ELAZID**	**1.38**	**221**	*e*PN	**Pn**	**19 15 60.0**	**-0.1**
SVRC	**Sivrice-ELAZID**	**1.38**	**221**	*e*Pn	**Pn**	**19 16 00.0**	**-0.1**
KEMA	**Kemaliye**	**1.53**	**264**	*i* P	**Pn**	**19 16 02.4**	**+0.3**
KEMA				*i* S	**Sn**	**19 16 24.5**	**+2.1**
KEMA	**Kemaliye**	**1.53**	**264**	*i* P	**Pn**	**19 16 02.4**	**+0.3**
KEMA				*i* S	**Sn**	**19 16 24.5**	**+2.0**
AGRB	**Hanur-Agry**	**1.97**	**85**	*e*PN	**Pn**	**19 16 08.2**	**0.0**
AGRB	**Hanur-Agry**	**1.97**	**85**	*e*Pn	**Pn**	**19 16 08.2**	**0.0**
ESPY	**Espiye-Giresun**	**1.98**	**319**	*e*PN	**Pn**	**19 16 07.7**	**-0.7**
ESPY	**Espiye-Giresun**	**1.98**	**319**	*e*Pn	**Pn**	**19 16 07.7**	**-0.7**
BCA	**Borcka**	**2.20**	**24**	*e*PN	**Pn**	**19 16 10.9**	**-0.5**
BCA	**Borcka**	**2.20**	**24**	*e*Pn	**Pn**	**19 16 10.9**	**-0.5**

CASC 17 19:20:12.5±1.5, 12.76N×87.02W, h5km±3km, MD3.7, ML4.2, 1C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**0.07**	**210**	*e*P	Pg	19 20 13.9	-0.1
CRIN				*e*S	Sg	19 20 15.9	+0.8
CRIN				AML	AML	19 20 16.1	
	comp=E,100μm,0.1s						
CNGN	**Cerro Negro**	**0.40**	**130**	*e*P	Pg	19 20 20.8	+0.5
MIRN	**Miramar**	**0.43**	**137**	*e*P	Pg	19 20 21.4	+0.5
MOMN	**Momotombo**	**0.58**	**127**	*e*P	Pg	19 20 24.5	+0.8
COPN	**Copaltepe**	**0.71**	**144**	*i* P	Pg	19 20 26.1	0.0
COPN				*e*S	Sg	19 20 36.8	+1.4
HUEN		**0.92**	**117**	*e*P	Pg	19 20 30.2	0.0
CNCH	**Conchagua**	**0.95**	**303**	*e*P	Pg	19 20 30.7	0.0
CNCH				*e*S	Sg	19 20 45.2	+2.2
MGAN	**Managua**	**0.97**	**129**	*e*P	Pg	19 20 30.8	-0.2
MGAN				*e*S	Sg	19 20 44.7	+1.1
WILN	**Americas 2**	**1.00**	**126**	*e*P	Pg	19 20 32.2	+0.5
TICN	**Ticuantepe**	**1.05**	**133**	*e*P	Pg	19 20 32.4	-0.3
TGUH	**Tegucigalpa,Un**	**1.31**	**349**	*i* P	Pn	19 20 36.2	-1.3
TGUH				*e*S	Sg	19 20 54.4	-0.4
BOAB	**BOACO BROADBAN**	**1.35**	**103**	*e*P	Pn	19 20 36.3	-1.8
BLLM	**Bellamira**	**1.37**	**300**	*i* P	Pn	19 20 37.4	-0.9
VSM	**San Miguel**	**1.40**	**299**	*e*P	Pn	19 20 38.0	-0.7
VSM				*e*S	Sb	19 20 58.7	+1.4
CAHU	**Cacacuatique**	**1.54**	**311**	*e*P	Pn	19 20 39.6	-1.0

IDC 17 19:35:32.6±1.3, 30.38N×67.18E, h0km, mb3.3/6, mb1 3.5/6, mb1mx3.3/28, mbtmp3.4/6, Error ellipse: s-maj=38.1km s-min=27.7km az=119.0
ISCJB 17 19:35:35.9±1.8, 30.6N±0.2×68.1E±0.2, h10km, mb3.3/5, Error ellipse: s-maj=29.7km s-min=14.5km az=139.2
ISC 17 19:35:37.4±1.8, 30.6N±0.1×68.0E±0.2, h10km, n14, σ0s97/15, mb3.3/5, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYUN	**Piuthan**	**13.28**	**97**	*e*P	**Pn**	**19 38 46.5**	**+0.5**
	6.9nm,0.4s						
DANN	**Dangsing**	**13.88**	**95**	*e*P	**Pn**	**19 38 54.2**	**0.0**
	8.7nm,0.5s						
KOLN	**Koldanda**	**13.88**	**98**	*e*P	**Pn**	**19 38 54.6**	**+0.3**
GKN	**Gorkha**	**14.71**	**96**	*e*P	**Pn**	**19 39 05.0**	**-0.6**
GKN				*e*S	**Sn**	**19 41 44.7**	**-4.1**
KKN	**Kakani**	**15.32**	**96**	*e*P	**Pn**	**19 39 15.4**	**-0.3**
GUN	**Gumba**	**15.80**	**95**	*e*P	**Pn**	**19 39 19.2**	**-0.8**
	24nm,0.6s						
RAMN	**Ramite**	**16.68**	**98**	*e*P	**Pn**	**19 39 31.8**	**+0.6**
ODAN	**Odare**	**17.38**	**97**	*e*P	**Pn**	**19 39 40.9**	**+0.9**
	8.3nm,0.7s						
MKAR	**Makanchi Array**	**19.61**	**30**	P	**Pn**	**19 40 06.8**	**-0.4**
	0.8nm,0.6s,baz=219,slow=9.1,SNR=9.6						
KURK	**Kurchatov**	**21.64**	**18**	P	**P**	**19 40 26.7**	**-1.0**
	1.0nm,0.8s,mb3.3,baz=210,slow=11,SNR=8.0						
ZALV	**Zalesovo Beam**	**26.33**	**23**	P	**P**	**19 41 15.8**	**+2.5**
	0.8nm,0.4s,mb3.6,baz=228,slow=10,SNR=7.3						
TORD	**Torodi Ar. Bea**	**63.16**	**270**	P	**P**	**19 45 57.6**	**-8.2**
	0.4nm,0.7s,mb3.7,baz=53,slow=6.7,SNR=4.4						
WRA	**Warramunga Arr**	**81.11**	**119**	P	**P**	**19 47 54.2**	**+1.0**
	0.2nm,0.9s,mb3.1,baz=322,slow=4.8,SNR=1.3						
ASAR	**Alice Springs**	**83.03**	**123**	P	**P**	**19 48 01.6**	**-1.6**
	0.1nm,0.8s,mb2.9,baz=303,slow=5.5,SNR=2.0						

IDC 17 19:45:16.7±0.8, 16.35S×172.76W, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.9/19, mbtmp3.8/7, MS3.7/2, Ms1 3.7/2, ms1mx2.9/35, Error ellipse: s-maj=42.0km s-min=21.0km az=148.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.60**	**22**	Pn	Pn	19 45 56.3	-3.7
	4.6nm,0.3s,baz=242,slow=3.4,SNR=2.3						
AFI				Sn	Sn	19 46 25.1	-7.3
	17nm,0.3s,baz=233,slow=23,SNR=9.8						
AFI				T		19 48 50.6	
	6.2nm,0.3s,baz=348,slow=23,SNR=4.0						
HNR	**Honiara**	**27.46**	**281**	LR	LR	20 00 15.3	
	comp=Z,89nm,19.0s,baz=167,slow=33						
STKA	**Stephens Creek**	**44.11**	**241**	P	P	19 53 27.8	+0.9
	0.9nm,0.5s,baz=80,slow=11,SNR=2.9						
WRA	**Warramunga Arr**	**50.23**	**257**	P	P	19 54 15.3	+0.4
	0.2nm,0.5s,baz=94,slow=7.0,SNR=5.8						
ASAR	**Alice Springs**	**50.41**	**253**	P	P	19 54 15.2	-1.0
	2.4nm,0.5s,baz=89,slow=8.4,SNR=78						
VNDA	**Vanda**	**62.51**	**186**	P	P	19 55 42.0	+0.4
	0.8nm,0.8s,baz=25,slow=5.3,SNR=4.6						
NVAR	**Mina Array Bea**	**74.62**	**42**	P	P	19 56 59.0	+1.1
	0.7nm,0.8s,baz=228,slow=8.8,SNR=5.8						
TXAR	**Lajitas Array**	**80.63**	**56**	P	P	19 57 32.2	+0.5
	0.1nm,0.5s,baz=157,slow=4.9,SNR=2.7						
PDAR	**Pinedale Array**	**82.56**	**42**	P	P	19 57 41.3	-0.2
	0.7nm,0.8s,baz=225,slow=3.7,SNR=6.8						
USHA	**Ushuaia**	**84.80**	**146**	LR	LR	20 25 10.3	
	comp=Z,58nm,20.3s,baz=19,slow=28						
BRTR	**Keskin Array B**	**147.27**	**321**	PKPbc	PKPbc	20 05 02.0	-0.4
	0.6nm,0.7s,baz=356,slow=4.5,SNR=3.4						
TORD	**Torodi Ar. Bea**	**173.77**	**120**	PKPab	PKPab	20 06 57.9	-1.2
	0.5nm,0.8s,baz=254,slow=4.5,SNR=3.5						

IDC 17 19:57:45.3±1.8, 1.90N×123.45E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/21, mbtmp3.4/3, Error ellipse: s-maj=206.2km s-min=25.8km az=62.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.19**	**154**	P	P	20 03 03.7	+0.1
	0.3nm,0.4s,baz=333,slow=10,SNR=21						
ASAR	**Alice Springs**	**27.37**	**159**	P	P	20 03 32.9	+0.5
	0.2nm,0.6s,baz=339,slow=8.1,SNR=4.8						
MKAR	**Makanchi Array**	**57.26**	**327**	P	P	20 07 34.4	-0.2
	0.2nm,0.3s,baz=120,slow=6.4,SNR=5.8						

ISCJB 17 19:58:57.9±0.5, 39.45N±0.04×40.45E±0.04, h11km±7km, Error ellipse: s-maj=6.1km s-min=5.3km az=158.4
CSEM 17 19:58:58.7±0.4, 39.44N×40.42E, h17km±4km, MD3.0,
Error ellipse: s-maj=10.0km s-min=7.3km az=131.0
ISK 17 19:58:58.1, 39.46N×40.41E, h20km, MD3.0
DDA 17 19:58:59.1, 39.40N×40.46E, h7km±2km, Md2.8
ISC 17 19:58:58.6±0.5, 39.45N±0.03×40.45E±0.04, h14km±6km, n27, σ1s03/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOPT	**Kop Dagi**	**0.57**	**3**	*i* P	**Pg**	**19 59 11.1**	**+1.4**
KOPT				*i* S	**Sg**	**19 59 20.5**	**+3.2**
KOPT	**Kop Dagi**	**0.57**	**3**	*i* P	**Pg**	**19 59 11.1**	**+1.4**
KOPT				*i* S	**Sg**	**19 59 20.5**	**+3.3**
BINT	**Bingol**	**0.58**	**177**	*e*PG	**Pg**	**19 59 10.2**	**+0.3**
BINT	**Bingol**	**0.58**	**177**	*e*Pg	**Pg**	**19 59 10.2**	**+0.3**
ERZN	**Erzincan**	**0.58**	**284**	*e*PG	**Pg**	**19 59 09.2**	**-0.8**
BNGL	**BINGOL**	**0.74**	**133**	*i* P	**Pg**	**19 59 13.0**	**+0.1**
BNGL				*i* S	**Sg**	**19 59 22.8**	**+0.2**
EZM	**Erzurum**	**0.83**	**57**	*e*PG	**Pg**	**19 59 15.4**	**+0.7**
ERZM	**Erzurum**	**0.84**	**57**	*i* P	**Pg**	**19 59 14.2**	**-0.6**
ERZM				*i* S	**Sg**	**19 59 23.0**	**-2.7**
ERZM	**Erzurum**	**0.84**	**57**	*i* P	**Pg**	**19 59 14.2**	**-0.6**
ERZM				*i* S	**Sg**	**19 59 23.0**	**-2.8**
EZC	**Erzincan**	**0.90**	**290**	*e*PG	**Pg**	**19 59 15.9**	**-0.2**
EZC	**Erzincan**	**0.90**	**290**	*e*Pg	**Pg**	**19 59 15.9**	**-0.1**
BAYT	**Ayd¯–ntepe-Bay**	**0.97**	**346**	*e*PG	**Pg**	**19 59 17.2**	**-0.2**
BAYT	**Ayd¯–ntepe-Bay**	**0.97**	**346**	*e*Pg	**Pg**	**19 59 17.2**	**-0.1**
PTK	**Pertek**	**1.00**	**236**	*e*PG	**Pg**	**19 59 16.6**	**-1.2**
PTK				*e*SG	**Sg**	**19 59 31.3**	**+0.5**
PTK	**Pertek**	**1.00**	**236**	*e*Pg	**Pg**	**19 59 16.6**	**-1.2**
PTK				*e*Sg	**Sg**	**19 59 31.3**	**+0.4**
GUMT	**Gumushane**	**1.25**	**324**	*e*PN	**Pn**	**19 59 20.6**	**-1.1**
GUMT	**Gumushane**	**1.25**	**324**	*e*Pn	**Pn**	**19 59 20.6**	**-1.1**
SVRC	**Sivrice-ELAZID**	**1.40**	**220**	*e*PN	**Pn**	**19 59 23.4**	**-0.3**
SVRC	**Sivrice-ELAZID**	**1.40**	**220**	*e*Pn	**Pn**	**19 59 23.4**	**-0.2**
KEMA	**Kemaliye**	**1.53**	**264**	*i* P	**Pn**	**19 59 27.6**	**+2.1**
KEMA				*i* S	**Sn**	**19 59 50.0**	**+4.9**
KEMA	**Kemaliye**	**1.53**	**264**	*i* P	**Pn**	**19 59 27.6**	**+2.1**
KEMA				*i* S	**Sn**	**19 59 50.0**	**+4.8**
AGRB	**Hanur-Agry**	**1.97**	**86**	*e*PN	**Pn**	**19 59 31.9**	**+0.4**
AGRB	**Hanur-Agry**	**1.97**	**86**	*e*Pn	**Pn**	**19 59 31.9**	**+0.4**
ESPY	**Espiye-Giresun**	**1.97**	**318**	*e*PN	**Pn**	**19 59 30.5**	**-1.0**
ESPY	**Espiye-Giresun**	**1.97**	**318**	*e*Pn	**Pn**	**19 59 30.5**	**-1.0**
BCA	**Borcka**	**2.18**	**24**	*e*PN	**Pn**	**19 59 34.7**	**+0.3**
BCA	**Borcka**	**2.18**	**24**	*e*Pn	**Pn**	**19 59 34.7**	**+0.3**

MOS 17 20:01:20.3±2.5, 20.27S×176.75W, h200km, mb4.9/8, Error ellipse: s-maj=13.9km s-min=10.9km az=175.5
IDC 17 20:01:22.4±2.0, 20.35S×176.42W, h232km±17km, mb4.2/17, mb1 4.3/18, mb1mx4.2/24, mbtmp4.2/18, Error ellipse: s-maj=15.5km s-min=10.8km az=136.0
ISCJB 17 20:01:22.7±1.4, 20.52S±0.05×176.40W±0.07, h253km±12km, mb4.4/35, Error ellipse: s-maj=10.8km s-min=8.0km az=17.8
BJI 17 20:01:22.4, 20.06S×175.80W, h256km, mB5.2/5, mb4.7/7
NEIC 17 20:01:24.8±1.0, 20.44S×176.45W, h259km±9km, mb4.6/16, Error ellipse: s-maj=8.5km s-min=6.8km az=145.0
BGS 17 20:01:24.7±3.4, 20.44S×176.45W, h259km, mb4.6(NEIC)
ISC 17 20:01:24.3±1.2, 20.55S±0.05×176.38W±0.07, h256km±12km, n272, σ0s99/110, mb4.4/35, 45C-11D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.97**	**297**	*e*P	**Pn**	**20 02 51.8**	**-0.5**
	91nm,0.9s						
MSVF	**Nonsavu**	**5.97**	**297**	*e*P	**Pn**	**20 02 51.8**	**-0.5**
M

WRA ScP ScP 20 14 28.3 +4.7
comp=Z,0.9nm,0.9s,baz=90,slow=4.1,SNR=4.8
WRA Warramunga Arr 46.10 262 P **P** **20 09 23.0 -0.5**
WRA ScP ScP 20 14 28.3 +4.7
WRA Warramunga Arr 46.10 262 P **P** **20 09 23.0 -0.4**
FORT Forrest 50.67 247 *e*P **P** **20 09 56.6 -1.5**
comp=Z,23nm,0.6s,mb4.7
FITZ Fitzroy Crossi 54.53 262 *e*P **P** **20 10 26.1 -0.3**
comp=Z,6.5nm,0.3s,mb4.5
FITZ Fitzroy Crossi 54.53 262 *e*P **P** **20 10 26.1 -0.3**
comp=Z,3.4nm,0.3s,mb4.2
VNDA Vanda 58.00 185 P **P** **20 10 52.4 +2.5**
comp=Z,1.1nm,0.7s,mb3.4,baz=357,slow=7.0,SNR=5.8
VNDA ScP ScP 20 15 17.2 +3.1
comp=Z,0.4nm,0.3s,baz=356,slow=5.6,SNR=3.7
VNDA Vanda 58.00 185 P **P** **20 10 52.4 +2.5**
VNDA ScP ScP 20 15 17.2 +3.1
VNDA Vanda 58.00 185 P **P** **20 10 52.4 +2.5**
MBWA Marble Bar 59.33 257 *e*P **P** **20 10 58.8 -1.2**
KLBR Kellerberrin 59.41 245 *e*P **P** **20 10 59.1 -1.3**
comp=Z,14nm,1.0s,mb4.3
NWAO Narrogin (SRO) 59.70 243 P **P** **20 11 04.0 +1.6**
NWAO Narrogin (SRO) 59.70 243 P **P** **20 11 04.0 +1.6**
QSPA South Pole Qui 69.52 180 *e*P **P** **20 12 06.7 +1.9**
comp=Z,3.2nm,0.8s,mb4.1
MJAR Matsushiro Arr 71.16 323 P **P** **20 12 14.1 -1.2**
comp=Z,3.8nm,0.6s,mb4.2,baz=157,slow=6.2,SNR=12
MJAR Matsushiro Arr 71.16 323 P **P** **20 12 14.1 -1.2**
MJAR Matsushiro Arr 71.16 323 P **P** **20 12 14.1 -1.2**
FX1 Attu Island--F 73.69 353 P **P** **20 12 28.6 -1.2**
comp=Z,14nm,0.7s,mb4.7,baz=92,slow=20,SNR=5.6
FX1 Attu Island--F 73.69 353 P **P** **20 12 28.6 -1.2**
FX1 Attu Island--F 73.69 353 P **P** **20 12 28.6 -1.2**
FX1 pmax pmax
comp=Z,14nm,0.7s
KSM Kuching 74.93 277 *e*P **P** **20 12 37.9 0.0**
comp=Z,7.8nm,0.6s,mb4.5
KSRS Korea Array 77.94 318 P **P** **20 12 55.1 +0.9**
comp=Z,2.3nm,1.0s,mb3.9,baz=129,slow=6.2,SNR=3.2
KSRS Korea Array 77.94 318 P **P** **20 12 55.1 +0.9**
KSRS pmax pmax
comp=Z,2.0nm,1.0s,mb3.8
KSAR Wonju Array Be 77.96 318 P **P** **20 12 55.1 +0.8**
KSAR Wonju Array Be 77.96 318 P **P** **20 12 55.1 +0.8**
NVAR Mina Array Bea 80.03 43 P **P** **20 13 06.4 +0.9**
comp=Z,1.1nm,0.6s,mb3.8,baz=223,slow=7.9,SNR=8.1
NVAR Mina Array Bea 80.03 43 P **P** **20 13 06.4 +1.0**
KDAK Kodiak Island 80.52 13 P **P** **20 13 07.5 -0.2**
comp=Z,2.1nm,0.5s,mb4.2,baz=106,slow=1.7,SNR=4.7
KDAK Kodiak Island 80.52 13 P **P** **20 13 07.5 -0.2**
KDAK Kodiak Island 80.52 13 P **P** **20 13 07.5 -0.1**
MAW Mawson 82.02 199 *e*P **P** **20 13 16.6 +1.1**
MAW Mawson 82.02 199 *e*P **P** **20 13 16.6 +1.0**
IPM Ipoh 84.65 277 *e*P **P** **20 13 29.4 -0.6**
comp=Z,12nm,0.9s,mb4.7
BNM Barren Site 85.76 51 P **P** **20 13 30.7 -4.2**
TXAR Lajitas Array 85.81 57 P **P** **20 13 36.6 +1.3**
comp=Z,0.8nm,0.9s,mb3.5,baz=298,slow=5.4,SNR=5.8
TXAR Lajitas Array 85.81 57 P **P** **20 13 36.6 +1.3**
TXAR Lajitas Array 85.81 57 P **P** **20 13 36.6 +1.3**
PSI Prapat 86.01 274 P **P** **20 13 36.3 -0.3**
comp=Z,2.3nm,0.4s,mb4.3,baz=204,slow=22,SNR=2.1
PSI Prapat 86.01 274 P **P** **20 13 36.3 -0.3**
PSI Prapat 86.01 274 P **P** **20 13 36.3 -0.4**
MCK McKinley 86.70 12 *e*P **P** **20 13 38.4 -0.4**
comp=Z,6.9nm,0.7s,mb4.6
MCK McKinley 86.70 12 *e*P **P** **20 13 38.4 -0.4**
MCK pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
SEY Seymchan 86.78 346 *de*P **P** **20 13 38.5 -0.7**
ENH Enshi 87.33 304 *e*P **P** **20 13 42.9 +0.3**
comp=Z,8.6nm,0.8s,mb4.6
DLBC Dease Lake 87.51 22 P **P** **20 13 42.7 -0.1**
comp=Z,1.3nm,0.6s,mb3.9,baz=197,slow=21,SNR=3.1
DLBC Dease Lake 87.51 22 P **P** **20 13 42.7 -0.1**
PDAR Pinedale Array 87.96 43 P **P** **20 13 46.0 +0.7**
comp=Z,0.3nm,0.6s,mb3.3,baz=71,slow=27,SNR=2.5
PDAR Pinedale Array 87.96 43 P **P** **20 13 46.0 +0.8**
VNA3 Neumayer Olymp 87.98 176 *e* **P** **20 13 42.9 -2.1**
VNA3 *e* 20 13 52.1
ILAR Eielson Array 88.04 12 P **P** **20 13 44.2 -0.9**
comp=Z,1.8nm,0.7s,mb4.0,baz=218,slow=4.9,SNR=15
ILAR Eielson Array 88.04 12 P **P** **20 13 44.2 -0.9**
ILAR Eielson Array 88.04 12 P **P** **20 13 44.2 -0.9**
VNA2 Neumayer--Watz 88.44 176 *e* **P** **20 13 45.5 -1.6**
baz=196,slow=4.0
BILL Bilibino 89.25 354⇑*e*P **P** **20 13 50.6 -0.1**
BILL pmax pmax
comp=Z,33nm,2.8s,mb4.7
XAN Xi'an 89.38 307 P **P** **20 13 52.6 +0.5**
XAN pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
CMAR Chiang Mai Arr 91.57 289 P **P** **20 14 03.9 +1.2**
comp=Z,4.0nm,0.8s,mb4.4,baz=123,slow=2.7,SNR=31
CMAR Chiang Mai Arr 91.57 289 P **P** **20 14 03.9 +1.2**
CMAR Chiang Mai Arr 91.57 289 P **P** **20 14 03.9 +1.3**
CHTO Chiang Mai 91.69 289 *e*P **P** **20 14 03.6 +0.4**
comp=Z,5.4nm,0.8s,mb4.5
CHTO Chiang Mai 91.69 289 *e*P **P** **20 14 03.6 +0.4**
CHTO pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
INK Inuvik 93.93 15 P **P** **20 14 11.7 -0.7**
comp=Z,1.4nm,0.8s,mb4.1,baz=211,slow=6.5,SNR=12
INK Inuvik 93.93 15 P **P** **20 14 11.7 -0.7**
INK Inuvik 93.93 15 P **P** **20 14 11.7 -0.7**
ZALV Zalesovo Beam 111.49 321 PKiKP PKiKP 20 19 26.8 -0.9
comp=Z,1.6nm,0.5s,baz=67,slow=0.7,SNR=11
ZALV Zalesovo Beam 111.49 321 PKPdf PKiKP 20 19 26.8 -0.9
ZALV Zalesovo Beam 111.49 321 PKIKP PKiKP 20 19 26.8 -0.8
MKAR Makanchi Array 112.34 313 PKPdf PKiKP 20 19 28.8 -0.8
comp=Z,2.3nm,0.5s,baz=158,slow=0.6,SNR=26
MKAR Makanchi Array 112.34 313 PKPdf PKiKP 20 19 28.8 -0.8
MKAR Makanchi Array 112.34 313 *i* PKIKP PKiKP 20 19 28.8 -0.8
MKAR pmax pmax
comp=Z,2.0nm,0.5s
KURK Kurchatov 115.06 317 PKP PKPdf 20 19 33.9 -0.8
comp=Z,3.3nm,0.6s,baz=93,slow=1.6,SNR=45
KURK Kurchatov 115.06 317 *e* PKPdf PKPdf 20 19 33.9 -0.8
KURK Kurchatov 115.06 317 *c i* PKIKP PKPdf 20 19 33.8 -0.9
KURK *i* 20 20 41.3
KURK pmax pmax
comp=Z,5.0nm,2.5s
BVAR Borovoye Array 120.10 320 PKP PKPdf 20 19 43.6 -0.7
comp=Z,4.6nm,0.4s,baz=123,slow=1.8,SNR=19
BVAR Borovoye Array 120.10 320 PKP PKPdf 20 19 43.6 -0.7
BVAR Borovoye Array 120.10 320 PKIKP PKPdf 20 19 43.6 -0.7
BRVK Borovoye 120.16 320 *e*PKPdf PKPdf 20 19 44.1 -0.4
BRVK Borovoye 120.16 320 *e*PKIKP PKPdf 20 19 44.1 -0.3
KKAR Karatay Array 120.47 309 *e*PKPdf PKPdf 20 19 44.2 -1.1
KKAR Karatay Array 120.47 309 *e*PKIKP PKPdf 20 19 44.2 -1.1
KBL Kabul 121.25 299 *e*PKPdf PKPdf 20 19 46.5 -0.6
KBL Kabul 121.25 299 *e*PKIKP PKPdf 20 19 46.5 -0.6
SPITS Spitsbergen Ar 122.00 357 PKP PKPdf 20 19 47.0 -0.3
comp=Z,12nm,0.9s,baz=226,slow=4.5,SNR=2.3
SPITS Spitsbergen Ar 122.00 357 PKP PKPdf 20 19 47.0 -0.3
SPITS Spitsbergen Ar 122.00 357 PKIKP PKPdf 20 19 47.0 -0.4
SVE Sverdlovsk 124.89 326 *e*PKIKP PKPdf 20 19 53.2 -0.2
SVE pmax pmax
comp=Z,7.0nm,0.9s
ARU Arti 126.11 326 *i* PKIKP PKPdf 20 19 55.8 +0.1
ARU 20 21 51.3
BOSA Boshof 126.84 204 PKP PKPdf 20 19 59.6 +1.4
comp=Z,2.2nm,0.9s,baz=288,slow=21,SNR=1.1
BOSA Boshof 126.84 204 PKP PKPdf 20 19 59.6 +1.4
BOSA Boshof 126.84 204 PKIKP PKPdf 20 19 59.6 +1.5
ABKAR Abkulak array 127.17 317 *e*PKPdf PKPdf 20 19 57.9 -0.1
AKTO Aktyubinsk 128.12 319 PKP PKPdf 20 19 59.8 0.0
comp=Z,1.6nm,0.7s,baz=52,slow=4.5,SNR=12
AKTO Aktyubinsk 128.12 319 PKiKP PKPdf 20 19 59.8 0.0
AKTO Aktyubinsk 128.12 319 PKIKP PKPdf 20 19 59.8 0.0
ARCES ARCESS Array B 129.24 350 PKP PKPdf 20 20 01.4 0.0
comp=Z,1.0nm,0.5s,baz=90,slow=1.2,SNR=12
ARCES ARCESS Array B 129.24 350 PKP PKPdf 20 20 01.4 0.0
ARCES ARCESS Array B 129.24 350 PKIKP PKPdf 20 20 01.4 0.0
FINES FINESS Array B 136.24 345 PKhKP PKPpre 20 20 02.6
comp=Z,5.1nm,1.1s,baz=232,slow=4.6,SNR=1.8
FINES FINESS Array B 136.24 345 PKP PKPpre 20 20 02.5
FINES FINESS Array B 136.24 345 PKHKP PKPpre 20 20 02.6
HFS Hagfors 139.81 352 PKhKP PKPpre 20 20 13.3
comp=Z,1.4nm,0.4s,baz=77,slow=6.7,SNR=9.9
HFS Hagfors 139.81 352 PKP PKPpre 20 20 13.3
HFS Hagfors 139.81 352 PKHKP PKPpre 20 20 13.3
AKASG Malin Array Be 143.78 332 PKhKP PKPpre 20 20 25.9
comp=Z,3.0nm,0.4s,baz=43,slow=4.0,SNR=29
AKASG SKPbc SKPbc 20 23 47.7 +4.8
comp=Z,0.2nm,0.3s,baz=38,slow=2.9,SNR=6.2
AKASG Malin Array Be 143.78 332 PKP PKPdf 20 20 25.9 -2.8
AKASG SKPbc SKPbc 20 23 47.7 +4.8
AKASG Malin Array Be 143.78 332 PKHKP PKPpre 20 20 25.9
AKASG 20 23 47.7
KIEV Kiev 143.79 332 *e*PKPpre PKPpre 20 20 24.5
KIEV Kiev 143.79 332 *e*PKHKP PKPpre 20 20 24.5
EAB Aberfoyle 143.92 8 *e*P PKPdf 20 20 25.8 -3.0
EBH Black Hill 143.96 7 *e*P PKPdf 20 20 27.1 -1.8
EAU Auchinoon 144.37 7 *e*P PKPdf 20 20 28.4 -1.1
EBL Broad Law 144.48 6 *e*P PKPdf 20 20 28.8 -1.0
EKA Eskdalemuir Ar 144.90 7 PKP PKPdf 20 20 29.9 -0.6
comp=Z,11nm,0.8s,baz=333,slow=2.9,SNR=24
EKA Eskdalemuir Ar 144.90 7 PKP PKPdf 20 20 29.9 -0.6
EKA Eskdalemuir Ar 144.90 7 PKHKP PKPdf 20 20 29.9 -0.6
ESK Eskdalemuir 144.91 7 *e*P PKPdf 20 20 28.1 -2.5
GAL1 Galloway 145.16 8 *e*P PKPdf 20 20 31.0 +0.1
XAL Allendale 145.46 6 *e*P PKPdf 20 20 32.0 +0.5
LVV L'vov 146.60 336 *i* PKIKP PKPdf 20 20 35.1 +1.5
KWP Kalwaria Pacla 147.25 337 *e*PKPbc PKPbc 20 20 37.5 +0.2
KWP Kalwaria Pacla 147.25 337 ⇑PKIKP PKPbc 20 20 37.9 +0.6
KWP Kalwaria Pacla 147.25 337⇑*i*P PKPbc 20 20 37.9 +0.6
LEOM Leova 147.25 328 ⇑PKIKP PKPbc 20 20 37.8 +0.3
LEOM Leova 147.25 328⇑*i*P PKPbc 20 20 37.8 +0.3
FOEL Foel Wylfa 147.29 8 *e*P PKPdf 20 20 34.3 -0.3
OJC Ojcow 147.74 340 *e*PKP PKPbc 20 20 39.0 +0.4
OJC Ojcow 147.74 340 *e*PKIKP PKPbc 20 20 39.0 +0.4
BUR08 Bucovina Ar. S 147.82 332 *e*PKPbc PKPbc 20 20 39.7 +0.8
BURAR Bucovina Array 147.84 332 ⇑PKIKP PKPbc 20 20 39.9 +0.9
BURAR Bucovina Array 147.84 332⇑*i*P PKPbc 20 20 39.9 +0.9
GHRR 147.95 328⇑*i*P PKPbc 20 20 40.7 +1.4
BR131 Keskin Array S 147.99 313 *e*PKPbc PKPbc 20 20 39.4 -0.2
BRTR Keskin Array B 147.99 313 PKPbc PKPbc 20 20 39.5 -0.1
comp=Z,6.9nm,0.7s,baz=139,slow=4.5,SNR=29
BRTR Keskin Array B 147.99 313 PKPbc PKPbc 20 20 39.5 -0.1
BRTR Keskin Array B 147.99 313 PKIKP PKPbc 20 20 39.6 -0.1
TESR 148.00 329⇓*i*P PKPbc 20 20 39.7 +0.3
CFR Carcaliu 148.19 326 ⇑PKIKP PKPbc 20 20 40.9 +0.9
CFR Carcaliu 148.19 326⇑*i*P PKPbc 20 20 40.9 +0.9
UZH Uzhgorod 148.23 336⇑*i*PKIKP PKPbc 20 20 40.4 +0.4
UZH *e* 20 21 30.5
NIE Niedzica 148.27 339 *e*PKP PKPbc 20 20 41.0 +1.0
NIE Niedzica 148.27 339 *e*PKIKP PKPbc 20 20 41.0 +1.0
VRI Vrincioaia 148.43 328 ⇑PKIKP PKPbc 20 20 40.9 +0.3
VRI Vrincioaia 148.43 328⇑*i*P PKPbc 20 20 40.9 +0.3
CLL Collm 148.44 349⇓*i*PKIKP PKPbc 20 20 40.7 +0.3
CLL *i* 20 20 44.2
CLL pmax pmax
comp=Z,21nm,1.0s
CLL pmax pmax
comp=Z,17nm,0.8s
CLL Collm 148.44 349⇓*i*PKPbc PKPbc 20 20 40.7 +0.3
comp=Z,21nm,1.0s
CLL ⇑*i*PKPab PKPab 20 20 44.2 -0.3
comp=Z,17nm,0.8s
CLL *ep*PKPbc pPKPbc 20 21 41.0 -4.0
PLOR Plostina 148.47 328 ⇑PKIKP PKPbc 20 20 40.0 -0.7
PLOR Plostina 148.47 328⇑*i*P PKPbc 20 20 40.0 -0.7
TIRR Tirgusor 148.52 325 ⇓PKIKP PKPbc 20 20 40.3 -0.6
TIRR Tirgusor 148.52 325⇓*i*P PKPbc 20 20 40.3 -0.6
TRPA Tarpa 148.54 335⇑*i*P PKPbc 20 20 41.3 +0.5
UPC Upice 148.54 345 *e*PKIKP PKPbc 20 20 41.3 +0.6
UPC *e* 20 20 45.5
UPC Upice 148.54 345⇑*e*PKP PKPbc 20 20 41.3 +0.6
UPC *e*PKPAB PKPab 20 20 45.5 +0.6
OKC Ostrava-Krasne 148.58 342 *e*PKIKP PKPbc 20 20 41.3 +0.5
OKC *e* 20 20 45.6
OKC Ostrava-Krasne 148.58 342⇑*e*PKP PKPbc 20 20 41.3 +0.5
OKC *e*PKPAB PKPab 20 20 45.6 +0.5
DPC Dobruska-Polom 148.61 344 *e*PKIKP PKPbc 20 20 41.5 +0.6
DPC *e* 20 20 45.8
DPC Dobruska-Polom 148.61 344⇑*e*PKP PKPbc 20 20 41.5 +0.6
DPC *e*PKPAB PKPab 20 20 45.8 +0.6
BRG Berggiesshubel 148.67 347 *i* PKP PKPbc 20 20 41.3 +0.3
comp=Z,11nm,0.8s
BRG *i* 20 20 45.3
comp=Z,14nm,0.9s
BRG Berggiesshubel 148.67 347 *i* PKIKP PKPbc 20 20 41.3 +0.3
BRG *i* 20 20 45.3
BRG pmax pmax
comp=Z,11nm,0.8s
KRLC Kraliky 148.75 344⇑*e*PKP PKPbc 20 20 41.6 +0.4
MORC Moravsky Berou 148.81 342 ⇑PKIKP PKPbc 20 20 42.2 +0.8
MORC Moravsky Berou 148.81 342⇑*i*P PKPbc 20 20 42.2 +0.8
PVCC Panska Ves 148.86 346 *e*PKIKP PKPbc 20 20 42.2 +0.7
PVCC *e* 20 20 46.5
PVCC Panska Ves 148.86 346⇑*e*PKP PKPbc 20 20 42.2 +0.7
PVCC *e*PKPAB PKPab 20 20 46.5 +0.3
KECS Kecovo 149.01 338 *e*PKIKP PKPbc 20 20 42.4 +0.5
KECS Kecovo 149.01 338 *e*PKP PKPbc 20 20 42.4 +0.5
MLR Muntele Rosu 149.08 329 PKPbc PKPbc 20 20 41.9 -0.3
comp=Z,2.0nm,0.6s,baz=26,slow=3.2,SNR=15
MLR Muntele Rosu 149.08 329 PKPbc PKPbc 20 20 41.9 -0.3
MLR Muntele Rosu 149.08 329 ⇑PKP2 PKPbc 20 20 43.7 +1.5
MLR Muntele Rosu 149.08 329⇑*i*P PKPbc 20 20 43.7 +1.5
PRU Pruhonice 149.38 346 *e*PKHKP PKPbc 20 20 43.3 +0.5
PRU *e* 20 20 49.2
PRU Pruhonice 149.38 346⇑*e*PKP PKPbc 20 20 43.3 +0.5
PRU *e*PKPAB PKPab 20 20 49.2 +0.9
VRAC Vranov 149.50 343 PKPbc PKPbc 20 20 43.5 +0.4
comp=Z,5.3nm,0.7s,baz=29,slow=0.7,SNR=5.4
VRAC PKPab PKPab 20 20 49.5 +0.7
comp=Z,9.9nm,0.8s,baz=56,slow=1.8,SNR=9.0
VRAC Vranov 149.50 343 PKPbc PKPbc 20 20 43.5 +0.4
VRAC PKPab PKPab 20 20 49.5 +0.7
VRAC Vranov 149.50 343 PKHKP PKPbc 20 20 43.5 +0.4
VRAC 20 20 49.5
VRAC Vranov 149.50 343⇓*i*P PKPbc 20 20 44.0 +0.9
VOIR 149.55 330 ⇑PKHKP PKPbc 20 20 43.9 +0.5
VOIR 149.55 330⇑*i*P PKPbc 20 20 43.9 +0.5
DRGR 149.55 334 ⇑PKHKP PKPbc 20 20 43.8 +0.5
DRGR 149.55 334⇑*i*P PKPbc 20 20 43.8 +0.5
VYHS Vyhne 149.56 340 *e*PKHKP PKPbc 20 20 43.6 +0.3
VYHS Vyhne 149.56 340 *e*PKP PKPbc 20 20 43.6 +0.3
NKC Novy Kostel 149.57 349 *e*PKHKP PKPbc 20 20 43.6 +0.4
NKC *e* 20 20 49.1
NKC Novy Kostel 149.57 349⇑*e*PKP PKPbc 20 20 43.6 +0.4
NKC *e*PKPAB PKPab 20 20 49.1 0.0
KOLL Kolacno 149.62 340 *e*PKHKP PKPbc 20 20 44.3 +0.9
KOLL Kolacno 149.62 340 *e*PKP PKPbc 20 20 44.3 +0.9
PSZ Piszkesteto 149.70 338 ⇑PKHKP PKPbc 20 20 42.9 -0.7
PSZ Piszkesteto 149.70 338⇑*i*P PKPbc 20 20 42.9 -0.7
TREC Trest 149.80 344 *e*PKHKP PKPbc 20 20 44.2 +0.4
TREC *e* 20 20 50.3
TREC Trest 149.80 344⇑*e*PKP PKPbc 20 20 44.2 +0.4
TREC *e*PKPAB PKPab 20 20 50.3 +0.2
CSS Prodhromos 150.18 305 *e*PKPbc PKPbc 20 20 44.9 -0.3
KHC Kasperske Hory 150.40 347 *e*PKIKP PKPbc 20 20 45.5 +0.2
KHC *e* 20 20 52.0
KHC Kasperske Hory 150.40 347⇑*e*PKP PKPbc 20 20 45.5 +0.2
KHC *e*PKPAB PKPab 20 20 52.0 -0.6
GIVF Givet 150.50 358 *e*PKP1 PKPbc 20 20 45.6 +0.1
comp=Z,12nm,0.6s
BAIF Baives 150.56 359 *e*PKP1 PKPbc 20 20 45.8 +0.2
comp=Z,31nm,1.0s
GZR Gura Zlata 150.62 332 ⇑PKIKP PKPbc 20 20 46.2 +0.3
GZR Gura Zlata 150.62 332⇑*i*P PKPbc 20 20 46.2 +0.3
GERES GERESS Array B 150.64 346 PKP PKPdf 20 20 40.9 +0.8
comp=Z,0.9nm,0.3s,baz=295,slow=29,SNR=4.1
GERES PKPbc PKPbc 20 20 46.9 +1.0
comp=Z,6.2nm,0.8s,baz=42,slow=2.2,SNR=29
GERES PKPab PKPab 20 20 53.0 -0.6
comp=Z,1.6nm,0.5s,baz=29,slow=3.0,SNR=9.0
GERES GERESS Array B 150.64 346 PKP PKPdf 20 20 40.9 +0.8
GERES PKPbc PKPbc 20 20 46.9 +1.0
GERES PKPab PKPab 20 20 53.0 -0.6
GERES GERESS Array B 150.64 346 PKIKP PKPdf 20 20 40.9 +0.8
GERES 20 20 46.9
GERES 20 20 53.0
BZS Buzias 150.95 333 ⇑PKIKP PKPbc 20 20 47.1 +0.4
BZS Buzias 150.95 333⇑*i*P PKPbc 20 20 47.1 +0.4
CONA Conrad Observa 150.95 343⇑*i*PKiKP PKPbc 20 20 47.3 +0.7
comp=Z,20nm,1.3s
PKSM Moragy 151.60 338 ⇓PKIKP PKPbc 20 20 48.4 +0.3
PKSM Moragy 151.60 338⇓*i*P PKPbc 20 20 48.4 +0.3
FLN La Foliniere 151.66 6 *e*PKP1 PKPbc 20 20 47.7 -0.5
ROSF Rostrenen 151.73 10 *e*PKP1 PKPbc 20 20 48.8 +0.4
LDF La Druitiere 151.86 5 *e*PKP1 PKPbc 20 20 48.1 -0.6
comp=Z,4.9nm,0.6s
GRR Gorron 152.00 6 *e*PKP1 PKPbc 20 20 48.7 -0.3
comp=Z,23nm,0.8s
PAGF Fort de Pagny 152.01 357 *e*PKP1 PKPbc 20 20 49.3 +0.3
comp=Z,3.4nm,0.7s
CDF Champ du Feu 152.05 355 *e*PKP1 PKPbc 20 20 49.7 +0.6
comp=Z,14nm,0.9s
SFTF Sexfontaines 152.39 358 *e*PKP1 PKPbc 20 20 49.9 +0.1
comp=Z,34nm,1.1s
HAU Haudompre 152.53 356 *e*PKP1 PKPbc 20 20 50.0 -0.2
VTS Vitosha 152.54 328 ⇑PKIKP PKPbc 20 20 51.0 +0.6
VTS Vitosha 152.54 328⇑*i*P PKPbc 20 20 51.0 +0.6
HINF Hinteralfeld 152.68 355 *e*PKP1 PKPbc 20 20 50.2 -0.3
comp=Z,8.4nm,0.8s
ABTA Abfaltersbach 152.88 347⇑*i*PKPbc PKPbc 20 20 50.0 -0.9
comp=Z,8.5nm,1.1s
ABTA ⇓*i*PKPab PKPab 20 21 03.0 0.0
comp=Z,5.8nm,0.6s
DAVOX Davos/Dischmat 153.35 350 PKPbc PKPbc 20 20 54.1 +2.1
comp=Z,2.5nm,0.6s,baz=282,slow=7.8,SNR=6.2
DAVOX PKPab PKPab 20 21 05.2 +0.2
comp=Z,3.6nm,0.5s,baz=319,slow=3.0,SNR=6.0
DAVOX Davos/Dischmat 153.35 350 PKPbc PKPbc 20 20 54.1 +2.1
DAVOX PKPab PKPab 20 21 05.2 +0.2
DAVOX Davos/Dischmat 153.35 350 PKIKP PKPdf 20 20 54.1 +10
DAVOX 20 21 05.2
SSF Saint Saulge 153.56 0 *e*PKP1 PKPbc 20 20 52.5 +0.1
MFF Saint Martin d 153.84 6 *e*PKP1 PKPbc 20 20 52.7 -0.3
comp=Z,5.7nm,0.7s
SMF Signal de Mont 153.97 360 *e*PKP1 PKPbc 20 20 54.0 +0.7
BGF Bois d'Agland 154.06 1 *e*PKP1 PKPbc 20 20 54.7 +1.2
RJF Les Rejaudoux 155.25 4 *e*PKP1 PKPdf 20 20 56.7 +10
ESDC Sonseca Array 159.86 17 PKPab PKPab 20 21 33.2 -0.1
comp=Z,1.4nm,0.8s,baz=332,slow=3.7,SNR=7.6
KEST Kesra 164.06 343 PKPab PKPab 20 21 51.2 -0.6
comp=Z,1.6nm,0.6s,baz=316,slow=6.8,SNR=6.8
TORD Torodi Ar. Bea 172.41 166 PKP PKPdf 20 21 03.2 -0.1
comp=Z,0.4nm,0.6s,baz=282,slow=3.0,SNR=3.7
TORD PKPab PKPab 20 22 30.1 +1.0
comp=Z,0.9nm,0.9s,baz=186,slow=4.7,SNR=4.8
TORD Torodi Ar. Bea 172.41 166 PKP PKPdf 20 21 03.2 -0.1
TORD PKPab PKPab 20 22 30.1 +1.0

ISCJB ***17*** *20:01:41.6±0.7, 11°.70N±0°.04×61°.67W±0°.04, h108km±7km, Error ellipse: s-maj=6.8km s-min=5.9km az=5.8*
FUNV ***17*** *20:01:43.1, 11°.53N×61°.53W, h16km, MW3.0*
TRN ***17*** *20:01:43.0, 11°.78N×61°.50W, h96km, MD3.2*
ISC 17 20:01:42.5±0.8, 11°.69N±0°.04×61°.67W±0°.04, h103km±8km, n20, σ1°03/36, 2C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GRW	**Mount Saint Ca**	**0.46**	**1**	⇑*e*P		**Pn**	**20 01 59.1**	**+0.7**
GRW				*e*S		**Sn**	**20 02 10.3**	**+0.1**
GRHS	**Sauteurs**	**0.53**	**3**	⇓*e*P		**Pn**	**20 01 59.3**	**+0.4**
GRHS				*e*S		**Sn**	**20 02 11.0**	**0.0**
GRIC	**Isle de Caille**	**0.59**	**8**	*e*P		**Pn**	**20 01 59.7**	**+0.3**
GRIC				*e*S		**Sn**	**20 02 11.4**	**-0.5**
GRSS	**Sisters**	**0.60**	**6**	*e*P		**Pn**	**20 01 59.7**	**+0.3**
GRSS				*e*S		**Sn**	**20 02 11.6**	**-0.5**
TPR	**Prospect**	**1.01**	**120**	*e*P		**Pn**	**20 02 03.4**	**+0.1**
TPR				*e*S		**Sn**	**20 02 17.5**	**-1.4**
TRN	**Trinidad (W)**	**1.07**	**166**	*e*P		**Pn**	**20 02 05.4**	**+1.4**
TRN				*e*S		**Sn**	**20 02 22.2**	**+2.1**
GUIV	**Guiria**	**1.17**	**208**⇑	*e*P		**Pn**	**20 02 03.8**	**-1.3**
GUIV				*e*S		**Sn**	**20 02 18.2**	**-3.9**
TOSP	**Speyside**	**1.18**	**109**	*e*P		**Pn**	**20 02 05.1**	**-0.1**
TOSP				*e*S		**Sn**	**20 02 21.7**	**-0.6**
TBH	**Brigand Hill**	**1.34**	**154**	*e*P		**Pn**	**20 02 09.4**	**+2.3**
TBH				*e*S		**Sn**	**20 02 26.8**	**+1.2**
SVB	**Belmont**	**1.62**	**15**	*e*P		**Pn**	**20 02 11.0**	**+0.5**
SVB				*e*S		**Sn**	**20 02 30.2**	**-1.4**
CRUV	**Carupano**	**1.84**	**237**	*e*S		**Sn**	**20 02 36.9**	**+0.3**
GUNV	**Guanoco**	**1.97**	**219**	*e*P		**Pn**	**20 02 15.3**	**+0.4**
GUNV				*e*S		**Sn**	**20 02 38.6**	**-0.9**
MCLT	**Moule a Chique**	**2.13**	**20**	*e*P		**Pn**	**20 02 17.2**	**+0.3**
ORIV	**Oritupano**	**3.12**	**213**	*e*P		**Pn**	**20 02 29.4**	**-0.6**
PCRV	**Puerto La Cruz**	**3.28**	**243**	*e*P		**Pn**	**20 02 32.6**	**+0.5**
RIOV	**Rio Grande**	**3.60**	**182**	*e*P		**Pn**	**20 02 36.0**	**-0.5**
RIOV				*e*S		**Sn**	**20 03 14.2**	**-4.0**
GURV	**El Guri**	**4.15**	**200**	*e*P		**Pn**	**20 02 43.6**	**-0.2**
GURV				*e*S		**Sn**	**20 03 26.8**	**-4.5**
CUPV	**Cœpira**	**4.36**	**248**	*e*P		**Pn**	**20 02 48.5**	**+1.9**
CUPV				*e*S		**Sn**	**20 03 37.3**	**+0.9**
LUEV	**Luepa**	**5.82**	**178**	*e*P		**Pn**	**20 03 04.7**	**-1.8**
LUEV				*e*S		**Sn**	**20 04 05.3**	**-6.6**
BAUV	**El Baul**	**6.84**	**247**	*e*P		**Pn**	**20 03 20.7**	**+0.4**
BAUV				*e*S		**Sn**	**20 04 34.6**	**-2.1**

ISCJB ***17*** *20:01:42.7±0.5, 37°.36N±0°.03×27°.77E±0°.04, h12km±5km, Error ellipse: s-maj=6.3km s-min=5.2km az=41.4*
CSEM ***17*** *20:01:42.8±0.2, 37°.36N×27°.77E, h10km, MD2.5, Error ellipse: s-maj=6.6km s-min=4.9km az=41.0*
ISK ***17*** *20:01:42.8, 37°.35N×27°.73E, h11km, MD2.5*
DDA ***17*** *20:01:43.2, 37°.40N×27°.78E, h7km±1km, Md2.4*
ISC 17 20:01:43.0±0.6, 37°.36N±0°.03×27°.78E±0°.04, h10km±8km, n18, σ0°87/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.07**	**181**	*e*PG		**Pg**	**20 01 45.4**	**+0.3**
MLSB	**Milas**	**0.07**	**181**	*e*Pg		**Pg**	**20 01 45.4**	**+0.2**
AYDN	**Tasoluk**	**0.31**	**15**	*i* P		**Pg**	**20 01 48.9**	**-0.3**
AYDN				*i* S		**Sg**	**20 01 52.8**	**-0.6**
AYDN	**Tasoluk**	**0.31**	**15**	*i* P		**Pg**	**20 01 48.9**	**-0.3**
AYDN				*i* S		**Sg**	**20 01 52.8**	**-0.5**
YER	**Yerkesik**	**0.46**	**119**	*e*PG		**Pg**	**20 01 53.3**	**+1.2**
YER				*e*SG		**Sg**	**20 02 00.0**	**+1.9**
YER	**Yerkesik**	**0.46**	**119**	*e*Pg		**Pg**	**20 01 53.3**	**+1.2**
YER				*e*Sg		**Sg**	**20 02 00.0**	**+1.8**
BODT	**Bodrum**	**0.48**	**231**	*e*PG		**Pg**	**20 01 51.3**	**-1.0**
BODT				*e*SG		**Sg**	**20 01 58.9**	**+0.2**
BODT	**Bodrum**	**0.48**	**231**	*e*Pg		**Pg**	**20 01 51.3**	**-1.0**
BODT				*e*Sg		**Sg**	**

BMRM	**Bremner River**	**10.90**	**47**	*e*P	**Pn**	**20 07 26.3**	**0.0**
TNA	**Tin City**	**11.68**	**346**	*e*P	**Pn**	**20 07 40.1**	**+3.1**
ILAR	**Eielson Array**	**12.53**	**29**	Pn	**Pn**	**20 07 45.5**	**-3.1**
	0.2nm,0.3s,baz=225,slow=12,SNR=8.7						
ILAR	**Eielson Array**	**12.53**	**29**	Pn	**Pn**	**20 07 45.5**	**-3.1**
DOT	**Dot Lake**	**12.63**	**36**	*e*P	**Pn**	**20 07 50.6**	**+0.6**
EGAK	**Eagle**	**14.33**	**36**	*e*P	**Pn**	**20 08 12.2**	**-1.0**
	3.8nm,0.8s						
FX1	**Attu Island--F**	**15.40**	**275**	Pn	**Pn**	**20 08 26.5**	**-0.9**
	0.9nm,0.3s,baz=329,slow=15,SNR=1.7						
FX1	**Attu Island--F**	**15.40**	**275**	Pn	**Pn**	**20 08 26.5**	**-0.9**
INK	**Inuvik**	**18.88**	**32**	P	**Pn**	**20 09 09.8**	**-0.9**
	0.4nm,0.3s,baz=253,slow=18,SNR=10						
INK	**Inuvik**	**18.88**	**32**	P	**Pn**	**20 09 09.8**	**-0.9**
PETK	**Petropavlovsk-**	**24.23**	**284**	P	**P**	**20 10 06.0**	**-0.4**
	3.0nm,0.5s,mb4.0,baz=86,slow=12,SNR=5.8						
PETK	**Petropavlovsk-**	**24.23**	**284**	P	**P**	**20 10 06.0**	**-0.4**
YKA	**Yellowknife Ar**	**25.03**	**53**	P	**P**	**20 10 16.1**	**+2.6**
	0.4nm,0.5s,mb3.2,baz=270,slow=9.0,SNR=2.1						
YKA	**Yellowknife Ar**	**25.03**	**53**	P	**P**	**20 10 16.1**	**+2.6**
NVAR	**Mina Array Bea**	**32.88**	**101**	P	**P**	**20 11 26.0**	**+2.4**
	0.2nm,0.3s,mb3.6,baz=289,slow=8.6,SNR=4.6						
NVAR	**Mina Array Bea**	**32.88**	**101**	P	**P**	**20 11 26.0**	**+2.4**
TXAR	**Lajitas Array**	**47.84**	**98**	P	**P**	**20 13 28.7**	**+1.4**
	0.1nm,0.5s,mb3.1,baz=238,slow=4.3,SNR=2.6						
TXAR	**Lajitas Array**	**47.84**	**98**	P	**P**	**20 13 28.7**	**+1.4**
SONM	**Songino Array**	**54.44**	**304**	P	**P**	**20 14 16.7**	**+0.1**
	0.7nm,0.7s,mb3.7,baz=49,slow=6.7,SNR=5.2						
SONM	**Songino Array**	**54.44**	**304**	P	**P**	**20 14 16.7**	**+0.1**
KEV	**Kevo**	**55.98**	**357**	*e*p	**P**	**20 14 25.2**	**-2.2**
ARCES	**ARCESS Array B**	**56.25**	**357**	P	**P**	**20 14 28.8**	**-0.5**
	1.1nm,0.7s,mb4.0,baz=144,slow=7.2,SNR=7.6						
ARCES	**ARCESS Array B**	**56.25**	**357**	P	**P**	**20 14 28.8**	**-0.5**
ZALV	**Zalesovo Beam**	**59.14**	**321**	P	**P**	**20 14 49.5**	**-0.3**
	0.6nm,0.4s,mb3.9,baz=52,slow=7.7,SNR=4.4						
ZALV				LR	LR	20 39 33.8	
	comp=Z,9.0nm,21.7s,baz=7.2,slow=35						
ZALV	**Zalesovo Beam**	**59.14**	**321**	P	**P**	**20 14 49.5**	**-0.3**
ZALV				LR	LR	20 39 33.8	
JOF	**Joensuu**	**62.59**	**354**	*e*p	**P**	**20 15 10.5**	**-2.6**
	1.6nm,0.7s,mb4.3						
KAF	**Kangasniemi**	**63.65**	**356**	*e*p	**P**	**20 15 18.6**	**-1.6**
	1.6nm,0.5s,mb4.3						
KURK	**Kurchatov**	**64.00**	**322**	P	**P**	**20 15 23.0**	**+0.4**
	0.4nm,0.5s,mb3.7,baz=50,slow=8.3,SNR=8.9						
FINES	**FINESS Array B**	**64.33**	**356**	P	**P**	**20 15 23.8**	**-0.8**
	1.2nm,0.5s,mb4.2,baz=13,slow=7.9,SNR=14						
FINES	**FINESS Array B**	**64.33**	**356**	P	**P**	**20 15 23.8**	**-0.8**
NB2	**NORSAR Subarra**	**64.70**	**4**	P	**P**	**20 15 26.5**	**-0.6**
	comp=Z,1.2nm,0.6s,mb4.1,baz=357,slow=6.5						
NOA	**NORSAR Array B**	**64.70**	**4**	P	**P**	**20 15 27.0**	**-0.1**
	comp=Z,2.3nm,0.8s,mb4.2,baz=356,slow=6.7,SNR=4.8						
NOA	**NORSAR Array B**	**64.70**	**4**	P	**P**	**20 15 27.0**	**-0.1**
MKAR	**Makanchi Array**	**65.86**	**318**	P	**P**	**20 15 34.1**	**-0.7**
	comp=Z,0.8nm,0.7s,mb3.9,baz=43,slow=6.1,SNR=6.8						
MKAR	**Makanchi Array**	**65.86**	**318**	P	**P**	**20 15 34.1**	**-0.7**
AKTO	**Aktyubinsk**	**70.52**	**335**	P	**P**	**20 16 03.8**	**-0.1**
	comp=Z,0.5nm,0.5s,mb3.7,baz=351,slow=7.0,SNR=6.1						
AKTO	**Aktyubinsk**	**70.52**	**335**	P	**P**	**20 16 03.8**	**-0.1**
AKASG	**Malin Array Be**	**74.89**	**353**	P	**P**	**20 16 28.9**	**-0.9**
	comp=Z,2.5nm,0.5s,mb4.4,baz=9.2,slow=5.9,SNR=10						
AKASG	**Malin Array Be**	**74.89**	**353**	P	**P**	**20 16 28.9**	**-0.9**
BURAR	**Bucovina Array**	**78.19**	**356**	⇓*i*P	**P**	**20 16 48.4**	**-0.2**
GZR	**Gura Zlata**	**80.49**	**357**	⇓*i*P	**P**	**20 17 01.5**	**+0.3**
ESDC	**Sonseca Array**	**84.20**	**18**	P	**P**	**20 17 22.8**	**+2.2**
	comp=Z,0.4nm,0.3s,mb4.0,baz=346,slow=5.1,SNR=9.5						
ESDC	**Sonseca Array**	**84.20**	**18**	P	**P**	**20 17 22.8**	**+2.2**
BRTR	**Keskin Array B**	**85.38**	**349**	P	**P**	**20 17 27.6**	**+1.0**
	comp=Z,0.3nm,0.4s,mb3.8,baz=31,slow=8.7,SNR=3.6						
BRTR	**Keskin Array B**	**85.38**	**349**	P	**P**	**20 17 27.6**	**+1.0**

IDC 17 20:12:07.2±6.4**, 21°.35N**×**145°.79E, h0**km**, mb3.4**/5**, mb1 3.6**/6**, mb1mx3.4**/26**, mbtmp3.5**/6**, ML3.5**/1**, Error ellipse: s-maj=249.3km s-min=21.1km az=78.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**6.60**	**331**	Pn	**Pn**	20 13 45.6	0.0
	2.7nm,0.3s,baz=270,slow=20,SNR=3.8						
CBIJ				Sn	Sn	20 14 55.8	-5.8
	3.1nm,0.3s,baz=287,slow=19,SNR=2.8						
WRA	**Warramunga Arr**	**42.53**	**196**	P	P	20 20 05.8	+1.0
	0.4nm,0.5s,baz=17,slow=8.8,SNR=8.3						
ASAR	**Alice Springs**	**46.21**	**195**	P	P	20 20 33.0	-1.2
	0.2nm,0.7s,baz=20,slow=8.4,SNR=3.8						
ZALV	**Zalesovo Beam**	**56.00**	**321**	P	P	20 21 47.5	0.0
	0.2nm,0.3s,baz=76,slow=6.1,SNR=2.7						
MKAR	**Makanchi Array**	**56.72**	**313**	P	P	20 21 53.4	+0.6
	0.3nm,0.6s,baz=83,slow=9.4,SNR=2.7						
KURK	**Kurchatov**	**59.39**	**317**	P	P	20 22 11.1	-0.3
	0.6nm,0.7s,baz=92,slow=7.5,SNR=6.5						

IDC 17 20:29:34.2±*1.3, 6°.89S*×*129°.01E, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.7/17, mbtmp3.7/6, ML3.7/2, Error ellipse: s-maj=89.1km s-min=22.0km az=75.0*

ISCJB 17 20:29:36.6±*2.7, 7°.11S*±*0°.05*×*129°.17E*±*0°.06, h33km*±*22km, mb3.5/4, Error ellipse: s-maj=10.0km s-min=7.7km az=6.5*

NEIC 17 20:29:38.9±*0.9, 6°.93S*×*129°.30E, h35km, mb3.1/1, Error ellipse: s-maj=24.4km s-min=12.6km az=68.0*

DJA 17 20:29:44, 3°.13S×*130°.61E, h10km, MLv3.6/5*

ISC 17 20:29:39.1±0.9**, 7°.08S**±0°.05×**129°.26E**±0°.07**, h43**km±14km**, n21**, σ1°.37/29**, mb3.5/**4**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.62**	**14**	P	**Pn**	**20 30 11.3**	**-7.7**
AAI	**Ambon**	**3.53**	**343**	P	**Pn**	**20 30 24.0**	**-7.5**
AAI				S	**Sn**	**20 30 57.8**	**-14**
TLE	**Tual**	**3.74**	**68**	P	**Pn**	**20 30 34.5**	**+0.1**
TLE				S	**Sn**	**20 31 19.6**	**+2.3**
NLAI	**Namlea**	**4.38**	**331**	P	**Pn**	**20 30 43.2**	**+0.1**
KAPI	**Kappang**	**9.67**	**282**	*e*P	**Pn**	**20 31 56.6**	**+0.8**
	9.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**11.51**	**198**	Pn	**Pn**	**20 32 22.2**	**+1.3**
	0.4nm,0.3s,baz=36,slow=12,SNR=15						
FITZ				Sn	**Sn**	**20 34 28.3**	**0.0**
	1.0nm,0.3s,baz=85,slow=19,SNR=8.8						
FITZ	**Fitzroy Crossi**	**11.51**	**198**	Pn	**Pn**	**20 32 22.2**	**+1.3**
FITZ				Sn	**Sn**	**20 34 28.3**	**0.0**
WRAB	**Tennant Creek**	**13.70**	**159**	*e*P	**Pn**	**20 32 48.8**	**-2.1**
	7.6nm,0.9s						
WRA	**Warramunga Arr**	**13.71**	**159**	Pn	**Pn**	**20 32 49.1**	**-1.8**
	0.5nm,0.3s,baz=337,slow=13,SNR=37						
WRA				Sn	**Sn**	**20 35 24.4**	**+2.5**
	0.7nm,0.3s,baz=327,slow=25,SNR=5.4						
WRA	**Warramunga Arr**	**13.71**	**159**	Pn	**Pn**	**20 32 49.1**	**-1.8**
WRA				Sn	**Sn**	**20 35 24.4**	**+2.5**
WB2	**Warramunga Arr**	**13.71**	**159**	*e*P	**Pn**	**20 32 49.4**	**-1.7**
ASAR	**Alice Springs**	**17.09**	**165**	P	**Pn**	**20 33 35.9**	**+1.0**
	0.3nm,0.3s,baz=334,slow=9.3,SNR=18						
ASAR				S	**S**	**20 36 48.2**	**-4.0**
	0.2nm,0.3s,baz=352,slow=26,SNR=4.6						
ASAR	**Alice Springs**	**17.09**	**165**	P	**Pn**	**20 33 35.9**	**+1.0**
ASAR				S	**S**	**20 36 48.2**	**-4.0**
STKA	**Stephens Creek**	**27.23**	**157**	P	**P**	**20 35 22.8**	**+3.6**
	0.9nm,0.5s,mb3.6,baz=308,slow=17,SNR=3.0						
STKA	**Stephens Creek**	**27.23**	**157**	*e*P	**P**	**20 35 22.4**	**+3.2**
	0.5nm,0.9s,mb3.0						
SONM	**Songino Array**	**58.28**	**342**	P	**P**	**20 39 29.1**	**-0.4**
	0.2nm,0.5s,mb3.4,baz=162,slow=6.1,SNR=4.0						
SONM	**Songino Array**	**58.28**	**342**	P	**P**	**20 39 29.1**	**-0.4**
MKAR	**Makanchi Array**	**67.89**	**327**	P	**P**	**20 40 32.1**	**-1.1**
	0.7nm,0.8s,mb3.8,baz=118,slow=8.3,SNR=5.3						
MKAR	**Makanchi Array**	**67.89**	**327**	P	**P**	**20 40 32.1**	**-1.1**
ZALV	**Zalesovo Beam**	**71.33**	**334**	P	**P**	**20 40 54.6**	**+0.4**
	0.3nm,0.4s,mb3.6,baz=142,slow=7.3,SNR=2.5						
ZALV	**Zalesovo Beam**	**71.33**	**334**	P	**P**	**20 40 54.6**	**+0.4**

ISCJB 17 20:30:01.5±*0.7, 17°.2N*±*0°.1*×*46°.4W*±*0°.1, h10km, mb4.0/11, MS3.5/14, Error ellipse: s-maj=18.0km s-min=16.2km az=19.2*

IDC 17 20:30:01.7±*0.8, 17°.17N*×*46°.40W, h0km, mb3.9/9, mb1 4.2/9, mb1mx4.0/23, mbtmp3.9/9, MS3.5/14, Ms1 3.5/14, ms1mx3.2/42, Error ellipse: s-maj=24.1km s-min=22.1km az=157.0*

NEIC 17 20:30:03.2±*0.5, 17°.15N*×*46°.38W, h10km, mb4.6/2, Error ellipse: s-maj=14.9km s-min=13.5km az=198.0*

ISC 17 20:30:03.5±0.7**, 17°.2N**±0°.1×**46°.4W**±0°.1**, h10**km**, n32,**

σ0°.76/22, mb4.0/11**, MS3.5**/14**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJG	**San Juan**	**18.87**	**276**	LR	LR	20 40 09.6	
	comp=Z,121nm,21.4s,baz=268,slow=32						
RCBR	**Riachuelo**	**25.07**	**155**	LR	LR	20 43 02.2	
	comp=Z,63nm,19.2s,MS3.1,baz=318,slow=31						
BBTS	**Babate**	**28.79**	**91**	LR	LR	20 44 32.0	
	comp=Z,108nm,18.5s,MS3.5,baz=339,slow=30						
ROSC	**El Rosal**	**29.99**	**249**	LR	LR	20 46 04.2	
	comp=Z,23nm,21.9s,MS2.8,baz=9.2,slow=32						
LPAZ	**La Paz**	**39.55**	**214**	P	**P**	**20 37 36.0**	**+1.0**
	2.5nm,0.9s,mb4.0,baz=17,slow=4.6,SNR=11						
LPAZ				LR	LR	20 54 40.6	
	comp=Z,40nm,19.4s,MS3.3,baz=24,slow=37						
LPAZ	**La Paz**	**39.55**	**214**	P	**P**	**20 37 36.0**	**+1.0**
LPAZ				LR	LR	20 54 40.6	
DBIC	**Dimbokro**	**41.85**	**99**	LR	LR	20 53 02.7	
	comp=Z,52nm,18.2s,MS3.5,baz=89,slow=33						
CPUP	**Villa Florida**	**44.52**	**194**	P	**P**	**20 38 14.6**	**-0.8**
	0.4nm,0.4s,mb3.6,baz=27,slow=6.8,SNR=3.1						
CPUP				LR	LR	20 55 21.9	
	comp=Z,44nm,20.2s,MS3.4,baz=42,slow=34						
CPUP	**Villa Florida**	**44.52**	**194**	P	**P**	**20 38 14.6**	**-0.8**
CPUP				LR	LR	20 55 21.9	
TORD	**Torodi Ar. Bea**	**46.48**	**88**	P	**P**	**20 38 30.3**	**-0.9**
	2.0nm,1.0s,mb4.0,baz=290,slow=7.3,SNR=8.8						
TORD				LR	LR	20 55 57.7	
	comp=Z,87nm,18.7s,MS3.7,baz=275,slow=34						
TORD	**Torodi Ar. Bea**	**46.48**	**88**	P	**P**	**20 38 30.3**	**-0.9**
TORD				LR	LR	20 55 57.7	
ULM	**Lac du Bonnet**	**51.44**	**321**	P	**P**	**20 39 07.9**	**-0.8**
	3.5nm,0.8s,mb4.3,baz=114,slow=10.0,SNR=3.0						
ULM	**Lac du Bonnet**	**51.44**	**321**	P	**P**	**20 39 07.9**	**-0.8**
TXAR	**Lajitas Array**	**53.56**	**294**	P	**P**	**20 39 24.5**	**-0.3**
	1.1nm,0.9s,mb3.8,baz=103,slow=9.1,SNR=8.6						
TXAR				LR	LR	21 01 13.1	
	comp=Z,58nm,18.9s,MS3.7,baz=0.0,slow=35						
TXAR	**Lajitas Array**	**53.56**	**294**	P	**P**	**20 39 24.5**	**-0.3**
TXAR				LR	LR	21 01 13.1	
ANMO	**Albuquerque**	**56.02**	**301**	LR	LR	21 00 04.6	
	comp=Z,88nm,19.2s,MS3.9,baz=337,slow=32						
GERES	**GERESS Array B**	**57.64**	**43**	P	**P**	**20 39 54.9**	**+1.0**
	0.1nm,0.3s,mb3.4,baz=215,slow=11,SNR=3.4						
GERES	**GERESS Array B**	**57.64**	**43**	P	**P**	**20 39 54.9**	**+1.0**
PDAR	**Pinedale Array**	**58.94**	**310**	P	**P**	**20 40 02.8**	**-0.3**
	2.2nm,1.0s,mb4.1,baz=90,slow=7.4,SNR=9.1						
PDAR				LR	LR	21 01 59.9	
	comp=Z,74nm,19.3s,MS3.8,baz=327,slow=33						
PDAR	**Pinedale Array**	**58.94**	**310**	P	**P**	**20 40 02.8**	**-0.3**
PDAR				LR	LR	21 01 59.9	
PD02	**Pinedale Array**	**58.95**	**310**	*e*P	**P**	**20 40 02.7**	**-0.4**
PD01	**Pinedale Array**	**58.96**	**310**	*e*P	**P**	**20 40 02.6**	**-0.6**
IMW	**Indian Meadow**	**60.04**	**311**	*e*P	**P**	**20 40 11.0**	**+0.4**
	4.8nm,0.9s,mb4.5						
WUAZ	**Wupatki**	**60.05**	**301**	*e*P	**P**	**20 40 12.4**	**+1.5**
	5.5nm,1.0s,mb4.5						
YKA	**Yellowknife Ar**	**64.89**	**332**	LR	LR	21 07 27.3	
	comp=Z,3.1nm,19.6s,MS2.5,baz=220,slow=35						
BRTR	**Keskin Array B**	**71.67**	**53**	P	**P**	**20 41 26.2**	**+0.6**
	0.8nm,0.8s,mb3.7,baz=308,slow=6.1,SNR=3.6						
BRTR	**Keskin Array B**	**71.67**	**53**	P	**P**	**20 41 26.2**	**+0.6**
INK	**Inuvik**	**73.15**	**337**	LR	LR	21 14 47.6	
	comp=Z,76nm,18.1s,MS4.0,baz=341,slow=37						
EIL	**Elat**	**74.34**	**63**	LR	LR	21 14 31.1	
	comp=Z,29nm,20.9s,MS3.5,baz=95,slow=36						
ILAR	**Eielson Array**	**79.04**	**335**	P	**P**	**20 42 07.3**	**-0.2**
	2.4nm,0.8s,mb4.2,baz=74,slow=4.7,SNR=26						
ILAR	**Eielson Array**	**79.04**	**335**	P	**P**	**20 42 07.3**	**-0.2**
BOSA	**Boshof**	**82.81**	**123**	LR	LR	21 09 45.2	
	comp=Z,49nm,20.7s,MS3.9,baz=161,slow=29						

ISCJB 17 20:30:13.6±*6.0, 6°.84S*±*0°.06*×*129°.2E*±*0°.2, h27km*±*44km, mb3.8/6, MS3.3/2, Error ellipse: s-maj=28.0km s-min=9.6km az=174.3*

IDC 17 20:30:13.3±*1.1, 6°.49S*×*129°.65E, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.9/17, mbtmp3.9/7, ML4.2/1, MS3.2/3, Ms1 3.2/3, ms1mx2.8/27, Error ellipse: s-maj=60.1km s-min=22.9km az=74.0*

NEIC 17 20:30:17.4±*0.8, 6°.64S*×*129°.86E, h35km, Error ellipse: s-maj=54.5km s-min=13.6km az=72.0*

ISC 17 20:30:15.3±5.6**, 6°.80S**±0°.06×**129°.4E**±0°.2**, h18**km±35km**, n21**, σ1°.40/19**, mb3.8/**6**, MS3.3/**2**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.80**	**198**	Sn	**Sn**	**20 35 13.1**	**-1.1**
	1.7nm,0.3s,baz=104,slow=20,SNR=4.3						
FITZ				LR	LR	20 38 17.0	
	comp=Z,66nm,18.6s,baz=17,slow=40						
WRA	**Warramunga Arr**	**13.94**	**160**	Pn	**Pn**	**20 33 30.5**	**-1.5**
	0.4nm,0.3s,baz=337,slow=12,SNR=4.0						
WRA				Sn	**Sn**	**20 36 06.9**	**+0.5**
	0.7nm,0.3s,baz=270,slow=14,SNR=4.6						
WRA	**Warramunga Arr**	**13.94**	**160**	Pn	**Pn**	**20 33 30.5**	**-1.5**
WRA				Sn	**Sn**	**20 36 06.9**	**+0.5**
ASAR	**Alice Springs**	**17.34**	**166**	P	**Pn**	**20 34 17.9**	**+1.5**
	0.8nm,0.3s,baz=339,slow=9.1,SNR=7.9						
ASAR	**Alice Springs**	**17.34**	**166**	P	**Pn**	**20 34 17.9**	**+1.5**
CBIJ	**Chichi jima**	**35.91**	**20**	LR	LR	20 49 48.6	
	comp=Z,24nm,20.7s,MS2.9,baz=354,slow=38						
CMAR	**Chiang Mai Arr**	**39.10**	**310**	P	**P**	**20 37 44.3**	**+2.5**
	0.8nm,0.7s,mb3.5,baz=139,slow=7.3,SNR=5.7						
CMAR	**Chiang Mai Arr**	**39.10**	**310**	P	**P**	**20 37 44.3**	**+2.5**
MJAR	**Matsushiro Arr**	**43.90**	**10**	P	**P**	**20 38 19.3**	**-1.6**
	2.2nm,0.7s,mb4.0,baz=190,slow=9.8,SNR=4.6						
MJAR	**Matsushiro Arr**	**43.90**	**10**	P	**P**	**20 38 19.3**	**-1.6**
SONM	**Songino Array**	**58.05**	**342**	P	**P**	**20 40 07.7**	**+0.6**
	0.5nm,0.8s,mb3.6,baz=158,slow=4.2,SNR=3.5						
SONM	**Songino Array**	**58.05**	**342**	P	**P**	**20 40 07.7**	**+0.6**
MKAR	**Makanchi Array**	**67.70**	**327**	P	**P**	**20 41 10.7**	**-0.7**
	0.6nm,0.5s,mb3.9,baz=114,slow=8.3,SNR=6.4						
MKAR	**Makanchi Array**	**67.70**	**327**	P	**P**	**20 41 10.7**	**-0.7**
ZALV	**Zalesovo Beam**	**71.11**	**334**	P	**P**	**20 41 31.6**	**-0.9**
	0.6nm,0.6s,mb3.7,baz=141,slow=12,SNR=3.2						
ZALV	**Zalesovo Beam**	**71.11**	**334**	P	**P**	**20 41 31.6**	**-0.9**
VNDA	**Vanda**	**72.73**	**173**	LR	LR	21 10 17.7	
	comp=Z,31nm,18.7s,MS3.6,baz=202,slow=33						
QSPA	**South Pole Qui**	**83.18**	**180**	P	**P**	**20 42 42.9**	**+3.1**
	0.8nm,0.3s,mb4.2,baz=91,slow=4.1,SNR=6.2						
QSPA	**South Pole Qui**	**83.18**	**180**	P	**P**	**20 42 42.9**	**+3.1**
CPUP	**Villa Florida**	**146.44**	**169**	PKPbc	PKPbc	20 49 59.0	+3.0
	0.4nm,0.4s,baz=210,slow=3.8,SNR=3.6						
CPUP	**Villa Florida**	**146.44**	**169**	PKPbc	PKPbc	20 49 59.0	+2.9

IDC 17 20:37:13.6±*1.7, 1°.40N*×*122°.41E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/22, mbtmp3.7/5, ML4.2/1, Error ellipse: s-maj=139.6km s-min=25.1km az=71.0*

ISCJB 17 20:37:18.8±*1.8, 1°.0N*±*0°.1*×*121°.5E*±*0°.1, h60km*±*12km, mb3.5/4, Error ellipse: s-maj=21.3km s-min=16.9km az=35.0*

DJA 17 20:37:21, 1°.08N×*121°.73E, h11km, MLv4.1/4*

ISC 17 20:37:20.0±1.9**, 1°.0N**±0°.1×**121°.5E**±0°.1**, h54**km±15km**, n11, σ0°.80/13, mb3.5/**4**, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRSI	**Marisa**	**0.72**	**137**	P	**Pn**	**20 37 32.9**	**-1.3**
MRSI				S	**Sn**	**20 37 44.0**	**-0.5**
LUWI	**Luwuk**	**2.43**	**147**	P	**Pn**	**20 37 59.4**	**+2.2**
KMSI	**Cibinong**	**2.57**	**100**	P	**Pn**	**20 37 59.5**	**+0.3**
KMSI				S	**Sn**	**20 38 28.9**	**-0.3**
MNI	**Manado**	**3.42**	**83**	P	**Pn**	**20 38 11.6**	**+0.8**
TTSI	**Tana Toraja**	**4.34**	**202**	P	**Pn**	**20 38 30.2**	**+6.7**
SPSI	**Sidrap Palu**	**5.21**	**199**	P	**Pn**	**20 38 42.2**	**+6.7**
FITZ	**Fitzroy Crossi**	**19.43**	**168**	P	**Pn**	**20 41 44.0**	**+0.3**
	0.6nm,0.3s,baz=17,slow=8.5,SNR=10						
WRA	**Warramunga Arr**	**24.35**	**149**	P	**P**	**20 42 32.8**	**-0.3**
	0.4nm,0.3s,mb3.3,baz=327,slow=10,SNR=10						
ASAR	**Alice Springs**	**27.35**	**155**	P	**P**	**20 42 59.8**	**-0.4**
	0.5nm,0.5s,mb3.3,baz=343,slow=14,SNR=10						
STKA	**Stephens Creek**	**37.87**	**151**	P	**P**	**20 44 31.7**	**-0.1**
	1.7nm,0.7s,mb3.9,baz=340,slow=9.5,SNR=4.7						
SONM	**Songino Array**	**48.44**	**346**	P	**P**	**20 45 56.5**	**-0.4**
	0.4nm,0.8s,mb3.5,baz=169,slow=7.4,SNR=3.8						

CSEM 17 20:41:06.2±*0.5, 27°.03N*×*56°.04E, h2km, ML3.2, Error ellipse: s-maj=18.2km s-min=4.9km az=51.0*

OMAN 17 20:41:08.5±*0.1, 26°.93N*×*56°.16E, h10km, Error ellipse: s-maj=4.4km s-min=2.7km az=271.0*

KISR 17 20:41:09.2±*0.3, 26°.51N*×*54°.98E, h34km, ML3.2*

IDC 17 20:41:29.7±*12.0, 27°.46N*×*55°.25E, h190km*±*134km, mb3.2/4, mb1 3.3/4, mb1mx2.9/26, mbtmp3.2/4, Error ellipse: s-maj=348.9km s-min=21.3km az=148.0*

ISC 17 20:41:08.0±2.1**, 26°.85N**±0°.08×**55°.69E**±0°.08**, h5**km±15km**, n22**, σ1°.28/28**, mb3.8/**4**, 1C-4D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BANOM	**Banah**	**1.07**	**149**	P	**Pg**	**20 41 27.2**	**-1.4**
	SNR=380						
BANOM				⇓S	**Sg**	**20 41 42.3**	**-0.2**
BANOM	**Banah**	**1.07**	**149**	P	**Pg**	**20 41 27.2**	**-1.4**
	SNR=380						
BANOM				S	**Sg**	**20 41 42.3**	**-0.2**
HATD	**Hatta, Dubai**	**2.05**	**169**	⇓P	**Pn**	**20 41 43.7**	**+0.6**
HATD	**Hatta, Dubai**	**2.05**	**169**	P	**Pn**	**20 41 43.7**	**+0.6**
ASHO	**Ashiyiah**	**2.18**	**171**	P	**Pn**	**20 41 45.6**	**+0.7**
	SNR=23						
ASHO	**Ashiyiah**	**2.18**	**171**	P	**Pn**	**20 41 45.6**	**+0.7**
	SNR=23						
ASUD	**Al Ashush, Dub**	**2.23**	**188**	P	**Pn**	**20 41 47.8**	**+2.2**
	SNR=21						
ASUD	**Al Ashush, Dub**	**2.23**	**188**	P	**Pn**	**20 41 47.8**	**+2.2**
	SNR=21						
ARQ	**Araqi**	**3.58**	**168**	⇓P	**Pn**	**20 42 04.6**	**+0.5**
ARQ	**Araqi**	**3.58**	**168**	P	**Pn**	**20 42 04.6**	**+0.5**
JMDO	**Jabal Madar**	**4.97**	**153**	⇑P	**Pn**	**20 42 23.2**	**-0.1**
JMDO	**Jabal Madar**	**4.97**	**153**	P	**Pn**	**20 42 23.2**	**-0.1**
WBK	**Wadi Bani Khal**	**5.17**	**144**	⇓P	**Pn**	**20 42 23.8**	**-2.2**
WBK	**Wadi Bani Khal**	**5.17**	**144**	P	**Pn**	**20 42 23.8**	**-2.2**
NAY	**Al-Naaiem**	**7.83**	**290**	*e*P	**Pn**	**20 43 04.0**	**+1.4**
NAY				AML	AML	20 44 28.6	
	comp=Z,2.1nm,0.7s						
NAY				*e*S	**Sn**	**20 44 29.9**	**-1.8**
NAY	**Al-Naaiem**	**7.83**	**290**	*e*P	**Pn**	**20 43 04.0**	**+1.4**
NAY				*e*S	**Sn**	**20 44 29.9**	**-1.8**
MIB	**Mutribah**	**7.92**	**294**	*e*P	**Pn**	**20 43 05.6**	**+1.8**
MIB				*e*S	**Sn**	**20 44 33.2**	**-0.7**
MIB				AML	AML	20 44 35.7	
	comp=Z,4.2nm,0.6s						
MIB	**Mutribah**	**7.92**	**294**	*e*P	**Pn**	**20 43 05.6**	**+1.8**
MIB				*e*S	**Sn**	**20 44 33.2**	**-0.7**
MKAR	**Makanchi Array**	**28.93**	**40**	P	**P**	**20 47 08.9**	**+1.0**
	comp=Z,1.0nm,0.9s,mb3.6,baz=248,slow=7.6,SNR=3.0						
ZALV	**Zalesovo Beam**	**34.55**	**30**	P	**P**	**20 47 57.3**	**+0.1**
	comp=Z,0.8nm,0.3s,mb4.1,baz=246,slow=7.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**52.18**	**266**	P	**P**	**20 50 18.6**	**-1.3**
	comp

MKAR	**Makanchi Array**	**24.32**	**329**	P		P	20 55 36.2	-0.2
	0.4nm,0.5s,baz=133,slow=11,SNR=7.7							
KURK	**Kurchatov**	**28.86**	**331**	P		P	20 56 17.3	+0.1
	0.2nm,0.6s,baz=144,slow=9.5,SNR=3.6							
WRA	**Warramunga Arr**	**57.17**	**141**	P		P	21 00 05.2	-0.6
	0.4nm,0.5s,baz=330,slow=7.6,SNR=6.5							
ASAR	**Alice Springs**	**59.95**	**144**	P		P	21 00 25.3	+0.3
	0.2nm,0.5s,baz=331,slow=6.6,SNR=2.9							

IDC 17 20:51:43.5±3.9,**29°.65N×90°.32E, h0**km,**mb3.5**/4, **mb1 3.8**/4,**mb1mx3.4**/24,**mbtmp3.6**/4,**Error ellipse: s-maj=138.0km s-min=28.4km az=85.0, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
SHL	**Shillong**	**4.30**	**161**	*e*PKP	Pg	20 53 17.0		+11
SONM	**Songino Array**	**21.98**	**30**	P	P	20 56 39.8		+0.8
	0.8nm,0.6s,baz=212,slow=12,SNR=6.2							
WRA	**Warramunga Arr**	**65.04**	**134**	P	P	21 02 25.8		0.0
	0.6nm,0.5s,baz=326,slow=6.7,SNR=13							
ASAR	**Alice Springs**	**67.56**	**137**	P	P	21 02 42.2		+0.3
	0.4nm,0.7s,baz=325,slow=7.4,SNR=4.3							
ILAR	**Eielson Array**	**75.95**	**22**	P	P	21 03 31.6		-0.2
	0.2nm,0.7s,baz=303,slow=4.8,SNR=4.0							

*ISCJB **17** 21:03:01.5±0.5, 1°.36N±0°.03×122°.17E±0°.04, h53*km*±5*km*, mb4.7/35, MS3.6/9, Error ellipse: s-maj=6.1km s-min=5.4km az=156.4*

*DJA **17** 21:03:01.1±0.3, 1°.1N±3°×12°.2E±°, h10*km*, M4.8/1, mb5.0/21, mB5.2/12, MLv5.0/19, Mw(mB)4.5/12*

*NEIC **17** 21:03:02.3±0.8, 1°.28N×122°.14E, h42*km*±8*km*, mb4.7/12, Error ellipse: s-maj=10.2km s-min=5.0km az=74.0*

*IDC **17** 21:03:03.0±3.4, 1°.31N×122°.16E, h48*km*±33*km*, mb4.1/15, mb1 4.3/17, mb1mx4.1/29, mbtmp4.2/17, ML4.8/2, MS3.6/10, Ms1 3.6/10, ms1mx3.2/40, Error ellipse: s-maj=33.3km s-min=10.5km az=73.0*

ISC 17 21:03:03.6±0.5, **1°.34N**±0°.03×**122°.21E**±0°.04, **h55**km±5km, **n117,** σ1**20**/108, **mb4.7**/35, **MS3.6**/9, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
MRSI	**Marisa**	**0.90**	**197**	P	**Pn**	**21 03 17.3**		**-2.8**
MRSI				S	**Sn**	**21 03 29.1**		**-3.2**
KMSI	**Cibinong**	**1.93**	**113**	P	**Pn**	**21 03 38.4**		**+4.4**
KMSI				S	**Sn**	**21 04 03.6**		**+6.4**
LUWI	**Luwuk**	**2.43**	**167**	P	**Pn**	**21 03 42.7**		**+1.8**
MNI	**Manado**	**2.63**	**88**	P	**Pn**	**21 03 42.9**		**-0.8**
MNI				S	**Sn**	**21 04 13.4**		**-1.1**
MSSI	**Masamba**	**4.30**	**206**	P	**Pn**	**21 04 06.9**		**+0.4**
TTSI	**Tana Toraja**	**4.96**	**209**	P	**Pn**	**21 04 16.2**		**+0.5**
TNTI	**Ternate**	**5.19**	**96**	P	**Pn**	**21 04 21.1**		**+2.4**
	0.3nm47nm,0.9s							
TSM	**Tawau**	**5.23**	**304**	P	**Pn**	**21 04 14.5**		**-4.8**
KDI	**Kendari**	**5.28**	**176**	P	**Pn**	**21 04 21.0**		**+1.1**
	0.7nm2μm217nm,0.8s							
KDI				S	**Sn**	**21 05 25.0**		**+5.6**
	0.7nm2μm217nm,0.8s							
SMKI	**Samarinda**	**5.30**	**251**	P	**Pn**	**21 04 20.4**		**+0.1**
	1.3nm185nm,0.9s							
SMKI				S	**Sn**	**21 05 23.5**		**+3.4**
	1.3nm185nm,0.9s							
MYLDM	**Lahad Datu**	**5.32**	**316**	P	**Pn**	**21 04 18.5**		**-2.0**
MYLDM	**Lahad Datu**	**5.32**	**316**	P	**Pn**	**21 04 18.3**		**-2.2**
	0.6nm2μm68nm,1.1s							
SPSI	**Sidrap Palu**	**5.80**	**205**	P	**Pn**	**21 04 27.9**		**+0.7**
	2μm243nm,0.9s							
MJSI	**Majene**	**5.83**	**214**	P	**Pn**	**21 04 27.3**		**-0.2**
	1.1nm2μm211nm,0.9s							
SDKM	**Sandakan**	**6.58**	**311**	P	**Pn**	**21 04 34.5**		**-3.3**
DAV	**Davao City (W)**	**6.61**	**30**	P	**Pn**	**21 04 38.7**		**+0.5**
	47nm,0.3s,baz=227,slow=2.6,SNR=6.3							
DAV	**Davao City (W)**	**6.61**	**30**	P	**Pn**	**21 04 38.8**		**+0.5**
NLAI	**Namlea**	**6.68**	**133**	P	**Pn**	**21 04 44.6**		**+5.5**
	0.8nm2μm97nm,0.7s							
NLAI				S	**Sn**	**21 06 04.2**		**+10**
	0.8nm2μm97nm,0.7s							
KAPI	**Kappang**	**6.77**	**201**	*e*Pn	**Pn**	**21 04 38.9**		**-1.5**
KAPI	**Kappang**	**6.77**	**201**	P	**Pn**	**21 04 40.6**		**+0.2**
	0.3nm730nm92nm,0.8s							
BBSI	**Bau Bau**	**6.79**	**177**	P	**Pn**	**21 04 41.7**		**+1.0**
	0.6nm2μm229nm,1.1s							
BKSI	**Bulukumba**	**6.93**	**197**	P	**Pn**	**21 04 42.8**		**+0.1**
	0.3nm904nm105nm,0.8s							
KKM	**Kota Kinabalu**	**7.59**	**308**	P	**Pn**	**21 04 48.8**		**-2.9**
KKM	**Kota Kinabalu**	**7.59**	**308**	*e*Pn	**Pn**	**21 04 48.8**		**-2.9**
KKM				*e*Sn	**Sn**	**21 06 23.8**		**+7.4**
KKM	**Kota Kinabalu**	**7.59**	**308**	P	**Pn**	**21 04 48.8**		**-2.9**
	0.2nm546nm56nm,0.7s							
KBKI	**Kotabaru**	**7.59**	**233**	P	**Pn**	**21 04 52.3**		**+0.6**
	0.5nm1μm118nm,0.8s							
AAI	**Ambon**	**7.79**	**130**	P	**Pn**	**21 04 58.7**		**+4.3**
	2.7nm1μm115nm,0.9s							
MSAI	**Masohi**	**8.17**	**125**	P	Px	21 05 12.3		
BBKI	**Banjar Baru**	**8.77**	**237**	P	**Pn**	**21 05 06.7**		**-1.2**
	0.5nm151nm,0.6s							
MMRI	**Maumere**	**9.91**	**180**	P	**Pn**	**21 05 27.2**		**+3.8**
	50nm,1.1s							
MTNI	**Mataram**	**11.59**	**211**	P	**Pn**	**21 05 47.0**		**+0.6**
	5μm41nm,0.8s							
KMMI	**Kalianget**	**11.71**	**225**	P	**Pn**	**21 05 51.9**		**+3.9**
	55nm,1.0s							
JAGI	**Jajag, Banyuwa**	**12.62**	**219**	P	**Pn**	**21 06 01.1**		**+0.6**
	30nm,0.9s							
BJII	**Banjarnegara**	**15.15**	**235**	P	**Pn**	**21 06 40.4**		**+6.0**
CISI	**Cisompet, Garu**	**16.86**	**238**	P	**Pn**	**21 06 59.5**		**+3.5**
FITZ	**Fitzroy Crossi**	**19.61**	**170**	P	**Pn**	**21 07 27.3**		**-2.0**
	1.2nm,0.3s,baz=360,slow=7.3,SNR=50							
FITZ				LR	LR	21 15 20.9		
	comp=Z,96nm,21.4s,baz=350,slow=38							
FITZ	**Fitzroy Crossi**	**19.61**	**170**	*e*P	**Pn**	**21 07 27.3**		**-2.0**
	20nm,0.6s							
FITZ				*e*S	S	21 10 15.1		-51
FITZ	**Fitzroy Crossi**	**19.61**	**170**	*e*Pn	**Pn**	**21 07 27.3**		**-2.0**
MBWA	**Marble Bar**	**22.49**	**186**	*e*P	**P**	**21 07 57.0**		**-1.4**
	11nm,0.9s,mb4.3							
PSI	**Prapat**	**23.31**	**274**	LR	LR	21 18 31.5		
	comp=Z,139nm,19.2s,MS3.4,baz=270,slow=40							
WRAB	**Tennant Creek**	**24.26**	**151**	*e*P	**P**	**21 08 15.7**		**0.0**
	17nm,1.0s,mb4.4							
WRA	**Warramunga Arr**	**24.27**	**151**	P	**P**	**21 08 14.8**		**-0.9**
	7.7nm,0.5s,mb4.4,baz=338,slow=8.5,SNR=42							
WRA	**Warramunga Arr**	**24.27**	**151**	P	**P**	**21 08 14.8**		**-0.9**
WB2	**Warramunga Arr**	**24.27**	**151**	*e*P	**P**	**21 08 16.0**		**+0.2**
COEN	**Coen**	**25.74**	**127**	*e*P	**P**	**21 08 27.0**		**-2.2**
	46nm,1.1s,mb4.9							
ASAR	**Alice Springs**	**27.33**	**156**	P	**P**	**21 08 44.2**		**+0.8**
	3.1nm,0.7s,mb4.0,baz=343,slow=13,SNR=26							
ASAR				PcP	PcP	21 12 02.2		+0.4
	0.6nm,0.5s,baz=344,slow=2.4,SNR=4.8							
ASAR	**Alice Springs**	**27.33**	**156**	P	**P**	**21 08 44.2**		**+0.8**
ASAR				PcP	PcP	21 12 02.2		+0.4
MEEK	**Meekatharra**	**28.03**	**187**	*e*P	**P**	**21 08 47.6**		**-2.0**
	76nm,0.9s,mb5.3							
CMAR	**Chiang Mai Arr**	**28.47**	**308**	LR	LR	21 20 59.5		
	comp=Z,98nm,19.8s,MS3.4,baz=120,slow=38							
CHTO	**Chiang Mai**	**28.67**	**309**	*e*P	**P**	**21 08 55.9**		**+0.5**
	34nm,2.3s,mb4.7							
MORW	**Morawa**	**30.80**	**191**	*e*P	**P**	**21 09 12.3**		**-1.9**
	42nm,0.9s,mb5.3							
FORT	**Forrest**	**32.42**	**171**	*e*P	**P**	**21 09 26.5**		**-1.9**
	21nm,0.6s,mb5.1							
KLBR	**Kellerberrin**	**33.02**	**187**	*e*P	**P**	**21 09 31.9**		**-1.7**
	49nm,2.0s,mb5.1							
NWAO	**Narrogin (SRO)**	**34.40**	**187**	P	**P**	**21 09 44.0**		**-1.6**
	7.3nm,0.8s,mb4.7,baz=35,slow=12,SNR=3.6							
NWAO	**Narrogin (SRO)**	**34.40**	**187**	P	**P**	**21 09 44.0**		**-1.6**
KSRS	**Korea Array**	**36.32**	**8**	LR	LR	21 23 50.7		
	comp=Z,56nm,21.3s,MS3.3,baz=72,slow=34							
STKA	**Stephens Creek**	**37.80**	**153**	P	**P**	**21 10 15.4**		**+0.7**
	13nm,0.8s,mb4.7,baz=332,slow=8.4,SNR=16							
STKA				LR	LR	21 24 57.4		
	comp=Z,59nm,21.7s,MS3.4,baz=25,slow=35							
STKA	**Stephens Creek**	**37.80**	**153**	*e*P	**P**	**21 10 15.3**		**+0.6**
	11nm,0.8s,mb4.6							
STKA	**Stephens Creek**	**37.80**	**153**	*e*P	**P**	**21 10 15.5**		**+0.8**
	2.5nm,0.8s,mb4.0							
MAJO	**Matsushiro**	**38.03**	**21**	*e*P	**P**	**21 10 14.5**		**-2.1**
	92nm,2.1s,mb5.1							
MJAR	**Matsushiro Arr**	**38.03**	**21**	P	**P**	**21 10 16.0**		**-0.6**
	6.2nm,0.9s,mb4.3,baz=198,slow=9.4,SNR=10							
MJAR				LR	LR	21 22 56.6		
	comp=Z,60nm,21.9s,MS3.4,baz=225,slow=31							
MJAR	**Matsushiro Arr**	**38.03**	**21**	P	**P**	**21 10 16.0**		**-0.6**
MJAR				LR	LR	21 22 56.6		
CMSA	**Cobar Meteorol**	**39.57**	**148**	*e*P	**P**	**21 10 30.5**		**+1.0**
	44nm,0.9s,mb5.2							
LSA	**Lhasa**	**40.84**	**317**	*e*P	**P**	**21 10 41.6**		**+1.5**
ODAN	**Odare**	**41.96**	**310**	*e*P	**P**	**21 10 49.6**		**+0.3**
TAPN	**Taplejung**	**41.97**	**311**	*e*P	**P**	**21 10 49.2**		**-0.2**
ARPS	**Mount Arapiles**	**42.07**	**156**	*e*P	**P**	**21 10 50.7**		**+0.6**
	21nm,0.7s,mb4.9							
ARMA	**Armidale**	**42.22**	**141**	*e*P	**P**	**21 10 54.0**		**+2.6**
ARMA	**Armidale**	**42.22**	**141**	*e*P	**P**	**21 10 48.2**		**-3.2**
	104nm,2.3s,mb5.1							
RAMN	**Ramite**	**42.61**	**310**	*e*P	**P**	**21 10 54.9**		**+0.3**
	13nm,0.6s,mb4.8							
GUN	**Gumba**	**43.65**	**311**	*e*P	**P**	**21 11 03.2**		**+0.2**
DMN	**Daman**	**44.09**	**310**	*e*P	**P**	**21 11 06.5**		**0.0**
CNB	**Canberra Magne**	**44.43**	**148**	*e*P	**P**	**21 11 11.2**		**+2.1**
	24nm,0.8s,mb5.0							
GKN	**Gorkha**	**44.65**	**310**	*e*P	**P**	**21 11 09.8**		**-1.2**
KOLN	**Koldanda**	**45.33**	**309**	*e*P	**P**	**21 11 16.7**		**+0.3**
	15nm,0.7s,mb4.9							
DANN	**Dangsing**	**45.49**	**310**	*e*P	**P**	**21 11 17.2**		**-0.5**
	18nm,0.7s,mb5.0							
PYUN	**Piuthan**	**45.96**	**309**	*e*P	**P**	**21 11 21.9**		**+0.5**
ULN	**Ulaanbaatar**	**48.17**	**346**	*e*P	**P**	**21 11 39.6**		**+1.3**
	7.0nm,0.9s,mb4.7							
SONM	**Songino Array**	**48.30**	**346**	P	**P**	**21 11 40.3**		**+1.1**
	6.0nm,0.8s,mb4.7,baz=161,slow=9.3,SNR=47							
SONM	**Songino Array**	**48.30**	**346**	P	**P**	**21 11 40.3**		**+1.1**
MK31	**Makanchi Array**	**57.07**	**328**	*e*P	**P**	**21 12 44.9**		**+0.8**
MKAR	**Makanchi Array**	**57.07**	**328**	P	**P**	**21 12 45.2**		**+1.1**
	0.6nm,0.5s,mb4.2,baz=130,slow=7.9,SNR=19							
MKAR	**Makanchi Array**	**57.07**	**328**	P	**P**	**21 12 45.2**		**+1.1**
TKM2	**Tokmak 2**	**58.65**	**321**	*e*P	**P**	**21 12 56.7**		**+1.4**
	3.9nm,1.0s,mb4.4							
TKM2				*e*pP	pP	21 13 06.1		-4.2
KBL	**Kabul**	**59.48**	**310**	*e*P	**P**	**21 13 01.8**		**+0.6**
	9.1nm,1.1s,mb4.7							
ZAA0	**Zalesovo Array**	**60.78**	**336**	*e*P	**P**	**21 13 09.1**		**-0.6**
ZALV	**Zalesovo Beam**	**60.78**	**336**	P	**P**	**21 13 09.4**		**-0.3**
	4.5nm,0.9s,mb4.6,baz=121,slow=5.7,SNR=19							
ZALV	**Zalesovo Beam**	**60.78**	**336**	P	**P**	**21 13 09.4**		**-0.3**
KURK	**Kurchatov**	**61.43**	**330**	P	**P**	**21 13 14.2**		**+0.1**
	4.0nm,0.9s,mb4.6,baz=118,slow=6.8,SNR=24							
KURK	**Kurchatov**	**61.43**	**330**	*e*P	**P**	**21 13 14.4**		**+0.3**
	7.7nm,0.8s,mb4.9							
KKAR	**Karatay Array**	**61.99**	**319**	*e*P	**P**	**21 13 17.3**		**-0.7**
RPZ	**Rata Peaks**	**62.54**	**142**	P	**P**	**21 13 23.3**		**+1.5**
	11nm,0.8s,mb5.0,baz=248,slow=5.4,SNR=4.5							
RPZ	**Rata Peaks**	**62.54**	**142**	P	**P**	**21 13 23.3**		**+1.5**
BVAR	**Borovoye Array**	**66.94**	**329**	P	**P**	**21 13 50.5**		**+0.3**
	3.3nm,0.9s,mb4.3,baz=131,slow=7.9,SNR=16							
BVAR	**Borovoye Array**	**66.94**	**329**	P	**P**	**21 13 50.5**		**+0.3**
BRVK	**Borovoye**	**67.01**	**329**	*e*P	**P**	**21 13 51.1**		**+0.5**
	6.0nm,1.0s,mb4.6							
ABKAR	**Akbulak array**	**71.19**	**322**	*e*P	**P**	**21 14 16.9**		**+0.2**
AKTO	**Aktyubinsk**	**72.77**	**323**	P	**P**	**21 14 26.3**		**+0.2**
	0.9nm,0.6s,mb3.9,baz=84,slow=9.3,SNR=3.5							
AKTO	**Aktyubinsk**	**72.77**	**323**	P	**P**	**21 14 26.3**		**+0.2**
MAW	**Mawson**	**79.98**	**200**	LR	LR	21 50 19.2		
	comp=Z,42nm,19.2s,MS3.8,baz=150,slow=36							
VNDA	**Vanda**	**81.67**	**172**	P	**P**	**21 15 15.7**		**+0.2**
	1.8nm,0.6s,mb4.2,baz=311,slow=5.1,SNR=20							
VNDA				LR	LR	21 48 00.2		
	comp=Z,62nm,20.7s,MS4.0,baz=306,slow=33							
VNDA	**Vanda**	**81.67**	**172**	*e*P	**P**	**21 15 15.8**		**+0.3**
	20nm,2.0s,mb4.7							
ILAR	**Eielson Array**	**89.19**	**25**	P	**P**	**21 15 52.2**		**-0.9**
	0.2nm,0.5s,mb3.7,baz=267,slow=5.6,SNR=4.0							
ILAR	**Eielson Array**	**89.19**	**25**	P	**P**	**21 15 52.2**		**-0.9**
AKASG	**Malin Array Be**	**90.87**	**321**	LR	LR	21 59 04.8		
	comp=Z,34nm,21.4s,MS3.8,baz=175,slow=37							
ARCES	**ARCESS Array B**	**91.11**	**340**	LR	LR	22 00 08.0		
	comp=Z,78nm,18.4s,MS4.2,baz=153,slow=38							
QSPA	**South Pole Qui**	**91.26**	**180**	P	**P**	**21 16 01.5**		**-0.9**
	2.0nm,0.8s,mb4.5,baz=278,slow=2.6,SNR=5.5							
QSPA	**South Pole Qui**	**91.26**	**180**	P	**P**	**21 16 01.5**		**-0.9**
BMW	**Boistfort Moun**	**105.69**	**41**	*e*PKKPab	PKKPab	21 32 57.9		-4.8
CMB	**Columbia Colle**	**110.44**	**48**	*e*PP	PP	21 22 06.3		+0.5
YBMT	**Yellow Bay**	**110.93**	**37**	*e*PKKPab	PKKPab	21 32 40.0		+0.6
RSSD	**Black Hills**	**118.81**	**36**	*e*PKKPab	PKKPab	21 32 04.4		-0.2
TORD	**Torodi Ar. Bea**	**119.29**	**286**	PKP	PKPdf	21 21 47.4		-0.4
	0.5nm,0.7s,baz=86,slow=1.5,SNR=4.7							
TORD	**Torodi Ar. Bea**	**119.29**	**286**	PKP	PKPdf	21 21 47.4		-0.4
MCWV	**Mont Chateau**	**134.47**	**24**	*e*PP	PP	21 24 44.5		-3.2
CFAA	**Coronel Fontan**	**148.32**	**163**	PKPbc	PKPbc	21 22 44.2		-0.1
	0.6nm,0.8s,baz=208,slow=3.4,SNR=12							
CFAA	**Coronel Fontan**	**148.32**	**163**	PKPbc	PKPbc	21 22 44.2		-0.1

IDC 17 21:05:21.8±2.3, **6°.78S×129°.16E, h0**km,**mb3.7**/1, **mb1 4.3**/4,**mb1mx3.8**/18,**mbtmp4.1**/4,**ML4.1**/2,**Error ellipse: s-maj=110.9km s-min=27.6km az=75.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
FITZ	**Fitzroy Crossi**	**11.76**	**197**	Pn	Pn	21 08 10.6		-0.4
	0.7nm,0.3s,baz=19,slow=12,SNR=6.6							
FITZ				Sn	Sn	21 10 15.9		-7.1
	0.6nm,0.3s,baz=151,slow=23,SNR=4.2							
WRA	**Warramunga Arr**	**14.02**	**159**	Pn	Pn	21 08 39.8		-2.0
	0.9nm,0.3s,baz=332,slow=12,SNR=7.6							
WRA				Sn	Sn	21 11 10.8		-7.3
	0.4nm,0.3s,baz=328,slow=23,SNR=5.9							
ASAR	**Alice Springs**	**17.39**	**165**	P	Pn	21 09 27.9		+1.8
	1.0nm,0.3s,baz=344,slow=12,SNR=13							
MKAR	**Makanchi Array**	**67.59**	**327**	P	P	21 16 20.3		+0.1
	0.4nm,0.5s,baz=115,slow=6.8,SNR=5.3							

*IDC **17** 21:24:47.7±39.0, 17°.23S×172°.49W, h0*km*, mb4.9/3, mb1 5.0/3, mb1mx4.0/19, mbtmp4.9/3, Error ellipse: s-maj=741.2km s-min=90.5km az=76.0*

*ISCJB **17** 21:24:49.3±1.6, 16°.4S±0°.3×172°.6W±0°.2, h33*km*, mb4.9/12, Error ellipse: s-maj=47.3km s-min=26.3km az=3.2*

*NEIC **17** 21:24:51.4±1.5, 16°.61S×172°.56W, h35*km*, mb4.7/8, Error ellipse: s-maj=49.2km s-min=24.5km az=5.0*

ISC 17 21:24:51.1±1.6, **16°.4S**±0°.3×**172°.6W**±0°.2, **h35**km,**n25,** σ0**99**/25, **mb4.9**/12, **Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
EIDS	**Eidsvold**	**35.02**	**249**	*e*P	**P**	**21 31 39.3**		**-1.2**
	30nm,0.4s,mb5.6							
EIDS	**Eidsvold**	**35.02**	**249**	*e*P	**P**	**21 31 39.4**		**-1.2**
	5.1nm,0.4s,mb4.8							
ARMA	**Armidale**	**35.52**	**240**	*e*P	**P**	**21 31 45.4**		**+0.6**
	3.7nm,0.4s,mb4.7							
CNB	**Canberra Magne**	**38.77**	**234**	*e*P	**P**	**21 32 14.5**		**+2.1**
	56nm,0.6s,mb5.5							
CAN	**Canberra**	**39.05**	**234**	*e*P	**P**	**21 32 15.1**		**+0.4**
	5.5nm,0.4s,mb4.6							
CTAO	**Charters Tower**	**39.21**	**258**	*e*P	**P**	**21 32 15.5**		**-0.7**
	4.9nm,0.4s,mb4.6							
PMG	**Port Moresby**	**39.82**	**275**	P	**P**	**21 32 25.8**		**+4.4**
	baz=124,slow=11							
PMG	**Port Moresby**	**39.82**	**275**	P	**P**	**21 32 25.8**		**+4.4**
CMSA	**Cobar Meteorol**	**40.73**	**241**	*e*P	**P**	**21 32 28.6**		**-0.2**
	39nm,0.6s,mb5.2							
QLP	**Quilpie**	**41.27**	**248**	*e*P	**P**	**21 32 32.2**		**-1.1**
COEN	**Coen**	**42.73**	**267**	*e*P	**P**	**21 32 46.5**		**+1.2**
	50nm,0.6s,mb5.4							
COEN	**Coen**	**42.73**	**267**	*e*P	**P**	**21 32 46.9**		**+1.6**
	50nm,0.5s,mb5.5							
STKA	**Stephens Creek**	**44.23**	**241**	P	**P**	**21 32 57.8**		**+0.6**
	7.4nm,0.5s,mb4.7,baz=81,slow=8.8,SNR=33							
STKA	**Stephens Creek**	**44.23**	**241**	*e*P	**P**	**21 32 57.7**		**+0.5**
	5.9nm,0.6s,mb4.5							
STKA	**Stephens Creek**	**44.23**	**241**	*e*P	**P**	**21 32 57.7**		**+0.5**
	1.9nm,0.7s,mb3.9							
WB2	**Warramunga Arr**	**50.39**	**258**	*e*P	**P**	**21 33 44.4**		**-0.9**
WRAB	**Tennant Creek**	**50.39**	**258**	*e*P	**P**	**21 33 44.5**		**-0.8**
	4.4nm,0.4s,mb4.8							
WRA	**Warramunga Arr**	**50.40**	**258**	P	**P**	**21 33 44.4**		**-1.0**
	3.9nm,0.3s,mb4.9,baz=94,slow=7.3,SNR=245							
WRA	**Warramunga Arr**	**50.40**	**258**	P	**P**	**21 33 44.4**		**-1.0**
ASAR	**Alice Springs**	**50.56**	**253**	P	**P**	**21 33 46.1**		**-0.5**
	16nm,0.6s,mb5.2,baz=88,slow=8.7,SNR=148							
ASAR	**Alice Springs**	**50.56**	**253**	P	**P**	**21 33 46.1**		**-0.5**
FITZ	**Fitzroy Crossi**	**58.79**	**259**	*e*P	**P**	**21 34 46.8**		**+0.5**
	2.0nm,0.3s,mb4.6							
FITZ	**Fitzroy Crossi**	**58.79**	**259**	*e*P	**P**	**21 34 46.9**		**+0.6**
	1.0nm,0.3s,mb4.3							
KSM	**Kuching**	**78.08**	**275**	P	**P**	**21 36 48.6**		**+1.6**
TRQA	**Tornquist**	**95.37**	**132**	P	**P**	**21 38 11.7**		**-0.5**

*ISCJB **17** 21:49:33.3±1.5, 79°.2N±0°.1×114°.5W±0°.4, h10*km*, Error ellipse: s-maj=17.2km s-min=10.8km az=160.6*

*OTT **17** 21:49:37.1±3.2, 79°.44N×114°.66W, h18*km*, ML3.1/2, Arctic Ocean. Aftershock. 247km northwest from Isachsen, Nu*

*IDC **17** 21:49:37.8±10.0, 79°.25N×114°.20W, h0*km*, mb3.2/1, mb1 3.8/5, mb1mx3.4/29, mbtmp3.5/5, ML3.6/4, Error ellipse: s-maj=158.9km s-min=41.6km az=175.0*

*NEIC **17** 21:49:37.1, 79°.44N×114°.66W, h18*km*, ML3.1(OTT), After OTT.*

ISC 17 21:49:36.3±1.3, **79°.12N**±0°.09×**114°.4W**±0°.4, **h10**km, **n20,** σ1**22**/29, **Arctic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
EUNU	**Eureka**	**5.13**	**66**	Pn	**Pn**	**21 50 51.8**		**-1.2**
EUNU				Sn	**Sn**	**21 51 42.2**		**-10**
EUNU	**Eureka**	**5.13**	**66**	PN	**Pn**	**21 50 51.8**		**-1.2**
EUNU				SN	**Sn**	**21 51 42.2**		**-10**
EUNU				Trac		21 51 50.6		
	comp=Z,2.8nm,0.2s							
RES	**Resolute Bay**	**6.24**	**125**	Pn	**Pn**	**21 51 11.6**		**+3.3**
	2.8nm,0.3s,baz=320,slow=13,SNR=159							
RES				Sn	**Sn**	**21 52 20.8**		**+1.3**
	2.3nm,0.3s,baz=79,slow=22,SNR=6.3							
RES	**Resolute Bay**	**6.24**	**125**	Pn	**Pn**	**21 51 11.6**		**+3.3**
RES				Sn	**Sn**	**21 52 20.8**		**+1.3**
RES	**Resolute Bay**	**6.24**	**125**	PN	**Pn**	**21 51 10.8**		**+2.5**
RES				SN	**Sn**	**21 52 22.2**		**+2.7**
RES				Trac		21 52 24.9		
	comp=Z,6.6nm,0.2s							
INK	**Inuvik**	**12.00**	**216**	Pn	**Pn**	**21 52 26.8**		**-0.3**
	0.2nm,0.3s,baz=22,slow=13,SNR=5.2							
INK				Sn	**Sn**	**21 54 33.2**		**-7.5**
	0.3nm,0.3s,baz=266,slow=18,SNR=7.3							
INK	**Inuvik**	**12.00**	**216**	*e*Pn	**Pn**	**21 52 26.3**		**-0.8**
INK				*e*Sn	**Sn**	**21 54 32.5**		**-8.1**
JERN	**Jeri Cho Mine,**	**13.20**	**175**	PN	**Pn**	**21 52 44.7**		**+1.3**
JERN				SN	**Sn**	**21 55 07.9**		**-2.1**
STLN	**Stellar Camp,**	**13.22**	**142**	PN	**Pn**	**21 52 43.5**		**-0.2**
BULN	**Bullion Camp,**	**14.08**	**143**	PN	**Pn**	**21 52 55.1**		**-0.4**
CTLN	**Castor Lake**	**14.78**	**183**	PN	**Pn**	**21 53 04.9**		**-0.1**
NUNN	**Nunuq Camp, NU**	**15.46**	**141**	PN	**Pn**	**21 53 13.1**		**-0.9**
YKW3	**Yellowknife Ar**	**16.65**	**180**	PN	**Pn**	**21 53 29.6**		**+0.3**
YKW3				SN	**Sn**	**21 56 25.2**		**-8.5**
YKA	**Yellowknife Ar**	**16.71**	**180**	Pn	**Pn**	**21 53 30.8**		**+0.7**
	0.5

KMSR	**Komsomolskaya**	**1.27 289**	*i* Pg		**Pg**	**21 56 55.3**	**-0.9**
KMSR			*e*Sg		**Sg**	**21 57 15.8**	**+3.0**
SGKR	**Sergokala**	**1.37 111**	*e*PG		**Pg**	**21 56 57.5**	**-0.6**
SGKR			*i* S		**Sg**	**21 57 20.0**	**+4.0**
SGKR	**Sergokala**	**1.37 111**	*e*Pg		**Pg**	**21 56 57.5**	**-0.6**
SGKR			*i* Sg		**Sg**	**21 57 20.0**	**+4.0**
KORR	**Kora**	**1.37 276**	⇓*i*PG		**Pn**	**21 56 55.5**	**-0.7**
KORR			*i* S		**Sg**	**21 57 15.3**	**-0.8**
KORR	**Kora**	**1.37 276**	*i* Pg		**Pn**	**21 56 55.5**	**-0.7**
KORR			*i* Sg		**Sg**	**21 57 15.3**	**-0.8**
PRTR	**Priterechnaya**	**1.44 304**	*e*PG		**Pn**	**21 56 58.1**	**+1.0**
PRTR			*e*S		**Sg**	**21 57 20.5**	**+2.2**
PRTR	**Priterechnaya**	**1.44 304**	*e*Pg		**Pn**	**21 56 58.1**	**+1.0**
PRTR			*e*Sg		**Sg**	**21 57 20.5**	**+2.2**
URKR	**Urkarakh**	**1.49 122**	*e*PG		**Pn**	**21 56 59.0**	**+1.3**
URKR			*e*S		**Sg**	**21 57 20.5**	**+0.7**
URKR			pmax	pmax			
	comp=Z,60nm,0.4s						
URKR	**Urkarakh**	**1.49 122**	*e*Pg		**Pn**	**21 56 59.0**	**+1.3**
	comp=Z,60nm,0.4s						
URKR			*e*Sg		**Sg**	**21 57 20.5**	**+0.7**
ZEI	**Tsey**	**1.51 263**	*e*PG		**Pn**	**21 56 56.3**	**-1.7**
ZEI			*i* S		**Sn**	**21 57 15.9**	**-1.3**
ZEI	**Tsey**	**1.51 263**	*e*Pg		**Pn**	**21 56 56.3**	**-1.7**
ZEI			*i* Sg		**Sn**	**21 57 15.9**	**-1.3**
TBLG	**Delisi**	**1.51 216**	*i* PG		**Pn**	**21 56 56.8**	**-1.3**
TBLG			*i* S		**Sn**	**21 57 17.5**	**+0.1**
TBLG	**Delisi**	**1.51 216**	P		**Pn**	**21 56 56.8**	**-1.3**
TBLG			S		**Sn**	**21 57 17.5**	**+0.1**
TBLG	**Delisi**	**1.51 216**	P		**Pn**	**21 56 56.8**	**-1.3**
TBLG			S		**Sn**	**21 57 17.5**	**+0.1**
MTA	**Mtatsminda**	**1.52 214**	P		**Pn**	**21 56 56.8**	**-1.4**
MTA			S		**Sn**	**21 57 17.3**	**-0.3**
MTA	**Mtatsminda**	**1.52 214**	P		**Pn**	**21 56 56.8**	**-1.4**
MTA			S		**Sn**	**21 57 17.3**	**-0.3**
DGRG	**David-gareji**	**1.56 196**	P		**Pn**	**21 56 58.0**	**-0.8**
DGRG			S		**Sn**	**21 57 19.9**	**+1.3**
DGRG	**David-gareji**	**1.56 196**	P		**Pn**	**21 56 58.0**	**-0.8**
DGRG			S		**Sn**	**21 57 19.9**	**+1.3**
LSNR	**Lesken**	**1.58 282**	*e*PG		**Pn**	**21 56 59.0**	**0.0**
LSNR			*e*S		**Sg**	**21 57 22.0**	**-0.8**
LSNR	**Lesken**	**1.58 282**	*e*Pg		**Pn**	**21 56 59.0**	**0.0**
LSNR			*e*Sg		**Sg**	**21 57 22.0**	**-0.8**
GOR	**Gori**	**1.66 235**	P		**Pn**	**21 57 00.0**	**-0.1**
GOR			S		**Sn**	**21 57 22.0**	**+0.9**
GOR	**Gori**	**1.66 235**	P		**Pn**	**21 57 00.0**	**-0.2**
GOR			S		**Sn**	**21 57 22.0**	**+0.9**
DIGR	**Digorskoe uzhe**	**1.73 269**	*e*PN		**Pn**	**21 57 00.8**	**-0.2**
DIGR			*i* S		**Sn**	**21 57 23.6**	**+0.9**
DIGR	**Digorskoe uzhe**	**1.73 269**	*e*Pn		**Pn**	**21 57 00.8**	**-0.2**
DIGR			*i* Sg		**Sn**	**21 57 23.6**	**+0.9**
ONI	**Oni**	**1.86 259**	P		**Pn**	**21 57 03.0**	**+0.1**
ONI			S		**Sn**	**21 57 28.4**	**+2.4**
ONI	**Oni**	**1.86 259**	P		**Pn**	**21 57 03.0**	**+0.1**
ONI			S		**Sn**	**21 57 28.4**	**+2.4**
AKH	**Akhalkalaki**	**2.38 230**	P		**Pn**	**21 57 11.0**	**+0.9**
AKH			S		**Sn**	**21 57 41.5**	**+2.6**
AKH	**Akhalkalaki**	**2.38 230**	P		**Pn**	**21 57 11.0**	**+0.9**
AKH			S		**Sn**	**21 57 41.5**	**+2.6**

IDC ***17*** *22:12:08.8±4.5, 13°.14N×87°.95W, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.7/22, mbtmp3.6/5, ML2.9/1, Error ellipse: s-maj=106.9km s-min=59.0km az=17.0*

ISCJB ***17*** *22:12:13.9±0.7, 12°.69N±0°.09×88°.62W±0°.07, h67km±10km, mb3.5/4, Error ellipse: s-maj=17.8km s-min=5.9km az=37.8*

CASC ***17*** *22:12:15.3±2.4, 12°.74N×88°.56W, h33km±46km, MD4.4, ML3.6*

ISC 17 22:12:15.4±0.7, 12°.74N±0°.08×88°.57W±0°.07, h57km±10km, n27,σ1§07/28, mb3.6/4, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VSM	**San Miguel**	**0.74**	**23**	*e*P	**Pn**	**22 12 30.4**	**+0.4**
CNCH	**Conchagua**	**0.89**	**54**	*e*P	**Pn**	**22 12 31.7**	**-0.3**
CAHU	**Cacacautique**	**1.08**	**19**	*e*P	**Pn**	**22 12 35.3**	**+0.9**
BOQS	**Boqueron**	**1.20**	**325**	*e*P	**Pn**	**22 12 35.7**	**-0.4**
SBLS	**San Blas**	**1.50**	**317**	*e*P	**Pn**	**22 12 40.1**	**+0.1**
TGUH	**Tegucigalpa,Un**	**1.82**	**44**	*e*P	**Pn**	**22 12 45.4**	**+1.0**
MIRN	**Miramar**	**1.84**	**99**	*e*P	**Pn**	**22 12 43.8**	**-0.9**
CNGN	**Cerro Negro**	**1.84**	**97**	*e*P	**Pn**	**22 12 43.7**	**-1.0**
CNGN				*e*S	**Sn**	**22 13 07.7**	**+0.8**
CNGN				AML	AML	22 13 12.0	
	comp=E,710nm,0.3s						
MOMN	**Momotombo**	**2.01**	**99**	*e*P	**Pn**	**22 12 46.4**	**-0.6**
COPN	**Copaltepe**	**2.01**	**106**	*e*P	**Pn**	**22 12 45.7**	**-1.3**
XAVN	**Gruta Xavier**	**2.27**	**105**	*e*P	**Pn**	**22 12 50.2**	**-0.4**
TISN	**Laguna Tiscapa**	**2.33**	**105**	*e*P	**Pn**	**22 12 50.0**	**-1.3**
HUEN		**2.38**	**100**	*e*P	**Pn**	**22 12 51.1**	**-0.9**
TICN	**Ticuantepe**	**2.39**	**107**	*e*P	**Pn**	**22 12 51.6**	**-0.6**
JCR	**Jicaral**	**4.45**	**130**	*e*P	**Pn**	**22 13 20.2**	**-0.2**
JCR				*e*S	Sn	22 14 37.1	+26
PRS1	**Puriscal**	**5.00**	**123**	*e*P	**Pn**	**22 13 29.7**	**+1.8**
LAJ	**Bijagual**	**5.22**	**123**	*e*P	**Pn**	**22 13 28.4**	**-2.5**
ICR	**Volcan Irazu**	**5.40**	**120**	*e*P	**Pn**	**22 13 37.7**	**+4.2**
QCR	**Quepos**	**5.44**	**127**	*e*P	**Pn**	**22 13 34.8**	**+0.8**
URSC	**Urasca**	**5.52**	**121**	*e*P	**Pn**	**22 13 37.5**	**+2.5**
BUS	**Buena Vista**	**5.69**	**123**	*e*P	**Pn**	**22 13 39.4**	**+2.0**
CMIG	**Matias Romero**	**7.48**	**306**	Pn	**Pn**	**22 14 02.6**	**+0.8**
	comp=E,0.2nm,0.3s,baz=138,slow=11,SNR=2.2						
CMIG				Sn	**Sn**	**22 15 24.2**	**-1.1**
	comp=E,0.3nm,0.3s,baz=334,slow=14,SNR=1.8						
TXAR	**Lajitas Array**	**21.66**	**322**	P	**P**	**22 17 02.8**	**+1.5**
	comp=E,0.3nm,0.5s,mb3.0,baz=149,slow=12,SNR=6.6						
YKA	**Yellowknife Ar**	**53.05**	**345**	P	**P**	**22 21 25.8**	**-0.6**
	comp=E,0.8nm,0.3s,mb4.1,baz=145,slow=6.9,SNR=12						
INK	**Inuvik**	**62.60**	**343**	P	**P**	**22 22 33.2**	**-0.1**
	comp=E,0.8nm,0.6s,mb4.0,baz=146,slow=11,SNR=3.3						
ILAR	**Eielson Array**	**65.31**	**336**	P	**P**	**22 22 50.7**	**-0.5**
	comp=E,0.5nm,0.9s,mb3.5,baz=96,slow=6.4,SNR=4.5						
WRA	**Warramunga Arr**	**138.30**	**254**	PKP	PKPdf	22 31 39.3	+4.2
	comp=E,0.3nm,0.4s,baz=90,slow=2.5,SNR=12						

IDC 17 22:38:33.0±2.2, 12°.94N×145°.33E, h59km±14km, mb3.4/5, mb1 3.6/5, mb1mx3.4/23, mbtmp3.4/5, Error ellipse: s-maj=33.7km s-min=22.7km az=94.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.79**	**326**	P	Pn	22 38 49.0	+0.7
	281nm,0.3s,baz=190,slow=19,SNR=95						
GUMO				S	Sn	22 39 00.6	+1.1
	464nm,0.3s,baz=38,slow=19,SNR=32						
WRA	**Warramunga Arr**	**34.41**	**198**	P	P	22 45 15.0	+0.1
	0.6nm,0.6s,baz=21,slow=9.8,SNR=12						
CMAR	**Chiang Mai Arr**	**44.90**	**283**	P	P	22 46 41.6	-0.6
	0.3nm,0.3s,baz=88,slow=6.4,SNR=2.6						
SONM	**Songino Array**	**47.52**	**325**	P	P	22 47 03.1	+0.8
	0.2nm,0.6s,baz=132,slow=9.5,SNR=3.0						
MKAR	**Makanchi Array**	**62.27**	**316**	P	P	22 48 49.0	+0.2
	0.3nm,0.5s,baz=95,slow=8.8,SNR=4.2						
ILAR	**Eielson Array**	**68.97**	**25**	P	P	22 49 31.6	-0.2
	1.1nm,0.4s,baz=253,slow=5.7,SNR=28						

IDC 17 22:46:24.8±2.6, 16°.15N×147°.66E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.7/24, mbtmp3.9/6, MS2.8/1, Ms1 2.8/1, ms1mx2.2/49, Error ellipse: s-maj=81.0km s-min=28.4km az=85.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**27.47**	**324**	LR	LR	23 02 02.2	
	comp=Z,18nm,20.6s,baz=355,slow=34						
WRA	**Warramunga Arr**	**38.18**	**201**	P	P	22 53 46.5	+0.3
	0.3nm,0.8s,baz=24,slow=9.2,SNR=3.0						
SONM	**Songino Array**	**46.29**	**322**	P	P	22 54 53.4	+1.3
	0.3nm,0.6s,baz=134,slow=6.7,SNR=2.7						
CMAR	**Chiang Mai Arr**	**46.47**	**280**	P	P	22 54 53.1	-0.8
	0.6nm,0.3s,baz=74,slow=4.9,SNR=6.3						
MKAR	**Makanchi Array**	**61.58**	**315**	P	P	22 56 44.4	+0.4
	0.7nm,0.8s,baz=89,slow=8.6,SNR=4.1						
KURK	**Kurchatov**	**64.41**	**319**	P	P	22 57 02.8	+0.1
	4.9nm,0.9s,baz=98,slow=6.8,SNR=16						
FINES	**FINESS Array B**	**89.97**	**336**	P	P	22 59 24.7	-1.2
	3.7nm,0.9s,baz=90,slow=6.9,SNR=3.8						

MEX 17 22:55:05.5±0.7, 17°.99N×101°.68W, h5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.43**	**152**	*e*P	Pg	22 55 13.2	-0.7
ZIIG				*i* S	Sg	22 55 19.6	+0.1
ZIIG				*i* S	Sg	22 55 19.8	+0.2
MMIG	**Aquila**	**1.61**	**281**	*e*P	Pn	22 55 30.8	-3.8
MMIG				*i* S	Sn	22 55 51.5	-4.3
CAIG	**El Cayaco**	**1.64**	**125**	*i* P	Pn	22 55 31.6	-3.4
CAIG				*i* S	Sn	22 55 52.5	-4.1
ACX	**Acapulco**	**2.07**	**122**	*e*P	Pn	22 55 37.0	-3.8
ACX				*i* S	Sn	22 56 02.3	-4.7
PLIG	**Platanillo**	**2.11**	**79**	*i* P	Pn	22 55 38.3	-3.1
PLIG				*i* S	Sn	22 56 03.7	-4.3
PPM	**Popocatepetl**	**3.08**	**69**	*i* P	Pn	22 55 52.0	-2.9
PPM				*i* S	Sn	22 56 28.3	-3.8
UTMO	**Huajuapan**	**3.69**	**92**	*i* P	Pn	22 56 00.0	-3.2
UTMO				*i* S	Sn	22 56 43.3	-3.9
PNIG	**Pinotepa**	**3.75**	**115**	*i* P	Pn	22 56 01.8	-2.3
PNIG				*i* S	Sn	22 56 45.4	-3.1

MOS ***17*** *23:06:52.7±0.8, 6°.91S×129°.34E, h140km, mb4.6/28, Error ellipse: s-maj=16.0km s-min=6.6km az=114.9*

NEIC ***17*** *23:06:56.0±1.1, 6°.99S×129°.37E, h157km±11km, mb4.6/17, Error ellipse: s-maj=10.7km s-min=5.6km az=50.0*

BJI ***17*** *23:06:56.7, 7°.49S×129°.47E, h221km, mB5.1/3, mb4.5/10*

IDC ***17*** *23:06:57.6±2.0, 6°.91S×129°.33E, h170km±19km, mb4.2/22, mb1 4.2/23, mb1mx4.2/27, mbtmp4.2/23, Error ellipse: s-maj=15.0km s-min=8.3km az=65.0*

ISCJB ***17*** *23:06:58.7±0.4, 7°.05S±0°.03×129°.43E±0°.04, h203km±4km, mb4.6/59, Error ellipse: s-maj=6.3km s-min=4.3km az=152.3*

DJA ***17*** *23:06:59, 7°.13S×129°.50E, h165km, mb4.7/29*

ISC 17 23:06:59.8±0.4, 7°.02S±0°.03×129°.43E±0°.04, h194km±4km, n196,σ1§02/201, mb4.6/59, 6C-2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.53**	**11**	P	**Pn**	**23 07 43.1**	**-0.6**
AAI	**Ambon**	**3.54**	**340**	P	**Pn**	**23 07 55.3**	**-0.3**
TLE	**Tual**	**3.56**	**67**	P	**Pn**	**23 07 55.9**	**-0.1**
TLE				S	**Sn**	**23 08 34.5**	**-5.5**
MSAI	**Masohi**	**3.69**	**352**	P	**Pn**	**23 07 57.6**	**+0.1**
NLAI	**Namlea**	**4.42**	**328**	P	**Pn**	**23 08 07.7**	**+1.0**
NLAI				S	**Sn**	**23 09 11.6**	**+12**
LBMI	**Labuha**	**6.63**	**343**	P	**Pn**	**23 08 35.4**	**+0.2**
	0.8nm2µm81nm,1.2s						
BBSI	**Bau Bau**	**6.99**	**282**	P	**Pn**	**23 08 41.1**	**+1.2**
	0.6nm2µm164nm,1.1s						
MMRI	**Maumere**	**7.30**	**257**	P	**Pn**	**23 08 43.0**	**-1.0**
	0.3nm51nm,0.7s						
KDI	**Kendari**	**7.43**	**294**	P	**Pn**	**23 08 45.9**	**+0.2**
	0.1nm27nm,1.2s						
BAKI	**Biak**	**8.83**	**49**	P	**Pn**	**23 09 03.7**	**-0.2**
	4µm416nm,0.7s						
LUWI	**Luwuk**	**8.91**	**312**	P	**Pn**	**23 09 06.3**	**+1.3**
	2µm131nm,1.2s						
BKSI	**Bulukumba**	**9.41**	**280**	P	**Pn**	**23 09 11.0**	**-0.4**
	352nm34nm,0.9s						
MNI	**Manado**	**9.58**	**331**	P	**Pn**	**23 09 14.4**	**+0.7**
	4µm267nm,1.3s						
KAPI	**Kappang**	**9.83**	**281**	*e*P	**Pn**	**23 09 14.3**	**-2.6**
	13nm,0.8s						
KAPI	**Kappang**	**9.83**	**281**	P	**Pn**	**23 09 16.9**	**0.0**
	24nm,1.2s						
SPSI	**Sidrap Palu**	**10.08**	**287**	P	**Pn**	**23 09 20.6**	**+0.3**
	20nm,1.0s						
TTSI	**Tana Toraja**	**10.36**	**292**	P	**Pn**	**23 09 27.4**	**+3.6**
	2µm44nm,1.0s						
MRSI	**Marisa**	**10.55**	**315**	P	**Pn**	**23 09 27.7**	**+1.4**
	2µm190nm,1.0s						
BMNI	**Bima**	**10.74**	**261**	P	**Pn**	**23 09 26.1**	**-2.7**
	2µm18nm,0.6s						
FITZ	**Fitzroy Crossi**	**11.61**	**198**	P	**Pn**	**23 09 36.0**	**-4.0**
	3.0nm,0.3s,baz=27,slow=14,SNR=119						
FITZ				S	**Sn**	**23 11 36.9**	**-12**
	9.5nm,0.3s,baz=79,slow=17,SNR=15						
FITZ	**Fitzroy Crossi**	**11.61**	**198**	*e*P	**Pn**	**23 09 35.7**	**-4.2**
	19nm,0.3s						
FITZ				*e*S	**Sn**	**23 11 35.8**	**-14**
FITZ	**Fitzroy Crossi**	**11.61**	**198**	P	**Pn**	**23 09 36.0**	**-4.0**
FITZ				S	**Sn**	**23 11 36.9**	**-12**
FITZ	**Fitzroy Crossi**	**11.61**	**198**	P	**Pn**	**23 09 36.2**	**-3.7**
	24nm,0.9s						
WRAB	**Tennant Creek**	**13.69**	**160**	*e*Pn	**Pn**	**23 10 02.7**	**-3.4**
	134nm,1.1s						
WRAB				*e*Sn	**Sn**	**23 12 27.5**	**-11**
WRAB	**Tennant Creek**	**13.69**	**160**	*e*P	**Pn**	**23 10 02.7**	**-3.4**
WRAB				*e*		23 12 27.5	
WRAB				pmax	pmax		
	comp=Z,134nm,1.1s						
WRAB	**Tennant Creek**	**13.69**	**160**	P	**Pn**	**23 10 02.6**	**-3.5**
	comp=Z,2µmcomp=Z,198nm,1.1s						
WRA	**Warramunga Arr**	**13.70**	**160**	P	**Pn**	**23 10 03.1**	**-3.1**
	comp=Z,2.1nm,0.3s,baz=339,slow=13,SNR=71						
WRA				S	**Sn**	**23 12 28.3**	**-11**
	comp=Z,4.1nm,0.3s,baz=334,slow=22,SNR=8.2						
WRA	**Warramunga Arr**	**13.70**	**160**	P	**Pn**	**23 10 03.1**	**-3.1**
WRA				S	**Sn**	**23 12 28.3**	**-11**
WRA	**Warramunga Arr**	**13.70**	**160**	P	**Pn**	**23 10 03.1**	**-3.1**
WRA				S	**Sn**	**23 12 28.3**	**-11**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
WRA				smax			
	comp=Z,4.0nm,0.3s						
WB2	**Warramunga Arr**	**13.70**	**160**	*e*Pn	**Pn**	**23 10 02.7**	**-3.5**
WB2				*e*Sn	**Sn**	**23 12 27.2**	**-12**
KBKI	**Kotabaru**	**13.71**	**285**	P	**Pn**	**23 10 07.8**	**+1.3**
	comp=Z,1µmcomp=Z,49nm,0.9s						
SMKI	**Samarinda**	**13.83**	**298**	P	**Pn**	**23 10 11.5**	**+3.6**
	comp=Z,7µmcomp=Z,150nm,0.9s						
BBKI	**Banjar Baru**	**14.95**	**283**	P	**Pn**	**23 10 25.6**	**+3.8**
	comp=Z,216nm,0.8s						
COEN	**Coen**	**15.16**	**118**	*e*P	**Pn**	**23 10 23.6**	**-0.7**
	comp=Z,106nm,0.5s						
COEN				*e*S	**S**	**23 12 57.5**	**-15**
COEN	**Coen**	**15.16**	**118**	*e*Pn	**Pn**	**23 10 23.5**	**-0.9**
	comp=Z,150nm,0.7s						
COEN				*e*Sn	**Sn**	**23 13 04.8**	**-9.4**
COEN	**Coen**	**15.16**	**118**	P	**Pn**	**23 10 25.1**	**+0.8**
	comp=Z,32nm,0.6s						
MYLDM	**Lahad Datu**	**16.31**	**318**	P	**Pn**	**23 10 40.4**	**+2.2**
	comp=Z,876nmcomp=Z,71nm,1.3s						
MBWA	**Marble Bar**	**16.89**	**213**	*e*P	**Pn**	**23 10 43.4**	**-1.7**
MBWA				*e*S	**S**	**23 13 42.7**	**-7.6**
MBWA	**Marble Bar**	**16.89**	**213**	*e*P	**Pn**	**23 10 42.7**	**-2.4**
	comp=Z,31nm,1.0s						
MBWA				*e*S	**S**	**23 13 44.4**	**-5.8**
MBWA	**Marble Bar**	**16.89**	**213**	P	**Pn**	**23 10 43.8**	**-1.3**
	comp=Z,35nm,1.2s						
ASAR	**Alice Springs**	**17.10**	**166**	P	**Pn**	**23 10 47.5**	**0.0**
	comp=Z,11nm,0.3s,baz=341,slow=9.6,SNR=459						
ASAR				S	**S**	**23 13 46.4**	**-7.9**
	comp=Z,0.9nm,0.3s,baz=338,slow=15,SNR=4.2						
ASAR				ScP	ScP	23 18 37.7	+0.7
	baz=343,slow=3.1,SNR=4.2						
ASAR	**Alice Springs**	**17.10**	**166**	P	**Pn**	**23 10 47.5**	**0.0**
ASAR				S	**S**	**23 13 46.4**	**-7.9**
ASAR				ScP	ScP	23 18 37.7	+0.7
ASAR	**Alice Springs**	**17.10**	**166**	P	**Pn**	**23 10 47.5**	**0.0**
ASAR				S	**S**	**23 13 46.4**	**-7.9**
ASAR				pmax	pmax		
	comp=Z,11nm,0.3s						
ASAR				smax			
	comp=Z,1.0nm,0.3s						
PBKI	**Pangkalan Bun**	**18.20**	**283**	P	**P**	**23 10 58.9**	**+0.5**
	comp=Z,1µmcomp=Z,139nm,1.0s						
KKM	**Kota Kinabalu**	**18.50**	**314**	*e*P	**P**	**23 11 01.1**	**-0.5**
	comp=Z,61nm,1.1s						
KKM	**Kota Kinabalu**	**18.50**	**314**	P	**P**	**23 11 01.5**	**-0.1**
	comp=Z,552nmcomp=Z,51nm,1.1s						
SBUM	**Sibu**	**19.59**	**298**	P	**P**	**23 11 14.9**	**+1.6**
	comp=Z,42nm,1.0s						
CTA	**Charters Tower**	**20.85**	**130**	P	**P**	**23 11 27.6**	**+0.8**
	comp=Z,11nm,0.7s,baz=297,slow=9.0,SNR=11						
CTA	**Charters Tower**	**20.85**	**130**	P	**P**	**23 11 27.6**	**+0.8**
CTA	**Charters Tower**	**20.85**	**130**	P	**P**	**23 11 27.6**	**+0.9**
CTA				pmax	pmax		
	comp=Z,11nm,0.7s						
CTAO	**Charters Tower**	**20.85**	**130**	P	**P**	**23 11 29.8**	**+3.1**
	comp=Z,17nm,1.1s						
KSM	**Kuching**	**20.86**	**293**	*e*P	**P**	**23 11 25.9**	**-1.1**
	comp=Z,40nm,1.0s						
KSM	**Kuching**	**20.86**	**293**	P	**P**	**23 11 27.8**	**+0.9**
	comp=Z,46nm,1.0s						
MEEK	**Meekatharra**	**22.05**	**207**	*e*P	**P**	**23 11 37.9**	**-1.1**
	comp=Z,40nm,0.5s,mb5.2						
MEEK				*e*S	**S**	**23 15 43.2**	**+15**
TGY	**Tagaytay City**	**22.62**	**338**	P	**P**	**23 11 41.1**	**-3.1**
	comp=Z,103nm,0.3s,baz=220,slow=2.3,SNR=6.3						
TGY	**Tagaytay City**	**22.62**	**338**	P	**P**	**23 11 41.1**	**-3.1**
TGY	**Tagaytay City**	**22.62**	**338**	P	**P**	**23 11 41.1**	**-3.1**
TGY				pmax	pmax		
	comp=Z,103nm,0.4s						
FORT	**Forrest**	**23.67**	**183**	*e*P	**P**	**23 11 53.7**	**0.0**
	comp=Z,61nm,0.5s,mb5.5						
FORT				*e*S	S	23 16 16.5	+22
FORT	**Forrest**	**23.67**	**183**	*e*P	**P**	**23 11 54.0**	**+0.4**
	comp=Z,84nm,0.6s,mb5.5						
FORT				*e*S	**S**	**23 15 56.0**	**+2.0**
QLP	**Quilpie**	**24.02**	**146**	*e*P	**P**	**23 11 57.8**	**+0.9**
KMBL	**Kambalda**	**25.23**	**195**	*e*P	**P**	**23 12 07.7**	**-0.1**
	comp=Z,90nm,0.6s,mb5.6						
KMBL				*e*S	S	23 16 57.7	+39
KLBR	**Kellerberrin**	**26.77**	**203**	*e*P	**P**	**23 12 21.1**	**-0.5**
	comp=Z,7.3nm,0.5s,mb4.6						
STKA	**Stephens Creek**	**27.21**	**157**	P	**P**	**23 12 26.4**	**+0.8**
	comp=Z,12nm,0.8s,mb4.6,baz=330,slow=9.1,SNR=27						
STKA	**Stephens Creek**	**27.21**	**157**	*e*P	**P**	**23 12 26.0**	**+0.5**
	comp=Z,7.7nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**27.21**	**157**	P	**P**	**23 12 26.4**	**+0.8**
STKA	**Stephens Creek**	**27.21**	**157**	P	**P**	**23 12 26.4**	**+0.9**
STKA				pmax	pmax		
	comp=Z,12nm,0.8s						
NWAO	**Narrogin (SRO)**	**28.15**	**202**	P	**P**	**23 12 34.2**	**+0.3**
	comp=Z,5.9nm,0.6s,mb4.4,baz=32,slow=7.7,SNR=4.4						
NWAO	**Narrogin (SRO)**	**28.15**	**202**	P	**P**	**23 12 34.2**	**+0.3**
NWAO	**Narrogin (SRO)**	**28.15**	**202**	P	**P**	**23 12 34.2**	**+0.3**
NWAO				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CMSA	**Cobar Meteorol**	**28.73**	**150**	*e*P	**P**	**23 12 40.1**	**+1.0**
	comp=Z,28nm,1.0s,mb4.8						
HNR	**Honiara**	**30.29**	**97**	P	**P**	**23 12 54.7**	**+1.6**
	comp=Z,53nm,0.4s,mb5.5,baz=186,slow=6.0,SNR=2.7						
HNR	**Honiara**	**30.29**	**97**	P	**P**	**23 12 54.7**	**+1.6**
HNR	**Honiara**	**30.29**	**97**	P	**P**	**23 12 54.7**	**+1.6**
HNR				pmax	pmax		
	comp=Z,53nm,0.4s,mb5.5						
ARPS	**Mount Arapiles**	**31.70**	**161**	*e*P	**P**	**23 13 06.4**	**+1.3**
	comp=Z,61nm,0.5s,mb5.4						
PSI	**Prapat**	**31.97**	**287**	P	**P**	**23 13 06.0**	**-1.8**
	comp=Z,23nm,0.8s,mb4.8,baz=111,slow=6.0,SNR=18						
PSI	**Prapat**	**31.97**	**287**	P	**P**	**23 13 06.0**	**-1.8**
PSI	**Prapat**	**31.97**	**287**	P	**P**	**23 13 06.1**	**-1.7**
PSI				pmax	pmax		
	comp=Z,23nm,0.8s,mb4.8						
PSI	**Prapat**	**31.97**	**287**	P	**P**	**23 13 08.3**	**+0.5**
YNG	**Young**	**32.30**	**150**	*e*P	**P**	**23 13 12.2**	**+1.8**
	comp=Z,4.2nm,1.3s,mb3.8						
CAN	**Canberra**	**33.41**	**150**	*e*P	**P**	**23 13 21.2**	**+1.1**
CAN	**Canberra**	**33.41**	**150**	*e*P	**P**	**23 13 21.2**	**+1.2**
TOO	**Toolangi**	**33.73**	**157**	*e*P	**P**	**23 13 24.2**	**+1.4**
	comp=Z,23nm,0.4s,mb5.1						
CBIJ	**Chichi jima**	**36.10**	**20**	P	**P**	**23 13 41.2**	**-1.9**
	comp=Z,15nm,0.6s,mb4.7,baz=272,slow=20,SNR=2.8						
CM31	**Chiang Mai Arr**	**39.31**	**311**	*e*P	**P**	**23 14 10.7**	**+0.5**
	comp=Z,3.1nm,0.3s,mb4.3						
CMAR	**Chiang Mai Arr**	**39.31**	**311**	P	**P**	**23 14 10.1**	**-0.2**
	comp=Z,11nm,0.7s,mb4.5,baz=137,slow=7.2,SNR=82						
CMAR				ScP	ScP	23 19 47.2	+2.0
	comp=Z,0.6nm,0.3s,baz=134,slow=5.2,SNR=4.6						
CMAR	**Chiang Mai Arr**	**39.31**	**311**	P	**P**	**23 14 10.1**	**-0.2**
CMAR				ScP	ScP	23 19 47.2	+2.0
CMAR	**Chiang Mai Arr**	**39.31**	**311**	P	**P**	**23

MKAR				PcP	PcP	23 18 02.7	+0.3		
	comp=Z,4.3nm,0.7s,baz=127,slow=4.2,SNR=7.6								
MKAR	**Makanchi Array**	**67.94**	**327**	P	**P**	**23 17 37.6**	**+0.1**		
MKAR				PcP	PcP	23 18 02.7	+0.3		
MKAR	**Makanchi Array**	**67.94**	**327**	P	**P**	**23 17 37.6**	**+0.1**		
MKAR						23 18 02.7			
MKAR				pmax	pmax				
	comp=Z,16nm,0.5s								
MKAR				pmax	pmax				
	comp=Z,4.0nm,0.7s								
YAK	**Yakutsk**	**68.85**	**0**	*e*P	**P**	**23 17 43.2**	**+0.4**		
YAK				pmax	pmax				
	comp=Z,25nm,0.8s,mb4.9								
KZA	**Kyzart**	**69.43**	**320**	P	**P**	**23 17 48.5**	**+1.6**		
	SNR=5.8								
TKM2	**Tokmak 2**	**69.64**	**321**	P	**P**	**23 17 48.8**	**+0.7**		
	SNR=7.2								
TKM2	**Tokmak 2**	**69.64**	**321**	*e*P	**P**	**23 17 47.8**	**-0.3**		
	comp=Z,4.6nm,0.6s,mb4.3								
TKM2	**Tokmak 2**	**69.64**	**321**	*e*P	**P**	**23 17 47.8**	**-0.3**		
TKM2				pmax	pmax				
	comp=Z,5.0nm,0.6s,mb4.3								
AAK	**Ala-Archa**	**70.19**	**320**	P	**P**	**23 17 52.2**	**+0.7**		
	SNR=7.2								
AAK	**Ala-Archa**	**70.19**	**320**	*i* P	**P**	**23 17 52.2**	**+0.7**		
KBL	**Kabul**	**70.35**	**310**	*e*P	**P**	**23 17 52.4**	**-0.2**		
	comp=Z,4.0nm,0.9s,mb4.0								
KBL	**Kabul**	**70.35**	**310**	*e*P	**P**	**23 17 52.4**	**-0.2**		
KBL				pmax	pmax				
	comp=Z,4.0nm,0.9s,mb4.0								
AML	**Almayashu**	**70.46**	**319**	P	**P**	**23 17 54.4**	**+1.3**		
	SNR=9.2								
USP	**Ospenovka**	**70.51**	**321**	P	**P**	**23 17 54.2**	**+0.8**		
	SNR=7.0								
EKS2	**Erkin-Say**	**70.67**	**320**	P	**P**	**23 17 55.4**	**+1.1**		
	SNR=7.6								
EKS2	**Erkin-Say**	**70.67**	**320**	*e*P	**P**	**23 17 54.0**	**-0.4**		
	comp=Z,4.4nm,0.8s,mb4.1								
EKS2	**Erkin-Say**	**70.67**	**320**	*e*P	**P**	**23 17 54.0**	**-0.4**		
EKS2				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.1								
ZAA0	**Zalesovo Array**	**71.36**	**334**	*e*P	**P**	**23 17 57.3**	**-0.9**		
ZALV	**Zalesovo Beam**	**71.36**	**334**	P	**P**	**23 17 57.5**	**-0.7**		
	comp=Z,7.8nm,0.7s,mb4.5,baz=119,slow=4.7,SNR=46								
ZALV	**Zalesovo Beam**	**71.36**	**334**	P	**P**	**23 17 57.5**	**-0.7**		
ZALV	**Zalesovo Beam**	**71.36**	**334**	P	**P**	**23 17 57.6**	**-0.6**		
ZALV				pmax	pmax				
	comp=Z,8.0nm,0.7s,mb4.5								
SEY	**Seymchan**	**71.93**	**11**	*e*P	**P**	**23 17 59.5**	**-2.0**		
KURK	**Kurchatov**	**72.24**	**329**	P	**P**	**23 18 03.2**	**-0.4**		
	comp=Z,7.3nm,0.6s,mb4.5,baz=127,slow=5.1,SNR=27								
KURK	**Kurchatov**	**72.24**	**329**	P	**P**	**23 18 03.2**	**-0.4**		
KURK	**Kurchatov**	**72.24**	**329**	*c i*P	**P**	**23 18 03.4**	**-0.2**		
KURK				*i* *PP	pP	23 18 39.4	-10		
KURK				pmax	pmax				
	comp=Z,25nm,1.2s,mb4.7								
VNDA	**Vanda**	**72.49**	**173**	P	**P**	**23 18 05.4**	**+0.7**		
	comp=Z,1.2nm,0.6s,mb3.7,baz=320,slow=7.4,SNR=10								
VNDA	**Vanda**	**72.49**	**173**	P	**P**	**23 18 05.4**	**+0.7**		
VNDA	**Vanda**	**72.49**	**173**	P	**P**	**23 18 05.4**	**+0.7**		
VNDA				pmax	pmax				
	comp=Z,1.0nm,0.6s								
KK31	**Karatay Array**	**72.99**	**319**	*ce*P	**P**	**23 18 08.1**	**-0.1**		
KK31				pmax	pmax				
	comp=Z,2.0nm,0.4s,mb4.1								
KKAR	**Karatay Array**	**72.99**	**319**	*e*P	**P**	**23 18 07.4**	**-0.8**		
	comp=Z,1.6nm,0.4s,mb4.0								
KKAR	**Karatay Array**	**72.99**	**319**	*e*P	**P**	**23 18 07.4**	**-0.8**		
KKAR				pmax	pmax				
	comp=Z,2.0nm,0.4s,mb4.1								
BVAR	**Borovoye Array**	**77.78**	**328**	P	**P**	**23 18 34.9**	**-0.4**		
	comp=Z,8.4nm,0.9s,mb4.4,baz=126,slow=8.2,SNR=14								
BVAR	**Borovoye Array**	**77.78**	**328**	P	**P**	**23 18 34.9**	**-0.4**		
BVAR	**Borovoye Array**	**77.78**	**328**	P	**P**	**23 18 34.9**	**-0.3**		
BVAR				pmax	pmax				
	comp=Z,8.0nm,0.9s								
BRVK	**Borovoye**	**77.85**	**328**	*e*P	**P**	**23 18 35.0**	**-0.6**		
	comp=Z,12nm,0.9s,mb4.5								
BRVK	**Borovoye**	**77.85**	**328**	*c i*P	**P**	**23 18 35.1**	**-0.5**		
BRVK				pmax	pmax				
	comp=Z,16nm,1.0s,mb4.6								
AB31	**Akbulak array**	**82.18**	**322**	*ce*P	**P**	**23 18 58.5**	**-0.4**		
AB31				pmax	pmax				
	comp=Z,4.0nm,0.4s,mb4.4								
ABKAR	**Akbulak array**	**82.18**	**322**	*e*P	**P**	**23 18 58.5**	**-0.4**		
	comp=Z,7.1nm,0.6s,mb4.5								
AKTO	**Aktyubinsk**	**83.75**	**322**	P	**P**	**23 19 06.7**	**-0.2**		
	comp=Z,6.1nm,0.7s,mb4.5,baz=99,slow=7.2,SNR=8.3								
AKTO	**Aktyubinsk**	**83.75**	**322**	P	**P**	**23 19 06.7**	**-0.2**		
AKTO	**Aktyubinsk**	**83.75**	**322**	P	**P**	**23 19 06.7**	**-0.2**		
AKTO				pmax	pmax				
	comp=Z,6.0nm,0.7s,mb4.4								
SVE	**Sverdlovsk**	**84.50**	**329**	*e*P	**P**	**23 19 10.8**	**+0.3**		
SVE				pmax	pmax				
	comp=Z,34nm,0.9s,mb5.1								
ARU	**Arti**	**85.43**	**328**	*c i*P	**P**	**23 19 14.8**	**-0.4**		
ARU				*PP	pP	23 19 46.0	-17		
ARU						23 22 30.0			
ARU				S	S	23 29 27.1	-2.5		
ARU				SS	SS	23 35 10.3	+0.7		
ARU				pmax	pmax				
	comp=Z,20nm,1.0s,mb4.8								
SOKR	**Solikamsk**	**87.35**	**331**	*e*P	**P**	**23 19 22.6**	**-1.9**		
SOKR				pmax	pmax				
	comp=Z,10.0nm,1.0s,mb4.5								
ZEI	**Tsey**	**91.45**	**313**	*e*P	**P**	**23 19 43.2**	**-0.8**		
ZEI				pmax	pmax				
	comp=Z,7.0nm,1.5s,mb4.4								
ILAR	**Eielson Array**	**93.61**	**25**	P	**P**	**23 19 52.4**	**-1.0**		
	comp=Z,1.3nm,0.8s,mb4.0,baz=263,slow=4.5,SNR=8.8								
ILAR	**Eielson Array**	**93.61**	**25**	P	**P**	**23 19 52.4**	**-1.1**		
ILAR	**Eielson Array**	**93.61**	**25**	P	**P**	**23 19 52.4**	**-1.1**		
ILAR				pmax	pmax				
	comp=Z,1.0nm,0.8s								
SNAA	**Sanae**	**95.51**	**194**	P	**P**	**23 20 03.5**	**+1.4**		
	comp=Z,0.2nm,0.8s,baz=201,slow=8.6								
SNAA	**Sanae**	**95.51**	**194**	P	**P**	**23 20 03.5**	**+1.4**		
SNAA	**Sanae**	**95.51**	**194**	P	**P**	**23 20 03.5**	**+1.4**		
ANN	**Anapa**	**96.31**	**314**	*e*P	**P**	**23 20 07.1**	**+0.8**		
ANN				pmax	pmax				
	comp=Z,245nm,2.0s								
BRTR	**Keskin Array B**	**98.89**	**309**	P	**P**	**23 20 17.4**	**-0.6**		
	comp=Z,0.5nm,0.7s,mb3.9,baz=92,slow=3.2,SNR=3.5								
BRTR	**Keskin Array B**	**98.89**	**309**	P	**P**	**23 20 17.4**	**-0.6**		
BRTR	**Keskin Array B**	**98.89**	**309**	P	**P**	**23 20 17.4**	**-0.6**		
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.7s								
ARCES	**ARCESS Array B**	**101.40**	**340**	P	Pdif	23 20 29.6	+0.7		
	comp=Z,1.9nm,0.8s,baz=82,slow=6.7,SNR=6.1								
ARCES	**ARCESS Array B**	**101.40**	**340**	P	Pdif	23 20 29.6	+0.7		
ARCES	**ARCESS Array B**	**101.40**	**340**	P	Pdif	23 20 29.6	+0.7		
ARCES				pmax	pmax				
	comp=Z,2.0nm,0.8s								
GERES	**GERESS Array B**	**112.08**	**320**	PKiKP	PKiKP	23 25 12.4	+0.4		
	comp=Z,0.2nm,0.4s,baz=85,slow=2.1,SNR=4.4								
GERES	**GERESS Array B**	**112.08**	**320**	PKPdf	PKiKP	23 25 12.4	+0.4		
GERES	**GERESS Array B**	**112.08**	**320**	*i* PKiKP	PKiKP	23 25 12.4	+0.4		
TXAR	**Lajitas Array**	**125.43**	**59**	PKP	PKPdf	23 25 39.5	+1.3		
	comp=Z,0.2nm,0.5s,baz=167,slow=2.9,SNR=5.3								
TXAR	**Lajitas Array**	**125.43**	**59**	PKP	PKPdf	23 25 39.5	+1.3		
TXAR	**Lajitas Array**	**125.43**	**59**	PKiKP	PKPdf	23 25 39.6	+1.3		
TORD	**Torodi Ar. Bea**	**128.26**	**281**	PKP	PKPdf	23 25 44.6	+0.6		
	comp=Z,0.9nm,0.7s,baz=88,slow=2.2,SNR=7.7								
TORD				SKPbc		23 28 45.3			
	comp=Z,0.6nm,0.8s,baz=96,slow=3.6,SNR=3.6								
TORD	**Torodi Ar. Bea**	**128.26**	**281**	PKP	PKPdf	23 25 44.6	+0.6		
TORD				SKPbc		23 28 45.3			
DBIC	**Dimbokro**	**134.62**	**272**	SKPbc	SKPbc	23 29 08.9	+0.8		
	comp=Z,4.7nm,1.1s,baz=99,slow=5.2,SNR=3.7								
LPAZ	**La Paz**	**151.04**	**143**	PKPbc	PKPbc	23 26 31.6	+1.0		
	comp=Z,0.7nm,0.4s,baz=196,slow=4.0,SNR=4.4								
LPAZ	**La Paz**	**151.04**	**143**	PKPbc	PKPbc	23 26 31.6	+1.0		

ISK ***17*** *23:08:19.2,35.67°N×27.62°E,h29km, MD3.0*
ATH ***17*** *23:08:21.5,35.72°N×28.00°E,h39km±2km, MD2.9/4*
ISCJB ***17*** *23:08:23.0±1.0,35.86°N±0.06°×27.86°E±0.08,h53km±12km, Error ellipse: s-maj=12.0km s-min=7.7km az=41.5*
CSEM ***17*** *23:08:23.8±0.5,35.91°N×27.82°E,h40km, MD2.9, Error ellipse: s-maj=14.7km s-min=10.0km az=133.0*

ISC 17 23:08:23.5±1.0,35.86N±0.06°×27.87E±0.08,h49km±14km, n20,σ0°90/28, Dodecanese Islands

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

ARG	**Arkhangelos**	**0.42**	**31**	*e*PN	**Pn**	**23 08 33.1**	**-0.6**		
ARG				*e*SN	**Sn**	**23 08 41.0**	**0.0**		
ARG	**Arkhangelos**	**0.42**	**31**	*e*Pn	**Pn**	**23 08 33.1**	**-0.6**		
ARG				*e*Sn	**Sn**	**23 08 41.0**	**0.0**		
KARP	**Karpathos**	**0.65**	**242**	*e*PN	**Pn**	**23 08 36.2**	**-0.3**		
KARP				*e*SN	**Sn**	**23 08 46.3**	**+0.3**		
KARP	**Karpathos**	**0.65**	**242**	*e*Pn	**Pn**	**23 08 36.2**	**-0.3**		
KARP				*e*Sn	**Sn**	**23 08 46.3**	**+0.3**		
DAT	**Datca**	**0.90**	**345**	*e*PG	**Pn**	**23 08 39.3**	**-0.5**		
DAT				*e*SG	**Sn**	**23 08 53.1**	**+1.3**		
DAT	**Datca**	**0.90**	**345**	*e*Pg	**Pn**	**23 08 39.3**	**-0.5**		
DAT				*e*Sg	**Sn**	**23 08 53.1**	**+1.3**		
FETY	**Fethiye**	**1.25**	**51**	*e*PN	**Pn**	**23 08 45.1**	**+0.5**		
FETY	**Fethiye**	**1.25**	**51**	*e*Pn	**Pn**	**23 08 45.1**	**+0.5**		
BODT	**Bodrum**	**1.28**	**340**	*e*PN	**Pn**	**23 08 43.0**	**-2.0**		
BODT				*e*SN	**Sn**	**23 09 00.4**	**-0.6**		
BODT	**Bodrum**	**1.28**	**340**	*e*Pn	**Pn**	**23 08 43.0**	**-2.0**		
BODT				*e*Sn	**Sn**	**23 09 00.4**	**-0.6**		
YER	**Yerkesik**	**1.32**	**15**	*e*PN	**Pn**	**23 08 45.4**	**-0.1**		
YER	**Yerkesik**	**1.32**	**15**	*e*Pn	**Pn**	**23 08 45.4**	**-0.1**		
MLSB	**Milas**	**1.44**	**357**	*e*PN	**Pn**	**23 08 46.6**	**-0.4**		
MLSB	**Milas**	**1.44**	**357**	*e*Pn	**Pn**	**23 08 46.7**	**-0.4**		
ELL	**Elmali**	**1.88**	**61**	*e*PN	**Pn**	**23 08 53.4**	**+0.3**		
ELL	**Elmali**	**1.88**	**61**	*e*Pn	**Pn**	**23 08 53.4**	**+0.3**		
NPS	**Neapolis**	**1.93**	**253**	*e*PN	**Pn**	**23 08 53.9**	**+0.1**		
NPS	**Neapolis**	**1.93**	**253**	*e*Pn	**Pn**	**23 08 53.9**	**+0.1**		
SMG	**Samos**	**2.02**	**336**	*e*PN	**Pn**	**23 08 57.5**	**+2.4**		
SMG	**Samos**	**2.02**	**336**	*e*Pn	**Pn**	**23 08 57.5**	**+2.4**		

ISCJB ***17*** *23:12:46.9±1.5,6.09S±0.06°×154.5E±0.1,h423km±16km, mb4.1/22, Error ellipse: s-maj=18.0km s-min=9.0km az=9.0*
IDC ***17*** *23:12:46.2±2.3,6.08S×154.62E,h400km±22km,mb3.6/15, mb1 3.8/17,mb1mx3.7/22,mbtmp3.6/17, Error ellipse: s-maj=23.9km s-min=11.6km az=98.0*
NEIC ***17*** *23:12:47.6±1.4,6.11S±0.06°×154.58E,h418km±15km,mb4.4/5, Error ellipse: s-maj=13.1km s-min=7.5km az=87.0*

ISC 17 23:12:48.5±1.4,6.11S±0.06°×154.6E±0.1,h426km±15km, n61,σ0°62/59,mb4.1/22,Bougainville - Solomon Islands region

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

PMG	**Port Moresby**	**8.03**	**245**	P	**P**	**23 14 44.3**	**+0.3**		
	2.9nm,0.3s,baz=43,slow=1.0,SNR=5.6								
COEN	**Coen**	**13.64**	**234**	*e*P	**P**	**23 15 46.9**	**+1.3**		
	235nm,0.8s								
COEN	**Coen**	**13.64**	**234**	*e*P	**P**	**23 15 45.1**	**-0.5**		
CTA	**Charters Tower**	**16.07**	**209**	P	**P**	**23 16 12.8**	**+1.1**		
	2.1nm,0.3s,baz=29,slow=12,SNR=6.3								
CTA	**Charters Tower**	**16.07**	**209**	P	**P**	**23 16 12.8**	**+1.1**		
CTAO	**Charters Tower**	**16.07**	**209**	*e*P	**P**	**23 16 10.7**	**-1.0**		
RMQ	**Roma**	**21.01**	**195**	*e*P	**P**	**23 17 01.3**	**+0.8**		
	14nm,0.7s,mb4.5								
QLP	**Quilpie**	**22.61**	**205**	*e*P	**P**	**23 17 15.0**	**-0.1**		
WRAB	**Tennant Creek**	**23.96**	**233**	*e*P	**P**	**23 17 27.1**	**-0.2**		
	12nm,0.9s,mb4.3								
WB2	**Warramunga Arr**	**23.97**	**233**	*e*P	**P**	**23 17 27.4**	**0.0**		
WRA	**Warramunga Arr**	**23.98**	**233**	P	**P**	**23 17 27.3**	**-0.1**		
	2.0nm,0.3s,mb4.0,baz=58,slow=9.7,SNR=6.1								
WRA				S	**S**	**23 21 13.7**	**+0.9**		
	1.7nm,0.9s,baz=65,slow=15,SNR=3.2								
WRA	**Warramunga Arr**	**23.98**	**233**	P	**P**	**23 17 27.3**	**-0.1**		
WRA				S	**S**	**23 21 13.8**	**+0.9**		
ARMA	**Armidale**	**24.34**	**186**	*e*P	**P**	**23 17 31.1**	**+0.6**		
ARMA	**Armidale**	**24.34**	**186**	*e*P	**P**	**23 17 30.0**	**-0.5**		
	5.7nm,0.6s,mb4.2								
ASAR	**Alice Springs**	**26.44**	**227**	P	**P**	**23 17 48.8**	**-0.6**		
	4.2nm,0.3s,mb4.3,baz=57,slow=9.4,SNR=8.8								
ASAR				S	**S**	**23 21 50.5**	**-1.1**		
	0.8nm,0.7s,baz=58,slow=14,SNR=4.1								
ASAR				ScP	ScP	23 24 05.2	+4.7		
	0.6nm,0.6s,baz=58,slow=2.5,SNR=5.6								
ASAR	**Alice Springs**	**26.44**	**227**	P	**P**	**23 17 48.8**	**-0.6**		
ASAR				S	**S**	**23 21 50.5**	**-1.1**		
ASAR				ScP	ScP	23 24 05.2	+4.7		
STKA	**Stephens Creek**	**28.36**	**204**	P	**P**	**23 18 05.7**	**-0.4**		
	4.3nm,0.4s,mb4.2,baz=34,slow=8.0,SNR=15								
STKA	**Stephens Creek**	**28.36**	**204**	*e*P	**P**	**23 18 05.6**	**-0.5**		
CAN	**Canberra**	**29.52**	**189**	*e*P	**P**	**23 18 15.9**	**-0.2**		
FITZ	**Fitzroy Crossi**	**30.62**	**245**	P	**P**	**23 18 24.8**	**-1.2**		
	3.6nm,0.3s,mb4.1,baz=69,slow=8.6,SNR=7.4								
FITZ	**Fitzroy Crossi**	**30.62**	**245**	*e*P	**P**	**23 18 24.8**	**-1.2**		
FORT	**Forrest**	**34.94**	**222**	*e*P	**P**	**23 19 02.2**	**-0.6**		
	29nm,0.5s,mb4.9								
TAU	**Tasmania Unive**	**37.21**	**189**	*e*P	**P**	**23 19 21.1**	**-0.4**		
KKM	**Kota Kinabalu**	**40.12**	**287**	*e*P	**P**	**23 19 45.6**	**-0.3**		
MJAR	**Matsushiro Arr**	**45.10**	**341**	P	**P**	**23 20 23.9**	**-1.0**		
	3.5nm,0.4s,mb4.1,baz=168,slow=7.9,SNR=12								
MJAR	**Matsushiro Arr**	**45.10**	**341**	P	**P**	**23 20 23.9**	**-1.0**		
MAJO	**Matsushiro**	**45.10**	**341**	*e*P	**P**	**23 20 23.9**	**-1.0**		
	8.5nm,0.4s,mb4.4								
MAT	**Matsushiro**	**45.10**	**341**	PKP	**P**	**23 20 24.2**	**-0.7**		
KSRS	**Korea Array**	**49.95**	**332**	P	**P**	**23 21 02.1**	**+0.5**		
	2.5nm,0.6s,mb3.7,baz=143,slow=7.5,SNR=5.2								
KSAR	**Wonju Array Be**	**49.96**	**332**	P	**P**	**23 21 02.1**	**+0.5**		
ENH	**Enshi**	**56.31**	**313**	*e*P	**P**	**23 21 47.5**	**0.0**		
COCO	**West Island**	**57.22**	**259**	*e*P	**P**	**23 21 54.1**	**+0.1**		
	56nm,0.9s,mb4.9								
BJT	**Baijiatuau**	**57.93**	**326**	*e*P	**P**	**23 21 58.3**	**-0.1**		
PETK	**Petropavlovsk-**	**59.05**	**2**	P	**P**	**23 22 06.2**	**+0.5**		
	5.5nm,0.7s,mb4.0,baz=156,slow=7.3,SNR=5.0								
PETK	**Petropavlovsk-**	**59.05**	**2**	P	**P**	**23 22 06.2**	**+0.5**		
CMAR	**Chiang Mai Arr**	**60.01**	**295**	P	**P**	**23 22 13.9**	**+1.0**		
	2.3nm,0.6s,mb3.8,baz=125,slow=5.7,SNR=12								
CMAR	**Chiang Mai Arr**	**60.01**	**295**	P	**P**	**23 22 13.9**	**+1.0**		
ULN	**Ulaanbaatar**	**68.02**	**328**	*e*P	**P**	**23 23 03.6**	**-0.1**		
SONM	**Songino Array**	**68.35**	**327**	P	**P**	**23 23 06.6**	**+0.9**		
	1.7nm,0.6s,mb3.9,baz=146,slow=6.7,SNR=23								
SONM	**Songino Array**	**68.35**	**327**	P	**P**	**23 23 06.6**	**+0.9**		
LSA	**Lhasa**	**70.41**	**304**	*e*P	**P**	**23 23 19.2**	**+0.7**		
VNDA	**Vanda**	**71.48**	**178**	P	**P**	**23 23 24.9**	**+0.9**		
	1.1nm,0.6s,mb3.5,baz=335,slow=6.7,SNR=9.5								
MK31	**Makanchi Array**	**82.45**	**319**	*e*P	**P**	**23 24 25.2**	**+0.4**		
MKAR	**Makanchi Array**	**82.45**	**319**	P	**P**	**23 24 25.5**	**+0.6**		
	3.4nm,0.7s,mb4.2,baz=104,slow=5.6,SNR=16								
MKAR	**Makanchi Array**	**82.45**	**319**	P	**P**	**23 24 25.5**	**+0.6**		
ILAR	**Eielson Array**	**82.71**	**22**	P	**P**	**23 24 25.2**	**-0.6**		
	1.6nm,0.7s,mb3.9,baz=244,slow=4.0,SNR=23								
ILAR	**Eielson Array**	**82.71**	**22**	P	**P**	**23 24 25.2**	**-0.6**		
ZALV	**Zalesovo Beam**	**83.20**	**326**	P	**P**	**23 24 27.9**	**-0.6**		
	1.5nm,0.6s,mb3.9,baz=105,slow=5.3,SNR=6.8								
ZALV	**Zalesovo Beam**	**83.20**	**326**	P	**P**	**23 24 27.9**	**-0.6**		
KURK	**Kurchatov**	**85.86**	**322**	P	**P**	**23 24 41.3**	**-0.4**		
	0.5nm,0.6s,mb3.5,baz=102,slow=4.1,SNR=11								
KURK	**Kurchatov**	**85.86**	**322**	*e*P	**P**	**23 24 41.2**	**-0.5**		
TKM2	**Tokmak 2**	**86.09**	**314**	*e*P	**P**	**23 24 43.3**	**+0.4**		
	1.7nm,0.6s,mb4.0								
EKS2	**Erkin-Say**	**87.35**	**313**	*e*P	**P**	**23 24 49.3**	**+0.3**		
INK	**Inuvik**	**89.05**	**21**	P	**P**	**23 24 56.2**	**-0.1**		
	0.5nm,0.5s,mb3.5,baz=263,slow=2.4,SNR=2.8								
INK	**Inuvik**	**89.05**	**21**	P	**P**	**23 24 56.2**	**-0.1**		
GERES	**GERESS Array B**	**126.07**	**329**	PKP	PKPdf	23 31 02.1	+0.9		
	0.2nm,0.5s,baz=132,slow=1.5,SNR=3.4								
GERES	**GERESS Array B**	**126.07**	**329**	PKP	PKPdf	23 31 02.1	+0.9		
MDT	**Midelt**	**147.10**	**327**	PKPbc	PKPbc	23 31 43.7	+0.7		
	1.8nm,0.7s,baz=45,slow=5.7,SNR=4.8								
MDT	**Midelt**	**147.10**	**327**	PKPbc	PKPbc	23 31 43.7	+0.7		
TORD	**Torodi Ar. Bea**	**152.36**	**287**	PKPbc	PKPbc	23 31 56.0	-0.1		
	0.6nm,0.5s,baz=71,slow=2.1,SNR=11								
TORD				PKPab	PKPab	23 32 07.8	-0.4		
	0.5nm,0.5s,baz=88,slow=4.2,SNR=5.7								
TORD	**Torodi Ar. Bea**	**152.36**	**287**	PKPbc	PKPbc	23 31 56.0	-0.1		
TORD				PKPab	PKPab	23 32 07.8	-0.4		

IDC 17 23:20:49.7±1.2,8.13N×127.23E,h0km,mb3.7/6, mb1 3.8/6,mb1mx3.5/25,mbtmp3.7/6,Error ellipse: s-maj=34.6km s-min=18.3km az=84.0,Philippine Islands region

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

DAV	**Davao City (W)**	**1.94**	**237**	Pn	Pn	23 21 25.3	+1.4		
	22nm,0.3s,baz=76,slow=17,SNR=4.4								
DAV				Sn	Sn	23 21 49.0	0.0		
	49nm,0.3s,baz=261,slow=23,SNR=5.7								
FITZ	**Fitzroy Crossi**	**26.11**	**183**	P	P	23 26 23.5	-1.9		
	0.4nm,0.5s,baz=14,slow=12,SNR=3.0								
WRA	**Warramunga Arr**	**28.76**	**166**	P	P	23 26 50.9	+1.7		
	0.4nm,0.8s,baz=349,slow=10.0,SNR=4.3								
MKAR	**Makanchi Array**	**54.30**	**323**	P	P	23 30 18.0	+0.2		
	1.5nm,0.7s,baz=125,slow=7.0,SNR=7.7								
ZALV	**Zalesovo Beam**	**56.95**	**332**	P	P	23 30 36.5	-0.2		
	0.4nm,0.6s,baz=126,slow=7.4,SNR=3.3								
KURK	**Kurchatov**	**58.36**	**326**	P	P	23 30 46.5	-0.2		
	1.2nm,0.7s,baz=127,slow=6.2,SNR=13								
BVAR	**Borovoye Array**	**63.96**	**326**	P	P	23 31 24.8	+0.2		
	0.8nm,0.7s,baz=119,slow=6.3,SNR=5.9								

DMN ***17*** *23:52:08.0±4.3,30.09N×88.77E,h60km, Error ellipse: s-maj=103.5km s-min=13.1km az=44.0*
BJI ***17*** *23:52:15.8,29.13N×88.16E,h10km,mB4.9/15,mb4.6/30, ML4.6/2,Ms4.5/20,Ms7 4.5/19*
ISCJB ***17*** *23:52:17.2±1.0,29.19N±0.03×88.20E±0.03,h14km±6km, mb4.6/59,MS3.9/32, Error ellipse: s-maj=4.7km s-min=4.0km az=23.7*
NEIC ***17*** *23:52:18.4±2.8,29.19N×88.23E,h12km±18km,mb4.6/11, Error ellipse: s-maj=8.8km s-min=4.3km az=48.0*
IDC ***17*** *23:52:18.3±2.7,29.17N×88.17E,h11km±16km,mb4.3/28, mb1 4.4/30,mb1mx4.4/35,mbtmp4.3/30,ML4.2/2,MS3.9/32, Ms1 3.9/32,ms1mx3.7/52, Error ellipse: s-maj=16.7km s-min=9.9km az=45.0*
MOS ***17*** *23:52:19.8±0.9,29.18N×88.22E,h35km,mb4.7/14, Error ellipse: s-maj=10.7km s-min=5.3km az=122.3*
DJA ***17*** *23:52:20,29.14N×87.87E,h23km,mb4.9/6*
NDI ***17*** *23:52:20.6±3.1,29.01N×87.90E,h10km,mb4.8, mb4.6(NEIC)*

ISC 17 23:52:17.9±1.2,29.20N±0.03×88.17E±0.03,h6km±8km, n253,σ1s08/240,mb4.6/59,MS3.9/32,11C-13D,Xizang

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

TAPN	**Taplejung**	**1.88**	**193**	*e*P	**Pn**	**23 52 52.7**	**+2.1**		
GUN	**Gumba**	**2.39**	**238**	*e*P	**Pn**	**23 53 00.0**	**+2.4**		
ODAN	**Odare**	**2.43**	**197**	*e*P	**Pn**	**23 53 01.6**	**+3.5**		
RAMN	**Ramite**	**2.63**	**212**	*e*P	**Pn**	**23 53 03.5**	**+2.6**		
LSA	**Lhasa**	**2.65**	**78**	Pg	**Pb**	**23 52 59.3**	**-6.4**		
LSA				smax					
	comp=N,750nm,0.7s								
LSA				smax					
	comp=E,1μm,0.8s								
LSA	**Lhasa**	**2.65**	**78**

POO AMb AMB 23 56 12.8
comp=Z,27nm,0.9s
TKM2 Tokmak 2 17.03 327 P **Pn** **23 56 17.9 +1.3**
SNR=19
TKM2 Tokmak 2 17.03 327 *e*Pn **Pn** **23 56 16.9 +0.3**
comp=Z,35nm,1.4s
TKM2 Tokmak 2 17.03 327 *e*P **Pn** **23 56 16.9 +0.3**
TKM2 pmax pmax
comp=Z,35nm,1.4s
UCH Uchtor 17.06 323 P **Pn** **23 56 16.6 -0.4**
SNR=5.8
KBL Kabul 17.09 293 *e*P **Pn** **23 56 12.3 -5.2**
comp=Z,19nm,0.9s
KBL Kabul 17.09 293 *e*P **Pn** **23 56 12.3 -5.2**
KBL pmax pmax
comp=Z,19nm,0.9s
KBK Karagaybulak 17.15 325 P **Pn** **23 56 18.3 +0.2**
SNR=15
AAK Ala-Archa 17.36 324 P **Pn** **23 56 25.0 +4.2**
SNR=16
AML Almayashu 17.43 322 P **Pn** **23 56 18.7 -3.0**
SNR=12
FRU Bishkek 17.45 325 ⇓ *i*P **Pn** **23 56 23.0 +1.2**
FRU pmax pmax
comp=Z,120nm,2.0s
KAD Karad 17.45 230 *e*PKP **Pn** **23 56 20.8 -1.2**
CHMS Chumysh 17.50 326 P **Pn** **23 56 22.6 +0.1**
SNR=6.7
EKS2 Erkin-Say 17.75 323 P **Pn** **23 56 27.0 +1.4**
SNR=13
EKS2 Erkin-Say 17.75 323 *e*Pn **Pn** **23 56 26.9 +1.2**
comp=Z,25nm,1.0s
EKS2 Erkin-Say 17.75 323 *e*P **Pn** **23 56 26.9 +1.3**
EKS2 pmax pmax
comp=Z,25nm,1.0s
MK31 Makanchi Array 18.16 347 *e*P **Pn** **23 56 30.4 -0.2**
MK31 Makanchi Array 18.16 347 *e*P **Pn** **23 56 30.4 -0.2**
MKAR Makanchi Array 18.16 347 P **Pn** **23 56 30.7 +0.1**
comp=Z,0.3nm,0.3s,baz=153,slow=12,SNR=15
MKAR Makanchi Array 18.16 347 P **Pn** **23 56 30.7 +0.1**
MKAR Makanchi Array 18.16 347 P **Pn** **23 56 30.7 +0.1**
XAN Xi'an 18.31 69 P **Pn** **23 56 30.8 -1.8**
XAN pP pP 23 56 39.6 +5.2
XAN pmax pmax
comp=Z,6.0nm,1.1s
XAN LR LR
comp=N,960nm,15.2s
XAN LR LR
comp=Z,330nm,9.8s
ENH Enshi 18.54 81 *e*P **Pn** **23 56 33.7 -1.7**
comp=Z,19nm,0.6s
GOA Goa 19.00 227 ⇑ *e*PKP **Pn** **23 56 40.2 -0.8**
KKAR Karatay Array 19.84 319 *e*P **Pn** **23 56 49.3 -1.7**
KKAR Karatay Array 19.84 319 *e*P **Pn** **23 56 49.3 -1.7**
BTO Baotou 21.17 52 *e*P **P** **23 57 02.5 -1.4**
KURK Kurchatov 22.67 344 P **P** **23 57 17.4 -2.4**
comp=Z,8.4nm,0.9s,mb4.2,baz=161,slow=9.5,SNR=38
KURK LR LR 00 07 24.6
comp=Z,250nm,18.5s,MS3.7,baz=150,slow=40
KURK Kurchatov 22.67 344 *e*P **P** **23 57 20.4 +0.6**
comp=Z,34nm,1.4s,mb4.6
KURK Kurchatov 22.67 344 P **P** **23 57 17.4 -2.4**
KURK pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
KURK MLR MLR
comp=Z,250nm,18.5s,MS3.7
WHN Wuhan 22.73 80 P **P** **23 57 21.1 +0.5**
SONM Songino Array 23.34 32 P **P** **23 57 27.5 +0.6**
comp=Z,15nm,1.1s,mb4.4,baz=220,slow=9.3,SNR=49
SONM PcP PcP 00 01 14.1 +0.4
comp=Z,1.9nm,0.9s,baz=227,slow=2.3,SNR=38
SONM ScP ScP 00 04 51.1 -1.3
comp=Z,0.9nm,0.9s,baz=220,slow=3.8,SNR=5.1
SONM LR LR 00 07 32.6
comp=Z,466nm,20.2s,MS3.9,baz=243,slow=39
SONM Songino Array 23.34 32 P **P** **23 57 27.5 +0.6**
SONM PcP PcP 00 01 14.1 +0.4
SONM ScP ScP 00 04 51.1 -1.3
SONM LR LR 00 07 32.6
SONM Songino Array 23.34 32 P **P** **23 57 27.5 +0.6**
SONM 00 01 14.1
ULN Ulaanbaatar 23.67 33 P **P** **23 57 30.7 +0.5**
comp=Z,23nm,1.1s,mb4.5
ZAK Zakamensk 24.05 24 *e*P **P** **23 57 34.0 +0.4**
ZAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.1
ZAA0 Zalesovo Array 24.85 355 *e*P **P** **23 57 40.3 -0.6**
ZALV Zalesovo Beam 24.85 355 P **P** **23 57 40.4 -0.5**
comp=Z,4.7nm,0.8s,mb4.1,baz=180,slow=8.2,SNR=11
ZALV LR LR 00 08 57.9
comp=Z,84nm,19.0s,MS3.3,baz=244,slow=40
ZALV Zalesovo Beam 24.85 355 P **P** **23 57 40.4 -0.5**
ZALV LR LR 00 08 57.9
ZALV Zalesovo Beam 24.85 355 P **P** **23 57 40.4 -0.5**
NVS Novosibirsk 25.87 353 ⇑ *i*P **P** **23 57 50.5 +0.3**
NVS pmax pmax
comp=Z,19nm,1.4s,mb4.4
NVS pmax pmax
comp=N,23nm,1.6s
NVS pmax pmax
comp=E,8.0nm,1.2s
KULM Kulim 26.55 151 *e*P **P** **23 57 57.7 +1.0**
KULM Kulim 26.55 151 P **P** **23 57 57.8 +1.1**
comp=E,0.2nmcomp=E,44nm,1.1s,mb4.9
KULM Kulim 26.55 151 P **P** **23 57 56.9 +0.2**
comp=E,44nm,1.1s,mb4.9
BVAR Borovoye Array 27.17 336 P **P** **23 58 03.0 +1.1**
comp=E,1.1nm,0.7s,mb3.5,baz=145,slow=5.3,SNR=9.4
BVAR LR LR 00 10 14.5
comp=E,309nm,18.2s,MS3.9,baz=147,slow=40
BVAR Borovoye Array 27.17 336 P **P** **23 58 03.0 +1.1**
BVAR LR LR 00 10 14.5
BVAR Borovoye Array 27.17 336 P **P** **23 58 03.0 +1.1**
BRVK Borovoye 27.23 336 *e*P **P** **23 58 02.0 -0.5**
comp=E,5.4nm,1.1s,mb4.0
BRVK Borovoye 27.23 336 *e*P **P** **23 58 02.0 -0.5**
BRVK pmax pmax
comp=Z,5.0nm,1.1s,mb4.0
IPM Ipoh 27.44 151 *e*P **P** **23 58 04.7 0.0**
comp=Z,19nm,0.8s,mb4.7
IPM Ipoh 27.44 151 P **P** **23 58 04.6 -0.1**
comp=Z,0.1nmcomp=Z,27nm,0.9s,mb4.8
IPM Ipoh 27.44 151 P **P** **23 58 04.7 0.0**
comp=Z,27nm,0.9s,mb4.8
PSI Prapat 28.17 157 P **P** **23 58 12.2 +0.9**
comp=Z,2.6nm,0.2s,mb4.5,baz=143,slow=20,SNR=7.8
PSI Prapat 28.17 157 P **P** **23 58 12.2 +1.0**
PSI Prapat 28.17 157 P **P** **23 58 12.2 +1.0**
ABKAR Akbulak array 29.38 321 *e*P **P** **23 58 22.1 +0.4**
MNSI Mandailing Nat 30.27 157 P **P** **23 58 30.0 +0.2**
comp=Z,65nm,0.9s,mb5.4
AKTO Aktyubinsk 31.07 321 P **P** **23 58 37.0 +0.4**
comp=Z,6.1nm,0.9s,mb4.4,baz=116,slow=8.3,SNR=17
AKTO ScP ScP 00 05 13.6 -1.9
comp=Z,1.4nm,0.9s,baz=329,slow=1.6,SNR=3.8
AKTO LR LR 00 11 46.3
comp=Z,142nm,21.2s,MS3.6,baz=347,slow=38
AKTO Aktyubinsk 31.07 321 P **P** **23 58 37.0 +0.4**
AKTO ScP ScP 00 05 13.6 -1.9
AKTO LR LR 00 11 46.3
AKTO Aktyubinsk 31.07 321 P **P** **23 58 37.0 +0.4**
HIA Hailar 31.28 41 *e*P **P** **23 58 37.9 -0.6**
comp=Z,6.6nm,0.4s,mb4.8
HIA Hailar 31.28 41 *e*P **P** **23 58 37.9 -0.6**
HIA pmax pmax
comp=Z,7.0nm,0.4s
PPI Padang Panjang 31.72 156 P **P** **23 58 42.5 -0.1**
comp=Z,970nmcomp=Z,26nm,0.8s,mb5.1
PDSI Padang 32.16 156 P **P** **23 58 46.2 -0.4**
comp=Z,48nm,1.2s,mb5.2
SDSI Sungai Dareh 32.53 155 P **P** **23 58 55.4 +5.6**
KSAR Wonju Array Be 33.99 65 P **P** **23 59 02.9 +0.5**
KSAR LR LR 00 14 33.6
KSAR Wonju Array Be 33.99 65 P **P** **23 59 02.9 +0.5**
KSRS Korea Array 34.02 65 P **P** **23 59 02.9 +0.2**
comp=Z,4.1nm,0.7s,mb4.4,baz=263,slow=8.4,SNR=6.4
KSRS LR LR 00 14 33.6
comp=Z,257nm,18.2s,MS4.0,baz=268,slow=39
KSRS Korea Array 34.02 65 P **P** **23 59 02.9 +0.2**
KSRS pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
KSRS MLR MLR
comp=Z,257nm,18.2s,MS4.0
JOW Kunigami 35.37 84 LR LR 00 15 12.1
comp=Z,349nm,18.4s,MS4.2,baz=285,slow=39
DGRG David-gareji 36.65 301 P **P** **23 59 28.4 +3.2**

GNI Garni 37.02 299 P **P** **23 59 28.5 +0.1**
comp=Z,14nm,1.0s,mb4.8,baz=18,slow=15,SNR=10
GNI LR LR 00 17 07.5
comp=Z,135nm,21.2s,MS3.7,baz=254,slow=40
GNI Garni 37.02 299 P **P** **23 59 28.5 +0.1**
GNI LR LR 00 17 07.5
GNI Garni 37.02 299 P **P** **23 59 28.5 +0.1**
SOKR Solikamsk 37.09 334 *e*P **P** **23 59 28.5 -0.2**
SOKR pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
SOKR MLR MLR
comp=Z,200nm,15.0s,MS4.0
MTA Mtatsminda 37.11 302 P **P** **23 59 28.9 -0.2**
TBLG Delisi 37.15 302 *e*P **P** **23 59 29.3 -0.2**
TBLG Delisi 37.15 302 P **P** **23 59 29.3 -0.2**
GOR Gori 37.64 302 P **P** **23 59 33.9 +0.2**
ZEI Tsey 37.88 303 *e*P **P** **23 59 35.5 -0.1**
ZEI pmax pmax
comp=Z,28nm,1.3s,mb4.8
ONI Oni 38.19 303 P **P** **23 59 38.9 +0.7**
DAV Davao City (W) 41.53 115 LR LR 00 18 48.3
comp=Z,185nm,21.7s,MS3.9,baz=20,slow=38
MJAR Matsushiro Arr 42.27 67 P **P** **00 00 11.3 -0.9**
comp=Z,6.0nm,0.9s,mb4.2,baz=280,slow=10,SNR=9.4
MJAR LR LR 00 18 51.8
comp=Z,72nm,20.5s,MS3.5,baz=260,slow=38
MJAR Matsushiro Arr 42.27 67 P **P** **00 00 11.3 -0.9**
MJAR LR LR 00 18 51.8
MJAR Matsushiro Arr 42.27 67 P **P** **00 00 11.3 -0.9**
ASF Jabal al Asfar 43.86 287 P **P** **00 00 25.8 +0.7**
comp=Z,3.1nm,0.9s,mb4.0,baz=81,slow=13,SNR=5.3
ASF LR LR 00 21 46.6
comp=Z,259nm,18.6s,MS4.2,baz=140,slow=40
ASF Jabal al Asfar 43.86 287 P **P** **00 00 25.8 +0.7**
ASF LR LR 00 21 46.6
ASF Jabal al Asfar 43.86 287 P **P** **00 00 25.8 +0.7**
OBN Obninsk 44.83 320 P **P** **00 00 32.0 -0.5**
OBN pmax pmax
comp=Z,11nm,1.8s,mb4.4
MMAI Mount Meron Ar 44.96 289 LR LR 00 22 18.4
comp=Z,177nm,19.7s,MS4.0,baz=65,slow=40
BRTR Keskin Array B 45.56 298 P **P** **00 00 38.3 -0.3**
comp=Z,3.5nm,0.8s,mb4.3,baz=103,slow=8.1,SNR=14
BRTR Keskin Array B 45.56 298 P **P** **00 00 38.3 -0.3**
BRTR Keskin Array B 45.56 298 P **P** **00 00 38.3 -0.3**
ATD Arta Tunnel 45.66 257 LR LR 00 20 58.4
comp=Z,51nm,18.1s,MS3.5,baz=61,slow=38
EIL Elat 46.00 284 LR LR 00 23 56.5
comp=Z,97nm,19.0s,MS3.8,baz=91,slow=41
CBIJ Chichi jima 47.32 79 LR LR 00 21 28.2
comp=Z,125nm,18.9s,MS3.9,baz=276,slow=37
AKASG Malin Array Be 48.60 313 P **P** **00 01 00.7 -1.5**
comp=Z,2.9nm,0.6s,mb4.5,baz=85,slow=6.6,SNR=13
AKASG LR LR 00 24 07.4
comp=Z,273nm,22.0s,MS4.2,baz=85,slow=39
AKASG Malin Array Be 48.60 313 P **P** **00 01 00.7 -1.5**
AKASG LR LR 00 24 07.3
AKASG Malin Array Be 48.60 313 P **P** **00 01 00.7 -1.4**
KIEV Kiev 48.61 313 *e*P **P** **00 01 02.5 +0.3**
comp=Z,6.3nm,0.8s,mb4.7
KIEV Kiev 48.61 313 *e*P **P** **00 01 02.5 +0.3**
KIEV pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
JOF Joensuu 49.44 330 *e*P **P** **00 01 08.6 +0.2**
JOF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
JOF Joensuu 49.44 330 *ep* **P** **00 01 08.6 +0.2**
comp=Z,4.4nm,0.6s,mb4.7
VRI Vrincioaia 50.27 307 ⇓ *i*P **P** **00 01 15.5 +0.5**
VRI Vrincioaia 50.27 307 ⇓ *i*P **P** **00 01 15.5 +0.5**
PLOR Plostina 50.32 307 ⇑ *i*P **P** **00 01 15.9 +0.5**
PLOR Plostina 50.32 307 ⇑ *i*P **P** **00 01 15.9 +0.5**
MLR Muntele Rosu 50.84 307 ⇑ *i*P **P** **00 01 20.0 +0.7**
MLR Muntele Rosu 50.84 307 ⇑ *i*P **P** **00 01 20.0 +0.7**
FINES FINESS Array B 51.52 327 P **P** **00 01 23.9 -0.2**
comp=Z,7.1nm,0.8s,mb4.6,baz=100,slow=9.1,SNR=11
FINES LR LR 00 25 59.2
comp=Z,211nm,18.2s,MS4.2,baz=132,slow=39
FINES FINESS Array B 51.52 327 P **P** **00 01 23.9 -0.2**
FINES LR LR 00 25 59.2
FINES FINESS Array B 51.52 327 P **P** **00 01 23.9 -0.3**
KAF Kangasniemi 51.53 328 *e*P sP 00 01 34.4 +7.7
KAF Kangasniemi 51.53 328 *ep* sP 00 01 34.4 +7.7
KWP Kalwaria Pacla 52.79 312 ⇓ *i*P **P** **00 01 33.3 -0.5**
KWP Kalwaria Pacla 52.79 312 ⇓ *i*P **P** **00 01 33.3 -0.5**
DRGR 52.98 308 ⇓ *i*P **P** **00 01 35.1 -0.1**
DRGR 52.98 308 ⇓ *i*P **P** **00 01 35.1 -0.1**
KEV Kevo 53.01 338 *e*P **P** **00 01 34.4 -0.7**
KEV pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
KEV Kevo 53.01 338 *ep* **P** **00 01 34.4 -0.7**
comp=Z,4.2nm,0.7s,mb4.5
VTS Vitosha 53.10 303 ⇓ *i*P **P** **00 01 37.1 +0.9**
VTS Vitosha 53.10 303 ⇓ *i*P **P** **00 01 37.1 +0.9**
ARCES ARCESS Array B 53.45 337 P **P** **00 01 38.2 -0.2**
comp=Z,5.2nm,0.8s,mb4.5,baz=104,slow=7.5,SNR=8.5
ARCES ARCESS Array B 53.45 337 P **P** **00 01 38.1 -0.2**
ARCES ARCESS Array B 53.45 337 P **P** **00 01 38.2 -0.2**
BZS Buzias 53.85 307 ⇓ *i*P **P** **00 01 40.9 -0.8**
BZS Buzias 53.85 307 ⇓ *i*P **P** **00 01 40.9 -0.8**
GUMO Guam 54.54 94 LR LR 00 24 15.9
comp=Z,84nm,18.9s,MS3.8,baz=278,slow=35
MORC Moravsky Berou 56.12 313 *e*P **P** **00 01 57.6 -0.4**
MORC Moravsky Berou 56.12 313 *e*P **P** **00 01 57.6 -0.4**
MORC Moravsky Berou 56.12 313 ⇑ *i*P **P** **00 01 57.5 -0.5**
VRAC Vranov 56.79 312 LR LR 00 29 36.7
comp=Z,142nm,20.2s,MS4.1,baz=83,slow=39
VRAC Vranov 56.79 312 ⇑ *i*P **P** **00 02 02.8 0.0**
VRAC Vranov 56.79 312 ⇑ *i*P **P** **00 02 02.8 0.0**
DPC Dobruska-Polom 56.83 313 *e*P **P** **00 02 05.2 +2.1**
comp=Z,12nm,1.2s,mb4.8
DPC Dobruska-Polom 56.83 313 *e*P **P** **00 02 05.2 +2.1**
DPC pmax pmax
comp=Z,12nm,1.2s,mb4.8
CONA Conrad Observa 57.46 311 ⇓ *i*P **P** **00 02 06.7 -0.9**
comp=Z,6.6nm,0.9s,mb4.7
HFS Hagfors 57.50 325 LR LR 00 27 01.3
comp=Z,256nm,18.5s,MS4.4,baz=252,slow=36
MBWA Marble Bar 58.58 145 *e*P **P** **00 02 15.6 -0.1**
NB2 NORSAR Subarra 58.67 326 P **P** **00 02 16.5 +0.7**
comp=Z,2.0nm,0.6s,mb4.3,baz=86,slow=6.9
NOA NORSAR Array B 58.67 326 P **P** **00 02 14.8 -1.0**
comp=Z,2.6nm,0.7s,mb4.4,baz=86,slow=7.0,SNR=6.5
NOA LR LR 00 31 55.1
comp=Z,66nm,20.5s,MS3.7,baz=75,slow=40
NOA NORSAR Array B 58.67 326 P **P** **00 02 14.8 -1.0**
NOA LR LR 00 31 55.0
NOA NORSAR Array B 58.67 326 P **P** **00 02 14.8 -1.0**
GERES GERESS Array B 58.74 312 P **P** **00 02 15.9 -0.6**
comp=Z,3.8nm,0.8s,mb4.5,baz=78,slow=6.2,SNR=28
GERES LR LR 00 30 46.6
comp=Z,127nm,20.0s,MS4.0,baz=81,slow=39
GERES GERESS Array B 58.74 312 P **P** **00 02 15.9 -0.6**
GERES LR LR 00 30 46.6
GERES GERESS Array B 58.74 312 P **P** **00 02 15.9 -0.6**
KHC Kasperske Hory 58.77 312 *e*P **P** **00 02 18.5 +1.8**
KHC Kasperske Hory 58.77 312 *e*P **P** **00 02 18.5 +1.8**
FITZ Fitzroy Crossi 59.32 138 P **P** **00 02 20.1 -0.8**
comp=Z,1.4nm,0.8s,mb4.0,baz=326,slow=7.3,SNR=3.3
FITZ Fitzroy Crossi 59.32 138 P **P** **00 02 20.1 -0.8**
MOTA Moosalm 60.73 311 ⇑ *i*pP **P** **00 02 31.1 +0.9**
comp=Z,5.9nm,0.8s,mb4.8
DAVOX Davos/Dischmat 61.68 310 LR LR 00 31 16.0
comp=Z,109nm,21.2s,MS4.0,baz=308,slow=38
CDF Champ du Feu 62.99 312 *e*P **P** **00 02 46.2 +0.7**
comp=Z,13nm,1.0s,mb4.7
HAU Haudompre 63.70 312 *e*P **P** **00 02 50.8 +0.7**
PAGF Fort de Pagny 63.96 313 *e*P **P** **00 02 52.9 +1.1**
comp=Z,8.0nm,1.1s,mb4.3
LPG La Plagne 64.11 309 *e*P **P** **00 02 54.2 +1.3**
comp=Z,38nm,1.2s,mb5.0
LPL La Plagne 64.11 309 *e*P **P** **00 02 54.1 +1.2**
comp=Z,19nm,1.0s,mb4.8
FX1 Attu Island--F 64.39 42 LR LR 00 33 02.6
comp=Z,47nm,19.1s,MS3.7,baz=240,slow=38
SFTF Sexfontaines 64.49 313 *e*P **P** **00 02 55.0 -0.4**
ORIF Oris-en-Rattie 64.86 309 *e*P **P** **00 02 58.1 +0.3**
KEST Kesra 65.17 298 LR LR 00 33 11.9
comp=Z,22nm,18.8s,MS3.4,baz=227,slow=38
LOR Lormes 65.52 312 *e*P **P** **00 03 02.4 +0.3**
SMF Signal de Mont 65.72 311 *e*P **P** **00 03 02.6 -0.7**
comp=Z,54nm,1.3s,mb5.1
SSF Saint Saulge 65.81 312 *e*P **P** **00 03 04.3 +0.3**
comp=Z,20nm,1.1s,mb4.8
WRA Warramunga Arr 66.10 132 P **P** **00 03 05.8 -0.3**
comp=Z,9.2nm,0.9s,mb4.8,baz=324,slow=6.5,SNR=79
WRA Warramunga Arr 66.10 132 P **P** **00 03 05.8 -0.3**
WRA Warramunga Arr 66.10 132 *e*P **P** **00 03 05.8 -0.3**
WRAB Tennant Creek 66.10 132 *e*P **P** **00 03 05.8 -0.3**
comp=Z,13nm,0.9s,mb5.0
WRAB pmax pmax
comp=Z,13nm,0.9s,mb5.0
WRAB Tennant Creek 66.10 132 P **P** **00 03 05.3 -0.8**
WB2 Warramunga Arr 66.11 132 *e*P **P** **00 03 05.3 -0.8**
TCF Toulx Ste Croi 66.90 311 *e*P **P** **00 03 11.9 +1.0**
comp=Z,50nm,1.3s,mb5.1
EKA Eskdalemuir Ar 67.25 322 P **P** **00 03 14.5 +1.5**
comp=Z,6.6nm,1.0s,mb4.6,baz=79,slow=6.1,SNR=7.9
EKA Eskdalemuir Ar 67.25 322 P **P** **00 03 14.5 +1.5**
EKA Eskdalemuir Ar 67.25 322 P **P** **00 03 14.5 +1.5**
CAF Calviac 67.44 310 *e*P **P** **00 03 14.3 -0.1**
comp=Z,12nm,1.0s,mb4.6
LDF La Druitiere 67.66 314 *e*P **P** **00 03 14.6 -1.1**
comp=Z,10.0nm,0.8s,mb4.6
ASAR Alice Springs 68.54 135 P **P** **00 03 21.4 -0.1**
comp=Z,6.4nm,0.7s,mb4.7,baz=317,slow=6.4,SNR=75
ASAR Alice Springs 68.54 135 P **P** **00 03 21.4 -0.1**
ASAR Alice Springs 68.54 135 P **P** **00 03 21.4 -0.1**
ESDC Sonseca Array 73.53 306 P **P** **00 03 53.2 +1.4**
comp=Z,1.7nm,0.8s,mb4.0,baz=57,slow=6.9,SNR=8.8
ESDC Sonseca Array 73.53 306 P **P** **00 03 53.2 +1.4**
CTA Charters Tower 74.41 124 P **P** **00 03 57.1 +0.1**
comp=Z,5.7nm,0.9s,mb4.5,baz=331,slow=8.0,SNR=6.3
CTA Charters Tower 74.41 124 *e*P **P** **00 03 57.0 0.0**
comp=Z,5.2nm,0.8s,mb4.5
CTA Charters Tower 74.41 124 P **P** **00 03 57.1 +0.1**
CTA Charters Tower 74.41 124 P **P** **00 03 57.1 +0.1**
ILAR Eielson Array 77.07 21 P **P** **00 04 10.4 -1.2**
comp=Z,0.7nm,0.9s,mb3.6,baz=293,slow=4.8,SNR=6.7
ILAR PP PP 00 07 06.9 +2.5
comp=Z,0.4nm,0.8s,baz=294,slow=6.5,SNR=4.7
ILAR Eielson Array 77.07 21 P **P** **00 04 10.4 -1.2**
ILAR PP PP 00 07 06.9 +2.5
ILAR Eielson Array 77.07 21 P **P** **00 04 10.4 -1.2**
ILAR 00 07 06.9
QLP Quilpie 77.22 130 *e*P **P** **00 04 13.1 +0.1**
HNR Honiara 79.00 107 LR LR 00 37 29.6
comp=Z,43nm,19.2s,MS3.8,baz=305,slow=34
STKA Stephens Creek 79.15 136 P **P** **00 04 23.0 -0.5**
comp=Z,8.8nm,0.9s,mb4.7,baz=326,slow=8.0,SNR=11
STKA LR LR 00 47 50.5
comp=Z,59nm,18.6s,MS4.0,baz=207,slow=42
STKA Stephens Creek 79.15 136 *e*P **P** **00 04 22.9 -0.6**
comp=Z,7.4nm,0.9s,mb4.6
STKA Stephens Creek 79.15 136 P **P** **00 04 23.0 -0.5**
STKA LR LR 00 47 50.5
STKA Stephens Creek 79.15 136 P **P** **00 04 23.0 -0.5**
RMQ Roma 80.24 128 *e*P **P** **00 04 30.7 +1.1**
comp=Z,22nm,0.8s,mb5.1
TORD Torodi Ar. Bea 80.68 280 P **P** **00 04 30.7 -1.6**
comp=Z,2.8nm,0.8s,mb4.3,baz=52,slow=4.4,SNR=12
TORD LR LR 00 43 52.2
comp=Z,54nm,19.0s,MS3.9,baz=340,slow=38
TORD Torodi Ar. Bea 80.68 280 P **P** **00 04 30.7 -1.5**
TORD LR LR 00 43 52.2
LBTB Lobatse 80.72 235 LR LR 00 36 05.7
comp=Z,106nm,21.9s,MS4.2,baz=219,slow=33
CMSA Cobar Meteorol 81.47 133 *e*P **P** **00 04 35.5 -0.6**
comp=Z,22nm,0.8s,mb5.3
BOSA Boshof 83.18 232 P **P** **00 04 43.4 -1.6**
comp=Z,5.0nm,1.1s,mb4.5,baz=31,slow=5.9,SNR=2.8
BOSA LR LR 00 40 00.5
comp=Z,94nm,19.0s,MS4.2,baz=33,slow=34
BOSA Boshof 83.18 232 P **P** **00 04 43.4 -1.6**
BOSA LR LR 00 40 00.5
BOSA Boshof 83.18 232 P **P** **00 04 43.4 -1.7**
YKA Yellowknife Ar 86.82 10 P **P** **00 05 01.5 -1.4**
comp=Z,1.4nm,0.7s,mb4.3,baz=334,slow=4.7,SNR=5.3
YKA Yellowknife Ar 86.82 10 P **P** **00 05 01.5 -1.4**
YKA Yellowknife Ar 86.82 10 P **P** **00 05 01.5 -1.4**
DBIC Dimbokro 89.42 277 P **P** **00 05 15.7 -0.5**
comp=Z,4.7nm,0.8s,mb4.8,baz=35,slow=4.0,SNR=6.9
DBIC LR LR 00 49 14.4
comp=Z,69nm,19.2s,MS4.1,baz=146,slow=38
DBIC Dimbokro 89.42 277 P **P** **00 05 15.7 -0.5**
DBIC LR LR 00 49 14.4
DBIC Dimbokro 89.42 277 P **P** **00 05 15.7 -0.5**
TXAR Lajitas Array 120.71 12 PKP PKPdf 00 11 10.2 -1.0
comp=Z,0.7nm,0.8s,baz=45,slow=0.3,SNR=6.9
TXAR Lajitas Array 120.71 12 PKP PKPdf 00 11 10.2 -1.0
TXAR Lajitas Array 120.71 12 PKIKP PKPdf 00 11 10.3 -1.0
CPUP Villa Florida 149.40 267 PKPbc PKPbc 00 12 06.8 -1.5
comp=Z,2.5nm,0.5s,baz=36,slow=2.8,SNR=8.0
CPUP Villa Florida 149.40 267 PKPbc PKPbc 00 12 06.8 -1.5

NIED ***18*** *00:01:00,36°.20N×137°.60E,h250km,Mw4.0 Best double couple: M₀1.06000×10¹⁵ NP1:φ₀136.00000°, δ82.00000°, λ-82.00000°. NP2:φ₀272.00000°, δ11.00000°, λ-134.00000°.*

ISCJB ***18*** *00:01:13.4±0.2,36°.22N±0°.04×137°.46E±0°.06, h252km±2km, mb3.8/31, Error ellipse: s-maj=8.1km s-min=6.3km azi=34.4*

IDC ***18*** *00:01:13.9±0.5,36°.14N×137°.40E,h244km±4km, mb3.5/19, mb1 3.7/19, mb1mx3.6/29, mbtmp3.5/19, Error ellipse: s-maj=12.8km s-min=11.0km az=120.0*

NEIC ***18*** *00:01:14.1±0.5,36°.21N×137°.45E,h246km±4km, mb3.7/6, Error ellipse: s-maj=8.6km s-min=6.4km az=124.0*

NEIC Felt on Yap.

JMA ***18*** *00:01:14.2±0.1,36°.17N×137°.57E,h249km±1km,M4.1*

ISC 18 00:01:14.4±0.2,36°.22N±0°.04×137°.47E±0°.06,h247km±2km, n84,σ0°63/94,mb3.8/31,3C-4D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.13**	**271**	⇓P	**Pn**		**00 01 46.5**	**+0.4**
JGN				S	**S**		**00 02 11.2**	**+0.1**
MAJO	**Matsushiro**	**0.67**	**61**	*e*Pn	**Pn**		**00 01 47.5**	**0.0**
MAJO				*e*S	**S**		**00 02 13.8**	**+0.4**
MAT	**Matsushiro**	**0.67**	**61**	P	**Pn**		**00 01 47.7**	**+0.3**
MAT				S	**S**		**00 02 13.6**	**+0.2**
MAT	**Matsushiro**	**0.67**	**61**	P	**Pn**		**00 01 47.7**	**+0.3**
MAT				S	**S**		**00 02 13.5**	**+0.1**
MJAR	**Matsushiro Arr**	**0.68**	**61**	P	**Pn**		**00 01 47.9**	**+0.4**
	51nm,0.3s,baz=242,slow=4.5,SNR=242							
MJAR				S	**S**		**00 02 13.6**	**+0.2**
	3.3nm,0.3s,baz=322,slow=6.4,SNR=6.0							
MJAR	**Matsushiro Arr**	**0.68**	**61**	P	**Pn**		**00 01 47.9**	**+0.5**
MJAR				S	**S**		**00 02 13.6**	**+0.1**
JGM	**Miyama**	**0.80**	**230**	⇓P	**Pn**		**00 01 48.0**	**-0.1**
JGM				S	**S**		**00 02 14.2**	**-0.3**
JKG	**Kaga**	**0.92**	**274**	⇓P	**Pn**		**00 01 49.2**	**+0.6**
JYN	**Shimob**	**1.13**	**129**	⇑P	**Pn**		**00 01 49.5**	**-0.3**
JRY	**Ryogami san**	**1.18**	**100**	P	**Pn**		**00 01 50.0**	**-0.1**
JRY				*e*S	**S**		**00 02 17.3**	**-0.8**
JAG	**Ashikaga**	**1.61**	**82**	P	**Pn**		**00 01 52.3**	**-0.9**
JOD2	**Odawara 2**	**1.62**	**126**	P	**Pn**		**00 01 53.4**	**0.0**
JOD2				S	**S**		**00 02 23.5**	**-0.5**
JSD	**Sado**	**1.92**	**19**	⇑P	**Pn**		**00 01 56.1**	**+0.3**
JWT	**Wachi**	**1.93**	**242**	⇓P	**Pn**		**00 01 56.2**	**+0.3**
JIE	**Ise**	**1.93**	**199**	P	**Pn**		**00 01 56.3**	**+0.3**
JIE				*e*S	**S**		**00 02 28.0**	**-0.7**
JNS	**Sasagawa**	**2.17**	**42**	⇑P	**Pn**		**00 01 58.1**	**0.0**
TK02	**Tokai 2**	**2.28**	**174**	P	**Pn**		**00 01 59.3**	**0.0**
JWY	**Kouya**	**2.52**	**218**	P	**Pn**		**00 02 02.2**	**+0.6**
TTO1	**TONANKAI O.B.S**	**2.65**	**193**	P	**Pn**		**00 02 03.5**	**+0.5**
JWZ	**Kozaga**	**3.05**	**209**	P	**Pn**		**00 02 07.0**	**-0.2**
JHJ	**Hachijo jima 2**	**3.63**	**148**	S	**S**		**00 03 02.0**	**+1.1**
	18nm,0.3s,baz=81,slow=23,SNR=5.8							
ASAJ	**Asahikawa**	**8.81**	**25**	S	**S**		**00 04 48.5**	**-8.8**
	2.6nm,0.3s,baz=42,slow=4.1,SNR=5.4							
ASAJ	**Asahikawa**	**8.81**	**25**	Pn	**Pn**		**00 03 16.3**	**-1.4**
CBIJ	**Chichi jima**	**9.94**	**155**	S	**S**		**00 05 10.7**	**-13**
	9.9nm,0.3s,baz=120,slow=23,SNR=7.0							
MDJ	**Mudanjiang**	**10.31**	**327**	*e*Pn	**Pn**		**00 03 36.4**	**-0.3**
YSS	**Yuzh-Sakhalins**	**11.43**	**19**	*e*Pn	**Pn**		**00 03 48.6**	**-2.0**
TATO	**Taipei**	**17.72**	**235**	*e*P	**P**		**00 05 04.6**	**+0.4**
SSLB	**Suanglung**	**18.89**	**234**	*e*P	**P**		**00 05 16.9**	**+0.1**
PETK	**Petropavlovsk-**	**22.05**	**34**	P	**P**		**00 05 49.9**	**+1.1**
	3.3nm,0.7s,mb4.0,baz=208,slow=12,SNR=3.6							
PETK	**Petropavlovsk-**	**22.05**	**34**	P	**P**		**00 05 49.9**	**+1.1**
SONM	**Songino Array**	**25.66**	**307**	P	**P**		**00 06 21.2**	**-0.3**
	0.5nm,0.9s,mb3.1,baz=99,slow=9.1,SNR=3.2							

CMAR	Chiang Mai Arr	38.23	253	P	P	00 08 10.1	-0.8
MKAR	Makanchi Array	41.87	302	P	P	00 08 40.4	+0.1
	0.6nm,0.7s,mb3.1,baz=85,slow=12,SNR=4.7						
MKAR	Makanchi Array	41.87	302	P	P	00 08 40.4	+0.1
TAPN	Taplejung	42.82	273	*eP*	P	00 08 48.2	-0.1
	5.0nm,0.5s,mb4.2						
ODAN	Odare	43.29	272	*eP*	P	00 08 52.2	+0.2
	5.5nm,0.4s,mb4.3						
RAMN	Ramite	43.89	273	*eP*	P	00 08 56.8	+0.1
KURK	Kurchatov	43.94	308	P	P	00 08 57.9	+1.0
	1.3nm,0.5s,mb3.5,baz=82,slow=7.3,SNR=19						
KURK	Kurchatov	43.94	308	*eP*	P	00 08 56.4	-0.5
	2.6nm,0.6s,mb3.7						
GUN	Gumba	44.07	274	*eP*	P	00 08 58.9	+0.7
GKN	Gorkha	45.03	275	*eP*	P	00 09 05.5	-0.3
DANN	Dangsing	45.59	276	*eP*	P	00 09 10.6	+0.4
	20nm,0.6s,mb4.6						
KOLN	Koldanda	45.96	275	*eP*	P	00 09 13.0	0.0
	3.5nm,0.3s,mb4.1						
PYUN	Piuthan	46.32	276	*eP*	P	00 09 16.2	+0.4
TKM2	Tokmak 2	47.22	298	*eP*	P	00 09 22.6	+0.1
	2.3nm,0.8s,mb3.6						
BRVK	Borovoye	48.83	312	*eP*	P	00 09 35.3	+0.6
	4.1nm,1.2s,mb3.6						
PPLA	Purkeypile	49.64	34	*eP*	P	00 09 42.5	+1.8
KDAK	Kodiak Island	49.81	41	P	P	00 09 42.5	+0.5
	3.9nm,0.4s,mb4.1,baz=309,slow=9.7,SNR=16						
KDAK	Kodiak Island	49.81	41	P	P	00 09 42.5	+0.5
ILAR	Eielson Array	51.87	32	P	P	00 09 57.7	+0.5
	2.4nm,0.6s,mb3.8,baz=266,slow=5.3,SNR=46						
ILAR	Eielson Array	51.87	32	P	P	00 09 57.7	+0.5
FITZ	Fitzroy Crossi	55.17	194	*eP*	P	00 10 20.8	-0.9
	3.7nm,1.0s,mb3.9						
WRAB	Tennant Creek	55.92	184	*eP*	P	00 10 26.0	-0.9
	3.5nm,0.3s,mb4.4						
WRA	Warramunga Arr	55.93	184	P	P	00 10 25.9	-1.0
	5.7nm,0.4s,mb4.5,baz=360,slow=7.7,SNR=240						
WRA	Warramunga Arr	55.93	184	P	P	00 10 25.9	-1.0
ABKAR	Akbulak array	56.02	310	*eP*	P	00 10 27.3	-0.1
	0.5nm,0.4s,mb3.4						
ABKAR				PcP	PcP	00 11 22.0	-0.5
AKTO	Aktyubinsk	56.84	311	P	P	00 10 33.8	+0.6
	0.5nm,0.5s,mb3.4,baz=66,slow=12,SNR=4.3						
AKTO	Aktyubinsk	56.84	311	P	P	00 10 33.8	+0.6
ASAR	Alice Springs	59.66	184	P	P	00 10 52.0	-0.7
	1.0nm,0.3s,mb3.9,baz=0.2,slow=5.9,SNR=19						
ASAR	Alice Springs	59.66	184	P	P	00 10 52.0	-0.7
JOF	Joensuu	65.16	331	*ep*	P	00 11 28.4	-0.3
	1.2nm,0.4s,mb3.9						
YKA	Yellowknife Ar	66.08	29	P	P	00 11 34.5	+0.1
	0.5nm,0.3s,mb3.5,baz=297,slow=6.8,SNR=7.0						
YKA	Yellowknife Ar	66.08	29	P	P	00 11 34.5	0.0
KAF	Kangasniemi	67.55	332	*ep*	P	00 11 42.6	-1.2
	1.6nm,0.5s,mb3.9						
FINES	FINESS Array B	68.03	331	P	P	00 11 46.5	-0.2
	5.7nm,1.0s,mb4.2,baz=77,slow=4.9,SNR=16						
FINES	FINESS Array B	68.03	331	P	P	00 11 46.5	-0.2
AKASG	Malin Array Be	72.96	321	P	P	00 12 16.0	-0.7
	0.4nm,0.3s,mb3.5,baz=42,slow=6.9,SNR=2.7						
AKASG	Malin Array Be	72.96	321	P	P	00 12 16.0	-0.7
NOA	NORSAR Array B	73.67	336	P	P	00 12 20.2	-0.4
	1.5nm,0.9s,mb3.6,baz=42,slow=5.4,SNR=2.7						
NOA	NORSAR Array B	73.67	336	P	P	00 12 20.2	-0.4
NVAR	Mina Array Bea	77.99	51	P	P	00 12 46.6	+1.2
	0.9nm,0.5s,mb3.7,baz=302,slow=5.3,SNR=9.6						
NVAR	Mina Array Bea	77.99	51	P	P	00 12 46.6	+1.2
CLL	Collm	80.17	328	*eP*	P	00 12 57.0	0.0
	comp=Z,10.0nm,1.3s,mb4.3						
PDAR	Pinedale Array	80.47	43	P	P	00 12 59.3	+0.6
	comp=Z,0.8nm,0.7s,mb3.5,baz=232,slow=1.7,SNR=6.0						
PDAR	Pinedale Array	80.47	43	P	P	00 12 59.3	+0.6
GERES	GERESS Array B	81.68	326	P	P	00 13 04.6	-0.4
	comp=Z,0.5nm,0.6s,mb3.4,baz=34,slow=5.0,SNR=4.9						
GERES	GERESS Array B	81.68	326	P	P	00 13 04.6	-0.4
EKA	Eskdalemuir Ar	82.78	339	P	P	00 13 10.4	-0.1
	comp=Z,1.6nm,1.0s,mb3.7,baz=39,slow=4.4,SNR=3.9						
EKA	Eskdalemuir Ar	82.78	339	P	P	00 13 10.4	-0.1
PV10	Paradox Valley	83.66	46	*eP*	P	00 13 14.8	-0.5
	comp=Z,78nm,1.0s						
TXAR	Lajitas Array	93.10	50	P	P	00 14 01.2	+0.8
	comp=Z,0.7nm,0.6s,mb3.9,baz=292,slow=2.8,SNR=10						
TXAR	Lajitas Array	93.10	50	P	P	00 14 01.2	+0.7

ISCJB ***18*** *00:14:35.0±0.4,4˚.20N±0˚.03×125˚.92E±0˚.05,h121km±4km, mb4.6/39, Error ellipse: s-maj=8.5km s-min=4.2km az=171.9*

DJA ***18*** *00:14:35,4˚.21N×126˚.16E,h99km, mb4.7/16*

IDC ***18*** *00:14:36.7±1.4,4˚.17N×125˚.86E,h122km±12km, mb4.1/20, mb1 4.2/21,mb1mx4.1/28,mbtmp4.1/21, Error ellipse: s-maj=21.5km s-min=8.1km az=73.0*

NEIC ***18*** *00:14:38.1±0.8,4˚.19N×125˚.84E,h133km±8km,mb4.4/11, Error ellipse: s-maj=8.6km s-min=5.4km az=77.0*

NEIC Felt [II] at Tahuna.

MAN ***18*** *00:14:39,4˚.49N×125˚.65E,h24km,mb5.1,ML4.0,MS4.2*

ISC 18 00:14:36.1±0.4,4˚.19N±0˚.03×125˚.93E±0˚.05,h116km±3km, n121,σ1s03/123,mb4.6/39,1C,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGSI	Sangihe	0.64	219	P	Pn	00 14 52.9	-1.7
MATI	Mati	2.76	7	*eP*	Pn	00 15 18.1	-1.1
MATI				*eS*	Sn	00 15 43.1	-9.3
DAV	Davao City (W)	2.89	353	P	Pn	00 15 21.1	+0.2
	83nm,0.3s,baz=261,slow=7.0,SNR=6.8						
DAV				S	Sn	00 15 56.9	+1.6
	140nm,0.3s,baz=109,slow=18,SNR=3.7						
DAV	Davao City (W)	2.89	353	P	Pn	00 15 21.1	+0.2
DAV				S	Sn	00 15 56.9	+1.6
MNI	Manado	2.93	202	P	Pn	00 15 21.0	-0.5
CTBH	Cotabato--PC H	3.45	331⇑	*eP*	Pn	00 15 27.6	-0.7
TNTI	Ternate	3.68	157	P	Pn	00 15 30.3	-1.1
BUKP	Musuan	3.77	347	*eP*	Pn	00 15 33.0	+0.4
KMSI	Cibinong	4.08	209	P	Pn	00 15 37.1	+0.4
CGP	Cagayan de Oro	4.42	344	*eP*	Pn	00 15 40.6	-0.6
PAGZ	Pagadian	4.44	325	*eP*	Pn	00 15 41.2	-0.2
LBMI	Labuha	5.04	162	P	Pn	00 15 49.1	-0.5
MRSI	Marisa	5.43	227	P	Pn	00 15 55.6	+0.7
	4.6nm1μm,0.5s						
LUWI	Luwuk	6.08	211	P	Pn	00 16 06.3	+2.7
	2.7nm9μm558nm,0.7s						
NLAI	Namlea	7.46	171	P	Pn	00 16 19.8	-2.6
	1.8nm144nm,0.6s						
MYLDM	Lahad Datu	7.47	278	P	Pn	00 16 26.7	+4.1
	0.2nm49nm,1.4s						
MSAI	Masohi	8.06	158	P	Pn	00 16 30.2	-0.3
	0.1nm1μm17nm,0.6s						
AAI	Ambon	8.14	164	P	Pn	00 16 30.1	-1.5
	112nm,0.6s						
KDI	Kendari	8.74	202	P	Pn	00 16 38.3	-1.4
	637nm43nm,0.9s						
KKM	Kota Kinabalu	9.86	281	*eP*	Pn	00 16 57.4	+2.6
SPSI	Sidrap Palu	10.17	217	P	Pn	00 16 59.7	+0.6
	34nm,0.9s						
KAPI	Kappang	11.03	214	*e*Pn	Pn	00 17 11.2	+0.7
KAPI	Kappang	11.03	214	P	Pn	00 17 12.0	+1.5
	25nm,1.8s						
SBUM	Sibu	13.80	263	P	Pn	00 17 46.8	-0.1
	17nm,0.7s						
BMNI	Bima	14.56	210	P	Pn	00 17 58.7	+2.1
	790nm21nm,0.7s						
KSM	Kuching	15.84	261	*eP*	Pn	00 18 14.1	+1.4
	19nm,0.9s						
KSM	Kuching	15.84	261	P	Pn	00 18 14.9	+2.2
	21nm,1.3s						
NACB	Ninganchiao	20.31	349	P	P	00 19 04.7	+1.8
YHNB	Yeheng	20.83	348	*eP*	P	00 19 08.5	-0.1
FITZ	Fitzroy Crossi	22.15	181	P	P	00 19 22.3	-0.3
	12nm,0.4s,mb4.5,baz=3.7,slow=8.5,SNR=45						
FITZ	Fitzroy Crossi	22.15	181	*eP*	P	00 19 22.0	-0.6
	27nm,0.6s,mb4.8						
FITZ				*eS*	S	00 23 19.3	+0.5
FITZ	Fitzroy Crossi	22.15	181	P	P	00 19 22.3	-0.3
FITZ	Fitzroy Crossi	22.15	181	P	P	00 19 22.1	-0.5
	21nm,0.6s,mb4.7						
WRAB	Tennant Creek	25.35	161	*eP*	P	00 19 54.2	+1.8
	10nm,0.7s,mb4.4						
WRAB	Tennant Creek	25.35	161	P	P	00 19 52.4	-0.1
WRA	Warramunga Arr	25.36	161	P	P	00 19 52.8	+0.3
	8.7nm,0.7s,mb4.3,baz=344,slow=10,SNR=67						
WRA				S	S	00 24 10.3	-0.1
	0.5nm,0.7s,baz=12,slow=11,SNR=3.2						
WRA	Warramunga Arr	25.36	161	P	P	00 19 52.8	+0.3
WRA				S	S	00 24 10.3	-0.1
WB2	Warramunga Arr	25.36	161	*eP*	P	00 19 53.7	+1.2
WB2				*eS*	S	00 24 08.8	-1.7
MBWA	Marble Bar	25.91	193	*eP*	P	00 19 58.8	+1.3
MBWA	Marble Bar	25.91	193	*eP*	P	00 19 58.5	+1.0
	9.0nm,0.6s,mb4.4						
CBIJ	Chichi jima	27.57	33	P	P	00 20 12.0	-0.3
	19nm,0.6s,mb4.8,baz=281,slow=16,SNR=5.2						
ASAR	Alice Springs	28.75	165	P	P	00 20 23.5	+0.7
	1.2nm,0.5s,mb3.8,baz=348,slow=7.2,SNR=14						
ASAR				S	S	00 25 03.4	-0.5
	1.2nm,1.1s,baz=192,slow=29,SNR=4.6						
ASAR	Alice Springs	28.75	165	P	P	00 20 23.5	+0.7
ASAR				S	S	00 25 03.4	-0.5
CMAR	Chiang Mai Arr	29.96	300	P	P	00 20 34.8	+1.1
	1.8nm,0.7s,mb3.8,baz=124,slow=7.9,SNR=13						
CMAR				PcP	PcP	00 23 34.5	+0.9
	1.4nm,0.8s,baz=206,slow=0.8,SNR=7.0						
CMAR	Chiang Mai Arr	29.96	300	P	P	00 20 34.8	+1.1
CMAR				PcP	PcP	00 23 34.5	+0.9
CHTO	Chiang Mai	30.11	301	*eP*	P	00 20 34.2	-0.7
	2.0nm,0.3s,mb4.2						
ENH	Enshi	30.24	331	*eP*	P	00 20 36.3	+0.4
MEEK	Meekatharra	31.45	193	*eP*	P	00 20 46.7	+0.1
	20nm,0.3s,mb5.3						
KSAR	Wonju Array Be	33.15	3	P	P	00 21 02.9	+1.5
KSRS	Korea Array	33.16	3	P	P	00 21 02.9	+1.4
	4.2nm,0.6s,mb4.4,baz=183,slow=9.5,SNR=13						
XAN	Xi'an	33.66	334	P	P	00 21 04.8	-1.0
XAN				pP	pP	00 21 10.9	-21
XAN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
MAJO	Matsushiro	34.12	18	*eP*	P	00 21 10.8	+1.0
KMBL	Kambalda	35.56	186	*eP*	P	00 21 22.7	+0.5
	comp=Z,39nm,0.4s,mb5.7						
HNR	Honiara	36.50	112	*eP*	P	00 21 31.9	+1.5
BJT	Baijiatuan	36.75	347	P	P	00 21 31.9	-0.3
STKA	Stephens Creek	38.84	159	P	P	00 21 51.1	+1.2
	comp=Z,3.2nm,0.4s,mb4.5,baz=346,slow=8.8,SNR=9.0						
STKA	Stephens Creek	38.84	159	*eP*	P	00 21 50.9	+1.0
	comp=Z,2.4nm,0.4s,mb4.4						
STKA	Stephens Creek	38.84	159	*eP*	P	00 21 50.9	+1.0
	comp=Z,0.6nm,0.3s,mb3.9						
MDJ	Mudanjiang	40.40	4	*eP*	P	00 22 03.4	+0.8
LSA	Lhasa	41.54	312	*eP*	P	00 22 12.3	-0.1
	comp=Z,7.6nm,0.5s,mb4.7						
GUN	Gumba	44.82	306	*eP*	P	00 22 39.3	+0.6
	comp=Z,19nm,0.3s,mb5.2						
YSS	Yuzh-Sakhalins	45.02	16	P	P	00 22 41.4	+1.4
PKI	Pulchoki	45.06	305	*eP*	P	00 22 41.0	+0.4
	comp=Z,3.6nm,0.3s,mb4.6						
KKN	Kakani	45.25	306	*eP*	P	00 22 42.2	0.0
	comp=Z,5.2nm,0.3s,mb4.7						
GKN	Gorkha	45.86	306	*eP*	P	00 22 46.6	-0.3
ULN	Ulaanbaatar	46.45	343	P	P	00 22 51.2	0.0
KOLN	Koldanda	46.61	305	*eP*	P	00 22 52.7	-0.1
	comp=Z,19nm,0.4s,mb5.1						
SONM	Songino Array	46.62	342	P	P	00 22 51.6	-0.9
	comp=Z,0.6nm,0.4s,mb3.7,baz=163,slow=7.6,SNR=15						
SONM				PcP	PcP	00 24 25.1	+0.5
	comp=Z,2.4nm,0.6s,baz=164,slow=3.1,SNR=11						
SONM	Songino Array	46.62	342	P	P	00 22 51.6	-0.9
SONM				PcP	PcP	00 24 25.1	+0.5
DANN	Dangsing	46.71	306	*eP*	P	00 22 52.8	-0.8
	comp=Z,26nm,0.4s,mb5.3						
PYUN	Piuthan	47.24	305	*eP*	P	00 22 57.5	-0.2
	comp=Z,11nm,0.4s,mb4.9						
PETK	Petropavlovsk-	55.31	23	P	P	00 23 59.1	+1.6
	comp=Z,5.1nm,0.6s,mb4.7,baz=187,slow=5.3,SNR=5.5						
PETK	Petropavlovsk-	55.31	23	P	P	00 23 59.1	+1.6
MK31	Makanchi Array	56.73	325	*eP*	P	00 24 07.0	-0.7
MKAR	Makanchi Array	56.73	325	P	P	00 24 07.2	-0.5
	comp=Z,4.5nm,0.4s,mb4.8,baz=120,slow=7.7,SNR=63						
MKAR				PcP	PcP	00 25 03.1	+0.7
	comp=Z,1.2nm,0.3s,baz=189,slow=9.0,SNR=9.9						
MKAR				ScP	ScP	00 28 51.9	+0.5
	comp=Z,0.5nm,0.6s,baz=107,slow=4.9,SNR=4.6						
MKAR	Makanchi Array	56.73	325	P	P	00 24 07.2	-0.5
MKAR				PcP	PcP	00 25 03.1	+0.7
MKAR				ScP	ScP	00 28 51.9	+0.5
YAK	Yakutsk	57.78	2	*eP*	P	00 24 15.9	+1.1
	comp=Z,44nm,0.7s,mb5.6						
TKM2	Tokmak 2	58.88	319	*eP*	P	00 24 22.7	-0.1
ZAA0	Zalesovo Array	59.83	333	*eP*	P	00 24 26.7	-2.4
ZALV	Zalesovo Beam	59.83	333	P	P	00 24 27.3	-1.8
	comp=Z,1.9nm,0.3s,mb4.5,baz=130,slow=7.1,SNR=14						
ZALV	Zalesovo Beam	59.83	333	P	P	00 24 27.3	-1.8
EKS2	Erkin-Say	59.98	318	*eP*	P	00 24 30.0	-0.4
	comp=Z,2.1nm,0.6s,mb4.3						
KBL	Kabul	60.62	307	*eP*	P	00 24 34.5	-0.4
KURK	Kurchatov	60.93	328	P	P	00 24 35.6	-1.1
	comp=Z,6.2nm,0.6s,mb4.8,baz=130,slow=6.5,SNR=69						
KURK	Kurchatov	60.93	328	*eP*	P	00 24 35.8	-0.9
	comp=Z,8.5nm,0.6s,mb5.0						
KKAR	Karatay Array	62.36	317	*eP*	P	00 24 45.9	-0.6
RAO	Raoul Island	63.24	126	P	P	00 24 53.2	+0.6
BRVK	Borovoye	66.58	327	*eP*	P	00 25 13.0	-0.7
	comp=Z,6.6nm,0.6s,mb4.6						
ABKAR	Akbulak array	71.30	321	*eP*	P	00 25 42.1	-0.9
AKTO	Aktyubinsk	72.81	322	P	P	00 25 50.9	-1.1
	comp=Z,2.9nm,0.4s,mb4.5,baz=86,slow=6.7,SNR=14						
AKTO	Aktyubinsk	72.81	322	P	P	00 25 50.9	-1.1
ARU	Arti	74.13	328	*eP*	P	00 25 58.2	-1.4
GNI	Garni	80.58	310	*eP*	P	00 26 35.4	-0.6
COLD	Coldfoot	83.78	23	*eP*	P	00 26 54.7	+2.6
	comp=Z,5.7nm,0.8s,mb4.5						
PMR	Palmer	83.93	29	*eP*	P	00 26 53.7	+0.8
VNDA	Vanda	83.97	173	P	P	00 26 52.0	-0.8
	comp=Z,3.8nm,0.5s,mb4.5,baz=324,slow=5.9,SNR=32						
VNDA	Vanda	83.97	173	*eP*	P	00 26 51.6	-1.2
	comp=Z,3.2nm,0.7s,mb4.3						
MCK	McKinley	84.11	26	*eP*	P	00 26 54.2	+0.4
ILAR	Eielson Array	85.04	25	P	P	00 26 57.7	-0.7
	comp=Z,0.4nm,0.5s,mb3.6,baz=252,slow=4.5,SNR=12						
ILAR	Eielson Array	85.04	25	P	P	00 26 57.7	-0.7
OBN	Obninsk	86.23	325	*eP*	P	00 27 04.0	-0.6
JOF	Joensuu	88.42	333	*ep*	P	00 27 13.9	-0.9
	comp=Z,10.0nm,0.5s,mb5.1						
BRTR	Keskin Array B	89.12	310	P	P	00 27 18.6	0.0
	comp=Z,0.8nm,0.4s,mb4.1,baz=116,slow=3.7,SNR=11						
BRTR	Keskin Array B	89.12	310	P	P	00 27 18.6	0.0
ARCES	ARCESS Array B	89.75	340	P	P	00 27 20.5	-0.5
	comp=Z,2.0nm,0.5s,mb4.5,baz=80,slow=5.6,SNR=17						
ARCES	ARCESS Array B	89.75	340	P	P	00 27 20.5	-0.5
SPITS	Spitsbergen Ar	89.88	349	P	P	00 27 21.9	+0.4
	comp=Z,2.4nm,0.4s,mb4.7,baz=81,slow=10,SNR=23						
SPITS	Spitsbergen Ar	89.88	349	P	P	00 27 21.9	+0.4
INK	Inuvik	90.03	21	P	P	00 27 22.7	+0.4
	comp=Z,0.6nm,0.5s,mb4.0,baz=232,slow=5.4,SNR=5.5						
INK	Inuvik	90.03	21	P	P	00 27 22.7	+0.3
KAF	Kayasniemi	90.83	332	*ep*	P	00 27 24.1	-2.0
	comp=Z,0.9nm,0.4s,mb4.2						
FINES	FINESS Array B	91.06	332	P	P	00 27 26.2	-1.0
	comp=Z,2.4nm,0.5s,mb4.6,baz=61,slow=3.9,SNR=23						
FINES	FINESS Array B	91.06	332	P	P	00 27 26.2	-1.0
QSPA	South Pole Qui	94.09	180	*eP*	P	00 27 40.5	-0.3
PDAR	Pinedale Array	111.53	41	PKKPbc	PKKPbc	00 44 01.5	+8.4
	comp=Z,0.5nm,0.6s,baz=116,slow=6.3,SNR=4.6						
TXAR	Lajitas Array	121.94	52	PKP	PKPdf	00 33 18.0	+0.5
	comp=Z,0.3nm,0.8s,baz=316,slow=1.0,SNR=4.0						
TXAR	Lajitas Array	121.94	52	PKP	PKPdf	00 33 18.0	+0.5
TORD	Torodi Ar. Bea	122.02	288	PKP	PKPdf	00 33 18.1	+0.2
	comp=Z,1.1nm,0.4s,baz=89,slow=1.5,SNR=36						
TORD	Torodi Ar. Bea	122.02	288	PKP	PKPdf	00 33 18.1	+0.2
DBIC	Dimbokro	129.71	282	PKP	PKPdf	00 33 33.0	+0.3
	comp=Z,6.0nm,1.1s,baz=337,slow=6.7,SNR=5.1						
DBIC	Dimbokro	129.71	282	PKP	PKPdf	00 33 33.0	+0.3

NEIC ***18*** *00:15:12.3±0.9,39˚.57N×76˚.64E,h35km,mb3.5/2, Error ellipse: s-maj=13.4km s-min=8.5km az=158.0*

IDC ***18*** *00:15:12.4±3.2,40˚.02N×76˚.86E,h0km,mb3.7/2, mb1 3.7/7,mb1mx3.4/30,mbtmp3.6/7,ML3.5/5,MS3.3/2, Ms1 3.3/2,ms1mx2.5/48, Error ellipse: s-maj=42.3km s-min=25.6km az=172.0*

BJI ***18*** *00:15:14.5,40˚.23N×76˚.64E,h11km,ML3.4/8*

NNC ***18*** *00:15:18.5±1.4,40˚.36N×76˚.44E,h0km,mb3.9,mpv3.7, Error ellipse: s-maj=12.7km s-min=9.0km az=149.0*

ISC 18 00:15:14.6±1.8,40˚.04N±0˚.06×76˚.82E±0˚.07,h12km±12km, n44,σ1s33/51,mb3.7/3,12C-8D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	Kashi	0.83	232	i⇓*i*Pg	Pg	00 15 37.9	+7.2
KSH				Sg	Sg	00 15 55.8	+14
KSH				smax			
	comp=N,760nm,0.7s						
KSH				smax			
	comp=E,490nm,0.4s						
ULHL	Ulahol	2.25	349	P	Pn	00 15 52.2	+0.7
	SNR=78						
KZA	Kyzart	2.36	330	P	Pn	00 15 53.5	+0.4
	SNR=100						
UCH	Uchtor	2.80	322	P	Pn	00 15 59.6	+0.5
	SNR=28						
KBK	Karagaybulak	2.97	332	P	Pn	00 16 02.6	+1.1
	SNR=45						
TKM2	Tokmak 2	3.02	343	P	Pn	00 16 03.9	+1.7
	SNR=115						
TKM2	Tokmak 2	3.02	343	⇑Pn	Pn	00 16 03.8	+1.6
	comp=E,99nm,0.5s						
TKM2				⇓Lg		00 16 43.2	
	comp=E,51nm,0.5s						
TKM2	Tokmak 2	3.02	343	*e*Pn	Pn	00 16 03.4	+1.2
TKM2				*e*Sn	Sn	00 16 39.5	+1.2
AAK	Ala-Archa	3.13	327	P	Pn	00 16 04.6	+1.0
	SNR=29						
AML	Almayashu	3.15	313	P	Pn	00 16 05.0	+1.0
	SNR=95						
KNDC	Almaty	3.18	2	⇑Pn	Pn	00 16 06.3	+2.0
	comp=E,16nm,0.5s						
KNDC				⇑Pg	Pb	00 16 11.0	0.0
	comp=E,43nm,0.5s						
KNDC				⇑Lg		00 16 50.4	
	comp=E,867nm,1.0s						
CHMS	Chumysh	3.34	333	P	Pn	00 16 07.6	+1.0
	SNR=63						
EKS2	Erkin-Say	3.48	320	P	Pn	00 16 09.7	+1.3
	SNR=45						
EKS2	Erkin-Say	3.48	320	*e*Pn	Pn	00 16 09.0	+0.6
EKS2				*e*Sn	Sn	00 16 50.7	+1.2
USP	Ospenovka	3.67	332	P	Pn	00 16 11.6	+0.6
	SNR=15						
KK31	Karatay Array	5.63	305	⇓Pn	Pn	00 16 37.0	-1.1
	comp=E,1.1nm,0.6s,baz=141,slow=13,SNR=7.7						
KK31				⇓Pg	Pb	00 16 52.5	-0.3
	comp=E,4.3nm,0.6s,baz=130,slow=16,SNR=8.4						
KK31				⇑Lg		00 18 03.2	
	comp=E,7.5nm,0.6s,baz=37,slow=7.5,SNR=3.2						
KKAR	Karatay Array	5.63	305	*e*Pn	Pn	00 16 36.7	-1.4
	comp=E,5.8nm,0.6s						
KKAR				*e*Pg	Pb	00 16 52.8	0.0
KKAR				*e*Sg	Sb	00 18 05.6	+5.4
MK31	Makanchi Array	7.84	29	⇓Pn	Pn	00 17 10.4	+2.1
	comp=E,1.2nm,0.5s,baz=212,slow=15,SNR=13						
MK31				⇓Sn	Sn	00 18 40.5	+3.6
	comp=E,1.3nm,0.5s						
MK31				⇑Lg		00 19 20.6	
	comp=E,5.0nm,0.7s,baz=100,slow=19,SNR=7.9						
MK31	Makanchi Array	7.84	29	*e*Pn	Pn	00 17 10.3	+2.0
MKAR	Makanchi Array	7.84	29	Pn	Pn	00 17 09.6	+1.3
	comp=E,0.5nm,0.3s,baz=209,slow=16,SNR=18						
MKAR				Lg		00 19 17.9	
	comp=E,0.4nm,0.3s,baz=214,slow=27,SNR=3.4						
MKAR	Makanchi Array	7.84	29	Pn	Pn	00 17 09.6	+1.3
MKAR				Lg		00 19 17.9	
KBL	Kabul	8.27	231	*e*Sn	Sn	00 18 48.7	+1.1
KURBB	Kurchatov Arra	10.65	6	⇑Lg		00 20 47.3	
	comp=E,3.8nm,0.8s						
KURK	Kurchatov	10.75	6	⇑Lg		00 20 50.4	
	comp=E,15nm,1.0s						
KURK	Kurchatov	10.75	6	Pn	Pn	00 17 46.0	-2.2
	comp=E,0.1nm,0.3s,baz=193,slow=12,SNR=4.9						
KURK				Lg		00 20 41.1	
	comp=E,0.1nm,0.3s,baz=193,slow=29,SNR=12						
KURK		

comp=Z,9.0nm,0.3s
LMN **Caledonia Moun 10.90 252** Pn **Pn** 00 18 04.7 +1.2
LMN Sn **Sn** 00 19 56.3 -9.1
LMN Caledonia Moun 10.90 252 PN **Pn** 00 18 04.7 +1.2
LMN SN **Sn** 00 19 56.3 -9.1
LMN Trac 00 20 00.5
comp=Z,4.7nm,0.2s
BATG Bathurst New B 11.07 261 Pn **Pn** 00 18 06.9 +1.1
BATG Sn **Sn** 00 20 00.1 -9.5
BATG Bathurst New B 11.07 261 PN **Pn** 00 18 06.9 +1.1
BATG SN **Sn** 00 20 00.1 -9.5
ICQ Pointe Anglais 11.23 273 Pn **Pn** 00 18 08.7 +0.8
ICQ Sn **Sn** 00 20 05.7 -7.7
ICQ Pointe Anglais 11.23 273 PN **Pn** 00 18 08.7 +0.8
ICQ SN **Sn** 00 20 05.7 -7.7
GSQ Grosses Roches 11.25 270 Pn **Pn** 00 18 10.2 +2.0
GSQ Sn **Sn** 00 20 09.4 -4.5
GSQ Grosses Roches 11.25 270 PN **Pn** 00 18 10.2 +2.0
GSQ SN **Sn** 00 20 09.4 -4.5
SCHQ Schefferville 11.26 300 Pn **Pn** 00 18 09.8 +1.4
2.9nm,0.3s,baz=102,slow=9.4,SNR=27
SCHQ Sn **Sn** 00 20 10.9 -3.2
1.3nm,0.3s,baz=244,slow=2.6,SNR=3.7
SCHQ Schefferville 11.26 300 Pn **Pn** 00 18 09.8 +1.4
SCHQ Sn **Sn** 00 20 12.0 -2.2
SCHQ Schefferville 11.26 300 PN **Pn** 00 18 09.8 +1.4
SCHQ SN **Sn** 00 20 12.0 -2.2
CNQ Baie Comeau 11.78 272 Pn **Pn** 00 18 18.2 +2.6
CNQ Sn **Sn** 00 20 24.0 -3.0
CNQ Baie Comeau 11.78 272 PN **Pn** 00 18 18.2 +2.6
CNQ SN **Sn** 00 20 24.0 -3.0
CNQ Trac 00 20 42.9
comp=Z,3.5nm,0.3s
MNQ Manicouagan 12.04 279 Pn **Pn** 00 18 17.1 -2.0
MNQ Sn **Sn** 00 20 27.7 -5.6
MNQ Manicouagan 12.04 279 PN **Pn** 00 18 17.1 -2.0
MNQ SN **Sn** 00 20 27.7 -5.6
MNQ Trac 00 20 48.0
comp=Z,5.6nm,0.4s
GGN Saint George 12.51 252 Pn **Pn** 00 18 27.3 +1.8
GGN Sn **Sn** 00 20 34.6 -10
GGN Saint George 12.51 252 PN **Pn** 00 18 27.3 +1.8
GGN SN **Sn** 00 20 34.6 -10
LMQ La Malbaie 13.70 266 Pn **Pn** 00 18 40.8 -0.9
LMQ Sn **Sn** 00 21 06.9 -6.8
LMQ La Malbaie 13.70 266 PN **Pn** 00 18 40.8 -0.9
LMQ SN **Sn** 00 21 06.9 -6.8
PKME Peaks-Kenny Pk 13.95 256 Pn **Pn** 00 18 43.9 -1.3
PKME Sn **Sn** 00 21 10.4 -10
PKME Peaks-Kenny Pk 13.95 256 PN **Pn** 00 18 43.9 -1.3
PKME SN **Sn** 00 21 10.4 -10
YOSQ Ashton Mining 14.09 289 Pn **Pn** 00 18 46.1 -1.0
YOSQ Sn **Sn** 00 21 16.1 -7.2
YOSQ Ashton Mining 14.09 289 PN **Pn** 00 18 46.1 -1.0
YOSQ SN **Sn** 00 21 16.1 -7.2
LG4Q La Grande 4 15.26 292 Pn **Pn** 00 21 41.3 -11
LG4Q Sn **Sn** 00 21 41.3 -11
LG4Q La Grande 4 15.26 292 PN **Pn** 00 19 00.2 -2.7
LG4Q SN **Sn** 00 21 41.3 -11
WEMQ Wemindji, Queb 17.58 290 Pn **Pn** 00 19 30.9 -1.6
WEMQ Wemindji, Queb 17.58 290 PN **Pn** 00 19 30.9 -1.6
SADO Sadowa 20.42 266 P **P** 00 20 08.2 +3.6
18nm,1.0s,baz=84,slow=7.8,SNR=5.3
SADO Sadowa 20.42 266 P **P** 00 20 08.2 +3.6
SUMG Summit 22.96 9 *eP* **P** 00 20 32.7 +1.0
18nm,1.1s,mb4.4
SUMG Summit 22.96 9 *i* P **P** 00 20 38.9 +7.3
10nm,1.0s,mb4.2
EKA Eskdalemuir Ar 28.28 61 P **P** 00 21 19.6 -1.2
1.1nm,0.6s,mb3.7,baz=275,slow=9.1,SNR=4.5
EKA Eskdalemuir Ar 28.28 61 P **P** 00 21 19.6 -1.2
PVRL Vila Real 30.42 91 *eP* **P** 00 21 38.6 -1.3
14nm,1.8s,mb4.4
PVIS Viseu 30.60 92 *eP* **P** 00 21 41.4 -0.1
25nm,1.8s,mb4.7
PBRG Braganca 30.77 89 *eP* **P** 00 21 40.7 -2.3
16nm,1.9s,mb4.5
PTOM Tomar 30.87 94 *eP* **P** 00 21 42.8 -1.1
24nm,1.8s,mb4.7
MVO Moncorvo 30.92 90 *eP* **P** 00 21 44.4 +0.1
16nm,0.8s,mb4.9
PCBR Castelo Branco 31.34 93 *eP* **P** 00 21 47.2 -0.8
17nm,1.2s,mb4.8
GRR Gorron 31.57 74 *eP* **P** 00 21 49.7 -0.2
36nm,1.1s,mb4.8
PMRV Marv??o 31.63 93 *eP* **P** 00 21 50.0 -0.6
17nm,1.4s,mb4.7
PBEJ Beja 32.13 96 *eP* **P** 00 21 54.7 -0.3
20nm,2.0s,mb4.6
PCVE Castro Verde 32.26 97 *eP* **P** 00 21 55.5 -0.6
17nm,1.7s,mb4.6
PVAQ Vaqueiros 32.60 97 *eP* **P** 00 21 58.0 -1.1
24nm,1.8s,mb4.8
SJPF Ste Jean 33.64 83 *eP* **P** 00 22 07.9 -0.2
8.9nm,0.8s,mb4.5
ESDC Sonseca Array 33.69 90 P **P** 00 22 08.0 -0.6
3.9nm,0.8s,mb4.4,baz=302,slow=8.3,SNR=25
ESDC Sonseca Array 33.69 90 P **P** 00 22 08.0 -0.6
LFF La Frestale 34.02 79 *eP* **P** 00 22 11.2 -0.2
BAIF Baives 34.02 69 *eP* **P** 00 22 11.3 -0.1
ETSF Etsaut 34.17 83 *eP* **P** 00 22 13.0 +0.2
TCF Toulx Ste Croi 34.33 76 *eP* **P** 00 22 13.9 -0.2
8.6nm,0.9s,mb4.4
RJF Les Rejaudoux 34.34 78 *eP* **P** 00 22 13.8 -0.3
BGF Bois d'Agland 34.61 75 *eP* **P** 00 22 16.2 -0.3
SSF Saint Saulge 34.80 74 *eP* **P** 00 22 17.7 -0.4
12nm,0.8s,mb4.6
AVF Avril sur Loir 34.82 75 *eP* **P** 00 22 17.7 -0.6
15nm,0.8s,mb4.7
CAF Calviac 34.86 78 *eP* **P** 00 22 18.3 -0.3
3.2nm,0.5s,mb4.2
LOR Lormes 34.93 74 *eP* **P** 00 22 18.6 -0.6
MEZF Maizieres J'vi 35.14 71 *eP* **P** 00 22 20.7 -0.3
SMF Signal de Mont 35.19 75 *eP* **P** 00 22 21.9 +0.4
SFTF Sexfontaines 35.25 72 *eP* **P** 00 22 21.6 -0.4
PAGF Fort de Pagny 35.53 71 *eP* **P** 00 22 24.2 -0.2
5.3nm,1.0s,mb4.1
HAU Haudompre 36.13 71 *eP* **P** 00 22 29.7 +0.1
21nm,0.9s,mb4.8
YKA Yellowknife Ar 36.23 315 P **P** 00 22 33.8 +3.6
3.9nm,0.8s,mb4.4,baz=76,slow=8.7,SNR=9.0
YKA Yellowknife Ar 36.23 315 P **P** 00 22 33.9 +3.6
HINF Hinteralfeld 36.52 71 *eP* **P** 00 22 32.8 -0.1
6.6nm,0.7s,mb4.3
CDF Champ du Feu 36.52 70 *eP* **P** 00 22 32.8 -0.1
CABF La Chapelle 36.59 74 *eP* **P** 00 22 33.5 0.0
DAVOX Davos/Dischmat 38.83 71 P **P** 00 22 54.1 +1.7
1.5nm,0.7s,mb3.8,baz=308,slow=17,SNR=3.6
DAVOX Davos/Dischmat 38.83 71 P **P** 00 22 54.1 +1.7
ARCES ARCESS Array B 39.22 33 LR LR 00 35 40.9
comp=Z,65nm,18.7s,baz=137,slow=31
GERES GERESS Array B 40.17 67 P **P** 00 23 03.8 +0.2
1.5nm,0.9s,mb3.7,baz=310,slow=6.8,SNR=10
GERES GERESS Array B 40.17 67 P **P** 00 23 03.8 +0.2
PD02 Pinedale Array 40.74 283 *eP* **P** 00 23 10.3 +2.0
PDAR Pinedale Array 40.74 283 P **P** 00 23 11.9 +3.5
3.6nm,0.7s,mb4.1,baz=65,slow=9.3,SNR=27
PDAR Pinedale Array 40.74 283 P **P** 00 23 11.9 +3.5
INK Inuvik 42.39 327 P **P** 00 23 24.7 +3.1
4.3nm,0.8s,mb4.2,baz=55,slow=10.0,SNR=12
INK Inuvik 42.39 327 P **P** 00 23 24.7 +3.1
TCUT Toone Canyon 42.80 282 P **P** 00 23 27.2 +2.0
KEST Kesra 44.54 86 P **P** 00 23 39.4 +0.1
1.5nm,0.8s,mb3.9,baz=290,slow=12,SNR=5.0
KEST Kesra 44.54 86 P **P** 00 23 39.4 +0.1
TXAR Lajitas Array 45.16 263 P **P** 00 23 47.7 +3.4
1.0nm,0.8s,mb3.7,baz=57,slow=6.5,SNR=8.1
TXAR Lajitas Array 45.16 263 P **P** 00 23 47.7 +3.4
ARUT Antelope Range 46.01 280 *eP* **P** 00 23 54.3 +3.4
6.2nm,1.0s,mb4.5
AKASG Malin Array Be 48.02 57 P **P** 00 24 06.3 -0.2
0.4nm,0.3s,mb3.9,baz=296,slow=7.2,SNR=4.1
AKASG Malin Array Be 48.02 57 P **P** 00 24 06.3 -0.2
NVAR Mina Array Bea 48.67 284 P **P** 00 24 15.7 +4.0
1.4nm,0.8s,mb4.1,baz=59,slow=5.6,SNR=10
NVAR Mina Array Bea 48.67 284 P **P** 00 24 15.7 +4.0
ILAR Eielson Array 48.74 326 P **P** 00 24 15.8 +4.0
1.1nm,0.7s,mb4.0,baz=61,slow=7.2,SNR=18
ILAR Eielson Array 48.74 326 P **P** 00 24 15.8 +4.0
TORD Torodi Ar. Bea 55.84 113 P **P** 00 25 04.5 -0.7
3.2nm,0.8s,mb4.4,baz=320,slow=7.5,SNR=22
TORD Torodi Ar. Bea 55.84 113 P **P** 00 25 04.5 -0.7
BRTR Keskin Array B 57.06 66 P **P** 00 25 15.1 +1.5
0.9nm,0.8s,mb3.8,baz=342,slow=6.9,SNR=3.9
BRTR Keskin Array B 57.06 66 P **P** 00 25 15.1 +1.5
DBIC Dimbokro 57.40 123 P **P** 00 25 15.8 -0.5
2.0nm,0.8s,mb4.2,baz=199,slow=3.1,SNR=3.8
DBIC Dimbokro 57.40 123 P **P** 00 25 15.8 -0.5
LPAZ La Paz 68.18 199 P **P** 00 26 29.9 +1.9
1.1nm,0.7s,mb4.0,baz=29,slow=5.4,SNR=6.2
LPAZ La Paz 68.18 199 P **P** 00 26 29.9 +1.9
ZALV Zalesovo Beam 69.41 27 P **P** 00 26 37.3 +2.0
0.3nm,0.3s,mb3.6,baz=333,slow=5.4,SNR=2.0
ZALV Zalesovo Beam 69.41 27 P **P** 00 26 37.3 +2.0
KURK Kurchatov 70.25 32 P **P** 00 26 41.6 +1.1
0.4nm,0.8s,mb3.4,baz=328,slow=6.7,SNR=2.7
KURK Kurchatov 70.25 32 P **P** 00 26 41.6 +1.1
MKAR Makanchi Array 74.87 32 P **P** 00 27 09.6 +1.6
0.4nm,0.5s,mb3.6,baz=336,slow=5.7,SNR=3.2
MKAR Makanchi Array 74.87 32 P **P** 00 27 09.7 +1.6
SONM Songino Array 80.17 16 P **P** 00 27 40.3 +2.7
0.4nm,0.8s,mb3.4,baz=336,slow=5.0,SNR=2.7
SONM Songino Array 80.17 16 P **P** 00 27 40.3 +2.7
VNDA Vanda 150.14 193 PKPbc PKPbc 00 35 15.9 -1.0
1.4nm,0.7s,baz=267,slow=10,SNR=9.6
VNDA Vanda 150.14 193 PKPbc PKPbc 00 35 15.9 -1.0

*IDC **18** 00:17:31.9±4.3,56.16N×157.18W,h0km,mb4.0/2, mb1 3.7/5,mb1mx3.5/28,mbtmp3.6/5,ML3.1/3,MS3.6/1, Ms1 3.6/1,ms1mx2.4/42,Error ellipse: s-maj=86.9km s-min=19.2km az=159.0*
*ISCJB **18** 00:17:36.1±1.3,56.2N±0.2×156.5W±0.1,h59km±11km, mb4.1/2,Error ellipse: s-maj=33.0km s-min=6.2km az=158.1*
*NEIC **18** 00:17:37.6,56.06N×156.49W,h45km,ML3.0(AEIC),After AEIC.*
ISC 18 00:17:37.2±1.2,56.2N±0.2×156.5W±0.1,h46km±13km,n14, σ0.985/20,mb4.1/2,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**1.06**	**277**	*eP*		**Pn**	**00 17 55.7**	**+0.2**
CHGN				*eS*		**Sn**	**00 18 09.4**	**+0.3**
OHAK	**Old Harbor**	**2.07**	**58**	*ePn*		**Pn**	**00 18 09.9**	**+0.6**
OHAK				*eSn*		**Sn**	**00 18 33.6**	**-0.3**
SDPT	**Sand Point**	**2.38**	**251**	*ePn*		**Pn**	**00 18 13.7**	**0.0**
SDPT				*eSn*		**Sn**	**00 18 41.0**	**-0.5**
KDAK	**Kodiak Island**	**2.69**	**52**	Pn		**Pn**	**00 18 18.7**	**+0.8**
	1.0nm,0.3s,baz=176,slow=9.5,SNR=16							
KDAK				Pg		**Pn**	**00 18 26.7**	**+8.8**
	3.9nm,0.3s,baz=241,slow=9.2,SNR=15							
KDAK				Sn		**Sn**	**00 18 48.4**	**-0.7**
	3.7nm,0.3s,baz=79,slow=24,SNR=26							
KDAK				Lg			00 19 05.6	
	2.9nm,0.3s,baz=355,slow=21,SNR=3.1							
KDAK	**Kodiak Island**	**2.69**	**52**	Pn		**Pn**	**00 18 18.7**	**+0.8**
KDAK				Pg		**Pn**	**00 18 26.7**	**+8.8**
KDAK				Sn		**Sn**	**00 18 48.4**	**-0.7**
KDAK				Lg			00 19 05.6	
ILAR	**Eielson Array**	**9.83**	**25**	Pn		**Pn**	**00 19 52.4**	**-3.2**
	0.1nm,0.3s,baz=220,slow=13,SNR=5.2							
ILAR	**Eielson Array**	**9.83**	**25**	Pn		**Pn**	**00 19 52.4**	**-3.2**
INK	**Inuvik**	**16.06**	**32**	Pn		**Pn**	**00 21 21.1**	**+1.7**
	0.1nm,0.3s,baz=236,slow=12,SNR=6.6							
INK	**Inuvik**	**16.06**	**32**	Pn		**Pn**	**00 21 21.1**	**+1.7**
TXAR	**Lajitas Array**	**45.67**	**103**	LR		LR	00 47 04.6	
	comp=Z,60nm,18.2s,baz=180,slow=38							
ARCES	**ARCESS Array B**	**54.58**	**359**	P		**P**	**00 26 59.7**	**-0.3**
	3.4nm,1.0s,mb4.3,baz=350,slow=6.5,SNR=3.5							
ARCES	**ARCESS Array B**	**54.58**	**359**	P		**P**	**00 26 59.7**	**-0.3**
SONM	**Songino Array**	**55.51**	**306**	P		**P**	**00 27 06.7**	**-0.2**
	0.7nm,0.6s,mb3.9,baz=39,slow=6.1,SNR=6.4							
SONM	**Songino Array**	**55.51**	**306**	P		**P**	**00 27 06.7**	**-0.2**

*CSEM **18** 00:17:51.1,12.25N×45.69E,h25km,ML3.6,After DHMR*
DHMR 18 00:17:51.1±0.9,12.25N×45.69E,h26km±8km,ML3.6, 3C-2D,Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**0.87**	**307**	*i* P		Pb	00 18 06.9	-0.6
ADEN				*i* S		Sb	00 18 19.4	+0.6
ADEN				AML		AML	00 18 26.8	
	comp=N,2μm,0.9s							
ADEN	**Aden**	**0.87**	**307**	*i* P		Pb	00 18 06.9	-0.6
ADEN				*i* S		Sb	00 18 19.4	+0.7
	comp=N,829nm,0.9s							
LBOS		**1.67**	**345**	*i* P		Pn	00 18 20.4	+1.8
LBOS				*i* S		Sn	00 18 42.2	+3.0
BDHA	**Al Bayda'**	**1.71**	**356**	*i* P		Pn	00 18 21.0	+1.7
BDHA				AML		AML	00 18 31.4	
	comp=N,908nm,0.5s							
BDHA				*i* S		Sn	00 18 43.7	+3.3
BDHA	**Al Bayda'**	**1.71**	**356**	*i* P		Pn	00 18 21.0	+1.7
	comp=N,454nm,0.5s							
BDHA				*i* S		Sn	00 18 43.7	+3.3
DHBB	**Dhamar BB**	**2.63**	**331**	*i* P		Pn	00 18 34.5	+2.6
DHBB				*i* S		Sn	00 19 09.7	+6.7
DHBB	**Dhamar BB**	**2.63**	**331**	*i* P		Pn	00 18 34.5	+2.6
DHBB				*i* S		Sn	00 19 09.7	+6.7
MUKL	**Al Mukalla**	**3.93**	**55**	*i* P		Pn	00 18 52.1	+2.3
MUKL				*i* S		Sn	00 19 39.9	+4.8

IDC 18 00:23:35.0±1.8,4.03S×130.14E,h0km,mb3.6/2, mb1 3.9/5,mb1mx3.6/19,mbtmp3.7/5,ML3.6/2,MS3.5/1, Ms1 3.5/1,ms1mx2.4/26,Error ellipse: s-maj=84.6km s-min=24.6km az=75.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**14.67**	**197**	Pn		Pn	00 27 04.7	+0.8
	0.1nm,0.3s,baz=3.8,slow=15,SNR=2.8							
FITZ				Sn		Sn	00 29 29.2	-18
	0.1nm,0.3s,baz=39,slow=15,SNR=2.6							
WRA	**Warramunga Arr**	**16.34**	**166**	Pn		Pn	00 27 27.3	+1.4
	0.4nm,0.3s,baz=346,slow=12,SNR=20							
WRA				Sn		Sn	00 30 14.0	-14
	0.2nm,0.3s,baz=335,slow=24,SNR=4.7							
ASAR	**Alice Springs**	**19.86**	**170**	P		Pn	00 28 07.0	-2.3
	0.8nm,0.3s,baz=349,slow=11,SNR=32							
NWAO	**Narrogin (SRO)**	**31.19**	**201**	LR		LR	00 43 11.8	
	comp=Z,82nm,21.4s,baz=117,slow=38							
MKAR	**Makanchi Array**	**65.84**	**326**	P		P	00 34 22.3	0.0
	0.3nm,0.5s,baz=112,slow=8.5,SNR=5.5							
KURK	**Kurchatov**	**70.08**	**328**	P		P	00 34 49.0	+0.2
	0.5nm,0.6s,baz=129,slow=5.2,SNR=5.2							

*ISCJB **18** 00:28:32.1±0.5,8.43S×0.04×121.71E±0.04,h56km±6km, mb4.5/20,MS3.8/2,Error ellipse: s-maj=8.0km s-min=5.5km az=145.7*
*NEIC **18** 00:28:32.1±1.0,8.28S×121.86E,h36km±10km,mb4.2/5, Error ellipse: s-maj=14.1km s-min=6.7km az=58.0*
*IDC **18** 00:28:32.5±0.7,8.28S×121.64E,h35km±4km,mb4.0/11, mb1 4.1/13,mb1mx4.0/24,mbtmp4.0/13,ML4.4/2,MS3.5/4, Ms1 3.5/4,ms1mx2.9/37,Error ellipse: s-maj=43.0km s-min=12.8km az=70.0*
*DJA **18** 00:28:32,8.43S×121.61E,h15km,MLv4.6/14*
ISC 18 00:28:33.2±0.5,8.40S±0.04×121.73E±0.05,h45km±6km, n72,σ1.922/79,mb4.5/20,MS3.8/2,Flores region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.55**	**115**	P		Pn	**00 28 45.2**	**+0.3**
WSI	**Waingapu**	**1.90**	**228**	P		Pn	**00 29 02.7**	**-0.4**
BMNI	**Bima**	**3.01**	**267**	P		Pn	**00 29 18.9**	**+0.5**
BBSI	**Bau Bau**	**3.01**	**16**	P		Pn	**00 29 19.3**	**+0.8**
KAPI	**Kappang**	**3.90**	**330**	*ePn*		Pn	**00 29 29.5**	**-1.1**
KAPI				*eSn*		Sn	**00 30 11.6**	**-3.6**
KAPI	**Kappang**	**3.90**	**330**	P		Pn	**00 29 29.8**	**-0.8**
KDI	**Kendari**	**4.50**	**11**	P		Pn	**00 29 39.8**	**+0.8**
SPSI	**Sidrap Palu**	**4.82**	**336**	P		Pn	**00 29 48.7**	**+5.4**
MTNI	**Mataram**	**5.50**	**267**	P		Pn	**00 29 54.6**	**+1.9**
	1.7nm90nm,0.9s							
TTSI	**Tana Toraja**	**5.65**	**340**	P		Pn	**00 29 58.6**	**+3.9**
	0.4nm6μm32nm,0.8s							
KHKI	**Kahang-Kahang**	**6.06**	**270**	P		Pn	**00 29 57.9**	**-2.4**
	0.2nm40nm,0.9s							
SRBI	**Singaraja**	**6.46**	**272**	P		Pn	**00 30 04.3**	**-1.5**
	0.2nm2μm26nm,0.9s							
LUWI	**Luwuk**	**7.38**	**8**	P		Pn	**00 30 20.2**	**+1.7**
	0.2nm65nm,0.7s							
NLAI	**Namlea**	**7.40**	**46**	P		Pn	**00 30 23.5**	**+4.7**
	0.5nm1μm19nm,0.7s							
JAGI	**Jajag, Banyuwa**	**7.50**	**269**	P		**Pn**	**00 30 18.9**	**-1.2**
	0.2nm38nm,0.7s							
KMMI	**Kalianget**	**7.81**	**279**	P		**Pn**	**00 30 25.6**	**+1.2**
	0.1nm19nm,1.2s							
FITZ	**Fitzroy Crossi**	**10.36**	**159**	Pn		**Pn**	**00 31 00.0**	**+0.7**
	2.3nm,0.3s,baz=356,slow=8.2,SNR=44							
FITZ				Sn		**Sn**	**00 32 52.2**	**-2.0**
	0.5nm,0.3s,baz=143,slow=8.7,SNR=6.7							
FITZ				LR		LR	00 36 09.5	
	comp=Z,63nm,18.8s,baz=345,slow=44							
FITZ	**Fitzroy Crossi**	**10.36**	**159**	*eP*		**Pn**	**00 31 00.0**	**+0.7**
	14nm,0.4s							
FITZ				*eS*		**Sn**	**00 32 51.5**	**-2.7**
FITZ	**Fitzroy Crossi**	**10.36**	**159**	Pn		**Pn**	**00 31 00.0**	**+0.7**
FITZ				Sn		**Sn**	**00 32 52.2**	**-2.0**
FITZ				LR		LR	00 36 09.5	
FITZ	**Fitzroy Crossi**	**10.36**	**159**	P		**Pn**	**00 30 59.7**	**+0.4**
MBWA	**Marble Bar**	**12.83**	**188**	*eP*		**Pn**	**00 31 32.0**	**-1.0**
MBWA				*eS*		**Sn**	**00 33 42.9**	**-12**
MBWA	**Marble Bar**	**12.83**	**188**	*ePn*		**Pn**	**00 31 32.7**	**-0.4**
MBWA				*eSn*		**Sn**	**00 33 45.3**	**-9.2**
WRA	**Warramunga Arr**	**16.75**	**135**	Pn		**Pn**	**00 32 23.5**	**-1.2**
	0.6nm,0.3s,baz=306,slow=14,SNR=18							
WRA				Sn		**Sn**	**00 35 21.8**	**-8.2**
	0.4nm,0.3s,baz=306,slow=24,SNR=9.7							
WRA				LR		LR	00 40 25.7	
	comp=Z,118nm,18.8s,baz=300,slow=42							
WRA	**Warramunga Arr**	**16.75**	**135**	Pn		**Pn**	**00 32 23.5**	**-1.2**
WRA				Sn		**Sn**	**00 35 21.8**	**-8.2**
WRA				LR		LR	00 40 25.7	
WRAB	**Tennant Creek**	**16.75**	**135**	*ePn*		**Pn**	**00 32 24.1**	**-0.7**
	5.8nm,0.8s							
WRAB				*eSn*		**Sn**	**00 35 21.9**	**-8.0**
WB2	**Warramunga Arr**	**16.76**	**135**	*ePn*		**Pn**	**00 32 23.3**	**-1.6**
WB2				*eS*		**S**	**00 35 22.7**	**-17**
MEEK	**Meekatharra**	**18.38**	**189**	*eP*		**Pn**	**00 32 46.4**	**+1.7**
	29nm,0.6s							
MEEK				*eS*		**S**	**00 35 55.2**	**-17**
ASAR	**Alice Springs**	**19.14**	**144**	P		**Pn**	**00 32 55.9**	**+1.9**
	1.3nm,0.3s,baz=325,slow=13,SNR=28							
ASAR				S		**S**	**00 36 20.1**	**-7.4**
	0.1nm,0.3s,baz=316,slow=22,SNR=9.0							
ASAR	**Alice Springs**	**19.14**	**144**	P		**Pn**	**00 32 55.9**	**+1.9**
ASAR				S		**S**	**00 36 20.1**	**-7.4**
MORW	**Morawa**	**21.24**	**194**	*eP*		**P**	**00 33 16.2**	**+0.7**
	41nm,0.6s,mb4.9							
COEN	**Coen**	**21.74**	**107**	P		**P**	**00 33 20.4**	**-0.6**
	43nm,0.8s,mb4.9							
NWAO	**Narrogin (SRO)**	**24.76**	**189**	P		**P**	**00 33 52.0**	**+1.4**
	4.0nm,0.5s,mb4.2,baz=10,slow=14,SNR=3.9							
NWAO	**Narrogin (SRO)**	**24.76**	**189**	P		**P**	**00 33 52.0**	**+1.4**
PSI	**Prapat**	**25.32**	**295**	LR		LR	00 46 01.1	
	comp=Z,92nm,18.7s,MS3.3,baz=4.5,slow=42							
STKA	**Stephens Creek**	**29.78**	**144**	P		**P**	**00 34 37.2**	**+1.5**
	3.4nm,0.6s,mb4.2,baz=304,slow=7.1,SNR=9.5							
STKA	**Stephens Creek**	**29.78**	**144**	*eP*		**P**	**00 34 37.5**	**+1.8**
	3.0nm,0.6s,mb4.2							
STKA	**Stephens Creek**	**29.78**	**144**	*eP*		**P**	**00 34 36.6**	**+0.9**
	0.6nm,0.6s,mb3.5							
CMAR	**Chiang Mai Arr**	**34.90**	**320**	P		**P**	**00 35 21.6**	**+0.9**
	1.0nm,0.3s,mb4.2,baz=144,slow=6.9,SNR=11							
CMAR	**Chiang Mai Arr**	**34.90**	**320**	P		**P**	**00 35 21.6**	**+0.9**
YNG	**Young**	**35.57**	**140**	*eP*		**P**	**00 35 29.8**	**+3.5**
	4.2nm,0.7s,mb4.5							
HNR	**Honiara**	**37.76**	**95**	P		**P**	**00 35 43.3**	**-1.9**
LSA	**Lhasa**	**47.97**	**323**	*eP*		**P**	**00 37 08.2**	**+0.5**
	3.1nm,0.6s,mb4.5							
TAPN	**Taplejung**	**48.46**	**318**	*eP*		**P**	**00 37 11.7**	**+0.2**
	9.5nm,0.5s,mb5.1							
RAMN	**Ramite**	**48.94**	**317**	*eP*		**P**	**00 37 15.3**	**+0.1**
	10nm,0.5s,mb5.1							
GUN	**Gumba**	**50.05**	**317**	*eP*		**P**	**00 37 23.4**	**-0.2**
	21nm,0.7s,mb5.3							
PKI	**Pulchoki**	**50.15**	**317**	*eP*		**P**	**00 37 24.8**	**+0.4**
	11nm,0.5s,mb5.1							
GKN	**Gorkha**	**50.95**	**317**	*eP*		**P**	**00 37 29.6**	**-0.8**
DANN	**Dangsing**	**51.76**	**316**	*eP*		**P**	**00 37 35.8**	**-0.7**
	21nm,0.7s,mb5.2							
PYUN	**Piuthan**	**52.14**	**316**	*eP*		**P**	**00 37 38.3**	**-1.0**
SONM	**Songino Array**	**57.61**	**348**	P		**P**	**00 38 19.3**	**+0.8**
	2.3nm,0.7s,mb4.3,baz=167,slow=8.1,SNR=15							
SONM				pP		pP	00 38 28.6	-2.7
	0.9nm,0.5s,baz=174,slow=6.3,SNR=3.9							
SONM	**Songino Array**	**57.61**	**348**	P		**P**	**00 38 19.3**	**+0.8**
SONM				pP		pP	00 38 28.6	-2.7
MKAR	**Makanchi Array**	**65.19**	**331**	P		**P**	**00 39 09.0**	**-0.7**
	0.9nm,0.5s,mb4.0,baz=142,slow=7.8,SNR=9.7							
MKAR				sP		sP	00 39 24.9	-3.0
	1.6nm,0.7s,baz=140,slow=7.5,SNR=5.4							
MKAR	**Makanchi Array**	**65.19**	**331**	P		**P**	**00 39 09.1**	**-0.7**
MKAR				sP		sP	00 39 24.9	-3.0
TKM2	**Tokmak 2**	**66.10**	**325**	*eP*		**P**	**00 39 15.1**	**-0.6**
ZAA0	**Zalesovo Array**	**69.48**	**338**	*eP*		**P**	**00 39 35.2**	**-1.6**
ZALV	**Zalesovo Beam**	**69.48**	**338**	P		**P**	**00 39 35.2**	**-1.6**
	1.1nm,0.5s,mb4.1,baz=142,slow=4.4,SNR=9.7							
ZALV				sP		sP	00 39 51.0	-3.9
	5.1nm,0.9s,baz=131,slow=4.1,SNR=11							
ZALV	**Zalesovo Beam**	**69.48**	**338**	P		**P**	**00 39 35.2**	**-1.6**
ZALV				sP		sP	00 39 51.0	-3.9
KURK	**Kurchatov**	**69.69**	**332**	P		**P**	**00 39 36.7**	**-1.1**
	0.4nm,0.3s,mb3.8,baz=141,slow=5.7,SNR=5.8							
KURK				sP		sP	00 39 52.6	-3.8
	1.4nm,0.6s,baz=150,slow=5.7,SNR=6.5							
KURK	**Kurchatov**	**69.69**	**332**	*eP*		**P**	**00 39 36.8**	**-1.3**
	2.4nm,0.8s,mb4.2							
KURK				sP		sP	00 39 52.6	-3.8
VNDA	**Vanda**	**72.17**	**172**	P		**P**	**00 39 54.0**	**+1.2**
	1.1nm,0.5s,mb4.0,baz=321,slow=7.9,SNR=14							
VNDA

WEL 18 00:57:34.8±0.6, 38°48S×175°95E, h134km±4km, ML3.5/8, Error ellipse: s-maj=3.5km s-min=2.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKZ	**Black Stump Fm**	**0.81**	**149**	PN	Pn	00 57 56.4	0.0
BKZ				SN	Sn	00 58 12.5	-0.3
TUVZ	**Tukino**	**0.82**	**196**	PN	Pn	00 57 56.8	+0.3
FWVZ	**Far West T-bar**	**0.84**	**202**	*e*PN	Pn	00 57 56.9	+0.3
HIZ	**Hauiti**	**0.86**	**267**	PN	Pn	00 57 56.4	-0.3
HIZ				SN	Sn	00 58 13.8	+0.4
NMHZ	**Naumai**	**0.91**	**133**	PN	Pn	00 57 57.9	+0.7
NMHZ				SN	Sn	00 58 16.3	+2.0
NMHZ				*e*SN	Sn	00 58 16.4	+2.1
URZ	**Urewera**	**0.94**	**77**	PN	Pn	00 57 56.6	-0.9
URZ				SN	Sn	00 58 13.7	-0.9
PKVZ	**Pokaka**	**0.94**	**210**	PN	Pn	00 57 57.3	-0.1
MOVZ	**Moawhango**	**0.94**	**189**	PN	Pn	00 57 57.3	-0.2
MTVZ	**Mangateitei**	**0.98**	**202**	PN	Pn	00 57 57.9	+0.1
RAHZ	**Arahi**	**0.99**	**117**	PN	Pn	00 57 58.4	+0.5
BHHZ	**Black Hill Sta**	**1.01**	**175**	PN	Pn	00 57 58.0	-0.2
MCHZ	**McNeill Hill**	**1.13**	**149**	PN	Pn	00 57 60.0	+0.8
MWZ	**Matawai**	**1.25**	**84**	PN	Pn	00 57 59.9	-0.5
MWZ				SN	Sn	00 58 19.2	-0.8
PNHZ	**Pukenui**	**1.45**	**172**	PN	Pn	00 58 02.1	-0.4
KNZ	**Kokohu**	**1.45**	**112**	PN	Pn	00 58 02.5	-0.1
CKHZ	**Cape Kidnapper**	**1.47**	**144**	PN	Pn	00 58 02.9	+0.1
WAZ	**Wanganui**	**1.48**	**210**	PN	Pn	00 58 02.7	-0.2
KAHZ	**Kahuranaki**	**1.50**	**152**	PN	Pn	00 58 03.2	+0.1
PRGZ	**Paritu Road**	**1.58**	**107**	PN	Pn	00 58 04.0	0.0
TSZ	**Takapari Road**	**1.58**	**180**	PN	Pn	00 58 03.4	-0.6
WPHZ	**Waipukurau**	**1.63**	**167**	PN	Pn	00 58 04.1	-0.5
MHGZ	**Mahia Peninsul**	**1.67**	**114**	PN	Pn	00 58 05.0	0.0
PXZ	**Pawanui**	**1.71**	**156**	PN	Pn	00 58 05.2	-0.3
DVHZ	**Dannevirke**	**1.83**	**175**	PN	Pn	00 58 05.8	-1.0
PUZ	**Puketiti**	**1.86**	**78**	PN	Pn	00 58 06.1	-1.1
PRHZ	**Porangahau**	**1.86**	**164**	PN	Pn	00 58 06.6	-0.7
POWZ	**Post Office Ro**	**1.92**	**184**	PN	Pn	00 58 06.7	-1.2
MXZ	**Matakaoa Point**	**2.07**	**65**	PN	Pn	00 58 08.9	-0.9
MRZ	**Mangatainoka R**	**2.20**	**187**	PN	Pn	00 58 09.6	-1.7
BFZ	**Birch Farm**	**2.21**	**174**	PN	Pn	00 58 10.0	-1.5
TIWZ	**Tintock**	**2.30**	**181**	PN	Pn	00 58 11.0	-1.6
OGWZ	**Otaki Gorge**	**2.41**	**194**	PN	Pn	00 58 12.2	-1.8
HOWZ	**Holdsworth Sta**	**2.44**	**188**	PN	Pn	00 58 12.2	-2.2
KIW	**Kapiti Island**	**2.51**	**198**	PN	Pn	00 58 13.0	-2.3
TMWZ	**Te Maipa**	**2.63**	**181**	PN	Pn	00 58 14.5	-2.2
MTW	**Mount Morrison**	**2.70**	**187**	PN	Pn	00 58 15.0	-2.6
DUWZ	**D'Urville Isla**	**2.80**	**213**	PN	Pn	00 58 16.4	-2.5
TRWZ	**Traveller**	**2.92**	**184**	PN	Pn	00 58 17.9	-2.6
MSWZ	**Moikau Station**	**2.98**	**190**	PN	Pn	00 58 18.3	-2.9
TCW	**Tory Channel**	**3.02**	**205**	PN	Pn	00 58 19.1	-2.6
PLWZ	**Palliser**	**3.13**	**190**	PN	Pn	00 58 20.0	-3.2
TUWZ	**Tuamarina**	**3.33**	**207**	PN	Pn	00 58 22.6	-3.1
NNZ	**Nelson**	**3.38**	**215**	PN	Pn	00 58 23.1	-3.3
QRZ	**Quartz Range**	**3.53**	**227**	PN	Pn	00 58 24.7	-3.7
KHZ	**Kahutara**	**4.34**	**204**	PN	Pn	00 58 35.3	-3.7
MQZ	**McQueen's Vall**	**5.79**	**204**	PN	Pn	00 58 52.4	-5.9
ODZ	**Otahua Downs**	**7.67**	**209**	PN	Pn	00 59 18.1	-5.5

*IDC **18** 00:57:52.1±0.9, 12°56N×87°91W, h0km, mb4.3/16, mb1 4.5/17, mb1mx4.4/26, mbtmp4.3/17, ML4.0/1, MS3.7/14, Ms1 3.7/14, ms1mx3.6/27, Error ellipse: s-maj=29.5km s-min=17.2km az=44.0*

*CASC **18** 00:57:55.0±1.7, 12°10N×88°35W, h29km±21km, MD4.1, ML3.9, mb4.9(NEIC)*

*ISCJB **18** 00:57:56.7±0.5, 12°25N±0°05×88°19W±0°04, h48km±3km, mb4.6/53, MS3.9/15, Error ellipse: s-maj=9.5km s-min=3.4km az=39.6*

*NEIC **18** 00:57:58.5±0.6, 12°34N×88°08W, h50km±6km, mb4.9/40, Error ellipse: s-maj=11.2km s-min=4.7km az=50.0*

*BJI **18** 00:57:58.3, 12°30N×88°10W, h65km, mB5.3/10, Ms5.0/3, Ms7 4.8/7*

ISC 18 00:57:58.0±0.4, 12°34N±0°04×88°14W±0°04, h38km±4km, n372, σ0°77/357, mb4.6/53, MS3.9/15, 121C-104D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.98**	**18**	*e*P	**Pn**	**00 58 17.0**	**+1.7**
VSM	**San Miguel**	**1.09**	**353**	*e*P	**Pn**	**00 58 17.9**	**+1.1**
BLLM	**Bellamira**	**1.10**	**355**	*e*P	**Pn**	**00 58 17.8**	**+0.8**
CRIN	**San Cristobal**	**1.12**	**71**	*e*P	**Pn**	**00 58 19.6**	**+2.4**
MIRN	**Miramar**	**1.40**	**86**	*e*P	**Pn**	**00 58 21.3**	**+0.3**
CNGN	**Cerro Negro**	**1.42**	**83**	*e*P	**Pn**	**00 58 21.4**	**+0.1**
CNGN				AML	AML	00 58 50.7	
	comp=E,1μm,0.7s						
CAHU	**Cacauatique**	**1.43**	**357**	*e*P	**Pn**	**00 58 22.9**	**+1.5**
CAHU				*e*S	**Sn**	**00 58 44.4**	**+5.5**
SNVI	**San Vicente**	**1.44**	**332**	*e*P	**Pn**	**00 58 21.0**	**-0.6**
SNVI				*e*S	**Sn**	**00 58 42.3**	**+3.0**
COPN	**Copaltepe**	**1.52**	**96**	*e*P	**Pn**	**00 58 22.7**	**-0.1**
LFRS	**El Faro**	**1.56**	**325**	*e*P	**Pn**	**00 58 21.9**	**-1.5**
LBRS	**Las Brisas**	**1.65**	**328**	*e*P	**Pn**	**00 58 23.5**	**-1.0**
SNET	**Serv Nac Est T**	**1.71**	**322**	*e*P	**Pn**	**00 58 24.3**	**-1.1**
SNET				*e*S	**Sn**	**00 58 45.8**	**-0.3**
SNET				AML	AML	00 58 56.3	
	comp=Z,2μm,0.4s						
BOQS	**Boqueron**	**1.78**	**321**	*e*P	**Pn**	**00 58 24.9**	**-1.3**
XAVN	**Gruta Xavier**	**1.78**	**96**	*e*P	**Pn**	**00 58 26.4**	**+0.1**
CRUN	**El Crucero**	**1.83**	**101**	*e*P	**Pn**	**00 58 27.5**	**+0.5**
TISN	**Laguna Tiscapa**	**1.84**	**96**	*e*P	**Pn**	**00 58 27.8**	**+0.7**
MGAN	**Managua**	**1.86**	**96**	*e*P	**Pn**	**00 58 27.1**	**-0.2**
MGAN				*e*S	**Sn**	**00 58 57.8**	**+8.1**
TICN	**Ticuantepe**	**1.89**	**99**	*e*P	**Pn**	**00 58 28.2**	**+0.4**
TGUH	**Tegucigalpa,Un**	**1.91**	**26**	*e*Pn	**Pn**	**00 58 30.6**	**+2.6**
TGUH				S	**Sn**	**00 58 49.6**	**-1.2**
TGUH	**Tegucigalpa,Un**	**1.91**	**26**	*e*P	**Pn**	**00 58 29.4**	**+1.4**
WILN	**Americas 2**	**1.92**	**95**	*e*P	**Pn**	**00 58 27.8**	**-0.4**
HUEN		**1.92**	**90**	*e*P	**Pn**	**00 58 28.7**	**+0.5**
APON	**Apoyo**	**2.07**	**101**	*e*P	**Pn**	**00 58 30.6**	**+0.4**
SBLS	**San Blas**	**2.08**	**316**	*e*P	**Pn**	**00 58 28.9**	**-1.4**
RTR	**El Retiro**	**2.13**	**317**	*e*P	**Pn**	**00 58 30.0**	**-1.2**
RBDL	**Robledal**	**2.32**	**320**	*e*P	**Pn**	**00 58 33.0**	**-0.7**
MTO2	**Montecristo 2**	**2.37**	**330**	*e*P	**Pn**	**00 58 34.5**	**+0.1**
BOAB	**BOACO BROADBAN**	**2.42**	**87**	*e*P	**Pn**	**00 58 36.1**	**+1.1**
CONN	**Concepcion**	**2.58**	**107**	*e*P	**Pn**	**00 58 37.3**	**+0.1**
CRZC	**La Cruz**	**2.84**	**119**	*e*P	**Pn**	**00 58 43.0**	**+2.1**
JTS	**JuntasAbangare**	**3.73**	**123**	*e*Pn	**Pn**	**00 58 52.7**	**-0.4**
JTS	**JuntasAbangare**	**3.73**	**123**	*e*P	**Pn**	**00 58 52.6**	**-0.5**
JCR	**Jicaral**	**3.87**	**129**	*e*P	**Pn**	**00 58 53.5**	**-1.5**
CGA2	**Cerro Gallo 2**	**4.28**	**122**	*e*P	**Pn**	**00 58 59.9**	**-1.8**
PRS1	**Puriscal**	**4.42**	**122**	*e*P	**Pn**	**00 59 03.5**	**+0.9**
LAJ	**Bijagual**	**4.65**	**122**	*e*P	**Pn**	**00 59 02.9**	**-2.8**
QCR	**Quepos**	**4.86**	**126**	*e*P	**Pn**	**00 59 08.4**	**-0.2**
URSC	**Urasca**	**4.95**	**120**	*e*P	**Pn**	**00 59 09.4**	**-0.5**
BUS	**Buena Vista**	**5.11**	**122**	*e*P	**Pn**	**00 59 12.4**	**+0.3**
ACR	**Cerro Adams**	**6.11**	**126**	*e*P	**Pn**	**00 59 25.2**	**-0.6**
BRU2	**Volcan**	**6.41**	**123**	*e*P	**Pn**	**00 59 27.0**	**-2.9**
TEIG	**Tepich**	**7.84**	**359**	Pn	**Pn**	**00 59 53.6**	**+4.0**
	comp=Z,1.2nm,0.3s,baz=165,slow=10,SNR=11						
TEIG				LR	LR	01 03 14.0	
	comp=Z,640nm,19.7s,baz=146,slow=42						
TEIG	**Tepich**	**7.84**	**359**	*e*Pn	**Pn**	**00 59 50.9**	**+1.2**
CMIG	**Matias Romero**	**8.06**	**307**	Pn	**Pn**	**00 59 51.4**	**-1.1**
	comp=Z,1.9nm,0.3s,baz=107,slow=8.1,SNR=22						
CMIG				Sn	**Sn**	**01 01 31.1**	**+8.7**
	comp=Z,1.1nm,0.3s,baz=222,slow=21,SNR=3.4						
CMIG	**Matias Romero**	**8.06**	**307**	Pn	**Pn**	**00 59 51.4**	**-1.1**
CMIG				Sn	**Sn**	**01 01 31.1**	**+8.7**
BCIP	**Isla Barro Col**	**8.74**	**110**	*e*Pn	**Pn**	**01 00 03.7**	**+1.6**
ROSC	**El Rosal**	**15.54**	**117**	Pn	**Pn**	**01 01 36.8**	**+2.3**
	comp=Z,0.4nm,0.3s,baz=268,slow=22,SNR=6.4						
ROSC				LR	LR	01 07 50.0	
	comp=Z,109nm,19.2s,baz=2.0,slow=39						
ROSC	**El Rosal**	**15.54**	**117**	*e*Pn	**Pn**	**01 01 34.5**	**+0.1**
SDV	**Santo Domingo**	**17.54**	**100**	*e*Pn	**Pn**	**01 01 59.7**	**-0.1**
	comp=Z,22nm,1.4s						
VBMS	**Vicksburg**	**19.91**	**354**	*e*P	**Pn**	**01 02 25.5**	**-2.8**
	comp=Z,71nm,0.7s						
NATX	**Nacogdoches**	**20.24**	**344**	*e*P	**P**	**01 02 29.1**	**-0.9**
	comp=Z,59nm,1.1s						
JCT	**Junction City**	**21.04**	**331**	⇓P	**P**	**01 02 38.3**	**-0.3**
	baz=21,SNR=12						
JCT	**Junction City**	**21.04**	**331**	*e*P	**P**	**01 02 38.0**	**-0.7**
	comp=Z,22nm,0.8s,mb4.5						
ATAH	**Atahualpa**	**21.64**	**153**	LR	LR	01 10 11.5	
	comp=Z,124nm,20.7s,MS3.3,baz=143,slow=34						
627A	**Terlingua Ranc**	**22.16**	**323**	⇓P	**P**	**01 02 50.9**	**+0.2**
	baz=22,SNR=15						
TXAR	**Lajitas Array**	**22.24**	**322**	P	**P**	**01 02 51.1**	**-0.5**
	comp=Z,9.1nm,0.7s,mb4.3,baz=144,slow=9.6,SNR=113						
TXAR				PcP	PcP	01 06 48.1	+1.1
	comp=Z,0.8nm,0.8s,baz=141,slow=6.1,SNR=3.5						
TXAR				ScP	ScP	01 10 26.9	+5.2
	comp=Z,0.4nm,0.8s,baz=79,slow=9.4,SNR=4.6						
TXAR	**Lajitas Array**	**22.24**	**322**	P	**P**	**01 02 51.1**	**-0.5**
TXAR				PcP	PcP	01 06 48.1	+1.1
TXAR				ScP	ScP	01 10 26.9	+5.2
528A	**Cox Ranch, San**	**22.34**	**325**	⇑P	**P**	**01 02 51.4**	**-1.2**
	baz=22						
MIAR	**Mount Ida**	**22.65**	**348**	*e*P	**P**	**01 02 56.1**	**+0.2**
	comp=Z,60nm,1.0s,mb5.0						
UALR	**University of**	**22.66**	**351**	*e*P	**P**	**01 02 55.1**	**-0.8**
	comp=Z,25nm,0.7s,mb4.8						
626A	**Big Bend Ranch**	**22.68**	**321**	⇑P	**P**	**01 02 55.5**	**-0.7**
	baz=23,SNR=10						
428A	**Kincaid Ranch,**	**22.71**	**326**	⇑P	**P**	**01 02 55.5**	**-1.1**
	baz=23						
JSC	**Jenkinsville**	**22.72**	**15**	*e*P	**P**	**01 02 55.6**	**-1.1**
527A	**Woodward Ranch**	**22.80**	**323**	⇑P	**P**	**01 02 56.3**	**-1.1**
	baz=23						
SWET	**Sewanee**	**22.86**	**5**	*e*P	**P**	**01 02 58.1**	**0.0**
526A	**Mary Lane Ranc**	**23.02**	**322**	⇓P	**P**	**01 02 58.8**	**-1.0**
	baz=23,SNR=8.7						
427A	**Hayter Ranch,**	**23.20**	**325**	⇑P	**P**	**01 03 00.9**	**-0.9**
	baz=23						
328A	**Wristen Ranch,**	**23.29**	**327**	⇓P	**P**	**01 03 01.8**	**-0.8**
	baz=23,SNR=34						
426A	**McDonald Obser**	**23.43**	**324**	⇓P	**P**	**01 03 02.5**	**-1.5**
	baz=23,SNR=6.7						
KMSC	**Kings Mountain**	**23.53**	**14**	⇓P	**P**	**01 03 03.9**	**-0.9**
	baz=24						
TKL	**Tuckaleechee C**	**23.55**	**9**	P	**P**	**01 03 04.7**	**-0.3**
	comp=Z,19nm,1.0s,mb4.5,baz=183,slow=12,SNR=16						
TKL				LR	LR	01 14 23.7	
	comp=Z,186nm,18.1s,MS3.6,baz=1.0,slow=43						
TKL	**Tuckaleechee C**	**23.55**	**9**	*e*P	**P**	**01 03 03.7**	**-1.3**
326A	**Caldwell Ranch**	**23.88**	**325**	⇓P	**P**	**01 03 07.5**	**-0.7**
	baz=24,SNR=7.8						
227A	**Bennet, Jal**	**24.03**	**327**	⇓P	**P**	**01 03 08.7**	**-0.8**
	baz=24						
425A	**Indio Mountain**	**24.07**	**322**	⇑P	**P**	**01 03 08.7**	**-1.2**
	baz=24						
WMOK	**Wichita Mounta**	**24.30**	**338**	*e*P	**P**	**01 03 11.2**	**-0.8**
	comp=Z,37nm,1.3s,mb4.7						
TUL1	**Tulsa**	**24.47**	**345**	⇓P	**P**	**01 03 12.7**	**-0.7**
	baz=24,SNR=6.3						
325A	**Bean Ranch, Si**	**24.49**	**323**	⇑P	**P**	**01 03 12.9**	**-0.8**
	baz=24						
226A	**Malaga, Loving**	**24.51**	**326**	⇓P	**P**	**01 03 13.1**	**-0.8**
	baz=24						
CLNB	**Carlsbad**	**24.54**	**326**	*e*P	**P**	**01 03 14.3**	**+0.1**
	comp=Z,5.7nm,1.1s,mb4.0						
127A	**Arkansas Junct**	**24.59**	**328**	⇓P	**P**	**01 03 13.5**	**-1.1**
	baz=25,SNR=7.4						
324A	**Moseley Ranch,**	**24.84**	**323**	⇓P	**P**	**01 03 15.8**	**-1.2**
	baz=25,SNR=13						
126A	**Clayton Basin,**	**24.91**	**327**	⇑P	**P**	**01 03 16.8**	**-0.8**
	baz=25						
225A	**Deer Hill, Car**	**24.95**	**325**	⇑P	**P**	**01 03 17.5**	**-0.4**
	baz=25,SNR=9.9						
Z27A	**Tatum**	**25.02**	**329**	⇑P	**P**	**01 03 17.4**	**-1.1**
	baz=25,SNR=17						
125A	**Gardner Draw,**	**25.27**	**326**	⇑P	**P**	**01 03 20.8**	**0.0**
	baz=25,SNR=14						
SIUC	**Southern Illin**	**25.29**	**358**	*e*P	**P**	**01 03 20.8**	**-0.1**
	comp=Z,299nm,2.8s,mb5.3						
224A	**Cornudas Mount**	**25.32**	**324**	⇑P	**P**	**01 03 21.0**	**-0.3**
	baz=25,SNR=10						
MSTX	**Muleshoe**	**25.33**	**331**	⇑P	**P**	**01 03 20.3**	**-1.1**
	baz=25,SNR=19						
Z26A	**Caprock**	**25.38**	**328**	⇑P	**P**	**01 03 21.4**	**-0.3**
	baz=25,SNR=6.9						
Y27A	**Causey**	**25.45**	**330**	⇓P	**P**	**01 03 21.4**	**-1.0**
	baz=26,SNR=5.9						
AMTX	**Amarillo**	**25.59**	**334**	⇓P	**P**	**01 03 22.7**	**-0.9**
	baz=26,SNR=17						
AMTX	**Amarillo**	**25.59**	**334**	*e*P	**P**	**01 03 22.9**	**-0.8**
	comp=Z,43nm,1.0s,mb4.9						
124A	**Stringfield Ra**	**25.74**	**325**	⇓P	**P**	**01 03 25.3**	**+0.2**
	baz=26,SNR=11						
CCM	**Cathedral Cave**	**25.76**	**354**	*e*P	**P**	**01 03 25.2**	**0.0**
	comp=Z,18nm,0.8s,mb4.7						
Z25A	**Roswell**	**25.77**	**327**	⇓P	**P**	**01 03 25.4**	**0.0**
	baz=26,SNR=14						
Y26A	**Elida**	**25.81**	**329**	⇓P	**P**	**01 03 25.7**	**0.0**
	baz=26						
WCI	**Wyandotte Cave**	**25.84**	**3**	*e*P	**P**	**01 03 24.8**	**-1.0**
	comp=Z,100nm,2.0s,mb5.0						
X27A	**F and S Farms,**	**26.04**	**331**	⇑P	**P**	**01 03 27.0**	**-0.8**
	baz=26,SNR=7.2						
Z24A	**Sheeppen Canyo**	**26.16**	**326**	⇓P	**P**	**01 03 29.1**	**+0.2**
	baz=26,SNR=11						
Y25A	**Mesa, Roswell**	**26.26**	**328**	⇑P	**P**	**01 03 29.8**	**0.0**
	baz=26,SNR=16						
X26A	**CR and CF Fran**	**26.30**	**330**	⇓P	**P**	**01 03 30.0**	**-0.1**
	baz=26						
W27A	**Bowe Ranch, En**	**26.36**	**332**	⇓P	**P**	**01 03 30.7**	**0.0**
	baz=26,SNR=25						
Z23A	**Rita Site, Whi**	**26.60**	**324**	⇑P	**P**	**01 03 33.7**	**+0.9**
	baz=27,SNR=5.0						
Y24A	**Capitan**	**26.65**	**327**	⇓P	**P**	**01 03 34.2**	**+0.9**
	baz=27,SNR=17						
W26A	**Owens Ranch, T**	**26.71**	**331**	⇑P	**P**	**01 03 34.0**	**+0.1**
	baz=27						
Y23A	**Lovelace Mesa,**	**26.99**	**326**	⇓P	**P**	**01 03 37.5**	**+1.2**
	baz=27,SNR=15						
121A	**Cookes Peak, D**	**27.00**	**321**	⇑P	**P**	**01 03 36.8**	**+0.4**
	baz=27,SNR=7.2						
Z22A	**Elephant Butte**	**27.01**	**323**	⇑P	**P**	**01 03 37.4**	**+0.8**
	baz=27						
W25A	**X Bar L Ranch,**	**27.16**	**330**	⇑P	**P**	**01 03 38.5**	**+0.7**
	baz=27,SNR=14						
V26A	**Tequesquite Ra**	**27.30**	**331**	⇓P	**P**	**01 03 39.5**	**+0.4**
	baz=27						
Z21A	**St. Cloud Mine**	**27.47**	**323**	⇓P	**P**	**01 03 41.8**	**+1.2**
	baz=28						
BNM	**Barren Site**	**27.47**	**325**	*e*P	**P**	**01 03 40.9**	**+0.2**
	comp=Z,9.3nm,1.1s,mb4.2						
Y22A	**Socorro**	**27.51**	**324**	⇑P	**P**	**01 03 41.8**	**+0.8**
	baz=28,SNR=7.4						
219A	**White Tail Can**	**27.57**	**319**	⇓P	**P**	**01 03 42.8**	**+1.2**
	baz=28						
W24A	**Lazy 6 Ranch,**	**27.63**	**328**	⇓P	**P**	**01 03 42.5**	**+0.5**
	baz=28,SNR=6.4						
LENM	**Lemitar**	**27.68**	**325**	*e*P	**P**	**01 03 43.1**	**+0.5**
	comp=Z,6.4nm,0.8s,mb4.3						
318A	**Bisbee**	**27.69**	**317**	⇓P	**P**	**01 03 42.8**	**+0.1**
	baz=28						
KSU1	**Kansas State U**	**27.70**	**346**	*e*P	**P**	**01 03 41.8**	**-0.8**
	comp=Z,15nm,0.8s,mb4.7						
V25A	**Rancho No Teng**	**27.73**	**330**	⇑P	**P**	**01 03 43.4**	**+0.5**
	baz=28						
U26A	**Atchley Ranch,**	**27.77**	**332**	⇑P	**P**	**01 03 43.7**	**+0.4**
	baz=28,SNR=11						
Z20A	**Nine Sixteen R**	**27.89**	**321**	⇑P	**P**	**01 03 45.2**	**+0.8**
	baz=28						
LAZ	**Ladron**	**27.95**	**325**	*e*P	**P**	**01 03 45.0**	**+0.1**
	comp=Z,1.7nm,0.8s,mb3.7						
V24A	**Rampart Ranch,**	**27.96**	**329**	⇑P	**P**	**01 03 45.7**	**+0.7**
	baz=28,SNR=7.6						
Y21A	**Point of Rocks**	**27.97**	**324**	⇑P	**P**	**01 03 46.1**	**+1.0**
	baz=28,SNR=8.1						
W23A	**Werner Place,**	**27.97**	**327**	⇑P	**P**	**01 03 46.1**	**+0.9**
	baz=28,SNR=10						
ANMO	**Albuquerque**	**27.98**	**327**	P	**P**	**01 03 45.6**	**+0.4**
	comp=Z,1.9nm,0.8s,mb3.8,baz=250,slow=24,SNR=8.2						
ANMO	**Albuquerque**	**27.98**	**327**	P	**P**	**01 03 45.6**	**+0.4**
218A	**Dragoon**	**28.06**	**318**	⇑P	**P**	**01 03 46.7**	**+0.7**
	baz=28						
U25A	**Circle Dot Ran**	**28.08**	**331**	⇑P	**P**	**01 03 47.0**	**+0.9**
	baz=28,SNR=5.9						
Y20A	**Horse Springs,**	**28.31**	**323**	⇑P	**P**	**01 03 48.9**	**+0.8**
	baz=28						
CBKS	**Cedar Bluff**	**28.31**	**341**	⇑P	**P**	**01 03 47.9**	**-0.2**
	baz=28						
CBKS	**Cedar Bluff**	**28.31**	**341**	*e*P	**P**	**01 03 47.7**	**-0.4**
	comp=Z,212nm,2.8s,mb5.3						
X21A	**Alamocita Cree**	**28.34**	**324**	⇑P	**P**	**01 03 49.4**	**+0.9**
	baz=28						
V23A	**Ortiz Mt. (NFS**	**28.44**	**328**	⇓P	**P**	**01 03 51.0**	**+1.7**
	baz=28						
T25A	**Trinidad**	**28.69**	**332**	⇑P	**P**	**01 03 52.2**	**+0.8**
	baz=29						
TUC	**Tucson**	**28.76**	**317**	*e*P	**P**	**01 03 51.5**	**-0.7**
	comp=Z,4.6nm,1.1s,mb4.1						
U23A	**El Rito**	**28.90**	**329**	⇑P	**P**	**01 03 53.5**	**+0.2**
	baz=29,SNR=8.1						
T24A	**Torres, Weston**	**28.93**	**331**	⇑P	**P**	**01 03 54.9**	**+1.3**
	baz=29						
V22A	**San Miguel Ran**	**28.95**	**327**	⇓P	**P**	**01 03 54.9**	**+1.1**
	baz=29						
S25A	**Robets Cordova**	**29.13**	**333**	⇑P	**P**	**01 03 56.0**	**+0.7**
	baz=29						
R25A	**Fountain Ranch**	**29.46**	**334**	⇑P	**P**	**01 03 59.1**	**+0.8**
	baz=30						
S24A	**Houchin Ranch,**	**29.46**	**332**	⇓P	**P**	**01 03 59.8**	**+1.4**
	baz=30						
SDCO	**Great Sand Dun**	**29.68**	**331**	⇓P	**P**	**01 04 00.8**	**+0.5**
	baz=30,SNR=7.7						
R24A	**Sanders Place,**	**29.90**	**333**	⇑P	**P**	**01 04 03.0**	**+0.8**
	baz=30						
Q25A	**Bedland, Calha**	**30.09**	**334**	⇓P	**P**	**01 04 04.2**	**+0.3**
	baz=30						
S22A	**4UR Ranch, Cre**	**30.32**	**330**	⇑P	**P**	**01 04 06.6**	**+0.6**
	baz=30						
S21A	**Coal Bank Pass**	**30.74**	**329**	⇓P	**P**	**01 04 10.2**	**+0.6**
	baz=31						
MVCO	**Mesa Verde**	**30.76**	**327**	⇓P	**P**	**01 04 10.8**	**+1.0**
	baz=31						
MVCO	**Mesa Verde**	**30.76**	**327**	*e*P	**P**	**01 04 09.9**	**0.0**
	comp=Z,46nm,2.2s,mb4.9						
T19A	**Beclabito**	**30.77**	**326**	⇓P	**P**	**01 04 10.7**	**+0.8**
	baz=31						
V17A	**Tonalea, Kykot**	**30.93**	**322**	⇑P	**P**	**01 04 11.5**	**+0.2**
	baz=31						
S20A	**Disappointment**	**31.16**	**328**	⇑P	**P**	**01 04 13.9**	**+0.6**
	baz=31						
P23A	**Jefferson**	**31.16**	**333**	⇑P	**P**	**01 04 13.4**	**+0.1**
	baz=31						
WUAZ	**Wupatki**	**31.20**	**322**	⇓P	**P**	**01 04 14.2**	**+0.4**
	baz=31						
Q22A	**Crested Butte,**	**31.24**	**331**	⇓P	**P**	**01 04 14.7**	**+0.7**
	baz=31						
ISCO	**Idaho Springs**	**31.41**	**334**	⇑P	**P**	**01 04 16.3**	**+0.8**
	baz=31						
ISCO	**Idaho Springs**	**31.41**	**334**	*e*P	**P**	**01 04 14.7**	**-0.8**
	comp=Z,117nm,3.0s						
T18A	**Mexican Hat**	**31.46**	**325**	⇑P	**P**	**01 04 16.4**	**+0.5**
	baz=32						
U16A	**Tuba City**	**31.48**	**323**	⇓P	**P**	**01 04 16.7**	**+0.5**
	baz=32						
S19A	**Harvey Farm, M**	**31.50**	**327**	⇓P	**P**	**01 04 16.2**	**-0.1**
	baz=32						
SMCO	**Snowmass**	**31.52**	**331**	*e*P	**P**	**01 04 16.0**	**-0.5**
	comp=Z,122nm,2.8s,mb5.2						
P22A	**Eagle**	**31.75**	**332**	⇑P	**P**	**01 04 19.6**	**+1.0**
	baz=32						
PV04	**Paradox Valley**	**31.86**	**328**	*e*P	**P**	**01 04 19.8**	**+0.3**
O23A	**Lake Granby, G**	**31.88**	**334**	⇓P	**P**	**01 04 20.6**	**+0.9**
	baz=32						
S18A	**Hurst Farm, Bl**	**31.92**	**326**	⇓P	**P**	**01 04 20.4**	**+0.3**
	baz=32,SNR=6.7						
R19A	**Curley Farm, L**	**31.97**	**328**	⇑P	**P**	**01 04 21.5**	**+1.0**
	baz=32						
O22A	**Kremm

L16A	**Fish Haven**	35.86	330	⇓P		P	01 04 54.2 0.0
	baz=36						
I20A	**Worland**	35.89	335	⇑P		P	01 04 54.8 +0.4
	baz=36						
J18A	**Kendall Valley**	36.11	332	⇓P		P	01 04 56.0 -0.4
	baz=36						
AHID	**Auburn Hatcher**	36.27	331	*e*P		P	01 04 58.0 +0.3
	comp=Z,9.0nm,0.6s,mb4.9						
H20A	**Greybull**	36.28	336	⇑P		P	01 04 57.4 -0.3
	baz=36						
I19A	**Meeteetse**	36.32	334	⇓P		P	01 04 58.0 -0.1
	baz=36						
L15A	**Malad City**	36.33	329	⇓P		P	01 04 58.1 -0.1
	baz=36						
I18A	**Diamond G Ranc**	36.41	333	⇑P		P	01 04 59.2 +0.4
	baz=36						
J17A	**Brown Place, J**	36.55	332	⇑P		P	01 05 00.7 +0.6
	baz=37						
G21A	**Lodge Grass**	36.59	337	⇓P		P	01 05 00.7 +0.3
	baz=37						
REDW	**Red Top Meadow**	36.61	332	*e*P		P	01 05 00.3 -0.3
	comp=Z,6.8nm,0.6s,mb4.7						
SNOW	**Snow King Moun**	36.65	332	*e*P		P	01 05 01.2 +0.4
	comp=Z,15nm,0.6s,mb5.0						
TPAW	**Teton Pass**	36.76	332	*e*P		P	01 05 01.9 +0.1
	comp=Z,7.9nm,0.9s,mb4.5						
L14A	**Malta**	36.79	328	⇑P		P	01 05 01.6 -0.5
	baz=37						
RRI2	**Red Ridge**	36.82	331	*e*P		P	01 05 02.8 +0.4
	comp=Z,146nm,2.8s,mb5.3						
H19A	**Powell**	36.84	335	⇓P		P	01 05 02.0 -0.5
	baz=37						
MOOW	**Moose Ponds**	36.86	332	*e*P		P	01 05 02.5 -0.3
	comp=Z,80nm,2.8s,mb5.1						
J16A	**Bone**	36.90	331	⇓P		P	01 05 02.6 -0.4
	baz=37						
K15A	**Arbon**	36.90	330	⇑P		P	01 05 02.9 -0.2
	baz=37						
I17A	**Pilgrim Ck.**	36.92	333	⇑P		P	01 05 03.3 +0.1
	baz=37						
G20A	**Bridger**	36.98	336	⇓P		P	01 05 03.6 -0.1
	baz=37						
E23A	**Ismay**	37.01	340	⇓P		P	01 05 03.9 0.0
	baz=37						
F21A	**Absaloka Mine,**	37.07	338	⇑P		P	01 05 04.2 -0.2
	baz=37						
IMW	**Indian Meadow**	37.07	332	*e*P		P	01 05 04.5 +0.1
	comp=Z,8.1nm,1.3s,mb4.4						
IMW				*e*PcP		PcP	01 07 25.6 +1.0
FLWY	**Flagg Ranch**	37.10	333	*e*P		P	01 05 04.5 -0.2
	comp=Z,12nm,1.0s,mb4.7						
H18A	**Shoshone NF, C**	37.12	334	⇓P		P	01 05 03.9 -1.0
	baz=37,SNR=11						
E22A	**Miles City**	37.18	340	⇓P		P	01 05 04.8 -0.5
	baz=37						
D24A	**Glendive**	37.25	342	⇑P		P	01 05 05.9 0.0
	baz=37						
H17A	**Grant Village**	37.30	333	⇓P		P	01 05 06.7 +0.4
	baz=37						
RLMT	**Red Lodge**	37.32	335	⇓P		P	01 05 06.6 0.0
	baz=37						
RLMT	**Red Lodge**	37.32	335	*e*P		P	01 05 06.7 +0.1
	comp=Z,147nm,2.8s,mb5.3						
NVAR	**Mina Array Bea**	37.35	319	P		P	01 05 07.3 +0.4
	comp=Z,1.9nm,0.8s,mb4.0,baz=136,slow=7.2,SNR=9.8						
NVAR				PcP		PcP	01 07 25.4 -0.1
	comp=Z,1.9nm,0.9s,baz=127,slow=4.4,SNR=6.8						
NVAR				ScP		ScP	01 11 15.3 +5.4
	comp=Z,0.7nm,0.7s,baz=128,slow=5.6,SNR=5.8						
NVAR				LR		LR	01 22 42.2
	comp=Z,153nm,19.0s,MS3.8,baz=297,slow=40						
NVAR	**Mina Array Bea**	37.35	319	P		P	01 05 07.3 +0.4
NVAR				PcP		PcP	01 07 25.4 -0.1
NVAR				ScP		ScP	01 11 15.3 +5.4
NVAR				LR		LR	01 22 42.2
J15A	**Blackfoot**	37.39	330	⇑P		P	01 05 07.0 -0.2
	baz=37						
F20A	**Billings**	37.43	337	⇑P		P	01 05 07.7 +0.2
	baz=38						
LAO	**LASA Array**	37.49	339	⇓P		P	01 05 07.4 -0.5
	baz=38						
D23A	**Lindsay**	37.58	341	⇓P		P	01 05 08.8 +0.1
	baz=38						
G18A	**Lazy EL Ranch,**	37.60	335	⇓P		P	01 05 08.3 -0.7
	baz=38,SNR=5.4						
C24A	**Savage**	37.65	342	⇓P		P	01 05 09.3 0.0
	baz=38						
E21A	**Keefer Ranch,**	37.66	338	⇓P		P	01 05 09.4 -0.1
	baz=38						
F19A	**Roth Farm, Mol**	37.79	336	⇑P		P	01 05 10.1 -0.5
	baz=38						
H16A	**Russell Place,**	37.84	333	⇓P		P	01 05 10.8 -0.1
	baz=38						
J14A	**Carey**	37.86	329	⇓P		P	01 05 11.3 +0.1
	baz=38						
D22A	**Cohagen**	37.87	340	⇑P		P	01 05 11.0 -0.2
	baz=38,SNR=7.7						
E20A	**Meyer Farm, Mu**	38.02	337	⇓P		P	01 05 12.2 -0.3
	baz=38,SNR=10						
D21A	**La Casta Ranch**	38.08	339	⇓P		P	01 05 12.4 -0.6
	baz=38						
G17A	**Pierce Place,**	38.10	334	⇑P		P	01 05 13.4 +0.3
	baz=38,SNR=5.8						
C23A	**Lambert**	38.12	341	⇑P		P	01 05 12.9 -0.4
	baz=38,SNR=5.6						
F18A	**Big Timber**	38.14	335	⇑P		P	01 05 13.3 -0.2
	baz=38						
E19A	**Rath Farm, Rou**	38.23	337	⇓P		P	01 05 14.3 0.0
	baz=38						
C22A	**Vida**	38.30	341	⇓P		P	01 05 14.6 -0.2
	baz=38						
ULM	**Lac du Bonnet**	38.33	352	P		P	01 05 12.9 -2.2
	comp=Z,25nm,0.7s,mb5.1,baz=169,slow=8.7,SNR=35						
ULM				LR		LR	01 21 17.9
	comp=Z,203nm,18.8s,MS4.0,baz=277,slow=37						
ULM	**Lac du Bonnet**	38.33	352	P		P	01 05 12.9 -2.2
ULM				LR		LR	01 21 17.9
H15A	**Lima**	38.41	332	⇑P		P	01 05 16.1 +0.3
	baz=38						
DGMT	**Dagmar**	38.42	343	⇑P		P	01 05 15.3 -0.6
	baz=38,SNR=7.6						
HLID	**Hailey**	38.48	329	⇓P		P	01 05 15.9 -0.6
	baz=38						
HLID	**Hailey**	38.48	329	*e*P		P	01 05 16.0 -0.4
	comp=Z,50nm,2.9s,mb4.7						
D20A	**Manuel Ranch,**	38.51	338	⇓P		P	01 05 16.3 -0.3
	baz=38,SNR=9.1						
F17A	**Fitzpatrick Pl**	38.53	335	⇑P		P	01 05 16.5 -0.2
	baz=39						
I13A	**Wildhorse Cree**	38.59	330	⇑P		P	01 05 17.1 -0.2
	baz=39						
BOZ	**Bozeman (W)**	38.74	333	⇑P		P	01 05 18.8 +0.2
	baz=39						
BOZ	**Bozeman (W)**	38.74	333	*e*P		P	01 05 18.5 -0.1
	comp=Z,50nm,2.2s,mb4.9						
BOZ				*e*PcP		PcP	01 07 31.9 +2.2
H14A	**Leadore**	38.74	331	⇑P		P	01 05 18.5 -0.1
	baz=39,SNR=7.0						
G15A	**Dillon**	38.75	332	⇓P		P	01 05 18.6 0.0
	baz=39						
E18A	**Harlowton**	38.76	336	⇑P		P	01 05 18.6 -0.1
	baz=39						
C21A	**Desert Coulee**	38.77	340	⇑P		P	01 05 18.8 +0.1
	baz=39						
A24A	**Westby**	38.78	343	⇑P		P	01 05 18.9 +0.1
	baz=39						
B22A	**Reddig Ranch S**	38.82	341	⇓P		P	01 05 19.1 0.0
	baz=39						
F16A	**Kennard Place,**	38.85	334	⇑P		P	01 05 20.0 +0.6
	baz=39						
D19A	**Cripps Ranch,**	38.85	337	⇑P		P	01 05 19.1 -0.4
	baz=39,SNR=8.5						
DLMT	**Dillon**	38.95	332	*e*P		P	01 05 20.1 -0.2
	comp=Z,7.0nm,1.0s,mb4.3						
I12A	**Atlanta**	39.02	329	⇑P		P	01 05 20.9 0.0
	baz=39						
E17A	**Martinsdale**	39.06	335	⇓P		P	01 05 21.8 +0.6
	baz=39						
MFID	**Camas Ranch**	39.11	328	*e*P		P	01 05 22.9 +1.2
	comp=Z,9.2nm,1.5s,mb4.3						
MFID				*e*PcP		PcP	01 07 32.8 +1.9
H13A	**Challis**	39.13	330	⇑P		P	01 05 21.7 -0.2
	baz=39,SNR=7.2						
D18A	**Linhart Farms,**	39.23	337	⇓P		P	01 05 22.8 +0.1
	baz=39						
LRM	**Limekiln Ridge**	39.24	333	*e*P		P	01 05 22.2 -0.5
F15A	**Butte**	39.27	333	⇓P		P	01 05 23.3 +0.3
	baz=39						
C19A	**Slack Wire Ran**	39.39	338	⇓P		P	01 05 23.2 -0.7
	baz=39,SNR=6.1						
A22A	**Carney Farms,**	39.41	342	⇓P		P	01 05 24.0 0.0
	baz=39						
H12A	**Diamond D Ranc**	39.42	330	⇑P		P	01 05 24.4 +0.2
	baz=39						
E16A	**East Helena**	39.46	334	⇑P		P	01 05 25.1 +0.6
	baz=40						
G13A	**Cobalt**	39.51	331	⇓P		P	01 05 25.2 +0.2
	baz=40						
D17A	**Six Diamond Ra**	39.54	336	⇓P		P	01 05 25.1 -0.1
	baz=40						
A21A	**Bergtoll Ranch**	39.72	341	⇑P		P	01 05 27.3 +0.6
	baz=40						
E15A	**Deer Lodge**	39.79	333	⇑P		P	01 05 27.5 +0.2
	baz=40						
D16A	**Dana Ranch, Ca**	39.80	335	⇑P		P	01 05 27.5 +0.1
	baz=40						
EGMT	**Eagleton**	39.89	337	⇑P		P	01 05 28.4 +0.3
	baz=40						
EGMT	**Eagleton**	39.89	337	*e*P		P	01 05 28.2 +0.1
	comp=Z,16nm,0.9s,mb4.8						
OHCM	**Honcut**	39.90	318	*e*PcP		PcP	01 07 38.8 +5.2
A20A	**Cobblestone Ra**	39.96	340	⇑P		P	01 05 29.2 +0.6
	baz=40						
C17A	**Wharram Farm,**	39.96	336	⇑P		P	01 05 28.6 -0.1
	baz=40						
G12A	**Big Creek, Yel**	40.07	330	⇓P		P	01 05 30.3 +0.7
	baz=40						
F13A	**Darby**	40.07	331	⇑P		P	01 05 29.2 -0.4
	baz=40						
E14A	**Clinton**	40.16	333	⇑P		P	01 05 30.1 -0.3
	baz=40						
D15A	**Lincoln**	40.22	334	⇑P		P	01 05 30.7 -0.1
	baz=40						
A19A	**Kilmorth Far**	40.28	339	⇑P		P	01 05 31.3 -0.1
	baz=40						
F12A	**Elk City**	40.49	331	⇓P		P	01 05 33.2 +0.1
	baz=40,SNR=6.3						
C16A	**Fuhringer Ranc**	40.49	335	⇓P		P	01 05 33.0 -0.1
	baz=40						
E13A	**Victor**	40.49	332	⇑P		P	01 05 32.8 -0.3
	baz=40						
B17A	**L&G Farms, Che**	40.51	337	⇓P		P	01 05 32.9 -0.4
	baz=40						
A18A	**Metzger Ranch,**	40.67	338	⇓P		P	01 05 34.1 -0.5
	baz=41						
MSO	**Missoula**	40.67	333	⇓P		P	01 05 34.2 -0.4
	baz=41						
MSO	**Missoula**	40.67	333	*e*P		P	01 05 34.4 -0.2
	comp=Z,100nm,3.0s						
C15A	**Salmond Ranch,**	40.83	335	⇓P		P	01 05 35.9 0.0
	baz=41						
A17A	**Triple J Farms**	41.01	337	⇓P		P	01 05 36.6 -0.7
	baz=41,SNR=9.1						
D13A	**Huson**	41.11	333	⇑P		P	01 05 38.0 -0.2
	baz=41						
E12A	**Beaver Dam Sad**	41.12	331	⇓P		P	01 05 38.2 -0.1
	baz=41						
B15A	**Bradely Ranch,**	41.23	335	⇓P		P	01 05 39.8 +0.6
	baz=41						
D12A	**Red Ives Fores**	41.48	332	⇑P		P	01 05 41.5 +0.2
	baz=42						
A15A	**Johnson Ranch,**	41.83	336	⇑P		P	01 05 44.2 +0.1
	baz=42						
A14A	**Double T Ranch**	42.10	335	⇓P		P	01 05 46.5 +0.2
	baz=42						
A13A	**Flathead Natio**	42.49	334	⇑P		P	01 05 49.4 0.0
	baz=42						
BMW	**Boistfort Moun**	45.09	326	*e*PcP		PcP	01 07 56.9 +6.3
SCHQ	**Schefferville**	45.58	17	P		P	01 06 12.4 -1.7
	comp=Z,13nm,0.7s,mb4.9,baz=213,slow=7.1,SNR=8.2						
SCHQ	**Schefferville**	45.58	17	P		P	01 06 12.4 -1.7
CPUP	**Villa Florida**	48.73	142	P		P	01 06 40.0 +0.9
	comp=Z,1.2nm,0.6s,mb4.1,baz=332,slow=7.4,SNR=6.7						
CPUP				LR		LR	01 28 31.7
	comp=Z,110nm,21.1s,MS3.8,baz=183,slow=38						
CPUP	**Villa Florida**	48.73	142	P		P	01 06 40.0 +0.9
CPUP				LR		LR	01 28 31.6
FRB	**Frobisher Bay**	53.16	11	P		P	01 07 09.1 -2.7
	comp=Z,16nm,0.7s,mb5.1,baz=205,slow=9.7,SNR=5.4						
FRB	**Frobisher Bay**	53.16	11	P		P	01 07 09.1 -2.7
YKA	**Yellowknife Ar**	53.54	345	P		P	01 07 12.9 -1.8
	comp=Z,4.7nm,0.8s,mb4.5,baz=139,slow=7.7,SNR=19						
YKA				PcP		PcP	01 08 19.0 -2.1
	comp=Z,1.2nm,0.7s,baz=142,slow=3.8,SNR=5.4						
YKA				LR		LR	01 29 53.2
	comp=Z,16nm,21.3s,MS3.0,baz=60,slow=36						
YKA	**Yellowknife Ar**	53.54	345	P		P	01 07 12.9 -1.8
YKA				PcP		PcP	01 08 19.0 -2.0
YKA				LR		LR	01 29 53.2
DLBC	**Dease Lake**	55.72	335	P		P	01 07 29.4 -1.1
	comp=Z,4.9nm,0.6s,mb4.7,baz=137,slow=16,SNR=5.9						
DLBC	**Dease Lake**	55.72	335	P		P	01 07 29.4 -1.1
INK	**Inuvik**	63.11	343	P		P	01 08 19.2 -2.2
	comp=Z,4.6nm,0.9s,mb4.6,baz=113,slow=9.4,SNR=11						
INK	**Inuvik**	63.11	343	P		P	01 08 19.2 -2.2
ILAR	**Eielson Array**	65.85	336	P		P	01 08 37.5 -1.9
	comp=Z,5.0nm,1.2s,mb4.4,baz=122,slow=4.3,SNR=16						
ILAR				LR		LR	01 43 45.8
	comp=Z,168nm,19.7s,MS4.2,baz=276,slow=42						
ILAR	**Eielson Array**	65.85	336	P		P	01 08 37.5 -1.9
ILAR				LR		LR	01 43 45.8
EKA	**Eskdalemuir Ar**	77.11	36	P		P	01 09 44.8 -2.6
	comp=Z,2.1nm,0.9s,mb4.1,baz=151,slow=5.3,SNR=3.6						
EKA	**Eskdalemuir Ar**	77.11	36	P		P	01 09 44.8 -2.6
ESDC	**Sonseca Array**	77.79	52	P		P	01 09 49.7 -1.8
	comp=Z,0.1nm,0.4s,baz=282,slow=5.9,SNR=4.3						
ESDC	**Sonseca Array**	77.79	52	P		P	01 09 49.7 -1.8
DBIC	**Dimbokro**	82.06	85	LR		LR	01 47 27.5
	comp=Z,33nm,18.3s,MS3.7,baz=62,slow=36						
ARCES	**ARCESS Array B**	86.51	19	LR		LR	01 48 08.5
	comp=Z,81nm,18.2s,MS4.2,baz=182,slow=35						
TORD	**Torodi Ar. Bea**	87.09	77	P		P	01 10 39.4 -1.1
	comp=Z,0.2nm,0.7s,mb3.5,baz=297,slow=6.3,SNR=2.1						
TORD	**Torodi Ar. Bea**	87.09	77	P		P	01 10 39.4 -1.1
GERES	**GERESS Array B**	88.46	40	P		P	01 10 45.8 -0.6
	comp=Z,0.4nm,0.7s,mb3.7,baz=277,slow=9.8,SNR=2.7						
GERES	**GERESS Array B**	88.46	40	P		P	01 10 45.8 -0.6
KEST	**Kesra**	88.86	54	LR		LR	01 47 19.9
	comp=Z,18nm,19.4s,MS3.5,baz=274,slow=34						
CN2	**Changchun**	116.30	333	*e*PKP		PKPdf	01 16 34.8 -2.9
CN2				PP		PP	01 17 44.8 +2.0
BJI	**Beijing**	123.20	338	PKP		PKPdf	01 16 42.5 -8.6
WMQ	**Urumqi**	123.98	4	PKP		PKPdf	01 16 49.9 -2.6
WMQ				LR		LR	
	comp=N,47nm,15.5s						
WMQ				LR		LR	
	comp=E,15nm,23.2s						
WMQ				LR		LR	
	comp=Z,59nm,18.3s,MS4.3						
HHC	**Hu-ho-hao-te**	124.03	342	*e*PKP		PKPdf	01 16 51.5 -1.2
HHC				PP		PP	01 18 39.4 +3.8
HHC				PKS			01 20 26.4
HHC				SKKS		SKKSac	01 25 22.5 -10
HHC				AMB		AMB	
	comp=Z,130nm,7.1s						
HHC				LR		LR	
	comp=Z,200nm,23.8s,MS4.7						
LZH	**Lanzhou**	130.53	347	*e*PKP		PKPdf	01 17 01.0 -4.2
CD2	**Chengdu**	135.51	345	PKP		PKPdf	01 17 11.6 -3.1
CD2				PP		PP	01 19 52.8 +2.5
CD2				PKS			01 20 46.6
CD2				SKS		SKSdf	01 24 11.0 -12
CD2				SKKS		SKKSac	01 26 33.4 -11
CD2				SS		SS	01 37 38.8 -4.7
CD2				AMB		AMB	
	comp=Z,170nm,4.8s						
CD2				LR		LR	
	comp=Z,180nm,6.5s						
WRA	**Warramunga Ar**	138.59	254	PKP		PKPdf	01 17 22.1 +1.5
	comp=Z,0.3nm,0.5s,baz=93,slow=2.4,SNR=4.9						
WRA	**Warramunga Ar**	138.59	254	PKP		PKPdf	01 17 22.1 +1.5
ASAR	**Alice Springs**	138.60	248	PKP		PKPdf	01 17 21.2 +0.6
	comp=Z,0.9nm,0.7s,baz=106,slow=2.0,SNR=9.2						
ASAR	**Alice Springs**	138.60	248	PKP		PKPdf	01 17 21.2 +0.6
GYA	**Guiyang**	138.84	340	Pdif		Pdif	01 14 29.0 -2.8
GYA				PKP		PKPdf	01 17 18.3 -2.7
GYA				PP		PP	01 20 13.8 +2.5
GYA				PKS			01 20 52.9
GYA				SKKS		SKKSac	01 26 56.8 -7.3
GYA				SS		SS	01 38 20.0 -3.4
GYA				AMB		AMB	
	comp=Z,120nm,7.9s						
GYA				LR		LR	
	comp=N,120nm,20.5s,MS4.7						
GYA				LR		LR	
	comp=E,110nm,21.7s,MS4.7						
GYA				LR		LR	
	comp=Z,130nm,20.0s,MS4.7						
KMI	**Kunming**	141.28	344	PKP		PKPdf	01 17 24.6 -0.9
QIZ	**Qiongzhong**	144.14	330	PKP		PKPdf	01 17 28.0 -2.7
QIZ				pPKP		pPKPdf	01 17 45.1 +2.2
QIZ				PP		PP	01 20 42.4 -1.5
QIZ				SS		SS	01 39 24.1 -1.6
QIZ				AMB		AMB	
	comp=Z,170nm,4.8s						
CMAR	**Chiang Mai Arr**	148.61	347	PKPbc		PKPbc	01 17 38.9 -3.1
	comp=Z,3.3nm,0.6s,baz=315,slow=2.6,SNR=15						
CMAR	**Chiang Mai Arr**	148.61	347	PKPbc		PKPbc	01 17 38.9 -3.1

*ISCJB **18** 01:09:16.5±0.4, 8.˚68S±0.˚07×117.˚56E±0.˚04, h167km±4km, mb3.9/7, Error ellipse: s-maj=12.1km s-min=6.7km az=9.4*
*NEIC **18** 01:09:17.8±1.9, 8.˚69S×117.˚54E, h164km±18km, mb3.9/1, Error ellipse: s-maj=29.4km s-min=10.4km az=73.0*
*IDC **18** 01:09:17.9±2.2, 8.˚50S×117.˚69E, h162km±19km, mb3.6/7, mb1 3.6/9, mb1mx3.4/23, mbtmp3.5/9, MS4.0/2, Ms1 4.0/2, ms1mx2.6/34, Error ellipse: s-maj=31.7km s-min=10.2km az=54.0*
*DJA **18** 01:09:18, 9.˚17S×117.˚53E, h118km, MLv4.0/10*

ISC 18 01:09:17.7±0.4, 8.˚69S±0.˚07×117.˚56E±0.˚04, h160km±4km, n38, σ1°s49/47, mb3.9/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BMNI	**Bima**	1.13	83	P	**Pn**	**01 09 43.8**	**-0.7**
BMNI				S	**Sn**	**01 10 03.6**	**+8.5**
MTNI	**Mataram**	1.37	272	P	**Pn**	**01 09 46.8**	**+0.1**
MTNI				S	**Sn**	**01 10 09.6**	**+8.8**
KHKI	**Kahang-Kahang**	1.96	279	P	**Pn**	**01 09 53.1**	**+0.2**
KHKI				S	**Sn**	**01 10 19.3**	**+4.4**
SRBI	**Singaraja**	2.40	284	P	**Pn**	**01 09 59.0**	**+0.9**
SRBI				S	**Sn**	**01 10 30.2**	**+4.7**
BYJI	**Banyuwangi**	3.20	278	P	**Pn**	**01 10 10.9**	**+2.9**
JAGI	**Jajag, Banyuwa**	3.37	273	P	**Pn**	**01 10 08.7**	**-1.5**
JAGI				S	**Sn**	**01 10 50.0**	**+0.9**
GMJI	**Gumukmas**	4.09	275	P	**Pn**	**01 10 18.6**	**-0.8**
BKSI	**Bulukumba**	4.20	37	P	**Pn**	**01 10 22.9**	**+2.0**
KAPI	**Kappang**	4.25	31	*e*Pn	**Pn**	**01 10 23.0**	**+1.5**
KAPI	**Kappang**	4.25	31	P	**Pn**	**01 10 31.4**	**+10**
PWJI	**Pagerwojo**	5.73	276	P	**Pn**	**01 10 43.8**	**+2.8**
FITZ	**Fitzroy Crossi**	12.22	141	P	**Pn**	**01 12 08.8**	**+2.2**
	0.5nm,0.3s,baz=322,slow=8.5,SNR=20						
FITZ				S	**Sn**	**01 14 11.7**	**-10**
	0.6nm,0.3s,baz=183,slow=17,SNR=9.3						
FITZ	**Fitzroy Crossi**	12.22	141	*e*P	**Pn**	**01 12 07.6**	**+1.0**
	4.4nm,0.8s						
FITZ				*e*S	**Sn**	**01 14 12.4**	**-9.5**
FITZ	**Fitzroy Crossi**	12.22	141	*e*Pn	**Pn**	**01 12 07.0**	**+0.4**
FITZ				*e*S	**Sn**	**01 14 14.1**	**-7.8**
MBWA	**Marble Bar**	12.57	171	*e*P	**Pn**	**01 12 15.8**	**+4.6**
MBWA				*e*S	**Sn**	**01 14 17.1**	**-13**
MBWA	**Marble Bar**	12.57	171	*e*Pn	**Pn**	**01 12 10.0**	**-1.1**
MBWA				*e*S	**Sn**	**01 14 18.3**	**-12**
MEEK	**Meekatharra**	17.88	177	*e*P	**Pn**	**01 13 15.4**	**-1.2**
	35nm,0.3s						
MEEK				*e*S	**S**	**01 16 21.5**	**-11**
WRA	**Warramunga Arr**	19.71	126	P	**P**	**01 13 34.4**	**-0.6**
	0.7nm,0.3s,baz=301,slow=12,SNR=99						
WRA				S	**S**	**01 17 10.5**	**+1.8**
	0.1nm,0.3s,baz=292,slow=22,SNR=4.7						
WRA				ScP	ScP	01 21 06.5	-2.0
	0.1nm,0.3s,baz=313,slow=1.9,SNR=7.4						
WRA	**Warramunga Arr**	19.71	126	P	**P**	**01 13 34.4**	**-0.6**
WRA				S	**S**	**01 17 10.5**	**+1.8**
WRA				ScP	ScP	01 21 06.5	-2.0
WRAB	**Tennant Creek**	19.72	126	*e*P	**P**	**01 13 34.7**	**-0.3**
	3.1nm,0.7s						
ASAR	**Alice Springs**	21.60	136	P	**P**	**01 13 54.5**	**-0.6**
	2.8nm,0.4s,mb4.0,baz=309,slow=9.0,SNR=30						
ASAR				ScP	ScP	01 21 12.1	-0.9
	0.4nm,0.6s,baz=331,slow=1.7,SNR=5.0						
ASAR	**Alice Springs**	21.60	136	P	**P**	**01 13 54.5**	**-0.6**
ASAR				ScP	ScP	01 21 12.1	-0.9
PMG	**Port Moresby**	29.24	94	LR	LR	01 28 09.8	
	comp=Z,844nm,22.0s,baz=241,slow=39						
SONM	**Songino Array**	57.14	351	P	**P**	**01 18 47.5**	**0.0**
	1.8nm,0.4s,mb4.2,baz=168,slow=8.4,SNR=24						
SONM	**Songino Array**	57.14	351	P	**P**	**01 18 47.5**	**0.0**
MKAR	**Makanchi Array**	63.54	334	P	**P**	**01 19 30.2**	**-0.8**
	1.2nm,0.5s,mb4.0,baz=152,slow=6.4,SNR=13						
MKAR	**Makanchi Array**	63.54	334	P	**P**	**01 19 30.2**	**-0.8**
KURK	**Kurchatov**	68.09	334	P	**P**	**01 19 58.9**	**-1.2**
	0.9nm,0.6s,mb3.7,baz=142,slow=5.7,SNR=12						
KURK	**Kurchatov**	68.09	334	P	**P**	**01 19 58.9**	**-1.2**
ZALV	**Zalesovo Beam**	68.25	340	P	**P**	**01 19 59.0**	**-1.9**
	0.9nm,0.3s,mb4.0,baz=135,slow=3.8,SNR=4.7						
ZALV	**Zalesovo Beam**	68.25	340	P	**P**	**01 19 59.0**	**-1.9**
PETK	**Petropavlovsk-**	70.37	24	LR	LR	01 50 01.0	
	comp=Z,43nm,18.2s,baz=41,slow=35						
VNDA	**Vanda**	72.52	171	P	**P**	**01 20 27.4**	**+0.8**
	0.5nm,0.4s,mb3.6,baz=304,slow=6.7,SNR=7.7						
VNDA	**Vanda**	72.52	171	P	**

SNR=8.3
TKM2 Tokmak 2 6.16 25 ⇑P **Pn 01 21 19.5 +1.1**
3.5nm,0.7s
TKM2 ⇓S **Sn 01 22 28.4 +1.0**
13nm,0.8s
TKM2 Tokmak 2 6.16 25 *e*Pn **Pn 01 21 19.5 +1.1**
5.5nm,0.4s
USP Ospenovka 6.17 17 P **Pn 01 21 18.7 +0.2**
SNR=13
SDNR Sundarnagar 7.15 144 *e*PKP Px 01 21 48.0
SDNR *e*S **Sn 01 22 45.0 -6.5**
SMLA Simla 7.55 144 *i* P **Pn 01 21 36.1 -1.2**
SMLA *i* S **Sn 01 22 53.6 -7.7**
SMLA *i* S **Sn 01 22 53.8 -7.5**
SMLA ⇓AML AML 01 22 57.5
comp=N,2μm,0.3s
SMLA ⇓AML AML 01 22 59.3
comp=E,3μm,0.2s
KHET Khetri 9.81 160 *e*S **Sn 01 23 46.7 -10**
KHET AML AML 01 23 51.7
comp=N,11nm,0.1s
KHET AML AML 01 23 52.1
comp=E,12nm,0.2s
AYAN Aya Nagar 9.86 153 *e*S **Sn 01 23 48.8 -8.5**
SONA Sohna 10.05 154 *e*S **Sn 01 23 51.0 -11**
SONA AML AML 01 23 58.7
comp=N,21nm,0.3s
SONA AML AML 01 24 00.0
comp=E,30nm,0.2s
MK31 Makanchi Array 12.09 36 P **Pn 01 22 42.1 +4.1**
comp=E,0.3nm,0.3s,baz=213,slow=9.1,SNR=6.0
MKAR Makanchi Array 12.09 36 Pn **Pn 01 22 38.5 +0.4**
comp=E,0.1nm,0.3s,baz=223,slow=15,SNR=4.5
MKAR Makanchi Array 12.09 36 Pn **Pn 01 22 38.5 +0.4**
DANN Dangsing 13.34 129 *e*P **Pn 01 22 51.2 -3.5**
KOLN Koldanda 13.66 131 *e*P **Pn 01 22 54.5 -4.3**
KOLN *e*S **Sn 01 25 16.6 -13**
KURK Kurchatov 14.13 17 Pn **Pn 01 22 60.0 -4.6**
comp=E,0.0nm,0.3s,baz=206,slow=12,SNR=6.0
KURK Kurchatov 14.13 17 Pn **Pn 01 22 60.0 -4.6**
GKN Gorkha 14.13 128 *e*P **Pn 01 23 01.2 -3.6**
AB31 Akbulak array 14.75 327 P **Pn 01 23 08.1 -4.3**
comp=E,0.6nm,0.4s,baz=138,slow=12,SNR=37
AB31 ⇑S **Sn 01 25 41.5 -14**
comp=E,2.4nm,0.5s,baz=155,slow=24,SNR=10
ABKAR Akbulak array 14.75 327 *e*Pn **Pn 01 23 08.2 -4.2**
comp=E,1.3nm,0.4s
VOSK Vostochnaya 15.35 358 ⇑P **Pn 01 23 17.5 -2.5**
comp=E,5.5nm,1.1s
BVA0 Borovoye Array 15.68 356 ⇑P **Pn 01 23 22.9 -1.2**
comp=E,1.3nm,1.4s,baz=165,slow=11,SNR=7.0
BVAR Borovoye Array 15.68 356 Pn **Pn 01 23 21.8 -2.3**
comp=E,0.5nm,0.3s,baz=158,slow=12,SNR=9.1
BVAR Borovoye Array 15.68 356 Pn **Pn 01 23 21.8 -2.3**
BRVK Borovoye 15.72 356 *e*Pn **Pn 01 23 21.9 -2.7**
comp=E,3.7nm,0.6s
AKTO Aktyubinsk 16.46 327 ⇑P **Pn 01 23 30.3 -3.4**
comp=E,2.3nm,0.8s
AKTO ⇑S **S 01 26 26.7 -10**
comp=E,0.6nm,0.7s
AKTO Aktyubinsk 16.46 327 P **Pn 01 23 33.2 -0.5**
comp=E,1.1nm,0.3s,baz=131,slow=13,SNR=36
AKTO S **S 01 26 24.3 -13**
comp=E,0.3nm,0.3s,baz=144,slow=20,SNR=3.7
AKTO Aktyubinsk 16.46 327 P **Pn 01 23 33.2 -0.5**
AKTO S **S 01 26 24.3 -13**
TAPN Taplejung 16.58 123 *e*P **Pn 01 23 35.3 -0.1**
ZALV Zalesovo Beam 18.76 24 P **P 01 24 01.1 +1.5**
comp=E,0.6nm,0.3s,baz=224,slow=11,SNR=12
ZALV Zalesovo Beam 18.76 24 P **P 01 24 01.1 +1.5**
JOF Joensuu 35.52 329 *e*p **P 01 26 35.9 +0.8**
comp=E,1.4nm,0.5s,mb4.2
FINES FINESS Array B 37.22 325 P **P 01 26 50.0 +0.5**
comp=E,2.4nm,0.6s,mb4.3,baz=118,slow=8.3,SNR=10
FINES FINESS Array B 37.22 325 P **P 01 26 50.0 +0.5**
ARCES ARCESS Array B 40.65 337 P **P 01 27 19.1 +1.1**
comp=E,1.7nm,0.7s,mb4.0,baz=114,slow=9.5,SNR=9.1
ARCES ARCESS Array B 40.65 337 P **P 01 27 19.1 +1.1**
NOA NORSAR Array B 44.18 322 P **P 01 27 46.7 +0.1**
comp=E,2.5nm,1.1s,mb3.9,baz=94,slow=8.5,SNR=3.6
NOA NORSAR Array B 44.18 322 P **P 01 27 46.7 +0.1**
INK Inuvik 72.89 10 P **P 01 31 07.5 +1.9**
comp=E,0.5nm,0.5s,mb3.6,baz=302,slow=8.6,SNR=7.1
INK Inuvik 72.89 10 P **P 01 31 07.5 +1.9**
ILAR Eielson Array 73.70 16 P **P 01 31 11.6 +1.2**
comp=E,0.2nm,0.8s,mb2.9,baz=342,slow=5.7,SNR=3.0
ILAR Eielson Array 73.70 16 P **P 01 31 11.6 +1.2**
YKA Yellowknife Ar 80.32 3 P **P 01 31 48.5 +1.1**
comp=E,0.5nm,0.4s,mb3.7,baz=350,slow=5.7,SNR=4.9
YKA Yellowknife Ar 80.32 3 P **P 01 31 48.5 +1.1**

IDC ***18*** *01:38:44.6±3.6, 13.˚44N×88.˚66W, h142km±19km, mb3.7/12, mb1 3.9/14, mb1mx3.7/25, mbtmp3.7/14, Error ellipse: s-maj=38.5km s-min=22.3km az=1.0*
ISCJB ***18*** *01:38:49.9±0.2, 13.˚86N±0.˚06×88.˚93W±0.˚05, h164km±2km, mb4.1/16, Error ellipse: s-maj=11.5km s-min=3.5km az=37.5*
CASC ***18*** *01:38:50.2±2.4, 13.˚76N×88.˚98W, h161km±7km, MD4.1, ML3.9, mb4.5(NEIC)*
NEIC ***18*** *01:38:51.3±0.6, 13.˚79N×88.˚90W, h179km±8km, mb4.5/7, MD4.4(CASC), Error ellipse: s-maj=14.8km s-min=6.9km az=55.0*
BJI ***18*** *01:38:52.5, 13.˚90N×88.˚70W, h183km, mB5.1/3*
ISC 18 01:38:51.0±0.2, 13.˚88N±0.˚06×88.˚91W±0.˚05, h158km±2km, n265, σ0672/273, mb4.1/16, 91C-88D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LBRS	**Las Brisas**	**0.19**	**223**	⇑	*i*	P	**Pn**	**01 39 11.8**	**-0.5**
LBRS						*e*S	**Sn**	**01 39 28.7**	**+0.3**
SNVI	**San Vicente**	**0.27**	**165**	⇑	*e*	P	**Pn**	**01 39 12.2**	**-0.3**
LFRS	**El Faro**	**0.29**	**210**		*e*	P	**Pn**	**01 39 11.5**	**-1.0**
LFRS						*e*S	**Sn**	**01 39 28.5**	**-0.3**
SNET	**Serv Nac Est T**	**0.37**	**239**		*e*	P	**Pn**	**01 39 11.4**	**-1.3**
SNET					AML	AML	01 39 12.2		
	comp=Z,3μm,0.3s								
SNET						*e*S	**Sn**	**01 39 28.8**	**-0.4**
SNJE	**San Jose**	**0.68**	**269**		*e*	P	**Pn**	**01 39 13.5**	**-0.7**
MTO2	**Montecristo 2**	**0.68**	**320**		*e*	P	**Pn**	**01 39 14.6**	**+0.3**
CAHU	**Cacacuatique**	**0.69**	**99**	⇓	*i*	P	**Pn**	**01 39 14.9**	**+0.6**
CAHU						*e*S	**Sn**	**01 39 34.4**	**+2.5**
SBLS	**San Blas**	**0.69**	**267**	⇑	*i*	P	**Pn**	**01 39 13.7**	**-0.6**
RTR	**El Retiro**	**0.71**	**272**	⇑	*i*	P	**Pn**	**01 39 13.9**	**-0.6**
VSM	**San Miguel**	**0.76**	**126**		*e*	P	**Pn**	**01 39 14.8**	**0.0**
BLLM	**Bellamira**	**0.78**	**123**	⇓	*i*	P	**Pn**	**01 39 14.7**	**-0.2**
RBDL	**Robledal**	**0.79**	**287**		*e*	P	**Pn**	**01 39 14.4**	**-0.6**
CNCH	**Conchagua**	**1.21**	**120**		*e*	P	**Pn**	**01 39 18.2**	**-0.1**
CNCH						*e*P		01 39 18.3	
NBG	**Las Nubes**	**1.56**	**297**		*e*	P	**Pn**	**01 39 22.7**	**+0.9**
TGUH	**Tegucigalpa,Un**	**1.60**	**83**		*e*	Pn	**Pn**	**01 39 23.4**	**+1.2**
TGUH						*e*S	**Sn**	**01 39 51.7**	**+5.6**
TGUH	**Tegucigalpa,Un**	**1.60**	**83**	⇓	*i*	P	**Pn**	**01 39 23.3**	**+1.1**
TGUH					AML	AML	01 39 51.3		
	comp=N,721nm,0.5s								
PCG	**Pacaya**	**1.73**	**288**		*e*	P	**Pn**	**01 39 24.0**	**+0.5**
FUG	**Fuego 3**	**1.96**	**287**		*e*	P	**Pn**	**01 39 26.3**	**+0.2**
CNGN	**Cerro Negro**	**2.55**	**122**		*e*	P	**Pn**	**01 39 32.0**	**-1.2**
MIRN	**Miramar**	**2.57**	**123**		*e*	P	**Pn**	**01 39 33.2**	**-0.3**
JAT	**Jato**	**2.68**	**280**	⇑	*e*	P	**Pn**	**01 39 34.4**	**-0.4**
MOMN	**Momotombo**	**2.73**	**122**		*e*	P	**Pn**	**01 39 35.2**	**-0.2**
COPN	**Copaltepe**	**2.82**	**126**		*e*	P	**Pn**	**01 39 36.4**	**-0.1**
HUEN		**3.08**	**120**		*e*	P	**Pn**	**01 39 40.5**	**+0.8**
TISN	**Laguna Tiscapa**	**3.10**	**124**		*e*	P	**Pn**	**01 39 40.5**	**+0.5**
CRUN	**El Crucero**	**3.17**	**126**		*e*	P	**Pn**	**01 39 41.5**	**+0.7**
TICN	**Ticuantepe**	**3.19**	**125**		*e*	P	**Pn**	**01 39 41.7**	**+0.6**
BOAB	**BOACO BROADBAN**	**3.46**	**114**		*e*	P	**Pn**	**01 39 44.1**	**-0.5**
CRZC	**La Cruz**	**4.35**	**132**		*e*	P	**Pn**	**01 39 54.5**	**-1.6**
CRZC						*e*S	**Sn**	**01 40 40.8**	**-6.0**
GBS2	**Las Lilas**	**4.53**	**131**		*i*	P	**Pn**	**01 39 58.3**	**-0.2**
GBS2						*i* S	**Sn**	**01 40 46.1**	**-5.0**
LAPC	**Finca la Perla**	**4.59**	**132**		*i*	P	**Pn**	**01 39 58.7**	**-0.6**
NY14	**Universidad de**	**4.60**	**134**		*i*	P	**Pn**	**01 39 60.0**	**+0.5**
NY14						*i* S	**Sn**	**01 40 50.0**	**-2.7**
JTS	**JuntasAbangare**	**5.26**	**132**		*e*	Pn	**Pn**	**01 40 07.8**	**-0.3**
JTS						*e*S	**Sn**	**01 41 01.1**	**-7.2**
JTS	**JuntasAbangare**	**5.26**	**132**		*e*	P	**Pn**	**01 40 07.8**	**-0.2**
JCR	**Jicaral**	**5.46**	**137**		*e*	P	**Pn**	**01 40 11.1**	**+0.4**
JCR						*e*S	**Sn**	**01 41 08.3**	**-4.7**
JCR	**Jicaral**	**5.46**	**137**		*e*	P	**Pn**	**01 40 10.3**	**-0.4**
JCR						*e*S	**Sn**	**01 41 14.1**	**+1.0**
CGA2	**Cerro Gallo 2**	**5.80**	**131**		*e*	P	**Pn**	**01 40 15.6**	**+0.4**
CGA2	**Cerro Gallo 2**	**5.80**	**131**		*e*	P	**Pn**	**01 40 16.5**	**+1.3**
CGA2						*e*S	**Sn**	**01 41 24.9**	**+3.8**
PRS1	**Puriscal**	**5.94**	**130**		*e*	P	**Pn**	**01 40 17.9**	**+0.9**
PRS1	**Puriscal**	**5.94**	**130**		*e*	P	**Pn**	**01 40 18.0**	**+1.0**
PRS1						*e*S	**Sn**	**01 41 29.7**	**+5.4**
LAJ	**Bijagual**	**6.15**	**130**		*e*	P	**Pn**	**01 40 17.5**	**-2.4**
LAJ	**Bijagual**	**6.15**	**130**		*e*	P	**Pn**	**01 40 17.7**	**-2.2**
LAJ						*e*S	**Sn**	**01 41 26.8**	**-2.8**
ICR	**Volcan Irazu**	**6.30**	**127**		*e*	P	**Pn**	**01 40 24.2**	**+2.3**
TEIG	**Tepich**	**6.34**	**5**			P	**Pn**	**01 40 22.5**	**+0.2**
	comp=N,1.1nm,0.3s,baz=227,slow=7.0,SNR=6.8								
TEIG	**Tepich**	**6.34**	**5**		*e*	Pn	**Pn**	**01 40 24.3**	**+1.9**
QCR	**Quepos**	**6.42**	**133**		*e*	P	**Pn**	**01 40 23.5**	**+0.1**
QCR						*e*S	**Sn**	**01 41 38.3**	**+2.5**
URSC	**Urasca**	**6.43**	**128**		*e*	P	**Pn**	**01 40 24.0**	**+0.4**
URSC	**Urasca**	**6.43**	**128**		*e*	P	**Pn**	**01 40 25.6**	**+2.1**
URSC						*e*S	**Sn**	**01 41 42.8**	**+6.7**
CMIG	**Matias Romero**	**6.59**	**300**			P	**Pn**	**01 40 24.4**	**-1.2**
	comp=N,2.1nm,0.3s,baz=140,slow=7.9,SNR=24								
CMIG						S	**Sn**	**01 41 31.4**	**-8.4**
	comp=N,2.1nm,0.3s,baz=341,slow=16,SNR=6.7								
CMIG	**Matias Romero**	**6.59**	**300**			P	**Pn**	**01 40 24.4**	**-1.2**
CMIG						S	**Sn**	**01 41 31.4**	**-8.4**
BUS	**Buena Vista**	**6.62**	**130**		*e*	P	**Pn**	**01 40 27.7**	**+1.5**
ACR	**Cerro Adams**	**7.66**	**132**	⇓	*e*	P	**Pn**	**01 40 39.9**	**0.0**
SDV	**Santo Domingo**	**18.59**	**104**		*e*	Pn	**Pn**	**01 42 54.8**	**-3.7**
	comp=N,7.2nm,0.8s								
JCT	**Junction City**	**19.34**	**330**	⇑		P	**P**	**01 43 03.9**	**-0.3**
	baz=20								
JCT	**Junction City**	**19.34**	**330**			P	**P**	**01 43 03.9**	**-0.4**
	comp=N,5.8nm,0.6s								
627A	**Terlingua Ranc**	**20.49**	**321**	⇓		P	**P**	**01 43 17.2**	**+0.5**
	baz=21,SNR=10								
TXAR	**Lajitas Array**	**20.58**	**321**			P	**P**	**01 43 17.8**	**+0.2**
	comp=N,4.3nm,0.6s,baz=139,slow=9.9,SNR=64								
TXAR	**Lajitas Array**	**20.58**	**321**			P	**P**	**01 43 17.8**	**+0.2**
528A	**Cox Ranch, San**	**20.66**	**324**	⇓		P	**P**	**01 43 18.3**	**-0.1**
	baz=21								
MIAR	**Mount Ida**	**21.01**	**349**		*e*	P	**P**	**01 43 22.6**	**+0.4**
	comp=N,19nm,1.1s,mb4.3								
626A	**Big Bend Ranch**	**21.02**	**320**	⇓		P	**P**	**01 43 22.5**	**+0.2**
	baz=21,SNR=6.6								
428A	**Kincaid Ranch,**	**21.02**	**325**	⇓		P	**P**	**01 43 22.2**	**-0.2**
	baz=21								
UALR	**University of**	**21.04**	**352**		*e*	P	**P**	**01 43 23.4**	**+1.0**
	comp=N,27nm,1.2s,mb4.5								
527A	**Woodward Ranch**	**21.12**	**322**	⇑		P	**P**	**01 43 22.6**	**-0.8**
	baz=21								
526A	**Mary Lane Ranc**	**21.35**	**321**	⇓		P	**P**	**01 43 25.5**	**-0.3**
	baz=22								
SWET	**Sewanee**	**21.41**	**7**		*e*	P	**P**	**01 43 26.6**	**+0.2**
328A	**Wristen Ranch,**	**21.60**	**326**	⇑		P	**P**	**01 43 28.5**	**+0.1**
	baz=22,SNR=12								
CPCT	**Cooper Cave**	**21.84**	**10**		*e*	P	**P**	**01 43 30.1**	**-0.8**
TKL	**Tuckaleechee C**	**22.17**	**11**			P	**P**	**01 43 34.2**	**-0.2**
	comp=N,3.6nm,0.4s,mb4.1,baz=176,slow=9.3,SNR=10								
TKL	**Tuckaleechee C**	**22.17**	**11**			P	**P**	**01 43 34.2**	**-0.2**
326A	**Caldwell Ranch**	**22.20**	**324**	⇓		P	**P**	**01 43 33.8**	**-1.0**
	baz=22								
KMSC	**Kings Mountain**	**22.25**	**17**	⇑		P	**P**	**01 43 35.3**	**+0.1**
	baz=22								
TUL1	**Tulsa**	**22.80**	**345**	⇓		P	**P**	**01 43 40.1**	**-0.1**
	baz=23								
325A	**Bean Ranch, Si**	**22.82**	**322**	⇑		P	**P**	**01 43 40.2**	**-0.3**
	baz=23								
127A	**Arkansas Junct**	**22.89**	**327**	⇑		P	**P**	**01 43 40.5**	**-0.6**
	baz=23								
324A	**Moseley Ranch,**	**23.17**	**322**	⇑		P	**P**	**01 43 43.5**	**-0.2**
	baz=23,SNR=6.2								
225A	**Deer Hill, Car**	**23.27**	**324**	⇑		P	**P**	**01 43 44.3**	**-0.3**
	baz=23								
Z27A	**Tatum**	**23.32**	**328**	⇑		P	**P**	**01 43 43.8**	**-1.2**
	baz=24								
125A	**Gardner Draw,**	**23.58**	**325**	⇓		P	**P**	**01 43 47.5**	**+0.1**
	baz=24,SNR=5.6								
MSTX	**Muleshoe**	**23.63**	**330**	⇓		P	**P**	**01 43 46.4**	**-1.4**
	baz=24								
224A	**Cornudas Mount**	**23.65**	**323**	⇑		P	**P**	**01 43 48.0**	**0.0**
	baz=24,SNR=5.3								
Z26A	**Caprock**	**23.68**	**327**	⇑		P	**P**	**01 43 47.1**	**-1.3**
	baz=24								
Y27A	**Causey**	**23.75**	**329**	⇑		P	**P**	**01 43 47.9**	**-1.0**
	baz=24,SNR=5.5								
AMTX	**Amarillo**	**23.89**	**333**	⇑		P	**P**	**01 43 49.1**	**-1.0**
	baz=24								
124A	**Stringfield Ra**	**24.06**	**324**	⇓		P	**P**	**01 43 52.2**	**+0.5**
	baz=24								
Z25A	**Roswell**	**24.08**	**326**	⇓		P	**P**	**01 43 51.6**	**-0.4**
	baz=24,SNR=6.7								
CCM	**Cathedral Cave**	**24.17**	**355**		*e*	P	**P**	**01 43 51.9**	**-0.8**
	comp=N,18nm,0.6s,mb4.8								
X27A	**F and S Farms,**	**24.34**	**331**	⇑		P	**P**	**01 43 53.5**	**-0.8**
	baz=24								
WCI	**Wyandotte Cave**	**24.36**	**5**		*e*	P	**P**	**01 43 53.6**	**-0.8**
	comp=N,130nm,2.2s,mb5.1								
Z24A	**Sheeppen Canyo**	**24.48**	**325**	⇓		P	**P**	**01 43 56.0**	**+0.5**
	baz=25,SNR=6.3								
Y25A	**Mesa, Roswell**	**24.56**	**327**	⇑		P	**P**	**01 43 56.0**	**-0.3**
	baz=25,SNR=6.2								
W27A	**Bowe Ranch, En**	**24.66**	**331**	⇓		P	**P**	**01 43 57.0**	**-0.1**
	baz=25								
Z23A	**Rita Site, Whi**	**24.92**	**324**	⇑		P	**P**	**01 44 00.1**	**+0.6**
	baz=25								
Y24A	**Capitan**	**24.96**	**326**	⇑		P	**P**	**01 44 00.4**	**+0.5**
	baz=25								
X25A	**Clemmons Ranch**	**25.02**	**328**	⇓		P	**P**	**01 44 00.7**	**+0.3**
	baz=25								
Y23A	**Lovelace Mesa,**	**25.31**	**325**	⇓		P	**P**	**01 44 03.3**	**+0.2**
	baz=26,SNR=6.3								
W25A	**X Bar L Ranch,**	**25.46**	**329**	⇑		P	**P**	**01 44 04.2**	**-0.2**
	baz=26								
V26A	**Tequesquite Ra**	**25.60**	**331**	⇑		P	**P**	**01 44 05.5**	**-0.2**
	baz=26								
Y22A	**Socorro**	**25.83**	**324**	⇓		P	**P**	**01 44 08.1**	**+0.3**
	baz=26								
W24A	**Lazy 6 Ranch,**	**25.93**	**328**	⇑		P	**P**	**01 44 09.0**	**+0.3**
	baz=26								
V25A	**Rancho No Teng**	**26.03**	**330**	⇓		P	**P**	**01 44 09.7**	**+0.2**
	baz=26								
U26A	**Atchley Ranch,**	**26.07**	**332**	⇓		P	**P**	**01 44 09.8**	**0.0**
	baz=26								
V24A	**Rampart Ranch,**	**26.26**	**329**	⇑		P	**P**	**01 44 11.8**	**+0.2**
	baz=26								
W23A	**Werner Place,**	**26.28**	**327**	⇓		P	**P**	**01 44 12.5**	**+0.7**
	baz=26								
ANMO	**Albuquerque**	**26.29**	**326**			P	**P**	**01 44 12.7**	**+0.8**
	comp=N,0.7nm,0.8s,mb3.3,baz=71,slow=23,SNR=4.1								
ANMO	**Albuquerque**	**26.29**	**326**			P	**P**	**01 44 12.7**	**+0.8**
Y21A	**Point of Rocks**	**26.29**	**323**	⇓		P	**P**	**01 44 13.1**	**+1.2**
	baz=26								
U25A	**Circle Dot Ran**	**26.38**	**331**	⇑		P	**P**	**01 44 13.2**	**+0.6**
	baz=27								
Y20A	**Horse Springs,**	**26.64**	**322**	⇑		P	**P**	**01 44 15.9**	**+0.9**
	baz=27								
X21A	**Alamocita Cree**	**26.66**	**323**	⇑		P	**P**	**01 44 15.8**	**+0.5**
	baz=27								
T25A	**Trinidad**	**26.98**	**332**	⇑		P	**P**	**01 44 18.7**	**+0.7**
	baz=27								
U23A	**El Rito**	**27.20**	**328**	⇓		P	**P**	**01 44 20.4**	**+0.4**
	baz=27,SNR=7.2								
T24A	**Torres, Weston**	**27.23**	**331**	⇑		P	**P**	**01 44 21.2**	**+0.9**
	baz=27								
V22A	**San Miguel Ran**	**27.25**	**327**	⇓		P	**P**	**01 44 20.8**	**+0.3**
	baz=27								
R25A	**Fountain Ranch**	**27.76**	**333**	⇓		P	**P**	**01 44 25.8**	**+0.8**
	baz=28								
S24A	**Houchin Ranch,**	**27.76**	**331**	⇑		P	**P**	**01 44 25.8**	**+0.8**
	baz=28								
SDCO	**Great Sand Dun**	**27.98**	**331**	⇑		P	**P**	**01 44 27.9**	**+0.9**
	baz=28								
U21A	**Nageezi**	**28.04**	**327**	⇑		P	**P**	**01 44 28.8**	**+1.3**
	baz=28								
115A	**Sonoran Desert**	**28.34**	**315**	⇑		P	**P**	**01 44 30.1**	**-0.1**
	baz=28								
Q25A	**Bedland, Calha**	**28.38**	**334**	⇓		P	**P**	**01 44 30.7**	**+0.2**
	baz=29								
S22A	**4UR Ranch, Cre**	**28.62**	**329**	⇓		P	**P**	**01 44 33.2**	**+0.5**
	baz=29								
S21A	**Coal Bank Pass**	**29.04**	**328**	⇓		P	**P**	**01 44 36.6**	**+0.3**
	baz=29								
MVCO	**Mesa Verde**	**29.07**	**327**	⇓		P	**P**	**01 44 37.0**	**+0.4**
	baz=29								
P23A	**Jefferson**	**29.45**	**333**	⇓		P	**P**	**01 44 40.8**	**+0.8**
	baz=30								
S20A	**Disappointment**	**29.46**	**328**	⇑		P	**P**	**01 44 40.5**	**+0.4**
	baz=30								
Q22A	**Crested Butte,**	**29.54**	**331**	⇑		P	**P**	**01 44 41.0**	**+0.3**
	baz=30								
ISCO	**Idaho Springs**	**29.71**	**333**	⇑		P	**P**	**01 44 42.7**	**+0.5**
	baz=30								
P22A	**Eagle**	**30.05**	**332**	⇑		P	**P**	**01 44 45.9**	**+0.7**
	baz=30								
O23A	**Lake Granby, G**	**30.18**	**334**	⇓		P	**P**	**01 44 46.9**	**+0.5**
	baz=30								
S18A	**Hurst Farm, Bl**	**30.23**	**325**	⇓		P	**P**	**01 44 47.7**	**+0.9**
	baz=30								
P21A	**Newcastle**	**30.32**	**331**	⇑		P	**P**	**01 44 48.1**	**+0.5**
	baz=30								
O22A	**Kremmling**	**30.41**	**333**	⇓		P	**P**	**01 44 48.2**	**-0.2**
	baz=31								
R18A	**Canyonlands Na**	**30.68**	**327**	⇓		P	**P**	**01 44 50.9**	**+0.1**
	baz=31								
P20A	**De Beque**	**30.75**	**330**	⇑		P	**P**	**01 44 51.7**	**+0.2**
	baz=31								
N23A	**Red Feather La**	**30.75**	**334**	⇓		P	**P**	**01 44 51.8**	**+0.4**
	baz=31								
N22A	**Wattenberg Ran**	**30.89**	**334**	⇑		P	**P**	**01 44 53.3**	**+0.6**
	baz=31								
M23A	**Laramie**	**31.14**	**335**	⇓		P	**P**	**01 44 55.8**	**+1.0**
	baz=31								
O20A	**White River Ci**	**31.17**	**331**	⇑		P	**P**	**01 44 56.0**	**+0.9**
	baz=31								
SPMN	**St. Paul**	**31.42**	**355**	⇓		P	**P**	**01 44 55.5**	**-1.7**
	baz=32,SNR=8.9								
L23A	**Garrett**	**31.68**	**336**	⇑		P	**P**	**01 44 59.5**	**0.0**
	baz=32								
N20A	**Spence Gulch,**	**31.73**	**331**	⇑		P	**P**	**01 45 00.3**	**+0.3**
	baz=32								
SADO	**Sadowa**	**31.89**	**13**			P	**P**	**01 44 59.9**	**-1.5**
	comp=N,5.3nm,0.4s,mb4.6,baz=238,slow=9.0,SNR=4.9								
SADO	**Sadowa**	**31.89**	**13**			P	**P**	**01 44 59.9**	**-1.5**
O18A	**Roosevelt**	**32.14**	**329**	⇑		P	**P**	**01 45 04.1**	**+0.6**
	baz=32								
N19A	**John Jarvie Ra**	**32.21**	**330**	⇑		P	**P**	**01 45 04.6**	**+0.4**
	baz=32								
M20A	**Sweetwater, Wa**	**32.22**	**332**	⇑		P	**P**	**01 45 04.6**	**+0.3**
	baz=32								
L21A	**Rawlins**	**32.24**	**334**	⇓		P	**P**	**01 45 04.6**	**+0.2**
	baz=32								
K22A	**Casper**	**32.46**	**335**	⇑		P	**P**	**01 45 06.2**	**0.0**
	baz=33								
N18A	**Larsen Ranch,**	**32.51**	**330**	⇑		P	**P**	**01 45 07.1**	**+0.3**
	baz=33								
NCB	**Newcomb**	**32.52**	**20**		*e*	P	**P**	**01 45 05.9**	**-1.0**
	comp=N,11nm,1.0s,mb4.5								
K21A	**Alcova**	**32.74**	**335**	⇓		P	**P**	**01 45 08.6**	**-0.2**
	baz=33								
I24A	**Kuemmerle Ranc**	**32.77**	**339**	⇑		P	**P**	**01 45 09.5**	**+0.4**
	baz=33								
K20A	**Yellowstone Ra**	**33.23**	**333**	⇓		P	**P**	**01 45 12.7**	**-0.3**
	baz=33								
L19A	**Farson**	**33.24**	**332**	⇓		P	**P**	**01 45 13.3**	**+0.2**
	baz=33								
P14A	**Drum Mountains**	**33.28**	**325**	⇓		P	**P**	**01 45 14.4**	**+0.8**
	baz=34								
J21A	**Lysite**	**33.41**	**335**	⇓		P	**P**	**01 45 14.9**	**+0.3**
	baz=34,SNR=6.0								
L18A	**Fontenelle, Gr**	**33.42**	**331**	⇑		P	**P**	**01 45 14.6**	**-0.1**
	baz=34								
I22A	**9 Mile Ranch,**	**33.48**	**337**	⇓		P	**P**	**01 45 15.5**	**+0.3**
	baz=34								
H24A	**Dirks Ranch, A**	**33.53**	**340**	⇓		P	**P**	**01 45 15.7**	**+0.2**
	baz=34								
K19A	**Absolon Red Bu**	**33.58**	**333**	⇑		P	**P**	**01 45 15.6**	**-0.5**
	baz=34								
J20A	**Shoshoni**	**33.68**	**334**	⇑		P	**P**	**01 45 17.2**	**+0.3**
	baz=34								
I21A	**Big Trails, Te**	**33.73**	**336**	⇓		P	**P**	**01 45 17.4**	**0.0**
	baz=34								
PDAR	**Pinedale Array**	**33.85**	**332**			P	**P**	**01 45 18.1**	**-0.3**
	comp=N,0.8nm,0.6s,mb3.6,baz=128,slow=11,SNR=7.2								
PDAR	**

	baz=38								
F15A	**Butte**	37.57	333	⇑P		P	01 45 50.5	+0.5	
	baz=38								
C19A	**Slack Wire Ran**	37.69	338	⇓P		P	01 45 50.9	-0.1	
	baz=38,SNR=6.4								
A22A	**Carney Farms,**	37.72	342	⇑P		P	01 45 51.0	-0.2	
	baz=38								
E16A	**East Helena**	37.75	334	⇑P		P	01 45 51.8	+0.2	
	baz=38								
D17A	**Six Diamond Ra**	37.84	336	⇑P		P	01 45 52.3	0.0	
	baz=38								
E15A	**Deer Lodge**	38.08	333	⇓P		P	01 45 54.6	+0.2	
	baz=38								
D16A	**Dana Ranch, Ca**	38.09	335	⇓P		P	01 45 54.7	+0.2	
	baz=38								
EGMT	**Eagleton**	38.19	337	⇑P		P	01 45 55.5	+0.2	
	baz=38								
C17A	**Wharram Farm,**	38.26	336	⇓P		P	01 45 55.8	0.0	
	baz=38								
A20A	**Cobblestone Ra**	38.27	340	⇑P		P	01 45 55.8	0.0	
	baz=38								
G12A	**Big Creek, Yel**	38.37	330	⇓P		P	01 45 56.7	-0.1	
	baz=38								
F13A	**Darby**	38.37	331	⇓P		P	01 45 56.5	-0.3	
	baz=38								
E14A	**Clinton**	38.45	332	⇓P		P	01 45 57.2	-0.3	
	baz=39								
B18A	**Beardsley Farm**	38.51	338	⇑P		P	01 45 58.2	+0.4	
	baz=39								
D15A	**Lincoln**	38.51	334	⇓P		P	01 45 57.6	-0.3	
	baz=39								
F12A	**Elk City**	38.78	330	⇓P		P	01 46 00.0	-0.2	
	baz=39								
C16A	**Fuhringer Ranc**	38.79	335	⇓P		P	01 46 00.1	-0.2	
	baz=39								
E13A	**Victor**	38.79	332	⇑P		P	01 45 59.8	-0.4	
	baz=39								
B17A	**L&G Farms, Che**	38.81	337	⇑P		P	01 45 59.7	-0.7	
	baz=39								
MSO	**Missoula**	38.97	332	⇓P		P	01 46 01.7	-0.1	
	baz=39								
A18A	**Metzger Ranch,**	38.97	338	⇓P		P	01 46 01.2	-0.5	
	baz=39								
C15A	**Salmond Ranch,**	39.12	335	⇑P		P	01 46 03.1	+0.1	
	baz=39								
A17A	**Triple J Farms**	39.31	337	⇓P		P	01 46 04.1	-0.4	
	baz=40,SNR=7.8								
D13A	**Huson**	39.40	332	⇓P		P	01 46 05.4	+0.1	
	baz=40								
E12A	**Beaver Dam Sad**	39.41	331	⇑P		P	01 46 04.7	-0.7	
	baz=40								
B15A	**Bradely Ranch,**	39.53	335	⇑P		P	01 46 06.3	-0.1	
	baz=40								
B14A	**Marquette Ranc**	39.86	335	⇑P		P	01 46 08.6	-0.4	
	baz=40								
C13A	**Hot Springs**	39.90	333	⇑P		P	01 46 09.0	-0.3	
	baz=40								
A15A	**Johnson Ranch,**	40.12	336	⇓P		P	01 46 10.8	-0.5	
	baz=40,SNR=5.1								
B13A	**Whitefish**	40.38	334	⇓P		P	01 46 13.1	-0.2	
	baz=40								
A14A	**Double T Ranch**	40.40	335	⇓P		P	01 46 13.3	-0.2	
	baz=41,SNR=5.3								
C11A	**Tepee Creek (N**	40.77	332	⇑P		P	01 46 16.6	0.0	
	baz=41								
A13A	**Flathead Natio**	40.78	334	⇑P		P	01 46 17.0	+0.4	
	baz=41								
SCHQ	**Schefferville**	44.35	18	P		P	01 46 43.2	-2.1	
	comp=N,7.2nm,0.7s,mb4.4,baz=236,slow=4.4,SNR=8.7								
SCHQ	**Schefferville**	44.35	18	P		P	01 46 43.2	-2.1	
YKA	**Yellowknife Ar**	51.87	345	P		P	01 47 41.1	-1.8	
	comp=N,5.1nm,0.8s,mb4.2,baz=148,slow=6.5,SNR=15								
YKA	**Yellowknife Ar**	51.87	345	P		P	01 47 41.1	-1.8	
ILAR	**Eielson Array**	64.15	336	P		P	01 49 06.0	-2.3	
	comp=N,0.4nm,0.5s,mb3.5,baz=132,slow=6.0,SNR=11								
ILAR				sP		sP	01 49 58.7	-4.1	
	comp=N,0.2nm,0.5s,baz=170,slow=5.3,SNR=1.9								
ILAR	**Eielson Array**	64.15	336	P		P	01 49 06.0	-2.3	
ILAR				sP		sP	01 49 58.7	-4.1	
ARCES	**ARCESS Array B**	85.30	19	P		P	01 51 07.3	-2.5	
	comp=N,5.0nm,1.1s,mb4.2,baz=280,slow=5.1,SNR=4.4								
ARCES	**ARCESS Array B**	85.30	19	P		P	01 51 07.3	-2.5	
TORD	**Torodi Ar. Bea**	87.48	77	P		P	01 51 15.7	-5.9	
	comp=N,0.6nm,1.1s,mb3.3,baz=284,slow=5.9,SNR=2.7								
TORD	**Torodi Ar. Bea**	87.48	77	P		P	01 51 15.7	-5.9	
CN2	**Changchun**	114.59	333	*e*PKP		PKiKP	01 57 10.8	-1.9	
CN2				PP		PP	01 58 14.0	+2.9	
BJI	**Beijing**	121.50	338	PKP		PKPdf	01 57 24.3	-1.8	
HHC	**Hu-ho-hao-te**	122.34	342	*e*PKP		PKPdf	01 57 26.8	-0.9	
HHC				sPKP			01 58 29.9		
HHC				PP		PP	01 59 09.3	+5.0	
HHC				PKS			02 01 02.1		
HHC				SKS		SKSdf	02 04 20.8	-4.3	
HHC				SKKS		SKKSac	02 05 42.8	-6.2	
HHC				SS		SS	02 15 31.9	+0.7	
HHC				AMB		AMB			
	comp=Z,150nm,10.7s								
HHC				LR		LR			
	comp=N,230nm,20.2s								
HHC				LR		LR			
	comp=E,520nm,22.6s								
HHC				LR		LR			
	comp=Z,170nm,23.8s								
WMQ	**Urumqi**	122.50	3	PKP		PKPdf	01 57 24.5	-3.4	
LZH	**Lanzhou**	128.87	347	*e*PKP		PKPdf	01 57 38.0	-2.3	
CD2	**Chengdu**	133.84	345	PKP		PKPdf	01 57 48.6	-1.3	
WRA	**Warramunga Arr**	138.27	256	PKP		PKPdf	01 57 55.8	-2.5	
	comp=Z,0.9nm,0.6s,baz=89,slow=2.0,SNR=13								
WRA				SKP			02 01 15.2		
	comp=Z,0.3nm,0.5s,baz=87,slow=3.5,SNR=6.4								
WRA	**Warramunga Arr**	138.27	256	PKP		PKPdf	01 57 55.8	-2.5	
WRA				SKP			02 01 15.2		
ASAR	**Alice Springs**	138.45	250	PKP		PKPdf	01 57 56.0	-2.6	
	comp=Z,0.3nm,0.6s,baz=87,slow=2.1,SNR=4.3								
ASAR				SKP			02 01 15.8		
	comp=Z,0.3nm,0.6s,baz=102,slow=3.0,SNR=4.2								
ASAR	**Alice Springs**	138.45	250	PKP		PKPdf	01 57 56.0	-2.6	
ASAR				SKP			02 01 15.8		

*IDC **18** 02:01:23.9±1.0, 10.°74N×91.°66E, h0km, mb3.8/10, mb1 4.0/11,mb1mx3.8/26, mbtmp3.8/11, ML3.5/1, Error ellipse: s-maj=39.5km s-min=16.6km az=58.0*
*NEIC **18** 02:01:25.6±0.5, 10.°78N×91.°66E, h10km, mb4.3/2, Error ellipse: s-maj=15.2km s-min=8.9km az=63.0*
*ISCJB **18** 02:01:27.3±0.7, 10.°82N±0.°10×91.°8E±0.°1, h33km, mb3.9/12, Error ellipse: s-maj=20.4km s-min=12.1km az=153.1*

ISC 18 02:01:29.6±4.4, 10.°8N±0.°2×91.°7E±0.°2, h36km±37km, n25, σ0s51/25, mb3.9/12, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	10.31	42	Pn	Pn	02 03 55.1	0.0
	0.1nm,0.3s,baz=235,slow=14,SNR=2.4						
CMAR	**Chiang Mai Arr**	10.31	42	Pn	Pn	02 03 55.1	0.0
ENH	**Enshi**	25.45	38	*e*P	P	02 06 54.1	-0.1
	12nm,0.8s,mb4.5						
MKAR	**Makanchi Array**	36.73	349	P	P	02 08 33.5	+0.1
	1.7nm,0.6s,mb4.0,baz=170,slow=8.2,SNR=10						
MKAR	**Makanchi Array**	36.73	349	P	P	02 08 33.5	+0.1
SONM	**Songino Array**	38.90	16	P	P	02 08 51.6	-0.1
	1.0nm,0.7s,mb3.6,baz=208,slow=8.9,SNR=7.0						
SONM	**Songino Array**	38.90	16	P	P	02 08 51.6	-0.1
KURK	**Kurchatov**	41.21	347	P	P	02 09 10.5	-0.3
	1.2nm,0.9s,mb3.5,baz=172,slow=7.1,SNR=8.2						
KURK	**Kurchatov**	41.21	347	P	P	02 09 10.5	-0.3
ZALV	**Zalesovo Beam**	43.37	354	P	P	02 09 28.8	+0.5
	1.3nm,0.5s,mb3.9,baz=178,slow=8.9,SNR=10						
ZALV	**Zalesovo Beam**	43.37	354	P	P	02 09 28.8	+0.5
WRA	**Warramunga Arr**	51.91	126	P	P	02 10 35.0	-0.1
	0.7nm,0.5s,mb3.9,baz=306,slow=8.3,SNR=20						
WRA	**Warramunga Arr**	51.91	126	P	P	02 10 35.0	-0.1
WRAB	**Tennant Creek**	51.91	126	*e*P	P	02 10 35.4	+0.2
	1.2nm,0.6s,mb4.0						
WB2	**Warramunga Arr**	51.91	126	*e*P	P	02 10 35.4	+0.2
ASAR	**Alice Springs**	53.62	130	P	P	02 10 46.4	-1.4
	1.9nm,0.7s,mb4.1,baz=306,slow=7.2,SNR=21						
ASAR	**Alice Springs**	53.62	130	P	P	02 10 46.4	-1.4
BRTR	**Keskin Array B**	58.72	310	P	P	02 11 24.2	+0.3
	0.5nm,0.9s,mb3.5,baz=111,slow=8.0,SNR=3.8						
BRTR	**Keskin Array B**	58.72	310	P	P	02 11 24.2	+0.3
STKA	**Stephens Creek**	63.85	134	P	P	02 11 59.8	+1.0
	0.8nm,0.4s,mb4.1,baz=318,slow=9.2,SNR=3.4						
STKA	**Stephens Creek**	63.85	134	P	P	02 11 59.8	+1.0
GERES	**GERESS Array B**	74.06	318	P	P	02 13 01.4	-0.5
	0.5nm,0.8s,mb3.5,baz=62,slow=6.8,SNR=4.1						
GERES	**GERESS Array B**	74.06	318	P	P	02 13 01.4	-0.5
ILAR	**Eielson Array**	92.91	21	P	P	02 14 38.9	+0.2
	0.2nm,0.6s,mb3.7,baz=294,slow=4.8,SNR=4.1						
ILAR	**Eielson Array**	92.91	21	P	P	02 14 38.9	+0.2

*IDC **18** 02:12:54.9±3.3, 25.°70S×179.°86W, h430km±35km, mb3.6/3, mb1 3.8/6, mb1mx3.4/18, mbtmp3.8/6, Error ellipse: s-maj=29.4km s-min=22.9km az=148.0*
*ISCJB **18** 02:12:56.6±1.3, 25.°68S±0.°08×179.°6W±0.°2, h489km±30km, mb4.3/8, Error ellipse: s-maj=28.1km s-min=12.4km az=0.4*
*NEIC **18** 02:12:56.2±0.9, 25.°81S×179.°78W, h451km±10km, mb4.4/3, Error ellipse: s-maj=16.0km s-min=9.9km az=119.0*

ISC 18 02:12:57.0±1.1, 25.°75S±0.°08×179.°6W±0.°2, h483km±27km, n34, σ0s65/23, mb4.3/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	8.28	344	*e*P	P	02 14 56.0	-0.1
	13nm,0.6s						
URZ	**Urewera**	12.78	192	P	P	02 15 42.5	-1.2
	8.2nm,0.3s,baz=45,slow=3.6,SNR=25						
URZ				S	S	02 18 02.1	+0.8
	0.5nm,0.3s,baz=285,slow=22,SNR=4.9						
URZ	**Urewera**	12.78	192	P	P	02 15 42.5	-1.2
URZ				S	S	02 18 02.1	+0.8
AFI	**Afiamalu**	13.87	33	P	P	02 15 56.0	+0.3
	5.3nm,0.3s,baz=208,slow=16,SNR=4.8						
AFI	**Afiamalu**	13.87	33	P	P	02 15 56.0	+0.4
RPZ	**Rata Peaks**	19.48	201	P	P	02 16 51.8	+0.3
	1.7nm,0.3s,baz=34,slow=15,SNR=3.9						
RPZ	**Rata Peaks**	19.48	201	P	P	02 16 51.8	+0.3
EIDS	**Eidsvold**	26.46	264	*e*P	P	02 17 54.7	+0.3
	39nm,0.6s,mb5.0						
RMQ	**Roma**	28.41	261	*e*P	P	02 18 12.8	+1.2
	9.4nm,0.7s,mb4.3						
CTA	**Charters Tower**	31.92	273	*e*P	P	02 18 42.6	+0.5
	12nm,0.8s,mb4.4						
CTAO	**Charters Tower**	31.92	273	*e*P	P	02 18 42.6	+0.6
	15nm,0.8s,mb4.5						
STKA	**Stephens Creek**	34.44	251	P	P	02 19 02.8	-0.5
	2.6nm,0.5s,mb3.9,baz=75,slow=7.3,SNR=6.2						
STKA	**Stephens Creek**	34.44	251	*e*P	P	02 19 02.8	-0.5
	2.1nm,0.5s,mb3.8						
STKA	**Stephens Creek**	34.44	251	P	P	02 19 02.8	-0.5
COEN	**Coen**	36.83	281	*e*P	P	02 19 24.0	+0.6
	30nm,0.6s,mb4.9						
ASAR	**Alice Springs**	42.15	263	P	P	02 20 06.1	-0.3
	2.4nm,0.3s,mb4.0,baz=89,slow=7.2,SNR=54						
ASAR	**Alice Springs**	42.15	263	P	P	02 20 06.1	-0.3
WB2	**Warramunga Arr**	42.69	268	*e*P	P	02 20 10.1	-0.6
WRAB	**Tennant Creek**	42.70	268	*e*P	P	02 20 10.2	-0.5
	5.7nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	42.70	268	P	P	02 20 09.9	-0.8
	3.6nm,0.4s,mb4.2,baz=102,slow=7.5,SNR=96						
WRA	**Warramunga Arr**	42.70	268	P	P	02 20 09.9	-0.8
NB2	**NORSAR Array B**	143.96	351	PKP	PKPdf	02 31 37.7	+1.5
	comp=Z,1.6nm,0.6s,baz=15,slow=3.2						
NOA	**NORSAR Array B**	143.96	351	PKP	PKPdf	02 31 38.1	+1.9
	comp=Z,2.4nm,0.7s,baz=16,slow=4.9,SNR=7.6						
NOA	**NORSAR Array B**	143.96	351	PKP	PKPdf	02 31 38.1	+1.9
HFS	**Hagfors**	144.43	349	PKP	PKPdf	02 31 39.4	+2.3
	comp=Z,2.9nm,0.3s,baz=51,slow=2.4,SNR=38						
HFS	**Hagfors**	144.43	349	PKP	PKPdf	02 31 39.4	+2.3
AKASG	**Malin Array Be**	146.73	326	PKPbc	PKPbc	02 31 45.6	+1.7
	comp=Z,0.7nm,0.4s,baz=46,slow=3.8,SNR=6.8						
AKASG	**Malin Array Be**	146.73	326	PKPbc	PKPbc	02 31 45.6	+1.8
MMAI	**Mount Meron Ar**	148.78	292	PKPbc	PKPbc	02 31 53.1	+3.4
	comp=Z,1.3nm,0.6s,baz=72,slow=5.4,SNR=5.5						
MMAI	**Mount Meron Ar**	148.78	292	PKPbc	PKPbc	02 31 53.1	+3.4
BRTR	**Keskin Array B**	148.98	305	PKPbc	PKPbc	02 31 52.5	+2.6
	comp=Z,0.3nm,0.4s,baz=358,slow=0.3,SNR=5.2						
BRTR	**Keskin Array B**	148.98	305	PKPbc	PKPbc	02 31 52.5	+2.6
EKA	**Eskdalemuir Ar**	150.33	4	PKPbc	PKPbc	02 31 55.7	+3.0
	comp=Z,2.0nm,0.9s,baz=352,slow=2.5,SNR=5.3						
EKA	**Eskdalemuir Ar**	150.33	4	PKPbc	PKPbc	02 31 55.7	+3.0

*NEIC **18** 02:25:04.0±1.4, 23.°56N×120.°61E, h10km, ML4.0(TAP), Error ellipse: s-maj=18.4km s-min=7.4km az=98.0*
NEIC Recorded [3 TAP] in Chia-i and Yun-lin; [2 TAP] in Nan-t'ou; [1 TAP] in Chang-hua, Kao-hsiung, T'ai-chung and T'ai-nan.
*TAP **18** 02:25:03.5, 23.°55N×120.°60E, h10km, ML3.6, A*
*ISCJB **18** 02:25:04.6±0.2, 23.°56N±0.°01×120.°59E±0.°02, h10km±2km, Error ellipse: s-maj=2.6km s-min=1.8km az=18.9*

ISC 18 02:25:04.6±0.2, 23.°56N±0.°01×120.°59E±0.°02, h14km±2km, n59, σ0s87/102, 8C-14D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHN5	**Tsauling**	0.09	67	⇓*i*P	Pg	02 25 06.5	-1.2
	baz=52						
WGK	**Gukeng**	0.13	350	⇓*e*P	Pg	02 25 07.7	-0.5
	baz=349						
CHY	**Chiayi**	0.16	247	⇑*i*P	Pg	02 25 08.1	-0.5
	baz=253						
CHY				*e*S	Sg	02 25 11.4	+0.1
	baz=253						
ALS	**Alishan**	0.21	104	⇑*i*P	Pg	02 25 08.8	-0.5
	baz=100						
ALS				S	Sg	02 25 12.8	+0.3
	baz=100						
CHN4	**Tsaushan**	0.21	178	⇓*i*P	Pg	02 25 08.6	-0.8
	baz=183						
CHN4				S	Sg	02 25 12.9	+0.4
	baz=183						
TPUB	**Ta-pu**	0.26	171	*e*Pg	Pg	02 25 09.2	-1.0
TPUB				*e*S	Sg	02 25 13.8	-0.2
WTP	**Ta-pu**	0.32	175	⇓*i*P	Pg	02 25 10.5	-0.7
	baz=178						
WTP				*e*S	Sg	02 25 15.6	+0.1
	baz=178						
WNT	**Mingjian**	0.33	16	⇓*i*P	Pg	02 25 11.6	+0.2
	baz=13						
WNT				S	Sg	02 25 17.4	+1.5
	baz=13						
WSF	**Szhu**	0.34	283	*e*P	Pg	02 25 11.2	-0.4
	baz=285						
YUS	**Yu-Shan**	0.34	102	⇑*i*P	Pg	02 25 11.6	0.0
	baz=99						
YUS				S	Sg	02 25 17.2	+0.9
	baz=99						
CHN1	**Nanshi**	0.38	188	⇓*i*P	Pg	02 25 11.6	-0.7
	baz=192						
CHN1				*e*S	Sg	02 25 18.0	+0.5
	baz=192						
SSLB	**Suanglung**	0.41	56	*e*Pg	Pg	02 25 12.0	-0.8
SSLB				*e*S	Sg	02 25 19.0	+0.7
CHN8	**Yiju**	0.41	238	P	Pg	02 25 12.5	-0.3
	baz=241						
CHN8				S	Sg	02 25 19.8	+1.5
	baz=241						
WTCT	**Ta-ch'eng**	0.41	317	*e*P	Pg	02 25 12.6	-0.3
	baz=318						
WTCT				*e*S	Sg	02 25 19.7	+1.3
	baz=318						
TYC	**Yuchr**	0.42	36	⇓*i*P	Pg	02 25 13.1	0.0
	baz=33						
TYC				S	Sg	02 25 20.4	+1.6
	baz=33						
STYT	**Tauyuan**	0.43	158	⇓*i*P	Pg	02 25 12.5	-0.6
	baz=160						
STYT				S	Sg	02 25 19.1	+0.1
	baz=160						
SMLT	**Sun Moon Lake**	0.43	42	⇓*i*P	Pg	02 25 13.2	0.0
	baz=39						
CHN3	**Shinhua**	0.53	203	*e*P	Pg	02 25 15.3	+0.3
	baz=206						
SCLT	**Jiali**	0.53	223	*e*P	Pg	02 25 14.9	-0.2
	baz=226						
SCLT				*e*S	Sg	02 25 24.3	+2.2
	baz=226						
ELDTW	**Lidau**	0.54	133	⇑*i*P	Pg	02 25 14.7	-0.6
	baz=133						
ELDTW				*e*S	Sg	02 25 22.2	-0.3
	baz=133						
TCU	**Taichung**	0.59	8	*e*P	Pg	02 25 16.0	-0.2
	baz=6.0						
TCU				*e*S	Sg	02 25 24.9	+0.9
	baz=6.0						
TAI1	**Yung-k'ang**	0.61	213	*e*P	Pg	02 25 17.0	+0.3
	baz=215						
TAI1				*e*S	Sg	02 25 27.4	+2.5
	baz=215						
YULB	**Yu-li**	0.67	104	*e*Pg	Pg	02 25 16.8	-1.0
YULB				*e*S	Sg	02 25 26.4	-0.3
EHY	**Hungye**	0.68	95	⇑*i*P	Pg	02 25 17.5	-0.4
	baz=93						
EHY				S	Sg	02 25 26.9	+0.1
	baz=93						
TWF1	**Yuli**	0.69	108	⇑*i*P	Pg	02 25 17.6	-0.4
	baz=106						
TWF1				*e*S	Sg	02 25 26.1	-0.9
	baz=106						
TWM1	**Shoushan**	0.75	192	P	Pg	02 25 20.2	+1.0
	baz=177						
TWQ1	**Liyutan**	0.80	12	⇓*i*P	Pg	02 25 20.2	0.0
	baz=10.0						
TWQ1				*e*S	Sg	02 25 31.7	+0.9
	baz=10.0						
SSD	**Sandimen**	0.81	177	⇓*i*P	Pg	02 25 19.9	-0.5
	baz=179						
SSD				*e*S	Sg	02 25 31.4	+0.3
	baz=179						
ESL	**Shilin**	0.81	72	*e*P	Pg	02 25 20.0	-0.5
	baz=69						
ESL				S	Sg	02 25 30.8	-0.4
	baz=69						
SGLT	**Jiouru**	0.84	186	*e*P	Pg	02 25 21.5	+0.6
	baz=187						
WHF	**Hehuan Shan**	0.85	47	⇓*i*P	Pg	02 25 20.8	-0.3
	baz=44						
WHF				S	Sg	02 25 32.7	+0.4
	baz=44						
CHKT	**Chengkung**	0.85	123	*e*P	Pg	02 25 21.2	0.0
	baz=130						
CHKT				*e*S	Sg	02 25 34.8	+2.4
	baz=130						
TWG	**Pinlang**	0.86	149	*e*Pg	Pg	02 25 20.4	-0.9
TWG	**Pinlang**	0.86	149	⇑*i*P	Pg	02 25 20.8	-0.6
	baz=150						
TWG				*e*S	Sg	02 25 32.5	-0.1
	baz=150						
NSY	**Sanyi**	0.86	11	⇓P	Pg	02 25 21.4	0.0
	baz=9.0						
NSY				*e*S	Sg	02 25 34.2	+1.4
	baz=9.0						
TWT	**Tachien**	0.87	38	*e*P	Pg	02 25 20.3	-1.3
	baz=34						
TWT				*e*S	Sg	02 25 32.4	-0.7
	baz=34						
WDGT	**Dungji**	0.90	251	P	Pb	02 25 20.5	-1.6
	baz=252						
WDGT				*e*S	Sg	02 25 33.0	-1.0
	baz=252						
PNG	**Penghu**	0.95	271	⇑P	Pb	02 25 21.2	-1.7
	baz=272						
PNG				*e*S	Sb	02 25 34.4	-0.8
	baz=272						
TTN	**Taitung**	0.95	147	*e*P	Pb	02 25 23.0	0.0
	baz=148						
TTN				*e*S	Sb	02 25 37.0	+1.6
	baz=148						
ECL	**Taimali**	1.02	161	P	Pb	02 25 23.4	-0.6
	baz=150						
ECL				*e*S	Sb	02 25 37.1	-0.2
	baz=150						
HWA	**Hwalien**	1.02	66	*e*P	Pb	02 25 23.8	-0.3
	baz=63						
HWA				*e*S	Sb	02 25 38.4	+1.0
	baz=63						
TWD	**Chiawan**	1.06	61	P	Pb	02 25 23.7	-1.0
	baz=58						
TWD				*e*S	Sb	02 25 38.3	-0.2
	baz=58						
NACB	**Ninganchiao**	1.11	56	*e*Pn	Pn	02 25 24.3	-1.4
NACB				*e*S	Sb	02 25 39.0	-0.8
NSTT	**Nanjuang**	1.13	19	*e*P	Pb	02 25 24.5	-1.5
	baz=17						
NSTT				*e*S	Sb	02 25 40.9	+0.4
	baz=17						
NNS	**Nan Shan**	1.13	39	*e*P	Pb	02 25 24.9	-1.1
	baz=25						
NNS				*e*S	Sb	02 25 40.5	-0.1
	baz=25						
SCZT	**Fangliau**	1.18	179	*e*P	Pn	02 25 25.8	-1.0
	baz=171						
SCZT				*e*S	Sb	02 25 43.7	+1.6
	baz=171						
EAST	**Anshuo**	1.20	168	P	Pn	02 25 26.6	-0.3
	baz=178						
EAST				*e*S	Sb	02 25 43.7	+1.3
	baz=178						
TAW	**Tawu**	1.23	167	*e*P	Pn	02 25 26.4	-1.0
	baz=168						
NSK	**Sanguang**	1.31	32	⇓*i*P	Pn	02 25 28.3	-0.3
	baz=30						
NSK				*e*S	Sb	02 25 45.9	0.0
	baz=30						
YHNB	**Yeheng**	1.32	33	*e*Pn	Pn	02 25 27.9	-0.7
ENA	**Nanau**	1.36	51	*e*P	Pn	02 25 28.9	-0.4
	baz=49						
ENTT	**Nioudou**	1.40	40	*e*P	Pn	02 25 29.5	-0.2
	baz=28						
ENTT				*e*S	Sn	02 25 48.8	+0.8
	baz=28						
TWE	**Neicheng**	1.52	40	*e*P	Pn	02 25 32.2	+0.8
	baz=31						
TWE				*e*S	Sn	02 25 55.3	+4.3
	baz=31						
TWC	**Suao**	1.56	48	*e*P	Pn	02 25 32.6	+0.7
	baz=45						
TWC				*e*S	Sn	02 25 53.5	+1.6
	baz=45						
TWK1	**Hengchun**	1.62	173	*e*P	Pn	02 25 34.2	+1.4
	baz=170						
TATO	**Taipei**	1.63	30	*e*Pn	Pn	02 25 33.6	+0.6
TWA	**Mucha**	1.68	33	*e*P	Pn	02 25 32.8	-0.8
	baz=14						
TWS1	**Kuangyinshan**	1.71	26	*e*P	Pn	02 25 35.1	+1.1
	baz=9.0						
NWF	**Wu-fen Shan**	1.86	36	*e*P	Pn	02 25 36.9	+0.9
	baz=34						

**M

CHOS	**Chios island**	**0.55**	**296**	*e*PN	**Pg**	02 32 34.4	**0.0**		
CHOS				*e*SN	**Sg**	02 32 43.3	**+1.7**		
CHOS	**Chios island**	**0.55**	**296**	*e*PN	**Pg**	02 32 34.4	**0.0**		
GCAM	**G?zelcaml?**	**0.62**	**136**	*i* P	**Pg**	02 32 35.9	**+0.2**		
GCAM				*i* S	**Sg**	02 32 44.9	**+1.0**		
GCAM	**G?zelcaml?**	**0.62**	**136**	*i* P	**Pg**	02 32 35.9	**+0.2**		
GCAM				*i* S	**Sg**	02 32 44.9	**+1.1**		
PRK	**Paraskevi**	**1.14**	**344**	*e*PN	**Pg**	02 32 44.5	**-1.2**		
PRK	**Paraskevi**	**1.14**	**344**	*e*Pn	**Pg**	02 32 44.5	**-1.2**		
AKS	**Akhisar**	**1.14**	**50**	*e*PN	**Pg**	02 32 45.5	**-0.2**		
AKS				*e*SN	**Sg**	02 33 01.8	**+1.2**		
AKS	**Akhisar**	**1.14**	**50**	*e*Pn	**Pg**	02 32 45.5	**-0.2**		
AKS				*e*Sn	**Sg**	02 33 01.8	**+1.3**		
AYVA	**Ayvalik**	**1.16**	**0**	*i* P	**Pg**	02 32 44.5	**-1.4**		
AYVA				*i* S	**Sg**	02 33 01.6	**+0.7**		
AYVA	**Ayvalik**	**1.16**	**0**	*i* P	**Pg**	02 32 44.5	**-1.4**		
AYVA				*i* S	**Sg**	02 33 01.6	**+0.6**		
BODT	**Bodrum**	**1.19**	**155**	*e*PN	**Pn**	02 32 46.6	**-0.1**		
BODT				*e*SN	**Sn**	02 33 02.0	**-1.2**		
BODT	**Bodrum**	**1.19**	**155**	*e*Pn	**Pn**	02 32 46.6	**-0.2**		
BODT				*e*Sn	**Sn**	02 33 02.0	**-1.2**		
MLSB	**Milas**	**1.21**	**134**	*e*PN	**Pn**	02 32 46.3	**-0.8**		
MLSB	**Milas**	**1.21**	**134**	*e*Pn	**Pn**	02 32 46.3	**-0.7**		
APE	**Apeiranthos**	**1.42**	**221**	*e*PN	**Pn**	02 32 50.4	**+0.5**		
APE	**Apeiranthos**	**1.42**	**221**	*e*PN	**Pn**	02 32 48.5	**-1.3**		
APE				*e*SN	**Sn**	02 33 08.7	**0.0**		
APE	**Apeiranthos**	**1.42**	**221**	*e*Pn	**Pn**	02 32 50.4	**+0.6**		
APE				*e*Sn	**Sn**	02 33 08.7	**0.0**		
MANT	**Manisa**	**1.51**	**76**	*i* P	**Pn**	02 32 51.9	**+0.8**		
MANT				*i* S	**Sn**	02 33 10.1	**-0.9**		
MANT	**Manisa**	**1.51**	**76**	*i* P	**Pn**	02 32 51.9	**+0.8**		
MANT				*i* S	**Sn**	02 33 10.1	**-0.9**		
DAT	**Datca**	**1.59**	**153**	*e*PN	**Pn**	02 32 51.9	**-0.3**		
DAT	**Datca**	**1.59**	**153**	*e*Pn	**Pn**	02 32 51.9	**-0.3**		
KULA	**Kula-Manisa**	**1.59**	**76**	*e*PN	**Pn**	02 32 52.9	**+0.6**		
KULA	**Kula-Manisa**	**1.59**	**76**	*e*Pn	**Pn**	02 32 52.9	**+0.6**		
YER	**Yerkesik**	**1.62**	**128**	*e*PN	**Pn**	02 32 52.6	**0.0**		
YER	**Yerkesik**	**1.62**	**128**	*e*Pn	**Pn**	02 32 52.7	**+0.1**		
EZN	**Ezine**	**1.70**	**351**	*e*PN	**Pn**	02 32 54.5	**+0.8**		
EZN	**Ezine**	**1.70**	**351**	*e*Pn	**Pn**	02 32 54.5	**+0.8**		
BALY	**Balya**	**1.75**	**24**	*i* P	**Pn**	02 32 54.9	**+0.6**		
BALY				*i* S	**Sn**	02 33 16.0	**-0.8**		
BALY	**Balya**	**1.75**	**24**	*i* P	**Pn**	02 32 54.9	**+0.5**		
BALY				*i* S	**Sn**	02 33 16.0	**-0.8**		
BALB	**Balikesir**	**1.75**	**32**	*e*PN	**Pn**	02 32 55.3	**+0.8**		
BALB	**Balikesir**	**1.75**	**32**	*e*Pn	**Pn**	02 32 55.3	**+0.8**		
GONE	**Gonen-Balikesi**	**2.05**	**22**	*e*PN	**Pn**	02 32 59.3	**+0.8**		
GONE	**Gonen-Balikesi**	**2.05**	**22**	*e*Pn	**Pn**	02 32 59.3	**+0.8**		
DST	**Dursunbey**	**2.09**	**45**	*e*PN	**Pn**	02 32 59.8	**+0.7**		
DST	**Dursunbey**	**2.09**	**45**	*e*Pn	**Pn**	02 32 59.8	**+0.7**		

IDC 18 02:33:48.9±1.6, 1°53N×66°84E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/24, mbtmp3.9/7, MS3.5/10, Ms1 3.5/10, ms1mx3.3/34, Error ellipse: s-maj=48.2km s-min=24.3km az=51.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATD	**Arta Tunnel**	**25.80**	**294**	LR	LR	02 47 36.7	
	comp=Z,35nm,20.1s,baz=131,slow=32						
CMAR	**Chiang Mai Arr**	**35.69**	**60**	P	P	02 40 51.1	+1.8
	0.7nm,0.3s,baz=248,slow=9.5,SNR=5.3						
CMAR				LR	LR	02 53 45.5	
	comp=Z,49nm,20.6s,baz=65,slow=34						
MKAR	**Makanchi Array**	**47.05**	**14**	LR	LR	03 00 41.6	
	comp=Z,49nm,22.0s,baz=174,slow=34						
BRTR	**Keskin Array B**	**48.55**	**326**	P	P	02 42 35.8	+1.8
	0.5nm,0.7s,baz=146,slow=12,SNR=3.6						
AKTO	**Aktyubinsk**	**49.30**	**353**	P	P	02 42 38.5	-1.1
	1.4nm,0.8s,baz=217,slow=6.4,SNR=4.2						
BOSA	**Boshof**	**49.85**	**230**	LR	LR	03 01 24.4	
	comp=Z,114nm,20.4s,baz=346,slow=33						
KURK	**Kurchatov**	**50.01**	**10**	LR	LR	03 02 34.0	
	comp=Z,42nm,20.8s,baz=315,slow=35						
ZALV	**Zalesovo Beam**	**54.30**	**13**	P	P	02 43 15.2	-1.7
	0.7nm,0.5s,baz=218,slow=7.0,SNR=6.5						
ZALV				LR	LR	03 06 29.7	
	comp=Z,46nm,18.1s,baz=150,slow=36						
SONM	**Songino Array**	**57.39**	**31**	P	P	02 43 39.4	+0.3
	1.5nm,1.0s,baz=228,slow=5.8,SNR=6.6						
SONM				LR	LR	03 08 33.2	
	comp=Z,104nm,20.5s,baz=79,slow=36						
KSRS	**Korea Array**	**66.37**	**49**	LR	LR	03 16 58.3	
	comp=Z,30nm,18.1s,baz=183,slow=39						
WRA	**Warramunga Arr**	**69.46**	**112**	P	P	02 45 00.1	+0.4
	1.8nm,0.9s,baz=288,slow=6.2,SNR=9.3						
ASAR	**Alice Springs**	**69.72**	**116**	P	P	02 45 00.5	-0.8
	1.0nm,0.9s,baz=289,slow=4.9,SNR=7.1						
MJAR	**Matsushiro Arr**	**74.16**	**52**	LR	LR	03 17 30.6	
	comp=Z,48nm,18.6s,baz=225,slow=35						
SNAA	**Sanae**	**85.15**	**197**	LR	LR	03 14 56.3	
	comp=Z,15nm,20.0s,baz=29,slow=29						
TXAR	**Lajitas Array**	**147.99**	**344**	PKPbc	PKPbc	02 53 36.8	-0.2
	1.9nm,1.0s,baz=52,slow=2.6,SNR=11						

*MOS **18** 03:39:47.4±0.4, 50°45N×155°01E, h62km, mb4.4/1, Error ellipse: s-maj=99.9km s-min=17.8km az=58.2*

KRSC 18 03:39:43.1±1.0, 49°61N×156°32E, h11km±10km, ML4.3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.08**	**353**	*e*PN	Pn	03 40 03.5	-0.7
SKR				*e*		03 40 07.6	
SKR				pmax	pmax		
	comp=N,90nm,0.5s						
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,120nm,0.5s						
SKR				smax			
	comp=N,2μm,0.3s						
SKR				smax			
	comp=E,600nm,0.3s						
SKR				smax			
	comp=Z,320nm,0.6s						
ALID	**Alaid**	**1.35**	**339**	P	Pn	03 40 08.2	+0.3
ALID				S	Sb	03 40 26.1	+0.3
RUS	**Russkaya**	**3.15**	**25**	P	Pn	03 40 33.0	+0.5
RUS				S	Sn	03 41 10.2	+0.1
RUS	**Russkaya**	**3.15**	**25**	PN	Pn	03 40 33.0	+0.5
RUS				S	Sn	03 41 10.2	+0.1
PET	**Petropavlovsk**	**3.72**	**22**	S	Sn	03 41 26.9	+2.8
PET	**Petropavlovsk**	**3.72**	**22**	*e*PN	Pn	03 40 40.1	-0.3
PET				*e*S	Sn	03 41 23.4	-0.7
PET				smax			
	comp=E,58nm,0.6s						
PET				smax			
	comp=N,57nm,0.6s						
UGLR	**Uglovaya**	**3.93**	**23**	P	Pn	03 40 46.1	+2.8
UGLR				S	Sn	03 41 33.1	+3.8
KOK	**Koryaka**	**3.96**	**21**	P	Pn	03 40 46.4	+2.7
KOK				S	Sn	03 41 33.4	+3.3
SDLR	**Sedlovina**	**4.01**	**23**	P	Pn	03 40 46.4	+2.0
SDLR				S	Sn	03 41 33.0	+1.7
SPN	**Mys Shipunski**	**4.19**	**32**	P	Pn	03 40 49.5	+2.6
SPN				S	Sn	03 41 39.0	+3.2
SPN	**Mys Shipunski**	**4.19**	**32**	PN	Pn	03 40 49.5	+2.6
SPN				S	Sn	03 41 39.0	+3.2
GNL	**Ganaly**	**4.21**	**13**	P	Pn	03 40 50.0	+2.8
MKZ	**Mys Kozlova**	**5.97**	**32**	P	Pn	03 41 12.5	+1.2
MKZ	**Mys Kozlova**	**5.97**	**32**	PN	Pn	03 41 12.5	+1.2
KBTR	**Krutoberegovo**	**7.69**	**28**	P	Pn	03 41 35.5	+0.7
KBTR	**Krutoberegovo**	**7.69**	**28**	PN	Pn	03 41 35.5	+0.7

IDC 18 03:45:03.5±9.7, 25°85S×179°71E, h442km±99km, mb3.2/5, mb1 3.3/6, mb1mx3.1/18, mbtmp3.2/6, Error ellipse: s-maj=78.2km s-min=39.6km az=33.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**12.57**	**189**	P	P	03 47 48.9	+0.4
	1.0nm,0.3s,baz=293,slow=2.1,SNR=5.4						
URZ				S	S	03 50 02.4	-2.3
	0.2nm,0.3s,baz=78,slow=12,SNR=2.5						
CTA	**Charters Tower**	**31.28**	**274**	P	P	03 50 46.9	+1.2
	3.3nm,0.7s,baz=90,slow=11,SNR=3.4						
STKA	**Stephens Creek**	**33.80**	**251**	P	P	03 51 07.4	+0.3
	0.6nm,0.6s,baz=94,slow=11,SNR=4.2						

ASAR	**Alice Springs**	**41.50**	**263**	P	P	03 52 10.3	-0.3		
	1.2nm,0.5s,baz=92,slow=7.9,SNR=13								
WRA	**Warramunga Arr**	**42.05**	**268**	P	P	03 52 14.6	-0.5		
	2.0nm,0.5s,baz=102,slow=7.7,SNR=29								
FITZ	**Fitzroy Crossi**	**50.45**	**267**	P	P	03 53 19.1	-0.2		
	0.8nm,0.5s,baz=106,slow=7.2,SNR=4.7								
HFS	**Hagfors**	**144.39**	**348**	PKP	PKPdf	04 03 47.5	-0.3		
	3.4nm,1.0s,baz=66,slow=3.6,SNR=6.8								

*ISCJB **18** 03:48:02.0±0.8, 36°29N±0°03×71°66E±0°08, h80km±8km, mb3.9/16, Error ellipse: s-maj=10.7km s-min=4.2km az=159.9*

*IDC **18** 03:48:05.0±4.6, 36°33N×71°54E, h89km±41km, mb3.7/16, mb1 3.8/20, mb1mx3.7/32, mbtmp3.7/20, Error ellipse: s-maj=20.9km s-min=13.0km az=22.0*

*NEIC **18** 03:48:06.1±1.1, 36°45N×71°53E, h97km±10km, mb3.9/1, Error ellipse: s-maj=11.3km s-min=9.6km az=138.0*

*NNC **18** 03:48:11.7±2.6, 36°88N×71°21E, h134km±29km, mb3.3, mpv4.4, Error ellipse: s-maj=20.8km s-min=12.5km az=22.0*

ISC 18 03:48:05.0±0.4, 36°31N±0°03×71°79E±0°05, h94km±6km, n78, σ1s33/96, mb3.9/16, 5C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.85**	**233**	*e*Pn	**Pn**	03 48 49.4	**+0.9**
KBL				*e*S	**Sn**	03 49 22.6	**+0.5**
AML	**Almayashu**	**6.00**	**14**	P	**Pn**	03 49 32.1	**+1.0**
	SNR=32						
BHK	**Bhakra**	**6.21**	**140**	*e*S	**Sn**	03 50 45.0	**+1.3**
UCH	**Uchtor**	**6.28**	**19**	P	**Sn**	03 50 44.1	**-1.1**
	SNR=7.0						
KZA	**Kyart**	**6.36**	**24**	P	**Pn**	03 49 39.1	**+3.1**
	SNR=7.0						
SDNR	**Sundarnagar**	**6.45**	**137**	*e*PKP	**Pn**	03 49 41.0	**+3.7**
SDNR				*e*S	**Sn**	03 50 49.0	**-0.3**
EKS2	**Erkin-Say**	**6.53**	**13**	P	**Pn**	03 49 39.5	**+1.1**
	SNR=27						
EKS2	**Erkin-Say**	**6.53**	**13**	*e*Pn	**Pn**	03 49 39.1	**+0.7**
EKS2				*e*S	**Sn**	03 50 42.4	**-8.9**
AAK	**Ala-Archa**	**6.66**	**18**	P	**Pn**	03 49 41.4	**+1.4**
	SNR=12						
SMLA	**Simla**	**6.84**	**138**	*i* P	**Pn**	03 49 43.7	**+1.1**
SMLA				*i* S	**Sn**	03 50 57.5	**-1.4**
SMLA				⇓AML	AML	03 51 00.8	
	comp=N,2μm,0.2s						
SMLA				⇓AML	AML	03 51 00.9	
	comp=E,2μm,0.2s						
KK31	**Karatay Array**	**6.86**	**352**	⇓Pn	**Pn**	03 49 41.4	**-1.4**
	comp=E,33nm,0.3s,baz=181,slow=13,SNR=918						
KK31				⇑Sn	**Sn**	03 50 52.3	**-7.1**
	comp=E,8.2nm,0.3s,baz=178,slow=18,SNR=7.6						
KKAR	**Karatay Array**	**6.86**	**352**	*e*Pn	**Pn**	03 49 41.5	**-1.3**
	comp=E,92nm,0.4s						
KKAR				*e*S	**Sn**	03 50 54.5	**-4.8**
ULHL	**Ulahol**	**6.86**	**29**	P	**Pn**	03 49 45.0	**+2.1**
	SNR=10.0						
CHMS	**Chumysh**	**7.06**	**18**	P	**Pn**	03 49 46.6	**+1.0**
	SNR=7.4						
TKM2	**Tokmak 2**	**7.23**	**23**	P	**Pn**	03 49 50.1	**+2.2**
	SNR=7.7						
TKM2	**Tokmak 2**	**7.23**	**23**	⇑Pn	**Pn**	03 49 50.1	**+2.3**
	comp=E,11nm,0.9s						
TKM2				⇓Sn	**Sn**	03 51 08.5	**+0.1**
	comp=E,11nm,0.8s						
TKM2	**Tokmak 2**	**7.23**	**23**	*e*Pn	**Pn**	03 49 49.0	**+1.1**
	comp=E,9.0nm,0.6s						
NDI	**New Delhi**	**8.88**	**147**	*e*PKP	**Pn**	03 50 12.0	**+1.6**
NDI				*e*S	**Sn**	03 51 44.0	**-4.6**
KHET	**Khetri**	**8.88**	**156**	*e*PKP	**Pn**	03 50 09.7	**-0.8**
KHET				*e*S	**Sn**	03 51 42.9	**-6.0**
KHET				AML	AML	03 51 47.7	
	comp=N,30nm,0.4s						
KHET				AML	AML	03 51 49.6	
	comp=E,39nm,0.5s						
KUDL	**Kundal**	**9.06**	**153**	*e*PKP	**Pn**	03 50 11.9	**-0.9**
KUDL				*e*S	**Sn**	03 51 48.2	**-4.9**
KUDL				AML	AML	03 51 54.6	
	comp=N,18nm,0.3s						
KUDL				AML	AML	03 51 54.8	
	comp=E,29nm,0.4s						
SONA	**Sohna**	**9.20**	**149**	*e*PKP	**Pn**	03 50 15.6	**+0.8**
SONA				*e*S	**Sn**	03 51 52.2	**-4.3**
SONA				AML	AML	03 52 02.1	
	comp=E,48nm,0.5s						
SONA				AML	AML	03 52 02.1	
	comp=N,26nm,0.4s						
PYUN	**Piuthan**	**12.52**	**128**	*e*P	**Pn**	03 50 59.2	**-0.5**
PYUN				*e*S	**Sn**	03 53 10.7	**-6.6**
DANN	**Dangsing**	**12.85**	**125**	*e*P	**Pn**	03 51 03.3	**-0.8**
	comp=N,11nm,0.2s						
DANN				*e*S	**Sn**	03 53 18.1	**-7.3**
MK31	**Makanchi Array**	**13.09**	**34**	⇓P	**Pn**	03 51 09.8	**+2.8**
	comp=N,1.6nm,0.8s,baz=211,slow=12,SNR=18						
MK31	**Makanchi Array**	**13.09**	**34**	*e*Pn	**Pn**	03 51 10.5	**+3.4**
MKAR	**Makanchi Array**	**13.09**	**34**	P	**Pn**	03 51 07.3	**+0.2**
	comp=N,0.2nm,0.3s,baz=216,slow=12,SNR=7.1						
MKAR	**Makanchi Array**	**13.09**	**34**	P	**Pn**	03 51 07.2	**+0.2**
KOLN	**Koldanda**	**13.14**	**127**	*e*P	**Pn**	03 51 07.9	**+0.1**
	comp=N,12nm,0.5s						
GKN	**Gorkha**	**13.67**	**124**	*e*P	**Pn**	03 51 13.7	**-1.0**
	comp=N,14nm,0.4s						
DMN	**Daman**	**14.24**	**124**	*e*P	**Pn**	03 51 21.0	**-1.2**
	comp=N,17nm,0.4s						
KKN	**Kakani**	**14.24**	**123**	*e*P	**Pn**	03 51 20.6	**-1.6**
GUN	**Gumba**	**14.57**	**121**	*e*P	**Pn**	03 51 24.9	**-1.6**
KURK	**Kurchatov**	**15.22**	**17**	P	**Pn**	03 51 34.3	**-0.3**
	comp=N,0.2nm,0.3s,baz=205,slow=11,SNR=5.7						
KURK	**Kurchatov**	**15.22**	**17**	*e*Pn	**Pn**	03 51 34.6	**0.0**
KURK				*e*S	**S**	03 54 27.1	**-5.9**
AB31	**Akbulak array**	**15.56**	**330**	⇓P	**Pn**	03 51 34.0	**-4.8**
	comp=N,1.3nm,0.3s,baz=140,slow=12,SNR=97						
AB31				⇑S	**S**	03 54 19.6	**-20**
	comp=N,5.0nm,0.5s,baz=150,slow=23,SNR=8.2						
ABKAR	**Akbulak array**	**15.56**	**330**	*e*Pn	**Pn**	03 51 34.3	**-4.6**
	comp=N,3.1nm,0.3s						
ABKAR				*e*S	S	03 54 12.2	-28
TAPN	**Taplejung**	**16.20**	**119**	*e*P	**Pn**	03 51 45.5	**-1.4**
VOSK	**Vostochnaya**	**16.43**	**358**	⇓P	**Pn**	03 51 45.4	**-4.2**
	comp=N,4.4nm,1.1s						
BVA0	**Borovoye Array**	**16.75**	**357**	P	**Pn**	03 51 51.9	**-1.6**
	comp=N,0.8nm,1.1s,baz=230,slow=42,SNR=12						
AKTO	**Aktyubinsk**	**17.27**	**329**	⇑P	**Pn**	03 51 57.3	**-2.6**
	comp=N,1.3nm,1.0s						
AKTO				⇑S	**S**	03 54 58.2	**-14**
	comp=N,2.0nm,1.2s						
AKTO	**Aktyubinsk**	**17.27**	**329**	P	**Pn**	03 51 57.3	**-2.6**
	comp=N,0.6nm,0.3s,baz=145,slow=13,SNR=6.0						
AKTO				S	**S**	03 54 59.2	**-13**
	comp=N,0.4nm,0.3s,baz=201,slow=20,SNR=5.9						
AKTO	**Aktyubinsk**	**17.27**	**329**	P	**Pn**	03 51 57.3	**-2.6**
AKTO				S	**S**	03 54 59.2	**-13**
ZAA0	**Zalesovo Array**	**19.84**	**23**	*e*Pn	**Pn**	03 52 28.1	**-2.4**
ZALV	**Zalesovo Beam**	**19.84**	**23**	P	**Pn**	03 52 28.4	**-2.1**
	comp=N,1.7nm,0.3s,baz=207,slow=9.7,SNR=24						
ZALV	**Zalesovo Beam**	**19.84**	**23**	P	**Pn**	03 52 28.4	**-2.1**
SONM	**Songino Array**	**27.93**	**55**	P	**Pn**	03 53 48.1	**+2.0**
	comp=N,2.5nm,0.9s,mb3.8,baz=260,slow=9.0,SNR=16						
SONM	**Songino Array**	**27.93**	**55**	P	**P**	03 53 48.1	**+2.0**
CMAR	**Chiang Mai Arr**	**29.81**	**119**	P	**P**	03 54 06.3	**+3.3**
	comp=N,0.6nm,0.3s,mb3.7,baz=297,slow=7.9,SNR=3.2						
CMAR	**Chiang Mai Arr**	**29.81**	**119**	P	**P**	03 54 06.3	**+3.3**
MMAI	**Mount Meron Ar**	**30.00**	**275**	P	**P**	03 54 05.0	**+0.3**
	comp=N,0.6nm,0.4s,mb3.6,baz=248,slow=34,SNR=3.7						
MMAI	**Mount Meron Ar**	**30.00**	**275**	P	**P**	03 54 05.0	**+0.3**
AKASG	**Malin Array Be**	**33.56**	**309**	P	**P**	03 54 35.6	**-0.1**
	comp=N,0.7nm,0.4s,mb3.8,baz=77,slow=7.8,SNR=5.4						
AKASG	**Malin Array Be**	**33.56**	**309**	P	**P**	03 54 35.6	**-0.1**
FINES	**FINESS Array B**	**38.00**	**326**	P	**P**	03 55 13.7	**+0.2**
	comp=N,5.3nm,0.9s,mb4.4,baz=114,slow=8.9,SNR=9.7						
FINES	**FINESS Array B**	**38.00**	**326**	P	**P**	03 55 13.7	**+0.2**
ARCES	**ARCESS Array B**	**41.57**	**337**	P	**P**	03 55 42.2	**-0.7**
	comp=N,2.7nm,0.9s,mb4.0,baz=107,slow=8.1,SNR=4.2						
ARCES	**ARCESS Array B**	**41.57**	**337**	P	**P**	03 55 42.2	**-0.7**
HFS	**Hagfors**	**43.61**	**322**	P	**P**	03 55 59.5	**0.0**
	comp=N,1.9nm,0.4s,mb4.2,baz=92,slow=11,SNR=14						
HFS	**Hagfors**	**43.61**	**322**	P	**P**	03 55 59.5	**0.0**
NB2	**NORSAR Subarra**	**44.92**	**323**	P	**P**	03 56 09.9	**0.0**
	comp=Z,4.0nm,0.9s,mb4.2,baz=100,slow=7.9						
NOA	**NORSAR Array B**	**44.92**	**323**	P	**P**	03 56 09.8	**-0.1**
	comp=Z,2.4nm,0.8s,mb4.0,baz=95,slow=7.7,SNR=5.8						
NOA	**NORSAR Array B**	**44.92**	**323**	P	**P**	03 56 09.8	**-0.1**

MJAR	**Matsushiro Arr**	**52.44**	**69**	P	**P**	03 57 10.6	**+2.7**		
	comp=Z,1.9nm,0.7s,mb4.2,baz=281,slow=9.5,SNR=3.7								
MJAR	**Matsushiro Arr**	**52.44**	**69**	P	**P**	03 57 10.6	**+2.7**		
TORD	**Torodi Ar. Bea**	**66.35**	**269**	P	**P**	03 58 41.6	**-2.3**		
	comp=Z,0.5nm,0.5s,mb3.6,baz=50,slow=5.9,SNR=22								
TORD	**Torodi Ar. Bea**	**66.35**	**269**	P	**P**	03 58 41.6	**-2.3**		
INK	**Inuvik**	**73.99**	**10**	P	**P**	03 59 30.7	**+1.0**		
	comp=Z,1.2nm,0.5s,mb3.9,baz=338,slow=4.5,SNR=12								
INK	**Inuvik**	**73.99**	**10**	P	**P**	03 59 30.7	**+1.0**		
FITZ	**Fitzroy Crossi**	**74.27**	**127**	P	**P**	03 59 33.9	**+1.9**		
	comp=Z,3.0nm,1.1s,mb3.9,baz=315,slow=7.1,SNR=5.3								
FITZ	**Fitzroy Crossi**	**74.27**	**127**	P	**P**	03 59 33.9	**+1.9**		
ILAR	**Eielson Array**	**74.79**	**16**	P	**P**	03 59 34.4	**-0.1**		
	comp=Z,0.2nm,0.5s,mb3.1,baz=301,slow=4.8,SNR=7.7								
ILAR	**Eielson Array**	**74.79**	**16**	P	**P**	03 59 34.4	**-0.1**		
WRA	**Warramunga Arr**	**81.35**	**122**	P	**P**	04 00 12.6	**+1.3**		
	comp=Z,0.6nm,0.4s,mb3.8,baz=324,slow=4.9,SNR=18								
WRA	**Warramunga Arr**	**81.35**	**122**	P	**P**	04 00 12.6	**+1.3**		
YKA	**Yellowknife Ar**	**81.41**	**3**	P	**P**	04 00 11.4	**+0.4**		
	comp=Z,1.7nm,0.8s,mb3.9,baz=353,slow=5.3,SNR=5.5								
YKA	**Yellowknife Ar**	**81.41**	**3**	P	**P**	04 00 11.4	**+0.4**		
ASAR	**Alice Springs**	**83.62**	**125**	P	**P**	04 00 24.6	**+1.5**		
	comp=Z,0.7nm,0.8s,mb3.8,baz=314,slow=5.8,SNR=7.3								
ASAR	**Alice Springs**	**83.62**	**125**	P	**P**	04 00 24.6	**+1.5**		

*ISK **18** 03:58:54.4, 37°00N×29°07E, h3km, MD3.4*

*ISCJB **18** 03:58:55.1±0.5, 37°01N±0°02×29°07E±0°03, h2km±4km, Error ellipse: s-maj=3.8km s-min=3.6km az=164.1*

*CSEM **18** 03:58:55.3±0.1, 37°00N×29°06E, h2km, MD3.4, Error ellipse: s-maj=3.8km s-min=3.0km az=25.0*

*DDA **18** 03:58:55.1, 37°01N×29°12E, h3km, Md3.0*

ISC 18 03:58:55.5±0.5, 37°00N±0°02×29°06E±0°03, h0km±4km, n82, σ1s00/101, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FETY	**Fethiye**	**0.36**	**177**	*e*PG	**Pg**	03 59 01.8	**-0.7**
FETY				*e*SG	**Sg**	03 59 08.2	**+1.0**
FETY	**Fethiye**	**0.36**	**177**	*e*Pg	**Pg**	03 59 01.8	**-0.7**
FETY				*e*Sg	**Sg**	03 59 08.2	**+1.0**
GLHS	**Glhisar (BURDU**	**0.38**	**66**	*e*PG	**Pg**	03 59 02.4	**-0.5**
GLHS				*e*SG	**Sg**	03 59 08.5	**+0.7**
GLHS	**Glhisar (BURDU**	**0.38**	**66**	*e*Pg	**Pg**	03 59 02.4	**-0.4**
GLHS				*e*Sg	**Sg**	03 59 08.5	**+0.7**
TURN	**Turunc**	**0.39**	**251**	*i* P	**Pg**	03 59 09.3	**+6.3**
TURN				*i* S	**Sg**	03 59 22.3	**+14**
GOLH	**Golhisar**	**0.46**	**59**	*i* P	**Pg**	03 59 02.5	**-1.9**
GOLH				*i* S	**Sg**	03 59 09.8	**-0.6**
GOLH	**Golhisar**	**0.46**	**59**	*i* P	**Pg**	03 59 02.5	**-1.9**
GOLH				*i* S	**Sg**	03 59 09.8	**-0.6**
YER	**Yerkesik**	**0.64**	**282**	*e*PG	**Pg**	03 59 07.7	**0.0**
YER	**Yerkesik**	**0.64**	**282**	*e*Pg	**Pg**	03 59 07.7	**-0.1**
DNZL	**Cakiroluk**	**0.69**	**359**	*i* P	**Pg**	03 59 06.8	**-1.9**
DNZL				*i* S	**Sg**	03 59 19.3	**+1.6**
DNZL	**Cakiroluk**	**0.69**	**359**	*i* P	**Pg**	03 59 06.8	**-1.9**
DNZL				*i* S	**Sg**	03 59 19.3	**+1.6**
ELL	**Elmali**	**0.72**	**110**	*e*PG	**Pg**	03

$M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; M_{rr}0.00; $M_{\theta\phi}$0.00; $M_{\phi r}$0.00; Best double couple: $M_0$1.10000×10^{17} NP1:ϕ_s359.00000°, δ70.00000°, λ93.00000°. NP2:ϕ_s171.00000°, δ20.00000°, λ82.00000°. Principal axes: T 1.1900, Plg64.0000°, Azm273.0000°; N -0.3000, Plg2.0000°, Azm178.0000°; P -0.9000, Plg24.0000°, Azm86.0000°;

*BGS **18** 03:59:48.8±2.4, 79.69N×115.34W, h10^{km}, mb5.4, MS5.0*

*GCMT **18** 03:59:50.4±0.1, 79.74N×115.67W, h14^{km}, MW5.4, Moment Tensor Solution. s102,c187; s40,c41; Moment tensor: Scale 10^{17}Nm; M_{rr}1.50±.02; $M_{\theta\theta}$-0.17±.02; $M_{\phi\phi}$-1.33±.02; $M_{r\theta}$-0.26±.03; $M_{\theta\phi}$-0.12±.01; $M_{\phi r}$-0.04±.03; Best double couple: $M_0$1.40000×10^{17} NP1:ϕ_s357.00000°, δ44.00000°, λ78.00000°. NP2:ϕ_s194.00000°, δ47.00000°, λ102.00000°. Principal axes: T 1.5400, Plg81.0000°, Azm176.0000°; N -0.2000, Plg8.0000°, Azm6.0000°; P -1.3400, Plg1.0000°, Azm276.0000°; Data Used: II IU IC G CN. Surface waves: sta=110, comp=218, per= 50.*

*DJA **18** 03:59:51, 79.90N×116.05W, h10^{km}, mb5.6/10*

*SZGRF **18** 04:00:05.6, 81.61N×108.79W, h33^{km}, mb5.0, MS4.7, Arctic Ocean*

ISC 18 03:59:48.8±0.8,**79.712N**±0.009×**115.52W**±0.10, **h9**km±4km, **h20**km±1.5km;**pP-P, n1539**,σ**0**s**81**/1514, **mb5.5**/387,**MS4.9**/202,**284C-237D**,**Arctic Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EUNU	**Eureka**	**5.10**	**72**	Pn	**Pn**	**04 01 03.4**	**-1.9**
EUNU				Sn	**Sn**	**04 01 56.2**	**-7.9**
EUNU	**Eureka**	**5.10**	**72**	PN	**Pn**	**04 01 03.4**	**-1.9**
EUNU				mb		04 01 05.5	
	comp=Z,1μm,0.2s						
EUNU				SN	**Sn**	**04 01 56.2**	**-7.9**
EUNU				Trac		04 02 01.4	
	comp=Z,2μm,0.6s						
RES	**Resolute Bay**	**6.76**	**127**	Pn	**Pn**	**04 01 22.9**	**-5.0**
	114nm,0.3s,baz=335,slow=12,SNR=900						
RES				Sn	**Sn**	**04 02 31.7**	**-13**
	34nm,0.3s,baz=343,slow=15,SNR=3.6						
RES				LR	LR	04 04 29.2	
	comp=Z,6μm,21.3s,baz=326,slow=42						
RES	**Resolute Bay**	**6.76**	**127**	*e*Pn	**Pn**	**04 01 23.9**	**-4.0**
	71nm,0.5s						
RES				*e*S	**Sn**	**04 02 36.0**	**-8.8**
RES	**Resolute Bay**	**6.76**	**127**	*e*P	**Pn**	**04 01 24.0**	**-3.9**
RES				pmax	pmax		
	comp=Z,71nm,0.5s						
RES	**Resolute Bay**	**6.76**	**127**	PN	**Pn**	**04 01 23.1**	**-4.8**
RES				mb		04 01 26.5	
	comp=Z,408nm,0.3s						
RES				SN	**Sn**	**04 02 34.8**	**-10**
RES				Trac		04 02 38.3	
	comp=Z,2μm,0.6s						
ALE	**Alert**	**8.37**	**46**	Pn	**Pn**	**04 01 47.0**	**-3.0**
	comp=Z,2μm,0.7s,SNR=77						
CB31	**Cambridge Bay**	**10.97**	**160**	PN	**Pn**	**04 02 19.8**	**-5.8**
CB31				mb		04 02 25.1	
	comp=Z,287nm,0.2s						
CB31				SN	**Sn**	**04 04 11.7**	**-16**
CB31				Trac		04 04 18.0	
	comp=Z,888nm,0.3s						
INK	**Inuvik**	**12.38**	**212**	Pn	**Pn**	**04 02 39.3**	**-5.5**
	comp=Z,21nm,0.3s,baz=24,slow=15,SNR=200						
INK				Sn	**Sn**	**04 04 48.2**	**-14**
	comp=Z,17nm,0.3s,baz=116,slow=30,SNR=9.0						
INK	**Inuvik**	**12.38**	**212**	*e*Pn	**Pn**	**04 02 39.1**	**-5.7**
	comp=Z,55nm,0.5s						
INK				*e*S	**Sn**	**04 04 49.1**	**-13**
INK	**Inuvik**	**12.38**	**212**	*e*P	**Pn**	**04 02 39.1**	**-5.7**
INK				pmax	pmax		
	comp=Z,55nm,0.5s						
INK	**Inuvik**	**12.38**	**212**	PN	**Pn**	**04 02 38.5**	**-6.3**
INK				mb		04 02 42.9	
	comp=Z,119nm,0.6s						
INK				SN	**Sn**	**04 04 42.8**	**-20**
INK				Trac		04 04 53.4	
	comp=Z,295nm,0.5s						
KUGN	**Kugaaruk Camp,**	**13.41**	**136**	Pn	**Pn**	**04 02 50.5**	**-8.5**
KUGN				Sn	**Sn**	**04 05 11.1**	**-17**
KUGN	**Kugaaruk Camp,**	**13.41**	**136**	PN	**Pn**	**04 02 50.5**	**-8.5**
KUGN				mb		04 02 57.7	
	comp=Z,134nm,0.6s						
KUGN				SN	**Sn**	**04 05 11.1**	**-17**
KUGN				Trac		04 05 29.0	
	comp=Z,1μm,1.2s						
JERN	**Jeri Cho Mine,**	**13.81**	**173**	PN	**Pn**	**04 02 57.2**	**-7.2**
JERN				mb		04 03 00.1	
	comp=Z,50nm,0.3s						
JERN				SN	**Sn**	**04 05 19.6**	**-18**
JERN				Trac		04 05 22.7	
	comp=Z,326nm,0.7s						
STLN	**Stellar Camp,**	**13.81**	**141**	PN	**Pn**	**04 02 55.6**	**-8.7**
STLN				mb		04 02 58.4	
	comp=Z,505nm,0.9s						
STLN				SN	**Sn**	**04 05 21.9**	**-16**
STLN				Trac		04 05 25.1	
	comp=Z,520nm,1.1s						
SRLN	**Sarcpa Lake, N**	**13.90**	**125**	PN	**Pn**	**04 02 58.0**	**-7.6**
SRLN				SN	**Sn**	**04 05 20.4**	**-19**
SRLN				Trac		04 05 31.5	
	comp=Z,304nm,0.9s						
BULN	**Bullion Camp,**	**14.68**	**143**	PN	**Pn**	**04 03 06.5**	**-10**
BULN				mb		04 03 10.0	
	comp=Z,270nm,0.8s						
BULN				SN	**Sn**	**04 05 40.2**	**-18**
BULN				Trac		04 05 44.1	
	comp=Z,1μm,1.8s						
QILN	**Qiliilugaq Expl**	**15.25**	**132**	PN	**Pn**	**04 03 16.1**	**-7.8**
QILN				mb		04 03 18.6	
	comp=Z,769nm,1.8s						
QILN				SN	**Sn**	**04 05 52.7**	**-20**
QILN				Trac		04 06 01.2	
	comp=Z,568nm,1.1s						
CTLN	**Castor Lake**	**15.37**	**181**	PN	**Pn**	**04 03 18.4**	**-7.0**
CTLN				SN	**Sn**	**04 05 55.9**	**-19**
CTLN				Trac		04 06 02.8	
	comp=Z,144nm,0.6s						
COLD	**Coldfoot**	**15.49**	**236**	*e*Pn	**Pn**	**04 03 22.4**	**-4.7**
	comp=Z,279nm,1.0s						
COLD				*e*S	**Sn**	**04 05 59.0**	**-20**
ILKN	**Indian Lake**	**15.57**	**179**	PN	**Pn**	**04 03 20.4**	**-7.7**
ILKN				mb		04 03 31.4	
	comp=Z,158nm,0.5s						
ILKN				SN	**Sn**	**04 06 01.7**	**-19**
ILKN				Trac		04 06 30.8	
	comp=Z,514nm,0.8s						
WAGN	**Wager Bay**	**15.60**	**138**	PN	**Pn**	**04 03 19.9**	**-8.5**
WAGN				mb		04 03 30.6	
	comp=Z,185nm,0.6s						
WAGN				SN	Sn	04 06 00.5	-21
WAGN				Trac		04 06 06.3	
	comp=Z,370nm,0.8s						
GALN	**Gameti Lake**	**15.69**	**183**	PN	**Pn**	**04 03 21.8**	**-7.8**
GALN				mb		04 03 32.4	
	comp=Z,435nm,0.7s						
GALN				SN	**Sn**	**04 06 02.7**	**-20**
GALN				Trac		04 06 09.3	
	comp=Z,1μm,0.9s						
NUNN	**Nunuq Camp, NU**	**16.05**	**141**	PN	**Pn**	**04 03 25.0**	**-9.2**
NUNN				mb		04 03 27.2	
	comp=Z,350nm,1.0s						
NUNN				SN	**Sn**	**04 06 12.2**	**-20**
NUNN				Trac		04 06 29.6	
	comp=Z,427nm,1.3s						
EGAK	**Eagle**	**16.61**	**220**	*e*Pn	**Pn**	**04 03 36.5**	**-4.9**
	comp=Z,203nm,1.0s						
EGAK				*e*S	**Sn**	**04 06 32.2**	**-13**
COKN	**Cook Lake**	**16.64**	**169**	PN	**Pn**	**04 03 33.3**	**-8.5**
COKN				mb		04 03 42.9	
	comp=Z,663nm,0.8s						
COKN				SN	**Sn**	**04 06 26.3**	**-20**
COKN				Trac		04 06 33.5	
	comp=Z,378nm,1.1s						
DAWY	**Dawson**	**17.10**	**217**	*e*Pn	**Pn**	**04 03 42.5**	**-5.1**
DAWY				*e*S	**Sn**	**04 06 40.6**	**-17**
DAWY	**Dawson**	**17.10**	**217**	PN	**Pn**	**04 03 41.9**	**-5.7**
DAWY				mb		04 03 51.1	
	comp=Z,310nm,1.0s						
DAWY				SN	**Sn**	**04 06 40.2**	**-17**
DAWY				Trac		04 06 51.8	
	comp=Z,375nm,1.1s						
YKW3	**Yellowknife Ar**	**17.24**	**179**	PN	**Pn**	**04 03 43.5**	**-5.8**
YKW3				mb		04 03 51.5	
	comp=Z,210nm,0.9s						
YKW3				SN	Sn	04 06 36.3	-25
YKW3				Trac		04 07 00.4	
	comp=Z,122nm,0.6s						
YKA	**Yellowknife Ar**	**17.31**	**179**	P	**Pn**	**04 03 43.3**	**-6.9**
	comp=Z,5.4nm,0.3s,baz=357,slow=13,SNR=83						
YKA				S	**Sn**	**04 06 42.3**	**-20**
	comp=Z,6.9nm,0.3s,baz=348,slow=22,SNR=8.0						
YKA				LR	LR	04 10 02.4	
	comp=Z,136nm,18.8s,baz=130,slow=36						
YKA	**Yellowknife Ar**	**17.31**	**179**	P	**Pn**	**04 03 43.3**	**-6.9**
YKA				S	**Sn**	**04 06 42.3**	**-20**
YKA				LR	LR	04 10 02.4	
YKA	**Yellowknife Ar**	**17.31**	**179**	P	**Pn**	**04 03 43.3**	**-6.9**
ILAR	**Eielson Array**	**17.34**	**228**	P	**Pn**	**04 03 46.6**	**-3.9**
	comp=Z,2.3nm,0.3s,baz=13,slow=12,SNR=189						
ILAR				S	**Sn**	**04 06 51.6**	**-12**
	comp=Z,6.2nm,0.3s,baz=11,slow=27,SNR=7.7						
ILAR				LR	LR	04 11 30.6	
	comp=Z,2μm,20.7s,baz=28,slow=41						
ILAR	**Eielson Array**	**17.34**	**228**	P	**Pn**	**04 03 46.6**	**-3.9**
ILAR				S	**Sn**	**04 06 51.6**	**-12**
ILAR				LR	LR	04 11 30.6	
ILAR	**Eielson Array**	**17.34**	**228**	P	**Pn**	**04 03 46.6**	**-3.9**
ILAR				S	**Sn**	**04 06 51.6**	**-12**
COLA	**College**	**17.37**	**230**	*e*Pn	**Pn**	**04 03 47.8**	**-3.2**
	comp=Z,179nm,0.9s						
COLA				*e*S	**Sn**	**04 06 51.3**	**-13**
COLA	**College**	**17.37**	**230**	*e*P	**Pn**	**04 03 47.8**	**-3.1**
COLA				*e*S	**Sn**	**04 06 51.3**	**-13**
COLA				pmax	pmax		
	comp=Z,179nm,0.9s						
WHFN	**White Fish Lak**	**17.42**	**167**	PN	**Pn**	**04 03 44.5**	**-7.1**
WHFN				SN	**Sn**	**04 06 45.0**	**-20**
WHFN				Trac		04 07 02.8	
	comp=Z,445nm,1.0s						
DAG	**Danmarks Havn**	**17.77**	**49**	*i* P	**Pn**	**04 03 53.1**	**-2.7**
DAG				pmax	pmax		
	comp=Z,70nm,0.9s						
DAG	**Danmarks Havn**	**17.77**	**49**	*i* P	**Pn**	**04 03 53.1**	**-2.7**
	comp=Z,83nm,0.9s						
SEDN	**First Sedna Si**	**17.94**	**143**	PN	**Pn**	**04 03 50.0**	**-8.0**
SEDN				mb		04 03 56.0	
	comp=Z,120nm,0.4s						
SEDN				SN	Sn	04 06 56.9	-21
SEDN				Trac		04 07 04.0	
	comp=Z,412nm,1.2s						
JOSN	**Second Sedna S**	**17.99**	**143**	PN	**Pn**	**04 03 51.4**	**-7.3**
JOSN				mb		04 03 55.3	
	comp=Z,500nm,1.0s						
JOSN				SN	Sn	04 06 55.0	-24
JOSN				Trac		04 06 59.4	
	comp=Z,296nm,1.1s						
GDLN	**Gardenia Lake,**	**18.00**	**165**	SN	**Sn**	**04 06 59.3**	**-20**
DOT	**Dot Lake**	**18.05**	**223**	*e*Pn	**Pn**	**04 03 58.0**	**-1.3**
	comp=Z,497nm,1.2s						
DOT				*e*S	**Sn**	**04 07 07.5**	**-13**
SUMG	**Summit**	**18.17**	**70**	*e*Pn	**Pn**	**04 03 55.4**	**-5.4**
	comp=Z,918nm,1.0s						
SUMG				*e*S	Sn	04 06 59.1	-24
SUMG	**Summit**	**18.17**	**70**	*e*P	**Pn**	**04 03 55.4**	**-5.4**
SUMG				pmax	pmax		
	comp=Z,918nm,1.0s						
SUMG	**Summit**	**18.17**	**70**	*i* P	**Pn**	**04 03 56.7**	**-4.1**
MCK	**McKinley**	**18.61**	**230**	*e*Pn	**Pn**	**04 04 05.1**	**-1.1**
	comp=Z,202nm,0.7s						
MCK				*e*S	**Sn**	**04 07 15.3**	**-19**
MCK	**McKinley**	**18.61**	**230**	*e*P	**Pn**	**04 04 05.1**	**-1.0**
MCK				pmax	pmax		
	comp=Z,202nm,0.7s						
MENT	**Mentasta**	**18.69**	**222**	*e*P	**Pn**	**04 04 06.7**	**-0.5**
PAX	**Paxson**	**18.88**	**225**	*e*Pn	**Pn**	**04 04 09.4**	**-0.1**
	comp=Z,219nm,0.8s						
PAX				*e*S	**Sn**	**04 07 29.4**	**-11**
PAX	**Paxson**	**18.88**	**225**	*e*P	**Pn**	**04 04 09.4**	**0.0**
PAX				*e*S	**Sn**	**04 07 29.5**	**-11**
PAX				pmax	pmax		
	comp=Z,219nm,0.8s						
TRF	**Thorofare Moun**	**19.07**	**232**	*e*P	**Pn**	**04 04 11.6**	**-0.1**
	comp=Z,268nm,1.2s						
TRF				*e*S	**Sn**	**04 07 25.6**	**-19**
KBS	**Kingsbay**	**19.26**	**28***c*	*i*P	**Pn**	**04 04 15.1**	**+1.1**
KBS				pmax	pmax		
	comp=Z,131nm,1.9s						
ARVN	**Arviat, NU**	**19.77**	**148**	PN	**Pn**	**04 04 14.4**	**-5.7**
ARVN				mb		04 04 18.4	
	comp=Z,470nm,0.9s						
ARVN				SN	Sn	04 07 35.8	-26
ARVN				Trac		04 07 56.5	
	comp=Z,1μm,1.9s						
PPLA	**Purkeypile**	**19.86**	**234**	*e*P	**Pn**	**04 04 19.7**	**-1.5**
	comp=Z,454nm,1.2s						
PPLA				*e*S	**Sn**	**04 07 57.2**	**-6.9**
TNA	**Tin City**	**19.92**	**255**	*e*P	**Pn**	**04 04 21.1**	**-0.8**
	comp=Z,139nm,0.7s						
TNA				*e*S	**Sn**	**04 07 50.0**	**-15**
WHY	**Whitehorse**	**20.01**	**209**	PN	**P**	**04 04 20.3**	**-0.9**
WHY				mb		04 04 26.9	
	comp=Z,125nm,0.9s						
WHY				SN	**S**	**04 07 50.4**	**-15**
WHY				Trac		04 08 12.4	
	comp=Z,288nm,1.7s						
SPITS	**Spitsbergen Ar**	**20.31**	**26**	P	**P**	**04 04 25.7**	**+1.3**
	comp=Z,15nm,0.8s,baz=13,slow=27,SNR=8.5						
SPITS				LR	LR	04 11 27.8	
	comp=Z,2μm,19.3s,MS4.4,baz=345,slow=34						
SPITS	**Spitsbergen Ar**	**20.31**	**26**	P	**P**	**04 04 25.7**	**+1.3**
SPITS				LR	LR	04 11 27.8	
SPITS	**Spitsbergen Ar**	**20.31**	**26**	P	**P**	**04 04 25.7**	**+1.3**
SML	**Sawmill**	**20.37**	**228**	*e*P	**P**	**04 04 25.0**	**-0.2**
	comp=Z,115nm,0.8s						
SML				*e*S	**S**	**04 08 10.3**	**-2.8**
SML	**Sawmill**	**20.37**	**228**	*e*P	**P**	**04 04 25.0**	**-0.2**
SML				*e*S	**S**	**04 08 10.3**	**-2.7**
SML				pmax	pmax		
	comp=Z,115nm,0.8s						
FRB	**Frobisher Bay**	**20.67**	**113**	P	**P**	**04 04 25.1**	**-3.3**
	comp=Z,75nm,0.7s,baz=339,slow=11,SNR=23						
FRB				LR	LR	04 13 21.3	
	comp=Z,6μm,18.2s,MS5.0,baz=338,slow=39						
FRB	**Frobisher Bay**	**20.67**	**113**	P	**P**	**04 04 25.1**	**-3.3**
FRB				LR	LR	04 13 21.3	
FRB	**Frobisher Bay**	**20.67**	**113**	P	**P**	**04 04 25.1**	**-3.3**
FRB	**Frobisher Bay**	**20.67**	**113**	PN	**P**	**04 04 24.9**	**-3.5**
FRB				SN	**S**	**04 07 58.9**	**-20**
PMR	**Palmer**	**20.69**	**229**	*e*P	**P**	**04 04 27.8**	**-0.8**
	comp=Z,256nm,1.6s						
PMR	**Palmer**	**20.69**	**229**	*e*P	**P**	**04 04 27.8**	**-0.8**
PMR				pmax	pmax		
	comp=Z,256nm,1.6s						
DIV	**Divide**	**20.70**	**224**	*e*P	**P**	**04 04 28.3**	**-0.4**
	comp=Z,141nm,1.0s						
DIV				*e*S	**S**	**04 08 17.5**	**-2.0**
BMRM	**Bremner River**	**20.71**	**222**	*e*P	**P**	**04 04 28.2**	**-0.7**
	comp=Z,165nm,1.0s						
SFJD	**Kangerlussuaq**	**20.85**	**90**	*e*P	**P**	**04 04 29.1**	**-1.1**
	comp=Z,605nm,1.8s						
SFJD	**Kangerlussuaq**	**20.85**	**90**	*i* P	**P**	**04 04 29.7**	**-0.6**
SFJD				pmax	pmax		
	comp=Z,81nm,1.0s						
SFJD	**Kangerlussuaq**	**20.85**	**90**	*i* P	**P**	**04 04 29.7**	**-0.6**
	comp=Z,81nm,1.0s						
FNBB	**Fort Nelson**	**21.05**	**191**	PN	**P**	**04 04 31.3**	**-1.2**
FNBB				mb		04 04 42.6	
	comp=Z,490nm,1.6s						
FNBB				Trac		04 08 26.8	
	comp=Z,805nm,2.5s						
SKAG	**Skagway**	**21.23**	**209**	*e*P	**P**	**04 04 34.1**	**-0.3**
	comp=Z,98nm,1.0s,mb5.1						
RC01	**Rabbit Creek A**	**21.25**	**229**	*e*P	**P**	**04 04 35.2**	**+0.5**
	comp=Z,924nm,1.3s,mb6.0						
RC01				*e*S	**S**	**04 08 31.5**	**+1.0**
PNL	**Peninsula**	**21.41**	**214**	*e*P	**P**	**04 04 35.9**	**-0.4**
	comp=Z,90nm,1.0s,mb5.0						
SPU	**Mount Spurr**	**21.49**	**232**	*e*P	**P**	**04 04 36.3**	**-0.8**
DLBC	**Dease Lake**	**21.85**	**201**	P	**P**	**04 04 41.3**	**+0.2**
	comp=Z,134nm,0.9s,mb5.4,baz=6.9,slow=9.2,SNR=83						
DLBC				LR	LR	04 14 29.5	
	comp=Z,3μm,19.1s,MS4.7,baz=6.9,slow=40						
DLBC	**Dease Lake**	**21.85**	**201**	*e*P	**P**	**04 04 41.2**	**+0.1**
DLBC	**Dease Lake**	**21.85**	**201**	PN	**P**	**04 04 41.4**	**+0.3**
DLBC				mb		04 04 45.6	
	comp=Z,289nm,1.1s						
SLKM	**Skilak Lake**	**21.88**	**229**	*e*P	**P**	**04 04 41.5**	**+0.1**
SLKM	**Skilak Lake**	**21.88**	**229**	*e*P	**P**	**04 04 41.5**	**+0.1**
AKVQ	**Akulivik**	**21.96**	**127**	PN	**P**	**04 04 40.0**	**-2.3**
AKVQ				SN	**S**	**04 08 31.3**	**-13**
FCC	**Fort Churchill**	**22.06**	**150**	*e*P	**P**	**04 04 39.9**	**-3.5**
	comp=Z,7.1nm,0.8s,mb4.2						
FCC	**Fort Churchill**	**22.06**	**150**	*e*P	**P**	**04 04 39.9**	**-3.5**
FCC				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.1						
FCC	**Fort Churchill**	**22.06**	**150**	PN	**P**	**04 04 39.4**	**-4.0**
FCC				mb		04 04 44.4	
	comp=Z,965nm,1.4s						
FCC				SN	**S**	**04 08 32.8**	**-14**
SVW2	**Sparrevohn**	**22.08**	**236**	*e*P	**P**	**04 04 43.5**	**0.0**
	comp=Z,138nm,1.6s,mb5.1						
SEW	**Seward**	**22.17**	**228**	*e*P	**P**	**04 04 44.4**	**-0.1**
	comp=Z,439nm,1.3s,mb5.7						
GAMB	**Gambell**	**22.22**	**257**	*e*P	**P**	**04 04 46.2**	**+1.2**
	comp=Z,171nm,1.0s,mb5.4						
RSO	**Redoubt South**	**22.28**	**232**	*e*P	**P**	**04 04 46.6**	**+0.9**
BILL	**Bilibino**	**22.29**	**284**	*e*P	**P**	**04 04 45.8**	**+0.1**
	comp=Z,355nm,1.4s,mb5.6						
BILL				*e*		04 08 46.6	
BILL				LR	LR		
	comp=Z,2μm,22.0s,MS4.5						
BILL	**Bilibino**	**22.29**	**284***c*	*i*P	**P**	**04 04 46.2**	**+0.5**
BILL				*i*		04 05 10.4	
BILL				*i* S	**S**	**04 08 50.2**	**-0.4**
BILL				pmax	pmax		
	comp=Z,148nm,1.2s,mb5.3						
BILL				MLR	MLR		
	comp=Z,4μm,18.0s,MS4.9						
SCO	**Scoresbysund**	**22.67**	**60**	*i* P	**P**	**04 04 51.8**	**+2.0**
SCO				pmax	pmax		
	comp=Z,110nm,0.9s,mb5.3						
SCO				MLR	MLR		
	comp=Z,7μm,15.0s,MS5.2						
SIT	**Sitka**	**23.61**	**208**	*e*P	**P**	**04 05 07.1**	**+7.5**
	comp=Z,3μm,1.6s,mb6.4						
SIT	**Sitka**	**23.61**	**208**	*e*P	**P**	**04 05 07.1**	**+7.5**
SIT				pmax	pmax		
	comp=Z,3μm,1.6s,mb6.4						
WRAK	**Wrangell Islan**	**24.01**	**203**	*e*P	**P**	**04 05 03.8**	**+0.5**
	comp=Z,84nm,1.0s,mb5.1						
WRAK				LR	LR		
	comp=Z,2μm,19.0s,MS4.6						
JMIC	**Jan Mayen**	**24.20**	**50**	LR	LR	04 14 37.9	
	comp=Z,3μm,19.4s,MS4.8,baz=84,slow=37						
INUQ	**Inukjuak**	**24.24**	**129**	PN	**P**	**04 05 02.6**	**-2.8**
INUQ				SN	**S**	**04 09 23.0**	**-0.6**
KDAK	**Kodiak Island**	**24.84**	**230**	P	**P**	**04 05 11.0**	**+0.2**
	comp=Z,120nm,0.8s,mb5.5,baz=33,slow=7.7,SNR=80						
KDAK				LR	LR	04 16 23.3	
	comp=Z,2μm,19.8s,MS4.5,baz=20,slow=40						
KDAK	**Kodiak Island**	**24.84**	**230**	*e*P	**P**	**04 05 11.7**	**+0.9**
	comp=Z,128nm,0.8s,mb5.5						
KDAK				LR	LR		
	comp=Z,2μm,22.0s,MS4.6						
KDAK	**Kodiak Island**	**24.84**	**230**	P	**P**	**04 05 11.0**	**+0.2**
KDAK				pmax	pmax		
	comp=Z,120nm,0.8s,mb5.5						
KDAK				MLR	MLR		
	comp=Z,2μm,19.8s,MS4.5						
KDAK	**Kodiak Island**	**24.84**	**230**	P	**P**	**04 05 11.3**	**+0.5**
	comp=Z,961nm,0.7s,mb6.4,SNR=38						
OHAK	**Old Harbor**	**25.48**	**231**	*e*P	**P**	**04 05 16.8**	**+0.1**
	comp=Z,407nm,1.4s,mb5.8						
FFC	**Flin Flon**	**25.49**	**162**	*e*P	**P**	**04 05 14.7**	**-2.1**
	comp=Z,60nm,0.7s,mb5.2						
FFC	**Flin Flon**	**25.49**	**162**	*e*P	**P**	**04 05 14.7**	**-2.1**
FFC				pmax	pmax		
	comp=Z,60nm,0.7s,mb5.2						
FFC	**Flin Flon**	**25.49**	**162**	P	**P**	**04 05 15.8**	**-1.0**
	comp=Z,404nm,0.6s,mb6.1,SNR=11						
FFC	**Flin Flon**	**25.49**	**162**	PN	**P**	**04 05 14.3**	**-2.5**
FFC				mb		04 05 33.8	
	comp=Z,72nm,0.7s						
FFC				SN	**S**	**04 09 46.1**	**+2.5**
FFC				Trac		04 10 17.0	
	comp=Z,84nm,0.9s						
BBB	**Bella Bella**	**27.97**	**197**	LR	LR	04 18 44.5	
	comp=Z,2μm,18.7s,MS4.8,baz=196,slow=41						
BORG	**Borgarnes**	**28.00**	**66**	P	**P**	**04 05 40.3**	**+1.0**
	comp=Z,39nm,1.0s,mb5.0,baz=302,slow=3.3,SNR=3.7						
BORG				LR	LR	04 17 34.6	
	comp=Z,4μm,20.4s,MS5.0,baz=341,slow=38						
BORG	**Borgarnes**	**28.00**	**66**	*e*P	**P**	**04 05 40.4**	**+1.1**
	comp=Z,74nm,1.2s,mb5.2						
BORG	**Borgarnes**	**28.00**	**66**	P	**P**	**04 05 40.3**	**+1.0**
BORG				pmax	pmax		
	comp=Z,39nm,1.0s						
BORG				MLR	MLR		
	comp=Z,4μm,20.4s						
VIMO	**Victor Mine**	**29.01**	**139**	PN	**P**	**04 05 45.0**	**-3.4**
KEV	**Kevo**	**29.25**	**26**	*e*P	**P**	**04 05 49.5**	**-0.9**
	comp=Z,53nm,0.9s,mb5.3						
KEV				LR	LR		
	comp=Z,2μm,20.0s,MS4.7						
KEV	**Kevo**	**29.25**	**26**	*e*P	**P**	**04 05 49.5**	**-0.8**
KEV				pmax	pmax		
	comp=Z,53nm,0.9s,mb5.3						
KEV				MLR	MLR		
	comp=Z,2μm,20.0s,MS4.7						
KEV	**Kevo**	**29.25**	**26**	*e*p	**P**	**04 05 47.7**	**-2.6**
	comp=Z,32nm,0.8s,mb5.1						
SEY	**Seymchan**	**29.34**	**291**⇑	*e*P	**P**	**04 05 52.1**	**+0.9**
ARCES	**ARCESS Array B**	**29.34**	**27**	P	**P**	**04 05 50.7**	**-0.5**
	comp=Z,21nm,1.1s,mb4.8,baz=343,slow=7.9,SNR=19						
ARCES				PcP	PcP	04 08 56.4	-0.5
	comp=Z,18nm,0.9s,baz=343,slow=1.2,SNR=9.6						
ARCES				LR	LR	04 16 53.9	
	comp=Z,2μm,20.9s,MS4.7,baz=342,slow=35						
ARCES	**ARCESS Array B**	**29.34**	**27**	P	**P**	**04 05 50.7**	**-0.5**
ARCES				PcP	PcP	04 08 56.4	-0.5
ARCES				LR	LR	04 16 53.9	
ARCES	**ARCESS Array B**	**29.34**	**27**	P	**P**	**04 05 50.7**	**-0.5**
ARCES						04 08 56.4	
ARE0	**ARCESS Array S**	**29.34**	**27**	*e*P	**P**	**04 05 51.5**	**+0.3**
SCHQ	**Schefferville**	**29.42**	**118**	P	**P**	**04 05 50.0**	**-2.0**

baz=31,SNR=53
A20A Cobblestone Ra 31.07 170 ⇓P **P 04 06 06.8 +0.1**
baz=31,SNR=54
A23A Redstone 31.10 166 ⇑P **P 04 06 07.1 +0.2**
baz=31
A24A Westby 31.18 165 ⇑P **P 04 06 07.2 -0.3**
baz=31,SNR=27
MCW Mount Constitu 31.26 189 P **P 04 06 07.5 -0.8**
MCW Mount Constitu 31.26 189 P **P 04 06 07.5 -0.8**
PGC Sidney 31.31 190 *e*P **P 04 06 08.1 -0.6**
comp=Z,7.3nm,1.0s,mb4.5
B12A Libby 31.37 180 ⇑P **P 04 06 09.5 +0.3**
baz=31,SNR=8.5
B16A M & M Farms, S 31.45 175 ⇑P **P 04 06 09.7 -0.3**
baz=31,SNR=7.3
B13A Whitefish 31.46 179 ⇑P **P 04 06 10.0 -0.1**
baz=31,SNR=17
B19A Brinkman Farms 31.47 172 ⇓P **P 04 06 09.6 -0.5**
baz=31,SNR=13
B14A Marquette Ranc 31.48 177 ⇓P **P 04 06 09.7 -0.6**
baz=31,SNR=42
B18A Beardsley Farm 31.51 173 ⇓P **P 04 06 09.8 -0.7**
baz=31,SNR=29
B20A Solberg Farm, 31.51 170 ⇑P **P 04 06 10.0 -0.5**
baz=31,SNR=46
B15A Bradely Ranch, 31.54 176 ⇑P **P 04 06 10.3 -0.5**
baz=31,SNR=49
B21A Ellsworth Farm 31.55 169 ⇑P **P 04 06 10.5 -0.3**
baz=31,SNR=83
NEW Newport 31.58 182 ⇑P **P 04 06 11.2 +0.1**
baz=31,SNR=22
NEW Newport 31.58 182 *e*P **P 04 06 11.3 +0.2**
comp=Z,242nm,2.0s,mb5.7
NEW Newport 31.58 182 *e*P **P 04 06 11.3 +0.2**
NEW pmax pmax
comp=Z,242nm,2.0s
B17A L&G Farms, Che 31.59 174 ⇓P **P 04 06 10.8 -0.4**
baz=31,SNR=32
DGMT Dagmar 31.62 166 ⇑P **P 04 06 11.0 -0.4**
baz=32,SNR=18
DGMT Dagmar 31.62 166 *e*P **P 04 06 10.9 -0.6**
comp=Z,146nm,1.0s,mb5.8
DGMT *e*PcP PcP 04 09 03.4 +0.2
DGMT LR LR
comp=Z,4μm,19.0s,MS5.1
LVZ Lovozero 31.62 21 *e*P **P 04 06 11.6 +0.3**
comp=Z,96nm,0.8s,mb5.7
LVZ LR LR
comp=Z,1μm,20.0s,MS4.6
LVZ Lovozero 31.62 21⇑ *e*P **P 04 06 12.0 +0.7**
LVZ pmax pmax
comp=Z,85nm,1.3s,mb5.4
B22A Reddig Ranch S 31.72 168 ⇑P **P 04 06 12.1 -0.2**
baz=32,SNR=49
JCW Jim Creek 31.72 188 *e*P **P 04 06 10.6 -1.7**
JCW *e*PcP PcP 04 09 03.2 -0.3
APA Apatity 31.86 22⇑ *i*P **P 04 06 14.0 +0.6**
APA *i* 04 07 20.0
APA *i* S **S 04 11 22.0 -1.6**
APA pmax pmax
comp=Z,65nm,14.0s
APA MLR MLR
comp=Z,2μm,13.0s,MS5.0
EGMT Eagleton 31.88 173 ⇑P **P 04 06 13.0 -0.7**
baz=32,SNR=20
EGMT Eagleton 31.88 173 *e*P **P 04 06 12.9 -0.8**
comp=Z,84nm,0.9s,mb5.6
EGMT LR LR
comp=Z,4μm,19.0s,MS5.2
C11A Tepee Creek (N 32.00 181 ⇓P **P 04 06 14.9 +0.1**
baz=32,SNR=54
WRW Wenatchee Ridg 32.04 187 P **P 04 06 14.8 -0.3**
C09A Chrisman Ranch 32.05 184 ⇑P **P 04 06 15.1 -0.1**
baz=32,SNR=50
C16A Fuhringer Ranc 32.06 175 ⇑P **P 04 06 15.1 -0.3**
baz=32,SNR=45
C14A Swan Lake 32.07 178 ⇑P **P 04 06 15.3 -0.1**
baz=32,SNR=21
C15A Salmond Ranch, 32.08 176 ⇓P **P 04 06 15.5 0.0**
baz=32,SNR=90
C12B Naegeli Ranch, 32.13 180 ⇓P **P 04 06 16.6 +0.7**
baz=32,SNR=24
C21A Desert Coulee 32.15 169 ⇓P **P 04 06 16.0 -0.1**
baz=32,SNR=20
C13A Hot Springs 32.16 179 ⇓P **P 04 06 16.9 +0.7**
baz=32,SNR=68
C19A Slack Wire Ran 32.19 172 ⇑P **P 04 06 16.2 -0.2**
baz=32,SNR=28
C23A Lambert 32.24 167 ⇑P **P 04 06 17.3 +0.3**
baz=32,SNR=179
C17A Wharram Farm, 32.25 174 ⇓P **P 04 06 16.3 -0.7**
baz=32,SNR=51
C22A Vida 32.27 168 ⇓P **P 04 06 17.0 -0.2**
baz=32,SNR=23
ETW Entiat 32.28 186 P **P 04 06 16.4 -0.8**
AGMN Agassiz Nation 32.30 155 *e*P **P 04 06 16.6 -0.8**
comp=Z,155nm,1.0s,mb5.8
HDW Hoodsport 32.30 190 P **P 04 06 17.5 +0.1**
GNW Green Mountain 32.38 189 *e*P **P 04 06 17.7 -0.4**
comp=Z,77nm,1.0s,mb5.5
GNW *e*PcP PcP 04 09 05.5 +0.2
OD2 Odessa Site #2 32.47 184 *e*P **P 04 06 18.0 -0.9**
OSR Olympics--Salm 32.47 191 P **P 04 06 19.4 +0.5**
MDND Maddock 32.49 160 ⇓P **P 04 06 18.6 -0.4**
baz=32
C24A Savage 32.55 166 ⇓P **P 04 06 19.3 -0.3**
baz=32,SNR=14
NLWA Neilton Lookou 32.58 191 *e*P **P 04 06 20.4 +0.5**
comp=Z,129nm,1.1s,mb5.8
NLWA LR LR
comp=Z,2μm,19.0s,MS4.8
D18A Linhart Farms, 32.70 173 ⇑P **P 04 06 20.5 -0.5**
baz=33,SNR=54
D17A Six Diamond Ra 32.73 174 ⇓P **P 04 06 20.8 -0.4**
baz=33,SNR=48
D05A Enumclaw 32.73 188 ⇑P **P 04 06 20.9 -0.3**
baz=33,SNR=25
D13A Huson 32.74 179 ⇑P **P 04 06 21.5 +0.2**
baz=33,SNR=33
D19A Cripps Ranch, 32.76 172 ⇓P **P 04 06 21.1 -0.4**
baz=33,SNR=137
D14A Greenough 32.76 177 ⇑P **P 04 06 21.6 +0.1**
baz=33,SNR=89
D12A Red Ives Fores 32.78 180 ⇑P **P 04 06 21.4 -0.3**
baz=33
D15A Lincoln 32.81 176 ⇓P **P 04 06 21.5 -0.4**
baz=33,SNR=37
D16A Dana Ranch, Ca 32.84 175 ⇑P **P 04 06 21.5 -0.7**
baz=33,SNR=33
D20A Manuel Ranch, 32.85 171 ⇓P **P 04 06 22.1 -0.1**
baz=33,SNR=172
D22A Cohagen 32.86 168 ⇑P **P 04 06 22.1 -0.2**
baz=33,SNR=186
D23A Lindsay 32.87 167 ⇓P **P 04 06 22.6 +0.2**
baz=33,SNR=64
D21A La Casta Ranch 32.91 169 ⇑P **P 04 06 22.8 0.0**
baz=33,SNR=32
D24A Glendive 32.97 166 ⇓P **P 04 06 23.2 -0.1**
baz=33,SNR=30
EYMN Ely 33.01 150 *e*P **P 04 06 22.2 -1.4**
comp=Z,149nm,0.9s,mb5.9
EYMN *e*PcP PcP 04 09 05.9 -1.1
EYMN LR LR
comp=Z,3μm,21.0s,MS5.0
MSO Missoula 33.01 178 ⇑P **P 04 06 23.7 0.0**
baz=33,SNR=36
MSO Missoula 33.01 178 *e*P **P 04 06 23.6 -0.1**
comp=Z,92nm,1.4s,mb5.5
LON Longmire 33.16 188 P **P 04 06 24.3 -0.7**
LON Longmire 33.16 188 P **P 04 06 24.3 -0.7**
LAO LASA Array 33.32 168 ⇓P **P 04 06 26.9 +0.6**
baz=33,SNR=146
LAO LASA Array 33.32 168 *e*P **P 04 06 26.5 +0.2**
comp=Z,190nm,0.5s,mb6.3
LAO *e*PcP PcP 04 09 08.8 +0.9
LAO LR LR
comp=Z,6μm,19.0s,MS5.3
E16A East Helena 33.33 175 ⇓P **P 04 06 25.8 -0.7**
baz=33,SNR=40
E18A Harlowton 33.33 173 ⇓P **P 04 06 26.4 -0.1**
baz=33,SNR=76
E09A Wood Farm, Sta 33.34 183 ⇑P **P 04 06 25.9 -0.6**
baz=33,SNR=88
E08A Dider Farm, El 33.37 184 ⇑P **P 04 06 26.3 -0.5**
baz=33,SNR=8.8
E13A Victor 33.40 178 ⇓P **P 04 06 26.7 -0.4**
baz=33,SNR=46
E03A Lebam 33.42 190 ⇓P **P 04 06 27.2 0.0**
baz=33,SNR=19
E17A Martinsdale 33.42 174 ⇑P **P 04 06 26.9 -0.3**
baz=33,SNR=44
E12A Beaver Dam Sad 33.42 180 ⇓P **P 04 06 26.8 -0.4**
baz=33,SNR=212
E14A Clinton 33.43 177 ⇓P **P 04 06 27.1 -0.2**
baz=33,SNR=55
E15A Deer Lodge 33.43 176 ⇑P **P 04 06 26.9 -0.4**
baz=33,SNR=34
E21A Keefer Ranch, 33.44 169 ⇑P **P 04 06 26.8 -0.5**
baz=33,SNR=9.8
E20A Meyer Farm, Mu 33.44 171 ⇓P **P 04 06 26.6 -0.8**
baz=33,SNR=22
E19A Rath Farm, Rou 33.47 172 ⇓P **P 04 06 27.1 -0.5**
baz=33,SNR=30
RSW Rattlesnake Hi 33.48 185 *e*P **P 04 06 27.3 -0.4**
HAWA Hanford 33.48 185 *e*P **P 04 06 26.7 -1.0**
comp=Z,77nm,1.0s,mb5.6
E23A Ismay 33.54 167 ⇓P **P 04 06 28.7 +0.4**
baz=33,SNR=53
E22A Miles City 33.58 168 ⇑P **P 04 06 28.4 -0.2**
baz=33,SNR=50
YAK Yakutsk 33.70 310 PFAKE 04 06 40.0 +11
YAK LR LR
comp=Z,2μm,20.0s,MS4.8
YAK Yakutsk 33.70 310 *e*P **P 04 06 26.2 -3.3**
YAK *e*PPP 04 07 53.7
YAK *e* 04 09 07.1
YAK *e*S **S 04 11 46.5 -5.6**
YAK pmax pmax
comp=Z,25nm,1.0s,mb5.1
YAK pmax pmax
comp=N,13nm,1.2s
YAK pmax pmax
comp=E,9.0nm,1.2s
YAK pmax pmax
comp=Z,29nm,0.8s,mb5.3
YAK smax
comp=E,170nm,9.0s
YAK smax
comp=N,562nm,15.4s
YAK MLR MLR
comp=N,1μm,15.0s,MS4.9
YAK MLR MLR
comp=Z,2μm,14.0s,MS4.9
YAK MLR MLR
comp=E,1μm,15.0s,MS4.9
F10A Beach Ranch, E 33.87 182 ⇑P **P 04 06 30.6 -0.5**
baz=34,SNR=22
F17A Fitzpatrick Pl 33.98 174 ⇑P **P 04 06 32.1 +0.1**
baz=34,SNR=80
F07A Phinny Hill Vi 33.98 186 ⇓P **P 04 06 31.4 -0.7**
baz=34,SNR=7.3
LNOR Lincton Mounta 33.98 183 *e*P **P 04 06 32.2 +0.1**
LNOR Lincton Mounta 33.98 183 *e*P **P 04 06 32.2 +0.1**
F18A Big Timber 34.00 173 ⇓P **P 04 06 32.3 0.0**
baz=34,SNR=74
F15A Butte 34.01 176 ⇑P **P 04 06 32.2 -0.2**
baz=34,SNR=40
LCCM Lewis and Clar 34.02 175 P **P 04 06 32.1 -0.4**
F14A Wisdom 34.03 177 ⇑P **P 04 06 32.3 -0.3**
baz=34,SNR=39
F13A Darby 34.05 179 ⇓P **P 04 06 32.5 -0.2**
baz=34
F19A Roth Farm, Mol 34.07 172 ⇑P **P 04 06 32.6 -0.2**
baz=34,SNR=111
F12A Elk City 34.08 180 ⇑P **P 04 06 32.6 -0.3**
baz=34,SNR=128
F16A Kennard Place, 34.08 175 ⇑P **P 04 06 32.7 -0.3**
baz=34,SNR=14
F20A Billings 34.14 171 ⇓P **P 04 06 33.2 -0.3**
baz=34,SNR=36
F21A Absaloka Mine, 34.15 170 ⇑P **P 04 06 33.3 -0.3**
baz=34
BOZ Bozeman (W) 34.22 175 ⇑P **P 04 06 34.1 -0.1**
baz=34,SNR=53
BOZ Bozeman (W) 34.22 175 *e*P **P 04 06 34.3 +0.1**
comp=E,80nm,1.1s,mb5.6
BOZ Bozeman (W) 34.22 175 *e*P **P 04 06 34.3 +0.1**
BOZ pmax pmax
comp=Z,80nm,1.1s,mb5.6
KIWB Kanaga Island 34.45 255 *e*P **P 04 06 45.0 +8.9**
DLMT Dillon 34.49 176 *e*P **P 04 06 36.5 0.0**
comp=Z,64nm,1.3s,mb5.4
G17A Pierce Place, 34.56 174 ⇑P **P 04 06 37.3 +0.2**
baz=34,SNR=20
G08A Pilot Rock 34.57 184 ⇑P **P 04 06 37.3 +0.1**
baz=34,SNR=23
G18A Lazy EL Ranch, 34.59 173 ⇓P **P 04 06 37.3 -0.1**
baz=34,SNR=21
HOOD Mount Hood Mea 34.59 188 *e*P **P 04 06 37.7 +0.3**
comp=Z,229nm,1.1s,mb6.0
G14A Jackson 34.60 177 ⇓P **P 04 06 37.5 0.0**
baz=34,SNR=50
TDH Tom, Dick, Har 34.62 188 P **P 04 06 37.6 -0.1**
G16A Moss Hill, Enn 34.63 175 ⇓P **P 04 06 37.5 -0.3**
baz=34,SNR=40
G06A Carlson Farm, 34.65 186 ⇓P **P 04 06 38.0 +0.1**
baz=34,SNR=32
G15A Dillon 34.69 176 ⇑P **P 04 06 37.7 -0.5**
baz=34,SNR=34
G12A Big Creek, Yel 34.71 180 ⇑P **P 04 06 37.7 -0.7**
baz=35
G20A Bridger 34.72 171 ⇑P **P 04 06 37.9 -0.6**
baz=35,SNR=44
G21A Lodge Grass 34.75 170 ⇓P **P 04 06 38.5 -0.3**
baz=35,SNR=17
G13A Cobalt 34.75 178 ⇑P **P 04 06 38.6 -0.1**
baz=35,SNR=53
HEBO Mount Hebo 34.76 190 *e*P **P 04 06 39.8 +0.9**
comp=Z,96nm,1.2s,mb5.6
RLMT Red Lodge 34.79 172 ⇑P **P 04 06 39.6 +0.5**
baz=35,SNR=15
RLMT Red Lodge 34.79 172 *e*P **P 04 06 39.9 +0.8**
comp=Z,309nm,2.0s,mb5.9
RLMT LR LR
comp=Z,4μm,20.0s,MS5.2
BMO Blue Mountains 34.99 182 *e*P **P 04 06 40.7 -0.2**
comp=Z,120nm,0.2s,mb6.5
BMO LR LR
comp=Z,2μm,19.0s,MS4.9
YNR Norris Junctio 35.17 174 *e*P **P 04 06 43.3 +0.9**
comp=Z,94nm,1.1s,mb5.6
H16A Russell Place, 35.17 175 ⇑P **P 04 06 42.6 +0.2**
baz=35,SNR=62
YMR Madison River 35.21 174 *e*P **P 04 06 43.1 +0.3**
comp=Z,50nm,0.9s,mb5.4
H18A Shoshone NF, C 35.23 173 ⇑P **P 04 06 42.9 0.0**
baz=35,SNR=31
H14A Leadore 35.23 177 ⇓P **P 04 06 43.0 +0.1**
baz=35,SNR=110
H15A Lima 35.24 176 ⇑P **P 04 06 43.1 +0.1**
baz=35,SNR=102
H04A Detroit Lake 35.24 188 ⇑P **P 04 06 42.5 -0.5**
baz=35,SNR=17
H19A Powell 35.25 172 ⇓P **P 04 06 43.2 +0.1**
baz=35,SNR=26
H13A Challis 35.28 178 ⇑P **P 04 06 43.3 0.0**
baz=35,SNR=69
H12A Diamond D Ranc 35.29 179 ⇓P **P 04 06 43.2 -0.2**
baz=35,SNR=80
H24A Dirks Ranch, A 35.32 166 ⇑P **P 04 06 43.0 -0.7**
baz=35,SNR=71
LKWY Lake 35.32 174 *e*P **P 04 06 44.6 +0.9**
comp=Z,131nm,0.9s,mb5.9
LKWY Lake 35.32 174 *e*P **P 04 06 44.6 +0.9**
LKWY pmax pmax
comp=Z,131nm,0.9s,mb5.9
H21A Big Horn, Sher 35.35 170 ⇑P **P 04 06 44.0 +0.1**
baz=35,SNR=20
COR Corvallis 35.37 190 *e*P **P 04 06 43.1 -1.0**
comp=Z,376nm,1.7s,mb6.0
COR Corvallis 35.37 190 *e*P **P 04 06 43.1 -1.0**
COR pmax pmax
comp=Z,376nm,1.7s,mb6.0
VIPM Ingram Point 35.38 186 P **P 04 06 44.5 +0.3**
VIPM Ingram Point 35.38 186 P **P 04 06 44.5 +0.3**
H22A Clearmont 35.41 169 ⇑P **P 04 06 44.1 -0.3**
baz=35,SNR=18
YFT Old Faithful 35.43 174 *e*P **P 04 06 46.5 +1.9**
comp=Z,92nm,1.1s,mb5.6
H20A Greybull 35.46 171 ⇓P **P 04 06 44.4 -0.5**
baz=35,SNR=34
H23A Clabaugh Cattl 35.47 168 ⇑P **P 04 06 44.8 -0.2**
baz=35
H17A Grant Village 35.49 174 ⇑P **P 04 06 46.8 +1.7**
baz=35,SNR=63
SPMN St. Paul 35.59 152 ⇑P **P 04 06 44.8 -1.2**
baz=35,SNR=24
BROR Big Rock Looko 35.66 189 P **P 04 06 46.1 -0.5**
I07A Izee 35.79 185 ⇑P **P 04 06 48.5 +0.8**
baz=36,SNR=67
FLWY Flagg Ranch 35.80 174 *e*P **P 04 06 48.9 +1.1**
comp=Z,324nm,1.0s,mb6.2
I15A Monteview 35.85 176 ⇑P **P 04 06 48.7 +0.5**
baz=36,SNR=54
I19A Meeteetse 35.88 172 ⇑P **P 04 06 48.0 -0.5**
baz=36,SNR=25
I14A Mackay 35.92 177 ⇓P **P 04 06 49.2 +0.4**
baz=36,SNR=179
BRSD Miller 35.92 160 ⇓P **P 04 06 48.7 -0.1**
baz=36,SNR=12
I13A Wildhorse Cree 35.93 178 ⇑P **P 04 06 49.1 +0.3**
baz=36,SNR=152
I17A Pilgrim Ck. 35.96 174 ⇑P **P 04 06 50.8 +1.5**
baz=36,SNR=94
RSSD Black Hills 35.97 166 *e*P **P 04 06 49.4 +0.1**
comp=Z,199nm,0.9s,mb6.0
RSSD Black Hills 35.97 166 *e*P **P 04 06 49.4 +0.1**
RSSD pmax pmax
comp=Z,199nm,0.9s,mb6.0
IMW Indian Meadow 35.98 174 *e*P **P 04 06 50.5 +1.1**
comp=Z,228nm,1.0s,mb6.1
I16A Newdale 35.99 175 ⇓P **P 04 06 50.8 +1.3**
baz=36,SNR=176
I20A Worland 35.99 171 ⇓P **P 04 06 49.1 -0.4**
baz=36,SNR=50
I12A Atlanta 36.04 180 ⇑P **P 04 06 49.4 -0.5**
baz=36,SNR=92
I23A Meade Ranch, G 36.07 168 ⇓P **P 04 06 50.2 +0.1**
baz=36
I22A 9 Mile Ranch, 36.10 169 ⇓P **P 04 06 50.5 +0.1**
baz=36,SNR=107
MOOW Moose Ponds 36.13 174 *e*P **P 04 06 51.4 +0.7**
comp=Z,141nm,1.0s,mb5.8
I21A Big Trails, Te 36.16 170 ⇓P **P 04 06 50.6 -0.3**
baz=36,SNR=98
NB2 NORSAR Subarra 36.20 41 P **P 04 06 50.5 -0.5**
comp=Z,66nm,1.2s,mb5.4,baz=344,slow=8.6
NOA NORSAR Array B 36.20 41 P **P 04 06 50.4 -0.6**
comp=Z,9.2nm,0.8s,mb4.8,baz=343,slow=8.6,SNR=18
NOA PcP PcP 04 09 15.1 -0.9
comp=Z,14nm,0.9s,baz=356,slow=3.7,SNR=8.2
NOA LR LR 04 23 07.3
comp=Z,806nm,18.8s,MS4.5,baz=340,slow=39
NOA NORSAR Array B 36.20 41 P **P 04 06 50.4 -0.6**
NOA PcP PcP 04 09 15.1 -0.9
NOA LR LR 04 23 07.3
NOA NORSAR Array B 36.20 41 P **P 04 06 50.4 -0.6**
NOA 04 09 15.1
I18A Diamond G Ranc 36.20 173 ⇓P **P 04 06 51.6 +0.4**
baz=36,SNR=57
I24A Kuemmerle Ranc 36.20 167 ⇓P **P 04 06 51.2 -0.1**
baz=36,SNR=9.0
LOHW Long Hollow 36.27 174 *e*P **P 04 06 52.6 +0.8**
comp=Z,129nm,1.0s,mb5.8
LOHW *e*PcP PcP 04 09 17.4 +0.9
HLID Hailey 36.28 179 ⇓P **P 04 06 51.8 -0.1**
baz=36,SNR=73
HLID Hailey 36.28 179 *e*P **P 04 06 51.6 -0.2**
comp=Z,108nm,1.4s,mb5.6
HLID LR LR
comp=Z,4μm,19.0s,MS5.2
DCID1 Drake Creek 36.28 175 *e*P **P 04 06 52.8 +0.9**
comp=Z,146nm,1.0s,mb5.9
JOF Joensuu 36.32 25 *e*P **P 04 06 51.4 -0.6**
JOF pmax pmax
comp=Z,36nm,0.6s,mb5.5
JOF Joensuu 36.32 25 *e*p **P 04 06 51.4 -0.6**
comp=Z,36nm,0.6s,mb5.5
TPAW Teton Pass 36.39 174 *e*P **P 04 06 53.6 +0.8**
comp=Z,145nm,1.0s,mb5.9
SNOW Snow King Moun 36.42 174 *e*P **P 04 06 54.3 +1.2**
comp=Z,190nm,1.1s,mb5.8
MFID Camas Ranch 36.42 180 ⇓P **P 04 06 52.8 -0.3**
baz=36,SNR=54
MFID Camas Ranch 36.42 180 *e*P **P 04 06 52.9 -0.2**
comp=Z,41nm,0.9s,mb5.4
J13A Cove Ranch, Pi 36.44 178 ⇑P **P 04 06 53.1 -0.2**
baz=36,SNR=49
J15A Blackfoot 36.45 176 ⇓P **P 04 06 54.1 +0.7**
baz=36,SNR=58
J08A Circle Bar Ran 36.50 184 ⇑P **P 04 06 54.9 +1.1**
baz=36,SNR=126
REDW Red Top Meadow 36.52 174 *e*P **P 04 06 54.3 +0.3**
comp=Z,50nm,1.2s,mb5.2
J17A Brown Place, J 36.52 174 ⇓P **P 04 06 55.0 +1.0**
baz=36,SNR=79
J14A Carey 36.52 178 ⇓P **P 04 06 54.4 +0.4**
baz=36
RRI2 Red Ridge 36.52 175 *e*P **P 04 06 54.8 +0.8**
comp=Z,602nm,1.9s,mb6.1
J22A Midwest 36.58 169 ⇓P **P 04 06 54.1 -0.4**
baz=36,SNR=54
J20A Shoshoni 36.59 171 ⇑P **P 04 06 54.9 +0.4**
baz=36,SNR=119
J16A Bone 36.59 175 ⇓P **P 04 06 55.5 +0.9**
baz=36,SNR=72
J21A Lysite 36.62 170 ⇑P **P 04 06 54.8 0.0**
baz=36,SNR=49
J23A Hilts Ranch, B 36.62 168 ⇑P **P 04 06 54.9 +0.1**
baz=36,SNR=5.7
J19A Crowheart 36.65 172 ⇓P **P 04 06 55.2 +0.1**
baz=36,SNR=30
J18A Kendall Valley 36.68 173 ⇓P **P 04 06 55.8 +0.4**
baz=36,SNR=146
KAF Kangasniemi 36.70 29 *e*P **P 04 06 54.2 -1.1**
KAF pmax pmax
comp=Z,19nm,0.6s,mb5.1
KAF Kangasniemi 36.70 29 *e*p **P 04 06 54.2 -1.1**
comp=Z,19nm,0.6s,mb5.1
J24A Dixon Ranch, L 36.73 167 ⇑P **P 04 06 55.3 -0.5**
baz=37,SNR=15
ECSD EROS Data Cent 36.78 157 *e*P **P 04 06 55.1 -1.1**
comp=Z,153nm,1.1s,mb5.7
ECSD *e*PcP PcP 04 09 17.3 -0.7
K16A Soda Springs 37.03 175 ⇑P **P 04 06 59.2 +0.8**
baz=37,SNR=38
K19A Absolon Red Bu 37.10 172 ⇑P **P 04 06 58.5 -0.4**
baz=37,SNR=88
AHID Auburn Hatcher 37.11 175 *e*P **P 04 06 59.3 +0.3**
comp=Z,113nm,1.0s,mb5.7
KEBM Edson Butte 37.11 191 *e*P **P 04 07 00.4 +1.4**
comp=Z,131nm,1.3s,mb5.6
K17A Gardner Place, 37.13 174 ⇓P **P 04 06 59.2 +0.1**
baz=37,SNR=21
PD02 Pinedale Array 37.13 173 *e*P **P 04 06 59.0 -0.2**
PD02 *e*PcP PcP 04 09 18.7 -0.4
PD01 Pinedale Array 37.13 173 *e*P **P 04 06 59.3 +0.2**
PD01 *e*PcP PcP 04 09 19.2 +0.1
BW06 Boulder Array 37.14 173 ⇑P **P 04 06 59.1 -0.1**
baz=37,SNR=72
BW06 Boulder Array 37.14 173 *e*P **P 04 06 59.1 -0.1**
comp=Z,98nm,1.1s,mb5.5
PDAR Pinedale Array 37.14 173 P **P 04 06 58.8 -0.4**
comp=Z,67nm,0.9s,mb5.5,baz=18,slow=5.3,SNR=289
PDAR PcP PcP 04 09 18.6 -0.6
comp=Z,18nm,1.0s,baz=0.0,slow=2.1,SNR=5.3
PDAR LR LR 04 23 05.6
comp=Z,1μm,21.2s,MS4.7,baz=358,slow=38
PDAR Pinedale Array 37.14 173 P **P 04 06 58.8 -0.4**
PDAR PcP PcP 04 09 18.6 -0.6
PDAR LR LR 04 23 05.6
K05A Summer Lake 37.17 187 ⇑P **P 04 07 00.8 +1.3**
baz=37,SNR=72
K15A Arbon 37.17 176 ⇑P **P 04 06 60.0 +0.5**
baz=37,SNR=77
K18A Toltan Ranch, 37.26 173 ⇓P **P 04 07 01.2 +0.9**
baz=37,SNR=120
K20A Yellowstone Ra 37.28 171 ⇑P **P 04 06 59.9 -0.5**
baz=37,SNR=31
K14A Jones Ranch, D 37.30 177 ⇓P **P 04 07 01.5 +0.9**
baz=37,SNR=102
K24A Anderson Ranch 37.33 167 ⇓P **P 04 07 00.4 -0.4**
baz=37
K21A Alcova 37.33 170 ⇓P **P 04 07 00.5 -0.4**
baz=37,SNR=34
HUMO Hull Mountain 37.34 189 *e*P **P 04 07 00.6 -0.3**
comp=Z,108nm,1.1s,mb5.6
HUMO *e*PcP PcP 04 09 18.0 -1.8
K22A Casper 37.34 169 ⇓P **P 04 07 00.3 -0.7**
baz=37,SNR=119
FINES FINESS Array B 37.34 29 P **P 04 07 00.7 -0.1**
comp=Z,36nm,0.6s,mb5.3,baz=357,slow=8.7,SNR=74

FINES PcP PcP 04 09 18.4 -1.0
comp=Z,19nm,0.7s,baz=355,slow=4.2,SNR=8.7
FINES LR LR 04 22 21.4
comp=Z,1µm,18.2s,MS4.7,baz=348,slow=36
FINES FINESS Array B 37.34 29 P **P** **04 07 00.7 -0.1**
FINES PcP PcP 04 09 18.4 -1.0
FINES LR LR 04 22 21.4
FINES FINESS Array B 37.34 29 P **P** **04 07 00.7 -0.1**
FINES 04 09 18.5
KONO Kongsberg 37.35 43 PFAKE 04 07 10.0 +9.1
KONO LR LR
comp=Z,2µm,19.0s,MS4.9
HFS Hagfors 37.37 40 P **P** **04 07 00.3 -0.8**
comp=Z,10nm,0.7s,mb4.8,baz=75,slow=1.7,SNR=13
HFS PcP PcP 04 09 18.5 -1.0
comp=Z,18nm,0.7s,baz=349,slow=1.5,SNR=12
HFS LR LR 04 20 41.2
comp=Z,658nm,18.9s,MS4.5,baz=350,slow=34
HFS Hagfors 37.37 40 P **P** **04 07 00.3 -0.8**
HFS PcP PcP 04 09 18.5 -1.0
HFS LR LR 04 20 41.2
HFS Hagfors 37.37 40 P **P** **04 07 00.3 -0.7**
HFS 04 09 18.5
WVOR Wild Horse Val 37.42 184 *e*P **P** **04 07 01.9 +0.3**
comp=Z,103nm,0.9s,mb5.7
WVOR LR LR
comp=Z,2µm,22.0s,MS4.8
WVOR Wild Horse Val 37.42 184 *e*P **P** **04 07 01.9 +0.3**
WVOR pmax pmax
comp=Z,103nm,0.9s,mb5.7
WVOR MLR MLR
comp=Z,2µm,22.0s,MS4.8
K26A Motz Farm, Whi 37.42 165 ⇑P **P** **04 07 01.8 +0.1**
baz=37
K25A Mack Ranch, Ha 37.48 166 ⇓P **P** **04 07 01.7 -0.5**
baz=37
KPL Plockton 37.49 57 *e*P **P** **04 07 01.2 -0.9**
KPL AMB AMB 04 07 03.6
comp=Z,105nm,2.1s,mb5.3
KPL AMS AMS 04 23 16.2
comp=Z,2µm,15.6s,MS5.1
KPL Plockton 37.49 57 P **P** **04 07 01.2 -0.9**
KPL AMB AMB 04 07 03.6
comp=Z,105nm,2.1s,mb5.3
KPL AMS AMS 04 23 16.2
comp=Z,2µm,15.6s
PET Petropavlovsk 37.64 279 PFAKE 04 07 20.0 +17
PET LR LR
comp=Z,2µm,21.0s,MS4.8
PET Petropavlovsk 37.64 279 *e*P **P** **04 06 57.1 -6.3**
PET *e* 04 08 28.7
PET *e*S **S** **04 12 43.3 -9.4**
PET pmax pmax
comp=Z,100nm,16.0s
PET MLR MLR
comp=Z,1µm,20.0s,MS4.7
PET MLR MLR
comp=Z,2µm,20.0s
PETK Petropavlovsk- 37.73 280 P **P** **04 07 03.5 -0.6**
comp=Z,6.8nm,0.7s,mb4.5,baz=64,slow=8.2,SNR=9.8
PETK PcP PcP 04 09 20.0 -0.8
comp=Z,6.8nm,0.8s,baz=42,slow=2.3,SNR=3.3
PETK LR LR 04 24 58.8
comp=Z,2µm,18.4s,MS4.9,baz=23,slow=40
PETK Petropavlovsk- 37.73 280 P **P** **04 07 03.5 -0.6**
PETK PcP PcP 04 09 20.0 -0.8
PETK LR LR 04 24 58.8
PETK Petropavlovsk- 37.73 280 P **P** **04 07 03.5 -0.6**
PETK 04 09 20.0
KBO Bosley Butte 37.77 191 *e*P **P** **04 07 05.2 +0.7**
comp=Z,186nm,1.6s,mb5.6
L17A Cokeville 37.78 174 ⇓P **P** **04 07 04.6 -0.1**
baz=38,SNR=127
L19A Farson 37.81 173 ⇑P **P** **04 07 04.6 -0.3**
baz=38,SNR=36
L14A Malta 37.81 177 ⇓P **P** **04 07 05.6 +0.6**
baz=38,SNR=101
MSNY Massena 37.82 131 *e*P **P** **04 07 04.0 -1.0**
comp=Z,1µm,0.8s,mb6.6
L15A Malad City 37.85 176 ⇓P **P** **04 07 05.5 +0.2**
baz=38,SNR=61
L16A Fish Haven 37.85 175 ⇓P **P** **04 07 05.5 +0.2**
baz=38,SNR=104
L23A Garrett 37.91 168 ⇑P **P** **04 07 04.9 -0.8**
baz=38,SNR=44
L20A Wamsutter 37.93 171 ⇓P **P** **04 07 05.6 -0.4**
baz=38,SNR=16
L22A Ellis Ranch, M 37.96 169 ⇓P **P** **04 07 06.2 0.0**
baz=38,SNR=36
L18A Fontenelle, Gr 37.97 173 ⇑P **P** **04 07 06.1 -0.2**
baz=38,SNR=28
MOD Modoc 37.98 186 *e*P **P** **04 07 07.0 +0.6**
comp=Z,138nm,1.0s,mb5.6
L21A Rawlins 38.00 170 ⇓P **P** **04 07 06.0 -0.5**
baz=38,SNR=78
L24A Wheatland 38.01 167 ⇑P **P** **04 07 05.9 -0.7**
baz=38,SNR=5.4
HVU Hansel Valley 38.07 177 *e*P **P** **04 07 06.9 -0.2**
comp=Z,68nm,0.8s,mb5.4
HVU *e*PP PP 04 08 35.0 +1.1
HVU Hansel Valley 38.07 177 *e*P **P** **04 07 06.9 -0.2**
HVU *e* 04 08 35.0
HVU pmax pmax
comp=Z,68nm,0.8s,mb5.4
JFWS Jewell Farm 38.11 149 *e*P **P** **04 07 06.0 -1.5**
comp=Z,160nm,1.0s,mb5.7
JFWS Jewell Farm 38.11 149 *e*P **P** **04 07 06.0 -1.5**
JFWS pmax pmax
comp=Z,160nm,1.0s,mb5.7
FRNY Flat Rock 38.15 130 *e*P **P** **04 07 06.3 -1.5**
comp=Z,83nm,0.8s,mb5.5
YBH Yreka Blue Hor 38.20 189 *e*P **P** **04 07 07.9 -0.3**
comp=Z,36nm,1.1s,mb5.0
YBH Yreka Blue Hor 38.20 189 *e*P **P** **04 07 07.9 -0.3**
YBH pmax pmax
comp=Z,36nm,1.1s
LONY Lake Ozonia 38.23 131 *e*P **P** **04 07 07.7 -0.8**
comp=Z,95nm,1.3s,mb5.4
HWUT Hardware Ranch 38.26 175 *e*P **P** **04 07 08.6 -0.1**
comp=Z,80nm,0.8s,mb5.5
HWUT *e*PP PP 04 08 34.0 -1.9
HWUT *e*PcP PcP 04 09 22.4 -0.2
RWWY Rawlins 38.28 170 *e*P **P** **04 07 08.6 -0.3**
comp=Z,413nm,1.5s,mb5.9
RWWY *e*PcP PcP 04 09 22.4 -0.3
M21A Separation Pea 38.35 170 ⇑P **P** **04 07 09.2 -0.4**
baz=38,SNR=98
M15A Larsen Ranch, 38.39 176 ⇑P **P** **04 07 09.6 -0.3**
baz=38,SNR=38
M17A Scullys Gap (B 38.41 174 ⇑P **P** **04 07 09.5 -0.4**
baz=38,SNR=35
M19A Rock Springs 38.41 172 ⇑P **P** **04 07 09.5 -0.5**
baz=38,SNR=50
KRMB Red Mountain 38.45 190 *e*P **P** **04 07 10.9 +0.6**
comp=Z,70nm,1.5s,mb5.2
M20A Sweetwater, Wa 38.45 171 ⇑P **P** **04 07 10.2 -0.1**
baz=38,SNR=19
M18A Lyman 38.47 173 ⇓P **P** **04 07 10.0 -0.4**
baz=38,SNR=21
SPUT South Promonto 38.55 176 *e*P **P** **04 07 10.9 -0.2**
comp=Z,21nm,0.7s,mb5.0
SPUT *e*PP PP 04 08 37.6 -1.5
SPUT *e*PcP PcP 04 09 24.2 +0.7
M16A Huntsville 38.55 175 ⇑P **P** **04 07 11.5 +0.3**
baz=38,SNR=157
M23A Laramie 38.55 168 ⇑P **P** **04 07 11.1 0.0**
baz=38,SNR=18
M22A Cedar Creek Ra 38.58 169 ⇓P **P** **04 07 11.4 0.0**
baz=38,SNR=64
M24A Cheyenne 38.58 167 ⇓P **P** **04 07 11.5 +0.1**
baz=38,SNR=20
M25A Palm-Egli Farm 38.65 166 ⇑P **P** **04 07 12.0 0.0**
baz=38
PHWY Pilot Hill 38.73 168 *e*P **P** **04 07 12.5 -0.2**
comp=Z,82nm,1.3s,mb5.3
EAB Aberfoyle 38.80 56 *e*P **P** **04 07 12.5 -0.6**
EAB Aberfoyle 38.80 56 P **P** **04 07 12.5 -0.6**
SCIA State Center 38.85 153 *e*P **P** **04 07 13.4 -0.3**
comp=Z,369nm,1.4s,mb5.9
SCIA LR LR
comp=Z,2µm,22.0s,MS4.9
EBH Black Hill 38.87 56 *e*P **P** **04 07 12.5 -1.1**
EBH Black Hill 38.87 56 P **P** **04 07 12.5 -1.1**
NCB Newcomb 38.91 131 *e*P **P** **04 07 13.4 -0.8**
comp=Z,91nm,0.8s,mb5.6
NCB *e*PcP PcP 04 09 23.6 -0.9

BGU Big Grassy Mou 38.92 177 *e*P **P** **04 07 14.3 0.0**
comp=Z,414nm,0.5s,mb6.4
BGU *e*PcP PcP 04 09 25.5 +0.8
KLMR Klimovskoe 38.92 19 *e*P **P** **04 07 11.8 -2.3**
KLMR *e* 04 09 22.2
KLMR pmax pmax
comp=Z,171nm,1.4s,mb5.6
KLMR pmax pmax
comp=Z,240nm,5.3s
KLMR MLR MLR
comp=Z,2µm,19.0s,MS4.9
N18A Larsen Ranch, 38.92 173 ⇓P **P** **04 07 14.1 -0.2**
baz=39,SNR=56
N17A Moffit Pass 38.93 174 ⇓P **P** **04 07 14.1 -0.3**
baz=39,SNR=14
N15A Stansbury Isla 38.96 176 ⇓P **P** **04 07 14.5 -0.1**
baz=39
LBNH Lisbon 38.97 128 *e*P **P** **04 07 14.1 -0.5**
LBNH Lisbon 38.97 128 *e*P **P** **04 07 14.1 -0.5**
N16A Rees Ranch, Co 38.98 175 ⇑P **P** **04 07 15.1 +0.3**
baz=39,SNR=72
BGNE Belgrade 38.99 159 ⇓P **P** **04 07 14.1 -0.8**
baz=39,SNR=26
N19A John Jarvie Ra 39.02 172 ⇓P **P** **04 07 15.0 -0.1**
baz=39,SNR=30
MDV Middlebury 39.03 129 *e*P **P** **04 07 14.1 -1.1**
KHMM Horse Mountain 39.09 190 *e*P **P** **04 07 16.5 +0.8**
comp=Z,162nm,1.2s,mb5.6
N20A Spence Gulch, 39.10 171 ⇑P **P** **04 07 15.9 +0.2**
baz=39,SNR=42
N23A Red Feather La 39.11 168 ⇑P **P** **04 07 16.1 +0.2**
baz=39,SNR=39
PGBU Glenifferbraes 39.15 57 AMB AMB 04 07 25.5
comp=Z,123nm,1.4s,mb5.5
PGBU AMS AMS 04 23 12.1
comp=Z,2µm,18.0s,MS5.1
PGBU Glenifferbraes 39.15 57 AMB AMB 04 07 25.5
comp=Z,123nm,1.4s,mb5.5
PGBU AMS AMS 04 23 12.1
comp=Z,2µm,18.0s
CTU Camp Tracy 39.17 175 *e*P **P** **04 07 16.2 -0.2**
comp=Z,74nm,1.0s,mb5.4
N22A Wattenberg Ran 39.19 169 ⇑P **P** **04 07 16.6 +0.1**
baz=39,SNR=44
N21A Black Mountain 39.20 170 ⇓P **P** **04 07 16.5 -0.1**
baz=39,SNR=34
NOQ North Oquirrh 39.20 176 *e*P **P** **04 07 17.3 +0.6**
comp=Z,254nm,1.7s,mb5.7
N24A Carr 39.22 167 ⇓P **P** **04 07 17.4 +0.6**
baz=39,SNR=37
EDI Edinburgh 39.23 55 AMB AMB 04 07 12.5
comp=Z,155nm,3.3s
EDI Edinburgh 39.23 55 AMB AMB 04 07 12.5
comp=Z,155nm,3.3s
OGNE Ogallala 39.23 164 ⇓P **P** **04 07 17.0 +0.1**
baz=39,SNR=26
OGNE Ogallala 39.23 164 *e*P **P** **04 07 17.0 +0.1**
comp=Z,229nm,0.8s,mb6.0
OGNE LR LR
comp=Z,3µm,20.0s,MS5.1
JLU Jordanelle 39.26 175 *e*P **P** **04 07 17.2 +0.1**
comp=Z,64nm,0.9s,mb5.4
N25A Grover 39.27 166 ⇓P **P** **04 07 17.7 +0.6**
baz=39,SNR=8.7
ESY Stoneypath 39.32 55 *e*P **P** **04 07 17.2 -0.3**
ESY Stoneypath 39.32 55 P **P** **04 07 17.2 -0.3**
WDC Whiskeytown Da 39.35 188 *e*P **P** **04 07 16.9 -1.0**
comp=Z,138nm,1.1s,mb5.6
WDC Whiskeytown Da 39.35 188 *e*P **P** **04 07 16.9 -1.0**
WDC pmax pmax
comp=Z,138nm,1.1s,mb5.6
CLNS Chul'man 39.37 311 *e*P **P** **04 07 17.5 -0.4**
CLNS *e**PP pP 04 07 24.3 +3.6
CLNS *e* 04 08 52.5
CLNS *e*PPP 04 09 20.5
CLNS *e*S **S** **04 13 18.8 0.0**
CLNS pmax pmax
comp=Z,46nm,1.1s,mb5.1
CLNS pmax pmax
comp=N,27nm,1.1s
CLNS pmax pmax
comp=E,17nm,1.0s
CLNS pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
CLNS smax
comp=N,428nm,12.5s
CLNS smax
comp=E,331nm,14.0s
CLNS MLR MLR
comp=Z,2µm,17.0s,MS4.9
CLNS MLR MLR
comp=N,1µm,16.0s,MS5.0
CLNS MLR MLR
comp=E,922nm,18.0s,MS5.0
AAM Ann Arbor 39.39 142 *e*P **P** **04 07 17.6 -0.6**
comp=E,225nm,0.8s,mb6.0
AAM Ann Arbor 39.39 142 *e*P **P** **04 07 17.6 -0.6**
AAM pmax pmax
comp=Z,225nm,0.8s,mb6.0
EBL Broad Law 39.40 55 *e*P **P** **04 07 17.1 -1.0**
EBL Broad Law 39.40 55 P **P** **04 07 17.1 -1.0**
BMN Battle Mountai 39.41 182 *e*P **P** **04 07 19.1 +0.8**
comp=Z,107nm,0.9s,mb5.6
BMN *e*PcP PcP 04 09 27.2 +0.9
BMN LR LR
comp=Z,2µm,20.0s,MS5.0
BMN Battle Mountai 39.41 182 *e*P **P** **04 07 19.2 +0.8**
BMN *e* 04 09 27.2
BMN pmax pmax
comp=Z,107nm,0.9s,mb5.6
BMN MLR MLR
comp=Z,2µm,20.0s,MS5.0
DAU Daniels Canyon 39.46 175 *e*P **P** **04 07 19.6 +0.8**
DAU *e*PcP PcP 04 09 27.2 +0.9
DAU Daniels Canyon 39.46 175 *e*P **P** **04 07 19.6 +0.8**
DAU *e* 04 09 27.2
ACCN Adirondack Com 39.56 130 *e*P **P** **04 07 18.9 -0.7**
comp=Z,115nm,1.7s,mb5.3
O15A The Old Anders 39.57 176 ⇑P **P** **04 07 20.5 +0.8**
baz=39,SNR=70
O19A Miners Draw (B 39.61 172 ⇑P **P** **04 07 20.6 +0.6**
baz=40,SNR=33
O18A Roosevelt 39.63 173 ⇑P **P** **04 07 20.8 +0.6**
baz=40,SNR=17
DUG Dugway 39.65 177 ⇓P **P** **04 07 20.9 +0.5**
baz=40,SNR=57
DUG Dugway 39.65 177 *e*P **P** **04 07 20.3 -0.1**
comp=Z,61nm,1.0s,mb5.3
DUG LR LR
comp=Z,2µm,20.0s,MS5.0
DUG Dugway 39.65 177 *e*P **P** **04 07 20.3 -0.1**
DUG pmax pmax
comp=Z,61nm,1.0s,mb5.3
DUG MLR MLR
comp=Z,2µm,20.0s,MS5.0
O16A Springville 39.66 175 ⇑P **P** **04 07 21.2 +0.7**
baz=40
O17A Robinson Place 39.68 174 ⇓P **P** **04 07 21.1 +0.5**
baz=40,SNR=22
O21A Pagoda 39.74 170 ⇑P **P** **04 07 21.2 0.0**
baz=40,SNR=40
O23A Lake Granby, G 39.80 168 ⇑P **P** **04 07 22.2 +0.6**
baz=40,SNR=39
O20A White River Ci 39.80 171 ⇓P **P** **04 07 22.0 +0.4**
baz=40,SNR=117
EKA Eskdalemuir Ar 39.80 56 P **P** **04 07 20.9 -0.6**
comp=Z,17nm,0.7s,mb4.9,baz=342,slow=8.4,SNR=50
EKA Eskdalemuir Ar 39.80 56 P **P** **04 07 20.9 -0.6**
EKA Eskdalemuir Ar 39.81 56 P **P** **04 07 20.9 -0.6**
ESK Eskdalemuir 39.81 56 *e*P **P** **04 07 20.9 -0.7**
comp=Z,124nm,1.1s,mb5.5
ESK LR LR
comp=Z,2µm,20.0s,MS5.0
ESK Eskdalemuir 39.81 56 *e*P **P** **04 07 20.9 -0.7**
ESK pmax pmax
comp=Z,124nm,1.1s,mb5.5
ESK MLR MLR
comp=Z,2µm,20.0s,MS5.0
ESK Eskdalemuir 39.81 56 P **P** **04 07 21.9 +0.3**
comp=Z,586nm,0.9s,mb6.3,SNR=5.9
O22A Kremmling 39.82 169 ⇓P **P** **04 07 22.3 +0.5**
baz=40,SNR=122
MPU Maple Canyon 39.85 175 *e*P **P** **04 07 22.3 +0.3**
comp=Z,162nm,0.8s,mb5.8
NLU North Lily Min 39.90 176 *e*P **P** **04 07 23.0 +0.5**
comp=Z,158nm,1.3s,mb5.6
NLU *e*PcP PcP 04 09 28.5 +0.7

O24A Longmont 39.92 167 ⇓P **P** **04 07 22.9 +0.3**
baz=40,SNR=12
ECK Cauldkaine Hil 39.96 56 *e*P **P** **04 07 21.7 -1.1**
ECK Cauldkaine Hil 39.96 56 P **P** **04 07 21.7 -1.1**
ERPA Erie 39.99 138 PFAKE 04 07 30.0 +6.8
ERPA LR LR
comp=Z,2µm,22.0s,MS5.0
GAL1 Galloway 40.02 57 *e*P **P** **04 07 23.5 +0.2**
GAL1 AMB AMB 04 07 27.4
comp=Z,79nm,2.4s,mb5.0
GAL1 AMS AMS 04 23 49.6
comp=Z,2µm,19.9s,MS5.0
GAL1 Galloway 40.02 57 P **P** **04 07 23.5 +0.2**
GAL1 AMB AMB 04 07 27.4
comp=Z,79nm,2.4s,mb5.0
GAL1 AMS AMS 04 23 49.6
comp=Z,2µm,19.9s
KIPM Iron Peak 40.14 190 *e*P **P** **04 07 25.5 +1.0**
comp=Z,137nm,1.3s,mb5.5
TRY Troy 40.20 130 *e*P **P** **04 07 24.5 -0.5**
ISCO Idaho Springs 40.22 168 ⇓P **P** **04 07 25.8 +0.7**
baz=40,SNR=64
ISCO Idaho Springs 40.22 168 *e*P **P** **04 07 24.9 -0.2**
comp=Z,68nm,1.0s,mb5.3
ISCO LR LR
comp=Z,4µm,20.0s,MS5.3
ISCO Idaho Springs 40.22 168 *e*P **P** **04 07 24.9 -0.2**
ISCO pmax pmax
comp=Z,68nm,1.0s,mb5.3
ISCO MLR MLR
comp=Z,4µm,20.0s,MS5.3
P16A Fountain Green 40.25 175 ⇑P **P** **04 07 26.4 +1.0**
baz=40,SNR=29
P14A Drum Mountains 40.25 177 ⇑P **P** **04 07 25.8 +0.4**
baz=40,SNR=79
P18A Preston Nutter 40.26 174 ⇓P **P** **04 07 25.5 +0.1**
baz=40
KCPM Cahto Peak 40.27 190 *e*P **P** **04 07 25.9 +0.3**
comp=Z,78nm,1.2s,mb5.3
P19A Cripple Cowboy 40.28 172 ⇑P **P** **04 07 25.6 -0.1**
baz=40,SNR=257
P15A Leamington 40.28 176 ⇑P **P** **04 07 26.1 +0.5**
baz=40,SNR=36
VSU Vasula 40.35 30 ⇑*i*P **P** **04 07 26.2 +0.2**
VSU pmax pmax
comp=Z,78nm,1.2s,mb5.3
P22A Eagle 40.38 170 ⇓P **P** **04 07 27.0 +0.5**
baz=40,SNR=136
XAL Allendale 40.40 55 *e*P **P** **04 07 26.0 -0.5**
XAL Allendale 40.40 55 P **P** **04 07 26.0 -0.5**
P17A Butcher Ranch, 40.40 174 ⇓P **P** **04 07 27.0 +0.4**
baz=40,SNR=14
MUD Monsted U'grnd 40.41 45 *i* P **P** **04 07 28.0 +1.5**
MUD pmax pmax
comp=Z,78nm,1.1s,mb5.3
MUD Monsted U'grnd 40.41 45 *i* P **P** **04 07 28.0 +1.5**
comp=Z,78nm,1.1s,mb5.3
BINY Binghamton 40.42 133 *e*P **P** **04 07 25.9 -0.9**
comp=Z,71nm,1.0s,mb5.3
BINY *e*PcP PcP 04 09 28.6 -0.8
P20A De Beque 40.43 171 ⇓P **P** **04 07 26.7 -0.2**
baz=40,SNR=68
P21A Newcastle 40.43 170 ⇑P **P** **04 07 27.4 +0.5**
baz=40,SNR=68
ALLY Alegheny Colle 40.44 138 *e*P **P** **04 07 26.5 -0.4**
comp=Z,190nm,1.2s,mb5.7
P24A Kohler Place, 40.53 167 ⇑P **P** **04 07 27.9 +0.2**
baz=40,SNR=13
P25A Willow Gulch B 40.56 166 ⇓P **P** **04 07 28.0 +0.1**
baz=40,SNR=32
OHCM Honcut 40.56 187 *e*P **P** **04 07 27.5 -0.5**
WCN Washoe City 40.56 185 ⇑P **P** **04 07 28.7 +0.7**
baz=40,SNR=81
WCN Washoe City 40.56 185 *e*P **P** **04 07 28.2 +0.2**
comp=Z,105nm,1.1s,mb5.4
WCN Washoe City 40.56 185 *e*P **P** **04 07 28.2 +0.2**
WCN pmax pmax
comp=Z,105nm,1.1s,mb5.4
P23A Jefferson 40.63 168 ⇑P **P** **04 07 29.7 +1.1**
baz=40,SNR=36
SRU San Rafael 40.77 174 ⇓P **P** **04 07 29.5 -0.1**
baz=41,SNR=56
SRU San Rafael 40.77 174 *e*P **P** **04 07 29.4 -0.3**
comp=Z,67nm,0.8s,mb5.3
SRU San Rafael 40.77 174 *e*P **P** **04 07 29.4 -0.3**
SRU pmax pmax
comp=Z,67nm,0.8s,mb5.3
Q18A Rafter H Ranch 40.78 174 ⇓P **P** **04 07 29.8 0.0**
baz=41,SNR=54
SMCO Snowmass 40.79 170 *e*P **P** **04 07 30.3 +0.5**
comp=Z,129nm,1.2s,mb5.4
SOKR Solikamsk 40.88 6 *e*P **P** **04 07 30.8 +0.4**
SOKR S **S** **04 13 47.1 +5.8**
SOKR pmax pmax
comp=Z,40nm,1.0s,mb5.0
SOKR MLR MLR
comp=Z,1µm,22.0s,MS4.7
SFIN Scholer Farm 40.92 146 ⇓P **P** **04 07 29.4 -1.6**
baz=41,SNR=18
HOPS Hopland 40.95 189 *e*P **P** **04 07 31.4 +0.2**
comp=Z,170nm,1.1s,mb5.6
HOPS *e*PcP PcP 04 09 30.9 -0.2
Q16A Castle Valley 40.95 175 ⇓P **P** **04 07 32.0 +0.9**
baz=41,SNR=125
Q19A Hogan Spring (40.95 173 ⇓P **P** **04 07 30.5 -0.7**
baz=41,SNR=33
Q20A Ridgley Place, 40.98 171 ⇓P **P** **04 07 30.9 -0.4**
baz=41,SNR=36
Q24A Divide 41.07 168 ⇓P **P** **04 07 32.5 +0.4**
baz=41,SNR=39
Q23A Hartsel 41.10 168 ⇑P **P** **04 07 33.0 +0.6**
baz=41,SNR=44
Q22A Crested Butte, 41.11 170 ⇓P **P** **04 07 33.1 +0.7**
baz=41,SNR=57
Q21A Lamborn Mesa, 41.12 171 ⇑P **P** **04 07 32.8 +0.3**
baz=41,SNR=49
Q25A Bedland, Calha 41.15 167 ⇓P **P** **04 07 32.6 -0.3**
baz=41,SNR=27
DLF Lyons Farm 41.27 59 *e*P **P** **04 07 31.7 -1.9**
MSU Marysvale 41.34 176 *e*P **P** **04 07 35.0 +0.6**
MSU Marysvale 41.34 176 *e*P **P** **04 07 35.0 +0.6**
KSU1 Kansas State U 41.39 158 *e*P **P** **04 07 33.7 -1.1**
comp=Z,174nm,0.9s,mb5.7
NVAR Mina Array Bea 41.42 183 P **P** **04 07 35.3 +0.3**
comp=Z,72nm,0.9s,mb5.3,baz=360,slow=5.5,SNR=269
NVAR PcP PcP 04 09 32.8 0.0
comp=Z,16nm,1.0s,baz=339,slow=2.4,SNR=4.1
NVAR LR LR 04 26 18.5
comp=Z,2µm,18.1s,MS5.1,baz=356,slow=38
NVAR Mina Array Bea 41.42 183 P **P** **04 07 35.3 +0.3**
NVAR PcP PcP 04 09 32.8 0.0
NVAR LR LR 04 26 18.5
R17A Hanksville Air 41.46 174 ⇓P **P** **04 07 35.3 0.0**
baz=41,SNR=52
CBKS Cedar Bluff 41.48 161 ⇓P **P** **04 07 34.5 -1.0**
baz=41,SNR=41
CBKS Cedar Bluff 41.48 161 *e*P **P** **04 07 34.6 -0.9**
comp=Z,205nm,1.0s,mb5.7
CBKS LR LR
comp=Z,1µm,20.0s,MS4.8
CBKS Cedar Bluff 41.48 161 *e*P **P** **04 07 34.6 -0.9**
CBKS pmax pmax
comp=Z,205nm,1.0s,mb5.7
CBKS MLR MLR
comp=Z,1µm,20.0s,MS4.8
R11A Troy Canyon, C 41.48 180 ⇓P **P** **04 07 35.8 +0.2**
baz=41,SNR=68
R18A Canyonlands Na 41.50 173 ⇓P **P** **04 07 35.3 -0.4**
baz=41,SNR=151
ACSO Alum Creek Sta 41.51 142 *e*P **P** **04 07 34.6 -1.1**
comp=Z,135nm,0.8s,mb5.6
ACSO *e*PcP PcP 04 09 32.1 -0.9
PV04 Paradox Valley 41.52 172 *e*P **P** **04 07 35.5 -0.3**
R16A Teasdale 41.58 175 ⇓P **P** **04 07 36.8 +0.5**
baz=41,SNR=70
R21A Cimarron 41.58 171 ⇓P **P** **04 07 37.2 +0.8**
baz=41,SNR=120
R19A Curley Farm, L 41.61 173 ⇓P **P** **04 07 36.6 0.0**
baz=42,SNR=29
R15A Junction 41.64 176 ⇓P **P** **04 07 37.6 +0.8**
baz=42,SNR=55
R13A O'Grain Ranch, 41.66 178 ⇑P **P** **04 07 37.7 +0.7**
baz=42,SNR=87
YLE Yale 41.70 130 *e*P **P** **04 07 36.9 -0.4**
SSPA Standing Stone 41.71 136 *e*P **P** **04 07 37.0 -0.4**
comp=Z,187nm,1.7s,mb5.4
R20A Redvale 41.74 172 ⇑P **P** **04 07 37.6 0.0**

baz=42,SNR=64
TPH Tonopah 41.76 182 PFAKE 04 07 50.0 +12
TPH LR LR
comp=Z,2µm,19.0s,MS4.9
MCCM Marconi Confer 41.79 189 *eP* **P 04 07 38.8 +0.8**
comp=Z,166nm,1.1s,mb5.6
PV01 Paradox Valley 41.79 172 *eP* **P 04 07 38.0 0.0**
comp=Z,26µm,1.2s
PV01 *e*PcP PcP 04 09 34.6 +0.7
R24A Sanders Place, 41.80 168 ⇑P **P 04 07 38.3 +0.1**
baz=42,SNR=42
CMB Columbia Colle 41.84 186 *eP* **P 04 07 37.8 -0.6**
comp=Z,58nm,1.2s,mb5.1
CMB Columbia Colle 41.84 186 *eP* **P 04 07 37.8 -0.7**
CMB pmax pmax
comp=Z,57nm,1.2s,mb5.1
PAL Palisades 41.87 131 *eP* **P 04 07 38.9 +0.3**
comp=Z,61nm,1.0s,mb5.2
PAL Palisades 41.87 131 *eP* **P 04 07 38.9 +0.2**
PAL pmax pmax
comp=Z,61nm,1.0s,mb5.2
R25A Fountain Ranch 41.92 167 ⇓P **P 04 07 39.1 0.0**
baz=42,SNR=41
ARUT Antelope Range 42.05 178 *eP* **P 04 07 40.3 +0.1**
comp=Z,91nm,0.9s,mb5.4
ARUT Antelope Range 42.05 178 *eP* **P 04 07 40.3 +0.1**
ARUT pmax pmax
comp=Z,91nm,0.9s,mb5.4
KBI1 Birley Grange 42.06 55 *eP* **P 04 07 40.6 +0.4**
KBI1 Birley Grange 42.06 55 P **P 04 07 40.6 +0.4**
S20A Disappointment 42.10 172 ⇑P **P 04 07 40.9 +0.3**
baz=42,SNR=53
S16A Weppner Ranch, 42.14 175 ⇓P **P 04 07 41.4 +0.5**
baz=42,SNR=97
S19A Harvey Farm, M 42.16 172 ⇑P **P 04 07 41.4 +0.4**
baz=42,SNR=137
BLO Bloomington 42.18 146 *eP* **P 04 07 39.9 -1.3**
comp=Z,68nm,0.7s,mb5.4
BLO Bloomington 42.18 146 *eP* **P 04 07 39.9 -1.3**
BLO pmax pmax
comp=Z,68nm,0.7s,mb5.4
S18A Hurst Farm, Bl 42.20 173 ⇑P **P 04 07 41.4 0.0**
baz=42,SNR=105
MLAC Mammoth Lakes 42.22 184 ⇑P **P 04 07 43.4 +1.8**
baz=42,SNR=15
S22A 4UR Ranch, Cre 42.22 170 ⇑P **P 04 07 42.2 +0.6**
baz=42,SNR=51
S17A Black Ridge (B 42.24 174 ⇓P **P 04 07 41.9 +0.1**
baz=42,SNR=108
SDCO Great Sand Dun 42.27 168 ⇑P **P 04 07 42.0 0.0**
baz=42,SNR=74
SDCO Great Sand Dun 42.27 168 *eP* **P 04 07 41.9 -0.1**
comp=Z,200nm,1.5s,mb5.5
SDCO LR LR
comp=Z,5µm,19.0s,MS5.4
S21A Coal Bank Pass 42.28 171 ⇑P **P 04 07 42.5 +0.5**
baz=42,SNR=48
CCUT Cedar City 42.29 177 *eP* **P 04 07 42.5 +0.4**
comp=Z,76nm,0.9s,mb5.3
S23A Nye Farm, Mont 42.29 169 ⇑P **P 04 07 42.7 +0.5**
baz=42,SNR=50
SAC San Andreas 42.34 188 P **P 04 07 43.0 +0.4**
SAC San Andreas 42.34 188 P **P 04 07 43.0 +0.5**
SLM Saint Louis 42.36 150 *eP* **P 04 07 40.6 -2.1**
comp=Z,194nm,0.9s,mb5.7
SLM Saint Louis 42.36 150 *eP* **P 04 07 40.6 -2.1**
SLM pmax pmax
comp=Z,194nm,0.9s,mb5.7
S24A Houchin Ranch, 42.39 168 ⇓P **P 04 07 43.5 +0.5**
baz=42,SNR=100
S25A Robets Cordova 42.40 167 ⇓P **P 04 07 43.4 +0.4**
baz=42,SNR=264
MCWV Mont Chateau 42.44 138 *eP* **P 04 07 34.1 -9.2**
comp=Z,68nm,0.8s,mb5.3
MTUM Tungsten Hills 42.49 184 *eP* **P 04 07 44.9 +1.1**
MVL Millersville 42.53 134 *eP* **P 04 07 44.4 +0.2**
comp=Z,53nm,1.0s,mb5.2
MVCO Mesa Verde 42.71 172 ⇓P **P 04 07 46.0 +0.5**
baz=43,SNR=46
MVCO Mesa Verde 42.71 172 *eP* **P 04 07 46.2 +0.7**
comp=Z,116nm,1.2s,mb5.5
T18A Mexican Hat 42.75 173 ⇓P **P 04 07 45.8 -0.1**
baz=43,SNR=124
GRAC Grapevine Rang 42.84 182 ⇓P **P 04 07 47.0 +0.5**
baz=43,SNR=129
CCM Cathedral Cave 42.84 151 *eP* **P 04 07 44.2 -2.5**
comp=Z,107nm,1.0s,mb5.5
CCM Cathedral Cave 42.84 151 *eP* **P 04 07 44.2 -2.4**
CCM pmax pmax
comp=Z,107nm,1.0s,mb5.5
T17A Navajo Res., N 42.87 174 ⇑P **P 04 07 46.8 -0.1**
baz=43,SNR=129
T16A Glen Canyon Da 42.88 175 ⇓P **P 04 07 46.8 -0.1**
baz=43,SNR=36
T25A Trinidad 42.92 167 ⇑P **P 04 07 47.4 +0.2**
baz=43,SNR=21
T22A Edith 42.95 170 ⇑P **P 04 07 48.6 +1.1**
baz=43,SNR=127
T21A Navajo Lake 42.95 171 ⇓P **P 04 07 48.9 +1.3**
baz=43,SNR=30
T24A Torres, Weston 42.96 168 ⇓P **P 04 07 48.0 +0.4**
baz=43,SNR=56
T23A Casias Ranch, 42.96 169 ⇓P **P 04 07 48.1 +0.6**
baz=43,SNR=29
IZAR Zarasai 42.98 31 *eP* **P 04 07 47.5 -0.1**
IZAR AMB AMB 04 07 56.5
comp=Z,21nm,0.9s,mb4.9
BSEG Bad Segeberg 43.02 45 *eP* **P 04 07 48.1 +0.2**
comp=Z,13nm,0.9s,mb4.7
BSEG Bad Segeberg 43.02 45 *eP* **P 04 07 48.1 +0.2**
BSEG pmax pmax
comp=Z,13nm,0.9s,mb4.7
T19A Beclabito 43.08 172 ⇓P **P 04 07 48.5 0.0**
baz=43,SNR=155
SAO San Andreas Ge 43.13 187 *eP* **P 04 07 49.7 +0.7**
comp=Z,106nm,1.3s,mb5.4
SAO San Andreas Ge 43.13 187 *eP* **P 04 07 49.7 +0.7**
SAO pmax pmax
comp=Z,106nm,1.3s,mb5.4
WCI Wyandotte Cave 43.13 146 *eP* **P 04 07 47.3 -1.7**
comp=Z,81nm,1.3s,mb5.3
WCI Wyandotte Cave 43.13 146 *eP* **P 04 07 47.3 -1.7**
WCI pmax pmax
comp=Z,81nm,1.3s,mb5.3
ISAL Salakas 43.15 31 *eP* **P 04 07 48.8 -0.1**
ISAL AMB AMB 04 07 55.0
comp=Z,26nm,1.9s,mb4.6
USIN University of 43.26 147 *eP* **P 04 07 48.1 -1.9**
comp=Z,471nm,2.4s,mb5.8
U17A Shonto 43.27 174 ⇓P **P 04 07 50.2 0.0**
baz=43,SNR=41
FURC Furnace Creek, 43.36 182 ⇓P **P 04 07 51.4 +0.6**
baz=43,SNR=67
SIUC Southern Illin 43.36 149 *eP* **P 04 07 48.5 -2.3**
comp=Z,86nm,0.8s,mb5.5
IIGN Ignalina 43.38 31 *eP* **P 04 07 50.6 -0.1**
IIGN AMB AMB 04 07 59.6
comp=Z,35nm,1.2s,mb5.0
CWC Cottonwood Cre 43.40 183 ⇓P **P 04 07 52.0 +0.8**
baz=43,SNR=29
U15A North Rim 43.42 176 ⇓P **P 04 07 51.3 0.0**
baz=43,SNR=54
U21A Nageezi 43.51 171 ⇑P **P 04 07 52.4 +0.4**
baz=43,SNR=87
U20A Newcomb 43.54 172 ⇓P **P 04 07 52.7 +0.4**
baz=43,SNR=33
RCTC Rector, Farmer 43.54 184 ⇑P **P 04 07 53.0 +0.7**
baz=43,SNR=10.0
DAC Darwin (Calif) 43.56 182 PFAKE 04 08 00.0 +7.6
DAC LR LR
comp=Z,2µm,20.0s,MS4.9
U19A Dine' College, 43.61 173 ⇓P **P 04 07 53.1 +0.3**
baz=44,SNR=90
U24A Moreno Valley 43.61 168 ⇑P **P 04 07 53.5 +0.7**
baz=44,SNR=45
U25A Circle Dot Ran 43.66 167 ⇑P **P 04 07 53.5 +0.3**
baz=44,SNR=58
U23A El Rito 43.66 169 ⇑P **P 04 07 54.2 +1.0**
baz=44,SNR=407
SVE Sverdlovsk 43.69 3 ⇓*i*P **P 04 07 55.0 +1.8**
SVE *e* 04 09 40.0
SVE *e*S **S 04 14 29.6 +7.0**
SVE *e*SS SS 04 17 28.8 -8.4
SVE *e* 04 18 29.2
SVE pmax pmax
comp=Z,82nm,1.6s,mb5.2
SVE MLR MLR
comp=Z,1µm,16.0s,MS4.8
U26A Atchley Ranch, 43.69 166 ⇓P **P 04 07 53.6 +0.2**
baz=44,SNR=66
SWN1 Swindon 43.71 56 *eP* **P 04 07 53.6 0.0**
SWN1 AMB AMB 04 08 02.6
comp=Z,180nm,1.5s,mb5.6
SWN1 AMS AMS 04 26 36.5
comp=Z,2µm,19.0s,MS5.0
SWN1 Swindon 43.71 56 P **P 04 07 53.6 0.0**
SWN1 AMB AMB 04 08 02.6
comp=Z,180nm,1.5s,mb5.6
SWN1 AMS AMS 04 26 36.5
comp=Z,2µm,19.0s
U16A Tuba City 43.72 175 ⇓P **P 04 07 53.8 +0.1**
baz=44,SNR=72
MPMC Manual Prospec 43.77 182 ⇓P **P 04 07 55.4 +1.2**
baz=44,SNR=283
MOS Moscow 43.90 22 *eP* **P 04 07 53.8 -1.1**
MOS *i* 04 08 01.7
MOS *e* 04 09 39.4
MOS *e*S **S 04 14 33.8 +8.1**
MOS pmax pmax
comp=Z,90nm,1.1s,mb5.4
MOS MLR MLR
comp=Z,900nm,17.0s,MS4.8
SHOC Shoshone 43.93 181 ⇓P **P 04 07 56.1 +0.7**
baz=44,SNR=81
WOL Wolverton 43.99 55 *eP* **P 04 07 56.5 +0.7**
WOL AMB AMB 04 08 04.7
comp=Z,139nm,1.1s,mb5.6
WOL AMS AMS 04 26 30.0
comp=Z,2µm,16.9s,MS5.0
WOL Wolverton 43.99 55 P **P 04 07 56.5 +0.7**
WOL AMB AMB 04 08 04.7
comp=Z,139nm,1.1s,mb5.6
WOL AMS AMS 04 26 30.0
comp=Z,2µm,16.9s
VES Vestal, Richgr 44.01 184 ⇓P **P 04 07 56.2 +0.1**
baz=44,SNR=47
V15A Kaibab Nationa 44.03 176 ⇑P **P 04 07 56.1 -0.1**
baz=44,SNR=77
V22A San Miguel Ran 44.05 170 ⇓P **P 04 07 57.2 +0.9**
baz=44
ARU Arti 44.06 5 PFAKE 04 08 10.0 +14
ARU LR LR
comp=Z,1µm,19.0s,MS4.9
ARU Arti 44.06 5*c i*P **P 04 07 57.0 +0.8**
ARU *e* 04 09 40.3
ARU PPP 04 10 13.9
ARU S **S 04 14 31.9 +3.8**
ARU SS SS 04 17 53.6 +9.1
ARU pmax pmax
comp=Z,84nm,1.7s,mb5.2
ARU MLR MLR
comp=Z,951nm,17.0s,MS4.8
ARU Arti 44.06 5 P **P 04 07 57.5 +1.3**
comp=Z,377nm,1.0s,mb6.1,SNR=7.2
V20A Brimhall 44.12 172 ⇓P **P 04 07 57.3 +0.4**
baz=44,SNR=69
V21A Milan 44.13 171 ⇑P **P 04 07 57.6 +0.5**
baz=44,SNR=65
CBN Corbin 44.17 136 *eP* **P 04 07 57.5 +0.1**
comp=Z,122nm,1.2s,mb5.5
V18A Ganado 44.17 173 ⇑P **P 04 07 57.5 +0.2**
baz=44,SNR=156
ISA Isabella 44.18 183 ⇓P **P 04 07 58.4 +1.0**
baz=44,SNR=185
ISA Isabella 44.18 183 *eP* **P 04 07 58.0 +0.5**
comp=Z,113nm,0.9s,mb5.6
ISA Isabella 44.18 183 *eP* **P 04 07 58.0 +0.6**
ISA pmax pmax
comp=Z,113nm,0.9s,mb5.6
V19A Window Rock 44.19 172 ⇑P **P 04 07 57.5 0.0**
baz=44,SNR=7.3
V25A Rancho No Teng 44.21 167 ⇓P **P 04 07 58.4 +0.8**
baz=44
V23A Ortiz Mt. (NFS 44.24 169 ⇓P **P 04 07 58.9 +1.0**
baz=44,SNR=86
V17A Tonalea, Kykot 44.25 174 ⇑P **P 04 07 58.9 +0.9**
baz=44
V26A Tequesquite Ra 44.28 166 ⇑P **P 04 07 58.3 +0.1**
baz=44,SNR=203
V24A Rampart Ranch, 44.29 168 ⇑P **P 04 07 58.8 +0.5**
baz=44,SNR=106
WUAZ Wupatki 44.34 175 ⇑P **P 04 07 59.3 +0.6**
baz=44,SNR=194
WUAZ Wupatki 44.34 175 *eP* **P 04 07 59.1 +0.4**
comp=Z,271nm,1.0s,mb5.9
WUAZ LR LR
comp=Z,2µm,19.0s,MS5.0
PARMO Parma 44.36 150 *eP* **P 04 07 57.1 -1.7**
LRMC Laurel Mountai 44.36 183 ⇓P **P 04 07 59.8 +1.0**
baz=44,SNR=149
MNK Minsk 44.37 30 *eP* **P 04 07 58.0 -0.7**
MICGM Minsk 44.37 30 *e* **P 04 07 58.0 -0.7**
TUQ Turquoise Moun 44.39 180 ⇓P **P 04 07 59.8 +0.7**
baz=44,SNR=19
SUW Suwalki 44.41 34 *eP* **P 04 07 58.9 -0.1**
SUW *e*pP pP 04 08 06.3 +4.5
SUW *e*PcP PcP 04 09 42.2 -0.3
SUW LMZ 04 25 47.0
comp=Z,600nm,19.9s
SUW Suwalki 44.41 34 *e*PcP PcP 04 09 50.8 +8.3
SUW Suwalki 44.41 34 *eP* **P 04 07 58.9 -0.1**
SUW *e**PP pP 04 08 06.4 +4.6
SUW *e* 04 09 42.2
SUW MLR MLR
comp=Z,600nm,19.9s,MS4.5
NRDL Niedersach Rie 44.41 45 *eP* **P 04 07 59.1 0.0**
comp=Z,70nm,1.8s,mb5.1
DYA Yadsworthy 44.44 58 AMS AMS 04 26 06.5
comp=Z,2µm,20.5s,MS4.9
OBN Obninsk 44.45 23 PFAKE 04 08 10.0 +11
OBN LR LR
comp=Z,1µm,19.0s,MS4.8
OBN Obninsk 44.45 23*j eP* **P 04 07 59.7 +0.3**
OBN *i* pP 04 08 03.8 +1.6
OBN *i* 04 08 07.1
OBN *i* 04 09 42.7
OBN *i* 04 09 50.3
OBN *e*S **S 04 14 34.5 +0.7**
OBN *e*SS SS 04 18 02.8 +11
OBN pmax pmax
comp=Z,205nm,1.7s,mb5.6
OBN MLR MLR
comp=Z,1µm,18.0s,MS4.9
OBN Obninsk 44.45 23 P **P 04 07 59.1 -0.3**
comp=Z,837nm,1.0s,mb6.4,SNR=6.7
WTSB Winterswijk 44.49 48 *eP* **P 04 08 00.2 +0.5**
comp=Z,56nm,1.3s,mb5.1
GKP Gorka Klasztor 44.51 39 *eP* **P 04 08 00.7 +0.8**
GKP *e*pP pP 04 08 07.9 +5.3
GKP LMZ 04 26 26.7
comp=Z,900nm,20.0s
GKP Gorka Klasztor 44.51 39 *eP* **P 04 08 00.7 +0.9**
GKP *e**PP pP 04 08 07.9 +5.3
GKP MLR MLR
comp=Z,900nm,20.0s,MS4.7
GSC Goldstone 44.53 182 ⇑P **P 04 08 01.2 +1.0**
baz=44,SNR=142
GSC Goldstone 44.53 182 *eP* **P 04 08 01.5 +1.3**
comp=Z,223nm,0.9s,mb6.0
GSC Goldstone 44.53 182 *eP* **P**
GSC pmax pmax
comp=Z,223nm,0.9s,mb6.0
SMMC Simmler 44.55 185 ⇑P **P 04 08 01.0 +0.6**
baz=44,SNR=7.1
TUL1 Tulsa 44.62 157 ⇑P **P 04 07 59.6 -1.3**
baz=44,SNR=119
ARVC Arvin 44.72 184 ⇑P **P 04 08 01.9 +0.1**
baz=45
W13A Hualapai Mount 44.73 178 ⇑P **P 04 08 02.7 +0.9**
baz=45,SNR=159
LDFC Landfair 44.75 180 *eP* **P 04 08 02.2 +0.2**
comp=Z,190nm,1.0s,mb5.9
W16A Flagstaff 44.76 175 ⇓P **P 04 08 03.0 +1.0**
baz=45,SNR=75
W18A Petrified Fore 44.77 173 ⇑P **P 04 08 02.8 +0.7**
baz=45,SNR=37
W19A Sanders 44.78 173 ⇓P **P 04 08 02.9 +0.7**
baz=45,SNR=134
BLA Blacksburg 44.78 139 *eP* **P 04 08 01.6 -0.6**
comp=Z,38nm,0.8s,mb5.3
BLA LR LR
comp=Z,1µm,20.0s,MS4.8
BLA Blacksburg 44.78 139 *eP* **P 04 08 01.6 -0.6**
BLA pmax pmax
comp=Z,38nm,0.8s,mb5.3
BLA MLR MLR
comp=Z,1µm,20.0s,MS4.8
W17A Winslow 44.79 174 ⇓P **P 04 08 02.9 +0.6**
baz=45,SNR=20
W20A Ramah 44.79 172 ⇓P **P 04 08 02.3 0.0**
baz=45,SNR=63
W24A Lazy 6 Ranch, 44.80 168 ⇓P **P 04 08 02.6 +0.2**
baz=45,SNR=112
W21A San Fidel 44.82 171 ⇓P **P 04 08 03.0 +0.4**
baz=45,SNR=35
W23A Werner Place, 44.83 169 ⇑P **P 04 08 03.6 +1.0**
baz=45,SNR=147
W25A X Bar L Ranch, 44.83 167 ⇓P **P 04 08 02.5 -0.2**
baz=45,SNR=72
W22A Albuquerque 44.89 170 ⇑P **P 04 08 04.4 +1.3**
baz=45,SNR=24
RRX Edison Barstow 44.95 182 ⇓P **P 04 08 05.6 +2.0**
baz=45
EDW2 Edwards Air Fo 44.96 183 ⇓P **P 04 08 04.9 +1.2**
baz=45,SNR=270
PKM Peak Mountain 44.96 185 ⇑P **P 04 08 05.4 +1.7**
baz=45,SNR=56
W26A Owens Ranch, T 44.99 166 ⇑P **P 04 08 04.3 +0.4**
baz=45,SNR=68
HEC Hector,Ludlow 45.00 181 ⇑P **P 04 08 05.3 +1.3**
baz=45,SNR=114
ANMO Albuquerque 45.02 169 *eP* **P 04 08 04.4 +0.2**
comp=Z,126nm,1.1s,mb5.7
ANMO LR LR
comp=Z,4µm,19.0s,MS5.4
ANMO Albuquerque 45.02 169 *eP* **P 04 08 04.4 +0.2**
ANMO pmax pmax
comp=Z,126nm,1.1s
ANMO MLR MLR
comp=Z,4µm,19.0s
GNAR Gosnell 45.02 150 *eP* **P 04 08 02.9 -1.3**
comp=Z,2µm,1.4s,mb6.7
W27A Bowe Ranch, En 45.04 166 ⇓P **P 04 08 03.9 -0.4**
baz=45,SNR=73
GMRC Granite Mounta 45.05 180 ⇑P **P 04 08 05.0 +0.7**
baz=45,SNR=45
NEE2 Needles Airpor 45.06 179 ⇑P **P 04 08 05.1 +0.7**
baz=45
WVT Waverly 45.06 148 *eP* **P 04 08 02.5 -2.0**
comp=Z,25nm,0.9s,mb5.0
WVT Waverly 45.06 148 *eP* **P 04 08 02.5 -2.0**
WVT pmax pmax
comp=Z,25nm,0.9s,mb5.0
CLZ Clausthal 45.08 45 *eP* **P 04 08 04.9 +0.5**
comp=Z,27nm,1.2s,mb5.0
CLZ Clausthal 45.08 45 *eP* **P 04 08 04.9 +0.5**
CLZ pmax pmax
comp=Z,27nm,1.2s,mb5.0
TZTN Tazewell 45.09 143 *eP* **P 04 08 03.0 -1.6**
comp=Z,588nm,2.2s,mb6.0
OSI Osito Adit 45.23 184 ⇑P **P 04 08 06.8 +1.0**
baz=45
OSI Osito Adit 45.23 184 *eP* **P 04 08 06.8 +1.0**
comp=Z,124nm,1.3s,mb5.6
NVS Novosibirsk 45.25 345 *eP* **P 04 08 04.3 -1.5**
NVS *e*S **S 04 14 44.0 -1.4**
NVS pmax pmax
comp=Z,25nm,1.2s,mb4.9
NVS pmax pmax
comp=N,15nm,0.8s
NVS pmax pmax
comp=E,10.0nm,0.5s
NVS smax
comp=N,25nm,2.0s
NVS smax
comp=E,86nm,3.0s
AMTX Amarillo 45.29 164 ⇑P **P 04 08 05.8 -0.5**
baz=45,SNR=26
AMTX Amarillo 45.29 164 *eP* **P 04 08 05.0 -1.2**
comp=E,126nm,1.4s,mb5.5
AMTX LR LR
comp=Z,3µm,22.0s,MS5.2
X18A Snowflake 45.35 174 ⇑P **P 04 08 07.2 +0.5**
baz=45,SNR=148
X20A Quemado 45.37 172 ⇓P **P 04 08 07.4 +0.4**
baz=45,SNR=28
HBAR Harrisburg 45.38 151 *eP* **P 04 08 05.4 -1.6**
X23A Hourglass Bar 45.40 169 ⇑P **P 04 08 07.8 +0.6**
baz=45
SBC Santa Barbara 45.41 185 ⇑P **P 04 08 08.5 +1.2**
baz=45,SNR=7.9
X16A Lo Mia Camp, P 45.44 175 ⇓P **P 04 08 08.1 +0.6**
baz=45,SNR=116
X24A Lazy VL Ranch, 45.44 168 ⇑P **P 04 08 07.8 +0.2**
baz=45
X22A Bernardo 45.45 170 ⇓P **P 04 08 08.6 +1.0**
baz=45,SNR=12
X27A F and S Farms, 45.46 166 ⇑P **P 04 08 07.3 -0.3**
baz=45,SNR=29
X19A St. Johns 45.47 173 ⇓P **P 04 08 07.9 +0.2**
baz=45,SNR=97
X21A Alamocita Cree 45.49 171 ⇑P **P 04 08 08.3 +0.4**
baz=45,SNR=90
X25A Clemmons Ranch 45.51 167 ⇓P **P 04 08 08.3 +0.2**
baz=45,SNR=25
X26A CR and CF Fran 45.52 166 ⇓P **P 04 08 08.2 +0.1**
baz=45,SNR=36
PDMCI Parker Dam,Lak 45.53 178 ⇓P **P 04 08 08.7 +0.5**
baz=45,SNR=54
X17A Forest Lakes 45.53 175 ⇑P **P 04 08 08.7 +0.5**
baz=45,SNR=37
HGN Heimansgroeve 45.55 49 *eP* **P 04 08 10.3 +2.1**
comp=Z,41nm,1.5s,mb5.1
HGN Heimansgroeve 45.55 49 *e*S **S 04 14 45.4 -4.3**
LAZ Ladron 45.55 170 *eP* **P 04 08 08.9 +0.5**
comp=Z,36nm,1.1s,mb5.2
BBRC Big Bear Solar 45.56 182 ⇓P **P 04 08 09.8 +1.4**
baz=45,SNR=59
SNF Seneffe 45.57 51 PCP PcP 04 09 46.8 +0.2
DECC Green Verdugo 45.59 183 ⇑P **P 04 08 09.9 +1.2**
baz=46,SNR=9.1
WMOK Wichita Mounta 45.59 161 *eP* **P 04 08 07.8 -0.8**
comp=Z,138nm,0.9s,mb5.9
WMOK LR LR
comp=Z,4µm,19.0s,MS5.4
WMOK Wichita Mounta 45.59 161 *eP* **P 04 08 07.8 -0.9**
WMOK pmax pmax
comp=Z,138nm,0.9s,mb5.9
WMOK MLR MLR
comp=Z,4µm,19.0s,MS5.4
BFSC Mount Baldy Ra 45.59 182 ⇓P **P 04 08 10.1 +1.4**
baz=46,SNR=140
MWC Mount Wilson 45.61 183 *eP* **P 04 08 09.9 +1.0**
comp=Z,287nm,1.1s,mb6.1
MWC *e*PcP PcP 04 09 46.6 -0.4
MWC Mount Wilson 45.61 183 *eP* **P 04 08 09.9 +1.1**
MWC *e* 04 09 46.6
MWC pmax pmax
comp=Z,287nm,1.1s,mb6.1
LPM Los Pinos Moun 45.66 170 *eP* **P 04 08 09.4 +0.2**
LPM *e*PcP PcP 04 09 48.0 +0.9
IRM Iron Mountain 45.66 180 ⇑P **P 04 08 10.0 +0.7**
baz=46,SNR=63
PASC Pasadena Art C 45.66 183 *eP* **P 04 08 10.2 +1.0**
comp=Z,695nm,0.9s,mb6.6
MEM Membach 45.71 49 P **P 04 08 09.0 -0.4**
MEM XP sP 04 08 14.8 +1.5
comp=Z,26nm,1.4s
MEM PCP PcP 04 09 46.6 -0.4
MEM PP PP 04 09 53.2 -2.9
BLG Laguna Peak 45.74 184 ⇑P **P 04 08 10.4 +0.6**
baz=46,SNR=23
KLR Kul'dur 45.79 302 *eP* **P 04 08 06.2 -3.9**
KLR *e* 04 10 37.0
KLR *e*S **S 04 15 10.0 +17**
KLR *e* 04 19 07.0
KLR pmax pmax
comp=Z,100nm,1.6s,mb5.5
LENM Lemitar 45.79 170 *eP* **P 04 08 10.6 +0.4**
LENM *e*PcP PcP 04 09 48.1 +0.6
BCLA Clavier 45.80 50 P **P 04 08 10.6 +0.5**
BCLA XP sP 04 08 17.8 +3.7
BCLA PCP PcP 04 09 46.5 -0.8
BNM Barren Site 45.82 170 *eP* **P 04 08 10.6 +0.1**
comp=Z,114nm,1.1s,mb5.7
BELC Belle Mtn. Jos 45.82 181 ⇓P **P 04 08 11.5 +1.0**
baz=46,SNR=307
BSC Santa Cruz Isl 45.86 185 ⇑P **P 04 08 11.7 +0.9**
baz=46,SNR=16
MET Memphis--Engin 45.87 150 *eP* **P 04 08 10.0 -0.9**

comp=Z,216nm,0.8s,mb6.1
Y22D IRIS PASSCAL I 45.88 170 ⇑P **P 04 08 12.0 +1.0**
baz=46,SNR=14
Y15A Casa Rosa Ranc 45.89 176 ⇑P **P 04 08 11.7 +0.7**
baz=46,SNR=114
Y14A Wickenburg 45.90 177 ⇓P **P 04 08 11.8 +0.7**
baz=46,SNR=157
Y21A Point of Rocks 45.93 171 ⇓P **P 04 08 12.0 +0.7**
baz=46,SNR=123
CLL Collm 45.93 43 *e*P **P 04 08 10.7 -0.5**
comp=Z,16nm,1.1s,mb4.9
CLL Collm 45.93 43 *i* P **P 04 08 11.0 -0.2**
CLL *i* 04 08 18.7
CLL *i* 04 09 47.5
CLL *e*S **S 04 14 53.0 -2.3**
CLL pmax pmax
comp=Z,59nm,1.9s,mb5.2
CLL pmax pmax
comp=Z,22nm,0.9s,mb5.1
CLL MLR MLR
comp=Z,1μm,20.2s,MS4.8
CLL Collm 45.93 43 *i* P **P 04 08 11.0 -0.2**
comp=Z,59nm,1.9s,mb5.2
CLL *i* (sP) sP 04 08 18.7 +3.6
comp=Z,52nm,1.1s
CLL *i* PcP PcP 04 09 47.5 -0.3
comp=Z,22nm,0.9s
CLL *i* PP PP 04 09 55.8 -2.6
CLL *e*S **S 04 14 53.0 -2.3**
CLL *e*SS SS 04 18 30.0 +11
CLL *e*SSS 04 19 12.0
CLL LV 04 27 00.0
comp=Z,1μm,20.2s
Y19A Nutrioso 45.94 173 ⇑P **P 04 08 12.4 +1.0**
baz=46,SNR=40
TKL Tuckaleechee C 45.94 143 *e*P **P 04 08 09.8 -1.7**
TKL Tuckaleechee C 45.94 143 *e*P **P 04 08 09.8 -1.6**
Y16A Circle Bar Ran 45.97 175 ⇑P **P 04 08 12.3 +0.6**
baz=46,SNR=75
BAIF Baives 46.00 51⇑ *i*P **P 04 08 11.8 +0.1**
comp=Z,191nm,1.1s,mb5.6
Y20A Horse Springs, 46.01 172 ⇓P **P 04 08 12.4 +0.5**
baz=46,SNR=87
UALR University of 46.01 153 *e*P **P 04 08 09.6 -2.4**
comp=Z,129nm,0.8s,mb5.9
DOU Dourbes 46.02 51 P **P 04 08 13.9 +2.0**
comp=Z,14nm,1.2s,mb4.8
DOU PCP PcP 04 09 48.2 +0.1
Y22A Socorro 46.02 170 ⇓P **P 04 08 12.6 +0.5**
baz=46,SNR=157
GIVF Givet 46.04 51⇑ *i*P **P 04 08 12.0 -0.1**
comp=Z,112nm,1.1s,mb5.4
Y23A Lovelace Mesa, 46.05 169 ⇑P **P 04 08 12.1 -0.2**
baz=46,SNR=59
ZAA0 Zalesovo Array 46.07 343 *e*P **P 04 08 11.1 -1.1**
ZAA0 *e*PcP PcP 04 09 47.6 -0.6
ZALV Zalesovo Beam 46.07 343 P **P 04 08 11.3 -0.9**
comp=Z,5.9nm,0.5s,mb4.8,baz=358,slow=8.2,SNR=31
ZALV PcP PcP 04 09 46.5 -1.8
comp=Z,11nm,0.9s,baz=348,slow=3.5,SNR=5.5
ZALV PKiKP PKiKP 04 16 41.5 -2.1
comp=Z,2.3nm,0.8s,baz=175,slow=2.4,SNR=5.9
ZALV LR LR 04 31 06.2
comp=Z,509nm,18.0s,MS4.5,baz=182,slow=41
ZALV Zalesovo Beam 46.07 343 P **P 04 08 11.3 -0.9**
ZALV PcP PcP 04 09 46.5 -1.8
ZALV Zalesovo Beam 46.07 343 P **P 04 08 11.3 -0.9**
ZALV 04 09 46.5
CPCT Cooper Cave 46.07 144 *e*P **P 04 08 09.3 -3.1**
CPCT *e*PcP PcP 04 09 45.6 -3.0
Y12C Blythe 46.07 179 ⇑P **P 04 08 13.3 +0.8**
baz=46,SNR=63
Y24A Capitan 46.08 168 ⇑P **P 04 08 12.7 +0.1**
baz=46,SNR=138
Y18A Canyon Day Jun 46.10 174 ⇑P **P 04 08 13.6 +0.9**
baz=46,SNR=140
Y25A Mesa, Roswell 46.11 167 ⇑P **P 04 08 12.8 0.0**
baz=46,SNR=84
FMP Fort Macarthur 46.12 183 ⇑P **P 04 08 13.7 +0.8**
baz=46
MIAR Mount Ida 46.14 155 *e*P **P 04 08 11.1 -1.9**
comp=Z,154nm,0.9s,mb5.9
MIAR Mount Ida 46.14 155 *e*P **P 04 08 11.1 -1.9**
MIAR pmax pmax
comp=Z,154nm,0.9s,mb5.9
MSTX Muleshoe 46.15 165 ⇓P **P 04 08 12.5 -0.5**
baz=46,SNR=25
Y26A Elida 46.15 166 ⇑P **P 04 08 12.8 -0.3**
baz=46,SNR=18
SWET Sewanee 46.15 146 *e*P **P 04 08 10.7 -2.4**
Y17A Roosevelt 46.17 175 ⇑P **P 04 08 13.6 +0.4**
baz=46,SNR=61
BC3 Big Chuckawall 46.17 180 ⇑P **P 04 08 14.0 +0.7**
baz=46,SNR=160
PLAL Pickwick Lake 46.18 148 *e*P **P 04 08 10.8 -2.4**
comp=Z,110nm,0.7s,mb5.9
PFO Pinyon Flat Ob 46.21 181 ⇑P **P 04 08 14.2 +0.6**
baz=46,SNR=43
PFO Pinyon Flat Ob 46.21 181 *e*P **P 04 08 14.0 +0.4**
comp=Z,146nm,1.5s,mb5.7
PFO *e*PcP PcP 04 09 49.4 +0.3
PFO LR LR
comp=Z,2μm,22.0s,MS4.9
PFO Pinyon Flat Ob 46.21 181 *e*P **P 04 08 14.0 +0.4**
PFO *e* 04 09 49.4
PFO pmax pmax
comp=Z,146nm,1.5s,mb5.7
PFO MLR MLR
comp=Z,2μm,22.0s,MS4.9
PFO Pinyon Flat Ob 46.21 181 P **P 04 08 14.2 +0.6**
comp=Z,301nm,1.6s,mb6.0,SNR=19
Y27A Causey 46.21 166 ⇓P **P 04 08 13.2 -0.4**
baz=46,SNR=147
MURC Murrieta 46.23 182 ⇑P **P 04 08 14.2 +0.5**
baz=46,SNR=24
YSS Yuzh-Sakhalins 46.24 292 PFAKE 04 08 30.0 +16
YSS LR LR
comp=Z,492nm,19.0s,MS4.5
YSS Yuzh-Sakhalins 46.24 292 *e*P **P 04 08 13.1 -0.6**
YSS *e*S **S 04 15 00.0 +0.2**
BEL Belsk 46.31 36 *e*P **P 04 08 14.7 +0.6**
BEL *e*PP pP 04 08 23.0 +6.0
BEL *e*PcP PcP 04 09 49.8 +0.7
BEL LMZ 04 29 12.6
comp=Z,800nm,15.9s
BEL Belsk 46.31 36 *e*P **P 04 08 14.7 +0.6**
BEL *e**PP pP 04 08 23.0 +6.1
BEL *e* 04 09 49.8
BEL MLR MLR
comp=Z,800nm,15.9s,MS4.8
MOX Moxa 46.41 44 *e*P **P 04 08 14.9 -0.1**
comp=Z,18nm,1.5s,mb4.8
MOX Moxa 46.41 44 *e*P **P 04 08 14.9 -0.1**
MOX pmax pmax
comp=Z,18nm,1.5s,mb4.8
TNS Taunus Mts 46.42 47 *e*P **P 04 08 15.2 +0.2**
comp=Z,34nm,1.3s,mb5.1
TNS Taunus Mts 46.42 47 *e*P **P 04 08 15.2 +0.2**
TNS pmax pmax
comp=Z,34nm,1.3s,mb5.1
CIS Catalina Islan 46.43 183 ⇓P **P 04 08 16.0 +0.7**
baz=46,SNR=27
Z14A Wintersburg 46.47 177 ⇑P **P 04 08 15.9 +0.3**
baz=46,SNR=16
BRG Berggiesshubel 46.48 42 *e*P **P 04 08 15.0 -0.5**
comp=Z,16nm,1.3s,mb4.8
BRG *i* 04 08 23.4
comp=Z,33nm,1.1s
BRG *i* PCP PcP 04 09 49.5 -0.2
comp=Z,51nm,1.4s
BRG
comp=N,708nm,18.1s
BRG
comp=E,376nm,15.7s
BRG
comp=Z,761nm,17.0s
BRG Berggiesshubel 46.48 42 *e*P **P 04 08 15.1 -0.3**
comp=Z,13nm,1.2s,mb4.7
BRG Berggiesshubel 46.48 42 *e*P **P 04 08 15.0 -0.4**
BRG *i* 04 08 23.4
BRG *i* 04 09 49.5
BRG pmax pmax
comp=Z,16nm,1.3s,mb4.8
BRG pmax pmax
comp=Z,33nm,1.2s,mb5.1
BRG pmax pmax
comp=Z,51nm,1.5s,mb5.2
BRG MLR MLR
comp=N,708nm,18.1s,MS4.7
BRG MLR MLR
comp=E,376nm,15.7s,MS4.7
BRG MLR MLR
comp=Z,761nm,17.0s,MS4.7
Z16A Peralta Trail, 46.51 175 ⇑P **P 04 08 16.3 +0.4**
baz=46,SNR=28
OXF Oxford 46.52 150 *e*P **P 04 08 14.0 -2.0**
comp=Z,356nm,0.8s,mb6.3
OXF Oxford 46.52 150 *e*P **P 04 08 14.0 -2.0**
OXF pmax pmax
comp=Z,356nm,0.8s,mb6.3
Z15A Gila River Ind 46.55 176 ⇑P **P 04 08 16.6 +0.3**
baz=46,SNR=7.3
Z17A San Carlos Hig 46.57 174 ⇓P **P 04 08 17.2 +0.8**
baz=46,SNR=15
ROSF Rostrenen 46.58 58⇑ *i*P **P 04 08 15.8 -0.5**
comp=Z,149nm,1.0s,mb5.6
FLN La Foliniere 46.59 56⇑ *i*P **P 04 08 15.5 -0.9**
comp=Z,104nm,1.0s,mb5.4
FLN *e*R
comp=Z,2μm,19.8s
Z19A T-Link Ranch, 46.60 173 ⇓P **P 04 08 17.2 +0.6**
baz=46,SNR=31
Z21A St. Cloud Mine 46.62 171 ⇓P **P 04 08 17.8 +1.0**
baz=46,SNR=150
Z13A Yuma Proving G 46.63 178 ⇓P **P 04 08 17.3 +0.5**
baz=46,SNR=110
WLF Walferdange 46.66 50 P **P 04 08 17.5 +0.6**
WLF XP sP 04 08 23.9 +3.1
comp=Z,46nm,1.3s
WLF PCP PcP 04 09 50.9 +0.5
WLF Walferdange 46.66 50 *e*P **P 04 08 17.3 +0.4**
comp=Z,127nm,2.3s,mb5.4
WLF Walferdange 46.66 50 *e*P **P 04 08 17.5 +0.6**
comp=Z,60nm,1.1s,mb5.4
WLF *e*PcP PcP 04 09 50.6 +0.3
WLF LR LR
comp=Z,2μm,19.0s,MS5.0
WLF Walferdange 46.66 50 *e*P **P 04 08 17.5 +0.6**
WLF *e* 04 09 50.6
WLF pmax pmax
comp=Z,60nm,1.1s,mb5.4
WLF MLR MLR
comp=Z,2μm,19.0s,MS5.0
Z24A Sheeppen Canyo 46.68 168 ⇓P **P 04 08 17.0 -0.2**
baz=46,SNR=120
Z22A Elephant Butte 46.70 170 ⇓P **P 04 08 17.3 0.0**
baz=47,SNR=107
Z23A Rita Site, Whi 46.71 169 ⇓P **P 04 08 17.5 -0.1**
baz=47,SNR=45
KMSC Kings Mountain 46.72 141 ⇓P **P 04 08 16.3 -1.2**
baz=47
RUP Ruppelstein 46.74 49 *e*P **P 04 08 18.1 +0.6**
RUP Ruppelstein 46.74 49 *e*P **P 04 08 18.1 +0.6**
TANN Tannenbergstha 46.74 44 *e*P **P 04 08 17.7 +0.1**
comp=Z,435nm,4.5s
Z25A Roswell 46.75 168 ⇓P **P 04 08 17.2 -0.6**
baz=47,SNR=211
GLA Glamis 46.77 179 ⇓P **P 04 08 18.8 +0.9**
baz=47,SNR=42
GLA Glamis 46.77 179 *e*P **P 04 08 18.8 +0.8**
comp=Z,160nm,1.0s,mb5.9
GLA *e*PcP PcP 04 09 51.8 +0.8
GLA Glamis 46.77 179 *e*P **P 04 08 18.8 +0.8**
GLA *e* 04 09 51.8
GLA pmax pmax
comp=Z,160nm,1.0s,mb5.9
SGMF Saint Gilles 46.77 58 *e*P **P 04 08 17.1 -0.7**
comp=Z,314nm,1.9s,mb5.6
Z27A Tatum 46.78 166 ⇑P **P 04 08 17.7 -0.4**
baz=47,SNR=59
KSP Ksiaz 46.78 40 *e*P **P 04 08 19.0 +1.1**
KSP *e*pP pP 04 08 25.3 +4.6
KSP *e*PcP PcP 04 09 51.6 +0.8
KSP LMZ 04 30 06.4
comp=Z,700nm,17.9s
Z26A Caprock 46.79 167 ⇑P **P 04 08 17.5 -0.6**
baz=47,SNR=100
Z18A Geronimo 46.79 174 ⇓P **P 04 08 18.9 +0.8**
baz=47,SNR=16
Z20A Nine Sixteen R 46.79 172 ⇑P **P 04 08 18.6 +0.5**
baz=47,SNR=70
LDF La Druitiere 46.81 55 *e*P **P 04 08 17.1 -1.0**
comp=Z,42nm,0.7s,mb5.2
SCI San Clemente I 46.86 183 ⇑P **P 04 08 19.6 +0.9**
baz=47,SNR=68
SWSC Sam W. Stewart 46.88 180 ⇑P **P 04 08 19.7 +0.9**
baz=47,SNR=43
PVCC Panska Ves 46.89 42 *e*P **P 04 08 19.4 +0.7**
PVCC *e* 04 09 51.5
PVCC MLR MLR
comp=Z,800nm,15.5s,MS4.8
PVCC Panska Ves 46.89 42 *e*P **P 04 08 19.4 +0.7**
PVCC *e*PCP PcP 04 09 51.5 +0.3
PVCC AMS AMS 04 30 50.0
comp=Z,800nm,15.5s
GRR Gorron 46.90 56 *e*P **P 04 08 18.3 -0.5**
comp=Z,88nm,1.0s,mb5.3
NKC Novy Kostel 46.92 44 *e*P **P 04 08 19.6 +0.7**
NKC *e**PP pP 04 08 25.5 +3.7
NKC *e* 04 09 51.7
NKC Novy Kostel 46.92 44 *e*P **P 04 08 19.6 +0.7**
NKC *e*pP pP 04 08 25.5 +3.7
NKC *e*PCP PcP 04 09 51.7 +0.4
TLY Talaya 46.92 327 *e*P **P 04 08 18.0 -0.9**
comp=Z,36nm,1.2s,mb5.2
TLY *e*PcP PcP 04 09 51.5 +0.2
TLY LR LR
comp=Z,2μm,20.0s,MS5.0
TLY Talaya 46.92 327 *e*P **P 04 08 18.2 -0.7**
TLY *e* 04 08 25.8
TLY *e* 04 09 55.1
TLY *e*SSS 04 18 34.0
TLY pmax pmax
comp=Z,26nm,1.1s,mb5.1
TLY MLR MLR
comp=Z,1μm,18.0s,MS4.9
MONP Monument Peak 46.93 181 ⇑P **P 04 08 20.6 +1.4**
baz=47,SNR=106
109C Camp Elliot, M 46.94 182 ⇑P **P 04 08 19.8 +0.5**
baz=47,SNR=10
QUIF Quistinic 47.01 58⇑ *i*P **P 04 08 19.1 -0.6**
comp=Z,147nm,1.3s,mb5.4
CNNC Cliffs of the 47.03 137 *e*P **P 04 08 19.7 -0.3**
comp=Z,107nm,0.9s,mb5.8
CNNC *e*PcP PcP 04 09 51.7 -0.3
CNNC LR LR
comp=Z,2μm,20.0s,MS5.2
CPRX Cap Rock 47.03 167 *e*P **P 04 08 19.6 -0.4**
comp=Z,99nm,1.0s,mb5.7
CPRX *e*PcP PcP 04 09 51.5 -0.4
113A Mohawk Valley, 47.06 178 ⇑P **P 04 08 20.6 +0.4**
baz=47,SNR=72
TOD Tromm 47.07 47 *e*P **P 04 08 20.5 +0.4**
TOD Tromm 47.07 47 *e*P **P 04 08 20.5 +0.4**
114A Black Gap (USA 47.08 177 ⇓P **P 04 08 21.0 +0.6**
baz=47,SNR=52
UPC Upice 47.08 41 *e*P **P 04 08 21.0 +0.8**
UPC *e**PP pP 04 08 27.8 +4.8
UPC *e* 04 09 52.3
UPC 04 08 21.0 +0.8
UPC Upice 47.08 41 *e*P **P 04 08 21.0 +0.8**
UPC *e*x x 04 08 27.8
UPC *e*PCP PcP 04 09 52.3 +0.4
119A Ashpeak Ranch, 47.12 173 ⇑P **P 04 08 21.1 +0.4**
baz=47
115A Sonoran Desert 47.14 176 ⇓P **P 04 08 21.4 +0.6**
baz=47,SNR=63
BAR Barrett 47.14 181 *e*P **P 04 08 21.4 +0.6**
comp=Z,113nm,1.1s,mb5.7
BAR *e*PcP PcP 04 09 52.7 +0.3
BAR *e*PP PP 04 10 13.9 +2.4
DVTC Desert V Tower 47.16 181 ⇑P **P 04 08 22.0 +1.0**
baz=47,SNR=44
118A Homack Ranch, 47.23 174 ⇑P **P 04 08 22.4 +0.8**
baz=47,SNR=172
122A Conniff Cattle 47.25 170 ⇑P **P 04 08 22.4 +0.7**
baz=47,SNR=23
DPC Dobruska-Polom 47.27 41 *e*P **P 04 08 22.0 +0.3**
DPC *e**PP pP 04 08 29.8 +5.3
DPC *e* 04 09 52.8
DPC *e*S **S 04 15 18.4 +3.9**
DPC MLR MLR
comp=Z,800nm,15.8s,MS4.8
DPC Dobruska-Polom 47.27 41 *e*P **P 04 08 22.0 +0.3**
DPC *e*x x 04 08 29.8
DPC *e*PCP PcP 04 09 52.8 +0.3
DPC *e*S **S 04 15 18.4 +3.9**
DPC *e*x x 04 19 07.3
DPC AMS AMS 04 36 20.0
comp=Z,800nm,15.8s
116A Eloy 47.28 176 ⇑P **P 04 08 22.8 +0.8**
baz=47,SNR=25
117A Oracle 47.29 175 ⇓P **P 04 08 23.2 +1.2**
baz=47,SNR=90
GRF Grafenberg Arr 47.30 45 *e*P **P 04 08 22.4 +0.5**
comp=Z,41nm,1.3s,mb5.2
GRF *e*L 04 27 13.1
comp=Z,1μm,21.5s
GRF Grafenberg Arr 47.30 45 *e*P **P 04 08 22.4 +0.5**
GRF pmax pmax
comp=Z,41nm,1.3s,mb5.2
GRFO Grafenberg 47.30 45 *e*P **P 04 08 23.3 +1.4**
comp=Z,57nm,1.0s,mb5.5
GRFO Grafenberg 47.30 45 *e*P **P 04 08 23.3 +1.4**
GRFO pmax pmax
comp=Z,57nm,1.0s,mb5.5
124A Stringfield Ra 47.30 168 ⇓P **P 04 08 22.3 +0.2**
baz=47,SNR=77
PRA Prague 47.32 42 P **P 04 08 22.0 -0.1**
123A Bell Site, Whi 47.34 169 ⇓P **P 04 08 22.4 0.0**
baz=47,SNR=5.7
ROTZ Rotzenmuhle 47.35 44 *e*P **P 04 08 22.7 +0.4**
comp=Z,39nm,1.7s,mb5.1
125A Gardner Draw, 47.37 168 ⇑P **P 04 08 22.2 -0.4**
baz=47,SNR=66
121A Cookes Peak, D 47.39 171 ⇓P **P 04 08 22.8 0.0**
baz=47,SNR=96
127A Arkansas Junct 47.41 166 ⇓P **P 04 08 22.6 -0.3**
baz=47,SNR=18
126A Clayton Basin, 47.41 167 ⇓P **P 04 08 22.4 -0.6**
baz=47,SNR=59
PRU Pruhonice 47.42 42 *e*P **P 04 08 24.4 +1.6**
PRU *e*pP pP 04 08 30.1 +4.5
PRU *e*PCP PcP 04 09 54.3 +1.2
PRU *e*S **S 04 15 20.2 +3.7**
PRU *e*x x 04 19 07.6
PRU AMS AMS 04 28 20.0
comp=Z,600nm,15.1s
BRVK Borovoye 47.44 355 PFAKE 04 08 30.0 +7.0
BRVK LR LR
comp=Z,903nm,19.0s,MS4.8
BRVK Borovoye 47.44 355⇑ *e*P **P 04 08 22.7 -0.3**
BRVK pmax pmax
comp=Z,31nm,1.2s,mb5.1
BRVK Borovoye 47.44 355 P **P 04 08 23.4 +0.4**
comp=Z,115nm,0.7s,mb5.9,SNR=7.1
BRVK Borovoye 47.44 355 P **P 04 08 24.5 +1.5**
SNR=15
HIA Hailar 47.46 313 *e*P **P 04 08 22.3 -0.8**
comp=Z,85nm,1.3s,mb5.5
HIA LR LR
comp=Z,1μm,20.0s,MS5.0
HIA Hailar 47.46 313 *e*P **P 04 08 22.3 -0.8**
HIA pmax pmax
comp=Z,85nm,1.3s
HIA MLR MLR
comp=Z,1μm,20.0s
BVAR Borovoye Array 47.47 355 P **P 04 08 23.2 0.0**
comp=Z,5.6nm,0.7s,mb4.6,baz=2.9,slow=5.8,SNR=26
BVAR Borovoye Array 47.47 355 P **P 04 08 23.2 0.0**
BVAR Borovoye Array 47.47 355 P **P 04 08 23.2 0.0**
LANF Langenberg 47.55 48 *e*P **P 04 08 24.2 +0.4**
LANF Langenberg 47.55 48 *e*P **P 04 08 24.2 +0.4**
LANF Langenberg 47.55 48 *e*P **P 04 08 24.2 +0.4**
TUC Tucson 47.55 175 *e*P **P 04 08 24.7 +0.7**
comp=Z,114nm,1.2s,mb5.8
TUC *e*PcP PcP 04 09 54.1 +0.3
TUC LR LR
comp=Z,2μm,19.0s,MS5.1
TUC Tucson 47.55 175 *e*P **P 04 08 24.7 +0.7**
TUC *e* 04 09 54.1
TUC pmax pmax
comp=Z,114nm,1.2s,mb5.8
TUC MLR MLR
comp=Z,2μm,19.0s,MS5.1
JSC Jenkinsville 47.58 141 *e*P **P 04 08 22.5 -1.7**
JSC Jenkinsville 47.58 141 *e*P **P 04 08 22.5 -1.8**
MEZF Maizieres J'vi 47.64 51 *e*P **P 04 08 24.9 +0.3**
comp=Z,189nm,1.6s,mb5.6
PAGF Fort de Pagny 47.68 50⇑ *i*P **P 04 08 25.4 +0.5**
comp=Z,40nm,1.1s,mb5.1
OJC Ojcow 47.80 38 *e*P **P 04 08 26.3 +0.6**
OJC *e*PcP PcP 04 09 54.8 +0.4
OJC Ojcow 47.80 38 *e*P **P 04 08 26.3 +0.6**
OJC *e* 04 09 54.8
222A Williams Famil 47.84 170 ⇓P **P 04 08 25.9 -0.4**
baz=48,SNR=20
216A Three Points, 47.84 175 ⇓P **P 04 08 26.8 +0.5**
baz=48,SNR=51
214A Organ Pipe Nat 47.87 177 ⇓P **P 04 08 26.7 +0.1**
baz=48,SNR=20
219A White Tail Can 47.89 173 ⇓P **P 04 08 26.5 -0.2**
baz=48,SNR=147
218A Dragon 47.90 174 ⇓P **P 04 08 26.9 +0.2**
baz=48,SNR=88
225A Deer Hill, Car 47.91 168 ⇑P **P 04 08 26.6 -0.3**
baz=48,SNR=104
221A Mesquite Ranch 47.91 171 ⇑P **P 04 08 26.9 0.0**
baz=48,SNR=25
224A Cornudas Mount 47.92 169 ⇑P **P 04 08 26.4 -0.5**
baz=48,SNR=80
SFTF Sexfontaines 47.93 51⇑ *i*P **P 04 08 26.8 0.0**
comp=Z,62nm,0.9s,mb5.3
STU Stuttgart 47.94 47 *e*P **P 04 08 27.1 +0.2**
comp=Z,22nm,1.1s,mb5.1
223A Chaparral, Ant 47.96 170 ⇓P **P 04 08 27.3 +0.1**
baz=48,SNR=11
MORC Moravsky Berou 47.98 40 *e*P **P 04 08 28.0 +0.8**
comp=Z,29nm,1.0s,mb5.3
MORC Moravsky Berou 47.98 40 *e*P **P 04 08 28.0 +0.8**
MORC pmax pmax
comp=Z,29nm,1.0s,mb5.3
MORC Moravsky Berou 47.98 40⇓ *i*P **P 04 08 27.5 +0.3**
OKC Ostrava-Krasne 47.99 39 *e*P **P 04 08 27.9 +0.7**
OKC *e**PP pP 04 08 35.0 +4.9
OKC *e* 04 09 55.6
OKC *e*S **S 04 15 23.9 -0.7**
OKC Ostrava-Krasne 47.99 39 *e*P **P 04 08 27.9 +0.7**
OKC *e*x x 04 08 35.0
OKC *e*PCP PcP 04 09 55.6 +0.5
OKC *e*S **S 04 15 23.9 -0.7**
226A Malaga, Loving 47.99 167 ⇓P **P 04 08 27.2 -0.3**
baz=48,SNR=42
VOR Voronezh 47.99 21 P **P 04 08 28.0 +0.7**
VOR pmax pmax
comp=Z,240nm,1.6s,mb6.0
220A Playas Peak, P 48.00 172 ⇓P **P 04 08 27.6 0.0**
baz=48,SNR=77
CDF Champ du Feu 48.03 49⇑ *i*P **P 04 08 27.8 +0.2**
comp=Z,82nm,1.1s,mb5.4
THEF They Montfort 48.04 50 *e*P **P 04 08 28.1 +0.4**
THEF They Montfort 48.04 50 *e*P **P 04 08 28.1 +0.4**
THEF They Montfort 48.04 50 *e*P **P 04 08 28.1 +0.4**
WET Wettzell 48.04 44 *e*P **P 04 08 28.2 +0.5**
comp=Z,24nm,1.4s,mb5.0
WET Wettzell 48.04 44 *e*P **P 04 08 28.2 +0.5**
WET pmax pmax
comp=Z,24nm,1.4s,mb5.0
227A Bennet, Jal 48.07 166 ⇑P **P 04 08 28.3 +0.2**
baz=48,SNR=8.9
217A Green Valley 48.08 175 ⇑P **P 04 08 28.9 +0.7**
baz=48,SNR=58
KHC Kasperske Hory 48.14 43 *e*P **P 04 08 29.0 +0.5**
KHC *e* 04 08 36.0
KHC *e* 04 09 56.0
KHC Kasperske Hory 48.14 43 *e*P **P 04 08 29.0 +0.5**
KHC *e*x x 04 08 36.0
KHC *e*x x 04 08 48.5
KHC *e*PCP PcP 04 09 56.0 +0.3
KHC *e*x x 04 10 04.0
ECH Echery 48.21 49 *e*P **P 04 08 29.1 +0.1**
comp=Z,37nm,1.3s,mb5.3

ECH *e*PcP PcP 04 09 56.2 +0.3
ECH LR LR
comp=Z,1µm,19.0s,MS4.8
ECH Echery 48.21 49 *e*P **P** **04 08 29.1 +0.1**
ECH *e* 04 09 56.2
ECH pmax pmax
comp=Z,37nm,1.3s,mb5.2
ECH MLR MLR
comp=Z,1µm,19.0s,MS4.8
TREC Trest 48.21 41 *e*P **P** **04 08 29.8 +0.8**
TREC *e**PP pP 04 08 36.9 +5.1
TREC *e* 04 09 55.8
TREC *e*S **S** **04 15 36.9 +9.1**
TREC MLR MLR
comp=Z,800nm,21.7s,MS4.7
TREC Trest 48.21 41 *e*P **P** **04 08 29.8 +0.8**
TREC *ex* x 04 08 36.9
TREC *e*PCP PcP 04 09 55.8 -0.1
TREC *e*S **S** **04 15 36.9 +9.1**
TREC *ex* x 04 19 25.3
TREC AMS AMS 04 29 40.0
comp=Z,800nm,21.7s
ZAK Zakamensk 48.24 327 *e*P **P** **04 08 28.7 -0.5**
ZAK *e* 04 09 55.9
ZAK pmax pmax
comp=Z,11nm,1.2s,mb4.8
AKASG Malin Array Be 48.25 29 P **P** **04 08 28.6 -0.7**
comp=Z,14nm,0.7s,mb5.1,baz=351,slow=8.2,SNR=41
AKASG PcP PcP 04 09 54.4 -1.7
comp=Z,22nm,0.7s,baz=352,slow=3.4,SNR=14
AKASG LR LR 04 29 02.2
comp=Z,1000nm,18.0s,MS4.8,baz=340,slow=36
AKASG Malin Array Be 48.25 29 P **P** **04 08 28.6 -0.7**
AKASG PcP PcP 04 09 54.4 -1.7
AKASG LR LR 04 29 02.2
AKASG Malin Array Be 48.25 29 P **P** **04 08 28.6 -0.7**
AKASG 04 09 54.4
AKBB Malin Array Si 48.25 29 *e*P **P** **04 08 29.1 -0.1**
AKBB *e*PcP PcP 04 09 55.5 -0.5
AKBB Malin Array Si 48.25 29 *e*P **P** **04 08 29.1 -0.2**
AKBB *e* 04 09 55.5
BFO Black Forest 48.26 48 *e*P **P** **04 08 29.6 +0.3**
comp=Z,25nm,1.4s,mb5.0
BFO Black Forest 48.26 48 *e*P **P** **04 08 30.0 +0.6**
comp=Z,47nm,1.3s,mb5.3
BFO *e*PcP PcP 04 09 56.3 +0.2
BFO LR LR
comp=Z,1µm,20.0s,MS4.9
BFO Black Forest 48.26 48 *e*P **P** **04 08 30.0 +0.7**
BFO *e* 04 09 56.3
BFO pmax pmax
comp=Z,47nm,1.3s,mb5.4
BFO MLR MLR
comp=Z,1µm,20.0s,MS4.9
KIEV Kiev 48.26 29 *e*P **P** **04 08 28.9 -0.5**
comp=Z,124nm,1.4s,mb5.8
KIEV LR LR
comp=Z,1µm,19.0s,MS4.9
KIEV Kiev 48.26 29 *e*P **P** **04 08 28.9 -0.4**
KIEV pmax pmax
comp=Z,125nm,1.4s,mb5.8
KIEV MLR MLR
comp=Z,1µm,19.0s,MS4.9
HAU Haudompre 48.31 50⇑*i*P **P** **04 08 30.0 +0.3**
comp=Z,145nm,1.2s,mb5.6
HAU *e*R
comp=Z,2µm,20.0s
VRAC Vranov 48.33 41 P **P** **04 08 29.3 -0.6**
comp=Z,5.0nm,0.6s,mb4.7,baz=337,slow=8.2,SNR=9.3
VRAC PcP PcP 04 09 55.9 -0.4
comp=Z,16nm,1.1s,baz=331,slow=3.6,SNR=4.9
VRAC LR LR 04 31 09.2
comp=Z,566nm,18.2s,MS4.6,baz=345,slow=39
VRAC Vranov 48.33 41 P **P** **04 08 29.3 -0.6**
VRAC PcP PcP 04 09 55.9 -0.4
VRAC LR LR 04 31 09.2
VRAC Vranov 48.33 41 ⇑P **P** **04 08 29.3 -0.6**
VRAC Vranov 48.33 41⇑*i*P **P** **04 08 29.3 -0.6**
318A Bisbee 48.43 174 ⇑P **P** **04 08 31.2 +0.3**
baz=48,SNR=107
GEC2 GERESS Array S 48.44 43 *e*P **P** **04 08 31.4 +0.7**
comp=Z,20nm,1.4s,mb5.0
GEC2 GERESS Array S 48.44 43 *e*P **P** **04 08 31.4 +0.7**
GEC2 pmax pmax
comp=Z,20nm,1.4s,mb5.0
GERES GERESS Array B 48.44 43 P **P** **04 08 30.8 +0.1**
comp=Z,2.8nm,0.9s,mb4.3,baz=350,slow=5.4,SNR=15
GERES PcP PcP 04 09 56.2 -0.6
comp=Z,9.6nm,1.0s,baz=18,slow=4.8,SNR=6.8
GERES LR LR 04 29 43.3
comp=Z,863nm,19.9s,MS4.7,baz=340,slow=37
GERES GERESS Array B 48.44 43 P **P** **04 08 30.8 +0.1**
GERES PcP PcP 04 09 56.2 -0.6
GERES LR LR 04 29 43.4
GERES GERESS Array B 48.44 43 P **P** **04 08 30.8 +0.1**
GERES 04 09 56.2
VSR Storozhevoye 48.50 21 *e*P **P** **04 08 31.0 -0.2**
VSR pmax pmax
comp=N,40nm,1.2s
VSR pmax pmax
comp=E,8.0nm,1.2s
VSR pmax pmax
comp=Z,40nm,1.2s,mb5.3
VSR MLR MLR
comp=N,670nm,14.0s,MS4.9
VSR MLR MLR
comp=E,500nm,14.0s,MS4.9
VSR MLR MLR
comp=Z,1µm,14.0s,MS5.0
HYF Humbligny 48.51 53⇑*i*P **P** **04 08 31.3 0.0**
319A Douglas 48.51 173 ⇓P **P** **04 08 31.7 +0.2**
baz=48,SNR=64
COW Cow Castle Cre 48.53 140 *e*P **P** **04 08 30.9 -0.8**
SPAK Spaichingen-Ko 48.54 48 *e*P **P** **04 08 32.2 +0.7**
YUK Yuzh-Kuril'sk 48.55 288*d*i*P **P** **04 08 27.5 -4.2**
YUK *i* 04 09 52.2
YUK *i* 04 10 22.9
YUK *i* PPP 04 11 13.1
YUK *i* S **S** **04 15 50.3 +18**
YUK *i* SSS 04 20 18.1
YUK MLR MLR
comp=N,1µm,22.0s,MS4.9
YUK MLR MLR
comp=E,201nm,22.0s,MS4.9
YUK MLR MLR
comp=Z,3µm,22.0s,MS5.3
324A Moseley Ranch, 48.55 169 ⇑P **P** **04 08 30.9 -0.9**
baz=48,SNR=98
HINF Hinteralfeld 48.56 49⇑*i*P **P** **04 08 31.8 +0.1**
comp=Z,80nm,1.1s,mb5.3
MOF Molkenrain 48.56 49 *e*P **P** **04 08 31.9 +0.2**
MOF Molkenrain 48.56 49 *e*P **P** **04 08 31.9 +0.2**
MOF Molkenrain 48.56 49 *e*P **P** **04 08 31.9 +0.2**
320A Kipp Ranch, An 48.57 172 ⇑P **P** **04 08 32.1 +0.2**
baz=48,SNR=70
LVV L'vov 48.64 34 *e*P **P** **04 08 40.4 +8.2**
LVV *e*S **S** **04 15 45.6 +12**
LVV MLR MLR
comp=Z,5µm,0.5s
LVV MLR MLR
comp=E,300nm,16.0s,MS4.4
LVV MLR MLR
comp=N,70nm,13.0s,MS4.4
NIE Niedzica 48.64 37 *e*P **P** **04 08 32.7 +0.4**
NIE *e*PcP PcP 04 09 58.0 +0.5
NIE Niedzica 48.64 37 *e*P **P** **04 08 32.7 +0.4**
NIE *e* 04 09 58.0
325A Bean Ranch, Si 48.64 168 ⇑P **P** **04 08 31.6 -0.9**
baz=48,SNR=22
FELD Feldberg im Sc 48.66 48 *e*P **P** **04 08 32.8 +0.4**
LOR Lormes 48.68 52⇑*i*P **P** **04 08 32.6 0.0**
comp=N,159nm,1.1s,mb5.7
LOR *e*R
comp=N,1µm,18.0s
KWP Kalwaria Pacla 48.69 35 *e*P **P** **04 08 33.8 +1.2**
KWP *e*pP pP 04 08 40.2 +4.7
KWP LMZ 04 31 08.7
comp=N,900nm,17.4s
KWP Kalwaria Pacla 48.69 35 *e*P **P** **04 08 32.8 +0.2**
comp=N,54nm,1.1s,mb5.5
KWP *e*PcP PcP 04 09 58.1 +0.5
KWP Kalwaria Pacla 48.69 35 *e*P **P** **04 08 32.8 +0.2**
KWP *e* 04 09 58.1
KWP pmax pmax
comp=Z,54nm,1.1s,mb5.5

KWP Kalwaria Pacla 48.69 35⇑*i*P **P** **04 08 33.0 +0.4**
VBMS Vicksburg 48.70 152 *e*P **P** **04 08 32.1 -0.8**
comp=Z,222nm,0.8s,mb6.2
327A Balmorhea Ranc 48.70 166 ⇓P **P** **04 08 32.9 0.0**
baz=49,SNR=5.7
328A Wristen Ranch, 48.72 166 ⇑P **P** **04 08 32.3 -0.8**
baz=49,SNR=114
326A Caldwell Ranch 48.74 167 ⇑P **P** **04 08 32.3 -0.9**
baz=49,SNR=62
STHS Stebnicka Huta 48.74 37 *e*P **P** **04 08 34.2 +1.1**
STHS pmax pmax
comp=Z,18nm,1.2s,mb5.0
STHS Stebnicka Huta 48.74 37 *e*P **P** **04 08 34.1 +1.0**
MFF Saint Martin d 48.75 56 *e*P **P** **04 08 33.0 -0.1**
comp=Z,128nm,1.1s,mb5.6
NATX Nacogdoches 48.83 156 *e*P **P** **04 08 33.5 -0.4**
comp=Z,262nm,0.8s,mb6.3
NATX *e*PcP PcP 04 09 58.5 +0.1
NATX LR LR
comp=Z,2µm,20.0s,MS5.1
SSF Saint Saulge 48.83 53⇑*i*P **P** **04 08 33.6 -0.2**
comp=Z,124nm,1.0s,mb5.6
NHSC New Hope 48.87 140 *e*P **P** **04 08 33.7 -0.5**
comp=Z,126nm,0.9s,mb6.0
ASAJ Asahikawa 49.02 291 *e*P **P** **04 08 33.2 -2.0**
comp=Z,10nm,0.8s,mb4.9
ASAJ *e*PcP PcP 04 09 58.4 -0.5
AVF Avril sur Loir 49.08 53⇑*i*P **P** **04 08 35.5 -0.1**
comp=Z,181nm,1.1s,mb5.7
SMOL Smolenice 49.21 40 *e*P **P** **04 08 36.6 -0.1**
SMOL *e* 04 10 00.0
SMOL Smolenice 49.21 40 *e*P **P** **04 08 36.6 -0.1**
SMOL *e*PCP PcP 04 10 00.0 +0.5
425A Indio Mountain 49.23 168 ⇑P **P** **04 08 37.1 +0.1**
baz=49,SNR=133
427A Hayter Ranch, 49.23 166 ⇑P **P** **04 08 37.0 0.0**
baz=49,SNR=64
BGF Bois d'Agland 49.23 53⇑*i*P **P** **04 08 36.6 -0.2**
comp=Z,162nm,1.1s,mb5.7
SMF Signal de Mont 49.29 52⇑*i*P **P** **04 08 36.9 -0.4**
comp=Z,128nm,1.1s,mb5.6
426A McDonald Obser 49.38 167 ⇑P **P** **04 08 37.3 -0.9**
baz=49,SNR=79
428A Kincaid Ranch, 49.38 165 ⇓P **P** **04 08 38.1 0.0**
baz=49,SNR=50
VYHS Vyhne 49.39 39 *e*P **P** **04 08 36.5 -1.5**
VYHS pmax pmax
comp=Z,36nm,2.2s,mb5.0
VYHS Vyhne 49.39 39 *e*P **P** **04 08 36.5 -1.5**
VYHS *e*PCP PcP 04 10 00.6 +0.4
TCF Toulx Ste Croi 49.40 54⇑*i*P **P** **04 08 37.7 -0.5**
comp=Z,69nm,1.0s,mb5.3
RJOB Jochberg 49.42 44 *e*P **P** **04 08 38.6 +0.4**
comp=Z,102nm,3.1s
DAVA Damuels 49.48 47⇓*i*pP pP 04 08 39.9 -1.7
comp=Z,31nm,2.0s
ZST Bratislava 49.49 40 *e*P **P** **04 08 39.0 +0.2**
ZST pmax pmax
comp=Z,21nm,0.8s,mb5.2
ZST Bratislava 49.49 40 *e*P **P** **04 08 39.0 +0.2**
MOA Molln 49.49 43⇓*i*pP pP 04 08 39.4 -2.2
comp=Z,16nm,1.6s
MOA ⇓*i*PcP PcP 04 10 01.5 +1.0
comp=Z,41nm,1.3s
KURK Kurchatov 49.57 348 *e*P **P** **04 08 38.3 -1.1**
comp=Z,44nm,1.4s,mb5.3
KURK LR LR
comp=Z,820nm,20.0s,MS4.7
KURK Kurchatov 49.57 348 *e*P **P** **04 08 38.3 -1.1**
KURK pmax pmax
comp=Z,44nm,1.4s,mb5.3
KURK MLR MLR
comp=Z,820nm,20.0s,MS4.7
KURK Kurchatov 49.57 348 P **P** **04 08 39.9 +0.5**
SNR=10
KECS Kecovo 49.58 37 *e*P **P** **04 08 39.2 -0.3**
KECS pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
KECS Kecovo 49.58 37 *e*P **P** **04 08 39.2 -0.3**
CONA Conrad Observa 49.60 42⇑*i*pP pP 04 08 39.9 -2.6
comp=Z,21nm,2.0s
CONA ⇑*i*PcP PcP 04 10 01.5 +0.5
comp=Z,25nm,1.3s
UZH Uzhgorod 49.63 36 *e*P **P** **04 08 39.2 -0.7**
UZH *i* 04 08 47.8
UZH *e* 04 10 00.0
UZH *e*S **S** **04 15 45.0 -2.8**
UZH *e*PS 04 15 54.0
UZH MLR MLR
comp=N,1µm,15.0s,MS5.0
UZH MLR MLR
comp=E,800nm,15.0s,MS5.0
UZH MLR MLR
comp=Z,900nm,15.0s,MS4.9
CABF La Chapelle 49.64 50⇑*i*P **P** **04 08 40.3 +0.4**
comp=Z,180nm,1.1s,mb5.7
AGO Saint Agoulin 49.77 53 *e*P **P** **04 08 41.2 +0.3**
AGO Saint Agoulin 49.77 53 *e*P **P** **04 08 41.2 +0.3**
JCT Junction City 49.77 162 ⇑P **P** **04 08 40.7 -0.4**
baz=50,SNR=113
JCT Junction City 49.77 162 *e*P **P** **04 08 40.2 -0.9**
comp=Z,215nm,0.9s,mb6.2
JCT LR LR
comp=Z,3µm,20.0s,MS5.3
JCT Junction City 49.77 162 *e*P **P** **04 08 40.3 -0.8**
JCT pmax pmax
comp=Z,215nm,0.9s,mb6.2
JCT MLR MLR
comp=Z,3µm,20.0s,MS5.3
527A Woodward Ranch 49.92 166 ⇑P **P** **04 08 41.9 -0.4**
baz=50,SNR=48
PLDF La Plantade 49.92 53 *e*P **P** **04 08 42.6 +0.5**
PLDF La Plantade 49.92 53 *e*P **P** **04 08 42.6 +0.5**
PLDF La Plantade 49.92 53 *e*P **P** **04 08 42.6 +0.5**
SOP Sopron 49.93 41⇑*e*P **P** **04 08 42.5 +0.4**
SOP *e*PcP PcP 04 10 03.1 +0.9
528A Cox Ranch, San 49.94 166 ⇑P **P** **04 08 42.3 -0.1**
baz=50,SNR=95
VERF Verneugheol 49.97 54 *e*P **P** **04 08 42.5 0.0**
VERF Verneugheol 49.97 54 *e*P **P** **04 08 42.5 0.0**
526A Mary Lane Ranc 49.98 167 ⇓P **P** **04 08 42.7 -0.1**
baz=50,SNR=351
DAVOX Davos/Dischmat 49.98 47 P **P** **04 08 43.3 +0.7**
comp=Z,6.6nm,0.8s,mb4.7,baz=334,slow=13,SNR=9.1
DAVOX PcP PcP 04 10 02.2 -0.2
comp=Z,9.5nm,0.9s,baz=220,slow=3.6,SNR=6.4
DAVOX LR LR 04 28 37.8
comp=Z,906nm,21.5s,MS4.8,baz=354,slow=35
DAVOX Davos/Dischmat 49.98 47 P **P** **04 08 43.3 +0.7**
DAVOX PcP PcP 04 10 02.2 -0.2
DAVOX LR LR 04 28 37.8
DAVOX Davos/Dischmat 49.98 47 P **P** **04 08 43.3 +0.7**
DAVOX 04 10 02.2
PYM Petit Puy Mans 50.04 53 *e*P **P** **04 08 43.6 +0.6**
PYM Petit Puy Mans 50.04 53 *e*P **P** **04 08 43.6 +0.6**
PYM Petit Puy Mans 50.04 53 *e*P **P** **04 08 43.6 +0.6**
AKTO Aktyubinsk 50.06 5 P **P** **04 08 43.4 +0.3**
comp=Z,16nm,0.9s,mb5.0,baz=359,slow=7.5,SNR=33
AKTO PcP PcP 04 10 02.2 -0.4
comp=Z,16nm,0.5s,baz=35,slow=3.5,SNR=13
AKTO Aktyubinsk 50.06 5 P **P** **04 08 43.4 +0.3**
AKTO PcP PcP 04 10 02.2 -0.4
AKTO Aktyubinsk 50.06 5 P **P** **04 08 43.7 +0.6**
AKTO pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
PSZ Piszkesteto 50.08 38 *e*P **P** **04 08 43.9 +0.6**
comp=Z,36nm,1.0s,mb5.3
PSZ *e* 04 10 03.8
PSZ LR LR
comp=Z,646nm,22.0s,MS4.6
PSZ Piszkesteto 50.08 38 *e*P **P** **04 08 43.9 +0.6**
PSZ *e* 04 10 03.8
PSZ pmax pmax
comp=Z,36nm,1.0s,mb5.4
PSZ MLR MLR
comp=Z,646nm,22.0s,MS4.6
PSZ Piszkesteto 50.08 38⇑*e*P **P** **04 08 43.9 +0.6**
PSZ *e*PcP PcP 04 10 03.9 +1.2
PSZ Piszkesteto 50.08 38⇓*i*P **P** **04 08 42.8 -0.5**
KBA Koelnbreinsper 50.13 44⇑*i*pP pP 04 08 44.8 -1.8
comp=Z,19nm,1.6s
KBA ⇑*i*PcP PcP 04 10 03.2 +0.2
comp=Z,34nm,1.3s
TRPA Tarpa 50.15 36⇑*i*P **P** **04 08 44.2 +0.4**
BRAL Brewton 50.21 148 P **P** **04 08 42.2 -2.3**
comp=Z,134nm,0.6s,mb6.2

BRAL LR LR
comp=Z,4µm,19.0s,MS5.4
TUE Stuetta 50.21 48 *e*P **P** **04 08 46.0 +1.7**
comp=Z,42nm,1.0s,mb5.4
TUE LR LR
comp=Z,739nm,19.0s,MS4.7
RJF Les Rejaudoux 50.26 55 *e*P **P** **04 08 44.1 -0.6**
comp=Z,138nm,1.6s,mb5.4
RJF *e*R
comp=Z,2µm,19.8s
ULN Ulaanbaatar 50.35 324 *e*P **P** **04 08 45.4 +0.1**
comp=Z,69nm,1.2s,mb5.6
ULN *e*PcP PcP 04 10 04.3 +0.6
ULN LR LR
comp=Z,2µm,19.0s,MS5.1
ULN Ulaanbaatar 50.35 324 *e*P **P** **04 08 45.4 +0.1**
ULN *e* 04 10 04.3
ULN pmax pmax
comp=Z,69nm,1.2s,mb5.6
ULN MLR MLR
comp=Z,2µm,19.0s,MS5.1
ULN Ulaanbaatar 50.35 324 P **P** **04 08 46.0 +0.7**
SNR=15
BUD Budapest 50.41 39⇑*e*pP pP 04 08 54.4 +5.8
BUD *e*PcP PcP 04 10 04.9 +1.0
SONM Songino Array 50.45 324 P **P** **04 08 46.2 +0.1**
comp=Z,30nm,1.1s,mb5.2,baz=2.8,slow=5.7,SNR=65
SONM Songino Array 50.45 324 P **P** **04 08 46.2 +0.1**
SONM Songino Array 50.45 324 P **P** **04 08 46.2 +0.1**
626A Big Bend Ranch 50.48 167 ⇑P **P** **04 08 46.4 -0.2**
baz=50,SNR=70
LFF La Frestale 50.51 56⇑*i*P **P** **04 08 46.4 -0.1**
comp=Z,52nm,1.0s,mb5.1
LBL Lubilhac 50.59 53 *e*P **P** **04 08 47.1 0.0**
LBL Lubilhac 50.59 53 *e*P **P** **04 08 47.1 0.0**
LBL Lubilhac 50.59 53 *e*P **P** **04 08 47.1 0.0**
MYKA Terra Mystica 50.61 44⇑*i*pP pP 04 08 47.6 -2.6
comp=Z,22nm,1.5s
MYKA ⇓*i*PcP PcP 04 10 04.5 -0.2
comp=Z,26nm,1.4s
RSL Roselend 50.62 50 *e*P **P** **04 08 48.1 +0.7**
RSL Roselend 50.62 50 *e*P **P** **04 08 48.1 +0.7**
RSL Roselend 50.62 50 *e*P **P** **04 08 48.1 +0.7**
627A Terlingua Ranc 50.62 166 ⇑P **P** **04 08 47.1 -0.5**
baz=50,SNR=100
MDJ Mudanjiang 50.62 303 P **P** **04 08 46.3 -1.1**
MDJ pP pP 04 08 49.3 -0.9
MDJ sP sP 04 08 50.9 -0.4
MDJ PcP PcP 04 10 02.6 -2.2
MDJ PP PP 04 10 41.4 -1.5
MDJ ScP ScP 04 13 59.0 -1.4
MDJ PcS PcS 04 14 00.8 -1.1
MDJ S **S** **04 15 58.3 -3.3**
MDJ ScS ScS 04 18 37.1 -0.7
MDJ pmax pmax
comp=Z,25nm,1.3s,mb5.0
MDJ pmax pmax
comp=Z,140nm,4.1s
MDJ LR LR
comp=N,680nm,14.8s,MS5.2
MDJ LR LR
comp=E,1µm,14.8s,MS5.2
MDJ LR LR
comp=Z,1µm,18.6s,MS5.0
MDJ Mudanjiang 50.62 303 *e*P **P** **04 08 46.8 -0.6**
comp=Z,47nm,1.4s,mb5.2
MDJ LR LR
comp=Z,1µm,19.0s,MS4.9
CAF Calviac 50.71 54 *e*P **P** **04 08 47.9 -0.2**
comp=Z,31nm,1.0s,mb4.9
TXAR Lajitas Array 50.72 167 P **P** **04 08 47.5 -0.9**
comp=Z,22nm,0.9s,mb5.1,baz=7.4,slow=6.5,SNR=180
TXAR LR LR 04 31 38.9
comp=Z,2µm,19.0s,MS5.1,baz=20,slow=38
TXAR Lajitas Array 50.72 167 P **P** **04 08 47.5 -0.9**
TXAR LR LR 04 31 39.0
TXAR Lajitas Array 50.72 167 P **P** **04 08 47.5 -0.9**
SSB Saint Sauveur 50.72 52 *e*P **P** **04 08 48.9 +0.7**
comp=Z,32nm,1.0s,mb5.2
SSB LR LR
comp=Z,628nm,21.0s,MS4.6
SSB Saint Sauveur 50.72 52 *e*P **P** **04 08 48.9 +0.7**
SSB pmax pmax
comp=Z,32nm,1.0s,mb5.2
SSB MLR MLR
comp=Z,628nm,21.0s,MS4.6
SSB Saint Sauveur 50.72 52 *e*P **P** **04 08 48.8 +0.6**
LPL La Plagne 50.80 50⇑*i*P **P** **04 08 49.9 +1.1**
comp=Z,68nm,1.2s,mb5.2
LPG La Plagne 50.82 50⇑*i*P **P** **04 08 50.2 +1.3**
comp=Z,159nm,1.4s,mb5.5
BUR08 Bucovina Ar. S 50.91 33 *e*P **P** **04 08 50.0 +0.5**
BUR08 *e*PcP PcP 04 10 06.7 +0.9
BURAR Bucovina Array 50.94 33 ⇓P **P** **04 08 49.4 -0.4**
BURAR Bucovina Array 50.94 33⇓*i*P **P** **04 08 49.4 -0.4**
ERM Erimo 50.98 290 *e*P **P** **04 08 49.7 -0.4**
comp=Z,108nm,1.0s,mb5.7
ERM LR LR
comp=Z,1µm,20.0s,MS4.9
ERM Erimo 50.98 290 *e*P **P** **04 08 49.7 -0.4**
ERM pmax pmax
comp=Z,108nm,1.0s,mb5.7
ERM MLR MLR
comp=Z,1µm,20.0s,MS4.9
VIVF Saint-Julien-l 51.16 52⇑*i*P **P** **04 08 51.7 +0.2**
comp=Z,67nm,1.3s,mb5.1
BNI Bardonecchia 51.25 50 *e*P **P** **04 08 53.6 +1.5**
comp=Z,38nm,1.2s,mb5.2
BNI LR LR
comp=Z,1µm,20.0s,MS5.0
BNI Bardonecchia 51.25 50 *e*P **P** **04 08 53.6 +1.5**
BNI pmax pmax
comp=Z,38nm,1.2s,mb5.2
BNI MLR MLR
comp=Z,1µm,20.0s,MS5.0
AB31 Akbulak array 51.27 4 *i*P **P** **04 08 52.1 -0.1**
AB31 *i* 04 10 06.6
AB31 pmax pmax
comp=Z,17nm,0.8s,mb5.0
ABKAR Akbulak array 51.27 4 *e*P **P** **04 08 52.3 +0.1**
comp=Z,28nm,1.0s,mb5.1
ABKAR *e*PcP PcP 04 10 06.0 -1.1
ORIF Oris-en-Rattie 51.27 51⇑*i*P **P** **04 08 52.6 +0.3**
comp=Z,48nm,1.2s,mb5.0
ORIF *e*R
comp=Z,1µm,21.2s
DRGR 51.49 36 ⇓P **P** **04 08 54.9 +0.9**
DRGR 51.49 36⇓*i*P **P** **04 08 54.9 +0.9**
TRI Trieste 51.53 44 PFAKE 04 09 10.0 +16
TRI LR LR
comp=Z,610nm,19.0s,MS4.7
MBDF Montbardon 51.58 50⇑*i*P **P** **04 08 55.6 +1.0**
comp=Z,93nm,1.5s,mb5.2
PKSM Moragy 51.62 39 ⇓P **P** **04 08 55.3 +0.4**
PKSM Moragy 51.62 39⇓*i*P **P** **04 08 55.3 +0.4**
LASF Ste Croix 51.80 53⇑*i*P **P** **04 08 56.7 +0.4**
comp=Z,84nm,1.3s,mb5.2
KIS Kishinev 51.89 30 *e*P **P** **04 08 56.0 -0.9**
KIS *e*S **S** **04 16 18.0 -1.1**
KIS LRM 04 31 00.0
comp=Z,1µm,15.0s
KIS Kishinev 51.89 30 *e*P **P** **04 08 56.0 -0.9**
KIS *e* 04 10 50.0
KIS *e*S **S** **04 16 18.0 -1.1**
KIS MLR MLR
comp=N,800nm,15.0s
KIS MLR MLR
comp=Z,1µm,15.0s,MS5.0
SJPF Ste Jean 51.99 58 *e*P **P** **04 08 56.6 -1.1**
PGAV Gavieira, Arco 52.01 65 *i*P **P** **04 09 06.4 +8.6**
PGAV *e*S **S** **04 16 19.9 -0.9**
PGAV *e*LR LR 04 25 35.6
comp=Z,1µm,18.0s
CN2 Changchun 52.02 307 ⇑P **P** **04 08 56.0 -2.0**
CN2 *e*pP pP 04 09 00.6 -0.2
CN2 *e*sP sP 04 09 03.0 +1.1
CN2 PcP PcP 04 10 08.4 -1.6
CN2 PP PP 04 10 53.5 -2.1
CN2 *e*S **S** **04 16 16.6 -4.5**
CN2 pmax pmax
comp=Z,30nm,0.9s,mb5.2
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1µm,12.0s,MS5.5

CN2 LR LR
comp=E,2µm,12.0s,MS5.5
CN2 LR LR
comp=Z,2µm,15.0s,MS5.2
SMRF Simiane la Rot 52.15 52 *eP* **P 04 08 59.4 +0.5**
comp=Z,19nm,0.9s,mb4.7
TESR 52.17 32 ⇑*iP* **P 04 09 00.0 +1.0**
MTLF Montolieu 52.29 55 ⇑*iP* **P 04 08 59.9 0.0**
comp=Z,70nm,1.4s,mb5.1
PCAB Cabril 52.30 65 *eP* **P 04 08 59.1 -0.9**
comp=Z,90nm,1.5s,mb5.5
ETSF Etsaut 52.31 57 ⇑*iP* **P 04 09 00.6 +0.5**
comp=Z,62nm,1.3s,mb5.1
EPF Esparros 52.31 56 *eP* **P 04 08 59.3 -0.8**
comp=Z,38nm,1.1s,mb4.9
TOUF Mont Tournerai 52.34 50 *eP* **P 04 08 59.3 -1.0**
TOUF Mont Tournerai 52.34 50 *eP* **P 04 08 59.3 -1.0**
TOUF Mont Tournerai 52.34 50 *eP* **P 04 08 59.3 -1.0**
LEOM Leova 52.36 31 ⇑*iP* **P 04 09 01.0 +0.6**
LEOM Leova 52.36 31 ⇑*iP* **P 04 09 01.0 +0.6**
PBRG Braganca 52.41 63 *eP* **P 04 09 00.8 0.0**
comp=Z,40nm,1.3s,mb5.2
PBRG Braganca 52.41 63 *e*LR LR 04 25 52.5
comp=Z,3µm,20.0s
MVIF Mont Vial 52.45 50 *eP* **P 04 08 59.9 -1.2**
MVIF Mont Vial 52.45 50 *eP* **P 04 08 59.9 -1.2**
MVIF Mont Vial 52.45 50 *eP* **P 04 08 59.9 -1.2**
SBF Sospel 52.52 50 *eP* **P 04 09 02.4 +0.8**
comp=Z,74nm,0.9s,mb5.3
BZS Buzias 52.54 37 ⇓*P* **P 04 09 02.9 +1.2**
BZS Buzias 52.54 37 ⇓*iP* **P 04 09 02.9 +1.2**
VLC Villacollemand 52.62 47 PFAKE 04 09 10.0 +7.6
VLC LR LR
comp=Z,1µm,22.0s,MS4.8
POLO Lamas de Olo 52.66 64 *eP* **P 04 09 02.3 -0.4**
comp=Z,20nm,1.2s,mb4.9
POLO Lamas de Olo 52.66 64 *e*PcP PcP 04 10 13.3 +0.9
POLO *e*S **S 04 16 31.1 +1.3**
POLO *e*LQ 04 22 35.5
POLO *e*LR LR 04 25 51.2
FRF La Foret Royal 52.70 51 ⇑*iP* **P 04 09 03.0 0.0**
comp=Z,25nm,0.8s,mb4.9
PTO Porto 52.76 65 *eP* **P 04 09 04.3 +0.9**
comp=Z,61nm,2.0s,mb5.2
PVRL Vila Real 52.77 64 *eP* **P 04 09 03.6 +0.1**
comp=Z,54nm,1.6s,mb5.2
KVTX Kingsville 52.80 160 *eP* **P 04 09 04.6 +0.7**
comp=Z,161nm,0.8s,mb6.0
KVTX LR LR
comp=Z,3µm,19.0s,MS5.3
VRI Vrincioaia 52.81 32 ⇑*P* **P 04 09 05.2 +1.4**
VRI Vrincioaia 52.81 32 ⇑*iP* **P 04 09 05.2 +1.4**
PLOR Plostina 52.82 33 ⇑*P* **P 04 09 05.2 +1.4**
PLOR Plostina 52.82 33 ⇑*iP* **P 04 09 05.2 +1.4**
GZR Gura Zlata 52.88 36 ⇑*P* **P 04 09 05.6 +1.3**
GZR Gura Zlata 52.88 36 ⇑*iP* **P 04 09 05.6 +1.3**
LMR La Mourre 52.91 51 *eP* **P 04 09 04.8 +0.3**
LOT Lotru 52.93 35 ⇓*iP* **P 04 09 05.5 +0.8**
MVO Moncorvo 52.99 64 *eP* **P 04 09 04.9 -0.2**
comp=Z,56nm,1.5s,mb5.3
MVO Moncorvo 52.99 64 *e*PP PP 04 11 03.9 -0.5
MVO *e*S **S 04 16 36.5 +2.2**
MVO *e*LQ 04 23 31.4
MVO *e*LR LR 04 26 11.4
MLR Muntele Rosu 53.11 33 P **P 04 09 07.7 +1.7**
comp=Z,5.5nm,0.9s,mb4.5,baz=359,slow=2.8,SNR=25
MLR Muntele Rosu 53.11 33 ⇑*P* **P 04 09 07.7 +1.7**
MLR Muntele Rosu 53.11 33 ⇓*P* **P 04 09 07.0 +1.0**
MLR Muntele Rosu 53.11 33 ⇓*iP* **P 04 09 07.0 +1.0**
PVIS Viseu 53.29 65 *eP* **P 04 09 07.5 +0.2**
comp=Z,59nm,1.4s,mb5.3
MK31 Makanchi Array 53.33 345 *eP* **P 04 09 06.3 -1.3**
MK31 Makanchi Array 53.33 345 *i P* **P 04 09 06.3 -1.3**
MK31 pmax pmax
comp=Z,17nm,0.7s,mb5.1
MKAR Makanchi Array 53.33 345 P **P 04 09 06.3 -1.3**
comp=Z,14nm,0.8s,mb4.9,baz=358,slow=5.5,SNR=45
MKAR PcP PcP 04 10 14.6 -0.3
comp=Z,14nm,0.9s,baz=341,slow=1.9,SNR=5.2
MKAR LR LR 04 34 55.2
comp=Z,738nm,18.4s,MS4.8,baz=190,slow=40
MKAR Makanchi Array 53.33 345 P **P 04 09 06.3 -1.3**
MKAR PcP PcP 04 10 14.6 -0.3
MKAR LR LR 04 34 55.2
MKAR Makanchi Array 53.33 345 P **P 04 09 06.3 -1.3**
MKAR 04 10 14.6
CFR Carcaliu 53.63 31 ⇓*P* **P 04 09 10.0 +0.2**
CFR Carcaliu 53.63 31 ⇓*iP* **P 04 09 09.9 +0.1**
MTE Manteigas 53.65 64 *eP* **P 04 09 10.1 0.0**
comp=Z,34nm,1.0s,mb5.2
MTE LR LR
comp=Z,1µm,21.0s,MS5.0
MTE Manteigas 53.65 64 *eP* **P 04 09 10.1 +0.1**
comp=Z,57nm,2.0s,mb5.2
MTE *e*S **S 04 16 46.0 +2.7**
MTE *e*LQ 04 24 27.8
MTE *e*LR LR 04 26 33.7
comp=Z,1µm,18.0s
HUMR Humele 53.97 34 ⇑*iP* **P 04 09 13.0 +0.7**
PGF Pioggiola 54.02 49 *eP* **P 04 09 12.8 +0.1**
comp=Z,87nm,1.3s,mb5.2
PCBR Castelo Branco 54.21 64 *eP* **P 04 09 13.7 -0.4**
comp=Z,68nm,1.6s,mb5.3
SNY Shenyang 54.23 308 ⇓*P* **P 04 09 13.0 -1.2**
SNY pmax pmax
comp=Z,33nm,2.1s,mb4.9
SNY LR LR
comp=N,2µm,16.2s,MS5.3
SNY LR LR
comp=E,780nm,15.0s,MS5.3
SNY LR LR
comp=Z,2µm,15.6s,MS5.3
PTOM Tomar 54.27 65 *eP* **P 04 09 15.4 +0.8**
comp=Z,64nm,1.7s,mb5.3
PMRV Marv??o 54.62 65 *eP* **P 04 09 16.8 -0.3**
comp=Z,28nm,1.5s,mb5.1
PMRV *e*S **S 04 17 01.7 +5.2**
PMRV *e*LR LR 04 26 49.4
comp=Z,996nm,16.0s
ANN Anapa 54.77 23 *eP* **P 04 09 16.8 -1.3**
ANN *e*S **S 04 16 58.8 +0.5**
ANN pmax pmax
comp=Z,70nm,1.1s,mb5.6
ANN MLR MLR
comp=Z,659nm,17.0s,MS4.8
PMAFR Mafra 54.78 66 *eP* **P 04 09 17.8 -0.4**
comp=Z,101nm,1.3s,mb5.7
PMAFR Mafra 54.78 66 *e*PcP PcP 04 10 21.2 +0.7
PMAFR *e*S **S 04 16 59.1 +0.6**
PMAFR *e*LR LR 04 26 44.2
AQU L'Aquila 54.79 45 PFAKE 04 09 30.0 +12
AQU LR LR
comp=Z,740nm,22.0s,MS4.7
ESDC Sonseca Array 54.93 61 P **P 04 09 19.1 -0.3**
comp=Z,9.0nm,0.8s,mb4.8,baz=352,slow=7.6,SNR=40
ESDC LR LR 04 33 23.2
comp=Z,2µm,18.4s,MS5.3,baz=325,slow=37
ESDC Sonseca Array 54.93 61 P **P 04 09 19.1 -0.3**
ESDC LR LR 04 33 23.2
ESLA Sonseca Array 54.93 61 *eP* **P 04 09 19.0 -0.4**
comp=Z,7.3nm,1.0s,mb4.7
ESLA LR LR
comp=Z,16µm,19.0s,MS6.1
PAB San Pablo 55.00 62 *eP* **P 04 09 19.9 +0.1**
comp=Z,54nm,1.3s,mb5.4
PAB LR LR
comp=Z,3µm,20.0s,MS5.3
PAB San Pablo 55.00 62 *eP* **P 04 09 19.9 +0.1**
PAB pmax pmax
comp=Z,54nm,1.3s,mb5.4
PAB MLR MLR
comp=Z,3µm,20.0s,MS5.3
LIS Lisbon 55.03 66 *eP* **P 04 09 20.1 0.0**
LIS AMb AMB 04 09 23.1
comp=Z,94nm,1.8s,mb5.5
LIS Lisbon 55.03 66 *eP* **P 04 09 20.0 -0.1**
PESTR Estremoz 55.14 65 *eP* **P 04 09 21.0 +0.1**
comp=Z,58nm,1.7s,mb5.3
PESTR *e*S **S 04 17 02.6 -0.8**
PESTR *e*LR LR 04 26 59.6
comp=Z,675nm,18.0s
EVO Evora 55.40 65 *eP* **P 04 09 21.3 -1.4**
comp=Z,48nm,1.1s,mb5.1
EVO *e*R
comp=Z,2µm,19.2s
EVO Evora 55.40 65 *eP* **P 04 09 22.3 -0.4**
comp=Z,39nm,1.9s,mb5.1
VTS Vitosha 55.70 36 ⇑*P* **P 04 09 23.7 -1.1**
VTS Vitosha 55.70 36 ⇑*iP* **P 04 09 23.7 -1.1**
PNCL Nicolau / Gran 55.73 66 *eP* **P 04 09 25.0 -0.1**
comp=Z,55nm,1.5s,mb5.4
PNCL Nicolau / Gran 55.73 66 *e*LQ 04 23 10.3
PNCL *e*LR LR 04 26 18.6
comp=Z,1µm,18.0s
PBAR Barrancos 55.91 65 *eP* **P 04 09 25.9 -0.5**
comp=Z,94nm,1.8s,mb5.5
PBAR Barrancos 55.91 65 *e*LR LR 04 26 40.3
comp=Z,1µm,18.0s
PBEJ Beja 55.92 65 *eP* **P 04 09 25.5 -0.9**
comp=Z,29nm,1.3s,mb5.2
KIV Kislovodsk 55.95 19 *eP* **P 04 09 27.6 +0.9**
comp=Z,26nm,0.8s,mb5.3
KIV LR LR
comp=Z,911nm,19.0s,MS4.9
KIV Kislovodsk 55.95 19 *eP* **P 04 09 27.7 +1.1**
KIV *e* 04 10 25.6
KIV *e*S **S 04 17 17.2 +3.0**
KIV pmax pmax
comp=Z,23nm,1.0s,mb5.2
KIV MLR MLR
comp=Z,695nm,16.0s,MS4.8
KIV Kislovodsk 55.95 19 P **P 04 09 28.3 +1.6**
SNR=5.9
WMQ Urumqi 56.00 340 P **P 04 09 27.5 +0.5**
WMQ pP pP 04 09 32.1 +2.2
WMQ sP sP 04 09 34.5 +3.6
WMQ PP PP 04 11 33.9 +2.6
WMQ pmax pmax
comp=Z,52nm,0.8s,mb5.6
WMQ pmax pmax
comp=Z,160nm,6.0s
MESJ Messejana 56.04 66 *e* **P 04 09 25.1 -2.3**
baz=27,slow=7.4
MESJ *e*P pP 04 09 27.2 -3.0
MESJ AMb AMB 04 09 38.1
comp=Z,63nm,1.2s,mb5.5
MESJ *e*S **S 04 17 17.1 +1.6**
SOC Sochi 56.14 22 *c iP* **P 04 09 27.7 -0.3**
SOC *e**SP sP 04 09 35.8 +3.9
SOC *e* 04 10 23.9
SOC *e*S **S 04 17 14.7 -1.9**
SOC *e* 04 19 16.2
SOC *e*SS SS 04 21 06.5 +4.4
SOC pmax pmax
comp=Z,20nm,0.9s,mb5.2
SOC MLR MLR
comp=Z,2µm,17.0s,MS5.3
PTEO Sao Teotonio 56.25 66 *eP* **P 04 09 28.7 -0.1**
comp=Z,82nm,1.3s,mb5.6
PCVE Castro Verde 56.27 66 *eP* **P 04 09 28.3 -0.7**
comp=Z,40nm,1.5s,mb5.2
PCVE Castro Verde 56.27 66 *e*LR LR 04 26 49.5
comp=Z,1µm,20.0s
MORF Marmelete 56.49 66 *eP* **P 04 09 30.3 -0.3**
MORF *e*S **S 04 17 22.7 +1.3**
MORF Marmelete 56.49 66 *eP* **P 04 09 30.5 -0.1**
comp=Z,83nm,1.9s,mb5.4
MORF Marmelete 56.49 66 *e*LQ 04 24 18.2
MORF *e*LR LR 04 27 40.0
PVAQ Vaqueiros 56.55 65 *eP* **P 04 09 30.3 -0.7**
comp=Z,47nm,1.7s,mb5.2
PVAQ *e*S **S 04 17 23.4 +1.2**
PVAQ *e*LR LR 04 27 02.5
comp=Z,1µm,20.0s
TIR Tirane 56.56 39 PFAKE 04 09 40.0 +9.0
TIR LR LR
comp=Z,635nm,19.0s,MS4.7
PFVI Vila Bisbo 56.63 66 *eP* **P 04 09 26.1 -5.5**
PFVI Vila Bisbo 56.63 66 *eP* **P 04 09 30.2 -1.4**
comp=Z,116nm,1.8s,mb5.6
PFVI *e*S **S 04 17 24.4 +1.1**
PFVI *e*LQ 04 23 08.8
PFVI *e*LR LR 04 26 28.6
comp=Z,1µm,18.0s
PBDV Barranco-do-Ve 56.67 66 *eP* **P 04 09 32.6 +0.8**
comp=Z,68nm,1.9s,mb5.3
PBDV Barranco-do-Ve 56.67 66 *e*LR LR 04 26 15.8
comp=Z,1µm,18.0s
HHC Hu-ho-hao-te 56.77 318 *eP* **P 04 09 33.3 +0.8**
HHC sP sP 04 09 39.3 +2.9
HHC PcP PcP 04 10 29.1 +0.9
HHC PP PP 04 11 40.5 +2.3
HHC S **S 04 17 23.0 -2.0**
HHC ScS ScS 04 19 18.3 -3.0
HHC SS SS 04 21 11.3 -0.7
HHC pmax pmax
comp=Z,27nm,1.4s,mb5.1
HHC pmax pmax
comp=Z,180nm,6.5s
HHC LR LR
comp=N,1µm,17.8s,MS5.1
HHC LR LR
comp=E,940nm,19.0s,MS5.1
HHC LR LR
comp=Z,1µm,19.0s,MS5.0
BJI Beijing 56.99 314 P **P 04 09 33.3 -0.8**
BJI PP PP 04 11 39.4 -0.8
BJI S **S 04 17 26.6 -1.4**
BJI SS SS 04 21 17.9 +2.3
BJI pmax pmax
comp=Z,42nm,1.5s,mb5.2
BJI pmax pmax
comp=Z,450nm,4.8s
BJI LR LR
comp=N,3µm,17.0s,MS5.5
BJI LR LR
comp=E,1µm,15.2s,MS5.5
BJI LR LR
comp=Z,1µm,15.2s,MS5.1
NVR Nevrokopi 57.00 36 *eP* **P 04 09 38.4 +4.3**
BJT Baijiatuau 57.01 314 *eP* **P 04 09 33.4 -0.8**
comp=Z,14nm,0.5s,mb5.3
BJT LR LR
comp=Z,1µm,20.0s,MS5.0
BJT Baijiatuau 57.01 314 *eP* **P 04 09 33.4 -0.8**
BJT pmax pmax
comp=Z,14nm,0.5s
BJT MLR MLR
comp=Z,1µm,20.0s
VSL Villasalto 57.07 49 PFAKE 04 09 50.0 +15
VSL LR LR
comp=Z,522nm,20.0s,MS4.6
MAJO Matsushiro 57.14 293 *eP* **P 04 09 34.3 -0.9**
comp=Z,29nm,1.0s,mb5.3
MAJO LR LR
comp=Z,1µm,19.0s,MS5.0
MAJO Matsushiro 57.14 293 *eP* **P 04 09 34.3 -0.9**
MAJO pmax pmax
comp=Z,29nm,1.0s,mb5.3
MAJO MLR MLR
comp=Z,1µm,19.0s,MS5.0
MAT Matsushiro 57.14 293 P **P 04 09 33.7 -1.5**
MAT S **S 04 17 26.0 -4.0**
MJAR Matsushiro Arr 57.14 293 P **P 04 09 33.9 -1.2**
comp=Z,24nm,1.1s,mb5.1,baz=350,slow=6.9,SNR=19
MJAR Matsushiro Arr 57.14 293 P **P 04 09 33.9 -1.3**
MJAR Matsushiro Arr 57.14 293 P **P 04 09 33.9 -1.3**
USP Ospenovka 57.15 351 P **P 04 09 35.0 -0.1**
SNR=13
MAK Makhachkala 57.20 15 *eP* **P 04 09 34.2 -1.3**
MAK *e* 04 10 32.3
MAK *e*PPP 04 13 12.6
MAK *e*S **S 04 17 26.9 -3.7**
MAK *e*SSS 04 23 40.7
MAK pmax pmax
comp=Z,605nm,1.5s,mb6.4
ZEI Tsey 57.20 18 *eP* **P 04 09 36.2 +0.7**
ZEI pmax pmax
comp=Z,19nm,0.7s,mb5.2
ONI Oni 57.36 18 P **P 04 09 37.2 +0.5**
CHMS Chumysh 57.41 351 P **P 04 09 38.4 +1.4**
SNR=5.3
CUC Castrocucco 57.42 43 PFAKE 04 09 50.0 +13
CUC LR LR
comp=Z,413nm,20.0s,MS4.5
TKM2 Tokmak 2 57.46 350 P **P 04 09 37.4 0.0**
SNR=16
TKM2 Tokmak 2 57.46 350 *eP* **P 04 09 37.5 +0.1**
comp=Z,30nm,1.0s,mb5.3
TKM2 LR LR
comp=Z,1µm,20.0s,MS5.0
TKM2 Tokmak 2 57.46 350 *eP* **P 04 09 37.5 +0.2**
TKM2 pmax pmax
comp=Z,30nm,1.0s,mb5.3
TKM2 MLR MLR
comp=Z,1µm,20.0s,MS5.0
MIDW Midway 57.49 247 PFAKE 04 09 50.0 +12
MIDW LR LR
comp=Z,1µm,21.0s,MS5.0
FRU Bishkek 57.58 351 ⇓*iP* **P 04 09 39.0 +0.8**
FRU pmax pmax
comp=Z,135nm,2.0s,mb5.6
ALN Alexandroupoli 57.67 34 *eP* **P 04 09 38.3 -0.5**
SFS San Fernando 57.71 64 PFAKE 04 09 50.0 +11
SFS LR LR
comp=Z,1µm,20.0s,MS5.0
KBK Karagaybulak 57.74 351 P **P 04 09 40.0 +0.6**
SNR=5.8
EKS2 Erkin-Say 57.77 352 PFAKE 04 09 50.0 +10
EKS2 LR LR
comp=Z,2µm,19.0s,MS5.1
AAK Ala-Archa 57.78 351 P **P 04 09 40.1 +0.5**
SNR=13
AAK Ala-Archa 57.78 351 *i* P **P 04 09 40.0 +0.4**
KZN Kozani 57.80 38 *eP* **P 04 09 43.2 +3.4**
KSRS Korea Array 57.88 303 P **P 04 09 39.3 -1.1**
comp=Z,6.1nm,0.9s,mb4.6,baz=5.8,slow=6.7,SNR=11
KSRS PcP PcP 04 10 33.0 +0.3
comp=Z,8.1nm,0.9s,baz=359,slow=4.8,SNR=4.8
KSRS LR LR 04 36 07.4
comp=Z,1µm,18.2s,MS5.0,baz=259,slow=38
KSRS Korea Array 57.88 303 P **P 04 09 39.3 -1.1**
KSRS 04 10 33.0
KSRS pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
KSRS MLR MLR
comp=Z,1µm,18.2s,MS5.0
KSAR Wonju Array Be 57.90 303 P **P 04 09 39.3 -1.2**
KSAR PcP PcP 04 10 33.0 +0.2
KSAR LR LR 04 36 07.4
KSAR Wonju Array Be 57.90 303 P **P 04 09 39.3 -1.2**
KSAR 04 10 33.0
GOR Gori 58.00 18 P **P 04 09 42.6 +1.4**
INCN Inchon 58.04 304 PFAKE 04 09 50.0 +8.5
INCN LR LR
comp=Z,2µm,19.0s,MS5.1
KEK Kerkira 58.17 40 *eP* **P 04 09 48.0 +5.6**
TBLG Delisi 58.29 17 *eP* **P 04 09 44.1 +0.9**
TBLG Delisi 58.29 17 P **P 04 09 44.1 +1.0**
AML Almayashu 58.30 352 P **P 04 09 44.6 +1.4**
SNR=9.5
KZA Kyzart 58.31 351 P **P 04 09 43.9 +0.6**
SNR=5.9
MTA Mtatsminda 58.33 17 P **P 04 09 44.1 +0.7**
JAN Janina 58.34 39 *eP* **P 04 09 48.5 +4.9**
DBOC Borcka 58.49 20 *i P* **P 04 09 45.0 +0.4**
AKH Akhalkalaki 58.54 18 P **P 04 09 46.5 +1.6**
THL Klokotos Trika 58.56 38 *eP* **P 04 09 44.7 -0.4**
DGRG David-gareji 58.60 17 P **P 04 09 43.5 -1.8**
ARTV Artvin 58.67 20 *i P* **P 04 09 45.7 -0.2**
CTKT Corum 58.73 26 *i P* **P 04 09 46.3 +0.1**
ELDT Eldivan 58.75 27 *i P* **P 04 09 44.4 -2.1**
DAGI Agillar 58.77 20 *i P* **P 04 09 47.2 +0.6**
ERBA Erbaa 58.82 24 *i P* **P 04 09 48.1 +1.3**
DDEM Demirkent 58.95 20 *i P* **P 04 09 48.2 +0.4**
BALY Balya 58.97 33 *i P* **P 04 09 51.8 +3.9**
AGG Agios Georgios 59.13 38 *eP* **P 04 09 52.9 +3.8**
CEL Celeste 59.14 43 PFAKE 04 10 00.0 +11
CEL LR LR
comp=Z,317nm,19.0s,MS4.5
EVR Evrytania 59.18 38 *eP* **P 04 09 55.9 +6.5**
DURS Dursunbey 59.19 32 *i P* **P 04 09 49.6 +0.1**
SUSE Susehri 59.40 23 *i P* **P 04 09 51.3 +0.4**
GTA Gaotai 59.44 329 P **P 04 09 51.5 +0.3**
GTA pP pP 04 09 55.9 +1.8
GTA sP sP 04 09 59.1 +3.9
GTA S **S 04 17 57.4 -2.6**
GTA sS sS 04 18 04.8 +0.1
GTA SS SS 04 21 53.9 -0.2
GTA pmax pmax
comp=Z,71nm,1.0s,mb5.7
GTA pmax pmax
comp=Z,400nm,6.2s
GTA LR LR
comp=N,1µm,17.3s,MS5.2
GTA LR LR
comp=E,1µm,16.4s,MS5.2
GTA LR LR
comp=Z,1µm,17.8s,MS5.1
ESKT Eskisehir 59.49 30 *i P* **P 04 09 50.3 -1.3**
BR131 Keskin Array S 59.53 27 *eP* **P 04 09 53.0 +1.2**
comp=Z,22nm,1.0s,mb5.2
BR131 PP PP 04 12 05.0 +2.4
BR131 LR LR
comp=Z,461nm,22.0s,MS4.6
BRTR Keskin Array B 59.53 27 P **P 04 09 53.0 +1.2**
comp=Z,5.7nm,0.8s,mb4.6,baz=347,slow=3.8,SNR=24
BRTR PcP PcP 04 10 39.2 +0.1
comp=Z,16nm,1.0s,baz=350,slow=2.0,SNR=12
BRTR PP PP 04 12 08.6 +5.9
comp=Z,6.2nm,1.0s,baz=357,slow=7.4,SNR=3.8
BRTR LR LR 04 38 57.7
comp=Z,393nm,18.4s,MS4.6,baz=193,slow=40
BRTR Keskin Array B 59.53 27 P **P 04 09 53.0 +1.2**
BRTR PcP PcP 04 10 39.2 +0.1
BRTR PP PP 04 12 08.6 +5.9
BRTR LR LR 04 38 57.7
BRTR Keskin Array B 59.53 27 P **P 04 09 53.0 +1.2**
BRTR 04 10 39.3
BRTR 04 12 08.6
LKR Lokris 59.58 37 *eP* **P 04 09 56.2 +4.1**
SCER sogukcermik 59.66 24 *i P* **P 04 09 54.3 +1.5**
BBAL Bala 59.66 28 *i P* **P 04 09 50.2 -2.6**
CDAG Cicekdag 59.69 27 *i P* **P 04 09 53.2 +0.3**
KOPT Kop Dagi 59.74 21 *i P* **P 04 09 55.2 +1.9**
VLS Valsamata 59.78 39 *eP* **P 04 09 52.6 -0.9**
HOMI Horasan 59.80 20 *i P* **P 04 09 55.6 +1.9**
GNI Garni 59.86 17 P **P 04 09 55.2 +1.1**
comp=Z,3.6nm,0.6s,mb4.6,baz=108,slow=6.7,SNR=8.3
GNI Garni 59.86 17 *eP* **P 04 09 55.6 +1.5**
comp=Z,43nm,1.1s,mb5.4
GNI LR LR
comp=Z,601nm,20.0s,MS4.7
GNI Garni 59.86 17 *eP* **P 04 09 55.6 +1.5**
GNI pmax pmax
comp=Z,43nm,1.1s
GNI MLR MLR
comp=Z,601nm,20.0s
GNI Garni 59.86 17 P **P 04 09 56.6 +2.5**
SNR=6.8
ERZM Erzurum 59.91 20 *i P* **P 04 09 56.3 +1.8**
RTC Rabat Centre 60.03 65 PFAKE 04 10 10.0 +15
RTC LR LR
comp=Z,460nm,20.0s,MS4.6
CHOS Chios island 60.16 34 *eP* **P 04 09 55.1 -1.0**
LTK Loutraki 60.19 37 *eP* **P 04 09 54.6 -1.8**
GUR Goura 60.21 38 *eP* **P 04 09 56.1 -0.4**
JHJ Hachijo jima 2 60.22 291 LR LR 04 37 55.5
comp=Z,424nm,19.8s,MS4.6,baz=40,slow=38
PTL Penteli 60.26 36 *eP* **P 04 10 03.5 +6.6**
BOLV Bolvadin 60.29 30 *i P* **P 04 09 57.2 +0.1**
KEMA Kemaliye 60.35 23 *i P* **P 04 09 58.5 +1.1**
VLY Voula,Athens 60.45 36 *eP* **P 04 10 01.0 +2.8**
TUTA Tutak 60.50 19 *i P* **P 04 09 59.5 +1.1**
AVNT Avonos 60.56 26 *i P* **P 04 10 00.3 +1.4**
KDHN Kadinhani 60.59 29 *i P* **P 04 09 59.1 0.0**
DID Didima 60.73 37 *eP* **P 04 09 56.4 -3.7**
KEST Kesra 60.77 50 P **P 04 10 00.9 +0.5**
comp=Z,8.4nm,0.9s,mb4.9,baz=300,slow=1.3,SNR=17
KEST LR LR 04 38 03.4
comp=Z,240nm,18.5s,MS4.4,baz=348,slow=38
KEST Kesra 60.77 50 *eP* **P 04 10 00.9 +0.6**
VLX Vlachokerasia 60.77 38 *eP* **P 04 10 01.7 +1.3**
TEIG Tepich 60.78 150 LR LR 04 38 18.7
comp=Z,842nm,18.4s,MS4.9,baz=342,slow=38
TEIG Tepich 60.78 150 *eP* **P 04 09 59.4 -1.2**
comp=Z,167nm,1.1s,mb6.1
TEIG LR LR
comp=Z,1µm,20.0s,MS5.0
BNGL BINGOL 60.84 21 *i P* **P 04 10 01.3 +0.5**
KSH Kashi 60.85 350 P **P 04 10 03.8 +3.0**
KSH pP pP 04 10 08.3 +4.6
KSH sP sP 04 10 10.8 +6.0
KSH PcP PcP 04 10 46.8 +2.4

KSH PP PP 04 12 20.3 +6.0
KSH ScP ScP 04 14 46.3 +0.9
KSH PcS PcS 04 14 48.0 +1.0
KSH S **S** **04 18 19.1 +1.1**
KSH sS sS 04 18 27.8 +5.1
KSH ScS ScS 04 19 50.6 -0.9
KSH SS SS 04 22 20.8 +4.7
KSH pmax pmax
comp=Z,71nm,1.5s,mb5.6
KSH pmax pmax
comp=Z,290nm,3.7s
KSH LR LR
comp=N,1μm,16.3s,MS5.2
KSH LR LR
comp=E,480nm,11.8s,MS5.2
KSH LR LR
comp=Z,740nm,15.0s,MS5.0
ITM Ithomi 60.91 38 *e*P **P** **04 10 07.5 +6.2**
PYL PYLOS 61.17 38 *e*P **P** **04 10 06.8 +3.7**
KIP Kipapa 61.27 226‖ *e*P **P** **04 10 03.5 -0.4**
KIP pmax pmax
comp=Z,191nm,1.7s,mb6.0
AKCD Akcadag 61.28 24 *i* P **P** **04 10 02.6 -1.2**
WDD Wield Dalam 61.32 45 PFAKE 04 10 20.0 +16
WDD LR LR
comp=Z,645nm,20.0s,MS4.8
TVAN Van 61.40 19 *i* P **P** **04 10 06.5 +1.8**
VLI Veliai 61.48 37 *e*P **P** **04 10 04.8 -0.4**
MDT Midelt 61.54 63 P **P** **04 10 05.6 0.0**
comp=Z,7.0nm,0.7s,mb4.9,baz=356,slow=6.3,SNR=20
MDT LR LR 04 36 51.0
comp=Z,827nm,19.5s,MS4.9,baz=355,slow=36
MDT Midelt 61.54 63 P **P** **04 10 05.6 0.0**
MDT LR LR 04 36 51.0
ISHB Shabestar 61.77 17 *e*P **P** **04 10 08.3 +1.2**
DIYA Diyarbakir 61.80 22 *i* P **P** **04 10 09.1 +1.8**
IHRS Heris 61.80 16 *e*P **P** **04 10 08.2 +0.9**
ANDN Andirin 61.87 25 *i* P **P** **04 10 08.2 +0.4**
GULE Gulek 62.04 27 *i* P **P** **04 10 09.6 +0.6**
ATAB Bozova 62.13 23 *i* P **P** **04 10 10.0 +0.5**
GZT Gaziantep 62.19 24 *i* P **P** **04 10 10.7 +0.8**
LZH Lanzhou 62.34 325 *e*P **P** **04 10 11.0 +0.1**
LZH pP pP 04 10 16.3 +2.5
LZH sP sP 04 10 18.9 +4.0
LZH S **S** **04 18 33.3 -3.7**
LZH sS sS 04 18 44.0 +2.3
LZH *e*SS SS 04 22 41.0 +1.5
LZH pmax pmax
comp=Z,82nm,1.1s,mb5.8
LZH pmax pmax
comp=Z,310nm,4.0s
LZH LR LR
comp=N,2μm,14.8s,MS5.4
LZH LR LR
comp=E,1μm,15.6s,MS5.4
LZH LR LR
comp=Z,2μm,16.9s,MS5.3
HAKT HAKKARI 62.39 19 *i* P **P** **04 10 11.1 -0.2**
IBST Bostanabad 62.41 16 *e*P **P** **04 10 13.2 +1.8**
GTBY Guantanamo Bay 62.48 137 PFAKE 04 10 20.0 +7.9
GTBY LR LR
comp=Z,1μm,20.0s,MS5.0
ABKT Ailbek 62.56 6 P **P** **04 10 13.0 +0.6**
comp=Z,198nm,0.6s,mb6.4,SNR=9.7
POHA Pohakuloa 62.60 223 *e*P **P** **04 10 13.5 +0.7**
comp=Z,253nm,1.1s,mb6.3
VAM Vamos 62.91 36 *e*P **P** **04 10 15.3 +0.5**
PUH Pauahi 62.94 223 *e*P **P** **04 10 14.9 -0.1**
IEMG Emamgholi 63.08 5 *e*P **P** **04 10 17.0 +1.1**
KHU Kahuku 63.11 223 *e*P **P** **04 10 16.8 +0.6**
KHU Kahuku 63.11 223 *e*P **P** **04 10 16.8 +0.5**
CMIG Matias Romero 63.37 158 LR LR 04 41 55.8
comp=Z,644nm,18.1s,MS4.8,baz=41,slow=40
ISFR Sfrayin 63.43 6 *e*P **P** **04 10 19.0 +0.8**
IKRD Kardeh 63.72 5 *e*P **P** **04 10 20.8 +0.7**
XAN Xi'an 63.80 320 P **P** **04 10 19.5 -1.2**
XAN pP pP 04 10 25.3 +1.7
XAN PP PP 04 12 40.1 -0.4
XAN S **S** **04 18 49.8 -5.5**
XAN SS SS 04 22 56.6 -5.8
XAN pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
XAN pmax pmax
comp=Z,41nm,6.4s
XAN LR LR
comp=N,1μm,15.9s
XAN LR LR
comp=Z,460nm,16.6s,MS4.7
MTDJ Mount Denham 63.87 139 *e*P **P** **04 10 20.3 -1.0**
comp=Z,110nm,0.9s,mb5.9
IAKL Akhelmad 63.89 5 *e*P **P** **04 10 21.3 0.0**
SDDR Presa de Saban 63.90 133 *e*P **P** **04 10 20.8 -0.7**
comp=Z,178nm,1.6s,mb5.8
SDDR LR LR
comp=Z,1μm,19.0s,MS5.2
IPAY Payeh 64.05 5 *e*P **P** **04 10 22.7 +0.4**
IMYA Miami 64.17 4 *e*P **P** **04 10 22.5 -0.6**
ISRO Mashad 64.20 4 *e*P **P** **04 10 22.9 -0.4**
CSS Prodhromos 64.23 28 PFAKE 04 10 40.0 +17
CSS LR LR
comp=Z,473nm,20.0s,MS4.7
IMOG Moghan 64.39 5 *e*P **P** **04 10 23.1 -1.5**
NJ2 Nanjing 64.50 310 *e*P **P** **04 10 24.6 -0.7**
NJ2 pP pP 04 10 29.1 +0.9
NJ2 sP sP 04 10 32.6 +3.3
NJ2 PP PP 04 12 48.0 +1.4
NJ2 S **S** **04 19 04.0 0.0**
NJ2 sS sS 04 19 10.0 +1.2
NJ2 pmax pmax
comp=Z,50nm,0.9s,mb5.5
NJ2 pmax pmax
comp=Z,290nm,3.5s
NJ2 LR LR
comp=N,2μm,18.0s,MS5.5
NJ2 LR LR
comp=E,970nm,14.6s,MS5.5
NJ2 LR LR
comp=Z,2μm,15.0s,MS5.3
ISHM Shahmirzad 64.56 10 *e*P **P** **04 10 27.4 +1.8**
IFIR Firoozkooh 64.70 11 *e*P **P** **04 10 28.6 +2.0**
IDMV Damavand 64.74 11 *e*P **P** **04 10 27.8 +1.0**
IR3 Iran Long-Peri 64.81 12 *e*P **P** **04 10 27.3 0.0**
IRAZ Razeghan 64.84 13 *e*P **P** **04 10 28.3 +0.8**
IANJ Anjilo 64.91 10 *e*P **P** **04 10 28.6 +0.6**
HWQ Hawqa 65.12 26 *e*P **P** **04 10 29.3 0.0**
AOPR Arecibo Observ 65.15 128 *e*P **P** **04 10 28.7 -0.9**
comp=Z,41nm,1.1s,mb5.4
LRS Lares 65.19 128 *e*P **P** **04 10 29.0 -0.9**
MPR Mayaguez 65.22 128 *e*P **P** **04 10 29.1 -1.1**
comp=Z,54nm,1.0s,mb5.5
IVRN Varamin 65.31 12 *e*P **P** **04 10 30.4 -0.2**
IVRN *e*P pP 04 10 31.4 -2.1
IDHR Dehrash 65.38 16 *e*P **P** **04 10 30.8 -0.2**
CRPR Cabo Rojo, PR 65.43 129 *e*P **P** **04 10 31.4 -0.1**
comp=Z,41nm,1.1s,mb5.4
CELP Cerrillos 65.44 128 *e*P **P** **04 10 31.0 -0.5**
SJG San Juan 65.46 127 LR LR 04 38 46.7
comp=Z,556nm,19.0s,MS4.8,baz=167,slow=36
SJG San Juan 65.46 127 *e*P **P** **04 10 31.6 -0.1**
comp=Z,26nm,0.7s,mb5.4
SJG LR LR
comp=Z,865nm,19.0s,MS5.0
SJG San Juan 65.46 127 *e*P **P** **04 10 31.6 -0.1**
SJG pmax pmax
comp=Z,26nm,0.7s
SJG MLR MLR
comp=Z,865nm,19.0s
BHL Bhannes 65.47 26 *e*P **P** **04 10 31.6 0.0**
HUMP Col San Antoni 65.48 127 *e*P **P** **04 10 30.9 -0.9**
comp=Z,22nm,0.9s,mb5.2
MTP Monte Pirata 65.56 127 *e*P **P** **04 10 31.5 -0.8**
comp=Z,46nm,1.1s,mb5.4
IVIS Veis 65.57 16 *e*P **P** **04 10 32.4 +0.2**
ICM Isla Caja Muer 65.62 128 *e*P **P** **04 10 33.1 +0.3**
comp=Z,105nm,0.9s,mb5.9
CBIJ Chichi jima 65.70 287 P **P** **04 10 32.5 -0.6**
comp=Z,56nm,0.6s,mb5.8,baz=299,slow=17,SNR=4.6
IGHG Ghaleghazi 65.75 16 *e*P **P** **04 10 33.6 +0.2**
KBL Kabul 65.97 356 *e*P **P** **04 10 34.1 -0.7**
KBL Kabul 65.97 356 *e*P **P** **04 10 34.1 -0.7**
MMAI Mount Meron Ar 66.33 26 P **P** **04 10 37.7 +0.6**
comp=Z,3.0nm,0.6s,mb4.5,baz=339,slow=9.0,SNR=14
MMAI Mount Meron Ar 66.33 26 P **P** **04 10 37.7 +0.6**
ANWB Willy Bob 66.54 123 PFAKE 04 10 50.0 +11
ANWB LR LR
comp=Z,603nm,19.0s,MS4.8
WHN Wuhan 66.58 314 ⇓P **P** **04 10 37.5 -1.3**
WHN pP pP 04 10 48.3 +6.6
WHN S S 04 19 26.4 -3.1
WHN pmax pmax
comp=Z,110nm,0.8s,mb5.9
WHN LR LR
comp=N,1μm,15.6s,MS5.5
WHN LR LR
comp=E,2μm,11.5s,MS5.5
WHN LR LR
comp=Z,2μm,12.2s,MS5.5
BHD Baghdad 66.69 18 *i* x x 04 10 36.0
BHD *i* x x 04 19 33.0
BHD *i* x x 04 19 51.0
TGUH Tegucigalpa,Un 66.98 150 PFAKE 04 10 50.0 +8.6
TGUH LR LR
comp=Z,831nm,20.0s,MS5.0
IKLH Kolahrood 66.98 12 *e*P **P** **04 10 41.6 +0.3**
ASF Jabal al Asfar 67.29 25 P **P** **04 10 44.2 +1.0**
comp=Z,12nm,0.9s,mb4.9,baz=226,slow=4.5,SNR=28
ASF Jabal al Asfar 67.29 25 P **P** **04 10 44.2 +1.0**
ASF Jabal al Asfar 67.29 25 P **P** **04 10 44.2 +1.0**
IZEF Zefreh 67.43 11 *e*P **P** **04 10 44.4 +0.3**
ENH Enshi 67.45 319 *e*P **P** **04 10 43.6 -0.7**
comp=Z,23nm,0.4s,mb5.5
CD2 Chengdu 67.47 324 P **P** **04 10 44.0 -0.4**
CD2 pP pP 04 10 48.8 +1.5
CD2 sP sP 04 10 50.0 +1.6
CD2 PP PP 04 13 14.3 +1.7
CD2 S S 04 19 37.8 -2.4
CD2 sS sS 04 19 46.1 +1.1
CD2 SS SS 04 24 00.0 +0.5
CD2 pmax pmax
comp=Z,90nm,0.7s,mb5.9
CD2 pmax pmax
comp=Z,250nm,5.1s
CD2 LR LR
comp=E,1μm,17.8s
CD2 LR LR
comp=Z,1μm,19.0s,MS5.2
JOHN Johnston Islan 67.50 237 PFAKE 04 11 00.0 +15
JOHN LR LR
comp=Z,11μm,20.0s,MS6.1
BHK Bhakra 68.91 349 *e*PKP **P** **04 10 52.8 -0.6**
IMEH Mehriz 69.00 9 *e*P **P** **04 10 53.4 -0.6**
FDF Fort de France 69.52 123 PFAKE 04 11 10.0 +13
FDF LR LR
comp=Z,556nm,20.0s,MS4.8
EIL Elat 69.61 27 P **P** **04 10 58.6 +0.8**
comp=Z,17nm,0.8s,mb5.0,baz=349,slow=6.6,SNR=13
EIL Elat 69.61 27 P **P** **04 10 58.6 +0.8**
LSA Lhasa 69.81 335 P **P** **04 11 00.0 +1.0**
LSA Lhasa 69.81 335 *e*P **P** **04 11 00.4 +1.4**
comp=Z,65nm,1.1s,mb5.5
LSA LR LR
comp=Z,345nm,20.0s,MS4.6
LSA Lhasa 69.81 335 *e*P **P** **04 11 00.4 +1.4**
LSA pmax pmax
comp=Z,65nm,1.1s,mb5.5
LSA MLR MLR
comp=Z,345nm,20.0s,MS4.6
MIB Mutribah 70.30 16 *e*P **P** **04 11 01.8 -0.2**
MIB AMb AMB 04 11 03.7
comp=Z,205nm,1.1s,mb6.0
KKR Kurukshetra 70.34 349 *e*PKP **P** **04 11 03.0 +0.7**
IPAR Pars 70.49 11 *e*P **P** **04 11 02.9 -0.3**
NAY Al-Naaiem 70.84 16 *e*P **P** **04 11 04.6 -0.8**
NAY AMb AMB 04 11 06.7
comp=Z,44nm,1.1s,mb5.3
JTS JuntasAbangare 70.92 148 PFAKE 04 11 20.0 +14
JTS LR LR
comp=Z,638nm,20.0s,MS4.9
KBD Kabd 70.94 16 *e*P **P** **04 11 05.5 -0.4**
KBD AMb AMB 04 11 07.5
comp=Z,85nm,1.4s,mb5.5
ISRV Sarvestan 70.95 10 *e*P **P** **04 11 06.1 +0.1**
TATO Taipei 71.08 306 PFAKE 04 11 20.0 +13
TATO LR LR
comp=Z,1μm,19.0s,MS5.1
RTK Rohtak 71.28 349 *e*PKP **P** **04 11 07.5 -0.5**
YHNB Yeheng 71.40 306 PFAKE 04 11 20.0 +11
YHNB LR LR
comp=Z,914nm,20.0s,MS5.0
QZH Quanzhou 71.53 309⇓ *i*P **P** **04 11 10.6 +1.1**
QZH S S 04 20 24.0 -4.1
QZH LR LR
comp=Z,4μm,17.8s,MS5.7
GYA Guiyang 71.55 321⇑ *i*P **P** **04 11 09.3 -0.4**
GYA PcP PcP 04 11 30.1 +1.1
GYA PP PP 04 13 48.1 +0.2
GYA S S 04 20 24.6 -3.8
GYA SKS 04 21 08.3
GYA SS SS 04 24 57.8 -4.7
GYA pmax pmax
comp=Z,40nm,1.0s,mb5.3
GYA pmax pmax
comp=Z,210nm,6.4s
GYA LR LR
comp=N,560nm,20.5s,MS5.0
GYA LR LR
comp=E,530nm,16.1s,MS5.0
GYA LR LR
comp=Z,1μm,21.4s
NDI New Delhi 71.60 348 *ex* **P** **04 11 06.0 -4.0**
DANN Dangsing 71.63 342 *e*P **P** **04 11 09.8 -0.3**
comp=Z,396nm,0.8s,mb6.4
BISR Bishrakh 71.70 348 *e*PKP **P** **04 11 10.5 -0.1**
AYAN Aya Nagar 71.80 348 *e*PKP **P** **04 11 10.7 -0.5**
PYUN Piuthan 71.92 343 *e*P **P** **04 11 10.9 -1.0**
comp=Z,215nm,1.1s,mb6.0
GKN Gorkha 71.93 341 *e*P **P** **04 11 11.3 -0.6**
comp=Z,220nm,0.8s,mb6.2
GUN Gumba 71.94 340 *e*P **P** **04 11 12.1 +0.1**
comp=Z,550nm,1.0s,mb6.4
GRGR Grenville 72.00 124 *e*P **P** **04 11 11.9 -0.6**
comp=Z,311nm,1.3s,mb6.1
GRGR LR LR
comp=Z,822nm,20.0s,MS5.0
SONA Sohna 72.04 348 *e*PKP **P** **04 11 12.2 -0.3**
SONA AMb AMB 04 11 13.6
comp=Z,26nm,0.6s,mb5.3
KKN Kakani 72.10 341 *e*P **P** **04 11 12.8 -0.2**
comp=Z,606nm,1.2s,mb6.4
KOLN Koldanda 72.22 342 *e*P **P** **04 11 12.8 -0.9**
KHET Khetri 72.26 350 *e*PKP **P** **04 11 13.3 -0.6**
KHET AMb AMB 04 11 15.9
comp=Z,61nm,1.4s,mb5.3
DMN Daman 72.29 341 *e*P **P** **04 11 14.2 +0.1**
comp=Z,415nm,1.0s,mb6.3
PKI Pulchoki 72.31 341 *e*P **P** **04 11 14.0 -0.2**
comp=Z,404nm,1.1s,mb6.3
TAPN Taplejung 72.39 338 *e*P **P** **04 11 14.5 -0.2**
BCIP Isla Barro Col 72.55 143 PFAKE 04 11 30.0 +14
BCIP LR LR
comp=Z,753nm,21.0s,MS4.9
RAMN Ramite 72.86 339 *e*P **P** **04 11 17.0 -0.5**
comp=Z,366nm,1.1s,mb6.2
ODAN Odare 72.89 339 *e*P **P** **04 11 17.6 -0.1**
comp=Z,239nm,0.8s,mb6.2
TAM Tamanrasset 72.94 56 *e*P **P** **04 11 18.6 +0.6**
comp=Z,12nm,1.0s,mb4.8
TAM *e* 04 11 26.8
TAM LR LR
comp=Z,1μm,19.0s,MS5.2
TAM Tamanrasset 72.94 56 *e*P **P** **04 11 18.6 +0.6**
TAM *e* 04 11 26.8
TAM pmax pmax
comp=Z,12nm,1.0s,mb4.8
TAM MLR MLR
comp=Z,1μm,19.0s,MS5.2
AGRA Agra 73.02 347 *e*PKP **P** **04 11 17.0 -1.4**
KMI Kunming 73.30 324 P **P** **04 11 19.4 -0.7**
KMI pP pP 04 11 29.4 +6.3
KMI PP PP 04 14 02.9 0.0
KMI S S 04 20 41.8 -6.6
KMI sS sS 04 20 58.3 +5.0
KMI pmax pmax
comp=Z,52nm,1.3s,mb5.3
KMI pmax pmax
comp=Z,310nm,5.0s
KMI LR LR
comp=N,880nm,16.6s,MS5.2
KMI LR LR
comp=E,420nm,17.6s,MS5.2
KMI LR LR
comp=Z,970nm,17.1s,MS5.2
SHL Shillong 73.86 334 *e*PKP **P** **04 11 23.0 -0.4**
SHL *ex* x 04 21 08.0
SDV Santo Domingo 73.93 133 *e*P **P** **04 11 22.9 -1.0**
comp=Z,38nm,0.9s,mb5.3
SDV LR LR
comp=Z,299nm,20.0s,MS4.6
AGT Agartala 75.58 335 *ex* **P** **04 11 31.0 -2.4**
AGT *ex* x 04 12 20.0
HATD Hatta, Dubai 75.58 8 P **P** **04 11 33.6 +0.3**
SNR=8.0
ASHO Ashiyiah 75.71 8 P **P** **04 11 34.4 +0.3**
SNR=6.2
BHPL Bhopal 77.01 348 *e*PKP **P** **04 11 40.1 -1.4**
BHPL AMb AMB 04 11 43.6
comp=Z,129nm,1.2s,mb5.7
ARQ Araqi 77.07 8 P **P** **04 11 41.5 -0.3**
SNR=17
SMDO Samad 77.38 6 P **P** **04 11 43.8 +0.2**
SNR=9.1
ROSC El Rosal 77.44 138 P **P** **04 11 44.7 +0.7**
comp=Z,53nm,0.9s,mb5.5,baz=103,slow=7.5,SNR=44
ROSC LR LR 04 47 25.9
comp=Z,473nm,20.1s,MS4.8,baz=194,slow=37
ROSC El Rosal 77.44 138 *e*P **P** **04 11 44.7 +0.7**
BSY Bisya 77.67 7 P **P** **04 11 44.0 -1.2**
SNR=16
JMDO Jabal Madar 78.06 6 P **P** **04 11 47.4 -0.1**
SNR=8.7
GUMO Guam 78.44 282 PFAKE 04 12 00.0 +10
GUMO LR LR
comp=Z,437nm,19.0s,MS4.8
QIZ Qiongzhong 78.50 317 PFAKE 04 12 00.0 +10
QIZ LR LR
comp=Z,642nm,19.0s,MS5.0
CHRT Chiangrai 78.80 326⇓ P **P** **04 11 50.0 -1.5**
comp=Z,237nm,1.0s,mb6.1
CHG Chiang Mai 79.92 327⇑ P **P** **04 11 55.9 -1.8**
comp=Z,31nm,1.0s,mb5.2
CHTO Chiang Mai 79.92 327 *e*P **P** **04 11 56.2 -1.4**
comp=Z,53nm,1.4s,mb5.3
CHTO LR LR
comp=Z,888nm,19.0s,MS5.1
CHTO Chiang Mai 79.92 327 *e*P **P** **04 11 56.3 -1.4**
CHTO pmax pmax
comp=Z,53nm,1.4s,mb5.3
CHTO MLR MLR
comp=Z,888nm,19.0s,MS5.1
CM31 Chiang Mai Arr 80.28 327 *e*P **P** **04 11 58.5 -1.0**
comp=Z,7.0nm,0.4s,mb4.9
CM31 LR LR
comp=Z,836nm,20.0s,MS5.1
CMAR Chiang Mai Arr 80.28 327 P **P** **04 11 58.5 -1.1**
comp=Z,39nm,1.0s,mb5.3,baz=348,slow=5.9,SNR=104
CMAR LR LR 04 49 48.4
comp=Z,732nm,18.3s,MS5.1,baz=2.7,slow=37
CMAR Chiang Mai Arr 80.28 327 P **P** **04 11 58.5 -1.1**
CMAR LR LR 04 49 48.4
CMAR Chiang Mai Arr 80.28 327 P **P** **04 11 58.5 -1.1**
BDT Bhumibol Dam 81.47 327 P **P** **04 12 05.0 -0.9**
comp=Z,18nm,0.9s,mb5.0
OTAV Otavalo 81.52 142 *e*P **P** **04 12 05.8 -0.3**
comp=Z,21nm,0.9s,mb5.1
OTAV LR LR
comp=Z,382nm,21.0s,MS4.7
POO Poona 81.81 351 *e*PKP **P** **04 12 07.3 -0.4**
POO AMb AMB 04 12 11.2
comp=Z,104nm,1.0s,mb5.7
TORD Torodi Ar. Bea 81.82 61 P **P** **04 12 06.7 -1.1**
comp=Z,26nm,0.8s,mb5.2,baz=333,slow=5.2,SNR=148
TORD PKKPbc PKKPbc 04 30 34.4 -0.1
comp=Z,3.4nm,1.2s,baz=162,slow=3.6,SNR=9.4
TORD LR LR 04 49 19.3
comp=Z,558nm,19.4s,MS4.9,baz=5.0,slow=36
TORD Torodi Ar. Bea 81.82 61 P **P** **04 12 06.7 -1.1**
TORD PKKPbc PKKPbc 04 30 34.4 -0.1
TORD LR LR 04 49 19.3
TGY Tagaytay City 81.85 305 P **P** **04 12 07.5 -0.5**
comp=Z,131nm,0.3s,mb6.3,baz=167,slow=12,SNR=4.7
TGY Tagaytay City 81.85 305 P **P** **04 12 07.5 -0.5**
TGY Tagaytay City 81.85 305 P **P** **04 12 07.5 -0.5**
HYB Hyderabad 82.75 346 *i* P **P** **04 12 11.0 -1.7**
RBK Rabkut 82.80 10 P **P** **04 12 13.0 0.0**
SNR=6.1
NST Nakhon Sawan 82.91 326 P **P** **04 12 13.0 -0.5**
ABTO Aybut 82.92 11 P **P** **04 12 13.2 -0.4**
SNR=12
KAD Karad 83.02 351 *e*PKP **P** **04 12 13.2 -0.8**
KAD AMb AMB 04 12 16.5
comp=Z,90nm,1.2s,mb5.7
TARA Tarawa 85.41 252 PFAKE 04 12 40.0 +14
TARA LR LR
comp=Z,4μm,22.0s,MS5.7
DBIC Dimbokro 87.11 69 P **P** **04 12 32.5 -2.1**
comp=Z,11nm,0.8s,mb5.1,baz=330,slow=5.1,SNR=10
DBIC LR LR 04 51 34.2
comp=Z,650nm,18.2s,MS5.1,baz=353,slow=36
DBIC Dimbokro 87.11 69 *e*P **P** **04 12 34.3 -0.3**
comp=Z,34nm,1.2s,mb5.5
DBIC LR LR
comp=Z,703nm,19.0s,MS5.1
DBIC Dimbokro 87.11 69 *e*P **P** **04 12 34.3 -0.3**
DBIC pmax pmax
comp=Z,34nm,1.2s
DBIC MLR MLR
comp=Z,703nm,19.0s
DAV Davao City (W) 88.05 300 P **P** **04 12 38.5 -0.6**
comp=Z,251nm,0.4s,mb6.8,baz=246,slow=23,SNR=6.4
DAV LR LR 04 57 39.7
comp=Z,363nm,18.1s,MS4.8,baz=360,slow=39
DAV Davao City (W) 88.05 300 P **P** **04 12 38.5 -0.6**
DAV LR LR 04 57 39.6
DAV Davao City (W) 88.05 300 P **P** **04 12 39.3 +0.2**
SNR=5.5
TAOE Nuku Hiva Isla 89.37 204 *e*LR LR 04 41 18.4
comp=Z,356nm,23.3s
KKM Kota Kinabalu 90.45 309 *e*P **P** **04 12 50.7 +0.4**
comp=Z,45nm,1.0s,mb5.8
KKM LR LR
comp=Z,327nm,19.0s,MS4.8
KKM Kota Kinabalu 90.45 309 P **P** **04 12 51.0 +0.6**
comp=Z,729nmcomp=Z,47nm,1.1s,mb5.7
MYLDM Lahad Datu 90.97 306 P **P** **04 12 54.5 +1.7**
comp=Z,54nm,1.3s,mb5.7
KULM Kulim 93.12 324 *e*P **P** **04 13 02.1 -0.7**
comp=Z,51nm,1.5s,mb5.7
KULM LR LR
comp=Z,58nm,21.0s,MS4.0
KULM Kulim 93.12 324 P **P** **04 13 03.2 +0.5**
comp=Z,512nmcomp=Z,23nm,1.6s,mb5.4
NNA Nana 93.77 142 PFAKE 04 13 20.0 +14
NNA LR LR
comp=Z,496nm,21.0s,MS5.0
RCBR Riachuelo 93.84 101 PFAKE 04 13 20.0 +14
RCBR LR LR
comp=Z,385nm,21.0s,MS4.8
IPM Ipoh 93.88 323 *e*P **P** **04 13 05.7 -0.5**
comp=Z,36nm,1.1s,mb5.7
IPM Ipoh 93.88 323 P **P** **04 13 06.0 -0.2**
comp=Z,32nm,1.9s,mb5.4
FUNA Funafuti 94.05 244 PFAKE 04 13 20.0 +13
FUNA LR LR
comp=Z,3μm,19.0s,MS5.7
SBUM Sibu 94.53 312 P **P** **04 13 09.6 +0.4**
KSM Kuching 95.75 314 PFAKE 04 13 30.0 +15
KSM LR LR
comp=Z,418nm,19.0s,MS4.9
PSI Prapat 95.76 325 P **P** **04 13 13.1 -1.7**
comp=Z,38nm,0.9s,mb5.8,baz=326,slow=4.1,SNR=26
PSI Prapat 95.76 325 P **P** **04 13 13.1 -1.7**
PSI Prapat 95.76 325 P **P** **04 13 13.1 -1.7**
AFI Afiamalu 97.93 235 LR LR 04 53 37.9
comp=Z,355nm,19.6s,MS4.9,baz=16,slow=33
HNR Honiara 98.24 263 LR LR 04 57 49.1
comp=Z,331nm,20.4s,MS4.8,baz=313,slow=36
HNR Honiara 98.24 263 PFAKE 04 13 40.0 +14
HNR LR LR
comp=Z,327nm,21.0s,MS4.8
PPT Papeete 98.80 213 *e*LR LR 04 45 33.2
comp=Z,445nm,24.5s
PPT Papeete 98.80 213 LR LR 04 51 08.8
comp=Z,336nm,19.6s,MS4.8,baz=358,slow=31
LPAZ La Paz 99.05 134 PP PP 04 17 27.2 -4.6
comp=Z,4.1nm,1.1s,baz=352,slow=14,SNR=3.5
LPAZ LR LR 05 03 30.5

comp=Z,374nm,18.2s,MS4.9,baz=321,slow=39
LPAZ La Paz 99.05 134 PFAKE 04 13 40.0 +11
LPAZ LR LR
comp=Z,561nm,22.0s,MS5.0
MBAR Mbarara 99.19 34 PFAKE 04 13 40.0 +10
MBAR LR LR
comp=Z,608nm,19.0s,MS5.1
KMBO Kilima Mbogo 100.31 28 PFAKE 04 13 50.0 +14
KMBO LR LR
comp=Z,247nm,19.0s,MS4.7
PMG Port Moresby 100.50 276 PFAKE 04 13 50.0 +13
PMG LR LR
comp=Z,243nm,20.0s,MS4.7
KAPI Kappang 100.80 304 PFAKE 04 13 50.0 +12
KAPI LR LR
comp=Z,203nm,20.0s,MS4.6
RKT Rikitea 103.18 198 *e*LR LR 04 47 35.3
comp=Z,443nm,33.5s
TBI Tubuai 104.51 212 *e*LR LR 04 48 22.7
comp=Z,339nm,27.8s
MSEY Mahe Island 104.87 9 PFAKE 04 14 10.0 +14
MSEY LR LR
comp=Z,303nm,20.0s,MS4.8
CTAO Charters Tower 111.10 274 PFAKE 04 18 30.0 +8.1
CTAO LR LR
comp=Z,190nm,20.0s,MS4.7
FITZ Fitzroy Crossi 112.72 295 PKKPbc PKKPbc 04 29 11.1 +1.1
comp=Z,3.9nm,1.0s,baz=172,slow=2.5,SNR=7.4
FITZ PKKPab PKKPab 04 29 20.7 +0.3
comp=Z,4.8nm,1.0s,baz=191,slow=5.5,SNR=5.2
WRAB Tennant Creek 113.05 286 PFAKE 04 18 40.0 +14
WRAB LR LR
comp=Z,229nm,19.0s,MS4.8
WRA Warramunga Arr 113.06 286 PKiKP PKiKP 04 18 24.1 -1.5
comp=Z,1.3nm,0.6s,baz=342,slow=2.0,SNR=4.9
WRA PP PP 04 19 11.2 -3.8
comp=Z,4.3nm,1.1s,baz=17,slow=7.4,SNR=5.7
WRA PKKPbc PKKPbc 04 29 08.4 -0.5
comp=Z,1.7nm,0.7s,baz=348,slow=2.0,SNR=35
WRA PKKPab PKKPab 04 29 17.2 -1.5
comp=Z,2.9nm,1.0s,baz=198,slow=3.6,SNR=9.9
WRA PKKP PKKPbc 04 29 27.6 +19
comp=Z,0.7nm,0.7s,baz=198,slow=3.2,SNR=4.9
WRA Warramunga Arr 113.06 286 PKPdf PKiKP 04 18 24.1 -1.5
WRA PP PP 04 19 11.2 -3.8
WRA PKKPbc PKKPbc 04 29 08.4 -0.5
WRA PKKPab PKKPab 04 29 17.2 -1.5
WRA PKKP PKKPbc 04 29 27.6 +19
WRA Warramunga Arr 113.06 286 PKiKP PKiKP 04 18 24.1 -1.5
WRA 04 19 11.2
LSZ Lusaka 113.42 39 PFAKE 04 18 40.0 +14
LSZ LR LR
comp=Z,345nm,21.0s,MS4.9
RAO Raoul Island 113.92 238 PFAKE 04 18 40.0 +13
RAO LR LR
comp=Z,794nm,22.0s,MS5.3
TSUM Tsumeb 115.96 50 PFAKE 04 18 40.0 +8.8
TSUM LR LR
comp=Z,518nm,19.0s,MS5.2
MBWA Marble Bar 116.66 301 PFAKE 04 18 40.0 +7.5
MBWA LR LR
comp=Z,219nm,19.0s,MS4.8
ASAR Alice Springs 116.78 286 PKP PKPdf 04 18 30.4 -2.3
comp=Z,5.3nm,0.8s,baz=352,slow=2.2,SNR=16
ASAR PKKPab PKKPab 04 29 02.0 -0.3
comp=Z,2.5nm,0.7s,baz=182,slow=4.4,SNR=10
ASAR Alice Springs 116.78 286 PKP PKPdf 04 18 30.4 -2.3
ASAR PKKPab PKKPab 04 29 02.0 -0.3
ASAR Alice Springs 116.78 286 PKIKP PKPdf 04 18 30.4 -2.3
LBTB Lobatse 122.73 43 PKP PKPdf 04 18 42.5 -1.5
comp=Z,8.3nm,1.1s,baz=23,slow=4.7,SNR=4.5
LBTB Lobatse 122.73 43 PKP PKPdf 04 18 42.5 -1.5
LBTB Lobatse 122.73 43 PKIKP PKPdf 04 18 42.5 -1.6
STKA Stephens Creek 123.44 276 PKP PKPdf 04 18 43.7 -1.5
comp=Z,8.5nm,0.8s,baz=36,slow=2.3,SNR=7.4
STKA Stephens Creek 123.44 276 PKP PKPdf 04 18 43.7 -1.5
STKA Stephens Creek 123.44 276 PKIKP PKPdf 04 18 43.7 -1.5
BOSA Boshof 126.23 44 PKP PKPdf 04 18 49.8 -0.9
comp=Z,8.4nm,0.8s,baz=259,slow=1.4,SNR=8.5
BOSA Boshof 126.23 44 *e*PKPdf PKPdf 04 18 50.7 0.0
BOSA LR LR
comp=Z,440nm,19.0s,MS5.2
BOSA Boshof 126.23 44 *e*PKIKP PKPdf 04 18 50.7 0.0
BOSA MLR MLR
comp=Z,440nm,19.0s,MS5.2
EFI East Falkland 135.19 132 PFAKE 04 19 20.0 +13
EFI LR LR
comp=Z,515nm,21.0s,MS5.2
PMSA Palmer Station 147.23 142 PKPbc PKPbc 04 19 29.5 -0.8
comp=Z,88nm,0.9s,baz=18,slow=3.4,SNR=7.8
PMSA Palmer Station 147.23 142 *e*PKPbc PKPbc 04 19 29.9 -0.4
DRV Dumont d'Urvil 156.95 260 PP SKPdf 04 23 18.0 +3.5
DRV SKKS SKKSac 04 30 00.0 -40
VNA1 Neumayer--Stat 160.95 103 *e* PKPab 04 20 27.1 -3.0
VNA3 Neumayer Olymp 161.21 105 *e* PKPdf 04 19 36.5 -11
baz=73,slow=0.8
VNA3 *e* 04 20 27.8
VNA2 Neumayer--Watz 161.34 102 *e* PKPdf 04 19 36.4 -11
baz=73,slow=0.8
VNA2 *e* 04 20 28.5
VNA2 *e* 04 24 14.7
CASY Casey 161.82 291 PFAKE 04 20 00.0 +12
CASY LR LR
comp=Z,307nm,19.0s
SBA Scott Base 162.42 223 *e*PKPdf PKPdf 04 19 44.5 -3.9
SBA *e*PKPab PKPab 04 20 35.5 -0.9
SBA LR LR
comp=Z,404nm,19.0s
SBA Scott Base 162.42 223 *e*PKIKP PKPdf 04 19 44.5 -3.9
SBA MLR MLR
comp=Z,404nm,19.0s
SNAA Sanae 162.77 100 PKP PKPdf 04 19 41.2 -7.6
comp=Z,0.7nm,0.8s,baz=341,slow=0.7,SNR=5.9
SNAA PKPab PKPab 04 20 37.3 -0.7
comp=Z,4.7nm,0.9s,baz=335,slow=5.8,SNR=14
SNAA PP PP 04 24 24.4 +0.7
comp=Z,2.1nm,1.0s,baz=294,slow=8.0,SNR=6.0
SNAA Sanae 162.77 100 PKP PKPdf 04 19 41.2 -7.6
SNAA PKPab PKPab 04 20 37.3 -0.7
SNAA PP PP 04 24 24.4 +0.7
SNAA Sanae 162.77 100 PKIKP PKPdf 04 19 41.2 -7.6
SNAA 04 20 37.3
SNAA 04 24 24.4
VNDA Vanda 162.77 227 PKP PKPdf 04 19 44.1 -4.6
comp=Z,1.2nm,1.0s,baz=327,slow=3.2,SNR=5.0
VNDA PKPab PKPab 04 20 37.8 -0.2
comp=Z,14nm,1.0s,baz=4.9,slow=4.1,SNR=27
VNDA Vanda 162.77 227 *e*PKPdf PKPdf 04 19 44.5 -4.2
VNDA *e*PKPab PKPab 04 20 37.9 0.0
VNDA LR LR
comp=Z,295nm,21.0s
VNDA Vanda 162.77 227 *e*PKIKP PKPdf 04 19 44.5 -4.2
VNDA MLR MLR
comp=Z,295nm,21.0s
MAIT Maitri 164.63 84 *e*P PKPdf 04 19 53.2 +2.7
MAW Mawson 167.82 3 PKPab PKPab 04 21 00.9 +0.6
comp=Z,5.8nm,0.8s,baz=45,slow=11,SNR=4.7
MAW Mawson 167.82 3 PFAKE 04 20 00.0 +6.8
MAW LR LR
comp=Z,867nm,20.0s
MAW Mawson 167.82 3 PKP2 PKPab 04 21 00.9 +0.6
MAW pmax pmax
comp=Z,6.0nm,0.9s
QSPA South Pole Qui 169.66 180 PKP PKPdf 04 19 47.0 -7.0
comp=Z,2.6nm,0.8s,baz=72,slow=1.1,SNR=4.0
QSPA PKPab PKPab 04 21 08.6 +0.3
comp=Z,20nm,1.0s,baz=95,slow=2.0,SNR=13
QSPA PP PP 04 24 59.3 +0.1
comp=Z,4.0nm,1.0s,baz=157,slow=4.8,SNR=7.7
QSPA South Pole Qui 169.66 180 *e*PKPdf PKPdf 04 19 47.9 -6.1
QSPA *e*PKPab PKPab 04 21 07.6 -0.7
QSPA LR LR
comp=Z,407nm,19.0s

CSEM ***18*** *04:00:20.8±0.9, 28°.69N×52°.28E, h2km, ML3.5, Error ellipse: s-maj=26.8km s-min=7.0km az=161.0*
TEH ***18*** *04:00:20.1, 28°.39N×52°.19E, h25km*
KISR ***18*** *04:00:20.3±0.8, 28°.29N×51°.80E, h34km, ML3.0*
ISC 18 04:00:19.8±1.6, 28°.4N±0°.1×52°.29E±0°.07, h10km, n23, σ1§10/31, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISRV	**Sarvestan**	**1.18**	**37**	*e*Pg	**Pg**	**04 00 38.9**	**-3.6**
ISRV				*e*		04 00 42.5	
	comp=Z,15μm,0.1s						
ISRV				*e*Sg	**Sg**	**04 01 01.2**	**+3.4**
ISRV	**Sarvestan**	**1.18**	**37**	*e*Pg	**Pg**	**04 00 38.9**	**-3.6**
ISRV				*e*Sg	**Sg**	**04 01 01.2**	**+3.4**
IPAR	**Pars**	**1.54**	**25**	*e*Pn	**Pn**	**04 00 46.7**	**-0.6**
IPAR				*e*Sg	**Sg**	**04 01 11.2**	**+1.8**
IPAR				*e*		04 01 14.6	
	comp=Z,7μm,0.3s						
IPAR	**Pars**	**1.54**	**25**	*e*Pn	**Pn**	**04 00 46.7**	**-0.6**
IPAR				*e*Sg	**Sg**	**04 01 11.2**	**+1.8**
IMEH	**Mehriz**	**3.56**	**34**	*e*Pn	**Pn**	**04 01 15.6**	**+0.5**
IMEH				*e*		04 01 17.3	
	comp=Z,2μm,0.1s						
IMEH	**Mehriz**	**3.56**	**34**	*e*Pn	**Pn**	**04 01 15.6**	**+0.5**
ISAD	**Sadrabad**	**3.66**	**19**	*e*Pn	**Pn**	**04 01 16.6**	**+0.1**
ISAD				*e*		04 02 23.3	
	comp=Z,575nm,0.3s						
ISAD	**Sadrabad**	**3.66**	**19**	*e*Pn	**Pn**	**04 01 16.6**	**+0.1**
ICHK	**Chekchek**	**4.21**	**25**	*e*Pn	**Pn**	**04 01 24.0**	**0.0**
ICHK				*e*		04 01 26.9	
	comp=Z,940nm,0.1s						
ICHK	**Chekchek**	**4.21**	**25**	*e*Pn	**Pn**	**04 01 24.0**	**0.0**
IBAF	**Bafgh**	**4.23**	**41**	*e*	**Pn**	**04 01 25.1**	**+0.8**
	comp=Z,437nm,0.1s						
IPIR	**Pirpir**	**4.40**	**344**	*e*Pn	**Pn**	**04 01 25.7**	**-0.9**
IPIR	**Pirpir**	**4.40**	**344**	*e*Pn	**Pn**	**04 01 25.7**	**-0.9**
IZEF	**Zefreh**	**4.44**	**0**	*e*Pn	**Pn**	**04 01 26.3**	**-0.9**
IZEF				*e*		04 02 25.2	
	comp=Z,133nm,0.2s						
IZEF	**Zefreh**	**4.44**	**0**	*e*Pn	**Pn**	**04 01 26.3**	**-0.9**
NAY	**Al-Naaiem**	**4.50**	**281**	*e*P	**Pn**	**04 01 29.2**	**+1.2**
NAY				*e*S	**Sn**	**04 02 20.0**	**-0.5**
NAY				AML	AML	04 02 28.8	
	comp=Z,11nm,0.5s						
NAY	**Al-Naaiem**	**4.50**	**281**	*e*P	**Pn**	**04 01 29.2**	**+1.1**
NAY				*e*S	**Sn**	**04 02 20.0**	**-0.5**
	comp=Z,11nm,0.5s						
MIB	**Mutribah**	**4.54**	**289**	*e*P	**Pn**	**04 01 29.5**	**+0.9**
MIB				*e*S	**Sn**	**04 02 22.2**	**+0.8**
MIB				AML	AML	04 02 30.5	
	comp=Z,28nm,0.5s						
MIB	**Mutribah**	**4.54**	**289**	*e*P	**Pn**	**04 01 29.5**	**+0.9**
MIB				*e*S	**Sn**	**04 02 22.2**	**+0.8**
	comp=Z,28nm,0.5s						
IKLH	**Kolahrood**	**4.90**	**353**	*e*Pn	**Pn**	**04 01 32.5**	**-1.0**
IKLH				*e*		04 03 27.1	
	comp=Z,192nm,0.4s						
IKLH	**Kolahrood**	**4.90**	**353**	*e*Pn	**Pn**	**04 01 32.5**	**-1.0**
IVRN	**Varamin**	**6.55**	**356**	*e*Pn	**Pn**	**04 01 54.3**	**-1.9**
IVRN				*e*		04 01 58.0	
	comp=Z,132nm,0.3s						
IVRN	**Varamin**	**6.55**	**356**	*e*Pn	**Pn**	**04 01 54.3**	**-1.9**

ISCJB ***18*** *04:05:24.4±2.4, 10°.14S±0°.09×161°.5E±0°.2, h108km±15km, mb4.3/13, Error ellipse: s-maj=32.4km s-min=14.6km az=9.3*
NEIC ***18*** *04:05:24.0±2.8, 10°.11S×161°.62E, h94km±20km, mb4.3/3, Error ellipse: s-maj=30.3km s-min=13.8km az=102.0*
IDC ***18*** *04:05:25.7±1.6, 10°.18S×161°.42E, h104km±10km, mb4.1/11, mb1 4.2/11, mb1mx4.0/21, mbtmp4.1/11, MS3.4/3, Ms1 3.4/3, ms1mx3.0/33, Error ellipse: s-maj=22.7km s-min=11.6km az=66.0*
ISC 18 04:05:25.1±2.6, 10°.14S±0°.09×161°.5E±0°.2, h98km±17km, h106km±1.9km:pP-P, n36, σ0§85/35, mb4.3/13, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.68**	**295**	P	**Pn**	**04 05 53.0**	**-0.4**
	190nm,0.3s,baz=168,slow=5.2,SNR=26						
HNR				S	**Sn**	**04 06 15.1**	**+0.1**
	1μm,0.3s,baz=182,slow=18,SNR=33						
HNR	**Honiara**	**1.68**	**295**	*e*Pn	**Pn**	**04 05 52.8**	**-0.6**
HNR				*e*S	**Sn**	**04 06 14.8**	**-0.2**
PMG	**Port Moresby**	**14.14**	**272**	P	**Pn**	**04 08 47.8**	**+6.8**
	0.7nm,0.3s,baz=64,slow=7.8,SNR=5.6						
PMG	**Port Moresby**	**14.14**	**272**	P	**Pn**	**04 08 47.8**	**+6.8**
CTA	**Charters Tower**	**17.71**	**234**	P	**Pn**	**04 09 27.3**	**+1.8**
	1.8nm,0.3s,baz=56,slow=12,SNR=15						
CTA				LR	LR	04 15 04.0	
	comp=Z,66nm,19.6s,baz=234,slow=33						
CTA	**Charters Tower**	**17.71**	**234**	P	**Pn**	**04 09 27.3**	**+1.8**
CTAO	**Charters Tower**	**17.71**	**234**	*e*P	**Pn**	**04 09 27.4**	**+1.9**
	17nm,0.8s						
COEN	**Coen**	**18.31**	**256**	*e*P	**Pn**	**04 09 34.5**	**+1.8**
	291nm,1.0s						
WRAB	**Tennant Creek**	**27.92**	**246**	*e*P	**P**	**04 11 05.3**	**-0.9**
	5.8nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**27.92**	**246**	*e*P	**P**	**04 11 05.8**	**-0.4**
WRA	**Warramunga Arr**	**27.93**	**246**	P	**P**	**04 11 06.0**	**-0.4**
	5.0nm,0.6s,mb4.2,baz=76,slow=9.0,SNR=45						
WRA				pP	pP	04 11 29.3	+1.0
	2.1nm,0.6s,baz=76,slow=9.2,SNR=4.2						
WRA	**Warramunga Arr**	**27.93**	**246**	P	**P**	**04 11 06.0**	**-0.4**
WRA				pP	pP	04 11 29.3	+1.0
STKA	**Stephens Creek**	**28.41**	**217**	P	**P**	**04 11 10.1**	**-0.4**
	1.8nm,0.5s,mb3.9,baz=60,slow=14,SNR=8.3						
STKA				LR	LR	04 21 26.1	
	comp=Z,70nm,19.6s,baz=26,slow=34						
STKA	**Stephens Creek**	**28.41**	**217**	P	**P**	**04 11 10.1**	**-0.4**
ASAR	**Alice Springs**	**29.55**	**239**	P	**P**	**04 11 19.4**	**-1.2**
	3.2nm,0.9s,mb4.0,baz=68,slow=9.1,SNR=13						
ASAR				pP	pP	04 11 43.0	+0.3
	1.3nm,0.7s,baz=72,slow=9.8,SNR=3.6						
ASAR	**Alice Springs**	**29.55**	**239**	P	**P**	**04 11 19.4**	**-1.2**
ASAR				pP	pP	04 11 43.0	+0.3
FITZ	**Fitzroy Crossi**	**35.60**	**253**	P	**P**	**04 12 12.8**	**-0.7**
	3.8nm,0.6s,mb4.5,baz=99,slow=7.2,SNR=32						
FITZ				pP	pP	04 12 36.3	+0.3
	2.8nm,0.6s,baz=108,slow=6.2,SNR=3.5						
FITZ	**Fitzroy Crossi**	**35.60**	**253**	P	**P**	**04 12 12.8**	**-0.7**
FITZ				pP	pP	04 12 36.3	+0.3
NWAO	**Narrogin (SRO)**	**46.55**	**234**	LR	LR	04 34 16.8	
	comp=Z,106nm,20.3s,baz=84,slow=37						
JOW	**Kunigami**	**48.89**	**319**	P	**P**	**04 14 01.1**	**-0.1**
	23nm,0.8s,mb5.1,baz=148,slow=19,SNR=6.7						
JOW	**Kunigami**	**48.89**	**319**	P	**P**	**04 14 01.1**	**-0.1**
MJAR	**Matsushiro Arr**	**51.34**	**336**	P	**P**	**04 14 18.7**	**-0.9**
	1.1nm,0.5s,mb4.2,baz=165,slow=9.2,SNR=4.7						
MJAR	**Matsushiro Arr**	**51.34**	**336**	P	**P**	**04 14 18.7**	**-0.9**
KSRS	**Korea Array**	**56.84**	**328**	P	**P**	**04 14 59.6**	**+0.1**
	3.0nm,0.7s,mb4.4,baz=146,slow=6.7,SNR=6.0						
KSAR	**Wonju Array Be**	**56.85**	**328**	P	**P**	**04 14 59.6**	**0.0**
VNDA	**Vanda**	**67.36**	**180**	P	**P**	**04 16 09.6**	**+0.3**
	1.2nm,0.9s,mb3.7,baz=346,slow=5.9,SNR=4.9						
VNDA	**Vanda**	**67.36**	**180**	P	**P**	**04 16 09.6**	**+0.3**
ULN	**Ulaanbaatar**	**75.15**	**325**	*e*P	**P**	**04 16 57.8**	**+1.2**
	7.4nm,1.1s,mb4.3						
SONM	**Songino Array**	**75.50**	**325**	P	**P**	**04 16 60.0**	**+1.3**
	7.6nm,0.7s,mb4.5,baz=141,slow=5.6,SNR=39						
SONM	**Songino Array**	**75.50**	**325**	P	**P**	**04 16 60.0**	**+1.3**
QSPA	**South Pole Qui**	**79.86**	**180**	P	**P**	**04 17 22.2**	**-0.1**
	3.7nm,0.7s,mb4.3,baz=39,slow=0.7,SNR=11						
QSPA	**South Pole Qui**	**79.86**	**180**	P	**P**	**04 17 22.2**	**-0.1**
MKAR	**Makanchi Array**	**90.02**	**318**	P	**P**	**04 18 13.4**	**-0.4**
	1.4nm,0.7s,mb4.2,baz=97,slow=5.8,SNR=8.1						
MKAR	**Makanchi Array**	**90.02**	**318**	P	**P**	**04 18 13.4**	**-0.4**
ARCES	**ARCESS Array B**	**114.38**	**344**	PKP	PKiKP	04 23 51.5	-1.4
	1.4nm,0.8s,baz=78,slow=1.4,SNR=10						
ARCES	**ARCESS Array B**	**114.38**	**344**	PKP	PKiKP	04 23 51.5	-1.4

IDC 18 04:09:58.3±2.5, 22°.19S×148°.09E, h0km, mb1 3.7/4, mb1mx3.6/15, mbtmp3.6/4, ML3.4/4, Error ellipse: s-maj=35.6km s-min=19.8km az=63.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.70**	**320**	Pn	Pn	04 10 43.7	+0.6
	5.9nm,0.3s,baz=114,slow=15,SNR=44						
CTA				Pg	Pg	04 10 48.2	-2.0
	30nm,0.3s,baz=142,slow=18,SNR=44						
CTA				Lg		04 11 23.8	
	47nm,0.3s,baz=78,slow=18,SNR=17						
STKA	**Stephens Creek**	**11.25**	**210**	Pn	Pn	04 12 39.5	-0.8
	0.2nm,0.3s,baz=36,slow=14,SNR=4.1						
WRA	**Warramunga Arr**	**13.03**	**277**	Pn	Pn	04 13 03.7	-1.1
	0.2nm,0.3s,baz=94,slow=12,SNR=3.6						
WRA				Lg		04 16 51.8	
	0.2nm,0.3s,baz=53,slow=35,SNR=6.1						
ASAR	**Alice Springs**	**13.15**	**261**	Pn	Pn	04 13 06.3	-0.2
	0.1nm,0.3s,baz=82,slow=15,SNR=2.3						
ASAR				Lg		04 16 59.1	
	0.1nm,0.3s,baz=81,slow=30,SNR=4.9						
TORD	**Torodi Ar. Bea**	**146.80**	**260**	PKPbc	PKPbc	04 29 42.6	-0.7
	0.3nm,0.5s,baz=110,slow=3.9,SNR=6.8						

BJI ***18*** *04:10:31.2, 79°.80N×115°.80W, h9km, mB5.4/26, mb5.4/46, Ms5.3/32, Ms7 4.9/29*
ISCJB ***18*** *04:10:33.6±0.1, 79°.79N±0°.01×115°.8W±0°.1, h10km, mb5.1/258, MS4.7/21, Error ellipse: s-maj=3.0km s-min=1.5km az=9.1*
MOS ***18*** *04:10:33.3±0.9, 79°.69N×115°.78W, h10km, mb5.3/71, Error ellipse: s-maj=30.7km s-min=3.7km az=87.6*
IDC ***18*** *04:10:33.3±0.3, 79°.72N×115°.92W, h0km, mb4.8/35, mb1 4.9/38, mb1mx4.9/41, mbtmp4.8/38, ML4.9/3, MS4.4/11, Ms1 4.4/11, ms1mx4.0/60, Error ellipse: s-maj=12.1km s-min=8.8km az=118.0*
OTT ***18*** *04:10:34.4±1.1, 79°.48N×115°.48W, h18km, mb5.6/24, Arctic Ocean. Aftershock. 240km west from Isachsen, Nu*
NEIC ***18*** *04:10:35.2±0.1, 79°.77N×115°.87W, h10km, mb5.2/127, ML5.5(OTT), Error ellipse: s-maj=3.8km s-min=2.4km az=119.0*
DJA ***18*** *04:10:36, 79°.91N×115°.46W, h10km, mb5.6/8*
GCMT ***18*** *04:10:36.1±0.2, 79°.57N×116°.36W, h18km, MW5.1, Moment Tensor Solution. s30,c35; s90,c144; Moment tensor: Scale 10^{16}Nm; M_{rr}5.94±.31; $M_{\theta\theta}$-2.51±.17; $M_{\phi\phi}$-3.43±.20; $M_{r\theta}$1.89±.38; $M_{\theta\phi}$-2.65±.10; $M_{\phi r}$-0.03±.40; Best double couple: M_o6.10000×10^{16} NP1:ϕ_s208.00000°, δ40.00000°, λ71.00000°. NP2:ϕ_s53.00000°, δ52.00000°, λ105.00000°. Principal axes: T 6.3800, Plg76.0000°, Azm16.0000°; N -0.6000, Plg12.0000°, Azm223.0000°; P -5.7900, Plg6.0000°, Azm132.0000°; Data Used: IU G II CN IC.*
ISC 18 04:10:35.5±0.1, 79°.78N±0°.01×115°.8W±0°.1, h10km, (h19km±2.0km:pP-P), n927, σ0§69/939, mb5.1/258, MS4.7/21, 209C-144D, Arctic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUNU	**Eureka**	**5.14**	**72**	Pn	**Pn**	**04 11 50.5**	**-1.8**
EUNU				Sn	**Sn**	**04 12 43.0**	**-8.5**
EUNU	**Eureka**	**5.14**	**72**	PN	**Pn**	**04 11 50.5**	**-1.8**
EUNU				mb		04 11 51.9	
	comp=Z,88nm,0.3s						
EUNU				SN	**Sn**	**04 12 43.0**	**-8.5**
EUNU				Trac		04 12 49.6	
	comp=Z,862nm,1.2s						
RES	**Resolute Bay**	**6.84**	**127**	Pn	**Pn**	**04 12 10.1**	**-5.6**
	48nm,0.3s,baz=332,slow=13,SNR=12						
RES				Sn	**Sn**	**04 13 21.7**	**-12**
	40nm,0.3s,baz=64,slow=23,SNR=5.1						
RES	**Resolute Bay**	**6.84**	**127**	*e*Pn	**Pn**	**04 12 10.8**	**-4.9**
RES				Sn	**Sn**	**04 13 21.3**	**-12**
RES	**Resolute Bay**	**6.84**	**127**	*e*P	**Pn**	**04 12 10.8**	**-4.9**
RES	**Resolute Bay**	**6.84**	**127**	PN	**Pn**	**04 12 10.6**	**-5.1**
RES				mb		04 12 12.2	
	comp=Z,138nm,0.1s						
RES				SN	**Sn**	**04 13 21.3**	**-12**
RES				Trac		04 13 24.8	
	comp=Z,213nm,0.4s						
ALE	**Alert**	**8.37**	**46**	Pn	**Pn**	**04 12 36.0**	**-0.6**
	256nm,0.7s,SNR=6.6						
CB31	**Cambridge Bay**	**11.05**	**160**	PN	**Pn**	**04 13 05.8**	**-7.5**
CB31				mb		04 13 08.3	
	comp=Z,236nm,0.2s						
CB31				SN	**Sn**	**04 14 58.6**	**-18**
CB31				Trac		04 15 03.9	
	comp=Z,260nm,0.4s						
INK	**Inuvik**	**12.40**	**212**	Pn	**Pn**	**04 13 26.3**	**-5.4**
	2.6nm,0.3s,baz=27,slow=16,SNR=32						
INK				Sn	**Sn**	**04 15 34.1**	**-16**
	6.8nm,0.3s,baz=78,slow=30,SNR=8.0						
INK	**Inuvik**	**12.40**	**212**	*e*Pn	**Pn**	**04 13 26.2**	**-5.5**
INK				*e*S	**Sn**	**04 15 33.2**	**-17**
INK	**Inuvik**	**12.40**	**212**	*e*P	**Pn**	**04 13 26.2**	**-5.6**
INK	**Inuvik**	**12.40**	**212**	PN	**Pn**	**04 13 25.5**	**-6.3**
INK				mb		04 13 42.2	
	comp=Z,14nm,0.3s						
INK				SN	**Sn**	**04 15 30.6**	**-19**
INK				Trac		04 15 36.3	
	comp=Z,135nm,0.8s						
KUGN	**Kugaaruk Camp,**	**13.50**	**136**	Pn	**Pn**	**04 13 37.6**	**-9.2**
KUGN				Sn	**Sn**	**04 16 00.7**	**-16**
KUGN	**Kugaaruk Camp,**	**13.50**	**136**	PN	**Pn**	**04 13 37.6**	**-9.1**
KUGN				mb		04 13 42.6	
	comp=Z,63nm,0.6s						
KUGN				SN	**Sn**	**04 16 00.7**	**-16**
KUGN				Trac		04 16 44.9	
	comp=Z,199nm,1.4s						
JERN	**Jeri Cho Mine,**	**13.88**	**173**	PN	**Pn**	**04 13 44.5**	**-7.4**
JERN				mb		04 13 45.3	
	comp=Z,74nm,0.6s						
JERN				SN	Sn	04 16 04.8	-21
JERN				Trac		04 16 11.2	
	comp=Z,291nm,0.7s						
STLN	**Stellar Camp,**	**13.90**	**141**	Pn	**Pn**	**04 13 42.9**	**-9.3**
STLN				Sn	**Sn**	**04 16 07.1**	**-19**
STLN	**Stellar Camp,**	**13.90**	**141**	PN	**Pn**	**04 13 42.9**	**-9.3**
STLN				mb		04 13 44.4	
	comp=Z,413nm,0.8s						
STLN				SN	**Sn**	**04 16 07.1**	**-19**
SRLN	**Sarcpa Lake, N**	**13.98**	**125**	Pn	**Pn**	**04 13 45.3**	**-8.0**
SRLN				Sn	**Sn**	**04 16 10.3**	**-18**
SRLN	**Sarcpa Lake, N**	**13.98**	**125**	PN	**Pn**	**04 13 45.3**	**-8.0**
SRLN				mb		04 13 47.2	
	comp=Z,337nm,1.2s						
SRLN				SN	**Sn**	**04 16 10.3**	**-18**
SRLN				Trac		04 16 14.9	
	comp=Z,340nm,1.0s						
BULN	**Bullion Camp,**	**14.76**	**142**	Pn	**Pn**	**04 13 54.4**	**-10**
BULN				Sn	Sn	04 16 26.2	-21
BULN	**Bullion Camp,**	**14.76**	**142**	PN	**Pn**	**04 13 54.4**	**-10**
BULN				mb		04 13 59.0	
	comp=Z,124nm,0.6s						
BULN				SN	Sn	04 16 26.2	-21
BULN				Trac		04 16 29.7	
	comp=Z,84nm,0.7s						
QILN	**Qililugaq Expl**	**15.34**	**132**	Pn	**Pn**	**04 14 02.8**	**-8.8**
QILN				Sn	Sn	04 16 39.4	-22
QILN	**Qililugaq Expl**	**15.34**	**132**	PN	**Pn**	**04 14 02.8**	**-8.8**
QILN				mb		04 14 06.6	
	comp=Z,171nm,0.8s						
QILN				SN	Sn	04 16 39.4	-22
QILN				Trac		04 16 46.6	
	comp=Z,292nm,1.9s						
CTLN	**Castor Lake**	**15.43**	**180**	Pn	**Pn**	**04 14 04.6**	**-8.2**
CTLN				Sn	Sn	04 16 41.2	-22
CTLN	**Castor Lake**	**15.43**	**180**	PN	**Pn**	**04 14 04.6**	**-8.2**
CTLN				mb		04 14 06.2	
	comp=Z,56nm,0.7s						
CTLN				SN	Sn	04 16 41.2	-22
CTLN				Trac		04 16 53.7	
	comp=Z,130nm,0.9s						
COLD	**Coldfoot**	**15.48**	**235**	*e*Pn	**Pn**	**04 14 10.2**	**-3.3**
	50nm,0.8s						
COLD				*e*S	**Sn**	**04 16 49.9**	**-15**
ILKN	**Indian Lake**	**15.64**	**179**	Pn	**Pn**	**04 14 06.7**	**-8.8**
ILKN				Sn	Sn	04 16 46.8

EGAK Eagle 16.62 220 *e*Pn **Pn** 04 14 23.4 -4.8
84nm,1.0s
EGAK *e*S **Sn** 04 17 25.8 -6.6
COKN Cook Lake 16.72 169 PN **Pn** 04 14 20.9 -8.4
COKN mb 04 14 28.9
comp=Z,338nm,0.9s
COKN SN **Sn** 04 17 14.5 -20
DAWY Dawson 17.12 217 *e*Pn **Pn** 04 14 28.9 -5.5
DAWY *e*S **Sn** 04 17 28.6 -16
DAWY Dawson 17.12 217 PN **Pn** 04 14 27.8 -6.6
DAWY mb 04 14 41.1
comp=Z,263nm,1.4s
DAWY SN **Sn** 04 17 25.2 -19
DAWY Trac 04 17 35.1
comp=Z,108nm,0.9s
YKW3 Yellowknife Ar 17.31 178 Pn **Pn** 04 14 29.3 -7.5
YKW3 Sn Sn 04 17 24.3 -25
YKW3 Yellowknife Ar 17.31 178 PN **Pn** 04 14 29.3 -7.5
YKW3 mb 04 14 36.9
comp=Z,40nm,0.4s
YKW3 SN Sn 04 17 24.3 -25
YKW3 Trac 04 17 41.8
comp=Z,50nm,0.6s
ILAR Eielson Array 17.34 228 Pn **Pn** 04 14 34.7 -2.4
4.2nm,0.3s,baz=9.6,slow=7.3,SNR=134
ILAR Sn **Sn** 04 17 32.5 -17
1.2nm,0.3s,baz=14,slow=22,SNR=6.2
ILAR Eielson Array 17.34 228 Pn **Pn** 04 14 34.7 -2.4
ILAR Sn **Sn** 04 17 32.5 -17
ILAR Eielson Array 17.34 228 P **Pn** 04 14 34.7 -2.5
COLA College 17.37 229 *e*Pn **Pn** 04 14 35.8 -1.7
COLA *e*S **Sn** 04 17 38.4 -12
COLA College 17.37 229 *e*P **Pn** 04 14 35.8 -1.7
YKA Yellowknife Ar 17.38 178 Pn **Pn** 04 14 28.6 -9.0
4.0nm,0.3s,baz=323,slow=14,SNR=47
YKA Sn Sn 04 17 26.2 -25
4.9nm,0.3s,baz=359,slow=22,SNR=7.0
YKA LR LR 04 22 01.6
comp=Z,196nm,19.0s,baz=315,slow=40
YKA Yellowknife Ar 17.38 178 Pn **Pn** 04 14 28.6 -9.1
YKA Sn Sn 04 17 26.1 -25
YKA LR LR 04 22 01.6
YKA Yellowknife Ar 17.38 178 P **Pn** 04 14 28.6 -9.0
WHFN White Fish Lak 17.49 166 PN **Pn** 04 14 31.1 -7.9
WHFN mb 04 14 39.8
comp=Z,208nm,1.2s
WHFN SN Sn 04 17 30.6 -23
DAG Danmarks Havn 17.76 48 *i* P **Pn** 04 14 41.8 -0.6
DAG pmax pmax
comp=Z,12nm,1.0s
DAG Danmarks Havn 17.76 48 *i* P **Pn** 04 14 41.8 -0.6
comp=Z,12nm,1.0s
SEDN First Sedna Si 18.03 142 PN **Pn** 04 14 37.4 -8.3
SEDN mb 04 14 40.4
comp=Z,172nm,0.8s
SEDN SN Sn 04 17 40.0 -26
DOT Dot Lake 18.06 223 *e*Pn **Pn** 04 14 45.0 -1.0
comp=Z,121nm,0.8s
JOSN Second Sedna S 18.08 143 PN **Pn** 04 14 37.2 -9.1
JOSN mb 04 14 41.1
comp=Z,194nm,0.9s
JOSN SN **Sn** 04 17 47.5 -20
JOSN Trac 04 17 58.5
comp=Z,488nm,2.0s
SUMG Summit 18.20 70 *e*Pn **Pn** 04 14 43.6 -4.1
SUMG Summit 18.20 70 *e*P **Pn** 04 14 43.7 -4.1
SUMG Summit 18.20 70 *i* P **Pn** 04 14 43.2 -4.6
comp=Z,146nm,1.0s
MCK McKinley 18.61 230 *e*Pn **Pn** 04 14 52.7 -0.1
comp=Z,63nm,0.8s
MCK *e*S **Sn** 04 18 02.7 -18
MCK McKinley 18.61 230 *e*P **Pn** 04 14 52.7 0.0
MCK pmax pmax
comp=Z,63nm,0.8s
MENT Mentasta 18.70 222 *e*P **Pn** 04 14 53.2 -0.7
PAX Paxson 18.89 224 *e*Pn **Pn** 04 14 55.7 -0.5
comp=Z,85nm,1.0s
PAX Paxson 18.89 224 *e*P **Pn** 04 14 55.7 -0.4
PAX pmax pmax
comp=Z,85nm,1.0s
TRF Thorofare Moun 19.06 231 *e*P **Pn** 04 14 58.3 0.0
comp=Z,229nm,1.3s
TRF *e*S **Sn** 04 18 21.4 -10
ARVN Arviat, NU 19.85 148 Pn **Pn** 04 14 59.4 -8.4
ARVN Sn Sn 04 18 25.1 -25
ARVN Arviat, NU 19.85 148 PN **Pn** 04 14 59.4 -8.4
ARVN SN Sn 04 18 25.1 -25
PPLA Purkeypile 19.86 233 *e*P **Pn** 04 15 06.4 -1.4
comp=Z,398nm,1.6s
PPLA *e*S **Sn** 04 18 36.7 -14
TNA Tin City 19.89 255 *e*P **Pn** 04 15 07.6 -0.5
comp=Z,167nm,1.1s
TNA *e*S **Sn** 04 18 38.0 -13
WHY Whitehorse 20.04 208 Pn **P** 04 15 06.9 -1.2
WHY Sn **S** 04 18 39.8 -13
WHY Whitehorse 20.04 208 PN **P** 04 15 06.9 -1.2
WHY mb 04 15 17.8
comp=Z,48nm,1.4s
WHY SN **S** 04 18 39.8 -13
WHY Trac 04 19 27.3
comp=Z,34nm,1.6s
SPITS Spitsbergen Ar 20.28 26 P **P** 04 15 11.7 +1.1
2.11nm,0.7s,baz=19,slow=8.2,SNR=4.0
SPITS Spitsbergen Ar 20.28 26 P **P** 04 15 11.7 +1.1
SPITS Spitsbergen Ar 20.28 26 P **P** 04 15 11.7 +1.0
SML Sawmill 20.38 227 *e*P **P** 04 15 11.4 -0.4
comp=Z,22nm,0.8s
SML Sawmill 20.38 227 *e*P **P** 04 15 11.4 -0.4
SML pmax pmax
comp=Z,22nm,0.8s
PMR Palmer 20.69 228 *e*P **P** 04 15 14.7 -0.5
comp=Z,62nm,1.4s
PMR Palmer 20.69 228 *e*P **P** 04 15 14.7 -0.5
PMR pmax pmax
comp=Z,62nm,1.4s
DIV Divide 20.71 223 *e*P **P** 04 15 14.6 -0.8
comp=Z,81nm,1.2s
BMRM Bremner River 20.72 222 *e*P **P** 04 15 15.2 -0.4
comp=Z,86nm,1.1s
FRB Frobisher Bay 20.75 113 P **P** 04 15 11.8 -4.0
comp=Z,43nm,0.9s,baz=342,slow=10,SNR=4.6
FRB LR LR 04 24 13.9
comp=Z,2µm,18.9s,MS4.5,baz=343,slow=40
FRB Frobisher Bay 20.75 113 P **P** 04 15 11.8 -4.0
FRB LR LR 04 24 13.9
FRB Frobisher Bay 20.75 113 P **P** 04 15 11.8 -4.0
FRB Frobisher Bay 20.75 113 PN **P** 04 15 10.8 -5.0
SFJD Kangerlussuaq 20.91 90 *i* P **P** 04 15 16.2 -1.3
SFJD pmax pmax
comp=Z,13nm,1.1s
SFJD Kangerlussuaq 20.91 90 *i* P **P** 04 15 16.2 -1.3
comp=Z,13nm,1.1s
FNBB Fort Nelson 21.11 190 Pn **P** 04 15 17.2 -2.5
FNBB Fort Nelson 21.11 190 PN **P** 04 15 17.2 -2.5
FNBB mb 04 15 21.4
comp=Z,208nm,1.1s
RC01 Rabbit Creek A 21.25 228 *e*P **P** 04 15 21.0 -0.3
comp=Z,144nm,0.8s,mb5.4
SKAG Skagway 21.26 208 *e*P **P** 04 15 21.8 +0.4
comp=Z,62nm,1.7s,mb4.7
PNL Peninsula 21.43 214 *e*P **P** 04 15 22.4 -0.8
comp=Z,30nm,1.0s,mb4.6
SLKM Skilak Lake 21.88 229 *e*P **P** 04 15 28.1 0.0
SLKM Skilak Lake 21.88 229 *e*P **P** 04 15 28.1 +0.1
DLBC Dease Lake 21.89 200 P **P** 04 15 28.0 -0.1
comp=Z,16nm,0.8s,mb4.5,baz=354,slow=12,SNR=10.0
DLBC LR LR 04 25 59.7
comp=Z,898nm,18.1s,MS4.2,baz=133,slow=42
DLBC Dease Lake 21.89 200 *e*P **P** 04 15 28.4 +0.2
DLBC Dease Lake 21.89 200 PN **P** 04 15 25.1 -3.0
DLBC mb 04 15 38.8
comp=Z,158nm,1.4s
AKVQ Akulivik 22.04 127 PN **P** 04 15 25.0 -4.7
SVW2 Sparrevohn 22.07 236 *e*P **P** 04 15 30.4 +0.4
comp=Z,132nm,1.2s,mb5.2
FCC Fort Churchill 22.15 149 *e*P **P** 04 15 26.7 -4.2
FCC Sn **S** 04 19 17.4 -17
FCC Fort Churchill 22.15 149 *e*P **P** 04 15 26.7 -4.2
FCC Fort Churchill 22.15 149 PN **P** 04 15 26.6 -4.2
FCC mb 04 15 31.3
comp=Z,1µm,2.5s
FCC SN **S** 04 19 17.4 -17
FCC Trac 04 19 47.9
comp=Z,130nm,1.7s
SEW Seward 22.17 227 *e*P **P** 04 15 31.1 0.0
comp=Z,238nm,1.2s,mb5.5
GAMB Gambell 22.18 257 *e*P **P** 04 15 32.6 +1.4
comp=Z,532nm,1.9s,mb5.7
BILL Bilibino 22.22 283 *e*P **P** 04 15 32.1 +0.5
comp=Z,179nm,1.2s,mb5.4
BILL *e* 04 19 35.9
BILL Bilibino 22.22 283 ⇑*i*P **P** 04 15 31.9 +0.3
BILL *i* 04 15 52.3
BILL *i* S **S** 04 19 24.3 -11
BILL pmax pmax
comp=Z,265nm,1.6s,mb5.4
BILL MLR MLR
comp=Z,700nm,14.0s,MS4.2
RSO Redoubt South 22.27 232 *e*P **P** 04 15 31.9 -0.2
comp=Z,98nm,0.8s,mb5.3
SCO Scoresbysund 22.69 60 *e*P **P** 04 15 39.3 +2.7
SCO pmax pmax
comp=Z,19nm,1.0s,mb4.5
KDAK Kodiak Island 24.84 230 P **P** 04 15 57.4 0.0
comp=Z,60nm,0.7s,mb5.2,baz=27,slow=7.5,SNR=60
KDAK Kodiak Island 24.84 230 *e*P **P** 04 15 58.4 +1.0
comp=Z,49nm,0.6s,mb5.2
KDAK Kodiak Island 24.84 230 *e*P **P** 04 15 58.4 +1.0
KDAK pmax pmax
comp=Z,49nm,0.6s,mb5.2
KDAK Kodiak Island 24.84 230 P **P** 04 15 57.2 -0.2
comp=Z,569nm,0.7s,mb6.2,SNR=12
OHAK Old Harbor 25.48 230 *e*P **P** 04 16 03.3 +0.1
comp=Z,199nm,1.4s,mb5.5
FFC Flin Flon 25.57 161 Pn **P** 04 16 08.3 +4.3
FFC Sn **S** 04 20 33.6 +2.2
FFC Flin Flon 25.57 161 P **P** 04 16 08.4 +4.3
FFC 04 20 33.6
FFC Flin Flon 25.57 161 PN **P** 04 16 01.8 -2.3
FFC mb 04 16 12.7
comp=Z,51nm,0.7s
FFC SN **S** 04 20 33.6 +2.2
FFC Trac 04 21 12.0
comp=Z,33nm,0.8s
BBB Bella Bella 28.02 196 LR LR 04 29 07.6
comp=Z,1µm,18.3s,MS4.5,baz=8.0,slow=40
BORG Borgarnes 28.02 66 LR LR 04 28 48.5
comp=Z,1µm,18.5s,MS4.5,baz=342,slow=39
KEV Kevo 29.21 26 *e*P **P** 04 16 36.0 -0.7
comp=Z,5.0nm,0.6s,mb4.4
KEV Kevo 29.21 26 *e*P **P** 04 16 36.0 -0.6
KEV pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
KEV Kevo 29.21 26 *e*p **P** 04 16 34.3 -2.3
comp=Z,13nm,0.7s,mb4.8
SEY Seymchan 29.27 291 ‖*i*P **P** 04 16 38.3 +1.2
ARCES ARCESS Array B 29.31 27 P **P** 04 16 36.3 -1.2
comp=Z,9.1nm,0.7s,mb4.6,baz=350,slow=6.2,SNR=16
ARCES PcP PcP 04 19 42.9 -0.5
comp=Z,7.0nm,0.7s,baz=2.9,slow=2.4,SNR=13
ARCES LR LR 04 27 51.9
comp=Z,610nm,18.8s,MS4.2,baz=163,slow=35
ARCES ARCESS Array B 29.31 27 P **P** 04 16 36.3 -1.2
ARCES PcP PcP 04 19 42.9 -0.5
ARCES LR LR 04 27 51.9
ARCES ARCESS Array B 29.31 27 P **P** 04 16 36.3 -1.2
ARCES 04 19 42.9
SCHQ Schefferville 29.50 118 LR LR 04 28 07.1
comp=Z,1µm,21.6s,MS4.5,baz=266,slow=36
ULM Lac du Bonnet 30.44 154 P **P** 04 16 45.3 -2.3
comp=Z,22nm,1.0s,mb4.8,baz=34,slow=7.0,SNR=4.3
ULM LR LR 04 29 50.0
comp=Z,2µm,20.1s,MS4.7,baz=209,slow=38
ULM Lac du Bonnet 30.44 154 P **P** 04 16 45.3 -2.3
ULM LR LR 04 29 50.0
ULM Lac du Bonnet 30.44 154 P **P** 04 16 45.3 -2.3
A19A Klindworth Far 31.07 171 ⇑P **P** 04 16 53.0 -0.2
baz=31
PGC Sidney 31.36 190 *e*P **P** 04 16 54.5 -1.3
comp=Z,1.0nm,0.8s,mb3.7
LVZ Lovozero 31.58 21 *e*P **P** 04 16 57.5 0.0
comp=Z,53nm,0.8s,mb5.4
LVZ Lovozero 31.58 21 *c i*P **P** 04 16 57.3 -0.2
LVZ pmax pmax
comp=Z,110nm,1.7s,mb5.4
B21A Ellsworth Farm 31.63 169 ⇓P **P** 04 16 57.1 -1.0
baz=32
APA Apatity 31.83 22 ⇑*i*P **P** 04 16 59.8 +0.1
APA MLR MLR
comp=Z,1µm,15.0s,MS4.6
C11A Tepee Creek (N 32.06 181 ⇓P **P** 04 17 02.1 +0.1
baz=32
C09A Chrisman Ranch 32.11 183 ⇑P **P** 04 17 02.5 +0.2
baz=32
C15A Salmond Ranch, 32.15 176 ⇓P **P** 04 17 02.3 -0.4
baz=32
C13A Hot Springs 32.22 178 ⇓P **P** 04 17 03.6 +0.3
baz=32
C21A Desert Coulee 32.22 169 ⇑P **P** 04 17 02.8 -0.5
baz=32
C19A Slack Wire Ran 32.26 171 ⇑P **P** 04 17 03.5 -0.1
baz=32
C17A Wharram Farm, 32.32 174 ⇑P **P** 04 17 03.8 -0.4
baz=32
C23A Lambert 32.32 167 ⇓P **P** 04 17 04.0 -0.2
baz=32
NLWA Nelton Lookou 32.64 190 *e*P **P** 04 17 06.4 -0.6
comp=Z,29nm,1.1s,mb5.1
D18A Linhart Farms, 32.78 172 ⇑P **P** 04 17 07.8 -0.4
baz=33
D14A Greenough 32.83 177 ⇑P **P** 04 17 08.9 +0.2
baz=33
D20A Manuel Ranch, 32.93 170 ⇑P **P** 04 17 09.8 +0.3
baz=33
LON Longmire 33.22 188 *e*P **P** 04 17 11.2 -0.9
comp=Z,19nm,0.8s,mb5.1
LON Longmire 33.22 188 *e*P **P** 04 17 11.2 -0.9
LON pmax pmax
comp=Z,19nm,0.8s,mb5.1
LAO LASA Array 33.39 168 ⇓P **P** 04 17 13.6 +0.1
baz=33
E09A Wood Farm, Sta 33.40 183 ⇑P **P** 04 17 13.7 +0.1
baz=33
E13A Victor 33.46 178 ⇓P **P** 04 17 14.3 +0.1
baz=33
E03A Lebam 33.47 190 ⇓P **P** 04 17 14.3 0.0
baz=33
E12A Beaver Dam Sad 33.49 180 ⇑P **P** 04 17 13.8 -0.6
baz=33,SNR=6.8
E17A Martinsdale 33.49 174 ⇑P **P** 04 17 14.0 -0.4
baz=33
E15A Deer Lodge 33.50 176 ⇑P **P** 04 17 14.5 0.0
baz=33
YAK Yakutsk 33.62 309 P **P** 04 17 15.1 -0.2
YAK Yakutsk 33.62 309 *e*P **P** 04 17 14.7 -0.7
YAK pmax pmax
comp=Z,19nm,0.6s,mb5.2
E22A Miles City 33.65 168 ⇑P **P** 04 17 15.9 +0.1
baz=34
F18A Big Timber 34.07 172 ⇓P **P** 04 17 19.3 -0.2
baz=34
F15A Butte 34.08 176 ⇑P **P** 04 17 19.0 -0.6
baz=34
F13A Darby 34.12 178 ⇑P **P** 04 17 19.7 -0.1
baz=34
F19A Roth Farm, Mol 34.14 171 ⇑P **P** 04 17 19.4 -0.7
baz=34,SNR=5.8
F12A Elk City 34.15 179 ⇓P **P** 04 17 19.9 -0.3
baz=34
F16A Kennard Place, 34.15 175 ⇑P **P** 04 17 19.9 -0.3
baz=34
F20A Billings 34.22 170 ⇓P **P** 04 17 20.3 -0.4
baz=34
BOZ Bozeman (W) 34.29 175 ⇓P **P** 04 17 21.6 +0.2
baz=34
G18A Lazy EL Ranch, 34.66 172 ⇓P **P** 04 17 25.3 +0.7
baz=34
G14A Jackson 34.67 177 ⇑P **P** 04 17 24.4 -0.3
baz=34,SNR=5.3
G16A Moss Hill, Enn 34.70 175 ⇓P **P** 04 17 25.3 +0.3
baz=35
G06A Carlson Farm, 34.71 186 ⇓P **P** 04 17 25.2 +0.2
baz=35
G13A Cobalt 34.81 178 ⇑P **P** 04 17 25.9 0.0
baz=35
H16A Russell Place, 35.24 174 ⇓P **P** 04 17 29.8 +0.2
baz=35,SNR=6.8
H04A Detroit Lake 35.30 188 ⇑P **P** 04 17 30.9 +0.9
baz=35
H14A Leadore 35.30 177 ⇑P **P** 04 17 30.5 +0.5
baz=35
H18A Shoshone NF, C 35.30 172 ⇑P **P** 04 17 30.7 +0.6
baz=35
H15A Lima 35.30 176 ⇓P **P** 04 17 30.2 +0.1
baz=35
H19A Powell 35.32 172 ⇓P **P** 04 17 30.0 -0.3
baz=35
H13A Challis 35.34 178 ⇓P **P** 04 17 29.9 -0.6
baz=35
H12A Diamond D Ranc 35.35 179 ⇓P **P** 04 17 30.7 +0.1
baz=35
LKWY Lake 35.39 173 *e*P **P** 04 17 32.1 +1.2
comp=Z,42nm,1.0s,mb5.3
LKWY Lake 35.39 173 *e*P **P** 04 17 32.1 +1.2
LKWY pmax pmax
comp=Z,42nm,1.0s,mb5.3
H17A Grant Village 35.56 174 ⇑P **P** 04 17 32.3 0.0
baz=35
I07A Izee 35.84 185 ⇑P **P** 04 17 34.8 0.0
baz=36
FLWY Flagg Ranch 35.87 174 *e*P **P** 04 17 36.5 +1.5
comp=Z,111nm,1.1s,mb5.7
I15A Monteview 35.92 176 ⇓P **P** 04 17 35.2 -0.3
baz=36
I14A Mackay 35.98 177 ⇓P **P** 04 17 36.2 +0.2
baz=36,SNR=8.6
I13A Wildhorse Cree 35.99 178 ⇓P **P** 04 17 36.4 +0.3
baz=36,SNR=11
I17A Pilgrim Ck. 36.03 174 ⇓P **P** 04 17 37.6 +1.2
baz=36,SNR=9.5
RSSD Black Hills 36.05 166 *e*P **P** 04 17 36.0 -0.5
comp=Z,55nm,1.1s,mb5.4
RSSD Black Hills 36.05 166 *e*P **P** 04 17 36.0 -0.5
RSSD pmax pmax
comp=Z,55nm,1.1s,mb5.4
IMW Indian Meadow 36.05 174 *e*P **P** 04 17 37.9 +1.4
comp=Z,74nm,1.1s,mb5.5
I16A Newdale 36.06 175 ⇓P **P** 04 17 37.5 +0.8
baz=36,SNR=12
I20A Worland 36.06 171 ⇑P **P** 04 17 36.4 -0.3
baz=36
I22A 9 Mile Ranch, 36.17 169 ⇓P **P** 04 17 37.8 +0.2
baz=36
NB2 NORSAR Subarra 36.18 41 P **P** 04 17 37.1 -0.4
comp=Z,8.2nm,0.8s,mb4.7,baz=343,slow=8.6
NOA NORSAR Array B 36.18 41 P **P** 04 17 36.9 -0.6
comp=Z,4.8nm,0.7s,mb4.6,baz=345,slow=8.4,SNR=14
NOA PcP PcP 04 20 01.7 -0.8
comp=Z,5.8nm,0.9s,baz=357,slow=3.7,SNR=5.7
NOA NORSAR Array B 36.18 41 P **P** 04 17 36.9 -0.6
NOA PcP PcP 04 20 01.7 -0.8
NOA NORSAR Array B 36.18 41 P **P** 04 17 36.9 -0.6
NOA 04 20 01.7
I18A Diamond G Ranc 36.27 173 ⇑P **P** 04 17 38.9 +0.5
baz=36
JOF Joensuu 36.28 25 *e*P **P** 04 17 37.4 -0.9
JOF pmax pmax
comp=Z,19nm,0.7s,mb5.1
JOF Joensuu 36.28 25 *e*p **P** 04 17 37.4 -0.9
comp=Z,18nm,0.7s,mb5.1
LOHW Long Hollow 36.34 174 *e*P **P** 04 17 39.9 +0.8
comp=Z,43nm,1.2s,mb5.3
HLID Hailey 36.34 178 ⇓P **P** 04 17 40.3 +1.2
baz=36
HLID Hailey 36.34 178 *e*P **P** 04 17 39.5 +0.4
DCID1 Drake Creek 36.35 174 *e*P **P** 04 17 40.4 +1.3
comp=Z,48nm,1.2s,mb5.3
TPAW Teton Pass 36.46 174 *e*P **P** 04 17 41.1 +1.1
comp=Z,45nm,1.2s,mb5.3
MFID Camas Ranch 36.49 180 ⇑P **P** 04 17 40.8 +0.5
baz=36
SNOW Snow King Moun 36.49 174 *e*P **P** 04 17 41.2 +0.9
comp=Z,70nm,1.4s,mb5.4
J15A Blackfoot 36.52 176 ⇑P **P** 04 17 41.0 +0.5
baz=36,SNR=5.1
J08A Circle Bar Ran 36.56 183 ⇓P **P** 04 17 42.0 +1.1
baz=36,SNR=10
J17A Brown Place, J 36.59 174 ⇓P **P** 04 17 41.8 +0.7
baz=36,SNR=7.9
RRI2 Red Ridge 36.59 174 *e*P **P** 04 17 42.3 +1.1
comp=Z,69nm,1.4s,mb5.3
RRI2 *e*PP PP 04 19 04.9 +0.7
J22A Midwest 36.66 169 ⇑P **P** 04 17 41.4 -0.3
baz=36
J16A Bone 36.66 175 ⇑P **P** 04 17 42.2 +0.5
baz=36,SNR=5.1
J20A Shoshoni 36.66 171 ⇑P **P** 04 17 41.7 -0.1
baz=36,SNR=7.2
KAF Kangasniemi 36.67 29 *e*P **P** 04 17 40.7 -1.0
KAF pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
KAF Kangasniemi 36.67 29 *e*p **P** 04 17 40.7 -1.0
comp=Z,5.5nm,0.7s,mb4.5
J21A Lysite 36.69 170 ⇓P **P** 04 17 41.7 -0.3
baz=37
J18A Kendall Valley 36.75 173 ⇓P **P** 04 17 42.6 +0.1
baz=37,SNR=11
K16A Soda Springs 37.10 175 ⇑P **P** 04 17 46.0 +0.5
baz=37
K19A Absolon Red Bu 37.17 171 ⇑P **P** 04 17 45.7 -0.4
baz=37,SNR=6.6
K17A Gardner Place, 37.20 174 ⇑P **P** 04 17 46.0 -0.3
baz=37,SNR=5.9
BW06 Boulder Array 37.21 172 ⇑P **P** 04 17 46.1 -0.3
baz=37,SNR=5.9
PDAR Pinedale Array 37.21 172 P **P** 04 17 45.6 -0.8
comp=Z,8.5nm,0.6s,mb4.8,baz=27,slow=6.9,SNR=42
PDAR PcP PcP 04 20 05.0 -1.0
comp=Z,4.8nm,1.0s,baz=87,slow=1.9,SNR=3.4
PDAR LR LR 04 32 20.4
comp=Z,419nm,19.5s,MS4.2,baz=1.3,slow=35
PDAR Pinedale Array 37.21 172 P **P** 04 17 45.6 -0.8
PDAR PcP PcP 04 20 05.0 -1.0
PDAR LR LR 04 32 20.4
K05A Summer Lake 37.22 186 ⇓P **P** 04 17 46.7 +0.2
baz=37
K15A Arbon 37.24 176 ⇓P **P** 04 17 47.0 +0.3
baz=37,SNR=11
FINES FINESS Array B 37.31 29 P **P** 04 17 46.9 -0.3
comp=Z,36nm,0.7s,mb5.3,baz=354,slow=9.5,SNR=47
FINES PcP PcP 04 20 05.0 -0.9
comp=Z,10nm,0.7s,baz=349,slow=2.1,SNR=11
FINES LR LR 04 32 32.8
comp=Z,484nm,19.2s,MS4.3,baz=160,slow=35
FINES FINESS Array B 37.31 29 P **P** 04 17 46.9 -0.3
FINES PcP PcP 04 20 05.0 -0.9
FINES LR LR 04 32 32.8
FINES FINESS Array B 37.31 29 P **P** 04 17 46.9 -0.2
FINES 04 20 05.0
K18A Toltan Ranch, 37.33 173 ⇓P **P** 04 17 47.8 +0.3
baz=37,SNR=16
HFS Hagfors 37.35 40 P **P** 04 17 45.9 -1.5
comp=Z,9.2nm,0.7s,mb4.7,baz=352,slow=7.5,SNR=16
HFS PcP PcP 04 20 05.3 -0.7
comp=Z,13nm,0.8s,baz=90,slow=0.3,SNR=12
HFS Hagfors 37.35 40 P **P** 04 17 45.9 -1.5
HFS PcP PcP 04 20 05.3 -0.7
HFS Hagfors 37.35 40 P **P** 04 17 45.9 -1.6
HFS 04 20 05.3
K14A Jones Ranch, D 37.37 177 ⇓P **P** 04 17 48.4 +0.6
baz=37,SNR=12
HUMO Hull Mountain 37.39 189 *e*P **P** 04 17 47.7 -0.3
comp=Z,23nm,1.1s,mb4.9
HUMO *e*PcP PcP 04 20 05.9 -0.6
K22A Casper 37.41 169 ⇑P **P** 04 17 48.3 +0.1
baz=37
WVOR Wild Horse Val 37.48 183 *e*P **P** 04 17 49.2 +0.5
comp=Z,27nm,1.2s,mb5.0
WVOR Wild Horse Val 37.48 183 *e*P **P** 04 17 49.2 +0.5
WVOR pmax pmax
comp=Z,27nm,1.2s,mb5.0
SADO Sadowa 37.57 136 LR LR 04 33 51.1
comp=Z,988nm,18.0s,MS4.7,baz=150,slow=37
PET Petropavlovsk 37.58 279 *e*P **P** 04 17 48.9 -0.5
PETK Petropavlovsk- 37.66 280 P **P** 04 17 49.8 -0.4
comp=Z,14nm,0.8s,mb4.8,baz=83,slow=8.0,SNR=10
PETK Petropavlovsk- 37.66 280 P **P** 04 17 49.8 -0.4
PETK Petropavlovsk- 37.66 280 P **P** 04 17 49.8 -0.4
L17A Cokeville 37.85 174 ⇑P **P** 04 17 51.7 -0.2
baz=38,SNR=21
L14A Malta 37.88 177 ⇓P **P** 04 17 52.7 +0.6
baz=38,SNR=16
L19A Farson 37.88 172 ⇑P **P** 04 17 52.2 +0.1
baz=38
L15A Malad City 37.92 176 ⇓P **P** 04 17 52.2 -0.3
baz=38,SNR=9.5
L16A Fish Haven 37.92 175 ⇑P **P** 04 17 52.5 +0.1
baz=38,SNR=17
MOD Modoc 38.03 185 *e*P **P** 04 17 53.9 +0.4

comp=Z,18nm,0.9s,mb4.8
L18A Fontenelle, Gr 38.04 173 ⇓P P 04 17 53.2 -0.3
baz=38
L21A Rawlins 38.07 170 ⇓P P 04 17 53.1 -0.6
baz=38
HVU Hansel Valley 38.14 176 *e*P P 04 17 54.1 -0.2
comp=Z,17nm,0.8s,mb4.8
HVU Hansel Valley 38.14 176 *e*P P 04 17 54.1 -0.2
HVU pmax pmax
comp=Z,17nm,0.8s,mb4.8
YBH Yreka Blue Hor 38.26 188 *e*P P 04 17 54.4 -0.9
comp=Z,6.6nm,1.0s,mb4.3
YBH Yreka Blue Hor 38.26 188 *e*P P 04 17 54.4 -0.9
YBH pmax pmax
comp=Z,7.0nm,1.0s
M21A Separation Pea 38.43 170 ⇑P P 04 17 56.2 -0.6
baz=38,SNR=5.7
M15A Larsen Ranch, 38.46 176 ⇓P P 04 17 56.3 -0.7
baz=38,SNR=7.8
M17A Scullys Gap (B 38.48 174 ⇓P P 04 17 56.7 -0.4
baz=38,SNR=9.3
M19A Rock Springs 38.48 172 ⇓P P 04 17 56.7 -0.4
baz=38,SNR=6.0
M18A Lyman 38.53 173 ⇓P P 04 17 58.1 +0.5
baz=38
M16A Huntsville 38.62 175 ⇑P P 04 17 58.2 -0.2
baz=38,SNR=27
M25A Palm-Egli Farm 38.73 166 ⇓P P 04 17 58.7 -0.5
baz=39
KLMR Klimovskoe 38.88 19 *e*P P 04 17 55.3 -5.0
KLMR *e* 04 20 08.2
KLMR pmax pmax
comp=Z,116nm,1.6s,mb5.4
KLMR pmax pmax
comp=Z,304nm,5.5s
BGU Big Grassy Mou 38.99 177 *e*P P 04 18 01.6 +0.2
comp=Z,38nm,1.3s,mb5.0
N18A Larsen Ranch, 38.99 173 ⇓P P 04 18 01.2 -0.3
baz=39,SNR=8.3
N15A Stansbury Isla 39.03 176 ⇑P P 04 18 01.9 +0.1
baz=39
N16A Rees Ranch, Co 39.05 175 ⇑P P 04 18 02.2 +0.2
baz=39,SNR=11
BGNE Belgrade 39.07 159 ⇓P P 04 18 01.5 -0.7
baz=39
N19A John Jarvie Ra 39.09 172 ⇑P P 04 18 02.0 -0.3
baz=39
N20A Spence Gulch, 39.17 171 ⇓P P 04 18 03.5 +0.5
baz=39
N21A Black Mountain 39.27 170 ⇑P P 04 18 03.9 +0.1
baz=39
CLNS Chul'man 39.29 311 *e*P P 04 18 03.9 +0.1
CLNS pmax pmax
comp=Z,20nm,0.5s,mb5.1
CLNS pmax pmax
comp=N,15nm,0.5s
CLNS pmax pmax
comp=E,10.0nm,0.6s
N24A Carr 39.30 167 ⇓P P 04 18 04.5 +0.5
baz=39
OGNE Ogallala 39.31 163 ⇑P P 04 18 03.5 -0.7
baz=39
WDC Whiskeytown Da 39.40 188 *e*P P 04 18 03.7 -1.2
comp=E,21nm,1.1s,mb4.8
WDC Whiskeytown Da 39.40 188 *e*P P 04 18 03.7 -1.2
WDC pmax pmax
comp=Z,21nm,1.1s,mb4.8
AAM Ann Arbor 39.47 142 *e*P P 04 18 04.5 -1.0
comp=Z,68nm,1.0s,mb5.3
AAM Ann Arbor 39.47 142 *e*P P 04 18 04.5 -1.0
AAM pmax pmax
comp=Z,68nm,1.0s,mb5.3
BMN Battle Mountai 39.47 182 *e*P P 04 18 06.8 +1.4
comp=Z,16nm,1.0s,mb4.7
BMN Battle Mountai 39.47 182 *e*P P 04 18 06.9 +1.4
BMN pmax pmax
comp=Z,16nm,1.0s,mb4.7
DAU Daniels Canyon 39.52 175 *e*P P 04 18 07.5 +1.6
comp=Z,28nm,1.0s,mb4.9
DAU Daniels Canyon 39.52 175 *e*P P 04 18 07.6 +1.7
DAU pmax pmax
comp=Z,28nm,1.0s,mb5.0
O15A The Old Anders 39.64 176 ⇑P P 04 18 07.3 +0.5
baz=40,SNR=9.8
O19A Miners Draw (B 39.68 172 ⇓P P 04 18 07.1 -0.2
baz=40,SNR=5.4
O18A Roosevelt 39.70 173 ⇓P P 04 18 07.9 +0.5
baz=40
DUG Dugway 39.72 176 ⇑P P 04 18 07.5 0.0
baz=40,SNR=16
DUG Dugway 39.72 176 *e*P P 04 18 07.5 0.0
comp=Z,23nm,1.1s,mb4.8
DUG *e*PP PP 04 19 35.2 -3.3
DUG *e*PcP PcP 04 20 13.7 -0.1
DUG Dugway 39.72 176 *e*P P 04 18 07.5 -0.1
DUG *e* 04 20 13.7
DUG pmax pmax
comp=Z,23nm,1.1s,mb4.8
O16A Springville 39.73 175 ⇑P P 04 18 08.3 +0.7
baz=40
O17A Robinson Place 39.75 174 ⇑P P 04 18 07.8 0.0
baz=40,SNR=6.9
O21A Pagoda 39.81 170 ⇓P P 04 18 08.8 +0.5
baz=40
EKA Eskdalemuir Ar 39.81 55 P P 04 18 07.2 -1.0
comp=Z,19nm,0.9s,mb4.8,baz=342,slow=7.5,SNR=24
EKA Eskdalemuir Ar 39.81 55 P P 04 18 07.2 -1.0
EKA Eskdalemuir Ar 39.81 55 P P 04 18 07.2 -1.0
ESK Eskdalemuir 39.82 55 *e*P P 04 18 08.0 -0.2
comp=Z,22nm,0.9s,mb4.9
ESK Eskdalemuir 39.82 55 *e*P P 04 18 08.0 -0.3
ESK pmax pmax
comp=Z,22nm,0.9s,mb4.9
O20A White River Ci 39.87 171 ⇑P P 04 18 08.8 0.0
baz=40,SNR=6.5
O22A Kremmling 39.90 169 ⇑P P 04 18 09.1 +0.1
baz=40
MPU Maple Canyon 39.92 175 *e*P P 04 18 09.4 +0.2
comp=Z,45nm,1.0s,mb5.2
ISCO Idaho Springs 40.29 168 ⇓P P 04 18 11.7 -0.6
baz=40
P14A Drum Mountains 40.32 177 ⇑P P 04 18 12.9 +0.4
baz=40,SNR=18
P16A Fountain Green 40.32 175 ⇑P P 04 18 12.8 +0.2
baz=40,SNR=8.0
P18A Preston Nutter 40.33 173 ⇑P P 04 18 12.9 +0.3
baz=40
P19A Cripple Cowboy 40.35 172 ⇓P P 04 18 13.1 +0.3
baz=40
P22A Eagle 40.45 169 ⇑P P 04 18 13.8 +0.1
baz=40
P17A Butcher Ranch, 40.47 174 ⇓P P 04 18 13.6 -0.2
baz=40
P20A De Beque 40.50 171 ⇑P P 04 18 14.2 +0.1
baz=40
P21A Newcastle 40.50 170 ⇓P P 04 18 14.9 +0.9
baz=40
P24A Kohler Place, 40.60 167 ⇓P P 04 18 14.3 -0.6
baz=40
WCN Washoe City 40.62 185 ⇑P P 04 18 15.2 +0.1
baz=40,SNR=12
P23A Jefferson 40.71 168 ⇓P P 04 18 15.5 -0.2
baz=41
SOKR Solikamsk 40.83 6*c i*P P 04 18 16.6 +0.1
SOKR pmax pmax
comp=Z,20nm,0.8s,mb4.8
SRU San Rafael 40.84 174 ⇓P P 04 18 17.3 +0.5
baz=41
Q18A Rafter H Ranch 40.85 173 ⇑P P 04 18 17.1 +0.1
baz=41
SFIN Scholer Farm 41.01 146 ⇓P P 04 18 17.5 -0.7
baz=41
Q16A Castle Valley 41.02 174 ⇓P P 04 18 18.7 +0.4
baz=41,SNR=15
Q19A Hogan Spring (41.02 172 ⇑P P 04 18 18.5 +0.1
baz=41
Q20A Ridgley Place, 41.05 171 ⇑P P 04 18 18.3 -0.2
baz=41
Q22A Crested Butte, 41.18 169 ⇑P P 04 18 20.1 +0.5
baz=41
MSU Marysvale 41.41 176 *e*P P 04 18 22.1 +0.6
comp=Z,19nm,1.0s,mb4.7
MSU Marysvale 41.41 176 *e*P P 04 18 22.1 +0.6
MSU pmax pmax
comp=Z,19nm,1.0s,mb4.7
NVAR Mina Array Bea 41.48 183 P P 04 18 22.1 0.0
comp=Z,5.8nm,0.8s,mb4.2,baz=8.6,slow=4.9,SNR=22
NVAR PcP PcP 04 20 19.6 +0.1
comp=Z,2.3nm,0.6s,baz=349,slow=2.6,SNR=6.8
NVAR Mina Array Bea 41.48 183 P P 04 18 22.1 0.0
NVAR PcP PcP 04 20 19.6 +0.1
R17A Hanksville Air 41.53 174 ⇑P P 04 18 22.5 0.0
baz=41,SNR=5.5
R11A Troy Canyon, C 41.55 180 ⇑P P 04 18 22.4 -0.2
baz=41,SNR=15
CBKS Cedar Bluff 41.56 161 ⇑P P 04 18 21.7 -1.0
baz=41
CBKS Cedar Bluff 41.56 161 *e*P P 04 18 21.1 -1.7
comp=Z,53nm,1.2s,mb5.0
CBKS Cedar Bluff 41.56 161 *e*P P 04 18 21.1 -1.6
CBKS pmax pmax
comp=Z,53nm,1.2s,mb5.0
R18A Canyonlands Na 41.58 173 ⇑P P 04 18 22.4 -0.5
baz=42,SNR=17
R16A Teasdale 41.65 175 ⇓P P 04 18 23.6 +0.1
baz=42,SNR=12
R21A Cimarron 41.65 170 ⇓P P 04 18 23.8 +0.2
baz=42,SNR=9.0
R19A Curley Farm, L 41.68 172 ⇑P P 04 18 24.0 +0.2
baz=42
R15A Junction 41.71 176 ⇓P P 04 18 24.6 +0.6
baz=42,SNR=15
R13A O'Grain Ranch, 41.72 178 ⇓P P 04 18 24.6 +0.5
baz=42,SNR=17
R20A Redvale 41.81 171 ⇓P P 04 18 24.5 -0.3
baz=42,SNR=7.2
PV01 Paradox Valley 41.86 171 *e*P P 04 18 25.2 0.0
comp=Z,2μm,0.9s
PV01 *e* 04 20 02.3
R24A Sanders Place, 41.88 167 ⇓P P 04 18 24.7 -0.6
baz=42
ARUT Antelope Range 42.12 177 *e*P P 04 18 27.9 +0.6
comp=Z,23nm,0.9s,mb4.8
ARUT Antelope Range 42.12 177 *e*P P 04 18 27.9 +0.6
ARUT pmax pmax
comp=Z,23nm,0.9s,mb4.8
S20A Disappointment 42.17 171 ⇓P P 04 18 27.8 +0.1
baz=42,SNR=7.7
S16A Weppner Ranch, 42.21 175 ⇑P P 04 18 28.4 +0.4
baz=42,SNR=16
S19A Harvey Farm, M 42.23 172 ⇓P P 04 18 28.4 +0.1
baz=42,SNR=15
S18A Hurst Farm, Bl 42.27 173 ⇓P P 04 18 28.7 +0.1
baz=42,SNR=12
S22A 4UR Ranch, Cre 42.30 169 ⇓P P 04 18 29.0 +0.2
baz=42
S17A Black Ridge (B 42.31 174 ⇑P P 04 18 28.9 0.0
baz=42,SNR=14
SDCO Great Sand Dun 42.34 168 ⇑P P 04 18 29.7 +0.5
baz=42
S21A Coal Bank Pass 42.35 171 ⇓P P 04 18 29.5 +0.2
baz=42,SNR=6.5
S23A Nye Farm, Mont 42.37 168 ⇑P P 04 18 30.2 +0.9
baz=42
S24A Houchin Ranch, 42.46 167 ⇑P P 04 18 30.3 +0.1
baz=42
S25A Robets Cordova 42.47 167 ⇓P P 04 18 29.8 -0.4
baz=42,SNR=8.0
MVCO Mesa Verde 42.78 171 ⇓P P 04 18 33.3 +0.5
baz=43
T18A Mexican Hat 42.82 173 ⇑P P 04 18 32.8 -0.2
baz=43,SNR=17
GRAC Grevine Rang 42.90 182 ⇑P P 04 18 33.5 -0.2
baz=43,SNR=10
T17A Navajo Res., N 42.94 174 ⇑P P 04 18 33.8 -0.2
baz=43,SNR=23
T16A Glen Canyon Da 42.94 175 ⇑P P 04 18 33.5 -0.6
baz=43
IZAR Zarasai 42.96 31 *e*P P 04 18 34.0 0.0
IZAR AMB AMB 04 18 35.8
comp=Z,11nm,1.2s,mb4.4
T22A Edith 43.02 170 ⇑P P 04 18 34.6 -0.1
baz=43,SNR=6.6
T21A Navajo Lake 43.03 170 ⇑P P 04 18 35.3 +0.5
baz=43
T24A Torres, Weston 43.03 167 ⇓P P 04 18 34.5 -0.3
baz=43,SNR=5.2
T23A Casias Ranch, 43.03 168 ⇑P P 04 18 35.7 +0.9
baz=43
ISAL Salakas 43.12 31 *e*P P 04 18 35.2 0.0
ISAL AMB AMB 04 18 37.0
comp=Z,12nm,1.3s,mb4.5
T19A Beclabito 43.15 172 ⇑P P 04 18 35.6 -0.1
baz=43,SNR=21
U17A Shonto 43.34 174 ⇑P P 04 18 37.2 -0.1
baz=43,SNR=8.1
IIGN Ignalina 43.35 31 *e*P P 04 18 37.0 -0.1
IIGN AMB AMB 04 18 38.9
comp=Z,10nm,0.9s,mb4.5
FURC Furnace Creek, 43.42 181 ⇑P P 04 18 37.9 -0.1
baz=43,SNR=9.0
CWC Cottonwood Cre 43.46 183 ⇑P P 04 18 38.1 -0.2
baz=43
U15A North Rim 43.49 176 ⇑P P 04 18 38.2 -0.2
baz=43,SNR=13
U21A Nageezi 43.59 170 ⇓P P 04 18 39.4 +0.1
baz=44,SNR=8.0
U20A Newcomb 43.61 171 ⇑P P 04 18 39.9 +0.4
baz=44,SNR=6.0
SVE Sverdlovsk 43.63 3⇑*i*P P 04 18 40.4 +1.1
SVE *e* 04 20 25.7
SVE pmax pmax
comp=Z,36nm,1.5s,mb4.9
U19A Dine' College, 43.68 172 ⇑P P 04 18 40.3 +0.3
baz=44,SNR=12
U24A Moreno Valley 43.69 168 ⇑P P 04 18 40.2 +0.2
baz=44
U25A Circle Dot Ran 43.73 167 ⇓P P 04 18 41.7 +1.3
baz=44
U23A El Rito 43.73 169 ⇑P P 04 18 40.9 +0.5
baz=44,SNR=30
U26A Atchley Ranch, 43.76 166 ⇓P P 04 18 40.5 -0.2
baz=44
U16A Tuba City 43.79 174 ⇓P P 04 18 40.8 -0.1
baz=44,SNR=15
MPMC Manual Prospec 43.84 182 ⇑P P 04 18 41.6 +0.3
baz=44,SNR=37
MOS Moscow 43.86 21 *e*P P 04 18 39.9 -1.3
MOS *i* 04 18 48.1
MOS pmax pmax
comp=Z,79nm,0.9s,mb5.4
SHOC Shoshone 43.99 181 ⇑P P 04 18 42.7 +0.2
baz=44,SNR=16
ARU Arti 44.00 4 *e*P P 04 18 42.7 +0.3
comp=Z,65nm,1.4s,mb5.2
ARU Arti 44.00 4*d i*P P 04 18 42.5 +0.2
ARU *e* 04 20 26.5
ARU S S 04 25 15.9 +2.2
ARU SS SS 04 28 23.0 -6.8
ARU pmax pmax
comp=Z,67nm,1.7s,mb5.1
ARU Arti 44.00 4 P P 04 18 42.0 -0.3
comp=Z,168nm,1.0s,mb5.7,SNR=5.3
VES Vestal, Richgr 44.07 184 ⇓P P 04 18 43.4 +0.2
baz=44
V15A Kaibab Nationa 44.10 176 ⇑P P 04 18 43.1 -0.2
baz=44,SNR=18
V22A San Miguel Ran 44.12 170 ⇓P P 04 18 44.5 +0.9
baz=44
V20A Brimhall 44.19 171 ⇑P P 04 18 44.1 0.0
baz=44,SNR=8.5
V21A Milan 44.21 170 ⇑P P 04 18 44.4 +0.1
baz=44,SNR=5.9
ISA Isabella 44.24 183 ⇑P P 04 18 44.5 -0.1
baz=44,SNR=24
ISA Isabella 44.24 183 *e*P P 04 18 44.5 -0.1
comp=Z,32nm,1.3s,mb4.9
ISA *e* 04 20 26.5
ISA Isabella 44.24 183 *e*P P 04 18 44.5 0.0
ISA *e* 04 20 26.5
ISA pmax pmax
comp=Z,33nm,1.3s,mb4.9
V18A Ganado 44.24 173 ⇓P P 04 18 44.4 -0.1
baz=44,SNR=25
V25A Rancho No Teng 44.28 167 ⇑P P 04 18 45.0 +0.1
baz=44
V17A Tonalea, Kykot 44.31 174 ⇑P P 04 18 45.8 +0.7
baz=44,SNR=25
V23A Ortiz Mt. (NFS 44.31 169 ⇑P P 04 18 45.7 +0.6
baz=44,SNR=7.3
MNK Minsk 44.34 30 *e*P P 04 18 42.0 -3.1
MICGM Minsk 44.34 30 *e* P 04 18 42.0 -3.1
V26A Tequesquite Ra 44.36 166 ⇓P P 04 18 45.3 -0.1
baz=44,SNR=17
V24A Rampart Ranch, 44.37 168 ⇓P P 04 18 45.9 +0.4
baz=44,SNR=15
WUAZ Wupatki 44.41 175 ⇓P P 04 18 46.4 +0.5
baz=44,SNR=42
WUAZ Wupatki 44.41 175 *e*P P 04 18 46.0 +0.2
comp=Z,61nm,1.0s,mb5.3
OBN Obninsk 44.41 22 *e*P P 04 18 45.8 +0.1
comp=Z,180nm,1.4s,mb5.6
OBN *e* 04 20 28.5
OBN Obninsk 44.41 22*α i*P P 04 18 45.8 +0.2
OBN *i* pP 04 18 48.7 -0.1
OBN *i* 04 18 53.3
OBN *i* 04 20 28.6
OBN pmax pmax
comp=Z,172nm,1.7s,mb5.5
OBN MLR MLR
comp=Z,300nm,15.0s,MS4.3
LRMC Laurel Mountai 44.42 182 ⇑P P 04 18 46.4 +0.4
baz=44,SNR=14
TUQ Turquoise Moun 44.45 180 ⇓P P 04 18 47.2 +1.0
baz=44
GSC Goldstone 44.59 181 ⇓P P 04 18 48.0 +0.7
baz=44,SNR=20
GSC Goldstone 44.59 181 *e*P P 04 18 48.0 +0.7
comp=Z,47nm,1.2s,mb5.2
GSC *e* 04 20 29.2
GSC Goldstone 44.59 181 *e*P P 04 18 48.0 +0.7
GSC *e* 04 20 29.2
GSC pmax pmax
comp=Z,47nm,1.2s,mb5.2
SMMC Simmler 44.61 185 ⇑P P 04 18 47.3 -0.2
baz=44
TUL1 Tulsa 44.70 157 ⇓P P 04 18 46.5 -1.7
baz=45
W13A Hualapai Mount 44.80 178 ⇑P P 04 18 49.3 +0.3
baz=45,SNR=37
LDFC Landfair 44.81 179 *e*P P 04 18 49.6 +0.5
comp=Z,48nm,1.0s,mb5.3
W16A Flagstaff 44.83 175 ⇓P P 04 18 49.8 +0.6
baz=45,SNR=8.6
W18A Petrified Fore 44.84 173 ⇑P P 04 18 49.5 +0.2
baz=45
W19A Sanders 44.85 173 ⇑P P 04 18 49.3 -0.1
baz=45,SNR=12
W17A Winslow 44.86 174 ⇑P P 04 18 49.6 +0.2
baz=45,SNR=5.9
W20A Ramah 44.86 171 ⇑P P 04 18 49.5 0.0
baz=45,SNR=7.9
RUE Ruedersdorf 44.87 42 *e*P P 04 18 49.1 -0.2
comp=Z,18nm,0.3s,mb5.4
W24A Lazy 6 Ranch, 44.88 168 ⇓P P 04 18 49.7 +0.2
baz=45,SNR=8.1
W23A Werner Place, 44.90 169 ⇑P P 04 18 49.8 0.0
baz=45,SNR=11
W25A X Bar L Ranch, 44.91 167 ⇑P P 04 18 50.0 +0.2
baz=45
EDW2 Edwards Air Fo 45.02 183 ⇑P P 04 18 50.9 +0.2
baz=45,SNR=21
PKM Peak Mountain 45.02 185 ⇓P P 04 18 51.0 +0.3
baz=45,SNR=7.4
HEC Hector,Ludlow 45.06 181 ⇓P P 04 18 51.3 +0.2
baz=45,SNR=15
W26A Owens Ranch, T 45.06 166 ⇑P P 04 18 51.2 +0.1
baz=45,SNR=12
GMRC Granite Mounta 45.11 180 ⇑P P 04 18 51.2 -0.2
baz=45,SNR=8.0
W27A Bowe Ranch, En 45.12 165 ⇑P P 04 18 50.8 -0.7
baz=45,SNR=5.7
NVS Novosibirsk 45.18 345⇑*i*P P 04 18 51.1 -0.7
NVS *eS* S 04 25 47.6 +17
NVS pmax pmax
comp=N,28nm,1.5s
NVS pmax pmax
comp=Z,57nm,1.5s,mb5.2
NVS pmax pmax
comp=E,3.0nm,0.6s
NVS smax
comp=N,81nm,3.9s
NVS smax
comp=E,104nm,3.3s
X18A Snowflake 45.42 173 ⇑P P 04 18 54.2 +0.3
baz=45,SNR=22
X20A Quemado 45.44 171 ⇓P P 04 18 55.1 +1.0
baz=45
X16A Lo Mia Camp, P 45.51 175 ⇑P P 04 18 55.0 +0.4
baz=45,SNR=23
X27A F and S Farms, 45.53 165 ⇑P P 04 18 54.6 -0.2
baz=45
X19A St. Johns 45.54 172 ⇑P P 04 18 54.7 -0.2
baz=45,SNR=14
X21A Alamocita Cree 45.56 171 ⇓P P 04 18 55.4 +0.4
baz=45,SNR=7.9
PDMCI Parker Dam,Lak 45.59 178 ⇑P P 04 18 55.5 +0.2
baz=46,SNR=12
X17A Forest Lakes 45.60 174 ⇑P P 04 18 55.5 +0.2
baz=46,SNR=12
X26A CR and CF Fran 45.60 166 ⇓P P 04 18 55.1 -0.2
baz=46,SNR=6.0
LAZ Ladron 45.62 170 *e*P P 04 18 56.0 +0.5
comp=E,7.7nm,1.1s,mb4.5
BBRC Big Bear Solar 45.63 181 ⇓P P 04 18 55.9 +0.3
baz=46,SNR=8.7
BFSC Mount Baldy Ra 45.66 182 ⇑P P 04 18 56.0 +0.2
baz=46,SNR=18
WMOK Wichita Mounta 45.67 160 *e*P P 04 18 53.3 -2.6
comp=E,29nm,1.3s,mb5.0
WMOK Wichita Mounta 45.67 160 *e*P P 04 18 53.3 -2.6
WMOK pmax pmax
comp=Z,29nm,1.3s,mb5.0
MWC Mount Wilson 45.67 183 *e*P P 04 18 56.3 +0.4
comp=Z,38nm,1.0s,mb5.3
MWC Mount Wilson 45.67 183 *e*P P 04 18 56.3 +0.4
MWC pmax pmax
comp=Z,38nm,1.0s,mb5.3
KLR Kul'dur 45.71 302 *e*P P 04 18 52.2 -3.8
KLR pmax pmax
comp=Z,150nm,1.8s,mb5.6
PASC Pasadena Art C 45.73 183 *e*P P 04 18 56.6 +0.2
comp=Z,62nm,1.3s,mb5.4
IRM Iron Mountain 45.73 179 ⇑P P 04 18 56.7 +0.4
baz=46,SNR=11
LPM Los Pinos Moun 45.73 169 *e*P P 04 18 56.6 +0.2
comp=Z,17nm,1.1s,mb4.9
BLG Laguna Peak 45.80 184 ⇑P P 04 18 57.2 +0.3
baz=46
LENM Lemitar 45.86 170 *e*P P 04 18 58.0 +0.6
comp=Z,25nm,1.2s,mb5.0
LENM *e*PcP PcP 04 20 34.5 +0.1
BELC Belle Mtn. Jos 45.89 180 ⇑P P 04 18 58.1 +0.5
baz=46,SNR=38
BNM Barren Site 45.89 169 *e*P P 04 18 57.7 0.0
comp=Z,25nm,1.2s,mb5.0
BNM *e* 04 20 34.9
BSC Santa Cruz Isl 45.92 184 ⇓P P 04 18 58.5 +0.6
baz=46
CLL Collm 45.92 43 *i* P P 04 18 57.1 -0.6
CLL *e* 04 19 03.0
CLL *e* 04 20 34.0
CLL pmax pmax
comp=Z,23nm,1.3s,mb5.0
CLL pmax pmax
comp=Z,14nm,1.1s,mb4.8
CLL Collm 45.92 43 *i* P P 04 18 57.1 -0.6
comp=Z,23nm,1.3s,mb5.0
CLL *e*(sP) sP 04 19 03.0 +0.9
CLL *e*PcP PcP 04 20 34.0 -0.4
comp=Z,14nm,1.1s
CLL *e*PP PP 04 20 41.0 -3.9
Y15A Casa Rosa Ranc 45.95 176 ⇑P P 04 18 58.5 +0.3
baz=46,SNR=18
Y14A Wickenburg 45.96 177 ⇓P P 04 18 58.8 +0.6
baz=46,SNR=30
ZAA0 Zalesovo Array 45.99 343 *e*P P 04 18 57.5 -0.7
ZAA0 *e*PcP PcP 04 20 33.6 -0.9
ZALV Zalesovo Beam 45.99 343 P P 04 18 57.6 -0.6
comp=Z,8.3nm,0.7s,mb4.8,baz=359,slow=8.2,SNR=31
ZALV PcP PcP 04 20 33.8 -0.8
comp=Z,5.8nm,0.7s,baz=344,slow=3.0,SNR=7.9
ZALV Zalesovo Beam 45.99 343 P P 04 18 57.6 -0.6
ZALV PcP PcP 04 20 33.8 -0.8
ZALV Zalesovo Beam 45.99 343 P P 04 18 57.6 -0.6
ZALV 04 20 33.8
Y21A Point of Rocks 46.00 171 ⇓P P 04 18 58.9 +0.4
baz=46,SNR=17
BAIF Baives 46.00 51 *e*P P 04 18 58.2 -0.1
comp=Z,53nm,1.2s,mb5.0
Y19A Nutrioso 46.01 172 ⇑P P 04 18 58.8 +0.2

baz=46,SNR=10
Y16A Circle Bar Ran 46.04 175 ⇑P P 04 18 59.4 +0.6
baz=46,SNR=10.0
GIVF Givet 46.05 50 eP P 04 18 58.5 -0.2
Y20A Horse Springs, 46.08 171 ⇓P P 04 18 59.4 +0.3
baz=46,SNR=12
Y22A Socorro 46.09 170 ⇓P P 04 18 59.4 +0.2
baz=46,SNR=16
Y23A Lovelace Mesa, 46.13 169 ⇓P P 04 18 59.7 +0.2
baz=46
Y12C Blythe 46.14 178 ⇓P P 04 18 59.8 +0.2
baz=46,SNR=8.3
Y24A Capitan 46.16 168 ⇓P P 04 18 59.9 +0.2
baz=46,SNR=13
YSS Yuzh-Sakhalins 46.17 291 eP P 04 18 59.7 +0.1
comp=Z,39nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 46.17 291 eP P 04 18 59.6 -0.1
YSS pmax pmax
comp=Z,70nm,1.7s,mb5.3
Y18A Canyon Day Jun 46.17 173 ⇑P P 04 19 00.7 +0.8
baz=46,SNR=26
Y25A Mesa, Roswell 46.19 167 ⇑P P 04 18 59.6 -0.3
baz=46,SNR=9.4
IRK Irkutsk 46.22 327 eP P 04 19 05.5 +5.5
IRK pmax pmax
comp=Z,64nm,20.0s
MSTX Muleshoe 46.22 165 ⇓P P 04 19 00.8 +0.6
baz=46
BC3 Big Chuckawall 46.23 180 ⇓P P 04 19 00.6 +0.2
baz=46,SNR=25
Y17A Roosevelt 46.24 174 ⇑P P 04 19 00.4 +0.1
baz=46,SNR=12
PFO Pinyon Flat Ob 46.28 181 ⇑P P 04 19 00.8 +0.1
baz=46,SNR=7.1
PFO Pinyon Flat Ob 46.28 181 eP P 04 19 01.4 +0.8
comp=Z,17nm,1.2s,mb4.9
PFO Pinyon Flat Ob 46.28 181 eP P 04 19 01.5 +0.8
PFO pmax pmax
comp=Z,17nm,1.2s,mb4.8
MURC Murrieta 46.29 182 ⇓P P 04 19 00.3 -0.5
baz=46
Y27A Causey 46.29 165 ⇑P P 04 19 00.3 -0.4
baz=46,SNR=9.7
BRG Berggiesshubel 46.47 42 eP P 04 19 01.5 -0.4
comp=Z,34nm,1.8s,mb5.0
BRG ePCP PcP 04 20 35.7 -0.6
comp=Z,8.4nm,1.1s
BRG Berggiesshubel 46.47 42 eP P 04 19 01.5 -0.5
BRG e 04 20 35.7
BRG pmax pmax
comp=Z,34nm,1.8s,mb5.0
BRG pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
CIS Catalina Islan 46.49 183 ⇑P P 04 19 02.7 +0.3
baz=46
Z14A Wintersburg 46.54 177 ⇑P P 04 19 02.7 0.0
baz=46,SNR=6.8
Z16A Peralta Trail, 46.58 175 ⇑P P 04 19 03.0 0.0
baz=46,SNR=8.9
ROSF Rostrenen 46.60 58⇑iP P 04 19 02.4 -0.6
comp=Z,60nm,1.0s,mb5.2
FLN La Foliniere 46.60 55⇑iP P 04 19 02.0 -1.0
comp=Z,35nm,1.0s,mb4.9
OXF Oxford 46.60 150 eP P 04 19 00.7 -2.5
comp=Z,123nm,1.0s,mb5.8
OXF Oxford 46.60 150 eP P 04 19 00.7 -2.5
OXF pmax pmax
comp=Z,123nm,1.0s,mb5.8
Z17A San Carlos Hig 46.64 174 ⇑P P 04 19 04.5 +1.0
baz=46
WLF Walferdange 46.66 49 P P 04 19 04.2 +0.8
comp=Z,14nm,1.4s,mb4.7
Z19A T-Link Ranch, 46.67 172 ⇑P P 04 19 04.0 +0.3
baz=47
Z13A Yuma Proving G 46.69 177 ⇓P P 04 19 04.1 +0.1
baz=47,SNR=18
Z21A St. Cloud Mine 46.70 171 ⇓P P 04 19 04.1 +0.1
baz=47,SNR=14
Z24A Sheeppen Canyo 46.75 168 ⇑P P 04 19 04.4 0.0
baz=47,SNR=13
Z22A Elephant Butte 46.77 170 ⇓P P 04 19 04.4 -0.2
baz=47,SNR=8.9
SGMF Saint Gilles 46.79 57 eP P 04 19 03.5 -1.0
comp=Z,284nm,1.8s,mb5.6
Z23A Rita Site, Whi 46.79 169 ⇓P P 04 19 05.7 +1.0
baz=47
KMSC Kings Mountain 46.81 140 ⇑P P 04 19 03.4 -1.4
baz=47
LDF La Druitiere 46.82 55⇑iP P 04 19 03.6 -1.1
comp=Z,10nm,0.6s,mb4.6
Z25A Roswell 46.83 167 ⇓P P 04 19 04.7 -0.3
baz=47,SNR=21
GLA Glamis 46.83 179 ⇑P P 04 19 05.2 +0.1
baz=47,SNR=8.0
GLA Glamis 46.83 179 eP P 04 19 06.0 +0.9
comp=Z,39nm,1.1s,mb5.2
GLA Glamis 46.83 179 eP P 04 19 06.0 +0.9
GLA pmax pmax
comp=Z,39nm,1.1s,mb5.2
TLY Talaya 46.84 327 eP P 04 19 04.9 0.0
comp=Z,14nm,1.0s,mb4.8
TLY Talaya 46.84 327 eP P 04 19 04.9 0.0
TLY e 04 19 12.9
TLY e 04 20 37.4
TLY pmax pmax
comp=Z,16nm,0.9s,mb5.0
Z27A Tatum 46.85 165 ⇑P P 04 19 05.8 +0.6
baz=47
Z26A Caprock 46.86 166 ⇓P P 04 19 04.7 -0.5
baz=47,SNR=12
Z20A Nine Sixteen R 46.87 172 ⇑P P 04 19 05.6 +0.3
baz=47,SNR=10.0
PVCC Panska Ves 46.88 42 eP P 04 19 05.5 +0.3
PVCC e 04 20 37.6
PVCC Panska Ves 46.88 42 eP P 04 19 05.5 +0.3
PVCC ePCP PcP 04 20 37.6 -0.1
GRR Gorron 46.91 56⇑iP P 04 19 04.7 -0.8
comp=Z,103nm,1.4s,mb5.3
NKC Novy Kostel 46.91 44 eP P 04 19 05.7 +0.2
NKC e 04 19 12.9
NKC e 04 20 37.6
NKC Novy Kostel 46.91 44 eP P 04 19 05.7 +0.2
NKC epP pP 04 19 12.9 +4.3
NKC ePCP PcP 04 20 37.6 -0.2
SCI San Clemente I 46.92 183 ⇑P P 04 19 05.8 +0.1
baz=47,SNR=6.8
SWSC Sam W. Stewart 46.94 180 ⇓P P 04 19 06.4 +0.5
baz=47,SNR=10
MONP Monument Peak 46.99 181 ⇓P P 04 19 06.7 +0.4
baz=47,SNR=10
QUIF Quistinic 47.02 58⇑iP P 04 19 05.5 -0.9
UPC Upice 47.07 41 eP P 04 19 03.6 -3.1
UPC e pP 04 19 07.0 -2.8
UPC e 04 20 38.0
UPC Upice 47.07 41 eP P 04 19 07.0 +0.3
UPC ePCP PcP 04 20 38.0 -0.4
MOY Mondy 47.10 329 eP P 04 19 08.1 +1.2
CPRX Cap Rock 47.11 166 eP P 04 19 06.0 -1.2
comp=Z,22nm,1.2s,mb5.0
113A Mohawk Valley, 47.12 178 ⇑P P 04 19 07.6 +0.2
baz=47,SNR=14
114A Black Gap (USA 47.15 177 ⇑P P 04 19 08.0 +0.5
baz=47,SNR=6.2
119A Ashpeak Ranch, 47.19 172 ⇑P P 04 19 08.1 +0.2
baz=47
BAR Barrett 47.20 181 eP P 04 19 07.9 -0.1
comp=Z,28nm,1.3s,mb5.0
115A Sonoran Desert 47.21 176 ⇓P P 04 19 08.3 +0.4
baz=47,SNR=12
DVTC Desert V Tower 47.22 180 ⇓P P 04 19 08.4 +0.3
baz=47
DPC Dobruska-Polom 47.26 40 eP P 04 19 08.4 +0.2
DPC e 04 19 16.3
DPC e 04 20 38.6
DPC Dobruska-Polom 47.26 40 eP P 04 19 08.4 +0.2
DPC ex x 04 19 16.3
DPC ePCP PcP 04 20 38.6 -0.5
118A Homack Ranch, 47.30 173 ⇓P P 04 19 09.2 +0.5
baz=47,SNR=28
PRA Prague 47.31 42 P P 04 19 09.0 +0.4
PRA ex x 04 19 18.0
116A Eloy 47.35 175 ⇑P P 04 19 10.1 +1.0
baz=47
117A Oracle 47.36 174 ⇑P P 04 19 09.6 +0.5
baz=47,SNR=16
HIA Hailar 47.37 313 eP P 04 19 08.9 -0.2
comp=Z,40nm,0.9s,mb5.3
HIA Hailar 47.37 313 eP P 04 19 08.9 -0.2
HIA pmax pmax
comp=Z,40nm,0.9s
BRVK Borovoye 47.37 355 eP P 04 19 09.6 +0.5
comp=Z,7.9nm,0.6s,mb4.8
BRVK ePcP PcP 04 20 39.0 -0.4
BRVK Borovoye 47.37 355 eP P 04 19 09.6 +0.6
BRVK e 04 20 39.0
BRVK pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
124A Stringfield Ra 47.38 168 ⇓P P 04 19 09.0 -0.3
baz=47,SNR=8.9
BVA0 Borovoye Array 47.40 355 iP P 04 19 09.7 +0.4
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
PRU Pruhonice 47.41 42 eP P 04 19 09.7 +0.4
PRU e 04 19 18.0
PRU e 04 20 39.7
PRU Pruhonice 47.41 42 eP P 04 19 09.7 +0.4
PRU ex x 04 19 18.0
PRU ePCP PcP 04 20 39.7 +0.1
125A Gardner Draw, 47.45 167 ⇑P P 04 19 09.3 -0.5
baz=47,SNR=7.9
121A Cookes Peak, D 47.47 171 ⇑P P 04 19 09.8 -0.1
baz=47,SNR=11
126A Clayton Basin, 47.49 166 ⇓P P 04 19 09.4 -0.8
baz=47,SNR=7.8
TUC Tucson 47.62 174 eP P 04 19 11.4 +0.2
comp=Z,30nm,1.4s,mb5.1
TUC Tucson 47.62 174 eP P 04 19 11.4 +0.2
TUC pmax pmax
comp=Z,30nm,1.4s,mb5.1
MEZF Maizieres J'vi 47.64 51⇑iP P 04 19 11.5 +0.3
comp=Z,56nm,1.2s,mb5.2
JSC Jenkinsville 47.66 141 eP P 04 19 09.9 -1.6
JSC Jenkinsville 47.66 141 eP P 04 19 09.9 -1.6
PAGF Fort de Pagny 47.68 50⇑iP P 04 19 11.8 +0.3
comp=Z,13nm,1.1s,mb4.6
OJC Ojcow 47.78 37 eP P 04 19 12.2 0.0
OJC ePcP PcP 04 20 40.8 -0.1
OJC Ojcow 47.78 37 eP P 04 19 12.2 0.0
OJC e 04 20 40.8
CLNB Carlsbad 47.87 166 eP P 04 19 12.2 -0.9
comp=Z,7.9nm,1.0s,mb4.7
216A Three Points, 47.91 175 ⇓P P 04 19 13.4 -0.1
baz=48,SNR=8.7
222A Williams Famil 47.91 170 ⇓P P 04 19 13.1 -0.4
baz=48,SNR=6.9
SFTF Sexfontaines 47.93 51⇑iP P 04 19 13.2 -0.2
214A Organ Pipe Nat 47.94 177 ⇑P P 04 19 14.4 +0.7
baz=48
219A White Tail Can 47.96 172 ⇑P P 04 19 14.1 +0.3
baz=48,SNR=21
MORC Moravsky Berou 47.97 39 eP P 04 19 13.7 +0.1
comp=Z,35nm,1.7s,mb5.1
MORC Moravsky Berou 47.97 39 eP P 04 19 13.7 0.0
MORC pmax pmax
comp=Z,35nm,1.7s,mb5.1
MORC Moravsky Berou 47.97 39⇓iP P 04 19 13.9 +0.2
218A Dragoon 47.97 173 ⇑P P 04 19 13.8 -0.1
baz=48,SNR=5.7
OKC Ostrava-Krasne 47.97 39 eP P 04 19 13.9 +0.2
OKC e 04 20 41.4
OKC Ostrava-Krasne 47.97 39 eP P 04 19 13.9 +0.2
OKC ePCP PcP 04 20 41.4 -0.2
225A Deer Hill, Car 47.99 167 ⇑P P 04 19 13.6 -0.4
baz=48,SNR=12
224A Cornudas Mount 47.99 168 ⇑P P 04 19 13.3 -0.8
baz=48,SNR=8.3
CDF Champ du Feu 48.03 49⇑iP P 04 19 14.2 0.0
comp=Z,29nm,1.0s,mb5.0
226A Malaga, Loving 48.06 167 ⇑P P 04 19 14.9 +0.3
baz=48
220A Playas Peak, P 48.07 172 ⇓P P 04 19 14.3 -0.4
baz=48,SNR=12
KHC Kasperske Hory 48.13 43 eP P 04 19 15.0 0.0
KHC e 04 20 42.0
KHC Kasperske Hory 48.13 43 eP P 04 19 15.0 0.0
KHC ex x 04 19 29.0
KHC ePCP PcP 04 20 42.0 -0.2
227A Bennet, Jal 48.15 166 ⇓P P 04 19 14.8 -0.5
baz=48,SNR=9.2
217A Green Valley 48.15 174 ⇓P P 04 19 15.6 +0.3
baz=48,SNR=9.2
ZAK Zakamensk 48.16 327 eP P 04 19 15.1 0.0
ZAK e 04 20 41.4
ZAK pmax pmax
comp=Z,7.0nm,1.2s,mb4.6
TREC Trest 48.20 41 eP P 04 19 15.7 +0.2
TREC e 04 19 23.5
TREC e 04 20 41.7
TREC Trest 48.20 41 eP P 04 19 15.7 +0.2
TREC epP pP 04 19 23.5 +4.9
TREC ePCP PcP 04 20 41.7 -0.8
AKASG Malin Array Be 48.23 29 P P 04 19 15.0 -0.7
comp=Z,21nm,0.8s,mb5.2,baz=352,slow=8.3,SNR=57
AKASG PcP PcP 04 20 41.3 -1.2
comp=Z,13nm,0.7s,baz=351,slow=3.2,SNR=20
AKASG Malin Array Be 48.23 29 P P 04 19 15.0 -0.7
AKASG PcP PcP 04 20 41.3 -1.2
AKASG Malin Array Be 48.23 29 P P 04 19 15.0 -0.7
AKASG 04 20 41.3
AKBB Malin Array Si 48.23 29 eP P 04 19 15.1 -0.6
AKBB ePcP PcP 04 20 41.5 -1.0
AKBB Malin Array Si 48.23 29 eP P 04 19 15.1 -0.6
AKBB e 04 20 41.5
KIEV Kiev 48.23 29 eP P 04 19 15.1 -0.6
comp=Z,14nm,0.8s,mb5.1
KIEV ePcP PcP 04 20 41.7 -0.9
KIEV Kiev 48.23 29 eP P 04 19 15.1 -0.6
KIEV e 04 20 41.7
KIEV pmax pmax
comp=Z,15nm,0.8s,mb5.1
HAU Haudompre 48.31 50 eP P 04 19 16.5 +0.2
comp=Z,88nm,1.5s,mb5.3
VRAC Vranov 48.32 40 P P 04 19 15.8 -0.6
comp=Z,4.6nm,0.7s,mb4.7,baz=352,slow=6.7,SNR=6.3
VRAC PcP PcP 04 20 42.0 -0.9
comp=Z,4.4nm,0.8s,baz=12,slow=4.7,SNR=4.5
VRAC Vranov 48.32 40 P P 04 19 15.8 -0.6
VRAC PcP PcP 04 20 42.0 -0.9
VRAC Vranov 48.32 40 P P 04 19 15.8 -0.6
VRAC 04 20 42.0
VRAC Vranov 48.32 40⇓iP P 04 19 16.8 +0.4
GERES GERESS Array B 48.43 43 P P 04 19 17.2 0.0
comp=Z,1.3nm,0.7s,mb4.1,baz=1.1,slow=7.2,SNR=9.5
GERES PcP PcP 04 20 43.0 -0.3
comp=Z,3.5nm,0.9s,baz=356,slow=4.0,SNR=6.2
GERES GERESS Array B 48.43 43 P P 04 19 17.2 0.0
GERES PcP PcP 04 20 43.0 -0.3
GERES GERESS Array B 48.43 43 P P 04 19 17.3 0.0
GERES 04 20 43.0
VSR Storozhevoye 48.46 21 eP P 04 19 17.1 -0.4
VSR pmax pmax
comp=N,20nm,0.8s
VSR pmax pmax
comp=E,5.0nm,0.8s
VSR pmax pmax
comp=Z,20nm,0.8s,mb5.2
318A Bisbee 48.50 173 ⇑P P 04 19 18.0 0.0
baz=48,SNR=19
HYF Humbligny 48.51 53 eP P 04 19 17.9 0.0
HINF Hinteralfeld 48.56 49⇑iP P 04 19 18.2 -0.1
comp=Z,52nm,1.4s,mb5.1
319A Douglas 48.58 173 ⇑P P 04 19 18.8 +0.2
baz=48,SNR=12
LVV L'vov 48.61 34 eP P 04 19 18.6 -0.1
324A Moseley Ranch, 48.63 168 ⇑P P 04 19 18.0 -1.0
baz=48,SNR=11
320A Kipp Ranch, An 48.64 172 ⇓P P 04 19 19.2 +0.1
baz=48,SNR=9.6
KWP Kalwaria Pacla 48.67 35 eP P 04 19 18.9 -0.2
comp=Z,72nm,1.7s,mb5.4
KWP Kalwaria Pacla 48.67 35 eP P 04 19 18.9 -0.2
KWP pmax pmax
comp=Z,72nm,1.7s,mb5.4
KWP Kalwaria Pacla 48.67 35⇑iP P 04 19 19.5 +0.4
LOR Lormes 48.68 52⇑iP P 04 19 19.0 -0.2
comp=Z,45nm,1.1s,mb5.1
325A Bean Ranch, Si 48.72 168 ⇑P P 04 19 18.9 -0.8
baz=49
STHS Stebnicka Huta 48.73 36 eP P 04 19 20.1 +0.6
STHS Stebnicka Huta 48.73 36 eP P 04 19 20.1 +0.6
MFF Saint Martin d 48.76 56 eP P 04 19 19.5 -0.3
comp=Z,120nm,1.5s,mb5.4
328A Wristen Ranch, 48.80 165 ⇓P P 04 19 19.2 -1.1
baz=49,SNR=13
326A Caldwell Ranch 48.81 166 ⇑P P 04 19 19.6 -0.8
baz=49
SSF Saint Saulge 48.84 52⇑iP P 04 19 20.1 -0.3
comp=Z,35nm,1.0s,mb5.0
AVF Avril sur Loir 49.08 53⇑iP P 04 19 21.9 -0.4
comp=Z,106nm,1.5s,mb5.3
BGF Bois d'Agland 49.24 53⇑iP P 04 19 23.1 -0.4
comp=Z,66nm,1.1s,mb5.3
SMF Signal de Mont 49.29 52⇑iP P 04 19 23.4 -0.5
comp=Z,48nm,1.2s,mb5.1
425A Indio Mountain 49.30 168 ⇑P P 04 19 24.0 -0.1
baz=49,SNR=13
427A Hayter Ranch, 49.30 166 ⇑P P 04 19 23.4 -0.7
baz=49,SNR=9.7
VYHS Vyhne 49.38 39 eP P 04 19 24.2 -0.3
VYHS pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
VYHS Vyhne 49.38 39 eP P 04 19 24.2 -0.3
TCF Toulx Ste Croi 49.41 54⇑iP P 04 19 24.3 -0.5
comp=Z,40nm,1.2s,mb5.0
426A McDonald Obser 49.45 167 ⇓P P 04 19 23.9 -1.5
baz=49,SNR=10
428A Kincaid Ranch, 49.46 165 ⇑P P 04 19 25.6 +0.3
baz=49
MOA Molln 49.48 43⇑iPcP PcP 04 20 47.0 -0.1
comp=Z,17nm,1.0s
KURK Kurchatov 49.50 348 eP P 04 19 24.9 -0.5
comp=Z,39nm,1.6s,mb5.2
KURK Kurchatov 49.50 348 eP P 04 19 24.9 -0.5
KURK pmax pmax
comp=Z,39nm,1.6s,mb5.2
KURK Kurchatov 49.50 348 P P 04 19 25.0 -0.4
comp=Z,80nm,1.4s,mb5.5,SNR=6.4
KECS Kecovo 49.57 37 eP P 04 19 22.4 -3.6
KECS pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
KECS Kecovo 49.57 37 eP P 04 19 22.4 -3.6
MOTA Moosalm 49.58 46⇓iPcP PcP 04 20 47.3 -0.2
comp=Z,18nm,1.0s
CONA Conrad Observa 49.59 41⇓ipP pP 04 19 26.3 -3.0
comp=Z,6.3nm,1.1s
CONA ⇑iPcP PcP 04 20 47.6 0.0
comp=Z,9.2nm,1.3s
UZH Uzhgorod 49.61 36 eP P 04 19 24.0 -2.3
UZH i 04 20 47.2
CABF La Chapelle 49.64 50⇑iP P 04 19 26.6 +0.1
comp=Z,55nm,1.1s,mb5.2
JCT Junction City 49.85 162 ⇑P P 04 19 27.7 -0.6
baz=50,SNR=8.7
JCT Junction City 49.85 162 eP P 04 19 27.9 -0.4
comp=Z,57nm,1.1s,mb5.5
JCT Junction City 49.85 162 eP P 04 19 27.9 -0.4
JCT pmax pmax
comp=Z,57nm,1.1s,mb5.5
SOP Sopron 49.91 41⇑eP P 04 19 28.7 +0.1
DAVOX Davos/Dischmat 49.98 47 P P 04 19 30.3 +1.2
comp=Z,2.9nm,0.7s,mb4.5,baz=337,slow=15,SNR=6.2
DAVOX PcP PcP 04 20 49.2 +0.3
comp=Z,2.8nm,0.5s,baz=142,slow=0.2,SNR=6.0
DAVOX Davos/Dischmat 49.98 47 P P 04 19 30.3 +1.2
DAVOX PcP PcP 04 20 49.2 +0.3
DAVOX Davos/Dischmat 49.98 47 P P 04 19 30.3 +1.2
DAVOX 04 20 49.2
527A Woodward Ranch 49.99 166 ⇑P P 04 19 29.0 -0.4
baz=50
AKTO Aktyubinsk 50.00 5 P P 04 19 29.8 +0.6
comp=Z,14nm,0.9s,mb5.0,baz=0.8,slow=6.9,SNR=32
AKTO PcP PcP 04 20 48.8 -0.2
comp=Z,14nm,0.6s,baz=34,slow=3.6,SNR=17
AKTO Aktyubinsk 50.00 5 P P 04 19 29.8 +0.6
AKTO PcP PcP 04 20 48.8 -0.2
AKTO Aktyubinsk 50.00 5 P P 04 19 29.0 -0.2
AKTO pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
528A Cox Ranch, San 50.01 165 ⇑P P 04 19 29.0 -0.6
baz=50,SNR=24
526A Mary Lane Ranc 50.06 167 ⇑P P 04 19 29.3 -0.6
baz=50,SNR=50
PSZ Piszkesteto 50.06 38 eP P 04 19 30.0 +0.3
comp=Z,12nm,1.0s,mb4.9
PSZ ePcP PcP 04 20 49.8 +0.6
PSZ Piszkesteto 50.06 38 eP P 04 19 30.0 +0.3
PSZ e 04 20 49.8
PSZ pmax pmax
comp=Z,12nm,1.0s,mb4.9
PSZ Piszkesteto 50.06 38⇑eP P 04 19 30.4 +0.7
PSZ Piszkesteto 50.06 38⇓iP P 04 19 30.4 +0.7
TRPA Tarpa 50.13 35⇓iP P 04 19 30.8 +0.5
ULN Ulaanbaatar 50.26 323 eP P 04 19 31.6 +0.3
comp=Z,53nm,1.4s,mb5.4
ULN Ulaanbaatar 50.26 323 eP P 04 19 31.6 +0.3
ULN pmax pmax
comp=Z,53nm,1.4s,mb5.4
RJF Les Rejaudoux 50.27 55⇑iP P 04 19 30.5 -0.9
comp=Z,18nm,1.0s,mb4.8
SONM Songino Array 50.36 324 P P 04 19 32.2 +0.1
comp=Z,28nm,0.9s,mb5.3,baz=349,slow=5.9,SNR=78
SONM PcP PcP 04 20 50.9 +0.6
comp=Z,6.6nm,0.8s,baz=327,slow=3.2,SNR=4.6
SONM Songino Array 50.36 324 P P 04 19 32.2 +0.1
SONM PcP PcP 04 20 50.9 +0.6
SONM Songino Array 50.36 324 P P 04 19 32.2 +0.2
SONM 04 20 50.9
LFF La Frestale 50.52 55 eP P 04 19 32.8 -0.4
comp=Z,74nm,1.4s,mb5.1
MDJ Mudanjiang 50.53 303 P P 04 19 32.8 -0.6
MDJ pmax pmax
comp=Z,35nm,0.9s,mb5.3
MDJ pmax pmax
comp=Z,300nm,4.5s
MDJ Mudanjiang 50.53 303 eP P 04 19 32.5 -0.8
comp=Z,42nm,1.1s,mb5.3
626A Big Bend Ranch 50.56 167 ⇓P P 04 19 33.2 -0.6
baz=50,SNR=9.5
627A Terlingua Ranc 50.69 166 ⇓P P 04 19 33.8 -0.9
baz=51,SNR=16
CAF Calviac 50.72 54 eP P 04 19 34.3 -0.5
comp=Z,40nm,1.3s,mb4.9
TXAR Lajitas Array 50.80 166 P P 04 19 34.0 -1.5
comp=Z,5.2nm,0.9s,mb4.5,baz=16,slow=4.2,SNR=35
TXAR Lajitas Array 50.80 166 P P 04 19 34.0 -1.5
TXAR Lajitas Array 50.80 166 P P 04 19 34.0 -1.5
LPL La Plagne 50.80 50 eP P 04 19 36.3 +0.9
comp=Z,62nm,1.7s,mb5.0
LPG La Plagne 50.82 50 eP P 04 19 36.6 +1.1
comp=Z,50nm,1.3s,mb5.0
EPON Pontenova 50.88 63 P P 04 19 35.7 -0.2
comp=Z,86nm,1.7s,mb5.4
BUR08 Bucovina Ar. S 50.88 33 eP P 04 19 36.6 +0.6
BUR08 ePcP PcP 04 20 52.5 +0.2
ERM Erimo 50.90 290 eP P 04 19 35.8 -0.3
comp=Z,82nm,0.8s,mb5.7
ERM Erimo 50.90 290 iP P 04 19 35.8 -0.4
ERM pmax pmax
comp=Z,104nm,1.2s,mb5.6
BURAR Bucovina Array 50.91 33⇑iP P 04 19 36.3 +0.1
BURAR Bucovina Array 50.91 33⇑iP P 04 19 36.3 +0.1
EMAZ Mazaricos 50.95 65 P P 04 19 36.1 -0.4
comp=Z,35nm,1.0s,mb5.2
VIVF Saint-Julien-l 51.16 52⇑iP P 04 19 38.0 -0.1
AB31 Akbulak array 51.20 4 iP P 04 19 38.2 -0.1
AB31 pmax pmax
comp=Z,16nm,1.0s,mb4.9
ABKAR Akbulak array 51.20 4 eP P 04 19 38.4 0.0
comp=Z,10nm,0.9s,mb4.8
ABKAR ePcP PcP 04 20 53.6 +0.2
EARI Arriondas 51.21 61 P P 04 19 37.5 -1.0
comp=Z,144nm,1.7s,mb5.6
ORIF Oris-en-Rattie 51.27 51⇑iP P 04 19 39.0 +0.1
MBDF Montbardon 51.58 50 eP P 04 19 41.8 +0.6
comp=Z,28nm,1.2s,mb4.8
LASF Ste Croix 51.81 53 eP P 04 19 42.7 -0.2
comp=Z,61nm,1.3s,mb5.1
CN2 Changchun 51.94 306 ⇓P P 04 19 43.3 -0.6
CN2 esP sP 04 19 50.0 +1.7
CN2 eS S **04 27 02.8 -3.6**
CN2 pmax pmax
comp=Z,30nm,0.9s,mb5.2
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,800nm,11.0s,MS5.2
CN2 LR LR

comp=E,800nm,11.0s,MS5.2
CN2 LR LR

comp=Z,800nm,15.0s,MS4.9
SJPF Ste Jean 52.01 58 *e*P **P 04 19 42.6 -1.8**
comp=Z,32nm,1.5s,mb4.8
TESR 52.14 32⇓ *i*P **P 04 19 45.3 -0.1**
SMRF Simiane la Rot 52.15 51 *e*P **P 04 19 45.7 +0.2**
MTLF Montolieu 52.30 54⇑ *i*P **P 04 19 46.4 -0.2**
comp=Z,20nm,1.1s,mb4.7
ECAL Calabor 52.30 63 P **P 04 19 46.4 -0.2**
comp=Z,50nm,1.3s,mb5.3
PCAB Cabril 52.32 64 *e*P **P 04 19 47.0 +0.3**
comp=Z,52nm,1.9s,mb5.1
ETSF Etsaut 52.32 57⇑ *i*P **P 04 19 47.0 +0.3**
comp=Z,32nm,1.2s,mb4.8
EPF Esparros 52.32 56 *e*P **P 04 19 45.8 -1.0**
comp=Z,16nm,1.1s,mb4.6
PBRG Braganca 52.43 63 *e*P **P 04 19 48.1 +0.5**
comp=Z,29nm,1.7s,mb4.9
SBF Sospel 52.52 50 *e*P **P 04 19 48.9 +0.7**
comp=Z,74nm,1.0s,mb5.3
BZS Buzias 52.52 37⇑P **P 04 19 48.7 +0.5**
BZS Buzias 52.52 37⇑ *i*P **P 04 19 48.7 +0.5**
EBIE Bielsa 52.63 57 P **P 04 19 49.6 +0.6**
comp=Z,53nm,1.8s,mb5.2
FRF La Foret Royal 52.71 50 *e*P **P 04 19 49.5 -0.1**
comp=Z,62nm,1.3s,mb5.1
PLOR Plostina 52.80 32⇑P **P 04 19 51.2 +1.0**
PLOR Plostina 52.80 32⇑ *i*P **P 04 19 51.2 +1.0**
GZR Gura Zlata 52.86 36⇓P **P 04 19 51.4 +0.7**
GZR Gura Zlata 52.86 36⇓ *i*P **P 04 19 51.4 +0.7**
LMR La Mourre 52.91 51 *e*P **P 04 19 51.3 +0.2**
comp=Z,144nm,1.8s,mb5.3
MVO Moncorvo 53.01 63 P **P 04 19 51.5 -0.4**
CSOR Sort 53.08 56 P **P 04 19 53.4 +1.0**
comp=Z,47nm,1.2s,mb5.3
MLR Muntele Rosu 53.09 33 P **P 04 19 53.3 +0.9**
comp=Z,6.7nm,0.9s,mb4.6,baz=1.5,slow=5.0,SNR=30
MLR Muntele Rosu 53.09 33 P **P 04 19 53.3 +0.9**
MLR Muntele Rosu 53.09 33⇓P **P 04 19 53.6 +1.2**
MLR Muntele Rosu 53.09 33⇓ *i*P **P 04 19 53.6 +1.2**
MK31 Makanchi Array 53.26 345 *e*P **P 04 19 52.8 -0.8**
MK31 *e*PcP PcP 04 21 00.5 -0.7
MK31 Makanchi Array 53.26 345 *i*P **P 04 19 53.0 -0.6**
MK31 pmax pmax
comp=Z,22nm,0.8s,mb5.1
MKAR Makanchi Array 53.26 345 P **P 04 19 52.9 -0.8**
comp=Z,17nm,0.7s,mb5.0,baz=7.6,slow=6.1,SNR=67
MKAR PcP PcP 04 21 00.3 -0.9
comp=Z,5.8nm,1.0s,baz=9.3,slow=2.8,SNR=4.1
MKAR Makanchi Array 53.26 345 P **P 04 19 52.9 -0.8**
MKAR PcP PcP 04 21 00.3 -0.9
MKAR Makanchi Array 53.26 345 P **P 04 19 52.9 -0.7**
MKAR 04 21 00.3
PVIS Viseu 53.31 64 *e*P **P 04 19 54.1 0.0**
comp=Z,26nm,1.4s,mb5.0
ESAC San Caprasio 53.48 57 P **P 04 19 55.1 -0.2**
comp=Z,27nm,0.6s,mb5.3
MTE Manteigas 53.67 64 *e*P **P 04 19 56.6 -0.2**
comp=Z,32nm,1.3s,mb5.1
GUD Guadarrama 53.97 61 P **P 04 19 58.9 -0.1**
comp=Z,17nm,1.0s,mb4.9
GUD Guadarrama 53.97 61 P **P 04 19 58.9 -0.1**
GUD pmax pmax
comp=Z,17nm,1.0s,mb4.9
EPOB Poblet 54.08 56 P **P 04 19 59.2 -0.5**
comp=Z,59nm,1.5s,mb5.3
ETOR Torete 54.13 59 P **P 04 19 58.6 -1.5**
comp=Z,42nm,2.0s,mb5.0
ETOR Torete 54.13 59 P **P 04 19 58.6 -1.5**
ETOR pmax pmax
comp=Z,42nm,2.0s,mb5.0
SNY Shenyang 54.14 307⇓P **P 04 19 59.6 -0.6**
SNY pmax pmax
comp=Z,33nm,0.9s,mb5.3
PCBR Castelo Branco 54.23 64 *e*P **P 04 20 00.9 +0.1**
comp=Z,28nm,1.4s,mb5.0
EPLA Plasencia 54.24 63 P **P 04 19 59.3 -1.5**
comp=Z,25nm,1.3s,mb5.0
EPLA Plasencia 54.24 63 P **P 04 19 59.3 -1.6**
EPLA pmax pmax
comp=Z,25nm,1.3s,mb5.0
PMRV Marv??o 54.65 64 *e*P **P 04 20 04.4 +0.5**
comp=Z,18nm,1.6s,mb4.8
ANN Anapa 54.74 23 *e*P **P 04 20 03.3 -1.1**
ANN pmax pmax
comp=Z,67nm,1.2s,mb5.5
EMOS Mosqueruela 54.81 58 P **P 04 20 05.5 +0.4**
comp=Z,66nm,1.6s,mb5.4
ESDC Sonseca Array 54.95 61 P **P 04 20 06.0 0.0**
comp=Z,34nm,1.3s,mb5.2,baz=349,slow=7.8,SNR=31
ESDC Sonseca Array 54.95 61 P **P 04 20 05.8 -0.3**
comp=Z,10nm,1.3s,mb4.7
ESLA Sonseca Array 54.95 61 *e*P **P 04 20 06.0 -0.1**
comp=Z,27nm,1.8s,mb5.0
PAB San Pablo 55.02 61 *e*P **P 04 20 06.8 +0.2**
comp=Z,24nm,1.1s,mb5.1
PAB San Pablo 55.02 61 *e*P **P 04 20 06.8 +0.3**
PAB pmax pmax
comp=Z,24nm,1.1s,mb5.1
PESTR Estremoz 55.16 65 *e*P **P 04 20 07.3 -0.3**
comp=Z,33nm,1.5s,mb5.1
EBAD Badajoz 55.37 64 P **P 04 20 08.9 -0.2**
comp=Z,24nm,0.9s,mb5.2
EVO Evora 55.42 65 *e*P **P 04 20 07.4 -2.1**
comp=Z,13nm,0.9s,mb4.7
EVO Evora 55.42 65 *e*P **P 04 20 08.8 -0.7**
comp=Z,20nm,1.4s,mb5.0
PNCL Nicolau / Gran 55.75 66 *e*P **P 04 20 11.7 -0.1**
comp=Z,29nm,1.5s,mb5.1
KIV Kislovodsk 55.91 19 *e*P **P 04 20 13.3 +0.4**
KIV pmax pmax
comp=Z,17nm,1.0s,mb5.0
WMQ Urumqi 55.92 340 P **P 04 20 05.0 -8.0**
WMQ Urumqi 55.92 340 P **P 04 20 15.4 +2.4**
PBAR Barrancos 55.93 64 *e*P **P 04 20 13.1 0.0**
comp=Z,40nm,1.6s,mb5.2
PBEJ Beja 55.94 65 *e*P **P 04 20 12.6 -0.6**
comp=Z,15nm,1.1s,mb4.9
EVIA Vianos 56.19 60 P **P 04 20 15.4 +0.4**
comp=Z,26nm,1.0s,mb5.2
EVIA Vianos 56.19 60 P **P 04 20 15.4 +0.4**
EVIA pmax pmax
comp=Z,26nm,1.0s,mb5.2
PTEO Sao Teotonio 56.27 66 *e*P **P 04 20 15.6 0.0**
comp=Z,41nm,2.3s,mb5.0
EADA Adamuz 56.33 62 P **P 04 20 15.9 -0.1**
comp=Z,13nm,0.9s,mb5.0
ETOB Tobarra 56.33 59 P **P 04 20 16.5 +0.5**
comp=Z,109nm,2.0s,mb5.5
EMIN Mina Concepcio 56.39 64 P **P 04 20 15.4 -1.0**
comp=Z,81nm,1.8s,mb5.5
MORF Marmelete 56.52 66 *e*P **P 04 20 17.2 -0.1**
comp=Z,45nm,2.3s,mb5.1
HHC Hu-ho-hao-te 56.68 318 *e*P **P 04 20 18.8 +0.4**
HHC sP sP 04 20 25.4 +2.5
HHC PP PP 04 22 25.5 +1.5
HHC S **S** **04 28 08.0 -2.3**
HHC ScS ScS 04 30 04.6 -2.5
HHC SS SS 04 31 58.8 +1.6
HHC pmax pmax
comp=Z,19nm,1.1s,mb5.0
HHC pmax pmax
comp=Z,190nm,5.7s
HHC LR LR
comp=N,1μm,16.7s,MS5.1
HHC LR LR
comp=E,910nm,20.2s,MS5.1
HHC LR LR
comp=Z,1μm,16.6s,MS5.1
PBDV Barranco-do-Ve 56.70 65 *e*P **P 04 20 18.4 -0.2**
comp=Z,42nm,1.5s,mb5.2
BJI Beijing 56.91 314 P **P 04 20 19.9 -0.1**
BJI S **S** **04 28 14.5 +1.2**
BJI pmax pmax
comp=Z,43nm,0.9s,mb5.5
BJI pmax pmax
comp=Z,140nm,4.3s
BJI LR LR
comp=N,1μm,15.4s,MS5.2
BJI LR LR
comp=E,630nm,16.8s,MS5.2
BJI LR LR
comp=Z,560nm,17.5s,MS4.7
EQES Quesada 56.92 61 P **P 04 20 21.2 +1.0**
comp=Z,55nm,1.7s,mb5.3

BJT Baijiatuau 56.93 314 *e*P **P 04 20 20.0 -0.2**
comp=Z,12nm,0.4s,mb5.3
BJT Baijiatuau 56.93 314 *e*P **P 04 20 20.0 -0.2**
BJT pmax pmax
comp=Z,12nm,0.4s
EHUE Huescar 56.98 60 P **P 04 20 20.8 +0.1**
comp=Z,20nm,1.1s,mb5.1
EHUE Huescar 56.98 60 P **P 04 20 20.8 +0.2**
EHUE pmax pmax
comp=Z,20nm,1.1s,mb5.1
MAJO Matsushiro 57.06 293 *e*P **P 04 20 20.2 -1.1**
comp=Z,20nm,0.8s,mb5.2
MAJO Matsushiro 57.06 293 *e*P **P 04 20 20.2 -1.0**
MAJO pmax pmax
comp=Z,20nm,0.8s,mb5.2
MAT Matsushiro 57.06 293 P **P 04 20 20.2 -1.0**
MJAR Matsushiro Arr 57.06 293 P **P 04 20 20.8 -0.4**
comp=Z,16nm,0.8s,mb5.1,baz=1.8,slow=6.8,SNR=25
MJAR Matsushiro Arr 57.06 293 P **P 04 20 20.8 -0.4**
MJAR Matsushiro Arr 57.06 293 P **P 04 20 20.8 -0.4**
USP Ospenovka 57.07 351 P **P 04 20 21.8 +0.5**
SNR=14
ZEI Tsey 57.16 18 *e*P **P 04 20 22.1 +0.3**
ZEI pmax pmax
comp=Z,43nm,1.5s,mb5.3
EMUR La Murta 57.16 59 P **P 04 20 21.8 -0.1**
comp=Z,56nm,1.4s,mb5.4
ONI Oni 57.31 18 P **P 04 20 24.5 +1.6**
KK31 Karatay Array 57.33 354 *i*P **P 04 20 22.8 -0.2**
KK31 pmax pmax
comp=Z,11nm,0.7s,mb5.0
ECOG Cogollos-Vega 57.36 61 P **P 04 20 24.0 +0.7**
comp=Z,19nm,1.0s,mb5.1
ECOG Cogollos-Vega 57.36 61 P **P 04 20 24.0 +0.7**
ECOG pmax pmax
comp=Z,19nm,1.0s,mb5.1
TKM2 Tokmak 2 57.39 350 P **P 04 20 24.3 +0.9**
SNR=13
TKM2 Tokmak 2 57.39 350 *e*P **P 04 20 24.1 +0.6**
comp=Z,57nm,1.4s,mb5.4
TKM2 *e*PcP PcP 04 21 17.5 +0.3
TKM2 Tokmak 2 57.39 350 *e*P **P 04 20 24.1 +0.7**
TKM2 *e* 04 21 17.5
TKM2 pmax pmax
comp=Z,57nm,1.4s,mb5.4
ELOJ Sierra Loja 57.39 62 P **P 04 20 25.9 +2.4**
comp=Z,20nm,1.6s,mb4.9
ELOJ Sierra Loja 57.39 62 P **P 04 20 25.9 +2.4**
ELOJ pmax pmax
comp=Z,20nm,1.6s,mb4.9
ESPR Espera 57.40 63 P **P 04 20 23.9 +0.4**
comp=Z,18nm,0.6s,mb5.3
FRU Bishkek 57.50 351 *e*P **P 04 20 24.5 +0.3**
FRU pmax pmax
comp=Z,57nm,1.8s,mb5.3
ERON Agron 57.57 62 P **P 04 20 25.6 +0.7**
comp=Z,36nm,0.9s,mb5.4
KBK Karagaybulak 57.67 351 P **P 04 20 26.4 +1.0**
SNR=5.7
EKS2 Erkin-Say 57.70 352 *e*P **P 04 20 26.4 +0.8**
comp=Z,3.2nm,0.8s,mb4.4
EKS2 *e*PcP PcP 04 21 18.6 +0.1
EKS2 Erkin-Say 57.70 352 *e*P **P 04 20 26.5 +0.9**
EKS2 *e* 04 21 18.6
EKS2 pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
AAK Ala-Archa 57.71 351 P **P 04 20 26.5 +0.8**
SNR=14
AAK Ala-Archa 57.71 351 *i*P **P 04 20 26.5 +0.8**
EGUA Guajares 57.79 61 P **P 04 20 28.2 +1.8**
comp=Z,140nm,1.3s,mb5.8
EGUA Guajares 57.79 61 P **P 04 20 28.2 +1.8**
EGUA pmax pmax
comp=Z,140nm,1.3s,mb5.8
KSRS Korea Array 57.80 302 P **P 04 20 25.6 -0.8**
comp=Z,9.0nm,0.9s,mb4.8,baz=1.7,slow=5.9,SNR=13
KSRS PcP PcP 04 21 18.6 -0.3
comp=Z,4.9nm,0.9s,baz=3.2,slow=5.0,SNR=4.3
KSAR Wonju Array Be 57.81 303 P **P 04 20 25.6 -1.0**
KSAR PcP PcP 04 21 18.6 -0.4
KSAR Wonju Array Be 57.81 303 P **P 04 20 25.6 -0.9**
KSAR 04 21 18.6
EMIJ Mijas 57.87 63 P **P 04 20 27.0 +0.1**
comp=Z,51nm,0.9s,mb5.5
ENIJ Nijar 57.87 60 P **P 04 20 26.8 -0.1**
comp=Z,18nm,0.9s,mb5.1
ENIJ Nijar 57.87 60 P **P 04 20 26.8 -0.1**
ENIJ pmax pmax
comp=Z,19nm,0.9s,mb5.1
AML Almayashu 58.23 352 P **P 04 20 31.0 +1.6**
SNR=13
KZA Kyzart 58.24 350 P **P 04 20 30.8 +1.4**
SNR=6.4
TBLG Delisi 58.24 17 *e*P **P 04 20 30.4 +1.0**
TBLG Delisi 58.24 17 P **P 04 20 30.4 +0.9**
MTA Mtatsminda 58.28 17 P **P 04 20 30.4 +0.7**
AKH Akhalkalaki 58.49 18 P **P 04 20 33.1 +1.9**
DGRG David-gareji 58.55 16 P **P 04 20 31.9 +0.3**
GTA Gaotai 59.36 328 P **P 04 20 37.9 +0.7**
GTA pP pP 04 20 42.1 +1.7
GTA sP sP 04 20 45.4 +3.7
GTA S **S** **04 28 43.8 -1.6**
GTA sS sS 04 28 51.4 +0.7
GTA SS SS 04 32 37.9 -1.4
GTA pmax pmax
comp=Z,51nm,1.1s,mb5.5
GTA pmax pmax
comp=Z,210nm,6.2s
GTA LR LR
comp=N,320nm,16.8s,MS4.8
GTA LR LR
comp=E,490nm,15.2s,MS4.8
GTA LR LR
comp=Z,460nm,12.6s,MS4.8
BR131 Keskin Array S 59.49 27 *e*P **P 04 20 38.9 +0.7**
comp=Z,5.8nm,0.7s,mb4.7
BR131 *e*PcP PcP 04 21 25.0 -0.6
BRTR Keskin Array B 59.49 27 P **P 04 20 38.8 +0.6**
comp=Z,7.9nm,1.0s,mb4.7,baz=352,slow=4.0,SNR=22
BRTR PcP PcP 04 21 25.1 -0.5
comp=Z,7.1nm,0.8s,baz=338,slow=2.0,SNR=11
BRTR Keskin Array B 59.49 27 P **P 04 20 38.8 +0.6**
BRTR PcP PcP 04 21 25.1 -0.5
BRTR Keskin Array B 59.49 27 P **P 04 20 38.8 +0.6**
BRTR 04 21 25.1
GNI Garni 59.82 17 P **P 04 20 41.7 +1.3**
comp=Z,2.3nm,0.4s,mb4.6,baz=159,slow=15,SNR=5.5
GNI Garni 59.82 17 *e*P **P 04 20 41.7 +1.3**
comp=Z,30nm,1.3s,mb5.2
GNI Garni 59.82 17 *e*P **P 04 20 41.7 +1.3**
GNI pmax pmax
comp=Z,30nm,1.3s
KEST Kesra 60.77 50 P **P 04 20 47.9 +0.9**
comp=Z,5.5nm,0.8s,mb4.8,baz=324,slow=2.1,SNR=18
KEST Kesra 60.77 50 *e*P **P 04 20 47.9 +0.9**
KSH Kashi 60.77 350 P **P 04 20 50.1 +3.2**
KSH pP pP 04 20 54.8 +4.7
KSH sP sP 04 20 57.1 +5.7
KSH PcP PcP 04 21 31.1 +0.4
KSH PP PP 04 23 06.6 +6.3
KSH ScP ScP 04 25 32.6 +1.0
KSH PcS PcS 04 25 34.4 +1.1
KSH S **S** **04 29 05.9 +2.4**
KSH sS sS 04 29 14.3 +5.5
KSH ScS ScS 04 30 37.0 -0.4
KSH SS SS 04 33 07.3 +5.9
KSH pmax pmax
comp=Z,69nm,1.7s,mb5.5
KSH LR LR
comp=N,410nm,12.2s,MS5.0
KSH LR LR
comp=E,520nm,12.3s,MS5.0
KSH LR LR
comp=Z,360nm,6.7s
MDT Midelt 61.56 63 P **P 04 20 52.2 -0.2**
comp=Z,4.4nm,0.7s,mb4.7,baz=353,slow=6.8,SNR=14
MDT Midelt 61.56 63 P **P 04 20 52.2 -0.2**
ISHB Shabestar 61.72 17 *e*P **P 04 20 54.5 +1.1**
IHRS Heris 61.76 15 *e*P **P 04 20 54.3 +0.7**
LZH Lanzhou 62.25 324 *e*P **P 04 20 57.8 +0.8**
LZH pP pP 04 21 03.0 +2.8
LZH sP sP 04 21 05.0 +3.6
LZH *e*S **S** **04 29 23.0 +0.6**
LZH SS SS 04 33 27.0 +2.3
LZH pmax pmax
comp=Z,90nm,1.2s,mb5.8
LZH pmax pmax
comp=Z,200nm,4.0s
LZH LR LR
comp=N,890nm,14.4s,MS5.3
LZH LR LR
comp=E,1μm,15.1s,MS5.3
LZH LR LR
comp=Z,2μm,14.5s,MS5.4
IBST Bostanabad 62.37 15 *e*P **P 04 20 59.2 +1.5**
ABKT Ailbek 62.50 5 P **P 04 20 59.2 +0.6**
comp=Z,163nm,0.9s,mb6.2,SNR=5.4
IEMG Emamgholi 63.02 5 *e*P **P 04 21 03.1 +1.0**
ISFR Sfrayin 63.37 6 *e*P **P 04 21 05.2 +0.8**
XAN Xi'an 63.72 319 P **P 04 21 06.1 -0.6**
XAN pP pP 04 21 12.4 +2.5
XAN pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
IAKL Akhelmad 63.83 5 *e*P **P 04 21 07.8 +0.3**
ISHM Shahmirzad 64.50 10 *e*P **P 04 21 13.6 +1.7**
IDMV Damavand 64.69 11 *e*P **P 04 21 14.0 +0.9**
IR3 Iran Long-Peri 64.76 12 *e*P **P 04 21 14.3 +0.8**
IRAZ Razeghan 64.79 13 *e*P **P 04 21 14.8 +1.1**
IANJ Anjilo 64.86 9 *e*P **P 04 21 14.4 +0.2**
IVRN Varamin 65.26 11 *e*P **P 04 21 17.0 +0.2**
IDHR Dehrash 65.33 16 *e*P **P 04 21 17.1 -0.2**
IVIS Veis 65.53 16 *e*P **P 04 21 18.2 -0.3**
CBIJ Chichi jima 65.63 287 P **P 04 21 18.1 -1.2**
comp=Z,83nm,0.8s,mb5.8,baz=330,slow=21,SNR=5.3
IGHG Ghaleghazi 65.71 16 *e*P **P 04 21 20.0 +0.3**
KBL Kabul 65.90 356 *e*P **P 04 21 20.6 -0.3**
comp=Z,40nm,1.4s,mb5.2
KBL Kabul 65.90 356 *e*P **P 04 21 20.6 -0.3**
KBL pmax pmax
comp=Z,40nm,1.4s,mb5.3
IKOM Komasi 65.91 15 *e*P **P 04 21 20.7 -0.3**
MMAI Mount Meron Ar 66.30 26 P **P 04 21 24.2 +0.7**
comp=Z,0.8nm,0.3s,mb4.2,baz=352,slow=5.8,SNR=9.9
MMAI Mount Meron Ar 66.30 26 P **P 04 21 24.2 +0.6**
WHN Wuhan 66.50 314 P **P 04 21 23.8 -1.0**
WHN pP pP 04 21 31.9 +3.8
WHN pmax pmax
comp=Z,110nm,0.9s,mb5.9
BHD Baghdad 66.65 18 *ex* x 04 21 26.0
BHD *i* x x 04 29 26.0
BHD *i* x x 04 31 23.0
IKLH Kolahrood 66.93 11 *e*P **P 04 21 28.7 +1.2**
ASF Jabal al Asfar 67.25 25 P **P 04 21 30.6 +1.0**
comp=Z,15nm,1.1s,mb5.0,baz=240,slow=4.0,SNR=22
ASF Jabal al Asfar 67.25 25 P **P 04 21 30.6 +1.0**
ASF Jabal al Asfar 67.25 25 P **P 04 21 30.6 +1.0**
ENH Enshi 67.37 318 *e*P **P 04 21 29.9 -0.5**
comp=Z,30nm,0.9s,mb5.3
IZEF Zefreh 67.37 11 *e*P **P 04 21 30.6 +0.2**
IBAF Bafgh 68.77 8 *e*P **P 04 21 39.3 +0.2**
IMEH Mehriz 68.94 9 *e*P **P 04 21 40.6 +0.4**
LSA Lhasa 69.73 335 *e*P **P 04 21 46.8 +1.7**
comp=Z,46nm,1.1s,mb5.6
LSA Lhasa 69.73 335 *e*P **P 04 21 46.8 +1.7**
LSA pmax pmax
comp=Z,46nm,1.1s,mb5.3
MIB Mutribah 70.25 16 *e*P **P 04 21 48.2 -0.1**
MIB AMb AMB 04 21 49.7
comp=Z,159nm,1.0s,mb5.9
KKR Kurukshetra 70.27 348 *e*PKP **P 04 21 48.3 -0.1**
IPAR Pars 70.44 10 *e*P **P 04 21 49.4 -0.1**
NAY Al-Naaiem 70.80 16 *e*P **P 04 21 51.2 -0.4**
NAY AMb AMB 04 21 52.7
comp=Z,26nm,1.0s,mb5.1
KBD Kabd 70.89 15 *e*P **P 04 21 52.0 -0.2**
KBD AMb AMB 04 21 53.1
comp=Z,76nm,0.8s,mb5.7
ISRV Sarvestan 70.90 10 *e*P **P 04 21 52.3 0.0**
RDF Al-Radifah 71.13 15 *e*P **P 04 21 54.2 +0.5**
RDF AMb AMB 04 21 55.7
comp=Z,131nm,1.1s,mb5.8
RTK Rohtak 71.21 349 *e*PKP **P 04 21 53.8 -0.4**
GYA Guiyang 71.46 320⇑ *i*P **P 04 21 55.6 -0.1**
GYA PP PP 04 24 34.5 +0.7
GYA S S 04 31 13.4 -0.5
GYA SKS 04 31 56.0
GYA SS SS 04 35 49.8 +2.1
GYA pmax pmax
comp=Z,20nm,1.0s,mb5.0
GYA pmax pmax
comp=Z,170nm,5.3s
GYA LR LR
comp=N,740nm,18.3s,MS5.0
GYA LR LR
comp=E,300nm,19.7s,MS5.0
GYA LR LR
comp=Z,680nm,20.3s,MS4.9
NDI New Delhi 71.53 348 *e*PKP **P 04 21 54.0 -2.1**
BHGR Bahadurgarh 71.53 348 *e*PKP **P 04 21 56.3 +0.1**
DANN Dangsing 71.55 342 *e*P **P 04 21 56.3 0.0**
comp=Z,371nm,0.9s,mb6.3
BISR Bishrakh 71.63 348 *e*PKP **P 04 21 56.9 +0.2**
AYAN Aya Nagar 71.73 348 *e*PKP **P 04 21 56.7 -0.6**
AYAN AMb AMB 04 21 58.0
comp=Z,26nm,1.0s,mb5.1
PYUN Piuthan 71.84 343 *e*P **P 04 21 57.5 -0.5**
comp=Z,178nm,1.1s,mb5.9
GKN Gorkha 71.85 341 *e*P **P 04 21 57.9 -0.1**
comp=Z,237nm,0.9s,mb6.1
GUN Gumba 71.87 340 *e*P **P 04 21 58.7 +0.6**
comp=Z,440nm,1.0s,mb6.3
SONA Sohna 71.96 348 *e*PKP **P 04 21 58.1 -0.7**
SONA AMb AMB 04 21 59.9
comp=Z,29nm,1.1s,mb5.1
KKN Kakani 72.02 340 *e*P **P 04 21 59.5 +0.4**
comp=Z,374nm,0.9s,mb6.3
KOLN Koldanda 72.14 342 *e*P **P 04 21 59.4 -0.4**
comp=Z,73nm,0.9s,mb5.6
KHET Khetri 72.18 349 *e*PKP **P 04 21 59.8 -0.3**
KHET AMb AMB 04 22 01.6
comp=Z,39nm,1.2s,mb5.2
DMN Daman 72.21 341 *e*P **P 04 22 00.7 +0.5**
comp=Z,325nm,0.9s,mb6.3
PKI Pulchoki 72.23 340 *e*P **P 04 22 00.7 +0.4**
comp=Z,305nm,1.0s,mb6.2
TAPN Taplejung 72.31 338 *e*P **P 04 22 01.2 +0.4**
comp=Z,205nm,0.9s,mb6.0
RAMN Ramite 72.78 339 *e*P **P 04 22 03.8 +0.2**
comp=Z,248nm,0.9s,mb6.2
ODAN Odare 72.81 338 *e*P **P 04 22 04.2 +0.4**
comp=Z,211nm,0.7s,mb6.2
AGRA Agra 72.94 347 *e*PKP **P 04 22 03.8 -0.8**
TAM Tamanrasset 72.95 56 *e*P **P 04 22 04.5 -0.2**
comp=Z,7.1nm,1.0s,mb4.5
TAM Tamanrasset 72.95 56 *e*P **P 04 22 04.5 -0.2**
TAM pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
KMI Kunming 73.21 324 P **P 04 22 06.4 +0.2**
KMI pP pP 04 22 10.8 +1.3
KMI sP sP 04 22 12.3 +1.6
KMI PcP PcP 04 22 23.3 +0.6
KMI PP PP 04 24 53.3 +4.6
KMI S S 04 31 33.9 0.0
KMI pmax pmax
comp=Z,27nm,0.9s,mb5.2
KMI pmax pmax
comp=Z,100nm,3.1s
KMI LR LR
comp=N,580nm,14.2s,MS5.0
KMI LR LR
comp=E,220nm,13.1s,MS5.0
KMI LR LR
comp=Z,570nm,14.2s,MS5.0
SHL Shillong 73.77 334⇑ *i*P **P 04 22 09.0 -0.5**
SHL *ex* x 04 25 15.0
BHPL Bhopal 76.93 347 *e*PKP **P 04 22 27.0 -0.7**
ROSC El Rosal 77.52 137 P **P 04 22 31.1 +0.1**
comp=Z,5.6nm,0.8s,mb4.6,baz=106,slow=23,SNR=8.2
ROSC El Rosal 77.52 137 *e*P **P 04 22 31.3 +0.2**
CHTO Chiang Mai 79.84 327 *e*P **P 04 22 42.7 -1.1**
comp=Z,38nm,1.4s,mb5.1
CHTO Chiang Mai 79.84 327 *e*P **P 04 22 42.7 -1.1**
CHTO pmax pmax
comp=Z,38nm,1.4s,mb5.1
CM31 Chiang Mai Arr 80.19 327 *e*P **P 04 22 45.1 -0.6**
comp=Z,16nm,0.9s,mb5.0
CMAR Chiang Mai Arr 80.19 327 P **P 04 22 45.0 -0.7**
comp=Z,20nm,0.8s,mb5.1,baz=349,slow=6.1,SNR=84
CMAR Chiang Mai Arr 80.19 327 P **P 04 22 45.0 -0.7**
CMAR Chiang Mai Arr 80.19 327 P **P 04 22 45.0 -0.7**

POO	**Poona**	**81.74**	**351**	*e*PKP		**P**		**04 22 53.1**	**-0.9**
TORD	**Torodi Ar. Bea**	**81.84**	**61**	P		**P**		**04 22 53.2**	**-1.2**
	comp=Z,17nm,0.9s,mb5.0,baz=332,slow=5.1,SNR=87								
TORD				PKKPbc		PKKPbc		04 41 21.4	+0.3
	comp=Z,0.4nm,0.5s,baz=165,slow=3.9,SNR=10								
TORD	**Torodi Ar. Bea**	**81.84**	**61**	P		**P**		**04 22 53.2**	**-1.2**
TORD				PKKPbc		PKKPbc		04 41 21.4	+0.3
HYB	**Hyderabad**	**82.68**	**346**	*i* P		**P**		**04 22 58.0**	**-0.8**
KAD	**Karad**	**82.94**	**350**	*e*PKP		**P**		**04 23 00.0**	**-0.2**
KAD				AMb		AMB		04 23 01.6	
	comp=Z,64nm,1.2s,mb5.5								
DBIC	**Dimbokro**	**87.13**	**68**	P		**P**		**04 23 20.5**	**-0.8**
	comp=Z,7.7nm,0.9s,mb4.9,baz=318,slow=11,SNR=4.0								
DBIC	**Dimbokro**	**87.13**	**68**	P		**P**		**04 23 20.5**	**-0.8**
DBIC	**Dimbokro**	**87.13**	**68**	P		**P**		**04 23 20.5**	**-0.8**
KKM	**Kota Kinabalu**	**90.36**	**308**	P		**P**		**04 23 37.1**	**+0.5**
	comp=Z,30nm,1.1s,mb5.5								
MYLDM	**Lahad Datu**	**90.89**	**306**	P		**P**		**04 23 40.3**	**+1.3**
	comp=Z,40nm,1.2s,mb5.6								
IPM	**Ipoh**	**93.80**	**323**	P		**P**		**04 23 52.1**	**-0.3**
PSI	**Prapat**	**95.67**	**325**	P		**P**		**04 23 60.0**	**-1.1**
	comp=Z,30nm,0.9s,mb5.7,baz=336,slow=5.9,SNR=17								
PSI	**Prapat**	**95.67**	**325**	P		**P**		**04 23 60.0**	**-1.1**
PSI	**Prapat**	**95.67**	**325**	P		**P**		**04 24 00.0**	**-1.0**
FITZ	**Fitzroy Crossi**	**112.64**	**295**	*e*P		PKiKP		04 29 12.9	+1.5
	comp=Z,7.1nm,1.1s								
WRA	**Warramunga Arr**	**112.99**	**286**	Pdiff		Pdif		04 25 15.9	-2.8
	comp=Z,0.9nm,1.1s,baz=14,slow=4.7,SNR=4.5								
WRA				PP		PP		04 29 57.3	-3.8
	comp=Z,2.4nm,1.0s,baz=13,slow=7.8,SNR=5.1								
WRA	**Warramunga Arr**	**112.99**	**286**	Pdif		Pdif		04 25 15.9	-2.8
WRA				PP		PP		04 29 57.3	-3.8
WRA	**Warramunga Arr**	**112.99**	**286**	P		Pdif		04 25 15.9	-2.8
ASAR	**Alice Springs**	**116.71**	**286**	PKP		PKPdf		04 29 17.2	-1.9
	comp=Z,3.8nm,0.6s,baz=12,slow=2.4,SNR=16								
ASAR	**Alice Springs**	**116.71**	**286**	PKP		PKPdf		04 29 17.2	-1.9
ASAR	**Alice Springs**	**116.71**	**286**	PKIKP		PKPdf		04 29 17.2	-1.9
LBTB	**Lobatse**	**122.72**	**42**	PKP		PKPdf		04 29 29.1	-1.5
	comp=Z,2.4nm,0.6s,baz=87,slow=10,SNR=3.7								
LBTB	**Lobatse**	**122.72**	**42**	PKP		PKPdf		04 29 29.1	-1.5
LBTB	**Lobatse**	**122.72**	**42**	PKIKP		PKPdf		04 29 29.1	-1.5
STKA	**Stephens Creek**	**123.38**	**276**	PKP		PKPdf		04 29 28.9	-2.8
	comp=Z,4.0nm,0.8s,baz=113,slow=5.3,SNR=11								
STKA	**Stephens Creek**	**123.38**	**276**	*e*P		PKPdf		04 29 29.8	-1.9
	comp=Z,2.1nm,0.5s								
STKA	**Stephens Creek**	**123.38**	**276**	PKP		PKPdf		04 29 28.9	-2.8
STKA	**Stephens Creek**	**123.38**	**276**	PKIKP		PKPdf		04 29 28.9	-2.8
FORT	**Forrest**	**124.66**	**290**	*e*P		PKPdf		04 29 30.0	-4.2
	comp=Z,20nm,1.0s								
BOSA	**Boshof**	**126.23**	**43**	PKP		PKPdf		04 29 35.6	-1.6
	comp=Z,5.4nm,0.9s,baz=230,slow=14,SNR=5.0								
BOSA	**Boshof**	**126.23**	**43**	PKP		PKPdf		04 29 35.6	-1.6
BOSA	**Boshof**	**126.23**	**43**	PKIKP		PKPdf		04 29 35.6	-1.6
KLBR	**Kellerberrin**	**127.11**	**301**	*e*P		PKPdf		04 29 37.1	-1.7
	comp=Z,12nm,0.9s								
VNA1	**Neumayer--Stat**	**161.02**	**102**	*e*		PKPab		04 31 13.5	-3.4
VNA3	**Neumayer Olymp**	**161.28**	**105**	*e*		PKPpre		04 30 23.4	
VNA3				*e*				04 31 12.7	
VNA3				*e*				04 35 09.8	
VNA2	**Neumayer--Watz**	**161.40**	**102**	*e*		PKPpre		04 30 22.6	
VNA2				*e*				04 31 14.3	
VNDA	**Vanda**	**162.78**	**227**	PKPab		PKPab		04 31 24.6	0.0
	comp=Z,5.9nm,0.9s,baz=340,slow=4.3,SNR=11								
SNAA	**Sanae**	**162.83**	**99**	PKPab		PKPab		04 31 24.5	-0.4
	comp=Z,0.5nm,1.0s,baz=332,slow=5.6,SNR=6.1								
SYO	**Syowa Base**	**167.52**	**44**	*e*P		PKPab		04 31 44.0	-1.6
QSPA	**South Pole Qui**	**169.72**	**180**	PKPab		PKPab		04 31 55.1	-0.1
	comp=Z,5.2nm,1.0s,baz=83,slow=1.7,SNR=5.0								

IDC 18 04:48:32.4±2.0, 4.02°N×126.63°E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/22, mbtmp3.5/4, Error ellipse: s-maj=112.5km s-min=26.3km az=69.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.01**	**183**	P	P	04 53 28.3	-0.1
	0.3nm,0.3s,baz=11,slow=13,SNR=4.1						
WRA	**Warramunga Arr**	**24.99**	**163**	P	P	04 53 56.8	-1.2
	1.8nm,0.8s,baz=342,slow=10,SNR=14						
ASAR	**Alice Springs**	**28.42**	**166**	P	P	04 54 30.9	+2.0
	0.3nm,0.5s,baz=344,slow=9.6,SNR=3.6						
MKAR	**Makanchi Array**	**57.26**	**325**	P	P	04 58 21.8	+0.1
	0.5nm,0.8s,baz=112,slow=6.6,SNR=4.2						

BGS ***18*** *04:52:46.2±2.4, 78.75°N×115.45°W, h10km, mb5.2*
BJI ***18*** *04:52:46.3, 79.70°N×115.30°W, h10km, mB5.5/30, mb5.5/54, Ms5.4/43, Ms7 5.0/44*
MOS ***18*** *04:52:49.8±0.8, 79.70°N×115.76°W, h12km, mb5.4/101, MS4.6/22, Error ellipse: s-maj=26.9km s-min=3.3km az=87.2*
ISCJB ***18*** *04:52:49.6±0.1, 79.754°N±0.010°×115.5°W±0.1, h10km, mb5.3/346, MS4.7/76, Error ellipse: s-maj=2.8km s-min=1.3km az=10.4*
IDC ***18*** *04:52:49.2±0.3, 79.69°N×115.63°W, h0km, mb4.9/37, mb1 5.0/40, mb1mx5.0/42, mbtmp4.9/40, ML4.9/3, MS4.6/43, Ms1 4.6/43, ms1mx4.6/53, Error ellipse: s-maj=10.6km s-min=8.7km az=109.0*
OTT ***18*** *04:52:49.8±1.3, 79.53°N×115.68°W, h18km, mb5.5/25, Arctic Ocean. Aftershock. 270km northwest from Isachsen, Nu*
GCMT ***18*** *04:52:51.6±0.1, 79.66°N×116.22°W, h12km, MW5.2, Moment Tensor Solution. s87,c143; s21,c21; Moment tensor: Scale 10^16 Nm; Mrr 8.24±.12; Mθθ -3.39±.12; Mφφ -4.85±.14; Mrθ 1.34±.35; Mrφ -4.05±.10; Mθφ 0.42±.36; Best double couple: M0 8.40000×10^16 NP1: φs 215.00000°, δ 41.00000°, λ 82.00000°. NP2: φs 45.00000°, δ 49.00000°, λ 97.00000°. Principal axes: T 8.3900, Plg83.0000°, Azm2.0000°; N -0.0700, Plg5.0000°, Azm221.0000°; P -8.3200, Plg4.0000°, Azm130.0000°; Data Used: II IU IC G CN. Surface waves: sta=103, comp=184, per= 50.*
NEIC ***18*** *04:52:51.3±0.1, 79.74°N×115.45°W, h10km, mb5.3/204, ML5.6(OTT) Error ellipse: s-maj=3.2km s-min=2.1km az=109.0*
DJA ***18*** *04:52:53, 79.91°N×115.33°W, h10km, mb5.6/11*

ISC 18 04:52:50.4±1.1, 79.75°N±0.01°×115.5°W±0.1, h3km±7km, h15km±2.1km: pP-P, n1314, σ0.78/1321, mb5.3/346, MS4.7/76, 285C-203D, Arctic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUNU	**Eureka**	**5.09**	**72**	Pn	**Pn**	**04 54 06.2**	**-1.2**
EUNU				Sn	**Sn**	**04 54 58.9**	**-7.8**
EUNU	**Eureka**	**5.09**	**72**	PN	**Pn**	**04 54 06.2**	**-1.2**
EUNU				mb		04 54 07.6	
	comp=Z,302nm,0.2s						
EUNU				SN	**Sn**	**04 54 58.9**	**-7.8**
EUNU				Trac		04 55 06.2	
	comp=Z,839nm,0.6s						
RES	**Resolute Bay**	**6.78**	**128**	Pn	**Pn**	**04 54 25.1**	**-5.5**
	88nm,0.3s,baz=330,slow=12,SNR=1826						
RES				Sn	**Sn**	**04 55 36.8**	**-11**
	77nm,0.3s,baz=350,slow=6.9,SNR=5.8						
RES				LR	LR	04 57 39.2	
	comp=Z,6μm,18.4s,baz=27,slow=43						
RES	**Resolute Bay**	**6.78**	**128**	*e*Pn	**Pn**	**04 54 26.7**	**-3.9**
RES				*e*S	**Sn**	**04 55 39.5**	**-8.7**
RES	**Resolute Bay**	**6.78**	**128**	*e*P	**Pn**	**04 54 26.7**	**-3.9**
RES	**Resolute Bay**	**6.78**	**128**	PN	**Pn**	**04 54 27.1**	**-3.6**
RES				mb		04 54 28.9	
	comp=Z,302nm,0.2s						
RES				SN	**Sn**	**04 55 37.4**	**-11**
RES				Trac		04 55 41.3	
	comp=Z,371nm,0.4s						
ALE	**Alert**	**8.35**	**46**	Pn	**Pn**	**04 54 50.0**	**-2.0**
	469nm,1.1s,SNR=41						
CB31	**Cambridge Bay**	**11.01**	**160**	PN	**Pn**	**04 55 22.4**	**-6.0**
CB31				mb		04 55 27.9	
	comp=Z,244nm,0.2s						
CB31				SN	**Sn**	**04 57 13.2**	**-19**
CB31				Trac		04 57 21.1	
	comp=Z,507nm,0.4s						
INK	**Inuvik**	**12.41**	**212**	Pn	**Pn**	**04 55 41.6**	**-5.9**
	1.3nm,0.3s,baz=20,slow=16,SNR=96						
INK				Sn	**Sn**	**04 57 51.2**	**-15**
	20nm,0.3s,baz=268,slow=23,SNR=10						
INK	**Inuvik**	**12.41**	**212**	*e*Pn	**Pn**	**04 55 41.8**	**-5.8**
INK				*e*S	**Sn**	**04 57 51.6**	**-14**
INK	**Inuvik**	**12.41**	**212**	*e*P	**Pn**	**04 55 41.8**	**-5.8**
INK	**Inuvik**	**12.41**	**212**	PN	**Pn**	**04 55 41.3**	**-6.3**
INK				mb		04 55 47.6	
	comp=Z,78nm,0.8s						
INK				SN	**Sn**	**04 57 47.6**	**-18**
INK				Trac		04 57 57.4	
	comp=Z,223nm,0.9s						
KUGN	**Kugaaruk Camp,**	**13.44**	**136**	Pn	**Pn**	**04 55 53.5**	**-8.1**
KUGN	**Kugaaruk Camp,**	**13.44**	**136**	PN	**Pn**	**04 55 53.5**	**-8.1**
KUGN				mb		04 55 56.0	
	comp=Z,129nm,0.9s						
KUGN				SN	Sn	04 58 08.7	-23
KUGN				Trac		04 58 27.6	
	comp=Z,271nm,1.2s						
STLN	**Stellar Camp,**	**13.84**	**142**	Pn	**Pn**	**04 55 59.3**	**-7.8**
STLN				Sn	**Sn**	**04 58 26.1**	**-15**
STLN	**Stellar Camp,**	**13.84**	**142**	PN	**Pn**	**04 55 59.3**	**-7.8**
STLN				mb		04 56 01.3	
	comp=Z,250nm,0.8s						
STLN				SN	**Sn**	**04 58 26.1**	**-15**
STLN				Trac		04 58 27.7	
	comp=Z,85nm,0.6s						
JERN	**Jeri Cho Mine,**	**13.85**	**173**	PN	**Pn**	**04 56 00.1**	**-7.1**
JERN				mb		04 56 02.0	
	comp=Z,90nm,0.5s						
JERN				SN	**Sn**	**04 58 21.6**	**-20**
JERN				Trac		04 58 26.2	
	comp=Z,108nm,0.6s						
SRLN	**Sarcpa Lake, N**	**13.93**	**125**	Pn	**Pn**	**04 56 01.7**	**-6.5**
SRLN	**Sarcpa Lake, N**	**13.93**	**125**	PN	**Pn**	**04 56 01.7**	**-6.5**
SRLN				mb		04 56 04.7	
	comp=Z,105nm,0.5s						
BULN	**Bullion Camp,**	**14.71**	**143**	Pn	**Pn**	**04 56 10.4**	**-8.5**
BULN				Sn	Sn	04 58 40.5	-22
BULN	**Bullion Camp,**	**14.71**	**143**	PN	**Pn**	**04 56 10.4**	**-8.5**
BULN				mb		04 56 14.6	
	comp=Z,45nm,0.2s						
BULN				SN	Sn	04 58 40.5	-22
BULN				Trac		04 59 02.3	
	comp=Z,307nm,1.3s						
QILN	**Qililugaq Expl**	**15.28**	**133**	Pn	**Pn**	**04 56 19.0**	**-7.6**
QILN				Sn	**Sn**	**04 58 57.5**	**-19**
QILN	**Qililugaq Expl**	**15.28**	**133**	PN	**Pn**	**04 56 19.0**	**-7.6**
QILN				mb		04 56 22.3	
	comp=Z,364nm,1.2s						
QILN				SN	**Sn**	**04 58 57.5**	**-19**
QILN				Trac		04 59 07.0	
	comp=Z,36nm,0.6s						
CTLN	**Castor Lake**	**15.40**	**181**	Pn	**Pn**	**04 56 20.3**	**-8.0**
CTLN				Sn	Sn	04 58 56.8	-22
CTLN	**Castor Lake**	**15.40**	**181**	PN	**Pn**	**04 56 20.3**	**-8.0**
CTLN				mb		04 56 23.1	
	comp=Z,65nm,0.8s						
CTLN				SN	Sn	04 58 56.8	-22
CTLN				Trac		04 59 01.3	
	comp=Z,175nm,0.8s						
COLD	**Coldfoot**	**15.52**	**236**	*e*Pn	**Pn**	**04 56 25.7**	**-4.0**
	55nm,1.2s						
COLD				*e*S	Sn	04 58 56.8	-25
ILKN	**Indian Lake**	**15.61**	**179**	Pn	**Pn**	**04 56 23.0**	**-7.9**
ILKN				Sn	**Sn**	**04 59 05.2**	**-19**
ILKN	**Indian Lake**	**15.61**	**179**	PN	**Pn**	**04 56 23.0**	**-7.9**
ILKN				mb		04 56 27.9	
	comp=Z,83nm,0.4s						
ILKN				SN	**Sn**	**04 59 05.2**	**-19**
ILKN				Trac		04 59 08.1	
	comp=Z,330nm,0.9s						
WAGN	**Wager Bay**	**15.63**	**138**	PN	**Pn**	**04 56 22.6**	**-8.6**
WAGN				mb		04 56 24.2	
	comp=Z,334nm,1.1s						
WAGN				SN	Sn	04 59 00.1	-24
WAGN				Trac		04 59 08.1	
	comp=Z,48nm,0.6s						
GALN	**Gameti Lake**	**15.72**	**183**	Pn	**Pn**	**04 56 24.0**	**-8.4**
GALN				Sn	**Sn**	**04 59 07.5**	**-19**
GALN	**Gameti Lake**	**15.72**	**183**	PN	**Pn**	**04 56 24.0**	**-8.4**
GALN				mb		04 56 26.3	
	comp=Z,70nm,0.5s						
GALN				SN	**Sn**	**04 59 07.5**	**-19**
GALN				Trac		04 59 24.9	
	comp=Z,98nm,0.8s						
NUNN	**Nunuq Camp, NU**	**16.08**	**141**	Pn	**Pn**	**04 56 27.8**	**-9.2**
NUNN				Sn	**Sn**	**04 59 14.9**	**-21**
NUNN	**Nunuq Camp, NU**	**16.08**	**141**	PN	**Pn**	**04 56 27.8**	**-9.2**
NUNN				mb		04 56 31.8	
	comp=Z,513nm,1.4s						
NUNN				SN	**Sn**	**04 59 14.9**	**-21**
NUNN				Trac		04 59 22.9	
	comp=Z,85nm,1.1s						
EGAK	**Eagle**	**16.64**	**220**	*e*Pn	**Pn**	**04 56 38.8**	**-5.4**
	70nm,1.0s						
EGAK				*e*S	**Sn**	**04 59 33.1**	**-16**
COKN	**Cook Lake**	**16.68**	**169**	PN	**Pn**	**04 56 36.4**	**-8.3**
COKN				mb		04 56 45.9	
	comp=Z,203nm,0.8s						
COKN				SN	Sn	04 59 27.1	-23
COKN				Trac		04 59 34.1	
	comp=Z,68nm,0.5s						
DAWY	**Dawson**	**17.13**	**217**	*e*Pn	**Pn**	**04 56 44.9**	**-5.4**
DAWY				*e*S	Sn	04 59 39.7	-21
DAWY	**Dawson**	**17.13**	**217**	PN	**Pn**	**04 56 44.7**	**-5.7**
DAWY				mb		04 56 58.6	
	comp=Z,141nm,1.4s						
DAWY				SN	Sn	04 59 38.6	-22
DAWY				Trac		04 59 49.5	
	comp=Z,38nm,0.6s						
YKW3	**Yellowknife Ar**	**17.28**	**179**	Pn	**Pn**	**04 56 45.4**	**-6.9**
YKW3				Sn	Sn	04 59 40.7	-24
YKW3	**Yellowknife Ar**	**17.28**	**179**	PN	**Pn**	**04 56 45.4**	**-6.9**
YKW3				mb		04 56 49.6	
	comp=Z,38nm,0.3s						
YKW3				SN	Sn	04 59 40.7	-24
YKW3				Trac		04 59 49.0	
	comp=Z,34nm,0.5s						
YKA	**Yellowknife Ar**	**17.35**	**179**	Pn	**Pn**	**04 56 45.5**	**-7.5**
	7.7nm,0.3s,baz=356,slow=13,SNR=81						
YKA				Sn	Sn	04 59 44.8	-21
	6.8nm,0.3s,baz=1.4,slow=22,SNR=8.4						
YKA	**Yellowknife Ar**	**17.35**	**179**	Pn	**Pn**	**04 56 45.5**	**-7.5**
YKA				Sn	Sn	04 59 44.8	-21
YKA	**Yellowknife Ar**	**17.35**	**179**	P	**Pn**	**04 56 45.5**	**-7.6**
ILAR	**Eielson Array**	**17.36**	**228**	Pn	**Pn**	**04 56 49.6**	**-3.6**
	3.2nm,0.3s,baz=15,slow=14,SNR=59						
ILAR				Sn	**Sn**	**04 59 52.0**	**-15**
	1.5nm,0.3s,baz=10.0,slow=27,SNR=7.5						
ILAR				LR	LR	05 04 40.8	
	comp=Z,759nm,19.1s,baz=180,slow=41						
ILAR	**Eielson Array**	**17.36**	**228**	Pn	**Pn**	**04 56 49.6**	**-3.6**
ILAR				Sn	**Sn**	**04 59 52.0**	**-15**
ILAR				LR	LR	05 04 40.8	
ILAR	**Eielson Array**	**17.36**	**228**	P	**Pn**	**04 56 49.7**	**-3.5**
COLA	**College**	**17.39**	**230**	*e*Pn	**Pn**	**04 56 52.6**	**-1.1**
	284nm,1.8s						
COLA				*e*S	**Sn**	**04 59 54.5**	**-13**
COLA	**College**	**17.39**	**230**	*e*P	**Pn**	**04 56 52.6**	**-1.0**
COLA				pmax	pmax		
	comp=Z,284nm,1.8s						
WHFN	**White Fish Lak**	**17.45**	**167**	PN	**Pn**	**04 56 47.3**	**-7.1**
WHFN				mb		04 56 56.4	
	comp=Z,57nm,0.7s						
WHFN				SN	Sn	04 59 47.4	-21
WHFN				Trac		04 59 53.4	
	comp=Z,113nm,0.8s						
DAG	**Danmarks Havn**	**17.74**	**49**	*e*P	**Pn**	**04 56 55.0**	**-2.9**
DAG				pmax	pmax		
	comp=Z,18nm,0.9s						
DAG				MLR	MLR		
	comp=Z,3μm,16.0s						
DAG	**Danmarks Havn**	**17.74**	**49**	*i* P	**Pn**	**04 56 55.0**	**-2.9**
	comp=Z,22nm,0.9s						
DAG							
	comp=Z,3μm,16.0s						
SEDN	**First Sedna Si**	**17.97**	**143**	PN	**Pn**	**04 56 52.5**	**-8.3**
SEDN				mb		04 56 57.9	
	comp=Z,127nm,0.6s						
SEDN				SN	Sn	04 59 56.1	-25
SEDN				Trac		05 00 04.3	
	comp=Z,38nm,0.5s						
JOSN	**Second Sedna S**	**18.02**	**143**	PN	**Pn**	**04 56 53.8**	**-7.7**
JOSN				mb		04 56 60.0	
	comp=Z,120nm,0.7s						
JOSN				SN	Sn	05 00 01.6	-21
JOSN				Trac		05 00 25.4	
	comp=Z,146nm,1.5s						
DOT	**Dot Lake**	**18.08**	**223**	*e*Pn	**Pn**	**04 57 01.1**	**-0.9**
	comp=Z,555nm,1.4s						
SUMG	**Summit**	**18.16**	**70**	*e*Pn	**Pn**	**04 56 59.7**	**-3.3**
	comp=Z,465nm,1.0s						
SUMG				*e*S	**Sn**	**05 00 08.5**	**-17**
SUMG	**Summit**	**18.16**	**70**	*e*P	**Pn**	**04 56 59.7**	**-3.3**
SUMG				pmax	pmax		
	comp=Z,465nm,1.0s						
SUMG	**Summit**	**18.16**	**70**	*i* P	**Pn**	**04 56 59.2**	**-3.8**
	comp=Z,358nm,1.0s						
MCK	**McKinley**	**18.63**	**230**	*e*Pn	**Pn**	**04 57 08.9**	**0.0**
	comp=Z,233nm,1.6s						
MCK				*e*S	**Sn**	**05 00 23.4**	**-14**
MCK	**McKinley**	**18.63**	**230**	*e*P	**Pn**	**04 57 08.9**	**0.0**
MCK				*e*S	**Sn**	**05 00 23.4**	**-14**
MCK				pmax	pmax		
	comp=Z,233nm,1.6s						
MENT	**Mentasta**	**18.72**	**222**	*e*P	**Pn**	**04 57 10.3**	**+0.3**
PAX	**Paxson**	**18.91**	**225**	*e*Pn	**Pn**	**04 57 11.6**	**-0.5**
	comp=Z,162nm,1.6s						
PAX	**Paxson**	**18.91**	**225**	*e*P	**Pn**	**04 57 11.6**	**-0.6**
PAX				pmax	pmax		
	comp=Z,163nm,1.6s						
TRF	**Thorofare Moun**	**19.09**	**232**	*e*P	**Pn**	**04 57 14.4**	**0.0**
	comp=Z,360nm,1.6s						
TRF				*e*S	**Sn**	**05 00 37.4**	**-11**
ARVN	**Arviat, NU**	**19.80**	**148**	Pn	**Pn**	**04 57 15.4**	**-7.5**
ARVN				Sn	Sn	05 00 43.8	-22
ARVN	**Arviat, NU**	**19.80**	**148**	PN	**Pn**	**04 57 15.4**	**-7.5**
ARVN				mb		04 57 18.1	
	comp=Z,285nm,1.2s						
ARVN				SN	Sn	05 00 43.8	-22
ARVN				Trac		05 01 12.6	
	comp=Z,158nm,1.3s						
PPLA	**Purkeypile**	**19.89**	**234**	*e*P	**Pn**	**04 57 23.4**	**-0.6**
	comp=Z,492nm,1.6s						
TNA	**Tin City**	**19.93**	**255**	*e*P	**Pn**	**04 57 24.2**	**-0.2**
	comp=Z,110nm,1.1s						
TNA				*e*S	**Sn**	**05 00 50.7**	**-18**
WHY	**Whitehorse**	**20.04**	**208**	Pn	**P**	**04 57 23.6**	**-0.4**
WHY				Sn	**S**	**05 00 55.0**	**-14**
WHY	**Whitehorse**	**20.04**	**208**	PN	**P**	**04 57 23.6**	**-0.4**
WHY				mb		04 57 30.0	
	comp=Z,58nm,1.3s						
WHY				SN	**S**	**05 00 55.0**	**-14**
WHY				Trac		05 01 55.6	
	comp=Z,46nm,1.8s						
SPITS	**Spitsbergen Ar**	**20.28**	**26**	P	**P**	**04 57 26.0**	**-0.6**
	comp=Z,16nm,1.0s,baz=260,slow=12,SNR=3.5						
SPITS				LR	LR	05 04 32.1	
	comp=Z,1μm,18.1s,MS4.2,baz=10.0,slow=35						
SPITS	**Spitsbergen Ar**	**20.28**	**26**	P	**P**	**04 57 25.9**	**-0.6**
SPITS				LR	LR	05 04 32.1	
SPITS	**Spitsbergen Ar**	**20.28**	**26**	P	**P**	**04 57 26.0**	**-0.5**
SML	**Sawmill**	**20.40**	**228**	*e*P	**P**	**04 57 28.1**	**+0.1**
	comp=Z,34nm,1.1s						
SML	**Sawmill**	**20.40**	**228**	*e*P	**P**	**04 57 28.1**	**+0.2**
SML				pmax	pmax		
	comp=Z,33nm,1.1s						
FRB	**Frobisher Bay**	**20.69**	**113**	P	**P**	**04 57 28.4**	**-2.6**
	comp=Z,60nm,1.0s,baz=342,slow=13,SNR=13						
FRB				LR	LR	05 06 14.1	
	comp=Z,4μm,18.1s,MS4.8,baz=123,slow=39						
FRB	**Frobisher Bay**	**20.69**	**113**	P	**P**	**04 57 28.4**	**-2.6**
FRB				LR	LR	05 06 14.1	
FRB	**Frobisher Bay**	**20.69**	**113**	P	**P**	**04 57 28.4**	**-2.6**
FRB	**Frobisher Bay**	**20.69**	**113**	PN	**P**	**04 57 28.1**	**-3.0**
FRB				SN	**S**	**05 01 01.7**	**-21**
PMR	**Palmer**	**20.71**	**228**	*e*P	**P**	**04 57 30.9**	**-0.4**
	comp=Z,40nm,1.6s						
PMR	**Palmer**	**20.71**	**228**	*e*P	**P**	**04 57 30.9**	**-0.4**
PMR				pmax	pmax		
	comp=Z,40nm,1.6s						
DIV	**Divide**	**20.73**	**224**	*e*P	**P**	**04 57 30.6**	**-0.9**
	comp=Z,99nm,1.4s						
BMRM	**Bremner River**	**20.74**	**222**	*e*P	**P**	**04 57 31.7**	**+0.1**
	comp=Z,70nm,1.0s						
SFJD	**Kangerlussuaq**	**20.85**	**90**	*e*P	**P**	**04 57 32.8**	**0.0**
	comp=Z,147nm,1.3s						
SFJD	**Kangerlussuaq**	**20.85**	**90**	*e*P	**P**	**04 57 32.8**	**0.0**
SFJD				pmax	pmax		
	comp=Z,147nm,1.3s						
SFJD	**Kangerlussuaq**	**20.85**	**90**	*i* P	**P**	**04 57 32.0**	**-0.8**
	comp=Z,43nm,1.0s						
FNBB	**Fort Nelson**	**21.09**	**191**	PN	**P**	**04 57 33.0**	**-2.4**
FNBB				mb		04 57 38.0	
	comp=Z,338nm,1.4s						
FNBB				SN	**S**	**05 01 14.5**	**-16**
FNBB				Trac		05 01 31.8	
	comp=Z,97nm,1.8s						
SKAG	**Skagway**	**21.26**	**209**	*e*P	**P**	**04 57 37.5**	**+0.2**
	comp=Z,39nm,0.9s,mb4.7						
SPU	**Mount Spurr**	**21.51**	**232**	*e*P	**P**	**04 57 39.6**	**-0.4**
DLBC	**Dease Lake**	**21.88**	**201**	P	**P**	**04 57 42.9**	**-1.1**
	comp=Z,18nm,0.9s,mb4.5,baz=4.5,slow=10,SNR=20						
DLBC				LR	LR	05 08 15.8	
	comp=Z,1μm,18.2s,MS4.4,baz=190,slow=42						
DLBC	**Dease Lake**	**21.88**	**201**	*e*P	**P**	**04 57 43.9**	**-0.1**
DLBC	**Dease Lake**	**21.88**	**201**	PN	**P**	**04 57 44.0**	**0.0**
DLBC				mb		04 57 56.0	
	comp=Z,214nm,1.6s						
SLKM	**Skilak Lake**	**21.91**	**229**	*e*P	**P**	**04 57 44.1**	**0.0**
SLKM	**Skilak Lake**	**21.91**	**229**	*e*P	**P**	**04 57 44.1**	**-0.1**
AKVQ	**Akulivik**	**21.98**	**127**	PN	**P**	**

comp=Z,2µm,19.6s,MS4.7,baz=172,slow=38
BORG Borgarnes 27.98 66 P **P 04 58 42.6 +0.9**
BORG LR LR 05 10 47.4
BORG Borgarnes 27.98 66 P **P 04 58 42.6 +0.9**
BBB Bella Bella 28.01 197 LR LR 05 10 35.7
comp=Z,828nm,18.3s,MS4.4,baz=196,slow=38
VIMO Victor Mine 29.04 139 PN **P 04 58 47.8 -3.4**
KEV Kevo 29.21 26 *eP* **P 04 58 52.0 -0.6**
comp=Z,57nm,1.1s,mb5.2
KEV Kevo 29.21 26 *eP* **P 04 58 52.0 -0.6**
KEV pmax pmax
comp=Z,57nm,1.1s,mb5.2
KEV Kevo 29.21 26 *ep* **P 04 58 50.8 -1.8**
comp=Z,16nm,0.7s,mb4.8
ARCES ARCESS Array B 29.31 27 P **P 04 58 52.8 -0.6**
comp=Z,37nm,1.1s,mb5.0,baz=345,slow=5.0,SNR=21
ARCES PcP PcP 05 01 57.5 -1.9
comp=Z,5.5nm,0.8s,baz=349,slow=5.6,SNR=5.1
ARCES LR LR 05 10 17.9
comp=Z,1µm,18.5s,MS4.6,baz=164,slow=36
ARCES ARCESS Array B 29.31 27 P **P 04 58 52.8 -0.6**
ARCES PcP PcP 05 01 57.5 -1.9
ARCES LR LR 05 10 17.9
ARCES ARCESS Array B 29.31 27 P **P 04 58 52.8 -0.6**
ARCES 05 01 57.6
SEY Seymchan 29.33 291⇑ *iP* **P 04 58 54.1 +0.5**
SCHQ Schefferville 29.44 118 P **P 04 58 52.9 -1.8**
comp=Z,10nm,0.8s,mb4.6,baz=354,slow=6.8,SNR=5.0
SCHQ LR LR 05 11 09.0
comp=Z,2µm,20.0s,MS4.8,baz=95,slow=37
SCHQ Schefferville 29.44 118 *eP* **P 04 58 54.1 -0.6**
LG4Q La Grande 4 29.51 127 PN **P 04 58 53.0 -2.3**
KTK1 Kautokeino 29.63 29 *eP* **P 04 58 56.4 +0.1**
ULM Lac du Bonnet 30.39 155 P **P 04 59 00.9 -2.3**
comp=Z,40nm,1.1s,mb5.1,baz=357,slow=7.7,SNR=16
ULM LR LR 05 12 07.5
comp=Z,4µm,19.1s,MS5.1,baz=202,slow=38
ULM Lac du Bonnet 30.39 155 P **P 04 59 00.9 -2.3**
ULM LR LR 05 12 07.5
ULM Lac du Bonnet 30.39 155 P **P 04 59 00.9 -2.2**
A14A Double T Ranch 30.91 177⇑P **P 04 59 07.5 -0.2**
baz=31,SNR=9.2
A15A Johnson Ranch, 30.91 176⇑P **P 04 59 07.6 -0.1**
baz=31,SNR=13
A12A Yaak River Ran 30.94 180⇑P **P 04 59 09.0 +1.0**
baz=31
A17A Triple J Farms 30.98 174⇑P **P 04 59 07.4 -0.9**
baz=31,SNR=12
A18A Metzger Ranch, 31.02 173⇓P **P 04 59 08.1 -0.6**
baz=31,SNR=6.2
A21A Bergtoll Ranch 31.03 169⇑P **P 04 59 08.3 -0.5**
baz=31,SNR=12
A19A Klindworth Far 31.04 171⇓P **P 04 59 08.6 -0.3**
baz=31,SNR=30
A22A Carney Farms, 31.07 168⇑P **P 04 59 08.6 -0.5**
baz=31
A20A Cobblestone Ra 31.11 170⇑P **P 04 59 09.1 -0.4**
baz=31,SNR=11
A24A Westby 31.21 165⇓P **P 04 59 09.3 -1.1**
baz=31,SNR=7.9
B12A Libby 31.40 180⇓P **P 04 59 12.4 +0.3**
baz=31,SNR=6.8
B16A M & M Farms, S 31.49 175⇑P **P 04 59 12.6 -0.3**
baz=31,SNR=5.5
B13A Whitefish 31.50 179⇑P **P 04 59 13.1 +0.1**
baz=31,SNR=5.6
B19A Brinkman Farms 31.50 172⇓P **P 04 59 12.4 -0.5**
baz=31,SNR=18
B14A Marquette Ranc 31.52 177⇓P **P 04 59 13.0 -0.1**
baz=31,SNR=7.5
B18A Beardsley Farm 31.55 173⇑P **P 04 59 12.8 -0.5**
baz=31,SNR=9.6
B20A Solberg Farm, 31.55 170⇑P **P 04 59 12.9 -0.4**
baz=31,SNR=17
B15A Bradely Ranch, 31.58 176⇓P **P 04 59 13.0 -0.6**
baz=31,SNR=19
LVZ Lovozero 31.59 21 *eP* **P 04 59 13.6 +0.1**
comp=Z,99nm,0.9s,mb5.6
LVZ Lovozero 31.59 21 *diP* **P 04 59 13.8 +0.3**
LVZ pmax pmax
comp=Z,176nm,1.7s,mb5.6
LVZ Lovozero 31.59 21 P **P 04 59 13.0 -0.5**
comp=Z,674nm,0.7s,mb6.6,SNR=5.7
B21A Ellsworth Farm 31.59 169⇓P **P 04 59 13.3 -0.4**
baz=32,SNR=9.3
NEW Newport 31.61 182⇑P **P 04 59 14.5 +0.5**
baz=32,SNR=5.9
NEW Newport 31.61 182 *eP* **P 04 59 15.2 +1.2**
comp=Z,24nm,1.2s,mb4.9
NEW Newport 31.61 182 *eP* **P 04 59 15.2 +1.2**
NEW pmax pmax
comp=Z,24nm,1.2s
B17A L&G Farms, Che 31.63 174⇑P **P 04 59 13.9 -0.1**
baz=32,SNR=10
DGMT Dagmar 31.66 166⇓P **P 04 59 13.8 -0.6**
baz=32,SNR=5.4
DGMT Dagmar 31.66 166 *eP* **P 04 59 13.5 -0.8**
comp=Z,72nm,1.3s,mb5.3
B22A Reddig Ranch S 31.75 168⇑P **P 04 59 14.7 -0.4**
baz=32,SNR=11
APA Apatity 31.83 22⇑ *eP* **P 04 59 16.3 +0.6**
APA *i* 04 59 23.4
APA MLR MLR
comp=Z,1µm,15.0s,MS4.8
EGMT Eagleton 31.92 173⇓P **P 04 59 16.3 -0.3**
baz=32,SNR=8.7
EGMT Eagleton 31.92 173 *eP* **P 04 59 15.8 -0.8**
comp=Z,54nm,1.1s,mb5.3
C11A Tepee Creek (N 32.03 181⇓P **P 04 59 17.7 0.0**
baz=32,SNR=9.2
C09A Chrisman Ranch 32.09 183⇑P **P 04 59 18.0 -0.1**
baz=32,SNR=9.9
C16A Fuhringer Ranc 32.10 175⇓P **P 04 59 17.8 -0.4**
baz=32,SNR=9.3
C14A Swan Lake 32.11 178⇑P **P 04 59 18.1 -0.3**
baz=32,SNR=5.3
C15A Salmond Ranch, 32.12 176⇑P **P 04 59 18.3 0.0**
baz=32,SNR=21
JTMT Jette 32.13 178 *eP* **P 04 59 18.6 +0.2**
C12B Naegeli Ranch, 32.16 180⇑P **P 04 59 18.9 +0.1**
baz=32,SNR=9.4
C21A Desert Coulee 32.19 169⇑P **P 04 59 18.7 -0.3**
baz=32
C13A Hot Springs 32.20 179⇑P **P 04 59 19.3 +0.2**
baz=32,SNR=18
C19A Slack Wire Ran 32.22 172⇓P **P 04 59 18.8 -0.5**
baz=32,SNR=7.1
C23A Lambert 32.28 167⇑P **P 04 59 19.4 -0.5**
baz=32,SNR=30
C17A Wharram Farm, 32.29 174⇓P **P 04 59 18.9 -0.9**
baz=32,SNR=9.5
C22A Vida 32.31 168⇓P **P 04 59 19.0 -0.1**
baz=32,SNR=6.5
ETW Entiat 32.31 186 P **P 04 59 19.0 -1.1**
comp=Z,39nm,1.7s,mb5.0
AGMN Agassiz Nation 32.33 155 *eP* **P 04 59 18.6 -1.6**
comp=Z,64nm,1.1s,mb5.4
GNW Green Mountain 32.41 189 *eP* **P 04 59 21.5 +0.5**
comp=Z,22nm,1.1s,mb4.9
OD2 Odessa Site #2 32.50 184 *eP* **P 04 59 21.3 -0.4**
MDND Maddock 32.52 160⇑P **P 04 59 21.3 -0.6**
baz=32
C24A Savage 32.59 166⇑P **P 04 59 22.1 -0.3**
baz=32
NLWA Neilton Lookou 32.62 191 *eP* **P 04 59 23.3 +0.5**
comp=Z,36nm,1.2s,mb5.2
D18A Linhart Farms, 32.74 173⇑P **P 04 59 23.4 -0.4**
baz=33,SNR=20
D17A Six Diamond Ra 32.77 174⇓P **P 04 59 23.4 -0.7**
baz=33,SNR=13
D05A Enumclaw 32.77 188⇓P **P 04 59 24.1 0.0**
baz=33
D13A Huson 32.78 179⇑P **P 04 59 23.8 -0.4**
baz=33,SNR=12
D19A Cripps Ranch, 32.80 172⇑P **P 04 59 23.6 -0.7**
baz=33,SNR=25
D14A Greenough 32.80 177⇓P **P 04 59 24.3 0.0**
baz=33,SNR=27
D12A Red Ives Fores 32.82 180⇓P **P 04 59 24.7 +0.1**
baz=33,SNR=11
D15A Lincoln 32.85 176⇑P **P 04 59 24.5 -0.3**
baz=33,SNR=6.9
D16A Dana Ranch, Ca 32.88 175⇑P **P 04 59 24.6 -0.4**
baz=33,SNR=6.7
D20A Manuel Ranch, 32.89 171⇓P **P 04 59 24.7 -0.4**
baz=33,SNR=30
D22A Cohagen 32.90 168⇓P **P 04 59 25.1 -0.1**
baz=33,SNR=24
D23A Lindsay 32.91 167⇓P **P 04 59 25.2 -0.1**
baz=33,SNR=9.8
D21A La Casta Ranch 32.95 169⇑P **P 04 59 25.2 -0.5**
baz=33,SNR=12
D24A Glendive 33.01 166⇑P **P 04 59 25.5 -0.6**
baz=33
EYMN Ely 33.04 150 *eP* **P 04 59 25.3 -1.1**
comp=Z,55nm,1.1s,mb5.4
MSO Missoula 33.05 178⇓P **P 04 59 26.5 0.0**
baz=33,SNR=11
MSO Missoula 33.05 178 *eP* **P 04 59 27.4 +0.9**
comp=Z,46nm,1.5s,mb5.2
LON Longmire 33.20 188 *eP* **P 04 59 28.9 +1.0**
comp=Z,94nm,1.7s,mb5.4
LON Longmire 33.20 188 *eP* **P 04 59 28.9 +1.0**
LON pmax pmax
comp=Z,94nm,1.7s,mb5.4
LAO LASA Array 33.35 168⇓P **P 04 59 29.0 -0.2**
baz=33,SNR=17
LAO LASA Array 33.35 168 *eP* **P 04 59 28.9 -0.3**
comp=Z,141nm,1.2s,mb5.8
E16A East Helena 33.37 175⇑P **P 04 59 28.2 -1.2**
baz=33,SNR=13
E18A Harlowton 33.37 173⇑P **P 04 59 28.9 -0.4**
baz=33,SNR=22
E09A Wood Farm, Sta 33.37 183⇑P **P 04 59 28.5 -0.9**
baz=33,SNR=18
E08A Dider Farm, El 33.41 184⇓P **P 04 59 28.9 -0.7**
baz=33
E13A Victor 33.44 178⇓P **P 04 59 29.3 -0.7**
baz=33,SNR=12
E03A Lebam 33.45 190⇓P **P 04 59 29.5 -0.6**
baz=33
E17A Martinsdale 33.45 174⇑P **P 04 59 29.5 -0.6**
baz=33,SNR=14
E12A Beaver Dam Sad 33.46 180⇑P **P 04 59 29.7 -0.4**
baz=33,SNR=30
E15A Deer Lodge 33.47 176⇓P **P 04 59 29.8 -0.4**
baz=33,SNR=9.9
E14A Clinton 33.47 177⇓P **P 04 59 30.3 +0.1**
baz=33,SNR=15
E21A Keefer Ranch, 33.47 169⇑P **P 04 59 30.0 -0.2**
baz=33
E20A Meyer Farm, Mu 33.48 171⇑P **P 04 59 29.7 -0.6**
baz=33
E19A Rath Farm, Rou 33.50 172⇓P **P 04 59 29.7 -0.8**
baz=33,SNR=7.1
RSW Rattlesnake Hi 33.51 185 *eP* **P 04 59 31.1 +0.5**
comp=Z,8.9nm,0.6s,mb4.9
HAWA Hanford 33.51 185 *eP* **P 04 59 30.0 -0.6**
comp=Z,168nm,2.6s,mb5.5
E23A Ismay 33.58 167⇓P **P 04 59 30.9 -0.2**
baz=33
E22A Miles City 33.62 168⇓P **P 04 59 31.2 -0.2**
baz=34,SNR=12
YAK Yakutsk 33.67 309 *eP* **P 04 59 31.5 -0.3**
comp=Z,22nm,0.5s,mb5.3
YAK Yakutsk 33.67 309 *eP* **P 04 59 29.6 -2.2**
YAK *e* 05 00 41.7
YAK *e* 05 02 08.8
YAK *eS* **S 05 04 50.2 -4.7**
YAK *eSS* SS 05 06 55.6 -24
YAK *eSSS* 05 07 17.5
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=N,17nm,1.1s
YAK pmax pmax
comp=Z,1µm,15.4s
YAK pmax pmax
comp=Z,103nm,2.2s,mb5.4
YAK smax
comp=E,38nm,5.3s
YAK smax
comp=N,457nm,13.4s
YAK MLR MLR
comp=Z,1µm,15.0s,MS4.7
YAK MLR MLR
comp=N,935nm,15.0s,MS4.7
YAK MLR MLR
comp=E,287nm,10.0s,MS4.7
F10A Beach Ranch, E 33.91 182⇓P **P 04 59 33.5 -0.5**
baz=34
F17A Fitzpatrick Pl 34.02 174⇓P **P 04 59 34.6 -0.3**
baz=34,SNR=18
F07A Phinny Hill Vi 34.02 186⇓P **P 04 59 34.7 -0.3**
baz=34
F18A Big Timber 34.04 173⇓P **P 04 59 34.8 -0.3**
baz=34,SNR=20
F15A Butte 34.05 176⇑P **P 04 59 35.2 -0.1**
baz=34,SNR=10.0
F14A Wisdom 34.07 177⇓P **P 04 59 35.3 -0.2**
baz=34
F13A Darby 34.09 179⇓P **P 04 59 35.4 -0.2**
baz=34
F19A Roth Farm, Mol 34.10 172⇓P **P 04 59 35.4 -0.3**
baz=34,SNR=20
F12A Elk City 34.12 180⇓P **P 04 59 35.2 -0.7**
baz=34,SNR=20
F16A Kennard Place, 34.12 175⇑P **P 04 59 35.8 -0.1**
baz=34
F20A Billings 34.18 171⇑P **P 04 59 35.8 -0.6**
baz=34,SNR=9.3
BOZ Bozeman (W) 34.26 175⇑P **P 04 59 36.2 -0.8**
baz=34,SNR=6.5
BOZ Bozeman (W) 34.26 175 *eP* **P 04 59 38.1 +1.1**
comp=E,29nm,1.2s,mb5.1
BOZ Bozeman (W) 34.26 175 *eP* **P 04 59 38.1 +1.0**
BOZ pmax pmax
comp=Z,29nm,1.2s,mb5.1
DLMT Dillon 34.53 176 *eP* **P 04 59 39.5 +0.1**
comp=Z,24nm,1.3s,mb5.0
G17A Pierce Place, 34.60 174⇑P **P 04 59 40.6 +0.5**
baz=34
G08A Pilot Rock 34.61 184⇓P **P 04 59 40.3 +0.2**
baz=34
HOOD Mount Hood Mea 34.63 188 *eP* **P 04 59 41.7 +1.5**
comp=Z,56nm,1.2s,mb5.4
G18A Lazy EL Ranch, 34.63 173⇓P **P 04 59 40.0 -0.2**
baz=34,SNR=12
G14A Jackson 34.64 177⇓P **P 04 59 39.8 -0.6**
baz=34,SNR=9.5
G16A Moss Hill, Enn 34.67 175⇓P **P 04 59 40.1 -0.6**
baz=34,SNR=13
G06A Carlson Farm, 34.69 186⇓P **P 04 59 40.9 +0.1**
baz=35,SNR=6.7
G15A Dillon 34.73 176⇑P **P 04 59 41.3 +0.2**
baz=35
G12A Big Creek, Yel 34.75 180⇓P **P 04 59 41.5 +0.2**
baz=35
G20A Bridger 34.76 171⇑P **P 04 59 40.6 -0.8**
baz=35,SNR=11
G21A Lodge Grass 34.78 170⇓P **P 04 59 41.4 -0.2**
baz=35
G13A Cobalt 34.78 178⇓P **P 04 59 41.3 -0.3**
baz=35,SNR=8.8
RLMT Red Lodge 34.83 172⇓P **P 04 59 42.4 +0.4**
baz=35
BMO Blue Mountains 35.03 182 *eP* **P 04 59 43.3 -0.4**
comp=Z,39nm,1.6s,mb5.1
YNR Norris Junctio 35.20 174 *eP* **P 04 59 47.0 +1.8**
comp=Z,51nm,1.2s,mb5.3
H16A Russell Place, 35.21 175⇑P **P 04 59 45.3 0.0**
baz=35,SNR=20
H18A Shoshone NF, C 35.26 173⇓P **P 04 59 45.4 -0.3**
baz=35,SNR=8.9
H14A Leadore 35.27 177⇑P **P 04 59 45.5 -0.3**
baz=35,SNR=25
H15A Lima 35.27 176⇑P **P 04 59 46.4 +0.6**
baz=35,SNR=22
H19A Powell 35.29 172⇑P **P 04 59 46.4 +0.4**
baz=35,SNR=6.5
H13A Challis 35.31 178⇑P **P 04 59 46.5 +0.3**
baz=35,SNR=11
H12A Diamond D Ranc 35.33 179⇑P **P 04 59 46.2 -0.1**
baz=35,SNR=19
H24A Dirks Ranch, A 35.36 166⇓P **P 04 59 46.2 -0.4**
baz=35,SNR=9.1
LKWY Lake 35.36 174 *eP* **P 04 59 47.9 +1.3**
comp=Z,114nm,1.4s,mb5.6
LKWY Lake 35.36 174 *eP* **P 04 59 47.9 +1.3**
LKWY pmax pmax
comp=Z,114nm,1.4s,mb5.6
H21A Big Horn, Sher 35.39 170⇑P **P 04 59 46.6 -0.2**
baz=35
H22A Clearmont 35.44 169⇑P **P 04 59 47.1 -0.2**
baz=35
YFT Old Faithful 35.47 174 *eP* **P 04 59 50.1 +2.6**
comp=Z,41nm,1.2s,mb5.2
H20A Greybull 35.50 171⇓P **P 04 59 47.0 -0.7**
baz=35,SNR=8.5
H17A Grant Village 35.53 174⇑P **P 04 59 49.3 +1.3**
baz=35,SNR=17
SPMN St. Paul 35.63 152⇓P **P 04 59 47.9 -1.0**
baz=36,SNR=6.5
I07A Izee 35.82 185⇑P **P 04 59 50.7 +0.1**
baz=36,SNR=16
FLWY Flagg Ranch 35.84 174 *eP* **P 04 59 51.8 +1.1**
comp=Z,135nm,1.2s,mb5.8
I15A Monteview 35.89 176⇓P **P 04 59 52.0 +0.8**
baz=36,SNR=12
I19A Meeteetse 35.92 172⇓P **P 04 59 50.7 -0.7**
baz=36,SNR=5.8
I14A Mackay 35.95 177⇓P **P 04 59 51.7 +0.1**
baz=36,SNR=19
BRSD Miller 35.95 160⇑P **P 04 59 51.3 -0.4**
baz=36
I13A Wildhorse Cree 35.96 178⇑P **P 04 59 52.5 +0.7**
baz=36,SNR=23
I17A Pilgrim Ck. 36.00 174⇑P **P 04 59 53.1 +1.0**
baz=36,SNR=22
RSSD Black Hills 36.01 166 *eP* **P 04 59 51.2 -0.9**
comp=Z,52nm,1.1s,mb5.4
RSSD Black Hills 36.01 166 *eP* **P 04 59 51.2 -0.9**
RSSD pmax pmax
comp=Z,52nm,1.1s,mb5.4
IMW Indian Meadow 36.02 174 *eP* **P 04 59 53.4 +1.2**
comp=Z,152nm,1.4s,mb5.7
I16A Newdale 36.03 175⇓P **P 04 59 52.9 +0.5**
baz=36,SNR=32
I20A Worland 36.03 171⇓P **P 04 59 51.9 -0.5**
baz=36,SNR=8.4
I12A Atlanta 36.08 180⇓P **P 04 59 52.2 -0.6**
baz=36,SNR=8.5
I22A 9 Mile Ranch, 36.14 169⇑P **P 04 59 53.4 +0.1**
baz=36,SNR=16
NB2 NORSAR Subarra 36.17 41 P **P 04 59 52.8 -0.5**
comp=Z,0.8nm,0.6s,mb3.8,baz=345,slow=8.6
NOA NORSAR Array B 36.17 41 P **P 04 59 52.5 -0.9**
comp=Z,6.4nm,0.7s,mb4.7,baz=344,slow=8.5,SNR=20
NOA PcP PcP 05 02 17.1 -1.5
comp=Z,8.9nm,0.9s,baz=353,slow=3.7,SNR=6.1
NOA LR LR 05 15 00.6
comp=Z,590nm,19.0s,MS4.4,baz=340,slow=37
NOA NORSAR Array B 36.17 41 P **P 04 59 52.5 -0.9**
NOA PcP PcP 05 02 17.1 -1.5
NOA LR LR 05 15 00.6
NOA NORSAR Array B 36.17 41 P **P 04 59 52.5 -0.8**
NOA 05 02 17.1
MOOW Moose Ponds 36.17 174 *eP* **P 04 59 54.4 +0.9**
comp=Z,75nm,1.3s,mb5.5
I21A Big Trails, Te 36.19 170⇓P **P 04 59 53.1 -0.6**
baz=36,SNR=8.8
I18A Diamond G Ranc 36.24 173⇓P **P 04 59 53.9 -0.2**
baz=36,SNR=8.4
I24A Kuemmerle Ranc 36.24 167⇑P **P 04 59 53.9 -0.3**
baz=36
JOF Joensuu 36.28 25 *eP* **P 04 59 52.1 -2.2**
JOF pmax pmax
comp=Z,29nm,0.8s,mb5.3
JOF Joensuu 36.28 25 *ep* **P 04 59 52.1 -2.2**
comp=Z,29nm,0.8s,mb5.3
LOHW Long Hollow 36.31 174 *eP* **P 04 59 55.4 +0.7**
comp=Z,67nm,1.3s,mb5.4
HLID Hailey 36.31 179⇑P **P 04 59 55.0 +0.2**
baz=36,SNR=9.7
HLID Hailey 36.31 179 *eP* **P 04 59 55.8 +1.0**
comp=Z,37nm,1.4s,mb5.1
DCID1 Drake Creek 36.32 175 *eP* **P 04 59 57.0 +2.2**
comp=Z,133nm,1.5s,mb5.7
TPAW Teton Pass 36.42 174 *eP* **P 04 59 56.8 +1.1**
comp=Z,51nm,1.2s,mb5.3
SNOW Snow King Moun 36.46 174 *eP* **P 04 59 57.3 +1.4**
comp=Z,43nm,1.2s,mb5.2
MFID Camas Ranch 36.46 180⇑P **P 04 59 56.5 +0.4**
baz=36,SNR=9.3
MFID Camas Ranch 36.46 180 *eP* **P 04 59 56.9 +0.9**
comp=Z,19nm,1.3s,mb4.9
J13A Cove Ranch, Pi 36.48 178⇓P **P 04 59 56.4 +0.2**
baz=36,SNR=11
J15A Blackfoot 36.49 176⇑P **P 04 59 56.8 +0.5**
baz=36,SNR=16
J08A Circle Bar Ran 36.53 184⇑P **P 04 59 57.5 +0.8**
baz=36,SNR=11
REDW Red Top Meadow 36.55 174 *eP* **P 04 59 57.9 +1.1**
comp=Z,56nm,1.4s,mb5.2
J17A Brown Place, J 36.56 174⇑P **P 04 59 57.9 +1.0**
baz=36,SNR=15
J14A Carey 36.56 178⇓P **P 04 59 57.8 +0.9**
baz=36,SNR=12
RRI2 Red Ridge 36.56 175 *eP* **P 04 59 57.8 +0.9**
comp=Z,100nm,1.6s,mb5.4
J22A Midwest 36.62 169⇑P **P 04 59 56.9 -0.5**
baz=36,SNR=7.1
J20A Shoshoni 36.63 171⇓P **P 04 59 57.5 0.0**
baz=36,SNR=14
J16A Bone 36.63 175⇓P **P 04 59 58.4 +0.9**
baz=36,SNR=14
J21A Lysite 36.65 170⇓P **P 04 59 57.4 -0.2**
baz=36,SNR=6.7
KAF Kangasniemi 36.67 29 *eP* **P 04 59 57.0 -0.6**
KAF pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
KAF Kangasniemi 36.67 29 *ep* **P 04 59 57.0 -0.6**
comp=Z,8.8nm,0.6s,mb4.8
J19A Crowheart 36.69 172⇓P **P 04 59 58.0 0.0**
baz=37,SNR=7.0
J18A Kendall Valley 36.72 173⇑P **P 04 59 58.8 +0.5**
baz=37,SNR=21
J24A Dixon Ranch, L 36.77 167⇑P **P 04 59 58.4 -0.3**
baz=37
ECSD EROS Data Cent 36.82 157 *eP* **P 04 59 58.2 -0.9**
comp=Z,96nm,1.6s,mb5.4
K16A Soda Springs 37.07 175⇑P **P 05 00 02.4 +1.2**
baz=37,SNR=8.7
K19A Absolon Red Bu 37.13 172⇓P **P 05 00 01.3 -0.5**
baz=37,SNR=14
AHID Auburn Hatcher 37.15 175 *eP* **P 05 00 02.2 +0.4**
comp=Z,32nm,1.0s,mb5.1
K17A Gardner Place, 37.16 174⇓P **P 05 00 02.4 +0.4**
baz=37
PD02 Pinedale Array 37.16 173 *eP* **P 05 00 01.6 -0.4**
PD01 Pinedale Array 37.16 173 *eP* **P 05 00 01.6 -0.4**
BW06 Boulder Array 37.17 173⇓P **P 05 00 02.0 -0.1**
baz=37,SNR=16
BW06 Boulder Array 37.17 173 *eP* **P 05 00 01.8 -0.3**
comp=Z,70nm,1.5s,mb5.3
PDAR Pinedale Array 37.17 173 P **P 05 00 01.8 -0.4**
comp=Z,4.0nm,0.5s,mb4.5,baz=30,slow=7.0,SNR=46
PDAR LR LR 05 16 14.5
comp=Z,1µm,20.1s,MS4.7,baz=4.7,slow=38
PDAR Pinedale Array 37.17 173 P **P 05 00 01.8 -0.4**
PDAR LR LR 05 16 14.4
K05A Summer Lake 37.20 187⇑P **P 05 00 03.6 +1.2**
baz=37,SNR=16
K15A Arbon 37.21 176⇑P **P 05 00 02.9 +0.5**
baz=37,SNR=19
K18A Toltan Ranch, 37.29 173⇑P **P 05 00 03.3 +0.2**
baz=37,SNR=24
FINES FINESS Array B 37.31 30 P **P 05 00 03.2 +0.2**
comp=Z,56nm,0.8s,mb5.5,baz=358,slow=9.5,SNR=61
FINES PcP PcP 05 02 20.5 -1.5
comp=Z,15nm,0.8s,baz=17,slow=2.9,SNR=12
FINES LR LR 05 14 48.9
comp=Z,852nm,18.2s,MS4.6,baz=153,slow=35
FINES FINESS Array B 37.31 30 P **P 05 00 03.2 +0.2**
FINES PcP PcP 05 02 20.5 -1.5
FINES LR LR 05 14 48.9
FINES FINESS Array B 37.31 30 P **P 05 00 03.3 +0.2**
FINES 05 02 20.5
K20A Yellowstone Ra 37.31 171⇑P **P 05 00 02.7 -0.6**
baz=37
K14A Jones Ranch, D 37.34 177⇓P **P 05 00 04.3 +0.8**
baz=37,SNR=27
K21A Alcova 37.37 170⇑P **P 05 00 03.3 -0.5**
baz=37,SNR=8.1
HUMO Hull Mountain 37.37 189 *eP* **P 05 00 03.0 -0.7**
comp=Z,28nm,1.2s,mb5.0
HUMO *e*PcP PcP 05 02 22.0 -0.5
KAC Achnashellach 37.37 57 *eP* **P 05 00 03.9 +0.3**
KAC Achnashellach 37.37 57 P **P 05 00 03.9 +0.3**
K22A Casper 37.38 169⇓P **P 05 00 03.1 -0.7**
baz=37,SNR=12
K26A Motz Farm, Whi 37.46 165⇑P **P 05 00 04.3 -0.3**

baz=37
KPL Plockton 37.48 57 *e*P **P 05 00 03.2 -1.3**
KPL AMB AMB 05 00 08.2
comp=Z,113nm,3.7s
KPL Plockton 37.48 57 P **P 05 00 03.2 -1.3**
KPL AMB AMB 05 00 08.2
comp=Z,113nm,3.7s
SADO Sadowa 37.51 136 LR LR 05 15 27.1
comp=Z,1µm,19.1s,MS4.7,baz=8.5,slow=36
KSB Sheil Bridge 37.63 57 *e*P **P 05 00 06.0 +0.1**
KSB Sheil Bridge 37.63 57 P **P 05 00 06.0 +0.1**
PET Petropavlovsk 37.63 279 *e*P **P 05 00 01.6 -4.3**
PET *e* 05 01 28.3
PET *e*S **S 05 05 47.3 -8.5**
PET pmax pmax
comp=Z,65nm,1.5s,mb5.1
PET pmax pmax
comp=Z,100nm,16.6s
PETK Petropavlovsk- 37.72 280 P **P 05 00 06.7 0.0**
comp=Z,15nm,0.9s,mb4.7,baz=76,slow=7.8,SNR=9.0
PETK PcP PcP 05 02 22.4 -1.0
comp=Z,7.8nm,1.0s,baz=8.8,slow=10,SNR=3.6
PETK LR LR 05 17 42.7
comp=Z,797nm,18.4s,MS4.5,baz=250,slow=40
PETK Petropavlovsk- 37.72 280 P **P 05 00 06.7 0.0**
PETK PcP PcP 05 02 22.4 -1.0
PETK LR LR 05 17 42.7
PETK Petropavlovsk- 37.72 280 P **P 05 00 06.7 +0.1**
PETK 05 02 22.4
L17A Cokeville 37.81 174 ⇑P **P 05 00 07.8 +0.3**
baz=38
MSNY Massena 37.84 131 *e*P **P 05 00 07.2 -0.5**
comp=Z,587nm,0.9s,mb6.3
L19A Farson 37.84 173 ⇑P **P 05 00 07.6 -0.2**
baz=38,SNR=6.1
L14A Malta 37.85 177 ⇑P **P 05 00 08.5 +0.7**
baz=38,SNR=14
L15A Malad City 37.89 176 ⇑P **P 05 00 08.9 +0.8**
baz=38,SNR=18
L16A Fish Haven 37.89 175 ⇑P **P 05 00 08.2 0.0**
baz=38,SNR=8.6
L23A Garrett 37.94 168 ⇓P **P 05 00 07.7 -0.9**
baz=38,SNR=8.5
L22A Ellis Ranch, M 38.00 169 ⇓P **P 05 00 08.7 -0.4**
baz=38,SNR=7.5
L18A Fontenelle, Gr 38.01 173 ⇓P **P 05 00 09.2 0.0**
baz=38
MOD Modoc 38.02 186 *e*P **P 05 00 10.0 +0.8**
comp=Z,27nm,1.3s,mb4.8
L21A Rawlins 38.03 170 ⇑P **P 05 00 09.0 -0.4**
baz=38,SNR=10
HVU Hansel Valley 38.11 177 *e*P **P 05 00 10.6 +0.6**
comp=Z,46nm,1.4s,mb5.0
HVU Hansel Valley 38.11 177 *e*P **P 05 00 10.6 +0.6**
HVU pmax pmax
comp=Z,46nm,1.4s,mb5.0
JFWS Jewell Farm 38.14 149 *e*P **P 05 00 09.1 -1.2**
comp=Z,67nm,1.2s,mb5.2
JFWS Jewell Farm 38.14 149 *e*P **P 05 00 09.1 -1.2**
JFWS pmax pmax
comp=Z,67nm,1.2s,mb5.2
FRNY Flat Rock 38.18 130 *e*P **P 05 00 09.6 -0.9**
comp=Z,44nm,1.0s,mb5.1
YBH Yreka Blue Hor 38.24 189 *e*P **P 05 00 11.1 0.0**
comp=Z,42nm,1.9s,mb4.8
YBH Yreka Blue Hor 38.24 189 *e*P **P 05 00 11.1 0.0**
YBH pmax pmax
comp=Z,42nm,1.9s
LONY Lake Ozonia 38.25 131 *e*P **P 05 00 10.8 -0.3**
comp=Z,38nm,1.1s,mb5.0
HWUT Hardware Ranch 38.30 175 *e*P **P 05 00 11.5 -0.1**
comp=Z,58nm,1.5s,mb5.1
RWWY Rawlins 38.31 170 *e*P **P 05 00 10.1 -1.7**
comp=Z,96nm,1.4s,mb5.3
M21A Separation Pea 38.39 170 ⇓P **P 05 00 12.0 -0.4**
baz=38,SNR=12
M15A Larsen Ranch, 38.43 176 ⇓P **P 05 00 12.3 -0.4**
baz=38
M17A Scullys Gap (B 38.45 174 ⇓P **P 05 00 12.5 -0.3**
baz=38
M19A Rock Springs 38.45 172 ⇓P **P 05 00 12.3 -0.6**
baz=38,SNR=9.9
M20A Sweetwater, Wa 38.48 171 ⇑P **P 05 00 13.2 0.0**
baz=38
M18A Lyman 38.50 173 ⇑P **P 05 00 13.4 0.0**
baz=38
M16A Huntsville 38.59 175 ⇓P **P 05 00 14.0 -0.1**
baz=38,SNR=24
M22A Cedar Creek Ra 38.62 169 ⇑P **P 05 00 14.0 -0.4**
baz=38
M24A Cheyenne 38.62 167 ⇑P **P 05 00 14.3 0.0**
baz=38
M25A Palm-Egli Farm 38.69 166 ⇓P **P 05 00 14.1 -0.8**
baz=38
PHWY Pilot Hill 38.76 168 *e*P **P 05 00 15.8 +0.3**
comp=Z,248nm,2.9s,mb5.4
EAB Aberfoyle 38.78 56 *e*P **P 05 00 15.2 -0.3**
EAB Aberfoyle 38.78 56 P **P 05 00 15.2 -0.3**
EBH Black Hill 38.85 56 *e*P **P 05 00 15.5 -0.6**
EBH Black Hill 38.85 56 P **P 05 00 15.5 -0.6**
KLMR Klimovskoe 38.89 19 *e*P **P 05 00 13.1 -3.3**
KLMR *e* 05 02 23.9
KLMR pmax pmax
comp=Z,205nm,1.6s,mb5.6
KLMR pmax pmax
comp=Z,188nm,5.7s
NCB Newcomb 38.94 131 *e*P **P 05 00 16.4 -0.5**
comp=Z,32nm,0.9s,mb5.0
BGU Big Grassy Mou 38.96 177 *e*P **P 05 00 16.9 -0.2**
comp=Z,60nm,1.4s,mb5.1
N18A Larsen Ranch, 38.96 173 ⇓P **P 05 00 16.8 -0.3**
baz=39,SNR=9.8
N17A Moffit Pass 38.97 174 ⇑P **P 05 00 16.9 -0.3**
baz=39
LBNH Lisbon 38.99 128 *e*P **P 05 00 20.3 +2.9**
comp=Z,63nm,1.4s,mb5.2
LBNH Lisbon 38.99 128 *e*P **P 05 00 20.3 +2.9**
LBNH pmax pmax
comp=Z,63nm,1.4s,mb5.2
N15A Stansbury Isla 39.00 176 ⇓P **P 05 00 16.9 -0.6**
baz=39
N16A Rees Ranch, Co 39.02 175 ⇓P **P 05 00 17.7 0.0**
baz=39,SNR=12
BGNE Belgrade 39.03 159 ⇓P **P 05 00 17.4 -0.3**
baz=39
MDV Middlebury 39.05 130 *e*P **P 05 00 16.7 -1.2**
N19A John Jarvie Ra 39.05 172 ⇑P **P 05 00 17.5 -0.5**
baz=39
KHMM Horse Mountain 39.12 190 *e*P **P 05 00 19.7 +1.1**
comp=Z,95nm,1.6s,mb5.3
N20A Spence Gulch, 39.14 171 ⇑P **P 05 00 18.9 +0.3**
baz=39,SNR=6.1
N23A Red Feather La 39.15 168 ⇓P **P 05 00 18.5 -0.2**
baz=39,SNR=7.7
EDI Edinburgh 39.21 55 *e*P **P 05 00 17.3 -1.8**
EDI AMB AMB 05 00 24.4
comp=Z,121nm,2.3s,mb5.2
EDI Edinburgh 39.21 55 P **P 05 00 17.3 -1.8**
EDI AMB AMB 05 00 24.4
comp=Z,121nm,2.3s,mb5.2
N22A Wattenberg Ran 39.23 169 ⇓P **P 05 00 19.2 -0.2**
baz=39
N21A Black Mountain 39.23 170 ⇑P **P 05 00 19.0 -0.5**
baz=39
N24A Carr 39.26 167 ⇑P **P 05 00 19.3 -0.4**
baz=39
OGNE Ogallala 39.27 164 ⇑P **P 05 00 19.4 -0.4**
baz=39,SNR=8.3
OGNE Ogallala 39.27 164 *e*P **P 05 00 19.2 -0.5**
comp=Z,793nm,2.8s,mb6.0
JLU Jordanelle 39.30 175 *e*P **P 05 00 20.2 +0.2**
comp=Z,33nm,1.3s,mb4.9
N25A Grover 39.30 166 ⇓P **P 05 00 20.0 0.0**
baz=39
CLNS Chul'man 39.35 311 *e*P **P 05 00 20.3 0.0**
CLNS *e**PP pP 05 00 28.1 +7.0
CLNS *e* 05 01 54.6
CLNS *e* 05 02 16.0
CLNS *e*PPP 05 02 26.5
CLNS *e*SSS 05 09 36.5
CLNS *e* 05 10 25.8
CLNS pmax pmax
comp=Z,71nm,0.8s,mb5.5
CLNS pmax pmax
comp=N,37nm,0.7s
CLNS pmax pmax
comp=E,44nm,1.1s
CLNS pmax pmax
comp=Z,27nm,1.5s,mb4.8
CLNS pmax pmax
comp=N,29nm,1.5s
CLNS pmax pmax
comp=E,21nm,1.9s
CLNS MLR MLR
comp=Z,843nm,17.0s,MS4.6
CLNS MLR MLR
comp=N,906nm,16.0s,MS4.8
CLNS MLR MLR
comp=E,616nm,16.0s,MS4.8
EBL Broad Law 39.38 55 *e*P **P 05 00 20.6 +0.1**
EBL Broad Law 39.38 55 P **P 05 00 20.6 +0.1**
WDC Whiskeytown Da 39.38 188 *e*P **P 05 00 20.9 +0.2**
comp=E,35nm,1.3s,mb4.9
WDC Whiskeytown Da 39.38 188 *e*P **P 05 00 20.9 +0.2**
WDC pmax pmax
comp=Z,35nm,1.3s,mb4.9
AAM Ann Arbor 39.42 142 *e*P **P 05 00 20.8 -0.2**
comp=Z,66nm,1.0s,mb5.3
AAM Ann Arbor 39.42 142 *e*P **P 05 00 20.8 -0.2**
AAM pmax pmax
comp=Z,66nm,1.0s,mb5.3
BMN Battle Mountai 39.45 182 *e*P **P 05 00 22.8 +1.6**
comp=Z,28nm,1.1s,mb4.9
BMN Battle Mountai 39.45 182 *e*P **P 05 00 22.8 +1.6**
BMN pmax pmax
comp=Z,28nm,1.1s,mb4.9
DAU Daniels Canyon 39.49 175 *e*P **P 05 00 22.3 +0.7**
DAU Daniels Canyon 39.49 175 *e*P **P 05 00 22.3 +0.7**
O19A Miners Draw (B 39.65 172 ⇓P **P 05 00 23.4 +0.4**
baz=40,SNR=13
O18A Roosevelt 39.66 173 ⇑P **P 05 00 23.6 +0.5**
baz=40,SNR=6.3
DUG Dugway 39.69 177 ⇑P **P 05 00 23.6 +0.3**
baz=40,SNR=16
DUG Dugway 39.69 177 *e*P **P 05 00 23.2 -0.1**
comp=Z,30nm,1.3s,mb4.9
DUG Dugway 39.69 177 *e*P **P 05 00 23.2 -0.1**
DUG pmax pmax
comp=Z,30nm,1.3s,mb4.9
O16A Springville 39.70 175 ⇑P **P 05 00 24.0 +0.7**
baz=40
O17A Robinson Place 39.72 174 ⇓P **P 05 00 23.9 +0.4**
baz=40,SNR=9.3
O21A Pagoda 39.78 170 ⇑P **P 05 00 24.2 +0.1**
baz=40
EKA Eskdalemuir Ar 39.78 56 P **P 05 00 23.2 -0.6**
baz=342,slow=8.1
EKA Eskdalemuir Ar 39.78 56 P **P 05 00 23.2 -0.6**
EKA Eskdalemuir Ar 39.78 56 P **P 05 00 23.3 -0.6**
ESK Eskdalemuir 39.79 56 *e*P **P 05 00 22.4 -1.5**
ESK AMB AMB 05 00 30.7
comp=Z,164nm,3.4s
ESK Eskdalemuir 39.79 56 P **P 05 00 22.4 -1.5**
ESK AMB AMB 05 00 30.7
comp=Z,164nm,3.4s
ESK Eskdalemuir 39.79 56 *i* P **P 05 00 25.5 +1.5**
O23A Lake Granby, G 39.83 168 ⇑P **P 05 00 24.5 0.0**
baz=40
O20A White River Ci 39.84 171 ⇓P **P 05 00 24.5 0.0**
baz=40,SNR=18
O22A Kremmling 39.86 169 ⇑P **P 05 00 24.8 +0.1**
baz=40,SNR=11
MPU Maple Canyon 39.88 175 *e*P **P 05 00 25.3 +0.4**
comp=Z,41nm,1.0s,mb5.1
ECK Cauldkaine Hil 39.94 56 *e*P **P 05 00 24.4 -0.8**
ECK Cauldkaine Hil 39.94 56 P **P 05 00 24.4 -0.8**
NLU North Lily Min 39.94 176 *e*P **P 05 00 26.9 +1.5**
comp=Z,53nm,1.3s,mb5.1
O24A Longmont 39.95 167 ⇓P **P 05 00 25.5 0.0**
baz=40
ISCO Idaho Springs 40.26 168 ⇓P **P 05 00 27.9 -0.1**
baz=40,SNR=8.8
ISCO Idaho Springs 40.26 168 *e*P **P 05 00 28.4 +0.4**
comp=Z,30nm,1.5s,mb4.8
ISCO Idaho Springs 40.26 168 *e*P **P 05 00 28.4 +0.4**
ISCO pmax pmax
comp=Z,30nm,1.5s,mb4.8
P16A Fountain Green 40.29 175 ⇑P **P 05 00 28.6 +0.3**
baz=40
P14A Drum Mountains 40.29 177 ⇓P **P 05 00 29.1 +0.8**
baz=40,SNR=19
P18A Preston Nutter 40.30 174 ⇓P **P 05 00 28.6 +0.3**
baz=40
KCPM Cahto Peak 40.31 190 *e*P **P 05 00 29.7 +1.3**
comp=Z,40nm,1.8s,mb4.8
VSU Vasula 40.31 30*c i*P **P 05 00 27.9 -0.4**
VSU pmax pmax
comp=Z,123nm,1.4s,mb5.4
P19A Cripple Cowboy 40.32 172 ⇓P **P 05 00 28.3 -0.2**
baz=40,SNR=28
P15A Leamington 40.32 176 ⇑P **P 05 00 28.8 +0.3**
baz=40,SNR=5.9
XAL Allendale 40.38 55 *e*P **P 05 00 28.1 -0.8**
XAL Allendale 40.38 55 P **P 05 00 28.1 -0.8**
MUD Monsted U'grnd 40.39 45 *i* P **P 05 00 28.3 -0.6**
MUD pmax pmax
comp=Z,31nm,0.9s,mb5.0
MUD Monsted U'grnd 40.39 45 *i* P **P 05 00 28.3 -0.6**
comp=Z,31nm,0.9s,mb5.0
P22A Eagle 40.42 170 ⇓P **P 05 00 29.2 -0.1**
baz=40,SNR=11
P17A Butcher Ranch, 40.44 174 ⇑P **P 05 00 29.7 +0.2**
baz=40
ALLY Alegheny Colle 40.46 138 *e*P **P 05 00 29.4 -0.3**
comp=Z,767nm,2.6s,mb6.0
P20A De Beque 40.47 171 ⇑P **P 05 00 30.0 +0.3**
baz=40
P21A Newcastle 40.47 170 ⇑P **P 05 00 29.6 -0.1**
baz=40,SNR=6.0
P25A Willow Gulch B 40.60 166 ⇓P **P 05 00 30.6 -0.2**
baz=40,SNR=6.0
OHCM Honcut 40.60 187 *e*P **P 05 00 30.6 -0.2**
WCN Washoe City 40.60 185 ⇓P **P 05 00 31.3 +0.5**
baz=40,SNR=19
WCN Washoe City 40.60 185 *e*P **P 05 00 31.4 +0.6**
comp=Z,40nm,1.4s,mb4.9
WCN Washoe City 40.60 185 *e*P **P 05 00 31.4 +0.5**
WCN pmax pmax
comp=Z,40nm,1.4s,mb4.9
TMUT Trail Mountain 40.61 175 *e*P **P 05 00 31.4 +0.4**
comp=Z,32nm,1.0s,mb4.9
P23A Jefferson 40.67 168 ⇑P **P 05 00 31.9 +0.5**
baz=40,SNR=5.4
SRU San Rafael 40.81 174 ⇑P **P 05 00 32.2 -0.3**
baz=41,SNR=7.2
SRU San Rafael 40.81 174 *e*P **P 05 00 32.5 0.0**
comp=Z,34nm,1.4s,mb4.8
SRU San Rafael 40.81 174 *e*P **P 05 00 32.5 0.0**
SRU pmax pmax
comp=Z,34nm,1.4s,mb4.8
Q18A Rafter H Ranch 40.82 174 ⇓P **P 05 00 32.8 +0.2**
baz=41,SNR=11
SMCO Snowmass 40.83 170 *e*P **P 05 00 32.9 +0.1**
comp=Z,50nm,1.5s,mb4.9
SOKR Solikamsk 40.85 6*c i*P **P 05 00 31.6 -1.0**
SOKR pmax pmax
comp=Z,100nm,1.4s,mb5.2
SOKR MLR MLR
comp=Z,660nm,20.0s,MS4.5
SFIN Scholer Farm 40.96 146 ⇓P **P 05 00 32.7 -1.0**
baz=41
HOPS Hopland 40.98 189 *e*P **P 05 00 34.9 +0.9**
comp=Z,83nm,1.4s,mb5.2
Q16A Castle Valley 40.99 175 ⇑P **P 05 00 34.3 +0.3**
baz=41,SNR=14
Q19A Hogan Spring (40.99 173 ⇓P **P 05 00 33.8 -0.2**
baz=41
Q20A Ridgley Place, 41.01 171 ⇑P **P 05 00 33.9 -0.3**
baz=41
Q24A Divide 41.11 168 ⇑P **P 05 00 34.9 -0.1**
baz=41
Q23A Hartsel 41.14 168 ⇑P **P 05 00 35.6 +0.3**
baz=41
Q22A Crested Butte, 41.15 170 ⇑P **P 05 00 35.5 +0.2**
baz=41,SNR=8.1
Q21A Lamborn Mesa, 41.15 171 ⇓P **P 05 00 35.4 0.0**
baz=41
Q25A Bedland, Calha 41.19 167 ⇑P **P 05 00 35.5 -0.2**
baz=41
DLF Lyons Farm 41.25 59 *e*P **P 05 00 42.8 +6.8**
MSU Marysvale 41.38 176 *e*P **P 05 00 38.2 +1.0**
MSU *e*PP PP 05 02 10.6 -1.8
MSU Marysvale 41.38 176 *e*P **P 05 00 38.2 +1.0**
MSU *e* 05 02 10.6
KSU1 Kansas State U 41.42 158 *e*P **P 05 00 36.2 -1.4**
comp=Z,28nm,1.0s,mb4.8
NVAR Mina Array Bea 41.45 183 P **P 05 00 38.5 +0.6**
comp=Z,13nm,1.0s,mb4.5,baz=5.6,slow=6.1,SNR=42
NVAR PcP PcP 05 02 35.7 +0.2
comp=Z,1.3nm,0.3s,baz=37,slow=4.9,SNR=28
NVAR LR LR 05 19 26.6
comp=Z,2µm,18.7s,MS5.0,baz=163,slow=39
NVAR Mina Array Bea 41.45 183 P **P 05 00 38.5 +0.6**
NVAR PcP PcP 05 02 35.7 +0.2
NVAR LR LR 05 19 26.6
R17A Hanksville Air 41.49 174 ⇑P **P 05 00 38.0 -0.2**
baz=41,SNR=7.3
CBKS Cedar Bluff 41.51 161 ⇓P **P 05 00 37.2 -1.1**
baz=41,SNR=7.8
CBKS Cedar Bluff 41.51 161 *e*P **P 05 00 36.8 -1.6**
comp=Z,75nm,1.3s,mb5.2
CBKS *e* 05 02 08.5
CBKS Cedar Bluff 41.51 161 *e*P **P 05 00 36.8 -1.6**
CBKS pmax pmax
comp=Z,75nm,1.3s,mb5.2
R11A Troy Canyon, C 41.52 180 ⇑P **P 05 00 37.9 -0.5**
baz=41,SNR=14
ACSO Alum Creek Sta 41.54 142 *e*P **P 05 00 37.6 -0.9**
comp=Z,37nm,0.9s,mb5.0
R18A Canyonlands Na 41.54 173 ⇑P **P 05 00 38.2 -0.4**
baz=41,SNR=16
PV04 Paradox Valley 41.56 172 *e*P **P 05 00 38.3 -0.4**
R16A Teasdale 41.62 175 ⇑P **P 05 00 39.6 +0.4**
baz=42,SNR=13
R21A Cimarron 41.62 171 ⇓P **P 05 00 39.1 -0.1**
baz=42,SNR=15
R19A Curley Farm, L 41.65 173 ⇓P **P 05 00 39.5 +0.1**
baz=42
R15A Junction 41.68 176 ⇓P **P 05 00 40.2 +0.4**
baz=42,SNR=6.3
R13A O'Grain Ranch, 41.69 178 ⇑P **P 05 00 40.2 +0.3**
baz=42,SNR=17
SSPA Standing Stone 41.74 136 *e*P **P 05 00 39.5 -0.7**
comp=Z,212nm,2.5s,mb5.3
R20A Redvale 41.77 172 ⇑P **P 05 00 40.1 -0.4**
baz=42,SNR=9.3
PV01 Paradox Valley 41.82 172 *e*P **P 05 00 40.6 -0.3**
comp=Z,3µm,1.0s
PV01 *e*PP PP 05 02 15.7 -1.6
R24A Sanders Place, 41.84 168 ⇑P **P 05 00 40.8 -0.2**
baz=42
CMB Columbia Colle 41.88 186 *e*P **P 05 00 41.8 +0.5**
comp=Z,19nm,1.4s,mb4.5
CMB Columbia Colle 41.88 186 *e*P **P 05 00 41.8 +0.5**
CMB pmax pmax
comp=Z,19nm,1.4s,mb4.5
R25A Fountain Ranch 41.95 167 ⇑P **P 05 00 41.5 -0.5**
baz=42,SNR=6.7
ARUT Antelope Range 42.09 178 *e*P **P 05 00 43.7 +0.6**
comp=Z,18nm,1.0s,mb4.7
ARUT Antelope Range 42.09 178 *e*P **P 05 00 43.7 +0.6**
ARUT pmax pmax
comp=Z,18nm,1.0s,mb4.7
S20A Disappointment 42.13 172 ⇑P **P 05 00 43.4 -0.1**
baz=42,SNR=9.9
S16A Weppner Ranch, 42.17 175 ⇓P **P 05 00 44.2 +0.5**
baz=42,SNR=15
S19A Harvey Farm, M 42.20 172 ⇓P **P 05 00 44.0 +0.1**
baz=42,SNR=16
S18A Hurst Farm, Bl 42.23 173 ⇑P **P 05 00 44.2 -0.1**
baz=42,SNR=11
S22A 4UR Ranch, Cre 42.26 170 ⇑P **P 05 00 44.8 +0.3**
baz=42,SNR=12
S17A Black Ridge (B 42.27 174 ⇑P **P 05 00 44.7 +0.1**
baz=42,SNR=13
SDCO Great Sand Dun 42.31 168 ⇑P **P 05 00 45.0 +0.2**
baz=42,SNR=20
SDCO Great Sand Dun 42.31 168 *e*P **P 05 00 44.9 +0.1**
comp=Z,97nm,1.8s,mb5.1
S21A Coal Bank Pass 42.32 171 ⇑P **P 05 00 45.1 +0.2**
baz=42,SNR=6.8
CCUT Cedar City 42.33 177 *e*P **P 05 00 45.9 +0.9**
comp=Z,45nm,1.5s,mb4.9
S23A Nye Farm, Mont 42.33 169 ⇑P **P 05 00 45.4 +0.4**
baz=42
SLM Saint Louis 42.39 150 *e*P **P 05 00 43.5 -2.0**
comp=Z,34nm,0.8s,mb5.0
SLM Saint Louis 42.39 150 *e*P **P 05 00 43.5 -2.0**
SLM pmax pmax
comp=Z,34nm,0.8s,mb5.0
S24A Houchin Ranch, 42.42 168 ⇑P **P 05 00 46.0 +0.2**
baz=42,SNR=9.4
S25A Robets Cordova 42.43 167 ⇑P **P 05 00 45.8 -0.1**
baz=42,SNR=30
MTUM Tungsten Hills 42.53 184 *e*P **P 05 00 48.5 +1.8**
HLM1 Long Mynd 42.55 57 *e*P **P 05 00 45.6 -1.1**
HLM1 AMB AMB 05 00 55.0
comp=Z,104nm,3.3s
HLM1 Long Mynd 42.55 57 P **P 05 00 45.6 -1.1**
HLM1 AMB AMB 05 00 55.0
comp=Z,104nm,3.3s
MVL Millersville 42.56 134 *e*P **P 05 00 46.4 -0.5**
comp=Z,42nm,1.1s,mb5.1
MVCO Mesa Verde 42.75 172 ⇑P **P 05 00 48.5 +0.1**
baz=43
MVCO Mesa Verde 42.75 172 *e*P **P 05 00 49.4 +0.9**
comp=Z,331nm,2.5s,mb5.6
T18A Mexican Hat 42.79 173 ⇓P **P 05 00 49.6 +0.8**
baz=43,SNR=16
GRAC Grapevine Rang 42.87 182 ⇑P **P 05 00 50.0 +0.5**
baz=43,SNR=7.8
CCM Cathedral Cave 42.88 152 *e*P **P 05 00 47.2 -2.3**
comp=Z,38nm,1.3s,mb5.0
CCM Cathedral Cave 42.88 152 *e*P **P 05 00 47.2 -2.3**
CCM pmax pmax
comp=Z,38nm,1.3s,mb5.0
T17A Navajo Res., N 42.91 174 ⇓P **P 05 00 49.5 -0.3**
baz=43,SNR=16
T16A Glen Canyon Da 42.91 175 ⇑P **P 05 00 50.1 +0.3**
baz=43
IZAR Zarasai 42.95 31 *e*P **P 05 00 49.8 -0.1**
IZAR AMB AMB 05 00 50.5
comp=Z,21nm,1.7s,mb4.6
T25A Trinidad 42.95 167 ⇓P **P 05 00 50.2 0.0**
baz=43
T22A Edith 42.99 170 ⇑P **P 05 00 50.3 -0.1**
baz=43,SNR=8.7
T21A Navajo Lake 42.99 171 ⇑P **P 05 00 50.7 +0.3**
baz=43
T24A Torres, Weston 42.99 168 ⇓P **P 05 00 50.4 -0.1**
baz=43
T23A Casias Ranch, 43.00 169 ⇓P **P 05 00 50.6 +0.2**
baz=43
T19A Beclabito 43.11 172 ⇑P **P 05 00 51.2 -0.2**
baz=43,SNR=12
ISAL Salakas 43.12 31 *e*P **P 05 00 51.0 -0.2**
ISAL AMB AMB 05 00 52.0
comp=Z,14nm,1.6s,mb4.5
SAO San Andreas Ge 43.17 187 *e*P **P 05 00 53.4 +1.5**
SAO San Andreas Ge 43.17 187 *e*P **P 05 00 53.4 +1.6**
U17A Shonto 43.31 174 ⇓P **P 05 00 53.1 +0.1**
baz=43,SNR=5.9
IIGN Ignalina 43.34 31 *e*P **P 05 00 52.8 -0.2**
IIGN AMB AMB 05 00 55.2
comp=Z,21nm,1.2s,mb4.7
FURC Furnace Creek, 43.40 182 ⇓P **P 05 00 53.9 +0.2**
baz=43,SNR=15
CWC Cottonwood Cre 43.44 183 ⇓P **P 05 00 55.0 +1.0**
baz=43,SNR=10
U15A North Rim 43.46 176 ⇓P **P 05 00 53.9 -0.3**
baz=43,SNR=8.6
U21A Nageezi 43.55 171 ⇓P **P 05 00 55.0 +0.1**
baz=43,SNR=9.6
U20A Newcomb 43.58 172 ⇓P **P 05 00 55.0 -0.2**
baz=44
U19A Dine' College, 43.65 173 ⇓P **P 05 00 55.9 +0.2**
baz=44,SNR=13
U24A Moreno Valley 43.65 168 ⇑P **P 05 00 56.2 +0.4**
baz=44
SVE Sverdlovsk 43.65 3⇑*i*P **P 05 00 56.6 +1.1**
SVE *e* 05 02 39.0
SVE *e* 05 10 28.8
SVE pmax pmax
comp=Z,85nm,1.6s,mb5.2
SVE MLR MLR
comp=Z,796nm,16.0s,MS4.7
U25A Circle Dot Ran 43.69 167 ⇓P **P 05 00 56.2 +0.2**
baz=44,SNR=7.7
U23A El Rito 43.70 169 ⇓P **P 05 00 56.8 +0.7**
baz=44,SNR=31
U26A Atchley Ranch, 43.72 166 ⇓P **P 05 00 56.4 0.0**

baz=44,SNR=6.7
U16A Tuba City 43.76 175 ⇓P **P 05 00 57.3 +0.7**
baz=44,SNR=10
MPMC Manual Prospec 43.81 182 ⇓P **P 05 00 58.7 +1.6**
baz=44,SNR=43
MOS Moscow 43.86 22⇓*i*P **P 05 00 56.6 -0.6**
MOS *i* 05 01 05.0
MOS *e* 05 02 42.0
MOS pmax pmax
comp=Z,176nm,1.1s,mb5.7
SHOC Shoshone 43.97 181 ⇑P **P 05 00 59.5 +1.3**
baz=44,SNR=16
ARU Arti 44.02 5 *e*P **P 05 00 59.0 +0.5**
comp=Z,112nm,1.4s,mb5.4
ARU Arti 44.02 5*c i*P **P 05 00 58.9 +0.4**
ARU *e* 05 02 41.4
ARU PPP 05 03 14.5
ARU S **S 05 07 33.4 +2.7**
ARU pmax pmax
comp=Z,123nm,1.7s,mb5.4
ARU Arti 44.02 5 P **P 05 00 59.6 +1.1**
comp=Z,316nm,1.2s,mb5.9,SNR=10
VES Vestal, Richgr 44.05 184 ⇓P **P 05 01 00.3 +1.4**
baz=44,SNR=13
V15A Kaibab Nationa 44.07 176 ⇑P **P 05 00 59.5 +0.4**
baz=44,SNR=15
V22A San Miguel Ran 44.09 170 ⇑P **P 05 00 59.5 +0.2**
baz=44
V20A Brimhall 44.16 172 ⇑P **P 05 01 00.1 +0.3**
baz=44
V21A Milan 44.17 171 ⇑P **P 05 01 00.4 +0.5**
baz=44
V18A Ganado 44.21 173 ⇓P **P 05 01 00.3 +0.1**
baz=44,SNR=16
ISA Isabella 44.22 183 ⇑P **P 05 01 01.3 +1.0**
baz=44,SNR=28
ISA Isabella 44.22 183 *e*P **P 05 01 00.7 +0.4**
comp=Z,56nm,1.4s,mb5.1
ISA *e* 05 02 43.0
ISA Isabella 44.22 183 *e*P **P 05 01 00.7 +0.4**
ISA *e* 05 02 43.0
ISA pmax pmax
comp=Z,56nm,1.4s,mb5.1
V25A Rancho No Teng 44.24 167 ⇓P **P 05 01 00.8 +0.3**
baz=44
V23A Ortiz Mt. (NFS 44.28 169 ⇓P **P 05 01 01.5 +0.7**
baz=44,SNR=6.8
V17A Tonalea, Kykot 44.28 174 ⇓P **P 05 01 01.2 +0.4**
baz=44,SNR=24
V26A Tequesquite Ra 44.32 166 ⇓P **P 05 01 00.7 -0.4**
baz=44,SNR=19
V24A Rampart Ranch, 44.33 168 ⇑P **P 05 01 01.4 +0.2**
baz=44,SNR=6.5
MNK Minsk 44.33 30 *e*P **P 05 01 00.0 -1.0**
MNK pmax pmax
comp=Z,220nm,1.0s,mb5.8
MICGM Minsk 44.34 30 *e*P **P 05 01 00.0 -1.0**
SUW Suwalki 44.38 34 *e*P **P 05 01 00.9 -0.5**
SUW LMZ 05 23 09.5
comp=Z,700nm,15.6s
SUW Suwalki 44.38 34 *e*P **P 05 01 00.8 -0.5**
comp=Z,79nm,1.1s,mb5.4
SUW *e* 05 02 44.6
SUW Suwalki 44.38 34 *e*P **P 05 01 00.8 -0.6**
SUW *e* 05 02 44.6
SUW pmax pmax
comp=Z,79nm,1.1s,mb5.4
WUAZ Wupatki 44.38 175 ⇓P **P 05 01 02.5 +0.9**
baz=44,SNR=29
WUAZ Wupatki 44.38 175 *e*P **P 05 01 02.2 +0.6**
comp=Z,101nm,1.4s,mb5.4
LRMC Laurel Mountai 44.40 183 ⇑P **P 05 01 02.7 +1.0**
baz=44,SNR=16
OBN Obninsk 44.41 23 *e*P **P 05 01 00.7 -0.9**
comp=Z,157nm,1.1s,mb5.7
OBN Obninsk 44.41 23α*i*P **P 05 01 01.7 0.0**
OBN *i* 05 01 05.2
OBN *i* 05 01 09.6
OBN *i* 05 02 44.7
OBN *e*S **S 05 07 41.6 +5.1**
OBN pmax pmax
comp=Z,337nm,1.8s,mb5.8
OBN MLR MLR
comp=Z,800nm,18.0s,MS4.7
OBN Obninsk 44.41 23 P **P 05 01 00.9 -0.8**
comp=Z,840nm,1.5s,mb6.2,SNR=5.5
TUQ Turquoise Moun 44.43 180 ⇑P **P 05 01 02.5 +0.5**
baz=44
GKP Gorka Klasztor 44.48 39 *e*P **P 05 01 02.5 +0.3**
GKP LMZ 05 22 06.3
comp=Z,500nm,18.4s
GKP Gorka Klasztor 44.48 39 *e*P **P 05 01 02.5 +0.3**
GKP MLR MLR
comp=Z,500nm,18.4s,MS4.5
GSC Goldstone 44.56 181 ⇓P **P 05 01 04.2 +1.1**
baz=44,SNR=36
GSC Goldstone 44.56 181 *e*P **P 05 01 04.2 +1.1**
comp=Z,88nm,1.4s,mb5.4
GSC *e* 05 02 45.5
GSC Goldstone 44.56 181 *e*P **P 05 01 04.2 +1.1**
GSC *e* 05 02 45.5
GSC pmax pmax
comp=Z,88nm,1.4s,mb5.4
SMMC Simmler 44.59 185 ⇓P **P 05 01 03.7 +0.4**
baz=44
TUL1 Tulsa 44.65 157 ⇓P **P 05 01 01.8 -2.0**
baz=44,SNR=12
W13A Hualapai Mount 44.77 178 ⇓P **P 05 01 05.2 +0.5**
baz=45,SNR=19
LDFC Landfair 44.78 180 *e*P **P 05 01 05.5 +0.7**
comp=Z,50nm,1.1s,mb5.3
W16A Flagstaff 44.80 175 ⇓P **P 05 01 05.6 +0.6**
baz=45,SNR=9.9
W19A Sanders 44.82 173 ⇑P **P 05 01 05.6 +0.5**
baz=45
W17A Winslow 44.83 174 ⇑P **P 05 01 06.2 +1.0**
baz=45
W20A Ramah 44.83 172 ⇓P **P 05 01 06.3 +1.1**
baz=45,SNR=7.9
W24A Lazy 6 Ranch, 44.84 168 ⇑P **P 05 01 05.6 +0.3**
baz=45,SNR=6.9
W23A Werner Place, 44.86 169 ⇓P **P 05 01 05.9 +0.5**
baz=45,SNR=11
W25A X Bar L Ranch, 44.87 167 ⇑P **P 05 01 05.1 -0.4**
baz=45,SNR=7.2
EDW2 Edwards Air Fo 44.99 183 ⇓P **P 05 01 07.4 +0.9**
baz=45,SNR=35
PKM Peak Mountain 45.00 185 ⇓P **P 05 01 08.3 +1.7**
baz=45,SNR=18
W26A Owens Ranch, T 45.02 166 ⇑P **P 05 01 07.3 +0.6**
baz=45,SNR=7.5
HEC Hector,Ludlow 45.03 181 ⇑P **P 05 01 08.0 +1.2**
baz=45
CLZ Clausthal 45.05 45 *e*P **P 05 01 07.1 +0.3**
comp=Z,42nm,1.3s,mb5.1
CLZ Clausthal 45.05 45 *e*P **P 05 01 07.1 +0.3**
CLZ pmax pmax
comp=Z,42nm,1.3s,mb5.1
ANMO Albuquerque 45.06 169 *e*P **P 05 01 07.1 0.0**
comp=Z,22nm,1.1s,mb4.9
ANMO Albuquerque 45.06 169 *e*P **P 05 01 07.1 +0.1**
ANMO pmax pmax
comp=Z,22nm,1.1s
W27A Bowe Ranch, En 45.08 166 ⇓P **P 05 01 06.5 -0.7**
baz=45,SNR=6.0
GMRC Granite Mounta 45.08 180 ⇓P **P 05 01 07.6 +0.4**
baz=45,SNR=8.9
TZTN Tazewell 45.12 143 *e*P **P 05 01 08.8 +1.3**
comp=Z,62nm,1.5s,mb5.2
NVS Novosibirsk 45.22 345⇑*i*P **P 05 01 06.8 -1.3**
NVS *i* 05 02 45.8
NVS *e*S **S 05 07 42.5 -5.6**
NVS pmax pmax
comp=N,42nm,1.5s
NVS pmax pmax
comp=E,26nm,1.5s
NVS pmax pmax
comp=Z,107nm,1.5s,mb5.5
NVS smax
comp=N,45nm,2.4s
NVS smax
comp=E,21nm,2.2s
AMTX Amarillo 45.33 164 ⇑P **P 05 01 08.2 -0.9**
baz=45
AMTX Amarillo 45.33 164 *e*P **P 05 01 07.9 -1.2**
comp=E,43nm,1.4s,mb5.1
X18A Snowflake 45.39 174 ⇓P **P 05 01 10.1 +0.5**
baz=45,SNR=12
X20A Quemado 45.41 172 ⇓P **P 05 01 10.4 +0.6**
baz=45
X16A Lo Mia Camp, P 45.47 175 ⇓P **P 05 01 11.0 +0.6**
baz=45,SNR=14
X27A F and S Farms, 45.49 166 ⇑P **P 05 01 09.8 -0.7**
baz=45
X19A St. Johns 45.50 173 ⇑P **P 05 01 10.7 +0.1**
baz=45,SNR=10.0
X21A Alamocita Cree 45.52 171 ⇓P **P 05 01 11.2 +0.5**
baz=45,SNR=9.5
X26A CR and CF Fran 45.56 166 ⇑P **P 05 01 11.1 +0.1**
baz=45
PDMCI Parker Dam,Lak 45.56 178 ⇓P **P 05 01 11.7 +0.6**
baz=45,SNR=9.6
X17A Forest Lakes 45.56 175 ⇓P **P 05 01 11.7 +0.6**
baz=45
LAZ Ladron 45.59 170 *e*P **P 05 01 11.8 +0.6**
comp=E,24nm,1.6s,mb4.9
BBRC Big Bear Solar 45.60 182 ⇑P **P 05 01 12.6 +1.3**
baz=46,SNR=7.5
WMOK Wichita Mounta 45.63 161 *e*P **P 05 01 10.0 -1.6**
comp=E,33nm,1.1s,mb5.2
WMOK Wichita Mounta 45.63 161 *e*P **P 05 01 10.0 -1.5**
WMOK pmax pmax
comp=Z,33nm,1.1s,mb5.2
BFSC Mount Baldy Ra 45.63 182 ⇑P **P 05 01 13.0 +1.4**
baz=46,SNR=31
MWC Mount Wilson 45.65 183 *e*P **P 05 01 13.2 +1.4**
comp=Z,133nm,1.4s,mb5.7
MWC Mount Wilson 45.65 183 *e*P **P 05 01 13.2 +1.5**
MWC pmax pmax
comp=Z,133nm,1.4s,mb5.7
LPM Los Pinos Moun 45.69 170 *e*P **P 05 01 12.0 0.0**
IRM Iron Mountain 45.70 180 ⇓P **P 05 01 13.1 +0.9**
baz=46,SNR=10
PASC Pasadena Art C 45.70 183 *e*P **P 05 01 13.7 +1.6**
comp=Z,446nm,1.6s,mb6.2
KLR Kul'dur 45.77 302 *e*P **P 05 01 08.6 -3.9**
KLR *e*S **S 05 08 06.5 +10**
KLR pmax pmax
comp=Z,200nm,1.8s,mb5.8
BLG Laguna Peak 45.77 184 ⇑P **P 05 01 13.5 +0.8**
baz=46
BCLA Clavier 45.77 50 P **P 05 01 13.2 +0.6**
comp=Z,22nm,2.3s,mb4.7
LENM Lemitar 45.83 170 *e*P **P 05 01 13.4 +0.3**
BNM Barren Site 45.85 170 *e*P **P 05 01 13.6 +0.2**
comp=Z,47nm,1.4s,mb5.2
BELC Belle Mtn. Jos 45.86 181 ⇓P **P 05 01 14.4 +1.0**
baz=46,SNR=42
BSC Santa Cruz Isl 45.90 185 ⇑P **P 05 01 14.1 +0.4**
baz=46
CLL Collm 45.91 43 *e*P **P 05 01 13.1 -0.4**
comp=Z,21nm,1.1s,mb5.0
CLL Collm 45.91 43 *i*P **P 05 01 13.6 +0.1**
CLL *i* 05 01 20.9
CLL *i* 05 02 49.6
CLL *e*S **S 05 08 00.0 +1.9**
CLL pmax pmax
comp=Z,25nm,1.2s,mb5.0
CLL pmax pmax
comp=Z,28nm,1.2s,mb5.1
CLL MLR MLR
comp=Z,700nm,19.8s,MS4.6
CLL Collm 45.91 43 *i*P **P 05 01 13.6 +0.1**
comp=Z,25nm,1.2s,mb5.0
CLL *i* (sP) sP 05 01 20.9 +6.2
CLL *i* PcP PcP 05 02 49.6 -0.8
comp=Z,28nm,1.2s
CLL *e*PP PP 05 02 59.0 -1.6
CLL *e*S **S 05 08 00.0 +1.9**
CLL *e* 05 08 38.0
CLL *e*SS SS 05 11 30.0 +8.0
CLL *e*SSS 05 12 06.0
CLL LV 05 21 00.0
comp=Z,700nm,19.8s
Y15A Casa Rosa Ranc 45.92 176 ⇑P **P 05 01 14.5 +0.7**
baz=46,SNR=15
Y14A Wickenburg 45.93 177 ⇓P **P 05 01 14.5 +0.5**
baz=46,SNR=33
Y21A Point of Rocks 45.96 171 ⇓P **P 05 01 15.2 +1.0**
baz=46,SNR=19
TKL Tuckaleechee C 45.97 143 LR LR 05 20 33.2
comp=Z,1μm,19.4s,MS4.9,baz=355,slow=36
TKL Tuckaleechee C 45.97 143 *e*P **P 05 01 14.6 +0.4**
TKL Tuckaleechee C 45.97 143 *e*P **P 05 01 14.6 +0.4**
Y19A Nutrioso 45.97 173 ⇓P **P 05 01 15.0 +0.8**
baz=46,SNR=14
BAIF Baives 45.98 51⇑*i*P **P 05 01 14.2 +0.1**
comp=Z,119nm,1.3s,mb5.4
DOU Dourbes 45.99 51 P **P 05 01 14.6 +0.3**
UBBA Unterbreizbach 46.01 46 *e*P **P 05 01 14.3 -0.1**
comp=Z,10.0nm,0.6s,mb4.9
Y16A Circle Bar Ran 46.01 175 ⇓P **P 05 01 15.5 +0.9**
baz=46,SNR=9.4
GIVF Givet 46.02 51⇑*i*P **P 05 01 14.4 -0.1**
ZAA0 Zalesovo Array 46.03 343 *e*P **P 05 01 13.8 -0.7**
ZALV Zalesovo Beam 46.03 343 P **P 05 01 13.8 -0.7**
comp=Z,14nm,0.9s,mb4.9,baz=358,slow=7.7,SNR=28
ZALV PcP PcP 05 02 49.0 -1.8
comp=Z,8.3nm,0.9s,baz=17,slow=5.4,SNR=6.5
ZALV PKiKP PKiKP 05 09 43.4 -2.9
comp=Z,0.3nm,0.3s,baz=333,slow=1.9,SNR=4.1
ZALV LR LR 05 23 14.2
comp=Z,144nm,18.0s,MS4.0,baz=39,slow=40
ZALV Zalesovo Beam 46.03 343 P **P 05 01 13.8 -0.7**
ZALV PcP PcP 05 02 49.0 -1.8
ZALV Zalesovo Beam 46.03 343 P **P 05 01 13.8 -0.7**
ZALV 05 02 49.0
UALR University of 46.04 153 *e*P **P 05 01 12.5 -2.3**
comp=Z,94nm,1.6s,mb5.5
Y20A Horse Springs, 46.04 172 ⇓P **P 05 01 15.6 +0.8**
baz=46,SNR=11
Y22A Socorro 46.05 170 ⇓P **P 05 01 15.2 +0.2**
baz=46,SNR=15
Y23A Lovelace Mesa, 46.09 169 ⇓P **P 05 01 15.7 +0.5**
baz=46
CPCT Cooper Cave 46.10 144 *e*P **P 05 01 12.4 -2.9**
Y12C Blythe 46.11 179 ⇑P **P 05 01 15.7 +0.3**
baz=45,SNR=10.0
Y24A Capitan 46.12 168 ⇓P **P 05 01 15.5 +0.1**
baz=46,SNR=12
Y18A Canyon Day Jun 46.14 174 ⇑P **P 05 01 16.2 +0.6**
baz=46,SNR=16
Y25A Mesa, Roswell 46.15 167 ⇓P **P 05 01 15.4 -0.3**
baz=46,SNR=8.2
MIAR Mount Ida 46.17 155 *e*P **P 05 01 13.2 -2.7**
comp=Z,189nm,2.0s,mb5.7
MIAR Mount Ida 46.17 155 *e*P **P 05 01 13.2 -2.6**
MIAR pmax pmax
comp=Z,189nm,2.0s,mb5.7
MSTX Muleshoe 46.18 165 ⇓P **P 05 01 15.0 -0.9**
baz=46
Y26A Elida 46.18 166 ⇓P **P 05 01 15.5 -0.4**
baz=46
SWET Sewanee 46.19 146 *e*P **P 05 01 13.7 -2.2**
Y17A Roosevelt 46.20 175 ⇓P **P 05 01 16.6 +0.5**
baz=46,SNR=9.0
BC3 Big Chuckawall 46.20 180 ⇓P **P 05 01 17.0 +0.9**
baz=46,SNR=33
PLAL Pickwick Lake 46.21 148 *e*P **P 05 01 13.6 -2.5**
comp=Z,229nm,2.5s,mb5.7
YSS Yuzh-Sakhalins 46.23 292 *e*P **P 05 01 15.8 -0.3**
YSS *e*S **S 05 08 03.0 +0.2**
Y27A Causey 46.25 166 ⇑P **P 05 01 15.9 -0.5**
baz=46,SNR=12
PFO Pinyon Flat Ob 46.25 181 ⇓P **P 05 01 17.3 +0.8**
baz=46,SNR=11
PFO Pinyon Flat Ob 46.25 181 *e*P **P 05 01 17.7 +1.3**
comp=Z,23nm,1.2s,mb5.0
PFO *e*PcP PcP 05 02 51.9 0.0
PFO Pinyon Flat Ob 46.25 181 *e*P **P 05 01 17.7 +1.2**
PFO *e* 05 02 51.9
PFO pmax pmax
comp=Z,23nm,1.2s,mb5.0
PFO Pinyon Flat Ob 46.25 181 P **P 05 01 17.0 +0.5**
comp=Z,69nm,1.1s,mb5.5,SNR=5.1
MURC Murrieta 46.27 182 ⇓P **P 05 01 16.9 +0.3**
baz=46
BEL Belsk 46.28 36 *e*P **P 05 01 16.6 +0.1**
BEL Belsk 46.28 36 *e*P **P 05 01 16.6 +0.1**
MOX Moxa 46.38 45 *e*P **P 05 01 17.5 +0.2**
comp=Z,11nm,0.9s,mb4.8
MOX Moxa 46.38 45 *e*P **P 05 01 17.5 +0.2**
MOX pmax pmax
comp=Z,11nm,0.9s,mb4.8
TNS Taunus Mts 46.39 47 *e*P **P 05 01 17.6 +0.2**
comp=Z,24nm,1.1s,mb5.0
TNS Taunus Mts 46.39 47 *e*P **P 05 01 17.6 +0.2**
TNS pmax pmax
comp=Z,24nm,1.1s,mb5.0
BRG Berggiesshubel 46.45 42 *e*P **P 05 01 17.5 -0.3**
comp=Z,29nm,1.4s,mb5.0
BRG *e* 05 02 51.8
comp=Z,14nm,1.1s
BRG
comp=N,451nm,17.6s
BRG
comp=E,351nm,17.9s
BRG
comp=Z,672nm,17.4s
BRG Berggiesshubel 46.45 42 *e*P **P 05 01 17.9 +0.1**
comp=Z,21nm,1.3s,mb4.9
BRG Berggiesshubel 46.45 42 *e*P **P 05 01 17.5 -0.3**
BRG *e* 05 02 51.8
BRG pmax pmax
comp=Z,29nm,1.4s,mb5.0
BRG pmax pmax
comp=Z,14nm,1.1s,mb4.8
BRG MLR MLR
comp=N,451nm,17.6s,MS4.6
BRG MLR MLR
comp=E,351nm,17.9s,MS4.6
BRG MLR MLR
comp=Z,672nm,17.4s,MS4.7
Z14A Wintersburg 46.51 177 ⇑P **P 05 01 18.5 0.0**
baz=46,SNR=6.1
Z16A Peralta Trail, 46.55 175 ⇑P **P 05 01 18.8 0.0**
baz=46,SNR=5.3
OXF Oxford 46.55 150 *e*P **P 05 01 16.8 -2.1**
comp=Z,178nm,1.1s,mb5.9
OXF *e* 05 03 02.2
OXF Oxford 46.55 150 *e*P **P 05 01 16.8 -2.0**
OXF *e* 05 03 02.2
OXF pmax pmax
comp=Z,178nm,1.1s,mb5.9
ROSF Rostrenen 46.56 58 *e*P **P 05 01 18.3 -0.5**
comp=Z,121nm,1.1s,mb5.4
FLN La Foliniere 46.57 56⇑*i*P **P 05 01 18.0 -0.8**
comp=Z,162nm,1.5s,mb5.4
FLN *e*R
comp=Z,1μm,20.0s
Z15A Gila River Ind 46.59 176 ⇑P **P 05 01 19.4 +0.3**
baz=46
WLF Walferdange 46.63 50 P **P 05 01 19.3 +0.1**
comp=Z,21nm,1.3s,mb4.9
WLF Walferdange 46.63 50 *e*P **P 05 01 20.4 +1.2**
comp=Z,42nm,1.2s,mb5.2
WLF Walferdange 46.63 50 *e*P **P 05 01 20.4 +1.1**
WLF pmax pmax
comp=Z,41nm,1.2s,mb5.2
Z19A T-Link Ranch, 46.64 173 ⇓P **P 05 01 19.2 -0.3**
baz=46
Z21A St. Cloud Mine 46.66 171 ⇑P **P 05 01 19.8 +0.1**
baz=46,SNR=15
Z13A Yuma Proving G 46.66 178 ⇓P **P 05 01 19.9 +0.2**
baz=46,SNR=19
Z24A Sheeppen Canyo 46.71 168 ⇓P **P 05 01 19.5 -0.6**
baz=47,SNR=13
TANN Tannenbergstha 46.72 44 *e*P **P 05 01 20.1 +0.2**
comp=Z,19nm,1.3s,mb4.9
Z22A Elephant Butte 46.73 170 ⇓P **P 05 01 20.0 -0.2**
baz=47,SNR=10
KMSC Kings Mountain 46.75 141 ⇓P **P 05 01 19.0 -1.3**
baz=47
Z23A Rita Site, Whi 46.75 169 ⇑P **P 05 01 20.3 -0.1**
baz=47,SNR=5.7
SGMF Saint Gilles 46.75 58 *e*P **P 05 01 19.5 -0.7**
LDF La Druitiere 46.79 55⇑*i*P **P 05 01 19.6 -0.9**
comp=Z,30nm,0.9s,mb4.9
Z25A Roswell 46.79 168 ⇓P **P 05 01 20.4 -0.2**
baz=47,SNR=11
GLA Glamis 46.81 179 ⇑P **P 05 01 21.5 +0.7**
baz=47,SNR=6.3
GLA Glamis 46.81 179 *e*P **P 05 01 22.1 +1.3**
comp=Z,78nm,1.4s,mb5.5
GLA Glamis 46.81 179 *e*P **P 05 01 22.1 +1.3**
GLA pmax pmax
comp=Z,78nm,1.4s,mb5.5
Z27A Tatum 46.81 166 ⇓P **P 05 01 20.4 -0.5**
baz=47,SNR=6.8
Z26A Caprock 46.83 167 ⇑P **P 05 01 20.5 -0.5**
baz=47,SNR=8.6
Z20A Nine Sixteen R 46.83 172 ⇓P **P 05 01 21.7 +0.6**
baz=47,SNR=8.0
PVCC Panska Ves 46.86 42 *e*P **P 05 01 21.4 +0.3**
PVCC *e* 05 01 30.4
PVCC *e* 05 02 53.9
PVCC Panska Ves 46.86 42⇑*e*P **P 05 01 21.4 +0.3**
PVCC *ex* x 05 01 30.4
PVCC *e*PCP PcP 05 02 53.9 +0.2
GRR Gorron 46.88 56⇑*i*P **P 05 01 20.9 -0.3**
comp=Z,53nm,1.1s,mb5.1
TLY Talaya 46.89 327 *e*P **P 05 01 21.5 +0.2**
comp=Z,30nm,1.0s,mb5.2
TLY *e*PcP PcP 05 02 53.9 0.0
TLY Talaya 46.89 327 *e*P **P 05 01 19.3 -2.0**
TLY *e* 05 02 53.3
TLY *e*SS SS 05 11 35.8 -2.2
TLY pmax pmax
comp=Z,29nm,1.0s,mb5.2
TLY MLR MLR
comp=Z,677nm,16.0s,MS4.7
TLY Talaya 46.89 327 P **P 05 01 20.7 -0.6**
comp=Z,157nm,1.0s,mb5.9,SNR=6.8
TLY Talaya 46.89 327 P **P 05 01 21.9 +0.6**
SNR=5.9
NKC Novy Kostel 46.89 44 *e*P **P 05 01 21.7 +0.4**
NKC *e* 05 01 29.7
NKC *e* 05 02 53.7
NKC Novy Kostel 46.89 44⇑*e*P **P 05 01 21.7 +0.4**
NKC *ex* x 05 01 29.7
NKC *e*PCP PcP 05 02 53.7 -0.2
SCI San Clemente I 46.89 183 ⇑P **P 05 01 22.0 +0.5**
baz=47,SNR=8.7
SWSC Sam W. Stewart 46.92 180 ⇓P **P 05 01 22.6 +0.9**
baz=47,SNR=6.7
MONP Monument Peak 46.97 181 ⇓P **P 05 01 23.0 +0.9**
baz=47,SNR=18
QUIF Quistinic 46.99 58⇑*i*P **P 05 01 21.7 -0.4**
comp=Z,168nm,1.5s,mb5.5
TOD Tromm 47.04 47 *e*P **P 05 01 22.9 +0.4**
TOD Tromm 47.04 47 *e*P **P 05 01 22.9 +0.4**
UPC Upice 47.05 41 *i*P **P 05 01 23.2 +0.6**
UPC *e* 05 01 30.9
UPC *e* 05 02 54.4
UPC Upice 47.05 41⇑*i*P **P 05 01 23.2 +0.6**
UPC *ex* x 05 01 30.9
UPC *e*PCP PcP 05 02 54.4 0.0
113A Mohawk Valley, 47.09 178 ⇑P **P 05 01 23.5 +0.4**
baz=47,SNR=9.7
114A Black Gap (USA 47.12 177 ⇑P **P 05 01 23.8 +0.6**
baz=47
MOY Mondy 47.15 330 *e*P **P 05 01 24.0 +0.7**
MOY pmax pmax
comp=Z,129nm,2.4s,mb5.4
115A Sonoran Desert 47.18 176 ⇑P **P 05 01 24.4 +0.7**
baz=47,SNR=10
BAR Barrett 47.18 181 *e*P **P 05 01 24.7 +0.9**
comp=Z,54nm,1.4s,mb5.3
BAR *e*PcP PcP 05 02 55.4 +0.2
DVTC Desert V Tower 47.20 181 ⇑P **P 05 01 24.6 +0.7**
baz=47,SNR=7.9
DPC Dobruska-Polom 47.24 41 *e*P **P 05 01 24.7 +0.7**
comp=Z,32nm,0.9s,mb5.2
DPC *e*PcP PcP 05 02 55.4 +0.3
DPC Dobruska-Polom 47.24 41⇑*i*P **P 05 01 24.7 +0.7**
DPC *e* 05 01 32.6
DPC *e* 05 02 55.1
DPC MLR MLR
comp=Z,700nm,19.7s,MS4.6
DPC Dobruska-Polom 47.24 41⇑*i*P **P 05 01 24.7 +0.7**
DPC *ex* x 05 01 32.6
DPC *e*PCP PcP 05 02 55.1 0.0
DPC AMS AMS 05 23 40.0
comp=Z,700nm,19.7s
GRF Grafenberg Arr 47.27 45 *e*P **P 05 01 25.1 +0.8**
comp=Z,49nm,1.2s,mb5.3
GRF *e*L 05 22 00.7
comp=Z,489nm,19.7s
GRF Grafenberg Arr 47.27 45 *e*P **P 05 01 25.1 +0.8**

GRF pmax pmax
comp=Z,49nm,1.2s,mb5.3
GRF MLR MLR
comp=Z,500nm,19.7s,MS4.5
118A Homack Ranch, 47.27 174 ⇑P **P 05 01 24.8 +0.3**
baz=47,SNR=17
GRFO Grafenberg 47.27 45 *e*P **P 05 01 24.8 +0.6**
comp=Z,150nm,2.0s,mb5.6
GRFO Grafenberg 47.27 45 *e*P **P 05 01 24.8 +0.5**
GRFO pmax pmax
comp=Z,150nm,2.0s,mb5.6
PRA Prague 47.30 42 ⇑P **P 05 01 26.0 +1.5**
116A Eloy 47.32 176 ⇑P **P 05 01 25.3 +0.4**
baz=47,SNR=6.4
ROTZ Rotzenmuhle 47.32 44 *e*P **P 05 01 25.1 +0.4**
comp=Z,84nm,2.3s,mb5.3
117A Oracle 47.33 175 ⇑P **P 05 01 25.2 +0.3**
baz=47,SNR=14
124A Stringfield Ra 47.34 168 ⇓P **P 05 01 24.6 -0.4**
baz=47,SNR=6.0
PRU Pruhonice 47.39 42 ⇑*i*P **P 05 01 26.4 +1.2**
PRU *e* 05 01 34.6
PRU *e* 05 02 55.8
PRU MLR MLR
comp=Z,800nm,18.0s,MS4.7
PRU Pruhonice 47.39 42 ⇑*i*P **P 05 01 26.4 +1.2**
PRU *ex* x 05 01 34.6
PRU *e*PCP PcP 05 02 55.8 +0.2
PRU AMS AMS 05 23 00.0
comp=Z,800nm,18.0s
BRVK Borovoye 47.40 355 *e*P **P 05 01 25.8 +0.6**
BRVK Borovoye 47.40 355*c i*P **P 05 01 25.6 +0.4**
BRVK pmax pmax
comp=Z,56nm,1.7s,mb5.2
BRVK Borovoye 47.40 355 P **P 05 01 25.9 +0.7**
comp=Z,151nm,1.0s,mb5.9,SNR=8.6
BRVK Borovoye 47.40 355 P **P 05 01 25.7 +0.5**
SNR=16
125A Gardner Draw, 47.41 168 ⇑P **P 05 01 24.8 -0.7**
baz=47,SNR=5.6
HIA Hailar 47.43 313 *e*P **P 05 01 25.0 -0.5**
comp=Z,100nm,1.3s,mb5.6
HIA *e*PcP PcP 05 02 55.3 -0.5
HIA Hailar 47.43 313 *e*P **P 05 01 25.0 -0.5**
HIA *e* 05 02 55.3
HIA pmax pmax
comp=Z,100nm,1.3s
121A Cookes Peak, D 47.43 171 ⇑P **P 05 01 25.6 -0.1**
baz=47,SNR=10
BVA0 Borovoye Array 47.44 355 *i*P **P 05 01 25.6 +0.1**
BVA0 pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
BVAR Borovoye Array 47.44 355 LR LR 05 23 59.8
comp=Z,368nm,18.6s,MS4.4,baz=351,slow=39
127A Arkansas Junct 47.45 166 ⇑P **P 05 01 25.3 -0.5**
baz=47
126A Clayton Basin, 47.45 167 ⇑P **P 05 01 25.3 -0.5**
baz=47,SNR=6.1
TUC Tucson 47.59 175 *e*P **P 05 01 27.2 +0.3**
comp=Z,15nm,1.2s,mb4.9
TUC Tucson 47.59 175 *e*P **P 05 01 27.3 +0.4**
TUC pmax pmax
comp=Z,15nm,1.2s,mb4.9
JSC Jenkinsville 47.61 141 *e*P **P 05 01 26.4 -0.6**
JSC Jenkinsville 47.61 141 *e*P **P 05 01 26.5 -0.6**
MEZF Maizieres J'vi 47.62 51 ⇑*i*P **P 05 01 27.3 +0.3**
comp=Z,148nm,1.6s,mb5.5
PAGF Fort de Pagny 47.66 50 ⇑*i*P **P 05 01 27.8 +0.5**
comp=Z,26nm,1.3s,mb4.8
VOSK Vostochnaya 47.73 355 P **P 05 01 27.1 -0.7**
VOSK pmax pmax
comp=Z,50nm,1.7s,mb5.3
OJC Ojcow 47.77 38 *e*P **P 05 01 28.1 0.0**
OJC *e*PcP PcP 05 02 56.8 -0.2
OJC Ojcow 47.77 38 *e*P **P 05 01 28.1 0.0**
OJC *e* 05 02 56.8
216A Three Points, 47.88 175 ⇓P **P 05 01 29.2 -0.1**
baz=48,SNR=5.4
SFTF Sexfontaines 47.91 51 ⇑*i*P **P 05 01 29.2 0.0**
comp=Z,70nm,1.3s,mb5.2
214A Organ Pipe Nat 47.91 177 ⇑P **P 05 01 29.3 -0.2**
baz=48
219A White Tail Can 47.93 173 ⇓P **P 05 01 29.6 +0.1**
baz=48,SNR=16
218A Dragoon 47.94 174 ⇓P **P 05 01 29.8 +0.2**
baz=48
225A Deer Hill, Car 47.95 168 ⇑P **P 05 01 29.5 -0.2**
baz=48,SNR=13
MORC Moravsky Berou 47.95 40 *e*P **P 05 01 29.5 0.0**
comp=Z,58nm,1.6s,mb5.4
MORC *e*PcP PcP 05 02 57.6 0.0
MORC Moravsky Berou 47.95 40 *e*P **P 05 01 29.5 0.0**
MORC *e* 05 02 57.6
MORC pmax pmax
comp=Z,58nm,1.6s,mb5.4
MORC Moravsky Berou 47.95 40 ⇓*i*P **P 05 01 29.9 +0.4**
221A Mesquite Ranch 47.95 171 ⇑P **P 05 01 30.1 +0.3**
baz=48
224A Cornudas Mount 47.96 169 ⇑P **P 05 01 29.7 -0.1**
baz=48,SNR=5.1
OKC Ostrava-Krasne 47.96 39 *e*P **P 05 01 29.8 +0.2**
OKC *e* 05 01 38.1
OKC *e* 05 02 57.8
OKC Ostrava-Krasne 47.96 39 ⇑*e*P **P 05 01 29.8 +0.2**
OKC *ex* x 05 01 38.1
OKC *e*PCP PcP 05 02 57.8 +0.1
CDF Champ du Feu 48.01 49 ⇑*i*P **P 05 01 30.2 +0.2**
comp=Z,43nm,1.1s,mb5.1
THEF They Montfort 48.02 50 *e*P **P 05 01 30.7 +0.6**
THEF They Montfort 48.02 50 *e*P **P 05 01 30.7 +0.6**
THEF They Montfort 48.02 50 *e*P **P 05 01 30.7 +0.6**
WET Wettzell 48.02 44 *e*P **P 05 01 30.7 +0.6**
comp=Z,21nm,1.1s,mb5.1
WET Wettzell 48.02 44 *e*P **P 05 01 30.7 +0.6**
WET pmax pmax
comp=Z,21nm,1.1s,mb5.1
226A Malaga, Loving 48.03 167 ⇓P **P 05 01 30.4 0.0**
baz=48,SNR=6.6
220A Playas Peak, P 48.04 172 ⇓P **P 05 01 30.7 +0.3**
baz=48,SNR=9.1
227A Bennet, Jal 48.11 166 ⇓P **P 05 01 30.9 -0.1**
baz=48,SNR=5.5
KHC Kasperske Hory 48.12 43 *e*P **P 05 01 31.0 +0.2**
KHC *e* 05 01 39.0
KHC Kasperske Hory 48.12 43 ⇑*e*P **P 05 01 31.0 +0.2**
KHC *ex* x 05 01 39.0
KHC *ex* x 05 20 58.0
217A Green Valley 48.12 175 ⇑P **P 05 01 32.0 +0.9**
baz=48,SNR=7.1
TREC Trest 48.19 42 *e*P **P 05 01 31.6 +0.2**
TREC MLR MLR
comp=Z,800nm,22.0s,MS4.7
TREC Trest 48.19 42 ⇑*e*P **P 05 01 31.6 +0.2**
TREC AMS AMS 05 23 10.0
comp=Z,800nm,22.0s
ECH Echery 48.19 49 *e*P **P 05 01 31.7 +0.3**
ECH Echery 48.19 49 *e*P **P 05 01 31.7 +0.3**
ECH Echery 48.19 49 *e*P **P 05 01 31.7 +0.3**
ZAK Zakamensk 48.21 327 *e*P **P 05 01 31.8 +0.3**
ZAK pmax pmax
comp=Z,13nm,1.3s,mb4.8
AKASG Malin Array Be 48.22 29 P **P 05 01 31.1 -0.5**
comp=Z,26nm,0.8s,mb5.3,baz=353,slow=8.3,SNR=66
AKASG PcP PcP 05 02 57.4 -1.2
comp=Z,20nm,0.9s,baz=352,slow=3.2,SNR=13
AKASG LR LR 05 21 29.9
comp=Z,693nm,19.2s,MS4.7,baz=355,slow=36
AKASG Malin Array Be 48.22 29 P **P 05 01 31.1 -0.5**
AKASG PcP PcP 05 02 57.4 -1.2
AKASG LR LR 05 21 29.9
AKASG Malin Array Be 48.22 29 P **P 05 01 31.1 -0.5**
AKASG 05 02 57.4
AKBB Malin Array Si 48.22 29 *e*P **P 05 01 31.1 -0.5**
AKBB *e*PcP PcP 05 02 57.9 -0.7
AKBB Malin Array Si 48.22 29 *e*P **P 05 01 31.1 -0.5**
AKBB *e* 05 02 57.9
KIEV Kiev 48.23 30 *e*P **P 05 01 31.2 -0.5**
comp=Z,359nm,2.4s,mb6.0
KIEV *e*PcP PcP 05 02 57.6 -1.0
KIEV Kiev 48.23 30 *e*P **P 05 01 31.2 -0.5**
KIEV *e* 05 02 57.7
KIEV pmax pmax
comp=Z,359nm,2.4s,mb6.0
BFO Black Forest 48.23 48 *e*P **P 05 01 32.3 +0.6**
comp=Z,48nm,2.3s,mb5.1

BFO Black Forest 48.23 48 *e*P **P 05 01 31.9 +0.1**
comp=Z,78nm,1.8s,mb5.4
BFO *e*PcP PcP 05 02 59.0 +0.3
BFO Black Forest 48.23 48 *e*P **P 05 01 31.9 +0.2**
BFO *e* 05 02 59.0
BFO pmax pmax
comp=Z,78nm,1.8s,mb5.4
HAU Haudompre 48.28 50 ⇑*i*P **P 05 01 32.3 +0.2**
comp=Z,119nm,1.3s,mb5.5
HAU *e*R
comp=Z,666nm,18.0s
VRAC Vranov 48.30 41 ⇑P **P 05 01 32.6 +0.3**
VRAC Vranov 48.30 41 ⇑*i*P **P 05 01 32.6 +0.3**
GEC2 GERESS Array S 48.41 43 *e*P **P 05 01 33.7 +0.6**
comp=Z,32nm,1.6s,mb5.1
GEC2 GERESS Array S 48.41 43 *e*P **P 05 01 33.7 +0.6**
GEC2 pmax pmax
comp=Z,32nm,1.6s,mb5.1
GERES GERESS Array B 48.41 43 P **P 05 01 33.6 +0.5**
comp=Z,3.6nm,1.0s,mb4.4,baz=340,slow=7.1,SNR=16
GERES PcP PcP 05 02 59.1 -0.2
comp=Z,4.2nm,0.9s,baz=7.6,slow=4.0,SNR=4.8
GERES LR LR 05 23 25.4
comp=Z,609nm,20.1s,MS4.6,baz=341,slow=38
GERES GERESS Array B 48.41 43 P **P 05 01 33.6 +0.5**
GERES PcP PcP 05 02 59.1 -0.2
GERES LR LR 05 23 25.4
GERES GERESS Array B 48.41 43 P **P 05 01 33.6 +0.5**
GERES 05 02 59.1
VSR Storozhevoye 48.47 21 *e*P **P 05 01 33.3 -0.2**
VSR pmax pmax
comp=N,60nm,1.0s
VSR pmax pmax
comp=Z,40nm,1.0s,mb5.4
VSR pmax pmax
comp=E,2.0nm,0.5s
318A Bisbee 48.47 174 ⇑P **P 05 01 34.3 +0.6**
baz=48,SNR=16
HYF Humbligny 48.48 53 ⇑*i*P **P 05 01 33.8 +0.1**
HINF Hinteralfeld 48.54 49 ⇑*i*P **P 05 01 34.2 +0.1**
comp=E,126nm,1.6s,mb5.4
MOF Molkenrain 48.54 49 *e*P **P 05 01 34.5 +0.4**
MOF Molkenrain 48.54 49 *e*P **P 05 01 34.5 +0.4**
MOF Molkenrain 48.54 49 *e*P **P 05 01 34.5 +0.4**
YUK Yuzh-Kuril'sk 48.54 288 *c*P **P 05 01 27.8 -6.4**
YUK *i* 05 02 56.9
YUK *i* 05 03 22.4
YUK *i* SS SS 05 11 59.9 -5.1
YUK *i* SSS 05 13 15.8
YUK MLR MLR
comp=N,266nm,19.0s,MS4.3
YUK MLR MLR
comp=E,175nm,19.0s,MS4.3
YUK MLR MLR
comp=Z,2µm,19.0s,MS5.0
319A Douglas 48.55 173 ⇓P **P 05 01 34.7 +0.3**
baz=48,SNR=11
324A Moseley Ranch, 48.59 169 ⇑P **P 05 01 34.4 -0.3**
baz=48,SNR=7.6
320A Kipp Ranch, An 48.60 172 ⇓P **P 05 01 35.2 +0.4**
baz=48,SNR=8.6
LVV L'vov 48.60 34 *e*P **P 05 01 34.6 0.0**
LVV *e*S **S 05 08 36.6 0.0**
LVV MLR MLR
comp=Z,200nm,14.0s,MS4.2
LVV MLR MLR
comp=N,200nm,12.0s
NIE Niedzica 48.61 37 *e*P **P 05 01 34.9 +0.3**
NIE *e*PcP PcP 05 03 00.3 +0.3
NIE Niedzica 48.61 37 *e*P **P 05 01 34.9 +0.3**
NIE *e* 05 03 00.3
FELD Feldberg im Sc 48.63 48 *e*P **P 05 01 35.0 +0.2**
KWP Kalwaria Pacla 48.66 35 *e*P **P 05 01 36.6 +1.6**
KWP LMZ 05 24 45.7
comp=N,700nm,16.5s
KWP Kalwaria Pacla 48.66 35 *e*P **P 05 01 35.3 +0.3**
comp=N,123nm,1.7s,mb5.7
KWP Kalwaria Pacla 48.66 35 *e*P **P 05 01 35.3 +0.3**
KWP pmax pmax
comp=Z,123nm,1.7s,mb5.7
KWP Kalwaria Pacla 48.66 35 ⇑*i*P **P 05 01 35.4 +0.4**
LOR Lormes 48.66 52 ⇑*i*P **P 05 01 35.0 0.0**
comp=Z,105nm,1.4s,mb5.4
LOR *e*R
comp=Z,559nm,20.8s
325A Bean Ranch, Si 48.68 168 ⇑P **P 05 01 35.6 +0.2**
baz=49
STHS Stebnicka Huta 48.71 37 *e*P **P 05 01 36.4 +1.0**
STHS pmax pmax
comp=Z,11nm,0.9s,mb4.9
STHS Stebnicka Huta 48.71 37 *e*P **P 05 01 36.4 +1.0**
STHS *e*PCP PcP 05 03 00.9 +0.5
MFF Saint Martin d 48.73 56 ⇑*i*P **P 05 01 35.4 -0.2**
comp=Z,127nm,1.4s,mb5.5
VBMS Vicksburg 48.73 152 *e*P **P 05 01 34.7 -1.1**
comp=Z,78nm,1.1s,mb5.7
328A Wristen Ranch, 48.76 166 ⇑P **P 05 01 34.9 -1.1**
baz=49,SNR=11
326A Caldwell Ranch 48.77 167 ⇓P **P 05 01 35.5 -0.6**
baz=49,SNR=6.8
SSF Saint Saulge 48.81 53 ⇑*i*P **P 05 01 36.1 -0.1**
comp=Z,101nm,1.3s,mb5.4
NATX Nacogdoches 48.86 156 *e*P **P 05 01 36.2 -0.6**
comp=Z,39nm,0.9s,mb5.4
LOMF Lomont 48.99 50 *e*P **P 05 01 38.2 +0.6**
LOMF Lomont 48.99 50 *e*P **P 05 01 38.2 +0.6**
LOMF Lomont 48.99 50 *e*P **P 05 01 38.2 +0.6**
ASAJ Asahikawa 49.01 291 *e*P **P 05 01 35.8 -2.0**
comp=Z,21nm,1.2s,mb5.0
AVF Avril sur Loir 49.05 53 ⇑*i*P **P 05 01 37.9 -0.2**
comp=Z,129nm,1.3s,mb5.5
BGF Bois d'Agland 49.21 53 ⇑*i*P **P 05 01 39.0 -0.2**
comp=Z,199nm,1.4s,mb5.6
KOLL Kolacno 49.23 39 *e*P **P 05 01 40.3 +0.9**
KOLL Kolacno 49.23 39 *e*P **P 05 01 40.3 +0.9**
425A Indio Mountain 49.26 168 ⇓P **P 05 01 39.8 -0.1**
baz=49,SNR=14
427A Hayter Ranch, 49.26 166 ⇓P **P 05 01 39.7 -0.2**
baz=49,SNR=9.9
SMF Signal de Mont 49.26 52 ⇑*i*P **P 05 01 39.4 -0.3**
comp=Z,127nm,1.2s,mb5.5
VYHS Vyhne 49.36 39 *e*P **P 05 01 40.6 +0.2**
VYHS pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
VYHS Vyhne 49.36 39 *e*P **P 05 01 40.6 +0.2**
VYHS *e*PCP PcP 05 03 03.0 +0.3
TCF Toulx Ste Croi 49.38 54 ⇑*i*P **P 05 01 40.2 -0.4**
comp=Z,107nm,1.4s,mb5.4
426A McDonald Obser 49.42 167 ⇓P **P 05 01 40.5 -0.6**
baz=49,SNR=14
428A Kincaid Ranch, 49.42 165 ⇑P **P 05 01 40.3 -0.7**
baz=49
MOA Molln 49.46 43 ⇑*i*PcP PcP 05 03 03.0 -0.2
comp=Z,30nm,1.2s
KURK Kurchatov 49.53 348 P **P 05 01 41.7 0.0**
comp=Z,18nm,1.0s,mb5.1,baz=3.2,slow=7.7,SNR=121
KURK PcP PcP 05 03 02.9 -0.5
comp=Z,17nm,1.0s,baz=355,slow=3.8,SNR=11
KURK LR LR 05 24 42.1
comp=Z,440nm,18.1s,MS4.5,baz=325,slow=38
KURK Kurchatov 49.53 348 *e*P **P 05 01 41.0 -0.7**
comp=Z,42nm,1.3s,mb5.3
KURK *e*PcP PcP 05 03 03.0 -0.3
KURK Kurchatov 49.53 348 *e*P **P 05 01 41.0 -0.7**
KURK *e* 05 03 03.0
KURK pmax pmax
comp=Z,42nm,1.3s,mb5.3
KURK Kurchatov 49.53 348 P **P 05 01 41.7 0.0**
comp=Z,136nm,1.4s,mb5.8,SNR=19
KURK Kurchatov 49.53 348 P **P 05 01 41.5 -0.2**
SNR=15
KECS Kecovo 49.55 37 *e*P **P 05 01 41.9 0.0**
KECS pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
KECS Kecovo 49.55 37 *e*P **P 05 01 41.9 0.0**
KECS *e*PCP PcP 05 03 03.4 -0.1
MOTA Moosalm 49.56 46 ⇑*i*PcP PcP 05 03 02.8 -0.7
comp=Z,23nm,1.0s
CONA Conrad Observa 49.58 42 ⇑*i*pP pP 05 01 42.5 -0.4
comp=Z,13nm,1.3s
CONA ⇑*i*PcP PcP 05 03 04.0 +0.4
comp=Z,18nm,1.3s
UZH Uzhgorod 49.60 36 *e*P **P 05 01 42.0 -0.2**
UZH *i* 05 01 50.2
CABF La Chapelle 49.61 50 ⇑*i*P **P 05 01 42.7 +0.4**
comp=Z,98nm,1.3s,mb5.4

AGO Saint Agoulin 49.74 53 *e*P **P 05 01 43.6 +0.3**
AGO Saint Agoulin 49.74 53 *e*P **P 05 01 43.6 +0.3**
JCT Junction City 49.81 162 ⇓P **P 05 01 43.5 -0.5**
baz=50,SNR=9.3
JCT Junction City 49.81 162 *e*P **P 05 01 43.2 -0.8**
comp=Z,87nm,1.3s,mb5.6
JCT Junction City 49.81 162 *e*P **P 05 01 43.2 -0.8**
JCT pmax pmax
comp=Z,87nm,1.3s,mb5.6
PLDF La Plantade 49.89 53 *e*P **P 05 01 44.7 +0.2**
PLDF La Plantade 49.89 53 *e*P **P 05 01 44.7 +0.2**
PLDF La Plantade 49.89 53 *e*P **P 05 01 44.7 +0.2**
SOP Sopron 49.90 41 ⇑*e*P **P 05 01 45.3 +0.8**
SOP *e*PcP PcP 05 03 05.0 +0.3
VERF Verneugheol 49.95 54 *e*P **P 05 01 45.2 +0.3**
VERF Verneugheol 49.95 54 *e*P **P 05 01 45.2 +0.3**
527A Woodward Ranch 49.95 166 ⇓P **P 05 01 44.7 -0.4**
baz=50
528A Cox Ranch, San 49.97 166 ⇑P **P 05 01 45.1 -0.2**
baz=50,SNR=16
526A Mary Lane Ranc 50.02 167 ⇑P **P 05 01 45.1 -0.5**
baz=50,SNR=26
AKTO Aktyubinsk 50.02 5 P **P 05 01 45.8 +0.4**
comp=Z,24nm,1.0s,mb5.2,baz=358,slow=7.3,SNR=60
AKTO PcP PcP 05 03 04.7 -0.4
comp=Z,13nm,0.8s,baz=20,slow=3.7,SNR=6.8
AKTO Aktyubinsk 50.02 5 P **P 05 01 45.8 +0.4**
AKTO PcP PcP 05 03 04.7 -0.4
AKTO Aktyubinsk 50.02 5 P **P 05 01 45.8 +0.4**
AKTO 05 03 04.7
PYM Petit Puy Mans 50.02 53 *e*P **P 05 01 45.7 +0.2**
PYM Petit Puy Mans 50.02 53 *e*P **P 05 01 45.7 +0.2**
PYM Petit Puy Mans 50.02 53 *e*P **P 05 01 45.7 +0.2**
SENIN Lac Senin/Sane 50.02 49 *e*P **P 05 01 46.9 +1.5**
comp=Z,18nm,1.1s,mb5.0
PSZ Piszkesteto 50.05 38 *e*P **P 05 01 46.3 +0.7**
PSZ *e*PcP PcP 05 03 05.8 +0.6
PSZ Piszkesteto 50.05 38 *e*P **P 05 01 46.3 +0.7**
PSZ *e* 05 03 05.8
PSZ Piszkesteto 50.05 38 ⇑*e*P **P 05 01 46.4 +0.8**
PSZ *e*PcP PcP 05 03 05.2 -0.1
PSZ Piszkesteto 50.05 38 ⇓*i*P **P 05 01 46.6 +1.0**
KBA Koelnbreinsper 50.11 44 ⇑*i*PcP PcP 05 03 05.3 -0.2
comp=Z,19nm,1.0s
TRPA Tarpa 50.12 36 ⇓*i*P **P 05 01 46.8 +0.6**
TUE Stuetta 50.19 48 *e*P **P 05 01 48.0 +1.3**
comp=Z,69nm,1.5s,mb5.5
BRAL Brewton 50.24 148 *e*P **P 05 01 45.1 -2.2**
comp=Z,49nm,0.8s,mb5.6
RJF Les Rejaudoux 50.24 55 ⇑*i*P **P 05 01 46.6 -0.5**
comp=Z,58nm,1.4s,mb5.1
RJF *e*R
comp=Z,1µm,20.8s
ULN Ulaanbaatar 50.32 324 *e*P **P 05 01 47.9 +0.2**
comp=Z,88nm,1.3s,mb5.6
ULN *e*PcP PcP 05 03 06.5 +0.2
ULN Ulaanbaatar 50.32 324 *e*P **P 05 01 47.9 +0.2**
ULN *e* 05 03 06.5
ULN pmax pmax
comp=Z,88nm,1.3s,mb5.6
ABTA Abfaltersbach 50.33 45 ⇑*i*PcP PcP 05 03 05.6 -0.7
comp=Z,34nm,1.1s
BUD Budapest 50.38 39 ⇓*e*P **P 05 01 49.5 +1.4**
SONM Songino Array 50.42 324 P **P 05 01 48.8 +0.4**
comp=Z,43nm,1.0s,mb5.4,baz=359,slow=5.6,SNR=175
SONM PcP PcP 05 03 07.1 +0.5
comp=Z,10nm,1.0s,baz=338,slow=2.1,SNR=4.9
SONM LR LR 05 24 08.3
comp=Z,1µm,18.1s,MS4.9,baz=359,slow=37
SONM Songino Array 50.42 324 P **P 05 01 48.8 +0.4**
SONM PcP PcP 05 03 07.1 +0.5
SONM LR LR 05 24 08.3
SONM Songino Array 50.42 324 P **P 05 01 48.8 +0.4**
SONM 05 03 07.1
LFF La Frestale 50.48 56 *e*P **P 05 01 48.8 -0.2**
comp=Z,49nm,1.0s,mb5.2
626A Big Bend Ranch 50.52 167 ⇑P **P 05 01 49.5 +0.1**
baz=50,SNR=16
RSL Roselend 50.59 50 *e*P **P 05 01 50.4 +0.6**
RSL Roselend 50.59 50 *e*P **P 05 01 50.4 +0.6**
RSL Roselend 50.59 50 *e*P **P 05 01 50.4 +0.6**
MDJ Mudanjiang 50.59 303 P **P 05 01 49.0 -0.8**
MDJ pP pP 05 01 52.3 +1.7
MDJ sP sP 05 01 53.8 +2.8
MDJ PcP PcP 05 03 07.1 -0.2
MDJ PP PP 05 03 42.4 -2.8
MDJ ScP ScP 05 07 03.3 -0.4
MDJ PcS PcS 05 07 04.3 -0.2
MDJ S **S 05 09 03.0 -1.5**
MDJ pmax pmax
comp=Z,53nm,1.2s,mb5.3
MDJ pmax pmax
comp=Z,230nm,4.8s
MDJ LR LR
comp=N,310nm,19.8s,MS4.5
MDJ LR LR
comp=E,340nm,18.9s,MS4.5
MDJ LR LR
comp=Z,380nm,18.1s,MS4.5
MDJ Mudanjiang 50.59 303 *e*P **P 05 01 48.9 -0.9**
comp=Z,56nm,1.1s,mb5.4
627A Terlingua Ranc 50.65 166 ⇑P **P 05 01 50.5 +0.1**
baz=50,SNR=10
CAF Calviac 50.69 54 ⇑*i*P **P 05 01 50.3 -0.2**
comp=Z,39nm,1.2s,mb4.9
SSB Saint Sauveur 50.70 52 *e*P **P 05 01 51.0 +0.4**
comp=Z,60nm,1.4s,mb5.3
SSB Saint Sauveur 50.70 52 *e*P **P 05 01 51.0 +0.4**
SSB pmax pmax
comp=Z,60nm,1.4s,mb5.3
SSB Saint Sauveur 50.70 52 *e*P **P 05 01 51.0 +0.4**
SOKA Soboth 50.71 43 ⇑*i*PcP PcP 05 03 07.2 -0.6
comp=Z,27nm,1.0s
TXAR Lajitas Array 50.76 167 P **P 05 01 50.5 -0.8**
comp=Z,2.2nm,0.6s,mb4.2,baz=30,slow=3.5,SNR=32
TXAR LR LR 05 24 38.1
comp=Z,2µm,18.5s,MS5.2,baz=0.0,slow=38
TXAR Lajitas Array 50.76 167 P **P 05 01 50.5 -0.8**
TXAR LR LR 05 24 38.1
TXAR Lajitas Array 50.76 167 P **P 05 01 50.5 -0.7**
LPL La Plagne 50.77 50 ⇑*i*P **P 05 01 52.3 +1.1**
comp=Z,83nm,1.5s,mb5.2
LPG La Plagne 50.80 50 ⇑*i*P **P 05 01 52.6 +1.3**
comp=Z,116nm,1.4s,mb5.3
EPON Pontenova 50.84 63 P **P 05 01 51.8 +0.1**
comp=Z,47nm,1.1s,mb5.3
BUR08 Bucovina Ar. S 50.87 33 *e*P **P 05 01 52.2 +0.3**
BUR08 *e*PcP PcP 05 03 10.7 +2.3
BURAR Bucovina Array 50.90 33 ⇑P **P 05 01 52.2 +0.1**
BURAR Bucovina Array 50.90 33 ⇑*i*P **P 05 01 52.2 +0.1**
EMAZ Mazaricos 50.92 65 P **P 05 01 52.2 0.0**
comp=Z,65nm,1.4s,mb5.4
ERM Erimo 50.96 290 *e*P **P 05 01 51.8 -0.8**
comp=Z,206nm,1.3s,mb5.9
ERM Erimo 50.96 290*c i*P **P 05 01 52.2 -0.4**
ERM pmax pmax
comp=Z,159nm,1.2s,mb5.8
ERM Erimo 50.96 290 P **P 05 01 52.0 -0.6**
comp=Z,748nm,1.1s,mb6.5,SNR=6.0
STS Santiago 51.05 65 P **P 05 01 52.7 -0.5**
comp=Z,20nm,0.9s,mb5.0
STS Santiago 51.05 65 P **P 05 01 52.7 -0.5**
STS pmax pmax
comp=Z,20nm,0.9s,mb5.0
VIVF Saint-Julien-l 51.13 52 ⇑*i*P **P 05 01 54.2 +0.3**
comp=Z,113nm,1.7s,mb5.2
EARI Arriondas 51.17 62 P **P 05 01 54.7 +0.5**
comp=Z,48nm,1.2s,mb5.3
BNI Bardonecchia 51.22 50 *e*P **P 05 01 56.1 +1.5**
comp=Z,55nm,1.5s,mb5.3
BNI Bardonecchia 51.22 50 *e*P **P 05 01 56.1 +1.6**
BNI pmax pmax
comp=Z,55nm,1.5s,mb5.3
AB31 Akbulak array 51.23 4 P **P 05 01 54.4 -0.1**
AB31 pmax pmax
comp=Z,34nm,1.1s,mb5.2
ABKAR Akbulak array 51.23 4 *e*P **P 05 01 54.6 +0.1**
comp=Z,26nm,1.1s,mb5.1
ABKAR *e*PcP PcP 05 03 09.7 +0.1
ORIF Oris-en-Rattie 51.24 51 ⇑*i*P **P 05 01 55.0 +0.3**
comp=Z,84nm,1.5s,mb5.2
ORIF *e*R
comp=Z,685nm,21.2s
ELAN Lanestosa 51.52 60 P **P 05 01 56.9 +0.1**
comp=Z,16nm,0.8s,mb5.0

MBDF Montbardon 51.55 50⇑ *i*P P 05 01 58.3 +1.3
VLA Vladivostok 51.71 301 *d i*P P 05 01 57.8 -0.4
VLA pmax pmax
comp=Z,174nm,1.5s,mb5.8
ERUA La Rua 51.76 64 P **P 05 01 58.2 -0.4**
comp=Z,5.4nm,0.5s,mb4.7
ERUA La Rua 51.76 64 P **P 05 01 58.2 -0.3**
ERUA pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
LASF Ste Croix 51.78 53 *e*P **P 05 01 59.1 +0.4**
comp=Z,138nm,1.9s,mb5.3
EALK Alkurruntz 51.83 58 P **P 05 02 00.7 +1.6**
comp=Z,38nm,1.2s,mb5.2
ELIZ Elizondo 51.88 58 P **P 05 02 00.5 +1.0**
comp=Z,13nm,1.0s,mb4.8
ELIZ Elizondo 51.88 58 P **P 05 02 00.5 +1.0**
ELIZ pmax pmax
comp=Z,13nm,1.0s,mb4.8
SJPF Ste Jean 51.98 58⇑ *i*P P 05 01 59.5 -0.7
CN2 Changchun 52.00 307 ⇓P P 05 01 59.5 -0.9
CN2 *e*sP sP 05 02 06.5 +5.0
CN2 *e*S **S 05 09 19.4 -4.6**
CN2 pmax pmax
comp=Z,40nm,1.0s,mb5.3
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,1μm,13.0s,MS5.2
CN2 LR LR
comp=E,1μm,13.0s,MS5.2
CN2 LR LR
comp=Z,900nm,16.0s,MS4.9
ELOB Lobios 52.12 65 P **P 05 01 59.5 -1.8**
comp=Z,80nm,1.9s,mb5.3
TESR 52.14 32⇓ *i*P P 05 02 01.4 +0.1
ECAL Calabor 52.26 63 P **P 05 02 02.2 -0.1**
comp=Z,66nm,2.0s,mb5.2
MTLF Montolieu 52.27 55 *e*P **P 05 02 02.4 +0.1**
comp=Z,40nm,1.4s,mb4.9
ETSF Etsaut 52.29 57⇑ *i*P P 05 02 03.1 +0.6
comp=Z,76nm,1.5s,mb5.1
EPF Esparros 52.29 57 *e*P **P 05 02 01.8 -0.7**
comp=Z,40nm,1.5s,mb4.8
TOUF Mont Tournerai 52.32 50 *e*P **P 05 02 04.0 +1.3**
TOUF Mont Tournerai 52.32 50 *e*P **P 05 02 04.0 +1.3**
TOUF Mont Tournerai 52.32 50 *e*P **P 05 02 04.0 +1.3**
LEOM Leova 52.33 31 ⇑P P 05 02 03.0 +0.3
LEOM Leova 52.33 31⇑ *i*P P 05 02 03.0 +0.3
PBRG Braganca 52.39 63 *e*P **P 05 02 03.8 +0.5**
comp=Z,34nm,1.6s,mb5.0
PBRG Braganca 52.39 63 *e*LR LR 05 19 10.7
comp=Z,2μm,20.0s
SBF Sospel 52.49 50 *e*P **P 05 02 04.8 +0.8**
comp=Z,112nm,1.2s,mb5.4
BZS Buzias 52.51 37⇑P P 05 02 04.6 +0.5
BZS Buzias 52.51 37⇑ *i*P P 05 02 04.6 +0.5
EBIE Bielsa 52.60 57 P **P 05 02 06.2 +1.4**
comp=Z,145nm,1.9s,mb5.6
FRF La Foret Royal 52.68 51⇑ *i*P P 05 02 05.5 +0.1
comp=Z,135nm,1.6s,mb5.3
VRI Vrincioaia 52.78 32 ⇑P P 05 02 06.0 -0.1
VRI Vrincioaia 52.78 32⇑ *i*P P 05 02 06.0 -0.1
PLOR Plostina 52.79 33⇑P P 05 02 07.2 +1.0
PLOR Plostina 52.79 33⇑ *i*P P 05 02 07.2 +1.0
GZR Gura Zlata 52.85 36 ⇓P P 05 02 07.4 +0.7
GZR Gura Zlata 52.85 36⇓ *i*P P 05 02 07.4 +0.7
LMR La Mourre 52.88 51⇑ *i*P P 05 02 07.3 +0.4
comp=Z,124nm,1.5s,mb5.3
LOT Lotru 52.90 35⇑ *i*P P 05 02 07.0 0.0
MVO Moncorvo 52.97 64 P **P 05 02 06.5 -1.1**
MVO Moncorvo 52.97 64 *e*P **P 05 02 07.7 +0.1**
comp=Z,35nm,1.7s,mb5.0
MVO Moncorvo 52.97 64 *e*LR LR 05 19 18.0
comp=Z,1μm,20.0s
CSOR Sort 53.05 56 P **P 05 02 07.9 -0.3**
comp=Z,123nm,2.1s,mb5.5
MLR Muntele Rosu 53.08 33⇑P P 05 02 09.6 +1.3
MLR Muntele Rosu 53.08 33⇑ *i*P P 05 02 09.6 +1.3
PVIS Viseu 53.27 65 *e*P **P 05 02 10.1 +0.3**
comp=Z,36nm,2.1s,mb4.9
MK31 Makanchi Array 53.30 345 *e*P **P 05 02 08.9 -1.0**
MK31 *e*PcP PcP 05 03 17.4 0.0
MK31 Makanchi Array 53.30 345 *e*P **P 05 02 09.0 -0.9**
MK31 *e* 05 03 17.5
MKAR Makanchi Array 53.30 345 P **P 05 02 08.9 -1.0**
comp=Z,22nm,0.8s,mb5.1,baz=12,slow=6.2,SNR=82
MKAR PcP PcP 05 03 16.6 -0.8
comp=Z,12nm,1.0s,baz=7.6,slow=3.7,SNR=4.2
MKAR LR LR 05 27 11.7
comp=Z,332nm,18.2s,MS4.4,baz=354,slow=39
MKAR Makanchi Array 53.30 345 P **P 05 02 08.9 -1.0**
MKAR PcP PcP 05 03 16.6 -0.8
MKAR LR LR 05 27 11.7
MKAR Makanchi Array 53.30 345 P **P 05 02 08.9 -1.0**
MKAR 05 03 16.6
MTE Manteigas 53.63 64 *e*P **P 05 02 13.0 +0.5**
comp=Z,31nm,1.1s,mb5.2
MTE Manteigas 53.63 64 *e*P **P 05 02 20.4 +7.9**
MTE Manteigas 53.63 64 *e*LR LR 05 19 18.0
comp=Z,610nm,18.0s
GUD Guadarrama 53.94 61 P **P 05 02 14.5 -0.2**
comp=Z,25nm,1.2s,mb5.0
GUD Guadarrama 53.94 61 P **P 05 02 14.5 -0.2**
GUD pmax pmax
comp=Z,25nm,1.2s,mb5.0
PGF Pioggiola 54.00 49⇑ *i*P P 05 02 15.0 -0.1
comp=Z,106nm,1.3s,mb5.3
EPOB Poblet 54.04 56 P **P 05 02 15.2 -0.2**
comp=Z,136nm,2.3s,mb5.5
ETOR Torete 54.09 59 P **P 05 02 15.1 -0.8**
comp=Z,72nm,1.8s,mb5.3
ETOR Torete 54.09 59 P **P 05 02 15.1 -0.7**
ETOR pmax pmax
comp=Z,72nm,1.8s,mb5.3
PCBR Castelo Branco 54.19 65 *e*P **P 05 02 16.9 +0.3**
comp=Z,38nm,1.5s,mb5.1
EPLA Plasencia 54.20 63 P **P 05 02 13.3 -3.3**
comp=Z,112nm,2.0s,mb5.5
EPLA Plasencia 54.20 63 P **P 05 02 13.3 -3.3**
EPLA pmax pmax
comp=Z,113nm,2.0s,mb5.5
SNY Shenyang 54.20 308 ⇑P P 05 02 15.3 -1.3
SNY pmax pmax
comp=Z,49nm,1.3s,mb5.3
SNY LR LR
comp=N,1μm,13.8s,MS5.3
SNY LR LR
comp=E,910nm,13.2s,MS5.3
SNY LR LR
comp=Z,1μm,15.7s,MS5.1
PMRV Marv??o 54.61 65 *e*P **P 05 02 19.4 -0.2**
comp=Z,33nm,1.5s,mb5.1
PMRV Marv??o 54.61 65 *e*LR LR 05 20 00.3
comp=Z,667nm,18.0s
ANN Anapa 54.74 23 *e*P **P 05 02 25.3 +4.8**
ANN *e*S **S 05 10 11.9 +11**
ANN pmax pmax
comp=Z,183nm,2.2s,mb5.7
ANN MLR MLR
comp=N,373nm,18.0s
ANN MLR MLR
comp=Z,617nm,18.0s,MS4.7
PMAFR Mafra 54.76 66 *e*P **P 05 02 27.7 +7.0**
PMAFR Mafra 54.76 66 *e*LR LR 05 19 50.9
comp=Z,725nm,20.0s
ESDC Sonseca Array 54.91 61 P **P 05 02 22.0 +0.2**
comp=Z,8.3nm,0.9s,mb4.7,baz=349,slow=8.1,SNR=36
ESDC LR LR 05 26 27.8
comp=Z,1μm,18.6s,MS5.0,baz=325,slow=37
ESDC Sonseca Array 54.91 61 P **P 05 02 22.0 +0.2**
comp=Z,11nm,1.0s,mb4.8
ESLA Sonseca Array 54.91 61 *e*P **P 05 02 22.1 +0.3**
comp=Z,4.2nm,1.0s,mb4.4
PAB San Pablo 54.98 62 *e*P **P 05 02 22.3 0.0**
comp=Z,44nm,1.3s,mb5.3
PAB San Pablo 54.98 62 *e*P **P 05 02 22.3 0.0**
PAB pmax pmax
comp=Z,44nm,1.3s,mb5.3
LIS Lisbon 55.02 66 *e*P **P 05 02 23.1 +0.5**
LIS AMb AMB 05 02 27.1
comp=Z,111nm,1.4s,mb5.7
LIS Lisbon 55.02 66 *e*P **P 05 02 23.0 +0.4**
PESTR Estremoz 55.12 65 *e*P **P 05 02 23.2 -0.1**
comp=Z,40nm,1.3s,mb5.3
PESTR Estremoz 55.12 65 *e*LQ 05 15 36.6
PESTR *e*LR LR 05 19 55.6
comp=Z,837nm,18.0s
EBAD Badajoz 55.33 64 P **P 05 02 23.7 -1.1**
comp=Z,85nm,1.6s,mb5.5
EVO Evora 55.38 65⇑ *i*P P 05 02 24.7 -0.5
comp=Z,52nm,1.2s,mb5.2
EVO *e*R
comp=Z,962nm,19.0s
EVO Evora 55.38 65 *e*P **P 05 02 24.7 -0.5**
comp=Z,27nm,1.2s,mb5.2
PNCL Nicolau / Gran 55.71 66 *e*P **P 05 02 27.6 0.0**
comp=Z,47nm,1.9s,mb5.2
PNCL Nicolau / Gran 55.71 66 *e*LR LR 05 19 33.0
comp=Z,743nm,18.0s
PBAR Barrancos 55.89 65 *e*P **P 05 02 29.1 +0.2**
comp=Z,66nm,1.7s,mb5.4
PBAR Barrancos 55.89 65 *e*LR LR 05 20 19.1
comp=Z,812nm,18.0s
PBEJ Beja 55.90 65 *e*P **P 05 02 29.0 +0.1**
comp=Z,29nm,1.2s,mb5.2
KIV Kislovodsk 55.92 19 *e*P **P 05 02 29.3 +0.3**
comp=Z,18nm,0.8s,mb5.2
KIV Kislovodsk 55.92 19 *e*P **P 05 02 29.6 +0.6**
KIV *e* 05 03 27.8
KIV *e*S **S 05 10 17.5 +0.6**
KIV pmax pmax
comp=Z,27nm,1.0s,mb5.2
KIV MLR MLR
comp=Z,424nm,16.0s,MS4.6
KIV Kislovodsk 55.92 19 P **P 05 02 29.5 +0.5**
SNR=7.0
WMQ Urumqi 55.97 340 P **P 05 02 21.3 -8.0**
WMQ Urumqi 55.97 340 P **P 05 02 32.1 +2.8**
MESJ Messejana 56.02 66 *e*P **P 05 02 30.2 +0.4**
MESJ *e* pP 05 02 31.1 +0.4
baz=292,slow=4.8
MESJ AMb AMB 05 02 34.5
comp=Z,25nm,1.9s,mb4.9
MESJ Messejana 56.02 66 *e*P **P 05 02 30.2 +0.4**
SOC Sochi 56.11 22 *c i*P **P 05 02 30.4 +0.1**
SOC *e**SP sP 05 02 38.2 +6.7
SOC *e* 05 03 28.2
SOC *e* 05 04 38.6
SOC *e*PPP 05 05 52.4
SOC *e*S **S 05 10 23.0 +3.6**
SOC *e* 05 12 18.4
SOC pmax pmax
comp=Z,23nm,0.7s,mb5.3
SOC MLR MLR
comp=Z,990nm,17.0s,MS5.0
EVIA Vianos 56.16 60 P **P 05 02 30.7 0.0**
comp=Z,35nm,1.0s,mb5.3
EVIA Vianos 56.16 60 P **P 05 02 30.7 -0.1**
EVIA pmax pmax
comp=Z,35nm,1.0s,mb5.3
PTEO Sao Teotonio 56.23 66 *e*P **P 05 02 38.9 +7.6**
EADA Adamuz 56.29 62 P **P 05 02 31.2 -0.5**
comp=Z,86nm,1.7s,mb5.5
ETOB Tobarra 56.30 59 P **P 05 02 32.0 +0.2**
comp=Z,42nm,1.2s,mb5.3
EMIN Mina Concepcio 56.35 64 P **P 05 02 31.6 -0.5**
comp=Z,86nm,1.6s,mb5.5
MORF Marmelete 56.48 66 *e*P **P 05 02 33.4 +0.4**
MORF Marmelete 56.48 66 *e*P **P 05 02 33.2 +0.2**
comp=Z,59nm,1.7s,mb5.3
MORF Marmelete 56.48 66 *e*LR LR 05 20 42.5
comp=Z,798nm,18.0s
PVAQ Vaqueiros 56.53 65 *e*P **P 05 02 33.6 +0.1**
comp=Z,44nm,1.6s,mb5.2
PFVI Vila Bisbo 56.62 66 *e*P **P 05 02 41.5 +7.4**
PBDV Barranco-do-Ve 56.66 66 *e*P **P 05 02 34.6 +0.3**
comp=Z,64nm,1.8s,mb5.3
HHC Hu-ho-hao-te 56.74 318 *e*P **P 05 02 35.3 +0.4**
HHC sP sP 05 02 41.6 +5.6
HHC PcP PcP 05 03 31.5 +0.7
HHC PP PP 05 04 42.9 +2.4
HHC S **S 05 10 24.3 -3.6**
HHC ScS ScS 05 12 20.8 -3.7
HHC SS SS 05 14 13.8 -1.0
HHC pmax pmax
comp=Z,31nm,1.1s,mb5.2
HHC pmax pmax
comp=Z,220nm,6.7s
HHC LR LR
comp=N,670nm,16.6s,MS5.0
HHC LR LR
comp=E,690nm,15.5s,MS5.0
HHC LR LR
comp=Z,880nm,16.7s,MS4.9
EQES Quesada 56.89 61 P **P 05 02 36.4 +0.4**
comp=Z,106nm,1.6s,mb5.6
ELUQ Luque 56.93 62 P **P 05 02 36.9 +0.6**
comp=Z,73nm,1.4s,mb5.5
ELUQ Luque 56.93 62 P **P 05 02 36.9 +0.6**
ELUQ pmax pmax
comp=Z,73nm,1.4s,mb5.5
EHUE Huescar 56.95 60 P **P 05 02 37.0 +0.6**
comp=Z,32nm,1.1s,mb5.3
EHUE Huescar 56.95 60 P **P 05 02 37.0 +0.6**
EHUE pmax pmax
comp=Z,32nm,1.1s,mb5.3
BJI Beijing 56.96 314 P **P 05 02 36.0 -0.5**
BJI S **S 05 10 28.8 -2.1**
BJI SS SS 05 14 19.0 +0.6
BJI pmax pmax
comp=Z,62nm,1.0s,mb5.6
BJI pmax pmax
comp=Z,240nm,3.4s
BJI LR LR
comp=N,2μm,16.2s,MS5.3
BJI LR LR
comp=E,530nm,14.3s,MS5.3
BJI LR LR
comp=Z,810nm,16.2s,MS4.9
NVR Nevrokopi 56.97 36 *e*P **P 05 02 28.5 -8.0**
BJT Baijiatuau 56.99 314 *e*P **P 05 02 35.9 -0.7**
comp=Z,61nm,1.3s,mb5.5
BJT Baijiatuau 56.99 314 *e*P **P 05 02 35.9 -0.7**
BJT pmax pmax
comp=Z,61nm,1.3s
USP Ospenovka 57.11 351 P **P 05 02 37.8 +0.4**
SNR=22
MAJO Matsushiro 57.12 293 *e*P **P 05 02 36.4 -1.3**
MAJO Matsushiro 57.12 293 *e*P **P 05 02 36.4 -1.3**
MAT Matsushiro 57.12 293 P **P 05 02 36.4 -1.3**
MAT S **S 05 10 27.0 -6.1**
MJAR Matsushiro Arr 57.12 293 P **P 05 02 37.1 -0.6**
comp=Z,29nm,1.0s,mb5.2,baz=350,slow=6.8,SNR=27
MJAR LR LR 05 30 45.0
comp=Z,475nm,18.1s,MS4.6,baz=75,slow=40
MJAR Matsushiro Arr 57.12 293 P **P 05 02 37.1 -0.6**
MJAR LR LR 05 30 45.0
MJAR Matsushiro Arr 57.12 293 P **P 05 02 37.1 -0.6**
EMUR La Murta 57.13 59 P **P 05 02 38.0 +0.3**
comp=Z,72nm,1.6s,mb5.5
MAK Makhachkala 57.16 15 *e*P **P 05 02 35.0 -2.8**
MAK *e* 05 03 26.9
MAK S **S 05 10 30.2 -3.2**
MAK *e* 05 12 19.8
MAK pmax pmax
comp=Z,622nm,1.8s,mb6.3
MAK MLR MLR
comp=Z,848nm,15.0s,MS5.0
ZEI Tsey 57.17 18 *e*P **P 05 02 38.7 +0.8**
ZEI pmax pmax
comp=Z,37nm,1.0s,mb5.4
ECOG Cogollos-Vega 57.32 62 P **P 05 02 39.1 +0.1**
comp=Z,18nm,1.0s,mb5.1
ECOG Cogollos-Vega 57.32 62 P **P 05 02 39.1 +0.1**
ECOG pmax pmax
comp=Z,18nm,1.0s,mb5.1
ELOJ Sierra Loja 57.36 62 P **P 05 02 39.6 +0.3**
comp=Z,24nm,1.3s,mb5.1
ELOJ Sierra Loja 57.36 62 P **P 05 02 39.6 +0.3**
ELOJ pmax pmax
comp=Z,25nm,1.3s,mb5.1
ESPR Espera 57.36 64 P **P 05 02 39.1 -0.2**
comp=Z,100nm,1.5s,mb5.6
KK31 Karatay Array 57.36 355 *i* P **P 05 02 39.3 +0.1**
KK31 pmax pmax
comp=Z,51nm,1.2s,mb5.4
KKAR Karatay Array 57.36 355 *e*P **P 05 02 39.4 +0.1**
KKAR Karatay Array 57.36 355 *e*P **P 05 02 39.4 +0.2**
CHMS Chumysh 57.37 351 P **P 05 02 39.7 +0.4**
SNR=7.6
TKM2 Tokmak 2 57.42 350 P **P 05 02 40.4 +0.7**
SNR=20
TKM2 Tokmak 2 57.42 350 *e*P **P 05 02 40.1 +0.5**
comp=Z,44nm,1.2s,mb5.4
TKM2 *e*PcP PcP 05 03 33.9 +0.5
TKM2 Tokmak 2 57.42 350 *e*P **P 05 02 40.1 +0.4**
TKM2 *e* 05 03 33.9
TKM2 pmax pmax
comp=Z,44nm,1.2s,mb5.4
ERON Agron 57.54 62 P **P 05 02 40.7 +0.1**
comp=Z,67nm,1.2s,mb5.5
FRU Bishkek 57.54 351⇑ *i*P P 05 02 40.5 0.0
FRU pmax pmax
comp=Z,106nm,1.8s,mb5.6
ALN Alexandroupoli 57.64 34 *e*P **P 05 02 42.6 +1.4**
KBK Karagaybulak 57.71 351 P **P 05 02 42.4 +0.8**
SNR=9.1
EKS2 Erkin-Say 57.73 352 P **P 05 02 42.3 +0.4**
SNR=10
EKS2 Erkin-Say 57.73 352 *e*P **P 05 02 42.1 +0.3**
comp=Z,43nm,0.9s,mb5.5
EKS2 *e*PcP PcP 05 03 35.4 +0.8
EKS2 Erkin-Say 57.73 352 *e*P **P 05 02 42.1 +0.2**
EKS2 *e* 05 03 35.4
EKS2 pmax pmax
comp=Z,43nm,0.9s,mb5.5
AAK Ala-Archa 57.74 351 P **P 05 02 42.7 +0.8**
SNR=28
AAK Ala-Archa 57.74 351 *i* P **P 05 02 42.7 +0.8**
EGUA Guajares 57.76 62 P **P 05 02 42.8 +0.6**
comp=Z,173nm,1.4s,mb5.9
EGUA Guajares 57.76 62 P **P 05 02 42.8 +0.7**
EGUA pmax pmax
comp=Z,173nm,1.4s,mb5.9
EMIJ Mijas 57.83 63 P **P 05 02 42.5 -0.2**
comp=Z,54nm,1.0s,mb5.5
ENIJ Nijar 57.83 60 P **P 05 02 42.7 0.0**
comp=Z,11nm,0.9s,mb4.9
ENIJ Nijar 57.83 60 P **P 05 02 42.7 0.0**
ENIJ pmax pmax
comp=Z,11nm,0.9s,mb4.9
KSRS Korea Array 57.86 303 P **P 05 02 41.3 -1.6**
comp=Z,15nm,1.0s,mb5.0,baz=6.1,slow=6.1,SNR=21
KSRS PcP PcP 05 03 34.5 -0.7
comp=Z,8.5nm,1.0s,baz=356,slow=4.1,SNR=5.5
KSRS LR LR 05 29 10.6
comp=Z,680nm,18.8s,MS4.8,baz=29,slow=38
KSAR Wonju Array Be 57.88 303 P **P 05 02 41.3 -1.7**
KSAR PcP PcP 05 03 34.5 -0.7
KSAR LR LR 05 29 10.6
KSAR Wonju Array Be 57.88 303 P **P 05 02 41.3 -1.6**
KSAR 05 03 34.6
AML Almayashu 58.26 352 P **P 05 02 47.0 +1.4**
SNR=26
KZA Kyzart 58.27 351 P **P 05 02 46.1 +0.4**
SNR=8.2
DBOC Borcka 58.46 20 *i* P **P 05 02 47.1 +0.1**
THL Klokotos Trika 58.53 38 *e*P **P 05 02 46.8 -0.7**
LIA Limnos Island 58.54 35 *e*P **P 05 02 45.5 -2.1**
GRSN GIRESUNGRSN 58.65 23 *i* P **P 05 02 46.1 -2.2**
CTKT Corum 58.69 26 *i* P **P 05 02 48.7 +0.1**
ELDT Eldivan 58.72 27 *i* P **P 05 02 49.9 +1.1**
DAGI Agillar 58.74 20 *i* P **P 05 02 50.0 +1.1**
DDEM Demirkent 58.91 20 *i* P **P 05 02 51.2 +1.1**
BORA Eskisehir 59.06 30 *i* P **P 05 02 51.3 +0.1**
DURS Dursunbey 59.16 32 *i* P **P 05 02 52.3 +0.4**
SUSE Susehri 59.36 23 *i* P **P 05 02 53.7 +0.4**
GTA Gaotai 59.41 329 ⇑P P 05 02 54.1 +0.5
GTA pP pP 05 02 58.5 +4.1
GTA sP sP 05 03 01.8 +7.0
GTA S **S 05 10 59.8 -3.0**
GTA sS sS 05 11 06.6 +2.4
GTA SS SS 05 14 55.0 -1.8
GTA pmax pmax
comp=Z,90nm,1.1s,mb5.7
GTA pmax pmax
comp=Z,450nm,6.4s
GTA LR LR
comp=N,490nm,17.8s,MS4.9
GTA LR LR
comp=E,610nm,18.3s,MS4.9
GTA LR LR
comp=Z,650nm,16.4s,MS4.8
ESKT Eskisehir 59.46 30 *i* P **P 05 02 53.2 -0.7**
BR131 Keskin Array S 59.49 27 *e*P **P 05 02 54.6 +0.4**
comp=Z,9.2nm,0.8s,mb4.9
BR131 *e*PcP PcP 05 03 41.3 -0.3
BRTR Keskin Array B 59.49 27 P **P 05 02 54.9 +0.7**
comp=Z,12nm,1.0s,mb4.9,baz=344,slow=3.1,SNR=33
BRTR LR LR 05 31 11.6
comp=Z,266nm,18.4s,MS4.4,baz=358,slow=39
BRTR Keskin Array B 59.49 27 P **P 05 02 54.9 +0.7**
BRTR LR LR 05 31 11.7
BRTR Keskin Array B 59.49 27 P **P 05 02 54.9 +0.7**
LKR Lokris 59.55 37 *e*P **P 05 02 52.9 -1.6**
SCER sogukcermik 59.63 24 *i* P **P 05 02 56.8 +1.7**
EFP Efpalio 59.65 38 *e*P **P 05 02 55.2 0.0**
CDAG Cicekdag 59.65 27 *i* P **P 05 02 56.1 +0.9**
KOPT Kop Dagi 59.71 21 *i* P **P 05 02 57.8 +2.1**
VLS Valsamata 59.75 39 *e*P **P 05 02 51.2 -4.7**
HOMI Horasan 59.77 20 *i* P **P 05 02 57.8 +1.8**
GNI Garni 59.83 17 P **P 05 02 56.9 +0.4**
comp=Z,2.5nm,0.3s,mb4.8,baz=52,slow=12,SNR=9.4
GNI LR LR 05 32 21.3
comp=Z,243nm,18.5s,MS4.4,baz=174,slow=40
GNI Garni 59.83 17 *e*P **P 05 02 58.1 +1.6**
comp=Z,57nm,1.3s,mb5.4
GNI Garni 59.83 17 *e*P **P 05 02 58.1 +1.6**
GNI pmax pmax
comp=Z,57nm,1.3s
GNI Garni 59.83 17 P **P 05 02 58.3 +1.8**
SNR=6.7
ERZM Erzurum 59.87 20 *i* P **P 05 02 58.1 +1.4**
LTK Loutraki 60.16 37 *e*P **P 05 03 05.2 +6.4**
GUR Goura 60.18 38 *e*P **P 05 02 59.0 +0.1**
BOLV Bolvadin 60.26 30 *i* P **P 05 02 59.7 +0.2**
KEMA Kemaliye 60.32 23 *i* P **P 05 03 01.3 +1.5**
DYDN Diyadin 60.37 18 *i* P **P 05 03 02.1 +1.9**
KHAL Karahalli 60.47 31 *i* P **P 05 03 00.9 0.0**
DID Didima 60.70 37 *e*P **P 05 03 00.3 -2.2**
VLX Vlachokerasia 60.74 38 *e*P **P 05 03 02.4 -0.4**
KEST Kesra 60.75 50 P **P 05 03 03.6 +0.8**
comp=Z,8.3nm,0.9s,mb4.9,baz=323,slow=0.3,SNR=15
KEST LR LR 05 31 37.8
comp=Z,165nm,18.3s,MS4.2,baz=291,slow=38
BNGL BINGOL 60.81 21 *i* P **P 05 03 04.3 +1.1**
KSH Kashi 60.81 350 P **P 05 03 06.1 +2.9**
KSH pP pP 05 03 10.8 +6.8
KSH sP sP 05 03 13.1 +8.7
KSH PcP PcP 05 03 49.1 +2.2
KSH PP PP 05 05 22.6 +6.0
KSH ScP ScP 05 07 48.6 -0.1
KSH PcS PcS 05 07 50.4 +0.9
KSH S **S 05 11 21.9 +1.1**
KSH sS sS 05 11 30.3 +8.1
KSH ScS ScS 05 12 53.0 -1.5
KSH SS SS 05 15 23.3 +4.6
KSH pmax pmax
comp=Z,59nm,1.3s,mb5.6
KSH pmax pmax
comp=Z,380nm,6.0s
KSH LR LR
comp=N,300nm,6.3s
KSH LR LR
comp=E,360nm,6.2s
KSH LR LR
comp=Z,600nm,11.1s,MS5.0
TEIG Tepich 60.81 151 LR LR 05 29 16.1
comp=Z,584nm,21.7s,MS4.7,baz=342,slow=36
PYL PYLOS 61.14 38 *e*P **P 05 03 03.6 -1.9**
AKCD Akcadag 61.24 24 *i* P **P 05 03 07.7 +1.5**
VLI Veliai 61.45 37 *e*P **P 05 03 06.3 -1.3**
MDT Midelt 61.52 63 P **P 05 03 08.4 +0.3**
comp=Z,5.5nm,0.8s,mb4.7,baz=358,slow=6.5,SNR=11
MDT LR LR 05 30 04.2
comp=Z,379nm,19.1s,MS4.6,baz=189,slow=36
MDT Midelt 61.52 63 P **P 05 03 08.4 +0.3**
MDT LR LR 05 30 04.2
DIYA Diyarbakir 61.77 22 *i* P **P 05 03 11.6 +1.9**
ANDN Andirin 61.84 25 *i* P **P 05 03 11.6 +1.4**
KORT Korkueli 61.91 31 *i* P **P 05 03 11.0 +0.3**
GZT Gaziantep 62.15 24 *i* P **P 05 03 12.7 +0.4**
LZH Lanzhou 62.30 325 ⇑P P 05 03 14.3 +1.0
LZH pP pP 05 03 20.0 +5.8
LZH sP sP 05 03 24.1 +10
LZH PP PP 05 05 30.0 +0.2

LZH				*e*S	**S**	**05 11 39.0**	**-0.8**		
LZH				sS	sS	05 11 45.1	+3.9		
LZH				pmax	pmax				
	comp=Z,78nm,1.0s,mb5.8								
LZH				pmax	pmax				
	comp=Z,380nm,4.0s								
LZH				LR	LR				
	comp=N,1μm,14.4s,MS5.3								
LZH				LR	LR				
	comp=E,950nm,15.2s,MS5.3								
LZH				LR	LR				
	comp=Z,2μm,14.0s,MS5.4								
HAKT	**HAKKARI**	**62.35**	**19**	*i* P	**P**	**05 03 14.5**	**+0.8**		
ABKT	**Ailbek**	**62.52**	**6**	P	**P**	**05 03 15.1**	**+0.4**		
	comp=Z,261nm,1.1s,mb6.3,SNR=8.2								
AKAS	**Kas**	**62.60**	**31**	*i* P	**P**	**05 03 13.9**	**-1.4**		
VAM	**Vamos**	**62.88**	**36**	*e*P	**P**	**05 03 16.3**	**-0.9**		
CMIG	**Matias Romero**	**63.41**	**158**	LR	LR	05 30 27.2			
	comp=Z,387nm,20.8s,MS4.6,baz=117,slow=36								
XAN	**Xi'an**	**63.77**	**320**	P	**P**	**05 03 22.3**	**-0.8**		
XAN				pP	pP	05 03 28.0	+4.1		
XAN				S	**S**	**05 11 52.1**	**-6.1**		
XAN				SS	SS	05 15 59.8	-5.4		
XAN				pmax	pmax				
	comp=Z,11nm,1.3s,mb4.7								
XAN				pmax	pmax				
	comp=Z,90nm,7.0s								
XAN				LR	LR				
	comp=N,810nm,16.0s								
XAN				LR	LR				
	comp=Z,330nm,16.0s,MS4.6								
SDDR	**Presa de Saban**	**63.93**	**133**	*e*P	**P**	**05 03 24.0**	**-0.3**		
	comp=Z,94nm,1.8s,mb5.5								
NJ2	**Nanjing**	**64.47**	**310**	*e*P	**P**	**05 03 26.5**	**-1.2**		
NJ2				pP	pP	05 03 30.8	+2.2		
NJ2				sP	sP	05 03 33.9	+5.0		
NJ2				PP	PP	05 05 50.1	+1.1		
NJ2				S	**S**	**05 12 04.0**	**-3.0**		
NJ2				sS	sS	05 12 13.0	+4.7		
NJ2				pmax	pmax				
	comp=Z,70nm,1.0s,mb5.7								
NJ2				pmax	pmax				
	comp=Z,230nm,6.6s								
NJ2				LR	LR				
	comp=N,1μm,13.7s,MS5.3								
NJ2				LR	LR				
	comp=E,850nm,14.7s,MS5.3								
NJ2				LR	LR				
	comp=Z,750nm,13.4s,MS5.0								
ISHM	**Shahmirzad**	**64.52**	**10**	*e*P	**P**	**05 03 29.6**	**+1.6**		
IFIR	**Firoozkooh**	**64.67**	**11**	*e*P	**P**	**05 03 29.7**	**+0.7**		
IDMV	**Damavand**	**64.71**	**11**	*e*P	**P**	**05 03 30.4**	**+1.2**		
IRAZ	**Razeghan**	**64.80**	**13**	*e*P	**P**	**05 03 30.9**	**+1.1**		
IANJ	**Anjilo**	**64.88**	**10**	*e*P	**P**	**05 03 30.9**	**+0.6**		
IVRN	**Varamin**	**65.28**	**12**	*e*P	**P**	**05 03 33.3**	**+0.4**		
IVRN				*e*P	pP	05 03 33.6	-0.2		
IDHR	**Dehrash**	**65.34**	**16**	*e*P	**P**	**05 03 33.0**	**-0.3**		
IVIS	**Veis**	**65.54**	**16**	*e*P	**P**	**05 03 34.2**	**-0.4**		
CBIJ	**Chichi jima**	**65.69**	**287**	P	**P**	**05 03 34.5**	**-1.1**		
	comp=Z,105nm,0.8s,mb5.9,baz=29,slow=6.2,SNR=7.9								
IGHG	**Ghaleghazi**	**65.72**	**16**	*e*P	**P**	**05 03 36.2**	**+0.4**		
KBL	**Kabul**	**65.93**	**356**	*e*P	**P**	**05 03 37.2**	**+0.1**		
	comp=Z,44nm,1.1s,mb5.4								
KBL	**Kabul**	**65.93**	**356**	*e*P	**P**	**05 03 37.2**	**+0.1**		
KBL				pmax	pmax				
	comp=Z,45nm,1.1s,mb5.4								
MMAI	**Mount Meron Ar**	**66.30**	**26**	P	**P**	**05 03 39.8**	**+0.3**		
	comp=Z,8.9nm,0.9s,mb4.8,baz=338,slow=8.2,SNR=11								
MMAI	**Mount Meron Ar**	**66.30**	**26**	P	**P**	**05 03 39.8**	**+0.3**		
WHN	**Wuhan**	**66.56**	**314**	P	**P**	**05 03 40.0**	**-1.2**		
WHN				S	S	05 12 28.4	-4.1		
WHN				pmax	pmax				
	comp=Z,140nm,1.0s,mb6.0								
WHN				LR	LR				
	comp=Z,1μm,13.7s,MS5.4								
BHD	**Baghdad**	**66.66**	**18**	*ex*	x	05 03 39.0			
IKLH	**Kolahrood**	**66.94**	**12**	*e*P	**P**	**05 03 44.0**	**+0.4**		
ASF	**Jabal al Asfar**	**67.25**	**25**	P	**P**	**05 03 46.0**	**+0.4**		
	comp=Z,26nm,1.1s,mb5.2,baz=201,slow=1.8,SNR=38								
ASF	**Jabal al Asfar**	**67.25**	**25**	P	**P**	**05 03 46.0**	**+0.4**		
ASF	**Jabal al Asfar**	**67.25**	**25**	P	**P**	**05 03 46.0**	**+0.4**		
IZEF	**Zefreh**	**67.39**	**11**	*e*P	**P**	**05 03 47.6**	**+1.1**		
ENH	**Enshi**	**67.42**	**319**	*e*P	**P**	**05 03 45.9**	**-0.9**		
	comp=Z,136nm,1.4s,mb5.8								
CD2	**Chengdu**	**67.44**	**324**	P	**P**	**05 03 46.9**	**+0.1**		
CD2				pP	pP	05 03 51.3	+3.6		
CD2				sP	sP	05 03 52.8	+4.8		
CD2				S	S	05 12 40.0	-3.1		
CD2				sS	sS	05 12 47.3	+2.8		
CD2				SS	SS	05 17 00.8	-1.4		
CD2				pmax	pmax				
	comp=Z,70nm,0.9s,mb5.7								
CD2				pmax	pmax				
	comp=Z,400nm,5.9s								
CD2				LR	LR				
	comp=N,1μm,12.5s								
CD2				LR	LR				
	comp=Z,620nm,16.1s,MS4.9								
IPIR	**Pirpir**	**67.55**	**12**	*e*P	**P**	**05 03 48.7**	**+1.2**		
ICHK	**Chekchek**	**68.10**	**9**	*e*P	**P**	**05 03 50.2**	**-0.8**		
IBAF	**Bafgh**	**68.79**	**8**	*e*P	**P**	**05 03 55.0**	**-0.3**		
IMEH	**Mehriz**	**68.96**	**9**	*e*P	**P**	**05 03 56.8**	**+0.4**		
EIL	**Elat**	**69.58**	**27**	P	**P**	**05 04 00.4**	**+0.1**		
	comp=Z,24nm,0.9s,mb5.1,baz=358,slow=3.7,SNR=18								
EIL	**Elat**	**69.58**	**27**	P	**P**	**05 04 00.4**	**+0.1**		
LSA	**Lhasa**	**69.78**	**335**	*e*P	**P**	**05 04 03.1**	**+1.6**		
	comp=Z,80nm,1.1s,mb5.6								
LSA	**Lhasa**	**69.78**	**335**	*e*P	**P**	**05 04 03.1**	**+1.7**		
LSA				pmax	pmax				
	comp=Z,80nm,1.1s,mb5.6								
MIB	**Mutribah**	**70.26**	**16**	*e*P	**P**	**05 04 04.2**	**-0.2**		
MIB				AMb	AMB	05 04 05.9			
	comp=Z,226nm,1.1s,mb6.0								
KKR	**Kurukshetra**	**70.31**	**349**	*e*PKP	**P**	**05 04 03.7**	**-1.0**		
NAY	**Al-Naaiem**	**70.81**	**16**	*e*P	**P**	**05 04 07.3**	**-0.4**		
NAY				AMb	AMB	05 04 08.9			
	comp=Z,43nm,1.1s,mb5.3								
KBD	**Kabd**	**70.90**	**16**	*e*P	**P**	**05 04 08.0**	**-0.3**		
KBD				AMb	AMB	05 04 09.9			
	comp=Z,113nm,1.0s,mb5.8								
RDF	**Al-Radifah**	**71.14**	**16**	*e*P	**P**	**05 04 10.0**	**+0.2**		
RDF				AMb	AMB	05 04 11.9			
	comp=Z,182nm,1.2s,mb5.9								
GYA	**Guiyang**	**71.52**	**321**	⇑*i*P	**P**	**05 04 12.1**	**0.0**		
GYA				PcP	PcP	05 04 32.6	+1.1		
GYA				PP	PP	05 06 51.6	+1.4		
GYA				S	S	05 13 27.1	-4.2		
GYA				SKS		05 14 11.3			
GYA				SS	SS	05 18 02.6	-2.7		
GYA				pmax	pmax				
	comp=Z,30nm,1.0s,mb5.2								
GYA				pmax	pmax				
	comp=Z,300nm,9.5s								
GYA				LR	LR				
	comp=N,1μm,18.5s,MS5.1								
GYA				LR	LR				
	comp=E,310nm,19.7s,MS5.1								
GYA				LR	LR				
	comp=Z,870nm,17.1s,MS5.1								
NDI	**New Delhi**	**71.56**	**348**	*ex*	**P**	**05 04 09.5**	**-2.8**		
BISR	**Bishrakh**	**71.67**	**348**	*ex*	**P**	**05 04 07.2**	**-5.8**		
AYAN	**Aya Nagar**	**71.77**	**348**	*e*PKP	**P**	**05 04 13.0**	**-0.5**		
AYAN				AMb	AMB	05 04 15.0			
	comp=Z,33nm,1.4s,mb5.1								
SONA	**Sohna**	**72.00**	**348**	*e*PKP	**P**	**05 04 14.5**	**-0.5**		
SONA				AMb	AMB	05 04 16.1			
	comp=Z,53nm,0.9s,mb5.5								
KHET	**Khetri**	**72.22**	**349**	*e*PKP	**P**	**05 04 16.1**	**-0.2**		
KHET				AMb	AMB	05 04 18.6			
	comp=Z,81nm,1.4s,mb5.5								
TAM	**Tamanrasset**	**72.92**	**56**	*e*P	**P**	**05 04 20.6**	**+0.1**		
	comp=Z,11nm,1.1s,mb4.7								
TAM	**Tamanrasset**	**72.92**	**56**	*e*P	**P**	**05 04 20.6**	**+0.1**		
TAM				pmax	pmax				
	comp=Z,11nm,1.1s,mb4.7								
AGRA	**Agra**	**72.98**	**347**	*e*PKP	**P**	**05 04 20.5**	**-0.3**		
KMI	**Kunming**	**73.27**	**324**	P	**P**	**05 04 22.5**	**-0.1**		
KMI				pP	pP	05 04 27.0	+3.6		
KMI				sP	sP	05 04 28.6	+4.9		
KMI				PcP	PcP	05 04 39.5	+0.5		
KMI				PP	PP	05 07 08.8	+3.6		
KMI				S	S	05 13 45.5	-5.9		
KMI				SS	SS	05 18 27.5	-4.5		
KMI				pmax	pmax				
	comp=Z,50nm,1.3s,mb5.3								
KMI				pmax	pmax				
	comp=Z,310nm,3.1s								
KMI				LR	LR				
	comp=N,1μm,19.0s,MS5.3								
KMI				LR	LR				
	comp=E,300nm,18.4s,MS5.3								
KMI				LR	LR				
	comp=Z,550nm,17.2s,MS4.9								
SDV	**Santo Domingo**	**73.96**	**133**	*e*P	**P**	**05 04 25.8**	**-0.9**		
	comp=Z,131nm,2.5s,mb5.4								
AGT	**Agartala**	**75.54**	**335**	*ex*	**P**	**05 04 32.0**	**-3.8**		
AGT				*ex*	x	05 05 03.0			
ASHO	**Ashiyiah**	**75.68**	**8**	P	**P**	**05 04 36.2**	**-0.4**		
	SNR=10								
BHPL	**Bhopal**	**76.97**	**348**	*e*PKP	**P**	**05 04 43.3**	**-0.6**		
ARQ	**Araqi**	**77.03**	**8**	P	**P**	**05 04 43.9**	**-0.3**		
	SNR=18								
BHJ	**Bhuj**	**77.17**	**355**	*ex*	**P**	**05 04 41.8**	**-3.2**		
SMDO	**Samad**	**77.34**	**6**	P	**P**	**05 04 45.8**	**-0.1**		
	SNR=8.6								
ROSC	**El Rosal**	**77.46**	**138**	P	**P**	**05 04 46.2**	**-0.6**		
	comp=Z,7.8nm,0.9s,mb4.6,baz=94,slow=23,SNR=9.7								
ROSC				LR	LR	05 41 16.3			
	comp=Z,292nm,19.1s,MS4.6,baz=23,slow=38								
ROSC	**El Rosal**	**77.46**	**138**	*e*P	**P**	**05 04 48.0**	**+1.2**		
BSY	**Bisya**	**77.63**	**7**	P	**P**	**05 04 47.3**	**-0.4**		
	SNR=17								
WBK	**Wadi Bani Khal**	**77.80**	**5**	P	**P**	**05 04 48.4**	**-0.2**		
	SNR=7.4								
JMDO	**Jabal Madar**	**78.02**	**6**	P	**P**	**05 04 49.4**	**-0.4**		
	SNR=6.7								
CHRT	**Chiangrai**	**78.77**	**326**	⇑P	**P**	**05 04 52.5**	**-1.4**		
	comp=Z,237nm,1.0s,mb6.1								
CHG	**Chiang Mai**	**79.89**	**327**	⇑P	**P**	**05 04 58.8**	**-1.3**		
	comp=Z,37nm,1.1s,mb5.2								
CHTO	**Chiang Mai**	**79.89**	**327**	*e*P	**P**	**05 04 58.8**	**-1.3**		
	comp=Z,64nm,1.4s,mb5.4								
CHTO	**Chiang Mai**	**79.89**	**327**	*e*P	**P**	**05 04 58.8**	**-1.3**		
CHTO				pmax	pmax				
	comp=Z,64nm,1.4s,mb5.4								
CM31	**Chiang Mai Arr**	**80.25**	**327**	*e*P	**P**	**05 05 01.5**	**-0.5**		
	comp=Z,58nm,1.1s,mb5.4								
CMAR	**Chiang Mai Arr**	**80.25**	**327**	P	**P**	**05 05 01.2**	**-0.8**		
	comp=Z,43nm,1.0s,mb5.3,baz=349,slow=5.9,SNR=133								
CMAR				LR	LR	05 43 01.2			
	comp=Z,361nm,18.3s,MS4.8,baz=199,slow=38								
CMAR	**Chiang Mai Arr**	**80.25**	**327**	P	**P**	**05 05 01.2**	**-0.8**		
CMAR				LR	LR	05 43 01.1			
CMAR	**Chiang Mai Arr**	**80.25**	**327**	P	**P**	**05 05 01.2**	**-0.8**		
BDT	**Bhumibol Dam**	**81.44**	**327**	P	**P**	**05 05 08.0**	**-0.4**		
	comp=Z,16nm,0.9s,mb4.9								
OTAV	**Otavalo**	**81.55**	**142**	*e*P	**P**	**05 05 08.8**	**-0.2**		
	comp=Z,16nm,1.3s,mb4.8								
POO	**Poona**	**81.77**	**351**	*e*PKP	**P**	**05 05 10.1**	**-0.1**		
POO				AMb	AMB	05 05 11.9			
	comp=Z,150nm,1.6s,mb5.7								
TORD	**Torodi Ar. Bea**	**81.80**	**61**	P	**P**	**05 05 09.4**	**-0.9**		
	comp=Z,20nm,1.0s,mb5.0,baz=331,slow=4.9,SNR=93								
TORD				LR	LR	05 42 22.2			
	comp=Z,349nm,19.4s,MS4.7,baz=335,slow=36								
TORD	**Torodi Ar. Bea**	**81.80**	**61**	P	**P**	**05 05 09.4**	**-0.9**		
TORD				LR	LR	05 42 22.2			
TGY	**Tagaytay City**	**81.83**	**305**	P	**P**	**05 05 09.8**	**-0.7**		
	comp=Z,130nm,0.3s,mb6.3,baz=41,slow=12,SNR=5.0								
TGY	**Tagaytay City**	**81.83**	**305**	P	**P**	**05 05 09.8**	**-0.7**		
TGY	**Tagaytay City**	**81.83**	**305**	P	**P**	**05 05 09.8**	**-0.7**		
HYB	**Hyderabad**	**82.72**	**346**	*i* P	**P**	**05 05 14.0**	**-1.1**		
HYB				*e*		05 05 22.0			
RBK	**Rabkut**	**82.77**	**10**	P	**P**	**05 05 14.5**	**-0.8**		
	SNR=8.9								
ABTO	**Aybut**	**82.89**	**11**	P	**P**	**05 05 16.1**	**+0.1**		
	SNR=16								
KAD	**Karad**	**82.98**	**351**	*e*PKP	**P**	**05 05 16.3**	**-0.2**		
KAD				AMb	AMB	05 05 18.0			
	comp=Z,112nm,1.4s,mb5.7								
DBIC	**Dimbokro**	**87.09**	**69**	P	**P**	**05 05 36.6**	**-0.5**		
	comp=Z,16nm,1.2s,mb5.1,baz=20,slow=6.0,SNR=4.3								
DBIC				LR	LR	05 43 26.3			
	comp=Z,318nm,19.5s,MS4.7,baz=338,slow=35								
DBIC	**Dimbokro**	**87.09**	**69**	*e*P	**P**	**05 05 36.7**	**-0.5**		
	comp=Z,32nm,1.3s,mb5.4								
DBIC	**Dimbokro**	**87.09**	**69**	*e*P	**P**	**05 05 36.7**	**-0.5**		
DBIC				pmax	pmax				
	comp=Z,31nm,1.3s								
DAV	**Davao City (W)**	**88.03**	**300**	P	**P**	**05 05 40.8**	**-0.9**		
	comp=Z,99nm,0.3s,mb6.5,baz=270,slow=11,SNR=10.0								
DAV	**Davao City (W)**	**88.03**	**300**	P	**P**	**05 05 40.8**	**-0.9**		
DAV	**Davao City (W)**	**88.03**	**300**	P	**P**	**05 05 42.4**	**+0.7**		
	SNR=8.6								
ATAH	**Atahualpa**	**88.83**	**143**	P	**P**	**05 05 44.6**	**-0.8**		
	comp=Z,3.6nm,0.7s,mb4.8,baz=73,slow=6.0,SNR=4.9								
ATAH				LR	LR	05 44 55.7			
	comp=Z,364nm,21.6s,MS4.8,baz=1.0,slow=35								
ATAH	**Atahualpa**	**88.83**	**143**	P	**P**	**05 05 44.6**	**-0.8**		
ATAH				LR	LR	05 44 55.7			
TAOE	**Nuku Hiva Isla**	**89.40**	**204**	*e*LR	LR	05 34 22.1			
	comp=Z,402nm,29.7s								
KKM	**Kota Kinabalu**	**90.42**	**309**	*e*P	**P**	**05 05 53.1**	**+0.2**		
	comp=Z,39nm,1.0s,mb5.7								
KKM	**Kota Kinabalu**	**90.42**	**309**	P	**P**	**05 05 53.3**	**+0.4**		
	comp=Z,1μmcomp=Z,47nm,0.9s,mb5.8								
MYLDM	**Lahad Datu**	**90.95**	**306**	P	**P**	**05 05 56.7**	**+1.3**		
	comp=Z,44nm,1.3s,mb5.6								
KULM	**Kulim**	**93.09**	**324**	*e*P	**P**	**05 06 04.8**	**-0.4**		
	comp=Z,67nm,1.8s,mb5.8								
KULM	**Kulim**	**93.09**	**324**	P	**P**	**05 06 04.7**	**-0.5**		
	comp=Z,29nm,1.4s,mb5.5								
NNA	**Nana**	**93.80**	**142**	LR	LR	05 50 40.3			
	comp=Z,161nm,19.1s,MS4.5,baz=338,slow=37								
IPM	**Ipoh**	**93.85**	**323**	*e*P	**P**	**05 06 07.2**	**-1.5**		
	comp=Z,6.9nm,0.8s,mb5.1								
IPM	**Ipoh**	**93.85**	**323**	P	**P**	**05 06 08.4**	**-0.4**		
	comp=Z,29nm,1.3s,mb5.6								
SBUM	**Sibu**	**94.51**	**312**	P	**P**	**05 06 12.3**	**+0.5**		
	comp=Z,12nm,1.2s,mb5.2								
KSM	**Kuching**	**95.72**	**314**	P	**P**	**05 06 17.9**	**+0.6**		
PSI	**Prapat**	**95.73**	**325**	P	**P**	**05 06 15.0**	**-2.3**		
	comp=Z,33nm,0.9s,mb5.8,baz=314,slow=4.3,SNR=22								
PSI	**Prapat**	**95.73**	**325**	P	**P**	**05 06 15.0**	**-2.3**		
PSI	**Prapat**	**95.73**	**325**	P	**P**	**05 06 15.0**	**-2.3**		
PPT	**Papeete**	**98.83**	**213**	*e*LR	LR	05 38 45.7			
	comp=Z,236nm,22.2s								
PPT	**Papeete**	**98.83**	**213**	LR	LR	05 47 46.7			
	comp=Z,299nm,18.4s,MS4.8,baz=359,slow=33								
LPAZ	**La Paz**	**99.08**	**134**	LR	LR	05 55 39.0			
	comp=Z,258nm,18.1s,MS4.8,baz=206,slow=38								
RKT	**Rikitea**	**103.22**	**198**	*e*LR	LR	05 40 45.6			
	comp=Z,205nm,33.8s								
TBI	**Tubuai**	**104.55**	**212**	*e*LR	LR	05 41 23.3			
	comp=Z,191nm,24.2s								
WRA	**Warramunga Arr**	**113.05**	**286**	Pdiff	Pdif	05 07 32.5	-2.5		
	comp=Z,1.7nm,1.2s,baz=3.5,slow=5.2,SNR=4.6								
WRA				PP	PP	05 12 13.6	-3.9		
	comp=Z,4.3nm,1.1s,baz=20,slow=8.0,SNR=7.2								
WRA	**Warramunga Arr**	**113.05**	**286**	Pdif	Pdif	05 07 32.5	-2.5		
WRA				PP	PP	05 12 13.6	-3.9		
WRA	**Warramunga Arr**	**113.05**	**286**	P	Pdif	05 07 32.5	-2.5		
WRA						05 12 13.6			
ASAR	**Alice Springs**	**116.77**	**286**	PKP	PKPdf	05 11 33.4	-2.0		
	comp=Z,3.8nm,0.9s,baz=355,slow=1.7,SNR=23								
ASAR				PKKPbc	PKKPbc	05 22 04.7	+5.8		
	comp=Z,0.8nm,0.8s,baz=199,slow=4.5,SNR=5.2								
ASAR	**Alice Springs**	**116.77**	**286**	PKP	PKPdf	05 11 33.4	-2.0		
ASAR				PKKPbc	PKKPbc	05 22 04.7	+5.8		
ASAR	**Alice Springs**	**116.77**	**286**	PKIKP	PKPdf	05 11 33.4	-1.9		
STKA	**Stephens Creek**	**123.44**	**276**	PKP	PKPdf	05 11 45.1	-2.8		
	comp=Z,3.4nm,0.7s,baz=118,slow=9.1,SNR=9.2								
STKA	**Stephens Creek**	**123.44**	**276**	PKP	PKPdf	05 11 45.1	-2.8		
STKA	**Stephens Creek**	**123.44**	**276**	PKIKP	PKPdf	05 11 45.1	-2.8		
BOSA	**Boshof**	**126.21**	**44**	PKP	PKPdf	05 11 51.1	-2.2		
	comp=Z,11nm,1.1s,baz=146,slow=5.5,SNR=4.2								
BOSA	**Boshof**	**126.21**	**44**	PKIKP	PKPdf	05 11 51.1	-2.2		
BOSA	**Boshof**	**126.21**	**44**	PKIKP	PKPdf	05 11 51.1	-2.2		
VNA1	**Neumayer--Stat**	**160.96**	**103**	*e*	PKPab	05 13 29.7	-3.0		
VNA1				*e*		05 13 36.7			
VNA3	**Neumayer Olymp**	**161.22**	**105**	*e*	PKPpre	05 12 38.8			
	baz=119,slow=2.0								
VNA3				*e*		05 13 29.3			
VNA3				*e*		05 13 38.1			
VNA2	**Neumayer--Watz**	**161.34**	**102**	*e*	PKPpre	05 12 38.8			
	baz=119,slow=2.0								
VNA2				*e*		05 13 30.7			
VNA2				*e*		05 13 39.9			
SNAA	**Sanae**	**162.77**	**100**	PKPab	PKPab	05 13 38.8	-1.9		
	comp=Z,1.7nm,1.1s,baz=355,slow=8.5,SNR=4.7								
VNDA	**Vanda**	**162.80**	**227**	PKPab	PKPab	05 13 40.7	0.0		
	comp=Z,6.5nm,1.0s,baz=356,slow=4.2,SNR=14								
VNDA	**Vanda**	**162.80**	**227**	*e*PKPdf	PKPdf	05 12 51.2	-0.2		
VNDA	**Vanda**	**162.80**	**227**	*e*PKIKP	PKPdf	05 12 51.2	-0.2		
SYO	**Syowa Base**	**167.50**	**44**	⇑*e*PKPab	PKPab	05 14 00.2	-1.3		
MAW	**Mawson**	**167.78**	**3**	PKPab	PKPab	05 14 03.0	+0.2		
	comp=Z,16nm,1.2s,baz=1.7,slow=7.5,SNR=6.4								
QSPA	**South Pole Qui**	**169.69**	**180**	PKP	PKPdf	05 12 55.3	-1.5		
	comp=Z,1.0nm,0.3s,baz=70,slow=2.4,SNR=4.7								
QSPA				PKPab	PKPab	05 14 11.1	0.0		
	comp=Z,7.2nm,1.1s,baz=71,slow=2.0,SNR=6.6								
QSPA	**South Pole Qui**	**169.69**	**180**	PKP	PKPdf	05 12 55.3	-1.5		
QSPA				PKPab	PKPab	05 14 11.1	0.0		

CASC 18 05:01:39.6±1.0, 12.64N×88.57W, h36km±339km, MD3.7, ML3.5, 2C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLLM	**Bellamira**	**0.86**	**22**	⇑*e*P	Pn	05 01 55.5	+0.3
BLLM				*e*S	Sn	05 02 07.0	+0.4
CNCH	**Conchagua**	**0.96**	**49**	*e*P	Pn	05 01 56.9	+0.3
CNCH				*e*S	Sn	05 02 10.8	+1.8
LFRS	**El Faro**	**1.09**	**334**	⇑*e*P	Pn	05 01 58.4	+0.1
CAHU	**Cacacuatique**	**1.18**	**17**	*e*P	Pn	05 02 00.3	+0.7
CAHU				*e*S	Sn	05 02 15.4	+1.0
LBRS	**Las Brisas**	**1.19**	**337**	*e*P	Pn	05 02 00.0	+0.3
SNET	**Serv Nac Est T**	**1.22**	**328**	*e*P	Pn	05 02 00.2	0.0
SNET				*e*S	Sn	05 02 15.8	+0.3
SNET				AML	AML	05 02 19.1	
	comp=Z,1μm,0.2s						
CRIN	**San Cristobal**	**1.49**	**87**	*e*P	Pn	05 02 04.2	+0.4
CRIN				*e*S	Sn	05 02 23.5	+1.5
SBLS	**San Blas**	**1.57**	**319**	*e*P	Pn	05 02 05.8	+0.8
RTR	**El Retiro**	**1.63**	**320**	*e*P	Pn	05 02 06.7	+0.9
RBDL	**Robledal**	**1.82**	**324**	*e*P	Pn	05 02 09.3	+0.8
MIRN	**Miramar**	**1.83**	**96**	*e*P	Pn	05 02 08.3	-0.2
CNGN	**Cerro Negro**	**1.83**	**94**	*e*P	Pn	05 02 08.3	-0.3
CNGN				*e*S	Sn	05 02 31.6	+0.9
TGUH	**Tegucigalpa,Un**	**1.89**	**42**	*e*P	Pn	05 02 09.8	+0.4
TGUH				*i* S	Sn	05 02 32.8	+0.7
COPN	**Copaltepe**	**1.99**	**103**	*e*P	Pn	05 02 10.6	-0.1
XAVN	**Gruta Xavier**	**2.25**	**102**	*e*P	Pn	05 02 14.4	+0.1
TISN	**Laguna Tiscapa**	**2.30**	**102**	*e*P	Pn	05 02 15.1	0.0
MGAN	**Managua**	**2.32**	**102**	*e*P	Pn	05 02 15.4	+0.1
MGAN				*e*S	Sn	05 02 42.9	+0.2
MGAN				AML	AML	05 02 43.8	
	comp=N,298nm,0.4s						
HUEN		**2.36**	**97**	*e*P	Pn	05 02 15.9	0.0
TICN	**Ticuantepe**	**2.37**	**104**	*e*P	Pn	05 02 16.1	+0.1
WILN	**Americas 2**	**2.38**	**101**	*e*P	Pn	05 02 16.4	+0.3
APON	**Apoyo**	**2.55**	**106**	*e*P	Pn	05 02 18.3	-0.2
BOAB	**BOACO BROADBAN**	**2.84**	**93**	*e*P	Pn	05 02 22.3	-0.2

*IDC **18** 05:14:06.5±2.0, 79.68N×115.13W, h0km, mb3.6/3, mb1 4.0/7, mb1mx3.6/29, mbtmp3.8/7, ML4.1/4, Error ellipse: s-maj=47.2km s-min=28.5km az=128.0*
*OTT **18** 05:14:08.8±0.8, 79.42N×115.08W, h18km, ML4.0/7, Arctic Ocean. Aftershock. 254km west from Isachsen, Nu*
*NEIC **18** 05:14:08.8, 79.39N×115.08W, h18km, ML4.0(OTT), After OTT.*

**ISC 18 05:14:09.0±0.9, 79.14N±0.07×114.6W±0.3, h10

TXAR	**Lajitas Array**	**50.12**	**168**	P		**P**	**05 23 07.7**	**+3.8**
TORD	**Torodi Ar. Bea**	**81.94**	**62**	P		**P**	**05 26 26.8**	**-1.8**
	0.7nm,0.7s,mb3.7,baz=337,slow=5.6,SNR=6.4							
TORD	**Torodi Ar. Bea**	**81.94**	**62**	P		**P**	**05 26 26.8**	**-1.8**

*IDC **18** 05:29:17.4±0.6,30˚21N×83˚84E,h0km,mb4.3/20, mb1 4.4/22,mb1mx4.3/32,mbtmp4.3/22,ML3.9/2,MS3.8/8, Ms1 3.8/8,ms1mx3.4/41,Error ellipse: s-maj=19.8km s-min=13.6km az=39.0*

*LDG **18** 05:29:17.1±0.2,30˚39N×83˚72E,h10km,Mb4.8/15, Ms3.9/6,Error ellipse: s-maj=10.0km s-min=5.3km az=79.0*

*DMN **18** 05:29:17.4±0.5,30˚82N×83˚61E,h10km,Ml4.6/2,Error ellipse: s-maj=10.2km s-min=7.5km az=155.0*

*NDI **18** 05:29:20.6±3.3,30˚19N×84˚13E,h33km,ML4.3, mb4.5(NEIC)*

*MOS **18** 05:29:20.2±1.3,30˚27N×83˚75E,h27km,mb4.8/22,Error ellipse: s-maj=10.4km s-min=5.8km az=113.5*

*NEIC **18** 05:29:23.0±2.5,30˚25N×83˚77E,h35km±18km,mb4.5/17, Error ellipse: s-maj=9.8km s-min=6.2km az=219.0*

*ISCJB **18** 05:29:23.0±0.5,30˚32N±0˚03×83˚62E±0˚03,h48km±6km, mb4.5/52,MS3.7/9,Error ellipse: s-maj=6.0km s-min=4.1km az=22.3*

ISC 18 05:29:23.3±1.0,30˚32N±0˚03×83˚73E±0˚03,h34km±8km, n175,σ1§18/178,mb4.5/52,MS3.7/9,4C-3D,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**1.97**	**179**	*e*Pn	**Pn**	**05 29 54.6**	**+0.4**
PYUN	**Piuthan**	**2.31**	**197**	*e*Pn	**Pn**	**05 30 00.7**	**+1.8**
PYUN				*e*Sn	**Sb**	**05 30 32.3**	**-0.1**
GKN	**Gorkha**	**2.44**	**161**	*e*Pn	**Pn**	**05 30 02.6**	**+1.8**
GKN				*e*Sn	**Sb**	**05 30 36.5**	**+0.2**
KOLN	**Koldanda**	**2.55**	**183**	*e*Pn	**Pn**	**05 30 03.9**	**+1.7**
KOLN				*e*Sn	**Sb**	**05 30 37.8**	**-1.4**
KKN	**Kakani**	**2.86**	**151**	*e*Pn	**Pn**	**05 30 08.1**	**+1.5**
KKN				*e*Sn	**Sb**	**05 30 45.8**	**-2.6**
DMN	**Daman**	**2.96**	**156**	*e*Pn	**Pn**	**05 30 09.2**	**+1.3**
GUN	**Gumba**	**3.05**	**141**	*e*Pn	**Pn**	**05 30 10.7**	**+1.6**
GUN				*e*Sn	**Sb**	**05 30 49.7**	**-4.0**
	847nm,0.7s						
PKI	**Pulchoki**	**3.11**	**151**	*e*Pn	**Pn**	**05 30 11.4**	**+1.5**
RAMN	**Ramite**	**4.20**	**142**	*e*Pn	**Pn**	**05 30 25.4**	**+0.5**
RAMN				*e*Sn	**Sn**	**05 31 17.3**	**+4.5**
	357nm,0.8s						
TAPN	**Taplejung**	**4.58**	**129**	*e*Pn	**Pn**	**05 30 31.1**	**+1.0**
ODAN	**Odare**	**4.72**	**136**	*e*Pn	**Pn**	**05 30 33.4**	**+1.4**
DDI	**Dehra Dun**	**4.91**	**271**	*e*PKP	**Pn**	**05 30 37.0**	**+2.3**
DDI				*ex*	x	05 32 02.0	
SMLA	**Simla**	**5.71**	**280**	*i* P	**Pn**	**05 30 48.4**	**+2.7**
SMLA				AML	AML	05 32 15.9	
	comp=E,484nm,0.5s						
SMLA				AML	AML	05 32 16.3	
	comp=N,447nm,0.5s						
SMLA				*i* x	x	05 32 17.6	
NDI	**New Delhi**	**5.91**	**256**	*e*PKP	**Pn**	**05 30 48.0**	**-0.4**
NDI				*ex*	x	05 32 30.0	
SDNR	**Sundarnagar**	**5.93**	**283**	*ex*	x	05 30 55.0	
SDNR				*ex*	x	05 32 41.0	
AGRA	**Agra**	**5.94**	**240**	*e*PKP	**Pn**	**05 30 47.9**	**-0.9**
AGRA				*ex*	x	05 31 56.2	
AYAN	**Aya Nagar**	**6.05**	**254**	*e*PKP	**Pn**	**05 30 52.0**	**+1.7**
SONA	**Sohna**	**6.16**	**252**	*e*PKP	**Pn**	**05 30 52.3**	**+0.3**
SONA				*e*S	**Sn**	**05 32 00.5**	**-0.8**
LSA	**Lhasa**	**6.46**	**94**	*e*Pn	**Pn**	**05 30 58.4**	**+2.4**
	comp=N,106nm,1.0s						
LSA	**Lhasa**	**6.46**	**94**	*e*P	**Pn**	**05 30 58.4**	**+2.4**
LSA				pmax	pmax		
	comp=Z,106nm,1.0s						
KHET	**Khetri**	**7.28**	**254**	*e*PKP	**Pn**	**05 31 08.3**	**+1.1**
KHET				*e*S	**Sn**	**05 32 27.0**	**-1.8**
SHL	**Shillong**	**8.62**	**121**	*ex*	**Pn**	**05 31 24.0**	**-1.7**
SHL				*ex*	**Sn**	**05 33 09.0**	**+7.2**
CAL	**Calcutta**	**8.78**	**151**	*ex*	**Sn**	**05 33 12.6**	**+7.0**
AJM	**Ajmer**	**8.87**	**247**	*e*PKP	**Pn**	**05 31 30.0**	**+0.9**
BHPL	**Bhopal**	**9.03**	**220**	*e*PKP	**Pn**	**05 31 31.6**	**+0.4**
NGP	**Nagpur**	**10.06**	**206**	*e*PKP	**Pn**	**05 31 42.1**	**-3.3**
NGP				*ex*	x	05 31 57.8	
NGP				*e*S	**Sn**	**05 33 27.0**	**-10**
AKL	**Akola**	**11.33**	**214**	*e*PKP	**Pn**	**05 32 00.0**	**-2.8**
AKL				⇑*i*P		05 32 00.4	
AKL				*i* x	x	05 34 03.4	
KBL	**Kabul**	**13.10**	**293**	*e*Pn	**Pn**	**05 32 26.2**	**-0.7**
	comp=Z,19nm,0.7s						
KBL				*e*Sn	**Sn**	**05 34 50.3**	**-1.1**
KBL	**Kabul**	**13.10**	**293**	*e*P	**Pn**	**05 32 26.2**	**-0.7**
KBL				*e*		05 34 50.3	
KBL				pmax	pmax		
	comp=Z,19nm,0.7s						
LATR	**Latur**	**13.53**	**210**	*ex*	x	05 32 24.8	
LATR				*ex*	**Sn**	**05 34 49.9**	**-12**
HYB	**Hyderabad**	**13.69**	**201**	*i* P	**Pn**	**05 32 32.5**	**-2.5**
HYB				*e*		05 34 58.0	
HYB				*e*S	**Sn**	**05 35 07.5**	**+1.6**
TKM2	**Tokmak 2**	**14.16**	**335**	P	**Pn**	**05 32 41.7**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,8.0nm,1.2s						
POO	**Poona**	**14.78**	**220**	*e*PKP	**Pn**	**05 32 49.3**	**-0.7**
MK31	**Makanchi Array**	**16.48**	**357**	*e*P	**Pn**	**05 33 14.1**	**+2.3**
MK31	**Makanchi Array**	**16.48**	**357**	*e*P	**Pn**	**05 33 14.1**	**+2.3**
MKAR	**Makanchi Array**	**16.48**	**357**	Pn	**Pn**	**05 33 09.8**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=175,slow=11,SNR=7.0						
MKAR	**Makanchi Array**	**16.48**	**357**	Pn	**Pn**	**05 33 09.8**	**-2.0**
MKAR	**Makanchi Array**	**16.48**	**357**	P	**Pn**	**05 33 09.8**	**-2.0**
KK31	**Karatay Array**	**16.56**	**324**	*i* P	**Pn**	**05 33 10.4**	**-2.4**
KK31				pmax	pmax		
	comp=Z,16nm,0.8s						
KKAR	**Karatay Array**	**16.56**	**324**	*e*P	**Pn**	**05 33 09.4**	**-3.4**
	comp=Z,11nm,0.7s						
KKAR	**Karatay Array**	**16.56**	**324**	*e*P	**Pn**	**05 33 09.4**	**-3.4**
KKAR				pmax	pmax		
	comp=Z,11nm,0.7s						
CHRT	**Chiangrai**	**17.86**	**122**	⇓P	**Pn**	**05 33 27.0**	**-2.1**
CHG	**Chiang Mai**	**17.94**	**126**	⇑P	**Pn**	**05 33 29.9**	**-0.2**
	comp=Z,17nm,0.9s						
CHTO	**Chiang Mai**	**17.94**	**126**	*e*P	**Pn**	**05 33 28.5**	**-1.7**
	comp=Z,15nm,1.0s						
CHTO	**Chiang Mai**	**17.94**	**126**	*e*P	**Pn**	**05 33 28.5**	**-1.6**
CHTO				pmax	pmax		
	comp=Z,15nm,1.0s						
CMAR	**Chiang Mai Arr**	**18.18**	**127**	P	**Pn**	**05 33 31.6**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=309,slow=12,SNR=36						
CMAR	**Chiang Mai Arr**	**18.18**	**127**	P	**Pn**	**05 33 31.6**	**-1.5**
CMAR	**Chiang Mai Arr**	**18.18**	**127**	P	**Pn**	**05 33 31.6**	**-1.5**
KURK	**Kurchatov**	**20.73**	**351**	P	**P**	**05 33 59.0**	**-1.7**
	comp=Z,29nm,1.0s,baz=173,slow=10.0,SNR=167						
KURK	**Kurchatov**	**20.73**	**351**	*e*P	**P**	**05 33 59.6**	**-1.1**
	comp=Z,42nm,1.0s						
KURK	**Kurchatov**	**20.73**	**351**	P	**P**	**05 33 59.0**	**-1.7**
KURK				pmax	pmax		
	comp=Z,29nm,1.0s						
ZAA0	**Zalesovo Array**	**23.62**	**2**	*e*P	**P**	**05 34 30.8**	**-0.3**
ZALV	**Zalesovo Beam**	**23.62**	**2**	P	**P**	**05 34 30.1**	**-1.1**
	comp=Z,7.4nm,0.8s,mb4.2,baz=188,slow=9.0,SNR=23						
ZALV	**Zalesovo Beam**	**23.62**	**2**	P	**P**	**05 34 30.1**	**-1.1**
ZALV	**Zalesovo Beam**	**23.62**	**2**	P	**P**	**05 34 30.1**	**-1.0**
VOSK	**Vostochnaya**	**24.26**	**341**	P	**P**	**05 34 37.1**	**+0.1**
VOSK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.2						
NVS	**Novosibirsk**	**24.51**	**359**	*e*P	**P**	**05 34 38.2**	**-1.0**
SONM	**Songino Array**	**24.66**	**38**	P	**P**	**05 34 42.0**	**+1.3**
	comp=Z,2.7nm,0.9s,mb3.8,baz=229,slow=9.1,SNR=13						
SONM				PcP	PcP	05 38 17.7	+0.3
	comp=Z,0.6nm,0.9s,baz=225,slow=1.8,SNR=2.5						
SONM				LR	LR	05 45 13.9	
	comp=Z,230nm,20.2s,MS3.7,baz=7.9,slow=39						
SONM	**Songino Array**	**24.66**	**38**	P	**P**	**05 34 42.0**	**+1.3**
SONM				PcP	PcP	05 38 17.7	+0.3
SONM				LR	LR	05 45 13.9	
SONM	**Songino Array**	**24.66**	**38**	P	**P**	**05 34 42.0**	**+1.3**
SONM						05 38 17.7	
BVAR	**Borovoye Array**	**24.70**	**341**	P	**P**	**05 34 41.1**	**+0.1**
	comp=Z,2.2nm,0.6s,mb3.9,baz=134,slow=8.3,SNR=13						
BVAR	**Borovoye Array**	**24.70**	**341**	P	**P**	**05 34 41.1**	**+0.1**
BVAR	**Borovoye Array**	**24.70**	**341**	P	**P**	**05 34 41.1**	**+0.2**
BRVK	**Borovoye**	**24.76**	**340**	*e*P	**P**	**05 34 41.5**	**0.0**
	comp=Z,4.2nm,0.8s,mb4.0						
BRVK	**Borovoye**	**24.76**	**340**	*e*P	**P**	**05 34 41.5**	**0.0**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
ULN	**Ulaanbaatar**	**25.03**	**39**	*e*P	**P**	**05 34 44.4**	**+0.3**
	comp=Z,8.4nm,1.0s,mb4.2						
ULN	**Ulaanbaatar**	**25.03**	**39**	*e*P	**P**	**05 34 44.4**	**+0.3**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.2						
AB31	**Akbulak array**	**26.12**	**323**	P	**P**	**05 34 54.6**	**+0.7**
AB31				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.6						
ABKAR	**Akbulak array**	**26.12**	**323**	*e*P	**P**	**05 34 54.5**	**+0.6**
	comp=Z,22nm,0.9s,mb4.7						
AKTO	**Aktyubinsk**	**27.82**	**324**	P	**P**	**05 35 09.9**	**+0.7**
	comp=Z,2.6nm,0.7s,mb4.0,baz=123,slow=8.0,SNR=13						
AKTO				LR	LR	05 47 39.3	
	comp=Z,146nm,21.9s,MS3.5,baz=17,slow=39						
AKTO	**Aktyubinsk**	**27.82**	**324**	P	**P**	**05 35 09.9**	**+0.7**
AKTO				LR	LR	05 47 39.3	
AKTO	**Aktyubinsk**	**27.82**	**324**	P	**P**	**05 35 09.9**	**+0.7**
SVE	**Sverdlovsk**	**31.03**	**335**	*e*P	**P**	**05 35 38.7**	**+1.1**
SVE				pmax	pmax		
	comp=Z,22nm,1.1s,mb4.9						
ARU	**Arti**	**31.52**	**333**	*e*P	**P**	**05 35 42.4**	**+0.5**
	comp=Z,14nm,0.8s,mb4.8						
ARU	**Arti**	**31.52**	**333**	*d i*P	**P**	**05 35 42.4**	**+0.5**
ARU				*e*		05 36 46.8	
ARU				SS	SS	05 42 35.8	-28
ARU				pmax	pmax		
	comp=Z,12nm,0.5s,mb5.0						
GNI	**Garni**	**33.10**	**298**	LR	LR	05 50 53.6	
	comp=Z,139nm,20.5s,MS3.6,baz=71,slow=39						
GNI	**Garni**	**33.10**	**298**	⇓*i*P	**P**	**05 36 00.2**	**+4.3**
GNI				pmax	pmax		
	comp=Z,22nm,1.4s						
ZEI	**Tsey**	**34.02**	**303**	*e*P	**P**	**05 36 06.3**	**+2.3**
ZEI				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.0						
SOKR	**Solikamsk**	**34.44**	**336**	*c i*P	**P**	**05 36 08.9**	**+1.6**
SOKR				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.3						
KIV	**Kislovodsk**	**35.07**	**304**	*e*P	**P**	**05 36 14.6**	**+1.5**
	comp=Z,13nm,0.6s,mb5.0						
KIV	**Kislovodsk**	**35.07**	**304**	*e*P	**P**	**05 36 14.5**	**+1.5**
KIV				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.0						
KSAR	**Wonju Array Be**	**37.07**	**67**	P	**P**	**05 36 28.1**	**-2.0**
KSAR				LR	LR	05 53 06.8	
KSAR	**Wonju Array Be**	**37.07**	**67**	P	**P**	**05 36 28.2**	**-2.0**
KSRS	**Korea Array**	**37.10**	**67**	P	**P**	**05 36 28.1**	**-2.3**
	comp=Z,2.0nm,0.7s,mb4.0,baz=277,slow=7.5,SNR=4.9						
KSRS				LR	LR	05 53 06.8	
	comp=Z,170nm,18.6s,MS3.9,baz=290,slow=39						
KSRS	**Korea Array**	**37.10**	**67**	P	**P**	**05 36 28.2**	**-2.2**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
KSRS				MLR	MLR		
	comp=Z,170nm,18.6s,MS3.9						
OBN	**Obninsk**	**41.50**	**321**	⇑*e*P	**P**	**05 37 07.1**	**+0.2**
OBN				*e*		05 38 45.3	
OBN						05 39 04.0	
OBN				S	**S**	**05 43 22.0**	**+2.0**
OBN				SS	SS	05 46 15.0	-10
OBN				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.6						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.7						
BR131	**Keskin Array S**	**41.62**	**297**	*e*P	**P**	**05 37 09.2**	**+1.1**
	comp=Z,16nm,1.3s,mb4.5						
BRTR	**Keskin Array B**	**41.62**	**297**	P	**P**	**05 37 09.3**	**+1.2**
	comp=Z,5.0nm,1.0s,mb4.1,baz=132,slow=5.2,SNR=21						
BRTR	**Keskin Array B**	**41.62**	**297**	P	**P**	**05 37 09.3**	**+1.2**
BRTR	**Keskin Array B**	**41.62**	**297**	P	**P**	**05 37 09.4**	**+1.3**
YAK	**Yakutsk**	**43.41**	**30**	*e*P	**P**	**05 37 22.5**	**+0.2**
YAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.6						
AKASG	**Malin Array Be**	**45.02**	**313**	P	**P**	**05 37 35.0**	**-0.3**
	comp=Z,1.7nm,0.6s,mb4.0,baz=85,slow=6.9,SNR=8.0						
AKASG				LR	LR	05 59 48.2	
	comp=Z,105nm,20.7s,MS3.8,baz=330,slow=40						
AKASG	**Malin Array Be**	**45.02**	**313**	P	**P**	**05 37 35.0**	**-0.3**
AKASG				LR	LR	05 59 48.2	
AKASG	**Malin Array Be**	**45.02**	**313**	P	**P**	**05 37 35.0**	**-0.3**
MJAR	**Matsushiro Arr**	**45.38**	**67**	LR	LR	05 57 52.2	
	comp=Z,95nm,18.6s,MS3.8,baz=80,slow=38						
MLR	**Muntele Rosu**	**47.06**	**306**	P	**P**	**05 37 53.3**	**+1.8**
	comp=Z,3.7nm,1.0s,mb4.3,baz=136,slow=1.8,SNR=11						
MLR	**Muntele Rosu**	**47.06**	**306**	P	**P**	**05 37 53.3**	**+1.8**
MLR	**Muntele Rosu**	**47.06**	**306**	P	**P**	**05 37 53.3**	**+1.8**
FINES	**FINESS Array B**	**48.48**	**327**	P	**P**	**05 38 02.2**	**-0.1**
	comp=Z,3.9nm,0.8s,mb4.5,baz=87,slow=8.9,SNR=6.1						
FINES				LR	LR	06 01 06.5	
	comp=Z,72nm,18.6s,MS3.7,baz=63,slow=39						
FINES	**FINESS Array B**	**48.48**	**327**	P	**P**	**05 38 02.2**	**-0.1**
FINES				LR	LR	06 01 06.5	
FINES	**FINESS Array B**	**48.48**	**327**	P	**P**	**05 38 02.2**	**-0.1**
CBIJ	**Chichi jima**	**50.88**	**78**	LR	LR	06 01 59.2	
	comp=Z,84nm,18.7s,MS3.8,baz=83,slow=39						
ARCES	**ARCESS Array B**	**50.92**	**337**	P	**P**	**05 38 21.6**	**+0.8**
	comp=Z,14nm,0.7s,mb5.0,baz=97,slow=8.2,SNR=41						
ARCES	**ARCESS Array B**	**50.92**	**337**	P	**P**	**05 38 21.6**	**+0.8**
ARCES	**ARCESS Array B**	**50.92**	**337**	P	**P**	**05 38 21.6**	**+0.8**
ARE0	**ARCESS Array S**	**50.92**	**337**	*e*P	**P**	**05 38 21.4**	**+0.6**
KMBO	**Kilima Mbogo**	**54.16**	**243**	*e*P	**P**	**05 38 46.1**	**+0.6**
	comp=Z,2.3nm,0.9s,mb4.1						
KMBO	**Kilima Mbogo**	**54.16**	**243**	*e*P	**P**	**05 38 46.1**	**+0.6**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GERES	**GERESS Array B**	**55.10**	**311**	P	**P**	**05 38 51.7**	**-0.2**
	comp=Z,0.5nm,0.5s,mb3.8,baz=15,slow=5.5,SNR=5.2						
GERES	**GERESS Array B**	**55.10**	**311**	P	**P**	**05 38 51.7**	**-0.2**
GERES	**GERESS Array B**	**55.10**	**311**	P	**P**	**05 38 51.7**	**-0.1**
NB2	**NORSAR Subarra**	**55.58**	**326**	P	**P**	**05 38 54.4**	**-0.7**
	comp=Z,2.1nm,0.7s,mb4.3,baz=88,slow=7.4						
NOA	**NORSAR Array B**	**55.58**	**326**	P	**P**	**05 38 54.7**	**-0.4**
	comp=Z,6.0nm,1.0s,mb4.6,baz=88,slow=7.3,SNR=7.1						
NOA	**NORSAR Array B**	**55.58**	**326**	P	**P**	**05 38 54.7**	**-0.4**
NOA	**NORSAR Array B**	**55.58**	**326**	P	**P**	**05 38 54.7**	**-0.4**
SPITS	**Spitsbergen Ar**	**55.93**	**347**	P	**P**	**05 38 58.9**	**+1.5**
	comp=Z,4.9nm,0.7s,mb4.7,baz=130,slow=18,SNR=4.8						
SPITS	**Spitsbergen Ar**	**55.93**	**347**	P	**P**	**05 38 58.9**	**+1.5**
SPITS	**Spitsbergen Ar**	**55.93**	**347**	P	**P**	**05 38 58.9**	**+1.5**
BILL	**Bilibino**	**59.49**	**26**	*e*P	**P**	**05 39 23.3**	**+0.8**
BILL				*e*		05 40 10.9	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.3						
HINF	**Hinteralfeld**	**59.78**	**311**	*e*P	**P**	**05 39 24.0**	**-0.8**
	comp=Z,7.3nm,0.7s,mb4.5						
HAU	**Haudompre**	**60.06**	**311**	*e*P	**P**	**05 39 26.8**	**0.0**
HAU				*e*R			
	comp=Z,101nm,22.8s						
SBF	**Sospel**	**60.33**	**306**	*e*P	**P**	**05 39 28.4**	**-0.3**
	comp=Z,28nm,0.8s,mb5.0						
LPG	**La Plagne**	**60.39**	**308**	*e*P	**P**	**05 39 29.2**	**+0.1**
	comp=Z,12nm,0.8s,mb4.7						
LPL	**La Plagne**	**60.40**	**308**	*e*P	**P**	**05 39 29.2**	**+0.1**
	comp=Z,14nm,0.8s,mb4.8						
SFTF	**Sexfontaines**	**60.87**	**311**	*e*P	**P**	**05 39 31.7**	**-0.6**
LOR	**Lormes**	**61.88**	**311**	*e*P	**P**	**05 39 39.4**	**+0.3**
LOR				*e*R			
	comp=Z,128nm,20.2s						
SMF	**Signal de Mont**	**62.05**	**310**	*e*P	**P**	**05 39 39.4**	**-0.9**
	comp=Z,15nm,0.9s,mb4.8						
SSF	**Saint Saulge**	**62.16**	**310**	*e*P	**P**	**05 39 40.2**	**-0.9**
	comp=Z,18nm,1.0s,mb4.9						
AVF	**Avril sur Loir**	**62.34**	**310**	*e*P	**P**	**05 39 41.3**	**-0.9**
	comp=Z,10nm,1.0s,mb4.6						
BGF	**Bois d'Agland**	**62.74**	**310**	*e*P	**P**	**05 39 44.3**	**-0.6**
TCF	**Toulx Ste Croi**	**63.24**	**310**	*e*P	**P**	**05 39 47.9**	**-0.3**
	comp=Z,20nm,1.1s,mb4.8						
CAF	**Calviac**	**63.73**	**308**	*e*P	**P**	**05 39 51.3**	**-0.2**
RJF	**Les Rejaudoux**	**63.99**	**309**	*e*P	**P**	**05 39 52.5**	**-0.7**
	comp=Z,10nm,1.0s,mb4.5						
RJF				*e*R			
	comp=Z,179nm,19.0s						
LDF	**La Druitiere**	**64.08**	**313**	*e*P	**P**	**05 39 52.7**	**-1.0**
	comp=Z,9.0nm,0.7s,mb4.6						
GRR	**Gorron**	**64.61**	**313**	*e*P	**P**	**05 39 56.2**	**-1.0**
	comp=Z,13nm,0.7s,mb4.8						
LFF	**La Frestale**	**64.62**	**309**	*e*P	**P**	**05 39 57.2**	**-0.2**
MFF	**Saint Martin d**	**64.70**	**311**	*e*P	**P**	**05 39 56.9**	**-0.9**
	comp=Z,18nm,0.9s,mb4.8						
ETSF	**Etsaut**	**66.18**	**307**	*e*P	**P**	**05 40 06.7**	**-0.8**
SJPF	**Ste Jean**	**66.56**	**307**	*e*P	**P**	**05 40 09.4**	**-0.5**
ESDC	**Sonseca Array**	**69.74**	**305**	P	**P**	**05 40 29.7**	**-0.2**
	comp=Z,1.1nm,0.8s,mb3.9,baz=63,slow=6.4,SNR=8.6						
ESDC	**Sonseca Array**	**69.74**	**305**	P	**P**	**05 40 29.7**	**-0.2**
WRA	**Warramunga Arr**	**69.76**	**129**	P	**P**	**05 40 29.1**	**-1.1**
	comp=Z,2.4nm,0.9s,mb4.1,baz=323,slow=6.3,SNR=21						
WRA	**Warramunga Arr**	**69.76**	**129**	P	**P**	**05 40 29.1**	**-1.1**
WRA	**Warramunga Arr**	**69.76**	**129**	P	**P**	**05 40 29.1**	**-1.1**
WRAB	**Tennant Creek**	**69.76**	**129**	*e*P	**P**	**05 40 29.0**	**-1.2**
	comp=Z,2.0nm,0.7s,mb4.2						
WRAB	**Tennant Creek**	**69.76**	**129**	*e*P	**P**	**05 40 29.0**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
WB2	**Warramunga Arr**	**69.77**	**129**	*e*P	**P**	**05 40 29.3**	**-1.0**
LSZ	**Lusaka**	**70.09**	**238**	*e*P	**P**	**05 40 31.8**	**-0.5**
	comp=Z,2.8nm,0.7s,mb4.3						
LSZ	**Lusaka**	**70.09**	**238**	*e*P	**P**	**05 40 31.8**	**-0.5**
LSZ				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
SUMG	**Summit**	**70.11**	**344**	*e*P	**P**	**05 40 33.0**	**+1.4**
	comp=Z,28nm,1.3s,mb5.0						
SUMG	**Summit**	**70.11**	**344**	*e*P	**P**	**05 40 33.1**	**+1.5**
SUMG				pmax	pmax		
	comp=Z,28nm,1.3s						
ASAR	**Alice Springs**	**72.10**	**132**	P	**P**	**05 40 42.1**	**-2.2**
	comp=Z,0.8nm,0.7s,mb3.8,baz=321,slow=6.6,SNR=8.1						
ASAR	**Alice Springs**	**72.10**	**132**	P	**P**	**05 40 42.1**	**-2.2**
ASAR	**Alice Springs**	**72.10**	**132**	P	**P**	**05 40 42.2**	**-2.1**
TORD	**Torodi Ar. Bea**	**76.69**	**278**	P	**P**	**05 41 11.3**	**-0.1**
	comp=Z,11nm,0.8s,mb4.8,baz=55,slow=4.6,SNR=71						
TORD	**Torodi Ar. Bea**	**76.69**	**278**	P	**P**	**05 41 11.3**	**-0.1**
COLA	**College**	**77.01**	**20**	*e*P	**P**	**05 41 12.5**	**+0.3**
	comp=Z,4.9nm,0.8s,mb4.5						
COLA	**College**	**77.01**	**20**	*e*P	**P**	**05 41 12.5**	**+0.3**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
PPLA	**Purkeypile**	**77.02**	**23**	*e*P	**P**	**05 41 12.8**	**+0.5**
	comp=Z,31nm,1.6s,mb5.0						
ILAR	**Eielson Array**	**77.37**	**20**	P	**P**	**05 41 13.8**	**-0.5**
	comp=Z,2.1nm,0.8s,mb4.1,baz=300,slow=4.8,SNR=14						
ILAR	**Eielson Array**	**77.37**	**20**	P	**P**	**05 41 13.8**	**-0.5**
ILAR	**Eielson Array**	**77.37**	**20**	P	**P**	**05 41 13.8**	**-0.5**
PMR	**Palmer**	**78.96**	**23**	*e*P	**P**	**05 41 23.2**	**0.0**
	comp=Z,5.4nm,0.7s,mb4.6						
PMR	**Palmer**	**78.96**	**23**	*e*P	**P**	**05 41 23.2**	**+0.1**
PMR				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
SML	**Sawmill**	**79.07**	**22**	*e*P	**P**	**05 41 23.7**	**-0.1**
	comp=Z,2.8nm,0.8s,mb4.2						
SML	**Sawmill**	**79.07**	**22**	*e*P	**P**	**05 41 23.7**	**0.0**
SML				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
DBIC	**Dimbokro**	**85.46**	**275**	P	**P**	**05 41 58.4**	**+0.4**
	comp=Z,6.7nm,0.8s,mb4.8,baz=47,slow=5.8,SNR=6.9						
DBIC	**Dimbokro**	**85.46**	**275**	P	**P**	**05 41 58.4**	**+0.3**
DBIC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
FFC	**Flin Flon**	**95.16**	**3**	*i* P	**P**	**05 42 43.8**	**+0.9**
VNA2	**Neumayer--Watz**	**118.69**	**202**	*e*	PKPdf	05 48 01.6	-5.1
	baz=51,slow=2.5						
VNA3	**Neumayer Olymp**	**119.47**	**202**	*e*	PKPdf	05 48 04.5	-3.7
OTAV	**Otavalo**	**145.20**	**328**	*e*PKPdf	PKPdf	05 48 58.8	+0.7
CPUP	**Villa Florida**	**145.61**	**267**	PKPbc	PKPbc	05 48 58.3	-0.3
	comp=Z,2.4nm,0.8s,baz=59,slow=5.7,SNR=6.8						
LPAZ	**La Paz**	**150.73**	**292**	PKPbc	PKPbc	05 49 12.0	-0.5
	comp=Z,2.3n

comp=Z,133nm,0.9s
BULN Bullion Camp, 14.67 143 PN **Pn** 05 40 46.4 -8.4
BULN mb 05 40 48.6
comp=Z,281nm,1.4s
BULN SN **Sn** 05 43 19.1 -19
BULN Trac 05 43 22.1
comp=Z,416nm,1.4s
QILN Qililugaq Expl 15.23 133 PN **Pn** 05 40 54.8 -7.5
QILN mb 05 40 59.1
comp=Z,47nm,0.6s
QILN SN **Sn** 05 43 32.6 -19
QILN Trac 05 43 39.9
comp=Z,36nm,0.6s
CTLN Castor Lake 15.40 181 PN **Pn** 05 40 57.3 -7.3
CTLN mb 05 41 08.1
comp=Z,41nm,0.7s
CTLN SN **Sn** 05 43 35.5 -20
CTLN Trac 05 44 37.4
comp=Z,48nm,0.8s
COLD Coldfoot 15.57 236 *e*Pn **Pn** 05 40 59.5 -7.2
comp=Z,22nm,0.6s
COLD *e*S Sn 05 43 33.8 -26
WAGN Wager Bay 15.59 138 PN **Pn** 05 40 58.4 -8.6
WAGN mb 05 41 09.2
comp=Z,37nm,0.5s
WAGN SN **Sn** 05 43 39.1 -21
WAGN Trac 05 43 44.7
comp=Z,45nm,0.6s
ILKN Indian Lake 15.61 180 PN **Pn** 05 41 00.2 -7.0
ILKN mb 05 41 10.0
comp=Z,164nm,0.7s
ILKN SN **Sn** 05 43 39.6 -21
ILKN Trac 05 44 05.1
comp=Z,68nm,0.6s
GALN Gameti Lake 15.73 183 PN **Pn** 05 41 01.2 -7.6
GALN mb 05 41 11.1
comp=Z,67nm,0.6s
GALN SN **Sn** 05 43 43.7 -20
GALN Trac 05 44 28.8
comp=Z,54nm,0.8s
NUNN Nunuq Camp, NU 16.04 141 PN **Pn** 05 41 04.8 -8.0
NUNN mb 05 41 06.3
comp=Z,260nm,0.8s
NUNN SN Sn 05 43 45.2 -26
NUNN Trac 05 44 10.1
comp=Z,48nm,0.5s
COKN Cook Lake 16.67 170 PN **Pn** 05 41 13.2 -7.7
COKN mb 05 41 21.2
comp=Z,86nm,0.7s
COKN SN Sn 05 44 03.1 -23
COKN Trac 05 44 11.7
comp=Z,46nm,0.7s
EGAK Eagle 16.68 221 *e*Pn **Pn** 05 41 15.7 -5.3
comp=Z,39nm,0.8s
DAWY Dawson 17.17 218 *e*P **Pn** 05 41 21.7 -5.5
DAWY *e*S **Sn** 05 44 23.3 -15
DAWY Dawson 17.17 218 PN **Pn** 05 41 21.6 -5.6
DAWY mb 05 41 23.4
comp=Z,11nm,0.5s
DAWY SN **Sn** 05 44 17.9 -20
DAWY Trac 05 44 24.2
comp=Z,70nm,1.1s
YKW3 Yellowknife Ar 17.28 179 PN **Pn** 05 41 22.1 -6.5
YKW3 mb 05 41 25.6
comp=Z,28nm,0.5s
YKW3 SN **Sn** 05 44 21.0 -20
YKW3 Trac 05 44 30.6
comp=Z,26nm,0.6s
YKA Yellowknife Ar 17.35 179 Pn **Pn** 05 41 21.9 -7.5
comp=Z,3.1nm,0.3s,baz=182,slow=6.8,SNR=59
YKA Sn Sn 05 44 18.8 -24
comp=Z,0.9nm,0.3s,baz=1.2,slow=22,SNR=3.8
YKA LR LR 05 49 04.3
comp=Z,76nm,18.6s,baz=270,slow=40
YKA Yellowknife Ar 17.35 179 Pn **Pn** 05 41 21.9 -7.5
YKA Sn Sn 05 44 18.8 -24
YKA LR LR 05 49 04.3
YKA Yellowknife Ar 17.35 179 P **Pn** 05 41 21.9 -7.5
ILAR Eielson Array 17.41 229 P **Pn** 05 41 28.6 -1.6
comp=Z,1.4nm,0.3s,baz=13,slow=14,SNR=72
ILAR S **Sn** 05 44 30.1 -14
comp=Z,0.6nm,0.3s,baz=17,slow=31,SNR=7.0
ILAR Eielson Array 17.41 229 P **Pn** 05 41 28.6 -1.6
ILAR S **Sn** 05 44 30.1 -14
ILAR Eielson Array 17.41 229 P **Pn** 05 41 28.6 -1.6
WHFN White Fish Lak 17.44 167 PN **Pn** 05 41 23.7 -6.8
WHFN mb 05 41 33.1
comp=Z,39nm,0.6s
WHFN SN Sn 05 44 23.1 -22
WHFN Trac 05 44 26.6
comp=Z,50nm,0.8s
COLA College 17.44 230 *e*P **Pn** 05 41 28.8 -1.8
comp=Z,20nm,0.8s
COLA *e*S **Sn** 05 44 29.4 -15
COLA College 17.44 230 *e*P **Pn** 05 41 28.8 -1.8
COLA pmax pmax
comp=Z,20nm,0.8s
DAG Danmarks Havn 17.69 49 *i* P **Pn** 05 41 32.5 -1.2
DAG pmax pmax
comp=Z,6.0nm,0.8s
DAG Danmarks Havn 17.69 49 *i* P **Pn** 05 41 32.5 -1.2
comp=Z,8.6nm,0.8s
DAG *i* 05 44 35.3
SEDN First Sedna Si 17.93 143 PN **Pn** 05 41 29.4 -7.3
SEDN mb 05 41 34.3
comp=Z,50nm,0.5s
SEDN SN Sn 05 44 32.6 -24
SEDN Trac 05 45 03.1
comp=Z,64nm,1.1s
JOSN Second Sedna S 17.99 144 PN **Pn** 05 41 30.5 -6.9
JOSN mb 05 41 32.5
comp=Z,103nm,0.9s
JOSN SN Sn 05 44 36.0 -22
JOSN Trac 05 44 38.2
comp=Z,51nm,0.8s
SUMG Summit 18.10 71 *e*P **Pn** 05 41 34.4 -4.3
comp=Z,89nm,0.8s
SUMG Summit 18.10 71 *e*P **Pn** 05 41 34.4 -4.3
SUMG pmax pmax
comp=Z,89nm,0.8s
SUMG Summit 18.10 71 *i* P **Pn** 05 41 34.8 -3.9
comp=Z,68nm,0.8s
DOT Dot Lake 18.12 224 *e*P **Pn** 05 41 38.2 -0.8
comp=Z,96nm,0.9s
MCK McKinley 18.68 231 *e*P **Pn** 05 41 46.1 +0.2
comp=Z,29nm,0.7s
MCK McKinley 18.68 231 *e*P **Pn** 05 41 46.1 +0.3
MCK pmax pmax
comp=Z,29nm,0.7s
MENT Mentasta 18.76 223 *e*P **Pn** 05 41 46.3 -0.5
PAX Paxson 18.95 225 *e*P **Pn** 05 41 39.8 -9.3
comp=Z,33nm,1.0s
PAX Paxson 18.95 225 *e*P **Pn** 05 41 39.8 -9.3
PAX pmax pmax
comp=Z,33nm,1.0s
TRF Thorofare Moun 19.14 232 *e*P **Pn** 05 41 51.5 +0.1
comp=Z,54nm,1.0s
ARVN Arviat, NU 19.77 149 PN **Pn** 05 41 52.4 -6.5
ARVN mb 05 41 56.0
comp=Z,79nm,0.7s
ARVN SN Sn 05 45 18.1 -23
ARVN Trac 05 45 47.1
comp=Z,46nm,0.7s
PPLA Purkeypile 19.94 234 *e*P **Pn** 05 41 59.7 -1.2
comp=Z,73nm,1.2s
WHY Whitehorse 20.07 209 PN **P** 05 42 00.8 0.0
WHY mb 05 42 05.6
comp=Z,16nm,0.7s
SPITS Spitsbergen Ar 20.25 26 P **P** 05 42 04.7 +2.1
comp=Z,12nm,1.0s,baz=21,slow=7.2,SNR=5.7
SPITS Spitsbergen Ar 20.25 26 P **P** 05 42 04.7 +2.1
SPITS Spitsbergen Ar 20.25 26 P **P** 05 42 04.7 +2.1
SML Sawmill 20.44 228 *e*P **P** 05 42 04.8 0.0
comp=Z,10nm,0.8s
SML Sawmill 20.44 228 *e*P **P** 05 42 04.8 0.0
SML pmax pmax
comp=Z,10.0nm,0.8s
FRB Frobisher Bay 20.63 113 P **P** 05 42 05.1 -1.7
comp=Z,31nm,0.9s,baz=348,slow=5.9,SNR=5.8
FRB S **S** 05 45 37.0 -21
comp=Z,23nm,0.9s,baz=252,slow=20,SNR=2.9
FRB LR LR 05 51 07.6
comp=Z,699nm,19.0s,MS4.0,baz=186,slow=40
FRB Frobisher Bay 20.63 113 P **P** 05 42 05.1 -1.7
FRB S **S** 05 45 37.0 -21
FRB LR LR 05 51 07.6
FRB Frobisher Bay 20.63 113 P **P** 05 42 05.1 -1.7
FRB Frobisher Bay 20.63 113 PN **P** 05 42 05.1 -1.7
FRB SN **S** 05 45 38.0 -20
PMR Palmer 20.76 229 *e*P **P** 05 42 07.7 -0.6
comp=Z,34nm,0.9s
PMR Palmer 20.76 229 *e*P **P** 05 42 07.7 -0.5
PMR pmax pmax
comp=Z,34nm,0.9s
DIV Divide 20.77 224 *e*P **P** 05 42 08.0 -0.3
comp=Z,22nm,0.6s
BMRM Bremner River 20.78 222 *e*P **P** 05 42 08.3 -0.1
comp=Z,27nm,0.8s
SFJD Kangerlussuaq 20.79 90 *i* P **P** 05 42 11.6 +3.1
SFJD pmax pmax
comp=Z,15nm,1.1s
SFJD Kangerlussuaq 20.79 90 *i* P **P** 05 42 11.6 +3.1
comp=Z,15nm,1.1s
FNBB Fort Nelson 21.10 191 PN **P** 05 42 08.4 -3.5
FNBB mb 05 42 14.4
comp=Z,91nm,1.2s
FNBB SN **S** 05 45 52.7 -14
SKAG Skagway 21.29 209 *e*P **P** 05 42 14.0 0.0
comp=Z,32nm,0.9s,mb4.7
SPU Mount Spurr 21.56 232 *e*Pn **P** 05 42 16.9 +0.1
DLBC Dease Lake 21.91 201 P **P** 05 42 20.5 -0.1
comp=Z,12nm,0.7s,mb4.4,baz=349,slow=7.8,SNR=12
DLBC LR LR 05 52 39.2
comp=Z,486nm,18.5s,MS4.0,baz=122,slow=42
DLBC Dease Lake 21.91 201 *e*P **P** 05 42 20.5 0.0
DLBC Dease Lake 21.91 201 PN **P** 05 42 20.4 -0.2
AKVQ Akulivik 21.93 128 PN **P** 05 42 19.8 -1.0
AKVQ mb 05 42 29.3
comp=Z,109nm,1.4s
SLKM Skilak Lake 21.95 229 *e*P **P** 05 42 20.9 -0.2
SLKM Skilak Lake 21.95 229 *e*P **P** 05 42 20.9 -0.1
FCC Fort Churchill 22.06 150 *e*P **P** 05 42 17.9 -4.4
comp=Z,2.8nm,0.9s,mb3.7
FCC Fort Churchill 22.06 150 PN **P** 05 42 19.1 -3.2
FCC mb 05 42 23.1
comp=Z,114nm,1.0s
FCC SN **S** 05 46 08.2 -18
SVW2 Sparrevohn 22.15 237 *e*P **P** 05 42 24.6 +1.4
comp=Z,102nm,1.7s,mb5.0
SEW Seward 22.24 228 *e*P **P** 05 42 24.8 +0.7
comp=Z,58nm,1.0s,mb5.0
BILL Bilibino 22.34 284 *e*P **P** 05 42 25.4 +0.3
comp=Z,126nm,1.6s,mb5.1
BILL Bilibino 22.34 284 *e*P **P** 05 42 25.7 +0.6
BILL *i* S **S** 05 46 28.8 -2.3
BILL pmax pmax
comp=Z,51nm,1.6s,mb4.7
RSO Redoubt South 22.35 233 *e*P **P** 05 42 25.8 +0.5
SCO Scoresbysund 22.60 61 *i* P **P** 05 42 32.5 +4.6
SCO pmax pmax
comp=Z,20nm,1.1s,mb4.5
KDAK Kodiak Island 24.91 231 P **P** 05 42 50.5 +0.1
comp=Z,21nm,0.7s,mb4.8,baz=22,slow=9.4,SNR=6.5
KDAK Kodiak Island 24.91 231 P **P** 05 42 50.5 +0.1
KDAK Kodiak Island 24.91 231 P **P** 05 42 50.5 +0.1
FFC Flin Flon 25.51 162 *e*P **P** 05 42 54.7 -1.1
comp=Z,641nm,2.8s,mb5.7
FFC Flin Flon 25.51 162 *e*P **P** 05 42 54.7 -1.1
FFC pmax pmax
comp=Z,641nm,2.8s,mb5.7
FFC Flin Flon 25.51 162 PN **P** 05 42 53.8 -2.0
FFC mb 05 43 05.5
comp=Z,12nm,0.7s
FFC SN **S** 05 47 32.7 +9.2
FFC Trac 05 48 14.9
comp=Z,18nm,0.7s
OHAK Old Harbor 25.55 231 *e*P **P** 05 42 56.9 +0.7
comp=Z,40nm,0.8s,mb5.0
BORG Borgarnes 27.93 66 LR LR 05 55 24.5
comp=Z,354nm,19.2s,MS4.0,baz=45,slow=39
BBB Bella Bella 28.03 197 LR LR 05 56 12.5
comp=Z,336nm,18.3s,MS4.0,baz=90,slow=40
VIMO Victor Mine 29.00 139 PN **P** 05 43 25.0 -2.2
KEV Kevo 29.19 26 *e*P **P** 05 43 26.7 -2.0
KEV pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
KEV Kevo 29.19 26 *e*p **P** 05 43 26.7 -2.0
comp=Z,10nm,0.7s,mb4.7
ARCES ARCESS Array B 29.28 27 P **P** 05 43 29.6 0.0
comp=Z,3.4nm,0.5s,mb4.3,baz=353,slow=8.6,SNR=17
ARCES PcP PcP 05 46 35.4 -0.4
comp=Z,6.1nm,0.7s,baz=299,slow=1.9,SNR=12
ARCES ARCESS Array B 29.28 27 P **P** 05 43 29.6 0.0
ARCES PcP PcP 05 46 35.4 -0.4
ARCES ARCESS Array B 29.28 27 P **P** 05 43 29.6 0.0
ARCES 05 46 35.4
SCHQ Schefferville 29.39 118 P **P** 05 43 29.1 -1.6
comp=Z,8.5nm,0.8s,mb4.5,baz=331,slow=13,SNR=3.2
SCHQ PcP PcP 05 46 35.7 -0.6
comp=Z,6.5nm,0.7s,baz=349,slow=5.2,SNR=3.0
SCHQ Schefferville 29.39 118 *e*P **P** 05 43 31.9 +1.3
LG4Q La Grande 4 29.46 127 PN **P** 05 43 28.7 -2.5
LG4Q mb 05 43 39.0
comp=Z,8.4nm,0.5s
WEMQ Wemindji, Queb 29.48 132 PN **P** 05 43 29.2 -2.3
ULM Lac du Bonnet 30.36 155 P **P** 05 43 38.3 -1.0
comp=Z,8.2nm,0.8s,mb4.5,baz=344,slow=9.1,SNR=9.7
ULM PcP PcP 05 46 37.2 -1.6
comp=Z,8.4nm,0.7s,baz=353,slow=1.3,SNR=3.1
ULM LR LR 05 56 59.6
comp=Z,572nm,18.6s,MS4.2,baz=236,slow=39
ULM Lac du Bonnet 30.36 155 *e*P **P** 05 43 38.2 -1.1
comp=Z,6.0nm,0.7s,mb4.4
ULM Lac du Bonnet 30.36 155 P **P** 05 43 38.3 -1.0
ULM 05 46 37.3
ULM pmax pmax
comp=Z,8.0nm,0.8s
ULM pmax pmax
comp=Z,8.0nm,0.7s
ULM MLR MLR
comp=Z,572nm,18.6s
A14A Double T Ranch 30.91 178 ⇓P **P** 05 43 43.2 -0.9
baz=31,SNR=8.9
A15A Johnson Ranch, 30.91 177 ⇓P **P** 05 43 43.3 -0.8
baz=31,SNR=5.6
A12A Yaak River Ran 30.94 181 ⇓P **P** 05 43 44.0 -0.4
baz=31
A13A Flathead Natio 30.94 179 ⇑P **P** 05 43 44.0 -0.4
baz=31
A17A Triple J Farms 30.97 174 ⇓P **P** 05 43 43.5 -1.2
baz=31,SNR=7.2
A18A Metzger Ranch, 31.01 173 ⇑P **P** 05 43 44.7 -0.3
baz=31
A21A Bergtoll Ranch 31.02 169 ⇓P **P** 05 43 44.7 -0.3
baz=31
A19A Klindworth Far 31.03 172 ⇓P **P** 05 43 45.1 -0.1
baz=31,SNR=27
A22A Carney Farms, 31.05 168 ⇓P **P** 05 43 44.9 -0.5
baz=31
A20A Cobblestone Ra 31.10 171 ⇓P **P** 05 43 46.0 +0.2
baz=31
PGC Sidney 31.36 191 *e*P **P** 05 43 47.6 -0.5
comp=Z,1.1nm,1.0s,mb3.6
B12A Libby 31.40 181 ⇑P **P** 05 43 48.5 0.0
baz=31
B19A Brinkman Farms 31.50 172 ⇑P **P** 05 43 49.0 -0.3
baz=31
B13A Whitefish 31.50 179 ⇓P **P** 05 43 49.5 +0.2
baz=31
B14A Marquette Ranc 31.52 178 ⇓P **P** 05 43 49.2 -0.3
baz=31
B20A Solberg Farm, 31.54 171 ⇓P **P** 05 43 49.1 -0.6
baz=31,SNR=6.1
B18A Beardsley Farm 31.54 173 ⇑P **P** 05 43 49.2 -0.4
baz=31
B15A Bradely Ranch, 31.57 177 ⇓P **P** 05 43 49.1 -0.9
baz=31,SNR=12
B21A Ellsworth Farm 31.58 170 ⇓P **P** 05 43 49.3 -0.7
baz=31
NEW Newport 31.62 182 ⇑P **P** 05 43 50.5 +0.1
baz=32
NEW Newport 31.62 182 *e*P **P** 05 43 50.8 +0.4
comp=Z,54nm,2.2s,mb5.0
NEW Newport 31.62 182 *e*P **P** 05 43 50.8 +0.4
NEW pmax pmax
comp=Z,54nm,2.2s
B17A L&G Farms, Che 31.62 174 ⇓P **P** 05 43 49.7 -0.7
baz=32,SNR=6.4
B22A Reddig Ranch S 31.74 168 ⇑P **P** 05 43 50.7 -0.7
baz=32
EGMT Eagleton 31.91 173 ⇓P **P** 05 43 52.0 -0.9
baz=32
EGMT Eagleton 31.91 173 *e*P **P** 05 43 51.5 -1.4
comp=Z,13nm,0.8s,mb4.8
YBMT Yellow Bay 32.01 179 *e*P **P** 05 43 53.7 -0.2
comp=Z,6.5nm,0.6s,mb4.6
BSMT Bassoo Peak 32.02 180 *e*P **P** 05 43 54.0 +0.1
comp=Z,15nm,1.5s,mb4.6
C11A Tepee Creek (N 32.04 181 ⇓P **P** 05 43 54.1 +0.1
baz=32,SNR=9.1
C09A Chrisman Ranch 32.09 184 ⇓P **P** 05 43 54.4 -0.1
baz=32,SNR=6.0
C16A Fuhringer Ranc 32.09 176 ⇓P **P** 05 43 54.3 -0.3
baz=32,SNR=8.3
C14A Swan Lake 32.11 178 ⇑P **P** 05 43 54.0 -0.7
baz=32
C15A Salmond Ranch, 32.11 177 ⇓P **P** 05 43 54.5 -0.2
baz=32,SNR=20
JTMT Jette 32.13 179 *e*P **P** 05 43 55.1 +0.3
C12B Naegeli Ranch, 32.16 180 ⇓P **P** 05 43 54.6 -0.5
baz=32
C21A Desert Coulee 32.18 170 ⇑P **P** 05 43 54.6 -0.7
baz=32
C13A Hot Springs 32.20 179 ⇓P **P** 05 43 55.9 +0.5
baz=32,SNR=14
C19A Slack Wire Ran 32.21 172 ⇑P **P** 05 43 54.9 -0.7
baz=32
C23A Lambert 32.27 167 ⇑P **P** 05 43 56.1 0.0
baz=32,SNR=9.1
C17A Wharram Farm, 32.28 174 ⇓P **P** 05 43 55.2 -0.9
baz=32,SNR=12
C22A Vida 32.30 168 ⇓P **P** 05 43 55.6 -0.7
baz=32
AGMN Agassiz Nation 32.30 156 *e*P **P** 05 43 55.3 -1.1
comp=Z,11nm,0.7s,mb4.8
SWMT Swartz Lake 32.37 179 *e*P **P** 05 43 56.6 -0.3
SWMT *e*PP PP 05 45 06.5 -3.2
GNW Green Mountain 32.42 190 *e*P **P** 05 43 56.6 -0.9
comp=Z,7.4nm,0.9s,mb4.5
OD2 Odessa Site #2 32.51 184 *e*P **P** 05 43 57.1 -1.0
NLWA Neilton Lookou 32.63 191 *e*P **P** 05 43 59.0 -0.2
comp=Z,16nm,0.9s,mb5.0
SLMT Seeley Lake 32.64 178 *e*P **P** 05 43 59.6 +0.2
D18A Linhart Farms, 32.73 173 ⇑P **P** 05 43 59.8 -0.3
baz=33,SNR=7.0
D17A Six Diamond Ra 32.76 174 ⇑P **P** 05 44 00.1 -0.3
baz=33
D05A Enumclaw 32.78 189 ⇑P **P** 05 44 00.0 -0.5
baz=33
D13A Huson 32.78 179 ⇑P **P** 05 44 00.5 -0.1
baz=33,SNR=13
D19A Cripps Ranch, 32.79 172 ⇑P **P** 05 44 00.4 -0.2
baz=33,SNR=16
D14A Greenough 32.80 178 ⇑P **P** 05 44 00.8 +0.1
baz=33,SNR=19
D12A Red Ives Fores 32.82 180 ⇓P **P** 05 44 00.6 -0.3
baz=33
D15A Lincoln 32.85 177 ⇓P **P** 05 44 00.7 -0.4
baz=33,SNR=6.5
D16A Dana Ranch, Ca 32.87 175 ⇑P **P** 05 44 00.8 -0.6
baz=33
D20A Manuel Ranch, 32.88 171 ⇑P **P** 05 44 01.2 -0.2
baz=33,SNR=14
D22A Cohagen 32.88 169 ⇑P **P** 05 44 01.1 -0.4
baz=33,SNR=12
D23A Lindsay 32.90 167 ⇑P **P** 05 44 01.2 -0.4
baz=33
D21A La Casta Ranch 32.94 170 ⇑P **P** 05 44 01.5 -0.5
baz=33
CHMT Chamberlain Mo 32.97 178 *e*P **P** 05 44 01.9 -0.3
D24A Glendive 32.99 166 ⇑P **P** 05 44 01.9 -0.5
baz=33
EYMN Ely 33.01 150 *e*P **P** 05 44 00.8 -1.7
comp=Z,17nm,0.7s,mb5.1
MSO Missoula 33.05 178 ⇑P **P** 05 44 02.7 -0.2
baz=33,SNR=8.4
MSO Missoula 33.05 178 *e*P **P** 05 44 02.5 -0.4
comp=Z,9.7nm,1.0s,mb4.7
HRY Holter Researc 33.18 176 *e*P **P** 05 44 03.4 -0.8
LON Longmire 33.21 188 *e*P **P** 05 44 04.2 -0.1
comp=Z,12nm,0.9s,mb4.8
LON Longmire 33.21 188 *e*P **P** 05 44 04.2 -0.1
LON pmax pmax
comp=Z,13nm,0.9s,mb4.9
LAO LASA Array 33.34 169 ⇓P **P** 05 44 05.2 -0.3
baz=33,SNR=11
LAO LASA Array 33.34 169 *e*P **P** 05 44 05.2 -0.3
comp=Z,30nm,0.8s,mb5.3
E18A Harlowton 33.36 173 ⇑P **P** 05 44 05.2 -0.5
baz=33
E16A East Helena 33.36 176 ⇓P **P** 05 44 05.2 -0.5
baz=33,SNR=8.6
E09A Wood Farm, Sta 33.38 184 ⇓P **P** 05 44 05.1 -0.7
baz=33,SNR=13
E08A Dider Farm, El 33.41 185 ⇑P **P** 05 44 05.9 -0.2
baz=33
E13A Victor 33.43 179 ⇑P **P** 05 44 06.2 -0.1
baz=33,SNR=13
E17A Martinsdale 33.45 175 ⇑P **P** 05 44 06.4 0.0
baz=33,SNR=10
E12A Beaver Dam Sad 33.46 181 ⇓P **P** 05 44 06.2 -0.3
baz=33,SNR=37
E15A Deer Lodge 33.46 177 ⇑P **P** 05 44 06.0 -0.6
baz=33,SNR=8.1
E14A Clinton 33.46 178 ⇑P **P** 05 44 06.3 -0.2
baz=33,SNR=7.8
E03A Lebam 33.47 191 ⇑P **P** 05 44 06.4 -0.1
baz=33
E20A Meyer Farm, Mu 33.47 171 ⇓P **P** 05 44 06.2 -0.4
baz=33
E19A Rath Farm, Rou 33.49 172 ⇑P **P** 05 44 06.4 -0.4
baz=33
HAWA Hanford 33.52 185 *e*P **P** 05 44 06.7 -0.3
comp=Z,8.9nm,1.1s,mb4.6
E23A Ismay 33.57 168 ⇑P **P** 05 44 07.3 -0.1
baz=33
E22A Miles City 33.60 168 ⇓P **P** 05 44 07.2 -0.5
baz=34
F10A Beach Ranch, E 33.91 183 ⇑P **P** 05 44 10.1 -0.3
baz=34,SNR=6.0
F17A Fitzpatrick Pl 34.01 174 ⇓P **P** 05 44 11.3 0.0
baz=34,SNR=12
LNOR Lincton Mounta 34.02 184 *e*P **P** 05 44 15.1 +3.7
comp=Z,5.3nm,0.9s,mb4.5
LNOR Lincton Mounta 34.02 184 *e*P **P** 05 44 15.1 +3.7
LNOR pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
F07A Phinny Hill Vi 34.02 186 ⇑P **P** 05 44 11.1 -0.3
baz=34
F18A Big Timber 34.03 173 ⇓P **P** 05 44 11.3 -0.1
baz=34,SNR=9.5
F15A Butte 34.05 177 ⇑P **P** 05 44 11.8 +0.2
baz=34,SNR=5.5
LRM Limekiln Ridge 34.07 177 *e*P **P** 05 44 11.8 0.0
F14A Wisdom 34.07 178 ⇓P **P** 05 44 11.6 -0.2
baz=34
F19A Roth Farm, Mol 34.10 172 ⇑P **P** 05 44 11.8 -0.2
baz=34,SNR=10
F16A Kennard Place, 34.11 176 ⇓P **P** 05 44 11.7 -0.5
baz=34
F12A Elk City 34.12 180 ⇑P **P** 05 44 11.8 -0.4
baz=34,SNR=17
GCMT Greycliff 34.14 173 *e*P **P** 05 44 12.8 +0.3
comp=Z,29nm,0.8s,mb5.2
F20A Billings 34.17 171 ⇑P **P** 05 44 11.7 -1.0
baz=34
BOZ Bozeman (W) 34.25 176 ⇑P **P** 05 44 14.4 +1.0
baz=34
BOZ Bozeman (W) 34.25 176 *e*P **P** 05 44 14.3 +0.9
comp=Z,137nm,2.5s,mb5.4
BOZ Bozeman (W) 34.25 176 *e*P **P** 05 44 14.3 +0.9
BOZ pmax pmax
comp=Z,137nm,2.5s,mb5.4
DLMT Dillon 34.52 177 *e*P **P** 05 44 15.6 -0.1
comp=Z,11nm,1.2s,mb4.7
G08A Pilot Rock 34.61 185 ⇓P **P** 05 44 16.3 -0.2
baz=34
HOOD Mount Hood Mea 34.63 188 *e*P **P** 05 44 17.6 +0.9
comp=Z,22nm,1.1s,mb5.0
G14A Jackson 34.64 178 ⇓P **P** 05 44 16.4 -0.3
baz=34,SNR=7.6
G16A Moss Hill, Enn 34.67 176 ⇑P **P** 05 44 16.4 -0.6
baz=34,SNR=7.9
G06A Carlson Farm, 34.70 187 ⇓P **P** 05 44 16.8 -0.4
baz=35
G15A Dillon 34.72 177 ⇑P **P** 05 44 16.9 -0.6
baz=35,SNR=5.8
G12A Big Creek, Yel 34.75 180 ⇑P **P** 05 44 17.3 -0.3

baz=35
G20A Bridger 34.75 171 ⇓P P 05 44 17.2 -0.5
baz=35
G13A Cobalt 34.78 179 ⇓P P 05 44 17.7 -0.3
baz=35,SNR=11
BMO Blue Mountains 35.03 183 *e*P P 05 44 19.9 -0.2
comp=Z,4.3nm,0.9s,mb4.4
MCMT McKenzie Canyo 35.06 177 *e*P P 05 44 20.7 +0.4
comp=Z,7.4nm,1.1s,mb4.5
QLMT Earthquake Lak 35.07 175 *e*P P 05 44 21.5 +1.0
YNR Norris Junctio 35.20 174 *e*P P 05 44 22.8 +1.2
comp=Z,21nm,1.1s,mb5.0
H16A Russell Place, 35.20 175 ⇑P P 05 44 21.9 +0.3
baz=35,SNR=11
H18A Shoshone NF, C 35.26 173 ⇓P P 05 44 22.2 +0.1
baz=35
H14A Leadore 35.26 178 ⇓P P 05 44 22.7 +0.5
baz=35,SNR=24
H15A Lima 35.27 177 ⇑P P 05 44 22.7 +0.5
baz=35,SNR=20
H19A Powell 35.28 172 ⇓P P 05 44 22.8 +0.5
baz=35
H13A Challis 35.31 179 ⇑P P 05 44 22.3 -0.2
baz=35,SNR=10
H12A Diamond D Ranc 35.33 180 ⇓P P 05 44 22.2 -0.5
baz=35,SNR=14
H24A Dirks Ranch, A 35.34 167 ⇑P P 05 44 22.3 -0.5
baz=35,SNR=11
LKWY Lake 35.35 174 *e*P P 05 44 23.9 +1.0
comp=Z,22nm,0.8s,mb5.2
LKWY Lake 35.35 174 *e*P P 05 44 23.9 +1.0
LKWY pmax pmax
comp=Z,22nm,0.8s,mb5.1
YFT Old Faithful 35.46 175 *e*P P 05 44 25.4 +1.6
comp=Z,9.9nm,0.7s,mb4.8
H20A Greybull 35.49 171 ⇑P P 05 44 23.4 -0.6
baz=35
H17A Grant Village 35.52 174 ⇑P P 05 44 25.2 +0.9
baz=35,SNR=7.2
SPMN St. Paul 35.60 152 ⇓P P 05 44 24.4 -0.6
baz=35
I07A Izee 35.83 185 ⇑P P 05 44 27.2 +0.2
baz=36,SNR=6.4
FLWY Flagg Ranch 35.83 174 *e*P P 05 44 28.7 +1.7
comp=Z,43nm,0.9s,mb5.4
I15A Monteview 35.89 177 ⇓P P 05 44 27.9 +0.4
baz=36
I19A Meeteetse 35.91 172 ⇓P P 05 44 27.8 +0.1
baz=36
I14A Mackay 35.95 178 ⇑P P 05 44 28.0 -0.1
baz=36,SNR=27
I13A Wildhorse Cree 35.96 179 ⇑P P 05 44 28.5 +0.4
baz=36,SNR=30
RSSD Black Hills 35.99 166 *e*P P 05 44 28.7 +0.4
comp=Z,15nm,0.7s,mb5.0
RSSD Black Hills 35.99 166 *e*P P 05 44 28.7 +0.3
RSSD pmax pmax
comp=Z,15nm,0.7s,mb5.0
I17A Pilgrim Ck. 35.99 174 ⇑P P 05 44 29.7 +1.2
baz=36,SNR=15
IMW Indian Meadow 36.01 175 *e*P P 05 44 29.9 +1.3
comp=Z,41nm,1.1s,mb5.3
I16A Newdale 36.02 175 ⇑P P 05 44 29.7 +1.0
baz=36,SNR=27
I12A Atlanta 36.08 180 ⇓P P 05 44 28.7 -0.5
baz=36
I22A 9 Mile Ranch, 36.13 169 ⇓P P 05 44 29.8 +0.2
baz=36,SNR=8.2
NB2 NORSAR Subarra 36.13 42 P P 05 44 29.3 -0.1
comp=Z,5.0nm,0.7s,mb4.5,baz=344,slow=8.6
NOA NORSAR Array B 36.13 42 P P 05 44 29.4 0.0
comp=Z,3.6nm,0.7s,mb4.4,baz=344,slow=8.5,SNR=16
NOA PcP PcP 05 46 54.8 0.0
comp=Z,4.9nm,0.8s,baz=359,slow=3.6,SNR=5.4
NOA NORSAR Array B 36.13 42 P P 05 44 29.4 0.0
NOA PcP PcP 05 46 54.8 0.0
NOA NORSAR Array B 36.13 42 P P 05 44 29.4 0.0
NOA 05 46 54.8
MOOW Moose Ponds 36.16 175 *e*P P 05 44 30.7 +0.8
comp=Z,16nm,0.8s,mb5.0
I21A Big Trails, Te 36.18 170 ⇑P P 05 44 29.7 -0.3
baz=36,SNR=9.5
I24A Kuemmerle Ranc 36.23 167 ⇓P P 05 44 31.1 +0.7
baz=36
I18A Diamond G Ranc 36.23 173 ⇑P P 05 44 31.2 +0.7
baz=36
JOF Joensuu 36.26 25 *e*P P 05 44 29.3 -1.2
JOF pmax pmax
comp=Z,15nm,0.7s,mb5.0
JOF Joensuu 36.26 25 *e*p P 05 44 29.3 -1.2
comp=Z,15nm,0.7s,mb5.0
LOHW Long Hollow 36.30 174 *e*P P 05 44 31.6 +0.6
comp=Z,18nm,0.9s,mb5.0
DCID1 Drake Creek 36.31 175 *e*P P 05 44 32.8 +1.7
comp=Z,50nm,1.2s,mb5.2
HLID Hailey 36.31 179 ⇑P P 05 44 31.2 0.0
baz=36,SNR=8.7
HLID Hailey 36.31 179 *e*P P 05 44 30.8 -0.3
comp=Z,5.4nm,0.9s,mb4.5
TPAW Teton Pass 36.42 175 *e*P P 05 44 33.0 +1.0
comp=Z,13nm,0.8s,mb4.9
SNOW Snow King Moun 36.45 175 *e*P P 05 44 33.2 +0.9
comp=Z,9.9nm,0.7s,mb4.8
MFID Camas Ranch 36.46 181 ⇑P P 05 44 33.1 +0.7
baz=36
MFID Camas Ranch 36.46 181 *e*P P 05 44 32.1 -0.3
comp=Z,15nm,1.2s,mb4.8
J13A Cove Ranch, Pi 36.48 179 ⇑P P 05 44 32.1 -0.5
baz=36,SNR=6.6
J15A Blackfoot 36.49 177 ⇑P P 05 44 33.3 +0.6
baz=36
J08A Circle Bar Ran 36.54 184 ⇓P P 05 44 33.9 +0.8
baz=36,SNR=14
REDW Red Top Meadow 36.55 175 *e*P P 05 44 34.0 +0.8
comp=Z,20nm,1.1s,mb4.9
J17A Brown Place, J 36.55 175 ⇓P P 05 44 34.0 +0.9
baz=36,SNR=10
RRI2 Red Ridge 36.55 175 *e*P P 05 44 33.9 +0.7
comp=Z,13nm,0.6s,mb4.9
J14A Carey 36.56 178 ⇑P P 05 44 33.7 +0.5
baz=36,SNR=7.0
J22A Midwest 36.60 169 ⇓P P 05 44 33.1 -0.5
baz=36
J20A Shoshoni 36.62 171 ⇑P P 05 44 34.0 +0.2
baz=36,SNR=9.1
J16A Bone 36.62 176 ⇓P P 05 44 34.3 +0.5
baz=36,SNR=8.6
KAF Kangasniemi 36.64 29 *e*P P 05 44 32.9 -0.9
KAF pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
KAF Kangasniemi 36.64 29 *e*p P 05 44 32.9 -0.9
comp=Z,6.8nm,0.7s,mb4.6
J21A Lysite 36.64 171 ⇑P P 05 44 33.7 -0.3
baz=36,SNR=8.5
J19A Crowheart 36.68 173 ⇑P P 05 44 34.5 +0.2
baz=36
J18A Kendall Valley 36.71 174 ⇓P P 05 44 34.7 +0.1
baz=37,SNR=19
ECSD EROS Data Cent 36.79 157 *e*P P 05 44 34.1 -1.1
comp=Z,12nm,0.9s,mb4.7
K16A Soda Springs 37.07 176 ⇑P P 05 44 38.4 +0.9
baz=37
K19A Absolon Red Bu 37.12 172 ⇓P P 05 44 37.6 -0.5
baz=37,SNR=11
PD02 Pinedale Array 37.16 173 *e*P P 05 44 38.3 -0.1
PD01 Pinedale Array 37.16 173 *e*P P 05 44 38.2 -0.2
K17A Gardner Place, 37.16 175 ⇓P P 05 44 38.2 -0.1
baz=37
BW06 Boulder Array 37.17 173 ⇓P P 05 44 38.2 -0.3
baz=37,SNR=14
BW06 Boulder Array 37.17 173 *e*P P 05 44 38.2 -0.3
comp=Z,9.3nm,0.7s,mb4.7
PDAR Pinedale Array 37.17 173 P P 05 44 38.2 -0.2
comp=Z,6.4nm,0.6s,mb4.6,baz=20,slow=6.2,SNR=59
PDAR PcP PcP 05 46 58.2 -0.1
comp=Z,2.0nm,0.8s,baz=70,slow=1.1,SNR=2.7
PDAR LR LR 06 00 59.9
comp=Z,271nm,19.0s,MS4.1,baz=13,slow=38
PDAR Pinedale Array 37.17 173 P P 05 44 38.2 -0.2
PDAR PcP PcP 05 46 58.2 -0.1
PDAR LR LR 06 00 59.9
K15A Arbon 37.20 177 ⇑P P 05 44 39.2 +0.5
baz=37,SNR=12
K05A Summer Lake 37.21 187 ⇑P P 05 44 40.0 +1.2
baz=37,SNR=7.7
FINES FINESS Array B 37.28 30 P P 05 44 39.4 +0.2
comp=Z,27nm,0.7s,mb5.2,baz=354,slow=9.6,SNR=34
FINES PcP PcP 05 46 57.5 -0.8
comp=Z,12nm,0.8s,baz=339,slow=3.1,SNR=7.0
FINES FINESS Array B 37.28 30 P P 05 44 39.4 +0.2
FINES PcP PcP 05 46 57.5 -0.8
FINES FINESS Array B 37.28 30 P P 05 44 39.4 +0.2
FINES 05 46 57.5
K18A Toltan Ranch, 37.29 174 ⇑P P 05 44 39.9 +0.5
baz=37,SNR=14
K20A Yellowstone Ra 37.30 172 ⇑P P 05 44 39.0 -0.6
baz=37
K14A Jones Ranch, D 37.34 178 ⇑P P 05 44 40.1 +0.3
baz=37,SNR=15
K21A Alcova 37.36 170 ⇓P P 05 44 39.8 -0.3
baz=37
K22A Casper 37.37 169 ⇓P P 05 44 39.3 -0.8
baz=37,SNR=18
HUMO Hull Mountain 37.38 189 *e*P P 05 44 39.9 -0.3
comp=Z,13nm,1.0s,mb4.7
K26A Motz Farm, Whi 37.44 165 ⇓P P 05 44 41.3 +0.6
baz=37
WVOR Wild Horse Val 37.46 184 *e*P P 05 44 41.3 +0.4
comp=Z,15nm,1.1s,mb4.7
WVOR Wild Horse Val 37.46 184 *e*P P 05 44 41.3 +0.4
WVOR pmax pmax
comp=Z,15nm,1.1s,mb4.7
PETK Petropavlovsk- 37.78 281 LR LR 06 02 08.2
comp=Z,138nm,19.0s,MS3.8,baz=222,slow=39
MSNY Massena 37.79 132 *e*P P 05 44 42.9 -0.8
comp=Z,254nm,0.8s,mb6.0
L17A Cokeville 37.81 175 ⇑P P 05 44 44.2 +0.4
baz=38,SNR=18
L19A Farson 37.84 173 ⇓P P 05 44 43.5 -0.6
baz=38
L14A Malta 37.85 178 ⇑P P 05 44 44.8 +0.6
baz=38,SNR=19
L15A Malad City 37.88 177 ⇓P P 05 44 44.3 -0.2
baz=38,SNR=8.0
L16A Fish Haven 37.88 175 ⇑P P 05 44 44.3 -0.2
baz=38,SNR=12
L23A Garrett 37.93 169 ⇓P P 05 44 44.8 0.0
baz=38
L22A Ellis Ranch, M 37.99 169 ⇓P P 05 44 45.3 0.0
baz=38
L18A Fontenelle, Gr 38.00 174 ⇓P P 05 44 45.1 -0.4
baz=38
MOD Modoc 38.02 186 *e*P P 05 44 46.9 +1.3
comp=Z,16nm,1.0s,mb4.7
L21A Rawlins 38.02 171 ⇑P P 05 44 45.2 -0.5
baz=38,SNR=12
HVU Hansel Valley 38.10 177 *e*P P 05 44 46.5 +0.1
comp=Z,8.7nm,0.8s,mb4.5
HVU Hansel Valley 38.10 177 *e*P P 05 44 46.5 +0.1
HVU pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
FRNY Flat Rock 38.13 130 *e*P P 05 44 45.5 -1.0
comp=Z,24nm,0.9s,mb4.9
YBH Yreka Blue Hor 38.25 189 *e*P P 05 44 47.1 -0.5
comp=Z,6.1nm,1.0s,mb4.3
YBH Yreka Blue Hor 38.25 189 *e*P P 05 44 47.1 -0.5
YBH pmax pmax
comp=Z,6.0nm,1.0s
HWUT Hardware Ranch 38.29 176 *e*P P 05 44 48.3 +0.3
comp=Z,77nm,1.8s,mb5.1
RWWY Rawlins 38.30 170 *e*P P 05 44 48.2 +0.2
comp=Z,23nm,0.9s,mb4.9
M21A Separation Pea 38.38 171 ⇑P P 05 44 48.2 -0.5
baz=38,SNR=13
M15A Larsen Ranch, 38.42 177 ⇑P P 05 44 48.6 -0.5
baz=38,SNR=6.2
M19A Rock Springs 38.44 173 ⇑P P 05 44 49.0 -0.1
baz=38
M17A Scullys Gap (B 38.44 175 ⇓P P 05 44 48.6 -0.6
baz=38,SNR=6.1
M20A Sweetwater, Wa 38.47 172 ⇑P P 05 44 49.7 +0.2
baz=38
M18A Lyman 38.49 174 ⇓P P 05 44 49.8 +0.1
baz=38
M16A Huntsville 38.58 176 ⇓P P 05 44 50.5 +0.1
baz=38
M22A Cedar Creek Ra 38.61 170 ⇑P P 05 44 50.3 -0.3
baz=38,SNR=8.5
KLMR Klimovskoe 38.87 19 *e*P P 05 44 51.2 -1.4
KLMR *e* 05 47 01.9
KLMR pmax pmax
comp=Z,62nm,1.4s,mb5.2
KLMR pmax pmax
comp=Z,206nm,5.9s
NCB Newcomb 38.89 131 *e*P P 05 44 52.8 -0.2
comp=Z,16nm,0.7s,mb4.9
N18A Larsen Ranch, 38.95 173 ⇑P P 05 44 53.4 -0.1
baz=39,SNR=7.6
N17A Moffit Pass 38.97 175 ⇓P P 05 44 53.4 -0.2
baz=39
N15A Stansbury Isla 38.99 177 ⇑P P 05 44 53.9 0.0
baz=39
MDV Middlebury 39.00 130 *e*P P 05 44 53.8 -0.1
comp=Z,3µm,0.8s
N16A Rees Ranch, Co 39.01 176 ⇓P P 05 44 54.0 0.0
baz=39,SNR=10.0
N19A John Jarvie Ra 39.05 173 ⇓P P 05 44 54.3 0.0
baz=39
N20A Spence Gulch, 39.13 172 ⇑P P 05 44 54.8 -0.1
baz=39,SNR=7.5
KHMM Horse Mountain 39.13 190 *e*P P 05 44 55.2 +0.2
comp=Z,21nm,1.2s,mb4.7
N23A Red Feather La 39.14 169 ⇓P P 05 44 55.3 +0.2
baz=39
N22A Wattenberg Ran 39.21 170 ⇑P P 05 44 55.8 +0.1
baz=39
N21A Black Mountain 39.22 171 ⇑P P 05 44 55.7 0.0
baz=39
OGNE Ogallala 39.25 164 ⇓P P 05 44 55.7 -0.3
baz=39
OGNE Ogallala 39.25 164 *e*P P 05 44 55.6 -0.3
comp=Z,16nm,0.6s,mb4.9
JLU Jordanelle 39.30 176 *e*P P 05 44 56.4 0.0
comp=Z,13nm,1.0s,mb4.6
WDC Whiskeytown Da 39.39 189 *e*P P 05 44 57.0 -0.2
comp=Z,14nm,1.0s,mb4.6
WDC Whiskeytown Da 39.39 189 *e*P P 05 44 57.0 -0.2
WDC pmax pmax
comp=Z,14nm,1.0s,mb4.7
BMN Battle Mountai 39.45 182 *e*P P 05 44 58.7 +1.1
comp=Z,8.2nm,0.8s,mb4.5
BMN Battle Mountai 39.45 182 *e*P P 05 44 58.7 +1.1
BMN pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
DAU Daniels Canyon 39.49 175 *e*P P 05 44 58.5 +0.5
comp=Z,14nm,0.9s,mb4.7
DAU Daniels Canyon 39.49 175 *e*P P 05 44 58.5 +0.5
DAU pmax pmax
comp=Z,15nm,0.9s,mb4.7
O15A The Old Anders 39.60 177 ⇓P P 05 44 59.4 +0.4
baz=40
O19A Miners Draw (B 39.64 173 ⇓P P 05 45 00.0 +0.7
baz=40
O18A Roosevelt 39.66 174 ⇑P P 05 44 59.8 +0.4
baz=40
DUG Dugway 39.69 177 ⇑P P 05 44 59.7 0.0
baz=40,SNR=6.2
DUG Dugway 39.69 177 *e*P P 05 44 59.4 -0.3
comp=Z,16nm,1.3s,mb4.6
DUG Dugway 39.69 177 *e*P P 05 44 59.4 -0.2
DUG pmax pmax
comp=Z,16nm,1.3s,mb4.6
O16A Springville 39.69 176 ⇓P P 05 44 59.9 +0.3
baz=40
O17A Robinson Place 39.71 175 ⇑P P 05 45 00.2 +0.4
baz=40
O21A Pagoda 39.77 171 ⇓P P 05 45 00.8 +0.5
baz=40
O20A White River Ci 39.83 172 ⇓P P 05 45 01.2 +0.4
baz=40,SNR=12
O22A Kremmling 39.85 170 ⇑P P 05 45 01.1 +0.1
baz=40,SNR=14
MPU Maple Canyon 39.88 176 *e*P P 05 45 02.0 +0.8
comp=Z,22nm,0.9s,mb4.9
NLU North Lily Min 39.93 176 *e*P P 05 45 02.4 +0.7
comp=Z,16nm,1.0s,mb4.7
ISCO Idaho Springs 40.24 169 ⇓P P 05 45 04.8 +0.6
baz=40
ISCO Idaho Springs 40.24 169 *e*P P 05 45 04.4 +0.2
comp=Z,3.8nm,0.8s,mb4.2
ISCO Idaho Springs 40.24 169 *e*P P 05 45 04.4 +0.2
ISCO pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
P14A Drum Mountains 40.29 177 ⇑P P 05 45 05.0 +0.4
baz=40,SNR=7.4
P18A Preston Nutter 40.29 174 ⇑P P 05 45 05.3 +0.6
baz=40
P19A Cripple Cowboy 40.31 173 ⇑P P 05 45 04.8 0.0
baz=40,SNR=18
P15A Leamington 40.31 177 ⇑P P 05 45 04.9 0.0
baz=40
MUD Monsted U'grnd 40.34 45 *i*P P 05 45 08.3 +3.4
MUD pmax pmax
comp=Z,23nm,1.0s,mb4.9
MUD Monsted U'grnd 40.34 45 *i*P P 05 45 08.3 +3.4
comp=Z,23nm,1.0s,mb4.9
BINY Binghamton 40.40 134 *e*P P 05 45 05.8 +0.3
comp=Z,17nm,0.8s,mb4.8
P22A Eagle 40.41 170 ⇓P P 05 45 05.7 +0.1
baz=40,SNR=11
P20A De Beque 40.46 172 ⇓P P 05 45 05.7 -0.4
baz=40,SNR=9.2
P21A Newcastle 40.46 171 ⇑P P 05 45 06.3 +0.2
baz=40
P24A Kohler Place, 40.55 168 ⇓P P 05 45 06.9 +0.1
baz=40
P25A Willow Gulch B 40.58 167 ⇓P P 05 45 07.4 +0.3
baz=40
TMUT Trail Mountain 40.60 175 *e*P P 05 45 08.1 +0.8
comp=Z,19nm,1.0s,mb4.7
WCN Washoe City 40.61 185 ⇑P P 05 45 07.6 +0.3
baz=40,SNR=8.3
WCN Washoe City 40.61 185 *e*P P 05 45 06.9 -0.4
comp=Z,14nm,1.2s,mb4.5
WCN Washoe City 40.61 185 *e*P P 05 45 06.9 -0.4
WCN pmax pmax
comp=Z,14nm,1.2s,mb4.5
OHCM Honcut 40.61 188 *e*P P 05 45 07.6 +0.3
P23A Jefferson 40.66 169 ⇓P P 05 45 08.2 +0.5
baz=40
SRU San Rafael 40.80 174 ⇓P P 05 45 08.9 0.0
baz=41
SRU San Rafael 40.80 174 *e*P P 05 45 10.9 +2.0
comp=Z,11nm,0.7s,mb4.6
SRU San Rafael 40.80 174 *e*P P 05 45 10.9 +2.0
SRU pmax pmax
comp=Z,11nm,0.7s,mb4.6
Q18A Rafter H Ranch 40.81 174 ⇑P P 05 45 09.3 +0.3
baz=41
SMCO Snowmass 40.82 170 *e*P P 05 45 09.6 +0.6
comp=Z,15nm,1.3s,mb4.5
SMCO *e*PcP PcP 05 47 10.2 +0.4
SOKR Solikamsk 40.84 6 *c*/P P 05 45 17.1 +8.1
SOKR pmax pmax
comp=Z,20nm,0.8s,mb4.8
SFIN Scholer Farm 40.92 147 ⇑P P 05 45 09.1 -0.8
baz=41
Q19A Hogan Spring (40.98 173 ⇑P P 05 45 10.0 -0.4
baz=41
Q16A Castle Valley 40.98 175 ⇑P P 05 45 10.8 +0.4
baz=41,SNR=9.2
Q24A Divide 41.09 168 ⇑P P 05 45 11.9 +0.6
baz=41
Q23A Hartsel 41.13 169 ⇓P P 05 45 12.1 +0.5
baz=41
Q22A Crested Butte, 41.13 170 ⇓P P 05 45 11.9 +0.2
baz=41
Q21A Lamborn Mesa, 41.14 171 ⇓P P 05 45 11.7 0.0
baz=41
Q25A Bedland, Calha 41.18 167 ⇓P P 05 45 11.5 -0.5
baz=41
MSU Marysvale 41.37 176 *e*P P 05 45 14.2 +0.6
MSU Marysvale 41.37 176 *e*P P 05 45 14.2 +0.6
KSU1 Kansas State U 41.40 158 *e*P P 05 45 12.0 -1.8
comp=Z,20nm,0.9s,mb4.8
NVAR Mina Array Bea 41.46 184 P P 05 45 15.2 +0.9
comp=Z,5.5nm,0.8s,mb4.2,baz=1.0,slow=6.3,SNR=44
NVAR PcP PcP 05 47 11.2 -0.7
comp=Z,1.6nm,0.7s,baz=16,slow=5.6,SNR=4.1
NVAR LR LR 06 04 05.4
comp=Z,346nm,18.2s,MS4.3,baz=331,slow=39
NVAR Mina Array Bea 41.46 184 P P 05 45 15.2 +0.9
NVAR PcP PcP 05 47 11.2 -0.7
NVAR LR LR 06 04 05.4
CBKS Cedar Bluff 41.49 162 ⇓P P 05 45 13.9 -0.7
baz=41
CBKS Cedar Bluff 41.49 162 *e*P P 05 45 12.8 -1.8
comp=Z,15nm,0.8s,mb4.7
CBKS Cedar Bluff 41.49 162 *e*P P 05 45 12.8 -1.8
CBKS pmax pmax
comp=Z,15nm,0.8s,mb4.7
ACSO Alum Creek Sta 41.50 142 *e*P P 05 45 14.6 0.0
comp=Z,20nm,0.7s,mb4.8
R11A Troy Canyon, C 41.52 180 ⇑P P 05 45 14.6 -0.2
baz=41,SNR=7.4
R18A Canyonlands Na 41.53 174 ⇓P P 05 45 14.8 -0.1
baz=41,SNR=10
R21A Cimarron 41.61 171 ⇓P P 05 45 15.8 +0.3
baz=42,SNR=8.0
R16A Teasdale 41.61 176 ⇑P P 05 45 16.3 +0.8
baz=42,SNR=6.2
R19A Curley Farm, L 41.64 173 ⇓P P 05 45 15.5 -0.3
baz=42
R15A Junction 41.67 177 ⇓P P 05 45 16.5 +0.4
baz=42,SNR=6.8
R13A O'Grain Ranch, 41.69 179 ⇓P P 05 45 16.9 +0.7
baz=42,SNR=9.7
R20A Redvale 41.77 172 ⇓P P 05 45 16.6 -0.2
baz=42
PV01 Paradox Valley 41.81 172 *e*P P 05 45 17.1 -0.1
comp=Z,2µm,0.7s
R24A Sanders Place, 41.82 168 ⇓P P 05 45 17.5 +0.2
baz=42
CMB Columbia Colle 41.88 186 *e*P P 05 45 17.6 -0.2
comp=Z,4.8nm,0.9s,mb4.1
CMB Columbia Colle 41.88 186 *e*P P 05 45 17.6 -0.2
CMB pmax pmax
comp=Z,5.0nm,0.9s,mb4.1
R25A Fountain Ranch 41.94 167 ⇓P P 05 45 18.2 0.0
baz=42
ARUT Antelope Range 42.09 178 *e*P P 05 45 20.0 +0.6
comp=Z,11nm,0.8s,mb4.5
ARUT Antelope Range 42.09 178 *e*P P 05 45 20.0 +0.6
ARUT pmax pmax
comp=Z,11nm,0.8s,mb4.5
S20A Disappointment 42.12 172 ⇓P P 05 45 19.8 0.0
baz=42
S16A Weppner Ranch, 42.17 176 ⇑P P 05 45 20.5 +0.4
baz=42,SNR=9.2
S19A Harvey Farm, M 42.19 173 ⇑P P 05 45 20.4 +0.2
baz=42,SNR=15
S18A Hurst Farm, Bl 42.23 174 ⇓P P 05 45 20.6 0.0
baz=42,SNR=9.6
S17A Black Ridge (B 42.27 175 ⇑P P 05 45 20.8 -0.1
baz=42,SNR=8.5
SDCO Great Sand Dun 42.29 169 ⇓P P 05 45 21.3 +0.1
baz=42,SNR=8.4
SDCO Great Sand Dun 42.29 169 *e*P P 05 45 21.6 +0.5
comp=Z,4.6nm,0.8s,mb4.2
S21A Coal Bank Pass 42.31 171 ⇓P P 05 45 21.5 +0.3
baz=42
S23A Nye Farm, Mont 42.32 169 ⇓P P 05 45 21.7 +0.4
baz=42
CCUT Cedar City 42.32 178 *e*P P 05 45 21.6 +0.2
comp=Z,9.6nm,1.0s,mb4.4
S24A Houchin Ranch, 42.41 168 ⇑P P 05 45 22.2 +0.1
baz=42,SNR=14
S25A Robets Cordova 42.42 167 ⇓P P 05 45 22.3 +0.1
baz=42,SNR=36
MVL Millersville 42.52 135 *e*P P 05 45 27.2 +4.3
comp=Z,30nm,1.2s,mb4.9
MTUM Tungsten Hills 42.53 184 *e*P P 05 45 24.6 +1.5
MVCO Mesa Verde 42.74 172 ⇑P P 05 45 24.8 0.0
baz=43
MVCO Mesa Verde 42.74 172 *e*P P 05 45 25.3 +0.5
comp=Z,11nm,0.7s,mb4.7
T18A Mexican Hat 42.78 174 ⇑P P 05 45 25.0 -0.1
baz=43
CCM Cathedral Cave 42.85 152 *e*P P 05 45 23.9 -1.7
comp=Z,21nm,1.2s,mb4.8
CCM Cathedral Cave 42.85 152 *e*P P 05 45 23.9 -1.7
CCM pmax pmax
comp=Z,21nm,1.2s,mb4.7
GRAC Grapevine Rang 42.88 183 ⇑P P 05 45 26.4 +0.5
baz=43,SNR=7.2
T17A Navajo Res., N 42.91 175 ⇑P P 05 45 26.0 -0.1
baz=43,SNR=10
T16A Glen Canyon Da 42.91 176 ⇓P P 05 45 26.4 +0.3
baz=43
T22A Edith 42.98 170 ⇑P P 05 45 27.2 +0.5
baz=43,SNR=6.6
T24A Torres, Weston 42.98 168 ⇓P P 05 45 27.2 +0.5
baz=43
T21A Navajo Lake 42.98 171 ⇑P P 05 45 27.5 +0.8

baz=43
T19A **Beclabito** 43.11 173 ⇑P P 05 45 27.9 +0.2
baz=43,SNR=11
SAO **San Andreas Ge** 43.17 187 eP P 05 45 28.9 +0.6
comp=Z,16nm,1.3s,mb4.6
SAO **San Andreas Ge** 43.17 187 eP P 05 45 28.9 +0.6
SAO pmax pmax
comp=Z,16nm,1.3s,mb4.6
U17A **Shonto** 43.30 175 ⇓P P 05 45 29.5 +0.2
baz=43
FURC **Furnace Creek,** 43.40 182 ⇑P P 05 45 30.5 +0.4
baz=43,SNR=6.5
U15A **North Rim** 43.45 177 ⇑P P 05 45 30.5 -0.1
baz=43,SNR=6.3
U21A **Nageezi** 43.54 171 ⇑P P 05 45 31.5 +0.3
baz=43,SNR=8.3
U20A **Newcomb** 43.57 172 ⇓P P 05 45 32.0 +0.5
baz=43
U24A **Moreno Valley** 43.63 168 ⇑P P 05 45 32.3 +0.3
baz=44
U19A **Dine' College,** 43.64 173 ⇓P P 05 45 32.0 -0.1
baz=44,SNR=7.0
SVE **Sverdlovsk** 43.65 3 eP P 05 45 32.7 +0.8
SVE pmax pmax
comp=Z,18nm,1.2s,mb4.7
U25A **Circle Dot Ran** 43.68 167 ⇓P P 05 45 32.1 -0.2
baz=44
U23A **El Rito** 43.68 169 ⇑P P 05 45 33.1 +0.7
baz=44,SNR=47
U26A **Atchley Ranch,** 43.71 167 ⇓P P 05 45 32.5 -0.1
baz=44
U16A **Tuba City** 43.75 175 ⇑P P 05 45 32.8 -0.2
baz=44,SNR=8.8
MPMC **Manual Prospec** 43.81 183 ⇑P P 05 45 34.7 +1.2
baz=44,SNR=35
SHOC **Shoshone** 43.97 181 ⇓P P 05 45 35.2 +0.5
baz=44,SNR=7.6
ARU **Arti** 44.02 5 eP P 05 45 34.9 0.0
comp=Z,22nm,1.0s,mb4.8
ARU **Arti** 44.02 5d iP P 05 45 35.6 +0.7
ARU e 05 47 18.6
ARU PPP 05 47 53.0
ARU S S 05 52 10.6 +3.5
ARU SS SS 05 55 25.3 +2.1
ARU pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
V15A **Kaibab Nationa** 44.06 176 ⇓P P 05 45 35.6 +0.2
baz=44,SNR=9.4
V22A **San Miguel Ran** 44.08 170 ⇑P P 05 45 35.6 0.0
baz=44
V20A **Brimhall** 44.15 172 ⇓P P 05 45 36.3 +0.2
baz=44,SNR=11
V21A **Milan** 44.16 171 ⇑P P 05 45 36.5 +0.3
baz=44,SNR=7.6
V18A **Ganado** 44.20 174 ⇑P P 05 45 36.9 +0.3
baz=44,SNR=21
ISA **Isabella** 44.22 184 ⇓P P 05 45 37.7 +1.0
baz=44,SNR=16
ISA **Isabella** 44.22 184 eP P 05 45 37.5 +0.7
comp=Z,30nm,1.4s,mb4.8
ISA **Isabella** 44.22 184 eP P 05 45 37.5 +0.8
ISA pmax pmax
comp=Z,30nm,1.4s,mb4.8
V25A **Rancho No Teng** 44.23 168 ⇑P P 05 45 36.9 +0.2
baz=44
V23A **Ortiz Mt. (NFS** 44.27 170 ⇑P P 05 45 37.4 +0.3
baz=44,SNR=8.3
V17A **Tonalea, Kykot** 44.28 175 ⇓P P 05 45 38.1 +0.9
baz=44,SNR=20
V26A **Tequesquite Ra** 44.30 167 ⇑P P 05 45 37.0 -0.3
baz=44,SNR=15
V24A **Rampart Ranch,** 44.32 168 ⇑P P 05 45 37.9 +0.4
baz=44,SNR=18
WUAZ **Wupatki** 44.37 176 ⇑P P 05 45 38.6 +0.7
baz=44,SNR=24
WUAZ **Wupatki** 44.37 176 eP P 05 45 38.6 +0.7
comp=Z,29nm,0.8s,mb5.1
OBN **Obninsk** 44.39 23 ⇓iP P 05 45 38.4 +0.5
OBN e 05 45 41.1
OBN i 05 45 45.8
OBN 05 47 21.0
OBN e 05 47 29.2
OBN pmax pmax
comp=Z,77nm,1.7s,mb5.2
OBN MLR MLR
comp=Z,100nm,16.0s,MS3.8
LRMC **Laurel Mountai** 44.40 183 ⇓P P 05 45 39.0 +0.9
baz=44,SNR=16
TUQ **Turquoise Moun** 44.43 181 ⇓P P 05 45 39.4 +1.0
baz=44
GSC **Goldstone** 44.57 182 ⇓P P 05 45 40.5 +1.0
baz=44,SNR=33
GSC **Goldstone** 44.57 182 eP P 05 45 40.6 +1.1
comp=Z,22nm,0.9s,mb5.0
GSC **Goldstone** 44.57 182 eP P 05 45 40.6 +1.1
GSC pmax pmax
comp=Z,22nm,0.9s,mb5.0
SMMC **Simmler** 44.59 186 ⇑P P 05 45 40.4 +0.7
baz=44
TUL1 **Tulsa** 44.63 157 ⇑P P 05 45 38.5 -1.5
baz=44,SNR=9.2
W13A **Hualapai Mount** 44.77 179 ⇑P P 05 45 41.9 +0.9
baz=45,SNR=23
LDFC **Landfair** 44.78 180 eP P 05 45 41.9 +0.7
comp=Z,33nm,1.0s,mb5.1
W16A **Flagstaff** 44.79 176 ⇑P P 05 45 42.4 +1.1
baz=45,SNR=20
W18A **Petrified Fore** 44.80 174 ⇓P P 05 45 41.8 +0.5
baz=45
W19A **Sanders** 44.81 173 ⇑P P 05 45 42.0 +0.6
baz=45
W20A **Ramah** 44.82 172 ⇑P P 05 45 41.4 -0.1
baz=45,SNR=6.0
W24A **Lazy 6 Ranch,** 44.83 169 ⇓P P 05 45 41.7 +0.2
baz=45,SNR=15
W23A **Werner Place,** 44.85 170 ⇑P P 05 45 42.3 +0.6
baz=45,SNR=9.0
W25A **X Bar L Ranch,** 44.85 168 ⇓P P 05 45 41.4 -0.3
baz=45,SNR=7.0
EDW2 **Edwards Air Fo** 45.00 183 ⇓P P 05 45 43.7 +0.8
baz=45,SNR=30
PKM **Peak Mountain** 45.01 185 ⇑P P 05 45 44.4 +1.4
baz=45
W26A **Owens Ranch, T** 45.01 167 ⇓P P 05 45 43.1 0.0
baz=45,SNR=8.4
HEC **Hector,Ludlow** 45.03 181 ⇓P P 05 45 44.0 +0.8
baz=45,SNR=18
ANMO **Albuquerque** 45.05 170 P P 05 45 43.6 +0.2
comp=Z,7.7nm,0.9s,mb4.5,baz=64,slow=23,SNR=27
ANMO **Albuquerque** 45.05 170 eP P 05 45 43.7 +0.4
comp=Z,10nm,1.0s,mb4.6
ANMO **Albuquerque** 45.05 170 eP P 05 45 43.7 +0.4
ANMO pmax pmax
comp=Z,10.0nm,1.0s
W27A **Bowe Ranch, En** 45.06 166 ⇑P P 05 45 42.7 -0.7
baz=45,SNR=6.4
GMRC **Granite Mounta** 45.08 181 ⇑P P 05 45 44.1 +0.5
baz=45,SNR=5.1
NVS **Novosibirsk** 45.23 345 eP P 05 45 41.3 -3.3
AMTX **Amarillo** 45.31 164 eP P 05 45 44.5 -0.9
comp=Z,7.1nm,0.8s,mb4.5
X18A **Snowflake** 45.38 174 ⇓P P 05 45 46.4 +0.5
baz=45,SNR=12
X20A **Quemado** 45.40 172 ⇓P P 05 45 46.2 +0.1
baz=45
X16A **Lo Mia Camp, P** 45.47 176 ⇓P P 05 45 47.1 +0.5
baz=45,SNR=15
X27A **F and S Farms,** 45.48 166 ⇓P P 05 45 46.2 -0.6
baz=45
X19A **St. Johns** 45.50 173 ⇓P P 05 45 46.9 0.0
baz=45,SNR=11
X21A **Alamocita Cree** 45.51 171 ⇑P P 05 45 47.4 +0.3
baz=45,SNR=7.4
X26A **CR and CF Fran** 45.54 167 ⇑P P 05 45 46.6 -0.7
baz=45,SNR=8.9
X17A **Forest Lakes** 45.56 175 ⇑P P 05 45 48.0 +0.6
baz=45,SNR=5.1
PDMCI **Parker Dam,Lak** 45.56 179 ⇑P P 05 45 47.8 +0.4
baz=45,SNR=6.4
LAZ **Ladron** 45.58 171 eP P 05 45 48.0 +0.5
comp=Z,5.1nm,1.2s,mb4.3
BBRC **Big Bear Solar** 45.60 182 ⇓P P 05 45 48.9 +1.1
baz=46,SNR=7.5
WMOK **Wichita Mounta** 45.61 161 eP P 05 45 46.5 -1.2
comp=Z,12nm,0.9s,mb4.8
WMOK **Wichita Mounta** 45.61 161 eP P 05 45 46.5 -1.3
WMOK pmax pmax
comp=Z,12nm,0.9s,mb4.8
BFSC **Mount Baldy Ra** 45.63 183 ⇓P P 05 45 49.1 +1.1
baz=46,SNR=19
MWC **Mount Wilson** 45.65 183 eP P 05 45 49.7 +1.6
comp=Z,45nm,1.3s,mb5.2
MWC **Mount Wilson** 45.65 183 eP P 05 45 49.7 +1.6
MWC pmax pmax
comp=Z,45nm,1.3s,mb5.2
LPM **Los Pinos Moun** 45.68 170 eP P 05 45 47.9 -0.5
IRM **Iron Mountain** 45.70 180 ⇑P P 05 45 49.0 +0.5
baz=45,SNR=6.8
PASC **Pasadena Art C** 45.70 183 eP P 05 45 49.7 +1.2
comp=Z,126nm,1.1s,mb5.8
BLG **Laguna Peak** 45.78 185 ⇑P P 05 45 50.0 +0.9
baz=46
LENM **Lemitar** 45.82 171 eP P 05 45 49.9 +0.5
BNM **Barren Site** 45.84 170 eP P 05 45 49.8 +0.2
comp=Z,26nm,1.3s,mb5.0
BELC **Belle Mtn. Jos** 45.86 181 ⇓P P 05 45 50.9 +1.1
baz=46,SNR=35
CLL **Collm** 45.86 43 eP P 05 45 45.0 -4.6
CLL i 05 47 26.0
CLL pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
CLL pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CLL **Collm** 45.86 43 iP P 05 45 49.4 -0.2
comp=Z,7.0nm,1.0s,mb4.5
CLL i (sP) sP 05 45 56.9 +6.5
CLL i PcP PcP 05 47 26.0 -0.6
comp=Z,6.0nm,0.8s
CLL i PP PP 05 47 34.2 -2.4
BSC **Santa Cruz Isl** 45.90 185 ⇓P P 05 45 50.6 +0.5
baz=46
Y15A **Casa Rosa Ranc** 45.92 177 ⇑P P 05 45 50.9 +0.6
baz=46,SNR=9.8
BAIF **Baives** 45.93 51 eP P 05 45 50.3 +0.2
comp=Z,58nm,1.1s,mb5.1
Y14A **Wickenburg** 45.93 177 ⇑P P 05 45 51.1 +0.8
baz=46,SNR=21
Y21A **Point of Rocks** 45.95 171 ⇑P P 05 45 51.6 +1.1
baz=46,SNR=14
Y19A **Nutrioso** 45.97 173 ⇓P P 05 45 51.3 +0.7
baz=46,SNR=8.9
GIVF **Givet** 45.97 51 eP P 05 45 50.6 +0.1
Y16A **Circle Bar Ran** 46.00 176 ⇓P P 05 45 51.8 +0.9
baz=46,SNR=7.4
UALR **University of** 46.01 154 eP P 05 45 48.9 -2.0
comp=Z,18nm,0.7s,mb5.1
Y20A **Horse Springs,** 46.03 172 ⇑P P 05 45 51.7 +0.6
baz=46,SNR=11
Y22A **Socorro** 46.04 171 ⇑P P 05 45 51.6 +0.3
baz=46,SNR=13
ZALV **Zalesovo Beam** 46.05 344 P P 05 45 50.1 -0.9
comp=Z,1.9nm,0.6s,mb4.2,baz=356,slow=7.9,SNR=12
ZALV PcP PcP 05 47 26.1 -1.2
comp=Z,3.4nm,0.7s,baz=1.7,slow=4.9,SNR=6.8
ZALV **Zalesovo Beam** 46.05 344 P P 05 45 50.1 -0.9
ZALV PcP PcP 05 47 26.1 -1.2
ZALV **Zalesovo Beam** 46.05 344 P P 05 45 50.1 -0.9
ZALV 05 47 26.1
CPCT **Cooper Cave** 46.06 145 eP P 05 45 48.8 -2.5
Y23A **Lovelace Mesa,** 46.08 169 ⇓P P 05 45 51.8 +0.3
baz=46
Y24A **Capitan** 46.10 169 ⇓P P 05 45 52.0 +0.3
baz=46,SNR=18
Y12C **Blythe** 46.11 179 ⇑P P 05 45 52.1 +0.4
baz=46,SNR=12
Y18A **Canyon Day Jun** 46.13 174 ⇑P P 05 45 52.6 +0.7
baz=46,SNR=16
Y25A **Mesa, Roswell** 46.13 168 ⇓P P 05 45 51.5 -0.4
baz=46,SNR=11
MIAR **Mount Ida** 46.15 155 eP P 05 45 50.1 -2.0
comp=Z,25nm,1.0s,mb5.1
MIAR **Mount Ida** 46.15 155 eP P 05 45 50.1 -1.9
MIAR pmax pmax
comp=Z,25nm,1.0s,mb5.1
SWET **Sewanee** 46.15 146 eP P 05 45 49.8 -2.2
comp=Z,10nm,0.7s,mb4.9
MSTX **Muleshoe** 46.17 166 ⇓P P 05 45 51.4 -0.8
baz=46
Y26A **Elida** 46.17 167 ⇓P P 05 45 52.0 -0.2
baz=46
PLAL **Pickwick Lake** 46.18 149 eP P 05 45 49.9 -2.4
comp=Z,12nm,0.7s,mb4.9
Y17A **Roosevelt** 46.20 175 ⇓P P 05 45 52.9 +0.5
baz=46,SNR=7.5
BC3 **Big Chuckawall** 46.20 180 ⇑P P 05 45 53.5 +1.0
baz=46,SNR=18
Y27A **Causey** 46.23 166 ⇑P P 05 45 52.0 -0.7
baz=46,SNR=12
PFO **Pinyon Flat Ob** 46.25 181 ⇑P P 05 45 52.9 0.0
baz=46,SNR=8.0
PFO **Pinyon Flat Ob** 46.25 181 eP P 05 45 53.2 +0.3
comp=Z,13nm,1.4s,mb4.7
PFO **Pinyon Flat Ob** 46.25 181 eP P 05 45 53.2 +0.3
PFO pmax pmax
comp=Z,13nm,1.4s,mb4.7
MURC **Murrieta** 46.27 182 ⇑P P 05 45 53.4 +0.4
baz=46
BRG **Berggiesshubel** 46.41 43 eP P 05 46 01.2 +7.3
comp=Z,30nm,1.7s,mb4.9
BRG **Berggiesshubel** 46.41 43 eP P 05 46 01.2 +7.3
BRG pmax pmax
comp=Z,30nm,1.7s,mb5.0
CIS **Catalina Islan** 46.47 184 ⇓P P 05 45 54.5 0.0
baz=46
Z14A **Wintersburg** 46.50 177 ⇓P P 05 45 54.9 0.0
baz=46,SNR=5.4
ROSF **Rostrenen** 46.51 59 eP P 05 45 54.2 -0.5
comp=Z,43nm,0.9s,mb5.1
FLN **La Foliniere** 46.52 56 eP P 05 45 54.2 -0.6
FLN eR
comp=Z,226nm,20.5s
OXF **Oxford** 46.52 150 eP P 05 45 53.3 -1.7
comp=Z,100nm,1.1s,mb5.7
OXF **Oxford** 46.52 150 eP P 05 45 53.3 -1.7
OXF pmax pmax
comp=Z,100nm,1.1s,mb5.7
Z16A **Peralta Trail,** 46.54 176 ⇓P P 05 45 55.2 0.0
baz=46
Z15A **Gila River Ind** 46.59 177 ⇑P P 05 45 56.4 +0.9
baz=46
Z17A **San Carlos Hig** 46.60 175 ⇑P P 05 45 56.1 +0.5
baz=46,SNR=5.3
Z19A **T-Link Ranch,** 46.63 173 ⇑P P 05 45 55.9 +0.1
baz=46
Z21A **St. Cloud Mine** 46.65 171 ⇓P P 05 45 56.2 +0.2
baz=46,SNR=14
Z13A **Yuma Proving G** 46.66 178 ⇓P P 05 45 56.4 +0.3
baz=46,SNR=12
SGMF **Saint Gilles** 46.70 58 eP P 05 45 55.7 -0.5
comp=Z,212nm,1.8s,mb5.5
Z24A **Sheeppen Canyo** 46.70 169 ⇓P P 05 45 56.1 -0.3
baz=47,SNR=14
KMSC **Kings Mountain** 46.71 141 ⇑P P 05 45 55.8 -0.6
baz=46
Z22A **Elephant Butte** 46.72 171 ⇓P P 05 45 56.5 0.0
baz=47,SNR=9.9
LDF **La Druitiere** 46.73 56 eP P 05 45 55.8 -0.7
comp=Z,15nm,0.8s,mb4.7
Z23A **Rita Site, Whi** 46.74 170 ⇓P P 05 45 56.4 -0.3
baz=47,SNR=7.3
Z25A **Roswell** 46.77 168 ⇑P P 05 45 56.6 -0.4
baz=47,SNR=19
Z27A **Tatum** 46.80 166 ⇑P P 05 45 56.5 -0.7
baz=47
GLA **Glamis** 46.81 180 ⇓P P 05 45 57.7 +0.5
baz=47
GLA **Glamis** 46.81 180 eP P 05 45 58.4 +1.2
comp=Z,18nm,1.0s,mb5.0
GLA **Glamis** 46.81 180 eP P 05 45 58.4 +1.2
GLA pmax pmax
comp=Z,18nm,1.0s,mb5.0
Z26A **Caprock** 46.81 167 ⇑P P 05 45 56.7 -0.5
baz=47,SNR=18
Z18A **Geronimo** 46.82 174 ⇓P P 05 45 58.0 +0.6
baz=47,SNR=5.1
Z20A **Nine Sixteen R** 46.82 172 ⇑P P 05 45 57.7 +0.4
baz=47,SNR=7.8
GRR **Gorron** 46.83 56 eP P 05 45 57.1 -0.1
comp=Z,63nm,1.3s,mb5.1
SCI **San Clemente I** 46.90 184 ⇓P P 05 45 58.9 +0.9
baz=47,SNR=9.5
SWSC **Sam W. Stewart** 46.92 181 ⇓P P 05 45 58.8 +0.7
baz=47,SNR=6.0
QUIF **Quistinic** 46.94 59 eP P 05 45 57.8 -0.3
MONP **Monument Peak** 46.97 181 ⇑P P 05 45 59.4 +0.9
baz=47,SNR=10
UPC **Upice** 47.01 41 eP P 05 45 59.0 +0.4
UPC e*PP 05 46 04.0
UPC **Upice** 47.01 41 eP P 05 45 59.0 +0.4
UPC epP 05 46 04.0
CPRX **Cap Rock** 47.05 167 eP P 05 45 57.3 -1.8
comp=Z,8.2nm,0.8s,mb4.7
113A **Mohawk Valley,** 47.09 178 ⇑P P 05 45 59.7 +0.3
baz=47
114A **Black Gap (USA** 47.12 177 ⇓P P 05 46 00.4 +0.8
baz=47,SNR=5.1
119A **Ashpeak Ranch,** 47.15 173 ⇓P P 05 46 00.4 +0.5
baz=47
115A **Sonoran Desert** 47.17 177 ⇓P P 05 46 00.8 +0.8
baz=47,SNR=8.2
BAR **Barrett** 47.18 182 eP P 05 46 01.2 +1.1
comp=Z,18nm,1.2s,mb4.9
DVTC **Desert V Tower** 47.20 181 ⇓P P 05 46 01.2 +0.9
baz=47,SNR=5.9
DPC **Dobruska-Polom** 47.20 41 eP P 05 46 00.8 +0.7
comp=Z,18nm,0.9s,mb5.0
DPC **Dobruska-Polom** 47.20 41 eP P 05 46 00.8 +0.7
DPC pmax pmax
comp=Z,18nm,0.9s,mb5.0
DPC **Dobruska-Polom** 47.20 41 iP P 05 46 00.8 +0.7
DPC ex x 05 46 07.9
118A **Homack Ranch,** 47.27 174 ⇑P P 05 46 01.6 +0.8
baz=47,SNR=15
122A **Conniff Cattle** 47.28 171 ⇓P P 05 46 00.9 0.0
baz=47
116A **Eloy** 47.32 176 ⇓P P 05 46 01.7 +0.5
baz=47
117A **Oracle** 47.32 175 ⇓P P 05 46 02.0 +0.8
baz=47,SNR=10
124A **Stringfield Ra** 47.33 169 ⇓P P 05 46 01.3 0.0
baz=47,SNR=10
PRU **Pruhonice** 47.35 42 eP P 05 46 02.6 +1.4
PRU e*PP 05 46 10.4
PRU **Pruhonice** 47.35 42 eP P 05 46 02.6 +1.4
PRU ex x 05 46 10.4
123A **Bell Site, Whi** 47.36 170 ⇓P P 05 46 01.2 -0.4
baz=47
125A **Gardner Draw,** 47.40 168 ⇓P P 05 46 01.4 -0.4
baz=47,SNR=7.1
BRVK **Borovoye** 47.41 356 eP P 05 46 01.9 +0.2
comp=Z,6.2nm,0.9s,mb4.5
BRVK eP cP PcP 05 47 31.4 -0.6
BRVK **Borovoye** 47.41 356 eP P 05 46 01.9 +0.2
BRVK e 05 47 31.4
BRVK pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
121A **Cookes Peak, D** 47.42 172 ⇓P P 05 46 02.0 0.0
baz=47,SNR=9.0
127A **Arkansas Junct** 47.43 166 ⇓P P 05 46 01.6 -0.5
baz=47
126A **Clayton Basin,** 47.43 167 ⇑P P 05 46 01.2 -0.9
baz=47,SNR=5.3
BVA0 **Borovoye Array** 47.44 355 iP P 05 46 02.2 +0.3
BVA0 pmax pmax
comp=Z,1.0nm,0.9s,mb3.8
BVAR **Borovoye Array** 47.44 355 P P 05 46 02.0 +0.1
comp=Z,3.0nm,0.8s,mb4.2,baz=342,slow=8.3,SNR=11
BVAR PcP PcP 05 47 31.2 -0.9
comp=Z,7.2nm,0.7s,baz=355,slow=3.2,SNR=8.5
BVAR LR LR 06 09 29.4
comp=Z,72nm,18.0s,MS3.7,baz=228,slow=40
BVAR **Borovoye Array** 47.44 355 P P 05 46 02.0 +0.1
BVAR PcP PcP 05 47 31.2 -0.9
BVAR LR LR 06 09 29.4
BVAR **Borovoye Array** 47.44 355 P P 05 46 02.0 +0.1
BVAR 05 47 31.2
JSC **Jenkinsville** 47.57 141 eP P 05 46 01.7 -1.5
JSC **Jenkinsville** 47.57 141 eP P 05 46 01.7 -1.5
MEZF **Maizieres J'vi** 47.57 51 eP P 05 46 03.6 +0.6
TUC **Tucson** 47.58 175 eP P 05 46 03.9 +0.6
comp=Z,13nm,1.1s,mb4.9
TUC **Tucson** 47.58 175 eP P 05 46 03.9 +0.6
TUC pmax pmax
comp=Z,13nm,1.1s,mb4.9
PAGF **Fort de Pagny** 47.61 51 eP P 05 46 04.0 +0.7
OJC **Ojcow** 47.73 38 eP P 05 46 04.4 +0.2
OJC eP cP PcP 05 47 33.3 +0.1
OJC **Ojcow** 47.73 38 eP P 05 46 04.4 +0.2
OJC e 05 47 33.3
VOSK **Vostochnaya** 47.73 355 P P 05 46 04.0 -0.2
VOSK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
CLNB **Carlsbad** 47.82 167 eP P 05 46 04.5 -0.6
comp=Z,2.8nm,0.6s,mb4.5
SFTF **Sexfontaines** 47.86 51 ⇑iP P 05 46 05.4 +0.2
comp=Z,21nm,0.7s,mb5.0
222A **Williams Famil** 47.87 171 ⇓P P 05 46 05.0 -0.5
baz=48,SNR=9.1
216A **Three Points,** 47.88 176 ⇑P P 05 46 05.6 0.0
baz=48,SNR=6.5
214A **Organ Pipe Nat** 47.91 177 ⇓P P 05 46 05.9 +0.1
baz=48
MORC **Moravsky Berou** 47.91 40 eP P 05 46 05.2 -0.4
comp=Z,3.8nm,0.9s,mb4.4
MORC **Moravsky Berou** 47.91 40 eP P 05 46 05.3 -0.3
MORC pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
219A **White Tail Can** 47.92 173 ⇓P P 05 46 06.2 +0.3
baz=48,SNR=14
218A **Dragoon** 47.93 174 ⇑P P 05 46 06.2 +0.3
baz=48
225A **Deer Hill, Car** 47.94 168 ⇓P P 05 46 05.5 -0.5
baz=48,SNR=16
221A **Mesquite Ranch** 47.94 172 ⇓P P 05 46 06.1 0.0
baz=48
224A **Cornudas Mount** 47.95 169 ⇑P P 05 46 05.7 -0.4
baz=48,SNR=11
CDF **Champ du Feu** 47.96 49 eP P 05 46 06.4 +0.4
comp=Z,12nm,0.9s,mb4.7
226A **Malaga, Loving** 48.01 167 ⇓P P 05 46 06.2 -0.4
baz=48
220A **Playas Peak, P** 48.03 172 ⇓P P 05 46 06.8 0.0
baz=48,SNR=7.1
KHC **Kasperske Hory** 48.07 44 eP P 05 46 07.5 +0.6
KHC **Kasperske Hory** 48.07 44 eP P 05 46 07.5 +0.6
227A **Bennet, Jal** 48.09 166 ⇑P P 05 46 06.7 -0.5
baz=48,SNR=10
217A **Green Valley** 48.11 175 ⇑P P 05 46 07.6 +0.2
baz=48
AKASG **Malin Array Be** 48.19 30 P P 05 46 07.3 -0.4
comp=Z,8.7nm,0.7s,mb4.9,baz=351,slow=8.4,SNR=27
AKASG PcP PcP 05 47 33.8 -1.1
comp=Z,4.3nm,0.5s,baz=353,slow=3.3,SNR=12
AKASG **Malin Array Be** 48.19 30 P P 05 46 07.3 -0.5
AKASG PcP PcP 05 47 33.8 -1.1
AKASG **Malin Array Be** 48.19 30 P P 05 46 07.3 -0.5
AKASG 05 47 33.8
AKBB **Malin Array Si** 48.19 30 eP P 05 46 07.5 -0.2
AKBB **Malin Array Si** 48.19 30 eP P 05 46 07.5 -0.3
KIEV **Kiev** 48.20 30 eP P 05 46 07.3 -0.5
comp=Z,9.6nm,0.8s,mb4.9
KIEV **Kiev** 48.20 30 eP P 05 46 07.4 -0.4
KIEV pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
HAU **Haudompre** 48.23 50 ⇑iP P 05 46 08.6 +0.5
comp=Z,36nm,1.1s,mb5.0
HAU eR
comp=Z,97nm,17.5s
ZAK **Zakamensk** 48.24 328 eP P 05 46 05.8 -2.4
ZAK pmax pmax
comp=Z,2.0nm,2.1s,mb3.8
GERES **GERESS Array B** 48.37 43 P P 05 46 10.2 +1.0
comp=Z,1.1nm,0.6s,mb4.0,baz=353,slow=5.6,SNR=7.8
GERES PcP PcP 05 47 34.1 -1.5
comp=Z,2.4nm,0.9s,baz=345,slow=4.1,SNR=6.5
GERES **GERESS Array B** 48.37 43 P P 05 46 10.2 +1.0
GERES PcP PcP 05 47 34.1 -1.5
GERES **GERESS Array B** 48.37 43 P P 05 46 10.2 +1.0
GERES 05 47 34.1
HYF **Humbligny** 48.43 54 eP P 05 46 10.0 +0.3
VSR **Storozhevoye** 48.45 21 eP P 05 46 09.5 -0.2
VSR e 05 46 17.4
VSR pmax pmax
comp=N,5.0nm,0.8s
VSR pmax pmax
comp=E,3.0nm,0.8s
VSR pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
318A **Bisbee** 48.46 174 ⇓P P 05 46 10.3 +0.2
baz=48,SNR=13
HINF **Hinteralfeld** 48.49 50 ⇑iP P 05 46 10.3 +0.2

comp=Z,15nm,0.8s,mb4.8
319A Douglas 48.54 173 ⇓*i*P **P** **05 46 11.0 +0.3**
baz=48,SNR=6.5
324A Moseley Ranch, 48.58 169 ⇑*i*P **P** **05 46 10.1 -0.8**
baz=48,SNR=11
320A Kipp Ranch, An 48.59 172 ⇓*i*P **P** **05 46 11.3 +0.2**
baz=48,SNR=6.2
YUK Yuzh-Kuril'sk 48.60 288*c i*P **P** **05 46 08.3 -2.7**
YUK *i* 05 47 34.8
YUK *i* PPP 05 48 49.0
YUK *e*S **S** **05 53 09.8 -3.3**
YUK *e*SS SS 05 56 37.1 -5.3
YUK MLR MLR
comp=E,76nm,17.0s,MS4.1
YUK MLR MLR
comp=Z,124nm,17.0s,MS4.0
YUK MLR MLR
comp=N,167nm,22.0s,MS4.1
LOR Lormes 48.61 53⇑*i*P **P** **05 46 11.2 +0.2**
comp=N,33nm,1.0s,mb5.0
LOR *e*R
comp=N,128nm,20.2s
325A Bean Ranch, Si 48.67 168 ⇑P **P** **05 46 10.9 -0.7**
baz=48
MFF Saint Martin d 48.68 56 *e*P **P** **05 46 11.6 0.0**
comp=N,52nm,1.1s,mb5.2
STHS Stebnicka Huta 48.68 37 *e*P **P** **05 46 04.5 -7.0**
STHS Stebnicka Huta 48.68 37 *e*P **P** **05 46 04.5 -7.0**
328A Wristen Ranch, 48.74 166 ⇑P **P** **05 46 11.1 -1.1**
baz=49,SNR=16
326A Caldwell Ranch 48.76 167 ⇓P **P** **05 46 11.1 -1.2**
baz=49,SNR=5.7
SSF Saint Saulge 48.76 53⇑*i*P **P** **05 46 12.3 +0.1**
comp=N,35nm,0.9s,mb5.1
NATX Nacogdoches 48.83 157 *e*P **P** **05 46 12.2 -0.8**
comp=N,15nm,0.6s,mb5.2
AVF Avril sur Loir 49.00 53⇑*i*P **P** **05 46 14.2 +0.1**
comp=N,62nm,1.0s,mb5.3
ASAJ Asahikawa 49.07 291 P **P** **05 46 12.7 -2.0**
comp=N,13nm,0.8s,mb5.0,baz=68,slow=12,SNR=5.1
ASAJ Asahikawa 49.07 291 P **P** **05 46 12.7 -1.9**
ASAJ pmax pmax
comp=Z,13nm,0.8s
BGF Bois d'Agland 49.16 54 *e*P **P** **05 46 15.3 0.0**
comp=Z,60nm,0.9s,mb5.3
SMF Signal de Mont 49.22 53⇑*i*P **P** **05 46 15.7 0.0**
comp=Z,51nm,1.0s,mb5.2
427A Hayter Ranch, 49.25 167 ⇑P **P** **05 46 15.5 -0.6**
baz=49,SNR=9.3
425A Indio Mountain 49.25 168 ⇑P **P** **05 46 15.7 -0.5**
baz=49,SNR=11
TCF Toulx Ste Croi 49.33 54⇑*i*P **P** **05 46 16.4 -0.2**
comp=Z,25nm,0.9s,mb5.0
428A Kincaid Ranch, 49.40 166 ⇑P **P** **05 46 16.7 -0.6**
baz=49,SNR=7.0
426A McDonald Obser 49.40 167 ⇑P **P** **05 46 16.7 -0.6**
baz=49,SNR=17
KECS Kecovo 49.52 38 *e*P **P** **05 46 15.5 -2.5**
KECS Kecovo 49.52 38 *e*P **P** **05 46 15.5 -2.5**
CONA Conrad Observa 49.53 42⇑*s*P sP 05 46 25.0 +6.0
comp=Z,5.8nm,0.9s
KURK Kurchatov 49.55 349 P **P** **05 46 18.2 0.0**
comp=Z,2.6nm,0.7s,mb4.4,baz=5.0,slow=7.6,SNR=28
KURK PcP PcP 05 47 39.5 -0.3
comp=Z,6.1nm,0.8s,baz=355,slow=3.6,SNR=11
KURK LR LR 06 10 39.5
comp=Z,73nm,18.5s,MS3.7,baz=55,slow=40
KURK Kurchatov 49.55 349 *e*P **P** **05 46 17.6 -0.6**
comp=Z,7.9nm,1.0s,mb4.7
KURK Kurchatov 49.55 349 P **P** **05 46 18.2 0.0**
KURK 05 47 39.5
KURK pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
KURK pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
KURK MLR MLR
comp=Z,73nm,18.5s,MS3.7
CABF La Chapelle 49.56 51⇑*i*P **P** **05 46 18.8 +0.4**
comp=Z,36nm,0.9s,mb5.1
JCT Junction City 49.79 163 ⇓P **P** **05 46 19.3 -1.0**
baz=50,SNR=14
JCT Junction City 49.79 163 *e*P **P** **05 46 19.2 -1.0**
comp=Z,22nm,0.8s,mb5.2
JCT Junction City 49.79 163 *e*P **P** **05 46 19.3 -0.9**
JCT pmax pmax
comp=Z,22nm,0.8s,mb5.2
527A Woodward Ranch 49.94 167 ⇓P **P** **05 46 20.7 -0.7**
baz=50
528A Cox Ranch, San 49.96 166 ⇑P **P** **05 46 21.0 -0.6**
baz=50,SNR=22
SENIN Lac Senin/Sane 49.97 50 *e*P **P** **05 46 22.8 +1.3**
comp=Z,11nm,0.9s,mb4.9
AKTO Aktyubinsk 50.01 6 P **P** **05 46 22.3 +0.6**
comp=Z,5.7nm,1.0s,mb4.6,baz=6.5,slow=6.2,SNR=14
AKTO PcP PcP 05 47 41.5 0.0
comp=Z,7.2nm,0.6s,baz=22,slow=3.8,SNR=11
AKTO Aktyubinsk 50.01 6 P **P** **05 46 22.3 +0.6**
AKTO PcP PcP 05 47 41.5 0.0
AKTO Aktyubinsk 50.01 6 P **P** **05 46 21.9 +0.2**
AKTO pmax pmax
comp=Z,2.0nm,1.2s,mb4.0
TRPA Tarpa 50.09 36⇑*i*P **P** **05 46 23.3 +1.0**
TUE Stuetta 50.14 48 *e*P **P** **05 46 24.4 +1.7**
comp=Z,14nm,1.0s,mb4.9
RJF Les Rejaudoux 50.19 55 *e*P **P** **05 46 22.7 -0.4**
comp=Z,21nm,0.8s,mb4.9
RJF *e*R
comp=Z,179nm,19.0s
LFF La Frestale 50.43 56 *e*P **P** **05 46 25.1 +0.1**
comp=Z,16nm,0.8s,mb4.8
SONM Songino Array 50.45 325 P **P** **05 46 25.6 +0.5**
comp=Z,6.7nm,0.8s,mb4.7,baz=352,slow=5.7,SNR=40
SONM PcP PcP 05 47 43.4 +0.3
comp=Z,2.7nm,0.8s,baz=320,slow=2.6,SNR=4.2
SONM LR LR 06 07 00.2
comp=Z,320nm,21.6s,MS4.3,baz=343,slow=35
SONM Songino Array 50.45 325 P **P** **05 46 25.6 +0.5**
SONM PcP PcP 05 47 43.4 +0.3
SONM LR LR 06 07 00.2
SONM Songino Array 50.45 325 P **P** **05 46 25.6 +0.5**
SONM 05 47 43.4
626A Big Bend Ranch 50.51 168 ⇑P **P** **05 46 25.0 -0.7**
baz=50,SNR=8.6
627A Terlingua Ranc 50.64 167 ⇓P **P** **05 46 25.8 -0.9**
baz=50,SNR=12
CAF Calviac 50.64 55 *e*P **P** **05 46 26.5 0.0**
comp=Z,18nm,1.0s,mb4.6
MDJ Mudanjiang 50.65 303 P **P** **05 46 25.8 -0.8**
MDJ pmax pmax
comp=Z,13nm,1.2s,mb4.7
MDJ pmax pmax
comp=Z,230nm,4.2s
LPL La Plagne 50.73 50 *e*P **P** **05 46 28.3 +1.1**
comp=Z,21nm,1.1s,mb4.7
TXAR Lajitas Array 50.74 167 P **P** **05 46 26.8 -0.7**
comp=Z,2.3nm,0.7s,mb4.2,baz=6.0,slow=5.7,SNR=24
TXAR LR LR 06 08 39.6
comp=Z,209nm,19.7s,MS4.2,baz=90,slow=37
TXAR Lajitas Array 50.74 167 P **P** **05 46 26.8 -0.7**
TXAR LR LR 06 08 39.6
TXAR Lajitas Array 50.74 167 P **P** **05 46 26.8 -0.7**
LPG La Plagne 50.75 50 *e*P **P** **05 46 28.7 +1.4**
comp=Z,46nm,1.3s,mb4.9
BUR08 Bucovina Ar. S 50.84 34 *e*P **P** **05 46 28.4 +0.4**
BURAR Bucovina Array 50.87 34⇑P **P** **05 46 28.5 +0.3**
BURAR Bucovina Array 50.87 34⇑*i*P **P** **05 46 28.5 +0.3**
VIVF Saint-Julien-l 51.09 52 *e*P **P** **05 46 30.2 +0.3**
comp=Z,13nm,0.8s,mb4.6
ORIF Oris-en-Rattie 51.19 51 *e*P **P** **05 46 31.0 +0.3**
ORIF *e*R
comp=Z,145nm,17.0s
AB31 Akbulak array 51.22 4 *i*P **P** **05 46 31.0 +0.1**
AB31 pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
ABKAR Akbulak array 51.22 4 *e*P **P** **05 46 31.2 +0.4**
comp=Z,2.8nm,0.8s,mb4.2
MBDF Montbardon 51.51 51 *e*P **P** **05 46 33.9 +0.8**
comp=Z,31nm,1.1s,mb4.8
LASF Ste Croix 51.73 53 *e*P **P** **05 46 35.4 +0.6**
SJPF Ste Jean 51.92 58 *e*P **P** **05 46 35.6 -0.6**
comp=Z,42nm,1.5s,mb4.8
CN2 Changchun 52.05 307 *e*P **P** **05 46 35.9 -1.2**
CN2 *e*S **S** **05 53 56.5 -4.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,12.0s,MS4.5
CN2 LR LR
comp=E,200nm,12.0s,MS4.5
CN2 LR LR
comp=Z,300nm,15.0s,MS4.5
SMRF Simiane la Rot 52.08 52 *e*P **P** **05 46 37.8 +0.5**
comp=Z,61nm,1.3s,mb5.1
TESR 52.10 33⇓*i*P **P** **05 46 37.6 +0.1**
ETSF Etsaut 52.23 58 *e*P **P** **05 46 39.2 +0.7**
comp=Z,17nm,1.1s,mb4.6
EPF Esparros 52.24 57 *e*P **P** **05 46 38.0 -0.5**
comp=Z,29nm,1.3s,mb4.7
SBF Sospel 52.45 50 *e*P **P** **05 46 41.3 +1.2**
BZS Buzias 52.47 37⇑P **P** **05 46 41.2 +1.0**
BZS Buzias 52.47 37⇑*i*P **P** **05 46 41.2 +1.0**
FRF La Foret Royal 52.63 51 *e*P **P** **05 46 41.6 +0.1**
comp=Z,35nm,1.1s,mb4.9
PLOR Plostina 52.76 33⇑P **P** **05 46 43.4 +1.1**
PLOR Plostina 52.76 33⇑*i*P **P** **05 46 43.4 +1.1**
GZR Gura Zlata 52.82 36⇓P **P** **05 46 43.6 +0.8**
GZR Gura Zlata 52.82 36⇓*i*P **P** **05 46 43.6 +0.8**
LMR La Mourre 52.84 51 *e*P **P** **05 46 43.5 +0.5**
MVO Moncorvo 52.92 64 *e*P **P** **05 46 44.5 +0.9**
MLR Muntele Rosu 53.05 34 ⇓P **P** **05 46 45.6 +1.1**
MLR Muntele Rosu 53.05 34⇓*i*P **P** **05 46 45.5 +1.0**
MK31 Makanchi Array 53.31 345 *e*P **P** **05 46 45.3 -1.2**
MK31 Makanchi Array 53.31 345 *i*P **P** **05 46 45.0 -1.4**
MK31 pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
MKAR Makanchi Array 53.31 345 P **P** **05 46 45.5 -1.0**
comp=Z,3.1nm,0.7s,mb4.3,baz=351,slow=5.7,SNR=16
MKAR PcP PcP 05 47 52.9 -0.9
comp=Z,6.5nm,1.0s,baz=350,slow=3.7,SNR=4.0
MKAR Makanchi Array 53.31 345 P **P** **05 46 45.5 -1.0**
MKAR PcP PcP 05 47 52.9 -1.0
MKAR Makanchi Array 53.31 345 P **P** **05 46 45.5 -0.9**
MKAR 05 47 52.9
MTE Manteigas 53.58 65 *e*P **P** **05 46 44.7 -3.8**
comp=Z,36nm,1.3s,mb5.1
PGF Pioggiola 53.95 49 *e*P **P** **05 46 51.1 -0.1**
ESDC Sonseca Array 54.86 62 P **P** **05 46 58.0 +0.1**
comp=Z,3.8nm,0.8s,mb4.5,baz=354,slow=8.2,SNR=22
ESDC LR LR 06 10 44.4
comp=Z,241nm,19.1s,MS4.3,baz=340,slow=36
ESDC Sonseca Array 54.86 62 P **P** **05 46 58.0 +0.1**
ESDC LR LR 06 10 44.4
PAB San Pablo 54.92 62 *e*P **P** **05 46 58.8 +0.5**
comp=Z,7.8nm,0.8s,mb4.8
PAB San Pablo 54.92 62 *e*P **P** **05 46 58.8 +0.5**
PAB pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
EVO Evora 55.33 66 *e*P **P** **05 46 59.8 -1.4**
comp=Z,26nm,1.2s,mb4.8
EVO *e*R
comp=Z,159nm,17.2s
EVO Evora 55.33 66 *e*P **P** **05 47 00.0 -1.2**
comp=Z,17nm,1.8s,mb4.8
PNCL Nicolau / Gran 55.65 66 *e*P **P** **05 47 03.9 +0.4**
comp=Z,25nm,1.4s,mb5.1
PBAR Barrancos 55.83 65 *e*P **P** **05 47 05.2 +0.4**
comp=Z,26nm,1.9s,mb4.9
KIV Kislovodsk 55.90 19 *e*P **P** **05 47 09.5 +4.3**
KIV pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
KIV MLR MLR
comp=Z,62nm,16.0s,MS3.8
WMQ Urumqi 55.99 340 P **P** **05 47 08.1 +2.2**
MORF Marmelete 56.42 67 *e*P **P** **05 47 09.4 +0.4**
comp=Z,46nm,1.5s,mb5.3
PFVI Vila Bisbo 56.56 67 A 05 47 07.7
comp=Z,103nm,1.7s
HHC Hu-ho-hao-te 56.78 319 *e*P **P** **05 47 11.0 -0.5**
HHC sP sP 05 47 17.6 +5.2
HHC PcP PcP 05 48 07.5 +0.2
HHC PP PP 05 49 17.8 +0.5
HHC S **S** **05 55 00.3 -4.6**
HHC ScS ScS 05 56 56.5 -4.7
HHC SS SS 05 58 49.5 -2.4
HHC pmax pmax
comp=Z,14nm,0.6s,mb5.2
HHC pmax pmax
comp=Z,130nm,4.0s
HHC LR LR
comp=N,390nm,20.2s,MS4.9
HHC LR LR
comp=E,930nm,19.0s,MS4.9
HHC LR LR
comp=Z,250nm,19.0s,MS4.3
BJI Beijing 57.01 314 P **P** **05 47 12.4 -0.8**
BJI pmax pmax
comp=Z,15nm,0.8s,mb5.1
ZEI Tsey 57.15 18 *e*P **P** **05 47 14.7 +0.6**
ZEI pmax pmax
comp=Z,11nm,1.0s,mb4.8
MJAR Matsushiro Arr 57.18 293 P **P** **05 47 13.7 -0.7**
comp=Z,4.2nm,0.9s,mb4.5,baz=350,slow=7.6,SNR=6.5
MJAR Matsushiro Arr 57.18 293 P **P** **05 47 13.7 -0.7**
MJAR Matsushiro Arr 57.18 293 P **P** **05 47 13.7 -0.8**
KK31 Karatay Array 57.37 355 *i*P **P** **05 47 15.7 0.0**
KK31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
KKAR Karatay Array 57.37 355 *e*P **P** **05 47 16.0 +0.3**
comp=Z,3.9nm,0.6s,mb4.6
KKAR Karatay Array 57.37 355 *e*P **P** **05 47 16.0 +0.3**
KKAR pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
TKM2 Tokmak 2 57.43 351 *e*P **P** **05 47 16.8 +0.7**
comp=Z,8.4nm,0.9s,mb4.8
TKM2 Tokmak 2 57.43 351 *e*P **P** **05 47 16.8 +0.6**
TKM2 pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
KSRS Korea Array 57.91 303 P **P** **05 47 18.8 -0.8**
comp=Z,2.4nm,0.8s,mb4.3,baz=12,slow=6.9,SNR=5.3
KSRS LR LR 06 13 46.6
comp=Z,58nm,20.7s,MS3.7,baz=5.0,slow=38
KSRS Korea Array 57.91 303 P **P** **05 47 18.8 -0.8**
KSRS pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
KSRS MLR MLR
comp=Z,58nm,20.7s,MS3.7
KSAR Wonju Array Be 57.93 303 P **P** **05 47 18.8 -1.0**
KSAR LR LR 06 13 46.6
KSAR Wonju Array Be 57.93 303 P **P** **05 47 18.8 -0.9**
GTA Gaotai 59.44 329 *e*P **P** **05 47 30.5 +0.3**
GTA pP 05 47 34.8
GTA sP sP 05 47 38.3 +7.2
GTA pmax pmax
comp=Z,19nm,1.0s,mb5.1
BR131 Keskin Array S 59.46 28 *e*P **P** **05 47 31.0 +0.7**
comp=Z,3.9nm,0.8s,mb4.5
BRTR Keskin Array B 59.46 28 P **P** **05 47 30.7 +0.3**
comp=Z,2.8nm,0.8s,mb4.3,baz=353,slow=5.3,SNR=12
BRTR PP PP 05 49 41.5 +0.4
comp=Z,1.6nm,0.9s,baz=353,slow=9.3,SNR=3.7
BRTR Keskin Array B 59.46 28 P **P** **05 47 30.7 +0.3**
BRTR PP PP 05 49 41.5 +0.4
BRTR Keskin Array B 59.46 28 P **P** **05 47 30.7 +0.3**
BRTR 05 49 41.5
KEST Kesra 60.70 50 P **P** **05 47 39.8 +0.9**
comp=Z,3.0nm,0.6s,mb4.6,baz=294,slow=3.3,SNR=12
KEST Kesra 60.70 50 P **P** **05 47 39.8 +0.9**
KSH Kashi 60.82 350 *e*P **P** **05 47 40.5 +0.8**
KSH pP 05 47 45.1
KSH sP sP 05 47 47.5 +7.0
KSH PcP PcP 05 48 24.0 +0.6
KSH PP PP 05 49 56.8 +3.7
KSH ScP ScP 05 52 23.5 -1.7
KSH PcS PcS 05 52 25.3 -0.6
KSH S **S** **05 55 55.6 -1.8**
KSH ScS ScS 05 57 27.3 -3.8
KSH SS SS 05 59 55.8 +0.5
KSH pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
KSH pmax pmax
comp=Z,67nm,6.7s
KSH LR LR
comp=N,89nm,3.4s
KSH LR LR
comp=E,95nm,4.7s
KSH LR LR
comp=Z,290nm,5.5s
LZH Lanzhou 62.34 325 *e*P **P** **05 47 50.9 +0.9**
LZH pP 05 47 55.0
LZH sP sP 05 47 57.3 +6.5
LZH pmax pmax
comp=Z,25nm,1.0s,mb5.3
LZH pmax pmax
comp=Z,58nm,4.0s
XAN Xi'an 63.81 320 P **P** **05 47 58.8 -1.0**
XAN pP 05 48 05.4
XAN pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
XAN LR LR
comp=N,190nm,11.0s
WHN Wuhan 66.60 314 P **P** **05 48 17.0 -0.9**
ENH Enshi 67.47 319 *e*P **P** **05 48 22.7 -0.7**
comp=N,3.8nm,0.5s,mb4.7
CD2 Chengdu 67.47 324 P **P** **05 48 23.5 0.0**
CD2 pP 05 48 27.3
CD2 sP sP 05 48 29.6 +5.3
CD2 PP PP 05 50 53.1 +1.5
CD2 S S 05 57 16.8 -3.2
CD2 sS sS 05 57 23.4 +2.3
CD2 SS SS 06 01 37.8 -1.5
CD2 pmax pmax
comp=Z,30nm,0.7s,mb5.4
CD2 pmax pmax
comp=Z,200nm,5.1s
CD2 LR LR
comp=N,410nm,6.5s
CD2 LR LR
comp=Z,260nm,7.1s
LSA Lhasa 69.80 336 *e*P **P** **05 48 39.6 +1.6**
comp=Z,9.4nm,0.7s,mb4.8
LSA Lhasa 69.80 336 *e*P **P** **05 48 39.6 +1.6**
LSA pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
MIB Mutribah 70.25 16 *e*P **P** **05 48 41.0 +0.3**
MIB AMb AMB 05 48 42.0
comp=Z,56nm,0.9s,mb5.5
NAY Al-Naaiem 70.79 16 *e*P **P** **05 48 44.0 -0.1**
NAY AMb AMB 05 48 45.0
comp=Z,18nm,1.2s,mb4.9
RDF Al-Radifah 71.13 16 *e*P **P** **05 48 46.8 +0.7**
RDF AMb AMB 05 48 48.0
comp=Z,79nm,1.1s,mb5.6
GYA Guiyang 71.56 321 P **P** **05 48 50.3 +1.6**
GYA S S 05 58 06.5 -1.7
GYA SKS 05 58 48.0
GYA SS SS 06 02 42.3 0.0
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
GYA pmax pmax
comp=Z,110nm,6.5s
GYA LR LR
comp=N,620nm,18.0s,MS5.0
GYA LR LR
comp=E,510nm,19.3s,MS5.0
GYA LR LR
comp=Z,570nm,18.1s,MS4.9
DANN Dangsing 71.62 342 *e*P **P** **05 48 49.1 0.0**
comp=Z,102nm,0.6s,mb5.9
PYUN Piuthan 71.91 343 *e*P **P** **05 48 50.1 -0.7**
comp=Z,54nm,1.1s,mb5.4
GKN Gorkha 71.91 342 *e*P **P** **05 48 50.5 -0.3**
comp=Z,55nm,0.7s,mb5.6
GUN Gumba 71.93 340 *e*P **P** **05 48 51.3 +0.3**
comp=Z,108nm,0.9s,mb5.8
KKN Kakani 72.09 341 *e*P **P** **05 48 52.0 +0.1**
comp=Z,97nm,0.8s,mb5.8
KOLN Koldanda 72.20 343 *e*P **P** **05 48 53.0 +0.4**
comp=Z,23nm,0.8s,mb5.2
DMN Daman 72.28 341 *e*P **P** **05 48 53.4 +0.4**
comp=Z,111nm,0.8s,mb5.8
PKI Pulchoki 72.30 341 *e*P **P** **05 48 53.3 +0.1**
comp=Z,86nm,0.9s,mb5.7
TAPN Taplejung 72.37 339 *e*P **P** **05 48 53.9 +0.3**
RAMN Ramite 72.84 340 *e*P **P** **05 48 56.3 -0.1**
comp=Z,79nm,0.8s,mb5.7
TAM Tamanrasset 72.87 56 *e*P **P** **05 48 56.7 +0.1**
comp=Z,4.2nm,0.9s,mb4.4
TAM Tamanrasset 72.87 56 *e*P **P** **05 48 56.7 +0.1**
TAM pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
ODAN Odare 72.88 339 *e*P **P** **05 48 57.0 +0.4**
comp=Z,82nm,0.6s,mb5.8
KMI Kunming 73.31 324 P **P** **05 48 59.3 +0.1**
KMI pP 05 49 03.3
KMI sP sP 05 49 05.1 +5.1
KMI pmax pmax
comp=Z,17nm,0.9s,mb5.0
SDV Santo Domingo 73.91 134 *e*P **P** **05 49 01.4 -1.4**
comp=Z,6.3nm,0.7s,mb4.7
ROSC El Rosal 77.42 138 P **P** **05 49 22.8 -0.1**
comp=Z,7.0nm,0.9s,mb4.6,baz=95,slow=15,SNR=5.9
ROSC LR LR 06 26 38.2
comp=Z,54nm,21.7s,MS3.8,baz=63,slow=38
ROSC El Rosal 77.42 138 *e*P **P** **05 49 22.6 -0.3**
CHTO Chiang Mai 79.93 327 *e*P **P** **05 49 35.3 -1.4**
comp=Z,16nm,1.6s,mb4.7
CHTO Chiang Mai 79.93 327 *e*P **P** **05 49 35.3 -1.4**
CHTO pmax pmax
comp=Z,16nm,1.6s,mb4.7
CMAR Chiang Mai Arr 80.28 327 P **P** **05 49 37.5 -1.1**
comp=Z,11nm,0.9s,mb4.8,baz=349,slow=6.0,SNR=50
CMAR Chiang Mai Arr 80.28 327 P **P** **05 49 37.5 -1.1**
CMAR Chiang Mai Arr 80.28 327 P **P** **05 49 37.6 -1.0**
TORD Torodi Ar. Bea 81.75 61 P **P** **05 49 45.6 -0.9**
comp=Z,8.5nm,0.7s,mb4.8,baz=330,slow=4.9,SNR=59
TORD Torodi Ar. Bea 81.75 61 P **P** **05 49 45.6 -0.9**
HYB Hyderabad 82.73 347 *i*P **P** **05 49 50.0 -1.6**
DBIC Dimbokro 87.03 69 P **P** **05 50 11.3 -2.0**
comp=Z,2.3nm,0.6s,mb4.6,baz=358,slow=9.5,SNR=5.2
DBIC Dimbokro 87.03 69 P **P** **05 50 11.3 -2.0**
DBIC Dimbokro 87.03 69 P **P** **05 50 11.3 -2.0**
PSI Prapat 95.76 326 P **P** **05 50 52.4 -1.5**
comp=Z,8.7nm,0.7s,mb5.3,baz=338,slow=8.3,SNR=9.8
PSI Prapat 95.76 326 P **P** **05 50 52.4 -1.5**
PSI Prapat 95.76 326 P **P** **05 50 52.4 -1.5**
PPT Papeete 98.87 213 LR LR 06 28 19.9
comp=Z,147nm,20.0s,MS4.5,baz=177,slow=31
ASAR Alice Springs 116.83 286 PKP PKPdf 05 56 09.8 -2.0
comp=Z,3.2nm,0.7s,baz=356,slow=2.9,SNR=4.1
ASAR PKKPab PKKPab 06 06 41.0 -0.2
comp=Z,1.0nm,0.8s,baz=186,slow=3.6,SNR=5.1
BOSA Boshof 126.17 44 PKP PKPdf 05 56 28.9 -0.8
comp=Z,4.0nm,0.9s,baz=344,slow=22,SNR=4.6
BOSA Boshof 126.17 44 PKP PKPdf 05 56 28.9 -0.8
BOSA Boshof 126.17 44 PKIKP PKPdf 05 56 28.9 -0.7
PMSA Palmer Station 147.22 142 PKPbc PKPbc 05 57 08.2 -1.1
comp=Z,19nm,0.8s,baz=270,slow=7.1,SNR=4.3
SNAA Sanae 162.71 100 PKPab PKPab 05 58 15.2 -1.6
comp=Z,0.6nm,0.7s,baz=342,slow=5.3,SNR=6.4
SNAA Sanae 162.71 100 PKP2 PKPab 05 58 15.2 -1.6
SNAA pmax pmax
comp=Z,1.0nm,0.7s
VNDA Vanda 162.84 227 PKPab PKPab 05 58 16.8 -0.5
comp=Z,3.0nm,0.9s,baz=3.1,slow=4.0,SNR=11
VNDA Vanda 162.84 227 PKP2 PKPab 05 58 16.8 -0.5
VNDA pmax pmax
comp=Z,3.0nm,0.9s
SYO Syowa Base 167.45 45⇑*e*P PKPab 05 58 36.4 -1.4
QSPA South Pole Qui 169.69 180 PKPab PKPab 05 58 47.5 0.0
comp=Z,1.9nm,0.9s,baz=150,slow=2.1,SNR=3.7

IDC 18 05:39:23.0±8.3, 54.83N×161.84W, h0km, mb4.1/4, mb1 4.1/5, mb1mx3.8/27, mbtmp4.1/5, ML2.9/1, Error ellipse: s-maj=205.9km s-min=26.7km az=162.0, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**5.94**	**56**	Pn	Pn	Pn	05 40 52.0	0.0
	0.3nm,0.3s,baz=143,slow=12,SNR=11							
KDAK					Sn	Sn	05 41 57.8	-2.9
	0.3nm,0.3s,baz=51,slow=13,SNR=2.8							
PETK	**Petropavlovsk-**	**23.64**	**283**	P	P	P	05 44 35.5	-0.1
	2.8nm,0.5s,baz=87,slow=13,SNR=5.3							
FINES	**FINESS Array B**	**63.90**	**356**	P	P	P	05 49 57.0	+0.1
	1.1nm,0.5s,baz=358,slow=6.3,SNR=5.6							
NOA	**NORSAR Array B**	**64.35**	**4**	P	P	P	05 50 00.2	+0.3
	0.9nm,0.9s,baz=346,slow=5.5,SNR=3.1							
AKASG	**Malin Array Be**	**74.44**	**353**	P	P	P	05 51 02.1	-0.3
	1.5nm,0.4s,baz=11,slow=6.4,SNR=6.4							

*BJI **18** 05:46:52.5, 4.59N×125.06E, h322km, mB4.9/30, mb4.7/46*
*ISCJB **18** 05:46:55.0±0.2, 4.79N±0.02×124.92E±0.03, h326km±2km,*

mb4.6/121, Error ellipse: s-maj=4.3km s-min=2.7km az=174.7

MAN ***18*** *05:46:54.4′61N×124′.84E, h314km, mb5.5, ML4.5, MS4.8*

MOS ***18*** *05:46:55.8±1.1, 4′.79N×124′.75E, h336km, mb4.7/45, Error ellipse: s-maj=11.1km s-min=5.5km az=108.4*

NEIC ***18*** *05:46:55.9±0.6, 4′.79N×124′.80E, h321km±6km, mb4.8/58, Error ellipse: s-maj=6.7km s-min=4.3km az=74.0*

IDC ***18*** *05:46:56.3±0.8, 4′.75N×124′.82E, h327km±7km, mb4.3/34, mb1 4.4/36, mb1mx4.4/38, mbtmp4.4/36, Error ellipse: s-maj=10.3km s-min=5.5km az=78.0*

GCMT ***18*** *05:46:57.2±0.4, 4′.79N×124′.78E, h333km±2km, MW5.3, Moment Tensor Solution. s44,c62; Moment tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{r\phi}$0.00; Best double couple: $M_0$1.10000×10^{17} NP1:ϕ_s139.00000°, δ49.00000°, λ175.00000°. NP2: ϕ_s232.00000°, δ86.00000°, λ41.00000°. Principal axes: T 1.1500, Plg31.0000°, Azm104.0000°; N -0.1000, Plg49.0000°, Azm237.0000°; P -1.0500, Plg25.0000°, Azm358.0000°; Data Used: II IU IC G CN.*

DJA ***18*** *05:46:57.6±0.3, 5′.1N±3′×12′.5E±′, h293km±3km, M5.1/2, mb5.2/42, mB5.5/28, MLv5.7/8, Mw(mB)4.9/28*

ISC 18 05:46:56.0±0.2, **4′.80N**±0′.02×**124′.93E**±0′.03, **h320**km±2km, **h323**km±4.9km; **pP-P, n348,** σ**1**s**17**/358, **mb4.6**/120, **16C-9D, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.26**	**151**	P		**Pn**	**05 47 37.8**	**-1.9**
SGSI				S		**S**	**05 48 10.8**	**-3.8**
KCP	**Kidapawan**	**2.20**	**4**	⇓*e*P		**Pn**	**05 47 45.7**	**-0.4**
KCP				*i* S		**S**	**05 48 25.3**	**-0.8**
DMPH	**Davao City--Mi**	**2.34**	**14**	*e*P		**Pn**	**05 47 47.5**	**+0.3**
DAV	**Davao City (W)**	**2.35**	**16**	P		**Pn**	**05 47 47.3**	**+0.1**
	145nm,0.3s,baz=89,slow=2.1,SNR=37							
DAV				S		**S**	**05 48 25.9**	**-2.4**
	188nm,0.3s,baz=118,slow=12,SNR=4.0							
DAV	**Davao City (W)**	**2.35**	**16**	*e*Pn		**Pn**	**05 47 47.6**	**+0.4**
DAV				*e*Sn		**S**	**05 48 26.9**	**-1.4**
DAV	**Davao City (W)**	**2.35**	**16**	P		**Pn**	**05 47 47.9**	**+0.6**
CTBH	**Cotabato--PC H**	**2.50**	**344**	⇑*e*P		**Pn**	**05 47 48.1**	**-0.4**
MATI	**Mati**	**2.51**	**32**	*e*P		**Pn**	**05 47 49.9**	**+1.3**
MATI				*e*S		**S**	**05 48 18.2**	**-13**
BUKP	**Musuan**	**3.06**	**3**	*e*P		**Pn**	**05 47 55.2**	**+1.5**
PAGZ	**Pagadian**	**3.40**	**333**	*e*P		**Pn**	**05 47 57.7**	**+0.7**
CGP	**Cagayan de Oro**	**3.64**	**356**	⇓*e*P		**Pn**	**05 48 00.5**	**+1.0**
CGP				*i* S		**S**	**05 48 51.5**	**+1.1**
IPIL	**Ipil**	**3.78**	**322**	*e*P		**Pn**	**05 48 01.8**	**+0.9**
KMSI	**Cibinong**	**4.30**	**193**	P		**Pn**	**05 48 05.7**	**-0.9**
TNTI	**Ternate**	**4.69**	**149**	P		**Pn**	**05 48 09.0**	**-1.8**
TBP	**Tagbilaran**	**4.97**	**348**	*e*P		**Pn**	**05 48 16.3**	**+2.3**
SCPH	**Surigao**	**4.98**	**6**	⇑*e*P		**Pn**	**05 48 14.5**	**+0.4**
MRSI	**Marisa**	**5.23**	**215**	P		**Pn**	**05 48 15.9**	**-1.0**
	5.5nm2μm,0.6s							
MSLP	**Maasin**	**5.30**	**359**	*e*P		**Pn**	**05 48 18.9**	**+1.2**
LLP	**Lapu-Lapu**	**5.56**	**350**	*e*P		**Pn**	**05 48 21.1**	**+0.3**
LLP				*e*S		**S**	**05 49 29.5**	**+0.3**
LBMI	**Labuha**	**5.98**	**154**	P		**Pn**	**05 48 23.6**	**-2.1**
	20nm3μm,0.5s							
LBMI				S		**S**	**05 49 33.9**	**-4.3**
	20nm3μm,0.5s							
LUWI	**Luwuk**	**6.19**	**200**	P		**Pn**	**05 48 26.9**	**-1.2**
	6.8nm2μm,0.7s							
GUIM	**Jordan**	**6.23**	**338**	*e*P		**Pn**	**05 48 28.3**	**-0.3**
PLP	**Palo**	**6.32**	**0**	⇓*e*P		**Pn**	**05 48 29.6**	**0.0**
PLP				*e*S		**S**	**05 49 41.7**	**-3.8**
MYLDM	**Lahad Datu**	**6.41**	**274**	P		**Pn**	**05 48 32.1**	**+1.3**
MYLDM	**Lahad Datu**	**6.41**	**274**	P		**Pn**	**05 48 31.1**	**+0.3**
	2.1nm7μm472nm,2.2s							
TSM	**Tawau**	**7.05**	**266**	P		**Pn**	**05 48 37.8**	**-0.6**
RCP	**Roxas**	**7.05**	**342**	⇑*e*P		**Pn**	**05 48 36.2**	**-2.2**
SDKM	**Sandakan**	**7.75**	**277**	P		**Pn**	**05 48 46.1**	**-0.6**
NLAI	**Namlea**	**8.28**	**165**	P		**Pn**	**05 48 50.9**	**-2.2**
	1μm,0.5s							
NLAI				S		**S**	**05 50 23.3**	**-5.2**
	1μm,0.5s							
KDM	**Kudat**	**8.32**	**285**	P		**Pn**	**05 48 54.6**	**+0.9**
KKM	**Kota Kinabalu**	**8.76**	**279**	P		**Pn**	**05 48 59.0**	**0.0**
KKM	**Kota Kinabalu**	**8.76**	**279**	*e*Pn		**Pn**	**05 48 58.5**	**-0.6**
KKM	**Kota Kinabalu**	**8.76**	**279**	P		**Pn**	**05 48 58.5**	**-0.5**
	8μm761nm,0.7s							
KDI	**Kendari**	**9.00**	**195**	P		**Pn**	**05 48 59.3**	**-2.6**
	2μm141nm,0.7s							
MSAI	**Masohi**	**9.03**	**154**	P		**Pn**	**05 49 02.1**	**-0.1**
	205nm,0.7s							
AAI	**Ambon**	**9.04**	**159**	P		**Pn**	**05 49 01.6**	**-0.8**
	10μm690nm,0.6s							
SMKI	**Samarinda**	**9.30**	**236**	P		**Pn**	**05 49 07.4**	**+1.7**
	222nm,1.0s							
TTSI	**Tana Toraja**	**9.31**	**213**	P		**Pn**	**05 49 05.7**	**-0.1**
	10μm875nm,0.8s							
TGY	**Tagaytay City**	**10.04**	**337**	P		**Pn**	**05 49 15.5**	**+0.9**
	51nm,0.3s,baz=15,slow=17,SNR=12							
TGY	**Tagaytay City**	**10.04**	**337**	P		**Pn**	**05 49 15.5**	**+0.9**
TGY	**Tagaytay City**	**10.04**	**337**	P		**Pn**	**05 49 15.5**	**+0.9**
SPSI	**Sidrap Palu**	**10.12**	**211**	P		**Pn**	**05 49 14.6**	**-0.9**
	3μm235nm,0.8s							
MJSI	**Majene**	**10.20**	**216**	P		**Pn**	**05 49 16.7**	**+0.2**
	4μm168nm,0.9s							
BNDI	**Bandanaira**	**10.51**	**152**	P		**Pn**	**05 49 20.2**	**-0.1**
	7μm790nm,1.4s							
BKSI	**Bulukumba**	**11.14**	**206**	P		**Pn**	**05 49 27.4**	**-0.5**
	2μm185nm,1.1s							
KBKI	**Kotabaru**	**11.89**	**228**	P		**Pn**	**05 49 39.6**	**+2.7**
	4μm229nm,1.0s							
BTM	**Bintulu**	**11.92**	**263**	P		**Pn**	**05 49 37.9**	**+0.6**
BAKI	**Biak**	**12.66**	**118**	P		**Pn**	**05 49 48.3**	**+2.1**
	6μm570nm,1.1s							
SBUM	**Sibu**	**12.89**	**260**	P		**Pn**	**05 49 49.8**	**+0.8**
SBUM	**Sibu**	**12.89**	**260**	P		**Pn**	**05 49 49.3**	**+0.3**
	3μm148nm,1.2s							
BBKI	**Banjar Baru**	**12.99**	**231**	P		**Pn**	**05 49 51.2**	**+1.0**
	6μm230nm,1.0s							
PLKI	**Palangkaraya**	**13.00**	**238**	P		**Pn**	**05 49 51.1**	**+0.8**
	633nm,0.9s							
MMRI	**Maumere**	**13.61**	**191**	P		**Pn**	**05 49 57.5**	**0.0**
	3μm269nm,0.7s							
STKI	**Sintang**	**14.23**	**251**	P		**P**	**05 50 05.2**	**+1.4**
	85nm,1.5s							
BMNI	**Bima**	**14.64**	**205**	P		**P**	**05 50 08.5**	**+0.3**
	1μm141nm,0.8s							
KSM	**Kuching**	**14.96**	**258**	P		**P**	**05 50 12.9**	**+1.1**
KSM	**Kuching**	**14.96**	**258**	*e*Pn		**Pn**	**05 50 12.4**	**-1.0**
KSM	**Kuching**	**14.96**	**258**	P		**P**	**05 50 12.6**	**+0.8**
	2μm176nm,0.9s							
SMPI	**Sarmi**	**15.33**	**116**	P		**P**	**05 50 19.1**	**+3.3**
	6μm417nm,1.5s							
MTNI	**Mataram**	**15.95**	**213**	P		**P**	**05 50 23.3**	**+0.8**
	310nm,0.9s							
KHKI	**Kahang-Kahang**	**16.04**	**215**	P		**P**	**05 50 23.9**	**+0.4**
	111nm,0.9s							
KMMI	**Kalianget**	**16.07**	**223**	P		**P**	**05 50 25.6**	**+1.8**
	2μm256nm,1.0s							
IGBI	**Denpasar**	**16.68**	**216**	P		**P**	**05 50 30.9**	**+0.5**
	408nm,0.9s							
BLJI	**Banyuglugur**	**16.82**	**222**	P		**P**	**05 50 33.7**	**+1.7**
	148nm,0.9s							
JAGI	**Jajag, Banyuwa**	**17.01**	**219**	P		**P**	**05 50 35.6**	**+1.6**
	83nm,0.7s							
GMJI	**Gumukmas**	**17.32**	**221**	P		**P**	**05 50 39.7**	**+2.4**
	56nm,0.9s							
SJI	**Sawahan**	**18.09**	**227**	P		**P**	**05 50 47.8**	**+2.1**
	4μm63nm,0.8s							
PWJI	**Pagerwojo**	**18.26**	**226**	P		**P**	**05 50 50.1**	**+2.6**
	39nm,1.2s							
TWG	**Pinlang**	**18.30**	**349**	*e*P		**P**	**05 50 45.2**	**-2.5**
	69nm,0.5s							
SMRI	**Semarang**	**18.64**	**231**	P		**P**	**05 50 52.5**	**+0.9**
	72nm,1.6s							
YULB	**Yu-li**	**18.81**	**350**	*e*P		**P**	**05 50 49.7**	**-3.6**
	24nm,0.4s							
TPI	**Tanjungpandan**	**18.82**	**247**	P		**P**	**05 50 56.6**	**+3.2**
	416nm51nm,0.8s							
TPUB	**Ta-pu**	**18.86**	**348**	*e*P		**P**	**05 50 52.0**	**-1.7**
	187nm,0.5s							
SSLB	**Suanglung**	**19.26**	**349**	*e*P		**P**	**05 50 56.8**	**-1.2**
	109nm,0.6s							
NACB	**Ninganchiao**	**19.53**	**351**	*e*P		**P**	**05 50 59.1**	**-1.7**
	18nm,0.4s							
YHNB	**Yeheng**	**20.05**	**351**	*e*P		**P**	**05 51 05.6**	**-0.6**
	69nm,0.4s							
LEM	**Lembang**	**20.78**	**236**	P		**P**	**05 51 14.3**	**+0.8**
	2μm86nm,1.1s							
QZH	**Quanzhou**	**20.93**	**344**	⇓*i*P		**P**	**05 51 12.0**	**-2.7**
CBJI	**Citeko**	**21.21**	**238**	P		**P**	**05 51 18.6**	**+1.2**
	232nm,0.9s,mb5.4							
MYKOM	**Kota Tinggi**	**21.25**	**263**	P		**P**	**05 51 17.8**	**0.0**
MYKOM	**Kota Tinggi**	**21.25**	**263**	P		**P**	**05 51 18.2**	**+0.4**
KGM	**Kluang**	**21.74**	**263**	P		**P**	**05 51 23.8**	**+1.4**
JOW	**Kunigami**	**22.14**	**8**	P		**P**	**05 51 27.2**	**+1.4**
	64nm,0.5s,mb5.1,baz=182,slow=2.4,SNR=18							
JOW	**Kunigami**	**22.14**	**8**	*e*P		**P**	**05 51 26.1**	**+0.4**
	26nm,0.5s,mb4.7							
FITZ	**Fitzroy Crossi**	**22.77**	**178**	P		**P**	**05 51 31.0**	**-0.5**
	24nm,0.4s,mb4.8,baz=8.0,slow=7.3,SNR=386							
FITZ				S		**S**	**05 55 13.7**	**-2.6**
	5.7nm,0.7s,baz=198,slow=16,SNR=4.3							
FITZ				ScP		ScP	05 58 18.9	-0.6
	5.8nm,0.5s,baz=0.0,slow=1.0,SNR=4.6							
FITZ	**Fitzroy Crossi**	**22.77**	**178**	⇑*i*P		**P**	**05 51 30.9**	**-0.6**
	48nm,0.4s,mb5.1							
FITZ				*e*S		**S**	**05 55 14.8**	**-1.5**
FITZ	**Fitzroy Crossi**	**22.77**	**178**	*e*P		**P**	**05 51 30.5**	**-1.0**
	28nm,0.5s,mb4.8							
IPM	**Ipoh**	**23.82**	**270**	P		**P**	**05 51 40.9**	**-0.3**
IPM	**Ipoh**	**23.82**	**270**	*e*P		**P**	**05 51 40.9**	**-0.3**
	22nm,0.8s,mb4.4							
KULM	**Kulim**	**24.19**	**272**	P		**P**	**05 51 44.5**	**0.0**
KULM	**Kulim**	**24.19**	**272**	*e*P		**P**	**05 51 43.9**	**-0.7**
	7.7nm,0.8s,mb4.0							
COEN	**Coen**	**25.98**	**136**	*e*P		**P**	**05 52 00.0**	**-0.5**
	112nm,0.5s,mb5.3							
PSI	**Prapat**	**26.02**	**267**	P		**P**	**05 52 00.5**	**-0.5**
	8.5nm,0.6s,mb4.1,baz=92,slow=5.8,SNR=7.3							
PSI				ScP		ScP	05 58 27.1	-1.7
	10nm,0.7s,baz=93,slow=3.5,SNR=9.9							
PSI	**Prapat**	**26.02**	**267**	P		**P**	**05 52 00.5**	**-0.5**
PSI				ScP		ScP	05 58 27.1	-1.7
PSI	**Prapat**	**26.02**	**267**	P		**P**	**05 52 00.5**	**-0.4**
WRAB	**Tennant Creek**	**26.27**	**160**	*e*P		**P**	**05 52 02.0**	**-1.0**
	43nm,0.8s,mb4.7							
PMG	**Port Moresby**	**26.27**	**122**	P		**P**	**05 52 03.5**	**+0.3**
	43nm,0.8s,mb4.7,baz=304,slow=5.7,SNR=12							
PMG	**Port Moresby**	**26.27**	**122**	*e*P		**P**	**05 52 04.1**	**+0.9**
	70nm,1.0s,mb4.8							
PMG	**Port Moresby**	**26.27**	**122**	*e*P		**P**	**05 52 04.1**	**+1.0**
PMG				pmax		pmax		
	comp=Z,70nm,1.0s							
WRA	**Warramunga Arr**	**26.27**	**160**	P		**P**	**05 52 02.0**	**-1.0**
	comp=Z,25nm,0.5s,mb4.7,baz=333,slow=10,SNR=250							
WRA				S		**S**	**05 56 07.7**	**-3.9**
	comp=Z,12nm,0.6s,baz=338,slow=16,SNR=9.9							
WRA	**Warramunga Arr**	**26.27**	**160**	P		**P**	**05 52 02.0**	**-1.0**
WRA				S		**S**	**05 56 07.7**	**-3.9**
WB2	**Warramunga Arr**	**26.27**	**160**	*e*P		**P**	**05 52 02.0**	**-1.0**
MBWA	**Marble Bar**	**26.30**	**191**	*e*P		**P**	**05 52 01.4**	**-1.8**
	comp=Z,12nm,0.6s,mb4.3							
WHN	**Wuhan**	**27.48**	**340**	⇓P		**P**	**05 52 16.0**	**+2.3**
CBIJ	**Chichi jima**	**27.62**	**35**	P		**P**	**05 52 14.5**	**-0.4**
	comp=Z,76nm,0.5s,mb5.2,baz=239,slow=4.4,SNR=26							
CBIJ				S		**S**	**05 56 30.8**	**-1.9**
	comp=Z,98nm,0.6s,baz=281,slow=23,SNR=13							
GYA	**Guiyang**	**27.73**	**323**	*e*P		**P**	**05 52 17.3**	**+1.4**
GYA				pP			05 53 16.0	
GYA				sP		sP	05 53 53.9	+0.3
GYA				S		**S**	**05 56 36.3**	**+1.9**
GYA				sS		sS	05 58 22.3	-2.6
GYA				ScP		ScP	05 58 33.8	+0.1
GYA				PcS		PcS	05 59 07.3	+1.2
GYA				ScS		ScS	06 02 24.8	-1.6
GYA				pmax		pmax		
	comp=Z,20nm,0.6s,mb4.5							
GYA				pmax		pmax		
	comp=Z,140nm,4.8s							
JNU	**Nakatsue**	**28.72**	**10**	*e*P		**P**	**05 52 24.7**	**+0.1**
	comp=Z,40nm,1.2s,mb4.5							
CM31	**Chiang Mai Arr**	**28.78**	**300**	*e*P		**P**	**05 52 26.4**	**+1.1**
	comp=Z,5.4nm,0.4s,mb4.1							
CMAR	**Chiang Mai Arr**	**28.78**	**300**	P		**P**	**05 52 25.6**	**+0.3**
	comp=Z,8.1nm,0.6s,mb4.1,baz=121,slow=7.7,SNR=40							
CMAR				ScP		ScP	05 58 37.7	+0.6
	comp=Z,7.1nm,0.8s,baz=150,slow=1.8,SNR=34							
CMAR	**Chiang Mai Arr**	**28.78**	**300**	P		**P**	**05 52 25.6**	**+0.3**
CMAR				ScP		ScP	05 58 37.7	+0.6
CMAR	**Chiang Mai Arr**	**28.78**	**300**	P		**P**	**05 52 25.7**	**+0.4**
ENH	**Enshi**	**29.23**	**332**	*e*P		**P**	**05 52 29.7**	**+0.7**
	comp=Z,34nm,0.7s,mb4.7							
KMI	**Kunming**	**29.36**	**316**	P		**P**	**05 52 31.9**	**+1.6**
KMI				pP			05 53 34.8	
KMI				PP		PP	05 53 44.4	+0.1
KMI				S		**S**	**05 57 01.8**	**+1.8**
KMI				SS		SS	05 59 06.3	-14
KMI				pmax		pmax		
	comp=Z,16nm,1.0s,mb4.2							
KMI				pmax		pmax		
	comp=Z,200nm,3.7s							
KMI				LR		LR		
	comp=N,280nm,12.5s							
KMI				LR		LR		
	comp=E,210nm,9.4s							
KMI				LR		LR		
	comp=Z,220nm,12.9s							
ASAR	**Alice Springs**	**29.62**	**163**	P		**P**	**05 52 32.2**	**-0.4**
	comp=Z,10nm,0.4s,mb4.4,baz=350,slow=7.6,SNR=104							
ASAR				PcP		PcP	05 55 28.3	-0.2
	comp=Z,4.4nm,0.5s,baz=349,slow=2.3,SNR=7.6							
ASAR				S		**S**	**05 57 02.5**	**-1.5**
	comp=Z,10nm,0.7s,baz=348,slow=21,SNR=17							
ASAR				ScP		ScP	05 58 39.5	-0.2
	comp=Z,10nm,1.1s,baz=344,slow=4.3,SNR=11							
ASAR	**Alice Springs**	**29.62**	**163**	P		**P**	**05 52 32.2**	**-0.4**
ASAR				PcP		PcP	05 55 28.3	-0.2
ASAR				S		**S**	**05 57 02.5**	**-1.5**
ASAR				ScP		ScP	05 58 39.5	-0.2
CTA	**Charters Tower**	**32.42**	**140**	*e*P		**P**	**05 52 57.9**	**+0.8**
	comp=Z,23nm,0.9s,mb4.4							
CTAO	**Charters Tower**	**32.42**	**140**	*e*P		**P**	**05 52 57.9**	**+0.8**
	comp=Z,26nm,0.7s,mb4.6							
CTAO	**Charters Tower**	**32.42**	**140**	*e*P		**P**	**05 52 57.9**	**+0.8**
CTAO				pmax		pmax		
	comp=Z,26nm,0.7s,mb4.6							
KSAR	**Wonju Array Be**	**32.60**	**4**	P		**P**	**05 52 59.0**	**+0.7**
KSAR				PcP		PcP	05 55 36.1	-0.2
KSAR	**Wonju Array Be**	**32.60**	**4**	P		**P**	**05 52 59.1**	**+0.7**
KSAR							05 55 36.2	
KSRS	**Korea Array**	**32.62**	**4**	P		**P**	**05 52 59.0**	**+0.5**
	comp=Z,21nm,1.0s,mb4.3,baz=182,slow=10,SNR=26							
KSRS				PcP		PcP	05 55 36.1	-0.2
	comp=Z,2.0nm,0.6s,baz=192,slow=3.1,SNR=5.0							
KSRS	**Korea Array**	**32.62**	**4**	P		**P**	**05 52 59.1**	**+0.6**
KSRS							05 55 36.2	
KSRS				pmax		pmax		
	comp=Z,21nm,1.0s,mb4.3							
KSRS				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb3.5							
XAN	**Xi'an**	**32.67**	**335**	P		**P**	**05 52 58.6**	**-0.5**
XAN				S		**S**	**05 57 44.3**	**-6.9**
XAN				pmax		pmax		
	comp=Z,17nm,1.2s,mb4.2							
XAN				pmax		pmax		
	comp=Z,54nm,5.1s							
XAN				LR		LR		
	comp=N,220nm,14.6s							
XAN				LR		LR		
	comp=E,95nm,18.7s							
XAN				LR		LR		
	comp=Z,60nm,16.7s							
CD2	**Chengdu**	**32.73**	**325**	P		**P**	**05 53 00.8**	**+1.2**
CD2				pP		pP	05 54 01.9	+0.8
CD2				PP		PP	05 54 24.8	+3.3
CD2				sP		sP	05 54 38.3	+0.2
CD2				S		**S**	**05 57 53.1**	**+0.9**
CD2				sS		sS	05 59 43.0	-0.8
CD2				SS		SS	06 00 21.3	-7.9
CD2				pmax		pmax		
	comp=Z,40nm,1.2s,mb4.5							
CD2				pmax		pmax		
	comp=Z,270nm,5.2s							
MAJO	**Matsushiro**	**33.87**	**19**	*e*P		**P**	**05 53 08.9**	**-0.4**
	comp=Z,45nm,0.9s,mb4.7							
MAJO	**Matsushiro**	**33.87**	**19**	*e*P		**P**	**05 53 08.9**	**-0.4**
MAJO				pmax		pmax		
	comp=Z,45nm,0.9s,mb4.7							
MAT	**Matsushiro**	**33.87**	**19**	P		**P**	**05 53 08.9**	**-0.4**
MAT				*e*S		**S**	**05 58 11.0**	**+1.5**
MJAR	**Matsushiro Arr**	**33.87**	**19**	P		**P**	**05 53 09.1**	**-0.2**
	comp=Z,42nm,0.8s,mb4.8,baz=197,slow=9.8,SNR=67							
MJAR	**Matsushiro Arr**	**33.87**	**19**	P		**P**	**05 53 09.1**	**-0.2**
MJAR	**Matsushiro Arr**	**33.87**	**19**	P		**P**	**05 53 09.1**	**-0.2**
FORT	**Forrest**	**35.50**	**175**	⇑*i*P		**P**	**05 53 22.8**	**-0.5**
	comp=Z,116nm,0.6s,mb5.3							
FORT				*e*PCP		PcP	05 55 44.7	-0.1
FORT	**Forrest**	**35.50**	**175**	*e*P		**P**	**05 53 23.0**	**-0.3**
	comp=Z,119nm,0.6s,mb5.3							
BJT	**Baijiatuao**	**35.94**	**349**	*e*P		**P**	**05 53 27.4**	**+0.5**
	comp=Z,82nm,0.7s,mb5.1							
BJT	**Baijiatuao**	**35.94**	**349**	*e*P		**P**	**05 53 27.4**	**+0.5**
BJT				pmax		pmax		
	comp=Z,82nm,0.7s							
BJI	**Beijing**	**35.96**	**349**	P		**P**	**05 53 26.3**	**-0.7**
BJI				pP		pP	05 54 31.3	+2.0
BJI				sP		sP	05 55 05.4	-0.8
BJI				PcP		PcP	05 55 45.8	-0.2
BJI				S		**S**	**05 58 46.8**	**+5.5**
BJI				pmax		pmax		
	comp=Z,100nm,1.2s,mb4.9							
BJI				pmax		pmax		
	comp=Z,350nm,3.5s							
LZH	**Lanzhou**	**36.69**	**331**	⇓P		**P**	**05 53 34.3**	**+1.1**
LZH				sP		sP	05 55 08.5	-4.0
LZH				S		**S**	**05 58 54.0**	**+1.7**
LZH				sS		sS	06 00 45.0	-0.3
LZH				SS		SS	06 01 45.3	-3.2
LZH				pmax		pmax		
	comp=Z,130nm,1.3s,mb5.0							
LZH				pmax		pmax		
	comp=Z,380nm,4.0s							
KLBR	**Kellerberrin**	**36.83**	**190**	⇑*i*P		**P**	**05 53 33.3**	**-1.1**
	comp=Z,10nm,0.4s,mb4.4							
SHL	**Shillong**	**37.80**	**307**	⇓*i*P		**P**	**05 53 42.0**	**-0.6**
	comp=Z,17nm,0.5s,mb4.5							
SHL				*e*S		**S**	**05 59 08.5**	**-0.9**
HHC	**Hu-ho-hao-te**	**37.84**	**343**	*e*P		**P**	**05 53 43.5**	**+0.7**
HHC				pP		pP	05 54 47.5	+1.8
HHC				PP		PP	05 55 20.8	+3.6
HHC				sP		sP	05 55 23.3	+0.9
HHC				S		**S**	**05 59 11.5**	**+1.9**
HHC				SS		SS	06 02 09.4	-2.0
HHC				ScS		ScS	06 03 18.4	0.0
HHC				pmax		pmax		
	comp=Z,36nm,1.2s,mb4.5							
HHC				pmax		pmax		
	comp=Z,170nm,4.5s							
HHC				LR		LR		
	comp=N,300nm,20.2s							
HHC				LR		LR		
	comp=E,950nm,21.4s							
HHC				LR		LR		
	comp=Z,170nm,19.0s							
NWAO	**Narrogin (SRO)**	**38.22**	**190**	*e*P		**P**	**05 53 44.7**	**-1.3**
	comp=Z,18nm,0.6s,mb4.5							
NWAO	**Narrogin (SRO)**	**38.22**	**190**	*e*P		**P**	**05 53 44.7**	**-1.3**
NWAO				pmax		pmax		
	comp=Z,18nm,0.6s							
VLA	**Vladivostok**	**38.66**	**8**	⇑*e*P		**P**	**05 53 49.3**	**-0.1**
VLA				pmax		pmax		
	comp=Z,146nm,1.7s,mb4.9							
CN2	**Changchun**	**38.84**	**1**	⇑P		**P**	**05 53 52.3**	**+1.3**
CN2				*e*sP		sP	05 55 32.5	+1.7
CN2				*e*S		**S**	**05 59 27.0**	**+2.6**
CN2				pmax		pmax		
	comp=Z,10.0nm,1.1s,mb4.0							
CN2				pmax		pmax		
	comp=Z,200nm,4.0s							
EIDS	**Eidsvold**	**39.30**	**141**	*e*P		**P**	**05 53 54.7**	**-0.3**
	comp=Z,21nm,0.5s,mb4.6							
STKA	**Stephens Creek**	**39.78**	**158**	P		**P**	**05 53 59.6**	**+0.8**
	comp=Z,79nm,0.5s,mb5.2,baz=333,slow=8.2,SNR=189							
STKA				S		**S**	**05 59 38.9**	**+0.3**
	comp=Z,9.6nm,0.9s,baz=330,slow=15,SNR=9.0							
STKA	**Stephens Creek**	**39.78**	**158**	⇑*i*P		**P**	**05 53 59.6**	**+0.8**
	comp=Z,59nm,0.4s,mb5.2							
STKA				*e*			05 59 37.6	
STKA	**Stephens Creek**	**39.78**	**158**	*e*P		**P**	**05 53 59.6**	**+0.8**
	comp=Z,13nm,0.5s,mb4.4							
STKA	**Stephens Creek**	**39.78**	**158**	*e*P		**P**	**05 53 59.6**	**+0.8**
STKA				pmax		pmax		
	comp=Z,13nm,0.5s							
MDJ	**Mudanjiang**	**39.87**	**5**	P		**P**	**05 53 59.0**	**-0.3**
MDJ				pP		pP	05 55 00.8	-2.1
MDJ				sP		sP	05 55 35.9	-3.5
MDJ				S		**S**	**05 59 43.3**	**+3.8**
MDJ				sS		sS	06 01 34.8

comp=Z,62nm,0.3s,mb5.3
TLY Talaya 49.97 343 *e*P P 05 55 18.5 +0.3
comp=Z,26nm,1.0s,mb4.4
TLY Talaya 49.97 343 *e*P P 05 55 17.5 -0.7
TLY pmax pmax
comp=Z,24nm,1.0s,mb4.4
MOY Mondy 50.78 341 *e*P P 05 55 25.6 +1.4
MOY pmax pmax
comp=Z,88nm,1.7s,mb4.7
BISR Bishrakh 50.81 303 *e*PKP P 05 55 23.6 -1.3
WMQ Urumqi 50.83 326 P P 05 55 25.4 +0.7
SONA Sohna 51.01 303 *e*PKP P 05 55 25.1 -1.3
SONA AMb AMB 05 55 26.7
comp=Z,19nm,0.6s,mb4.5
AYAN Aya Nagar 51.05 303 *e*PKP P 05 55 24.7 -1.9
KKR Kurukshetra 51.77 305 *e*PKP P 05 55 31.1 -0.9
KKR AMb AMB 05 55 43.6
comp=Z,300nm,0.1s
CLNS Chul'man 51.89 360 *e*P P 05 55 31.5 -0.8
CLNS pmax pmax
comp=Z,13nm,0.8s,mb4.3
CLNS pmax pmax
comp=N,7.0nm,0.8s
KHET Khetri 52.03 302 *e*PKP P 05 55 32.2 -1.7
PEA0B Petropavlovsk- 55.15 23 *e*P P 05 55 57.2 +1.4
PETK Petropavlovsk- 55.15 23 P P 05 55 57.4 +1.5
comp=N,25nm,0.7s,mb4.7,baz=192,slow=5.6,SNR=15
PETK PcP PcP 05 56 53.3 +0.6
comp=N,2.6nm,0.4s,baz=211,slow=5.1,SNR=4.2
PETK Petropavlovsk- 55.15 23 P P 05 55 57.4 +1.5
PETK PcP PcP 05 56 53.3 +0.6
PETK Petropavlovsk- 55.15 23 P P 05 55 57.4 +1.6
PETK 05 56 53.3
PET Petropavlovsk 55.47 24 *i* P P 05 55 58.8 +0.7
PET pmax pmax
comp=Z,127nm,1.4s,mb5.1
MK31 Makanchi Array 55.66 326 *e*P P 05 55 59.5 -0.1
MK31 Makanchi Array 55.66 326 *e*P P 05 55 59.4 -0.2
MK31 pmax pmax
comp=Z,5.0nm,0.3s,mb4.3
MKAR Makanchi Array 55.66 326 P P 05 55 59.0 -0.6
comp=Z,12nm,0.4s,mb4.5,baz=120,slow=7.6,SNR=226
MKAR PcP PcP 05 56 53.0 -1.8
comp=Z,2.8nm,0.6s,baz=114,slow=3.4,SNR=4.6
MKAR ScP ScP 06 00 20.9 -1.8
comp=Z,2.5nm,0.7s,baz=126,slow=5.4,SNR=5.1
MKAR Makanchi Array 55.66 326 P P 05 55 59.0 -0.6
MKAR PcP PcP 05 56 53.0 -1.8
MKAR ScP ScP 06 00 20.9 -1.8
MKAR Makanchi Array 55.66 326 P P 05 55 59.0 -0.6
MKAR 05 56 53.1
KSH Kashi 56.02 315 P P 05 56 02.8 +0.5
KSH PcP PcP 05 56 57.1 +0.7
KSH pP pP 05 57 11.5 +0.8
KSH sP sP 05 57 45.9 0.0
KSH PP PP 05 58 13.8 +2.6
KSH ScP ScP 06 00 24.0 -0.5
KSH PcS PcS 06 00 56.4 -0.8
KSH S S 06 03 21.4 -3.9
KSH ScS ScS 06 05 15.8 -2.5
KSH sS sS 06 05 24.8 -1.9
KSH SS SS 06 07 17.3 +0.3
KSH pmax pmax
comp=Z,17nm,1.1s,mb4.3
KSH pmax pmax
comp=Z,240nm,5.8s
KSH LR LR
comp=N,83nm,4.5s
KSH LR LR
comp=E,120nm,4.5s
KSH LR LR
comp=Z,140nm,6.6s
MSVF Nonsavu 56.99 115 *e*P P 05 56 11.2 +1.8
comp=Z,36nm,1.2s,mb4.6
MSVF Nonsavu 56.99 115 *e*P P 05 56 11.2 +1.8
MSVF pmax pmax
comp=Z,36nm,1.2s,mb4.6
YAK Yakutsk 57.21 3 *e*P P 05 56 08.6 -1.6
YAK pmax pmax
comp=Z,33nm,1.2s,mb4.5
YAK pmax pmax
comp=N,28nm,1.5s
YAK pmax pmax
comp=E,7.0nm,1.0s
KZA Kyzart 57.62 318 P P 05 56 14.2 +0.8
SNR=13
TKM2 Tokmak 2 57.76 319 P P 05 56 14.3 0.0
SNR=14
TKM2 Tokmak 2 57.76 319 *e*P P 05 56 14.3 -0.1
comp=E,44nm,1.4s,mb4.6
TKM2 Tokmak 2 57.76 319 P P 05 56 14.5 +0.1
TKM2 pmax pmax
comp=Z,21nm,0.9s,mb4.5
CHMS Chumysh 58.35 319 P P 05 56 18.3 -0.1
SNR=5.4
AAK Ala-Archa 58.36 318 P P 05 56 19.1 +0.6
SNR=7.4
AAK Ala-Archa 58.36 318 *ce*P P 05 56 19.0 +0.5
FRU Bishkek 58.37 318 *e*P P 05 56 18.0 -0.5
FRU pmax pmax
comp=Z,38nm,1.8s,mb4.4
USP Ospenovka 58.63 319 P P 05 56 20.1 -0.3
SNR=13
AML Almayashu 58.69 317 P P 05 56 21.5 +0.7
SNR=13
ZAA0 Zalesovo Array 58.83 334 *e*P P 05 56 19.8 -1.7
ZALV Zalesovo Beam 58.83 334 P P 05 56 20.1 -1.4
comp=Z,12nm,0.9s,mb4.3,baz=127,slow=6.3,SNR=34
ZALV Zalesovo Beam 58.83 334 P P 05 56 20.1 -1.4
ZALV Zalesovo Beam 58.83 334 P P 05 56 20.1 -1.4
EKS2 Erkin-Say 58.85 318 P P 05 56 22.1 +0.2
SNR=10
EKS2 Erkin-Say 58.85 318 *e*P P 05 56 22.1 +0.2
comp=Z,39nm,1.3s,mb4.7
EKS2 Erkin-Say 58.85 318 *e*P P 05 56 22.1 +0.2
EKS2 pmax pmax
comp=Z,39nm,1.3s,mb4.7
KBL Kabul 59.45 307 *e*P P 05 56 25.5 -0.6
comp=Z,38nm,1.3s,mb4.7
KBL Kabul 59.45 307 *e*P P 05 56 25.5 -0.6
KBL pmax pmax
comp=Z,38nm,1.3s,mb4.7
KURK Kurchatov 59.88 328 P P 05 56 27.6 -1.0
comp=Z,22nm,0.7s,mb4.7,baz=129,slow=6.3,SNR=133
KURK Kurchatov 59.88 328 *e*P P 05 56 27.7 -0.9
comp=Z,35nm,0.8s,mb4.8
KURK Kurchatov 59.88 328 *e*P P 05 56 27.7 -1.0
KURK pmax pmax
comp=Z,35nm,0.8s,mb4.8
NVS Novosibirsk 60.12 334 *i*P P 05 56 29.4 -0.8
NVS *e*S S 06 04 16.2 -1.2
NVS pmax pmax
comp=N,22nm,1.2s
NVS pmax pmax
comp=E,17nm,1.2s
NVS pmax pmax
comp=Z,39nm,1.2s,mb4.7
NVS smax
comp=N,17nm,1.7s
NVS smax
comp=E,106nm,2.2s
KK31 Karatay Array 61.23 317 P P 05 56 37.3 -0.6
KK31 pmax pmax
comp=Z,24nm,1.1s,mb4.5
KKAR Karatay Array 61.23 317 *e*P P 05 56 37.1 -0.8
comp=Z,30nm,1.1s,mb4.6
KKAR Karatay Array 61.23 317 *e*P P 05 56 37.1 -0.8
KKAR pmax pmax
comp=Z,30nm,1.1s,mb4.6
SEY Seymchan 61.42 14 *i*P P 05 56 40.7 +2.0
FX1 Attu Island--F 62.07 31 P P 05 56 45.1 +1.8
comp=Z,12nm,0.5s,mb4.7,baz=128,slow=20,SNR=10
FX1 Attu Island--F 62.07 31 P P 05 56 45.1 +1.8
FX1 Attu Island--F 62.07 31 P P 05 56 45.1 +1.8
FX1 pmax pmax
comp=Z,12nm,0.5s
RPZ Rata Peaks 63.67 144 P P 05 56 55.1 +1.2
comp=Z,31nm,0.5s,mb5.2,baz=0.0,slow=5.1,SNR=3.0
RPZ Rata Peaks 63.67 144 P P 05 56 55.1 +1.2
SNZO South Karori 64.52 140 *e*P P 05 56 59.0 -0.4
comp=Z,32nm,0.6s,mb5.1
URZ Urewera 64.55 136 *e*P P 05 56 59.9 +0.3
comp=Z,12nm,0.5s,mb4.8
VOSK Vostochnaya 64.99 327 P P 05 57 00.0 -2.3
VOSK pmax pmax
comp=Z,16nm,1.3s,mb4.5
BVA0 Borovoye Array 65.45 327 P P 05 57 05.0 -0.2
BVA0 pmax pmax
comp=Z,5.0nm,1.5s,mb3.9
BVAR Borovoye Array 65.45 327 P P 05 57 04.2 -0.9
comp=Z,9.9nm,1.0s,mb4.4,baz=139,slow=7.5,SNR=30
BVAR Borovoye Array 65.45 327 P P 05 57 04.2 -0.9
BVAR Borovoye Array 65.45 327 P P 05 57 04.2 -1.0
BRVK Borovoye 65.52 327 *e*P P 05 57 04.6 -1.0
comp=Z,60nm,1.5s,mb5.1
BRVK Borovoye 65.52 327 *e*P P 05 57 05.1 -0.5
BRVK pmax pmax
comp=Z,38nm,1.5s,mb4.9
BILL Bilibino 69.00 15 *e*P P 05 57 27.0 0.0
comp=Z,24nm,1.4s,mb4.7
BILL Bilibino 69.00 15 *i* P P 05 57 27.0 0.0
BILL pmax pmax
comp=Z,16nm,1.4s,mb4.6
AB31 Akbulak array 70.19 321 *e*P P 05 57 33.3 -1.3
AB31 pmax pmax
comp=Z,2.0nm,0.3s,mb4.3
ABKAR Akbulak array 70.19 321 *e*P P 05 57 33.2 -1.4
comp=Z,2.0nm,0.3s,mb4.3
CASY Casey 71.67 186 *e*P P 05 57 43.1 +0.1
comp=Z,12nm,0.5s,mb4.9
AKTO Aktyubinsk 71.71 322 P P 05 57 42.9 -0.7
comp=Z,5.1nm,0.5s,mb4.5,baz=105,slow=10,SNR=17
AKTO Aktyubinsk 71.71 322 P P 05 57 42.9 -0.7
AKTO Aktyubinsk 71.71 322 P P 05 57 42.9 -0.8
ARU Arti 73.08 328 *e*P P 05 57 49.6 -1.9
comp=Z,13nm,0.6s,mb4.8
ARU Arti 73.08 328 *di*P P 05 57 49.5 -2.1
ARU *e* 06 00 34.6
ARU S S 06 06 52.4 +0.4
ARU pmax pmax
comp=Z,11nm,0.6s,mb4.8
UNV Unalaska Valle 73.58 35 *e*P P 05 57 54.7 +0.2
comp=Z,13nm,0.5s,mb4.9
ZEI Tsey 80.17 312 *e*P P 05 58 31.1 -0.2
ZEI pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
KDAK Kodiak Island 81.95 32 P P 05 58 40.9 +0.6
comp=Z,9.4nm,0.6s,mb4.8,baz=228,slow=2.4,SNR=23
KDAK Kodiak Island 81.95 32 P P 05 58 40.9 +0.6
KDAK Kodiak Island 81.95 32 *ce*P P 05 58 41.4 +1.1
RSO Redoubt South 82.06 30 *e*P P 05 58 41.2 +0.4
comp=Z,34nm,0.7s,mb5.3
PPLA Purkeypile 82.51 27 *e*P P 05 58 44.1 +1.1
comp=Z,34nm,1.2s,mb5.0
KLMR Klimovskoe 83.60 331 *e*P P 05 58 44.6 -4.0
KLMR pmax pmax
comp=Z,32nm,1.3s,mb5.0
COLD Coldfoot 83.61 23 *e*P P 05 58 50.2 +1.6
comp=Z,24nm,1.0s,mb5.0
VSR Storozhevoye 83.63 321 *e*P P 05 58 47.4 -1.6
VSR pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
VSR pmax pmax
comp=N,3.0nm,0.4s
VSR pmax pmax
comp=E,4.0nm,0.8s
SEW Seward 83.68 30 *e*P P 05 58 49.7 +0.6
comp=E,26nm,1.1s,mb5.0
PMR Palmer 83.87 29 *e*P P 05 58 50.0 0.0
comp=E,5.9nm,0.4s,mb4.8
PMR Palmer 83.87 29 *e*P P 05 58 50.0 0.0
PMR pmax pmax
comp=Z,6.0nm,0.4s,mb4.8
MCK McKinley 84.01 27 *e*P P 05 58 51.1 +0.4
comp=Z,64nm,1.7s,mb5.2
MCK McKinley 84.01 27 *e*P P 05 58 51.1 +0.4
MCK pmax pmax
comp=Z,64nm,1.7s,mb5.2
MAW Mawson 84.14 200 P P 05 58 50.8 -0.3
comp=Z,4.1nm,0.5s,mb4.5,baz=98,slow=5.0,SNR=11
MAW Mawson 84.14 200 P P 05 58 50.8 -0.3
SML Sawmill 84.26 28 *e*P P 05 58 52.5 +0.5
comp=Z,3.1nm,0.5s,mb4.4
SML Sawmill 84.26 28 *e*P P 05 58 52.5 +0.6
SML pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
COLA College 84.50 25 *e*P P 05 58 55.2 +2.1
comp=Z,2.6nm,0.6s,mb4.2
COLA College 84.50 25 *e*P P 05 58 55.2 +2.1
COLA pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
VNDA Vanda 84.71 172 P P 05 58 53.5 -0.3
baz=58,slow=16
VNDA Vanda 84.71 172 P P 05 58 53.5 -0.3
VNDA Vanda 84.71 172 P P 05 58 53.6 -0.3
ILAR Eielson Array 84.92 25 P P 05 58 54.1 -1.0
comp=Z,2.4nm,0.5s,mb4.3,baz=248,slow=4.9,SNR=90
ILAR PP PP 06 02 15.0 -1.7
comp=Z,0.5nm,0.9s,baz=278,slow=6.3,SNR=3.1
ILAR Eielson Array 84.92 25 P P 05 58 54.1 -1.0
ILAR PP PP 06 02 15.0 -1.7
ILAR Eielson Array 84.92 25 P P 05 58 54.1 -1.0
ILAR 06 02 15.0
OBN Obninsk 85.16 325 P P 05 58 56.0 -0.5
OBN *e*SP pP 06 00 15.5 +4.1
OBN pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
SBA Scott Base 85.64 172 *e*P P 05 59 00.1 +1.7
comp=Z,11nm,1.6s,mb4.4
SBA Scott Base 85.64 172 *e*P P 05 59 00.2 +1.8
SBA pmax pmax
comp=Z,11nm,1.6s,mb4.4
MENT Mentasta 86.38 27 *e*P P 05 59 02.7 +0.3
JOF Joensuu 87.41 333 *e*P P 05 59 04.5 -2.8
JOF pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
JOF Joensuu 87.41 333 *ep* P 05 59 04.5 -2.8
comp=Z,6.4nm,0.5s,mb4.7
KMBO Kilima Mbogo 87.78 269 *e*P P 05 59 10.3 +0.3
comp=Z,2.3nm,0.9s,mb4.0
KMBO Kilima Mbogo 87.78 269 *e*P P 05 59 10.4 +0.3
KMBO pmax pmax
comp=Z,2.0nm,0.9s
BR131 Keskin Array S 87.96 310 *e*P P 05 59 09.1 -1.3
comp=Z,2.2nm,0.7s,mb4.1
BRTR Keskin Array B 87.96 310 P P 05 59 08.4 -1.9
comp=Z,1.9nm,0.7s,mb4.0,baz=133,slow=4.3,SNR=8.9
BRTR Keskin Array B 87.96 310 P P 05 59 08.4 -1.9
BRTR Keskin Array B 87.96 310 P P 05 59 08.5 -1.9
ARCES ARCESS Array B 88.83 340 P P 05 59 12.1 -1.7
comp=Z,2.0nm,0.6s,mb4.1,baz=82,slow=4.8,SNR=16
ARCES ARCESS Array B 88.83 340 P P 05 59 12.1 -1.7
ARCES ARCESS Array B 88.83 340 P P 05 59 12.1 -1.7
SPITS Spitsbergen Ar 89.09 349 P P 05 59 13.8 -1.0
comp=Z,4.5nm,0.6s,mb4.5,baz=79,slow=9.5,SNR=16
SPITS Spitsbergen Ar 89.09 349 P P 05 59 13.8 -1.0
SPITS Spitsbergen Ar 89.09 349 P P 05 59 13.9 -1.0
KAF Kangasniemi 89.82 332 *e*P P 05 59 15.7 -2.8
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
KAF Kangasniemi 89.82 332 *ep* P 05 59 15.7 -2.8
comp=Z,2.8nm,0.5s,mb4.5
INK Inuvik 89.83 21 P P 05 59 18.4 -0.1
comp=Z,2.7nm,0.7s,mb4.3,baz=315,slow=4.9,SNR=15
INK Inuvik 89.83 21 P P 05 59 18.4 -0.1
INK Inuvik 89.83 21 P P 05 59 18.4 -0.1
AKASG Malin Array Be 89.93 321 P P 05 59 16.8 -2.5
comp=Z,0.8nm,0.5s,mb3.9,baz=71,slow=4.8,SNR=3.7
AKASG Malin Array Be 89.93 321 P P 05 59 16.8 -2.5
AKASG Malin Array Be 89.93 321 P P 05 59 16.8 -2.5
FINES FINESS Array B 90.04 332 P P 05 59 17.4 -2.2
comp=Z,1.4nm,0.4s,mb4.2,baz=45,slow=5.9,SNR=8.3
FINES FINESS Array B 90.04 332 P P 05 59 17.4 -2.2
FINES FINESS Array B 90.04 332 P P 05 59 17.4 -2.2
SYO Syowa Base 92.77 201 *le*P P 05 59 30.0 -2.0
DLBC Dease Lake 93.75 31 P P 05 59 37.8 +1.1
comp=Z,3.3nm,0.7s,mb4.5,baz=206,slow=18,SNR=3.1
DLBC Dease Lake 93.75 31 P P 05 59 37.8 +1.1
QSPA South Pole Qui 94.70 180 P P 05 59 40.9 +0.3
comp=Z,2.6nm,0.5s,mb4.5,baz=271,slow=1.4,SNR=20
QSPA South Pole Qui 94.70 180 P P 05 59 40.9 +0.3
NOA NORSAR Array B 97.03 333 P P 05 59 49.0 -2.5
comp=Z,1.3nm,0.7s,mb4.2,baz=68,slow=4.8,SNR=3.5
NOA NORSAR Array B 97.03 333 P P 05 59 49.0 -2.5
NOA NORSAR Array B 97.03 333 P P 05 59 49.1 -2.5
YKA Yellowknife Ar 99.27 24 P Pdif 06 00 01.0 -0.8
comp=Z,1.2nm,0.8s,baz=297,slow=4.5,SNR=4.1
YKA PKKPbc PKKPbc 06 16 22.6 -4.8
comp=Z,0.5nm,0.4s,baz=123,slow=3.5,SNR=7.4
YKA Yellowknife Ar 99.27 24 P Pdif 06 00 00.9 -0.8
YKA PKKPbc PKKPbc 06 16 22.6 -4.9
YKA Yellowknife Ar 99.27 24 P Pdif 06 00 01.0 -0.7
VNA2 Neumayer--Watz 107.40 195 *e* PKiKP 06 04 41.0 -3.2
baz=48,slow=0.7
NVAR Mina Array Bea 107.52 47 PKiKP PKiKP 06 04 47.4 +2.0
comp=Z,0.4nm,0.6s,baz=280,slow=2.6,SNR=4.0
NVAR Mina Array Bea 107.52 47 PKPdf PKiKP 06 04 47.4 +2.0
VNA3 Neumayer Olymp 107.76 194 *e* PKiKP 06 04 41.7 -3.1
PDAR Pinedale Array 111.72 40 PKiKP PKiKP 06 04 54.6 +1.4
comp=Z,0.2nm,0.5s,baz=11,slow=1.9,SNR=3.1
PDAR Pinedale Array 111.72 40 PKPdf PKiKP 06 04 54.6 +1.4
SCHQ Schefferville 119.78 8 PKP PKPdf 06 05 08.4 +0.1
comp=Z,2.2nm,0.3s,baz=168,slow=9.1,SNR=7.2
SCHQ Schefferville 119.78 8 PKP PKPdf 06 05 08.4 +0.1
TORD Torodi Ar. Bea 120.88 288 PKP PKPdf 06 05 10.1 -1.4
comp=Z,1.3nm,0.5s,baz=86,slow=1.5,SNR=22
TORD SKP 06 08 15.4
comp=Z,1.4nm,0.7s,baz=60,slow=2.5,SNR=8.2
TORD Torodi Ar. Bea 120.88 288 PKP PKPdf 06 05 10.1 -1.4
TORD SKP 06 08 15.4
TXAR Lajitas Array 122.34 51 PKP PKPdf 06 05 14.8 +0.9
comp=Z,1.3nm,0.6s,baz=305,slow=0.5,SNR=22
TXAR Lajitas Array 122.34 51 PKP PKPdf 06 05 14.8 +0.9
TXAR Lajitas Array 122.34 51 PKIKP PKPdf 06 05 14.8 +0.8
TRQA Tornquist 146.30 170 *e*PKPbc PKPbc 06 05 59.3 -0.5
LCO Las Campanas 151.73 150 *e*PKPbc PKPbc 06 06 14.5 +0.9
LPAZ La Paz 162.84 133 PKP PKPdf 06 06 23.0 +2.0
comp=Z,1.1nm,0.8s,baz=258,slow=6.2,SNR=4.0
LPAZ La Paz 162.84 133 *e*PKPdf PKPdf 06 06 22.6 +1.5
LPAZ La Paz 162.84 133 PKIKP PKPdf 06 06 23.0 +2.0
LPAZ pmax pmax
comp=Z,1.0nm,0.8s

ISCJB ***18*** *05:47:00.3±0.5, 17°.27N±0°.04×100°.27W±0°.03, h36km±10km, mb3.4/1, Error ellipse: s-maj=6.7km s-min=4.8km az=13.1*
MEX ***18*** *05:47:02.4±0.7, 17°.26N×100°.29W, h35km±7km, MD4.1*
IDC ***18*** *05:47:22.7±12.0, 18°.36N×103°.80W, h0km, mb3.3/3, mb1 3.8/3, mb1mx3.6/20, mbtmp3.3/3, Error ellipse: s-maj=225.1km s-min=168.0km az=12.0*
ISC 18 05:47:00.9±0.6, 17°.26N±0°.05×100°.27W±0°.03, h33km±6km, n15, σ0s81/25, mb3.4/1, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.21**	**179**	*e*P	**Pb**	**05 47 07.5**	**-0.1**
CAIG				*i* S	**Sb**	**05 47 12.7**	**+0.5**
ACX	**Acapulco**	**0.55**	**135**	*e*P	**Pb**	**05 47 11.6**	**-0.8**
ACX				*i* S	**Sb**	**05 47 19.6**	**-0.6**
MEIG	**Mezcala**	**0.91**	**43**	*e*P	**Pn**	**05 47 16.9**	**-0.5**
MEIG				*i* S	**Sn**	**05 47 28.6**	**-0.8**
ZIIG	**Zihuatanejo**	**1.19**	**287**	*e*P	**Pn**	**05 47 20.9**	**-0.5**
ZIIG				*i* S	**Sn**	**05 47 35.1**	**-1.3**
PLIG	**Platanillo**	**1.34**	**33**	*e*P	**Pn**	**05 47 23.3**	**-0.1**
PLIG				*i* S	**Sn**	**05 47 38.8**	**-1.4**
PNIG	**Pinotepa**	**2.23**	**112**	*e*P	**Pn**	**05 47 35.0**	**-0.6**
PNIG				*i* S	**Sn**	**05 48 02.3**	**+0.4**
UNM	**Universidad Na**	**2.30**	**27**	*i* P	**Pn**	**05 47 37.1**	**+0.5**
UNM				*e*S	**Sn**	**05 48 04.3**	**+0.4**
PPM	**Popocatepetl**	**2.38**	**41**	*e*P	**Pn**	**05 47 38.8**	**+1.1**
PPM				*i* S	**Sn**	**05 48 06.2**	**+0.5**
UTMO	**Huajuapan**	**2.42**	**76**	*i* P	**Pn**	**05 47 38.8**	**+0.5**
UTMO				*i* S	**Sn**	**05 48 07.2**	**+0.4**
MOIG	**Morelia**	**2.56**	**340**	*e*P	**Pn**	**05 47 40.9**	**+0.7**
MOIG				*i* S	**Sn**	**05 48 09.4**	**-0.7**
MMIG	**Aquila**	**3.10**	**290**	*i* P	**Pn**	**05 47 48.5**	**+0.8**
MMIG				*i* S	**Sn**	**05 48 23.2**	**-0.3**
VHO	**Vista Hermosa**	**3.39**	**93**	*e*P	**Pn**	**05 47 52.5**	**+1.0**
VHO				*i* S	**Sn**	**05 48 29.6**	**-1.0**
NVAR	**Mina Array Bea**	**26.34**	**327**	P		**05 52 36.1**	**+2.2**
	1.0nm,0.8s,mb3.4,baz=152,slow=8.2,SNR=6.7						
PDAR	**Pinedale Array**	**26.63**	**345**	P	pP	05 52 47.0	+1.2
	0.4nm,0.7s,baz=164,slow=10,SNR=4.1						
ILAR	**Eielson Array**	**56.79**	**338**	P	pP	05 56 52.1	+0.5
	0.4nm,0.9s,baz=125,slow=5.6,SNR=4.1						

WEL 18 05:54:24.6±0.1, 44°.38S×169°.82E, h8km, ML3.9/16, 1D, Error ellipse: s-maj=1.1km s-min=0.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBZ	**Lake Benmore**	**0.26**	**92**	⇓P	Pg	05 54 29.9	+0.2
LBZ				SG	Sg	05 54 33.4	+0.2
WKZ	**Wanaka**	**0.73**	**232**	P*	Pb	05 54 38.7	-0.9
WKZ				S*	Sb	05 54 48.0	-1.7
FOZ	**Fox Glacier**	**0.82**	**353**	P*	Pb	05 54 40.1	-1.0
JCZ	**Jackson Bay**	**0.82**	**291**	P*	Pb	05 54 40.1	-1.0
JCZ				S*	Sb	05 54 50.9	-1.5
ODZ	**Otahua Downs**	**0.89**	**139**	P*	Pb	05 54 41.1	-1.2
ODZ				S*	Sb	05 54 53.8	-0.5
EAZ	**Earnscleugh**	**0.93**	**203**	P*	Pb	05 54 42.2	-0.8
RPZ	**Rata Peaks**	**1.11**	**54**	P*	Pb	05 54 45.3	-0.7
MSZ	**Milford Sound**	**1.39**	**257**	PN	Pn	05 54 50.6	+0.4
WVZ	**Waitaha Valley**	**1.46**	**27**	PN	Pn	05 54 51.2	-0.1
MLZ	**Mavora Lakes**	**1.52**	**230**	PN	Pn	05 54 52.9	+0.8
TUZ	**Tuapeka**	**1.58**	**185**	PN	Pn	05 54 52.3	-0.7
WHZ	**Wether Hill Ro**	**2.02**	**221**	PN	Pn	05 54 58.1	-0.8
DCZ	**Deep Cove**	**2.19**	**239**	PN	Pn	05 55 01.6	+0.2
SYZ	**Scrubby Hill**	**2.21**	**192**	PN	Pn	05 55 01.0	-0.6
APZ	**The Paps**	**2.77**	**207**	PN	Pn	05 55 08.1	-1.2
DSZ	**Denniston Nort**	**3.00**	**30**	PN	Pn	05 55 12.3	-0.2

OTT 18 06:03:02.9±2.2, 79°.52N×114°.40W, h18km, ML3.9/5, Arctic Ocean. Aftershock. 244km northwest from Isachsen, Nu, Arctic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EUNU	**Eureka**	**4.97**	**70**	PN	Pn	06 04 16.7	+0.3
EUNU				SN	Sn	06 05 06.0	-7.4
EUNU				Trac		06 05 14.9	
comp=Z,9.9nm,0.4s							
RES	**Resolute Bay**	**6.48**	**128**	PN	Pn	06 04 37.2	+0.1
RES				SN	Sn	06 05 46.9	-3.6
INK	**Inuvik**	**12.33**	**215**	PN	Pn	06 05 54.3	-2.9
INK				SN	Sn	06 08 01.4	-12
INK				Trac		06 08 08.0	
comp=Z,3.4nm,0.7s							
STLN	**Stellar Camp,**	**13.54**	**143**	PN	Pn	06 06 10.8	-2.8
STLN				SN	Sn	06 08 30.1	-13
STLN				Trac		06 08 38.0	
comp=Z,2.4nm,0.6s							
JERN	**Jeri Cho Mine,**	**13.60**	**175**	PN	Pn	06 06 08.3	-6.1
JERN				SN	Sn	06 08 32.3	-13
JERN				Trac		06 08 44.0	
comp=Z,2.9nm,0.5s							
BULN	**Bullion Camp,**	**14.40**	**144**	PN	Pn	06 06 21.5	-3.9
BULN				SN	Sn	06 08 53.0	-11
GALN	**Gameti Lake**	**15.51**	**185**	PN	Pn	06 06 36.3	-3.9
GALN				SN	Sn	06 09 20.0	-11
NUNN	**Nunuq Camp, NU**	**15.77**	**142**	PN	Pn	06 06 40.6	-3.1
NUNN				SN	Sn	06 09 29.0	-8.6
YKW3	**Yellowknife Ar**	**17.05**	**180**	PN	Pn	06 06 57.2	-2.7
YKW3				SN	Sn	06 09 52.4	-16
YKW3				Trac		06 10 02.5	
comp=Z,3.8nm,0.7s							
DAWY	**Dawson**	**17.08**	**219**	PN	Pn	06 06 55.5	-4.7
SEDN	**First Sedna Si**	**17.67**	**144**	PN	Pn	06 06 56.0	-12
SEDN				SN	Sn	06 10 10.2	-13

IDC ***18*** *06:24:12.8±3.9, 5°.99S×102°.65E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/21, mbtmp3.9/6, Error ellipse: s-maj=160.6km s-min=20.7km az=54.0*
ISCJB ***18*** *06:24:16.7±1.6, 6°.04S±0°.07×102°.67E±0°.10, h47km±13km, mb3.9/6, Error ellipse: s-maj=17.1km s-min=10.1km az=152.4*
DJA ***18*** *06:24:17, 5°.96S×102°.76E, h20km, MLv3.8/9*
ISC 18 06:24:17.3±2.7, 6°.03S±0°.06×102°.67E±0°.07, h32km±21km, n16, σ0s71/19, mb3.9/6, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**1.68**	**10**	P	**Pn**	**06 24 44.0**	**-0.5**
MNAI				S	**Sn**	**06 25 06.3**	**+1.3**
LWLI	**Liwa**	**1.71**	**54**	P	**Pn**	**06 24 44.0**	**-0.9**
LWLI				S	**Sn**	**06 25 04.5**	**-1.1**

MDSI	**Maura Dua**	**2.15**	**44**	P		**Pn**	**06 24 50.4**	**-0.5**
MDSI				S		**Sn**	**06 25 16.4**	**0.0**
LHSI	**Lahat**	**2.35**	**21**	P		**Pn**	**06 24 54.5**	**+0.8**
LHSI				S		**Sn**	**06 25 21.6**	**+0.2**
KSI	**Kapahiang**	**2.36**	**358**	P		**Pn**	**06 24 53.4**	**-0.5**
KLSI		**2.44**	**57**	P		**Pn**	**06 24 55.1**	**+0.1**
KLI	**Kotabumi**	**2.46**	**62**	P		**Pn**	**06 24 55.9**	**+0.6**
CGJI	**Cibinong**	**3.06**	**101**	P		**Pn**	**06 25 03.4**	**-0.1**
RBSI	**Rajabasa**	**3.06**	**87**	P		**Pn**	**06 25 04.6**	**+1.1**
CMAR	**Chiang Mai Arr**	**24.61**	**351**	P		**P**	**06 29 33.5**	**-1.3**
	2.0nm,0.5s,mb3.9,baz=181,slow=8.9,SNR=8.2							
WRA	**Warramunga Arr**	**33.73**	**117**	P		**P**	**06 30 56.8**	**+0.8**
	0.5nm,0.7s,mb3.5,baz=290,slow=11,SNR=3.9							
ASAR	**Alice Springs**	**34.78**	**124**	P		**P**	**06 31 04.7**	**-0.4**
	0.5nm,0.8s,mb3.5,baz=292,slow=8.2,SNR=5.6							
SONM	**Songino Array**	**53.73**	**3**	P		**P**	**06 33 36.8**	**+0.5**
	0.9nm,0.6s,mb3.9,baz=185,slow=9.3,SNR=11							
MKAR	**Makanchi Array**	**55.62**	**343**	P		**P**	**06 33 50.1**	**+0.2**
	1.0nm,0.5s,mb4.1,baz=149,slow=7.9,SNR=7.3							
ZALV	**Zalesovo Beam**	**61.61**	**348**	P		**P**	**06 34 31.3**	**-0.3**
	1.5nm,0.4s,mb4.5,baz=157,slow=4.5,SNR=7.0							
TXAR	**Lajitas Array**	**146.01**	**44**	PKPbc		PKPbc	06 43 56.0	+1.4
	0.5nm,0.8s,baz=264,slow=1.1,SNR=4.8							

*ISCJB **18** 06:51:46.0±2.3,2.°13S×0.°06×119.°64E±0.°09,h3km±16km, mb3.7/5,Error ellipse: s-maj=16.0km s-min=7.7km az=25.5*

*IDC **18** 06:51:47.2±1.5,2.°05S×120.°06E,h0km,mb3.7/5, mb1 3.8/5,mb1mx3.6/20,mbtmp3.7/5,Error ellipse: s-maj=173.3km s-min=19.9km az=61.0*

*DJA **18** 06:51:48,2.°16S×119.°63E,h10km,MLv4.1/4*

ISC 18 06:51:47.4±2.0,2.°16S±0.°06×119.°62E±0.°09,h2km±13km, n14,σ1§01/16,mb3.7/5,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.90**	**167**	P	**Pg**	**06 52 03.3**	**-1.4**
TTSI				S	**Sg**	**06 52 17.5**	**+1.1**
MJSI	**Majene**	**1.52**	**205**	P	**Pn**	**06 52 16.2**	**+0.6**
MJSI				S	**Sn**	**06 52 35.6**	**-0.3**
SPSI	**Sidrap Palu**	**1.80**	**175**	P	**Pn**	**06 52 19.0**	**-0.4**
BKSI	**Bulukumba**	**3.18**	**171**	P	**Pn**	**06 52 40.1**	**+1.6**
LUWI	**Luwuk**	**3.34**	**71**	P	**Pn**	**06 52 41.3**	**+0.6**
KDI	**Kendari**	**3.49**	**121**	P	**Pg**	**06 52 54.3**	**-0.1**
MRSI	**Marisa**	**3.50**	**42**	P	**Pn**	**06 52 42.8**	**-0.1**
KBKI	**Kotabaru**	**3.63**	**252**	P	**Pn**	**06 52 43.9**	**-0.7**
BMNI	**Bima**	**6.40**	**188**	P	**Pn**	**06 53 23.5**	**+0.7**
WRA	**Warramunga Arr**	**22.79**	**142**	P	**P**	**06 56 50.4**	**-1.1**
	1.4nm,0.8s,mb3.5,baz=320,slow=11,SNR=7.1							
ASAR	**Alice Springs**	**25.46**	**148**	P	**P**	**06 57 15.4**	**-1.6**
	0.6nm,0.6s,mb3.3,baz=328,slow=10.0,SNR=6.8							
SONM	**Songino Array**	**51.12**	**349**	P	**P**	**07 00 50.8**	**-0.7**
	0.4nm,0.6s,mb3.5,baz=141,slow=3.3,SNR=3.7							
MKAR	**Makanchi Array**	**58.75**	**331**	P	**P**	**07 01 46.9**	**+0.1**
	1.7nm,0.8s,mb4.1,baz=128,slow=5.7,SNR=8.1							
ZALV	**Zalesovo Beam**	**62.95**	**338**	P	**P**	**07 02 17.6**	**+2.4**
	0.7nm,0.6s,mb4.0,baz=130,slow=5.8,SNR=3.3							

*IDC **18** 06:57:12.9±6.4,13.°03N×90.°17W,h0km,mb3.5/4, mb1 3.9/5,mb1mx3.6/22,mbtmp3.5/5,ML3.0/1,MS3.3/2, Ms1 3.3/2,ms1mx2.8/23,Error ellipse: s-maj=114.4km s-min=50.4km az=172.0*

*CASC **18** 06:57:16.6±1.4,12.°95N×90.°71W,h11km±20km,MD3.7*

*ISCJB **18** 06:57:17.3±1.8,12.°9N±0.°2×90.°74W±0.°07,h33km,mb3.6/3, Error ellipse: s-maj=23.9km s-min=9.4km az=9.8*

ISC 18 06:57:20.2±1.7,13.°1N±0.°2×90.°68W±0.°07,h35km,n15, σ1§10/16,mb3.6/3,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**1.29**	**53**	*eP*	**Pn**	**06 57 40.9**	**-0.8**
RTR	**El Retiro**	**1.30**	**50**	*eP*	**Pn**	**06 57 41.2**	**-0.7**
FUG	**Fuego 3**	**1.39**	**353**	*eP*	**Pn**	**06 57 43.7**	**+0.6**
RBDL	**Robledal**	**1.42**	**43**	*eP*	**Pn**	**06 57 43.6**	**+0.1**
FG6		**1.50**	**352**	*eP*	**Pn**	**06 57 44.5**	**-0.2**
NBG	**Las Nubes**	**1.55**	**12**	*eP*	**Pn**	**06 57 46.4**	**+1.1**
JAT	**Jato**	**1.56**	**323**	*eP*	**Pn**	**06 57 45.2**	**-0.3**
LBRS	**Las Brisas**	**1.73**	**67**	*eP*	**Pn**	**06 57 47.7**	**-0.1**
BLLM	**Bellamira**	**2.41**	**81**	*eP*	**Pn**	**06 57 56.6**	**-0.5**
CMIG	**Matias Romero**	**5.71**	**315**	Pn	**Pn**	**06 58 42.2**	**-0.3**
	0.4nm,0.3s,baz=110,slow=13,SNR=5.4							
CMIG				Sn	**Sn**	**06 59 45.0**	**-1.8**
	0.3nm,0.3s,baz=72,slow=19,SNR=2.1							
TEIG	**Tepich**	**7.49**	**18**	Pn	**Pn**	**06 59 08.4**	**+1.4**
	1.0nm,0.3s,baz=338,slow=23,SNR=8.0							
TEIG				LR	LR	07 02 32.0	
	comp=Z,158nm,19.4s,baz=228,slow=43							
TXAR	**Lajitas Array**	**20.19**	**325**	P	**P**	**07 01 53.5**	**+1.6**
	0.7nm,0.4s,baz=148,slow=11,SNR=11							
TKL	**Tuckaleechee C**	**23.35**	**14**	P	**P**	**07 02 22.2**	**-3.4**
	2.5nm,0.7s,mb3.7,baz=194,slow=4.2,SNR=3.9							
TKL				LR	LR	07 13 27.7	
	comp=Z,108nm,20.9s,baz=341,slow=42							
NVAR	**Mina Array Bea**	**35.21**	**321**	P	**P**	**07 04 13.4**	**+2.3**
	0.5nm,0.7s,mb3.5,baz=121,slow=8.5,SNR=5.5							
ILAR	**Eielson Array**	**64.20**	**337**	P	**P**	**07 07 50.0**	**-1.1**
	0.3nm,0.7s,mb3.4,baz=122,slow=5.5,SNR=7.4							

*IDC **18** 07:02:00.2±0.8,9.°54N×138.°47E,h0km,mb3.9/10, mb1 4.0/10,mb1mx4.0/23,mbtmp3.9/10,MS3.0/1, Ms1 3.0/1,ms1mx2.2/38,Error ellipse: s-maj=35.0km s-min=16.2km az=75.0*

*ISCJB **18** 07:02:03.4±0.8,9.°5N±0.°1×138.°4E±0.°2,h33km,mb3.9/10, Error ellipse: s-maj=34.6km s-min=13.5km az=166.4*

*NEIC **18** 07:02:05.8±0.5,9.°54N×138.°38E,h35km,mb4.2/1,Error ellipse: s-maj=24.1km s-min=10.4km az=75.0*

ISC 18 07:02:05.6±0.8,9.°5N±0.°1×138.°4E±0.°2,h35km,n25, σ0§58/20,mb3.9/10,Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**7.48**	**57**	LR	LR	07 06 38.1	
	comp=Z,102nm,18.3s,baz=203,slow=37						
WRA	**Warramunga Arr**	**29.56**	**188**	P	**P**	**07 08 06.3**	**-0.9**
	1.3nm,1.0s,mb3.6,baz=6.7,slow=10.0,SNR=5.2						
WRA				PcP	PcP	07 11 10.9	-0.9
	0.3nm,0.6s,baz=355,slow=2.7,SNR=5.7						
WRA	**Warramunga Arr**	**29.56**	**188**	P	**P**	**07 08 06.3**	**-0.9**
WRA				PcP	PcP	07 11 10.9	-0.9
ASAR	**Alice Springs**	**33.29**	**188**	P	**P**	**07 08 40.2**	**+0.2**
	0.8nm,0.6s,mb3.9,baz=18,slow=12,SNR=15						
ASAR				PcP	PcP	07 11 21.8	0.0
	0.4nm,0.7s,baz=35,slow=1.1,SNR=4.7						
ASAR	**Alice Springs**	**33.29**	**188**	P	**P**	**07 08 40.2**	**+0.2**
ASAR				PcP	PcP	07 11 21.8	0.0
CMAR	**Chiang Mai Arr**	**39.26**	**287**	P	**P**	**07 09 31.4**	**+0.3**
	2.1nm,0.6s,mb4.1,baz=102,slow=7.2,SNR=11						
CMAR	**Chiang Mai Arr**	**39.26**	**287**	P	**P**	**07 09 31.4**	**+0.3**
STKA	**Stephens Creek**	**41.28**	**176**	P	**P**	**07 09 46.8**	**-0.8**
	1.8nm,0.8s,mb3.8,baz=352,slow=13,SNR=3.7						
STKA	**Stephens Creek**	**41.28**	**176**	*eP*	**P**	**07 09 48.3**	**+0.7**
	13nm,2.3s,mb4.2						
SONM	**Songino Array**	**46.77**	**331**	P	**P**	**07 10 31.8**	**+0.2**
	1.2nm,0.7s,mb3.9,baz=121,slow=7.9,SNR=8.3						
SONM	**Songino Array**	**46.77**	**331**	P	**P**	**07 10 31.8**	**+0.2**
MKAR	**Makanchi Array**	**60.20**	**319**	P	**P**	**07 12 09.7**	**-0.3**
	0.4nm,0.6s,mb3.6,baz=97,slow=7.5,SNR=3.6						
MKAR	**Makanchi Array**	**60.20**	**319**	P	**P**	**07 12 09.7**	**-0.3**
ZALV	**Zalesovo Beam**	**61.41**	**327**	P	**P**	**07 12 17.5**	**-0.7**
	0.3nm,0.4s,mb3.7,baz=95,slow=3.5,SNR=2.4						
ZALV	**Zalesovo Beam**	**61.41**	**327**	P	**P**	**07 12 17.5**	**-0.7**
KURK	**Kurchatov**	**63.75**	**322**	P	**P**	**07 12 34.3**	**+0.5**
	0.4nm,0.3s,mb4.0,baz=108,slow=5.3,SNR=4.1						
KURK	**Kurchatov**	**63.75**	**322**	P	**P**	**07 12 34.3**	**+0.5**
ILAR	**Eielson Array**	**74.91**	**25**	P	**P**	**07 13 42.4**	**-0.2**
	0.8nm,0.6s,mb3.9,baz=256,slow=5.5,SNR=2.5						
ILAR	**Eielson Array**	**74.91**	**25**	P	**P**	**07 13 42.4**	**-0.2**
VNDA	**Vanda**	**87.92**	**175**	P	**P**	**07 14 52.1**	**+1.0**
	0.8nm,0.8s,mb4.0,baz=324,slow=4.1,SNR=5.2						
VNDA	**Vanda**	**87.92**	**175**	P	**P**	**07 14 52.1**	**+1.0**
TORD	**Torodi Ar. Bea**	**131.50**	**297**	PKP	PKPdf	07 21 16.4	+0.9
	0.1nm,0.5s,baz=50,slow=3.2,SNR=2.4						
TORD	**Torodi Ar. Bea**	**131.50**	**297**	PKP	PKPdf	07 21 16.4	+0.9
LPAZ	**La Paz**	**153.26**	**107**	PKPbc	PKPbc	07 22 02.8	+1.9
	1.2nm,0.7s,baz=256,slow=3.8,SNR=6.0						
LPAZ	**La Paz**	**153.26**	**107**	PKPbc	PKPbc	07 22 02.8	+1.9

*BJI **18** 07:05:08.9,79.°80N×114.°70W,h10km,mB5.3/18, mb5.0/35,Ms5.0/15,Ms7 4.8/15*

*IDC **18** 07:05:10.8±0.4,79.°74N×115.°14W,h0km,mb4.4/27, mb1 4.6/29,mb1mx4.5/34,mbtmp4.4/29,ML4.6/2,MS3.7/21, Ms1 3.8/21,ms1mx3.5/48,Error ellipse: s-maj=13.5km s-min=9.5km az=89.0*

*OTT **18** 07:05:11.6±1.0,79.°52N×115.°40W,h18km,mb5.3/22, Arctic Ocean. Aftershock. 263km northwest from Isachsen, Nu*

*ISCJB **18** 07:05:11.2±0.1,79.°77N±0.°01×115.°1W±0.°2,h10km, mb4.7/168,MS3.9/25,Error ellipse: s-maj=3.9km s-min=2.1km az=3.4*

*MOS **18** 07:05:11.7±1.0,79.°75N×115.°60W,h11km,mb4.8/15, Error ellipse: s-maj=80.9km s-min=9.2km az=87.4*

*NEIC **18** 07:05:12.7±0.2,79.°79N×114.°85W,h10km,mb4.7/106, ML5.0(OTT),Error ellipse: s-maj=5.1km s-min=3.8km az=99.0*

ISC 18 07:05:13.2±0.1,79.°76N±0.°01×115.°0W±0.°2,h10km, (h15km±.4km:pP-P),n641,σ0§76/658,mb4.7/168,MS3.9/25, 173C-166D,Arctic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUNU	**Eureka**	**5.00**	**73**	Pn	**Pn**	**07 06 27.4**	**-0.7**
EUNU				Sn	**Sn**	**07 07 20.3**	**-5.6**
EUNU	**Eureka**	**5.00**	**73**	PN	**Pn**	**07 06 27.4**	**-0.7**
EUNU				mb		07 06 31.2	
	comp=Z,70nm,0.3s						
EUNU				SN	**Sn**	**07 07 20.3**	**-5.6**
EUNU				Trac		07 07 26.8	
	comp=Z,206nm,0.6s						
RES	**Resolute Bay**	**6.72**	**129**	Pn	**Pn**	**07 06 47.2**	**-4.4**
	36nm,0.3s,baz=311,slow=13,SNR=932						
RES				Sn	**Sn**	**07 07 59.0**	**-9.2**
	47nm,0.3s,baz=109,slow=22,SNR=5.1						
RES				LR	LR	07 09 50.2	
	comp=Z,511nm,18.5s,baz=270,slow=42						
RES	**Resolute Bay**	**6.72**	**129**	*e*Pn	**Pn**	**07 06 47.2**	**-4.5**
	95nm,0.9s						
RES	**Resolute Bay**	**6.72**	**129**	PN	**Pn**	**07 06 48.0**	**-3.7**
RES				mb		07 06 51.7	
	comp=Z,150nm,0.3s						
RES				SN	**Sn**	**07 07 56.4**	**-12**
RES				Trac		07 08 02.0	
	comp=Z,115nm,0.2s						
CB31	**Cambridge Bay**	**10.99**	**161**	PN	**Pn**	**07 07 44.0**	**-6.1**
CB31				mb		07 07 46.0	
	comp=Z,275nm,0.2s						
CB31				SN	**Sn**	**07 09 37.7**	**-15**
CB31				Trac		07 09 43.5	
	comp=Z,312nm,0.5s						
INK	**Inuvik**	**12.47**	**213**	Pn	**Pn**	**07 08 03.0**	**-7.2**
	3.4nm,0.3s,baz=18,slow=16,SNR=108						
INK				Sn	**Sn**	**07 10 12.0**	**-17**
	4.0nm,0.3s,baz=138,slow=14,SNR=7.6						
INK	**Inuvik**	**12.47**	**213**	*e*Pn	**Pn**	**07 08 03.4**	**-6.9**
	0.5nm,0.3s						
INK	**Inuvik**	**12.47**	**213**	PN	**Pn**	**07 08 03.1**	**-7.2**
INK				mb		07 08 07.0	
	comp=Z,12nm,0.5s						
INK				SN	**Sn**	**07 10 10.3**	**-19**
INK				Trac		07 10 24.9	
	comp=Z,20nm,0.4s						
KUGN	**Kugaaruk Camp,**	**13.39**	**137**	PN	**Pn**	**07 08 14.8**	**-8.0**
KUGN				mb		07 08 21.5	
	comp=Z,23nm,0.4s						
KUGN				SN	**Sn**	**07 10 34.5**	**-17**
STLN	**Stellar Camp,**	**13.80**	**142**	PN	**Pn**	**07 08 20.7**	**-7.7**
STLN				mb		07 08 23.3	
	comp=Z,359nm,1.1s						
STLN				SN	**Sn**	**07 10 46.8**	**-15**
STLN				Trac		07 10 51.9	
	comp=Z,28nm,0.5s						
JERN	**Jeri Cho Mine,**	**13.85**	**174**	PN	**Pn**	**07 08 21.9**	**-7.3**
JERN				mb		07 08 26.5	
	comp=Z,30nm,0.4s						
JERN				SN	**Sn**	**07 10 44.1**	**-19**
JERN				Trac		07 10 46.5	
	comp=Z,368nm,1.4s						
BULN	**Bullion Camp,**	**14.67**	**144**	PN	**Pn**	**07 08 31.8**	**-8.5**
BULN				mb		07 08 36.7	
	comp=Z,126nm,0.3s						
BULN				SN	**Sn**	**07 11 03.0**	**-20**
BULN				Trac		07 11 20.8	
	comp=Z,31nm,0.6s						
QILN	**Qililugaq Expl**	**15.22**	**133**	PN	**Pn**	**07 08 39.6**	**-8.2**
QILN				mb		07 08 44.3	
	comp=Z,41nm,0.5s						
CTLN	**Castor Lake**	**15.42**	**182**	PN	**Pn**	**07 08 42.3**	**-8.0**
CTLN				mb		07 08 44.1	
	comp=Z,38nm,0.7s						
CTLN				SN	Sn	07 11 15.4	-25
CTLN				Trac		07 11 37.6	
	comp=Z,23nm,0.5s						
WAGN	**Wager Bay**	**15.58**	**139**	PN	**Pn**	**07 08 43.8**	**-8.7**
WAGN				mb		07 08 46.7	
	comp=Z,42nm,0.3s						
WAGN				SN	**Sn**	**07 11 27.4**	**-17**
WAGN				Trac		07 11 34.5	
	comp=Z,26nm,0.5s						
COLD	**Coldfoot**	**15.60**	**237**	*e*Pn	**Pn**	**07 08 48.1**	**-4.5**
	16nm,0.7s						
ILKN	**Indian Lake**	**15.62**	**180**	PN	**Pn**	**07 08 45.1**	**-7.9**
ILKN				mb		07 08 50.3	
	comp=Z,26nm,0.2s						
ILKN				SN	**Sn**	**07 11 26.2**	**-20**
GALN	**Gameti Lake**	**15.74**	**184**	PN	**Pn**	**07 08 46.5**	**-8.1**
GALN				mb		07 08 48.2	
	comp=Z,45nm,0.8s						
GALN				SN	**Sn**	**07 11 28.4**	**-20**
GALN				Trac		07 11 32.1	
	comp=Z,25nm,0.6s						
NUNN	**Nunuq Camp, NU**	**16.04**	**142**	PN	**Pn**	**07 08 49.4**	**-8.9**
NUNN				mb		07 08 51.3	
	comp=Z,45nm,0.5s						
NUNN				SN	**Sn**	**07 11 39.4**	**-16**
COKN	**Cook Lake**	**16.68**	**170**	PN	**Pn**	**07 08 58.7**	**-7.8**
COKN				mb		07 09 02.4	
	comp=Z,23nm,0.3s						
COKN				SN	**Sn**	**07 11 50.9**	**-20**
COKN				Trac		07 11 56.9	
	comp=Z,36nm,0.7s						
EGAK	**Eagle**	**16.71**	**221**	*e*P	**Pn**	**07 09 00.1**	**-6.7**
	11nm,0.7s						
DAWY	**Dawson**	**17.20**	**218**	*e*P	**Pn**	**07 09 06.3**	**-6.7**
DAWY	**Dawson**	**17.20**	**218**	PN	**Pn**	**07 09 07.1**	**-5.9**
DAWY				mb		07 09 09.4	
	comp=Z,3.5nm,0.2s						
DAWY				SN	Sn	07 12 02.1	-22
DAWY				Trac		07 12 11.3	
	comp=Z,23nm,0.7s						
YKW3	**Yellowknife Ar**	**17.29**	**179**	PN	**Pn**	**07 09 07.3**	**-6.9**
YKW3				mb		07 09 10.8	
	comp=Z,20nm,0.3s						
YKW3				SN	Sn	07 12 04.7	-22
YKW3				Trac		07 12 19.2	
	comp=Z,30nm,0.7s						
YKA	**Yellowknife Ar**	**17.36**	**179**	Pn	**Pn**	**07 09 07.5**	**-7.5**
	4.9nm,0.3s,baz=356,slow=13,SNR=62						
YKA				Sn	**Sn**	**07 12 07.6**	**-20**
	3.0nm,0.3s,baz=7.3,slow=22,SNR=8.2						
YKA				LR	LR	07 16 55.6	
	comp=Z,57nm,18.0s,baz=65,slow=41						
YKA	**Yellowknife Ar**	**17.36**	**179**	Pn	**Pn**	**07 09 07.5**	**-7.5**
YKA				Sn	**Sn**	**07 12 07.6**	**-20**
YKA				LR	LR	07 16 55.6	
ILAR	**Eielson Array**	**17.44**	**229**	P	**Pn**	**07 09 13.2**	**-2.8**
	0.5nm,0.3s,baz=13,slow=14,SNR=37						
ILAR				S	**Sn**	**07 12 13.3**	**-16**
	0.4nm,0.3s,baz=20,slow=18,SNR=4.6						
ILAR	**Eielson Array**	**17.44**	**229**	P	**Pn**	**07 09 13.2**	**-2.8**
ILAR				S	**Sn**	**07 12 13.3**	**-16**
WHFN	**White Fish Lak**	**17.45**	**168**	PN	**Pn**	**07 09 08.7**	**-7.5**
WHFN				mb		07 09 16.2	
	comp=Z,22nm,0.4s						
WHFN				SN	Sn	07 12 07.5	-23
WHFN				Trac		07 12 11.3	
	comp=Z,35nm,0.7s						
COLA	**College**	**17.47**	**230**	*e*P	**Pn**	**07 09 13.9**	**-2.5**
	46nm,1.3s						
COLA	**College**	**17.47**	**230**	*i* P	**Pn**	**07 09 15.2**	**-1.2**
DAG	**Danmarks Havn**	**17.66**	**49**	*i* P	**Pn**	**07 09 19.7**	**+0.9**
DAG				pmax	pmax		
	comp=Z,7.0nm,1.2s						
SEDN	**First Sedna Si**	**17.93**	**144**	PN	**Pn**	**07 09 14.1**	**-8.0**
SEDN				mb		07 09 19.2	
	comp=Z,52nm,0.3s						
SEDN				SN	**Sn**	**07 12 22.0**	**-20**
SEDN				Trac		07 12 23.4	
	comp=Z,28nm,0.8s						
JOSN	**Second Sedna S**	**17.98**	**144**	PN	**Pn**	**07 09 15.7**	**-7.1**
JOSN				mb		07 09 17.9	
	comp=Z,37nm,0.3s						
JOSN				SN	Sn	07 12 20.3	-23
JOSN				Trac		07 12 30.7	
	comp=Z,39nm,1.1s						
SUMG	**Summit**	**18.07**	**71**	*e*P	**Pn**	**07 09 20.8**	**-3.0**
	comp=Z,68nm,0.9s						
DOT	**Dot Lake**	**18.15**	**224**	*e*P	**Pn**	**07 09 22.6**	**-2.1**
	comp=Z,80nm,1.0s						
MCK	**McKinley**	**18.71**	**231**	*e*P	**Pn**	**07 09 29.8**	**-1.8**
	comp=Z,21nm,0.8s						
MENT	**Mentasta**	**18.79**	**223**	*e*P	**Pn**	**07 09 31.3**	**-1.3**
PAX	**Paxson**	**18.98**	**225**	*e*P	**Pn**	**07 09 33.8**	**-1.0**
	comp=Z,15nm,0.7s						
TRF	**Thorofare Moun**	**19.16**	**232**	*e*P	**Pn**	**07 09 37.0**	**-0.1**
	comp=Z,86nm,1.5s						
ARVN	**Arviat, NU**	**19.77**	**149**	PN	**Pn**	**07 09 37.9**	**-6.5**
ARVN				mb		07 09 41.0	
	comp=Z,65nm,0.4s						
ARVN				SN	**Sn**	**07 13 06.8**	**-19**
ARVN				Trac		07 13 18.9	
	comp=Z,59nm,0.9s						
PPLA	**Purkeypile**	**19.96**	**234**	*e*P	**Pn**	**07 09 45.2**	**-1.4**
	comp=Z,79nm,1.5s						
TNA	**Tin City**	**20.02**	**256**	*e*P	**P**	**07 09 46.8**	**+1.3**
	comp=Z,15nm,0.6s						
WHY	**Whitehorse**	**20.09**	**209**	PN	**P**	**07 09 44.8**	**-1.5**
WHY				mb		07 09 51.1	
	comp=Z,19nm,1.1s						
SML	**Sawmill**	**20.47**	**228**	*e*P	**P**	**07 09 50.2**	**-0.3**
	comp=Z,9.4nm,0.9s						
FRB	**Frobisher Bay**	**20.61**	**114**	P	**P**	**07 09 50.1**	**-1.8**
	comp=Z,14nm,0.6s,baz=352,slow=15,SNR=5.9						
FRB	**Frobisher Bay**	**20.61**	**114**	P	**P**		
FRB	**Frobisher Bay**	**20.61**	**114**	PN	**P**	**07 09 49.5**	**-2.4**
PMR	**Palmer**	**20.79**	**229**	*e*P	**P**	**07 09 54.4**	**+0.5**
	comp=Z,16nm,0.8s						
DIV	**Divide**	**20.80**	**224**	*e*P	**P**	**07 09 52.9**	**-1.1**
	comp=Z,23nm,0.7s						
BMRM	**Bremner River**	**20.81**	**223**	*e*P	**P**	**07 09 54.6**	**+0.5**
	comp=Z,27nm,1.0s						
FNBB	**Fort Nelson**	**21.12**	**192**	PN	**P**	**07 09 55.5**	**-2.0**
FNBB				mb		07 09 59.4	
	comp=Z,62nm,0.8s						
SKAG	**Skagway**	**21.32**	**209**	*e*P	**P**	**07 10 01.1**	**+1.4**
	comp=Z,26nm,0.8s,mb4.6						
SPU	**Mount Spurr**	**21.59**	**232**	*e*P	**P**	**07 10 02.5**	**0.0**
AKVQ	**Akulivik**	**21.92**	**128**	PN	**P**	**07 10 08.9**	**+2.9**
DLBC	**Dease Lake**	**21.93**	**201**	P	**P**	**07 10 06.0**	**-0.1**
	comp=Z,10nm,0.8s,mb4.3,baz=359,slow=9.8,SNR=14						
DLBC				LR	LR	07 20 28.6	
	comp=Z,263nm,18.1s,MS3.7,baz=32,slow=42						
DLBC	**Dease Lake**	**21.93**	**201**	*e*P	**P**	**07 10 05.3**	**-0.8**
DLBC	**Dease Lake**	**21.93**	**201**	PN	**P**	**07 10 05.2**	**-0.9**
DLBC				mb		07 10 15.1	
	comp=Z,26nm,0.9s						
SLKM	**Skilak Lake**	**21.98**	**230**	*e*P	**P**	**07 10 06.1**	**-0.6**
FCC	**Fort Churchill**	**22.07**	**150**	*e*P	**P**	**07 10 06.3**	**-1.3**
	comp=Z,3.0nm,0.9s,mb3.7						
FCC	**Fort Churchill**	**22.07**	**150**	PN	**P**	**07 10 04.3**	**-3.3**
FCC				mb		07 10 08.2	
	comp=Z,139nm,1.4s						
SVW2	**Sparrevohn**	**22.18**	**237**	*e*P	**P**	**07 10 09.6**	**+0.7**
	comp=Z,76nm,1.5s,mb4.9						
SEW	**Seward**	**22.27**	**228**	*e*P	**P**	**07 10 14.9**	**+5.1**
	comp=Z,58nm,1.2s,mb4.9						
BILL	**Bilibino**	**22.36**	**284**	*e*P	**P**	**07 10 10.3**	**-0.4**
	comp=Z,45nm,1.3s,mb4.7						
BILL	**Bilibino**	**22.36**	**284**	⇑*i*P	**P**	**07 10 10.4**	**-0.3**
BILL				*i* S	**S**	**07 14 13.1**	**-3.0**
BILL				pmax	pmax		
	comp=Z,22nm,0.9s,mb4.6						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.3						
RSO	**Redoubt South**	**22.38**	**233**	*e*P	**P**	**07 10 14.3**	**+3.3**
SCO	**Scoresbysund**	**22.57**	**61**	*e*P	**P**	**07 10 15.6**	**+2.7**
SCO				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.3						
KDAK	**Kodiak Island**	**24.94**	**231**	P	**P**	**07 10 36.0**	**0.0**
	comp=Z,10nm,0.5s,mb4.6,baz=24,slow=7.3,SNR=31						
KDAK	**Kodiak Island**	**24.94**	**231**	*e*P	**P**	**07 10 35.9**	**0.0**
	comp=Z,101nm,1.5s,mb5.1						
KDAK	**Kodiak Island**	**24.94**	**231**	*i* P	**P**	**07 10 35.7**	**-0.3**
FFC	**Flin Flon**	**25.51**	**162**	*e*P	**P**	**07 10 38.9**	**-2.3**
	comp=Z,226nm,2.2s,mb5.3						
FFC	**Flin Flon**	**25.51**	**162**	PN	**P**	**07 10 38.7**	**-2.5**
FFC				mb		07 10 50.8	
	comp=Z,15nm,0.6s						

NEW **Newport** 31.63 183 *eP* P 07 11 37.0 +1.2
comp=Z,141nm,3.0s
DGMT **Dagmar** 31.65 166 ⇑P P 07 11 35.6 -0.4
baz=32
B22A **Reddig Ranch S** 31.75 168 ⇑P P 07 11 36.6 -0.2
baz=32
EGMT **Eagleton** 31.92 173 ⇓P P 07 11 38.1 -0.2
baz=32
C11A **Tepee Creek (N** 32.05 182 ⇓P P 07 11 39.5 +0.1
baz=32
C09A **Chrisman Ranch** 32.11 184 ⇑P P 07 11 40.2 +0.2
baz=32
C16A **Fuhringer Ranc** 32.11 176 ⇓P P 07 11 39.6 -0.3
baz=32,SNR=6.4
C14A **Swan Lake** 32.12 178 ⇓P P 07 11 39.9 -0.2
baz=32
C15A **Salmond Ranch,** 32.12 177 ⇓P P 07 11 40.0 -0.1
baz=32
JTMT **Jette** 32.14 179 *eP* P 07 11 40.6 +0.4
C13A **Hot Springs** 32.21 179 ⇓P P 07 11 41.3 +0.4
baz=32
C19A **Slack Wire Ran** 32.23 172 ⇑P P 07 11 40.5 -0.5
baz=32
C23A **Lambert** 32.28 168 ⇑P P 07 11 41.3 -0.1
baz=32,SNR=14
C17A **Wharram Farm,** 32.29 175 ⇓P P 07 11 40.9 -0.7
baz=32,SNR=6.3
AGMN **Agassiz Nation** 32.31 156 *eP* P 07 11 40.3 -1.4
comp=Z,170nm,2.3s,mb5.5
C22A **Vida** 32.31 168 ⇓P P 07 11 41.6 -0.1
baz=32
SWMT **Swartz Lake** 32.38 179 *eP* P 07 11 42.5 +0.2
GNW **Green Mountain** 32.44 190 *eP* P 07 11 43.5 +0.6
comp=Z,12nm,1.1s,mb4.6
C24A **Savage** 32.58 167 ⇓P P 07 11 43.6 -0.5
baz=32
SLMT **Seeley Lake** 32.65 178 *eP* P 07 11 44.6 -0.1
D18A **Linhart Farms,** 32.75 173 ⇓P P 07 11 45.6 0.0
baz=33,SNR=6.5
D17A **Six Diamond Ra** 32.77 175 ⇓P P 07 11 45.2 -0.6
baz=33
D13A **Huson** 32.80 179 ⇓P P 07 11 45.9 -0.1
baz=33,SNR=8.7
D19A **Cripps Ranch,** 32.80 172 ⇑P P 07 11 45.0 -1.0
baz=33,SNR=12
D14A **Greenough** 32.81 178 ⇓P P 07 11 46.0 -0.1
baz=33,SNR=12
D12A **Red Ives Fores** 32.84 180 ⇓P P 07 11 46.0 -0.3
baz=33
D15A **Lincoln** 32.86 177 ⇓P P 07 11 46.3 -0.2
baz=33
D16A **Dana Ranch, Ca** 32.88 176 ⇓P P 07 11 46.5 -0.2
baz=33
D20A **Manuel Ranch,** 32.89 171 ⇑P P 07 11 46.3 -0.5
baz=33,SNR=12
D22A **Cohagen** 32.89 169 ⇓P P 07 11 46.3 -0.5
baz=33,SNR=11
D23A **Lindsay** 32.91 168 ⇓P P 07 11 46.3 -0.6
baz=33
D21A **La Casta Ranch** 32.95 170 ⇑P P 07 11 47.1 -0.2
baz=33
CHMT **Chamberlain Mo** 32.98 178 *eP* P 07 11 47.6 0.0
comp=Z,7.6nm,0.9s,mb4.6
D24A **Glendive** 33.00 167 ⇑P P 07 11 47.4 -0.4
baz=33
EYMN **Ely** 33.01 150 *eP* P 07 11 46.1 -1.7
comp=Z,40nm,1.4s,mb5.2
MSO **Missoula** 33.06 179 ⇑P P 07 11 48.3 0.0
baz=33
MSO **Missoula** 33.06 179 *eP* P 07 11 48.0 -0.4
comp=Z,6.3nm,0.9s,mb4.5
LON **Longmire** 33.23 189 *eP* P 07 11 49.7 -0.1
comp=Z,9.3nm,0.7s,mb4.8
LAO **LASA Array** 33.35 169 ⇓P P 07 11 50.6 -0.3
baz=33,SNR=7.1
LAO **LASA Array** 33.35 169 *eP* P 07 11 50.3 -0.6
comp=Z,26nm,0.9s,mb5.2
E18A **Harlowton** 33.37 174 ⇑P P 07 11 50.8 -0.2
baz=33,SNR=6.2
E16A **East Helena** 33.38 176 ⇑P P 07 11 50.6 -0.5
baz=33,SNR=6.4
E09A **Wood Farm, Sta** 33.39 184 ⇑P P 07 11 51.1 -0.1
baz=33
E08A **Dider Farm, El** 33.43 185 ⇑P P 07 11 51.4 -0.1
baz=33
E13A **Victor** 33.45 179 ⇑P P 07 11 51.3 -0.3
baz=33,SNR=11
E17A **Martinsdale** 33.46 175 ⇑P P 07 11 51.4 -0.4
baz=33,SNR=7.2
E12A **Beaver Dam Sad** 33.47 181 ⇓P P 07 11 51.6 -0.3
baz=33
E15A **Deer Lodge** 33.48 177 ⇑P P 07 11 51.9 0.0
baz=33
E14A **Clinton** 33.48 178 ⇓P P 07 11 51.7 -0.2
baz=33,SNR=6.8
E03A **Lebam** 33.48 191 ⇑P P 07 11 52.3 +0.3
baz=33
E19A **Rath Farm, Rou** 33.50 172 ⇑P P 07 11 51.9 -0.2
baz=33
E22A **Miles City** 33.61 169 ⇑P P 07 11 53.1 0.0
baz=34
YAK **Yakutsk** 33.73 310 *i* P P 07 11 54.4 +0.4
F10A **Beach Ranch, E** 33.92 183 ⇑P P 07 11 56.0 +0.2
baz=34
F17A **Fitzpatrick Pl** 34.02 175 ⇓P P 07 11 56.5 -0.1
baz=34,SNR=10.0
F18A **Big Timber** 34.04 173 ⇓P P 07 11 56.7 -0.1
baz=34,SNR=7.0
F15A **Butte** 34.06 177 ⇑P P 07 11 56.8 -0.2
baz=34,SNR=5.7
LRM **Limekiln Ridge** 34.08 177 *eP* P 07 11 56.0 -1.1
F19A **Roth Farm, Mol** 34.11 172 ⇓P P 07 11 56.7 -0.7
baz=34,SNR=8.9
F12A **Elk City** 34.13 180 ⇓P P 07 11 56.9 -0.7
baz=34,SNR=12
GCMT **Greycliff** 34.15 173 *eP* P 07 11 57.9 0.0
comp=Z,20nm,0.8s,mb5.1
F20A **Billings** 34.18 171 ⇓P P 07 11 57.7 -0.4
baz=34
BOZ **Bozeman (W)** 34.27 176 ⇓P P 07 11 58.8 0.0
baz=34
BOZ **Bozeman (W)** 34.27 176 *eP* P 07 11 58.1 -0.7
comp=Z,7.7nm,0.6s,mb4.8
DLMT **Dillon** 34.54 177 *eP* P 07 12 00.9 -0.2
comp=Z,7.6nm,1.0s,mb4.6
KIWB **Kanaga Island** 34.55 255 *eP* P 07 11 58.2 -3.0
G14A **Jackson** 34.65 178 ⇑P P 07 12 01.6 -0.5
baz=34,SNR=6.6
G15A **Dillon** 34.74 177 ⇓P P 07 12 02.2 -0.6
baz=35,SNR=6.6
G20A **Bridger** 34.76 172 ⇑P P 07 12 02.4 -0.6
baz=35
G12A **Big Creek, Yel** 34.76 180 ⇑P P 07 12 02.5 -0.6
baz=35
G13A **Cobalt** 34.80 179 ⇑P P 07 12 02.8 -0.6
baz=35,SNR=8.4
BMO **Blue Mountains** 35.05 183 *eP* P 07 12 05.3 -0.3
comp=Z,3.5nm,0.9s,mb4.3
MCMT **McKenzie Canyo** 35.07 177 *eP* P 07 12 05.4 -0.3
comp=Z,3.2nm,0.8s,mb4.3
QLMT **Earthquake Lak** 35.08 176 *eP* P 07 12 05.9 0.0
comp=Z,1.3nm,0.9s,mb3.9
YNR **Norris Junctio** 35.21 175 *eP* P 07 12 08.3 +1.4
comp=Z,24nm,1.3s,mb5.0
H16A **Russell Place,** 35.21 175 ⇓P P 07 12 07.0 0.0
baz=35,SNR=9.0
H18A **Shoshone NF, C** 35.27 173 ⇓P P 07 12 07.3 -0.1
baz=35
H14A **Leadore** 35.28 178 ⇓P P 07 12 08.0 +0.5
baz=35,SNR=14
H15A **Lima** 35.28 177 ⇓P P 07 12 07.8 +0.3
baz=35,SNR=11
H19A **Powell** 35.29 173 ⇓P P 07 12 07.9 +0.2
baz=35
H13A **Challis** 35.33 179 ⇓P P 07 12 08.2 +0.3
baz=35,SNR=8.5
H12A **Diamond D Ranc** 35.34 180 ⇑P P 07 12 07.7 -0.4
baz=35,SNR=6.9
H24A **Dirks Ranch, A** 35.35 167 ⇑P P 07 12 07.5 -0.7
baz=35
LKWY **Lake** 35.37 174 *eP* P 07 12 09.2 +0.9
comp=Z,18nm,0.9s,mb5.0
YFT **Old Faithful** 35.47 175 *eP* P 07 12 11.3 +2.1
comp=Z,19nm,1.1s,mb4.9
H20A **Greybull** 35.50 171 ⇓P P 07 12 08.9 -0.5
baz=35
SPMN **St. Paul** 35.60 153 ⇓P P 07 12 09.4 -0.9
baz=36

FLWY **Flagg Ranch** 35.84 175 *eP* P 07 12 13.8 +1.5
comp=Z,41nm,1.1s,mb5.3
I07A **Izee** 35.84 186 ⇑P P 07 12 12.7 +0.3
baz=36
I15A **Monteview** 35.90 177 ⇑P P 07 12 13.0 +0.1
baz=36
I19A **Meeteetse** 35.92 173 ⇑P P 07 12 12.6 -0.5
baz=36
I14A **Mackay** 35.97 178 ⇓P P 07 12 13.8 +0.4
baz=36,SNR=27
I13A **Wildhorse Cree** 35.98 179 ⇑P P 07 12 13.9 +0.4
baz=36,SNR=26
RSSD **Black Hills** 36.00 166 *eP* P 07 12 13.3 -0.4
comp=Z,16nm,0.9s,mb5.0
I17A **Pilgrim Ck.** 36.01 175 ⇓P P 07 12 14.8 +1.0
baz=36,SNR=8.6
IMW **Indian Meadow** 36.02 175 *eP* P 07 12 15.1 +1.2
comp=Z,26nm,1.0s,mb5.1
I20A **Worland** 36.03 172 ⇓P P 07 12 13.7 -0.3
baz=36
I16A **Newdale** 36.04 176 ⇑P P 07 12 14.3 +0.2
baz=36,SNR=19
I12A **Atlanta** 36.09 180 ⇑P P 07 12 14.2 -0.4
baz=36,SNR=5.9
NB2 **NORSAR Subarra** 36.10 42 P P 07 12 14.7 +0.3
comp=Z,1.3nm,0.6s,mb4.0,baz=346,slow=8.6
NOA **NORSAR Array B** 36.10 42 P P 07 12 14.8 +0.4
comp=Z,1.4nm,0.5s,mb4.2,baz=344,slow=8.4,SNR=7.0
NOA LR LR 07 26 51.3
comp=Z,98nm,18.4s,MS3.6,baz=0.0,slow=36
NOA **NORSAR Array B** 36.10 42 P P 07 12 14.8 +0.4
NOA LR LR 07 26 51.2
I22A **9 Mile Ranch,** 36.14 169 ⇓P P 07 12 14.6 -0.3
baz=36,SNR=7.6
MOOW **Moose Ponds** 36.17 175 *eP* P 07 12 15.9 +0.7
comp=Z,13nm,0.8s,mb4.9
I21A **Big Trails, Te** 36.19 170 ⇑P P 07 12 15.2 -0.2
baz=36
JOF **Joensuu** 36.23 25 *eP* P 07 12 14.2 -1.3
JOF pmax pmax
comp=Z,11nm,0.7s,mb4.9
I18A **Diamond G Ranc** 36.24 174 ⇑P P 07 12 16.0 +0.2
baz=36
LOHW **Long Hollow** 36.31 175 *eP* P 07 12 17.0 +0.6
comp=Z,13nm,1.0s,mb4.8
DCID1 **Drake Creek** 36.32 175 *eP* P 07 12 17.5 +1.0
comp=Z,17nm,0.8s,mb5.2
HLID **Hailey** 36.33 179 ⇑P P 07 12 16.7 +0.1
baz=36
HLID **Hailey** 36.33 179 *eP* P 07 12 16.5 -0.1
comp=Z,20nm,1.7s,mb4.8
TPAW **Teton Pass** 36.43 175 *eP* P 07 12 18.1 +0.7
comp=Z,16nm,1.0s,mb4.9
SNOW **Snow King Moun** 36.46 175 *eP* P 07 12 18.8 +1.1
comp=Z,13nm,1.0s,mb4.8
MFID **Camas Ranch** 36.48 181 ⇓P P 07 12 17.7 -0.1
baz=36
MFID **Camas Ranch** 36.48 181 *eP* P 07 12 18.0 +0.2
comp=Z,9.9nm,1.1s,mb4.7
J13A **Cove Ranch, Pi** 36.49 179 ⇑P P 07 12 17.7 -0.2
baz=36
J15A **Blackfoot** 36.50 177 ⇓P P 07 12 18.3 +0.2
baz=36
J08A **Circle Bar Ran** 36.55 184 ⇑P P 07 12 19.0 +0.5
baz=36
REDW **Red Top Meadow** 36.56 175 *eP* P 07 12 19.6 +1.1
comp=Z,13nm,1.2s,mb4.6
J17A **Brown Place, J** 36.56 175 ⇑P P 07 12 19.1 +0.6
baz=36
RRI2 **Red Ridge** 36.57 175 *eP* P 07 12 19.1 +0.5
comp=Z,22nm,1.1s,mb4.9
J14A **Carey** 36.57 178 ⇓P P 07 12 18.6 0.0
baz=36
J22A **Midwest** 36.62 170 ⇑P P 07 12 18.3 -0.7
baz=36
KAF **Kangasniemi** 36.62 30 *eP* P 07 12 18.2 -0.6
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
J20A **Shoshoni** 36.63 171 ⇑P P 07 12 19.5 +0.3
baz=36
J16A **Bone** 36.64 176 ⇓P P 07 12 19.5 +0.4
baz=36,SNR=6.0
J21A **Lysite** 36.65 171 ⇓P P 07 12 19.4 +0.1
baz=36
J19A **Crowheart** 36.69 173 ⇑P P 07 12 20.0 +0.4
baz=37
J18A **Kendall Valley** 36.73 174 ⇑P P 07 12 20.0 +0.1
baz=37,SNR=12
ECSD **EROS Data Cent** 36.80 158 *eP* P 07 12 19.1 -1.5
comp=Z,27nm,1.5s,mb4.8
K16A **Soda Springs** 37.08 176 ⇓P P 07 12 22.8 -0.1
baz=37
K19A **Abolon Red Bu** 37.14 172 ⇑P P 07 12 22.9 -0.5
baz=37
PD02 **Pinedale Array** 37.17 173 *eP* P 07 12 23.7 0.0
PD01 **Pinedale Array** 37.17 173 *eP* P 07 12 23.2 -0.5
K17A **Gardner Place,** 37.17 175 ⇑P P 07 12 24.2 +0.5
baz=37
BW06 **Boulder Array** 37.18 173 ⇓P P 07 12 23.7 -0.1
baz=37,SNR=8.2
BW06 **Boulder Array** 37.18 173 *eP* P 07 12 23.2 -0.6
comp=Z,3.3nm,0.4s,mb4.5
PDAR **Pinedale Array** 37.18 173 P P 07 12 23.4 -0.4
comp=Z,4.0nm,0.4s,mb4.6,baz=29,slow=7.1,SNR=72
PDAR PP PP 07 13 44.5 -3.8
comp=Z,2.4nm,0.9s,baz=27,slow=8.4,SNR=2.4
PDAR LR LR 07 26 57.7
comp=Z,223nm,18.2s,MS4.0,baz=271,slow=35
PDAR **Pinedale Array** 37.18 173 P P 07 12 23.4 -0.4
PDAR PP PP 07 13 44.5 -3.8
PDAR LR LR 07 26 57.7
K15A **Arbon** 37.22 177 ⇓P P 07 12 24.1 0.0
baz=37,SNR=6.6
K05A **Summer Lake** 37.23 187 ⇑P P 07 12 24.9 +0.6
baz=37
FINES **FINESS Array B** 37.26 30 P P 07 12 24.6 +0.3
comp=Z,16nm,0.7s,mb5.0,baz=345,slow=9.5,SNR=21
FINES PcP PcP 07 14 43.0 -0.4
comp=Z,9.6nm,0.8s,baz=355,slow=4.4,SNR=9.5
FINES **FINESS Array B** 37.26 30 P P 07 12 24.6 +0.3
FINES PcP PcP 07 14 43.0 -0.4
K18A **Toltan Ranch,** 37.30 174 ⇑P P 07 12 25.0 +0.2
baz=37,SNR=7.9
K20A **Yellowstone Ra** 37.32 172 ⇑P P 07 12 24.8 -0.1
baz=37
K14A **Jones Ranch, D** 37.35 178 ⇓P P 07 12 25.2 0.0
baz=37,SNR=9.5
K21A **Alcova** 37.37 171 ⇑P P 07 12 24.8 -0.7
baz=37
K22A **Casper** 37.38 170 ⇑P P 07 12 24.8 -0.7
baz=37,SNR=7.4
HUMO **Hull Mountain** 37.40 190 *eP* P 07 12 26.6 +0.9
comp=Z,11nm,1.0s,mb4.6
K26A **Motz Farm, Whi** 37.45 166 ⇓P P 07 12 25.9 -0.2
baz=37
SADO **Sadowa** 37.46 137 P P 07 12 25.2 -1.0
comp=Z,3.4nm,0.6s,mb4.4,baz=9.2,slow=15,SNR=3.6
SADO **Sadowa** 37.46 137 P P 07 12 25.2 -1.0
K25A **Mack Ranch, Ha** 37.51 166 ⇑P P 07 12 26.3 -0.3
baz=37
MSNY **Massena** 37.79 132 *eP* P 07 12 27.6 -1.3
comp=Z,14nm,0.9s,mb5.9
L17A **Cokeville** 37.82 175 ⇓P P 07 12 28.7 -0.5
baz=38,SNR=9.3
L19A **Farson** 37.85 173 ⇓P P 07 12 28.8 -0.6
baz=38
L14A **Malta** 37.86 178 ⇑P P 07 12 29.9 +0.4
baz=38,SNR=12
L15A **Malad City** 37.90 177 ⇓P P 07 12 29.8 -0.1
baz=38,SNR=6.7
L16A **Fish Haven** 37.90 176 ⇓P P 07 12 29.9 0.0
baz=38,SNR=10.0
L23A **Garrett** 37.94 169 ⇑P P 07 12 29.4 -0.8
baz=38
L18A **Fontenelle, Gr** 38.01 174 ⇑P P 07 12 30.5 -0.4
baz=38
L21A **Rawlins** 38.03 171 ⇓P P 07 12 30.6 -0.4
baz=38
MOD **Modoc** 38.04 186 *eP* P 07 12 33.0 +1.9
comp=Z,11nm,1.0s,mb4.6
FRNY **Flat Rock** 38.12 130 *eP* P 07 12 30.4 -1.3
comp=Z,12nm,0.8s,mb4.7
HVU **Hansel Valley** 38.12 177 *eP* P 07 12 31.4 -0.4
comp=Z,6.6nm,0.9s,mb4.4
YBH **Yreka Blue Hor** 38.27 189 *eP* P 07 12 33.1 +0.1
comp=Z,5.6nm,1.1s,mb4.2
HWUT **Hardware Ranch** 38.30 176 *eP* P 07 12 33.0 -0.3
comp=Z,7.5nm,0.7s,mb4.5

M21A **Separation Pea** 38.39 171 ⇓P P 07 12 33.7 -0.4
baz=38,SNR=6.7
M15A **Larsen Ranch,** 38.44 177 ⇑P P 07 12 33.6 -0.9
baz=38
M19A **Rock Springs** 38.45 173 ⇓P P 07 12 34.1 -0.4
baz=38
M17A **Scullys Gap (B** 38.45 175 ⇓P P 07 12 34.4 -0.1
baz=38,SNR=7.2
M18A **Lyman** 38.51 174 ⇓P P 07 12 34.8 -0.3
baz=38
M16A **Huntsville** 38.59 176 ⇑P P 07 12 35.5 -0.3
baz=38
M22A **Cedar Creek Ra** 38.62 170 ⇓P P 07 12 36.1 +0.1
baz=38
M25A **Palm-Egli Farm** 38.68 167 ⇓P P 07 12 36.0 -0.4
baz=39
KLMR **Klimovskoe** 38.84 20 P P 07 12 34.1 -3.6
KLMR pmax pmax
comp=Z,54nm,1.8s,mb5.0
NCB **Newcomb** 38.88 131 *eP* P 07 12 37.2 -0.9
comp=Z,14nm,0.8s,mb4.8
N18A **Larsen Ranch,** 38.97 174 ⇑P P 07 12 39.1 +0.2
baz=39
N15A **Stansbury Isla** 39.01 177 ⇓P P 07 12 38.7 -0.5
baz=39,SNR=6.1
BGNE **Belgrade** 39.01 160 ⇓P P 07 12 38.7 -0.6
baz=39
N16A **Rees Ranch, Co** 39.02 176 ⇓P P 07 12 39.5 +0.1
baz=39,SNR=7.1
N20A **Spence Gulch,** 39.14 172 ⇑P P 07 12 40.6 +0.2
baz=39
N23A **Red Feather La** 39.15 169 ⇓P P 07 12 40.4 0.0
baz=39
N22A **Wattenberg Ran** 39.22 170 ⇓P P 07 12 40.9 -0.1
baz=39,SNR=8.0
N21A **Black Mountain** 39.23 171 ⇑P P 07 12 41.3 +0.2
baz=39
N24A **Carr** 39.25 168 ⇑P P 07 12 41.7 +0.5
baz=39
OGNE **Ogallala** 39.26 164 ⇑P P 07 12 41.0 -0.3
baz=39
JLU **Jordanelle** 39.31 176 *eP* P 07 12 41.3 -0.5
comp=Z,8.4nm,0.9s,mb4.5
WDC **Whiskeytown Da** 39.41 189 *eP* P 07 12 43.3 +0.7
comp=Z,8.1nm,0.9s,mb4.5
DAU **Daniels Canyon** 39.50 175 *eP* P 07 12 44.9 +1.5
comp=Z,17nm,1.1s,mb4.7
O15A **The Old Anders** 39.62 177 ⇑P P 07 12 44.0 -0.4
baz=40
O19A **Miners Draw (B** 39.65 173 ⇑P P 07 12 44.9 +0.2
baz=40
O18A **Roosevelt** 39.67 174 ⇑P P 07 12 45.0 +0.2
baz=40
DUG **Dugway** 39.70 177 ⇑P P 07 12 45.4 +0.4
baz=40
DUG **Dugway** 39.70 177 *eP* P 07 12 46.0 +1.0
comp=Z,14nm,1.3s,mb4.5
O16A **Springville** 39.70 176 ⇑P P 07 12 46.2 +1.1
baz=40
O17A **Robinson Place** 39.73 175 ⇑P P 07 12 45.7 +0.5
baz=40
O21A **Pagoda** 39.78 171 ⇑P P 07 12 45.4 -0.3
baz=40
O23A **Lake Granby, G** 39.83 169 ⇓P P 07 12 46.6 +0.5
baz=40
O20A **White River Ci** 39.84 172 ⇑P P 07 12 46.3 +0.1
baz=40,SNR=7.9
O22A **Kremmling** 39.86 170 ⇓P P 07 12 46.6 +0.2
baz=40
MPU **Maple Canyon** 39.89 176 *eP* P 07 12 46.7 +0.1
comp=Z,19nm,1.0s,mb4.8
NLU **North Lily Min** 39.95 176 *eP* P 07 12 47.0 0.0
comp=Z,15nm,1.2s,mb4.6
ISCO **Idaho Springs** 40.25 169 ⇑P P 07 12 49.7 +0.1
baz=40
ISCO **Idaho Springs** 40.25 169 *eP* P 07 12 49.8 +0.2
comp=Z,2.9nm,0.9s,mb4.0
P16A **Fountain Green** 40.30 176 ⇑P P 07 12 50.4 +0.4
baz=40
P18A **Preston Nutter** 40.30 174 ⇑P P 07 12 50.0 0.0
baz=40
P14A **Drum Mountains** 40.30 178 ⇑P P 07 12 49.9 -0.1
baz=40,SNR=6.9
P19A **Cripple Cowboy** 40.32 173 ⇓P P 07 12 49.8 -0.4
baz=40,SNR=20
P22A **Eagle** 40.42 170 ⇓P P 07 12 50.5 -0.5
baz=40,SNR=6.4
P20A **De Beque** 40.47 172 ⇓P P 07 12 51.4 0.0
baz=40
TMUT **Trail Mountain** 40.62 175 *eP* P 07 12 53.5 +0.9
comp=Z,55nm,1.5s,mb5.0
WCN **Washoe City** 40.62 186 ⇓P P 07 12 53.6 +0.9
baz=40
WCN **Washoe City** 40.62 186 *eP* P 07 12 54.9 +2.2
comp=Z,9.1nm,1.1s,mb4.3
P23A **Jefferson** 40.67 169 ⇓P P 07 12 53.6 +0.6
baz=40
SRU **San Rafael** 40.81 175 ⇑P P 07 12 53.7 -0.5
baz=41,SNR=5.6
SRU **San Rafael** 40.81 175 *eP* P 07 12 54.3 +0.1
comp=Z,124nm,2.6s,mb5.1
SOKR **Solikamsk** 40.82 6 *eP* P 07 12 54.4 +0.3
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
Q18A **Rafter H Ranch** 40.83 174 ⇓P P 07 12 54.0 -0.4
baz=41
SMCO **Snowmass** 40.83 170 *eP* P 07 12 55.1 +0.8
comp=Z,7.6nm,1.1s,mb4.2
SFIN **Scholer Farm** 40.92 147 ⇓P P 07 12 54.1 -1.0
baz=41
Q16A **Castle Valley** 40.99 175 ⇑P P 07 12 56.1 +0.4
baz=41,SNR=9.0
Q20A **Ridgley Place,** 41.02 172 ⇓P P 07 12 55.7 -0.2
baz=41
Q24A **Divide** 41.10 168 ⇑P P 07 12 55.9 -0.8
baz=41
Q23A **Hartsel** 41.14 169 ⇓P P 07 12 56.6 -0.3
baz=41
Q22A **Crested Butte,** 41.14 170 ⇑P P 07 12 57.1 +0.1
baz=41
Q21A **Lamborn Mesa,** 41.15 171 ⇓P P 07 12 57.0 0.0
baz=41
Q25A **Bedland, Calha** 41.19 167 ⇓P P 07 12 56.8 -0.5
baz=41
MSU **Marysvale** 41.39 177 *eP* P 07 12 59.8 +0.9
KSU1 **Kansas State U** 41.41 158 *eP* P 07 12 57.1 -2.0
comp=Z,18nm,0.9s,mb4.7
NVAR **Mina Array Bea** 41.47 184 P P 07 13 00.4 +0.7
comp=Z,4.8nm,0.7s,mb4.2,baz=20,slow=5.3,SNR=26
NVAR PP PP 07 14 37.6 +2.4
comp=Z,0.9nm,0.7s,baz=348,slow=8.3,SNR=2.9
NVAR PcP PcP 07 14 56.7 -0.4
comp=Z,0.7nm,0.7s,baz=31,slow=4.3,SNR=2.7
NVAR LR LR 07 31 57.4
comp=Z,287nm,18.5s,MS4.2,baz=314,slow=39
NVAR **Mina Array Bea** 41.47 184 P P 07 13 00.4 +0.8
NVAR PP PP 07 14 37.6 +2.4
NVAR PcP PcP 07 14 56.7 -0.4
NVAR LR LR 07 31 57.4
CBKS **Cedar Bluff** 41.50 162 ⇑P P 07 12 59.0 -0.9
baz=41
CBKS **Cedar Bluff** 41.50 162 *eP* P 07 12 58.0 -1.9
comp=Z,16nm,1.0s,mb4.6
R17A **Hanksville Air** 41.50 175 ⇓P P 07 12 59.9 0.0
baz=41
R11A **Troy Canyon, C** 41.53 181 ⇑P P 07 12 59.8 -0.3
baz=41
R18A **Canyonlands Na** 41.55 174 ⇓P P 07 12 59.9 -0.4
baz=41,SNR=14
PV04 **Paradox Valley** 41.56 173 *eP* P 07 13 00.1 -0.3
R21A **Cimarron** 41.62 171 ⇓P P 07 13 01.1 +0.3
baz=42,SNR=8.2
R16A **Teasdale** 41.62 176 ⇑P P 07 13 00.2 -0.7
baz=42
R19A **Curley Farm, L** 41.65 173 ⇓P P 07 13 01.2 0.0
baz=42
R15A **Junction** 41.69 177 ⇓P P 07 13 02.2 +0.8
baz=42
R13A **O'Grain Ranch,** 41.70 179 ⇑P P 07 13 01.7 +0.2
baz=42,SNR=8.5
R20A **Redvale** 41.78 172 ⇓P P 07 13 02.2 0.0
baz=42
PV01 **Paradox Valley** 41.83 172 *eP* P 07 13 02.2 -0.4
comp=Z,1μm,0.8s
CMB **Columbia Colle** 41.90 186 *eP* P 07 13 03.2 0.0
comp=Z,3.8nm,0.9s,mb4.0
R25A **Fountain Ranch** 41.95 167 ⇓P P 07 13 03.2 -0.4
baz=42

ARUT **Antelope Range** 42.10 178 *e*P P 07 13 04.7 -0.1
comp=Z,6.8nm,0.8s,mb4.3
S20A **Disappointment** 42.13 172 ⇑P P 07 13 04.6 -0.5
baz=42
S16A **Weppner Ranch,** 42.18 176 ⇓P P 07 13 05.3 -0.2
baz=42,SNR=6.3
S19A **Harvey Farm, M** 42.20 173 ⇑P P 07 13 05.8 +0.1
baz=42,SNR=10.0
S18A **Hurst Farm, Bl** 42.24 174 ⇑P P 07 13 06.6 +0.6
baz=42
S17A **Black Ridge (B** 42.28 175 ⇓P P 07 13 06.3 0.0
baz=42,SNR=8.2
SDCO **Great Sand Dun** 42.30 169 ⇓P P 07 13 06.3 -0.1
baz=42
SDCO **Great Sand Dun** 42.30 169 *e*P P 07 13 06.5 0.0
comp=Z,4.1nm,0.9s,mb4.1
S21A **Coal Bank Pass** 42.32 171 ⇑P P 07 13 06.8 +0.3
baz=42
S23A **Nye Farm, Mont** 42.33 169 ⇓P P 07 13 06.0 -0.6
baz=42
CCUT **Cedar City** 42.34 178 *e*P P 07 13 07.1 +0.3
comp=Z,7.4nm,1.0s,mb4.3
S24A **Houchin Ranch,** 42.42 168 ⇑P P 07 13 07.2 -0.2
baz=42,SNR=8.4
S25A **Robets Cordova** 42.43 168 ⇓P P 07 13 07.2 -0.2
baz=42,SNR=15
MTUM **Tungsten Hills** 42.55 184 *e*P P 07 13 10.7 +2.2
MVCO **Mesa Verde** 42.75 172 ⇑P P 07 13 09.8 -0.3
baz=43
MVCO **Mesa Verde** 42.75 172 *e*P P 07 13 11.5 +1.4
comp=Z,6.0nm,0.9s,mb4.3
T18A **Mexican Hat** 42.79 174 ⇓P P 07 13 10.1 -0.3
baz=43
CCM **Cathedral Cave** 42.85 152 *e*P P 07 13 09.1 -1.8
comp=Z,15nm,1.2s,mb4.6
T17A **Navajo Res., N** 42.92 175 ⇑P P 07 13 11.1 -0.3
baz=43,SNR=12
T25A **Trinidad** 42.95 168 ⇑P P 07 13 11.5 -0.2
baz=43
T22A **Edith** 42.99 170 ⇓P P 07 13 12.2 +0.1
baz=43
T24A **Torres, Weston** 42.99 168 ⇓P P 07 13 11.8 -0.2
baz=43
T21A **Navajo Lake** 42.99 171 ⇓P P 07 13 12.3 +0.3
baz=43
T23A **Casias Ranch,** 42.99 169 ⇓P P 07 13 12.8 +0.8
baz=43
T19A **Beclabito** 43.12 173 ⇑P P 07 13 13.1 0.0
baz=43,SNR=13
U17A **Shonto** 43.32 175 ⇑P P 07 13 14.7 0.0
baz=43
FURC **Furnace Creek,** 43.42 182 ⇓P P 07 13 15.5 0.0
baz=43,SNR=6.3
U15A **North Rim** 43.47 177 ⇑P P 07 13 15.7 -0.2
baz=43
U21A **Nageezi** 43.55 171 ⇑P P 07 13 16.7 +0.2
baz=43
U24A **Moreno Valley** 43.64 169 ⇑P P 07 13 17.9 +0.5
baz=44
U19A **Dine' College,** 43.65 173 ⇓P P 07 13 17.5 +0.2
baz=44
U25A **Circle Dot Ran** 43.69 168 ⇑P P 07 13 17.8 +0.1
baz=44
U23A **El Rito** 43.69 170 ⇑P P 07 13 18.5 +0.8
baz=44,SNR=24
U26A **Atchley Ranch,** 43.72 167 ⇑P P 07 13 17.8 -0.1
baz=44
U16A **Tuba City** 43.77 175 ⇓P P 07 13 18.5 +0.2
baz=44
MPMC **Manual Prospec** 43.83 183 ⇓P P 07 13 20.0 +1.2
baz=44,SNR=14
SHOC **Shoshone** 43.98 181 ⇓P P 07 13 20.5 +0.5
baz=44
ARU **Arti** 44.00 5 *e*P P 07 13 20.4 +0.5
comp=Z,12nm,1.1s,mb4.5
ARU **Arti** 44.00 5*d i*P P 07 13 20.7 +0.7
ARU *e* 07 15 01.4
ARU S **S** 07 19 54.8 +3.5
ARU SS SS 07 23 07.0 -0.5
ARU pmax pmax
comp=Z,18nm,1.7s,mb4.5
V15A **Kaibab Nationa** 44.08 177 ⇑P P 07 13 20.7 -0.1
baz=44,SNR=5.1
V22A **San Miguel Ran** 44.09 171 ⇑P P 07 13 21.7 +0.8
baz=44
V20A **Brimhall** 44.16 172 ⇑P P 07 13 22.0 +0.6
baz=44
V18A **Ganado** 44.22 174 ⇑P P 07 13 22.2 +0.3
baz=44,SNR=11
ISA **Isabella** 44.24 184 ⇓P P 07 13 22.7 +0.6
baz=44,SNR=15
ISA **Isabella** 44.24 184 *e*P P 07 13 23.4 +1.3
comp=Z,11nm,1.0s,mb4.5
V25A **Rancho No Teng** 44.24 168 ⇑P P 07 13 22.3 +0.2
baz=44
V23A **Ortiz Mt. (NFS** 44.28 170 ⇑P P 07 13 22.6 +0.2
baz=44
V17A **Tonalea, Kykot** 44.29 175 ⇓P P 07 13 23.2 +0.7
baz=44,SNR=9.1
V26A **Tequesquite Ra** 44.31 167 ⇓P P 07 13 22.2 -0.5
baz=44,SNR=9.4
V24A **Rampart Ranch,** 44.33 169 ⇑P P 07 13 23.2 +0.4
baz=44,SNR=7.1
OBN **Obninsk** 44.37 23⇓ *e*P P 07 13 23.6 +0.7
OBN *e* pP 07 13 27.3 +1.3
OBN *i* 07 13 31.4
OBN *e* 07 15 06.5
OBN *e* 07 15 46.3
OBN pmax pmax
comp=Z,56nm,1.3s,mb5.1
OBN MLR MLR
comp=Z,100nm,13.0s,MS3.9
WUAZ **Wupatki** 44.39 176 ⇑P P 07 13 24.2 +0.9
baz=44,SNR=21
WUAZ **Wupatki** 44.39 176 *e*P P 07 13 23.9 +0.7
comp=Z,19nm,0.9s,mb4.8
LRMC **Laurel Mountai** 44.41 183 ⇓P P 07 13 24.2 +0.7
baz=44
GSC **Goldstone** 44.58 182 ⇑P P 07 13 26.2 +1.3
baz=44,SNR=11
GSC **Goldstone** 44.58 182 *e*P P 07 13 26.5 +1.6
comp=Z,21nm,1.0s,mb4.9
TUL1 **Tulsa** 44.63 158 ⇑P P 07 13 23.4 -1.9
baz=44,SNR=10.0
W13A **Hualapai Mount** 44.78 179 ⇑P P 07 13 26.8 +0.3
baz=45,SNR=12
LDFC **Landfair** 44.80 180 *e*P P 07 13 27.6 +1.0
comp=Z,14nm,0.6s,mb5.0
W16A **Flagstaff** 44.80 176 ⇑P P 07 13 27.0 +0.3
baz=45,SNR=5.9
W20A **Ramah** 44.83 172 ⇓P P 07 13 27.1 +0.3
baz=45
W24A **Lazy 6 Ranch,** 44.84 169 ⇑P P 07 13 27.0 +0.2
baz=45
W23A **Werner Place,** 44.86 170 ⇓P P 07 13 27.5 +0.4
baz=45,SNR=8.7
W25A **X Bar L Ranch,** 44.86 168 ⇑P P 07 13 27.1 0.0
baz=45
EDW2 **Edwards Air Fo** 45.01 183 ⇑P P 07 13 28.8 +0.5
baz=45,SNR=15
W26A **Owens Ranch, T** 45.02 167 ⇑P P 07 13 28.5 +0.2
baz=45
PKM **Peak Mountain** 45.02 186 ⇑P P 07 13 29.0 +0.7
baz=45
ANMO **Albuquerque** 45.06 170 P P 07 13 28.5 -0.2
comp=Z,3.6nm,0.9s,mb4.2,baz=247,slow=23,SNR=14
ANMO **Albuquerque** 45.06 170 *e*P P 07 13 29.1 +0.4
comp=Z,5.3nm,0.8s,mb4.4
W27A **Bowe Ranch, En** 45.07 166 ⇓P P 07 13 28.4 -0.3
baz=45
GMRC **Granite Mounta** 45.10 181 ⇑P P 07 13 28.9 -0.1
baz=45
X18A **Snowflake** 45.39 174 ⇓P P 07 13 31.9 +0.6
baz=45,SNR=6.8
X20A **Quemado** 45.41 172 ⇑P P 07 13 32.0 +0.6
baz=45
X16A **Lo Mia Camp, P** 45.48 176 ⇑P P 07 13 32.4 +0.3
baz=45,SNR=6.5
X27A **F and S Farms,** 45.49 166 ⇑P P 07 13 32.2 +0.2
baz=45
X22A **Bernardo** 45.49 171 ⇑P P 07 13 32.4 +0.3
baz=45
X19A **St. Johns** 45.51 173 ⇑P P 07 13 32.6 +0.3
baz=45
X21A **Alamocita Cree** 45.52 172 ⇑P P 07 13 32.8 +0.5
baz=45
X26A **CR and CF Fran** 45.55 167 ⇓P P 07 13 32.6 +0.1
baz=45
X17A **Forest Lakes** 45.57 175 ⇓P P 07 13 33.6 +0.8
baz=46
PDMCI **Parker Dam,Lak** 45.58 179 ⇑P P 07 13 33.2 +0.5
baz=46,SNR=5.4
LAZ **Ladron** 45.59 171 *e*P P 07 13 34.2 +1.4
comp=Z,2.3nm,1.1s,mb4.0
WMOK **Wichita Mounta** 45.61 161 *e*P P 07 13 33.0 -0.1
comp=Z,15nm,1.1s,mb4.8
BBRC **Big Bear Solar** 45.62 182 ⇓P P 07 13 34.3 +1.2
baz=46,SNR=8.4
BFSC **Mount Baldy Ra** 45.65 183 ⇓P P 07 13 34.6 +1.2
baz=46,SNR=16
MWC **Mount Wilson** 45.67 184 *e*P P 07 13 35.9 +2.4
comp=Z,19nm,0.9s,mb5.0
LPM **Los Pinos Moun** 45.69 170 *e*P P 07 13 34.3 +0.6
comp=Z,8.0nm,1.1s,mb4.6
IRM **Iron Mountain** 45.72 180 ⇑P P 07 13 34.4 +0.5
baz=46
PASC **Pasadena Art C** 45.72 184 *e*P P 07 13 35.7 +1.8
comp=Z,19nm,0.9s,mb5.0
LENM **Lemitar** 45.83 171 *e*P P 07 13 36.6 +1.9
CLL **Collm** 45.84 44 *e*P P 07 13 34.0 -0.6
CLL *e* 07 13 43.0
BNM **Barren Site** 45.85 170 *e*P P 07 13 35.9 +0.9
comp=Z,11nm,1.2s,mb4.7
BELC **Belle Mtn. Jos** 45.88 181 ⇓P P 07 13 36.3 +1.1
baz=46,SNR=23
BAIF **Baives** 45.90 52 *e*P P 07 13 35.5 +0.4
comp=Z,28nm,1.0s,mb4.8
TKL **Tuckaleechee C** 45.93 144 P P 07 13 33.6 -1.9
comp=Z,2.3nm,0.6s,mb4.3,baz=166,slow=6.5,SNR=4.9
TKL **Tuckaleechee C** 45.93 144 P P 07 13 33.6 -1.9
Y15A **Casa Rosa Ranc** 45.93 177 ⇓P P 07 13 35.6 0.0
baz=46
GIVF **Givet** 45.94 51 *e*P P 07 13 35.7 +0.2
Y14A **Wickenburg** 45.94 178 ⇑P P 07 13 36.4 +0.7
baz=46,SNR=13
Y21A **Point of Rocks** 45.96 171 ⇓P P 07 13 36.8 +1.0
baz=46,SNR=8.2
Y19A **Nutrioso** 45.98 173 ⇓P P 07 13 36.2 +0.2
baz=46
Y16A **Circle Bar Ran** 46.02 176 ⇓P P 07 13 37.4 +1.1
baz=46
ZALV **Zalesovo Beam** 46.04 344 P P 07 13 35.1 -1.1
comp=Z,1.5nm,0.5s,mb4.2,baz=4.4,slow=8.0,SNR=10
ZALV PcP PcP 07 15 11.3 -1.0
comp=Z,2.1nm,0.7s,baz=1.1,slow=3.4,SNR=4.9
ZALV **Zalesovo Beam** 46.04 344 P P 07 13 35.1 -1.1
ZALV PcP PcP 07 15 11.3 -1.0
Y20A **Horse Springs,** 46.05 172 ⇓P P 07 13 36.4 0.0
baz=46
Y22A **Socorro** 46.05 171 ⇓P P 07 13 37.1 +0.6
baz=46,SNR=12
Y23A **Lovelace Mesa,** 46.09 170 ⇓P P 07 13 36.9 +0.1
baz=46
Y24A **Capitan** 46.12 169 ⇑P P 07 13 37.7 +0.7
baz=46,SNR=9.2
Y12C **Blythe** 46.12 179 ⇑P P 07 13 37.3 +0.2
baz=46,SNR=7.7
Y18A **Canyon Day Jun** 46.14 174 ⇓P P 07 13 38.0 +0.7
baz=46,SNR=8.0
Y25A **Mesa, Roswell** 46.14 168 ⇑P P 07 13 37.6 +0.3
baz=46,SNR=8.3
MIAR **Mount Ida** 46.15 155 *e*P P 07 13 35.1 -2.2
comp=Z,10nm,0.9s,mb4.8
MSTX **Muleshoe** 46.17 166 ⇓P P 07 13 37.3 -0.2
baz=46
PLAL **Pickwick Lake** 46.18 149 *e*P P 07 13 34.8 -2.7
comp=Z,11nm,0.9s,mb4.8
Y17A **Roosevelt** 46.21 175 ⇓P P 07 13 38.0 +0.2
baz=46,SNR=5.9
BC3 **Big Chuckawall** 46.22 180 ⇑P P 07 13 39.1 +1.2
baz=46,SNR=15
Y27A **Causey** 46.24 166 ⇓P P 07 13 37.9 -0.2
baz=46,SNR=8.1
PFO **Pinyon Flat Ob** 46.27 182 ⇓P P 07 13 38.7 +0.5
baz=46
MURC **Murrieta** 46.28 182 ⇓P P 07 13 39.5 +1.1
baz=46
CIS **Catalina Islan** 46.49 184 ⇑P P 07 13 41.0 +1.0
baz=46
Z14A **Wintersburg** 46.52 178 ⇓P P 07 13 40.6 +0.4
baz=46
OXF **Oxford** 46.52 151 *e*P P 07 13 37.7 -2.5
comp=Z,70nm,1.2s,mb5.5
Z16A **Peralta Trail,** 46.55 176 ⇓P P 07 13 41.0 +0.5
baz=46
Z17A **San Carlos Hig** 46.61 175 ⇑P P 07 13 41.8 +0.9
baz=46
Z21A **St. Cloud Mine** 46.66 172 ⇑P P 07 13 42.7 +1.3
baz=47
Z13A **Yuma Proving G** 46.68 178 ⇑P P 07 13 41.8 +0.4
baz=47,SNR=7.8
KMSC **Kings Mountain** 46.71 141 ⇑P P 07 13 40.9 -0.7
baz=47
Z24A **Sheeppen Canyo** 46.71 169 ⇓P P 07 13 41.9 +0.2
baz=47,SNR=9.8
Z22A **Elephant Butte** 46.73 171 ⇑P P 07 13 42.4 +0.5
baz=47
Z23A **Rita Site, Whi** 46.75 170 ⇓P P 07 13 42.4 +0.3
baz=47
Z25A **Roswell** 46.78 168 ⇑P P 07 13 42.4 +0.1
baz=47,SNR=8.4
Z27A **Tatum** 46.81 166 ⇑P P 07 13 42.7 +0.2
baz=47
GLA **Glamis** 46.82 180 ⇑P P 07 13 43.3 +0.8
baz=47
GLA **Glamis** 46.82 180 *e*P P 07 13 43.7 +1.1
comp=Z,17nm,1.0s,mb4.9
Z26A **Caprock** 46.82 167 ⇓P P 07 13 42.5 0.0
baz=47,SNR=6.9
Z20A **Nine Sixteen R** 46.83 173 ⇓P P 07 13 43.0 +0.4
baz=47
SCI **San Clemente I** 46.91 184 ⇓P P 07 13 43.0 -0.3
baz=47
SWSC **Sam W. Stewart** 46.93 181 ⇑P P 07 13 44.0 +0.5
baz=47
MONP **Monument Peak** 46.98 182 ⇑P P 07 13 45.0 +1.1
baz=47,SNR=8.6
113A **Mohawk Valley,** 47.11 179 ⇑P P 07 13 45.4 +0.6
baz=47
114A **Black Gap (USA** 47.13 178 ⇑P P 07 13 45.6 +0.6
baz=47
DPC **Dobruska-Polom** 47.18 41 *e*P P 07 13 46.3 +1.2
comp=Z,10nm,0.9s,mb4.8
115A **Sonoran Desert** 47.19 177 ⇓P P 07 13 46.1 +0.6
baz=47,SNR=5.7
BAR **Barrett** 47.20 182 *e*P P 07 13 46.6 +1.1
comp=Z,9.0nm,1.0s,mb4.7
DVTC **Desert V Tower** 47.21 181 ⇑P P 07 13 46.8 +1.1
baz=47
118A **Homack Ranch,** 47.28 174 ⇑P P 07 13 46.8 +0.6
baz=47,SNR=7.3
116A **Eloy** 47.33 176 ⇑P P 07 13 47.2 +0.6
baz=47
117A **Oracle** 47.33 175 ⇓P P 07 13 47.0 +0.4
baz=47
124A **Stringfield Ra** 47.34 169 ⇓P P 07 13 46.7 +0.1
baz=47
BRVK **Borovoye** 47.40 356 *e*P P 07 13 46.9 +0.1
comp=Z,4.2nm,0.6s,mb4.5
BRVK **Borovoye** 47.40 356⇑ *e*P P 07 13 47.1 +0.3
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
125A **Gardner Draw,** 47.41 168 ⇑P P 07 13 46.6 -0.5
baz=47
121A **Cookes Peak, D** 47.43 172 ⇓P P 07 13 47.7 +0.4
baz=47,SNR=6.3
126A **Clayton Basin,** 47.44 167 ⇑P P 07 13 47.4 0.0
baz=47
JSC **Jenkinsville** 47.57 141 *e*P P 07 13 47.4 -1.0
PAGF **Fort de Pagny** 47.58 51 *e*P P 07 13 48.9 +0.6
TUC **Tucson** 47.59 175 *e*P P 07 13 49.6 +1.0
comp=Z,7.4nm,1.1s,mb4.6
VOSK **Vostochnaya** 47.72 355 P P 07 13 49.2 -0.1
VOSK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
SFTF **Sexfontaines** 47.83 51 *e*P P 07 13 50.4 +0.2
216A **Three Points,** 47.89 176 ⇑P P 07 13 51.4 +0.5
baz=48
219A **White Tail Can** 47.93 173 ⇓P P 07 13 51.6 +0.4
baz=48,SNR=8.1
CDF **Champ du Feu** 47.93 49 *e*P P 07 13 51.5 +0.4
218A **Dragoon** 47.94 174 ⇓P P 07 13 51.6 +0.3
baz=48
225A **Deer Hill, Car** 47.95 168 ⇓P P 07 13 51.3 0.0
baz=48,SNR=9.6
224A **Cornudas Mount** 47.95 169 ⇓P P 07 13 51.2 -0.2
baz=48
226A **Malaga, Loving** 48.02 167 ⇑P P 07 13 51.5 -0.4
baz=48
220A **Playas Peak, P** 48.04 173 ⇑P P 07 13 52.1 0.0
baz=48
227A **Bennet, Jal** 48.10 167 ⇓P P 07 13 52.9 +0.4
baz=48
217A **Green Valley** 48.13 175 ⇑P P 07 13 53.0 +0.3
baz=48
AKASG **Malin Array Be** 48.17 30 P P 07 13 52.4 -0.5
comp=Z,4.6nm,0.6s,mb4.7,baz=353,slow=8.3,SNR=14
AKASG PcP PcP 07 15 19.2 -0.8
comp=Z,3.2nm,0.6s,baz=347,slow=3.1,SNR=9.8
AKASG **Malin Array Be** 48.17 30 P P 07 13 52.4 -0.5
AKASG PcP PcP 07 15 19.2 -0.8
KIEV **Kiev** 48.17 30 *e*P P 07 13 52.4 -0.5
comp=Z,8.6nm,1.0s,mb4.7
HAU **Haudompre** 48.21 50 *e*P P 07 13 53.6 +0.4
HAU *e*R
comp=Z,109nm,19.5s
GERES **GERESS Array B** 48.34 44 P P 07 13 54.1 -0.1
comp=Z,0.3nm,0.3s,mb3.8,baz=310,slow=4.7,SNR=4.0
GERES PcP PcP 07 15 19.5 -1.1
comp=Z,0.8nm,0.6s,baz=349,slow=3.4,SNR=3.8
GERES LR LR 07 34 46.6
comp=Z,57nm,18.5s,MS3.6,baz=306,slow=37
GERES **GERESS Array B** 48.34 44 P P 07 13 54.1 -0.1
GERES PcP PcP 07 15 19.5 -1.1
GERES LR LR 07 34 46.6
VSR **Storozhevoye** 48.42 21 *e*P P 07 13 54.6 -0.2
VSR pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
VSR pmax pmax
comp=N,2.0nm,0.3s
VSR pmax pmax
comp=E,6.0nm,0.6s
HINF **Hinteralfeld** 48.46 50 *e*P P 07 13 55.5 +0.4
318A **Bisbee** 48.47 174 ⇑P P 07 13 56.1 +0.7
baz=48
319A **Douglas** 48.55 173 ⇓P P 07 13 56.3 +0.3
baz=48
LOR **Lormes** 48.58 53⇑ *i*P P 07 13 56.3 +0.3
comp=E,24nm,0.9s,mb4.9
LOR *e*R
comp=E,71nm,17.2s
324A **Moseley Ranch,** 48.59 169 ⇑P P 07 13 55.9 -0.4
baz=48
320A **Kipp Ranch, An** 48.61 173 ⇑P P 07 13 56.8 +0.4
baz=48
325A **Bean Ranch, Si** 48.68 169 ⇑P P 07 13 56.9 -0.1
baz=49
SSF **Saint Saulge** 48.73 53⇑ *i*P P 07 13 57.5 +0.3
comp=E,16nm,0.8s,mb4.8
328A **Wristen Ranch,** 48.75 166 ⇓P P 07 13 57.1 -0.5
baz=49,SNR=7.9
326A **Caldwell Ranch** 48.77 167 ⇑P P 07 13 57.2 -0.5
baz=49
AVF **Avril sur Loir** 48.98 53 *e*P P 07 13 59.3 +0.2
comp=E,29nm,1.0s,mb5.0
ASAJ **Asahikawa** 49.09 291 LR LR 07 35 35.6
comp=E,51nm,19.6s,MS3.5,baz=9.2,slow=37
BGF **Bois d'Agland** 49.13 54 *e*P P 07 14 00.4 +0.1
comp=E,26nm,0.8s,mb5.0
SMF **Signal de Mont** 49.19 53 *e*P P 07 14 00.7 0.0
comp=E,32nm,1.1s,mb5.0
427A **Hayter Ranch,** 49.26 167 ⇑P P 07 14 01.6 +0.2
baz=49
425A **Indio Mountain** 49.26 169 ⇑P P 07 14 01.5 0.0
baz=49
TCF **Toulx Ste Croi** 49.30 54 *e*P P 07 14 01.4 -0.2
comp=E,29nm,1.1s,mb4.9
428A **Kincaid Ranch,** 49.41 166 ⇓P P 07 14 02.7 +0.2
baz=49
426A **McDonald Obser** 49.41 167 ⇓P P 07 14 01.6 -1.0
baz=49,SNR=8.7
CABF **La Chapelle** 49.54 51 *e*P P 07 14 03.9 +0.5
comp=E,30nm,1.0s,mb5.0
KURK **Kurchatov** 49.54 349 P P 07 14 03.4 +0.1
comp=E,2.8nm,0.7s,mb4.4,baz=3.8,slow=7.6,SNR=21
KURK PcP PcP 07 15 24.5 -0.4
comp=E,2.8nm,0.6s,baz=356,slow=3.5,SNR=12
KURK LR LR 07 37 02.6
comp=E,52nm,19.8s,MS3.5,baz=345,slow=38
KURK **Kurchatov** 49.54 349 P P 07 14 03.4 +0.1
KURK PcP PcP 07 15 24.5 -0.4
KURK LR LR 07 37 02.6
KURK **Kurchatov** 49.54 349⇓ *i*P P 07 14 02.0 -1.3
KURK pmax pmax
comp=Z,7.0nm,1.4s,mb4.5
JCT **Junction City** 49.79 163 ⇓P P 07 14 05.5 0.0
baz=50,SNR=6.9
JCT **Junction City** 49.79 163 *e*P P 07 14 04.8 -0.8
comp=Z,15nm,1.0s,mb5.0
527A **Woodward Ranch** 49.95 167 ⇓P P 07 14 06.3 -0.4
baz=50
528A **Cox Ranch, San** 49.97 166 ⇑P P 07 14 06.8 -0.1
baz=50,SNR=11
AKTO **Aktyubinsk** 50.00 6 LR LR 07 36 02.3
comp=Z,43nm,18.2s,MS3.5,baz=132,slow=37
AKTO **Aktyubinsk** 50.00 6 P P 07 14 07.2 +0.4
AKTO pmax pmax
comp=Z,1.0nm,0.9s,mb3.9
RJF **Les Rejaudoux** 50.16 55 *e*P P 07 14 07.8 -0.4
RJF *e*R
comp=Z,152nm,19.8s
ULN **Ulaanbaatar** 50.36 324 *e*P P 07 14 09.1 -0.5
comp=Z,8.6nm,1.2s,mb4.7
ULN **Ulaanbaatar** 50.36 324 *e*P P 07 14 09.2 -0.4
SONM **Songino Array** 50.46 325 P P 07 14 10.9 +0.5
comp=Z,7.5nm,0.8s,mb4.8,baz=348,slow=6.2,SNR=46
SONM PcP PcP 07 15 28.9 +0.6
comp=Z,2.0nm,0.8s,baz=329,slow=2.8,SNR=4.9
SONM LR LR 07 37 02.5
comp=Z,94nm,18.4s,MS3.8,baz=59,slow=38
SONM **Songino Array** 50.46 325 P P 07 14 10.9 +0.5
SONM PcP PcP 07 15 28.9 +0.6
SONM LR LR 07 37 02.5
626A **Big Bend Ranch** 50.52 168 ⇓P P 07 14 10.8 -0.2
baz=50
CAF **Calviac** 50.61 55 *e*P P 07 14 11.5 -0.1
comp=Z,30nm,1.2s,mb4.8
627A **Terlingua Ranc** 50.65 167 ⇓P P 07 14 11.7 -0.3
baz=50,SNR=8.7
MDJ **Mudanjiang** 50.66 303 P P 07 14 09.8 -2.1
MDJ pmax pmax
comp=Z,9.0nm,1.5s,mb4.5
MDJ pmax pmax
comp=Z,250nm,5.7s
LPL **La Plagne** 50.70 51 *e*P P 07 14 13.5 +1.3
LPG **La Plagne** 50.72 51 *e*P P 07 14 13.9 +1.5
comp=Z,30nm,1.2s,mb4.8
TXAR **Lajitas Array** 50.75 167 P P 07 14 11.7 -1.2
comp=Z,2.8nm,0.9s,mb4.2,baz=12,slow=6.3,SNR=23
TXAR LR LR 07 37 08.2
comp=Z,210nm,18.7s,MS4.2,baz=285,slow=38
TXAR **Lajitas Array** 50.75 167 P P 07 14 11.7 -1.2
TXAR LR LR 07 37 08.2
BUR08 **Bucovina Ar. S** 50.81 34 *e*P P 07 14 13.9 +0.8
VIVF **Saint-Julien-l** 51.06 53 *e*P P 07 14 15.5 +0.6
ORIF **Oris-en-Rattie** 51.17 51 *e*P P 07 14 16.2 +0.5
ORIF *e*R
comp=Z,93nm,22.0s
AB31 **Akbulak array** 51.21 4 *i* P P 07 14 16.1 +0.1
AB31 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
ABKAR **Akbulak array** 51.21 4 *e*P P 07 14 16.4 +0.4
comp=Z,1.0nm,0.5s,mb4.0
MBDF **Montbardon** 51.48 51 *e*P P 07 14 19.5 +1.4
comp=Z,34nm,1.4s,mb4.8
CN2 **Changchun** 52.06 307 *e*P P 07 14 22.3 -0.1
CN2 *es*P sP 07 14 29.1 +2.3
CN2 *es* **S** 07 21 43.1 -2.6
CN2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,13.0s,MS4.7
CN2 LR LR
comp=E,300nm,13.0s,MS4.7
CN2 LR LR
comp=Z,300nm,16.0s,MS4.4
ETSF **Etsaut** 52.20 58 *e*P P 07 14 24.4 +0.9
FRF **La Foret Royal** 52.60 51 *e*P P 07 14 26.7 +0.2
LMR **La Mourre** 52.81 51 *e*P P 07 14 28.6 +0.6
MK31 **Makanchi Array** 53.31 345 *e*P P 07 14 30.7 -0.9
MK31 **Makanchi Array** 53.31 345 *i* P P 07 14 30.6 -1.0

MK31					pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5							
MKAR	**Makanchi Array**	**53.31**	**345**		P	**P**	**07 14 30.3**	**-1.3**
	comp=Z,5.5nm,0.8s,mb4.5,baz=10,slow=7.4,SNR=20							
MKAR					PcP	PcP	07 15 38.0	-1.0
	comp=Z,3.7nm,0.9s,baz=23,slow=4.0,SNR=4.9							
MKAR					LR	LR	07 39 31.1	
	comp=Z,47nm,18.4s,MS3.6,baz=183,slow=39							
MKAR	**Makanchi Array**	**53.31**	**345**		P	**P**	**07 14 30.3**	**-1.3**
MKAR					PcP	PcP	07 15 38.0	-1.0
MKAR					LR	LR	07 39 31.1	
ESDC	**Sonseca Array**	**54.83**	**62**		P	**P**	**07 14 41.1**	**-1.7**
	comp=Z,0.5nm,0.3s,mb4.0,baz=1.5,slow=5.6,SNR=8.1							
ESDC	**Sonseca Array**	**54.83**	**62**		P	**P**	**07 14 41.1**	**-1.7**
EVO	**Evora**	**55.30**	**66**	*e*P		**P**	**07 14 45.2**	**-1.0**
	comp=Z,22nm,1.1s,mb4.8							
EVO				*e*R				
	comp=Z,109nm,19.5s							
KIV	**Kislovodsk**	**55.88**	**19**	*e*P		**P**	**07 14 45.4**	**-4.9**
KIV					pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8							
KIV					MLR	MLR		
	comp=Z,44nm,16.0s,MS3.6							
WMQ	**Urumqi**	**55.98**	**340**		P	**P**	**07 14 52.0**	**+0.9**
WMQ					pP	pP	07 14 56.5	+2.3
WMQ					sP	sP	07 14 59.0	+3.5
WMQ					pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0							
HHC	**Hu-ho-hao-te**	**56.78**	**319**	*e*P		**P**	**07 14 56.6**	**-0.2**
HHC					sP	sP	07 15 03.3	+2.1
HHC					PcP	PcP	07 15 52.5	0.0
HHC					PP	PP	07 17 03.9	+1.3
HHC					S	**S**	**07 22 46.4**	**-2.9**
HHC					ScS	ScS	07 24 41.8	-3.7
HHC					SS	SS	07 26 35.3	-1.1
HHC					pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0							
HHC					pmax	pmax		
	comp=Z,250nm,5.4s							
HHC					LR	LR		
	comp=N,310nm,21.4s,MS5.0							
HHC					LR	LR		
	comp=E,1μm,22.6s,MS5.0							
HHC					LR	LR		
	comp=Z,220nm,20.2s,MS4.2							
BJI	**Beijing**	**57.02**	**314**		P	**P**	**07 14 59.9**	**+1.4**
BJI					pmax	pmax		
	comp=Z,14nm,0.6s,mb5.2							
ZEI	**Tsey**	**57.13**	**18**	*e*P		**P**	**07 14 59.7**	**+0.5**
ZEI					pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8							
MJAR	**Matsushiro Arr**	**57.20**	**293**		P	**P**	**07 14 58.8**	**-1.0**
	comp=Z,3.0nm,0.6s,mb4.5,baz=33,slow=5.9,SNR=6.3							
MJAR					LR	LR	07 38 48.1	
	comp=Z,42nm,19.8s,MS3.5,baz=50,slow=35							
MJAR	**Matsushiro Arr**	**57.20**	**293**		P	**P**	**07 14 58.8**	**-1.0**
MJAR					LR	LR	07 38 48.1	
KK31	**Karatay Array**	**57.35**	**355**	*i* P		**P**	**07 15 00.8**	**0.0**
KK31					pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7							
KKAR	**Karatay Array**	**57.35**	**355**	*e*P		**P**	**07 15 01.1**	**+0.4**
TKM2	**Tokmak 2**	**57.42**	**351**	*e*P		**P**	**07 15 01.6**	**+0.3**
	comp=Z,3.9nm,0.7s,mb4.5							
TKM2	**Tokmak 2**	**57.42**	**351**		P	**P**	**07 15 01.9**	**+0.6**
TKM2					pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6							
KSRS	**Korea Array**	**57.92**	**303**		P	**P**	**07 15 03.2**	**-1.7**
	comp=Z,0.6nm,0.3s,mb4.1,baz=340,slow=10,SNR=3.6							
KSRS					LR	LR	07 41 32.3	
	comp=Z,57nm,18.6s,MS3.7,baz=161,slow=38							
KSAR	**Wonju Array Be**	**57.94**	**303**		P	**P**	**07 15 03.2**	**-1.8**
KSAR					LR	LR	07 41 32.3	
BRTR	**Keskin Array B**	**59.44**	**28**		P	**P**	**07 15 15.9**	**+0.5**
	comp=Z,1.9nm,0.9s,mb4.1,baz=358,slow=2.8,SNR=5.4							
BRTR					PcP	PcP	07 16 02.5	-0.4
	comp=Z,1.9nm,0.7s,baz=44,slow=0.8,SNR=5.1							
BRTR	**Keskin Array B**	**59.44**	**28**		P	**P**	**07 15 15.9**	**+0.5**
BRTR					PcP	PcP	07 16 02.5	-0.4
GTA	**Gaotai**	**59.44**	**329**	*e*P		**P**	**07 15 15.8**	**+0.4**
GTA					pP	pP	07 15 20.3	+1.7
GTA					sP	sP	07 15 23.3	+3.4
GTA					pmax	pmax		
	comp=Z,17nm,1.0s,mb5.0							
KEST	**Kesra**	**60.67**	**50**		P	**P**	**07 15 24.8**	**+0.9**
	comp=Z,1.7nm,0.5s,mb4.4,baz=98,slow=1.6,SNR=5.6							
KEST	**Kesra**	**60.67**	**50**		P	**P**	**07 15 24.8**	**+0.9**
KSH	**Kashi**	**60.81**	**350**		P	**P**	**07 15 28.0**	**+3.2**
KSH					pP	pP	07 15 32.6	+4.6
KSH					sP	sP	07 15 35.0	+5.8
KSH					PcP	PcP	07 16 11.0	+2.5
KSH					PP	PP	07 17 44.5	+6.3
KSH					ScP	ScP	07 20 10.5	+1.2
KSH					PcS	PcS	07 20 12.3	+1.3
KSH					S	**S**	**07 23 43.8**	**+2.2**
KSH					sS	sS	07 23 52.1	+5.2
KSH					ScS	ScS	07 25 14.9	-0.4
KSH					SS	SS	07 27 45.1	+5.5
KSH					pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.8							
KSH					pmax	pmax		
	comp=Z,110nm,4.2s							
KSH					LR	LR		
	comp=N,88nm,6.1s							
KSH					LR	LR		
	comp=E,110nm,6.4s							
KSH					LR	LR		
	comp=Z,210nm,6.5s							
LZH	**Lanzhou**	**62.34**	**325**	*e*P		**P**	**07 15 36.0**	**+0.8**
LZH					pP	pP	07 15 40.5	+2.1
LZH					sP	sP	07 15 43.0	+3.4
LZH					pmax	pmax		
	comp=Z,16nm,1.0s,mb5.1							
LZH					LR	LR		
	comp=N,230nm,9.7s							
LZH					LR	LR		
	comp=E,210nm,6.7s							
LZH					LR	LR		
	comp=Z,250nm,6.8s							
XAN	**Xi'an**	**63.82**	**320**		P	**P**	**07 15 44.1**	**-0.9**
XAN					pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4							
WHN	**Wuhan**	**66.61**	**314**	⇓*i*P		**P**	**07 16 02.0**	**-1.1**
ENH	**Enshi**	**67.47**	**319**	*e*P		**P**	**07 16 08.0**	**-0.6**
	comp=Z,15nm,0.9s,mb5.0							
CD2	**Chengdu**	**67.48**	**324**		P	**P**	**07 16 09.0**	**+0.3**
CD2					pP	pP	07 16 13.5	+1.6
CD2					sP	sP	07 16 15.3	+2.2
CD2					PP	PP	07 18 39.0	+2.1
CD2					S	S	07 25 02.8	-1.6
CD2					sS	sS	07 25 11.1	+1.3
CD2					SS	SS	07 29 24.4	+0.6
CD2					pmax	pmax		
	comp=Z,20nm,0.7s,mb5.3							
CD2					pmax	pmax		
	comp=Z,180nm,4.7s							
CD2					LR	LR		
	comp=N,330nm,5.4s							
CD2					LR	LR		
	comp=Z,230nm,5.9s							
LSA	**Lhasa**	**69.80**	**336**	*e*P		**P**	**07 16 24.1**	**+0.9**
	comp=Z,11nm,0.9s,mb4.8							
MIB	**Mutribah**	**70.22**	**16**	*e*P		**P**	**07 16 26.2**	**+0.4**
MIB					AMb	AMB	07 16 27.1	
	comp=Z,50nm,0.9s,mb5.5							
RST	**Umm Al-Ruwaisa**	**70.51**	**17**	*e*P		**P**	**07 16 27.3**	**-0.2**
RST					AMb	AMB	07 16 28.6	
	comp=Z,4.5nm,0.9s,mb4.4							
NAY	**Al-Naaiem**	**70.77**	**16**	*e*P		**P**	**07 16 29.0**	**-0.1**
NAY					AMb	AMB	07 16 29.2	
	comp=Z,12nm,1.2s,mb4.7							
RDF	**Al-Radifah**	**71.11**	**16**	*e*P		**P**	**07 16 31.6**	**+0.5**
RDF					AMb	AMB	07 16 31.7	
	comp=Z,58nm,1.5s,mb5.3							
GYA	**Guiyang**	**71.56**	**321**	⇑*i*P		**P**	**07 16 33.8**	**-0.1**
GYA					PP	PP	07 19 12.6	+0.4
GYA					S	S	07 25 47.0	-5.6
GYA					SKS		07 26 33.4	
GYA					SS	SS	07 30 27.9	+1.1
GYA					pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8							
GYA					pmax	pmax		
	comp=Z,40nm,4.0s							
GYA					LR	LR		
	comp=N,460nm,18.3s,MS4.9							
GYA					LR	LR		
	comp=E,430nm,19.3s,MS4.9							
GYA					LR	LR		
	comp=Z,480nm,17.8s,MS4.8							
DANN	**Dangsing**	**71.61**	**343**	*e*P		**P**	**07 16 34.1**	**-0.1**
	comp=Z,94nm,0.6s,mb5.9							
PYUN	**Piuthan**	**71.90**	**343**	*e*P		**P**	**07 16 35.1**	**-0.8**
	comp=Z,62nm,1.1s,mb5.4							
GKN	**Gorkha**	**71.91**	**342**	*e*P		**P**	**07 16 35.7**	**-0.3**
	comp=Z,56nm,0.7s,mb5.6							
GUN	**Gumba**	**71.93**	**341**	*e*P		**P**	**07 16 36.4**	**+0.3**
	comp=Z,122nm,1.0s,mb5.8							
KKN	**Kakani**	**72.08**	**341**	*e*P		**P**	**07 16 37.1**	**+0.1**
	comp=Z,94nm,0.8s,mb5.8							
KOLN	**Koldanda**	**72.19**	**343**	*e*P		**P**	**07 16 37.2**	**-0.5**
	comp=Z,26nm,0.8s,mb5.2							
DMN	**Daman**	**72.27**	**341**	*e*P		**P**	**07 16 38.4**	**+0.2**
TAPN	**Taplejung**	**72.37**	**339**	*e*P		**P**	**07 16 39.1**	**+0.3**
RAMN	**Ramite**	**72.84**	**340**	*e*P		**P**	**07 16 41.5**	**-0.1**
	comp=Z,73nm,0.9s,mb5.6							
ODAN	**Odare**	**72.88**	**339**	*e*P		**P**	**07 16 42.1**	**+0.3**
	comp=Z,87nm,0.7s,mb5.8							
KMI	**Kunming**	**73.31**	**325**		P	**P**	**07 16 44.3**	**-0.1**
KMI					pP	pP	07 16 48.3	+0.7
KMI					sP	sP	07 16 49.6	+0.8
KMI					pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8							
CMAR	**Chiang Mai Arr**	**80.28**	**327**		P	**P**	**07 17 23.1**	**-0.7**
	comp=Z,0.9nm,0.2s,mb4.3,baz=350,slow=6.2,SNR=4.7							
CMAR					LR	LR	07 54 54.4	
	comp=Z,25nm,19.2s,MS3.6,baz=35,slow=37							
CMAR	**Chiang Mai Arr**	**80.28**	**327**		P	**P**	**07 17 23.1**	**-0.7**
CMAR					LR	LR	07 54 54.4	
TORD	**Torodi Ar. Bea**	**81.72**	**62**		P	**P**	**07 17 30.9**	**-0.6**
	comp=Z,5.4nm,0.8s,mb4.5,baz=330,slow=4.9,SNR=31							
TORD					LR	LR	07 56 05.1	
	comp=Z,57nm,18.4s,MS4.0,baz=300,slow=37							
TORD	**Torodi Ar. Bea**	**81.72**	**62**		P	**P**	**07 17 30.9**	**-0.6**
TORD					LR	LR	07 56 05.1	
PSI	**Prapat**	**95.76**	**326**		P	**P**	**07 18 37.6**	**-1.5**
	comp=Z,8.5nm,0.8s,mb5.2,baz=332,slow=5.1,SNR=6.2							
PSI	**Prapat**	**95.76**	**326**		P	**P**	**07 18 37.6**	**-1.5**
WRA	**Warramunga Arr**	**113.13**	**287**		PKiKP	PKiKP	07 23 47.6	-2.3
	comp=Z,0.5nm,0.7s,baz=349,slow=2.1,SNR=11							
WRA	**Warramunga Arr**	**113.13**	**287**		PKPdf	PKiKP	07 23 47.6	-2.3
ASAR	**Alice Springs**	**116.85**	**286**		PKP	PKPdf	07 23 54.9	-2.1
	comp=Z,1.4nm,0.7s,baz=352,slow=2.4,SNR=14							
ASAR	**Alice Springs**	**116.85**	**286**		PKP	PKPdf	07 23 54.9	-2.1
STKA	**Stephens Creek**	**123.52**	**277**		PKP	PKPdf	07 24 07.2	-2.4
	comp=Z,1.4nm,0.5s,baz=309,slow=22,SNR=4.2							
STKA	**Stephens Creek**	**123.52**	**277**		PKP	PKPdf	07 24 07.2	-2.4
VNDA	**Vanda**	**162.87**	**227**		PKPab	PKPab	07 26 01.8	-0.8
	comp=Z,1.4nm,0.8s,baz=341,slow=4.7,SNR=6.9							

***OTT* 18 07:07:57.9±3.6, 79°.44N×115°.52W, h18km, ML3.6/2, Arctic Ocean. Aftershock. 264km west from Isachsen, Nu, Arctic Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EUNU	**Eureka**	**5.20**	**69**	PN	Pn	07 09 15.8	+1.3
EUNU				SN	Sn	07 10 08.8	-5.0
EUNU				Trac		07 10 12.7	
	comp=Z,49nm,1.2s						
RES	**Resolute Bay**	**6.60**	**125**	PN	Pn	07 09 32.8	-1.0
RES				SN	Sn	07 10 44.6	-3.7
RES				Trac		07 10 49.1	
	comp=Z,8.4nm,0.3s						

***IDC* 18 07:12:53.9±4.7, 60°.50S×154°.67E, h0km, mb4.0/3, mb1 4.1/4, mb1mx4.0/12, mbtmpg3.9/4, ML3.6/1, MS3.8/3, Ms1 3.7/3, ms1mx3.0/23, Error ellipse: s-maj=280.9km s-min=30.5km az=75.0, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**17.27**	**175**	P	Pn	07 16 56.2	+0.3
	0.2nm,0.3s,baz=338,slow=12,SNR=6.4						
RPZ	**Rata Peaks**	**19.49**	**38**	LR	LR	07 23 47.4	
	comp=Z,182nm,18.9s,baz=12,slow=34						
MAW	**Mawson**	**37.19**	**219**	LR	LR	07 35 06.7	
	comp=Z,72nm,18.5s,baz=315,slow=36						
ASAR	**Alice Springs**	**39.54**	**329**	P	P	07 20 26.4	+0.1
	1.4nm,0.9s,baz=163,slow=7.7,SNR=8.0						
WRA	**Warramunga Arr**	**43.01**	**331**	P	P	07 20 54.8	0.0
	2.3nm,0.9s,baz=163,slow=7.1,SNR=12						
FITZ	**Fitzroy Crossi**	**47.16**	**321**	P	P	07 21 27.6	-0.2
	3.2nm,1.0s,baz=142,slow=13,SNR=3.8						
VNA3	**Neumayer Olymp**	**48.09**	**187**	*e*	P	07 21 33.6	-0.8
VNA2	**Neumayer--Watz**	**48.26**	**188**	*e*	P	07 21 35.0	-0.7
	baz=165,slow=4.3						
VNA1	**Neumayer--Stat**	**48.59**	**187**	*e*	P	07 21 38.3	0.0
USHA	**Ushuaia**	**60.02**	**153**	LR	LR	07 44 52.0	
	comp=Z,152nm,18.1s,baz=306,slow=32						
AKASG	**Malin Array Be**	**148.55**	**277**	PKPbc	PKPbc	07 32 40.8	-0.5
	0.3nm,0.3s,baz=100,slow=2.2,SNR=4.9						
GERES	**GERESS Array B**	**155.00**	**260**	PKPbc	PKPbc	07 32 56.1	-0.1
	0.3nm,0.3s,baz=177,slow=4.9,SNR=3.2						

ISCJB ***18*** *07:16:58.8±0.5, 40°.13N×0°.03×27°.30E±0°.03, h3km±6km, Error ellipse: s-maj=5.0km s-min=4.0km az=35.8*
ISK ***18*** *07:16:58.6, 40°.13N×27°.30E, h5km, MD2.7*
DDA ***18*** *07:16:58.8, 40°.13N×27°.33E, h7km±4km, Md2.8*
CSEM ***18*** *07:16:59.2±0.1, 40°.14N×27°.32E, h2km, MD2.7, Error ellipse: s-maj=2.6km s-min=1.9km az=40.0*
ISC 18 07:16:59.3±0.4, 40°.14N±0°.03×27°.32E±0°.03, h3km±7km, n39, σ0°.43/50, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRBG	**Karabiga-Canak**	**0.25**	**357**	*e*PG	**Pg**	**07 17 04.3**	**+0.1**
KRBG				*e*SG	**Sg**	**07 17 08.2**	**+0.7**
KRBG	**Karabiga-Canak**	**0.25**	**357**	*e*Pg	**Pg**	**07 17 04.3**	**+0.1**
KRBG				*e*Sg	**Sg**	**07 17 08.2**	**+0.7**
GONE	**Gonen-Balikesi**	**0.30**	**108**	*e*PG	**Pg**	**07 17 05.2**	**+0.2**
GONE				*e*SG	**Sg**	**07 17 09.8**	**+0.8**
GONE	**Gonen-Balikesi**	**0.30**	**108**	*e*Pg	**Pg**	**07 17 05.2**	**+0.1**
GONE				*e*Sg	**Sg**	**07 17 09.8**	**+0.8**
BALY	**Balya**	**0.46**	**149**	*i* P	**Pg**	**07 17 08.1**	**-0.1**
BALY				*i* S	**Sg**	**07 17 14.7**	**+0.5**
BALY	**Balya**	**0.46**	**149**	*i* P	**Pg**	**07 17 08.1**	**-0.1**
BALY				*i* S	**Sg**	**07 17 14.6**	**+0.4**
LPK	**Lapseki**	**0.48**	**299**	*e*PG	**Pg**	**07 17 08.0**	**-0.7**
LPK	**Lapseki**	**0.48**	**299**	*e*Pg	**Pg**	**07 17 08.0**	**-0.6**
BNT	**Bandirma**	**0.51**	**65**	*e*PG	**Pg**	**07 17 08.9**	**-0.2**
BNT	**Bandirma**	**0.51**	**65**	*e*Pg	**Pg**	**07 17 08.9**	**-0.2**
MFT	**Murefte**	**0.65**	**358**	*e*PG	**Pg**	**07 17 12.1**	**+0.3**
MFT	**Murefte**	**0.65**	**358**	*e*Pg	**Pg**	**07 17 12.1**	**+0.4**
BALB	**Balikesir**	**0.66**	**139**	*e*PG	**Pg**	**07 17 11.6**	**-0.4**
BALB	**Balikesir**	**0.66**	**139**	*e*Pg	**Pg**	**07 17 11.6**	**-0.4**
GELI	**Tayfur-Gelibol**	**0.69**	**292**	*e*PG	**Pg**	**07 17 12.4**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.69**	**292**	*e*Pg	**Pg**	**07 17 12.4**	**-0.2**
KCTX	**Karacabey (Bur**	**0.81**	**81**	*e*PG	**Pg**	**07 17 14.4**	**-0.3**
KCTX	**Karacabey (Bur**	**0.81**	**81**	*e*Pg	**Pg**	**07 17 14.5**	**-0.3**
ERIK	**Erikli-Kesan**	**0.81**	**311**	*e*PG	**Pg**	**07 17 14.4**	**-0.5**
ERIK	**Erikli-Kesan**	**0.81**	**311**	*e*Pg	**Pg**	**07 17 14.4**	**-0.4**
AYVA	**Ayvalik**	**0.96**	**210**	*i* P	**Pg**	**07 17 18.5**	**+0.8**
AYVA				*i* S	**Sg**	**07 17 30.4**	**+0.3**
AYVA	**Ayvalik**	**0.96**	**210**	*i* P	**Pg**	**07 17 18.5**	**+0.8**
AYVA				*i* S	**Sg**	**07 17 30.4**	**+0.3**
BOZC	**Bozcaada**	**1.01**	**253**	*i* P	**Pg**	**07 17 18.7**	**-0.1**
BOZC				*i* S	**Sg**	**07 17 32.0**	**+0.1**
DURS	**Dursunbey**	**1.04**	**121**	*i* P	**Pg**	**07 17 18.1**	**-1.2**
DURS				*i* S	**Sg**	**07 17 32.4**	**-0.4**
DURS	**Dursunbey**	**1.04**	**121**	*i* P	**Pg**	**07 17 18.1**	**-1.2**
DURS				*i* S	**Sg**	**07 17 32.4**	**-0.4**
ENEZ	**Enez**	**1.07**	**304**	*e*PG	**Pg**	**07 17 19.8**	**0.0**
ENEZ	**Enez**	**1.07**	**304**	*e*Pg	**Pg**	**07 17 19.8**	**0.0**
ARMT	**Armutlu**	**1.26**	**70**	*e*PN	**Pn**	**07 17 23.4**	**-0.3**
ARMT	**Armutlu**	**1.26**	**70**	*e*Pn	**Pn**	**07 17 23.4**	**-0.3**
SLVT	**Silivri**	**1.28**	**32**	*e*PN	**Pn**	**07 17 24.1**	**0.0**
SLVT	**Silivri**	**1.28**	**32**	*e*Pn	**Pn**	**07 17 24.1**	**0.0**
CTKS	**Kestanelik-??a**	**1.42**	**39**	*e*PN	**Pn**	**07 17 26.4**	**+0.4**
CTKS	**Kestanelik-??a**	**1.42**	**39**	*e*Pn	**Pn**	**07 17 26.4**	**+0.4**
BGKT	**Bogazkoy**	**1.52**	**46**	*e*PN	**Pn**	**07 17 27.3**	**0.0**
BGKT	**Bogazkoy**	**1.52**	**46**	*e*Pn	**Pn**	**07 17 27.3**	**-0.1**
YLV	**Yalova**	**1.63**	**74**	*e*PN	**Pn**	**07 17 29.1**	**+0.2**
YLV	**Yalova**	**1.63**	**74**	*e*Pn	**Pn**	**07 17 29.1**	**+0.3**
EDRB	**Edirne**	**1.76**	**346**	*e*PN	**Pn**	**07 17 30.7**	**0.0**
EDRB	**Edirne**	**1.76**	**346**	*e*Pn	**Pn**	**07 17 30.7**	**+0.1**

ISCJB ***18*** *07:22:03.2±0.6, 30°.25N±0°.06×67°.52E±0°.07, h10km, mb3.8/13, Error ellipse: s-maj=9.5km s-min=6.7km az=44.6*
NEIC ***18*** *07:22:03.3±5.2, 30°.10N×67°.52E, h10km, mb3.8/3, Error ellipse: s-maj=68.7km s-min=32.4km az=174.0*
IDC ***18*** *07:22:03.8±1.0, 30°.31N×67°.38E, h0km, mb3.9/12, mb1 4.1/12, mb1mx3.9/30, mbtmpg3.9/12, MS3.1/1, Ms1 3.1/1, ms1mx2.3/43, Error ellipse: s-maj=24.0km s-min=19.3km az=64.0*
ISC 18 07:22:05.0±0.7, 30°.21N±0°.06×67°.52E±0°.06, h10km, n44, σ1°.30/45, mb3.8/13, 2D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THW	**Thamme Wali**	**4.43**	**53**	⇓P	**Pn**	**07 23 13.9**	**+1.6**
KBL	**Kabul**	**4.50**	**16**	*e*Pn	**Pn**	**07 23 15.8**	**+2.5**
CEP	**Cherat**	**5.18**	**45**	⇓P	**Pn**	**07 23 24.4**	**+1.8**
CEP				S	**Sn**	**07 24 24.0**	**+1.5**
CHCP	**Chirah Chowk**	**5.97**	**53**	P	**Pn**	**07 23 35.4**	**+2.0**
NDI	**New Delhi**	**8.59**	**98**	*e*PKP	**Pn**	**07 24 10.0**	**+0.5**
NDI				*e*S	**Sn**	**07 25 43.0**	**-3.5**
AML	**Almayashu**	**12.89**	**21**	P	**Pn**	**07 25 08.0**	**-0.2**
	SNR=43						
KKAR	**Karatay Array**	**13.09**	**10**	*e*Pn	**Pn**	**07 25 09.6**	**-1.3**
	2.0nm,0.4s						
EKS2	**Erkin-Say**	**13.40**	**20**	P	**Pn**	**07 25 14.7**	**-0.4**
	SNR=5.3						
EKS2	**Erkin-Say**	**13.40**	**20**	*e*Pn	**Pn**	**07 25 14.3**	**-0.9**
	4.7nm,0.6s						
AAK	**Ala-Archa**	**13.60**	**22**	P	**Pn**	**07 25 17.2**	**-0.7**
	SNR=8.1						
CHMS	**Chumysh**	**14.01**	**22**	P	**Pn**	**07 25 22.6**	**-1.0**
	SNR=5.5						
TKM2	**Tokmak 2**	**14.24**	**25**	P	**Pn**	**07 25 25.7**	**-0.9**
	SNR=9.8						
TKM2	**Tokmak 2**	**14.24**	**25**	*e*Pn	**Pn**	**07 25 25.6**	**-1.0**
	8.8nm,0.7s						
KOLN	**Koldanda**	**14.29**	**96**	*e*P	**Pn**	**07 25 26.6**	**-0.8**
	22nm,0.4s						
DANN	**Dangsing**	**14.30**	**93**	*e*P	**Pn**	**07 25 26.5**	**-1.0**
	24nm,0.3s						
GKN	**Gorkha**	**15.13**	**94**	*e*P	**Pn**	**07 25 36.5**	**-2.3**
KKN	**Kakani**	**15.73**	**94**	*e*P	**Pn**	**07 25 45.0**	**-1.7**
PKI	**Pulchoki**	**15.89**	**95**	*e*P	**Pn**	**07 25 48.1**	**-0.7**
GUN	**Gumba**	**16.22**	**94**	*e*P	**Pn**	**07 25 51.2**	**-1.8**
RAMN	**Ramite**	**17.07**	**96**	*e*P	**Pn**	**07 26 04.6**	**+0.7**
	41nm,0.5s						
ODAN	**Odare**	**17.78**	**96**	*e*P	**Pn**	**07 26 14.4**	**+1.8**
TAPN	**Taplejung**	**17.93**	**94**	*e*P	**Pn**	**07 26 14.6**	**+0.1**
ABKAR	**Akbulak array**	**19.87**	**345**	*e*P	**Pn**	**07 26 36.7**	**-1.1**
	2.4nm,0.8s						
MK31	**Makanchi Array**	**20.13**	**31**	*e*P	**P**	**07 26 38.3**	**-0.8**
MKAR	**Makanchi Array**	**20.13**	**31**	P	**P**	**07 26 38.3**	**-0.8**
	2.0nm,0.6s,baz=206,slow=10,SNR=21						
MKAR	**Makanchi Array**	**20.13**	**31**	P	**P**	**07 26 38.3**	**-0.8**
AKTO	**Aktyubinsk**	**21.42**	**343**	P	**P**	**07 26 51.0**	**-2.0**
	0.5nm,0.5s,mb3.1,baz=144,slow=8.7,SNR=3.0						
AKTO	**Aktyubinsk**	**21.42**	**343**	P	**P**	**07 26 51.0**	**-2.0**
KURK	**Kurchatov**	**22.11**	**19**	P	**P**	**07 26 58.8**	**-1.5**
	3.6nm,0.8s,mb3.9,baz=207,slow=9.9,SNR=16						
KURK	**Kurchatov**	**22.11**	**19**	*e*P	**P**	**07 27 00.8**	**+0.5**
	7.1nm,1.2s,mb4.0						
BVAR	**Borovoye Array**	**22.89**	**4**	P	**P**	**07 27 07.2**	**-1.5**
	0.6nm,0.4s,mb3.4,baz=170,slow=11,SNR=5.5						
BVAR	**Borovoye Array**	**22.89**	**4**	P	**P**	**07 27 07.2**	**-1.5**
BRVK	**Borovoye**	**22.92**	**4**	*e*P	**P**	**07 27 10.2**	**+1.3**
	2.3nm,0.6s,mb3.8						
ZALV	**Zalesovo Beam**	**26.82**	**23**	P	**P**	**07 27 46.6**	**+1.3**
	1.9nm,0.5s,mb3.9,baz=228,slow=9.6,SNR=4.6						
ZALV	**Zalesovo Beam**	**26.82**	**23**	P	**P**	**07 27 46.6**	**+1.3**
EIL	**Elat**	**28.18**	**277**	LR	LR	07 39 54.1	
	comp=Z,39nm,19.5s,baz=97,slow=38						
CMAR	**Chiang Mai Arr**	**30.83**	**105**	P	**P**	**07 28 22.7**	**+1.4**
	2.1nm,0.3s,mb4.4,baz=293,slow=9.3,SNR=2.5						
SONM	**Songino Array**	**34.51**	**48**	P	**P**	**07 28 53.9**	**+0.6**
	0.4nm,0.5s,mb3.6,baz=245,slow=8.4,SNR=3.7						
GERES	**GERESS Array B**	**44.48**	**310**	P	**P**	**07 30 18.5**	**+2.2**
	0.3nm,0.3s

AKHS	**Akhisar**	**1.29**	**99**	*i* P		**Pn**	**07 37 06.9**	**-0.9**
AKHS				*i* S		**Sb**	**07 37 24.4**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.32**	**10**	*e*PN		**Pn**	**07 37 07.4**	**-0.8**
GELI				*e*SN		**Sn**	**07 37 26.3**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.32**	**10**	*e*Pn		**Pn**	**07 37 07.4**	**-0.8**
GELI				*e*Sn		**Sn**	**07 37 26.3**	**+0.3**
LPK	**Lapseki**	**1.35**	**19**	*e*PN		**Pn**	**07 37 07.6**	**-1.0**
LPK	**Lapseki**	**1.35**	**19**	*e*Pn		**Pn**	**07 37 07.6**	**-1.0**
BALB	**Balikesir**	**1.43**	**67**	*e*PN		**Pn**	**07 37 09.7**	**+0.1**
BALB	**Balikesir**	**1.43**	**67**	*e*Pn		**Pn**	**07 37 09.7**	**+0.1**
SMG	**Samos**	**1.48**	**159**	*e*PN		**Pn**	**07 37 08.8**	**-1.5**
SMG				*e*SN		**Sn**	**07 37 29.1**	**-0.7**
SMG	**Samos**	**1.48**	**159**	*e*Pn		**Pn**	**07 37 08.8**	**-1.5**
SMG				*e*Sn		**Sn**	**07 37 29.1**	**-0.7**
GONE	**Gonen-Balikesi**	**1.50**	**50**	*e*PN		**Pn**	**07 37 10.5**	**-0.2**
GONE	**Gonen-Balikesi**	**1.50**	**50**	*e*Pn		**Pn**	**07 37 10.5**	**-0.2**
KRBG	**Karabiga-Canak**	**1.56**	**33**	*e*PN		**Pn**	**07 37 10.5**	**-0.9**
KRBG	**Karabiga-Canak**	**1.56**	**33**	*e*Pn		**Pn**	**07 37 10.5**	**-0.9**
ERIK	**Erikli-Kesan**	**1.59**	**9**	*e*PN		**Pn**	**07 37 10.9**	**-1.0**
ERIK	**Erikli-Kesan**	**1.59**	**9**	*e*Pn		**Pn**	**07 37 10.9**	**-1.0**
GCAM	**G?zelcaml?**	**1.62**	**149**	*i* P		**Pn**	**07 37 13.3**	**+1.1**
GCAM				*i* S		**Sn**	**07 37 35.0**	**+1.7**
GCAM	**G?zelcaml?**	**1.62**	**149**	*i* P		**Pn**	**07 37 13.4**	**+1.1**
GCAM				*i* S		**Sn**	**07 37 35.0**	**+1.6**
ENEZ	**Enez**	**1.64**	**359**	*e*PN		**Pn**	**07 37 11.4**	**-1.1**
ENEZ	**Enez**	**1.64**	**359**	*e*Pn		**Pn**	**07 37 11.4**	**-1.1**
RKY	**Sarkoy-Tekirda**	**1.77**	**25**	*e*PN		**Pn**	**07 37 13.6**	**-0.7**
RKY	**Sarkoy-Tekirda**	**1.77**	**25**	*e*Pn		**Pn**	**07 37 13.6**	**-0.7**
ALN	**Alexandroupoli**	**1.80**	**357**	P		**Pn**	**07 37 14.0**	**-0.8**
ALN				S		**Sn**	**07 37 39.2**	**+1.3**
ALN	**Alexandroupoli**	**1.80**	**357**	P		**Pn**	**07 37 14.0**	**-0.8**
DURS	**Dursunbey**	**1.85**	**73**	*i* P		**Pn**	**07 37 15.0**	**-0.5**
DURS				*i* S		**Sn**	**07 37 39.3**	**+0.2**
DURS	**Dursunbey**	**1.85**	**73**	*i* P		**Pn**	**07 37 15.0**	**-0.4**
DURS				*i* S		**Sn**	**07 37 39.3**	**+0.2**
MFT	**Murefte**	**1.89**	**26**	*e*PN		**Pn**	**07 37 15.5**	**-0.5**
MFT	**Murefte**	**1.89**	**26**	*e*Pn		**Pn**	**07 37 15.5**	**-0.5**
DST	**Dursunbey**	**1.96**	**74**	*e*PN		**Pn**	**07 37 17.6**	**+0.7**
DST	**Dursunbey**	**1.96**	**74**	*e*Pn		**Pn**	**07 37 17.6**	**+0.7**
DEMI	**Demirci**	**1.98**	**91**	*i* P		**Pn**	**07 37 16.7**	**-0.4**
DEMI	**Demirci**	**1.98**	**91**	*i* P		**Pn**	**07 37 16.7**	**-0.5**
KULA	**Kula-Manisa**	**2.02**	**106**	*e*PN		**Pn**	**07 37 18.6**	**+0.7**
KULA	**Kula-Manisa**	**2.02**	**106**	*e*Pn		**Pn**	**07 37 18.6**	**+0.8**
KCTX	**Karacabey (Bur**	**2.05**	**54**	*e*PN		**Pn**	**07 37 18.1**	**-0.1**
KCTX	**Karacabey (Bur**	**2.05**	**54**	*e*Pn		**Pn**	**07 37 18.1**	**0.0**
APE	**Apeiranthos**	**2.09**	**194**	*e*PN		**Pn**	**07 37 19.1**	**+0.5**
APE	**Apeiranthos**	**2.09**	**194**	*e*PN		**Pn**	**07 37 18.7**	**0.0**
APE	**Apeiranthos**	**2.09**	**194**	*e*Pn		**Pn**	**07 37 18.7**	**0.0**
MLSB	**Milas**	**2.19**	**144**	*e*PN		**Pn**	**07 37 20.4**	**+0.3**
MLSB	**Milas**	**2.19**	**144**	*e*Pn		**Pn**	**07 37 20.4**	**+0.3**
BODT	**Bodrum**	**2.22**	**156**	*e*PN		**Pn**	**07 37 21.6**	**+1.2**
BODT	**Bodrum**	**2.22**	**156**	*e*Pn		**Pn**	**07 37 21.7**	**+1.2**
PLG	**Polygyros**	**2.46**	**302**	*e*PN		**Pn**	**07 37 24.0**	**+0.1**
PLG	**Polygyros**	**2.46**	**302**	*e*Pn		**Pn**	**07 37 24.0**	**+0.1**
ARMT	**Armutlu**	**2.54**	**54**	*e*PN		**Pn**	**07 37 25.9**	**+1.1**
ARMT	**Armutlu**	**2.54**	**54**	*e*Pn		**Pn**	**07 37 25.9**	**+1.1**
SLVT	**Silivri**	**2.64**	**35**	*e*PN		**Pn**	**07 37 26.6**	**+0.4**
SLVT	**Silivri**	**2.64**	**35**	*e*Pn		**Pn**	**07 37 26.7**	**+0.4**
EDRB	**Edirne**	**2.78**	**9**	*e*PN		**Pn**	**07 37 28.6**	**+0.3**
EDRB	**Edirne**	**2.78**	**9**	*e*Pn		**Pn**	**07 37 28.6**	**+0.4**
CTKS	**Kestanelik-??a**	**2.79**	**39**	*e*PN		**Pn**	**07 37 28.6**	**+0.3**
CTKS	**Kestanelik-??a**	**2.79**	**39**	*e*Pn		**Pn**	**07 37 28.6**	**+0.3**
YLV	**Yalova**	**2.87**	**58**	*e*PN		**Pn**	**07 37 30.2**	**+0.8**
YLV	**Yalova**	**2.87**	**58**	*e*Pn		**Pn**	**07 37 30.2**	**+0.8**
BGKT	**Bogazkoy**	**2.88**	**43**	*e*PN		**Pn**	**07 37 30.2**	**+0.6**
BGKT	**Bogazkoy**	**2.88**	**43**	*e*Pn		**Pn**	**07 37 30.2**	**+0.6**
ISK	**Istanbul-Kandi**	**2.96**	**47**	*e*PN		**Pn**	**07 37 31.2**	**+0.5**
ISK	**Istanbul-Kandi**	**2.96**	**47**	*e*Pn		**Pn**	**07 37 31.2**	**+0.5**

IDC ***18*** *07:45:29.3±1.7, 79°58N×115°43W, h0km, mb3.4/2, mb1 3.9/6, mb1mx3.6/29, mbtmp3.6/6, ML3.7/4, Error ellipse: s-maj=41.4km s-min=25.1km az=67.0*

OTT ***18*** *07:45:31.2±2.0, 79°40N×115°24W, h18km, ML3.7/4, Arctic Ocean. Aftershock. 258km west from Isachsen, Nu*

ISC 18 07:45:32.5±1.1, 78°98N±0°08×114°9W±0°3, h10km, n23, σ1§21/36, mb3.5/2, Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EUNU	**Eureka**	**5.27**	**64**	PN	**Pn**	**07 46 47.5**	**-3.5**
EUNU				SN	**Sn**	**07 47 39.3**	**-12**
EUNU				Trac		07 47 45.8	
	comp=Z,14nm,0.4s						
RES	**Resolute Bay**	**6.23**	**123**	Pn	**Pn**	**07 47 06.3**	**+2.0**
	3.1nm,0.3s,baz=323,slow=12,SNR=332						
RES				Sn	**Sn**	**07 48 17.1**	**+1.7**
	5.2nm,0.3s,baz=85,slow=22,SNR=7.1						
RES	**Resolute Bay**	**6.23**	**123**	PN	**Pn**	**07 47 06.2**	**+1.9**
RES				SN	**Sn**	**07 48 16.6**	**+1.2**
RES				Trac		07 48 22.9	
	comp=Z,105nm,0.8s						
INK	**Inuvik**	**11.83**	**215**	Pn	**Pn**	**07 48 20.7**	**-0.2**
	0.3nm,0.3s,baz=293,slow=13,SNR=19						
INK				Sn	**Sn**	**07 50 26.6**	**-6.0**
	0.4nm,0.3s,baz=298,slow=32,SNR=6.2						
INK	**Inuvik**	**11.83**	**215**	PN	**Pn**	**07 48 20.6**	**-0.2**
INK				SN	**Sn**	**07 50 28.1**	**-4.5**
INK				Trac		07 50 39.8	
	comp=Z,1.8nm,0.5s						
KUGN	**Kugaaruk Camp,**	**12.80**	**135**	PN	**Pn**	**07 48 33.5**	**-0.6**
JERN	**Jeri Cho Mine,**	**13.06**	**174**	PN	**Pn**	**07 48 39.9**	**+2.2**
JERN				SN	**Sn**	**07 51 00.9**	**-1.9**
STLN	**Stellar Camp,**	**13.16**	**141**	PN	**Pn**	**07 48 38.7**	**-0.3**
STLN				SN	**Sn**	**07 51 05.0**	**-0.2**
BULN	**Bullion Camp,**	**14.02**	**142**	PN	**Pn**	**07 48 50.4**	**-0.3**
BULN				SN	**Sn**	**07 51 21.7**	**-4.4**
CTLN	**Castor Lake**	**14.63**	**182**	PN	**Pn**	**07 49 00.2**	**+1.2**
CTLN				SN	**Sn**	**07 51 38.4**	**-2.6**
QILN	**Qililugaq Expl**	**14.67**	**131**	PN	**Pn**	**07 48 59.0**	**-0.5**
ILKN	**Indian Lake**	**14.83**	**180**	PN	**Pn**	**07 49 02.5**	**+0.7**
ILKN				SN	**Sn**	**07 51 38.6**	**-7.2**
GALN	**Gameti Lake**	**14.95**	**184**	PN	**Pn**	**07 49 04.0**	**+0.5**
NUNN	**Nunuq Camp, NU**	**15.40**	**140**	PN	**Pn**	**07 49 09.2**	**-0.2**
YKW3	**Yellowknife Ar**	**16.50**	**180**	PN	**Pn**	**07 49 24.4**	**+0.8**
YKW3				SN	**Sn**	**07 52 21.1**	**-5.3**
YKA	**Yellowknife Ar**	**16.57**	**180**	Pn	**Pn**	**07 49 25.4**	**+1.0**
	0.5nm,0.3s,baz=357,slow=12,SNR=16						
YKA				Sn	**Sn**	**07 52 19.7**	**-8.3**
	0.1nm,0.3s,baz=356,slow=21,SNR=3.0						
DAWY	**Dawson**	**16.59**	**220**	PN	**Pn**	**07 49 22.6**	**-2.2**
DAWY				SN	**Sn**	**07 52 17.9**	**-11**
DAWY				Trac		07 52 21.4	
	comp=Z,0.3nm,0.3s						
ILAR	**Eielson Array**	**16.95**	**231**	P	**Pn**	**07 49 30.8**	**+1.5**
	0.1nm,0.3s,baz=15,slow=14,SNR=5.0						
SEDN	**First Sedna Si**	**17.28**	**142**	PN	**Pn**	**07 49 32.9**	**-0.5**
JOSN	**Second Sedna S**	**17.33**	**143**	PN	**Pn**	**07 49 33.4**	**-0.6**
FCC	**Fort Churchill**	**21.36**	**149**	PN	**P**	**07 50 19.9**	**+0.5**
PDAR	**Pinedale Array**	**36.39**	**173**	P	**P**	**07 52 41.2**	**+4.8**
	0.3nm,0.6s,mb3.4,baz=26,slow=4.3,SNR=3.0						
SONM	**Songino Array**	**51.12**	**325**	P	**P**	**07 54 28.9**	**-5.7**
	0.5nm,0.7s,mb3.6,baz=356,slow=6.4,SNR=3.0						

NNC 18 08:17:43.3±1.3, 42°71N×78°83E, h0km, mb4.0, mpv3.6, 4C-6D, Error ellipse: s-maj=14.6km s-min=5.6km az=150.0, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**2.38**	**276**	⇓Pn	Pn	08 18 24.0	+0.3
	31nm,0.6s						
TKM2				⇓Sn	Sn	08 18 55.0	+1.4
	166nm,1.1s						
MK31	**Makanchi Array**	**4.78**	**30**	⇓Pg	Pg	08 19 10.8	-4.0
	5.6nm,0.7s,baz=207,slow=13,SNR=5.5						
MK31				⇑Lg		08 20 13.6	
	2.9nm,0.5s,baz=205,slow=23,SNR=4.1						
KK31	**Karatay Array**	**6.12**	**277**	⇓Pn	Pn	08 19 14.9	0.0
	5.2nm,0.8s,baz=94,slow=13,SNR=6.8						
KK31				⇓Lg		08 20 55.3	
	8.1nm,0.8s,baz=94,slow=27						
KURBB	**Kurchatov Arra**	**7.92**	**359**	⇑Lg		08 21 54.8	
	2.4nm,0.9s						
KURK	**Kurchatov**	**8.02**	**359**	⇑Lg		08 21 57.9	
	26nm,1.6s						
VOSK	**Vostochnaya**	**11.32**	**335**	⇑Lg		08 23 43.3	
	3.2nm,1.1s						
ZRNK	**Zerenda**	**12.18**	**331**	⇓Lg		08 24 10.7	
	7.1nm,1.2s						

ISK ***18*** *08:30:36.5, 38°94N×26°08E, h5km, MD2.9*

ISCJB ***18*** *08:30:39.3±1.2, 39°06N±0°04×26°04E±0°08, h1km±9km, Error ellipse: s-maj=10.7km s-min=7.4km az=175.2*

CSEM ***18*** *08:30:39.5±0.6, 39°09N×26°03E, h0km±5km, MD2.8, Error ellipse: s-maj=10.9km s-min=6.6km az=90.0*

DDA ***18*** *08:30:40.1, 39°12N×26°07E, h6km±5km, Md2.8*

ISC 18 08:30:39.9±1.3, 39°08N±0°05×26°04E±0°09, h4km±10km, n18, σ0§83/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AYVA	**Ayvalik**	**0.55**	**65**	*i* P	**Pg**	**08 30 50.5**	**0.0**
AYVA				*i* S	**Sg**	**08 30 57.8**	**+0.1**
AYVA	**Ayvalik**	**0.55**	**65**	*i* P	**Pg**	**08 30 50.5**	**0.0**
AYVA				*i* S	**Sg**	**08 30 57.8**	**+0.1**
EZN	**Ezine**	**0.78**	**16**	*e*PG	**Pg**	**08 30 54.4**	**-0.4**
EZN				*e*SG	**Sg**	**08 31 08.7**	**+3.8**
EZN	**Ezine**	**0.78**	**16**	*e*Pg	**Pg**	**08 30 54.4**	**-0.4**
EZN				*e*Sg	**Sg**	**08 31 08.7**	**+3.8**
URLA	**Izmir**	**0.84**	**149**	*i* P	**Pg**	**08 30 56.2**	**+0.2**
URLA				*i* S	**Sg**	**08 31 07.4**	**+0.6**
URLA	**Izmir**	**0.84**	**149**	*i* P	**Pg**	**08 30 56.2**	**+0.2**
URLA				*i* S	**Sg**	**08 31 07.4**	**+0.6**
GADA	**Gvkgeada**	**1.12**	**354**	*e*PN	**Pn**	**08 31 01.6**	**-0.8**
GADA	**Gvkgeada**	**1.12**	**354**	*e*Pn	**Pn**	**08 31 01.6**	**-0.8**
GELI	**Tayfur-Gelibol**	**1.36**	**14**	*e*PN	**Pn**	**08 31 06.0**	**+0.3**
GELI				*e*SN	**Sn**	**08 31 26.2**	**+2.0**
GELI	**Tayfur-Gelibol**	**1.36**	**14**	*e*Pn	**Pn**	**08 31 06.0**	**+0.3**
GELI				*e*Sn	**Sn**	**08 31 26.2**	**+2.0**
BALY	**Balya**	**1.39**	**61**	*i* P	**Pn**	**08 31 04.6**	**-1.5**
BALY				*i* S	**Sb**	**08 31 24.2**	**-0.3**
BALY	**Balya**	**1.39**	**61**	*i* P	**Pn**	**08 31 04.6**	**-1.5**
BALY				*i* S	**Sb**	**08 31 24.2**	**-0.3**
LPK	**Lapseki**	**1.41**	**23**	*e*PN	**Pn**	**08 31 05.8**	**-0.6**
LPK	**Lapseki**	**1.41**	**23**	*e*Pn	**Pn**	**08 31 05.8**	**-0.6**
ERIK	**Erikli-Kesan**	**1.63**	**13**	*e*PN	**Pn**	**08 31 09.9**	**+0.4**
ERIK	**Erikli-Kesan**	**1.63**	**13**	*e*Pn	**Pn**	**08 31 09.9**	**+0.5**
ENEZ	**Enez**	**1.66**	**3**	*e*PN	**Pn**	**08 31 09.7**	**-0.1**
ENEZ	**Enez**	**1.66**	**3**	*e*Pn	**Pn**	**08 31 09.7**	**-0.1**

CASC ***18*** *08:31:48.5±1.3, 12°83N×90°73W, h3km±10km, MD3.6, ML3.5*

IDC ***18*** *08:31:50.0±16.0, 13°95N×89°23W, h0km, mb3.5/3, mb1 3.9/3, mb1mx3.6/20, mbtmp3.6/3, MS4.1/2, Ms1 4.1/2, ms1mx3.1/20, Error ellipse: s-maj=275.2km s-min=86.3km az=169.0*

ISC 18 08:31:49.1±2.8, 12°6N±0°2×90°79W±0°08, h35km, n13, σ0§79/13, mb3.7/2, MS4.1/2, 1C, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SBLS	**San Blas**	**1.69**	**42**	*e*P	**Pn**	**08 32 15.4**	**-0.7**
RTR	**El Retiro**	**1.72**	**40**	*e*P	**Pn**	**08 32 15.8**	**-0.7**
RTR				*e*S	**Sn**	**08 32 37.5**	**+0.3**
FUG	**Fuego 3**	**1.85**	**358**	*e*P	**Pn**	**08 32 17.9**	**-0.5**
RBDL	**Robledal**	**1.86**	**35**	⇑*e*P	**Pn**	**08 32 17.6**	**-0.9**
SNET	**Serv Nac Est T**	**1.87**	**54**	*e*P	**Pn**	**08 32 19.2**	**+0.6**
SNET				AML	AML	08 32 20.8	
	comp=Z,541nm,0.3s						
SNET				*e*S	**Sn**	**08 32 42.0**	**+0.9**
JAT	**Jato**	**1.91**	**335**	*e*P	**Pn**	**08 32 19.6**	**+0.5**
FG6		**1.97**	**357**	*e*P	**Pn**	**08 32 19.5**	**-0.5**
NBG	**Las Nubes**	**2.04**	**12**	*e*P	**Pn**	**08 32 20.9**	**0.0**
TXAR	**Lajitas Array**	**20.52**	**326**	P	**P**	**08 36 27.9**	**+3.5**
	comp=Z,0.4nm,0.4s,baz=141,slow=10,SNR=14						
NVAR	**Mina Array Bea**	**35.51**	**321**	P	**P**	**08 38 48.1**	**+5.6**
	comp=Z,0.3nm,0.6s,mb3.4,baz=128,slow=8.5,SNR=3.7						
LPAZ	**La Paz**	**36.40**	**141**	LR	LR	08 53 24.9	
	comp=Z,172nm,21.0s,MS3.8,baz=46,slow=35						
ULM	**Lac du Bonnet**	**37.79**	**355**	P	**P**	**08 38 57.7**	**-4.1**
	comp=Z,2.2nm,0.8s,mb4.0,baz=162,slow=9.6,SNR=2.9						
TORD	**Torodi Ar. Bea**	**89.56**	**77**	LR	LR	09 20 10.4	
	comp=Z,159nm,19.7s,MS4.5,baz=50,slow=33						

MOS ***18*** *08:37:33.8±0.9, 5°42N×125°80E, h42km, mb4.8/25, Error ellipse: s-maj=20.1km s-min=8.9km az=99.1*

MAN ***18*** *08:37:38, 5°16N×126°15E, h59km, mb4.7, ML3.6, MS3.6*

IDC ***18*** *08:37:41.5±1.0, 5°33N×125°85E, h95km±8km, mb4.1/19, mb1 4.2/19, mb1mx4.1/26, mbtmp4.1/19, MS3.2/1, Ms1 3.2/1, ms1mx2.5/37, Error ellipse: s-maj=22.8km s-min=8.7km az=81.0*

ISCJB ***18*** *08:37:41.6±0.4, 5°36N±0°02×126°11E±0°05, h110km±3km, mb4.6/55, Error ellipse: s-maj=8.4km s-min=3.7km az=176.6*

BJI ***18*** *08:37:41.6, 5°30N×125°90E, h106km, mB5.3/14, mb4.8/20*

NEIC ***18*** *08:37:43.5±0.8, 5°33N×125°85E, h116km±7km, mb4.5/17, Error ellipse: s-maj=11.4km s-min=4.7km az=84.0*

DJA ***18*** *08:37:43, 5°31N×126°22E, h64km, mb4.9/10*

ISC 18 08:37:42.8±0.4, 5°35N±0°02×126°10E±0°05, h105km±3km, h112km±1.8km:pP-P, n151, σ1§29/160, mb4.6/55, 4C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.59**	**6**	*e*P	**Pn**	**08 38 08.1**	**-2.3**
MATI				*e*S	**Sn**	**08 38 30.5**	**-0.8**
SGSI	**Sangihe**	**1.75**	**199**	P	**Pn**	**08 38 11.2**	**-1.2**
SGSI				S	**Sn**	**08 38 35.4**	**+0.5**
DAV	**Davao City (W)**	**1.78**	**343**	P	**Pn**	**08 38 11.0**	**-1.8**
	312nm,0.3s,baz=249,slow=4.0,SNR=8.7						
DAV				S	**Sn**	**08 38 33.2**	**-2.4**
	255nm,0.3s,baz=87,slow=22,SNR=8.8						
DAV	**Davao City (W)**	**1.78**	**343**	*e*Pn	**Pn**	**08 38 14.0**	**+1.3**
DAV				S	**Sn**	**08 38 33.2**	**-2.4**
DAV	**Davao City (W)**	**1.78**	**343**	P	**Pn**	**08 38 13.8**	**+1.0**
DAV				S	**Sn**	**08 38 37.7**	**+2.1**
DMPH	**Davao City--Mi**	**1.81**	**341**	*e*P	**Pn**	**08 38 11.7**	**-1.5**
DMPH				*e*S	**Sn**	**08 38 41.4**	**+5.1**
KCP	**Kidapawan**	**1.93**	**329**	⇑*e*P	**Pn**	**08 38 13.3**	**-1.3**
KCP				*i* S	**Sn**	**08 38 38.1**	**-0.7**
CTBH	**Cotabato--PC H**	**2.61**	**315**	⇑*i*P	**Pn**	**08 38 19.7**	**-3.8**
BUKP	**Musuan**	**2.71**	**338**	*e*P	**Pn**	**08 38 24.8**	**-0.1**
CGP	**Cagayan de Oro**	**3.38**	**336**	⇓*e*P	**Pn**	**08 38 33.1**	**-0.6**
CGP				*i* S	**Sn**	**08 39 15.8**	**+2.8**
PAGZ	**Pagadian**	**3.66**	**313**	*e*P	**Pn**	**08 38 37.5**	**+0.1**
IPIL	**Ipil**	**4.26**	**305**	*e*P	**Pn**	**08 38 44.8**	**-0.7**
SCPH	**Surigao**	**4.44**	**352**	⇑*e*P	**Pn**	**08 38 48.9**	**+0.9**
TNTI	**Ternate**	**4.72**	**164**	P	**Pn**	**08 38 51.0**	**-0.8**
TBP	**Tagbilaran**	**4.84**	**333**	*e*P	**Pn**	**08 38 55.4**	**+1.9**
KMSI	**Cibinong**	**5.20**	**204**	P	**Pn**	**08 38 59.5**	**+1.3**
	2.0nm541nm,0.7s						
KMSI				S	Px	08 39 01.1	
	541nm,0.7s,2.0nm						
LBMI	**Labuha**	**6.12**	**167**	P	**Pn**	**08 39 13.0**	**+2.3**
LBMI				S	Px	08 39 13.4	
MRSI	**Marisa**	**6.38**	**221**	P	**Pn**	**08 39 14.1**	**-0.2**
	1.3nm3µm329nm,0.5s						
MRSI				S	**Sn**	**08 40 22.9**	**-2.8**
	1.3nm3µm329nm,0.5s						
RCP	**Roxas**	**7.00**	**332**	⇑*e*P	**Pn**	**08 39 24.9**	**+2.2**
LUWI	**Luwuk**	**7.17**	**208**	P	**Pn**	**08 39 25.5**	**+0.5**
	1.1nm3µm302nm,1.0s						
MYLDM	**Lahad Datu**	**7.57**	**269**	P	**Pn**	**08 39 31.3**	**+0.9**
	0.2nm52nm,1.2s						
NLAI	**Namlea**	**8.59**	**173**	P	**Pn**	**08 39 41.7**	**-2.7**
NLAI				S	**Sn**	**08 41 11.8**	**-7.9**
AAI	**Ambon**	**9.22**	**167**	P	**Pn**	**08 39 55.4**	**+2.5**
KDI	**Kendari**	**9.88**	**201**	P	**Pn**	**08 40 03.2**	**+1.3**
	433nm35nm,0.9s						
TTSI	**Tana Toraja**	**10.44**	**217**	P	**Pn**	**08 40 11.3**	**+1.8**
	2µm44nm,1.1s						
SPSI	**Sidrap Palu**	**11.21**	**214**	P	**Pn**	**08 40 20.9**	**+1.0**
	24nm,0.6s						
BBSI	**Bau Bau**	**11.33**	**198**	P	**Pn**	**08 40 21.2**	**-0.3**
	80nm,1.0s						
SBUM	**Sibu**	**14.14**	**259**	P	**Pn**	**08 41 00.9**	**+2.5**
	28nm,1.1s						
BBKI	**Banjar Baru**	**14.25**	**232**	P	**Pn**	**08 41 06.4**	**+6.5**
KSM	**Kuching**	**16.22**	**257**	*e*P	**Pn**	**08 41 28.5**	**+3.8**
	21nm,1.0s						
KSM	**Kuching**	**16.22**	**257**	P	**Pn**	**08 41 28.5**	**+3.8**
GUMO	**Guam**	**20.23**	**65**	LR	LR	08 48 17.3	
	comp=Z,75nm,21.2s,baz=240,slow=31						
FITZ	**Fitzroy Crossi**	**23.31**	**181**	P	**P**	**08 42 40.1**	**-1.5**
	5.9nm,0.4s,mb4.3,baz=3.7,slow=8.1,SNR=56						
FITZ	**Fitzroy Crossi**	**23.31**	**181**	*e*P	**P**	**08 42 41.5**	**-0.1**
	12nm,0.4s,mb4.6						
FITZ	**Fitzroy Crossi**	**23.31**	**181**	*e*P	**P**	**08 42 41.2**	**-0.4**
	7.5nm,0.6s,mb4.2						
COEN	**Coen**	**25.60**	**139**	*e*P	**P**	**08 43 02.8**	**+0.3**
	25nm,0.4s,mb5.0						
COEN	**Coen**	**25.60**	**139**	*e*P	**P**	**08 43 02.5**	**0.0**
	32nm,0.5s,mb5.0						
WRAB	**Tennant Creek**	**26.41**	**162**	*e*P	**P**	**08 43 10.1**	**+0.4**
	9.2nm,0.7s,mb4.3						
WRAB	**Tennant Creek**	**26.41**	**162**	*e*P	**P**	**08 43 10.1**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**26.41**	**162**	P	**P**	**08 43 09.7**	**-0.1**
	comp=Z,3.7nm,0.6s,mb4.0,baz=338,slow=10,SNR=48						
WRA				ScP	ScP	08 50 04.8	+1.4
	comp=Z,0.6nm,0.6s,baz=343,slow=3.1,SNR=6.4						
WRA	**Warramunga Arr**	**26.41**	**162**	P	**P**	**08 43 09.7**	**-0.1**
WRA				ScP	ScP	08 50 04.8	+1.4
WRA	**Warramunga Arr**	**26.41**	**162**	P	**P**	**08 43 09.7**	**0.0**
WRA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WRA				pmax	pmax		
	comp=N,1.0nm,0.6s						
WB2	**Warramunga Arr**	**26.42**	**162**	*e*P	**P**	**08 43 09.2**	**-0.6**
MBWA	**Marble Bar**	**27.08**	**193**	*e*P	**P**	**08 43 15.0**	**-0.7**
MBWA	**Marble Bar**	**27.08**	**193**	*e*P	**P**	**08 43 15.2**	**-0.5**
	comp=N,11nm,0.8s,mb4.5						
WHN	**Wuhan**	**27.39**	**338**	P	**P**	**08 43 25.1**	**+6.7**
JNU	**Nakatsue**	**27.98**	**9**	*e*P	**P**	**08 43 23.4**	**-0.3**
	comp=N,3.5nm,0.6s,mb4.1						
CMAR	**Chiang Mai Arr**	**29.53**	**298**	P	**P**	**08 43 35.2**	**-2.4**
	comp=N,0.6nm,0.3s,mb3.6,baz=110,slow=7.8,SNR=2.4						
CMAR				ScP	ScP	08 50 14.2	+1.1
	comp=N,0.7nm,0.4s,baz=155,slow=1.4,SNR=6.1						
CMAR	**Chiang Mai Arr**	**29.53**	**298**	P	**P**	**08 43 35.2**	**-2.4**
CMAR				ScP	ScP	08 50 14.2	+1.1
CMAR	**Chiang Mai Arr**	**29.53**	**298**	P	**P**	**08 43 35.2**	**-2.4**
CMAR						08 50 14.2	
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR				pmax	pmax		
	comp=N,1.0nm,0.4s						
KMI	**Kunming**	**29.80**	**314**	P	**P**	**08 43 42.3**	**+2.4**
KMI				pP	pP	08 44 07.3	+4.1
KMI				sP	sP	08 44 20.6	+5.3
KMI				PP	PP	08 44 42.4	-6.7
KMI				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.7						
ASAR	**Alice Springs**	**29.83**	**166**	P	**P**	**08 43 39.8**	**-0.4**
	comp=Z,2.0nm,0.5s,mb4.0,baz=342,slow=7.0,SNR=30						
ASAR				PcP	PcP	08 46 41.7	+0.5
	comp=Z,0.8nm,0.5s,baz=327,slow=2.0,SNR=4.3						
ASAR				ScP	ScP	08 50 16.0	+2.1
	comp=Z,1.5nm,0.6s,baz=346,slow=2.9,SNR=15						
ASAR	**Alice Springs**	**29.83**	**166**	P	**P**	**08 43 39

GUN	**Gumba**	**44.27**	**305**	*e*P		**P**	**08 45 42.4**	**+0.2**	
	comp=Z,30nm,0.7s,mb5.1								
ULN	**Ulaanbaatar**	**45.39**	**342**	*e*P		**P**	**08 45 54.5**	**+3.8**	
	comp=Z,4.7nm,0.8s,mb4.3								
ULN	**Ulaanbaatar**	**45.39**	**342**	*e*P		**P**	**08 45 54.5**	**+3.8**	
ULN				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.3								
SONM	**Songino Array**	**45.57**	**341**	P		**P**	**08 45 51.6**	**-0.5**	
	comp=Z,0.6nm,0.3s,mb3.7,baz=163,slow=9.1,SNR=9.8								
SONM				PcP		PcP	08 47 29.3	+0.3	
	comp=Z,0.6nm,0.4s,baz=160,slow=4.6,SNR=4.7								
SONM	**Songino Array**	**45.57**	**341**	P		**P**	**08 45 51.6**	**-0.5**	
SONM				PcP		PcP	08 47 29.3	+0.3	
SONM	**Songino Array**	**45.57**	**341**	P		**P**	**08 45 51.6**	**-0.5**	
SONM							08 47 29.3		
SONM				pmax		pmax			
	comp=Z,1.0nm,0.4s								
SONM				pmax		pmax			
	comp=Z,1.0nm,0.4s								
KOLN	**Koldanda**	**46.09**	**304**	*e*P		**P**	**08 45 56.3**	**-0.3**	
	comp=Z,12nm,0.3s,mb5.2								
DANN	**Dangsing**	**46.17**	**305**	*e*P		**P**	**08 45 56.5**	**-0.7**	
	comp=Z,27nm,0.5s,mb5.2								
PYUN	**Piuthan**	**46.71**	**304**	*e*P		**P**	**08 46 01.5**	**0.0**	
WMQ	**Urumqi**	**51.04**	**325**	P		**P**	**08 46 36.3**	**+2.0**	
PEA0B	**Petropavlovsk-**	**54.18**	**23**	*e*P		**P**	**08 46 58.0**	**+0.7**	
PETK	**Petropavlovsk-**	**54.18**	**23**	P		**P**	**08 46 58.2**	**+1.0**	
	comp=Z,5.6nm,0.5s,mb4.8,baz=193,slow=4.1,SNR=30								
PETK	**Petropavlovsk-**	**54.18**	**23**	P		**P**	**08 46 58.2**	**+1.0**	
PETK	**Petropavlovsk-**	**54.18**	**23**	P		**P**	**08 46 58.2**	**+1.0**	
PETK				pmax		pmax			
	comp=Z,6.0nm,0.5s,mb4.9								
MK31	**Makanchi Array**	**55.87**	**325**	*e*P		**P**	**08 47 08.2**	**-1.3**	
MK31				pmax		pmax			
	comp=Z,3.0nm,0.4s,mb4.7								
MKAR	**Makanchi Array**	**55.87**	**325**	P		**P**	**08 47 08.4**	**-1.1**	
	comp=Z,3.0nm,0.3s,mb4.7,baz=116,slow=7.5,SNR=127								
MKAR				ScP		ScP	08 51 56.5	-0.3	
	comp=Z,1.0nm,0.8s,baz=119,slow=4.3,SNR=5.7								
MKAR	**Makanchi Array**	**55.87**	**325**	P		**P**	**08 47 08.4**	**-1.1**	
MKAR				ScP		ScP	08 51 56.5	-0.3	
MKAR	**Makanchi Array**	**55.87**	**325**	P		**P**	**08 47 08.4**	**-1.1**	
MKAR				pmax		pmax			
	comp=Z,3.0nm,0.4s								
MKAR				pmax		pmax			
	comp=N,1.0nm,0.8s								
YAK	**Yakutsk**	**56.62**	**2**	*e*P		**P**	**08 47 15.0**	**+0.5**	
YAK				pmax		pmax			
	comp=Z,22nm,0.8s,mb5.2								
ZALV	**Zalesovo Beam**	**58.86**	**333**	P		**P**	**08 47 28.3**	**-2.1**	
	comp=Z,2.5nm,0.3s,mb4.7,baz=119,slow=6.4,SNR=15								
ZALV	**Zalesovo Beam**	**58.86**	**333**	P		**P**	**08 47 28.3**	**-2.1**	
ZALV	**Zalesovo Beam**	**58.86**	**333**	P		**P**	**08 47 28.3**	**-2.1**	
ZALV				pmax		pmax			
	comp=Z,3.0nm,0.4s,mb4.7								
KURK	**Kurchatov**	**60.04**	**327**	*e*P		**P**	**08 47 36.6**	**-2.0**	
	comp=Z,5.4nm,0.5s,mb4.8								
KURK	**Kurchatov**	**60.04**	**327**	*e*P		**P**	**08 47 36.6**	**-2.0**	
KURK				pmax		pmax			
	comp=Z,5.0nm,0.5s,mb4.8								
BRVK	**Borovoye**	**65.69**	**327**	*e*P	⇓	**P**	**08 48 13.7**	**-2.3**	
BRVK				pmax		pmax			
	comp=Z,14nm,3.5s								
BILL	**Bilibino**	**68.16**	**15**	*e*P		**P**	**08 48 30.5**	**-0.8**	
BILL				e*PP		pP	08 48 50.6	-6.9	
BILL				*e*			08 51 03.7		
BILL				pmax		pmax			
	comp=Z,5.0nm,1.3s,mb4.2								
AB31	**Akbulak array**	**70.50**	**321**	*e*P		**P**	**08 48 44.3**	**-1.8**	
AB31				pmax		pmax			
	comp=Z,1.0nm,0.3s,mb4.1								
ABKAR	**Akbulak array**	**70.50**	**321**	*e*P		**P**	**08 48 44.5**	**-1.7**	
KDAK	**Kodiak Island**	**80.86**	**32**	P		**P**	**08 49 46.0**	**+0.9**	
	comp=Z,8.2nm,0.5s,mb4.8,baz=267,slow=5.5,SNR=14								
KDAK	**Kodiak Island**	**80.86**	**32**	P		**P**	**08 49 46.0**	**+0.9**	
KDAK	**Kodiak Island**	**80.86**	**32**	P		**P**	**08 49 46.0**	**+1.0**	
KDAK				pmax		pmax			
	comp=Z,8.0nm,0.5s,mb4.8								
PPLA	**Purkeypile**	**81.48**	**27**	*e*P		**P**	**08 49 48.9**	**+0.7**	
	comp=Z,64nm,2.0s,mb5.1								
SLKM	**Skilak Lake**	**82.25**	**30**	*e*P		**P**	**08 49 52.4**	**+0.1**	
SLKM	**Skilak Lake**	**82.25**	**30**	*e*P		**P**	**08 49 52.4**	**+0.1**	
TRF	**Thorofare Moun**	**82.38**	**27**	*e*P		**P**	**08 49 53.7**	**+0.8**	
	comp=Z,4.5nm,0.7s,mb4.4								
COLD	**Coldfoot**	**82.65**	**23**	*e*P		**P**	**08 49 56.0**	**+1.8**	
	comp=Z,5.6nm,0.6s,mb4.6								
PMR	**Palmer**	**82.83**	**29**	*e*P		**P**	**08 49 55.2**	**-0.1**	
	comp=Z,4.9nm,0.6s,mb4.5								
PMR	**Palmer**	**82.83**	**29**	*e*P		**P**	**08 49 55.2**	**-0.1**	
PMR				pmax		pmax			
	comp=Z,5.0nm,0.6s,mb4.5								
MCK	**McKinley**	**83.00**	**27**	*e*P		**P**	**08 49 56.1**	**0.0**	
	comp=Z,10nm,1.0s,mb4.6								
MCK	**McKinley**	**83.00**	**27**	*e*P		**P**	**08 49 56.1**	**0.0**	
MCK				pmax		pmax			
	comp=Z,10.0nm,1.0s,mb4.6								
SML	**Sawmill**	**83.22**	**28**	*e*P		**P**	**08 49 57.9**	**+0.7**	
	comp=Z,2.2nm,0.7s,mb4.1								
SML	**Sawmill**	**83.22**	**28**	*e*P		**P**	**08 49 57.9**	**+0.6**	
SML				pmax		pmax			
	comp=Z,2.0nm,0.7s,mb4.1								
COLA	**College**	**83.51**	**25**	*i* P		**P**	**08 49 57.3**	**-1.4**	
ILAR	**Eielson Array**	**83.92**	**25**	P		**P**	**08 50 00.1**	**-0.7**	
	comp=Z,1.3nm,0.7s,mb3.8,baz=258,slow=4.8,SNR=17								
ILAR	**Eielson Array**	**83.92**	**25**	P		**P**	**08 50 00.1**	**-0.7**	
ILAR	**Eielson Array**	**83.92**	**25**	P		**P**	**08 50 00.1**	**-0.7**	
ILAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
VNDA	**Vanda**	**85.11**	**173**	P		**P**	**08 50 06.6**	**+0.1**	
	comp=Z,1.0nm,0.5s,mb4.0,baz=317,slow=6.3,SNR=9.2								
VNDA	**Vanda**	**85.11**	**173**	P		**P**	**08 50 06.6**	**+0.1**	
VNDA	**Vanda**	**85.11**	**173**	P		**P**	**08 50 06.6**	**+0.1**	
VNDA				pmax		pmax			
	comp=Z,1.0nm,0.5s								
JOF	**Joensuu**	**87.45**	**333**	*e*P		**P**	**08 50 16.0**	**-2.3**	
JOF				pmax		pmax			
	comp=Z,3.0nm,0.4s,mb4.6								
JOF	**Joensuu**	**87.45**	**333**	*e*p		**P**	**08 50 16.0**	**-2.3**	
	comp=Z,3.1nm,0.4s,mb4.6								
ARCES	**ARCESS Array B**	**88.72**	**340**	P		**P**	**08 50 23.6**	**-0.6**	
	comp=Z,2.5nm,0.8s,mb4.3,baz=86,slow=6.0,SNR=14								
ARCES	**ARCESS Array B**	**88.72**	**340**	P		**P**	**08 50 23.6**	**-0.6**	
ARCES	**ARCESS Array B**	**88.72**	**340**	P		**P**	**08 50 23.6**	**-0.6**	
ARCES				pmax		pmax			
	comp=Z,3.0nm,0.8s								
SPITS	**Spitsbergen Ar**	**88.77**	**349**	P		**P**	**08 50 24.1**	**-0.2**	
	comp=Z,1.7nm,0.4s,mb4.4,baz=78,slow=8.6,SNR=10								
SPITS	**Spitsbergen Ar**	**88.77**	**349**	P		**P**	**08 50 24.1**	**-0.2**	
SPITS	**Spitsbergen Ar**	**88.77**	**349**	P		**P**	**08 50 24.1**	**-0.2**	
SPITS				pmax		pmax			
	comp=Z,2.0nm,0.4s								
INK	**Inuvik**	**88.89**	**21**	P		**P**	**08 50 25.1**	**0.0**	
	comp=Z,0.7nm,0.4s,mb4.0,baz=78,slow=1.5,SNR=7.3								
INK	**Inuvik**	**88.89**	**21**	P		**P**	**08 50 25.1**	**0.0**	
INK	**Inuvik**	**88.89**	**21**	P		**P**	**08 50 25.1**	**+0.1**	
INK				pmax		pmax			
	comp=Z,1.0nm,0.4s								
KAF	**Kangasniemi**	**89.87**	**332**	*e*P		**P**	**08 50 27.5**	**-2.2**	
KAF				pmax		pmax			
	comp=Z,3.0nm,0.4s,mb4.8								
KAF	**Kangasniemi**	**89.87**	**332**	*e*p		**P**	**08 50 27.5**	**-2.2**	
	comp=Z,2.8nm,0.4s,mb4.8								
FINES	**FINESS Array B**	**90.11**	**332**	P		**P**	**08 50 29.2**	**-1.6**	
	comp=Z,1.7nm,0.4s,mb4.5,baz=46,slow=5.8,SNR=9.4								
FINES	**FINESS Array B**	**90.11**	**332**	P		**P**	**08 50 29.2**	**-1.6**	
FINES	**FINESS Array B**	**90.11**	**332**	P		**P**	**08 50 29.2**	**-1.6**	
FINES				pmax		pmax			
	comp=Z,2.0nm,0.4s								
TXAR	**Lajitas Array**	**121.09**	**51**	PKP		PKPdf	08 56 25.3	+1.4	
	comp=Z,0.1nm,0.4s,baz=191,slow=3.4,SNR=3.9								
TXAR	**Lajitas Array**	**121.09**	**51**	PKIKP		PKPdf	08 56 25.3	+1.4	
TORD	**Torodi Ar. Bea**	**121.81**	**289**	PKP		PKPdf	08 56 25.2	-0.4	
	comp=Z,1.3nm,0.6s,baz=54,slow=2.0,SNR=9.9								

*IDC **18** 08:40:07.0±8.5, 79.°64N×115.°13W, h0km, mb3.2/2, mb1 4.0/6, mb1mx3.6/29, mbtmp3.7/6, ML4.0/4, Error ellipse: s-maj=139.3km s-min=39.8km az=174.0*
*OTT **18** 08:40:08.9±1.0, 79.°46N×114.°92W, h18km, ML4.0/6, Arctic Ocean. Aftershock. 252km west from Isachsen, Nu*
*ISCJB **18** 08:40:12.2±1.0, 78.°71N±0.°06×114.°2W±0.°2, h10km, mb3.3/2, Error ellipse: s-maj=9.1km s-min=6.5km az=177.9*
ISC 18 08:40:13.6±1.0, **78.°76N**±0.°06×**114.°4W**±0.°2, **h10**km, **n29,**

σ1ᵍ43/49, mb3.3/2, Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EUNU	**Eureka**	**5.27**	**62**	PN		**Pn**		**08 41 23.9**	**-8.3**
EUNU				mb				08 41 24.8	
	comp=Z,12nm,0.2s								
EUNU				SN		**Sn**		**08 42 15.8**	**-17**
EUNU				Trac				08 42 23.7	
	comp=Z,32nm,0.6s								
RES	**Resolute Bay**	**6.03**	**123**	Pn		**Pn**		**08 41 44.6**	**+2.0**
	3.9nm,0.3s,baz=317,slow=11,SNR=330								
RES				Sn		**Sn**		**08 42 53.9**	**+2.3**
	8.9nm,0.3s,baz=126,slow=19,SNR=10								
RES	**Resolute Bay**	**6.03**	**123**	PN		**Pn**		**08 41 42.7**	**0.0**
RES				mb				08 41 45.5	
	comp=Z,13nm,0.1s								
RES				SN		**Sn**		**08 42 54.0**	**+2.4**
RES				Trac				08 42 56.7	
	comp=Z,20nm,0.2s								
CB31	**Cambridge Bay**	**9.99**	**161**	PN		**Pn**		**08 42 39.9**	**+2.9**
CB31				mb				08 42 42.5	
	comp=Z,43nm,0.2s								
CB31				SN		**Sn**		**08 44 34.0**	**+5.0**
CB31				Trac				08 44 39.1	
	comp=Z,34nm,0.3s								
INK	**Inuvik**	**11.71**	**217**	Pn		**Pn**		**08 42 59.4**	**-1.0**
	0.5nm,0.3s,baz=21,slow=8.6,SNR=20								
INK				Sn		**Sn**		**08 45 06.0**	**-5.0**
	0.3nm,0.3s,baz=264,slow=16,SNR=5.6								
INK	**Inuvik**	**11.71**	**217**	PN		**Pn**		**08 42 59.5**	**-0.9**
INK				SN		**Sn**		**08 45 05.4**	**-5.6**
INK				Trac				08 45 19.1	
	comp=Z,2.9nm,0.5s								
KUGN	**Kugaaruk Camp,**	**12.58**	**135**	PN		**Pn**		**08 43 11.6**	**-0.7**
KUGN				SN		**Sn**		**08 45 35.7**	**+3.6**
JERN	**Jeri Cho Mine,**	**12.84**	**175**	PN		**Pn**		**08 43 17.7**	**+1.9**
JERN				mb				08 43 19.8	
	comp=Z,4.2nm,0.2s								
JERN				SN		**Sn**		**08 45 40.6**	**+2.2**
JERN				Trac				08 45 56.3	
	comp=Z,2.2nm,0.2s								
STLN	**Stellar Camp,**	**12.93**	**141**	PN		**Pn**		**08 43 17.0**	**-0.1**
STLN				mb				08 43 17.9	
	comp=Z,15nm,0.8s								
STLN				SN		**Sn**		**08 45 44.6**	**+3.9**
SRLN	**Sarcpa Lake, N**	**13.18**	**124**	PN		**Pn**		**08 43 19.9**	**-0.6**
BULN	**Bullion Camp,**	**13.79**	**142**	PN		**Pn**		**08 43 27.6**	**-1.2**
BULN				mb				08 43 30.7	
	comp=Z,7.7nm,0.4s								
BULN				SN		**Sn**		**08 45 59.2**	**-2.3**
CTLN	**Castor Lake**	**14.42**	**183**	PN		**Pn**		**08 43 38.5**	**+1.2**
CTLN				SN		**Sn**		**08 46 17.7**	**+0.7**
QILN	**Qililugaq Expl**	**14.45**	**131**	PN		**Pn**		**08 43 36.6**	**-1.1**
QILN				SN		**Sn**		**08 46 16.1**	**-1.6**
ILKN	**Indian Lake**	**14.62**	**181**	PN		**Pn**		**08 43 39.0**	**-1.0**
ILKN				SN		**Sn**		**08 46 22.4**	**+0.6**
GALN	**Gameti Lake**	**14.75**	**185**	PN		**Pn**		**08 43 42.0**	**+0.2**
GALN				SN		**Sn**		**08 46 21.0**	**-4.0**
WAGN	**Wager Bay**	**14.75**	**137**	PN		**Pn**		**08 43 41.0**	**-0.8**
NUNN	**Nunuq Camp, NU**	**15.17**	**140**	PN		**Pn**		**08 43 46.8**	**-0.8**
NUNN				SN		**Sn**		**08 46 32.3**	**-3.0**
COKN	**Cook Lake**	**15.66**	**171**	PN		**Pn**		**08 43 46.1**	**-7.8**
YKW3	**Yellowknife Ar**	**16.28**	**180**	PN		**Pn**		**08 44 02.9**	**+1.0**
YKW3				mb				08 44 06.5	
	comp=Z,5.2nm,0.3s								
YKW3				SN		**Sn**		**08 47 00.8**	**-1.5**
YKW3				Trac				08 47 14.7	
	comp=Z,2.5nm,0.5s								
YKA	**Yellowknife Ar**	**16.35**	**180**	Pn		**Pn**		**08 44 03.7**	**+0.9**
	1.3nm,0.3s,baz=317,slow=16,SNR=29								
YKA				Sn		**Sn**		**08 47 02.4**	**-1.6**
	0.3nm,0.3s,baz=314,slow=30,SNR=4								
WHFN	**White Fish Lak**	**16.43**	**168**	PN		**Pn**		**08 44 04.2**	**+0.3**
DAWY	**Dawson**	**16.50**	**221**	PN		**Pn**		**08 44 02.0**	**-2.6**
DAWY				SN		**Sn**		**08 46 56.9**	**-11**
DAWY				Trac				08 47 13.0	
	comp=Z,1.7nm,0.6s								
ILAR	**Eielson Array**	**16.90**	**232**	P		**Pn**		**08 44 09.8**	**+0.1**
	0.1nm,0.3s,baz=16,slow=11,SNR=11								
SEDN	**First Sedna Si**	**17.05**	**143**	PN		**Pn**		**08 44 10.8**	**-0.8**
SEDN				SN		**Sn**		**08 47 16.0**	**-4.8**
JOSN	**Second Sedna S**	**17.09**	**143**	PN		**Pn**		**08 44 12.0**	**-0.2**
JOSN				SN		**Sn**		**08 47 18.4**	**-3.1**
ARVN	**Arviat, NU**	**18.84**	**149**	PN		**Pn**		**08 44 35.7**	**+2.1**
FCC	**Fort Churchill**	**21.13**	**150**	PN		**P**		**08 45 01.6**	**+3.6**
PDAR	**Pinedale Array**	**36.16**	**174**	P		**P**		**08 47 19.6**	**+4.0**
	0.3nm,0.4s,mb3.5,baz=22,slow=7.0,SNR=5.8								
TXAR	**Lajitas Array**	**49.74**	**168**	P		**P**		**08 49 07.1**	**+1.5**
	0.1nm,0.5s,mb3.1,baz=42,slow=5.0,SNR=4.0								

*NSSP **18** 08:43:48.6, 39.°37N×44.°40E, h10km, Ms3.2*
*ISCJB **18** 08:43:54.9±0.4, 39.°28N±0.°02×44.°42E±0.°03, h10km, Error ellipse: s-maj=3.9km s-min=2.8km az=25.1*
*CSEM **18** 08:43:54.9±0.3, 39.°25N×44.°46E, h2km, MD3.5, Error ellipse: s-maj=6.6km s-min=5.0km az=113.0*
*ISK **18** 08:43:54.4, 39.°36N×44.°46E, h22km, MD3.5*
*DDA **18** 08:43:56.0, 39.°27N×44.°38E, h7km±2km, Md3.1*
ISC 18 08:43:55.6±0.4, **39.°28N**±0.°02×**44.°42E**±0.°03, **h10**km, **n46,**

σ1ᵍ38/76, 4D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.42**	**250**	*e*PG		**Pg**		**08 44 04.3**	**+0.6**
CLDR				*e*SG		**Sg**		**08 44 12.4**	**+3.1**
CLDR	**Caldiran**	**0.42**	**250**	*e*Pg		**Pg**		**08 44 04.4**	**+0.6**
ARRZ	**Ararat**	**0.61**	**20**	*e*P		**Pg**		**08 44 04.0**	**-3.3**
ARRZ				*e*S		**Sg**		**08 44 11.0**	**-4.3**
DYDN	**Diyadin**	**0.63**	**295**	*i* P		**Pg**		**08 44 07.2**	**-0.4**
DYDN				*i* S		**Sg**		**08 44 17.1**	**+1.2**
DYDN	**Diyadin**	**0.63**	**295**	*i* P		**Pg**		**08 44 07.2**	**-0.5**
DYDN				*i* S		**Sg**		**08 44 17.1**	**+1.2**
VRNZ	**Vardanashen**	**0.79**	**347**	P		**Pg**		**08 44 11.1**	**+0.4**
VRNZ				S		**Sg**		**08 44 23.7**	**+2.7**
PAAR	**P'arak'ar**	**0.87**	**358**	P		**Pg**		**08 44 11.7**	**-0.6**
PAAR				S		**Sg**		**08 44 23.0**	**-0.5**
ERE	**Yerevan**	**0.89**	**2**	*e*P		**Pg**		**08 44 07.0**	**-5.6**
GNI	**Garni**	**0.90**	**16**	*e*PG		**Pg**		**08 44 10.8**	**-2.1**
GNI				*e*SG		**Sg**		**08 44 23.3**	**-1.3**
GNI	**Garni**	**0.90**	**16**	*i*/*e*P		**Pg**		**08 44 10.8**	**-2.1**
GNI				⇓*i*/*e*S		**Sg**		**08 44 23.2**	**-1.3**
GNI	**Garni**	**0.90**	**16**	⇓*e*P		**Pg**		**08 44 10.8**	**-2.1**
GNI				*e*Sg		**Sg**		**08 44 23.3**	**-1.3**
VNNZ	**Vanand**	**0.94**	**331**	P		**Pg**		**08 44 12.9**	**-0.8**
VNNZ				S		**Sg**		**08 44 28.5**	**+2.6**
ARUZ	**Aruch**	**1.03**	**346**	P		**Pg**		**08 44 14.6**	**-0.8**
ARUZ				S		**Sg**		**08 44 29.1**	**+0.3**
KAPZ	**Kaputan**	**1.06**	**11**	P		**Pg**		**08 44 14.1**	**-1.8**
KAPZ				S		**Sg**		**08 44 29.2**	**-0.5**
AMBZ	**Amberd**	**1.11**	**353**	P		**Pg**		**08 44 18.0**	**+1.1**
AMBZ				S		**Sg**		**08 44 31.9**	**+0.6**
AGRB	**Hanur-Agry**	**1.15**	**285**	*e*PN		**Pg**		**08 44 15.0**	**-2.6**
AGRB				*e*SN		**Sg**		**08 44 31.7**	**-0.8**
TUTA	**Tutak**	**1.25**	**276**	*i* P		**Pn**		**08 44 19.1**	**0.0**
TUTA				*i* S		**Sb**		**08 44 36.5**	**+1.1**
TUTA	**Tutak**	**1.25**	**276**	*i* P		**Pn**		**08 44 19.1**	**0.0**
TUTA				*i* S		**Sb**		**08 44 36.5**	**+1.0**
VADZ	**Vardenis**	**1.35**	**49**	*e*P		**Pn**		**08 44 19.0**	**-1.5**
VADZ				⇓S		**Sb**		**08 44 38.0**	**-0.3**
GRS	**Goris**	**1.50**	**81**	*e*P		**Pn**		**08 44 22.0**	**-0.4**
GRS				*e*S		**Sn**		**08 44 44.0**	**+2.0**
GRS	**Goris**	**1.50**	**81**	P		**Pn**		**08 44 22.0**	**-0.4**
GRS				S		**Sn**		**08 44 44.0**	**+2.0**
GMRZ	**Gyumri**	**1.59**	**344**	*e*P		Px		08 44 38.0	
STE	**Stepanavan**	**1.71**	**359**	S		**Sn**		**08 44 46.4**	**-1.0**
HKR	**Hakkari**	**1.79**	**198**	*e*PN		**Pn**		**08 44 26.4**	**-0.1**
HKR	**Hakkari**	**1.79**	**198**	*e*Pn		**Pn**		**08 44 26.4**	**0.0**
HAKT	**HAKKARI**	**1.81**	**198**	*i* P		**Pg**		**08 44 29.9**	**-0.4**
HAKT				*i* S		**Sg**		**08 44 54.8**	**+1.0**
HAKT	**HAKKARI**	**1.81**	**198**	*i* P		**Pg**		**08 44 30.0**	**-0.3**
HAKT				*i* S		**Sg**		**08 44 54.8**	**+1.0**
HOMI	**Horasan**	**2.09**	**292**	*i* P		**Pg**		**08 44 34.1**	**-1.5**
CUKT	**Cukurca**	**2.13**	**198**	*e*PN		**Pn**		**08 44 30.9**	**-0.3**
CUKT	**Cukurca**	**2.13**	**198**	*e*Pn		**Pn**		**08 44 30.9**	**-0.3**
AKH	**Akhalkalaki**	**2.24**	**342**	P		**Pn**		**08 44 34.3**	**+1.6**
AKH				S		**Sg**		**08 45 06.3**	**-1.2**
AKH	**Akhalkalaki**	**2.24**	**342**	P		**Pn**		**08 44 34.3**	**+1.6**
AKH				S		**Sg**		**08 45 06.3**	**-1.2**
DGRG	**David-gareji**	**2.28**	**18**	P		**Pn**		**08 44 34.4**	**+1.1**
DGRG				S		**Sn**		**08 45 05.0**	**+3.6**
DGRG	**David-gareji**	**2.28**	**18**	P		**Pn**		**08 44 34.4**	**+1.1**
DGRG				S		**Sn**		**08 45 05.0**	**+3.6**
MTA	**Mtatsminda**	**2.42**	**7**	P		**Pn**		**08 44 37.0**	**+1.8**
MTA				S		**Sn**		**08 45 07.9**	**+3.0**
MTA	**Mtatsminda**	**2.42**	**7**	P		**Pn**		**08 44 37.0**	**+1.8**
MTA				S		**Sn**		**08 45 07.9**	**+3.0**
EZM	**Erzurum**	**2.45**	**286**	*e*PN		**Pn**		**08 44 34.0**	**-1.5**
TBLG	**Delisi**	**2.46**	**5**	P		**Pn**		**08 44 37.0**	**+1.3**
TBLG				S		**Sn**		**08 45 07.1**	**+1.4**
TBLG	**Delisi**	**2.46**	**5**	P		**Pn**		**08 44 37.0**	**+1.3**
TBLG				S		**Sn**		**08 45 07.1**	**+1.4**
DDEM	**Demirkent**	**2.60**	**309**	*i* P		**Pg**		**08 44 43.3**	**-2.2**
DDEM	**Demirkent**	**2.60**	**309**	*i* P		**Pg**		**08 44 43.3**	**-2.2**
DAGI	**Agillar**	**2.63**	**314**	*i* P		**Pn**		**08 44 41.4**	**+3.4**
GOR	**Gori**	**2.71**	**355**	P		**Pn**		**08 44 42.3**	**+3.2**
GOR				S		**Sg**		**08 45 21.9**	**-0.7**
GOR	**Gori**	**2.71**	**355**	P		**Pn**		**08 44 42.3**	**+3.2**
BEST	**Besiri**	**2.84**	**242**	*e*P		**Pg**		**08 44 48.6**	**-1.3**
ONI	**Oni**	**3.38**	**348**	P		**Pb**		**08 44 54.8**	**-0.8**
ONI				S		**Sb**		**08 45 39.9**	**+3.2**

GUC 18 08:52:05.7±0.6, 23.°17S×70.°00W, h37km±8km, ML3.7, 3C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MECH	**Mejillones**	**0.42**	**279**	⇓*i*P			Pn	08 52 14.7	-0.6
MECH				*i* S			Sn	08 52 21.9	0.0
MECH				AML			AML	08 52 22.5	
	comp=N,10μm,0.4s								
ANCH	**Antofagasta**	**0.63**	**217**	⇑*i*P			Pn	08 52 17.9	-0.3
ANCH				*i* S			Sn	08 52 26.7	-0.4
ANCH				AML			AML	08 52 28.2	
	comp=E,6μm,0.1s								
MACH	**Maria Elena**	**1.00**	**13**	⇓*i*P			Pn	08 52 25.3	+2.1
MACH				*i* S			Sn	08 52 39.2	+3.1
PB04	**Plate Boundary**	**1.02**	**28**	⇑*i*P			Pn	08 52 21.7	-1.7
PB04				*i* S			Sn	08 52 33.4	-3.2
PB04				AML			AML	08 52 34.1	
	comp=E,5μm,0.2s								
PB07	**Plate Boundary**	**1.44**	**4**	⇓*i*P			Pn	08 52 30.8	+1.5
PB07				*i* S			Sn	08 52 50.4	+3.4
PB07				AML			AML	08 52 53.0	
	comp=E,1μm,0.3s								
PB01	**Plate Boundary**	**2.17**	**13**	⇑*i*P			Pn	08 52 41.2	+1.9

*IDC **18** 09:00:44.2±1.6, 8.°94S×121.°10E, h0km, mb3.8/3, mb1 3.9/6, mb1mx3.7/19, mbtmp3.8/6, ML3.5/3, Error ellipse: s-maj=137.7km s-min=21.8km az=59.0*
*NEIC **18** 09:00:49.3±0.8, 8.°96S×121.°18E, h35km, mb4.0/2, Error ellipse: s-maj=42.2km s-min=10.1km az=56.0*
*ISCJB **18** 09:00:53.7±0.5, 9.°62S±0.°06×120.°76E±0.°06, h116km±5km, mb3.9/4, Error ellipse: s-maj=11.0km s-min=8.1km az=32.8*
*DJA **18** 09:00:59, 9.°12S×120.°71E, h14km, MLv3.7/6*
ISC 18 09:00:54.7±0.5, **9.°63S**±0.°06×**120.°77E**±0.°05, **h108**km±5km, **n21,** σ0ᵍ**78**

NSK	**Sanguang**	**1.01**	**301**	P	**Pn**	**09 25 24.5**	**-0.1**
	baz=302						
NSK				*e*S	**Sn**	**09 25 36.9**	**-0.7**
	baz=302						
TWA	**Mucha**	**1.05**	**322**	*e*P	**Pn**	**09 25 25.9**	**+0.7**
	baz=322						
TWA				*e*S	**Sn**	**09 25 39.1**	**+0.4**
	baz=322						
EHY	**Hungye**	**1.11**	**235**	*e*P	**Pn**	**09 25 25.4**	**-0.4**
	baz=235						
EHY				*e*S	**Sn**	**09 25 39.6**	**-0.4**
	baz=235						
TWF1	**Yuli**	**1.22**	**229**	P	**Pn**	**09 25 26.8**	**-0.7**
	baz=230						
TWF1				*e*S	**Sn**	**09 25 41.4**	**-1.4**
	baz=230						
IRIF	**Iriomote-Funau**	**1.31**	**82**	P	**Pn**	**09 25 28.5**	**-0.2**
IRIF				*e*S	**Sn**	**09 25 44.9**	**-0.2**
SMLT	**Sun Moon Lake**	**1.31**	**258**	*e*P	**Pn**	**09 25 29.0**	**+0.3**
	baz=259						
SMLT				S	**Sn**	**09 25 44.9**	**-0.2**
	baz=259						
TYC	**Yuchr**	**1.35**	**260**	*e*P	**Pn**	**09 25 29.4**	**+0.2**
	baz=260						
TYC				*e*S	**Sn**	**09 25 45.6**	**-0.4**
	baz=260						
HATJ	**Hateruma jima**	**1.37**	**94**	*e*S	**Sn**	**09 25 47.6**	**+1.0**
YUS	**Yu-Shan**	**1.41**	**242**	*e*P	**Pn**	**09 25 30.6**	**+0.7**
	baz=242						
YUS				*e*S	**Sn**	**09 25 47.2**	**-0.2**
	baz=242						
TWQ1	**Liyutan**	**1.41**	**278**	*e*P	**Pn**	**09 25 30.6**	**+0.5**
	baz=278						
ALS	**Alishan**	**1.52**	**245**	*e*P	**Pn**	**09 25 32.6**	**+1.1**
	baz=245						
ALS				*e*S	**Sn**	**09 25 50.4**	**+0.3**
	baz=245						
ELDTW	**Lidau**	**1.52**	**231**	*e*P	**Pn**	**09 25 31.1**	**-0.5**
	baz=231						
JKRS	**Kuro-shima**	**1.56**	**87**	P	**Pn**	**09 25 32.6**	**+0.5**
JKRS				*e*S	**Sn**	**09 25 51.9**	**+0.8**
CHN5	**Tsauling**	**1.59**	**250**	*e*P	**Pn**	**09 25 33.5**	**+1.0**
	baz=250						
CHN5				*e*S	**Sn**	**09 25 53.0**	**+1.1**
	baz=250						
JIJ	**Ishigaki jima**	**1.69**	**83**	P	**Pn**	**09 25 33.6**	**-0.3**
JIJ				*e*S	**Sn**	**09 25 53.3**	**-1.1**
WTP	**Ta-pu**	**1.79**	**240**	*e*P	**Pn**	**09 25 36.4**	**+1.1**
	baz=240						
WTP				*e*S	**Sn**	**09 25 59.0**	**+2.0**
	baz=240						
CHN1	**Nanshi**	**1.89**	**240**	*e*P	**Pn**	**09 25 37.4**	**+0.7**
	baz=240						
JTJ	**Tarama**	**2.24**	**77**	*e*S	**Sn**	**09 26 07.0**	**-0.9**

*ISCJB **18** 09:34:06.8±1.1, 40˚.26N±0˚.03×19˚.66E±0˚.08, h10km, Error ellipse: s-maj=9.0km s-min=4.6km az=14.7*
*ATH **18** 09:34:06.2, 40˚.24N×19˚.60E, h10km± 1km, MD3.5/8*
*CSEM **18** 09:34:08.4±0.6, 40˚.21N×19˚.72E, h2km, MD3.5, Error ellipse: s-maj=12.8km s-min=6.4km az=104.0*
*SKO **18** 09:34:09.3, 40˚.32N×19˚.64E, h0km, M2.2, ML2.6*
ISC 18 09:34:07.2±1.2, 40˚.23N±0˚.03×19˚.63E±0˚.08, h10km, n22, σ1§04/34, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.53**	**166**	*e*PB	**Pg**	**09 34 17.0**	**-0.5**
KEK				*e*SB	**Sg**	**09 34 24.0**	**-0.4**
KEK	**Kerkira**	**0.53**	**166**	*e*Pb	**Pg**	**09 34 17.0**	**-0.5**
KEK				*e*Sb	**Sg**	**09 34 24.0**	**-0.4**
JAN	**Janina**	**1.10**	**121**	*e*PG	**Pg**	**09 34 26.8**	**-1.5**
JAN				*e*SB	**Sg**	**09 34 43.1**	**+0.6**
JAN	**Janina**	**1.10**	**121**	*e*Pg	**Pg**	**09 34 26.8**	**-1.5**
JAN				*e*Sb	**Sg**	**09 34 43.1**	**+0.6**
KZN	**Kozani**	**1.64**	**87**	*e*PB	**Pb**	**09 34 37.5**	**0.0**
KZN				*e*SB	**Sg**	**09 35 00.2**	**+0.3**
KZN	**Kozani**	**1.64**	**87**	*e*Pb	**Pb**	**09 34 37.5**	**0.0**
KZN				*e*Sb	**Sg**	**09 35 00.2**	**+0.3**
KRUS	**Krusevo**	**1.68**	**47**	*e*Pn	**Pg**	**09 34 39.8**	**+0.5**
KRUS				*e*Sg	**Sg**	**09 34 60.0**	**-1.1**
KRUS	**Krusevo**	**1.68**	**47**	*e*Pn	**Pg**	**09 34 39.7**	**+0.4**
KRUS				*e*Sg	**Sg**	**09 34 59.9**	**-1.2**
THL	**Klokotos Trika**	**1.95**	**109**	*e*PN	**Pb**	**09 34 41.7**	**-1.1**
THL				*e*SN	**Sb**	**09 35 07.7**	**+0.6**
THL	**Klokotos Trika**	**1.95**	**109**	*e*Pn	**Pb**	**09 34 41.7**	**-1.1**
THL				*e*Sn	**Sb**	**09 35 07.7**	**+0.6**
EVR	**Evrytania**	**2.13**	**127**	*e*PN	**Pb**	**09 34 45.0**	**-0.9**
EVR	**Evrytania**	**2.13**	**127**	*e*Pn	**Pb**	**09 34 45.0**	**-0.9**
VLS	**Valsamata**	**2.18**	**160**	*e*PN	**Pb**	**09 34 45.3**	**-1.4**
VLS	**Valsamata**	**2.18**	**160**	*e*Pn	**Pb**	**09 34 45.3**	**-1.4**
LIT	**Litokhoron**	**2.19**	**92**	*e*PN	**Pn**	**09 34 44.8**	**+1.1**
LIT	**Litokhoron**	**2.19**	**92**	*e*Pn	**Pn**	**09 34 44.8**	**+1.1**
SKO	**Skopje**	**2.21**	**38**	*e*Pn	**Pn**	**09 34 45.5**	**+1.5**
SKO				*e*Sg	**Sg**	**09 35 17.3**	**-1.0**
SKO				*e*Lg		09 35 18.2	
	comp=E,31nm,0.6s						
SKO				*e*Lg		09 35 19.0	
	comp=N,33nm,0.3s						
SKO	**Skopje**	**2.21**	**38**	*e*Pn	**Pn**	**09 34 45.4**	**+1.5**
SKO				*e*Sg	**Sg**	**09 35 17.3**	**-1.0**
SKO				*e*Lg		09 35 18.2	
	comp=N,31nm,0.6s						
AGG	**Agios Georgios**	**2.41**	**119**	*e*PN	**Pn**	**09 34 48.3**	**+1.7**
AGG	**Agios Georgios**	**2.41**	**119**	*e*Pn	**Pn**	**09 34 48.3**	**+1.7**
EFP	**Efpalio**	**2.52**	**135**	*e*PN	**Pn**	**09 34 49.8**	**+1.7**
EFP	**Efpalio**	**2.52**	**135**	*e*Pn	**Pn**	**09 34 49.8**	**+1.7**

IGQ 18 10:05:40.0, 1.85S×77.25W, h12km±4km, Mb4.0, Ms3.8, 4C-27D, Error ellipse: s-maj=1.6km s-min=0.8km az=37.0, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACE	**Macas**	**1.03**	**247**	∥S	Sb	10 06 12.6	-0.6
MACE	**Macas**	**1.03**	**247**	∥P	Pb	10 05 59.5	-0.2
ULBA	**Ulba**	**1.22**	**289**	∥P	Pn	10 06 03.4	+0.5
BULB	**Ulba Tungurahu**	**1.23**	**290**	∥S	Sb	10 06 19.1	+0.2
BULB	**Ulba Tungurahu**	**1.23**	**290**	∥P	Pn	10 06 03.2	+0.2
PAT1	**Patacocha**	**1.23**	**286**	∥P	Pn	10 06 03.4	+0.3
BRUN	**Tungurahua Vol**	**1.23**	**290**	∥S	Sb	10 06 20.3	+1.2
BRUN	**Tungurahua Vol**	**1.23**	**290**	∥P	Pn	10 06 03.5	+0.4
RUN5	**Runtun**	**1.25**	**290**	∥S	Sb	10 06 20.9	+1.3
RUN5	**Runtun**	**1.25**	**290**	∥P	Pn	10 06 03.9	+0.7
ARRY	**Arrayan**	**1.25**	**286**	∥P	Pn	10 06 03.4	+0.1
RETU	**Refugio**	**1.26**	**288**	∥P	Pn	10 06 03.9	+0.5
RETU	**Refugio**	**1.26**	**288**	∥S	Sb	10 06 20.6	+0.8
BMAS	**Trigal station**	**1.27**	**286**	∥S	Sb	10 06 21.3	+1.0
BMAS	**Trigal station**	**1.27**	**286**	∥P	Pn	10 06 04.0	+0.4
JUI6	**Juive**	**1.29**	**289**	P	Pn	10 06 04.0	+0.2
BBIL	**Ulba Tungurahu**	**1.30**	**288**	∥S	Sb	10 06 22.7	+1.7
BBIL	**Ulba Tungurahu**	**1.30**	**288**	∥P	Pn	10 06 04.3	+0.4
BIL2	**Estacion Bilba**	**1.31**	**287**	P	Pn	10 06 04.7	+0.6
PISA	**Pisayambo**	**1.38**	**305**	S	Sn	10 06 24.7	+1.5
PISA	**Pisayambo**	**1.38**	**305**	P	Pn	10 06 06.3	+1.2
RIOE	**Riobamba**	**1.38**	**274**	∥P	Pn	10 06 05.8	+0.7
IGUA	**Igualata**	**1.43**	**284**	∥P	Pn	10 06 07.4	+1.6
TAMB	**Tambo**	**1.60**	**316**	P	Pn	10 06 10.4	+2.3
TAMB	**Tambo**	**1.60**	**316**	S	Sn	10 06 31.2	+2.5
COV1	**Cotopaxi Volc**	**1.61**	**317**	S	Sn	10 06 35.1	+6.2
COV1	**Cotopaxi Volc**	**1.61**	**317**	P	Pn	10 06 11.9	+3.7
BTAM	**Cotopaxi Volca**	**1.64**	**316**	∥S	Sn	10 06 33.2	+3.6
BTAM	**Cotopaxi Volca**	**1.64**	**316**	∥P	Pn	10 06 11.1	+2.5
MOV1	**Cotopaxi Vol s**	**1.64**	**314**	∥S	Sn	10 06 32.1	+2.5
MOV1	**Cotopaxi Vol s**	**1.64**	**314**	∥P	Pn	10 06 10.9	+2.2
BMOR	**Cotopaxi Volca**	**1.64**	**313**	∥S	Sn	10 06 33.8	+4.1
BMOR	**Cotopaxi Volca**	**1.64**	**313**	∥P	Pn	10 06 11.2	+2.5
BVC2	**Cotopaxi Volca**	**1.66**	**316**	∥S	Sn	10 06 34.0	+3.8
BVC2	**Cotopaxi Volca**	**1.66**	**316**	∥P	Pn	10 06 11.6	+2.7
ANTI	**Antisana**	**1.66**	**327**	∥S	Sn	10 06 32.2	+1.9
ANTI	**Antisana**	**1.66**	**327**	∥P	Pn	10 06 11.0	+2.0
VC1	**Cotopaxi 1**	**1.66**	**316**	∥S	Sn	10 06 11.6	+2.6
VC1	**Cotopaxi 1**	**1.66**	**316**	∥S	Sn	10 06 34.0	+3.8
CAMI	**Rancho Maria**	**1.71**	**313**	P	Pn	10 06 12.6	+3.0
PITA	**Cotopaxi Volc**	**1.74**	**317**	S	Sn	10 06 35.3	+3.0
PITA	**Cotopaxi Volc**	**1.74**	**317**	P	Pn	10 06 12.8	+2.7
CHAR	**Charly**	**1.80**	**347**	S	Sn	10 06 38.9	+5.2
CHAR	**Charly**	**1.80**	**347**	P	Pn	10 06 14.3	+3.5
CAYR	**Refugio Cayamb**	**2.00**	**338**	S	Sn	10 06 46.6	+8.0
CAYR	**Refugio Cayamb**	**2.00**	**338**	P	Pn	10 06 18.0	+4.3
GGP	**Refugio Guagua**	**2.14**	**321**	P	Pn	10 06 20.7	+5.2
TERV	**Terraza Guagua**	**2.14**	**321**	P	Pn	10 06 20.7	+5.1
PINO	**Pino**	**2.16**	**321**	S	Sn	10 06 49.5	+7.0
PINO	**Pino**	**2.16**	**321**	P	Pn	10 06 20.0	+4.2
YANA	**Yana**	**2.17**	**323**	S	Sn	10 06 50.1	+7.4
YANA	**Yana**	**2.17**	**323**	P	Pn	10 06 20.4	+4.5
OTAV	**Otavalo**	**2.40**	**330**	P	Pn	10 06 24.2	+5.2

DJA 18 10:50:05, 1.30N×121.86E, h10km, MLv4.0/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.82**	**174**	P	Pg	10 50 20.4	-0.5
MRSI				S	Sg	10 50 31.3	-0.3
LUWI	**Luwuk**	**2.50**	**159**	P	Pn	10 50 45.2	-0.5
LUWI				S	Sn	10 51 18.5	+2.2
MYLDM	**Lahad Datu**	**5.11**	**319**	P	Pn	10 51 21.7	0.0
	0.1nm13nm,1.0s						
KDI	**Kendari**	**5.28**	**172**	P	Pn	10 51 23.5	-0.5
	0.1nm12nm,0.8s						
SPSI	**Sidrap Palu**	**5.63**	**202**	P	Pn	10 51 29.6	+0.8

*ISCJB **18** 10:59:50.4±2.5, 11˚.47S±0˚.06×117˚.77E±0˚.07, h33km±23km, mb3.7/3, Error ellipse: s-maj=13.6km s-min=5.7km az=143.8*
*IDC **18** 10:59:50.2±1.3, 11˚.05S×118˚.28E, h0km, mb3.6/3, mb1 3.8/6, mb1mx3.6/19, mbtmp3.7/6, ML3.8/3, Error ellipse: s-maj=53.3km s-min=20.9km az=62.0*
*NEIC **18** 10:59:53.5±0.9, 11˚.50S×117˚.87E, h35km, mb3.9/1, Error ellipse: s-maj=25.0km s-min=10.9km az=54.0*
*DJA **18** 10:59:57, 11˚.09S×117˚.68E, h43km, MLv4.1/6*
ISC 18 10:59:52.4±2.6, 11˚.45S±0˚.06×117˚.77E±0˚.07, h34km±25km, n29, σ1§04/46, mb3.7/3, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMNI	**Bima**	**3.03**	**17**	P	**Pn**	**11 00 37.9**	**0.0**
BMNI				S	**Pn**	**11 00 37.9**	**0.0**
BMNI				S	**Sn**	**11 01 09.1**	**-4.0**
MTNI	**Mataram**	**3.21**	**330**	P	**Pn**	**11 00 40.7**	**+0.3**
IGBI	**Denpasar**	**3.68**	**315**	P	**Pn**	**11 00 46.0**	**-0.9**
KHKI	**Kahang-Kahang**	**3.74**	**325**	P	**Pn**	**11 00 46.2**	**-1.4**
KHKI				S	**Sn**	**11 01 28.3**	**-2.2**
SRBI	**Singaraja**	**4.19**	**323**	P	**Pn**	**11 00 55.6**	**+1.7**
SRBI				S	**Sn**	**11 01 40.4**	**-1.3**
JAGI	**Jajag, Banyuwa**	**4.64**	**309**	P	**Pn**	**11 00 59.9**	**-0.1**
GMJI	**Gumukmas**	**5.31**	**306**	P	**Pn**	**11 01 10.4**	**+1.1**
	27nm,0.9s						
BLJI	**Banyuglugur**	**5.53**	**311**	P	**Pn**	**11 01 13.4**	**+1.1**
	3µm50nm,0.3s						
BKSI	**Bulukumba**	**6.52**	**21**	P	**Pn**	**11 01 26.6**	**+0.7**
MBWA	**Marble Bar**	**9.84**	**169**	*e*P	**Pn**	**11 02 11.1**	**-0.3**
MBWA				*e*S	**Sn**	**11 03 49.8**	**-11**
MBWA	**Marble Bar**	**9.84**	**169**	*e*Pn	**Pn**	**11 02 11.2**	**-0.2**
	30nm,0.3s						
MBWA				*e*Sn	**Sn**	**11 03 49.9**	**-11**
FITZ	**Fitzroy Crossi**	**10.08**	**132**	Pn	**Pn**	**11 02 14.7**	**0.0**
	1.3nm,0.3s,baz=314,slow=8.9,SNR=40						
FITZ				Sn	**Sn**	**11 03 58.5**	**-8.2**
	1.3nm,0.3s,baz=329,slow=12,SNR=8.1						
FITZ	**Fitzroy Crossi**	**10.08**	**132**	*e*P	**Pn**	**11 02 14.6**	**-0.1**
	8.6nm,0.5s						
FITZ				*e*S	**Sn**	**11 03 58.4**	**-8.2**
FITZ	**Fitzroy Crossi**	**10.08**	**132**	*e*Pn	**Pn**	**11 02 14.7**	**0.0**
FITZ				*e*Sn	**Sn**	**11 03 59.6**	**-7.1**
MEEK	**Meekatharra**	**15.13**	**177**	*e*P	**Pn**	**11 03 22.6**	**-1.0**
	16nm,0.2s						
MEEK				*e*S	Sn	11 05 53.9	-16
MORW	**Morawa**	**17.60**	**185**	*e*P	**Pn**	**11 03 55.6**	**+0.6**
	24nm,1.2s						
MORW				*e*S	Sn	11 06 51.4	-19
WRA	**Warramunga Arr**	**18.03**	**120**	P	**Pn**	**11 03 59.6**	**-0.8**
	0.2nm,0.3s,baz=295,slow=13,SNR=18						
WRA				S	**Sn**	**11 07 06.6**	**-14**
	0.1nm,0.3s,baz=295,slow=23,SNR=4.7						
WRA	**Warramunga Arr**	**18.03**	**120**	P	**Pn**	**11 03 59.6**	**-0.8**
WRA				S	**Sn**	**11 07 06.6**	**-14**
WRAB	**Tennant Creek**	**18.04**	**120**	*e*P	**Pn**	**11 04 00.1**	**-0.3**
	19nm,1.9s						
WB2	**Warramunga Arr**	**18.04**	**120**	*e*P	**Pn**	**11 04 00.0**	**-0.5**
WB2				*e*Sn	**Sn**	**11 07 08.6**	**-12**
ASAR	**Alice Springs**	**19.57**	**131**	P	**Pn**	**11 04 19.0**	**0.0**
	0.3nm,0.3s,baz=302,slow=12,SNR=13						
ASAR				S	**Sn**	**11 07 45.0**	**-13**
	0.1nm,0.3s,baz=299,slow=21,SNR=3.4						
ASAR	**Alice Springs**	**19.57**	**131**	P	**Pn**	**11 04 19.0**	**0.0**
ASAR				S	**Sn**	**11 07 45.0**	**-13**
KLBR	**Kellerberrin**	**20.04**	**180**	*e*P	**P**	**11 04 27.8**	**+5.2**
	26nm,1.6s						
KLBR				*e*S	**S**	**11 07 47.6**	**-18**
NWAO	**Narrogin (SRO)**	**21.38**	**181**	P	**P**	**11 04 44.1**	**+7.1**
	4.3nm,0.6s,mb4.0,baz=6.2,slow=11,SNR=7.4						
NWAO				S	**S**	**11 08 19.6**	**-13**
	2.8nm,0.3s,baz=15,slow=12,SNR=5.9						
NWAO	**Narrogin (SRO)**	**21.38**	**181**	P	**P**	**11 04 44.1**	**+7.1**
NWAO				S	**S**	**11 08 19.6**	**-13**
SONM	**Songino Array**	**59.88**	**351**	P	**P**	**11 09 55.9**	**+1.3**
	0.2nm,0.5s,mb3.4,baz=171,slow=10,SNR=2.5						
SONM	**Songino Array**	**59.88**	**351**	P	**P**	**11 09 55.9**	**+1.3**
MKAR	**Makanchi Array**	**66.10**	**334**	P	**P**	**11 10 37.9**	**+2.0**
	0.3nm,0.5s,mb3.6,baz=150,slow=6.3,SNR=2.8						
MKAR	**Makanchi Array**	**66.10**	**334**	P	**P**	**11 10 37.9**	**+2.0**

*NEIC **18** 11:06:35.1±0.6, 6.78S×108.87E, h35km, mb4.2/2, Error ellipse: s-maj=20.1km s-min=9.5km az=55.0*
*ISCJB **18** 11:06:54.6±0.2, 7.04S±0.06×109.11E±0.03, h236km±2km, mb4.1/20, Error ellipse: s-maj=10.1km s-min=3.7km az=19.2*
*DJA **18** 11:06:56, 7.25S×109.09E, h220km, MLv4.6/31*
*IDC **18** 11:06:57.4±2.2, 6.81S×109.10E, h253km±22km, mb3.7/15, mb1 3.8/16, mb1mx3.7/25, mbtmp3.7/16, Error ellipse: s-maj=18.3km s-min=8.2km az=53.0*
ISC 18 11:06:55.5±0.2, 7.01S±0.06×109.13E±0.03, h229km±2km, n91, σ1§13/104, mb4.1/20, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**0.66**	**119**	P	**Pn**	**11 07 27.3**	**+0.8**
BJII				S	**S**	**11 07 51.8**	**+1.0**
CLJI	**Cilicap**	**0.71**	**189**	P	**Pn**	**11 07 25.9**	**-0.9**
CLJI				S	**S**	**11 07 50.3**	**-1.1**
JCJI	**Jatiwangi**	**1.00**	**301**	P	**Pn**	**11 07 28.3**	**0.0**
JCJI				S	**S**	**11 07 54.4**	**+0.5**
SMRI	**Semarang**	**1.30**	**92**	P	**Pn**	**11 07 31.3**	**+1.0**
YOGI	**Yogyakarta**	**1.41**	**125**	P	**Pn**	**11 07 30.8**	**-0.3**
YOGI				S	**S**	**11 07 58.0**	**-0.9**
CISI	**Cisompet, Garu**	**1.41**	**247**	P	**Pn**	**11 07 30.7**	**-0.4**
LEM	**Lembang**	**1.51**	**277**	P	**Pn**	**11 07 32.2**	**+0.3**
UGM	**Wanagama**	**1.65**	**123**	P	**Pn**	**11 07 33.5**	**+0.4**
CBJI	**Citeko**	**2.34**	**284**	P	**Pn**	**11 07 38.8**	**-0.8**
NGJI	**Ngawi**	**2.34**	**99**	P	**Pn**	**11 07 41.7**	**+2.1**
PCJI	**Pacitan**	**2.35**	**120**	P	**Pn**	**11 07 38.9**	**-0.8**
PCJI				S	**S**	**11 08 12.2**	**-2.2**
DBJI	**Dramaga**	**2.41**	**281**	P	**Pn**	**11 07 40.7**	**+0.4**
SKJI	**Sukabumi**	**2.55**	**270**	P	**Pn**	**11 07 41.8**	**-0.1**
SKJI				S	**S**	**11 08 18.2**	**-0.1**
SJI	**Sawahan**	**2.71**	**106**	P	**Pn**	**11 07 44.0**	**+0.4**
PWJI	**Pagerwojo**	**2.84**	**111**	P	**Pn**	**11 07 45.2**	**+0.3**
PWJI				S	**S**	**11 08 23.0**	**-0.8**
SBJI	**Serang**	**3.11**	**286**	P	**Pn**	**11 07 48.0**	**0.0**
CGJI	**Cibinong**	**3.44**	**276**	P	**Pn**	**11 07 51.4**	**-0.3**
KRKI	**Karangkates**	**3.49**	**109**	P	**Pn**	**11 07 52.3**	**0.0**
RBSI	**Rajabasa**	**3.56**	**289**	P	**Pn**	**11 07 53.6**	**+0.4**
BLSI	**Bandar Lampung**	**4.19**	**293**	P	**Pn**	**11 08 01.6**	**+0.8**
BLJI	**Banyuglugur**	**4.49**	**100**	P	**Pn**	**11 08 05.6**	**+1.2**
XMIS	**Christmas Isla**	**4.87**	**225**	P	**Pn**	**11 08 06.6**	**-2.4**
KLSI		**4.95**	**298**	P	**Pn**	**11 08 10.5**	**+0.4**
	0.7nm223nm,0.9s						
JAGI	**Jajag, Banyuwa**	**5.18**	**107**	P	**Pn**	**11 08 12.8**	**-0.2**
	1.2nm5µm72nm,0.6s						
BYJI	**Banyuwangi**	**5.32**	**103**	S	**S**	**11 09 16.6**	**-0.9**
LWLI	**Liwa**	**5.42**	**291**	P	**Pn**	**11 08 24.5**	**+8.6**
MDSI	**Maura Dua**	**5.53**	**297**	P	**Pn**	**11 08 18.2**	**+0.9**
	0.2nm71nm,0.9s						
NBBI	**Negara**	**5.61**	**104**	S	**S**	**11 09 22.8**	**-1.4**
PPBI	**Pangkal Pinang**	**5.67**	**328**	P	**Pn**	**11 08 19.8**	**+0.7**
	0.2nm30nm,0.9s						
SRBI	**Singaraja**	**6.12**	**100**	P	**Pn**	**11 08 25.1**	**+0.2**
	0.6nm2µm93nm,0.5s						
SRBI				S	**S**	**11 09 36.6**	**+0.5**
	0.6nm2µm93nm,0.5s						
IGBI	**Denpasar**	**6.22**	**107**	P	**Pn**	**11 08 24.6**	**-1.5**
	114nm,1.0s						
KHKI	**Kahang-Kahang**	**6.56**	**102**	P	**Pn**	**11 08 29.3**	**-1.1**
	0.7nm2µm55nm,0.7s						
MNAI	**Manna**	**6.68**	**293**	P	**Pn**	**11 08 33.3**	**+1.3**
	2.7nm403nm,0.8s						
BBKI	**Banjar Baru**	**6.69**	**58**	P	**Pn**	**11 08 34.4**	**+2.3**
	0.3nm4µm46nm,0.8s						
MTNI	**Mataram**	**7.16**	**103**	P	**Pn**	**11 08 38.9**	**+0.8**
	2.0nm82nm,0.5s						
MTNI				S	**S**	**11 09 54.3**	**-5.8**
	2.0nm82nm,0.5s						
KSI	**Kapahiang**	**7.31**	**297**	P	**Pn**	**11 08 41.0**	**+0.9**
	0.8nm97nm,0.7s						
RGRI	**Rengat**	**9.47**	**314**	P	**Pn**	**11 09 00.4**	**-7.3**
BMNI	**Bima**	**9.60**	**100**	P	**Pn**	**11 09 07.4**	**-1.9**
	722nm19nm,0.8s						
PCI	**Palu**	**12.28**	**61**	P	**Pn**	**11 09 37.6**	**-5.6**
MNSI	**Mandailing Nat**	**12.29**	**309**	P	**Pn**	**11 09 40.7**	**-2.6**
MMRI	**Maumere**	**13.09**	**98**	P	**Pn**	**11 09 55.9**	**+2.6**
	1µm98nm,0.7s						
KDI	**Kendari**	**13.77**	**78**	P	**Pn**	**11 10 04.5**	**+2.9**
	17nm,0.7s						
MBWA	**Marble Bar**	**17.41**	**145**	*e*Pn	**Pn**	**11 10 41.3**	**-3.8**
NLAI	**Namlea**	**18.28**	**79**	P	**P**	**11 10 56.0**	**+3.3**
	561nm43nm,0.8s						
LBMI	**Labuha**	**19.39**	**72**	P	**P**	**11 11 08.4**	**+3.8**
	30nm,1.1s						
FITZ	**Fitzroy Crossi**	**19.50**	**126**	P	**P**	**11 11 06.9**	**+1.1**
	1.1nm,0.3s,baz=319,slow=5.3,SNR=35						
FITZ				S	**S**	**11 14 40.3**	**+6.7**
	0.3nm,0.3s,baz=307,slow=10,SNR=4.4						
FITZ	**Fitzroy Crossi**	**19.50**	**126**	*e*P	**P**	**11 11 06.7**	**+1.0**
	21nm,0.6s						
FITZ				*e*S	**S**	**11 14 40.8**	**+7.2**
FITZ	**Fitzroy Crossi**	**19.50**	**126**	P	**P**	**11 11 06.9**	**+1.1**
FITZ				S	**S**	**11 14 40.3**	**+6.7**
FITZ	**Fitzroy Crossi**	**19.50**	**126**	P	**P**	**11 11 07.0**	**+1.3**
	19nm,0.9s						
CMAR	**Chiang Mai Arr**	**27.23**	**338**	P	**P**	**11 12 15.3**	**-3.3**
	1.7nm,0.7s,mb3.8,baz=174,slow=8.6,SNR=12						
CMAR	**Chiang Mai Arr**	**27.23**	**338**	P	**P**	**11 12 15.3**	**-3.3**
WRA	**Warramunga Arr**	**27.62**	**120**	P	**P**	**11 12 22.4**	**+0.3**
	2.5nm,0.3s,mb4.3,baz=291,slow=11,SNR=115						
WRA				S	**S**	**11 16 45.9**	**-1.0**
	1.2nm,0.9s,baz=295,slow=17,SNR=5.0						
WRA	**Warramunga Arr**	**27.62**	**120**	P	**P**	**11 12 22.4**	**+0.3**
WRA				S	**S**	**11 16 45.9**	**-1.0**
WRAB	**Tennant Creek**	**27.63**	**120**	*e*P	**P**	**11 12 22.7**	**+0.5**
	4.0nm,0.5s,mb4.3						
WB2	**Warramunga Arr**	**27.64**	**120**	*e*P	**P**	**11 12 22.6**	**+0.4**
ASAR	**Alice Springs**	**28.98**	**128**	P	**P**	**11 12 35.0**	**+0.9**
	7.9nm,0.5s,mb4.6,baz=305,slow=8.8,SNR=80						
ASAR				S	**S**	**11 17 07.5**	**-0.6**
	0.3nm,0.6s,baz=295,slow=15,SNR=4.0						
ASAR	**Alice Springs**	**28.98**	**128**	P	**P**	**11 12 35.0**	**+0.9**
ASAR				S	**S**	**11 17 07.5**	**-0.6**
COEN	**Coen**	**34.15**	**104**	*e*P	**P**	**11 13 19.1**	**-0.2**
	64nm,0.7s						
COEN	**Coen**	**34.15**	**104**	P	**P**	**11 13 19.7**	**+0.4**
	17nm,0.8s,mb4.6						
PMG	**Port Moresby**	**37.70**	**96**	P	**P**	**11 13 49.0**	**-0.5**
	7.8nm,0.5s,mb4.5,baz=292,slow=8.2,SNR=3.5						
PMG	**Port Moresby**	**37.70**	**96**	P	**P**	**11 13 49.0**	**-0.5**
CTA	**Charters Tower**	**38.25**	**114**	P	**P**	**11 13 54.4**	**+0.4**
	3.3nm,0.6s,mb4.0,baz=287,slow=12,SNR=5.1						
CTA	**Charters Tower**	**38.25**	**114**	P	**P**	**11 13 54.4**	**+0.4**
QLP	**Quilpie**	**38.63

CTA	**Charters Tower**	**21.96 263**	P	**P**	**11 17 13.5**	**+0.7**		
	comp=Z,5.0nm,0.9s,mb4.0,baz=73,slow=13,SNR=4.4							
CTA			LR	LR	11 24 29.5			
	comp=Z,99nm,21.7s,MS3.2,baz=257,slow=33							
CTA	**Charters Tower**	**21.96 263**	P	**P**	**11 17 13.5**	**+0.7**		
CTA			LR	LR	11 24 29.5			
CTA	**Charters Tower**	**21.96 263**	P	**P**	**11 17 13.5**	**+0.6**		
CTAO	**Charters Tower**	**21.96 263**	*e*P	**P**	**11 17 13.7**	**+0.8**		
	comp=Z,14nm,1.0s,mb4.3							
CTAO	**Charters Tower**	**21.96 263**	*e*P	**P**	**11 17 13.7**	**+0.8**		
CTAO			pmax	pmax				
	comp=Z,14nm,1.0s,mb4.3							
PMG	**Port Moresby**	**23.69 291**	P	**P**	**11 17 30.6**	**-0.2**		
	comp=Z,55nm,1.0s,mb5.0,baz=113,slow=5.9,SNR=13							
PMG	**Port Moresby**	**23.69 291**	*e*P	**P**	**11 17 31.2**	**+0.4**		
	comp=Z,92nm,1.1s,mb5.1							
PMG	**Port Moresby**	**23.69 291**	*e*P	**P**	**11 17 31.2**	**+0.5**		
PMG			pmax	pmax				
	comp=Z,92nm,1.1s							
MTSU	**Mount Surprise**	**23.92 268**	*e*P	**P**	**11 17 33.6**	**+0.8**		
	comp=Z,50nm,0.8s,mb5.0							
YNG	**Young**	**24.17 227**	*e*P	**P**	**11 17 36.2**	**+1.3**		
	comp=Z,7.5nm,0.9s,mb4.1							
YNG			*e*S	**S**	**11 22 07.7**	**+17**		
QLP	**Quilpie**	**24.47 248**	*e*P	**P**	**11 17 38.3**	**+0.5**		
RPZ	**Rata Peaks**	**24.63 177**	LR	LR	11 26 15.0			
	comp=Z,658nm,19.6s,MS4.1,baz=13,slow=34							
CMSA	**Cobar Meteorol**	**24.83 235**	*e*P	**P**	**11 17 40.7**	**-0.3**		
	comp=Z,41nm,0.9s,mb5.0							
CMSA			*e*S	**S**	**11 22 15.9**	**+15**		
COEN	**Coen**	**25.77 277**	*e*P	**P**	**11 17 49.9**	**+0.3**		
	comp=Z,63nm,1.0s,mb5.1							
COEN	**Coen**	**25.77 277**	*e*P	**P**	**11 17 50.0**	**+0.3**		
	comp=Z,141nm,1.1s,mb5.4							
STKA	**Stephens Creek**	**28.18 238**	P	**P**	**11 18 11.1**	**-0.1**		
	comp=Z,4.4nm,0.7s,mb4.2,baz=41,slow=6.8,SNR=9.9							
STKA			PcP	PcP	11 21 25.0	+0.5		
	comp=Z,2.5nm,0.8s,baz=114,slow=3.0,SNR=3.4							
STKA			LR	LR	11 29 08.7			
	comp=Z,282nm,18.1s,MS3.9,baz=305,slow=36							
STKA	**Stephens Creek**	**28.18 238**	*e*P	**P**	**11 18 11.8**	**+0.5**		
	comp=Z,4.2nm,0.7s,mb4.2							
STKA	**Stephens Creek**	**28.18 238**	*e*P	**P**	**11 18 11.9**	**+0.7**		
	comp=Z,23nm,2.6s,mb4.3							
STKA	**Stephens Creek**	**28.18 238**	*e*P	**P**	**11 18 11.9**	**+0.6**		
STKA			pmax	pmax				
	comp=Z,23nm,2.6s							
WRAB	**Tennant Creek**	**33.15 263**	*e*P	**P**	**11 18 54.1**	**-1.1**		
	comp=Z,7.5nm,1.2s,mb4.5							
WRAB	**Tennant Creek**	**33.15 263**	*e*P	**P**	**11 18 54.1**	**-1.1**		
WRAB			pmax	pmax				
	comp=Z,7.0nm,1.2s,mb4.5							
WRA	**Warramunga Arr**	**33.16 263**	P	**P**	**11 18 53.5**	**-1.8**		
	comp=Z,2.3nm,0.9s,mb4.1,baz=95,slow=7.3,SNR=5.8							
WRA			PcP	PcP	11 21 36.8	-1.1		
	comp=Z,1.5nm,0.8s,baz=89,slow=2.6,SNR=6.2							
WRA	**Warramunga Arr**	**33.16 263**	P	**P**	**11 18 53.5**	**-1.8**		
WRA			PcP	PcP	11 21 36.8	-1.1		
WRA	**Warramunga Arr**	**33.16 263**	P	**P**	**11 18 53.5**	**-1.8**		
WRA					11 21 36.8			
ASAR	**Alice Springs**	**33.45 256**	P	**P**	**11 18 57.1**	**-0.7**		
	comp=Z,9.3nm,0.7s,mb4.8,baz=85,slow=8.9,SNR=66							
ASAR			PcP	PcP	11 21 37.8	-0.8		
	comp=Z,1.1nm,0.8s,baz=98,slow=3.6,SNR=5.1							
ASAR	**Alice Springs**	**33.45 256**	P	**P**	**11 18 57.1**	**-0.7**		
ASAR			PcP	PcP	11 21 37.8	-0.8		
ASAR	**Alice Springs**	**33.45 256**	P	**P**	**11 18 57.1**	**-0.7**		
ASAR					11 21 37.8			
FORT	**Forrest**	**39.19 244**	*e*P	**P**	**11 19 46.7**	**0.0**		
	comp=Z,16nm,0.6s,mb4.9							
GUMO	**Guam**	**40.53 321**	LR	LR	11 34 54.0			
	comp=Z,66nm,18.1s,MS3.5,baz=114,slow=34							
FITZ	**Fitzroy Crossi**	**41.54 264**	P	**P**	**11 20 06.4**	**0.0**		
	comp=Z,25nm,0.8s,mb4.9,baz=115,slow=7.0,SNR=48							
FITZ	**Fitzroy Crossi**	**41.54 264**	*e*P	**P**	**11 20 06.2**	**-0.2**		
	comp=Z,42nm,0.7s,mb5.2							
FITZ	**Fitzroy Crossi**	**41.54 264**	*e*P	**P**	**11 20 06.7**	**+0.3**		
	comp=Z,36nm,1.0s,mb5.0							
MBWA	**Marble Bar**	**46.67 259**	*e*P	**P**	**11 20 47.3**	**-0.1**		
MBWA	**Marble Bar**	**46.67 259**	*e*P	**P**	**11 20 47.5**	**+0.1**		
	comp=Z,21nm,1.0s,mb5.0							
MEEK	**Meekatharra**	**47.28 251**	*e*P	**P**	**11 20 51.9**	**-0.3**		
	comp=Z,106nm,0.7s,mb5.9							
KLBR	**Kellerberrin**	**48.05 244**	*e*P	**P**	**11 20 56.5**	**-1.6**		
	comp=Z,14nm,0.7s,mb5.1							
NWAO	**Narrogin (SRO)**	**48.55 243**	P	**P**	**11 21 01.4**	**-0.5**		
	comp=Z,16nm,0.8s,mb5.1,baz=110,slow=4.5,SNR=8.3							
NWAO	**Narrogin (SRO)**	**48.55 243**	*e*P	**P**	**11 21 01.8**	**-0.1**		
	comp=Z,16nm,0.9s,mb5.1							
NWAO	**Narrogin (SRO)**	**48.55 243**	*e*P	**P**	**11 21 01.8**	**-0.1**		
NWAO			pmax	pmax				
	comp=Z,16nm,0.9s							
VNDA	**Vanda**	**58.63 182**	P	**P**	**11 22 15.1**	**+0.1**		
	comp=Z,1.6nm,0.8s,mb4.1,baz=358,slow=6.7,SNR=6.9							
VNDA			LR	LR	11 44 21.5			
	comp=Z,105nm,19.3s,MS4.0,baz=3.6,slow=33							
VNDA	**Vanda**	**58.63 182**	P	**P**	**11 22 15.1**	**+0.1**		
VNDA			LR	LR	11 44 21.5			
VNDA	**Vanda**	**58.63 182**	P	**P**	**11 22 15.1**	**0.0**		
SBA	**Scott Base**	**58.86 181**	*e*P	**P**	**11 22 18.0**	**+1.3**		
	comp=Z,19nm,1.1s,mb5.0							
SBA	**Scott Base**	**58.86 181**	*e*P	**P**	**11 22 18.0**	**+1.4**		
SBA			pmax	pmax				
	comp=Z,19nm,1.1s,mb5.0							
MJAR	**Matsushiro Arr**	**62.72 332**	P	**P**	**11 22 42.2**	**-1.2**		
	comp=Z,8.7nm,0.9s,mb4.9,baz=169,slow=7.8,SNR=12							
MJAR			LR	LR	11 45 54.9			
	comp=Z,42nm,18.5s,MS3.6,baz=90,slow=32							
MJAR	**Matsushiro Arr**	**62.72 332**	P	**P**	**11 22 42.2**	**-1.2**		
MJAR			LR	LR	11 45 55.0			
MJAR	**Matsushiro Arr**	**62.72 332**	P	**P**	**11 22 42.2**	**-1.2**		
MAT	**Matsushiro**	**62.72 332**	P	**P**	**11 22 41.4**	**-2.0**		
ASAJ	**Asahikawa**	**67.52 339**	P	**P**	**11 23 14.1**	**-0.3**		
	comp=Z,20nm,0.9s,mb5.3,baz=195,slow=14,SNR=8.0							
ASAJ	**Asahikawa**	**67.52 339**	*e*P	**P**	**11 23 15.0**	**+0.6**		
	comp=Z,19nm,1.0s,mb5.1							
KSRS	**Korea Array**	**68.51 325**	LR	LR	11 52 28.9			
	comp=Z,24nm,19.1s,MS3.5,baz=130,slow=35							
YSS	**Yuzh-Sakhalins**	**69.99 341**	*i* P	**P**	**11 23 30.7**	**+1.0**		
YSS			pmax	pmax				
	comp=Z,123nm,2.2s,mb5.5							
VLA	**Vladivostok**	**70.88 332**	⇓ *e*P	**P**	**11 23 33.6**	**-1.7**		
VLA			*e*		11 23 53.7			
VLA			pmax	pmax				
	comp=Z,45nm,0.7s,mb5.5							
QSPA	**South Pole Qui**	**71.00 180**	P	**P**	**11 23 35.3**	**-0.3**		
	comp=Z,2.7nm,0.8s,mb4.2,baz=310,slow=2.1,SNR=7.2							
QSPA	**South Pole Qui**	**71.00 180**	*e*P	**P**	**11 23 35.9**	**+0.3**		
	comp=Z,5.3nm,1.0s,mb4.4							
PETK	**Petropavlovsk-**	**72.58 353**	P	**P**	**11 23 45.3**	**+0.1**		
	comp=Z,1.7nm,0.7s,mb4.1,baz=167,slow=8.1,SNR=2.6							
PETK			LR	LR	11 50 16.8			
	comp=Z,71nm,19.3s,MS4.0,baz=337,slow=31							
PETK	**Petropavlovsk-**	**72.58 353**	P	**P**	**11 23 45.3**	**+0.1**		
PETK			LR	LR	11 50 16.8			
PETK	**Petropavlovsk-**	**72.58 353**	P	**P**	**11 23 45.3**	**+0.1**		
MDJ	**Mudanjiang**	**73.09 331**	P	**P**	**11 23 53.4**	**+4.9**		
MDJ			pmax	pmax				
	comp=Z,21nm,2.3s,mb4.7							
MDJ			pmax	pmax				
	comp=Z,290nm,4.6s							
CN2	**Changchun**	**74.44 328**	*e*P	**P**	**11 23 56.1**	**-0.3**		
CN2			*e*pP	pP	11 24 06.5	-1.1		
CN2			*e*S	S	11 33 28.8	+0.2		
CN2			pmax	pmax				
	comp=Z,10.0nm,0.7s,mb4.8							
CN2			pmax	pmax				
	comp=Z,200nm,4.0s							
GYA	**Guiyang**	**75.94 305**	P	**P**	**11 24 08.0**	**+2.5**		
GYA			pP	pP	11 24 18.9	+2.2		
GYA			sP	sP	11 24 25.8	+4.9		
GYA			PP	PP	11 27 01.0	+4.6		
GYA			S	S	11 33 45.8	-0.2		
GYA			sS	sS	11 34 06.0	+1.4		
GYA			SS	SS	11 38 42.5	+3.0		
GYA			pmax	pmax				
	comp=Z,20nm,1.0s,mb5.0							
GYA			pmax	pmax				
	comp=Z,130nm,5.8s							
GYA			LR	LR				
	comp=N,460nm,19.3s,MS4.9							
GYA			LR	LR				
	comp=E,430nm,18.9s,MS4.9							
GYA			LR	LR				
	comp=Z,480nm,18.8s,MS4.8							
BJI	**Beijing**	**76.97 321**	P	**P**	**11 24 15.3**	**+4.3**		
BJI			pmax	pmax				
	comp=Z,19nm,0.8s,mb5.1							
KMI	**Kunming**	**78.41 302**	P	**P**	**11 24 19.8**	**+0.4**		
KMI			pP	pP	11 24 32.1	+1.5		
KMI			sP	sP	11 24 36.3	+1.5		
KMI			pmax	pmax				
	comp=Z,14nm,0.7s,mb5.0							
CMAR	**Chiang Mai Arr**	**78.68 294**	P	**P**	**11 24 21.7**	**+0.7**		
	comp=Z,2.9nm,0.8s,mb4.2,baz=129,slow=4.1,SNR=19							
CMAR	**Chiang Mai Arr**	**78.68 294**	P	**P**	**11 24 21.7**	**+0.7**		
CMAR	**Chiang Mai Arr**	**78.68 294**	P	**P**	**11 24 21.7**	**+0.7**		
MAW	**Mawson**	**78.72 202**	P	**P**	**11 24 20.5**	**+0.1**		
	comp=Z,2.8nm,0.6s,mb4.4,baz=108,slow=9.3,SNR=4.5							
MAW			LR	LR	11 54 23.0			
	comp=Z,155nm,18.7s,MS4.4,baz=292,slow=32							
MAW	**Mawson**	**78.72 202**	P	**P**	**11 24 20.5**	**+0.1**		
MAW			LR	LR	11 54 23.0			
MAW	**Mawson**	**78.72 202**	P	**P**	**11 24 20.5**	**+0.2**		
CHTO	**Chiang Mai**	**78.83 294**	*e*P	**P**	**11 24 22.4**	**+0.7**		
	comp=Z,2.1nm,0.5s,mb4.3							
CHTO	**Chiang Mai**	**78.83 294**	*e*P	**P**	**11 24 22.4**	**+0.6**		
CHTO			pmax	pmax				
	comp=Z,2.0nm,0.5s,mb4.3							
HHC	**Hu-ho-hao-te**	**80.26 319**	*e*P	**P**	**11 24 30.0**	**+0.9**		
HHC			pP	pP	11 24 40.0	-0.4		
HHC			sP	sP	11 24 44.8	+0.3		
HHC			PP	PP	11 27 34.8	+2.5		
HHC			S	S	11 34 32.3	+0.4		
HHC			SKS		11 34 40.6			
HHC			SS	SS	11 39 47.4	+3.4		
HHC			pmax	pmax				
	comp=Z,14nm,0.7s,mb5.0							
HHC			pmax	pmax				
	comp=Z,180nm,5.4s							
HHC			LR	LR				
	comp=N,310nm,17.8s,MS5.0							
HHC			LR	LR				
	comp=E,550nm,19.0s,MS5.0							
HHC			LR	LR				
	comp=Z,210nm,19.0s,MS4.5							
CD2	**Chengdu**	**80.34 307**	P	**P**	**11 24 32.3**	**+2.5**		
CD2			pP	pP	11 24 42.6	+1.5		
CD2			sP	sP	11 24 46.5	+1.3		
CD2			PP	PP	11 27 37.9	+4.7		
CD2			S	S	11 34 34.9	+1.7		
CD2			SKS		11 34 43.0			
CD2			sS	sS	11 34 53.3	+1.4		
CD2			SS	SS	11 39 51.4	+5.7		
CD2			pmax	pmax				
	comp=Z,10.0nm,0.5s,mb5.0							
CD2			pmax	pmax				
	comp=Z,200nm,3.9s							
CD2			LR	LR				
	comp=N,380nm,7.2s							
CD2			LR	LR				
	comp=Z,340nm,4.9s							
LZH	**Lanzhou**	**82.81 312**	*e*P	**P**	**11 24 49.5**	**+6.8**		
LZH			pP	pP	11 25 00.4	+6.4		
LZH			pmax	pmax				
	comp=Z,28nm,1.5s,mb5.1							
LZH			pmax	pmax				
	comp=Z,110nm,4.7s							
CLNS	**Chul'man**	**84.33 337**	*e*P	**P**	**11 24 49.8**	**-0.1**		
CLNS			pmax	pmax				
	comp=Z,15nm,1.1s,mb5.0							
CLNS			pmax	pmax				
	comp=N,12nm,1.2s							
SYO	**Syowa Base**	**85.19 196**	⇑ *e*P	**P**	**11 24 53.8**	**-0.5**		
WDC	**Whiskeytown Da**	**86.53 45**	*e*P	**P**	**11 25 08.2**	**+6.9**		
	comp=N,20nm,1.9s,mb5.0							
WDC	**Whiskeytown Da**	**86.53 45**	*e*P	**P**	**11 25 08.2**	**+6.9**		
WDC			pmax	pmax				
	comp=Z,20nm,1.9s,mb5.0							
YAK	**Yakutsk**	**86.78 342**	*e*P	**P**	**11 25 01.5**	**-0.5**		
	comp=Z,11nm,0.4s,mb5.4							
YAK	**Yakutsk**	**86.78 342**	*e*P	**P**	**11 25 00.4**	**-1.6**		
YAK			pmax	pmax				
	comp=Z,49nm,1.1s,mb5.7							
YAK			pmax	pmax				
	comp=N,13nm,1.0s							
YAK			pmax	pmax				
	comp=E,15nm,1.5s							
BILL	**Bilibino**	**86.87 359**	*e*P	**P**	**11 25 01.7**	**-0.6**		
	comp=E,14nm,1.1s,mb5.1							
BILL	**Bilibino**	**86.87 359**	⇑ *i*P	**P**	**11 25 02.6**	**+0.3**		
BILL			pmax	pmax				
	comp=Z,6.0nm,1.2s,mb4.7							
ULN	**Ulaanbaatar**	**86.88 323**	*e*P	**P**	**11 25 01.9**	**-0.9**		
	comp=Z,16nm,1.1s,mb5.2							
ULN	**Ulaanbaatar**	**86.88 323**	*e*P	**P**	**11 25 02.0**	**-0.9**		
ULN			pmax	pmax				
	comp=Z,16nm,1.1s,mb5.2							
ISA	**Isabella**	**87.14 51**	*e*P	**P**	**11 25 10.1**	**+5.7**		
ISA	**Isabella**	**87.14 51**	*e*P	**P**	**11 25 10.1**	**+5.7**		
GTA	**Gaotai**	**87.20 313**	*e*P	**P**	**11 25 05.0**	**+0.4**		
GTA			pmax	pmax				
	comp=Z,9.0nm,1.1s,mb4.9							
SONM	**Songino Array**	**87.24 323**	P	**P**	**11 25 04.2**	**-0.4**		
	comp=Z,6.3nm,1.1s,mb4.8,baz=153,slow=5.9,SNR=24							
SONM	**Songino Array**	**87.24 323**	P	**P**	**11 25 04.2**	**-0.4**		
SONM	**Songino Array**	**87.24 323**	P	**P**	**11 25 04.2**	**-0.4**		
NVAR	**Mina Array Bea**	**88.46 48**	P	**P**	**11 25 12.3**	**+1.6**		
	comp=Z,0.2nm,0.3s,mb3.8,baz=220,slow=5.5,SNR=3.0							
NVAR			LR	LR	11 55 42.1			
	comp=Z,190nm,19.0s,MS4.5,baz=112,slow=29							
NVAR	**Mina Array Bea**	**88.46 48**	P	**P**	**11 25 12.3**	**+1.6**		
NVAR			LR	LR	11 55 42.1			
SNAA	**Sanae**	**89.36 182**	*e*P	**P**	**11 25 11.4**	**-3.0**		
	comp=Z,12nm,1.4s,mb5.0							
SNAA	**Sanae**	**89.36 182**	*e*P	**P**	**11 25 11.4**	**-3.0**		
SNAA			pmax	pmax				
	comp=Z,12nm,1.4s							
VNA3	**Neumayer Olymp**	**89.94 180**	*e*	**P**	**11 25 13.3**	**-3.8**		
ILAR	**Eielson Array**	**89.97 17**	P	**P**	**11 25 15.4**	**-1.7**		
	comp=Z,0.7nm,0.9s,mb4.0,baz=235,slow=4.0,SNR=4.6							
ILAR			LR	LR	12 03 30.9			
	comp=Z,147nm,18.1s,MS4.5,baz=213,slow=34							
ILAR	**Eielson Array**	**89.97 17**	P	**P**	**11 25 15.4**	**-1.7**		
ILAR			LR	LR	12 03 30.9			
ILAR	**Eielson Array**	**89.97 17**	P	**P**	**11 25 15.4**	**-1.7**		
VNA2	**Neumayer--Watz**	**90.24 181**	*e*	**P**	**11 25 15.1**	**-3.4**		
	baz=170,slow=3.3							
INK	**Inuvik**	**96.28 18**	LR	LR	12 03 09.9			
	comp=Z,163nm,19.2s,MS4.5,baz=83,slow=32							
PDAR	**Pinedale Array**	**96.28 47**	LR	LR	12 07 08.2			
	comp=Z,153nm,18.7s,MS4.5,baz=162,slow=34							
TXAR	**Lajitas Array**	**96.43 61**	LR	LR	12 04 17.0			
	comp=Z,131nm,18.0s,MS4.5,baz=5.0,slow=32							
WMQ	**Urumqi**	**97.28 314**	P	**P**	**11 25 52.4**	**+1.2**		
JCT	**Junction City**	**99.97 61**	*e*Pdif	Pdif	11 26 03.5	+0.3		
	comp=Z,3.6nm,0.6s							
JCT	**Junction City**	**99.97 61**	*e*P	Pdif	11 26 03.5	+0.3		
JCT			pmax	pmax				
	comp=Z,4.0nm,0.6s,mb5.0							
APA	**Apatity**	**124.14 341**	⇑ *i*PKIKP	PKPdf	11 31 21.8	+5.7		
APA			MLR	MLR				
	comp=Z,1μm,25.0s							
CONA	**Conrad Observa**	**144.12 329**	⇑ *i*PKPdf	PKPdf	11 31 51.9	-2.0		
	comp=Z,12nm,1.1s							
KHC	**Kasperske Hory**	**144.30 333**	*e*PKHKP	PKPpre	11 31 49.0			
KHC			*e*		11 31 53.0			
KHC	**Kasperske Hory**	**144.30 333**	*e*PKP	PKPpre	11 31 49.0			
KHC			*ex*	x	11 31 53.0			
KHC			*ex*	x	11 31 57.0			
GERES	**GERESS Array B**	**144.46 332**	PKP	PKPdf	11 31 52.2	-2.3		
	comp=Z,2.8nm,0.8s,baz=29,slow=3.0,SNR=15							
GERES	**GERESS Array B**	**144.46 332**	PKP	PKPdf	11 31 52.2	-2.2		
GERES	**GERESS Array B**	**144.46 332**	PKIKP	PKPdf	11 31 52.2	-2.2		
ARSA	**Arzberg**	**144.76 329**	⇑ *i*PKPdf	PKPdf	11 31 54.0	-1.0		
	comp=Z,24nm,1.4s							
GRF	**Grafenberg Arr**	**144.84 335**	*e*PKPbc	PKPdf	11 31 53.9	-1.2		
GRF	**Grafenberg Arr**	**144.84 335**	*e*PKIKP	PKPdf	11 31 53.9	-1.2		
MOA	**Molln**	**144.93 331**	⇑ *i*PKPdf	PKPdf	11 31 54.5	-0.8		
	comp=Z,20nm,0.8s							
PERS	**Pernice**	**145.39 328**	*i* PKPdf	PKPdf	11 31 55.2	-0.9		
PERS			*i* PKPbc	PKPbc	11 32 00.7	+4.7		
SOKA	**Soboth**	**145.40 329**	⇓ *i*PKPdf	PKPdf	11 31 55.7	-0.5		
	comp=Z,31nm,1.3s							
LJU	**Ljubljana**	**146.09 328**	*e*PKPdf	PKPdf	11 31 59.0	+1.7		
LJU			*e*PKPbc	PKPbc	11 32 04.0	+5.8		
BOJS	**Bojanci**	**146.10 327**	*i* PKPdf	PKPdf	11 31 59.3	+2.0		
BOJS			*i* PKPbc	PKPbc	11 32 03.5	+5.3		
VISS	**Visnje**	**146.10 328**	*i* PKPdf	PKPdf	11 31 58.0	+0.6		
VISS			*i* PKPbc	PKPbc	11 32 03.5	+5.2		
JAVS	**Javornik**	**146.43 328**	*i* PKPdf	PKPdf	11 31 59.5	+1.6		
JAVS			*i* PKPbc	PKPbc	11 32 05.1	+5.9		
GIVF	**Givet**	**146.70 342**	*e*PKP1	PKPbc	11 31 58.9	-1.0		
BAIF	**Baives**	**146.91 343**	*e*PKP1	PKPbc	11 31 59.6	-0.9		
BFO	**Black Forest**	**147.06 337**	*e*PKPdf	PKPdf	11 31 57.7	-1.2		
BFO			*e*PKPbc	PKPbc	11 32 00.4	-0.6		
BFO			*e*PKPab	PKPab	11 32 02.5	0.0		
BFO	**Black Forest**	**147.06 337**	*e*PKIKP	PKPdf	11 31 57.7	-1.2		
BFO			*e*		11 32 00.4			
FETA	**Feichten**	**147.14 333**	⇑ *i*PKPab	PKPbc	11 32 01.0	-0.2		
	comp=Z,18nm,1.2s							
CDF	**Champ du Feu**	**147.37 338**	*e*PKP1	PKPbc	11 32 00.8	-1.0		
	comp=Z,39nm,1.1s							
DAVOX	**Davos/Dischmat**	**147.69 333**	PKPbc	PKPbc	11 32 02.4	-0.4		
	comp=Z,4.2nm,0.6s,baz=299,slow=0.8,SNR=7.1							
DAVOX	**Davos/Dischmat**	**147.69 333**	PKPbc	PKPbc	11 32 02.4	-0.4		
DAVOX	**Davos/Dischmat**	**147.69 333**	PKP2	PKPbc	11 32 02.4	-0.4		
HINF	**Hinteralfeld**	**148.03 338**	*e*PKP1	PKPbc	11 32 02.3	-1.3		
HAU	**Haudompre**	**148.04 338**	*e*PKP1	PKPbc	11 32 02.5	-1.2		
MEZF	**Maizieres J'vi**	**148.04 340**	*e*PKP1	PKPbc	11 32 03.0	-0.7		
TUE	**Stuetta**	**148.16 334**	*e*PKPdf	PKPdf	11 32 01.4	+0.6		
TUE			*e*PKPbc	PKPbc	11 32 03.7	-0.4		
TUE			*e*PKPab	PKPab	11 32 06.8	-0.2		
SFTF	**Sexfontaines**	**148.31 340**	*e*PKP1	PKPbc	11 32 03.5	-0.9		
CABF	**La Chapelle**	**149.33 337**	*e*PKP1	PKPbc	11 32 06.3	-0.7		
LOR	**Lormes**	**149.51 341**	*e*PKP1	PKPbc	11 32 06.3	-1.1		
	comp=Z,26nm,1.0s							
SSF	**Saint Saulge**	**149.81 341**	*e*PKP1	PKPbc	11 32 07.1	-1.1		
	comp=Z,23nm,1.0s							
LPL	**La Plagne**	**150.00 335**	*e*PKP1	PKPbc	11 32 08.1	-0.6		
	comp=Z,23nm,1.1s							
LPG	**La Plagne**	**150.01 335**	*e*PKP1	PKPbc	11 32 08.2	-0.5		
	comp=Z,47nm,1.2s							
MBDF	**Montbardon**	**150.64 334**	*e*PKP1	PKPbc	11 32 09.7	-0.6		
ORIF	**Oris-en-Rattie**	**150.83 336**	*e*PKP1	PKPbc	11 32 09.6	-1.1		
TCF	**Toulx Ste Croi**	**150.89 342**	*e*PKP1	PKPbc	11 32 09.6	-1.2		
	comp=Z,15nm,1.0s							
TORD	**Torodi Ar. Bea**	**166.93 245**	PKP	PKPdf	11 32 23.7	-1.1		
	comp=Z,1.2nm,0.9s,baz=89,slow=0.1,SNR=5.7							
TORD			PKPab	PKPab	11 33 28.6	+0.2		
	comp=Z,1.1nm,1.0s,baz=106,slow=3.8,SNR=4.2							
TORD	**Torodi Ar. Bea**	**166.93 245**	PKP	PKPdf	11 32 23.7	-1.1		
TORD			PKPab	PKPab	11 33 28.6	+0.2		

WEL 18 11:19:54.4±0.4, 36.48S×177.01E, h251km±3km, ML3.5/15, Error ellipse: s-maj=5.1km s-min=5.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.50**	**136**	PN	Pn	11 20 32.6	-0.1
MXZ				SN	S	11 21 02.3	-0.7
URZ	**Urewera**	**1.78**	**177**	PN	Pn	11 20 35.1	+0.2
URZ				SN	S	11 21 07.0	0.0
PUZ	**Puketiti**	**1.88**	**148**	PN	Pn	11 20 35.9	+0.1
PUZ				SN	S	11 21 07.3	-1.2
MWZ	**Matawai**	**1.90**	**168**	PN	Pn	11 20 36.4	+0.4
MWZ				SN	S	11 21 08.6	-0.3
CNGZ	**Carnagh Statio**	**2.22**	**155**	PN	Pn	11 20 39.5	+0.6
KNZ	**Kokohu**	**2.59**	**168**	PN	Pn	11 20 42.2	-0.3
BKZ	**Black Stump Fm**	**2.71**	**188**	PN	Pn	11 20 43.3	-0.5
MHGZ	**Mahia Peninsul**	**2.76**	**165**	PN	Pn	11 20 44.4	+0.1
MCHZ	**McNeill Hill**	**2.97**	**185**	PN	Pn	11 20 46.5	0.0
WNVZ	**Wahianoa**	**3.05**	**201**	PN	Pn	11 20 47.9	+0.5
BHHZ	**Black Hill Sta**	**3.09**	**194**	PN	Pn	11 20 47.4	-0.5
MTVZ	**Mangateitei**	**3.14**	**202**	PN	Pn	11 20

IEMG	**Emamgholi**	**4.18**	**354**	*e*Pn		**Pn**	**11 21 44.2**	**+0.9**
IEMG				*e*			11 21 47.5	
	comp=Z,2µm,0.2s							
IEMG	**Emamgholi**	**4.18**	**354**	*e*Pn		**Pn**	**11 21 44.2**	**+0.9**
IMEH	**Mehriz**	**4.30**	**246**	*e*Pn		**Pn**	**11 21 45.7**	**+0.6**
IMEH				*e*			11 23 12.0	
	comp=Z,2µm,0.3s							
IMEH	**Mehriz**	**4.30**	**246**	*e*Pn		**Pn**	**11 21 45.7**	**+0.6**
ISHV	**Shirvan**	**4.45**	**344**	*e*Pn		**Pn**	**11 21 48.0**	**+1.0**
ISHV				*e*			11 21 55.9	
	comp=Z,2µm,0.3s							
ISHV	**Shirvan**	**4.45**	**344**	*e*Pn		**Pn**	**11 21 48.0**	**+1.0**
ISAD	**Sadrabad**	**4.84**	**255**	*e*Pn		**Pn**	**11 21 52.7**	**+0.2**
ISAD				*e*Sg		**Sg**	**11 23 10.3**	**-5.0**
ISAD				*e*			11 23 28.1	
	comp=Z,3µm,0.4s							
ISAD	**Sadrabad**	**4.84**	**255**	*e*Pn		**Pn**	**11 21 52.7**	**+0.2**
IANJ	**Anjilo**	**4.90**	**298**	*e*Pn		**Pn**	**11 21 53.2**	**0.0**
IANJ				*e*			11 23 27.5	
	comp=Z,912nm,0.3s							
IANJ	**Anjilo**	**4.90**	**298**	*e*Pn		**Pn**	**11 21 53.2**	**0.0**
MRVT	**Maraveh tapeh**	**5.08**	**331**	*e*Pn		**Pn**	**11 21 55.0**	**-0.7**
MRVT	**Maraveh tapeh**	**5.08**	**331**	*e*Pn		**Pn**	**11 21 55.8**	**+0.1**
MRVT	**Maraveh tapeh**	**5.08**	**331**	*e*Pn		**Pn**	**11 21 55.8**	**+0.1**
NASN	**Na'in**	**5.39**	**267**	*e*Pn		**Pn**	**11 22 00.0**	**0.0**
NASN	**Na'in**	**5.39**	**267**	*e*Pn		**Pn**	**11 22 00.6**	**+0.6**
NASN				AML		AML	11 23 50.2	
	comp=N,55nm,0.6s							
NASN	**Na'in**	**5.39**	**267**	*e*Pn		**Pn**	**11 22 00.6**	**+0.6**
ISHM	**Shahmirzad**	**5.50**	**299**	*e*		**Pn**	**11 22 05.3**	**+3.8**
	comp=Z,2µm,0.2s							
ISHM				*e*Pn		**Pn**	**11 22 01.9**	**+0.4**
ILAS	**Lasjerd**	**5.58**	**294**	*e*Pn		**Pn**	**11 22 02.7**	**0.0**
ILAS	**Lasjerd**	**5.58**	**294**	*e*Pn		**Pn**	**11 22 02.7**	**0.0**
IZEF	**Zefreh**	**5.78**	**268**	*e*Pn		**Pn**	**11 22 05.5**	**+0.1**
IZEF				*e*			11 23 54.6	
	comp=Z,737nm,0.3s							
IZEF	**Zefreh**	**5.78**	**268**	*e*Pn		**Pn**	**11 22 05.5**	**+0.1**
IFIR	**Firoozkooh**	**5.84**	**296**	*e*		**Pn**	**11 22 09.9**	**+3.8**
	comp=Z,963nm,0.1s							
IFIR				*e*Pn		**Pn**	**11 22 06.3**	**+0.2**
IGAR	**Gharneh**	**6.09**	**264**	*e*Pn		**Pn**	**11 22 09.5**	**-0.1**
IDMV	**Damavand**	**6.36**	**293**	*e*Pn		**Pn**	**11 22 13.7**	**+0.4**
IDMV				*e*			11 22 18.6	
	comp=Z,731nm,0.2s							
IDMV	**Damavand**	**6.36**	**293**	*e*Pn		**Pn**	**11 22 13.7**	**+0.4**
IKLH	**Kolahrood**	**6.38**	**273**	*e*Pn		**Pn**	**11 22 13.5**	**-0.1**
IKLH	**Kolahrood**	**6.38**	**273**	*e*Pn		**Pn**	**11 22 13.5**	**-0.1**
IVRN	**Varamin**	**6.44**	**288**	*e*Pn		**Pn**	**11 22 14.1**	**-0.3**
IVRN				*e*Pn		**Pn**	**11 22 14.2**	**-0.2**
IVRN	**Varamin**	**6.44**	**288**	*e*Pn		**Pn**	**11 22 14.1**	**-0.3**
ISRV	**Sarvestan**	**6.48**	**235**	*e*Pn		**Pn**	**11 22 15.6**	**+0.6**
ISRV	**Sarvestan**	**6.48**	**235**	*e*Pn		**Pn**	**11 22 15.6**	**+0.6**
IR3	**Iran Long-Peri**	**7.12**	**290**	*e*Pn		**Pn**	**11 22 23.4**	**-0.3**
IR3	**Iran Long-Peri**	**7.12**	**290**	*e*Pn		**Pn**	**11 22 23.4**	**-0.3**
KKAR	**Karatay Array**	**13.25**	**39**	*e*Pn		**Pn**	**11 23 45.9**	**-1.7**
	comp=Z,2.0nm,0.4s							
KKAR	**Karatay Array**	**13.25**	**39**	*e*Pn		**Pn**	**11 23 45.9**	**-1.7**
	comp=Z,2.0nm,0.4s							
GNI	**Garni**	**13.48**	**305**	LR		LR	11 29 20.1	
	comp=Z,38nm,18.8s,baz=294,slow=39							
EKS2	**Erkin-Say**	**14.83**	**46**	*e*Pn		**Pn**	**11 24 09.3**	**+0.1**
	comp=Z,4.2nm,0.5s							
EKS2	**Erkin-Say**	**14.83**	**46**	*e*Pn		**Pn**	**11 24 09.3**	**+0.1**
	comp=Z,4.2nm,0.5s							
ABKAR	**Akbulak array**	**16.00**	**2**	*e*Pn		**Pn**	**11 24 20.9**	**-3.6**
	comp=Z,9.2nm,0.8s							
ABKAR				*e*Sn		**Sn**	**11 27 20.4**	**-1.3**
ABKAR	**Akbulak array**	**16.00**	**2**	*e*Pn		**Pn**	**11 24 21.0**	**-3.5**
	comp=Z,9.2nm,0.8s							
ABKAR				*e*Sn		**Sn**	**11 27 20.4**	**-1.4**
TKM2	**Tokmak 2**	**16.09**	**48**	*e*Pn		**Pn**	**11 24 26.1**	**+0.3**
	comp=Z,2.3nm,0.6s							
TKM2				*e*Sn		**Sn**	**11 27 25.6**	**+1.4**
TKM2	**Tokmak 2**	**16.09**	**48**	*e*Pn		**Pn**	**11 24 26.1**	**+0.3**
	comp=Z,2.3nm,0.6s							
TKM2				*e*Sn		**Sn**	**11 27 25.6**	**+1.4**
AKTO	**Aktyubinsk**	**17.19**	**357**	P		**Pn**	**11 24 37.5**	**-2.1**
	comp=Z,0.3nm,0.3s,baz=198,slow=15,SNR=7.4							
AKTO	**Aktyubinsk**	**17.19**	**357**	P		**Pn**	**11 24 37.5**	**-2.1**
AKTO	**Aktyubinsk**	**17.19**	**357**	P		**Pn**	**11 24 37.5**	**-2.2**
ASF	**Jabal al Asfar**	**18.80**	**273**	LR		LR	11 33 41.9	
	comp=Z,35nm,18.6s,baz=329,slow=42							
EIL	**Elat**	**20.98**	**267**	LR		LR	11 35 09.8	
	comp=Z,29nm,18.8s,MS2.7,baz=82,slow=42							
BVAR	**Borovoye Array**	**21.33**	**19**	P		**P**	**11 25 26.3**	**-0.2**
	comp=Z,2.3nm,0.7s,mb3.6,baz=212,slow=10,SNR=8.0							
BVAR				LR		LR	11 35 06.1	
	comp=Z,64nm,18.6s,MS3.0,baz=314,slow=40							
BVAR	**Borovoye Array**	**21.33**	**19**	P		**P**	**11 25 26.3**	**-0.2**
BVAR				LR		LR	11 35 06.1	
BVAR	**Borovoye Array**	**21.33**	**19**	P		**P**	**11 25 26.3**	**-0.2**
BRTR	**Keskin Array B**	**21.50**	**295**	P		**P**	**11 25 26.0**	**-2.5**
	comp=Z,1.2nm,0.8s,mb3.4,baz=122,slow=12,SNR=5.5							
BRTR	**Keskin Array B**	**21.50**	**295**	P		**P**	**11 25 26.0**	**-2.5**
BRTR	**Keskin Array B**	**21.50**	**295**	P		**P**	**11 25 26.0**	**-2.5**
MK31	**Makanchi Array**	**22.16**	**46**	*e*P		**P**	**11 25 36.3**	**+0.9**
MK31	**Makanchi Array**	**22.16**	**46**	*e*P		**P**	**11 25 36.3**	**+0.9**
MKAR	**Makanchi Array**	**22.16**	**46**	P		**P**	**11 25 36.2**	**+0.9**
	comp=Z,0.8nm,0.5s,mb3.4,baz=233,slow=12,SNR=6.4							
MKAR	**Makanchi Array**	**22.16**	**46**	P		**P**	**11 25 36.2**	**+0.9**
MKAR	**Makanchi Array**	**22.16**	**46**	P		**P**	**11 25 36.2**	**+0.8**
KURK	**Kurchatov**	**22.53**	**33**	P		**P**	**11 25 39.3**	**0.0**
	comp=Z,1.2nm,0.6s,mb3.5,baz=233,slow=9.7,SNR=8.8							
KURK				LR		LR	11 35 33.7	
	comp=Z,58nm,19.1s,MS3.0,baz=245,slow=40							
KURK	**Kurchatov**	**22.53**	**33**	P		**P**	**11 25 39.3**	**0.0**
KURK				LR		LR	11 35 33.7	
KURK	**Kurchatov**	**22.53**	**33**	P		**P**	**11 25 39.3**	**0.0**
ATD	**Arta Tunnel**	**26.31**	**219**	LR		LR	11 36 01.3	
	comp=Z,77nm,19.9s,MS3.2,baz=87,slow=35							
ZALV	**Zalesovo Beam**	**27.52**	**34**	P		**P**	**11 26 25.8**	**-0.3**
	comp=Z,0.9nm,0.7s,mb3.5,baz=253,slow=9.0,SNR=4.0							
ZALV				LR		LR	11 39 55.3	
	comp=Z,23nm,18.6s,MS2.8,baz=309,slow=42							
ZALV	**Zalesovo Beam**	**27.52**	**34**	P		**P**	**11 26 25.8**	**-0.3**
ZALV				LR		LR	11 39 55.3	
ZALV	**Zalesovo Beam**	**27.52**	**34**	P		**P**	**11 26 25.8**	**-0.2**
GERES	**GERESS Array B**	**37.09**	**309**	P		**P**	**11 27 49.9**	**+0.1**
	comp=Z,1.5nm,0.7s,mb3.9,baz=107,slow=8.5,SNR=9.4							
GERES	**GERESS Array B**	**37.09**	**309**	P		**P**	**11 27 49.9**	**+0.1**
GERES	**GERESS Array B**	**37.09**	**309**	P		**P**	**11 27 49.9**	**+0.1**
SONM	**Songino Array**	**38.10**	**53**	P		**P**	**11 27 58.4**	**0.0**
	comp=Z,0.5nm,0.7s,mb3.4,baz=269,slow=10.0,SNR=4.1							
SONM	**Songino Array**	**38.10**	**53**	P		**P**	**11 27 58.4**	**0.0**
SONM	**Songino Array**	**38.10**	**53**	P		**P**	**11 27 58.4**	**0.0**
CMAR	**Chiang Mai Arr**	**38.43**	**103**	P		**P**	**11 28 01.3**	**-0.2**
	comp=Z,0.5nm,0.5s,mb3.5,baz=295,slow=9.1,SNR=5.2							
CMAR	**Chiang Mai Arr**	**38.43**	**103**	P		**P**	**11 28 01.3**	**-0.2**
CMAR	**Chiang Mai Arr**	**38.43**	**103**	P		**P**	**11 28 01.3**	**-0.2**
ARCES	**ARCESS Array B**	**40.88**	**343**	LR		LR	11 48 26.8	
	comp=Z,83nm,19.7s,MS3.6,baz=190,slow=41							
NOA	**NORSAR Array B**	**41.44**	**327**	P		**P**	**11 28 24.9**	**-1.0**
	comp=Z,1.2nm,0.7s,mb3.6,baz=114,slow=8.0,SNR=2.8							
NOA	**NORSAR Array B**	**41.44**	**327**	P		**P**	**11 28 24.9**	**-1.0**
NOA	**NORSAR Array B**	**41.44**	**327**	P		**P**	**11 28 24.9**	**-1.0**
TORD	**Torodi Ar. Bea**	**55.82**	**263**	P		**P**	**11 30 15.8**	**-1.3**
	comp=Z,2.3nm,0.8s,mb4.3,baz=59,slow=6.6,SNR=16							
TORD	**Torodi Ar. Bea**	**55.82**	**263**	P		**P**	**11 30 15.9**	**-1.3**
TORD	**Torodi Ar. Bea**	**55.82**	**263**	P		**P**	**11 30 15.9**	**-1.3**
ILAR	**Eielson Array**	**80.18**	**11**	P		**P**	**11 32 48.6**	**-1.0**
	comp=Z,0.2nm,0.5s,mb3.3,baz=328,slow=3.2,SNR=5.0							
ILAR	**Eielson Array**	**80.18**	**11**	P		**P**	**11 32 48.6**	**-1.0**
ILAR	**Eielson Array**	**80.18**	**11**	P		**P**	**11 32 48.6**	**-1.0**
WRA	**Warramunga Arr**	**89.02**	**115**	P		**P**	**11 33 33.3**	**-1.5**
	comp=Z,0.3nm,0.8s,mb3.7,baz=312,slow=4.5,SNR=2.8							
WRA	**Warramunga Arr**	**89.02**	**115**	P		**P**	**11 33 33.3**	**-1.5**
WRA	**Warramunga Arr**	**89.02**	**115**	P		**P**	**11 33 33.3**	**-1.6**

BJI 18 11:32:32.3,25.19N×106.79E,h11km,ML3.6/7,
Southeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
GYA	**Guiyang**	**1.27**	**355**	Pg		Pg	11 32 53.1	-3.6
GYA				Sg		Sg	11 33 09.8	-3.4
GYA				*s*max				
	comp=N,320nm,0.7s							
GYA				*s*max				
	comp=E,1µm,0.8s							
KMI	**Kunming**	**3.67**	**270**	Pg		Pg	11 33 38.5	-4.2
KMI				Sg		Sg	11 34 25.3	-4.9
KMI				*s*max				
	comp=N,91nm,0.9s							
KMI				*s*max				
	comp=E,87nm,0.8s							

*ISCJB **18** 11:33:08.5±0.6,24.°19S±0.°04×67.°02W±0.°06,h163km±4km, mb4.4/51, Error ellipse: s-maj=9.7km s-min=5.2km az=157.7*
*IDC **18** 11:33:11.0±1.4,24.°02S×66.°91W,h175km±11km,mb4.1/12, mb1 4.2/15,mb1mx4.2/19,mbtmp4.1/15, Error ellipse: s-maj=17.8km s-min=11.1km az=61.0*
*NEIC **18** 11:33:10.1±0.7,24.°15S×66.°97W,h166km±7km,mb4.4/40, Error ellipse: s-maj=9.5km s-min=5.7km az=62.0*
*GUC **18** 11:33:13.2±0.6,23.°94S×67.°48W,h200km,ML5.1*

ISC 18 11:33:09.3±0.5,24.°17S±0.°04×66.°99W±0.°06,h155km±4km,
n114,σ1s01/107,mb4.4/51,6C-1D,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PB04	**Plate Boundary**	**2.98**	**309**	↑*i*P		**Pn**	**11 34 03.3**	**+6.6**
PB04				*i* S		**Sn**	**11 34 41.5**	**+8.3**
PB04				AML		AML	11 34 48.9	
	comp=N,5µm,0.4s							
PB09	**Plate Boundary**	**3.15**	**318**	↑*i*P		**Pn**	**11 34 00.8**	**+2.0**
PB09				*i* S		**Sn**	**11 34 37.6**	**+0.6**
PB09				AML		AML	11 34 39.5	
	comp=N,17µm,0.5s							
ANCH	**Antofagasta**	**3.17**	**278**	↑*i*P		**Pn**	**11 34 00.6**	**+1.6**
ANCH				*i* S		**Sn**	**11 34 36.4**	**-1.0**
ANCH				AML		AML	11 34 38.9	
	comp=E,3µm,0.4s							
MACH	**Maria Elena**	**3.22**	**307**	↓*i*P		**Pn**	**11 34 01.2**	**+1.5**
MACH				*i* S		**Sn**	**11 34 37.9**	**-0.7**
MACH				AML		AML	11 34 40.0	
	comp=E,61nm,0.3s							
MECH	**Mejillones**	**3.35**	**288**	↑*i*P		**Pn**	**11 34 02.7**	**+1.5**
MECH				*i* S		**Sn**	**11 34 40.6**	**-0.9**
MECH				AML		AML	11 34 49.0	
	comp=N,5µm,0.5s							
PB07	**Plate Boundary**	**3.62**	**312**	↑*i*P		**Pn**	**11 34 05.5**	**+0.8**
PB07				*i* S		**Sn**	**11 34 45.8**	**-1.9**
PB07				AML		AML	11 34 47.6	
	comp=E,6µm,0.5s							
PB01	**Plate Boundary**	**3.88**	**323**	↑*i*P		**Pn**	**11 34 08.5**	**+0.4**
PB01				*i* S		**Sn**	**11 34 52.0**	**-1.8**
PB01				AML		AML	11 34 52.9	
	comp=E,2µm,0.3s							
LCO	**Las Campanas**	**5.85**	**214**	*e*Pn		**Pn**	**11 34 33.7**	**-0.3**
LCO				*e*Sn		**Sn**	**11 35 32.8**	**-7.6**
CFAA	**Coronel Fontan**	**7.49**	**188**	P		**Pn**	**11 34 55.9**	**+0.2**
	comp=E,0.2nm,0.3s,baz=358,slow=13,SNR=23							
CFAA				S		**Sn**	**11 36 17.2**	**-2.2**
	comp=E,1.7nm,0.3s,baz=112,slow=20,SNR=8.7							
CFAA	**Coronel Fontan**	**7.49**	**188**	P		**Pn**	**11 34 55.9**	**+0.2**
CFAA				S		**Sn**	**11 36 17.2**	**-2.2**
LPAZ	**La Paz**	**7.92**	**352**	P		**Pn**	**11 35 03.0**	**+1.4**
	comp=E,6.0nm,0.3s,baz=160,slow=6.3,SNR=48							
LPAZ				S		**Sn**	**11 36 28.1**	**-2.0**
	comp=E,1.2nm,0.3s,baz=346,slow=21,SNR=7.1							
LPAZ	**La Paz**	**7.92**	**352**	*e*Pn		**Pn**	**11 35 03.0**	**+1.3**
CPUP	**Villa Florida**	**9.00**	**106**	P		**Pn**	**11 35 16.8**	**+0.8**
	comp=E,2.7nm,0.3s,baz=265,slow=11,SNR=38							
CPUP	**Villa Florida**	**9.00**	**106**	*e*Pn		**Pn**	**11 35 17.1**	**+1.1**
TRQA	**Tornquist**	**14.48**	**164**	*e*Pn		**Pn**	**11 36 29.7**	**+2.7**
NNA	**Nana**	**15.31**	**321**	P		**Pn**	**11 36 38.1**	**+0.8**
	comp=E,1.3nm,0.3s,baz=120,slow=8.1,SNR=4.2							
NNA	**Nana**	**15.31**	**321**	P		**Pn**	**11 36 38.1**	**+0.8**
SPB	**Sao Paulo**	**17.90**	**92**	*e*P		**Pn**	**11 37 08.1**	**-0.6**
	comp=E,51nm,0.6s							
USHA	**Ushuaia**	**30.64**	**182**	P		**P**	**11 39 08.9**	**+0.2**
	comp=E,6.1nm,0.8s,mb4.4,baz=2.8,slow=8.1,SNR=3.5							
USHA	**Ushuaia**	**30.64**	**182**	P		**P**	**11 39 08.9**	**+0.2**
VNA3	**Neumayer Olymp**	**56.99**	**161**	*e*		**P**	**11 42 36.2**	**-2.0**
VNA3				*e*			11 42 42.7	
VNA1	**Neumayer--Stat**	**57.18**	**160**	*e*		**P**	**11 42 38.1**	**-1.5**
VNA1				*e*			11 42 44.2	
VNA2	**Neumayer--Watz**	**57.55**	**160**	*e*		**P**	**11 42 40.2**	**-1.9**
	baz=279,slow=8.2							
VNA2				*e*			11 42 46.3	
SNAA	**Sanae**	**59.18**	**161**	*e*P		**P**	**11 42 51.8**	**-1.6**
	comp=E,30nm,1.6s,mb4.9							
JCT	**Junction City**	**62.80**	**328**	*e*P		**P**	**11 43 17.1**	**-1.2**
	comp=E,11nm,0.7s,mb4.8							
WVT	**Waverly**	**63.13**	**341**	*e*P		**P**	**11 43 18.0**	**-2.4**
MIAR	**Mount Ida**	**63.62**	**336**	*e*P		**P**	**11 43 22.1**	**-1.5**
	comp=E,247nm,3.0s							
TXAR	**Lajitas Array**	**63.82**	**324**	P		**P**	**11 43 24.1**	**-1.0**
	comp=E,1.7nm,0.8s,mb3.9,baz=152,slow=8.5,SNR=18							
TXAR	**Lajitas Array**	**63.82**	**324**	P		**P**	**11 43 24.1**	**-1.0**
CCM	**Cathedral Cave**	**65.96**	**339**	*e*P		**P**	**11 43 36.7**	**-2.0**
QSPA	**South Pole Qui**	**66.03**	**180**	*e*P		**P**	**11 43 39.9**	**+1.2**
	comp=E,18nm,0.6s,mb5.1							
DBIC	**Dimbokro**	**67.85**	**71**	P		**P**	**11 43 50.2**	**-1.0**
	comp=E,5.8nm,0.8s,mb4.4,baz=234,slow=6.1,SNR=7.8							
DBIC	**Dimbokro**	**67.85**	**71**	P		**P**	**11 43 50.2**	**-1.0**
BNM	**Barren Site**	**69.16**	**326**	*e*P		**P**	**11 43 59.2**	**+0.3**
	comp=E,11nm,1.4s,mb4.4							
LPM	**Los Pinos Moun**	**69.29**	**326**	*e*P		**P**	**11 43 59.8**	**+0.1**
	comp=E,7.9nm,1.1s,mb4.4							
LAZ	**Ladron**	**69.62**	**325**	*e*P		**P**	**11 44 02.4**	**+0.7**
	comp=E,1.3nm,0.7s,mb3.8							
ANMO	**Albuquerque**	**69.70**	**326**	*e*P		**P**	**11 44 02.3**	**+0.1**
TUC	**Tucson**	**70.02**	**321**	*e*P		**P**	**11 44 04.2**	**-0.1**
SDCO	**Great Sand Dun**	**71.44**	**329**	*e*P		**P**	**11 44 12.7**	**+0.1**
	comp=E,7.8nm,1.0s,mb4.4							
MVCO	**Mesa Verde**	**72.49**	**326**	*e*P		**P**	**11 44 19.1**	**+0.1**
	comp=E,40nm,1.8s,mb4.8							
WUAZ	**Wupatki**	**72.72**	**323**	*e*P		**P**	**11 44 20.9**	**+0.5**
	comp=E,12nm,0.9s,mb4.6							
ECSD	**EROS Data Cent**	**72.84**	**338**	*e*P		**P**	**11 44 19.6**	**-1.3**
	comp=E,104nm,2.8s,mb5.1							
ISCO	**Idaho Springs**	**73.14**	**330**	*e*P		**P**	**11 44 23.2**	**+0.5**
	comp=E,6.4nm,0.9s,mb4.3							
PV01	**Paradox Valley**	**73.24**	**327**	*e*P		**P**	**11 44 24.1**	**+0.8**
	comp=E,522nm,1.0s							
SMCO	**Snowmass**	**73.28**	**329**	*e*P		**P**	**11 44 24.2**	**+0.7**
	comp=E,6.5nm,0.8s,mb4.4							
SBA	**Scott Base**	**73.53**	**190**	*e*P		**P**	**11 44 26.2**	**+1.6**
	comp=E,20nm,1.5s,mb4.6							
BAR	**Barrett**	**73.77**	**318**	*e*P		**P**	**11 44 26.6**	**+0.1**
	comp=E,7.4nm,0.9s,mb4.4							
PFO	**Pinyon Flat Ob**	**74.28**	**319**	*e*P		**P**	**11 44 29.9**	**+0.4**
	comp=E,4.8nm,1.0s,mb4.2							
VNDA	**Vanda**	**74.53**	**190**	P		**P**	**11 44 31.5**	**+1.1**
	comp=E,5.3nm,0.9s,mb4.2,baz=130,slow=5.5,SNR=21							
VNDA	**Vanda**	**74.53**	**190**	*e*P		**P**	**11 44 31.9**	**+1.5**
SRU	**San Rafael**	**74.97**	**326**	*e*P		**P**	**11 44 33.4**	**+0.1**
	comp=E,12nm,0.7s,mb4.6							
CCUT	**Cedar City**	**75.30**	**324**	*e*P		**P**	**11 44 36.4**	**+1.1**
	comp=E,12nm,0.8s,mb4.6							
RWWY	**Rawlins**	**75.37**	**330**	*e*P		**P**	**11 44 36.1**	**+0.5**
	comp=E,199nm,2.8s,mb5.2							
MSU	**Marysvale**	**75.38**	**325**	*e*P		**P**	**11 44 36.6**	**+0.9**
GSC	**Goldstone**	**75.66**	**320**	*e*P		**P**	**11 44 38.1**	**+0.7**
	comp=E,9.8nm,1.3s,mb4.3							
MWC	**Mount Wilson**	**75.67**	**318**	*e*P		**P**	**11 44 37.9**	**+0.4**
	comp=E,16nm,1.4s,mb4.5							
MPU	**Maple Canyon**	**76.22**	**326**	*e*P		**P**	**11 44 41.1**	**+0.7**
	comp=E,6.9nm,1.0s,mb4.2							
JLU	**Jordanelle**	**76.56**	**327**	*e*P		**P**	**11 44 43.0**	**+0.6**
	comp=E,4.9nm,0.7s,mb4.2							
TORD	**Torodi Ar. Bea**	**76.62**	**69**	P		**P**	**11 44 41.9**	**-1.3**
	comp=E,5.3nm,0.5s,mb4.4,baz=251,slow=5.6,SNR=30							
TORD	**Torodi Ar. Bea**	**76.62**	**69**	P		**P**	**11 44 41.9**	**-1.3**
ISA	**Isabella**	**76.89**	**319**	*e*P		**P**	**11 44 44.6**	**+0.3**
	comp=E,8.1nm,1.0s,mb4.3							
DUG	**Dugway**	**76.95**	**326**	*e*P		**P**	**11 44 44.8**	**+0.2**
	comp=E,8.1nm,1.1s,mb4.3							
PDAR	**Pinedale Array**	**77.30**	**329**	P		**P**	**11 44 45.8**	**-0.6**
	comp=E,1.3nm,0.6s,mb3.8,baz=133,slow=7.6,SNR=14							
PDAR	**Pinedale Array**	**77.30**	**329**	P		**P**	**11 44 45.8**	**-0.6**
HWUT	**Hardware Ranch**	**77.38**	**327**	*e*P		**P**	**11 44 46.7**	**-0.2**
HVU	**Hansel Valley**	**78.11**	**327**	*e*P		**P**	**11 44 51.4**	**+0.4**
	comp=E,3.7nm,0.7s,mb4.1							
REDW	**Red Top Meadow**	**78.36**	**329**	*e*P		**P**	**11 44 52.6**	**+0.3**
ULM	**Lac du Bonnet**	**78.39**	**342**	P		**P**	**11 44 50.9**	**-1.4**
	comp=E,8.0nm,0.7s,mb4.5,baz=141,slow=7.5,SNR=12							
ULM	**Lac du Bonnet**	**78.39**	**342**	P		**P**	**11 44 50.9**	**-1.4**
SNOW	**Snow King Moun**	**78.40**	**329**	*e*P		**P**	**11 44 52.6**	**+0.1**
	comp=E,7.5nm,0.9s,mb4.3							
LOHW	**Long Hollow**	**78.44**	**329**	*e*P		**P**	**11 44 52.8**	**0.0**
	comp=E,4.5nm,0.8s,mb4.2							
TPAW	**Teton Pass**	**78.51**	**329**	*e*P		**P**	**11 44 53.9**	**+0.8**
	comp=E,6.1nm,0.9s,mb4.2							
RRI2	**Red Ridge**	**78.58**	**329**	*e*P		**P**	**11 44 53.9**	**+0.4**
	comp=E,12nm,1.3s,mb4.4							
MOOW	**Moose Ponds**	**78.61**	**329**	*e*P		**P**	**11 44 53.7**	**+0.1**
	comp=E,26nm,2.1s,mb4.5							
NVAR	**Mina Array Bea**	**78.68**	**321**	P		**P**	**11 44 54.4**	**+0.2**
	comp=E,2.1nm,0.7s,mb3.9,baz=156,slow=6.4,SNR=16							
NVAR	**Mina Array Bea**	**78.68**	**321**	P		**P**	**11 44 54.4**	**+0.2**
IMW	**Indian Meadow**	**78.81**	**329**	*e*P		**P**	**11 44 55.2**	**+0.5**
	comp=E,9.9nm,1.0s,mb4.4							
FLWY	**Flagg Ranch**	**78.84**	**329**	*e*P		**P**	**11 44 55.4**	**+0.5**
	comp=E,7.9nm,0.9s,mb4.3							
HLID	**Hailey**	**80.24**	**327**	*e*P		**P**	**11 45 03.0**	**+0.5**
	comp=E,9.3nm,0.9s,mb4.4							
MCMT	**McKenzie Canyo**	**80.42**	**329**	*e*P		**P**	**11 45 04.0**	**+0.6**
	comp=E,4.3nm,1.0s,mb4.0							
BOSA	**Boshof**	**80.64**	**117**	P		**P**	**11 45 05.2**	**+0.1**
	comp=E,3.2nm,0.4s,mb4.3,baz=224,slow=2.3,SNR=17							
BOSA	**Boshof**	**80.64**	**117**	P		**P**	**11 45 05.2**	**+0.1**
MFID	**Camas Ranch**	**80.84**	**326**	*e*P		**P**	**11 45 06.1**	**+0.4**
	comp=E,71nm,2.8s,mb4.8							
MAW	**Mawson**	**81.27**	**163**	P		**P**	**11 45 07.6**	**-0.1**
	comp=E,9.0nm,0.6s,mb4.6,baz=212,slow=7.5,SNR=16							
MAW	**Mawson**	**81.27**	**163**	P		**P**	**11 45 07.6**	**-0.1**
HRY	**Holter Researc**	**81.36**	**331**	*e*P		**P**	**11 45 08.7**	**+0.3**
	comp=E,3.4nm,0.7s,mb4.1							
MOD	**Modoc**	**82.16**	**323**	*e*P		**P**	**11 45 12.7**	**0.0**
	comp=E,6.7nm,1.0s,mb4.2							
WDC	**Whiskeytown Da**	**82.55**	**321**	*e*P		**P**	**11 45 12.7**	**-2.0**
	comp=E,3.1nm,0.6s,mb4.2							
SWMT	**Swartz Lake**	**82.94**	**330**	*e*P		**P**	**11 45 16.8**	**+0.3**
	comp=E,2.9nm,0.9s,mb4.0							
OD2	**Odessa Site #2**	**85.09**	**328**	*e*P		**P**	**11 45 27.0**	**-0.4**
ETW	**Entiat**	**86.03**	**327**	*e*P		**P**	**11 45 31.8**	**-0.3**

IDC ***18*** *12:19:21.8±1.5, 18°.94S×169°.62E, h0km, mb4.1/8, mb1 4.3/8, mb1mx4.1/16, mbtmp4.1/8, MS3.3/3, Ms1 3.3/3, ms1mx2.7/30, Error ellipse: s-maj=36.8km s-min=29.0km az=96.0*

ISCJB ***18*** *12:19:27.2±2.1, 18°.9S±0°.2×169°.5E±0°.1, h48km±22km, mb4.0/9, MS3.2/3, Error ellipse: s-maj=31.7km s-min=12.1km az=148.8*

NEIC ***18*** *12:19:28.4±0.6, 18°.97S×169°.41E, h35km, mb4.3/2, Error ellipse: s-maj=22.8km s-min=12.4km az=170.0*

ISC 18 12:19:29.4±1.8, 18°.9S±0°.2×169°.5E±0°.1, h47km±20km, n23, σ1§08/20, mb4.0/9, MS3.2/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NOUC	**Port Laguerre**	**4.32**	**223**	*e*P	**Pn**	**12 20 30.7**	**-1.9**
NOUC				*e*S	**Sn**	**12 21 24.4**	**+2.7**
MSVF	**Nonsavu**	**8.24**	**83**	*e*Pn	**Pn**	**12 21 27.0**	**+0.6**
	44nm,1.4s						
URZ	**Urewera**	**20.37**	**162**	LR	LR	12 30 13.8	
	comp=Z,72nm,20.0s,MS3.0,baz=68,slow=32						
RPZ	**Rata Peaks**	**24.74**	**177**	LR	LR	12 33 32.6	
	comp=Z,105nm,19.6s,MS3.3,baz=356,slow=34						
STKA	**Stephens Creek**	**28.19**	**237**	P	**P**	**12 25 17.9**	**+0.3**
	3.2nm,1.1s,mb3.9,baz=60,slow=9.7,SNR=4.9						
STKA				LR	LR	12 35 07.8	
	comp=Z,50nm,18.3s,MS3.1,baz=23,slow=33						
STKA	**Stephens Creek**	**28.19**	**237**	*e*P	**P**	**12 25 17.7**	**+0.2**
STKA				LR	LR	12 35 07.8	
WRAB	**Tennant Creek**	**33.09**	**262**	P	**P**	**12 26 01.7**	**+0.7**
	4.3nm,1.4s,mb4.2						
WRA	**Warramunga Arr**	**33.10**	**262**	P	**P**	**12 25 59.8**	**-1.3**
	1.1nm,0.9s,mb3.8,baz=95,slow=7.7,SNR=7.6						
WRA				PcP	PcP	12 28 42.9	-0.8
	0.6nm,0.8s,baz=92,slow=3.0,SNR=4.8						
WRA	**Warramunga Arr**	**33.10**	**262**	P	**P**	**12 25 59.8**	**-1.3**
WRA				PcP	PcP	12 28 42.9	-0.8
ASAR	**Alice Springs**	**33.41**	**256**	P	**P**	**12 26 03.2**	**-0.5**
	1.9nm,0.6s,mb4.2,baz=81,slow=9.0,SNR=19						
ASAR	**Alice Springs**	**33.41**	**256**	P	**P**	**12 26 03.2**	**-0.5**
FITZ	**Fitzroy Crossi**	**41.49**	**264**	P	**P**	**12 27 12.3**	**+0.2**
	6.7nm,0.8s,mb4.3,baz=118,slow=7.0,SNR=14						
FITZ	**Fitzroy Crossi**	**41.49**	**264**	*e*P	**P**	**12 27 12.7**	**+0.6**
	6.4nm,0.8s,mb4.3						
VNDA	**Vanda**	**58.74**	**182**	P	**P**	**12 29 21.2**	**-0.8**
	0.5nm,0.7s,mb3.6,baz=352,slow=5.1,SNR=2.8						
VNDA	**Vanda**	**58.74**	**182**	P	**P**	**12 29 21.2**	**-0.8**
MJAR	**Matsushiro Arr**	**62.59**	**332**	P	**P**	**12 29 48.1**	**-0.5**
	2.9nm,1.0s,mb4.3,baz=160,slow=7.6,SNR=4.0						
MJAR	**Matsushiro Arr**	**62.59**	**332**	P	**P**	**12 29 48.1**	**-0.5**
CMAR	**Chiang Mai Arr**	**78.58**	**294**	P	**P**	**12 31 27.9**	**+1.5**
	0.6nm,0.3s,mb3.9,baz=108,slow=5.8,SNR=4.7						
CMAR	**Chiang Mai Arr**	**78.58**	**294**	P	**P**	**12 31 27.9**	**+1.5**
SONM	**Songino Array**	**87.11**	**323**	P	**P**	**12 32 10.1**	**+0.1**
	1.4nm,1.0s,mb4.1,baz=119,slow=4.6,SNR=6.7						
SONM	**Songino Array**	**87.11**	**323**	P	**P**	**12 32 10.1**	**+0.1**
GERES	**GERESS Array B**	**144.33**	**332**	PKP	PKPdf	12 38 57.4	-2.8
	0.7nm,0.7s,baz=4.3,slow=3.9,SNR=4.5						
GERES	**GERESS Array B**	**144.33**	**332**	PKP	PKPdf	12 38 57.4	-2.8

ISCJB ***18*** *12:22:50.7±0.7, 50°.83N±0°.08×73°.82E±0°.08, h10km, mb4.0/3, Error ellipse: s-maj=12.5km s-min=4.4km az=30.9*

NNC ***18*** *12:22:50.8±2.3, 50°.72N×73°.61E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=39.4km s-min=7.3km az=27.0*

IDC ***18*** *12:22:50.9±0.7, 50°.93N×73°.66E, h0km, mb4.0/3, mb1 3.9/7, mb1mx3.5/30, mbtmp3.8/7, ML3.2/5, Error ellipse: s-maj=16.0km s-min=6.6km az=23.0*

ISC 18 12:22:52.1±0.6, 50°.76N±0°.07×73°.66E±0°.07, h10km, n15, σ1§29/23, mb4.1/3, 7C-6D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VOSK	**Vostochnaya**	**2.58**	**321**	⇓Pn	**Pn**	**12 23 32.8**	**-1.0**
	9.6nm,0.5s						
VOSK				⇑Sn	**Sn**	**12 24 05.8**	**+0.6**
	27nm,0.5s						
BVA0	**Borovoye Array**	**3.04**	**320**	⇓Pn	**Pn**	**12 23 41.5**	**+1.3**
	1.8nm,0.6s,baz=130,slow=16,SNR=82						
BVA0				⇓Sn	**Sn**	**12 24 19.1**	**+2.5**
	3.4nm,0.5s,baz=122,slow=28,SNR=11						
BVAR	**Borovoye Array**	**3.04**	**320**	Pn	**Pn**	**12 23 39.4**	**-0.8**
	2.9nm,0.3s,baz=140,slow=16,SNR=35						
BVAR				Pg	**Pb**	**12 23 42.3**	**-4.0**
	5.6nm,0.3s,baz=131,slow=16,SNR=53						
BVAR				Lg		12 24 23.5	
	9.3nm,0.3s,baz=135,slow=34,SNR=11						
KURBB	**Kurchatov Arra**	**3.10**	**91**	⇓Lg		12 24 29.8	
	6.1nm,0.5s						
BRVK	**Borovoye**	**3.11**	**319**	⇑Pn	**Pn**	**12 23 42.9**	**+1.8**
	16nm,0.5s						
BRVK				⇑Sn	**Sn**	**12 24 22.1**	**+3.8**
	44nm,0.6s						
KURK	**Kurchatov**	**3.15**	**89**	⇓Pn	**Pn**	**12 23 42.1**	**+0.4**
	8.8nm,0.6s						
KURK				⇑Pn	**Pn**	**12 23 42.1**	**+0.4**
	13nm,0.5s						
KURK				⇓Lg		12 24 31.6	
	39nm,0.5s						
KURK	**Kurchatov**	**3.15**	**89**	Pn	**Pn**	**12 23 41.6**	**-0.1**
	0.6nm,0.3s,baz=279,slow=13,SNR=76						
KURK				Lg		12 24 28.4	
	2.3nm,0.3s,baz=273,slow=30,SNR=9.7						
ZRNK	**Zerenda**	**3.63**	**309**	⇑Pn	**Pn**	**12 23 47.2**	**-1.0**
	4.6nm,0.6s						
ZRNK				⇑Sn	**Sn**	**12 24 32.0**	**+1.0**
	14nm,0.5s						
ZRNK				⇑Lg		12 24 44.8	
	29nm,0.7s						
MK31	**Makanchi Array**	**6.95**	**121**	Pn	**Pn**	**12 24 35.1**	**+1.3**
	0.8nm,0.6s,baz=310,slow=10,SNR=5.3						
MKAR	**Makanchi Array**	**6.95**	**121**	Pn	**Pn**	**12 24 34.6**	**+0.8**
	0.2nm,0.3s,baz=307,slow=13,SNR=6.7						
MKAR				Sn	**Sn**	**12 25 54.2**	**+1.4**
	0.3nm,0.3s,baz=312,slow=23,SNR=3.3						
MKAR				Lg		12 26 31.0	
	1.3nm,0.3s,baz=309,slow=33,SNR=5.2						
ZALV	**Zalesovo Beam**	**7.55**	**61**	Pn	**Pn**	**12 24 41.3**	**-0.7**
	0.6nm,0.3s,baz=252,slow=14,SNR=16						
ZALV				Sn	**Sn**	**12 26 06.7**	**-0.8**
	0.6nm,0.3s,baz=250,slow=25,SNR=4.6						
ZALV				Lg		12 26 54.3	
	0.6nm,0.3s,baz=247,slow=31,SNR=3.7						
AKTO	**Aktyubinsk**	**9.96**	**274**	Pn	**Pn**	**12 25 13.1**	**-2.0**
	0.7nm,0.3s,baz=89,slow=12,SNR=8.4						
AKTO				Sn	**Sn**	**12 27 02.9**	**-3.8**
	0.1nm,0.3s,baz=233,slow=20,SNR=2.3						
AKTO				Lg		12 28 05.9	
	0.2nm,0.3s,baz=105,slow=20,SNR=1.7						
ILAR	**Eielson Array**	**60.60**	**19**	P	**P**	**12 33 01.1**	**-1.2**
	0.5nm,0.5s,mb3.9,baz=327,slow=5.2,SNR=24						
KDAK	**Kodiak Island**	**65.36**	**25**	P	**P**	**12 33 32.4**	**-1.6**
	7.4nm,1.0s,mb4.7,baz=315,slow=13,SNR=5.0						
WRA	**Warramunga Arr**	**88.24**	**125**	P	**P**	**12 35 42.5**	**-0.8**
	0.2nm,0.5s,mb3.6,baz=342,slow=5.2,SNR=6.9						

IDC 18 12:28:02.4±1.5, 16°.70N×147°.61E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.6/24, mbtmp3.6/5, ML3.8/1, Error ellipse: s-maj=43.3km s-min=25.1km az=114.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.07**	**221**	Pn	Pn	12 29 07.0	+1.0
	6.1nm,0.3s,baz=24,slow=22,SNR=7.1						
GUMO				Sn	Sn	12 29 50.4	-4.0
	12nm,0.3s,baz=62,slow=23,SNR=6.1						
WRA	**Warramunga Arr**	**38.68**	**200**	P	P	12 35 27.6	-0.5
	0.4nm,0.9s,baz=23,slow=9.1,SNR=4.7						
SONM	**Songino Array**	**45.83**	**322**	P	P	12 36 26.2	+0.1
	0.3nm,0.5s,baz=134,slow=4.2,SNR=2.2						
CMAR	**Chiang Mai Arr**	**46.32**	**280**	P	P	12 36 30.2	-0.1
	0.9nm,0.7s,baz=60,slow=7.4,SNR=6.1						
ILAR	**Eielson Array**	**64.63**	**26**	P	P	12 38 41.7	+0.2
	0.7nm,1.2s,baz=241,slow=7.4,SNR=3.9						

ISCJB ***18*** *12:44:28.4±4.2, 5°.5S±0°.3×151°.4E±0°.4, h87km±33km, mb3.5/6, Error ellipse: s-maj=73.3km s-min=28.0km az=39.9*

NEIC ***18*** *12:44:28.6±3.2, 5°.54S×151°.66E, h84km±25km, mb3.8/2, Error ellipse: s-maj=51.9km s-min=23.8km az=126.0*

IDC ***18*** *12:44:29.6±5.4, 5°.15S×151°.04E, h76km±47km, mb3.4/4, mb1 3.7/5, mb1mx3.4/18, mbtmp3.5/5, ML3.5/1, Error ellipse: s-maj=101.5km s-min=32.0km az=132.0*

ISC 18 12:44:29.3±3.7, 5°.5S±0°.3×151°.5E±0°.4, h84km±30km, n14, σ1§03/14, mb3.5/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.77**	**228**	P	**Pn**	**12 45 53.2**	**+0.8**
	9.7nm,0.3s,baz=47,slow=9.2,SNR=41						
PMG				S	**Sn**	**12 46 55.7**	**-1.5**
	3.3nm,0.3s,baz=60,slow=20,SNR=4.6						
PMG	**Port Moresby**	**5.77**	**228**	P	**Pn**	**12 45 53.2**	**+0.9**
PMG				S	**Sn**	**12 46 55.7**	**-1.5**
WRAB	**Tennant Creek**	**21.97**	**228**	*e*P	**P**	**12 49 18.1**	**+1.6**
	1.6nm,0.6s,mb3.5						
WRA	**Warramunga Arr**	**21.99**	**228**	P	**P**	**12 49 16.4**	**-0.2**
	1.6nm,0.5s,mb3.6,baz=52,slow=10,SNR=31						
WRA	**Warramunga Arr**	**21.99**	**228**	P	**P**	**12 49 16.4**	**-0.2**
ASAR	**Alice Springs**	**24.74**	**221**	P	**P**	**12 49 44.2**	**+1.2**
	0.5nm,0.9s,mb2.9,baz=52,slow=8.8,SNR=4.4						
ASAR	**Alice Springs**	**24.74**	**221**	P	**P**	**12 49 44.2**	**+1.2**
FITZ	**Fitzroy Crossi**	**28.16**	**241**	P	**P**	**12 50 13.8**	**-0.2**
	2.2nm,0.5s,mb4.0,baz=49,slow=9.6,SNR=20						
FITZ	**Fitzroy Crossi**	**28.16**	**241**	P	**P**	**12 50 13.8**	**-0.2**
ILAR	**Eielson Array**	**83.32**	**22**	P	**P**	**12 56 45.8**	**-0.8**
	0.4nm,0.8s,mb3.3,baz=250,slow=5.9,SNR=5.1						
ILAR	**Eielson Array**	**83.32**	**22**	P	**P**	**12 56 45.8**	**-0.8**
QSPA	**South Pole Qui**	**84.44**	**180**	*e*P	**P**	**12 56 51.2**	**-0.9**
	1.1nm,0.7s,mb3.8						
TORD	**Torodi Ar. Bea**	**149.27**	**286**	PKPbc	PKPbc	13 04 09.6	+0.2
	0.5nm,0.3s,baz=96,slow=2.2,SNR=12						
TORD	**Torodi Ar. Bea**	**149.27**	**286**	PKPbc	PKPbc	13 04 09.6	+0.2

NOU ***18*** *12:45:57.7±1.1, 18°.75S×169°.93E, h30km, MD3.4, ML2.5, MS1.4*

IDC ***18*** *12:45:57.8±0.7, 18°.96S×169°.61E, h0km, mb4.4/16, mb1 4.5/16, mb1mx4.4/21, mbtmp4.4/16, MS4.2/23, Ms1 4.2/23, ms1mx4.0/33, Error ellipse: s-maj=20.6km s-min=16.6km az=96.0*

ISCJB ***18*** *12:45:59.2±1.9, 19°.04S±0°.05×169°.58E±0°.07, h14km±12km, mb4.8/38, MS4.3/27, Error ellipse: s-maj=12.5km s-min=5.8km az=33.9*

BJI ***18*** *12:46:01.3, 19°.20S×169°.10E, h10km, mB5.2/16, mb4.9/22, Ms5.3/15, Ms7 4.9/15*

MOS ***18*** *12:46:01.6±1.1, 19°.04S×169°.51E, h36km, mb5.1/11, Error ellipse: s-maj=16.9km s-min=12.1km az=174.2*

GCMT ***18*** *12:46:03.4±0.3, 18°.93S×169°.73E, h12km, MW4.9, Moment Tensor Solution. s27,c32; s70,c96; Moment tensor: Scale 10^16Nm; Mrr-2.99±.09; Mθθ 1.81±.10; Mϕϕ 1.18±.09; Mrθ-0.30±.27; Mθϕ-0.93±.07; Mϕr-1.37±.32; Best double couple: M0 3.00000×10^16 NP1:ϕs 111.00000°, δ 41.00000°, λ-117.00000°. NP2:ϕs 325.00000°, δ 54.00000°, λ-68.00000°. Principal axes: T 2.5500, Plg 7.0000°, Azm 40.0000°; N 0.9100, Plg 17.0000°, Azm 132.0000°; P -3.4600, Plg 71.0000°, Azm 290.0000°; Data Used: IU II G IC CN.*

NEIC ***18*** *12:46:03.0±4.0, 19°.04S×169°.47E, h32km±28km, mb4.9/14 Error ellipse: s-maj=14.6km s-min=10.8km az=171.0*

SZGRF ***18*** *12:46:05.0, 22°.25S×165°.70E, h33km, New Caledonia*

DJA ***18*** *12:46:06, 19°.21S×169°.43E, h10km, mb4.9/7*

ISC 18 12:45:59.4±2.6, 18°.99S±0°.05×169°.52E±0°.07, h3km±16km, h17km±2.5km: pP-P, n163, σ1§12/112, mb4.8/38, MS4.3/27, 11C-3D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**4.00**	**218**	*e*P	**Pn**	**12 47 02.0**	**+0.4**
BAYA				*e*S	**Sn**	**12 47 48.4**	**-0.6**
BAYA				AMP		12 47 51.9	
	comp=Z,12nm,10.8s						
LASL	**Noumea**	**4.26**	**220**	*e*P	**Pn**	**12 47 05.7**	**+0.5**
NORM	**Noumea**	**4.29**	**221**	*e*P	**Pn**	**12 47 05.4**	**-0.2**
NORM				*e*S	**Sn**	**12 47 57.0**	**+0.7**
NOUC	**Port Laguerre**	**4.32**	**224**	*e*P	**Pn**	**12 47 06.6**	**+0.6**
NOUC				*e*S	**Sn**	**12 47 58.3**	**+1.4**
NOUC				AMP		12 47 59.4	
	comp=Z,47nm,6.6s						
MVNO	**Noumea**	**4.35**	**221**	*e*P	**Pn**	**12 47 07.3**	**+0.9**
MVNO				*e*S	**Sn**	**12 47 58.1**	**+0.5**
MVNO				AMP		12 48 00.8	
	comp=Z,18nm,1.0s						
MSVF	**Nonsavu**	**8.20**	**83**	*e*Pn	**Pn**	**12 48 01.0**	**+1.7**
	comp=Z,159nm,1.3s						
MSVF	**Nonsavu**	**8.20**	**83**	*e*P	**Pn**	**12 48 01.0**	**+1.7**
MSVF				pmax	pmax		
	comp=Z,159nm,1.3s						
MSVF	**Nonsavu**	**8.20**	**83**	Pn	**Pn**	**12 48 02.9**	**+3.6**
	comp=Z,504nm,1.5s,SNR=9.1						
HNR	**Honiara**	**13.28**	**314**	LR	LR	12 53 53.4	
	comp=Z,419nm,18.2s,baz=161,slow=36						
EIDS	**Eidsvold**	**18.21**	**246**	*e*Pn	**Pn**	**12 50 10.8**	**-2.4**
	comp=Z,28nm,1.3s						
AFI	**Afiamalu**	**18.63**	**77**	LR	LR	12 55 56.6	
	comp=Z,926nm,20.5s,baz=250,slow=32						
ARMA	**Armidale**	**19.81**	**232**	*e*P	**Pn**	**12 50 32.6**	**0.0**
ARMA	**Armidale**	**19.81**	**232**	*e*P	**Pn**	**12 50 26.5**	**-6.1**
	comp=Z,34nm,1.1s						
URZ	**Urewera**	**20.31**	**163**	LR	LR	12 56 49.7	
	comp=Z,598nm,20.8s,MS3.9,baz=345,slow=32						
CTA	**Charters Tower**	**21.95**	**263**	P	**P**	**12 50 57.6**	**+3.2**
	comp=Z,4.8nm,0.9s,mb3.9,baz=54,slow=9.7,SNR=3.0						
CTA				LR	LR	12 58 21.3	
	comp=Z,431nm,21.1s,MS3.8,baz=78,slow=34						
CTA	**Charters Tower**	**21.95**	**263**	P	**P**	**12 50 57.6**	**+3.2**
CTA				LR	LR	12 58 21.4	
CTA	**Charters Tower**	**21.95**	**263**	P	**P**	**12 50 57.6**	**+3.2**
CTAO	**Charters Tower**	**21.95**	**263**	*e*P	**P**	**12 50 52.1**	**-2.2**
	comp=Z,28nm,1.1s,mb4.6						
CTAO	**Charters Tower**	**21.95**	**263**	*e*P	**P**	**12 50 52.1**	**-2.3**
CTAO				pmax	pmax		
	comp=Z,28nm,1.1s,mb4.6						
CTAO	**Charters Tower**	**21.95**	**263**	P	Px	12 51 15.4	
PMG	**Port Moresby**	**23.65**	**291**	P	**P**	**12 51 12.0**	**-0.3**
	comp=Z,30nm,1.1s,mb4.7,baz=106,slow=1.5,SNR=9.0						
PMG	**Port Moresby**	**23.65**	**291**	*e*P	**P**	**12 51 12.8**	**+0.5**
	comp=Z,95nm,1.1s,mb5.1						
PMG	**Port Moresby**	**23.65**	**291**	*d i*P	**P**	**12 51 12.2**	**-0.1**
PMG				pmax	pmax		
	comp=Z,99nm,2.1s						
PMG	**Port Moresby**	**23.65**	**291**	P	**P**	**12 51 14.9**	**+2.6**
	comp=Z,901nmcomp=Z,80nm,1.3s,mb5.0						
MTSU	**Mount Surprise**	**23.90**	**268**	*e*P	**P**	**12 51 15.5**	**+0.9**
	comp=Z,67nm,0.9s,mb5.1						
CNB	**Canberra Magne**	**24.13**	**224**	*e*P	**P**	**12 51 17.0**	**+0.5**
	comp=Z,94nm,0.9s,mb5.2						
CNB				*e*S	**S**	**12 55 30.0**	**-5.1**
QLP	**Quilpie**	**24.48**	**247**	*e*P	**P**	**12 51 20.1**	**+0.3**
RPZ	**Rata Peaks**	**24.68**	**177**	P	**P**	**12 51 21.0**	**-0.5**
	comp=Z,15nm,0.9s,mb4.5,baz=270,slow=1.0,SNR=2.3						
RPZ				LR	LR	12 59 46.5	
	comp=Z,924nm,21.3s,MS4.2,baz=10,slow=34						
RPZ	**Rata Peaks**	**24.68**	**177**	P	**P**	**12 51 21.0**	**-0.5**
RPZ				LR	LR	12 59 46.5	
CMSA	**Cobar Meteorol**	**24.84**	**235**	*e*P	**P**	**12 51 23.1**	**0.0**
	comp=Z,62nm,1.0s,mb5.1						
COEN	**Coen**	**25.74**	**277**	*e*P	**P**	**12 51 30.7**	**-0.6**
	comp=Z,172nm,1.2s,mb5.5						
COEN	**Coen**	**25.74**	**277**	P	**P**	**12 51 37.9**	**+6.5**
	comp=Z,434nmcomp=Z,19nm,1.3s,mb4.5						
STKA	**Stephens Creek**	**28.20**	**237**	P	**P**	**12 51 53.9**	**+0.5**
	comp=Z,4.8nm,0.8s,mb4.2,baz=69,slow=13,SNR=12						
STKA				PcP	PcP	12 55 06.9	-0.3
	comp=Z,7.1nm,1.1s,baz=72,slow=6.4,SNR=3.7						
STKA				LR	LR	13 02 41.1	
	comp=Z,614nm,19.2s,MS4.2,baz=54,slow=36						
STKA	**Stephens Creek**	**28.20**	**237**	*e*P	**P**	**12 51 53.6**	**+0.2**
	comp=Z,11nm,1.9s,mb4.2						
STKA				*e*S	**S**	**12 56 52.1**	**+12**
STKA	**Stephens Creek**	**28.20**	**237**	*e*P	**P**	**12 51 52.7**	**-0.7**
	comp=Z,12nm,1.9s,mb4.2						
STKA	**Stephens Creek**	**28.20**	**237**	P	**P**	**12 51 53.9**	**+0.5**
STKA						12 55 06.9	
STKA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
STKA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
STKA				MLR	MLR		
	comp=Z,614nm,19.2s						
RAR	**Rarotonga**	**28.90**	**100**	LR	LR	13 00 45.6	
	comp=Z,269nm,18.3s,MS3.9,baz=36,slow=31						
WB2	**Warramunga Arr**	**33.14**	**262**	*e*P	**P**	**12 52 35.9**	**-1.2**
WRAB	**Tennant Creek**	**33.14**	**262**	*e*P	**P**	**12 52 35.7**	**-1.4**
	comp=Z,11nm,1.2s,mb4.7						
WRAB	**Tennant Creek**	**33.14**	**262**	*e*P	**P**	**12 52 35.7**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
WRAB	**Tennant Creek**	**33.14**	**262**	P	**P**	**12 52 41.4**	**+4.3**
	comp=Z,33nm,1.4s,mb5.1						
WRAB	**Tennant Creek**	**33.14**	**262**	P	**P**	**12 52 41.4**	**+4.3**
	comp=Z,33nm,1.4s,mb5.1						
WRA	**Warramunga Arr**	**33.15**	**262**	P	**P**	**12 52 35.6**	**-1.6**
	comp=Z,1.0nm,0.4s,mb4.1,baz=87,slow=8.4,SNR=34						
WRA				PcP	PcP	12 55 19.0	-1.4
	comp=Z,0.5nm,0.6s,baz=89,slow=3.7,SNR=7.1						
WRA				LR	LR	13 06 41.5	
	comp=Z,325nm,18.8s,MS4.1,baz=90,slow=37						
WRA	**Warramunga Arr**	**33.15**	**262**	P	**P**	**12 52 35.6**	**-1.6**
WRA				PcP	PcP	12 55 19.0	-1.4
WRA				LR	LR	13 06 41.5	
WRA	**Warramunga Arr**	**33.15**	**262**	P	**P**	**12 52 35.6**	**-1.6**
WRA						12 55 19.0	
ASAR	**Alice Springs**	**33.44**	**256**	P	**P**	**12 52 38.9**	**-0.8**
	comp=Z,5.1nm,0.4s,mb4.8,baz=81,slow=8.9,SNR=155						
ASAR	**Alice Springs**	**33.44**	**256**	P	**P**	**12 52 39.0**	**-0.8**
ASAR	**Alice Springs**	**33.44**	**256**	P	**P**	**12 52 38.9**	**-0.9**
ASAR				pmax	pmax		
	comp=Z,5.0nm,0.4s						
TBI	**Tubuai**	**38.41**	**104**	*e*LQ		13 02 05.1	
	comp=Z,400nm,29.8s						
TBI				*e*LR	LR	13 04 01.6	
	comp=Z,294nm,29.2s						
PPT	**Papeete**	**38.81**	**95**	*e*LQ		13 02 28.6	
	comp=Z,592nm,30.8s						
PPT				*e*LR	LR	13 04 14.4	
	comp=Z,520nm,28.5s						
PPT	**Papeete**	**38.81**	**95**	LR	LR	13 05 10.6	
	comp=Z,251nm,21.5s,MS4.0,baz=1.3,slow=30						
FORT	**Forrest**	**39.19**	**244**	*e*P	**P**	**12 53 28.3**	**-0.5**
	comp=Z,18nm,0.6s,mb5.0						
GUMO	**Guam**	**40.47**	**321**	LR	LR	13 08 24.8	
	comp=Z,156nm,20.3s,MS3.9,baz=270,slow=33						
FITZ	**Fitzroy Crossi**	**41.53**	**264**	P	**P**	**12 53 48.2**	**-0.2**
	comp=Z,7.2nm,0.6s,mb4.5,baz=78,slow=8.7,SNR=68						
FITZ				LR	LR	13 10 07.7	
	comp=Z,323nm,21.3s,MS4.2,baz=97,slow=35						
FITZ	**Fitzroy Crossi**	**41.53**	**264**	*e*P	**P**	**12 53 48.1**	**-0.3**
	comp=Z,39nm,1.1s,mb5.0						
FITZ	**Fitzroy Crossi**	**41.53**	**264**	*e*P	**P**	**12 53 48.1**	**-0.2**
	comp=Z,32nm,1.0s,mb4.9						
MBWA	**Marble Bar**	**46.66**	**259**	*e*P	**P**	**12 54 29.1**	**-0.4**
MBWA	**Marble Bar**	**46.66**	**259**	*e*P	**P**	**12 54 29.3**	**-0.3**
	comp=Z,25nm,1.1s,mb5.0						
MBWA	**Marble Bar**	**46.66**	**259**	P	**P**	**12 54 35.4**	**+5.9**
	comp=Z,25nm,1.0s,mb5.1						
MEEK	**Meekatharra**	**47.29**	**251**	*e*P	**P**	**12 54 33.8**	**-0.6**
	comp=Z,111nm,0.4s						
KLBR	**Kellerberrin**	**48.06**	**244**	*e*P	**P**	**12 54 38.9**	**-1.4**
	comp=Z,22nm,0.9s,mb5.2						
NWAO	**Narrogin (SRO)**	**48.56**	**243**	P	**P**	**12 54 43.5**	**-0.6**
	comp=Z,9.5nm,0.8s,mb4.9,baz=120,slow=4.7,SNR=5.6						
NWAO	**Narrogin (SRO)**	**48.56**	**243**	P	**P**	**12 54 43.5**	**-0.6**
NWAO	**Narrogin (SRO)**	**48.56**	**243**	P	**P**	**12 54 43.5**	**-0.7**
RKT	**Rikitea**	**51.71**	**105**	*e*LR	LR	13 10 09.2	
	comp=Z,180nm,28.8s						
CBIJ	**Chichi jima**	**52.93**	**329**	LR	LR	13 14 00.3	
	comp=Z,120nm,20.8s,MS3.9,baz=83,slow=32						
MYLDM	**Lahad Datu**	**55.68**	**290**	P	Px	12 55 54.1	
VNDA	**Vanda**	**58.69**	**182**	P	**P**	**12 55 57.0**	**-0.7**
	comp=Z,0.7nm,0.5s,mb4.0,baz=354,slow=6.9,SNR=7.8						
VNDA				LR	LR	13 19 08.8	
	comp=Z,159nm,18.3s,MS4.2,baz=11,slow=34						
VNDA	**Vanda**	**58.69**	**182**	P	**P**	**12 55 57.0**	**-0.7**
VNDA				LR	LR	13 19 08.8	
VNDA	**Vanda**	**58.69**	**182**	P	**P**	**12 55 57.0**	**-0.7**
SBA	**Scott Base**	**58.91**	**181**	*e*P	**P**	**12 55 59.9**	**+0.6**
	comp=Z,68nm,1.7s,mb5.4						
SBA	**Scott Base**	**58.91**	**181**	*e*P	**P**	**12 55 59.9**	**+0.6**
SBA				pmax	pmax		
	comp=Z,68nm,1.7s,mb5.4						
JOW	**Kunigami**	**60.62**	**317**	LR	LR	13 17 11.5	
	comp=Z,595nm,21.7s,MS4.7,baz=288,slow=31						
MJAR	**Matsushiro Arr**	**62.66**	**332**	P	**P**	**12 56 23.9**	**-1.3**
	comp=Z,10nm,1.0

HHC				sP	sP		12 58 21.8	+9.2
HHC				PP	PP		13 01 19.8	+5.9
HHC				S	S		13 08 18.8	+1.7
HHC				sS	sS		13 08 26.3	+7.5
HHC				SKS			13 08 27.3	
HHC				SS	SS		13 13 32.8	+4.4
HHC				pmax	pmax			
	comp=Z,22nm,0.7s,mb5.2							
HHC				pmax	pmax			
	comp=Z,270nm,5.7s							
HHC				LR	LR			
	comp=N,310nm,17.3s,MS5.0							
HHC				LR	LR			
	comp=E,460nm,16.9s,MS5.0							
HHC				LR	LR			
	comp=Z,160nm,21.6s,MS4.3							
CD2	**Chengdu**	**80.30**	**307**	P	**P**		**12 58 15.5**	**+3.5**
CD2				pP	pP		12 58 20.3	+7.3
CD2				sP	sP		12 58 21.8	+8.5
CD2				PP	PP		13 01 19.6	+4.7
CD2				S	S		13 08 19.3	+0.8
CD2				sS	sS		13 08 26.6	+6.4
CD2				SKS			13 08 27.8	
CD2				SS	SS		13 13 32.5	+2.4
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s,mb5.0							
CD2				pmax	pmax			
	comp=Z,280nm,4.7s							
CD2				LR	LR			
	comp=N,470nm,6.6s							
CD2				LR	LR			
	comp=Z,290nm,8.9s							
LZH	**Lanzhou**	**82.76**	**312**	*e*P	**P**		**12 58 30.0**	**+5.1**
LZH				pP	pP		12 58 33.5	+7.6
LZH				sP	sP		12 58 36.0	+10
LZH				pmax	pmax			
	comp=Z,13nm,1.0s,mb4.9							
LZH				LR	LR			
	comp=N,340nm,9.8s							
LZH				LR	LR			
	comp=E,320nm,10.5s							
LZH				LR	LR			
	comp=Z,280nm,11.8s,MS4.9							
SYO	**Syowa Base**	**85.25**	**196**⇑	*e*P	**P**		**12 58 35.6**	**-1.5**
SYO	**Syowa Base**	**85.25**	**196**⇓	*e*X	PcP		12 58 49.8	+10
YAK	**Yakutsk**	**86.72**	**342**	*e*P	**P**		**12 58 45.1**	**+0.9**
	comp=Z,36nm,1.0s,mb5.6							
YAK	**Yakutsk**	**86.72**	**342**	*e*P	**P**		**12 58 42.5**	**-1.7**
YAK				pmax	pmax			
	comp=Z,34nm,1.1s,mb5.5							
BILL	**Bilibino**	**86.81**	**359**⇓	*i*P	**P**		**12 58 46.8**	**+2.3**
BILL				*i*			12 58 55.0	
BILL				*i*			13 02 16.2	
BILL				*e*S	S		13 09 19.3	-3.4
BILL				pmax	pmax			
	comp=Z,23nm,1.6s,mb5.2							
ULN	**Ulaanbaatar**	**86.82**	**323**	*e*P	**P**		**12 58 45.1**	**+0.1**
	comp=Z,14nm,1.1s,mb5.1							
ULN	**Ulaanbaatar**	**86.82**	**323**	*e*P	**P**		**12 58 45.1**	**0.0**
ULN				pmax	pmax			
	comp=Z,14nm,1.1s,mb5.1							
ULN	**Ulaanbaatar**	**86.82**	**323**	P	**P**		**12 58 47.0**	**+1.9**
GTA	**Gaotai**	**87.15**	**313**	*e*P	**P**		**12 58 46.5**	**-0.4**
GTA				pP	pP		12 58 50.8	+2.9
GTA				sP	sP		12 58 54.1	+5.8
GTA				S	S		13 09 23.3	-4.0
GTA				SS	SS		13 15 10.5	-0.8
GTA				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.3							
GTA				pmax	pmax			
	comp=Z,85nm,5.0s							
GTA				LR	LR			
	comp=N,470nm,10.9s,MS5.3							
GTA				LR	LR			
	comp=E,520nm,14.0s,MS5.3							
GTA				LR	LR			
	comp=Z,540nm,15.9s,MS5.0							
SONM	**Songino Array**	**87.18**	**323**	P	**P**		**12 58 46.4**	**-0.4**
	comp=Z,21nm,0.8s,mb4.4,baz=129,slow=4.0,SNR=9.4							
SONM				LR	LR		13 34 12.2	
	comp=Z,54nm,18.1s,MS4.0,baz=121,slow=33							
SONM	**Songino Array**	**87.18**	**323**	P	**P**		**12 58 46.4**	**-0.4**
SONM				LR	LR		13 34 12.2	
SONM	**Songino Array**	**87.18**	**323**	P	**P**		**12 58 46.4**	**-0.4**
NVAR	**Mina Array Bea**	**88.44**	**48**	P	**P**		**12 58 52.8**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=250,slow=1.8,SNR=3.0							
NVAR				LR	LR		13 29 02.4	
	comp=Z,320nm,20.8s,MS4.7,baz=106,slow=29							
NVAR	**Mina Array Bea**	**88.44**	**48**	P	**P**		**12 58 52.8**	**-0.3**
NVAR				LR	LR		13 29 02.4	
SNAA	**Sanae**	**89.42**	**182**	*e*P	**P**		**12 58 53.1**	**-4.1**
	comp=Z,40nm,2.3s,mb5.3							
SNAA	**Sanae**	**89.42**	**182**	*e*P	**P**		**12 58 53.1**	**-4.1**
SNAA				pmax	pmax			
	comp=Z,40nm,2.3s							
ILAR	**Eielson Array**	**89.92**	**17**	P	**P**		**12 58 56.6**	**-2.7**
	comp=Z,0.3nm,0.5s,mb3.9,baz=242,slow=5.2,SNR=10.0							
ILAR				LR	LR		13 32 00.4	
	comp=Z,251nm,19.7s,MS4.7,baz=197,slow=31							
ILAR	**Eielson Array**	**89.92**	**17**	P	**P**		**12 58 56.6**	**-2.7**
ILAR				LR	LR		13 32 00.4	
ILAR	**Eielson Array**	**89.92**	**17**	P	**P**		**12 58 56.7**	**-2.7**
VNA3	**Neumayer Olymp**	**90.00**	**180**	*e*	**P**		**12 58 55.5**	**-4.4**
VNA2	**Neumayer--Watz**	**90.30**	**181**	*e*	**P**		**12 58 57.0**	**-4.3**
VNA2				*e*			12 59 10.6	
PDAR	**Pinedale Array**	**96.25**	**47**	LR	LR		13 37 24.8	
	comp=Z,169nm,18.1s,MS4.6,baz=254,slow=32							
TXAR	**Lajitas Array**	**96.42**	**61**	LR	LR		13 34 25.3	
	comp=Z,250nm,19.2s,MS4.7,baz=0.0,slow=30							
WMQ	**Urumqi**	**97.23**	**314**	P	**P**		**12 59 35.8**	**+2.3**
WMQ				LR	LR			
	comp=N,56nm,19.7s							
WMQ				LR	LR			
	comp=E,61nm,28.9s							
BRVK	**Borovoye**	**110.46**	**321**⇐	*i*PKIKP	PKiKP		13 04 23.5	-9.4
BRVK				pmax	pmax			
	comp=Z,9.0nm,2.5s							
ARCES	**ARCESS Array B**	**124.90**	**345**	PKP	PKPdf		13 04 58.0	-2.2
	comp=Z,3.9nm,1.0s,baz=132,slow=2.6,SNR=7.9							
ARCES	**ARCESS Array B**	**124.90**	**345**	PKP	PKPdf		13 04 58.0	-2.2
ARCES	**ARCESS Array B**	**124.90**	**345**	PKIKP	PKPdf		13 04 58.0	-2.1
MORC	**Moravsky Berou**	**141.98**	**330**	*e*PKPdf	PKPdf		13 05 30.6	-2.1
MORC	**Moravsky Berou**	**141.98**	**330**	*e*PKIKP	PKPdf		13 05 30.6	-2.1
CONA	**Conrad Observa**	**144.06**	**329**⇑	*e*PKPdf	PKPdf		13 05 35.7	-0.7
	comp=Z,12nm,1.2s							
CSNA	**Conrad Observa**	**144.07**	**329**⇑	*e*PKPdf	PKPdf		13 05 35.7	-0.8
	comp=Z,12nm,1.4s							
GERES	**GERESS Array B**	**144.40**	**332**	PKP	PKPdf		13 05 33.9	-3.1
	comp=Z,0.6nm,0.3s,baz=54,slow=5.0,SNR=5.1							
GERES	**GERESS Array B**	**144.40**	**332**	PKP	PKPdf		13 05 33.9	-3.1
GERES	**GERESS Array B**	**144.40**	**332**	PKIKP	PKPdf		13 05 33.9	-3.1
ARSA	**Arzberg**	**144.70**	**329**⇑	*e*PKPdf	PKPdf		13 05 35.5	-2.1
	comp=Z,21nm,1.5s							
GRF	**Grafenberg Arr**	**144.78**	**335**	*e*PKPbc	PKPdf		13 05 40.9	+3.3
GRF	**Grafenberg Arr**	**144.78**	**335**	*e*PKIKP	PKPdf		13 05 40.9	+3.3
MOA	**Molln**	**144.88**	**331**⇑	PKPdf	PKPdf		13 05 36.4	-1.5
	comp=Z,28nm,1.2s							
PERS	**Pernice**	**145.33**	**328**	*i* PKPdf	PKPdf		13 05 42.6	+3.9
SOKA	**Soboth**	**145.34**	**329**⇑	*e*PKPdf	PKPdf		13 05 37.5	-1.2
	comp=Z,16nm,0.9s							
KBA	**Koelnbreinsper**	**145.87**	**331**⇑	*e*PKPdf	PKPdf		13 05 37.5	-2.1
	comp=Z,18nm,1.4s							
LJU	**Ljubljana**	**146.04**	**328**	*e*PKPdf	PKPdf		13 05 39.5	-0.4
BOJS	**Bojanci**	**146.04**	**327**	*i* PKPdf	PKPdf		13 05 40.5	+0.6
VISS	**Visnje**	**146.05**	**328**	*i* PKPdf	PKPdf		13 05 45.1	+5.2
MYKA	**Terra Mystica**	**146.05**	**330**⇑	*e*PKPab	PKPdf		13 05 39.4	-0.5
	comp=Z,14nm,1.7s							
JAVS	**Javornik**	**146.37**	**328**	*i* PKPdf	PKPdf		13 05 40.9	+0.4
WTTA	**Wattenberg**	**146.50**	**332**⇑	*e*PKiKP	PKPab		13 05 43.0	+0.1
	comp=Z,14nm,1.4s							
RETA	**Reutte**	**146.71**	**333**⇑	*e*PKPab	PKPbc		13 05 41.4	-1.2
	comp=Z,13nm,1.3s							
DAVOX	**Davos/Dischmat**	**147.63**	**333**	PKPbc	PKPbc		13 05 44.0	-1.3
	baz=328,slow=9.5							
DAVOX	**Davos/Dischmat**	**147.63**	**333**	PKPbc	PKPbc		13 05 44.0	-1.3
DAVOX	**Davos/Dischmat**	**147.63**	**333**	PKP2	PKPbc		13 05 44.0	-1.2
HAU	**Haudompre**	**147.99**	**338**	*e*PKP1	PKPbc		13 05 45.1	-1.1
TUE	**Stuetta**	**148.10**	**334**	*e*PKPdf	PKPdf		13 05 45.3	+2.0
TUE				*e*PKPbc	PKPbc		13 05 47.7	+1.1
TUE				*e*PKPab	PKPab		13 05 50.8	+1.5
CABF	**La Chapelle**	**149.27**	**337**	*e*PKP1	PKPbc		13 05 48.7	-0.8
LOR	**Lormes**	**149.45**	**341**	*e*PKP1	PKPbc		13 05 48.8	-1.1
	comp=Z,5.7nm,0.6s							
SSF	**Saint Saulge**	**149.75**	**341**	*e*PKP1	PKPbc		13 05 49.6	-1.1
LPL	**La Plagne**	**149.94**	**335**	*e*PKP1	PKPbc		13 05 50.6	-0.6
LPG	**La Plagne**	**149.95**	**335**	*e*PKP1	PKPbc		13 05 50.6	-0.6
ORIF	**Oris-en-Rattie**	**150.77**	**336**	*e*PKP1	PKPbc		13 05 52.2	-1.0
	comp=Z,4.3nm,0.6s							
ESDC	**Sonseca Array**	**158.63**	**346**	PKPab	PKPab		13 06 37.6	+3.9
	comp=Z,0.2nm,0.3s,baz=31,slow=3.3,SNR=4.5							
TORD	**Torodi Ar. Bea**	**166.94**	**245**	PKP	PKPdf		13 06 05.6	-1.9
	comp=Z,2.3nm,1.2s,baz=55,slow=0.4,SNR=4.4							
TORD				PKPab	PKPab		13 07 10.2	-0.8
	comp=Z,1.3nm,1.1s,baz=120,slow=2.0,SNR=3.5							
TORD	**Torodi Ar. Bea**	**166.94**	**245**	PKP	PKPdf		13 06 05.6	-1.9
TORD				PKPab	PKPab		13 07 10.2	-0.8

ISCJB ***18*** *12:47:19.8±1.0, 33°.28N±0°.05×59°.16E±0°.08, h8km±12km, Error ellipse: s-maj=13.5km s-min=4.9km az=37.4*
CSEM ***18*** *12:47:20.0±0.2, 33°.25N×59°.16E, h2km, ML3.6, Error ellipse: s-maj=6.1km s-min=5.2km az=116.0*
THR ***18*** *12:47:20.3±0.3, 33°.38N×59°.13E, h15km, ML3.5*
TEH ***18*** *12:47:21.5, 33°.25N×59°.20E, h9km*

ISC 18 12:47:20.4±1.2, 33°.29N±0°.05×59°.17E±0°.08, h1km±13km, n43, σ0s91/56, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
IMON	**Monand**	**0.43**	**103**	*e*Pg	**Pg**	**12 47 28.7**	**0.0**
IMON	**Monand**	**0.43**	**103**	*e*Pg	**Pg**	**12 47 28.7**	**0.0**
IDAH	**Dahanechah**	**0.81**	**133**	*e*Pg	**Pg**	**12 47 35.2**	**-0.7**
IDAH	**Dahanechah**	**0.81**	**133**	*e*Pg	**Pg**	**12 47 35.2**	**-0.7**
IKOO	**Kooshah**	**0.87**	**189**	*e*Pg	**Pg**	**12 47 33.7**	**-3.5**
IKOO	**Kooshah**	**0.87**	**189**	*e*Pg	**Pg**	**12 47 33.7**	**-3.5**
SHRT	**Shahrakht**	**1.01**	**69**	*e*Pg	**Pg**	**12 47 39.1**	**-0.6**
SHRT				AML	AML	12 47 57.7	
	comp=E,705nm,0.1s						
SHRT	**Shahrakht**	**1.01**	**69**	*e*Pg	**Pg**	**12 47 39.1**	**-0.6**
TABS	**Tabas**	**1.75**	**282**	*e*Pg	**Pn**	**12 47 51.4**	**-0.4**
TABS				AML	AML	12 48 22.6	
	comp=N,511nm,0.8s						
TABS	**Tabas**	**1.75**	**282**	*e*Pg	**Pn**	**12 47 51.4**	**-0.4**
IMOG	**Moghan**	**2.81**	**3**	*e*	**Pb**	**12 48 10.0**	**-1.5**
	comp=Z,1μm,0.2s						
IMOG				*e*Pn	**Pn**	**12 48 07.1**	**+0.6**
IMOG				*e*Sn	**Sn**	**12 48 42.3**	**+1.2**
ISRO	**Mashad**	**3.02**	**5**	*e*Pn	**Pn**	**12 48 10.1**	**+0.7**
ISRO	**Mashad**	**3.02**	**5**	*e*Pn	**Pn**	**12 48 10.1**	**+0.7**
IMYA	**Miami**	**3.14**	**14**	*e*Pn	**Pn**	**12 48 11.0**	**0.0**
IMYA				*e*Sn	**Sn**	**12 48 48.5**	**-0.6**
IMYA				*e*		12 49 08.0	
	comp=Z,1μm,0.3s						
IMYA	**Miami**	**3.14**	**14**	*e*Pn	**Pn**	**12 48 11.0**	**0.0**
IMYA				*e*Sn	**Sn**	**12 48 48.5**	**-0.6**
IPAY	**Payeh**	**3.16**	**358**	*e*Pn	**Pn**	**12 48 12.6**	**+1.4**
IPAY				*e*Sn	**Sn**	**12 48 49.3**	**-0.2**
IPAY				*e*		12 49 12.4	
	comp=Z,1μm,0.4s						
IPAY	**Payeh**	**3.16**	**358**	*e*Pn	**Pn**	**12 48 12.6**	**+1.4**
IPAY				*e*Sn	**Sn**	**12 48 49.3**	**-0.2**
IAKL	**Akhelmad**	**3.32**	**354**	*e*Pn	**Pn**	**12 48 14.2**	**+0.7**
IAKL				*e*Sn	**Sn**	**12 48 52.7**	**-0.9**
IAKL				*e*		12 48 58.6	
	comp=Z,812nm,0.3s						
IBAF	**Bafgh**	**3.48**	**242**	*e*Pn	**Pn**	**12 48 15.9**	**+0.2**
IBAF				*e*Sn	**Sn**	**12 48 56.0**	**-1.5**
IBAF				*e*		12 49 25.8	
	comp=Z,3μm,0.4s						
IBAF	**Bafgh**	**3.48**	**242**	*e*Pn	**Pn**	**12 48 15.9**	**+0.2**
IBAF				*e*Sn	**Sn**	**12 48 56.0**	**-1.5**
IKRD	**Kardeh**	**3.52**	**351**	*e*Pn	**Pn**	**12 48 16.4**	**+0.2**
IKRD				*e*		12 48 27.1	
	comp=Z,1μm,0.4s						
IKRD				*e*Sn	**Sn**	**12 48 56.9**	**-1.5**
IKRD	**Kardeh**	**3.52**	**351**	*e*Pn	**Pn**	**12 48 16.4**	**+0.2**
IKRD				*e*Sn	**Sn**	**12 48 56.9**	**-1.5**
ISFR	**Sfrayin**	**3.88**	**346**	*e*Pn	**Pn**	**12 48 22.1**	**+1.0**
ISFR				*e*		12 48 41.2	
	comp=Z,723nm,0.4s						
KRBR	**Kerman**	**3.88**	**213**	*e*Pn	**Pn**	**12 48 22.7**	**+1.5**
KRBR				AML	AML	12 49 35.5	
	comp=E,78nm,0.3s						
KRBR				AML	AML	12 49 42.4	
	comp=N,107nm,0.4s						
KRBR	**Kerman**	**3.88**	**213**	*e*Pn	**Pn**	**12 48 22.7**	**+1.5**
IEMG	**Emamgholi**	**4.14**	**354**	*e*Pn	**Pn**	**12 48 25.4**	**+0.7**
IEMG				*e*Sn	**Sn**	**12 49 12.1**	**-1.6**
IEMG				*e*		12 49 49.3	
	comp=Z,663nm,0.5s						
IEMG	**Emamgholi**	**4.14**	**354**	*e*Pn	**Pn**	**12 48 25.4**	**+0.7**
IEMG				*e*Sn	**Sn**	**12 49 12.1**	**-1.6**
ICHK	**Chekchek**	**4.14**	**257**	*e*Pn	**Pn**	**12 48 24.5**	**-0.2**
ICHK				*e*		12 49 46.9	
	comp=Z,2μm,0.2s						
ICHK	**Chekchek**	**4.14**	**257**	*e*Pn	**Pn**	**12 48 24.5**	**-0.2**
IMEH	**Mehriz**	**4.29**	**245**	*e*Pn	**Pn**	**12 48 26.8**	**0.0**
IMEH				*e*		12 49 48.4	
	comp=Z,671nm,0.3s						
IMEH	**Mehriz**	**4.29**	**245**	*e*Pn	**Pn**	**12 48 26.8**	**0.0**
ISHV	**Shirvan**	**4.40**	**345**	*e*Pn	**Pn**	**12 48 29.7**	**+1.4**
ISHV				*e*		12 49 21.7	
	comp=Z,704nm,0.3s						
ISHV	**Shirvan**	**4.40**	**345**	*e*Pn	**Pn**	**12 48 29.7**	**+1.4**
ISAD	**Sadrabad**	**4.82**	**255**	*e*Pn	**Pn**	**12 48 34.8**	**+0.7**
ISAD				*e*		12 50 01.3	
	comp=Z,782nm,0.3s						
ISAD	**Sadrabad**	**4.82**	**255**	*e*Pn	**Pn**	**12 48 34.8**	**+0.7**
IANJ	**Anjilo**	**4.86**	**298**	*e*Pn	**Pn**	**12 48 34.7**	**+0.2**
IANJ				*e*		12 48 58.4	
	comp=Z,370nm,0.2s						
IANJ	**Anjilo**	**4.86**	**298**	*e*Pn	**Pn**	**12 48 34.7**	**+0.2**
ISHM	**Shahmirzad**	**5.46**	**299**	*e*Pn	**Pn**	**12 48 42.2**	**-0.6**
ISHM				*e*		12 50 31.7	
	comp=Z,376nm,0.3s						
ISHM	**Shahmirzad**	**5.46**	**299**	*e*Pn	**Pn**	**12 48 42.2**	**-0.6**
IFIR	**Firoozkooh**	**5.79**	**296**	*e*Pn	**Pn**	**12 48 47.3**	**-0.1**
IFIR				*e*		12 48 55.5	
	comp=Z,227nm,0.1s						
IFIR	**Firoozkooh**	**5.79**	**296**	*e*Pn	**Pn**	**12 48 47.3**	**-0.1**
IDMV	**Damavand**	**6.32**	**293**	*e*Pn	**Pn**	**12 48 55.1**	**+0.4**
IDMV				*e*		12 48 57.2	
	comp=Z,246nm,0.2s						
IDMV	**Damavand**	**6.32**	**293**	*e*Pn	**Pn**	**12 48 55.1**	**+0.4**

IDC ***18*** *12:53:53.9±1.1, 16°.79S×172°.09E, h0km, mb4.0/9, mb1 4.2/9, mb1mx3.9/19, mbtmp4.0/9, Error ellipse: s-maj=36.3km s-min=21.9km az=144.0*
ISCJB ***18*** *12:53:57.2±0.6, 16°.6S±0°.1×172°.05E±0°.09, h33km, mb4.0/10, Error ellipse: s-maj=21.0km s-min=11.0km az=162.9*
NEIC ***18*** *12:53:59.4±0.6, 16°.69S×172°.03E, h35km, mb4.3/3, Error ellipse: s-maj=21.0km s-min=10.9km az=161.0*

ISC 18 12:53:59.4±0.6, 16.7S±0°.1×172.02E±0°.09, h35km, n21, σ0s99/21, mb4.0/10, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.86**	**101**	P	**Pn**	**12 55 23.8**	**0.0**
FUNA	**Funafuti**	**10.70**	**42**	P	**Pn**	**12 56 29.1**	**-1.2**
CTA	**Charters Tower**	**24.68**	**258**	P	**P**	**12 59 17.8**	**+0.7**
	2.9nm,0.7s,mb3.9,baz=90,slow=15,SNR=3.6						
CTA	**Charters Tower**	**24.68**	**258**	P	**P**	**12 59 17.8**	**+0.7**
WRAB	**Tennant Creek**	**35.86**	**259**	*e*P	**P**	**13 00 55.2**	**-0.9**
	1.0nm,0.4s,mb4.1						
WRA	**Warramunga Arr**	**35.87**	**259**	P	**P**	**13 00 55.2**	**-1.0**
	0.8nm,0.8s,mb3.7,baz=90,slow=8.1,SNR=7.2						
WRA	**Warramunga Arr**	**35.87**	**259**	P	**P**	**13 00 55.2**	**-1.0**
ASAR	**Alice Springs**	**36.37**	**253**	P	**P**	**13 01 00.2**	**-0.2**
	1.9nm,0.7s,mb4.1,baz=82,slow=8.9,SNR=16						
ASAR	**Alice Springs**	**36.37**	**253**	P	**P**	**13 01 00.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**44.20**	**261**	P	**P**	**13 02 04.8**	**-0.5**
	2.9nm,0.9s,mb4.0,baz=111,slow=8.6,SNR=5.5						
FITZ	**Fitzroy Crossi**	**44.20**	**261**	*e*P	**P**	**13 02 05.6**	**+0.3**
	4.2nm,0.9s,mb4.2						
PETK	**Petropavlovsk-**	**70.58**	**351**	P	**P**	**13 05 10.7**	**0.0**
	3.8nm,1.0s,mb4.3,baz=145,slow=8.6,SNR=3.6						
PETK	**Petropavlovsk-**	**70.58**	**351**	P	**P**	**13 05 10.7**	**0.0**
QSPA	**South Pole Qui**	**73.37**	**180**	P	**P**	**13 05 26.7**	**-0.5**
	3.0nm,0.9s,mb4.2,baz=344,slow=2.2,SNR=6.1						
QSPA	**South Pole Qui**	**73.37**	**180**	*e*P	**P**	**13 05 27.1**	**-0.1**
	6.8nm,1.2s,mb4.5						
CMAR	**Chiang Mai Arr**	**79.91**	**293**	P	**P**	**13 06 07.8**	**+2.6**
	0.5nm,0.8s,mb3.5,baz=133,slow=3.8,SNR=4.5						
CMAR	**Chiang Mai Arr**	**79.91**	**293**	P	**P**	**13 06 07.8**	**+2.6**
NVAR	**Mina Array Bea**	**85.12**	**48**	P	**P**	**13 06 33.7**	**+1.8**
	0.6nm,0.8s,mb3.8,baz=229,slow=6.9,SNR=4.5						
NVAR	**Mina Array Bea**	**85.12**	**48**	P	**P**	**13 06 33.7**	**+1.8**
ILAR	**Eielson Array**	**87.02**	**16**	P	**P**	**13 06 40.3**	**-0.4**
	0.6nm,1.0s,mb3.8,baz=233,slow=6.3,SNR=3.9						
ILAR	**Eielson Array**	**87.02**	**16**	P	**P**	**13 06 40.2**	**-0.4**

GUC 18 12:59:45.7±0.9, 32°.51S×71°.70W, h32km±7km, MD3.6, ML2.8, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
CHNG	**Los Chungos**	**0.64**	**15**⇓	*i*P		Pb	12 59 58.2	-0.4
CHNG				*i*	S	Sb	13 00 07.5	+0.3
CHNG				AML	AML	13 00 07.8		
	comp=E,297nm,0.2s							
JACH	**Jahuel**	**0.95**	**101**⇑	*i*P		Pn	13 00 03.2	+0.4
JACH				*i*	S	Sn	13 00 15.9	+0.7
RCDM	**Rinconada Maip**	**1.23**	**143**	*e*P		Pn	13 00 07.2	+0.5
RCDM				*i*	S	Sn	13 00 23.8	+1.6
RCDM				AML	AML	13 00 25.6		
	comp=N,440nm,0.1s							
TACH	**Talagante**	**1.31**	**151**⇓	*i*P		Pn	13 00 08.0	+0.2
CLCH	**Cerro Calan**	**1.32**	**133**	*i* P		Pn	13 00 09.1	+1.2
CLCH				*i*	S	Sn	13 00 26.2	+1.9
CLCH				AML	AML	13 00 29.5		
	comp=E,226nm,0.6s							
FCH	**Farellones**	**1.44**	**125**⇑	*i*P		Pn	13 00 10.4	+0.8
FCH				*i*	S	Sn	13 00 28.9	+1.5
FCH				AML	AML	13 00 30.7		
	comp=E,179nm,0.3s							
CMCH	**Combarbala**	**1.45**	**24**	*e*P		Pn	13 00 10.6	+0.8
CMCH				AML	AML	13 00 34.0		
	comp=N,868nm,0.4s							
LNV	**Longovilo**	**1.47**	**171**	*e*P		Pn	13 00 10.3	+0.4
PCH	**Pirque**	**1.49**	**139**⇓	*i*P		Pn	13 00 11.7	+1.4
PCH				*i*	S	Sn	13 00 31.1	+2.5
CHCH	**Chadas Angostu**	**1.67**	**149**	*e*P		Pn	13 00 14.3	+1.5
CHCH				*i*	S	Sn	13 00 36.6	+3.5
LMEL	**Las Melosas**	**1.83**	**137**	AML	AML	13 00 44.0		
	comp=N,163nm,0.2s							

IDC ***18*** *13:00:36.0±1.4, 18°.97S×169°.69E, h0km, mb4.1/8, mb1 4.3/8, mb1mx4.1/17, mbtmp4.1/8, MS3.4/4, Ms1 3.4/4, ms1mx3.0/25, Error ellipse: s-maj=36.5km s-min=28.2km az=46.0*
ISCJB ***18*** *13:00:37.6±3.8, 19°.1S±0°.1×169°.74E±0°.09, h21km±28km, mb4.0/8, MS3.4/3, Error ellipse: s-maj=25.1km s-min=12.3km az=165.4*
NEIC ***18*** *13:00:41.0±0.7, 19°.08S×169°.73E, h35km, mb3.3/1, Error ellipse: s-maj=22.0km s-min=12.5km az=187.0*
NOU ***18*** *13:01:02.2±0.7, 20°.09S×168°.49E, h30km, MD2.6, ML1.6*

ISC 18 13:00:39.3±5.7, 19°.1S±0°.1×169°.70E±0°.09, h18km±37km, n28, σ0s83/22, mb4.0/8, MS3.4/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**4.04**	**220**	*e*P	**Pn**	**13 01 40.0**	**-0.1**
BAYA				AMP		13 02 12.7	
	comp=Z,6.3nm,0.7s						
LASL	**Noumea**	**4.31**	**223**	*e*P	**Pn**	**13 01 44.5**	**+0.5**
LASL				*e*S	**Sn**	**13 02 14.8**	**-19**
NOUC	**Port Laguerre**	**4.38**	**226**	*e*P	**Pn**	**13 01 45.3**	**+0.4**
NOUC				AMP		13 02 24.9	
	comp=Z,24nm,6.0s						
MSVF	**Nonsavu**	**8.04**	**82**	*e*P	**Pn**	**13 02 36.1**	**+0.9**
	comp=Z,40nm,1.4s						
RAO	**Raoul Island**	**15.16**	**134**	*e*P	**Pn**	**13 04 10.7**	**-1.9**
AFI	**Afiamalu**	**18.49**	**77**	LR	LR	13 10 59.9	
	comp=Z,83nm,18.3s,baz=181,slow=34						
URZ	**Urewera**	**20.17**	**163**	LR	LR	13 11 48.4	
	comp=Z,105nm,18.7s,MS3.2,baz=276,slow=33						
STKA	**Stephens Creek**	**28.30**	**238**	P	**P**	**13 06 32.5**	**+0.7**
	comp=Z,2.0nm,0.7s,mb3.9,baz=67,slow=14,SNR=7.4						
STKA				LR	LR	13 17 14.5	
	comp=Z,38nm,19.1s,MS3.0,baz=25,slow=35						
STKA	**Stephens Creek**	**28.30**	**238**	*e

GDZ				*i* S	Sg	13 10 56.8	+1.1	
DURS	**Dursunbey**	**0.85**	**338**	*i* P	Pg	13 10 51.3	-3.2	
DURS				*i* S	Sg	13 11 02.7	-2.9	
DURS	**Dursunbey**	**0.85**	**338**	*i* P	Pg	13 10 51.3	-3.2	
DURS				*i* S	Sg	13 11 02.7	-2.9	
BALY	**Balya**	**1.35**	**314**	*i* P	Pn	13 11 03.5	+0.2	
BALY				*i* S	Sb	13 11 23.2	+2.0	
BALY	**Balya**	**1.35**	**314**	*i* P	Pn	13 11 03.5	+0.2	
BALY				*i* S	Sb	13 11 23.2	+2.0	
AYDN	**Tasoluk**	**1.39**	**215**	*i* P	Pn	13 11 05.1	+1.3	
AYDN				*i* S	Sb	13 11 17.7	-4.5	
AYDN	**Tasoluk**	**1.39**	**215**	*i* P	Pn	13 11 05.1	+1.3	
AYDN				*i* S	Sb	13 11 17.7	-4.5	

*IDC **18** 13:10:36.6±9.6, 14°.08N×91°.46W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.7/20, mbtmp3.4/4, ML3.3/1, Error ellipse: s-maj=215.7km s-min=101.8km az=15.0*
*MEX **18** 13:10:44.3±1.2, 14°.07N×92°.58W, h11km±31km, MD4.2*
ISC 18 13:10:43.9±1.5, 14°.19N±0°.07×92°.62W±0°.07, h14km±9km, n13, σ1§23/22, mb3.7/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
THIG		**0.79**	**25**	*eP*		**Pg**	**Pn**	**13 10 57.8**	**-1.4**
THIG				*i* S		**Sg**	**Sn**	**13 11 10.1**	**+0.4**
PCIG		**1.62**	**339**	*eP*		**Pn**	**Pn**	**13 11 10.3**	**-1.7**
PCIG				*i* S		**Sn**	**Sn**	**13 11 31.5**	**-1.2**
CCIG	**Comitan**	**2.13**	**12**	*eP*		**Pn**	**Pn**	**13 11 19.5**	**+0.4**
CCIG				*i* S		**Sn**	**Sn**	**13 11 46.1**	**+0.7**
TGIG		**2.62**	**349**	*i* P		**Pn**	**Pn**	**13 11 26.1**	**+0.3**
TGIG				*i* S		**Sn**	**Sn**	**13 11 58.0**	**+0.5**
CMIG	**Matias Romero**	**3.62**	**323**	*i* P		**Pn**	**Pn**	**13 11 39.9**	**+0.3**
CMIG				*i* S		**Sn**	**Sn**	**13 12 22.5**	**+0.3**
HUIG	**Huatulco**	**3.72**	**295**	*i* P		**Pn**	**Pn**	**13 11 41.0**	**0.0**
HUIG				*i* S		**Sn**	**Sn**	**13 12 23.5**	**-1.2**
VHO	**Vista Hermosa**	**4.89**	**306**	*i* P		**Pn**	**Pn**	**13 12 00.0**	**+2.9**
VHO				*i* S		**Sn**	**Sn**	**13 12 53.6**	**+0.1**
PNIG	**Pinotepa**	**5.75**	**293**	*eP*		**Pn**	**Pn**	**13 12 10.1**	**+1.2**
PNIG				*i* S		**Sn**	**Sn**	**13 13 13.5**	**-1.3**
UTMO	**Huajuapan**	**6.16**	**307**	*i* P		**Pn**	**Pn**	**13 12 15.0**	**+0.4**
UTMO				*i* S		**Sn**	**Sn**	**13 13 25.5**	**+0.6**
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=146,slow=13,SNR=4.4	**18.21**	**328**	P		**Pn**	**Pn**	**13 14 59.2**	**+2.8**
NVAR	**Mina Array Bea** 0.5nm,0.8s,mb3.5,baz=143,slow=7.6,SNR=4.5	**33.15**	**321**	P		**P**		**13 17 22.0**	**+2.1**
YKA	**Yellowknife Ar** 1.0nm,0.6s,mb4.0,baz=154,slow=7.6,SNR=3.3	**50.71**	**347**	P		**P**		**13 19 40.5**	**-2.3**
ILAR	**Eielson Array** 0.3nm,0.8s,mb3.5,baz=122,slow=5.5,SNR=4.5	**62.43**	**337**	P		**P**		**13 21 04.7**	**-1.6**

*IDC **18** 13:11:19.9±0.8, 13°.28N×120°.23E, h0km, mb4.3/9, mb1 4.4/9, mb1mx4.1/22, mbtmp4.3/9, MS3.8/2, Ms1 3.8/2, ms1mx2.9/38, Error ellipse: s-maj=18.1km s-min=11.5km az=115.0*
*MAN **18** 13:11:23, 13°.39N×120°.37E, h22km, mb4.6, ML3.5, MS3.5*
MAN INTENSITY III - PALUAN OCCIDENTAL MINDORO.
*ISCJB **18** 13:11:25.2±1.1, 13°.36N±0°.06×120°.46E±0°.08, h53km±12km, mb4.6/25, MS3.9/2, Error ellipse: s-maj=14.8km s-min=6.6km az=144.5*
*NEIC **18** 13:11:25.8±1.0, 13°.42N×120°.61E, h42km±10km, mb4.7/8, Error ellipse: s-maj=11.0km s-min=5.2km az=61.0*
NEIC Felt [III PIVS] at Paluan.
ISC 18 13:11:26.4±1.1, 13°.37N±0°.06×120°.48E±0°.07, h46km±12km, n55, σ0§79/59, mb4.6/25, MS3.9/2, 1C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
TGY	**Tagaytay City** 1µm,0.3s,baz=197,slow=3.2,SNR=58	**0.85**	**31**	Pg		**Pn**	**Pn**	**13 11 40.0**	**-2.0**
TGY				Lg				13 11 56.0	
	2µm,0.3s,baz=115,slow=19,SNR=20								
TGY	**Tagaytay City**	**0.85**	**31**	Pg		**Pn**	**Pn**	**13 11 40.0**	**-1.9**
TGY				Lg				13 11 56.0	
TGY	**Tagaytay City**	**0.85**	**31**	*eP*		**Pn**	**Pn**	**13 11 40.3**	**-1.7**
TGY				*i* S		**Sn**	**Sn**	**13 11 56.8**	**+3.4**
BOAC	**Boac**	**1.33**	**86**	*eP*		**Pn**	**Pn**	**13 11 48.0**	**-0.5**
BOAC				*eS*		**Sn**	**Sn**	**13 12 04.7**	**-0.4**
POLP	**Polilio Island**	**1.96**	**46**	*eP*		**Pn**	**Pn**	**13 11 57.3**	**+0.2**
GQP	**Guinayangan**	**1.98**	**74**	*eP*		**Pn**	**Pn**	**13 11 58.4**	**+0.9**
GQP				*i* S		**Sn**	**Sn**	**13 12 29.3**	**+8.1**
PCPH	**Palayan**	**2.26**	**15**	*eP*		**Pn**	**Pn**	**13 12 00.1**	**-1.1**
PCPH				*eS*		**Sn**	**Sn**	**13 12 28.3**	**+0.5**
SCZP	**Santa Cruz**	**2.45**	**347**	*eP*		**Pn**	**Pn**	**13 12 02.4**	**-1.5**
SCZP				*eS*		**Sn**	**Sn**	**13 12 32.6**	**-0.1**
BALP	**Baler**	**2.58**	**24**	*eP*		**Pn**	**Pn**	**13 12 07.0**	**+1.3**
RCP	**Roxas**	**2.85**	**129**	*eP*		**Pn**	**Pn**	**13 12 12.7**	**+3.3**
CM31	**Chiang Mai Arr** 14nm,1.0s,mb4.2	**21.31**	**287**	*eP*		**P**	**P**	**13 16 10.3**	**+0.8**
CMAR	**Chiang Mai Arr** 14nm,1.0s,mb4.2,baz=96,slow=9.0,SNR=45	**21.31**	**287**	P		**P**	**P**	**13 16 10.7**	**+1.2**
CMAR	**Chiang Mai Arr**	**21.31**	**287**	P		**P**	**P**	**13 16 10.7**	**+1.2**
CHTO	**Chiang Mai** 7.9nm,1.1s,mb4.0	**21.38**	**287**	*eP*		**P**	**P**	**13 16 10.5**	**+0.3**
FITZ	**Fitzroy Crossi**	**31.69**	**171**	P		**P**	**P**	**13 17 46.6**	**+0.9**
TAPN	**Taplejung**	**33.60**	**300**	*eP*		**P**	**P**	**13 18 02.8**	**+0.3**
ODAN	**Odare**	**33.73**	**299**	*eP*		**P**	**P**	**13 18 04.1**	**+0.5**
RAMN	**Ramite** 11nm,0.6s,mb4.9	**34.43**	**298**	*eP*		**P**	**P**	**13 18 10.1**	**+0.4**
GUN	**Gumba** 33nm,0.9s,mb5.3	**35.32**	**300**	*eP*		**P**	**P**	**13 18 17.3**	**-0.1**
PKI	**Pulchoki**	**35.62**	**299**	*eP*		**P**	**P**	**13 18 19.2**	**-0.8**
KKN	**Kakani**	**35.79**	**299**	*eP*		**P**	**P**	**13 18 20.8**	**-0.6**
WRAB	**Tennant Creek** 6.8nm,0.8s,mb4.6	**35.80**	**157**	*eP*		**P**	**P**	**13 18 21.0**	**-0.5**
WRA	**Warramunga Arr** 5.5nm,0.8s,mb4.5,baz=333,slow=9.7,SNR=31	**35.80**	**157**	P		**P**	**P**	**13 18 21.1**	**-0.4**
WRA	**Warramunga Arr**	**35.80**	**157**	P		**P**	**P**	**13 18 21.1**	**-0.4**
WB2	**Warramunga Arr**	**35.81**	**157**	*eP*		**P**	**P**	**13 18 21.1**	**-0.5**
DMN	**Daman** 26nm,1.0s,mb5.1	**35.89**	**299**	*eP*		**P**	**P**	**13 18 21.9**	**-0.4**
ULN	**Ulaanbaatar** 92nm,2.9s,mb5.2	**36.16**	**345**	*eP*		**P**	**P**	**13 18 24.3**	**0.0**
SONM	**Songino Array** 4.2nm,0.7s,mb4.5,baz=159,slow=9.5,SNR=37	**36.31**	**344**	P		**P**	**P**	**13 18 25.5**	**-0.1**
SONM	**Songino Array**	**36.31**	**344**	P		**P**	**P**	**13 18 25.5**	**-0.1**
GKN	**Gorkha** 12nm,0.9s,mb4.8	**36.40**	**299**	*eP*		**P**	**P**	**13 18 25.4**	**-1.2**
KOLN	**Koldanda** 12nm,0.7s,mb4.8	**37.22**	**298**	*eP*		**P**	**P**	**13 18 33.2**	**-0.4**
DANN	**Dangsing** 19nm,0.8s,mb5.0	**37.24**	**299**	*eP*		**P**	**P**	**13 18 33.4**	**-0.3**
PYUN	**Piuthan** 37nm,0.9s,mb5.1	**37.82**	**299**	*eP*		**P**	**P**	**13 18 38.4**	**-0.3**
ASAR	**Alice Springs** 6.4nm,0.6s,mb4.5,baz=339,slow=6.5,SNR=41	**39.08**	**160**	P		**P**	**P**	**13 18 49.6**	**+0.4**
ASAR	**Alice Springs**	**39.08**	**160**	P		**P**	**P**	**13 18 49.6**	**+0.4**
MK31	**Makanchi Array**	**46.17**	**324**	*eP*		**P**	**P**	**13 19 46.8**	**+0.3**
MKAR	**Makanchi Array** 2.6nm,0.8s,mb4.2,baz=132,slow=8.7,SNR=15	**46.17**	**324**	P		**P**	**P**	**13 19 46.9**	**+0.4**
MKAR	**Makanchi Array**	**46.17**	**324**	P		**P**	**P**	**13 19 46.9**	**+0.4**
TKM2	**Tokmak 2** 50nm,2.6s,mb5.1	**48.51**	**316**	*eP*		**P**	**P**	**13 20 05.4**	**+0.6**
ZALV	**Zalesovo Beam** 1.6nm,0.7s,mb4.1,baz=104,slow=6.3,SNR=7.2	**49.25**	**333**	P		**P**	**P**	**13 20 09.6**	**-0.7**
ZALV				LR		LR	LR	13 41 54.7	
	comp=Z,52nm,18.3s,MS3.6,baz=66,slow=37								
ZALV	**Zalesovo Beam**	**49.25**	**333**	P		**P**	**P**	**13 20 09.6**	**-0.7**
ZALV				LR		LR	LR	13 41 54.7	
STKA	**Stephens Creek** 2.1nm,0.9s,mb4.2,baz=1.5,slow=9.9,SNR=2.8	**49.34**	**156**	P		**P**	**P**	**13 20 10.2**	**-1.0**
STKA	**Stephens Creek**	**49.34**	**156**	P		**P**	**P**	**13 20 10.2**	**-1.0**
EKS2	**Erkin-Say** 3.5nm,0.8s,mb4.4	**49.65**	**315**	*eP*		**P**	**P**	**13 20 14.8**	**+1.2**
KURK	**Kurchatov** 13nm,0.9s,mb5.0	**50.34**	**327**	*eP*		**P**	**P**	**13 20 18.7**	**+0.1**
KKAR	**Karatay Array**	**52.05**	**315**	*eP*		**P**	**P**	**13 20 31.9**	**+0.3**
BRVK	**Borovoye** 9.3nm,1.0s,mb4.8	**55.99**	**326**	*eP*		**P**	**P**	**13 21 00.3**	**+0.1**
ABKAR	**Akbulak array**	**60.84**	**319**	*eP*		**P**	**P**	**13 21 34.0**	**-0.1**
ARCES	**ARCESS Array B** 4.6nm,1.0s,mb4.4,baz=89,slow=9.1,SNR=4.4	**79.31**	**339**	P		**P**	**P**	**13 23 26.2**	**-0.6**
ARCES	**ARCESS Array B**	**79.31**	**339**	P		**P**	**P**	**13 23 26.2**	**-0.6**
FINES	**FINESS Array B** 5.9nm,0.9s,mb4.5,baz=92,slow=4.6,SNR=2.7	**80.47**	**331**	P		**P**	**P**	**13 23 32.5**	**-0.7**
FINES	**FINESS Array B**	**80.47**	**331**	P		**P**	**P**	**13 23 32.5**	**-0.7**
NOA	**NORSAR Array B** 1.2nm,0.6s,mb4.3,baz=68,slow=4.5,SNR=3.2	**87.45**	**333**	P		**P**	**P**	**13 24 10.0**	**+1.2**
NOA	**NORSAR Array B**	**87.45**	**333**	P		**P**	**P**	**13 24 10.0**	**+1.2**
GERES	**GERESS Array B** comp=Z,93nm,18.4s,MS4.2,baz=78,slow=40	**90.75**	**321**	LR		LR	LR	14 12 28.6	

*ISCJB **18** 13:25:03.6±0.3, 34°.44N±0°.04×83°.50E±0°.05, h10km, mb4.4/47, MS3.3/5, Error ellipse: s-maj=6.1km s-min=5.3km az=37.5*
*IDC **18** 13:25:03.9±0.6, 34°.43N×83°.44E, h0km, mb4.2/18, mb1 4.4/21, mb1mx4.3/31, mbtmp4.3/21, ML3.7/3, MS3.3/4, Ms1 3.3/4, ms1mx2.8/38, Error ellipse: s-maj=18.7km s-min=14.7km az=46.0*
*NEIC **18** 13:25:04.9±3.1, 34°.48N×83°.49E, h5km±20km, mb4.4/8, Error ellipse: s-maj=9.0km s-min=6.2km az=209.0*
*LDG **18** 13:25:06.5±2.2, 34°.78N×82°.99E, h10km, Mb4.8/17, Ms3.7/6, Error ellipse: s-maj=92.0km s-min=9.4km az=117.0*
*BJI **18** 13:25:06.2, 34°.67N×83°.51E, h14km, mB4.8/5, mb4.4/15, Ms4.1/5, Ms7 3.8/3*
*MOS **18** 13:25:07.7±1.5, 34°.58N×83°.57E, h36km, mb4.6/7, Error ellipse: s-maj=11.9km s-min=5.5km az=115.9*
ISC 18 13:25:05.8±0.3, 34°.48N±0°.04×83°.53E±0°.05, h10km, n152, σ1§05/148, mb4.4/47, MS3.3/5, 3C, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KSH	**Kashi**	**7.86**	**312**	Pn		**Pn**	**Pn**	**13 27 03.0**	**+2.8**
NDI	**New Delhi**	**7.90**	**225**	*e*PKP		**Pn**	**Pn**	**13 27 01.0**	**+0.4**
NDI				*eS*		**Sn**	**Sn**	**13 28 30.0**	**-0.1**
ULHL	**Ulahol** SNR=6.6	**9.64**	**326**	P		**Pn**	**Pn**	**13 27 27.3**	**+2.8**
KZA	**Kyzart** SNR=13	**9.99**	**322**	P		**Pn**	**Pn**	**13 27 32.9**	**+3.5**
KZA	**Kyzart**	**9.99**	**322**	*i* P		**Pn**	**Pn**	**13 27 32.9**	**+3.6**
TKM2	**Tokmak 2** SNR=12	**10.46**	**326**	P		**Pn**	**Pn**	**13 27 38.2**	**+2.5**
TKM2	**Tokmak 2** 6.0nm,0.8s	**10.46**	**326**	*eP*		**Pn**	**Pn**	**13 27 35.7**	**0.0**
TKM2	**Tokmak 2**	**10.46**	**326**	*i* P		**Pn**	**Pn**	**13 27 38.2**	**+2.5**
KBK	**Karagaybulak** SNR=7.0	**10.57**	**323**	P		**Pn**	**Pn**	**13 27 40.1**	**+2.9**
AAK	**Ala-Archa** SNR=10.0	**10.78**	**322**	P		**Pn**	**Pn**	**13 27 43.8**	**+3.6**
AAK	**Ala-Archa**	**10.78**	**322**	*i* P		**Pn**	**Pn**	**13 27 43.7**	**+3.6**
AML	**Almayashu** SNR=22	**10.86**	**318**	P		**Pn**	**Pn**	**13 27 44.1**	**+2.9**
FRU	**Bishkek**	**10.87**	**323**	*i*P		**Pn**	**Pn**	**13 27 44.0**	**+2.7**
FRU				pmax		pmax			
	comp=Z,71nm,1.6s								
CHMS	**Chumysh** SNR=5.3	**10.92**	**324**	P		**Pn**	**Pn**	**13 27 45.1**	**+3.1**
EKS2	**Erkin-Say** SNR=6.6	**11.18**	**320**	P		**Pn**	**Pn**	**13 27 49.5**	**+4.0**
EKS2	**Erkin-Say**	**11.18**	**320**	P		**Pn**	**Pn**	**13 27 45.7**	**+0.2**
EKS2	**Erkin-Say**	**11.18**	**320**	P		**Pn**	**Pn**	**13 27 45.7**	**+0.2**
EKS2				pmax		pmax			
	comp=Z,5.0nm,0.8s								
KBL	**Kabul** comp=Z,39nm,0.8s	**11.96**	**274**	*eP*		**Pn**	**Pn**	**13 27 55.7**	**-0.5**
KBL	**Kabul**	**11.96**	**274**	*eP*		**Pn**	**Pn**	**13 27 55.7**	**-0.5**
KBL				pmax		pmax			
	comp=Z,39nm,0.8s								
MK31	**Makanchi Array**	**12.34**	**356**	*eP*		**Pn**	**Pn**	**13 28 00.1**	**-1.3**
MK31	**Makchi Array**	**12.34**	**356**	*eP*		**Pn**	**Pn**	**13 28 00.1**	**-1.3**
MKAR	**Makanchi Array** comp=Z,0.5nm,0.3s,baz=180,slow=14,SNR=68	**12.34**	**356**	Pn		**Pn**	**Pn**	**13 28 00.2**	**-1.2**
MKAR	**Makanchi Array**	**12.34**	**356**	Pn		**Pn**		**13 28 00.2**	**-1.2**
MKAR	**Makanchi Array**	**12.34**	**356**	P		**Pn**		**13 28 00.2**	**-1.2**
KKAR	**Karatay Array** comp=Z,0.7nm,0.5s	**13.30**	**314**	P		**Pn**	**Pn**	**13 28 12.7**	**-2.0**
KKAR	**Karatay Array**	**13.30**	**314**	P		**Pn**	**Pn**	**13 28 12.7**	**-1.9**
KKAR				pmax		pmax			
	comp=Z,1.0nm,0.5s								
GTA	**Gaotai**	**13.92**	**65**	*eP*		**Pn**	**Pn**	**13 28 26.3**	**+3.3**
GTA				pP				13 28 30.0	
GTA				sP				13 28 33.5	
GTA				pmax		pmax			
	comp=Z,4.0nm,0.9s								
KURK	**Kurchatov** comp=Z,0.1nm,0.3s,baz=170,slow=12,SNR=18	**16.62**	**349**	Pn		**Pn**	**Pn**	**13 28 54.9**	**-3.8**
KURK				PcP		PcP		13 33 48.8	+0.3
	comp=Z,0.0nm,0.3s,baz=189,slow=1.4,SNR=4.3								
KURK	**Kurchatov**	**16.62**	**349**	Pn		**Pn**	**Pn**	**13 28 54.9**	**-3.8**
KURK				PcP		PcP		13 33 48.8	+0.3
KURK	**Kurchatov**	**16.62**	**349**	P		**Pn**	**Pn**	**13 28 56.1**	**-2.6**
KURK				pmax		pmax			
	comp=Z,25nm,1.4s								
ZAA0	**Zalesovo Array**	**19.49**	**2**	*eP*		**Pn**	**Pn**	**13 29 32.0**	**-1.9**
ZALV	**Zalesovo Beam**	**19.49**	**2**	P		**Pn**	**Pn**	**13 29 31.6**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=188,slow=12,SNR=21								
ZALV	**Zalesovo Beam**	**19.49**	**2**	P		**Pn**	**Pn**	**13 29 31.6**	**-2.3**
ZALV	**Zalesovo Beam**	**19.49**	**2**	P		**Pn**	**Pn**	**13 29 31.7**	**-2.2**
CHTO	**Chiang Mai** comp=Z,1.1nm,1.1s	**20.77**	**135**	P		**P**	**P**	**13 29 46.8**	**-0.1**
CHTO	**Chiang Mai**	**20.77**	**135**	P		**P**	**P**	**13 29 46.8**	**-0.1**
CHTO				pmax		pmax			
	comp=Z,11nm,1.1s								
BVA0	**Borovoye Array**	**20.77**	**337**	P		**P**	**P**	**13 29 46.6**	**0.0**
BVA0				pmax		pmax			
	comp=Z,5.0nm,1.3s								
BVAR	**Borovoye Array** comp=Z,11nm,0.8s,baz=148,slow=12,SNR=61	**20.77**	**337**	P		**P**	**P**	**13 29 46.9**	**+0.3**
BVAR	**Borovoye Array**	**20.77**	**337**	P		**P**	**P**	**13 29 46.9**	**+0.3**
BRVK	**Borovoye** comp=Z,46nm,1.0s	**20.83**	**337**	*eP*		**P**	**P**	**13 29 47.4**	**+0.1**
BRVK	**Borovoye**	**20.83**	**337**	*eP*		**P**	**P**	**13 29 47.4**	**+0.1**
BRVK				pmax		pmax			
	comp=Z,46nm,1.0s								
CM31	**Chiang Mai Arr** comp=Z,5.8nm,0.8s,mb4.0	**21.05**	**135**	P		**P**	**P**	**13 29 45.4**	**-4.6**
CMAR	**Chiang Mai Arr** comp=Z,4.7nm,0.8s,mb3.8,baz=320,slow=12,SNR=24	**21.05**	**135**	P		**P**	**P**	**13 29 50.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**21.05**	**135**	P		**P**	**P**	**13 29 50.8**	**+0.9**
ZRNK	**Zerenda**	**21.17**	**335**	P		**P**	**P**	**13 29 50.7**	**-0.3**
ZRNK				pmax		pmax			
	comp=Z,24nm,0.9s,mb4.5								
GYA	**Guiyang**	**21.45**	**106**	*i*P		**P**	**P**	**13 29 55.8**	**+1.6**
GYA				pmax		pmax			
	comp=Z,20nm,1.0s,mb4.4								
ZAK	**Zakamensk**	**21.46**	**36**	*eP*		**P**	**P**	**13 29 53.1**	**-1.1**
ZAK				pmax		pmax			
	comp=Z,4.0nm,1.6s,mb3.5								
SONM	**Songino Array** comp=Z,12nm,0.8s,mb4.4,baz=233,slow=12,SNR=51	**21.68**	**45**	P		**P**	**P**	**13 29 58.1**	**+1.6**
SONM				PcP		PcP		13 33 57.8	+0.4
	comp=Z,0.4nm,0.6s,baz=197,slow=3.7,SNR=3.2								
SONM	**Songino Array**	**21.68**	**45**	P		**P**	**P**	**13 29 58.1**	**+1.6**
SONM				PcP		PcP		13 33 57.8	+0.4
SONM	**Songino Array**	**21.68**	**45**	P		**P**	**P**	**13 29 58.1**	**+1.6**
SONM				P		P		13 33 57.8	
ULN	**Ulaanbaatar** comp=Z,21nm,1.3s,mb4.4	**22.08**	**46**	*eP*		**P**	**P**	**13 30 01.1**	**+0.3**
ULN	**Ulaanbaatar**	**22.08**	**46**	*eP*		**P**	**P**	**13 30 01.1**	**+0.3**
ULN				pmax		pmax			
	comp=Z,21nm,1.3s,mb4.4								
ENH	**Enshi** comp=Z,18nm,0.9s,mb4.5	**22.30**	**94**	*eP*		**P**	**P**	**13 30 03.7**	**+0.4**
TLY	**Talaya**	**22.49**	**34**	*eP*		**P**	**P**	**13 29 58.4**	**-6.7**
TLY				pmax		pmax			
	comp=Z,6.0nm,0.8s,mb4.1								
TLY				MLR		MLR			
	comp=Z,110nm,20.0s,MS3.3								
AB31	**Akbulak array**	**22.82**	**317**	*i* P		**P**	**P**	**13 30 08.1**	**-0.5**
AB31				pmax		pmax			
	comp=Z,2.0nm,0.6s,mb3.7								
ABKAR	**Akbulak array** comp=Z,4.8nm,0.9s,mb3.9	**22.82**	**317**	*eP*		**P**	**P**	**13 30 08.3**	**-0.4**
AKTO	**Aktyubinsk** comp=Z,2.3nm,0.7s,mb3.7,baz=101,slow=11,SNR=9.2	**24.50**	**318**	P		**P**	**P**	**13 30 25.2**	**+0.3**
AKTO	**Aktyubinsk**	**24.50**	**318**	P		**P**	**P**	**13 30 25.2**	**+0.3**
AKTO	**Aktyubinsk**	**24.50**	**318**	P		**P**	**P**	**13 30 25.3**	**+0.3**
KSRS	**Korea Array** comp=Z,133nm,19.3s,MS3.7,baz=192,slow=39	**35.80**	**72**	LR		LR	LR	13 48 15.9	
ASF	**Jabal al Asfar** comp=Z,55nm,18.8s,MS3.4,baz=291,slow=41	**38.77**	**280**	LR		LR		13 51 14.3	
BRTR	**Keskin Array B** comp=Z,1.5nm,0.5s,mb4.0,baz=101,slow=8.1,SNR=3.4	**39.72**	**293**	P		**P**	**P**	**13 32 40.5**	**+2.1**
BRTR	**Keskin Array B**	**39.72**	**293**	P		**P**	**P**	**13 32 40.5**	**+2.1**
BRTR	**Keskin Array B**	**39.72**	**293**	P		**P**	**P**	**13 32 40.5**	**+2.2**
AKASG	**Malin Array Be** comp=Z,0.4nm,0.3s,mb3.5,baz=90,slow=5.6,SNR=5.5	**42.15**	**310**	P		**P**	**P**	**13 32 58.6**	**+0.4**
AKASG	**Malin Array Be**	**42.15**	**310**	P		**P**	**P**	**13 32 58.6**	**+0.4**
MJAR	**Matsushiro Arr**	**44.05**	**71**	P		**P**	**P**	**13 33 14.0**	**+0.2**
	comp=Z,5.0nm,1.0s,mb4.2,baz=285,slow=10,SNR=5.2								
MJAR				LR		LR		13 55 10.0	
	comp=Z,7.2nm,19.9s,MS2.6,baz=20,slow=41								
MJAR	**Matsushiro Arr**	**44.05**	**71**	P		**P**	**P**	**13 33 14.0**	**+0.2**
MJAR				LR		LR		13 55 10.0	
MJAR	**Matsushiro Arr**	**44.05**	**71**	P		**P**	**P**	**13 33 14.0**	**+0.2**
MLR	**Muntele Rosu** comp=Z,1.4nm,0.7s,mb3.9,baz=231,slow=9.8,SNR=7.7	**44.60**	**302**	P		**P**	**P**	**13 33 19.9**	**+1.8**
MLR	**Muntele Rosu**	**44.60**	**302**	P		**P**	**P**	**13 33 19.9**	**+1.8**
ASAJ	**Asahikawa** comp=Z,38nm,20.3s,MS3.3,baz=359,slow=36	**45.83**	**59**	LR		LR		13 52 28.9	
ARCES	**ARCESS Array B** comp=Z,4.0nm,0.8s,mb4.4,baz=98,slow=8.7,SNR=7.8	**47.05**	**336**	P		**P**	**P**	**13 33 37.0**	**-0.1**
ARCES	**ARCESS Array B**	**47.05**	**336**	P		**P**	**P**	**13 33 37.0**	**-0.1**
ARCES	**ARCESS Array B**	**47.05**	**336**	P		**P**	**P**	**13 33 37.0**	**-0.1**
DPC	**Dobruska-Polom**	**50.38**	**310**	*eP*		**P**	**P**	**13 34 03.9**	**+1.0**
DPC	**Dobruska-Polom**	**50.38**	**310**	*eP*		**P**	**P**	**13 34 03.9**	**+1.0**
UPC	**Upice**	**50.55**	**310**	*eP*		**P**	**P**	**13 34 05.3**	**+1.1**
UPC	**Upice**	**50.55**	**310**	*eP*		**P**	**P**	**13 34 05.3**	**+1.1**
HFS	**Hagfors** comp=Z,4.9nm,0.8s,mb4.5,baz=104,slow=6.1,SNR=3.6	**50.92**	**323**	P		**P**	**P**	**13 34 06.3**	**-0.6**
HFS	**Hagfors**	**50.92**	**323**	P		**P**	**P**	**13 34 06.3**	**-0.6**
HFS	**Hagfors**	**50.92**	**323**	P		**P**	**P**	**13 34 06.3**	**-0.6**
PRU	**Pruhonice**	**51.57**	**310**	*eP*		**P**	**P**	**13 34 13.4**	**+1.5**
PRU	**Pruhonice**	**51.57**	**310**	*eP*		**P**	**P**	**13 34 13.4**	**+1.5**
NB2	**NORSAR Subarra** comp=Z,4.5nm,0.8s,mb4.5,baz=85,slow=7.9	**52.09**	**324**	P		**P**	**P**	**13 34 14.4**	**-1.2**
NOA	**NORSAR Array B** comp=Z,2.9nm,0.8s,mb4.2,baz=85,slow=7.2,SNR=5.0	**52.09**	**324**	P		**P**	**P**	**13 34 14.8**	**-0.8**
NOA	**NORSAR Array B**	**52.09**	**324**	P		**P**	**P**	**13 34 14.8**	**-0.8**
NOA	**NORSAR Array B**	**52.09**	**324**	P		**P**	**P**	**13 34 14.8**	**-0.8**
GERES	**GERESS Array B** comp=Z,3.7nm,0.8s,mb4.4,baz=79,slow=6.9,SNR=15	**52.32**	**308**	P		**P**	**P**	**13 34 18.1**	**+0.6**
GERES	**GERESS Array B**	**52.32**	**308**	P		**P**	**P**	**13 34 18.1**	**+0.6**
KHC	**Kasperske Hory**	**52.35**	**309**	*eP*		**P**	**P**	**13 34 17.5**	**-0.2**
KHC				*e*				13 34 30.5	
KHC	**Kasperske Hory**	**52.35**	**309**	*eP*		**P**	**P**	**13 34 17.5**	**-0.2**
KHC				*ex*		x		13 34 30.5	
DAVOX	**Davos/Dischmat** comp=Z,3.4nm,0.6s,mb4.6,baz=58,slow=9.2,SNR=4.6	**55.31**	**307**	P		**P**	**P**	**13 34 39.2**	**-0.2**
DAVOX	**Davos/Dischmat**	**55.31**	**307**	P		**P**	**P**	**13 34 39.2**	**-0.2**
DAVOX	**Davos/Dischmat**	**55.31**	**307**	P		**P**	**P**	**13 34 39.2**	**-0.2**
BILL	**Bilibino**	**55.85**	**27**	*i*P		**P**	**P**	**13 34 43.0**	**+0.1**
BILL				*i*				13 35 40.0	
BILL				pmax		pmax			
	comp=Z,16nm,1.9s,mb4.7								
CDF	**Champ du Feu** comp=Z,8.6nm,0.6s,mb4.6	**56.57**	**309**	*eP*		**P**	**P**	**13 34 48.2**	**-0.2**
HINF	**Hinteralfeld** comp=Z,25nm,1.0s,mb4.9	**57.01**

mb1 4.4/12,mb1mx4.3/19,mbtmp4.4/12,ML3.9/2,MS3.3/1, Ms1 3.3/1,ms1mx2.4/34,Error ellipse: s-maj=34.0km s-min=13.9km az=74.0

DJA ***18*** *13:46:02, 7.˙19S× 128.˙09E,h10km,mb4.6/6*

NEIC ***18*** *13:46:04.0±0.4, 7.˙43S× 128.˙00E,h35km,mb4.6/2,Error ellipse: s-maj=21.7km s-min=8.3km az=78.0*

ISC 18 13:46:02.3±1.8, 7.˙46S±0.˙04× 128.˙28E±0.˙07, h27km±14km, n59, σ1§22/62, mb4.4/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**3.34**	**29**	P	**Pn**	**13 46 52.0**	**-0.8**
AAI	**Ambon**	**3.75**	**359**	P	**Pn**	**13 46 56.6**	**-1.8**
MSAI	**Masohi**	**4.14**	**9**	P	**Pn**	**13 47 02.7**	**-1.1**
NLAI	**Namlea**	**4.36**	**344**	P	**Pn**	**13 47 06.1**	**-0.7**
TLE	**Tual**	**4.79**	**68**	P	**Pn**	**13 47 19.0**	**+6.3**
BBSI	**Bau Bau**	**6.00**	**289**	P	**Pn**	**13 47 29.4**	**+0.1**
	23nm,1.0s						
MMRI	**Maumere**	**6.09**	**259**	P	**Pn**	**13 47 32.0**	**+1.4**
	30nm,0.9s						
KDI	**Kendari**	**6.62**	**301**	P	**Pn**	**13 47 35.3**	**-2.5**
	420nm15nm,0.7s						
LBMI	**Labuha**	**6.83**	**353**	P	**Pn**	**13 47 42.3**	**+1.6**
	662nm62nm,0.6s						
TNTI	**Ternate**	**8.23**	**354**	P	**Pn**	**13 48 01.4**	**+1.4**
FITZ	**Fitzroy Crossi**	**10.88**	**193**	Pn	**Pn**	**13 48 36.0**	**-0.3**
	0.5nm,0.3s,baz=26,slow=11,SNR=22						
FITZ				Sn	**Sn**	**13 50 32.7**	**-4.5**
	3.2nm,0.3s,baz=272,slow=22,SNR=6.9						
FITZ	**Fitzroy Crossi**	**10.88**	**193**	*eP*	**Pn**	**13 48 36.1**	**-0.2**
	7.9nm,0.3s						
FITZ				*eS*	**Sn**	**13 50 32.2**	**-5.0**
FITZ	**Fitzroy Crossi**	**10.88**	**193**	*eP*	**Pn**	**13 48 36.1**	**-0.2**
FITZ				*eS*	**Sn**	**13 50 27.0**	**-10**
FITZ				Sn	**Sn**	**13 50 32.7**	**-4.5**
FITZ	**Fitzroy Crossi**	**10.88**	**193**	P	**Sn**	**13 50 33.7**	**-3.5**
	26nm,0.9s						
WRAB	**Tennant Creek**	**13.72**	**155**	*eP*	**Pn**	**13 49 14.8**	**-0.4**
	6.5nm,0.6s						
WRAB				*eS*	**Sn**	**13 51 43.1**	**-3.7**
WRAB	**Tennant Creek**	**13.72**	**155**	P	**Sn**	**13 51 46.4**	**-0.4**
WRA	**Warramunga Arr**	**13.73**	**155**	Pn	**Pn**	**13 49 14.9**	**-0.4**
	1.2nm,0.3s,baz=324,slow=13,SNR=46						
WRA				Sn	**Sn**	**13 51 42.4**	**-4.5**
	1.9nm,0.3s,baz=327,slow=22,SNR=13						
WRA	**Warramunga Arr**	**13.73**	**155**	Pn	**Pn**	**13 49 14.9**	**-0.4**
WRA				Sn	**Sn**	**13 51 42.4**	**-4.5**
WB2	**Warramunga Arr**	**13.73**	**155**	*eP*	**Pn**	**13 49 15.5**	**+0.2**
WB2				S	**Sn**	**13 51 38.7**	**-8.3**
COEN	**Coen**	**15.99**	**115**	*eP*	**Pn**	**13 49 46.2**	**+0.7**
	43nm,0.6s						
ASAR	**Alice Springs**	**16.99**	**162**	P	**Pn**	**13 49 59.2**	**+1.1**
	0.6nm,0.3s,baz=332,slow=8.9,SNR=73						
ASAR				S	**Sn**	**13 53 04.1**	**-2.2**
	0.6nm,0.3s,baz=324,slow=17,SNR=7.9						
ASAR	**Alice Springs**	**16.99**	**162**	P	**Pn**	**13 49 59.2**	**+1.1**
ASAR				S	**Sn**	**13 53 04.1**	**-2.2**
MTSU	**Mount Surprise**	**18.88**	**126**	*eP*	**Pn**	**13 50 25.8**	**+4.4**
	11nm,0.6s						
MEEK	**Meekatharra**	**21.17**	**205**	*eP*	**P**	**13 50 49.3**	**+3.8**
	41nm,0.6s,mb4.9						
CTA	**Charters Tower**	**21.47**	**128**	LR	LR	13 59 05.6	
	comp=Z,76nm,21.1s,baz=143,slow=36						
QLP	**Quilpie**	**24.33**	**143**	*eP*	**P**	**13 51 21.3**	**+3.5**
STKA	**Stephens Creek**	**27.28**	**155**	P	**P**	**13 51 47.7**	**+3.2**
	1.8nm,0.5s,mb3.8,baz=325,slow=12,SNR=9.2						
STKA	**Stephens Creek**	**27.28**	**155**	*eP*	**P**	**13 51 47.5**	**+3.0**
STKA	**Stephens Creek**	**27.28**	**155**	*eP*	**P**	**13 51 47.5**	**+3.0**
NWAO	**Narrogin (SRO)**	**27.33**	**201**	*eP*	**P**	**13 51 46.4**	**+1.4**
	6.4nm,0.8s,mb4.2,baz=15,slow=8.7,SNR=4.1						
NWAO	**Narrogin (SRO)**	**27.33**	**201**	*eP*	**P**	**13 51 46.5**	**+1.5**
CMSA	**Cobar Meteorol**	**28.95**	**148**	*eP*	**P**	**13 52 03.2**	**+3.8**
	46nm,0.7s,mb5.3						
CMAR	**Chiang Mai Arr**	**38.74**	**312**	P	**P**	**13 53 23.9**	**-0.6**
	0.6nm,0.6s,mb3.5,baz=147,slow=6.2,SNR=6.1						
CMAR				PcP	PcP	13 55 36.5	+0.5
	0.7nm,0.7s,baz=141,slow=2.0,SNR=5.5						
CMAR	**Chiang Mai Arr**	**38.74**	**312**	P	**P**	**13 53 23.9**	**-0.6**
CMAR				PcP	PcP	13 55 36.5	+0.5
KSAR	**Wonju Array Be**	**44.67**	**360**	P	**P**	**13 54 13.6**	**+0.8**
KSRS	**Korea Array**	**44.68**	**360**	P	**P**	**13 54 13.6**	**+0.7**
	1.0nm,0.7s,mb3.7,baz=176,slow=9.7,SNR=3.4						
RPZ	**Rata Peaks**	**51.93**	**141**	P	**P**	**13 55 12.5**	**+3.7**
	17nm,0.9s,mb5.0,baz=318,slow=15,SNR=5.0						
RPZ	**Rata Peaks**	**51.93**	**141**	P	**P**	**13 55 12.5**	**+3.7**
ULN	**Ulaanbaatar**	**58.19**	**343**	*eP*	**P**	**13 55 53.3**	**-0.6**
	3.1nm,0.8s,mb4.4						
SONM	**Songino Array**	**58.36**	**343**	P	**P**	**13 55 56.1**	**+1.1**
	2.4nm,0.8s,mb4.3,baz=171,slow=7.3,SNR=20						
SONM	**Songino Array**	**58.36**	**343**	P	**P**	**13 55 56.1**	**+1.1**
PETK	**Petropavlovsk-**	**65.31**	**19**	P	**P**	**13 56 43.4**	**+1.7**
	7.1nm,1.1s,mb4.6,baz=202,slow=7.3,SNR=3.2						
PETK	**Petropavlovsk-**	**65.31**	**19**	P	**P**	**13 56 43.4**	**+1.7**
MK31	**Makanchi Array**	**67.69**	**328**	*eP*	**P**	**13 56 57.0**	**0.0**
MKAR	**Makanchi Array**	**67.69**	**328**	P	**P**	**13 56 56.9**	**-0.1**
	5.0nm,0.7s,mb4.6,baz=128,slow=7.9,SNR=23						
MKAR	**Makanchi Array**	**67.69**	**328**	P	**P**	**13 56 56.9**	**-0.1**
ZAA0	**Zalesovo Array**	**71.25**	**335**	*eP*	**P**	**13 57 17.6**	**-1.4**
ZALV	**Zalesovo Beam**	**71.25**	**335**	P	**P**	**13 57 18.3**	**-0.6**
	3.6nm,0.6s,mb4.5,baz=123,slow=4.3,SNR=24						
ZALV	**Zalesovo Beam**	**71.25**	**335**	P	**P**	**13 57 18.3**	**-0.6**
KURK	**Kurchatov**	**72.03**	**329**	*eP*	**P**	**13 57 23.3**	**-0.4**
	3.4nm,0.9s,mb4.3,baz=128,slow=4.9,SNR=5.9						
KURK	**Kurchatov**	**72.03**	**329**	*eP*	**P**	**13 57 23.2**	**-0.5**
ILAR	**Eielson Array**	**94.49**	**25**	P	**P**	**13 59 18.9**	**-0.9**
	0.5nm,1.0s,mb3.9,baz=234,slow=7.5,SNR=3.3						
ILAR	**Eielson Array**	**94.49**	**25**	P	**P**	**13 59 18.9**	**-0.9**
TORD	**Torodi Ar. Bea**	**127.22**	**281**	PKP	PKPdf	14 05 04.8	-0.5
	0.4nm,0.7s,baz=64,slow=1.8,SNR=4.5						
TORD	**Torodi Ar. Bea**	**127.22**	**281**	PKP	PKPdf	14 05 04.8	-0.5
CPUP	**Villa Florida**	**145.97**	**171**	PKPbc	PKPbc	14 05 41.1	+0.9
	0.9nm,0.4s,baz=193,slow=3.3,SNR=5.2						
CPUP	**Villa Florida**	**145.97**	**171**	PKPbc	PKPbc	14 05 41.1	+0.9
LPAZ	**La Paz**	**151.35**	**146**	PKPbc	PKPbc	14 05 56.4	+1.8
	1.5nm,0.5s,baz=348,slow=0.7,SNR=6.7						
LPAZ	**La Paz**	**151.35**	**146**	PKPbc	PKPbc	14 05 56.4	+1.8

NOU ***18*** *14:03:09.4±0.8, 18.˚55S× 169.˚59E,h30km,MD3.5,ML3.4, MS3.1*

SZGRF ***18*** *14:03:11.5, 19.˚87S× 170.˚71E,h29km,mb5.3,Vanuatu Islands*

LDG ***18*** *14:03:12.2±0.2, 18.˚58S× 169.˚16E,h10km,Mb5.5/3, Ms5.0/9,Error ellipse: s-maj=16.7km s-min=3.5km az=118.0*

MOS ***18*** *14:03:13.3±1.2, 18.˚87S× 169.˚46E,h33km,mb5.5/29, MS5.2/24,Error ellipse: s-maj=10.0km s-min=8.1km az=16.5*

ISCJB ***18*** *14:03:13.2±0.8, 18.˚99S±0.˚04× 169.˚49E±0.˚03,h35km±7km, mb5.3/110,MS5.2/177,Error ellipse: s-maj=6.1km s-min=4.9km az=156.5*

BJI ***18*** *14:03:14.9, 18.˚76S× 169.˚98E,h56km,mB5.6/35,mb5.1/47, Ms5.3/34,Ms7 5.0/35*

NEIC ***18*** *14:03:15.2±0.2, 18.˚90S× 169.˚48E,h35km,mb5.5/47, MS5.3/144,Error ellipse: s-maj=7.1km s-min=5.8km az=160.0*

GCMT ***18*** *14:03:16.7±0.1, 18.˚90S× 169.˚66E,h12km,MW5.5, Moment Tensor Solution. s87,c154; s44,c48; Moment tensor: Scale 10¹⁷Nm; Mrr-2.40±.03; Mθθ1.64±.03; Mφφ0.76±.03; Mrθ0.24±.08; Mrφ-1.34±.03; Mθφ-0.40±.09; Best double couple: M₀2.60000×10¹⁷ NP1:φs121.00000°, δ40.00000°, λ-97.00000°. NP2:φs311.00000°, δ50.00000°, λ-84.00000°. Principal axes: T 2.6500, Plg5.0000°, Azm36.0000°; N -0.1900, Plg5.0000°, Azm127.0000°; P -2.4500, Plg83.0000°, Azm260.0000°; Data Used: ll IU IC G CN. Surface waves: sta=114, comp=215, per= 50.*

BGS ***18*** *14:03:16.3±3.7, 18.˚90S× 169.˚48E,h35km,mb5.5(NEIC)*

IDC ***18*** *14:03:16.6±2.9, 18.˚96S× 169.˚48E,h48km±26km,mb4.7/21, mb1 4.8/23,mb1mx4.8/24,mbtmp4.7/23,MS4.9/21, Ms1 5.0/21,ms1mx4.9/24,Error ellipse: s-maj=14.7km s-min=13.8km az=153.0*

DJA ***18*** *14:03:27, 19.˚17S× 169.˚18E,h144km,mb5.1/37*

ISC 18 14:03:15.5±0.7, 18.˚99S±0.˚04× 169.˚50E±0.˚03, h40km±6km, h43km±3.0km; pP-P, n705, σ1§12/259, mb5.3/110, MS5.2/177, 22C-8D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.99**	**217**	*eP*	**Pn**	**14 04 12.3**	**-1.9**
BAYA				*eS*	**Sn**	**14 04 59.6**	**-0.1**
	comp=Z,60nm,0.0s				AMP	14 05 03.0	
DZM	**Mont Dzumac**	**4.20**	**223**	*eP*	**Pn**	**14 04 15.4**	**-1.6**
DZM				*eS*	**Sn**	**14 05 04.6**	**-0.2**
PLUM	**Mont Dore**	**4.22**	**219**	*eP*	**Pn**	**14 04 16.3**	**-1.0**
PLUM				*eS*	**Sn**	**14 05 05.3**	**-0.2**
PLUM					AMP	14 05 18.0	
	comp=Z,647nm,14.1s						
NOUC	**Port Laguerre**	**4.31**	**223**	*eP*	**Pn**	**14 04 17.5**	**-1.0**
NOUC				*eS*	**Sn**	**14 05 07.7**	**+0.2**
NOUC					AMP	14 05 12.7	
	comp=Z,424nm,2.5s						
MVNO	**Noumea**	**4.34**	**221**	*eP*	**Pn**	**14 04 18.0**	**-1.0**
MVNO				*eS*	**Sn**	**14 05 08.4**	**0.0**
MVNO					AMP	14 05 12.1	
	comp=Z,95nm,0.8s						
MSVF	**Nonsavu**	**8.22**	**83**	*eP*	**Pn**	**14 05 13.1**	**+0.9**
	comp=Z,5μm,1.8s						
MSVF	**Nonsavu**	**8.22**	**83**	*eP*	**Pn**	**14 05 13.1**	**+0.9**
MSVF				pmax	pmax		
	comp=Z,5μm,1.8s						
MSVF	**Nonsavu**	**8.22**	**83**	Pn	**Pn**	**14 05 14.5**	**+2.3**
	comp=Z,6μm,1.7s,SNR=58						
HNR	**Honiara**	**13.26**	**314**	P	**Pn**	**14 06 22.0**	**+0.7**
	comp=Z,8.2nm,0.3s,baz=242,slow=2.5,SNR=4.4						
HNR	**Honiara**	**13.26**	**314**	P	**Pn**	**14 06 22.0**	**+0.7**
HNR	**Honiara**	**13.26**	**314**	P	**Pn**	**14 06 22.0**	**+0.7**
FUNA	**Funafuti**	**14.02**	**43**	*eP*	**Pn**	**14 06 31.7**	**0.0**
	comp=Z,550nm,1.6s						
RAO	**Raoul Island**	**15.36**	**134**	P	**Pn**	**14 06 56.4**	**+6.9**
	comp=Z,1μm,1.1s						
RAO	**Raoul Island**	**15.36**	**134**	P	**Pn**	**14 06 56.4**	**+7.0**
RAO				pmax	pmax		
	comp=Z,1μm,1.1s						
OUZ	**Omahuta**	**16.57**	**168**	*eP*	**Pn**	**14 07 08.2**	**+3.3**
	comp=Z,70nm,1.0s						
OUZ	**Omahuta**	**16.57**	**168**	PN	**Pn**	**14 07 08.6**	**+3.7**
EIDS	**Eidsvold**	**18.19**	**246**	*eP*	**Pn**	**14 07 28.1**	**+3.0**
	comp=Z,103nm,1.2s						
AFI	**Afiamalu**	**18.65**	**77**	P	**Pn**	**14 07 31.1**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=253,slow=14,SNR=5.8						
AFI				LR	LR	14 13 10.7	
	comp=Z,7μm,21.4s,baz=252,slow=32						
AFI	**Afiamalu**	**18.65**	**77**	P	**Pn**	**14 07 31.1**	**+0.4**
AFI				LR	LR	14 13 10.7	
ARMA	**Armidale**	**19.80**	**232**	*eP*	**Pn**	**14 07 46.5**	**+2.2**
ARMA				*eS*	**S**	**14 11 39.9**	**+16**
ARMA	**Armidale**	**19.80**	**232**	*eP*	**Pn**	**14 07 45.9**	**+1.6**
	comp=Z,199nm,1.3s						
HIZ	**Hauiti**	**20.01**	**168**	*e*PN	**P**	**14 07 47.6**	**+2.9**
URZ	**Urewera**	**20.32**	**163**	P	**P**	**14 07 48.8**	**+0.7**
	comp=Z,8.2nm,0.6s,baz=331,slow=10,SNR=12						
URZ				LR	LR	14 14 03.2	
	comp=Z,6μm,20.7s,MS4.9,baz=348,slow=32						
URZ	**Urewera**	**20.32**	**163**	P	**P**	**14 07 50.6**	**+2.5**
	comp=Z,224nm,1.5s						
TARA	**Tarawa**	**20.49**	**10**	PFAKE		14 08 00.0	+10
TARA				LR	LR		
	comp=Z,2μm,19.0s,MS4.4						
MWZ	**Matawai**	**20.51**	**162**	*e*PN	**P**	**14 07 53.2**	**+3.1**
CTA	**Charters Tower**	**21.93**	**263**	P	**P**	**14 08 06.1**	**+0.4**
	comp=Z,12nm,0.7s,mb4.4,baz=82,slow=12,SNR=17						
CTA				LR	LR	14 15 34.6	
	comp=Z,3μm,20.7s,MS4.7,baz=81,slow=34						
CTA	**Charters Tower**	**21.93**	**263**	*eP*	**P**	**14 08 06.0**	**+0.3**
	comp=Z,31nm,1.1s,mb4.7						
CTA				*eS*	**S**	**14 12 12.9**	**+7.1**
CTA	**Charters Tower**	**21.93**	**263**	P	**P**	**14 08 06.1**	**+0.4**
CTA				LR	LR	14 15 34.6	
CTA	**Charters Tower**	**21.93**	**263**	P	**P**	**14 08 06.1**	**+0.4**
CTAO	**Charters Tower**	**21.93**	**263**	*eP*	**P**	**14 08 04.8**	**-0.9**
	comp=Z,70nm,1.2s,mb5.0						
CTAO				LR	LR		
	comp=Z,3μm,20.0s,MS4.7						
CTAO	**Charters Tower**	**21.93**	**263**	*eP*	**P**	**14 08 04.8**	**-0.9**
CTAO				pmax	pmax		
	comp=Z,70nm,1.2s,mb5.0						
CTAO				MLR	MLR		
	comp=Z,3μm,20.0s,MS4.7						
CTAO	**Charters Tower**	**21.93**	**263**	P	**P**	**14 08 05.1**	**-0.6**
	comp=Z,1μmcomp=Z,53nm,1.5s,mb4.8						
RIV	**Riverview**	**22.04**	**224**	*eP*	**P**	**14 08 15.5**	**+8.8**
SNZO	**South Karori**	**22.69**	**170**	PFAKE		14 08 30.0	+16
SNZO				LR	LR		
	comp=Z,5μm,19.0s,MS5.0						
KHZ	**Kahutara**	**23.61**	**173**	P	**P**	**14 08 23.1**	**+0.3**
	comp=Z,184nm,1.4s,mb5.3						
PMG	**Port Moresby**	**23.63**	**291**	P	**P**	**14 08 23.2**	**-0.1**
	comp=Z,134nm,1.0s,mb5.3,baz=127,slow=5.4,SNR=38						
PMG	**Port Moresby**	**23.63**	**291**	*eP*	**P**	**14 08 23.4**	**+0.1**
	comp=Z,418nm,1.3s,mb5.7						
PMG				LR	LR		
	comp=Z,2μm,19.0s,MS4.5						
PMG	**Port Moresby**	**23.63**	**291**	*d iP*	**P**	**14 08 23.4**	**+0.1**
PMG				pmax	pmax		
	comp=Z,314nm,1.5s						
PMG	**Port Moresby**	**23.63**	**291**	P	**P**	**14 08 23.3**	**0.0**
	comp=Z,5μmcomp=Z,327nm,1.5s,mb5.5						
CNB	**Canberra Magne**	**24.12**	**224**	*eP*	**P**	**14 08 28.9**	**+1.3**
	comp=Z,276nm,0.7s,mb5.8						
YNG	**Young**	**24.18**	**227**	*eP*	**P**	**14 08 30.8**	**+2.7**
	comp=Z,30nm,0.8s,mb4.8						
YNG				*eS*	**S**	**14 12 52.0**	**+8.3**
CAN	**Canberra**	**24.36**	**224**	*eP*	**P**	**14 08 31.8**	**+2.0**
	comp=Z,70nm,1.1s,mb5.0						
CAN				LR	LR		
	comp=Z,7μm,21.0s,MS5.1						
CAN	**Canberra**	**24.36**	**224**	*eP*	**P**	**14 08 31.8**	**+2.0**
CAN				pmax	pmax		
	comp=Z,70nm,1.1s,mb5.0						
CAN				MLR	MLR		
	comp=Z,7μm,21.0s,MS5.1						
QLP	**Quilpie**	**24.46**	**247**	*eP*	**P**	**14 08 31.8**	**+1.0**
RPZ	**Rata Peaks**	**24.69**	**177**	P	**P**	**14 08 34.0**	**+1.4**
	comp=Z,61nm,1.2s,mb5.0,baz=91,slow=6.6,SNR=4.5						
RPZ				LR	LR	14 17 30.7	
	comp=Z,10μm,19.3s,MS5.3,baz=347,slow=35						
RPZ	**Rata Peaks**	**24.69**	**177**	*eP*	**P**	**14 08 33.2**	**+0.6**
	comp=Z,94nm,1.0s,mb5.3						
COEN	**Coen**	**25.72**	**277**	*eP*	**P**	**14 08 42.9**	**+0.6**
	comp=Z,138nm,1.0s,mb5.4						
COEN				*eS*	**S**	**14 13 15.4**	**+6.8**
COEN	**Coen**	**25.72**	**277**	*eP*	**P**	**14 08 42.7**	**+0.4**
	comp=Z,425nm,1.2s,mb5.8						
COEN	**Coen**	**25.72**	**277**	P	**P**	**14 08 41.7**	**-0.6**
	comp=Z,1μmcomp=Z,47nm,1.3s,mb4.9						
ODZ	**Otahua Downs**	**26.00**	**178**	*e*PN	**P**	**14 08 48.7**	**+4.1**
TOO	**Toolangi**	**27.97**	**224**	*eP*	**P**	**14 09 03.6**	**+1.3**
	comp=Z,113nm,1.4s,mb5.3						
STKA	**Stephens Creek**	**28.19**	**237**	P	**P**	**14 09 05.0**	**+0.7**
	comp=Z,14nm,0.6s,mb4.8,baz=66,slow=9.8,SNR=54						
STKA				PcP	PcP	14 12 18.4	+0.9
	comp=Z,18nm,1.1s,baz=114,slow=4.6,SNR=4.7						
STKA				LR	LR	14 19 54.5	
	comp=Z,6μm,19.3s,MS5.2,baz=70,slow=35						
STKA	**Stephens Creek**	**28.19**	**237**	*eP*	**P**	**14 09 05.3**	**+1.0**
	comp=Z,13nm,0.6s,mb4.7						
STKA				*eS*	**S**	**14 13 44.4**	**-2.9**
STKA	**Stephens Creek**	**28.19**	**237**	*eP*	**P**	**14 09 05.2**	**+0.9**
	comp=Z,5.6nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**28.19**	**237**	*eP*	**P**	**14 09 05.2**	**+0.9**
STKA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
RAR	**Rarotonga**	**28.92**	**100**	LR	LR	14 18 11.8	
	comp=Z,599nm,19.5s,MS4.2,baz=229,slow=31						
TAU	**Tasmania Unive**	**30.32**	**213**	PFAKE		14 09 40.0	+17
TAU				LR	LR		
	comp=Z,8μm,22.0s,MS5.3						
JAY	**Jayapura**	**32.59**	**297**	P	**P**	**14 09 46.7**	**+3.3**
	comp=Z,2μmcomp=Z,28nm,1.7s,mb4.9						
WB2	**Warramunga Arr**	**33.12**	**262**	*eP*	**P**	**14 09 47.0**	**-1.0**
WB2				*e*PcP	PcP	14 12 31.6	+0.9
WRAB	**Tennant Creek**	**33.12**	**262**	*eP*	**P**	**14 09 46.9**	**-1.1**
	comp=Z,35nm,1.3s,mb5.1						
WRAB				*e*PcP	PcP	14 12 31.8	+1.1
WRAB				LR	LR		
	comp=Z,2μm,19.0s,MS4.8						
WRAB	**Tennant Creek**	**33.12**	**262**	*eP*	**P**	**14 09 46.9**	**-1.1**
WRAB				*e*		14 12 31.8	
WRAB				pmax	pmax		
	comp=Z,35nm,1.3s,mb5.1						
WRAB				MLR	MLR		
	comp=Z,2μm,19.0s,MS4.8						
WRAB	**Tennant Creek**	**33.12**	**262**	P	**P**	**14 09 47.0**	**-1.0**
	comp=Z,110nm,1.0s,mb5.7,SNR=7.4						
WRAB	**Tennant Creek**	**33.12**	**262**	P	**P**	**14 09 47.4**	**-0.6**
	comp=Z,44nm,1.4s,mb5.2						
WRA	**Warramunga Arr**	**33.13**	**262**	P	**P**	**14 09 46.5**	**-1.6**
	comp=Z,5.9nm,0.5s,mb4.8,baz=86,slow=8.5,SNR=99						
WRA				PcP	PcP	14 12 30.7	0.0
	comp=Z,7.0nm,0.7s,baz=90,slow=2.8,SNR=12						
WRA				PKIKP	PKiKP	14 19 54.7	-2.1
	comp=Z,1.3nm,0.8s,baz=43,slow=0.5,SNR=13						
WRA				LR	LR	14 23 28.0	
	comp=Z,2μm,18.1s,MS4.8,baz=85,slow=37						
WRA	**Warramunga Arr**	**33.13**	**262**	P	**P**	**14 09 46.5**	**-1.6**
WRA				PcP	PcP	14 12 30.7	0.0
WRA	**Warramunga Arr**	**33.13**	**262**	P	**P**	**14 09 46.5**	**-1.6**
WRA						14 12 30.7	
ASAR	**Alice Springs**	**33.43**	**256**	P	**P**	**14 09 50.1**	**-0.6**
	comp=Z,36nm,0.5s,mb5.6,baz=82,slow=8.8,SNR=448						
ASAR				PcP	PcP	14 12 31.0	-0.5
	comp=Z,4.7nm,0.9s,baz=98,slow=2.7,SNR=4.9						
ASAR				PKIKP	PKiKP	14 19 55.2	-1.7
	comp=Z,0.6nm,0.7s,baz=102,slow=1.6,SNR=8.4						
ASAR	**Alice Springs**	**33.43**	**256**	P	**P**	**14 09 50.1**	**-0.6**
ASAR				PcP	PcP	14 12 31.0	-0.5
ASAR	**Alice Springs**	**33.43**	**256**	P	**P**	**14 09 50.1**	**-0.6**
ASAR						14 12 31.0	
SMPI	**Sarmi**	**34.56**	**296**	P	**P**	**14 10 01.0**	**+0.4**
	comp=Z,2μmcomp=Z,76nm,1.3s,mb5.5						
BAKI	**Biak**	**37.20**	**294**	P	**P**	**14 10 24.7**	**+1.5**
	comp=Z,4μmcomp=Z,256nm,1.4s,mb5.8						
TLE	**Tual**	**38.19**	**286**	P	**P**	**14 10 31.4**	**-0.2**
	comp=Z,2μmcomp=Z,68nm,1.3s,mb5.2						
TBI	**Tubuai**	**38.43**	**104**	*eS*	**S**	**14 16 23.6**	**-2.5**
	comp=Z,506nm,29.8s						
TBI				*e*LQ		14 19 17.6	
	comp=Z,5μm,30.0s						
TBI				*e*LR	LR	14 20 59.1	
	comp=Z,2μm,28.0s						
XMAS	**Kiritimati**	**38.63**	**61**	PFAKE		14 10 50.0	+15
XMAS				LR	LR		
	comp=Z,5μm,22.0s,MS5.3						
PAE	**Paea**	**38.81**	**95**	*eP*	**P**	**14 10 34.9**	**-1.9**
	comp=Z,28nm,1.4s,mb4.8						
PPT	**Papeete**	**38.83**	**95**	*eP*	**P**	**14 10 35.0**	**-1.9**
	comp=Z,86nm,1.4s,mb5.3						
PPT				*eS*	**S**	**14 16 24.8**	**-7.4**
	comp=Z,741nm,25.8s						
PPT				*e*LQ		14 19 31.7	
	comp=Z,7μm,31.2s						
PPT				*e*LR	LR	14 21 12.4	
	comp=Z,4μm,29.0s						
PPT	**Papeete**	**38.83**	**95**	P	**P**	**14 10 36.0**	**-0.9**
	comp=Z,16nm,0.7s,mb4.9,baz=229,slow=11,SNR=3.7						
PPT				LR	LR	14 22 23.7	
	comp=Z,1μm,21.4s,MS4.7,baz=50,slow=30						
PPT	**Papeete**	**38.83**	**95**	P	**P**	**14 10 36.0**	**-0.9**
PPT				LR	LR	14 22 23.7	
PPT	**Papeete**	**38.83**	**95**	P	**P**	**14 10 36.0**	**-0.9**
TIAR	**Tiarei**	**39.05**	**95**	*eP*	**P**	**14 10 37.1**	**-1.6**
	comp=Z,158nm,1.2s,mb5.6						
FORT	**Forrest**	**39.18**	**244**	*eP*	**P**	**14 10 39.7**	**0.0**
	comp=Z,422nm,0.6s,mb5.3						
FORT	**Forrest**	**39.18**	**244**	*eP*	**P**	**14 10 39.8**	**+0.1**
	comp=Z,57nm,0.7s,mb5.4						
MEH	**Mehetia**	**40.20**	**95**	*eP*	**P**	**14 10 46.7**	**-1.7**
	comp=Z,204nm,1.6s,mb5.6						
GUMO	**Guam**	**40.46**	**321**	LR	LR	14 26 38.7	
	comp=Z,736nm,18.9s,MS4.6,baz=96,slow=35						
GUMO	**Guam**	**40.46**	**321**	PFAKE		14 11 00.0	+10
GUMO				LR	LR		
	comp=Z,1μm,19.0s,MS4.9						
PMOR	**Pomariorio Ree**	**40.87**	**91**	*eP*	**P**	**14 10 52.2**	**-1.7**
	comp=Z,376nm,1.4s,mb5.8						
BNDI	**Bandanaira**	**41.21**	**285**	P	**P**	**14 10 56.0**	**-0.8**
	comp=Z,2μmcomp=Z,181nm,1.7s,mb5.4						
FITZ	**Fitzroy Crossi**	**41.51**	**264**	*eP*	**P**	**14 10 59.3**	**+0.1**
	comp=Z,133nm,0.6s,mb5.8						
FITZ	**Fitzroy Cross

comp=Z,161nm,1.1s,mb5.8
SRBI Singaraja 53.69 274 P **P** **14 12 33.2 -0.6**
comp=Z,42nm,1.5s,mb5.2
MYLDM Lahad Datu 55.66 290 P **P** **14 12 54.4 +6.3**
TGY Tagaytay City 58.04 301 P **P** **14 13 05.9 +1.1**
comp=Z,88nm,0.3s,mb6.3,baz=104,slow=4.2,SNR=3.7
TGY Tagaytay City 58.04 301 P **P** **14 13 05.9 +1.1**
TGY Tagaytay City 58.04 301 P **P** **14 13 05.9 +1.0**
KKM Kota Kinabalu 58.08 290 PFAKE 14 13 20.0 +15
KKM LR LR
comp=Z,334nm,22.0s,MS4.4
VNDA Vanda 58.69 182 LR LR 14 35 36.7
comp=Z,1μm,18.3s,MS5.1,baz=17,slow=33
VNDA Vanda 58.69 182 PFAKE 14 13 20.0 +12
VNDA LR LR
comp=Z,1μm,19.0s,MS5.1
SBA Scott Base 58.92 181 *e*P **P** **14 13 11.2 +1.1**
comp=Z,51nm,1.0s,mb5.5
SBA LR LR
comp=Z,2μm,22.0s,MS5.2
SBA Scott Base 58.92 181 *e*P **P** **14 13 11.2 +1.1**
SBA pmax pmax
comp=Z,51nm,1.0s,mb5.5
SBA MLR MLR
comp=Z,2μm,22.0s,MS5.2
SBUM Sibu 60.18 284 P pP 14 13 30.1 -1.4
CASY Casey 60.45 203 PFAKE 14 13 30.0 +9.2
CASY LR LR
comp=Z,2μm,21.0s,MS5.3
KSM Kuching 61.56 282 PFAKE 14 13 40.0 +11
KSM LR LR
comp=Z,356nm,21.0s,MS4.5
MJAR Matsushiro Arr 62.65 332 P **P** **14 13 34.6 -1.4**
comp=Z,12nm,1.1s,mb5.0,baz=165,slow=5.5,SNR=4.3
MJAR LR LR 14 37 01.3
comp=Z,370nm,19.2s,MS4.6,baz=155,slow=32
MJAR Matsushiro Arr 62.65 332 P **P** **14 13 34.6 -1.4**
MJAR LR LR 14 37 01.2
MJAR Matsushiro Arr 62.65 332 P **P** **14 13 34.6 -1.3**
MAJO Matsushiro 62.65 332 *e*P **P** **14 13 34.7 -1.2**
comp=Z,70nm,1.1s,mb5.7
MAJO Matsushiro 62.65 332 *e*P **P** **14 13 34.7 -1.2**
MAJO pmax pmax
comp=Z,70nm,1.1s,mb5.7
MAT Matsushiro 62.65 332 P **P** **14 13 35.3 -0.6**
MAT S **S** **14 22 01.0 -0.4**
SSLB Suanglung 63.63 310 *e*P **P** **14 13 41.4 -1.3**
comp=Z,47nm,0.9s,mb5.5
YHNB Yeheng 63.87 311 *e*P **P** **14 13 45.2 +1.0**
comp=Z,106nm,1.1s,mb5.8
YHNB LR LR
comp=Z,791nm,19.0s,MS4.9
ERM Erimo 65.40 339 PFAKE 14 14 10.0 +16
ERM LR LR
comp=Z,2μm,22.0s,MS5.2
YUK Yuzh-Kuril'sk 66.35 342 *d* *i*P **P** **14 13 55.5 -4.4**
YUK *i* 14 16 34.1
YUK *i* PPP 14 18 04.4
YUK *e*S S 14 22 45.0 -1.8
YUK *e*SS SS 14 26 57.3 -7.0
ASAJ Asahikawa 67.45 339 P **P** **14 14 08.1 +1.1**
comp=Z,137nm,1.0s,mb5.9,baz=171,slow=6.0,SNR=37
ASAJ Asahikawa 67.45 339 P **P** **14 14 07.9 +0.9**
comp=Z,52nm,0.9s,mb5.6
SSE Sheshan 68.06 316 P **P** **14 14 12.1 +1.0**
SSE PcP PcP 14 14 37.8 +0.8
SSE S S 14 23 10.0 +2.1
SSE sS sS 14 23 29.8 +2.0
SSE pmax pmax
comp=Z,23nm,0.8s,mb5.3
SSE pmax pmax
comp=Z,260nm,6.2s
SSE LR LR
comp=N,220nm,31.0s,MS4.3
SSE LR LR
comp=E,130nm,31.0s,MS4.3
SSE LR LR
comp=Z,270nm,27.3s,MS4.3
KSRS Korea Array 68.44 325 P **P** **14 14 13.4 +0.1**
comp=Z,2.7nm,0.8s,mb4.4,baz=140,slow=8.2,SNR=5.7
KSRS LR LR 14 44 02.5
comp=Z,291nm,18.3s,MS4.5,baz=128,slow=36
KSAR Wonju Array Be 68.45 325 P **P** **14 14 13.4 0.0**
KSAR LR LR 14 44 02.5
KSAR Wonju Array Be 68.45 325 P **P** **14 14 13.4 0.0**
INCN Inchon 69.16 325 PFAKE 14 14 30.0 +12
INCN LR LR
comp=Z,476nm,20.0s,MS4.7
YSS Yuzh-Sakhalins 69.92 341 *e*P **P** **14 14 23.2 +0.9**
comp=Z,108nm,1.0s,mb5.7
YSS Yuzh-Sakhalins 69.92 341⇓ *e*P **P** **14 14 22.7 +0.4**
YSS *e*S S 14 23 35.0 +5.7
YSS pmax pmax
comp=N,80nm,1.2s
YSS pmax pmax
comp=E,70nm,1.2s
YSS pmax pmax
comp=Z,140nm,1.2s,mb5.8
YSS MLR MLR
comp=Z,500nm,18.0s,MS4.8
NJ2 Nanjing 70.20 316 *e*P **P** **14 14 25.6 +1.2**
NJ2 pP pP 14 14 42.3 +5.9
NJ2 sP sP 14 14 49.0 +8.1
NJ2 PP PP 14 17 03.4 +3.0
NJ2 S S 14 23 31.5 -1.7
NJ2 sS sS 14 23 56.5 +3.4
NJ2 pmax pmax
comp=Z,40nm,1.3s,mb5.2
NJ2 pmax pmax
comp=Z,540nm,4.4s
NJ2 LR LR
comp=N,480nm,13.4s,MS5.0
NJ2 LR LR
comp=E,430nm,13.5s,MS5.0
NJ2 LR LR
comp=Z,150nm,5.4s
VLA Vladivostok 70.81 332⇓ *e*P **P** **14 14 26.0 -1.9**
VLA 14 14 47.3
VLA pmax pmax
comp=Z,58nm,1.7s,mb5.2
QSPA South Pole Qui 71.06 180 *e*P **P** **14 14 29.2 +0.3**
comp=Z,62nm,1.2s,mb5.4
QSPA LR LR
comp=Z,2μm,21.0s,MS5.2
IPM Ipoh 71.27 282 *e*P **P** **14 14 31.9 +0.6**
comp=Z,3.9nm,0.6s,mb4.5
KULM Kulim 71.92 282 PFAKE 14 14 50.0 +15
KULM LR LR
comp=Z,596nm,22.0s,MS4.8
PET Petropavlovsk 72.32 353 PFAKE 14 14 50.0 +13
PET LR LR
comp=Z,2μm,21.0s,MS5.4
PET Petropavlovsk 72.32 353 *e*P **P** **14 14 44.1 +7.4**
PET *e*PS 14 24 42.9
WHN Wuhan 72.36 312 P **P** **14 14 37.3 -0.2**
PETK Petropavlovsk- 72.52 353 P **P** **14 14 38.3 +0.4**
comp=Z,8.0nm,0.7s,mb4.8,baz=151,slow=8.7,SNR=8.2
PETK LR LR 14 39 57.7
comp=Z,1μm,21.9s,MS5.2,baz=160,slow=30
PETK Petropavlovsk- 72.52 353 P **P** **14 14 38.3 +0.4**
PETK LR LR 14 39 57.6
PETK Petropavlovsk- 72.52 353 P **P** **14 14 38.3 +0.4**
PSI Prapat 72.62 279 P **P** **14 14 39.3 -0.2**
comp=Z,26nm,0.8s,mb5.2
MDJ Mudanjiang 73.02 331 P **P** **14 14 41.9 +0.8**
MDJ pP pP 14 14 55.8 +2.7
MDJ PP PP 14 17 23.3 -1.0
MDJ S S 14 24 06.8 +1.6
MDJ SS SS 14 28 50.3 +3.2
MDJ pmax pmax
comp=Z,34nm,1.2s,mb5.2
MDJ pmax pmax
comp=Z,480nm,4.9s
MDJ LR LR
comp=N,510nm,26.1s
MDJ LR LR
comp=E,270nm,37.3s
MDJ LR LR
comp=Z,770nm,23.1s,MS4.9
MDJ Mudanjiang 73.02 331 *e*P **P** **14 14 41.3 +0.2**
comp=Z,56nm,1.2s,mb5.4
MDJ LR LR
comp=Z,702nm,20.0s,MS4.9
SNY Shenyang 73.91 326⇑ P **P** **14 14 48.8 +2.4**
SNY pmax pmax
comp=Z,270nm,5.7s
SNY LR LR
comp=N,640nm,12.9s
SNY LR LR
comp=E,490nm,19.8s
SNY LR LR
comp=Z,640nm,24.7s
CN2 Changchun 74.37 328 *e*P **P** **14 14 49.4 +0.4**
CN2 *e*pP pP 14 15 05.9 +4.8
CN2 *e*sP sP 14 15 12.8 +7.1
CN2 *e*S S 14 24 19.4 -1.1
CN2 pmax pmax
comp=Z,40nm,0.7s,mb5.5
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,800nm,23.0s,MS5.1
CN2 LR LR
comp=E,800nm,23.0s,MS5.1
CN2 LR LR
comp=Z,800nm,27.0s,MS4.9
ENH Enshi 75.70 309 *e*P **P** **14 14 56.7 -0.3**
comp=Z,62nm,1.4s,mb5.3
ENH LR LR
comp=Z,378nm,21.0s,MS4.7
KLR Kul'dur 75.74 336⇓ *i*P **P** **14 14 54.2 -2.6**
KLR pmax pmax
comp=Z,140nm,1.8s,mb5.6
GYA Guiyang 75.88 305⇑ *i*P **P** **14 14 58.9 +0.8**
GYA pP pP 14 15 12.0 +1.8
GYA sP sP 14 15 21.3 +6.5
GYA PP PP 14 17 52.8 +3.8
GYA S S 14 24 37.8 -0.2
GYA SKS 14 25 01.4
GYA SS SS 14 29 33.8 +2.5
GYA pmax pmax
comp=Z,150nm,5.2s
GYA LR LR
comp=N,660nm,20.0s,MS5.1
GYA LR LR
comp=E,570nm,19.8s,MS5.1
GYA LR LR
comp=Z,680nm,19.5s,MS5.0
NST Nakhon Sawan 76.44 292 P **P** **14 15 00.0 -1.5**
BJT Baijiatuao 76.89 321 P **P** **14 15 03.1 -0.4**
comp=Z,29nm,0.5s,mb5.5
BJT LR LR
comp=Z,551nm,21.0s,MS4.8
BJT Baijiatuao 76.89 321 P **P** **14 15 03.1 -0.4**
BJT pmax pmax
comp=Z,29nm,0.5s
BJT MLR MLR
comp=Z,551nm,21.0s
BJI Beijing 76.90 321 P **P** **14 15 04.3 +0.7**
BJI pP pP 14 15 17.6 +1.9
BJI sP sP 14 15 23.3 +3.1
BJI PP PP 14 17 57.8 +0.5
BJI pmax pmax
comp=Z,47nm,0.8s,mb5.5
BJI LR LR
comp=N,750nm,23.1s,MS5.0
BJI LR LR
comp=E,510nm,23.1s,MS5.0
BJI LR LR
comp=Z,850nm,29.6s
XAN Xi'an 78.12 312 P **P** **14 15 10.4 -0.2**
XAN pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
XAN LR LR
comp=N,190nm,17.8s
XAN LR LR
comp=Z,90nm,20.2s,MS4.1
KMI Kunming 78.35 302 P **P** **14 15 13.8 +1.8**
KMI PcP PcP 14 15 22.3 +1.1
KMI pP pP 14 15 27.8 +3.6
KMI sP sP 14 15 34.1 +5.4
KMI PP PP 14 18 13.0 +3.2
KMI S S 14 25 04.4 -0.5
KMI sS sS 14 25 29.3 +4.2
KMI SS SS 14 30 12.8 +4.1
KMI pmax pmax
comp=Z,32nm,1.0s,mb5.2
KMI pmax pmax
comp=Z,330nm,5.5s
KMI LR LR
comp=N,290nm,18.5s,MS4.7
KMI LR LR
comp=E,240nm,23.3s,MS4.7
KMI LR LR
comp=Z,220nm,20.6s,MS4.5
CHRT Chiangrai 78.49 296⇓ P **P** **14 15 13.0 +0.1**
comp=Z,132nm,1.0s,mb5.8
CM31 Chiang Mai Arr 78.63 294 *e*P **P** **14 15 15.0 +1.3**
CM31 LR LR
comp=Z,300nm,21.0s,MS4.6
CMAR Chiang Mai Arr 78.63 294 P **P** **14 15 14.4 +0.7**
comp=Z,22nm,1.1s,mb5.0,baz=127,slow=4.0,SNR=50
CMAR Chiang Mai Arr 78.63 294 P **P** **14 15 14.4 +0.7**
CMAR Chiang Mai Arr 78.63 294 P **P** **14 15 14.4 +0.7**
MAW Mawson 78.76 202 P **P** **14 15 14.9 +1.3**
comp=Z,19nm,0.9s,mb5.0,baz=102,slow=7.6,SNR=16
MAW LR LR 14 45 28.9
comp=Z,3μm,21.3s,MS5.5,baz=89,slow=32
MAW Mawson 78.76 202 *e*P **P** **14 15 14.5 +1.0**
comp=Z,15nm,0.9s,mb4.9
MAW Mawson 78.76 202 *e*P **P** **14 15 14.4 +0.9**
comp=Z,9.7nm,1.2s,mb4.6
MAW LR LR
comp=Z,5μm,22.0s,MS5.8
MAW Mawson 78.76 202 *e*P **P** **14 15 14.4 +0.9**
MAW pmax pmax
comp=Z,10.0nm,1.2s
MAW MLR MLR
comp=Z,5μm,22.0s
CHG Chiang Mai 78.77 294⇑ P **P** **14 15 15.7 +1.2**
comp=Z,28nm,0.9s,mb5.2
CHTO Chiang Mai 78.77 294 *e*P **P** **14 15 15.6 +1.2**
comp=Z,52nm,1.4s,mb5.3
CHTO LR LR
comp=Z,267nm,20.0s,MS4.6
CHTO Chiang Mai 78.77 294 *e*P **P** **14 15 15.6 +1.1**
CHTO pmax pmax
comp=Z,52nm,1.4s,mb5.3
CHTO MLR MLR
comp=Z,267nm,20.0s,MS4.6
CHTO Chiang Mai 78.77 294 P **P** **14 15 15.7 +1.2**
comp=Z,682nmcomp=Z,30nm,1.6s,mb5.0
HHC Hu-ho-hao-te 80.19 319 *e*P **P** **14 15 22.9 +1.2**
HHC pP pP 14 15 34.5 +0.6
HHC sP sP 14 15 39.3 +0.9
HHC PP PP 14 18 25.8 +1.0
HHC S S 14 25 25.6 +1.8
HHC SKS 14 25 33.4
HHC SS SS 14 30 36.4 +0.7
HHC pmax pmax
comp=Z,31nm,1.4s,mb5.0
HHC pmax pmax
comp=Z,310nm,4.1s
HHC LR LR
comp=N,500nm,19.0s,MS5.2
HHC LR LR
comp=E,750nm,17.8s,MS5.2
HHC LR LR
comp=Z,520nm,16.6s,MS5.0
CD2 Chengdu 80.28 307 P **P** **14 15 23.3 +0.9**
CD2 pP pP 14 15 33.8 -0.8
CD2 PP PP 14 18 27.4 +1.7
CD2 S S 14 25 25.3 +0.1
CD2 SKS 14 25 33.5
CD2 SS SS 14 30 40.6 +3.1
CD2 pmax pmax
comp=Z,30nm,1.2s,mb5.1
CD2 pmax pmax
comp=Z,420nm,8.3s
CD2 LR LR
comp=E,440nm,10.1s
CD2 LR LR
comp=Z,600nm,10.7s,MS5.2
HIA Hailar 81.02 330 *e*P **P** **14 15 26.1 +0.2**
comp=Z,27nm,1.2s,mb5.0
HIA LR LR
comp=Z,876nm,21.0s,MS5.1
HIA Hailar 81.02 330 *e*P **P** **14 15 26.1 +0.2**
HIA pmax pmax
comp=Z,27nm,1.2s
HIA MLR MLR
comp=Z,876nm,21.0s
PAF Port-aux-Franc 81.67 221 PFAKE 14 15 40.0 +10
PAF LR LR
comp=Z,1μm,20.0s,MS5.2
KDAK Kodiak Island 82.72 19 PFAKE 14 15 50.0 +15
KDAK LR LR
comp=Z,2μm,20.0s,MS5.5
LZH Lanzhou 82.74 312 *e*P **P** **14 15 36.0 +0.7**
LZH pP pP 14 15 48.0 +0.5
LZH sP sP 14 15 59.4 +7.3
LZH *e*S S 14 25 50.0 -0.5
LZH sS sS 14 26 18.0 +7.2
LZH *e*SS SS 14 31 13.1 -0.9
LZH pmax pmax
comp=Z,46nm,1.0s,mb5.5
LZH pmax pmax
comp=Z,410nm,4.8s
LZH LR LR
comp=N,1μm,14.9s,MS5.5
LZH LR LR
comp=E,810nm,13.2s,MS5.5
LZH LR LR
comp=Z,1μm,17.9s,MS5.4
SEY Seymchan 82.75 352⇑ *i*P **P** **14 15 34.1 -0.6**
SYO Syowa Base 85.24 196⇓ *e*P **P** **14 15 45.6 -2.0**
KCPM Cahto Peak 85.38 45 *e*P **P** **14 15 52.5 +3.9**
comp=Z,118nm,2.1s,mb5.7
KIPM Iron Peak 85.51 45 *e*P **P** **14 15 51.8 +2.5**
comp=Z,129nm,1.8s,mb5.8
KHMM Horse Mountain 85.86 44 *e*P **P** **14 15 53.1 +2.1**
comp=Z,19nm,1.0s,mb5.3
TNA Tin City 86.02 9 *e*P **P** **14 15 51.6 +0.4**
comp=Z,48nm,1.2s,mb5.6
YAK Yakutsk 86.71 342 *e*P **P** **14 15 54.4 -0.3**
comp=Z,116nm,0.8s,mb6.2
YAK LR LR
comp=Z,1μm,20.0s,MS5.3
YAK Yakutsk 86.71 342 *e*P **P** **14 15 53.7 -1.0**
YAK pmax pmax
comp=E,22nm,1.0s
YAK pmax pmax
comp=N,29nm,1.2s
YAK pmax pmax
comp=Z,124nm,1.0s,mb6.1
BILL Bilibino 86.81 359 *e*P **P** **14 15 54.5 -0.5**
comp=Z,65nm,1.3s,mb5.7
BILL LR LR
comp=Z,893nm,19.0s,MS5.2
BILL Bilibino 86.81 359 *c* *i*P **P** **14 15 55.1 +0.1**
BILL *i* pP 14 16 06.0 -1.3
BILL *i* S S 14 26 21.9 -7.6
BILL *i* SS SS 14 32 10.6 -2.0
BILL pmax pmax
comp=Z,58nm,1.2s,mb5.7
ULN Ulaanbaatar 86.81 323 *e*P **P** **14 15 55.3 -0.2**
comp=Z,54nm,1.1s,mb5.7
ULN *e* pP 14 16 04.7 -3.1
ULN LR LR
comp=Z,398nm,19.0s,MS4.8
ULN Ulaanbaatar 86.81 323 *e*P **P** **14 15 55.3 -0.2**
ULN *e* pP 14 16 04.7 -3.1
ULN pmax pmax
comp=Z,54nm,1.1s,mb5.7
ULN MLR MLR
comp=Z,398nm,19.0s,MS4.8
ULN Ulaanbaatar 86.81 323 P **P** **14 15 55.8 +0.3**
comp=Z,49nm,1.5s,mb5.5
ISA Isabella 87.13 51 *e*P **P** **14 15 57.7 +0.3**
comp=Z,45nm,1.6s,mb5.5
ISA Isabella 87.13 51 *e*P **P** **14 15 57.7 +0.3**
ISA pmax pmax
comp=Z,45nm,1.6s,mb5.5
GTA Gaotai 87.13 313 *e*P **P** **14 15 58.3 +1.0**
GTA pP pP 14 16 12.1 +2.5
GTA sP sP 14 16 17.6 +3.5
GTA S S 14 26 33.8 0.0
GTA sS sS 14 26 56.0 +1.7
GTA SS SS 14 32 22.9 +4.3
GTA pmax pmax
comp=Z,22nm,1.2s,mb5.3
GTA pmax pmax
comp=Z,380nm,4.7s
GTA LR LR
comp=N,280nm,12.8s,MS5.0
GTA LR LR
comp=E,270nm,14.0s,MS5.0
GTA LR LR
comp=Z,360nm,17.3s,MS4.8
SONM Songino Array 87.17 323 P **P** **14 15 57.5 +0.2**
comp=Z,21nm,1.0s,mb5.3,baz=120,slow=5.2,SNR=69
SONM LR LR 14 52 38.9
comp=Z,275nm,19.6s,MS4.7,baz=272,slow=34
SONM Songino Array 87.17 323 P **P** **14 15 57.5 +0.2**
SONM LR LR 14 52 38.9
SONM Songino Array 87.17 323 P **P** **14 15 57.5 +0.2**
SHL Shillong 87.45 298 *e*PKP **P** **14 16 00.0 +0.8**
PFO Pinyon Flat Ob 87.77 53 PFAKE 14 16 10.0 +9.5
PFO LR LR
comp=Z,1μm,22.0s,MS5.3
DAC Darwin (Calif) 88.04 51 PFAKE 14 16 10.0 +8.3
DAC LR LR
comp=Z,2μm,19.0s,MS5.4
NVAR Mina Array Bea 88.45 48 P **P** **14 16 04.6 +1.0**
comp=Z,3.6nm,1.0s,mb4.6,baz=227,slow=3.6,SNR=13
NVAR LR LR 14 47 00.2
comp=Z,2μm,21.9s,MS5.6,baz=113,slow=30
NVAR Mina Array Bea 88.45 48 P **P** **14 16 04.6 +1.0**
NVAR LR LR 14 47 00.2
NLWA Neilton Lookou 88.98 39 PFAKE 14 16 20.0 +14
NLWA LR LR
comp=Z,1μm,20.0s,MS5.4
TPH Tonopah 89.07 49 PFAKE 14 16 20.0 +13
TPH LR LR
comp=Z,2μm,22.0s,MS5.5
NVL N'lazarevskaya 89.14 187 *e*P **P** **14 16 06.3 -0.1**
NVL pmax pmax
comp=Z,22nm,1.0s,mb5.4
MAIT Maitri 89.14 187 *e*P **P** **14 16 05.5 -0.9**
LDFC Landfair 89.39 53 *e*P **P** **14 16 09.6 +1.5**
comp=Z,132nm,1.8s,mb6.0
SNAA Sanae 89.42 182 *e*P **P** **14 16 04.1 -3.6**
comp=Z,40nm,1.4s,mb5.6
SNAA Sanae 89.42 182 *e*P **P** **14 16 04.1 -3.6**
SNAA pmax pmax
comp=Z,40nm,1.4s
LSA Lhasa 89.61 302 *e*P **P** **14 16 09.8 +0.5**
comp=Z,9.1nm,0.8s,mb5.2
LSA LR LR
comp=Z,240nm,20.0s,MS4.6
LSA Lhasa 89.61 302 *e*P **P** **14 16 09.8 +0.5**
LSA pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
LSA MLR MLR
comp=Z,240nm,20.0s,MS4.6
COLA College 89.73 17 *e*P **P** **14 16 07.7 -1.3**
comp=Z,8.9nm,1.1s,mb5.0
COLA LR LR
comp=Z,1μm,20.0s,MS5.4
COLA College 89.73 17 *e*P **P** **14 16 07.7 -1.3**
COLA pmax pmax
comp=Z,9.0nm,1.1s,mb5.0
COLA MLR MLR
comp=Z,1μm,20.0s,MS5.4
ILAR Eielson Array 89.92 17 P **P** **14 16 08.9 -1.0**
comp=Z,2.1nm,0.9s,mb4.5,baz=236,slow=4.9,SNR=20
ILAR PP PP 14 19 45.7 +2.4
comp=Z,0.3nm,0.9s,baz=226,slow=7.5,SNR=4.5
ILAR LR LR 14 48 51.4
comp=Z,2μm,21.6s,MS5.4,baz=257,slow=30
ILAR Eielson Array 89.92 17 P **P** **14 16 08.9 -1.0**
ILAR PP PP 14 19 45.7 +2.4
ILAR LR LR 14 48 51.4
ILAR Eielson Array 89.92 17 P **P** **14 16 08.9 -1.0**
ILAR 14 19 45.7
VNA3 Neumayer Olymp 90.00 180 *e* **P** **14 16 06.7 -3.7**
VNA3 *e* 14 16 25.3
BMN Battle Mountai 90.06 47 PFAKE 14 16 20.0 +8.9
BMN LR LR
comp=Z,1μm,20.0s,MS5.3
ZAK Zakamensk 90.24 324 *e*P **P** **14 16 10.7 -1.0**
ZAK pmax pmax
comp=Z,14nm,1.6s,mb5.0
VNA2 Neumayer--Watz 90.30 181 *e* **P** **14 16 08.4 -3.4**
baz=174,slow=3.6
VNA2 *e* 14 16 26.8
VNA1 Neumayer--Stat 90.59 181 *e* **P** **14 16 10.0 -3.1**

IRK	**Irkutsk**	**90.64**	**326**	*e*P		**P**		**14 16 11.6**	**-1.9**
IRK				pmax		pmax				
	comp=Z,72nm,4.3s									
TLY	**Talaya**	**90.69**	**325**	*e*P		**P**		**14 16 13.6**	**-0.1**
	comp=Z,55nm,1.6s,mb5.6									
TLY				LR		LR				
	comp=Z,457nm,20.0s,MS4.9									
TLY	**Talaya**	**90.69**	**325**	*e*P		**P**		**14 16 12.8**	**-1.0**
TLY				*e*PS		PS		14 28 08.9	-11
TLY				*e*SS		SS		14 33 08.4	-1.3
TLY				pmax		pmax				
	comp=Z,10.0nm,1.1s,mb5.1									
TLY				MLR		MLR				
	comp=Z,221nm,19.0s,MS4.6									
HAWA	**Hanford**	**91.14**	**41**	PFAKE				14 16 30.0	+14
HAWA				LR		LR				
	comp=Z,2μm,20.0s,MS5.6									
ETW	**Entiat**	**91.20**	**40**	*e*P		**P**		**14 16 16.1**	**-0.2**
	comp=Z,42nm,1.6s,mb5.5									
TAPN	**Taplejung**	**91.58**	**298**	*e*P		**P**		**14 16 18.6**	**+0.1**
	comp=Z,39nm,1.3s,mb5.6									
EGAK	**Eagle**	**91.61**	**19**	PFAKE				14 16 30.0	+12
EGAK				LR		LR				
	comp=Z,1μm,20.0s,MS5.4									
TUC	**Tucson**	**91.66**	**56**	*e*P		**P**		**14 16 19.4**	**+0.6**
	comp=Z,4.4nm,1.1s,mb4.7									
TUC				*e*		pP		14 16 28.3	-2.8
TUC	**Tucson**	**91.66**	**56**	*e*P		**P**		**14 16 19.4**	**+0.6**
TUC				*e*		pP		14 16 28.3	-2.8
TUC				pmax		pmax				
	comp=Z,4.0nm,1.1s,mb4.7									
ODAN	**Odare**	**91.68**	**298**	*e*P		**P**		**14 16 18.7**	**-0.3**
	comp=Z,60nm,1.3s,mb5.8									
ARUT	**Antelope Range**	**91.69**	**51**	*e*P		**P**		**14 16 20.4**	**+1.6**
	comp=Z,20nm,1.4s,mb5.3									
ARUT	**Antelope Range**	**91.69**	**51**	*e*P		**P**		**14 16 20.4**	**+1.6**
ARUT				pmax		pmax				
	comp=Z,20nm,1.4s,mb5.2									
BMO	**Blue Mountains**	**91.88**	**43**	PFAKE				14 16 30.0	+11
BMO				LR		LR				
	comp=Z,2μm,20.0s,MS5.6									
RAMN	**Ramite**	**92.37**	**298**	*e*P		**P**		**14 16 22.2**	**0.0**
MVU	**Marysvale**	**92.86**	**50**	PFAKE				14 16 40.0	+16
MVU				LR		LR				
	comp=Z,2μm,19.0s,MS5.7									
DUG	**Dugway**	**93.06**	**49**	PFAKE				14 16 40.0	+15
DUG				LR		LR				
	comp=Z,2μm,19.0s,MS5.6									
HLID	**Hailey**	**93.25**	**45**	PFAKE				14 16 40.0	+14
HLID				LR		LR				
	comp=Z,2μm,20.0s,MS5.7									
GUN	**Gumba**	**93.30**	**298**	*e*P		**P**		**14 16 25.7**	**-0.7**
NEW	**Newport**	**93.43**	**40**	PFAKE				14 16 40.0	+13
NEW				LR		LR				
	comp=Z,1μm,19.0s,MS5.4									
PKI	**Pulchoki**	**93.58**	**298**	*e*P		**P**		**14 16 27.7**	**0.0**
KKN	**Kakani**	**93.76**	**298**	*e*P		**P**		**14 16 28.3**	**-0.3**
DMN	**Daman**	**93.84**	**298**	*e*P		**P**		**14 16 29.2**	**+0.2**
GKN	**Gorkha**	**94.37**	**298**	*e*P		**P**		**14 16 31.3**	**-0.1**
	comp=Z,23nm,1.0s,mb5.5									
HWUT	**Hardware Ranch**	**94.46**	**48**	PFAKE				14 16 40.0	+8.5
HWUT				LR		LR				
	comp=Z,1μm,21.0s,MS5.4									
MSO	**Missoula**	**94.83**	**42**	PFAKE				14 16 40.0	+7.0
MSO				LR		LR				
	comp=Z,1μm,21.0s,MS5.3									
MVCO	**Mesa Verde**	**95.14**	**53**	PFAKE				14 16 50.0	+15
MVCO				LR		LR				
	comp=Z,1μm,20.0s,MS5.4									
KOLN	**Koldanda**	**95.16**	**297**	*e*P		**P**		**14 16 34.8**	**-0.2**
AHID	**Auburn Hatcher**	**95.20**	**47**	PFAKE				14 16 50.0	+15
AHID				LR		LR				
	comp=Z,1μm,20.0s,MS5.4									
DANN	**Dangsing**	**95.21**	**298**	*e*P		**P**		**14 16 35.0**	**-0.2**
PYUN	**Piuthan**	**95.78**	**298**	*e*P		**P**		**14 16 36.6**	**-1.2**
	comp=Z,22nm,1.1s,mb5.5									
BOZ	**Bozeman (W)**	**95.88**	**44**	PFAKE				14 16 50.0	+12
BOZ				LR		LR				
	comp=Z,3μm,20.0s,MS5.8									
ANMO	**Albuquerque**	**95.95**	**55**	PFAKE				14 16 50.0	+12
ANMO				LR		LR				
	comp=Z,1μm,21.0s,MS5.3									
INK	**Inuvik**	**96.23**	**18**	P		**P**		**14 16 38.5**	**-0.4**
	comp=Z,3.8nm,1.0s,mb4.8,baz=201,slow=4.5,SNR=5.8									
INK	**Inuvik**	**96.23**	**18**	P		**P**		**14 16 38.5**	**-0.4**
INK	**Inuvik**	**96.23**	**18**	P		**P**		**14 16 38.5**	**-0.4**
PDAR	**Pinedale Array**	**96.26**	**47**	P		**P**		**14 16 39.8**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=250,slow=2.6,SNR=3.1									
PDAR				PP		PP		14 20 31.0	-2.7
	comp=Z,0.4nm,0.8s,baz=264,slow=5.1,SNR=4.4									
PDAR				LR		LR		14 53 42.3		
	comp=Z,603nm,18.4s,MS5.1,baz=267,slow=31									
PDAR	**Pinedale Array**	**96.26**	**47**	P		**P**		**14 16 39.8**	**+0.2**
PDAR				PP		PP		14 20 31.0	-2.7
PDAR				LR		LR		14 53 42.3		
LKWY	**Lake**	**96.31**	**45**	PFAKE				14 16 50.0	+10
LKWY				LR		LR				
	comp=Z,4μm,21.0s,MS5.8									
TXAR	**Lajitas Array**	**96.43**	**61**	P		**P**		**14 16 41.4**	**+0.7**
	comp=Z,0.5nm,0.8s,mb4.0,baz=218,slow=5.7,SNR=6.7									
TXAR				PP		PP		14 20 41.1	+5.8
	comp=Z,0.6nm,1.0s,baz=258,slow=3.7,SNR=4.2									
TXAR				LR		LR		14 51 58.5		
	comp=Z,1μm,19.1s,MS5.4,baz=290,slow=30									
TXAR	**Lajitas Array**	**96.43**	**61**	P		**P**		**14 16 41.4**	**+0.7**
TXAR				PP		PP		14 20 41.1	+5.8
TXAR				LR		LR		14 51 58.5		
TXAR	**Lajitas Array**	**96.43**	**61**	P		**P**		**14 16 41.4**	**+0.6**
TXAR								14 20 41.1		
WMQ	**Urumqi**	**97.21**	**314**	P		**P**		**14 16 44.8**	**+0.9**
WMQ				pP		pP		14 16 55.4	-0.9
WMQ				PP		PP		14 20 44.0	+3.1
WMQ				pmax		pmax				
	comp=Z,21nm,1.7s,mb5.3									
WMQ				pmax		pmax				
	comp=Z,160nm,4.2s									
WMQ				LR		LR				
	comp=N,280nm,31.8s									
WMQ				LR		LR				
	comp=E,300nm,21.2s									
WMQ				LR		LR				
	comp=Z,400nm,23.8s									
RLMT	**Red Lodge**	**97.26**	**45**	PFAKE				14 17 00.0	+16
RLMT				LR		LR				
	comp=Z,3μm,19.0s,MS5.8									
SDCO	**Great Sand Dun**	**97.57**	**53**	PFAKE				14 17 00.0	+14
SDCO				LR		LR				
	comp=Z,1μm,20.0s,MS5.4									
ISCO	**Idaho Springs**	**98.12**	**51**	PFAKE				14 17 00.0	+12
ISCO				LR		LR				
	comp=Z,1μm,20.0s,MS5.4									
EFI	**East Falkland**	**98.31**	**152**	PFAKE				14 17 00.0	+11
EFI				LR		LR				
	comp=Z,681nm,20.0s,MS5.1									
PLCA	**Paso Flores**	**98.56**	**138**	LR		LR		14 50 09.1		
	comp=Z,195nm,21.6s,MS4.6,baz=144,slow=28									
AMTX	**Amarillo**	**99.68**	**56**	PFAKE				14 17 10.0	+15
AMTX				LR		LR				
	comp=Z,1μm,21.0s,MS5.3									
LAO	**LASA Array**	**99.77**	**44**	PFAKE				14 17 10.0	+15
LAO				LR		LR				
	comp=Z,3μm,21.0s,MS5.7									
JCT	**Junction City**	**99.97**	**61**	PFAKE				14 17 10.0	+14
JCT				LR		LR				
	comp=Z,2μm,20.0s,MS5.5									
KVTX	**Kingsville**	**100.78**	**65**	PFAKE				14 17 10.0	+10
KVTX				LR		LR				
	comp=Z,1μm,20.0s,MS5.3									
OGNE	**Ogallala**	**101.07**	**50**	PFAKE				14 17 10.0	+8.9
OGNE				LR		LR				
	comp=Z,2μm,21.0s,MS5.6									
DGMT	**Dagmar**	**101.58**	**43**	PFAKE				14 17 10.0	+6.6
DGMT				LR		LR				
	comp=Z,804nm,20.0s,MS5.2									
MKAR	**Makanchi Array**	**101.73**	**316**	P		Pdif		14 17 04.0	0.0
	comp=Z,2.2nm,0.7s,baz=113,slow=3.7,SNR=13									
MKAR				PP		PP		14 21 18.2	+3.0
	comp=Z,1.7nm,1.0s,baz=125,slow=4.2,SNR=4.7									
MKAR	**Makanchi Array**	**101.73**	**316**	P		Pdif		14 17 04.0	0.0
MKAR				PP		PP		14 21 18.2	+3.0
MKAR	**Makanchi Array**	**101.73**	**316**	P		Pdif		14 17 04.0	-0.1
MKAR								14 21 18.2	
ZALV	**Zalesovo Beam**	**102.06**	**323**	P		Pdif		14 17 04.5	-1.1
	comp=Z,2.2nm,0.8s,baz=129,slow=4.1,SNR=12									
ZALV	**Zalesovo Beam**	**102.06**	**323**	P		Pdif		14 17 04.5	-1.1
ZALV	**Zalesovo Beam**	**102.06**	**323**	P		Pdif		14 17 04.5	-1.0
CBKS	**Cedar Bluff**	**102.22**	**53**	PFAKE				14 17 20.0	+14
CBKS				LR		LR				
	comp=Z,699nm,20.0s,MS5.2									
RER	**Riviere de l'E**	**103.87**	**242**	PFAKE				14 17 30.0	+16
RER				LR		LR				
	comp=Z,1μm,19.0s,MS5.4									
FFC	**Flin Flon**	**104.44**	**37**	PFAKE				14 17 30.0	+14
FFC				LR		LR				
	comp=Z,2μm,19.0s,MS5.7									
NATX	**Nacogdoches**	**104.56**	**61**	PFAKE				14 17 30.0	+13
NATX				LR		LR				
	comp=Z,2μm,20.0s,MS5.5									
KSU1	**Kansas State U**	**104.66**	**53**	PFAKE				14 17 30.0	+13
KSU1				LR		LR				
	comp=Z,806nm,19.0s,MS5.3									
KURK	**Kurchatov**	**105.00**	**319**	Pdiff		Pdif		14 17 19.2	+0.6
	comp=Z,0.4nm,0.4s,baz=86,slow=2.9,SNR=3.3									
KURK	**Kurchatov**	**105.00**	**319**	Pdif		Pdif		14 17 19.2	+0.6
KURK				LR		LR				
	comp=Z,471nm,19.0s,MS5.0									
KURK	**Kurchatov**	**105.00**	**319**	P		Pdif		14 17 19.2	+0.6
KURK				MLR		MLR				
	comp=Z,471nm,19.0s,MS5.0									
TRQA	**Tornquist**	**105.47**	**140**	PFAKE				14 21 50.0	+15
TRQA				LR		LR				
	comp=Z,458nm,20.0s,MS5.0									
TKM2	**Tokmak 2**	**105.47**	**310**	PFAKE				14 21 50.0	+16
TKM2				LR		LR				
	comp=Z,311nm,20.0s,MS4.8									
TGUH	**Tegucigalpa,Un**	**106.75**	**81**	PFAKE				14 21 50.0	+13
TGUH				LR		LR				
	comp=Z,748nm,20.0s,MS5.2									
AGMN	**Agassiz Nation**	**106.97**	**44**	PFAKE				14 21 50.0	+13
AGMN				LR		LR				
	comp=Z,3μm,21.0s,MS5.9									
TEIG	**Tepich**	**107.42**	**74**	PFAKE				14 21 50.0	+11
TEIG				LR		LR				
	comp=Z,815nm,20.0s,MS5.3									
SCIA	**State Center**	**107.75**	**51**	PFAKE				14 21 50.0	+12
SCIA				LR		LR				
	comp=Z,2μm,22.0s,MS5.5									
NNA	**Nana**	**107.75**	**110**	PFAKE				14 21 50.0	+11
NNA				LR		LR				
	comp=Z,209nm,19.0s,MS4.7									
JTS	**JuntasAbangare**	**107.88**	**85**	PFAKE				14 21 50.0	+10
JTS				LR		LR				
	comp=Z,1μm,19.0s,MS5.4									
VBMS	**Vicksburg**	**108.10**	**61**	PFAKE				14 21 50.0	+11
VBMS				LR		LR				
	comp=Z,873nm,20.0s,MS5.3									
OXF	**Oxford**	**109.44**	**59**	PFAKE				14 21 50.0	+8.1
OXF				LR		LR				
	comp=Z,1μm,21.0s,MS5.5									
EYMN	**Ely**	**109.82**	**45**	PFAKE				14 21 50.0	+7.8
EYMN				LR		LR				
	comp=Z,3μm,20.0s,MS5.8									
JFWS	**Jewell Farm**	**110.07**	**50**	PFAKE				14 21 50.0	+7.2
JFWS				LR		LR				
	comp=Z,2μm,21.0s,MS5.7									
BVAR	**Borovoye Array**	**110.38**	**320**	PP		PP		14 22 15.8	-3.0
	comp=Z,0.2nm,0.4s,baz=97,slow=7.4,SNR=1.9									
BRVK	**Borovoye**	**110.45**	**321**	PFAKE				14 22 00.0	+17
BRVK				LR		LR				
	comp=Z,504nm,19.0s,MS5.1									
PLAL	**Pickwick Lake**	**110.60**	**59**	PFAKE				14 22 00.0	+16
PLAL				LR		LR				
	comp=Z,1μm,20.0s,MS5.6									
OTAV	**Otavalo**	**110.89**	**97**	PFAKE				14 22 00.0	+15
OTAV				LR		LR				
	comp=Z,341nm,21.0s,MS4.9									
MSEY	**Mahe Island**	**110.96**	**257**	PFAKE				14 22 00.0	+15
MSEY				LR		LR				
	comp=Z,747nm,20.0s,MS5.3									
ABPO	**Ambohimpanom**	**111.92**	**240**	PFAKE				14 22 00.0	+13
ABPO				LR		LR				
	comp=Z,1μm,21.0s,MS5.4									
LPAZ	**La Paz**	**113.35**	**118**	PFAKE				14 22 00.0	+10
LPAZ				LR		LR				
	comp=Z,205nm,20.0s,MS4.7									
ARU	**Arti**	**117.18**	**324**	PFAKE				14 22 10.0	+14
ARU				LR		LR				
	comp=Z,743nm,20.0s,MS5.3									
ERPA	**Erie**	**117.57**	**52**	PFAKE				14 22 10.0	+13
ERPA				LR		LR				
	comp=Z,2μm,20.0s,MS5.7									
AKTO	**Aktyubinsk**	**118.05**	**318**	PKP		PKPdf		14 21 57.5	-0.4
	comp=Z,1.7nm,0.6s,baz=252,slow=3.2,SNR=6.7									
AKTO	**Aktyubinsk**	**118.05**	**318**	PKP		PKPdf		14 21 57.5	-0.4
AKTO	**Aktyubinsk**	**118.05**	**318**	PKIKP		PKPdf		14 21 57.5	-0.3
CNNC	**Cliffs of the**	**118.92**	**60**	PFAKE				14 22 10.0	+10
CNNC				LR		LR				
	comp=Z,2μm,19.0s,MS5.7									
KBS	**Kingsbay**	**119.10**	**355**	PFAKE				14 22 10.0	+11
KBS				LR		LR				
	comp=Z,646nm,19.0s,MS5.3									
GTBY	**Guantanamo Bay**	**119.43**	**77**	PFAKE				14 22 10.0	+8.6
GTBY				LR		LR				
	comp=Z,487nm,21.0s,MS5.1									
CBN	**Corbin**	**119.47**	**56**	PFAKE				14 22 10.0	+9.0
CBN				LR		LR				
	comp=Z,1μm,21.0s,MS5.5									
BINY	**Binghamton**	**120.54**	**52**	PFAKE				14 22 10.0	+7.1
BINY				LR		LR				
	comp=Z,2μm,20.0s,MS5.7									
SUR	**Sutherland**	**120.78**	**211**	PFAKE				14 22 20.0	+16
SUR				LR		LR				
	comp=Z,879nm,19.0s,MS5.4									
SDV	**Santo Domingo**	**121.02**	**91**	*e*PKPdf		PKPdf		14 22 03.1	-1.6
BOSA	**Boshof**	**121.40**	**217**	PFAKE				14 22 20.0	+15
BOSA				LR		LR				
	comp=Z,506nm,19.0s,MS5.2									
LONY	**Lake Ozonia**	**121.45**	**49**	PFAKE				14 22 20.0	+15
LONY				LR		LR				
	comp=Z,2μm,21.0s,MS5.8									
NCB	**Newcomb**	**121.75**	**50**	PFAKE				14 22 20.0	+15
NCB				LR		LR				
	comp=Z,1μm,20.0s,MS5.5									
SDDR	**Presa de Saban**	**122.79**	**79**	PFAKE				14 22 20.0	+12
SDDR				LR		LR				
	comp=Z,1μm,20.0s,MS5.5									
LBNH	**Lisbon**	**123.38**	**49**	PFAKE				14 22 20.0	+12
LBNH				LR		LR				
	comp=Z,3μm,19.0s,MS5.9									
LVZ	**Lovozero**	**123.50**	**341**	PFAKE				14 22 20.0	+12
LVZ				LR		LR				
	comp=Z,4μm,21.0s,MS6.1									
LBTB	**Lobatse**	**123.90**	**220**	PFAKE				14 22 20.0	+10
LBTB				LR		LR				
	comp=Z,1μm,21.0s,MS5.6									
APA	**Apatity**	**124.08**	**341** ⇑	*i*PKIKP		PKPdf		14 22 13.8	+4.9
APA				*i*				14 29 20.0		
APA				MLR		MLR				
	comp=Z,2μm,25.0s,MS5.7									
SCHQ	**Schefferville**	**124.56**	**36**	PFAKE				14 22 20.0	+10
SCHQ				LR		LR				
	comp=Z,2μm,19.0s,MS5.8									
ARCES	**ARCESS Array B**	**124.89**	**345**	PKP		PKPdf		14 22 09.2	-1.2
	comp=Z,4.8nm,0.7s,baz=64,slow=2.1,SNR=15									
ARCES	**ARCESS Array B**	**124.89**	**345**	PKP		PKPdf		14 22 09.2	-1.2
ARCES	**ARCESS Array B**	**124.89**	**345**	PKIKP		PKPdf		14 22 09.2	-1.2
PKME	**Peaks-Kenny Pk**	**125.12**	**48**	PFAKE				14 22 20.0	+8.4
PKME				LR		LR				
	comp=Z,2μm,20.0s,MS5.8									
QRN	**Al-Qurain**	**126.15**	**292**	*e*P		PKPdf		14 22 12.9	-1.2
QRN				AMb		AMB		14 22 16.1		
	comp=Z,77nm,0.9s									
RDF	**Al-Radifah**	**126.48**	**292**	*e*P		PKPdf		14 22 13.2	-1.6
RDF				AMb		AMB		14 22 17.3		
	comp=Z,81nm,1.0s									
NAY	**Al-Naaiem**	**126.77**	**293**	*e*P		PKPdf		14 22 13.5	-1.7
NAY				AMb		AMB		14 22 17.0		
	comp=Z,17nm,1.1s									
RST	**Umm Al-Ruwaisa**	**126.99**	**293**	*e*P		PKPdf		14 22 14.0	-1.7
RST				AMb		AMB		14 22 25.3		
	comp=Z,14nm,1.1s									
SJG	**San Juan**	**127.43**	**81**	PKPdf		PKPdf		14 22 15.2	-1.6
SJG	**San Juan**	**127.43**	**81**	PKIKP		PKPdf		14 22 15.3	-1.5
GNI	**Garni**	**128.41**	**307**	PFAKE				14 22 30.0	+12
GNI				LR		LR				
	comp=Z,314nm,21.0s,MS5.0									
ZEI	**Tsey**	**128.64**	**310**	*i* PKIKP		PKPdf		14 22 17.2	-1.2
ZEI				pmax		pmax				
	comp=Z,3.0nm,0.5s									
LSZ	**Lusaka**	**128.91**	**231**	PFAKE				14 22 30.0	+10
LSZ				LR		LR				
	comp=Z,1μm,22.0s,MS5.5									
KMBO	**Kilima Mbogo**	**129.03**	**252**	*e*PKPdf		PKPdf		14 22 21.3	+1.2
KMBO				LR		LR				
	comp=Z,1μm,22.0s,MS5.5									
KMBO	**Kilima Mbogo**	**129.03**	**252**	*e*PKIKP		PKPdf		14 22 21.3	+1.2
KMBO				MLR		MLR				
	comp=Z,1μm,22.0s									
BHD	**Baghdad**	**129.25**	**298**	*ex*		x		14 22 21.0		
BHD				*ex*		x		14 25 44.0		
KIV	**Kislovodsk**	**129.29**	**312**	PFAKE				14 22 30.0	+10
KIV				LR		LR				
	comp=Z,420nm,19.0s,MS5.2									
KIV	**Kislovodsk**	**129.29**	**312**	*i* PKIKP		PKPdf		14 22 20.0	+0.4
KIV				pmax		pmax				
	comp=Z,11nm,1.1s									
OBN	**Obninsk**	**129.42**	**327**	*i* PKIKP		PKPdf		14 22 19.0	-0.5
OBN				*e*				14 22 29.2		
OBN				*e*				14 24 30.8		
OBN				pmax		pmax				
	comp=Z,22nm,1.3s									
VSR	**Storozhevoye**	**129.54**	**322**	*e*PKIKP		PKPdf		14 22 19.4	-0.4
VSR				pmax		pmax				
	comp=N,4.0nm,0.6s									
VSR				pmax		pmax				
	comp=E,3.0nm,0.6s									
VSR				pmax		pmax				
	comp=Z,7.0nm,0.6s									
GRGR	**Grenville**	**130.39**	**90**	PFAKE				14 22 30.0	+7.5
GRGR				LR		LR				
	comp=Z,454nm,21.0s,MS5.2									
ANWB	**Willy Bob**	**131.44**	**83**	PFAKE				14 22 40.0	+16
ANWB				LR		LR				
	comp=Z,425nm,21.0s,MS5.1									
FDF	**Fort de France**	**131.47**	**87**	PFAKE				14 22 40.0	+15
FDF				LR		LR				
	comp=Z,372nm,21.0s,MS5.1									
TSUM	**Tsumeb**	**133.10**	**218**	PFAKE				14 22 40.0	+12
TSUM				LR		LR				
	comp=Z,906nm,21.0s,MS5.5									
MALT	**Malatya**	**133.53**	**305**	PFAKE				14 22 40.0	+12
MALT				LR		LR				
	comp=Z,4μm,20.0s,MS6.2									
MBAR	**Mbarara**	**135.08**	**249**	PFAKE				14 22 40.0	+8.5
MBAR				LR		LR				
	comp=Z,1μm,21.0s,MS5.6									
NOA	**NORSAR Array B**	**135.27**	**345**	PKP		PKPdf		14 22 30.2	-0.2
	comp=Z,0.9nm,0.6s,baz=35,slow=2.3,SNR=3.1									
NOA	**NORSAR Array B**	**135.27**	**345**	PKP		PKPdf		14 22 30.2	-0.2
NOA	**NORSAR Array B**	**135.27**	**345**	PKIKP		PKPdf		14 22 30.2	-0.1
AKASG	**Malin Array Be**	**135.43**	**325**	PKP		PKPdf		14 22 29.4	-1.5
	comp=Z,0.3nm,0.3s,baz=54,slow=2.1,SNR=7.1									
AKASG	**Malin Array Be**	**135.43**	**325**	PKP		PKPdf		14 22 29.4	-1.5
AKASG	**Malin Array Be**	**135.43**	**325**	PKIKP		PKPdf		14 22 29.5	-1.5
KIEV	**Kiev**	**135.44**	**325**	PFAKE				14 22 40.0	+9.0
KIEV				LR		LR				
	comp=Z,700nm,20.0s,MS5.4									
BR131	**Keskin Array S**	**136.85**	**308**	PFAKE				14 22 50.0	+16
BR131				LR		LR				
	comp=Z,429nm,20.0s,MS5.2									
BRTR	**Keskin Array B**	**136.85**	**308**	PKhKP		PKPpre		14 22 29.2		
	comp=Z,0.9nm,0.8s,baz=90,slow=0.4,SNR=2.9									
BRTR				PKP		PKPdf		14 22 35.9	+1.9	
	comp=Z,1.7nm,0.9s,baz=122,slow=4.3,SNR=5.1									
BRTR				PP		PP		14 25 14.8	-2.5	
	comp=Z,2.2nm,1.1s,baz=96,slow=3.7,SNR=4.4									
BRTR	**Keskin Array B**	**136.85**	**308**	PKP		PKPpre		14 22 29.2		
BRTR				PKP		PKPdf		14 22 35.9	+1.9	
BRTR				PP		PP		14 25 14.8	-2.5	
BRTR	**Keskin Array B**	**136.85**	**308**	PKIKP		PKPpre		14 22 29.2		
BRTR								14 22 35.9		
BRTR								14 25 14.8		
CSS	**Prodhromos**	**138.17**	**301**	PFAKE				14 22 50.0	+13
CSS				LR		LR				
	comp=Z,481nm,22.0s,MS5.2									
ARG	**Arkhangelos**	**142.00**	**305**	P		PKPdf		14 22 41.2	-2.3
PSZ	**Piszkesteto**	**142.03**	**326**	PFAKE				14 23 00.0	+17
PSZ				LR		LR				
	comp=Z,760nm,19.0s,MS5.5									
PSZ	**Piszkesteto**	**142.03**	**326** ⇑	*e*PKP		PKPdf		14 22 44.0	+0.9
DPC	**Dobruska-Polom**	**142.12**	**332**	*e*PKIKP		PKPdf		14 22 38.2	-5.0
DPC				*e*				14 22 45.8		
DPC				MLR		MLR				
	comp=Z,1μm,34.7s,MS5.3									
DPC	**Dobruska-Polom**	**142.12**	**332**	*e*PKP		PKPdf		14 22 38.2	-5.0
DPC				*ex*		x		14 22 45.8		
DPC				AMS		AMS		15 20 10.0		
	comp=Z,1μm,34.7s									
UPC	**Upice**	**142.

comp=Z,38nm,1.2s,SNR=13
CSNA Conrad Observa 144.06 329⇑ *e*PKPdf PKPdf 14 22 46.1 -0.6
comp=Z,37nm,1.2s
HORT Hortiatis 144.07 314 P PKPdf 14 22 44.5 -2.5
KHC Kasperske Hory 144.23 333 *e*PKIKP PKPdf 14 22 45.0 -2.0
KHC *e* 14 22 53.0
KHC Kasperske Hory 144.23 333 *e*PKP PKPdf 14 22 45.0 -2.0
KHC *ex* x 14 22 53.0
NPS Neapolis 144.24 304 *e*P PKPdf 14 22 46.5 -1.0
NPS Neapolis 144.24 304 P PKPdf 14 22 45.3 -1.7
DIVS Divibare 144.27 321 P PKPdf 14 22 45.4 -1.8
XRY Khrisi 144.29 304 *e*P PKPdf 14 22 46.0 -1.6
ROTZ Rotzenmuhle 144.31 335 *e*PKPbc PKPdf 14 22 45.9 -1.2
UBBA Unterbreizbach 144.32 338 *e*PKPbc PKPdf 14 22 45.6 -1.5
LAST Lasithi 144.37 304 *e*P PKPdf 14 22 46.0 -1.7
GRG Griva 144.38 315 P PKPdf 14 22 45.4 -2.1
GEC2 GERESS Array S 144.39 332 *e*PKPbc PKPdf 14 22 45.7 -1.6
GEC2 GERESS Array S 144.39 332 *e*PKIKP PKPdf 14 22 45.7 -1.6
GERES GERESS Array B 144.39 332 PKP PKPdf 14 22 45.2 -2.0
comp=Z,14nm,0.9s,baz=36,slow=3.7,SNR=52
GERES GERESS Array B 144.39 332 PKP PKPdf 14 22 45.2 -2.0
GERES GERESS Array B 144.39 332 PKIKP PKPdf 14 22 45.2 -2.1
SKO Skopje 144.52 317 *e*PKP PKPdf 14 22 46.8 -0.9
WET Wettzell 144.52 333 *e*PKPbc PKPdf 14 22 46.4 -1.1
WET Wettzell 144.52 333 *e*PKIKP PKPdf 14 22 46.4 -1.1
NEO Neokhori 144.55 312 *e*P PKPdf 14 22 45.0 -2.9
PTL Penteli 144.60 310 P PKPdf 14 22 45.8 -2.2
ARSA Arzberg 144.69 329⇑ *e*PKPdf PKPdf 14 22 47.3 -0.6
comp=Z,75nm,1.5s,SNR=11
LIT Litokhoron 144.72 314 P PKPdf 14 22 46.4 -1.7
VLY Voula,Athens 144.73 309 *e*P PKPdf 14 22 42.0 -6.2
VLY Voula,Athens 144.73 309 P PKPdf 14 22 44.8 -3.4
ATH Athens Observa 144.74 310 P PKPdf 14 22 46.6 -1.6
GRF Grafenberg Arr 144.77 335 *e*PKPbc PKPdf 14 22 47.3 -0.6
GRF *eL* 15 26 12.8
comp=Z,534nm,20.5s
GRF Grafenberg Arr 144.77 335 *e*PKIKP PKPdf 14 22 47.3 -0.6
GRF MLR MLR
comp=Z,500nm,20.5s,MS5.3
GRFO Grafenberg 144.77 335 *e*PKP PKPdf 14 22 46.5 -1.4
GRFO Grafenberg 144.77 335 *e*PKIKP PKPdf 14 22 46.6 -1.3
IDI Anoyia 144.79 305 *e*PKP PKPdf 14 22 47.7 -0.7
MOA Molln 144.86 331⇑ *i*PKPdf PKPdf 14 22 47.7 -0.4
comp=Z,94nm,1.0s,SNR=25
RCBR Riachuelo 144.87 132 *e*PKP PKPdf 14 22 46.5 -2.8
RCBR LR LR
comp=Z,515nm,20.0s,MS5.3
KOGS Kog 144.88 327 *e*PKPbc PKPdf 14 22 46.8 -1.4
SIVA Sivas 144.94 304 *e*P PKPdf 14 22 48.0 -0.7
SIVA Sivas 144.94 304 P PKPdf 14 22 46.9 -1.8
KRUS Krusevo 144.94 316 *e*PKP PKPdf 14 22 47.1 -1.4
ATAL Atalanti 144.95 311 P PKPdf 14 22 46.7 -1.9
SHEL Horse Pasture 144.96 188 PFAKE 14 23 00.0 +11
SHEL LR LR
comp=Z,926nm,20.0s,MS5.5
LKR Lokris 144.99 311 *e*P PKPdf 14 22 46.5 -2.1
LKR Lokris 144.99 311 P PKPdf 14 22 46.9 -1.7
NAIG Nisos Aigina 144.99 309 *e*P PKPdf 14 22 47.0 -1.7
KZN Kozani 145.11 314 *e*P PKPbc 14 22 48.5 +0.2
KZN Kozani 145.11 314 P PKPbc 14 22 47.9 -0.4
FNA Florina 145.15 315 P PKPbc 14 22 47.8 -0.7
LTK Loutraki 145.26 310 *e*P PKPbc 14 22 47.0 -1.9
LTK Loutraki 145.26 310 P PKPbc 14 22 47.5 -1.4
DID Didima 145.27 309 *e*P PKPbc 14 22 47.5 -1.5
DID Didima 145.27 309 P PKPbc 14 22 47.7 -1.3
THL Klokotos Trika 145.28 313 *e*P PKPbc 14 22 47.0 -1.9
THL Klokotos Trika 145.28 313 P PKPbc 14 22 43.0 -5.9
VAM Vamos 145.29 305 *e*P PKPbc 14 22 50.0 +0.9
VAM Vamos 145.29 305 P PKPbc 14 22 49.7 +0.6
AGG Agios Georgios 145.30 312 *e*P PKPbc 14 22 47.5 -1.5
AGG Agios Georgios 145.30 312 P PKPbc 14 22 48.0 -1.0
PERS Pernice 145.32 328 *i* PKPbc PKPbc 14 22 48.5 -0.3
PERS *i* 14 22 57.5
SOKA Soboth 145.33 329⇑ *e*PKPdf PKPdf 14 22 49.0 0.0
comp=Z,97nm,1.3s
STNC Stoke 145.36 351 *e*P PKPbc 14 22 49.7 +1.0
STNC AMB AMB 14 22 58.9
comp=Z,348nm,2.8s
TNS Taunus Mts 145.36 338 *e*PKPbc PKPbc 14 22 49.2 +0.4
TNS Taunus Mts 145.36 338 *e*PKIKP PKPdf 14 22 49.2 +0.3
DSF Desfina 145.42 311 P PKPdf 14 22 44.5 -4.9
WLF1 Llynfaes 145.44 354 *e*P PKPdf 14 22 48.0 -0.9
WLF1 AMB AMB 14 22 57.9
comp=Z,161nm,1.6s
DOBS Dobrina 145.48 328 *e*PKPbc PKPbc 14 22 48.7 -0.6
NEST Nestorio 145.54 315 P PKPdf 14 22 48.8 -0.7
GVD Gavdhos 145.56 304 *e*P PKPdf 14 22 50.5 +0.7
GVD Gavdhos 145.56 304 *e*PKP PKPdf 14 22 49.8 0.0
GVD Gavdhos 145.56 304 P PKPdf 14 22 50.0 +0.2
GCIS Gornji Cirnik 145.59 327 *e*PKPbc PKPbc 14 22 49.0 -0.6
DLF Lyons Farm 145.62 356 *e*P PKPdf 14 22 47.4 -1.8
OBKA Obir 145.69 329⇑ *i*PKPab PKPab 14 22 49.6 -0.7
comp=Z,61nm,1.1s,SNR=11
FOEL Foel Wylfa 145.69 352 *e*P PKPdf 14 22 48.1 -1.3
FOEL AMB AMB 14 22 58.1
comp=Z,164nm,1.3s
HGN Heimansgroeve 145.71 341 *e*PKP PKPdf 14 22 49.9 +0.4
comp=Z,116nm,1.7s
EVR Evrytania 145.72 312 *e*P PKPdf 14 22 51.0 +1.1
EVR Evrytania 145.72 312 P PKPdf 14 22 52.5 +2.6
MEV Metsovon 145.72 314 P PKPdf 14 22 50.8 +0.9
GUR Goura 145.75 310 *e*P PKPdf 14 22 49.5 -0.5
GUR Goura 145.75 310 P PKPdf 14 22 49.9 -0.1
TOD Tromm 145.75 338 PKP PKPdf 14 22 49.3 -0.3
TOD Tromm 145.75 338 PKP2 PKPab 14 22 49.3 -1.1
BEBN Eben Emael 145.76 342 E 14 22 59.4
VLI Veliai 145.79 308 *e*P PKPdf 14 22 49.5 -0.6
VLI Veliai 145.79 308 P PKPdf 14 22 49.0 -1.1
MEM Membach 145.83 341 PKP PKPdf 14 22 50.2 +0.5
MEM E 14 22 59.1
TIR Tirane 145.85 317 *e*PKP PKPdf 14 22 51.5 +1.5
TIR LR LR
comp=Z,885nm,21.0s,MS5.5
TIR Tirane 145.85 317 *e*PKP2 PKPab 14 22 51.5 +0.4
TIR MLR MLR
comp=Z,885nm,21.0s,MS5.5
KBA Koelnbreinsper 145.85 331⇑ *i*PKPab PKPab 14 22 50.5 -0.4
comp=Z,111nm,1.6s,SNR=10.0
EFP Efpalio 145.86 311 *e*P PKPdf 14 22 51.0 +0.9
KYTH Kithira 145.88 307 *e*P PKPdf 14 22 51.5 +1.2
LAKA Lakka 145.89 311 P PKPdf 14 22 50.6 +0.4
VLX Vlachokerasia 145.95 309 *e*P PKPdf 14 22 50.5 +0.2
VLX Vlachokerasia 145.95 309 P PKPdf 14 22 50.0 -0.3
ABH Alteburg 145.96 339 PKP PKPdf 14 22 50.1 +0.2
UPR University Cam 146.00 311 P PKPab 14 22 53.2 +1.4
LJU Ljubljana 146.02 328 *e*PKPbc PKPbc 14 22 51.0 0.0
BOJS Bojanci 146.03 327 *i* PKPbc PKPbc 14 22 50.7 -0.4
BOJS *i* 14 23 00.0
VISS Visnje 146.03 328 *i* PKPbc PKPbc 14 22 51.2 +0.1
VISS *i* 14 22 59.7
JAN Janina 146.04 314 *e*P PKPdf 14 22 51.5 +1.1
JAN Janina 146.04 314 P PKPdf 14 22 48.5 -1.9
MYKA Terra Mystica 146.04 330⇑ *e*PKPab PKPab 14 22 50.6 -1.0
comp=Z,86nm,1.6s
BCLA Clavier 146.21 342 E 14 22 59.7
RUP Ruppelstein 146.28 339 PKP PKPdf 14 22 51.2 +0.7
RUP Ruppelstein 146.28 339 PKP2 PKPab 14 22 51.2 -1.2
STU Stuttgart 146.30 336 *e*PKPbc PKPbc 14 22 52.0 +0.3
STU Stuttgart 146.30 336 *e*PKP PKPdf 14 22 52.0 +1.4
STU Stuttgart 146.30 336 *e*PKP2 PKPab 14 22 52.0 -0.5
STON Ston 146.34 321 P PKPdf 14 22 50.3 -0.5
VOY Vojsko 146.35 329 *e*PKPbc PKPbc 14 22 51.6 -0.4
VOY *e* 14 23 00.2
JAVS Javornik 146.36 328 *i* PKPbc PKPbc 14 22 52.6 +0.6
JAVS *i* 14 23 00.3
SNF Seneffe 146.42 343 PKP PKPdf 14 22 52.5 +1.8
SNF E 14 23 00.5
IGT Igoumenitsa 146.45 314 P PKPdf 14 22 50.0 -1.1
WATA Walderalm 146.46 332⇑ *i*PKPab PKPab 14 22 52.0 -1.2
comp=Z,22nm,0.9s
ABTA Abfaltersbach 146.48 331⇑ *e*PKPbc PKPbc 14 22 51.7 -0.6
SNR=19
WTTA Wattenberg 146.49 332⇑ *e*PKPab PKPab 14 22 52.6 -0.7
comp=Z,63nm,1.1s,SNR=8.2
MCH1 Michaelchurch 146.54 352 AMB AMB 14 23 11.9
comp=Z,123nm,4.4s
MCH1 Michaelchurch 146.54 352 AMB AMB 14 23 11.9
comp=Z,123nm,4.4s
LKD2 Lefkada island 146.57 313 P PKPdf 14 22 48.5 -2.9
WLF Walferdange 146.61 340 PKP PKPbc 14 22 53.5 +0.9
WLF E 14 23 00.8
WLF Walferdange 146.61 340 *e*PKPbc PKPbc 14 22 53.2 +0.6
WLF Walferdange 146.61 340 *e*PKPbc PKPbc 14 22 53.0 +0.4
WLF LR LR
comp=Z,562nm,20.0s,MS5.3
WLF Walferdange 146.61 340 *e*PKP2 PKPab 14 22 53.1 -0.6
WLF MLR MLR
comp=Z,562nm,20.0s,MS5.3
PYL PYLOS 146.61 309 *e*P PKPdf 14 22 52.0 +0.5
GIVF Givet 146.63 342 *e*PKP1 PKPbc 14 22 52.6 -0.1
comp=Z,112nm,1.2s
LANF Langenberg 146.63 338 PKP PKPab 14 22 54.2 +0.4
LANF Langenberg 146.63 338 PKP2 PKPab 14 22 54.2 +0.4
LANF Langenberg 146.63 338 PKP PKPab 14 22 54.2 +0.4
TRI Trieste 146.64 328 PFAKE 14 23 00.0 +8.8
TRI LR LR
comp=Z,767nm,22.0s,MS5.4
MOTA Moosalm 146.66 333⇑ *i*PKPab PKPbc 14 22 52.8 -0.1
comp=Z,48nm,0.9s,SNR=15
RETA Reutte 146.69 333⇑ *e*PKPab PKPbc 14 22 53.0 +0.1
comp=Z,54nm,1.0s,SNR=9.6
DOU Dourbes 146.70 342 PKP PKPdf 14 22 53.0 +1.8
DOU E 14 23 00.2
KEK Kerkira 146.72 315 *e*P PKPdf 14 22 51.5 -0.1
KEK Kerkira 146.72 315 P PKPdf 14 22 52.0 +0.4
BAIF Baives 146.84 343 *e*PKP1 PKPbc 14 22 53.4 +0.1
comp=Z,114nm,1.2s
HGH Gray Hill 146.86 351 *e*P PKPdf 14 22 53.1 +1.7
NVLJ Novalja 146.86 326 P PKPdf 14 22 53.0 +1.4
VLS Valsamata 146.90 312 *e*P PKPdf 14 22 53.5 +1.6
VLS Valsamata 146.90 312 P PKPdf 14 22 53.7 +1.8
WOL Wolverton 146.92 349 *e*P PKPdf 14 22 52.2 +0.7
WOL AMB AMB 14 23 03.6
comp=Z,137nm,1.4s
BFO Black Forest 146.99 337 *e*PKPbc PKPbc 14 22 53.7 0.0
BFO Black Forest 146.99 337 *e*PKPbc PKPbc 14 22 53.5 -0.3
BFO LR LR
comp=Z,656nm,20.0s,MS5.4
BFO Black Forest 146.99 337 *e*PKP2 PKPbc 14 22 53.5 -0.2
BFO MLR MLR
comp=Z,656nm,20.0s,MS5.4
SPAK Spaichingen-Ko 147.00 336 PKP PKPdf 14 22 52.6 +0.8
FETA Feichten 147.07 333⇑ *e*PKPab PKPbc 14 22 54.4 +0.4
comp=Z,53nm,1.1s,SNR=13
DAVA Damuels 147.22 334⇑ *e*PKPab PKPbc 14 22 54.9 +0.5
comp=Z,50nm,0.9s,SNR=11
CDF Champ du Feu 147.30 338 *e*PKP1 PKPbc 14 22 54.6 0.0
comp=Z,143nm,1.2s
FELD Feldberg im Sc 147.49 337 PKP PKPbc 14 22 55.3 +0.2
ECH Echery 147.51 338 *e*PKPdf PKPdf 14 22 53.8 +1.2
ECH LR LR
comp=Z,507nm,20.0s,MS5.3
ECH Echery 147.51 338 *e*PKP2 PKPdf 14 22 53.8 +1.2
ECH MLR MLR
comp=Z,507nm,20.0s,MS5.3
ECH Echery 147.51 338 PKP PKPbc 14 22 54.9 -0.3
DAVOX Davos/Dischmat 147.62 333 PKPbc PKPbc 14 22 55.2 -0.3
comp=Z,22nm,0.6s,baz=219,slow=2.4,SNR=30
DAVOX Davos/Dischmat 147.62 333 PKPbc PKPbc 14 22 55.2 -0.3
DAVOX Davos/Dischmat 147.62 333 PKP2 PKPbc 14 22 55.2 -0.4
PAGF Fort de Pagny 147.71 340 *e*PKP1 PKPbc 14 22 56.0 +0.3
comp=Z,26nm,1.1s
MOF Molkenrain 147.83 337 PKP PKPbc 14 22 56.2 +0.1
MOF Molkenrain 147.83 337 PKP2 PKPbc 14 22 56.2 +0.1
MOF Molkenrain 147.83 337 PKP PKPbc 14 22 56.2 +0.1
THEF They Montfort 147.91 339 PKP PKPbc 14 22 56.6 +0.3
THEF They Montfort 147.91 339 PKP2 PKPbc 14 22 56.6 +0.3
THEF They Montfort 147.91 339 PKP PKPbc 14 22 56.6 +0.3
HINF Hinteralfeld 147.96 338 *e*PKP1 PKPbc 14 22 56.1 -0.3
comp=Z,191nm,1.8s
HAU Haudompre 147.97 338 *e*PKP1 PKPbc 14 22 56.3 -0.2
comp=Z,63nm,0.9s
HAU *eR* 14 22 57.5
comp=Z,454nm,21.0s
MEZF Maizieres J'vi 147.98 340 *e*PKP1 PKPbc 14 22 56.8 +0.3
comp=Z,112nm,1.0s
BBS Basel-Blauen 148.01 337 PKP PKPbc 14 22 55.3 -1.3
BBS Basel-Blauen 148.01 337 PKP2 PKPbc 14 22 55.3 -1.3
TUE Stuetta 148.09 334 *e*PKPbc PKPbc 14 22 56.7 -0.2
TUE LR LR
comp=Z,696nm,19.0s,MS5.5
DYA Yadsworthy 148.19 352 *e*P PKPbc 14 22 56.2 -0.7
DYA AMB AMB 14 22 57.9
comp=Z,66nm,1.7s
SFTF Sexfontaines 148.24 340 *e*PKP1 PKPbc 14 22 57.2 0.0
comp=Z,119nm,1.1s
LOMF Lomont 148.36 337 PKP PKPbc 14 22 57.7 +0.2
LOMF Lomont 148.36 337 PKP2 PKPbc 14 22 57.7 +0.2
LOMF Lomont 148.36 337 PKP PKPbc 14 22 57.7 +0.2
AQU L'Aquila 149.13 324 *e*PKPbc PKPbc 14 22 59.4 -0.2
AQU LR LR
comp=Z,567nm,20.0s,MS5.4
AQU L'Aquila 149.13 324 *e*PKP2 PKPbc 14 22 59.4 -0.2
AQU MLR MLR
comp=Z,567nm,20.0s,MS5.4
CUC Castrocucco 149.17 318 PFAKE 14 23 10.0 +14
CUC LR LR
comp=Z,409nm,22.0s,MS5.2
FLN La Foliniere 149.21 347 *e*PKP1 PKPbc 14 22 59.2 -0.4
comp=Z,114nm,1.1s
FLN *eR* 14 22 57.5
comp=Z,816nm,20.0s
CABF La Chapelle 149.26 337 *e*PKP1 PKPbc 14 23 00.2 +0.4
comp=Z,99nm,1.2s
OG01 Vacheresse 149.27 336 PKP PKPbc 14 23 00.1 +0.2
OG01 Vacheresse 149.27 336 PKP PKPbc 14 23 00.1 +0.2
LDF La Druitiere 149.29 346 *e*PKP1 PKPbc 14 22 59.3 -0.5
comp=Z,17nm,0.7s
VLC Villacollemand 149.41 330 PFAKE 14 23 10.0 +14
VLC LR LR
comp=Z,653nm,20.0s,MS5.4
LOR Lormes 149.44 341 *e*PKP1 PKPbc 14 23 00.1 -0.2
comp=Z,44nm,0.8s
LOR *eR* 14 22 57.5
comp=Z,737nm,22.0s
GRR Gorron 149.65 347 *e*PKP1 PKPbc 14 23 00.5 -0.2
comp=Z,109nm,1.2s
SSF Saint Saulge 149.74 341 *e*PKP1 PKPbc 14 23 00.9 -0.1
comp=Z,102nm,1.1s
RSL Roselend 149.83 336 PKP PKPbc 14 23 01.3 0.0
RSL Roselend 149.83 336 PKP2 PKPbc 14 23 01.3 0.0
RSL Roselend 149.83 336 PKP PKPbc 14 23 01.3 0.0
LPL La Plagne 149.93 335 *e*PKP1 PKPbc 14 23 01.9 +0.4
comp=Z,156nm,1.3s
LPG La Plagne 149.94 335 *e*PKP1 PKPbc 14 23 02.0 +0.5
comp=Z,87nm,1.0s
SMF Signal de Mont 150.00 340 *e*PKP1 PKPbc 14 23 01.2 -0.4
comp=Z,140nm,1.3s
AVF Avril sur Loir 150.03 341 *e*PKP1 PKPbc 14 23 01.3 -0.4
comp=Z,137nm,1.5s
CEL Celeste 150.08 315 PFAKE 14 23 10.0 +13
CEL LR LR
comp=Z,470nm,21.0s,MS5.3
SGMF Saint Gilles 150.10 349 *e*PKP1 PKPbc 14 23 01.3 -0.5
comp=Z,335nm,1.5s
ROSF Rostrenen 150.14 350 *e*PKP1 PKPbc 14 23 01.2 -0.7
comp=Z,208nm,1.5s
BNI Bardonecchia 150.34 335 *e*PKPbc PKPbc 14 23 02.7 +0.2
BNI LR LR
comp=Z,785nm,20.0s,MS5.5
BNI Bardonecchia 150.34 335 *e*PKIKP PKPbc 14 23 02.7 +0.2
BNI MLR MLR
comp=Z,785nm,20.0s,MS5.5
BGF Bois d'Agland 150.39 341 *e*PKP1 PKPbc 14 23 02.3 -0.3
comp=Z,69nm,1.1s
QUIF Quistinic 150.53 350 *e*PKP1 PKPbc 14 23 02.1 -0.8
MBDF Montbardon 150.57 334 *e*PKP1 PKPbc 14 23 02.8 -0.3
comp=Z,33nm,0.8s
PLDF La Plantade 150.67 340 PKP PKPbc 14 23 03.6 +0.3
PLDF La Plantade 150.67 340 PKIKP PKPbc 14 23 03.6 +0.3
PLDF La Plantade 150.67 340 PKP PKPbc 14 23 03.6 +0.3
AGO Saint Agoulin 150.75 340 PKP PKPbc 14 23 03.4 -0.1
AGO Saint Agoulin 150.75 340 PKP PKPbc 14 23 03.4 -0.1
ORIF Oris-en-Rattie 150.76 336 *e*PKP1 PKPbc 14 23 03.4 -0.1
comp=Z,92nm,1.0s
ORIF *eR* 14 22 57.5
comp=Z,710nm,22.8s
TCF Toulx Ste Croi 150.82 342 *e*PKP1 PKPbc 14 23 03.3 -0.3
comp=Z,21nm,0.7s
SSB Saint Sauveur 150.96 338 *e*PKPbc PKPbc 14 23 02.4 -1.6
SSB LR LR
comp=Z,609nm,22.0s,MS5.4
SSB Saint Sauveur 150.96 338 *e*PKIKP PKPbc 14 23 02.4 -1.6
SSB MLR MLR
comp=Z,609nm,22.0s,MS5.4
SBF Sospel 150.99 333 *e*PKP1 PKPbc 14 23 03.4 -0.7
comp=Z,86nm,0.9s
PYM Petit Puy Mans 151.06 340 PKP PKPbc 14 23 05.5 +1.3
PYM Petit Puy Mans 151.06 340 PKIKP PKPbc 14 23 05.5 +1.3
PYM Petit Puy Mans 151.06 340 PKP PKPbc 14 23 05.5 +1.3
MFF Saint Martin d 151.17 345 *e*PKP1 PKPbc 14 23 04.0 -0.4
comp=Z,71nm,1.1s
VIVF Saint-Julien-l 151.27 337 *e*PKP1 PKPbc 14 23 04.5 -0.2
comp=Z,78nm,1.2s
PGF Pioggiola 151.29 329 *e*PKP1 PKPbc 14 23 04.5 -0.3
comp=Z,92nm,1.0s
LBL Lubilhac 151.44 339 PKP PKPbc 14 23 06.2 +1.1
LBL Lubilhac 151.44 339 PKIKP PKPbc 14 23 06.2 +1.1
LBL Lubilhac 151.44 339 PKP PKPbc 14 23 06.2 +1.1
FRF La Foret Royal 151.57 333 *e*PKP1 PKPbc 14 23 04.8 -0.6
comp=Z,54nm,1.1s
SMRF Simiane la Rot 151.67 335 *e*PKP1 PKPbc 14 23 05.8 +0.1
LMR La Mourre 151.81 333 *e*PKP1 PKPbc 14 23 05.5 -0.5
RJF Les Rejaudoux 151.92 342 *e*PKP1 PKPbc 14 23 05.9 -0.3
comp=Z,64nm,1.3s
RJF *eR* 14 22 57.5
comp=Z,453nm,20.2s
LASF Ste Croix 152.24 337 *e*PKP1 PKPbc 14 23 06.8 -0.1
comp=Z,60nm,1.2s
WDD Wield Dalam 152.26 312 PFAKE 14 23 10.0 +9.5
WDD LR LR
comp=Z,610nm,20.0s,MS5.4
LFF La Frestale 152.48 343 *e*PKP1 PKPbc 14 23 06.8 -0.7
VSL Villasalto 153.31 324 PFAKE 14 23 10.0 +8.1
VSL LR LR
comp=Z,500nm,20.0s,MS5.3
MTLF Montolieu 153.46 339 *e*PKP1 PKPbc 14 23 09.2 -0.5
ETSF Etsaut 154.72 343 *e*PKP1 PKPbc 14 23 12.5 +0.1
PGAV Gavieira, Arco 157.02 356 *e*LR LR 15 17 28.2
comp=Z,470nm,18.0s
PBRG Braganca 157.03 353 *e*PKPab PKPab 14 23 36.9 -0.3
PCAB Cabril 157.25 355 *e*PKPdf PKPdf 14 23 09.6 +2.4
POLO Lamas de Olo 157.57 355 *e*PKPab PKPab 14 23 40.0 +0.5
POLO Lamas de Olo 157.57 355 *e*LR LR 15 17 34.7
comp=Z,204nm,18.0s
PVRL Vila Real 157.66 354 *e*PKPab PKPab 14 23 40.7 +0.8
MVO Moncorvo 157.70 353 *e*PKPab PKPab 14 23 40.5 +0.4
MVO Moncorvo 157.70 353 *e*LR LR 15 22 17.2
comp=Z,606nm,22.0s
PVIS Viseu 158.23 355 *e*PKPab PKPab 14 23 41.6 -0.8
MTE Manteigas 158.51 354 PFAKE 14 23 20.0 +11
MTE LR LR
comp=Z,682nm,21.0s,MS5.5
MTE Manteigas 158.51 354 *e*LR LR 15 18 14.5
comp=Z,304nm,20.0s
ESDC Sonseca Array 158.63 346 PKPab PKPab 14 23 43.7 -0.4
comp=Z,3.4nm,0.8s,baz=11,slow=3.9,SNR=12
ESLA Sonseca Array 158.63 346 PFAKE 14 23 20.0 +11
ESLA LR LR
comp=Z,4μm,22.0s,MS6.2
PAB San Pablo 158.83 347 PFAKE 14 23 20.0 +11
PAB LR LR
comp=Z,701nm,20.0s,MS5.5
PCBR Castelo Branco 159.06 353 *e*PKPab PKPab 14 23 47.4 +1.4
PMRV Marv??o 159.45 353 *e*PKPab PKPab 14 23 48.7 +1.0
PMRV Marv??o 159.45 353 *e*LR LR 15 19 04.6
comp=Z,457nm,20.0s
PESTR Estremoz 160.03 353 *e*PKPab PKPab 14 23 49.9 -0.3
PESTR Estremoz 160.03 353 *e*LR LR 15 18 31.9
comp=Z,327nm,20.0s
PMAFR Mafra 160.07 357 *e*LR LR 15 18 47.9
comp=Z,544nm,18.0s
PBAR Barrancos 160.65 352 *e*PKPab PKPab 14 23 52.3 -0.6
PBAR Barrancos 160.65 352 *e*LR LR 15 19 21.3
comp=Z,736nm,20.0s
PNCL Nicolau / Gran 160.87 355 *e*LR LR 15 19 17.7
comp=Z,526nm,22.0s
PBEJ Beja 160.89 354 *e*PKPab PKPab 14 23 55.2 +1.2
PCVE Castro Verde 161.30 354 *e*PKPab PKPab 14 23 56.5 +0.7
PCVE Castro Verde 161.30 354 *e*LR LR 15 19 22.6
comp=Z,655nm,22.0s
PVAQ Vaqueiros 161.49 353 *e*PKPab PKPab 14 23 57.2 +0.6
PVAQ Vaqueiros 161.49 353 *e*LR LR 15 19 37.1
comp=Z,647nm,22.0s
PBDV Barranco-do-Ve 161.67 353 *e*PKPab PKPab 14 23 59.6 +2.2
PBDV Barranco-do-Ve 161.67 353 *e*LR LR 15 19 44.3
comp=Z,554nm,22.0s
MORF Marmelete 161.68 355 *e*LR LR 15 22 19.1
comp=Z,575nm,18.0s
PFVI Vila Bisbo 161.86 356 *e*LR LR 15 19 36.2
comp=Z,492nm,20.0s
SFS San Fernando 162.18 349 PFAKE 14 23 20.0 +7.0
SFS LR LR
comp=Z,2μm,21.0s
TAM Tamanrasset 164.56 287 *e*PKPdf PKPdf 14 23 15.9 +0.3
TAM LR LR
comp=Z,617nm,21.0s
TAM Tamanrasset 164.56 287 *e*PKIKP PKPdf 14 23 15.9 +0.3
TAM MLR MLR
comp=Z,617nm,21.0s
DBIC Dimbokro 166.58 205 PKP PKPdf 14 23 16.2 -1.4
comp=Z,4.0nm,0.9s,baz=228,slow=4.3,SNR=2.6
DBIC Dimbokro 166.58 205 PKP PKPdf 14 23 16.2 -1.4
DBIC LR LR
comp=Z,1μm,21.0s
DBIC Dimbokro 166.58 205 PKIKP PKPdf 14 23 16.2 -1.4
DBIC MLR MLR
comp=Z,1μm,21.0s
TORD Torodi Ar. Bea 166.92 245 PKP PKPdf 14 23 17.2 -0.6
comp=Z,8.7nm,1.1s,baz=40,slow=1.4,SNR=26
TORD PKPab PKPab 14 24 21.4 0.0
comp=Z,3.8nm,1.1s,baz=102,slow=4.3,SNR=5.0
TORD Torodi Ar. Bea 166.92 245 PKP PKPdf 14 23 17.2 -0.6
TORD PKPab PKPab 14 24 21.4 0.0

NOU ***18*** *14:26:31.8± 1.3, 18°.78S× 169°.99E, h30km, MD3.1, ML3.9*
IDC ***18*** *14:26:39.3± 5.3, 18°.30S× 168°.71E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.9/15, mbtmp4.0/5, MS3.9/1, Ms1 3.9/1, ms1mx3.4/28, Error ellipse: s-maj=139.8km s-min=39.6km az=122.0*

ISC 18 14:26:38.0±2.9, 19°.2S±0°.3× 169°.8E±0°.5, h35km, n9, σ1s05/10, mb3.9/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**4.04**	**222**	*e*S	**Sn**	**14 28 24.0**	**+0.6**
DZM	**Mont Dzumac**	**4.28**	**227**	*e*P	**Pn**	**14 27 38.8**	**-1.7**
DZM				*e*S	**Sn**	**14 28 28.1**	**-1.1**
DZM				AMP		14 28 37.0	
comp=Z,439nm,3.5s							
NOUC	**Port Laguerre**	**4.39**	**228**	*e*P	**Pn**	**14 27 41.9**	**-0.3**
NOUC				*e*S	**Sn**	**14 28 33.6**	**+1.5**
AFI	**Afiamalu**	**18.41**	**76**	LR	LR	14 36 20.7	
comp=Z,348nm,19.9s,baz=56,slow=30							
STKA	**Stephens Creek**	**28.34**	**238**	P	**P**	**14 32 30.0**	**+1.3**
comp=Z,1.7nm,0.8s,mb3.7,baz=59,slow=9.9,SNR=2.4							
WRA	**Warramunga Arr**	**33.39**	**263**	P	**P**	**14 33 12.2**	**-1.1**
comp=Z,0.7nm,0.8s,mb3.6,baz=86,slow=8.2,SNR=6.0							
ASAR	**Alice Springs**	**33.66**	**256**	P	**P**	**14 33 15.3**	**-0.4**
comp=Z,0.9nm,0.4s,mb4.1,baz=82,slow=8.8,SNR=52							
CMAR	**Chiang Mai Arr**	**78.96**	**294**	P	**P**	**14 38 39.7**	**+1.2**
comp=Z,1.4nm,1.1s,mb3.8,baz=104,slow=3.8,SNR=6.8							
SONM	**Songino Array**	**87.48**	**323**	P	**P**	**14 39 21.8**	**0.0**
comp=Z,2.0nm,1.1s,mb4.3,baz=108,slow=4.7,SNR=7.9							

NOU ***18*** *14:38:41.7± 0.8, 18°.53S× 169°.62E, h30km, MD3.7, ML3.6*
IDC ***18*** *14:38:42.6± 0.5, 18°.97S× 169°.66E, h0km, mb4.5/17, mb1 4.7/19, mb1mx4.6/22, mbtmp4.6/19, ML3.7/2, MS4.7/23, Ms1 4.7/23, ms1mx4.6/30, Error ellipse: s-maj=17.1km s-min=15.2km az=100.0*
SZGRF ***18*** *14:38:44.2, 22°.65S× 164°.96E, h33km, New Caledonia*
ISCJB ***18*** *14:38:44.8± 1.7, 19°.06S± 0°.04× 169°.65E± 0°.04, h29km± 12km, mb5.1/72, MS4.7/31, Error ellipse: s-maj=7.1km s-min=5.3km az=135.6*
LDG ***18*** *14:38:45.8± 0.3, 18°.61S× 169°.26E, h10km, Mb5.1/3, Error ellipse: s-maj=31.0km s-min=5.3km az=118.0*
BJI ***18*** *14:38:45.2, 19°.22S× 170°.42E, h54km, mB5.4/21, mb4.9/30, Ms5.2/13, Ms7 4.8/16*
MOS ***18*** *14:38:46.6± 1.4, 18°.93S× 169°.52E, h33km, mb5.4/21, MS4.7/6, Error ellipse: s-maj=10.9km s-min=8.9km az=22.9*
NEIC ***18*** *14:38:47.9± 0.3, 18°.92S× 169°.64E, h35km, mb5.4/30, MS4.7/5, Error ellipse: s-maj=8.6km s-min=7.4km az=160.0*
GCMT ***18*** *14:38:47.5± 0.1, 18°.96S× 169°.69E, h12km, MW5.3, Moment Tensor Solution. s51,c69; s97,c168; Moment*

tensor: Scale 10^{17}Nm; M_{rr}0.00; $M_{\theta\theta}$0.00; $M_{\phi\phi}$0.00; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{r\phi}$0.00; Best double couple: $M_0$1.00000×10^{17} NP1:ϕ_s125.00000°, δ39.00000°, λ-99.00000°. NP2:ϕ_s317.00000°, δ51.00000°, λ-83.00000°. Principal axes: T 1.0700, Plg6.0000°; Azm42.0000°; N -0.0800, Plg5.0000°, Azm132.0000°; P -0.9900, Plg82.0000°, Azm265.0000°; Data Used: II IU G CN IC.

*DJA **18** 14:39:02, 19.02S×168.79E,h116km, mb5.0/25*

ISC 18 14:38:44.4±2.2, 19.03S±0.04×169.65E±0.04, h13km±13km, h44km±1.5km; pP-P, n286, σ1.907/180, mb5.1/72, MS4.7/31, 12C-4D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**4.05**	**219**	*e*P		**Pn**	**14 39 45.3**	**-0.7**
BAYA				*e*S		**Sn**	**14 40 32.6**	**-0.6**
BAYA				AMP			14 40 40.3	
	comp=Z,16nm,1.4s							
DZM	**Mont Dzumac**	**4.26**	**224**	*e*P		**Pn**	**14 39 48.8**	**-0.3**
DZM				AMP			14 40 34.3	
	comp=Z,3μm,0.0s							
PLUM	**Mont Dore**	**4.29**	**221**	*e*P		**Pn**	**14 39 49.4**	**+0.1**
PLUM				*e*S		**Sn**	**14 40 38.6**	**-0.6**
PLUM				AMP			14 40 55.9	
	comp=Z,217nm,4.9s							
NORM	**Noumea**	**4.35**	**222**	*e*P		**Pn**	**14 39 49.2**	**-1.0**
NORM				*e*S		**Sn**	**14 40 39.8**	**-0.9**
NOUC	**Port Laguerre**	**4.38**	**225**	*e*P		**Pn**	**14 39 50.0**	**-0.6**
NOUC				*e*S		**Sn**	**14 40 41.1**	**-0.4**
NOUC				AMP			14 40 48.6	
	comp=Z,138nm,8.5s							
MSVF	**Nonsavu**	**8.08**	**82**	*e*P		**Pn**	**14 40 44.8**	**+3.4**
	comp=Z,1μm,1.6s							
MSVF	**Nonsavu**	**8.08**	**82**	*e*P		**Pn**	**14 40 44.8**	**+3.4**
MSVF				pmax		pmax		
	comp=Z,1μm,1.6s							
MSVF	**Nonsavu**	**8.08**	**82**	Pn		**Pn**	**14 40 45.0**	**+3.6**
	comp=Z,2μm,1.8s,SNR=33							
HNR	**Honiara**	**13.39**	**314**	Pn		**Pn**	**14 41 51.9**	**-2.4**
	comp=Z,2.3nm,0.3s,baz=122,slow=13,SNR=2.2							
HNR				LR		LR	14 46 30.9	
	comp=Z,2μm,18.0s,baz=139,slow=35							
HNR	**Honiara**	**13.39**	**314**	P		**Pn**	**14 41 54.1**	**-0.1**
	comp=Z,203nm,1.0s							
HNR	**Honiara**	**13.39**	**314**	P		**Pn**	**14 41 54.1**	**-0.2**
HNR				pmax		pmax		
	comp=Z,203nm,1.0s							
RAO	**Raoul Island**	**15.23**	**134**	*e*P		**Pn**	**14 42 25.4**	**+6.3**
RAO	**Raoul Island**	**15.23**	**134**	*e*P		**Pn**	**14 42 25.4**	**+6.3**
OUZ	**Omahuta**	**16.50**	**169**	*e*P		**Pn**	**14 42 40.7**	**+5.1**
	comp=Z,74nm,1.0s							
EIDS	**Eidsvold**	**18.31**	**247**	*e*P		**Pn**	**14 43 01.3**	**+3.2**
	comp=Z,222nm,1.8s							
AFI	**Afiamalu**	**18.52**	**77**	P		**Pn**	**14 42 58.8**	**-2.1**
	comp=Z,2.7nm,0.3s,baz=223,slow=18,SNR=11							
AFI				LR		LR	14 48 40.9	
	comp=Z,4μm,20.6s,baz=251,slow=32							
AFI	**Afiamalu**	**18.52**	**77**	P		**Pn**	**14 42 58.8**	**-2.1**
AFI				LR		LR	14 48 40.9	
AFI	**Afiamalu**	**18.52**	**77**	P		**Pn**	**14 42 58.8**	**-2.0**
ARMA	**Armidale**	**19.88**	**232**	*e*P		**Pn**	**14 43 19.2**	**+2.1**
ARMA				*e*S		**Sn**	**14 47 13.5**	**+13**
ARMA	**Armidale**	**19.88**	**232**	*e*P		**Pn**	**14 43 18.4**	**+1.3**
	comp=Z,568nm,1.9s							
URZ	**Urewera**	**20.23**	**163**	P		**P**	**14 43 21.3**	**+2.1**
	comp=Z,18nm,0.9s,baz=294,slow=12,SNR=4.5							
URZ				LR		LR	14 49 32.0	
	comp=Z,2μm,19.8s,MS4.4,baz=348,slow=32							
URZ	**Urewera**	**20.23**	**163**	*e*P		**P**	**14 43 20.1**	**+0.9**
	comp=Z,872nm,2.2s							
CTA	**Charters Tower**	**22.07**	**263**	P		**P**	**14 43 41.4**	**+2.2**
	comp=Z,9.7nm,0.6s,mb4.4,baz=78,slow=10,SNR=6.3							
CTA				LR		LR	14 51 16.6	
	comp=Z,1μm,18.8s,MS4.4,baz=81,slow=34							
CTA	**Charters Tower**	**22.07**	**263**	*e*P		**P**	**14 43 42.6**	**+3.4**
	comp=Z,31nm,1.5s,mb4.5							
CTA				*e*S		Sx	14 48 09.8	
CTA	**Charters Tower**	**22.07**	**263**	P		**P**	**14 43 41.4**	**+2.2**
CTA				LR		LR	14 51 16.6	
CTA	**Charters Tower**	**22.07**	**263**	P		**P**	**14 43 41.4**	**+2.2**
CTAO	**Charters Tower**	**22.07**	**263**	*e*P		**P**	**14 43 41.4**	**+2.1**
	comp=Z,143nm,1.6s,mb5.2							
CTAO				LR		LR		
	comp=Z,2μm,21.0s,MS4.5							
CTAO	**Charters Tower**	**22.07**	**263**	*e*P		**P**	**14 43 41.4**	**+2.2**
CTAO				pmax		pmax		
	comp=Z,143nm,1.6s,mb5.2							
CTAO				MLR		MLR		
	comp=Z,2μm,21.0s,MS4.5							
CTAO	**Charters Tower**	**22.07**	**263**	P		**P**	**14 43 42.1**	**+2.9**
	comp=Z,2μmcomp=Z,65nm,1.7s,mb4.8							
PMG	**Port Moresby**	**23.78**	**291**	P		**P**	**14 43 57.1**	**+0.1**
	comp=Z,46nm,0.9s,mb4.9,baz=107,slow=8.0,SNR=11							
PMG	**Port Moresby**	**23.78**	**291**	*e*P		**P**	**14 43 57.0**	**-0.1**
	comp=Z,364nm,1.6s,mb5.6							
PMG	**Port Moresby**	**23.78**	**291**	*e*P		**P**	**14 43 57.0**	**0.0**
PMG				pmax		pmax		
	comp=Z,364nm,1.6s							
PMG	**Port Moresby**	**23.78**	**291**	P		**P**	**14 43 56.4**	**-0.6**
	comp=Z,3μmcomp=Z,149nm,1.5s,mb5.2							
CNB	**Canberra Magne**	**24.19**	**224**	*e*P		**P**	**14 44 01.9**	**+1.3**
	comp=Z,490nm,2.0s,mb5.6							
CNB				*e*S		**S**	**14 48 20.9**	**+2.4**
YNG	**Young**	**24.26**	**227**	*e*P		**P**	**14 44 03.2**	**+2.0**
	comp=Z,30nm,1.4s,mb4.5							
CAN	**Canberra**	**24.43**	**224**	*e*P		**P**	**14 44 04.2**	**+1.4**
	comp=Z,59nm,1.3s,mb4.9							
CAN	**Canberra**	**24.43**	**224**	*e*P		**P**	**14 44 04.2**	**+1.4**
CAN				pmax		pmax		
	comp=Z,59nm,1.3s,mb4.9							
RPZ	**Rata Peaks**	**24.64**	**178**	P		**P**	**14 44 05.4**	**+0.8**
	comp=Z,61nm,1.0s,mb5.1,baz=108,slow=3.2,SNR=4.8							
RPZ				LR		LR	14 52 41.1	
	comp=Z,4μm,20.6s,MS4.9,baz=347,slow=34							
RPZ	**Rata Peaks**	**24.64**	**178**	P		**P**	**14 44 05.4**	**+0.8**
RPZ				LR		LR	14 52 41.1	
COEN	**Coen**	**25.87**	**277**	*e*P		**P**	**14 44 16.4**	**+0.4**
	comp=Z,804nm,1.5s,mb6.0							
COEN	**Coen**	**25.87**	**277**	P		**P**	**14 44 16.1**	**+0.1**
	comp=Z,1μmcomp=Z,50nm,1.5s,mb4.8							
TOO	**Toolangi**	**28.04**	**224**	*e*P		**P**	**14 44 35.9**	**+0.5**
STKA	**Stephens Creek**	**28.29**	**238**	P		**P**	**14 44 38.5**	**+0.8**
	comp=Z,8.6nm,0.7s,mb4.5,baz=67,slow=9.6,SNR=23							
STKA				PcP		PcP	14 47 50.8	+0.1
	comp=Z,4.3nm,1.0s,baz=63,slow=4.5,SNR=2.6							
STKA				LR		LR	14 55 25.5	
	comp=Z,3μm,19.5s,MS4.9,baz=70,slow=35							
STKA	**Stephens Creek**	**28.29**	**238**	*e*P		**P**	**14 44 38.6**	**+1.0**
	comp=Z,29nm,2.0s,mb4.6							
STKA				*e*S		**S**	**14 49 37.4**	**+14**
STKA	**Stephens Creek**	**28.29**	**238**	*e*P		**P**	**14 44 38.7**	**+1.1**
	comp=Z,28nm,1.7s,mb4.6							
STKA	**Stephens Creek**	**28.29**	**238**	*e*P		**P**	**14 44 38.7**	**+1.1**
STKA				pmax		pmax		
	comp=Z,28nm,1.7s							
RAR	**Rarotonga**	**28.77**	**100**	LR		LR	14 52 51.5	
	comp=Z,547nm,21.2s,MS4.1,baz=16,slow=30							
WB2	**Warramunga Arr**	**33.26**	**262**	*e*P		**P**	**14 45 20.8**	**-0.8**
WRAB	**Tennant Creek**	**33.26**	**262**	*e*P		**P**	**14 45 20.7**	**-0.9**
	comp=Z,49nm,1.4s,mb5.2							
WRAB				LR		LR		
	comp=Z,1μm,19.0s,MS4.7							
WRAB	**Tennant Creek**	**33.26**	**262**	*e*P		**P**	**14 45 20.7**	**-0.9**
WRAB				pmax		pmax		
	comp=Z,49nm,1.4s,mb5.2							
WRAB				MLR		MLR		
	comp=Z,1μm,19.0s,MS4.7							
WRAB	**Tennant Creek**	**33.26**	**262**	P		**P**	**14 45 21.4**	**-0.2**
	comp=Z,100nm,1.1s,mb5.7,SNR=5.6							
WRAB	**Tennant Creek**	**33.26**	**262**	P		**P**	**14 45 21.1**	**-0.5**
	comp=Z,41nm,2.0s,mb5.0							
WRA	**Warramunga Arr**	**33.27**	**262**	P		**P**	**14 45 20.7**	**-1.0**
	comp=Z,11nm,1.1s,mb4.7,baz=94,slow=7.7,SNR=20							
WRA				PcP		PcP	14 48 05.4	+1.3
	comp=Z,1.8nm,0.7s,baz=89,slow=1.8,SNR=4.0							
WRA				PKiKP		PKiKP	14 55 31.0	+1.0
	comp=Z,0.3nm,0.6s,baz=63,slow=0.5,SNR=7.3							
WRA				LR		LR	14 58 29.1	
	comp=Z,1μm,19.5s,MS4.6,baz=85,slow=36							
WRA	**Warramunga Arr**	**33.27**	**262**	P		**P**	**14 45 20.7**	**-1.0**
WRA				PcP		PcP	14 48 05.4	+1.3
WRA	**Warramunga Arr**	**33.27**	**262**	P		**P**	**14 45 20.7**	**-1.0**
WRA							14 48 05.4	
ASAR	**Alice Springs**	**33.56**	**256**	P		**P**	**14 45 23.5**	**-0.7**
	comp=Z,15nm,0.6s,mb5.1,baz=84,slow=8.5,SNR=67							
ASAR	**Alice Springs**	**33.56**	**256**	P		**P**	**14 45 23.5**	**-0.7**
ASAR	**Alice Springs**	**33.56**	**256**	P		**P**	**14 45 23.5**	**-0.7**
SMPI	**Sarmi**	**34.71**	**296**	P		**P**	**14 45 34.6**	**+0.3**
	comp=Z,1μmcomp=Z,62nm,1.7s,mb5.3							
BAKI	**Biak**	**37.35**	**294**	P		**P**	**14 45 56.3**	**-0.6**
	comp=Z,3μmcomp=Z,198nm,1.5s,mb5.7							
TBI	**Tubuai**	**38.28**	**104**	*e*LQ			14 54 48.3	
	comp=Z,2μm,29.5s							
TBI				*e*LR		LR	14 56 32.3	
	comp=Z,810nm,28.2s							
TLE	**Tual**	**38.34**	**285**	P		**P**	**14 46 04.8**	**-0.5**
	comp=Z,46nm,2.5s,mb4.8							
PAE	**Paea**	**38.66**	**95**	*e*P		**P**	**14 46 07.5**	**-0.5**
	comp=Z,10nm,1.3s,mb4.4							
PPT	**Papeete**	**38.68**	**95**	*e*P		**P**	**14 46 07.8**	**-0.3**
	comp=Z,63nm,1.4s,mb5.2							
PPT				*e*S		**S**	**14 51 56.4**	**-8.4**
	comp=Z,264nm,26.5s							
PPT				*e*LQ			14 55 02.8	
	comp=Z,3μm,30.8s							
PPT				*e*LR		LR	14 56 45.3	
	comp=Z,2μm,28.0s							
PPT	**Papeete**	**38.68**	**95**	LR		LR	14 57 53.9	
	comp=Z,722nm,20.8s,MS4.5,baz=262,slow=30							
TIAR	**Tiarei**	**38.90**	**95**	*e*P		**P**	**14 46 10.3**	**+0.3**
	comp=Z,46nm,1.0s,mb5.2							
FORT	**Forrest**	**39.29**	**244**	*e*P		**P**	**14 46 12.1**	**-1.0**
	comp=Z,33nm,0.6s,mb5.2							
FORT	**Forrest**	**39.29**	**244**	*e*P		**P**	**14 46 13.2**	**+0.1**
	comp=Z,182nm,1.4s,mb5.6							
GUMO	**Guam**	**40.58**	**321**	LR		LR	15 01 13.5	
	comp=Z,432nm,18.2s,MS4.3,baz=284,slow=33							
PMOR	**Pomariorio Ree**	**40.72**	**91**	*e*P		**P**	**14 46 24.8**	**-0.4**
	comp=Z,179nm,1.5s,mb5.5							
BNDI	**Bandanaira**	**41.37**	**285**	P		**P**	**14 46 30.2**	**-0.3**
	comp=Z,2μmcomp=Z,89nm,1.9s,mb5.1							
FITZ	**Fitzroy Crossi**	**41.65**	**264**	LR		LR	15 02 52.3	
	comp=Z,1μm,20.8s,MS4.7,baz=97,slow=35							
FITZ	**Fitzroy Crossi**	**41.65**	**264**	*e*P		**P**	**14 46 32.6**	**-0.2**
	comp=Z,59nm,0.6s,mb5.4							
FITZ				*e*S		**S**	**14 52 54.1**	**+4.8**
FITZ	**Fitzroy Crossi**	**41.65**	**264**	*e*P		**P**	**14 46 32.6**	**-0.2**
	comp=Z,116nm,1.2s,mb5.4							
FITZ	**Fitzroy Crossi**	**41.65**	**264**	P		**P**	**14 46 32.3**	**-0.5**
	comp=Z,77nm,1.2s,mb5.2							
AAI	**Ambon**	**43.26**	**285**	P		**P**	**14 46 45.8**	**-0.2**
	comp=Z,49nm,1.2s,mb5.1							
NLAI	**Namlea**	**44.44**	**285**	P		**P**	**14 46 54.9**	**-0.5**
	comp=Z,2μmcomp=Z,60nm,2.5s,mb4.9							
KMBL	**Kambalda**	**44.62**	**244**	*e*P		**P**	**14 46 56.5**	**-0.2**
	comp=Z,135nm,1.0s,mb5.7							
TNTI	**Ternate**	**45.94**	**291**	P		**P**	**14 47 14.7**	**+7.4**
MBWA	**Marble Bar**	**46.78**	**259**	*e*P		**P**	**14 47 13.7**	**-0.2**
MBWA	**Marble Bar**	**46.78**	**259**	*e*P		**P**	**14 47 13.6**	**-0.3**
	comp=Z,66nm,1.1s,mb5.5							
MBWA	**Male Bar**	**46.78**	**259**	P		**P**	**14 47 14.7**	**+0.8**
	comp=Z,63nm,1.8s,mb5.2							
MMRI	**Maumere**	**47.05**	**276**	P		**P**	**14 47 15.0**	**-1.1**
	comp=Z,1μmcomp=Z,43nm,2.7s,mb4.9							
MEEK	**Meekatharra**	**47.39**	**251**	*e*P		**P**	**14 47 18.2**	**-0.4**
	comp=Z,345nm,0.6s							
BBSI	**Bau Bau**	**47.77**	**280**	P		**P**	**14 47 22.1**	**+0.4**
	comp=Z,878nmcomp=Z,41nm,2.2s,mb5.1							
KLBR	**Kellerberrin**	**48.15**	**244**	*e*P		**P**	**14 47 23.6**	**-0.9**
	comp=Z,49nm,0.8s,mb5.6							
KDI	**Kendari**	**48.28**	**282**	P		**P**	**14 47 26.5**	**+0.8**
	comp=Z,11nm,1.1s,mb4.8							
NWAO	**Narrogin (SRO)**	**48.66**	**243**	*e*P		**P**	**14 47 28.3**	**0.0**
	comp=Z,55nm,1.1s,mb5.5							
NWAO	**Narrogin (SRO)**	**48.66**	**243**	*e*P		**P**	**14 47 28.3**	**0.0**
NWAO				pmax		pmax		
	comp=Z,55nm,1.1s							
KMSI	**Cibinong**	**48.87**	**288**	P		**P**	**14 47 29.9**	**-0.3**
	comp=Z,1μmcomp=Z,85nm,1.1s,mb5.7							
SGSI	**Sangihe**	**48.93**	**293**	P		**P**	**14 47 35.6**	**+5.0**
	comp=Z,359nm,0.6s							
LUWI	**Luwuk**	**49.28**	**286**	P		**P**	**14 47 34.5**	**+1.2**
	comp=Z,52nm,1.2s,mb5.4							
TAOE	**Nuku Hiva Isla**	**49.61**	**85**	*e*S		**S**	**14 54 40.0**	**-4.2**
	comp=Z,459nm,26.4s							
TAOE				*e*LR		LR	15 01 48.9	
	comp=Z,903nm,31.5s							
BKSI	**Bulukumba**	**50.11**	**279**	P		**P**	**14 47 44.0**	**+4.3**
	comp=Z,23nm,1.6s,mb5.0							
BMNI	**Bima**	**50.42**	**275**	P		**P**	**14 47 41.8**	**-0.2**
	comp=Z,147nm,1.4s,mb5.8							
KAPI	**Kappang**	**50.57**	**279**	*e*P		**P**	**14 47 42.8**	**-0.4**
	comp=Z,53nm,1.3s,mb5.3							
DAV	**Davao City (W)**	**50.58**	**297**	*e*P		**P**	**14 47 41.3**	**-1.9**
SPSI	**Sidrap Palu**	**50.92**	**281**	P		**P**	**14 47 45.0**	**-0.8**
RKT	**Rikitea**	**51.58**	**105**	*e*S		**S**	**14 55 06.7**	**-4.7**
	comp=Z,353nm,30.5s							
RKT				*e*LR		LR	15 02 38.2	
	comp=Z,489nm,30.2s							
VNDA	**Vanda**	**58.65**	**182**	P		**P**	**14 48 41.2**	**+0.4**
	comp=Z,13nm,1.2s,mb4.8,baz=357,slow=9.3,SNR=13							
VNDA				LR		LR	15 09 45.0	
	comp=Z,623nm,21.0s,MS4.7,baz=19,slow=32							
VNDA	**Vanda**	**58.65**	**182**	*e*P		**P**	**14 48 41.0**	**+0.2**
	comp=Z,32nm,1.3s,mb5.2							
VNDA				LR		LR		
	comp=Z,612nm,19.0s,MS4.7							
VNDA	**Vanda**	**58.65**	**182**	*e*P		**P**	**14 48 41.1**	**+0.2**
VNDA				pmax		pmax		
	comp=Z,32nm,1.3s							
VNDA				MLR		MLR		
	comp=Z,612nm,19.0s							
SBA	**Scott Base**	**58.88**	**181**	*e*P		**P**	**14 48 43.5**	**+1.0**
	comp=Z,113nm,1.3s,mb5.7							
SBA				LR		LR		
	comp=Z,783nm,22.0s,MS4.8							
SBA	**Scott Base**	**58.88**	**181**	*e*P		**P**	**14 48 43.5**	**+1.1**
SBA				pmax		pmax		
	comp=Z,113nm,1.3s,mb5.7							
SBA				MLR		MLR		
	comp=Z,783nm,22.0s,MS4.8							
MJAR	**Matsushiro Arr**	**62.75**	**332**	P		**P**	**14 49 08.7**	**-0.6**
	comp=Z,4.1nm,0.7s,mb4.7,baz=169,slow=8.7,SNR=9.4							
MJAR				LR		LR	15 11 22.5	
	comp=Z,228nm,19.2s,MS4.4,baz=75,slow=31							
MJAR	**Matsushiro Arr**	**62.75**	**332**	P		**P**	**14 49 08.7**	**-0.6**
MJAR				LR		LR	15 11 22.5	
MJAR	**Matsushiro Arr**	**62.75**	**332**	P		**P**	**14 49 08.7**	**-0.6**
MAT	**Matsushiro**	**62.75**	**332**	P		**P**	**14 49 08.3**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**66.43**	**341**	P		**P**	**14 49 42.0**	**+8.8**
YUK				*i*	PPP		14 53 37.6	
YUK				*e*S		S	14 58 27.1	+4.1
MIR	**Mirnyy**	**67.39**	**205**	*e*P		**P**	**14 49 40.0**	**+0.9**
MIR				pmax		pmax		
	comp=Z,38nm,1.4s,mb5.2							
ASAJ	**Asahikawa**	**67.54**	**339**	P		**P**	**14 49 40.4**	**+0.1**
	comp=Z,22nm,0.7s,mb5.3,baz=197,slow=7.1,SNR=10							
ASAJ				LR		LR	15 13 58.1	
	comp=Z,520nm,21.8s,MS4.7,baz=160,slow=31							
ASAJ	**Asahikawa**	**67.54**	**339**	*e*P		**P**	**14 49 40.7**	**+0.5**
	comp=Z,13nm,0.8s,mb5.0							
KSRS	**Korea Array**	**68.56**	**325**	LR		LR	15 15 23.4	
	comp=Z,127nm,18.6s,MS4.2,baz=318,slow=32							
YSS	**Yuzh-Sakhalins**	**70.01**	**341**	*e*P		**P**	**14 50 01.8**	**+6.2**
YSS				*e*			14 50 08.9	
YSS				pmax		pmax		
	comp=Z,50nm,1.0s,mb5.4							
VLA	**Vladivostok**	**70.92**	**332**	*e*P		**P**	**14 49 59.6**	**-1.6**
VLA				pmax		pmax		
	comp=Z,28nm,1.3s,mb5.0							
QSPA	**South Pole Qui**	**71.02**	**180**	*e*P		**P**	**14 50 01.4**	**0.0**
	comp=Z,82nm,1.3s,mb5.5							
FX1	**Attu Island--F**	**71.67**	**2**	LR		LR	15 14 48.9	
	comp=Z,656nm,20.8s,MS4.9,baz=209,slow=30							
WHN	**Wuhan**	**72.50**	**312**	*e*P		**P**	**14 50 15.8**	**+4.8**
PETK	**Petropavlovsk-**	**72.58**	**352**	P		**P**	**14 50 12.8**	**+1.8**
	comp=Z,2.6nm,0.7s,mb4.2,baz=147,slow=8.6,SNR=3.2							
PETK				LR		LR	15 16 12.4	
	comp=Z,581nm,19.8s,MS4.9,baz=158,slow=31							
PETK	**Petropavlovsk-**	**72.58**	**352**	P		**P**	**14 50 12.8**	**+1.8**
PETK				LR		LR	15 16 12.4	
PETK	**Petropavlovsk-**	**72.58**	**352**	P		**P**	**14 50 12.8**	**+1.8**
MDJ	**Mudanjiang**	**73.13**	**331**	P		**P**	**14 50 15.6**	**+1.2**
MDJ				pmax		pmax		
	comp=Z,14nm,2.5s,mb4.5							
MDJ				pmax		pmax		
	comp=Z,290nm,6.1s							
CN2	**Changchun**	**74.48**	**328**	*e*P		**P**	**14 50 26.9**	**+4.5**
CN2				*e*pP		pP	14 50 40.1	+13
CN2				*e*S		S	14 59 56.6	-0.5
CN2				pmax		pmax		
	comp=Z,20nm,0.9s,mb5.0							
CN2				pmax		pmax		
	comp=Z,200nm,4.0s							
CN2				LR		LR		
	comp=N,300nm,21.0s,MS4.7							
CN2				LR		LR		
	comp=E,300nm,21.0s,MS4.7							
CN2				LR		LR		
	comp=Z,400nm,23.0s,MS4.7							
KLR	**Kul'dur**	**75.84**	**335**	*e*P		**P**	**14 50 32.7**	**+2.6**
KLR				pmax		pmax		
	comp=Z,200nm,2.0s,mb5.7							
GYA	**Guiyang**	**76.02**	**305**	*i*	P	**P**	**14 50 33.0**	**+1.3**
GYA				pP		pP	14 50 45.8	+10
GYA				sP		sP	14 50 54.3	+17
GYA				PP		PP	14 53 25.8	+3.2
GYA				S		S	15 00 11.0	-3.9
GYA				SKS			15 00 33.1	
GYA				pmax		pmax		
	comp=Z,20nm,1.0s,mb5.0							
GYA				pmax		pmax		
	comp=Z,140nm,5.5s							
GYA				LR		LR		
	comp=N,760nm,20.2s,MS5.1							
GYA				LR		LR		
	comp=E,670nm,19.9s,MS5.1							
GYA				LR		LR		
	comp=Z,780nm,19.7s,MS5.0							
BJT	**Baijiatuau**	**77.01**	**321**	*e*P		**P**	**14 50 37.3**	**+0.3**
BJT				LR		LR		
	comp=Z,549nm,22.0s,MS4.8							
BJT	**Baijiatuau**	**77.01**	**321**	*e*P		**P**	**14 50 37.3**	**+0.3**
BJT				MLR		MLR		
	comp=Z,549nm,22.0s							
BJI	**Beijing**	**77.02**	**321**	P		**P**	**14 50 42.1**	**+5.1**
BJI				S		S	15 00 28.9	+3.6
BJI				SS		SS	15 05 27.3	+4.3
BJI				pmax		pmax		
	comp=Z,16nm,0.8s,mb5.0							
BJI				LR		LR		
	comp=N,340nm,22.3s							
BJI				LR		LR		
	comp=E,290nm,33.2s							
BJI				LR		LR		
	comp=Z,330nm,27.6s							
XAN	**Xi'an**	**78.26**	**312**	P		**P**	**14 50 44.0**	**-0.1**
XAN				pmax		pmax		
	comp=Z,4.0nm,1.2s,mb4.2							
XAN				pmax		pmax		
	comp=Z,100nm,9.1s							
KMI	**Kunming**	**78.50**	**302**	P		**P**	**14 50 46.9**	**+1.3**
KMI				pP		pP	14 50 59.4	+9.4
KMI				sP		sP	14 51 06.3	+15
KMI				PP		PP	14 53 45.9	+2.5
KMI				S		S	15 00 34.3	-7.6
KMI				pmax		pmax		
	comp=Z,11nm,2.0s,mb4.4							
KMI				pmax		pmax		
	comp=Z,180nm,3.1s							
KMI				LR		LR		
	comp=N,200nm,17.7s,MS4.6							
KMI				LR		LR		
	comp=E,230nm,21.1s,MS4.6							
KMI				LR		LR		
	comp=Z,180nm,17.2s,MS4.5							
MAW	**Mawson**	**78.77**	**202**	P		**P**	**14 50 47.5**	**+1.1**
	comp=Z,26nm,1.0s,mb5.1,baz=115,slow=7.6,SNR=8.7							
MAW				LR		LR	15 20 48.6	
	comp=Z,1μm,20.9s,MS5.2,baz=87,slow=32							
MAW	**Mawson**	**78.77**	**202**	*e*P		**P**	**14 50 47.3**	**+0.9**
	comp=Z,21nm,0.9s,mb5.1							
MAW	**Mawson**	**78.77**	**202**	*e*P		**P**	**14 50 47.1**	**+0.7**
	comp=Z,10nm,1.1s,mb4.7							
MAW	**Mawson**	**78.77**	**202**	*e*P		**P**	**14 50 47.1**	**+0.7**
MAW				pmax		pmax		
	comp=Z,10.0nm,1.1s							
CM31	**Chiang Mai Arr**	**78.78**	**294**	*e*P		**P**	**14 50 47.6**	**+0.3**
	comp=Z,11nm,1.0s,mb4.8							
CMAR	**Chiang Mai Arr**	**78.78**	**294**	P		**P**	**14 50 48.6**	**+1.3**
	comp=Z,1.8nm,0.8s,mb4.1,baz=135,slow=4.7,SNR=14							
CMAR	**Chiang Mai Arr**	**78.78**	**294**	P		**P**	**14 50 48.6**	**+1.3**
CMAR	**Chiang Mai Arr**	**78.78**	**294**	P		**P**	**14 50 48.6**	**+1.3**
CHTO	**Chiang Mai**	**78.92**	**294**	*e*P		**P**	**14 50 46.7**	**-1.4**
	comp=Z,87nm,2.0s,mb5.3							
CHTO	**Chiang Mai**	**78.92**

SONM	**Songino Array**	**87.29**	**323**	P	**P**	**14 51 30.4**	**-0.3**
SHL	**Shillong**	**87.60**	**298**	*e*PKP	**P**	**14 51 34.0**	**+1.3**
NVAR	**Mina Array Bea**	**88.37**	**48**	P	**P**	**14 51 36.7**	**+0.6**
	comp=Z,1.8nm,1.0s,mb4.2,baz=251,slow=5.6,SNR=6.7						
NVAR				LR	LR	15 22 20.5	
	comp=Z,1μm,21.0s,MS5.3,baz=115,slow=30						
NVAR	**Mina Array Bea**	**88.37**	**48**	P	**P**	**14 51 36.7**	**+0.6**
NVAR				LR	LR	15 22 20.5	
PNL	**Peninsula**	**88.67**	**23**	P	**P**	**14 51 37.2**	**+0.2**
	comp=Z,64nm,0.9s,mb6.0						
NVL	**N'lazarevskaya**	**89.11**	**187**	*e*P	**P**	**14 51 38.5**	**-0.6**
NVL				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.4						
MAIT	**Maitri**	**89.11**	**187**	*e*P	**P**	**14 51 38.3**	**-0.8**
SNAA	**Sanae**	**89.39**	**182**	*e*P	**P**	**14 51 36.9**	**-3.4**
	comp=Z,42nm,1.4s,mb5.6						
SNAA	**Sanae**	**89.39**	**182**	*e*P	**P**	**14 51 36.9**	**-3.5**
SNAA				pmax	pmax		
	comp=Z,42nm,1.4s						
LSA	**Lhasa**	**89.75**	**302**	*e*P	**P**	**14 51 44.0**	**+1.2**
	comp=Z,3.6nm,0.6s,mb4.9						
LSA	**Lhasa**	**89.75**	**302**	*e*P	**P**	**14 51 44.1**	**+1.3**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.9						
ILAR	**Eielson Array**	**89.92**	**17**	P	**P**	**14 51 42.4**	**-0.3**
	comp=Z,0.7nm,1.0s,mb4.0,baz=232,slow=5.8,SNR=6.3						
ILAR				LR	LR	15 24 21.8	
	comp=Z,767nm,21.4s,MS5.1,baz=38,slow=30						
ILAR	**Eielson Array**	**89.92**	**17**	P	**P**	**14 51 42.4**	**-0.3**
ILAR				LR	LR	15 24 21.8	
ILAR	**Eielson Array**	**89.92**	**17**	P	**P**	**14 51 42.4**	**-0.3**
VNA3	**Neumayer Olymp**	**89.96**	**180**	*e*	**P**	**14 51 38.8**	**-4.3**
VNA3				*e*		14 51 51.9	
VNA2	**Neumayer--Watz**	**90.26**	**181**	*e*	**P**	**14 51 41.4**	**-3.1**
	baz=164,slow=3.0						
VNA2				*e*		14 51 53.8	
ZAK	**Zakamensk**	**90.36**	**324**	*e*P	**P**	**14 51 44.3**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.7						
VNA1	**Neumayer--Stat**	**90.55**	**181**	*e*	**P**	**14 51 42.4**	**-3.4**
VNA1				*e*		14 51 55.0	
ETW	**Entiat**	**91.14**	**40**	P	**P**	**14 51 48.9**	**+0.1**
	comp=Z,4.4nm,0.8s,mb4.8						
PDAR	**Pinedale Array**	**96.19**	**47**	LR	LR	15 25 26.1	
	comp=Z,366nm,19.9s,MS4.9,baz=319,slow=29						
TXAR	**Lajitas Array**	**96.32**	**61**	P	**P**	**14 52 12.8**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=224,slow=5.0,SNR=2.8						
TXAR				PKKP	PKKPbc	15 09 04.5	+5.3
	comp=Z,0.4nm,0.8s,baz=139,slow=4.2,SNR=4.5						
TXAR				LR	LR	15 27 28.9	
	comp=Z,656nm,18.3s,MS5.2,baz=335,slow=30						
TXAR	**Lajitas Array**	**96.32**	**61**	P	**P**	**14 52 12.8**	**-0.3**
TXAR				PKKP	PKKPbc	15 09 04.5	+5.3
TXAR				LR	LR	15 27 28.9	
TXAR	**Lajitas Array**	**96.32**	**61**	P	**P**	**14 52 12.8**	**-0.3**
WMQ	**Urumqi**	**97.34**	**314**	P	**P**	**14 52 19.0**	**+1.6**
WMQ				LR	LR		
	comp=N,160nm,25.6s,MS4.6						
WMQ				LR	LR		
	comp=E,150nm,23.0s,MS4.6						
WMQ				LR	LR		
	comp=Z,110nm,23.0s,MS4.3						
MKAR	**Makanchi Array**	**101.86**	**315**	P	Pdif	14 52 38.4	+0.8
	comp=Z,1.0nm,0.6s,baz=98,slow=6.7,SNR=7.7						
MKAR	**Makanchi Array**	**101.86**	**315**	P	Pdif	14 52 38.4	+0.8
MKAR	**Makanchi Array**	**101.86**	**315**	P	Pdif	14 52 38.4	+0.9
ZALV	**Zalesovo Beam**	**102.19**	**323**	P	Pdif	14 52 38.2	-0.7
	comp=Z,0.3nm,0.3s,baz=145,slow=3.5,SNR=3.6						
ZALV	**Zalesovo Beam**	**102.19**	**323**	P	Pdif	14 52 38.2	-0.7
ZALV	**Zalesovo Beam**	**102.19**	**323**	P	Pdif	14 52 38.2	-0.7
APA	**Apatity**	**124.16**	**341**	*i* PKIKP	PKPdf	14 57 41.2	-0.9
APA				*i*		15 04 50.0	
APA				*i* SS	SS	15 16 20.0	+3.2
APA				MLR	MLR		
	comp=Z,3μm,17.0s						
ARCES	**ARCESS Array B**	**124.97**	**345**	PKP	PKPdf	14 57 45.6	+2.0
	comp=Z,2.6nm,0.6s,baz=64,slow=2.1,SNR=9.8						
ARCES	**ARCESS Array B**	**124.97**	**345**	PKP	PKPdf	14 57 45.6	+2.0
ARCES	**ARCESS Array B**	**124.97**	**345**	PKIKP	PKPdf	14 57 45.6	+2.0
VSR	**Storozhevoye**	**129.66**	**322**	*e*PKIKP	PKPdf	14 57 52.5	-0.6
VSR				pmax	pmax		
	comp=N,10.0nm,0.8s						
VSR				pmax	pmax		
	comp=E,6.0nm,0.8s						
VSR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
AKASG	**Malin Array Be**	**135.55**	**325**	PKP	PKPdf	14 58 04.6	+0.5
	comp=Z,0.3nm,0.4s,baz=47,slow=2.6,SNR=2.5						
AKASG	**Malin Array Be**	**135.55**	**325**	PKP	PKPdf	14 58 04.6	+0.5
AKASG	**Malin Array Be**	**135.55**	**325**	PKIKP	PKPdf	14 58 04.6	+0.4
BRTR	**Keskin Array B**	**136.99**	**308**	PKP	PKPdf	14 58 07.1	-0.1
	comp=Z,0.4nm,0.6s,baz=122,slow=1.9,SNR=2.8						
BRTR	**Keskin Array B**	**136.99**	**308**	PKP	PKPdf	14 58 07.1	-0.1
BRTR	**Keskin Array B**	**136.99**	**308**	PKIKP	PKPdf	14 58 07.1	-0.1
EIL	**Elat**	**137.63**	**293**	PKP	PKPdf	14 58 08.8	+0.1
	comp=Z,1.7nm,0.6s,baz=66,slow=5.8,SNR=2.3						
EIL	**Elat**	**137.63**	**293**	PKP	PKPdf	14 58 08.8	+0.1
DPC	**Dobruska-Polom**	**142.23**	**332**	*e*PKIKP	PKPdf	14 58 18.8	+2.4
DPC				*e*		14 58 24.8	
DPC	**Dobruska-Polom**	**142.23**	**332**	*e*PKP	PKPdf	14 58 19.8	+2.4
DPC				epPKP	pPKPdf	14 58 24.8	+3.9
UPC	**Upice**	**142.25**	**332**	*e*PKIKP	PKPdf	14 58 19.1	+2.7
UPC	**Upice**	**142.25**	**332**	*e*PKP	PKPdf	14 58 19.1	+2.7
BRG	**Berggiesshubel**	**142.85**	**334**	*e*P	PKPdf	14 58 16.7	-0.8
	comp=Z,7.4nm,1.2s						
BRG	**Berggiesshubel**	**142.85**	**334**	*e*PKIKP	PKPdf	14 58 16.7	-0.8
BRG				pmax	pmax		
	comp=Z,7.0nm,1.2s						
PVCC	**Panska Ves**	**142.85**	**334**	*e*PKIKP	PKPdf	14 58 18.5	+1.0
PVCC	**Panska Ves**	**142.85**	**334**	*e*PKP	PKPdf	14 58 18.5	+1.0
CLL	**Collm**	**142.89**	**336**	*e*PKIKP	PKPdf	14 58 16.0	-1.5
CLL				MLR	MLR		
	comp=Z,200nm,19.2s,MS4.9						
CLL	**Collm**	**142.89**	**336**	*e*PKPdf	PKPdf	14 58 16.0	-1.5
CLL				LmV		16 06 00.0	
	comp=Z,200nm,19.2s						
NKC	**Novy Kostel**	**143.95**	**335**	*e*PKIKP	PKPdf	14 58 16.5	-3.0
NKC				*e*		14 58 22.7	
NKC	**Novy Kostel**	**143.95**	**335**	*e*PKP	PKPdf	14 58 16.5	-3.0
NKC				*ex*	x	14 58 22.7	
CONA	**Conrad Observa**	**144.16**	**330**	*e*PKPdf	PKPdf	14 58 20.0	+0.1
	comp=Z,42nm,1.9s						
CSNA	**Conrad Observa**	**144.16**	**330**	*e*PKPdf	PKPdf	14 58 20.0	+0.1
	comp=Z,39nm,1.9s						
KHC	**Kasperske Hory**	**144.33**	**333**	*e*PKHKP	PKPpre	14 58 05.0	
KHC	**Kasperske Hory**	**144.33**	**333**	*e*PKP	PKPdf	14 58 23.0	+2.9
KHC				epPKP	pPKPdf	14 58 31.0	+6.3
GERES	**GERESS Array B**	**144.49**	**332**	PKP	PKPdf	14 58 18.1	-2.3
	comp=Z,1.6nm,0.8s,baz=64,slow=2.3,SNR=8.4						
GERES	**GERESS Array B**	**144.49**	**332**	PKP	PKPdf	14 58 18.1	-2.3
GERES	**GERESS Array B**	**144.49**	**332**	PKIKP	PKPdf	14 58 18.1	-2.3
SKO	**Skopje**	**144.65**	**317**	*e*PKP	PKPdf	14 58 21.1	+0.2
ARSA	**Arzberg**	**144.80**	**329**	*e*PKPdf	PKPdf	14 58 20.0	-1.0
	comp=Z,47nm,1.5s						
GRF	**Grafenberg Arr**	**144.87**	**335**	*e*PKPbc	PKPdf	14 58 20.0	-1.1
GRF	**Grafenberg Arr**	**144.87**	**335**	*e*PKIKP	PKPdf	14 58 20.0	-1.1
MOA	**Molln**	**144.97**	**331**	*e*PKPdf	PKPdf	14 58 20.6	-0.7
	comp=Z,51nm,1.7s						
KRUS	**Krusevo**	**145.07**	**316**	*e*PKP	PKPdf	14 58 21.2	-0.5
PERS	**Pernice**	**145.43**	**329**	*i* PKPbc	PKPbc	14 58 25.6	+3.5
SOKA	**Soboth**	**145.44**	**329**	*e*PKPdf	PKPdf	14 58 21.9	-0.3
	comp=Z,48nm,1.3s						
HGN	**Heimansgroeve**	**145.80**	**342**	*e*PKP	PKPdf	14 58 22.4	-0.3
	comp=Z,72nm,3.0s						
TOD	**Tromm**	**145.85**	**338**	PKP	PKPdf	14 58 22.4	-0.3
TOD	**Tromm**	**145.85**	**338**	PKP2	PKPdf	14 58 22.4	-0.3
KBA	**Koelnbreinsper**	**145.96**	**331**	*e*PKPab	PKPdf	14 58 22.9	-0.1
	comp=Z,31nm,1.6s						
ABH	**Alteburg**	**146.05**	**339**	PKP	PKPdf	14 58 23.2	+0.1
LJU	**Ljubljana**	**146.13**	**328**	*e*PKPbc	PKPbc	14 58 25.0	+0.7
BOJS	**Bojanci**	**146.14**	**327**	*i* PKPbc	PKPbc	14 58 25.6	+1.2
BOJS				*i*		14 58 29.3	
BOJS				*i*		14 58 39.1	
VISS	**Visnje**	**146.15**	**328**	*i* PKPbc	PKPbc	14 58 29.1	+4.8
MYKA	**Terra Mystica**	**146.15**	**330**	*e*PKPbc	PKPdf	14 58 23.3	-0.1
	comp=Z,59nm,1.7s						
RUP	**Ruppelstein**	**146.37**	**339**	PKP	PKPdf	14 58 23.9	+0.3
RUP	**Ruppelstein**	**146.37**	**339**	PKP2	PKPdf	14 58 23.9	+0.3
VOY	**Vojsko**	**146.46**	**329**	*e*PKPbc	PKPbc	14 58 25.1	-0.1
VOY				*e*		14 58 29.3	
VOY				*e*		14 58 40.0	
JAVS	**Javornik**	**146.47**	**328**	*i* PKPbc	PKPbc	14 58 26.1	+0.8
JAVS				*i*		14 58 31.2	
GIVF	**Givet**	**146.71**	**342**	*e*PKP1	PKPbc	14 58 26.4	+0.5
BAIF	**Baives**	**146.93**	**343**	*e*PKP1	PKPbc	14 58 26.9	+0.4
BFO	**Black Forest**	**147.08**	**337**	*e*PKPdf	PKPdf	14 58 25.8	+0.9
BFO	**Black Forest**	**147.08**	**337**	*e*PKP2	PKPdf	14 58 25.8	+0.9
SPAK	**Spaichingen-Ko**	**147.10**	**336**	PKP	PKPdf	14 58 25.4	+0.5
FETA	**Feichten**	**147.18**	**333**	*e*PKPab	PKPbc	14 58 27.2	-0.1
	comp=Z,33nm,1.2s						
DAVA	**Damuels**	**147.32**	**334**	*e*PKPbc	PKPdf	14 58 26.0	+0.7
	comp=Z,54nm,1.6s						
CDF	**Champ du Feu**	**147.40**	**338**	*e*PKP1	PKPbc	14 58 28.3	+0.5
	comp=Z,54nm,1.2s						
FELD	**Feldberg im Sc**	**147.58**	**337**	PKP	PKPab	14 58 30.5	0.0
ECH	**Echery**	**147.60**	**338**	PKP	PKPbc	14 58 28.2	-0.2
ECH	**Echery**	**147.60**	**338**	PKP2	PKPbc	14 58 28.2	-0.2
ECH	**Echery**	**147.60**	**338**	PKP	PKPbc	14 58 28.2	-0.2
PAGF	**Fort de Pagny**	**147.80**	**340**	*e*PKP1	PKPbc	14 58 29.8	+0.9
MOF	**Molkenrain**	**147.92**	**338**	PKP	PKPab	14 58 31.7	-0.1
MOF	**Molkenrain**	**147.92**	**338**	PKP2	PKPab	14 58 31.7	-0.1
MOF	**Molkenrain**	**147.92**	**338**	PKP	PKPab	14 58 31.7	-0.1
HINF	**Hinteralfeld**	**148.05**	**338**	*e*PKP1	PKPbc	14 58 29.8	+0.2
TUE	**Stuetta**	**148.19**	**334**	*e*PKPbc	PKPbc	14 58 29.7	-0.4
SFTF	**Sexfontaines**	**148.33**	**340**	*e*PKP1	PKPbc	14 58 31.0	+0.6
	comp=Z,304nm,1.9s						
LOMF	**Lomont**	**148.46**	**337**	PKP	PKPab	14 58 35.7	+1.7
LOMF	**Lomont**	**148.46**	**337**	PKP2	PKPab	14 58 35.7	+1.7
LOMF	**Lomont**	**148.46**	**337**	PKP	PKPab	14 58 35.7	+1.7
FLN	**La Foliniere**	**149.29**	**347**	*e*PKP1	PKPbc	14 58 33.0	+0.2
CABF	**La Chapelle**	**149.35**	**338**	*e*PKP1	PKPbc	14 58 33.8	+0.8
LOR	**Lormes**	**149.53**	**341**	*e*PKP1	PKPbc	14 58 33.8	+0.4
	comp=Z,158nm,1.7s						
SSF	**Saint Saulge**	**149.82**	**341**	*e*PKP1	PKPbc	14 58 34.7	+0.5
LPG	**La Plagne**	**150.04**	**336**	*e*PKP1	PKPbc	14 58 35.8	+1.1
	comp=Z,90nm,1.5s						
SMF	**Signal de Mont**	**150.09**	**340**	*e*PKP1	PKPbc	14 58 35.2	+0.4
	comp=Z,165nm,1.8s						
AVF	**Avril sur Loir**	**150.11**	**341**	*e*PKP1	PKPbc	14 58 35.1	+0.2
ROSF	**Rostrenen**	**150.21**	**350**	*e*PKP1	PKPbc	14 58 34.8	-0.3
BNI	**Bardonecchia**	**150.44**	**335**	*e*PKPbc	PKPbc	14 58 35.5	-0.2
BNI	**Bardonecchia**	**150.44**	**335**	*e*PKIKP	PKPbc	14 58 35.5	-0.2
BGF	**Bois d'Agland**	**150.48**	**341**	*e*PKP1	PKPbc	14 58 35.9	+0.1
MBDF	**Montbardon**	**150.67**	**335**	*e*PKP1	PKPbc	14 58 36.2	-0.1
	comp=Z,10nm,0.6s						
ORIF	**Oris-en-Rattie**	**150.86**	**336**	*e*PKP1	PKPbc	14 58 37.1	+0.4
	comp=Z,42nm,1.1s						
TCF	**Toulx Ste Croi**	**150.91**	**342**	*e*PKP1	PKPbc	14 58 37.0	+0.2
	comp=Z,43nm,1.2s						
SBF	**Sospel**	**151.09**	**333**	*e*PKP1	PKPbc	14 58 37.1	-0.2
	comp=Z,46nm,0.8s						
VIVF	**Saint-Julien-l**	**151.37**	**337**	*e*PKP1	PKPbc	14 58 38.4	+0.5
PGF	**Pioggiola**	**151.40**	**329**	*e*PKP1	PKPbc	14 58 38.1	0.0
	comp=Z,230nm,1.6s						
FRF	**La Foret Royal**	**151.67**	**333**	*e*PKP1	PKPbc	14 58 38.4	-0.2
RJF	**Les Rejaudoux**	**152.01**	**342**	*e*PKP1	PKPbc	14 58 39.6	+0.2
LASF	**Ste Croix**	**152.33**	**338**	*e*PKP1	PKPbc	14 58 40.6	+0.5
ETSF	**Etsaut**	**154.81**	**343**	*e*PKP1	PKPbc	14 58 46.5	+1.0
	comp=Z,15nm,0.9s						
ESDC	**Sonseca Array**	**158.70**	**346**	PKPab	PKPab	14 59 16.9	-0.4
	comp=Z,0.2nm,0.3s,baz=46,slow=3.7,SNR=3.2						
TORD	**Torodi Ar. Bea**	**167.04**	**245**	PKP	PKPdf	14 58 49.5	-1.3
	comp=Z,1.2nm,0.9s,baz=167,slow=2.1,SNR=7.2						
TORD				PKPab	PKPab	14 59 59.0	+4.2
	comp=Z,4.6nm,1.2s,baz=116,slow=5.0,SNR=6.3						
TORD	**Torodi Ar. Bea**	**167.04**	**245**	PKP	PKPdf	14 58 49.5	-1.3
TORD				PKPab	PKPab	14 59 59.0	+4.2

WEL 18 14:52:00.1±0.1, 44.37S×169.84E, h5km, ML3.9/15, Error ellipse: s-maj=1.0km s-min=0.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBZ	**Lake Benmore**	**0.25**	**94**	PG	Pg	14 52 05.7	+0.7
LBZ				SG	Sg	14 52 09.0	+0.8
WKZ	**Wanaka**	**0.74**	**232**	P*	Pb	14 52 14.5	-1.0
FOZ	**Fox Glacier**	**0.81**	**352**	P*	Pb	14 52 15.8	-0.8
JCZ	**Jackson Bay**	**0.83**	**291**	P*	Pb	14 52 15.9	-1.0
ODZ	**Otahua Downs**	**0.89**	**140**	P*	Pb	14 52 16.8	-1.1
EAZ	**Earnscleugh**	**0.94**	**203**	P*	Pb	14 52 18.0	-0.9
RPZ	**Rata Peaks**	**1.10**	**54**	P*	Pb	14 52 20.9	-0.6
MSZ	**Milford Sound**	**1.40**	**257**	PN	Pn	14 52 26.5	+0.3
WVZ	**Waitaha Valley**	**1.45**	**27**	PN	Pn	14 52 26.7	-0.2
MLZ	**Mavora Lakes**	**1.53**	**230**	PN	Pn	14 52 28.7	+0.6
TUZ	**Tuapeka**	**1.59**	**185**	PN	Pn	14 52 28.1	-0.8
WHZ	**Wether Hill Ro**	**2.03**	**221**	PN	Pn	14 52 33.8	-1.0
CRLZ	**Canterbury Las**	**2.16**	**69**	PN	Pn	14 52 36.1	-0.6
DCZ	**Deep Cove**	**2.20**	**239**	*e*PN	Pn	14 52 37.4	+0.1
SYZ	**Scrubby Hill**	**2.22**	**192**	PN	Pn	14 52 36.5	-1.0
LTZ	**Lake Taylor**	**2.38**	**49**	PN	Pn	14 52 39.3	-0.3
APZ	**The Paps**	**2.78**	**207**	PN	Pn	14 52 43.9	-1.4
DSZ	**Denniston Nort**	**2.99**	**29**	PN	Pn	14 52 47.8	-0.3
DSZ				SN	Sn	14 53 23.4	-1.0
THZ	**Tophouse**	**3.44**	**42**	*e*PN	Pn	14 52 54.0	-0.3
QRZ	**Quartz Range**	**4.06**	**30**	*e*PN	Pn	14 53 03.9	+1.0

*NIED **18** 14:53:00, 39.90N×143.40E, h5km, Mw4.0 Best double couple: M0 1.12000×10^15 NP1:ϕs45.00000°, δ88.00000°, λ86.00000°. NP2:ϕs281.00000°, δ4.00000°, λ146.00000°.*
*ISCJB **18** 14:53:13.4±1.9, 39.77N±0.05×143.50E±0.09, h21km±13km, mb3.5/4, Error ellipse: s-maj=11.7km s-min=7.6km az=23.4*
*JMA **18** 14:53:13.7±0.2, 39.88N×143.43E, h18km±4km, M3.6*
*IDC **18** 14:53:19.2±3.3, 39.76N×143.41E, h56km±31km, mb3.3/4, mb1 3.4/6, mb1mx3.2/25, mbtmp3.3/6, ML3.3/2, MS3.4/2, Ms1 3.4/2, ms1mx3.0/22, Error ellipse: s-maj=48.0km s-min=19.0km az=90.0*

ISC 18 14:53:16.6±2.2, 39.83N±0.05×143.42E±0.08, h34km±19km, n20, σ1s03/24, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**1.21**	**276**	P	**Pn**	**14 53 35.4**	**-1.6**
JTH				*e*S	Sn	**14 53 51.5**	**-0.7**
MIYJ	**Miyakonagasawa**	**1.26**	**259**	P	**Pn**	**14 53 36.7**	**-1.1**
MIYJ				*e*S	Sn	**14 53 52.8**	**-0.8**
JANG	**Nango**	**1.56**	**291**	P	**Pn**	**14 53 40.6**	**-1.3**
JOM	**Ohasama**	**1.68**	**259**	P	**Pn**	**14 53 43.5**	**-0.1**
JOM				*e*S	Sn	**14 54 05.2**	**+1.3**
JMK	**Ichinoseki**	**1.92**	**244**	P	**Pn**	**14 53 46.3**	**-0.5**
JTM	**Tenmabayashi**	**2.04**	**299**	P	**Pn**	**14 53 48.1**	**-0.4**
JTM				*e*S	Sn	**14 54 13.9**	**+1.1**
JOT	**Ohata**	**2.38**	**311**	P	**Pn**	**14 53 53.1**	**-0.1**
JNBK	**Urakawa-nobuka**	**2.50**	**349**	P	**Pn**	**14 53 55.4**	**+0.5**
JYK	**Kaneyama**	**2.54**	**250**	P	**Pn**	**14 53 55.9**	**+0.5**
JKB	**Kayabe**	**2.74**	**319**	P	**Pn**	**14 54 00.0**	**+1.8**
JCH	**Churui**	**2.78**	**359**	P	**Pn**	**14 53 58.0**	**-0.7**
JCH				*e*S	Sn	**14 54 29.4**	**-1.7**
JMM	**Marumori**	**2.84**	**227**	P	**Pn**	**14 53 59.1**	**-0.4**
ASAJ	**Asahikawa**	**4.33**	**352**	P	**Pn**	**14 54 21.8**	**+1.8**
	1.5nm,0.3s,baz=196,slow=7.4,SNR=10						
ASAJ				S	Sn	**14 55 14.6**	**+5.4**
	1.0nm,0.3s,baz=298,slow=17,SNR=3.0						
MJAR	**Matsushiro Arr**	**5.26**	**233**	P	**Pn**	**14 54 34.6**	**+1.9**
	0.6nm,0.3s,baz=43,slow=10,SNR=5.4						
JHJ	**Hachijo jima 2**	**7.31**	**205**	LR	LR	14 57 25.3	
	comp=Z,85nm,18.7s,baz=81,slow=34						
SONM	**Songino Array**	**27.67**	**299**	P	**P**	**14 59 02.0**	**+0.8**
	0.4nm,0.7s,mb3.2,baz=89,slow=9.9,SNR=2.9						
ZALV	**Zalesovo Beam**	**41.26**	**310**	P	**P**	**15 00 58.3**	**+0.1**
	0.8nm,0.4s,mb3.7,baz=94,slow=8.2,SNR=4.3						
WRA	**Warramunga Arr**	**60.06**	**190**	P	**P**	**15 03 19.8**	**-0.4**
	0.6nm,0.8s,mb3.7,baz=8.1,slow=6.9,SNR=5.6						
YKA	**Yellowknife Ar**	**60.60**	**31**	LR	LR	15 29 06.6	
	comp=Z,86nm,20.9s,baz=350,slow=35						
ASAR	**Alice Springs**	**63.78**	**190**	P	**P**	**15 03 45.2**	**0.0**
	0.3nm,1.0s,mb3.3,baz=7.3,slow=6.7,SNR=4.6						

*ISCJB **18** 14:59:53.2±0.6, 39.12N±0.03×40.42E±0.03, h2km±5km, Error ellipse: s-maj=4.6km s-min=3.8km az=139.5*
*DDA **18** 14:59:53.1, 39.11N×40.46E, h18km±2km, Md2.9*
*ISK **18** 14:59:53.2, 39.12N×40.40E, h6km, MD2.9*
*CSEM **18** 14:59:53.5±0.2, 39.13N×40.39E, h5km, MD2.9, Error ellipse: s-maj=5.1km s-min=3.6km az=127.0*

ISC 18 14:59:53.8±0.5, 39.12N±0.03×40.42E±0.03, h7km±5km, n25, σ0s84/43, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BINT	**Bingol**	**0.25**	**167**	*e*PG	**Pg**	**14 59 59.2**	**+0.5**
BINT				*e*SG	**Sg**	**15 00 02.7**	**+0.7**
BINT	**Bingol**	**0.25**	**167**	*e*Pg	**Pg**	**14 59 59.2**	**+0.5**
BINT				*e*Sg	**Sg**	**15 00 02.7**	**+0.7**
BNGL	**BINGOL**	**0.59**	**106**	*i* P	**Pg**	**15 00 04.0**	**-1.2**
BNGL				*i* S	**Sg**	**15 00 12.1**	**-0.8**
PTK	**Pertek**	**0.83**	**255**	*e*PG	**Pg**	**15 00 08.7**	**-1.2**
PTK				*e*SG	**Sg**	**15 00 21.3**	**+0.7**
PTK	**Pertek**	**0.83**	**255**	*e*Pg	**Pg**	**15 00 08.7**	**-1.1**
PTK				*e*Sg	**Sg**	**15 00 21.3**	**+0.7**
KOPT	**Kop Dagi**	**0.90**	**4**	*i* P	**Pg**	**15 00 11.0**	**-0.2**
KOPT				*i* S	**Sg**	**15 00 24.1**	**+1.2**
KOPT	**Kop Dagi**	**0.90**	**4**	*i* P	**Pg**	**15 00 11.0**	**-0.2**
KOPT				*i* S	**Sg**	**15 00 24.1**	**+1.2**
EZM	**Erzurum**	**1.07**	**43**	*e*PN	**Pg**	**15 00 14.1**	**-0.3**
ERZM	**Erzurum**	**1.07**	**43**	*i* P	**Pg**	**15 00 12.9**	**-1.6**
ERZM				*i* S	**Sg**	**15 00 28.8**	**+0.4**
ERZM	**Erzurum**	**1.07**	**43**	*i* P	**Pg**	**15 00 12.9**	**-1.6**
ERZM				*i* S	**Sg**	**15 00 28.8**	**+0.4**
SVRC	**Sivrice-ELAZID**	**1.14**	**230**	*e*PN	**Pg**	**15 00 15.3**	**-0.4**
SVRC	**Sivrice-ELAZID**	**1.14**	**230**	*e*Pn	**Pg**	**15 00 15.4**	**-0.3**
DIYA	**Diyarbakir**	**1.22**	**191**	*i* P	**Pg**	**15 00 17.1**	**0.0**
DIYA				*i* S	**Sg**	**15 00 33.5**	**+0.7**
DIYA	**Diyarbakir**	**1.22**	**191**	*i* P	**Pg**	**15 00 17.1**	**0.0**
DIYA				*i* S	**Sg**	**15 00 33.5**	**+0.6**
ELZG	**Elazig**	**1.28**	**242**	*i* P	**Pn**	**15 00 17.5**	**-0.7**
ELZG				*i* S	**Sg**	**15 00 35.6**	**+0.6**
ELZG	**Elazig**	**1.28**	**242**	*i* P	**Pn**	**15 00 17.5**	**-0.7**
ELZG				*i* S	**Sg**	**15 00 35.6**	**+0.6**
BAYT	**Ayd¯–ntepe-Bay**	**1.29**	**351**	*e*PN	**Pn**	**15 00 18.4**	**0.0**
BAYT	**Ayd¯–ntepe-Bay**	**1.29**	**351**	*e*Pn	**Pn**	**15 00 18.4**	**+0.1**
KEMA	**Kemaliye**	**1.50**	**276**	*i* P	**Pn**	**15 00 20.6**	**-0.7**
KEMA				*i* S	**Sn**	**15 00 40.2**	**-0.9**
KEMA	**Kemaliye**	**1.50**	**276**	*i* P	**Pn**	**15 00 20.5**	**-0.7**
KEMA				*i* S	**Sn**	**15 00 40.2**	**-0.9**
MARD	**Mardin**	**1.82**	**171**	*i* P	**Pn**	**15 00 26.6**	**+1.0**
MARD				*i* S	**Sn**	**15 00 48.0**	**-1.0**
TUTA	**Tutak**	**1.88**	**81**	*i* P	**Pn**	**15 00 28.0**	**+1.6**
TUTA				*i* S	**Sn**	**15 00 51.2**	**+0.8**
TUTA	**Tutak**	**1.88**	**81**	*i* P	**Pn**	**15 00 28.0**	**+1.6**
TUTA				*i* S	**Sn**	**15 00 51.2**	**+0.8**
SUSE	**Susehri**	**2.03**	**303**	*i* P	**Pn**	**15 00 29.2**	**+0.7**

ILAR	**Eielson Array**	**81.50**	**14**	P	**P**	**15 50 45.0**	**-0.7**
ASAR	**Alice Springs**	**83.17**	**122**	P	**P**	**15 50 55.4**	**+0.4**
	comp=N,1.8nm,0.9s,mb4.1,baz=307,slow=5.4,SNR=18						
ASAR	**Alice Springs**	**83.17**	**122**	P	**P**	**15 50 55.4**	**+0.4**

*ISCJB **18** 15:46:57.7±2.2, 17°.40S±0°.04×167°.26E±0°.07, h15km±15km, mb4.4/17, MS3.6/7, Error ellipse: s-maj=11.7km s-min=7.0km az=176.0*

*IDC **18** 15:46:57.2±0.8, 17°.29S×167°.30E, h0km, mb4.2/12, mb1 4.5/13, mb1mx4.3/21, mbtmp4.3/13, ML4.7/1, MS3.7/8, Ms1 3.7/8, ms1mx3.4/28, Error ellipse: s-maj=26.6km s-min=17.9km az=134.0*

*LDG **18** 15:46:58.2±0.3, 17°.46S×168°.55E, h10km, Error ellipse: s-maj=54.6km s-min=2.6km az=107.0*

*NOU **18** 15:47:00.1±0.4, 17°.25S×167°.74E, h30km, MD3.2, ML3.0*

*NEIC **18** 15:47:02.8±0.4, 17°.26S×167°.26E, h35km, mb4.8/5, Error ellipse: s-maj=11.9km s-min=9.8km az=172.0*

ISC 18 15:47:00.9±2.2, 17°.40S±0°.04×167°.27E±0°.07, h24km±15km, n100, σ1§20/47, mb4.4/17, MS3.6/7, 5C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**4.75**	**184**	*e*P	**Pn**	**15 48 11.3**	**+0.3**
BAYA				*e*S	**Sn**	**15 49 03.9**	**-1.4**
BAYA				AMP		15 49 07.1	
	comp=Z,13nm,1.4s						
NOUC	**Port Laguerre**	**4.77**	**191**	*e*P	**Pn**	**15 48 11.8**	**+0.5**
NOUC				*e*S	**Sn**	**15 49 05.4**	**-0.5**
NOUC				AMP		15 49 09.9	
	comp=Z,36nm,6.8s						
NORM	**Noumea**	**4.86**	**189**	*e*P	**Pn**	**15 48 13.3**	**+0.7**
PLUM	**Mont Dore**	**4.89**	**187**	*e*P	**Pn**	**15 48 13.3**	**+0.4**
PLUM				*e*S	**Sn**	**15 49 07.2**	**-1.6**
PLUM				AMP		15 49 13.6	
	comp=Z,184nm,0.8s						
MSVF	**Nonsavu**	**10.29**	**93**	P	**Pn**	**15 49 26.6**	**-0.5**
	comp=Z,42nm,1.4s						
HNR	**Honiara**	**10.64**	**317**	Pn	**Pn**	**15 49 30.8**	**-1.2**
	comp=Z,5.5nm,0.3s,baz=44,slow=2.7,SNR=7.3						
HNR				LR	LR	15 52 50.7	
	comp=Z,381nm,20.1s,baz=134,slow=33						
HNR	**Honiara**	**10.64**	**317**	Pn	**Pn**	**15 49 30.8**	**-1.2**
HNR				LR	LR	15 52 50.7	
CTA	**Charters Tower**	**20.08**	**259**	P	**P**	**15 51 35.0**	**+2.1**
	comp=Z,9.3nm,1.1s,baz=83,slow=15,SNR=5.5						
CTA				LR	LR	15 57 55.9	
	comp=Z,180nm,19.8s,MS3.4,baz=62,slow=33						
CTA	**Charters Tower**	**20.08**	**259**	*e*P	**P**	**15 51 35.4**	**+2.6**
	comp=Z,6.9nm,1.1s						
CTA	**Charters Tower**	**20.08**	**259**	P	**P**	**15 51 35.0**	**+2.1**
CTA				LR	LR	15 57 55.9	
AFI	**Afiamalu**	**20.47**	**83**	LR	LR	15 57 41.6	
	comp=Z,226nm,21.3s,MS3.5,baz=277,slow=32						
URZ	**Urewera**	**22.50**	**159**	LR	LR	15 58 57.4	
	comp=Z,188nm,19.7s,MS3.5,baz=189,slow=32						
CNB	**Canberra Magne**	**23.93**	**218**	*e*P	**P**	**15 52 15.0**	**+1.9**
	comp=Z,86nm,0.7s,mb5.3						
STKA	**Stephens Creek**	**27.34**	**233**	P	**P**	**15 52 46.0**	**+1.8**
	comp=Z,10.0nm,1.0s,mb4.3,baz=79,slow=8.8,SNR=9.7						
STKA				LR	LR	16 02 46.6	
	comp=Z,74nm,21.2s,MS3.2,baz=27,slow=35						
STKA	**Stephens Creek**	**27.34**	**233**	*e*P	**P**	**15 52 45.8**	**+1.7**
	comp=Z,8.6nm,1.1s,mb4.2						
STKA	**Stephens Creek**	**27.34**	**233**	P	**P**	**15 52 46.0**	**+1.8**
STKA				LR	LR	16 02 46.5	
WB2	**Warramunga Arr**	**31.26**	**260**	*e*P	**P**	**15 53 18.0**	**-1.1**
WRAB	**Tennant Creek**	**31.26**	**260**	*e*P	**P**	**15 53 18.1**	**-1.0**
	comp=Z,3.3nm,1.0s,mb4.1						
WRA	**Warramunga Arr**	**31.27**	**260**	P	**P**	**15 53 18.5**	**-0.7**
	comp=Z,1.4nm,0.9s,mb3.8,baz=81,slow=5.9,SNR=18						
WRA				PcP	PcP	15 56 12.0	-1.4
	comp=Z,1.1nm,1.0s,baz=84,slow=2.2,SNR=5.2						
WRA				LR	LR	16 05 07.7	
	comp=Z,105nm,20.8s,MS3.5,baz=240,slow=35						
WRA	**Warramunga Arr**	**31.27**	**260**	P	**P**	**15 53 18.5**	**-0.7**
WRA				PcP	PcP	15 56 12.0	-1.4
WRA				LR	LR	16 05 07.7	
ASAR	**Alice Springs**	**31.81**	**253**	P	**P**	**15 53 23.8**	**-0.1**
	comp=Z,2.6nm,0.6s,mb4.2,baz=80,slow=8.6,SNR=39						
ASAR				PcP	PcP	15 56 13.7	-1.1
	comp=Z,0.6nm,0.8s,baz=72,slow=3.0,SNR=4.6						
ASAR	**Alice Springs**	**31.81**	**253**	P	**P**	**15 53 23.8**	**-0.1**
ASAR				PcP	PcP	15 56 13.7	-1.1
FITZ	**Fitzroy Crossi**	**39.59**	**262**	P	**P**	**15 54 29.7**	**-1.0**
	comp=Z,3.0nm,0.9s,mb4.0,baz=102,slow=9.2,SNR=8.9						
FITZ				LR	LR	16 09 29.0	
	comp=Z,152nm,21.9s,MS3.8,baz=101,slow=34						
FITZ	**Fitzroy Crossi**	**39.59**	**262**	*e*P	**P**	**15 54 31.1**	**+0.4**
FITZ				LR	LR	16 09 29.0	
TBI	**Tubuai**	**40.88**	**106**	*e*LR	LR	16 06 02.4	
	comp=Z,274nm,30.0s						
PPT	**Papeete**	**41.10**	**97**	*e*S	**S**	**16 00 56.2**	**+1.2**
	comp=Z,50nm,27.5s						
PPT				*e*LR	LR	16 06 12.2	
	comp=Z,298nm,28.2s						
PPT	**Papeete**	**41.10**	**97**	LR	LR	16 08 11.0	
	comp=Z,197nm,19.6s,MS4.0,baz=164,slow=31						
TAOE	**Nuku Hiva Isla**	**51.77**	**88**	*e*LR	LR	16 11 13.9	
	comp=Z,331nm,30.9s						
RKT	**Rikitea**	**54.20**	**106**	*e*LR	LR	16 12 10.9	
	comp=Z,188nm,35.0s						
VNDA	**Vanda**	**60.21**	**181**	P	**P**	**15 57 07.9**	**+1.4**
	comp=Z,1.6nm,0.9s,mb4.0,baz=19,slow=6.5,SNR=5.5						
VNDA	**Vanda**	**60.21**	**181**	P	**P**	**15 57 07.9**	**+1.4**
MJAR	**Matsushiro Arr**	**60.26**	**333**	P	**P**	**15 57 06.3**	**-1.1**
	comp=Z,5.1nm,0.9s,mb4.5,baz=171,slow=8.8,SNR=7.0						
MJAR	**Matsushiro Arr**	**60.26**	**333**	P	**P**	**15 57 06.3**	**-1.1**
SBA	**Scott Base**	**60.49**	**180**	*e*P	**P**	**15 57 10.8**	**+2.4**
	comp=Z,14nm,1.5s,mb4.8						
PETK	**Petropavlovsk-**	**70.69**	**354**	P	**P**	**15 58 14.6**	**+0.1**
	comp=Z,6.9nm,0.8s,mb4.6,baz=170,slow=8.8,SNR=6.8						
PETK	**Petropavlovsk-**	**70.69**	**354**	P	**P**	**15 58 14.6**	**+0.1**
QSPA	**South Pole Qui**	**72.65**	**180**	*e*P	**P**	**15 58 28.0**	**+2.0**
	comp=Z,15nm,1.1s,mb4.8						
CMAR	**Chiang Mai Arr**	**76.04**	**295**	P	**P**	**15 58 47.9**	**+1.1**
	comp=Z,0.7nm,0.7s,mb3.7,baz=131,slow=4.9,SNR=7.4						
CMAR	**Chiang Mai Arr**	**76.04**	**295**	P	**P**	**15 58 47.9**	**+1.1**
ULN	**Ulaanbaatar**	**84.28**	**324**	*e*P	**P**	**15 59 31.2**	**+0.6**
	comp=Z,7nm,0.7s,mb4.5						
SONM	**Songino Array**	**84.63**	**324**	P	**P**	**15 59 32.6**	**+0.2**
	comp=Z,2.3nm,1.1s,mb4.2,baz=149,slow=6.1,SNR=8.9						
SONM	**Songino Array**	**84.63**	**324**	P	**P**	**15 59 32.6**	**+0.2**
BILL	**Bilibino**	**85.19**	**360**	*e*P	**P**	**15 59 34.3**	**-0.4**
	comp=Z,26nm,1.4s,mb5.2						
NVAR	**Mina Array Bea**	**89.00**	**49**	P	**P**	**15 59 54.1**	**+0.2**
	comp=Z,2.7nm,0.8s,mb4.6,baz=239,slow=7.0,SNR=20						
NVAR	**Mina Array Bea**	**89.00**	**49**	P	**P**	**15 59 54.1**	**+0.2**
ILAR	**Eielson Array**	**89.05**	**18**	P	**P**	**15 59 51.7**	**-1.8**
	comp=Z,1.5nm,0.7s,mb4.4,baz=236,slow=5.2,SNR=16						
ILAR	**Eielson Array**	**89.05**	**18**	P	**P**	**15 59 51.7**	**-1.8**
VNA3	**Neumayer Olymp**	**91.56**	**181**	*e*	**P**	**16 00 03.4**	**-1.9**
VNA2	**Neumayer--Watz**	**91.83**	**182**	*e*	**P**	**16 00 05.0**	**-1.6**
	baz=148,slow=4.2						
VNA1	**Neumayer--Stat**	**92.13**	**181**	*e*	**P**	**15 59 59.5**	**-8.5**
ARCES	**ARCESS Array B**	**122.81**	**345**	PKP	PKPdf	16 05 54.0	-0.2
	comp=Z,2.2nm,0.9s,baz=66,slow=2.3,SNR=5.6						
ARCES	**ARCESS Array B**	**122.81**	**345**	PKP	PKPdf	16 05 54.0	-0.2
KBA	**Koelnbreinsper**	**143.42**	**330**	*i*P	PKPdf	16 06 32.7	-0.7
	comp=Z,2.0nm,0.6s						
WTTA	**Wattenberg**	**144.09**	**331**	*e*PKPdf	PKPdf	16 06 33.9	-0.7
	comp=Z,6.5nm,0.9s						
MOTA	**Moosalm**	**144.27**	**332**	*i*PKPdf	PKPdf	16 06 34.4	-0.5
	comp=Z,2.7nm,0.5s						
GIVF	**Givet**	**144.45**	**340**	*e*PKP1	PKPdf	16 06 34.8	-0.3
BAIF	**Baives**	**144.68**	**341**	*e*PKP1	PKPdf	16 06 34.7	-0.8
	comp=Z,30nm,1.1s						
FETA	**Feichten**	**144.69**	**332**	*i*PKPdf	PKPdf	16 06 35.8	+0.2
	comp=Z,12nm,0.8s						
DAVA	**Damuels**	**144.86**	**333**	*i*PKPdf	PKPdf	16 06 36.4	+0.4
	comp=Z,14nm,0.8s						
CDF	**Champ du Feu**	**145.02**	**337**	*e*PKP1	PKPbc	16 06 35.9	+0.4
	comp=Z,76nm,1.0s						
ECH	**Echery**	**145.23**	**336**	*e*PKP	PKPdf	16 06 36.8	+0.3
DAVOX	**Davos/Dischmat**	**145.25**	**332**	PKPbc	PKPbc	16 06 37.8	+1.5
	comp=Z,14nm,0.7s,baz=27,slow=4.5,SNR=21						
DAVOX	**Davos/Dischmat**	**145.25**	**332**	PKPbc	PKPbc	16 06 37.8	+1.5
PAGF	**Fort de Pagny**	**145.47**	**338**	*e*PKP1	PKPbc	16 06 37.8	+0.8
	comp=Z,28nm,1.1s						
HINF	**Hinteralfeld**	**145.67**	**336**	*e*PKP1	PKPbc	16 06 37.7	+0.1
	comp=Z,20nm,0.8s						
HAU	**Haudompre**	**145.71**	**337**	*e*PKP1	PKPbc	16 06 38.1	+0.4
	comp=Z,64nm,0.9s						
TUE	**Stuetta**	**145.72**	**333**	*e*PKP	PKPdf	16 06 38.4	+1.0
MEZF	**Maizieres J'vi**	**145.75**	**339**	*e*PKP1	PKPbc	16 06 38.7	+0.9
	comp=Z,124nm,0.9s						
SFTF	**Sexfontaines**	**146.01**	**339**	*e*PKP1	PKPbc	16 06 39.3	+0.7
	comp=Z,69nm,1.0s						
CABF	**La Chapelle**	**146.96**	**336**	*e*PKP1	PKPbc	16 06 42.3	+0.8
	comp=Z,34nm,0.9s						
FLN	**La Foliniere**	**147.16**	**345**	*e*PKP1	PKPbc	16 06 42.0	0.0
	comp=Z,110nm,1.3s						
LOR	**Lormes**	**147.22**	**339**	*e*PKP1	PKPbc	16 06 42.7	+0.5
	comp=Z,25nm,1.0s						
LDF	**La Druitiere**	**147.23**	**344**	*e*PKP1	PKPbc	16 06 42.1	-0.1
	comp=Z,10nm,0.8s						
SSF	**Saint Saulge**	**147.52**	**339**	*e*PKP1	PKPbc	16 06 43.5	+0.5
	comp=Z,35nm,0.9s						
LPL	**La Plagne**	**147.59**	**334**	*e*PKP1	PKPbc	16 06 44.3	+1.0
	comp=Z,18nm,0.8s						
LPG	**La Plagne**	**147.60**	**334**	*e*PKP1	PKPbc	16 06 44.2	+0.9
	comp=Z,42nm,1.0s						
SMF	**Signal de Mont**	**147.77**	**338**	*e*PKP1	PKPbc	16 06 44.0	+0.3
	comp=Z,38nm,1.1s						
AVF	**Avril sur Loir**	**147.81**	**339**	*e*PKP1	PKPbc	16 06 44.0	+0.2
	comp=Z,42nm,1.2s						
BNI	**Bardonecchia**	**147.99**	**334**	*e*PKPbc	PKPbc	16 06 45.6	+1.2
BGF	**Bois d'Agland**	**148.18**	**339**	*e*PKP1	PKPbc	16 06 45.2	+0.4
	comp=Z,27nm,0.9s						
MBDF	**Montbardon**	**148.21**	**333**	*e*PKP1	PKPbc	16 06 45.2	+0.2
	comp=Z,21nm,1.0s						
ORIF	**Orisn-Rattie**	**148.43**	**334**	*e*PKP1	PKPbc	16 06 46.1	+0.6
	comp=Z,24nm,0.8s						
SBF	**Sospel**	**148.59**	**331**	*e*PKP1	PKPbc	16 06 45.8	-0.2
	comp=Z,98nm,1.2s						
TCF	**Toulx Ste Croi**	**148.63**	**340**	*e*PKP1	PKPbc	16 06 46.4	+0.4
	comp=Z,30nm,1.0s						
PGF	**Pioggiola**	**148.83**	**328**	*e*PKP1	PKPbc	16 06 46.9	+0.3
	comp=Z,51nm,0.9s						
VIVF	**Saint-Julien-l**	**148.97**	**336**	*e*PKP1	PKPbc	16 06 47.4	+0.5
	comp=Z,17nm,0.9s						
MFF	**Saint Martin d**	**149.06**	**343**	*e*PKP1	PKPbc	16 06 47.2	+0.1
	comp=Z,52nm,1.2s						
FRF	**La Foret Royal**	**149.19**	**332**	*e*PKP1	PKPbc	16 06 47.6	+0.1
	comp=Z,116nm,1.5s						
SMRF	**Simiane la Rot**	**149.32**	**334**	*e*PKP1	PKPbc	16 06 48.6	+0.8
	comp=Z,38nm,1.0s						
LMR	**La Mourre**	**149.43**	**332**	*e*PKP1	PKPbc	16 06 48.2	+0.1
	comp=Z,33nm,1.0s						
RJF	**Les Rejaudoux**	**149.73**	**340**	*e*PKP1	PKPbc	16 06 49.0	+0.2
	comp=Z,86nm,1.6s						
CAF	**Calviac**	**149.88**	**339**	*e*PKP1	PKPbc	16 06 49.7	+0.5
LASF	**Ste Croix**	**149.94**	**336**	*e*PKP1	PKPbc	16 06 50.0	+0.7
	comp=Z,69nm,1.0s						
LFF	**La Frestale**	**150.30**	**340**	*e*PKP1	PKPbc	16 06 50.6	+0.4
	comp=Z,67nm,1.2s						
MTLF	**Montolieu**	**151.19**	**337**	*e*PKP1	PKPbc	16 06 52.8	+0.5
	comp=Z,21nm,1.1s						
SJPF	**Ste Jean**	**152.56**	**342**	*e*PKP1	PKPbc	16 06 55.5	0.0
	comp=Z,29nm,1.0s						
ESDC	**Sonseca Array**	**156.53**	**343**	PKPab	PKPab	16 07 23.6	+0.8
	comp=Z,0.2nm,0.3s,baz=11,slow=3.7,SNR=4.3						
ESDC	**Sonseca Array**	**156.53**	**343**	PKPab	PKPab	16 07 23.6	+0.8
TORD	**Torodi Ar. Bea**	**165.46**	**255**	PKP	PKPdf	16 07 04.1	-0.3
	comp=Z,1.3nm,0.9s,baz=51,slow=1.0,SNR=7.2						
TORD	**Torodi Ar. Bea**	**165.46**	**255**	PKP	PKPdf	16 07 04.1	-0.3

*ISCJB **18** 16:10:16.8±0.6, 40°.39N±0°.03×26°.00E±0°.06, h14km±4km, Error ellipse: s-maj=8.5km s-min=4.3km az=24.0*

*CSEM **18** 16:10:16.9±0.1, 40°.39N×25°.97E, h15km, MD2.6, Error ellipse: s-maj=3.2km s-min=1.8km az=109.0*

*ISK **18** 16:10:16.4, 40°.39N×25°.97E, h15km, MD2.6*

*DDA **18** 16:10:22.3, 39°.91N×26°.43E, h7km±15km, Md2.6*

ISC 18 16:10:17.1±0.6, 40°.39N±0°.03×25°.99E±0°.07, h12km±4km, n30, σ0§61/39, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GADA	**Gvkgeada**	**0.21**	**199**	*e*PG	**Pg**	**16 10 21.5**	**0.0**
GADA				*e*SG	**Sg**	**16 10 25.2**	**+0.7**
GADA	**Gvkgeada**	**0.21**	**199**	*e*Pg	**Pg**	**16 10 21.5**	**0.0**
GADA				*e*Sg	**Sg**	**16 10 25.2**	**+0.6**
ENEZ	**Enez**	**0.37**	**20**	*e*PG	**Pg**	**16 10 24.3**	**-0.1**
ENEZ				*e*SG	**Sg**	**16 10 30.2**	**+0.8**
ENEZ	**Enez**	**0.37**	**20**	*e*Pg	**Pg**	**16 10 24.3**	**-0.1**
ENEZ				*e*Sg	**Sg**	**16 10 30.2**	**+0.8**
GELI	**Tayfur-Gelibol**	**0.37**	**89**	*e*PG	**Pg**	**16 10 24.4**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.37**	**89**	*e*Pg	**Pg**	**16 10 24.4**	**-0.1**
ERIK	**Erikli-Kesan**	**0.49**	**55**	*e*PG	**Pg**	**16 10 24.8**	**+0.1**
ERIK				*e*SG	**Sg**	**16 10 33.4**	**+0.2**
ERIK	**Erikli-Kesan**	**0.49**	**55**	*e*Pg	**Pg**	**16 10 26.8**	**+0.1**
ERIK				*e*Sg	**Sg**	**16 10 33.4**	**+0.2**
ALN	**Alexandroupoli**	**0.51**	**5**	*e*P	**Pg**	**16 10 26.5**	**-0.5**
BOZC	**Bozcaada**	**0.55**	**175**	*i*P	**Pg**	**16 10 26.7**	**-1.1**
BOZC				*i*S	**Sg**	**16 10 34.5**	**-0.6**
EZN	**Ezine**	**0.62**	**155**	*e*PG	**Pg**	**16 10 29.2**	**+0.1**
EZN	**Ezine**	**0.62**	**155**	*e*Pg	**Pg**	**16 10 29.2**	**+0.1**
LIA	**Limnos Island**	**0.79**	**232**	*e*P	**Pg**	**16 10 32.0**	**-0.3**
RKY	**Sarkoy-Tekirda**	**0.96**	**71**	*e*PG	**Pg**	**16 10 35.9**	**+0.4**
RKY	**Sarkoy-Tekirda**	**0.96**	**71**	*e*Pg	**Pg**	**16 10 35.9**	**+0.4**
KRBG	**Karabiga-Canak**	**1.00**	**89**	*e*PG	**Pg**	**16 10 36.9**	**+0.6**
KRBG	**Karabiga-Canak**	**1.00**	**89**	*e*Pg	**Pg**	**16 10 36.9**	**+0.5**
MFT	**Murefte**	**1.06**	**68**	*e*PG	**Pg**	**16 10 37.3**	**-0.3**
MFT	**Murefte**	**1.06**	**68**	*e*Pg	**Pg**	**16 10 37.3**	**-0.2**
PRK	**Paraskevi**	**1.16**	**169**	*e*P	**Sb**	**16 10 54.5**	**+0.4**
GONE	**Gonen-Balikesi**	**1.35**	**104**	*e*PN	**Pn**	**16 10 41.5**	**-0.2**
GONE	**Gonen-Balikesi**	**1.35**	**104**	*e*Pn	**Pn**	**16 10 41.5**	**-0.2**
BALY	**Balya**	**1.41**	**117**	*i*P	**Pn**	**16 10 42.3**	**-0.2**
BALY	**Balya**	**1.41**	**117**	*i*P	**Pn**	**16 10 42.3**	**-0.3**
EDRB	**Edirne**	**1.56**	**21**	*e*PN	**Pn**	**16 10 44.4**	**-0.3**
EDRB	**Edirne**	**1.56**	**21**	*e*Pn	**Pn**	**16 10 44.4**	**-0.3**
CHOS	**Chios island**	**2.00**	**178**	*e*P	**Sn**	**16 11 18.0**	**+2.4**
DURS	**Dursunbey**	**2.07**	**112**	*i*P	**Pn**	**16 10 51.1**	**-0.4**
DURS				*i*S	**Sn**	**16 11 16.8**	**-0.5**
DURS	**Dursunbey**	**2.07**	**112**	*i*P	**Pn**	**16 10 51.1**	**-0.5**
DURS				*i*S	**Sn**	**16 11 16.8**	**-0.5**
SMG	**Samos**	**2.76**	**166**	*e*P	**Sn**	**16 11 34.0**	**-0.3**

*IDC **18** 16:13:03.9±1.7, 6°.87S×122°.35E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.4/20, mbtmp3.5/5, Error ellipse: s-maj=156.8km s-min=24.1km az=60.0*

*ISCJB **18** 16:13:06.3±0.8, 7°.26S±0°.06×121°.99E±0°.10, h39km±12km, mb3.6/3, Error ellipse: s-maj=16.9km s-min=8.8km az=156.7*

*DJA **18** 16:13:06, 7°.27S×121°.98E, h30km, MLv3.4/6*

ISC 18 16:13:06.6±3.1, 7°.27S±0°.07×122°.00E±0°.10, h26km±28km, n11, σ0§79/12, mb3.6/3, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**1.38**	**170**	P	**Pn**	**16 13 29.2**	**-1.0**
BBSI	**Bau Bau**	**1.86**	**18**	P	**Pn**	**16 13 35.7**	**-1.1**
BKSI	**Bulukumba**	**2.68**	**316**	P	**Pn**	**16 13 47.9**	**-0.2**
BKSI				S	**Sn**	**16 14 19.7**	**-0.1**
WSI	**Waingapu**	**2.92**	**215**	P	**Pn**	**16 13 51.2**	**-0.2**
KDI	**Kendari**	**3.34**	**11**	P	**Pn**	**16 13 57.5**	**+0.3**
SPSI	**Sidrap Palu**	**3.96**	**326**	P	**Pn**	**16 14 07.0**	**+1.3**
WRA	**Warramunga Arr**	**17.38**	**138**	P	**Pn**	**16 17 07.5**	**+0.1**
	baz=316,slow=12,SNR=3.5						
ASAR	**Alice Springs**	**19.92**	**146**	P	**Pn**	**16 17 39.6**	**+1.4**
	1.5nm,0.7s,baz=328,slow=13,SNR=11						
SONM	**Songino Array**	**56.57**	**347**	P	**P**	**16 22 47.4**	**+0.5**
	0.4nm,1.0s,mb3.4,baz=168,slow=8.8,SNR=2.2						
MKAR	**Makanchi Array**	**64.33**	**331**	P	**P**	**16 23 40.1**	**+0.2**
	0.3nm,0.6s,mb3.5,baz=138,slow=7.6,SNR=3.8						
ZALV	**Zalesovo Beam**	**68.54**	**337**	P	**P**	**16 24 05.5**	**-1.2**
	0.9nm,0.6s,mb3.9,baz=122,slow=4.4,SNR=4.4						

*ISCJB **18** 16:22:42.6±1.6, 3°.81S±0°.05×80°.9W±0°.1, h76km±14km, mb4.1/14, Error ellipse: s-maj=18.6km s-min=7.8km az=175.0*

*IDC **18** 16:22:43.9±2.7, 3°.75S×80°.90W, h66km±26km, mb3.7/10, mb1 4.0/12, mb1mx3.9/20, mbtmp3.8/12, ML4.4/2, MS4.3/19, Ms1 4.4/19, ms1mx4.1/41, Error ellipse: s-maj=34.6km s-min=14.9km az=50.0*

*NEIC **18** 16:22:44.9±1.2, 3°.84S×80°.89W, h79km±11km, mb4.6/4, Error ellipse: s-maj=13.8km s-min=7.8km az=76.0*

NEIC Felt [II] at Mancora, Peru.

ISC 18 16:22:45.2±1.4, 3°.82S±0°.05×80°.9W±0°.1, h83km±13km, n65, σ1§19/43, mb4.1/14, Peru-Ecuador border region

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

ATAH	**Atahualpa**	**4.12**	**143**	P	**Pn**	**16 23 44.1**	**-1.8**
	10nm,0.3s,baz=333,slow=15,SNR=29						
ATAH				S	**Sn**	**16 24 35.9**	**+2.9**
	34nm,0.3s,baz=150,slow=20,SNR=3.8						
ATAH				LR	LR	16 25 29.8	
	comp=Z,5μm,19.6s,baz=53,slow=40						
ATAH	**Atahualpa**	**4.12**	**143**	P	**Pn**	**16 23 44.1**	**-1.8**
ATAH				S	**Sn**	**16 24 35.9**	**+2.9**
ATAH				LR	LR	16 25 29.8	
OTAV	**Otavalo**	**4.71**	**31**	*e*Pn	**Pn**	**16 23 49.6**	**-4.2**
OTAV				*e*Sn	**Sn**	**16 24 46.3**	**-0.8**
NNA	**Nana**	**9.05**	**154**	P	**Pn**	**16 24 55.3**	**+2.2**
	2.6nm,0.3s,baz=321,slow=16,SNR=3.4						
NNA				S	**Sn**	**16 26 41.4**	**+8.0**
	2.2nm,0.3s,baz=135,slow=20,SNR=2.5						
NNA	**Nana**	**9.05**	**154**	P	**Pn**	**16 24 54.4**	**+1.3**
	18nm,0.6s						
NNA				S	**Sn**	**16 26 41.4**	**+8.0**
SDV	**Santo Domingo**	**16.24**	**39**	*e*P	**Pn**	**16 26 28.6**	**+0.2**
	61nm,1.3s						
LPAZ	**La Paz**	**17.63**	**136**	P	**Pn**	**16 26 44.6**	**-0.8**
	0.9nm,0.3s,baz=330,slow=8.1,SNR=19						
LPAZ				LR	LR	16 35 00.3	
	comp=Z,2μm,19.1s,baz=270,slow=42						
LPAZ	**La Paz**	**17.63**	**136**	P	**Pn**	**16 26 44.6**	**-0.8**
LPAZ				LR	LR	16 35 00.3	
CMIG	**Matias Romero**	**24.95**	**327**	LR	LR	16 35 51.9	
	comp=Z,380nm,21.1s,baz=18,slow=32						
TEIG	**Tepich**	**24.97**	**343**	LR	LR	16 36 31.6	
	comp=Z,653nm,21.9s,baz=154,slow=33						
SJG	**San Juan**	**26.19**	**33**	P	**P**	**16 28 12.2**	**0.0**
	17nm,0.2s,mb5.0,baz=190,slow=3.5,SNR=4.3						
SJG	**San Juan**	**26.19**	**33**	P	**P**	**16 28 12.2**	**0.0**
CBYP	**Canovanas**	**26.48**	**34**	*e*P	**P**	**16 28 16.1**	**+1.3**
	46nm,1.1s,mb4.8						
LCO	**Las Campanas**	**26.86**	**160**	P	**P**	**16 28 18.2**	**0.0**
CPUP	**Villa Florida**	**31.79**	**137**	P	**P**	**16 29 01.6**	**-0.3**
	2.9nm,0.8s,mb4.0,baz=318,slow=8.9,SNR=6.1						
CPUP				LR	LR	16 43 52.9	
	comp=Z,897nm,20.3s,baz=303,slow=40						
CPUP	**Villa Florida**	**31.79**	**137**	P	**P**	**16 29 01.6**	**-0.3**
CPUP				LR	LR	16 43 52.9	
TRQA	**Tornquist**	**38.21**	**156**	P	**P**	**16 29 55.4**	**-1.5**
	5.7nm,1.1s,mb4.3						
TXAR	**Lajitas Array**	**39.55**	**328**	P	**P**	**16 30 08.4**	**+0.1**
	0.6nm,0.9s,mb3.4,baz=148,slow=11,SNR=3.5						
TXAR				PcP	PcP	16 32 14.5	+0.2
	0.7nm,0.9s,baz=130,slow=2.8,SNR=3.9						
TXAR				LR	LR	16 45 10.0	
	comp=Z,168nm,18.1s,baz=300,slow=34						
TXAR	**Lajitas Array**	**39.55**	**328**	P	**P**	**16 30 08.4**	**+0.1**
TXAR				PcP	PcP	16 32 14.5	+0.2
TXAR				LR	LR	16 45 10.0	
RCBR	**Riachuelo**	**44.86**	**94**	*e*P	**P**	**16 30 51.7**	**0.0**
ANMO	**

	SNR=11							
TKM2	**Tokmak 2**	**4.43**	**354**	P		**Pb**	**17 02 00.1**	**-0.4**
	SNR=5.2							
TKM2	**Tokmak 2**	**4.43**	**354**	⇑Pn		**Pn**	**17 01 55.9**	**+6.7**
	12nm,0.6s							
TKM2				⇑Sn		**Sb**	**17 02 56.0**	**+2.5**
	19nm,0.6s							
TKM2	**Tokmak 2**	**4.43**	**354**	*e*P		**Pn**	**17 01 50.1**	**+0.9**
EKS2	**Erkin-Say**	**4.55**	**336**	*e*P		**Pn**	**17 01 54.0**	**+3.2**
	7.9nm,0.8s							
KK31	**Karatay Array**	**6.33**	**318**	⇑Pn		**Pn**	**17 02 14.3**	**-0.8**
	1.1nm,0.5s,baz=140,slow=14,SNR=16							
KK31				⇑Sn		**Sn**	**17 03 24.6**	**-2.0**
	1.6nm,0.3s,baz=134,slow=24,SNR=7.8							
KK31				⇓Lg			17 03 54.5	
	2.9nm,0.6s,baz=136,slow=13,SNR=5.3							
KKAR	**Karatay Array**	**6.33**	**318**	*e*Pn		**Pn**	**17 02 14.5**	**-0.7**
	1.6nm,0.3s							
KKAR				*e*Sn		**Sn**	**17 03 27.6**	**+1.0**
KBL	**Kabul**	**7.03**	**238**	*e*Pn		**Pn**	**17 02 26.4**	**+1.5**
KBL				*e*Sn		**Sn**	**17 03 44.0**	**-0.1**
MKAR	**Makanchi Array**	**9.39**	**26**	Pn		**Pn**	**17 02 52.8**	**-4.4**
	0.0nm,0.3s,baz=213,slow=12,SNR=2.4							
MKAR	**Makanchi Array**	**9.39**	**26**	Pn		**Pn**	**17 02 52.8**	**-4.4**
KURK	**Kurchatov**	**12.31**	**7**	Pn		**Pn**	**17 03 30.4**	**-6.8**
	0.0nm,0.3s,baz=193,slow=12,SNR=4.9							
KURK				Lg			17 07 02.5	
	0.0nm,0.3s,baz=185,slow=29,SNR=2.4							
KURK	**Kurchatov**	**12.31**	**7**	Pn		**Pn**	**17 03 30.4**	**-6.8**
KURK				Lg			17 07 02.5	
ZALV	**Zalesovo Beam**	**16.51**	**18**	Pn		**Pn**	**17 04 28.7**	**-4.6**
	0.1nm,0.3s,baz=199,slow=12,SNR=2.6							
ZALV	**Zalesovo Beam**	**16.51**	**18**	Pn		**Pn**	**17 04 28.7**	**-4.6**
SONM	**Songino Array**	**23.74**	**57**	P		**P**	**17 05 53.0**	**-0.8**
	0.3nm,0.5s,baz=263,slow=10.0,SNR=3.4							
SONM	**Songino Array**	**23.74**	**57**	P		**P**	**17 05 53.0**	**-0.8**

IDC ***18*** *17:05:06.5±3.7, 18°.99S×169°.59E, h0km, mb3.9/6, mb1 4.2/6, mb1mx3.9/15, mbtmp3.9/6, Error ellipse: s-maj=112.5km s-min=31.8km az=141.0*
ISCJB ***18*** *17:05:10.7±1.1, 18°.9S±0°.1×169°.4E±0°.2, h33km, mb4.0/7, Error ellipse: s-maj=32.0km s-min=17.2km az=24.2*
NEIC ***18*** *17:05:12.8±1.0, 18°.88S×169°.40E, h35km, mb4.6/1, Error ellipse: s-maj=27.6km s-min=15.2km az=114.0*

ISC 18 17:05:12.9±1.1, 18°.9S±0°.1×169°.4E±0°.2, h35km, n14, σ0§64/14, mb4.0/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.21**	**221**	*e*Pn			**Pn**	**17 06 14.4**	**-0.3**
WRA	**Warramunga Arr**	**33.05**	**262**	P			**P**	**17 11 44.6**	**-0.7**
	0.7nm,0.7s,mb3.7,baz=97,slow=7.9,SNR=7.5								
WRA	**Warramunga Arr**	**33.05**	**262**	P			**P**	**17 11 44.6**	**-0.7**
ASAR	**Alice Springs**	**33.37**	**255**	P			**P**	**17 11 48.4**	**+0.3**
	1.5nm,0.6s,mb4.1,baz=84,slow=9.0,SNR=30								
ASAR	**Alice Springs**	**33.37**	**255**	P			**P**	**17 11 48.4**	**+0.3**
SBA	**Scott Base**	**59.02**	**181**	*e*P			**P**	**17 15 09.1**	**+0.3**
	5.7nm,1.1s,mb4.5								
MJAR	**Matsushiro Arr**	**62.51**	**332**	P			**P**	**17 15 33.1**	**+0.2**
	3.6nm,0.9s,mb4.5,baz=173,slow=7.3,SNR=4.4								
MJAR	**Matsushiro Arr**	**62.51**	**332**	P			**P**	**17 15 33.1**	**+0.2**
CMAR	**Chiang Mai Arr**	**78.50**	**294**	P			**P**	**17 17 12.3**	**+1.4**
	0.3nm,0.8s,mb3.2,baz=118,slow=3.3,SNR=4.9								
CMAR	**Chiang Mai Arr**	**78.50**	**294**	P			**P**	**17 17 12.3**	**+1.4**
SONM	**Songino Array**	**87.03**	**323**	P			**P**	**17 17 54.0**	**-0.6**
	1.1nm,0.9s,mb4.1,baz=150,slow=5.8,SNR=5.2								
SONM	**Songino Array**	**87.03**	**323**	P			**P**	**17 17 54.0**	**-0.6**
ILAR	**Eielson Array**	**89.85**	**17**	P			**P**	**17 18 07.0**	**-0.5**
	0.8nm,1.1s,mb4.0,baz=226,slow=3.6,SNR=3.6								
ILAR	**Eielson Array**	**89.85**	**17**	P			**P**	**17 18 07.0**	**-0.5**

MEX 18 17:18:57.6±1.6, 17°.64N×99°.67W, h5km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.28**	**9**	*e*P			Pg	17 19 01.6	-1.5
MEIG				*i* S			Sg	17 19 07.1	+0.2
PLIG	**Platanillo**	**0.76**	**12**	*i* P			Pg	17 19 10.8	-1.5
PLIG				*i* S			Sg	17 19 22.2	+0.1
ACX	**Acapulco**	**0.79**	**193**	*i* P			Pg	17 19 10.6	-2.2
ACX				*i* S			Sg	17 19 21.7	-1.4
CAIG	**El Cayaco**	**0.82**	**224**	*e*P			Pg	17 19 12.2	-1.3
CAIG				*i* S			Sg	17 19 24.1	-0.1
ZIIG	**Zihuatanejo**	**1.72**	**269**	*e*P			Pn	17 19 25.7	-2.4
ZIIG				*i* S			Sn	17 19 45.5	-4.9
PPM	**Popocatepetl**	**1.73**	**35**	*e*P			Pn	17 19 25.9	-2.4
PPM				*i* S			Sn	17 19 48.1	-2.6
UTMO	**Huajuapan**	**1.79**	**84**	*i* P			Pn	17 19 26.9	-2.2
UTMO				*i* S			Sn	17 19 48.9	-3.2
PNIG	**Pinotepa**	**1.93**	**130**	*e*P			Pn	17 19 26.9	-4.1
PNIG				*i* S			Sn	17 19 51.8	-3.9
VHO	**Vista Hermosa**	**2.86**	**101**	*i* S			Sn	17 20 20.8	+2.2

ISCJB ***18*** *17:22:35.2±0.6, 23°.87N±0°.03×122°.56E±0°.02, h29km±4km, Error ellipse: s-maj=4.7km s-min=3.0km az=160.3*
JMA ***18*** *17:22:35.8±0.2, 23°.93N×122°.56E, h34km*
TAP ***18*** *17:22:36.7, 23°.90N×122°.48E, h54km±1km, ML3.0, D*

ISC 18 17:22:35.4±0.6, 23°.88N±0°.03×122°.56E±0°.02, h26km±5km, n37, σ0§98/69, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.71**	**35**	P			**Pb**	**17 22 48.7**	**-0.4**
YOJ				*e*S			**Sb**	**17 22 57.9**	**-0.6**
HWA	**Hwalien**	**0.88**	**276**	*e*P			**Pb**	**17 22 52.5**	**+0.5**
	baz=268								
HWA				S			**Sb**	**17 23 02.5**	**-0.8**
	baz=268								
TWD	**Chiawan**	**0.90**	**283**	*i* P			**Pb**	**17 22 52.2**	**-0.2**
	baz=282								
TWD				*e*S			**Sb**	**17 23 03.4**	**-0.6**
	baz=282								
ENA	**Nanau**	**0.93**	**306**	*e*P			**Pn**	**17 22 52.6**	**-0.1**
	baz=314								
ENA				*i* S			**Sb**	**17 23 04.8**	**+0.1**
	baz=314								
TWC	**Suao**	**0.97**	**318**	*e*P			**Pn**	**17 22 52.8**	**-0.6**
	baz=321								
TWC				*e*S			**Sb**	**17 23 05.2**	**-0.8**
	baz=321								
ESL	**Shilin**	**1.03**	**267**	P			**Pn**	**17 22 53.7**	**-0.5**
	baz=258								
ESL				*e*S			**Sb**	**17 23 06.7**	**-1.0**
	baz=258								
HATJ	**Hateruma jima**	**1.15**	**81**	P			**Pn**	**17 22 55.8**	**0.0**
HATJ				*e*S			**Sn**	**17 23 10.3**	**-0.5**
IRIF	**Iriomote-Funau**	**1.16**	**67**	P			**Pn**	**17 22 55.7**	**-0.3**
IRIF				*e*S			**Sn**	**17 23 10.9**	**-0.1**
TWE	**Neicheng**	**1.17**	**316**	P			**Pn**	**17 22 56.0**	**0.0**
	baz=318								
TWE				*e*S			**Sn**	**17 23 10.6**	**-0.6**
	baz=318								
ENTT	**Nioudou**	**1.18**	**310**	P			**Pn**	**17 22 56.3**	**+0.1**
	baz=311								
ENTT				S			**Sn**	**17 23 11.2**	**-0.3**
	baz=311								
EHY	**Hungye**	**1.19**	**252**	P			**Pn**	**17 22 56.8**	**+0.4**
	baz=261								
EHY				S			**Sn**	**17 23 11.1**	**-0.7**
	baz=261								
WHF	**Hehuan Shan**	**1.21**	**283**	P			**Pn**	**17 22 57.0**	**+0.4**
	baz=281								
WHF				S			**Sn**	**17 23 11.6**	**-0.7**
	baz=281								
NNS	**Nan Shan**	**1.22**	**297**	*e*P			**Pn**	**17 22 56.9**	**+0.2**
	baz=297								
NNS				*e*S			**Sn**	**17 23 11.7**	**-0.7**
	baz=297								
TWF1	**Yuli**	**1.27**	**246**	*e*P			**Pn**	**17 22 57.8**	**+0.3**
	baz=242								
TWF1				*e*S			**Sn**	**17 23 12.6**	**-1.1**
	baz=242								
TWT	**Tachien**	**1.32**	**287**	*e*P			**Pn**	**17 22 59.2**	**+1.1**
	baz=285								
TWT				*e*S			**Sn**	**17 23 14.6**	**-0.3**
	baz=285								
CHKT	**Chengkung**	**1.34**	**235**	*e*P			**Pn**	**17 22 57.7**	**-0.8**
	baz=224								
CHKT				*e*S			**Sn**	**17 23 13.3**	**-2.1**
	baz=224								
NSK	**Sanguang**	**1.35**	**306**	P			**Pn**	**17 22 58.6**	**+0.1**
	baz=306								
NSK				*e*S			**Sn**	**17 23 14.6**	**-1.1**
	baz=306								
JKRS	**Kuro-shima**	**1.37**	**75**	P			**Pn**	**17 22 59.4**	**+0.5**
TWA	**Mucha**	**1.41**	**321**	*e*P			**Pn**	**17 22 59.3**	**-0.1**
	baz=335								
TWA				*e*S			**Sn**	**17 23 17.3**	**+0.2**
	baz=335								
SMLT	**Sun Moon Lake**	**1.52**	**270**	*e*P			**Pn**	**17 23 01.5**	**+0.7**
	baz=261								
YUS	**Yu-Shan**	**1.52**	**256**	*e*P			**Pn**	**17 23 02.1**	**+1.2**
	baz=252								
YUS				*e*S			**Sn**	**17 23 19.0**	**-0.9**
	baz=252								
JIJ	**Ishigaki jima**	**1.52**	**71**	*e*S			**Sn**	**17 23 18.6**	**-1.4**
TYC	**Yuchr**	**1.56**	**271**	*e*P			**Pn**	**17 23 02.4**	**+0.9**
	baz=269								
TYC				*e*S			**Sn**	**17 23 20.6**	**-0.1**
	baz=269								
ELDTW	**Lidau**	**1.57**	**244**	*e*P			**Pn**	**17 23 01.9**	**+0.3**
	baz=241								
ELDTW				*e*S			**Sn**	**17 23 19.6**	**-1.6**
	baz=241								
TWS1	**Kuangyinshan**	**1.60**	**320**	*e*P			**Pn**	**17 23 02.4**	**+0.4**
	baz=333								
NSTT	**Nanjuang**	**1.61**	**298**	*e*P			**Pn**	**17 23 01.3**	**-0.8**
	baz=298								
NSTT				*e*S			**Sn**	**17 23 22.6**	**+0.6**
	baz=298								
ALS	**Alishan**	**1.65**	**257**	*e*P			**Pn**	**17 23 03.9**	**+1.2**
	baz=255								
ALS				*e*S			**Sn**	**17 23 21.9**	**-1.1**
	baz=255								
TWQ1	**Liyutan**	**1.70**	**286**	*e*P			**Pn**	**17 23 05.2**	**+1.8**
	baz=285								
TWQ1				*e*S			**Sn**	**17 23 26.3**	**+2.1**
	baz=285								
TWG	**Pinlang**	**1.73**	**233**	*e*P			**Pn**	**17 23 03.9**	**+0.1**
	baz=239								
TWG				*e*S			**Sn**	**17 23 23.8**	**-1.1**
	baz=239								
CHN5	**Tsauling**	**1.75**	**261**	*e*P			**Pn**	**17 23 04.4**	**+0.4**
	baz=253								
CHN5				*e*S			**Sn**	**17 23 27.0**	**+1.5**
	baz=253								
STYT	**Tauyuan**	**1.80**	**247**	*e*P			**Pn**	**17 23 06.5**	**+1.7**
	baz=239								
STYT				*e*S			**Sn**	**17 23 26.6**	**-0.2**
	baz=239								
CHN4	**Tsaushan**	**1.88**	**254**	*e*P			**Pn**	**17 23 09.2**	**+3.4**
	baz=251								
CHN4				*e*S			**Sn**	**17 23 30.3**	**+1.6**
	baz=251								
WTP	**Ta-pu**	**1.89**	**251**	*e*P			**Pn**	**17 23 08.0**	**+2.0**
	baz=240								
ECL	**Taimali**	**1.95**	**229**	*e*P			**Pn**	**17 23 06.7**	**-0.1**
	baz=234								
ECL				*e*S			**Sn**	**17 23 28.4**	**-2.1**
	baz=234								
CHN1	**Nanshi**	**1.99**	**250**	*e*P			**Pn**	**17 23 09.2**	**+1.9**
	baz=255								
CHN1				*e*S			**Sn**	**17 23 33.6**	**+2.2**
	baz=255								
SSD	**Sandimen**	**2.10**	**238**	*e*P			**Pn**	**17 23 10.7**	**+1.8**
	baz=233								
SSD				*e*S			**Sn**	**17 23 33.5**	**-0.7**
	baz=233								
EAST	**Anshuo**	**2.17**	**227**	*e*P			**Pn**	**17 23 10.3**	**+0.5**
	baz=230								
EAST				*e*S			**Sn**	**17 23 34.3**	**-1.5**
	baz=230								

IDC 18 17:47:47.1±4.0, 3°.61S×139°.38E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.4/15, mbtmp3.4/4, ML3.6/2, Error ellipse: s-maj=133.5km s-min=28.5km az=92.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.96**	**196**	Pn			Pn	17 51 46.0	+0.1
	0.3nm,0.3s,baz=20,slow=12,SNR=12								
WRA				Sn			Sn	17 54 44.6	-11
	0.1nm,0.3s,baz=17,slow=23,SNR=3.3								
FITZ	**Fitzroy Crossi**	**19.71**	**222**	P			Pn	17 52 18.1	-1.6
	0.1nm,0.3s,baz=48,slow=10,SNR=6.1								
ASAR	**Alice Springs**	**20.63**	**194**	P			P	17 52 28.5	+0.3
	0.9nm,0.7s,baz=25,slow=9.6,SNR=16								
MKAR	**Makanchi Array**	**70.91**	**322**	P			P	17 59 06.3	+0.1
	0.3nm,0.8s,baz=119,slow=5.1,SNR=2.8								

IDC ***18*** *17:54:58.0±0.6, 4°.15N×126°.81E, h0km, mb4.4/17, mb1 4.5/17, mb1mx4.4/23, mbtmp4.4/17, MS3.9/21, Ms1 3.9/21, ms1mx3.7/45, Error ellipse: s-maj=31.5km s-min=11.9km az=76.0*
MOS ***18*** *17:55:01.5±1.3, 4°.15N×126°.92E, h33km, mb4.8/20, Error ellipse: s-maj=18.4km s-min=7.1km az=117.1*
DJA ***18*** *17:55:02, 4°.10N×126°.94E, h10km, mb4.9/11*
ISCJB ***18*** *17:55:04.0±0.5, 4°.07N±0°.03×126°.75E±0°.06, h53km±5km, mb4.6/71, MS4.0/24, Error ellipse: s-maj=10.0km s-min=4.2km az=158.9*
NEIC ***18*** *17:55:04.3±1.5, 4°.14N×126°.74E, h43km±14km, mb4.6/32, Error ellipse: s-maj=13.2km s-min=5.7km az=71.0*
BJI ***18*** *17:55:05.0, 4°.18N×126°.50E, h39km, mB5.0/19, mb4.6/29, Ms4.6/19, Ms7 4.3/18*

ISC 18 17:55:05.8±0.5, 4°.08N±0°.03×126°.74E±0°.06, h52km±4km, h42km±4.1km:pP-P, n173, σ1§18/167, mb4.6/71, MS4.0/24, 1C-5D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.27**	**252**	P			**Pn**	**17 55 25.9**	**-1.3**
MATI	**Mati**	**2.89**	**351**	*e*P			**Pn**	**17 55 49.8**	**+0.4**
DAV	**Davao City (W)**	**3.19**	**339**	Pn			**Pn**	**17 55 53.3**	**-0.2**
	36nm,0.3s,baz=209,slow=13,SNR=2.0								
DAV				LR			LR	17 56 31.3	
	comp=Z,582nm,20.0s,baz=110,slow=30								
DAV				Sn			**Sn**	**17 56 41.8**	**+12**
	28nm,0.3s,baz=261,slow=23,SNR=5.0								
DAV	**Davao City (W)**	**3.19**	**339**	*e*Pn			**Pn**	**17 55 52.5**	**-1.0**
DAV				*e*Pg			**Pn**	**17 55 58.0**	**+4.6**
KCP	**Kidapawan**	**3.34**	**331**	⇓*i* P			**Pn**	**17 55 56.9**	**+1.3**
KCP				*i* S			**Sn**	**17 56 53.1**	**+19**
TNTI	**Ternate**	**3.34**	**169**	P			**Pn**	**17 55 55.5**	**-0.2**
CTBH	**Cotabato--PC H**	**3.98**	**322**	⇓*e*P			**Pn**	**17 56 04.3**	**-0.1**
BUKP	**Musuan**	**4.13**	**336**	*e*P			**Pn**	**17 56 06.2**	**-0.2**
KMSI	**Cibinong**	**4.44**	**218**	P			**Pn**	**17 56 16.1**	**+5.4**
CGP	**Cagayan de Oro**	**4.80**	**335**	*e*P			**Pn**	**17 56 16.2**	**+0.6**
PAGZ	**Pagadian**	**5.01**	**318**	*e*P			**Pn**	**17 56 18.8**	**+0.2**
IPIL	**Ipil**	**5.54**	**312**	*e*P			**Pn**	**17 56 24.8**	**-1.1**
SCPH	**Surigao**	**5.80**	**348**	⇓*e*P			**Pn**	**17 56 34.2**	**+4.8**
MRSI	**Marisa**	**5.98**	**233**	P			**Pn**	**17 56 33.8**	**+2.0**
	2μm167nm,0.7s								
LUWI	**Luwuk**	**6.45**	**218**	P			**Pn**	**17 56 43.1**	**+4.9**
	4μm349nm,1.0s								
SWI	**Sorong**	**6.67**	**137**	P			**Pn**	**17 56 39.9**	**-1.4**
	883nm81nm,0.9s								
PLP	**Palo**	**7.25**	**346**	⇓*e*P			**Pn**	**17 56 52.7**	**+3.5**
NLAI	**Namlea**	**7.28**	**177**	P			**Pn**	**17 56 49.3**	**-0.3**
	1μm62nm,0.6s								
MSAI	**Masohi**	**7.69**	**163**	P			**Pn**	**17 56 55.3**	**0.0**
	222nm16nm,1.4s								
AAI	**Ambon**	**7.85**	**169**	P			**Pn**	**17 56 58.3**	**+0.8**
	57nm,1.0s								
MYLDM	**Lahad Datu**	**8.28**	**278**	P			**Pn**	**17 57 08.4**	**+5.0**
	972nm89nm,1.7s								
KDI	**Kendari**	**8.98**	**207**	P			**Pn**	**17 57 13.0**	**0.0**
	570nm47nm,1.0s								
BNDI	**Bandanaira**	**9.11**	**160**	P			**Pn**	**17 57 16.0**	**+1.2**
	1μm118nm,1.3s								
TLE	**Tual**	**11.36**	**148**	P			**Pn**	**17 57 42.1**	**-3.5**
KSM	**Kuching**	**16.61**	**261**	*e*P			**Pn**	**17 58 58.4**	**+3.1**
	27nm,1.0s								
YULB	**Yu-li**	**19.91**	**345**	*e*P			**Pn**	**17 59 30.2**	**-5.0**
	52nm,1.2s								
TPUB	**Ta-pu**	**20.00**	**343**	*e*P			**Pn**	**17 59 31.9**	**-4.4**
	43nm,0.6s								
GUMO	**Guam**	**20.24**	**61**	LR			LR	18 06 30.3	
	comp=Z,181nm,18.4s,MS3.5,baz=236,slow=34								
FITZ	**Fitzroy Crossi**	**22.07**	**183**	P			**P**	**17 59 54.7**	**-1.8**
	14nm,0.7s,mb4.5,baz=12,slow=9.2,SNR=19								
FITZ	**Fitzroy Crossi**	**22.07**	**183**	*e*P			**P**	**17 59 55.4**	**-1.1**
	17nm,0.9s,mb4.5								
PMG	**Port Moresby**	**24.37**	**123**	P			**P**	**18 00 14.3**	**-4.9**
	17nm,1.0s,mb4.4								
PMG	**Port Moresby**	**24.37**	**123**	P			**P**	**18 00 14.3**	**-5.0**
PMG				pmax			pmax		
	comp=Z,17nm,1.0s								
WRAB	**Tennant Creek**	**25.01**	**163**	*e*P			**P**	**18 00 23.1**	**-1.9**
	comp=Z,61nm,0.9s,mb5.1								
WRAB	**Tennant Creek**	**25.01**	**163**	*e*P			**P**	**18 00 23.1**	**-1.9**
WRAB				pmax			pmax		
	comp=Z,61nm,0.9s,mb5.1								
WRA	**Warramunga Arr**	**25.01**	**163**	P			**P**	**18 00 24.3**	**-0.8**
	comp=Z,38nm,0.7s,mb5.1,baz=344,slow=10,SNR=132								
WRA	**Warramunga Arr**	**25.01**	**163**	P			**P**	**18 00 24.3**	**-0.8**
WRA	**Warramunga Arr**	**25.01**	**163**	P			**P**	**18 00 24.3**	**-0.8**
WB2	**Warramunga Arr**	**25.02**	**163**	*e*P			**P**	**18 00 24.0**	**-1.1**
IPM	**Ipoh**	**25.64**	**272**	*e*P			**P**	**18 00 28.9**	**-2.0**
	comp=Z,18nm,1.4s,mb4.4								
MBWA	**Marble Bar**	**26.00**	**195**	*e*P			**P**	**18 00 34.8**	**+0.8**
	comp=Z,12nm,0.7s,mb4.5								
KULM	**Kulim**	**26.03**	**274**	*e*P			**P**	**18 00 32.5**	**-1.9**
	comp=Z,19nm,1.3s,mb4.5								
CBIJ	**Chichi jima**	**27.23**	**31**	LR			LR	18 10 41.8	
	comp=Z,228nm,18.3s,MS3.8,baz=143,slow=35								
ASAR	**Alice Springs**	**28.45**	**166**	P			**P**	**18 00 55.5**	**-0.4**
	comp=Z,2.2nm,0.6s,mb4.0,baz=344,slow=6.7,SNR=44								
ASAR	**Alice Springs**	**28.45**	**166**	P			**P**	**18 00 55.5**	**-0.4**
ASAR	**Alice Springs**	**28.45**	**166**	P			**P**	**18 00 55.6**	**-0.3**
GYA	**Guiyang**	**29.40**	**321**	P			**P**	**18 01 06.0**	**+1.6**
GYA				pmax			pmax		
	comp=Z,10.0nm,0.8s,mb4.6								
CM31	**Chiang Mai Arr**	**30.70**	**300**	*e*P			**P**	**18 01 16.7**	**+0.7**
	comp=Z,5.7nm,1.0s,mb4.4								
CMAR	**Chiang Mai Arr**	**30.70**	**300**	P			**P**	**18 01 16.6**	**+0.5**
	comp=Z,3.1nm,0.8s,mb4.2,baz=121,slow=7.4,SNR=14								
CMAR	**Chiang Mai Arr**	**30.70**	**300**	P			**P**	**18 01 16.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**30.70**	**300**	P			**P**	**18 01 16.6**	**+0.6**
ENH	**Enshi**	**30.73**	**330**	P			**P**	**18 01 14.9**	**-1.2**
	comp=Z,13nm,1.1s,mb4.7								
CTAO	**Charters Tower**	**30.73**	**142**	P			**P**	**18 01 15.8**	**-0.5**
	comp=Z,9.8nm,1.0s,mb4.6								
CTAO	**Charters Tower**	**30.73**	**142**	P			**P**	**18 01 15.8**	**-0.4**
CTAO				pmax			pmax		
	comp=Z,10.0nm,1.0s,mb4.6								
CHTO	**Chiang Mai**	**30.85**	**301**	*e*P			**P**	**18 01 16.6**	**-0.7**
	comp=Z,4.1nm,0.8s,mb4.3								
CHTO	**Chiang Mai**	**30.85**	**301**	*e*P			**P**	**18 01 16.6**	**-0.7**
CHTO				pmax			pmax		
	comp=Z,4.0nm,0.8s,mb4.3								
KMI	**Kunming**	**31.14**	**315**	P			**P**	**18 01 20.4**	**+0.6**
KMI				pP			pP	18 01 34.3	+1.1
KMI				sP			sP	18 01 38.3	-1.0
KMI				PP			PP	18 02 26.1	-4.8
KMI				S			**S**	**18 06 23.3**	**+1.2**
KMI				sS			sS	18 06 42.3	-2.4
KMI				pmax			pmax		
	comp=Z,8.0nm,1.1s,mb4.5								
KMI				pmax			pmax		
	comp=Z,120nm,4.3s								
KMI				LR			LR		
	comp=N,220nm,22.5s,MS4.0								
KMI				LR			LR		
	comp=E,270nm,21.2s,MS4.0								
KMI				LR			LR		
	comp=Z,220nm,20.0s,MS3.8								
KSAR	**Wonju Array Be**	**33.22**	**2**	P			**P**	**18 01 37.9**	**0.0**
KSAR				LR			LR	18 17 21.4	
KSAR	**Wonju Array Be**	**33.22**	**2**	P			**P**	**18 01 37.9**	**0.0**
KSRS	**Korea Array**	**33.23**	**2**	P			**P**	**18 01 37.9**	**-0.1**
	comp=Z,2.2nm,1.0s,mb4.0,baz=180,slow=9.2,SNR=4.5								
KSRS				LR			LR	18 17 21.4	
	comp=Z,164nm,18.2s,MS3.8,baz=190,slow=40								
KSRS	**Korea Array**	**33.23**	**2**	P			**P**	**18 01 37.9**	**-0.1**
KSRS				pmax			pmax		
	comp=Z,2.0nm,1.0s,mb4.0								
KSRS				MLR			MLR		
	comp=Z,164nm,18.3s,MS3.8								
MJAR	**Matsushiro Arr**	**33.99**	**17**	LR			LR	18 14 45.6	
	comp=Z,238nm,19.6s,MS3.9,baz=200,slow=35								
XAN	**Xi'an**	**34.11**	**333**	P			**P**	**18 01 45.8**	**+0.2**
XAN				pP			pP	18 01 54.0	-5.1
XAN				pmax			pmax		
	comp=Z,2.0nm,1.0s,mb4.0								
XAN				pmax			pmax		
	comp=Z,36nm,5.6s								
XAN				LR			LR		
	comp=N,150nm,20.3s								
CD2	**Chengdu**	**34.37**	**324**	P			**P**	**18 01 49.4**	**+1.5**
CD2				pP			pP	18 02 00.3	-1.1
CD2				PP			PP	18 03 06.3	-0.3
CD2				S			**S**	**18 07 13.8**	**+1.7**
CD2				sS			sS	18 07 31.8	-3.0
CD2				SS			SS	18

CN2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
CN2 pmax pmax
comp=Z,200nm,4.0s
SHL Shillong 39.68 306 *e*PKP **P** **18 02 31.0 -2.1**
ARMA Armidale 41.75 147 *e*P **P** **18 02 51.5 +1.4**
ARMA *es*P PP 18 04 04.2 -23
ARMA Armidale 41.75 147 *e*P **P** **18 02 51.3 +1.2**
comp=Z,25nm,0.9s,mb4.8
LSA Lhasa 42.21 311 *e*P **P** **18 02 53.9 -0.1**
comp=Z,5.3nm,0.8s,mb4.2
LSA Lhasa 42.21 311 *e*P **P** **18 02 53.9 0.0**
LSA pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
GTA Gaotai 42.80 329 *e*P **P** **18 02 59.8 +1.3**
GTA pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
TAPN Taplejung 43.82 306 *e*P **P** **18 03 06.6 -0.3**
ODAN Odare 43.87 305 *e*P **P** **18 03 07.2 -0.2**
comp=Z,18nm,0.7s,mb4.9
CNB Canberra Magne 44.58 153 *e*P **P** **18 03 15.0 +2.2**
comp=Z,39nm,0.9s,mb5.2
TOO Toolangi 44.96 159 *e*P **P** **18 03 17.8 +1.9**
comp=Z,38nm,1.1s,mb5.1
GUN Gumba 45.53 306 *e*P **P** **18 03 20.5 -0.1**
comp=Z,16nm,0.7s,mb5.0
KKN Kakani 45.97 305 *e*P **P** **18 03 23.4 -0.6**
DMN Daman 46.04 305 *e*P **P** **18 03 23.7 -0.9**
GKN Gorkha 46.57 305 *e*P **P** **18 03 27.8 -1.0**
comp=Z,5.2nm,0.5s,mb4.7
ULN Ulaanbaatar 46.79 342 *e*P **P** **18 03 28.2 -1.9**
comp=Z,4.8nm,0.9s,mb4.4
ULN Ulaanbaatar 46.79 342 *e*P **P** **18 03 28.3 -1.8**
ULN pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
SONM Songino Array 46.97 341 P **P** **18 03 31.8 +0.2**
comp=Z,0.9nm,0.5s,mb4.0,baz=161,slow=9.7,SNR=12
SONM PcP PcP 18 05 03.1 -0.1
comp=Z,2.0nm,0.9s,baz=139,slow=2.7,SNR=6.0
SONM LR LR 18 25 12.3
comp=Z,162nm,19.4s,MS4.0,baz=122,slow=39
SONM Songino Array 46.97 341 P **P** **18 03 31.8 +0.2**
SONM PcP PcP 18 05 03.1 -0.1
SONM LR LR 18 25 12.3
SONM Songino Array 46.97 341 P **P** **18 03 31.8 +0.3**
SONM 18 05 03.1
KOLN Koldanda 47.33 305 *e*P **P** **18 03 34.3 -0.4**
comp=Z,31nm,0.7s,mb5.3
DANN Dangsing 47.42 305 *e*P **P** **18 03 34.2 -1.2**
comp=Z,32nm,0.6s,mb5.4
PYUN Piuthan 47.95 305 *e*P **P** **18 03 39.3 -0.3**
comp=Z,24nm,0.9s,mb5.2
TLY Talaya 51.20 342 *e*P **P** **18 04 07.2 +3.4**
TLY pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
TLY MLR MLR
comp=Z,110nm,18.0s,MS3.9
WMQ Urumqi 52.44 325 P **P** **18 04 15.3 +2.1**
PETK Petropavlovsk- 55.11 22 P **P** **18 04 31.6 -0.9**
comp=Z,1.5nm,0.7s,mb4.2,baz=190,slow=8.5,SNR=3.2
PETK LR LR 18 27 27.4
comp=Z,87nm,18.9s,MS3.9,baz=118,slow=35
PETK Petropavlovsk- 55.11 22 P **P** **18 04 31.6 -0.9**
PETK LR LR 18 27 27.4
PETK Petropavlovsk- 55.11 22 P **P** **18 04 31.6 -0.9**
MK31 Makanchi Array 57.27 325 *e*P **P** **18 04 46.2 -1.9**
MK31 Makanchi Array 57.27 325 *e*P **P** **18 04 50.5 +2.4**
MK31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
MKAR Makanchi Array 57.27 325 P **P** **18 04 47.1 -1.0**
comp=Z,2.7nm,0.6s,mb4.5,baz=116,slow=7.4,SNR=22
MKAR LR LR 18 32 53.5
comp=Z,103nm,18.1s,MS4.0,baz=123,slow=40
MKAR Makanchi Array 57.27 325 P **P** **18 04 47.1 -1.0**
MKAR LR LR 18 32 53.5
MKAR Makanchi Array 57.27 325 P **P** **18 04 47.1 -1.0**
YAK Yakutsk 57.86 2 *e*P **P** **18 04 50.0 -1.9**
comp=Z,22nm,0.8s,mb5.2
YAK Yakutsk 57.86 2 *e*P **P** **18 04 52.3 +0.3**
YAK pmax pmax
comp=Z,89nm,2.5s,mb5.3
TKM2 Tokmak 2 59.49 318 *e*P **P** **18 05 02.5 -1.1**
comp=Z,2.4nm,0.6s,mb4.4
TKM2 Tokmak 2 59.49 318 P **P** **18 05 03.9 +0.2**
TKM2 pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
ZAA0 Zalesovo Array 60.28 333 *e*P **P** **18 05 10.2 +1.3**
ZALV Zalesovo Beam 60.28 333 P **P** **18 05 06.9 -1.9**
comp=Z,1.5nm,0.5s,mb4.3,baz=112,slow=6.6,SNR=13
ZALV LR LR 18 33 02.1
comp=Z,77nm,19.6s,MS3.9,baz=252,slow=38
ZALV Zalesovo Beam 60.28 333 P **P** **18 05 06.9 -1.9**
ZALV LR LR 18 33 02.1
ZALV Zalesovo Beam 60.28 333 P **P** **18 05 06.9 -2.0**
EKS2 Erkin-Say 60.60 317 *e*P **P** **18 05 10.8 -0.4**
comp=Z,2.4nm,0.6s,mb4.5
EKS2 Erkin-Say 60.60 317 *e*P **P** **18 05 10.9 -0.4**
EKS2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
KURK Kurchatov 61.45 327 LR LR 18 33 04.4
comp=Z,64nm,18.5s,MS3.8,baz=125,slow=37
KURK Kurchatov 61.45 327 *e*P **P** **18 05 15.3 -1.6**
comp=Z,12nm,0.6s,mb5.2
KURK Kurchatov 61.45 327 P **P** **18 05 19.0 +2.1**
KURK pmax pmax
comp=Z,11nm,0.7s,mb5.1
NVS Novosibirsk 61.56 333 *e*P **P** **18 05 18.9 +1.3**
NVS pmax pmax
comp=Z,11nm,1.2s,mb4.9
NVS pmax pmax
comp=N,3.0nm,0.9s
NVS pmax pmax
comp=E,7.0nm,1.2s
FX1 Attu Island--F 61.78 30 LR LR 18 31 09.2
comp=E,58nm,20.1s,MS3.7,baz=249,slow=35
KK31 Karatay Array 62.98 317 *i*P **P** **18 05 29.7 +2.4**
KKAR Karatay Array 62.98 317 *e*P **P** **18 05 26.1 -1.2**
comp=E,1.7nm,0.7s,mb4.3
KKAR Karatay Array 62.98 317 *e*P **P** **18 05 26.1 -1.2**
KKAR pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
BVA0 Borovoye Array 67.03 327 P **P** **18 05 56.9 +3.5**
BVA0 pmax pmax
comp=Z,1.0nm,0.9s,mb3.9
BVAR Borovoye Array 67.03 327 LR LR 18 36 52.9
comp=Z,126nm,18.8s,MS4.2,baz=338,slow=38
BRVK Borovoye 67.10 327 *e*P **P** **18 05 53.1 -0.8**
comp=Z,10.0nm,0.8s,mb4.9
BRVK Borovoye 67.10 327 P **P** **18 05 56.5 +2.7**
BRVK pmax pmax
comp=Z,20nm,1.1s,mb5.1
AB31 Akbulak array 71.89 321 P **P** **18 06 23.4 0.0**
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
ABKAR Akbulak array 71.89 321 *e*P **P** **18 06 22.7 -0.7**
comp=Z,2.9nm,0.6s,mb4.4
SVE Sverdlovsk 73.67 328 *i*P **P** **18 06 33.7 -0.1**
SVE pmax pmax
comp=Z,18nm,1.3s,mb4.8
ARU Arti 74.65 328 *e*P **P** **18 06 39.2 -0.4**
comp=Z,9.8nm,0.9s,mb4.7
ARU Arti 74.65 328 *d i*P **P** **18 06 38.9 -0.6**
ARU 18 09 24.1
ARU S S 18 16 13.5 +2.1
ARU pmax pmax
comp=Z,23nm,2.5s,mb4.7
KDAK Kodiak Island 81.59 32 LR LR 18 37 44.9
comp=Z,81nm,21.0s,MS4.1,baz=253,slow=32
ZEI Tsey 81.99 312 *e*P **P** **18 07 19.4 -1.0**
ZEI pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
COLD Coldfoot 83.57 23 *e*P **P** **18 07 28.7 +0.6**
comp=Z,11nm,1.2s,mb4.8
VNDA Vanda 83.77 173 P **P** **18 07 28.9 0.0**
comp=Z,3.6nm,0.9s,mb4.5,baz=314,slow=5.6,SNR=20
VNDA LR LR 18 46 01.1
comp=Z,46nm,19.8s,MS3.9,baz=333,slow=36
VNDA Vanda 83.77 173 *e*P **P** **18 07 30.0 +1.1**
comp=Z,3.9nm,0.9s,mb4.5
VNDA Vanda 83.77 173 *e*P **P** **18 07 30.0 +1.1**
VNDA pmax pmax
comp=Z,4.0nm,0.9s
SBA Scott Base 84.68 172 *e*P **P** **18 07 35.3 +1.8**
comp=Z,2.4nm,1.0s,mb4.3
SBA Scott Base 84.68 172 *e*P **P** **18 07 35.3 +1.8**
SBA pmax pmax
comp=Z,2.0nm,1.0s,mb4.2
ILAR Eielson Array 84.79 25 P **P** **18 07 32.1 -2.2**
comp=Z,1.0nm,1.1s,mb3.9,baz=264,slow=5.9,SNR=5.7
ILAR LR LR 18 49 28.8
comp=Z,120nm,18.4s,MS4.3,baz=307,slow=39
ILAR Eielson Array 84.79 25 P **P** **18 07 32.1 -2.2**
ILAR LR LR 18 49 28.8
ILAR Eielson Array 84.79 25 P **P** **18 07 32.1 -2.2**
KLMR Klimovskoe 85.11 331 *e*P **P** **18 07 34.6 -1.4**
KLMR pmax pmax
comp=Z,59nm,1.6s,mb5.5
VSR Storozhevoye 85.32 321 *e*P **P** **18 07 36.6 -0.7**
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
OBN Obninsk 86.78 325 P **P** **18 07 45.0 +0.6**
OBN *e* 18 07 50.5
OBN *e* pP 18 07 57.1 -2.4
OBN *e* 18 18 10.1
OBN pmax pmax
comp=Z,47nm,1.3s,mb5.6
KMBO Kilima Mbogo 89.56 269 *e*P **P** **18 07 59.8 +1.3**
comp=Z,4.4nm,1.3s,mb4.6
KMBO Kilima Mbogo 89.56 269 *e*P **P** **18 07 59.8 +1.2**
KMBO pmax pmax
comp=Z,4.0nm,1.3s
BRTR Keskin Array B 89.80 310 P **P** **18 07 58.8 -0.3**
comp=Z,0.5nm,0.7s,mb3.9,baz=95,slow=3.9,SNR=3.0
BRTR LR LR 18 50 48.4
comp=Z,51nm,19.8s,MS4.0,baz=177,slow=37
BRTR Keskin Array B 89.80 310 P **P** **18 07 58.8 -0.3**
BRTR LR LR 18 50 48.4
BRTR Keskin Array B 89.80 310 P **P** **18 07 58.8 -0.3**
INK Inuvik 89.84 21 LR LR 18 49 14.1
comp=Z,164nm,18.4s,MS4.5,baz=346,slow=36
ARCES ARCESS Array B 90.12 340 P **P** **18 07 59.5 -0.5**
comp=Z,3.2nm,0.7s,mb4.7,baz=78,slow=5.6,SNR=7.7
ARCES ARCESS Array B 90.12 340 P **P** **18 07 59.5 -0.5**
ARCES ARCESS Array B 90.12 340 P **P** **18 07 59.5 -0.5**
FINES FINESS Array B 91.53 332 P **P** **18 08 05.6 -1.0**
comp=Z,5.0nm,1.0s,mb4.8,baz=40,slow=4.5,SNR=2.6
FINES LR LR 18 51 57.1
comp=Z,206nm,18.7s,MS4.6,baz=356,slow=37
FINES FINESS Array B 91.53 332 P **P** **18 08 05.6 -1.0**
FINES LR LR 18 51 57.1
FINES FINESS Array B 91.53 332 P **P** **18 08 05.6 -1.0**
AKASG Malin Array Be 91.63 321 P **P** **18 08 06.6 -0.8**
comp=Z,1.9nm,0.8s,mb4.5,baz=77,slow=4.1,SNR=4.8
AKASG Malin Array Be 91.63 321 P **P** **18 08 06.6 -0.8**
AKASG Malin Array Be 91.63 321 P **P** **18 08 06.6 -0.7**
DLBC Dease Lake 93.44 31 LR LR 18 48 29.1
comp=Z,151nm,18.9s,MS4.5,baz=239,slow=34
QSPA South Pole Qui 93.98 180 *e*P **P** **18 08 19.1 +1.5**
comp=Z,5.5nm,1.2s,mb4.9
NOA NORSAR Array B 98.48 334 LR LR 18 55 10.9
comp=Z,149nm,18.8s,MS4.5,baz=70,slow=37
YKA Yellowknife Ar 99.18 24 LR LR 18 54 49.5
comp=Z,12nm,20.9s,MS3.4,baz=80,slow=36
TORD Torodi Ar. Bea 122.82 288 PKP PKPdf 18 13 54.9 -2.3
comp=Z,1.1nm,0.7s,baz=54,slow=5.6,SNR=9.0
TORD Torodi Ar. Bea 122.82 288 PKP PKPdf 18 13 54.9 -2.2
LCO Las Campanas 150.19 148 *e*PKPbc PKPbc 18 14 52.0 +0.3

IDC 18 17:57:04.3±15.0, 20.99°S×177.59°W, h397km±143km, mb3.3/5, mb1 3.6/5, mb1mx3.2/16, mbtmp3.3/5, Error ellipse: s-maj=97.3km s-min=38.9km az=124.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.78**	**257**	P	P	18 04 40.6	-0.1
	0.9nm,0.5s,baz=76,slow=8.8,SNR=5.2						
MJAR	**Matsushiro Arr**	**70.83**	**324**	P	P	18 07 38.4	-0.8
	1.1nm,0.8s,baz=123,slow=4.5,SNR=3.0						
PETK	**Petropavlovsk-**	**76.84**	**345**	P	P	18 08 13.7	+0.5
	4.0nm,1.0s,baz=110,slow=6.9,SNR=4.2						
ILAR	**Eielson Array**	**88.70**	**13**	P	P	18 09 13.8	+0.5
	0.5nm,0.5s,baz=216,slow=6.0,SNR=9.2						
CMAR	**Chiang Mai Arr**	**90.64**	**289**	P	P	18 09 24.6	+1.2
	0.8nm,0.7s,baz=129,slow=3.4,SNR=5.8						
AKASG	**Malin Array Be**	**143.62**	**331**	PKP	PKPdf	18 15 49.8	-2.6
	2.9nm,0.5s,baz=44,slow=4.2,SNR=14						
BRTR	**Keskin Array B**	**147.45**	**312**	PKPbc	PKPbc	18 16 02.4	0.0
	1.1nm,0.6s,baz=157,slow=6.0,SNR=5.6						

IDC 18 17:58:08.7±2.0, 7.23°S×129.21°E, h0km, mb4.0/1, mb1 4.3/4, mb1mx3.8/18, mbtmp4.1/4, ML4.1/3, Error ellipse: s-maj=78.8km s-min=27.9km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.36**	**197**	Pn	Pn	18 00 52.2	-0.1
	2.3nm,0.3s,baz=24,slow=12,SNR=29						
FITZ				Sn	Sn	18 02 47.7	-12
	1.8nm,0.3s,baz=18,slow=20,SNR=3.9						
WRA	**Warramunga Arr**	**13.59**	**159**	Pn	Pn	18 01 22.8	0.0
	0.8nm,0.3s,baz=338,slow=13,SNR=6.0						
WRA				Sn	Sn	18 03 42.7	-12
	1.8nm,0.3s,baz=334,slow=23,SNR=8.4						
ASAR	**Alice Springs**	**16.96**	**165**	Pn	Pn	18 02 07.6	+0.2
	0.2nm,0.3s,baz=350,slow=9.7,SNR=2.2						
ASAR				Sn	Sn	18 05 03.1	-14
	0.5nm,0.3s,baz=345,slow=25,SNR=6.4						
MKAR	**Makanchi Array**	**67.98**	**327**	P	P	18 09 09.7	+0.1
	0.9nm,0.6s,baz=116,slow=7.1,SNR=7.5						

*IDC **18** 17:59:04.2±2.5, 23.67°S×179.62W, h461km±29km, mb3.7/8, mb1 3.8/10, mb1mx3.5/21, mbtmp3.7/10, Error ellipse: s-maj=22.2km s-min=19.4km az=118.0*
*NEIC **18** 17:59:07.0±1.2, 23.79°S×179.44W, h512km±15km, mb3.9/3, Error ellipse: s-maj=23.7km s-min=16.7km az=114.0*

ISC 18 17:59:06.6±0.9, 23.79°S±0.08°×179.2°W±0.1, h534km±19km, n28, σ0°76/26, mb4.1/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.55**	**336**	*e*P	P	18 00 50.1	+0.4
	13nm,0.5s						
AFI	**Afiamalu**	**12.08**	**37**	P	P	18 01 46.7	+0.7
	3.8nm,0.3s,baz=54,slow=1.9,SNR=4.9						
AFI				S	S	18 03 56.4	-0.8
	1.4nm,0.3s,baz=210,slow=20,SNR=2.4						
AFI	**Afiamalu**	**12.08**	**37**	P	P	18 01 46.7	+0.8
AFI				S	S	18 03 56.4	-0.8
URZ	**Urewera**	**14.77**	**191**	P	P	18 02 12.6	-1.0
	2.5nm,0.3s,baz=344,slow=3.7,SNR=12						
URZ				S	S	18 04 47.3	-0.3
	0.7nm,0.3s,baz=68,slow=19,SNR=2.6						
URZ	**Urewera**	**14.77**	**191**	*e*P	P	18 02 13.1	-0.5
URZ				S	S	18 04 47.3	-0.3
RPZ	**Rata Peaks**	**21.43**	**200**	P	P	18 03 17.8	+1.7
	5.4nm,0.4s,mb4.5,baz=26,slow=7.7,SNR=7.3						
RPZ	**Rata Peaks**	**21.43**	**200**	P	P	18 03 17.8	+1.7
CTA	**Charters Tower**	**32.21**	**270**	P	P	18 04 51.0	0.0
	10nm,0.3s,mb4.8,baz=93,slow=10,SNR=18						
CTA	**Charters Tower**	**32.21**	**270**	P	P	18 04 51.0	0.0
STKA	**Stephens Creek**	**35.44**	**248**	P	P	18 05 16.7	-1.3
	2.9nm,0.4s,mb4.1,baz=88,slow=11,SNR=6.8						
STKA	**Stephens Creek**	**35.44**	**248**	*e*P	P	18 05 17.2	-0.8
	1.8nm,1.0s,mb3.6						
ASAR	**Alice Springs**	**42.77**	**260**	P	P	18 06 17.2	-0.1
	6.9nm,0.8s,mb4.2,baz=96,slow=7.9,SNR=16						
ASAR	**Alice Springs**	**42.77**	**260**	P	P	18 06 17.2	-0.1
WRA	**Warramunga Arr**	**43.14**	**266**	P	P	18 06 19.5	-0.7
	4.5nm,0.3s,mb4.4,baz=96,slow=8.5,SNR=13						
WRA	**Warramunga Arr**	**43.14**	**266**	P	P	18 06 19.5	-0.7
FITZ	**Fitzroy Crossi**	**51.57**	**265**	P	P	18 07 24.1	+0.6
	2.6nm,0.5s,mb3.8,baz=110,slow=7.1,SNR=3.5						
FITZ	**Fitzroy Crossi**	**51.57**	**265**	P	P	18 07 24.1	+0.6
NWAO	**Narrogin (SRO)**	**55.95**	**245**	P	P	18 07 54.9	+0.6
	3.8nm,0.7s,mb3.8,baz=84,slow=9.2,SNR=4.1						
NWAO	**Narrogin (SRO)**	**55.95**	**245**	P	P	18 07 54.9	+0.6
MBWA	**Marble Bar**	**56.11**	**260**	*e*P	P	18 07 55.3	-0.3
	4.3nm,0.7s,mb3.8						
MAW	**Mawson**	**78.11**	**200**	P	P	18 10 14.3	+4.4
	2.0nm,0.7s,mb3.6,baz=96,slow=9.2,SNR=3.9						
MAW	**Mawson**	**78.11**	**200**	P	P	18 10 14.3	+4.4
HFS	**Hagfors**	**142.58**	**349**	PKhKP	PKPpre	18 17 38.7	
	1.0nm,0.3s,baz=38,slow=2.6,SNR=9.1						
HFS	**Hagfors**	**142.58**	**349**	PKP	PKPpre	18 17 38.7	
BRTR	**Keskin Array B**	**148.09**	**308**	PKPbc	PKPbc	18 17 55.5	+3.3
	0.6nm,0.6s,baz=98,slow=2.9,SNR=3.6						
BRTR	**Keskin Array B**	**148.09**	**308**	PKPbc	PKPbc	18 17 55.5	+3.3
MMAI	**Mount Meron Ar**	**148.32**	**295**	PKPbc	PKPbc	18 17 57.0	+4.0
	1.7nm,0.4s,baz=66,slow=1.7,SNR=7.2						
MMAI	**Mount Meron Ar**	**148.32**	**295**	PKPbc	PKPbc	18 17 57.0	+4.0

IDC 18 18:02:48.2±1.6, 3.27°S×140.60°E, h0km, mb3.8/3, mb1 4.3/4, mb1mx3.9/15, mbtmp4.0/4, ML4.4/1, Error ellipse: s-maj=72.4km s-min=27.0km az=100.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.66**	**200**	P	Pn	18 06 56.0	+0.2
	1.4nm,0.3s,baz=20,slow=13,SNR=16						
ASAR	**Alice Springs**	**21.29**	**197**	P	P	18 07 36.1	-0.3
	12nm,0.8s,baz=27,slow=9.8,SNR=31						
MKAR	**Makanchi Array**	**71.39**	**322**	P	P	18 14 10.4	+0.3
	0.2nm,0.4s,baz=104,slow=7.4,SNR=5.5						
ILAR	**Eielson Array**	**85.56**	**24**	P	P	18 15 28.0	0.0
	0.5nm,0.8s,baz=256,slow=4.0,SNR=6.5						

IDC 18 18:06:42.8±2.2, 5.70°S×130.29°E, h0km, mb3.7/1, mb1 3.9/4, mb1mx3.5/17, mbtmp3.8/4, ML4.0/3, Error ellipse: s-maj=94.6km s-min=27.6km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.13**	**200**	Pn	Pn	18 09 51.5	+0.8
	0.9nm,0.3s,baz=30,slow=12,SNR=10.0						
FITZ				Sn	Sn	18 12 08.4	-9.2
	0.4nm,0.3s,baz=52,slow=19,SNR=2.3						
WRA	**Warramunga Arr**	**14.70**	**165**	Pn	Pn	18 10 11.1	-0.9
	0.5nm,0.3s,baz=347,slow=13,SNR=4.5						
WRA				Sn	Sn	18 12 44.7	-11
	0.4nm,0.3s,baz=340,slow=27,SNR=5.0						
ASAR	**Alice Springs**	**18.20**	**169**	P	Pn	18 10 56.9	-0.1
	0.4nm,0.3s,baz=347,slow=11,SNR=8.7						
MKAR	**Makanchi Array**	**67.30**	**326**	P	P	18 17 39.5	+0.1
	0.4nm,0.4s,baz=116,slow=7.8,SNR=9.3						

*ISCJB **18** 18:12:58.4±2.4, 5.46°S×150.6°E±0.2, h74km±21km, mb3.8/13, Error ellipse: s-maj=26.4km s-min=13.2km az=21.6*
*NEIC **18** 18:13:01.0±1.9, 5.59°S×150.70E, h88km±16km, mb3.9/1, Error ellipse: s-maj=21.5km s-min=10.4km az=110.0*
*IDC **18** 18:13:02.1±2.1, 5.59°S×150.62E, h96km±15km, mb3.6/12, mb1 3.8/13, mb1mx3.7/18, mbtmp3.7/13, MS3.3/1, Ms1 3.3/1, ms1mx2.3/28, Error ellipse: s-maj=31.8km s-min=10.6km az=119.0*

ISC 18 18:13:02.5±2.0, 5.54°S±0.09°×150.6E±0.1, h96km±17km, n34, σ0°73/35, mb3.8/13, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.12**	**221**	P	**Pn**	**18 14 15.8**	**-1.0**
	27nm,0.3s,baz=39,slow=5.6,SNR=119						
PMG				S	**Sn**	**18 15 15.6**	**+0.9**
	24nm,0.3s,baz=113,slow=18,SNR=6.9						
PMG	**Port Moresby**	**5.12**	**221**	P	**Pn**	**18 14 15.8**	**-1.0**
PMG				S	**Sn**	**18 15 15.6**	**+0.9**
CTA	**Charters Tower**	**15.06**	**196**	LR	LR	18 21 31.9	
	comp=Z,107nm,18.8s,baz=240,slow=34						
WRAB	**Tennant Creek**	**21.30**	**226**	*e*P	**P**	**18 17 40.6**	**-0.9**
	3.4nm,0.6s,mb3.9						
WB2	**Warramunga Arr**	**21.31**	**226**	*e*P	**P**	**18 17 41.2**	**-0.4**
WRA	**Warramunga Arr**	**21.32**	**226**	P	**P**	**18 17 41.6**	**-0.1**
	2.8nm,0.3s,mb4.0,baz=52,slow=11,SNR=29						
WRA				S	**S**	**18 21 32.4**	**-0.7**
	0.5nm,1.0s,baz=58,slow=16,SNR=3.1						
WRA				ScP	ScP	18 25 11.0	-0.1
	0.3nm,0.6s,baz=52,slow=2.9,SNR=5.4						
WRA	**Warramunga Arr**	**21.32**	**226**	P	**P**	**18 17 41.6**	**-0.1**
WRA				S	**S**	**18 21 32.4**	**-0.7**
WRA				ScP	ScP	18 25 11.0	-0.1
ASAR	**Alice Springs**	**24.14**	**220**	P	**P**	**18 18 10.4**	**+0.8**
	3.2nm,0.4s,mb4.0,baz=56,slow=8.9,SNR=110						
ASAR				ScP	ScP	18 25 19.2	+0.7
	0.4nm,0.8s,baz=64,slow=4.2,SNR=3.9						
ASAR	**Alice Springs**	**24.14**	**220**	P	**P**	**18 18 10.4**	**+0.8**
ASAR				ScP	ScP	18 25 19.2	+0.7
ARMA	**Armidale**	**24.77**	**178**	*e*P	**P**	**18 18 16.9**	**+1.6**
FITZ	**Fitzroy Crossi**	**27.36**	**241**	P	**P**	**18 18 39.0**	**+0.2**
	1.2nm,0.3s,mb3.9,baz=55,slow=5.4,SNR=14						
FITZ	**Fitzroy Crossi**	**27.36**	**241**	*e*P	**P**	**18 18 39.0**	**+0.1**
	4.2nm,0.9s,mb4.0						
FITZ	**Fitzroy Crossi**	**27.36**	**241**	P	**P**	**18 18 39.0**	**+0.2**
STKA	**Stephens Creek**	**27.52**	**197**	P	**P**	**18 18 38.9**	**-1.1**
	1.6nm,0.5s,mb3.8,baz=5.8,slow=16,SNR=4.9						
STKA	**Stephens Creek**	**27.52**	**197**	*e*P	**P**	**18 18 39.3**	**-0.7**
	1.8nm,0.9s,mb3.6						
STKA	**Stephens Creek**	**27.52**	**197**	*e*P	**P**	**18 18 39.3**	**-0.8**
KSRS	**Korea Array**	**47.70**	**336**	P	**P**	**18 21 29.8**	**+0.3**
	1.9nm,0.8s,mb4.0,baz=155,slow=6.3,SNR=3.4						
KSAR	**Wonju Array Be**	**47.71**	**335**	P	**P**	**18 21 29.8**	**+0.3**
PETK	**Petropavlovsk-**	**58.73**	**5**	P	**P**	**18 22 50.0**	**-0.1**
	1.7nm,0.8s,mb4.1,baz=142,slow=7.3,SNR=3.2						
PETK	**Petropavlovsk-**	**58.73**	**5**	P	**P**	**18 22 50.0**	**-0.1**
SONM	**Songino Array**	**65.79**	**329**	P	**P**	**18 23 38.6**	**+1.3**
	0.7nm,0.6s,mb3.6,baz=139,slow=7.0,SNR=6.3						
SONM	**Songino Array**	**65.79**	**329**	P	**P**	**18 23 38.6**	**+1.3**
MKAR	**Makanchi Array**	**79.43**	**320**	P	**P**	**18 24 58.0**	**-0.2**
	0.3nm,0.6s,mb3.3,baz=122,slow=5.2,SNR=3.6						
MKAR	**Makanchi Array**	**79.43**	**320**	P	**P**	**18 24 58.0**	**-0.2**
ZALV	**Zalesovo Beam**	**80.54**	**327**	P	**P**	**18 25 03.7**	**-0.3**
	0.4nm,0.4s,mb3.6,baz=123,slow=3.9,SNR=3.4						
ZALV	**Zalesovo Beam**	**80.54**	**327**	P	**P**	**18 25 03.8**	**-0.3**
KURK	**Kurchatov**	**82.99**	**322**	P	**P**	**18 25 16.8**	**-0.1**
	0.3nm,0.6s,mb3.3,baz=104,slow=4.7,SNR=3.6						
KURK	**Kurchatov**	**82.99**	**322**	P	**P**	**18 25 16.8**	**-0.1**
ILAR	**Eielson Array**	**83.68**	**22**	P	**P**	**18 25 19.2**	**-0.9**
	0.7nm,0.7s,mb3.6,baz=240,slow=4.4,SNR=5.0						
ILAR	**Eielson Array**	**83.68**	**22**	P	**P**	**18 25 19.2**	**-0.9**
NVAR	**Mina Array Bea**	**94.28**	**52**	P	**P**	**18 26 11.1**	**-0.1**
	0.2nm,0.4s,mb3.8,baz=235,slow=3.2,SNR=2.8						
NVAR	**Mina Array Bea**	**94.28**	**52**	P	**P**	**18 26 11.2**	**-0.1**
TORD	**Torodi Ar. Bea**	**148.40**	**286**	PKP	PKPdf	18 32 35.0	-0.3
	0.5nm,0.7s,baz=54,slow=3.9,SNR=4.1						
TORD				PKPbc	PKPbc	18 32 38.1	-0.8
	0.5nm,0.6s,baz=80,slow=3.5,SNR=4.7						
TORD	**Torodi Ar. Bea**	**148.40**	**286**	PKP	PKPdf	18 32 35.0	-0.3
TORD				PKPbc	PKPbc	18 32 38.1	-0.8

IDC 18 18:45:16.4±1.1, 29.19°N×139.48E, h366km±22km, mb3.0/7, mb1 3.2/8, mb1mx3.0/22, mbtmp3.1/8, Error ellipse: s-maj=57.1km s-min=14.0km az=73.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.17**	**130**	P	Pn	18 46 20.0	+1.5
	29nm,0.3s,baz=279,slow=17,SNR=64						
CBIJ				S	S	18 47 08.3	-0.2
	14nm,0.3s,baz=275,slow=23,SNR=7.0						
SONM	**Songino Array**	**31.56**	**315**	P	P	18 51 05.4	-0.5
	0.3nm,0.5s,baz=122,slow=8.4,SNR=6.7						

*HLW **18** 18:49:30.9, 36°.89N × 28°.52E, h33km ± 25km, Md3.2, MI3.0*
ISC 18 18:49:25.0 ± 0.3, 37°.23N ± 0°.02 × 28°.33E ± 0°.02, h5km ± 3km, n131, σ1s08/163, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.10**	**201**	PG	**Pg**	**18 49 26.9**	**-0.2**
YER				SG	**Sg**	**18 49 29.3**	**+0.9**
YER	**Yerkesik**	**0.10**	**201**	*i* Pg	**Pg**	**18 49 26.9**	**-0.1**
YER				*i* Sg	**Sg**	**18 49 29.3**	**+0.9**
TURN	**Turunc**	**0.42**	**148**	*i* P	**Pg**	**18 49 32.6**	**-0.4**
TURN				*i* S	**Sg**	**18 49 37.0**	**-1.4**
TURN	**Turunc**	**0.42**	**148**	*i* P	**Pg**	**18 49 32.6**	**-0.4**
MLSB	**Milas**	**0.44**	**279**	*e*PG	**Pg**	**18 49 33.6**	**+0.1**
MLSB				*e*SG	**Sg**	**18 49 41.0**	**+1.7**
MLSB	**Milas**	**0.44**	**279**	*e*Pg	**Pg**	**18 49 33.6**	**+0.1**
MLSB				*e*Sg	**Sg**	**18 49 41.0**	**+1.7**
AYDN	**Tasoluk**	**0.56**	**321**	*i* P	**Pg**	**18 49 36.0**	**+0.2**
AYDN				*i* S	**Sg**	**18 49 40.9**	**-2.2**
AYDN	**Tasoluk**	**0.56**	**321**	*i* P	**Pg**	**18 49 36.0**	**+0.2**
AYDN				*i* S	**Sg**	**18 49 40.9**	**-2.2**
DNZL	**Cakiroluk**	**0.74**	**51**	*i* P	**Pg**	**18 49 38.1**	**-1.0**
DNZL				*i* S	**Sg**	**18 49 47.1**	**-1.6**
DNZL	**Cakiroluk**	**0.74**	**51**	*i* P	**Pg**	**18 49 38.1**	**-1.0**
DNZL				*i* S	**Sg**	**18 49 47.1**	**-1.6**
DENT	**Denizli**	**0.77**	**47**	*e*PG	**Pg**	**18 49 39.0**	**-0.8**
DENT	**Denizli**	**0.77**	**47**	*e*Pg	**Pg**	**18 49 39.0**	**-0.8**
DAT	**Datca**	**0.78**	**231**	*e*PG	**Pg**	**18 49 40.2**	**+0.4**
DAT	**Datca**	**0.78**	**231**	*e*Pg	**Pg**	**18 49 40.2**	**+0.3**
BODT	**Bodrum**	**0.83**	**259**	*e*PG	**Pg**	**18 49 40.2**	**-0.7**
BODT	**Bodrum**	**0.83**	**259**	*e*Pg	**Pg**	**18 49 40.2**	**-0.7**
FETY	**Fethiye**	**0.85**	**134**	*e*PG	**Pg**	**18 49 41.8**	**+0.6**
FETY	**Fethiye**	**0.85**	**134**	*e*Pg	**Pg**	**18 49 41.8**	**+0.6**
GLHS	**Gihisar (BURDU**	**0.94**	**94**	*e*PG	**Pg**	**18 49 42.4**	**-0.6**
GLHS	**Gihisar (BURDU**	**0.94**	**94**	*e*Pg	**Pg**	**18 49 42.4**	**-0.6**
GOLH	**Golhisar**	**0.99**	**89**	*i* P	**Pg**	**18 49 41.9**	**-2.0**
GOLH				*i* S	**Sg**	**18 49 57.8**	**+1.1**
GOLH	**Golhisar**	**0.99**	**89**	*i* P	**Pg**	**18 49 41.9**	**-2.0**
GCAM	**G?zelcaml?**	**0.99**	**299**	*i* P	**Pg**	**18 49 44.5**	**+0.6**
GCAM				*i* S	**Sg**	**18 49 56.8**	**0.0**
GCAM	**G?zelcaml?**	**0.99**	**299**	*i* P	**Pg**	**18 49 44.5**	**+0.5**
GCAM				*i* S	**Sg**	**18 49 56.8**	**0.0**
ARG	**Arkhangelos**	**1.02**	**189**	*e*PB	**Pg**	**18 49 44.5**	**0.0**
ARG	**Arkhangelos**	**1.02**	**189**	*e*Pb	**Pg**	**18 49 44.5**	**0.0**
MANT	**Manisa**	**1.28**	**8**	*i* P	**Pn**	**18 49 48.8**	**-0.6**
MANT				*i* S	**Sg**	**18 50 05.5**	**-0.5**
MANT	**Manisa**	**1.28**	**8**	*i* P	**Pn**	**18 49 48.8**	**-0.6**
MANT				*i* S	**Sg**	**18 50 05.5**	**-0.5**
SMG	**Samos**	**1.28**	**293**	*e*PN	**Pn**	**18 49 49.1**	**-0.3**
SMG				*e*SN	**Sn**	**18 50 06.5**	**-0.4**
SMG	**Samos**	**1.28**	**293**	*e*Pn	**Pn**	**18 49 49.1**	**-0.3**
SMG				*e*Sn	**Sn**	**18 50 06.5**	**-0.4**
KULA	**Kula-Manisa**	**1.31**	**12**	*e*PN	**Pn**	**18 49 49.0**	**-0.9**
KULA	**Kula-Manisa**	**1.31**	**12**	*e*Pn	**Pn**	**18 49 49.1**	**-0.8**
ELL	**Elmali**	**1.35**	**110**	*e*PN	**Pn**	**18 49 50.7**	**+0.2**
ELL	**Elmali**	**1.35**	**110**	*e*Pn	**Pn**	**18 49 50.7**	**+0.2**
IZM	**Izmir**	**1.44**	**325**	*e*PN	**Pn**	**18 49 51.6**	**-0.1**
IZM	**Izmir**	**1.44**	**325**	*e*Pn	**Pn**	**18 49 51.6**	**-0.1**
KHAL	**Karahalli**	**1.47**	**39**	*i* P	**Pn**	**18 49 51.0**	**-1.1**
KHAL				*i* S	**Sn**	**18 50 09.7**	**-1.9**
KHAL	**Karahalli**	**1.47**	**39**	*i* P	**Pn**	**18 49 51.0**	**-1.1**
KHAL				*i* S	**Sn**	**18 50 09.7**	**-1.9**
KSL	**Kastellorizon**	**1.48**	**136**	*e*PN	**Pg**	**18 49 54.2**	**+1.0**
BLCB	**Balcova**	**1.54**	**319**	*e*PN	**Pn**	**18 49 52.8**	**-0.2**
BLCB	**Balcova**	**1.54**	**319**	*e*Pn	**Pn**	**18 49 52.8**	**-0.2**
KORT	**Korkueli**	**1.63**	**97**	*i* P	**Pn**	**18 49 56.0**	**+1.6**
KORT				*i* S	**Sg**	**18 50 20.0**	**+2.5**
KORT	**Korkueli**	**1.63**	**97**	*i* P	**Pn**	**18 49 56.0**	**+1.7**
AKHS	**Akhisar**	**1.70**	**346**	*i* P	**Pn**	**18 49 54.6**	**-0.6**
AKHS				*i* S	**Sn**	**18 50 15.6**	**-1.7**
AKHS	**Akhisar**	**1.70**	**346**	*i* P	**Pn**	**18 49 54.6**	**-0.6**
AKHS				*i* S	**Sn**	**18 50 15.6**	**-1.7**
AKS	**Akhisar**	**1.70**	**346**	*e*PN	**Pn**	**18 49 54.3**	**-0.9**
AKS	**Akhisar**	**1.70**	**346**	*e*Pn	**Pn**	**18 49 54.3**	**-0.9**
URLA	**Izmir**	**1.78**	**310**	*i* P	**Pn**	**18 49 54.1**	**-2.2**
URLA				*e*S	**Sn**	**18 50 18.8**	**-0.5**
URLA	**Izmir**	**1.78**	**310**	*i* P	**Pn**	**18 49 54.1**	**-2.2**
URLA				*e*S	**Sn**	**18 50 18.8**	**-0.4**
BCK	**Bucak**	**1.82**	**82**	*e*PN	**Pn**	**18 49 57.7**	**+0.8**
BCK	**Bucak**	**1.82**	**82**	*e*Pn	**Pn**	**18 49 57.7**	**+0.8**
DEMI	**Demirci**	**1.84**	**10**	*i* P	**Pn**	**18 49 56.9**	**-0.3**
DEMI				*i* S	**Sn**	**18 50 18.2**	**-2.6**
DEMI	**Demirci**	**1.84**	**10**	*i* P	**Pn**	**18 49 56.9**	**-0.3**
DEMI				*i* S	**Sn**	**18 50 18.2**	**-2.6**
ANTB	**Antalya**	**1.89**	**99**	*e*PN	**Pn**	**18 49 58.6**	**+0.8**
ANTB	**Antalya**	**1.89**	**99**	*e*Pn	**Pn**	**18 49 58.6**	**+0.8**
KARP	**Karpathos**	**1.92**	**210**	*e*PB	**Pb**	**18 49 58.7**	**-1.7**
KARP				*e*SN	**Sn**	**18 50 23.4**	**+0.7**
KARP	**Karpathos**	**1.92**	**210**	*e*Pb	**Pb**	**18 49 58.7**	**-1.7**
KARP				*e*Sn	**Sn**	**18 50 23.4**	**+0.7**
GDZ	**Gediz**	**2.07**	**26**	*i* P	**Pn**	**18 49 58.9**	**-1.4**
GDZ	**Gediz**	**2.07**	**26**	*i* P	**Pn**	**18 49 58.9**	**-1.4**
CHOS	**Chios island**	**2.14**	**303**	*e*PB	**Pn**	**18 50 01.6**	**+0.3**
CHOS	**Chios island**	**2.14**	**303**	*e*Pb	**Pn**	**18 50 01.6**	**+0.3**
SHUT	**Suhut-Afyon**	**2.20**	**52**	*e*PN	**Pn**	**18 50 03.2**	**+1.0**
SHUT	**Suhut-Afyon**	**2.20**	**52**	*e*Pn	**Pn**	**18 50 03.2**	**+1.0**
APE	**Apeiranthos**	**2.24**	**267**	*e*PN	**Pn**	**18 50 03.4**	**+0.7**
APE	**Apeiranthos**	**2.24**	**267**	*e*Pn	**Pn**	**18 50 03.4**	**+0.8**
ALT	**Altintas**	**2.31**	**37**	*e*PN	**Pn**	**18 50 04.1**	**+0.6**
ALT	**Altintas**	**2.31**	**37**	*e*Pn	**Pn**	**18 50 04.1**	**+0.5**
DST	**Dursunbey**	**2.39**	**5**	*e*PN	**Pn**	**18 50 05.4**	**+0.7**
DST	**Dursunbey**	**2.39**	**5**	*e*Pn	**Pn**	**18 50 05.4**	**+0.7**
BALB	**Balikesir**	**2.44**	**352**	*e*PN	**Pn**	**18 50 05.6**	**+0.2**
BALB	**Balikesir**	**2.44**	**352**	*e*Pn	**Pn**	**18 50 05.6**	**+0.2**
AYVA	**Ayvalik**	**2.44**	**329**	*i* P	**Pn**	**18 50 05.7**	**+0.2**
AYVA	**Ayvalik**	**2.44**	**329**	*i* P	**Pn**	**18 50 05.7**	**+0.2**
BOLV	**Bolvadin**	**2.55**	**54**	*i* P	**Pn**	**18 50 08.1**	**+1.1**
BOLV	**Bolvadin**	**2.55**	**54**	*i* P	**Pn**	**18 50 08.1**	**+1.1**
PRK	**Paraskevi**	**2.58**	**322**	*e*PN	**Pn**	**18 50 07.8**	**+0.4**
PRK	**Paraskevi**	**2.58**	**322**	*e*Pn	**Pn**	**18 50 07.8**	**+0.4**
GONE	**Gonen-Balikesi**	**2.86**	**350**	*e*PN	**Pn**	**18 50 11.3**	**+0.1**
GONE	**Gonen-Balikesi**	**2.86**	**350**	*e*Pn	**Pn**	**18 50 11.3**	**+0.1**
NPS	**Neapolis**	**2.94**	**229**	*e*PB	**Pb**	**18 50 13.9**	**-3.9**
NPS	**Neapolis**	**2.94**	**229**	*e*Pb	**Pb**	**18 50 13.9**	**-3.9**
ESKT	**Eskisehir**	**3.03**	**40**	*e*PN	**Pn**	**18 50 14.5**	**+0.9**
ESKT	**Eskisehir**	**3.03**	**40**	*e*Pn	**Pn**	**18 50 14.5**	**+1.0**
EZN	**Ezine**	**3.03**	**329**	*e*PN	**Pn**	**18 50 14.8**	**+1.2**
EZN	**Ezine**	**3.03**	**329**	*e*Pn	**Pn**	**18 50 14.8**	**+1.2**
KCTX	**Karacabey (Bur**	**3.04**	**0**	*e*PN	**Pn**	**18 50 14.5**	**+0.9**
KCTX	**Karacabey (Bur**	**3.04**	**0**	*e*Pn	**Pn**	**18 50 14.5**	**+0.9**
LAST	**Lasithi**	**3.09**	**229**	*e*PN	**Pn**	**18 50 15.8**	**+1.5**
LAST	**Lasithi**	**3.09**	**229**	*e*Pn	**Pn**	**18 50 15.8**	**+1.5**
CAVI	**Cavuskoy**	**3.20**	**21**	*e*PN	**Pn**	**18 50 17.0**	**+1.1**
CAVI	**Cavuskoy**	**3.20**	**21**	*e*Pn	**Pn**	**18 50 17.0**	**+1.1**
KIZT	**Kizilcal**	**3.26**	**58**	*e*PN	**Pn**	**18 50 17.8**	**+1.2**
KIZT	**Kizilcal**	**3.26**	**58**	*e*Pn	**Pn**	**18 50 17.8**	**+1.2**
KDHN	**Kadinhani**	**3.27**	**66**	*i* P	**Pn**	**18 50 17.3**	**+0.5**
KDHN	**Kadinhani**	**3.27**	**66**	*i* P	**Pn**	**18 50 17.3**	**+0.5**
KONT	**Konya--Tatoy**	**3.29**	**76**	*e*PN	**Pn**	**18 50 18.2**	**+1.2**
KONT	**Konya--Tatoy**	**3.29**	**76**	*e*Pn	**Pn**	**18 50 18.2**	**+1.2**
HDMB	**Hadim**	**3.34**	**93**	*e*PN	**Pn**	**18 50 19.4**	**+1.6**
HDMB	**Hadim**	**3.34**	**93**	*e*Pn	**Pn**	**18 50 19.4**	**+1.7**
GAZI	**Gazipasa**	**3.35**	**106**	*i* P	**Pn**	**18 50 17.4**	**-0.6**
GAZI				*e*S	**Sg**	**18 51 05.2**	**-7.6**
GAZI	**Gazipasa**	**3.35**	**106**	*i* P	**Pn**	**18 50 17.4**	**-0.6**
GPA	**Golpazari**	**3.43**	**26**	*e*PN	**Pn**	**18 50 20.4**	**+1.4**
GPA	**Golpazari**	**3.43**	**26**	*e*Pn	**Pn**	**18 50 20.5**	**+1.5**
YLV	**Yalova**	**3.44**	**13**	*e*PN	**Pn**	**18 50 20.6**	**+1.5**
YLV	**Yalova**	**3.44**	**13**	*e*Pn	**Pn**	**18 50 20.6**	**+1.5**
GELI	**Tayfur-Gelibol**	**3.48**	**336**	*e*PN	**Pn**	**18 50 20.8**	**+1.1**
GELI	**Tayfur-Gelibol**	**3.48**	**336**	*e*Pn	**Pn**	**18 50 20.8**	**+1.1**
GULT	**Gulveren**	**3.63**	**27**	*e*PN	**Pn**	**18 50 23.2**	**+1.4**
GULT	**Gulveren**	**3.63**	**27**	*e*Pn	**Pn**	**18 50 23.2**	**+1.4**
ERIK	**Erikli-Kesan**	**3.72**	**338**	*e*PN	**Pn**	**18 50 24.3**	**+1.3**
ERIK	**Erikli-Kesan**	**3.72**	**338**	*e*Pn	**Pn**	**18 50 24.3**	**+1.3**
ALN	**Alexandroupoli**	**4.07**	**335**	*e*PN	**Pn**	**18 50 29.4**	**+1.6**
ALN	**Alexandroupoli**	**4.07**	**335**	*e*Pn	**Pn**	**18 50 29.4**	**+1.6**
HMAT	**Matruh** baz=192	**6.20**	**190**	P	**Pn**	**18 50 56.6**	**-0.5**
HMAT				AMP		18 52 00.0	
	comp=E,10μm,0.7s,logA/T=4.2,baz=192						
HMAT				S	**Sn**	**18 52 00.0**	**-8.3**
	baz=192						
HMAT	**Matruh**	**6.20**	**190**	P	**Pn**	**18 50 57.3**	**+0.2**
AMAG	**Maghara** baz=146	**7.72**	**147**	P	**Pn**	**18 51 16.5**	**-1.4**
AMAG	**Maghara**	**7.72**	**147**	P	**Pn**	**18 51 16.5**	**-1.4**
HNAT	**Natroun** baz=165	**7.81**	**165**	P	**Pn**	**18 51 18.0**	**-1.2**
GLL	**Jalalah** baz=159	**8.13**	**159**	P	**Pn**	**18 51 22.3**	**-1.3**
GLL	**Jalalah**	**8.13**	**159**	P	**Pn**	**18 51 22.7**	**-1.0**
SUZ	baz=151	**8.27**	**152**	P	**Pn**	**18 51 24.0**	**-1.5**
SUZ				S	**Sn**	**18 52 49.5**	**-10**
	baz=151						
SUZ		**8.27**	**152**	P	**Pn**	**18 51 24.6**	**-0.9**
SWA2	baz=200	**8.31**	**198**	P	**Pn**	**18 51 26.4**	**+0.3**
SWA2		**8.31**	**198**	P	**Pn**	**18 51 26.4**	**+0.3**
HKAT	**Jabal Katrina** baz=149	**9.90**	**150**	P	**Pn**	**18 51 47.4**	**-0.5**
HKAT				S	**Sn**	**18 53 29.2**	**-10**
	baz=149						
TR2	baz=151	**9.91**	**151**	P	**Pn**	**18 51 46.7**	**-1.3**
TR2				S	**Sn**	**18 53 29.4**	**-10**
	baz=151						
TR2		**9.91**	**151**	P	**Pn**	**18 51 46.2**	**-1.9**
HFRF	**Wahat Farafira** baz=182	**10.05**	**180**	P	**Pn**	**18 51 49.3**	**-0.6**
HFRF	**Wahat Farafira**	**10.05**	**180**	P	**Pn**	**18 51 49.3**	**-0.6**
TR1	baz=151	**10.34**	**151**	P	**Pn**	**18 51 52.6**	**-1.3**
TR1		**10.34**	**151**	P	**Pn**	**18 51 52.6**	**-1.3**

IDC 18 18:54:25.2 ± 3.8, 15°.32S × 167°.79E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/18, mbtmp4.0/5, Error ellipse: s-maj=122.3km s-min=37.1km az=136.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.18**	**257**	P	P	19 00 54.3	-0.7
	0.6nm,0.7s,baz=86,slow=8.8,SNR=10						
ASAR	**Alice Springs**	**32.94**	**250**	P	P	19 01 01.6	-0.1
	0.8nm,0.4s,baz=78,slow=9.3,SNR=18						
FITZ	**Fitzroy Crossi**	**40.41**	**260**	P	P	19 02 05.7	+0.3
	2.1nm,0.4s,baz=95,slow=7.8,SNR=23						
CMAR	**Chiang Mai Arr**	**75.65**	**294**	P	P	19 06 13.8	+1.0
	0.5nm,0.8s,baz=130,slow=5.2,SNR=4.2						
SONM	**Songino Array**	**83.27**	**323**	P	P	19 06 53.8	+0.2
	1.0nm,0.8s,baz=146,slow=5.6,SNR=6.6						
VNA3	**Neumayer Olymp**	**93.64**	**181**	*e*	P	19 07 37.5	-5.6
VNA2	**Neumayer--Watz**	**93.91**	**182**	*e*	P	19 07 39.0	-5.4
KEST	**Kesra**	**151.99**	**320**	PKPbc	PKPbc	19 14 22.3	-0.5
	0.9nm,0.6s,baz=91,slow=3.1,SNR=6.2						

*JMA **18** 19:18:39.4 ± 0.3, 32°.52N × 142°.30E, h0km, M3.7*
*IDC **18** 19:18:40.3 ± 6.2, 32°.05N × 141°.88E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/23, mbtmp3.4/4, ML4.0/1, Error ellipse: s-maj=225.5km s-min=26.9km az=69.0*
*ISCJB **18** 19:18:41.7 ± 1.4, 32°.62N ± 0°.10 × 142°.6E ± 0°.1, h34km ± 15km, mb3.3/3, Error ellipse: s-maj=22.3km s-min=11.8km az=145.3*
ISC 18 19:18:42.3 ± 2.2, 32°.53N ± 0°.09 × 142°.7E ± 0°.2, h34km ± 21km, n18, σ1s00/26, mb3.3/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.47**	**284**	P	**Pn**	**19 19 17.9**	**-2.1**
BSO1	**Boso 1**	**2.54**	**327**	P	**Pn**	**19 19 21.1**	**0.0**
BSO3	**Boso 3**	**2.89**	**322**	P	**Pn**	**19 19 25.0**	**-0.9**
BSO4	**Boso 4**	**3.13**	**322**	P	**Pn**	**19 19 30.0**	**+0.9**
KTR	**Katsuura**	**3.26**	**324**	P	**Pn**	**19 19 31.5**	**+0.5**
JOD2	**Odawara 2**	**4.04**	**313**	P	**Pn**	**19 19 41.4**	**-0.2**
JOD2				*e*S	**Sn**	**19 20 25.8**	**-1.8**
JHU	**Hanno**	**4.34**	**321**	P	**Pn**	**19 19 46.0**	**+0.2**
JHU	**Hitachi**	**4.42**	**338**	P	**Pn**	**19 19 46.7**	**-0.2**
JHO				*e*S	**Sn**	**19 20 35.2**	**-2.0**
JYN	**Shimob**	**4.53**	**312**	P	**Pn**	**19 19 48.6**	**+0.3**
JYN				*e*S	**Sn**	**19 20 41.0**	**+1.3**
JRY	**Ryogami san**	**4.67**	**319**	P	**Pn**	**19 19 50.8**	**+0.5**
JRY				*e*S	**Sn**	**19 20 44.1**	**+0.8**
JAG	**Ashikaga**	**4.71**	**327**	P	**Pn**	**19 19 51.1**	**+0.3**
JAG				*e*S	**Sn**	**19 20 43.7**	**-0.4**
MJAR	**Matsushiro Arr**	**5.43**	**319**	Pn	**Pn**	**19 20 00.6**	**-0.2**
	5.1nm,0.3s,baz=144,slow=11,SNR=54						
MJAR				Sn	**Sn**	**19 21 01.9**	**-0.3**
	0.9nm,0.3s,baz=148,slow=16,SNR=5.1						
MAT	**Matsushiro**	**5.44**	**319**	P	**Pn**	**19 20 01.5**	**+0.7**
MAT				S	**Sn**	**19 21 02.9**	**+0.7**
MAT	**Matsushiro**	**5.44**	**319**	P	**Pn**	**19 20 01.9**	**+1.1**
MAT				*e*S	**Sn**	**19 21 02.4**	**+0.2**
JMM	**Marumori**	**5.54**	**344**	P	**Pn**	**19 20 01.7**	**-0.5**
JMM				*e*S	Sx	19 21 01.5	
SONM	**Songino Array**	**31.32**	**310**	P	**P**	**19 25 01.3**	**+2.2**
	0.2nm,0.4s,mb3.3,baz=117,slow=7.7,SNR=2.6						
MKAR	**Makanchi Array**	**47.49**	**306**	P	**P**	**19 27 14.8**	**+1.0**
	0.3nm,0.5s,mb3.5,baz=74,slow=7.0,SNR=5.7						
WRA	**Warramunga Arr**	**52.78**	**190**	P	**P**	**19 27 52.7**	**-1.3**
	0.2nm,0.7s,mb3.1,baz=5.7,slow=7.6,SNR=4.1						

*MOS **18** 19:22:30.2 ± 1.0, 7°.27N × 126°.60E, h36km, mb4.9/17, Error ellipse: s-maj=13.7km s-min=7.1km az=112.0*
*BJI **18** 19:22:30.7, 6°.49N × 126°.81E, h90km, mB5.0/12, mb4.5/21, Ms4.5/7, Ms7 4.0/8*
*MAN **18** 19:22:35, 7°.27N × 126°.75E, h88km, mb5.1, ML4.1, MS4.3*
*IDC **18** 19:22:36.4 ± 1.2, 7°.21N × 126°.65E, h79km ± 10km, mb4.2/24, mb1 4.3/24, mb1mx4.2/29, mbtmp4.2/24, MS3.7/12, Ms1 3.8/12, ms1mx3.5/41, Error ellipse: s-maj=15.1km s-min=7.9km az=82.0*
*ISCJB **18** 19:22:36.0 ± 0.5, 7°.25N ± 0°.03 × 126°.71E ± 0°.05, h89km ± 4km, mb4.4/65, Error ellipse: s-maj=7.8km s-min=4.0km az=161.3*
*NEIC **18** 19:22:36.5 ± 1.0, 7°.22N × 126°.63E, h80km ± 9km, mb4.5/23, Error ellipse: s-maj=9.0km s-min=5.1km az=68.0*
*DJA **18** 19:22:36, 7°.29N × 126°.75E, h19km, mb5.0/10*
ISC 18 19:22:37.5 ± 0.5, 7°.24N ± 0°.03 × 126°.7E ± 0°.05, h86km ± 4km, h93km ± 3.9km: pP-P, n190, σ1s00/198, mb4.4/65, 3C-6D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.13**	**262**	P	**Pn**	**19 22 56.4**	**-2.1**
	577nm,0.3s,baz=254,slow=2.4,SNR=104						
DAV				S	**Sn**	**19 23 11.3**	**-2.9**
	738nm,0.3s,baz=127,slow=20,SNR=8.4						
DAV	**Davao City (W)**	**1.13**	**262**	*e*Pn	**Pn**	**19 22 56.5**	**-1.9**
DAV	**Davao City (W)**	**1.13**	**262**	P	**Pn**	**19 22 56.6**	**-1.8**
DMPH	**Davao City--Mi**	**1.19**	**263**	*e*P	**Pn**	**19 22 57.7**	**-1.6**
KCP	**Kidapawan**	**1.61**	**262**	*i*P	**Pn**	**19 23 05.3**	**+0.7**
KCP				*i* S	**Sn**	**19 23 28.9**	**+3.8**
CGP	**Cagayan de Oro**	**2.33**	**301**	*e*P	**Pn**	**19 23 12.1**	**-1.8**
CGP				*i* S	**Sn**	**19 23 42.6**	**+0.8**
CTBH	**Cotabato--PC H**	**2.44**	**270**	*e*P	Px	19 23 36.6	
SCPH	**Surigao**	**2.80**	**335**	*e*P	**Pn**	**19 23 20.2**	**-0.1**
MSLP	**Maasin**	**3.41**	**328**	*e*P	**Pn**	**19 23 27.2**	**-1.3**
SGSI	**Sangihe**	**3.72**	**198**	P	**Pn**	**19 23 33.9**	**+1.2**
TBP	**Tagbilaran**	**3.72**	**311**	*e*P	**Pn**	**19 23 33.4**	**+0.7**
SNPH	**Sibulan**	**4.02**	**302**	*i*P	**Pn**	**19 23 36.0**	**-0.8**
SNPH				*i* S	**Sn**	**19 24 24.0**	**+1.3**
LLP	**Lapu-Lapu**	**4.08**	**319**	*e*P	**Pn**	**19 23 36.9**	**-0.7**
LLP				*e*S	**Sn**	**19 24 17.6**	**-6.7**
PLP	**Palo**	**4.26**	**337**	*e*P	**Pn**	**19 23 39.9**	**-0.1**
PLP				*e*S	**Sn**	**19 24 36.5**	**+8.0**
OCLP	**Ormoc**	**4.32**	**332**	*e*P	**Pn**	**19 23 40.6**	**-0.2**
CNP	**Catarman**	**5.61**	**339**	*e*P	**Pn**	**19 23 59.0**	**+0.6**
RCP	**Roxas**	**5.80**	**318**	*e*P	**Pn**	**19 24 01.4**	**+0.4**
TNTI	**Ternate** 2μm244nm,1.0s	**6.46**	**174**	P	**Pn**	**19 24 08.7**	**-1.3**
PVCP	**Virac**	**6.80**	**339**	*e*P	**Pn**	**19 24 17.3**	**+2.7**
KMSI	**Cibinong** 2μm239nm,0.8s	**7.15**	**202**	P	**Pn**	**19 24 20.6**	**+1.1**
MRSI	**Marisa** 1μm124nm,0.6s	**8.22**	**215**	P	**Pn**	**19 24 33.2**	**-0.9**
MYLDM	**Lahad Datu** 58nm,1.4s	**8.41**	**256**	P	**Pn**	**19 24 37.5**	**+0.9**
LUWI	**Luwuk** 1μm136nm,1.3s	**9.11**	**206**	P	**Pn**	**19 24 45.8**	**-0.4**
NLAI	**Namlea** 1μm37nm,0.6s	**10.41**	**178**	P	**Pn**	**19 25 02.7**	**-1.3**
AAI	**Ambon** 25nm,0.7s	**10.95**	**172**	P	**Pn**	**19 25 13.7**	**+2.4**
KDI	**Kendari** 16nm,0.8s	**11.84**	**200**	P	**Pn**	**19 25 28.0**	**+4.5**
BNDI	**Bandanaira** 930nm41nn,1.4s	**12.11**	**165**	P	**Pn**	**19 25 28.2**	**+1.1**
TTSI	**Tana Toraja**	**12.31**	**214**	P	**Pn**	**19 25 31.4**	**+1.6**
KSM	**Kuching**	**17.31**	**251**	*e*P	**Pn**	**19 26 36.2**	**+2.3**
GUMO	**Guam**	**18.94**	**69**	LR	LR	19 32 32.2	
	comp=Z,207nm,20.6s,baz=336,slow=31						
JOW	**Kunigami**	**19.54**	**4**	LR	LR	19 32 58.9	
	comp=Z,306nm,21.2s,baz=319,slow=32						
CBIJ	**Chichi jima**	**24.62**	**35**	P	**P**	**19 27 49.0**	**-0.9**
	142nm,0.9s,mb5.4,baz=287,slow=20,SNR=4.3						
FITZ	**Fitzroy Crossi**	**25.20**	**182**	P	**P**	**19 27 55.4**	**+0.2**
	9.2nm,0.7s,mb4.3,baz=16,slow=7.3,SNR=21						
FITZ				PcP	PcP	19 31 27.7	+0.6
	1.4nm,0.5s,baz=342,slow=6.4,SNR=3.2						
FITZ	**Fitzroy Crossi**	**25.20**	**182**	*e*P	**P**	**19 27 55.3**	**+0.1**
	17nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**25.20**	**182**	*e*Pn	**P**	**19 27 55.1**	**-0.2**
	11nm,0.8s,mb4.3						
PMG	**Port Moresby**	**26.25**	**129**	*e*P	**P**	**19 28 04.4**	**-0.4**
PMG				pmax	pmax		
	comp=Z,22nm,1.5s						
COEN	**Coen**	**26.66**	**142**	*e*Pn	**P**	**19 28 08.2**	**-0.3**
GYA	**Guiyang**	**27.00**	**317**	*e*P	**P**	**19 28 11.8**	**+0.4**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.3						
WRAB	**Tennant Creek**	**28.03**	**165**	*e*Pn	**P**	**19 28 17.9**	**-2.8**
	comp=Z,11nm,0.9s,mb4.4						
WRAB	**Tennant Creek**	**28.03**	**165**	*e*P	**P**	**19 28 17.9**	**-2.8**
WRAB				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**28.04**	**165**	P	**P**	**19 28 20.1**	**-0.6**
	comp=Z,3.6nm,0.6s,mb4.0,baz=349,slow=9.9,SNR=29						
WRA				PcP	PcP	19 31 34.3	+0.6
	comp=Z,1.8nm,0.6s,baz=338,slow=2.8,SNR=4.9						
WRA				S	**S**	**19 32 57.1**	**-2.0**
	comp=Z,0.7nm,0.7s,baz=345,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**28.04**	**165**	P	**P**	**19 28 20.1**	**-0.6**
WRA				PcP	PcP	19 31 34.3	+0.6
WRA				S	**S**	**19 32 57.1**	**-2.0**
WRA	**Warramunga Arr**	**28.04**	**165**	P	**P**	**19 28 20.2**	**-0.5**
WRA						19 31 34.3	
WRA				S	**S**	**19 32 57.1**	**-2.0**
WB2	**Warramunga Arr**	**28.04**	**165**	*e*Pn	**P**	**19 28 19.7**	**-1.0**
KMI	**Kunming**	**28.99**	**311**	P	**P**	**19 28 30.0**	**+0.8**
KMI				pP	pP	19 28 44.9	-4.1
KMI				S	**S**	**19 33 11.4**	**-2.8**
KMI				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.2						

comp=Z,10.0nm,0.5s
KLBR Kellerberrin 39.55 192 *e*P **P** 19 30 00.6 +0.5
comp=Z,10nm,0.7s,mb4.8
GTA Gaotai 40.12 327 *e*P **P** 19 30 06.3 +1.4
GTA pP pP 19 30 28.9 +3.6
GTA sP sP 19 30 41.3 +6.1
GTA pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
LSA Lhasa 40.18 308 *e*P **P** 19 30 05.7 +0.2
comp=Z,1.4nm,0.6s,mb4.0
LSA Lhasa 40.18 308 *e*P **P** 19 30 05.7 +0.2
LSA pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
NWAO Narrogin (SRO) 40.95 192 P **P** 19 30 11.5 -0.2
comp=Z,9.0nm,0.5s,mb4.8,baz=14,slow=9.5,SNR=18
NWAO Narrogin (SRO) 40.95 192 *e*P **P** 19 30 11.3 -0.4
comp=Z,12nm,0.8s,mb4.8
NWAO Narrogin (SRO) 40.95 192 P **P** 19 30 11.5 -0.2
NWAO pmax pmax
comp=Z,9.0nm,0.5s
STKA Stephens Creek 41.41 161 P **P** 19 30 15.7 +0.2
comp=Z,12nm,0.6s,mb4.9,baz=345,slow=8.3,SNR=19
STKA LR LR 19 47 42.1
comp=Z,80nm,20.4s,baz=208,slow=36
STKA Stephens Creek 41.41 161 *e*P **P** 19 30 15.8 +0.3
comp=Z,8.8nm,0.8s,mb4.6
STKA Stephens Creek 41.41 161 *e*P **P** 19 30 15.2 -0.3
comp=Z,3.2nm,0.9s,mb4.2
STKA Stephens Creek 41.41 161 P **P** 19 30 15.7 +0.2
STKA pmax pmax
comp=Z,13nm,0.6s
STKA MLR MLR
comp=Z,80nm,20.4s
TAPN Taplejung 42.00 303 *e*P **P** 19 30 21.0 +0.5
ODAN Odare 42.10 302 *e*P **P** 19 30 21.3 0.0
RAMN Ramite 42.79 302 *e*P **P** 19 30 27.8 +0.9
GUN Gumba 43.72 303 *e*P **P** 19 30 35.0 +0.6
comp=Z,14nm,0.8s,mb4.8
ULN Ulaanbaatar 43.80 341 *e*P **P** 19 30 34.2 -0.5
comp=Z,4.2nm,1.2s,mb4.0
ULN Ulaanbaatar 43.80 341 *e*P **P** 19 30 34.2 -0.5
ULN pmax pmax
comp=Z,4.0nm,1.2s,mb4.0
SONM Songino Array 43.99 340 P **P** 19 30 35.0 -1.2
comp=Z,0.6nm,0.5s,mb3.6,baz=154,slow=8.6,SNR=8.8
SONM LR LR 19 49 21.8
comp=Z,122nm,18.7s,baz=145,slow=36
SONM Songino Array 43.99 340 P **P** 19 30 35.0 -1.2
SONM LR LR 19 49 21.8
SONM Songino Array 43.99 340 P **P** 19 30 35.0 -1.2
DMN Daman 44.26 302 *e*P **P** 19 30 39.1 +0.4
ARMA Armidale 44.43 149 *e*P **P** 19 30 41.3 +1.4
KOLN Koldanda 45.58 302 *e*P **P** 19 30 49.6 +0.4
comp=Z,6.8nm,0.5s,mb4.6
DANN Dangsing 45.63 303 *e*P **P** 19 30 50.0 +0.4
PYUN Piuthan 46.20 302 *e*P **P** 19 30 54.0 0.0
CNB Canberra Magne 47.41 155 *e*P **P** 19 31 05.1 +1.8
comp=Z,52nm,0.8s,mb5.3
TOO Toolangi 47.91 160 *e*P **P** 19 31 07.9 +0.8
comp=Z,23nm,0.5s,mb5.3
WMQ Urumqi 49.88 323 *e*P **P** 19 31 22.6 +0.5
PEA0B Petropavlovsk- 52.22 23 *e*P **P** 19 31 41.0 +1.5
PETK Petropavlovsk- 52.22 23 P **P** 19 31 40.6 +1.0
comp=Z,14nm,0.6s,mb5.2,baz=199,slow=4.2,SNR=22
PETK LR LR 19 54 40.4
comp=Z,46nm,19.9s,baz=277,slow=37
PETK Petropavlovsk- 52.22 23 P **P** 19 31 40.6 +1.0
PETK LR LR 19 54 40.4
PETK Petropavlovsk- 52.22 23 P **P** 19 31 40.6 +1.1
PET Petropavlovsk 52.54 24 *e*P **P** 19 31 42.8 +1.0
comp=Z,18nm,0.6s,mb5.3
PET Petropavlovsk 52.54 24 *e*P **P** 19 31 42.8 +1.0
PET pmax pmax
comp=Z,19nm,0.6s,mb5.3
MK31 Makanchi Array 54.70 324 *e*P **P** 19 31 57.5 -0.3
MK31 Makanchi Array 54.70 324 *e*P **P** 19 31 57.9 +0.1
MK31 pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
MKAR Makanchi Array 54.70 324 P **P** 19 31 56.6 -1.2
comp=Z,3.6nm,0.7s,mb4.5,baz=118,slow=7.4,SNR=40
MKAR LR LR 19 55 13.3
comp=Z,66nm,19.1s,baz=128,slow=36
MKAR Makanchi Array 54.70 324 P **P** 19 31 56.6 -1.2
MKAR LR LR 19 55 13.3
MKAR Makanchi Array 54.70 324 P **P** 19 31 56.6 -1.2
YAK Yakutsk 54.73 2 *e*P **P** 19 31 56.9 -0.8
comp=Z,6.1nm,0.5s,mb4.9
YAK Yakutsk 54.73 2 *e*P **P** 19 31 57.0 -0.7
YAK pmax pmax
comp=Z,17nm,1.2s,mb5.0
TKM2 Tokmak 2 57.14 317 *e*P **P** 19 32 14.2 -1.2
comp=Z,3.7nm,0.8s,mb4.5
TKM2 Tokmak 2 57.14 317 P **P** 19 32 14.6 -0.7
TKM2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
ZALV Zalesovo Beam 57.48 332 P **P** 19 32 16.1 -1.4
comp=Z,1.1nm,0.6s,mb4.1,baz=123,slow=5.5,SNR=7.1
ZALV LR LR 19 58 11.9
comp=Z,44nm,18.4s,baz=99,slow=37
ZALV Zalesovo Beam 57.48 332 P **P** 19 32 16.1 -1.4
ZALV LR LR 19 58 11.9
ZALV Zalesovo Beam 57.48 332 P **P** 19 32 16.1 -1.4
EKS2 Erkin-Say 58.28 316 *e*P **P** 19 32 24.0 +0.7
comp=Z,5.1nm,0.7s,mb4.7
EKS2 Erkin-Say 58.28 316 *e*P **P** 19 32 24.0 +0.7
EKS2 pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
KURK Kurchatov 58.80 326 P **P** 19 32 26.1 -0.7
comp=Z,3.3nm,0.6s,mb4.5,baz=126,slow=6.3,SNR=18
KURK Kurchatov 58.80 326 *e*P **P** 19 32 25.7 -1.1
comp=Z,3.7nm,0.6s,mb4.6
KURK Kurchatov 58.80 326‖ *e*P **P** 19 32 26.4 -0.4
KURK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
KBL Kabul 59.42 306 *e*P **P** 19 32 31.2 -0.2
comp=Z,2.4nm,0.6s,mb4.4
KBL Kabul 59.42 306 *e*P **P** 19 32 31.2 -0.1
KBL pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
KK31 Karatay Array 60.69 316 *i* P **P** 19 32 39.6 -0.3
KK31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
KKAR Karatay Array 60.69 316 *e*P **P** 19 32 39.6 -0.3
comp=Z,1.0nm,0.4s,mb4.2
KKAR Karatay Array 60.69 316 *e*P **P** 19 32 39.6 -0.3
KKAR pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
BVA0 Borovoye Array 64.40 326 P **P** 19 33 02.4 -1.9
BVA0 pmax pmax
comp=Z,1.0nm,1.5s,mb3.4
BRVK Borovoye 64.47 326 *e*P **P** 19 33 04.5 -0.3
comp=Z,3.1nm,0.7s,mb4.2
BRVK Borovoye 64.47 326 *e*P **P** 19 33 04.6 -0.2
BRVK pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
AB31 Akbulak array 69.45 320 *e*P **P** 19 33 35.7 -0.8
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
ABKAR Akbulak array 69.45 320 *e*P **P** 19 33 35.4 -1.1
comp=Z,1.6nm,0.7s,mb4.0
UNV Unalaska Valle 70.58 35 *e*P **P** 19 33 44.0 +0.7
AKTO Aktyubinsk 70.92 321 P **P** 19 33 45.5 0.0
AKTO pmax pmax
comp=Z,1.0nm,1.1s,mb3.6
ARU Arti 71.98 327 *e*P **P** 19 33 51.4 -0.3
comp=Z,7.2nm,0.9s,mb4.5
ARU Arti 71.98 327 *e*P **P** 19 33 51.4 -0.3
ARU pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
MIB Mutribah 77.23 299 *e*P **P** 19 34 22.1 -0.5
MIB AMb AMB 19 34 23.1
comp=Z,23nm,0.8s,mb5.0
NAY Al-Naaiem 77.32 298 *e*P **P** 19 34 22.5 -0.7
NAY AMb AMB 19 34 30.6
comp=Z,8.0nm,1.4s,mb4.2
RST Umm Al-Ruwaisa 77.53 299 *e*P **P** 19 34 23.4 -0.9
RST AMb AMB 19 34 24.5
comp=Z,3.4nm,0.9s,mb4.1
KDAK Kodiak Island 78.96 33 *i* P **P** 19 34 33.7 +2.1
ZEI Tsey 79.85 312 *e*P **P** 19 34 35.7 -1.1
ZEI pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
SLKM Skilak Lake 80.33 30 *e*P **P** 19 34 39.4 +0.4
SLKM Skilak Lake 80.33 30 *e*P **P** 19 34 39.4 +0.4
KIV Kislovodsk 80.72 313 *e*P **P** 19 34 42.2 +0.8
comp=Z,7.0nm,0.9s,mb4.5
KIV Kislovodsk 80.72 313 *e*P **P** 19 34 42.8 +1.4
KIV pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
KIV MLR MLR
comp=Z,72nm,19.0s
PMR Palmer 80.90 29 *e*P **P** 19 34 42.5 +0.4
comp=Z,9.1nm,0.9s,mb4.6
PMR Palmer 80.90 29 *e*P **P** 19 34 42.5 +0.5
PMR pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
MCK McKinley 81.06 27 *e*P **P** 19 34 43.2 +0.5
comp=Z,12nm,0.8s,mb4.8
MCK *e* 19 34 57.0
MCK McKinley 81.06 27 *e*P **P** 19 34 43.3 +0.5
MCK *e* 19 34 57.0
MCK pmax pmax
comp=Z,12nm,0.8s,mb4.8
SML Sawmill 81.29 29 *e*P **P** 19 34 44.9 +0.8
SML Sawmill 81.29 29 *e*P **P** 19 34 44.9 +0.9
COLA College 81.56 25 *e*P **P** 19 34 45.7 +0.3
comp=Z,5.5nm,0.9s,mb4.4
COLA College 81.56 25 *e*P **P** 19 34 45.7 +0.3
COLA pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
ILAR Eielson Array 81.97 26 P **P** 19 34 47.2 -0.4
comp=Z,1.8nm,0.5s,mb4.1,baz=244,slow=5.3,SNR=48
ILAR Eielson Array 81.97 26 P **P** 19 34 47.2 -0.4
ILAR Eielson Array 81.97 26 P **P** 19 34 47.2 -0.4
ASF Jabal al Asfar 86.03 302 P **P** 19 35 08.9 -0.1
comp=Z,4.7nm,0.8s,mb4.5,baz=228,slow=3.2,SNR=6.4
ASF Jabal al Asfar 86.03 302 P **P** 19 35 08.9 -0.1
ASF Jabal al Asfar 86.03 302 P **P** 19 35 08.9 -0.1
VNDA Vanda 86.89 173 P **P** 19 35 12.5 +0.4
comp=Z,2.0nm,0.5s,mb4.3,baz=316,slow=6.1,SNR=20
VNDA Vanda 86.89 173 P **P** 19 35 12.5 +0.4
VNDA Vanda 86.89 173 P **P** 19 35 12.5 +0.4
INK Inuvik 86.93 22 *e*P **P** 19 35 12.3 -0.3
comp=Z,1.1nm,0.7s,mb3.9
INK Inuvik 86.93 22 *e*P **P** 19 35 12.3 -0.3
INK pmax pmax
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 87.17 340 P **P** 19 35 12.9 -0.8
comp=Z,7.0nm,1.1s,mb4.5,baz=72,slow=4.0,SNR=5.2
ARCES ARCESS Array B 87.17 340 P **P** 19 35 12.9 -0.8
ARCES ARCESS Array B 87.17 340 P **P** 19 35 12.9 -0.8
MMAI Mount Meron Ar 87.19 303 P **P** 19 35 14.5 -0.1
comp=Z,2.7nm,0.6s,mb4.3,baz=93,slow=8.4,SNR=6.4
MMAI Mount Meron Ar 87.19 303 P **P** 19 35 14.5 -0.1
BRTR Keskin Array B 87.78 310 P **P** 19 35 16.8 -0.5
comp=Z,1.1nm,0.7s,mb4.0,baz=127,slow=5.8,SNR=6.7
BRTR Keskin Array B 87.78 310 P **P** 19 35 16.8 -0.5
BRTR Keskin Array B 87.78 310 P **P** 19 35 16.8 -0.5
EIL Elat 87.98 299 P **P** 19 35 18.6 +0.2
comp=Z,2.1nm,0.6s,mb4.4,baz=1.4,slow=5.3,SNR=5.7
EIL Elat 87.98 299 P **P** 19 35 18.6 +0.2
FINES FINESS Array B 88.75 332 P **P** 19 35 20.2 -1.1
comp=Z,5.6nm,0.9s,mb4.6,baz=72,slow=4.5,SNR=7.1
FINES FINESS Array B 88.75 332 P **P** 19 35 20.2 -1.1
FINES FINESS Array B 88.75 332 P **P** 19 35 20.2 -1.1
AKASG Malin Array Be 89.17 321 P **P** 19 35 21.8 -1.8
comp=Z,1.4nm,0.5s,mb4.2,baz=73,slow=4.3,SNR=8.1
AKASG Malin Array Be 89.17 321 P **P** 19 35 21.8 -1.8
AKASG Malin Array Be 89.17 321 P **P** 19 35 21.8 -1.8
NOA NORSAR Array B 95.65 334 LR LR 20 24 43.5
comp=Z,132nm,18.6s,baz=285,slow=39
GERES GERESS Array B 99.33 322 P **P** 19 36 10.0 -0.1
comp=Z,0.5nm,0.6s,mb4.2,baz=76,slow=4.1,SNR=2.5
GERES GERESS Array B 99.33 322 P **P** 19 36 10.0 -0.1
GERES GERESS Array B 99.33 322 P **P** 19 36 10.0 -0.1
TXAR Lajitas Array 119.44 51 PKP PKPdf 19 41 19.1 +1.4
comp=Z,0.8nm,0.6s,baz=233,slow=0.9,SNR=14
TXAR Lajitas Array 119.44 51 PKP PKPdf 19 41 19.1 +1.4
TXAR Lajitas Array 119.44 51 PKIKP PKPdf 19 41 19.1 +1.4
TORD Torodi Ar. Bea 121.75 290 PKP PKPdf 19 41 22.2 -0.3
comp=Z,1.6nm,0.8s,baz=28,slow=2.0,SNR=9.3
TORD Torodi Ar. Bea 121.75 290 PKP PKPdf 19 41 22.2 -0.3

IDC 18 19:30:56.4±9.4, 30°.09S×177°.31W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/15, mbtmp3.7/2, Error ellipse: s-maj=404.3km s-min=58.7km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.72**	**266**	P	P	19 39 03.8	+0.2
	0.1nm,0.3s,baz=106,slow=7.5,SNR=6.1						
WRA	**Warramunga Arr**	**44.69**	**271**	P	P	19 39 11.0	-0.3
	1.0nm,0.3s,baz=111,slow=8.2,SNR=37						
FINES	**FINESS Array B**	**145.06**	**341**	PKPbc	PKPbc	19 50 33.5	-0.8
	7.3nm,1.1s,baz=28,slow=3.3,SNR=5.0						

*NEIC **18** 19:56:51.2, 58°.33N×153°.96W, h16km, ML3.9(PMR), ML3.6(AEIC), After AEIC.*
*ISCJB **18** 19:56:52.7±1.3, 58°.29N±0°.05×153°.87W±0°.10, h27km±14km, mb3.8/2, Error ellipse: s-maj=10.7km s-min=6.2km az=135.1*
*IDC **18** 19:56:53.3±2.9, 57°.82N×154°.01W, h33km±30km, mb3.5/2, mb1 4.1/5, mb1mx3.6/25, mbtmp3.9/5, ML4.2/3, Error ellipse: s-maj=32.8km s-min=20.6km az=115.0*
ISC 18 19:56:53.3±1.5, 58°.25N±0°.06×153°.84W±0°.09, h15km±12km, n36, σ0.95/41, mb3.8/2, Kodiak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**0.82**	**125**	Pg	**Pg**	**19 57 08.5**	**-0.7**
	140nm,0.3s,baz=326,slow=9.7,SNR=1366						
KDAK				Lg		19 57 20.4	
	402nm,0.3s,baz=333,slow=24,SNR=46						
KDAK	**Kodiak Island**	**0.82**	**125**	*e*Pg	**Pg**	**19 57 09.0**	**-0.2**
KDAK				*e*Sg	**Sg**	19 57 19.7	-0.2
OHAK	**Old Harbor**	**1.07**	**164**	*e*P	**Pb**	19 57 13.0	-0.5
RSO	**Redoubt South**	**2.29**	**14**	*e*Pn	**Pn**	19 57 29.7	-0.8
SLKM	**Skilak Lake**	**2.92**	**38**	*e*Pn	**Pn**	19 57 39.2	0.0
SLKM				*e*Sn	**Sn**	19 58 15.0	+0.9
SEW	**Seward**	**2.93**	**49**	*e*Pn	**Pn**	19 57 38.8	-0.4
SEW				*e*Sn	**Sn**	19 58 14.1	+0.1
SVW2	**Sparrevohn**	**2.99**	**344**	*e*P	**Pn**	19 57 38.1	-2.0
CHGN	**Chignik**	**3.16**	**234**	*e*P	**Pn**	19 57 43.8	+1.4
RC01	**Rabbit Creek A**	**3.53**	**34**	*e*P	**Pn**	19 57 47.6	+0.1
PMR	**Palmer**	**4.10**	**33**	*e*Pn	**Pn**	19 57 55.3	-0.1
SML	**Sawmill**	**4.51**	**35**	*e*Pn	**Pn**	19 58 01.1	+0.1
SDPT	**Sand Point**	**4.67**	**234**	*e*Pn	**Pn**	19 58 03.5	+0.4
PPLA	**Purkeypile**	**4.73**	**9**	*e*Pn	**Pn**	19 58 05.9	+1.9
DIV	**Divide**	**5.00**	**51**	*e*Pn	**Pn**	19 58 05.6	-2.1
	25nm,0.6s						
MCK	**McKinley**	**5.99**	**21**	*e*Pn	**Pn**	19 58 21.3	0.0
PAX	**Paxson**	**6.27**	**38**	*e*Pn	**Pn**	19 58 26.0	+0.8
	25nm,0.6s						
MENT	**Mentasta**	**6.85**	**42**	*e*P	**Pn**	19 58 35.2	+2.2
DOT	**Dot Lake**	**7.20**	**37**	*e*Pn	**Pn**	19 58 38.6	+0.7
COLA	**College**	**7.23**	**21**	*e*Pn	**Pn**	19 58 38.0	-0.3
	17nm,0.5s						
ILAR	**Eielson Array**	**7.33**	**24**	Pn	**Pn**	19 58 39.2	-0.5
	2.9nm,0.3s,baz=212,slow=14,SNR=103						
ILAR				Sn	**Sn**	20 00 00.8	-1.8
	1.3nm,0.3s,baz=208,slow=27,SNR=5.1						
ILAR	**Eielson Array**	**7.33**	**24**	Pn	**Pn**	19 58 39.2	-0.5
ILAR				Sn	**Sn**	20 00 00.8	-1.8
EGAK	**Eagle**	**8.91**	**37**	*e*Pn	**Pn**	19 59 02.0	+0.8
	6.7nm,0.6s						
DAWY	**Dawson**	**9.08**	**44**	*e*Pn	**Pn**	19 59 04.5	+0.9
COLD	**Coldfoot**	**9.16**	**9**	*e*Pn	**Pn**	19 59 05.2	+0.5
	8.8nm,0.8s						
SKAG	**Skagway**	**9.67**	**75**	*e*Pn	**Pn**	19 59 10.8	-0.9
	23nm,0.6s						
DLBC	**Dease Lake**	**12.50**	**79**	Pn	**Pn**	19 59 51.5	+1.2
	1.6nm,0.3s,baz=270,slow=8.1,SNR=11						
DLBC	**Dease Lake**	**12.50**	**79**	Pn	**Pn**	19 59 51.5	+1.2
INK	**Inuvik**	**13.52**	**34**	Pn	**Pn**	20 00 04.7	+0.5
	0.2nm,0.3s,baz=235,slow=15,SNR=9.4						
INK	**Inuvik**	**13.52**	**34**	Pn	**Pn**	20 00 04.7	+0.5
GSTR	**Great Sitkin T**	**14.07**	**254**	*e*Pn	**Pn**	20 00 11.9	0.0
YKA	**Yellowknife Ar**	**19.63**	**61**	P	**Pn**	20 01 21.4	-0.8
	0.3nm,0.3s,baz=274,slow=9.9,SNR=12						
YKA	**Yellowknife Ar**	**19.63**	**61**	P	**Pn**	20 01 21.4	-0.8
SONM	**Songino Array**	**55.47**	**306**	P	**P**	20 06 26.4	-0.6
	0.7nm,0.5s,mb4.0,baz=44,slow=5.7,SNR=14						
SONM	**Songino Array**	**55.47**	**306**	P	**P**	20 06 26.4	-0.6
ZALV	**Zalesovo Beam**	**58.53**	**324**	P	**P**	20 06 47.4	-1.1
	0.2nm,0.4s,mb3.5,baz=33,slow=8.6,SNR=2.8						
ZALV	**Zalesovo Beam**	**58.53**	**324**	P	**P**	20 06 47.4	-1.1

*IDC **18** 20:02:54.9±0.8, 5°.09S×152°.78E, h0km, mb4.3/15, mb1 4.4/16, mb1mx4.3/21, mbtmp4.3/16, ML2.3/1, MS3.5/8, Ms1 3.6/8, ms1mx3.3/29, Error ellipse: s-maj=30.7km s-min=15.3km az=113.0*
*ISCJB **18** 20:02:58.3±0.7, 5°.13S±0°.09×152°.8E±0°.1, h33km, mb4.5/32, MS3.5/7, Error ellipse: s-maj=18.8km s-min=7.3km az=34.3*
*NEIC **18** 20:03:00.6±0.5, 5°.10S×152°.65E, h35km, mb4.6/9, Error ellipse: s-maj=17.8km s-min=8.8km az=119.0*
ISC 18 20:02:59.8±0.7, 5°.19S±0°.09×152°.9E±0°.1, h35km, n74, σ0.92/62, mb4.5/32, MS3.5/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.03**	**233**	Pn	**Pn**	**20 04 38.4**	**-1.9**
	0.3nm,0.3s,baz=41,slow=11,SNR=2.8						
PMG				Sn	**Sn**	**20 06 00.4**	**+1.3**
	7.2nm,0.3s,baz=139,slow=19,SNR=7.8						
PMG	**Port Moresby**	**7.03**	**233**	Pn	**Pn**	**20 04 38.4**	**-1.9**
PMG				Sn	**Sn**	**20 06 00.4**	**+1.3**
CTA	**Charters Tower**	**16.14**	**203**	LR	LR	20 11 58.6	
	comp=Z,262nm,21.8s,baz=259,slow=34						
GUMO	**Guam**	**20.27**	**337**	LR	LR	20 15 00.6	
	comp=Z,62nm,18.5s,MS3.0,baz=183,slow=36						
WRAB	**Tennant Creek**	**23.21**	**229**	*e*Pn	**P**	**20 08 03.2**	**-0.8**
	9.5nm,0.8s,mb4.3						
WB2	**Warramunga Arr**	**23.22**	**229**	*e*Pn	**P**	**20 08 03.9**	**-0.2**
WRA	**Warramunga Arr**	**23.23**	**229**	P	**P**	**20 08 04.1**	**-0.1**
	2.8nm,0.8s,mb3.7,baz=54,slow=10,SNR=19						
WRA				S	**S**	**20 12 12.7**	**-1.1**
	1.9nm,1.1s,baz=53,slow=17,SNR=4.7						
WRA	**Warramunga Arr**	**23.23**	**229**	P	**P**	**20 08 04.1**	**-0.1**
WRA				S	**S**	**20 12 12.7**	**-1.1**
ASAR	**Alice Springs**	**25.90**	**223**	P	**P**	**20 08 28.7**	**0.0**
	3.5nm,0.8s,mb4.0,baz=61,slow=7.4,SNR=35						
ASAR	**Alice Springs**	**25.90**	**223**	P	**P**	**20 08 28.7**	**0.0**
STKA	**Stephens Creek**	**28.57**	**200**	P	**P**	**20 08 52.5**	**-0.1**
	1.6nm,0.6s,mb3.9,baz=18,slow=7.7,SNR=2.5						
STKA				LR	LR	20 20 51.7	
	comp=Z,202nm,18.4s,MS3.8,baz=22,slow=38						
STKA	**Stephens Creek**	**28.57**	**200**	P	**P**	**20 08 52.5**	**-0.1**
STKA				LR	LR	20 20 51.6	
FITZ	**Fitzroy Crossi**	**29.52**	**242**	P	**P**	**20 09 00.6**	**-0.6**
	2.4nm,0.5s,mb4.2,baz=72,slow=7.5,SNR=15						
FITZ	**Fitzroy Crossi**	**29.52**	**242**	*e*P	**P**	**20 09 00.3**	**-0.9**
	8.8nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**29.52**	**242**	P	**P**	**20 09 00.6**	**-0.6**
DAV	**Davao City (W)**	**29.81**	**294**	LR	LR	20 19 10.6	
	comp=Z,176nm,21.0s,MS3.7,baz=238,slow=33						
URZ	**Urewera**	**39.63**	**150**	LR	LR	20 24 32.4	
	comp=Z,80nm,20.9s,MS3.5,baz=121,slow=33						
MJAR	**Matsushiro Arr**	**43.71**	**343**	P	**P**	**20 10 59.2**	**-2.4**
	1.6nm,0.7s,mb3.8,baz=164,slow=5.0,SNR=5.2						
MJAR	**Matsushiro Arr**	**43.71**	**343**	P	**P**	**20 10 59.2**	**-2.4**
KSRS	**Korea Array**	**48.36**	**333**	P	**P**	**20 11 35.2**	**-3.0**
	2.2nm,0.7s,mb4.3,baz=147,slow=7.7,SNR=6.3						
KSRS				LR	LR	20 27 33.1	
	comp=Z,29nm,20.4s,MS3.2,baz=140,slow=31						
KSAR	**Wonju Array Be**	**48.37**	**333**	P	**P**	**20 11 35.2**	**-3.1**
KSAR				LR	LR	20 27 33.1	
CM31	**Chiang Mai Arr**	**58.08**	**295**	*e*P	**P**	**20 12 51.3**	**+1.2**
	4.1nm,0.7s,mb4.6						
CMAR	**Chiang Mai Arr**	**58.08**	**295**	P	**P**	**20 12 51.0**	**+0.9**
	4.8nm,0.8s,mb4.5,baz=112,slow=5.0,SNR=32						
CMAR				LR	LR	20 37 39.5	
	comp=Z,21nm,19.4s,MS3.3,baz=100,slow=36						
CMAR	**Chiang Mai Arr**	**58.08**	**295**	P	**P**	**20 12 51.0**	**+0.9**
CMAR				LR	LR	20 37 39.5	
CHTO	**Chiang Mai**	**58.20**	**296**	*e*P	**P**	**20 12 50.9**	**0.0**
	3.1nm,1.0s,mb4.3						
PETK	**Petropavlovsk-**	**58.22**	**3**	P	**P**	**20 12 51.1**	**+0.8**
	3.2nm,0.5s,mb4.6,baz=159,slow=7.1,SNR=7.0						
PETK				LR	LR	20 32 30.3	
	comp=Z,78nm,21.0s,MS3.8,baz=219,slow=30						
PETK	**Petropavlovsk-**	**58.22**	**3**	P	**P**	**20 12 51.1**	**+0.8**
PETK				LR	LR	20 32 30.3	
SONM	**Songino Array**	**66.67**	**328**	P	**P**	**20 13 47.6**	**+0.5**
	1.1nm,0.7s,mb4.0,baz=139,slow=5.1,SNR=9.5						
SONM	**Songino Array**	**66.67**	**328**	P	**P**	**20 13 47.6**	**+0.5**
LSA	**Lhasa**	**68.50**	**305**	*e*P	**P**	**20 13 59.9**	**+1.0**
	3.9nm,0.6s,mb4.6						
TAPN	**Taplejung**	**70.64**	**301**	*e*P	**P**	**20 14 13.2**	**+0.9**
ODAN	**Odare**	**70.78**	**301**	*e*P	**P**	**20 14 13.3**	**+0.2**
	16nm,0.7s,mb5.1						
GUN	**Gumba**	**72.36**	**301**	*e*P	**P**	**20 14 23.1**	**+0.5**
	23nm,0.9s,mb5.1						
PKI	**Pulchoki**	**72.67**	**301**	*e*P	**P**	**20 14 25.0**	**+0.5**
KKN	**Kakani**	**72.84**	**301**	*e*P	**P**	**20 14 25.5**	**0.0**
DMN	**Daman**	**72.94**	**301**	*e*P	**P**	**20 14 26.5**	**+0.4**
	19nm,0.8s,mb5.1						
GKN	**Gorkha**	**73.44**	**301**	*e*P	**P**	**20 14 29.2**	**+0.2**
	13nm,0.8s,mb4.9						
BILL	**Bilibino**	**73.67**	**5**	*e*P	**P**	**20 14 30.2**	**+0.7**
	26nm,0.8s,mb5.2						
KOLN	**Koldanda**	**74.27**	**301**	*e*P	**P**	**20 14 33.0**	**-0.9**
	15nm,0.7s,mb5.0						
DANN	**Dangsing**	**74.28**	**301**	*e*P	**P**	**20 14 34.2**	**+0.3**
	12nm,0.6s,mb5.0						
PYUN	**Piuthan**	**74.88**	**301**	*e*P	**P**	**20 14 37.4**	**0.0**
	23nm,0.9s,mb5.1						
SLKM	**Skilak Lake**	**79.00**	**25**	*e*P	**P**	**20 14 59.6**	**-0.2**
MK31	**Makanchi Array**	**80.65**	**319**	P	**P**	**20 15 09.6**	**+0.5**
MKAR	**Makanchi Array**	**80.65**	**319**	P	**P**	**20 15 09.8**	**+0.7**
	1.2nm,0.8s,mb3.9,baz=99,slow=7.4,SNR=17						
MKAR	**Makanchi Array**	**80.65**	**319**	P	**P**	**20 15 09.8**	**+0.7**
MCK	**McKinley**	**81.20**	**23**	*e*P	**P**	**20 15 11.5**	**-0.2**
	8.0nm,0.8s,mb4.7						
ZAA0	**Zalesovo Array**	**81.50**	**326**	*e*P	**P**	**20 15 12.6**	**-0.9**
ZALV	**Zalesovo Beam**	**81.50**	**326**	P	**P**	**20 15 13.1**	**-0.4**
	5.0nm,0.7s,mb4.6,baz=113,slow=5.4,SNR=27						
ZALV	**Zalesovo Beam**	**81.50**	**326**	P	**P**	**20 15 13.1**	**-0.4**
ILAR	**Eielson Array**	**82.50**	**22**	P	**P**	**20 15 17.9**	**-0.6**
	3.0nm,0.9s,mb4.2,baz=243,slow=6.1,SNR=26						
ILAR	**Eielson Array**	**82.50**	**22**	P	**P**	**20 15 17.9**	**-0.6**
KURK	**Kurchatov**	**84.10**	**322**	P	**P**	**20 15 26.9**	**-0.1**
	3.1nm,0.9s,mb4.4,baz=105,slow=4.1,SNR=17						
KURK	**Kurchatov**	**84.10**	**322**	P	**P**	**20 15 26.9**	**-0.2**
QSPA	**South Pole Qui**	**84.78**	**180**	P	**P**	**20 15 33.1**	**+3.1**
	0.6nm,0.3s,mb4.2,baz=61,slow=2.2,SNR=3.7						
QSPA	**South Pole Qui**	**84.78**	**180**	P	**P**	**20 15 33.1**	**+3.1**
KBL	**Kabul**	**87.82**	**305**	*e*P	**P**	**20 15 45.0**	**-0.8**
	3.4nm,0.7s,mb4.7						
KKAR	**Karatay Array**	**87.93**	**313**	*e*P	**P**	**20 15 46.4**	**+

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.03**	**61**	PG	**Pg**	**20 06 18.4**	**-0.6**
BLCB				SG	**Sg**	**20 06 19.4**	**-0.8**
BLCB	**Balcova**	**0.03**	**61**	*i* Pg	**Pg**	**20 06 18.5**	**-0.6**
BLCB				*i* Sg	**Sg**	**20 06 19.4**	**-0.7**
IZM	**Izmir**	**0.21**	**82**	PG	**Pg**	**20 06 21.4**	**-0.3**
IZM				SG	**Sg**	**20 06 25.0**	**+0.5**
IZM	**Izmir**	**0.21**	**82**	*i* Pg	**Pg**	**20 06 21.4**	**-0.3**
IZM				*i* Sg	**Sg**	**20 06 25.0**	**+0.5**
URLA	**Izmir**	**0.32**	**269**	*i* P	**Pg**	**20 06 22.9**	**-0.9**
URLA				*i* S	**Sg**	**20 06 27.7**	**-0.4**
SMG	**Samos**	**0.67**	**191**	*e*PN	**Pg**	**20 06 30.9**	**+0.4**
SMG				*e*SN	**Sg**	**20 06 41.4**	**+2.2**
SMG	**Samos**	**0.67**	**191**	*e*Pn	**Pg**	**20 06 30.9**	**+0.4**
SMG				*e*Sn	**Sg**	**20 06 41.4**	**+2.2**
GCAM	**G?zelcaml?**	**0.69**	**165**	*i* P	**Pg**	**20 06 31.3**	**+0.5**
GCAM				*i* S	**Sg**	**20 06 40.3**	**+0.4**
CHOS	**Chios island**	**0.75**	**272**	*e*PN	**Pg**	**20 06 31.7**	**-0.2**
CHOS				*e*SN	**Sg**	**20 06 42.2**	**+0.6**
CHOS	**Chios island**	**0.75**	**272**	*e*Pn	**Pg**	**20 06 31.7**	**-0.2**
CHOS				*e*Sn	**Sg**	**20 06 42.2**	**+0.6**
AKS	**Akhisar**	**0.81**	**51**	*e*PG	**Pg**	**20 06 33.0**	**-0.2**
AKS				*e*SG	**Sg**	**20 06 44.7**	**+1.0**
AKS	**Akhisar**	**0.81**	**51**	*e*Pg	**Pg**	**20 06 33.0**	**-0.2**
AKS				*e*Sg	**Sg**	**20 06 44.7**	**+0.9**
AKHS	**Akhisar**	**0.81**	**51**	*i* P	**Pg**	**20 06 32.4**	**-0.8**
AKHS				*i* S	**Sg**	**20 06 42.7**	**-1.1**
AYVA	**Ayvalik**	**0.97**	**345**	*i* P	**Pg**	**20 06 34.5**	**-1.6**
AYVA				*i* S	**Sg**	**20 06 48.7**	**-0.1**
AYVA	**Ayvalik**	**0.97**	**345**	*i* P	**Pg**	**20 06 34.5**	**-1.7**
AYVA				*i* S	**Sg**	**20 06 48.7**	**-0.1**
PRK	**Paraskevi**	**1.05**	**327**	*e*PN	**Pg**	**20 06 37.2**	**-0.4**
PRK				*e*SN	**Sg**	**20 06 51.9**	**+0.7**
PRK	**Paraskevi**	**1.05**	**327**	*e*Pn	**Pg**	**20 06 37.2**	**-0.4**
PRK				*e*Sn	**Sg**	**20 06 51.9**	**+0.7**
MANT	**Manisa**	**1.23**	**84**	*i* P	**Pb**	**20 06 40.4**	**-0.6**
MANT				*i* S	**Sb**	**20 06 56.2**	**-0.7**
MLSB	**Milas**	**1.23**	**150**	*e*PN	**Pn**	**20 06 40.5**	**-0.6**
MLSB				*e*SN	**Sn**	**20 06 57.5**	**-0.4**
MLSB	**Milas**	**1.23**	**150**	*e*Pn	**Pn**	**20 06 40.5**	**-0.6**
MLSB				*e*Sn	**Sn**	**20 06 57.5**	**-0.4**
KULA	**Kula-Manisa**	**1.31**	**83**	*e*PN	**Pn**	**20 06 41.9**	**-0.2**
KULA	**Kula-Manisa**	**1.31**	**83**	*e*Pn	**Pn**	**20 06 41.9**	**-0.2**
BODT	**Bodrum**	**1.33**	**169**	*e*PN	**Pn**	**20 06 41.5**	**-0.8**
BODT	**Bodrum**	**1.33**	**169**	*e*Pn	**Pn**	**20 06 41.5**	**-0.9**
BALB	**Balikesir**	**1.44**	**28**	*e*PN	**Pn**	**20 06 44.0**	**+0.1**
BALB	**Balikesir**	**1.44**	**28**	*e*Pn	**Pn**	**20 06 44.0**	**0.0**
BALY	**Balya**	**1.45**	**19**	*i* P	**Pn**	**20 06 42.7**	**-1.4**
BALY				*i* S	**Sn**	**20 07 02.2**	**-1.1**
BALY	**Balya**	**1.45**	**19**	*i* P	**Pn**	**20 06 42.7**	**-1.4**
BALY				*i* S	**Sn**	**20 07 02.2**	**-1.1**
DEMI	**Demirci**	**1.50**	**63**	*i* P	**Pn**	**20 06 43.3**	**-1.5**
DEMI				*i* S	**Sn**	**20 06 59.4**	**-5.1**
YER	**Yerkesik**	**1.60**	**140**	*e*PN	**Pn**	**20 06 46.3**	**+0.2**
YER	**Yerkesik**	**1.60**	**140**	*e*Pn	**Pn**	**20 06 46.3**	**+0.2**
BOZC	**Bozcaada**	**1.65**	**334**	*i* P	**Pn**	**20 06 47.2**	**+0.4**
BOZC				*i* S	**Sn**	**20 07 05.8**	**-2.3**
DAT	**Datca**	**1.70**	**164**	*e*PN	**Pn**	**20 06 46.9**	**-0.6**
DAT	**Datca**	**1.70**	**164**	*e*Pn	**Pn**	**20 06 46.9**	**-0.6**
APE	**Apeiranthos**	**1.75**	**222**	*e*PN	**Pn**	**20 06 48.5**	**+0.4**
APE	**Apeiranthos**	**1.75**	**222**	*e*PN	**Pn**	**20 06 46.9**	**-1.2**
APE				*e*SN	**Sn**	**20 07 08.8**	**-1.8**
APE	**Apeiranthos**	**1.75**	**222**	*e*Pn	**Pn**	**20 06 48.5**	**+0.4**
APE				*e*Sn	**Sn**	**20 07 08.8**	**-1.8**
KHAL	**Karahalli**	**1.96**	**89**	*i* P	**Pn**	**20 06 51.7**	**+0.7**
KHAL				*i* S	**Sn**	**20 07 17.7**	**-0.6**
LPK	**Lapseki**	**2.01**	**355**	*e*PN	**Pn**	**20 06 53.7**	**+1.9**
LPK	**Lapseki**	**2.01**	**355**	*e*Pn	**Pn**	**20 06 53.7**	**+1.9**
GADA	**Gvkgeada**	**2.01**	**335**	*e*PN	**Pn**	**20 06 53.7**	**+1.9**
GADA	**Gvkgeada**	**2.01**	**335**	*e*Pn	**Pn**	**20 06 53.7**	**+1.9**
KRBG	**Karabiga-Canak**	**2.03**	**6**	*e*PN	**Pn**	**20 06 54.0**	**+1.9**
KRBG	**Karabiga-Canak**	**2.03**	**6**	*e*Pn	**Pn**	**20 06 54.0**	**+1.9**
GDZ	**Gediz**	**2.07**	**69**	*i* P	**Pn**	**20 06 51.6**	**-0.9**
GELI	**Tayfur-Gelibol**	**2.07**	**349**	*e*PN	**Pn**	**20 06 55.1**	**+2.5**
LIA	**Limnos Island**	**2.08**	**318**	*e*PN	**Pn**	**20 06 51.8**	**-1.0**
LIA				*e*SN	**Sn**	**20 07 17.7**	**-1.2**
LIA	**Limnos Island**	**2.08**	**318**	*e*Pn	**Pn**	**20 06 51.8**	**-1.0**
LIA				*e*Sn	**Sn**	**20 07 17.7**	**-1.2**
BNT	**Bandirma**	**2.11**	**19**	*e*PN	**Pn**	**20 06 54.7**	**+1.5**
BNT	**Bandirma**	**2.11**	**19**	*e*Pn	**Pn**	**20 06 54.7**	**+1.6**
KCTX	**Karacabey (Bur**	**2.17**	**29**	*e*PN	**Pn**	**20 06 55.4**	**+1.4**
KCTX	**Karacabey (Bur**	**2.17**	**29**	*e*Pn	**Pn**	**20 06 55.4**	**+1.5**
ERIK	**Erikli-Kesan**	**2.33**	**351**	*e*PN	**Pn**	**20 06 58.1**	**+1.9**
ERIK	**Erikli-Kesan**	**2.33**	**351**	*e*Pn	**Pn**	**20 06 58.1**	**+1.9**
ARMT	**Armutlu**	**2.62**	**33**	*e*PN	**Pn**	**20 07 01.5**	**+1.3**
ARMT	**Armutlu**	**2.62**	**33**	*e*Pn	**Pn**	**20 07 01.5**	**+1.3**
ALN	**Alexandroupoli**	**2.63**	**344**	*e*PN	**Pn**	**20 07 00.0**	**-0.3**
ALN	**Alexandroupoli**	**2.63**	**344**	*e*Pn	**Pn**	**20 07 00.0**	**-0.3**
YLV	**Yalova**	**2.86**	**39**	*e*PN	**Pn**	**20 07 04.7**	**+1.3**
YLV	**Yalova**	**2.86**	**39**	*e*Pn	**Pn**	**20 07 04.7**	**+1.2**
GULT	**Gulveren**	**3.41**	**52**	*e*PN	**Pn**	**20 07 13.0**	**+2.0**
GULT	**Gulveren**	**3.41**	**52**	*e*Pn	**Pn**	**20 07 13.0**	**+1.9**

*ISCJB **18** 20:10:59.6±0.5,38˚.38N±0˚.02×26˚.98E±0˚.03,h3km±4km, Error ellipse: s-maj=4.1km s-min=3.5km az=156.3*
*DDA **18** 20:10:59.7,38˚.41N×26˚.99E,h18km±1km,Md3.1*
*CSEM **18** 20:11:00.0±0.2,38˚.35N×26˚.99E,h5km,MD3.1, Error ellipse: s-maj=5.6km s-min=4.2km az=87.0*
*ISK **18** 20:11:02.0,38˚.28N×27˚.28E,h13km,MD3.1*
ISC 18 20:11:00.4±0.4,38˚.38N±0˚.02×26˚.99E±0˚.03,h9km±3km, n53,σ0♀98/74,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZM	**Izmir**	**0.21**	**84**	*e*PG	**Pg**	**20 11 04.8**	**0.0**
IZM				*e*SG	**Sg**	**20 11 08.2**	**+0.5**
IZM	**Izmir**	**0.21**	**84**	*e*Pg	**Pg**	**20 11 04.8**	**0.0**
IZM				*e*Sg	**Sg**	**20 11 08.2**	**+0.5**
URLA	**Izmir**	**0.31**	**267**	*i* P	**Pg**	**20 11 06.3**	**-0.3**
URLA				*i* S	**Sg**	**20 11 11.2**	**+0.5**
URLA	**Izmir**	**0.31**	**267**	*i* P	**Pg**	**20 11 06.3**	**-0.2**
URLA				*i* S	**Sg**	**20 11 11.2**	**+0.5**
GCAM	**G?zelcaml?**	**0.70**	**164**	*i* P	**Pg**	**20 11 14.1**	**+0.2**
GCAM				*i* S	**Sg**	**20 11 24.8**	**+1.8**
GCAM	**G?zelcaml?**	**0.70**	**164**	*i* P	**Pg**	**20 11 14.1**	**+0.2**
GCAM				*i* S	**Sg**	**20 11 24.8**	**+1.8**
AKS	**Akhisar**	**0.82**	**52**	*e*PG	**Pg**	**20 11 16.5**	**+0.4**
AKS				*e*SG	**Sg**	**20 11 27.3**	**+0.5**
AKS	**Akhisar**	**0.82**	**52**	*e*Pg	**Pg**	**20 11 16.5**	**+0.4**
AKS				*e*Sg	**Sg**	**20 11 27.3**	**+0.5**
AKHS	**Akhisar**	**0.82**	**52**	*i* P	**Pg**	**20 11 15.5**	**-0.7**
AKHS				*i* S	**Sg**	**20 11 27.8**	**+1.0**
AKHS	**Akhisar**	**0.82**	**52**	*i* P	**Pg**	**20 11 15.5**	**-0.6**
AKHS				*i* S	**Sg**	**20 11 27.8**	**+1.0**
AYVA	**Ayvalik**	**0.96**	**346**	*i* P	**Pg**	**20 11 17.2**	**-1.7**
AYVA				*i* S	**Sg**	**20 11 32.0**	**+0.7**
AYVA	**Ayvalik**	**0.96**	**346**	*i* P	**Pg**	**20 11 17.2**	**-1.7**
AYVA				*i* S	**Sg**	**20 11 32.0**	**+0.6**
AYDN	**Tasoluk**	**1.00**	**135**	*i* P	**Pg**	**20 11 19.7**	**+0.1**
AYDN				*i* S	**Sg**	**20 11 33.3**	**+0.7**
AYDN	**Tasoluk**	**1.00**	**135**	*i* P	**Pg**	**20 11 19.7**	**+0.1**
AYDN				*i* S	**Sg**	**20 11 33.3**	**+0.7**
MANT	**Manisa**	**1.24**	**84**	*i* P	**Pn**	**20 11 23.5**	**-0.3**
MANT				*i* S	**Sb**	**20 11 38.6**	**-1.4**
MANT	**Manisa**	**1.24**	**84**	*i* P	**Pn**	**20 11 23.5**	**-0.4**
MANT				*i* S	**Sb**	**20 11 38.6**	**-1.4**
MLSB	**Milas**	**1.25**	**150**	*e*PG	**Pg**	**20 11 22.9**	**-1.4**
MLSB	**Milas**	**1.25**	**150**	*e*Pg	**Pg**	**20 11 22.9**	**-1.4**
KULA	**Kula-Manisa**	**1.32**	**83**	*e*PN	**Pn**	**20 11 24.1**	**-0.9**
KULA	**Kula-Manisa**	**1.32**	**83**	*e*Pn	**Pn**	**20 11 24.1**	**-0.9**
BODT	**Bodrum**	**1.33**	**169**	*e*PN	**Pn**	**20 11 24.5**	**-0.7**
BODT	**Bodrum**	**1.33**	**169**	*e*Pn	**Pn**	**20 11 24.5**	**-0.7**
BALB	**Balikesir**	**1.44**	**28**	*e*PN	**Pn**	**20 11 27.0**	**+0.3**
BALB				*e*SN	**Sn**	**20 11 47.1**	**+1.4**
BALB	**Balikesir**	**1.44**	**28**	*e*Pn	**Pn**	**20 11 27.0**	**+0.3**
BALB				*e*Sn	**Sn**	**20 11 47.2**	**+1.5**
BALY	**Balya**	**1.45**	**20**	*i* P	**Pn**	**20 11 26.0**	**-0.8**
BALY				*i* S	**Sn**	**20 11 45.4**	**-0.5**
BALY	**Balya**	**1.45**	**20**	*i* P	**Pn**	**20 11 26.0**	**-0.8**
BALY				*i* S	**Sn**	**20 11 45.4**	**-0.5**
DEMI	**Demirci**	**1.51**	**63**	*i* P	**Pn**	**20 11 27.0**	**-0.6**
DEMI	**Demirci**	**1.51**	**63**	*i* P	**Pn**	**20 11 27.0**	**-0.6**
EZN	**Ezine**	**1.54**	**341**	*e*PN	**Pn**	**20 11 32.3**	**+4.2**
YER	**Yerkesik**	**1.61**	**140**	*e*PN	**Pn**	**20 11 27.8**	**-1.1**
YER	**Yerkesik**	**1.61**	**140**	*e*Pn	**Pn**	**20 11 27.8**	**-1.2**
BOZC	**Bozcaada**	**1.64**	**334**	*i* P	**Pn**	**20 11 29.4**	**0.0**
BOZC				*i* S	**Sn**	**20 11 51.3**	**+0.7**
DAT	**Datca**	**1.71**	**164**	*e*PN	**Pn**	**20 11 30.5**	**+0.1**
DAT	**Datca**	**1.71**	**164**	*e*Pn	**Pn**	**20 11 30.5**	**+0.1**
APE	**Apeiranthos**	**1.74**	**222**	*e*PN	**Pg**	**20 11 34.2**	**+0.4**
GONE	**Gonen-Balikesi**	**1.75**	**18**	*e*PN	**Pn**	**20 11 33.0**	**+2.0**
GONE	**Gonen-Balikesi**	**1.75**	**18**	*e*Pn	**Pn**	**20 11 33.0**	**+2.0**
KHAL	**Karahalli**	**1.97**	**89**	*i* P	**Pn**	**20 11 34.4**	**+0.5**
KHAL	**Karahalli**	**1.97**	**89**	*i* P	**Pn**	**20 11 34.4**	**+0.5**
GADA	**Gvkgeada**	**2.00**	**335**	*e*PN	**Pg**	**20 11 39.5**	**+0.8**
LPK	**Lapseki**	**2.00**	**355**	*e*PN	**Pg**	**20 11 38.1**	**-0.7**
KRBG	**Karabiga-Canak**	**2.03**	**7**	*e*PN	**Pg**	**20 11 38.3**	**-1.0**
GELI	**Tayfur-Gelibol**	**2.06**	**349**	*e*PN	**Pg**	**20 11 40.1**	**+0.2**
GDZ	**Gediz**	**2.07**	**69**	*i* P	**Pn**	**20 11 32.0**	**-3.4**
GDZ	**Gediz**	**2.07**	**69**	*i* P	**Pn**	**20 11 32.0**	**-3.4**
BNT	**Bandirma**	**2.10**	**20**	*e*PN	**Pn**	**20 11 37.9**	**+2.1**
BNT	**Bandirma**	**2.10**	**20**	*e*Pn	**Pn**	**20 11 37.9**	**+2.1**
KCTX	**Karacabey (Bur**	**2.17**	**29**	*e*PN	**Pn**	**20 11 38.4**	**+1.8**
KCTX	**Karacabey (Bur**	**2.17**	**29**	*e*Pn	**Pn**	**20 11 38.4**	**+1.8**
ERIK	**Erikli-Kesan**	**2.32**	**351**	*e*PN	**Pg**	**20 11 43.8**	**-1.1**
ENEZ	**Enez**	**2.44**	**345**	*e*PN	**Pg**	**20 11 45.7**	**-1.6**
ALT	**Altintas**	**2.53**	**73**	*e*PN	**Pn**	**20 11 41.1**	**-0.6**
ALT	**Altintas**	**2.53**	**73**	*e*Pn	**Pn**	**20 11 41.2**	**-0.5**

OTT 18 20:15:45.1±3.4,79˚.45N×113˚.47W,h18km,ML3.8/4, Arctic Ocean. Aftershock. 223km northwest from Isachsen, Nu,Arctic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUNU	**Eureka**	**4.84**	**70**	PN	Pn	20 16 56.7	-0.2
EUNU				SN	Sn	20 17 47.6	-4.7
EUNU				Trac		20 17 52.6	
	comp=Z,20nm,0.2s						
RES	**Resolute Bay**	**6.30**	**130**	PN	Pn	20 17 16.3	-0.7
RES				SN	Sn	20 18 27.2	-1.1
RES				Trac		20 18 29.9	
	comp=Z,6.8nm,0.2s						
KUGN	**Kugaaruk Camp,**	**12.96**	**138**	PN	Pn	20 18 44.4	-3.7
STLN	**Stellar Camp,**	**13.37**	**144**	PN	Pn	20 18 49.5	-4.2
STLN				SN	Sn	20 21 10.9	-11
STLN				Trac		20 21 15.3	
	comp=Z,6.9nm,0.9s						
JERN	**Jeri Cho Mine,**	**13.51**	**176**	PN	Pn	20 18 50.5	-5.1
JERN				SN	Sn	20 21 14.1	-11
JERN				Trac		20 21 16.8	
	comp=Z,3.6nm,0.6s						
BULN	**Bullion Camp,**	**14.24**	**145**	PN	Pn	20 19 00.1	-5.4
NUNN	**Nunuq Camp, NU**	**15.61**	**143**	PN	Pn	20 19 18.6	-5.2
YKW3	**Yellowknife Ar**	**16.98**	**182**	PN	Pn	20 19 35.0	-6.2
YKW3				SN	Sn	20 22 30.1	-19
SEDN	**First Sedna Si**	**17.51**	**145**	PN	Pn	20 19 43.4	-4.5

*IDC **18** 20:27:32.4±1.1,2˚.56N×84˚.67W,h0km,mb4.0/8, mb1 4.3/9, mb1mx4.1/21,mbtmp4.0/9,ML2.8/1,MS3.6/9,Ms1 3.7/9, ms1mx3.4/41,Error ellipse: s-maj=55.1km s-min=19.7km az=45.0*
*ISCJB **18** 20:27:35.9±3.5,2˚.66N±0˚.08×84˚.6W±0˚.1,h30km±27km, mb4.0/8,MS3.7/4, Error ellipse: s-maj=21.8km s-min=9.9km az=148.6*
*NEIC **18** 20:27:37.7±0.7,2˚.57N×84˚.57W,h35km,mb4.3/2, Error ellipse: s-maj=17.4km s-min=8.8km az=46.0*
ISC 18 20:27:39.3±1.3,2˚.65N±0˚.09×84˚.6W±0˚.1,h44km±14km,n33, σ0♀92/27,mb4.0/8,MS3.7/4,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTAV	**Otavalo**	**6.57**	**111**	*e*P	**Pn**	**20 29 09.5**	**-3.9**
	40nm,0.6s						
JTS	**JuntasAbangare**	**7.60**	**357**	*e*P	**Pn**	**20 29 25.2**	**-2.4**
	91nm,0.5s						
ROSC	**El Rosal**	**10.45**	**78**	Pn	**Pn**	**20 30 07.0**	**+0.4**
	1.6nm,0.3s,baz=92,slow=23,SNR=4.7						
ROSC				LR	LR	20 33 51.7	
	comp=Z,212nm,20.4s,baz=218,slow=36						
ROSC	**El Rosal**	**10.45**	**78**	Pn	**Pn**	**20 30 07.0**	**+0.4**
ROSC				LR	LR	20 33 51.7	
ATAH	**Atahualpa**	**11.51**	**148**	Pn	**Pn**	**20 30 22.0**	**+0.9**
	0.7nm,0.3s,baz=338,slow=7.5,SNR=7.4						
ATAH				LR	LR	20 34 17.3	
	comp=Z,328nm,18.8s,baz=142,slow=35						
ATAH	**Atahualpa**	**11.51**	**148**	Pn	**Pn**	**20 30 22.0**	**+0.9**
ATAH				LR	LR	20 34 17.3	
TGUH	**Tegucigalpa,Un**	**11.64**	**347**	P	**Pn**	**20 30 23.1**	**+0.2**
	34nm,0.6s						
SDV	**Santo Domingo**	**15.18**	**65**	*e*P	**Pn**	**20 31 11.5**	**+0.7**
	11nm,0.8s						
NNA	**Nana**	**16.45**	**152**	LR	LR	20 36 36.7	
	comp=Z,137nm,21.1s,baz=315,slow=33						
NNA	**Nana**	**16.45**	**152**	*e*P	**Pn**	**20 31 26.0**	**-1.0**
CMIG	**Matias Romero**	**17.57**	**325**	P	**Pn**	**20 31 42.6**	**+1.6**
	0.6nm,0.3s,baz=142,slow=15,SNR=6.7						
CMIG				LR	LR	20 37 08.2	
	comp=Z,213nm,19.6s,baz=188,slow=33						
CMIG	**Matias Romero**	**17.57**	**325**	P	**Pn**	**20 31 42.6**	**+1.6**
CMIG				LR	LR	20 37 08.2	
TEIG	**Tepich**	**17.84**	**349**	LR	LR	20 38 09.9	
	comp=Z,212nm,18.0s,baz=239,slow=36						
SJG	**San Juan**	**23.71**	**48**	LR	LR	20 41 13.4	
	comp=Z,111nm,20.9s,MS3.3,baz=0.6,slow=34						
LPAZ	**La Paz**	**24.86**	**140**	P	**P**	**20 32 57.6**	**-0.3**
	4.6nm,0.6s,mb4.2,baz=324,slow=8.1,SNR=18						
LPAZ	**La Paz**	**24.86**	**140**	P	**P**	**20 32 57.6**	**-0.3**
TXAR	**Lajitas Array**	**32.15**	**328**	P	**P**	**20 34 03.1**	**+0.3**
	0.4nm,0.7s,mb3.4,baz=163,slow=9.1,SNR=4.2						
TXAR				PcP	PcP	20 36 51.9	+0.8
	0.1nm,0.5s,baz=156,slow=6.8,SNR=4.0						
TXAR	**Lajitas Array**	**32.15**	**328**	P	**P**	**20 34 03.1**	**+0.3**
TXAR				PcP	PcP	20 36 51.9	+0.8
TKL	**Tuckaleechee C**	**32.85**	**1**	LR	LR	20 46 55.2	
	comp=Z,141nm,18.6s,MS3.7,baz=45,slow=35						
ANMO	**Albuquerque**	**38.04**	**330**	P	**P**	**20 34 53.2**	**-0.2**
	3.5nm,0.8s,mb4.1,baz=167,slow=7.4,SNR=7.7						
ANMO	**Albuquerque**	**38.04**	**330**	P	**P**	**20 34 53.2**	**-0.2**
CPUP	**Vila Floride**	**39.03**	**139**	LR	LR	20 53 16.6	
	comp=Z,135nm,18.9s,MS3.8,baz=195,slow=40						
PDAR	**Pinedale Array**	**45.75**	**334**	P	**P**	**20 35 55.9**	**-0.3**
	1.6nm,0.9s,mb3.9,baz=128,slow=9.6,SNR=8.2						
PDAR				PcP	PcP	20 37 32.8	-0.7
	1.0nm,0.9s,baz=140,slow=5.8,SNR=5.1						
PDAR				LR	LR	20 55 50.3	
	comp=Z,161nm,19.5s,MS4.0,baz=179,slow=37						
PDAR	**Pinedale Array**	**45.75**	**334**	P	**P**	**20 35 55.9**	**-0.3**
PDAR				PcP	PcP	20 37 32.8	-0.7
PDAR				LR	LR	20 55 50.3	
NVAR	**Mina Array Bea**	**47.09**	**323**	P	**P**	**20 36 07.7**	**+0.9**
	1.9nm,0.8s,mb4.1,baz=129,slow=7.2,SNR=15						
NVAR				PcP	PcP	20 37 38.5	+0.2
	0.4nm,0.5s,baz=147,slow=5.2,SNR=4.5						
NVAR	**Mina Array Bea**	**47.09**	**323**	P	**P**	**20 36 07.7**	**+0.9**
NVAR				PcP	PcP	20 37 38.5	+0.2
INK	**Inuvik**	**73.35**	**343**	P	**P**	**20 39 04.9**	**-1.2**
	3.2nm,1.0s,mb4.2,baz=141,slow=5.9,SNR=6.4						
INK	**Inuvik**	**73.35**	**343**	*e*P	**P**	**20 39 06.0**	**-0.1**
	6.5nm,1.1s,mb4.5						
ILAR	**Eielson Array**	**76.09**	**337**	P	**P**	**20 39 21.2**	**-0.7**
	1.2nm,0.9s,mb3.8,baz=122,slow=4.1,SNR=12						
ILAR	**Eielson Array**	**76.09**	**337**	P	**P**	**20 39 21.2**	**-0.7**
TORD	**Torodi Ar. Bea**	**85.77**	**77**	P	**P**	**20 40 15.1**	**+0.5**
	0.6nm,1.0s,mb3.8,baz=278,slow=3.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**85.77**	**77**	P	**P**	**20 40 15.1**	**+0.5**
ENH	**Enshi**	**144.62**	**339**	PKPdf	PKPdf	20 47 10.3	-1.4

*ISCJB **18** 20:41:28.7±0.2,4˚.48S×0˚.03×152˚.81E±0˚.04,h78km, mb4.9/86, Error ellipse: s-maj=5.7km s-min=4.4km az=171.1*
*MOS **18** 20:41:28.7±1.0,4˚.44S×152˚.75E,h76km,mb5.1/20, Error ellipse: s-maj=10.5km s-min=7.3km az=91.1*
*BJI **18** 20:41:29.2,4˚.29S×153˚.08E,h86km,mB5.1/22,mb4.8/38, Ms5.1/17,Ms7 4.7/18*
*NEIC **18** 20:41:30.0±0.2,4˚.44S×152˚.76E, mb4.9/37, Error ellipse: s-maj=7.0km s-min=4.8km az=86.0*
*IDC **18** 20:41:30.7±0.6,4˚.46S×152˚.73E, h80km±4km, mb4.6/21, mb1 4.7/24,mb1mx4.7/25,mbtmp4.6/24,MS3.8/13, Ms1 3.8/13,ms1mx3.7/19, Error ellipse: s-maj=15.2km s-min=9.9km az=90.0*
*GCMT **18** 20:41:34.8±0.3,4˚.61S×152˚.76E,h91km±3km,MW5.0, Moment Tensor Solution. s24,c29; s62,c97; Moment tensor: Scale 10^16^Nm; Mrr-1.13±.14; Mθθ-2.76±.13; Mφφ3.89±.13; Mrθ1.49±.08; Mθφ-0.22±.13; Mφr0.22±.10;*

Best double couple: M◊3.80000×10^16^ NP1:φ◊317.00000°, δ67.00000°,λ-159.00000°. NP2:φ◊219.00000°, δ70.00000°,λ-24.00000°. Principal axes: T 3.9000, Plg2.0000°, Azm269.0000°; N -0.2500, Plg59.0000°, Azm2.0000°; P -3.6600, Plg31.0000°, Azm177.0000°; Data Used: IU II IC G CN.
*DJA **18** 20:41:38,4˚.71S×152˚.61E,h149km,mb5.2/25*
ISC 18 20:41:30.6±0.2,4˚.49S±0˚.03×152˚.82E±0˚.04,h80km, h80km±1.5km:pP-P,n268,σ1♀09/204,mb4.9/86,10C-4D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.44**	**229**	P	**Pn**	**20 43 16.7**	**+0.2**
	37nm,0.3s,baz=44,slow=13,SNR=72						
PMG	**Port Moresby**	**7.44**	**229**	*e*Pn	**Pn**	**20 43 16.3**	**-0.2**
	240nm,0.8s						
PMG				*e*Sn	**Sn**	**20 44 38.5**	**-0.9**
PMG	**Port Moresby**	**7.44**	**229**	*e*P	**Pn**	**20 43 16.3**	**-0.2**
PMG				*e*		20 44 38.6	
PMG				pmax	pmax		
	comp=Z,240nm,0.8s						
PMG	**Port Moresby**	**7.44**	**229**	P	**Pn**	**20 43 17.7**	**+1.2**
	comp=Z,4.7nmcomp=Z,296nm,1.0s						
HNR	**Honiara**	**8.61**	**125**	P	**Pn**	**20 43 32.7**	**+0.2**
	comp=Z,6.3nm,0.3s,baz=346,slow=8.3,SNR=4.1						
HNR	**Honiara**	**8.61**	**125**	*e*Pn	**Pn**	**20 43 33.5**	**+1.1**
	comp=Z,193nm,0.7s						
HNR				*e*Sn	**Sn**	**20 44 59.2**	**-8.8**
HNR	**Honiara**	**8.61**	**125**	*e*P	**Pn**	**20 43 33.6**	**+1.1**
HNR				pmax	pmax		
	comp=Z,193nm,0.7s						
JAY	**Jayapura**	**12.25**	**279**	P	**Pn**	**20 44 23.6**	**+1.5**
	comp=Z,98nm,0.7s						
COEN	**Coen**	**13.37**	**225**	*e*Pn	**Pn**	**20 44 38.1**	**+1.0**
	comp=Z,288nm,0.8s						
COEN	**Coen**	**13.37**	**225**	P	**Pn**	**20 44 38.9**	**+1.8**
	comp=Z,541nmcomp=Z,59nm,1.0s						
SMPI	**Sarmi**	**14.30**	**280**	P	**Pn**	**20 44 53.5**	**+4.2**
	comp=Z,2μmcomp=Z,192nm,0.7s						
CTA	**Charters Tower**	**16.77**	**202**	P	**Pn**	**20 45 19.9**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=23,slow=13,SNR=24						
CTA				LR	LR	20 50 58.4	
	comp=Z,232nm,21.4s,baz=13,slow=34						
CTA	**Charters Tower**	**16.77**	**202**	*e*P	**Pn**	**20 45 21.4**	**+0.9**
	comp=Z,28nm,0.9s						
CTA	**Charters Tower**	**16.77**	**202**	P	**Pn**	**20 45 19.9**	**-0.6**
CTA				LR	LR	20 50 58.4	
CTA	**Charters Tower**	**16.77**	**202**	P	**Pn**	**20 45 19.9**	**-0.6**
CTAO	**Charters Tower**	**16.77**	**202**	*e*Pn	**Pn**	**20 45 21.5**	**+1.1**
	comp=Z,39nm,0.9s						
CTAO	**Charters Tower**	**16.77**	**202**	*e*P	**Pn**

FORT Forrest 35.03 219 *e*P P **20 48 14.6 -1.2**
comp=Z,70nm,0.5s,mb5.7
FORT Forrest 35.03 219 *e*P P **20 48 14.4 -1.3**
comp=Z,84nm,0.6s,mb5.8
OUZ Omahuta 36.11 150 *e*P P **20 48 27.1 +2.1**
comp=Z,71nm,1.1s,mb5.5
AFI Afiamalu 36.13 107 LR LR 21 01 09.6
comp=Z,81nm,19.5s,baz=42,slow=32
MBWA Marble Bar 36.14 240 *e*P P **20 48 24.0 -1.4**
comp=Z,24nm,0.7s,mb5.2
IGBI Denpasar 37.65 261 P P **20 48 35.5 -2.8**
comp=Z,77nm,0.6s,mb5.7
KKM Kota Kinabalu 38.02 286 *e*P P **20 48 41.9 +0.5**
comp=Z,27nm,1.0s,mb5.0
MOO Moorlands 38.12 187 *e*P P **20 48 43.5 +1.7**
comp=Z,583nm,1.0s
TAU Tasmania Unive 38.57 186 *e*P P **20 48 47.0 +1.5**
comp=Z,101nm,1.0s,mb5.6
TAU Tasmania Unive 38.57 186 *e*P P **20 48 47.0 +1.4**
TAU pmax pmax
comp=Z,101nm,1.0s,mb5.6
URZ Urewera 40.24 150 P P **20 49 01.1 +1.5**
comp=Z,52nm,0.6s,mb5.5,baz=329,slow=3.7,SNR=28
URZ Urewera 40.24 150 *e*P P **20 49 00.8 +1.2**
comp=Z,53nm,0.7s,mb5.5
PCJI Pacitan 41.53 263 P P **20 49 08.7 -1.9**
comp=Z,65nm,1.0s,mb5.3
KHZ Kahutara 42.03 157 *e*P P **20 49 14.2 0.0**
comp=Z,95nm,1.1s,mb5.4
UGM Wanagama 42.17 263 P P **20 49 13.3 -2.5**
comp=Z,91nm,1.4s,mb5.3
RPZ Rata Peaks 42.26 160 P P **20 49 17.3 +1.3**
comp=Z,85nm,0.8s,mb5.5,baz=5.3,slow=2.4,SNR=27
RPZ Rata Peaks 42.26 160 *e*P P **20 49 17.0 +1.0**
comp=Z,100nm,0.9s,mb5.5
KLBR Kellerberrin 42.53 226 *e*P P **20 49 16.8 -1.6**
comp=Z,22nm,0.5s,mb5.2
KSM Kuching 42.88 277 *e*P P **20 49 21.3 -0.3**
comp=Z,26nm,1.0s,mb4.9
KSM Kuching 42.88 277 P P **20 49 21.5 -0.1**
comp=Z,23nm,1.1s,mb4.8
MJAR Matsushiro Arr 43.04 343 P P **20 49 23.0 +0.6**
comp=Z,1.5nm,0.8s,baz=106,slow=18,SNR=2.9
MJAR pP pP 20 49 40.1 -1.7
comp=Z,1.9nm,0.7s,baz=78,slow=0.5,SNR=2.5
MJAR LR LR 21 04 42.0
comp=Z,124nm,20.3s,baz=210,slow=32
MJAR Matsushiro Arr 43.04 343 P P **20 49 23.0 +0.6**
MJAR pP pP 20 49 40.1 -1.7
MJAR LR LR 21 04 42.0
MJAR Matsushiro Arr 43.04 343 P P **20 49 23.0 +0.5**
MJAR *PP pP 20 49 40.1 -1.7
ODZ Otahua Downs 43.30 162 *e*P P **20 49 25.1 +0.6**
comp=Z,92nm,0.8s,mb5.6
NWAO Narrogin (SRO) 43.61 225 *e*P P **20 49 26.7 -0.4**
comp=Z,5.6nm,0.5s,mb4.5
NWAO Narrogin (SRO) 43.61 225 *e*P P **20 49 26.7 -0.5**
NWAO pmax pmax
comp=Z,6.0nm,0.5s
CISI Cisompet, Garu 44.84 264 P P **20 49 35.7 -1.6**
KSRS Korea Array 47.73 333 P P **20 50 00.0 +0.5**
comp=Z,4.4nm,0.8s,mb4.3,baz=153,slow=8.2,SNR=8.4
KSRS pP pP 20 50 18.4 -0.7
comp=Z,6.2nm,1.1s,baz=148,slow=9.2,SNR=4.6
KSRS Korea Array 47.73 333 P P **20 50 00.0 +0.5**
KSRS *PP pP 20 50 18.4 -0.7
KSRS pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
KSRS pmax pmax
comp=Z,6.0nm,1.1s,mb4.3
KSAR Wonju Array Be 47.74 333 P P **20 50 00.0 +0.4**
KSAR pP pP 20 50 18.4 -0.8
KSAR Wonju Array Be 47.74 333 P P **20 50 00.0 +0.4**
KSAR *PP pP 20 50 18.4 -0.8
MDJ Mudanjiang 53.14 339 P P **20 50 40.1 -0.1**
MDJ pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
MDJ pmax pmax
comp=Z,55nm,5.3s
ENH Enshi 53.96 313 *e*P P **20 50 46.7 +0.2**
comp=Z,8.6nm,1.0s,mb4.7
CN2 Changchun 54.03 336 *e*P P **20 50 47.9 +1.2**
CN2 *e*pP pP 20 51 07.0 +0.4
CN2 *e*S **S** **20 58 15.8 -0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CN2 pmax pmax
comp=Z,200nm,3.0s
GYA Guiyang 54.22 307 P P **20 50 49.0 +0.6**
GYA pP pP 20 51 11.4 +3.0
GYA sP sP 20 51 21.8 +4.4
GYA PP PP 20 52 53.4 +2.3
GYA ScP ScP 20 55 41.0 -2.2
GYA PcS PcS 20 55 52.8 +1.2
GYA S **S** **20 58 18.6 -1.4**
GYA sS sS 20 58 55.3 +1.2
GYA SS SS 21 02 01.0 -2.1
GYA pmax pmax
comp=Z,20nm,0.8s,mb5.2
GYA pmax pmax
comp=Z,120nm,5.0s
GYA LR LR
comp=N,460nm,18.2s
GYA LR LR
comp=E,370nm,19.9s
GYA LR LR
comp=Z,480nm,18.7s
XAN Xi'an 56.41 316 P P **20 51 03.9 -0.1**
XAN pP pP 20 51 23.4 -0.7
XAN pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
KLR Kul'dur 56.55 344 *e*P P **20 51 00.0 -4.7**
KLR *e* pP 20 51 20.7 -4.2
KLR pmax pmax
comp=Z,90nm,1.6s,mb5.5
KMI Kunming 56.83 304 P P **20 51 08.9 +1.7**
KMI pP pP 20 51 28.8 +1.5
KMI sP sP 20 51 40.4 +4.2
KMI PP PP 20 53 17.8 +3.4
KMI S **S** **20 58 52.5 -2.3**
KMI sS sS 20 59 30.5 +1.4
KMI pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
KMI pmax pmax
comp=Z,73nm,3.5s
KMI LR LR
comp=N,210nm,11.9s
KMI LR LR
comp=E,120nm,13.7s
KMI LR LR
comp=Z,180nm,26.9s
PETK Petropavlovsk- 57.53 3 P P **20 51 12.1 +0.6**
comp=Z,7.3nm,0.5s,mb5.0,baz=166,slow=8.0,SNR=11
PETK pP pP 20 51 32.4 +0.6
comp=Z,5.1nm,0.8s,baz=185,slow=9.1,SNR=2.6
PETK LR LR 21 11 28.4
comp=Z,66nm,20.6s,baz=1.4,slow=31
PETK Petropavlovsk- 57.53 3 P P **20 51 12.1 +0.6**
PETK pP pP 20 51 32.4 +0.6
PETK LR LR 21 11 28.4
PETK Petropavlovsk- 57.53 3 P P **20 51 12.1 +0.6**
PETK *PP pP 20 51 32.4 +0.7
CM31 Chiang Mai Arr 57.76 295 *e*P P **20 51 14.7 +0.8**
comp=Z,9.0nm,0.9s,mb4.8
CMAR Chiang Mai Arr 57.76 295 P P **20 51 14.8 +1.0**
comp=Z,6.7nm,0.8s,mb4.7,baz=118,slow=5.2,SNR=4.8
CMAR pP pP 20 51 35.5 +1.5
comp=Z,3.1nm,0.7s,baz=122,slow=5.1,SNR=3.8
CMAR Chiang Mai Arr 57.76 295 P P **20 51 14.8 +1.0**
CMAR pP pP 20 51 35.5 +1.5
CMAR Chiang Mai Arr 57.76 295 P P **20 51 14.8 +1.0**
CMAR *PP pP 20 51 35.6 +1.6
CHTO Chiang Mai 57.87 295 *e*P P **20 51 14.9 +0.3**
comp=Z,14nm,1.4s,mb4.8
CHTO Chiang Mai 57.87 295 *e*P P **20 51 14.9 +0.3**
CHTO pmax pmax
comp=Z,14nm,1.4s,mb4.8
CD2 Chengdu 58.55 310 P P **20 51 21.3 +2.2**
CD2 pP pP 20 51 42.9 +3.5
CD2 PP PP 20 53 33.3 +3.7
CD2 S **S** **20 59 16.8 -0.3**
CD2 sS sS 20 59 54.3 +2.7
CD2 SS SS 21 03 12.6 +1.4
CD2 pmax pmax
comp=Z,30nm,0.5s,mb5.6
CD2 pmax pmax
comp=Z,170nm,4.9s
CD2 LR LR
comp=N,410nm,6.5s
CD2 LR LR
comp=Z,220nm,8.9s
HHC Hu-ho-hao-te 58.81 324 *e*P P **20 51 24.3 +3.6**
HHC pP pP 20 51 44.8 +3.8
HHC sP sP 20 51 54.3 +4.4
HHC PP PP 20 53 37.8 +6.1
HHC S **S** **20 59 23.8 +3.7**
HHC pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
HHC pmax pmax
comp=Z,140nm,5.7s
HHC LR LR
comp=N,220nm,19.0s
HHC LR LR
comp=E,260nm,17.8s
HHC LR LR
comp=Z,150nm,20.2s
LZH Lanzhou 61.02 316 *e*P P **20 51 37.3 +1.3**
LZH pP pP 20 51 57.5 +1.1
LZH sP sP 20 52 09.8 +4.6
LZH pmax pmax
comp=Z,16nm,1.0s,mb5.0
GTA Gaotai 65.44 317 *e*P P **20 52 06.3 +1.1**
GTA pP pP 20 52 26.6 +0.8
GTA sP sP 20 52 36.5 +1.9
GTA pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
ULN Ulaanbaatar 65.74 328 *e*P P **20 52 07.5 +0.6**
comp=Z,3.6nm,1.0s,mb4.2
ULN Ulaanbaatar 65.74 328 *e*P P **20 52 07.5 +0.6**
ULN pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
SONM Songino Array 66.07 328 P P **20 52 09.1 +0.1**
comp=Z,1.7nm,0.7s,mb4.0,baz=143,slow=8.5,SNR=12
SONM pP pP 20 52 30.8 +1.2
comp=Z,1.7nm,0.7s,baz=150,slow=6.6,SNR=4.3
SONM LR LR 21 19 04.3
comp=Z,82nm,19.7s,baz=166,slow=34
SONM Songino Array 66.07 328 P P **20 52 09.1 +0.1**
SONM pP pP 20 52 30.8 +1.2
SONM LR LR 21 19 04.3
SONM Songino Array 66.07 328 P P **20 52 09.1 +0.1**
SONM *PP pP 20 52 30.8 +1.1
SHL Shillong 66.17 300 *e*PKP P **20 52 12.0 +1.9**
LSA Lhasa 68.08 304 P P **20 52 22.3 +0.2**
LSA Lhasa 68.08 304 *e*P P **20 52 23.0 +0.8**
comp=Z,4.8nm,0.8s,mb4.4
LSA Lhasa 68.08 304 *e*P P **20 52 23.0 +0.9**
LSA pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
YAK Yakutsk 68.68 349 *e*P P **20 52 24.5 -0.7**
YAK pmax pmax
comp=Z,19nm,1.1s,mb4.8
ZAK Zakamensk 69.24 329 *e*P P **20 52 28.3 -0.6**
ZAK *e* pP 20 52 50.0 +0.3
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb3.9
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb4.0
TAPN Taplejung 70.26 301 *e*P P **20 52 36.1 +0.4**
comp=Z,24nm,1.0s,mb5.0
ODAN Odare 70.40 300 *e*P P **20 52 37.2 +0.6**
GUN Gumba 71.98 301 *e*P P **20 52 46.8 +0.8**
comp=Z,24nm,0.7s,mb5.1
PKI Pulchoki 72.29 301 *e*P P **20 52 47.9 0.0**
KKN Kakani 72.46 301 *e*P P **20 52 49.2 +0.3**
comp=Z,13nm,0.7s,mb4.9
DMN Daman 72.56 301 *e*P P **20 52 49.8 +0.3**
comp=Z,50nm,0.9s,mb5.3
BILL Bilibino 72.98 5 *e*P P **20 52 51.0 -0.2**
comp=Z,9.1nm,0.8s,mb4.7
BILL Bilibino 72.98 5 *e*P P **20 52 50.8 -0.4**
GKN Gorkha 73.06 301 *e*P P **20 52 52.8 +0.3**
comp=Z,28nm,0.8s,mb5.1
VNDA Vanda 73.14 178 P P **20 52 52.7 +0.7**
comp=Z,7.4nm,0.6s,mb4.7,baz=329,slow=6.4,SNR=54
VNDA Vanda 73.14 178 *e*P P **20 52 52.3 +0.3**
comp=Z,9.7nm,0.8s,mb4.7
VNDA *e* 20 53 07.2
VNDA Vanda 73.14 178 *e*P P **20 52 52.3 +0.3**
VNDA *e* 20 53 07.2
VNDA pmax pmax
comp=Z,10.0nm,0.8s
SBA Scott Base 73.68 177 *e*P P **20 52 55.9 +0.7**
comp=Z,12nm,1.1s,mb4.5
SBA *e*PcP PcP 20 53 09.9 -0.7
SBA Scott Base 73.68 177 *e*P P **20 52 55.9 +0.7**
SBA *e* 20 53 09.9
SBA pmax pmax
comp=Z,12nm,1.1s,mb4.5
KOLN Koldanda 73.89 300 *e*P P **20 52 57.6 +0.2**
comp=Z,16nm,0.7s,mb4.9
DANN Dangsing 73.90 301 *e*P P **20 52 57.0 -0.4**
comp=Z,16nm,0.7s,mb4.8
PYUN Piuthan 74.50 301 *e*P P **20 53 00.4 -0.5**
comp=Z,40nm,1.0s,mb5.1
WMQ Urumqi 75.53 317 P P **20 53 07.3 +0.8**
WMQ pP pP 20 53 27.3 -0.2
WMQ sP sP 20 53 35.8 -0.4
WMQ pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
WMQ LR LR
comp=N,84nm,18.5s
WMQ LR LR
comp=E,110nm,27.7s
WMQ LR LR
comp=Z,71nm,27.7s
MK31 Makanchi Array 80.11 319 *e*P P **20 53 31.8 -0.1**
MK31 Makanchi Array 80.11 319 *ce*P P **20 53 31.9 +0.1**
MK31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
MKAR Makanchi Array 80.11 319 P P **20 53 32.0 +0.1**
comp=Z,2.8nm,0.6s,mb4.3,baz=95,slow=7.1,SNR=54
MKAR pP pP 20 53 52.8 -0.3
comp=Z,2.5nm,0.8s,baz=99,slow=6.3,SNR=3.9
MKAR Makanchi Array 80.11 319 P P **20 53 32.0 +0.1**
MKAR pP pP 20 53 52.8 -0.3
MKAR Makanchi Array 80.11 319 P P **20 53 32.0 +0.2**
MKAR *PP pP 20 53 52.8 -0.3
MCK McKinley 80.57 23 *e*P P **20 53 33.3 -0.7**
comp=Z,15nm,0.9s,mb4.8
MCK *e*pP pP 20 53 52.9 -2.4
MCK McKinley 80.57 23 *e*P P **20 53 33.3 -0.7**
MCK *e*PP pP 20 53 52.9 -2.3
MCK pmax pmax
comp=Z,15nm,0.9s,mb4.8
ZAA0 Zalesovo Array 80.91 326 *e*P P **20 53 34.9 -1.0**
ZALV Zalesovo Beam 80.91 326 P P **20 53 35.3 -0.7**
comp=Z,4.1nm,0.7s,mb4.4,baz=105,slow=5.5,SNR=20
ZALV Zalesovo Beam 80.91 326 P P **20 53 35.3 -0.7**
ZALV Zalesovo Beam 80.91 326 P P **20 53 35.3 -0.7**
COLA College 81.56 22 *e*P P **20 53 37.2 -2.0**
comp=Z,5.2nm,0.7s,mb4.5
COLA *e*pP pP 20 53 58.0 -2.5
COLA College 81.56 22 *e*P P **20 53 37.2 -2.0**
COLA *e*PP pP 20 53 58.0 -2.5
COLA pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ILAR Eielson Array 81.87 22 P P **20 53 39.4 -1.5**
comp=Z,4.8nm,0.8s,mb4.4,baz=245,slow=5.7,SNR=72
ILAR PKKP PKKPbc 21 12 10.3 -4.2
comp=Z,0.2nm,0.6s,baz=323,slow=0.7,SNR=6.5
ILAR LR LR 21 24 21.1
comp=Z,89nm,20.7s,baz=147,slow=31
ILAR Eielson Array 81.87 22 P P **20 53 39.4 -1.5**
ILAR PKKP PKKPbc 21 12 10.3 -4.2
ILAR LR LR 21 24 21.1
ILAR Eielson Array 81.87 22 P P **20 53 39.4 -1.4**
NVS Novosibirsk 82.08 327 *e*P P **20 53 41.3 -0.8**
NVS pmax pmax
comp=Z,11nm,1.4s,mb4.5
NVS pmax pmax
comp=N,5.0nm,1.5s
NVS pmax pmax
comp=E,8.0nm,1.4s
KURK Kurchatov 83.54 322 *e*P P **20 53 49.1 -0.7**
comp=E,9.8nm,1.0s,mb4.6
KURK *e*pP pP 20 54 08.8 -2.4
KURK Kurchatov 83.54 322 *e*P P **20 53 49.1 -0.7**
KURK *e*PP pP 20 54 08.8 -2.4
KURK pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
TKM2 Tokmak 2 83.73 314 P P **20 53 51.7 +0.7**
SNR=8.3
TKM2 Tokmak 2 83.73 314 *e*P P **20 53 50.9 0.0**
comp=Z,4.5nm,0.6s,mb4.5
TKM2 Tokmak 2 83.73 314 *i* P P **20 53 51.3 +0.4**
TKM2 pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
KZA Kyzart 83.81 313 P P **20 53 51.8 +0.4**
SNR=7.2
CHMS Chumysh 84.35 314 P P **20 53 54.9 +0.8**
SNR=8.6
AAK Ala-Archa 84.47 313 P P **20 53 55.8 +1.1**
SNR=5.6
AAK Ala-Archa 84.47 313 *i* P P **20 53 55.8 +1.1**
DIB Dawson Inlet, 84.49 36 T 22 27 10.3
SNR=27
USP Ospenovka 84.59 314 P P **20 53 56.1 +0.9**
SNR=10
AML Almayashu 84.95 313 P P **20 53 58.7 +1.5**
SNR=6.2
EKS2 Erkin-Say 84.99 313 P P **20 53 58.4 +1.0**
SNR=8.4
EKS2 Erkin-Say 84.99 313 *e*P P **20 53 57.6 +0.3**
comp=Z,11nm,0.9s,mb4.8
EKS2 Erkin-Say 84.99 313 *e*P P **20 53 57.6 +0.3**
EKS2 pmax pmax
comp=Z,11nm,0.9s,mb4.8
QSPA South Pole Qui 85.47 180 *e*P P **20 53 59.3 +0.3**
comp=Z,24nm,0.7s,mb5.2
MAW Mawson 85.86 203 P P **20 54 00.7 -0.4**
comp=Z,18nm,0.7s,mb5.1,baz=93,slow=6.1,SNR=43
MAW LR LR 21 27 01.6
comp=Z,108nm,19.7s,baz=98,slow=32
MAW Mawson 85.86 203 *e*P P **20 54 00.9 -0.2**
comp=Z,16nm,0.6s,mb5.1
MAW Mawson 85.86 203 *e*P P **20 54 00.6 -0.5**
comp=Z,3.3nm,0.6s,mb4.4
MAW Mawson 85.86 203 P P **20 54 00.7 -0.5**
MAW pmax pmax
comp=Z,18nm,0.7s
MAW MLR MLR
comp=Z,108nm,19.7s
KKAR Karatay Array 87.43 313 *e*P P **20 54 07.2 -2.1**
comp=Z,2.6nm,0.7s,mb4.3
KKAR Karatay Array 87.43 313 *e*P P **20 54 07.2 -2.1**
KKAR pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
INK Inuvik 88.16 21 P P **20 54 11.5 -0.8**
comp=Z,5.5nm,0.9s,mb4.6,baz=233,slow=5.2,SNR=11
INK pP pP 20 54 32.3 -1.5
comp=Z,1.8nm,0.8s,baz=202,slow=10,SNR=2.6
INK Inuvik 88.16 21 P P **20 54 11.5 -0.8**
INK pP pP 20 54 32.3 -1.5
INK Inuvik 88.16 21 P P **20 54 11.5 -0.7**
INK *PP pP 20 54 32.3 -1.5
BVAR Borovoye Array 89.00 323 P P **20 54 15.6 -0.9**
comp=Z,12nm,0.7s,mb5.0,baz=104,slow=6.1,SNR=64
BVAR Borovoye Array 89.00 323 P P **20 54 15.6 -0.9**
BVAR Borovoye Array 89.00 323 P P **20 54 15.6 -0.9**
BRVK Borovoye 89.07 323 *e*P P **20 54 14.9 -1.9**
comp=Z,12nm,0.9s,mb4.9
BRVK Borovoye 89.07 323 ⇑ *i*P P **20 54 15.5 -1.3**
BRVK pmax pmax
comp=Z,13nm,0.9s,mb5.0
NVAR Mina Array Bea 91.88 52 P P **20 54 29.8 -0.5**
comp=Z,1.3nm,0.8s,mb4.2,baz=256,slow=6.4,SNR=9.0
NVAR LR LR 21 31 32.7
comp=Z,77nm,20.0s,baz=287,slow=33
NVAR Mina Array Bea 91.88 52 P P **20 54 29.8 -0.5**
NVAR LR LR 21 31 32.7
SYO Syowa Base 93.96 199 ⇑ *e*P P **20 54 37.0 -2.2**
YKA Yellowknife Ar 95.15 28 LR LR 21 37 11.6
comp=Z,5.3nm,19.6s,baz=315,slow=35
ABKAR Akbulak array 95.25 319 *e*P P **20 54 43.2 -2.3**
AKTO Aktyubinsk 96.50 320 P P **20 54 49.2 -1.9**
comp=Z,1.1nm,0.6s,mb4.5,baz=82,slow=3.7,SNR=5.7
AKTO Aktyubinsk 96.50 320 P P **20 54 49.2 -1.9**
AKTO Aktyubinsk 96.50 320 P P **20 54 49.3 -1.8**
PDAR Pinedale Array 98.63 48 P P **20 55 00.4 -0.5**
comp=Z,0.7nm,0.8s,mb4.2,baz=247,slow=3.1,SNR=5.5
PDAR LR LR 21 32 49.9
comp=Z,93nm,18.9s,baz=258,slow=31
PDAR Pinedale Array 98.63 48 P P **20 55 00.4 -0.5**
PDAR LR LR 21 32 49.9
VNA3 Neumayer Olymp 103.53 186 *e* Pdif 20 55 18.7 -3.8
VNA2 Neumayer--Watz 103.59 187 *e* Pdif 20 55 18.7 -4.0
AKASG Malin Array Be 114.26 324 PKP PKiKP 21 00 00.5 -0.5
comp=Z,2.9nm,0.6s,baz=60,slow=2.2,SNR=12
AKASG PKKPbc PKKPbc 21 10 41.1 -2.0
comp=Z,1.1nm,0.5s,baz=260,slow=3.8,SNR=9.5
AKASG Malin Array Be 114.26 324 PKP PKiKP 21 00 00.5 -0.5
AKASG PKKPbc PKKPbc 21 10 41.1 -2.0
AKASG Malin Array Be 114.26 324 PKIKP PKiKP 21 00 00.5 -0.5
BRTR Keskin Array B 115.11 312 PKP PKiKP 21 00 01.8 -1.2
comp=Z,0.7nm,0.7s,baz=318,slow=1.7,SNR=3.7
BRTR PKKPbc PKKPbc 21 10 40.5 +0.7
comp=Z,1.5nm,0.8s,baz=199,slow=3.6,SNR=7.2
BRTR Keskin Array B 115.11 312 PKP PKiKP 21 00 01.8 -1.2
BRTR PKKPbc PKKPbc 21 10 40.5 +0.7
BRTR Keskin Array B 115.11 312 PKIKP PKiKP 21 00 01.8 -1.2
BRTR 21 10 40.5
NOA NORSAR Array B 116.63 340 PKP PKPdf 21 00 04.3 -0.9
comp=Z,1.2nm,0.8s,baz=51,slow=2.0,SNR=3.2
NOA NORSAR Array B 116.63 340 PKP PKPdf 21 00 04.3 -0.9
NOA NORSAR Array B 116.63 340 PKIKP PKPdf 21 00 04.3 -0.9
BURAR Bucovina Array 117.96 323 ⇑ *i*P PKPdf 21 00 09.8 +1.6
MLR Muntele Rosu 118.43 320 PKP PKPdf 21 00 08.8 -0.4
comp=Z,4.1nm,1.4s,baz=264,slow=14,SNR=4.8
MLR Muntele Rosu 118.43 320 PKP PKPdf 21 00 08.8 -0.4
MLR Muntele Rosu 118.43 320 PKIKP PKPdf 21 00 08.8 -0.4
VOIR 119.02 320 ⇓ *i*P PKPdf 21 00 13.6 +3.3
BOSA Boshof 119.82 233 PKP PKPdf 21 00 12.6 +0.2
comp=Z,3.6nm,0.6s,baz=342,slow=16,SNR=11
BOSA Boshof 119.82 233 *e*PKPdf PKPdf 21 00 12.4 0.0
BOSA Boshof 119.82 233 PKIKP PKPdf 21 00 12.6 +0.2
BOSA pmax pmax
comp=Z,4.0nm,0.6s
LBTB Lobatse 120.96 237 *e*PKPdf PKPdf 21 00 14.3 -0.3
LBTB Lobatse 120.96 237 *e*PKIKP PKPdf 21 00 14.3 -0.4
BZS Buzias 121.08 322 ⇑ *i*P PKPdf 21 00 14.2 -0.1
LSZ Lusaka 121.76 249 *e*PKPdf PKPdf 21 00 16.1 -0.3
LSZ Lusaka 121.76 249 *e*PKIKP PKPdf 21 00 16.1 -0.3
CLL Collm 122.59 331 *i* PKIKP PKPdf 21 00 17.1 +0.1
CLL Collm 122.59 331 *i* PKPdf PKPdf 21 00 17.1 +0.1
CONA Conrad Observa 123.20 327 ⇓ *i*PKPdf PKPdf 21 00 17.5 -0.7
comp=Z,3.5nm,0.7s
CSNA Conrad Observa 123.20 327 ⇓ *e*PKiKP PKiKP 21 00 17.6 -0.9
comp=Z,3.0nm,0.6s
KHC Kasperske Hory 123.69 329 *e*PKIKP PKPdf 21 00 19.0 -0.2
KHC Kasperske Hory 123.69 329 *e*PKPdf PKPdf 21 00 19.0 -0.2
GERES GERESS Array B 123.80 329 PKP PKPdf 21 00 18.8 -0.6
comp=Z,3.0nm,0.7s,baz=56,slow=1.4,SNR=18
GERES GERESS Array B 123.80 329 PKP PKPdf 21 00 18.8 -0.6
GERES GERESS Array B 123.80 329 PKIKP PKPdf 21 00 18.8 -0.6
SOKA Soboth 124.39 326 ⇓ *e*PKiKP PKiKP 21 00 19.9 -1.0
comp=Z,3.6nm,0.9s
ABTA Abfaltersbach 125.73 327 ⇑ *i*PKiKP PKiKP 21 00 22.8 -0.7
comp=Z,4.7nm,0.9s
EKA Eskdalemuir Ar 125.74 343 PKP PKPdf 21 00 23.1 +0.2
comp=Z,1.8nm,0.8s,baz=23,slow=3.3,SNR=4.3
EKA Eskdalemuir Ar 125.74 343 PKP PKPdf 21 00 23.1 +0.2
EKA Eskdalemuir Ar 125.74 343 PKIKP PKPdf 21 00 23.1 +0.2
WTTA Wattenberg 125.87 328 ⇑ *i*PKiKP PKiKP 21 00 23.8 -0.1
comp=Z,9.5nm,0.9s
MOTA Moosalm 126.10 329 ⇑ *i*PKiKP PKiKP 21 00 24.1 -0.1
comp=Z,1.5nm,0.3s
FETA Feichten 126.50 328 ⇑ *e*PKiKP PKiKP 21 00 25.3 +0.2
comp=Z,8.8nm,1.0s
DAVA Damuels 126.77 329 ⇑ *e*PKiKP PKiKP 21 00 25.3 -0.3
comp=Z,5.6nm,0.9s
DAVOX Davos/Dischmat 127.10 329 PKP PKPdf 21 00 26.4 +0.7
comp=Z,1.9nm,0.4s,baz=230,slow=10,SNR=4.5
DAVOX Davos/Dischmat 127.10 329 PKP PKPdf 21 00 26.4 +0.6
DAVOX Davos/Dischmat 127.10 329 PKIKP PKPdf 21 00 26.4 +0.6
ATAH Atahualpa 127.60 102 PKP PKPdf 21 00 30.0 +2.3
comp=Z,8.2nm,0.7s,baz=177,slow=1.8,SNR=5.4
ATAH Atahualpa 127.60 102 PKP PKPdf 21 00 30.0 +2.3
TSUM Tsumeb 130.05 240 *e*PKPdf PKPdf 21 00 31.5 -0.7
RJF Les Rejaudoux 132.24 333 *e*PP 21 03 57.9
comp=Z,121nm,1.5s
ROSC El Rosal 133.02 88 PKP PKPdf 21 00 39.7 +1.7
comp=Z,4.9nm,0.3s,baz=75,slow=16,SNR=3.7
ROSC El Rosal 133.02 88 PKP PKPdf 21 00 39.7 +1.7
LPAZ La Paz 134.55 118 PKP PKPdf 21 00 42.6 +1.9

comp=Z,4.6nm,0.5s,baz=179,slow=0.6,SNR=16

LPAZ	**La Paz**	**134.55**	**118**	*e*PKPdf	PKPdf	21 00 42.5	+1.8
LPAZ				*e*SKP		21 04 08.5	
LPAZ	**La Paz**	**134.55**	**118**	PKIKP	PKPdf	21 00 42.6	+1.9
LPAZ				pmax	pmax		

comp=Z,5.0nm,0.5s

SDV	**Santo Domingo**	**136.65**	**82**	*e*PKPdf	PKPdf	21 00 45.6	+0.9
SDV				*e*SKP		21 04 14.7	
CPUP	**Villa Florida**	**137.68**	**138**	PKP	PKPdf	21 00 48.5	+2.2

comp=Z,1.8nm,0.6s,baz=156,slow=1.0,SNR=6.8

CPUP	**Villa Florida**	**137.68**	**138**	PKP	PKPdf	21 00 48.5	+2.2
CPUP	**Villa Florida**	**137.68**	**138**	PKIKP	PKPdf	21 00 48.6	+2.3
ESDC	**Sonseca Array**	**139.16**	**332**	PKP	PKPdf	21 00 49.0	+0.3

comp=Z,0.4nm,0.5s,baz=284,slow=14,SNR=4.2

ESDC	**Sonseca Array**	**139.16**	**332**	PKP	PKPdf	21 00 49.0	+0.3
TAM	**Tamanrasset**	**143.53**	**303**	*e*PKPpre	PKPpre	21 00 54.3	
TAM	**Tamanrasset**	**143.53**	**303**	*e*PKIKP	PKPpre	21 00 54.3	
MDT	**Midelt**	**144.80**	**326**	PKP	PKPdf	21 00 58.8	-0.1

comp=Z,8.1nm,0.8s,baz=40,slow=3.2,SNR=18

MDT	**Midelt**	**144.80**	**326**	PKP	PKPdf	21 00 58.8	-0.1
TORD	**Torodi Ar. Bea**	**150.22**	**289**	PKPbc	PKPbc	21 01 11.5	-2.0

comp=Z,16nm,0.9s,baz=80,slow=2.5,SNR=3.7

TORD	**Torodi Ar. Bea**	**150.22**	**289**	PKPbc	PKPbc	21 01 11.5	-2.0
DBIC	**Dimbokro**	**157.67**	**277**	PKPab	PKPab	21 01 51.0	-0.5

comp=Z,8.7nm,0.8s,baz=68,slow=3.7,SNR=11

DBIC	**Dimbokro**	**157.67**	**277**	*e*PKPab	PKPab	21 01 50.6	-0.9
DBIC	**Dimbokro**	**157.67**	**277**	PKP2	PKPab	21 01 51.1	-0.5
DBIC				pmax	pmax		

comp=Z,9.0nm,0.8s

*CSEM **18** 21:07:27.3, 37.°91N×14.°74E, h33km, After ROM*
ROM 18 21:07:27.3±0.1, 37.°91N×14.°74E, h33km±1km, Ml3.5/27, Error ellipse: s-maj=2.2km s-min=1.3km az=98.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNO	**Monte Soro**	**0.04**	**301**	Pg	Pb	21 07 33.5	+0.7
MNO				Sg	Sb	21 07 37.7	+1.1

3µm,0.2s

MNO	**Monte Soro**	**0.04**	**301**	Pg	Pb	21 07 33.5	+0.7
MNO				Sg	Sb	21 07 37.7	+1.1

3µm,0.2s

GALF	**Gagliano Caste**	**0.24**	**215**	Pg	Pb	21 07 34.4	+0.1
GALF				Sg	Sb	21 07 40.1	+1.0

9µm,0.8s

GALF	**Gagliano Caste**	**0.24**	**215**	Pg	Pb	21 07 34.4	+0.1
GALF				Sg	Sb	21 07 40.1	+1.0

9µm,0.8s

ESLN	**Serra La Nave**	**0.28**	**140**	Pg	Pb	21 07 35.7	+0.8

6µm,0.4s

ESLN	**Serra La Nave**	**0.28**	**140**	Pg	Pb	21 07 35.7	+0.8

6µm,0.4s

ECNV	**Catenanuova**	**0.32**	**184**	Pg	Pb	21 07 36.2	+1.0

7µm,0.6s

ECNV	**Catenanuova**	**0.32**	**184**	Pg	Pb	21 07 36.2	+1.0

7µm,0.6s

MMME	**Mongiuffi-Meli**	**0.41**	**86**	Pg	Pb	21 07 36.9	+0.4

2µm,0.5s

MMME	**Mongiuffi-Meli**	**0.41**	**86**	Pg	Pb	21 07 36.9	+0.4

2µm,0.5s

VPL	**Vulcano Piano**	**0.51**	**22**	Pg	Pb	21 07 37.9	-0.1
VPL				Sg	Sb	21 07 45.8	+0.5

3µm,0.4s

VPL	**Vulcano Piano**	**0.51**	**22**	Pg	Pb	21 07 37.9	-0.1
VPL				Sg	Sb	21 07 45.8	+0.5

3µm,0.4s

MILZ	**Milazzo**	**0.53**	**47**	Pg	Pb	21 07 38.3	0.0
MILZ	**Milazzo**	**0.53**	**47**	Pg	Pb	21 07 38.3	0.0
CSLB	**Castelbuono**	**0.54**	**273**	Pg	Pb	21 07 38.4	-0.1
CSLB				Sg	Sb	21 07 47.3	+1.1

385nm,0.2s

CSLB	**Castelbuono**	**0.54**	**273**	Pg	Pb	21 07 38.4	-0.1
CSLB				Sg	Sb	21 07 47.3	+1.1

385nm,0.2s

LLI	**Lipari**	**0.56**	**17**	Pg	Pb	21 07 39.1	+0.3

12µm,0.5s

LLI	**Lipari**	**0.56**	**17**	Pg	Pb	21 07 39.1	+0.3

12µm,0.5s

GIB	**Gibilmanna**	**0.57**	**278**	Pg	Pb	21 07 39.0	0.0

4µm,0.7s

GIB	**Gibilmanna**	**0.57**	**278**	Pg	Pb	21 07 39.0	0.0

4µm,0.7s

RESU	**Resuttano**	**0.60**	**244**	Pg	Pn	21 07 41.1	+1.6
RESU	**Resuttano**	**0.60**	**244**	Pg	Pn	21 07 41.1	+1.6
IFIL	**Filicudi I Eol**	**0.67**	**348**	Pg	Pn	21 07 40.1	-0.3
IFIL				Sg	Sb	21 07 50.0	+0.4

6µm,0.5s

IFIL	**Filicudi I Eol**	**0.67**	**348**	Pg	Pn	21 07 40.1	-0.3
IFIL				Sg	Sb	21 07 50.0	+0.4

6µm,0.5s

HCRL	**Carlentini**	**0.67**	**160**	Pg	Pn	21 07 39.8	-0.6
HCRL				Sg	Sb	21 07 50.2	+0.6
HCRL	**Carlentini**	**0.67**	**160**	Pg	Pn	21 07 39.8	-0.6
HCRL				Sg	Sb	21 07 50.2	+0.6
IACL	**Alicudi**	**0.69**	**334**	Pg	Pn	21 07 40.3	-0.5

4µm,0.5s

IACL	**Alicudi**	**0.69**	**334**	Pg	Pn	21 07 40.3	-0.5

4µm,0.5s

MSRU	**Castanea**	**0.70**	**60**	Pg	Pn	21 07 41.4	+0.5

655nm,0.4s

MSRU	**Castanea**	**0.70**	**60**	Pg	Pn	21 07 41.4	+0.5

655nm,0.4s

HAGA	**Augusta**	**0.71**	**152**	Pg	Pn	21 07 40.1	-0.8
HAGA				Sg	Sn	21 07 50.9	+0.2

1µm,0.5s

HAGA	**Augusta**	**0.71**	**152**	Pg	Pn	21 07 40.1	-0.8
HAGA				Sg	Sn	21 07 50.9	+0.2

1µm,0.5s

HVZN	**Vizzini**	**0.73**	**182**	Pg	Pn	21 07 41.0	-0.3
HVZN				Sg	Sn	21 07 52.2	+0.9

4µm,0.6s

HVZN	**Vizzini**	**0.73**	**182**	Pg	Pn	21 07 41.0	-0.3
HVZN				Sg	Sn	21 07 52.2	+0.9

4µm,0.6s

RAFF	**Raffo Rosso**	**0.75**	**204**	Pg	Pn	21 07 41.9	+0.4
RAFF				Sg	Sn	21 07 53.1	+1.4

2µm,0.5s

RAFF	**Raffo Rosso**	**0.75**	**204**	Pg	Pn	21 07 41.9	+0.4
RAFF				Sg	Sn	21 07 53.1	+1.4

2µm,0.5s

AGST	**Augusta-Monte**	**0.76**	**149**	Pg	Pn	21 07 41.0	-0.7
AGST				Sg	Sn	21 07 53.0	+1.0

1µm,0.3s

AGST	**Augusta-Monte**	**0.76**	**149**	Pg	Pn	21 07 41.0	-0.7
AGST				Sg	Sn	21 07 53.0	+1.0

1µm,0.3s

MTTG	**Motta San Giov**	**0.76**	**83**	Pg	Pn	21 07 42.8	+1.1

1µm,0.6s

MTTG	**Motta San Giov**	**0.76**	**83**	Pg	Pn	21 07 42.8	+1.1

1µm,0.6s

ALJA	**Alia**	**0.80**	**259**	Pg	Pn	21 07 43.7	+1.5

1µm,0.8s

ALJA	**Alia**	**0.80**	**259**	Pg	Pn	21 07 43.7	+1.5

1µm,0.8s

SSY	**Sortino**	**0.80**	**161**	Pg	Pn	21 07 41.9	-0.3
SSY				Sg	Sn	21 07 53.9	+0.9

4µm,0.3s

SSY	**Sortino**	**0.80**	**161**	Pg	Pn	21 07 41.9	-0.3
SSY				Sg	Sn	21 07 53.9	+0.9

4µm,0.3s

SCLL	**Scilla**	**0.84**	**66**	Pg	Pn	21 07 43.8	+1.0

293nm,0.4s

SCLL	**Scilla**	**0.84**	**66**	Pg	Pn	21 07 43.8	+1.0

293nm,0.4s

MSCL	**Scilla**	**0.89**	**69**	Pg	Pn	21 07 44.8	+1.4

1µm,0.6s

MSCL	**Scilla**	**0.89**	**69**	Pg	Pn	21 07 44.8	+1.4

1µm,0.6s

HMDC	**Modica**	**0.95**	**178**	Pg	Pn	21 07 44.4	+0.1
HMDC				Sg	Sn	21 07 58.4	+1.7
HMDC	**Modica**	**0.95**	**178**	Pg	Pn	21 07 44.4	+0.1
HMDC				Sg	Sn	21 07 58.4	+1.7
CEL	**Celeste**	**0.97**	**69**	Pg	Pn	21 07 45.6	+1.0

521nm,0.4s

CEL	**Celeste**	**0.97**	**69**	Pg	Pn	21 07 45.6	+1.0

521nm,0.4s

HAVL	**Avola**	**1.00**	**162**	Pg	Pn	21 07 45.1	+0.2
HAVL				Sg	Sn	21 07 59.5	+1.7
HAVL	**Avola**	**1.00**	**162**	Pg	Pn	21 07 45.1	+0.2
HAVL				Sg	Sn	21 07 59.5	+1.7
MPAZ	**Palizzi**	**1.00**	**87**	Pg	Pn	21 07 46.8	+1.8
MPAZ	**Palizzi**	**1.00**	**87**	Pg	Pn	21 07 46.8	+1.8
SOI	**Samo**	**1.05**	**81**	Pg	Pn	21 07 47.6	+1.9

425nm,0.6s

SOI	**Samo**	**1.05**	**81**	Pg	Pn	21 07 47.6	+1.9

425nm,0.6s

FAVR	**Favara**	**1.07**	**233**	Pg	Pn	21 07 48.5	+2.6

215nm,0.4s

FAVR	**Favara**	**1.07**	**233**	Pg	Pn	21 07 48.5	+2.6

215nm,0.4s

CORL	**Corleone**	**1.14**	**270**	Pg	Pn	21 07 48.1	+1.2

767nm,0.6s

CORL	**Corleone**	**1.14**	**270**	Pg	Pn	21 07 48.1	+1.2

767nm,0.6s

JOPP	**Joppolo**	**1.14**	**52**	Pg	Pn	21 07 47.1	+0.2
JOPP	**Joppolo**	**1.14**	**52**	Pg	Pn	21 07 47.1	+0.2
PLAC	**Placanica**	**1.44**	**68**	Pg	Pn	21 07 53.1	+2.0

506nm,0.6s

PLAC	**Placanica**	**1.44**	**68**	Pg	Pn	21 07 53.1	+2.0

506nm,0.6s

USI	**Ustica**	**1.46**	**303**	Pg	Pn	21 07 50.7	-0.7

169nm,0.3s

USI	**Ustica**	**1.46**	**303**	Pg	Pn	21 07 50.7	-0.7

169nm,0.3s

CARO	**Carolei**	**1.77**	**40**	Pg	Pn	21 07 55.9	+0.3
CARO	**Carolei**	**1.77**	**40**	Pg	Pn	21 07 55.9	+0.3
BULG	**Bulgheria - Ca**	**2.22**	**13**	Pg	Pn	21 08 02.2	+0.4

150nm,0.5s

BULG	**Bulgheria - Ca**	**2.22**	**13**	Pg	Pn	21 08 02.2	+0.4

150nm,0.5s

CUC	**Castrocucco**	**2.24**	**22**	Pg	Pn	21 08 02.9	+0.8

95nm,0.6s

CUC	**Castrocucco**	**2.24**	**22**	Pg	Pn	21 08 02.9	+0.8

95nm,0.6s

SIRI	**Monte Sirino -**	**2.43**	**21**	Pg	Pn	21 08 05.5	+0.8

87nm,0.3s

SIRI	**Monte Sirino -**	**2.43**	**21**	Pg	Pn	21 08 05.5	+0.8

87nm,0.3s

CMPR	**Campora**	**2.44**	**10**	Pg	Pn	21 08 05.1	+0.3

53nm,0.4s

CMPR	**Campora**	**2.44**	**10**	Pg	Pn	21 08 05.1	+0.3

53nm,0.4s

CDRU	**Civita di Ruta**	**2.61**	**9**	Pg	Pn	21 08 07.6	+0.5

24nm,0.6s

CDRU	**Civita di Ruta**	**2.61**	**9**	Pg	Pn	21 08 07.6	+0.5

24nm,0.6s

IDC 18 21:29:40.6±47.0, 16.°18S×175.°19W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/16, mbtmp3.9/3, Error ellipse: s-maj=881.4km s-min=167.1km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.15**	**240**	P	P	21 37 35.9	+0.9

0.6nm,0.4s,baz=65,slow=8.6,SNR=5.7

WRA	**Warramunga Arr**	**47.99**	**258**	P	P	21 38 21.0	-0.7

0.3nm,0.5s,baz=97,slow=7.6,SNR=13

ASAR	**Alice Springs**	**48.23**	**253**	P	P	21 38 23.4	-0.1

3.4nm,0.6s,baz=88,slow=8.1,SNR=53

*ISCJB **18** 21:42:10.2±1.4, 7.°16S±0.°06×127.°81E±0.°08, h224km±15km, mb3.5/10, Error ellipse: s-maj=14.7km s-min=6.5km az=142.4*
*NEIC **18** 21:42:11.0±1.8, 7.°15S×127.°77E, h213km±20km, mb4.2/5, Error ellipse: s-maj=15.0km s-min=9.0km az=46.0*
*IDC **18** 21:42:11.1±3.1, 7.°20S×127.°79E, h214km±33km, mb3.3/8, mb1 3.4/11, mb1mx3.3/17, mbtmp3.3/11, Error ellipse: s-maj=29.4km s-min=12.0km az=70.0*
ISC 18 21:42:12.7±1.4, 7.°28S±0.°07×127.°72E±0.°09, h235km±16km, n38, σ0s94/42, mb3.5/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**5.60**	**256**	P	**S**	**21 44 41.8**	**+0.3**
WSI	**Waingapu**	**7.72**	**252**	P	**S**	**21 45 23.9**	**-6.6**

3µm,0.5s,14nm

FITZ	**Fitzroy Crossi**	**10.95**	**190**	P	**Pn**	**21 44 43.0**	**-0.5**

0.6nm,0.3s,baz=32,slow=10,SNR=20

FITZ				S	**S**	**21 46 42.6**	**-3.6**

1.1nm,0.3s,baz=114,slow=21,SNR=6.1

FITZ	**Fitzroy Crossi**	**10.95**	**190**	P	**Pn**	**21 44 43.0**	**-0.5**
FITZ				S	**S**	**21 46 42.6**	**-3.6**
BBKI	**Banjar Baru**	**13.37**	**286**	P	**Pn**	**21 45 18.7**	**+4.9**

0.2nm42nm,1.1s

WRAB	**Tennant Creek**	**14.13**	**154**	*e*Pn	**Pn**	**21 45 22.4**	**-0.6**

4.9nm,0.4s

WRAB				*e*S	**S**	**21 47 55.0**	**-4.6**
WRAB	**Tennant Creek**	**14.13**	**154**	P	**S**	**21 48 00.9**	**+1.2**
WRA	**Warramunga Arr**	**14.13**	**154**	P	**Pn**	**21 45 23.4**	**+0.4**

0.9nm,0.3s,baz=329,slow=12,SNR=52

WRA				S	**S**	**21 47 55.1**	**-4.6**

0.9nm,0.3s,baz=327,slow=23,SNR=7.3

WRA	**Warramunga Arr**	**14.13**	**154**	P	**Pn**	**21 45 23.4**	**+0.4**
WRA				S	**S**	**21 47 55.1**	**-4.6**
WB2	**Warramunga Arr**	**14.14**	**154**	*e*Pn	**Pn**	**21 45 23.1**	**0.0**
WB2				*e*S	**S**	**21 47 56.2**	**-3.6**
MBWA	**Marble Bar**	**15.82**	**208**	*e*P	**Pn**	**21 45 43.9**	**+0.5**

4.2nm,0.4s

COEN	**Coen**	**16.57**	**115**	*e*P	**P**	**21 45 51.8**	**+1.0**

41nm,0.7s

ASAR	**Alice Springs**	**17.34**	**161**	P	**P**	**21 46 01.5**	**+2.3**

0.4nm,0.3s,baz=343,slow=13,SNR=16

ASAR				S	**S**	**21 49 07.2**	**-0.2**

0.1nm,0.3s,baz=344,slow=26,SNR=4.8

ASAR	**Alice Springs**	**17.34**	**161**	P	**P**	**21 46 01.5**	**+2.3**
ASAR				S	**S**	**21 49 07.2**	**-0.2**
KSM	**Kuching**	**19.43**	**296**	P	**P**	**21 46 22.3**	**+0.4**
XMIS	**Christmas Isla**	**22.04**	**260**	P	sP	21 48 06.6	+8.5
RGRI	**Rengat**	**26.24**	**284**	P	PP	21 48 29.0	-1.9
STKA	**Stephens Creek**	**27.68**	**154**	P	**P**	**21 47 40.3**	**+1.1**

1.0nm,0.4s,mb3.8,baz=263,slow=20,SNR=7.5

STKA	**Stephens Creek**	**27.68**	**154**	P	**P**	**21 47 40.3**	**+1.1**
ARMA	**Armidale**	**32.13**	**139**	*e*P	**P**	**21 48 18.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**38.21**	**312**	P	**P**	**21 49 11.0**	**+0.8**

0.2nm,0.4s,mb3.0,baz=137,slow=5.8,SNR=3.0

CMAR	**Chiang Mai Arr**	**38.21**	**312**	P	**P**	**21 49 11.0**	**+0.8**
KSAR	**Wonju Array Be**	**44.48**	**0**	P	**P**	**21 49 59.8**	**-1.1**
KSRS	**Korea Array**	**44.50**	**0**	P	**P**	**21 49 59.8**	**-1.2**

2.3nm,0.6s,mb3.7,baz=177,slow=9.7,SNR=6.0

MJAR	**Matsushiro Arr**	**44.68**	**12**	P	**P**	**21 50 00.7**	**-1.7**

1.6nm,0.8s,mb3.4,baz=166,slow=6.8,SNR=3.1

MJAR	**Matsushiro Arr**	**44.68**	**12**	P	**P**	**21 50 00.7**	**-1.7**
SONM	**Songino Array**	**58.02**	**343**	P	**P**	**21 51 41.8**	**+0.9**

0.2nm,0.4s,mb3.1,baz=168,slow=7.8,SNR=3.8

SONM	**Songino Array**	**58.02**	**343**	P	**P**	**21 51 41.9**	**+0.9**
PETK	**Petropavlovsk-**	**65.31**	**19**	P	**P**	**21 52 30.0**	**+0.6**

0.9nm,0.4s,mb3.8,baz=326,slow=0.5,SNR=2.7

PETK	**Petropavlovsk-**	**65.31**	**19**	P	**P**	**21 52 30.0**	**+0.6**
MKAR	**Makanchi Array**	**67.24**	**328**	P	**P**	**21 52 42.1**	**+0.3**

0.3nm,0.5s,mb3.2,baz=128,slow=7.9,SNR=6.4

MKAR	**Makanchi Array**	**67.24**	**328**	P	**P**	**21 52 42.1**	**+0.3**
EKS2	**Erkin-Say**	**69.77**	**321**	*e*P	**P**	**21 52 57.5**	**-0.1**

6.0nm,1.5s,mb4.0

ZALV	**Zalesovo Beam**	**70.85**	**335**	P	**P**	**21 53 03.0**	**-0.8**

0.2nm,0.4s,mb3.1,baz=146,slow=3.0,SNR=3.6

ZALV	**Zalesovo Beam**	**70.85**	**335**	P	**P**	**21 53 03.0**	**-0.8**
KURK	**Kurchatov**	**71.59**	**330**	*e*P	**P**	**21 53 08.2**	**-0.1**

0.9nm,0.4s,mb3.8

LPAZ	**La Paz**	**151.81**	**146**	PKPbc	PKPbc	22 01 42.4	+1.8

0.6nm,0.4s,baz=180,slow=2.0,SNR=2.5

LPAZ	**La Paz**	**151.81**	**146**	PKPbc	PKPbc	22 01 42.4	+1.9

*ISCJB **18** 21:43:38.6±0.4, 43.°00N±0.°05×137.°66E±0.°08, h281km±7km, mb3.4/6, Error ellipse: s-maj=10.3km s-min=7.1km az=44.6*
*NEIC **18** 21:43:39.6±0.7, 43.°10N×137.°51E, h273km±9km, mb3.7/1, Error ellipse: s-maj=15.3km s-min=9.7km az=154.0*
*IDC **18** 21:43:39.2±1.5, 43.°16N×137.°40E, h267km±22km, mb3.1/5, mb1 3.2/8, mb1mx3.0/26, mbtmp3.0/8, Error ellipse: s-maj=32.0km s-min=16.5km az=164.0*
*JMA **18** 21:43:40.5±0.5, 42.°90N×137.°88E, h285km±4km, M3.3*
ISC 18 21:43:39.5±0.4, 42.°99N±0.°06×137.°67E±0.°08, h276km±7km, n40, σ1s07/49, mb3.4/6, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK	**Shakotan**	**2.08**	**79**	P	**Pn**	**21 44 25.2**	**+0.5**
JKB	**Kayabe**	**2.72**	**113**	P	**Pn**	**21 44 31.4**	**+0.7**
JEW	**Eniwo**	**2.78**	**92**	P	**Pn**	**21 44 32.3**	**+1.0**
JOT	**Ohata**	**2.98**	**121**	P	**Pn**	**21 44 33.6**	**+0.2**
JHR	**Hokuryu**	**3.05**	**74**	P	**Pn**	**21 44 35.3**	**+1.3**
JFR	**Furan**	**3.61**	**86**	P	**Pn**	**21 44 40.5**	**+0.5**
JFR				*e*S	**S**	**21 45 27.6**	**-0.7**
ASAJ	**Asahikawa**	**3.75**	**71**	P	**Pn**	**21 44 42.2**	**+0.7**

6.5nm,0.3s,baz=243,slow=9.2,SNR=44

ASAJ	**Asahikawa**	**3.75**	**71**	*e*Pn	**Pn**	**21 44 42.9**	**+1.3**
JKK2	**Kamakawa 2**	**3.80**	**75**	P	**Pn**	**21 44 43.1**	**+1.0**
JKK2				*e*S	**S**	**21 45 31.6**	**-0.5**
JNBK	**Urakawa-nobuka**	**3.82**	**99**	P	**Pn**	**21 44 42.2**	**-0.1**
JNBK				*e*S	**S**	**21 45 30.5**	**-2.0**
JWK2	**Keihoku**	**3.83**	**51**	P	**Pn**	**21 44 44.2**	**+1.8**
JANG	**Nango**	**3.89**	**131**	P	**Pn**	**21 44 43.1**	**-0.1**
JSE	**Soyaes**	**4.06**	**59**	P	**Pn**	**21 44 45.7**	**+0.7**
JCH	**Churui**	**4.21**	**93**	P	**Pn**	**21 44 45.7**	**-1.0**
JCH				*e*S	**S**	**21 45 36.2**	**-4.2**
JOM	**Ohasama**	**4.45**	**141**	P	**Pn**	**21 44 49.6**	**0.0**
JAR	**Ashorobuto**	**4.47**	**84**	P	**Pn**	**21 44 49.9**	**+0.1**
JAR				*e*S	**S**	**21 45 43.8**	**-2.2**
JYK	**Kaneyama**	**4.55**	**153**	P	**Pn**	**21 44 51.3**	**+0.5**
JYK				*e*S	**S**	**21 45 48.4**	**+0.6**
JTKR	**Abashiri--Toko**	**4.64**	**76**	P	**Pn**	**21 44 52.3**	**+0.5**
JTKR				*e*S	**S**	**21 45 49.9**	**+0.3**
JMK	**Ichinoseki**	**4.85**	**145**	P	**Pn**	**21 44 53.3**	**-1.0**
JMK				*e*S	**S**	**21 45 50.7**	**-3.5**
YSS	**Yuzh-Sakhalins**	**5.36**	**41**	*e*Pn	**Pn**	**21 44 59.6**	**-0.6**
NEM2	**Nemuro 2**	**5.92**	**84**	P	**Pn**	**21 45 05.6**	**-1.4**
NEM2				*e*S	**S**	**21 46 11.5**	**-5.9**
MDJ	**Mudanjiang**	**6.07**	**288**	*e*Pn	**Pn**	**21 45 07.2**	**-1.7**
MJAR	**Matsushiro Arr**	**6.46**	**176**	P	**Pn**	**21 45 15.4**	**+1.6**

0.3nm,0.3s,baz=357,slow=12,SNR=3.6

MJAR	**Matsushiro Arr**	**6.46**	**176**	P	**Pn**	**21 45 15.4**	**+1.6**
KSRS	**Korea Array**	**9.28**	**237**	P	**Pn**	**21 45 49.2**	**+0.5**

0.2nm,0.3s,baz=55,slow=11,SNR=3.7

KSAR	**Wonju Array Be**	**9.31**	**237**	P	**Pn**	**21 45 49.2**	**+0.1**
ULN	**Ulaanbaatar**	**21.95**	**293**	*e*P	**P**	**21 48 12.7**	**+2.0**
ZALV	**Zalesovo Beam**	**35.91**	**307**	P	**P**	**21 50 11.4**	**-2.1**

0.7nm,0.4s,mb3.5,baz=82,slow=8.8,SNR=5.7

ZALV	**Zalesovo Beam**	**35.91**	**307**	P	**P**	**21 50 11.4**	**-2.1**
MKAR	**Makanchi Array**	**38.73**	**295**	P	**P**	**21

FITZ	**Fitzroy Crossi**	**23.64**	**182**	*e*P	**P**	**22 29 46.5**	**+1.6**
	2.0nm,0.9s,mb3.6							
WRAB	**Tennant Creek**	**26.60**	**163**	*e*P	**P**	**22 30 12.0**	**+0.4**
	1.4nm,0.6s,mb3.8							
WRA	**Warramunga Arr**	**26.60**	**163**	P	**P**	**22 30 12.4**	**+0.8**
	0.9nm,0.4s,mb3.7,baz=347,slow=10,SNR=21							
WRA	**Warramunga Arr**	**26.60**	**163**	P	**P**	**22 30 12.4**	**+0.8**
WB2	**Warramunga Arr**	**26.61**	**163**	*e*P	**P**	**22 30 12.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**29.72**	**298**	P	**P**	**22 30 41.0**	**+1.6**
	1.6nm,0.5s,mb4.0,baz=108,slow=7.3,SNR=7.5							
CMAR	**Chiang Mai Arr**	**29.72**	**298**	P	**P**	**22 30 41.0**	**+1.6**
CHTO	**Chiang Mai**	**29.85**	**298**	*e*P	**P**	**22 30 41.6**	**+1.0**
	2.0nm,0.6s,mb4.0							
ASAR	**Alice Springs**	**30.05**	**166**	P	**P**	**22 30 42.3**	**+0.2**
	0.3nm,0.5s,mb3.3,baz=7.0,slow=8.4,SNR=5.0							
ASAR	**Alice Springs**	**30.05**	**166**	P	**P**	**22 30 42.3**	**+0.2**
SONM	**Songino Array**	**45.39**	**341**	P	**P**	**22 32 49.9**	**-0.4**
	1.1nm,0.7s,mb3.6,baz=157,slow=8.4,SNR=8.5							
SONM	**Songino Array**	**45.39**	**341**	P	**P**	**22 32 49.9**	**-0.4**
MKAR	**Makanchi Array**	**55.84**	**325**	P	**P**	**22 34 08.7**	**+0.2**
	4.1nm,0.7s,mb4.4,baz=114,slow=7.7,SNR=38							
MKAR	**Makanchi Array**	**55.84**	**325**	P	**P**	**22 34 08.7**	**+0.2**
TKM2	**Tokmak 2**	**58.14**	**318**	*e*P	**P**	**22 34 25.4**	**+0.6**
	2.0nm,0.6s,mb4.1							
ZALV	**Zalesovo Beam**	**58.76**	**333**	P	**P**	**22 34 27.7**	**-1.1**
	1.0nm,0.4s,mb4.0,baz=116,slow=7.5,SNR=5.1							
ZALV	**Zalesovo Beam**	**58.76**	**333**	P	**P**	**22 34 27.7**	**-1.1**
EKS2	**Erkin-Say**	**59.27**	**317**	*e*P	**P**	**22 34 33.0**	**+0.5**
	2.4nm,0.6s,mb4.2							
KURK	**Kurchatov**	**59.98**	**327**	P	**P**	**22 34 37.0**	**-0.3**
	5.8nm,0.6s,mb4.6,baz=128,slow=6.5,SNR=66							
KURK	**Kurchatov**	**59.98**	**327**	*e*P	**P**	**22 34 37.2**	**-0.1**
	6.7nm,0.5s,mb4.7							
KBL	**Kabul**	**60.16**	**307**	*e*P	**P**	**22 34 38.8**	**0.0**
KKAR	**Karatay Array**	**61.66**	**316**	*e*P	**P**	**22 34 48.8**	**0.0**
	2.6nm,0.8s,mb4.1							
BVAR	**Borovoye Array**	**65.57**	**327**	P	**P**	**22 35 14.3**	**+0.2**
	3.4nm,0.7s,mb4.3,baz=128,slow=6.3,SNR=19							
BVAR	**Borovoye Array**	**65.57**	**327**	P	**P**	**22 35 14.3**	**+0.2**
BRVK	**Borovoye**	**65.64**	**327**	*e*P	**P**	**22 35 14.5**	**-0.1**
	3.2nm,0.5s,mb4.4							
ABKAR	**Akbulak array**	**70.50**	**320**	*e*P	**P**	**22 35 44.2**	**-0.8**
	1.1nm,0.5s,mb3.8							
ARU	**Arti**	**73.17**	**327**	*e*P	**P**	**22 35 58.4**	**-2.3**
	2.8nm,0.4s,mb4.3							
ARCES	**ARCESS Array B**	**88.55**	**340**	P	**P**	**22 37 19.2**	**-2.6**
	5.6nm,1.1s,mb4.4,baz=61,slow=4.2,SNR=5.1							
ARCES	**ARCESS Array B**	**88.55**	**340**	P	**P**	**22 37 19.2**	**-2.6**
FINES	**FINESS Array B**	**90.02**	**332**	P	**P**	**22 37 28.8**	**0.0**
	6.4nm,1.0s,mb4.5,baz=54,slow=7.1,SNR=3.3							
FINES	**FINESS Array B**	**90.02**	**332**	P	**P**	**22 37 28.8**	**0.0**
TORD	**Torodi Ar. Bea**	**122.07**	**289**	PKP	PKPdf	22 43 22.1	-2.0
	0.6nm,0.9s,baz=49,slow=1.0,SNR=3.4							
TORD	**Torodi Ar. Bea**	**122.07**	**289**	PKP	PKPdf	22 43 22.1	-2.0

*IDC **18** 22:34:28.2±1.0, 68°.42N×156°.76W, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.7/26, mbtmp3.7/8, ML3.5/3, Error ellipse: s-maj=35.1km s-min=16.4km az=50.0*
*NEIC **18** 22:34:29.5, 67°.72N×157°.17W, h16km, ML3.4(AEIC), After AEIC.*

ISC 18 22:34:28.7±1.4, 67°.98N±0°.06×156°.9W±0°.1, h16km±9km, n28, σ1°.08/42, mb3.7/5, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COLD	**Coldfoot**	**2.69**	**103**	*e*Pn	**Pn**	**22 35 13.0**	**+1.9**
COLD				*e*Pg	**Pg**	**22 35 20.6**	**+0.4**
COLD				*e*Sn	**Sn**	**22 35 46.6**	**+3.3**
COLD				*e*Sg	**Sg**	**22 35 53.6**	**-1.3**
COLA	**College**	**4.80**	**126**	*e*Pn	**Pn**	**22 35 39.5**	**-0.6**
COLA				Sn	**Sn**	**22 36 39.3**	**+4.0**
TNA	**Tin City**	**4.98**	**246**	*e*Pn	**Pn**	**22 35 41.5**	**-1.2**
TNA				*e*S	**Sg**	**22 37 00.9**	**-7.5**
ILAR	**Eielson Array**	**5.17**	**124**	Pn	**Pn**	**22 35 44.9**	**-0.3**
	0.8nm,0.3s,baz=310,slow=13,SNR=38						
ILAR				Sn	**Sn**	**22 36 43.0**	**-1.3**
	1.5nm,0.3s,baz=318,slow=24,SNR=4.4						
ILAR				Lg		22 37 06.0	
	1.3nm,0.3s,baz=312,slow=31,SNR=5.0						
ILAR	**Eielson Array**	**5.17**	**124**	Pn	**Pn**	**22 35 44.9**	**-0.3**
ILAR				Sn	**Sn**	**22 36 43.0**	**-1.3**
ILAR				Lg		22 37 06.0	
TRF	**Thorofare Moun**	**5.31**	**146**	*e*Pn	**Pn**	**22 35 46.8**	**-0.4**
	12nm,0.7s						
MCK	**McKinley**	**5.38**	**139**	*e*Pn	**Pn**	**22 35 48.4**	**+0.3**
	10.0nm,0.3s						
MCK				*e*Sn	**Sn**	**22 36 55.0**	**+5.4**
PPLA	**Purkeypile**	**5.47**	**157**	*e*Pn	**Pn**	**22 35 49.1**	**-0.4**
	19nm,0.5s						
PPLA				*e*Sn	**Sn**	**22 36 48.0**	**-4.0**
PAX	**Paxson**	**6.92**	**131**	*e*Pn	**Pn**	**22 36 10.2**	**+0.9**
	5.7nm,0.5s						
PAX				*e*Sn	**Sn**	**22 37 26.4**	**-1.2**
SML	**Sawmill**	**7.19**	**145**	*e*Pn	**Pn**	**22 36 15.1**	**+2.2**
	2.1nm,0.6s						
INK	**Inuvik**	**8.72**	**77**	Pn	**Pn**	**22 36 34.5**	**+0.6**
	0.5nm,0.3s,baz=283,slow=9.2,SNR=16						
INK				Sn	**Sn**	**22 38 11.5**	**-0.1**
	0.4nm,0.3s,baz=96,slow=17,SNR=3.3						
INK	**Inuvik**	**8.72**	**77**	Pn	**Pn**	**22 36 34.5**	**+0.6**
INK				Sn	**Sn**	**22 38 11.5**	**-0.1**
KDAK	**Kodiak Island**	**10.42**	**167**	Pn	**Pn**	**22 36 58.4**	**+1.1**
	0.4nm,0.3s,baz=336,slow=20,SNR=3.4						
KDAK	**Kodiak Island**	**10.42**	**167**	Pn	**Pn**	**22 36 58.4**	**+1.1**
YKA	**Yellowknife Ar**	**18.24**	**87**	P	**Pn**	**22 38 39.8**	**-0.9**
	0.2nm,0.3s,baz=303,slow=10,SNR=4.8						
YKA	**Yellowknife Ar**	**18.24**	**87**	P	**Pn**	**22 38 39.8**	**-0.9**
RES	**Resolute Bay**	**19.97**	**43**	P	**Pn**	**22 39 05.9**	**+4.5**
	0.1nm,0.3s,baz=266,slow=13,SNR=3.6						
RES				S	**Sn**	**22 42 34.0**	**-11**
	0.0nm,0.3s,baz=254,slow=20,SNR=2.6						
RES	**Resolute Bay**	**19.97**	**43**	P	**Pn**	**22 39 05.9**	**+4.5**
RES				S	**Sn**	**22 42 34.0**	**-11**
SPITS	**Spitsbergen Ar**	**34.00**	**2**	P	**P**	**22 41 10.4**	**-0.5**
	7.8nm,0.9s,mb4.6,baz=14,slow=8.8,SNR=5.3						
SPITS	**Spitsbergen Ar**	**34.00**	**2**	P	**P**	**22 41 10.4**	**-0.5**
NVAR	**Mina Array Bea**	**36.42**	**124**	P	**P**	**22 41 36.8**	**+4.6**
	0.2nm,0.4s,mb3.4,baz=334,slow=6.0,SNR=3.6						
NVAR	**Mina Array Bea**	**36.42**	**124**	P	**P**	**22 41 36.8**	**+4.6**
SONM	**Songino Array**	**49.09**	**298**	P	**P**	**22 43 15.9**	**+1.2**
	0.5nm,0.8s,mb3.6,baz=33,slow=6.8,SNR=5.2						
SONM	**Songino Array**	**49.09**	**298**	P	**P**	**22 43 15.9**	**+1.2**
ZALV	**Zalesovo Beam**	**50.09**	**317**	P	**P**	**22 43 21.9**	**-0.3**
	0.5nm,0.5s,mb3.8,baz=359,slow=7.2,SNR=3.3						
ZALV	**Zalesovo Beam**	**50.09**	**317**	P	**P**	**22 43 21.9**	**-0.3**
MKAR	**Makanchi Array**	**57.29**	**315**	P	**P**	**22 44 14.0**	**-1.0**
	0.2nm,0.6s,mb3.3,baz=22,slow=7.6,SNR=3.2						
MKAR	**Makanchi Array**	**57.29**	**315**	P	**P**	**22 44 14.0**	**-1.0**

*DDA **18** 22:45:45.8, 38°.41N×27°.01E, h7km±6km, Md2.7*
*ISK **18** 22:45:45.5, 38°.35N×26°.98E, h5km, MD2.8*
*ISCJB **18** 22:45:46.0±0.5, 38°.39N±0°.03×26°.99E±0°.04, h8km±4km, Error ellipse: s-maj=4.8km s-min=4.5km az=158.9*
*CSEM **18** 22:45:46.0±0.2, 38°.40N×26°.98E, h10km, MD2.8, Error ellipse: s-maj=3.8km s-min=3.4km az=93.0*

ISC 18 22:45:46.3±0.5, 38°.39N±0°.03×26°.99E±0°.04, h11km±3km, n28, σ0°.66/48, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLCB	**Balcova**	**0.04**	**99**	*e*Pg	**Pg**	**22 45 47.1**	**-1.3**
BLCB	**Balcova**	**0.04**	**99**	*e*Pg	**Pg**	**22 45 47.1**	**-1.3**
IZM	**Izmir**	**0.22**	**88**	*e*PG	**Pg**	**22 45 50.7**	**-0.1**
IZM				*e*SG	**Sg**	**22 45 54.2**	**+0.3**
IZM	**Izmir**	**0.22**	**88**	*e*Pg	**Pg**	**22 45 50.7**	**-0.2**
IZM				*e*Sg	**Sg**	**22 45 54.2**	**+0.2**
URLA	**Izmir**	**0.31**	**264**	*i* P	**Pg**	**22 45 52.2**	**-0.3**
URLA				*i* S	**Sg**	**22 45 56.9**	**+0.2**
URLA	**Izmir**	**0.31**	**264**	*i* P	**Pg**	**22 45 52.2**	**-0.3**
URLA				*i* S	**Sg**	**22 45 56.9**	**+0.2**
GCAM	**G?zelcaml?**	**0.72**	**164**	*i* P	**Pg**	**22 46 00.3**	**+0.1**
GCAM				*i* S	**Sg**	**22 46 10.1**	**+0.6**
GCAM	**G?zelcaml?**	**0.72**	**164**	*i* P	**Pg**	**22 46 00.3**	**+0.1**
GCAM				*i* S	**Sg**	**22 46 10.1**	**+0.5**
AKHS	**Akhisar**	**0.81**	**53**	*i* P	**Pg**	**22 46 01.5**	**-0.4**
AKHS				*i* S	**Sg**	**22 46 13.8**	**+1.3**
AKHS	**Akhisar**	**0.81**	**53**	*i* P	**Pg**	**22 46 01.5**	**-0.4**
AKHS				*i* S	**Sg**	**22 46 13.8**	**+1.3**
AYVA	**Ayvalik**	**0.94**	**346**	*i* P	**Pg**	**22 46 03.8**	**-0.7**
AYVA				*i* S	**Sg**	**22 46 17.3**	**+0.5**
AYVA	**Ayvalik**	**0.94**	**346**	*i* P	**Pg**	**22 46 03.8**	**-0.7**
AYVA				*i* S	**Sg**	**22 46 17.3**	**+0.5**
AYDN	**Tasoluk**	**1.01**	**136**	*i* P	**Pg**	**22 46 05.7**	**-0.1**
AYDN				*i* S	**Sg**	**22 46 19.6**	**+0.5**
AYDN	**Tasoluk**	**1.01**	**136**	*i* P	**Pg**	**22 46 05.7**	**-0.1**
AYDN				*i* S	**Sg**	**22 46 19.6**	**+0.6**
MANT	**Manisa**	**1.24**	**85**	*i* P	**Pn**	**22 46 08.8**	**-0.6**
MANT				*i* S	**Sb**	**22 46 24.9**	**-0.7**
MANT	**Manisa**	**1.24**	**85**	*i* P	**Pn**	**22 46 08.9**	**-0.6**
MANT				*i* S	**Sb**	**22 46 24.9**	**-0.7**
MLSB	**Milas**	**1.26**	**150**	*e*PN	**Pn**	**22 46 09.4**	**-0.4**
MLSB				*e*SN	**Sn**	**22 46 26.9**	**+0.2**
MLSB	**Milas**	**1.26**	**150**	*e*Pn	**Pn**	**22 46 09.4**	**-0.4**
MLSB				*e*Sn	**Sn**	**22 46 26.9**	**+0.2**
KULA	**Kula-Manisa**	**1.32**	**84**	*e*PN	**Pn**	**22 46 11.4**	**+0.8**
KULA	**Kula-Manisa**	**1.32**	**84**	*e*Pn	**Pn**	**22 46 11.4**	**+0.8**
BALB	**Balikesir**	**1.43**	**29**	*e*PN	**Pn**	**22 46 13.3**	**+1.2**
BALB	**Balikesir**	**1.43**	**29**	*e*Pn	**Pn**	**22 46 13.3**	**+1.2**
BALY	**Balya**	**1.43**	**20**	*i* P	**Pn**	**22 46 11.4**	**-0.7**
BALY				*i* S	**Sn**	**22 46 31.7**	**+0.7**
BALY	**Balya**	**1.43**	**20**	*i* P	**Pn**	**22 46 11.4**	**-0.8**
BALY				*i* S	**Sn**	**22 46 31.7**	**+0.7**
DEMI	**Demirci**	**1.50**	**64**	*i* P	**Pn**	**22 46 12.6**	**-0.5**
DEMI				*i* S	**Sn**	**22 46 31.7**	**-0.9**
DEMI	**Demirci**	**1.50**	**64**	*i* P	**Pn**	**22 46 12.6**	**-0.5**
DEMI				*i* S	**Sn**	**22 46 31.7**	**-0.9**
APE	**Apeiranthos**	**1.75**	**222**	*e*PN	**Pn**	**22 46 16.8**	**+0.2**
APE	**Apeiranthos**	**1.75**	**222**	*e*Pn	**Pn**	**22 46 16.8**	**+0.2**

*GEN **18** 22:49:59.8, 44°.21N×12°.12E, h3km, ML2.7*
*ISCJB **18** 22:50:00.5±0.2, 44°.28N±0°.01×12°.00E±0°.02, h8km±2km, Error ellipse: s-maj=2.0km s-min=1.9km az=158.8*
*LDG **18** 22:50:01.8±0.1, 44°.25N×12°.06E, h10km, Ml3.0/16, Error ellipse: s-maj=4.2km s-min=3.2km az=45.0*
*CSEM **18** 22:50:01.6±0.1, 44°.23N×12°.00E, h15km, ML3.3/20, Error ellipse: s-maj=1.9km s-min=1.7km az=95.0*
*ROM **18** 22:50:02.2±0.1, 44°.21N×11°.96E, h25km±5km, Md2.9/35, Ml2.7/29, Error ellipse: s-maj=1.9km s-min=1.8km az=32.0*
*NEIC **18** 22:50:03.0, 44°.15N×11°.96E, h9km, ML3.0(LDG), ML2.7(ROM), After ROM.*
*PRU **18** 22:50:04.9, 44°.48N×12°.19E, h0km*

ISC 18 22:50:01.7±0.2, 44°.25N±0°.01×11°.99E±0°.02, h14km±2km, n300, σ1°.14/438, 20C-18D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAEN	**Faenza**	**0.09**	**295**	Pg	**Pg**	**22 50 06.8**	**+2.2**
FAEN				Sg	**Sg**	**22 50 11.3**	**+4.5**
FAEN	**Faenza**	**0.09**	**295**	Pg	**Pg**	**22 50 06.8**	**+2.2**
CMPO	**Campotto Po**	**0.35**	**339**	Pg	**Pg**	**22 50 11.0**	**+2.1**
	825nm,0.8s						
CMPO	**Campotto Po**	**0.35**	**339**	Pg	**Pg**	**22 50 11.0**	**+2.1**
	825nm,0.8s						
SFI	**Santa Sofia**	**0.36**	**196**	P	**Pg**	**22 50 08.9**	**-0.1**
SFI	**Santa Sofia**	**0.36**	**196**	Pg	**Pg**	**22 50 09.0**	**0.0**
SFI				Sg	**Sg**	**22 50 14.8**	**+0.9**
	2µm,0.3s						
SFI	**Santa Sofia**	**0.36**	**196**	P	**Pg**	**22 50 08.9**	**-0.1**
SFI				Sg	**Sg**	**22 50 14.8**	**+0.9**
	2µm,0.3s						
MTRZ	**Monterenzio**	**0.39**	**289**	Pg	**Pg**	**22 50 11.3**	**+1.7**
	842nm,0.4s						
MTRZ	**Monterenzio**	**0.39**	**289**	Pg	**Pg**	**22 50 11.3**	**+1.7**
	842nm,0.4s						
VMG	**Vicchio**	**0.43**	**228**	P	**Pg**	**22 50 10.2**	**-0.1**
VMG	**Vicchio**	**0.43**	**228**	Pg	**Pg**	**22 50 10.2**	**-0.1**
VMG				Sg	**Sg**	**22 50 16.3**	**+0.2**
	353nm,0.3s						
VMG	**Vicchio**	**0.43**	**228**	Pg	**Pg**	**22 50 10.2**	**-0.1**
VMG				Sg	**Sg**	**22 50 16.3**	**+0.2**
	353nm,0.3s						
RSM	**Repubblica di**	**0.46**	**134**	P	**Pg**	**22 50 11.5**	**+0.6**
RSM	**Repubblica di**	**0.46**	**134**	Pg	**Pg**	**22 50 11.6**	**+0.7**
RSM				Sg	**Sg**	**22 50 18.7**	**+1.6**
	55nm,0.7s						
RSM	**Repubblica di**	**0.46**	**134**	P	**Pg**	**22 50 11.5**	**+0.6**
RSM				Sg	**Sg**	**22 50 18.7**	**+1.6**
	55nm,0.7s						
ASQU	**Asqua**	**0.48**	**197**	Pg	**Pg**	**22 50 10.8**	**-0.3**
ASQU				Sg	**Sg**	**22 50 18.1**	**+0.6**
	775nm,0.4s						
ASQU	**Asqua**	**0.48**	**197**	Pg	**Pg**	**22 50 10.8**	**-0.3**
ASQU				Sg	**Sg**	**22 50 18.1**	**+0.6**
	775nm,0.4s						
SEI	**Scarperia**	**0.49**	**247**	P	**Pg**	**22 50 11.4**	**-0.1**
SEI	**Scarperia**	**0.49**	**247**	Pg	**Pg**	**22 50 11.4**	**-0.1**
SEI				Sg	**Sg**	**22 50 18.9**	**+0.8**
	1µm,0.4s						
SEI	**Scarperia**	**0.49**	**247**	Pg	**Pg**	**22 50 11.4**	**-0.1**
SEI				Sg	**Sg**	**22 50 18.9**	**+0.8**
	1µm,0.4s						
FIU	**Minerbio Fiu**	**0.53**	**318**	P	**Pg**	**22 50 15.8**	**+3.8**
FIU				S	**Sg**	**22 50 18.2**	**-0.8**
FIU	**Minerbio Fiu**	**0.53**	**318**	Pg	**Pg**	**22 50 15.8**	**+3.8**
	683nm,0.3s						
FNVD	**Fontana Vidola**	**0.63**	**263**	P	**Pg**	**22 50 14.1**	**+0.1**
FNVD	**Fontana Vidola**	**0.63**	**263**	Pg	**Pg**	**22 50 14.1**	**+0.1**
FNVD				Sg	**Sg**	**22 50 23.3**	**+1.1**
	423nm,0.5s						
FNVD	**Fontana Vidola**	**0.63**	**263**	Pg	**Pg**	**22 50 14.1**	**+0.1**
FNVD				Sg	**Sg**	**22 50 23.3**	**+1.1**
	423nm,0.5s						
PARC	**Parchiule**	**0.63**	**163**	P	**Pg**	**22 50 13.8**	**-0.2**
PARC	**Parchiule**	**0.63**	**163**	Pg	**Pg**	**22 50 13.5**	**-0.5**
PARC				Sg	**Sg**	**22 50 23.7**	**+1.4**
	285nm,0.6s						
PARC	**Parchiule**	**0.63**	**163**	Pg	**Pg**	**22 50 13.5**	**-0.5**
PARC	**Parchiule**	**0.63**	**163**	P	**Pg**	**22 50 13.8**	**-0.2**
PARC				Sg	**Sg**	**22 50 23.7**	**+1.4**
	285nm,0.6s						
CRE	**Caprese Michel**	**0.63**	**182**	P	**Pg**	**22 50 13.5**	**-0.6**
CRE	**Caprese Michel**	**0.63**	**182**	Pg	**Pg**	**22 50 13.3**	**-0.8**
CRE				Sg	**Sg**	**22 50 23.1**	**+0.7**
	171nm,0.4s						
CRE	**Caprese Michel**	**0.63**	**182**	P	**Pg**	**22 50 13.5**	**-0.6**
CRE				Sg	**Sg**	**22 50 23.1**	**+0.7**
	171nm,0.4s						
PESA	**Pesaro**	**0.69**	**117**	P	**Pg**	**22 50 16.2**	**+1.1**
PESA	**Pesaro**	**0.69**	**117**	Pg	**Pg**	**22 50 16.0**	**+0.9**
	421nm,0.2s						
PESA	**Pesaro**	**0.69**	**117**	Pg	**Pg**	**22 50 16.0**	**+0.9**
	421nm,0.2s						
ZCCA	**Zocca**	**0.73**	**278**	P	**Pg**	**22 50 18.6**	**+2.7**
ZCCA	**Zocca**	**0.73**	**278**	Pg	**Pg**	**22 50 17.9**	**+2.0**
	149nm,0.9s						
ZCCA	**Zocca**	**0.73**	**278**	Pg	**Pg**	**22 50 17.9**	**+2.0**
	149nm,0.9s						
ZCCA	**Zocca**	**0.73**	**278**	P	**Pg**	**22 50 18.6**	**+2.7**
BADI	**Badiali**	**0.77**	**166**	P	**Pg**	**22 50 13.8**	**-2.8**
BADI	**Badiali**	**0.77**	**166**	Pg	**Pg**	**22 50 16.2**	**-0.4**
	329nm,0.5s						
BADI	**Badiali**	**0.77**	**166**	P	**Pg**	**22 50 13.8**	**-2.8**
BADI	**Badiali**	**0.77**	**166**	Pg	**Pg**	**22 50 16.2**	**-0.4**
	329nm,0.5s						
RAVA	**Ravarino**	**0.80**	**309**	Pg	**Pg**	**22 50 20.5**	**+3.3**
FSSB	**Fossombrone**	**0.80**	**134**	P	**Pg**	**22 50 17.1**	**-0.1**
FSSB	**Fossombrone**	**0.80**	**134**	Pg	**Pg**	**22 50 16.9**	**-0.3**
	160nm,0.4s						
FSSB	**Fossombrone**	**0.80**	**134**	Pg	**Pg**	**22 50 16.9**	**-0.3**
	160nm,0.4s						
PZZT	**Monte Pizzetto**	**0.82**	**262**	Pg	**Pg**	**22 50 17.5**	**-0.1**
	348nm,0.6s						
PZZT	**Monte Pizzetto**	**0.82**	**262**	Pg	**Pg**	**22 50 17.5**	**-0.1**
	348nm,0.6s						
PIEI	**Pieia**	**0.82**	**151**	P	**Pg**	**22 50 17.0**	**-0.6**
PIEI	**Pieia**	**0.82**	**151**	Pg	**Pg**	**22 50 16.7**	**-0.9**
	226nm,0.5s						
PIEI	**Pieia**	**0.82**	**151**	Pg	**Pg**	**22 50 16.7**	**-0.9**
	226nm,0.5s						
PIEI	**Pieia**	**0.82**	**151**	P	**Pg**	**22 50 17.0**	**-0.6**
CRMI	**Carmignano**	**0.87**	**238**	Pg	**Pg**	**22 50 18.1**	**-0.4**
	207nm,0.3s						
CRMI	**Carmignano**	**0.87**	**238**	Pg	**Pg**	**22 50 18.1**	**-0.4**
	207nm,0.3s						
CAFI	**Castiglion Fio**	**0.92**	**181**	Pg	**Pg**	**22 50 18.6**	**-1.0**
	142nm,0.4s						
CAFI	**Castiglion Fio**	**0.92**	**181**	Pg	**Pg**	**22 50 18.6**	**-1.0**
	142nm,0.4s						
CSNT	**Castellina Chi**	**0.93**	**213**	P	**Pb**	**22 50 19.4**	**-0.2**
CSNT	**Castellina Chi**	**0.93**	**213**	Pg	**Pg**	**22 50 19.2**	**-0.4**
	190nm,0.5s						
CSNT	**Castellina Chi**	**0.93**	**213**	Pg	**Pg**	**22 50 19.2**	**-0.4**
	190nm,0.5s						

GSCL	**Gusciola**	**1.01**	**276**	P	**Pb**	**22 50 23.8**	**+2.8**
GSCL	**Gusciola**	**1.01**	**276**	P	**Pb**	**22 50 23.8**	**+2.8**
BDI	**Bagni Di Lucca**	**1.02**	**260**	P	**Pb**	**22 50 21.4**	**+0.3**
BDI	**Bagni Di Lucca**	**1.02**	**260**	Pg	**Pg**	**22 50 21.7**	**+0.3**
	190nm,0.3s						
BDI	**Bagni Di Lucca**	**1.02**	**260**	P	**Pb**	**22 50 21.4**	**+0.3**
BDI	**Bagni Di Lucca**	**1.02**	**260**	Pg	**Pg**	**22 50 21.7**	**+0.3**
	190nm,0.3s						
ARVD	**Arcevia**	**1.02**	**137**	Pg	**Pg**	**22 50 20.8**	**-0.6**
	116nm,0.7s						
ARVD	**Arcevia**	**1.02**	**137**	Pg	**Pg**	**22 50 20.8**	**-0.6**
	116nm,0.7s						
MURB	**Monte Urbino**	**1.06**	**158**	P	**Pb**	**22 50 22.2**	**+0.3**
MURB	**Monte Urbino**	**1.06**	**158**	Pg	**Pg**	**22 50 21.7**	**-0.5**
	381nm,0.4s						
MURB	**Monte Urbino**	**1.06**	**158**	Pg	**Pg**	**22 50 21.7**	**-0.5**
	381nm,0.4s						
MURB	**Monte Urbino**	**1.06**	**158**	P	**Pb**	**22 50 22.2**	**+0.3**
MAIM	**Mastiano**	**1.13**	**253**	Pg	**Pg**	**22 50 22.6**	**-0.9**
	97nm,0.4s						
MAIM	**Mastiano**	**1.13**	**253**	P	**Pb**	**22 50 22.1**	**-0.9**
MAIM	**Mastiano**	**1.13**	**253**	Pg	**Pg**	**22 50 22.6**	**-0.9**
	97nm,0.4s						
MAIM				S	**Sb**	**22 50 37.1**	**-0.4**
TEOL	**Teolo**	**1.13**	**349**	‖ *e*Pg	**Pg**	**22 50 22.9**	**-0.6**
TEOL				*e*Sg	**Sg**	**22 50 38.3**	**+0.1**
TEOL	**Teolo**	**1.13**	**349**	*e*Pg	**Pg**	**22 50 22.9**	**-0.6**
TEOL				*e*Sg	**Sg**	**22 50 38.3**	**+0.1**
SARO	**Sassorosso**	**1.14**	**267**	P	**Pb**	**22 50 22.8**	**-0.4**
SARO				S	**Sb**	**22 50 38.2**	**+0.3**
VLC	**Villacollemand**	**1.15**	**266**	*e*P	**Pb**	**22 50 24.9**	**+1.4**
VLC				*e*S	**Sb**	**22 50 40.8**	**+2.5**
VLC	**Villacollemand**	**1.15**	**266**	Pg	**Pg**	**22 50 24.7**	**+0.8**
	70nm,0.7s						
VLC	**Villacollemand**	**1.15**	**266**	Pg	**Pg**	**22 50 24.7**	**+0.8**
	70nm,0.7s						
VLC				*e*S	**Sb**	**22 50 40.8**	**+2.5**
PII	**Pisa**	**1.18**	**244**	P	**Pn**	**22 50 23.6**	**-0.2**
PII	**Pisa**	**1.18**	**244**	Pg	**Pg**	**22 50 23.5**	**-0.9**
	104nm,0.2s						
PII	**Pisa**	**1.18**	**244**	P	**Pn**	**22 50 23.6**	**-0.2**
SNTG	**Esanatoglia**	**1.21**	**145**	P	**Pn**	**22 50 24.6**	**+0.3**
SNTG	**Esanatoglia**	**1.21**	**145**	Pg	**Pg**	**22 50 24.3**	**-0.8**
	58nm,0.4s						
SNTG	**Esanatoglia**	**1.21**	**145**	Pg	**Pg**	**22 50 24.3**	**-0.8**
	58nm,0.4s						
SNTG	**Esanatoglia**	**1.21**	**145**	P	**Pn**	**22 50 24.6**	**+0.3**
CING	**Cingoli**	**1.24**	**135**	P	**Pn**	**22 50 26.2**	**+1.6**
CING	**Cingoli**	**1.24**	**135**	Pg	**Pg**	**22 50 25.0**	**-0.6**
	115nm,0.5s						
CING	**Cingoli**	**1.24**	**135**	Pg	**Pg**	**22 50 25.0**	**-0.6**
	115nm,0.5s						
CING	**Cingoli**	**1.24**	**135**	P	**Pn**	**22 50 26.2**	**+1.6**
VALM	**Valbona**	**1.25**	**275**	P	**Pn**	**22 50 24.6**	**-0.2**
VALM				S	**Sb**	**22 50 41.2**	**+0.1**
VINC	**Vinca**	**

AQU					*e*Sn	**Sn**	22 51 03.5	-0.4
BAD	**Bernadia**	**2.17**	**24**	⇓	*e*Pn	**Pn**	22 50 37.0	-0.4
BAD					*e*Sn	**Sn**	22 51 03.7	-0.5
BAD	**Bernadia**	**2.17**	**24**		*e*Pn	**Pn**	22 50 37.0	-0.5
BAD					*e*Sn	**Sn**	22 51 03.7	-0.5
VINO	**Villanova**	**2.20**	**24**	⇑	*e*Pn	**Pn**	22 50 37.5	-0.4
VINO					*e*Sn	**Sn**	22 51 04.4	-0.5
VINO	**Villanova**	**2.20**	**24**		*e*Pn	**Pn**	22 50 37.5	-0.4
VINO					*e*Sn	**Sn**	22 51 04.4	-0.5
JAVS	**Javornik**	**2.21**	**41**		P	**Pn**	22 50 37.2	-0.7
JAVS	**Javornik**	**2.21**	**41**		P	**Pn**	22 50 37.2	-0.7
VOJS	**Vojsko**	**2.23**	**36**		P	**Pn**	22 50 37.9	-0.3
VOJS	**Vojsko**	**2.23**	**36**		P	**Pn**	22 50 37.9	-0.3
VOY	**Vojsko**	**2.23**	**37**		*e*Pn	**Pn**	22 50 37.8	-0.5
VOY					*e*		22 50 42.6	
VOY					*e*Sn	**Sn**	22 51 05.2	-0.5
VOY	**Vojsko**	**2.23**	**37**		*e*Pn	**Pn**	22 50 37.8	-0.5
VOY					*e*Sn	**Sn**	22 51 05.2	-0.5
DRE	**Drenchia**	**2.25**	**31**	⇓	*e*Pn	**Pn**	22 50 38.1	-0.4
DRE					*e*Sn	**Sn**	22 51 05.7	-0.3
DRE	**Drenchia**	**2.25**	**31**		*e*Pn	**Pn**	22 50 38.2	-0.3
ROBS	**Robic**	**2.26**	**28**		P	**Pn**	22 50 38.4	-0.3
ROBS	**Robic**	**2.26**	**28**		P	**Pn**	22 50 38.4	-0.3
CEY	**Cerknica**	**2.28**	**49**		P	**Pn**	22 50 38.3	-0.7
CEY	**Cerknica**	**2.28**	**49**		*i* Pn	**Pn**	22 50 38.4	-0.6
CEY					*i* Sn	**Sn**	22 51 06.1	-0.7
CEY	**Cerknica**	**2.28**	**49**		*i* Pn	**Pn**	22 50 38.4	-0.6
CEY					*i* Sn	**Sn**	22 51 06.1	-0.8
APPI	**Appiano**	**2.29**	**347**		P	**Pn**	22 50 40.0	+0.9
APPI	**Appiano**	**2.29**	**347**		Pg	**Pg**	22 50 39.7	-5.9
APPI	**Appiano**	**2.29**	**347**		P	**Pn**	22 50 40.0	+0.9
CSMI	**Casera Mimoias**	**2.31**	**11**	⇓	*e*Pn	**Pn**	22 50 39.5	+0.1
CSMI					*e*Sn	**Sn**	22 51 07.9	+0.4
CSMI	**Casera Mimoias**	**2.31**	**11**		*e*Pn	**Pn**	22 50 39.5	+0.2
CSMI					*e*Sn	**Sn**	22 51 07.9	+0.4
CADS	**Cadrg**	**2.33**	**31**		P	**Pn**	22 50 39.3	-0.3
CADS	**Cadrg**	**2.33**	**31**		P	**Pn**	22 50 39.3	-0.3
PTCC	**Patocco-Chiusa**	**2.36**	**24**		P	**Pn**	22 50 40.0	0.0
PTCC	**Patocco-Chiusa**	**2.36**	**24**		P	**Pn**	22 50 40.0	0.0
GBRS	**Gornja Briga**	**2.38**	**57**		*i* Pn	**Pn**	22 50 40.2	-0.1
GBRS					*i* Sn	**Sn**	22 51 09.3	0.0
ZOU	**Zoufplan**	**2.41**	**16**		*e*Pn	**Pn**	22 50 41.1	+0.4
ZOU					*e*Sn	**Sn**	22 51 10.1	+0.2
ZOU	**Zoufplan**	**2.41**	**16**		*e*Pn	**Pn**	22 50 41.1	+0.4
ZOU					*e*Sn	**Sn**	22 51 10.1	+0.2
PTQR	**Pietraquaria**	**2.46**	**155**		P	**Pn**	22 50 43.0	+1.6
PTQR	**Pietraquaria**	**2.46**	**155**		P	**Pn**	22 50 43.0	+1.6
LSR	**Lussari**	**2.48**	**26**		*e*Pn	**Pn**	22 50 41.8	+0.2
LSR	**Lussari**	**2.48**	**26**		*e*Pn	**Pn**	22 50 41.8	+0.2
PCP	**Piancastagn**	**2.48**	**278**		P	**Pn**	22 50 41.7	0.0
BRMO	**Bormio**	**2.50**	**333**		P	**Pn**	22 50 43.7	+1.8
BRMO					S	**Sn**	22 51 13.0	+0.8
BRMO	**Bormio**	**2.50**	**333**		P	**Pn**	22 50 43.7	+1.8
BRMO					S	**Sn**	22 51 13.0	+0.8
GORS	**Gorjuse**	**2.50**	**34**		P	**Pn**	22 50 42.5	+0.5
GORS	**Gorjuse**	**2.50**	**34**		P	**Pn**	22 50 42.5	+0.5
ABTA	**Abfaltersbach**	**2.52**	**8**	⇑	*e*Pn	**Pn**	22 50 43.2	+0.9
	0.9nm,0.1s,SNR=11							
ABTA				⇓	*e*Sn	**Sn**	22 51 13.4	+0.7
	22nm,0.3s							
ABTA	**Abfaltersbach**	**2.52**	**8**		Pn	**Pn**	22 50 43.2	+0.9
	0.9nm,0.1s,SNR=11							
ABTA					Sn	**Sn**	22 51 13.4	+0.6
	22nm,0.3s							
ACOM	**Acomizza, Ital**	**2.54**	**25**	⇓	*e*Pn	**Pn**	22 50 43.0	+0.6
ACOM	**Acomizza, Ital**	**2.54**	**25**		Pg	**Pg**	22 50 43.2	-7.1
	85nm,0.3s							
ACOM	**Acomizza, Ital**	**2.54**	**25**		*e*Pn	**Pn**	22 50 43.0	+0.6
LJU	**Ljubljana**	**2.54**	**44**		*e*Pn	**Pn**	22 50 49.5	+7.0
LJU					*e*Sn	**Sn**	22 51 13.2	0.0
VISS	**Visnje**	**2.55**	**52**		P	**Pn**	22 50 42.6	0.0
VISS	**Visnje**	**2.55**	**52**		P	**Pn**	22 50 42.6	0.0
MYKA	**Terra Mystica**	**2.65**	**26**	‖	*e*Pn	**Pn**	22 50 45.1	+1.1
	1.2nm,0.2s							
MYKA				⇓	*e*Pg	**Pg**	22 50 51.5	-0.9
	8.2nm,0.3s							
MYKA				⇓	*e*Sn	**Sn**	22 51 16.1	+0.3
	17nm,0.3s							
MYKA	**Terra Mystica**	**2.65**	**26**		Pn	**Pn**	22 50 45.1	+1.1
	1.2nm,0.2s							
MOZS	**Mozjanca**	**2.68**	**39**		P	**Pn**	22 50 45.3	+0.9
MOZS	**Mozjanca**	**2.68**	**39**		P	**Pn**	22 50 45.3	+0.9
SDI	**San Donato**	**2.87**	**152**		P	**Pn**	22 50 48.8	+1.7
SDI	**San Donato**	**2.87**	**152**		P	**Pn**	22 50 48.8	+1.7
OBKA	**Obir**	**2.89**	**38**	‖	*e*Pn	**Pn**	22 50 48.3	+1.0
	1.0nm,0.2s,SNR=6.3							
OBKA				⇑	*e*Pg	**Pg**	22 50 56.0	-1.1
	16nm,0.5s							
OBKA				⇑	*e*Sn	**Sn**	22 51 21.8	-0.1
	9.8nm,0.1s							
OBKA	**Obir**	**2.89**	**38**		Pn	**Pn**	22 50 48.3	+1.0
	1.0nm,0.2s,SNR=6.3							
OBKA	**Obir**	**2.89**	**38**		Pg	**Pg**	22 50 56.0	-1.1
	16nm,0.5s							
OBKA					Sn	**Sn**	22 51 21.8	-0.1
	9.8nm,0.1s							
TUE	**Stuetta**	**2.90**	**321**		P	**Pn**	22 50 49.5	+2.1
TUE	**Stuetta**	**2.90**	**321**		P	**Pn**	22 50 49.5	+2.1
FETA	**Feichten**	**2.91**	**343**	⇑	*e*Pn	**Pn**	22 50 49.7	+2.2
	0.9nm,0.1s							
FETA				⇓	*e*Sn	**Sn**	22 51 23.0	+0.7
	4.8nm,0.4s							
FETA	**Feichten**	**2.91**	**343**		Pn	**Pn**	22 50 49.7	+2.2
	0.9nm,0.1s							
FETA					Sn	**Sn**	22 51 23.0	+0.8
	4.8nm,0.4s							
CRES	**Cresnjev**	**2.92**	**56**		P	**Pn**	22 50 48.0	+0.3
CRES	**Cresnjev**	**2.92**	**56**		P	**Pn**	22 50 48.0	+0.3
WTTA	**Wattenberg**	**3.02**	**355**	⇑	*i*Pn	**Pn**	22 50 51.2	+2.1
	2.3nm,0.1s,SNR=8.4							
WTTA				⇑	*e*Sn	**Sn**	22 51 26.9	+1.8
	33nm,0.3s							
WTTA	**Wattenberg**	**3.02**	**355**		Pn	**Pn**	22 50 51.2	+2.1
	2.3nm,0.1s,SNR=8.4							
WTTA					Sn	**Sn**	22 51 26.9	+1.8
	33nm,0.3s							
WATA	**Walderalm**	**3.10**	**355**	⇓	*e*Pn	**Pn**	22 50 52.4	+2.2
	4.6nm,0.2s,SNR=9.5							
WATA				⇑	*i*Sn	**Sn**	22 51 28.9	+1.9
	5.2nm,0.2s							
WATA	**Walderalm**	**3.10**	**355**		Pn	**Pn**	22 50 52.4	+2.2
	4.6nm,0.2s,SNR=9.5							
WATA					Sn	**Sn**	22 51 28.9	+1.9
	5.2nm,0.2s							
MOTA	**Moosalm**	**3.15**	**349**	⇓	*e*Pn	**Pn**	22 50 53.4	+2.5
	1.6nm,0.1s,SNR=8.5							
MOTA				⇓	*i*Sn	**Sn**	22 51 30.2	+1.9
	11nm,0.4s							
MOTA	**Moosalm**	**3.15**	**349**		Pn	**Pn**	22 50 53.4	+2.5
	1.6nm,0.1s,SNR=8.5							
MOTA					Sn	**Sn**	22 51 30.2	+1.8
	11nm,0.4s							
SOKA	**Soboth**	**3.24**	**40**	⇓	*e*Pg	**Pg**	22 51 02.2	-1.6
	2.0nm,0.2s							
SOKA				⇑	*i*Sn	**Sn**	22 51 28.6	-1.8
	4.2nm,0.2s							
SOKA	**Soboth**	**3.24**	**40**		Pg	**Pg**	22 51 02.2	-1.5
	2.0nm,0.2s							
SOKA					Sn	**Sn**	22 51 28.6	-1.8
	4.2nm,0.2s							
SBF	**Sospel**	**3.30**	**265**		*e*P	**Pn**	22 50 55.5	+2.5
SBF					*e*Sn	**Sn**	22 51 31.0	-1.1
	21nm,0.4s							
SBF	**Sospel**	**3.30**	**265**		*e*P	**Pn**	22 50 55.5	+2.5
SBF					*e*Sn	**Sn**	22 51 31.0	-1.1
SBF	**Sospel**	**3.30**	**265**		*e*P	**Pn**	22 50 55.5	+2.5
SBF					*e*Sn	**Sn**	22 51 31.0	-1.1
	10nm,0.4s							
RETA	**Reutte**	**3.35**	**346**	⇓	*i*Pn	**Pn**	22 50 56.3	+2.7
	2.4nm,0.2s,SNR=10.0							
RETA				⇓	*i*Sn	**Sn**	22 51 35.3	+2.2
	3.5nm,0.2s							
RETA	**Reutte**	**3.35**	**346**		Pn	**Pn**	22 50 56.3	+2.7
	2.4nm,0.2s,SNR=10.0							
RETA					Sn	**Sn**	22 51 35.3	+2.2
	3.5nm,0.2s							
DAVA	**Damuels**	**3.37**	**335**	⇑	*i*Pn	**Pn**	22 50 56.5	+2.6
	2.6nm,0.2s							
DAVA				⇑	*i*Sn	**Sn**	22 51 36.1	+2.4
	12nm,0.3s							
DAVA	**Damuels**	**3.37**	**335**		Pn	**Pn**	22 50 56.5	+2.5
	2.6nm,0.2s							
DAVA					Sn	**Sn**	22 51 36.1	+2.3
	12nm,0.3s							
MBDF	**Montbardon**	**3.76**	**279**		*e*Pn	**Pn**	22 50 59.1	-0.2
	SNR=1.0							
MBDF					*e*Sn	**Sn**	22 51 41.3	-2.0
	5.8nm,0.4s							
MBDF	**Montbardon**	**3.76**	**279**		*e*Pn	**Pn**	22 50 59.1	-0.2
MBDF					*e*Sn	**Sn**	22 51 41.3	-2.0
MBDF	**Montbardon**	**3.76**	**279**		*e*Pn	**Pn**	22 50 59.1	-0.2
	SNR=1.0							
MBDF					*e*Sn	**Sn**	22 51 41.3	-2.0
	2.9nm,0.4s							
FRF	**La Foret Royal**	**3.92**	**262**		*e*Pn	**Pn**	22 51 01.7	+0.2
	SNR=1.0							
FRF					*e*Sg	**Sn**	22 51 44.5	-2.8
	5.4nm,0.3s,SNR=1.0							
FRF	**La Foret Royal**	**3.92**	**262**		*e*Pn	**Pn**	22 51 01.7	+0.2
FRF					*e*Sg	**Sn**	22 51 44.5	-2.8
FRF	**La Foret Royal**	**3.92**	**262**		*e*Pn	**Pn**	22 51 01.7	+0.2
	SNR=1.0							
LPG	**La Plagne**	**3.92**	**290**		*e*Pn	**Pn**	22 51 00.9	-0.6
	SNR=1.0							
LPG					*e*Sn	**Sn**	22 51 44.9	-2.4
	8.2nm,0.5s,SNR=1.0							
LPG	**La Plagne**	**3.92**	**290**		*e*Pn	**Pn**	22 51 00.9	-0.6
LPG					*e*Sn	**Sn**	22 51 44.9	-2.4
LPG	**La Plagne**	**3.92**	**290**		*e*Pn	**Pn**	22 51 00.9	-0.6
	SNR=1.0							
LPG					*e*Sn	**Sn**	22 51 44.9	-2.4
	4.1nm,0.5s,SNR=1.0							
MOA	**Molln**	**3.93**	**23**	⇓	*i*Pn	**Pn**	22 51 03.1	+1.5
	1.7nm,0.1s,SNR=8.0							
MOA				⇑	*e*Sn	**Sn**	22 51 47.2	-0.3
	12nm,0.3s							
MOA	**Molln**	**3.93**	**23**		Pn	**Pn**	22 51 03.1	+1.5
	1.7nm,0.1s,SNR=8.0							
MOA					Sn	**Sn**	22 51 47.2	-0.3
	12nm,0.3s							
LPL	**La Plagne**	**3.94**	**291**		*e*Pn	**Pn**	22 51 01.9	+0.1
	SNR=1.0							
LPL					*e*Sn	**Sn**	22 51 45.4	-2.4
	7.2nm,0.5s							
LPL	**La Plagne**	**3.94**	**291**		*e*Pn	**Pn**	22 51 01.9	+0.1
LPL					*e*Sn	**Sn**	22 51 45.4	-2.4
LPL	**La Plagne**	**3.94**	**291**		*e*Pn	**Pn**	22 51 01.9	+0.1
	SNR=1.0							
LPL					*e*Sn	**Sn**	22 51 45.4	-2.4
	3.6nm,0.5s							
LMR	**La Mourre**	**4.07**	**259**		*e*Pn	**Pn**	22 51 03.5	0.0
	SNR=1.0							
LMR					*e*Sg	**Sn**	22 51 48.6	-2.4
	4.7nm,0.3s,SNR=1.0							
LMR	**La Mourre**	**4.07**	**259**		*e*Pn	**Pn**	22 51 03.5	0.0
LMR					*e*Sg	**Sn**	22 51 48.6	-2.4
LMR	**La Mourre**	**4.07**	**259**		*e*Pn	**Pn**	22 51 03.5	0.0
	SNR=1.0							
STON	**Ston**	**4.38**	**106**		Sn	**Sn**	22 51 55.6	-2.9
STON	**Ston**	**4.38**	**106**		Sn	**Sn**	22 51 55.5	-3.0
ORIF	**Oris-en-Rattie**	**4.41**	**281**		*e*Pn	**Pn**	22 51 07.9	-0.3
	SNR=1.0							
ORIF					*e*Sn	**Sn**	22 51 56.9	-2.5
	3.7nm,0.4s							
ORIF	**Oris-en-Rattie**	**4.41**	**281**		*e*Pn	**Pn**	22 51 07.9	-0.3
ORIF					*e*Sn	**Sn**	22 51 56.9	-2.5
ORIF	**Oris-en-Rattie**	**4.41**	**281**		*e*Pn	**Pn**	22 51 07.9	-0.3
	SNR=1.0							
ORIF					*e*Sn	**Sn**	22 51 56.9	-2.5
	1.9nm,0.4s							
SMRF	**Simiane la Rot**	**4.62**	**269**		*e*Pn	**Pn**	22 51 10.2	-1.0
SMRF	**Simiane la Rot**	**4.62**	**269**		*e*Pn	**Pn**	22 51 10.2	-1.0
SMRF					*e*P		22 51 14.2	
SMRF	**Simiane la Rot**	**4.62**	**269**		*e*Pn	**Pn**	22 51 10.2	-1.0
CABF	**La Chapelle**	**4.78**	**302**		*e*Pn	**Pn**	22 51 13.2	0.0
	SNR=1.0							
CABF					*e*Sn	**Sn**	22 52 05.1	-3.2
	1.8nm,0.3s,SNR=1.0							
CABF	**La Chapelle**	**4.78**	**302**		*e*Pn	**Pn**	22 51 13.2	0.0
CABF					*e*Sn	**Sn**	22 52 05.1	-3.2
CABF	**La Chapelle**	**4.78**	**302**		*e*Pn	**Pn**	22 51 13.2	0.0
	SNR=1.0							
CABF					*e*Sn	**Sn**	22 52 05.1	-3.2
	0.9nm,0.3s,SNR=1.0							
KHC	**Kasperske Hory**	**5.00**	**12**		PN	**Pn**	22 51 16.0	-0.3
KHC					*ex*	x	22 51 23.0	
KHC					*ex*	x	22 51 31.0	
KHC					*e*PG	**Pg**	22 51 40.5	+3.0
KHC					*e*SN	**Sn**	22 52 10.0	-3.9
KHC					*ex*	x	22 52 25.0	
HINF	**Hinteralfeld**	**5.05**	**317**		*e*Pn	**Pn**	22 51 16.5	-0.4
HINF					*e*Sn	**Sn**	22 52 11.5	-3.5
	10nm,0.4s							
HINF	**Hinteralfeld**	**5.05**	**317**		*e*Pn	**Pn**	22 51 16.5	-0.4
HINF					*e*Sn	**Sn**	22 52 11.5	-3.5
HINF	**Hinteralfeld**	**5.05**	**317**		*e*Pn	**Pn**	22 51 16.5	-0.4
HINF					*e*Sn	**Sn**	22 52 11.5	-3.5
	5.2nm,0.4s							
VIVF	**Saint-Julien-l**	**5.26**	**279**		*e*Pn	**Pn**	22 51 19.5	-0.4
	SNR=1.0							
VIVF	**Saint-Julien-l**	**5.26**	**279**		*e*Pn	**Pn**	22 51 19.5	-0.4
VIVF	**Saint-Julien-l**	**5.26**	**279**		*e*Pn	**Pn**	22 51 19.5	-0.4
	SNR=1.0							
CDF	**Champ du Feu**	**5.29**	**324**		*e*Pn	**Pn**	22 51 20.1	-0.1
CDF					*e*Sn	**Sn**	22 52 16.4	-4.5
	6.2nm,0.3s,SNR=1.0							
CDF	**Champ du Feu**	**5.29**	**324**		*e*Pn	**Pn**	22 51 20.1	-0.1
CDF					*e*Sn	**Sn**	22 52 16.4	-4.5
CDF	**Champ du Feu**	**5.29**	**324**		*e*Pn	**Pn**	22 51 20.1	-0.1
CDF					*e*Sn	**Sn**	22 52 16.4	-4.5
	3.1nm,0.3s,SNR=1.0							
HAU	**Haudompre**	**5.43**	**316**		*e*Pn	**Pn**	22 51 21.8	-0.3
HAU					*e*Sn	**Sn**	22 52 20.5	-3.8
	25nm,0.5s							
HAU	**Haudompre**	**5.43**	**316**		*e*Pn	**Pn**	22 51 21.8	-0.3
HAU					*e*Sn	**Sn**	22 52 20.5	-3.8
HAU	**Haudompre**	**5.43**	**316**		*e*Pn	**Pn**	22 51 21.8	-0.3
NKC	**Novy Kostel**	**5.99**	**3**		*e*SN	**Sn**	22 52 34.4	-3.9
PRU	**Pruhonice**	**6.00**	**16**		*e*PN	**Pn**	22 51 30.5	+0.5
PRU					*e*SN	**Sn**	22 52 35.7	-2.7
PAGF	**Fort de Pagny**	**6.10**	**317**		*e*Pn	**Pn**	22 51 31.8	+0.4
PAGF					*e*Sn	**Sn**	22 52 36.5	-4.5
	0.8nm,0.3s							
PAGF	**Fort de Pagny**	**6.10**	**317**		*e*Pn	**Pn**	22 51 31.8	+0.4
SMF	**Signal de Mont**	**6.21**	**296**		*e*Pn	**Pn**	22 51 32.9	0.0
	SNR=1.0							
SMF					*e*Sn	**Sn**	22 52 39.4	-4.2
	3.8nm,0.3s							
SMF	**Signal de Mont**	**6.21**	**296**		*e*Pn	**Pn**	22 51 32.9	0.0
SMF					*e*Sn	**Sn**	22 52 39.4	-4.2
SMF	**Signal de Mont**	**6.21**	**296**		*e*Pn	**Pn**	22 51 32.9	0.0
	SNR=1.0							
SFTF	**Sexfontaines**	**6.23**	**312**		*e*Pn	**Pn**	22 51 33.3	+0.1
	baz=129							
SFTF					*e*Sn	**Sn**	22 52 39.4	-4.8
	1.8nm,0.2s							
SFTF	**Sexfontaines**	**6.23**	**312**		*e*Pn	**Pn**	22 51 33.3	+0.1
SFTF					*e*Sn	**Sn**	22 52 39.4	-4.8
SFTF	**Sexfontaines**	**6.23**	**312**		*e*Pn	**Pn**	22 51 33.3	+0.1
	baz=129							
LOR	**Lormes**	**6.43**	**301**		*e*Pn	**Pn**	22 51 35.4	-0.6
	baz=115,SNR=1.0							
LOR					*e*Sn	**Sn**	22 52 44.8	-4.4
	3.7nm,0.3s							
LOR	**Lormes**	**6.43**	**301**		*e*Pn	**Pn**	22 51 35.4	-0.6
LOR					*e*Sn	**Sn**	22 52 44.8	-4.4
LOR	**Lormes**	**6.43**	**301**		*e*Pn	**Pn**	22 51 35.4	-0.6
	baz=115,SNR=1.0							
SSF	**Saint Saulge**	**6.57**	**298**		*e*Pn	**Pn**	22 51 37.7	-0.2
	SNR=1.0							
SSF	**Saint Saulge**	**6.57**	**298**		*e*Pn	**Pn**	22 51 37.7	-0.2
SSF	**Saint Saulge**	**6.57**	**298**		*e*Pn	**Pn**	22 51 37.7	-0.2
	SNR=1.0							
AVF	**Avril sur Loir**	**6.58**	**296**		*e*Pn	**Pn**	22 51 38.0	+0.1
	SNR=1.0							
AVF	**Avril sur Loir**	**6.58**	**296**		*e*Pn	**Pn**	22 51 38.0	+0.1
AVF	**Avril sur Loir**	**6.58**	**296**		*e*Pn	**Pn**	22 51 38.0	+0.1
	SNR=1.0							
BGF	**Bois d'Agland**	**6.83**	**293**		*e*Pn	**Pn**	22 51 42.0	+0.5
	SNR=1.0							
BGF	**Bois d'Agland**	**6.83**	**293**		*e*Pn	**Pn**	22 51 42.0	+0.5
BGF	**Bois d'Agland**	**6.83**	**293**		*e*Pn	**Pn**	22 51 42.0	+0.5
	SNR=1.0							
MTLF	**Montolieu**	**7.13**	**266**		*e*Pn	**Pn**	22 51 45.1	-0.4
	SNR=1.0							
MTLF	**Montolieu**	**7.13**	**266**		*e*Pn	**Pn**	22 51 45.1	-0.4
MTLF	**Montolieu**	**7.13**	**266**		*e*Pn	**Pn**	22 51 45.1	-0.4
	SNR=1.0							

IDC ***18*** *22:55:37.7±1.1,1.98N×99.27W,h0km,mb4.0/10, mb1 4.2/10,mb1mx4.1/19,mbtmp4.0/10,MS3.9/16, Ms1 3.9/16,ms1mx3.8/25,Error ellipse: s-maj=37.1km s-min=17.4km az=47.0*

ISCJB ***18*** *22:55:38.1±1.0,2.1N±0.1×99.1W±0.1,h10km,mb3.9/10, MS3.9/15,Error ellipse: s-maj=26.8km s-min=11.1km az=42.3*

NEIC ***18*** *22:55:39.7±0.7,2.10N×99.10W,h10km,mb4.5/1,Error ellipse: s-maj=17.9km s-min=8.6km az=221.0*

ISC 18 22:55:40.8±0.7,2.2N±0.1×99.00W±0.09,h10km,n40, σ0s78/24,mb3.9/10,MS3.9/15,West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**15.32**	**15**	LR	LR	23 03 40.3	
	comp=Z,227nm,19.1s,baz=8.1,slow=31						
JTS	**JuntasAbangare**	**16.09**	**60**	*e*P	**Pn**	**22 59 27.5**	**+0.2**
OTAV	**Otavalo**	**20.63**	**95**	*e*P	**P**	**23 00 20.0**	**-0.7**
	33nm,1.4s						
TEIG	**Tepich**	**20.73**	**30**	LR	LR	23 07 21.7	
	comp=Z,176nm,20.1s,MS3.4,baz=296,slow=33						
ATAH	**Atahualpa**	**22.56**	**114**	P	**P**	**23 00 41.6**	**+0.3**
	5.8nm,0.8s,mb4.1,baz=282,slow=16,SNR=11						
ATAH	**Atahualpa**	**22.56**	**114**	P	**P**	**23 00 41.6**	**+0.3**
ROSC	**El Rosal**	**24.75**	**83**	P	**P**	**23 01 05.1**	**+2.3**
	2.8nm,0.3s,mb4.2,baz=265,slow=11,SNR=2.7						
ROSC				LR	LR	23 07 50.2	
	comp=Z,86nm,18.8s,MS3.3,baz=30,slow=29						
ROSC	**El Rosal**	**24.75**	**83**	P	**P**	**23 01 03.9**	**+1.0**
ROSC				LR	LR	23 07 50.2	
NNA	**Nana**	**26.15**	**123**	LR	LR	23 09 02.7	
	comp=Z,175nm,18.7s,MS3.6,baz=315,slow=31						
NNA	**Nana**	**26.15**	**123**	*e*P	**P**	**23 01 15.0**	**-0.5**
TXAR	**Lajitas Array**	**27.33**	**351**	P	**P**	**23 01 26.1**	**+0.2**
	0.8nm,0.9s,mb3.3,baz=175,slow=9.6,SNR=8.6						
TXAR				LR	LR	23 11 06.5	
	comp=Z,411nm,19.5s,MS4.0,baz=180,slow=34						
TXAR	**Lajitas Array**	**27.33**	**351**	P	**P**	**23 01 26.1**	**+0.2**
TXAR				LR	LR	23 11 06.5	
ANMO	**Albuquerque**	**33.30**	**349**	LR	LR	23 14 41.3	
	comp=Z,398nm,18.7s,MS4.2,baz=174,slow=34						
LPAZ	**La Paz**	**35.61**	**122**	P	**P**	**23 02 38.3**	**-0.6**
	2.8nm,1.0s,mb4.2,baz=303,slow=9.7,SNR=7.8						
LPAZ				LR	LR	23 15 11.8	
	comp=Z,270nm,21.4s,MS4.0,baz=75,slow=33						
LPAZ	**La Paz**	**35.61**	**122**	P	**P**	**23 02 38.3**	**-0.6**
LPAZ				LR	LR	23 15 11.8	
NVAR	**Mina Array Bea**	**40.14**	**336**	P	**P**	**23 03 16.4**	**-0.6**
	0.4nm,0.7s,mb3.3,baz=163,slow=6.6,SNR=3.6						
NVAR				LR	LR	23 17 23.9	
	comp=Z,220nm,18.6s,MS4.0,baz=213,slow=32						
NVAR	**Mina Array Bea**	**40.14**	**336**	P	**P**	**23 03 16.4**	**-0.5**
NVAR				LR	LR	23 17 23.9	
PDAR	**Pinedale Array**	**41.46**	**348**	P	**P**	**23 03 27.6**	**-0.2**
	1.5nm,0.8s,mb3.7,baz=133,slow=7.8,SNR=2.9						
PDAR				LR	LR	23 19 13.5	
	comp=Z,138nm,19.7s,MS3.8,baz=179,slow=34						
PDAR	**Pinedale Array**	**41.46**	**348**	P	**P**	**23 03 27.6**	**

CHTO	**Chiang Mai**	**8.72**	**122**	*e*Pn		**Pn**	**23 02 52.0 +0.3**
CHTO				*e*Sn		**Sn**	**23 04 29.3 -0.8**
CM31	**Chiang Mai Arr**	**8.93**	**124**	*e*Pn		**Pn**	**23 02 55.2 +0.7**
CMAR	**Chiang Mai Arr**	**8.93**	**124**	Pn		**Pn**	**23 02 55.3 +0.8**
	0.3nm,0.3s,baz=305,slow=13,SNR=19						
CMAR				Sn		**Sn**	**23 04 47.6 +12**
	0.1nm,0.3s,baz=301,slow=23,SNR=2.6						
CMAR	**Chiang Mai Arr**	**8.93**	**124**	Pn		**Pn**	**23 02 55.3 +0.8**
CMAR				Sn		**Sn**	**23 04 47.6 +12**
HYB	**Hyderabad**	**13.36**	**245**	*i* P		**Pn**	**23 03 56.0 +0.8**
HYB				*e*S		**Sn**	**23 06 24.5 +0.6**
KBL	**Kabul**	**22.11**	**304**	*e*P		**P**	**23 05 39.1 -1.9**
	5.8nm,1.0s,mb4.0						
MKAR	**Makanchi Array**	**24.14**	**345**	P		**P**	**23 06 01.1 -0.4**
	1.1nm,0.8s,mb3.3,baz=162,slow=9.6,SNR=8.6						
MKAR	**Makanchi Array**	**24.14**	**345**	P		**P**	**23 06 01.1 -0.4**
SONM	**Songino Array**	**26.98**	**23**	P		**P**	**23 06 28.4 +1.1**
	0.1nm,0.4s,mb2.7,baz=210,slow=8.3,SNR=2.5						
KURK	**Kurchatov**	**28.70**	**343**	P		**P**	**23 06 40.9 -1.7**
	0.3nm,0.3s,mb3.5,baz=173,slow=8.0,SNR=3.2						
KURK	**Kurchatov**	**28.70**	**343**	*e*P		**P**	**23 06 39.6 -3.0**
	1.1nm,0.7s,mb3.7						
WRA	**Warramunga Ar**	**60.42**	**132**	P		**P**	**23 10 54.0 -1.5**
	0.6nm,0.6s,mb3.8,baz=323,slow=7.1,SNR=9.1						
WRA	**Warramunga Ar**	**60.42**	**132**	P		**P**	**23 10 54.0 -1.5**
ASAR	**Alice Springs**	**62.74**	**136**	P		**P**	**23 11 10.4 -0.7**
	0.2nm,0.5s,mb3.5,baz=312,slow=8.1,SNR=3.7						
ASAR	**Alice Springs**	**62.74**	**136**	P		**P**	**23 11 10.4 -0.7**
STKA	**Stephens Creek**	**73.32**	**137**	P		**P**	**23 12 18.9 +1.5**
	2.0nm,0.8s,mb4.1,baz=329,slow=5.9,SNR=3.2						
STKA	**Stephens Creek**	**73.32**	**137**	P		**P**	**23 12 18.9 +1.5**

*ISCJB **18** 23:07:22.1±0.9,31.72N±0.03×104.27E±0.04, h7km±6km, mb4.3/29, MS3.6/2, Error ellipse: s-maj=5.5km s-min=4.4km az=174.8*

*IDC **18** 23:07:23.0±0.6,31.68N×104.30E, h0km, mb4.2/18, mb1 4.4/20, mb1mx4.2/31, mbtmp4.2/20, ML3.1/1, MS3.7/2, Ms1 3.7/2, ms1mx2.6/34, Error ellipse: s-maj=24.4km s-min=12.0km az=58.0*

*BJI **18** 23:07:25.1,31.65N×104.53E, h12km, mB4.5/5, mb4.2/11, ML4.1/20, Ms4.0/13, Ms7 3.8/13*

*NEIC **18** 23:07:27.6±1.8,31.68N×104.27E, h31km±14km, mb3.7/3, Error ellipse: s-maj=7.2km s-min=5.2km az=63.0*

ISC 18 23:07:23.8±0.8,31.70N±0.02×104.25E±0.04, h4km±5km, n88,σ0s94/96, mb4.3/29, MS3.6/2, 1C-1D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.89**	**208**	⇓P*g*	**Pg**	**23 07 41.9**	**+1.0**
CD2				S*g*	**Sg**	**23 07 55.3**	**+2.9**
CD2				*s*max			
	comp=N,16μm,0.9s						
CD2				*s*max			
	comp=E,11μm,0.9s						
LZH	**Lanzhou**	**4.39**	**356**	Pn	**Pn**	**23 08 34.3**	**+3.0**
LZH				P*g*	**Pg**	**23 08 48.3**	**+0.3**
LZH				S*n*	**Sn**	**23 09 22.8**	**-0.1**
LZH				S*g*	**Sg**	**23 09 44.4**	**-0.5**
LZH				*s*max			
	comp=N,390nm,1.2s						
LZH				*s*max			
	comp=E,350nm,0.8s						
LZH				LR	LR		
	comp=N,1μm,7.2s						
LZH				LR	LR		
	comp=E,2μm,7.6s						
LZH				LR	LR		
	comp=Z,2μm,8.3s						
XAN	**Xi'an**	**4.58**	**58**	Pn	**Pn**	**23 08 33.8**	**0.0**
XAN				S*g*	**Sg**	**23 09 47.5**	**-3.3**
XAN				*s*max			
	comp=N,480nm,0.8s						
XAN				*s*max			
	comp=E,240nm,0.9s						
XAN				LR	LR		
	comp=N,770nm,7.0s						
XAN				LR	LR		
	comp=E,110nm,2.9s						
XAN				LR	LR		
	comp=Z,310nm,8.2s						
ENH	**Enshi**	**4.72**	**106**	*e*Pn	**Pn**	**23 08 36.4**	**+0.6**
ENH				S*n*	**Sn**	**23 09 27.7**	**-3.2**
GYA	**Guiyang**	**5.63**	**157**	⇑*i*Pn	**Pn**	**23 08 49.3**	**+1.0**
GYA				S*n*	**Sn**	**23 09 53.3**	**-0.2**
GYA				S*g*	**Sg**	**23 10 22.8**	**-1.9**
GYA				*s*max			
	comp=N,350nm,0.9s						
GYA				*s*max			
	comp=E,530nm,0.9s						
GYA				LR	LR		
	comp=N,1μm,5.0s						
GYA				LR	LR		
	comp=E,730nm,5.3s						
GYA				LR	LR		
	comp=Z,2μm,5.9s						
KMI	**Kunming**	**6.68**	**192**	Pn	**Pn**	**23 09 04.3**	**+1.6**
KMI				*s*max			
	comp=N,56nm,1.0s						
KMI				*s*max			
	comp=E,61nm,0.8s						
KMI				LR	LR		
	comp=N,480nm,9.0s						
KMI				LR	LR		
	comp=E,520nm,6.9s						
KMI				LR	LR		
	comp=Z,480nm,7.3s						
GTA	**Gaotai**	**8.50**	**336**	*e*P	**Pn**	**23 09 36.6**	**+8.9**
GTA				p*P*		23 09 40.9	
GTA				s*P*		23 09 44.3	
GTA				S	**Sn**	**23 11 14.6**	**+11**
GTA				s*S*		23 11 19.9	
GTA				*p*max	*p*max		
	comp=Z,3.0nm,0.8s						
GTA				*p*max	*p*max		
	comp=Z,56nm,5.0s						
GTA				LR	LR		
	comp=N,600nm,9.5s						
GTA				LR	LR		
	comp=E,410nm,7.1s						
GTA				LR	LR		
	comp=Z,320nm,9.5s						
WHN	**Wuhan**	**8.74**	**95**	P	**Pn**	**23 09 31.0**	**0.0**
WHN				S	**Sn**	**23 11 03.5**	**-6.4**
LSA	**Lhasa**	**11.45**	**263**	*e*Pn	**Pn**	**23 10 09.0**	**+0.9**
	comp=Z,5.3nm,0.8s						
CM31	**Chiang Mai Arr**	**14.03**	**201**	*e*P	**Pn**	**23 10 44.3**	**+1.0**
CMAR	**Chiang Mai Arr**	**14.03**	**201**	Pn	**Pn**	**23 10 44.0**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=14,slow=12,SNR=19						
CMAR	**Chiang Mai Arr**	**14.03**	**201**	Pn	**Pn**	**23 10 44.0**	**+0.6**
TAPN	**Taplejung**	**15.03**	**257**	*e*P	**Pn**	**23 10 55.5**	**-1.6**
ODAN	**Odare**	**15.47**	**256**	*e*P	**Pn**	**23 11 01.4**	**-1.5**
SONM	**Songino Array**	**16.20**	**5**	Pn	**Pn**	**23 11 13.2**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=186,slow=15,SNR=10.0						
SONM				L*g*		23 16 06.0	
	baz=183,slow=27,SNR=5.6						
SONM	**Songino Array**	**16.20**	**5**	Pn	**Pn**	**23 11 13.2**	**+1.0**
SONM				L*g*		23 16 06.0	
ULN	**Ulaanbaatar**	**16.29**	**7**	*e*Pn	**Pn**	**23 11 12.9**	**-0.5**
	comp=Z,9.1nm,1.0s						
GUN	**Gumba**	**16.38**	**261**	*e*P	**Pn**	**23 11 14.2**	**-0.5**
PKI	**Pulchoki**	**16.88**	**261**	*e*P	**Pn**	**23 11 20.2**	**-0.8**
	comp=Z,25nm,0.6s						
KKN	**Kakani**	**16.92**	**262**	*e*P	**Pn**	**23 11 20.2**	**-1.3**
	comp=Z,22nm,0.6s						
DMN	**Daman**	**17.13**	**261**	*e*P	**Pn**	**23 11 23.3**	**-0.8**
GKN	**Gorkha**	**17.40**	**263**	*e*P	**Pn**	**23 11 25.6**	**-1.9**
DANN	**Dangsing**	**18.05**	**265**	*e*P	**Pn**	**23 11 34.3**	**-1.3**
KOLN	**Koldanda**	**18.35**	**263**	*e*P	**Pn**	**23 11 37.5**	**-1.7**
	comp=Z,9.2nm,0.5s						
PYUN	**Piuthan**	**18.77**	**264**	*e*P	**Pn**	**23 11 42.9**	**-1.5**
KSAR	**Wonju Array Be**	**20.27**	**67**	P	**P**	**23 12 01.1**	**+0.8**
KSRS	**Korea Array**	**20.30**	**67**	P	**P**	**23 12 01.1**	**+0.4**
	comp=Z,7.9nm,0.7s,baz=256,slow=10,SNR=17						
CN2	**Changchun**	**20.60**	**48**	*e*P	**P**	**23 12 04.8**	**+1.0**
CN2				*p*max	*p*max		
	comp=Z,20nm,0.6s						
MK31	**Makanchi Array**	**22.62**	**318**	*e*P	**P**	**23 12 26.9**	**+1.4**
MKAR	**Makanchi Array**	**22.62**	**318**	P	**P**	**23 12 27.2**	**+1.7**
	comp=Z,2.7nm,0.9s,mb3.7,baz=117,slow=12,SNR=13						
MKAR				LR	LR	23 22 15.7	
	comp=Z,59nm,21.5s,MS3.0,baz=342,slow=39						
MKAR	**Makanchi Array**	**22.62**	**318**	P	**P**	**23 12 27.2**	**+1.7**
MKAR				LR	LR	23 22 15.7	

KSH	**Kashi**	**24.21**	**297**	P	**P**	**23 12 45.6**	**+4.2**
KSH				p*P*		23 12 49.8	
KSH				s*P*	s*P*	23 12 52.6	+9.5
KSH				P*P*		23 13 21.8	
KSH				P*cP*	P*cP*	23 16 24.5	+2.6
KSH				S	**S**	**23 17 03.6**	**+3.3**
KSH				S*S*		23 17 59.0	
KSH				S*cP*	S*cP*	23 20 01.4	+0.1
KSH				P*cS*	P*cS*	23 20 03.1	+1.5
KSH				S*cS*	S*cS*	23 23 47.9	-0.6
KSH				*p*max	*p*max		
	comp=Z,4.0nm,0.6s,mb4.0						
KSH				*p*max	*p*max		
	comp=Z,84nm,4.5s						
KSH				LR	LR		
	comp=N,110nm,7.1s						
KSH				LR	LR		
	comp=E,130nm,6.9s						
KSH				LR	LR		
	comp=Z,230nm,6.2s						
ZAA0	**Zalesovo Array**	**26.24**	**334**	*e*P	**P**	**23 12 60.0**	**+0.2**
ZALV	**Zalesovo Beam**	**26.24**	**334**	P	**P**	**23 13 00.3**	**+0.6**
ZALV	**Zalesovo Beam**	**26.24**	**334**	P	**P**	**23 13 00.3**	**+0.6**
KURK	**Kurchatov**	**26.85**	**322**	P	**P**	**23 13 06.1**	**+0.8**
	comp=Z,1.2nm,0.6s,mb3.6,baz=131,slow=8.7,SNR=13						
KURK	**Kurchatov**	**26.85**	**322**	P	**P**	**23 13 06.1**	**+0.8**
KKAR	**Karatay Array**	**28.93**	**303**	*e*P	**P**	**23 13 24.2**	**+0.2**
	comp=Z,0.7nm,0.4s,mb3.7						
ABKAR	**Akbulak array**	**37.37**	**311**	*e*P	**P**	**23 14 37.1**	**-0.4**
	comp=Z,0.7nm,0.6s,mb3.7						
AKTO	**Aktyubinsk**	**38.83**	**313**	P	**P**	**23 14 50.2**	**+0.5**
	comp=Z,0.4nm,0.3s,mb3.6,baz=111,slow=14,SNR=3.0						
AKTO	**Aktyubinsk**	**38.83**	**313**	P	**P**	**23 14 50.2**	**+0.5**
BMNI	**Bima**	**42.33**	**159**	P	**P**	**23 15 19.1**	**+0.1**
	comp=Z,0.1nmcomp=Z,25nm,0.8s,mb4.9						
FITZ	**Fitzroy Crossi**	**53.60**	**154**	P	**P**	**23 16 45.8**	**-0.4**
	comp=Z,3.2nm,0.8s,mb4.3,baz=350,slow=8.8,SNR=12						
FITZ	**Fitzroy Crossi**	**53.60**	**154**	*e*P	**P**	**23 16 45.1**	**-1.1**
	comp=Z,3.0nm,0.5s,mb4.5						
FITZ	**Fitzroy Crossi**	**53.60**	**154**	P	**P**	**23 16 45.8**	**-0.4**
JOF	**Joensuu**	**54.59**	**328**	*e*p	**P**	**23 16 53.2**	**+0.2**
	comp=Z,0.4nm,0.3s,mb3.9						
KEV	**Kevo**	**56.24**	**336**	*e*p	**P**	**23 17 04.7**	**-0.1**
	comp=Z,4.5nm,0.7s,mb4.6						
BRTR	**Keskin Array B**	**56.56**	**299**	P	**P**	**23 17 07.9**	**+0.4**
	comp=Z,1.5nm,0.9s,mb4.0,baz=129,slow=3.3,SNR=7.3						
BRTR	**Keskin Array B**	**56.56**	**299**	P	**P**	**23 17 07.9**	**+0.4**
ARCES	**ARCESS Array B**	**56.77**	**336**	P	**P**	**23 17 08.7**	**+0.1**
	comp=Z,2.2nm,0.8s,mb4.3,baz=79,slow=9.3,SNR=6.7						
ARCES	**ARCESS Array B**	**56.77**	**336**	P	**P**	**23 17 08.7**	**+0.1**
AKASG	**Malin Array Be**	**57.07**	**313**	P	**P**	**23 17 10.5**	**-0.5**
	comp=Z,1.5nm,0.5s,mb4.3,baz=69,slow=6.9,SNR=4.4						
AKASG	**Malin Array Be**	**57.07**	**313**	P	**P**	**23 17 10.5**	**-0.5**
FINES	**FINESS Array B**	**57.15**	**326**	P	**P**	**23 17 11.1**	**-0.2**
	comp=Z,9.7nm,0.9s,mb4.8,baz=85,slow=4.8,SNR=10						
FINES	**FINESS Array B**	**57.15**	**326**	P	**P**	**23 17 11.1**	**-0.2**
COEN	**Coen**	**58.77**	**134**	*e*P	**P**	**23 17 23.4**	**+0.1**
	comp=Z,47nm,0.5s						
WRAB	**Tennant Creek**	**58.90**	**147**	*e*P	**P**	**23 17 24.1**	**+0.1**
	comp=Z,11nm,0.6s,mb5.1						
WRAB	**Tennant Creek**	**58.90**	**147**	P	**P**	**23 17 24.2**	**+0.2**
	comp=Z,36nm,1.1s,mb5.3						
WRA	**Warramunga Arr**	**58.90**	**147**	P	**P**	**23 17 24.1**	**+0.1**
	comp=Z,9.8nm,0.5s,mb5.1,baz=340,slow=7.8,SNR=288						
WRA	**Warramunga Arr**	**58.90**	**147**	P	**P**	**23 17 24.1**	**+0.1**
WB2	**Warramunga Arr**	**58.90**	**147**	*e*P	**P**	**23 17 24.0**	**-0.1**
ASAR	**Alice Springs**	**61.93**	**149**	P	**P**	**23 17 45.0**	**+0.2**
	comp=Z,2.9nm,0.5s,mb4.7,baz=337,slow=6.5,SNR=39						
ASAR	**Alice Springs**	**61.93**	**149**	P	**P**	**23 17 45.0**	**+0.2**
NB2	**NORSAR Subarra**	**64.23**	**327**	P	**P**	**23 17 58.5**	**-1.1**
	comp=Z,2.9nm,0.9s,mb4.3,baz=76,slow=6.9						
NOA	**NORSAR Array B**	**64.23**	**327**	P	**P**	**23 18 00.2**	**+0.6**
	comp=Z,0.6nm,0.4s,mb3.9,baz=59,slow=5.3,SNR=3.6						
NOA	**NORSAR Array B**	**64.23**	**327**	P	**P**	**23 18 00.2**	**+0.6**
GERES	**GERESS Array B**	**67.22**	**314**	P	**P**	**23 18 18.9**	**-0.2**
	comp=Z,1.3nm,0.8s,mb4.0,baz=79,slow=6.9,SNR=5.1						
GERES	**GERESS Array B**	**67.22**	**314**	P	**P**	**23 18 18.9**	**-0.2**
ILAR	**Eielson Array**	**69.25**	**26**	P	**P**	**23 18 30.4**	**-1.2**
	comp=Z,0.2nm,0.4s,mb3.4,baz=290,slow=4.1,SNR=6.4						
ILAR	**Eielson Array**	**69.25**	**26**	P	**P**	**23 18 30.4**	**-1.2**
QLP	**Quilpie**	**69.38**	**142**	*e*P	**P**	**23 18 33.3**	**+0.5**
CDF	**Champ du Feu**	**71.28**	**316**	*e*P	**P**	**23 18 43.6**	**-0.7**
INK	**Inuvik**	**71.56**	**19**	P	**P**	**23 18 45.2**	**-0.5**
	comp=Z,2.3nm,0.9s,mb4.1,baz=348,slow=8.0,SNR=5.4						
INK	**Inuvik**	**71.56**	**19**	P	**P**	**23 18 45.2**	**-0.5**
STKA	**Stephens Creek**	**72.44**	**147**	P	**P**	**23 18 51.0**	**-0.3**
	comp=Z,3.4nm,0.6s,mb4.5,baz=1.1,slow=4.8,SNR=10						
STKA	**Stephens Creek**	**72.44**	**147**	*e*P	**P**	**23 18 51.2**	**-0.1**
	comp=Z,2.6nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**72.44**	**147**	P	**P**	**23 18 51.0**	**-0.3**
LPG	**La Plagne**	**72.93**	**313**	*e*P	**P**	**23 18 54.9**	**+0.6**
	comp=Z,9.0nm,0.7s,mb4.5						
LPL	**La Plagne**	**72.94**	**313**	*e*P	**P**	**23 18 54.8**	**+0.5**
	comp=Z,16nm,1.0s,mb4.6						
MBDF	**Montbardon**	**73.28**	**312**	*e*P	**P**	**23 18 56.8**	**+0.5**
	comp=Z,17nm,1.1s,mb4.6						
ORIF	**Oris-en-Rattie**	**73.75**	**313**	*e*P	**P**	**23 18 58.7**	**-0.4**
CMSA	**Cobar Meteorol**	**74.13**	**144**	*e*P	**P**	**23 19 01.7**	**+0.4**
	comp=Z,34nm,0.5s,mb5.5						
BGF	**Bois d'Agland**	**74.80**	**315**	*e*P	**P**	**23 19 05.0**	**-0.2**
	comp=Z,16nm,1.0s,mb4.6						
YKA	**Yellowknife Ar**	**81.09**	**17**	P	**P**	**23 19 39.7**	**-0.1**
	comp=Z,0.8nm,0.6s,mb3.8,baz=329,slow=6.2,SNR=3.2						
YKA	**Yellowknife Ar**	**81.09**	**17**	P	**P**	**23 19 39.7**	**-0.1**
BOSA	**Boshof**	**96.08**	**240**	LR	LR	00 00 46.2	
	comp=Z,97nm,18.9s,MS4.3,baz=167,slow=33						
PMSA	**Palmer Station**	**146.11**	**189**	PKPbc	PKPbc	23 27 01.0	-3.3
	comp=Z,59nm,1.0s,baz=145,slow=8.7,SNR=4.0						
PMSA	**Palmer Station**	**146.11**	**189**	PKPbc	PKPbc	23 27 01.0	-3.3

*ISCJB **18** 23:15:16.8±1.6,23.15N±0.05×90.60E±0.05, h8km±10km, mb3.5/4, Error ellipse: s-maj=9.5km s-min=8.0km az=26.2*

*IDC **18** 23:15:19.3±3.2,23.76N×91.21E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.2/26, mbtmp3.4/3, ML4.0/1, Error ellipse: s-maj=158.3km s-min=28.6km az=57.0*

*NEIC **18** 23:15:26.2±1.4,23.98N×91.59E, h35km, mb3.6/2, Error ellipse: s-maj=52.6km s-min=12.2km az=56.0*

ISC 18 23:15:20.7±1.8,23.22N±0.06×90.59E±0.06, h16km±11km, n21,σ1s06/29, mb3.5/4, Bangladesh

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**2.62**	**26**	*e*PN	**Pn**	**23 15 59.0**	**-3.4**
SHL				*e*PG	**Pg**	**23 16 09.8**	**-1.1**
SHL				*i* SN	**Sn**	**23 16 34.5**	**+0.7**
SHL				*i* SG	**Sg**	**23 16 46.5**	**+1.6**
ODAN	**Odare**	**4.64**	**322**	*e*Pn	**Pn**	**23 16 30.6**	**+0.3**
ODAN				*e*Sn	**Sb**	**23 17 37.3**	**-0.3**
	719nm,0.8s						
TAPN	**Taplejung**	**4.87**	**328**	*e*Pn	**Pn**	**23 16 32.9**	**-0.5**
TAPN				*e*Sn	**Sb**	**23 17 43.0**	**-1.1**
	472nm,0.7s						
RAMN	**Ramite**	**5.18**	**317**	*e*Pn	**Pn**	**23 16 38.7**	**+1.0**
GUN	**Gumba**	**6.32**	**319**	*e*Pn	**Pn**	**23 16 54.0**	**+0.7**
GUN				*e*Sn	**Sb**	**23 18 18.6**	**-7.1**
	239nm,0.9s						
PKI	**Pulchoki**	**6.38**	**314**	*e*Pn	**Pn**	**23 16 55.1**	**+0.9**
PKI				*e*Sn	**Sb**	**23 18 19.8**	**-7.8**
LSA	**Lhasa**	**6.47**	**4**	*e*Pn	**Pn**	**23 16 48.7**	**-6.7**
	12nm,0.8s						
LSA				Sn	**Sn**	**23 17 53.4**	**-16**
DMN	**Daman**	**6.61**	**313**	*e*Pn	**Pn**	**23 16 56.9**	**-0.4**
KKN	**Kakani**	**6.61**	**315**	*e*Pn	**Pn**	**23 16 58.8**	**+1.5**
GKN	**Gorkha**	**7.18**	**313**	*e*Pn	**Pn**	**23 17 06.0**	**+0.9**
KOLN	**Koldanda**	**7.77**	**307**	*e*Pn	**Pn**	**23 17 12.7**	**-0.6**
DANN	**Dangsing**	**8.00**	**311**	*e*Pn	**Pn**	**23 17 16.0**	**-0.4**
PYUN	**Piuthan**	**8.40**	**307**	*e*Pn	**Pn**	**23 17 21.2**	**-0.7**
CMAR	**Chiang Mai Arr**	**9.13**	**120**	Pn	**Pn**	**23 17 31.9**	**-0.1**
	0.5nm,0.3s,baz=307,slow=14,SNR=6.0						
CMAR	**Chiang Mai Arr**	**9.13**	**120**	Pn	**Pn**	**23 17 31.9**	**-0.1**
EKS2	**Erkin-Say**	**23.90**	**328**	*e*P	**P**	**23 20 36.3**	**+2.6**
	1.0nm,0.7s,mb3.4						
MKAR	**Makanchi Array**	**24.45**	**346**	P	**P**	**23 20 36.8**	**-2.0**
	1.0nm,0.8s,mb3.3,baz=161,slow=9.5,SNR=5.5						
MKAR	**Makanchi Array**	**24.45**	**346**	P	**P**	**23 20 36.8**	**-2.0**
KURK	**Kurchatov**	**28.99**	**344**	*e*P	**P**	**23 21 18.7**	**-0.9**
	1.6nm,0.9s,mb3.8						
WRA	**Warramunga Arr**	**60.51**	**132**	P	**P**	**23 25 30.5**	**+0.1**
	0.4nm,0.8s,mb3.6,baz=323,slow=7.1,SNR=3.9						
WRA	**Warramunga Arr**	**60.51**	**132**	P	**P**	**23 25 30.5**	**+0.1**

IDC 18 23:24:21.8±7.5,11.39S×166.57E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/18, mbtmp3.6/5, Error ellipse: s-maj=216.1km s-min=40.0km az=124.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.12**	**251**	P	P	23 30 51.1	0.0
	0.2nm,0.5s,baz=81,slow=9.1,SNR=7.3						
ASAR	**Alice Springs**	**33.36**	**244**	P	P	23 31 01.6	-0.3
	0.3nm,0.4s,baz=71,slow=11,SNR=5.3						
FITZ	**Fitzroy Crossi**	**40.07**	**255**	P	P	23 31 59.5	+0.3
	0.5nm,0.4s,baz=92,slow=7.0,SNR=6.2						
SONM	**Songino Array**	**79.42**	**324**	P	P	23 36 30.7	+0.9
	0.1nm,0.3s,baz=133,slow=6.0,SNR=3.0						
MKAR	**Makanchi Array**	**94.32**	**317**	P	P	23 37 42.5	-0.7
	0.3nm,0.9s,baz=84,slow=5.4,SNR=5.4						

IGQ 18 23:39:29.8,1.63S-80.23W, h14km±2km, Mb4.0, Ms3.8, 4C-7D, Error ellipse: s-maj=3.6km s-min=1.3km az=126.5, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHIS	**Cerro-Chispas-**	**0.76**	**319**	S	Sg	23 39 56.3	+1.8
CHIS	**Cerro-Chispas-**	**0.76**	**319**	P	Pg	23 39 43.9	-0.7
PECV	**Mancha de Ca P**	**0.86**	**12**	P	Pg	23 39 46.4	-0.2
JAMA	**Jama**	**1.35**	**1**	S	Sn	23 40 13.8	+1.6
JAMA	**Jama**	**1.35**	**1**	P	Pn	23 39 54.3	0.0
IGUA	**Igualata**	**1.60**	**85**	P	Pn	23 39 59.8	+2.1
RIOE	**Riobamba**	**1.61**	**95**	P	Pn	23 39 59.8	+1.9
BBIL	**Ulba Tungurahu**	**1.75**	**84**	⇑P	Pn	23 40 02.6	+2.8
BMAS	**Trigal station**	**1.76**	**86**	⇓P	Pn	23 40 02.2	+2.3
JUI6	**Juive**	**1.77**	**84**	P	Pn	23 40 02.3	+2.1
ARRY	**Arrayan**	**1.78**	**86**	⇓S	Sn	23 40 26.2	+3.5
ARRY	**Arrayan**	**1.78**	**86**	⇓P	Pn	23 40 02.3	+2.1
RETU	**Refugio**	**1.79**	**84**	S	Sn	23 40 29.9	+6.9
RETU	**Refugio**	**1.79**	**84**	P	Pn	23 40 03.4	+3.0
PAT1	**Patacocha**	**1.80**	**86**	⇑P	Pn	23 40 03.0	+2.5
PAT1	**Patacocha**	**1.80**	**86**	⇑S	Sn	23 40 27.6	+4.5
RUN5	**Runtun**	**1.82**	**83**	P	Pn	23 40 03.7	+2.9
BRUN	**Tungurahua Vol**	**1.83**	**84**	⇓S	Sn	23 40 29.1	+5.1
BRUN	**Tungurahua Vol**	**1.83**	**84**	⇓P	Pn	23 40 03.3	+2.3
BULB	**Ulba Tungurahu**	**1.83**	**84**	⇓S	Sn	23 40 28.6	+4.7
BULB	**Ulba Tungurahu**	**1.83**	**84**	⇓P	Pn	23 40 03.5	+2.6
ULBA	**Ulba**	**1.83**	**85**	P	Pn	23 40 03.8	+2.9
PISA	**Pisayambo**	**1.93**	**73**	P	Pn	23 40 05.4	+3.2
PISA	**Pisayambo**	**1.93**	**73**	S	Sn	23 40 31.0	+4.7
BMOR	**Cotopaxi Volca**	**1.98**	**63**	P	Pn	23 40 05.5	+2.5
MOV1	**Cotopaxi Vol s**	**2.01**	**63**	P	Pn	23 40 05.9	+2.5
BREF	**Cotopaxi Volca**	**2.03**	**62**	P	Pn	23 40 06.6	+2.9
BVC2	**Cotopaxi Volca**	**2.06**	**62**	P	Pn	23 40 07.0	+3.0
BTAM	**Cotopaxi Volca**	**2.06**	**63**	P	Pn	23 40 07.0	+2.9
VC1	**Cotopaxi 1**	**2.07**	**62**	P	Pn	23 40 07.3	+3.1
TAMB	**Tambo**	**2.08**	**64**	P	Pn	23 40 07.9	+3.5
PITA	**Cotopaxi Volc**	**2.09**	**60**	P	Pn	23 40 07.7	+3.2
COV1	**Cotopaxi Volc**	**2.12**	**63**	P	Pn	23 40 07.0	+2.2
GOLV	**Golondrinas**	**2.12**	**31**	P	Pn	23 40 06.3	+1.5
MACE	**Macas**	**2.13**	**107**	P	Pn	23 40 07.5	+2.6
MACE				S	Sn	23 40 34.9	+3.7
MACE	**Macas**	**2.13**	**107**	P	Pn	23 40 07.8	+2.8
JUA2	**San Juan 2**	**2.15**	**49**	P	Pn	23 40 07.1	+1.8
TERV	**Terraza Guagua**	**2.17**	**49**	P	Pn	23 40 08.3	+2.7
GGP	**Refugio Guagua**	**2.18**	**49**	P	Pn	23 40 06.9	+1.1
PINO	**Pino**	**2.18**	**48**	P	Pn	23 40 07.1	+1.3
YANA	**Yana**	**2.24**	**48**	P	Pn	23 40 07.6	+1.1
ANTI	**Antisana**	**2.38**	**61**	P	Pn	23 40 11.6	+3.2
OTAV	**Otavalo**	**2.57**	**44**	S	Sn	23 40 44.5	+2.3
OTAV	**Otavalo**	**2.57**	**44**	P	Pn	23 40 12.2	+1.1
CAYA	**C

CFAA	**Coronel Fontan**	**40.74**	**290**	P		P		00 07 22.0	-0.2
	0.2nm,0.5s,baz=150,slow=8.1,SNR=4.8								
VNDA	**Vanda**	**44.73**	**181**	P		P		00 07 54.1	+0.1
	1.8nm,0.9s,baz=192,slow=7.7,SNR=8.2								
TORD	**Torodi Ar. Bea**	**73.58**	**24**	P		P		00 11 14.8	+0.3
	1.2nm,0.6s,baz=200,slow=6.7,SNR=18								
SONM	**Songino Array**	**148.20**	**86**	PKPbc		PKPbc		00 19 25.5	-1.0
	0.9nm,0.7s,baz=239,slow=4.3,SNR=6.9								
ILAR	**Eielson Array**	**153.39**	**308**	PKPbc		PKPbc		00 19 38.5	+0.2
	0.6nm,0.7s,baz=125,slow=1.9,SNR=7.0								
ILAR				PKPab		PKPab		00 19 50.3	-0.3
	0.4nm,0.8s,baz=102,slow=3.5,SNR=4.5								

*ISCJB **19** 00:15:24.9±0.6,43.22N±0.04×45.89E±0.03,h110km±5km, Error ellipse: s-maj=6.3km s-min=3.4km az=10.3*
*CSEM **19** 00:15:25.1±0.3,43.23N×45.91E,h109km±2km,mb3.9, Error ellipse: s-maj=5.4km s-min=3.2km az=6.0*
*MOS **19** 00:15:26.4±0.7,43.13N×45.83E,h86km,mb3.9/1, Error ellipse: s-maj=12.8km s-min=8.7km az=23.9*

ISC 19 00:15:25.6±0.6, **43.22N**±0.04×**45.89E**±0.03, **h108**km±5km, **n65,σ0s98**/118, **8C-12D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GRO	**Groznyy**	**0.14**	**316**	*i*P	**Pn**		**00 15 39.8**	**-0.7**
GRO				*i* S	**Sn**		**00 15 50.4**	**-1.3**
GRO	**Groznyy**	**0.14**	**316**	*i* P	**Pn**		**00 15 39.8**	**-0.7**
GRO				*i* S	**Sn**		**00 15 50.4**	**-1.3**
DLMR	**Dylym**	**0.56**	**105**	*e*P	**Pn**		**00 15 42.4**	**-0.2**
DLMR				*e*S	**Sn**		**00 15 56.6**	**+1.3**
DLMR				pmax	pmax			
	comp=Z,115nm,0.2s							
DLMR	**Dylym**	**0.56**	**105**	*e*P	**Pn**		**00 15 42.4**	**-0.2**
	comp=Z,115nm,0.2s							
DLMR				*e*S	**Sn**		**00 15 56.6**	**+1.3**
BTLR	**Botlikh**	**0.60**	**156**	*e*P	**Pn**		**00 15 42.5**	**-0.4**
BTLR				*e*S	**Sn**		**00 15 54.0**	**-1.9**
BTLR				pmax	pmax			
	comp=Z,79nm,0.2s							
BTLR	**Botlikh**	**0.60**	**156**	*e*P	**Pn**		**00 15 42.5**	**-0.4**
	comp=Z,79nm,0.2s							
BTLR				*e*S	**Sn**		**00 15 54.0**	**-1.9**
DBC	**Dubki**	**0.72**	**106**	⇓*i*P	**Pn**		**00 15 44.0**	**+0.2**
DBC				*i* S	**Sn**		**00 15 56.0**	**-1.5**
DBC				pmax	pmax			
	comp=Z,78nm,0.2s							
DBC	**Dubki**	**0.72**	**106**	*i* P	**Pn**		**00 15 44.0**	**+0.2**
	comp=Z,78nm,0.2s							
DBC				*i* S	**Sn**		**00 15 56.0**	**-1.5**
SNJR	**Sundja**	**0.80**	**260**	⇑*i*P	**Pn**		**00 15 44.9**	**+0.3**
SNJR				*i* S	**Sn**		**00 15 59.6**	**+0.7**
SNJR	**Sundja**	**0.80**	**260**	*i* P	**Pn**		**00 15 44.9**	**+0.3**
SNJR				*i* S	**Sn**		**00 15 59.6**	**+0.7**
UNCR	**Uncukul**	**0.83**	**127**	⇓*e*P	**Pn**		**00 15 44.7**	**-0.2**
UNCR				*i* S	**Sn**		**00 15 59.0**	**-0.4**
UNCR				pmax	pmax			
	comp=Z,54nm,0.2s							
UNCR	**Uncukul**	**0.83**	**127**	*e*P	**Pn**		**00 15 44.7**	**-0.2**
	comp=Z,54nm,0.2s							
UNCR				*i* S	**Sn**		**00 15 59.0**	**-0.4**
KRNR	**Karanay**	**0.84**	**117**	⇓*i*P	**Pn**		**00 15 44.8**	**-0.2**
KRNR				*i* S	**Sn**		**00 15 59.2**	**-0.4**
KRNR				pmax	pmax			
	comp=Z,63nm,0.2s							
KRNR	**Karanay**	**0.84**	**117**	*i* P	**Pn**		**00 15 44.8**	**-0.2**
	comp=Z,63nm,0.2s							
KRNR				*i* S	**Sn**		**00 15 59.2**	**-0.4**
VLKR	**Vladikavkaz**	**0.90**	**259**	⇑*i*P	**Pn**		**00 15 45.7**	**+0.1**
VLKR				*e*S	**Sn**		**00 16 00.9**	**+0.3**
VLKR	**Vladikavkaz**	**0.90**	**259**	*i* P	**Pn**		**00 15 45.7**	**+0.1**
VLKR				*e*S	**Sn**		**00 16 00.9**	**+0.3**
XNZR	**Khunzakh**	**0.90**	**138**	*e*P	**Pn**		**00 15 45.5**	**-0.1**
XNZR				*e*S	**Sn**		**00 16 00.0**	**-0.6**
XNZR	**Khunzakh**	**0.90**	**138**	*e*P	**Pn**		**00 15 45.5**	**-0.1**
XNZR				*e*S	**Sn**		**00 16 00.0**	**-0.6**
BUJR	**Buynaksk**	**0.98**	**113**	*e*P	**Pn**		**00 15 46.5**	**+0.2**
BUJR				*e*S	**Sn**		**00 16 02.5**	**+0.6**
BUJR				pmax	pmax			
	comp=Z,71nm,0.1s							
BUJR	**Buynaksk**	**0.98**	**113**	*e*P	**Pn**		**00 15 46.5**	**+0.2**
	comp=Z,71nm,0.1s							
BUJR				*e*S	**Sn**		**00 16 02.5**	**+0.6**
TRKR	**Terskaya**	**0.98**	**301**	⇓*i*P	**Pn**		**00 15 46.8**	**+0.4**
TRKR				*i* S	**Sn**		**00 16 02.7**	**+0.7**
TRKR	**Terskaya**	**0.98**	**301**	*i* P	**Pn**		**00 15 46.8**	**+0.4**
TRKR				*i* S	**Sn**		**00 16 02.7**	**+0.7**
BTKR	**Batakoyurt**	**0.99**	**279**	⇑*i*P	**Pn**		**00 15 47.0**	**+0.5**
BTKR				*e*S	**Sn**		**00 16 03.1**	**+0.8**
BTKR	**Batakoyurt**	**0.99**	**279**	*i* P	**Pn**		**00 15 47.0**	**+0.5**
BTKR				*e*S	**Sn**		**00 16 03.1**	**+0.8**
ARKR	**Arakani**	**1.02**	**127**	*e*P	**Pn**		**00 15 47.5**	**+0.7**
ARKR				*i* S	**Sn**		**00 16 04.0**	**+1.3**
ARKR	**Arakani**	**1.02**	**127**	*e*P	**Pn**		**00 15 47.5**	**+0.7**
ARKR				*i* S	**Sn**		**00 16 04.0**	**+1.3**
KMSR	**Komsomolskaya**	**1.18**	**278**	⇓*i*P	**Pn**		**00 15 49.1**	**+0.7**
KMSR				*e*S	**Sn**		**00 16 06.7**	**+1.0**
KMSR	**Komsomolskaya**	**1.18**	**278**	*i* P	**Pn**		**00 15 49.1**	**+0.7**
KMSR				*e*S	**Sn**		**00 16 06.7**	**+1.0**
ARNR	**Ardon**	**1.18**	**269**	⇑*i*P	**Pn**		**00 15 48.8**	**+0.4**
ARNR				*e*S	**Sn**		**00 16 05.1**	**-0.6**
ARNR	**Ardon**	**1.18**	**269**	*i* P	**Pn**		**00 15 48.8**	**+0.4**
ARNR				*e*S	**Sn**		**00 16 05.1**	**-0.6**
MAK	**Makhachkala**	**1.21**	**102**	*e*P	**Pn**		**00 15 49.4**	**+0.6**
MAK				*e*			00 16 07.4	
MAK				pmax	pmax			
	comp=Z,49nm,0.2s							
MAK	**Makhachkala**	**1.21**	**102**	*e*P	**Pn**		**00 15 49.4**	**+0.6**
	comp=Z,49nm,0.2s							
MAK				*e*S	**Sn**		**00 16 07.4**	**+0.9**
LACR	**Lac**	**1.23**	**252**	⇑*i*P	**Pn**		**00 15 48.4**	**-0.7**
LACR				*i* S	**Sn**		**00 16 04.9**	**-1.9**
LACR	**Lac**	**1.23**	**252**	*i* P	**Pn**		**00 15 48.4**	**-0.7**
LACR				*i* S	**Sn**		**00 16 04.9**	**-1.9**
PRTR	**Priterechnaya**	**1.28**	**295**	⇓*i*P	**Pn**		**00 15 50.3**	**+0.6**
PRTR				*i* S	**Sn**		**00 16 08.8**	**+0.9**
PRTR	**Priterechnaya**	**1.28**	**295**	*i* P	**Pn**		**00 15 50.3**	**+0.6**
PRTR				*i* S	**Sn**		**00 16 08.8**	**+0.9**
KMKR	**Kumukh**	**1.41**	**140**	*e*P	**Pn**		**00 15 52.0**	**+0.9**
KMKR				*e*S	**Sn**		**00 16 13.0**	**+2.6**
KMKR				pmax	pmax			
	comp=Z,35nm,0.2s							
KMKR	**Kumukh**	**1.41**	**140**	*e*P	**Pn**		**00 15 52.0**	**+0.9**
	comp=Z,35nm,0.2s							
LSNR	**Lesken**	**1.52**	**273**	⇓*i*P	**Pn**		**00 15 52.6**	**+0.2**
LSNR				*i* S	**Sn**		**00 16 12.5**	**-0.3**
LSNR	**Lesken**	**1.52**	**273**	*i* P	**Pn**		**00 15 52.6**	**+0.2**
LSNR				*i* S	**Sn**		**00 16 12.5**	**-0.3**
ZEI	**Tsey**	**1.53**	**254**	⇓*i*P	**Pn**		**00 15 51.7**	**-0.8**
ZEI				*i* S	**Sn**		**00 16 10.6**	**-2.4**
ZEI	**Tsey**	**1.53**	**254**	*i* P	**Pn**		**00 15 51.7**	**-0.8**
TBLG	**Delisi**	**1.71**	**210**	P	**Pn**		**00 15 55.0**	**+0.2**
TBLG				S	**Sn**		**00 16 16.7**	**-0.4**
TBLG	**Delisi**	**1.71**	**210**	P	**Pn**		**00 15 55.0**	**+0.1**
TBLG				S	**Sn**		**00 16 16.7**	**-0.3**
TBLG	**Delisi**	**1.71**	**210**	P	**Pn**		**00 15 55.0**	**+0.2**
TBLG				S	**Sn**		**00 16 16.7**	**-0.4**
DIGR	**Digorskoe uzhe**	**1.72**	**260**	⇓*i*P	**Pn**		**00 15 54.3**	**-0.6**
DIGR				*i* S	**Sn**		**00 16 15.3**	**-1.9**
DIGR	**Digorskoe uzhe**	**1.72**	**260**	*i* P	**Pn**		**00 15 54.3**	**-0.6**
MTA	**Mtatsminda**	**1.73**	**208**	P	**Pn**		**00 15 54.9**	**0.0**
MTA				S	**Sn**		**00 16 16.8**	**-0.6**
MTA	**Mtatsminda**	**1.73**	**208**	P	**Pn**		**00 15 54.9**	**-0.1**
MTA				S	**Sn**		**00 16 16.8**	**-0.5**
GOR	**Gori**	**1.80**	**227**	P	**Pn**		**00 15 56.3**	**+0.3**
GOR				S	**Sn**		**00 16 19.9**	**+0.8**
GOR	**Gori**	**1.80**	**227**	P	**Pn**		**00 15 56.3**	**+0.4**
GOR				S	**Sn**		**00 16 19.9**	**+0.9**
DGRG	**David-gareji**	**1.81**	**192**	P	**Pn**		**00 15 54.0**	**-2.0**
DGRG				S	**Sn**		**00 16 18.7**	**-0.5**
DGRG	**David-gareji**	**1.81**	**192**	P	**Pn**		**00 15 54.0**	**-2.0**
DGRG				S	**Sn**		**00 16 18.7**	**-0.5**
ONI	**Oni**	**1.90**	**252**	P	**Pn**		**00 15 57.7**	**+0.6**
ONI				S	**Sn**		**00 16 23.6**	**+2.4**
ONI	**Oni**	**1.90**	**252**	P	**Pn**		**00 15 57.7**	**+0.6**
ONI				S	**Sn**		**00 16 23.6**	**+2.4**
BEYR	**Belyy Ugol+**	**2.37**	**291**	⇓*i*P	**Pn**		**00 16 02.9**	**-0.2**
BEYR	**Belyy Ugol+**	**2.37**	**291**	*i* P	**Pn**		**00 16 02.9**	**-0.2**
AKH	**Akhalkalaki**	**2.53**	**225**	P	**Pn**		**00 16 07.5**	**+2.2**
AKH	**Akhalkalaki**	**2.53**	**225**	P	**Pn**		**00 16 07.5**	**+2.2**
GNI	**Garni**	**3.18**	**196**	*e*P	**Pn**		**00 16 14.5**	**+0.6**
GNI	**Garni**	**3.18**	**196**	*e*P	**Pn**		**00 16 14.5**	**+0.6**
AKTO	**Aktyubinsk**	**11.00**	**45**	⇑Pn	**Pn**		**00 17 57.8**	**-1.7**
	comp=Z,0.2nm,0.6s							
AKTO				⇓Sn	**Sn**		**00 19 49.6**	**-11**
	comp=Z,0.2nm,0.6s							
AKTO	**Aktyubinsk**	**11.00**	**45**	Pn	**Pn**		**00 17 57.8**	**-1.7**
	comp=Z,0.2nm,0.6s							
AB31	**Akbulak array**	**11.45**	**53**	⇓Pn	**Pn**		**00 18 04.3**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=249,slow=14,SNR=25							
AB31				⇑Sn	**Sn**		**00 20 03.8**	**-7.5**
	comp=Z,0.5nm,0.3s,baz=242,slow=21,SNR=4.2							
AB31	**Akbulak array**	**11.45**	**53**	Pn	**Pn**		**00 18 04.3**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=249,SNR=25							

IDC 19 00:24:59.4±2.1, **31.17S**×**178.43W, h0**km, **mb3.7**/3, **mb1 3.8**/3, **mb1mx3.7**/15, **mbtmp3.7**/3, **Error ellipse: s-maj=61.8km s-min=36.1km az=44.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.71**	**268**	P		P	00 32 57.3	-1.0
	0.2nm,0.4s,baz=107,slow=7.7,SNR=3.9							
WRA	**Warramunga Arr**	**43.77**	**273**	P		P	00 33 07.7	+0.8
	0.4nm,0.4s,baz=112,slow=8.1,SNR=9.5							
QSPA	**South Pole Qui**	**58.94**	**180**	P		P	00 35 00.3	+0.5
	1.2nm,0.6s,baz=85,slow=7.3,SNR=3.1							
FINES	**FINESS Array B**	**145.74**	**339**	PKPbc		PKPbc	00 44 38.5	-0.9
	3.9nm,0.9s,baz=86,slow=5.7,SNR=5.2							

*IDC **19** 00:33:28.9±10.0,35.97N×71.57E,h75km±82km,mb3.6/5, mb1 3.6/8,mb1mx3.3/30,mbtmp3.6/8,ML3.9/3,Error ellipse: s-maj=74.1km s-min=35.0km az=153.0*
*NEIC **19** 00:33:31.0±1.3,36.18N×71.26E,h80km±11km,mb3.4/1, Error ellipse: s-maj=24.4km s-min=10.5km az=125.0*
*ISCJB **19** 00:33:31.4±0.8,36.39N±0.05×71.11E±0.10,h86km±10km, mb3.8/4,Error ellipse: s-maj=14.3km s-min=6.4km az=28.0*
*NNC **19** 00:33:36.7±9.0,36.62N×71.02E,h92km±160km,mb3.3, mpv4.0,Error ellipse: s-maj=71.1km s-min=59.6km az=6.0*

ISC 19 00:33:32.7±0.8, **36.33N**±0.06×**71.1E**±0.1, **h84**km±9km, **n32,** σ1s**11**/40, **mb3.8**/4, **5C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KBL	**Kabul**	**2.47**	**224**	*e*Pn	**Pn**		**00 34 09.0**	**-2.0**
KBL				*e*Sn	**Sn**		**00 34 40.4**	**0.0**
AML	**Almayashu**	**6.12**	**18**	P	**Pn**		**00 35 01.4**	**+0.9**
	SNR=57							
EKS2	**Erkin-Say**	**6.64**	**17**	P	**Pn**		**00 35 09.0**	**+1.5**
	SNR=11							
EKS2	**Erkin-Say**	**6.64**	**17**	*e*Pn	**Pn**		**00 35 08.0**	**+0.5**
	9.2nm,0.6s							
EKS2				*e*Sn	**Sn**		**00 36 20.1**	**-1.6**
KK31	**Karatay Array**	**6.78**	**356**	⇓P	**Pn**		**00 35 10.3**	**+1.0**
	7.5nm,0.4s,baz=180,slow=13							
KK31				⇑S	**Sn**		**00 36 24.2**	**-0.8**
	2.8nm,0.3s,baz=183,slow=20							
KKAR	**Karatay Array**	**6.78**	**356**	*e*Pn	**Pn**		**00 35 10.1**	**+0.8**
	16nm,0.4s							
KKAR				*e*Sn	**Sn**		**00 36 24.9**	**-0.1**
AAK	**Ala-Archa**	**6.81**	**21**	P	**Pn**		**00 35 11.3**	**+1.5**
	SNR=14							
SDNR	**Sundarnagar**	**6.84**	**133**	*e*PN	Px		00 35 34.0	
SDNR				*e*SN	**Sn**		**00 36 18.4**	**-8.2**
CHMS	**Chumysh**	**7.22**	**22**	P	**Pn**		**00 35 15.9**	**+0.5**
	SNR=8.1							
USP	**Ospenovka**	**7.39**	**19**	P	**Pn**		**00 35 17.9**	**+0.2**
	SNR=10							
TKM2	**Tokmak 2**	**7.42**	**26**	P	**Pn**		**00 35 19.1**	**+0.9**
	SNR=5.1							
TKM2	**Tokmak 2**	**7.42**	**26**	⇑P	**Pn**		**00 35 19.1**	**+1.0**
	2.2nm,0.4s							
TKM2				⇓S	**Sn**		**00 36 38.7**	**-2.0**
	2.8nm,0.7s							
TKM2	**Tokmak 2**	**7.42**	**26**	*e*Pn	**Pn**		**00 35 18.3**	**+0.1**
	3.6nm,0.5s							
TKM2				*e*Sn	**Sn**		**00 36 39.1**	**-1.6**
AB31	**Akbulak array**	**15.28**	**331**	⇑P	**Pn**		**00 37 02.5**	**-0.9**
	0.5nm,0.4s,baz=135,slow=12,SNR=5.8							
AB31				⇑S	**S**		**00 39 48.2**	**-15**
	1.5nm,0.6s,baz=155,slow=23,SNR=3.9							
ABKAR	**Akbulak array**	**15.28**	**331**	*e*Pn	**Pn**		**00 37 02.1**	**-1.3**
	1.0nm,0.3s							
ABKAR				*e*Sn	**Sn**		**00 39 43.9**	**-7.8**
KURK	**Kurchatov**	**15.35**	**18**	P	**Pn**		**00 37 04.6**	**+0.2**
	0.1nm,0.3s,baz=205,slow=11,SNR=6.3							
KURK	**Kurchatov**	**15.35**	**18**	P	**Pn**		**00 37 04.6**	**+0.2**
BVAR	**Borovoye Array**	**16.70**	**358**	P	**Pn**		**00 37 20.9**	**-0.2**
	0.4nm,0.3s,baz=161,slow=14,SNR=8.6							
BVAR	**Borovoye Array**	**16.70**	**358**	P	**Pn**		**00 37 20.9**	**-0.2**
AKTO	**Aktyubinsk**	**16.98**	**330**	⇑P	**Pn**		**00 37 26.3**	**+1.7**
	0.7nm,0.8s							
AKTO	**Aktyubinsk**	**16.98**	**330**	P	**Pn**		**00 37 26.2**	**+1.7**
	0.6nm,0.3s,baz=141,slow=11,SNR=15							
AKTO	**Aktyubinsk**	**16.98**	**330**	P	**Pn**		**00 37 26.2**	**+1.7**
ZALV	**Zalesovo Beam**	**20.02**	**24**	P	**P**		**00 37 57.6**	**-0.9**
	1.8nm,0.5s,baz=217,slow=10,SNR=10							
ZALV	**Zalesovo Beam**	**20.02**	**24**	P	**P**		**00 37 57.6**	**-0.9**
FINES	**FINESS Array B**	**37.68**	**326**	P	**P**		**00 40 41.5**	**+2.1**
	6.8nm,1.1s,mb4.4,baz=116,slow=8.7,SNR=4.6							
FINES	**FINESS Array B**	**37.68**	**326**	P	**P**		**00 40 41.5**	**+2.1**
HFS	**Hagfors**	**43.26**	**322**	P	**P**		**00 41 26.4**	**+1.0**
	1.7nm,0.6s,mb4.0,baz=90,slow=8.0,SNR=5.9							
HFS	**Hagfors**	**43.26**	**322**	P	**P**		**00 41 26.4**	**+1.0**
TORD	**Torodi Ar. Bea**	**65.82**	**269**	P	**P**		**00 44 08.8**	**-0.5**
	0.3nm,0.5s,mb3.3,baz=53,slow=5.6,SNR=8.2							
TORD	**Torodi Ar. Bea**	**65.82**	**269**	P	**P**		**00 44 08.8**	**-0.5**
INK	**Inuvik**	**74.05**	**9**	P	**P**		**00 44 57.5**	**-1.4**
	1.4nm,1.2s,mb3.6,baz=313,slow=3.9,SNR=4.0							
INK	**Inuvik**	**74.05**	**9**	P	**P**		**00 44 57.5**	**-1.4**

*DDA **19** 00:41:27.0,38.96N×39.81E,h7km±3km,Md2.8*
*ISK **19** 00:41:26.7,39.00N×39.77E,h22km,MD2.8*
*ISCJB **19** 00:41:27.8±0.4,39.01N±0.03×39.79E±0.04,h21km±8km, Error ellipse: s-maj=5.0km s-min=4.7km az=166.7*
*CSEM **19** 00:41:27.3±0.2,39.00N×39.77E,h20km,MD2.8, Error ellipse: s-maj=4.6km s-min=3.7km az=142.0*

ISC 19 00:41:27.6±0.5, **39.00N**±0.03×**39.78E**±0.03, **h18**km±4km, **n22,** σ0s**88**/37, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PTK	**Pertek**	**0.33**	**250**	*e*PG	**Pg**		**00 41 33.8**	**-0.8**
PTK				*e*SG	**Sg**		**00 41 39.6**	**+0.4**
PTK	**Pertek**	**0.33**	**250**	*e*Pg	**Pg**		**00 41 33.8**	**-0.8**
PTK				*e*Sg	**Sg**		**00 41 39.6**	**+0.4**
BINT	**Bingol**	**0.56**	**103**	*e*PG	**Pg**		**00 41 38.9**	**+0.1**
BINT				*e*SG	**Sg**		**00 41 47.5**	**+1.0**
BINT	**Bingol**	**0.56**	**103**	*e*Pg	**Pg**		**00 41 38.9**	**+0.1**
BINT				*e*Sg	**Sg**		**00 41 47.5**	**+1.1**
ERZN	**Erzincan**	**0.58**	**355**	*e*PG	**Pg**		**00 41 38.8**	**-0.4**
ERZN				*e*SG	**Sg**		**00 41 47.8**	**+0.7**
SVRC	**Sivrice-ELAZID**	**0.73**	**211**	*e*PG	**Pg**		**00 41 41.3**	**-0.5**
SVRC				*e*SG	**Sg**		**00 41 52.0**	**+0.5**
SVRC	**Sivrice-ELAZID**	**0.73**	**211**	*e*Pg	**Pg**		**00 41 41.3**	**-0.6**
SVRC				*e*Sg	**Sg**		**00 41 52.1**	**+0.6**
ELZG	**Elazig**	**0.80**	**231**	*i* P	**Pb**		**00 41 42.5**	**-0.6**
ELZG				*i* S	**Sb**		**00 41 53.6**	**0.0**
ELZG	**Elazig**	**0.80**	**231**	*i* P	**Pb**		**00 41 42.5**	**-0.6**
ELZG				*i* S	**Sb**		**00 41 53.6**	**0.0**
EZC	**Erzincan**	**0.82**	**336**	*e*PG	**Pg**		**00 41 43.1**	**-0.5**
EZC	**Erzincan**	**0.82**	**336**	*e*Pg	**Pg**		**00 41 43.2**	**-0.4**
KEMA	**Kemaliye**	**1.04**	**285**	*i* P	**Pb**		**00 41 47.6**	**+0.5**
KEMA				*i* S	**Sb**		**00 42 02.9**	**+2.5**
KEMA	**Kemaliye**	**1.04**	**285**	*i* P	**Pb**		**00 41 47.6**	**+0.5**
KEMA				*i* S	**Sb**		**00 42 02.9**	**+2.6**
BNGL	**BINGOL**	**1.07**	**92**	*i* P	**Pb**		**00 41 46.5**	**-1.0**
BNGL				*i* S	**Sb**		**00 42 00.8**	**-0.3**
DIYA	**Diyarbakir**	**1.11**	**166**	*i* P	**Pn**		**00 41 47.5**	**-0.8**
DIYA				*i* S	**Sb**		**00 42 01.8**	**-0.6**
DIYA	**Diyarbakir**	**1.11**	**166**	*i* P	**Pn**		**00 41 47.5**	**-0.8**
DIYA				*i* S	**Sb**		**00 42 01.8**	**-0.6**
MALT	**Malatya**	**1.27**	**237**	*e*PN	**Pn**		**00 41 49.4**	**-1.0**
MALT	**Malatya**	**1.27**	**237**	*e*Pn	**Pn**		**00 41 49.4**	**-1.0**
BAYT	**Ayd¨–ntepe-Bay**	**1.42**	**11**	*e*PN	**Pn**		**00 41 51.8**	**-0.7**
BAYT	**Ayd¨–ntepe-Bay**	**1.42**	**11**	*e*Pn	**Pn**		**00 41 51.8**	**-0.7**
EZM	**Erzurum**	**1.52**	**53**	*e*PN	**Pn**		**00 41 53.3**	**-0.6**
BEST	**Besiri**	**1.61**	**133**	*i* P	**Pn**		**00 41 56.7**	**+1.5**
BEST				*i* S	**Sn**		**00 42 17.0**	**+1.5**

*ISCJB **19** 00:45:13.1±0.3,50.14N±0.02×18.98E±0.02,h0km,Error ellipse: s-maj=3.1km s-min=2.0km az=15.2*
*CSEM **19** 00:45:14.6±0.1,50.12N×19.06E,h2km,ML2.8/3,Error ellipse: s-maj=3.6km s-min=2.2km az=11.0*
*WAR **19** 00:45:14.8,50.07N×19.10E*
*IDC **19** 00:45:14.8±3.3,49.94N×19.18E,h0km,mb1 3.7/4, mb1mx3.3/23,mbtmp3.6/4,ML2.8/2, Error ellipse: s-maj=66.8km s-min=10.6km az=140.0*
*PRU **19** 00:45:15.0,50.22N×19.02E,h0km*
*NEIC **19** 00:45:15.1,50.18N×19.03E,h1km,ML3.2(SZGRF),After SZGRF.*
*BGR **19** 00:45:15.2±0.3,50.18N×19.03E,h1km,ML3.2/7, Error ellipse: s-maj=10.0km s-min=3.3km az=172.0*
*IPEC **19** 00:45:15.1±0.1,50.08N×19.08E,h8km±1km,ML2.8/3, Error ellipse: s-maj=1.4km s-min=0.7km az=165.0*

ISC 19 00:45:14.2±0.3, **50.13N**±0.02×**19.02E**±0.02, **h0**km, **n135,** σ1s**21**/193, **6C-13D, Poland**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.51**	**79**	*i* Pg	**Pg**		**00 45 24.2**	**+0.2**
OJC				*e*Sg	**Sg**		**00 45 31.2**	**+0.6**
OJC	**Ojcow**	**0.51**	**79**	P	**Pg**		**00 45 24.1**	**+0.1**
OJC	**Ojcow**	**0.51**	**79**	*e*Pg	**Pg**		**00 45 24.2**	**+0.3**
OJC				*e*Sg	**Sg**		**00 45 30.9**	**+0.3**
OJC	**Ojcow**	**0.51**	**79**	Pg	**Pg**		**00 45 24.2**	**+0.2**
OJC				*e*Sg	**Sg**		**00 45 30.9**	**+0.3**
	baz=253							
RAC	**Raciborz**	**0.53**	**266**	*e*Sg	**Sg**		**00 45 35.2**	**+3.9**
OKC	**Ostrava-Krasne**	**0.63**	**243**	P	**Pg**		**00 45 27.8**	**+1.5**
OKC	**Ostrava-Krasne**	**0.63**	**243**	*e*Pg	**Pg**		**00 45 27.7**	**+1.3**
OKC				*e*Sg	**Sg**		**00 45 37.3**	**+2.8**
OKC	**Ostrava-Krasne**	**0.63**	**243**	*e*PG	**Pg**		**00 45 27.7**	**+1.4**
OKC				*e*SG	**Sg**		**00 45 36.8**	**+2.3**
	comp=Z,138nm,0.5s							
OKC	**Ostrava-Krasne**	**0.63**	**243**	*e*Pg	**Pg**		**00 45 27.6**	**+1.3**
	baz=68							
OKC				*e*Sg	**Sg**		**00 45 36.8**	**+2.3**
	baz=68							
MORC	**Moravsky Berou**	**1.02**	**250**	P	**Pg**		**00 45 34.8**	**+1.1**
MORC				S	**Sg**		**00 45 48.7**	**+1.9**
MORC	**Moravsky Berou**	**1.02**	**250**	*e*Pg	**Pg**		**00 45 35.1**	**+1.4**
MORC				*e*Sg	**Sg**		**00 45 48.9**	**+2.1**
MORC	**Moravsky Berou**	**1.02**	**250**	⇑*i*P	**Pg**		**00 45 34.8**	**+1.1**
MORC	**Moravsky Berou**	**1.02**	**250**	S	**Sg**		**00 45 48.7**	**+1.9**
MORC	**Moravsky Berou**	**1.02**	**250**	P	**Pg**		**00 45 34.8**	**+1.1**
MORC	**Moravsky Berou**	**1.02**	**250**	Pg	**Pg**		**00 45 35.1**	**+1.4**
MORC				S	**Sg**		**00 45 48.7**	**+1.9**
LIKS	**Likavka**	**1.08**	**177**	P	**Pg**		**00 45 35.2**	**+0.3**
LIKS	**Likavka**	**1.08**	**177**	*e*PG	**Pg**		**00 45 34.4**	**-0.5**
LIKS				*e*SG	**Sg**		**00 45 49.4**	**+0.6**
LIKS	**Likavka**	**1.08**	**177**	*e*Sg	**Sg**		**00 45 49.4**	**+0.6**
NIE	**Niedzica**	**1.10**	**130**	*i* Pg	**Pg**		**00 45 34.7**	**-0.5**
NIE				*e*Sg	**Sg**		**00 45

LVV	L'vov	3.25	94	P		Pn	00 46 02.7	-3.7
LVV	L'vov	3.25	94	P		Pn	00 46 02.7	-3.7
KHC	Kasperske Hory	3.67	256	*e*PN		Pn	00 46 13.0	+0.8
KHC				*e*PG		Pg	00 46 23.5	-1.1
KHC				*e*SN		Sn	00 46 55.0	-1.2
KHC				*e*SG		Sg	00 47 15.0	+2.8
ARSA	Arzberg	3.69	220	*e*Pn		Pn	00 46 17.3	+4.8
	comp=Z,1.2nm,0.2s							
ARSA				⇓*i*Sg		Sg	00 47 16.4	+3.6
	comp=Z,6.1nm,0.5s							
ARSA	Arzberg	3.69	220	Pn		Pn	00 46 17.3	+4.8
	comp=Z,1.2nm,0.2s							
ARSA				Sg		Sg	00 47 16.4	+3.6
	comp=Z,6.1nm,0.5s							
GEC2	GERESS Array S	3.70	252	*e*Pg		Pg	00 46 25.1	+0.1
GEC2	GERESS Array S	3.70	252	*e*Pg		Pg	00 46 25.1	0.0
GEC2	GERESS Array S	3.70	252	Pg		Pg	00 46 25.1	+0.1
GERES	GERESS Array B	3.70	252	Pn		Pn	00 46 14.0	+1.5
	comp=Z,0.4nm,0.3s,baz=62,slow=15,SNR=7.6							
GERES				Pg		Pg	00 46 22.2	-2.9
	comp=Z,0.9nm,0.3s,baz=64,slow=14,SNR=12							
GERES				Lg			00 47 11.6	
	comp=Z,5.7nm,0.3s,baz=73,slow=28,SNR=19							
GERES	GERESS Array B	3.70	252	Pn		Pn	00 46 14.0	+1.5
GERES				Pg		Pg	00 46 22.2	-2.9
GERES				Lg			00 47 11.6	
FBE	Freiberg	3.70	285	*e*Sg		Sg	00 47 14.4	+1.4
FBE	Freiberg	3.70	285	Sg		Sg	00 47 14.4	+1.3
MOA	Molln	3.87	236	⇓*e*Pn		Pn	00 46 15.8	+0.8
MOA				⇓*e*Sg		Sg	00 47 16.0	-2.5
	comp=Z,16nm,0.4s							
MOA	Molln	3.87	236	Pn		Pn	00 46 15.8	+0.9
MOA				Sg		Sg	00 47 16.0	-2.5
	comp=Z,16nm,0.4s							
BEHE	Becsehely	3.95	203	⇓*e*Pn		Pn	00 46 16.9	+0.8
CLL	Collm	4.00	289	*e*Pg		Pg	00 46 30.7	-0.2
CLL	Collm	4.00	289	*e*Pg		Pg	00 46 30.7	-0.2
CLL	Collm	4.00	289	*e*Pg		Pg	00 46 31.0	+0.1
CLL				*e*Sg		Sg	00 47 24.0	+1.3
	comp=Z,23nm,1.1s							
CLL	Collm	4.00	289	Pg		Pg	00 46 30.7	-0.2
WET	Wettzell	4.11	259	*e*Sg		Sg	00 47 24.2	-2.0
WET	Wettzell	4.11	259	*e*Sg		Sg	00 47 24.2	-2.0
WET	Wettzell	4.11	259	Sg		Sg	00 47 24.2	-2.0
DRGR		4.14	142	P		Pn	00 46 18.6	-0.1
DRGR		4.14	142	⇓*i*P		Pn	00 46 18.6	-0.1
DRGR		4.14	142	P		Pn	00 46 18.6	-0.1
DRGR				S		Sn	00 47 07.2	-0.6
TANN	Tannenbergstha	4.22	276	*e*Pg		Pg	00 46 33.5	-1.5
TANN				*e*Sg		Sg	00 47 28.0	-1.6
TANN	Tannenbergstha	4.22	276	*e*Pg		Pg	00 46 33.5	-1.5
TANN				*e*Sg		Sg	00 47 28.0	-1.6
TANN	Tannenbergstha	4.22	276	Pg		Pg	00 46 33.5	-1.5
TANN				Sg		Sg	00 47 28.0	-1.6
NKC	Novy Kostel	4.22	274	*e*SG		Sg	00 47 28.7	-1.2
	comp=Z,26nm,0.4s							
WERD	Werda	4.32	277	*e*Pg		Pg	00 46 35.0	-1.9
WERD	Werda	4.32	277	*e*Pg		Pg	00 46 35.0	-1.9
WERD	Werda	4.32	277	Pg		Pg	00 46 35.0	-1.9
ROTZ	Rotzenmuhle	4.41	268	*e*Sg		Sg	00 47 34.7	-1.2
ROTZ	Rotzenmuhle	4.41	268	*e*Sg		Sg	00 47 34.7	-1.2
ROTZ	Rotzenmuhle	4.41	268	Sg		Sg	00 47 34.7	-1.2
BUR08	Bucovina Ar. S	4.78	119	*e*Pn		Pn	00 46 26.1	-1.3
BUR08				*e*Sn		Sn	00 47 21.8	-1.6
BUR08	Bucovina Ar. S	4.78	119	*e*Pn		Pn	00 46 26.0	-1.3
BUR08				*e*Sn		Sn	00 47 21.8	-1.5
BURAR	Bucovina Array	4.80	119	P		Pn	00 46 28.0	+0.3
BURAR	Bucovina Array	4.80	119	⇓*i*P		Pn	00 46 28.0	+0.3
BURAR	Bucovina Array	4.80	119	P		Pn	00 46 28.0	+0.3
BZS	Buzias	4.84	158	P		Pn	00 46 28.2	0.0
BZS	Buzias	4.84	158	⇑*i*P		Pn	00 46 28.2	0.0
BZS	Buzias	4.84	158	P		Pn	00 46 28.2	0.0
GZR	Gura Zlata	5.37	150	P		Pn	00 46 35.8	+0.3
GZR	Gura Zlata	5.37	150	⇑*i*P		Pn	00 46 35.9	+0.4
GZR	Gura Zlata	5.37	150	P		Pn	00 46 35.8	+0.3
GZR				S		Sn	00 47 34.2	-3.8
BSD	Bornholm Skovb	5.59	335	*i*P		Pn	00 46 38.6	+0.1
	SNR=46							
DAVOX	Davos/Dischmat	6.94	245	Pn		Pn	00 46 58.5	+1.5
	baz=34,slow=7.3							
DAVOX				Lg			00 48 56.6	
	comp=Z,0.6nm,0.3s,baz=163,slow=19,SNR=4.0							
DAVOX	Davos/Dischmat	6.94	245	Pn		Pn	00 46 58.5	+1.5
DAVOX				Lg			00 48 56.6	
DAVOX	Davos/Dischmat	6.94	245	Pn		Pn	00 46 58.5	+1.5
FINES	FINESS Array B	12.01	16	Pn		Pn	00 48 03.8	-2.6
	comp=Z,0.3nm,0.3s,baz=207,slow=12,SNR=11							
FINES	FINESS Array B	12.01	16	Pn		Pn	00 48 03.8	-2.6
KAF	Kangasniemi	12.67	16	*ep*		Pn	00 48 14.3	-1.2
JOF	Joensuu	14.47	23	*ep*		Pn	00 48 35.8	-4.1
ARCES	ARCESS Array B	19.72	7	Pn		Pn	00 49 42.5	-3.8
	comp=Z,0.1nm,0.3s,baz=196,slow=13,SNR=7.9							
ARCES	ARCESS Array B	19.72	7	Pn		Pn	00 49 42.5	-3.8

IDC 19 00:47:48.1±1.8, 1°82N×129°30E, h0^{km}, mb3.4/4, mb1 3.5/4, mb1mx3.3/18, mbtmp3.4/4, MS3.4/2, Ms1 3.4/2, ms1mx2.8/21, Error ellipse: s-maj=143.7km s-min=27.5km az=72.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DAV	Davao City (W)	6.40	325	Op LR		LR	00 52 03.5	
	comp=Z,73nm,16.8s,baz=307,slow=40							
WRA	Warramunga Arr	22.19	167	P		P	00 52 46.1	0.0
	0.1nm,0.3s,baz=348,slow=11,SNR=5.4							
SONM	Songino Array	49.93	340	P		P	00 56 44.2	+0.6
	0.3nm,0.4s,baz=148,slow=8.6,SNR=2.2							
AFI	Afiamalu	60.43	107	LR		LR	01 23 23.1	
	comp=Z,124nm,18.1s,baz=72,slow=35							
MKAR	Makanchi Array	60.58	325	P		P	00 58 00.7	+0.2
	0.9nm,0.6s,baz=113,slow=8.2,SNR=8.9							
ZALV	Zalesovo Beam	63.45	332	P		P	00 58 19.1	-0.6
	0.2nm,0.4s,baz=123,slow=5.3,SNR=3.0							

IDC 19 00:51:43.2±1.5, 20°01S×169°35E, h0^{km}, mb4.1/8, mb1 4.3/8, mb1mx4.2/15, mbtmp4.2/8, MS4.3/1, Ms1 4.3/1, ms1mx2.6/23, Error ellipse: s-maj=65.3km s-min=20.8km az=147.0

LDG 19 00:51:47.8±0.8, 19°12S×168°39E, h10^{km}, Error ellipse: s-maj=125.2km s-min=4.8km az=114.0

ISCJB 19 00:51:48.9±1.4, 20°01S±0°01×169°28E±0°09, h55^{km}±13^{km}, mb4.0/9, Error ellipse: s-maj=23.2km s-min=9.6km az=149.9

NEIC 19 00:51:50.2±1.3, 19°89S×169°23E, h46^{km}±13^{km}, mb3.6/2, Error ellipse: s-maj=22.1km s-min=8.8km az=155.0

ISC 19 00:51:50.8±1.2, 20°01S±0°01×169°27E±0°09, h57^{km}±12^{km}, n65, σ0°95/29, mb4.0/9, 4C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BAYA	Yate Dam	3.05	227	Op *e*S		Sn	00 53 12.0	+0.1
DZM	Mont Dzumac	3.31	232	*e*Pn		Pn	00 52 40.4	+0.2
DZM				*e*Sn		Sn	00 53 17.8	-0.6
NOUC	Port Laguerre	3.44	233	*e*P		Pn	00 52 42.4	+0.5
NOUC				*e*S		Sn	00 53 21.0	-0.4
MSVF	Nonsavu	8.62	76	*e*P		Pn	00 53 52.6	-0.3
	46nm,1.4s							
ARMA	Armidale	18.98	234	*e*P		Pn	00 56 09.9	+1.1
CTA	Charters Tower	21.62	266	P		P	00 56 37.2	+0.9
	2.8nm,0.4s,mb4.0,baz=93,slow=14,SNR=5.3							
CTA	Charters Tower	21.62	266	P		P	00 56 37.2	+0.9
CTAO	Charters Tower	21.62	266	P		P	00 56 36.6	+0.2
STKA	Stephens Creek	27.44	239	P		P	00 57 32.4	+0.9
	2.7nm,0.7s,mb3.9,baz=66,slow=10,SNR=11							
STKA	Stephens Creek	27.44	239	*e*P		P	00 57 33.0	+1.5
	0.5nm,0.5s,mb3.3							
WRAB	Tennant Creek	32.78	264	*e*P		P	00 58 17.6	-1.2
	1.1nm,0.6s,mb4.0							
WRA	Warramunga Arr	32.79	264	P		P	00 58 17.7	-1.2
	0.8nm,0.5s,mb3.9,baz=95,slow=8.6,SNR=25							
WRA	Warramunga Arr	32.79	264	P		P	00 58 17.7	-1.2
ASAR	Alice Springs	32.97	257	P		P	00 58 20.4	0.0
	6.0nm,0.5s,mb4.8,baz=86,slow=8.9,SNR=82							
ASAR	Alice Springs	32.97	257	P		P	00 58 20.4	0.0
CBIJ	Chichi jima	53.73	330	LR		LR	01 18 51.7	
	comp=Z,262nm,20.6s,baz=185,slow=30							
VNDA	Vanda	57.62	182	P		P	01 01 36.0	+1.5
KSAR	Wonju Array Be	69.21	326	P		P	01 02 47.5	-4.1
KSAR				LR		LR	01 18 42.3	
PETK	Petropavlovsk-	73.55	353	P		P	01 03 17.9	+0.6
	2.8nm,0.7s,mb4.3,baz=187,slow=6.8,SNR=5.8							
PETK	Petropavlovsk-	73.55	353	P		P	01 03 17.9	+0.6
SONM	Songino Array	87.89	323	P		P	01 04 34.9	+0.9
	1.0nm,0.8s,mb4.1,baz=156,slow=4.5,SNR=7.2							
SONM	Songino Array	87.89	323	P		P	01 04 34.9	+0.9
VNA3	Neumayer Olymp	88.94	180	*e*		P	01 04 37.4	-1.3
VNA3				*e*		pP	01 04 51.7	-3.3
VNA2	Neumayer--Watz	89.23	181	*e*		P	01 04 39.1	-1.0
	baz=187,slow=4.6							
VNA2				*e*		pP	01 04 53.4	-3.0
NVAR	Mina Array Bea	89.32	48	P		P	01 04 42.1	+1.1
	0.4nm,0.6s,mb4.0,baz=224,slow=6.9,SNR=4.8							
NVAR	Mina Array Bea	89.32	48	P		P	01 04 42.1	+1.1
ILAR	Eielson Array	91.00	17	P		P	01 04 46.7	-1.5
	0.4nm,0.7s,mb3.9,baz=240,slow=4.6,SNR=5.2							
ILAR	Eielson Array	91.00	17	P		P	01 04 46.7	-1.5
ARCES	ARCESS Array B	125.87	345	PKP		PKPdf	01 10 45.9	+0.4
	2.2nm,0.6s,baz=88,slow=2.3,SNR=12							
ARCES	ARCESS Array B	125.87	345	PKP		PKPdf	01 10 45.9	+0.4
EKA	Eskdalemuir Ar	144.32	353	PKP		PKPdf	01 11 17.9	-2.3
	0.6nm,0.4s,baz=357,slow=2.8,SNR=4.8							
EKA	Eskdalemuir Ar	144.32	353	PKP		PKPdf	01 11 17.9	-2.3
KHC	Kasperske Hory	145.07	332	*e*P		PKPbc	01 11 22.0	+0.8
GERES	GERESS Array B	145.23	331	PKPbc		PKPbc	01 11 22.6	+0.9
	2.3nm,0.6s,baz=45,slow=4.0,SNR=14							
GERES	GERESS Array B	145.23	331	PKPbc		PKPbc	01 11 22.6	+0.9
MOA	Molln	145.68	330	⇓*i*PKPab		PKPab	01 11 24.2	+0.7
	6.1nm,0.6s							
SOKA	Soboth	146.12	328	⇑*i*PKPab		PKPab	01 11 25.2	0.0
	2.6nm,0.6s							
MOTA	Motsalm	147.51	332	⇑*i*PKPab		PKPbc	01 11 29.2	+0.8
	3.8nm,0.6s							
RETA	Reutte	147.55	332	⇑*i*PKPbc		PKPbc	01 11 28.9	+0.3
	1.7nm,0.5s							
GIVF	Givet	147.57	341	*e*PKP1		PKPbc	01 11 28.8	+0.2
	11nm,0.7s							
BAIF	Baives	147.80	342	*e*PKP1		PKPbc	01 11 29.5	+0.3
	18nm,0.9s							
FETA	Feichten	147.92	332	⇑*i*PKPab		PKPbc	01 11 30.4	+0.8
	2.8nm,0.5s							
CDF	Champ du Feu	148.21	337	*e*PKP1		PKPbc	01 11 30.6	+0.3
	14nm,0.9s							
DAVOX	Davos/Dischmat	148.48	332	PKPbc		PKPbc	01 11 32.3	+1.2
	13nm,0.8s,baz=173,slow=0.5,SNR=22							
DAVOX	Davos/Dischmat	148.48	332	PKPbc		PKPbc	01 11 32.3	+1.2
PAGF	Fort de Pagny	148.63	339	*e*PKP1		PKPbc	01 11 32.0	+0.6
	2.1nm,0.6s							
HINF	Hinteralfeld	148.86	337	*e*PKP1		PKPbc	01 11 32.0	0.0
HAU	Haudompre	148.89	338	*e*PKP1		PKPbc	01 11 32.3	+0.2
	9.0nm,0.6s							
MEZF	Maizieres J'vi	148.91	340	*e*PKP1		PKPbc	01 11 32.8	+0.7
	20nm,0.8s							
SFTF	Sexfontaines	149.17	339	*e*PKP1		PKPbc	01 11 33.2	+0.4
	18nm,0.8s							
CABF	La Chapelle	150.16	336	*e*PKP1		PKPbc	01 11 36.0	+0.8
	12nm,0.6s							
FLN	La Foliniere	150.20	346	*e*PKP1		PKPbc	01 11 35.2	-0.1
LDF	La Druitiere	150.28	346	*e*PKP1		PKPbc	01 11 35.2	-0.3
LOR	Lormes	150.38	340	*e*PKP1		PKPbc	01 11 36.0	+0.3
	13nm,0.9s							
GRR	Gorron	150.64	347	*e*PKP1		PKPbc	01 11 36.4	+0.1
SSF	Saint Saulge	150.67	340	*e*PKP1		PKPbc	01 11 36.8	+0.3
	5.6nm,0.5s							
LPL	La Plagne	150.81	334	*e*PKP1		PKPbc	01 11 37.7	+0.9
	8.3nm,0.7s							
LPG	La Plagne	150.82	334	*e*PKP1		PKPbc	01 11 37.8	+1.0
	7.5nm,0.7s							
SMF	Signal de Mont	150.93	339	*e*PKP1		PKPbc	01 11 37.1	0.0
BGF	Bois d'Agland	151.33	340	*e*PKP1		PKPbc	01 11 38.2	+0.2
	6.1nm,0.6s							
MBDF	Montbardon	151.43	333	*e*PKP1		PKPbc	01 11 38.5	+0.2
	12nm,0.8s							
ORIF	Oris-en-Rattie	151.64	335	*e*PKP1		PKPbc	01 11 39.2	+0.4
	13nm,0.8s							
TCF	Toulx Ste Croi	151.77	341	*e*PKP1		PKPbc	01 11 39.3	+0.3
MFF	Saint Martin d	152.15	344	*e*PKP1		PKPbc	01 11 40.0	+0.1
	13nm,0.8s							
VIVF	Saint-Julien-l	152.17	336	*e*PKP1		PKPbc	01 11 40.3	+0.3

BJI 19 00:54:42.7, 4°96S×144°17E, h116^{km}, mB5.2/35, mb5.3/56

ISCJB 19 00:54:43.2±0.6, 5°05S±0°03×143°65E±0°03, h104^{km}±5^{km}, mb5.2/124, Error ellipse: s-maj=5.4km s-min=4.3km az=156.8

MOS 19 00:54:43.4±1.0, 5°00S×143°60E, h105^{km}, mb5.0/25, Error ellipse: s-maj=10.2km s-min=6.1km az=106.0

IDC 19 00:54:44.6±1.7, 5°04S×143°65E, h103^{km}±16^{km}, mb4.8/21, mb1 4.9/26, mb1mx4.9/27, mbtmp4.8/26, MS4.1/14, Ms1 4.1/14, ms1mx3.9/23, Error ellipse: s-maj=15.1km s-min=10.2km az=96.0

NEIC 19 00:54:45.9±0.1, 5°03S×143°60E, mb5.0/47, Error ellipse: s-maj=4.8km s-min=3.1km az=80.0

DJA 19 00:54:47, 5°10S×143°53E, h117^{km}, mb5.5/40

GCMT 19 00:54:48.4±0.1, 4°95S×143°39E, h111^{km}±1^{km}, MW5.4, Moment Tensor Solution. s85,c130; s96,c183; Moment tensor: Scale 10^{17}Nm; M$_{rr}$0.29±.02; M$_{\theta\theta}$-1.11±.02; M$_{\phi\phi}$0.82±.03; M$_{r\theta}$-0.31±.02; M$_{r\phi}$-0.70±.02; M$_{\theta\phi}$0.67±.02; Best double couple: M$_0$1.40000×10^{17} NP1:ϕ_s32.00000°, δ66.00000°, λ21.00000°. NP2:ϕ_s293.00000°, δ71.00000°, λ154.00000°. Principal axes: T 1.5000, Plg31.0000°, Azm251.0000°; N -0.1500, Plg58.0000°, Azm79.0000°; P -1.3400, Plg4.0000°, Azm343.0000°; Data Used: II IU IC G CN.

ISC 19 00:54:45.0±0.6, 5°06S±0°03×143°66E±0°03, h105^{km}±5^{km}, h117^{km}±1.1^{km}: pP-P, n333, σ1°02/288, mb5.2/125, 10C-6D, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAY	Jayapura	3.88	311	Op P		Pn	00 55 42.3	-0.4
MMPI	Merauke	4.69	224	P		Pn	00 55 55.1	+1.4
PMG	Port Moresby	5.54	141	P		Pn	00 56 06.0	+0.8
	108nm,0.3s,baz=330,slow=8.2,SNR=250							
PMG				S		Sn	00 57 05.6	-2.0
	116nm,0.3s,baz=131,slow=20,SNR=28							
PMG				LR		LR	00 58 40.5	
	comp=Z,4μm,19.8s,baz=307,slow=42							
PMG	Port Moresby	5.54	141	P		Pn	00 56 06.0	+0.8
PMG				S		Sn	00 57 05.6	-2.0
PMG				LR		LR	00 58 40.5	
PMG	Port Moresby	5.54	141	P		Pn	00 56 06.0	+0.9
PMG				S		Sn	00 57 05.6	-2.0
SMPI	Sarmi	5.80	302	P		Pn	00 56 09.6	+0.9
	4.5nm649nm,1.5s							
BAKI	Biak	8.46	297	P		Pn	00 56 43.3	-1.6
	3μm312nm,1.5s							
COEN	Coen	8.85	183	*e*Pn		Pn	00 56 52.2	+2.1
COEN				*e*Sn		Sn	00 58 28.9	+0.8
COEN	Coen	8.85	183	P		Pn	00 56 51.9	+1.8
	9μm884nm,1.1s							
TLE	Tual	10.89	266	P		Pn	00 57 15.1	-2.7
	5μm330nm,1.0s							
BNDI	Bandanaira	13.72	272	P		Pn	00 57 54.3	-0.9
	8μm669nm,1.4s							
MSAI	Masohi	14.79	276	P		Pn	00 58 11.9	+3.0
CTA	Charters Tower	15.15	171	P		Pn	00 58 14.7	+1.3
	0.9nm,0.3s,baz=345,slow=12,SNR=22							
CTA	Charters Tower	15.15	171	P		Pn	00 58 14.7	+1.3
CTA	Charters Tower	15.15	171	P		Pn	00 58 14.7	+1.3
CTAO	Charters Tower	15.15	171	*e*Pn		Pn	00 58 15.0	+1.6
	286nm,0.9s							
CTAO	Charters Tower	15.15	171	*e*P		Pn	00 58 15.0	+1.6
CTAO				pmax	pmax			
	comp=Z,286nm,0.9s							
CTAO	Charters Tower	15.15	171	P		Pn	00 58 15.0	+1.6
	comp=Z,2μmcomp=Z,330nm,1.1s							
AAI	Ambon	15.48	274	P		Pn	00 58 17.0	-0.7
	comp=Z,6μmcomp=Z,658nm,1.3s							
NLAI	Namlea	16.61	276	P		Pn	00 58 32.1	+0.4
	comp=Z,7μmcomp=Z,393nm,1.7s							
LBMI	Labuha	16.72	285	P		Pn	00 58 33.2	+0.1
	comp=Z,10μmcomp=Z,617nm,1.7s							
HNR	Honiara	16.73	106	P		Pn	00 58 33.5	+0.4
	comp=Z,46nm,0.3s,baz=194,slow=1.0,SNR=14							
HNR				S		S	01 01 41.6	-1.4
	comp=Z,11nm,0.3s,baz=173,slow=19,SNR=2.2							
HNR	Honiara	16.73	106	Pn		Pn	00 58 34.1	+0.9
HNR				S		S	01 01 41.6	-1.4
HNR	Honiara	16.73	106	P		Pn	00 58 34.1	+1.0
HNR				S		S	01 01 41.7	-1.3
TNTI	Ternate	17.27	289	P		Pn	00 58 40.5	+0.7
	comp=Z,6μmcomp=Z,298nm,2.2s							
WRAB	Tennant Creek	17.34	211	*e*P		Pn	00 58 39.5	-1.1
	comp=Z,296nm,1.1s							
WRAB	Tennant Creek	17.34	211	*e*P		Pn	00 58 39.5	-1.0
WRAB				pmax	pmax			
	comp=Z,297nm,1.1s							
WRAB	Tennant Creek	17.34	211	P		Pn	00 58 39.0	-1.5
	comp=Z,1μm,1.0s							
WRAB	Tennant Creek	17.34	211	P		Pn	00 58 39.3	-1.2
	comp=Z,6μmcomp=Z,431nm,1.2s							
WB2	Warramunga Arr	17.35	211	*e*P		Pn	00 58 39.7	-0.9
WB2				*e*S		S	01 01 48.9	-5.3
WRA	Warramunga Arr	17.35	211	P		Pn	00 58 39.8	-0.8
	comp=Z,3.3nm,0.3s,baz=34,slow=13,SNR=97							
WRA				S		S	01 01 45.1	-9.2
	comp=Z,1.3nm,0.3s,baz=30,slow=23,SNR=8.7							
WRA	Warramunga Arr	17.35	211	P		Pn	00 58 39.8	-0.8
WRA				S		S	01 01 45.1	-9.2
WRA	Warramunga Arr	17.35	211	P		Pn	00 58 39.8	-0.9
WRA				S		S	01 01 45.2	-9.2
GUMO	Guam	18.57	4	P		P	00 58 54.3	+0.5
	comp=Z,11nm,0.3s,baz=180,slow=11,SNR=9.6							
GUMO	Guam	18.57	4	*e*P		P	00 58 54.5	+0.7
	comp=Z,241nm,1.0s							
GUMO	Guam	18.57	4	*e*P		P	00 58 54.5	+0.7
GUMO				pmax	pmax			
	comp=Z,241nm,1.0s							
ASAR	Alice Springs	20.75	206	P		P	00 59 17.1	-0.4
	comp=Z,55nm,0.7s,baz=33,slow=9.9,SNR=233							
ASAR				S		S	01 02 59.9	-3.4
	comp=Z,11nm,0.8s,baz=14,slow=16,SNR=4.2							
ASAR	Alice Springs	20.75	206	P		P	00 59 17.1	-0.4
ASAR				S		S	01 02 59.9	-3.4
ASAR	Alice Springs	20.75	206	P		P	00 59 17.1	-0.3
ASAR				S		S	01 02 59.9	-3.4
BBSI	Bau Bau	21.00	268	P		P	00 59 20.5	+0.2
	comp=Z,3μmcomp=Z,255nm,1.2s,mb5.4							
KDI	Kendari	21.00	272	P		P	00 59 19.3	-1.0
	comp=Z,2μmcomp=Z,129nm,1.3s,mb5.1							
LUWI	Luwuk	21.23	280	P		P	00 59 22.9	+0.2
	comp=Z,9μmcomp=Z,832nm,1.4s,mb5.9							
EIDS	Eidsvold	21.41	161	*e*P		P	00 59 26.2	+1.8
	comp=Z,478nm,0.7s,mb5.9							
DAV	Davao City (W)	21.70	304	*e*P		P	00 59 27.4	-0.3
FITZ	Fitzroy Crossi	21.87	232	P		P	00 59 27.6	-1.8
	comp=Z,24nm,0.4s,mb4.9,baz=56,slow=11,SNR=43							
FITZ				S		S	01 03 20.8	-4.2
	comp=Z,23nm,1.0s,baz=122,slow=16,SNR=2.1							
MSSI	Masamba	23.41	275	P		P	00 59 46.5	+1.7
	comp=Z,423nm,1.2s,mb5.6							
BKSI	Bulukumba	23.44	268	P		P	00 59 44.6	-0.5
	comp=Z,3μmcomp=Z,207nm,1.1s,mb5.4							
WSI	Waingapu	23.61	257	P		P	00 59 46.2	-0.4
	comp=Z,1μm,1.0s,mb6.2							
MJSI	Majene	24.65	272	P		P	00 59 57.3	+1.2
	comp=Z,3μmcomp=Z,157nm,1.1s,mb5.4							
BMNI	Bima	25.03	261	P		P	00 59 56.5	-3.0
	comp=Z,2μmcomp=Z,163nm,0.8s,mb5.5							
ARMA	Armidale	26.32	164	*e*P		P	01 00 11.8	+0.8
	comp=Z,254nm,1.6s,mb5.4							
RCP	Roxas	26.56	309	⇓*e*P		sP	01 00 41.9	-6.9
STKA	Stephens Creek	26.75	184	P		P	01 00 14.8	0.0
	comp=Z,15nm,0.7s,mb4.7,baz=346,slow=9.1,SNR=16							
STKA				LR		LR	01 12 08.8	
	comp=Z,1μm,20.4s,baz=145,slow=39							
STKA	Stephens Creek	26.75	184	*e*P		P	01 00 15.2	+0.4
	comp=Z,8.7nm,1.0s,mb4.2							
STKA	Stephens Creek	26.75	184	*e*P		P	01 00 15.2	+0.4
STKA				pmax	pmax			
	comp=Z,9.0nm,1.0s							
MYLDM	Lahad Datu	27.11	292	P		P	01 00 20.6	+2.3
	comp=Z,2μmcomp=Z,70nm,1.2s,mb5.0							
MTNI	Mataram	27.52	261	P		P	01 00 21.3	-0.6
	comp=Z,154nm,0.9s,mb5.5

SSE	**Sheshan**	**41.87**	**331**	P	**P**	**01 02 25.0**	**+0.1**
SSE				PcP	PcP	01 04 20.6	+1.7
SSE				S	**S**	**01 08 35.8**	**+0.6**
SSE				pmax	pmax		
	comp=Z,94nm,1.0s,mb5.5						
SSE				pmax	pmax		
	comp=Z,180nm,6.0s						
SSE				LR	LR		
	comp=N,190nm,29.0s						
SSE				LR	LR		
	comp=E,350nm,28.9s						
SSE				LR	LR		
	comp=Z,280nm,37.0s						
IPM	**Ipoh**	**43.63**	**282**	*e*P	**P**	**01 02 38.9**	**-0.5**
	comp=Z,58nm,1.2s,mb5.2						
NJ2	**Nanjing**	**43.81**	**329**	*e*P	**P**	**01 02 41.8**	**+1.2**
NJ2				pP	pP	01 03 07.3	+2.2
NJ2				sP	sP	01 03 20.6	+3.6
NJ2				S	**S**	**01 09 01.5**	**-2.1**
NJ2				sS	sS	01 09 45.5	-0.4
NJ2				pmax	pmax		
	comp=Z,50nm,0.9s,mb5.2						
NJ2				pmax	pmax		
	comp=Z,380nm,3.9s						
NJ2				LR	LR		
	comp=N,290nm,10.2s						
NJ2				LR	LR		
	comp=E,290nm,17.0s						
NJ2				LR	LR		
	comp=Z,350nm,14.3s						
KULM	**Kulim**	**44.16**	**283**	*e*P	**P**	**01 02 42.8**	**-0.9**
	comp=Z,16nm,0.9s,mb4.7						
KSRS	**Korea Array**	**44.77**	**342**	P	**P**	**01 02 47.5**	**-0.6**
	comp=Z,33nm,0.9s,mb5.0,baz=160,slow=9.2,SNR=44						
KSRS				LR	LR	01 18 42.3	
	comp=Z,222nm,21.0s,baz=173,slow=32						
WHN	**Wuhan**	**45.16**	**323**	⇑P	**P**	**01 02 52.8**	**+1.5**
WHN				pP	pP	01 03 19.9	+3.9
WHN				S	**S**	**01 09 25.9**	**+2.7**
WHN				pmax	pmax		
	comp=Z,230nm,1.8s,mb5.6						
RPZ	**Rata Peaks**	**45.44**	**152**	P	**P**	**01 02 59.9**	**+6.5**
	comp=Z,18nm,0.8s,mb4.8,baz=238,slow=16,SNR=4.6						
RPZ	**Rata Peaks**	**45.44**	**152**	P	**P**	**01 02 53.9**	**+0.5**
GYA	**Guiyang**	**47.59**	**313**	⇑*i*P	**P**	**01 03 12.3**	**+1.9**
GYA				pP	pP	01 03 40.0	+4.7
GYA				sP	sP	01 03 52.3	+5.2
GYA				PcP	PcP	01 04 40.6	+1.9
GYA				ScP	ScP	01 08 22.3	-1.1
GYA				PcS	PcS	01 08 35.8	+1.4
GYA				S	**S**	**01 09 58.4**	**+0.3**
GYA				sS	sS	01 10 45.6	+4.8
GYA				SS	SS	01 13 23.9	-3.8
GYA				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.1						
GYA				pmax	pmax		
	comp=Z,140nm,5.0s						
GYA				LR	LR		
	comp=N,560nm,18.2s						
GYA				LR	LR		
	comp=E,670nm,19.9s						
GYA				LR	LR		
	comp=Z,580nm,18.7s						
NST	**Nakhon Sawan**	**47.76**	**296**	P	**P**	**01 03 12.1**	**+0.2**
ENH	**Enshi**	**48.01**	**319**	*e*P	**P**	**01 03 13.6**	**+0.1**
	comp=Z,35nm,1.5s,mb5.0						
CHRT	**Chiangrai**	**49.74**	**301**	⇓P	**P**	**01 03 27.0**	**0.0**
	comp=Z,184nm,0.9s,mb6.0						
KMI	**Kunming**	**49.81**	**309**	P	**P**	**01 03 29.6**	**+2.2**
KMI				pP	pP	01 03 59.1	+6.6
KMI				S	**S**	**01 10 31.3**	**+2.0**
KMI				sS	sS	01 11 23.6	+11
KMI				pmax	pmax		
	comp=Z,38nm,1.2s,mb5.2						
KMI				LR	LR		
	comp=N,260nm,16.9s						
KMI				LR	LR		
	comp=E,260nm,13.3s						
KMI				LR	LR		
	comp=Z,260nm,30.2s						
CM31	**Chiang Mai Arr**	**49.88**	**299**	*e*P	**P**	**01 03 26.2**	**-1.9**
	comp=Z,4.3nm,0.4s,mb4.7						
CMAR	**Chiang Mai Arr**	**49.88**	**299**	P	**P**	**01 03 28.9**	**+0.8**
	comp=Z,17nm,0.6s,mb5.2,baz=124,slow=6.0,SNR=82						
CMAR	**Chiang Mai Arr**	**49.88**	**299**	P	**P**	**01 03 28.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**49.88**	**299**	P	**P**	**01 03 28.9**	**+0.8**
CHG	**Chiang Mai**	**50.03**	**300**	⇑P	**P**	**01 03 29.8**	**+0.6**
	comp=Z,32nm,1.0s,mb5.2						
CHTO	**Chiang Mai**	**50.03**	**300**	*e*P	**P**	**01 03 28.5**	**-0.6**
	comp=Z,18nm,0.8s,mb5.1						
CHTO	**Chiang Mai**	**50.03**	**300**	*e*P	**P**	**01 03 28.5**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.0						
XAN	**Xi'an**	**50.88**	**322**	P	**P**	**01 03 35.0**	**-0.3**
XAN				pP	pP	01 04 04.4	+3.9
XAN				sP	sP	01 04 18.0	+5.8
XAN				S	**S**	**01 10 39.6**	**-4.2**
XAN				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.5						
XAN				pmax	pmax		
	comp=Z,26nm,5.2s						
XAN				LR	LR		
	comp=N,150nm,21.3s						
XAN				LR	LR		
	comp=Z,64nm,24.6s						
MDJ	**Mudanjiang**	**51.04**	**347**	P	**P**	**01 03 35.4**	**-0.9**
MDJ				pP	pP	01 04 01.8	+0.3
MDJ				sP	sP	01 04 13.9	+0.7
MDJ				PcP	PcP	01 04 44.1	-6.7
MDJ				PP	PP	01 05 35.3	+1.3
MDJ				S	**S**	**01 10 48.9**	**+3.3**
MDJ				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.2						
MDJ				pmax	pmax		
	comp=Z,73nm,4.6s						
MDJ				LR	LR		
	comp=N,230nm,34.3s						
MDJ				LR	LR		
	comp=E,94nm,28.1s						
MDJ				LR	LR		
	comp=Z,270nm,32.8s						
CN2	**Changchun**	**51.34**	**343**	*e*P	**P**	**01 03 41.5**	**+2.9**
CN2				*e*pP	pP	01 04 10.0	+6.3
CN2				*e*S	**S**	**01 10 51.6**	**+1.8**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
BJT	**Baijiatuau**	**51.50**	**333**	*e*P	**P**	**01 03 39.8**	**-0.1**
	comp=Z,43nm,0.9s,mb5.5						
BJT	**Baijiatuau**	**51.50**	**333**	*e*P	**P**	**01 03 39.8**	**-0.1**
BJT				pmax	pmax		
	comp=Z,43nm,0.9s						
BJI	**Beijing**	**51.52**	**333**	P	**P**	**01 03 39.8**	**-0.2**
BJI				pP	pP	01 04 06.8	+1.7
BJI				sP	sP	01 04 20.1	+3.2
BJI				PP	PP	01 05 40.1	+1.7
BJI				S	**S**	**01 10 50.4**	**-2.0**
BJI				sS	sS	01 11 42.4	+6.8
BJI				pmax	pmax		
	comp=Z,52nm,1.2s,mb5.4						
BJI				LR	LR		
	comp=N,130nm,17.3s						
BJI				LR	LR		
	comp=E,390nm,17.0s						
BJI				LR	LR		
	comp=Z,200nm,23.6s						
CD2	**Chengdu**	**52.26**	**316**	P	**P**	**01 03 46.3**	**+0.6**
CD2				pP	pP	01 04 12.3	+1.4
CD2				sP	sP	01 04 25.0	+2.3
CD2				PP	PP	01 05 47.4	+2.1
CD2				S	**S**	**01 11 01.8**	**-1.1**
CD2				sS	sS	01 11 47.6	+1.3
CD2				SS	SS	01 14 39.5	-2.6
CD2				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
CD2				pmax	pmax		
	comp=Z,170nm,4.7s						
CD2				LR	LR		
	comp=N,290nm,8.9s						
CD2				LR	LR		
	comp=Z,240nm,12.5s						
HHC	**Hu-ho-hao-te**	**54.33**	**330**	⇓P	**P**	**01 04 01.0**	**+0.4**
HHC				pP	pP	01 04 28.3	+2.2
HHC				sP	sP	01 04 39.9	+2.1
HHC				PcP	PcP	01 05 02.8	-0.6
HHC				PP	PP	01 06 07.4	+3.6
HHC				PcS	PcS	01 09 01.3	-1.6
HHC				S	**S**	**01 11 29.9**	**-0.7**
HHC				sS	sS	01 12 16.4	+2.2
HHC				ScS	ScS	01 13 35.0	-4.7
HHC				SS	SS	01 15 13.0	-1.4
HHC				pmax	pmax		
	comp=Z,30nm,0.7s,mb5.4						
HHC				pmax	pmax		
	comp=Z,230nm,7.1s						
BTO	**Baotou**	**54.93**	**329**	*e*P	**P**	**01 04 04.8**	**-0.2**
KLR	**Kul'dur**	**55.05**	**350**	*e*P	**P**	**01 04 00.0**	**-5.7**
KLR				*e*		01 04 38.8	
KLR				pmax	pmax		
	comp=Z,110nm,1.8s,mb5.6						
LZH	**Lanzhou**	**55.36**	**321**	*e*P	**P**	**01 04 09.6**	**+1.4**
LZH				pP	pP	01 04 37.0	+3.3
LZH				sP	sP	01 04 53.1	+7.7
LZH				S	**S**	**01 11 45.0**	**+0.4**
LZH				sS	sS	01 12 32.0	+3.7
LZH				SS	SS	01 15 25.0	-5.8
LZH				pmax	pmax		
	comp=Z,54nm,1.2s,mb5.5						
LZH				pmax	pmax		
	comp=Z,140nm,4.5s						
RAR	**Rarotonga**	**57.07**	**112**	LR	LR	01 26 19.3	
	comp=Z,142nm,18.5s,baz=184,slow=33						
HIA	**Hailar**	**57.97**	**342**	*e*P	**P**	**01 04 26.0**	**-0.4**
	comp=Z,6.3nm,0.4s,mb5.0						
HIA	**Hailar**	**57.97**	**342**	*e*P	**P**	**01 04 26.0**	**-0.4**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.4s						
SHL	**Shillong**	**58.73**	**304**	*e*PKP	**P**	**01 04 32.5**	**+0.4**
SHL				*ex*	x	01 12 31.0	
PETK	**Petropavlovsk-**	**59.15**	**10**	P	**P**	**01 04 34.3**	**-0.2**
	comp=Z,20nm,0.8s,mb5.2,baz=167,slow=8.5,SNR=22						
PETK				LR	LR	01 27 26.7	
	comp=Z,86nm,18.6s,baz=188,slow=33						
PETK	**Petropavlovsk-**	**59.15**	**10**	P	**P**	**01 04 34.3**	**-0.2**
PETK				LR	LR	01 27 26.7	
PETK	**Petropavlovsk-**	**59.15**	**10**	P	**P**	**01 04 34.3**	**-0.2**
GTA	**Gaotai**	**59.92**	**322**	*e*P	**P**	**01 04 41.0**	**+0.9**
GTA				pP	pP	01 05 08.9	+3.0
GTA				sP	sP	01 05 20.4	+2.9
GTA				S	**S**	**01 12 44.3**	**+0.2**
GTA				sS	sS	01 13 31.3	+2.9
GTA				SS	SS	01 16 43.8	+1.4
GTA				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.9						
GTA				pmax	pmax		
	comp=Z,200nm,5.5s						
CAL	**Calcutta**	**60.62**	**299**	*e*PKP	**P**	**01 04 44.1**	**-1.1**
LSA	**Lhasa**	**61.03**	**308**	*e*P	**P**	**01 04 49.1**	**+1.3**
LSA	**Lhasa**	**61.03**	**308**	*e*P	**P**	**01 04 48.4**	**+0.6**
	comp=Z,18nm,0.9s,mb5.1						
LSA	**Lhasa**	**61.03**	**308**	*e*P	**P**	**01 04 48.4**	**+0.6**
LSA				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1						
ULN	**Ulaanbaatar**	**61.73**	**333**	*e*P	**P**	**01 04 50.9**	**-1.2**
	comp=Z,16nm,0.9s,mb5.0						
ULN	**Ulaanbaatar**	**61.73**	**333**	*e*P	**P**	**01 04 50.9**	**-1.2**
ULN				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
SONM	**Songino Array**	**62.01**	**332**	P	**P**	**01 04 54.6**	**+0.6**
	comp=Z,4.4nm,0.8s,mb4.5,baz=161,slow=5.7,SNR=22						
SONM				LR	LR	01 29 07.8	
	comp=Z,207nm,21.4s,baz=144,slow=33						
SONM				PKP2bc		01 34 11.5	
	comp=Z,3.0nm,1.1s,baz=306,slow=1.7,SNR=11						
SONM	**Songino Array**	**62.01**	**332**	P	**P**	**01 04 54.6**	**+0.6**
SONM				LR	LR	01 29 07.8	
SONM				⇑*e*		01 34 11.5	
SONM	**Songino Array**	**62.01**	**332**	P	**P**	**01 04 54.6**	**+0.6**
TAPN	**Taplejung**	**62.87**	**304**	*e*P	**P**	**01 05 01.4**	**+1.2**
FX1	**Attu Island--F**	**62.89**	**20**	P	**P**	**01 05 00.1**	**+0.3**
	comp=Z,31nm,0.5s,mb5.5,baz=183,slow=1.9,SNR=15						
FX1	**Attu Island--F**	**62.89**	**20**	P	**P**	**01 05 00.1**	**+0.3**
FX1	**Attu Island--F**	**62.89**	**20**	P	**P**	**01 05 00.1**	**+0.3**
ODAN	**Odare**	**62.95**	**303**	*e*P	**P**	**01 05 02.0**	**+1.3**
RAMN	**Ramite**	**63.64**	**303**	*e*P	**P**	**01 05 06.8**	**+1.5**
GUN	**Gumba**	**64.58**	**304**	*e*P	**P**	**01 05 12.7**	**+1.3**
	comp=Z,168nm,1.1s,mb5.8						
PKI	**Pulchoki**	**64.85**	**303**	*e*P	**P**	**01 05 13.9**	**+0.7**
	comp=Z,62nm,1.1s,mb5.4						
KKN	**Kakani**	**65.03**	**304**	*e*P	**P**	**01 05 15.2**	**+0.8**
	comp=Z,79nm,0.9s,mb5.6						
DMN	**Daman**	**65.11**	**303**	*e*P	**P**	**01 05 15.9**	**+1.0**
	comp=Z,143nm,1.1s,mb5.7						
ZAK	**Zakamensk**	**65.26**	**333**	*e*P	**P**	**01 05 15.6**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.6						
CASY	**Casey**	**65.31**	**194**	*e*P	**P**	**01 05 15.1**	**-0.3**
	comp=Z,19nm,1.2s,mb4.8						
GKN	**Gorkha**	**65.64**	**304**	*e*P	**P**	**01 05 18.9**	**+0.6**
	comp=Z,74nm,0.8s,mb5.6						
TLY	**Talaya**	**66.02**	**334**	*e*P	**P**	**01 05 19.7**	**-0.5**
	comp=Z,16nm,1.2s,mb4.7						
TLY	**Talaya**	**66.02**	**334**	*e*P	**P**	**01 05 20.2**	**0.0**
TLY				*e*PS		01 13 59.8	
TLY				*e*		01 15 00.3	
TLY				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.6						
TLY				MLR	MLR		
	comp=Z,107nm,17.0s						
PPT	**Papeete**	**66.35**	**107**	*e*LQ		01 22 43.2	
	comp=Z,341nm,26.8s						
PPT				*e*LR	LR	01 25 34.3	
	comp=Z,199nm,26.5s						
KOLN	**Koldanda**	**66.42**	**303**	*e*P	**P**	**01 05 24.1**	**+0.8**
	comp=Z,40nm,0.7s,mb5.4						
DANN	**Dangsing**	**66.49**	**304**	*e*P	**P**	**01 05 24.3**	**+0.6**
	comp=Z,48nm,0.6s,mb5.5						
TBI	**Tubuai**	**66.80**	**113**	*e*LQ		01 22 52.9	
	comp=Z,454nm,34.0s						
TBI				*e*LR	LR	01 25 50.3	
	comp=Z,327nm,32.0s						
PYUN	**Piuthan**	**67.04**	**303**	*e*P	**P**	**01 05 27.8**	**+0.6**
YAK	**Yakutsk**	**67.76**	**353**	*e*P	**P**	**01 05 30.2**	**-0.8**
YAK	**Yakutsk**	**67.76**	**353**	*e*P	**P**	**01 05 29.1**	**-1.9**
YAK				pmax	pmax		
	comp=N,22nm,1.1s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,42nm,1.0s,mb5.2						
TRD	**Trivandrum**	**67.86**	**281**	*e*PKP	**P**	**01 05 32.3**	**-0.4**
HYB	**Hyderabad**	**68.02**	**291**	*i* P	**P**	**01 05 34.0**	**+0.4**
HYB				*e*		01 06 12.0	
SEY	**Seymchan**	**68.13**	**4**	⇑*i*P	**P**	**01 05 32.6**	**-0.7**
WMQ	**Urumqi**	**69.93**	**320**	P	**P**	**01 05 46.1**	**+1.2**
WMQ				pP	pP	01 06 13.8	+2.4
WMQ				sP	sP	01 06 26.3	+3.5
WMQ				pmax	pmax		
	comp=Z,38nm,0.8s,mb5.3						
WMQ				pmax	pmax		
	comp=Z,200nm,4.0s						
WMQ				LR	LR		
	comp=N,160nm,25.7s						
WMQ				LR	LR		
	comp=E,150nm,33.0s						
WMQ				LR	LR		
	comp=Z,63nm,23.3s						
AKL	**Akola**	**70.19**	**294**	*e*PKP	**P**	**01 05 47.0**	**0.0**
AKL				AMb	AMB	01 05 47.5	
	comp=Z,76nm,1.6s,mb5.3						
DGAR	**Diego Garcia**	**70.76**	**264**	*e*P	**P**	**01 05 49.9**	**-0.6**
DGAR	**Diego Garcia**	**70.76**	**264**	*e*P	**P**	**01 05 49.9**	**-0.7**
NDI	**New Delhi**	**72.06**	**302**	*e*PKP	**P**	**01 05 57.3**	**-0.8**
NDI				AMb	AMB	01 05 58.1	
	comp=Z,28nm,1.8s,mb4.8						
KAD	**Karad**	**72.08**	**290**	*e*PKP	**P**	**01 05 57.9**	**-0.5**
KAD				AMb	AMB	01 05 59.4	
	comp=Z,68nm,0.9s,mb5.5						
POO	**Poona**	**72.63**	**291**	*e*PKP	**P**	**01 06 01.2**	**-0.4**
POO				AMb	AMB	01 06 02.6	
	comp=Z,75nm,1.1s,mb5.4						
VNDA	**Vanda**	**73.06**	**176**	P	**P**	**01 06 03.7**	**+0.6**
	comp=Z,17nm,0.7s,mb5.0,baz=326,slow=6.4,SNR=97						
VNDA				LR	LR	01 37 44.6	
	comp=Z,179nm,19.4s,baz=346,slow=35						
VNDA	**Vanda**	**73.06**	**176**	P	**P**	**01 06 03.7**	**+0.6**
VNDA				LR	LR	01 37 44.6	
VNDA	**Vanda**	**73.06**	**176**	P	**P**	**01 06 03.7**	**+0.6**
SBA	**Scott Base**	**73.76**	**175**	*e*P	**P**	**01 06 08.8**	**+1.6**
	comp=Z,6.7nm,0.6s,mb4.5						
SBA	**Scott Base**	**73.76**	**175**	*e*P	**P**	**01 06 08.8**	**+1.6**
SBA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
BILL	**Bilibino**	**74.65**	**9**	*e*P	**P**	**01 06 12.2**	**-0.3**
	comp=Z,8.5nm,0.6s,mb4.7						
BILL	**Bilibino**	**74.65**	**9**	⇑*i*P	**P**	**01 06 12.0**	**-0.4**
BILL				*e*		01 06 24.6	
BILL				*e*		01 09 03.8	
BILL				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.6						
MK31	**Makanchi Array**	**74.67**	**321**	*e*P	**P**	**01 06 13.4**	**+0.4**
MK31	**Makanchi Array**	**74.67**	**321**	*i* P	**P**	**01 06 13.6**	**+0.6**
MK31				pmax	pmax		
	comp=Z,24nm,0.9s,mb4.9						
MKAR	**Makanchi Array**	**74.67**	**321**	P	**P**	**01 06 13.5**	**+0.5**
	comp=Z,22nm,0.9s,mb4.9,baz=110,slow=7.0,SNR=64						
MKAR				S	S	01 15 41.0	+0.4
	comp=Z,3.9nm,1.1s,baz=123,slow=8.6,SNR=8.8						
MKAR				LR	LR	01 36 41.0	
	comp=Z,75nm,20.2s,baz=351,slow=34						
MKAR	**Makanchi Array**	**74.67**	**321**	P	**P**	**01 06 13.5**	**+0.5**
MKAR				S	S	01 15 41.0	+0.4
MKAR				LR	LR	01 36 41.0	
MKAR	**Makanchi Array**	**74.67**	**321**	P	**P**	**01 06 13.5**	**+0.5**
MKAR				S	S	01 15 41.0	+0.4
TAOE	**Nuku Hiva Isla**	**75.62**	**98**	*e*LR	LR	01 29 59.0	
	comp=Z,292nm,25.8s						
KSH	**Kashi**	**76.29**	**313**	P	**P**	**01 06 24.0**	**+1.6**
KSH				PcP	PcP	01 06 35.9	+2.0
KSH				pP	pP	01 06 52.3	+3.0
KSH				sP	sP	01 07 04.4	+3.7
KSH				PP	PP	01 09 18.4	+3.1
KSH				S	S	01 15 55.3	-3.4
KSH				SKS		01 16 19.5	
KSH				ScS	ScS	01 16 25.5	-3.0
KSH				SS	SS	01 20 56.3	+1.2
KSH				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
KSH				pmax	pmax		
	comp=Z,160nm,5.2s						
KSH				LR	LR		
	comp=N,160nm,6.6s						
KSH				LR	LR		
	comp=E,95nm,6.3s						
KSH				LR	LR		
	comp=Z,200nm,6.6s						
ZAA0	**Zalesovo Array**	**76.47**	**329**	*e*P	**P**	**01 06 22.2**	**-0.9**
ZALV	**Zalesovo Beam**	**76.47**	**329**	P	**P**	**01 06 22.4**	**-0.7**
	comp=Z,17nm,0.8s,mb4.9,baz=110,slow=5.5,SNR=87						
ZALV				S	S	01 15 58.0	-2.0
	comp=Z,0.5nm,0.3s,baz=90,slow=13,SNR=3.9						
ZALV				LR	LR	01 38 50.8	
	comp=Z,61nm,18.1s,baz=82,slow=35						
ZALV	**Zalesovo Beam**	**76.47**	**329**	P	**P**	**01 06 22.4**	**-0.7**
ZALV				S	S	01 15 58.0	-2.0
ZALV				LR	LR	01 38 50.8	
ZALV	**Zalesovo Beam**	**76.47**	**329**	P	**P**	**01 06 22.4**	**-0.7**
ZALV				S	S	01 15 58.1	-2.0
KZA	**Kyzart**	**77.62**	**315**	P	**P**	**01 06 31.4**	**+1.6**
	SNR=17						
TKM2	**Tokmak 2**	**77.65**	**316**	P	**P**	**01 06 31.1**	**+1.1**
	SNR=12						
TKM2	**Tokmak 2**	**77.65**	**316**	*e*P	**P**	**01 06 30.0**	**0.0**
	comp=Z,10nm,0.8s,mb4.6						
TKM2	**Tokmak 2**	**77.65**	**316**	P	**P**	**01 06 30.8**	**+0.8**
TKM2				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.7						
NVS	**Novosibirsk**	**77.71**	**329**	⇓*i*P	**P**	**01 06 29.5**	**-0.5**
NVS				*e**PP	pP	01 06 58.7	+1.7
NVS				*e*S	S	01 16 10.7	-2.8
NVS				pmax	pmax		
	comp=Z,44nm,1.2s,mb5.1						
NVS				pmax	pmax		
	comp=N,9.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,20nm,1.2s						
NVS				pmax	pmax		
	comp=N,6.0nm,1.7s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.7s						
NVS				pmax	pmax		
	comp=Z,12nm,1.7s,mb4.3						
NVS				smax			
	comp=N,31nm,1.5s						
NVS				smax			
	comp=E,8.0nm,2.4s						
KBK	**Karagaybulak**	**78.02**	**315**	P	**P**	**01 06 33.1**	**+1.1**
	SNR=6.4						
CHMS	**Chumysh**	**78.26**	**316**	P	**P**	**01 06 33.8**	**+0.4**
	SNR=12						
FRU	**Bishkek**	**78.30**	**315**	*e*P	**P**	**01 06 28.0**	**-5.6**
AAK	**Ala-Archa**	**78.33**	**315**	P	**P**	**01 06 34.8**	**+1.0**
	SNR=7.3						
AAK	**Ala-Archa**	**78.33**	**315**	*i* P	**P**	**01 06 34.7**	**+1.0**
AAK	**Ala-Archa**	**78.33**	**315**	P	**P**	**01 06 34.3**	**+0.6**
	comp=E,59nm,0.9s,mb5.3,SNR=6.1						
KURK	**Kurchatov**	**78.49**	**324**	PKKPbc	PKKPbc	01 25 30.4	-2.4
	comp=E,0.1nm,0.2s,baz=272,slow=2.4,SNR=4.1						
KURK	**Kurchatov**	**78.49**	**324**	*e*P	**P**	**01 06 34.5**	**+0.1**
	comp=E,38nm,1.4s,mb4.9						
KURK	**Kurchatov**	**78.49**	**324**	*e*P	**P**	**01 06 34.5**	**+0.1**
KURK				pmax	pmax		
	comp=Z,38nm,1.4s,mb4.9						
KURK	**Kurchatov**	**78.49**	**324**	P	**P**	**01 06 34.6**	**+0.2**
	comp=Z,93nm,1.0s,mb5.5,SNR=13						
USP	**Ospenovka**	**78.52**	**316**	P	**P**	**01 06 35.1**	**+0.4**
	SNR=16						
AML	**Almayashu**	**78.74**	**315**	P	**P**	**01 06 37.5**	**+1.5**
	SNR=12						
EKS2	**Erkin-Say**	**78.84**	**315**	P	**P**	**01 06 37.4**	**+0.9**
	SNR=9.5						
EKS2	**Erkin-Say**	**78.84**	**315**	*e*P	**P**	**01 06 36.0**	**-0.5**
	comp=Z,14nm,1.0s,mb4.8						
EKS2	**Erkin-Say**	**78.84**	**315**	*e*P	**P**	**01 06 36.0**	**-0.5**
EKS2				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
KBL	**Kabul**	**80.29**	**306**	*e*P	**P**	**01 06 43.8**	**-0.8**
	comp=Z,16nm,1.1s,mb4.8						
KBL	**Kabul**	**80.29**	**306**	*e*P	**P**	**01 06 43.8**	**-0.8**
KBL				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.8						
KDAK	**Kodiak Island**	**80.68**	**29**	P	**P**	**01 06 45.5**	**-0.6**
	comp=Z,23nm,0.9s,mb5.0,baz=268,slow=7.4,SNR=5.3						
KDAK	**Kodiak Island**	**80.68**	**29**	P	**P**	**01 06 45.5**	**-0.6**
KDAK	**Kodiak Island**	**80.68**	**29**	*i* P	**P**	**01 06 46.5**	**+0.4**
KK31	**Karatay Array**	**81.27**	**315**	P	**P**	**01 06 49.9**	**+0.3**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.3						
KKAR	**Karatay Array**	**81.27**	**315**	*e*P	**P**	**01 06 49.4**	**-0.2**
	comp=Z,7.9nm,0.8s,mb4.6						
KKAR	**Karatay Array**	**81.27**	**315**	*e*P	**P**	**01 06 49.4**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
MAW	**Mawson**	**81.83**	**202**	P	**P**	**01 06 52.6**	**+0.4**
	comp=Z,11nm,0.8s,mb4.8,baz=76,slow=6.5,SNR=6.0						
MAW				LR	LR	01 43 08.8	
	comp=Z,139nm,18.4s,baz=339,slow=36						
MAW	**Mawson

BRVK	**Borovoye**	**84.14**	**324**	*P*		**P**		**01 07 04.9**	**+0.7**
	comp=Z,164nm,0.9s,mb5.9,SNR=17								
SML	**Sawmill**	**84.26**	**26**	*eP*		**P**		**01 07 04.2**	**-0.5**
	comp=Z,15nm,1.2s,mb4.7								
SML	**Sawmill**	**84.26**	**26**	*eP*		**P**		**01 07 04.2**	**-0.4**
SML					pmax	pmax			
	comp=Z,15nm,1.2s,mb4.7								
MCK	**McKinley**	**84.73**	**24**	*eP*		**P**		**01 07 06.0**	**-1.0**
	comp=Z,22nm,0.8s,mb5.1								
MCK	**McKinley**	**84.73**	**24**	*eP*		**P**		**01 07 06.0**	**-1.0**
MCK					pmax	pmax			
	comp=Z,22nm,0.8s,mb5.1								
QSPA	**South Pole Qui**	**84.90**	**180**	LR		LR		01 44 02.5	
	comp=Z,290nm,20.6s,baz=166,slow=35								
QSPA	**South Pole Qui**	**84.90**	**180**	*eP*		**P**		**01 07 08.1**	**+0.5**
	comp=Z,93nm,0.8s,mb5.8								
QSPA					*e*pP	pP		01 07 37.4	+2.4
DIV	**Divide**	**85.17**	**27**	*eP*		**P**		**01 07 09.4**	**+0.2**
	comp=Z,24nm,0.7s,mb5.2								
DIV					*e*pP	pP		01 07 39.0	+2.4
COLA	**College**	**85.60**	**23**	*eP*		**P**		**01 07 09.9**	**-1.4**
COLA	**College**	**85.60**	**23**	*eP*		**P**		**01 07 09.9**	**-1.4**
ILAR	**Eielson Array**	**85.95**	**24**	P		P		**01 07 11.2**	**-1.8**
	comp=Z,13nm,0.7s,mb5.0,baz=256,slow=5.0,SNR=113								
ILAR					PKKPbc	PKKPbc		01 25 13.4	-2.8
	comp=Z,0.6nm,0.8s,baz=282,slow=0.9,SNR=7.7								
ILAR	**Eielson Array**	**85.95**	**24**	P		P		**01 07 11.2**	**-1.8**
ILAR					PKKPbc	PKKPbc		01 25 13.4	-2.8
ILAR	**Eielson Array**	**85.95**	**24**	P		P		**01 07 11.2**	**-1.8**
RER	**Riviere de l'E**	**86.26**	**249**	*eP*		**P**		**01 07 15.3**	**-0.2**
	comp=Z,94nm,0.8s,mb5.8								
MENT	**Mentasta**	**86.67**	**26**	*eP*		**P**		**01 07 16.7**	**+0.1**
DOT	**Dot Lake**	**86.74**	**25**	*eP*		**P**		**01 07 16.3**	**-0.6**
	comp=Z,65nm,0.8s,mb5.6								
EGAK	**Eagle**	**88.28**	**24**	*eP*		**P**		**01 07 24.2**	**-0.1**
	comp=Z,12nm,0.9s,mb4.9								
DAWY	**Dawson**	**88.84**	**25**	*eP*		**P**		**01 07 26.9**	**-0.1**
AB31	**Akbulak array**	**89.70**	**319**	P		**P**		**01 07 30.0**	**-1.3**
AB31					pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.3								
ABKAR	**Akbulak array**	**89.70**	**319**	*eP*		**P**		**01 07 30.0**	**-1.2**
	comp=Z,3.2nm,0.6s,mb4.6								
ABKAR					*e*pP	pP		01 08 00.9	+2.0
AKTO	**Aktyubinsk**	**91.09**	**320**	P		**P**		**01 07 37.2**	**-0.5**
	comp=Z,1.1nm,0.7s,mb4.1,baz=70,slow=11,SNR=4.4								
AKTO	**Aktyubinsk**	**91.09**	**320**	P		**P**		**01 07 37.2**	**-0.5**
AKTO	**Aktyubinsk**	**91.09**	**320**	P		**P**		**01 07 37.2**	**-0.5**
INK	**Inuvik**	**92.01**	**22**	P		**P**		**01 07 41.0**	**-0.6**
	comp=Z,7.0nm,1.1s,mb4.8,baz=252,slow=8.2,SNR=12								
INK					PKKP	PKKPbc		01 24 58.1	-3.1
	comp=Z,2.5nm,0.9s,baz=41,slow=7.3,SNR=7.8								
INK	**Inuvik**	**92.01**	**22**	P		**P**		**01 07 41.0**	**-0.6**
INK					PKKP	PKKPbc		01 24 58.1	-3.1
INK	**Inuvik**	**92.01**	**22**	P		**P**		**01 07 41.0**	**-0.6**
INK								01 24 58.1	
NVAR	**Mina Array Bea**	**99.42**	**52**	P		Pdif		01 08 17.4	+1.8
	comp=Z,0.9nm,0.7s,baz=266,slow=5.7,SNR=6.7								
NVAR					PKKPbc	PKKPbc		01 24 41.0	+0.9
	comp=Z,0.5nm,0.5s,baz=118,slow=2.2,SNR=4.4								
NVAR	**Mina Array Bea**	**99.42**	**52**	P		Pdif		01 08 17.4	+1.8
NVAR					PKKPbc	PKKPbc		01 24 41.0	+0.9
YKA	**Yellowknife Ar**	**99.89**	**27**	LR		LR		01 52 26.7	
	comp=Z,10nm,18.4s,baz=275,slow=35								
SNAA	**Sanae**	**100.35**	**190**	*e*Pdif		Pdif		01 08 18.6	-1.1
	comp=Z,6.1nm,1.2s								
SNAA	**Sanae**	**100.35**	**190**	*eP*		Pdif		01 08 18.6	-1.2
SNAA					pmax	pmax			
	comp=Z,6.0nm,1.2s								
VNA2	**Neumayer--Watz**	**101.76**	**189**	*e*		Pdif		01 08 22.8	-3.2
	baz=134,slow=3.3								
VNA3	**Neumayer Olymp**	**101.83**	**189**	*e*		Pdif		01 08 22.7	-3.6
VNA1	**Neumayer--Stat**	**102.14**	**189**	*e*		Pdif		01 08 24.9	-2.8
PDAR	**Pinedale Array**	**105.73**	**47**	Pdiff		Pdif		01 08 45.1	+1.5
	comp=Z,0.8nm,1.0s,baz=262,slow=5.7,SNR=3.8								
PDAR	**Pinedale Array**	**105.73**	**47**	P		Pdif		01 08 45.1	+1.5
TXAR	**Lajitas Array**	**112.21**	**60**	PKiKP		PKiKP		01 13 09.7	+0.7
	comp=Z,0.5nm,0.9s,baz=207,slow=5.8,SNR=5.0								
TXAR	**Lajitas Array**	**112.21**	**60**	PKPdf		PKiKP		01 13 09.7	+0.7
TXAR	**Lajitas Array**	**112.21**	**60**	PKIKP		PKiKP		01 13 09.7	+0.7
LSZ	**Lusaka**	**112.99**	**251**	*e*PKiKP		PKiKP		01 13 11.6	+0.8
LSZ	**Lusaka**	**112.99**	**251**	*e*PKIKP		PKiKP		01 13 11.6	+0.8
PSZ	**Piszkesteto**	**115.93**	**322**	*e*PKPdf		PKPdf		01 13 15.0	-0.6
PSZ	**Piszkesteto**	**115.93**	**322**	*e*PKIKP		PKPdf		01 13 15.0	-0.5
KHC	**Kasperske Hory**	**119.17**	**325**	*e*PKPdf		PKPdf		01 13 19.5	-2.2
KHC					*ex*	x		01 13 38.0	
KHC					*es*PKP			01 14 05.0	
GERES	**GERESS Array B**	**119.24**	**325**	PKP		PKPdf		01 13 22.0	+0.2
	comp=Z,14nm,0.8s,baz=90,slow=2.7,SNR=8.1								
GERES	**GERESS Array B**	**119.24**	**325**	PKP		PKPdf		01 13 22.0	+0.2
GERES	**GERESS Array B**	**119.24**	**325**	PKIKP		PKPdf		01 13 22.0	+0.1
SOKA	**Soboth**	**119.45**	**322**⇓	*e*PKiKP		PKiKP		01 13 22.5	+0.1
	comp=Z,0.5nm,0.3s								
ABTA	**Abfaltersbach**	**120.95**	**323**⇑	*i*PKiKP		PKiKP		01 13 25.3	-0.1
WTTA	**Wattenberg**	**121.22**	**324**⇓	*i*PKiKP		PKiKP		01 13 26.1	+0.2
	comp=Z,3.6nm,0.7s								
MOTA	**Moosalm**	**121.49**	**324**⇑	*i*PKiKP		PKiKP		01 13 27.2	+0.8
	comp=Z,3.7nm,0.8s								
FETA	**Feichten**	**121.88**	**324**⇑	*i*PKiKP		PKiKP		01 13 27.0	-0.2
	comp=Z,3.6nm,1.0s								
AQU	**L'Aquila**	**122.41**	**318**	*e*PKPdf		PKPdf		01 13 28.3	+0.1
AQU	**L'Aquila**	**122.41**	**318**	*e*PKIKP		PKPdf		01 13 28.3	+0.1
CDF	**Champ du Feu**	**123.08**	**327**	*e*PKP1		PKPdf		01 13 28.1	-1.2
	comp=Z,3.9nm,0.8s								
EKA	**Eskdalemuir Ar**	**123.25**	**338**	PKP		PKPdf		01 13 29.1	-0.2
	comp=Z,1.9nm,0.7s,baz=14,slow=2.7,SNR=5.3								
EKA	**Eskdalemuir Ar**	**123.25**	**338**	PKP		PKPdf		01 13 29.1	-0.2
EKA	**Eskdalemuir Ar**	**123.25**	**338**	PKIKP		PKPdf		01 13 29.2	-0.2
HINF	**Hinteralfeld**	**123.66**	**326**	*e*PKP1		PKPdf		01 13 29.2	-1.2
	comp=Z,6.2nm,0.8s								
BAIF	**Baives**	**123.70**	**330**	*e*PKP1		PKPdf		01 13 28.8	-1.6
HAU	**Haudompre**	**123.82**	**327**	*e*PKP1		PKPdf		01 13 29.7	-1.0
	comp=Z,12nm,0.8s								
CABF	**La Chapelle**	**124.78**	**326**	*e*PKP1		PKPdf		01 13 32.8	+0.2
	comp=Z,23nm,1.0s								
LPG	**La Plagne**	**125.03**	**324**	*e*PKP1		PKPdf		01 13 32.7	-0.4
	comp=Z,8.7nm,0.9s								
LPL	**La Plagne**	**125.03**	**324**	*e*PKP1		PKPdf		01 13 32.6	-0.5
BNI	**Bardonecchia**	**125.31**	**324**	*e*PKPdf		PKPdf		01 13 33.8	+0.1
BNI	**Bardonecchia**	**125.31**	**324**	*e*PKIKP		PKPdf		01 13 33.8	+0.1
MBDF	**Montbardon**	**125.44**	**323**	*e*PKP1		PKPdf		01 13 32.9	-1.0
LOR	**Lormes**	**125.61**	**327**	*e*PKP1		PKPdf		01 13 33.4	-0.8
ORIF	**Oris-en-Rattie**	**125.86**	**324**	*e*PKP1		PKPdf		01 13 33.5	-1.2
SSF	**Saint Saulge**	**125.93**	**327**	*e*PKP1		PKPdf		01 13 34.2	-0.6
	comp=Z,6.7nm,0.8s								
SMF	**Signal de Mont**	**126.00**	**327**	*e*PKP1		PKPdf		01 13 34.9	0.0
AVF	**Avril sur Loir**	**126.18**	**327**	*e*PKP1		PKPdf		01 13 35.8	+0.5
VSL	**Villasalto**	**126.42**	**316**	*e*PKPdf		PKPdf		01 13 36.0	0.0
VIVF	**Saint-Julien-l**	**126.60**	**324**	*e*PKP1		PKPdf		01 13 35.4	-0.7
BGF	**Bois d'Agland**	**126.60**	**327**	*e*PKP1		PKPdf		01 13 35.5	-0.6
	comp=Z,10nm,0.8s								
FLN	**La Foliniere**	**126.86**	**331**	*e*PKP1		PKPdf		01 13 36.3	-0.2
	comp=Z,18nm,0.8s								
TCF	**Toulx Ste Croi**	**127.11**	**327**	*e*PKP1		PKPdf		01 13 36.4	-0.7
KEST	**Kesra**	**128.11**	**312**	PKP		PKPdf		01 13 40.7	+1.4
	comp=Z,2.4nm,0.8s,baz=303,slow=2.5,SNR=6.3								
KEST	**Kesra**	**128.11**	**312**	PKP		PKPdf		01 13 40.7	+1.4
RJF	**Les Rejaudoux**	**128.11**	**327**	*e*PKP1		PKPdf		01 13 37.6	-1.4
MFF	**Saint Martin d**	**128.15**	**329**	*e*PKP1		PKPdf		01 13 39.0	0.0
ROSF	**Rostrenen**	**128.48**	**332**	*e*PKP1		PKPdf		01 13 38.9	-0.7
	comp=Z,88nm,1.2s								
TORD	**Torodi Ar. Bea**	**141.64**	**285**	PKhKP		PKPpre		01 13 58.4	
	comp=Z,4.5nm,0.8s,baz=69,slow=3.3,SNR=16								
TORD					SKPbc	SKPbc		01 17 35.7	+2.8
	comp=Z,5.3nm,1.1s,baz=55,slow=2.5,SNR=4.5								
TORD	**Torodi Ar. Bea**	**141.64**	**285**	PKP		PKPpre		01 13 58.4	
TORD					SKPbc	SKPbc		01 17 35.7	+2.8
LPAZ	**La Paz**	**142.07**	**125**	PKhKP		PKPpre		01 14 02.8	
	comp=Z,4.0nm,0.7s,baz=201,slow=3.3,SNR=17								
LPAZ	**La Paz**	**142.07**	**125**	PKP		PKPpre		01 14 02.8	
LPAZ	**La Paz**	**142.07**	**125**	PKIKP		PKPpre		01 14 02.8	
SDV	**Santo Domingo**	**145.76**	**82**	*e*PKPdf		PKPdf		01 14 12.3	-0.1
CELP	**Cerrillos**	**147.75**	**64**	*e*PKPdf		PKPdf		01 14 15.2	-0.3
DBIC	**Dimbokro**	**148.64**	**274**	PKPbc		PKPbc		01 14 21.4	+0.4
	comp=Z,41nm,0.6s,baz=75,slow=2.4,SNR=77								
DBIC	**Dimbokro**	**148.64**	**274**	*e*PKPbc		PKPbc		01 14 21.0	0.0

*ISCJB **19** 01:02:22.8±0.5, 40.85N±0.03×31.06E±0.03, h5km±4km,*
Error ellipse: s-maj=5.0km s-min=4.2km az=148.4
*ISK **19** 01:02:22.5, 40.84N×31.09E, h7km, MD2.9*
*CSEM **19** 01:02:22.9±0.2, 40.84N×31.08E, h5km, MD2.7, Error*
ellipse: s-maj=4.1km s-min=3.5km az=139.0
*DDA **19** 01:02:23.4, 40.83N×30.91E, h14km±1km, Md2.7*

ISC 19 01:02:23.3±0.5, 40.85N±0.03×31.06E±0.04, h6km±4km, n51, σ0.72/68, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HENT	**Hendek**	**0.13**	**256**	*i* P	**Pg**	**01 02 25.9**	**-0.1**
HENT				*i* S	**Sg**	**01 02 27.8**	**0.0**
HENT	**Hendek**	**0.13**	**256**	*i* P	**Pg**	**01 02 25.9**	**-0.1**
HENT				*i* S	**Sg**	**01 02 27.8**	**+0.1**
MDU	**Mudurnu**	**0.41**	**163**	*e*PG	**Pg**	**01 02 30.4**	**-0.8**
MDU				*e*SG	**Sg**	**01 02 35.8**	**-0.7**
MDU	**Mudurnu**	**0.41**	**163**	*e*Pg	**Pg**	**01 02 30.4**	**-0.8**
MDU				*e*Sg	**Sg**	**01 02 35.8**	**-0.7**
KDZE	**Karadeniz Ereo**	**0.54**	**32**	*e*PG	**Pg**	**01 02 34.5**	**+0.7**
KDZE				*e*SG	**Sg**	**01 02 41.5**	**+0.7**
KDZE	**Karadeniz Ereo**	**0.54**	**32**	*e*Pg	**Pg**	**01 02 34.5**	**+0.7**
KDZE				*e*Sg	**Sg**	**01 02 41.5**	**+0.6**
GULT	**Gulveren**	**0.59**	**225**	*e*PG	**Pg**	**01 02 35.0**	**+0.3**
GULT				*e*SG	**Sg**	**01 02 42.8**	**+0.5**
GULT	**Gulveren**	**0.59**	**225**	*e*Pg	**Pg**	**01 02 35.0**	**+0.3**
GULT				*e*Sg	**Sg**	**01 02 42.8**	**+0.4**
GPA	**Golpazari**	**0.80**	**226**	*e*PG	**Pg**	**01 02 38.6**	**-0.1**
GPA				*e*SG	**Sg**	**01 02 50.6**	**+1.4**
GPA	**Golpazari**	**0.80**	**226**	*e*Pg	**Pg**	**01 02 38.6**	**-0.1**
GPA				*e*Sg	**Sg**	**01 02 50.6**	**+1.4**
HRT	**Hereke**	**1.06**	**269**	*e*PN	**Pg**	**01 02 43.3**	**-0.3**
BORA	**Eskisehir**	**1.08**	**206**	*i* P	**Pg**	**01 02 43.3**	**-0.7**
BORA	**Eskisehir**	**1.08**	**206**	*i* P	**Pg**	**01 02 43.3**	**-0.7**
ADVT	**Abdulvahap**	**1.09**	**248**	*e*PN	**Pg**	**01 02 44.4**	**+0.2**
ADVT	**Abdulvahap**	**1.09**	**248**	*e*Pn	**Pg**	**01 02 44.4**	**+0.2**
SILT	**Sile**	**1.11**	**286**	*e*PN	**Pg**	**01 02 44.1**	**-0.6**
CAVI	**Cavuskoy**	**1.13**	**235**	*e*PN	**Pg**	**01 02 44.9**	**-0.1**
CAVI	**Cavuskoy**	**1.13**	**235**	*e*Pn	**Pg**	**01 02 44.9**	**-0.2**
SAFT	**Safranbolu**	**1.29**	**72**	*e*PN	**Pn**	**01 02 46.8**	**-1.0**
SAFT	**Safranbolu**	**1.29**	**72**	*e*Pn	**Pn**	**01 02 46.8**	**-1.0**
YLV	**Yalova**	**1.31**	**258**	*e*PN	**Pn**	**01 02 48.3**	**+0.1**
YLV	**Yalova**	**1.31**	**258**	*e*Pn	**Pn**	**01 02 48.3**	**+0.2**
ESKT	**Eskisehir**	**1.34**	**187**	*e*PN	**Pn**	**01 02 48.4**	**-0.2**
ESKT	**Eskisehir**	**1.34**	**187**	*i* P	**Pn**	**01 02 48.1**	**-0.4**
ESKT				*i* S	**Sb**	**01 03 06.3**	**+0.1**
SEYT	**Eskypehyr**	**1.34**	**187**	*i* P	**Pn**	**01 02 48.1**	**-0.4**
SEYT				*i* S	**Sb**	**01 03 06.3**	**+0.1**
SVRH	**Sivrihisar-ESK**	**1.45**	**166**	*e*PN	**Pn**	**01 02 49.7**	**-0.3**
SVRH	**Sivrihisar-ESK**	**1.45**	**166**	*e*Pn	**Pn**	**01 02 49.7**	**-0.3**
ISK	**Istanbul-Kandi**	**1.53**	**279**	*e*PN	**Pn**	**01 02 50.7**	**-0.4**
ISK	**Istanbul-Kandi**	**1.53**	**279**	*e*Pn	**Pn**	**01 02 50.7**	**-0.4**
LOD	**Lodumlu**	**1.62**	**126**	*e*PN	**Pn**	**01 02 51.5**	**-0.8**
LOD	**Lodumlu**	**1.62**	**126**	*e*Pn	**Pn**	**01 02 51.5**	**-0.8**
ULDT	**Uludag**	**1.63**	**245**	*i* P	**Pn**	**01 02 51.0**	**-1.5**
ULDT				*i* S	**Sn**	**01 03 12.2**	**-1.5**
ULDT	**Uludag**	**1.63**	**245**	*i* P	**Pn**	**01 02 51.0**	**-1.5**
ULDT				*i* S	**Sn**	**01 03 12.2**	**-1.5**
ARMT	**Armutlu**	**1.70**	**261**	*e*PN	**Pn**	**01 02 53.4**	**0.0**
ARMT	**Armutlu**	**1.70**	**261**	*e*Pn	**Pn**	**01 02 53.4**	**0.0**
BGKT	**Bogazkoy**	**1.76**	**281**	*e*PN	**Pn**	**01 02 54.4**	**+0.2**
BGKT	**Bogazkoy**	**1.76**	**281**	*e*Pn	**Pn**	**01 02 54.4**	**+0.1**
ALT	**Altintas**	**1.94**	**202**	*e*PN	**Pn**	**01 02 56.5**	**-0.2**
ALT	**Altintas**	**1.94**	**202**	*e*Pn	**Pn**	**01 02 56.6**	**-0.1**
CTKS	**Kestanelik-??a**	**1.97**	**282**	*e*PN	**Pn**	**01 02 57.3**	**+0.2**
CTKS	**Kestanelik-??a**	**1.97**	**282**	*e*Pn	**Pn**	**01 02 57.3**	**+0.2**
BBAL	**Bala**	**2.05**	**129**	*i* P	**Pn**	**01 03 02.4**	**+4.1**
BBAL				*i* S	**Sn**	**01 03 25.7**	**+1.6**
KIZT	**Kizilcal**	**2.07**	**162**	*e*PN	**Pn**	**01 02 58.7**	**+0.1**
AFSR	**Af˙ar-Bala (A**	**2.09**	**132**	*e*PN	**Pn**	**01 02 58.4**	**-0.3**
AFSR	**Af˙ar-Bala (A**	**2.09**	**132**	*e*Pn	**Pn**	**01 02 58.4**	**-0.3**
GDZ	**Gediz**	**2.14**	**215**	*i* P	**Pn**	**01 03 00.9**	**+1.4**
GDZ				*i* S	**Sn**	**01 03 27.3**	**+1.0**
GDZ	**Gediz**	**2.14**	**215**	*i* P	**Pn**	**01 03 00.9**	**+1.4**
GDZ				*i* S	**Sn**	**01 03 27.3**	**+1.0**
KCTX	**Karacabey (Bur**	**2.14**	**255**	*e*PN	**Pn**	**01 02 60.0**	**+0.5**
KCTX	**Karacabey (Bur**	**2.14**	**255**	*e*Pn	**Pn**	**01 03 00.0**	**+0.5**
DST	**Dursunbey**	**2.25**	**237**	*e*PN	**Pn**	**01 03 01.6**	**+0.6**
DST	**Dursunbey**	**2.25**	**237**	*e*Pn	**Pn**	**01 03 01.6**	**+0.6**

*CSEM **19** 01:05:07.9, 45.66N×26.50E, h152km, MD3.6/2, After*
BUC
BUC 19 01:05:07.9±1.3, 45.66N×26.50E, h152km±11km, MD3.6/2, 36C-9D, Error ellipse: s-maj=8.9km s-min=7.7km az=325.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.22**	**29**⇑	*i* P	Pn	01 05 28.3	-0.1
PLOR	**Plostina**	**0.22**	**29**	*i* S	Sn	01 05 43.7	-0.3
PLOR	**Plostina**	**0.22**	**29**⇑	*i* P	Pn	01 05 28.3	-0.1
PLOR				*i* S	Sn	01 05 43.7	-0.3
PLOR	**Plostina**	**0.22**	**29**⇑	*i* P	Pn	01 05 28.3	-0.1
PLOR				*i* S	Sn	01 05 43.7	-0.3
VRI	**Vrincioaia**	**0.26**	**38**⇑	*i* P	Pn	01 05 28.6	+0.1
VRI	**Vrincioaia**	**0.26**	**38**	*i* S	Sn	01 05 43.6	-0.6
VRI	**Vrincioaia**	**0.26**	**38**⇑	*i* P	Pn	01 05 28.6	+0.1
VRI				*i* S	Sn	01 05 43.6	-0.6
VRI	**Vrincioaia**	**0.26**	**38**⇑	*i* P	Pn	01 05 28.6	+0.1
VRI				*i* S	Sn	01 05 43.6	-0.6
ODB	**Odobesti**	**0.41**	**74**⇑	*i* P	Pn	01 05 29.9	+0.9
ODB	**Odobesti**	**0.41**	**74**	*i* S	Sn	01 05 44.2	-0.8
ODB	**Odobesti**	**0.41**	**74**⇑	*i* P	Pn	01 05 29.9	+0.9
ODB				*i* S	Sn	01 05 44.2	-0.8
ODB	**Odobesti**	**0.41**	**74**⇑	*i* P	Pn	01 05 29.9	+0.9
ODB				*i* S	Sn	01 05 44.2	-0.8
MLR	**Muntele Rosu**	**0.42**	**246**⇑	*i* P	Pn	01 05 29.4	+0.4
MLR	**Muntele Rosu**	**0.42**	**246**	*i* S	Sn	01 05 45.7	+0.6
MLR	**Muntele Rosu**	**0.42**	**246**⇑	*i* P	Pn	01 05 29.4	+0.4
MLR				*i* S	Sn	01 05 45.7	+0.6
MLR	**Muntele Rosu**	**0.42**	**246**⇑	*i* P	Pn	01 05 29.4	+0.4
MLR				*i* S	Sn	01 05 45.7	+0.6
GRER		**0.44**	**130**	*i* S	Sn	01 05 43.9	-1.3
GRER		**0.44**	**130**	*i* S	Sn	01 05 43.9	-1.3
GRER		**0.44**	**130**	*i* S	Sn	01 05 43.9	-1.3
PETR		**0.52**	**83**⇑	*i* P	Pn	01 05 30.1	+0.6
PETR		**0.52**	**83**	*i* S	Sn	01 05 45.2	-0.7
PETR		**0.52**	**83**⇑	*i* P	Pn	01 05 30.1	+0.6
PETR				*i* S	Sn	01 05 45.2	-0.7
PETR		**0.52**	**83**⇑	*i* P	Pn	01 05 30.1	+0.6
PETR				*i* S	Sn	01 05 45.2	-0.7
GHRR		**0.75**	**58**⇑	*i* P	Pn	01 05 31.4	+0.5
GHRR		**0.75**	**58**	*i* S	Sn	01 05 48.5	+0.1
GHRR		**0.75**	**58**⇑	*i* P	Pn	01 05 31.4	+0.5
GHRR				*i* S	Sn	01 05 48.5	+0.1
GHRR		**0.75**	**58**⇑	*i* P	Pn	01 05 31.4	+0.5
GHRR				*i* S	Sn	01 05 48.5	+0.1
PGOR	**Pogoanele**	**0.83**	**155**	*i* S	Sn	01 05 49.4	+0.1
PGOR	**Pogoanele**	**0.83**	**155**	*i* S	Sn	01 05 49.4	+0.1
PGOR	**Pogoanele**	**0.83**	**155**	*i* S	Sn	01 05 49.4	+0.1
DOPR	**Dopca**	**0.83**	**292**⇑	*i* P	Pn	01 05 31.8	+0.4
DOPR	**Dopca**	**0.83**	**292**	*i* S	Sn	01 05 48.7	-0.7
DOPR	**Dopca**	**0.83**	**292**⇑	*i* P	Pn	01 05 31.8	+0.4
DOPR				*i* S	Sn	01 05 48.7	-0.7
DOPR	**Dopca**	**0.83**	**292**⇑	*i* P	Pn	01 05 31.8	+0.4
DOPR				*i* S	Sn	01 05 48.7	-0.7
TESR		**0.86**	**7**⇑	*i* P	Pn	01 05 31.6	0.0
TESR		**0.86**	**7**	*i* S	Sn	01 05 48.8	-1.0
TESR		**0.86**	**7**⇑	*i* P	Pn	01 05 31.6	0.0
TESR				*i* S	Sn	01 05 48.8	-1.0
TESR		**0.86**	**7**⇑	*i* P	Pn	01 05 31.6	0.0
TESR				*i* S	Sn	01 05 48.8	-1.0
SULR		**1.00**	**190**	*i* S	Sn	01 05 50.0	-1.7
SULR		**1.00**	**190**	*i* S	Sn	01 05 50.0	-1.7
SULR		**1.00**	**190**	*i* S	Sn	01 05 50.0	-1.7
VOIR		**1.04**	**258**⇑	*i* P	Pn	01 05 33.3	+0.2
VOIR		**1.04**	**258**	*i* S	Sn	01 05 52.5	+0.2
VOIR		**1.04**	**258**⇑	*i* P	Pn	01 05 33.3	+0.2
VOIR				*i* S	Sn	01 05 52.5	+0.2
VOIR		**1.04**	**258**⇑	*i* P	Pn	01 05 33.3	+0.2
VOIR				*i* S	Sn	01 05 52.5	+0.2
AMRR	**Amara**	**1.21**	**150**⇑	*i* P	Pn	01 05 35.1	+0.5
AMRR	**Amara**	**1.21**	**150**	*i* S	Sn	01 05 54.3	-0.7
AMRR	**Amara**	**1.21**	**150**⇑	*i* P	Pn	01 05 35.1	+0.5
AMRR				*i* S	Sn	01 05 54.3	-0.7
AMRR	**Amara**	**1.21**	**150**⇑	*i* P	Pn	01 05 35.1	+0.5
AMRR				*i* S	Sn	01 05 54.3	-0.7
CFR	**Carcaliu**	**1.25**	**112**⇑	*i* P	Pn	01 05 35.1	+0.1
CFR	**Carcaliu**	**1.25**	**112**	*i* S	Sn	01 05 54.2	-1.6
CFR	**Carcaliu**	**1.25**	**112**⇑	*i* P	Pn	01 05 35.1	+0.1
CFR				*i* S	Sn	01 05 54.2	-1.6
CFR	**Carcaliu**	**1.25**	**112**⇑	*i* P	Pn	01 05 35.1	+0.1
CFR				*i* S	Sn	01 05 54.2	-1.6
BUC1	**Bucharest**	**1.35**	**194**⇓	*i* P	Pn	01 05 36.6	+0.5
BUC1	**Bucharest**	**1.35**	**194**	*i* S	Sn	01 05 56.8	-0.8
BUC1	**Bucharest**	**1.35**	**194**⇓	*i* P	Pn	01 05 36.6	+0.5
BUC1				*i* S	Sn	01 05 56.8	-0.8
BUC1	**Bucharest**	**1.35**	**194**⇓	*i* P	Pn	01 05 36.6	+0.5
BUC1				*i* S	Sn	01 05 56.8	-0.8
LEOM	**Leova**	**1.47**	**56**⇑	*i* P	Pn	01 05 37.8	+0.7
LEOM	**Leova**	**1.47**	**56**	*i* S	Sn	01 05 59.1	-0.5
LEOM	**Leova**	**1.47**	**56**⇑	*i* P	Pn	01 05 37.8	+0.7
LEOM				*i* S	Sn	01 05 59.1	-0.5
LEOM	**Leova**	**1.47**	**56**⇑	*i* P	Pn	01 05 37.8	+0.7
LEOM				*i* S	Sn	01 05 59.1	-0.5
HUMR	**Humele**	**1.56**	**224**	*i* S	Sn	01 06 00.9	-0.5
HUMR	**Humele**	**1.56**	**224**	*i* S	Sn	01 06 00.9	-0.5
HUMR	**Humele**	**1.56**	**224**	*i* S	Sn	01 06 00.9	-0.5
TLCR		**1.70**	**105**⇓	*i* P	Pn	01 05 39.8	+0.1
TLCR		**1.70**	**105**	*i* S	Sn	01 06 03.

ETSF	**Etsaut**	**0.50**	**118**	Pg	Pg	01 16 26.3	-1.1
ETSF				Lg		01 16 33.5	
	1.3nm,0.2s						
ETSF	**Etsaut**	**0.50**	**118**	*e*Pg	Pg	01 16 26.3	-1.1
ETSF				*e*Sg	Sg	01 16 33.5	-0.7
	1.3nm,0.2s						
EBIE	**Bielsa**	**1.06**	**115**	Pg	Pg	01 16 37.5	-0.5
	1.5nm,0.9s,SNR=7.9						
EBIE				Lg		01 16 43.3	
	0.0nm,1.1s,SNR=7.9						
EBIE	**Bielsa**	**1.06**	**115**	Pg	Pg	01 16 37.5	-0.5
	1.5nm,0.9s,SNR=7.9						
EBIE				Lg		01 16 43.3	
	SNR=7.9						
EPF	**Esparros**	**1.11**	**95**	*e*Sg	Sg	01 16 51.6	-1.7
	0.6nm,0.2s						
EPF	**Esparros**	**1.11**	**95**	*e*Sg	Sg	01 16 51.6	-1.7
	0.3nm,0.2s						
LFF	**La Frestale**	**2.27**	**37**	*e*Pg	Pg	01 16 58.4	-2.5
LFF				*e*Sg	Sg	01 17 27.4	-2.9
	0.8nm,0.2s						
LFF	**La Frestale**	**2.27**	**37**	Pg	Pg	01 16 58.4	-2.5
LFF				Lg		01 17 27.4	
	0.4nm,0.2s						
LFF	**La Frestale**	**2.27**	**37**	*e*Pg	Pg	01 16 58.4	-2.5
LFF				*e*Sg	Sg	01 17 27.4	-2.9
	0.4nm,0.2s						

*LDG **19** 01:16:30.3±0.0,43°.05N×0°.04W,h10km,Md1.5/3,Ml1.2/2, Error ellipse: s-maj=1.3km s-min=0.6km az=176.0*
*STR **19** 01:16:30.6±0.0,43°.05N×0°.08W,h2km,Ml1.4,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

CSEM 19 01:16:29.5±0.1, 43°.06N×0°.03W, h18km±1km, ML0.8/4, Error ellipse: s-maj=5.0km s-min=1.7km az=177.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LABF	**Labassere**	**0.07**	**98**	Pg	Pg	01 16 33.0	+0.1
LABF				Sg	Sg	01 16 34.8	-0.4
LABF	**Labassere**	**0.07**	**98**	Pg	Pg	01 16 33.0	+0.1
LABF				Sg	Sg	01 16 34.8	-0.4
VIEF	**Viey**	**0.18**	**168**	Pg	Pg	01 16 34.3	+0.2
VIEF				Sg	Sg	01 16 37.0	-0.2
VIEF	**Viey**	**0.18**	**168**	Pg	Pg	01 16 34.3	+0.2
VIEF				Sg	Sg	01 16 37.0	-0.2
EPF	**Esparros**	**0.27**	**96**	*e*Pg	Pg	01 16 36.0	+0.5
EPF				*e*Sg	Sg	01 16 39.9	+0.3
	2.5nm,0.2s						
EPF	**Esparros**	**0.27**	**96**	Pg	Pg	01 16 36.0	+0.5
EPF	**Esparros**	**0.27**	**96**	*e*Pg	Pg	01 16 36.0	+0.5
EPF				*e*Sg	Sg	01 16 39.9	+0.3
	1.2nm,0.2s						
ETSF	**Etsaut**	**0.42**	**248**	*e*Pg	Pg	01 16 38.4	+0.3
ETSF				*e*Sg	Sg	01 16 44.0	+0.1
	1.6nm,0.2s						
ETSF	**Etsaut**	**0.42**	**248**	*e*Pg	Pg	01 16 38.4	+0.3
ETSF				*e*Sg	Sg	01 16 44.0	+0.1
	0.8nm,0.2s						
SJPF	**Ste Jean**	**0.88**	**274**	*e*Pg	Pg	01 16 46.7	+0.1
SJPF				*e*Sg	Sg	01 16 58.1	-0.1
	0.6nm,0.3s						
SJPF	**Ste Jean**	**0.88**	**274**	*e*Pg	Pg	01 16 46.7	+0.1
SJPF				*e*Sg	Sg	01 16 58.1	-0.1
	0.3nm,0.3s						
MTLF	**Montolieu**	**1.67**	**79**	*e*Pn	Pn	01 16 57.9	+0.1
MTLF				*e*Sn	Sn	01 17 18.0	-0.7
	0.4nm,0.2s						
MTLF	**Montolieu**	**1.67**	**79**	Pn	Pn	01 16 57.9	+0.1
MTLF				Sn	Sn	01 17 18.0	-0.7
	0.2nm,0.2s						
MTLF	**Montolieu**	**1.67**	**79**	*e*Pn	Pn	01 16 57.9	+0.1
MTLF				*e*Sn	Sn	01 17 18.0	-0.7
	0.2nm,0.2s						

*IDC **19** 01:16:45.3±1.2,18°.96N×145°.48E,h0km,mb3.7/8, mb1 3.9/8,mb1mx3.8/23,mbtmp3.7/8, Error ellipse: s-maj=43.1km s-min=19.5km az=86.0*
*ISCJB **19** 01:16:48.1±1.1,19°.0N±0°.1×145°.5E±0°.3,h33km,mb3.8/10, Error ellipse: s-maj=40.6km s-min=14.7km az=175.0*
*NEIC **19** 01:16:50.4±0.9,18°.96N×145°.46E,h35km,mb4.1/2,Error ellipse: s-maj=35.7km s-min=13.0km az=85.0*

ISC 19 01:16:50.5±1.0, 19°.0N±0°.1×145°.5E±0°.3, h35km, n18, σ0s79/18, mb3.8/10, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**40.15**	**196**	*e*P	**P**	**01 24 23.5**	**+0.2**
	1.6nm,0.4s,mb4.1						
WRA	**Warramunga Arr**	**40.17**	**196**	P	**P**	**01 24 23.8**	**+0.4**
	3.7nm,0.6s,mb4.3,baz=19,slow=9.2,SNR=85						
WRA	**Warramunga Arr**	**40.17**	**196**	P	**P**	**01 24 23.8**	**+0.4**
SONM	**Songino Array**	**42.80**	**321**	P	**P**	**01 24 46.4**	**+1.5**
	0.2nm,0.5s,mb3.1,baz=129,slow=11,SNR=2.7						
SONM	**Songino Array**	**42.80**	**321**	P	**P**	**01 24 46.4**	**+1.5**
ASAR	**Alice Springs**	**43.84**	**195**	P	**P**	**01 24 53.0**	**-0.3**
	0.3nm,0.4s,mb3.4,baz=13,slow=6.8,SNR=8.4						
ASAR	**Alice Springs**	**43.84**	**195**	P	**P**	**01 24 53.0**	**-0.3**
ZALV	**Zalesovo Beam**	**57.68**	**322**	P	**P**	**01 26 37.7**	**+0.4**
	0.4nm,0.4s,mb3.9,baz=111,slow=7.4,SNR=3.5						
ZALV	**Zalesovo Beam**	**57.68**	**322**	P	**P**	**01 26 37.7**	**+0.4**
MKAR	**Makanchi Array**	**58.12**	**314**	P	**P**	**01 26 41.0**	**+0.4**
	0.3nm,0.6s,mb3.5,baz=92,slow=9.0,SNR=4.0						
MKAR	**Makanchi Array**	**58.12**	**314**	P	**P**	**01 26 41.0**	**+0.4**
KURK	**Kurchatov**	**60.93**	**318**	P	**P**	**01 26 59.5**	**-0.4**
	0.6nm,0.5s,mb4.0,baz=93,slow=7.3,SNR=8.6						
KURK	**Kurchatov**	**60.93**	**318**	P	**P**	**01 26 59.5**	**-0.4**
ILAR	**Eielson Array**	**63.52**	**26**	P	**P**	**01 27 17.1**	**+0.2**
	1.0nm,1.2s,mb3.7,baz=257,slow=5.4,SNR=3.9						
ILAR	**Eielson Array**	**63.52**	**26**	P	**P**	**01 27 17.1**	**+0.2**
BVAR	**Borovoye Array**	**66.14**	**320**	P	**P**	**01 27 33.5**	**-0.7**
	0.9nm,0.4s,mb4.1,baz=88,slow=7.2,SNR=9.8						
BVAR	**Borovoye Array**	**66.14**	**320**	P	**P**	**01 27 33.5**	**-0.7**
ABKAR	**Akbulak array**	**73.00**	**317**	*e*P	**P**	**01 28 15.0**	**-1.7**
	1.0nm,0.4s,mb4.1						

*ISCJB **19** 01:22:59.3±0.5,40°.14N±0°.03×28°.31E±0°.04,h11km±5km, Error ellipse: s-maj=5.5km s-min=3.9km az=137.8*
*CSEM **19** 01:22:59.6±0.2,40°.15N×28°.30E,h12km,MD2.8,Error ellipse: s-maj=5.6km s-min=4.1km az=138.0*
*DDA **19** 01:22:59.0,40°.11N×28°.31E,h7km,4km,Md2.6*
*ISK **19** 01:22:59.3,40°.15N×28°.30E,h11km,MD2.8*

ISC 19 01:22:59.8±0.5, 40°.14N±0°.03×28°.31E±0°.04, h11km±5km, n30, σ0s80/50, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTX	**Karacabey (Bur**	**0.13**	**15**	*e*PG	**Pg**	**01 23 03.2**	**+0.2**
KCTX				*e*SG	**Sg**	**01 23 05.6**	**+0.4**
KCTX	**Karacabey (Bur**	**0.13**	**15**	*e*Pg	**Pg**	**01 23 03.2**	**+0.2**
KCTX				*e*Sg	**Sg**	**01 23 05.6**	**+0.4**
GONE	**Gonen-Balikesi**	**0.49**	**260**	*e*PG	**Pg**	**01 23 09.2**	**-0.2**
GONE				*e*SG	**Sg**	**01 23 16.0**	**+0.2**
GONE	**Gonen-Balikesi**	**0.49**	**260**	*e*Pg	**Pg**	**01 23 09.2**	**-0.1**
GONE				*e*Sg	**Sg**	**01 23 16.0**	**+0.2**
DST	**Dursunbey**	**0.58**	**156**	*e*PG	**Pg**	**01 23 11.9**	**+0.7**
DST				*e*SG	**Sg**	**01 23 20.1**	**+1.3**
DST	**Dursunbey**	**0.58**	**156**	*e*Pg	**Pg**	**01 23 11.9**	**+0.8**
DST				*e*Sg	**Sg**	**01 23 20.1**	**+1.3**
ARMT	**Armutlu**	**0.60**	**44**	*e*PG	**Pg**	**01 23 11.2**	**-0.3**
ARMT				*e*SG	**Sg**	**01 23 19.9**	**+0.5**
ARMT	**Armutlu**	**0.60**	**44**	*e*Pg	**Pg**	**01 23 11.2**	**-0.3**
ARMT				*e*Sg	**Sg**	**01 23 19.9**	**+0.5**
ULDT	**Uludag**	**0.63**	**89**	*i* P	**Pg**	**01 23 10.5**	**-1.6**
ULDT				*i* S	**Sg**	**01 23 20.0**	**-0.3**
ULDT	**Uludag**	**0.63**	**89**	*i* P	**Pg**	**01 23 10.5**	**-1.6**
ULDT				*i* S	**Sg**	**01 23 20.0**	**-0.4**
BALY	**Balya**	**0.66**	**234**	*i* P	**Pg**	**01 23 12.2**	**-0.4**
BALY				*i* S	**Sg**	**01 23 21.7**	**+0.3**
BALY	**Balya**	**0.66**	**234**	*i* P	**Pg**	**01 23 12.2**	**-0.4**
BALY				*i* S	**Sg**	**01 23 21.7**	**+0.4**
YLV	**Yalova**	**0.92**	**62**	*e*PG	**Pg**	**01 23 17.2**	**-0.3**
YLV				*e*SG	**Sg**	**01 23 30.4**	**+0.9**
YLV	**Yalova**	**0.92**	**62**	*e*Pg	**Pg**	**01 23 17.2**	**-0.3**
YLV				*e*Sg	**Sg**	**01 23 30.4**	**+0.9**
ISK	**Istanbul-Kandi**	**1.09**	**31**	*e*PN	**Pg**	**01 23 20.2**	**-0.6**
ISK	**Istanbul-Kandi**	**1.09**	**31**	*e*Pn	**Pg**	**01 23 20.2**	**-0.5**
BGKT	**Bogazkoy**	**1.10**	**18**	*e*PN	**Pg**	**01 23 20.4**	**-0.5**
BGKT	**Bogazkoy**	**1.10**	**18**	*e*Pn	**Pg**	**01 23 20.4**	**-0.6**
ADVT	**Abdulvahap**	**1.13**	**74**	*e*PN	**Pg**	**01 23 20.7**	**-0.8**
ADVT	**Abdulvahap**	**1.13**	**74**	*e*Pn	**Pg**	**01 23 20.7**	**-0.8**
DEMI	**Demirci**	**1.14**	**164**	*i* P	**Pg**	**01 23 21.2**	**-0.5**
DEMI				*i* S	**Sg**	**01 23 35.9**	**-0.6**
DEMI	**Demirci**	**1.14**	**164**	*i* P	**Pg**	**01 23 21.2**	**-0.4**
DEMI				*i* S	**Sg**	**01 23 35.8**	**-0.6**
GDZ	**Gediz**	**1.38**	**139**	*i* P	**Pn**	**01 23 23.9**	**-1.1**
GDZ				*i* S	**Sn**	**01 23 42.8**	**-0.5**
GDZ	**Gediz**	**1.38**	**139**	*i* P	**Pn**	**01 23 23.9**	**-1.1**
GDZ				*i* S	**Sn**	**01 23 42.8**	**-0.5**
GPA	**Golpazari**	**1.54**	**84**	*e*PN	**Pn**	**01 23 27.6**	**+0.4**
GPA	**Golpazari**	**1.54**	**84**	*e*Pn	**Pn**	**01 23 27.6**	**+0.4**
BORA	**Eskisehir**	**1.67**	**98**	*i* P	**Pn**	**01 23 31.3**	**+2.4**
BORA				*i* S	**Sn**	**01 23 54.3**	**+4.1**
BORA	**Eskisehir**	**1.67**	**98**	*i* P	**Pn**	**01 23 31.3**	**+2.4**
BORA				*i* S	**Sn**	**01 23 54.3**	**+4.0**
GULT	**Gulveren**	**1.71**	**79**	*e*PN	**Pn**	**01 23 30.0**	**+0.4**
GULT	**Gulveren**	**1.71**	**79**	*e*Pn	**Pn**	**01 23 30.0**	**+0.4**

*IDC **19** 01:31:25.1±2.2,19°.53S×169°.06E,h0km,mb3.8/5, mb1 4.1/5,mb1mx3.9/14,mbtmp3.8/5,Error ellipse: s-maj=114.4km s-min=26.9km az=155.0*
*LDG **19** 01:31:29.1±0.7,19°.12S×168°.34E,h10km,Error ellipse: s-maj=107.9km s-min=4.0km az=114.0*
*NOU **19** 01:31:29.4±1.0,19°.27S×168°.70E,h30km,MD3.1,ML3.9*
*ISCJB **19** 01:31:31.5±2.1,20°.0S±0°.2×169°.2E±0°.2,h70km±17km, mb3.7/6,Error ellipse: s-maj=30.9km s-min=18.8km az=136.8*
*NEIC **19** 01:31:32.4±3.2,20°.09S×169°.21E,h65km±28km,mb4.0/1, Error ellipse: s-maj=38.5km s-min=27.5km az=158.0*

ISC 19 01:31:32.3±2.2, 20°.1S±0°.2×169°.3E±0°.2, h67km±18km, n42, σ0s89/21, mb3.7/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.03**	**227**	*e*P	**Pn**	**01 32 18.8**	**+0.9**
BAYA				*e*S	**Sn**	**01 32 54.3**	**+1.3**
DZM	**Mont Dzumac**	**3.29**	**233**	*e*P	**Pn**	**01 32 20.5**	**-1.0**
DZM				*e*S	**Sn**	**01 32 59.7**	**+0.2**
DZM				AMP		01 33 02.4	
	comp=Z,812nm,3.4s						
DZM	**Mont Dzumac**	**3.29**	**233**	*e*Pn	**Pn**	**01 32 21.0**	**-0.5**
LASL	**Noumea**	**3.32**	**229**	*e*P	**Pn**	**01 32 21.4**	**-0.5**
NOUC	**Port Laguerre**	**3.42**	**233**	*e*P	**Pn**	**01 32 22.8**	**-0.3**
NOUC				*e*S	**Sn**	**01 33 01.5**	**-1.0**
WRA	**Warramunga Arr**	**32.78**	**264**	P	**P**	**01 37 59.0**	**-0.3**
	comp=Z,0.4nm,0.5s,mb3.5,baz=92,slow=8.6,SNR=15						
WRA	**Warramunga Arr**	**32.78**	**264**	P	**P**	**01 37 59.0**	**-0.3**
ASAR	**Alice Springs**	**32.95**	**257**	P	**P**	**01 38 01.4**	**+0.6**
	comp=Z,2.3nm,0.5s,mb4.2,baz=86,slow=8.9,SNR=40						
ASAR	**Alice Springs**	**32.95**	**257**	P	**P**	**01 38 01.4**	**+0.6**
SONM	**Songino Array**	**87.90**	**323**	P	**P**	**01 44 14.9**	**+0.5**
	comp=Z,0.5nm,0.8s,mb3.6,baz=120,slow=5.7,SNR=3.3						
SONM	**Songino Array**	**87.90**	**323**	P	**P**	**01 44 14.9**	**+0.5**
SNAA	**Sanae**	**88.33**	**182**	*e*P	**P**	**01 44 16.0**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.9						
VNA3	**Neumayer Olymp**	**88.92**	**180**	*e*	**P**	**01 44 18.3**	**-0.7**
VNA3				*e*	pP	01 44 32.5	-5.0
VNA2	**Neumayer--Watz**	**89.21**	**181**	*e*	**P**	**01 44 20.1**	**-0.2**
	baz=180,slow=4.9						
VNA2				*e*	pP	01 44 34.3	-4.6
NVAR	**Mina Array Bea**	**89.34**	**48**	P	**P**	**01 44 23.9**	**+2.5**
	comp=Z,0.2nm,0.5s,mb3.4,baz=221,slow=6.7,SNR=3.3						
NVAR	**Mina Array Bea**	**89.34**	**48**	P	**P**	**01 44 23.9**	**+2.5**
ILAR	**Eielson Array**	**91.02**	**17**	P	**P**	**01 44 27.4**	**-1.3**
	comp=Z,0.3nm,0.8s,mb3.5,baz=231,slow=5.5,SNR=4.7						
ILAR	**Eielson Array**	**91.02**	**17**	P	**P**	**01 44 27.4**	**-1.3**
ARCES	**ARCESS Array B**	**125.88**	**345**	PKP	PKPdf	01 50 26.6	+0.8
	comp=Z,4.3nm,0.9s,baz=40,slow=2.1,SNR=9.5						
ARCES	**ARCESS Array B**	**125.88**	**345**	PKP	PKPdf	01 50 26.6	+0.8
GERES	**GERESS Array B**	**145.24**	**331**	PKP	PKPdf	01 51 02.5	+0.4
	comp=Z,1.4nm,0.7s,baz=36,slow=4.8,SNR=8.7						
GERES	**GERESS Array B**	**145.24**	**331**	PKP	PKPdf	01 51 02.5	+0.4
GIVF	**Givet**	**147.59**	**341**	*e*PKP1	PKPbc	01 51 09.9	+1.1
BAIF	**Baives**	**147.81**	**342**	*e*PKP1	PKPbc	01 51 10.7	+1.3
CDF	**Champ du Feu**	**148.22**	**337**	*e*PKP1	PKPbc	01 51 11.7	+1.1
	comp=Z,5.7nm,0.8s						
PAGF	**Fort de Pagny**	**148.65**	**339**	*e*PKP1	PKPbc	01 51 13.1	+1.4
	comp=Z,2.0nm,0.6s						
HINF	**Hinteralfeld**	**148.87**	**337**	*e*PKP1	PKPbc	01 51 13.1	+0.8
HAU	**Haudompre**	**148.90**	**338**	*e*PKP1	PKPbc	01 51 13.4	+1.1
	comp=Z,5.3nm,0.6s						
MEZF	**Maizieres J'vi**	**148.92**	**339**	*e*PKP1	PKPbc	01 51 13.4	+1.0
	comp=Z,8.2nm,0.7s						
SFTF	**Sexfontaines**	**149.18**	**339**	*e*PKP1	PKPbc	01 51 14.4	+1.4
	comp=Z,6.0nm,0.5s						
CABF	**La Chapelle**	**150.17**	**336**	*e*PKP1	PKPbc	01 51 17.1	+1.6
	comp=Z,15nm,0.8s						
LDF	**La Druitiere**	**150.29**	**346**	*e*PKP1	PKPbc	01 51 17.0	+1.3
LOR	**Lormes**	**150.39**	**340**	*e*PKP1	PKPbc	01 51 17.1	+1.1
	comp=Z,4.2nm,0.5s						
SSF	**Saint Saulge**	**150.68**	**340**	*e*PKP1	PKPbc	01 51 18.0	+1.3
	comp=Z,3.7nm,0.6s						
LPL	**La Plagne**	**150.82**	**334**	*e*PKP1	PKPbc	01 51 18.8	+1.7
	comp=Z,6.3nm,0.7s						
LPG	**La Plagne**	**150.83**	**334**	*e*PKP1	PKPbc	01 51 19.0	+1.9
	comp=Z,8.7nm,0.8s						
BGF	**Bois d'Agland**	**151.34**	**340**	*e*PKP1	PKPbc	01 51 19.4	+1.1
MBDF	**Montbardon**	**151.44**	**333**	*e*PKP1	PKPbc	01 51 20.3	+1.7
	comp=Z,9.0nm,1.0s						
ORIF	**Oris-en-Rattie**	**151.65**	**335**	*e*PKP1	PKPbc	01 51 20.3	+1.2
	comp=Z,9.9nm,0.8s						
TCF	**Toulx Ste Croi**	**151.78**	**341**	*e*PKP1	PKPbc	01 51 20.3	+1.0
	comp=Z,14nm,1.1s						
MFF	**Saint Martin d**	**152.16**	**344**	*e*PKP1	PKPbc	01 51 21.6	+1.5
VIVF	**Saint-Julien-l**	**152.18**	**336**	*e*PKP1	PKPbc	01 51 21.5	+1.3

CASC 19 01:32:00.6±2.6, 10°.60N×86°.36W, h2km±12km, MD3.6, ML2.8, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NY14	**Universidad de**	**0.81**	**87**	*i* P	Pg	01 32 16.7	+0.5
NY14				*i* S	Sg	01 32 29.2	+2.5
GBS3	**Finca Las Im˜¡**	**0.91**	**79**	*i* P	Pg	01 32 17.8	-0.2
GBS2	**Las Lilas**	**0.92**	**75**	*i* P	Pg	01 32 18.1	-0.2
GBS2				*i* S	Sg	01 32 30.8	+0.6
CONN	**Concepcion**	**1.20**	**37**	*e*P	Pg	01 32 23.3	-0.3
CONN				*e*S	Sg	01 32 42.5	+3.4
APON	**Apoyo**	**1.34**	**12**	*e*P	Pg	01 32 26.3	+0.1
AMAS	**Alto Masis**	**1.34**	**89**	*i* P	Pg	01 32 25.0	-1.4
JTS	**JuntasAbangare**	**1.42**	**102**	*e*P	Pn	01 32 26.1	-1.3
TICN	**Ticuantepe**	**1.43**	**5**	*e*P	Pn	01 32 26.4	-1.1
JCR	**Jicaral**	**1.44**	**121**	*e*P	Pn	01 32 28.6	+1.0
JCR				*e*S	Sg	01 32 53.4	+6.6
TISN	**Laguna Tiscapa**	**1.53**	**3**	*e*P	Pn	01 32 28.8	-0.2
XAVN	**Gruta Xavier**	**1.54**	**1**	*e*P	Pn	01 32 28.2	-0.9
MGAN	**Managua**	**1.54**	**4**	*e*P	Pn	01 32 27.9	-1.2
COPN	**Copaltepe**	**1.58**	**352**	*e*P	Pn	01 32 28.5	-1.3
COPN				*e*S	Sn	01 32 51.1	+0.3
HUEN		**1.73**	**6**	*e*P	Pn	01 32 30.4	-1.4
MOMN	**Momotombo**	**1.80**	**354**	*e*P	Pn	01 32 33.0	+0.3
MIRN	**Miramar**	**1.86**	**349**	*e*P	Pn	01 32 33.8	+0.3
CNGN	**Cerro Negro**	**1.92**	**350**	*e*P	Pn	01 32 34.5	+0.3
BOAB	**BOACO BROADBAN**	**1.96**	**20**	*e*P	Pn	01 32 33.2	-1.7
PRS1	**Puriscal**	**2.11**	**107**	*e*P	Pn	01 32 35.9	-0.9
PRS1				*e*S	Sn	01 33 03.1	-0.6
LAJ	**Bijagual**	**2.32**	**108**	*e*P	Pn	01 32 35.5	-4.4
LAJ				*e*S	Sn	01 33 02.7	-6.2

*ISCJB **19** 01:53:30.2±3.2,6°.3S±0°.2×150°.7E±0°.2,h62km±28km, mb4.0/10,Error ellipse: s-maj=43.0km s-min=21.6km az=33.7*
*NEIC **19** 01:53:31.6±2.1,6°.35S×150°.79E,h64km±18km,mb4.2/4, Error ellipse: s-maj=28.5km s-min=14.6km az=125.0*
*IDC **19** 01:53:31.1±5.3,6°.30S×150°.76E,h58km±48km,mb3.8/8, mb1 4.1/9,mb1mx3.9/17,mbtmp3.9/9,ML3.5/1,MS3.0/1, Ms1 3.0/1,ms1mx2.6/19,Error ellipse: s-maj=47.6km s-min=28.1km az=127.0*

ISC 19 01:53:31.6±2.7, 6°.4S±0°.2×150°.8E±0°.2, h62km±24km, n28, σ0s80/25, mb4.0/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.70**	**230**	P	**Pn**	**01 54 40.4**	**+0.4**
	16nm,0.3s,baz=48,slow=7.5,SNR=28						
PMG	**Port Moresby**	**4.70**	**230**	P	**Pn**	**01 54 40.4**	**+0.4**
HNR	**Honiara**	**9.58**	**109**	LR	LR	01 58 46.2	

	comp=Z,77nm,18.6s,baz=294,slow=33						
COEN	**Coen**	**10.64**	**224**	*e*P	**Pn**	**01 56 01.0**	**-0.3**
	8.7nm,0.6s						
WRAB	**Tennant Creek**	**20.91**	**228**	*e*P	**P**	**01 58 08.8**	**-0.2**
	10nm,0.6s						
WB2	**Warramunga Arr**	**20.91**	**228**	*e*P	**P**	**01 58 08.9**	**-0.1**
WRA	**Warramunga Arr**	**20.92**	**228**	P	**P**	**01 58 09.2**	**0.0**
	3.0nm,0.5s,baz=53,slow=9.9,SNR=11						
WRA	**Warramunga Arr**	**20.92**	**228**	P	**P**	**01 58 09.2**	**0.0**
ASAR	**Alice Springs**	**23.66**	**222**	P	**P**	**01 58 37.8**	**+0.2**
	4.4nm,0.4s,mb4.2,baz=57,slow=8.6,SNR=73						
ASAR	**Alice Springs**	**23.66**	**222**	P	**P**	**01 58 37.8**	**+0.2**
FITZ	**Fitzroy Crossi**	**27.16**	**242**	P	**P**	**01 59 09.0**	**-0.4**
	3.8nm,0.5s,mb4.2,baz=62,slow=8.5,SNR=54						
FITZ	**Fitzroy Crossi**	**27.16**	**242**	P	**P**	**01 59 09.0**	**-0.3**
SONM	**Songino Array**	**66.59**	**329**	P	**P**	**02 04 16.2**	**+1.0**
	0.6nm,0.5s,mb3.9,baz=153,slow=3.7,SNR=4.3						
SONM	**Songino Array**	**66.59**	**329**	P	**P**	**02 04 16.2**	**+1.0**
MK31	**Makanchi Array**	**80.18**	**320**	*e*P	**P**	**02 05 34.2**	**-1.1**
MKAR	**Makanchi Array**	**80.18**	**320**	P	**P**	**02 05 35.3**	**+0.1**
	0.4nm,0.6s,mb3.5,baz=114,slow=6.5,SNR=3.1						
MKAR	**Makanchi Array**	**80.18**	**320**	P	**P**	**02 05 35.3**	**+0.1**
ZALV	**Zalesovo Beam**	**81.33**	**327**	P	**P**	**02 05 40.0**	**-1.2**
	0.8nm,0.6s,mb3.8,baz=118,slow=6.0,SNR=5.6						
ZALV	**Zalesovo Beam**	**81.33**	**327**	P	**P**	**02 05 40.0**	**-1.2**
MCK	**McKinley**	**83.06**	**23**	*e*P	**P**	**02 05 49.4**	**-0.7**
	1.7nm,0.7s,mb4.2						
TKM2	**Tokmak 2**	**83.56**	**314**	*e*P	**P**	**02 05 54.2**	**+1.1**
	1.1nm,0.5s,mb4.2						
ILAR	**Eielson Array**	**84.35**	**22**	P	**P**	**02 05 55.2**	**-1.3**
	1.0nm,0.6s,mb4.1,baz=248,slow=4.9,SNR=21						
ILAR	**Eielson Array**	**84.35**	**22**	P	**P**	**02 05 55.2**	**-1.3**
EKS2	**Erkin-Say**	**84.80**	**314**	*e*P	**P**	**02 06 00.3**	**+1.0**
	3.4nm,1.1s,mb4.4						
NVAR	**Mina Array Bea**	**94.62**	**52**	P	**P**	**02 06 47.4**	**+1.5**
	0.3nm,0.6s,mb3.9,baz=266,slow=8.9,SNR=3.5						
NVAR	**Mina Array Bea**	**94.62**	**52**	P	**P**	**02 06 47.4**	**+1.5**
TORD	**Torodi Ar. Bea**	**148.82**	**285**	PKPbc	PKPbc	02 13 13.1	-0.1
	2.1nm,0.6s,baz=49,slow=2.5,SNR=23						
TORD	**Torodi Ar. Bea**	**148.82**	**285**	PKPbc	PKPbc	02 13 13.1	-0.1

DJA 19 01:57:42,0°.70S×101°.45E,h10km,MLv4.3/5,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RGRI	**Rengat**	**0.95**	**68**	P	Pg	01 58 01.9	+1.6
BKNI	**Bangkinang**	**1.10**	**338**	P	Pn	01 57 58.8	-4.3
PPBI	**Pangkal Pinang**	**4.91**	**107**	P	Pn	01 58 54.2	-1.6
TPTI		**5.80**	**313**	P	Pn	01 59 12.5	+4.3
	6.3nm1μm,0.8s						
PCI	**Palu**	**18.39**	**91**	P	Pn	02 02 00.5	+3.2
	720nm54nm,0.9s						
MSSI	**Masamba**	**18.95**	**96**	P	Pn	02 02 00.0	-4.2

HLW 19 02:00:20.8, 27°.73N×36°.81E, h14km±4km, Md3.0, Ml2.9, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HDHB	**Dhahab**	**2.17**	**298**	P	Pn	02 00 56.0	-0.5
	baz=298						
HBST	**Basata**	**2.35**	**310**	P	Pn	02 00 58.5	-0.5
	baz=310						
SHRM		**2.38**	**275**	P	Pn	02 00 58.5	-0.8
SHRM	baz=275			S	Sn	02 01 27.0	-1.2
	baz=275						
TR1		**2.54**	**277**	P	Pn	02 01 01.2	-0.4
	baz=277						
HKAT	**Jabal Katrina**

comp=Z,1.7nm,0.6s,mb3.8,baz=59,slow=5.9,SNR=4.5
STKA LR LR 03 11 23.4
comp=Z,194nm,20.2s,MS3.7,baz=281,slow=36
STKA Stephens Creek 28.06 237 P **P** **03 00 36.5 +1.2**
STKA LR LR 03 11 23.4
WRA Warramunga Arr 32.99 262 P **P** **03 01 17.9 -1.1**
comp=Z,0.4nm,0.8s,mb3.4,baz=88,slow=6.2,SNR=2.8
WRA LR LR 03 14 56.5
comp=Z,62nm,18.9s,MS3.3,baz=90,slow=37
WRA Warramunga Arr 32.99 262 P **P** **03 01 17.9 -1.1**
WRA LR LR 03 14 56.5
ASAR Alice Springs 33.29 256 P **P** **03 01 21.2 -0.3**
comp=Z,1.3nm,0.5s,mb4.2,baz=84,slow=8.8,SNR=26
ASAR Alice Springs 33.29 256 P **P** **03 01 21.2 -0.3**
TBI Tubuai 38.55 104 *e*LR LR 03 12 42.5
comp=Z,110nm,31.5s
PPT Papeete 38.96 95 *e*LR LR 03 12 54.9
comp=Z,146nm,28.0s
FITZ Fitzroy Crossi 41.37 264 P **P** **03 02 30.1 0.0**
comp=Z,1.6nm,0.7s,mb3.8,baz=102,slow=9.9,SNR=11
FITZ LR LR 03 18 38.5
comp=Z,104nm,21.2s,MS3.7,baz=291,slow=35
FITZ Fitzroy Crossi 41.37 264 P **P** **03 02 30.1 0.0**
FITZ LR LR 03 18 38.5
NWAO Narrogin (SRO) 48.41 243 LR LR 03 23 01.4
comp=Z,188nm,21.4s,MS4.0,baz=74,slow=35
SONM Songino Array 87.10 323 P **P** **03 07 29.6 +0.5**
comp=Z,0.2nm,0.4s,mb3.7,baz=130,slow=8.1,SNR=2.8
SONM Songino Array 87.10 323 P **P** **03 07 29.6 +0.5**
SNAA Sanae 89.39 182 *e*P **P** **03 07 41.2 +1.5**
comp=Z,0.6nm,0.8s,mb4.0

IDC 19 02:57:11.3±8.8, 16°89S×167°19E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.9/18, mbtmp3.9/4, Error ellipse: s-maj=242.9km s-min=46.4km az=131.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.29**	**259**	P	P	03 03 33.0	-0.3
	1.5nm,1.2s,baz=89,slow=8.4,SNR=6.5						
ASAR	**Alice Springs**	**31.89**	**252**	P	P	03 03 37.4	-1.2
	1.1nm,0.5s,baz=82,slow=8.7,SNR=11						
FITZ	**Fitzroy Crossi**	**39.59**	**262**	P	P	03 04 46.3	+1.6
	3.1nm,0.8s,baz=89,slow=7.7,SNR=6.0						
SONM	**Songino Array**	**84.18**	**324**	P	P	03 09 44.7	+0.3
	0.6nm,0.9s,baz=127,slow=2.2,SNR=3.0						

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*CSEM **19** 03:06:22.3, 40°.14N×28°.29E, h5km, MD2.7, After ISK*
ISK 19 03:06:22.3, 40°.14N×28°.29E, h5km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCTX	**Karacabey (Bur**	**0.13**	**22**	*e*PG	Pg	03 06 26.0	+1.0
KCTX	**Karacabey (Bur**	**0.13**	**22**	*e*Pg	Pg	03 06 26.0	+1.0
BNT	**Bandirma**	**0.35**	**307**	*e*PG	Pg	03 06 29.8	+0.7
BNT	**Bandirma**	**0.35**	**307**	*e*Pg	Pg	03 06 29.8	+0.7
MDNY	**Mudanya-Bursa**	**0.51**	**63**	*e*PG	Pg	03 06 32.7	+0.6
MDNY				*e*SG	Sg	03 06 40.2	+1.6
MDNY	**Mudanya-Bursa**	**0.51**	**63**	*e*Pg	Pg	03 06 32.7	+0.7
MDNY				*e*Sg	Sg	03 06 40.2	+1.6
BALB	**Balikesir**	**0.59**	**212**	*e*PG	Pg	03 06 34.9	+1.1
BALB				*e*SG	Sg	03 06 42.5	+1.1
BALB	**Balikesir**	**0.59**	**212**	*e*Pg	Pg	03 06 34.9	+1.2
BALB				*e*Sg	Sg	03 06 42.5	+1.1
ARMT	**Armutlu**	**0.61**	**46**	*e*PG	Pg	03 06 34.4	+0.4
ARMT				*e*SG	Sg	03 06 42.9	+1.1
ARMT	**Armutlu**	**0.61**	**46**	*e*Pg	Pg	03 06 34.4	+0.4
ARMT				*e*Sg	Sg	03 06 42.9	+1.1
YLV	**Yalova**	**0.93**	**63**	*e*PG	Pg	03 06 40.5	+0.4
YLV	**Yalova**	**0.93**	**63**	*e*Pg	Pg	03 06 40.5	+0.4
ADVT	**Abdulvahap**	**1.14**	**75**	*e*PN	Pn	03 06 45.0	+0.1
ADVT	**Abdulvahap**	**1.14**	**75**	*e*Pn	Pn	03 06 45.0	+0.1
AKS	**Akhisar**	**1.32**	**196**	*e*PN	Pn	03 06 48.6	+1.3
AKS	**Akhisar**	**1.32**	**196**	*e*Pn	Pn	03 06 48.6	+1.3
GULT	**Gulveren**	**1.73**	**80**	*e*PN	Pn	03 06 54.0	+1.1
GULT	**Gulveren**	**1.73**	**80**	*e*Pn	Pn	03 06 54.1	+1.2

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*ATH **19** 03:07:00.4, 36°.55N×28°.37E, h41km±7km, MD3.1/4*
*ISCJB **19** 03:07:02.3±0.8, 36°.44N±0°.05×28°.36E±0°.06, h45km±12km, Error ellipse: s-maj=9.2km s-min=6.4km az=37.8*
*ISK **19** 03:07:02.8, 36°.50N×28°.37E, h39km, MD2.5*
*CSEM **19** 03:07:02.2±0.3, 36°.49N×28°.34E, h27km±2km, MD3.1, Error ellipse: s-maj=6.5km s-min=4.5km az=133.0*
*DDA **19** 03:07:06.5, 36°.83N×27°.96E, h6km±5km, Md2.8*
ISC 19 03:07:02.6±0.7, 36°.48N±0°.04×28°.39E±0°.06, h31km±5km, n27, σ0°.96/39, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.34**	**219**	*e*P	**Pb**	**03 07 10.7**	**+0.1**
ARG				*e*S	**Sb**	**03 07 17.3**	**+1.3**
ARG	**Arkhangelos**	**0.34**	**219**	*e*P	**Pb**	**03 07 10.7**	**+0.1**
ARG				*e*S	**Sb**	**03 07 17.3**	**+1.3**
TURN	**Turunc**	**0.43**	**23**	*i*P	**Pb**	**03 07 10.4**	**-1.5**
TURN				*i*S	**Sb**	**03 07 16.2**	**-2.1**
TURN	**Turunc**	**0.43**	**23**	*i*P	**Pb**	**03 07 10.4**	**-1.5**
TURN				*i*S	**Sb**	**03 07 16.2**	**-2.1**
YER	**Yerkesik**	**0.66**	**353**	*e*PG	**Pb**	**03 07 15.7**	**0.0**
YER				*e*SG	**Sb**	**03 07 25.4**	**+0.9**
YER	**Yerkesik**	**0.66**	**353**	*e*Pg	**Pb**	**03 07 15.7**	**+0.1**
YER				*e*Sg	**Sb**	**03 07 25.4**	**+0.9**
DAT	**Datca**	**0.70**	**291**	*e*PG	**Pb**	**03 07 15.9**	**-0.4**
DAT				*e*SG	**Sb**	**03 07 26.7**	**+1.1**
DAT	**Datca**	**0.70**	**291**	*e*Pg	**Pb**	**03 07 15.9**	**-0.4**
DAT				*e*Sg	**Sb**	**03 07 26.7**	**+1.1**
MLSB	**Milas**	**0.95**	**329**	*e*PG	**Pn**	**03 07 19.9**	**0.0**
MLSB	**Milas**	**0.95**	**329**	*e*Pg	**Pn**	**03 07 19.9**	**+0.1**
BODT	**Bodrum**	**1.04**	**304**	*e*PG	**Pn**	**03 07 21.9**	**+0.8**
BODT	**Bodrum**	**1.04**	**304**	*e*Pg	**Pn**	**03 07 21.9**	**+0.8**
GLHS	**Glhisar (BURDU**	**1.12**	**52**	*e*PN	**Pn**	**03 07 22.7**	**+0.6**
GLHS	**Glhisar (BURDU**	**1.12**	**52**	*e*Pn	**Pn**	**03 07 22.7**	**+0.6**
ELL	**Elmali**	**1.25**	**77**	*e*PN	**Pn**	**03 07 25.0**	**+1.0**
ELL	**Elmali**	**1.25**	**77**	*e*Pn	**Pn**	**03 07 25.0**	**+1.1**
DNZL	**Cakiroluk**	**1.32**	**23**	*i*P	**Pn**	**03 07 26.5**	**+1.6**
DNZL	**Cakiroluk**	**1.32**	**23**	*i*P	**Pn**	**03 07 26.5**	**+1.7**
KARP	**Karpathos**	**1.36**	**227**	*e*P	**Pn**	**03 07 25.1**	**-0.4**
KARP	**Karpathos**	**1.36**	**227**	*e*P	**Pn**	**03 07 25.1**	**-0.4**
GCAM	**G?zelcaml?**	**1.53**	**323**	*i*P	**Pn**	**03 07 27.2**	**-0.6**
GCAM				*i*S	**Sn**	**03 07 46.5**	**-0.1**
GCAM	**G?zelcaml?**	**1.53**	**323**	*i*P	**Pn**	**03 07 27.2**	**-0.6**
GCAM				*i*S	**Sn**	**03 07 46.5**	**-0.1**
KHAL	**Karahalli**	**2.08**	**25**	*i*P	**Pn**	**03 07 26.0**	**-9.4**
NPS	**Neapolis**	**2.56**	**243**	*e*P	**Pn**	**03 07 40.9**	**-1.1**
NPS				*e*S	**Sn**	**03 08 11.3**	**-0.8**
NPS	**Neapolis**	**2.56**	**243**	*e*P	**Pn**	**03 07 40.9**	**-1.1**
NPS				*e*S	**Sn**	**03 08 11.3**	**-0.8**
LAST	**Lasithi**	**2.71**	**242**	*e*P	**Pn**	**03 07 43.0**	**-1.0**
LAST	**Lasithi**	**2.71**	**242**	*e*P	**Pn**	**03 07 43.0**	**-1.0**

IDC 19 03:08:13.9±40.0, 18°.40S×169°.71E, h0km, mb4.3/4, mb1 4.5/4, mb1mx3.9/16, mbtmp4.3/4, MS3.8/1, Ms1 3.8/1, ms1mx3.1/18, Error ellipse: s-maj=694.8km s-min=116.9km az=77.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**28.68**	**237**	P	P	03 14 12.4	-0.3
	1.6nm,0.6s,baz=41,slow=7.9,SNR=4.0						
WRA	**Warramunga Arr**	**33.41**	**262**	P	P	03 14 54.4	-0.2
	0.7nm,0.3s,baz=82,slow=6.4,SNR=7.8						
ASAR	**Alice Springs**	**33.77**	**255**	P	P	03 14 57.6	-0.1
	7.7nm,0.4s,baz=81,slow=8.8,SNR=48						
FITZ	**Fitzroy Crossi**	**41.78**	**263**	P	P	03 16 05.8	+0.3
	2.3nm,0.6s,baz=77,slow=8.1,SNR=4.1						
YKA	**Yellowknife Ar**	**99.72**	**27**	LR	LR	04 00 59.2	
	comp=Z,38nm,19.6s,baz=15,slow=32						

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*NOU **19** 03:10:34.8±1.1, 18°.45S×169°.63E, h30km, MD3.3, ML3.8*
*IDC **19** 03:10:36.3±0.6, 19°.10S×169°.72E, h0km, mb4.5/16, mb1 4.7/16, mb1mx4.6/19, mbtmp4.5/16, MS4.3/13, Ms1 4.3/13, ms1mx4.2/18, Error ellipse: s-maj=19.2km s-min=17.1km az=94.0*
*ISCJB **19** 03:10:37.1±1.8, 19°.14S±0°.05×169°.76E±0°.05, h15km±11km, mb4.8/41, MS4.2/13, Error ellipse: s-maj=10.4km s-min=5.6km az=40.3*

*MOS **19** 03:10:39.4±1.1, 19°.15S×169°.60E, h31km, mb5.1/13, Error ellipse: s-maj=13.6km s-min=11.5km az=176.8*
*NEIC **19** 03:10:39.2±7.0, 19°.15S×169°.68E, h19km±42km, mb4.9/18, Error ellipse: s-maj=14.0km s-min=9.6km az=57.0*
*LDG **19** 03:10:40.2±0.4, 18°.52S×168°.62E, h10km, Mb4.9/3, Ms4.5/9, Error ellipse: s-maj=37.2km s-min=16.4km az=175.0*
*GCMT **19** 03:10:42.0±0.2, 18°.92S×169°.65E, h12km, MW5.1, Moment Tensor Solution. s45,c56; s88,c137; Moment tensor: Scale 10^{16}Nm; M_{rr}=5.51±.11; $M_{\theta\theta}$2.29±.12; $M_{\phi\phi}$3.22±.11; $M_{r\theta}$1.36±.33; $M_{\theta\phi}$-2.52±.09; $M_{\phi r}$-0.07±.37; Best double couple: $M_0$5.60000×10^{16} NP1:ϕ_s149.00000°, δ41.00000°, λ-76.00000°. NP2:ϕ_s311.00000°, δ51.00000°, λ-102.00000°. Principal axes: T 5.4000, Plg5.0000°, Azm49.0000°; N 0.3600, Plg9.0000°, Azm318.0000°; P -5.7600, Plg79.0000°, Azm167.0000°; Data Used: II IU G IC CN.*
*BJI **19** 03:10:46.9, 18°.90S×169°.90E, h100km, mB5.3/4, mb4.6/9*
ISC 19 03:10:37.2±2.1, 19°.11S±0°.05×169°.74E±0°.06, h7km±12km, n187, σ1°.01/118, mb4.8/41, MS4.2/13, 7C-9D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**4.04**	**221**	*e*P	**Pn**	**03 11 39.7**	**+0.1**
BAYA				*e*S	**Sn**	**03 12 27.1**	**-0.1**
BAYA				AMP		03 12 31.1	
	comp=Z,14nm,7.0s						
DZM	**Mont Dzumac**	**4.27**	**226**	*e*Pn	**Pn**	**03 11 42.6**	**-0.1**
	comp=Z,86nm,0.2s						
DZM				*e*Sn	**Sn**	**03 12 32.5**	**-0.3**
	comp=Z,224nm,0.3s						
DZM				*e*LR	LR	03 12 43.2	
	comp=Z,19μm,25.4s						
DZM	**Mont Dzumac**	**4.27**	**226**	*e*P	**Pn**	**03 11 42.3**	**-0.4**
DZM				*e*S	**Sn**	**03 12 32.6**	**-0.1**
DZM				AMP		03 12 40.3	
	comp=Z,2μm,1.1s						
DZM	**Mont Dzumac**	**4.27**	**226**	*e*Pn	**Pn**	**03 11 42.8**	**+0.1**
LASL	**Noumea**	**4.32**	**223**	*e*S	**Sn**	**03 12 34.7**	**+0.7**
NOUC	**Port Laguerre**	**4.38**	**227**	*e*P	**Pn**	**03 11 44.5**	**+0.2**
NOUC				*e*S	**Sn**	**03 12 35.2**	**-0.4**
NOUC				AMP		03 12 50.4	
	comp=Z,83nm,4.7s						
MSVF	**Nonsavu**	**8.00**	**81**	*e*Pn	**Pn**	**03 12 38.2**	**+4.2**
	comp=Z,136nm,1.0s						
MSVF	**Nonsavu**	**8.00**	**81**	*e*P	**Pn**	**03 12 38.2**	**+4.2**
MSVF				pmax	pmax		
	comp=Z,136nm,1.0s						
HNR	**Honiara**	**13.51**	**314**	LR	LR	03 18 16.6	
	comp=Z,724nm,19.3s,baz=138,slow=34						
EIDS	**Eidsvold**	**18.35**	**247**	*e*P	**Pn**	**03 14 56.0**	**+3.6**
	comp=Z,52nm,0.9s						
EIDS				*e*S	**Sn**	**03 18 29.8**	**+12**
AFI	**Afiamalu**	**18.45**	**77**	LR	LR	03 20 34.3	
	comp=Z,3μm,19.6s,baz=251,slow=32						
ARMA	**Armidale**	**19.90**	**232**	*e*P	**Pn**	**03 15 14.7**	**+3.7**
ARMA				*e*S	**Sn**	**03 19 09.0**	**+14**
ARMA	**Armidale**	**19.90**	**232**	*e*P	**Pn**	**03 15 08.7**	**-2.4**
	comp=Z,45nm,1.3s						
URZ	**Urewera**	**20.13**	**163**	P	**P**	**03 15 10.3**	**-1.5**
	comp=Z,1.9nm,0.4s,baz=45,slow=12,SNR=2.6						
URZ				LR	LR	03 21 35.4	
	comp=Z,631nm,20.3s,MS4.0,baz=347,slow=33						
URZ	**Urewera**	**20.13**	**163**	P	**P**	**03 15 10.3**	**-1.5**
URZ				LR	LR	03 21 35.4	
CTA	**Charters Tower**	**22.15**	**264**	P	**P**	**03 15 36.5**	**+2.7**
	comp=Z,8.1nm,1.0s,mb4.1,baz=89,slow=12,SNR=3.6						
CTA				LR	LR	03 23 01.1	
	comp=Z,986nm,21.2s,MS4.2,baz=79,slow=34						
CTA	**Charters Tower**	**22.15**	**264**	*e*P	**P**	**03 15 36.4**	**+2.6**
	comp=Z,14nm,1.3s,mb4.2						
CTA				*e*S	**S**	**03 19 38.1**	**-0.2**
CTA	**Charters Tower**	**22.15**	**264**	P	**P**	**03 15 36.5**	**+2.7**
CTA				LR	LR	03 23 01.1	
CTA	**Charters Tower**	**22.15**	**264**	P	**P**	**03 15 36.5**	**+2.7**
CTAO	**Charters Tower**	**22.15**	**264**	*e*P	**P**	**03 15 32.3**	**-1.5**
	comp=Z,32nm,1.3s,mb4.6						
CTAO	**Charters Tower**	**22.15**	**264**	*e*P	**P**	**03 15 32.3**	**-1.5**
CTAO				pmax	pmax		
	comp=Z,32nm,1.3s,mb4.6						
PMG	**Port Moresby**	**23.89**	**291**	P	**P**	**03 15 52.1**	**+0.3**
	comp=Z,44nm,0.9s,mb4.9,baz=117,slow=5.7,SNR=11						
PMG	**Port Moresby**	**23.89**	**291**	*e*P	**P**	**03 15 52.2**	**+0.4**
	comp=Z,67nm,1.0s,mb5.0						
PMG	**Port Moresby**	**23.89**	**291**	*c i*P	**P**	**03 15 51.9**	**+0.1**
PMG				pmax	pmax		
	comp=Z,62nm,1.0s						
CNB	**Canberra Magne**	**24.19**	**224**	*e*P	**P**	**03 15 55.9**	**+1.5**
	comp=Z,92nm,0.9s,mb5.2						
RPZ	**Rata Peaks**	**24.56**	**178**	P	**P**	**03 15 58.2**	**+0.6**
	comp=Z,14nm,0.8s,mb4.6,baz=273,slow=6.1,SNR=5.2						
RPZ	**Rata Peaks**	**24.56**	**178**	*e*P	**P**	**03 15 58.4**	**+0.8**
	comp=Z,32nm,1.0s,mb4.8						
CMSA	**Cobar Meteorol**	**24.95**	**236**	*e*P	**P**	**03 16 02.0**	**+0.7**
	comp=Z,41nm,0.8s,mb5.0						
CMSA				*e*S	**S**	**03 20 28.0**	**+2.7**
COEN	**Coen**	**25.96**	**277**	*e*P	**P**	**03 16 10.4**	**-0.3**
	comp=Z,108nm,1.2s,mb5.2						
STKA	**Stephens Creek**	**28.32**	**238**	P	**P**	**03 16 32.4**	**+0.7**
	comp=Z,4.6nm,0.7s,mb4.2,baz=62,slow=8.8,SNR=9.5						
STKA				PcP	PcP	03 19 45.6	+0.9
	comp=Z,3.7nm,0.9s,baz=18,slow=3.2,SNR=3.7						
STKA				LR	LR	03 27 29.0	
	comp=Z,1μm,18.8s,MS4.5,baz=28,slow=36						
STKA	**Stephens Creek**	**28.32**	**238**	*e*P	**P**	**03 16 32.2**	**+0.5**
	comp=Z,5.2nm,0.6s,mb4.3						
STKA				*e*S	**S**	**03 21 31.8**	**+13**
STKA	**Stephens Creek**	**28.32**	**238**	P	**P**	**03 16 32.4**	**+0.7**
STKA				PcP	PcP	03 19 45.6	+0.9
STKA				LR	LR	03 27 29.0	
STKA	**Stephens Creek**	**28.32**	**238**	P	**P**	**03 16 32.4**	**+0.7**
STKA						03 19 45.6	
RAR	**Rarotonga**	**28.67**	**99**	LR	LR	03 25 34.9	
	comp=Z,354nm,18.7s,MS4.0,baz=244,slow=31						
WRAB	**Tennant Creek**	**33.33**	**263**	*e*P	**P**	**03 17 14.3**	**-1.8**
	comp=Z,6.4nm,1.0s,mb4.5						
WRAB	**Tennant Creek**	**33.33**	**263**	*e*P	**P**	**03 17 14.3**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**33.34**	**263**	P	**P**	**03 17 15.1**	**-1.1**
	comp=Z,4.4nm,1.1s,mb4.3,baz=94,slow=7.2,SNR=12						
WRA				PcP	PcP	03 19 58.1	-0.1
	comp=Z,1.9nm,0.8s,baz=90,slow=3.0,SNR=6.8						
WRA				LR	LR	03 31 20.8	
	comp=Z,558nm,18.6s,MS4.3,baz=85,slow=37						
WRA	**Warramunga Arr**	**33.34**	**263**	P	**P**	**03 17 15.1**	**-1.1**
WRA				PcP	PcP	03 19 58.1	-0.1
WRA				LR	LR	03 31 20.8	
WRA	**Warramunga Arr**	**33.34**	**263**	P	**P**	**03 17 15.1**	**-1.1**
WRA						03 19 58.1	
ASAR	**Alice Springs**	**33.62**	**256**	P	**P**	**03 17 17.6**	**-1.0**
	comp=Z,6.3nm,0.4s,mb4.9,baz=83,slow=8.6,SNR=52						
ASAR				PcP	PcP	03 19 58.8	-0.1
	comp=Z,2.2nm,0.9s,baz=99,slow=3.9,SNR=4.8						
ASAR	**Alice Springs**	**33.62**	**256**	P	**P**	**03 17 17.6**	**-1.0**
ASAR				PcP	PcP	03 19 58.8	-0.1
ASAR	**Alice Springs**	**33.62**	**256**	P	**P**	**03 17 17.6**	**-1.0**
ASAR						03 19 58.8	
TBI	**Tubuai**	**38.17**	**104**	*e*S	**S**	**03 23 48.7**	**-2.8**
	comp=Z,121nm,26.5s						
TBI				*e*LQ		03 26 36.1	
	comp=Z,1μm,30.0s						
TBI				*e*LR	LR	03 28 13.3	
	comp=Z,827nm,30.2s						
PPT	**Papeete**	**38.59**	**94**	*e*S	**S**	**03 23 50.1**	**-7.8**
	comp=Z,204nm,26.0s						
PPT				*e*LQ		03 26 48.1	
	comp=Z,2μm,30.5s						
PPT				*e*LR	LR	03 28 23.7	
	comp=Z,1μm,28.2s,baz=253						
FORT	**Forrest**	**39.33**	**245**	*e*P	**P**	**03 18 07.2**	**-0.1**
	comp=Z,23nm,0.7s,mb5.0						
FORT	**Forrest**	**39.33**	**245**	*e*P	**P**	**03 18 07.2**	**0.0**
	comp=Z,29nm,0.8s,mb5.1						
FITZ	**Fitzroy Crossi**	**41.73**	**264**	P	**P**	**03 18 27.1**	**-0.2**
	comp=Z,17nm,0.8s,mb4.7,baz=123,slow=7.0,SNR=28						
FITZ	**Fitzroy Crossi**	**41.73**	**264**	*e*P	**P**	**03 18 26.2**	**-1.1**
	comp=Z,42nm,0.8s,mb5.1						
FITZ				*e*S	**S**	**03 24 45.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**41.73**	**264**	P	**P**	**03 18 27.1**	**-0.2**
MBWA	**Marble Bar**	**46.85**	**259**	*e*P	**P**	**03 19 07.8**	**-0.5**
MBWA	**Marble Bar**	**46.85**	**259**	*e*P	**P**	**03 19 08.0**	**-0.3**
	comp=Z,24nm,0.9s,mb5.1						
MEEK	**Meekatharra**	**47.45**	**251**	*e*P	**P**	**03 19 12.3**	**-0.6**
	comp=Z,101nm,0.9s,mb5.8						
KLBR	**Kellerberrin**	**48.20**	**244**	*e*P	**P**	**03 19 17.4**	**-1.2**
	comp=Z,19nm,0.8s,mb5.2						
NWAO	**Narrogin (SRO)**	**48.69**	**243**	P	**P**	**03 19 22.0**	**-0.4**
	comp=Z,12nm,0.8s,mb5.0,baz=73,slow=6.0,SNR=5.8						
NWAO	**Narrogin (SRO)**	**48.69**	**243**	P	**P**	**03 19 22.0**	**-0.4**
NWAO	**Narrogin (SRO)**	**48.69**	**243**	P	**P**	**03 19 22.0**	**-0.4**
RKT	**Rikitea**	**51.48**	**105**	*e*S	**S**	**03 26 58.9**	**-5.6**
	comp=Z,183nm,29.0s						
RKT				*e*LR	LR	03 34 22.6	
	comp=Z,514nm,29.8s						
VNDA	**Vanda**	**58.57**	**182**	P	**P**	**03 20 35.1**	**+0.9**
	comp=Z,3.0nm,0.8s,mb4.4,baz=346,slow=7.4,SNR=12						
VNDA				LR	LR	03 41 38.1	
	comp=Z,264nm,21.6s,MS4.3,baz=15,slow=32						
VNDA	**Vanda**	**58.57**	**182**	*e*P	**P**	**03 20 34.7**	**+0.5**
	comp=Z,6.2nm,1.0s,mb4.6						
VNDA				LR	LR	03 41 38.1	
VNDA	**Vanda**	**58.57**	**182**	*e*P	**P**	**03 20 34.7**	**+0.5**
VNDA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SBA	**Scott Base**	**58.80**	**181**	*e*P	**P**	**03 20 36.8**	**+1.0**
	comp=Z,25nm,1.0s,mb5.2						
SBA	**Scott Base**	**58.80**	**181**	*e*P	**P**	**03 20 36.8**	**+1.1**
SBA				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.2						
CASY	**Casey**	**60.43**	**204**	*e*P	**P**	**03 20 47.1**	**0.0**
	comp=Z,11nm,0.9s,mb4.9						
MJAR	**Matsushiro Arr**	**62.86**	**332**	P	**P**	**03 21 03.7**	**-0.2**
	comp=Z,11nm,0.9s,mb5.0,baz=170,slow=8.5,SNR=14						
MJAR				LR	LR	03 44 45.0	
	comp=Z,79nm,18.9s,MS3.9,baz=130,slow=33						
MJAR	**Matsushiro Arr**	**62.86**	**332**	P	**P**	**03 21 03.7**	**-0.2**
MJAR				LR	LR	03 44 45.0	
MJAR	**Matsushiro Arr**	**62.86**	**332**	P	**P**	**03 21 03.7**	**-0.2**
MAJO	**Matsushiro**	**62.86**	**332**	*e*P	**P**	**03 21 03.1**	**-0.9**
	comp=Z,12nm,0.8s,mb5.1						
MAJO	**Matsushiro**	**62.86**	**332**	*e*P	**P**	**03 21 03.1**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.1						
MAT	**Matsushiro**	**62.86**	**332**	P	**P**	**03 21 02.9**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**66.53**	**341**	*e*P	Px	03 21 40.8	
YUK				*e*		03 23 57.1	
YUK				*e*S	S	03 30 10.0	-8.8
YUK				*e*		03 31 16.7	
YUK				MLR	MLR		
	comp=E,601nm,19.0s						
YUK				MLR	MLR		
	comp=Z,419nm,19.0s,MS4.7						
KSRS	**Korea Array**	**68.67**	**325**	LR	LR	03 49 31.6	
	comp=Z,76nm,19.0s,MS4.0,baz=326,slow=34						
YSS	**Yuzh-Sakhalins**	**70.11**	**341**	*e*P	**P**	**03 21 51.9**	**+1.8**
	comp=Z,36nm,0.8s,mb5.4						
YSS	**Yuzh-Sakhalins**	**70.11**	**341**	*e*P	**P**	**03 21 50.2**	**+0.1**
YSS				pmax	pmax		
	comp=Z,62nm,1.5s,mb5.3						
QSPA	**South Pole Qui**	**70.94**	**180**	*e*P	**P**	**03 21 55.6**	**+0.8**
	comp=Z,14nm,1.0s,mb4.8						
VLA	**Vladivostok**	**71.03**	**332**	*i*P	**P**	**03 21 55.1**	**-0.7**
VLA						03 22 14.5	
VLA				S	S	03 31 10.1	-2.2
VLA				pmax	pmax		
	comp=Z,37nm,0.7s,mb5.4						
PETK	**Petropavlovsk-**	**72.67**	**352**	LR	LR	03 47 45.6	
	comp=Z,240nm,19.9s,MS4.5,baz=153,slow=31						
KLR	**Kul'dur**	**75.95**	**335**	*e*P	**P**	**03 22 32.2**	**+7.6**
XAN	**Xi'an**	**78.38**	**312**	P	**P**	**03 22 39.3**	**+0.7**
XAN				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
MAW	**Mawson**	**78.73**	**202**	P	**P**	**03 22 40.1**	**0.0**
	comp=Z,9.4nm,0.9s,mb4.7,baz=106,slow=5.1,SNR=10						
MAW	**Mawson**	**78.73**	**202**	*e*P	**P**	**03 22 41.2**	**+1.1**
	comp=Z,10.0nm,0.9s,mb4.8						
MAW	**Mawson**	**78.73**	**202**	P	**P**	**03 22 40.1**	**0.0**
MAW	**Mawson**	**78.73**	**202**	P	**P**	**03 22 40.1**	**0.0**
CMAR	**Chiang Mai Arr**	**78.89**	**294**	P	**P**	**03 22 42.9**	**+1.1**
	comp=Z,3.4nm,0.8s,mb4.3,baz=132,slow=4.1,SNR=13						
CMAR	**Chiang Mai Arr**	**78.89**	**294**	P	**P**	**03 22 42.9**	**+1.1**
CMAR	**Chiang Mai Arr**	**78.89**	**294**	P	**P**	**03 22 42.9**	**+1.1**
SEY	**Seymchan**	**82.91**	**352**	*i*P	**P**	**03 23 02.7**	**+0.5**
LZH	**Lanzhou**	**83.00**	**312**	*e*P	**P**	**03 23 10.6**	**+7.3**
LZH				pP	pP	03 23 15.0	+9.4
LZH				sP	sP	03 23 17.5	+11
LZH				pmax	pmax		
	comp=Z

	comp=Z,11nm,1.1s							
NPS	**Neapolis**	**144.50 304**	*e*P		PKPdf	03 30 14.5	-0.3	
GERES	**GERESS Array B**	**144.60 332**	PKP		PKPdf	03 30 12.0	-2.6	
	comp=Z,4.3nm,0.9s,baz=29,slow=3.0,SNR=21							
GERES	**GERESS Array B**	**144.60 332**	PKP		PKPdf	03 30 12.0	-2.6	
GERES	**GERESS Array B**	**144.60 332**	PKIKP		PKPdf	03 30 12.0	-2.6	
PTL	**Penteli**	**144.86 310**	*e*P		PKPdf	03 30 13.0	-2.4	
ARSA	**Arzberg**	**144.91 329** ⇓	*i* PKPdf		PKPdf	03 30 15.2	+0.1	
	comp=Z,12nm,1.1s							
GRF	**Grafenberg Arr**	**144.97 336**	*e*PKIKP		PKPdf	03 30 15.0	-0.2	
MOA	**Molln**	**145.08 331** ⇑	*i* PKPdf		PKPdf	03 30 14.9	-0.5	
	comp=Z,19nm,1.0s							
LKR	**Lokris**	**145.24 311**	*e*P		PKPbc	03 30 14.0	-1.7	
LTK	**Loutraki**	**145.52 310**	*e*P		PKPdf	03 30 13.5	-3.0	
DID	**Didima**	**145.53 309**	*e*P		PKPdf	03 30 14.0	-2.5	
PERS	**Pernice**	**145.54 329**	*i* PKPbc		PKPbc	03 30 16.8	+0.4	
VAM	**Vamos**	**145.55 305**	*e*P		PKPdf	03 30 17.5	+0.9	
SOKA	**Soboth**	**145.56 329** ⇓	*i* PKPab		PKPab	03 30 17.1	+0.5	
	comp=Z,18nm,1.1s							
GCIS	**Gornji Cirnik**	**145.81 327**	*i* PKPbc		PKPbc	03 30 17.6	+0.4	
OBKA	**Obir**	**145.91 329** ⇓	*i* PKPab		PKPab	03 30 17.6	-0.4	
	comp=Z,12nm,1.1s							
GUR	**Goura**	**146.01 310**	*e*P		PKPdf	03 30 17.0	-0.3	
VLI	**Veliai**	**146.05 308**	*e*P		PKPdf	03 30 16.0	-1.4	
EFP	**Efpalio**	**146.11 311**	*e*P		PKPdf	03 30 17.0	-0.5	
VLX	**Vlachokerasia**	**146.21 309**	*e*P		PKPdf	03 30 18.5	+0.8	
MYKA	**Terra Mystica**	**146.26 330** ⇑	*i* PKPbc		PKPbc	03 30 17.0	-1.5	
	comp=Z,8.4nm,0.8s							
JAN	**Janina**	**146.29 314**	*e*P		PKPdf	03 30 19.0	+1.2	
CRNS	**Crni Vrh**	**146.35 329**	*i* PKPbc		PKPbc	03 30 18.6	-0.2	
JAVS	**Javornik**	**146.58 329**	*e*PKPbc		PKPbc	03 30 19.8	+0.2	
ABTA	**Abfaltersbach**	**146.70 331** ⇓	*i* PKPab		PKPab	03 30 19.6	-1.3	
	comp=Z,14nm,0.8s							
WTTA	**Wattenberg**	**146.71 332** ⇓	*i* PKPab		PKPab	03 30 20.5	-0.5	
	comp=Z,3.6nm,0.6s							
WLF	**Walferdange**	**146.80 340**	*e*PKPbc		PKPbc	03 30 21.2	+1.1	
WLF	**Walferdange**	**146.80 340**	*e*PKP2		PKPab	03 30 21.2	-0.1	
GIVF	**Givet**	**146.82 342**	*e*PKP1		PKPbc	03 30 19.8	-0.3	
MOTA	**Moosalm**	**146.87 333** ⇑	*i* PKPab		PKPab	03 30 20.4	-1.2	
	comp=Z,6.5nm,0.8s							
SQTA	**Sankt Quirin**	**146.92 333** ⇑	*i* PKPab		PKPab	03 30 20.7	-1.1	
BAIF	**Baives**	**147.03 343**	*e*PKP1		PKPbc	03 30 20.5	-0.2	
	comp=Z,18nm,1.1s							
BFO	**Black Forest**	**147.19 337**	*e*PKPbc		PKPbc	03 30 20.7	-0.5	
BFO	**Black Forest**	**147.19 337**	*e*PKP2		PKPbc	03 30 20.7	-0.5	
FETA	**Feichten**	**147.28 333** ⇓	*i* PKPdf		PKPdf	03 30 19.1	-0.1	
	comp=Z,9.8nm,0.9s							
DAVA	**Damuels**	**147.43 334** ⇑	*i* PKPab		PKPab	03 30 22.1	-1.7	
	comp=Z,13nm,0.9s							
CDF	**Champ du Feu**	**147.50 338**	*e*PKP1		PKPbc	03 30 21.7	-0.3	
	comp=Z,19nm,0.9s							
HINF	**Hinteralfeld**	**148.16 338**	*e*PKP1		PKPbc	03 30 23.2	-0.6	
	comp=Z,16nm,1.0s							
MEZF	**Maizieres J'vi**	**148.17 341**	*e*PKP1		PKPbc	03 30 23.9	+0.1	
	comp=Z,34nm,1.0s							
HAU	**Haudompre**	**148.17 339**	*e*PKP1		PKPbc	03 30 23.4	-0.5	
	comp=Z,20nm,1.0s							
HAU			*e*R					
	comp=Z,119nm,22.2s							
TUE	**Stuetta**	**148.30 334**	*e*PKPbc		PKPbc	03 30 24.3	0.0	
SFTF	**Sexfontaines**	**148.43 340**	*e*PKP1		PKPbc	03 30 24.3	-0.2	
AQU	**L'Aquila**	**149.37 324**	*e*PKPbc		PKPbc	03 30 26.6	-0.5	
AQU	**L'Aquila**	**149.37 324**	*e*PKP2		PKPbc	03 30 26.6	-0.5	
CABF	**La Chapelle**	**149.46 338**	*e*PKP1		PKPbc	03 30 27.2	0.0	
LDF	**La Druitiere**	**149.47 347**	*e*PKP1		PKPbc	03 30 26.4	-0.8	
	comp=Z,7.0nm,0.8s							
LOR	**Lormes**	**149.63 341**	*e*PKP1		PKPbc	03 30 27.2	-0.4	
	comp=Z,16nm,0.8s							
LOR			*e*R					
	comp=Z,174nm,18.5s							
SSF	**Saint Saulge**	**149.93 341**	*e*PKP1		PKPbc	03 30 28.0	-0.3	
	comp=Z,22nm,1.0s							
LPL	**La Plagne**	**150.14 336**	*e*PKP1		PKPbc	03 30 28.8	-0.1	
	comp=Z,19nm,1.0s							
LPG	**La Plagne**	**150.15 336**	*e*PKP1		PKPbc	03 30 29.1	+0.2	
	comp=Z,12nm,0.9s							
SMF	**Signal de Mont**	**150.19 340**	*e*PKP1		PKPbc	03 30 28.3	-0.7	
	comp=Z,16nm,1.0s							
AVF	**Avril sur Loir**	**150.22 341**	*e*PKP1		PKPbc	03 30 28.3	-0.7	
	comp=Z,24nm,1.1s							
BNI	**Bardonecchia**	**150.54 335**	*e*PKPbc		PKPbc	03 30 30.1	+0.2	
BNI	**Bardonecchia**	**150.54 335**	*e*PKIKP		PKPbc	03 30 30.1	+0.2	
BGF	**Bois d'Agland**	**150.58 341**	*e*PKP1		PKPbc	03 30 29.4	-0.5	
MBDF	**Montbardon**	**150.78 335**	*e*PKP1		PKPbc	03 30 29.8	-0.6	
ORIF	**Oris-en-Rattie**	**150.97 336**	*e*PKP1		PKPbc	03 30 30.4	-0.5	
	comp=Z,22nm,0.9s							
ORIF			*e*R					
	comp=Z,158nm,21.8s							
TCF	**Toulx Ste Croi**	**151.01 342**	*e*PKP1		PKPbc	03 30 30.5	-0.5	
	comp=Z,11nm,0.9s							
VIVF	**Saint-Julien-l**	**151.47 337**	*e*PKP1		PKPbc	03 30 31.7	-0.4	
	comp=Z,12nm,0.9s							
LASF	**Ste Croix**	**152.44 338**	*e*PKP1		PKPbc	03 30 33.9	-0.4	
LFF	**La Frestale**	**152.66 343**	*e*PKP1		PKPbc	03 30 34.8	0.0	
ESDC	**Sonseca Array**	**158.80 346**	PKPab		PKPab	03 31 12.5	+0.8	
	comp=Z,0.7nm,0.8s,baz=9.9,slow=3.5,SNR=4.0							
ESDC	**Sonseca Array**	**158.80 346**	PKPab		PKPab	03 31 12.5	+0.8	
TORD	**Torodi Ar. Bea**	**167.08 244**	PKP		PKPdf	03 30 44.8	0.0	
	comp=Z,2.3nm,0.9s,baz=356,slow=1.7,SNR=12							
TORD			PKPab		PKPab	03 31 48.7	-0.1	
	comp=Z,1.6nm,1.1s,baz=104,slow=4.7,SNR=4.0							
TORD	**Torodi Ar. Bea**	**167.08 244**	PKP		PKPdf	03 30 44.8	0.0	
TORD			PKPab		PKPab	03 31 48.7	-0.1	

IDC ***19*** *03:15:20.1±3.1,18.92S×169.48E,h0km,mb4.0/7, mb1 4.2/7,mb1mx4.1/15,mbtmp4.0/7,MS4.4/2,Ms1 4.4/2, ms1mx3.4/24,Error ellipse: s-maj=105.9km s-min=29.2km az=140.0*

ISCJB ***19*** *03:15:23.6±1.7,19.1S±0.2×169.5E±0.3,h33km,mb4.0/9, MS4.4/2,Error ellipse: s-maj=40.7km s-min=17.9km az=32.6*

NEIC ***19*** *03:15:25.5±1.5,19.00S×169.43E,h35km,mb4.2/2,Error ellipse: s-maj=38.9km s-min=17.0km az=123.0*

ISC 19 03:15:25.6±1.7,19.0S±0.2×169.4E±0.3,h35km,n19, σ0.85/17,mb4.0/9,MS4.4/2,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.14 222**		*e*Pn	**P**	**Pn**	**03 16 25.7**	**-0.7**
PMG	**Port Moresby**	**23.57 291**		*e*P	**P**	**P**	**03 20 32.5**	**-0.8**
	14nm,1.0s,mb4.3							
STKA	**Stephens Creek**	**28.12 237**		P	**P**	**P**	**03 21 15.3**	**+0.9**
	1.1nm,0.6s,mb3.7,baz=59,slow=12,SNR=3.6							
STKA	**Stephens Creek**	**28.12 237**		P	**P**	**P**	**03 21 15.3**	**+0.9**
WRA	**Warramunga Arr**	**33.05 262**		P	**P**	**P**	**03 21 56.4**	**-1.7**
	0.6nm,0.9s,mb3.5,baz=86,slow=8.8,SNR=3.6							
WRA	**Warramunga Arr**	**33.05 262**		P	**P**	**P**	**03 21 56.4**	**-1.7**
ASAR	**Alice Springs**	**33.35 256**		P	**P**	**P**	**03 22 00.8**	**+0.1**
	3.1nm,0.4s,mb4.5,baz=84,slow=8.7,SNR=36							
ASAR	**Alice Springs**	**33.35 256**		P	**P**	**P**	**03 22 00.8**	**+0.1**
GUMO	**Guam**	**40.42 321**		LR	LR	LR	03 35 34.0	
	comp=Z,824nm,22.0s,MS4.5,baz=106,slow=30							
FITZ	**Fitzroy Crossi**	**41.44 264**		P	**P**	**P**	**03 23 10.0**	**+0.8**
	3.4nm,0.7s,mb4.1,baz=106,slow=7.5,SNR=9.7							
FITZ	**Fitzroy Crossi**	**41.44 264**		P	**P**	**P**	**03 23 10.0**	**+0.8**
MBWA	**Marble Bar**	**46.57 259**		*e*P	**P**	**P**	**03 23 51.0**	**+0.6**
	0.8nm,0.5s,mb3.9							
CMAR	**Chiang Mai Arr**	**78.56 294**		P	**P**	**P**	**03 27 24.9**	**+0.8**
	0.9nm,0.3s,mb4.2,baz=134,slow=4.1,SNR=4.7							
CMAR	**Chiang Mai Arr**	**78.56 294**		P	**P**	**P**	**03 27 24.9**	**+0.8**
SONM	**Songino Array**	**87.13 323**		P	**P**	**P**	**03 28 08.3**	**+0.5**
	0.9nm,0.9s,mb4.0,baz=131,slow=3.0,SNR=5.0							
SONM	**Songino Array**	**87.13 323**		P	**P**	**P**	**03 28 08.3**	**+0.5**
SNAA	**Sanae**	**89.41 182**		LR	LR	LR	04 06 49.5	
	comp=Z,90nm,18.1s,MS4.2,baz=31,slow=34							
ILAR	**Eielson Array**	**89.95 17**		P	**P**	**P**	**03 28 19.9**	**-0.8**
	0.2nm,0.9s,mb3.5,baz=260,slow=5.4,SNR=2.4							
ILAR	**Eielson Array**	**89.95 17**		P	**P**	**P**	**03 28 19.9**	**-0.8**

IDC ***19*** *03:33:14.0±6.0,23.67S×179.90W,h488km±66km,mb3.4/6, mb1 3.6/7,mb1mx3.3/15,mbtmp3.4/7,Error ellipse: s-maj=39.0km s-min=23.4km az=41.0*

ISCJB ***19*** *03:33:15.5±1.3,23.73S±0.09×179.9W±0.1,h525km±17km, mb4.0/14,Error ellipse: s-maj=21.3km s-min=13.7km az=166.5*

NEIC ***19*** *03:33:15.8±1.1,23.85S×179.99W,h503km±14km,mb4.0/9, Error ellipse: s-maj=17.9km s-min=14.7km az=68.0*

ISC 19 03:33:15.8±1.3,23.85S±0.09×180.0W±0.2,h508km±15km, n25,σ0.75/25,mb4.0/14,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.36 343**		*e*Pn	**P**	**P**	**03 34 56.1**	**0.0**
	4.8nm,0.6s							
URZ	**Urewera**	**14.59 189**		P	**P**	**P**	**03 36 21.5**	**+0.1**
	2.0nm,0.3s,baz=307,slow=4.0,SNR=8.0							
URZ				S	**S**	**S**	**03 38 53.6**	**-0.7**
	0.5nm,0.3s,baz=88,slow=23,SNR=7.7							
URZ	**Urewera**	**14.59 189**		P	**P**	**P**	**03 36 21.5**	**+0.1**
URZ				S	**S**	**S**	**03 38 53.6**	**-0.7**
CTAO	**Charters Tower**	**31.51 270**		*e*P	**P**	**P**	**03 38 56.2**	**+0.3**
	15nm,0.4s,mb4.8							
STKA	**Stephens Creek**	**34.78 248**		P	**P**	**P**	**03 39 24.1**	**+0.8**
	2.3nm,0.6s,mb3.8,baz=100,slow=8.5,SNR=5.3							
STKA	**Stephens Creek**	**34.78 248**		P	**P**	**P**	**03 39 24.1**	**+0.8**
COEN	**Coen**	**36.14 279**		*e*P	**P**	**P**	**03 39 35.4**	**+0.5**
	7.3nm,0.5s,mb4.4							
ASAR	**Alice Springs**	**42.08 261**		P	**P**	**P**	**03 40 23.2**	**+0.3**
	5.8nm,0.8s,mb4.1,baz=96,slow=7.9,SNR=48							
ASAR	**Alice Springs**	**42.08 261**		P	**P**	**P**	**03 40 23.2**	**+0.3**
WRAB	**Tennant Creek**	**42.44 266**		*e*P	**P**	**P**	**03 40 25.0**	**-0.7**
	4.8nm,0.7s,mb4.0							
WRA	**Warramunga Arr**	**42.45 266**		P	**P**	**P**	**03 40 25.4**	**-0.4**
	6.3nm,0.4s,mb4.4,baz=102,slow=8.3,SNR=44							
WRA	**Warramunga Arr**	**42.45 266**		P	**P**	**P**	**03 40 25.4**	**-0.4**
FORT	**Forrest**	**46.37 250**		*e*P	**P**	**P**	**03 40 55.5**	**-0.5**
	26nm,0.6s,mb4.8							
VNDA	**Vanda**	**54.44 185**		P	**P**	**P**	**03 41 55.8**	**+1.5**
	0.9nm,0.7s,mb3.2,baz=360,slow=6.6,SNR=5.5							
VNDA	**Vanda**	**54.44 185**		*e*P	**P**	**P**	**03 41 55.5**	**+1.3**
	1.2nm,0.8s,mb3.3							
MBWA	**Marble Bar**	**55.42 260**		*e*P	**P**	**P**	**03 42 01.6**	**-0.5**
	2.6nm,0.4s,mb3.9							
CASY	**Casey**	**60.18 206**		*e*P	**P**	**P**	**03 42 33.0**	**-0.6**
	2.1nm,0.4s,mb3.9							
QSPA	**South Pole Qui**	**66.24 180**		*e*P	**P**	**P**	**03 43 13.4**	**+1.0**
	5.7nm,1.0s,mb4.2							
MAW	**Mawson**	**77.81 200**		P	**P**	**P**	**03 44 20.5**	**+0.6**
	3.3nm,0.9s,mb3.8,baz=142,slow=7.8,SNR=3.9							
MAW	**Mawson**	**77.81 200**		P	**P**	**P**	**03 44 20.5**	**+0.6**
SNAA	**Sanae**	**84.72 179**		*e*P	**P**	**P**	**03 44 51.9**	**-3.5**
	0.7nm,0.4s,mb3.6							
TXAR	**Lajitas Array**	**90.37 58**		P	**P**	**P**	**03 45 22.0**	**-0.7**
	0.3nm,0.7s,mb3.2,baz=224,slow=5.2,SNR=3.5							
TXAR	**Lajitas Array**	**90.37 58**		P	**P**	**P**	**03 45 22.0**	**-0.7**
BRTR	**Keskin Array B**	**147.57 307**		PKPbc	PKPbc	PKPbc	03 52 05.8	+3.0
	0.6nm,0.6s,baz=130,slow=2.6,SNR=3.1							
BRTR	**Keskin Array B**	**147.57 307**		PKPbc	PKPbc	PKPbc	03 52 05.8	+3.0

BGS ***19*** *03:35:55.8±2.3,23.85S×179.99W,h503km,mb4.0(NEIC)*

NEIC ***19*** *03:36:13.9±0.6,20.93S×179.11W,h645km±7km,mb4.5/44, Error ellipse: s-maj=10.0km s-min=6.6km az=134.0*

ISCJB ***19*** *03:36:13.8±0.5,21.15S±0.04×179.26W±0.04, h655km±6km,mb4.5/72,Error ellipse: s-maj=7.5km s-min=4.6km az=146.3*

IDC ***19*** *03:36:13.3±1.2,20.92S×179.09W,h632km±13km, mb3.9/18,mb1 4.1/19,mb1mx4.1/21,mbtmp3.9/19,Error ellipse: s-maj=13.3km s-min=10.6km az=128.0*

BJI ***19*** *03:36:14.0,20.51S×178.63W,h660km,mB4.8/12, mb4.7/19*

MOS ***19*** *03:36:14.5±2.5,20.61S×179.40W,h627km,mb4.7/9, Error ellipse: s-maj=12.2km s-min=11.6km az=4.5*

DJA ***19*** *03:36:17,21.14S×179.61W,h650km,mb5.0/8*

ISC 19 03:36:14.9±0.5,21.03S±0.05×179.25W±0.04, h647km±6km,h642km±8.5km:pP-P,n600,σ0.69/69/374, mb4.5/72,123C-143D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.16 322**		*e*P	**P**	**P**	**03 37 44.6**	**-0.3**
MSVF				*e*S	**S**	**S**	**03 38 57.6**	**-0.6**
MSVF	**Nonsavu**	**4.16 322**		*e*P	**P**	**P**	**03 37 44.6**	**-0.3**
MSVF				*e*S	**S**	**S**	**03 38 57.6**	**-0.6**
AFI	**Afiamalu**	**10.05 46**		P	**P**	**P**	**03 38 30.0**	**-5.2**
	21nm,0.3s,baz=59,slow=3.3,SNR=14							
AFI				S	**S**	**S**	**03 40 18.1**	**-12**
	6.5nm,0.3s,baz=50,slow=22,SNR=8.7							
AFI	**Afiamalu**	**10.05 46**		P	**P**	**P**	**03 38 30.0**	**-5.2**
AFI				S	**S**	**S**	**03 40 18.1**	**-12**
AFI	**Afiamalu**	**10.05 46**		P	**P**	**P**	**03 38 30.0**	**-5.2**
AFI				S	**S**	**S**	**03 40 18.1**	**-12**
FUNA	**Funafuti**	**12.53 353**		*e*P	**P**	**P**	**03 38 55.8**	**-2.8**
	92nm,0.7s							
DZM	**Mont Dzumac**	**13.35 263**		*e*P	**P**	**P**	**03 39 06.6**	**+0.5**
	33nm,0.6s							
OUZ	**Omahuta**	**15.47 202**		*e*P	**P**	**P**	**03 39 28.3**	**+3.0**
	124nm,0.6s							
OTAZ	**Otara**	**16.65 196**		PN	**P**	**P**	**03 39 38.5**	**+2.4**
PUZ	**Puketiti**	**17.12 187**		SN	**S**	**S**	**03 42 22.8**	**-4.2**
URZ	**Urewera**	**17.45 190**		P	**P**	**P**	**03 39 41.4**	**-1.9**
	17nm,0.3s,baz=316,slow=2.2,SNR=36							
URZ				S	**S**	**S**	**03 42 26.0**	**-6.4**
	0.8nm,0.3s,baz=235,slow=16,SNR=4.3							
URZ	**Urewera**	**17.45 190**		*e*P	**P**	**P**	**03 39 41.6**	**-1.7**
	77nm,0.9s							
URZ	**Urewera**	**17.45 190**		PN	**P**	**P**	**03 39 40.9**	**-2.5**
URZ				SN	**S**	**S**	**03 42 25.4**	**-7.0**
TUWZ	**Tuamarina**	**21.14 194**		PN	**P**	**P**	**03 40 14.7**	**-1.7**
THZ	**Tophouse**	**21.70 196**		PN	**P**	**P**	**03 40 20.3**	**-1.2**
THZ				SN	**S**	**S**	**03 43 36.9**	**-2.7**
KHZ	**Kahutara**	**22.17 194**		*e*P	**P**	**P**	**03 40 23.7**	**-1.9**
	43nm,0.8s,mb4.9							
KHZ	**Kahutara**	**22.17 194**		PN	**P**	**P**	**03 40 24.2**	**-1.4**
RPZ	**Rata Peaks**	**24.02 197**		P	**P**	**P**	**03 40 41.9**	**-0.1**
	14nm,0.5s,mb4.7,baz=352,slow=1.1,SNR=14							
RPZ	**Rata Peaks**	**24.02 197**		*e*P	**P**	**P**	**03 40 42.2**	**+0.3**
	17nm,0.5s,mb4.7							
FOZ	**Fox Glacier**	**24.29 200**		PN	**P**	**P**	**03 40 42.6**	**-1.8**
WHZ	**Wether Hill Ro**	**26.93 200**		*e*P	**P**	**P**	**03 41 08.4**	**+1.0**
EIDS	**Eidsvold**	**27.58 255**		*e*P	**P**	**P**	**03 41 13.6**	**+0.1**
	13nm,0.5s,mb4.7							
ARMA	**Armidale**	**27.78 244**		*e*P	**P**	**P**	**03 41 16.8**	**+1.7**
ARMA	**Armidale**	**27.78 244**		*e*P	**P**	**P**	**03 41 16.8**	**+1.7**
	14nm,0.6s,mb4.7							
CNB	**Canberra Magne**	**30.96 236**		*e*P	**P**	**P**	**03 41 44.0**	**+1.8**
	56nm,0.5s,mb5.3							
CTA	**Charters Tower**	**32.27 265**		P	**P**	**P**	**03 41 54.6**	**+1.1**
	47nm,0.4s,mb5.3,baz=93,slow=10,SNR=64							
CTA				PcP	PcP	PcP	03 44 21.5	+0.3
	1.7nm,0.4s,baz=67,slow=1.6,SNR=4.0							
CTA	**Charters Tower**	**32.27 265**		*e*P	**P**	**P**	**03 41 54.5**	**+0.9**
	32nm,0.4s,mb5.2							
CTA	**Charters Tower**	**32.27 265**		P	**P**	**P**	**03 41 54.6**	**+1.1**
CTA				PcP	PcP	PcP	03 44 21.5	+0.3
CTA	**Charters Tower**	**32.27 265**		P	**P**	**P**	**03 41 54.6**	**+1.0**
CTA							03 44 21.5	
CTAO	**Charters Tower**	**32.27 265**		*e*P	**P**	**P**	**03 41 54.3**	**+0.7**
	51nm,0.6s,mb5.2							
CTAO	**Charters Tower**	**32.27 265**		*e*P	**P**	**P**	**03 41 54.3**	**+0.7**
CTAO				pmax	pmax			
	comp=Z,51nm,0.6s,mb5.2							
CTAO	**Charters Tower**	**32.27 265**		P	**P**	**P**	**03 41 53.9**	**+0.3**
	comp=Z,1μmcomp=Z,85nm,0.7s,mb5.4							
QLP	**Quilpie**	**33.78 253**		*e*P	**P**	**P**	**03 42 06.9**	**+0.8**
PMG	**Port Moresby**	**34.33 285**		P	**P**	**P**	**03 42 11.0**	**+0.2**
	comp=Z,57nm,0.8s,mb5.2,baz=87,slow=5.4,SNR=19							
PMG	**Port Moresby**	**34.33 285**		*e*P	**P**	**P**	**03 42 10.7**	**-0.1**
	comp=Z,70nm,0.9s,mb5.2							
PMG	**Port Moresby**	**34.33 285**		*d* P	**P**	**P**	**03 42 10.8**	**0.0**
PMG				pmax	pmax			
	comp=Z,75nm,0.9s							
PMG	**Port Moresby**	**34.33 285**		P	**P**	**P**	**03 42 10.5**	**-0.3**
	comp=Z,84nm,1.0s,mb5.2							
MTSU	**Mount Surprise**	**34.40 268**		*e*P	**P**	**P**	**03 42 12.2**	**+0.9**
	comp=Z,45nm,0.5s,mb5.3							
TOO	**Toolangi**	**34.64 234**		*e*P	**P**	**P**	**03 42 14.1**	**+1.1**
	comp=Z,85nm,0.6s,mb5.5							
COEN	**Coen**	**36.45 275**		*e*P	**P**	**P**	**03 42 29.2**	**+1.0**
	comp=Z,175nm,0.9s,mb5.6							
COEN	**Coen**	**36.45 275**		*e*P	**P**	**P**	**03 42 29.3**	**+1.1**
	comp=Z,260nm,0.9s							
STKA	**Stephens Creek**	**36.50 245**		P	**P**	**P**	**03 42 29.8**	**+1.4**
	comp=Z,17nm,0.5s,mb4.9,baz=93,slow=9.5,SNR=68							
STKA				PcP	PcP		03 44 34.2	+0.6
	comp=Z,0.9nm,0.4s,baz=68,slow=11,SNR=3.0							
STKA	**Stephens Creek**	**36.50 245**		*e*P	**P**	**P**	**03 42 29.7**	**+1.3**
	comp=Z,16nm,0.5s,mb4.8							
STKA	**Stephens Creek**	**36.50 245**		*e*P	**P**	**P**	**03 42 29.7**	**+1.3**
	comp=Z,3.5nm,0.6s,mb4.1							
STKA	**Stephens Creek**	**36.50 245**		P	**P**	**P**	**03 42 29.8**	**+1.4**
STKA							03 44 34.2	
STKA				pmax	pmax			
	comp=Z,17nm,0.5s							
STKA				pmax	pmax			
	comp=Z,1.0nm,0.4s							
ASAR	**Alice Springs**	**43.26 257**		P	**P**	**P**	**03 43 22.7**	**+0.7**
	comp=Z,47nm,0.7s,mb5.0,baz=96,slow=7.5,SNR=292							
ASAR				PcP	PcP		03 44 56.0	+0.2
	comp=Z,7.2nm,0.6s,baz=106,slow=3.8,SNR=12							
ASAR				S	**S**	**S**	**03 47 48.8**	**+1.9**
	comp=Z,2.0nm,0.9s,baz=101,slow=3.7,SNR=4.4							
ASAR				S	**S**	**S**	**03 49 04.2**	**-0.5**
	comp=Z,14nm,0.9s,baz=95,slow=16,SNR=48							
ASAR	**Alice Springs**	**43.26 257**		P	**P**	**P**	**03 43 22.7**	**+0.7**
ASAR				PcP	PcP		03 44 56.0	+0.2
ASAR				ScP	ScP		03 47 48.8	+1.9
ASAR				S	**S**	**S**	**03 49 04.2**	**-0.5**
ASAR	**Alice Springs**	**43.26 257**		P	**P**	**P**	**03 43 22.7**	**+0.7**
ASAR							03 44 56.1	
ASAR				S	**S**	**S**	**03 49 04.2**	**-0.4**
WRAB	**Tennant Creek**	**43.36 263**		*e*P	**P**	**P**	**03 43 22.9**	**0.0**
	comp=Z,52nm,0.8s,mb5.0							
WRAB				*e*S	**S**	**S**	**03 49 04.0**	**-2.1**
WRAB	**Tennant Creek**	**43.36 263**		*e*P	**P**	**P**	**03 43 22.9**	**0.0**
WRAB				*e*S	**S**	**S**	**03 49 04.0**	**-2.2**
WRAB				pmax	pmax			
	comp=Z,52nm,0.8s,mb5.0							
WRAB	**Tennant Creek**	**43.36 263**		P	**P**	**P**	**03 43 22.2**	**-0.7**
	comp=Z,117nm,1.1s,mb5.2							
WRA	**Warramunga Arr**	**43.37 263**		P	**P**	**P**	**03 43 23.2**	**+0.2**
	comp=Z,21nm,0.3s,mb5.0,baz=96,slow=7.7,SNR=262							
WRA				PcP	PcP		03 44 56.8	+0.5
	comp=Z,4.6nm,0.9s,baz=97,slow=4.2,SNR=5.0							
WRA				ScP	ScP		03 47 51.0	+3.6
	comp=Z,0.4nm,0.4s,baz=99,slow=3.8,SNR=3.0							
WRA				S	**S**	**S**	**03 49 04.4**	**-1.9**
	comp=Z,5.0nm,0.8s,baz=97,slow=12,SNR=13							
WRA	**Warramunga Arr**	**43.37 263**		P	**P**	**P**	**03 43 23.2**	**+0.2**
WRA				PcP	PcP		03 44 56.8	+0.5
WRA				ScP	ScP		03 47 51.0	+3.6
WRA				S	**S**	**S**	**03 49 04.4**	**-1.9**
WRA	**Warramunga Arr**	**43.37 263**		P	**P**	**P**	**03 43 23.2**	**+0.2**
WRA							03 44 56.8	
WRA				S	**S**	**S**	**03 49 04.4**	**-1.9**
FORT	**Forrest**	**48.01 247**		*e*P	**P**	**P**	**03 43 57.8**	**0.0**
	comp=Z,35nm,0.5s,mb5.0							
FORT	**Forrest**	**48.01 247**		*e*P	**P**	**P**	**03 43 57.9**	**+0.1**
	comp=Z,50nm,0.6s,mb5.0							
FITZ	**Fitzroy Crossi**	**51.80 263**		S	**S**	**S

baz=82
WHN **Wuhan** 81.82 307 P P 03 47 29.1 +0.6
GMRC **Granite Mounta** 81.99 48 ⇓P P 03 47 29.0 -0.2
baz=82
IRM **Iron Mountain** 82.02 49 ⇑P P 03 47 29.9 +0.6
baz=82
GRAC **Grapevine Rang** 82.03 45 ⇓P P 03 47 29.6 +0.2
baz=82
IPM **Ipoh** 82.04 278 *e*P P 03 47 30.4 +0.4
comp=Z,29nm,0.7s,mb4.9
IPM **Ipoh** 82.04 278 P P 03 47 30.6 +0.6
comp=Z,49nm,1.0s,mb5.0
FURC **Furnace Creek,** 82.08 46 ⇑P P 03 47 29.5 -0.1
baz=82
TUQ **Turquoise Moun** 82.16 47 ⇑P P 03 47 30.1 0.0
baz=82
NVAR **Mina Array Bea** 82.22 44 P P 03 47 30.3 0.0
comp=Z,1.8nm,0.5s,mb3.9,baz=229,slow=7.9,SNR=18
NVAR **Mina Array Bea** 82.22 44 P P 03 47 30.3 0.0
Y12C **Blythe** 82.24 50 ⇑P P 03 47 30.7 +0.2
baz=82
113A **Mohawk Valley,** 82.28 51 ⇓P P 03 47 31.4 +0.7
baz=82
214A **Organ Pipe Nat** 82.56 52 ⇓P P 03 47 32.2 +0.1
baz=83
Z13A **Yuma Proving G** 82.58 50 ⇑P P 03 47 32.7 +0.5
baz=83
KULM **Kulim** 82.69 279 *e*P P 03 47 33.5 +0.3
comp=Z,14nm,0.8s,mb4.5
PDMCI **Parker Dam,Lak** 82.80 49 ⇓P P 03 47 33.6 +0.3
baz=83
114A **Black Gap (USA** 82.91 51 ⇓P P 03 47 34.2 +0.3
baz=83
K05A **Summer Lake** 83.11 39 ⇑P P 03 47 35.2 +0.6
baz=83
Z14A **Wintersburg** 83.17 51 ⇑P P 03 47 35.9 +0.8
baz=83
115A **Sonoran Desert** 83.36 51 ⇓P P 03 47 36.7 +0.6
baz=83
PSI **Prapat** 83.38 276 P P 03 47 36.2 -0.4
comp=Z,26nm,1.0s,mb4.7
W13A **Hualapai Mount** 83.39 49 ⇓P P 03 47 36.3 +0.1
baz=83
H04A **Detroit Lake** 83.55 37 ⇑P P 03 47 36.5 -0.2
baz=84
116A **Eloy** 83.67 52 ⇑P P 03 47 38.0 +0.3
baz=84
Y15A **Casa Rosa Ranc** 83.91 50 ⇓P P 03 47 39.0 +0.2
baz=84
217A **Green Valley** 83.95 53 ⇑P P 03 47 39.7 +0.7
baz=84
R11A **Troy Canyon, C** 83.95 45 ⇑P P 03 47 39.9 +1.0
baz=84
TUC **Tucson** 84.23 52 *e*P P 03 47 40.5 +0.1
comp=Z,2.6nm,0.9s,mb3.8
TUC **Tucson** 84.23 52 *e*P P 03 47 40.5 +0.1
TUC pmax pmax
comp=Z,3.0nm,0.9s,mb3.8
WVOR **Wild Horse Val** 84.29 40 *e*P P 03 47 40.1 -0.3
comp=Z,2.0nm,0.7s,mb3.8
WVOR **Wild Horse Val** 84.29 40 *e*P P 03 47 40.1 -0.3
WVOR pmax pmax
comp=Z,2.0nm,0.7s,mb3.8
117A **Oracle** 84.39 52 ⇑P P 03 47 41.4 +0.3
baz=84
318A **Bisbee** 84.40 53 ⇓P P 03 47 41.7 +0.5
baz=84
Y16A **Circle Bar Ran** 84.49 51 ⇓P P 03 47 42.0 +0.4
baz=84
I07A **Izee** 84.73 39 ⇓P P 03 47 42.9 +0.4
baz=85
X16A **Lo Mia Camp, P** 84.78 50 ⇑P P 03 47 43.5 +0.5
baz=85
Y17A **Roosevelt** 84.86 51 ⇑P P 03 47 44.0 +0.6
baz=85
319A **Douglas** 84.91 54 ⇑P P 03 47 43.9 +0.2
baz=85
J08A **Circle Bar Ran** 84.92 40 ⇓P P 03 47 43.5 +0.1
baz=85
V15A **Kaibab Nationa** 84.96 49 ⇑P P 03 47 44.2 +0.4
baz=85
118A **Homack Ranch,** 84.99 52 ⇓P P 03 47 44.6 +0.5
baz=85
W16A **Flagstaff** 85.05 50 ⇑P P 03 47 44.9 +0.6
baz=85
U15A **North Rim** 85.19 48 ⇑P P 03 47 45.2 +0.3
baz=85
X17A **Forest Lakes** 85.20 51 ⇑P P 03 47 45.9 +0.9
baz=85
D05A **Enumclaw** 85.20 35 ⇑P P 03 47 44.9 +0.2
baz=85
219A **White Tail Can** 85.22 53 ⇓P P 03 47 45.5 +0.3
baz=85
ENH **Enshi** 85.37 305 *e*P P 03 47 46.5 +0.5
comp=Z,7.8nm,0.7s,mb4.5
BJT **Baijiatuau** 85.44 316 *e*P P 03 47 46.2 +0.2
comp=Z,11nm,0.6s,mb4.7
BJT **Baijiatuau** 85.44 316 *e*P P 03 47 46.2 +0.2
BJT pmax pmax
comp=Z,11nm,0.6s
BJI **Beijing** 85.45 316 P P 03 47 46.3 +0.2
BJI pP pP 03 50 03.0 +0.7
BJI sP sP 03 51 05.5 -1.2
BJI PP PP 03 51 17.4 -0.1
BJI S S 03 57 26.5 +1.4
BJI sS sS 04 01 31.0 +3.3
BJI pmax pmax
comp=Z,15nm,0.8s,mb4.7
BJI pmax pmax
comp=Z,130nm,5.2s
320A **Kipp Ranch, An** 85.45 54 ⇓P P 03 47 47.3 +1.0
baz=86
Y18A **Canyon Day Jun** 85.49 51 ⇑P P 03 47 47.1 +0.7
baz=86
220A **Playas Peak, P** 85.72 54 ⇑P P 03 47 48.0 +0.5
baz=86
G08A **Pilot Rock** 85.75 38 ⇓P P 03 47 47.1 -0.2
baz=86,SNR=8.1
V17A **Tonalea, Kykot** 85.84 49 ⇓P P 03 47 48.6 +0.6
baz=86
U16A **Tuba City** 85.86 49 ⇓P P 03 47 48.7 +0.6
baz=86
X18A **Snowflake** 85.91 51 ⇑P P 03 47 48.6 +0.2
baz=86
E07A **Sunnyside** 85.99 37 ⇓P P 03 47 48.3 -0.1
baz=86
T16A **Glen Canyon Da** 86.01 48 ⇑P P 03 47 49.5 +0.8
baz=86
Y19A **Nutrioso** 86.14 52 ⇓P P 03 47 50.3 +0.8
baz=86
Z20A **Nine Sixteen R** 86.24 53 ⇑P P 03 47 50.2 +0.2
baz=86
A05A **Maple Falls** 86.27 34 ⇓P P 03 47 50.2 +0.6
baz=86
S16A **Weppner Ranch,** 86.32 47 ⇓P P 03 47 50.6 +0.4
baz=86
ETW **Entiat** 86.35 36 *e*P P 03 47 49.6 -0.5
comp=Z,7.8nm,0.6s,mb4.5
E08A **Dider Farm, El** 86.39 37 ⇓P P 03 47 50.7 +0.4
baz=86
V18A **Ganado** 86.49 50 ⇓P P 03 47 51.6 +0.5
baz=86
T17A **Navajo Res., N** 86.50 48 ⇑P P 03 47 51.6 +0.5
baz=87
MFID **Camas Ranch** 86.55 41 ⇑P P 03 47 51.3 +0.1
baz=87
121A **Cookes Peak, D** 86.57 53 ⇑P P 03 47 51.0 -0.5
baz=87
W19A **Sanders** 86.60 50 ⇓P P 03 47 51.7 +0.1
baz=87
DUG **Dugway** 86.75 45 ⇓P P 03 47 52.6 +0.4
baz=87
S17A **Black Ridge (B** 86.82 48 ⇑P P 03 47 52.4 -0.2
baz=87
X20A **Quemado** 86.97 51 ⇓P P 03 47 53.4 +0.1
baz=87
F10A **Beach Ranch, E** 87.14 38 ⇓P P 03 47 53.4 -0.5
baz=87,SNR=9.4
I12A **Atlanta** 87.18 41 ⇓P P 03 47 54.1 0.0
baz=87,SNR=5.3
TRF **Thorofare Moun** 87.22 13 *e*P P 03 47 52.1 -1.7
comp=Z,23nm,0.7s,mb4.9
T18A **Mexican Hat** 87.22 48 ⇑P P 03 47 54.3 -0.1
baz=87
W20A **Ramah** 87.25 51 ⇑P P 03 47 54.7 +0.1
baz=87
U19A **Dine' College,** 87.29 49 ⇑P P 03 47 55.0 +0.2
baz=87
Y21A **Point of Rocks** 87.33 52 ⇑P P 03 47 55.4 +0.4
baz=87
L14A **Malta** 87.43 43 ⇑P P 03 47 55.8 +0.5
baz=88
HLID **Hailey** 87.50 41 ⇑P P 03 47 55.7 +0.1
baz=88,SNR=5.3
HLID **Hailey** 87.50 41 *e*P P 03 47 55.1 -0.5
comp=Z,3.8nm,0.9s,mb4.0
SNAA **Sanae** 87.51 179 *e*P P 03 47 51.8 -3.4
comp=Z,1.3nm,0.5s,mb3.8
SNAA **Sanae** 87.51 179 *e*P P 03 47 51.8 -3.4
SNAA pmax pmax
comp=Z,1.0nm,0.5s
Z22A **Elephant Butte** 87.51 53 ⇓P P 03 47 56.0 +0.1
baz=88
XAN **Xi'an** 87.53 308 P P 03 47 56.5 +0.5
XAN pmax pmax
comp=Z,5.0nm,0.9s,mb4.1
J13A **Cove Ranch, Pi** 87.56 41 ⇑P P 03 47 56.1 +0.2
baz=88,SNR=7.7
C09A **Chrisman Ranch** 87.59 36 ⇑P P 03 47 55.9 0.0
baz=88
M15A **Larsen Ranch,** 87.64 44 ⇓P P 03 47 56.0 -0.3
baz=88
VNA3 **Neumayer Olymp** 87.69 177 *e* P 03 47 52.6 -3.5
K14A **Jones Ranch, D** 87.73 43 ⇓P P 03 47 56.9 +0.2
baz=88
SRU **San Rafael** 87.74 47 ⇓P P 03 47 57.0 +0.2
baz=88
MCK **McKinley** 87.75 13 *e*P P 03 47 54.3 -2.0
comp=Z,8.8nm,0.7s,mb4.5
MCK **McKinley** 87.75 13 *e*P P 03 47 54.3 -2.0
MCK pmax pmax
comp=Z,9.0nm,0.7s,mb4.5
H12A **Diamond D Ranc** 87.75 40 ⇑P P 03 47 56.4 -0.4
baz=88,SNR=8.8
G12A **Big Creek, Yel** 87.78 40 ⇓P P 03 47 57.2 +0.4
baz=88
R18A **Canyonlands Na** 87.81 47 ⇓P P 03 47 57.3 +0.1
baz=88
324A **Moseley Ranch,** 87.82 55 ⇓P P 03 47 57.2 -0.2
baz=88,SNR=5.3
425A **Indio Mountain** 87.92 56 ⇑P P 03 47 57.9 0.0
baz=88
J14A **Carey** 87.92 42 ⇓P P 03 47 58.4 +0.8
baz=88
L15A **Malad City** 87.95 43 ⇑P P 03 47 57.8 +0.1
baz=88
Q18A **Rafter H Ranch** 88.00 47 ⇓P P 03 47 58.2 +0.2
baz=88
626A **Big Bend Ranch** 88.06 57 ⇑P P 03 47 58.3 -0.2
baz=88
Z23A **Rita Site, Whi** 88.06 53 ⇑P P 03 47 58.7 +0.3
baz=88
224A **Cornudas Mount** 88.07 55 ⇑P P 03 47 59.0 +0.4
baz=88
M16A **Huntsville** 88.09 44 ⇑P P 03 47 58.3 -0.1
baz=88
VNA2 **Neumayer--Watz** 88.11 177 *e* P 03 47 55.3 -2.8
baz=196,slow=3.0
H13A **Challis** 88.12 40 ⇓P P 03 47 58.7 +0.2
baz=88
O17A **Robinson Place** 88.12 45 ⇑P P 03 47 58.9 +0.3
baz=88,SNR=11
F12A **Elk City** 88.17 39 ⇑P P 03 47 58.1 -0.5
baz=88,SNR=5.4
P18A **Preston Nutter** 88.18 46 ⇓P P 03 47 59.4 +0.6
baz=88
325A **Bean Ranch, Si** 88.19 55 ⇑P P 03 47 58.9 -0.2
baz=88
K15A **Arbon** 88.21 43 ⇑P P 03 47 59.2 +0.3
baz=88
I14A **Mackay** 88.28 41 ⇑P P 03 48 00.3 +1.1
baz=88,SNR=6.3
HWUT **Hardware Ranch** 88.28 44 *e*P P 03 47 58.5 -0.8
comp=Z,1.9nm,0.8s,mb3.8
526A **Mary Lane Ranc** 88.31 57 ⇑P P 03 48 00.1 +0.4
baz=88
TXAR **Lajitas Array** 88.33 58 P P 03 48 00.2 +0.4
comp=Z,2.4nm,0.8s,mb3.9,baz=221,slow=6.1,SNR=30
TXAR pP pP 03 50 12.2 -5.0
comp=Z,0.5nm,0.9s,baz=266,slow=2.7,SNR=3.3
TXAR PKKPbc PKKPbc 04 05 39.2 +0.2
comp=Z,0.4nm,0.6s,baz=153,slow=2.8,SNR=7.0
TXAR Lajitas Array 88.33 58 P P **03 48 00.2 +0.4**
TXAR pP pP 03 50 12.2 -5.0
TXAR PKKPbc PKKPbc 04 05 39.2 +0.2
TXAR Lajitas Array 88.33 58 P P **03 48 00.2 +0.4**
TXAR *PP pP 03 50 12.2 -5.0
E12A **Beaver Dam Sad** 88.34 38 ⇓P P 03 47 59.8 +0.4
baz=88
VNA1 **Neumayer--Stat** 88.35 177 *e* P 03 47 56.2 -2.9
124A **Stringfield Ra** 88.40 54 ⇑P P 03 48 00.1 +0.1
baz=88
G13A **Cobalt** 88.42 40 ⇓P P 03 48 00.0 +0.2
baz=88
N17A **Moffit Pass** 88.43 45 ⇓P P 03 47 59.9 -0.1
baz=88
U21A **Nageezi** 88.46 50 ⇓P P 03 48 00.4 +0.2
baz=88
Y23A **Lovelace Mesa,** 88.49 53 ⇑P P 03 48 00.5 0.0
baz=88
Q19A **Hogan Spring (** 88.52 47 ⇑P P 03 48 00.6 +0.1
baz=89
L16A **Fish Haven** 88.57 44 ⇑P P 03 48 00.3 -0.3
baz=89,SNR=8.7
627A **Terlingua Ranc** 88.60 58 ⇓P P 03 48 01.0 -0.1
baz=89
S20A **Disappointment** 88.61 48 ⇓P P 03 48 01.5 +0.6
baz=89
426A **McDonald Obser** 88.61 56 ⇓P P 03 48 01.0 -0.1
baz=89
225A **Deer Hill, Car** 88.62 55 ⇑P P 03 48 01.1 0.0
baz=89
J15A **Blackfoot** 88.64 42 ⇓P P 03 48 01.4 +0.5
baz=89,SNR=7.9
ANMO **Albuquerque** 88.65 52 P P 03 48 01.2 +0.1
comp=Z,0.7nm,0.5s,mb3.7,baz=260,slow=6.1,SNR=4.9
ANMO **Albuquerque** 88.65 52 *e*P P 03 48 00.9 -0.3
comp=Z,1.2nm,0.7s,mb3.7
ANMO **Albuquerque** 88.65 52 P P 03 48 01.3 +0.1
ANMO pmax pmax
comp=Z,1.0nm,0.5s
H14A **Leadore** 88.69 41 ⇓P P 03 48 01.3 +0.2
baz=89
527A **Woodward Ranch** 88.72 57 ⇑P P 03 48 01.7 +0.1
baz=89
F13A **Darby** 88.73 39 ⇑P P 03 48 01.1 -0.1
baz=89
C11A **Tepee Creek (N** 88.73 37 ⇑P P 03 48 01.0 -0.3
baz=89
M17A **Scullys Gap (B** 88.80 44 ⇑P P 03 48 01.7 0.0
baz=89
T21A **Navajo Lake** 88.80 50 ⇓P P 03 48 01.8 -0.1
baz=89
D12A **Red Ives Fores** 88.82 38 ⇓P P 03 48 01.3 -0.3
baz=89
K16A **Soda Springs** 88.88 43 ⇓P P 03 48 02.3 +0.2
baz=89,SNR=5.5
HHC Hu-ho-hao-te 88.89 315 *e*P P **03 48 02.3 +0.2**
HHC pP pP 03 50 18.6 -1.2
HHC sP sP 03 51 25.8 +2.1
HHC PP PP 03 51 48.9 +4.3
HHC SKS 03 57 31.3
HHC S S 03 57 54.3 -2.6
HHC sS sS 04 02 02.6 +0.3
HHC SS SS 04 04 15.0 +3.9
HHC pmax pmax
comp=Z,13nm,0.7s,mb4.8
HHC pmax pmax
comp=Z,79nm,7.5s
Y24A **Capitan** 88.95 53 ⇑P P 03 48 02.3 -0.3
baz=89,SNR=6.7
COLA **College** 88.98 13 *e*P P 03 47 59.5 -2.5
comp=Z,12nm,0.9s,mb4.6
COLA **College** 88.98 13 *e*P P 03 47 59.5 -2.5
COLA pmax pmax
comp=Z,12nm,0.9s,mb4.6
125A **Gardner Draw,** 88.98 54 ⇓P P 03 48 02.6 -0.1
baz=89
628A **Black Gap, Mar** 89.01 58 ⇓P P 03 48 02.5 -0.5
baz=89
U22A **Llaves** 89.01 50 ⇑P P 03 48 02.8 0.0
baz=89
P19A **Cripple Cowboy** 89.03 47 ⇑P P 03 48 03.3 +0.5
baz=89
J16A **Bone** 89.09 42 ⇓P P 03 48 03.0 0.0
baz=89,SNR=6.3
ILAR **Eielson Array** 89.09 13 P P 03 48 00.7 -1.8
comp=Z,3.6nm,1.0s,mb4.3,baz=214,slow=5.2,SNR=119
ILAR pP pP 03 50 17.6 -2.6
comp=Z,1.2nm,1.2s,baz=206,slow=6.0,SNR=2.9
ILAR PKiKP PKiKP 03 52 54.5 -1.8
comp=Z,0.2nm,0.6s,baz=257,slow=3.2,SNR=4.5
ILAR Eielson Array 89.09 13 P P **03 48 00.7 -1.8**
ILAR pP pP 03 50 17.6 -2.6
ILAR Eielson Array 89.09 13 P P **03 48 00.7 -1.8**
ILAR *PP pP 03 50 17.6 -2.6
C12B **Naegeli Ranch,** 89.10 37 ⇑P P 03 48 02.8 -0.1
baz=89
H15A **Lima** 89.13 41 ⇑P P 03 48 03.8 +0.6
baz=89
226A **Malaga, Loving** 89.15 55 ⇑P P 03 48 03.6 +0.1
baz=89
M18A **Lyman** 89.17 45 ⇑P P 03 48 03.6 +0.2
baz=89
427A **Hayter Ranch,** 89.18 57 ⇓P P 03 48 03.8 0.0
baz=89,SNR=7.4
Q20A **Ridgley Place,** 89.18 47 ⇓P P 03 48 04.0 +0.4
baz=89
CMAR **Chiang Mai Arr** 89.19 290 P P 03 48 06.0 +2.0
comp=Z,15nm,1.0s,mb4.7,baz=132,slow=3.0,SNR=33
CMAR **Chiang Mai Arr** 89.19 290 P P 03 48 06.0 +2.0
CMAR **Chiang Mai Arr** 89.19 290 P P 03 48 06.0 +2.0
V23A **Ortiz Mt. (NFS** 89.21 51 ⇑P P 03 48 03.6 -0.1
baz=89
Z25A **Roswell** 89.21 54 ⇓P P 03 48 03.7 -0.1
baz=89
N18A **Larsen Ranch,** 89.21 45 ⇑P P 03 48 03.6 -0.1
baz=89
X24A **Lazy VL Ranch,** 89.23 52 ⇓P P 03 48 03.8 -0.1
baz=89
O19A **Miners Draw (B** 89.25 46 ⇓P P 03 48 03.8 -0.1
baz=89
K17A **Gardner Place,** 89.27 43 ⇑P P 03 48 04.1 +0.3
baz=89
CHTO **Chiang Mai** 89.33 290 *e*P P 03 48 05.8 +1.1
comp=Z,5.0nm,0.6s,mb4.4
CHTO **Chiang Mai** 89.33 290 *e*P P 03 48 05.8 +1.1
CHTO pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
CHTO **Chiang Mai** 89.33 290 P P 03 48 06.0 +1.3
528A **Cox Ranch, San** 89.37 57 ⇓P P 03 48 04.5 -0.1
baz=89
R21A **Cimarron** 89.43 48 ⇑P P 03 48 04.7 0.0
baz=90
BILL **Bilibino** 89.45 355 *e*P P 03 48 03.2 -0.9
comp=Z,2.8nm,0.6s,mb4.2
BILL Bilibino 89.45 355 ||*i*P P 03 48 03.3 -0.8
BILL *e*PP pP 03 50 17.8 -4.1
BILL *e* 03 51 46.1
BILL pmax pmax
comp=Z,11nm,1.5s,mb4.4
B12A **Libby** 89.45 37 ⇓P P 03 48 04.8 +0.3
baz=90
I16A **Newdale** 89.47 42 ⇑P P 03 48 05.0 +0.2
baz=90
N19A **John Jarvie Ra** 89.50 45 ⇓P P 03 48 04.5 -0.5
baz=90
Y25A **Mesa, Roswell** 89.51 53 ⇓P P 03 48 05.0 -0.1
baz=90
G15A **Dillon** 89.51 41 ⇑P P 03 48 05.1 +0.2
baz=90
MSO **Missoula** 89.51 39 ⇓P P 03 48 04.5 -0.4
baz=90
W24A **Lazy 6 Ranch,** 89.54 52 ⇓P P 03 48 05.2 -0.1
baz=90
TPAW **Teton Pass** 89.62 43 *e*P P 03 48 05.5 +0.1
comp=Z,2.3nm,0.9s,mb4.0
S22A **4UR Ranch, Cre** 89.65 49 ⇑P P 03 48 05.8 +0.1
baz=90
428A **Kincaid Ranch,** 89.69 57 ⇓P P 03 48 05.8 -0.2
baz=90
J17A **Brown Place, J** 89.70 43 ⇓P P 03 48 06.0 +0.1
baz=90
SNOW **Snow King Moun** 89.73 43 *e*P P 03 48 05.8 -0.1
comp=Z,5.1nm,0.9s,mb4.3
O20A **White River Ci** 89.77 46 ⇑P P 03 48 06.5 +0.2
baz=90
K18A **Toltan Ranch,** 89.78 44 ⇑P P 03 48 06.1 -0.1
baz=90,SNR=5.6
V24A **Rampart Ranch,** 89.86 51 ⇓P P 03 48 07.0 +0.3
baz=90
LOHW **Long Hollow** 89.90 43 *e*P P 03 48 06.2 -0.5
L19A **Farson** 89.96 44 ⇓P P 03 48 06.4 -0.6
baz=90,SNR=5.0
H16A **Russell Place,** 90.04 41 ⇓P P 03 48 07.6 +0.3
baz=90
J18A **Kendall Valley** 90.07 43 ⇑P P 03 48 07.4 -0.1
baz=90,SNR=9.1
N20A **Spence Gulch,** 90.09 46 ⇓P P 03 48 07.6 0.0
baz=90
Q22A **Crested Butte,** 90.10 48 ⇑P P 03 48 07.6 -0.2
baz=90
BW06 **Boulder Array** 90.15 44 ⇓P P 03 48 07.2 -0.7
baz=90
BW06 **Boulder Array** 90.15 44 *e*P P 03 48 07.3 -0.6
comp=Z,1.1nm,0.5s,mb3.9
PDAR **Pinedale Array** 90.15 44 P P 03 48 07.5 -0.4
comp=Z,1.3nm,0.7s,mb3.9,baz=203,slow=3.9,SNR=14
PDAR **Pinedale Array** 90.15 44 P P 03 48 07.5 -0.4
W25A **X Bar L Ranch,** 90.24 52 ⇑P P 03 48 07.8 -0.7
baz=90
F16A **Kennard Place,** 90.35 40 ⇑P P 03 48 08.1 -0.7
baz=90
A13A **Flathead Natio** 90.36 37 ⇓P P 03 48 08.2 -0.6
baz=90
V25A **Rancho No Teng** 90.39 52 ⇓P P 03 48 08.9 -0.3
baz=90
EGAK **Eagle** 90.42 15 *e*P P 03 48 07.3 -1.3
comp=Z,2.4nm,0.5s,mb4.3
M20A **Sweetwater, Wa** 90.44 45 ⇓P P 03 48 09.2 -0.1
baz=90
N21A **Black Mountain** 90.55 46 ⇑P P 03 48 09.8 0.0
baz=91
SDCO **Great Sand Dun** 90.59 50 ⇑P P 03 48 09.8 -0.3
baz=91
COLD **Coldfoot** 90.61 11 *e*P P 03 48 08.6 -0.8
comp=Z,2.6nm,0.7s,mb4.2
B14A **Marquette Ranc** 90.70 38 ⇓P P 03 48 09.9 -0.4
baz=91
J19A **Crowheart** 90.72 43 ⇑P P 03 48 10.1 -0.4
baz=91
A14A **Double T Ranch** 90.94 37 ⇑P P 03 48 10.9 -0.5
baz=91
M21A **Separation Pea** 91.05 45 ⇑P P 03 48 12.2 +0.1
baz=91
B15A **Bradely Ranch,** 91.08 38 ⇑P P 03 48 11.2 -0.9
baz=91
T25A **Trinidad** 91.11 50 ⇑P P 03 48 12.2 -0.2
baz=91
I19A **Meeteetse** 91.12 43 ⇑P P 03 48 12.3 -0.1
baz=91
U26A **Atchley Ranch,** 91.27 51 ⇓P P 03 48 12.4 -0.8
baz=91
N22A **Wattenberg Ran** 91.29 46 ⇓P P 03 48 13.1 -0.1
baz=91
S25A **Robets Cordova** 91.31 50 ⇓P P 03 48 13.1 -0.3
baz=91
A15A **Johnson Ranch,** 91.33 37 ⇓P P 03 48 12.4 -0.8
baz=91
J20A **Shoshoni** 91.38 44 ⇑P P 03 48 13.3 -0.2
baz=91
D17A **Six Diamond Ra** 91.59 39 ⇑P P 03 48 13.9 -0.5
baz=92
R25A **Fountain Ranch** 91.63 50 ⇑P P 03 48 14.1 -0.8
baz=92
I20A **Worland** 91.63 43 ⇓P P 03 48 14.4 -0.3
baz=92
C17A **Wharram Farm,** 91.78 39 ⇓P P 03 48 14.5 -0.8
baz=92
J21A **Lysite** 91.79 44 ⇓P P 03 48 15.2 -0.3
baz=92
L22A **Ellis Ranch, M** 91.86 45 ⇓P P 03 48 15.6 -0.2
baz=92
H20A **Greybull** 91.96 43 ⇓P P 03 48 15.9 -0.3
baz=92
F19A **Roth Farm, Mol** 92.02 41 ⇑P P 03 48 15.8 -0.6
baz=92
M23A **Laramie** 92.08 46 ⇓P P 03 48 16.4 -0.5
baz=92
I21A **Big Trails, Te** 92.10 44 ⇑P P 03 48 16.3 -0.6
baz=92
LZH **Lanzhou** 92.17 308 *e*P P 03 48 18.3 +0.9
LZH pP pP 03 50 39.5 +3.9

LZH					sP	sP		03 51 45.0	+5.7	
LZH					pmax	pmax				
	comp=Z,13nm,1.0s,mb4.8									
YAK	**Yakutsk**	**92.17**	**338**	*e*P	**P**		**03 48 14.8**	**-1.9**		
YAK				pmax	pmax					
	comp=Z,15nm,0.9s,mb4.9									
L23A	**Garrett**	**92.38**	**46**	⇑P	**P**		**03 48 17.8**	**-0.4**		
	baz=92									
A18A	**Metzger Ranch,**	**92.95**	**38**	⇓P	**P**		**03 48 19.4**	**-1.2**		
	baz=93									
F23A	**Volborg**	**94.16**	**42**	⇓P	**P**		**03 48 25.7**	**-0.5**		
	baz=94									
D22A	**Cohagen**	**94.31**	**41**	⇓P	**P**		**03 48 26.5**	**-0.4**		
	baz=94									
SONM	**Songino Array**	**95.39**	**319**	P	**P**		**03 48 31.7**	**0.0**		
	comp=Z,0.6nm,0.6s,mb3.9,baz=126,slow=3.4,SNR=4.8									
SONM	**Songino Array**	**95.39**	**319**	P	**P**		**03 48 31.7**	**0.0**		
SONM	**Songino Array**	**95.39**	**319**	P	**P**		**03 48 31.7**	**0.0**		
ZALV	**Zalesovo Beam**	**110.17**	**321**	PKiKP	PKiKP		03 53 32.6	-1.7		
	comp=Z,2.3nm,0.6s,baz=146,slow=0.9,SNR=8.8									
ZALV	**Zalesovo Beam**	**110.17**	**321**	PKPdf	PKiKP		03 53 32.6	-1.7		
MK31	**Makanchi Array**	**110.71**	**313**	*e*PKP	PKiKP		03 53 34.1	-1.6		
MK31	**Makanchi Array**	**110.71**	**313**	*e*PKiKP	PKiKP		03 53 34.1	-1.6		
MKAR	**Makanchi Array**	**110.71**	**313**	PKiKP	PKiKP		03 53 34.4	-1.3		
	comp=Z,0.9nm,0.4s,baz=178,slow=0.9,SNR=20									
MKAR	**Makanchi Array**	**110.71**	**313**	PKPdf	PKiKP		03 53 34.4	-1.3		
MKAR	**Makanchi Array**	**110.71**	**313**	PKiKP	PKiKP		03 53 34.4	-1.3		
KURK	**Kurchatov**	**113.59**	**317**	PKiKP	PKiKP		03 53 39.6	-1.4		
	comp=Z,2.1nm,0.5s,baz=96,slow=1.9,SNR=9.8									
KURK	**Kurchatov**	**113.59**	**317**	*e*PKP	PKiKP		03 53 38.7	-2.3		
KURK	**Kurchatov**	**113.59**	**317**	*i*PKiKP	PKiKP		03 53 39.6	-1.4		
KURK				pmax	pmax					
	comp=Z,2.0nm,0.5s									
TKM2	**Tokmak 2**	**114.93**	**309**	*e*PKPdf	PKPdf		03 53 42.5	-1.3		
TKM2	**Tokmak 2**	**114.93**	**309**	*e*PKiKP	PKPdf		03 53 42.5	-1.4		
EKS2	**Erkin-Say**	**116.23**	**308**	*e*PKPdf	PKPdf		03 53 45.6	-0.8		
EKS2	**Erkin-Say**	**116.23**	**308**	*e*PKiKP	PKPdf		03 53 45.6	-0.8		
KKAR	**Karatay Array**	**118.66**	**308**	*e*PKPdf	PKPdf		03 53 49.7	-1.3		
KKAR	**Karatay Array**	**118.66**	**308**	*e*PKiKP	PKPdf		03 53 49.7	-1.3		
BVAR	**Borovoye Array**	**118.73**	**320**	PKP	PKPdf		03 53 49.5	-1.4		
	comp=Z,6.2nm,0.4s,baz=139,slow=1.5,SNR=32									
BVAR	**Borovoye Array**	**118.73**	**320**	PKP	PKPdf		03 53 49.5	-1.4		
BVAR	**Borovoye Array**	**118.73**	**320**	PKiKP	PKPdf		03 53 49.5	-1.3		
BRVK	**Borovoye**	**118.79**	**320**	*e*PKPdf	PKPdf		03 53 49.5	-1.4		
BRVK	**Borovoye**	**118.79**	**320**	*e*PKiKP	PKPdf		03 53 49.5	-1.5		
KBL	**Kabul**	**119.12**	**299**	*e*PKPdf	PKPdf		03 53 51.3	-0.9		
KBL	**Kabul**	**119.12**	**299**	*e*PKiKP	PKPdf		03 53 51.3	-0.9		
SPITS	**Spitsbergen Ar**	**122.32**	**356**	PKP	PKPdf		03 53 56.0	-1.1		
	comp=Z,13nm,0.7s,baz=64,slow=7.5,SNR=19									
SPITS	**Spitsbergen Ar**	**122.32**	**356**	PKP	PKPdf		03 53 56.0	-1.1		
SPITS	**Spitsbergen Ar**	**122.32**	**356**	PKiKP	PKPdf		03 53 56.0	-1.1		
SOKR	**Solikamsk**	**124.94**	**329**	*e*PKiKP	PKPdf		03 53 59.0	-3.6		
SOKR				pmax	pmax					
	comp=Z,20nm,1.1s									
ARU	**Arti**	**124.97**	**325**	*e*PKPdf	PKPdf		03 54 01.9	-0.8		
ARU	**Arti**	**124.97**	**325**	*e*PKiKP	PKPdf		03 54 01.9	-0.8		
ABKAR	**Akbulak array**	**125.66**	**316**	*e*PKPdf	PKPdf		03 54 03.1	-1.1		
LBTB	**Lobatse**	**128.25**	**209**	PKP	PKPdf		03 54 10.4	+0.3		
	comp=Z,1.6nm,0.5s,baz=108,slow=4.2,SNR=5.4									
LBTB	**Lobatse**	**128.25**	**209**	*e*PKPdf	PKPdf		03 54 10.0	-0.1		
LBTB	**Lobatse**	**128.25**	**209**	PKiKP	PKPdf		03 54 10.4	+0.3		
LBTB				pmax	pmax					
	comp=Z,2.0nm,0.5s									
ARCES	**ARCESS Array B**	**129.23**	**349**	PKP	PKPdf		03 54 09.4	-1.1		
	comp=Z,9.0nm,0.6s,baz=50,slow=1.0,SNR=42									
ARCES	**ARCESS Array B**	**129.23**	**349**	PKP	PKPdf		03 54 09.4	-1.1		
ARCES	**ARCESS Array B**	**129.23**	**349**	PKiKP	PKPdf		03 54 09.4	-1.1		
JOF	**Joensuu**	**133.27**	**341**	*e*PKiKP	PKPdf		03 54 15.2	-3.1		
JOF				pmax	pmax					
	comp=Z,9.0nm,0.5s									
JOF	**Joensuu**	**133.27**	**341**	*e*p	PKPdf		03 54 15.2	-3.1		
	comp=Z,8.9nm,0.5s									
LSZ	**Lusaka**	**134.97**	**219**	*e*PKPdf	PKPdf		03 54 24.4	+1.4		
LSZ	**Lusaka**	**134.97**	**219**	*e*PKiKP	PKPdf		03 54 24.4	+1.5		
KAF	**Kangasniemi**	**135.33**	**343**	*e*PKiKP	PKPdf		03 54 21.0	-1.1		
KAF				pmax	pmax					
	comp=Z,5.0nm,0.3s									
KAF	**Kangasniemi**	**135.33**	**343**	*e*p	PKPdf		03 54 21.0	-1.1		
	comp=Z,4.7nm,0.3s									
FINES	**FINESS Array B**	**135.94**	**343**	PKhKP	PKPpre		03 54 09.4			
	comp=Z,3.7nm,1.0s,baz=64,slow=4.4,SNR=5.3									
FINES				PKP	PKPdf		03 54 20.5	-2.8		
	comp=Z,5.2nm,0.6s,baz=82,slow=3.6,SNR=7.3									
FINES				SKPbc	SKPbc		03 56 54.8	-0.9		
	comp=Z,4.8nm,0.8s,baz=29,slow=4.4,SNR=6.4									
FINES	**FINESS Array B**	**135.94**	**343**	PKP	PKPpre		03 54 09.4			
FINES				PKP	PKPdf		03 54 20.5	-2.8		
FINES				SKPbc	SKPbc		03 56 54.8	-0.9		
FINES	**FINESS Array B**	**135.94**	**343**	PKHKP	PKPpre		03 54 09.5			
FINES							03 54 20.5			
OBN	**Obninsk**	**136.66**	**331**	*e*PKiKP	PKPdf		03 54 26.2	+1.4		
OBN				*e*PS			04 07 53.0			
OBN				pmax	pmax					
	comp=Z,9.0nm,1.4s									
TSUM	**Tsumeb**	**136.75**	**204**	*e*PKPdf	PKPdf		03 54 26.1	-0.1		
NOA	**NORSAR Array B**	**139.36**	**352**	PKhKP	PKPpre		03 54 20.6			
	comp=Z,1.6nm,0.6s,baz=15,slow=4.7,SNR=12									
NOA				PKP	PKPdf		03 54 30.8	+1.2		
	comp=Z,2.5nm,0.6s,baz=13,slow=4.0,SNR=6.1									
NOA	**NORSAR Array B**	**139.36**	**352**	PKP	PKPpre		03 54 20.6			
NOA				PKP	PKPdf		03 54 30.8	+1.2		
NOA	**NORSAR Array B**	**139.36**	**352**	PKHKP	PKPpre		03 54 20.6			
NOA							03 54 30.8			
ELZG	**Elazig**	**142.84**	**306**	*i*P	PKPdf		03 54 35.2	-1.3		
AKASG	**Malin Array Be**	**142.90**	**330**	PKhKP	PKPpre		03 54 32.9			
	comp=Z,41nm,0.5s,baz=44,slow=4.2,SNR=174									
AKASG	**Malin Array Be**	**142.90**	**330**	PKP	PKPpre		03 54 32.9			
AKASG	**Malin Array Be**	**142.90**	**330**	PKHKP	PKPpre		03 54 32.9			
AKBB	**Malin Array Si**	**142.90**	**330**	*e*PKPdf	PKPpre		03 54 32.5			
AKBB	**Malin Array Si**	**142.90**	**330**	*e*PKHKP	PKPpre		03 54 32.6			
SUW	**Suwalki**	**142.91**	**338**	*e*PKP	PKPpre		03 54 33.1			
SUW	**Suwalki**	**142.91**	**338**	*e*PKPdf	PKPpre		03 54 33.0			
SUW	**Suwalki**	**142.91**	**338**	*e*PKHKP	PKPpre		03 54 33.1			
KIEV	**Kiev**	**142.91**	**330**	*e*PKPdf	PKPpre		03 54 32.8			
KIEV	**Kiev**	**142.91**	**330**	*e*PKHKP	PKPpre		03 54 32.8			
KEMA	**Kemaliye**	**142.97**	**308**	*i*P	PKPdf		03 54 35.3	-1.4		
KAC	**Achnashellach**	**143.31**	**5**	*e*P	PKPdf		03 54 36.3	-0.4		
MCD	**Coleburn Disti**	**143.38**	**4**	*e*P	PKPdf		03 54 35.0	-1.8		
KPL	**Plockton**	**143.44**	**6**	*e*P	PKPdf		03 54 36.0	-0.9		
SIM	**Simferopol'**	**143.63**	**319**	*d*iPKHKP	PKPdf		03 54 36.4	-1.3		
SIM				pmax	pmax					
	comp=Z,53nm,0.9s									
ERBA	**Erbaa**	**143.75**	**311**	*i*P	PKPdf		03 54 37.0	-1.1		
GZT	**Gaziantep**	**144.25**	**305**	*i*P	PKPdf		03 54 38.0	-1.0		
EAB	**Aberfoyle**	**144.69**	**5**	*e*P	PKPdf		03 54 38.5	-0.7		
EBH	**Black Hill**	**144.69**	**4**	*e*P	PKPdf		03 54 38.8	-0.4		
ESY	**Stoneypath**	**145.08**	**3**	*e*P	PKPdf		03 54 39.8	0.0		
EAU	**Auchinoon**	**145.10**	**4**	*e*P	PKPdf		03 54 39.9	+0.1		
CTKT	**Corum**	**145.15**	**312**	*i*P	PKPdf		03 54 39.8	-0.7		
EBL	**Broad Law**	**145.19**	**4**	*e*P	PKPdf		03 54 40.1	0.0		
GKP	**Gorka Klasztor**	**145.42**	**343**	*e*PKP	PKPdf		03 54 41.5	+1.0		
GKP	**Gorka Klasztor**	**145.42**	**343**	*e*PKiKP	PKPdf		03 54 41.5	+1.0		
BEL	**Belsk**	**145.52**	**338**	*e*PKP	PKPdf		03 54 42.2	+1.5		
BEL	**Belsk**	**145.52**	**338**	*e*PKiKP	PKPdf		03 54 42.2	+1.5		
ESK	**Eskdalemuir**	**145.64**	**4**	*e*P	PKPdf		03 54 39.8	-1.0		
ESK	**Eskdalemuir**	**145.64**	**4**	*e*PKPbc	PKPbc		03 54 41.2	-1.4		
ESK	**Eskdalemuir**	**145.64**	**4**	*e*PKiKP	PKPdf		03 54 41.2	+0.4		
YAYL	**Yayladag**	**145.74**	**304**	*i*P	PKPdf		03 54 41.9	+0.3		
ECK	**Cauldkaine Hil**	**145.78**	**4**	*e*P	PKPdf		03 54 41.5	+0.5		
GAL1	**Galloway**	**145.97**	**6**	*e*P	PKPdf		03 54 41.0	-0.4		
ASF	**Jabal al Asfar**	**145.97**	**297**	PKPbc	PKPbc		03 54 44.5	+0.2		
	comp=Z,10nm,0.8s,baz=329,slow=2.2,SNR=15									
ASF	**Jabal al Asfar**	**145.97**	**297**	PKPbc	PKPbc		03 54 44.5	+0.2		
ASF	**Jabal al Asfar**	**145.97**	**297**	PKiKP	PKPbc		03 54 44.5	+0.2		
ELDT	**Eldivan**	**146.15**	**312**	*i*P	PKPdf		03 54 44.0	+1.9		
XAL	**Allendale**	**146.15**	**3**	*e*P	PKPdf		03 54 42.2	+0.6		
LEOM	**Leova**	**146.16**	**325**	⇓PKiKP	PKPdf		03 54 43.9	+2.0		
LEOM	**Leova**	**146.16**	**325**	⇓*i*P	PKPdf		03 54 43.8	+1.9		
BR131	**Keskin Array S**	**146.32**	**311**	*e*PKPbc	PKPbc		03 54 43.7	-1.2		
BRTR	**Keskin Array B**	**146.32**	**311**	PKPbc	PKPbc		03 54 44.4	-0.6		
	comp=Z,9.6nm,0.7s,baz=134,slow=3.1,SNR=51									
BRTR	**Keskin Array B**	**146.32**	**311**	PKPbc	PKPbc		03 54 44.4	-0.6		
BRTR	**Keskin Array B**	**146.32**	**311**	PKiKP	PKPbc		03 54 44.4	-0.6		
GULE	**Gulek**	**146.38**	**306**	*i*P	PKPbc		03 54 45.1	-0.1		
KWP	**Kalwaria Pacla**	**146.56**	**334**	*e*PKP	PKPdf		03 54 44.3	+1.7		
KWP	**Kalwaria Pacla**	**146.56**	**334**	⇓PKiKP	PKPbc		03 54 45.2	-0.1		
KWP	**Kalwaria Pacla**	**146.56**	**334**	⇓*i*P	PKPbc		03 54 45.2	-0.1		
TLCR		**146.64**	**323**	⇓PKiKP	PKPbc		03 54 45.2	-0.4		
TLCR		**146.64**	**323**	⇓*i*P	PKPbc		03 54 45.2	-0.4		
BUR08	**Bucovina Ar. S**	**146.92**	**329**	*e*PKPbc	PKPbc		03 54 46.3	0.0		
BURAR	**Bucovina Array**	**146.93**	**329**	⇓PKiKP	PKPbc		03 54 46.5	+0.2		
BURAR	**Bucovina Array**	**146.93**	**329**	⇓*i*P	PKPbc		03 54 46.5	+0.2		
TESR		**146.97**	**326**	⇓*i*P	PKPbc		03 54 45.9	-0.6		
OJC	**Ojcow**	**147.21**	**337**	*e*PKP	PKPbc		03 54 46.2	-0.8		
OJC	**Ojcow**	**147.21**	**337**	*e*PKiKP	PKPbc		03 54 46.2	-0.8		
TIRR	**Tirgusor**	**147.30**	**322**	⇓PKiKP	PKPbc		03 54 46.9	-0.5		
TIRR	**Tirgusor**	**147.30**	**322**	⇓*i*P	PKPbc		03 54 46.9	-0.5		
STHS	**Stebnicka Huta**	**147.32**	**335**	*e*PKiKP	PKPbc		03 54 47.1	-0.2		
STHS	**Stebnicka Huta**	**147.32**	**335**	*e*PKP	PKPbc		03 54 47.1	-0.2		
VRI	**Vrincioaia**	**147.36**	**325**	⇓PKiKP	PKPbc		03 54 46.7	-0.8		
VRI	**Vrincioaia**	**147.36**	**325**	⇓*i*P	PKPbc		03 54 46.7	-0.8		
PLOR	**Plostina**	**147.41**	**325**	⇑PKiKP	PKPbc		03 54 47.0	-0.6		
PLOR	**Plostina**	**147.41**	**325**	⇑*i*P	PKPbc		03 54 47.0	-0.6		
UZH	**Uzhgorod**	**147.50**	**333**	⇑*i*PKiKP	PKPbc		03 54 47.2	-0.6		
UZH				*e*			03 54 53.9			
MANR	**Mangalia**	**147.58**	**321**	⇓*i*P	PKPbc		03 54 48.2	+0.1		
NIE	**Niedzica**	**147.68**	**336**	*e*PKP	PKPbc		03 54 48.2	0.0		
NIE	**Niedzica**	**147.68**	**336**	*e*PKiKP	PKPbc		03 54 48.2	0.0		
TRPA	**Tarpa**	**147.78**	**332**	⇓*i*P	PKPbc		03 54 47.9	-0.6		
KSP	**Ksiaz**	**147.84**	**341**	*e*PKP	PKPbc		03 54 48.3	-0.3		
KDHN	**Kadinhani**	**147.89**	**310**	*i*P	PKPbc		03 54 48.1	-1.0		
ISR	**Istrita**	**147.94**	**325**	⇑PKiKP	PKPbc		03 54 49.4	+0.4		
ISR	**Istrita**	**147.94**	**325**	⇑*i*P	PKPbc		03 54 49.4	+0.4		
DOPR	**Dopca**	**147.99**	**327**	⇑*i*P	PKPbc		03 54 49.4	+0.3		
MLR	**Muntele Rosu**	**148.02**	**326**	⇓PKiKP	PKPbc		03 54 49.6	+0.4		
MLR	**Muntele Rosu**	**148.02**	**326**	⇓*i*P	PKPbc		03 54 49.6	+0.4		
FOEL	**Foel Wylfa**	**148.06**	**5**	*e*P	PKPdf		03 54 44.9	0.0		
OKC	**Ostrava-Krasne**	**148.12**	**338**	*i*PKiKP	PKPbc		03 54 48.9	-0.4		
OKC				*e*			03 54 54.5			
OKC	**Ostrava-Krasne**	**148.12**	**338**	⇑*i*PKP	PKPbc		03 54 48.9	-0.4		
OKC				*e*PKPab	PKPab		03 54 54.5	-0.2		
CSS	**Prodhromos**	**148.22**	**303**	*e*PKPbc	PKPbc		03 54 49.1	-0.9		
UPC	**Upice**	**148.22**	**341**	*i*PKHKP	PKPbc		03 54 49.2	-0.3		
UPC				*e*			03 54 55.2			
UPC	**Upice**	**148.22**	**341**	⇑*i*PKP	PKPbc		03 54 49.2	-0.3		
UPC				*e*PKPAB	PKPab		03 54 55.2	+0.1		
DPC	**Dobruska-Polom**	**148.26**	**341**	*i*PKHKP	PKPbc		03 54 49.6	0.0		
DPC				*e*			03 54 55.6			
DPC	**Dobruska-Polom**	**148.26**	**341**	⇑*i*PKP	PKPbc		03 54 49.6	0.0		
DPC				*e*PKPAB	PKPab		03 54 55.6	+0.3		
CLL	**Collm**	**148.30**	**345**	⇓*i*PKHKP	PKPbc		03 54 49.2	-0.5		
CLL				*i*			03 54 54.6			
CLL				pmax	pmax					
	comp=Z,29nm,0.9s									
CLL				pmax	pmax					
	comp=Z,6.0nm,0.5s									
CLL	**Collm**	**148.30**	**345**	⇓*i*PKPbc	PKPbc		03 54 49.2	-0.5		
	comp=Z,29nm,0.9s									
CLL				*i* PKPab	PKPab		03 54 54.6	-0.8		
	comp=Z,6.0nm,0.5s									
CLL				*e*(pPKPbc)			03 57 08.0			
KECS	**Kecovo**	**148.37**	**335**	*e*PKHKP	PKPbc		03 54 49.9	0.0		
KECS	**Kecovo**	**148.37**	**335**	*e*PKP	PKPbc		03 54 49.9	0.0		
MORC	**Moravsky Berou**	**148.37**	**339**	*e*PKPbc	PKPbc		03 54 49.3	-0.6		
MORC	**Moravsky Berou**	**148.37**	**339**	*e*PKHKP	PKPbc		03 54 49.3	-0.6		
MORC	**Moravsky Berou**	**148.37**	**339**	⇑*i*P	PKPbc		03 54 49.8	-0.1		
SULR		**148.38**	**324**	⇑*i*P	PKPbc		03 54 48.9	-1.2		
HLM1	**Long Mynd**	**148.45**	**4**	*e*P	PKPdf		03 54 45.1	-0.4		
BORA	**Eskisehir**	**148.46**	**313**	*i*P	PKPbc		03 54 49.3	-1.2		
BRG	**Berggiesshubel**	**148.47**	**344**	*i*PKP	PKPbc		03 54 49.7	-0.4		
BRG	comp=Z,16nm,0.7s			*i*			03 54 55.5			
BRG	comp=Z,7.3nm,0.8s			*e*pPKP	pPKPdf		03 57 19.3	+5.4		
	comp=Z,13nm,1.7s									
BRG	**Berggiesshubel**	**148.47**	**344**	*i*PKHKP	PKPbc		03 54 49.7	-0.4		
BRG				*i*			03 54 55.5			
BRG				pmax	pmax					
	comp=Z,16nm,0.7s									
BRG				pmax	pmax					
	comp=Z,7.0nm,0.8s									
BRG				pmax	pmax					
	comp=Z,13nm,1.7s									
VOIR		**148.52**	**326**	⇑PKHKP	PKPbc		03 54 50.0	-0.4		
VOIR		**148.52**	**326**	⇑*i*P	PKPbc		03 54 50.0	-0.4		
PVCC	**Panska Ves**	**148.61**	**343**	*i*PKHKP	PKPbc		03 54 50.3	-0.2		
PVCC	**Panska Ves**	**148.61**	**343**	⇑*i*PKP	PKPbc		03 54 50.3	-0.2		
DRGR		**148.71**	**330**	⇓PKHKP	PKPbc		03 54 50.3	-0.5		
DRGR		**148.71**	**330**	⇓*i*P	PKPbc		03 54 50.3	-0.5		
VYHS	**Vyhne**	**149.00**	**336**	*e*PKHKP	PKPbc		03 54 50.9	-0.6		
VYHS	**Vyhne**	**149.00**	**336**	*e*PKP	PKPbc		03 54 50.9	-0.6		
PSZ	**Piszkesteto**	**149.05**	**335**	*e*PKPbc	PKPbc		03 54 50.8	-0.9		
PSZ	**Piszkesteto**	**149.05**	**335**	*e*PKHKP	PKPbc		03 54 50.8	-0.8		
PSZ	**Piszkesteto**	**149.05**	**335**	⇑*i*P	PKPbc		03 54 51.7	+0.1		
KOLL	**Kolacno**	**149.09**	**337**	*e*PKHKP	PKPbc		03 54 51.0	-0.7		
KOLL	**Kolacno**	**149.09**	**337**	*e*PKP	PKPbc		03 54 51.0	-0.7		
VRAC	**Vranov**	**149.09**	**340**	⇓PKHKP	PKPbc		03 54 51.4	-0.3		
VRAC	**Vranov**	**149.09**	**340**	⇓*i*P	PKPbc		03 54 51.4	-0.3		
PRU	**Pruhonice**	**149.11**	**343**	*i*PKHKP	PKPbc		03 54 52.0	+0.3		
PRU				*e*			03 54 59.8			
PRU	**Pruhonice**	**149.11**	**343**	⇑*i*PKP	PKPbc		03 54 52.0	+0.3		
PRU				*e*PKPAB	PKPab		03 54 59.8	+1.0		
NKC	**Novy Kostel**	**149.43**	**345**	*i*PKHKP	PKPbc		03 54 52.1	-0.3		
NKC				*e*			03 54 58.7			
NKC	**Novy Kostel**	**149.43**	**345**	⇑*i*PKP	PKPbc		03 54 52.1	-0.3		
NKC				*e*PKPAB	PKPab		03 54 58.7	-1.4		
TREC	**Trest**	**149.45**	**341**	*i*PKHKP	PKPbc		03 54 52.0	-0.5		
TREC	**Trest**	**149.45**	**341**	⇑*i*PKP	PKPbc		03 54 52.0	-0.5		
GZR	**Gura Zlata**	**149.70**	**328**	⇓PKiKP	PKPbc		03 54 52.5	-0.7		
GZR	**Gura Zlata**	**149.70**	**328**	⇓*i*P	PKPbc		03 54 52.5	-0.7		
WOL	**Wolverton**	**149.74**	**2**	*e*P	PKPdf		03 54 49.1	+1.6		
KHAL	**Karahalli**	**149.81**	**311**	*i*P	PKPbc		03 54 52.2	-1.5		
BZS	**Buzias**	**150.09**	**330**	⇓PKHKP	PKPbc		03 54 53.4	-0.7		
BZS	**Buzias**	**150.09**	**330**	⇓*i*P	PKPbc		03 54 53.4	-0.7		
KHC	**Kasperske Hory**	**150.15**	**343**	*e*PKIKP	PKPdf		03 54 47.0	-1.3		
KHC				*i*			03 54 53.7			
KHC				*e*			03 55 03.5			
KHC	**Kasperske Hory**	**150.15**	**343**	*e*PKPDF	PKPdf		03 54 47.0	-1.3		
KHC				⇑*i*PKP	PKPbc		03 54 53.7	-0.5		
KHC				*e*PKPAB	PKPab		03 55 03.5	+0.3		
MEM	**Membach**	**150.19**	**353**	PKPbc	PKPbc		03 54 53.8	-0.5		
MEM				PKPab	PKPab		03 55 02.2	-1.1		
GERES	**GERESS Array B**	**150.38**	**343**	PKP	PKPdf		03 54 48.1	-0.5		
	comp=Z,0.7nm,0.8s,baz=52,slow=2.2,SNR=5.4									
GERES				PKPbc	PKPbc		03 54 54.1	-0.5		
	comp=Z,10nm,0.7s,baz=27,slow=2.4,SNR=64									
GERES	**GERESS Array B**	**150.38**	**343**	PKP	PKPdf		03 54 48.1	-0.5		
GERES				PKPbc	PKPbc		03 54 54.1	-0.5		
GERES	**GERESS Array B**	**150.38**	**343**	PKiKP	PKPdf		03 54 48.1	-0.6		
GERES							03 54 54.2			
DNZL	**Cakiroluk**	**150.43**	**310**	*i*P	PKPbc		03 54 53.6	-1.6		
SNF	**Seneffe**	**150.45**	**355**	PKPbc	PKPbc		03 54 54.1	-0.8		
SNF				PKPab	PKPab		03 55 03.6	-0.9		
CONA	**Conrad Observa**	**150.53**	**339**	⇓*i*PKiKP	PKPbc		03 54 54.9	-0.1		
	comp=Z,22nm,0.6s									
GIVF	**Givet**	**150.81**	**355**	*e*PKP1	PKPbc		03 54 53.6	-2.0		
	comp=Z,50nm,0.7s									
DOU	**Dourbes**	**150.84**	**355**	PKPbc	PKPbc		03 54 55.2	-0.5		
DOU				PKPab	PKPab		03 55 05.0	-1.1		
BAIF	**Baives**	**150.91**	**355**	*e*PKP1	PKPbc		03 54 53.8	-2.1		
	comp=Z,28nm,0.8s									
PKSM	**Moragy**	**150.94**	**334**	⇓PKiKP	PKPbc		03 54 55.3	-0.8		
PKSM	**Moragy**	**150.94**	**334**	⇓*i*P	PKPbc		03 54 55.3	-0.8		
MOA	**Molln**	**151.11**	**341**	⇓*i*PKiKP	PKPbc		03 54 55.6	-0.7		
	comp=Z,7.9nm,0.5s									
WLF	**Walferdange**	**151.11**	**353**	PKPbc	PKPbc		03 54 56.3	-0.1		
WLF	**Walferdange**	**151.11**	**353**	*e*PKPbc	PKPbc		03 54 55.6	-0.7		
WLF	**Walferdange**	**151.11**	**353**	*e*PKiKP	PKPbc		03 54 55.7	-0.6		
ARSA	**Arzberg**	**151.23**	**339**	⇑*e*PKiKP	PKPbc		03 54 57.1	+0.4		
	comp=Z,2.7nm,0.5s									
VTS	**Vitosha**	**151.42**	**324**	⇑PKiKP	PKPbc		03 54 56.7	-0.6		
VTS	**Vitosha**	**151.42**	**324**	⇑*i*P	PKPbc		03 54 56.7	-0.6		
STU	**Stuttgart**	**151.51**	**348**	*e*PKPbc	PKPbc		03 54 56.3	-0.9		
STU	**Stuttgart**	**151.51**	**348**	*e*PKiKP	PKPbc		03 54 56.3	-1.0		
SOKA	**Soboth**	**151.90**	**339**	⇓*i*PKPbc	PKPbc		03 54 57.2	-1.0		
	comp=Z,10nm,1.0s									
SOKA				⇓*i*PKPab	PKPab		03 55 10.6	-0.1		
	comp=Z,8.7nm,1.1s									
PERS	**Pernice**	**151.90**	**339**	*i*PKPbc	PKPbc		03 54 57.0	-1.2		
CDF	**Champ du Feu**	**152.19**	**351**	*e*PKP1	PKPbc		03 54 56.6	-2.2		
	comp=Z,23nm,0.8s									
DOBS	**Dobrina**	**152.20**	**338**	*i*PKPbc	PKPbc		03 54 57.8	-1.1		
OBKA	**Obir**	**152.21**	**339**	⇓*e*PKPbc	PKPbc		03 54 57.7	-1.2		
	comp=Z,11nm,1.2s

GERES **GERESS Array B 146.83 330** PKPbc PKPbc 04 44 32.9 +1.0

IGQ 19 04:28:22.5, 1°22N×78°30W, h12km±4km, Mb4.2, Ms4.0, 1C-9D, Error ellipse: s-maj=7.0km s-min=2.5km az=76.6, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LITE	**Lita**	**0.60**	**133**	⇓S	Sg	04 28 44.6	+2.5
LITE	**Lita**	**0.60**	**133**	⇓P	Pg	04 28 33.8	-0.4
OTAV	**Otavalo**	**1.04**	**160**	⇓S	Sb	04 28 57.4	+1.4
OTAV	**Otavalo**	**1.04**	**160**	⇓P	Pb	04 28 42.1	-0.3
GOLV	**Golondrinas**	**1.06**	**198**	⇓S	Sb	04 28 59.6	+3.0
GOLV	**Golondrinas**	**1.06**	**198**	⇓P	Pb	04 28 42.6	-0.2
YANA	**Yana**	**1.35**	**170**	P	Pn	04 28 47.8	+0.6
PINO	**Pino**	**1.38**	**172**	P	Pn	04 28 48.7	+1.1
TERV	**Terraza Guagua**	**1.40**	**172**	P	Pn	04 28 49.8	+1.9
CAYA	**Cayambe**	**1.40**	**145**	⇑P	Pn	04 28 48.6	+0.7
GGP	**Refugio Guagua**	**1.40**	**172**	P	Pn	04 28 48.5	+0.6
JUA2	**San Juan 2**	**1.44**	**172**	P	Pn	04 28 49.5	+1.1
CHAR	**Charly**	**1.72**	**139**	P	Pn	04 28 54.6	+2.3
CONE	**Cono NE Rev Vo**	**1.73**	**138**	P	Pn	04 28 54.5	+2.1
LAV4	**Lava4-Reventad**	**1.75**	**138**	P	Pn	04 28 54.9	+2.2
ANTI	**Antisana**	**1.78**	**159**	P	Pn	04 28 55.7	+2.7
PITA	**Cotopaxi Volc**	**1.81**	**168**	P	Pn	04 28 56.8	+3.3
VC1	**Cotopaxi 1**	**1.89**	**168**	P	Pn	04 28 58.1	+3.5
BVC2	**Cotopaxi Volca**	**1.91**	**168**	⇓P	Pn	04 28 58.4	+3.6
BREF	**Cotopaxi Volca**	**1.91**	**169**	⇓P	Pn	04 28 58.6	+3.7
BTAM	**Cotopaxi Volca**	**1.93**	**168**	S	Sn	04 29 27.5	+8.2
BTAM	**Cotopaxi Volca**	**1.93**	**168**	P	Pn	04 28 58.7	+3.6
COV1	**Cotopaxi Volc**	**1.93**	**166**	P	Pn	04 28 58.9	+3.8
TAMB	**Tambo**	**1.95**	**167**	P	Pn	04 28 59.3	+3.8
MOV1	**Cotopaxi Vol s**	**1.96**	**169**	P	Pn	04 28 59.2	+3.7
BMOR	**Cotopaxi Volca**	**1.97**	**170**	⇓P	Pn	04 28 59.2	+3.6
PISA	**Pisayambo**	**2.30**	**170**	P	Pn	04 29 05.5	+5.2
BULB	**Ulba Tungurahu**	**2.67**	**172**	P	Pn	04 29 10.6	+5.3
IGUA	**Igualata**	**2.70**	**177**	P	Pn	04 29 12.2	+6.5
ARRY	**Arrayan**	**2.73**	**173**	S	Sn	04 29 50.2	+11
ARRY	**Arrayan**	**2.73**	**173**	P	Pn	04 29 12.2	+6.0
PAT1	**Patacocha**	**2.73**	**172**	P	Pn	04 29 12.4	+6.2
RIOE	**Riobamba**	**2.96**	**177**	P	Pn	04 29 09.9	+0.6

*IDC **19** 04:33:42.9±0.5, 21°.66S×174°.18W, h0km, mb4.4/16, mb1 4.6/17, mb1mx4.5/22, mbtmp4.4/17, ML4.4/1, MS3.9/5, Ms1 3.9/5, ms1mx3.4/26, Error ellipse: s-maj=19.9km s-min=16.1km az=125.0*

*ISCJB **19** 04:33:50.8±1.8, 21°.79S±0°.08×174°.26W±0°.08, h71km±15km, mb4.5/32, Error ellipse: s-maj=15.8km s-min=9.8km az=137.4*

*NEIC **19** 04:33:52.8±1.1, 21°.77S×174°.23W, h76km±9km, mb4.8/16, Error ellipse: s-maj=9.8km s-min=6.3km az=138.0*

ISC 19 04:33:53.0±1.5, 21°.78S±0°.08×174°.24W±0°.08, h76km±13km, n90, σ0°87/62, mb4.5/32, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.17**	**17**	Pn	**Pn**	**04 35 48.4**	**-0.4**
	2.8nm,0.3s,baz=240,slow=18,SNR=3.9						
AFI	**Afiamalu**	**8.17**	**17**	Pn	**Pn**	**04 35 48.4**	**-0.4**
MSVF	**Nonsavu**	**8.30**	**298**	*e*Pn	**Pn**	**04 35 51.9**	**+1.3**
	225nm,1.4s						
RAR	**Rarotonga**	**13.48**	**90**	Pn	**Pn**	**04 36 45.0**	**-16**
	11nm,0.3s,baz=246,slow=7.7,SNR=22						
DZM	**Mont Dzumac**	**17.92**	**265**	*e*P	**P**	**04 37 59.0**	**+1.8**
	43nm,1.0s						
DZM				*e*LR	LR	04 42 12.5	
	310nm,23.4s						
URZ	**Urewera**	**18.04**	**202**	P	**Pn**	**04 37 56.7**	**-1.8**
	1.3nm,0.3s,baz=20,slow=4.7,SNR=6.8						
URZ	**Urewera**	**18.04**	**202**	P	**Pn**	**04 37 56.7**	**-1.8**
RKT	**Rikitea**	**36.25**	**100**	*e*LR	LR	04 49 54.3	
	793nm,32.5s						
CTA	**Charters Tower**	**36.87**	**265**	P	**P**	**04 40 54.0**	**-0.3**
	14nm,0.6s,mb5.1,baz=97,slow=11,SNR=24						
CTA	**Charters Tower**	**36.87**	**265**	*e*P	**P**	**04 40 53.6**	**-0.7**
	11nm,0.5s,mb5.0						
CTA	**Charters Tower**	**36.87**	**265**	P	**P**	**04 40 54.0**	**-0.3**
CTAO	**Charters Tower**	**36.87**	**265**	*e*P	**P**	**04 40 53.7**	**-0.6**
	11nm,0.5s,mb5.0						
CMSA	**Cobar Meteorol**	**36.93**	**246**	*e*P	**P**	**04 40 54.2**	**-0.5**
	49nm,0.8s,mb5.5						
PMG	**Port Moresby**	**39.04**	**282**	P	**P**	**04 41 11.8**	**-0.8**
	5.9nm,0.6s,mb4.6,baz=227,slow=2.3,SNR=3.9						
PMG	**Port Moresby**	**39.04**	**282**	P	**P**	**04 41 11.8**	**-0.8**
STKA	**Stephens Creek**	**40.44**	**246**	P	**P**	**04 41 23.9**	**-0.2**
	7.7nm,0.8s,mb4.6,baz=86,slow=9.8,SNR=12						
STKA				LR	LR	04 57 28.9	
	comp=Z,160nm,18.7s,baz=25,slow=35						
STKA	**Stephens Creek**	**40.44**	**246**	*e*P	**P**	**04 41 23.8**	**-0.3**
	6.1nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**40.44**	**246**	P	**P**	**04 41 23.9**	**-0.2**
STKA				LR	LR	04 57 28.9	
COEN	**Coen**	**41.16**	**274**	*e*P	**P**	**04 41 29.3**	**-0.9**
	37nm,0.9s,mb5.2						
COEN	**Coen**	**41.16**	**274**	*e*P	**P**	**04 41 29.7**	**-0.5**
	70nm,1.0s,mb5.4						
ASAR	**Alice Springs**	**47.65**	**257**	P	**P**	**04 42 21.4**	**-0.5**
	18nm,0.8s,mb4.9,baz=92,slow=8.3,SNR=146						
ASAR	**Alice Springs**	**47.65**	**257**	P	**P**	**04 42 21.4**	**-0.5**
WRAB	**Tennant Creek**	**47.90**	**262**	*e*P	**P**	**04 42 22.2**	**-1.6**
	26nm,1.0s,mb5.0						
WRA	**Warramunga Arr**	**47.90**	**262**	P	**P**	**04 42 22.9**	**-1.1**
	20nm,0.7s,mb5.0,baz=101,slow=8.8,SNR=148						
WRA				LR	LR	05 02 03.8	
	comp=Z,128nm,18.5s,baz=90,slow=36						
WRA	**Warramunga Arr**	**47.90**	**262**	P	**P**	**04 42 22.9**	**-1.1**
WRA				LR	LR	05 02 03.8	
FORT	**Forrest**	**52.03**	**247**	*e*P	**P**	**04 42 54.7**	**-0.3**
	30nm,0.6s,mb5.5						
FORT	**Forrest**	**52.03**	**247**	*e*P	**P**	**04 42 54.2**	**-0.8**
	21nm,0.6s,mb5.3						
FITZ	**Fitzroy Crossi**	**56.33**	**262**	*e*P	**P**	**04 43 26.2**	**-0.3**
	14nm,0.9s,mb5.0						
FITZ	**Fitzroy Crossi**	**56.33**	**262**	*e*P	**P**	**04 43 26.3**	**-0.2**
	21nm,1.3s,mb5.0						
VNDA	**Vanda**	**56.98**	**186**	P	**P**	**04 43 32.0**	**+1.8**
	0.5nm,0.3s,mb4.0,baz=37,slow=9.5,SNR=6.1						
VNDA				LR	LR	05 04 21.2	
	comp=Z,72nm,20.2s,baz=0.1,slow=32						
VNDA	**Vanda**	**56.98**	**186**	*e*P	**P**	**04 43 31.0**	**+0.8**
	3.2nm,1.1s,mb4.3						
VNDA				LR	LR	05 04 21.2	
MEEK	**Meekatharra**	**60.82**	**251**	*e*P	**P**	**04 43 57.4**	**-0.1**
	28nm,0.9s,mb5.3						
MBWA	**Marble Bar**	**61.00**	**257**	*e*P	**P**	**04 43 58.5**	**-0.3**
MBWA	**Marble Bar**	**61.00**	**257**	*e*P	**P**	**04 43 58.3**	**-0.6**
	7.9nm,0.5s,mb5.0						
CASY	**Casey**	**64.33**	**206**	*e*P	**P**	**04 44 20.4**	**+0.2**
	4.4nm,0.8s,mb4.3						
QSPA	**South Pole Qui**	**68.30**	**180**	P	**P**	**04 44 46.3**	**+0.8**
	3.5nm,0.8s,mb4.2,baz=57,slow=1.6,SNR=6.7						
QSPA	**South Pole Qui**	**68.30**	**180**	P	**P**	**04 44 46.3**	**+0.8**
MJAR	**Matsushiro Arr**	**73.35**	**322**	P	**P**	**04 45 16.0**	**-0.6**
	2.3nm,0.6s,mb4.2,baz=160,slow=6.8,SNR=4.7						
MJAR	**Matsushiro Arr**	**73.35**	**322**	P	**P**	**04 45 16.0**	**-0.6**
KKM	**Kota Kinabalu**	**73.47**	**284**	*e*P	**P**	**04 45 18.7**	**+0.9**
	8.9nm,0.7s,mb4.7						
KSM	**Kuching**	**77.05**	**277**	*e*P	**P**	**04 45 38.9**	**+0.5**
	27nm,1.1s,mb4.9						
PETK	**Petropavlovsk-**	**78.45**	**343**	P	**P**	**04 45 45.5**	**+0.2**
	5.6nm,0.6s,mb4.5,baz=145,slow=9.1,SNR=5.9						
PETK	**Petropavlovsk-**	**78.45**	**343**	P	**P**	**04 45 45.5**	**+0.2**
NVAR	**Mina Array Bea**	**79.60**	**41**	P	**P**	**04 45 51.6**	**-0.3**
	1.2nm,0.7s,mb3.8,baz=223,slow=8.8,SNR=9.7						
NVAR	**Mina Array Bea**	**79.60**	**41**	P	**P**	**04 45 51.6**	**-0.3**
MAW	**Mawson**	**81.53**	**199**	P	**P**	**04 46 03.3**	**+1.4**
	5.7nm,0.9s,mb4.4,baz=126,slow=7.4,SNR=12						
MAW	**Mawson**	**81.53**	**199**	P	**P**	**04 46 03.3**	**+1.4**
WVOR	**Wild Horse Val**	**81.91**	**38**	*e*P	**P**	**04 46 03.8**	**-0.4**
	7.4nm,1.5s,mb4.3						
MSU	**Marysvale**	**83.52**	**44**	*e*P	**P**	**04 46 13.0**	**+0.5**
	7.6nm,1.7s,mb4.2						
DUG	**Dugway**	**84.07**	**43**	*e*P	**P**	**04 46 14.8**	**-0.6**
	2.0nm,1.1s,mb3.9						
TXAR	**Lajitas Array**	**84.83**	**56**	P	**P**	**04 46 19.3**	**-0.1**
	0.6nm,0.9s,mb3.5,baz=232,slow=6.2,SNR=4.6						
TXAR	**Lajitas Array**	**84.83**	**56**	P	**P**	**04 46 19.3**	**-0.1**
HLID	**Hailey**	**85.05**	**39**	*e*P	**P**	**04 46 19.7**	**-0.5**
	3.7nm,1.2s,mb4.2						
ANMO	**Albuquerque**	**85.50**	**50**	*e*P	**P**	**04 46 23.1**	**+0.4**
	6.1nm,1.6s,mb4.3						
SNAA	**Sanae**	**86.61**	**177**	P	**P**	**04 46 27.8**	**+0.2**
	0.8nm,1.0s,mb3.6,baz=199,slow=8.5,SNR=5.2						
SNAA	**Sanae**	**86.61**	**177**	P	**P**	**04 46 27.8**	**+0.2**
IPM	**Ipoh**	**86.76**	**276**	*e*P	**P**	**04 46 31.0**	**+1.6**
	12nm,0.7s,mb4.9						
CMIG	**Matias Romero**	**86.77**	**70**	LR	LR	05 16 04.0	
	comp=Z,61nm,19.1s,baz=191,slow=29						
PDAR	**Pinedale Array**	**87.53**	**42**	P	**P**	**04 46 32.5**	**+0.1**
	0.4nm,0.7s,mb3.5,baz=202,slow=1.6,SNR=4.2						
PDAR	**Pinedale Array**	**87.53**	**42**	P	**P**	**04 46 32.5**	**+0.1**
ILAR	**Eielson Array**	**88.82**	**11**	P	**P**	**04 46 37.4**	**-0.6**
	0.6nm,0.8s,mb3.7,baz=210,slow=6.0,SNR=6.3						
ILAR	**Eielson Array**	**88.82**	**11**	P	**P**	**04 46 37.4**	**-0.6**
CMAR	**Chiang Mai Arr**	**93.84**	**288**	P	**P**	**04 47 04.3**	**+1.9**
	1.6nm,0.4s,mb4.7,baz=120,slow=2.4,SNR=10						
CMAR	**Chiang Mai Arr**	**93.84**	**288**	P	**P**	**04 47 04.3**	**+1.9**
LPAZ	**La Paz**	**98.33**	**111**	LR	LR	05 20 31.5	
	comp=Z,59nm,18.9s,baz=155,slow=29						
MK31	**Makanchi Array**	**114.63**	**313**	*e*PKP	PKiKP	04 52 24.0	-0.4
MKAR	**Makanchi Array**	**114.63**	**313**	PKP	PKiKP	04 52 24.1	-0.2
	0.3nm,0.5s,baz=103,slow=1.1,SNR=5.8						
MKAR	**Makanchi Array**	**114.63**	**313**	PKP	PKiKP	04 52 24.1	-0.2
KURK	**Kurchatov**	**117.31**	**317**	PKP	PKPdf	04 52 29.1	-0.3
	0.6nm,0.6s,baz=89,slow=1.9,SNR=8.2						
KURK	**Kurchatov**	**117.31**	**317**	*e*PKPdf	PKPdf	04 52 29.4	0.0
TKM2	**Tokmak 2**	**119.05**	**308**	*e*PKPdf	PKPdf	04 52 33.1	+0.1
BRVK	**Borovoye**	**122.37**	**320**	*e*PKPdf	PKPdf	04 52 39.1	0.0
KBL	**Kabul**	**123.58**	**298**	*e*PKPdf	PKPdf	04 52 43.0	+1.0
AKASG	**Malin Array Be**	**145.78**	**333**	PKPbc	PKPbc	04 53 22.2	-0.9
	3.5nm,0.7s,baz=38,slow=4.0,SNR=12						
AKASG	**Malin Array Be**	**145.78**	**333**	PKPbc	PKPbc	04 53 22.2	-0.9
AKBB	**Malin Array Si**	**145.78**	**333**	*e*PKPbc	PKPbc	04 53 22.5	-0.7
KIEV	**Kiev**	**145.79**	**333**	*e*PKPbc	PKPbc	04 53 23.3	+0.1
BUR08	**Bucovina Ar. S**	**149.82**	**333**	*e*PKPbc	PKPbc	04 53 35.3	+1.1
CLL	**Collm**	**149.99**	**351**	*i* PKPbc	PKPbc	04 53 35.4	+0.9
	comp=Z,23nm,1.3s						
CLL				*e*pPKPbc	pPKPbc	04 53 57.0	+1.0
BRG	**Berggiesshubel**	**150.26**	**350**	*e*P	PKPbc	04 53 36.1	+0.9
	comp=Z,9.2nm,1.0s						
BR131	**Keskin Array S**	**150.28**	**313**	*e*PKPbc	PKPbc	04 53 36.4	+0.8
BR131				*e*PKPab	PKPab	04 53 42.9	+0.9
BRTR	**Keskin Array B**	**150.28**	**313**	PKPbc	PKPbc	04 53 36.5	+1.0
	comp=Z,1.8nm,0.7s,baz=134,slow=4.1,SNR=8.8						
BRTR				PKPab	PKPab	04 53 43.5	+1.6
	comp=Z,1.9nm,0.8s,baz=57,slow=4.6,SNR=5.0						
BRTR	**Keskin Array B**	**150.28**	**313**	PKPbc	PKPbc	04 53 36.5	+1.0
BRTR				PKPab	PKPab	04 53 43.5	+1.6
MORC	**Moravsky Berou**	**150.54**	**344**	*e*PKPdf	PKPdf	04 53 30.2	-0.2
MORC				*e*PKPbc	PKPbc	04 53 35.3	-0.5
KHC	**Kasperske Hory**	**152.00**	**349**	⇑*e*PKP	PKPbc	04 53 39.5	+0.2
KHC				*e*PKPAB	PKPab	04 53 50.5	+1.7
GERES	**GERESS Array B**	**152.26**	**349**	PKPbc	PKPbc	04 53 39.3	-0.6
	comp=Z,1.5nm,0.9s,baz=8.5,slow=2.7,SNR=8.2						
GERES				PKPab	PKPab	04 53 50.2	+0.3
	comp=Z,1.1nm,1.0s,baz=358,slow=8.8,SNR=4.1						
GERES	**GERESS Array B**	**152.26**	**349**	PKPbc	PKPbc	04 53 39.3	-0.6
GERES				PKPab	PKPab	04 53 50.2	+0.3
CART	**Cartagena**	**163.19**	**19**	*e*PKPab	PKPab	04 54 35.5	-1.9
TORD	**Torodi Ar. Bea**	**170.58**	**155**	PKPab	PKPab	04 55 10.0	-0.4
	comp=Z,0.4nm,0.7s,baz=206,slow=3.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**170.58**	**155**	PKPab	PKPab	04 55 10.0	-0.4

*IDC **19** 04:39:28.6±2.3, 21°.40S×173°.74W, h0km, mb4.2/5, mb1 4.4/6, mb1mx4.0/20, mbtmp4.3/6, ML4.7/1, Error ellipse: s-maj=156.7km s-min=36.0km az=177.0*

*ISCJB **19** 04:39:35.4±4.1, 21°.4S±0°.7×173°.4W±0°.2, h90km±57km, mb4.3/6, Error ellipse: s-maj=123.0km s-min=17.1km az=9.9*

*NEIC **19** 04:39:36.5±2.5, 21°.44S×173°.44W, h84km±39km, mb4.5/1, Error ellipse: s-maj=90.3km s-min=12.3km az=190.0*

ISC 19 04:39:36.6±3.1, 21°.4S±0°.7×173°.4W±0°.2, h85km±47km, n17, σ0°64/15, mb4.3/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.83**	**293**	*e*Pn	**Pn**	**04 41 41.6**	**+0.2**
RAR	**Rarotonga**	**12.74**	**92**	Pn	**Pn**	**04 42 34.5**	**-0.1**
	3.6nm,0.3s,baz=252,slow=10,SNR=10						
RAR	**Rarotonga**	**12.74**	**92**	Pn	**Pn**	**04 42 34.5**	**0.0**
TBI	**Tubuai**	**22.25**	**99**	*e*LR	LR	04 43 47.5	
	430nm,29.8s,baz=279						
PPT	**Papeete**	**22.81**	**84**	*e*LR	LR	04 44 15.2	
	415nm,25.5s						
CTA	**Charters Tower**	**37.65**	**265**	P	**P**	**04 46 43.0**	**-0.7**
	3.3nm,0.5s,mb4.4,baz=96,slow=10.0,SNR=4.1						
CTA	**Charters Tower**	**37.65**	**265**	P	**P**	**04 46 43.0**	**-0.7**
CTAO	**Charters Tower**	**37.65**	**265**	*e*P	**P**	**04 46 43.2**	**-0.5**
	3.4nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**41.26**	**246**	P	**P**	**04 47 13.4**	**-0.2**
	1.6nm,0.8s,mb3.9,baz=84,slow=9.2,SNR=2.8						
STKA	**Stephens Creek**	**41.26**	**246**	P	**P**	**04 47 13.4**	**-0.2**
COEN	**Coen**	**41.89**	**273**	*e*P	**P**	**04 47 18.1**	**-0.8**
	19nm,0.8s,mb4.9						
ASAR	**Alice Springs**	**48.46**	**257**	P	**P**	**04 48 11.2**	**+0.3**
	2.9nm,0.8s,mb4.2,baz=93,slow=8.1,SNR=24						
ASAR	**Alice Springs**	**48.46**	**257**	P	**P**	**04 48 11.2**	**+0.3**
WRA	**Warramunga Arr**	**48.69**	**262**	P	**P**	**04 48 12.6**	**-0.1**
	3.9nm,0.7s,mb4.5,baz=100,slow=8.9,SNR=34						
WRA	**Warramunga Arr**	**48.69**	**262**	P	**P**	**04 48 12.6**	**-0.1**
FITZ	**Fitzroy Crossi**	**57.12**	**262**	P	**P**	**04 49 16.2**	**+1.5**
	1.5nm,0.8s,mb4.1,baz=90,slow=9.1,SNR=7.6						
FITZ	**Fitzroy Crossi**	**57.12**	**262**	P	**P**	**04 49 16.2**	**+1.5**

*ISCJB **19** 05:19:49.7±0.2, 79°.77N±0°.02×114°.6W±0°.2, h10km, mb4.5/71, MS3.6/13, Error ellipse: s-maj=5.4km s-min=3.6km az=1.0*

*IDC **19** 05:19:49.5±0.4, 79°.73N×115°.30W, h0km, mb4.2/24, mb1 4.4/27, mb1mx4.3/32, mbtmp4.2/27, ML4.5/3, MS3.5/16, Ms1 3.5/16, ms1mx3.3/46, Error ellipse: s-maj=15.6km s-min=10.3km az=97.0*

*OTT **19** 05:19:50.6±0.8, 79°.49N×115°.40W, h18km, mb5.1/17, Arctic Ocean. Aftershock. 263km northwest from Isachsen, Nu*

*NEIC **19** 05:19:51.5±0.2, 79°.78N×114°.71W, h10km, mb4.4/49, ML4.7(OTT), Error ellipse: s-maj=4.8km s-min=3.7km az=118.0*

ISC 19 05:19:51.5±0.2, 79°.77N±0°.02×114°.5W±0°.2, h10km, n423, σ0°61/429, mb4.5/71, MS3.6/13, 140C-116D, Arctic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EUNU	**Eureka**	**4.92**	**73**	Pn	**Pn**	**05 21 06.6**	**+1.3**
EUNU				Sn	**Sn**	**05 21 58.9**	**-3.2**
EUNU	**Eureka**	**4.92**	**73**	PN	**Pn**	**05 21 06.6**	**+1.3**
EUNU				mb		05 21 07.7	
	comp=Z,36nm,0.3s						
EUNU				SN	**Sn**	**05 21 58.9**	**-3.2**
EUNU				Trac		05 22 04.3	
	comp=Z,66nm,0.5s						
RES	**Resolute Bay**	**6.66**	**130**	Pn	**Pn**	**05 21 26.4**	**-2.8**
	18nm,0.3s,baz=310,slow=13,SNR=932						
RES				Sn	**Sn**	**05 22 36.5**	**-8.4**
	16nm,0.3s,baz=290,slow=20,SNR=3.0						
RES				LR	LR	05 25 04.5	
	comp=Z,346nm,18.1s,baz=358,slow=47						
RES	**Resolute Bay**	**6.66**	**130**	*e*Pn	**Pn**	**05 21 27.3**	**-1.9**
	111nm,0.6s						
RES	**Resolute Bay**	**6.66**	**130**	PN	**Pn**	**05 21 26.4**	**-2.8**
RES				mb		05 21 28.6	
	comp=Z,72nm,0.1s						
RES				SN	**Sn**	**05 22 36.2**	**-8.7**
RES				Trac		05 22 41.2	
	comp=Z,83nm,0.4s						
CB31	**Cambridge Bay**	**10.97**	**162**	PN	**Pn**	**05 22 22.4**	**-5.9**
CB31				mb		05 22 23.8	
	comp=Z,63nm,0.3s						
CB31				SN	**Sn**	**05 24 14.8**	**-16**
CB31				Trac		05 24 21.5	
	comp=Z,82nm,0.4s						
INK	**Inuvik**	**12.53**	**214**	Pn	**Pn**	**05 22 42.7**	**-6.8**
	0.8nm,0.3s,baz=8.5,slow=15,SNR=29						
INK				Sn	**Sn**	**05 24 50.0**	**-19**
	1.0nm,0.3s,baz=84,slow=33,SNR=6.7						
INK				LR	LR	05 28 35.0	
	comp=Z,90nm,19.0s,baz=51,slow=42						
INK	**Inuvik**	**12.53**	**214**	*e*Pn	**Pn**	**05 22 42.9**	**-6.6**
	6.3nm,0.6s						
INK	**Inuvik**	**12.53**	**214**	PN	**Pn**	**05 22 42.3**	**-7.2**
INK				mb		05 22 49.8	
	comp=Z,15nm,0.7s						
INK				SN	**Sn**	**05 24 48.9**	**-20**
INK				Trac		05 24 58.1	
	comp=Z,12nm,0.5s						
KUGN	**Kugaaruk Camp,**	**13.34**	**138**	PN	**Pn**	**05 22 53.8**	**-6.7**
STLN	**Stellar Camp,**	**13.75**	**143**	PN	**Pn**	**05 22 59.9**	**-6.3**
STLN				mb		05 23 01.7	
	comp=Z,78nm,0.6s						
STLN				SN	**Sn**	**05 25 26.6**	**-12**
STLN				Trac		05 25 35.5	
	comp=Z,18nm,0.6s						
SRLN	**Sarcpa Lake, N**	**13.80**	**127**	PN	**Pn**	**05 23 01.4**	**-5.3**
SRLN				mb		05 23 03.6	
	comp=N,38nm,0.6s						
SRLN				SN	**Sn**	**05 25 25.6**	**-14**
JERN	**Jeri Cho Mine,**	**13.86**	**175**	PN	**Pn**	**05 23 00.6**	**-7.0**
JERN				mb		05 23 02.0	
	comp=Z,23nm,0.6s						
JERN				SN	**Sn**	**05 25 21.3**	**-20**
JERN				Trac		05 25 26.1	
	comp=Z,28nm,0.6s						
BULN	**Bullion Camp,**	**14.62**	**144**	PN	**Pn**	**05 23 10.5**	**-7.6**
BULN				mb		05 23 13.1	
	comp=Z,50nm,0.6s						
BULN				SN	**Sn**	**05 25 42.0**	**-18**
BULN				Trac		05 25 46.2	
	comp=Z,12nm,0.5s						
QILN	**Qililugaq Expl**	**15.17**	**134**	PN	**Pn**	**05 23 18.8**	**-6.6**
QILN				mb		05 23 23.1	
	comp=Z,47nm,0.8s						
CTLN	**Castor Lake**	**15.43**	**182**	PN	**Pn**	**05 23 21.2**	**-7.7**
CTLN				mb		05 23 22.9	
	comp=Z,24nm,0.8s						
CTLN				SN	Sn	05 25 58.5	-21
CTLN				Trac		05 26 06.2	
	comp=Z,9.0nm,0.6s						
WAGN	**Wager Bay**	**15.53**	**139**	PN	**Pn**	**05 23 23.1**	**-7.0**
WAGN				mb		05 23 25.6	
	comp=Z,43nm,0.5s						
ILKN	**Indian Lake**	**15.63**	**181**	PN	**Pn**	**05 23 23.4**	**-8.1**
ILKN				Trac		05 26 07.1	
	comp=Z,32nm,0.6s						
COLD	**Coldfoot**	**15.68**	**237**	*e*Pn	**Pn**	**05 23 33.5**	**+1.5**
	7.7nm,0.8s						
GALN	**Gameti Lake**	**15.76**	**185**	PN	**Pn**	**05 23 24.7**	**-8.4**
GALN				mb		05 23 27.1	
	comp=Z,34nm,0.8s						
GALN				SN	Sn	05 26 02.8	-25
GALN				Trac		05 26 08.5	
	comp=Z,33nm,1.1s						
NUNN	**Nunuq Camp, NU**	**15.99**	**142**	PN	**Pn**	**05 23 28.5**	**-7.6**
NUNN				mb		05 23 30.4	
	comp=Z,61nm,0.9s						
NUNN				SN	**Sn**	**05 26 21.6**	**-11**
COKN	**Cook Lake**	**16.67**	**171**	PN	**Pn**	**05 23 36.9**	**-8.0**
COKN				mb		05 23 38.9	
	comp=Z,23nm,0.5s						
EGAK	**Eagle**	**16.77**	**222**	*e*Pn	**Pn**	**05 23 46.5**	**+0.4**
DAWY	**Dawson**	**17.26**	**219**	*e*Pn	**Pn**	**05 23 46.3**	**-5.9**
DAWY	**Dawson**	**17.26**	**219**	PN	**Pn**	**05 23 45.0**	**-7.2**
DAWY				SN	Sn	05 26 41.3	-23
DAWY				Trac		05 26 47.1	
	comp=Z,12nm,0.9s						
YKW3	**Yellowknife Ar**	**17.30**	**180**	PN	**Pn**	**05 23 45.8**	**-7.0**
YKW3				mb		05 23 49.5	
	comp=Z,17nm,0.4s						
YKW3				Trac		05 26 57.7	
	comp=Z,10.0nm,0.6s						
YKA	**Yellowknife Ar**	**17.37**	**180**	Pn	**Pn**	**05 23 46.2**	**-7.3**
	3.1nm,0.3s,baz=356,slow=13,SNR=63						
YKA				Sn	Sn	05 26 43.5	-23
	1.0nm,0.3s,baz=3.4,slow=21,SNR=7.8						
YKA				LR	LR	05 31 26.6	
	comp=Z,22nm,19.3s,baz=65,slow=40						
YKA	**Yellowknife Ar**	**17.37**	**180**	Pn	**Pn**	**05 23 46.2**	**-7.3**
YKA				Sn	Sn	05 26 43.5

A19A **Klindworth Far** 31.04 173 ⇓P P 05 26 08.6 -0.3
baz=31,SNR=7.7
A22A **Carney Farms,** 31.05 169 ⇑P P 05 26 08.7 -0.4
baz=31
A24A **Westby** 31.19 167 ⇑P P 05 26 10.7 +0.4
baz=31
B12A **Libby** 31.43 181 ⇓P P 05 26 12.8 +0.5
baz=31
B19A **Brinkman Farms** 31.50 173 ⇓P P 05 26 12.2 -0.8
baz=31
B14A **Marquette Ranc** 31.54 178 ⇑P P 05 26 12.9 -0.4
baz=32
B20A **Solberg Farm,** 31.54 172 ⇑P P 05 26 13.0 -0.4
baz=32
B18A **Beardsley Farm** 31.55 174 ⇓P P 05 26 13.1 -0.3
baz=32
B15A **Bradely Ranch,** 31.59 177 ⇑P P 05 26 13.0 -0.8
baz=32
B17A **L&G Farms, Che** 31.63 175 ⇓P P 05 26 13.2 -1.0
baz=32
B22A **Reddig Ranch S** 31.74 169 ⇑P P 05 26 14.8 -0.3
baz=32
C11A **Tepee Creek (N** 32.06 182 ⇓P P 05 26 17.9 0.0
baz=32
C16A **Fuhringer Ranc** 32.11 176 ⇑P P 05 26 17.7 -0.7
baz=32
C15A **Salmond Ranch,** 32.13 178 ⇓P P 05 26 18.2 -0.3
baz=32,SNR=7.5
JTMT **Jette** 32.15 180 *e*P P 05 26 19.0 +0.3
C13A **Hot Springs** 32.22 180 ⇓P P 05 26 20.4 +1.1
baz=32,SNR=7.7
C23A **Lambert** 32.27 168 ⇓P P 05 26 19.6 -0.1
baz=32,SNR=14
C17A **Wharram Farm,** 32.29 175 ⇑P P 05 26 19.1 -0.9
baz=32
C22A **Vida** 32.30 169 ⇓P P 05 26 19.4 -0.7
baz=32
SLMT **Seeley Lake** 32.66 179 *e*P P 05 26 23.2 +0.1
D18A **Linhart Farms,** 32.75 174 ⇑P P 05 26 23.6 -0.3
baz=33
D17A **Six Diamond Ra** 32.78 175 ⇓P P 05 26 23.1 -1.1
baz=33
D19A **Cripps Ranch,** 32.80 173 ⇑P P 05 26 23.4 -1.0
baz=33,SNR=7.8
D13A **Huson** 32.80 180 ⇓P P 05 26 24.0 -0.5
baz=33
D14A **Greenough** 32.82 179 ⇑P P 05 26 24.3 -0.3
baz=33,SNR=8.4
D12A **Red Ives Fores** 32.85 181 ⇓P P 05 26 24.4 -0.4
baz=33
D15A **Lincoln** 32.87 177 ⇑P P 05 26 24.5 -0.5
baz=33
D16A **Dana Ranch, Ca** 32.89 176 ⇑P P 05 26 25.0 -0.2
baz=33
D22A **Cohagen** 32.89 169 ⇑P P 05 26 24.8 -0.4
baz=33,SNR=5.7
D20A **Manuel Ranch,** 32.89 172 ⇓P P 05 26 24.6 -0.6
baz=33,SNR=6.8
D23A **Lindsay** 32.90 168 ⇑P P 05 26 25.1 -0.1
baz=33
D21A **La Casta Ranch** 32.94 171 ⇓P P 05 26 24.6 -1.0
baz=33
D24A **Glendive** 32.99 167 ⇑P P 05 26 25.8 -0.3
baz=33
CHMT **Chamberlain Mo** 32.99 178 *e*P P 05 26 26.6 +0.5
5.1nm,1.3s,mb4.3
MSO **Missoula** 33.07 179 ⇑P P 05 26 26.7 -0.1
baz=33
HRY **Holter Researc** 33.20 177 *e*P P 05 26 27.3 -0.7
LON **Longmire** 33.25 189 *e*P P 05 26 28.9 +0.5
32nm,1.8s,mb5.0
LAO **LASA Array** 33.34 170 ⇑P P 05 26 29.0 -0.2
baz=33
LAO **LASA Array** 33.34 170 *e*P P 05 26 29.5 +0.3
30nm,1.0s,mb5.2
E18A **Harlowton** 33.37 174 ⇓P P 05 26 28.7 -0.7
baz=33
E16A **East Helena** 33.38 176 ⇑P P 05 26 28.9 -0.6
baz=33
E09A **Wood Farm, Sta** 33.41 185 ⇓P P 05 26 29.6 -0.1
baz=33
E13A **Victor** 33.46 180 ⇓P P 05 26 29.8 -0.3
baz=33
E17A **Martinsdale** 33.46 175 ⇑P P 05 26 30.1 -0.1
baz=33
E15A **Deer Lodge** 33.48 178 ⇓P P 05 26 30.2 -0.2
baz=33
E14A **Clinton** 33.48 179 ⇑P P 05 26 29.7 -0.7
baz=33
E12A **Beaver Dam Sad** 33.49 181 ⇓P P 05 26 29.8 -0.6
baz=33,SNR=14
E19A **Rath Farm, Rou** 33.50 173 ⇑P P 05 26 29.7 -0.9
baz=33
E23A **Ismay** 33.57 168 ⇑P P 05 26 30.8 -0.3
baz=34
BMW **Boistfort Moun** 33.57 191 *e*PcP PcP 05 29 14.5 +3.3
F10A **Beach Ranch, E** 33.94 183 ⇓P P 05 26 35.0 +0.7
baz=34
F17A **Fitzpatrick Pl** 34.02 175 ⇓P P 05 26 34.5 -0.5
baz=34
F18A **Big Timber** 34.04 174 ⇑P P 05 26 35.1 -0.1
baz=34
F15A **Butte** 34.07 177 ⇑P P 05 26 35.3 -0.1
baz=34
F14A **Wisdom** 34.09 179 ⇓P P 05 26 35.4 -0.2
baz=34
F19A **Roth Farm, Mol** 34.11 173 ⇑P P 05 26 35.6 -0.2
baz=34,SNR=6.0
F13A **Darby** 34.11 180 ⇑P P 05 26 35.8 0.0
baz=34,SNR=9.1
F16A **Kennard Place,** 34.13 176 ⇑P P 05 26 35.4 -0.6
baz=34
F12A **Elk City** 34.14 181 ⇑P P 05 26 35.7 -0.5
baz=34,SNR=5.9
GCMT **Greycliff** 34.15 174 *e*P P 05 26 36.4 +0.2
12nm,0.9s,mb4.8
F20A **Billings** 34.18 172 ⇑P P 05 26 35.7 -0.7
baz=34
F24A **Ekalaka** 34.25 167 ⇓P P 05 26 36.7 -0.4
baz=34
F22A **Rosebud** 34.25 170 ⇓P P 05 26 36.7 -0.4
baz=34
BOZ **Bozeman (W)** 34.27 176 ⇓P P 05 26 36.5 -0.7
baz=34
BOZ **Bozeman (W)** 34.27 176 *e*P P 05 26 36.8 -0.4
10nm,1.3s,mb4.6
BOZ *e*PcP PcP 05 29 22.6 +9.4
F23A **Volborg** 34.34 169 ⇑P P 05 26 37.6 -0.2
baz=34
G18A **Lazy EL Ranch,** 34.63 174 ⇓P P 05 26 39.9 -0.5
baz=35
G16A **Moss Hill, Enn** 34.69 177 ⇓P P 05 26 40.6 -0.2
baz=35,SNR=5.4
G15A **Dillon** 34.74 177 ⇑P P 05 26 41.1 -0.2
baz=35
G20A **Bridger** 34.76 172 ⇑P P 05 26 40.6 -0.9
baz=35
G12A **Big Creek, Yel** 34.77 181 ⇑P P 05 26 42.0 +0.4
baz=35
G21A **Lodge Grass** 34.78 171 ⇓P P 05 26 41.0 -0.6
baz=35
G13A **Cobalt** 34.81 180 ⇓P P 05 26 41.5 -0.3
baz=35
H16A **Russell Place,** 35.22 176 ⇑P P 05 26 45.5 +0.1
baz=35,SNR=5.1
H14A **Leadore** 35.28 179 ⇓P P 05 26 46.3 +0.3
baz=35,SNR=11
H15A **Lima** 35.29 178 ⇑P P 05 26 46.3 +0.3
baz=35,SNR=7.5
H13A **Challis** 35.34 180 ⇓P P 05 26 46.5 0.0
baz=35
H24A **Dirks Ranch, A** 35.34 168 ⇑P P 05 26 46.1 -0.3
baz=35,SNR=5.7
H12A **Diamond D Ranc** 35.35 180 ⇑P P 05 26 46.5 -0.1
baz=35
FLWY **Flagg Ranch** 35.84 175 *e*P P 05 26 52.5 +1.7
19nm,0.9s,mb5.0
I07A **Izee** 35.87 186 ⇓P P 05 26 50.8 -0.2
baz=36
I15A **Monteview** 35.91 177 ⇑P P 05 26 51.2 -0.1
baz=36
I14A **Mackay** 35.97 179 ⇑P P 05 26 52.3 +0.4
baz=36,SNR=17
I13A **Wildhorse Cree** 35.98 179 ⇓P P 05 26 52.4 +0.4
baz=36,SNR=11
RSSD **Black Hills** 35.99 167 *e*P P 05 26 52.3 +0.2
9.0nm,0.8s,mb4.8
IMW **Indian Meadow** 36.03 176 *e*P P 05 26 53.9 +1.6
15nm,1.1s,mb4.8
NB2 **NORSAR Subarra** 36.03 42 P P 05 26 53.0 +0.8
comp=Z,2.6nm,0.8s,mb4.2,baz=343,slow=8.6
NOA **NORSAR Array B** 36.03 42 P P 05 26 53.0 +0.8
comp=Z,1.3nm,0.6s,mb4.0,baz=344,slow=8.3,SNR=5.4
NOA LR LR 05 40 09.6
comp=Z,46nm,20.7s,MS3.2,baz=0.0,slow=34
NOA **NORSAR Array B** 36.03 42 P P 05 26 53.0 +0.8
NOA LR LR 05 40 09.6
I16A **Newdale** 36.04 176 ⇓P P 05 26 53.6 +1.1
baz=36,SNR=16
I12A **Atlanta** 36.10 181 ⇑P P 05 26 53.4 +0.3
baz=36
I22A **9 Mile Ranch,** 36.13 170 ⇓P P 05 26 53.8 +0.6
baz=36
MOOW **Moose Ponds** 36.18 175 *e*P P 05 26 54.6 +0.9
comp=Z,8.9nm,1.1s,mb4.6
I21A **Big Trails, Te** 36.19 171 ⇑P P 05 26 53.6 -0.1
baz=36
LOHW **Long Hollow** 36.32 175 *e*P P 05 26 55.9 +1.1
comp=Z,12nm,1.3s,mb4.7
HLID **Hailey** 36.34 180 *e*P P 05 26 56.0 +1.0
TPAW **Teton Pass** 36.43 176 *e*P P 05 26 57.0 +1.2
comp=Z,9.2nm,1.1s,mb4.6
SNOW **Snow King Moun** 36.46 175 *e*P P 05 26 57.8 +1.7
comp=Z,4.8nm,0.8s,mb4.5
MFID **Camas Ranch** 36.49 182 ⇑P P 05 26 57.2 +0.9
baz=36
J13A **Cove Ranch, Pi** 36.50 180 ⇑P P 05 26 57.0 +0.5
baz=36
J15A **Blackfoot** 36.51 177 ⇑P P 05 26 56.4 -0.1
baz=36
REDW **Red Top Meadow** 36.56 175 *e*P P 05 26 59.0 +2.1
comp=Z,44nm,2.3s,mb4.9
J08A **Circle Bar Ran** 36.57 185 ⇑P P 05 26 56.9 -0.1
baz=36
RRI2 **Red Ridge** 36.57 176 *e*P P 05 26 57.4 +0.3
comp=Z,6.0nm,0.8s,mb4.5
J14A **Carey** 36.58 179 ⇓P P 05 26 57.2 +0.2
baz=36
J22A **Midwest** 36.61 170 ⇑P P 05 26 57.0 -0.3
baz=36
J20A **Shoshoni** 36.62 172 ⇓P P 05 26 57.1 -0.4
baz=37
J16A **Bone** 36.64 176 ⇓P P 05 26 57.4 -0.2
baz=37
J21A **Lysite** 36.65 171 ⇓P P 05 26 57.3 -0.3
baz=37
J18A **Kendall Valley** 36.73 174 ⇓P P 05 26 58.0 -0.4
baz=37,SNR=7.5
ECSD **EROS Data Cent** 36.77 158 *e*P P 05 26 58.4 -0.3
comp=Z,117nm,2.7s,mb5.2
K19A **Absolon Red Bu** 37.13 173 ⇑P P 05 27 01.0 -0.8
baz=37
PD02 **Pinedale Array** 37.17 174 *e*P P 05 27 01.6 -0.5
PD01 **Pinedale Array** 37.17 174 *e*P P 05 27 02.0 -0.1
K17A **Gardner Place,** 37.17 176 ⇓P P 05 27 01.4 -0.7
baz=37
BW06 **Boulder Array** 37.18 174 ⇑P P 05 27 01.5 -0.7
baz=37
BW06 **Boulder Array** 37.18 174 *e*P P 05 27 02.3 +0.1
comp=Z,8.9nm,1.3s,mb4.4
PDAR **Pinedale Array** 37.18 174 P P 05 27 02.1 -0.1
comp=Z,1.4nm,0.4s,mb4.1,baz=32,slow=7.1,SNR=25
PDAR **Pinedale Array** 37.18 174 P P 05 27 02.1 -0.1
FINES **FINESS Array B** 37.20 30 P P 05 27 03.4 +1.2
comp=Z,10nm,0.7s,mb4.8,baz=343,slow=10.0,SNR=12
FINES PcP PcP 05 29 21.5 -0.1
comp=Z,2.4nm,0.7s,baz=256,slow=0.6,SNR=4.1
FINES **FINESS Array B** 37.20 30 P P 05 27 03.4 +1.2
FINES PcP PcP 05 29 21.5 -0.1
K15A **Arbon** 37.22 178 ⇑P P 05 27 02.7 +0.2
baz=37
K23A **Bowen Ranch, D** 37.29 169 ⇓P P 05 27 02.8 -0.4
baz=37
K18A **Toltan Ranch,** 37.30 175 ⇑P P 05 27 03.3 +0.1
baz=37,SNR=6.4
K14A **Jones Ranch, D** 37.36 178 ⇑P P 05 27 02.7 -1.0
baz=37
K22A **Casper** 37.37 170 ⇓P P 05 27 03.5 -0.3
baz=37
SADO **Sadowa** 37.41 137 LR LR 05 43 45.2
comp=Z,103nm,18.4s,MS3.7,baz=135,slow=38
L17A **Cokeville** 37.82 176 ⇑P P 05 27 07.7 0.0
baz=38
L19A **Farson** 37.85 174 ⇑P P 05 27 07.7 -0.2
baz=38
L14A **Malta** 37.87 178 ⇑P P 05 27 08.3 +0.3
baz=38,SNR=6.6
PETK **Petropavlovsk-** 37.89 281 LR LR 05 45 34.7
comp=Z,54nm,20.0s,MS3.4,baz=168,slow=41
L16A **Fish Haven** 37.90 176 ⇑P P 05 27 08.1 -0.2
baz=38,SNR=6.9
L15A **Malad City** 37.90 177 ⇑P P 05 27 08.1 -0.2
baz=38
L23A **Garrett** 37.93 169 ⇑P P 05 27 07.7 -0.9
baz=38
L20A **Wamsutter** 37.96 172 ⇓P P 05 27 08.1 -0.7
baz=38
L21A **Rawlins** 38.03 171 ⇓P P 05 27 09.1 -0.3
baz=38
MOD **Modoc** 38.06 187 *e*P P 05 27 10.7 +1.1
comp=Z,3.3nm,0.8s,mb4.1
HVU **Hansel Valley** 38.12 178 *e*P P 05 27 11.1 +0.9
comp=Z,8.4nm,1.1s,mb4.4
HWUT **Hardware Ranch** 38.31 176 *e*P P 05 27 12.0 +0.3
comp=Z,7.4nm,1.1s,mb4.3
M21A **Separation Pea** 38.39 171 ⇓P P 05 27 12.5 +0.1
baz=38
M15A **Larsen Ranch,** 38.44 177 ⇓P P 05 27 12.6 -0.2
baz=38
M16A **Huntsville** 38.60 176 ⇑P P 05 27 14.4 +0.2
baz=38,SNR=9.9
M22A **Cedar Creek Ra** 38.61 170 ⇑P P 05 27 13.8 -0.5
baz=38
N18A **Larsen Ranch,** 38.97 174 ⇓P P 05 27 17.1 -0.1
baz=39
BGU **Big Grassy Mou** 38.98 178 *e*P P 05 27 17.6 +0.3
comp=Z,7.7nm,1.3s,mb4.3
N15A **Stansbury Isla** 39.01 178 ⇓P P 05 27 17.5 -0.2
baz=39
N16A **Rex Ranch, Co** 39.03 176 ⇑P P 05 27 17.9 +0.1
baz=39
N23A **Red Feather La** 39.14 170 ⇑P P 05 27 18.7 -0.1
baz=39
N24A **Carr** 39.24 168 ⇑P P 05 27 19.7 +0.2
baz=39
JLU **Jordanelle** 39.31 176 *e*P P 05 27 20.7 +0.5
comp=Z,5.6nm,1.0s,mb4.2
WDC **Whiskeytown Da** 39.44 190 *e*P P 05 27 21.5 +0.3
comp=Z,3.9nm,0.9s,mb4.1
DAU **Daniels Canyon** 39.50 176 *e*P P 05 27 23.0 +1.2
comp=Z,3.1nm,0.8s,mb4.1
O15A **The Old Anders** 39.62 178 ⇓P P 05 27 22.9 +0.1
baz=40
O19A **Miners Draw (B** 39.65 174 ⇑P P 05 27 22.8 -0.3
baz=40
DUG **Dugway** 39.71 178 ⇓P P 05 27 23.5 0.0
baz=40
DUG **Dugway** 39.71 178 *e*P P 05 27 23.3 -0.1
comp=Z,4.7nm,1.1s,mb4.1
O16A **Springville** 39.71 176 ⇑P P 05 27 24.1 +0.6
baz=40,SNR=6.9
O17A **Robinson Place** 39.73 175 ⇑P P 05 27 23.6 -0.1
baz=40
O20A **White River Ci** 39.84 172 ⇓P P 05 27 24.8 +0.2
baz=40
O22A **Kremmling** 39.85 170 ⇓P P 05 27 24.8 +0.2
baz=40,SNR=5.3
MPU **Maple Canyon** 39.90 177 *e*P P 05 27 26.0 +0.9
comp=Z,6.8nm,0.8s,mb4.4
NLU **North Lily Min** 39.95 177 *e*P P 05 27 27.4 +1.9
comp=Z,5.9nm,1.0s,mb4.3
P16A **Fountain Green** 40.30 177 ⇓P P 05 27 29.0 +0.6
baz=40
P18A **Preston Nutter** 40.30 175 ⇓P P 05 27 27.4 -1.0
baz=40
P19A **Cripple Cowboy** 40.32 173 ⇓P P 05 27 28.7 +0.2
baz=40,SNR=17
P22A **Eagle** 40.41 171 ⇑P P 05 27 29.6 +0.3
baz=40
P17A **Butcher Ranch,** 40.45 175 ⇑P P 05 27 29.6 0.0
baz=40
P21A **Newcastle** 40.47 172 ⇓P P 05 27 29.8 0.0
baz=40
P20A **De Beque** 40.47 173 ⇓P P 05 27 28.9 -0.8
baz=40
P23A **Jefferson** 40.66 170 ⇓P P 05 27 31.0 -0.4
baz=41
SRU **San Rafael** 40.81 175 ⇓P P 05 27 32.5 -0.1
baz=41
SRU **San Rafael** 40.81 175 *e*P P 05 27 33.3 +0.7
comp=Z,5.2nm,1.0s,mb4.1
SMCO **Snowmass** 40.82 171 *e*P P 05 27 33.4 +0.7
comp=Z,6.4nm,1.2s,mb4.1
Q18A **Rafter H Ranch** 40.83 175 ⇑P P 05 27 32.5 -0.3
baz=41
SFIN **Scholer Farm** 40.88 147 ⇑P P 05 27 32.3 -0.9
baz=41
Q16A **Castle Valley** 41.00 176 ⇑P P 05 27 34.7 +0.6
baz=41,SNR=11
Q20A **Ridgley Place,** 41.01 173 ⇑P P 05 27 34.2 -0.1
baz=41
Q22A **Crested Butte,** 41.14 171 ⇓P P 05 27 35.3 0.0
baz=41
Q25A **Bedland, Calha** 41.18 168 ⇓P P 05 27 35.3 -0.3
baz=41
MSU **Marysvale** 41.39 177 *e*P P 05 27 37.9 +0.5
NVAR **Mina Array Bea** 41.49 184 P P 05 27 39.0 +0.8
comp=Z,2.0nm,0.9s,mb3.8,baz=0.7,slow=6.7,SNR=10
NVAR **Mina Array Bea** 41.49 184 P P 05 27 39.0 +0.8
R17A **Hanksville Air** 41.50 175 ⇑P P 05 27 38.4 +0.1
baz=41
R11A **Troy Canyon, C** 41.55 181 ⇓P P 05 27 38.7 0.0
baz=42
R18A **Canyonlands Na** 41.55 175 ⇑P P 05 27 38.4 -0.2
baz=42,SNR=7.8
R21A **Cimarron** 41.62 172 ⇑P P 05 27 39.6 +0.4
baz=42
R16A **Teasdale** 41.63 176 ⇑P P 05 27 40.2 +0.9
baz=42
R15A **Junction** 41.69 177 ⇑P P 05 27 40.7 +0.8
baz=42
R13A **O'Grain Ranch,** 41.71 179 ⇓P P 05 27 40.6 +0.6
baz=42
R20A **Redvale** 41.77 173 ⇑P P 05 27 40.5 0.0
baz=42
PV01 **Paradox Valley** 41.83 173 *e*P P 05 27 41.0 +0.1
comp=Z,571nm,0.7s
R24A **Sanders Place,** 41.83 169 ⇓P P 05 27 40.8 -0.1
baz=42
R23A **Moffat** 41.84 170 ⇑P P 05 27 40.7 -0.4
baz=42
R25A **Fountain Ranch** 41.94 168 ⇓P P 05 27 41.5 -0.4
baz=42
ARUT **Antelope Range** 42.11 179 *e*P P 05 27 43.9 +0.6
comp=Z,5.6nm,0.9s,mb4.2
S20A **Disappointment** 42.13 173 ⇓P P 05 27 43.2 -0.2
baz=42
S16A **Weppner Ranch,** 42.19 177 ⇑P P 05 27 44.0 0.0
baz=42,SNR=5.7
S19A **Harvey Farm, M** 42.20 174 ⇓P P 05 27 43.9 -0.1
baz=42,SNR=8.5
S18A **Hurst Farm, Bl** 42.24 175 ⇑P P 05 27 44.5 +0.2
baz=42,SNR=6.2
S22A **4UR Ranch, Cre** 42.26 171 ⇑P P 05 27 44.6 +0.2
baz=42
S17A **Black Ridge (B** 42.28 176 ⇑P P 05 27 44.8 +0.1
baz=42
SDCO **Great Sand Dun** 42.30 169 ⇑P P 05 27 44.8 0.0
baz=42
S21A **Coal Bank Pass** 42.31 172 ⇑P P 05 27 45.1 +0.2
baz=42
CCUT **Cedar City** 42.34 179 *e*P P 05 27 46.0 +0.8
comp=Z,8.0nm,1.3s,mb4.2
S24A **Houchin Ranch,** 42.41 169 ⇓P P 05 27 45.9 +0.2
baz=42
S25A **Robets Cordova** 42.42 168 ⇓P P 05 27 46.2 +0.4
baz=42,SNR=9.9
MVCO **Mesa Verde** 42.75 173 ⇓P P 05 27 49.2 +0.7
baz=43
T18A **Mexican Hat** 42.80 175 ⇑P P 05 27 49.0 +0.1
baz=43
GRAC **Grapevine Rang** 42.91 183 ⇑P P 05 27 50.8 +1.0
baz=43
T17A **Navajo Res., N** 42.92 176 ⇓P P 05 27 50.2 +0.3
baz=43
T24A **Torres, Weston** 42.98 169 ⇓P P 05 27 50.0 -0.3
baz=43
T22A **Edith** 42.98 171 ⇑P P 05 27 50.4 0.0
baz=43
T23A **Casias Ranch,** 42.99 170 ⇓P P 05 27 50.8 +0.4
baz=43
T19A **Beclabito** 43.12 174 ⇓P P 05 27 51.4 0.0
baz=43,SNR=7.9
U15A **North Rim** 43.47 177 ⇑P P 05 27 54.3 0.0
baz=43
U21A **Nageezi** 43.55 172 ⇓P P 05 27 55.0 0.0
baz=44
U22A **Llaves** 43.62 171 ⇑P P 05 27 55.2 -0.3
baz=44
U19A **Dine' College,** 43.65 174 ⇑P P 05 27 55.7 -0.1
baz=44
U25A **Circle Dot Ran** 43.68 168 ⇑P P 05 27 56.0 0.0
baz=44
U23A **El Rito** 43.69 170 ⇓P P 05 27 56.5 +0.4
baz=44,SNR=16
U26A **Atchley Ranch,** 43.71 167 ⇓P P 05 27 56.5 +0.3
baz=44
U16A **Tuba City** 43.77 176 ⇑P P 05 27 56.9 +0.2
baz=44
MPMC **Manual Prospec** 43.85 183 ⇓P P 05 27 58.7 +1.3
baz=44
V15A **Kaibab Nationa** 44.08 177 ⇓P P 05 27 59.2 0.0
baz=44
V20A **Brimhall** 44.16 173 ⇑P P 05 27 59.9 +0.1
baz=44
V21A **Milan** 44.17 172 ⇓P P 05 27 59.6 -0.3
baz=44
V18A **Ganado** 44.22 175 ⇑P P 05 28 00.2 -0.1
baz=44,SNR=6.5
V25A **Rancho No Teng** 44.23 168 ⇑P P 05 28 00.5 +0.1
baz=44
ISA **Isabella** 44.25 185 ⇑P P 05 28 01.6 +1.0
baz=44
ISA **Isabella** 44.25 185 *e*P P 05 28 01.8 +1.1
comp=Z,4.8nm,1.0s,mb4.2
V23A **Ortiz Mt. (NFS** 44.27 170 ⇑P P 05 28 00.5 -0.2
baz=44
V17A **Tonalea, Kykot** 44.29 176 ⇑P P 05 28 00.6 -0.3
baz=44,SNR=7.9
V26A **Tequesquite Ra** 44.30 167 ⇑P P 05 28 00.8 -0.2
baz=44,SNR=5.8
V24A **Rampart Ranch,** 44.32 169 ⇑P P 05 28 00.8 -0.3
baz=44
WUAZ **Wupatki** 44.39 176 ⇑P P 05 28 02.3 +0.6
baz=44,SNR=7.6
WUAZ **Wupatki** 44.39 176 *e*P P 05 28 02.3 +0.6
comp=Z,12nm,1.0s,mb4.6
LRMC **Laurel Mountai** 44.43 184 ⇓P P 05 28 03.0 +1.0
baz=44
TUQ **Turquoise Moun** 44.46 182 ⇑P P 05 28 02.3 +0.1
baz=44
GSC **Goldstone** 44.60 183 ⇑P P 05 28 03.9 +0.6
baz=44
GSC **Goldstone** 44.60 183 *e*P P 05 28 04.0 +0.6
comp=Z,8.9nm,1.0s,mb4.5
TUL1 **Tulsa** 44.61 158 ⇓P P 05 28 02.1 -1.4
baz=44,SNR=6.0
UTMT **University of** 44.72 150 *e*PcP PP 05 29 54.8 +6.3
W13A **Hualapai Mount** 44.79 179 ⇑P P 05 28 05.5 +0.6
baz=45,SNR=10
LDFC **Landfair** 44.81 181 *e*P P 05 28 06.0 +0.9
comp=Z,6.5nm,0.8s,mb4.5
W19A **Sanders** 44.82 174 ⇑P P 05 28 05.1 -0.1
baz=45
W24A **Lazy 6 Ranch,** 44.83 169 ⇓P P 05 28 05.6 +0.4
baz=45
W23A **Werner Place,** 44.85 170 ⇓P P 05 28 05.1 -0.3
baz=45
W25A **X Bar L Ranch,** 44.85 168 ⇓P P 05 28 05.2 -0.2
baz=45
EDW2 **Edwards Air Fo** 45.03 184 ⇑P P 05 28 07.1 +0.3
baz=45
ANMO **Albuquerque** 45.05 171 P P 05 28 06.8 -0.2
comp=Z,1.6nm,0.7s,mb3.9,baz=18,slow=7.0,SNR=8.3
ANMO **Albuquerque** 45.05 171 *e*P P 05 28 07.7 +0.7
comp=Z,5.7nm,1.1s,mb4.3
W27A **Bowe Ranch, En** 45.06 167 ⇓P P 05 28 06.9 -0.1
baz=45
X18A **Snowflake** 45.40 175 ⇓P P 05 28 09.6 -0.1
baz=45
X24A **Lazy VL Ranch,** 45.47 169 ⇓P P 05 28 10.1 -0.2
baz=45
X16A **Lo Mia Camp, P** 45.48 176 ⇑P P 05 28 10.7 +0.2
baz=45

X19A	St. Johns	45.51	174	⇑P		P	05 28 11.0	+0.3	
	baz=46								
X17A	Forest Lakes	45.57	176	⇑P		P	05 28 12.1	+0.9	
	baz=46								
PDMCI	Parker Dam,Lak	45.59	180	⇑P		P	05 28 12.0	+0.8	
	baz=46								
WMOK	Wichita Mounta	45.59	162	*e*P		P	05 28 10.6	-0.7	
	comp=Z,98nm,3.0s								
IRM	Iron Mountain	45.73	181	⇓P		P	05 28 12.6	+0.3	
	baz=46								
BELC	Belle Mtn. Jos	45.89	182	⇓P		P	05 28 14.8	+1.2	
	baz=46,SNR=5.9								
Y15A	Casa Rosa Ranc	45.94	177	⇓P		P	05 28 14.5	+0.5	
	baz=46								
Y14A	Wickenburg	45.95	178	⇓P		P	05 28 14.2	+0.1	
	baz=46,SNR=6.7								
Y21A	Point of Rocks	45.96	172	⇓P		P	05 28 14.2	0.0	
	baz=46								
Y19A	Nutrioso	45.98	174	⇓P		P	05 28 14.7	+0.4	
	baz=46								
Y20A	Horse Springs,	46.04	173	⇑P		P	05 28 15.5	+0.6	
	baz=46								
Y22A	Socorro	46.05	171	⇑P		P	05 28 15.4	+0.5	
	baz=46								
ZALV	Zalesovo Beam	46.06	344	P		P	05 28 14.0	-0.7	
	comp=Z,1.5nm,0.6s,mb4.1,baz=351,slow=7.5,SNR=7.8								
ZALV				PcP		PcP	05 29 49.7	-1.1	
	comp=Z,1.2nm,0.6s,baz=360,slow=1.9,SNR=4.5								
ZALV	Zalesovo Beam	46.06	344	P		P	05 28 14.0	-0.7	
ZALV				PcP		PcP	05 29 49.7	-1.1	
Y24A	Capitan	46.11	169	⇑P		P	05 28 16.1	+0.7	
	baz=46								
Y12C	Blythe	46.13	180	⇓P		P	05 28 16.5	+0.9	
	baz=46								
Y25A	Mesa, Roswell	46.14	169	⇑P		P	05 28 15.5	-0.1	
	baz=46								
Y18A	Canyon Day Jun	46.14	175	⇑P		P	05 28 15.7	+0.1	
	baz=46								
Y17A	Roosevelt	46.21	176	⇑P		P	05 28 16.3	+0.1	
	baz=46								
BC3	Big Chuckawall	46.23	181	⇓P		P	05 28 16.8	+0.5	
	baz=46								
Y27A	Causey	46.23	167	⇑P		P	05 28 16.2	-0.2	
	baz=46								
Z14A	Wintersburg	46.52	178	⇑P		P	05 28 19.6	+1.0	
	baz=46								
Z21A	St. Cloud Mine	46.66	172	⇑P		P	05 28 19.5	-0.2	
	baz=47								
Z13A	Yuma Proving G	46.68	179	⇑P		P	05 28 19.8	-0.1	
	baz=47								
Z24A	Sheeppen Canyo	46.70	169	⇓P		P	05 28 20.2	+0.2	
	baz=47								
Z25A	Roswell	46.78	169	⇓P		P	05 28 20.5	-0.1	
	baz=47								
Z27A	Tatum	46.80	167	⇓P		P	05 28 20.8	0.0	
	baz=47								
Z26A	Caprock	46.81	168	⇓P		P	05 28 20.9	+0.1	
	baz=47								
Z20A	Nine Sixteen R	46.83	173	⇓P		P	05 28 21.5	+0.5	
	baz=47								
SCI	San Clemente I	46.93	185	⇑P		P	05 28 22.1	+0.3	
	baz=47								
MONP	Monument Peak	47.00	182	⇑P		P	05 28 22.6	+0.2	
	baz=47								
115A	Sonoran Desert	47.19	177	⇓P		P	05 28 24.1	+0.3	
	baz=47								
118A	Homack Ranch,	47.28	175	⇓P		P	05 28 25.0	+0.4	
	baz=47								
117A	Oracle	47.34	176	⇑P		P	05 28 24.7	-0.2	
	baz=47								
125A	Gardner Draw,	47.40	169	⇓P		P	05 28 25.3	-0.1	
	baz=47								
216A	Three Points,	47.89	176	⇑P		P	05 28 29.3	0.0	
	baz=48								
219A	White Tail Can	47.93	174	⇑P		P	05 28 30.0	+0.4	
	baz=48								
225A	Deer Hill, Car	47.94	169	⇑P		P	05 28 30.4	+0.7	
	baz=48								
218A	Dragoon	47.94	175	⇑P		P	05 28 30.2	+0.5	
	baz=48								
224A	Cornudas Mount	47.95	170	⇑P		P	05 28 30.1	+0.3	
	baz=48								
220A	Playas Peak, P	48.04	173	⇓P		P	05 28 31.1	+0.6	
	baz=48								
AKASG	Malin Array Be	48.11	30	P		P	05 28 31.3	+0.5	
	comp=Z,4.6nm,0.8s,mb4.6,baz=353,slow=8.3,SNR=15								
AKASG				PcP		PcP	05 29 57.4	-0.7	
	comp=Z,1.4nm,0.5s,baz=353,slow=3.3,SNR=4.5								
AKASG	Malin Array Be	48.11	30	P		P	05 28 31.3	+0.5	
AKASG				PcP		PcP	05 29 57.4	-0.7	
GERES	GERESS Array B	48.27	44	P		P	05 28 32.9	+0.8	
	comp=Z,0.5nm,0.7s,mb3.7,baz=355,slow=9.4,SNR=3.6								
GERES	GERESS Array B	48.27	44	P		P	05 28 32.9	+0.8	
318A	Bisbee	48.48	175	⇑P		P	05 28 34.3	+0.5	
	baz=48								
319A	Douglas	48.55	174	⇑P		P	05 28 34.2	-0.2	
	baz=48								
324A	Moseley Ranch,	48.58	170	⇓P		P	05 28 34.5	-0.1	
	baz=48								
328A	Wristen Ranch,	48.74	167	⇑P		P	05 28 36.0	+0.2	
	baz=49								
326A	Caldwell Ranch	48.76	168	⇑P		P	05 28 36.3	+0.3	
	baz=49								
427A	Hayter Ranch,	49.24	167	⇓P		P	05 28 39.4	-0.3	
	baz=49								
425A	Indio Mountain	49.25	169	⇓P		P	05 28 40.1	+0.3	
	baz=49								
428A	Kincaid Ranch,	49.40	167	⇓P		P	05 28 41.1	+0.2	
	baz=49								
426A	McDonald Obser	49.40	168	⇓P		P	05 28 40.6	-0.4	
	baz=49								
KURK	Kurchatov	49.54	349	P		P	05 28 41.7	-0.1	
	comp=Z,0.7nm,0.3s,mb4.2,baz=2.1,slow=7.5,SNR=4.7								
KURK				PcP		PcP	05 30 02.9	-0.5	
	comp=Z,1.8nm,0.7s,baz=352,slow=3.4,SNR=10								
KURK	Kurchatov	49.54	349	P		P	05 28 41.7	-0.1	
KURK				PcP		PcP	05 30 02.9	-0.5	
JCT	Junction City	49.78	163	⇑P		P	05 28 44.3	+0.5	
	baz=50								
JCT	Junction City	49.78	163	*e*P		P	05 28 44.3	+0.5	
	comp=Z,10.0nm,0.9s,mb4.8								
528A	Cox Ranch, San	49.95	167	⇓P		P	05 28 45.0	-0.2	
	baz=50,SNR=5.7								
AKTO	Aktyubinsk	49.98	6	LR		LR	05 52 10.9		
	comp=Z,76nm,18.1s,MS3.7,baz=205,slow=39								
526A	Mary Lane Ranc	50.01	168	⇑P		P	05 28 45.2	-0.3	
	baz=50,SNR=10								
SONM	Songino Array	50.50	325	P		P	05 28 48.9	-0.1	
	comp=Z,4.4nm,0.8s,mb4.5,baz=348,slow=6.1,SNR=26								
SONM				PcP		PcP	05 30 07.0	+0.1	
	comp=Z,1.2nm,0.7s,baz=338,slow=4.3,SNR=4.2								
SONM				LR		LR	05 50 47.9		
	comp=Z,56nm,18.6s,MS3.6,baz=138,slow=37								
SONM	Songino Array	50.50	325	P		P	05 28 48.9	-0.1	
SONM				PcP		PcP	05 30 07.0	+0.1	
SONM				LR		LR	05 50 47.9		
626A	Big Bend Ranch	50.51	168	⇑P		P	05 28 49.0	-0.3	
	baz=50								
628A	Black Gap, Mar	50.62	167	⇑P		P	05 28 49.5	-0.7	
	baz=51								
627A	Terlingua Ranc	50.64	167	⇓P		P	05 28 50.4	+0.1	
	baz=51								
TXAR	Lajitas Array	50.74	168	P		P	05 28 50.7	-0.4	
	comp=Z,1.0nm,0.8s,mb3.8,baz=9.3,slow=6.3,SNR=11								
TXAR				LR		LR	05 51 38.3		
	comp=Z,112nm,19.1s,MS3.9,baz=180,slow=38								
TXAR	Lajitas Array	50.74	168	P		P	05 28 50.7	-0.4	
TXAR				LR		LR	05 51 38.3		
ABKAR	Akbulak array	51.19	5	*e*P		P	05 28 54.6	+0.4	
ABKAR				*e*PcP		PcP	05 30 09.7	+0.3	
MK31	Makanchi Array	53.32	346	*e*P		P	05 29 09.3	-0.8	
MKAR	Makanchi Array	53.32	346	P		P	05 29 09.4	-0.7	
	comp=Z,3.4nm,0.7s,mb4.4,baz=13,slow=6.6,SNR=14								
MKAR	Makanchi Array	53.32	346	P		P	05 29 09.4	-0.7	
ESDC	Sonseca Array	54.75	62	P		P	05 29 21.4	+0.8	
	comp=Z,0.4nm,0.6s,mb3.6,baz=356,slow=15,SNR=3.8								
ESDC				LR		LR	05 53 17.2		
	comp=Z,76nm,18.2s,MS3.8,baz=285,slow=37								
ESDC	Sonseca Array	54.75	62	P		P	05 29 21.4	+0.8	
ESDC				LR		LR	05 53 17.2		
MJAR	Matsushiro Arr	57.28	294	P		P	05 29 37.0	-1.7	
	comp=Z,0.7nm,0.3s,mb4.1,baz=2.8,slow=9.8,SNR=4.3								
MJAR	Matsushiro Arr	57.28	294	P		P	05 29 37.0	-1.7	
KSRS	Korea Array	57.99	304	LR		LR	05 56 11.4		
	comp=Z,35nm,19.8s,MS3.5,baz=330,slow=38								
BRTR	Keskin Array B	59.39	28	P		P	05 29 54.5	+1.1	
	comp=Z,1.9nm,0.9s,mb4.1,baz=350,slow=6.3,SNR=6.5								
BRTR				PcP		PcP	05 30 41.5	+0.4	
	comp=Z,1.5nm,0.7s,baz=345,slow=3.7,SNR=5.4								
BRTR	Keskin Array B	59.39	28	P		P	05 29 54.5	+1.1	
BRTR				PcP		PcP	05 30 41.5	+0.4	
GNI	Garni	59.75	18	LR		LR	05 57 46.0		
	comp=Z,32nm,18.2s,MS3.5,baz=179,slow=38								
KEST	Kesra	60.59	51	P		P	05 30 03.2	+1.5	
	comp=Z,1.1nm,0.6s,mb4.1,baz=358,slow=4.2,SNR=7.6								
KEST	Kesra	60.59	51	P		P	05 30 03.2	+1.4	
DANN	Dangsing	71.62	343	*e*P		P	05 31 12.6	-0.1	
	comp=Z,61nm,0.7s,mb5.6								
PYUN	Piuthan	71.91	344	*e*P		P	05 31 13.8	-0.6	
	comp=Z,38nm,1.1s,mb5.2								
GKN	Gorkha	71.92	342	*e*P		P	05 31 14.2	-0.3	
GUN	Gumba	71.95	341	*e*P		P	05 31 15.0	+0.4	
KKN	Kakani	72.10	342	*e*P		P	05 31 15.6	0.0	
	comp=Z,53nm,0.8s,mb5.5								
KOLN	Koldanda	72.21	343	*e*P		P	05 31 15.6	-0.6	
	comp=Z,14nm,0.8s,mb4.9								
DMN	Daman	72.29	342	*e*P		P	05 31 17.0	+0.3	
	comp=Z,52nm,0.8s,mb5.5								
PKI	Pulchoki	72.31	341	*e*P		P	05 31 16.8	0.0	
TAPN	Taplejung	72.39	339	*e*P		P	05 31 17.5	+0.2	
	comp=Z,30nm,0.9s,mb5.2								
RAMN	Ramite	72.86	340	*e*P		P	05 31 20.0	-0.1	
	comp=Z,41nm,0.8s,mb5.4								
ODAN	Odare	72.90	340	*e*P		P	05 31 20.5	+0.2	
	comp=Z,39nm,0.7s,mb5.5								
CMAR	Chiang Mai Arr	80.32	328	P		P	05 32 01.6	-0.8	
	comp=Z,3.5nm,0.8s,mb4.3,baz=348,slow=5.9,SNR=15								
TORD	Torodi Ar. Bea	81.64	62	P		P	05 32 09.5	+0.1	
	comp=Z,3.1nm,0.8s,mb4.3,baz=334,slow=4.8,SNR=22								
ATD	Arta Tunnel	88.07	22	LR		LR	06 18 36.2		
	comp=Z,22nm,18.0s,MS3.6,baz=24,slow=40								
ASAR	Alice Springs	116.93	287	PKP		PKPdf	05 38 33.2	-2.3	
	comp=Z,0.6nm,0.6s,baz=14,slow=1.9,SNR=8.6								

IDC 19 05:25:39.6±16.0, 24.74S×179.70E, h512km±193km, mb3.2/6, mb1 3.4/6, mb1mx3.2/16, mbtmp3.2/6, Error ellipse: s-maj=88.1km s-min=62.2km az=163.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s ISC
CTA	Charters Tower	31.21	272	P		P	05 31 17.7		+0.8
	7.0nm,0.4s,baz=96,slow=9.9,SNR=14								
STKA	Stephens Creek	34.16	249	P		P	05 31 41.0		-0.7
	1.7nm,0.6s,baz=99,slow=13,SNR=2.7								
ASAR	Alice Springs	41.63	262	P		P	05 32 42.8		-0.1
	0.7nm,0.4s,baz=96,slow=8.0,SNR=16								
WRA	Warramunga Arr	42.08	267	P		P	05 32 45.9		-0.6
	1.5nm,0.3s,baz=99,slow=6.8,SNR=51								
FITZ	Fitzroy Crossi	50.49	266	P		P	05 33 50.9		+0.5
	1.0nm,0.6s,baz=106,slow=10.0,SNR=5.4								
TXAR	Lajitas Array	91.11	58	P		P	05 37 49.7		+0.2
	0.5nm,0.8s,baz=173,slow=8.2,SNR=5.6								

NEIC 19 05:26:23.1±4.7, 24.70S×179.87E, h484km±37km, mb4.1/2, Error ellipse: s-maj=68.4km s-min=17.1km az=46.0
IDC 19 05:26:24.9±2.1, 24.79S×179.78E, h501km±22km, mb3.6/9, mb1 3.8/10, mb1mx3.5/18, mbtmp3.6/10, Error ellipse: s-maj=31.7km s-min=15.6km az=169.0
ISCJB 19 05:26:25.7±2.4, 25.0S±0.2×179.7E±0.1, h524km±28km, mb4.2/13, Error ellipse: s-maj=25.1km s-min=15.7km az=19.4

ISC 19 05:26:26.1±2.2, 25.0S±0.2×179.8E±0.1, h516km±26km, n32, σ1°9.4/31, mb4.2/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s ISC
URZ	Urewera	13.45	189	P		P	05 29 19.6		0.0
	0.9nm,0.3s,baz=349,slow=5.2,SNR=3.0								
URZ	Urewera	13.45	189	P		P	05 29 19.6		0.0
EIDS	Eidsvold	25.96	263	*e*P		P	05 31 17.3		+0.1
CMSA	Cobar Meteorol	30.65	250	*e*P		P	05 31 58.8		+0.8
	16nm,0.7s,mb4.7								
CTA	Charters Tower	31.30	272	P		P	05 32 04.3		+0.5
	17nm,0.4s,mb5.0,baz=97,slow=11,SNR=29								
CTA	Charters Tower	31.30	272	*e*P		P	05 32 04.2		+0.4
	12nm,0.3s,mb4.9								
CTA	Charters Tower	31.30	272	P		P	05 32 04.3		+0.5
CTAO	Charters Tower	31.30	272	*e*P		P	05 32 03.8		+0.1
MTSU	Mount Surprise	33.61	275	*e*P		P	05 32 23.8		+0.4
	35nm,0.6s,mb5.1								
STKA	Stephens Creek	34.15	250	P		P	05 32 28.8		+0.9
	2.2nm,0.5s,mb4.0,baz=335,slow=20,SNR=8.4								
STKA	Stephens Creek	34.15	250	*e*P		P	05 32 28.4		+0.5
	1.7nm,0.4s,mb3.9								
STKA	Stephens Creek	34.15	250	P		P	05 32 28.8		+0.9
PMG	Port Moresby	34.67	291	P		P	05 32 31.2		-1.1
	9.0nm,0.6s,mb4.5,baz=282,slow=12,SNR=3.1								
PMG	Port Moresby	34.67	291	P		P	05 32 31.2		-1.1
ASAR	Alice Springs	41.67	262	P		P	05 33 29.4		0.0
	1.7nm,0.4s,mb4.0,baz=99,slow=7.7,SNR=16								
ASAR	Alice Springs	41.67	262	P		P	05 33 29.4		0.0
WB2	Warramunga Arr	42.14	267	*e*P		P	05 33 32.2		-0.8
WRAB	Tennant Creek	42.14	267	*e*P		P	05 33 32.0		-1.0
	6.2nm,0.8s,mb4.2								
WRA	Warramunga Arr	42.15	267	P		P	05 33 32.6		-0.6
	4.5nm,0.3s,mb4.5,baz=99,slow=6.8,SNR=49								
WRA				ScP		ScP	05 38 21.1		+4.0
	1.3nm,0.8s,baz=101,slow=3.8,SNR=8.2								
WRA				S		S	05 39 15.8		+0.2
	1.2nm,0.9s,baz=103,slow=14,SNR=6.5								
WRA	Warramunga Arr	42.15	267	P		P	05 33 32.6		-0.5
WRA				ScP		ScP	05 38 21.1		+4.0
WRA				S		S	05 39 15.8		+0.2
FITZ	Fitzroy Crossi	50.56	267	P		P	05 34 37.2		+0.2
	5.5nm,0.8s,mb4.0,baz=134,slow=6.8,SNR=16								
FITZ	Fitzroy Crossi	50.56	267	*e*P		P	05 34 37.0		0.0
	8.9nm,0.7s,mb4.2								
FITZ	Fitzroy Crossi	50.56	267	P		P	05 34 37.2		+0.2
QSPA	South Pole Qui	65.12	180	*e*P		P	05 36 17.1		+2.1
	3.6nm,0.9s,mb3.8								
VNA3	Neumayer Olymp	83.83	177	*e*		P	05 37 58.1		-2.4
VNA2	Neumayer--Watz	84.24	178	*e*		P	05 38 00.5		-2.1
	baz=190,slow=4.5								
NVAR	Mina Array Bea	85.65	44	P		P	05 38 09.8		-0.1
	0.6nm,0.8s,mb3.3,baz=224,slow=8.2,SNR=4.7								
CMAR	Chiang Mai Arr	89.71	290	P		P	05 38 31.0		+1.6
	1.1nm,0.6s,mb3.8,baz=147,slow=4.0,SNR=5.1								
TXAR	Lajitas Array	91.16	58	P		P	05 38 36.4		+0.6
	0.7nm,0.7s,mb3.7,baz=209,slow=6.3,SNR=8.6								
AKASG	Malin Array Be	145.75	326	PKPbc		PKPbc	05 45 05.3		-1.6
	0.8nm,0.4s,baz=44,slow=4.1,SNR=5.6								
BRTR	Keskin Array B	148.05	306	PKPbc		PKPbc	05 45 11.8		-1.5
	0.4nm,0.5s,baz=82,slow=3.8,SNR=2.5								
BRTR				PKPab		PKPab	05 45 17.9		-0.2
	0.6nm,0.5s,baz=94,slow=3.2,SNR=3.6								
TORD	Torodi Ar. Bea	168.11	189	PKPab		PKPab	05 46 45.3		+0.2
	0.5nm,0.7s,baz=172,slow=5.5,SNR=4.3								

ISCJB 19 05:35:09.2±0.4, 37.26N±0.02×26.75E±0.02, h4km±3km, Error ellipse: s-maj=2.8km s-min=2.6km az=19.8
ISK 19 05:35:09.4, 37.23N×26.83E, h5km, ML3.7
CSEM 19 05:35:10.0±0.1, 37.25N×26.77E, h2km, MD3.5
DDA 19 05:35:10.4, 37.33N×26.87E, h36km±2km, Md3.4
ATH 19 05:35:10.2, 37.31N×26.77E, h26km±3km, MD3.5/19, ML3.8
THE 19 05:35:12.3, 37.26N×26.87E, h25km±4km, ML3.5/3, Error ellipse: s-maj=4.0km s-min=0.8km az=67.0

ISC 19 05:35:09.8±0.4, 37.24N±0.02×26.76E±0.02, h2km±3km, n193, σ1°9.15/229, 1C-3D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s ISC
BODT	Bodrum	0.47	111	PG		Pg	05 35 18.7		-0.2
BODT				SG		Sg	05 35 25.2		+0.2
BODT	Bodrum	0.47	111	*i* Pg		Pg	05 35 18.7		-0.2
BODT				*i* Sg		Sg	05 35 25.2		+0.2
SMG	Samos	0.48	8	*e*PB		Pg	05 35 19.2		+0.3
SMG				*e*SB		Sg	05 35 25.9		+0.8
SMG	Samos	0.48	8	*e*Pb		Pg	05 35 19.2		+0.3
SMG				*e*Sb		Sg	05 35 25.9		+0.8
GCAM	G?zelcaml?	0.60	39	*i* P		Pg	05 35 20.9		-0.3
GCAM				*i* S		Sg	05 35 29.1		+0.1
GCAM	G?zelcaml?	0.60	39	*i* P		Pg	05 35 20.9		-0.3
GCAM				*i* S		Sg	05 35 29.1		+0.1
NIS1	Nisyros Isl.	0.72	152	P		Pg	05 35 24.7		+1.2
NIS1	Nisyros Isl.	0.72	152	P		Pg	05 35 24.7		+1.2
MLSB	Milas	0.82	86	*e*PG		Pg	05 35 24.9		-0.5
MLSB					*e*SG	Sg	05 35 36.6		+0.6
MLSB	Milas	0.82	86	*e*Pg		Pg	05 35 24.9		-0.5
MLSB					*e*Sg	Sg	05 35 36.6		+0.6
DAT	Datca	0.83	127	*e*PG		Pg	05 35 26.2		+0.5
DAT					*e*SG	Sg	05 35 37.8		+1.3
DAT	Datca	0.83	127	*e*Pg		Pg	05 35 26.2		+0.5
DAT					*e*Sg	Sg	05 35 37.8		+1.4
AYDN	Tasoluk	0.99	64	*i* P		Pg	05 35 27.7		-1.0
AYDN				*i* S		Sg	05 35 41.1		-0.5
AYDN	Tasoluk	0.99	64	*i* P		Pg	05 35 27.7		-1.0
AYDN				*i* S		Sg	05 35 41.1		-0.4
APE	Apeiranthos	0.99	261	*e*PG		Pg	05 35 30.1		+1.3
APE	Apeiranthos	0.99	261	*e*PN		Pg	05 35 30.2		+1.4
APE					*e*SN	Sg	05 35 44.3		+2.6
APE	Apeiranthos	0.99	261	P		Pg	05 35 30.1		+1.3
APE					S	Sg	05 35 45.1		+3.4
APE	Apeiranthos	0.99	261	P		Pg	05 35 30.1		+1.3
APE					*e*Sn	Sg	05 35 44.3		+2.6
APE					S	Sg	05 35 45.1		+3.4
URLA	Izmir	1.13	354	*i* P		Pg	05 35 29.6		-1.8
URLA				*i* S		Sg	05 35 43.7		-2.4
URLA	Izmir	1.13	354	*i* P		Pg	05 35 29.6		-1.8
URLA				*i* S		Sg	05 35 43.7		-2.4
BLCB	Balcova	1.17	11	*e*PN		Pn	05 35 32.5		-0.6
BLCB	Balcova	1.17	11	*e*Pn		Pn	05 35 32.5		-0.7
YER	Yerkesik	1.22	94	*e*PN		Pn	05 35 33.0		-0.9
YER	Yerkesik	1.22	94	*e*Pn		Pn	05 35 33.0		-0.9
IZM	Izmir	1.23	19	*e*PN		Pn	05 35 33.5		-0.5
IZM	Izmir	1.23	19	*e*Pn		Pn	05 35 33.5		-0.5
CHOS	Chios island	1.28	334	*e*PN		Pn	05 35 33.0		-1.6
CHOS	Chios island	1.28	334	P		Pg	05 35 32.9		-1.3
CHOS					S	Sg	05 35 50.9		+0.1
CHOS	Chios island	1.28	334	P		Pg	05 35 32.9		-1.3
CHOS					S	Sg	05 35 50.9		+0.1
THR2	Thira island,	1.32	234	P		Pg	05 35 34.9		-0.2
THR2	Thira island,	1.32	234	P		Pn	05 35 34.9		-0.2
THR1	Thera Island	1.35	231	P		Pn	05 35 35.3		-0.4
THR1	Thera Island	1.35	231	P		Pn	05 35 35.3		-0.4
THR3	Thira Island,	1.37	233	P		Pn	05 35 35.4		-0.5
THR3	Thira Island,	1.37	233	P		Pn	05 35 35.4		-0.5
ARG	Arkhangelos	1.50	132	*e*PB		Pb	05 35 36.5		-1.8
ARG				*e*SN		Sn	05 35 59.6		+1.8
ARG	Arkhangelos	1.50	132	P		Pn	05 35 36.1		-1.6
ARG					S	Sn	05 35 54.2		-3.6
ARG	Arkhangelos	1.50	132	P		Pn	05 35 36.1		-1.6
ARG					S	Sn	05 35 54.2		-3.6
ARG					*e*Sn	Sn	05 35 59.6		+1.8
TURN	Turunc	1.52	103	*i* P		Pn	05 35 32.8		-5.2
TURN				*i* S		Sn	05 35 49.0		-9.3
KARP	Karpathos	1.72	169	*e*PB		Pb	05 35 40.1		-1.9
KARP	Karpathos	1.72	169	P		Pn	05 35 39.7		-1.0
KARP					S	Sn	05 36 00.9		-2.3
KARP	Karpathos	1.72	169	P		Pn	05 35 39.7		-1.0
KARP					S	Sn	05 36 00.9		-2.3
AKHS	Akhisar	1.84	27	*i* P		Pn	05 35 41.4		-1.0
AKHS				*i* S		Sn	05 36 05.9		-0.3
AKHS	Akhisar	1.84	27	*i* P		Pn	05 35 41.4		-1.0
AKHS				*i* S		Sn	05 36 05.9		-0.4
AKS	Akhisar	1.84	27	*e*PN		Pn	05 35 43.3		+0.9
AKS	Akhisar	1.84	27	*e*Pn		Pn	05 35 43.3		+0.9
DNZL	Cakiroluk	1.88	75	*i* P		Pn	05 35 41.6		-1.2
DNZL	Cakiroluk	1.88	75	*i* P		Pn	05 35 41.7		-1.2
DENT	Denizli	1.88	73	*e*PN		Pn	05 35 42.3		-0.6
DENT	Denizli	1.88	73	*e*Pn		Pn	05 35 42.3		-0.7
MANT	Manisa	1.90	48	*i* P		Pn	05 35 41.6		-1.6
MANT	Manisa	1.90	48	*i* P		Pn	05 35 41.6		-1.6
FETY	Fethiye	1.96	107	*e*PN		Pn	05 35 44.3		+0.3
FETY	Fethiye	1.96	107	*e*Pn		Pn	05 35 44.3		+0.3
KULA	Kula-Manisa	1.97

SHUT	Suhut-Afyon	3.28	65	ePn	Pn	05 36 03.4 +1.3
LKR	Lokris	3.29	297	P	Pn	05 36 02.5 +0.2
LKR	Lokris	3.29	297	P	Pn	05 36 02.5 +0.2
ATAL	Atalanti	3.29	297	P	Pn	05 36 02.7 +0.4
ATAL	Atalanti	3.29	297	P	Pn	05 36 02.7 +0.4
ULDT	Uludag	3.45	32	*i* P	Pg	05 36 14.7 -1.1
ULDT				*i* S	Sn	05 36 50.9 +5.0
DSF	Desfina	3.55	291	P	Pn	05 36 06.9 +1.0
DSF	Desfina	3.55	291	P	Pn	05 36 06.9 +1.0
GUR	Goura	3.58	283	ePN	Pn	05 36 07.7 +1.5
GUR	Goura	3.58	283	P	Pn	05 36 07.0 +0.8
GUR	Goura	3.58	283	P	Pn	05 36 07.0 +0.8
GUR	Goura	3.58	283	ePn	Pn	05 36 07.7 +1.5
ALN	Alexandroupoli	3.70	352	ePN	Pn	05 36 06.6 -1.3
ALN	Alexandroupoli	3.70	352	ePn	Pn	05 36 06.6 -1.3
YLV	Yalova	3.90	31	ePN	Pn	05 36 13.0 +2.3
YLV	Yalova	3.90	31	ePn	Pn	05 36 13.0 +2.3
AGG	Agios Georgios	3.92	298	P	Pn	05 36 11.7 +0.7
AGG	Agios Georgios	3.92	298	P	Pn	05 36 11.7 +0.7
BORA	Eskisehir	3.92	47	*i* P	Pn	05 36 10.0 -0.9
BORA	Eskisehir	3.92	47	*i* P	Pn	05 36 10.0 -1.0
ESKT	Eskisehir	3.94	53	ePN	Pn	05 36 12.9 +1.6
ESKT	Eskisehir	3.94	53	ePn	Pn	05 36 12.9 +1.6
RDO	Rodhopi	4.02	347	ePN	Pn	05 36 11.6 -0.7
RDO	Rodhopi	4.02	347	ePn	Pn	05 36 11.6 -0.7
EFP	Efpalio	4.02	289	P	Pn	05 36 13.4 +1.0
EFP	Efpalio	4.02	289	P	Pn	05 36 13.4 +1.0
BUY	Buyukada	4.05	26	*i* P	Pg	05 36 27.5 +0.1
GPA	Golpazari	4.12	41	ePN	Pn	05 36 15.7 +1.9
GPA	Golpazari	4.12	41	ePn	Pn	05 36 15.7 +1.9
SVRH	Sivrihisar-ESK	4.35	58	ePN	Pn	05 36 19.0 +2.1
SVRH	Sivrihisar-ESK	4.35	58	ePn	Pn	05 36 19.0 +2.1
KIZT	Kizilcal	4.36	66	ePN	Pn	05 36 18.6 +1.5
KIZT	Kizilcal	4.36	66	ePn	Pn	05 36 18.6 +1.5
KDZ	Kurdzhali	4.53	347	*i* P	Pn	05 36 18.4 -0.9
KDZ	Kurdzhali	4.53	347	*i* P	Pn	05 36 18.4 -0.9
HDMB	Hadim	4.59	92	ePN	Pn	05 36 21.8 +1.7
HDMB	Hadim	4.59	92	ePn	Pn	05 36 21.8 +1.6
RZN	Rozhen	4.72	341	*i* P	Pn	05 36 21.8 -0.1
RZN	Rozhen	4.72	341	*i* P	Pn	05 36 21.8 -0.1
DIM	Dimitrovgrad	4.90	349	P	Pn	05 36 23.7 -0.7
DIM	Dimitrovgrad	4.90	349	P	Pn	05 36 23.7 -0.7
MMB	Musomiste	4.94	333	P	Pn	05 36 24.8 -0.2
MMB	Musomiste	4.94	333	P	Pn	05 36 24.8 -0.2
KKB	Krupnik	5.42	330	*i* P	Pn	05 36 31.9 +0.2
KKB	Krupnik	5.42	330	*i* P	Pn	05 36 31.9 +0.2
PGB	Panagyurishte	5.67	340	*i* P	Pn	05 36 34.3 -0.7
PGB	Panagyurishte	5.67	340	*i* P	Pn	05 36 34.3 -0.7
VTS	Vitosha	6.00	334	P	Pn	05 36 40.5 +0.9
VTS	Vitosha	6.00	334	P	Pn	05 36 40.5 +0.9
MPEP	Malo Peshtene	6.53	340	P	Pn	05 36 47.0 +0.1
BARS	Barje	6.74	327	⇓ *i* Pn	Pn	05 36 50.2 +0.5
GRUS	Gruza	8.08	327	⇓ *i* Pn	Pn	05 37 08.4 +0.3
IVAS	Ivanjica	8.09	324	⇓ *i* Pn	Pn	05 37 09.7 +1.5
DIVS	Divibare	8.56	325	⇓ *i* Pn	Pn	05 37 15.4 +0.7

DDA ***19*** *05:45:18.8, 38°.39N×27°.01E, h7km±4km, Md3.3*
ISCJB ***19*** *05:45:19.1±0.5, 38°.41N±0°.02×27°.00E±0°.03, h4km±4km, Error ellipse: s-maj=4.4km s-min=3.8km az=16.3*
ISK ***19*** *05:45:19.1, 38°.40N×27°.02E, h5km, MD3.0*
CSEM ***19*** *05:45:19.3±0.1, 38°.41N×27°.01E, h5km, MD3.0, Error ellipse: s-maj=3.1km s-min=2.5km az=96.0*
ISC 19 05:45:19.5±0.5, **38°.41N**±0°.02×**27°.00E**±0°.03, **h7**km±3km, **n44**, σ=**963**/66, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.04**	**122**		**Pg**	**05 45 20.5**	**-0.5**
BLCB	**Balcova**	**0.04**	**122**	*i* Pg	**Pg**	**05 45 20.5**	**-0.5**
IZM	**Izmir**	**0.21**	**92**	PG	**Pg**	**05 45 23.6**	**-0.1**
IZM				SG	**Sg**	**05 45 27.3**	**+0.8**
IZM	**Izmir**	**0.21**	**92**	*i* Pg	**Pg**	**05 45 23.6**	**-0.1**
IZM				*i* Sg	**Sg**	**05 45 27.3**	**+0.8**
URLA	**Izmir**	**0.32**	**262**	*i* P	**Pg**	**05 45 24.7**	**-1.1**
URLA				*i* S	**Sg**	**05 45 29.9**	**-0.2**
URLA	**Izmir**	**0.32**	**262**	*i* P	**Pg**	**05 45 24.7**	**-1.1**
URLA				*i* S	**Sg**	**05 45 29.9**	**-0.2**
GCAM	**G?zelcaml?**	**0.73**	**165**	*i* P	**Pg**	**05 45 33.0**	**-0.5**
GCAM				*i* S	**Sg**	**05 45 43.2**	**+0.2**
GCAM	**G?zelcaml?**	**0.73**	**165**	*i* P	**Pg**	**05 45 33.0**	**-0.5**
GCAM				*i* S	**Sg**	**05 45 43.2**	**+0.2**
AKHS	**Akhisar**	**0.79**	**53**	*i* P	**Pg**	**05 45 34.1**	**-0.7**
AKHS				*i* S	**Sg**	**05 45 45.3**	**+0.2**
AKHS	**Akhisar**	**0.79**	**53**	*i* P	**Pg**	**05 45 34.1**	**-0.7**
AKHS				*i* S	**Sg**	**05 45 45.3**	**+0.2**
AKS	**Akhisar**	**0.79**	**53**	ePG	**Pg**	**05 45 34.8**	**0.0**
AKS				eSG	**Sg**	**05 45 46.1**	**+1.0**
AKS	**Akhisar**	**0.79**	**53**	*e*Pg	**Pg**	**05 45 34.8**	**0.0**
AKS				*e*Sg	**Sg**	**05 45 46.1**	**+1.0**
AYVA	**Ayvalik**	**0.93**	**345**	*i* P	**Pg**	**05 45 37.1**	**-0.4**
AYVA				*i* S	**Sg**	**05 45 51.1**	**+1.5**
AYVA	**Ayvalik**	**0.93**	**345**	*i* P	**Pg**	**05 45 37.1**	**-0.4**
AYVA				*i* S	**Sg**	**05 45 51.1**	**+1.5**
AYDN	**Tasoluk**	**1.02**	**137**	*i* P	**Pg**	**05 45 38.7**	**-0.4**
AYDN				*i* S	**Sg**	**05 45 53.0**	**+0.8**
AYDN	**Tasoluk**	**1.02**	**137**	*i* P	**Pg**	**05 45 38.7**	**-0.4**
AYDN				*i* S	**Sg**	**05 45 53.0**	**+0.8**
MANT	**Manisa**	**1.23**	**86**	*i* P	**Pb**	**05 45 42.1**	**-0.9**
MANT				*i* S	**Sg**	**05 45 58.6**	**-0.3**
MANT	**Manisa**	**1.23**	**86**	*i* P	**Pb**	**05 45 42.1**	**-0.9**
MANT				*i* S	**Sg**	**05 45 58.7**	**-0.3**
MLSB	**Milas**	**1.27**	**151**	ePN	**Pn**	**05 45 43.8**	**+0.2**
MLSB				eSN	**Sn**	**05 46 01.2**	**+0.4**
MLSB	**Milas**	**1.27**	**151**	ePn	**Pn**	**05 45 43.8**	**+0.2**
MLSB				eSn	**Sn**	**05 46 01.2**	**+0.4**
KULA	**Kula-Manisa**	**1.31**	**85**	ePN	**Pn**	**05 45 43.7**	**-0.5**
KULA	**Kula-Manisa**	**1.31**	**85**	ePn	**Pn**	**05 45 43.7**	**-0.5**
BODT	**Bodrum**	**1.36**	**170**	ePN	**Pn**	**05 45 45.1**	**+0.2**
BODT	**Bodrum**	**1.36**	**170**	ePn	**Pn**	**05 45 45.1**	**+0.2**
BALB	**Balikesir**	**1.41**	**29**	ePN	**Pn**	**05 45 45.9**	**+0.3**
BALB	**Balikesir**	**1.41**	**29**	ePn	**Pn**	**05 45 45.9**	**+0.3**
BALY	**Balya**	**1.42**	**20**	*i* P	**Pn**	**05 45 45.1**	**-0.5**
BALY				*i* S	**Sb**	**05 46 04.3**	**-0.2**
BALY	**Balya**	**1.42**	**20**	*i* P	**Pn**	**05 45 45.2**	**-0.5**
BALY				*i* S	**Sb**	**05 46 04.3**	**-0.2**
DEMI	**Demirci**	**1.48**	**64**	*i* P	**Pn**	**05 45 46.1**	**-0.6**
DEMI	**Demirci**	**1.48**	**64**	*i* P	**Pn**	**05 45 46.1**	**-0.5**
EZN	**Ezine**	**1.51**	**340**	ePN	**Pn**	**05 45 47.9**	**+0.9**
EZN	**Ezine**	**1.51**	**340**	ePn	**Pn**	**05 45 47.9**	**+0.9**
YER	**Yerkesik**	**1.62**	**141**	ePN	**Pn**	**05 45 48.4**	**-0.1**
YER	**Yerkesik**	**1.62**	**141**	ePn	**Pn**	**05 45 48.4**	**-0.1**
DURS	**Dursunbey**	**1.66**	**43**	*i* P	**Pn**	**05 45 48.4**	**-0.6**
DURS				*i* S	**Sn**	**05 46 09.8**	**-0.6**
DURS	**Dursunbey**	**1.66**	**43**	*i* P	**Pn**	**05 45 48.3**	**-0.7**
DURS				*i* S	**Sn**	**05 46 09.8**	**-0.7**
GONE	**Gonen-Balikesi**	**1.72**	**18**	ePN	**Pn**	**05 45 50.5**	**+0.6**
GONE	**Gonen-Balikesi**	**1.72**	**18**	ePn	**Pn**	**05 45 50.5**	**+0.6**
DAT	**Datca**	**1.73**	**165**	ePN	**Pn**	**05 45 50.4**	**+0.3**
DAT	**Datca**	**1.73**	**165**	ePn	**Pn**	**05 45 50.4**	**+0.4**
DST	**Dursunbey**	**1.74**	**46**	ePN	**Pn**	**05 45 49.8**	**-0.3**
DST	**Dursunbey**	**1.74**	**46**	ePn	**Pn**	**05 45 49.8**	**-0.3**
APE	**Apeiranthos**	**1.77**	**222**	ePN	**Pn**	**05 45 51.9**	**+1.3**
APE	**Apeiranthos**	**1.77**	**222**	ePn	**Pn**	**05 45 51.9**	**+1.4**

IDC ***19*** *05:59:33.9±2.4, 35°.92N×71°.37E, h0km, mb3.9/6, mb1 3.9/10, mb1mx3.6/30, mbtmp3.8/10, ML3.3/4, Error ellipse: s-maj=52.4km s-min=24.1km az=140.0*
ISCJB ***19*** *05:59:44.8±0.5, 36°.54N±0°.03×71°.55E±0°.06, h78km±10km, mb3.8/5, Error ellipse: s-maj=7.9km s-min=4.5km az=163.9*
NEIC ***19*** *05:59:48.7±1.2, 36°.55N×71°.15E, h96km±11km, mb3.8/1, Error ellipse: s-maj=22.4km s-min=11.1km az=128.0*
NNC ***19*** *05:59:53.4±15.0, 36°.92N×71°.07E, h131km±207km, mb3.1, mpv3.9, Error ellipse: s-maj=131.3km s-min=92.5km az=4.0*
ISC 19 05:59:46.3±0.4, **36°.53N**±0°.03×**71°.53E**±0°.06, **h80**km±8km, **n56**, σ=**134**/68, **mb3.8**/5, **4C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.72**	**173**	⇓P	**Sn**	**06 00 30.2**	**+2.3**
CEP				S	**Sn**	**06 01 04.0**	**+4.2**
KBL	**Kabul**	**2.84**	**226**	ePn	**Pn**	**06 00 29.8**	**+0.4**
KBL				eSn	**Sn**	**06 01 01.8**	**-0.8**
CHCP	**Chirah Chowk**	**3.20**	**153**	P	**Pn**	**06 00 38.8**	**+4.4**
THW	**Thamme Wali**	**3.73**	**177**	P	**Pn**	**06 00 43.0**	**+1.4**
SARP	**Sargodha**	**4.70**	**168**	P	**Pn**	**06 00 55.7**	**+1.0**
AML	**Almayashu** SNR=27	**5.84**	**16**	P	**Pn**	**06 01 14.9**	**+4.7**
KZA	**Kyzart** SNR=6.8	**6.24**	**26**	P	**Pn**	**06 01 21.3**	**+5.6**
EKS2	**Erkin-Say** SNR=18	**6.36**	**15**	P	**Pn**	**06 01 22.9**	**+5.5**
EKS2	**Erkin-Say** 10nm,0.7s	**6.36**	**15**	*e*Pn	**Pn**	**06 01 21.3**	**+4.0**
EKS2				*e*Sn	**Sn**	**06 02 27.8**	**-0.7**
AAK	**Ala-Archa** SNR=5.2	**6.51**	**20**	P	**Pn**	**06 01 17.0**	**-2.4**
AAK	**Ala-Archa** 72nm,0.6s	**6.51**	**20**	*e*Pn	**Pn**	**06 01 24.3**	**+4.9**
KK31	**Karatay Array** 2.1nm,0.3s,baz=182,slow=13,SNR=36	**6.61**	**354**	⇑P	**Pn**	**06 01 23.0**	**+2.3**
KK31	1.2nm,0.3s,baz=186,slow=21,SNR=4.2			⇓S	**Sn**	**06 02 34.3**	**-0.3**
KKAR	**Karatay Array** 6.9nm,0.3s	**6.61**	**354**	*e*Pn	**Pn**	**06 01 22.9**	**+2.2**
KKAR				*e*Sn	**Sn**	**06 02 34.4**	**-0.2**
SDNR	**Sundarnagar**	**6.75**	**136**	*ex*	x	06 01 17.0	
SDNR				*e*S	**Sn**	**06 02 38.0**	**-0.2**
CHMS	**Chumysh** SNR=12	**6.92**	**20**	P	**Pn**	**06 01 29.7**	**+4.8**
USP	**Ospenovka** SNR=6.0	**7.10**	**18**	P	**Pn**	**06 01 32.8**	**+5.3**
TKM2	**Tokmak 2** SNR=15	**7.11**	**25**	P	**Pn**	**06 01 33.0**	**+5.5**
TKM2	**Tokmak 2** 10.0nm,0.8s	**7.11**	**25**	⇓P	**Pn**	**06 01 32.7**	**+5.2**
TKM2	3.5nm,0.8s			⇑S	**Sn**	**06 02 46.9**	**+0.1**
TKM2	**Tokmak 2** 1.9nm,0.3s	**7.11**	**25**	*e*Pn	**Pn**	**06 01 32.4**	**+4.9**
SMLA	**Simla**	**7.14**	**137**	*i* P	**Pn**	**06 01 28.4**	**+0.3**
SMLA				*i* S	**Sn**	**06 02 45.1**	**-2.6**
SMLA				*i* S	**Sn**	**06 02 45.8**	**-2.0**
SMLA	comp=E,1μm,0.2s					06 02 49.0	
SMLA	comp=N,1μm,0.2s					06 02 49.0	
KHET	**Khetri**	**9.18**	**156**	*e*PKP	**Pn**	**06 01 54.4**	**-1.4**
KHET				*e*S	**Sn**	**06 03 29.4**	**-8.1**
KUDL	**Kundal**	**9.36**	**152**	*e*PKP	**Pn**	**06 01 57.3**	**-1.0**
KUDL				*e*S	**Sn**	**06 03 33.2**	**-8.6**
KUDL	comp=N,21nm,0.4s			AML	AML	06 03 39.5	
KUDL	comp=E,23nm,0.4s			AML	AML	06 03 41.1	
SONA	**Sohna**	**9.50**	**149**	*e*S	**Sn**	**06 03 39.4**	**-5.8**
SONA				AML	AML	06 03 44.1	
SONA	comp=E,46nm,0.5s			AML	AML	06 03 45.0	
PYUN	**Piuthan** comp=N,31nm,0.3s	**12.82**	**128**	*e*P	**Pn**	**06 02 44.3**	**-1.1**
PYUN	comp=N,13nm,0.4s			*e*S	**Sn**	**06 04 56.5**	**-10**
MKAR	**Makanchi Array** comp=N,0.0nm,0.3s,baz=209,slow=12,SNR=2.6	**13.02**	**35**	Pn	**Pn**	**06 02 50.8**	**+2.9**
MKAR	**Makanchi Array** comp=N,0.1nm,0.5s,baz=165,slow=9.4,SNR=6.3	**13.02**	**35**	Pn	**Pn**	**06 02 50.8**	**+2.9**
DANN	**Dangsing** comp=N,9.1nm,0.4s	**13.15**	**125**	*e*P	**Pn**	**06 02 49.5**	**-0.3**
DANN				*e*S	**Sn**	**06 05 07.2**	**-7.1**
KOLN	**Koldanda** comp=N,10.0nm,0.4s	**13.44**	**127**	*e*P	**Pn**	**06 02 52.2**	**-1.4**
GKN	**Gorkha**	**13.96**	**124**	*e*P	**Pn**	**06 03 00.5**	**0.0**
GUN	**Gumba**	**14.87**	**121**	*e*P	**Pn**	**06 03 12.3**	**+0.1**
KURK	**Kurchatov** comp=N,0.0nm,0.3s,baz=212,slow=12,SNR=4.8	**15.07**	**18**	Pn	**Pn**	**06 03 12.3**	**-2.3**
KURK	**Kurchatov**	**15.07**	**18**	Pn	**Pn**	**06 03 12.3**	**-2.3**
AB31	**Akbulak array** comp=N,1.0nm,0.3s,baz=158,slow=12,SNR=4.1	**15.27**	**330**	⇓P	**Pn**	**06 03 15.3**	**-1.8**
ABKAR	**Akbulak array** comp=N,2.7nm,0.4s	**15.27**	**330**	*e*Pn	**Pn**	**06 03 15.0**	**-2.1**
VOSK	**Vostochnaya** comp=N,4.0nm,0.8s	**16.19**	**359**	⇑P	**Pn**	**06 03 28.7**	**0.0**
TAPN	**Taplejung** comp=N,7.0nm,0.3s	**16.49**	**119**	*e*P	**Pn**	**06 03 34.8**	**+2.2**
BVA0	**Borovoye Array** comp=N,0.1nm,0.3s,baz=165,slow=9.4,SNR=6.3	**16.51**	**358**	⇑P	**Pn**	**06 03 32.1**	**-0.5**
BVAR	**Borovoye Array** comp=N,0.4nm,0.3s,baz=155,slow=10,SNR=5.5	**16.51**	**358**	P	**Pn**	**06 03 32.6**	**-0.1**
BVAR	**Borovoye Array**	**16.51**	**358**	P	**Pn**	**06 03 32.5**	**-0.1**
ODAN	**Odare** comp=N,8.8nm,0.6s	**16.57**	**121**	*e*P	**Pn**	**06 03 35.7**	**+2.1**
AKTO	**Aktyubinsk** comp=N,0.5nm,0.3s,baz=139,slow=14,SNR=10.0	**16.97**	**329**	P	**Pn**	**06 03 37.5**	**-0.8**
AKTO	**Aktyubinsk**	**16.97**	**329**	P	**Pn**	**06 03 37.5**	**-0.8**
ZAA0	**Zalesovo Array**	**19.71**	**24**	*e*P	**Pn**	**06 04 10.6**	**-0.7**
ZALV	**Zalesovo Beam** comp=N,3.1nm,0.4s,baz=228,slow=11,SNR=20	**19.71**	**14**	P	**Pn**	**06 04 11.5**	**+0.3**
ZALV	**Zalesovo Beam**	**19.71**	**24**	P	**Pn**	**06 04 11.5**	**+0.3**
ARCES	**ARCESS Array B** comp=N,3.5nm,0.9s,mb4.2,baz=119,slow=7.1,SNR=6.1	**41.28**	**337**	P	**P**	**06 07 25.1**	**+1.8**
ARCES	**ARCESS Array B**	**41.28**	**337**	P	**P**	**06 07 25.1**	**+1.8**
HFS	**Hagfors** comp=N,2.7nm,0.7s,mb4.1,baz=104,slow=9.5,SNR=6.9	**43.30**	**322**	P	**P**	**06 07 41.0**	**+1.2**
HFS	**Hagfors**	**43.30**	**322**	P	**P**	**06 07 41.0**	**+1.2**
NB2	**NORSAR Subarra** comp=Z,2.3nm,0.9s,mb3.9,baz=97,slow=7.9	**44.61**	**323**	P	**P**	**06 07 51.2**	**+1.0**
NOA	**NORSAR Array B** comp=Z,0.8nm,0.5s,mb3.7,baz=96,slow=7.8,SNR=4.1	**44.61**	**323**	P	**P**	**06 07 50.7**	**+0.5**
NOA	**NORSAR Array B**	**44.61**	**323**	P	**P**	**06 07 50.7**	**+0.5**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.5s,mb3.5,baz=53,slow=5.8,SNR=8.4	**66.14**	**269**	P	**P**	**06 10 22.8**	**-2.7**
TORD	**Torodi Ar. Bea**	**66.14**	**269**	P	**P**	**06 10 22.8**	**-2.7**
ILAR	**Eielson Array** comp=Z,0.4nm,0.9s,mb3.1,baz=310,slow=5.8,SNR=3.7	**74.63**	**16**	P	**P**	**06 11 17.4**	**+1.0**
ILAR	**Eielson Array**	**74.63**	**16**	P	**P**	**06 11 17.4**	**+1.0**

ISCJB ***19*** *05:59:45.6±1.1, 59°.0S±0°.2×25°.5W±0°.6, h10km, mb3.7/3, Error ellipse: s-maj=48.9km s-min=14.5km az=155.6*
IDC ***19*** *05:59:47.6±0.9, 58°.58S×25°.42W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/13, mbtmp3.8/3, Error ellipse: s-maj=43.4km s-min=30.8km az=86.0*
ISC 19 05:59:47.7±1.1, **59°.0S**±0°.2×**25°.4W**±0°.6, **h10**km, **n10**, σ=**39**/8, **mb3.7**/3, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.71**	**156**	*e*P	**Pn**	**06 03 02.5**	**+0.7**
VNA3	**Neumayer Olymp**	**13.89**	**159**	*e*P	**Pn**	**06 03 04.1**	**-0.3**
VNA3				*e*S	**Sn**	**06 05 27.6**	**-11**
VNA2	**Neumayer--Watz** baz=320,slow=15	**14.11**	**155**	*e*P	**Pn**	**06 03 06.8**	**-0.4**
VNA2				*e*S	**Sn**	**06 05 30.0**	**-14**
VNDA	**Vanda** 1.1nm,0.8s,mb3.6,baz=186,slow=7.2,SNR=7.4	**43.67**	**182**	P	**P**	**06 07 56.8**	**+4.9**
LPAZ	**La Paz** 0.4nm,0.4s,mb3.7,baz=197,slow=1.8,SNR=4.5	**52.87**	**305**	P	**P**	**06 09 03.5**	**0.0**
TORD	**Torodi Ar. Bea** 0.5nm,0.4s,mb3.8,baz=202,slow=6.4,SNR=14	**75.18**	**27**	P	**P**	**06 11 30.1**	**0.0**
YKA	**Yellowknife Ar** 0.6nm,0.5s,baz=121,slow=2.3,SNR=4.5	**138.97**	**315**	PKP	PKPdf	06 19 13.4	+0.7
INK	**Inuvik** 4.1nm,0.7s,baz=89,slow=3.7,SNR=2.7	**148.66**	**317**	PKPbc	PKPbc	06 19 33.8	+0.6
SONM	**Songino Array** 0.3nm,0.6s,baz=219,slow=3.7,SNR=3.8	**149.84**	**90**	PKPbc	PKPbc	06 19 36.8	0.0
ILAR	**Eielson Array** 1.4nm,0.7s,baz=145,slow=5.6,SNR=22	**152.73**	**307**	PKPbc	PKPbc	06 19 43.7	+0.7

ISCJB ***19*** *06:03:43.2±0.8, 58°.9S±0°.1×24°.7W±0°.3, h10km, mb4.2/5, Error ellipse: s-maj=24.2km s-min=12.7km az=155.3*
IDC ***19*** *06:03:44.6±0.9, 58°.60S×25°.14W, h0km, mb4.2/5, mb1 4.3/5, mb1mx4.0/14, mbtmp4.2/5, MS3.8/1, Ms1 3.8/1, ms1mx3.1/25, Error ellipse: s-maj=33.6km s-min=25.4km az=128.0*
ISC 19 06:03:45.1±0.8, **58°.9S**±0°.1×**24°.9W**±0°.3, **h10**km, **n15**, σ=**86**/13, **mb4.2**/5, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.68**	**156**	*e*P	**Pn**	**06 06 59.0**	**+0.1**
VNA1	**Neumayer--Stat**	**13.68**	**156**	*e*	**Pn**	**06 06 59.0**	**+0.1**
VNA3	**Neumayer Olymp**	**13.88**	**159**	*e*P	**Pn**	**06 07 00.9**	**-0.7**
VNA3	**Neumayer Olymp**	**13.88**	**159**	*e*	**Pn**	**06 07 00.9**	**-0.7**
VNA3				*e*S	**Sn**	**06 09 22.2**	**-13**
VNA2	**Neumayer--Watz** baz=320,slow=15	**14.08**	**156**	*e*P	**Pn**	**06 07 04.2**	**0.0**
VNA2	**Neumayer--Watz**	**14.08**	**156**	*e*	**Pn**	**06 07 04.2**	**0.0**
VNA2				*e*S	**Sn**	**06 09 29.8**	**-10**
PMSA	**Palmer Station** comp=Z,296nm,19.2s,baz=291,slow=34	**19.16**	**236**	LR	LR	06 14 33.4	
USHA	**Ushuaia** 3.5nm,0.8s,mb3.8,baz=116,slow=10,SNR=3.3	**23.84**	**261**	P	**P**	**06 08 58.8**	**+0.6**
VNDA	**Vanda** 2.3nm,0.9s,mb3.9,baz=178,slow=4.3,SNR=6.3	**43.78**	**182**	P	**P**	**06 11 53.6**	**+3.4**
LPAZ	**La Paz** 0.7nm,0.4s,mb3.9,baz=114,slow=4.8,SNR=4.8	**53.04**	**305**	P	**P**	**06 13 00.9**	**-1.2**
DBIC	**Dimbokro** 26nm,1.4s,mb5.1,baz=180,slow=2.0,SNR=2.6	**67.29**	**22**	P	**P**	**06 14 39.5**	**-0.2**
TORD	**Torodi Ar. Bea** 1.1nm,0.4s,mb4.2,baz=202,slow=6.4,SNR=18	**74.97**	**27**	P	**P**	**06 15 27.0**	**+0.8**
INK	**Inuvik** 51nm,1.1s,baz=176,slow=3.1,SNR=1.4	**148.78**	**317**	PKPbc	PKPbc	06 23 30.8	-0.1
SONM	**Songino Array** 0.3nm,0.4s,baz=225,slow=1.0,SNR=3.5	**149.56**	**90**	PKPbc	PKPbc	06 23 33.9	+0.4
ILAR	**Eielson Array** 8.2nm,0.9s,baz=133,slow=3.0,SNR=1.9	**152.90**	**307**	PKPbc	PKPbc	06 23 41.2	+0.4

GUC ***19*** *06:11:03.7±2.4, 10°.91N×82°.12W, h48km, mb5.7*
MOS ***19*** *06:11:19.9±1.5, 8°.35N×83°.02W, h33km, mb6.1/83, MS5.8/49, Error ellipse: s-maj=6.6km s-min=4.4km az=101.3*
BJI ***19*** *06:11:20.8, 8°.30N×82°.90W, h32km, mB6.0/38, Ms6.4/50, Ms7 6.2/49*
ISCJB ***19*** *06:11:20.5±0.1, 8°.34N±0°.02×82°.90W±0°.01, h43km, mb5.7/335, MS5.9/224, Error ellipse: s-maj=3.0km s-min=1.8km az=19.2*
NEIC ***19*** *06:11:20.8±0.2, 8°.27N×82°.97W, h32km, mb5.9/216, ME6.2, MS5.9/182, MW6.1, MW6.1, Error ellipse: s-maj=4.5km s-min=3.0km az=208.0 Broadband fault plane solution: P waves. NP1:φ=275.00000°, δ=68.00000°, λ=-15.00000°. NP2:φ=11.00000°, δ=76.00000°, λ=-157.00000°. Principal axes: T Plg5.0000°, Azm142.0000°; N Plg0.0000°, Azm0.0000°; P Plg26.0000°, Azm234.0000°; Moment Tensor Solution. s111 Moment tensor: Scale 10^18 Nm; Mrr=0.54; Mθθ=0.72; Mφφ=-0.19; Mrθ=0.60; Mrφ=1.55; Mθφ=-0.54; Best double couple: M=1.90000×10^18 NP1:φ=13.00000°, δ=65.00000°, λ=-159.00000°. NP2:φ=274.00000°, δ=71.00000°, λ=-26.00000°. Principal axes: T 1.8900, Plg3.0000°, Azm324.0000°; N -0.0600, Plg58.0000°, Azm60.0000°; P -1.8300, Plg31.0000°, Azm231.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Slight damage at Chiriqui, David and Puerto Armuelles, Panama. Felt [V] at Bajo Boquete, Dolega and Rio Sereno; [IV] at Bocas del Toro and Bugaba. Also felt at Aguadulce, Alanje, Anton, Panama, Penonome, San Carlos and Santiago. Felt [VI] at Golfito; [V] at Grecia, Limon, Parrita, San Antonio and San Rafael; [IV] at Alajuela, Curridabat, Desamparados, Escazu, Guadalupe, Quepos, San Isidro, San Jose, San Juan, San Pablo, San Pedro, Santa Ana and Tres Rios; [III] at Heredia, Coata Rica. Also felt at Atenas, Calle Blancos, Cartago, Colon, Florencia, Mercedes, Naranjo, Palmar, Paraiso, Puerto Cortes, Puntarenas, Purral, San Ramon, Santo Domingo, San Vicente and San Vito.
CASC ***19*** *06:11:21.2±2.8, 8°.32N×82°.84W, h26km±5km, MD5.3, ML5.6, mb5.9(NEIC)*
IDC ***19*** *06:11:25.0±1.9, 8°.33N×82°.78W, h75km±16km, mb4.8/32, mb1 4.9/35, mb1mx4.9/35, mbtmp4.8/35, MS5.8/21, Ms1 5.8/21, ms1mx5.7/29, Error ellipse: s-maj=12.6km s-min=7.0km az=71.0*
GCMT ***19*** *06:11:25.6±0.1, 8°.23N×82°.77W, h42km, MW6.3, Moment Tensor Solution. s111, c240; s90, c145; Moment tensor: Scale 10^18 Nm; Mrr=0.81±.02; Mθθ=1.29±.02; Mφφ=-0.48±.02; Mrθ=0.92±.02; Mrφ=2.34±.02; Mθr=1.22±.03; Best double couple: M=3.00000×10^18 NP1:φ=16.00000°, δ=66.00000°, λ=-156.00000°. NP2:φ=275.00000°, δ=68.00000°, λ=-26.00000°. Principal axes: T 2.9100, Plg1.0000°, Azm326.0000°; N 0.2000, Plg56.0000°, Azm57.0000°; P*

-3.1100, Plg34.0000°, Azm235.0000°; Data Used: II IU CN G IC. Surface waves: sta=114, comp=272, per= 50.
SZGRF ***19*** *06:11:30.0, 9.75N×80.98W, h33km, mb5.7, MS6.3, Panama*

ISC 19 06:11:22.5±0.1, 8.33N±0.02×82.90W±0.01, h45km, h45km±1.2km:pP-P, n1495, σ1514/1251, mb5.7/335, MS5.9/224, 265C-230D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.42**	**321**	⇑*i*P	**Pn**	**06 11 29.8**	**-2.7**
ACR	**Cerro Adams**	**0.42**	**321**	⇑*i*P	**Pn**	**06 11 29.8**	**-2.7**
BRU2	**Volcan**	**0.51**	**24**	⇓*i*P	**Pn**	**06 11 30.7**	**-2.9**
BRU2	**Volcan**	**0.51**	**24**	*e*P	**Pn**	**06 11 31.1**	**-2.5**
BRU2				*e*S	**Sn**	**06 11 38.1**	**-3.4**
BUS	**Buena Vista**	**1.49**	**325**	⇑*i*P	**Pn**	**06 11 45.9**	**-0.9**
BUS	**Buena Vista**	**1.49**	**325**	*i* P	**Pn**	**06 11 45.8**	**-0.9**
QCR	**Quepos**	**1.66**	**311**	⇑*e*P	**Pn**	**06 11 48.1**	**-1.1**
QCR	**Quepos**	**1.66**	**311**	*e*P	**Pn**	**06 11 47.9**	**-1.2**
URSC	**Urasca**	**1.73**	**330**	⇑*e*P	**Pn**	**06 11 49.4**	**-0.8**
URSC	**Urasca**	**1.73**	**330**	⇑*e*P	**Pn**	**06 11 49.4**	**-0.8**
LCR2	**La Lucha 2**	**1.78**	**322**	*e*P	**Pn**	**06 11 50.2**	**-0.6**
LCR2				*e*S	**Sn**	**06 12 15.6**	**+3.4**
SJS	**Escuela Geolog**	**1.96**	**325**	⇑*e*P	**Pn**	**06 11 53.2**	**-0.1**
PRS1	**Puriscal**	**2.16**	**320**	⇑*e*P	**Pn**	**06 11 55.1**	**-0.9**
PRS1	**Puriscal**	**2.16**	**320**	⇑*e*P	**Pn**	**06 11 55.1**	**-0.9**
CGA2	**Cerro Gallo 2**	**2.28**	**318**	⇑*i*P	**Pn**	**06 11 57.8**	**+0.1**
CGA2	**Cerro Gallo 2**	**2.28**	**318**	⇑*i*P	**Pn**	**06 11 57.8**	**+0.1**
TRTC	**Tortuguero**	**2.37**	**340**	⇓*e*P	**Pn**	**06 11 58.7**	**-0.3**
JCR	**Jicaral**	**2.66**	**305**	⇑*e*P	**Pn**	**06 12 01.4**	**-1.4**
JCR	**Jicaral**	**2.66**	**305**	*e*P	**Pn**	**06 12 01.9**	**-1.0**
JTS	**JuntasAbangare**	**2.81**	**314**	*e*Pn	**Pn**	**06 12 06.1**	**+1.1**
JTS				*e*Sn	**Sn**	**06 12 38.7**	**+1.1**
JTS	**JuntasAbangare**	**2.81**	**314**	*e*P	**Pn**	**06 12 06.1**	**+1.1**
JTS				*e*		06 12 38.7	
JTS	**JuntasAbangare**	**2.81**	**314**	Pn	**Pn**	**06 12 05.2**	**+0.2**
	357μm,0.9s						
JTS	**JuntasAbangare**	**2.81**	**314**	*e*P	**Pn**	**06 12 04.3**	**-0.7**
JTS				*e*S	**Sn**	**06 12 37.0**	**-0.7**
CHPA	**Chiripa**	**2.89**	**317**	⇑*e*P	**Pn**	**06 12 08.5**	**+2.5**
CHPA				*e*S	**Sn**	**06 12 41.6**	**+2.0**
PINA	**Piqa, Costa Ab**	**2.95**	**72**	*e*P	**Pn**	**06 12 06.0**	**-0.9**
PINA	**Piqa, Costa Ab**	**2.95**	**72**	*e*P	**Pn**	**06 12 06.0**	**-0.9**
PINA				*e*S	**Sn**	**06 12 49.4**	**+8.2**
BCIP	**Isla Barro Col**	**3.14**	**74**	*e*Pn	**Pn**	**06 12 08.5**	**-1.0**
BCIP	**Isla Barro Col**	**3.14**	**74**	⇓*e*P	**Pn**	**06 12 07.5**	**-2.0**
BCIP				*e*S	**Sn**	**06 12 44.7**	**-1.2**
BCIP				AML	AML	06 13 07.8	
	comp=Z,107μm,0.5s						
GUAB	**Guayabo de Bag**	**3.30**	**316**	⇑*e*P	**Pn**	**06 12 13.1**	**+1.4**
GUAB				*e*S	**Sn**	**06 12 51.7**	**+2.0**
UPIG		**3.40**	**79**	⇓*i*P	**Pn**	**06 12 12.4**	**-0.6**
UPIG				*e*S	**Sn**	**06 12 59.5**	**+7.4**
GPS3	**Bodega del ICE**	**3.42**	**315**	⇑*e*P	**Pn**	**06 12 14.8**	**+1.4**
GPS3				*e*S	**Sn**	**06 12 54.3**	**+1.5**
CRZC	**La Cruz**	**3.73**	**315**	*e*P	**Pn**	**06 12 19.8**	**+2.3**
MASN	**Masaya**	**4.84**	**319**	*e*P	**Pn**	**06 12 31.5**	**-1.5**
BOAB	**BOACO BROADBAN**	**4.92**	**327**	*e*P	**Pn**	**06 12 33.9**	**0.0**
ICCO	**Coco Island**	**4.96**	**236**	*e*P	**Pn**	**06 12 33.0**	**-1.6**
ICCO				*e*S	**Sn**	**06 13 30.0**	**-0.7**
MGAN	**Managua**	**5.03**	**319**	*e*P	**Pn**	**06 12 36.7**	**+1.3**
COPN	**Copaltepe**	**5.28**	**317**	*e*P	**Pn**	**06 12 40.4**	**+1.6**
CNGN	**Cerro Negro**	**5.58**	**318**	*e*P	**Pn**	**06 12 44.4**	**+1.4**
CRIN	**San Cristobal**	**5.96**	**317**	*e*P	**Pn**	**06 12 50.5**	**+2.3**
CNCH	**Conchagua**	**6.90**	**316**	*e*P	**Pn**	**06 13 03.0**	**+1.8**
TGUH	**Tegucigalpa,Un**	**7.13**	**323**	*e*Pn	**Pn**	**06 13 05.7**	**+1.4**
TGUH	**Tegucigalpa,Un**	**7.13**	**323**	*i* P	**Pn**	**06 13 05.8**	**+1.5**
TGUH				*e*S	Sn	06 14 49.9	+26
BLLM	**Bellamira**	**7.30**	**315**	*i* P	**Pn**	**06 13 09.4**	**+2.7**
VSM	**San Miguel**	**7.32**	**314**	*i* P	**Pn**	**06 13 09.5**	**+2.7**
CAHU	**Cacacuatique**	**7.51**	**317**	*e*P	**Pn**	**06 13 11.7**	**+2.2**
LFRS	**El Faro**	**8.02**	**312**	*e*P	**Pn**	**06 13 18.6**	**+2.1**
LBRS	**Las Brisas**	**8.08**	**312**	*e*P	**Pn**	**06 13 19.3**	**+2.0**
SNET	**Serv Nac Est T**	**8.18**	**311**	*e*P	**Pn**	**06 13 21.2**	**+2.4**
SNET				*e*S	**Sn**	**06 14 56.1**	**+6.2**
SNET				AML	AML	06 15 01.7	
	comp=E,2μm,0.6s						
SBLS	**San Blas**	**8.57**	**310**	*e*P	**Pn**	**06 13 27.1**	**+2.9**
OTAV	**Otavalo**	**9.18**	**151**	*e*Pn	**Pn**	**06 13 32.0**	**-0.4**
OTAV	**Otavalo**	**9.18**	**151**	⇑*i*P	**Pn**	**06 13 30.7**	**-1.7**
ROSC	**El Rosal**	**9.19**	**112**	P	**Pn**	**06 13 33.8**	**+1.3**
	comp=E,6.1nm,0.3s,baz=302,slow=2.4,SNR=162						
ROSC	**El Rosal**	**9.19**	**112**	*e*Pn	**Pn**	**06 13 34.6**	**+2.1**
NBG	**Las Nubes**	**9.59**	**311**	*e*P	**Pn**	**06 13 42.5**	**+4.4**
PCG	**Pacaya**	**9.66**	**309**	*e*P	**Pn**	**06 13 44.1**	**+5.1**
FG6		**9.98**	**309**	*e*P	**Pn**	**06 13 47.6**	**+4.3**
TP2	**Tecpan 2**	**10.22**	**310**	*e*P	**Pn**	**06 13 47.6**	**+1.0**
JAT	**Jato**	**10.43**	**306**	*e*P	**Pn**	**06 13 55.4**	**+5.8**
MCJ	**Malvern**	**10.81**	**27**	*e*P	**Pn**	**06 13 55.3**	**+0.6**
NEJ	**Negril**	**10.82**	**24**	⇑*i*P	**Pn**	**06 13 58.4**	**+3.5**
PCJ	**Portland Cotta**	**10.90**	**30**	*e*P	**Pn**	**06 13 55.3**	**-0.7**
MTDJ	**Mount Denham**	**11.14**	**27**	*e*Pn	**Pn**	**06 14 00.5**	**+1.1**
MTDJ	**Mount Denham**	**11.14**	**27**	*e*P	**Pn**	**06 13 59.4**	**+0.1**
MBJ	**Montego Bay**	**11.15**	**26**	*e*P	**Pn**	**06 14 00.9**	**+1.5**
HOJ	**Hope**	**11.33**	**31**	*i* P	**Pn**	**06 14 01.8**	**-0.1**
STH	**Stony Hill**	**11.36**	**31**	*e*P	**Pn**	**06 14 01.6**	**-0.6**
YHJ	**Yallahs**	**11.37**	**33**	*e*P	**Pn**	**06 14 03.2**	**+0.8**
BBJ	**Bamboo Saint A**	**11.40**	**28**	*e*P	**Pn**	**06 14 04.5**	**+1.8**
GWJ	**Greenwich**	**11.40**	**31**	⇑*i*P	**Pn**	**06 14 03.7**	**+0.9**
BNJ	**Bonny Gate**	**11.50**	**30**	*i* P	**Pn**	**06 14 05.7**	**+1.5**
PAYG	**Puerto Ayora**	**11.58**	**220**	*e*Pn	**Pn**	**06 14 07.4**	**+2.1**
	comp=E,2μm,1.1s						
PAYG	**Puerto Ayora**	**11.58**	**220**	⇓*i*P	**Pn**	**06 14 08.5**	**+3.2**
CMJ	**Castle Mountai**	**11.64**	**32**	*i* P	**Pn**	**06 14 07.2**	**+1.1**
SDV	**Santo Domingo**	**12.14**	**86**	*e*Pn	**Pn**	**06 14 11.5**	**-1.5**
SDV	**Santo Domingo**	**12.14**	**86**	*e*P	**Pn**	**06 14 12.6**	**-0.4**
TEIG	**Tepich**	**12.92**	**337**	P	**Pn**	**06 14 25.0**	**+1.4**
	comp=E,20nm,0.3s,baz=153,slow=7.9,SNR=79						
TEIG				LR	LR	06 19 44.0	
	comp=E,96μm,18.1s,baz=265,slow=38						
TEIG	**Tepich**	**12.92**	**337**	*e*Pn	**Pn**	**06 14 25.1**	**+1.5**
TEIG	**Tepich**	**12.92**	**337**	*e*P	**Pn**	**06 14 21.1**	**-2.5**
GTBY	**Guantanamo Bay**	**13.78**	**32**	*e*Pn	**Pn**	**06 14 35.7**	**+0.4**
GTBY	**Guantanamo Bay**	**13.78**	**32**	*e*P	**Pn**	**06 14 35.4**	**+0.1**
CMIG	**Matias Romero**	**14.57**	**308**	P	**Pn**	**06 14 45.7**	**-0.3**
	comp=E,21nm,0.3s,baz=122,slow=10,SNR=88						
CMIG				S	**Sn**	**06 17 30.6**	**+4.3**
	comp=E,0.6nm,0.3s,baz=126,slow=18,SNR=2.9						
CMIG	**Matias Romero**	**14.57**	**308**	P	**Pn**	**06 14 45.7**	**-0.3**
CMIG				S	**Sn**	**06 17 30.6**	**+4.3**
SDDR	**Presa de Saban**	**15.47**	**46**	*e*Pn	**Pn**	**06 14 57.5**	**-0.2**
	comp=E,6μm,1.8s						
SDDR	**Presa de Saban**	**15.47**	**46**	*e*P	**Pn**	**06 15 01.6**	**+3.8**
SDDR				*e*S	**S**	**06 18 07.5**	**+5.2**
ATAH	**Atahualpa**	**16.00**	**164**	P	**Pn**	**06 15 05.5**	**+0.8**
	comp=E,0.7nm,0.3s,baz=337,slow=9.3,SNR=59						
ATAH				S	**S**	**06 18 07.1**	**-6.1**
	comp=E,0.3nm,0.3s,baz=43,slow=13,SNR=2.2						
ATAH				LR	LR	06 20 37.4	
	comp=E,79μm,21.9s,baz=87,slow=35						
ATAH	**Atahualpa**	**16.00**	**164**	P	**Pn**	**06 15 05.5**	**+0.8**
ATAH				S	**S**	**06 18 07.1**	**-6.1**
ATAH				LR	LR	06 20 37.4	
CRPR	**Cabo Rojo, PR**	**18.12**	**56**	*e*Pn	**Pn**	**06 15 31.4**	**+0.3**
	comp=E,2μm,2.0s						
MPR	**Mayaguez**	**18.20**	**56**	*e*Pn	**Pn**	**06 15 32.8**	**+0.8**
	comp=E,2μm,1.5s						
LSP	**Las Mesas**	**18.23**	**56**	*e*Pn	**Pn**	**06 15 34.0**	**+1.7**
AGP	**Aguadilla**	**18.30**	**55**	*e*Pn	**Pn**	**06 15 35.4**	**+2.1**
	comp=E,3μm,1.4s						
AGPR	**Aguadilla, PR**	**18.36**	**55**	*e*Pn	**Pn**	**06 15 35.3**	**+1.4**
	comp=E,3μm,1.3s						
LRS	**Lares**	**18.48**	**56**	*e*Pn	**Pn**	**06 15 35.8**	**+0.4**
ICM	**Isla Caja Muer**	**18.56**	**58**	*e*Pn	**Pn**	**06 15 38.0**	**+1.7**
OBIP	**Obispado Ponce**	**18.56**	**57**	*e*Pn	**Pn**	**06 15 36.6**	**+0.3**
	comp=E,2μm,1.4s						
AOPR	**Arecibo Observ**	**18.59**	**56**	*e*P	**Pn**	**06 15 36.3**	**-0.4**
	comp=E,5μm,2.3s						
CELP	**Cerrillos**	**18.60**	**57**	*e*P	**Pn**	**06 15 36.4**	**-0.4**
SJG	**San Juan**	**18.97**	**57**	P	**Pn**	**06 15 41.7**	**+0.4**
	comp=E,14nm,0.3s,baz=242,slow=7.8,SNR=48						
SJG				S	**S**	**06 18 59.5**	**-14**
	comp=E,2.1nm,0.3s,baz=354,slow=18,SNR=3.4						
SJG				LR	LR	06 22 15.2	
	comp=E,21μm,20.5s,baz=231,slow=34						
SJG	**San Juan**	**18.97**	**57**	*e*Pn	**Pn**	**06 15 40.7**	**-0.6**
	comp=E,3μm,1.5s						
SJG	**San Juan**	**18.97**	**57**	*e*P	**Pn**	**06 15 40.7**	**-0.6**
SJG				pmax	pmax		
	comp=Z,3μm,1.5s						
SJG	**San Juan**	**18.97**	**57**	*e*P	**Pn**	**06 15 40.8**	**-0.5**
HUMP	**Col San Antoni**	**19.24**	**58**	*e*P	**Pn**	**06 15 43.3**	**-1.1**
	comp=Z,3μm,1.8s						
DWPF	**Disney**	**19.73**	**4**	*e*Pn	**Pn**	**06 15 50.6**	**+0.4**
	comp=Z,793nm,1.2s						
STVI	**Saint Thomas**	**20.09**	**58**	*e*P	**P**	**06 15 53.2**	**+0.8**
	comp=Z,4μm,2.0s						
BUAY	**Buenos Aires**	**21.02**	**84**	*e*P	**P**	**06 16 04.2**	**+1.6**
ALNG	**Atlantic LNG**	**21.02**	**83**	*e*P	**P**	**06 16 03.1**	**+0.5**
NNA	**Nana**	**21.06**	**163**	P	**P**	**06 16 02.8**	**-0.1**
	comp=E,123nm,0.9s,mb5.2,baz=335,slow=8.6,SNR=35						
NNA				S	**S**	**06 19 54.1**	**-1.0**
	comp=E,7.4nm,0.8s,baz=176,slow=11,SNR=1.9						
NNA	**Nana**	**21.06**	**163**	*e*P	**P**	**06 16 02.8**	**-0.2**
	comp=E,683nm,1.1s,mb5.9						
NNA				LR	LR		
	comp=E,20μm,21.0s,MS5.5						
NNA	**Nana**	**21.06**	**163**	*e*P	**P**	**06 16 02.8**	**-0.2**
NNA				pmax	pmax		
	comp=E,683nm,1.1s						
NNA				MLR	MLR		
	comp=E,20μm,21.0s						
NNA	**Nana**	**21.06**	**163**	P	**P**	**06 16 03.0**	**0.0**
	comp=E,2μm,1.1s,mb6.3,SNR=20						
GRW	**Mount Saint Ca**	**21.24**	**78**	*e*P	**P**	**06 16 06.9**	**+1.9**
GRGR	**Grenville**	**21.25**	**78**	*e*P	**P**	**06 16 05.9**	**+0.8**
	comp=E,6μm,1.4s,mb6.7						
GRGR				LR	LR		
	comp=E,18μm,22.0s,MS5.4						
GRHS	**Sauteurs**	**21.27**	**78**	*e*P	**P**	**06 16 07.5**	**+2.2**
GRSS	**Sisters**	**21.31**	**78**	*e*P	**P**	**06 16 07.0**	**+1.3**
TRN	**Trinidad (W)**	**21.33**	**82**	*e*P	**P**	**06 16 05.8**	**-0.1**
GRIC	**Isle de Caille**	**21.34**	**78**	*e*P	**P**	**06 16 07.5**	**+1.5**
TBH	**Brigand Hill**	**21.65**	**83**	*e*P	**P**	**06 16 10.3**	**+0.9**
SSV	**Crater Summit**	**21.89**	**75**	*e*P	**P**	**06 16 07.5**	**-4.4**
SSV	**Crater Summit**	**21.89**	**75**	*e*	**P**	**06 16 14.6**	**+2.6**
SSV	**Crater Summit**	**21.89**	**75**	*e*	sP	06 16 28.6	+0.3
BHS	**Barnard House**	**21.95**	**75**	*e*	**P**	**06 16 12.9**	**+0.4**
TPR	**Prospect**	**21.99**	**81**	*e*P	**P**	**06 16 09.8**	**-3.2**
HMG	**Houelmont**	**22.06**	**68**	*e*P	**P**	**06 16 14.0**	**+0.2**
TBG	**Guadaloupe-3**	**22.07**	**68**	*e*P	**P**	**06 16 13.9**	**0.0**
SCG	**Saint Claude**	**22.10**	**68**	*e*P	**P**	**06 16 14.0**	**-0.2**
PHG	**Guadaloupe-2**	**22.13**	**68**	*e*P	**P**	**06 16 15.2**	**+0.7**
SLB	**Belfond**	**22.13**	**74**	*e*	**P**	**06 16 14.1**	**-0.4**
DSHT	**Scott's Head**	**22.15**	**70**	*e*P	**P**	**06 16 17.5**	**+2.9**
DOG	**Dongo Capester**	**22.15**	**68**	*e*P	**P**	**06 16 15.0**	**+0.2**
DPMT	**Pointe Michel**	**22.16**	**70**	*e*P	**P**	**06 16 16.1**	**+1.4**
MDN	**Morne-Daniel**	**22.16**	**70**	*e*P	**P**	**06 16 13.7**	**-1.1**
FDF	**Fort de France**	**22.23**	**71**	*e*P	**P**	**06 16 15.7**	**+0.1**
	comp=Z,1μm,1.4s,mb6.1						
FDF				LR	LR		
	comp=Z,12μm,21.0s,MS5.3						
FDF	**Fort de France**	**22.23**	**71**	*e*P	**P**	**06 16 15.7**	**+0.1**
FDF				pmax	pmax		
	comp=Z,1μm,1.4s,mb6.1						
FDF				MLR	MLR		
	comp=Z,12μm,21.0s,MS5.3						
FDF	**Fort de France**	**22.23**	**71**	*e*P	**P**	**06 16 15.4**	**-0.1**
BIM	**Bigot**	**22.25**	**72**	*e*P	**P**	**06 16 15.7**	**-0.2**
MGG	**Marie-Galante**	**22.40**	**68**	*e*P	**P**	**06 16 18.5**	**+1.2**
ANWB	**Willy Bob**	**22.55**	**64**	*e*P	**P**	**06 16 19.5**	**+0.6**
	comp=Z,623nm,0.8s,mb6.1						
ANWB				LR	LR		
	comp=Z,14μm,21.0s,MS5.4						
BRAL	**Brewton**	**22.90**	**351**	*e*P	**P**	**06 16 25.5**	**+3.0**
	comp=Z,4μm,1.5s,mb6.6						
BRAL				LR	LR		
	comp=Z,24μm,21.0s,MS5.6						
BBGH	**Gun Hill**	**23.42**	**76**	*e*P	**P**	**06 16 26.9**	**-1.1**
	comp=Z,1μm,1.3s,mb6.1						
BBGH				LR	LR		
	comp=Z,16μm,19.0s,MS5.5						
KVTX	**Kingsville**	**23.80**	**325**	*e*P	**P**	**06 16 33.2**	**+1.9**
	comp=Z,460nm,1.1s,mb5.8						
KVTX				LR	LR		
	comp=Z,37μm,20.0s,MS5.8						
HKT	**Hockley**	**24.69**	**332**	*e*P	**P**	**06 16 39.2**	**-0.2**
	comp=Z,2μm,1.9s,mb6.4						
HKT	**Hockley**	**24.69**	**332**	*e*P	**P**	**06 16 39.2**	**-0.2**
HKT				pmax	pmax		
	comp=Z,2μm,1.9s,mb6.4						
NHSC	**New Hope**	**24.79**	**5**	*e*P	**P**	**06 16 41.8**	**+1.6**
	comp=Z,944nm,1.3s,mb6.2						
NHSC				LR	LR		
	comp=Z,44μm,19.0s,MS6.0						
VBMS	**Vicksburg**	**24.80**	**344**	*e*P	**P**	**06 16 40.8**	**+0.4**
	comp=Z,1μm,1.4s,mb6.3						
VBMS				LR	LR		
	comp=Z,18μm,19.0s,MS5.6						
COW	**Cow Castle Cre**	**25.02**	**4**	*e*P	**P**	**06 16 43.6**	**+1.3**
NATX	**Nacogdoches**	**25.76**	**336**	*e*P	**P**	**06 16 48.4**	**-0.7**
	comp=Z,893nm,1.3s,mb6.1						
NATX				LR	LR		
	comp=Z,16μm,21.0s,MS5.5						
KMSC	**Kings Mountain**	**26.73**	**3**	⇑P	**P**	**06 16 57.8**	**0.0**
	baz=27,SNR=35						
KMSC				⇑S	**S**	**06 21 31.8**	**+1.3**
	baz=27						
OXF	**Oxford**	**26.74**	**348**	*e*P	**P**	**06 16 57.2**	**-0.7**
	comp=Z,720nm,1.1s,mb6.1						
OXF				LR	LR		
	comp=Z,17μm,22.0s,MS5.5						
OXF	**Oxford**	**26.74**	**348**	*e*P	**P**	**06 16 57.2**	**-0.7**
OXF				pmax	pmax		
	comp=Z,720nm,1.1s,mb6.1						
OXF				MLR	MLR		
	comp=Z,17μm,22.0s,MS5.5						
SWET	**Sewanee**	**26.91**	**355**	*e*P	**P**	**06 16 59.4**	**0.0**
PLAL	**Pickwick Lake**	**26.95**	**351**	*e*P	**P**	**06 16 58.8**	**-1.1**
	comp=Z,436nm,1.3s,mb5.8						
PLAL				LR	LR		
	comp=Z,13μm,19.0s,MS5.5						
CPCT	**Cooper Cave**	**27.04**	**357**	*e*P	**P**	**06 17 00.0**	**-0.6**
JCT	**Junction City**	**27.12**	**327**	⇑P	**P**	**06 17 01.1**	**-0.3**
	baz=27,SNR=25						
JCT				⇓S	**S**	**06 21 38.2**	**+1.4**
	baz=27						
JCT	**Junction City**	**27.12**	**327**	*e*P	**P**	**06 17 00.8**	**-0.7**
	comp=Z,384nm,1.1s,mb5.8						
JCT				LR	LR		
	comp=Z,17μm,20.0s,MS5.6						
JCT	**Junction City**	**27.12**	**327**	*e*P	**P**	**06 17 00.8**	**-0.6**
JCT				pmax	pmax		
	comp=Z,384nm,1.1s,mb5.8						
JCT				MLR	MLR		
	comp=Z,17μm,20.0s,MS5.6						
CNNC	**Cliffs of the**	**27.18**	**9**	*e*P	**P**	**06 17 02.7**	**+0.9**
	comp=Z,787nm,1.7s,mb6.0						
CNNC				LR	LR		
	comp=Z,74μm,21.0s,MS6.2						
TKL	**Tuckaleechee C**	**27.22**	**358**	P	**P**	**06 17 03.0**	**+0.8**
	comp=Z,102nm,1.2s,mb5.2,baz=176,slow=9.9,SNR=21						
TKL				S	**S**	**06 21 36.6**	**-1.5**
	comp=Z,20nm,1.1s,baz=148,slow=16,SNR=1.8						
TKL				LR	LR	06 27 48.5	
	comp=Z,30μm,22.0s,MS5.8,baz=180,slow=36						
TKL	**Tuckaleechee C**	**27.22**	**358**	*e*P	**P**	**06 17 03.4**	**+1.2**
TKL	**Tuckaleechee C**	**27.22**	**358**	*e*P	**P**	**06 17 03.4**	**+1.2**
MET	**Memphis--Engin**	**27.44**	**347**	*e*P	**P**	**06 17 04.9**	**+0.7**
RFTA	**Plano**	**27.68**	**334**	*e*P	**P**	**06 17 05.3**	**-1.1**
UALR	**University of**	**27.71**	**343**	*e*P	**P**	**06 17 05.7**	**-1.0**
	comp=Z,385nm,1.3s,mb5.9						
MIAR	**Mount Ida**	**27.88**	**341**	*e*P	**P**	**06 17 07.0**	**-1.2**
	comp=Z,426nm,1.1s,mb6.0						
MIAR				LR	LR		
	comp=Z,12μm,20.0s,MS5.5						
MIAR	**Mount Ida**	**27.88**	**341**	*e*P	**P**	**06 17 07.0**	**-1.1**
MIAR				pmax	pmax		
	comp=Z,426nm,1.1s,mb6.0						
MIAR				MLR	MLR		
	comp=Z,12μm,20.0s,MS5.5						
HBAR	**Harrisburg**	**28.02**	**346**	*e*P	**P**	**06 17 09.6**	**+0.2**
WVT	**Waverly**	**28.04**	**351**	*e*P	**P**	**06 17 08.1**	**-1.4**
	comp=Z,945nm,2.1s,mb6.0						
WVT	**Waverly**	**28.04**	**351**	*e*P	**P**	**06 17 08.1**	**-1.4**
WVT				pmax	pmax		
	comp=Z,945nm,2.1s,mb6.0						
HALT	**Halls**	**28.08**	**349**	*e*P	**P**	**06 17 09.7**	**-0.2**
TZTN	**Tazewell**	**28.09**	**359**	*e*P	**P**	**06 17 11.2**	**+1.2**
	comp=Z,903nm,1.8s,mb6.1						
GNAR	**Gosnell**	**28.27**	**348**	*e*P	**P**	**06 17 11.4**	**-0.2**
	comp=Z,11μm,1.4s						
UTMT	**University of**	**28.41**	**350**	*e*P	**P**	**06 17 12.1**	**-0.8**
	comp=Z,592nm,1.0s,mb6.2						
GLAT	**Glass**	**28.42**	**349**	*e*P	**P**	**06 17 12.6**	**-0.3**
627A	**Terlingua Ranc**	**28.49**	**320**	⇑P	**P**	**06 17 14.4**	**+0.8**
	baz=29,SNR=52						
627A				⇑S	**S**	**06 22 01.9**	**+3.5**
	baz=29						
LPAZ	**La Paz**	**28.49**	**149**	P	**P**	**06 17 13.3**	**-0.4**
	comp=Z,9.1nm,0.6s,mb4.6,baz=336,slow=8.0,SNR=34						
LPAZ				S	**S**	**06 21 55.6**	**-3.0**
	comp=Z,5.5nm,0.9s,baz=97,slow=18,SNR=1.4						
LPAZ	**La Paz**	**28.49**	**149**	*e*P	**P**	**06 17 13.5**	**-0.3**
	comp=Z,213nm,1.4s,mb5.6						
LPAZ				LR	LR		
	comp=Z,31μm,19.0s,MS5.9						
LPAZ	**La Paz**	**28.49**	**149**	*e*P	**P**	**06 17 13.5**	**-0.3**
LPAZ				pmax	pmax		
	comp=Z,213nm,1.4s						
LPAZ				MLR	MLR		
	comp=Z,31μm,19.0s						
TXAR	**Lajitas Array**	**28.59**	**320**	P	**P**	**06 17 14.5**	**-0.1**
	comp=Z,3.5nm,0.7s,mb4.2,baz=146,slow=7.3,SNR=40						
TXAR				PcP	PcP	06 20 25.5	+0.5
	comp=Z,3.7nm,0.6s,baz=139,slow=5.4,SNR=8.3						
TXAR				pPcP		06 20 39.8	
	comp=Z,19nm,0.9s,baz=150,slow=5.3,SNR=4.2						
TXAR	**Lajitas Array**	**28.59**	**320**	P	**P**	**06 17 14.5**	**-0.1**
TXAR				PcP	PcP	06 20 25.5	+0.5
TXAR				pPcP		06 20 39.8	
TXAR	**Lajitas Array**	**28.59**	**320**	P	**P**	**06 17 14.5**	**0.0**
TXAR						06 20 25.5	
528A	**Cox Ranch, San**	**28.61**	**322**	⇑P	**P**	**06 17 15.2**	**+0.4**
	baz=29,SNR=44						
BLA	**Blacksburg**	**28.84**	**4**	*e*P	**P**	**06 17 17.1**	**+0.4**
	comp=Z,179nm,1.0s,mb5.8						
BLA				LR	LR		
	comp=Z,42μm,22.0s,MS6.0						
BLA	**Blacksburg**	**28.84**	**4**	*e*P	**P**	**06 17 17.1**	**+0.4**
BLA				pmax	pmax		
	comp=Z,179nm,1.0s,mb5.8						
BLA				MLR	MLR		
	comp=Z,42μm,22.0s,MS6.0						
PARMO	**Parma**	**28.89**	**349**	*e*P	**P**	**06 17 16.8**	**-0.3**
VWCC	**Virginia Weste**	**28.91**	**5**	*e*P	**P**	**06 17 17.6**	**+0.3**
428A	**Kincaid Ranch,**	**28.95**	**323**	⇓P	**P**	**06 17 17.3**	**-0.5**
	baz=29,SNR=23						
626A	**Big Bend Ranch**	**29.04**	**319**	⇑P	**P**	**06 17 18.8**	**+0.2**
	baz=29,SNR=31						
527A	**Woodward Ranch**	**29.11**	**321**	⇑P	**P**	**06 17 18.7**	**-0.5**
	baz=29,SNR=34						
BBSR	**BB Station**	**29.29**	**33**	*e*P	**P**	**06 17 21.4**	**+0.6**
	comp=Z,1μm,2.0s,mb6.2						
BBSR				*ep*P	pP	06 17 33.1	+0.5
BBSR				*es*P	sP	06 17 37.8	-0.2
BBSR				LR	LR		
	comp=Z,19μm,22.0s,MS5.7						
526A	**Mary Lane Ranc**	**29.35**	**320**	⇑P	**P**	**06 17 21.5**	**+0.1**
	baz=29,SNR=40						
427A	**Hayter Ranch,**	**29.47**	**322**	⇑P	**P**	**06 17 21.8**	**-0.5**

X26A **CR and CF Fran** 32.41 327 ⇑P P 06 17 47.4 -0.8
baz=32,SNR=6.0
Y25A **Mesa, Roswell** 32.44 325 ⇓P P 06 17 48.2 -0.2
baz=32,SNR=18
123A **Bell Site, Whi** 32.46 321 ⇓P P 06 17 49.7 +1.0
baz=32,SNR=19
SSPA **Standing Stone** 32.48 7 eP P 06 17 49.5 +0.7
HDIL **Hopedale** 32.60 351 eP P 06 17 47.9 -1.9
comp=Z,1µm,1.5s,mb6.5
HDIL LR LR
comp=Z,11µm,19.0s,MS5.6
222A **Williams Famil** 32.63 320 ⇓P P 06 17 50.8 +0.6
baz=33,SNR=10
W26A **Owens Ranch, T** 32.79 327 ⇑P P 06 17 50.8 -0.8
baz=33
X25A **Clemmons Ranch** 32.86 326 ⇑P P 06 17 52.0 -0.2
baz=33,SNR=12
Y24A **Capitan** 32.87 324 ⇓P P 06 17 52.6 +0.4
baz=33,SNR=34
Z23A **Rita Site, Whi** 32.87 322 ⇑P P 06 17 53.2 +0.9
baz=33,SNR=13
122A **Conniff Cattle** 32.96 321 ⇓P P 06 17 54.8 +1.7
baz=33
221A **Mesquite Ranch** 33.01 319 ⇓P P 06 17 55.7 +2.2
baz=33,SNR=50
KSU1 **Kansas State U** 33.02 340 eP P 06 17 52.1 -1.4
comp=Z,177nm,0.8s,mb6.0
KSU1 LR LR
comp=Z,16µm,21.0s,MS5.7
BRNJ **Basking Ridge** 33.06 12 eP P 06 17 53.6 -0.3
comp=Z,48µm,1.1s
320A **Kipp Ranch, An** 33.08 317 ⇑P P 06 17 56.4 +2.2
baz=33,SNR=166
Y23A **Lovelace Mesa,** 33.23 323 ⇑P P 06 17 56.0 +0.6
baz=33,SNR=25
W25A **X Bar L Ranch,** 33.26 327 ⇑P P 06 17 55.1 -0.6
baz=33,SNR=25
ALLY **Alegheny Colle** 33.28 4 eP P 06 17 54.6 -1.1
comp=Z,96nm,0.9s,mb5.7
Z22A **Elephant Butte** 33.31 322 ⇑P P 06 17 57.4 +1.3
baz=33,SNR=36
X24A **Lazy VL Ranch,** 33.32 325 ⇑P P 06 17 56.7 +0.5
baz=33,SNR=14
V26A **Tequesquite Ra** 33.34 328 ⇑P P 06 17 56.6 +0.2
baz=33,SNR=28
121A **Cookes Peak, D** 33.35 320 ⇑P P 06 17 58.5 +2.1
baz=33,SNR=65
220A **Playas Peak, P** 33.43 318 ⇑P P 06 17 59.4 +2.2
baz=34,SNR=206
PAL **Palisades** 33.51 12 eP P 06 17 54.4 -3.4
PAL **Palisades** 33.51 12 eP P 06 17 54.4 -3.4
319A **Douglas** 33.61 317 ⇑P P 06 18 01.0 +2.2
baz=34,SNR=91
BNM **Barren Site** 33.73 323 eP P 06 18 00.8 +1.1
comp=Z,28nm,1.0s,mb5.2
ERPA **Erie** 33.75 4 eP P 06 17 59.5 -0.3
comp=Z,853nm,2.1s,mb6.3
ERPA LR LR
comp=Z,45µm,19.0s,MS6.2
X23A **Hourglass Bar** 33.77 324 ⇑P P 06 18 00.6 +0.5
baz=34,SNR=9.1
W24A **Lazy 6 Ranch,** 33.78 326 ⇓P P 06 18 00.7 +0.5
baz=34,SNR=21
U26A **Atchley Ranch,** 33.78 329 ⇓P P 06 17 59.5 -0.6
baz=34,SNR=24
Y22A **Socorro** 33.78 322 ⇑P P 06 18 01.4 +1.1
baz=34,SNR=15
Z21A **St. Cloud Mine** 33.79 321 ⇑P P 06 18 02.0 +1.7
baz=34,SNR=41
V25A **Rancho No Teng** 33.81 327 ⇑P P 06 18 00.8 +0.3
baz=34,SNR=22
LPM **Los Pinos Moun** 33.84 323 eP P 06 18 02.1 +1.4
AAM **Ann Arbor** 33.84 359 eP P 06 18 00.6 -0.1
comp=Z,533nm,1.6s,mb6.2
AAM LR LR
comp=Z,57µm,20.0s,MS6.3
AAM **Ann Arbor** 33.84 359 eP P 06 18 00.6 0.0
AAM pmax pmax
comp=Z,533nm,1.6s,mb6.2
AAM MLR MLR
comp=Z,57µm,20.0s,MS6.3
120A **U Bar Ranch, L** 33.91 319 ⇑P P 06 18 03.6 +2.3
baz=34,SNR=120
CBKS **Cedar Bluff** 33.92 336 ⇑P P 06 18 00.3 -1.0
baz=34,SNR=6.9
CBKS **Cedar Bluff** 33.92 336 eP P 06 18 00.8 -0.6
comp=Z,85nm,0.8s,mb5.7
CBKS LR LR
comp=Z,18µm,21.0s,MS5.8
CBKS **Cedar Bluff** 33.92 336 eP P 06 18 00.8 -0.6
CBKS pmax pmax
comp=Z,85nm,0.8s,mb5.7
CBKS MLR MLR
comp=Z,18µm,21.0s,MS5.8
219A **White Tail Can** 33.98 318 ⇓P P 06 18 03.9 +2.0
baz=34,SNR=120
YLE **Yale** 34.02 13 eP P 06 18 02.4 +0.2
comp=Z,256nm,1.1s,mb6.1
V24A **Rampart Ranch,** 34.08 326 ⇓P P 06 18 03.5 +0.7
baz=34,SNR=15
U25A **Circle Dot Ran** 34.12 328 ⇓P P 06 18 04.0 +0.8
baz=34,SNR=9.9
318A **Bisbee** 34.13 316 ⇓P P 06 18 05.3 +2.0
baz=34
W23A **Werner Place,** 34.16 325 ⇑P P 06 18 04.0 +0.5
baz=34,SNR=17
ANMO **Albuquerque** 34.19 324 P P 06 18 04.0 +0.3
comp=Z,30nm,1.0s,mb5.2,baz=142,slow=9.7,SNR=49
ANMO **Albuquerque** 34.19 324 eP P 06 18 03.9 +0.2
comp=Z,58nm,1.1s,mb5.4
ANMO LR LR
comp=Z,9µm,20.0s,MS5.5
ANMO **Albuquerque** 34.19 324 eP P 06 18 03.9 +0.2
ANMO pmax pmax
comp=Z,58nm,1.1s
ANMO MLR MLR
comp=Z,9µm,20.0s
X22A **Bernardo** 34.20 323 ⇑P P 06 18 05.0 +1.2
baz=34
LAZ **Ladron** 34.20 323 eP P 06 18 04.2 +0.4
comp=Z,35nm,1.1s,mb5.2
Z20A **Nine Sixteen R** 34.24 320 ⇑P P 06 18 05.9 +1.7
baz=34,SNR=99
Y21A **Point of Rocks** 34.26 322 ⇑P P 06 18 06.4 +2.0
baz=34,SNR=85
BINY **Binghamton** 34.28 9 eP P 06 18 05.2 +0.8
comp=Z,215nm,1.3s,mb5.9
BINY LR LR
comp=Z,51µm,21.0s,MS6.2
119A **Ashpeak Ranch,** 34.48 319 ⇓P P 06 18 07.9 +1.6
baz=35,SNR=68
218A **Dragoon** 34.49 317 ⇓P P 06 18 08.7 +2.3
baz=35
W22A **Albuquerque** 34.51 324 ⇑P P 06 18 07.5 +0.9
baz=35
U24A **Moreno Valley** 34.59 327 ⇑P P 06 18 08.1 +0.9
baz=35,SNR=26
V23A **Ortiz Mt. (NFS** 34.60 326 ⇑P P 06 18 08.0 +0.7
baz=35,SNR=10
X21A **Alamocita Cree** 34.62 322 ⇑P P 06 18 07.5 0.0
baz=35,SNR=61
Y20A **Horse Springs,** 34.63 321 ⇓P P 06 18 09.0 +1.5
baz=35,SNR=42
SCIA **State Center** 34.66 346 eP P 06 18 06.7 -1.0
comp=Z,388nm,0.9s,mb6.3
SCIA LR LR
comp=Z,16µm,19.0s,MS5.8
T25A **Trinidad** 34.69 329 ⇓P P 06 18 08.2 +0.1
baz=35,SNR=24
Z19A **T-Link Ranch,** 34.79 319 ⇓P P 06 18 10.2 +1.3
baz=35,SNR=12
118A **Homack Ranch,** 34.84 318 ⇓P P 06 18 10.4 +1.0
baz=35,SNR=82
217A **Green Valley** 34.90 316 ⇑P P 06 18 11.2 +1.3
baz=35
T24A **Torres, Weston** 34.97 328 ⇑P P 06 18 10.7 +0.2
baz=35,SNR=26
W21A **San Fidel** 35.00 323 ⇓P P 06 18 11.0 +0.3
baz=35,SNR=10
U23A **El Rito** 35.03 326 ⇑P P 06 18 10.9 -0.1
baz=35,SNR=60
JFWS **Jewell Farm** 35.05 351 eP P 06 18 09.0 -2.1
comp=Z,647nm,1.6s,mb6.3
JFWS LR LR
comp=Z,10µm,19.0s,MS5.6
JFWS **Jewell Farm** 35.05 351 eP P 06 18 09.0 -2.1
JFWS pmax pmax
comp=Z,647nm,1.6s,mb6.3
JFWS MLR MLR
comp=Z,10µm,19.0s,MS5.6
S25A **Robets Cordova** 35.11 330 ⇑P P 06 18 11.8 +0.1
baz=35,SNR=24
X20A **Quemado** 35.12 322 ⇑P P 06 18 12.5 +0.7
baz=35,SNR=24
V22A **San Miguel Ran** 35.13 325 ⇑P P 06 18 12.7 +0.8
baz=35,SNR=11
Z18A **Geronimo** 35.16 318 ⇑P P 06 18 13.2 +1.0
baz=35
TUC **Tucson** 35.19 317 eP P 06 18 13.3 +0.9
comp=Z,151nm,1.1s,mb5.8
TUC LR LR
comp=Z,18µm,20.0s,MS5.8
TUC **Tucson** 35.19 317 eP P 06 18 13.4 +0.9
TUC pmax pmax
comp=Z,151nm,1.1s,mb5.8
TUC MLR MLR
comp=Z,18µm,20.0s,MS5.8
Y19A **Nutrioso** 35.21 320 ⇓P P 06 18 14.0 +1.4
baz=35,SNR=44
TRY **Troy** 35.22 12 eP P 06 18 11.8 -0.7
117A **Oracle** 35.32 317 ⇓P P 06 18 15.0 +1.4
baz=35,SNR=95
R25A **Fountain Ranch** 35.41 330 ⇑P P 06 18 14.6 +0.4
baz=36,SNR=18
U22A **Llaves** 35.43 326 ⇑P P 06 18 15.1 +0.6
baz=36,SNR=46
T23A **Casias Ranch,** 35.47 327 ⇑P P 06 18 15.3 +0.5
baz=36,SNR=28
V21A **Milan** 35.47 324 ⇓P P 06 18 15.5 +0.7
baz=36,SNR=28
216A **Three Points,** 35.47 316 ⇑P P 06 18 16.0 +1.1
baz=36,SNR=74
S24A **Houchin Ranch,** 35.49 329 ⇓P P 06 18 15.5 +0.6
baz=36,SNR=26
W20A **Ramah** 35.52 322 ⇓P P 06 18 16.8 +1.6
baz=36,SNR=83
X19A **St. Johns** 35.54 321 ⇑P P 06 18 16.8 +1.4
baz=36,SNR=12
Z17A **San Carlos Hig** 35.58 318 ⇑P P 06 18 17.5 +1.7
baz=36,SNR=75
Y18A **Canyon Day Jun** 35.59 319 ⇑P P 06 18 17.5 +1.6
baz=36,SNR=41
BGNE **Belgrade** 35.61 340 ⇓P P 06 18 14.7 -1.2
baz=36,SNR=17
SDCO **Great Sand Dun** 35.71 329 ⇑P P 06 18 16.9 +0.1
baz=36,SNR=59
SDCO **Great Sand Dun** 35.71 329 eP P 06 18 17.3 +0.4
comp=Z,766nm,2.5s,mb6.2
SDCO LR LR
comp=Z,15µm,22.0s,MS5.7
ACCN **Adirondack Com** 35.85 12 eP P 06 18 19.0 +1.1
comp=Z,196nm,1.5s,mb5.8
R24A **Sanders Place,** 35.88 329 ⇑P P 06 18 18.7 +0.4
baz=36,SNR=29
T22A **Edith** 35.92 326 ⇑P P 06 18 19.1 +0.5
baz=36,SNR=11
U21A **Nageezi** 35.92 325 ⇓P P 06 18 19.5 +0.8
baz=36,SNR=36
S23A **Nye Farm, Mont** 35.95 328 ⇓P P 06 18 19.5 +0.7
baz=36,SNR=22
V20A **Brimhall** 35.95 323 ⇓P P 06 18 20.1 +1.1
baz=36,SNR=23
116A **Eloy** 35.97 316 ⇓P P 06 18 20.5 +1.4
baz=36,SNR=144
Q25A **Bedland, Calha** 35.99 331 ⇓P P 06 18 19.0 -0.2
baz=36,SNR=39
X18A **Snowflake** 36.02 320 ⇓P P 06 18 20.8 +1.3
baz=36,SNR=61
W19A **Sanders** 36.05 322 ⇓P P 06 18 21.0 +1.2
baz=36,SNR=33
Y17A **Roosevelt** 36.07 318 ⇓P P 06 18 21.6 +1.6
baz=36,SNR=58
V19A **Window Rock** 36.24 323 ⇑P P 06 18 22.1 +0.7
baz=36,SNR=10
T21A **Navajo Lake** 36.25 326 ⇓P P 06 18 21.4 0.0
baz=36,SNR=32
W18A **Petrified Fore** 36.27 321 ⇑P P 06 18 23.3 +1.7
baz=36,SNR=28
NCB **Newcomb** 36.31 11 eP P 06 18 22.1 +0.2
comp=Z,133nm,1.3s,mb5.7
NCB LR LR
comp=Z,32µm,20.0s,MS6.1
U20A **Newcomb** 36.38 324 ⇓P P 06 18 22.6 0.0
baz=36,SNR=31
GLMI **Grayling** 36.39 358 eP P 06 18 21.3 -1.2
comp=Z,245nm,0.9s,mb6.1
GLMI LR LR
comp=Z,34µm,21.0s,MS6.1
214A **Organ Pipe Nat** 36.40 314 ⇑P P 06 18 23.2 +0.4
baz=36,SNR=111
115A **Sonoran Desert** 36.41 316 ⇓P P 06 18 24.0 +1.1
baz=36,SNR=88
S22A **4UR Ranch, Cre** 36.41 327 ⇓P P 06 18 23.1 +0.3
baz=36,SNR=38
P25A **Willow Gulch B** 36.43 332 ⇓P P 06 18 22.5 -0.4
baz=36,SNR=91
X17A **Forest Lakes** 36.44 319 ⇑P P 06 18 24.5 +1.4
baz=36,SNR=70
HNH **Hanover** 36.44 13 eP P 06 18 22.6 -0.4
SADO **Sadowa** 36.45 5 P P 06 18 22.1 -0.9
comp=Z,19nm,0.7s,mb5.2,baz=208,slow=7.3,SNR=7.6
SADO LR LR 06 33 15.9
comp=Z,27µm,21.2s,MS6.0,baz=195,slow=36
Q24A **Divide** 36.47 330 ⇓P P 06 18 22.7 -0.6
baz=37,SNR=37
MDV **Middlebury** 36.53 12 eP P 06 18 23.9 +0.2
Y16A **Circle Bar Ran** 36.60 318 ⇓P P 06 18 24.8 +0.3
baz=37,SNR=125
OGNE **Ogalla** 36.66 335 ⇓P P 06 18 23.8 -1.1
baz=37,SNR=58
OGNE **Ogallala** 36.66 335 eP P 06 18 24.7 -0.2
comp=Z,640nm,1.1s,mb6.4
OGNE LR LR
comp=Z,10µm,19.0s,MS5.6
Z15A **Gila River Ind** 36.70 317 ⇓P P 06 18 25.5 +0.2
baz=37,SNR=14
U19A **Dine' College,** 36.73 323 ⇓P P 06 18 26.1 +0.5
baz=37,SNR=82
Q23A **Hartsel** 36.77 329 ⇑P P 06 18 25.2 -0.6
baz=37,SNR=35
V18A **Ganado** 36.78 322 ⇓P P 06 18 26.5 +0.6
baz=37,SNR=21
P24A **Kohler Place,** 36.78 331 ⇓P P 06 18 25.0 -1.0
baz=37,SNR=19
W17A **Winslow** 36.85 320 ⇓P P 06 18 27.0 +0.4
baz=37
LONY **Lake Ozonia** 36.87 10 eP P 06 18 25.6 -1.0
comp=Z,157nm,1.3s,mb5.7
LONY LR LR
comp=Z,30µm,21.0s,MS6.1
S21A **Coal Bank Pass** 36.88 326 ⇑P P 06 18 26.5 -0.3
baz=37,SNR=16
O25A **Wiggins** 36.89 332 ⇑P P 06 18 26.8 -0.1
baz=37
114A **Black Gap (USA** 36.89 315 ⇑P P 06 18 27.8 +0.8
baz=37,SNR=109
X16A **Lo Mia Camp, P** 36.90 319 ⇓P P 06 18 27.9 +0.8
baz=37,SNR=87
MVCO **Mesa Verde** 36.95 325 ⇑P P 06 18 27.5 +0.1
baz=37,SNR=73
MVCO **Mesa Verde** 36.95 325 eP P 06 18 27.8 +0.4
comp=Z,259nm,1.4s,mb5.9
MVCO LR LR
comp=Z,8µm,20.0s,MS5.5
T19A **Beclabito** 36.99 324 ⇑P P 06 18 27.4 -0.3
baz=37,SNR=68
LBNH **Lisbon** 37.03 13 eP P 06 18 28.6 +0.6
comp=Z,194nm,1.4s,mb5.7
LBNH LR LR
comp=Z,21µm,21.0s,MS5.9
LBNH **Lisbon** 37.03 13 eP P 06 18 28.6 +0.6
LBNH pmax pmax
comp=Z,194nm,1.4s,mb5.7
LBNH MLR MLR
comp=Z,21µm,21.0s,MS5.9
P23A **Jefferson** 37.13 330 ⇑P P 06 18 29.5 +0.6
baz=37,SNR=51
MSNY **Massena** 37.19 9 eP P 06 18 29.4 0.0
comp=Z,1µm,1.1s,mb6.6
Y15A **Casa Rosa Ranc** 37.21 318 ⇓P P 06 18 30.4 +0.7
baz=37,SNR=95
V17A **Tonalea, Kykot** 37.25 321 ⇑P P 06 18 30.7 +0.7
baz=37,SNR=89
ECSD **EROS Data Cent** 37.25 344 eP P 06 18 27.7 -2.2
comp=Z,175nm,1.0s,mb5.8
ECSD LR LR
comp=Z,17µm,21.0s,MS5.8
R21A **Cimarron** 37.26 327 ⇑P P 06 18 30.0 0.0
baz=37,SNR=18
Z14A **Wintersburg** 37.28 316 ⇓P P 06 18 31.5 +1.2
baz=37,SNR=49
Q22A **Crested Butte,** 37.28 328 ⇓P P 06 18 30.0 -0.2
baz=37,SNR=110
S20A **Disappointment** 37.31 326 ⇑P P 06 18 30.7 +0.2
baz=37,SNR=31
O24A **Longmont** 37.34 332 ⇓P P 06 18 30.6 -0.1
baz=38,SNR=19
ISCO **Idaho Springs** 37.34 331 ⇓P P 06 18 31.0 +0.3
baz=38,SNR=68
ISCO **Idaho Springs** 37.34 331 eP P 06 18 30.9 +0.2
comp=Z,165nm,1.4s,mb5.7
ISCO LR LR
comp=Z,12µm,21.0s,MS5.7
ISCO **Idaho Springs** 37.34 331 eP P 06 18 30.9 +0.2
ISCO pmax pmax
comp=Z,165nm,1.4s,mb5.7
ISCO MLR MLR
comp=Z,12µm,21.0s,MS5.7
W16A **Flagstaff** 37.38 320 ⇑P P 06 18 33.0 +1.9
baz=38,SNR=16
N25A **Grover** 37.44 333 ⇑P P 06 18 31.0 -0.5
baz=38
113A **Mohawk Valley,** 37.52 315 ⇑P P 06 18 33.2 +0.9
baz=38,SNR=90
WUAZ **Wupatki** 37.55 320 ⇓P P 06 18 33.3 +0.8
baz=38,SNR=49
WUAZ **Wupatki** 37.55 320 eP P 06 18 34.0 +1.5
comp=Z,147nm,1.1s,mb5.6
WUAZ LR LR
comp=Z,13µm,20.0s,MS5.7
SMCO **Snowmass** 37.55 329 eP P 06 18 33.0 +0.6
R20A **Redvale** 37.58 326 ⇑P P 06 18 32.4 -0.3
baz=38,SNR=26
Q21A **Lamborn Mesa,** 37.61 328 ⇓P P 06 18 33.0 0.0
baz=38,SNR=67
PV01 **Paradox Valley** 37.64 326 eP P 06 18 33.6 +0.4
comp=Z,606nm,0.9s,mb6.3
Y14A **Wickenburg** 37.65 317 ⇑P P 06 18 34.1 +0.6
baz=38,SNR=111
Z13A **Yuma Proving G** 37.68 315 ⇑P P 06 18 34.5 +0.8
baz=38,SNR=123
S19A **Harvey Farm, M** 37.69 325 ⇓P P 06 18 32.6 -1.1
baz=38,SNR=47
T18A **Mexican Hat** 37.69 324 ⇓P P 06 18 33.4 -0.4
baz=38,SNR=74
SPMN **St. Paul** 37.75 349 ⇑P P 06 18 30.6 -3.4
baz=38,SNR=48
P22A **Eagle** 37.76 329 ⇓P P 06 18 33.5 -0.7
baz=38,SNR=137
U16A **Tuba City** 37.79 321 ⇓P P 06 18 34.6 +0.1
baz=38,SNR=48
U17A **Shonto** 37.80 322 ⇓P P 06 18 34.4 -0.3
baz=38,SNR=29
N24A **Carr** 37.81 332 ⇑P P 06 18 34.4 -0.2
baz=38,SNR=25
O23A **Lake Granby, G** 37.81 331 ⇑P P 06 18 33.6 -1.1
baz=38,SNR=50
WVL **Waterville** 37.89 15 eP P 06 18 36.0 +0.7
comp=Z,210nm,1.2s,mb5.7
M25A **Palm-Egli Farm** 37.93 334 ⇑P P 06 18 34.9 -0.7
baz=38,SNR=10.0
PV04 **Paradox Valley** 38.01 326 eP P 06 18 36.8 +0.4
P21A **Newcastle** 38.05 329 ⇓P P 06 18 37.3 +0.6
baz=38,SNR=32
O22A **Kremmling** 38.08 330 ⇓P P 06 18 36.3 -0.6
baz=38,SNR=42
Q20A **Ridgley Place,** 38.08 327 ⇓P P 06 18 36.7 -0.2
baz=38,SNR=31
R19A **Curley Farm, L** 38.14 326 ⇓P P 06 18 37.0 -0.4
baz=38,SNR=46
S18A **Hurst Farm, Bl** 38.14 324 ⇓P P 06 18 36.6 -0.8
baz=38,SNR=67
T17A **Navajo Res., N** 38.15 323 ⇓P P 06 18 37.9 +0.3
baz=38
V15A **Kaibab Nationa** 38.24 320 ⇑P P 06 18 40.1 +1.7
baz=38
M24A **Cheyenne** 38.29 333 ⇑P P 06 18 37.5 -1.2
baz=38,SNR=40
N23A **Red Feather La** 38.36 331 ⇓P P 06 18 39.0 -0.2
baz=38,SNR=35
GLA **Glamis** 38.42 314 ⇓P P 06 18 40.6 +0.7
baz=38,SNR=138
GLA **Glamis** 38.42 314 eP P 06 18 41.6 +1.7
comp=Z,664nm,1.2s,mb6.2
GLA **Glamis** 38.42 314 eP P 06 18 41.6 +1.7
GLA pmax pmax
comp=Z,664nm,1.2s,mb6.2
PHWY **Pilot Hill** 38.45 332 eP P 06 18 40.0 0.0
comp=Z,443nm,2.2s,mb5.8
N22A **Wattenberg Ran** 38.53 331 ⇑P P 06 18 41.3 +0.6
baz=39,SNR=20
P20A **De Beque** 38.53 328 ⇑P P 06 18 41.1 +0.4
baz=39,SNR=43
R18A **Canyonlands Na** 38.56 325 ⇓P P 06 18 39.9 -1.1
baz=39,SNR=63
T16A **Glen Canyon Da** 38.57 322 ⇓P P 06 18 41.4 +0.3
baz=39,SNR=44
S17A **Black Ridge (B** 38.58 323 ⇑P P 06 18 41.5 +0.4
baz=39
O21A **Pagoda** 38.58 329 ⇑P P 06 18 41.6 +0.4
baz=39,SNR=32
Y12C **Blythe** 38.59 316 ⇑P P 06 18 41.9 +0.6
baz=39,SNR=85
BRSD **Miller** 38.59 341 ⇑P P 06 18 38.4 -2.8
baz=39,SNR=9.8
K26A **Motz Farm, Whi** 38.60 336 ⇓P P 06 18 39.9 -1.3
baz=39,SNR=8.9
Q19A **Hogan Spring (** 38.61 326 ⇑P P 06 18 41.1 -0.3
baz=39,SNR=51
PDMCI **Parker Dam,Lak** 38.63 317 ⇑P P 06 18 42.3 +0.6
baz=39,SNR=68
PKME **Peaks-Kenny Pk** 38.64 15 eP P 06 18 42.3 +0.8
comp=Z,156nm,1.2s,mb5.6
PKME LR LR
comp=Z,24µm,19.0s,MS6.0
U15A **North Rim** 38.70 321 ⇓P P 06 18 42.6 +0.4
baz=39,SNR=53
M23A **Laramie** 38.70 332 ⇑P P 06 18 40.8 -1.3
baz=39,SNR=23
L24A **Wheatland** 38.80 334 ⇓P P 06 18 41.8 -1.2
baz=39,SNR=15
K25A **Mack Ranch, Ha** 38.81 335 ⇑P P 06 18 41.9 -1.1
baz=39,SNR=12
O20A **White River Ci** 38.92 329 ⇑P P 06 18 43.9 -0.1
baz=39,SNR=32
W13A **Hualapai Mount** 38.92 318 ⇑P P 06 18 45.4 +1.3
baz=39,SNR=81
LCO **Las Campanas** 38.94 163 eP P 06 18 44.0 -0.2
comp=Z,956nm,2.4s,mb6.1
LCO LR LR
comp=Z,5µm,20.0s,MS5.4
P19A **Cripple Cowboy** 38.94 327 ⇓P P 06 18 43.4 -0.7
baz=39,SNR=28
N21A **Black Mountain** 39.02 330 ⇓P P 06 18 45.0 +0.2
baz=39,SNR=73
R17A **Hanksville Air** 39.05 324 ⇑P P 06 18 45.0 -0.1
baz=39,SNR=279
SWSC **Sam W. Stewart** 39.05 314 ⇑P P 06 18 46.1 +0.9
baz=39,SNR=87
M22A **Cedar Creek Ra** 39.06 331 ⇑P P 06 18 44.4 -0.7
baz=39,SNR=29
S16A **Weppner Ranch,** 39.10 323 ⇓P P 06 18 45.5 0.0
baz=39,SNR=148
DVTC **Desert V Tower** 39.12 313 ⇑P P 06 18 46.5 +0.7
baz=39,SNR=63
BC3 **Big Chuckawall** 39.18 315 ⇑P P 06 18 46.7 +0.4
baz=39,SNR=81
Q18A **Rafter H Ranch** 39.19 326 ⇓P P 06 18 46.1 -0.2
baz=39,SNR=70
L23A **Garrett** 39.20 333 ⇓P P 06 18 46.3 -0.1
baz=39,SNR=95
NEE2 **Needles Airpor** 39.22 317 ⇑P P 06 18 46.6 0.0
baz=39
IRM **Iron Mountain** 39.25 316 ⇑P P 06 18 47.4 +0.5
baz=39,SNR=84
K24A **Anderson Ranch** 39.30 334 ⇑P P 06 18 46.1 -1.0
baz=39
R16A **Teasdale** 39.41 324 ⇓P P 06 18 48.0 -0.1
baz=40,SNR=108
SRU **San Rafael** 39.42 325 ⇑P P 06 18 47.5 -0.7
baz=40,SNR=89
SRU **San Rafael** 39.42 325 eP P 06 18 48.5 +0.3
comp=Z,239nm,1.3s,mb5.8
SRU **San Rafael** 39.42 325 eP P 06 18 48.5 +0.3

SRU pmax pmax
comp=Z,239nm,1.3s,mb5.8
N20A Spence Gulch, 39.45 329 ⇓P P 06 18 48.1 -0.3
baz=40,SNR=48
L22A Ellis Ranch, M 39.47 332 ⇓P P 06 18 48.6 0.0
baz=40,SNR=39
MONP Monument Peak 39.47 313 ⇑P P 06 18 48.5 -0.3
baz=40,SNR=83
O19A Miners Draw (B 39.50 328 ⇓P P 06 18 47.9 -0.9
baz=40,SNR=25
BAR Barrett 39.55 313 eP P 06 18 50.6 +1.2
comp=Z,317nm,1.4s,mb5.8
RWWY Rawlins 39.57 331 eP P 06 18 49.4 0.0
comp=Z,106nm,1.0s,mb5.5
M21A Separation Pea 39.58 331 ⇑P P 06 18 49.0 -0.5
baz=40,SNR=43
P18A Preston Nutter 39.62 326 ⇓P P 06 18 49.2 -0.7
baz=40,SNR=41
Q16A Castle Valley 39.65 325 ⇓P P 06 18 49.5 -0.6
baz=40,SNR=24
LDFC Landfair 39.73 317 eP P 06 18 52.8 +2.0
comp=Z,556nm,1.3s,mb6.1
J24A Dixon Ranch, L 39.73 335 ⇑P P 06 18 50.1 -0.6
baz=40,SNR=26
BELC Belle Mtn. Jos 39.75 315 ⇑P P 06 18 50.3 -0.7
baz=40,SNR=137
P17A Butcher Ranch, 39.79 326 ⇑P P 06 18 50.2 -1.1
baz=40,SNR=50
R15A Junction 39.83 323 ⇓P P 06 18 51.7 +0.1
baz=40,SNR=39
L21A Rawlins 39.86 331 ⇑P P 06 18 51.1 -0.8
baz=40,SNR=70
PFO Pinyon Flat Ob 39.87 314 ⇑P P 06 18 51.2 -0.8
baz=40,SNR=87
PFO Pinyon Flat Ob 39.87 314 eP P 06 18 53.6 +1.6
comp=Z,299nm,1.1s,mb5.9
PFO LR LR
comp=Z,12µm,20.0s,MS5.7
PFO Pinyon Flat Ob 39.87 314 eP P 06 18 53.6 +1.6
PFO pmax pmax
comp=Z,299nm,1.1s,mb5.9
PFO MLR MLR
comp=Z,12µm,20.0s,MS5.7
PFO Pinyon Flat Ob 39.87 314 P P 06 18 53.0 +1.0
comp=Z,977nm,1.3s,mb6.4,SNR=64
M20A Sweetwater, Wa 39.90 330 ⇓P P 06 18 51.7 -0.4
baz=40,SNR=20
GMRC Granite Mounta 39.94 316 ⇓P P 06 18 53.7 +1.1
baz=40,SNR=45
O18A Roosevelt 39.94 327 ⇓P P 06 18 52.2 -0.3
baz=40,SNR=46
N19A John Jarvie Ra 39.96 328 ⇑P P 06 18 51.8 -0.8
baz=40,SNR=17
MSU Marysvale 39.97 323 eP P 06 18 53.9 +1.1
MSU Marysvale 39.97 323 eP P 06 18 53.9 +1.1
109C Camp Elliot, M 39.97 313 ⇑P P 06 18 52.9 +0.1
baz=40,SNR=33
MVU Marysvale 39.98 323 PFAKE 06 19 00.0 +7.1
MVU LR LR
comp=Z,14µm,20.0s,MS5.8
TLL Tololo Astrono 40.00 164⇑ iP P 06 18 53.5 +0.5
TLL Tololo Astrono 40.00 164⇑ iP P 06 18 53.5 +0.5
TLL Tololo Astrono 40.00 164⇑ iP P 06 18 53.5 +0.5
TLL AMb AMB 06 18 57.9
comp=Z,161nm,1.7s,mb5.5
K22A Casper 40.00 333 ⇓P P 06 18 52.2 -0.7
baz=40,SNR=46
CCUT Cedar City 40.07 321 eP P 06 18 55.2 +1.6
comp=Z,207nm,1.8s,mb5.6
RSSD Black Hills 40.13 336 eP P 06 18 53.3 -0.7
comp=Z,184nm,1.4s,mb5.6
RSSD Black Hills 40.13 336 eP P 06 18 53.3 -0.7
RSSD pmax pmax
comp=Z,184nm,1.4s,mb5.6
EYMN Ely 40.15 351 eP P 06 18 51.4 -2.7
comp=Z,210nm,1.4s,mb5.7
EYMN LR LR
comp=Z,9µm,22.0s,MS5.6
I24A Kuemmerle Ranc 40.15 335 ⇓P P 06 18 53.4 -0.7
baz=40,SNR=10
J23A Dilts Ranch, B 40.17 334 ⇑P P 06 18 54.1 -0.3
baz=40
ARUT Antelope Range 40.27 321 eP P 06 18 56.4 +1.2
comp=Z,76nm,1.0s,mb5.4
ARUT Antelope Range 40.27 321 eP P 06 18 56.4 +1.2
ARUT pmax pmax
comp=Z,76nm,1.0s,mb5.4
N18A Larsen Ranch, 40.27 328 ⇓P P 06 18 54.0 -1.2
baz=40,SNR=35
PQI Presque Isle 40.28 16 eP P 06 18 55.7 +0.5
comp=Z,469nm,1.4s,mb6.0
O17A Robinson Place 40.29 326 ⇓P P 06 18 54.6 -0.8
baz=40,SNR=73
K21A Alcova 40.32 332 ⇑P P 06 18 54.5 -1.1
baz=40,SNR=55
L20A Wamsutter 40.36 330 ⇑P P 06 18 55.1 -0.9
baz=40,SNR=28
M19A Rock Springs 40.40 329 ⇓P P 06 18 55.4 -0.8
baz=40
MURC Murrieta 40.40 313 ⇓P P 06 18 56.3 -0.1
baz=40,SNR=55
P16A Fountain Green 40.40 325 ⇑P P 06 18 56.6 +0.3
baz=40,SNR=24
HEC Hector Ludlow 40.43 316 ⇓P P 06 18 58.0 +1.3
baz=40,SNR=123
TUQ Turquoise Moun 40.48 317 ⇑P P 06 18 58.2 +1.1
baz=40,SNR=101
BBRC Big Bear Solar 40.54 315 ⇑P P 06 18 59.7 +2.1
baz=41,SNR=43
I23A Meade Ranch, G 40.58 335 ⇓P P 06 18 58.0 +0.2
baz=41
J22A Midwest 40.58 333 ⇑P P 06 18 57.1 -0.7
baz=41,SNR=112
MPU Maple Canyon 40.66 325 eP P 06 18 58.9 +0.4
comp=Z,197nm,1.3s,mb5.6
O16A Springville 40.72 326 ⇑P P 06 18 58.9 -0.1
baz=41,SNR=95
DAU Daniels Canyon 40.73 326 eP P 06 18 59.2 +0.2
DAU Daniels Canyon 40.73 326 eP P 06 18 59.2 +0.2
P15A Leamington 40.73 324 ⇑P P 06 18 58.8 -0.2
baz=41,SNR=32
M18A Lyman 40.81 328 ⇓P P 06 18 58.8 -0.9
baz=41,SNR=14
R13A O'Grain Ranch, 40.84 322 ⇓P P 06 19 00.8 +0.9
baz=41,SNR=88
H24A Dirks Ranch, A 40.86 336 ⇓P P 06 18 58.5 -1.5
baz=41,SNR=96
K20A Yellowstone Ra 40.86 331 ⇑P P 06 18 59.0 -1.0
baz=41,SNR=42
N17A Moffit Pass 40.87 327 ⇓P P 06 18 59.4 -0.8
baz=41,SNR=42
NLU North Lily Min 40.87 325 eP P 06 19 00.7 +0.6
comp=Z,101nm,1.2s,mb5.3
CMCH Combarbala 40.90 164⇓ iP P 06 18 60.0 -0.5
CMCH Combarbala 40.90 164⇓ iP P 06 18 60.0 -0.5
CMCH AMb AMB 06 19 03.4
comp=Z,2µm,1.2s,mb6.5
RRX Edison Barstow 40.92 315 ⇑P P 06 19 01.8 +1.1
baz=41,SNR=9.2
L19A Farson 40.94 330 ⇑P P 06 18 59.6 -1.1
baz=41,SNR=22
JLU Jordanelle 40.96 326 eP P 06 19 01.4 +0.4
comp=Z,158nm,1.3s,mb5.5
I22A 9 Mile Ranch, 40.97 334 ⇑P P 06 19 00.6 -0.3
baz=41,SNR=23
J21A Lysite 40.97 332 ⇑P P 06 19 00.3 -0.6
baz=41,SNR=118
SHOC Shoshone 40.98 317 ⇓P P 06 19 02.6 +1.4
baz=41,SNR=63
GSC Goldstone 41.01 316 ⇓P P 06 19 02.6 +1.2
baz=41,SNR=124
GSC Goldstone 41.01 316 eP P 06 19 03.1 +1.7
comp=Z,711nm,1.4s,mb6.1
GSC epP pP 06 19 13.6 0.0
GSC esP sP 06 19 20.7 +1.8
GSC Goldstone 41.01 316 eP P 06 19 03.1 +1.7
GSC e*PP pP 06 19 13.6 0.0
GSC e*SP sP 06 19 20.7 +1.8
GSC pmax pmax
comp=Z,711nm,1.4s,mb6.1
H23A Clabaugh Cattl 41.05 335 ⇑P P 06 19 01.1 -0.5
baz=41
BFSC Mount Baldy Ra 41.05 314 ⇑P P 06 19 02.5 +0.7
baz=41,SNR=31
SCI San Clemente I 41.07 312 ⇑P P 06 19 02.2 +0.3
baz=41,SNR=7.9
L18A Fontenelle, Gr 41.15 329 ⇓P P 06 19 01.6 -0.8
baz=41,SNR=86
M17A Scullys Gap (B 41.15 328 ⇓P P 06 19 02.0 -0.5
baz=41,SNR=50
N16A Rees Ranch, Co 41.15 327 ⇓P P 06 19 01.8 -0.7
baz=41,SNR=32
CIS Catalina Islan 41.17 312 ⇑P P 06 19 03.4 +0.6
baz=41,SNR=21
CTU Camp Tracy 41.19 326 eP P 06 19 03.7 +0.9
comp=Z,152nm,1.1s,mb5.5
K19A Absolon Red Bu 41.23 331 ⇑P P 06 19 02.2 -0.9
baz=41,SNR=112
FMP Fort Macarthur 41.24 313 ⇑P P 06 19 03.1 -0.3
baz=41
I21A Big Trails, Te 41.26 333 ⇑P P 06 19 02.1 -1.2
baz=41,SNR=54
J20A Shoshoni 41.27 332 ⇓P P 06 19 02.6 -0.7
baz=41,SNR=57
O15A The Old Anders 41.31 325 ⇑P P 06 19 03.3 -0.5
baz=41,SNR=34
AGMN Agassiz Nation 41.32 347 eP P 06 19 01.4 -2.3
comp=Z,330nm,1.1s,mb5.9
AGMN LR LR
comp=Z,12µm,20.0s,MS5.8
MWC Mount Wilson 41.33 314 eP P 06 19 05.9 +1.8
comp=Z,963nm,1.7s,mb6.2
MWC Mount Wilson 41.33 314 eP P 06 19 05.9 +1.9
MWC pmax pmax
comp=Z,963nm,1.7s,mb6.2
NOQ North Oquirrh 41.37 326 eP P 06 19 04.8 +0.6
comp=Z,416nm,1.4s,mb5.9
NOQ epP pP 06 19 17.0 +0.5
PASC Pasadena Art C 41.39 314 eP P 06 19 06.3 +1.7
PASC epP pP 06 19 17.8 +1.0
PASC esP sP 06 19 22.6 +0.6
DUG Dugway 41.45 325 ⇑P P 06 19 04.7 -0.2
baz=42,SNR=63
DUG Dugway 41.45 325 PFAKE 06 19 20.0 +15
DUG LR LR
comp=Z,16µm,20.0s,MS5.9
H22A Clearmont 41.47 335 ⇓P P 06 19 04.1 -0.9
baz=42,SNR=10
BW06 Boulder Array 41.53 330 ⇑P P 06 19 04.5 -1.1
baz=42,SNR=77
BW06 Boulder Array 41.53 330 eP P 06 19 04.8 -0.8
comp=Z,128nm,1.3s,mb5.4
BW06 LR LR
comp=Z,13µm,19.0s,MS5.8
PDAR Pinedale Array 41.53 330 P P 06 19 04.7 -0.9
comp=Z,37nm,1.0s,mb5.0,baz=140,slow=9.5,SNR=102
PDAR PcP PcP 06 21 03.9 +1.5
comp=Z,17nm,1.1s,baz=109,slow=5.0,SNR=4.3
PDAR pPcP 06 21 16.2
comp=Z,41nm,1.0s,baz=124,slow=4.5,SNR=5.3
PDAR LR LR 06 40 49.3
comp=Z,11µm,18.4s,MS5.8,baz=136,slow=42
PDAR Pinedale Array 41.53 330 P P 06 19 04.7 -0.9
PDAR PcP PcP 06 21 03.9 +1.5
PDAR pPcP 06 21 16.2
PDAR LR LR 06 40 49.4
DECC Green Verdugo 41.53 314 ⇓P P 06 19 05.6 -0.1
baz=42,SNR=6.7
PD02 Pinedale Array 41.54 330 eP P 06 19 04.7 -0.9
PD01 Pinedale Array 41.55 330 eP P 06 19 05.1 -0.7
M16A Huntsville 41.55 327 ⇓P P 06 19 04.9 -0.9
baz=42
EDW2 Edwards Air Fo 41.61 315 ⇓P P 06 19 07.0 +0.7
baz=42,SNR=133
J19A Crowheart 41.66 331 ⇑P P 06 19 05.2 -1.4
baz=42,SNR=38
K18A Toltan Ranch, 41.67 330 ⇓P P 06 19 06.5 -0.2
baz=42,SNR=146
FURC Furnace Creek, 41.69 317 ⇓P P 06 19 07.8 +0.9
baz=42,SNR=134
L17A Cokeville 41.71 328 ⇓P P 06 19 05.8 -1.2
baz=42,SNR=63
LRMC Laurel Mountai 41.72 316 ⇓P P 06 19 08.2 +1.0
baz=42,SNR=255
HWUT Hardware Ranch 41.72 327 eP P 06 19 06.5 -0.7
comp=Z,249nm,1.1s,mb5.8
HWUT LR LR
comp=Z,13µm,19.0s,MS5.8
I20A Worland 41.75 332 ⇓P P 06 19 06.1 -1.2
baz=42,SNR=91
N15A Stansbury Isla 41.75 326 ⇑P P 06 19 07.0 -0.5
baz=42,SNR=28
H21A Big Horn, Sher 41.79 334 ⇑P P 06 19 06.1 -1.6
baz=42,SNR=9.0
MDND Maddock 41.86 343 ⇑P P 06 19 06.5 -1.7
baz=42,SNR=31
MPMC Manual Prospec 41.89 316 ⇑P P 06 19 09.3 +0.7
baz=42,SNR=136
L16A Fish Haven 41.94 328 ⇑P P 06 19 07.7 -1.3
baz=42,SNR=56
R11A Troy Canyon, C 41.95 321 ⇑P P 06 19 10.1 +1.1
baz=42,SNR=54
BLG Laguna Peak 41.99 313 ⇑P P 06 19 10.1 +0.6
baz=42
SPUT South Promonto 42.00 326 eP P 06 19 09.4 0.0
comp=Z,307nm,1.3s,mb5.8
OSI Osito Adit 42.00 314 ⇑P P 06 19 10.1 +0.6
baz=42,SNR=9.0
OSI Osito Adit 42.00 314 eP P 06 19 11.1 +1.5
comp=Z,356nm,1.1s,mb5.9
OSI epP pP 06 19 22.6 +0.8
BGU Big Grassy Mou 42.06 325 eP P 06 19 10.3 +0.3
comp=Z,152nm,1.1s,mb5.5
DAC Darwin (Calif) 42.08 317 PFAKE 06 19 20.0 +10
DAC LR LR
comp=Z,18µm,22.0s,MS5.9
J18A Kendall Valley 42.09 330 ⇑P P 06 19 09.0 -1.1
baz=42,SNR=249
M15A Larsen Ranch, 42.10 326 ⇑P P 06 19 09.8 -0.4
baz=42,SNR=129
H20A Greybull 42.10 333 ⇓P P 06 19 08.9 -1.3
baz=42,SNR=46
CFAA Coronel Fontan 42.11 161 P P 06 19 09.9 -0.5
comp=Z,2.5nm,0.7s,baz=338,slow=6.7,SNR=44
CFAA Coronel Fontan 42.11 161 P P 06 19 09.9 -0.5
K17A Gardner Place, 42.20 329 ⇑P P 06 19 10.1 -1.0
baz=42,SNR=36
I19A Meeteetse 42.21 332 ⇓P P 06 19 10.6 -0.5
baz=42,SNR=48
AHID Auburn Hatcher 42.30 329 eP P 06 19 11.4 -0.5
comp=Z,80nm,1.0s,mb5.3
AHID LR LR
comp=Z,10µm,20.0s,MS5.7
GRAC Grapevine Rang 42.32 318 ⇑P P 06 19 13.3 +1.2
baz=42,SNR=58
ARVC Arvin 42.33 314 ⇓P P 06 19 13.2 +1.0
baz=42,SNR=82
G21A Lodge Grass 42.34 334 ⇓P P 06 19 10.6 -1.5
baz=42,SNR=27
I18A Diamond G Ranc 42.35 331 ⇓P P 06 19 11.1 -1.2
baz=42,SNR=37
BSC Santa Cruz Isl 42.35 312 ⇑P P 06 19 12.7 +0.3
baz=42
ISA Isabella 42.36 315 ⇑P P 06 19 13.6 +1.1
baz=42,SNR=124
ISA Isabella 42.36 315 eP P 06 19 13.8 +1.4
comp=Z,579nm,1.5s,mb6.0
ISA Isabella 42.36 315 eP P 06 19 13.8 +1.4
ISA pmax pmax
comp=Z,579nm,1.5s,mb6.0
L15A Malad City 42.44 327 ⇓P P 06 19 11.8 -1.2
baz=42,SNR=118
CWC Cottonwood Cre 42.49 317 ⇑P P 06 19 14.6 +1.1
baz=43,SNR=67
IHA Instituto Hidr 42.50 166⇑ iP P 06 19 13.1 -0.4
IHA Instituto Hidr 42.50 166⇑ iP P 06 19 13.1 -0.4
HVU Hansel Valley 42.50 327 eP P 06 19 13.2 -0.3
comp=Z,93nm,1.1s,mb5.3
HVU Hansel Valley 42.50 327 eP P 06 19 13.2 -0.3
HVU pmax pmax
comp=Z,93nm,1.1s,mb5.3
J17A Brown Place, J 42.54 330 ⇑P P 06 19 13.0 -0.8
baz=43,SNR=171
K16A Soda Springs 42.60 329 ⇓P P 06 19 13.9 -0.4
baz=43,SNR=34
E23A Ismay 42.60 337 ⇓P P 06 19 12.7 -1.6
baz=43,SNR=41
REDW Red Top Meadow 42.61 330 eP P 06 19 14.1 -0.2
comp=Z,328nm,1.3s,mb5.9
SBC Santa Barbara 42.63 313 ⇑P P 06 19 15.4 +0.8
baz=43
LOHW Long Hollow 42.67 330 eP P 06 19 14.3 -0.5
comp=Z,146nm,1.3s,mb5.5
H19A Powell 42.69 332 ⇑P P 06 19 13.7 -1.4
baz=43,SNR=22
TPAW Teton Pass 42.75 330 eP P 06 19 15.2 -0.3
comp=Z,113nm,0.9s,mb5.6
D24A Glendive 42.76 338 ⇑P P 06 19 14.3 -1.2
baz=43,SNR=79
G20A Bridger 42.77 334 ⇓P P 06 19 14.2 -1.5
baz=43,SNR=112
F21A Absaloka Mine, 42.78 335 ⇓P P 06 19 14.2 -1.5
baz=43,SNR=10.0
E22A Miles City 42.81 337 ⇓P P 06 19 14.5 -1.4
baz=43,SNR=120
TPH Tonopah 42.83 319 PFAKE 06 19 30.0 +14
TPH LR LR
comp=Z,19µm,20.0s,MS6.0
RRI2 Red Ridge 42.83 329 eP P 06 19 15.8 -0.4
comp=Z,202nm,1.4s,mb5.7
MOOW Moose Ponds 42.84 330 eP P 06 19 15.6 -0.7
comp=Z,100nm,1.1s,mb5.5
I17A Pilgrim Ck. 42.88 330 ⇓P P 06 19 16.0 -0.6
baz=43,SNR=124
PKM Peak Mountain 42.92 314 ⇑P P 06 19 17.5 +0.5
baz=43,SNR=47
L14A Malta 42.92 326 ⇓P P 06 19 15.6 -1.3
baz=43,SNR=68
J16A Bone 42.93 329 ⇑P P 06 19 15.7 -1.2
baz=43,SNR=112
DCID1 Drake Creek 42.95 330 eP P 06 19 17.0 -0.1
comp=Z,157nm,1.2s,mb5.6
K15A Arbon 42.99 328 ⇑P P 06 19 16.4 -1.0
baz=43,SNR=86
H18A Shoshone NF, C 43.01 332 ⇓P P 06 19 16.2 -1.4
baz=43,SNR=46
IMW Indian Meadow 43.04 330 eP P 06 19 17.5 -0.4
comp=Z,68nm,1.0s,mb5.3
FLWY Flagg Ranch 43.06 331 eP P 06 19 17.9 -0.1
comp=Z,209nm,1.2s,mb5.7
LAO LASA Array 43.12 337 ⇑P P 06 19 17.2 -1.2
baz=43,SNR=30
LAO LASA Array 43.12 337 eP P 06 19 17.3 -1.1
comp=Z,238nm,1.2s,mb5.8
LAO LR LR
comp=Z,10µm,21.0s,MS5.7
D23A Lindsay 43.13 338 ⇓P P 06 19 17.5 -1.0
baz=43
C24A Savage 43.14 339 ⇓P P 06 19 17.4 -1.2
baz=43,SNR=64
ULM Lac du Bonnet 43.16 348 P P 06 19 16.0 -2.7
comp=Z,97nm,0.9s,mb5.5,baz=165,slow=7.5,SNR=42
ULM LR LR 06 38 53.6
comp=Z,9µm,20.3s,MS5.7,baz=165,slow=38
ULM Lac du Bonnet 43.16 348 eP P 06 19 16.0 -2.7
comp=Z,325nm,1.1s,mb6.0
ULM LR LR
comp=Z,12µm,20.0s,MS5.8
ULM Lac du Bonnet 43.16 348 eP P 06 19 16.0 -2.7
ULM pmax pmax
comp=Z,325nm,1.1s
ULM MLR MLR
comp=Z,12µm,20.0s
RLMT Red Lodge 43.17 333 ⇓P P 06 19 17.7 -1.1
baz=43,SNR=107
RLMT Red Lodge 43.17 333 eP P 06 19 18.2 -0.7
RLMT LR LR
comp=Z,13µm,21.0s,MS5.8
F20A Billings 43.20 334 ⇑P P 06 19 17.8 -1.3
baz=43,SNR=130
RCTC Rector, Farmer 43.22 316 ⇓P P 06 19 20.3 +0.9
baz=43,SNR=54
H17A Grant Village 43.23 331 ⇓P P 06 19 19.2 -0.2
baz=43,SNR=35
K14A Jones Ranch, D 43.24 327 ⇓P P 06 19 18.5 -0.9
baz=43,SNR=279
SMMC Simmler 43.25 314 ⇓P P 06 19 21.2 +1.4
baz=43,SNR=44
LKWY Lake 43.27 331 eP P 06 19 20.1 +0.4
comp=Z,134nm,1.4s,mb5.5
LKWY LR LR
comp=Z,24µm,22.0s,MS6.0
LKWY Lake 43.27 331 eP P 06 19 20.1 +0.4
LKWY pmax pmax
comp=Z,134nm,1.4s,mb5.5
LKWY MLR MLR
comp=Z,24µm,22.0s,MS6.0
I16A Newdale 43.30 330 ⇑P P 06 19 19.2 -0.7
baz=43,SNR=55
MTUM Tungsten Hills 43.31 317 eP P 06 19 21.4 +1.2
E21A Keefer Ranch, 43.34 336 ⇓P P 06 19 19.1 -1.2
baz=44,SNR=78
YFT Old Faithful 43.40 331 eP P 06 19 22.0 +1.3
J15A Blackfoot 43.44 329 ⇓P P 06 19 20.4 -0.6
baz=44,SNR=130
G18A Lazy EL Ranch, 43.45 333 ⇓P P 06 19 20.3 -0.9
baz=44,SNR=48
D22A Cohagen 43.48 337 ⇑P P 06 19 20.7 -0.6
baz=44,SNR=101
YNR Norris Junctio 43.52 331 eP P 06 19 21.6 -0.1
comp=Z,198nm,1.6s,mb5.6
RPN Rapa Nui 43.57 215 P P 06 19 22.7 +0.3
comp=Z,389nm,1.2s,mb6.0,baz=330,slow=6.1,SNR=16
RPN LR LR 06 32 56.4
comp=Z,20µm,20.5s,MS6.0,baz=42,slow=30
RPN Rapa Nui 43.57 215 eP P 06 19 22.4 +0.1
comp=Z,1µm,1.6s,mb6.5
RPN LR LR
comp=Z,23µm,21.0s,MS6.1
RPN Rapa Nui 43.57 215 eP P 06 19 22.4 +0.1
RPN pmax pmax
comp=Z,1µm,1.6s,mb6.5
RPN MLR MLR
comp=Z,23µm,21.0s,MS6.1
RPN Rapa Nui 43.57 215 P P 06 19 23.0 +0.7
comp=Z,3µm,1.2s,mb6.8,SNR=8.4
F19A Roth Farm, Mol 43.59 334 ⇑P P 06 19 21.0 -1.2
baz=44,SNR=137
YMR Madison River 43.62 331 eP P 06 19 22.6 +0.1
comp=Z,134nm,1.1s,mb5.6
MLAC Mammoth Lakes 43.65 318 ⇑P P 06 19 24.3 +1.4
baz=44,SNR=38
C23A Lambert 43.65 338 ⇑P P 06 19 21.7 -1.0
baz=44,SNR=81
NVAR Mina Array Bea 43.73 319 P P 06 19 24.9 +1.3
comp=Z,64nm,1.0s,mb5.3,baz=130,slow=6.7,SNR=166
NVAR PcP PcP 06 21 11.0 +1.1
comp=Z,8.0nm,0.7s,baz=129,slow=5.3,SNR=2.9
NVAR LR LR 06 41 28.7
comp=Z,18µm,19.5s,MS6.0,baz=226,slow=41
NVAR Mina Array Bea 43.73 319 P P 06 19 24.9 +1.3
NVAR PcP PcP 06 21 11.0 +1.1
NVAR LR LR 06 41 28.7
D21A La Casta Ranch 43.73 336 ⇓P P 06 19 22.3 -1.0
baz=44,SNR=60
E20A Meyer Farm, Mu 43.75 335 ⇓P P 06 19 22.6 -0.9
baz=44,SNR=168
H16A Russell Place, 43.78 331 ⇑P P 06 19 23.5 -0.3
baz=44,SNR=62
C22A Vida 43.86 338 ⇓P P 06 19 23.4 -1.0
baz=44,SNR=113
DGMT Dagmar 43.86 340 ⇓P P 06 19 23.5 -0.9
baz=44,SNR=37
DGMT Dagmar 43.86 340 eP P 06 19 23.6 -0.8
comp=Z,365nm,1.1s,mb6.0
DGMT epP pP 06 19 38.0 +1.3
DGMT LR LR
comp=Z,17µm,20.0s,MS6.0
GCMT Greycliff 43.86 333 eP P 06 19 23.9 -0.6
comp=Z,216nm,2.0s,mb5.5
I15A Monteview 43.89 329 ⇓P P 06 19 24.7 0.0
baz=44,SNR=16
J14A Carey 43.95 328 ⇓P P 06 19 24.8 -0.4
baz=44
QLMT Earthquake Lak 43.97 331 eP P 06 19 26.0 +0.7
F18A Big Timber 43.97 333 ⇓P P 06 19 24.1 -1.2
baz=44,SNR=187
E19A Rath Farm, Rou 43.99 334 ⇓P P 06 19 24.3 -1.2
baz=44,SNR=72
G17A Pierce Place, 44.00 332 ⇑P P 06 19 26.1 +0.6
baz=44,SNR=77
A24A Westby 44.19 340 ⇑P P 06 19 25.8 -1.2
baz=44,SNR=28
BMN Battle Mountai 44.21 322 eP P 06 19 27.9 +0.6
comp=Z,149nm,0.8s,mb5.8
BMN LR LR
comp=Z,10µm,19.0s,MS5.7
BMN Battle Mountai 44.21 322 eP P 06 19 27.9 +0.6
BMN pmax pmax
comp=Z,149nm,0.8s,mb5.8
BMN MLR MLR
comp=Z,10µm,19.0s,MS5.7

D20A **Manuel Ranch,** 44.22 335 ⇑P P 06 19 26.3 -0.9
baz=44,SNR=57
I14A **Mackay** 44.34 328 ⇑P P 06 19 28.0 -0.3
baz=44,SNR=96
J13A **Cove Ranch, Pi** 44.36 327 ⇑P P 06 19 27.5 -0.9
baz=44,SNR=116
B22A **Reddig Ranch S** 44.36 338 ⇓P P 06 19 27.4 -1.0
baz=44,SNR=61
C21A **Desert Coulee** 44.39 337 ⇓P P 06 19 28.2 -0.4
baz=44,SNR=25
F17A **Fitzpatrick Pl** 44.40 332 ⇑P P 06 19 28.1 -0.6
baz=44,SNR=80
H15A **Lima** 44.41 330 ⇑P P 06 19 29.1 +0.3
baz=44,SNR=172
G16A **Moss Hill, Enn** 44.44 331 ⇓P P 06 19 29.1 0.0
baz=44,SNR=191
A23A **Redstone** 44.52 339 ⇓P P 06 19 28.9 -0.7
baz=45,SNR=16
E18A **Harlowton** 44.57 333 ⇓P P 06 19 29.3 -0.7
baz=45,SNR=38
D19A **Cripps Ranch,** 44.59 335 ⇑P P 06 19 29.6 -0.6
baz=45,SNR=127
HLID **Hailey** 44.59 327 ⇑P P 06 19 29.1 -1.2
baz=45,SNR=108
HLID **Hailey** 44.59 327 *e*P P 06 19 30.1 -0.2
comp=Z,98nm,1.1s,mb5.5
HLID LR LR
comp=Z,14μm,22.0s,MS5.9
BOZ **Bozeman (W)** 44.66 331 ⇓P P 06 19 30.1 -0.7
baz=45,SNR=146
BOZ **Bozeman (W)** 44.66 331 *e*P P 06 19 30.4 -0.5
comp=Z,82nm,1.0s,mb5.5
BOZ LR LR
comp=Z,10μm,22.0s,MS5.7
BOZ **Bozeman (W)** 44.66 331 *e*P P 06 19 30.4 -0.4
BOZ pmax pmax
comp=Z,82nm,1.0s,mb5.5
BOZ MLR MLR
comp=Z,10μm,22.0s,MS5.7
MCMT **McKenzie Canyo** 44.66 330 *e*P P 06 19 31.1 +0.3
comp=Z,68nm,1.0s,mb5.4
I13A **Wildhorse Cree** 44.68 328 ⇓P P 06 19 30.6 -0.4
baz=45,SNR=171
G15A **Dillon** 44.73 330 ⇑P P 06 19 31.1 -0.2
baz=45,SNR=160
F16A **Kennard Place,** 44.76 331 ⇓P P 06 19 30.8 -0.8
baz=45,SNR=110
H14A **Leadore** 44.77 329 ⇑P P 06 19 31.4 -0.4
baz=45,SNR=114
B21A **Ellsworth Farm** 44.85 337 ⇓P P 06 19 32.3 0.0
baz=45,SNR=28
CMB **Columbia Colle** 44.90 317 *e*P P 06 19 33.3 +0.4
comp=Z,162nm,1.2s,mb5.7
CMB **Columbia Colle** 44.90 317 *e*P P 06 19 33.3 +0.4
CMB pmax pmax
comp=Z,162nm,1.2s,mb5.7
E17A **Martinsdale** 44.91 333 ⇑P P 06 19 31.8 -1.0
baz=45,SNR=76
A22A **Carney Farms,** 44.91 339 ⇓P P 06 19 32.4 -0.3
baz=45,SNR=78
DLMT **Dillon** 44.92 330 *e*P P 06 19 32.4 -0.5
comp=Z,194nm,1.1s,mb5.8
SAO **San Andreas Ge** 44.99 315 *e*P P 06 19 34.3 +0.7
SAO *e*pP pP 06 19 47.7 +1.8
SAO *e*sP sP 06 19 51.3 +0.2
SAO **San Andreas Ge** 44.99 315 *e*P P 06 19 34.3 +0.7
SAO *e**PP pP 06 19 47.7 +1.8
D18A **Linhart Farms,** 45.00 334 ⇑P P 06 19 33.2 -0.4
baz=45,SNR=98
C19A **Slack Wire Ran** 45.11 335 ⇑P P 06 19 33.6 -0.7
baz=45,SNR=103
I12A **Atlanta** 45.14 327 ⇓P P 06 19 34.1 -0.6
baz=45,SNR=129
WCN **Washoe City** 45.16 319 ⇓P P 06 19 34.5 -0.4
baz=45,SNR=52
WCN **Washoe City** 45.16 319 *e*P P 06 19 35.9 +1.0
comp=Z,242nm,1.4s,mb5.8
WCN *e*pP pP 06 19 48.9 +1.7
WCN **Washoe City** 45.16 319 *e*P P 06 19 35.9 +1.0
WCN *e**PP pP 06 19 48.9 +1.7
WCN pmax pmax
comp=Z,242nm,1.4s,mb5.8
LRM **Limekiln Ridge** 45.18 331 *e*P P 06 19 35.0 0.0
H13A **Challis** 45.20 328 ⇑P P 06 19 35.3 +0.2
baz=45,SNR=79
F15A **Butte** 45.22 331 ⇑P P 06 19 34.9 -0.3
baz=45,SNR=89
B20A **Solberg Farm,** 45.25 337 ⇑P P 06 19 34.9 -0.5
baz=45,SNR=106
G14A **Jackson** 45.26 330 ⇑P P 06 19 34.7 -0.9
baz=45,SNR=19
MFID **Camas Ranch** 45.27 326 ⇓P P 06 19 35.2 -0.5
baz=45,SNR=75
MFID **Camas Ranch** 45.27 326 *e*P P 06 19 35.8 +0.1
comp=Z,97nm,1.0s,mb5.6
A21A **Bergtoll Ranch** 45.28 338 ⇓P P 06 19 35.3 -0.4
baz=45,SNR=56
E16A **East Helena** 45.34 332 ⇓P P 06 19 35.5 -0.7
baz=45,SNR=113
D17A **Six Diamond Ra** 45.36 333 ⇑P P 06 19 35.5 -0.9
baz=46,SNR=128
H12A **Diamond D Ranc** 45.50 328 ⇑P P 06 19 36.8 -0.7
baz=46,SNR=133
HRY **Holter Researc** 45.54 332 *e*P P 06 19 37.3 -0.5
G13A **Cobalt** 45.55 329 ⇑P P 06 19 36.9 -1.0
baz=46,SNR=58
A20A **Cobblestone Ra** 45.57 337 ⇑P P 06 19 37.2 -0.8
baz=46,SNR=44
F14A **Wisdom** 45.62 330 ⇑P P 06 19 37.7 -0.7
baz=46,SNR=41
EGMT **Eagleton** 45.63 335 ⇓P P 06 19 37.6 -0.8
baz=46,SNR=46
EGMT **Eagleton** 45.63 335 *e*P P 06 19 37.9 -0.5
comp=Z,358nm,1.5s,mb6.1
EGMT LR LR
comp=Z,7μm,20.0s,MS5.6
B19A **Brinkman Farms** 45.63 336 ⇑P P 06 19 37.7 -0.8
baz=46,SNR=106
D16A **Dana Ranch, Ca** 45.65 333 ⇓P P 06 19 38.1 -0.5
baz=46,SNR=89
E15A **Deer Lodge** 45.71 331 ⇑P P 06 19 38.3 -0.8
baz=46
C17A **Wharram Farm,** 45.76 334 ⇑P P 06 19 38.5 -1.0
baz=46,SNR=175
CCHI **Chillan** 45.83 168 ⇓*i*P P 06 19 39.9 -0.2
CCHI **Chillan** 45.83 168 ⇓*i*P P 06 19 39.9 -0.2
CCHI AMb AMB 06 20 00.1
comp=Z,432nm,1.6s,mb6.1
B18A **Beardsley Farm** 45.93 335 ⇓P P 06 19 39.6 -1.2
baz=46,SNR=92
A19A **Klindworth Far** 45.93 336 ⇓P P 06 19 39.8 -1.0
baz=46,SNR=36
SAC **San Andreas** 46.06 315 *e*P P 06 19 43.4 +1.4
SAC *e*pP pP 06 19 55.5 +1.1
SAC **San Andreas** 46.06 315 *e*P P 06 19 43.4 +1.3
SAC *e**PP pP 06 19 55.6 +1.2
F13A **Darby** 46.08 330 ⇑P P 06 19 41.0 -1.1
baz=46,SNR=122
D15A **Lincoln** 46.11 332 ⇓P P 06 19 41.4 -0.8
baz=46,SNR=70
E14A **Clinton** 46.11 331 ⇓P P 06 19 41.1 -1.2
baz=46,SNR=102
G12A **Big Creek, Yel** 46.14 328 ⇑P P 06 19 41.8 -0.7
baz=46,SNR=104
WVOR **Wild Horse Val** 46.26 323 *e*P P 06 19 43.4 -0.1
comp=Z,416nm,1.2s,mb6.2
WVOR LR LR
comp=Z,9μm,21.0s,MS5.7
WVOR **Wild Horse Val** 46.26 323 *e*P P 06 19 43.4 -0.1
WVOR pmax pmax
comp=Z,416nm,1.2s,mb6.2
WVOR MLR MLR
comp=Z,9μm,21.0s,MS5.7
B17A **L&G Farms, Che** 46.28 334 ⇓P P 06 19 42.3 -1.2
baz=46,SNR=72
OHCM **Honcut** 46.31 318 *e*P P 06 19 44.9 +1.0
C16A **Fuhringer Ranc** 46.32 333 ⇓P P 06 19 43.0 -0.9
baz=46,SNR=30
CHMT **Chamberlain Mo** 46.36 331 *e*P P 06 19 43.5 -0.7
A18A **Metzger Ranch,** 46.37 336 ⇑P P 06 19 43.2 -1.1
baz=46,SNR=86
E13A **Victor** 46.47 330 ⇑P P 06 19 44.0 -1.1
baz=47,SNR=166
F12A **Elk City** 46.53 329 ⇓P P 06 19 44.8 -0.8
baz=47,SNR=190
D14A **Greenough** 46.60 331 ⇑P P 06 19 44.9 -1.2
baz=47,SNR=39

MSO **Missoula** 46.62 331 ⇓P P 06 19 45.7 -0.6
baz=47,SNR=69
MSO **Missoula** 46.62 331 *e*P P 06 19 45.4 -0.9
comp=Z,72nm,1.1s,mb5.5
MSO LR LR
comp=Z,9μm,21.0s,MS5.7
MCCM **Marconi Confer** 46.66 316 *e*P P 06 19 47.8 +1.1
comp=Z,590nm,1.3s,mb6.4
MCCM *e*pP pP 06 19 59.7 +0.6
C15A **Salmond Ranch,** 46.69 333 ⇑P P 06 19 46.5 -0.3
baz=47,SNR=125
SLMT **Seeley Lake** 46.71 332 *e*P P 06 19 46.0 -1.0
comp=Z,44nm,0.9s,mb5.4
J08A **Circle Bar Ran** 46.72 324 ⇓P P 06 19 46.6 -0.6
baz=47,SNR=44
A17A **Triple J Farms** 46.74 335 ⇓P P 06 19 46.3 -0.8
baz=47,SNR=38
B16A **M & M Farms, S** 46.76 334 ⇓P P 06 19 46.4 -1.0
baz=47,SNR=6.6
MOD **Modoc** 46.95 322 *e*P P 06 19 48.6 -0.4
SPB **Sao Paulo** 46.99 133 PFAKE 06 20 00.0 +10
SPB LR LR
comp=Z,16μm,19.0s,MS6.0
BMO **Blue Mountains** 47.01 327 *e*P P 06 19 47.9 -1.4
comp=Z,67nm,1.2s,mb5.5
BMO LR LR
comp=Z,12μm,21.0s,MS5.8
D13A **Huson** 47.06 331 ⇑P P 06 19 49.0 -0.7
baz=47,SNR=41
B15A **Bradely Ranch,** 47.06 333 ⇓P P 06 19 49.2 -0.5
baz=47,SNR=120
E12A **Beaver Dam Sad** 47.14 329 ⇑P P 06 19 49.7 -0.7
baz=47
SWMT **Swartz Lake** 47.14 331 *e*P P 06 19 49.4 -0.9
HOPS **Hopland** 47.20 317 *e*P P 06 19 52.1 +1.1
comp=Z,291nm,1.3s,mb6.0
C14A **Swan Lake** 47.21 332 ⇓P P 06 19 50.0 -0.8
baz=47
YBMT **Yellow Bay** 47.40 332 *e*P P 06 19 51.9 -0.5
B14A **Marquette Ranc** 47.42 333 ⇓P P 06 19 52.3 -0.2
baz=48,SNR=179
JTMT **Jette** 47.44 332 *e*P P 06 19 52.1 -0.5
D12A **Red Ives Fores** 47.47 330 ⇑P P 06 19 52.1 -0.8
baz=48
C13A **Hot Springs** 47.53 331 ⇑P P 06 19 52.7 -0.7
baz=48,SNR=46
LASM **Arnica Sink** 47.58 321 P P 06 19 54.2 +0.3
A15A **Johnson Ranch,** 47.64 334 ⇓P P 06 19 53.4 -0.8
baz=48,SNR=132
WDC **Whiskeytown Da** 47.65 319 *e*P P 06 19 52.5 -1.9
comp=Z,42nm,1.0s,mb5.4
WDC **Whiskeytown Da** 47.65 319 *e*P P 06 19 52.5 -1.9
WDC pmax pmax
comp=Z,42nm,1.0s,mb5.4
BLMT **Blacktail Moun** 47.67 332 *e*P P 06 19 54.2 -0.2
F10A **Beach Ranch, E** 47.70 328 ⇑P P 06 19 54.3 -0.3
baz=48,SNR=29
BSMT **Bassoo Peak** 47.76 331 *e*P P 06 19 54.8 -0.3
I07A **Izee** 47.76 325 ⇑P P 06 19 55.2 0.0
baz=48,SNR=26
K05A **Summer Lake** 47.78 322 ⇑P P 06 19 54.7 -0.7
baz=48
KIPM **Iron Peak** 47.88 318 *e*P P 06 19 57.7 +1.5
comp=Z,828nm,1.3s,mb6.6
KIPM *e*pP pP 06 20 09.6 +1.0
KIPM *e*sP sP 06 20 14.8 +0.9
KCPM **Cahto Peak** 47.89 317 *e*P P 06 19 58.0 +1.7
comp=Z,412nm,1.4s,mb6.3
KCPM *e*pP pP 06 20 09.5 +0.8
A14A **Double T Ranch** 47.94 333 ⇑P P 06 19 55.8 -0.7
baz=48,SNR=68
B13A **Whitefish** 47.98 332 ⇑P P 06 19 56.5 -0.3
baz=48,SNR=53
C12B **Naegeli Ranch,** 47.99 331 ⇓P P 06 19 56.5 -0.4
baz=48,SNR=110
SCHQ **Schefferville** 48.12 12 P P 06 19 56.9 -1.0
comp=Z,28nm,0.7s,mb5.4,baz=209,slow=6.1,SNR=20
SCHQ LR LR 06 40 39.5
comp=Z,14μm,21.7s,MS5.9,baz=206,slow=36
SCHQ **Schefferville** 48.12 12 *e*P P 06 19 56.6 -1.2
comp=Z,99nm,1.0s,mb5.8
SCHQ LR LR
comp=Z,20μm,22.0s,MS6.0
G08A **Pilot Rock** 48.19 326 ⇑P P 06 19 58.4 -0.2
baz=48,SNR=41
LNOR **Lincton Mounta** 48.19 327 *e*P P 06 19 58.3 -0.3
comp=Z,80nm,1.2s,mb5.6
LNOR **Lincton Mounta** 48.19 327 *e*P P 06 19 58.3 -0.2
LNOR pmax pmax
comp=Z,80nm,1.2s,mb5.6
WALA **Waterton Lakes** 48.22 333 *e*P P 06 19 58.0 -0.6
comp=Z,2.6nm,1.0s,mb4.2
A13A **Flathead Natio** 48.35 333 ⇓P P 06 19 59.5 -0.2
baz=48
YBH **Yreka Blue Hor** 48.36 320 *e*P P 06 19 58.2 -1.7
YBH **Yreka Blue Hor** 48.36 320 *e*P P 06 19 58.3 -1.6
C11A **Tepee Creek (N** 48.46 330 ⇑P P 06 19 59.9 -0.6
baz=49,SNR=56
E09A **Wood Farm, Sta** 48.53 328 ⇓P P 06 20 00.2 -1.0
baz=49,SNR=139
B12A **Libby** 48.57 331 ⇓P P 06 20 01.4 0.0
baz=49,SNR=36
KHMM **Horse Mountain** 48.58 319 *e*P P 06 20 02.5 +0.9
comp=Z,353nm,1.1s,mb6.3
VIPM **Ingram Point** 48.65 324 P P 06 20 01.9 -0.2
VIPM **Ingram Point** 48.65 324 P P 06 20 01.9 -0.2
FFC **Flin Flon** 48.72 345 *e*P P 06 20 01.1 -1.4
FFC LR LR
comp=Z,16μm,19.0s,MS6.0
FFC **Flin Flon** 48.72 345 *e*P P 06 20 01.1 -1.3
FFC MLR MLR
comp=Z,16μm,19.0s,MS6.0
FFC **Flin Flon** 48.72 345 P P 06 20 01.1 -1.3
comp=Z,526nm,1.2s,mb6.4,SNR=12
A12A **Yaak River Ran** 48.93 332 ⇓P P 06 20 03.9 -0.2
baz=49,SNR=13
RCBR **Riachuelo** 48.93 105 P P 06 20 07.2 +2.4
comp=Z,11nm,1.0s,mb4.8,baz=32,slow=20,SNR=4.8
RCBR **Riachuelo** 48.93 105 *e*P P 06 20 04.8 0.0
comp=Z,54nm,1.2s,mb5.5
RCBR LR LR
comp=Z,19μm,20.0s,MS6.1
HUMO **Hull Mountain** 48.98 321 *e*P P 06 20 03.2 -1.5
comp=Z,42nm,1.3s,mb5.3
E08A **Dider Farm, El** 49.00 327 ⇓P P 06 20 04.1 -0.6
baz=49,SNR=41
KRMB **Red Mountain** 49.02 319 *e*P P 06 20 05.3 +0.3
comp=Z,413nm,1.4s,mb6.3
LPA **La Plata** 49.05 153 *ce*P P 06 20 12.0 +6.7
LPA PP PP 06 22 06.0 +6.7
LPA S S 06 27 09.0 +2.0
LPA SS SS 06 30 55.0 +16
LPA
comp=Z,15μm,19.0s
G06A **Carlson Farm,** 49.09 325 ⇑P P 06 20 05.3 -0.2
baz=49,SNR=13
F07A **Phinny Hill Vi** 49.10 326 ⇑P P 06 20 04.8 -0.7
baz=49,SNR=25
HAWA **Hanford** 49.19 327 *e*P P 06 20 05.2 -1.0
comp=Z,150nm,1.3s,mb5.9
HAWA LR LR
comp=Z,8μm,20.0s,MS5.7
RSW **Rattlesnake Hi** 49.23 327 *e*P P 06 20 05.9 -0.5
OD2 **Odessa Site #2** 49.40 328 P P 06 20 06.7 -1.0
C09A **Chrisman Ranch** 49.44 329 ⇑P P 06 20 07.1 -0.9
baz=50,SNR=17
E07A **Sunnyside** 49.47 327 ⇑P P 06 20 07.6 -0.8
baz=50,SNR=23
KBO **Bosey Butte** 49.58 320 *e*P P 06 20 10.1 +0.8
comp=Z,913nm,1.3s,mb6.7
BROR **Big Rock Looko** 49.59 323 P P 06 20 08.6 -0.7
H04A **Detroit Lake** 49.67 324 ⇑P P 06 20 10.0 +0.1
baz=50,SNR=13
HOOD **Mount Hood Mea** 49.73 325 *e*P P 06 20 10.8 +0.6
comp=Z,589nm,1.4s,mb6.4
KEBM **Edson Butte** 49.99 321 *e*P P 06 20 13.8 +1.5
TRQA **Tornquist** 50.10 158 *e*P P 06 20 11.9 -1.3
TRQA LR LR
comp=Z,11μm,21.0s,MS5.8
WTV **Waterville** 50.24 328 P P 06 20 13.7 -0.5
COR **Corvallis** 50.27 323 *e*P P 06 20 16.2 +1.8
COR **Corvallis** 50.27 323 *e*P P 06 20 16.2 +1.7
ETW **Entiat** 50.38 328 *e*P P 06 20 14.9 -0.3
LON **Longmire** 50.66 326 *e*P P 06 20 16.9 -0.4
LON **Longmire** 50.66 326 *e*P P 06 20 16.9 -0.4
WRW **Wenatchee Ridg** 50.83 328 P P 06 20 18.3 -0.3

HEBO **Mount Hebo** 50.89 323 *e*P P 06 20 19.9 +0.8
D05A **Enumclaw** 51.02 326 ⇓P P 06 20 19.4 -0.6
baz=51,SNR=18
ILCA **Isla Las Cabra** 51.03 170 ⇑*i*P P 06 20 18.8 -1.4
ILCA AMb AMB 06 20 23.1
comp=Z,161nm,1.7s,mb5.7
FCC **Fort Churchill** 51.04 353 *e*P P 06 20 17.9 -2.1
comp=Z,8.9nm,1.3s,mb4.5
FCC **Fort Churchill** 51.04 353 *e*P P 06 20 17.9 -2.1
FCC pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
HUNY **Huinay** 51.36 170 ⇑*i*P P 06 20 21.2 -1.3
HUNY AMb AMB 06 20 25.2
comp=Z,78nm,0.8s,mb5.7
E03A **Lebam** 51.52 325 ⇑P P 06 20 23.7 -0.1
baz=52,SNR=6.4
RPW **Rockport** 51.52 328 *e*P P 06 20 26.0 +2.2
comp=Z,70nm,1.2s,mb5.5
JCW **Jim Creek** 51.59 327 *e*P P 06 20 22.9 -1.4
A05A **Maple Falls** 52.16 328 ⇑P P 06 20 27.5 -1.0
baz=52,SNR=11
NLWA **Neilton Lookou** 52.17 326 *e*P P 06 20 28.8 +0.2
comp=Z,187nm,1.1s,mb5.9
NLWA LR LR
comp=Z,15μm,21.0s,MS6.0
PGC **Sidney** 52.67 327 *e*P P 06 20 31.4 -1.0
comp=Z,12nm,1.5s,mb4.6
COYC **Coyhaique** 54.52 171 ⇓*i*P P 06 20 44.5 -1.3
COYC **Coyhaique** 54.52 171 ⇓*i*P P 06 20 44.5 -1.3
COYC AMb AMB 06 21 01.8
comp=Z,217nm,1.6s,mb5.9
PCED **Cedros** 57.12 49 *e*P P 06 21 08.9 +4.2
comp=Z,179nm,1.2s,mb6.0
BBB **Bella Bella** 57.14 329 P P 06 21 04.8 +0.2
comp=Z,26nm,1.0s,mb5.2,baz=164,slow=6.6,SNR=8.1
BBB **Bella Bella** 57.14 329 P P 06 21 04.8 +0.2
PCAN **Candelaria** 57.24 49 *e*P P 06 21 08.7 +3.2
comp=Z,125nm,0.8s,mb6.0
PICO **Pico** 57.29 49 *e*P P 06 21 06.4 +0.5
ADH **Angra Heroismo** 58.23 50 *e*P P 06 21 15.3 +2.8
comp=Z,77nm,1.2s,mb5.6
YKA **Yellowknife Ar** 58.78 343 P P 06 21 13.8 -2.0
comp=Z,14nm,0.7s,mb5.1,baz=138,slow=7.0,SNR=8.6
YKA PKPPKP 06 51 14.3
comp=Z,1.7nm,0.9s,baz=344,slow=2.8,SNR=5.6
YKA **Yellowknife Ar** 58.78 343 P P 06 21 13.8 -2.0
YKA P'P' 06 51 14.3
YKA **Yellowknife Ar** 58.78 343 P P 06 21 13.9 -2.0
PSET **Sete Cidades** 59.16 51 *e*P P 06 21 14.0 -5.0
comp=Z,103nm,1.3s,mb5.7
PDA **Ponta Delgada** 59.19 51 *e*P P 06 21 20.1 +0.9
comp=Z,210nm,1.3s,mb6.0
PSMA **Santa Maria** 59.42 52 *e*P P 06 21 20.1 -0.7
comp=Z,221nm,1.3s,mb6.0
TAOE **Nuku Hiva Isla** 59.53 255 *e*S S 06 29 28.0 -0.9
comp=Z,7μm,27.1s
TAOE *e*SS SS 06 33 26.1 +1.1
comp=Z,2μm,25.8s
TAOE *e*LQ 06 36 23.6
comp=Z,17μm,31.6s
TAOE *e*LR LR 06 38 52.2
comp=Z,15μm,26.0s,baz=71
RKT **Rikitea** 59.74 237 *e*P P 06 21 23.9 +0.7
comp=Z,206nm,1.4s,mb6.0
RKT *e*S S 06 29 30.8 -0.6
comp=Z,9μm,31.5s
RKT *e*LR LR 06 39 41.5
comp=Z,44μm,26.8s,baz=57
WRAK **Wrangell Islan** 61.50 331 PFAKE 06 21 50.0 +15
WRAK LR LR
comp=Z,5μm,19.0s,MS5.7
DLBC **Dease Lake** 61.54 334 P P 06 21 34.7 -0.2
comp=Z,38nm,1.1s,mb5.5,baz=131,slow=5.3,SNR=24
DLBC **Dease Lake** 61.54 334 *e*P P 06 21 34.6 -0.2
SFJD **Kangerlussuaq** 62.54 14 PFAKE 06 21 50.0 +8.6
SFJD LR LR
comp=Z,18μm,22.0s,MS6.2
SFJD **Kangerlussuaq** 62.54 14 *i*P P 06 21 37.6 -3.8
SFJD pmax pmax
comp=Z,14nm,0.9s,mb5.1
SFJD MLR MLR
comp=Z,12μm,21.0s,MS6.0
SFJD **Kangerlussuaq** 62.54 14 *i*P P 06 21 37.6 -3.8
comp=Z,14nm,1.0s,mb5.0
SFJD
comp=Z,12μm,21.0s
EFI **East Falkland** 63.47 163 *e*P P 06 21 46.6 -1.2
comp=Z,184nm,1.4s,mb6.0
EFI LR LR
comp=Z,10μm,22.0s,MS6.0
EFI **East Falkland** 63.47 163 *e*P P 06 21 46.6 -1.1
EFI pmax pmax
comp=Z,183nm,1.4s,mb6.0
EFI MLR MLR
comp=Z,10μm,22.0s,MS6.0
SKAG **Skagway** 64.42 333 *e*P P 06 21 55.4 +1.5
comp=Z,57nm,1.6s,mb5.3
BBTS **Babate** 65.16 78 P P 06 21 58.9 -0.7
comp=Z,21nm,0.8s,mb5.2,baz=312,slow=3.2,SNR=6.7
BBTS **Babate** 65.16 78 P P 06 21 58.9 -0.7
RES **Resolute Bay** 66.68 357 P P 06 22 05.9 -2.3
comp=Z,22nm,0.7s,mb5.3,baz=190,slow=9.0,SNR=50
RES **Resolute Bay** 66.68 357 *e*P P 06 22 05.9 -2.4
comp=Z,98nm,1.0s,mb5.8
RES **Resolute Bay** 66.68 357 *e*P P 06 22 05.9 -2.4
RES pmax pmax
comp=Z,98nm,1.0s,mb5.8
DAWY **Dawson** 68.32 337 *e*P P 06 22 18.0 -0.8
DAWY *e*pP pP 06 22 30.0 -1.8
PMOR **Pomariorio Ree** 68.45 250 *e*P P 06 22 20.4 -0.1
comp=Z,267nm,1.3s,mb6.1
INK **Inuvik** 68.47 342 P P 06 22 18.9 -0.8
comp=Z,41nm,0.9s,mb5.4,baz=118,slow=7.0,SNR=58
INK **Inuvik** 68.47 342 *e*P P 06 22 18.9 -0.7
comp=Z,196nm,1.1s,mb6.0
INK **Inuvik** 68.47 342 *e*P P 06 22 19.0 -0.7
INK pmax pmax
comp=Z,195nm,1.1s
BMRM **Bremner River** 69.24 333 *e*P P 06 22 24.6 0.0
comp=Z,227nm,1.3s,mb5.9
EGAK **Eagle** 69.32 337 *e*P P 06 22 24.5 -0.6
comp=Z,134nm,1.1s,mb5.8
EGAK LR LR
comp=Z,14μm,22.0s,MS6.2
MEH **Mehetia** 69.39 247 *e*P P 06 22 26.4 +0.1
comp=Z,363nm,1.4s,mb6.1
SUMG **Summit** 69.51 13 *e*P P 06 22 24.1 -2.0
comp=Z,200nm,1.1s,mb6.0
SUMG **Summit** 69.51 13 *e*P P 06 22 24.1 -2.0
SUMG pmax pmax
comp=Z,200nm,1.1s
SUMG **Summit** 69.51 13 *i*P P 06 22 24.1 -2.0
comp=Z,101nm,0.9s,mb5.8
SUMG
comp=Z,12μm,21.0s
MENT **Mentasta** 69.60 335 *e*P P 06 22 26.0 -0.8
DIV **Divide** 69.83 333 *e*P P 06 22 28.4 +0.1
comp=Z,227nm,1.5s,mb5.9
DOT **Dot Lake** 70.02 335 *e*P P 06 22 29.4 +0.1
comp=Z,527nm,1.1s,mb6.4
PAX **Paxson** 70.35 334 *e*P P 06 22 30.9 -0.5
comp=Z,134nm,1.3s,mb5.7
PAX **Paxson** 70.35 334 *e*P P 06 22 30.9 -0.5
PAX pmax pmax
comp=Z,134nm,1.3s,mb5.7
TIAR **Tiarei** 70.48 248 *e*P P 06 22 32.8 -0.2
comp=Z,133nm,1.1s,mb5.8
BORG **Borgarnes** 70.61 24 PFAKE 06 22 50.0 +17
BORG LR LR
comp=Z,12μm,19.0s,MS6.2
PUH **Pauahi** 70.66 288 *e*P P 06 22 34.1 0.0
PPT **Papeete** 70.69 248 *e*S S 06 31 46.1 +0.3
comp=Z,3μm,27.5s
PPT *e*LQ 06 41 05.2
comp=Z,10μm,35.5s
PPT *e*LR LR 06 44 02.2
comp=Z,14μm,26.8s
PAE **Paea** 70.72 248 *e*P P 06 22 34.4 -0.1
comp=Z,42nm,1.4s,mb5.2
SEW **Seward** 71.23 331 *e*P P 06 22 35.8 -1.0
comp=Z,71nm,0.9s,mb5.6
PMR **Palmer** 71.51 333 *e*P P 06 22 39.3 +0.8
comp=Z,61nm,1.8s,mb5.2
PMR **Palmer** 71.51 333 *e*P P 06 22 39.3 +0.8
PMR pmax pmax
comp=Z,61nm,1.8s,mb5.2
ILAR **Eielson Array** 71.58 336 P P 06 22 37.9 -0.9

comp=Z,16nm,0.7s,mb5.1,baz=113,slow=4.2,SNR=150
ILAR PKPPKP 06 50 48.7
comp=Z,1.4nm,1.1s,baz=263,slow=4.2,SNR=5.7
ILAR LR LR 06 56 08.8
comp=Z,8µm,21.2s,MS6.0,baz=112,slow=38
ILAR Eielson Array 71.58 336 P **P** **06 22 37.9 -0.9**
ILAR P'P' 06 50 48.7
ILAR LR LR 06 56 08.8
ILAR Eielson Array 71.58 336 P **P** **06 22 37.9 -0.9**
SLKM Skilak Lake 71.71 331 *e*P **P** **06 22 39.9 +0.2**
SLKM Skilak Lake 71.71 331 *e*P **P** **06 22 39.9 +0.2**
COLA College 72.00 336 *e*P **P** **06 22 40.5 -0.8**
comp=Z,103nm,1.2s,mb5.6
COLA LR LR
comp=Z,10µm,22.0s,MS6.0
COLA College 72.00 336 *e*P **P** **06 22 40.5 -0.8**
COLA pmax pmax
comp=Z,103nm,1.2s,mb5.6
COLA MLR MLR
comp=Z,10µm,22.0s,MS6.0
MCK McKinley 72.08 335 *e*P **P** **06 22 41.6 -0.2**
comp=Z,326nm,1.2s,mb6.1
MCK McKinley 72.08 335 *e*P **P** **06 22 41.6 -0.2**
MCK pmax pmax
comp=Z,326nm,1.2s,mb6.1
PMAFR Mafra 72.08 52 *e*P **P** **06 22 41.6 -0.8**
comp=Z,196nm,1.4s,mb5.8
PMAFR *e*S S 06 32 02.1 +0.8
PMAFR *e*LQ 06 40 36.7
PMAFR *e*LR LR 06 44 33.4
comp=Z,4µm,22.0s
LIS Lisbon 72.17 52 *e*P **P** **06 22 43.2 +0.3**
LIS *e*S S 06 32 03.6 +1.3
LIS AMS AMS 06 48 06.6
comp=Z,4µm,23.3s,MS5.6
LIS Lisbon 72.17 52 *e*P **P** **06 22 43.1 +0.2**
LIS *e*S S 06 32 03.5 +1.2
KDAK Kodiak Island 72.21 328 *e*P **P** **06 22 42.4 -0.4**
comp=Z,230nm,1.4s,mb5.9
KDAK LR LR
comp=Z,5µm,19.0s,MS5.8
KDAK Kodiak Island 72.21 328 *e*P **P** **06 22 42.4 -0.3**
KDAK pmax pmax
comp=Z,230nm,1.4s,mb5.9
KDAK MLR MLR
comp=Z,5µm,19.0s,MS5.8
TBI Tubuai 72.23 242 *e*P **P** **06 22 43.7 +0.2**
comp=Z,262nm,1.4s,mb6.0
TBI *e*LQ 06 41 44.8
comp=Z,5µm,53.2s
TBI *e*LR LR 06 44 47.3
comp=Z,10µm,27.5s,baz=68
PFVI Vila Bisbo 72.33 54 P **P** **06 22 48.6 +4.7**
PFVI Vila Bisbo 72.33 54 *e*P **P** **06 22 42.6 -1.3**
comp=Z,248nm,1.4s,mb6.0
PFVI *e*S S 06 32 05.2 +1.0
PFVI Vila Bisbo 72.33 54 *e*LQ 06 42 34.7
PFVI *e*LR LR 06 44 57.5
comp=Z,5µm,22.0s
PTEO Sao Teotonio 72.44 53 *e*P **P** **06 22 44.4 -0.1**
comp=Z,210nm,1.5s,mb5.8
PTEO Sao Teotonio 72.44 53 *e*PcP PcP 06 23 01.1 -1.1
OHAK Old Harbor 72.46 327 *e*P **P** **06 22 45.0 +0.8**
comp=Z,128nm,1.1s,mb5.8
MORF Marmelete 72.48 54 *e*P **P** **06 22 45.2 +0.4**
MORF *e*S S 06 32 07.7 +1.8
MORF Marmelete 72.48 54 *e*P **P** **06 22 46.4 +1.6**
comp=Z,299nm,1.2s,mb6.1
MORF Marmelete 72.48 54 *e*PcP PcP 06 23 01.8 -0.6
MORF *e*S S 06 32 06.5 +0.6
MORF *e*LQ 06 41 04.8
MORF *e*LR LR 06 44 49.5
comp=Z,6µm,22.0s
PNCL Nicolau / Gran 72.62 53 *e*P **P** **06 22 45.3 -0.3**
comp=Z,130nm,1.6s,mb5.6
PNCL Nicolau / Gran 72.62 53 *e*PcP PcP 06 23 02.6 -0.3
PNCL *e*S S 06 32 08.8 +1.3
PNCL *e*LQ 06 41 04.8
PNCL *e*LR LR 06 45 01.5
comp=Z,5µm,20.0s
PTOM Tomar 72.80 51 *e*P **P** **06 22 48.8 +2.2**
comp=Z,201nm,1.7s,mb5.8
MESJ Messejana 72.85 53 *e*P **P** **06 22 47.2 +0.3**
MESJ *e* 06 23 07.9
baz=266,slow=6.9
MESJ *e*S S 06 32 11.8 +1.7
MESJ *e*S S 06 32 11.9 +1.8
MESJ AMS AMS 06 49 09.9
comp=Z,6µm,21.2s,MS5.8
MESJ Messejana 72.85 53 *e*P **P** **06 22 47.2 +0.2**
MESJ *e*S S 06 32 11.7 +1.6
RSO Redoubt South 72.91 331 *e*P **P** **06 22 46.5 -0.4**
comp=Z,379nm,0.9s,mb6.3
STS Santiago 72.92 48 P **P** **06 22 48.8 +1.5**
comp=Z,626nm,2.5s,mb6.1
STS Santiago 72.92 48 P **P** **06 22 48.8 +1.5**
STS pmax pmax
comp=Z,626nm,2.5s,mb6.1
PCVE Castro Verde 72.98 53 *e*P **P** **06 22 50.6 +2.8**
comp=Z,134nm,1.5s,mb5.7
PCVE *e*S S 06 32 12.0 +0.4
PCVE Castro Verde 72.98 53 *e*LR LR 06 44 57.5
comp=Z,7µm,20.0s
PCVE *e*LQ 06 45 13.5
EVO Evora 73.05 52 *e*P **P** **06 22 46.5 -1.6**
comp=Z,85nm,0.8s,mb5.4
EVO *e*R
comp=Z,7µm,23.0s
EVO Evora 73.05 52 *e*P **P** **06 22 48.5 +0.4**
comp=Z,108nm,2.2s,mb5.4
EVO Evora 73.05 52 *e*PP PP 06 25 31.9 +0.8
PBDV Barranco-do-Ve 73.05 54 *e*P **P** **06 22 48.7 +0.5**
comp=Z,176nm,1.9s,mb5.7
PBDV *e*S S 06 32 13.0 +0.6
PBDV Barranco-do-Ve 73.05 54 *e*LQ 06 44 49.5
PBDV *e*LR LR 06 45 09.5
comp=Z,6µm,22.0s
PGAV Gavieira, Arco 73.06 49 *e*P **P** **06 22 47.5 -0.6**
comp=Z,227nm,1.7s,mb5.8
PGAV Gavieira, Arco 73.06 49 *e*PcP PcP 06 23 04.5 -0.2
PGAV *e*S S 06 32 15.2 +2.9
PGAV Gavieira, Arco 73.06 49 *e*LQ 06 44 45.4
PGAV *e*LR LR 06 45 29.6
comp=Z,4µm,24.0s
PBEJ Beja 73.14 53 *e*P **P** **06 22 49.5 +0.8**
comp=Z,91nm,1.8s,mb5.4
KIP Kipapa 73.19 290 PFAKE 06 23 00.0 +11
KIP LR LR
comp=Z,8µm,21.0s,MS6.0
KIP Kipapa 73.19 290 ⇩ *i*P **P** **06 22 49.6 +0.3**
KIP pmax pmax
comp=Z,253nm,1.4s,mb6.0
PVAQ Vaqueiros 73.23 54 *e*P **P** **06 22 49.3 +0.1**
comp=Z,173nm,1.5s,mb5.8
PVAQ *e*S S 06 32 14.0 -0.4
PVAQ *e*LQ 06 42 05.0
PVAQ *e*LR LR 06 45 05.5
comp=Z,6µm,22.0s
PPLA Purkeypile 73.25 333 *e*P **P** **06 22 48.0 -0.8**
comp=Z,165nm,1.2s,mb5.8
PVIS Viseu 73.26 50 *e*P **P** **06 22 52.0 +2.7**
comp=Z,164nm,1.6s,mb5.7
POLO Lamas de Olo 73.37 49 *e*P **P** **06 22 50.2 +0.2**
comp=Z,77nm,1.3s,mb5.5
POLO *e*S S 06 32 15.2 -0.7
POLO Lamas de Olo 73.37 49 *e*LQ 06 43 17.2
POLO *e*LR LR 06 45 33.6
comp=Z,1µm,20.0s
PESTR Estremoz 73.39 52 *e*P **P** **06 22 51.3 +1.1**
comp=Z,237nm,1.5s,mb5.9
PESTR *e*S S 06 32 15.5 -0.7
PESTR Estremoz 73.39 52 *e*LQ 06 42 17.0
PESTR *e*LR LR 06 45 37.6
comp=Z,4µm,24.0s
EGRO El Granado 73.42 53 P **P** **06 22 52.2 +1.9**
comp=Z,1µm,5.8s
MTE Manteigas 73.51 50 *e*P **P** **06 22 52.5 +1.8**
comp=Z,166nm,1.6s,mb5.7
MTE LR LR
comp=Z,5µm,21.0s,MS5.8
MTE Manteigas 73.51 50 *e*P **P** **06 22 53.8 +3.0**
comp=Z,148nm,1.4s,mb5.7
MTE *e*S S 06 32 18.3 +0.9
MTE Manteigas 73.51 50 *e*LQ 06 42 37.0
MTE *e*LR LR 06 45 25.6
comp=Z,4µm,20.0s

PCBR Castelo Branco 73.53 51 *e*P **P** **06 22 51.4 +0.5**
comp=Z,137nm,1.1s,mb5.8
PMRV Marv??o 73.58 51 *e*P **P** **06 22 52.4 +1.2**
comp=Z,158nm,1.8s,mb5.6
PMRV *e*S S 06 32 18.5 +0.3
PMRV *e*LQ 06 42 17.0
PMRV *e*LR LR 06 45 37.6
comp=Z,4µm,22.0s
COLD Coldfoot 73.67 338 *e*P **P** **06 22 51.5 +0.4**
comp=Z,295nm,1.5s,mb6.0
PBAR Barrancos 73.80 53 *e*P **P** **06 22 52.0 -0.5**
comp=Z,188nm,1.4s,mb5.8
PBAR *e*S S 06 32 22.7 +1.9
PBAR *e*LQ 06 42 21.0
PBAR *e*LR LR 06 45 25.6
comp=Z,5µm,22.0s
EBAD Badajoz 73.84 52 P **P** **06 22 56.0 +3.3**
comp=Z,2µm,7.6s
ERUA La Rua 73.92 48 P **P** **06 22 55.3 +2.1**
comp=Z,126nm,1.3s,mb5.7
ERUA La Rua 73.92 48 P **P** **06 22 55.3 +2.1**
ERUA pmax pmax
comp=Z,126nm,1.3s,mb5.7
MVO Moncorvo 73.94 50 P **P** **06 22 55.2 +1.9**
MVO Moncorvo 73.94 50 *e*P **P** **06 22 53.8 +0.5**
comp=Z,139nm,1.7s,mb5.6
MVO Moncorvo 73.94 50 *e*PP PP 06 25 38.3 -0.3
MVO *e*S S 06 32 22.3 0.0
MVO Moncorvo 73.94 50 *e*LQ 06 42 49.1
MVO *e*LR LR 06 45 41.6
comp=Z,2µm,20.0s
EPON Pontenova 73.97 47 P **P** **06 22 56.4 +2.9**
comp=Z,706nm,2.0s,mb6.2
EMIN Mina Concepcio 74.07 53 P **P** **06 22 58.8 +4.6**
comp=Z,780nm,4.2s
PBRG Braganca 74.19 49 *e*P **P** **06 22 54.4 -0.3**
comp=Z,193nm,1.6s,mb5.8
PBRG *e*S S 06 32 27.5 +2.5
PBRG Braganca 74.19 49 *e*LR LR 06 46 05.7
comp=Z,4µm,22.0s
PMSA Palmer Station 74.25 172 PFAKE 06 23 10.0 +15
PMSA LR LR
comp=Z,1µm,19.0s,MS5.3
SVW2 Sparrevohn 74.40 331 *e*P **P** **06 22 54.5 -1.1**
comp=Z,130nm,2.1s,mb5.5
SFS San Fernando 74.41 55 PFAKE 06 23 10.0 +14
SFS LR LR
comp=Z,4µm,22.0s,MS5.7
XMAS Kiritimati 74.42 270 PFAKE 06 23 10.0 +13
XMAS LR LR
comp=Z,12µm,21.0s,MS6.2
EPLA Plasencia 74.61 51 P **P** **06 23 02.4 +5.1**
comp=Z,816nm,3.7s
EPLA Plasencia 74.61 51 P **P** **06 23 02.4 +5.2**
EPLA pmax pmax
comp=Z,817nm,3.7s
ALE Alert 74.67 3 P **P** **06 22 54.0 -2.9**
comp=Z,147nm,1.2s,mb5.8,SNR=7.4
ESPR Espera 74.70 54 P **P** **06 23 00.8 +3.0**
comp=Z,2µm,5.6s
CHGN Chignik 75.08 326 *e*P **P** **06 22 59.8 +0.2**
EARI Arriondas 75.39 47 P **P** **06 23 04.7 +3.0**
comp=Z,2µm,4.7s
EMIJ Mijas 75.57 54 P **P** **06 23 07.2 +4.4**
comp=Z,388nm,2.3s,mb5.9
MDT Midelt 75.72 58 P **P** **06 23 03.4 -0.3**
comp=Z,23nm,1.3s,mb5.0,baz=264,slow=6.5,SNR=10
MDT Midelt 75.72 58 P **P** **06 23 03.4 -0.3**
EADA Adamuz 75.74 53 P **P** **06 23 05.9 +2.2**
comp=Z,845nm,3.9s
PAB San Pablo 75.93 51 *e*P **P** **06 23 06.6 +1.7**
comp=Z,245nm,1.7s,mb5.9
PAB LR LR
comp=Z,4µm,21.0s,MS5.7
PAB San Pablo 75.93 51 *e*P **P** **06 23 06.6 +1.8**
PAB pmax pmax
comp=Z,245nm,1.7s,mb5.9
PAB MLR MLR
comp=Z,4µm,21.0s,MS5.7
ELOJ Sierra Loja 76.07 54 P **P** **06 23 05.2 -0.5**
comp=Z,11nm,0.7s,mb4.9
ELOJ Sierra Loja 76.07 54 P **P** **06 23 05.2 -0.5**
ELOJ pmax pmax
comp=Z,11nm,0.7s,mb4.9
GUD Guadarrama 76.10 50 P **P** **06 23 05.7 0.0**
comp=Z,570nm,2.4s,mb6.1
GUD Guadarrama 76.10 50 P **P** **06 23 05.7 -0.1**
GUD pmax pmax
comp=Z,570nm,2.4s,mb6.1
SDPT Sand Point 76.13 325 *e*P **P** **06 23 06.8 +1.2**
comp=Z,518nm,1.5s,mb6.2
DAG Danmarks Havn 76.17 12 *i*P **P** **06 23 02.2 -3.3**
DAG pmax pmax
comp=Z,46nm,1.1s,mb5.3
DAG MLR MLR
comp=Z,13µm,17.0s,MS6.3
DAG Danmarks Havn 76.17 12 *i*P **P** **06 23 02.2 -3.3**
comp=Z,36nm,1.1s,mb5.2
DAG
comp=Z,12µm,17.0s
ESDC Sonseca Array 76.23 51 P **P** **06 23 05.8 -0.7**
comp=Z,3.6nm,0.5s,mb4.6,baz=276,slow=5.2,SNR=18
ESDC LR LR 06 52 06.1
comp=Z,3µm,21.1s,MS5.5,baz=265,slow=32
ESDC Sonseca Array 76.23 51 P **P** **06 23 05.5 -1.0**
comp=Z,150nm,1.6s,mb5.7
ESLA Sonseca Array 76.23 51 *e*P **P** **06 23 06.6 +0.1**
comp=Z,45nm,1.3s,mb5.2
ESLA LR LR
comp=Z,22µm,20.0s,MS6.5
ERON Agron 76.35 54 P **P** **06 23 09.0 +1.8**
comp=Z,316nm,2.4s,mb5.8
ECOG Cogollos-Vega 76.54 54 P **P** **06 23 11.3 +3.0**
comp=Z,402nm,1.6s,mb6.1
ECOG Cogollos-Vega 76.54 54 P **P** **06 23 11.3 +3.0**
ECOG pmax pmax
comp=Z,402nm,1.6s,mb6.1
ELAN Lanestosa 76.68 48 P **P** **06 23 12.0 +3.0**
comp=Z,547nm,2.7s,mb6.0
EQES Quesada 76.93 53 P **P** **06 23 13.2 +2.7**
comp=Z,2µm,5.0s
ROSF Rostrenen 76.94 42 *e*P **P** **06 23 07.7 -2.6**
comp=Z,223nm,1.4s,mb5.6
EALB Alboran 76.98 55 P **P** **06 23 11.2 +0.3**
comp=Z,2µm,6.1s
QUIF Quistinic 76.99 43 *e*P **P** **06 23 08.2 -2.5**
comp=Z,105nm,1.0s,mb5.4
EBER Berja 77.08 54 P **P** **06 23 14.8 +3.4**
comp=Z,761nm,1.9s,mb6.3
DBIC Dimbokro 77.28 85 P **P** **06 23 11.6 -1.4**
comp=Z,34nm,0.9s,mb5.3,baz=270,slow=7.5,SNR=18
DBIC LR LR 06 56 57.0
comp=Z,3µm,18.6s,MS5.6,baz=259,slow=35
DBIC Dimbokro 77.28 85 *e*P **P** **06 23 11.8 -1.2**
comp=Z,263nm,1.3s,mb6.0
DBIC LR LR
comp=Z,3µm,19.0s,MS5.7
DBIC Dimbokro 77.28 85 *e*P **P** **06 23 11.8 -1.2**
DBIC pmax pmax
comp=Z,263nm,1.3s
DBIC MLR MLR
comp=Z,3µm,19.0s
EHUE Huescar 77.31 53 P **P** **06 23 12.4 -0.2**
comp=Z,761nm,1.8s,mb6.3
EHUE Huescar 77.31 53 P **P** **06 23 12.4 -0.2**
EHUE pmax pmax
comp=Z,761nm,1.8s,mb6.3
ESK Eskdalemuir 77.34 35 PFAKE 06 23 20.0 +7.6
ESK LR LR
comp=Z,5µm,20.0s,MS5.8
EKA Eskdalemuir Ar 77.36 35 P **P** **06 23 10.0 -2.6**
comp=Z,1.9nm,0.5s,mb4.3,baz=256,slow=5.3,SNR=11
EKA Eskdalemuir Ar 77.36 35 P **P** **06 23 10.0 -2.6**
EKA Eskdalemuir Ar 77.36 35 P **P** **06 23 10.0 -2.6**
EVIA Vianos 77.37 52 P **P** **06 23 15.6 +2.6**
comp=Z,327nm,1.8s,mb6.0
EVIA Vianos 77.37 52 P **P** **06 23 15.6 +2.6**
EVIA pmax pmax
comp=Z,327nm,1.8s,mb6.0
ETOR Torete 77.69 50 P **P** **06 23 15.6 +0.9**
comp=Z,302nm,2.5s,mb5.8
ETOR Torete 77.69 50 P **P** **06 23 15.6 +0.8**
ETOR pmax pmax
comp=Z,302nm,2.5s,mb5.8
FALS False Pass 77.78 324 *e*P **P** **06 23 14.9 0.0**
comp=Z,545nm,1.0s,mb6.4
ELIZ Elizondo 78.07 48 P **P** **06 23 21.6 +4.8**
comp=Z,187nm,1.8s,mb5.7
ELIZ Elizondo 78.07 48 P **P** **06 23 21.6 +4.8**
ELIZ pmax pmax
comp=Z,187nm,1.8s,mb5.7
ETOB Tobarra 78.11 52 P **P** **06 23 19.7 +2.6**
comp=Z,896nm,2.9s,mb6.2
SJPF Ste Jean 78.30 48 *e*P **P** **06 23 16.3 -1.7**
comp=Z,251nm,1.3s,mb5.7
ECHE Chera 78.55 51 P **P** **06 23 22.9 +3.4**
comp=Z,166nm,1.6s,mb5.7
ECHE Chera 78.55 51 P **P** **06 23 22.9 +3.4**
ECHE pmax pmax
comp=Z,166nm,1.6s,mb5.7
GRR Gorron 78.55 42 *e*P **P** **06 23 16.8 -2.5**
comp=Z,362nm,1.4s,mb5.8
ETSF Etsaut 78.79 48 *e*P **P** **06 23 19.1 -1.7**
comp=Z,360nm,1.8s,mb5.7
FLN La Foliniere 78.80 42 *e*P **P** **06 23 18.3 -2.4**
comp=Z,373nm,1.4s,mb5.8
FLN *e*R
comp=Z,10µm,22.2s
ESAC San Caprasio 78.88 49 P **P** **06 23 24.7 +3.4**
comp=Z,1µm,2.0s,mb6.4
MFF Saint Martin d 79.03 44 *e*P **P** **06 23 19.6 -2.4**
comp=Z,235nm,1.4s,mb5.6
LDF La Druitiere 79.04 42 *e*P **P** **06 23 19.4 -2.6**
comp=Z,50nm,0.8s,mb5.2
AKUT Akutan 79.13 324 *e*P **P** **06 23 22.7 +0.3**
comp=Z,914nm,2.2s,mb6.3
EBIE Bielsa 79.31 48 P **P** **06 23 25.7 +2.1**
comp=Z,2µm,7.3s
EPF Esparros 79.44 48 *e*P **P** **06 23 22.4 -1.9**
comp=Z,188nm,1.2s,mb5.6
UNV Unalaska Valle 79.56 323 *e*P **P** **06 23 25.1 +0.4**
comp=Z,174nm,0.8s,mb6.0
LFF La Frestale 79.68 46 *e*P **P** **06 23 23.3 -2.3**
comp=Z,310nm,1.5s,mb5.7
TRIS Tristan da Cun 79.82 130 PFAKE 06 23 40.0 +14
TRIS LR LR
comp=Z,6µm,20.0s,MS6.0
CSOR Sort 80.05 48 P **P** **06 23 29.8 +2.1**
comp=Z,584nm,2.0s,mb6.2
SALF Salau 80.08 48 *e*P **P** **06 23 30.1 +2.3**
SHEL Horse Pasture 80.08 108 PFAKE 06 23 40.0 +12
SHEL LR LR
comp=Z,9µm,20.0s,MS6.1
RJF Les Rejaudoux 80.22 45 *e*P **P** **06 23 26.1 -2.4**
comp=Z,347nm,1.7s,mb5.7
RJF *e*R
comp=Z,5µm,22.0s
EANR 'Ain N'Sour 80.33 55 P pP 06 23 43.1 +0.6
ETRT Tiaret 80.53 56 P pP 06 23 42.4 -1.2
CAF Calviac 80.62 46 *e*P **P** **06 23 28.4 -2.3**
comp=Z,250nm,1.7s,mb5.6
EBNR Beni Rached 80.66 55 P pP 06 23 44.2 -0.1
CLLI Llivia 80.67 48 P **P** **06 23 33.4 +2.4**
TCF Toulx Ste Croi 80.67 44 *e*P **P** **06 23 28.2 -2.7**
comp=Z,194nm,1.6s,mb5.5
MTLF Montolieu 80.80 47 *e*P **P** **06 23 29.6 -2.1**
comp=Z,349nm,1.7s,mb5.7
RAR Rarotonga 80.91 247 P **P** **06 23 32.5 -0.1**
comp=Z,66nm,1.2s,mb5.4,baz=176,slow=7.3,SNR=6.6
RAR LR LR 06 51 45.1
comp=Z,7µm,18.5s,MS6.0,baz=81,slow=30
RAR Rarotonga 80.91 247 P **P** **06 23 32.5 -0.1**
RAR LR LR 06 51 45.1
RAR Rarotonga 80.91 247 P **P** **06 23 32.6 0.0**
HYF Humbligny 80.92 43 *e*P **P** **06 23 29.7 -2.5**
NIKO Nikolski 80.98 322 *e*P **P** **06 23 32.7 +0.3**
comp=Z,212nm,0.9s,mb6.1
BGF Bois d'Agland 81.10 44 *e*P **P** **06 23 30.6 -2.6**
comp=Z,205nm,1.5s,mb5.5
PYM Petit Puy Mans 81.25 45 *e*P **P** **06 23 33.5 -0.5**
PYM Petit Puy Mans 81.25 45 *e*P **P** **06 23 33.5 -0.5**
PYM Petit Puy Mans 81.25 45 *e*P **P** **06 23 33.5 -0.5**
AGO Saint Agoulin 81.32 45 *e*P **P** **06 23 34.2 -0.2**
AGO Saint Agoulin 81.32 45 *e*P **P** **06 23 34.2 -0.2**
EJON La Jonquera 81.34 48 P **P** **06 23 39.4 +4.8**
comp=Z,743nm,3.2s
AVF Avril sur Loir 81.44 44 *e*P **P** **06 23 31.9 -3.1**
comp=Z,85nm,1.3s,mb5.2
LBL Lubilhac 81.44 45 *e*P **P** **06 23 37.4 +2.4**
LBL Lubilhac 81.44 45 *e*P **P** **06 23 37.4 +2.4**
LBL Lubilhac 81.44 45 *e*P **P** **06 23 37.4 +2.4**
SSF Saint Saulge 81.53 44 *e*P **P** **06 23 32.3 -3.1**
comp=Z,127nm,1.5s,mb5.3
PLDF La Plantade 81.67 45 *e*P **P** **06 23 37.7 +1.5**
PLDF La Plantade 81.67 45 *e*P **P** **06 23 37.7 +1.5**
PLDF La Plantade 81.67 45 *e*P **P** **06 23 37.7 +1.5**
LOR Lormes 81.75 43 *e*P **P** **06 23 33.8 -2.8**
comp=Z,209nm,1.7s,mb5.5
LOR *e*R
comp=Z,7µm,20.2s
FOO Floro 81.76 29 *e* pP 06 23 47.7 -1.9
SMF Signal de Mont 81.78 44 *e*P **P** **06 23 33.9 -2.9**
comp=Z,263nm,1.8s,mb5.6
EMHD Djebel Mahouad 81.81 55 P **P** **06 23 42.1 +4.9**
BAIF Baives 81.83 41 *e*P **P** **06 23 34.0 -3.0**
comp=Z,100nm,1.4s,mb5.3
LASF Ste Croix 81.95 47 *e*P **P** **06 23 36.0 -1.7**
comp=Z,272nm,1.6s,mb5.6
BER Bergen 81.95 30 *e*P **P** **06 23 38.6 +1.2**
BER *e*S S 06 33 43.2 -4.7
DOU Dourbes 82.08 41 P **P** **06 23 40.0 +1.8**
comp=Z,31nm,1.6s,mb5.0
GIVF Givet 82.22 40 *e*P **P** **06 23 36.0 -3.0**
comp=Z,152nm,1.4s,mb5.4
SSB Saint Sauveur 82.36 45 *e*P **P** **06 23 40.7 +0.8**
comp=Z,44nm,1.4s,mb5.2
SSB LR LR
comp=Z,5µm,22.0s,MS5.8
SSB Saint Sauveur 82.36 45 *e*P **P** **06 23 40.7 +0.9**
SSB pmax pmax
comp=Z,44nm,1.4s,mb5.2
SSB MLR MLR
comp=Z,5µm,22.0s,MS5.8
MEZF Maizieres J'vi 82.48 42 *e*P **P** **06 23 37.9 -2.5**
comp=Z,130nm,1.1s,mb5.5
VIVF Saint-Julien-l 82.48 46 *e*P **P** **06 23 38.9 -1.6**
comp=Z,265nm,1.5s,mb5.7
SFTF Sexfontaines 82.49 42 *e*P **P** **06 23 37.7 -2.8**
comp=Z,189nm,1.4s,mb5.5
BCLA Clavier 82.51 40 P **P** **06 23 42.7 +2.2**
comp=Z,35nm,2.2s,mb5.0
KBS Kingsbay 82.82 11 *e* **P** **06 23 45.6 +4.0**
KBS AMB AMB 06 23 53.9
comp=Z,136nm,3.0s,mb5.5
KBS *e*SKS 06 33 57.8
KBS AMS AMS 06 58 32.9
comp=Z,10µm,21.7s,MS6.1
KBS Kingsbay 82.82 11 *e*P **P** **06 23 43.6 +2.0**
comp=Z,120nm,1.1s,mb5.8
KBS LR LR
comp=Z,11µm,20.0s,MS6.2
KBS Kingsbay 82.82 11 *e*P **P** **06 23 43.7 +2.1**
KBS pmax pmax
comp=Z,120nm,1.1s,mb5.8
KBS MLR MLR
comp=Z,11µm,20.0s,MS6.2
TORD Torodi Ar. Bea 82.92 78 P **P** **06 23 41.3 -2.0**
comp=Z,16nm,0.8s,mb5.1,baz=275,slow=3.9,SNR=39
TORD PKKPbc PKKPbc 06 42 06.0 +0.2
comp=Z,0.9nm,0.7s,baz=65,slow=1.8,SNR=8.6
TORD PKPPKP 06 50 09.9
comp=Z,2.3nm,1.2s,baz=12,slow=2.1,SNR=6.5
TORD LR LR 07 00 14.7
comp=Z,5µm,21.2s,MS5.8,baz=275,slow=35
TORD Torodi Ar. Bea 82.92 78 P **P** **06 23 41.3 -2.0**
TORD PKKPbc PKKPbc 06 42 06.0 +0.2
TORD P'P' 06 50 09.9
TORD LR LR 07 00 14.7
PAGF Fort de Pagny 82.92 42 *e*P **P** **06 23 40.1 -2.6**
comp=Z,64nm,1.4s,mb5.2
MEM Membach 82.94 40 XP sP 06 23 56.8 -4.3
WLF Walferdange 83.11 41 P **P** **06 23 45.4 +1.7**
comp=Z,63nm,1.9s,mb5.3
WLF Walferdange 83.11 41 *e*P **P** **06 23 45.6 +2.0**
comp=Z,56nm,1.6s,mb5.3
WLF Walferdange 83.11 41 *e*P **P** **06 23 44.2 +0.6**
comp=Z,36nm,1.3s,mb5.2
WLF LR LR
comp=Z,7µm,21.0s,MS6.0
WLF Walferdange 83.11 41 *e*P **P** **06 23 44.2 +0.6**
WLF pmax pmax
comp=Z,36nm,1.3s,mb5.2
WLF MLR MLR

comp=Z,7µm,21.0s,MS6.0
THEF They Montfort 83.12 42 *e*P **P 06 23 44.9 +1.2**
THEF They Montfort 83.12 42 *e*P **P 06 23 44.9 +1.2**
THEF They Montfort 83.12 42 *e*P **P 06 23 44.9 +1.2**
SMRF Simiane la Rot 83.19 47 *e*P **P 06 23 42.5 -1.7**
comp=Z,300nm,1.8s,mb5.7
CABF La Chapelle 83.33 44 *e*P **P 06 23 42.4 -2.4**
comp=Z,180nm,1.4s,mb5.6
ORIF Oris-en-Rattie 83.33 46 *e*P **P 06 23 43.3 -1.6**
comp=Z,265nm,1.7s,mb5.7
ORIF *e*R
comp=Z,3µm,21.0s
HAU Haudompre 83.38 43 *e*P **P 06 23 42.3 -2.8**
comp=Z,241nm,1.9s,mb5.6
HAU *e*R
comp=Z,5µm,22.5s
BUG Bochum-Univer 83.67 39 *e*P **P 06 23 48.0 +1.5**
comp=Z,185nm,2.1s,mb5.8
RUP Ruppelstein 83.69 41 *e*P **P 06 23 47.3 +0.7**
RUP Ruppelstein 83.69 41 *e*P **P 06 23 47.3 +0.7**
HINF Hinteralfeld 83.73 43 *e*P **P 06 23 44.3 -2.6**
comp=Z,126nm,1.4s,mb5.5
LOMF Lomont 83.76 43 *e*P **P 06 23 48.4 +1.3**
LOMF Lomont 83.76 43 *e*P **P 06 23 48.4 +1.3**
LOMF Lomont 83.76 43 *e*P **P 06 23 48.4 +1.3**
SET Setif 83.78 54 P **P 06 23 56.0 +8.6**
SPB4 Spitsbergen Ar 83.80 12 *e*P **P 06 23 46.2 -0.5**
SPITS Spitsbergen Ar 83.81 12 P **P 06 23 44.9 -1.8**
comp=Z,12nm,0.9s,mb5.0,baz=345,slow=6.2,SNR=10.0
SPITS Spitsbergen Ar 83.81 12 P **P 06 23 44.9 -1.8**
SPITS Spitsbergen Ar 83.81 12 P **P 06 23 44.9 -1.8**
LPL La Plagne 83.87 45 *e*P **P 06 23 46.2 -1.5**
comp=Z,133nm,1.7s,mb5.5
BNI Bardonecchia 83.88 45 PFAKE 06 24 00.0 +12
BNI LR LR
comp=Z,5µm,22.0s,MS5.8
IBBN Ibbenburen 83.88 38 *e*P **P 06 23 49.3 +1.7**
comp=Z,37nm,1.3s,mb5.3
LPG La Plagne 83.89 45 *e*P **P 06 23 46.4 -1.3**
comp=Z,124nm,1.5s,mb5.5
ECH Echery 83.90 42 *e*P **P 06 23 48.9 +1.1**
comp=Z,92nm,1.4s,mb5.7
ECH LR LR
comp=Z,5µm,21.0s,MS5.8
ECH Echery 83.90 42 *e*P **P 06 23 48.9 +1.2**
ECH pmax pmax
comp=Z,92nm,1.4s,mb5.7
ECH MLR MLR
comp=Z,5µm,21.0s,MS5.8
ECH Echery 83.90 42 *e*P **P 06 23 48.8 +1.1**
MOF Molkenrain 83.92 43 *e*P **P 06 23 48.8 +1.0**
MOF Molkenrain 83.92 43 *e*P **P 06 23 48.8 +1.0**
MOF Molkenrain 83.92 43 *e*P **P 06 23 48.8 +1.0**
LMR La Mourre 83.93 47 *e*P **P 06 23 45.7 -2.3**
comp=Z,310nm,1.9s,mb5.8
CDF Champ du Feu 83.96 42 *e*P **P 06 23 45.5 -2.5**
comp=Z,123nm,1.3s,mb5.6
MBDF Montbardon 83.98 46 *e*P **P 06 23 46.4 -1.8**
comp=Z,116nm,1.4s,mb5.5
ABH Alteburg 83.99 41 *e*P **P 06 23 49.9 +1.7**
FRF La Foret Royal 84.00 47 *e*P **P 06 23 46.1 -2.3**
comp=Z,149nm,1.4s,mb5.6
DFRA Diebel Bou Aff 84.13 54 P pP 06 24 05.2 +2.7
KONO Kongsberg 84.15 31 *e*P **P 06 23 50.4 +1.7**
KONO *e*SKS 06 34 02.0
KONO AMS AMS 06 53 51.5
comp=Z,5µm,26.2s,MS5.7
KONO Kongsberg 84.15 31 PFAKE 06 24 00.0 +11
KONO LR LR
comp=Z,5µm,20.0s,MS5.9
LANF Langenberg 84.25 41 *e*P **P 06 23 49.9 +0.4**
LANF Langenberg 84.25 41 *e*P **P 06 23 49.9 +0.4**
LANF Langenberg 84.25 41 *e*P **P 06 23 49.9 +0.4**
MUD Monsted U'grnd 84.28 34 *i* P **P 06 23 58.9 +9.4**
comp=Z,31nm,1.0s,mb5.4
JOHN Johnston Islan 84.44 286 PFAKE 06 24 00.0 +8.9
JOHN LR LR
comp=Z,12µm,19.0s,MS6.3
FELD Feldberg im Sc 84.50 43 *e*P **P 06 23 51.6 +0.8**
TNS Taunus Mts 84.53 40 *e*P **P 06 23 52.8 +1.9**
comp=Z,1µm,5.1s
TNS Taunus Mts 84.53 40 *e*P **P 06 23 52.8 +1.9**
TNS pmax pmax
comp=Z,1µm,5.1s
SBF Sospel 84.54 47 *e*P **P 06 23 48.8 -2.3**
comp=Z,211nm,1.3s,mb5.8
NAO01 NORSAR Array S 84.64 29 *e*P **P 06 23 51.9 +0.7**
comp=Z,20nm,1.2s,mb5.1
CASM Ain Smara 84.65 54 P **P 06 23 54.5 +2.7**
BFO Black Forest 84.67 42 *e*P **P 06 23 52.8 +1.2**
comp=Z,30nm,1.9s,mb5.1
BFO Black Forest 84.67 42 *e*P **P 06 23 51.6 -0.1**
comp=Z,64nm,1.5s,mb5.5
BFO LR LR
comp=Z,6µm,22.0s,MS5.9
BFO Black Forest 84.67 42 *e*P **P 06 23 51.6 0.0**
BFO pmax pmax
comp=Z,64nm,1.5s,mb5.5
BFO MLR MLR
comp=Z,6µm,22.0s,MS5.9
NB2 NORSAR Subarra 84.77 29 P **P 06 23 51.1 -0.8**
comp=Z,108nm,1.4s,mb5.8,baz=276,slow=5.1
NOA NORSAR Array B 84.77 29 P **P 06 23 51.0 -0.9**
comp=Z,13nm,1.1s,mb5.0,baz=277,slow=4.6,SNR=7.3
NOA LR LR 06 59 33.5
comp=Z,3µm,21.0s,MS5.6,baz=280,slow=34
NOA NORSAR Array B 84.77 29 P **P 06 23 51.0 -0.9**
NOA LR LR 06 59 33.5
NOA NORSAR Array B 84.77 29 P **P 06 23 51.0 -0.9**
CKFL Kef-Lekhel 84.82 54 P pP 06 24 02.8 -3.2
CAEH 'Ain El Ouahch 84.88 54 P pP 06 24 08.2 +1.9
SPAK Spaichingen-Ko 85.00 42 *e*P **P 06 23 54.7 +1.4**
STU Stuttgart 85.19 42 *e*P **P 06 23 55.8 +1.6**
comp=Z,83nm,1.8s,mb5.6
BSEG Bad Segeberg 85.23 36 *e*P **P 06 23 56.3 +2.0**
comp=Z,244nm,2.2s,mb5.9
BSEG Bad Segeberg 85.23 36 *e*P **P 06 23 56.3 +2.0**
BSEG pmax pmax
comp=Z,244nm,2.2s,mb5.9
NRDL Niedersach Rie 85.29 38 *e*P **P 06 23 56.7 +2.0**
comp=Z,110nm,1.9s,mb5.7
TAM Tamanrasset 85.38 68 *e*P **P 06 23 55.6 -0.2**
comp=Z,196nm,1.4s,mb6.0
TAM *e*pP pP 06 24 09.4 +0.3
TAM LR LR
comp=Z,4µm,21.0s,MS5.8
TAM Tamanrasset 85.38 68 *e*P **P 06 23 55.6 -0.2**
TAM *e**PP pP 06 24 09.4 +0.3
TAM pmax pmax
comp=Z,197nm,1.4s,mb6.0
TAM MLR MLR
comp=Z,4µm,21.0s,MS5.8
UBBA Unterbreizbach 85.44 39 *e*P **P 06 23 57.3 +1.8**
comp=Z,53nm,1.8s,mb5.4
CLZ Clausthal 85.54 38 *e*P **P 06 23 58.1 +2.2**
comp=Z,74nm,1.6s,mb5.7
CLZ Clausthal 85.54 38 *e*P **P 06 23 58.1 +2.2**
CLZ pmax pmax
comp=Z,74nm,1.6s,mb5.7
TUE Stuetta 85.58 44 *e*P **P 06 23 57.1 +0.9**
comp=Z,51nm,1.1s,mb5.7
TUE LR LR
comp=Z,5µm,19.0s,MS5.9
DAVA Damuels 85.83 43⇓*i*PcP PcP 06 23 59.9 -0.3
comp=Z,30nm,1.6s
DAVOX Davos/Dischmat 85.90 43 P **P 06 23 57.5 -0.4**
comp=Z,7.9nm,0.9s,mb4.9,baz=276,slow=9.3,SNR=6.8
DAVOX Davos/Dischmat 85.90 43 P **P 06 23 57.5 -0.3**
DAVOX Davos/Dischmat 85.90 43 P **P 06 23 57.5 -0.3**
LLD Lille Linde 86.12 35 *i* P pP 06 24 17.9 +5.9
comp=Z,32nm,1.1s
COP Copenhagen 86.19 34 *i* P pP 06 24 08.8 -3.6
comp=Z,30nm,0.9s
TRO Tromso 86.35 20 *e*SKS 06 34 20.2
GRFO Grafenberg 86.38 40 *e*P **P 06 23 59.3 -0.8**
comp=Z,38nm,0.9s,mb5.6
GRFO Grafenberg 86.38 40 *e*P **P 06 23 59.3 -0.8**
GRFO pmax pmax
comp=Z,39nm,0.9s,mb5.6
GRF Grafenberg Arr 86.38 40 *e*P **P 06 24 02.1 +2.0**
comp=Z,59nm,1.5s,mb5.6
GRF *e*L 06 56 56.3
comp=Z,12µm,21.8s
GRF Grafenberg Arr 86.38 40 *e*P **P 06 24 02.1 +2.0**
GRF pmax pmax
comp=Z,59nm,1.5s,mb5.6

RETA Reutte 86.40 43⇓*i*PcP PcP 06 24 02.6 -0.1
comp=Z,19nm,1.2s
FETA Feichten 86.44 43⇓*i*P **P 06 23 59.5 -1.0**
comp=Z,24nm,1.5s,mb5.2
MOX Moxa 86.48 39 *e*P **P 06 24 02.5 +1.9**
comp=Z,78nm,1.9s,mb5.6
MOX Moxa 86.48 39 *e*P **P 06 24 02.5 +1.9**
MOX pmax pmax
comp=Z,78nm,1.9s,mb5.6
VSL Villasalto 86.52 51 *e*P **P 06 24 01.0 0.0**
comp=Z,142nm,1.3s,mb6.0
VSL LR LR
comp=Z,3µm,22.0s,MS5.6
VLC Villacollemand 86.62 46 PFAKE 06 24 10.0 +8.6
VLC LR LR
comp=Z,2µm,21.0s,MS5.5
FUR Furstenfeldbru 86.64 42 *e*P **P 06 24 03.4 +2.0**
comp=Z,37nm,1.2s,mb5.5
FUR Furstenfeldbru 86.64 42 *e*P **P 06 24 03.4 +2.0**
FUR pmax pmax
comp=Z,37nm,1.2s,mb5.5
MOTA Moosalm 86.65 43⇓*e*PcP PcP 06 24 03.4 -0.4
comp=Z,4.4nm,0.9s
MOTA ⇓*i*sP sP 06 24 16.2 -3.6
comp=Z,10nm,0.7s
ROTZ Rotzenmuhle 87.00 40 *e*P **P 06 24 05.6 +2.5**
comp=Z,81nm,2.0s,mb5.6
KEST Kesra 87.02 54 P **P 06 24 01.6 -2.0**
comp=Z,1.4nm,0.8s,mb4.2,baz=288,slow=9.6,SNR=3.4
KEST Kesra 87.02 54 *e*P **P 06 24 04.0 +0.4**
WTTA Wattenberg 87.02 43⇑*i*PcP PcP 06 24 06.2 +0.7
comp=Z,23nm,1.3s
TANN Tannenbergstha 87.06 40 *e*P **P 06 24 05.6 +2.2**
comp=Z,2µm,5.0s
NKC Novy Kostel 87.08 40 *e*P **P 06 24 05.8 +2.3**
NKC *e* pP 06 24 18.2 +1.3
NKC *e* 06 34 28.7
NKC MLR MLR
comp=Z,9µm,21.0s,MS6.2
NKC Novy Kostel 87.08 40 *e*P **P 06 24 05.8 +2.3**
NKC *e*sP sP 06 24 18.2 -3.7
NKC *e*SKS 06 34 28.7
NKC AMS AMS 06 56 50.0
comp=Z,9µm,21.0s
CLL Collm 87.24 39 *e*P **P 06 24 06.1 +1.8**
comp=Z,95nm,1.8s,mb5.7
CLL Collm 87.24 39 *e*P **P 06 24 05.0 +0.7**
CLL *i* pP 06 24 18.1 +0.5
CLL *e*S S 06 34 36.0 -4.9
CLL pmax pmax
comp=Z,94nm,1.8s,mb5.7
CLL MLR MLR
comp=Z,3µm,20.5s,MS5.7
CLL Collm 87.24 39 *e*P **P 06 24 05.0 +0.7**
comp=Z,94nm,1.8s,mb5.7
CLL *i* sP sP 06 24 18.1 -4.5
comp=Z,193nm,1.8s
CLL *e* 06 24 25.0
CLL *i* 06 24 48.7
CLL *e*PP PP 06 27 42.0 +14
CLL *e*S S 06 34 36.0 -4.9
CLL *e*PS 06 35 44.0
CLL *e*SS SS 06 40 36.0 +11
CLL LV 07 01 00.0
comp=Z,3µm,20.5s
WET Wettzell 87.53 41 *e*P **P 06 24 08.0 +2.3**
comp=Z,58nm,1.5s,mb5.6
WET Wettzell 87.53 41 *e*P **P 06 24 08.0 +2.3**
WET pmax pmax
comp=Z,58nm,1.5s,mb5.6
ABTA Abfaltersbach 87.69 43⇑*i*PcP PcP 06 24 08.3 -0.2
comp=Z,44nm,1.3s
RJOB Jochberg 87.72 42 *e*P **P 06 24 08.7 +2.0**
comp=Z,101nm,2.2s,mb5.7
BRG Berggiesshubel 87.90 39 *e*P **P 06 24 10.3 +2.8**
comp=Z,45nm,1.6s,mb5.5
BRG *i* pP 06 24 21.9 +1.1
comp=Z,183nm,2.0s
BRG *i* 06 24 52.4
comp=Z,56nm,1.4s
BRG *e*PP PP 06 27 36.0 +2.2
comp=Z,53nm,2.0s
BRG S S 06 34 38.0 -9.3
BRG SS SS 06 40 14.0 -21
BRG *e*PKPPKP 06 50 00.2
comp=Z,10nm,0.8s
BRG
comp=N,5µm,21.0s
BRG
comp=E,4µm,20.4s
BRG
comp=Z,7µm,26.3s
BRG Berggiesshubel 87.90 39 *e*P **P 06 24 09.6 +2.1**
comp=Z,44nm,1.6s,mb5.4
BRG Berggiesshubel 87.90 39 *e*P **P 06 24 10.3 +2.8**
BRG *i* pP 06 24 21.9 +1.1
BRG *e* 06 27 36.0
BRG S S 06 34 38.0 -9.3
BRG pmax pmax
comp=Z,45nm,1.6s,mb5.5
BRG pmax pmax
comp=Z,183nm,2.0s,mb6.0
BRG pmax pmax
comp=Z,57nm,1.4s,mb5.6
BRG pmax pmax
comp=Z,53nm,2.0s,mb5.4
BRG pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
BRG MLR MLR
comp=N,5µm,21.0s,MS6.0
BRG MLR MLR
comp=E,4µm,20.4s,MS6.0
BRG MLR MLR
comp=Z,7µm,26.3s
KHC Kasperske Hory 87.99 41 *e*P **P 06 24 06.0 -1.9**
KHC *e* pP 06 24 19.5 -1.8
KHC Kasperske Hory 87.99 41 *e*P **P 06 24 09.5 +1.6**
KHC *e*pP pP 06 24 19.5 -1.8
KHC *ex* x 06 24 34.0
KTK1 Kautokeino 87.99 20 *e* SKSac 06 34 32.7 +0.6
GEC2 GERESS Array S 88.12 41 *e*P **P 06 24 10.6 +2.1**
comp=Z,39nm,1.6s,mb5.4
GEC2 GERESS Array S 88.12 41 *e*P **P 06 24 10.6 +2.1**
GEC2 pmax pmax
comp=Z,39nm,1.6s,mb5.4
GERES GERESS Array B 88.12 41 P **P 06 24 06.9 -1.6**
comp=Z,3.2nm,1.0s,mb4.5,baz=264,slow=2.5,SNR=18
GERES LR LR 06 58 19.3
comp=Z,5µm,21.6s,MS5.9,baz=274,slow=32
GERES GERESS Array B 88.12 41 P **P 06 24 06.9 -1.6**
GERES LR LR 06 58 19.3
GERES GERESS Array B 88.12 41 P **P 06 24 06.9 -1.6**
KBA Koelnbreinsper 88.20 43⇑*i*PcP PcP 06 24 11.8 +1.1
PVCC Panska Ves 88.36 39 *e*P **P 06 24 12.3 +2.7**
PVCC *e* pP 06 24 24.5 +1.5
PVCC *e* 06 34 37.3
PVCC MLR MLR
comp=Z,8µm,24.8s,MS6.0
PVCC Panska Ves 88.36 39 *e*P **P 06 24 12.3 +2.7**
PVCC *e*sP sP 06 24 24.5 -3.5
PVCC *e*SKS 06 34 37.3
PVCC AMS AMS 06 57 50.0
comp=Z,8µm,24.8s
PRA Prague 88.36 40 P **P 06 24 13.0 +3.3**
PRA AMS AMS 06 58 00.0
AMKA Amchitka 88.40 322 *e*P **P 06 24 09.6 -0.2**
comp=Z,422nm,0.8s,mb6.7
AMKA *e*pP pP 06 24 21.9 -1.3
PRU Pruhonice 88.45 40 *e*P **P 06 24 12.1 +2.0**
PRU *e* pP 06 24 25.1 +1.7
PRU *e* 06 34 35.9
PRU MLR MLR
comp=Z,10µm,21.3s,MS6.2
PRU Pruhonice 88.45 40 *e*P **P 06 24 12.1 +2.0**
PRU *e*sP sP 06 24 25.1 -3.3
PRU *e*SKS 06 34 35.9
PRU AMS AMS 06 57 30.0
comp=Z,10µm,21.3s
MYKA Terra Mystica 88.48 43⇑*i*PcP PcP 06 24 12.9 +0.9
comp=Z,44nm,1.4s
ARCES ARCESS Array B 88.58 20 P **P 06 24 07.5 -2.8**
comp=Z,2.0nm,0.4s,mb4.8,baz=347,slow=3.7,SNR=20
ARCES LR LR 07 02 56.2
comp=Z,5µm,21.6s,MS5.9,baz=300,slow=35
ARCES ARCESS Array B 88.58 20 P **P 06 24 07.5 -2.8**

ARCES LR LR 07 02 56.2
ARCES ARCESS Array B 88.58 20 P **P 06 24 07.5 -2.8**
CADS Cadrg 88.62 44 *e*P **P 06 24 07.6 -3.3**
MOA Molln 88.67 42⇑*i*PcP PcP 06 24 12.3 -0.5
comp=Z,14nm,0.8s
TRI Trieste 88.73 44 PFAKE 06 24 20.0 +8.5
TRI LR LR
comp=Z,4µm,21.0s,MS5.8
VOY Vojsko 88.76 44 *e* pP 06 24 24.1 -0.9
KEV Kevo 88.99 19 PFAKE 06 24 20.0 +7.8
KEV LR LR
comp=Z,6µm,19.0s,MS6.1
AQU L'Aquila 89.08 47 *e*P **P 06 24 12.0 -1.3**
AQU LR LR
comp=Z,3µm,19.0s,MS5.8
AQU L'Aquila 89.08 47 *e*P **P 06 24 12.0 -1.2**
AQU MLR MLR
comp=Z,3µm,19.0s,MS5.8
OBKA Obir 89.12 43⇑*e*PcP PcP 06 24 16.0 +1.3
comp=Z,17nm,1.9s
OBKA ⇓*i*sP sP 06 24 28.4 -3.3
comp=Z,36nm,1.8s
TREC Trest 89.19 40 *e*P **P 06 24 15.7 +2.1**
TREC *e* 06 34 41.3
TREC MLR MLR
comp=Z,10µm,20.3s,MS6.2
TREC Trest 89.19 40 *e*P **P 06 24 15.7 +2.1**
TREC *e*SKS 06 34 41.3
TREC AMS AMS 06 58 20.0
comp=Z,10µm,20.3s
LJU Ljubljana 89.19 44 *e*P **P 06 24 12.6 -1.1**
LJU *e* pP 06 24 27.8 +0.7
LJU *e*SKSac SKSac 06 34 40.5 +0.4
LJU *e*S S 06 35 01.7 +2.1
LJU *e* 06 36 20.1
UPC Upice 89.27 39 *e*P **P 06 24 13.0 -0.9**
UPC *e* pP 06 24 26.7 -0.6
UPC Upice 89.27 39 *e*P **P 06 24 13.0 -0.9**
UPC *e*pP pP 06 24 26.7 -0.6
KSP Ksiaz 89.37 39 *e*P **P 06 24 16.9 +2.5**
KSP LMZ 06 58 08.0
comp=Z,5µm,25.0s
SOKA Soboth 89.41 43⇑*i*PcP PcP 06 24 16.8 +0.7
comp=Z,11nm,1.3s
DPC Dobruska-Polom 89.49 39 *e*P **P 06 24 17.4 +2.4**
DPC *e* pP 06 24 28.1 -0.3
DPC *e* 06 34 40.7
DPC MLR MLR
comp=Z,6µm,23.1s,MS6.0
DPC Dobruska-Polom 89.49 39 *e*P **P 06 24 17.4 +2.4**
DPC *e*pP pP 06 24 28.1 -0.3
DPC *e*SKS 06 34 40.7
DPC AMS AMS 06 58 30.0
comp=Z,6µm,23.1s
ARSA Arzberg 89.63 42⇑*i*PcP PcP 06 24 18.0 +1.0
comp=Z,28nm,1.6s
CONA Conrad Observa 89.71 42⇓*i*PcP PcP 06 24 18.5 +1.2
comp=Z,32nm,1.8s
BILL Bilibino 89.95 339 *e*P **P 06 24 16.5 -0.2**
comp=Z,336nm,1.4s,mb6.5
BILL *e*pP pP 06 24 29.3 -0.8
BILL LR LR
comp=Z,7µm,21.0s,MS6.1
BILL Bilibino 89.95 339⇑*i*P **P 06 24 15.7 -1.0**
BILL *e* pP 06 24 30.2 +0.1
BILL *e* 06 34 50.1
BILL *e*PS PS 06 36 20.2 +3.0
BILL pmax pmax
comp=Z,119nm,1.7s,mb6.0
BILL MLR MLR
comp=Z,4µm,21.0s,MS5.8
MIDW Midway 90.02 298 PFAKE 06 24 30.0 +12
MIDW LR LR
comp=Z,3µm,22.0s,MS5.7
SOP Sopron 90.22 42⇓*e*PcP PcP 06 24 20.5 +0.9
MORC Moravsky Berou 90.39 40 *e*P **P 06 24 20.6 +1.5**
comp=Z,80nm,1.8s,mb5.8
MORC Moravsky Berou 90.39 40 *e*P **P 06 24 20.6 +1.4**
MORC pmax pmax
comp=Z,80nm,1.8s,mb5.8
ZST Bratislava 90.47 41 *e*P **P 06 24 21.7 +2.1**
ZST Bratislava 90.47 41 *e*P **P 06 24 21.7 +2.1**
OKC Ostrava-Krasne 90.75 39 *e*P **P 06 24 24.7 +3.8**
OKC MLR MLR
comp=Z,7µm,20.9s,MS6.1
OKC Ostrava-Krasne 90.75 39 *e*P **P 06 24 24.7 +3.8**
OKC AMS AMS 06 59 00.0
comp=Z,7µm,20.9s
AFI Afiamalu 90.89 256 P **P 06 24 20.8 -1.4**
comp=Z,39nm,1.0s,mb5.7,baz=291,slow=21,SNR=8.0
AFI LR LR 06 56 07.9
comp=Z,3µm,20.5s,MS5.7,baz=80,slow=30
AFI Afiamalu 90.89 256 P **P 06 24 20.8 -1.4**
AFI LR LR 06 56 07.9
AFI Afiamalu 90.89 256 P **P 06 24 20.8 -1.4**
WDD Wield Dalam 91.14 54 PFAKE 06 24 30.0 +7.0
WDD LR LR
comp=Z,2µm,20.0s,MS5.5
CUC Castrocucco 91.33 49 PFAKE 06 24 40.0 +16
CUC LR LR
comp=Z,2µm,20.0s,MS5.6
VYHS Vyhne 91.52 41 *e*P **P 06 24 26.9 +2.5**
VYHS pmax pmax
comp=Z,759nm,5.6s
VYHS Vyhne 91.52 41 *e*P **P 06 24 26.9 +2.5**
FINES FINESS Array B 91.63 27 P **P 06 24 23.6 -1.1**
comp=Z,9.7nm,1.0s,mb5.1,baz=248,slow=2.1,SNR=4.5
FINES LR LR 07 05 21.5
comp=Z,3µm,20.4s,MS5.7,baz=286,slow=35
FINES FINESS Array B 91.63 27 P **P 06 24 23.6 -1.1**
FINES LR LR 07 05 21.5
FINES FINESS Array B 91.63 27 P **P 06 24 23.6 -1.1**
OJC Ojcow 91.69 39 *e*P **P 06 24 24.4 -0.8**
OJC Ojcow 91.69 39 *e*P **P 06 24 24.4 -0.8**
CEL Celeste 91.74 51 PFAKE 06 24 40.0 +14
CEL LR LR
comp=Z,3µm,21.0s,MS5.7
BEL Belsk 91.86 37 *e*P **P 06 24 29.7 +3.7**
BEL LMZ 06 59 59.4
comp=Z,8µm,23.6s
BEL Belsk 91.86 37 *e*P **P 06 24 29.7 +3.7**
APA Apatity 92.03 20⇓*e*P pP 06 24 37.0 -2.8
APA *i* SS SS 06 41 40.0 +6.3
APA MLR MLR
comp=Z,8µm,17.0s,MS6.3
NIE Niedzica 92.22 40 *e*P **P 06 24 27.2 -0.5**
NIE Niedzica 92.22 40 *e*P **P 06 24 27.2 -0.5**
LVZ Lovozero 92.30 20 PFAKE 06 24 40.0 +12
LVZ LR LR
comp=Z,5µm,19.0s,MS6.0
PSZ Piszkesteto 92.35 41 *e*P **P 06 24 29.4 +1.1**
comp=Z,95nm,1.5s,mb5.9
PSZ *e*pP pP 06 24 41.5 -0.2
PSZ LR LR
comp=Z,5µm,22.0s,MS6.0
PSZ Piszkesteto 92.35 41 *e*P **P 06 24 29.4 +1.1**
PSZ *e**PP pP 06 24 41.5 -0.2
PSZ pmax pmax
comp=Z,95nm,1.5s,mb5.9
PSZ MLR MLR
comp=Z,5µm,22.0s,MS6.0
PSZ Piszkesteto 92.35 41⇓*e*PcP PcP 06 24 30.0 +1.0
VNA3 Neumayer Olymp 92.51 162 *e* **P 06 24 24.0 -4.4**
VNA3 *e* 06 28 09.3
KECS Kecovo 92.58 40 *e*P **P 06 24 32.1 +2.7**
KECS pmax pmax
comp=Z,136nm,5.1s
KECS Kecovo 92.58 40 *e*P **P 06 24 32.1 +2.7**
SUW Suwalki 92.62 35 *e*P **P 06 24 28.4 -1.0**
SUW LMZ 07 02 11.9
comp=Z,6µm,24.9s
SUW Suwalki 92.62 35 *e*P **P 06 24 28.4 -1.0**
VNA1 Neumayer--Stat 92.77 161 *e* **P 06 24 25.8 -3.8**
VNA2 Neumayer--Watz 93.12 161 *e* **P 06 24 26.7 -4.6**
VNA2 *e* 06 28 12.5
KWP Kalwaria Pacla 93.66 39 *e*P **P 06 24 38.3 +4.0**
KWP LMZ 07 01 16.5
comp=Z,5µm,22.4s
KWP Kalwaria Pacla 93.66 39 PFAKE 06 24 50.0 +16
KWP LR LR
comp=Z,6µm,22.0s,MS6.0
KWP Kalwaria Pacla 93.66 39 *e*P **P 06 24 38.3 +4.0**
UZH Uzhgorod 93.69 40 *e*P **P 06 24 36.0 +1.5**
UZH *e* pP 06 24 48.9 +1.0

UZH e 06 28 21.3
UZH e 06 35 06.0
UZH eS S 06 35 39.0 -1.3
UZH ePS PS 06 36 53.0 -6.4
ISAL Salakas 93.72 33 eP **P** **06 24 35.4 +0.9**
IZAR Zarasai 93.72 32 eP **P** **06 24 35.3 +0.9**
IIGN Ignalina 93.85 33 eP **P** **06 24 35.9 +0.8**
TIR Tirane 94.01 47 PFAKE 06 24 50.0 +14
TIR LR LR
comp=Z,3μm,19.0s,MS5.7
LVV L'vov 94.42 38 eP **P** **06 24 40.5 +2.7**
SNAA Sanae 94.73 162 eP **P** **06 24 34.4 -4.3**
comp=Z,42nm,1.3s,mb5.7
SNAA Sanae 94.73 162 eP **P** **06 24 34.4 -4.3**
SNAA pmax pmax
comp=Z,42nm,1.3s
MICGM Minsk 95.05 33 eLR LR 06 55 40.0
MSKU Masuku 96.68 91 P **P** **06 24 46.9 -2.0**
comp=Z,10nm,0.6s,mb5.5,baz=278,slow=16,SNR=4.1
MSKU Masuku 96.68 91 P **P** **06 24 46.9 -2.0**
KIEV Kiev 97.23 36 PFAKE 06 25 00.0 +9.4
KIEV LR LR
comp=Z,7μm,22.0s,MS6.1
AKASG Malin Array Be 97.24 36 P **P** **06 24 49.3 -1.3**
comp=Z,0.4nm,0.4s,mb4.2,baz=286,slow=3.7,SNR=5.2
AKASG LR LR 07 05 21.2
comp=Z,6μm,21.5s,MS6.0,baz=300,slow=33
AKASG Malin Array Be 97.24 36 P **P** **06 24 49.3 -1.3**
AKASG LR LR 07 05 21.1
AKASG Malin Array Be 97.24 36 P **P** **06 24 49.3 -1.3**
KLMR Klimovskoe 97.72 25 eP **P** **06 24 52.2 -0.3**
KLMR e 06 28 59.7
KLMR pmax pmax
comp=Z,118nm,1.7s,mb6.1
QSPA South Pole Qui 98.32 180 eP **P** **06 24 54.2 -0.6**
comp=Z,210nm,2.0s,mb6.3
QSPA LR LR
comp=Z,4μm,22.0s,MS5.9
RAO Raoul Island 98.37 242 PFAKE 06 25 10.0 +14
RAO LR LR
comp=Z,4μm,22.0s,MS5.8
KIS Kishinev 98.38 40 ePP PP 06 28 54.0 -1.9
KIS Kishinev 98.38 40 ePS PS 06 37 46.0 -4.7
KIS eSS SS 06 43 23.0 +18
KIS eLR LR 06 57 24.0
comp=Z,7μm,24.0s
FUNA Funafuti 98.96 263 PFAKE 06 25 10.0 +11
FUNA LR LR
comp=Z,7μm,21.0s,MS6.1
OBN Obninsk 99.32 30 PFAKE 06 25 10.0 +10
OBN LR LR
comp=Z,5μm,19.0s,MS6.0
OBN Obninsk 99.32 30 eP **P** **06 24 59.2 -0.6**
OBN e 06 35 36.9
OBN ePS PS 06 37 55.0 -5.4
OBN eSS SS 06 43 21.1 +3.7
OBN pmax pmax
comp=Z,61nm,1.8s,mb5.8
OBN MLR MLR
comp=Z,4μm,18.0s,MS5.9
PET Petropavlovsk 99.79 327 PFAKE 06 25 10.0 +8.1
PET LR LR
comp=Z,4μm,21.0s,MS5.8
PET Petropavlovsk 99.79 327 eP Pdif 06 25 03.7 +1.8
PET e 06 29 12.7
PET e 06 35 38.9
PET eS S 06 36 30.2 -2.2
PET ePS PS 06 38 04.7 -0.9
PET eSS SS 06 43 26.9 +2.8
PET pmax pmax
comp=Z,15nm,0.8s,mb5.5
PET pmax pmax
comp=Z,200nm,13.0s
PET MLR MLR
comp=Z,5μm,20.0s,MS6.0
MSVF Nonsavu 101.06 254 PFAKE 06 25 20.0 +12
MSVF LR LR
comp=Z,3μm,19.0s,MS5.8
SBA Scott Base 102.33 192 PFAKE 06 25 20.0 +6.8
SBA LR LR
comp=Z,3μm,20.0s,MS5.8
TSUM Tsumeb 102.55 108 PFAKE 06 25 30.0 +16
TSUM LR LR
comp=Z,8μm,20.0s,MS6.2
SIM Simferopol' 102.59 40 P Pdif 06 25 18.0 +3.6
SIM e 06 35 51.0
SIM eSS PS 06 38 41.0 +5.3
SIM pmax pmax
comp=Z,400nm,15.0s
VNDA Vanda 103.43 192 PFAKE 06 25 30.0 +12
VNDA LR LR
comp=Z,3μm,20.0s,MS5.8
TARA Tarawa 103.82 273 PFAKE 06 25 30.0 +10
TARA LR LR
comp=Z,4μm,22.0s,MS5.9
BR131 Keskin Array S 104.45 45 PFAKE 06 25 30.0 +7.4
BR131 LR LR
comp=Z,1μm,22.0s,MS5.5
BRTR Keskin Array B 104.45 45 PKiKP PKiKP 06 29 39.1 -0.1
comp=Z,1.5nm,1.0s,baz=335,slow=1.8,SNR=3.7
BRTR PKKPbc PKKPbc 06 41 26.4 +16
comp=Z,1.3nm,0.7s,baz=100,slow=5.4,SNR=4.3
SNZO South Karori 104.75 230 PFAKE 06 25 40.0 +16
SNZO LR LR
comp=Z,7μm,21.0s,MS6.2
ANN Anapa 104.76 39 eP Pdif 06 25 22.0 -2.0
ANN pmax pmax
comp=Z,46nm,1.5s
YAK Yakutsk 105.44 345 PFAKE 06 29 50.0 +10
YAK LR LR
comp=Z,6μm,22.0s,MS6.1
SUR Sutherland 105.97 121 PFAKE 06 29 50.0 +7.9
SUR LR LR
comp=Z,4μm,22.0s,MS6.0
CSS Prodhromos 106.09 50 PFAKE 06 29 50.0 +7.7
CSS LR LR
comp=Z,2μm,22.0s,MS5.6
WAKE Wake Island 106.22 293 PFAKE 06 29 50.0 +7.0
WAKE LR LR
comp=Z,2μm,19.0s,MS5.7
SOC Sochi 106.79 40 *i* P Pdif 06 25 32.8 -0.2
SOC e 06 29 56.3
SOC ePS PS 06 39 23.3 +3.8
ARU Arti 108.08 21 PFAKE 06 30 00.0 +15
ARU LR LR
comp=Z,5μm,22.0s,MS6.0
MALT Malatya 108.42 45 PFAKE 06 30 00.0 +13
MALT LR LR
comp=Z,2μm,21.0s,MS5.5
KIV Kislovodsk 108.45 38 PFAKE 06 30 00.0 +14
KIV LR LR
comp=Z,3μm,22.0s,MS5.8
KIV Kislovodsk 108.45 38 eP Pdif 06 25 41.5 +1.1
KIV e 06 30 12.2
KIV ePPP 06 32 28.9
KIV ePS PS 06 39 35.3 -1.2
KIV eSS SS 06 45 24.3 +1.0
KIV pmax pmax
comp=Z,7.0nm,0.9s
BOSA Boshof 109.86 117 PKiKP PKiKP 06 29 48.0 -1.5
comp=Z,3.1nm,0.8s,baz=330,slow=11,SNR=5.8
BOSA Boshof 109.86 117 PKPdf PKiKP 06 29 48.0 -1.5
BOSA LR LR
comp=Z,10μm,21.0s,MS6.4
LBTB Lobatse 110.20 114 PFAKE 06 30 00.0 +10
LBTB LR LR
comp=Z,8μm,20.0s,MS6.3
YSS Yuzh-Sakhalins 111.66 328 PFAKE 06 30 00.0 +7.6
YSS LR LR
comp=Z,1μm,20.0s,MS5.5
YUK Yuzh-Kuril'sk 111.77 324 *i* PKiKP PKiKP 06 29 33.7 -19
YUK *i* 06 30 44.5
YUK *i* PPP 06 32 52.2
YUK e 06 37 00.2
YUK *i* PS PS 06 39 59.4 -8.9
YUK eSS SS 06 46 00.7 -6.9
GNI Garni 111.77 41 PFAKE 06 30 00.0 +7.2
GNI LR LR
comp=Z,2μm,21.0s,MS5.7
MAK Makhachkala 111.92 37 eP Pdif 06 25 59.5 +3.7
MAK *i* 06 29 51.8
MAK e 06 36 59.5
MAK pmax pmax
comp=Z,717nm,3.1s
MAK MLR MLR
comp=Z,3μm,22.0s,MS5.9
DZM Mont Dzumac 112.18 250 ePdif Pdif 06 25 57.1 +0.1
comp=Z,235nm,27.1s
DZM Mont Dzumac 112.18 250 ePP PP 06 30 33.7 -5.5
comp=Z,862nm,27.1s
DZM Mont Dzumac 112.18 250 ePS PS 06 40 11.2 -2.3
comp=Z,2μm,31.6s
DZM eSS SS 06 46 17.0 +1.5
comp=Z,1μm,24.9s
DZM eLQ 06 58 29.4
comp=Z,2μm,37.0s
DZM eLR LR 07 03 18.8
AKTO Aktyubinsk 112.38 26 PKiKP PKiKP 06 29 51.9 -1.8
comp=Z,0.8nm,0.3s,baz=69,slow=2.1,SNR=3.9
AKTO Aktyubinsk 112.38 26 PKPdf PKiKP 06 29 51.9 -1.8
AKTO Aktyubinsk 112.38 26 PKiKP PKiKP 06 29 51.9 -1.8
LSZ Lusaka 112.42 103 PFAKE 06 30 10.0 +15
LSZ LR LR
comp=Z,4μm,20.0s,MS6.0
MBAR Mbarara 113.47 87 PFAKE 06 30 10.0 +13
MBAR LR LR
comp=Z,618nm,21.0s,MS5.2
ERM Erimo 114.57 324 PFAKE 06 30 10.0 +12
ERM LR LR
comp=Z,3μm,22.0s,MS5.9
BRVK Borovoye 114.73 17 PFAKE 06 30 10.0 +12
BRVK LR LR
comp=Z,8μm,21.0s,MS6.3
DRV Dumont d'Urvil 114.88 197 Pdif Pdif 06 26 19.0 +10
DRV Dumont d'Urvil 114.88 197 PP PP 06 30 45.0 -12
DRV SP SP 06 40 35.0 +5.2
DRV L 06 59 00.0
DRV R 07 05 00.0
KLR Kul'dur 115.15 336 ePKIKP PKiKP 06 30 06.2 +7.2
KLR *e* 06 31 09.7
KLR pmax pmax
comp=Z,110nm,1.8s
MAW Mawson 116.51 166 PFAKE 06 30 10.0 +8.9
MAW LR LR
comp=Z,3μm,20.0s,MS5.9
ZALV Zalesovo Beam 117.10 8 PKP PKPdf 06 30 00.3 -2.4
comp=Z,1.1nm,0.4s,baz=321,slow=4.0,SNR=7.3
ZALV PKKP PKKPbc 06 40 44.2 +15
comp=Z,1.4nm,0.7s,baz=166,slow=3.1,SNR=4.6
ZALV Zalesovo Beam 117.10 8 PKP PKPdf 06 30 00.3 -2.4
ZALV PKKP PKKPbc 06 40 44.2 +15
ZALV Zalesovo Beam 117.10 8 PKiKP PKPdf 06 30 00.3 -2.3
ZALV 06 40 44.2
HNR Honiara 117.97 264 PFAKE 06 30 20.0 +15
HNR LR LR
comp=Z,5μm,21.0s,MS6.1
KURK Kurchatov 119.05 13 PKP PKPdf 06 30 04.7 -1.8
comp=Z,3.6nm,0.8s,baz=331,slow=2.2,SNR=19
KURK PKKPbc PKKPbc 06 40 16.8 -5.5
comp=Z,1.0nm,0.6s,baz=159,slow=3.1,SNR=6.5
KURK PKKPab PKKPab 06 40 32.9 +8.5
comp=Z,3.2nm,1.0s,baz=163,slow=3.2,SNR=5.3
KURK Kurchatov 119.05 13 ePKPdf PKPdf 06 30 04.5 -2.0
KURK LR LR
comp=Z,12μm,20.0s,MS6.5
KURK Kurchatov 119.05 13 *i* PKIKP PKPdf 06 30 04.9 -1.6
HIA Hailar 119.31 343 PFAKE 06 30 20.0 +13
HIA LR LR
comp=Z,8μm,20.0s,MS6.4
MDJ Mudanjiang 119.70 334 PKP PKPdf 06 30 09.0 +1.1
MDJ PP PP 06 31 33.1 +2.9
MDJ SS SS 06 47 57.3 +6.5
MDJ AMB AMB
comp=Z,280nm,8.4s
MDJ LR LR
comp=N,3μm,33.9s,MS6.0
MDJ LR LR
comp=E,6μm,29.1s,MS6.0
MDJ LR LR
comp=Z,5μm,20.1s
MDJ Mudanjiang 119.70 334 PFAKE 06 30 20.0 +12
MDJ LR LR
comp=Z,5μm,20.0s,MS6.2
TLY Talaya 119.97 355 PFAKE 06 30 20.0 +12
TLY LR LR
comp=Z,3μm,19.0s,MS6.0
KMBO Kilima Mbogo 119.99 86 PFAKE 06 30 20.0 +11
KMBO LR LR
comp=Z,3μm,20.0s,MS5.9
MJAR Matsushiro Arr 121.01 322 PKP PKPdf 06 30 08.8 -1.9
comp=Z,3.7nm,0.7s,baz=126,slow=0.9,SNR=5.9
MJAR Matsushiro Arr 121.01 322 PKP PKPdf 06 30 08.8 -1.9
MJAR Matsushiro Arr 121.01 322 PKIKP PKPdf 06 30 08.8 -1.9
MAJO Matsushiro 121.01 322 PFAKE 06 30 20.0 +9.3
MAJO LR LR
comp=Z,3μm,21.0s,MS5.9
MAT Matsushiro 121.01 322 PKP PKPdf 06 30 09.0 -1.7
ZAK Zakamensk 121.29 355 ePKIKP PKPdf 06 30 00.8 -10
ZAK *e* 06 31 38.4
ZAK pmax pmax
comp=Z,3.0nm,2.1s
ZAK pmax pmax
comp=Z,7.0nm,1.9s
CASY Casey 121.40 186 ePKP PKPdf 06 30 07.6 -2.9
CASY Casey 121.40 186 PFAKE 06 30 20.0 +10
CASY LR LR
comp=Z,5μm,20.0s,MS6.1
CN2 Changchun 122.10 336 ePKP PKPdf 06 30 14.4 +1.8
CN2 esPKP 06 30 30.4
CN2 ePP PP 06 31 52.8 +6.3
CN2 eSS SS 06 48 25.1 +3.7
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,4μm,18.0s,MS6.2
CN2 LR LR
comp=E,3μm,18.0s,MS6.2
CN2 LR LR
comp=Z,4μm,20.0s,MS6.1
ULN Ulaanbaatar 123.36 352 PFAKE 06 30 30.0 +15
ULN LR LR
comp=Z,5μm,20.0s,MS6.1
ULN Ulaanbaatar 123.36 352 P PKPdf 06 30 14.5 -0.3
SNR=6.2
SONM Songino Array 123.48 353 PKP PKPdf 06 30 13.6 -1.5
comp=Z,4.3nm,0.8s,baz=330,slow=1.4,SNR=22
SONM PKKPbc PKKPbc 06 40 02.0 -3.5
comp=Z,1.2nm,1.1s,baz=173,slow=6.0,SNR=3.9
SONM Songino Array 123.48 353 PKP PKPdf 06 30 13.6 -1.5
SONM PKKPbc PKKPbc 06 40 02.0 -3.5
SONM Songino Array 123.48 353 PKIKP PKPdf 06 30 13.6 -1.5
MKAR Makanchi Array 123.56 12 PKP PKPdf 06 30 12.8 -2.4
comp=Z,3.0nm,0.8s,baz=354,slow=1.8,SNR=9.3
MKAR Makanchi Array 123.56 12 PKP PKPdf 06 30 12.8 -2.4
MKAR Makanchi Array 123.56 12 PKIKP PKPdf 06 30 12.9 -2.4
TAU Tasmania Unive 124.25 223 PFAKE 06 30 30.0 +13
TAU LR LR
comp=Z,7μm,20.0s,MS6.3
EKS2 Erkin-Say 124.97 21 PFAKE 06 30 30.0 +12
EKS2 LR LR
comp=Z,4μm,21.0s,MS6.1
FRU Bishkek 125.11 20 ePKIKP PKPdf 06 30 17.0 -1.4
FRU *e* 06 30 30.0
FRU pmax pmax
comp=Z,40nm,1.6s
AAK Ala-Archa 125.25 20 PFAKE 06 30 30.0 +11
AAK LR LR
comp=Z,5μm,20.0s,MS6.2
CNB Canberra Magne 125.32 232 ePKP PKPdf 06 30 17.8 -1.1
comp=Z,105nm,1.0s
TKM2 Tokmak 2 125.36 19 PFAKE 06 30 30.0 +11
TKM2 LR LR
comp=Z,4μm,20.0s,MS6.1
CAN Canberra 125.60 232 PFAKE 06 30 30.0 +11
CAN LR LR
comp=Z,2μm,20.0s,MS5.9
KSRS Korea Array 126.10 330 PKP PKPdf 06 30 19.3 -1.1
comp=Z,12nm,0.7s,baz=12,slow=1.5,SNR=31
KSAR Wonju Array Be 126.13 330 PKP PKPdf 06 30 19.3 -1.2
KSAR Wonju Array Be 126.13 330 PKIKP PKPdf 06 30 19.3 -1.2
INCN Inchon 126.71 331 PFAKE 06 30 30.0 +8.4
INCN LR LR
comp=Z,2μm,20.0s,MS5.8
WMQ Urumqi 127.40 9 PKP PKPdf 06 30 21.8 -0.9
WMQ sPKP 06 30 36.0
WMQ PP PP 06 32 25.8 +4.1
WMQ PKS 06 33 56.9
WMQ SKS SKSdf 06 37 28.3 -2.8
WMQ SKKS SKKSac 06 39 13.8 -3.2
WMQ LR LR
comp=N,8μm,24.3s,MS6.4
WMQ LR LR
comp=E,4μm,21.0s,MS6.4
WMQ LR LR
comp=Z,9μm,23.1s,MS6.4
TOO Toolangi 127.55 229 ePKP PKPdf 06 30 21.6 -1.5
comp=Z,75nm,0.9s
TOO ePP PP 06 32 19.8 -4.3
DL2 Dalian 127.77 336 ePKP PKPdf 06 30 25.4 +1.8
DL2 PP PP 06 32 32.6 +8.2
DL2 AMB AMB
comp=Z,310nm,7.3s
DL2 LR LR
comp=N,1μm,21.3s,MS5.8
DL2 LR LR
comp=E,2μm,21.5s,MS5.8
DL2 LR LR
comp=Z,2μm,22.1s,MS5.7
GUMO Guam 127.82 294 PFAKE 06 30 40.0 +16
GUMO LR LR
comp=Z,2μm,19.0s,MS5.7
HATD Hatta, Dubai 128.24 49 P PKPdf 06 30 23.2 -1.6
SNR=9.3
ASHO Ashiyiah 128.26 50 P PKPdf 06 30 23.9 -1.1
SNR=5.4
BJI Beijing 128.74 341 PKP PKPdf 06 30 23.9 -1.5
BJI PP PP 06 32 32.4 +1.7
BJI SKS SKSdf 06 37 33.0 -0.7
BJI SS SS 06 49 45.8 +1.2
BJI AMB AMB
comp=Z,400nm,8.1s
BJI LR LR
comp=N,5μm,19.7s,MS6.2
BJI LR LR
comp=E,660nm,18.1s,MS6.2
BJI LR LR
comp=Z,5μm,22.8s,MS6.1
BJT Baijiatuau 128.77 341 PFAKE 06 30 40.0 +15
BJT LR LR
comp=Z,5μm,20.0s,MS6.2
HHC Hu-ho-hao-te 129.29 346 PKP PKPdf 06 30 25.4 -1.0
HHC sPKP 06 30 40.3
HHC PP PP 06 32 37.4 +3.3
HHC PKS 06 34 00.3
HHC SKS SKSdf 06 37 31.5 -3.2
HHC SKKS SKKSac 06 39 27.3 -1.6
HHC SS SS 06 49 52.5 +1.4
HHC AMB AMB
comp=Z,660nm,9.3s
HHC LR LR
comp=N,4μm,20.8s,MS6.2
HHC LR LR
comp=E,2μm,20.0s,MS6.2
HHC LR LR
comp=Z,4μm,21.0s,MS6.0
CMSA Cobar Meteorol 129.33 236 ePKP PKPdf 06 30 25.0 -1.7
comp=Z,84nm,1.5s
CMSA epPKP pPKPdf 06 30 40.6 +0.1
KBL Kabul 129.77 30 ePKPdf PKPdf 06 30 26.2 -1.3
KBL Kabul 129.77 30 ePKIKP PKPdf 06 30 26.2 -1.3
BSY Bisya 130.21 51 P PKPdf 06 30 26.9 -1.7
SNR=9.6
ABPO Ambohimpanom 130.54 108 PFAKE 06 30 40.0 +11
ABPO LR LR
comp=Z,5μm,19.0s,MS6.2
ARPS Mount Arapiles 130.55 228 ePKP PKPdf 06 30 27.1 -1.8
comp=Z,187nm,1.3s
PMG Port Moresby 130.56 265 PFAKE 06 30 40.0 +10
PMG LR LR
comp=Z,4μm,19.0s,MS6.2
PMG Port Moresby 130.56 265 *d* *i* PKIKP PKPdf 06 30 29.7 +0.2
CTA Charters Tower 131.10 251 PKP PKPdf 06 30 28.8 -1.6
comp=Z,5.8nm,0.6s,baz=15,slow=3.2,SNR=11
CTA Charters Tower 131.10 251 ePKP PKPdf 06 30 29.0 -1.4
comp=Z,18nm,1.5s
CTA epPKP pPKPdf 06 30 45.3 +1.1
CTA ePP PP 06 32 47.8 -0.2
CTA eSKP 06 33 49.8
CTA Charters Tower 131.10 251 PKP PKPdf 06 30 28.8 -1.6
CTA Charters Tower 131.10 251 PKIKP PKPdf 06 30 28.8 -1.6
CTAO Charters Tower 131.10 251 PFAKE 06 30 40.0 +10
CTAO LR LR
comp=Z,3μm,19.0s,MS6.1
QLP Quilpie 131.82 242 ePKP PKPdf 06 30 31.4 -0.2
QLP epPKP pPKPdf 06 30 46.0 +0.6
GTA Gaotai 132.44 357 ePKP PKPdf 06 30 30.9 -1.5
GTA sPKP 06 30 49.6
GTA AMB AMB
comp=Z,340nm,6.4s
GTA LR LR
comp=N,480nm,20.9s,MS5.8
GTA LR LR
comp=E,2μm,24.7s,MS5.8
GTA LR LR
comp=Z,2μm,26.8s,MS5.7
STKA Stephens Creek 132.54 234 PKhKP PKPpre 06 30 22.6
comp=Z,1.7nm,0.5s,baz=101,slow=2.3,SNR=4.1
STKA PKP PKPdf 06 30 30.3 -2.5
comp=Z,7.4nm,0.7s,baz=74,slow=0.2,SNR=15
STKA Stephens Creek 132.54 234 ePKP PKPpre 06 30 22.1
comp=Z,2.9nm,0.9s
STKA Stephens Creek 132.54 234 ePKP PKPdf 06 30 31.2 -1.6
STKA epPKP pPKPdf 06 30 44.8 -1.8
STKA ePP PP 06 32 56.5 -0.2
STKA eSKP 06 33 53.8
STKA Stephens Creek 132.54 234 PKP PKPdf 06 30 30.3 -2.5
STKA Stephens Creek 132.54 234 PKIKP PKPdf 06 30 30.3 -2.5
PAF Port-aux-Franc 133.32 156 PFAKE 06 30 50.0 +16
PAF LR LR
comp=Z,4μm,20.0s,MS6.1
SSE Sheshan 134.51 331 PKP PKPdf 06 30 37.1 +0.5
SSE PP PP 06 33 16.8 +8.6
SSE AMB AMB
comp=Z,490nm,4.4s
SSE LR LR
comp=N,1μm,32.8s,MS6.0
SSE LR LR
comp=E,4μm,32.0s,MS6.0
SSE LR LR
comp=Z,4μm,18.2s
NJ2 Nanjing 134.79 334 ePKP PKPdf 06 30 36.9 -0.2
NJ2 sPKP 06 30 49.9
NJ2 PP PP 06 33 14.0 +4.1
NJ2 PKS 06 34 13.0
NJ2 SKS SKSdf 06 37 42.0 -2.9
NJ2 AMB AMB
comp=Z,420nm,8.2s
NJ2 LR LR
comp=N,4μm,29.1s,MS6.1
NJ2 LR LR
comp=E,4μm,27.4s,MS6.1
NJ2 LR LR
comp=Z,810nm,22.4s,MS5.4
LZH Lanzhou 135.37 352 ePKP PKPdf 06 30 37.5 -0.5
LZH sPKP 06 30 48.0
LZH PP PP 06 33 17.0 +3.9
LZH PKS 06 34 14.1
LZH SKKS SKKSac 06 40 03.3 -2.9
LZH SS SS 06 51 08.0 +3.1
LZH AMB AMB
comp=Z,540nm,7.4s
LZH LR LR
comp=N,4μm,19.7s,MS6.3
LZH LR LR
comp=E,4μm,19.4s,MS6.3
LZH LR LR
comp=Z,6μm,20.0s,MS6.3
XAN Xi'an 136.40 346 PKP PKPdf 06 30 38.3 -1.7
XAN sPKP 06 30 59.0
XAN SKKS SKKSac 06 40 12.3 -0.2
XAN LR LR
comp=N,4μm,22.6s
XAN LR LR
comp=Z,2μm,22.6s,MS5.7
DDI Dehra Dun 137.44 25 ePKP PKPdf 06 30 41.5 -0.6
WHN Wuhan 137.95 338 PKP PKPdf 06 30 38.4 -4.6
WHN sPKP 06 30 52.1
WHN PP PP 06 33 33.8 +4.2
WHN PKS 06 34 15.1
WHN SKKS SKKSac 06 40 18.0 -3.9
WHN LR LR
comp=N,3μm,15.6s,MS6.5
WHN LR LR
comp=E,7μm,20.4s,MS6.5

WHN LR LR
comp=Z,11μm,20.9s,MS6.6
RER Riviere de l'E 138.16 112 PFAKE 06 31 00.0 +16
RER LR LR
comp=Z,5μm,21.0s,MS6.2
NDI New Delhi 138.50 27 *e*PKP PKPdf 06 30 42.0 -2.0
NDI *ex* x 06 34 13.0
MSEY Mahe Island 138.51 88 PFAKE 06 31 00.0 +16
MSEY LR LR
comp=Z,2μm,19.0s,MS5.9
TATO Taipei 139.25 325 PFAKE 06 31 00.0 +14
TATO LR LR
comp=Z,4μm,21.0s,MS6.2
YHNB Yeheng 139.55 325 PFAKE 06 31 00.0 +14
YHNB LR LR
comp=Z,4μm,22.0s,MS6.1
ENH Enshi 139.82 343 *e*PKPdf PKPdf 06 30 44.9 -1.6
ENH LR LR
comp=Z,4μm,20.0s,MS6.2
CD2 Chengdu 140.47 351 PKP PKPdf 06 30 46.8 -0.8
CD2 sPKP 06 31 01.3
CD2 PP PP 06 33 49.0 +4.2
CD2 PKS 06 34 21.8
CD2 SKKS SKKSac 06 40 35.8 -0.8
CD2 SS SS 06 52 07.9 +2.6
CD2 AMB AMB
comp=Z,320nm,8.9s
CD2 LR LR
comp=N,5μm,21.4s
CD2 LR LR
comp=Z,5μm,23.8s,MS6.2
PYUN Piuthan 141.31 20 *e*P PKPdf 06 30 42.5 -6.7
comp=Z,222nm,1.3s
DANN Dangsing 141.33 19 *e*P PKPdf 06 30 41.2 -8.0
ASAR Alice Springs 141.62 242 PKhKP PKPpre 06 30 42.0
comp=Z,8.6nm,0.6s,baz=116,slow=3.7,SNR=100
LSA Lhasa 141.76 8 PKP PKPdf 06 30 48.0 -1.9
LSA Lhasa 141.76 8 *e*PKPdf PKPdf 06 30 49.8 -0.2
LSA LR LR
comp=Z,3μm,21.0s,MS6.0
LSA Lhasa 141.76 8 *e*PKIKP PKPdf 06 30 49.8 -0.1
LSA MLR MLR
comp=Z,3μm,21.0s,MS6.0
KOLN Koldanda 141.81 20 *e*P PKPdf 06 30 43.4 -6.7
GKN Gorkha 141.93 18 *e*P PKPdf 06 30 43.3 -7.0
WRAB Tennant Creek 142.17 248 PFAKE 06 31 00.0 +9.1
WRAB LR LR
comp=Z,6μm,20.0s,MS6.3
WRA Warramunga Arr 142.18 248 PKhKP PKPpre 06 30 44.8
comp=Z,21nm,0.8s,baz=98,slow=2.8,SNR=110
KKN Kakani 142.32 17 *e*P PKPdf 06 30 45.0 -6.0
GUN Gumba 142.38 16 *e*P PKPdf 06 30 44.5 -6.6
DMN Daman 142.44 18 *e*P PKPdf 06 30 44.8 -6.4
comp=Z,191nm,1.3s
PKI Pulchoki 142.56 17 *e*P PKPdf 06 30 45.5 -5.9
BHPL Bhopal 143.19 31 *e*PKP PKPdf 06 30 50.5 -2.1
TAPN Taplejung 143.39 14 *e*P PKPdf 06 30 48.1 -4.8
comp=Z,93nm,1.0s
FORT Forrest 143.47 228 *e*PKP PKPdf 06 30 48.0 -4.9
comp=Z,38nm,0.8s
RAMN Ramite 143.49 16 *e*P PKPdf 06 30 48.6 -4.5
ODAN Odare 143.78 15 *e*P PKPdf 06 30 50.5 -3.1
comp=Z,249nm,1.3s
GYA Guiyang 144.20 345 *i* PKP PKPdf 06 30 52.9 -1.4
GYA sPKP 06 31 12.8
GYA PP PP 06 34 11.0 +3.5
GYA SKKS SKKSac 06 40 55.0 -3.3
GYA SS SS 06 52 48.8 +0.1
GYA AMB AMB
comp=Z,280nm,8.0s
GYA LR LR
comp=N,8μm,22.8s,MS6.5
GYA LR LR
comp=E,5μm,24.5s,MS6.5
GYA LR LR
comp=Z,7μm,25.0s,MS6.3
POO Poona 144.81 41 *e*PKP PKPdf 06 30 54.5 -1.1
GZH Guangzhou 144.97 333 PKPbc PKPdf 06 30 53.5 -2.2
GZH PP PP 06 34 12.5 +0.1
GZH LR LR
comp=Z,6μm,24.5s,MS6.2
AKL Akola 145.04 34 *e*PKP PKPbc 06 30 53.0 -2.3
AKL *i* x x 06 34 09.5
SHL Shillong 145.93 8 *e*PKP PKPdf 06 30 55.5 -1.8
comp=Z,6.0nm,1.1s
SHL *ex* x 06 34 26.0
KMI Kunming 146.30 351 PKPbc PKPbc 06 30 58.3 -0.8
KMI pPKP pPKPdf 06 31 11.8 0.0
KMI PP PP 06 34 30.1 +10
KMI LR LR
comp=N,4μm,25.5s,MS6.3
KMI LR LR
comp=E,4μm,22.4s,MS6.3
KMI LR LR
comp=Z,5μm,25.5s,MS6.2
LATR Latur 146.58 37 *ex* PKPab 06 31 00.7 -0.4
AGT Agartala 147.48 10 *ex* PKPdf 06 30 59.0 -1.0
AGT *ex* x 06 31 25.0
RCP Roxas 147.74 307⇓ *e*P PKPdf 06 31 00.5 -0.1
DAV Davao City (W) 147.75 298 PFAKE 06 31 10.0 +9.3
DAV LR LR
comp=Z,2μm,22.0s,MS5.9
DMPH Davao City--Mi 147.81 298 *e*P PKPdf 06 31 04.4 +3.6
CAL Calcutta 148.15 15 *e*PKP PKPdf 06 31 00.2 -0.9
HYB Hyderabad 148.53 36 *i* PKP PKPdf 06 31 00.0 -1.8
HYB *e* 06 31 11.5
HYB *e*PP PP 06 34 32.0 -1.8
CTBH Cotabato--PC H 148.84 299⇑ *i*P PKPdf 06 31 02.3 -0.2
NWAO Narrogin (SRO) 149.23 214 PKPbc PKPbc 06 31 04.1 -2.7
comp=Z,29nm,0.8s,baz=166,slow=1.5,SNR=8.4
NWAO Narrogin (SRO) 149.23 214 PFAKE 06 31 10.0 +7.4
NWAO LR LR
comp=Z,2μm,20.0s,MS5.8
NWAO Narrogin (SRO) 149.23 214 P PKPdf 06 31 01.7 -0.8
SNR=19
KLBR Kellerberrin 149.91 217 *e*PKP PKPdf 06 31 02.0 -1.7
comp=Z,281nm,1.4s
QIZ Qiongzhong 150.05 335 PKPbc PKPbc 06 31 08.8 -0.4
QIZ sPKP 06 31 20.9
QIZ LR LR
comp=N,3μm,22.1s
QIZ LR LR
comp=Z,5μm,23.1s,MS6.2
QIZ Qiongzhong 150.05 335 *e*PKPdf PKPdf 06 31 04.1 -0.1
QIZ LR LR
comp=Z,4μm,22.0s,MS6.2
FITZ Fitzroy Crossi 150.61 248 PKP PKPdf 06 31 03.3 -1.8
comp=Z,34nm,1.4s,baz=70,slow=2.6,SNR=23
FITZ PKPbc PKPbc 06 31 09.3 -1.3
comp=Z,43nm,0.8s,baz=188,slow=1.8,SNR=84
FITZ Fitzroy Crossi 150.61 248 *e*PKP PKPdf 06 31 03.4 -1.7
comp=Z,104nm,1.5s
FITZ *e*pPKP pPKPdf 06 31 24.1 +5.1
FITZ *e*PP PP 06 34 44.4 -2.8
FITZ *e*SKKS SKKSac 06 41 29.2 -5.7
FITZ *e* 06 45 02.3
FITZ Fitzroy Crossi 150.61 248 PKP PKPdf 06 31 03.3 -1.8
FITZ PKPbc PKPbc 06 31 09.3 -1.3
CHG Chiang Mai 152.97 356 ⇑P PKPdf 06 31 07.4 -1.3
comp=Z,51nm,1.1s
CHTO Chiang Mai 152.97 356 PFAKE 06 31 20.0 +11
CHTO LR LR
comp=Z,5μm,22.0s,MS6.3
CM31 Chiang Mai Arr 153.32 356 PFAKE 06 31 20.0 +11
CM31 LR LR
comp=Z,3μm,20.0s,MS6.1
CMAR Chiang Mai Arr 153.32 356 PKP PKPdf 06 31 08.3 -0.9
comp=Z,5.3nm,0.6s,baz=308,slow=2.1,SNR=31
CMAR PKPbc PKPbc 06 31 15.0 -1.7
comp=Z,18nm,1.0s,baz=321,slow=2.7,SNR=20
CMAR Chiang Mai Arr 153.32 356 PKP PKPdf 06 31 08.3 -0.9
CMAR PKPbc PKPbc 06 31 15.0 -1.7
CMAR Chiang Mai Arr 153.32 356 PKIKP PKPdf 06 31 08.4 -0.8
CMAR 06 31 15.0
TRD Trivandrum 153.88 51 *e*PKP PKPdf 06 31 07.5 -2.7
TRD AMb AMB 06 31 13.0
comp=Z,135nm,1.6s
BDT Bhumibol Dam 154.52 356 ⇑P PKPdf 06 31 10.0 -0.9
comp=Z,27nm,1.0s
MBWA Marble Bar 154.71 237 PFAKE 06 31 20.0 +8.9
MBWA LR LR
comp=Z,5μm,21.0s,MS6.3
DGAR Diego Garcia 155.57 90 PFAKE 06 31 20.0 +7.5
DGAR LR LR
comp=Z,3μm,20.0s,MS6.1
SDKM Sandakan 155.62 304 P PKPdf 06 31 12.0 -0.5
TSM Tawau 155.78 300 P PKPdf 06 31 12.7 0.0
KKM Kota Kinabalu 156.18 306 P PKPdf 06 31 13.9 +0.6
KKM Kota Kinabalu 156.18 306 PFAKE 06 31 20.0 +6.7
KKM LR LR
comp=Z,3μm,21.0s,MS6.0
SBUM Sibu 161.51 305 P PKPdf 06 31 19.6 0.0
KSM Kuching 163.62 306 P PKPdf 06 31 21.0 -0.7
KSM Kuching 163.62 306 PFAKE 06 31 30.0 +8.3
KSM LR LR
comp=Z,2μm,20.0s
KULM Kulim 166.02 345 P PKPdf 06 31 23.6 -0.2
KULM Kulim 166.02 345 PFAKE 06 31 30.0 +6.2
KULM LR LR
comp=Z,4μm,21.0s
IPM Ipoh 166.69 343 P PKPdf 06 31 23.8 -0.5
MYKOM Kota Tinggi 167.90 326 P PKPdf 06 31 25.0 -0.2
KGM Kluang 168.00 329 P PKPdf 06 31 25.5 +0.2
COCO West Island 176.15 176 PFAKE 06 31 40.0 +11
COCO LR LR
comp=Z,2μm,19.0s

IDC 19 06:22:15.8±4.2, 0.65N×102.35W, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.8/14, mbtmp3.7/4, Error ellipse: s-maj=140.1km s-min=28.8km az=47.0, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**25.12**	**108**	P	P	06 27 43.2	+0.5
	2.4nm,0.6s,baz=293,slow=15,SNR=3.2						
TXAR	**Lajitas Array**	**28.55**	**358**	P	P	06 28 13.3	0.0
	1.3nm,1.0s,baz=170,slow=7.6,SNR=3.8						
PDAR	**Pinedale Array**	**42.42**	**352**	P	P	06 30 12.8	+0.5
	0.9nm,0.9s,baz=163,slow=6.6,SNR=2.3						
ILAR	**Eielson Array**	**71.60**	**342**	P	P	06 33 38.6	-0.1
	0.3nm,0.8s,baz=142,slow=4.6,SNR=3.1						

*DDA **19** 06:39:45.7, 34.71N×27.10E, h17km±1km, Md3.4*
*ISK **19** 06:39:49.4, 35.05N×27.33E, h18km, MD3.5*
*ISCJB **19** 06:39:50.5±1.4, 35.18N±0.06×27.39E±0.06, h6km±8km, Error ellipse: s-maj=11.8km s-min=6.2km az=153.7*
*CSEM **19** 06:39:51.3±0.5, 35.13N×27.30E, h15km, MD3.1, Error ellipse: s-maj=12.0km s-min=7.1km az=178.0*
*ATH **19** 06:39:53.7, 35.32N×27.28E, h19km±12km, MD3.1/5*

ISC 19 06:39:51.7±1.4, 35.25N±0.06×27.41E±0.05, h2km±8km, n42, σ1.9 06/57, 2D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.36**	**326**	*i*PB	**Pg**	**06 39 58.1**	**-0.5**
KARP				*e*SB	**Sg**	**06 40 03.8**	**+0.5**
KARP	**Karpathos**	**0.36**	**326**	⇓*i*Pb	**Pg**	**06 39 58.1**	**-0.5**
KARP				*e*Sb	**Sg**	**06 40 03.8**	**+0.5**
ARG	**Arkhangelos**	**1.13**	**31**	*e*PB	**Pb**	**06 40 14.4**	**+0.4**
ARG				*e*SN	**Sg**	**06 40 33.5**	**+5.4**
ARG	**Arkhangelos**	**1.13**	**31**	*e*Pb	**Pb**	**06 40 14.4**	**+0.4**
ARG				*e*Sn	**Sg**	**06 40 33.5**	**+5.4**
NPS	**Neapolis**	**1.47**	**271**	*e*PB	**Pb**	**06 40 17.8**	**-1.9**
NPS				*e*SN	**Sg**	**06 40 39.8**	**+0.9**
NPS	**Neapolis**	**1.47**	**271**	*e*Pb	**Pb**	**06 40 17.8**	**-1.9**
DAT	**Datca**	**1.49**	**5**	*e*PN	**Pn**	**06 40 18.7**	**-0.7**
DAT				*e*SN	**Sg**	**06 40 39.5**	**0.0**
DAT	**Datca**	**1.49**	**5**	*e*Pn	**Pn**	**06 40 18.7**	**-0.8**
DAT				*e*Sn	**Sg**	**06 40 39.5**	**0.0**
BODT	**Bodrum**	**1.81**	**358**	*e*PN	**Pn**	**06 40 23.6**	**-0.4**
BODT				*e*SN	**Sg**	**06 40 48.6**	**-1.4**
BODT	**Bodrum**	**1.81**	**358**	*e*Pn	**Pn**	**06 40 23.6**	**-0.4**
BODT				*e*Sn	**Sg**	**06 40 48.7**	**-1.3**
TURN	**Turunc**	**1.89**	**31**	*i* P	**Pn**	**06 40 22.3**	**-2.7**
TURN				*i* S	**Sn**	**06 40 48.0**	**-1.4**
TURN	**Turunc**	**1.89**	**31**	*i* P	**Pn**	**06 40 22.3**	**-2.7**
TURN				*i* S	**Sn**	**06 40 48.0**	**-1.4**
FETY	**Fethiye**	**1.94**	**44**	*e*PN	**Pn**	**06 40 25.3**	**-0.4**
FETY	**Fethiye**	**1.94**	**44**	*e*Pn	**Pn**	**06 40 25.3**	**-0.4**
YER	**Yerkesik**	**2.01**	**20**	*e*PN	**Pn**	**06 40 27.1**	**+0.4**
YER				*e*SN	**Sn**	**06 40 54.5**	**+2.0**
YER	**Yerkesik**	**2.01**	**20**	*e*Pn	**Pn**	**06 40 27.1**	**+0.4**
YER				*e*Sn	**Sn**	**06 40 54.5**	**+2.0**
MLSB	**Milas**	**2.07**	**8**	*e*PN	**Pn**	**06 40 27.1**	**-0.3**
MLSB	**Milas**	**2.07**	**8**	*e*Pn	**Pn**	**06 40 27.1**	**-0.3**
SIVA	**Sivas**	**2.14**	**265**	*e*PN	**Pn**	**06 40 30.1**	**+1.7**
APE	**Apeiranthos**	**2.37**	**321**	*e*PN	**Pn**	**06 40 30.0**	**-1.6**
APE	**Apeiranthos**	**2.37**	**321**	*e*PB	**Pn**	**06 40 31.1**	**-0.5**
APE	**Apeiranthos**	**2.37**	**321**	*e*Pn	**Pn**	**06 40 30.0**	**-1.6**
ELL	**Elmali**	**2.52**	**53**	*e*PN	**Pn**	**06 40 33.2**	**-0.5**
ELL	**Elmali**	**2.52**	**53**	*e*Pn	**Pn**	**06 40 33.2**	**-0.5**
GLHS	**Glhisar (BURDU**	**2.55**	**41**	*e*PN	**Pn**	**06 40 33.7**	**-0.4**
GLHS	**Glhisar (BURDU**	**2.55**	**41**	*e*Pn	**Pn**	**06 40 33.7**	**-0.4**
GOLH	**Golhisar**	**2.64**	**41**	*i* P	**Pn**	**06 40 35.8**	**+0.4**
GOLH				*i* S	**Sg**	**06 41 15.8**	**-0.8**
GOLH	**Golhisar**	**2.64**	**41**	*i* P	**Pn**	**06 40 35.8**	**+0.4**
DNZL	**Cakiroluk**	**2.77**	**28**	*i* P	**Pn**	**06 40 37.7**	**+0.5**
DNZL				*i* S	**Sg**	**06 41 23.0**	**+2.2**
DNZL	**Cakiroluk**	**2.77**	**28**	*i* P	**Pn**	**06 40 37.7**	**+0.5**
DENT	**Denizli**	**2.83**	**27**	*e*PN	**Pn**	**06 40 38.7**	**+0.8**
DENT	**Denizli**	**2.83**	**27**	*e*Pn	**Pn**	**06 40 38.7**	**+0.8**
KULA	**Kula-Manisa**	**3.41**	**17**	*e*PN	**Pn**	**06 40 47.3**	**+1.4**
KULA	**Kula-Manisa**	**3.41**	**17**	*e*Pn	**Pn**	**06 40 47.3**	**+1.3**
SUTC	**Sutluce-Ispart**	**3.66**	**51**	*e*PN	**Pn**	**06 40 49.1**	**-0.2**
SUTC	**Sutluce-Ispart**	**3.66**	**51**	*e*Pn	**Pn**	**06 40 49.1**	**-0.2**
HDMB	**Hadim**	**4.46**	**66**	*e*PN	**Pn**	**06 40 59.8**	**-0.5**
HDMB	**Hadim**	**4.46**	**66**	*e*Pn	**Pn**	**06 40 59.8**	**-0.5**
KONT	**Konya--Tatoy**	**4.81**	**55**	*e*PN	**Pn**	**06 41 05.4**	**+0.3**
KONT	**Konya--Tatoy**	**4.81**	**55**	*e*Pn	**Pn**	**06 41 05.4**	**+0.2**
KIZT	**Kizilcal**	**5.09**	**43**	*e*PN	**Pn**	**06 41 10.4**	**+1.4**
KIZT	**Kizilcal**	**5.09**	**43**	*e*Pn	**Pn**	**06 41 10.4**	**+1.4**

IDC 19 06:58:01.2±1.4, 5.89S×152.30E, h0km, mb4.2/7, mb1 4.4/8, mb1mx4.1/18, mbtmp4.2/8, ML2.9/1, MS5.0/1, Ms1 5.0/1, ms1mx3.4/24, Error ellipse: s-maj=58.0km s-min=18.7km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.18**	**235**	Pn	Pn	06 59 36.0	+2.2
	1.9nm,0.3s,baz=118,slow=12,SNR=6.4						
PMG				Sn	Sn	07 00 47.1	+1.9
	3.2nm,0.3s,baz=146,slow=22,SNR=7.0						
WRA	**Warramunga Arr**	**22.36**	**230**	P	P	07 03 00.9	-0.1
	2.8nm,0.9s,baz=54,slow=9.6,SNR=23						
ASAR	**Alice Springs**	**25.02**	**223**	P	P	07 03 26.9	-0.2
	3.5nm,0.8s,baz=59,slow=9.3,SNR=32						
FITZ	**Fitzroy Crossi**	**28.71**	**243**	P	P	07 04 00.2	-0.3
	6.1nm,0.5s,baz=68,slow=6.6,SNR=51						
NWAO	**Narrogin (SRO)**	**42.28**	**226**	LR	LR	07 25 32.2	
	comp=Z,2μm,20.6s,baz=130,slow=39						
MKAR	**Makanchi Array**	**80.82**	**319**	P	P	07 10 17.4	+0.5
	1.0nm,0.8s,baz=116,slow=3.4,SNR=3.6						
ZALV	**Zalesovo Beam**	**81.78**	**327**	P	P	07 10 21.8	-0.1
	1.9nm,0.6s,baz=118,slow=5.8,SNR=9.6						
ILAR	**Eielson Array**	**83.35**	**22**	P	P	07 10 29.7	-0.1
	1.5nm,0.8s,baz=238,slow=5.1,SNR=13						
NVAR	**Mina Array Bea**	**93.14**	**52**	P	P	07 11 18.7	+1.2
	0.5nm,0.7s,baz=263,slow=10,SNR=4.1						
TORD	**Torodi Ar. Bea**	**150.15**	**286**	PKPbc	PKPbc	07 17 54.4	-0.8
	3.9nm,0.8s,baz=61,slow=2.5,SNR=24						

*IDC **19** 06:58:30.3±1.4, 8.36N×82.40W, h0km, mb3.9/7, mb1 4.2/8, mb1mx4.0/18, mbtmp4.0/8, ML4.0/1, Error ellipse: s-maj=52.7km s-min=28.8km az=41.0*
*ISCJB **19** 06:58:35.2±0.9, 8.29N±0.08×82.61W±0.05, h36km±5km, mb4.2/16, Error ellipse: s-maj=13.1km s-min=7.8km az=20.7*
*CASC **19** 06:58:35.8±2.2, 8.25N×82.71W, h29km±7km, MD4.0, mb4.7(NEIC)*
*NEIC **19** 06:58:37.9±1.4, 8.34N×82.71W, h46km±9km, mb4.7/13, Error ellipse: s-maj=24.2km s-min=9.0km az=205.0*
*BJI **19** 06:58:41.2, 8.70N×82.80W, h48km, mB4.1/2*

ISC 19 06:58:36.9±1.3, 8.30N±0.08×82.66W±0.05, h32km±6km, n246, σ0.977/245, mb4.2/16, 106C-82D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.49**	**356**	⇓*i*P	**Pb**	**06 58 47.4**	**0.0**
BRU2				*e*S	**Sb**	**06 58 55.8**	**+1.3**
ACR	**Cerro Adams**	**0.62**	**305**	*i* P	**Pb**	**06 58 46.2**	**-3.1**
BUS	**Buena Vista**	**1.66**	**319**	⇑*i*P	**Pn**	**06 59 02.5**	**-1.2**
QCR	**Quepos**	**1.86**	**307⇑**	*e*P	**Pn**	**06 59 04.7**	**-1.9**
QCR				*e*S	**Sn**	**06 59 27.8**	**-1.3**
URSC	**Urasca**	**1.89**	**324⇑**	*e*P	**Pn**	**06 59 06.0**	**-0.9**
PRS1	**Puriscal**	**2.34**	**316**	*e*P	**Pn**	**06 59 11.7**	**-1.4**
CGA2	**Cerro Gallo 2**	**2.47**	**314**	*e*P	**Pn**	**06 59 14.1**	**-0.9**
CGA2				*e*S	**Sn**	**06 59 45.3**	**+1.3**
JCR	**Jicaral**	**2.87**	**303**	*e*P	**Pn**	**06 59 19.6**	**-0.9**
JCR				*e*S	**Sn**	**06 59 54.8**	**+0.8**
BCIP	**Isla Barro Col**	**2.92**	**73**	*e*Pn	**Pn**	**06 59 24.6**	**+3.5**
BCIP	**Isla Barro Col**	**2.92**	**73**	*e*P	**Pn**	**06 59 25.3**	**+4.2**
BCIP				*e*S	**Sn**	**07 00 09.4**	**+14**
JTS	**JuntasAbangare**	**3.01**	**311**	*e*Pn	**Pn**	**06 59 21.1**	**-1.2**
JTS	**JuntasAbangare**	**3.01**	**311**	*e*P	**Pn**	**06 59 21.1**	**-1.2**
UPIG		**3.16**	**77**	*e*P	**Pn**	**06 59 33.8**	**+9.3**
UPIG				*e*S	**Sn**	**07 00 12.2**	**+11**
TGUH	**Tegucigalpa,Un**	**7.30**	**322**	*e*Pn	**Pn**	**07 00 21.8**	**+0.4**
ROSC	**El Rosal**	**8.95**	**112**	Pn	**Pn**	**07 00 45.3**	**+1.2**
	0.5nm,0.3s,baz=90,slow=20,SNR=1.9						
ROSC	**El Rosal**	**8.95**	**112**	Pn	**Pn**	**07 00 45.3**	**+1.2**
MTDJ	**Mount Denham**	**11.05**	**26**	Pn	**Pn**	**07 01 13.6**	**+0.7**
SDV	**Santo Domingo**	**11.90**	**86**	*e*Pn	**Pn**	**07 01 30.5**	**+6.0**
TEIG	**Tepich**	**13.04**	**336**	Pn	**Pn**	**07 01 41.2**	**+1.1**
	0.6nm,0.3s,baz=251,slow=12,SNR=4.7						
TEIG				Sn	**Sn**	**07 04 06.5**	**+2.4**
	0.2nm,0.3s,baz=73,slow=15,SNR=1.8						
TEIG	**Tepich**	**13.04**	**336**	Pn	**Pn**	**07 01 38.0**	**-2.0**
TEIG				Sn	**Sn**	**07 04 06.5**	**+2.4**
CMIG	**Matias Romero**	**14.78**	**307**	Pn	**Pn**	**07 02 03.1**	**-0.6**
	0.6nm,0.3s,baz=113,slow=8.6,SNR=13						
CMIG	**Matias Romero**	**14.78**	**307**	Pn	**Pn**	**07 02 03.1**	**-0.6**
SJG	**San Juan**	**18.78**	**57**	P	**Pn**	**07 02 58.5**	**+4.2**
	1.0nm,0.3s,baz=286,slow=7.4,SNR=3.3						
SJG	**San Juan**	**18.78**	**57**	P	**Pn**	**07 02 58.5**	**+4.2**
TXAR	**Lajitas Array**	**28.77**	**319**	P	**P**	**07 04 31.1**	**-0.7**
	0.1nm,0.7s,baz=140,slow=44,SNR=3.6						
TXAR				PcP	PcP	07 07 41.7	+0.2
	0.5nm,0.7s,baz=160,slow=5.7,SNR=6.2						
TXAR	**Lajitas Array**	**28.77**	**319**	P	**P**	**07 04 31.1**	**-0.7**
TXAR				PcP	PcP	07 07 41.7	+0.2
528A	**Cox Ranch, San**	**28.78**	**322**	⇑P	**P**	**07 04 32.3**	**+0.4**
	baz=28						
428A	**Kincaid Ranch,**	**29.12**	**323**	⇓P	**P**	**07 04 35.6**	**+0.6**
	baz=29						
527A	**Woodward Ranch**	**29.28**	**321**	⇑P	**P**	**07 04 36.8**	**+0.4**
	baz=29						
425A	**Indio Mountain**	**30.59**	**320**	⇑P	**P**	**07 04 48.8**	**+0.9**
	baz=30						
324A	**Moseley Ranch,**	**31.34**	**320**	⇑P	**P**	**07 04 55.1**	**+0.5**
	baz=31						
225A	**Deer Hill, Car**	**31.39**	**322**	⇑P	**P**	**07 04 55.8**	**+0.8**
	baz=31						
125A	**Gardner Draw,**	**31.67**	**323**	⇑P	**P**	**07 04 57.8**	**+0.3**
	baz=31						
320A	**Kipp Ranch, An**	**33.26**	**317**	⇑P	**P**	**07 05 12.8**	**+1.3**
	baz=33						
Y23A	**Lovelace Mesa,**	**33.40**	**323**	⇑P	**P**	**07 05 12.6**	**0.0**
	baz=33						
121A	**Cookes Peak, D**	**33.53**	**320**	⇓P	**P**	**07 05 14.7**	**+1.0**
	baz=33						
220A	**Playas Peak, P**	**33.61**	**318**	⇑P	**P**	**07 05 15.6**	**+1.1**
	baz=33,SNR=6.4						
319A	**Douglas**	**33.80**	**316**	⇑P	**P**	**07 05 17.1**	**+1.0**
	baz=34						
W24A	**Lazy 6 Ranch,**	**33.94**	**325**	⇑P	**P**	**07 05 18.5**	**+1.3**
	baz=34						
120A	**U Bar Ranch, L**	**34.09**	**319**	⇑P	**P**	**07 05 19.9**	**+1.3**
	baz=34						
219A	**White Tail Can**	**34.16**	**317**	⇑P	**P**	**07 05 20.1**	**+0.8**
	baz=34,SNR=5.4						
318A	**Bisbee**	**34.32**	**316**	⇑P	**P**	**07 05 21.4**	**+0.7**
	baz=34						
Y21A	**Point of Rocks**	**34.43**	**322**	⇓P	**P**	**07 05 22.9**	**+1.4**
	baz=34						
119A	**Ashpeak Ranch,**	**34.66**	**318**	⇑P	**P**	**07 05 24.6**	**+1.0**
	baz=34						
218A	**Dragoon**	**34.68**	**317**	⇓P	**P**	**07 05 24.7**	**+1.0**
	baz=34,SNR=5.2						
X21A	**Alamocita Cree**	**34.79**	**322**	⇑P	**P**	**07 05 25.6**	**+0.9**
	baz=34						
118A	**Homack Ranch,**	**35.03**	**318**	⇑P	**P**	**07 05 28.0**	**+1.2**
	baz=35						
217A	**Green Valley**	**35.09**	**316**	⇑P	**P**	**07 05 28.1**	**+0.8**
	baz=35						
T24A	**Torres, Weston**	**35.12**	**328**	⇓P	**P**	**07 05 28.4**	**+0.9**
	baz=35						
U23A	**El Rito**	**35.19**	**326**	⇓P	**P**	**07 05 29.0**	**+0.9**
	baz=35						
117A	**Oracle**	**35.50**	**317**	⇓P	**P**	**07 05 31.6**	**+0.7**
	baz=35						
W20A	**Ramah**	**35.69**	**322**	⇓P	**P**	**07 05 33.2**	**+0.9**
	baz=35						
Y18A	**Canyon Day Jun**	**35.77**	**319**	⇑P	**P**	**07 05 34.0**	**+0.9**
	baz=36						
116A	**Eloy**	**36.16**	**316**	⇑P	**P**	**07 05 37.4**	**+1.0**
	baz=36,SNR=5.5						
Y17A	**Roosevelt**	**36.25**	**318**	⇓P	**P**	**07 05 38.5**	**+1.2**
	baz=36						
T21A	**Navajo Lake**	**36.41**	**325**	⇓P	**P**	**07 05 39.3**	**+0.8**
	baz=36						
P25A	**Willow Gulch B**	**36.57**	**332**	⇑P	**P**	**07 05 40.6**	**+0.7**
	baz=36						
214A	**Organ Pipe Nat**	**36.59**	**314**	⇑P	**P**	**07 05 41.0**	**+0.8**
	baz=36,SNR=5.5						
115A	**Sonoran Desert**	**36.60**	**316**	⇓P	**P**	**07 05 40.8**	**+0.6**
	baz=36						
X17A	**Forest Lakes**	**36.62**	**319**	⇓P	**P**	**07 05 41.7**	**+1.3**
	baz=36						
Y16A	**Circle Bar Ran**	**36.78**	**318**	⇑P	**P**	**07 05 43.1**	**+1.3**
	baz=36,SNR=6.5						
OGNE	**Ogallala**	**36.79**	**335**	⇓P	**P**	**07 05 41.5**	**-0.2**
	baz=36						
114A	**Black Gap (USA**	**37.08**	**315**	⇓P	**P**	**07 05 45.6**	**+1.3**
	baz=37						
X16A	**Lo Mia Camp, P**	**37.08**	**319**	⇑P	**P**	**07 05 44.9**	**+0.6**
	baz=37						
MVCO	**Mesa Verde**	**37.11**	**325**	⇓P	**P**	**07 05 45.0**	**+0.5**
	baz=37						
P23A	**Jefferson**	**37.27**	**330**	⇑P	**P**	**07 05 46.7**	**+0.8**
	baz=37						
Y15A	**Casa Rosa Ranc**	**37.40**	**317**	⇓P	**P**	**07 05 47.6**	**+0.6**
	baz=37						
R21A	**Cimarron**	**37.41**	**327**	⇓P	**P**	**07 05 47.1**	**+0.1**
	baz=37						
V17A	**Tonalea, Kykot**	**37.42**	**321**	⇑P	**P**	**07 05 47.8**	**+0.6**
	baz=37						
Q22A	**Crested Butte,**	**37.43**	**328**	⇑P	**P**	**07 05 47.8**	**+0.6**
	baz=37						
S20A	**Disappointment**	**37.47**	**326**	⇓P	**P**	**07 05 48.3**	**+0.8**
	baz=37						
113A	**Mohawk Valley,**	**37.71**	**315**	⇑P	**P**	**07 05 50.8**	**+1.2**
	baz=37						
R20A	**Redvale**	**37.73**	**326**	⇓P	**P**	**07 05 49.7**	**-0.1**
	baz=37						
Y14A	**Wickenburg**	**37.84**	**317**	⇑P	**P**	**07 05 51.7**	**+1.0**
	baz=38						
S19A	**Harvey Farm, M**	**37.85**	**325**	⇓P	**P**	**

	baz=39						
L23A	Garrett	39.34	333	⇑P	P	07 06 03.1	-0.1
	baz=39						
Q18A	Rafter H Ranch	39.35	326	⇓P	P	07 06 03.8	+0.4
	baz=39						
BC3	Big Chuckawall	39.38	315	⇑P	P	07 06 03.9	+0.2
	baz=39						
IRM	Iron Mountain	39.44	315	⇑P	P	07 06 04.3	+0.2
	baz=39						
R16A	Teasdale	39.57	323	⇓P	P	07 06 05.6	+0.4
	baz=39						
SRU	San Rafael	39.58	325	⇓P	P	07 06 05.4	+0.2
	baz=39						
N20A	Spence Gulch,	39.59	329	⇑P	P	07 06 05.6	+0.2
	baz=39						
L22A	Ellis Ranch, M	39.61	332	⇓P	P	07 06 06.0	+0.5
	baz=39						
M21A	Separation Pea	39.73	331	⇑P	P	07 06 06.6	+0.1
	baz=39						
BELC	Belle Mtn. Jos	39.94	315	⇑P	P	07 06 08.6	+0.2
	baz=40						
L21A	Rawlins	40.00	331	⇓P	P	07 06 09.4	+0.6
	baz=40						
PFO	Pinyon Flat Ob	40.06	314	⇓P	P	07 06 09.9	+0.5
	baz=40						
GMRC	Granite Mounta	40.13	316	⇑P	P	07 06 10.1	+0.2
	baz=40						
K22A	Casper	40.14	332	⇓P	P	07 06 09.6	-0.2
	baz=40						
O17A	Robinson Place	40.45	326	⇓P	P	07 06 12.5	+0.1
	baz=40						
MURC	Murrieta	40.59	313	⇓P	P	07 06 14.2	+0.4
	baz=40						
HEC	Hector,Ludlow	40.62	316	⇓P	P	07 06 15.1	+1.1
	baz=40						
TUQ	Turquoise Moun	40.67	317	⇓P	P	07 06 14.8	+0.5
	baz=40						
J22A	Midwest	40.72	333	⇑P	P	07 06 14.0	-0.6
	baz=40						
H24A	Dirks Ranch, A	40.98	336	⇑P	P	07 06 16.5	-0.3
	baz=41						
K20A	Yellowstone Ra	41.00	331	⇑P	P	07 06 16.5	-0.5
	baz=41						
R13A	O'Grain Ranch,	41.01	321	⇑P	P	07 06 18.0	+0.9
	baz=41						
N17A	Moffit Pass	41.02	327	⇑P	P	07 06 17.5	+0.3
	baz=41						
I22A	9 Mile Ranch,	41.10	334	⇓P	P	07 06 17.6	-0.2
	baz=41						
J21A	Lysite	41.10	332	⇓P	P	07 06 17.7	-0.1
	baz=41						
GSC	Goldstone	41.20	316	⇓P	P	07 06 19.2	+0.5
	baz=41,SNR=5.9						
GSC	Goldstone	41.20	316	*eP*	P	07 06 19.4	+0.6
	15nm,1.4s,mb4.4						
L18A	Fontenelle, Gr	41.30	329	⇓P	P	07 06 18.7	-0.8
	baz=41						
M17A	Scullys Gap (B	41.30	328	⇓P	P	07 06 19.0	-0.5
	baz=41,SNR=7.2						
K19A	Absolon Red Bu	41.37	331	⇑P	P	07 06 19.0	-1.0
	baz=41						
I21A	Big Trails, Te	41.40	333	⇑P	P	07 06 19.7	-0.4
	baz=41						
DUG	Dugway	41.61	325	⇑P	P	07 06 21.3	-0.7
	baz=41						
BW06	Boulder Array	41.67	330	⇑P	P	07 06 22.1	-0.4
	baz=41						
PDAR	Pinedale Array	41.67	330	P	P	07 06 21.5	-1.0
	0.7nm,0.6s,mb3.5,baz=129,slow=11,SNR=6.8						
PDAR	Pinedale Array	41.67	330	P	P	07 06 21.5	-1.0
M16A	Huntsville	41.71	327	⇓P	P	07 06 22.5	-0.3
	baz=41						
J19A	Crowheart	41.80	331	⇑P	P	07 06 23.2	-0.3
	baz=42						
EDW2	Edwards Air Fo	41.81	314	⇑P	P	07 06 23.8	+0.1
	baz=42						
K18A	Toltan Ranch,	41.82	329	⇓P	P	07 06 24.2	+0.5
	baz=42						
FURC	Furnace Creek,	41.87	317	⇑P	P	07 06 25.2	+1.0
	baz=42,SNR=6.0						
HWUT	Hardware Ranch	41.88	327	*eP*	P	07 06 23.8	-0.4
	5.0nm,0.9s,mb4.1						
I20A	Worland	41.88	332	⇑P	P	07 06 24.0	-0.2
	baz=42						
LRMC	Laurel Mountai	41.90	315	⇑P	P	07 06 25.2	+0.7
	baz=42,SNR=6.2						
N15A	Stansbury Isla	41.91	326	⇓P	P	07 06 24.3	-0.2
	baz=42						
MPMC	Manual Prospec	42.08	316	⇑P	P	07 06 26.2	+0.3
	baz=42						
J18A	Kendall Valley	42.23	330	⇓P	P	07 06 26.3	-0.7
	baz=42,SNR=7.3						
M15A	Larsen Ranch,	42.26	326	⇓P	P	07 06 27.0	-0.3
	baz=42,SNR=5.2						
I18A	Diamond G Ranc	42.49	331	⇓P	P	07 06 28.7	-0.5
	baz=42						
L15A	Malad City	42.60	327	⇑P	P	07 06 29.1	-0.9
	baz=42,SNR=5.5						
J17A	Brown Place, J	42.69	330	⇓P	P	07 06 30.1	-0.6
	baz=42,SNR=5.9						
REDW	Red Top Meadow	42.76	329	*eP*	P	07 06 31.0	-0.3
	7.2nm,1.1s,mb4.3						
SNOW	Snow King Moun	42.78	330	*eP*	P	07 06 31.3	-0.1
	4.1nm,0.8s,mb4.2						
D24A	Glendive	42.87	338	⇑P	P	07 06 31.7	-0.4
	baz=43						
TPAW	Teton Pass	42.90	330	*eP*	P	07 06 32.1	-0.3
	75nm,2.8s,mb4.9						
G20A	Bridger	42.91	333	⇑P	P	07 06 32.2	-0.3
	baz=43						
MOOW	Moose Ponds	42.98	330	*eP*	P	07 06 32.6	-0.5
	53nm,2.8s,mb4.8						
I17A	Pilgrim Ck.	43.02	330	⇓P	P	07 06 33.3	-0.2
	baz=43						
J16A	Bone	43.08	329	⇑P	P	07 06 33.5	-0.4
	baz=43						
L14A	Malta	43.08	326	⇑P	P	07 06 33.4	-0.5
	baz=43						
IMW	Indian Meadow	43.19	330	*eP*	P	07 06 34.3	-0.5
	55nm,3.0s						
ULM	Lac du Bonnet	43.24	348	P	P	07 06 32.3	-2.8
	1.6nm,0.5s,mb4.0,baz=188,slow=9.2,SNR=4.6						
ULM	Lac du Bonnet	43.24	348	P	P	07 06 32.3	-2.8
D23A	Lindsay	43.25	338	⇓P	P	07 06 34.7	-0.5
	baz=43						
RLMT	Red Lodge	43.30	332	⇓P	P	07 06 34.8	-0.9
	baz=43,SNR=5.2						
RLMT	Red Lodge	43.30	332	*eP*	P	07 06 35.0	-0.7
	90nm,3.0s						
F20A	Billings	43.33	334	⇑P	P	07 06 35.0	-0.9
	baz=43,SNR=5.8						
K14A	Jones Ranch, D	43.39	327	⇑P	P	07 06 35.7	-0.8
	baz=43,SNR=9.4						
G18A	Lazy EL Ranch,	43.59	332	⇓P	P	07 06 37.3	-0.7
	baz=43						
J15A	Blackfoot	43.59	328	⇓P	P	07 06 37.9	-0.1
	baz=43						
D22A	Cohagen	43.60	337	⇑P	P	07 06 37.7	-0.3
	baz=43						
F19A	Roth Farm, Mol	43.72	333	⇑P	P	07 06 38.8	-0.3
	baz=43						
C23A	Lambert	43.76	338	⇑P	P	07 06 39.3	-0.1
	baz=44						
D21A	La Casta Ranch	43.86	336	⇑P	P	07 06 39.9	-0.2
	baz=44						
E20A	Meyer Farm, Mu	43.88	335	⇑P	P	07 06 39.2	-1.1
	baz=44,SNR=5.8						
NVAR	Mina Array Bea	43.91	319	P	P	07 06 41.5	+0.7
	1.6nm,0.7s,mb3.8,baz=130,slow=6.6,SNR=12						
NVAR	Mina Array Bea	43.91	319	P	P	07 06 41.5	+0.7
H16A	Russell Place,	43.93	331	⇓P	P	07 06 40.0	-0.7
	baz=44						
C22A	Vida	43.98	337	⇑P	P	07 06 40.8	-0.3
	baz=44						
F18A	Big Timber	44.11	333	⇓P	P	07 06 41.6	-0.5
	baz=44						
J14A	Carey	44.11	327	⇓P	P	07 06 41.8	-0.4
	baz=44						
E19A	Rath Farm, Rou	44.12	334	⇑P	P	07 06 41.8	-0.5
	baz=44						
B22A	Reddig Ranch S	44.48	338	⇑P	P	07 06 44.9	-0.2
	baz=44						
I14A	Mackay	44.49	328	⇓P	P	07 06 45.1	-0.1
	baz=44						
J13A	Cove Ranch, Pi	44.51	327	⇓P	P	07 06 45.2	-0.3
	baz=44						
F17A	Fitzpatrick Pl	44.54	332	⇑P	P	07 06 45.5	0.0
	baz=44						
H15A	Lima	44.56	329	⇑P	P	07 06 45.9	+0.2
	baz=44,SNR=11						
G16A	Moss Hill, Enn	44.58	331	⇓P	P	07 06 45.8	-0.2
	baz=44						
D19A	Cripps Ranch,	44.71	335	⇑P	P	07 06 46.6	-0.4
	baz=44						
HLID	Hailey	44.75	327	⇓P	P	07 06 47.5	+0.1
	baz=44						
HLID	Hailey	44.75	327	*eP*	P	07 06 47.2	-0.1
	45nm,2.7s,mb4.8						
BOZ	Bozeman (W)	44.80	331	⇓P	P	07 06 47.0	-0.7
	baz=44,SNR=5.3						
BOZ	Bozeman (W)	44.80	331	*eP*	P	07 06 47.3	-0.5
	34nm,2.5s,mb4.7						
MCMT	McKenzie Canyo	44.81	329	*eP*	P	07 06 47.8	0.0
	2.0nm,1.0s,mb3.9						
I13A	Wildhorse Cree	44.83	328	⇑P	P	07 06 47.6	-0.4
	baz=44,SNR=7.0						
G15A	Dillon	44.87	330	⇑P	P	07 06 48.4	+0.2
	baz=45						
F16A	Kennard Place,	44.90	331	⇓P	P	07 06 48.3	-0.2
	baz=45						
H14A	Leadore	44.92	329	⇑P	P	07 06 49.1	+0.4
	baz=45						
D18A	Linhart Farms,	45.13	334	⇑P	P	07 06 50.1	-0.3
	baz=45						
C19A	Slack Wire Ran	45.23	335	⇓P	P	07 06 50.9	-0.2
	baz=45						
I12A	Atlanta	45.29	327	⇓P	P	07 06 51.8	+0.1
	baz=45						
WCN	Washoe City	45.34	319	⇓P	P	07 06 51.7	-0.3
	baz=45						
H13A	Challis	45.34	328	⇑P	P	07 06 51.7	-0.3
	baz=45						
F15A	Butte	45.36	331	⇓P	P	07 06 51.7	-0.4
	baz=45						
B20A	Solberg Farm,	45.37	336	⇑P	P	07 06 52.2	0.0
	baz=45						
A21A	Bergtoll Ranch	45.40	338	⇑P	P	07 06 52.8	+0.4
	baz=45						
MFID	Camas Ranch	45.42	326	⇓P	P	07 06 52.2	-0.5
	baz=45						
MFID	Camas Ranch	45.42	326	*eP*	P	07 06 52.5	-0.1
	54nm,3.0s						
D17A	Six Diamond Ra	45.49	333	⇑P	P	07 06 52.3	-0.9
	baz=45,SNR=5.6						
H12A	Diamond D Ranc	45.65	328	⇑P	P	07 06 53.9	-0.6
	baz=45,SNR=5.5						
G13A	Cobalt	45.70	329	⇑P	P	07 06 54.1	-0.7
	baz=45						
B19A	Brinkman Farms	45.76	336	⇑P	P	07 06 54.6	-0.6
	baz=46						
D16A	Dana Ranch, Ca	45.79	333	⇑P	P	07 06 55.0	-0.5
	baz=46						
E15A	Deer Lodge	45.85	331	⇑P	P	07 06 55.7	-0.3
	baz=46						
C17A	Wharram Farm,	45.89	334	⇓P	P	07 06 55.5	-0.8
	baz=46						
A19A	Klindworth Far	46.05	336	⇑P	P	07 06 57.1	-0.5
	baz=46						
B18A	Beardsley Farm	46.05	335	⇑P	P	07 06 56.7	-0.8
	baz=46						
F13A	Darby	46.23	329	⇑P	P	07 06 58.2	-0.8
	baz=46						
D15A	Lincoln	46.24	332	⇓P	P	07 06 58.6	-0.5
	baz=46						
E14A	Clinton	46.26	331	⇑P	P	07 06 58.2	-1.0
	baz=46						
G12A	Big Creek, Yel	46.29	328	⇓P	P	07 06 58.8	-0.7
	baz=46						
A18A	Metzger Ranch,	46.49	335	⇓P	P	07 07 00.1	-1.0
	baz=46						
OHCM	Honcut	46.49	318	*eP*	P	07 06 53.7	-7.5
E13A	Victor	46.61	330	⇑P	P	07 07 01.0	-1.1
	baz=46,SNR=5.3						
F12A	Elk City	46.68	329	⇓P	P	07 07 01.7	-0.8
	baz=46						
MSO	Missoula	46.77	331	⇑P	P	07 07 02.3	-0.9
	baz=46						
C15A	Salmond Ranch,	46.82	332	⇓P	P	07 07 03.1	-0.5
	baz=46						
A17A	Triple J Farms	46.87	335	⇑P	P	07 07 03.1	-0.8
	baz=47						
B15A	Bradely Ranch,	47.20	333	⇑P	P	07 07 05.3	-1.2
	baz=47						
D13A	Huson	47.20	331	⇑P	P	07 07 05.7	-0.9
	baz=47						
E12A	Beaver Dam Sad	47.29	329	⇑P	P	07 07 06.7	-0.6
	baz=47						
B14A	Marquette Ranc	47.55	333	⇑P	P	07 07 08.9	-0.4
	baz=47						
D12A	Red Ives Fores	47.61	330	⇓P	P	07 07 08.9	-0.9
	baz=47						
C13A	Hot Springs	47.67	331	⇑P	P	07 07 09.6	-0.7
	baz=47						
A15A	Johnson Ranch,	47.77	334	⇑P	P	07 07 10.6	-0.4
	baz=48						
F10A	Beach Ranch, E	47.85	328	⇓P	P	07 07 11.4	-0.2
	baz=48						
I07A	Izee	47.92	324	⇓P	P	07 07 11.9	-0.4
	baz=48						
C12B	Naegeli Ranch,	48.13	331	⇑P	P	07 07 13.0	-0.8
	baz=48						
A13A	Flathead Natio	48.49	332	⇓P	P	07 07 16.4	-0.1
	baz=48						
C11A	Tepee Creek (N	48.60	330	⇑P	P	07 07 16.9	-0.5
	baz=48						
E09A	Wood Farm, Sta	48.68	328	⇑P	P	07 07 17.3	-0.8
	baz=48						
KHMM	Horse Mountain	48.76	318	*eP*	P	07 07 19.3	+0.5
	8.0nm,1.0s,mb4.7						
BMW	Boistfort Moun	51.45	325	*eP*	P	07 07 34.6	-4.5
YKA	Yellowknife Ar	58.88	343	P	P	07 08 29.5	-2.8
	1.1nm,0.7s,mb4.0,baz=135,slow=7.4,SNR=5.1						
YKA	Yellowknife Ar	58.88	343	P	P	07 08 29.5	-2.8
ILAR	Eielson Array	71.70	336	P	P	07 09 54.0	-1.5
	0.9nm,0.7s,mb3.8,baz=110,slow=4.8,SNR=18						
ILAR	Eielson Array	71.70	336	P	P	07 09 54.0	-1.5
TORD	Torodi Ar. Bea	82.69	78	P	P	07 10 55.9	-2.1
	1.1nm,0.9s,mb3.9,baz=265,slow=4.1,SNR=6.2						
TORD	Torodi Ar. Bea	82.69	78	P	P	07 10 55.9	-2.1
CN2	Changchun	122.22	336	*e*PKP	PKPdf	07 17 31.0	+2.2
WMQ	Urumqi	127.39	9	PKP	PKPdf	07 17 39.9	+1.2
HHC	Hu-ho-hao-te	129.37	346	*e*PKP	PKPdf	07 17 41.8	-0.8
HHC				PP	PP	07 19 51.8	+1.2
HHC				SS	SS	07 37 06.5	-2.5
LZH	Lanzhou	135.43	352	*e*PKP	PKPdf	07 17 57.8	+3.6
LZH				sPKP		07 18 12.6	
CD2	Chengdu	140.53	351	PKP	PKPdf	07 18 06.0	+2.3
ASAR	Alice Springs	141.82	242	PKhKP	PKPpre	07 17 59.1	
	0.6nm,0.6s,baz=117,slow=3.5,SNR=12						
WRA	Warramunga Arr	142.40	248	PKhKP	PKPpre	07 18 01.4	
	1.1nm,0.9s,baz=282,slow=0.9,SNR=15						
GYA	Guiyang	144.28	346	*e*PKP	PKPdf	07 18 10.0	-0.5
GYA				sPKP		07 18 30.8	
GYA				PP	PP	07 21 27.4	+3.5
GYA				AMB	AMB		
	comp=Z,10.0nm,8.0s						
FITZ	Fitzroy Crossi	150.82	248	PKPbc	PKPbc	07 18 24.8	-2.3
	comp=Z,3.3nm,0.8s,baz=98,slow=5.5,SNR=9.1						

*IDC **19** 07:18:29.5±2.7, 8°.56S×112°.66E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/19, mbtmp3.5/5, ML3.2/1, MS4.3/1, Ms1 4.3/1, ms1mx3.4/21, Error ellipse: s-maj=124.0km s-min=21.7km az=52.0*

*ISCJB **19** 07:18:37.3±0.8, 8°.8S±0°.1×112°.52E±0°.05, h84km±9km, mb3.4/4, Error ellipse: s-maj=18.9km s-min=7.5km az=12.8*

*DJA **19** 07:18:38, 8°.95S×112°.51E, h35km, MLv4.1/11*

ISC 19 07:18:38.0±0.8, 8°.9S±0°.1×112°.53E±0°.05, h74km±10km, n18, σ1s02/22, mb3.4/4, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRKI	Karangkates	0.73	354	P	Pn	07 18 53.1	-0.4
KRKI				S	Sn	07 19 04.9	0.0
GMJI	Gumukmas	1.09	56	P	Pn	07 18 57.0	-0.8
PWJI	Pagerwojo	1.12	320	P	Pn	07 18 57.8	-0.4
PWJI				S	Sn	07 19 12.4	-0.9
SJI	Sawahan	1.37	326	P	Pn	07 19 01.3	-0.1
SJI				S	Sn	07 19 19.4	+0.4
PCJI	Pacitan	1.51	297	P	Pn	07 19 03.0	-0.2
BLJI	Banyuglugur	1.54	43	P	Pn	07 19 04.8	+1.1
JAGI	Jajag, Banyuwa	1.65	76	P	Pn	07 19 04.9	-0.2
BYJI	Banyuwangi	1.92	70	P	Pn	07 19 10.9	+2.2
NBBI	Negara	2.13	76	P	Pn	07 19 10.1	-1.3
UGM	Wanagama	2.21	296	P	Pn	07 19 12.9	+0.3
KMMI	Kalianget	2.31	38	P	Pn	07 19 14.7	+0.8
CISI	Cisompet, Garu	4.85	285	P	Pn	07 19 48.4	-0.1
CGJI	Cibinong	7.14	288	P	Pn	07 20 22.5	+2.6
FITZ	Fitzroy Crossi	15.69	127	Pn	Pn	07 22 12.5	-2.2
	0.1nm,0.3s,baz=316,slow=11,SNR=2.9						
FITZ				Sn	Sn	07 24 51.3	-16
	0.1nm,0.3s,baz=300,slow=18,SNR=1.9						
FITZ				LR	LR	07 27 13.5	
	comp=Z,1μm,21.0s,baz=118,slow=33						
WRA	Warramunga Arr	23.78	120	P	P	07 23 44.4	+0.5
	0.6nm,0.5s,mb3.2,baz=296,slow=12,SNR=12						
ASAR	Alice Springs	25.18	128	P	P	07 23 58.1	+1.4
	0.2nm,0.4s,mb2.9,baz=302,slow=9.6,SNR=5.6						
SONM	Songino Array	56.73	355	P	P	07 28 13.3	-0.6
	0.4nm,0.4s,mb3.8,baz=181,slow=9.5,SNR=2.8						
MKAR	Makanchi Array	61.64	337	P	P	07 28 47.0	-0.9
	0.5nm,0.3s,mb4.0,baz=148,slow=7.9,SNR=4.6						

*ISCJB **19** 07:20:30.8±1.1, 58°.9S±0°.2×25°.0W±0°.6, h10km, mb3.8/4, Error ellipse: s-maj=45.5km s-min=14.6km az=156.6*

*IDC **19** 07:20:32.3±1.0, 58°.66S×25°.39W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.8/14, mbtmp3.9/4, MS4.4/1, Ms1 4.4/1, ms1mx3.4/24, Error ellipse: s-maj=47.8km s-min=24.5km az=87.0*

ISC 19 07:20:33.2±1.1, 58°.9S±0°.1×24°.8W±0°.5, h10km, n9, σ1s37/8, mb3.8/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	Neumayer--Stat	13.69	156	*eP*	Pn	07 23 46.8	-0.2
VNA3	Neumayer Olymp	13.89	159	*eP*	Pn	07 23 48.8	-1.0
VNA3				*eS*	Sn	07 26 13.8	-10
VNA2	Neumayer--Watz	14.09	156	*eP*	Pn	07 23 51.6	-0.8
	baz=321,slow=16						
QSPA	South Pole Qui	31.38	180	P	P	07 26 55.6	+2.1
	1.0nm,0.5s,mb3.9,baz=218,slow=4.1,SNR=4.7						
QSPA				LR	LR	07 39 09.8	
	comp=Z,604nm,18.2s,baz=301,slow=35						
VNDA	Vanda	43.81	182	P	P	07 28 41.2	+2.8
	1.5nm,0.7s,mb3.8,baz=167,slow=5.3,SNR=9.9						
LPAZ	La Paz	53.06	304	P	P	07 29 49.0	-1.4
	0.7nm,0.7s,mb3.7,baz=208,slow=7.1,SNR=4.3						
TORD	Torodi Ar. Bea	74.92	27	P	P	07 32 14.7	+0.7
	0.7nm,0.4s,mb3.9,baz=202,slow=6.4,SNR=13						
YKA	Yellowknife Ar	139.12	315	PKP	PKPdf	07 39 58.1	-0.3
	0.9nm,0.7s,baz=125,slow=2.3,SNR=4.9						
ILAR	Eielson Array	152.92	307	PKPbc	PKPbc	07 40 28.5	-0.3
	1.5nm,0.7s,baz=143,slow=3.2,SNR=28						

IDC 19 07:38:09.7±14.0, 46°.44N×152°.91E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.4/25, mbtmp3.4/5, Error ellipse: s-maj=414.1km s-min=62.1km az=91.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	Petropavlovsk-	7.36	23	Pn	Pn	07 39 57.1	-1.2
	baz=224,slow=12,SNR=2.0						
ILAR	Eielson Array	36.88	38	P	P	07 45 19.2	-0.2
	0.3nm,0.7s,baz=265,slow=8.1,SNR=5.1						
INK	Inuvik	41.99	32	P	P	07 46 02.8	+0.7
	1.0nm,0.8s,baz=290,slow=5.3,SNR=3.6						
PDAR	Pinedale Array	65.05	54	P	P	07 48 52.9	+1.4
	0.1nm,0.5s,baz=355,slow=5.4,SNR=2.4						
TXAR	Lajitas Array	77.77	60	P	P	07 50 07.8	-0.8
	0.2nm,0.4s,baz=292,slow=4.5,SNR=9.3						

IDC 19 07:47:56.3±4.2, 18°.77S×170°.83W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/18, mbtmp3.7/3, Error ellipse: s-maj=207.3km s-min=49.6km az=143.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	44.62	243	P	P	07 56 10.1	-0.6
	0.9nm,0.7s,baz=94,slow=13,SNR=2.3						
ASAR	Alice Springs	51.50	254	P	P	07 57 04.2	+0.2
	0.5nm,0.5s,baz=91,slow=7.8,SNR=11						
WRA	Warramunga Arr	51.55	259	P	P	07 57 04.8	+0.3
	0.3nm,0.3s,baz=97,slow=7.3,SNR=19						
GERES	GERESS Array B	149.77	354	PKPbc	PKPbc	08 07 47.8	-0.4
	0.3nm,0.6s,baz=346,slow=2.8,SNR=3.5						

*ISCJB **19** 07:49:52.0±0.1, 7°.76S±0°.03×74°.47W±0°.02, h150km, mb5.1/258, Error ellipse: s-maj=4.4km s-min=2.7km az=28.6*

*MOS **19** 07:49:51.9±0.9, 7°.66S×74°.50W, h145km, mb5.3/52, Error ellipse: s-maj=8.6km s-min=5.0km az=103.8*

*NEIC **19** 07:49:53.4±0.1, 7°.80S×74°.43W, mb5.3/153, Error ellipse: s-maj=4.0km s-min=2.9km az=46.0*

NEIC Felt [III] at Pucallpa and [II] at Contamana.

*BJI **19** 07:49:53.5, 7°.80S×74°.40W, h144km, mB5.6/15*

*IDC **19** 07:49:53.6±0.4, 7°.75S×74°.35W, h151km±3km, mb4.9/30, mb1 5.0/32, mb1mx5.0/33, mbtmp4.9/32, MS4.3/5, Ms1 4.4/5, ms1mx3.9/34, Error ellipse: s-maj=13.2km s-min=8.7km az=65.0*

ISC 19 07:49:53.8±0.2, 7°.81S±0°.03×74°.38W±0°.02, h151km, h151km±.9km: pP-P, n1082, σ0s62/982, mb5.1/258, 234C-231D, Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	Atahualpa	4.04	279	P	Pn	07 50 52.3	-2.2
	278nm,0.3s,baz=87,slow=5.5,SNR=3552						
ATAH				S	Sn	07 51 33.8	-8.0
	111nm,0.3s,baz=130,slow=5.0,SNR=5.0						
ATAH	Atahualpa	4.04	279	P	Pn	07 50 52.3	-2.2
ATAH				S	Sn	07 51 33.8	-8.0
NNA	Nana	4.81	210	P	Pn	07 51 03.6	-1.1
	25nm,0.3s,baz=22,slow=8.0,SNR=67						
NNA				LR	LR	07 52 37.2	
	comp=Z,1μm,19.2s,baz=256,slow=34						
NNA	Nana	4.81	210	*e*Pn	Pn	07 51 03.3	-1.4
NNA				*e*Sn	Sn	07 51 57.8	-2.3
NNA	Nana	4.81	210	*eP*	Pn	07 51 03.3	-1.4
NNA				*e*		07 51 57.8	
NNA	Nana	4.81	210	Pn	Pn	07 51 03.1	-1.6
	970nm,0.5s,SNR=36						
OTAV	Otavalo	8.96	333	*e*Pn	Pn	07 51 59.1	-1.0
LPAZ	La Paz	10.41	145	P	Pn	07 52 19.3	+0.1
	2.6nm,0.3s,baz=321,slow=11,SNR=110						
LPAZ				LR	LR	07 56 50.8	
	comp=Z,533nm,20.4s,baz=177,slow=40						
LPAZ	La Paz	10.41	145	*

comp=Z,206nm,0.7s
AGP Aguadilla 27.01 15 *e*P **P 07 55 21.2 -0.5**
AOPR Arecibo Observ 27.05 16 *e*P **P 07 55 22.2 +0.1**
AGPR Aguadilla, PR 27.07 15 *e*P **P 07 55 21.5 -0.9**
comp=Z,223nm,1.1s,mb5.7
HUMP Col San Antoni 27.12 18 *e*P **P 07 55 22.1 -0.7**
STVI Saint Thomas 27.61 20 *e*P **P 07 55 26.1 -0.9**
TEIG Tepich 31.03 334 *e*P **P 07 55 57.0 -0.3**
TRQA Tornquist 32.14 161 *e*P **P 07 56 06.5 -0.4**
comp=Z,44nm,1.3s,mb5.0
RCBR Riachuelo 38.25 90 P **P 07 56 59.4 -0.2**
comp=Z,25nm,0.9s,mb4.8,baz=21,slow=3.7,SNR=8.1
RCBR Riachuelo 38.25 90 P **P 07 56 59.4 -0.2**
BRAL Brewton 40.46 343 *e*P **P 07 57 18.2 +0.6**
comp=Z,222nm,0.6s,mb6.0
NHSC New Hope 41.06 353 *e*P **P 07 57 23.1 +0.7**
comp=Z,317nm,0.8s,mb6.0
NHSC *e*pP pP 07 57 55.2 -0.5
KVTX Kingsville 41.87 328 *e*P **P 07 57 31.1 +2.0**
HKT Hockley 42.83 332 *e*P **P 07 57 36.8 -0.1**
HKT Hockley 42.83 332 *e*P **P 07 57 36.8 -0.1**
KMSC Kings Mountain 43.22 352 ⇓P **P 07 57 39.8 0.0**
baz=43,SNR=20
NATX Nacogdoches 43.86 335 *e*P **P 07 57 45.5 +0.4**
comp=Z,37nm,0.5s,mb5.3
CPCT Cooper Cave 44.07 348 *e*P **P 07 57 44.5 -2.2**
CPCT *e*pP pP 07 58 19.3 -1.2
TKL Tuckaleechee C 44.13 349 *e*P **P 07 57 46.3 -0.9**
TKL Tuckaleechee C 44.13 349 *e*P **P 07 57 46.3 -0.9**
SWET Sewanee 44.16 346 *e*P **P 07 57 46.2 -1.2**
comp=Z,25nm,0.6s,mb5.0
OXF Oxford 44.43 342 *e*P **P 07 57 47.5 -2.1**
comp=Z,36nm,0.6s,mb5.2
OXF Oxford 44.43 342 *e*P **P 07 57 47.5 -2.1**
OXF pmax pmax
comp=Z,36nm,0.6s,mb5.2
PLAL Pickwick Lake 44.48 344 *e*P **P 07 57 48.0 -2.0**
comp=Z,33nm,0.8s,mb5.0
TZTN Tazewell 44.95 350 *e*P **P 07 57 52.7 -0.9**
comp=Z,17nm,0.5s,mb4.9
VWCC Virginia Weste 45.12 354 *e*P **P 07 57 55.5 +0.5**
BLA Blacksburg 45.14 353 *e*P **P 07 57 55.1 0.0**
comp=Z,122nm,0.7s,mb5.6
BLA Blacksburg 45.14 353 *e*P **P 07 57 55.2 +0.1**
BLA pmax pmax
comp=Z,121nm,0.7s,mb5.6
JCT Junction City 45.21 329 ⇑P **P 07 57 56.0 +0.1**
baz=45,SNR=18
JCT Junction City 45.21 329 *e*P **P 07 57 55.8 0.0**
JCT Junction City 45.21 329 *e*P **P 07 57 55.8 -0.1**
WVT Waverly 45.50 345 *e*P **P 07 57 55.6 -2.3**
WVT Waverly 45.50 345 *e*P **P 07 57 55.6 -2.4**
UALR University of 45.63 339 *e*P **P 07 57 57.7 -1.4**
comp=Z,63nm,0.7s,mb5.3
UALR *e*pP pP 07 58 32.4 -0.6
EFI East Falkland 45.76 166 P **P 07 58 00.6 +0.8**
comp=Z,435nm,1.0s,mb6.0,SNR=6.1
RFTA Plano 45.81 334 *e*P **P 07 58 00.4 -0.1**
CBN Corbin 45.86 357 *e*P **P 07 58 01.2 +0.4**
MIAR Mount Ida 45.87 338 *e*P **P 07 57 59.8 -1.2**
comp=Z,17nm,0.6s,mb4.9
MIAR Mount Ida 45.87 338 *e*P **P 07 57 59.8 -1.1**
MIAR pmax pmax
comp=Z,17nm,0.6s,mb4.8
GNAR Gosnell 45.96 342 *e*P **P 07 58 00.4 -1.2**
GNAR *e*PcP PcP 07 59 36.5 +0.6
UTMT University of 45.98 344 *e*P **P 07 57 59.7 -2.1**
627A Terlingua Ranc 46.39 324 ⇓P **P 07 58 05.4 +0.3**
baz=47,SNR=35
TXAR Lajitas Array 46.46 324 P **P 07 58 05.6 -0.1**
comp=Z,16nm,0.8s,mb4.7,baz=148,slow=8.9,SNR=150
TXAR pP pP 07 58 40.0 +0.3
comp=Z,3.0nm,0.7s,baz=152,slow=8.3,SNR=3.0
TXAR PcP PcP 07 59 37.7 -0.1
comp=Z,4.4nm,0.8s,baz=130,slow=7.0,SNR=4.8
TXAR Lajitas Array 46.46 324 P **P 07 58 05.6 -0.1**
TXAR pP pP 07 58 40.0 +0.3
TXAR PcP PcP 07 59 37.7 -0.1
TXAR Lajitas Array 46.46 324 P **P 07 58 05.6 -0.1**
TXAR *PP pP 07 58 40.1 +0.4
TXAR 07 59 37.7
528A Cox Ranch, San 46.58 325 ⇓P **P 07 58 06.5 0.0**
baz=47,SNR=24
626A Big Bend Ranch 46.90 324 ⇓P **P 07 58 09.6 +0.5**
baz=47,SNR=111
428A Kincaid Ranch, 46.95 326 ⇑P **P 07 58 09.9 +0.4**
baz=47,SNR=14
527A Woodward Ranch 47.03 325 ⇓P **P 07 58 10.3 +0.2**
baz=47,SNR=56
WCI Wyandotte Cave 47.12 347 *e*P **P 07 58 08.7 -1.9**
WCI Wyandotte Cave 47.12 347 *e*P **P 07 58 08.7 -1.9**
USHA Ushuaia 47.14 175 P **P 07 58 11.0 +0.5**
comp=Z,17nm,0.8s,mb4.7,baz=328,slow=8.1,SNR=8.6
USHA Ushuaia 47.14 175 P **P 07 58 11.0 +0.5**
USIN University of 47.19 346 *e*P **P 07 58 09.3 -1.9**
comp=Z,55nm,0.7s,mb5.3
USIN *e*pP pP 07 58 43.8 -1.5
526A Mary Lane Ranc 47.25 324 ⇑P **P 07 58 12.0 +0.3**
baz=47,SNR=58
SIUC Southern Illin 47.36 344 *e*P **P 07 58 10.6 -1.9**
comp=Z,87nm,0.9s,mb5.4
SIUC *e*pP pP 07 58 45.2 -1.4
427A Hayter Ranch, 47.44 325 ⇑P **P 07 58 13.4 +0.1**
baz=48,SNR=20
MCWV Mont Chateau 47.49 354 *e*P **P 07 58 13.7 +0.2**
comp=Z,38nm,0.6s,mb5.2
328A Wristen Ranch, 47.52 326 ⇓P **P 07 58 13.9 0.0**
baz=48,SNR=38
MVL Millersville 47.60 358 *e*P **P 07 58 14.8 +0.5**
426A McDonald Obser 47.66 325 ⇓P **P 07 58 15.2 +0.2**
baz=48,SNR=24
327A Balmorhea Ranc 47.89 326 ⇑P **P 07 58 16.9 +0.3**
baz=48
TUL1 Tulsa 47.93 336 ⇑P **P 07 58 16.2 -0.7**
baz=48,SNR=28
OLIL Olney 48.03 346 *e*P **P 07 58 15.7 -1.9**
BLO Bloomington 48.08 347 *e*P **P 07 58 16.5 -1.5**
comp=Z,41nm,0.6s,mb5.2
BLO Bloomington 48.08 347 *e*P **P 07 58 16.5 -1.5**
BLO pmax pmax
comp=Z,41nm,0.6s,mb5.2
326A Caldwell Ranch 48.12 325 ⇑P **P 07 58 18.6 +0.1**
baz=48,SNR=40
WMOK Wichita Mounta 48.20 333 *e*P **P 07 58 18.3 -0.6**
comp=Z,22nm,0.8s,mb4.8
WMOK *e*pP pP 07 58 52.3 -1.0
WMOK *e*PcP PcP 07 59 43.5 -0.4
WMOK Wichita Mounta 48.20 333 *e*P **P 07 58 18.3 -0.7**
WMOK *e*PP pP 07 58 52.3 -0.9
WMOK *e* 07 59 43.5
WMOK pmax pmax
comp=Z,22nm,0.8s,mb4.8
CCM Cathedral Cave 48.26 342 *e*P **P 07 58 17.2 -2.2**
CCM *e*PcP PcP 07 59 43.7 -0.4
CCM Cathedral Cave 48.26 342 *e*P **P 07 58 17.3 -2.1**
CCM *e* 07 59 43.7
227A Bennet, Jal 48.27 327 ⇓P **P 07 58 19.9 +0.3**
baz=48,SNR=25
425A Indio Mountain 48.30 324 ⇓P **P 07 58 19.9 0.0**
baz=48,SNR=70
SSPA Standing Stone 48.31 356 *e*P **P 07 58 20.2 +0.5**
comp=Z,24nm,0.6s,mb5.0
ACSO Alum Creek Sta 48.45 351 *e*P **P 07 58 19.8 -1.0**
comp=Z,24nm,0.6s,mb5.0
ACSO *e*pP pP 07 58 54.7 -0.5
SLM Saint Louis 48.50 343 *e*P **P 07 58 19.6 -1.7**
SLM Saint Louis 48.50 343 *e*P **P 07 58 19.6 -1.6**
325A Bean Ranch, Si 48.72 325 ⇑P **P 07 58 22.9 -0.1**
baz=49,SNR=44
226A Malaga, Loving 48.75 326 ⇑P **P 07 58 23.8 +0.6**
baz=49,SNR=26
CLNB Carlsbad 48.78 326 *e*P **P 07 58 23.9 +0.4**
comp=Z,20nm,1.1s,mb4.7
127A Arkansas Junct 48.81 327 ⇑P **P 07 58 23.4 -0.3**
baz=49,SNR=17
YLE Yale 48.90 1 *e*P **P 07 58 23.4 -0.7**
324A Moseley Ranch, 49.07 324 ⇑P **P 07 58 25.2 -0.5**
baz=49,SNR=58
126A Clayton Basin, 49.15 327 ⇓P **P 07 58 26.6 +0.3**
baz=49,SNR=36
225A Deer Hill, Car 49.19 325 ⇓P **P 07 58 27.0 +0.4**
baz=49,SNR=44
Z27A Tatum 49.23 328 ⇑P **P 07 58 26.4 -0.5**
baz=49,SNR=40
CPRX Cap Rock 49.36 327 *e*P **P 07 58 28.4 +0.5**
comp=Z,141nm,1.2s,mb5.5
CPRX *e*pP pP 07 59 02.3 0.0
SFIN Scholer Farm 49.36 347 ⇓P **P 07 58 25.5 -2.2**
baz=50,SNR=20
ALLY Alegheny Colle 49.50 354 *e*P **P 07 58 28.7 0.0**
ALLY *e*pP pP 07 59 03.1 -0.1
MSTX Muleshoe 49.51 329 ⇓P **P 07 58 28.6 -0.4**
baz=50,SNR=39
125A Gardner Draw, 49.51 326 ⇓P **P 07 58 29.0 0.0**
baz=50,SNR=48
224A Cornudas Mount 49.56 325 ⇑P **P 07 58 29.0 -0.4**
baz=50,SNR=40
Z26A Caprock 49.60 327 ⇑P **P 07 58 29.7 0.0**
baz=50,SNR=40
Y27A Causey 49.64 328 ⇑P **P 07 58 29.6 -0.4**
baz=50,SNR=29
AMTX Amarillo 49.68 330 ⇑P **P 07 58 29.7 -0.6**
baz=50
AMTX Amarillo 49.68 330 *e*P **P 07 58 29.6 -0.7**
BINY Binghamton 49.78 358 *e*P **P 07 58 31.4 +0.5**
comp=Z,139nm,0.7s,mb5.7
ERPA Erie 49.95 355 *e*P **P 07 58 31.6 -0.6**
comp=Z,92nm,0.8s,mb5.5
ERPA *e*pP pP 07 59 05.7 -0.9
124A Stringfield Ra 49.98 325 ⇑P **P 07 58 32.8 +0.2**
baz=50,SNR=30
Z25A Roswell 50.01 326 ⇓P **P 07 58 32.9 +0.1**
baz=50,SNR=74
Y26A Elida 50.02 328 ⇓P **P 07 58 32.3 -0.6**
baz=50,SNR=8.7
223A Chaparral, Ant 50.03 324 ⇓P **P 07 58 32.6 -0.4**
baz=50
HDIL Hopedale 50.05 345 *e*P **P 07 58 31.1 -1.9**
X27A F and S Farms, 50.20 329 ⇓P **P 07 58 34.0 -0.2**
baz=50,SNR=29
123A Bell Site, Whi 50.39 325 ⇓P **P 07 58 35.8 +0.1**
baz=51,SNR=7.9
Z24A Sheeppen Canyo 50.40 326 ⇑P **P 07 58 35.9 +0.1**
baz=51,SNR=60
Y25A Mesa, Roswell 50.48 327 ⇓P **P 07 58 36.0 -0.4**
baz=51,SNR=18
X26A CR and CF Fran 50.49 328 ⇑P **P 07 58 36.3 -0.1**
baz=51,SNR=29
222A Williams Famil 50.50 324 ⇑P **P 07 58 37.0 +0.5**
baz=51,SNR=91
W27A Bowe Ranch, En 50.51 329 ⇑P **P 07 58 36.3 -0.3**
baz=51,SNR=35
AAM Ann Arbor 50.58 351 *e*P **P 07 58 35.0 -1.9**
comp=Z,38nm,0.8s,mb5.1
AAM *e*pP pP 07 59 10.4 -1.1
AAM Ann Arbor 50.58 351 *e*P **P 07 58 35.1 -1.8**
AAM *e*PP pP 07 59 10.4 -1.1
AAM pmax pmax
comp=Z,38nm,0.8s,mb5.1
320A Kipp Ranch, An 50.81 322 ⇑P **P 07 58 39.2 +0.3**
baz=51,SNR=17
221A Mesquite Ranch 50.83 323 ⇓P **P 07 58 39.5 +0.5**
baz=51,SNR=7.3
Z23A Rita Site, Whi 50.84 325 ⇑P **P 07 58 39.3 +0.2**
baz=51,SNR=36
122A Conniff Cattle 50.87 324 ⇑P **P 07 58 40.0 +0.7**
baz=51,SNR=11
Y24A Capitan 50.89 326 ⇓P **P 07 58 39.1 -0.3**
baz=51,SNR=19
W26A Owens Ranch, T 50.89 329 ⇑P **P 07 58 39.3 0.0**
baz=51,SNR=6.8
X25A Clemons Ranch 50.92 328 ⇓P **P 07 58 39.3 -0.4**
baz=51,SNR=5.7
ACCN Adirondack Com 50.95 1 *e*P **P 07 58 40.1 +0.4**
KSU1 Kansas State U 51.03 338 *e*P **P 07 58 39.3 -1.1**
comp=Z,119nm,1.0s,mb5.5
121A Cookes Peak, D 51.21 323 ⇑P **P 07 58 42.4 +0.6**
baz=51,SNR=29
220A Playas Peak, P 51.21 322 ⇓P **P 07 58 42.1 +0.3**
baz=51,SNR=54
Y23A Lovelace Mesa, 51.23 326 ⇑P **P 07 58 42.0 0.0**
baz=51,SNR=34
Z22A Elephant Butte 51.25 325 ⇑P **P 07 58 42.4 +0.3**
baz=51,SNR=32
319A Douglas 51.30 321 ⇑P **P 07 58 42.9 +0.4**
baz=52,SNR=44
W25A X Bar L Ranch, 51.35 328 ⇓P **P 07 58 42.5 -0.3**
baz=52,SNR=26
X24A Lazy VL Ranch, 51.37 327 ⇓P **P 07 58 42.9 0.0**
baz=52,SNR=13
V26A Texasquite Ra 51.45 329 ⇑P **P 07 58 43.5 0.0**
baz=52,SNR=67
NCB Newcomb 51.53 0 *e*P **P 07 58 43.8 -0.2**
comp=Z,14nm,0.6s,mb4.8
MDV Middlebury 51.57 1 *e*P **P 07 58 44.4 +0.1**
Z21A St. Cloud Mine 51.70 324 ⇓P **P 07 58 46.0 +0.6**
baz=52,SNR=28
BNM Barren Site 51.71 326 *e*P **P 07 58 45.6 +0.1**
comp=Z,25nm,1.1s,mb4.8
BNM *e*pP pP 07 59 16.4 -3.9
BNM *e*PcP PcP 07 59 56.8 0.0
219A White Tail Can 51.72 322 ⇓P **P 07 58 45.8 +0.1**
baz=52,SNR=40
120A U Bar Ranch, L 51.72 323 ⇑P **P 07 58 46.0 +0.4**
baz=52,SNR=21
Y22A Socorro 51.75 325 ⇑P **P 07 58 46.0 +0.2**
baz=52
X23A Hourglass Bar 51.79 326 ⇓P **P 07 58 46.1 0.0**
baz=52
318A Bisbee 51.79 321 ⇓P **P 07 58 46.3 +0.2**
baz=52
Y22D IRIS PASSCAL I 51.82 325 ⇓P **P 07 58 46.9 +0.5**
baz=52
LPM Los Pinos Moun 51.84 326 *e*P **P 07 58 46.6 +0.2**
W24A Lazy 6 Ranch, 51.84 328 ⇓P **P 07 58 46.2 -0.3**
baz=52,SNR=28
U26A Atchley Ranch, 51.90 330 ⇓P **P 07 58 46.8 -0.1**
baz=52,SNR=35
V25A Rancho No Teng 51.91 329 ⇑P **P 07 58 47.0 +0.1**
baz=52,SNR=42
LENM Lemitar 51.92 325 *e*P **P 07 58 47.6 +0.5**
CBKS Cedar Bluff 52.03 335 ⇓P **P 07 58 47.6 -0.2**
baz=52,SNR=11
CBKS Cedar Bluff 52.03 335 *e*P **P 07 58 47.7 -0.1**
comp=Z,67nm,0.8s,mb5.3
CBKS Cedar Bluff 52.03 335 *e*P **P 07 58 47.7 -0.1**
CBKS pmax pmax
comp=Z,67nm,0.8s,mb5.3
Z20A Nine Sixteen R 52.10 323 ⇓P **P 07 58 49.0 +0.6**
baz=52,SNR=45
V24A Rampart Ranch, 52.16 328 ⇓P **P 07 58 48.7 -0.1**
baz=52,SNR=58
LONY Lake Ozonia 52.18 360 *e*P **P 07 58 48.8 0.0**
LAZ Ladron 52.19 326 *e*P **P 07 58 48.9 -0.1**
comp=Z,17nm,1.1s,mb4.6
218A Dragoon 52.19 321 ⇑P **P 07 58 49.4 +0.3**
baz=52
X22A Bernardo 52.19 326 ⇓P **P 07 58 50.0 +0.9**
baz=52,SNR=15
W23A Werner Place, 52.20 327 ⇑P **P 07 58 49.2 +0.1**
baz=52,SNR=17
Y21A Point of Rocks 52.20 325 ⇑P **P 07 58 50.2 +1.0**
baz=52,SNR=34
ANMO Albuquerque 52.21 326 P **P 07 58 49.3 +0.1**
comp=Z,32nm,0.9s,mb5.0,baz=148,slow=10,SNR=109
ANMO pP pP 07 59 24.9 +0.9
comp=Z,17nm,1.0s,baz=146,slow=11,SNR=5.4
ANMO Albuquerque 52.21 326 *e*P **P 07 58 49.0 -0.2**
comp=Z,32nm,0.9s,mb5.0
ANMO Albuquerque 52.21 326 *e*P **P 07 58 49.0 -0.2**
ANMO pmax pmax
comp=Z,33nm,0.9s
U25A Circle Dot Ran 52.24 329 ⇓P **P 07 58 49.4 0.0**
baz=52,SNR=27
119A Ashpeak Ranch, 52.28 322 ⇑P **P 07 58 50.1 +0.4**
baz=52,SNR=17
SCIA State Center 52.39 342 *e*P **P 07 58 48.2 -2.2**
JFWS Jewell Farm 52.51 345 *e*P **P 07 58 49.2 -2.0**
comp=Z,56nm,0.7s,mb5.4
JFWS *e*PcP PcP 07 59 59.5 -0.2
JFWS Jewell Farm 52.51 345 *e*P **P 07 58 49.3 -1.9**
JFWS *e* 07 59 59.5
JFWS pmax pmax
comp=Z,56nm,0.7s,mb5.4
W22A Albuquerque 52.53 326 ⇓P **P 07 58 52.1 +0.6**
baz=53,SNR=7.3
Y20A Horse Springs, 52.53 324 ⇓P **P 07 58 52.1 +0.5**
baz=53,SNR=52
217A Green Valley 52.54 320 ⇓P **P 07 58 51.6 -0.1**
baz=53,SNR=13
X21A Alamocita Cree 52.58 325 ⇑P **P 07 58 52.9 +0.9**
baz=53,SNR=90
118A Homack Ranch, 52.60 322 ⇑P **P 07 58 52.3 +0.2**
baz=53,SNR=38
Z19A T-Link Ranch, 52.62 323 ⇑P **P 07 58 52.8 +0.5**
baz=53,SNR=5.5
V23A Ortiz Mt. (NFS 52.66 327 ⇑P **P 07 58 53.0 +0.5**
baz=53,SNR=17
U24A Moreno Valley 52.69 329 ⇓P **P 07 58 53.3 +0.6**
baz=53,SNR=17
T25A Trinidad 52.81 330 ⇓P **P 07 58 54.1 +0.5**
baz=53,SNR=51
TUC Tucson 52.88 321 *e*P **P 07 58 54.1 -0.1**
TUC Tucson 52.88 321 *e*P **P 07 58 54.1 -0.1**
Z18A Geronimo 52.94 322 ⇑P **P 07 58 55.1 +0.4**
baz=53
W21A San Fidel 52.99 326 ⇓P **P 07 58 55.5 +0.6**
baz=53,SNR=9.9
117A Oracle 53.02 321 ⇓P **P 07 58 55.3 +0.1**
baz=53,SNR=39
X20A Quemado 53.06 325 ⇓P **P 07 58 56.1 +0.7**
baz=53,SNR=27
Y19A Nutrioso 53.08 324 ⇑P **P 07 58 56.3 +0.7**
baz=53,SNR=34
T24A Torres, Weston 53.09 329 ⇑P **P 07 58 56.2 +0.7**
baz=53,SNR=27
216A Three Points, 53.09 320 ⇑P **P 07 58 55.8 0.0**
baz=53,SNR=11
U23A El Rito 53.10 328 ⇑P **P 07 58 56.1 +0.3**
baz=53,SNR=41
V22A San Miguel Ran 53.18 327 ⇑P **P 07 58 56.7 +0.5**
baz=53,SNR=68
S25A Robets Cordova 53.23 330 ⇓P **P 07 58 57.0 +0.3**
baz=53,SNR=38
Z17A San Carlos Hig 53.35 322 ⇑P **P 07 58 57.7 +0.1**
baz=54,SNR=23
Y18A Canyon Day Jun 53.42 323 ⇓P **P 07 58 58.5 +0.4**
baz=54,SNR=30
X19A St. Johns 53.44 324 ⇑P **P 07 58 58.6 +0.4**
baz=54,SNR=23
W20A Ramah 53.48 325 ⇑P **P 07 58 58.8 +0.3**
baz=54,SNR=30
U22A Llaves 53.49 327 ⇓P **P 07 58 59.3 +0.7**
baz=54,SNR=37
V21A Milan 53.49 326 ⇓P **P 07 58 59.4 +0.8**
baz=54,SNR=7.8
R25A Fountain Ranch 53.54 331 ⇓P **P 07 58 58.6 -0.3**
baz=54
T23A Casias Ranch, 53.56 329 ⇑P **P 07 58 59.3 +0.2**
baz=54,SNR=22
S24A Houchin Ranch, 53.60 330 ⇓P **P 07 58 60.0 +0.6**
baz=54,SNR=26
BGNE Belgrade 53.62 338 ⇑P **P 07 58 58.3 -1.1**
baz=54,SNR=30
116A Eloy 53.62 321 ⇓P **P 07 58 59.4 -0.2**
baz=54,SNR=20
SDCO Great Sand Dun 53.83 330 ⇑P **P 07 59 01.4 +0.4**
baz=54,SNR=76
SDCO Great Sand Dun 53.83 330 *e*P **P 07 59 01.5 +0.5**
Y17A Roosevelt 53.85 322 ⇓P **P 07 59 01.3 0.0**
baz=54,SNR=28
X18A Snowflake 53.89 324 ⇓P **P 07 59 02.0 +0.4**
baz=54,SNR=29
214A Organ Pipe Nat 53.93 319 ⇓P **P 07 59 02.1 +0.2**
baz=54,SNR=35
V20A Brimhall 53.95 326 ⇓P **P 07 59 02.1 +0.2**
baz=54,SNR=7.8
U21A Nageezi 53.96 327 ⇑P **P 07 59 02.2 +0.2**
baz=54,SNR=21
W19A Sanders 53.98 324 ⇑P **P 07 59 02.5 +0.4**
baz=54
T22A Edith 53.99 328 ⇓P **P 07 59 02.5 +0.3**
baz=54,SNR=23
R24A Sanders Place, 54.01 330 ⇓P **P 07 59 02.7 +0.4**
baz=54,SNR=7.2
115A Sonoran Desert 54.05 320 ⇑P **P 07 59 02.7 0.0**
baz=54
S23A Nye Farm, Mont 54.05 329 ⇑P **P 07 59 03.2 +0.6**
baz=54,SNR=10
Q25A Bedland, Calha 54.13 331 ⇑P **P 07 59 02.8 -0.4**
baz=54,SNR=9.4
W18A Petrified Fore 54.18 324 ⇓P **P 07 59 04.0 +0.4**
baz=54
V19A Window Rock 54.21 325 ⇑P **P 07 59 03.8 0.0**
baz=54,SNR=8.8
X17A Forest Lakes 54.27 323 ⇑P **P 07 59 05.0 +0.7**
baz=54,SNR=27
T21A Navajo Lake 54.31 327 ⇓P **P 07 59 04.5 0.0**
baz=54,SNR=12
Y16A Circle Bar Ran 54.37 322 ⇓P **P 07 59 05.4 +0.4**
baz=54,SNR=45
Z15A Gila River Ind 54.39 321 ⇓P **P 07 59 05.2 0.0**
baz=54
U20A Newcomb 54.40 326 ⇑P **P 07 59 05.1 0.0**
baz=55,SNR=13
114A Black Gap (USA 54.49 320 ⇑P **P 07 59 06.0 0.0**
baz=55,SNR=14
S22A 4UR Ranch, Cre 54.51 329 ⇑P **P 07 59 06.3 +0.4**
baz=55,SNR=43
P25A Willow Gulch B 54.57 332 ⇓P **P 07 59 06.4 +0.1**
baz=55,SNR=25
Q24A Divide 54.60 331 ⇓P **P 07 59 06.7 +0.1**
baz=55,SNR=22
X16A Lo Mia Camp, P 54.71 322 ⇓P **P 07 59 07.9 +0.5**
baz=55,SNR=53
V18A Ganado 54.72 325 ⇑P **P 07 59 07.0 -0.4**
baz=55,SNR=6.1
U19A Dine' College, 54.72 326 ⇓P **P 07 59 06.6 -0.9**
baz=55,SNR=7.1
W17A Winslow 54.73 323 ⇑P **P 07 59 07.6 +0.1**
baz=55,SNR=8.0
OGNE Ogallala 54.78 335 ⇓P **P 07 59 07.7 -0.1**
baz=55,SNR=12
OGNE Ogallala 54.78 335 *e*P **P 07 59 07.7 -0.1**
comp=Z,34nm,0.6s,mb5.2
OGNE *e*PcP PcP 08 00 08.2 -0.2
Q23A Hartsel 54.89 330 ⇑P **P 07 59 08.7 0.0**
baz=55,SNR=7.4
P24A Kohler Place, 54.92 331 ⇓P **P 07 59 09.1 +0.3**
baz=55,SNR=7.7
Z14A Wintersburg 54.93 320 ⇑P **P 07 59 09.1 0.0**
baz=55
Y15A Casa Rosa Ranc 54.94 321 ⇓P **P 07 59 09.1 0.0**
baz=55,SNR=22
S21A Coal Bank Pass 54.95 328 ⇓P **P 07 59 09.1 0.0**
baz=55,SNR=25
MVCO Mesa Verde 54.99 327 ⇓P **P 07 59 09.4 0.0**
baz=55,SNR=22
MVCO Mesa Verde 54.99 327 *e*P **P 07 59 09.3 -0.1**
T19A Beclabito 55.00 326 ⇑P **P 07 59 09.1 -0.4**
baz=55,SNR=34
O25A Wiggins 55.02 332 ⇑P **P 07 59 09.9 +0.3**
baz=55
113A Mohawk Valley, 55.07 319 ⇓P **P 07 59 09.8 -0.3**
baz=55,SNR=7.7
ECSD EROS Data Cent 55.12 340 *e*P **P 07 59 08.6 -1.6**
V17A Tonalea, Kykot 55.15 324 ⇑P **P 07 59 10.8 +0.3**
baz=55,SNR=51
W16A Flagstaff 55.22 323 ⇓P **P 07 59 11.8 +0.7**
baz=55,SNR=26
P23A Jefferson 55.26 331 ⇓P **P 07 59 12.0 +0.7**
baz=55,SNR=21
Z13A Yuma Proving G 55.28 320 ⇑P **P 07 59 11.6 +0.1**
baz=55,SNR=12
SPMN St. Paul 55.33 344 ⇑P **P 07 59 09.9 -1.8**
baz=56,SNR=33
Y14A Wickenburg 55.35 321 ⇑P **P 07 59 12.0 -0.1**
baz=56,SNR=21
R21A Cimarron 55.35 328 ⇓P **P 07 59 12.1 +0.2**
baz=56,SNR=35
S20A Disappointment 55.38 327 ⇑P **P 07 59 12.8 +0.7**
baz=56,SNR=50
Q22A Crested Butte, 55.40 329 ⇓P **P 07 59 12.7 +0.4**
baz=56,SNR=29
WUAZ Wupatki 55.42 323 ⇓P **P 07 59 12.9 +0.4**
baz=56,SNR=56
WUAZ Wupatki 55.42 323 *e*P **P 07 59 13.1 +0.6**
comp=Z,57nm,0.9s,mb5.3
O24A Longmont 55.48 332 ⇓P **P 07 59 13.1 +0.2**
baz=56,SNR=17
ISCO Idaho Springs 55.48 331 ⇑P **P 07 59 13.0 +0.2**
baz=56,SNR=26
ISCO Idaho Springs 55.48 331 *e*P **P 07 59 12.9 0.0**
comp=Z,35nm,1.2s,mb5.0
ISCO Idaho Springs 55.48 331 *e*P **P 07 59 12.9 0.0**
ISCO pmax pmax
comp=Z,35nm,1.2s,mb5.0
N25A Grover 55.57 333 ⇓P **P 07 59 14.2 +0.7**
baz=56
R20A Redvale 55.65 328 ⇑P **P 07 59 14.6 +0.5**

baz=56,SNR=61
SMCO Snowmass 55.67 330 eP P 07 59 14.6 +0.4
T18A Mexican Hat 55.70 326 ⇓P P 07 59 14.2 -0.3
baz=56,SNR=40
U16A Tuba City 55.71 324 ⇓P P 07 59 14.8 +0.2
baz=56,SNR=35
PV01 Paradox Valley 55.71 328 eP P 07 59 14.9 +0.4
comp=Z,5jun,0.9s
Q21A Lamborn Mesa, 55.71 329 ⇑P P 07 59 14.6 0.0
baz=56,SNR=11
S19A Harvey Farm, M 55.73 327 ⇑P P 07 59 14.6 -0.1
baz=56,SNR=71
U17A Shonto 55.76 325 ⇑P P 07 59 15.1 +0.2
baz=56,SNR=12
P22A Eagle 55.88 330 ⇓P P 07 59 15.9 +0.2
baz=56,SNR=37
GLA Glamis 55.94 319 ⇑P P 07 59 16.3 0.0
baz=56,SNR=6.8
GLA Glamis 55.94 319 eP P 07 59 16.0 -0.3
GLA Glamis 55.94 319 eP P 07 59 16.0 -0.3
N24A Carr 55.95 332 ⇑P P 07 59 16.7 +0.6
baz=56,SNR=16
O23A Lake Granby, G 55.95 331 ⇑P P 07 59 16.6 +0.4
baz=56,SNR=67
PV04 Paradox Valley 56.08 328 eP P 07 59 17.3 +0.2
V15A Kaibab Nationa 56.10 323 ⇑P P 07 59 17.9 +0.6
baz=56
T17A Navajo Res., N 56.12 325 ⇓P P 07 59 17.9 +0.5
baz=56
S18A Hurst Farm, Bl 56.16 326 ⇑P P 07 59 17.8 +0.1
baz=56,SNR=53
P21A Newcastle 56.17 329 ⇑P P 07 59 18.6 +0.8
baz=56,SNR=38
Q20A Ridgley Place, 56.17 328 ⇑P P 07 59 17.6 -0.2
baz=56,SNR=7.9
Y12C Blythe 56.19 320 ⇑P P 07 59 18.1 +0.1
baz=56,SNR=20
R19A Curley Farm, L 56.20 327 ⇑P P 07 59 17.8 -0.2
baz=56,SNR=23
O22A Kremmling 56.21 331 ⇓P P 07 59 18.2 +0.1
baz=56,SNR=36
PDMCI Parker Dam,Lak 56.30 320 ⇑P P 07 59 18.6 -0.2
baz=56,SNR=8.6
M24A Cheyenne 56.43 333 ⇓P P 07 59 20.0 +0.5
baz=57,SNR=13
N23A Red Feather La 56.49 332 ⇓P P 07 59 20.1 +0.1
baz=57,SNR=12
SWSC Sam W. Stewart 56.51 318 ⇑P P 07 59 20.3 0.0
baz=57,SNR=8.4
T16A Glen Canyon Da 56.51 325 ⇓P P 07 59 20.5 +0.3
baz=57,SNR=6.9
DVTC Desert V Tower 56.54 318 ⇓P P 07 59 20.1 -0.4
baz=57
BRSD Miller 56.54 339 ⇓P P 07 59 19.2 -1.1
baz=57,SNR=21
S17A Black Ridge (B 56.57 326 ⇑P P 07 59 20.8 +0.1
baz=57
U15A North Rim 56.58 324 ⇓P P 07 59 21.5 +0.7
baz=57,SNR=52
PHWY Pilot Hill 56.59 332 eP P 07 59 20.8 +0.1
R18A Canyonlands Na 56.61 327 ⇓P P 07 59 20.4 -0.5
baz=57,SNR=22
P20A De Beque 56.63 329 ⇑P P 07 59 21.0 -0.1
baz=57,SNR=9.2
W13A Hualapai Mount 56.66 321 ⇓P P 07 59 21.9 +0.5
baz=57,SNR=36
N22A Wattenberg Ran 56.66 331 ⇓P P 07 59 21.5 +0.3
baz=57,SNR=9.8
Q19A Hogan Spring (56.68 328 ⇓P P 07 59 21.4 0.0
baz=57,SNR=92
K26A Motz Farm, Whi 56.71 335 ⇓P P 07 59 21.7 +0.2
baz=57,SNR=16
O21A Pagoda 56.71 330 ⇓P P 07 59 22.3 +0.7
baz=57,SNR=14
BC3 Big Chuckawall 56.73 319 ⇓P P 07 59 21.8 0.0
baz=57,SNR=36
M23A Laramie 56.84 332 ⇓P P 07 59 22.7 +0.2
baz=57,SNR=29
IRM Iron Mountain 56.85 320 ⇑P P 07 59 22.9 +0.2
baz=57,SNR=80
MONP Monument Peak 56.89 318 ⇓P P 07 59 23.1 +0.1
baz=57,SNR=6.3
NEE2 Needles Airpor 56.90 321 ⇓P P 07 59 23.3 +0.3
baz=57
K25A Mack Ranch, Ha 56.93 334 ⇓P P 07 59 23.4 +0.4
baz=57,SNR=8.1
BAR Barrett 56.93 317 eP P 07 59 23.1 -0.2
comp=Z,18nm,1.4s,mb4.7
L24A Wheatland 56.94 333 ⇑P P 07 59 23.3 +0.2
baz=57,SNR=5.3
O20A White River Ci 57.03 329 ⇓P P 07 59 24.0 +0.2
baz=57,SNR=23
P19A Cripple Cowboy 57.03 328 ⇓P P 07 59 24.0 +0.2
baz=57,SNR=50
R17A Hanksville Air 57.08 326 ⇑P P 07 59 24.1 -0.1
baz=57,SNR=83
S16A Weppner Ranch, 57.08 325 ⇑P P 07 59 24.3 +0.1
baz=57,SNR=35
N21A Black Mountain 57.15 330 ⇓P P 07 59 25.3 +0.6
baz=57,SNR=31
M22A Cedar Creek Ra 57.20 332 ⇑P P 07 59 25.3 +0.3
baz=57,SNR=12
Q18A Rafter H Ranch 57.25 327 ⇓P P 07 59 25.6 +0.2
baz=57,SNR=40
BELC Belle Mtn. Jos 57.30 319 ⇓P P 07 59 26.0 +0.2
baz=57,SNR=36
L23A Garrett 57.34 333 ⇓P P 07 59 26.1 +0.1
baz=58,SNR=30
PMSA Palmer Station 57.34 175 P P 07 59 27.0 +1.4
comp=Z,56nm,1.0s,mb5.4,baz=101,slow=2.6,SNR=3.6
PMSA Palmer Station 57.34 175 P P 07 59 27.0 +1.4
109C Camp Elliot, M 57.35 317 ⇑P P 07 59 26.2 0.0
baz=58
PFO Pinyon Flat Ob 57.35 318 ⇑P P 07 59 26.5 +0.3
baz=58,SNR=22
PFO Pinyon Flat Ob 57.35 318 eP P 07 59 26.4 +0.1
comp=Z,24nm,0.9s,mb5.0
PFO Pinyon Flat Ob 57.35 318 eP P 07 59 26.4 +0.2
PFO pmax pmax
comp=Z,24nm,0.9s,mb5.0
PFO Pinyon Flat Ob 57.35 318 P P 07 59 26.0 -0.2
comp=Z,155nm,1.1s,mb5.8,SNR=15
R16A Teasdale 57.41 326 ⇑P P 07 59 26.9 +0.4
baz=58,SNR=32
LDFC Landfair 57.41 321 eP P 07 59 27.5 +0.9
K24A Anderson Ranch 57.43 334 ⇑P P 07 59 27.0 +0.5
baz=58
SRU San Rafael 57.47 327 ⇑P P 07 59 26.8 -0.1
baz=58,SNR=41
SRU San Rafael 57.47 327 eP P 07 59 26.9 0.0
SRU San Rafael 57.47 327 eP P 07 59 26.9 0.0
EYMN Ely 57.53 346 eP P 07 59 25.4 -1.8
GMRC Granite Mounta 57.57 320 ⇑P P 07 59 28.0 +0.3
baz=58,SNR=38
N20A Spence Gulch, 57.57 330 ⇑P P 07 59 27.8 +0.2
baz=58,SNR=38
O19A Miners Draw (B 57.60 329 ⇓P P 07 59 27.8 -0.1
baz=58,SNR=49
L22A Ellis Ranch, M 57.61 332 ⇑P P 07 59 28.5 +0.6
baz=58,SNR=27
Q16A Castle Valley 57.68 326 ⇓P P 07 59 28.6 +0.2
baz=58,SNR=8.0
P18A Preston Nutter 57.69 328 ⇑P P 07 59 28.8 +0.3
baz=58,SNR=20
RWWY Rawlins 57.71 331 eP P 07 59 29.4 +0.8
M21A Separation Pea 57.72 331 ⇑P P 07 59 28.9 +0.3
baz=58,SNR=29
R15A Junction 57.80 325 ⇑P P 07 59 29.6 +0.3
baz=58,SNR=14
MURC Murrieta 57.84 318 ⇑P P 07 59 29.7 0.0
baz=58,SNR=10
P17A Butcher Ranch, 57.85 327 ⇑P P 07 59 29.6 0.0
baz=58,SNR=34
J24A Dixon Ranch, L 57.85 334 ⇑P P 07 59 30.0 +0.5
baz=58,SNR=11
MSU Marysvale 57.96 325 eP P 07 59 30.8 +0.5
MSU Marysvale 57.96 325 eP P 07 59 30.8 +0.4
CCUT Cedar City 57.98 324 eP P 07 59 31.4 +0.9
L21A Rawlins 58.00 331 ⇑P P 07 59 30.5 -0.1
baz=58,SNR=46
HEC Hector,Ludlow 58.03 320 ⇑P P 07 59 31.3 +0.3
baz=58,SNR=36
M20A Sweetwater, Wa 58.03 330 ⇑P P 07 59 31.0 +0.2
baz=58,SNR=31
O18A Roosevelt 58.03 328 ⇓P P 07 59 31.1 +0.2
baz=58,SNR=24
BBRC Big Bear Solar 58.06 319 ⇓P P 07 59 32.0 +0.8
baz=58,SNR=11
N19A John Jarvie Ra 58.07 329 ⇓P P 07 59 30.8 -0.3
baz=58,SNR=40
K22A Casper 58.14 332 ⇑P P 07 59 31.7 +0.1
baz=58,SNR=31
TUQ Turquoise Moun 58.15 320 ⇑P P 07 59 31.9 +0.1
baz=58,SNR=37
ARUT Antelope Range 58.18 324 eP P 07 59 32.5 +0.6
comp=Z,59nm,1.4s,mb5.2
ARUT Antelope Range 58.18 324 eP P 07 59 32.5 +0.6
ARUT pmax pmax
comp=Z,59nm,1.4s,mb5.2
RSSD Black Hills 58.23 335 eP P 07 59 32.3 +0.2
RSSD Black Hills 58.23 335 eP P 07 59 32.3 +0.2
I24A Kuemmerle Ranc 58.26 335 ⇓P P 07 59 32.6 +0.2
baz=58,SNR=12
J23A Dilts Ranch, B 58.30 334 ⇓P P 07 59 32.9 +0.3
baz=58
O17A Robinson Place 58.37 328 ⇑P P 07 59 33.8 +0.7
baz=58,SNR=47
SCI San Clemente I 58.38 317 ⇑P P 07 59 33.4 0.0
baz=58
N18A Larsen Ranch, 58.38 329 ⇓P P 07 59 33.4 +0.1
baz=59,SNR=37
P16A Fountain Green 58.44 327 ⇑P P 07 59 34.1 +0.4
baz=59,SNR=8.4
K21A Alcova 58.46 332 ⇓P P 07 59 34.1 +0.4
baz=59,SNR=56
RRX Edison Barstow 58.49 319 ⇓P P 07 59 34.6 +0.5
baz=59
L20A Wamsutter 58.50 331 ⇑P P 07 59 34.3 +0.3
baz=59,SNR=11
M19A Rock Springs 58.52 330 ⇑P P 07 59 33.9 -0.3
baz=59,SNR=6.3
BFSC Mount Baldy Ra 58.53 318 ⇓P P 07 59 34.6 +0.2
baz=59,SNR=8.0
CIS Catalina Islan 58.53 317 ⇑P P 07 59 34.5 0.0
baz=59
GSC Goldstone 58.63 320 ⇑P P 07 59 35.4 +0.3
baz=59,SNR=29
GSC Goldstone 58.63 320 eP P 07 59 35.4 +0.3
GSC Goldstone 58.63 320 eP P 07 59 35.4 +0.3
FMP Fort Macarthur 58.64 317 ⇓P P 07 59 35.5 +0.3
baz=59
SHOC Shoshone 58.67 321 ⇑P P 07 59 35.4 +0.1
baz=59,SNR=26
I23A Meade Ranch, G 58.70 334 ⇑P P 07 59 35.4 -0.1
baz=59
J22A Midwest 58.72 333 ⇑P P 07 59 35.5 0.0
baz=59,SNR=48
MPU Maple Canyon 58.72 327 eP P 07 59 35.8 +0.2
P15A Leamington 58.75 326 ⇓P P 07 59 36.1 +0.3
baz=59,SNR=8.5
R13A O'Grain Ranch, 58.75 324 ⇓P P 07 59 36.9 +1.0
baz=59,SNR=40
O16A Springville 58.78 327 ⇓P P 07 59 36.2 +0.2
baz=59,SNR=43
MWC Mount Wilson 58.78 318 eP P 07 59 35.9 -0.3
comp=Z,34nm,1.3s,mb5.0
MWC Mount Wilson 58.78 318 eP P 07 59 35.9 -0.3
MWC pmax pmax
comp=Z,34nm,1.3s,mb5.0
DAU Daniels Canyon 58.80 328 eP P 07 59 36.6 +0.5
DAU Daniels Canyon 58.80 328 eP P 07 59 36.7 +0.6
PASC Pasadena Art C 58.84 318 eP P 07 59 36.6 0.0
NLU North Lily Min 58.91 327 eP P 07 59 36.9 0.0
comp=Z,24nm,1.0s,mb5.0
M18A Lyman 58.92 329 ⇓P P 07 59 36.5 -0.5
baz=59,SNR=28
H24A Dirks Ranch, A 58.95 335 ⇑P P 07 59 36.6 -0.5
baz=59,SNR=36
N17A Moffit Pass 58.96 328 ⇓P P 07 59 37.6 +0.4
baz=59,SNR=27
DECC Green Verdugo 58.98 318 ⇓P P 07 59 37.8 +0.2
baz=59
AGMN Agassiz Nation 58.99 343 eP P 07 59 36.0 -1.3
comp=Z,30nm,0.5s,mb5.4
AGMN epP pP 08 00 10.5 -2.4
K20A Yellowstone Ra 58.99 331 ⇑P P 07 59 37.1 -0.4
baz=59,SNR=48
JLU Jordanelle 59.04 328 eP P 07 59 38.2 +0.4
comp=Z,16nm,0.6s,mb5.0
L19A Farson 59.06 330 ⇓P P 07 59 38.1 +0.1
baz=59,SNR=31
I22A 9 Mile Ranch, 59.10 333 ⇓P P 07 59 37.9 -0.2
baz=59,SNR=48
J21A Lysite 59.10 332 ⇓P P 07 59 38.5 +0.3
baz=59,SNR=48
EDW2 Edwards Air Fo 59.13 319 ⇓P P 07 59 38.3 -0.2
baz=59,SNR=12
H23A Clabaugh Cattl 59.16 335 ⇓P P 07 59 38.3 -0.2
baz=59,SNR=8.7
N16A Rees Ranch, Co 59.23 328 ⇑P P 07 59 39.6 +0.5
baz=59,SNR=23
M17A Scullys Gap (B 59.26 329 ⇑P P 07 59 38.9 -0.4
baz=59,SNR=17
L18A Fontenelle, Gr 59.27 330 ⇑P P 07 59 39.2 -0.1
baz=60,SNR=20
LRMC Laurel Mountai 59.30 319 ⇑P P 07 59 39.9 +0.2
baz=59,SNR=24
O15A The Old Anders 59.35 327 ⇓P P 07 59 40.6 +0.6
baz=60,SNR=19
K19A Absolon Red Bu 59.36 331 ⇓P P 07 59 39.5 -0.5
baz=60,SNR=55
BLG Laguna Peak 59.39 317 ⇑P P 07 59 40.4 0.0
baz=60
FURC Furnace Creek, 59.39 321 ⇓P P 07 59 40.5 +0.2
baz=60,SNR=47
I21A Big Trails, Te 59.40 333 ⇑P P 07 59 39.8 -0.4
baz=60,SNR=34
J20A Shoshoni 59.40 332 ⇑P P 07 59 40.7 +0.4
baz=60,SNR=38
NOQ North Oquirrh 59.43 327 eP P 07 59 40.9 +0.4
OSI Osito Adit 59.46 318 ⇑P P 07 59 40.5 -0.3
baz=60
DUG Dugway 59.48 326 ⇑P P 07 59 41.4 +0.5
baz=60,SNR=96
DUG Dugway 59.48 326 eP P 07 59 41.3 +0.4
DUG Dugway 59.48 326 eP P 07 59 41.3 +0.4
MPMC Manual Prospec 59.53 320 ⇑P P 07 59 41.2 -0.1
baz=60,SNR=30
H22A Clearmont 59.59 334 ⇑P P 07 59 41.0 -0.6
baz=60,SNR=12
M16A Huntsville 59.64 328 ⇓P P 07 59 41.7 -0.2
baz=60
BW06 Boulder Array 59.66 331 ⇓P P 07 59 41.3 -0.7
baz=60,SNR=47
PDAR Pinedale Array 59.66 331 P P 07 59 41.4 -0.6
comp=Z,29nm,1.1s,mb5.0,baz=142,slow=7.5,SNR=90
PDAR Pinedale Array 59.66 331 P P 07 59 41.4 -0.6
PD02 Pinedale Array 59.67 331 eP P 07 59 41.1 -1.0
PD01 Pinedale Array 59.68 331 eP P 07 59 41.6 -0.6
MDND Maddock 59.73 341 ⇑P P 07 59 42.2 -0.2
baz=60,SNR=24
J19A Crowheart 59.79 331 ⇑P P 07 59 42.6 -0.3
baz=60,SNR=55
K18A Toan Ranch, 59.80 330 ⇓P P 07 59 43.2 +0.2
baz=60,SNR=39
N15A Stansbury Isla 59.81 327 ⇑P P 07 59 42.9 -0.2
baz=60,SNR=29
R11A Troy Canyon, C 59.82 323 ⇓P P 07 59 43.8 +0.6
baz=60,SNR=53
HWUT Hardware Ranch 59.82 328 eP P 07 59 42.7 -0.5
comp=Z,67nm,0.8s,mb5.5
L17A Cokeville 59.82 329 ⇓P P 07 59 42.5 -0.6
baz=60,SNR=52
ARVC Arvin 59.83 318 ⇓P P 07 59 43.3 -0.1
baz=60,SNR=5.5
I20A Worland 59.88 332 ⇓P P 07 59 43.4 -0.2
baz=60,SNR=40
H21A Big Horn, Sher 59.92 334 ⇑P P 07 59 43.0 -0.8
baz=60,SNR=6.1
ISA Isabella 59.92 319 ⇑P P 07 59 44.1 +0.1
baz=60,SNR=22
ISA Isabella 59.92 319 eP P 07 59 44.0 0.0
ISA Isabella 59.92 319 eP P 07 59 44.0 0.0
GRAC Grapevine Rang 60.04 321 ⇓P P 07 59 45.0 +0.2
baz=60,SNR=19
L16A Fish Haven 60.04 329 ⇓P P 07 59 44.1 -0.6
baz=60,SNR=28
SPUT South Promonto 60.07 328 eP P 07 59 44.8 -0.1
comp=Z,92nm,1.2s,mb5.5
BGU Big Grassy Mou 60.11 327 eP P 07 59 44.8 -0.3
comp=Z,41nm,1.1s,mb5.2
CWC Cottonwood Cre 60.14 320 ⇑P P 07 59 45.6 +0.1
baz=60
M15A Larsen Ranch, 60.18 328 ⇑P P 07 59 45.3 -0.3
baz=60,SNR=31
J18A Kendall Valley 60.22 331 ⇑P P 07 59 45.4 -0.4
baz=60,SNR=94
H20A Greybull 60.24 333 ⇑P P 07 59 45.3 -0.7
baz=60,SNR=64
K17A Gardner Place, 60.32 330 ⇑P P 07 59 46.0 -0.5
baz=60,SNR=29
I19A Meeteetse 60.35 332 ⇑P P 07 59 46.5 -0.2
baz=60,SNR=16
PKM Peak Mountain 60.35 318 ⇓P P 07 59 47.0 +0.1
baz=60,SNR=6.6
AHID Auburn Hatcher 60.42 330 eP P 07 59 46.9 -0.4
comp=Z,57nm,1.0s,mb5.3
G21A Lodge Grass 60.46 334 ⇓P P 07 59 46.9 -0.6
baz=61,SNR=21
I18A Diamond G Ranc 60.49 331 ⇑P P 07 59 47.6 -0.1
baz=61,SNR=61
L15A Malad City 60.53 328 ⇑P P 07 59 47.6 -0.4
baz=61,SNR=90
HVU Hansel Valley 60.58 328 eP P 07 59 48.3 0.0
HVU Hansel Valley 60.58 328 eP P 07 59 48.3 0.0
J17A Brown Place, J 60.67 330 ⇓P P 07 59 48.8 0.0
baz=61,SNR=75
E23A Ismay 60.68 336 ⇓P P 07 59 48.2 -0.8
baz=61
SMMC Simmler 60.72 318 ⇑P P 07 59 49.5 +0.1
baz=61,SNR=11
K16A Soda Springs 60.72 329 ⇓P P 07 59 49.2 0.0
baz=61,SNR=38
REDW Red Top Meadow 60.74 330 eP P 07 59 49.1 -0.2
ULM Lac du Bonnet 60.76 344 P P 07 59 47.7 -1.7
comp=Z,55nm,0.7s,mb5.5,baz=158,slow=6.7,SNR=86
ULM pP pP 08 00 23.8 -1.4
comp=Z,68nm,0.9s,baz=155,slow=7.3,SNR=14
ULM Lac du Bonnet 60.76 344 eP P 07 59 47.6 -1.8
comp=Z,57nm,0.8s,mb5.5
ULM Lac du Bonnet 60.76 344 eP P 07 59 47.6 -1.8
ULM pmax pmax
comp=Z,57nm,0.8s
LOHW Long Hollow 60.80 331 eP P 07 59 49.6 -0.2
D24A Glendive 60.80 337 ⇑P P 07 59 50.0 +0.3
baz=61,SNR=34
RCTC Rector, Farmer 60.81 319 ⇓P P 07 59 49.5 -0.5
baz=61,SNR=10
H19A Powell 60.83 332 ⇑P P 07 59 49.6 -0.4
baz=61,SNR=16
TPAW Teton Pass 60.88 330 eP P 07 59 50.3 -0.1
E22A Miles City 60.90 336 ⇑P P 07 59 49.7 -0.7
baz=61,SNR=26
F21A Absaloka Mine, 60.90 334 ⇑P P 07 59 50.0 -0.4
baz=61,SNR=8.0
G20A Bridger 60.91 333 ⇓P P 07 59 49.6 -0.8
baz=61,SNR=65
MOOW Moose Ponds 60.97 331 eP P 07 59 50.6 -0.3
comp=Z,53nm,1.3s,mb5.2
L14A Malta 61.00 328 ⇑P P 07 59 50.8 -0.4
baz=61,SNR=45
MTUM Tungsten Hills 61.01 321 eP P 07 59 51.6 +0.3
I17A Pilgrim Ck. 61.02 331 ⇓P P 07 59 51.7 +0.5
baz=61,SNR=40
J16A Bone 61.05 330 ⇓P P 07 59 51.6 +0.1
baz=61,SNR=41
DCID1 Drake Creek 61.07 330 eP P 07 59 51.8 +0.2
K15A Arbon 61.09 329 ⇓P P 07 59 51.6 -0.2
baz=61,SNR=29
H18A Shoshone NF, C 61.15 332 ⇓P P 07 59 51.7 -0.4
baz=61,SNR=30
IMW Indian Meadow 61.17 331 eP P 07 59 52.2 -0.1
comp=Z,107nm,1.1s,mb5.6
C24A Savage 61.18 337 ⇑P P 07 59 52.4 +0.1
baz=61,SNR=22
D23A Lindsay 61.19 336 ⇓P P 07 59 52.6 +0.3
baz=61
LAO LASA Array 61.21 336 ⇓P P 07 59 52.1 -0.4
baz=61,SNR=7.6
RLMT Red Lodge 61.30 333 ⇓P P 07 59 53.0 -0.2
baz=62,SNR=35
RLMT Red Lodge 61.30 333 eP P 07 59 52.8 -0.4
comp=Z,42nm,0.9s,mb5.3
F20A Billings 61.33 334 ⇓P P 07 59 52.9 -0.4
baz=62,SNR=8.6
K14A Jones Ranch, D 61.33 328 ⇓P P 07 59 52.8 -0.5
baz=62,SNR=28
MLAC Mammoth Lakes 61.35 321 ⇓P P 07 59 53.9 +0.3
baz=62
H17A Grant Village 61.37 331 ⇓P P 07 59 54.2 +0.6
baz=62,SNR=18
LKWY Lake 61.41 331 eP P 07 59 55.0 +1.1
comp=Z,210nm,1.5s,mb5.8
LKWY Lake 61.41 331 eP P 07 59 55.0 +1.1
LKWY pmax pmax
comp=Z,210nm,1.5s,mb5.8
I16A Newdale 61.43 330 ⇑P P 07 59 54.2 +0.2
baz=62,SNR=64
E21A Keefer Ranch, 61.45 335 ⇓P P 07 59 53.9 -0.1
baz=62,SNR=3.3
NVAR Mina Array Bea 61.51 322 P P 07 59 55.0 +0.3
comp=Z,15nm,0.9s,mb4.8,baz=138,slow=6.5,SNR=67
NVAR pP pP 08 00 31.5 +1.0
comp=Z,7.3nm,0.7s,baz=135,slow=4.7,SNR=6.7
NVAR Mina Array Bea 61.51 322 P P 07 59 55.0 +0.3
NVAR pP pP 08 00 31.5 +1.0
YFT Old Faithful 61.53 331 eP P 07 59 56.1 +1.4
comp=Z,104nm,1.2s,mb5.5
J15A Blackfoot 61.55 329 ⇓P P 07 59 55.0 +0.2
baz=62,SNR=63
D22A Cohagen 61.56 336 ⇑P P 07 59 55.4 +0.5
baz=62,SNR=128
G18A Lazy EL Ranch, 61.59 332 ⇑P P 07 59 54.9 -0.1
baz=62,SNR=73
YNR Norris Junctio 61.66 331 eP P 07 59 56.4 +0.9
comp=Z,28nm,0.8s,mb5.2
C23A Lambert 61.70 337 ⇑P P 07 59 55.9 +0.2
baz=62,SNR=39
F19A Roth Farm, Mol 61.72 333 ⇑P P 07 59 55.8 -0.1
baz=62,SNR=52
D21A La Casta Ranch 61.83 335 ⇑P P 07 59 57.0 +0.4
baz=62,SNR=60
E20A Meyer Farm, Mu 61.87 334 ⇑P P 07 59 57.1 +0.2
baz=62,SNR=74
DGMT Dagmar 61.87 338 ⇓P P 07 59 57.1 +0.2
baz=62,SNR=20
DGMT Dagmar 61.87 338 eP P 07 59 57.2 +0.4
comp=Z,35nm,0.6s,mb5.4
H16A Russell Place, 61.92 331 ⇑P P 07 59 58.1 +0.9
baz=62,SNR=99
C22A Vida 61.93 336 ⇑P P 07 59 57.5 +0.2
baz=62,SNR=52
GCMT Greycliff 62.00 333 eP P 07 59 57.9 +0.1
comp=Z,158nm,1.1s,mb5.8
I15A Monteview 62.01 330 ⇓P P 07 59 58.5 +0.6
baz=62,SNR=17
J14A Carey 62.05 329 ⇓P P 07 59 58.8 +0.6
baz=62
QLMT Earthquake Lak 62.10 331 eP P 07 59 59.4 +1.0
F18A Big Timber 62.11 333 ⇓P P 07 59 58.6 +0.1
baz=62,SNR=132
E19A Rath Farm, Rou 62.12 334 ⇓P P 07 59 58.6 0.0
baz=62,SNR=69
BMN Battle Mountai 62.13 324 eP P 07 59 58.9 +0.1
comp=Z,16nm,0.9s,mb4.8
BMN Battle Mountai 62.13 324 eP P 07 59 58.9 +0.1
BMN pmax pmax
comp=Z,16nm,0.9s,mb4.8
G17A Pierce Place, 62.14 332 ⇑P P 07 59 59.5 +0.8
baz=62,SNR=19
A24A Westby 62.18 338 ⇓P P 07 59 59.6 +0.7
baz=62,SNR=33
D20A Manuel Ranch, 62.33 335 ⇑P P 07 59 60.0 0.0
baz=62,SNR=60
B22A Reddig Ranch S 62.42 337 ⇑P P 08 00 00.7 +0.2
baz=63,SNR=40
J13A Cove Ranch, Pi 62.45 328 ⇑P P 08 00 01.0 +0.2
baz=63,SNR=20
I14A Mackay 62.45 329 ⇓P P 08 00 01.3 +0.5
baz=63,SNR=47
C21A Desert Coulee 62.48 336 ⇑P P 08 00 01.1 +0.2
baz=63,SNR=74
A23A Redstone 62.53 338 ⇑P P 08 00 01.8 +0.6
baz=63,SNR=13
H15A Lima 62.54 330 ⇓P P 08 00 02.1 +0.8
baz=63,SNR=41
F17A Fitzpatrick Pl 62.54 332 ⇓P P 08 00 01.7 +0.3
baz=63,SNR=32
CMB Columbia Colle 62.57 320 eP P 08 00 01.4 -0.4
comp=Z,12nm,1.0s,mb4.7
CMB Columbia Colle 62.57 320 eP P 08 00 01.4 -0.3
CMB pmax pmax
comp=Z,12nm,1.0s,mb4.7

G16A Moss Hill, Enn 62.57 331 ⇓P P 08 00 01.9 +0.3
baz=63,SNR=49
HLID Hailey 62.69 328 ⇑P P 08 00 02.7 +0.3
baz=63,SNR=47
HLID Hailey 62.69 328 *eP* **P 08 00 02.6 +0.2**
comp=Z,54nm,1.3s,mb5.2
E18A Harlowton 62.70 333 ⇑P P 08 00 02.7 +0.3
baz=63,SNR=52
D19A Cripps Ranch, 62.70 334 ⇓P P 08 00 02.5 0.0
baz=63,SNR=51
SCHQ Schefferville 62.73 5 P P 08 00 02.0 -0.4
comp=Z,62nm,1.0s,mb5.4,baz=198,slow=5.6,SNR=26
SCHQ pP pP 08 00 38.1 -0.3
comp=Z,26nm,0.8s,baz=184,slow=4.7,SNR=5.0
SCHQ Schefferville 62.73 5 *eP* **P 08 00 01.6 -0.8**
comp=Z,97nm,1.2s,mb5.5
I13A Wildhorse Cree 62.78 329 ⇑P P 08 00 03.5 +0.5
baz=63,SNR=48
MCMT McKenzie Canyo 62.79 330 *eP* **P 08 00 03.5 +0.5**
comp=Z,36nm,1.3s,mb5.0
BOZ Bozeman (W) 62.80 331 ⇑P P 08 00 03.1 0.0
baz=63,SNR=53
BOZ Bozeman (W) 62.80 331 *eP* **P 08 00 02.8 -0.3**
comp=Z,68nm,1.1s,mb5.4
BOZ Bozeman (W) 62.80 331 *eP* **P 08 00 02.8 -0.3**
BOZ pmax pmax
comp=Z,68nm,1.1s,mb5.4
G15A Dillon 62.86 331 ⇓P P 08 00 03.6 +0.1
baz=63,SNR=36
H14A Leadore 62.90 330 ⇓P P 08 00 04.2 +0.4
baz=63,SNR=68
F16A Kennard Place, 62.90 332 ⇑P P 08 00 03.8 0.0
baz=63,SNR=56
B21A Ellsworth Farm 62.93 336 ⇑P P 08 00 04.2 +0.4
baz=63,SNR=69
WCN Washoe City 62.94 322 ⇑P P 08 00 04.7 +0.5
baz=63,SNR=40
WCN Washoe City 62.94 322 *eP* **P 08 00 04.5 +0.3**
comp=Z,35nm,1.0s,mb5.1
WCN Washoe City 62.94 322 *eP* **P 08 00 04.5 +0.3**
WCN pmax pmax
comp=Z,35nm,1.0s,mb5.1
A22A Carney Farms, 62.95 337 ⇓P P 08 00 04.4 +0.4
baz=63,SNR=29
E17A Martinsdale 63.05 333 ⇑P P 08 00 04.9 +0.1
baz=63,SNR=57
DLMT Dillon 63.05 331 *eP* **P 08 00 04.6 -0.1**
comp=Z,42nm,1.1s,mb5.2
D18A Linhart Farms, 63.13 334 ⇓P P 08 00 05.5 +0.3
baz=63,SNR=33
C19A Slack Wire Ran 63.22 335 ⇓P P 08 00 05.9 +0.1
baz=63,SNR=77
I12A Atlanta 63.22 328 ⇑P P 08 00 06.3 +0.3
baz=63,SNR=36
H13A Challis 63.31 329 ⇓P P 08 00 06.6 +0.1
baz=64,SNR=35
MFID Camas Ranch 63.33 327 ⇓P P 08 00 07.2 +0.5
baz=64,SNR=71
MFID Camas Ranch 63.33 327 *eP* **P 08 00 06.9 +0.2**
comp=Z,108nm,0.9s,mb5.7
B20A Solberg Farm, 63.34 336 ⇑P P 08 00 06.8 +0.2
baz=64,SNR=27
A21A Bergtoll Ranch 63.34 337 ⇓P P 08 00 06.8 +0.2
baz=64,SNR=54
F15A Butte 63.35 331 ⇑P P 08 00 06.7 0.0
baz=64,SNR=25
G14A Jackson 63.39 330 ⇓P P 08 00 07.0 0.0
baz=64,SNR=12
E16A East Helena 63.48 332 ⇓P P 08 00 07.6 0.0
baz=64,SNR=29
D17A Six Diamond Ra 63.49 333 ⇑P P 08 00 07.7 +0.1
baz=64,SNR=80
H12A Diamond D Ranc 63.60 329 ⇑P P 08 00 08.6 +0.2
baz=64,SNR=66
A20A Cobblestone Ra 63.65 336 ⇓P P 08 00 08.6 0.0
baz=64,SNR=22
G13A Cobalt 63.67 330 ⇓P P 08 00 08.8 0.0
baz=64,SNR=42
HRY Holter Researc 63.68 332 *eP* **P 08 00 09.0 +0.1**
comp=Z,30nm,0.6s,mb5.3
B19A Brinkman Farms 63.74 335 ⇑P P 08 00 09.3 +0.1
baz=64,SNR=35
EGMT Eagleton 63.74 334 ⇑P P 08 00 09.2 -0.1
baz=64,SNR=49
EGMT Eagleton 63.74 334 *eP* **P 08 00 09.1 -0.2**
comp=Z,139nm,1.0s,mb5.7
F14A Wisdom 63.75 331 ⇑P P 08 00 09.6 +0.2
baz=64,SNR=33
D16A Dana Ranch, Ca 63.79 333 ⇑P P 08 00 09.8 +0.3
baz=64,SNR=56
E15A Deer Lodge 63.85 331 ⇓P P 08 00 09.9 -0.1
baz=64
C17A Wharram Farm, 63.89 333 ⇑P P 08 00 10.1 -0.1
baz=64,SNR=64
A19A Klindworth Far 64.02 336 ⇑P P 08 00 11.2 +0.1
baz=64,SNR=62
B18A Beardsley Farm 64.04 335 ⇓P P 08 00 11.5 +0.4
baz=64,SNR=98
F13A Darby 64.21 330 ⇓P P 08 00 12.3 -0.1
baz=64,SNR=39
WVOR Wild Horse Val 64.24 325 *eP* **P 08 00 12.2 -0.4**
comp=Z,42nm,1.1s,mb5.2
WVOR Wild Horse Val 64.24 325 *eP* **P 08 00 12.2 -0.4**
WVOR pmax pmax
comp=Z,42nm,1.1s,mb5.2
D15A Lincoln 64.24 332 ⇓P P 08 00 12.7 +0.2
baz=64,SNR=32
G12A Big Creek, Yel 64.25 329 ⇓P P 08 00 12.3 -0.3
baz=64,SNR=24
E14A Clinton 64.25 331 ⇑P P 08 00 12.8 +0.2
baz=64,SNR=43
B17A L&G Farms, Che 64.40 334 ⇑P P 08 00 13.0 -0.5
baz=65,SNR=12
C16A Fuhringer Ranc 64.45 333 ⇑P P 08 00 14.0 +0.1
baz=65,SNR=52
A18A Metzger Ranch, 64.47 335 ⇓P P 08 00 13.8 -0.2
baz=65,SNR=90
CHMT Chamberlain Mo 64.49 332 *eP* **P 08 00 14.1 -0.1**
comp=Z,6.8nm,0.6s,mb4.7
E13A Victor 64.60 331 ⇓P P 08 00 15.1 +0.2
baz=65,SNR=75
F12A Elk City 64.65 330 ⇑P P 08 00 15.1 -0.1
baz=65,SNR=58
D14A Greenough 64.73 332 ⇓P P 08 00 15.7 0.0
baz=65,SNR=25
J08A Circle Bar Ran 64.74 326 ⇓P P 08 00 15.5 -0.3
baz=65,SNR=19
MSO Missoula 64.76 331 ⇑P P 08 00 16.3 +0.4
baz=65,SNR=96
MSO Missoula 64.76 331 *eP* **P 08 00 16.2 +0.3**
comp=Z,87nm,1.0s,mb5.5
C15A Salmond Ranch, 64.82 333 ⇓P P 08 00 16.9 +0.6
baz=65,SNR=77
SLMT Seeley Lake 64.84 332 *eP* **P 08 00 16.5 0.0**
comp=Z,50nm,1.2s,mb5.2
A17A Triple J Farms 64.86 334 ⇑P P 08 00 16.5 0.0
baz=65,SNR=98
MOD Modoc 64.86 324 *eP* **P 08 00 16.5 -0.2**
comp=Z,49nm,1.1s,mb5.2
B16A M & M Farms, S 64.89 334 ⇓P P 08 00 16.4 -0.3
baz=65,SNR=17
CHIE El Hierro 64.95 55 ⇑P P 08 00 17.3 -0.2
comp=Z,114nm,1.0s,mb5.7
BMO Blue Mountains 65.09 328 *eP* **P 08 00 17.1 -0.9**
comp=Z,15nm,1.1s,mb4.7
D13A Huson 65.20 331 ⇑P P 08 00 19.0 +0.3
baz=65,SNR=42
B15A Bradely Ranch, 65.20 333 ⇓P P 08 00 18.4 -0.3
baz=65,SNR=43
E12A Beaver Dam Sad 65.26 330 ⇓P P 08 00 19.1 -0.1
baz=65
SWMT Swartz Lake 65.28 332 *eP* **P 08 00 19.6 +0.3**
comp=Z,45nm,1.1s,mb5.2
C14A Swan Lake 65.34 332 ⇑P P 08 00 20.1 +0.4
baz=66
WDC Whiskeytown Da 65.42 321 *eP* **P 08 00 18.4 -1.9**
comp=Z,7.9nm,0.8s,mb4.6
WDC Whiskeytown Da 65.42 321 *eP* **P 08 00 18.4 -1.9**
WDC pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
YBMT Yellow Bay 65.54 332 *eP* **P 08 00 21.2 +0.3**
comp=Z,37nm,0.6s,mb5.4
B14A Marquette Ranc 65.56 333 ⇓P P 08 00 21.1 +0.1
baz=66,SNR=81
KCPM Cahto Peak 65.56 320 *eP* **P 08 00 21.8 +0.6**
comp=Z,28nm,1.1s,mb5.0
KIPM Iron Peak 65.56 320 *eP* **P 08 00 20.8 -0.5**
comp=Z,53nm,1.2s,mb5.2

JTMT Jette 65.58 332 *eP* **P 08 00 21.5 +0.3**
comp=Z,48nm,0.9s,mb5.3
D12A Red Ives Fores 65.60 331 ⇓P P 08 00 21.2 -0.1
baz=66
C13A Hot Springs 65.67 331 ⇓P P 08 00 22.3 +0.5
baz=66,SNR=86
K05A Summer Lake 65.72 324 ⇑P P 08 00 22.9 +0.7
baz=66,SNR=38
A15A Johnson Ranch, 65.77 333 ⇑P P 08 00 21.9 -0.4
baz=66,SNR=27
I07A Izee 65.78 326 ⇓P P 08 00 23.0 +0.5
baz=66,SNR=76
F10A Beach Ranch, E 65.80 329 ⇑P P 08 00 23.0 +0.4
baz=66,SNR=65
BLMT Blacktail Moun 65.81 332 *eP* **P 08 00 22.9 +0.3**
comp=Z,62nm,1.1s,mb5.3
BSMT Bassoo Peak 65.89 331 *eP* **P 08 00 23.7 +0.5**
comp=Z,43nm,0.9s,mb5.3
A14A Double T Ranch 66.07 333 ⇓P P 08 00 24.1 -0.2
baz=66,SNR=23
B13A Whitefish 66.12 332 ⇓P P 08 00 24.8 +0.2
baz=66,SNR=31
C12B Naegeli Ranch, 66.12 331 ⇓P P 08 00 25.2 +0.6
baz=66,SNR=69
YBH Yreka Blue Hor 66.20 322 *eP* **P 08 00 23.7 -1.5**
comp=Z,25nm,1.3s,mb4.9
YBH Yreka Blue Hor 66.20 322 *eP* **P 08 00 23.7 -1.6**
YBH pmax pmax
comp=Z,25nm,1.3s
G08A Pilot Rock 66.26 327 ⇑P P 08 00 25.7 +0.1
baz=66,SNR=24
LNOR Lincton Mounta 66.28 328 *eP* **P 08 00 25.3 -0.4**
comp=Z,40nm,1.2s,mb5.1
LNOR Lincton Mounta 66.28 328 *eP* **P 08 00 25.3 -0.4**
LNOR pmax pmax
comp=Z,40nm,1.2s,mb5.1
KHMM Horse Mountain 66.33 321 *eP* **P 08 00 26.6 +0.5**
comp=Z,25nm,0.7s,mb5.2
WALA Waterton Lakes 66.35 333 *eP* **P 08 00 26.0 -0.1**
comp=Z,2.1nm,0.7s,mb4.1
FFC Flin Flon 66.45 343 *eP* **P 08 00 25.7 -0.9**
comp=Z,35nm,1.1s,mb5.1
FFC Flin Flon 66.45 343 *eP* **P 08 00 25.7 -0.9**
FFC pmax pmax
comp=Z,35nm,1.1s,mb5.1
FFC Flin Flon 66.45 343 P **P 08 00 25.4 -1.2**
comp=Z,229nm,1.3s,mb5.8,SNR=7.6
A13A Flathead Natio 66.49 332 ⇑P P 08 00 27.4 +0.4
baz=67
C11A Tepee Creek (N 66.59 331 ⇑P P 08 00 27.9 +0.3
baz=67
E09A Wood Farm, Sta 66.63 329 ⇓P P 08 00 27.5 -0.4
baz=67,SNR=25
VIPM Ingram Point 66.67 326 P **P 08 00 28.8 +0.6**
VIPM Ingram Point 66.67 326 P **P 08 00 28.8 +0.6**
B12A Libby 66.71 331 ⇓P P 08 00 28.8 +0.4
baz=67,SNR=12
KRMB Red Mountain 66.81 322 *eP* **P 08 00 29.1 -0.1**
comp=Z,96nm,1.4s,mb5.4
HUMO Hull Mountain 66.86 323 *eP* **P 08 00 27.9 -1.5**
comp=Z,6.4nm,0.8s,mb4.5
A12A Yaak River Ran 67.07 332 ⇑P P 08 00 31.3 +0.7
baz=67
E08A Dider Farm, El 67.09 328 ⇑P P 08 00 30.3 -0.5
baz=67,SNR=8.9
G06A Carlson Farm, 67.13 326 ⇓P P 08 00 31.8 +0.7
baz=67,SNR=15
F07A Phinny Hill Vi 67.17 327 ⇑P P 08 00 32.0 +0.7
baz=67,SNR=6.1
HAWA Hanford 67.28 328 *eP* **P 08 00 31.9 -0.1**
comp=Z,34nm,1.1s,mb5.1
RSW Rattlesnake Hi 67.31 328 *eP* **P 08 00 32.2 0.0**
comp=Z,57nm,1.1s,mb5.3
OD2 Odessa Site #2 67.51 329 *eP* **P 08 00 33.4 0.0**
BROR Big Rock Looko 67.55 325 P **P 08 00 33.3 -0.5**
E07A Sunnyside 67.56 328 ⇑P P 08 00 34.2 +0.4
baz=68,SNR=28
C09A Chrisman Ranch 67.56 330 ⇑P P 08 00 33.9 +0.2
baz=68,SNR=28
H04A Detroit Lake 67.66 325 ⇑P P 08 00 34.1 -0.4
baz=68,SNR=8.5
HOOD Mount Hood Mea 67.75 326 *eP* **P 08 00 35.6 +0.7**
comp=Z,80nm,1.3s,mb5.3
COR Corvallis 68.23 325 *eP* **P 08 00 38.3 +0.2**
comp=Z,96nm,1.4s,mb5.3
COR Corvallis 68.23 325 *eP* **P 08 00 38.3 +0.3**
COR pmax pmax
comp=Z,96nm,1.4s,mb5.3
TBM Table Mountain 68.34 328 P **P 08 00 39.4 +0.7**
ETW Entiat 68.48 328 P **P 08 00 40.0 +0.6**
LON Longmire 68.72 327 *eP* **P 08 00 40.6 -0.4**
comp=Z,27nm,1.2s,mb4.8
LON Longmire 68.72 327 *eP* **P 08 00 40.6 -0.4**
LON pmax pmax
comp=Z,27nm,1.2s,mb4.8
D05A Enumclaw 69.09 327 ⇓P P 08 00 43.3 0.0
baz=69,SNR=24
E03A Lebam 69.55 326 ⇓P P 08 00 46.7 +0.5
baz=70,SNR=5.4
JCW Jim Creek 69.68 328 *eP* **P 08 00 46.1 -0.8**
comp=Z,106nm,1.1s,mb5.5
NLWA Neilton Lookou 70.22 327 *eP* **P 08 00 50.8 +0.5**
comp=Z,67nm,1.0s,mb5.3
A05A Maple Falls 70.27 329 ⇑P P 08 00 50.4 -0.1
baz=70,SNR=35
PGC Sidney 70.76 328 *eP* **P 08 00 52.8 -0.6**
comp=Z,5.4nm,1.2s,mb4.2
DBIC Dimbokro 70.81 80 P **P 08 00 54.0 -0.5**
comp=Z,106nm,0.9s,mb5.6,baz=241,slow=5.5,SNR=82
DBIC Dimbokro 70.81 80 *eP* **P 08 00 53.9 -0.6**
comp=Z,122nm,1.0s,mb5.6
DBIC Dimbokro 70.81 80 *eP* **P 08 00 53.9 -0.6**
DBIC pmax pmax
comp=Z,122nm,1.0s
VNA3 Neumayer Olymp 74.66 162 *e* **P 08 01 14.1 -2.0**
VNA3 *e* pP 08 01 52.1 -1.1
VNA1 Neumayer--Stat 74.88 162 *e* **P 08 01 16.1 -1.3**
VNA1 *e* pP 08 01 54.3 -0.2
VNA2 Neumayer--Watz 75.24 162 *e* **P 08 01 17.3 -2.2**
baz=294,slow=6.0
VNA2 *e* pP 08 01 55.7 -0.9
PFVI Vila Bisbo 75.72 49 *eP* **P 08 01 23.8 +1.0**
comp=Z,149nm,1.5s,mb5.4
MORF Marmelete 75.92 49 *eP* **P 08 01 25.2 +1.3**
comp=Z,102nm,1.0s,mb5.4
PTEO Sao Teotonio 75.95 48 *eP* **P 08 01 25.3 +1.2**
comp=Z,128nm,1.5s,mb5.3
PMAFR Mafra 76.06 47 *eP* **P 08 01 25.1 +0.4**
comp=Z,203nm,1.4s,mb5.6
PNCL Nicolau / Gran 76.30 48 *eP* **P 08 01 26.7 +0.6**
comp=Z,90nm,1.2s,mb5.3
PCVE Castro Verde 76.49 48 *eP* **P 08 01 28.2 +1.0**
comp=Z,76nm,1.7s,mb5.0
SFJD Kangerlussuaq 76.56 9 *i* P **P 08 01 25.8 -1.1**
SFJD *e* pP 08 02 02.5 -1.7
SFJD pmax pmax
comp=Z,18nm,0.8s,mb4.8
SFJD Kangerlussuaq 76.56 9 *i* P **P 08 01 25.8 -1.1**
comp=Z,18nm,0.9s,mb4.7
SFJD *e* pP 08 02 02.5 -1.7
YKA Yellowknife Ar 76.60 342 P **P 08 01 26.3 -0.9**
comp=Z,15nm,0.7s,mb4.8,baz=140,slow=6.0,SNR=85
YKA pP pP 08 02 03.6 -0.9
comp=Z,4.6nm,0.8s,baz=138,slow=6.5,SNR=3.2
YKA Yellowknife Ar 76.60 342 P **P 08 01 26.3 -0.9**
YKA pP pP 08 02 03.6 -0.9
YKA Yellowknife Ar 76.60 342 P **P 08 01 26.3 -0.9**
YKA *PP pP 08 02 03.6 -0.9
PVAQ Vaqueiros 76.65 49 *eP* **P 08 01 29.2 +1.2**
comp=Z,51nm,1.8s,mb4.8
PBEJ Beja 76.76 48 *eP* **P 08 01 28.4 -0.3**
comp=Z,30nm,1.6s,mb4.7
EVO Evora 76.83 48 *eP* **P 08 01 28.2 -0.9**
comp=Z,79nm,0.9s,mb5.0
EVO Evora 76.83 48 *eP* **P 08 01 29.0 -0.1**
comp=Z,33nm,0.9s,mb5.0
SNAA Sanae 76.86 162 *eP* **P 08 01 26.8 -1.8**
comp=Z,40nm,1.0s,mb5.0
SNAA *e*pP pP 08 02 02.7 -3.3
SNAA Sanae 76.86 162 *eP* **P 08 01 26.8 -1.8**
SNAA *e*PP pP 08 02 02.7 -3.2
SNAA pmax pmax
comp=Z,40nm,1.0s
EGRO El Granado 76.87 49 ⇑P P 08 01 29.4 +0.2
comp=Z,46nm,0.8s,mb5.2
PTOM Tomar 76.94 46 *eP* **P 08 01 29.4 -0.2**
comp=Z,46nm,1.0s,mb5.1

PESTR Estremoz 77.26 47 *eP* **P 08 01 31.9 +0.5**
comp=Z,88nm,1.3s,mb5.2
PBAR Barrancos 77.42 48 *eP* **P 08 01 33.0 +0.6**
comp=Z,38nm,1.7s,mb4.7
PMRV Marv??o 77.61 47 *eP* **P 08 01 32.7 -0.7**
comp=Z,32nm,1.4s,mb4.8
EBAD Badajoz 77.64 48 P **P 08 01 34.2 +0.6**
comp=Z,21nm,0.9s,mb4.8
PCBR Castelo Branco 77.69 46 *eP* **P 08 01 33.9 +0.1**
comp=Z,31nm,1.6s,mb4.7
PVIS Viseu 77.71 46 *eP* **P 08 01 34.0 +0.1**
comp=Z,42nm,1.3s,mb4.9
MTE Manteigas 77.84 46 *eP* **P 08 01 34.5 -0.2**
comp=Z,48nm,1.4s,mb4.9
ESPR Espera 77.86 50 P **P 08 01 35.9 +1.1**
comp=Z,41nm,0.7s,mb5.2
PGAV Gavieira, Arco 77.91 44 *eP* **P 08 01 34.8 -0.2**
comp=Z,66nm,1.7s,mb5.0
POLO Lamas de Olo 78.03 45 *eP* **P 08 01 35.7 +0.1**
comp=Z,23nm,1.4s,mb4.6
TORD Torodi Ar. Bea 78.36 75 P **P 08 01 37.3 -0.7**
comp=Z,42nm,0.9s,mb5.0,baz=284,slow=5.5,SNR=168
TORD pP pP 08 02 13.5 -1.9
comp=Z,9.1nm,1.0s,baz=262,slow=5.2,SNR=2.1
TORD Torodi Ar. Bea 78.36 75 P **P 08 01 37.3 -0.7**
TORD pP pP 08 02 13.5 -1.9
MVO Moncorvo 78.49 45 ⇓P P 08 01 38.3 +0.1
MVO Moncorvo 78.49 45 *eP* **P 08 01 38.2 0.0**
comp=Z,51nm,1.2s,mb5.0
EMIJ Mijas 78.58 50 ⇓P P 08 01 39.5 +0.7
comp=Z,75nm,0.8s,mb5.4
EPLA Plasencia 78.78 47 ⇓P P 08 01 39.1 -0.7
comp=Z,132nm,2.1s,mb5.2
EPLA Plasencia 78.78 47 ⇓P P 08 01 39.1 -0.7
EPLA pmax pmax
comp=Z,132nm,2.1s,mb5.2
ERUA La Rua 78.85 44 P **P 08 01 40.5 +0.3**
comp=Z,28nm,0.8s,mb5.0
ERUA La Rua 78.85 44 P **P 08 01 40.5 +0.4**
ERUA pmax pmax
comp=Z,29nm,0.8s,mb5.0
PBRG Braganca 78.92 45 *eP* **P 08 01 40.6 +0.1**
comp=Z,43nm,1.4s,mb4.9
ECAL Calabor 78.97 45 P **P 08 01 39.0 -1.7**
comp=Z,15nm,1.1s,mb4.5
EPON Pontenova 79.19 43 P **P 08 01 41.4 -0.6**
comp=Z,109nm,1.2s,mb5.4
ELOJ Sierra Loja 79.24 50 ⇑P P 08 01 44.3 +1.9
comp=Z,150nm,1.3s,mb5.5
ELOJ Sierra Loja 79.24 50 ⇑P P 08 01 44.3 +1.9
ELOJ pmax pmax
comp=Z,150nm,1.3s,mb5.5
EADA Adamuz 79.25 49 ⇓P P 08 01 42.6 +0.2
comp=Z,50nm,1.1s,mb5.1
ELUQ Luque 79.28 50 ⇑P P 08 01 43.9 +1.2
comp=Z,24nm,0.8s,mb4.9
ELUQ Luque 79.28 50 ⇑P P 08 01 43.9 +1.3
ELUQ pmax pmax
comp=Z,24nm,0.8s,mb4.9
ERON Agron 79.46 50 ⇓P P 08 01 44.7 +1.1
comp=Z,34nm,0.6s,mb5.2
EGUA Guajares 79.59 50 P **P 08 01 44.6 +0.3**
comp=Z,224nm,1.2s,mb5.7
EGUA Guajares 79.59 50 P **P 08 01 44.6 +0.3**
EGUA pmax pmax
comp=Z,224nm,1.2s,mb5.7
DLBC Dease Lake 79.67 334 P **P 08 01 44.9 +0.7**
comp=Z,17nm,1.0s,mb4.6,baz=115,slow=3.9,SNR=17
DLBC pP pP 08 02 21.3 -0.4
comp=Z,17nm,1.0s,baz=107,slow=2.7,SNR=6.5
DLBC Dease Lake 79.67 334 *eP* **P 08 01 43.7 -0.5**
ECOG Cogollos-Vega 79.72 50 ⇓P P 08 01 46.3 +1.3
comp=Z,66nm,0.6s,mb5.4
ECOG Cogollos-Vega 79.72 50 ⇓P P 08 01 46.3 +1.3
ECOG pmax pmax
comp=Z,67nm,0.6s,mb5.5
EALB Alboran 79.73 51 ⇓P P 08 01 45.1 +0.1
comp=Z,38nm,0.5s,mb5.3
PAB San Pablo 79.86 48 *eP* **P 08 01 45.4 -0.2**
comp=Z,74nm,1.4s,mb5.1
PAB San Pablo 79.86 48 *eP* **P 08 01 45.4 -0.3**
PAB pmax pmax
comp=Z,74nm,1.4s,mb5.1
ESDC Sonseca Array 80.18 48 P **P 08 01 47.9 +0.5**
comp=Z,21nm,0.9s,mb4.7,baz=255,slow=6.1,SNR=42
ESDC LR LR 08 35 23.6
comp=Z,172nm,18.9s,baz=160,slow=34
ESDC Sonseca Array 80.18 48 P **P 08 01 47.9 +0.5**
comp=Z,20nm,0.9s,mb4.7
ESLA Sonseca Array 80.18 48 *eP* **P 08 01 47.8 +0.4**
comp=Z,2.9nm,0.8s,mb4.0
EQES Quesada 80.26 50 P **P 08 01 48.7 +0.8**
comp=Z,149nm,1.3s,mb5.5
GUD Guadarrama 80.36 47 ⇓P P 08 01 48.8 +0.5
comp=Z,18nm,0.8s,mb4.7
GUD Guadarrama 80.36 47 ⇓P P 08 01 48.8 +0.5
GUD pmax pmax
comp=Z,18nm,0.8s,mb4.8
EARI Arriondas 80.50 44 P **P 08 01 49.5 +0.5**
comp=Z,303nm,2.1s,mb5.6
EHUE Huescar 80.63 50 ⇓P P 08 01 50.3 +0.5
comp=Z,42nm,0.7s,mb5.2
EHUE Huescar 80.63 50 ⇓P P 08 01 50.3 +0.5
EHUE pmax pmax
comp=Z,42nm,0.7s,mb5.2
EVIA Vianos 80.94 49 ⇑P P 08 01 52.9 +1.4
comp=Z,88nm,0.8s,mb5.4
EVIA Vianos 80.94 49 ⇑P P 08 01 52.9 +1.4
EVIA pmax pmax
comp=Z,88nm,0.8s,mb5.4
MAIT Maitri 81.40 160 *eP* **P 08 01 53.9 +0.6**
MAIT *e* pP 08 02 30.4 -0.6
NVL N'lazarevskaya 81.43 160 ⇓ *i* P **P 08 01 54.5 +1.0**
NVL *e*PP pP 08 02 33.7 +2.5
NVL pmax pmax
comp=Z,47nm,1.2s,mb5.0
ETOB Tobarra 81.66 49 P **P 08 01 56.2 +0.9**
comp=Z,66nm,1.2s,mb5.1
ETOR Torete 81.93 47 P **P 08 01 56.6 0.0**
comp=Z,30nm,0.6s,mb5.1
ETOR Torete 81.93 47 P **P 08 01 56.6 0.0**
ETOR pmax pmax
comp=Z,30nm,0.6s,mb5.1
QSPA South Pole Qui 82.30 180 *eP* **P 08 01 58.9 +1.0**
comp=Z,61nm,0.9s,mb5.2
BORG Borgarnes 82.32 20 P **P 08 01 59.0 +0.9**
comp=Z,49nm,0.9s,mb5.8,baz=245,slow=1.7,SNR=5.2
BORG Borgarnes 82.32 20 P **P 08 01 59.0 +0.9**
BORG Borgarnes 82.32 20 P **P 08 01 59.1 +1.0**
ECHE Chera 82.36 48 P **P 08 02 00.3 +1.4**
comp=Z,54nm,1.0s,mb5.1
ECHE Chera 82.36 48 P **P 08 02 00.3 +1.4**
ECHE pmax pmax
comp=Z,54nm,1.0s,mb5.1
SKAG Skagway 82.55 333 *eP* **P 08 01 59.8 +0.4**
comp=Z,36nm,1.7s,mb4.8
EBEN Beniarda 82.67 49 P **P 08 02 01.3 +0.8**
comp=Z,36nm,1.0s,mb5.1
EMOS Mosqueruela 82.95 48 P **P 08 02 03.2 +1.3**
comp=Z,68nm,0.9s,mb5.4
EANR 'Ain N'Sour 82.95 52 P **P 08 02 03.8 +1.8**
ETRT Tiaret 82.97 53 P **P 08 02 04.0 +1.9**
SJPF Ste Jean 83.20 45 *eP* **P 08 02 03.5 +0.3**
comp=Z,122nm,1.2s,mb5.2
RES Resolute Bay 83.31 355 *eP* **P 08 02 01.1 -1.9**
comp=Z,27nm,1.0s,mb4.9
RES Resolute Bay 83.31 355 *eP* **P 08 02 01.1 -1.9**
RES pmax pmax
comp=Z,27nm,1.0s,mb4.9
ESAC San Caprasio 83.33 46 ⇓P P 08 02 04.7 +0.8
comp=Z,74nm,0.8s,mb5.5
QUIF Quistinic 83.41 40 *eP* **P 08 02 03.6 -0.5**
comp=Z,116nm,1.4s,mb5.1
ROSF Rostrenen 83.48 39 *eP* **P 08 02 03.9 -0.5**
comp=Z,164nm,1.4s,mb5.3
SUMG Summit 83.51 10 *eP* **P 08 02 04.3 +0.2**
comp=Z,104nm,0.9s,mb5.6
SUMG Summit 83.51 10 *eP* **P 08 02 04.3 +0.2**
SUMG pmax pmax
comp=Z,104nm,0.9s
SUMG Summit 83.51 10 *i* P **P 08 02 04.3 +0.2**
comp=Z,80nm,0.8s,mb5.5
SUMG *i* pP 08 02 41.8 -0.2
ETSF Etsaut 83.61 45 *eP* **P 08 02 05.7 +0.5**
comp=Z,30nm,0.8s,mb4.8
TAM Tamanrasset 83.78 66 *eP* **P 08 02 07.3 +0.7**
comp=Z,34nm,0.8s,mb5.1

TAM **Tamanrasset** **83.78** **66** *e*P **P** **08 02 07.3 +0.7**
TAM pmax pmax
comp=Z,34nm,0.8s,mb5.1
VIEF **Viey** **84.01** **45** *e*P **P** **08 02 08.3 +1.0**
VIEF **Viey** **84.01** **45** *e*P **P** **08 02 08.3 +1.0**
EBIE **Bielsa** **84.04** **46** P **P** **08 02 08.3 +0.9**
comp=Z,31nm,0.8s,mb5.1
LABF **Labassere** **84.09** **45** *e*P **P** **08 02 08.7 +1.0**
LABF **Labassere** **84.09** **45** *e*P **P** **08 02 08.7 +1.0**
RESF **Ens** **84.21** **46** *e*P **P** **08 02 09.6 +1.3**
RESF **Ens** **84.21** **46** *e*P **P** **08 02 09.6 +1.3**
EPF **Esparros** **84.28** **45** *e*P **P** **08 02 09.1 +0.5**
comp=Z,196nm,1.4s,mb5.3
EMHD **Djebel Mahouad** **84.47** **52** P **P** **08 02 11.0 +1.2**
SALF **Salau** **84.80** **46** *e*P **P** **08 02 12.8 +1.5**
SALF **Salau** **84.80** **46** *e*P **P** **08 02 12.8 +1.5**
MFF **Saint Martin d** **84.96** **42** *e*P **P** **08 02 11.6 -0.3**
comp=Z,99nm,1.0s,mb5.2
GRR **Gorron** **85.02** **40** *e*P **P** **08 02 11.6 -0.6**
comp=Z,58nm,0.9s,mb5.0
LFF **La Frestale** **85.08** **44** *e*P **P** **08 02 12.5 -0.1**
comp=Z,154nm,0.9s,mb5.4
FLN **La Foliniere** **85.37** **40** *e*P **P** **08 02 13.5 -0.5**
comp=Z,99nm,1.0s,mb5.2
LDF **La Druitiere** **85.55** **40** *e*P **P** **08 02 14.2 -0.6**
comp=Z,29nm,1.0s,mb4.7
MTLF **Montolieu** **85.68** **45** *e*P **P** **08 02 15.4 -0.2**
comp=Z,78nm,1.4s,mb4.9
RJF **Les Rejaudoux** **85.71** **43** *e*P **P** **08 02 15.3 -0.4**
comp=Z,137nm,1.2s,mb5.3
EKA **Eskdalemuir Ar** **85.90** **33** P **P** **08 02 15.7 -0.7**
comp=Z,7.1nm,0.9s,mb4.4,baz=246,slow=5.8,SNR=7.8
EKA **Eskdalemuir Ar** **85.90** **33** P **P** **08 02 15.7 -0.7**
EKA **Eskdalemuir Ar** **85.90** **33** P **P** **08 02 15.7 -0.7**
CAF **Calviac** **85.98** **44** *e*P **P** **08 02 16.9 -0.2**
comp=Z,45nm,0.9s,mb4.9
INK **Inuvik** **86.35** **341** P **P** **08 02 17.6 -0.7**
comp=Z,39nm,1.1s,mb5.1,baz=104,slow=5.3,SNR=84
INK **Inuvik** **86.35** **341** *e*P **P** **08 02 17.6 -0.8**
comp=Z,41nm,1.0s,mb5.1
INK *ep*P pP 08 02 54.1 -2.3
INK **Inuvik** **86.35** **341** *e*P **P** **08 02 17.6 -0.7**
INK *e**PP pP 08 02 54.1 -2.3
INK pmax pmax
comp=Z,41nm,1.0s
DAWY **Dawson** **86.39** **336** *e*P **P** **08 02 17.7 -0.9**
DAWY *ep*P pP 08 02 54.7 -2.0
TCF **Toulx Ste Croi** **86.44** **43** *e*P **P** **08 02 18.8 -0.5**
comp=Z,68nm,1.5s,mb4.8
PYM **Petit Puy Mans** **86.84** **43** *e*P **P** **08 02 21.3 +0.1**
PYM **Petit Puy Mans** **86.84** **43** *e*P **P** **08 02 21.3 +0.1**
PYM **Petit Puy Mans** **86.84** **43** *e*P **P** **08 02 21.3 +0.1**
BGF **Bois d'Agland** **86.93** **42** *e*P **P** **08 02 20.9 -0.8**
comp=Z,58nm,1.0s,mb5.1
AGO **Saint Agoulin** **87.00** **43** *e*P **P** **08 02 21.9 -0.1**
AGO **Saint Agoulin** **87.00** **43** *e*P **P** **08 02 21.9 -0.1**
LASF **Ste Croix** **87.02** **45** *e*P **P** **08 02 21.8 -0.3**
comp=Z,33nm,1.1s,mb4.8
PLDF **La Plantade** **87.31** **43** *e*P **P** **08 02 23.5 0.0**
PLDF **La Plantade** **87.31** **43** *e*P **P** **08 02 23.5 0.0**
PLDF **La Plantade** **87.31** **43** *e*P **P** **08 02 23.5 0.0**
AVF **Avril sur Loir** **87.33** **42** *e*P **P** **08 02 22.4 -1.2**
comp=Z,32nm,1.2s,mb4.7
BMRM **Bremner River** **87.38** **333** *e*P **P** **08 02 23.2 -0.3**
comp=Z,98nm,1.4s,mb5.5
EGAK **Eagle** **87.39** **337** *e*P **P** **08 02 22.6 -0.8**
comp=Z,53nm,1.1s,mb5.3
EGAK *ep*P pP 08 02 59.9 -1.7
SSF **Saint Saulge** **87.50** **42** *e*P **P** **08 02 23.1 -1.2**
comp=Z,13nm,1.0s,mb4.4
SMF **Signal de Mont** **87.62** **42** *e*P **P** **08 02 24.0 -0.9**
comp=Z,46nm,1.0s,mb5.0
MENT **Mentasta** **87.71** **335** *e*P **P** **08 02 24.1 -0.9**
VIVF **Saint-Julien-l** **87.77** **44** *e*P **P** **08 02 25.5 -0.2**
comp=Z,30nm,1.0s,mb4.8
LOR **Lormes** **87.78** **42** *e*P **P** **08 02 24.5 -1.2**
comp=Z,28nm,1.0s,mb4.7
MSKU **Masuku** **87.79** **91** P **P** **08 02 25.7 -0.8**
comp=Z,19nm,0.7s,mb5.0,baz=255,slow=14,SNR=4.7
MSKU **Masuku** **87.79** **91** P **P** **08 02 25.7 -0.8**
DIV **Divide** **87.97** **333** *e*P **P** **08 02 25.6 -0.7**
comp=Z,92nm,1.2s,mb5.5
DIV *ep*P pP 08 03 04.2 -0.3
DOT **Dot Lake** **88.12** **335** *e*P **P** **08 02 26.1 -0.8**
comp=Z,352nm,1.4s,mb6.0
DOT *ep*P pP 08 03 03.8 -1.4
SMRF **Simiane la Rot** **88.20** **45** *e*P **P** **08 02 27.8 0.0**
comp=Z,115nm,1.4s,mb5.2
PAX **Paxson** **88.47** **334** *e*P **P** **08 02 27.6 -1.0**
comp=Z,103nm,1.4s,mb5.5
PAX *ep*P pP 08 03 05.3 -1.6
PAX **Paxson** **88.47** **334** *e*P **P** **08 02 27.6 -1.0**
PAX *e**PP pP 08 03 05.3 -1.6
PAX pmax pmax
comp=Z,103nm,1.4s,mb5.5
ORIF **Oris-en-Rattie** **88.62** **44** *e*P **P** **08 02 29.9 +0.2**
comp=Z,74nm,0.9s,mb5.3
BAIF **Baives** **88.67** **39** *e*P **P** **08 02 29.0 -0.8**
comp=Z,28nm,1.0s,mb4.8
LMR **La Mourre** **88.73** **46** *e*P **P** **08 02 29.7 -0.6**
comp=Z,114nm,1.3s,mb5.3
SFTF **Sexfontaines** **88.77** **41** *e*P **P** **08 02 29.4 -0.9**
SNF **Seneffe** **88.82** **39** P **P** **08 02 30.3 -0.2**
FRF **La Foret Royal** **88.87** **46** *e*P **P** **08 02 30.4 -0.5**
comp=Z,66nm,1.0s,mb5.2
DOU **Dourbes** **88.92** **39** P **P** **08 02 30.8 -0.2**
comp=Z,19nm,1.2s,mb4.9
GIVF **Givet** **89.07** **39** *e*P **P** **08 02 31.1 -0.6**
comp=Z,117nm,1.0s,mb5.5
CABF **La Chapelle** **89.12** **43** *e*P **P** **08 02 31.5 -0.5**
comp=Z,53nm,1.0s,mb5.1
MBDF **Montbardon** **89.20** **45** *e*P **P** **08 02 32.4 0.0**
comp=Z,21nm,1.0s,mb4.7
PAGF **Fort de Pagny** **89.30** **41** *e*P **P** **08 02 32.2 -0.6**
comp=Z,14nm,1.1s,mb4.5
TSUM **Tsumeb** **89.31** **109** *e*P **P** **08 02 33.7 +0.1**
comp=Z,64nm,1.3s,mb5.4
VNDA **Vanda** **89.32** **190** P **P** **08 02 32.9 +0.5**
comp=Z,8.2nm,0.9s,mb4.6,baz=124,slow=4.1,SNR=29
VNDA **Vanda** **89.32** **190** P **P** **08 02 32.9 +0.5**
VNDA **Vanda** **89.32** **190** P **P** **08 02 32.9 +0.5**
LPL **La Plagne** **89.33** **44** *e*P **P** **08 02 33.4 +0.4**
comp=Z,70nm,0.9s,mb5.3
LPG **La Plagne** **89.34** **44** *e*P **P** **08 02 33.6 +0.5**
comp=Z,89nm,0.9s,mb5.4
SML **Sawmill** **89.35** **333** *e*P **P** **08 02 32.2 -0.5**
comp=Z,21nm,0.7s,mb5.2
SML *ep*P pP 08 03 10.3 -0.7
SML **Sawmill** **89.35** **333** *e*P **P** **08 02 32.2 -0.5**
SML *e**PP pP 08 03 10.4 -0.7
SML pmax pmax
comp=Z,21nm,0.7s,mb5.2
TOUF **Mont Tournerai** **89.39** **46** *e*P **P** **08 02 33.7 +0.4**
TOUF **Mont Tournerai** **89.39** **46** *e*P **P** **08 02 33.7 +0.4**
TOUF **Mont Tournerai** **89.39** **46** *e*P **P** **08 02 33.7 +0.4**
THEF **They Montfort** **89.40** **41** *e*P **P** **08 02 33.2 -0.1**
THEF **They Montfort** **89.40** **41** *e*P **P** **08 02 33.2 -0.1**
THEF **They Montfort** **89.40** **41** *e*P **P** **08 02 33.2 -0.1**
LUCF **Luceram** **89.44** **46** *e*P **P** **08 02 33.8 +0.2**
LUCF **Luceram** **89.44** **46** *e*P **P** **08 02 33.8 +0.2**
BCLA **Clavier** **89.44** **39** P **P** **08 02 33.1 -0.3**
comp=Z,14nm,1.2s,mb4.4
KEST **Kesra** **89.45** **54** P **P** **08 02 33.0 -0.8**
comp=Z,10nm,0.9s,mb4.8,baz=254,slow=4.2,SNR=20
KEST **Kesra** **89.45** **54** *e*P **P** **08 02 33.5 -0.4**
SBF **Sospel** **89.49** **46** *e*P **P** **08 02 33.3 -0.5**
comp=Z,46nm,0.9s,mb5.1
HAU **Haudompre** **89.59** **42** *e*P **P** **08 02 33.1 -1.1**
comp=Z,12nm,0.7s,mb4.6
SAOF **Saorge** **89.60** **46** *e*P **P** **08 02 34.5 +0.2**
SAOF **Saorge** **89.60** **46** *e*P **P** **08 02 34.5 +0.2**
SAOF **Saorge** **89.60** **46** *e*P **P** **08 02 34.5 +0.2**
PMR **Palmer** **89.65** **333** *e*P **P** **08 02 32.9 -1.2**
comp=Z,22nm,0.9s,mb5.1
PMR **Palmer** **89.65** **333** *e*P **P** **08 02 32.9 -1.2**
PMR pmax pmax
comp=Z,23nm,0.9s,mb5.1
ILAR **Eielson Array** **89.67** **336** P **P** **08 02 33.3 -0.9**
comp=Z,14nm,0.9s,mb4.9,baz=133,slow=3.2,SNR=83
ILAR pP pP 08 03 11.5 -1.0
comp=Z,14nm,0.9s,baz=130,slow=3.6,SNR=12
ILAR PP PP 08 06 06.0 -2.3
comp=Z,6.4nm,1.1s,baz=108,slow=6.9,SNR=12
ILAR PKKP PKKPbc 08 20 05.0 -5.2
comp=Z,0.4nm,0.8s,baz=340,slow=3.0,SNR=4.5
ILAR LR LR 08 49 16.6
comp=Z,342nm,21.8s,baz=77,slow=40
ILAR **Eielson Array** **89.67** **336** P **P** **08 02 33.3 -0.9**
ILAR pP pP 08 03 11.5 -1.0
ILAR PP PP 08 06 06.0 -2.3
ILAR PKKP PKKPbc 08 20 05.0 -5.2
ILAR LR LR 08 49 16.6
ILAR **Eielson Array** **89.67** **336** P **P** **08 02 33.3 -0.9**
ILAR *PP pP 08 03 11.5 -1.0
ILAR 08 06 06.0
LOMF **Lomont** **89.77** **42** *e*P **P** **08 02 35.0 0.0**
LOMF **Lomont** **89.77** **42** *e*P **P** **08 02 35.0 0.0**
LOMF **Lomont** **89.77** **42** *e*P **P** **08 02 35.0 0.0**
RC01 **Rabbit Creek A** **89.78** **332** *e*P **P** **08 02 33.9 -0.9**
comp=Z,55nm,1.1s,mb5.4
RC01 *ep*P pP 08 03 13.1 0.0
WLF **Walferdange** **89.81** **40** P **P** **08 02 35.6 +0.4**
comp=Z,31nm,1.2s,mb5.1
WLF **Walferdange** **89.81** **40** *e*P **P** **08 02 34.8 -0.3**
comp=Z,43nm,1.0s,mb5.3
WLF **Walferdange** **89.81** **40** *e*P **P** **08 02 34.8 -0.4**
WLF pmax pmax
comp=Z,43nm,1.0s,mb5.3
SLKM **Skilak Lake** **89.85** **331** *e*P **P** **08 02 34.5 -0.6**
SLKM **Skilak Lake** **89.85** **331** *e*P **P** **08 02 34.5 -0.6**
HINF **Hinteralfeld** **89.88** **42** *e*P **P** **08 02 34.6 -0.9**
comp=Z,53nm,1.4s,mb5.0
MEM **Membach** **89.92** **39** P **P** **08 02 36.0 +0.4**
comp=Z,13nm,1.2s,mb4.7
MOF **Molkenrain** **90.07** **42** *e*P **P** **08 02 36.0 -0.4**
MOF **Molkenrain** **90.07** **42** *e*P **P** **08 02 36.0 -0.4**
MOF **Molkenrain** **90.07** **42** *e*P **P** **08 02 36.0 -0.4**
COLA **College** **90.09** **336** *e*P **P** **08 02 35.3 -0.9**
comp=Z,45nm,0.9s,mb5.4
COLA **College** **90.09** **336** *e*P **P** **08 02 35.3 -0.8**
COLA pmax pmax
comp=Z,45nm,0.9s,mb5.4
DAG **Danmarks Havn** **90.16** **11** *i*P **P** **08 02 35.4 -0.9**
DAG *i* pP 08 03 13.5 -1.1
DAG pmax pmax
comp=Z,20nm,1.0s,mb5.0
DAG **Danmarks Havn** **90.16** **11** *i*P **P** **08 02 35.4 -0.9**
comp=Z,20nm,1.0s,mb5.0
DAG *i* pP 08 03 13.5 -1.1
ECH **Echery** **90.16** **41** *e*P **P** **08 02 36.2 -0.7**
comp=Z,31nm,1.1s,mb5.2
ECH **Echery** **90.16** **41** *e*P **P** **08 02 36.2 -0.6**
ECH pmax pmax
comp=Z,31nm,1.1s,mb5.2
ECH **Echery** **90.16** **41** *e*P **P** **08 02 36.7 -0.1**
MCK **McKinley** **90.20** **335** *e*P **P** **08 02 36.0 -0.6**
comp=Z,15nm,0.8s,mb5.0
MCK **McKinley** **90.20** **335** *e*P **P** **08 02 36.0 -0.6**
MCK pmax pmax
comp=Z,15nm,0.8s,mb5.0
BBS **Basel-Blauen** **90.25** **42** *e*P **P** **08 02 37.1 -0.1**
BBS **Basel-Blauen** **90.25** **42** *e*P **P** **08 02 37.1 -0.1**
CDF **Champ du Feu** **90.28** **41** *e*P **P** **08 02 36.6 -0.8**
comp=Z,48nm,1.0s,mb5.1
KDAK **Kodiak Island** **90.31** **328** P **P** **08 02 36.5 -0.8**
comp=Z,49nm,1.0s,mb5.4,baz=121,slow=4.8,SNR=13
KDAK pP pP 08 03 13.7 -2.0
comp=Z,28nm,0.9s,baz=49,slow=9.9,SNR=3.1
KDAK LR LR 08 44 05.9
comp=Z,551nm,21.3s,baz=270,slow=36
KDAK **Kodiak Island** **90.31** **328** P **P** **08 02 36.5 -0.8**
KDAK pP pP 08 03 13.7 -2.0
KDAK LR LR 08 44 05.9
KDAK **Kodiak Island** **90.31** **328** P **P** **08 02 36.5 -0.8**
KDAK *PP pP 08 03 13.7 -2.0
ALE **Alert** **90.37** **2** P **P** **08 02 36.3 -0.9**
comp=Z,83nm,1.2s,mb5.5,SNR=5.7
RUP **Ruppelstein** **90.39** **40** *e*P **P** **08 02 38.2 +0.3**
RUP **Ruppelstein** **90.39** **40** *e*P **P** **08 02 38.2 +0.3**
OHAK **Old Harbor** **90.55** **328** *e*P **P** **08 02 37.8 -0.6**
comp=Z,112nm,1.0s,mb5.8
FELD **Feldberg im Sc** **90.65** **42** *e*P **P** **08 02 38.9 -0.2**
TRF **Thorofare Moun** **90.69** **334** *e*P **P** **08 02 38.4 -0.5**
comp=Z,8.9nm,0.5s,mb5.0
LANF **Langenberg** **90.73** **41** *e*P **P** **08 02 39.5 0.0**
LANF **Langenberg** **90.73** **41** *e*P **P** **08 02 39.5 0.0**
LANF **Langenberg** **90.73** **41** *e*P **P** **08 02 39.5 0.0**
RSO **Redoubt South** **91.05** **331** *e*P **P** **08 02 39.9 -0.8**
comp=Z,27nm,0.6s,mb5.5
TUE **Stuetta** **91.30** **43** *e*P **P** **08 02 41.6 -0.6**
comp=Z,9.7nm,0.8s,mb4.9
PPLA **Purkeypile** **91.38** **333** *e*P **P** **08 02 41.5 -0.7**
comp=Z,96nm,1.4s,mb5.6
PPLA *ep*P pP 08 03 19.6 -1.0
COLD **Coldfoot** **91.71** **338** *e*P **P** **08 02 43.1 -0.4**
comp=Z,11nm,0.9s,mb4.9
COLD *ep*P pP 08 03 18.0 -4.0
DAVOX **Davos/Dischmat** **91.71** **43** P **P** **08 02 44.3 +0.2**
comp=Z,14nm,0.8s,mb5.1,baz=266,slow=3.9,SNR=18
DAVOX **Davos/Dischmat** **91.71** **43** P **P** **08 02 44.3 +0.2**
DAVOX **Davos/Dischmat** **91.71** **43** P **P** **08 02 44.3 +0.2**
DAVA **Damuels** **91.80** **43**⇑*i*PcP **P** **08 02 44.9 +0.5**
comp=Z,19nm,0.9s,mb5.1
FETA **Feichten** **92.33** **43**⇑*i*P **P** **08 02 47.2 +0.2**
comp=Z,18nm,1.3s,mb5.0
RETA **Reutte** **92.42** **43**⇑*i*P **P** **08 02 47.5 +0.2**
comp=Z,14nm,1.1s,mb4.9
MOTA **Moosalm** **92.63** **43**⇓*i*P **P** **08 02 48.0 -0.3**
comp=Z,17nm,0.9s,mb5.2
SQTA **Sankt Quirin** **92.68** **43**⇓*i*P **P** **08 02 48.5 -0.1**
WATA **Walderalm** **92.95** **43**⇑*i*PcP **P** **08 02 50.0 +0.3**
comp=Z,7.0nm,0.7s,mb4.9
WTTA **Wattenberg** **92.98** **43**⇑*i*PcP **P** **08 02 50.3 +0.4**
comp=Z,30nm,1.2s,mb5.3
ABTA **Abfaltersbach** **93.50** **43**⇓*i*P **P** **08 02 52.4 +0.1**
comp=Z,30nm,1.2s,mb5.3
MYKA **Terra Mystica** **94.26** **44**⇓*i*P **P** **08 02 55.6 -0.2**
comp=Z,13nm,0.9s,mb5.1
CLL **Collm** **94.39** **39** *e*P **P** **08 02 56.0 -0.3**
CLL **Collm** **94.39** **39** *e*P **P** **08 02 56.0 -0.3**
LLD **Lille Linde** **94.42** **35** *i*P sP 08 03 56.9 +6.3
comp=Z,41nm,0.9s
GERES **GERESS Array B** **94.55** **41** P **P** **08 02 56.1 -1.0**
comp=Z,2.4nm,0.8s,mb4.5,baz=255,slow=2.6,SNR=9.5
GERES PKKP PKKPbc 08 19 56.1 -0.9
comp=Z,0.2nm,0.2s,baz=90,slow=2.7,SNR=3.7
GERES **GERESS Array B** **94.55** **41** P **P** **08 02 56.1 -1.0**
GERES PKKP PKKPbc 08 19 56.1 -0.9
GERES **GERESS Array B** **94.55** **41** P **P** **08 02 56.2 -0.9**
CRNS **Crni Vrh** **94.62** **44** *e*P **P** **08 02 57.5 0.0**
NB2 **NORSAR Subarra** **94.64** **29** P **P** **08 02 57.5 +0.3**
comp=Z,4.1nm,0.8s,mb4.7,baz=261,slow=4.6
NOA **NORSAR Array B** **94.64** **29** P **P** **08 02 57.0 -0.2**
comp=Z,6.9nm,0.8s,mb4.9,baz=260,slow=4.6,SNR=12
NOA **NORSAR Array B** **94.64** **29** P **P** **08 02 57.0 -0.2**
NOA **NORSAR Array B** **94.64** **29** P **P** **08 02 57.0 -0.2**
BOSA **Boshof** **94.68** **120** P **P** **08 02 57.6 -0.6**
comp=Z,12nm,1.1s,mb5.0,baz=294,slow=5.0,SNR=6.3
BOSA **Boshof** **94.68** **120** P **P** **08 02 57.6 -0.6**
BOSA **Boshof** **94.68** **120** P **P** **08 02 57.6 -0.6**
LJU **Ljubljana** **94.80** **44** *i*P **P** **08 02 58.6 +0.3**
MOA **Molln** **94.82** **43**⇑*i*PcP **P** **08 02 58.4 +0.1**
comp=Z,17nm,1.3s,mb5.1
OBKA **Obir** **94.86** **44**⇑*i*PcP **P** **08 02 59.0 +0.5**
comp=Z,7.9nm,0.7s,mb5.0
BRG **Berggiesshubel** **94.94** **39** *e*P **P** **08 02 58.1 -0.7**
comp=Z,11nm,1.2s,mb5.0
BRG **Berggiesshubel** **94.94** **39** *e*P **P** **08 02 58.1 -0.7**
BRG pmax pmax
comp=Z,11nm,1.2s,mb5.0
SOKA **Soboth** **95.21** **44**⇑*i*P **P** **08 02 59.9 -0.3**
comp=Z,9.8nm,1.3s,mb4.9
PRU **Pruhonice** **95.22** **40** *e*P **P** **08 03 01.7 +1.6**
PRU **Pruhonice** **95.22** **40** *e*P **P** **08 03 01.7 +1.6**
PERS **Pernice** **95.27** **44** *i*P **P** **08 03 00.1 -0.3**
PVCC **Panska Ves** **95.30** **40** *e*P **P** **08 03 00.5 +0.1**
PVCC **Panska Ves** **95.30** **40** *e*P **P** **08 03 00.5 +0.1**
ARSA **Arzberg** **95.60** **43**⇑*i*PcP **P** **08 03 02.0 +0.1**
comp=Z,14nm,1.0s,mb5.3
LBTB **Lobatse** **95.68** **116** P **P** **08 03 02.8 0.0**
comp=Z,12nm,0.8s,mb5.2,baz=292,slow=5.0,SNR=14
LBTB **Lobatse** **95.68** **116** P **P** **08 03 02.8 0.0**
LBTB **Lobatse** **95.68** **116** P **P** **08 03 02.8 -0.1**
HFS **Hagfors** **95.75** **30** P **P** **08 03 01.6 -0.6**
comp=Z,10nm,0.9s,mb5.2,baz=184,slow=2.4,SNR=6.6
HFS **Hagfors** **95.75** **30** P **P** **08 03 01.6 -0.6**
HFS **Hagfors** **95.75** **30** P **P** **08 03 01.6 -0.7**
TREC **Trest** **95.77** **41** *e*P **P** **08 03 03.1 +0.5**
TREC **Trest** **95.77** **41** *e*P **P** **08 03 03.1 +0.5**
CONA **Conrad Observa** **95.89** **43**⇑*i*PcP **P** **08 03 03.7 +0.4**
comp=Z,18nm,1.2s,mb5.3
UPC **Upice** **96.21** **40** *e*P **P** **08 03 05.1 +0.5**
UPC **Upice** **96.21** **40** *e*P **P** **08 03 05.1 +0.5**
DPC **Dobruska-Polom** **96.39** **40** *e*P **P** **08 03 06.2 +0.7**
DPC **Dobruska-Polom** **96.39** **40** *e*P **P** **08 03 06.2 +0.7**
VRAC **Vranov** **96.49** **41** P **P** **08 03 05.8 -0.1**
comp=Z,3.4nm,0.5s,mb5.0,baz=257,slow=9.2,SNR=5.4
VRAC **Vranov** **96.49** **41** P **P** **08 03 05.8 -0.1**
VRAC **Vranov** **96.49** **41** P **P** **08 03 05.8 -0.1**
ZST **Bratislava** **96.74** **42** *e*P **P** **08 03 07.6 +0.5**
ZST **Bratislava** **96.74** **42** *e*P **P** **08 03 07.6 +0.5**
VYHS **Vyhne** **97.92** **42** *e*P **P** **08 03 10.2 -2.2**
VYHS pmax pmax
comp=Z,135nm,3.1s
VYHS **Vyhne** **97.92** **42** *e*P **P** **08 03 10.2 -2.2**
OJC **Ojcow** **98.61** **40** *e*P **P** **08 03 16.4 +1.0**
OJC **Ojcow** **98.61** **40** *e*P **P** **08 03 16.4 +1.0**
KECS **Kecovo** **99.01** **42** *e*P **P** **08 03 17.3 0.0**
KECS pmax pmax
comp=Z,10.0nm,1.7s,mb5.0
KECS **Kecovo** **99.01** **42** PDIF **P** **08 03 17.2 -0.1**
BILL **Bilibino** **107.92** **340** *e*P Pdif 08 03 49.3 -7.5
BILL *e* 08 08 24.6
BILL pmax pmax
comp=Z,4.0nm,1.5s
ARU **Arti** **119.16** **28** *i* PKIKP PKPdf 08 08 24.2 -0.4
ARU 08 09 46.8
ARU 08 15 05.1
ARU SS SS 08 25 56.2 +0.9
RST **Umm Al-Ruwaisa** **121.06** **60** *e*P PKPdf 08 08 28.6 -0.4
RST AMb AMB 08 08 30.0
comp=Z,4.2nm,0.8s
MIB **Mutribah** **121.30** **60** *e*P PKPdf 08 08 28.4 -1.1
MIB AMb AMB 08 08 30.6
comp=Z,30nm,0.9s
NAY **Al-Naaiem** **121.31** **61** *e*P PKPdf 08 08 29.1 -0.5
NAY AMb AMB 08 08 30.4
comp=Z,14nm,1.4s
RDF **Al-Radifah** **121.62** **61** *e*P PKPdf 08 08 29.7 -0.5
RDF AMb AMB 08 08 42.6
comp=Z,45nm,1.5s
YAK **Yakutsk** **123.06** **347** *e*PKIKP PKPdf 08 08 30.2 -1.7
YAK pmax pmax
comp=Z,15nm,1.0s
ABKAR **Akbulak array** **123.75** **34** *e*PKPdf PKPdf 08 08 33.8 +0.2
RMQ **Roma** **126.03** **229** *e*PKP PKPdf 08 08 39.0 +0.3
comp=Z,45nm,1.5s
BRVK **Borovoye** **126.55** **26**⇑*i*PKIKP PKPdf 08 08 39.5 +0.7
STKA **Stephens Creek** **127.68** **219** PKP PKPdf 08 08 41.6 -0.2
comp=Z,20nm,0.8s,baz=89,slow=2.1,SNR=30
STKA pPKP pPKPdf 08 09 22.6 +0.7
comp=Z,10nm,0.9s,baz=88,slow=3.3,SNR=6.2
STKA **Stephens Creek** **127.68** **219** *e*PKP PKPdf 08 08 41.5 -0.2
comp=Z,16nm,0.8s
STKA *ep*PKP pPKPdf 08 09 23.0 +1.1
STKA **Stephens Creek** **127.68** **219** *e*PKPdf PKPdf 08 08 41.3 -0.4
STKA *ep*PKPdf pPKPdf 08 09 20.1 -1.8
STKA **Stephens Creek** **127.68** **219** *e*PKIKP PKPdf 08 08 41.3 -0.4
STKA *e* 08 09 20.1
NVS **Novosibirsk** **129.79** **17** *e*PKIKP PKPdf 08 08 44.6 -0.4
NVS *e* 08 09 24.6
NVS *e* 08 10 59.5
NVS pmax pmax
comp=Z,26nm,1.1s
NVS pmax pmax
comp=N,2.0nm,0.6s
NVS pmax pmax
comp=E,9.0nm,1.2s
ZALV **Zalesovo Beam** **131.02** **16** PKP PKPdf 08 08 47.2 -0.1
comp=E,37nm,0.9s,baz=304,slow=2.7,SNR=109
ZALV pPKP pPKPdf 08 09 27.2 -0.3
comp=E,26nm,1.0s,baz=304,slow=2.9,SNR=7.0
ZALV **Zalesovo Beam** **131.02** **16** PKP PKPdf 08 08 47.2 -0.1
ZALV pPKP pPKPdf 08 09 27.2 -0.3
ZALV **Zalesovo Beam** **131.02** **16** PKIKP PKPdf 08 08 47.2 -0.1
ZALV 08 09 27.2
CTA **Charters Tower** **131.35** **235** *e*PKP PKPdf 08 08 48.7 -0.3
comp=E,11nm,1.0s
ASAJ **Asahikawa** **131.59** **325** PKP PKPdf 08 08 48.5 -0.2
comp=E,20nm,0.9s,baz=299,slow=4.4,SNR=5.1
KURK **Kurchatov** **131.71** **23** *e*PKPdf PKPdf 08 08 48.8 0.0
KURK *ep*PKPdf pPKPdf 08 09 26.8 -2.1
KURK **Kurchatov** **131.71** **23** *e*PKIKP PKPdf 08 08 48.8 +0.1
KURK *e* 08 09 26.8
KLR **Kul'dur** **133.24** **337** *e*PKIKP PKPdf 08 08 47.8 -3.9
USP **Ospenovka** **135.38** **33** P PKPdf 08 08 57.1 +1.2
SNR=6.4
EKS2 **Erkin-Say** **135.40** **34** P PKPdf 08 08 57.5 +1.6
SNR=12
EKS2 **Erkin-Say** **135.40** **34** *e*PKPdf PKPdf 08 08 57.3 +1.4
EKS2 **Erkin-Say** **135.40** **34** *e*PKIKP PKPdf 08 08 57.3 +1.4
AML **Almayashu** **135.70** **34** P PKPdf 08 08 58.2 +1.7
SNR=9.3
AAK **Ala-Archa** **135.81** **33** P PKPdf 08 08 58.0 +1.3
SNR=8.4
AAK **Ala-Archa** **135.81** **33** *e*PKPdf PKPdf 08 08 57.7 +1.0
AAK **Ala-Archa** **135.81** **33** *e*PKIKP PKPdf 08 08 57.7 +1.0
TKM2 **Tokmak 2** **136.20** **32** P PKPdf 08 08 58.5 +1.0
SNR=9.2
TKM2 **Tokmak 2** **136.20** **32** *e*PKPdf PKPdf 08 08 58.1 +0.7
TKM2 **Tokmak 2** **136.20** **32** *e*PKIKP PKPdf 08 08 58.1 +0.7
MK31 **Makanchi Array** **136.32** **23** *e*PKPdf PKPdf 08 08 56.7 -0.8
MK31 **Makanchi Array** **136.32** **23** *e*PKIKP PKPdf 08 08 56.7 -0.8
MKAR **Makanchi Array** **136.32** **23** PKP PKPdf 08 08 57.4 -0.1
comp=E,12nm,0.9s,baz=337,slow=1.9,SNR=32
MKAR pPKP pPKPdf 08 09 37.4 -0.3
comp=E,4.4nm,0.8s,baz=344,slow=1.8,SNR=5.3
MKAR **Makanchi Array** **136.32** **23** PKP PKPdf 08 08 57.4 -0.1
MKAR pPKP pPKPdf 08 09 37.4 -0.3
MKAR **Makanchi Array** **136.32** **23** PKIKP PKPdf 08 08 57.4 -0.1
MKAR 08 09 37.4
COEN **Coen** **136.91** **240** *e*PKP PKPdf 08 08 59.6 +0.1
comp=E,59nm,0.8s
COEN *ep*PKP pPKPdf 08 09 39.8 +0.1
COEN **Coen** **136.91** **240** *e*PKPdf PKPdf 08 08 59.2 -0.3
ULHL **Ulahol** **137.01** **32** P PKPdf 08 09 01.0 +2.1
SNR=7.6
KBL **Kabul** **137.14** **46** *e*PKPdf PKPdf 08 08 59.5 +0.1
KBL **Kabul** **137.14** **46** *e*PKIKP PKPdf 08 08 59.5 +0.1
ASAR **Alice Springs** **138.26** **221** PKHKP PKPpre 08 08 52.7
comp=E,3.5nm,0.8s,baz=137,slow=2.4,SNR=22
ASAR PKP PKPdf 08 09 01.6 -0.3
comp=E,16nm,0.9s,baz=132,slow=2.1,SNR=30
ASAR pPKP pPKPdf 08 09 42.3 +0.3
comp=E,4.7nm,0.6s,baz=124,slow=1.8,SNR=4.1
ASAR **Alice Springs** **138.26** **221** PKP PKPdf 08 09 01.6 -0.3
ASAR pPKP pPKPdf 08 09 42.3 +0.3
ASAR **Alice Springs** **138.26** **221** PKIKP PKPdf 08 09 01.6 -0.2
ASAR 08 09 42.3
KSH **Kashi** **138.73** **35** PKP PKPdf 08 09 03.8 +1.6
KSH PKS 08 12 38.9
KSH SKS SKSdf 08 15 57.8 -0.9
KSH AMB AMB
comp=Z,240nm,6.3s
KSH LR LR
comp=N,83nm,5.2s
KSH LR LR
comp=E,100nm,4.7s
KSH LR LR
comp=Z,290nm,6.1s
MJAR **Matsushiro Arr** **138.79** **319** PKHKP PKPpre 08 08 53.5
comp=Z,2.4nm,0.8s,baz=35,slow=1.3,SNR=4.3
MAT **Matsushiro** **138.79** **319** PKP PKPdf 08 09 02.0 -0.4
ULN **Ulaanbaatar** **140.06** **358** *e*PKPdf PKPdf 08 09 02.7 -1.7
ULN **Ulaanbaatar** **140.06** **358** *e*PKIKP PKPdf 08 09 02.7 -1.7
SONM **Songino Array** **140.11** **359** PKHKP PKPpre 08 08 56.5
comp=Z,1.9nm,0.7s,baz=319,slow=3.1,SNR=11
SONM PKP PKPdf 08 09 03.6 -0.8
comp=Z,3.2nm,0.7s,baz=358,slow=1.3,SNR=14
SONM pPKP pPKPdf 08 09 42.8 -1.8
comp=Z,1.8nm,0.8s,baz=306,slow=1.5,SNR=2.2
SONM PP PP 08 11 58.2 -3.8
comp=Z,6.6nm,1.2s,baz=340,slow=3.8,SNR=8.4
SONM **Songino Array** **140.11** **359** PKP PKPdf 08 09 03.

WRA	**Warramunga Arr**	**140.51**	**225**	PKhKP	PKPpre	08 08 59.5			
	comp=Z,2.5nm,0.3s,baz=128,slow=2.7,SNR=80								
WRA				PKP	PKPdf	08 09 05.3	-0.7		
	comp=Z,19nm,0.8s,baz=132,slow=1.7,SNR=59								
WRA				pPKP	pPKPdf	08 09 46.7	+0.5		
	comp=Z,9.2nm,0.8s,baz=130,slow=1.6,SNR=5.4								
WRA	**Warramunga Arr**	**140.51**	**225**	PKP	PKPdf	08 09 05.3	-0.7		
WRA				pPKP	pPKPdf	08 09 46.7	+0.5		
WRA	**Warramunga Arr**	**140.51**	**225**	PKIKP	PKPdf	08 09 05.3	-0.7		
WRA						08 09 46.7			
WMQ	**Urumqi**	**140.85**	**21**	PKP	PKPdf	08 09 05.5	-0.4		
WMQ				LR	LR				
	comp=N,270nm,22.0s								
WMQ				LR	LR				
	comp=E,190nm,29.4s								
WMQ				LR	LR				
	comp=Z,220nm,20.3s								
MEEK	**Meekatharra**	**143.51**	**200**	*e*PKP	PKPdf	08 09 07.9	-3.3		
	comp=Z,54nm,0.9s								
KSRS	**Korea Array**	**144.22**	**329**	PKP	PKPdf	08 09 09.5	-2.6		
	comp=Z,15nm,0.8s,baz=18,slow=1.5,SNR=22								
KSAR	**Wonju Array Be**	**144.25**	**329**	PKP	PKPdf	08 09 09.5	-2.6		
KSAR	**Wonju Array Be**	**144.25**	**329**	PKIKP	PKPdf	08 09 09.5	-2.6		
DDI	**Dehra Dun**	**145.82**	**45**	⇑*i*P	PKPdf	08 09 16.0	+0.9		
DDI				*e*S		08 09 54.0			
DL2	**Dalian**	**145.84**	**337**	PKPbc	PKPbc	08 09 14.6	-1.0		
BJI	**Beijing**	**146.54**	**345**	PKPbc	PKPbc	08 09 16.3	-1.4		
BJI				pPKP	pPKPdf	08 09 55.9	-0.3		
BJI				sPKP		08 10 07.3			
BJI				PP	PP	08 12 41.5	+0.7		
BJT	**Baijiatuau**	**146.56**	**345**	*e*PKPdf	PKPdf	08 09 16.2	+0.2		
BJT	**Baijiatuau**	**146.56**	**345**	*e*PKP2	PKPdf	08 09 16.2	+0.2		
HHC	**Hu-ho-hao-te**	**146.67**	**352**	*e*PKPbc	PKPdf	08 09 15.3	-0.9		
HHC				pPKP	pPKPdf	08 09 56.4	0.0		
HHC				sPKP		08 10 13.3			
HHC				PP	PP	08 12 45.3	+3.9		
HHC				PKS		08 12 49.3			
HHC				SKS	SKSdf	08 16 06.6	-4.4		
HHC				SKKS	SKKSac	08 19 17.6	-2.2		
HHC				SS	SS	08 31 26.9	-0.1		
HHC				AMB	AMB				
	comp=Z,450nm,9.2s								
BTO	**Baotou**	**147.10**	**354**	*e*PKPbc	PKPbc	08 09 18.3	-0.9		
FITZ	**Fitzroy Crossi**	**147.54**	**217**	*e*PKP	PKPdf	08 09 18.0	-0.3		
	comp=Z,152nm,0.9s								
FITZ				*e*pPKP	pPKPdf	08 10 00.1	+1.6		
FITZ	**Fitzroy Crossi**	**147.54**	**217**	*e*PKPdf	PKPdf	08 09 18.1	-0.2		
FITZ				*e*PKPbc	PKPbc	08 09 20.7	-0.3		
MBWA	**Marble Bar**	**148.05**	**205**	*e*PKP	PKPdf	08 09 18.4	-0.7		
MBWA	**Marble Bar**	**148.05**	**205**	*e*PKP	PKPbc	08 09 21.6	-0.8		
MBWA				*ep*PKP	pPKPdf	08 10 02.7	+3.4		
MBWA	**Marble Bar**	**148.05**	**205**	*e*PKPdf	PKPdf	08 09 18.7	-0.3		
MBWA				*e*PKPbc	PKPbc	08 09 21.7	-0.7		
GTA	**Gaotai**	**148.10**	**9**	PKPbc	PKPdf	08 09 19.1	+0.5		
GTA				pPKP	pPKPdf	08 10 01.3	+2.5		
GTA				SKS	SKSdf	08 16 10.4	-2.6		
GTA				SKKS	SKKSac	08 19 28.3	+0.5		
PYUN	**Piuthan**	**150.60**	**44**	*e*P	PKPdf	08 09 23.0	+0.1		
DANN	**Dangsing**	**150.96**	**43**	*e*P	PKPdf	08 09 24.2	+0.7		
	comp=Z,372nm,0.8s								
KOLN	**Koldanda**	**151.22**	**44**	*e*P	PKPdf	08 09 23.3	-0.6		
	comp=Z,84nm,0.9s								
GKN	**Gorkha**	**151.77**	**42**	*e*P	PKPdf	08 09 24.9	+0.2		
LZH	**Lanzhou**	**151.81**	**3**	⇑PKPbc	PKPbc	08 09 32.3	+1.3		
LZH				PKPbc	PKPbc	08 09 50.0	+19		
LZH				pPKP	pPKPdf	08 10 14.5	+10		
LZH				sPKP		08 10 30.0			
HYB	**Hyderabad**	**151.95**	**67**	*i* PKP	PKPdf	08 09 25.5	+0.3		
HYB				*e*PKPAB	PKPab	08 09 41.5	-0.2		
HYB				*e*		08 10 06.0			
HYB				*e*		08 10 10.5			
KKN	**Kakani**	**152.34**	**42**	*e*P	PKPdf	08 09 25.5	-0.1		
DMN	**Daman**	**152.34**	**42**	*e*P	PKPdf	08 09 25.7	+0.1		
PKI	**Pulchoki**	**152.57**	**42**	*e*P	PKPdf	08 09 25.6	-0.3		
GUN	**Gumba**	**152.65**	**41**	*e*P	PKPdf	08 09 26.4	+0.4		
RAMN	**Ramite**	**153.77**	**41**	*e*P	PKPdf	08 09 27.9	+0.2		
	comp=Z,82nm,0.9s								
TAPN	**Taplejung**	**154.20**	**39**	*e*P	PKPdf	08 09 28.7	+0.4		
LSA	**Lhasa**	**154.33**	**30**	*e*PKPdf	PKPdf	08 09 28.9	+0.5		
LSA	**Lhasa**	**154.33**	**30**	*e*PKIKP	PKPdf	08 09 28.9	+0.5		
ODAN	**Odare**	**154.34**	**40**	*e*P	PKPdf	08 09 28.7	+0.2		
	comp=Z,63nm,1.1s								
WHN	**Wuhan**	**155.95**	**341**	PKPbc	PKPdf	08 09 50.1	+20		
CD2	**Chengdu**	**156.95**	**4**	PKP	PKPdf	08 09 28.6	-3.2		
CD2				PKPab	PKPab	08 10 01.6	-0.8		
CD2				pPKP	pPKPdf	08 10 11.3	-0.9		
CD2				sPKP		08 10 27.9			
CD2				PKS		08 13 01.6			
CD2				PP	PP	08 13 41.6	+1.7		
CD2				SKS	SKSdf	08 16 16.8	-7.2		
CD2				SKKS	SKKSac	08 20 12.0	-4.1		
CD2				SS	SS	08 33 17.3	-2.6		
CD2				AMB	AMB				
	comp=Z,430nm,11.9s								
CD2				LR	LR				
	comp=N,270nm,8.9s								
CD2				LR	LR				
	comp=Z,180nm,8.9s								
SHL	**Shillong**	**158.01**	**35**	*e*PKP	PKPdf	08 09 34.3	+1.0		
SHL				*ex*	x	08 10 08.0			
GYA	**Guiyang**	**161.42**	**357**	PKP	PKPdf	08 09 35.4	-1.8		
GYA				pPKP	pPKPdf	08 10 15.0	-2.5		
GYA				sPKP		08 10 30.3			
GYA				PKS		08 13 07.5			
GYA				PP	PP	08 14 06.8	+2.7		
GYA				SKKS	SKKSac	08 20 37.6	-1.9		
GYA				SS	SS	08 34 07.3	+0.2		
GYA				AMB	AMB				
	comp=Z,140nm,8.3s								
GYA				LR	LR				
	comp=N,160nm,21.8s								
GYA				LR	LR				
	comp=E,140nm,23.5s								
GYA				LR	LR				
	comp=Z,190nm,22.0s								
KMI	**Kunming**	**162.56**	**9**	PKP	PKPdf	08 09 38.5	+0.2		
CHTO	**Chiang Mai**	**167.28**	**30**	*e*PKPdf	PKPdf	08 09 41.7	-0.9		
CHTO	**Chiang Mai**	**167.28**	**30**	*e*PKIKP	PKPdf	08 09 41.7	-0.8		
CMAR	**Chiang Mai Arr**	**167.58**	**31**	PKP	PKPdf	08 09 42.6	-0.1		
	comp=Z,4.9nm,0.7s,baz=296,slow=2.1,SNR=25								
CMAR				pPKP	pPKPdf	08 10 23.6	+0.4		
	comp=Z,5.8nm,1.0s,baz=295,slow=1.6,SNR=3.0								
CMAR				PKPab	PKPab	08 10 49.5	+0.3		
	comp=Z,10nm,0.8s,baz=318,slow=5.9,SNR=21								
CMAR				pPKPab	pPKPab	08 11 29.1	+1.3		
	comp=Z,6.0nm,1.0s,baz=323,slow=5.5,SNR=3.0								
CMAR	**Chiang Mai Arr**	**167.58**	**31**	PKP	PKPdf	08 09 42.6	-0.1		
CMAR				pPKP	pPKPdf	08 10 23.6	+0.4		
CMAR				PKPab	PKPab	08 10 49.5	+0.3		
CMAR				pPKPab	pPKPab	08 11 29.1	+1.3		
CMAR	**Chiang Mai Arr**	**167.58**	**31**	PKIKP	PKPdf	08 09 42.7	-0.1		
CMAR						08 10 23.6			
CMAR						08 10 49.6			

IDC 19 08:18:21.0±5.9, 6.83S×148.49E, h119km±45km, mb3.5/2, mb1 3.5/4, mb1mx3.3/17, mbtmp3.3/4, Error ellipse: s-maj=86.5km s-min=50.1km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.88**	**207**	P	Pn	08 19 07.0	+1.3
	4.9nm,0.3s,baz=30,slow=6.1,SNR=9.4						
PMG				S	Sn	08 19 40.2	0.0
	5.2nm,0.3s,baz=24,slow=19,SNR=6.2						
WRA	**Warramunga Arr**	**18.94**	**225**	P	P	08 22 33.1	+0.3
	0.3nm,0.3s,baz=51,slow=11,SNR=17						
ASAR	**Alice Springs**	**21.84**	**218**	P	P	08 23 05.0	+1.1
	1.5nm,0.6s,baz=52,slow=9.4,SNR=26						
FITZ	**Fitzroy Crossi**	**24.93**	**241**	P	P	08 23 33.4	+0.1
	1.4nm,0.4s,baz=63,slow=8.9,SNR=14						
TORD	**Torodi Ar. Bea**	**146.73**	**284**	PKPbc	PKPbc	08 37 48.4	-1.7
	0.2nm,0.4s,baz=63,slow=4.3,SNR=3.9						

ISCJB 19 08:24:58.4±0.1, 52.92N±0.02×159.82E±0.02, h41km, mb4.9/219, MS4.1/24, Error ellipse: s-maj=2.7km s-min=2.0km az=171.5
MOS 19 08:25:00.8±1.2, 53.05N×159.70E, h61km, mb5.0/64, Error ellipse: s-maj=7.6km s-min=4.4km az=88.9
MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.

IDC 19 08:25:00.5±0.4, 53.11N×159.76E, h41km±3km, mb4.5/36, mb1 4.7/38, mb1mx4.7/38, mbtmp4.6/38, ML4.8/2, MS4.0/13, Ms1 4.0/13, ms1mx3.8/42, Error ellipse: s-maj=12.0km s-min=8.1km az=134.0
BJI 19 08:25:01.0, 53.48N×159.60E, h62km, mB5.1/24, mb4.8/36, Ms4.7/26, Ms7 4.3/27
KRSC 19 08:25:02.1±0.7, 53.04N×160.02E, h40km±19km, ML5.1
NEIC 19 08:25:03.2±0.5, 53.09N×159.69E, h66km±4km, mb4.8/83, Error ellipse: s-maj=4.7km s-min=2.8km az=168.0
SZGRF 19 08:25:09.2, 53.22N×157.87E, h66km, mb5.1, Kamchatka Peninsula, Russia

ISC 19 08:25:00.7±0.1, 52.95N±0.02×159.75E±0.02, h43km, h43km±1.2km: pP-P, n890, σ0.82/909, mb4.9/219, MS4.1/24, 220C-162D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.22**	**48**	*i* P	**Pn**	**08 25 08.3**	**-0.1**
SPN	**Mys Shipunski**	**0.22**	**48**	PN	**Pn**	**08 25 08.3**	**-0.1**
NLC	**Nalytchevo**	**0.33**	**312**	*i* P	**Pn**	**08 25 11.6**	**+2.1**
NLC	**Nalytchevo**	**0.33**	**312**	PN	**Pn**	**08 25 11.6**	**+2.1**
SDLR	**Sedlovina**	**0.62**	**302**	*i* P	**Pn**	**08 25 15.8**	**+2.7**
UGLR	**Uglovaya**	**0.62**	**295**	*i* P	**Pn**	**08 25 16.0**	**+2.9**
SMAR	**Somma**	**0.65**	**299**	*i* P	**Pn**	**08 25 16.2**	**+2.6**
PET	**Petropavlovsk**	**0.67**	**277**	*i* P	**Pn**	**08 25 16.5**	**+2.7**
PET	**Petropavlovsk**	**0.67**	**277**	*e*Pn	**Pn**	**08 25 16.6**	**+2.8**
PET				*e*Sn	**Sn**	**08 25 26.3**	**+3.1**
PET	**Petropavlovsk**	**0.67**	**277**	*K i*PN	**Pn**	**08 25 16.0**	**+2.2**
PET				*e*S	**Sn**	**08 25 28.2**	**+5.1**
PET				pmax	pmax		
	comp=Z,9μm,0.7s						
PET				smax			
	comp=N,38μm,1.6s						
PET				smax			
	comp=E,4μm,0.5s						
PET				smax			
	comp=N,18μm,0.6s						
AVH	**Avacha**	**0.69**	**297**	*i* P	**Pn**	**08 25 17.0**	**+3.0**
INSR	**Institute**	**0.70**	**280**	*i* P	**Pn**	**08 25 16.8**	**+2.6**
INSR				*i* S	**Sn**	**08 25 27.3**	**+3.3**
KOK	**Koryaka**	**0.75**	**297**	*i* P	**Pn**	**08 25 17.5**	**+2.6**
RUS	**Russkaya**	**0.92**	**236**	*i* P	**Pn**	**08 25 19.1**	**+2.0**
RUS	**Russkaya**	**0.92**	**236**	PN	**Pn**	**08 25 19.1**	**+2.0**
GRL	**Gorelyy**	**1.10**	**249**	*i* P	**Pn**	**08 25 22.8**	**+3.2**
PEA0B	**Petropavlovsk-**	**1.25**	**278**	*e*Pn	**Pn**	**08 25 25.2**	**+3.6**
PEA0B				*e*Sn	**Sn**	**08 25 39.7**	**+2.4**
PETK	**Petropavlovsk-**	**1.25**	**278**	P	**Pn**	**08 25 25.4**	**+3.7**
	comp=N,2μm,0.3s,baz=95,slow=20						
PETK				S	**Sn**	**08 25 42.0**	**+4.7**
	comp=N,1μm,0.3s,baz=101,slow=22,SNR=6.2						
PETK	**Petropavlovsk-**	**1.25**	**278**	P	**Pn**	**08 25 25.4**	**+3.7**
PETK				S	**Sn**	**08 25 42.0**	**+4.7**
PETK	**Petropavlovsk-**	**1.25**	**278**	PN	**Pn**	**08 25 25.4**	**+3.7**
PETK				S	**Sn**	**08 25 42.0**	**+4.7**
GNL	**Ganaly**	**1.32**	**305**	*i* P	**Pn**	**08 25 26.1**	**+3.5**
MIPR	**Malaya Ipel'ka**	**1.95**	**251**	P	**Pn**	**08 25 35.0**	**+3.8**
MKZ	**Mys Kozlova**	**1.99**	**35**	*e*P	**Pn**	**08 25 30.1**	**-1.7**
MKZ				*i* S	**Sn**	**08 25 50.2**	**-5.2**
MKZ	**Mys Kozlova**	**1.99**	**35**	PN	**Pn**	**08 25 30.1**	**-1.7**
MKZ				S	**Sn**	**08 25 50.2**	**-5.2**
TUMR	**Tumrok**	**2.35**	**5**	*i* P	**Pn**	**08 25 38.4**	**+1.7**
TUMR				*e*S	**Sn**	**08 26 05.5**	**+1.3**
KMNR	**Kamenistaya**	**2.82**	**6**	*e*P	**Pn**	**08 25 45.5**	**+2.3**
KMNR				*e*S	**Sn**	**08 26 16.7**	**+0.7**
BZMR	**Bezymyannaya**	**3.02**	**8**	P	**Pn**	**08 25 47.9**	**+2.0**
BZMR				*i* S	**Sn**	**08 26 20.5**	**-0.3**
KPT	**Kopyto**	**3.03**	**5**	*e*P	**Pn**	**08 25 47.7**	**+1.6**
KPT				*e*S	**Sn**	**08 26 20.7**	**-0.4**
BZGR	**Bezymyannyi-Gr**	**3.04**	**10**	P	**Pn**	**08 25 48.4**	**+2.2**
BZWR	**Bezymyannyi-We**	**3.05**	**8**	P	**Pn**	**08 25 48.9**	**+2.6**
KOZ	**Kozyrevsk**	**3.11**	**1**	*e*P	**Pn**	**08 25 49.2**	**+2.0**
KOZ				*e*S	**Sn**	**08 26 23.4**	**+0.3**
KOZR	**Kozyr**	**3.12**	**1**	PN	**Pn**	**08 25 49.2**	**+1.9**
KOZR				S	**Sn**	**08 26 23.4**	**+0.1**
ZLN	**Zelenaya**	**3.13**	**11**	P	**Pn**	**08 25 49.5**	**+2.1**
SKR	**Severo-Kuril's**	**3.20**	**226**	*e*PN	**Pn**	**08 25 53.0**	**+4.5**
SKR				*i* S	**Sn**	**08 26 30.5**	**+5.2**
SKR				pmax	pmax		
	comp=N,80nm,0.6s						
SKR				pmax	pmax		
	comp=Z,170nm,0.6s						
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				smax			
	comp=N,3μm,0.5s						
SKR				smax			
	comp=E,1μm,0.6s						
SKR				smax			
	comp=N,5μm,2.0s						
SKR				smax			
	comp=E,3μm,2.0s						
SKR				MLR	MLR		
	comp=N,3μm,12.0s						
SKR				MLR	MLR		
	comp=Z,3μm,12.0s						
KRSR	**Krestovskiy**	**3.31**	**8**	P	**Pn**	**08 25 51.9**	**+2.1**
KRSR				*i* S	**Sn**	**08 26 28.3**	**+0.5**
ALID	**Alaid**	**3.34**	**233**	P	**Pn**	**08 25 54.8**	**+4.5**
SRDR	**Sredinnyy**	**3.37**	**360**	*e*P	**Pn**	**08 25 52.4**	**+1.7**
KLY	**Klyuchi**	**3.41**	**8**	*e*P	**Pn**	**08 25 53.1**	**+1.9**
KLY				*i* S	**Sn**	**08 26 30.4**	**+0.1**
KLY	**Klyuchi**	**3.41**	**8**	PN	**Pn**	**08 25 53.1**	**+1.9**
KLY				S	**Sn**	**08 26 30.4**	**+0.1**
KBTR	**Krutoberegovo**	**3.72**	**27**	*e*P	**Pn**	**08 25 55.9**	**+0.4**
KBTR				*i* S	**Sn**	**08 26 35.2**	**-2.8**
KBTR	**Krutoberegovo**	**3.72**	**27**	PN	**Pn**	**08 25 55.9**	**+0.4**
KBTR				S	**Sn**	**08 26 35.2**	**-2.8**
BDR	**Baidarnaya**	**3.72**	**13**	*e*P	**Pn**	**08 25 58.0**	**+2.5**
BDR				*e*S	**Sn**	**08 26 38.3**	**+0.3**
SMKR	**Semkarok**	**3.77**	**15**	*e*P	**Pn**	**08 25 57.9**	**+1.7**
SMKR				*i* S	**Sn**	**08 26 38.3**	**-0.9**
SRKR	**Sorokina**	**3.80**	**12**	*i* P	**Pn**	**08 25 58.9**	**+2.3**
BKI	**Bering**	**4.30**	**56**	*i* P	**Pn**	**08 26 01.6**	**-1.9**
BKI				*i* S	**Sn**	**08 26 44.3**	**-8.0**
BKI	**Bering**	**4.30**	**56**	PN	**Pn**	**08 26 01.6**	**-1.9**
FX1	**Attu Island--F**	**8.11**	**85**	P	**Pn**	**08 26 54.0**	**-1.7**
	comp=Z,82nm,0.3s,baz=297,slow=5.2,SNR=228						
FX1				S	**Sn**	**08 28 15.1**	**-11**
	comp=Z,67nm,0.3s,baz=102,slow=21,SNR=13						
FX1	**Attu Island--F**	**8.11**	**85**	P	**Pn**	**08 26 54.0**	**-1.7**
FX1				S	**Sn**	**08 28 15.1**	**-11**
FX1	**Attu Island--F**	**8.11**	**85**	PN	**Pn**	**08 26 54.1**	**-1.6**
YSS	**Yuzh-Sakhalins**	**12.47**	**248**	*e*PN	Px	08 28 08.0	
YSS				MLR	MLR		
	comp=Z,1μm,18.0s						
YUK	**Yuzh-Kuril'sk**	**12.81**	**231**	*i* PN	**Pn**	**08 28 01.5**	**+1.5**
ASAJ	**Asahikawa**	**14.37**	**239**	P	**Pn**	**08 28 23.2**	**+2.0**
	comp=Z,3.3nm,0.3s,baz=55,slow=7.8,SNR=20						
ASAJ				LR	LR	08 33 54.5	
	comp=Z,358nm,19.3s,baz=219,slow=37						
ASAJ	**Asahikawa**	**14.37**	**239**	*e*Pn	**Pn**	**08 28 23.4**	**+2.1**
ASAJ	**Asahikawa**	**14.37**	**239**	P	**Pn**	**08 28 23.3**	**+2.0**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,358nm,19.3s						
BILL	**Bilibino**	**15.46**	**9**	*e*Pn	**Pn**	**08 28 34.1**	**-1.2**
	comp=Z,28nm,0.8s						
BILL	**Bilibino**	**15.46**	**9**	*i* P	**Pn**	**08 28 36.3**	**+1.0**
BILL				*e*S	**S**	**08 31 26.0**	**-13**
BILL				pmax	pmax		
	comp=Z,25nm,0.8s						
BILL				MLR	MLR		
	comp=Z,500nm,19.0s						
ERM	**Erimo**	**15.63**	**232**	*i* P	**Pn**	**08 28 35.3**	**-2.4**
KLR	**Kul'dur**	**17.93**	**269**	*e*P	**Pn**	**08 29 05.2**	**-1.3**
YAK	**Yakutsk**	**18.38**	**311**	*e*Pn	**Pn**	**08 29 10.0**	**-1.9**
	comp=Z,104nm,1.1s						
YAK	**Yakutsk**	**18.38**	**311**	*e*P	**Pn**	**08 29 10.1**	**-1.7**
YAK				pmax	pmax		
	comp=N,15nm,1.4s						
YAK				pmax	pmax		
	comp=E,27nm,1.2s						
YAK				pmax	pmax		
	comp=Z,60nm,0.9s						
CLNS	**Chul'man**	**20.28**	**295**	*e*P	**P**	**08 29 33.1**	**+0.8**
CLNS				*e*		08 29 49.9	
CLNS				*e*S	**S**	**08 33 14.9**	**-2.2**
CLNS				*e*SS		08 33 37.8	
CLNS				*e*		08 33 49.2	
CLNS				pmax	pmax		
	comp=E,17nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,20nm,0.8s						
CLNS				pmax	pmax		
	comp=N,19nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,34nm,1.5s						
CLNS				pmax	pmax		
	comp=E,30nm,0.9s						
CLNS				pmax	pmax		
	comp=N,31nm,1.3s						
CLNS				smax			
	comp=N,126nm,12.9s						
CLNS				smax			
	comp=E,239nm,16.9s						
CLNS				MLR	MLR		
	comp=N,236nm,15.0s,MS3.9						
CLNS				MLR	MLR		
	comp=E,372nm,15.0s,MS3.9						
CLNS				MLR	MLR		
	comp=Z,418nm,16.0s,MS3.9						
VLA	**Vladivostok**	**20.94**	**253**	*e*P	**P**	**08 29 38.1**	**-1.5**
VLA				S	**S**	**08 33 28.0**	**-2.4**
VLA				pmax	pmax		
	comp=Z,37nm,1.2s						
VLA				smax			
	comp=N,4μm,2.5s						
MDJ	**Mudanjiang**	**21.42**	**259**	P	**P**	**08 29 44.8**	**+0.1**
MDJ				pP		08 29 57.6	
MDJ				sP	sP	08 30 05.5	+4.8
MDJ				S	**S**	**08 33 38.5**	**-1.3**
MDJ				sS	sS	08 34 01.3	+4.5
MDJ				ScS	ScS	08 41 01.1	-2.5
MDJ				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.1						
MDJ				LR	LR		
	comp=N,540nm,16.5s,MS4.0						
MDJ				LR	LR		
	comp=E,290nm,20.2s,MS4.0						
MDJ				LR	LR		
	comp=Z,380nm,17.2s,MS3.9						
MDJ	**Mudanjiang**	**21.42**	**259**	*e*P	**P**	**08 29 44.9**	**+0.2**
	comp=Z,78nm,1.6s,mb4.8						
MAJO	**Matsushiro**	**22.30**	**231**	*e*P	**P**	**08 29 55.8**	**+1.7**
	comp=Z,125nm,0.9s,mb5.3						
MAJO	**Matsushiro**	**22.30**	**231**	*e*P	**P**	**08 29 55.8**	**+1.7**
MAJO				pmax	pmax		
	comp=Z,125nm,0.9s,mb5.3						
MAT	**Matsushiro**	**22.30**	**231**	P	**P**	**08 29 55.2**	**+1.1**
MJAR	**Matsushiro Arr**	**22.30**	**231**	P	**P**	**08 29 56.2**	**+2.0**
	comp=Z,77nm,0.9s,mb5.1,baz=18,slow=10,SNR=86						
MJAR				LR	LR	08 40 07.3	
	comp=Z,280nm,18.7s,MS3.7,baz=75,slow=40						
MJAR	**Matsushiro Arr**	**22.30**	**231**	P	**P**	**08 29 56.2**	**+2.0**
MJAR				LR	LR	08 40 07.3	
MJAR	**Matsushiro Arr**	**22.30**	**231**	P	**P**	**08 29 56.2**	**+2.1**
CN2	**Changchun**	**24.35**	**262**	*e*P	**P**	**08 30 15.1**	**+0.8**
CN2				*ep*P		08 30 30.5	
CN2				*e*S	**S**	**08 34 26.3**	**-4.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.4						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,500nm,17.0s,MS4.3						
CN2				LR	LR		
	comp=E,700nm,17.0s,MS4.3						
CN2				LR	LR		
	comp=Z,900nm,18.0s,MS4.3						
HIA	**Hailar**	**25.16**	**278**	*e*P	**P**	**08 30 20.7**	**-0.9**
	comp=Z,47nm,0.8s,mb5.1						
HIA	**Hailar**	**25.16**	**278**	*e*P	**P**	**08 30 20.7**	**-0.8**
HIA				pmax	pmax		
	comp=Z,47nm,0.8s						
PPLA	**Purkeypile**	**26.75**	**49**	*e*P	**P**	**08 30 35.3**	**-0.5**
	comp=Z,56nm,1.5s,mb4.9						
KSRS	**Korea Array**	**26.97**	**248**	P	**P**	**08 30 38.9**	**+0.8**
	comp=Z,9.5nm,0.8s,mb4.4,baz=38,slow=9.7,SNR=13						
KSRS				LR	LR	08 40 28.1	
	comp=Z,209nm,20.7s,MS3.7,baz=12,slow=34						
KSRS	**Korea Array**	**26.97**	**248**	P	**P**	**08 30 38.9**	**+0.8**
KSRS				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.4						
KSRS				MLR	MLR		
	comp=Z,209nm,20.7s,MS3.7						
KSAR	**Wonju Array Be**	**27.00**	**248**	P	**P**	**08 30 38.9**	**+0.6**
KSAR				LR	LR	08 40 28.1	
KSAR	**Wonju Array Be**	**27.00**	**248**	P	**P**	**08 30 38.9**	**+0.6**
TRF	**Thorofare Moun**	**27.60**	**48**	*e*P	**P**	**08 30 43.7**	**+0.2**
	comp=Z,14nm,1.0s,mb4.6						
COLD	**Coldfoot**	**27.79**	**40**	*e*P	**P**	**08 30 44.5**	**-0.6**
	comp=Z,10nm,1.0s,mb4.4						
MCK	**McKinley**	**28.20**	**47**	*e*P	**P**	**08 30 48.1**	**-0.7**
	comp=Z,11nm,0.9s,mb4.5						
MCK	**McKinley**	**28.20**	**47**	*e*P	**P**	**08 30 48.1**	**-0.6**
MCK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.5						
SML	**Sawmill**	**28.61**	**51**	*e*P	**P**	**08 30 51.9**	**-0.5**
	comp=Z,5.8nm,1.0s,mb4.3						
SML	**Sawmill**	**28.61**	**51**	*e*P	**P**	**08 30 51.9**	**-0.5**
SML				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
COLA	**College**	**28.64**	**45**	*e*P	**P**	**08 30

HHC pmax pmax
comp=Z,160nm,5.7s
HHC LR LR
comp=N,350nm,13.4s,MS4.4
HHC LR LR
comp=E,250nm,13.3s,MS4.4
HHC LR LR
comp=Z,300nm,13.2s,MS4.2
JOW Kunigami 35.06 234 P **P** **08 31 51.9 +2.5**
comp=Z,51nm,0.4s,mb5.8,baz=32,slow=8.5,SNR=15
JOW Kunigami 35.06 234 *eP* **P** **08 31 52.4 +3.1**
comp=Z,24nm,0.5s,mb5.4
WHN Wuhan 39.73 254 P **P** **08 32 37.6 +8.8**
GUMO Guam 41.02 202 LR LR 08 46 54.8
comp=Z,92nm,21.9s,MS3.6,baz=29,slow=32
LZH Lanzhou 42.13 269 *eP* **P** **08 32 49.5 +1.0**
LZH pP pP 08 33 03.0 +2.5
LZH sP sP 08 33 09.0 +3.4
LZH pmax pmax
comp=Z,17nm,1.0s,mb4.6
LZH pmax pmax
comp=Z,180nm,6.1s
LZH LR LR
comp=N,180nm,9.4s
LZH LR LR
comp=E,610nm,19.4s
LZH LR LR
comp=Z,270nm,15.0s,MS4.2
GTA Gaotai 42.42 276 *eP* **P** **08 32 50.8 0.0**
GTA pP pP 08 33 05.9 +3.1
GTA sP sP 08 33 13.3 +5.5
GTA S **S** **08 39 04.3 -4.9**
GTA sS sS 08 39 33.8 +4.7
GTA SS SS 08 42 07.5 -12
GTA pmax pmax
comp=Z,21nm,1.1s,mb4.7
GTA pmax pmax
comp=Z,250nm,6.9s
GTA LR LR
comp=N,250nm,16.6s,MS4.3
GTA LR LR
comp=E,260nm,16.8s,MS4.3
GTA LR LR
comp=Z,320nm,19.2s,MS4.2
ZALV Zalesovo Beam 42.68 303 P **P** **08 32 50.7 -2.0**
comp=Z,1.6nm,0.3s,mb4.2,baz=58,slow=7.8,SNR=5.8
ZALV PcP PcP 08 34 43.4 -0.4
comp=Z,3.2nm,0.7s,baz=50,slow=4.6,SNR=7.0
ZALV LR LR 08 51 12.8
comp=Z,231nm,20.9s,MS4.0,baz=61,slow=37
ZALV Zalesovo Beam 42.68 303 P **P** **08 32 50.7 -2.0**
ZALV PcP PcP 08 34 43.4 -0.4
ZALV LR LR 08 51 12.8
ZALV Zalesovo Beam 42.68 303 P **P** **08 32 50.7 -2.0**
ZALV 08 34 43.4
YKA Yellowknife Ar 43.41 42 P **P** **08 32 57.8 -0.6**
comp=Z,8.3nm,0.9s,mb4.5,baz=296,slow=7.9,SNR=10
YKA pP pP 08 33 09.3 -1.2
comp=Z,6.3nm,0.8s,baz=300,slow=8.4,SNR=8.8
YKA Yellowknife Ar 43.41 42 P **P** **08 32 57.9 -0.6**
YKA pP pP 08 33 09.3 -1.2
YKA Yellowknife Ar 43.41 42 P **P** **08 32 57.8 -0.7**
YKA *PP pP 08 33 09.3 -1.2
YKA pmax pmax
comp=Z,8.0nm,0.9s
RES Resolute Bay 43.53 22 *eP* **P** **08 32 58.8 -0.6**
comp=Z,11nm,1.1s,mb4.5
RES Resolute Bay 43.53 22 *eP* **P** **08 32 58.8 -0.6**
RES pmax pmax
comp=Z,11nm,1.1s,mb4.5
CD2 Chengdu 45.75 264 P **P** **08 33 19.0 +1.4**
CD2 pP pP 08 33 34.5 +4.9
CD2 sP sP 08 33 41.6 +6.9
CD2 PP PP 08 35 07.3 +2.2
CD2 S **S** **08 39 56.3 -1.5**
CD2 sS sS 08 40 23.0 +5.1
CD2 SS SS 08 43 12.5 -10
CD2 pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
CD2 pmax pmax
comp=Z,250nm,7.7s
CD2 LR LR
comp=N,310nm,9.5s
CD2 LR LR
comp=Z,310nm,10.7s,MS4.5
WMQ Urumqi 46.82 289 P **P** **08 33 27.8 +1.9**
WMQ LR LR
comp=N,270nm,23.3s,MS4.1
WMQ LR LR
comp=E,81nm,24.6s,MS4.1
WMQ LR LR
comp=Z,220nm,20.7s,MS4.1
SPITS Spitsbergen Ar 47.24 350 P **P** **08 33 27.5 -1.2**
comp=Z,11nm,0.5s,mb5.0,baz=51,slow=9.7,SNR=35
SPITS Spitsbergen Ar 47.24 350 P **P** **08 33 27.5 -1.2**
SPITS Spitsbergen Ar 47.24 350 P **P** **08 33 27.5 -1.2**
GYA Guiyang 47.27 257 P **P** **08 33 30.8 +1.3**
GYA pP pP 08 33 47.4 +5.8
GYA sP sP 08 33 54.6 +7.9
GYA PP PP 08 35 21.0 +0.3
GYA ScP ScP 08 38 48.3 -1.9
GYA S **S** **08 40 17.5 -2.1**
GYA sS sS 08 40 45.6 +5.8
GYA pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
GYA pmax pmax
comp=Z,90nm,5.0s
KURK Kurchatov 47.63 302 *eP* **P** **08 33 30.3 -1.8**
comp=Z,13nm,0.5s,mb5.2
KURK Kurchatov 47.63 302 *eP* **P** **08 33 30.3 -1.8**
KURK pmax pmax
comp=Z,13nm,0.5s,mb5.2
MK31 Makanchi Array 48.03 296 *eP* **P** **08 33 33.6 -1.6**
MK31 Makanchi Array 48.03 296 *i* P **P** **08 33 33.3 -1.9**
MK31 pmax pmax
comp=Z,2.0nm,0.3s,mb4.6
MKAR Makanchi Array 48.03 296 P **P** **08 33 33.6 -1.5**
comp=Z,3.9nm,0.5s,mb4.7,baz=57,slow=6.7,SNR=47
MKAR PcP PcP 08 35 02.2 -0.3
comp=Z,1.3nm,0.7s,baz=78,slow=5.4,SNR=2.3
MKAR LR LR 08 54 43.7
comp=Z,176nm,21.4s,MS4.0,baz=202,slow=37
MKAR Makanchi Array 48.03 296 P **P** **08 33 33.6 -1.5**
MKAR PcP PcP 08 35 02.2 -0.3
MKAR LR LR 08 54 43.7
MKAR Makanchi Array 48.03 296 P **P** **08 33 33.7 -1.5**
MKAR 08 35 02.2
ETW Entiat 48.86 62 *eP* **P** **08 33 41.3 -0.3**
C09A Chrisman Ranch 49.84 61 ⇓P **P** **08 33 48.2 -0.8**
baz=50
OD2 Odessa Site #2 49.86 62 *eP* **P** **08 33 48.0 -1.2**
comp=Z,5.2nm,1.0s,mb4.5
HAWA Hanford 50.04 63 *eP* **P** **08 33 51.9 +1.3**
comp=Z,78nm,2.6s,mb5.3
F07A Phinny Hill Vi 50.14 64 ⇑P **P** **08 33 51.4 0.0**
baz=50
BVA0 Borovoye Array 50.32 308 *i* P **P** **08 33 50.5 -2.1**
BRVK Borovoye 50.34 308 *eP* **P** **08 33 50.7 -2.1**
comp=Z,6.9nm,0.7s,mb4.8
BRVK Borovoye 50.34 308 ⇓*eP* **P** **08 33 51.1 -1.7**
BRVK pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
A12A Yaak River Ran 50.50 58 ⇓P **P** **08 33 53.8 -0.1**
baz=50
DAG Danmarks Havn 50.54 360 *i* P **P** **08 33 52.7 -1.3**
DAG pmax pmax
comp=Z,17nm,0.9s,mb5.0
KMI Kunming 50.60 260 P **P** **08 33 56.3 +1.3**
KMI pmax pmax
comp=Z,11nm,0.6s,mb5.0
E09A Wood Farm, Sta 50.71 62 ⇑P **P** **08 33 54.9 -0.8**
baz=50,SNR=7.6
C11A Tepee Creek (N 50.87 60 ⇑P **P** **08 33 56.1 -0.7**
baz=51
ZRNK Zerenda 51.02 309 P **P** **08 33 55.6 -2.2**
ZRNK pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
G08A Pilot Rock 51.05 64 ⇑P **P** **08 33 57.4 -0.8**
baz=51
A13A Flathead Natio 51.13 58 ⇑P **P** **08 33 58.0 -0.8**
baz=51
C12B Naegeli Ranch, 51.36 59 ⇓P **P** **08 34 00.3 -0.2**
baz=51
B13A Whitefish 51.46 58 ⇓P **P** **08 34 00.6 -0.6**
baz=51,SNR=7.0
F10A Beach Ranch, E 51.55 62 ⇓P **P** **08 34 01.8 -0.1**
baz=51
A14A Double T Ranch 51.61 57 ⇓P **P** **08 34 01.6 -0.8**
baz=51
BSMT Bassoo Peak 51.63 59 *eP* **P** **08 34 02.6 +0.1**
BLMT Blacktail Moun 51.74 59 *eP* **P** **08 34 03.7 +0.3**
BLMT epP pP 08 34 14.9 -0.7
C13A Hot Springs 51.85 59 ⇓P **P** **08 34 03.8 -0.4**
baz=52,SNR=5.1
JTMT Jette 51.96 59 *eP* **P** **08 34 05.1 +0.2**
JTMT epP pP 08 34 13.8 -3.4
A15A Johnson Ranch, 51.96 57 ⇓P **P** **08 34 03.7 -1.2**
baz=52
YBMT Yellow Bay 52.02 58 *eP* **P** **08 34 05.1 -0.3**
YBMT epP pP 08 34 16.5 -1.1
B14A Marquette Ranc 52.08 58 ⇓P **P** **08 34 05.3 -0.5**
baz=52
WDC Whiskeytown Da 52.12 71 *eP* **P** **08 34 06.0 -0.3**
comp=Z,10nm,1.3s,mb4.6
WDC epP pP 08 34 18.3 -0.2
WDC Whiskeytown Da 52.12 71 *eP* **P** **08 34 06.0 -0.2**
WDC *e*PP pP 08 34 18.3 -0.2
WDC pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
E12A Beaver Dam Sad 52.14 61 ⇓P **P** **08 34 05.8 -0.6**
baz=52
C14A Swan Lake 52.22 58 ⇓P **P** **08 34 06.2 -0.6**
baz=52
BMO Blue Mountains 52.23 63 *eP* **P** **08 34 07.2 +0.2**
comp=Z,12nm,1.6s,mb4.6
BMO epP pP 08 34 18.1 -1.1
SWMT Swartz Lake 52.26 59 *eP* **P** **08 34 06.7 -0.4**
D13A Huson 52.29 59 ⇑P **P** **08 34 06.5 -0.9**
baz=52
B15A Bradely Ranch, 52.47 57 ⇓P **P** **08 34 08.0 -0.8**
baz=52
MOD Modoc 52.51 68 *eP* **P** **08 34 09.7 +0.6**
comp=Z,5.2nm,0.9s,mb4.5
J08A Circle Bar Ran 52.57 65 ⇓P **P** **08 34 09.1 -0.4**
baz=52
SLMT Seeley Lake 52.69 59 *eP* **P** **08 34 10.3 -0.1**
SLMT epP pP 08 34 22.0 -0.6
MSO Missoula 52.73 59 ⇓P **P** **08 34 10.0 -0.6**
baz=52
MSO Missoula 52.73 59 *eP* **P** **08 34 10.4 -0.3**
comp=Z,16nm,1.4s,mb4.8
MSO epP pP 08 34 21.8 -1.1
F12A Elk City 52.74 61 ⇑P **P** **08 34 10.4 -0.3**
baz=52
D14A Greenough 52.79 59 ⇑P **P** **08 34 10.6 -0.5**
baz=52,SNR=7.3
C15A Salmond Ranch, 52.80 58 ⇓P **P** **08 34 10.9 -0.3**
baz=52,SNR=7.8
B16A M & M Farms, S 52.84 57 ⇓P **P** **08 34 10.2 -1.3**
baz=53
E13A Victor 52.85 60 ⇑P **P** **08 34 11.2 -0.4**
baz=53
A17A Triple J Farms 53.00 56 ⇓P **P** **08 34 11.7 -1.0**
baz=53,SNR=6.5
CHMT Chamberlain Mo 53.03 59 *eP* **P** **08 34 12.3 -0.6**
comp=Z,6.5nm,1.2s,mb4.4
G12A Big Creek, Yel 53.11 62 ⇑P **P** **08 34 13.0 -0.5**
baz=53,SNR=5.4
F13A Darby 53.20 61 ⇑P **P** **08 34 13.7 -0.5**
baz=53
C16A Fuhringer Ranc 53.22 57 ⇓P **P** **08 34 13.6 -0.7**
baz=53,SNR=5.9
E14A Clinton 53.23 60 ⇑P **P** **08 34 13.9 -0.5**
baz=53,SNR=6.1
FFC Flin Flon 53.27 46 *i* P **P** **08 34 15.3 +0.8**
D15A Lincoln 53.33 58 ⇓P **P** **08 34 14.4 -0.7**
baz=53
ARCES ARCESS Array B 53.36 342 P **P** **08 34 12.9 -2.1**
comp=Z,5.7nm,0.9s,mb4.5,baz=30,slow=5.0,SNR=14
ARCES PcP PcP 08 35 21.1 -0.8
comp=Z,2.9nm,0.5s,baz=42,slow=4.1,SNR=9.4
ARCES ARCESS Array B 53.36 342 P **P** **08 34 12.9 -2.0**
ARCES PcP PcP 08 35 21.1 -0.8
ARCES ARCESS Array B 53.36 342 P **P** **08 34 12.9 -2.1**
ARCES 08 35 21.1
ARU Arti 53.36 317 *eP* **P** **08 34 13.6 -1.5**
comp=Z,12nm,0.6s,mb5.0
ARU Arti 53.36 317 *c iP* **P** **08 34 13.6 -1.6**
ARU 08 36 12.0
ARU S **S** **08 41 40.5 -3.1**
ARU SS SS 08 45 15.4 -7.7
ARU pmax pmax
comp=Z,14nm,0.9s,mb4.9
B17A L&G Farms, Che 53.38 56 ⇓P **P** **08 34 14.3 -1.1**
baz=53
A18A Metzger Ranch, 53.44 55 ⇑P **P** **08 34 14.9 -1.0**
baz=53
OHCM Honcut 53.55 71 *eP* **P** **08 34 17.6 +0.8**
OHCM epP pP 08 34 27.7 -1.4
E15A Deer Lodge 53.67 59 ⇑P **P** **08 34 17.0 -0.6**
baz=53
G13A Cobalt 53.72 61 ⇓P **P** **08 34 17.4 -0.6**
baz=54,SNR=5.9
B18A Beardsley Farm 53.83 56 ⇓P **P** **08 34 18.0 -0.7**
baz=54,SNR=6.2
D16A Dana Ranch, Ca 53.83 58 ⇓P **P** **08 34 18.1 -0.7**
baz=54
C17A Wharram Farm, 53.83 57 ⇑P **P** **08 34 17.8 -1.0**
baz=54,SNR=9.3
HRY Holter Researc 53.90 58 *eP* **P** **08 34 19.2 -0.1**
MFID Camas Ranch 53.98 64 *eP* **P** **08 34 20.0 +0.1**
comp=Z,9.4nm,1.5s,mb4.5
MFID epP pP 08 34 30.5 -1.6
H13A Challis 54.05 62 ⇓P **P** **08 34 20.1 -0.3**
baz=54
EGMT Eagleton 54.08 56 ⇑P **P** **08 34 19.8 -0.7**
baz=54
E16A East Helena 54.10 58 ⇑P **P** **08 34 20.5 -0.2**
baz=54
I12A Atlanta 54.10 63 ⇓P **P** **08 34 20.3 -0.5**
baz=54
SUMG Summit 54.12 7 *eP* **P** **08 34 20.3 -0.3**
SUMG epP pP 08 34 36.4 +3.5
SUMG Summit 54.12 7 *eP* **P** **08 34 20.3 -0.3**
SUMG *e*PP pP 08 34 36.4 +3.6
SUMG Summit 54.12 7 *i* P **P** **08 34 20.3 -0.3**
comp=Z,11nm,1.0s,mb4.7
F15A Butte 54.13 60 ⇓P **P** **08 34 20.5 -0.5**
baz=54
TKM2 Tokmak 2 54.16 296 P **P** **08 34 20.5 -0.7**
SNR=9.6
TKM2 Tokmak 2 54.16 296 *eP* **P** **08 34 20.4 -0.8**
comp=Z,7.1nm,0.9s,mb4.6
TKM2 Tokmak 2 54.16 296 *eP* **P** **08 34 20.4 -0.9**
TKM2 pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
D17A Six Diamond Ra 54.19 57 ⇑P **P** **08 34 21.1 -0.3**
baz=54,SNR=5.4
B19A Brinkman Farms 54.20 55 ⇑P **P** **08 34 20.7 -0.8**
baz=54,SNR=7.3
ULHL Ulahol 54.26 295 P **P** **08 34 21.4 -0.6**
SNR=5.5
DLMT Dillon 54.40 60 *eP* **P** **08 34 23.3 +0.4**
comp=Z,7.5nm,1.1s,mb4.5
DLMT epP pP 08 34 34.6 -0.6
A20A Cobblestone Ra 54.42 54 ⇓P **P** **08 34 22.5 -0.5**
baz=54
H14A Leadore 54.49 61 ⇓P **P** **08 34 23.2 -0.4**
baz=54
USP Ospenovka 54.53 297 P **P** **08 34 23.3 -0.6**
SNR=6.3
WCN Washoe City 54.56 70 ⇓P **P** **08 34 24.7 +0.5**
baz=54
WCN Washoe City 54.56 70 *eP* **P** **08 34 25.1 +0.9**
comp=Z,12nm,1.4s,mb4.8
WCN Washoe City 54.56 70 *eP* **P** **08 34 25.1 +0.9**
WCN pmax pmax
comp=Z,13nm,1.4s,mb4.8
I13A Wildhorse Cree 54.56 62 ⇑P **P** **08 34 24.1 0.0**
baz=54
E17A Martinsdale 54.56 58 ⇓P **P** **08 34 23.9 -0.2**
baz=54,SNR=6.0
G15A Dillon 54.59 60 ⇑P **P** **08 34 23.8 -0.5**
baz=54
D18A Linhart Farms, 54.61 57 ⇓P **P** **08 34 24.2 -0.2**
baz=54
F16A Kennard Place, 54.62 59 ⇓P **P** **08 34 24.0 -0.5**
baz=54
MCMT McKenzie Canyo 54.62 61 *eP* **P** **08 34 24.1 -0.5**
comp=Z,1.3nm,1.0s,mb3.9
C19A Slack Wire Ran 54.63 56 ⇑P **P** **08 34 24.2 -0.4**
baz=54,SNR=6.1
HLID Hailey 54.64 63 ⇓P **P** **08 34 24.8 +0.1**
baz=54
HLID Hailey 54.64 63 *eP* **P** **08 34 25.0 +0.3**
comp=Z,39nm,2.6s,mb5.0
HLID epP pP 08 34 36.0 -1.0
KBK Karagaybulak 54.70 296 P **P** **08 34 24.6 -0.5**
SNR=5.9
BOZ Bozeman (W) 54.71 59 ⇓P **P** **08 34 25.2 0.0**
baz=54
BOZ Bozeman (W) 54.71 59 *eP* **P** **08 34 25.7 +0.5**
comp=Z,18nm,1.8s,mb4.8
BOZ epP pP 08 34 36.3 -1.2
BOZ Bozeman (W) 54.71 59 *eP* **P** **08 34 25.7 +0.5**
BOZ pmax pmax
comp=Z,19nm,1.8s,mb4.8
A21A Bergtoll Ranch 54.83 54 ⇑P **P** **08 34 25.4 -0.6**
baz=55,SNR=5.1
H15A Lima 54.87 61 ⇓P **P** **08 34 26.2 -0.2**
baz=55
J13A Cove Ranch, Pi 54.88 63 ⇑P **P** **08 34 26.5 +0.1**
baz=55
G16A Moss Hill, Enn 54.90 60 ⇓P **P** **08 34 26.3 -0.2**
baz=55,SNR=6.9
I14A Mackay 54.91 62 ⇓P **P** **08 34 27.1 +0.4**
baz=55,SNR=5.9
AAK Ala-Archa 54.96 296 P **P** **08 34 26.4 -0.6**
SNR=14
AAK Ala-Archa 54.96 296 *eP* **P** **08 34 25.9 -1.2**
comp=Z,50nm,0.8s,mb5.6
AAK Ala-Archa 54.96 296 *eP* **P** **08 34 25.9 -1.1**
AAK pmax pmax
comp=Z,50nm,0.8s,mb5.6
E18A Harlowton 54.98 57 ⇓P **P** **08 34 27.3 +0.2**
baz=55
F17A Fitzpatrick Pl 55.04 58 ⇓P **P** **08 34 27.5 0.0**
baz=55
CMB Columbia Colle 55.07 71 *eP* **P** **08 34 27.2 -0.6**
comp=Z,6.7nm,1.1s,mb4.6
CMB Columbia Colle 55.07 71 *eP* **P** **08 34 27.2 -0.7**
CMB pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
D19A Cripps Ranch, 55.10 56 ⇑P **P** **08 34 27.7 -0.2**
baz=55
BMN Battle Mountai 55.22 67 *eP* **P** **08 34 29.6 +0.7**
BMN epP pP 08 34 41.2 0.0
BMN Battle Mountai 55.22 67 *eP* **P** **08 34 29.6 +0.7**
BMN *e*PP pP 08 34 41.2 0.0
J14A Carey 55.28 62 ⇓P **P** **08 34 29.8 +0.5**
baz=55
A22A Carney Farms, 55.32 53 ⇑P **P** **08 34 29.1 -0.5**
baz=55
EKS2 Erkin-Say 55.33 297 P **P** **08 34 29.2 -0.4**
SNR=16
EKS2 Erkin-Say 55.33 297 *eP* **P** **08 34 29.2 -0.5**
comp=Z,18nm,1.1s,mb5.0
EKS2 Erkin-Say 55.33 297 *eP* **P** **08 34 29.2 -0.5**
EKS2 pmax pmax
comp=Z,18nm,1.1s,mb5.0
QLMT Earthquake Lak 55.37 60 *eP* **P** **08 34 30.4 +0.4**
QLMT epP pP 08 34 41.9 -0.4
G17A Pierce Place, 55.40 59 ⇓P **P** **08 34 30.2 +0.1**
baz=55
D20A Manuel Ranch, 55.52 56 ⇑P **P** **08 34 30.5 -0.5**
baz=55
F18A Big Timber 55.53 58 ⇑P **P** **08 34 31.1 +0.1**
baz=55,SNR=6.7
C21A Desert Coulee 55.54 55 ⇑P **P** **08 34 30.6 -0.5**
baz=55
H16A Russell Place, 55.55 60 ⇓P **P** **08 34 31.4 +0.1**
baz=55,SNR=5.6
E19A Rath Farm, Rou 55.62 57 ⇓P **P** **08 34 31.6 -0.1**
baz=55
AML Almayashu 55.73 296 P **P** **08 34 32.5 -0.1**
SNR=7.9
B22A Reddig Ranch S 55.75 54 ⇓P **P** **08 34 32.6 -0.1**
baz=56
E20A Meyer Farm, Mu 55.92 56 ⇓P **P** **08 34 33.8 -0.1**
baz=56
YFT Old Faithful 55.94 60 *eP* **P** **08 34 35.6 +1.5**
comp=Z,13nm,1.0s,mb4.9
YFT epP pP 08 34 47.6 +1.3
F19A Roth Farm, Mol 55.96 57 ⇑P **P** **08 34 34.3 +0.2**
baz=56
NVAR Mina Array Bea 55.98 70 P **P** **08 34 35.5 +1.0**
comp=Z,1.8nm,0.6s,mb4.2,baz=300,slow=7.1,SNR=20
NVAR pP pP 08 34 46.8 0.0
comp=Z,3.9nm,0.8s,baz=295,slow=7.3,SNR=13
NVAR Mina Array Bea 55.98 70 P **P** **08 34 35.5 +1.0**
NVAR pP pP 08 34 46.8 +0.1
I16A Newdale 55.99 61 ⇑P **P** **08 34 35.0 +0.7**
baz=56
K14A Jones Ranch, D 56.00 63 ⇓P **P** **08 34 35.1 +0.6**
baz=56,SNR=12
G18A Lazy EL Ranch, 56.01 58 ⇑P **P** **08 34 34.9 +0.4**
baz=56
LKWY Lake 56.09 59 *eP* **P** **08 34 37.1 +2.1**
comp=Z,8.5nm,0.8s,mb4.8
LKWY epP pP 08 34 48.4 +1.0
LKWY Lake 56.09 59 *eP* **P** **08 34 37.2 +2.1**
LKWY *e*PP pP 08 34 48.4 +1.0
LKWY pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
D21A La Casta Ranch 56.11 55 ⇓P **P** **08 34 35.3 +0.1**
baz=56,SNR=5.4
H17A Grant Village 56.11 60 ⇓P **P** **08 34 37.0 +1.7**
baz=56,SNR=6.2
C22A Vida 56.19 54 ⇑P **P** **08 34 35.3 -0.4**
baz=56
K15A Arbon 56.25 62 ⇓P **P** **08 34 37.5 +1.2**
baz=56,SNR=5.0
FLWY Flagg Ranch 56.26 60 *eP* **P** **08 34 37.1 +0.7**
comp=Z,25nm,1.5s,mb5.0
FLWY epP pP 08 34 48.6 -0.1
IMW Indian Meadow 56.26 60 *eP* **P** **08 34 37.5 +1.2**
comp=Z,2.0nm,0.8s,mb4.6
KSH Kashi 56.27 292 P **P** **08 34 39.1 +2.6**
KSH pP pP 08 34 54.9 +6.1
KSH sP sP 08 35 01.9 +8.1
KSH PcP PcP 08 35 35.9 +2.4
KSH PP PP 08 36 46.3 +4.5
KSH ScP ScP 08 39 28.4 -0.6
KSH PcS PcS 08 39 35.1 +1.1
KSH S **S** **08 42 21.0 -2.1**
KSH sS sS 08 42 49.4 +5.8
KSH ScS ScS 08 44 19.0 -2.8
KSH SS SS 08 46 09.6 0.0
KSH pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
KSH pmax pmax
comp=Z,120nm,8.3s
KSH LR LR
comp=N,130nm,5.4s
KSH LR LR
comp=E,98nm,5.3s
KSH LR LR
comp=Z,170nm,4.2s
A24A Westby 56.29 52 ⇑P **P** **08 34 36.5 0.0**
baz=56
RLMT Red Lodge 56.29 58 ⇓P **P** **08 34 36.9 +0.3**
baz=56,SNR=8.1
RLMT Red Lodge 56.29 58 *eP* **P** **08 34 37.2 +0.6**
comp=Z,13nm,1.1s,mb4.9
L14A Malta 56.31 63 ⇓P **P** **08 34 37.2 +0.5**
baz=56,SNR=12
J16A Bone 56.33 61 ⇑P **P** **08 34 37.0 +0.2**
baz=56
H18A Shoshone NF, C 56.39 59 ⇑P **P** **08 34 38.0 +0.7**
baz=56
F20A Billings 56.40 57 ⇑P **P** **08 34 37.4 +0.2**
baz=56
D22A Cohagen 56.45 55 ⇑P **P** **08 34 37.3 -0.4**
baz=56,SNR=5.8
MOOW Moose Ponds 56.47 60 *eP* **P** **08 34 38.8 +1.0**
comp=Z,66nm,3.0s
MOOW epP pP 08 34 47.6 -2.5
C23A Lambert 56.49 54 ⇓P **P** **08 34 37.5 -0.4**
baz=56
TPAW Teton Pass 56.53 61 *eP* **P** **08 34 38.7 +0.4**
TPAW epP pP 08 34 50.8 +0.2
LOHW Long Hollow 56.63 60 *eP* **P** **08 34 39.7 +0.7**
comp=Z,6.3nm,1.0s,mb4.6
K16A Soda Springs 56.65 62 ⇑P **P** **08 34 40.2 +1.1**
baz=56,SNR=7.7
SNOW Snow King Moun 56.66 61 *eP* **P** **08 34 40.5 +1.3**
REDW Red Top Meadow 56.67 61 *eP* **P** **08 34 40.5 +1.2**
comp=Z,13nm,1.4s,mb4.8

HVU **Hansel Valley** 56.74 63 *e*P P 08 34 40.2 +0.4
comp=Z,7.7nm,1.0s,mb4.7
HVU *e*pP pP 08 34 52.1 0.0
HVU Hansel Valley 56.74 63 *e*P P 08 34 40.2 +0.4
HVU *e**PP pP 08 34 52.1 0.0
HVU pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
H19A Powell 56.75 59 ⇑P P 08 34 39.6 -0.2
baz=56
J17A Brown Place, J 56.75 61 ⇓P P 08 34 40.3 +0.5
baz=56
G20A Bridger 56.76 58 ⇓P P 08 34 39.6 -0.3
baz=56,SNR=6.9
KK31 Karatay Array 56.77 299 *i* P P 08 34 38.0 -2.0
KK31 pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
KKAR Karatay Array 56.77 299 *e*P P 08 34 38.6 -1.4
KKAR Karatay Array 56.77 299 *e*P P 08 34 38.6 -1.4
L15A Malad City 56.79 63 ⇑P P 08 34 40.4 +0.2
baz=57,SNR=6.1
D23A Lindsay 56.92 54 ⇑P P 08 34 41.1 +0.2
baz=57
KLMR Klimovskoe 56.97 330 *e*P P 08 34 39.1 -2.0
KLMR pmax pmax
comp=Z,39nm,1.3s,mb5.3
I18A Diamond G Ranc 56.98 60 ⇓P P 08 34 42.1 +0.6
baz=57
C24A Savage 57.05 53 ⇓P P 08 34 41.1 -0.8
baz=57
E22A Miles City 57.06 55 ⇓P P 08 34 42.0 0.0
baz=57
K17A Gardner Place, 57.06 61 ⇓P P 08 34 42.2 +0.2
baz=57
M15A Larsen Ranch, 57.13 63 ⇓P P 08 34 42.7 +0.1
baz=57,SNR=8.2
J18A Kendall Valley 57.22 60 ⇑P P 08 34 43.0 -0.1
baz=57
L16A Fish Haven 57.30 62 ⇑P P 08 34 43.9 +0.2
baz=57
E23A Ismay 57.34 55 ⇓P P 08 34 43.9 0.0
baz=57
D24A Glendive 57.39 54 ⇑P P 08 34 44.1 -0.2
baz=57
N15A Stansbury Isla 57.49 64 ⇑P P 08 34 45.5 +0.4
baz=57,SNR=6.3
HWUT Hardware Ranch 57.51 63 *e*P P 08 34 45.8 +0.6
comp=Z,7.1nm,0.8s,mb4.8
L17A Cokeville 57.54 62 ⇓P P 08 34 45.6 +0.2
baz=57
R11A Troy Canyon, C 57.57 68 ⇑P P 08 34 46.1 +0.4
baz=57
K18A Toltan Ranch, 57.61 61 ⇓P P 08 34 46.4 +0.5
baz=57,SNR=15
JOF Joensuu 57.61 335 *e*P P 08 34 44.9 -0.7
JOF pmax pmax
comp=Z,3.0nm,0.3s,mb4.8
JOF Joensuu 57.61 335 *e*p P 08 34 44.9 -0.7
comp=Z,2.9nm,0.3s,mb4.8
CHTO Chiang Mai 57.67 258 *e*P P 08 34 47.3 +0.6
comp=Z,9.7nm,0.9s,mb4.8
CHTO Chiang Mai 57.67 258 *e*P P 08 34 47.3 +0.7
CHTO pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
M16A Huntsville 57.68 63 ⇑P P 08 34 46.8 +0.4
baz=57
J19A Crowheart 57.69 60 ⇑P P 08 34 46.9 +0.5
baz=57
I20A Worland 57.69 59 ⇑P P 08 34 46.8 +0.3
baz=57
AB31 Akbulak array 57.73 310 P P 08 34 44.4 -2.2
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
ABKAR Akbulak array 57.73 310 *e*P P 08 34 44.8 -1.9
PD01 Pinedale Array 57.75 61 *e*P P 08 34 47.1 +0.2
PD02 Pinedale Array 57.76 61 *e*P P 08 34 46.9 -0.1
AKTO Aktyubinsk 57.77 312 P P 08 34 44.9 -2.0
comp=Z,3.1nm,0.4s,mb4.7,baz=77,slow=11,SNR=15
AKTO PcP PcP
comp=Z,4.6nm,0.7s,baz=130,slow=2.1,SNR=6.4
AKTO Aktyubinsk 57.77 312 P P 08 34 44.9 -2.0
AKTO PcP PcP 08 35 38.7 -0.5
AKTO Aktyubinsk 57.77 312 P P 08 34 44.9 -2.0
AKTO 08 35 38.7
BW06 Boulder Array 57.77 61 ⇑P P 08 34 47.1 0.0
baz=58,SNR=9.8
BW06 Boulder Array 57.77 61 *e*P P 08 34 47.3 +0.2
comp=Z,10nm,1.0s,mb4.8
PDAR Pinedale Array 57.77 61 P P 08 34 47.1 +0.1
comp=Z,6.2nm,0.8s,mb4.7,baz=317,slow=2.6,SNR=43
PDAR pP pP 08 34 58.9 -0.6
comp=Z,3.6nm,0.6s,baz=298,slow=3.2,SNR=11
PDAR Pinedale Array 57.77 61 P P 08 34 47.1 +0.1
PDAR pP pP 08 34 58.9 -0.6
H21A Big Horn, Sher 57.77 57 ⇓P P 08 34 47.1 0.0
baz=58
DUG Dugway 57.82 65 ⇑P P 08 34 48.0 +0.5
baz=58,SNR=6.1
DUG Dugway 57.82 65 *e*P P 08 34 47.9 +0.4
comp=Z,8.1nm,1.1s,mb4.7
DUG Dugway 57.82 65 *e*P P 08 34 47.9 +0.5
DUG pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
O15A The Old Anders 57.95 64 ⇑P P 08 34 48.6 +0.3
baz=58
CMAR Chiang Mai Arr 57.95 258 P P 08 34 49.7 +1.1
comp=Z,4.3nm,0.7s,mb4.6,baz=22,slow=6.9,SNR=15
CMAR PcP PcP 08 35 41.0 +0.6
comp=Z,2.8nm,0.5s,baz=351,slow=2.8,SNR=7.0
CMAR LR LR 09 03 16.1
comp=Z,94nm,18.3s,MS3.9,baz=215,slow=40
CMAR Chiang Mai Arr 57.95 258 P P 08 34 49.7 +1.1
CMAR PcP PcP 08 35 41.0 +0.6
CMAR LR LR 09 03 16.1
CMAR Chiang Mai Arr 57.95 258 P P 08 34 49.7 +1.1
CMAR 08 35 41.0
TAPN Taplejung 58.01 274 *e*P P 08 34 48.0 -0.9
M17A Scullys Gap (B 58.09 62 ⇑P P 08 34 49.5 +0.2
baz=58
MPMC Manual Prospec 58.10 71 ⇓P P 08 34 49.9 +0.4
baz=58
K19A Absolon Red Bu 58.10 60 ⇓P P 08 34 49.3 -0.1
baz=58
L18A Fontenelle, Gr 58.11 62 ⇑P P 08 34 49.5 +0.1
baz=58
J20A Shoshoni 58.13 59 ⇑P P 08 34 49.8 +0.2
baz=58,SNR=8.5
H22A Clearmont 58.15 57 ⇑P P 08 34 49.3 -0.3
baz=58
FURC Furnace Creek, 58.17 70 ⇑P P 08 34 50.3 +0.4
baz=58,SNR=7.5
I21A Big Trails, Te 58.22 58 ⇑P P 08 34 49.9 -0.3
baz=58
JLU Jordanelle 58.28 64 *e*P P 08 34 51.2 +0.6
comp=Z,9.1nm,1.2s,mb4.7
JLU *e*pP pP 08 35 02.7 -0.3
N17A Moffit Pass 58.37 63 ⇑P P 08 34 51.7 +0.5
baz=58
NLU North Lily Min 58.39 64 *e*P P 08 34 52.3 +0.9
comp=Z,6.2nm,0.9s,mb4.6
NLU *e*pP pP 08 34 60.0 -3.8
LRMC Laurel Mountai 58.40 72 ⇓P P 08 34 51.6 +0.1
baz=58
M18A Lyman 58.44 62 ⇓P P 08 34 52.2 +0.4
baz=58
J21A Lysite 58.47 59 ⇑P P 08 34 51.7 -0.2
baz=58
K20A Yellowstone Ra 58.49 60 ⇑P P 08 34 51.5 -0.5
baz=58
O16A Springville 58.53 64 ⇑P P 08 34 52.5 +0.1
baz=58
P15A Leamington 58.55 65 ⇓P P 08 34 52.8 +0.3
baz=58
ODAN Odare 58.56 274 *e*P P 08 34 52.7 -0.1
I22A 9 Mile Ranch, 58.58 58 ⇑P P 08 34 52.6 -0.1
baz=58
MPU Maple Canyon 58.59 64 *e*P P 08 34 53.0 +0.2
comp=Z,6.4nm,0.8s,mb4.7
MPU *e*pP pP 08 35 05.0 -0.2
GUN Gumba 58.70 276 *e*P P 08 34 52.6 -1.2
comp=Z,17nm,0.4s,mb5.4
SHOC Shoshone 58.91 71 ⇑P P 08 34 55.1 0.0
baz=59
J22A Midwest 58.92 58 ⇓P P 08 34 54.9 -0.2
baz=59,SNR=9.5
L20A Wamsutter 58.95 60 ⇑P P 08 34 55.3 0.0
baz=59,SNR=5.7
H24A Dirks Ranch, A 58.95 56 ⇑P P 08 34 54.7 -0.5
baz=59,SNR=5.5
O17A Robinson Place 58.95 63 ⇑P P 08 34 55.4 +0.1
baz=59
N18A Larsen Ranch, 58.97 62 ⇑P P 08 34 55.2 -0.2
baz=59
RAMN Ramite 58.97 274 *e*P P 08 34 54.9 -0.7
comp=Z,48nm,0.4s,mb5.9
GSC Goldstone 59.03 71 ⇓P P 08 34 56.1 +0.2
baz=59
GSC Goldstone 59.03 71 *e*P P 08 34 56.5 +0.6
comp=Z,8.5nm,1.0s,mb4.7
GSC *e*pP pP 08 35 05.8 -2.5
GSC Goldstone 59.03 71 *e*P P 08 34 56.6 +0.7
GSC pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
ULM Lac du Bonnet 59.07 46 P P 08 34 55.3 -0.7
comp=Z,3.4nm,0.4s,mb4.8,baz=332,slow=7.5,SNR=12
ULM Lac du Bonnet 59.07 46 *e*P P 08 34 55.3 -0.7
comp=Z,16nm,1.2s,mb4.9
ULM *e*pP pP 08 35 07.2 -1.1
ULM Lac du Bonnet 59.07 46 *e*P P 08 34 55.3 -0.7
ULM *e**PP pP 08 35 07.2 -1.2
ULM pmax pmax
comp=Z,16nm,1.2s
K21A Alcova 59.07 59 ⇓P P 08 34 55.8 -0.3
baz=59,SNR=9.4
MWC Mount Wilson 59.08 73 P P 08 34 56.1 -0.2
MWC Mount Wilson 59.08 73 P P 08 34 56.1 -0.2
MDND Maddock 59.12 50 ⇓P P 08 34 56.1 -0.3
baz=59
KKN Kakani 59.15 276 *e*P P 08 34 56.1 -0.8
comp=Z,35nm,0.4s,mb5.7
ARUT Antelope Range 59.17 67 *e*P P 08 34 57.2 +0.4
comp=Z,3.3nm,1.0s,mb4.3
ARUT Antelope Range 59.17 67 *e*P P 08 34 57.2 +0.3
ARUT pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
PKI Pulchoki 59.24 276 *e*P P 08 34 56.7 -0.8
comp=Z,17nm,0.4s,mb5.4
N19A John Jarvie Ra 59.29 62 ⇑P P 08 34 57.7 +0.1
baz=59
O18A Roosevelt 59.29 63 ⇑P P 08 34 58.5 +0.9
baz=59,SNR=5.6
BFSC Mount Baldy Ra 59.30 73 ⇑P P 08 34 58.0 +0.2
baz=59
CCUT Cedar City 59.38 67 *e*P P 08 34 59.2 +0.9
comp=Z,4.1nm,0.8s,mb4.5
GKN Gorkha 59.38 277 *e*P P 08 34 57.7 -0.8
comp=Z,16nm,0.3s,mb5.5
DMN Daman 59.39 276 *e*P P 08 34 57.9 -0.6
comp=Z,22nm,0.5s,mb5.4
M20A Sweetwater, Wa 59.39 61 ⇓P P 08 34 58.4 0.0
baz=59
K22A Casper 59.44 59 ⇓P P 08 34 58.5 -0.2
baz=59
TUQ Turquoise Moun 59.44 71 ⇑P P 08 34 58.7 -0.1
baz=59
L21A Rawlins 59.49 60 ⇑P P 08 34 58.9 -0.1
baz=59
KAF Kangasniemi 59.53 337 *e*P P 08 34 57.6 -1.4
KAF pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
KAF Kangasniemi 59.53 337 *e*p P 08 34 57.6 -1.4
comp=Z,4.0nm,0.4s,mb4.8
P18A Preston Nutter 59.62 64 ⇓P P 08 35 00.3 +0.4
baz=59
Q16A Castle Valley 59.62 65 ⇑P P 08 34 60.0 +0.1
baz=59
HEC Hector,Ludlow 59.64 71 ⇓P P 08 35 00.3 +0.2
baz=60
RSSD Black Hills 59.65 56 *e*P P 08 35 00.0 -0.1
comp=Z,14nm,0.6s,mb5.2
RSSD Black Hills 59.65 56 *e*P P 08 35 00.0 -0.1
RSSD pmax pmax
comp=Z,13nm,0.6s,mb5.1
DANN Dangsing 59.66 278 *e*P P 08 34 59.7 -0.7
M21A Separation Pea 59.74 60 ⇑P P 08 35 00.5 -0.2
baz=60
O19A Miners Draw (B 59.74 62 ⇑P P 08 35 00.7 0.0
baz=60
N20A Spence Gulch, 59.82 61 ⇑P P 08 35 01.7 +0.4
baz=60,SNR=7.2
SRU San Rafael 59.84 64 ⇓P P 08 35 01.7 +0.3
baz=60,SNR=9.9
SRU San Rafael 59.84 64 *e*P P 08 35 01.8 +0.4
comp=Z,12nm,0.9s,mb4.9
SRU San Rafael 59.84 64 *e*P P 08 35 01.8 +0.4
SRU pmax pmax
comp=Z,12nm,0.9s,mb4.9
R16A Teasdale 59.90 65 ⇑P P 08 35 02.6 +0.7
baz=60,SNR=6.1
L22A Ellis Ranch, M 59.93 59 ⇓P P 08 35 02.4 +0.4
baz=60
GMRC Granite Mounta 60.06 71 ⇑P P 08 35 03.3 +0.3
baz=60
LDFC Landfair 60.16 70 *e*P P 08 35 04.0 +0.3
comp=Z,17nm,1.0s,mb5.0
FINES FINESS Array B 60.17 336 P P 08 35 02.4 -1.0
comp=Z,5.6nm,0.5s,mb4.9,baz=36,slow=7.7,SNR=24
FINES FINESS Array B 60.17 336 P P 08 35 02.4 -1.0
FINES FINESS Array B 60.17 336 P P 08 35 02.4 -0.9
KOLN Koldanda 60.18 277 *e*P P 08 35 03.1 -0.8
comp=Z,20nm,0.5s,mb5.4
R17A Hanksville Air 60.23 65 ⇑P P 08 35 04.4 +0.3
baz=60,SNR=5.7
S16A Weppner Ranch, 60.24 66 ⇓P P 08 35 04.7 +0.5
baz=60,SNR=5.6
L23A Garrett 60.25 59 ⇓P P 08 35 04.2 0.0
baz=60
N21A Black Mountain 60.27 61 ⇑P P 08 35 03.9 -0.5
baz=60
M22A Cedar Creek Ra 60.29 60 ⇑P P 08 35 05.1 +0.6
baz=60
P19A Cripple Cowboy 60.30 63 ⇓P P 08 35 04.7 +0.1
baz=60,SNR=5.6
PYUN Piuthan 60.30 278 *e*P P 08 35 03.8 -1.0
O20A White River Ci 60.33 62 ⇑P P 08 35 04.8 -0.1
baz=60
AGMN Agassiz Nation 60.51 48 *e*P P 08 35 05.2 -0.7
comp=Z,14nm,1.0s,mb5.0
Q19A Hogan Spring (60.63 63 ⇑P P 08 35 07.0 +0.1
baz=60,SNR=12
O21A Pagoda 60.69 61 ⇓P P 08 35 07.2 -0.1
baz=60
R18A Canyonlands Na 60.70 64 ⇓P P 08 35 07.2 -0.1
baz=60,SNR=8.3
S17A Black Ridge (B 60.74 66 ⇓P P 08 35 07.7 +0.1
baz=60
IRM Iron Mountain 60.80 71 ⇓P P 08 35 08.2 +0.1
baz=61
N22A Wattenberg Ran 60.80 60 ⇓P P 08 35 08.1 +0.1
baz=60
W13A Hualapai Mount 60.84 70 ⇑P P 08 35 08.2 -0.1
baz=61
N23A Red Feather La 61.00 60 ⇓P P 08 35 09.6 +0.3
baz=61,SNR=5.8
R19A Curley Farm, L 61.11 64 ⇓P P 08 35 10.2 0.0
baz=61,SNR=5.4
K26A Motz Farm, Whi 61.11 57 ⇑P P 08 35 09.7 -0.3
baz=61
S18A Hurst Farm, Bl 61.14 65 ⇑P P 08 35 10.4 +0.1
baz=61,SNR=8.3
Q20A Ridgley Place, 61.15 63 ⇑P P 08 35 10.2 -0.3
baz=61
P21A Newcastle 61.20 62 ⇓P P 08 35 10.8 +0.1
baz=61,SNR=6.7
T17A Navajo Res., N 61.20 66 ⇑P P 08 35 10.6 -0.1
baz=61
O22A Kremmling 61.21 61 ⇓P P 08 35 11.0 +0.2
baz=61
PV04 Paradox Valley 61.23 64 *e*P P 08 35 11.5 +0.6
PDMCI Parker Dam,Lak 61.27 70 ⇓P P 08 35 11.3 0.0
baz=61
V15A Kaibab Nationa 61.29 68 ⇑P P 08 35 11.8 +0.4
baz=61
DVTC Desert V Tower 61.34 73 ⇑P P 08 35 11.9 +0.1
baz=61
Y12C Blythe 61.45 71 ⇑P P 08 35 13.0 +0.4
baz=61
O23A Lake Granby, G 61.51 60 ⇑P P 08 35 12.8 0.0
baz=61
P22A Eagle 61.51 61 ⇓P P 08 35 13.1 +0.3
baz=61,SNR=5.1
U17A Shonto 61.56 66 ⇓P P 08 35 13.3 +0.1
baz=61
S19A Harvey Farm, M 61.57 64 ⇑P P 08 35 13.1 -0.2
baz=61,SNR=10
PV01 Paradox Valley 61.60 64 *e*P P 08 35 13.5 +0.1
comp=Z,374nm,1.2s,mb6.4
T18A Mexican Hat 61.61 65 ⇓P P 08 35 13.2 -0.3
baz=61,SNR=5.4
Q21A Lamborn Mesa, 61.63 62 ⇓P P 08 35 13.7 +0.1
baz=61
U16A Tuba City 61.64 67 ⇑P P 08 35 14.2 +0.5
baz=61
R20A Redvale 61.66 63 ⇓P P 08 35 14.0 +0.1
baz=61
SMCO Snowmass 61.70 62 *e*P P 08 35 14.4 +0.3
comp=Z,5.1nm,0.9s,mb4.7
GLA Glamis 61.79 72 ⇑P P 08 35 15.2 +0.5
baz=62
S20A Disappointment 61.93 64 ⇓P P 08 35 15.8 +0.2
baz=62
WUAZ Wupatki 61.95 68 ⇓P P 08 35 16.5 +0.7
baz=62
WUAZ Wupatki 61.95 68 *e*P P 08 35 16.3 +0.4
comp=Z,8.9nm,1.1s,mb4.8
WUAZ *e*pP pP 08 35 27.5 -0.8
Q22A Crested Butte, 61.96 62 ⇓P P 08 35 16.2 +0.3
baz=62
ISCO Idaho Springs 61.97 60 ⇑P P 08 35 16.6 +0.7
baz=62,SNR=8.4
ISCO Idaho Springs 61.97 60 *e*P P 08 35 16.8 +0.9
comp=Z,10nm,1.1s,mb4.9
ISCO Idaho Springs 61.97 60 *e*P P 08 35 16.8 +0.9
ISCO pmax pmax
comp=Z,10.0nm,1.1s,mb4.9
R21A Cimarron 61.98 63 ⇓P P 08 35 17.0 +1.0
baz=62,SNR=11
P23A Jefferson 62.16 61 ⇑P P 08 35 17.6 +0.4
baz=62
W16A Flagstaff 62.17 68 ⇓P P 08 35 17.8 +0.4
baz=62
Y14A Wickenburg 62.18 70 ⇓P P 08 35 17.7 +0.3
baz=62
V17A Tonalea, Kykot 62.20 67 ⇓P P 08 35 18.2 +0.7
baz=62
T19A Beclabito 62.30 65 ⇑P P 08 35 18.2 +0.1
baz=62
MVCO Mesa Verde 62.31 64 ⇓P P 08 35 18.0 -0.2
baz=62
MVCO Mesa Verde 62.31 64 *e*P P 08 35 18.2 0.0
MVCO *e*pP pP 08 35 29.0 -1.7
Z13A Yuma Proving G 62.35 71 ⇓P P 08 35 18.7 +0.2
baz=62
S21A Coal Bank Pass 62.36 64 ⇑P P 08 35 19.1 +0.5
baz=62,SNR=6.9
Q23A Hartsel 62.51 61 ⇑P P 08 35 19.8 +0.3
baz=62
O25A Wiggins 62.52 59 ⇑P P 08 35 19.6 0.0
baz=62
OBN Obninsk 62.52 327 *i* P P 08 35 18.1 -1.3
OBN *e**PP pP 08 35 33.8 +1.9
OBN *eS S 08 43 40.5 -2.8
OBN *eSS SS 08 47 45.5 -1.3
OBN pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
OBN MLR MLR
comp=Z,200nm,25.0s,MS4.2
Y15A Casa Rosa Ranc 62.55 69 ⇑P P 08 35 20.4 +0.5
baz=62
U19A Dine' College, 62.59 65 ⇑P P 08 35 20.7 +0.6
baz=62
V18A Ganado 62.62 66 ⇓P P 08 35 20.8 +0.5
baz=62
X16A Lo Mia Camp, P 62.72 68 ⇑P P 08 35 21.4 +0.5
baz=62,SNR=5.1
S22A 4UR Ranch, Cre 62.82 63 ⇓P P 08 35 22.4 +0.7
baz=63,SNR=7.1
Q24A Divide 62.83 61 ⇑P P 08 35 21.9 +0.3
baz=63
P25A Willow Gulch B 62.94 60 ⇑P P 08 35 23.1 +0.8
baz=63
T21A Navajo Lake 62.99 64 ⇑P P 08 35 23.0 +0.2
baz=63
Y16A Circle Bar Ran 63.09 69 ⇑P P 08 35 24.1 +0.6
baz=63
114A Black Gap (USA 63.12 71 ⇓P P 08 35 24.1 +0.4
baz=63
X17A Forest Lakes 63.13 68 ⇑P P 08 35 24.2 +0.5
baz=63
S23A Nye Farm, Mont 63.30 62 ⇓P P 08 35 25.1 +0.4
baz=63
T22A Edith 63.32 63 ⇑P P 08 35 25.4 +0.4
baz=63,SNR=5.8
Q25A Bedland, Calha 63.34 60 ⇑P P 08 35 24.8 -0.2
baz=63
U21A Nageezi 63.34 64 ⇓P P 08 35 25.4 +0.3
baz=63
R24A Sanders Place, 63.39 61 ⇓P P 08 35 25.4 +0.1
baz=63
X18A Snowflake 63.47 67 ⇑P P 08 35 26.3 +0.3
baz=63
115A Sonoran Desert 63.53 70 ⇓P P 08 35 26.9 +0.5
baz=63
SDCO Great Sand Dun 63.53 62 ⇑P P 08 35 26.5 +0.1
baz=63
SDCO Great Sand Dun 63.53 62 *e*P P 08 35 27.1 +0.8
comp=Z,48nm,2.5s,mb5.1
SDCO *e*pP pP 08 35 38.5 -0.4
ECSD EROS Data Cent 63.57 52 *e*P P 08 35 25.5 -1.0
comp=Z,14nm,1.1s,mb4.9
ECSD *e*pP pP 08 35 37.6 -1.4
Y17A Roosevelt 63.58 69 ⇑P P 08 35 27.0 +0.2
baz=63
NB2 NORSAR Subarra 63.62 344 P P 08 35 24.9 -1.6
comp=Z,5.6nm,0.5s,mb4.8,baz=23,slow=6.9
NOA NORSAR Array B 63.62 344 P P 08 35 25.2 -1.3
comp=Z,8.4nm,0.6s,mb5.0,baz=22,slow=6.6,SNR=37
NOA LR LR 09 09 40.8
comp=Z,125nm,18.2s,MS4.1,baz=100,slow=42
NOA NORSAR Array B 63.62 344 P P 08 35 25.2 -1.3
NOA LR LR 09 09 40.8
NOA NORSAR Array B 63.62 344 P P 08 35 25.3 -1.2
KBL Kabul 63.69 293 *e*P P 08 35 25.3 -2.1
comp=Z,7.7nm,0.9s,mb4.7
KBL Kabul 63.69 293 *e*P P 08 35 25.3 -2.2
KBL pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
214A Organ Pipe Nat 63.74 71 ⇓P P 08 35 28.4 +0.6
baz=64
S24A Houshin Ranch, 63.77 62 ⇑P P 08 35 28.1 +0.2
baz=64
V21A Milan 63.81 65 ⇑P P 08 35 28.2 0.0
baz=64
U22A Llaves 63.81 64 ⇓P P 08 35 28.4 +0.2
baz=64
W20A Ramah 63.84 66 ⇓P P 08 35 28.4 0.0
baz=64,SNR=5.3
NAO01 NORSAR Array S 63.86 344 P P 08 35 26.9 -1.2
X19A St. Johns 63.91 67 ⇓P P 08 35 29.4 +0.5
baz=64
116A Eloy 63.93 70 ⇑P P 08 35 29.5 +0.4
baz=64
Y18A Canyon Day Jun 63.98 68 ⇓P P 08 35 29.4 +0.1
baz=64
HFS Hagfors 64.02 342 P P 08 35 27.9 -1.3
comp=Z,9.1nm,0.4s,mb5.2,baz=42,slow=4.6,SNR=76
HFS Hagfors 64.02 342 P P 08 35 27.9 -1.3
HFS Hagfors 64.02 342 P P 08 35 27.9 -1.3
V22A San Miguel Ran 64.13 64 ⇑P P 08 35 30.5 +0.2
baz=64
SPMN St. Paul 64.21 48 ⇑P P 08 35 30.1 -0.6
baz=64
U23A El Rito 64.21 63 ⇑P P 08 35 31.1 +0.3
baz=64,SNR=11
X20A Quemado 64.27 66 ⇑P P 08 35 31.8 +0.5
baz=64
T24A Torres, Weston 64.27 62 ⇑P P 08 35 31.4 +0.2
baz=64
Y19A Nutrioso 64.28 67 ⇓P P 08 35 31.1 -0.2
baz=64
117A Oracle 64.47 69 ⇓P P 08 35 32.6 0.0
baz=64
216A Three Points, 64.48 70 ⇓P P 08 35 32.7 +0.1
baz=64
T25A Trinidad 64.57 62 ⇓P P 08 35 33.0 -0.1
baz=64
V23A Ortiz Mt. (NFS 64.65 64 ⇑P P 08 35 34.6 +0.9
baz=64,SNR=5.9
X21A Alamocita Cree 64.73 66 ⇑P P 08 35 35.2 +0.9
baz=64,SNR=12
Z19A T-Link Ranch, 64.77 68 ⇓P P 08 35 35.0 +0.5
baz=65
Y20A Horse Springs, 64.81 67 ⇓P P 08 35 35.3 +0.5
baz=65

VSR Storozhevoye 64.83 323 *e*P **P** **08 35 32.3 -2.3**
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.0s
VSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
118A Homack Ranch, 64.86 69 ⇑P **P** **08 35 35.3 +0.2**
baz=65
ANMO Albuquerque 65.09 65 *e*P **P** **08 35 36.7 +0.1**
comp=Z,55nm,2.5s,mb5.1
ANMO Albuquerque 65.09 65 *e*P **P** **08 35 36.7 +0.1**
ANMO pmax pmax
comp=Z,55nm,2.5s
W23A Werner Place, 65.10 64 ⇓P **P** **08 35 37.0 +0.3**
baz=65
U25A Circle Dot Ran 65.12 62 ⇓P **P** **08 35 36.9 +0.1**
baz=65,SNR=5.1
LAZ Ladron 65.12 66 *e*P **P** **08 35 36.9 +0.1**
comp=Z,3.3nm,1.2s,mb4.2
119A Ashpeak Ranch, 65.14 68 ⇑P **P** **08 35 37.4 +0.5**
baz=65
V24A Rampart Ranch, 65.16 63 ⇑P **P** **08 35 37.3 +0.3**
baz=65,SNR=5.8
Z20A Nine Sixteen R 65.28 67 ⇑P **P** **08 35 38.5 +0.7**
baz=65
V25A Rancho No Teng 65.43 63 ⇑P **P** **08 35 39.0 +0.3**
baz=65
W24A Lazy 6 Ranch, 65.47 64 ⇓P **P** **08 35 39.7 +0.7**
baz=65
Y22A Socorro 65.57 66 ⇓P **P** **08 35 40.2 +0.5**
baz=65
Z21A St. Cloud Mine 65.64 67 ⇑P **P** **08 35 40.9 +0.7**
baz=65
120A U Bar Ranch, L 65.68 68 ⇓P **P** **08 35 40.9 +0.5**
baz=66,SNR=5.7
219A White Tail Can 65.73 69 ⇑P **P** **08 35 41.0 +0.3**
baz=66,SNR=5.2
318A Bisbee 65.74 70 ⇓P **P** **08 35 41.1 +0.3**
baz=66
SCHQ Schefferville 65.87 27 P **P** **08 35 39.2 -2.0**
comp=Z,6.1nm,0.8s,mb4.7,baz=242,slow=12,SNR=6.4
SCHQ Schefferville 65.87 27 P **P** **08 35 39.2 -2.0**
V26A Tequesquite Ra 65.90 62 ⇓P **P** **08 35 41.7 -0.1**
baz=66
W25A X Bar L Ranch, 65.97 63 ⇓P **P** **08 35 42.3 0.0**
baz=66
Y23A Lovelace Mesa, 66.07 65 ⇓P **P** **08 35 43.3 +0.4**
baz=66,SNR=7.8
121A Cookes Peak, D 66.16 67 ⇑P **P** **08 35 44.2 +0.7**
baz=66
319A Douglas 66.19 69 ⇑P **P** **08 35 44.2 +0.5**
baz=66
220A Playas Peak, P 66.22 68 ⇑P **P** **08 35 44.2 +0.4**
baz=66
X25A Clemmons Ranch 66.38 64 ⇓P **P** **08 35 45.2 +0.3**
baz=66
Y24A Capitan 66.42 65 ⇑P **P** **08 35 45.5 +0.4**
baz=66,SNR=9.3
122A Conniff Cattle 66.47 67 ⇑P **P** **08 35 46.1 +0.6**
baz=66
Z23A Rita Site, Whi 66.48 66 ⇑P **P** **08 35 45.5 0.0**
baz=66
221A Mesquite Ranch 66.56 68 ⇑P **P** **08 35 46.3 +0.2**
baz=66
SCIA State Center 66.58 51 *e*P **P** **08 35 45.8 -0.3**
comp=Z,44nm,0.6s,mb5.7
SCIA *ep*P pP 08 35 58.0 -0.7
320A Kipp Ranch, An 66.64 69 ⇑P **P** **08 35 46.5 -0.1**
baz=66
Y25A Mesa, Roswell 66.82 64 ⇑P **P** **08 35 47.9 +0.2**
baz=67,SNR=7.0
X26A CR and CF Fran 66.83 63 ⇑P **P** **08 35 47.5 -0.2**
baz=67
W27A Bowe Ranch, En 66.84 62 ⇓P **P** **08 35 48.1 +0.3**
baz=67
Z24A Sheeppen Canyo 66.90 65 ⇑P **P** **08 35 48.6 +0.4**
baz=67
X27A F and S Farms, 67.14 63 ⇓P **P** **08 35 49.6 -0.1**
baz=67
Y26A Elida 67.29 64 ⇓P **P** **08 35 50.7 -0.1**
baz=67
Z25A Roswell 67.30 65 ⇓P **P** **08 35 50.6 -0.1**
baz=67
124A Stringfield Ra 67.33 66 ⇑P **P** **08 35 51.0 0.0**
baz=67
Y27A Causey 67.68 63 ⇑P **P** **08 35 52.8 -0.3**
baz=67,SNR=6.3
Z26A Caprock 67.70 64 ⇓P **P** **08 35 53.3 0.0**
baz=68,SNR=6.1
224A Cornudas Mount 67.76 66 ⇑P **P** **08 35 53.7 0.0**
baz=68,SNR=5.1
125A Gardner Draw, 67.80 65 ⇑P **P** **08 35 53.7 -0.2**
baz=68
MSTX Muleshoe 67.83 63 ⇑P **P** **08 35 54.0 -0.1**
baz=68
CPRX Cap Rock 67.95 64 *e*P **P** **08 35 54.6 -0.2**
comp=Z,6.7nm,0.9s,mb4.7
225A Deer Hill, Car 68.12 66 ⇓P **P** **08 35 56.0 0.0**
baz=68
COEN Coen 68.15 197 *e*P **P** **08 35 56.3 +0.2**
comp=Z,43nm,0.8s,mb5.5
COEN Coen 68.15 197 *e*P **P** **08 35 56.7 +0.6**
comp=Z,66nm,0.9s,mb5.7
COEN *ep*P pP 08 36 09.1 +0.3
126A Clayton Basin, 68.16 65 ⇓P **P** **08 35 56.2 0.0**
baz=68
324A Moseley Ranch, 68.26 66 ⇑P **P** **08 35 56.9 +0.1**
baz=68
127A Arkansas Junct 68.49 64 ⇑P **P** **08 35 57.6 -0.6**
baz=68
226A Malaga, Loving 68.56 65 ⇓P **P** **08 35 58.3 -0.4**
baz=68
325A Bean Ranch, Si 68.60 66 ⇑P **P** **08 35 58.8 -0.2**
baz=68
AKASG Malin Array Be 68.63 329 P **P** **08 35 57.2 -1.6**
comp=Z,2.0nm,0.3s,mb4.5,baz=28,slow=6.1,SNR=18
AKASG LR LR 09 09 12.0
comp=Z,256nm,19.5s,MS4.5,baz=25,slow=39
AKASG Malin Array Be 68.63 329 P **P** **08 35 57.2 -1.6**
AKASG LR LR 09 09 11.9
AKASG Malin Array Be 68.63 329 P **P** **08 35 57.3 -1.5**
KIEV Kiev 68.64 329 *e*P **P** **08 35 57.3 -1.6**
comp=Z,12nm,0.9s,mb4.8
KIEV Kiev 68.64 329 *e*P **P** **08 35 57.3 -1.6**
KIEV pmax pmax
comp=Z,11nm,0.9s,mb4.8
425A Indio Mountain 69.04 67 ⇑P **P** **08 36 01.8 +0.1**
baz=69
326A Caldwell Ranch 69.19 66 ⇓P **P** **08 36 02.3 -0.3**
baz=69
WMOK Wichita Mounta 69.36 60 *e*P **P** **08 36 02.8 -0.8**
comp=Z,17nm,1.1s,mb4.9
WMOK Wichita Mounta 69.36 60 *e*P **P** **08 36 02.8 -0.8**
WMOK pmax pmax
comp=Z,17nm,1.1s,mb4.9
KIV Kislovodsk 69.40 317 *e*P **P** **08 35 58.6 -5.1**
KIV pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
KIV MLR MLR
comp=Z,213nm,18.0s,MS4.4
HDIL Hopedale 69.46 49 P **P** **08 36 02.0 -2.2**
328A Wristen Ranch, 69.78 65 ⇑P **P** **08 36 05.9 -0.4**
baz=70,SNR=8.0
ZEI Tsey 69.86 315 *e*P **P** **08 36 05.2 -1.3**
ZEI pmax pmax
comp=Z,10.0nm,1.6s,mb4.5
427A Hayter Ranch, 69.86 65 ⇓P **P** **08 36 06.3 -0.5**
baz=70
TUL1 Tulsa 69.98 57 ⇓P **P** **08 36 06.4 -1.0**
baz=70
526A Mary Lane Ranc 70.09 66 ⇑P **P** **08 36 08.1 0.0**
baz=70,SNR=5.5
527A Woodward Ranch 70.29 66 ⇑P **P** **08 36 09.1 -0.3**
baz=70
428A Kincaid Ranch, 70.35 65 ⇑P **P** **08 36 09.8 0.0**
baz=70,SNR=6.9
626A Big Bend Ranch 70.45 67 ⇓P **P** **08 36 10.0 -0.4**
baz=70,SNR=5.2
CCM Cathedral Cave 70.54 52 *e*P **P** **08 36 09.5 -1.3**
comp=Z,195nm,2.9s,mb5.5
CCM *ep*P pP 08 36 21.9 -1.6
CCM Cathedral Cave 70.54 52 *e*P **P** **08 36 09.5 -1.3**
CCM *e**PP pP 08 36 21.9 -1.6
CCM pmax pmax
comp=Z,195nm,2.9s,mb5.5
528A Cox Ranch, San 70.73 65 ⇓P **P** **08 36 11.9 -0.2**
baz=70

ANN Anapa 70.80 320 *e*P **P** **08 36 10.6 -1.7**
ANN *e**PP pP 08 36 28.6 +3.6
ANN *e*S S 08 45 18.9 -4.8
ANN pmax pmax
comp=Z,15nm,0.7s,mb5.0
TXAR Lajitas Array 70.88 67 P **P** **08 36 12.8 -0.2**
comp=Z,4.9nm,0.6s,mb4.6,baz=296,slow=5.3,SNR=139
TXAR pP pP 08 36 24.9 -0.8
comp=Z,4.8nm,0.7s,baz=300,slow=4.9,SNR=16
TXAR Lajitas Array 70.88 67 P **P** **08 36 12.8 -0.2**
TXAR pP pP 08 36 24.9 -0.8
TXAR Lajitas Array 70.88 67 P **P** **08 36 12.9 -0.1**
TXAR *PP pP 08 36 24.9 -0.8
627A Terlingua Ranc 70.94 66 ⇑P **P** **08 36 13.1 -0.3**
baz=71,SNR=5.8
SIUC Southern Illin 71.77 51 *e*P **P** **08 36 16.9 -1.3**
SIUC *ep*P pP 08 36 29.7 -1.2
OJC Ojcow 71.78 334 *e*P **P** **08 36 18.1 0.0**
OJC Ojcow 71.78 334 *e*P **P** **08 36 18.2 +0.1**
OJC Ojcow 71.78 334 *e*P **P** **08 36 18.2 +0.1**
JCT Junction City 72.11 63 ⇑P **P** **08 36 19.8 -0.6**
baz=72
JCT Junction City 72.11 63 *e*P **P** **08 36 19.9 -0.5**
comp=Z,16nm,1.4s,mb4.8
JCT *ep*P pP 08 36 31.7 -1.4
JCT Junction City 72.11 63 *e*P **P** **08 36 19.9 -0.5**
JCT *e**PP pP 08 36 31.7 -1.4
JCT pmax pmax
comp=Z,16nm,1.4s,mb4.8
STHS Stebnicka Huta 72.12 333 *e*P **P** **08 36 21.0 +0.8**
STHS pmax pmax
comp=Z,14nm,1.0s,mb4.8
STHS Stebnicka Huta 72.12 333 *e*P **P** **08 36 21.0 +0.8**
MIAR Mount Ida 72.17 56 *ep*P pP 08 36 31.9 -1.5
CLL Collm 72.41 339 *e*P **P** **08 36 21.5 -0.4**
comp=Z,34nm,1.0s,mb5.2
CLL Collm 72.41 339 *i* P **P** **08 36 21.5 -0.4**
CLL *e**PP pP 08 36 39.0 +4.4
CLL pmax pmax
comp=Z,36nm,1.0s,mb5.3
CLL MLR MLR
comp=Z,200nm,21.9s,MS4.3
CLL Collm 72.41 339 *i* P **P** **08 36 21.5 -0.4**
comp=Z,36nm,1.0s,mb5.3
CLL *ep*P pP 08 36 39.0 +4.4
CLL LmH 09 07 00.0
comp=Z,200nm,21.9s
CLZ Clausthal 72.46 341 *e*P **P** **08 36 22.8 +0.7**
comp=Z,24nm,0.9s,mb5.1
CLZ Clausthal 72.46 341 *e*P **P** **08 36 22.8 +0.7**
CLZ pmax pmax
comp=Z,24nm,0.9s,mb5.1
IBBN Ibbenburen 72.52 342 *e*P **P** **08 36 22.8 +0.3**
comp=Z,76nm,1.3s,mb5.5
CRVS Cervenica-Dubn 72.53 333 *e*P **P** **08 36 22.1 -0.5**
CRVS Cervenica-Dubn 72.53 333 *e*P **P** **08 36 22.1 -0.5**
DPC Dobruska-Polom 72.54 336 *e*P **P** **08 36 22.6 -0.1**
comp=Z,16nm,0.7s,mb5.1
DPC Dobruska-Polom 72.54 336 *e*P **P** **08 36 22.6 0.0**
DPC pmax pmax
comp=Z,16nm,0.7s,mb5.1
DPC Dobruska-Polom 72.54 336 *e*P **P** **08 36 22.6 0.0**
UZH Uzhgorod 72.54 332 *e*P **P** **08 36 22.6 -0.1**
BUR08 Bucovina Ar. S 72.57 330 *e*P **P** **08 36 22.2 -0.6**
BURAR Bucovina Array 72.59 330 ⇓P **P** **08 36 22.5 -0.5**
BURAR Bucovina Array 72.59 330 ⇓*i*P **P** **08 36 22.5 -0.5**
BRG Berggiesshubel 72.61 338 *e*P **P** **08 36 22.6 -0.4**
comp=Z,10nm,1.0s,mb4.7
BRG Berggiesshubel 72.61 338 *e*P **P** **08 36 22.9 -0.1**
comp=Z,5.0nm,0.8s,mb4.5
BRG Berggiesshubel 72.61 338 *e*P **P** **08 36 22.6 -0.4**
BRG pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
WCI Wyandotte Cave 72.71 49 *e*P **P** **08 36 22.8 -1.1**
WCI Wyandotte Cave 72.71 49 *e*P **P** **08 36 22.8 -1.1**
MORC Moravsky Berou 72.77 335 *e*P **P** **08 36 23.7 -0.3**
comp=Z,23nm,1.0s,mb5.1
MORC Moravsky Berou 72.77 335 *e*P **P** **08 36 23.7 -0.3**
MORC pmax pmax
comp=Z,23nm,1.0s,mb5.1
MORC Moravsky Berou 72.77 335 ⇓*i*P **P** **08 36 24.0 0.0**
TRPA Tarpa 72.92 332 ⇑*i*P **P** **08 36 25.1 +0.1**
TESR 73.13 328 ⇑*i*P **P** **08 36 25.2 -1.0**
PRU Pruhonice 73.30 337 *e*P **P** **08 36 28.2 +1.1**
PRU Pruhonice 73.30 337 *e*P **P** **08 36 28.2 +1.1**
MOX Moxa 73.33 339 *e*P **P** **08 36 27.5 +0.2**
comp=Z,12nm,0.8s,mb4.9
MOX Moxa 73.33 339 *e*P **P** **08 36 27.5 +0.2**
MOX pmax pmax
comp=Z,12nm,0.8s,mb4.9
TANN Tannenbergstha 73.37 339 *e*P **P** **08 36 27.9 +0.4**
comp=Z,10.0nm,1.1s,mb4.7
VRAC Vranov 73.44 336 P **P** **08 36 27.8 -0.2**
comp=Z,11nm,0.7s,mb4.9,baz=32,slow=5.9,SNR=8.0
VRAC Vranov 73.44 336 P **P** **08 36 27.8 -0.2**
VRAC Vranov 73.44 336 ⇑P **P** **08 36 28.1 +0.1**
VRAC Vranov 73.44 336 ⇑*i*P **P** **08 36 28.1 +0.1**
UBBA Unterbreizbach 73.50 341 *e*P **P** **08 36 28.4 +0.1**
comp=Z,22nm,1.5s,mb4.9
NKC Novy Kostel 73.54 339 *e*P **P** **08 36 28.8 +0.2**
NKC Novy Kostel 73.54 339 *e*P **P** **08 36 28.8 +0.2**
VYHS Vyhne 73.62 334 *e*P **P** **08 36 28.9 -0.1**
VYHS pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
VYHS Vyhne 73.62 334 *e*P **P** **08 36 28.9 -0.1**
CTA Charters Tower 73.67 193 P **P** **08 36 29.5 0.0**
comp=Z,6.5nm,0.8s,mb4.6,baz=14,slow=6.6,SNR=9.7
CTA Charters Tower 73.67 193 *e*P **P** **08 36 29.3 -0.2**
comp=Z,5.3nm,0.9s,mb4.5
CTA Charters Tower 73.67 193 P **P** **08 36 29.5 0.0**
CTA Charters Tower 73.67 193 P **P** **08 36 29.5 0.0**
CTAO Charters Tower 73.67 193 *e*P **P** **08 36 29.0 -0.5**
comp=Z,8.5nm,0.9s,mb4.7
CTAO Charters Tower 73.67 193 *e*P **P** **08 36 29.0 -0.5**
CTAO pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
VRI Vrincioaia 73.67 328 ⇓P **P** **08 36 29.0 -0.4**
VRI Vrincioaia 73.67 328 ⇓*i*P **P** **08 36 29.0 -0.4**
WVT Waverly 73.70 51 *ep*P pP 08 36 41.0 -1.5
CFR Carcaliu 73.82 327 ⇑P **P** **08 36 29.1 -1.2**
CFR Carcaliu 73.82 327 ⇑*i*P **P** **08 36 29.1 -1.2**
PSZ Piszkesteto 73.86 333 *e*P **P** **08 36 31.2 +0.7**
PSZ Piszkesteto 73.86 333 *e*P **P** **08 36 31.2 +0.7**
ROTZ Rotzenmuhle 74.04 339 *e*P **P** **08 36 31.9 +0.4**
comp=Z,19nm,1.3s,mb4.9
DRGR 74.08 331 ⇓P **P** **08 36 31.6 -0.2**
DRGR 74.08 331 ⇓*i*P **P** **08 36 31.5 -0.3**
MLR Muntele Rosu 74.26 328 ⇑P **P** **08 36 33.5 +0.7**
MLR Muntele Rosu 74.26 328 ⇑*i*P **P** **08 36 33.5 +0.7**
GRF Grafenberg Arr 74.32 339 *e*P **P** **08 36 33.6 +0.5**
comp=Z,83nm,1.6s,mb5.4
GRF Grafenberg Arr 74.32 339 *e*P **P** **08 36 33.6 +0.5**
GRF pmax pmax
comp=Z,83nm,1.6s,mb5.4
GRFO Grafenberg 74.32 339 *e*P **P** **08 36 33.6 +0.4**
comp=Z,29nm,0.9s,mb5.2
GRFO Grafenberg 74.32 339 *e*P **P** **08 36 33.6 +0.5**
GRFO pmax pmax
comp=Z,29nm,0.9s,mb5.2
KHC Kasperske Hory 74.33 338 *e*P **P** **08 36 33.0 -0.2**
KHC Kasperske Hory 74.33 338 *e*P **P** **08 36 33.0 -0.2**
ZST Bratislava 74.34 335 *e*P **P** **08 36 34.1 +0.8**
ZST pmax pmax
comp=Z,15nm,0.7s,mb5.0
ZST Bratislava 74.34 335 *e*P **P** **08 36 34.1 +0.8**
TNS Taunus Mts 74.38 341 *e*P **P** **08 36 33.9 +0.5**
comp=Z,18nm,1.2s,mb4.9
TNS Taunus Mts 74.38 341 *e*P **P** **08 36 33.9 +0.5**
TNS pmax pmax
comp=Z,18nm,1.2s,mb4.9
MEM Membach 74.46 343 P **P** **08 36 33.7 -0.2**
comp=Z,38nm,1.1s,mb5.2
WET Wettzell 74.47 338 *e*P **P** **08 36 34.4 +0.4**
comp=Z,14nm,0.8s,mb4.9
WET Wettzell 74.47 338 *e*P **P** **08 36 34.4 +0.4**
WET pmax pmax
comp=Z,14nm,0.8s,mb4.9
PLAL Pickwick Lake 74.52 52 *e*P **P** **08 36 33.4 -1.2**
GEC2 GERESS Array S 74.56 337 *e*P **P** **08 36 34.8 +0.2**
comp=Z,10.0nm,0.6s,mb4.9
GEC2 GERESS Array S 74.56 337 *e*P **P** **08 36 34.8 +0.2**
GEC2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
GERES GERESS Array B 74.56 337 P **P** **08 36 34.4 -0.2**
comp=Z,6.1nm,0.5s,mb4.8,baz=30,slow=6.0,SNR=47
GERES LR LR 09 11 49.7
comp=Z,247nm,18.6s,MS4.5,baz=198,slow=38
GERES GERESS Array B 74.56 337 P **P** **08 36 34.4 -0.2**
GERES LR LR 09 11 49.6
GERES GERESS Array B 74.56 337 P **P** **08 36 34.4 -0.2**
VOIR 74.59 329 ⇓P **P** **08 36 35.4 +0.6**
VOIR 74.59 329 ⇓*i*P **P** **08 36 35.4 +0.6**
BCLA Clavier 74.77 343 P **P** **08 36 35.7 0.0**
SNF Seneffe 74.85 344 P **P** **08 36 36.2 0.0**
TOD Tromm 74.90 341 *e*P **P** **08 36 36.6 +0.1**
TOD Tromm 74.90 341 *e*P **P** **08 36 36.6 +0.1**
CONA Conrad Observa 74.90 336 ⇑*i*P **P** **08 36 36.9 +0.4**
comp=Z,14nm,0.6s,mb5.1
RUP Ruppelstein 75.14 342 *e*P **P** **08 36 37.5 -0.4**
RUP Ruppelstein 75.14 342 *e*P **P** **08 36 37.5 -0.4**
GIVF Givet 75.16 344 ⇑*i*P **P** **08 36 37.5 -0.4**
comp=Z,27nm,0.8s,mb4.9
DOU Dourbes 75.20 344 P **P** **08 36 37.7 -0.5**
comp=Z,10.0nm,1.0s,mb4.7
BAIF Baives 75.30 344 ⇑*i*P **P** **08 36 38.5 -0.3**
comp=Z,32nm,0.8s,mb5.0
GZR Gura Zlata 75.33 330 ⇓P **P** **08 36 39.0 0.0**
GZR Gura Zlata 75.33 330 ⇓*i*P **P** **08 36 39.0 0.0**
SWET Sewanee 75.34 50 *e*P **P** **08 36 38.1 -1.2**
MOA Molln 75.36 337 ⇑*i*P **P** **08 36 39.5 +0.3**
comp=Z,6.7nm,0.7s,mb4.7
BZS Buzias 75.47 331 ⇓P **P** **08 36 39.6 -0.2**
BZS Buzias 75.47 331 ⇓*i*P **P** **08 36 39.6 -0.2**
ARSA Arzberg 75.62 336 ⇑*i*P **P** **08 36 41.2 +0.6**
LANF Langenberg 75.69 341 *e*P **P** **08 36 41.1 +0.1**
LANF Langenberg 75.69 341 *e*P **P** **08 36 41.1 +0.1**
LANF Langenberg 75.69 341 *e*P **P** **08 36 41.1 +0.1**
RJOB Jochberg 75.81 338 *e*P **P** **08 36 42.3 +0.5**
comp=Z,16nm,1.4s,mb4.8
WRAB Tennant Creek 75.86 205 *e*P **P** **08 36 42.1 0.0**
comp=Z,7.6nm,0.8s,mb4.7
WRAB Tennant Creek 75.86 205 *e*P **P** **08 36 42.2 0.0**
WRAB pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
WB2 Warramunga Arr 75.86 205 *e*P **P** **08 36 41.9 -0.3**
WRA Warramunga Arr 75.87 205 P **P** **08 36 42.1 -0.1**
comp=Z,7.1nm,0.9s,mb4.6,baz=18,slow=6.1,SNR=33
WRA pP pP 08 36 55.0 0.0
comp=Z,4.6nm,0.7s,baz=19,slow=6.0,SNR=13
WRA Warramunga Arr 75.87 205 P **P** **08 36 42.1 -0.1**
WRA pP pP 08 36 55.0 0.0
WRA Warramunga Arr 75.87 205 P **P** **08 36 42.2 0.0**
WRA *PP pP 08 36 55.0 0.0
BFO Black Forest 76.21 341 *e*P **P** **08 36 44.0 0.0**
comp=Z,12nm,1.0s,mb4.8
BFO Black Forest 76.21 341 *e*P **P** **08 36 43.3 -0.7**
comp=Z,9.6nm,0.9s,mb4.7
BFO Black Forest 76.21 341 *e*P **P** **08 36 44.0 0.0**
BFO pmax pmax
comp=Z,12nm,1.0s,mb4.8
SOKA Soboth 76.27 336 ⇑*i*P **P** **08 36 44.8 +0.4**
comp=Z,15nm,0.5s,mb5.2
PERS Pernice 76.29 336 *i* P **P** **08 36 44.5 +0.1**
KBA Koelnbreinsper 76.31 337 ⇑*i*P **P** **08 36 45.4 +0.9**
comp=Z,74nm,0.9s,mb5.6,SNR=10
CDF Champ du Feu 76.34 342 *e*P **P** **08 36 44.6 -0.1**
comp=Z,49nm,0.9s,mb5.1
WATA Walderalm 76.47 338 ⇑*i*P **P** **08 36 45.6 +0.2**
comp=Z,7.9nm,0.4s,mb5.0
PAGF Fort de Pagny 76.49 343 ⇑*i*P **P** **08 36 45.7 +0.1**
comp=Z,31nm,1.2s,mb4.8
RETA Reutte 76.50 339 ⇑*e*P **P** **08 36 45.7 0.0**
comp=Z,11nm,0.9s,mb4.8
WTTA Wattenberg 76.52 338 ⇑*e*P **P** **08 36 46.8 +1.0**
comp=Z,27nm,1.0s,mb5.1
ECH Echery 76.55 342 *e*P **P** **08 36 45.7 -0.2**
ECH Echery 76.55 342 *e*P **P** **08 36 45.7 -0.2**
ECH Echery 76.55 342 *e*P **P** **08 36 45.7 -0.2**
OBKA Obir 76.55 336 ⇑*e*P **P** **08 36 46.3 +0.3**
comp=Z,39nm,1.2s,mb5.2
MOTA Moosalm 76.57 339 ⇑*i*P **P** **08 36 46.3 +0.3**
comp=Z,12nm,0.7s,mb4.9
BR131 Keskin Array S 76.60 320 *e*P **P** **08 36 45.9 -0.5**
comp=Z,7.8nm,1.0s,mb4.6
BRTR Keskin Array B 76.60 320 P **P** **08 36 46.0 -0.4**
comp=Z,3.6nm,0.6s,mb4.5,baz=41,slow=3.9,SNR=16
BRTR LR LR 09 16 40.4
comp=Z,107nm,19.1s,MS4.2,baz=40,slow=40
BRTR Keskin Array B 76.60 320 P **P** **08 36 46.0 -0.4**
BRTR LR LR 09 16 40.4
BRTR Keskin Array B 76.60 320 P **P** **08 36 46.0 -0.4**
FITZ Fitzroy Crossi 76.67 213 P **P** **08 36 47.5 +0.6**
comp=Z,8.0nm,1.0s,mb4.6,baz=41,slow=3.7,SNR=14
FITZ pP pP 08 37 00.4 +0.7
comp=Z,5.3nm,0.9s,baz=355,slow=4.5,SNR=7.2
FITZ Fitzroy Crossi 76.67 213 *e*P **P** **08 36 47.3 +0.5**
comp=Z,14nm,1.0s,mb4.8
FITZ Fitzroy Crossi 76.67 213 P **P** **08 36 47.5 +0.6**
FITZ pP pP 08 37 00.4 +0.7
FELD Feldberg im Sc 76.71 341 *e*P **P** **08 36 46.5 -0.3**
THEF They Montfort 76.76 342 *e*P **P** **08 36 47.0 -0.1**
THEF They Montfort 76.76 342 *e*P **P** **08 36 47.0 -0.1**
THEF They Montfort 76.76 342 *e*P **P** **08 36 47.0 -0.1**
ABTA Abfaltersbach 76.81 338 ⇑*e*P **P** **08 36 47.5 0.0**
comp=Z,34nm,1.0s,mb5.2,SNR=7.9
MPEP Malo Peshtene 76.87 329 P **P** **08 36 47.0 -0.8**
DAVA Damuels 76.89 339 ⇑*e*P **P** **08 36 48.2 +0.4**
comp=Z,17nm,1.1s,mb4.9
MOF Molkenrain 76.90 341 *e*P **P** **08 36 47.3 -0.6**
MOF Molkenrain 76.90 341 *e*P **P** **08 36 47.3 -0.6**
MOF Molkenrain 76.90 341 *e*P **P** **08 36 47.3 -0.6**
HAU Haudompre 76.90 342 ⇑*i*P **P** **08 36 47.5 -0.4**
comp=Z,25nm,0.7s,mb4.9
SFTF Sexfontaines 76.95 343 ⇑*i*P **P** **08 36 47.9 -0.3**
comp=Z,78nm,0.8s,mb5.4
FETA Feichten 76.95 339 ⇑*e*P **P** **08 36 48.7 +0.5**
comp=Z,26nm,1.0s,mb5.1
CADS Cadrg 77.01 337 *i* P **P** **08 36 48.8 +0.2**
BBS Basel-Blauen 77.20 341 *e*P **P** **08 36 48.2 -1.4**
BBS Basel-Blauen 77.20 341 *e*P **P** **08 36 48.2 -1.4**
FLN La Foliniere 77.28 347 ⇑*i*P **P** **08 36 49.2 -0.8**
comp=Z,50nm,0.7s,mb5.2
BOJS Bojanci 77.31 335 *i* P **P** **08 36 50.2 -0.1**
DAVOX Davos/Dischmat 77.37 339 P **P** **08 36 51.5 +0.9**
comp=Z,12nm,0.8s,mb4.9,baz=1.2,slow=3.8,SNR=11
DAVOX Davos/Dischmat 77.37 339 P **P** **08 36 51.5 +0.9**
DAVOX Davos/Dischmat 77.37 339 P **P** **08 36 51.5 +1.0**
LDF La Druitiere 77.39 346 ⇑*i*P **P** **08 36 49.7 -1.0**
comp=Z,7.7nm,0.4s,mb4.7
LOMF Lomont 77.44 342 *e*P **P** **08 36 50.9 0.0**
LOMF Lomont 77.44 342 *e*P **P** **08 36 50.9 0.0**
LOMF Lomont 77.44 342 *e*P **P** **08 36 50.9 0.0**
KMSC Kings Mountain 77.50 47 ⇑P **P** **08 36 50.1 -1.4**
baz=77
GRR Gorron 77.70 347 ⇑*i*P **P** **08 36 51.8 -0.6**
comp=Z,53nm,0.7s,mb5.3
VTS Vitosha 77.73 329 ⇑P **P** **08 36 52.2 -0.5**
VTS Vitosha 77.73 329 ⇑*i*P **P** **08 36 52.2 -0.5**
VTS Vitosha 77.73 329 P **P** **08 36 52.3 -0.4**
TUE Stuetta 77.77 340 *e*P **P** **08 36 53.3 +0.5**
LOR Lormes 78.06 343 ⇑*i*P **P** **08 36 53.9 -0.5**
comp=Z,41nm,0.8s,mb5.1
ROSF Rostrenen 78.06 349 ⇑*i*P **P** **08 36 53.9 -0.5**
comp=Z,107nm,0.9s,mb5.5
HYF Humbligny 78.27 344 ⇑*i*P **P** **08 36 55.5 0.0**
NVLJ Novalja 78.29 335 *i* P **P** **08 36 54.8 -0.9**
CABF La Chapelle 78.29 342 ⇑*i*P **P** **08 36 55.8 +0.1**
comp=Z,54nm,1.1s,mb5.1
SENIN Lac Senin/Sane 78.30 341 *e*P **P** **08 36 56.6 +0.9**
SSF Saint Saulge 78.32 344 ⇑*i*P **P** **08 36 55.4 -0.4**
comp=Z,30nm,0.8s,mb5.0
KKB Krupnik 78.43 328 *e*P **P** **08 36 56.5 0.0**
OG01 Vacheresse 78.45 341 *e*P **P** **08 36 56.6 0.0**
OG01 Vacheresse 78.45 341 *e*P **P** **08 36 56.6 0.0**
QUIF Quistinic 78.46 348 ⇑*i*P **P** **08 36 56.1 -0.5**
comp=Z,49nm,0.8s,mb5.2
AVF Avril sur Loir 78.61 344 ⇑*i*P **P** **08 36 57.2 -0.2**
comp=Z,75nm,0.9s,mb5.3
SMF Signal de Mont 78.67 343 ⇑*i*P **P** **08 36 57.4 -0.4**
comp=Z,57nm,1.0s,mb5.1
MIB Mutribah 78.86 305 *e*P **P** **08 36 56.5 -2.6**
MIB AMb AMB 08 37 01.3
comp=Z,25nm,0.7s,mb5.2
BGF Bois d'Agland 78.92 344 ⇑*i*P **P** **08 36 58.9 -0.3**
comp=Z,18nm,0.6s,mb4.9
RSL Roselend 79.08 341 *e*P **P** **08 37 00.4 +0.4**
RSL Roselend 79.08 341 *e*P **P** **08 37 00.4 +0.4**
RSL Roselend 79.08 341 *e*P **P** **08 37 00.4 +0.4**
STON Ston 79.11 333 *i* P **P** **08 36 57.8 -2.5**

LPL	**La Plagne**	**79.22**	**341**	⇑*iP*	**P**	**08 37 01.7**	**+0.9**
	comp=Z,96nm,0.9s,mb5.5						
LPG	**La Plagne**	**79.23**	**341**	⇑*iP*	**P**	**08 37 02.0**	**+1.1**
	comp=Z,117nm,0.9s,mb5.5						
RST	**Umm Al-Ruwaisa**	**79.28**	**305**	*eP*	**P**	**08 36 59.1**	**-2.3**
RST				AMb	AMB	08 37 11.9	
	comp=Z,5.1nm,1.4s,mb4.3						
TCF	**Toulx Ste Croi**	**79.29**	**344**	⇑*iP*	**P**	**08 37 01.0**	**-0.2**
	comp=Z,28nm,0.7s,mb5.0						
MFF	**Saint Martin d**	**79.35**	**346**	⇑*iP*	**P**	**08 37 01.3**	**-0.2**
	comp=Z,41nm,0.8s,mb5.1						
PLDF	**La Plantade**	**79.36**	**343**	*eP*	**P**	**08 37 02.0**	**+0.4**
PLDF	**La Plantade**	**79.36**	**343**	*eP*	**P**	**08 37 02.0**	**+0.4**
PLDF	**La Plantade**	**79.36**	**343**	*eP*	**P**	**08 37 02.0**	**+0.4**
AGO	**Saint Agoulin**	**79.36**	**344**	*eP*	**P**	**08 37 02.2**	**+0.6**
AGO	**Saint Agoulin**	**79.36**	**344**	*eP*	**P**	**08 37 02.2**	**+0.6**
NAY	**Al-Naaiem**	**79.36**	**305**	*eP*	**P**	**08 36 59.8**	**-2.0**
NAY				AMb	AMB	08 37 04.3	
	comp=Z,14nm,0.7s,mb5.0						
ASAR	**Alice Springs**	**79.55**	**204**	P	**P**	**08 37 03.3**	**+0.7**
	comp=Z,5.3nm,0.7s,mb4.6,baz=16,slow=5.3,SNR=70						
ASAR				pP	pP	08 37 15.9	+0.4
	comp=Z,1.8nm,0.6s,baz=13,slow=5.5,SNR=5.8						
ASAR	**Alice Springs**	**79.55**	**204**	P	**P**	**08 37 03.3**	**+0.7**
ASAR				pP	pP	08 37 15.9	+0.4
ASAR	**Alice Springs**	**79.55**	**204**	P	**P**	**08 37 03.3**	**+0.7**
ASAR				*PP	pP	08 37 15.9	+0.4
BNI	**Bardonecchia**	**79.68**	**341**	*eP*	**P**	**08 37 03.7**	**+0.4**
	comp=Z,37nm,1.3s,mb5.2						
BNI	**Bardonecchia**	**79.68**	**341**	*eP*	**P**	**08 37 03.7**	**+0.4**
BNI				pmax	pmax		
	comp=Z,37nm,1.3s,mb5.2						
PYM	**Petit Puy Mans**	**79.68**	**344**	*eP*	**P**	**08 37 03.9**	**+0.6**
PYM	**Petit Puy Mans**	**79.68**	**344**	*eP*	**P**	**08 37 03.9**	**+0.6**
PYM	**Petit Puy Mans**	**79.68**	**344**	*eP*	**P**	**08 37 03.9**	**+0.6**
SSB	**Saint Sauveur**	**79.86**	**342**	*eP*	**P**	**08 37 04.6**	**+0.2**
	comp=Z,7.9nm,0.4s,mb5.0						
SSB	**Saint Sauveur**	**79.86**	**342**	*eP*	**P**	**08 37 04.6**	**+0.3**
SSB				pmax	pmax		
	comp=Z,8.0nm,0.4s,mb5.0						
ORIF	**Oris-en-Rattie**	**79.96**	**341**	⇑*iP*	**P**	**08 37 05.6**	**+0.8**
	comp=Z,70nm,0.9s,mb5.3						
MBDF	**Montbardon**	**79.97**	**341**	⇑*iP*	**P**	**08 37 05.2**	**+0.3**
	comp=Z,32nm,0.7s,mb5.0						
LBL	**Lubilhac**	**80.14**	**343**	*eP*	**P**	**08 37 06.7**	**+0.9**
LBL	**Lubilhac**	**80.14**	**343**	*eP*	**P**	**08 37 06.7**	**+0.9**
LBL	**Lubilhac**	**80.14**	**343**	*eP*	**P**	**08 37 06.7**	**+0.9**
VIVF	**Saint-Julien-l**	**80.25**	**342**	⇑*iP*	**P**	**08 37 06.9**	**+0.5**
	comp=Z,64nm,0.9s,mb5.2						
QLP	**Quilpie**	**80.34**	**194**	*eP*	**P**	**08 37 07.3**	**+0.4**
RJF	**Les Rejaudoux**	**80.36**	**345**	⇑*iP*	**P**	**08 37 07.2**	**+0.2**
	comp=Z,18nm,0.7s,mb4.8						
OG25	**Le Caire**	**80.45**	**341**	*eP*	**P**	**08 37 08.0**	**+0.5**
OG25	**Le Caire**	**80.45**	**341**	*eP*	**P**	**08 37 08.0**	**+0.5**
SAOF	**Saorge**	**80.52**	**340**	*eP*	**P**	**08 37 08.3**	**+0.4**
AUTN	**L'Aution**	**80.54**	**340**	*eP*	**P**	**08 37 07.7**	**-0.3**
AUTN	**L'Aution**	**80.54**	**340**	*eP*	**P**	**08 37 07.7**	**-0.3**
TOUF	**Mont Tournerai**	**80.56**	**340**	*eP*	**P**	**08 37 07.9**	**-0.2**
TOUF	**Mont Tournerai**	**80.56**	**340**	*eP*	**P**	**08 37 07.9**	**-0.2**
TOUF	**Mont Tournerai**	**80.56**	**340**	*eP*	**P**	**08 37 07.9**	**-0.2**
CAF	**Calviac**	**80.64**	**344**	⇑*iP*	**P**	**08 37 09.0**	**+0.5**
	comp=Z,36nm,0.7s,mb5.1						
SBF	**Sospel**	**80.67**	**340**	⇑*iP*	**P**	**08 37 09.4**	**+0.8**
	comp=Z,44nm,0.9s,mb5.1						
MVIF	**Mont Vial**	**80.69**	**340**	*eP*	**P**	**08 37 07.4**	**-1.4**
MVIF	**Mont Vial**	**80.69**	**340**	*eP*	**P**	**08 37 07.4**	**-1.4**
LFF	**La Frestale**	**80.84**	**345**	⇑*iP*	**P**	**08 37 09.8**	**+0.3**
	comp=Z,86nm,1.0s,mb5.3						
SMRF	**Simiane la Rot**	**80.93**	**341**	⇑*iP*	**P**	**08 37 10.8**	**+0.8**
	comp=Z,42nm,0.9s,mb5.1						
FRF	**La Foret Royal**	**81.12**	**341**	⇑*iP*	**P**	**08 37 11.6**	**+0.5**
LASF	**Ste Croix**	**81.15**	**343**	⇑*iP*	**P**	**08 37 11.9**	**+0.7**
	comp=Z,28nm,0.7s,mb5.0						
LMR	**La Mourre**	**81.36**	**341**	⇑*iP*	**P**	**08 37 12.3**	**-0.1**
	comp=Z,53nm,1.1s,mb5.1						
MBWA	**Marble Bar**	**81.56**	**217**	*eP*	**P**	**08 37 13.1**	**-0.4**
MBWA	**Marble Bar**	**81.56**	**217**	*eP*	**P**	**08 37 13.4**	**-0.1**
MMAI	**Mount Meron Ar**	**81.67**	**315**	P	**P**	**08 37 14.3**	**+0.1**
	comp=Z,15nm,0.5s,mb5.2,baz=34,slow=6.1,SNR=23						
MMAI	**Mount Meron Ar**	**81.67**	**315**	P	**P**	**08 37 14.3**	**+0.1**
ASF	**Jabal al Asfar**	**81.75**	**314**	P	**P**	**08 37 14.4**	**-0.2**
	comp=Z,21nm,0.9s,mb5.1,baz=251,slow=1.7,SNR=15						
ASF	**Jabal al Asfar**	**81.75**	**314**	P	**P**	**08 37 14.4**	**-0.2**
ASF	**Jabal al Asfar**	**81.75**	**314**	P	**P**	**08 37 14.4**	**-0.2**
MTLF	**Montolieu**	**82.15**	**344**	⇑*iP*	**P**	**08 37 17.1**	**+0.6**
	comp=Z,74nm,1.0s,mb5.3						
EPF	**Esparros**	**82.76**	**345**	⇑*iP*	**P**	**08 37 19.6**	**-0.1**
	comp=Z,44nm,1.0s,mb5.1						
SJPF	**Ste Jean**	**82.92**	**346**	⇑*iP*	**P**	**08 37 21.5**	**+1.0**
	comp=Z,16nm,0.6s,mb4.9						
ETSF	**Etsaut**	**83.03**	**346**	⇑*iP*	**P**	**08 37 21.9**	**+0.8**
	comp=Z,70nm,0.9s,mb5.4						
EIL	**Elat**	**84.75**	**314**	P	**P**	**08 37 29.6**	**-0.5**
	comp=Z,21nm,0.8s,mb5.3,baz=341,slow=3.1,SNR=13						
EIL	**Elat**	**84.75**	**314**	P	**P**	**08 37 29.6**	**-0.5**
PGAV	**Gavieira, Arco**	**84.89**	**351**	*eP*	**P**	**08 37 29.3**	**-1.3**
	comp=Z,58nm,1.7s,mb5.4						
POLO	**Lamas de Olo**	**85.44**	**351**	*eP*	**P**	**08 37 33.1**	**-0.2**
	comp=Z,36nm,1.3s,mb5.2						
MVO	**Moncorvo**	**85.56**	**350**	*eP*	**P**	**08 37 34.1**	**+0.1**
	comp=Z,42nm,1.2s,mb5.5						
STKA	**Stephens Creek**	**85.94**	**195**	P	**P**	**08 37 36.2**	**+0.6**
	comp=Z,5.1nm,0.8s,mb4.8,baz=335,slow=6.4,SNR=7.9						
STKA	**Stephens Creek**	**85.94**	**195**	*eP*	**P**	**08 37 34.4**	**-1.3**
	comp=Z,4.1nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**85.94**	**195**	P	**P**	**08 37 36.2**	**+0.6**
STKA	**Stephens Creek**	**85.94**	**195**	P	**P**	**08 37 36.3**	**+0.6**
PVIS	**Viseu**	**86.10**	**351**	*eP*	**P**	**08 37 36.2**	**-0.4**
	comp=Z,32nm,1.5s,mb5.3						
MTE	**Manteigas**	**86.38**	**350**	*eP*	**P**	**08 37 38.5**	**+0.5**
MTE	**Manteigas**	**86.38**	**350**	*eP*	**P**	**08 37 38.4**	**+0.4**
	comp=Z,55nm,1.1s,mb5.7						
ESDC	**Sonseca Array**	**86.67**	**347**	P	**P**	**08 37 39.1**	**-0.4**
	comp=Z,23nm,1.0s,mb5.4,baz=4.4,slow=4.9,SNR=29						
ESDC	**Sonseca Array**	**86.67**	**347**	P	**P**	**08 37 39.1**	**-0.4**
PMRV	**Marv??o**	**87.32**	**350**	*eP*	**P**	**08 37 42.2**	**-0.4**
	comp=Z,20nm,1.5s,mb5.1						
FORT	**Forrest**	**87.84**	**207**	*eP*	**P**	**08 37 44.7**	**-0.2**
	comp=Z,9.2nm,0.6s,mb5.2						
KEST	**Kesra**	**88.00**	**336**	P	**P**	**08 37 45.3**	**-0.7**
	comp=Z,3.5nm,0.8s,mb4.6,baz=261,slow=4.9,SNR=7.2						
KEST	**Kesra**	**88.00**	**336**	*eP*	**P**	**08 37 45.2**	**-0.8**
EVO	**Evora**	**88.27**	**350**	*eP*	**P**	**08 37 46.7**	**-0.5**
	comp=Z,29nm,1.3s,mb5.3						
PBAR	**Barrancos**	**88.52**	**350**	*eP*	**P**	**08 37 48.0**	**-0.4**
	comp=Z,27nm,1.7s,mb5.3						
PNCL	**Nicolau / Gran**	**88.74**	**351**	*eP*	**P**	**08 37 48.9**	**-0.5**
	comp=Z,39nm,2.0s,mb5.4						
LPAZ	**La Paz**	**127.70**	**64**	PKP	PKPdf	08 44 00.9	-0.2
	comp=Z,1.5nm,0.8s,baz=44,slow=6.5,SNR=7.4						
LPAZ				pPKP	pPKPdf	08 44 14.9	+0.3
	comp=Z,1.6nm,0.7s,baz=334,slow=6.5,SNR=4.5						
LPAZ	**La Paz**	**127.70**	**64**	PKP	PKPdf	08 44 00.9	-0.2
LPAZ				pPKP	pPKPdf	08 44 14.9	+0.3
LPAZ	**La Paz**	**127.70**	**64**	PKIKP	PKPdf	08 44 00.9	-0.3
LPAZ						08 44 15.0	
VNDA	**Vanda**	**130.21**	**179**	PKhKP	PKPpre	08 43 57.2	
	comp=Z,0.5nm,0.4s,baz=90,slow=22,SNR=6.2						
VNDA				PKP	PKPdf	08 44 04.1	-0.1
	comp=Z,1.3nm,0.8s,baz=348,slow=2.1,SNR=9.0						
VNDA				pPKP	pPKPdf	08 44 16.7	-0.9
	comp=Z,1.3nm,0.8s,baz=315,slow=4.6,SNR=4.1						
VNDA	**Vanda**	**130.21**	**179**	PKP	PKPdf	08 44 04.1	-0.1
VNDA				pPKP	pPKPdf	08 44 16.7	-0.9
VNDA	**Vanda**	**130.21**	**179**	PKIKP	PKPdf	08 44 04.1	0.0
VNDA						08 44 16.7	
BOSA	**Boshof**	**138.78**	**288**	PKhKP	PKPpre	08 44 16.1	
	comp=Z,2.3nm,0.8s,baz=162,slow=22,SNR=1.6						
BOSA				PKP	PKPdf	08 44 20.7	-0.9
	comp=Z,3.8nm,0.8s,baz=80,slow=1.7,SNR=4.4						
BOSA	**Boshof**	**138.78**	**288**	PKP	PKPdf	08 44 20.7	-0.9
BOSA	**Boshof**	**138.78**	**288**	PKIKP	PKPdf	08 44 20.7	-0.9
SUR	**Sutherland**	**144.13**	**288**	PKP	PKPdf	08 44 31.1	-0.1
	comp=Z,8.2nm,0.9s,baz=4.7,slow=22,SNR=6.7						
TRQA	**Tornquist**	**147.69**	**79**	*e*PKPbc	PKPbc	08 44 38.7	-1.2
SNAA	**Sanae**	**159.71**	**196**	PKPab	PKPab	08 45 31.9	-0.1
	comp=Z,0.9nm,0.8s,baz=250,slow=2.7,SNR=9.0						
SNAA	**Sanae**	**159.71**	**196**	PKP2	PKPab	08 45 31.9	-0.1
SNAA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
VNA3	**Neumayer Olymp**	**161.05**	**191**	*e*	PKPab	08 45 33.5	-4.4
VNA2	**Neumayer--Watz**	**161.06**	**193**	*e*	PKPab	08 45 34.3	-3.6
	baz=173,slow=3.1						

*ISCJB **19** 08:55:06.8±0.6,21°.34S±0°.04×70°.01W±0°.08, h59km±6km, mb4.0/5, Error ellipse: s-maj=13.2km s-min=6.9km az=9.7*
*GUC **19** 08:55:07.1±1.1, 21°.35S×70°.01W, h48km±3km, ML4.5*
*IDC **19** 08:55:07.3±0.8,21°.395S×69°.84W, h49km±5km, mb3.8/5, mb1 4.1/5, mb1mx3.8/14, mbtmp3.8/5, MS4.0/2, Ms1 4.0/2, ms1mx3.4/28, Error ellipse: s-maj=34.7km s-min=22.9km az=48.0*

ISC 19 08:55:07.7±0.6,21°.34S±0°.04×70°.00W±0°.08, h53km±7km, n21, σ0°.74/21, mb4.0/5, 3C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB07	**Plate Boundary**	**0.40**	**165**	⇑*iP*	**Pn**	**08 55 17.9**	**-0.1**
PB07				*i* S	**Sn**	**08 55 25.1**	**-0.3**
PB07				AML	AML	08 55 25.6	
	comp=E,40μm,0.3s						
PB01	**Plate Boundary**	**0.56**	**58**	⇓*iP*	**Pn**	**08 55 19.5**	**-0.3**
PB01				*i* S	**Sn**	**08 55 28.3**	**-0.3**
PB01				AML	AML	08 55 28.7	
	comp=E,189μm,0.2s						
PB09	**Plate Boundary**	**0.83**	**123**	⇓*iP*	**Pn**	**08 55 24.0**	**+0.7**
PB09				*i* S	**Sn**	**08 55 35.8**	**+1.1**
PB09				AML	AML	08 55 39.2	
	comp=E,38μm,0.5s						
MACH	**Maria Elena**	**0.88**	**165**	⇑*iP*	**Pn**	**08 55 24.0**	**+0.2**
MACH				*i* S	**Sn**	**08 55 36.5**	**+0.8**
PB04	**Plate Boundary**	**1.03**	**153**	⇑*iP*	**Pn**	**08 55 25.5**	**-0.4**
PB04				*i* S	**Sn**	**08 55 39.3**	**-0.1**
PB04				AML	AML	08 55 42.3	
	comp=E,18μm,0.3s						
MECH	**Mejillones**	**1.80**	**193**	⇓*iP*	**Pn**	**08 55 36.5**	**+0.1**
MECH				*i* S	**Sn**	**08 55 58.4**	**+0.4**
MECH				AML	AML	08 56 21.3	
	comp=E,4μm,0.5s						
ANCH	**Antofagasta**	**2.36**	**189**	⇓*iP*	**Pn**	**08 55 43.5**	**-0.5**
ARCH	**Arica**	**2.85**	**354**	*eP*	**Pn**	**08 55 50.5**	**-0.2**
LPAZ	**La Paz**	**5.33**	**20**	P	**Pn**	**08 56 28.6**	**+3.9**
	comp=E,3.8nm,0.3s,baz=189,slow=7.5,SNR=78						
LPAZ				LR	LR	08 58 54.9	
	comp=E,323nm,21.2s,baz=143,slow=43						
CFAA	**Coronel Fontan**	**10.34**	**172**	P	**Pn**	**08 57 31.4**	**-1.9**
	comp=E,0.1nm,0.3s,baz=340,slow=14,SNR=7.1						
TXAR	**Lajitas Array**	**59.93**	**326**	P	**P**	**09 05 08.8**	**+0.3**
	comp=E,0.7nm,0.9s,mb3.7,baz=151,slow=8.6,SNR=6.1						
PDAR	**Pinedale Array**	**73.47**	**331**	P	**P**	**09 06 34.9**	**+0.4**
	comp=E,0.5nm,0.6s,mb3.7,baz=139,slow=7.8,SNR=6.5						
NVAR	**Mina Array Bea**	**74.75**	**323**	P	**P**	**09 06 43.5**	**+1.5**
	comp=E,0.8nm,0.5s,mb3.9,baz=149,slow=6.9,SNR=7.1						
TORD	**Torodi Ar. Bea**	**78.26**	**71**	P	**P**	**09 07 01.4**	**-1.0**
	comp=E,3.4nm,0.7s,mb4.4,baz=253,slow=5.2,SNR=26						
TORD				pP	pP	09 07 16.3	-1.1
	comp=E,3.5nm,0.8s,baz=255,slow=4.9,SNR=4.1						
TORD				sP	sP	09 07 21.1	-2.3
	comp=E,2.5nm,0.6s,baz=250,slow=5.5,SNR=7.0						
BOSA	**Boshof**	**84.41**	**118**	P	**P**	**09 07 34.2**	**-0.7**
	comp=E,2.7nm,0.8s,mb4.4,baz=234,slow=8.7,SNR=2.8						
AFI	**Afiamalu**	**95.65**	**253**	LR	LR	09 40 35.6	
	comp=E,297nm,18.4s,baz=166,slow=28						
ASAR	**Alice Springs**	**129.57**	**209**	PKP	PKPdf	09 14 11.4	0.0
	comp=E,0.6nm,0.7s,baz=129,slow=1.7,SNR=6.3						
ASAR				pPKP	pPKPdf	09 14 25.6	-1.7
	comp=E,0.3nm,0.7s,baz=145,slow=2.3,SNR=2.7						
WRA	**Warramunga Arr**	**132.57**	**212**	PKP	PKPdf	09 14 17.4	+0.2
	comp=E,0.5nm,0.6s,baz=150,slow=1.7,SNR=11						
ZALV	**Zalesovo Beam**	**142.23**	**24**	PKP	PKPdf	09 14 34.2	+0.4
	comp=E,1.9nm,0.5s,baz=317,slow=3.6,SNR=9.4						
ZALV				pPKP	pPKPdf	09 14 49.3	-0.4
	comp=E,1.3nm,0.6s,baz=358,slow=2.1,SNR=4.0						
MKAR	**Makanchi Array**	**146.09**	**35**	PKPbc	PKPbc	09 14 41.7	0.0
	comp=E,4.9nm,0.8s,baz=318,slow=3.8,SNR=20						
MKAR				pPKPbc	pPKPbc	09 14 56.4	-1.1
	comp=E,2.2nm,0.7s,baz=315,slow=3.4,SNR=6.1						
SONM	**Songino Array**	**153.41**	**5**	PKPbc	PKPbc	09 15 00.4	+0.5
	comp=E,0.7nm,0.8s,baz=343,slow=4.5,SNR=3.6						
SONM				PKPab	PKPab	09 15 12.4	+0.2
	comp=E,0.8nm,0.7s,baz=332,slow=4.9,SNR=4.0						

*CSEM **19** 08:56:09.7, 35°.79N×27°.80E, h13km, MD2.8, After ISK*
*DDA **19** 08:56:18.8, 36°.21N×27°.79E, h6km, Md2.9*

ISK 19 08:56:09.7, 35°.79N×27°.80E, h13km, MD2.8, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAT	**Datca**	**0.95**	**349**	*e*Pg	Pg	08 56 28.6	+0.4
DAT	**Datca**	**0.95**	**349**	*e*Pg	Pg	08 56 28.6	+0.4
TURN	**Turunc**	**1.26**	**31**	*i* P	Pn	08 56 31.2	-1.8
TURN				*i* S	Sb	08 56 43.0	-6.5
TURN	**Turunc**	**1.26**	**31**	*i* P	Pn	08 56 31.2	-1.8
TURN				*i* S	Sb	08 56 43.0	-6.5
BODT	**Bodrum**	**1.33**	**343**	*e*PN	Pn	08 56 34.4	+0.5
BODT	**Bodrum**	**1.33**	**343**	*e*Pn	Pn	08 56 34.4	+0.4
FETY	**Fethiye**	**1.34**	**50**	*e*PN	Pn	08 56 34.9	+0.9
FETY	**Fethiye**	**1.34**	**50**	*e*Pn	Pn	08 56 34.9	+0.8
YER	**Yerkesik**	**1.40**	**16**	*e*PN	Pn	08 56 35.1	+0.2
YER				*e*SN	Sn	08 56 54.4	+1.2
YER	**Yerkesik**	**1.40**	**16**	*e*Pn	Pn	08 56 35.1	+0.2
YER				*e*Sn	Sn	08 56 54.4	+1.2
MLSB	**Milas**	**1.50**	**359**	*e*PN	Pn	08 56 37.3	+0.9
MLSB	**Milas**	**1.50**	**359**	*e*Pn	Pn	08 56 37.3	+1.0
AYDN	**Tasoluk**	**1.87**	**2**	*e*P	Pn	08 56 44.4	+3.0
AYDN				*i* S	Sn	08 57 04.5	-0.3
AYDN	**Tasoluk**	**1.87**	**2**	*e*P	Pn	08 56 44.4	+3.0
AYDN				*i* S	Sn	08 57 04.5	-0.3
GLHS	**Glhisar (BURDU**	**1.93**	**45**	*e*PN	Pn	08 56 43.0	+0.7
GLHS	**Glhisar (BURDU**	**1.93**	**45**	*e*Pn	Pn	08 56 43.0	+0.8
ELL	**Elmali**	**1.95**	**60**	*e*PN	Pn	08 56 43.5	+0.9
ELL	**Elmali**	**1.95**	**60**	*e*Pn	Pn	08 56 43.5	+1.0
GOLH	**Golhisar**	**2.02**	**44**	*i* P	Pn	08 56 49.2	+5.7
GOLH				*i* S	Sn	08 57 18.2	+10
GOLH	**Golhisar**	**2.02**	**44**	*i* P	Pn	08 56 49.2	+5.7
GOLH				*i* S	Sn	08 57 18.2	+10
DNZL	**Cakiroluk**	**2.15**	**27**	*e*P	Pn	08 56 50.9	+5.7
DNZL				*i* S	Sn	08 57 17.9	+6.3
DNZL	**Cakiroluk**	**2.15**	**27**	*e*P	Pn	08 56 50.9	+5.7
DNZL				*i* S	Sn	08 57 17.9	+6.3

*IDC **19** 09:02:56.8±4.0, 15°.30S×178°.13E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/16, mbtmp3.7/4, Error ellipse: s-maj=174.9km s-min=36.8km az=138.0*
*NOU **19** 09:04:10.8±1.1, 18°.38S×169°.49E, h30km, MD3.1, ML3.1*

ISC 19 09:04:16.3±3.2, 19°.0S±0°.3×169°.6E±0°.5, h35km, n7, σ0°.89/9, mb3.7/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**4.08**	**218**	*e*S	**Sn**	**09 06 03.1**	**+0.3**
DZM	**Mont Dzumac**	**4.29**	**223**	*e*P	**Pn**	**09 05 17.8**	**-1.4**
DZM				*e*S	**Sn**	**09 06 07.1**	**-0.9**
DZM				AMP		09 06 12.7	
	comp=Z,336nm,0.9s						
LASL	**Noumea**	**4.35**	**221**	*e*S	**Sn**	**09 06 10.2**	**+0.8**
NOUC	**Port Laguerre**	**4.41**	**224**	*e*P	**Pn**	**09 05 20.2**	**-0.5**
NOUC				*e*S	**Sn**	**09 06 11.1**	**+0.3**
NOUC				AMP		09 06 14.0	
	comp=Z,16nm,3.4s						
STKA	**Stephens Creek**	**28.30**	**237**	P	**P**	**09 10 08.5**	**+1.9**
	comp=Z,1.7nm,0.6s,mb3.8,baz=92,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**33.24**	**262**	P	**P**	**09 10 50.0**	**-0.4**
	comp=Z,0.6nm,0.9s,mb3.5,baz=89,slow=8.4,SNR=4.7						
ASAR	**Alice Springs**	**33.54**	**256**	P	**P**	**09 10 53.0**	**+0.1**
	comp=Z,0.6nm,0.4s,mb3.9,baz=83,slow=8.7,SNR=13						

IDC 19 09:13:24.4±8.8, 10°.84S×124°.64E, h138km±104km, mb3.0/1, mb1 3.2/4, mb1mx3.0/17, mbtmp3.0/4, ML3.5/3, Error ellipse: s-maj=78.0km s-min=51.0km az=28.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**7.28**	**172**	P	Pn	09 15 08.5	+0.2
	0.9nm,0.3s,baz=6.2,slow=11,SNR=26						
FITZ				S	Sn	09 16 30.0	+0.5
	1.3nm,0.3s,baz=117,slow=10.0,SNR=14						
WRA	**Warramunga Arr**	**13.01**	**135**	P	Pn	09 16 22.7	-1.4
	0.2nm,0.3s,baz=313,slow=12,SNR=8.7						
WRA				S	Sn	09 18 42.5	-5.3
	0.5nm,0.3s,baz=312,slow=23,SNR=8.1						
ASAR	**Alice Springs**	**15.51**	**147**	P	Pn	09 16 57.9	+2.1
	0.2nm,0.3s,baz=320,slow=12,SNR=37						
ASAR				S	S	09 19 47.4	-6.1
	0.1nm,0.3s,baz=314,slow=21,SNR=7.0						
MKAR	**Makanchi Array**	**68.71**	**330**	P	P	09 24 13.1	0.0
	0.1nm,0.3s,baz=133,slow=8.1,SNR=1.7						

*ISCJB **19** 09:17:08.5±0.9, 18°.7S±0°.1×177°.7W±0°.1, h584km±12km, mb3.9/15, Error ellipse: s-maj=22.9km s-min=12.3km az=143.4*
*IDC **19** 09:17:08.4±1.7, 18°.62S×177°.72W, h563km±20km, mb3.4/11, mb1 3.6/12, mb1mx3.4/19, mbtmp3.4/12, Error ellipse: s-maj=20.9km s-min=12.8km az=140.0*
*NEIC **19** 09:17:09.4±0.9, 18°.63S×177°.67W, h583km±10km, mb4.2/1, Error ellipse: s-maj=22.4km s-min=12.8km az=141.0*

ISC 19 09:17:09.5±0.9, 18°.7S±0°.1×177°.7W±0°.1, h581km±11km, n44, σ0°.92/36, mb3.9/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.14**	**282**	*e*P	**P**	**09 18 36.4**	**+1.9**
AFI	**Afiamalu**	**7.39**	**51**	P	**P**	**09 19 00.8**	**-1.7**
	12nm,0.3s,baz=243,slow=1.0,SNR=25						
AFI	**Afiamalu**	**7.39**	**51**	P	**P**	**09 19 00.8**	**-1.7**
URZ	**Urewera**	**20.05**	**192**	P	**P**	**09 21 02.9**	**-1.5**
	3.5nm,0.3s,baz=142,slow=2.6,SNR=9.6						
URZ	**Urewera**	**20.05**	**192**	P	**P**	**09 21 02.9**	**-1.5**
CTA	**Charters Tower**	**33.99**	**262**	P	**P**	**09 23 06.5**	**+0.3**
	6.0nm,0.6s,mb4.4,baz=102,slow=12,SNR=10						
CTA	**Charters Tower**	**33.99**	**262**	*e*P	**P**	**09 23 06.5**	**+0.3**
	4.4nm,0.7s,mb4.2						
CTA	**Charters Tower**	**33.99**	**262**	P	**P**	**09 23 06.5**	**+0.3**
CMSA	**Cobar Meteorol**	**35.38**	**242**	*e*P	**P**	**09 23 17.9**	**+0.3**
	40nm,0.6s						
QLP	**Quilpie**	**35.91**	**250**	*e*P	**P**	**09 23 22.0**	**0.0**
STKA	**Stephens Creek**	**38.87**	**242**	P	**P**	**09 23 46.9**	**+0.8**
	4.4nm,0.3s,mb4.4,baz=80,slow=7.0,SNR=38						
STKA	**Stephens Creek**	**38.87**	**242**	*e*P	**P**	**09 23 46.8**	**+0.7**
	3.3nm,0.3s,mb4.3						
STKA	**Stephens Creek**	**38.87**	**242**	P	**P**	**09 23 46.9**	**+0.8**
WB2	**Warramunga Arr**	**45.15**	**260**	*e*P	**P**	**09 24 34.8**	**-0.7**
WRAB	**Tennant Creek**	**45.15**	**260**	*e*P	**P**	**09 24 35.1**	**-0.5**
	2.9nm,0.3s,mb4.3						
WRA	**Warramunga Arr**	**45.16**	**260**	P	**P**	**09 24 35.0**	**-0.6**
	5.3nm,0.6s,mb4.3,baz=96,slow=7.9,SNR=62						
WRA				PcP	PcP	09 26 03.5	0.0
	0.5nm,0.4s,baz=91,slow=3.8,SNR=5.4						
WRA	**Warramunga Arr**	**45.16**	**260**	P	**P**	**09 24 35.0**	**-0.6**
WRA				PcP	PcP	09 26 03.

comp=Z,29nm,0.1s
RES SN Sn 09 59 16.3 +4.0
RES Trac 09 59 19.9
comp=Z,22nm,0.1s
CB31 Cambridge Bay 9.90 161 PN Pn **09 59 02.4 +3.4**
CB31 mb 09 59 04.5
comp=Z,100nm,0.1s
CB31 SN Sn **10 00 53.9 +3.9**
CB31 Trac 10 01 01.9
comp=Z,76nm,0.4s
INK Inuvik 11.71 218 Pn Pn **09 59 21.6 -2.1**
0.5nm,0.3s,baz=22,slow=17,SNR=26
INK Sn Sn **10 01 26.7 -7.5**
1.6nm,0.3s,baz=262,slow=24,SNR=6.5
INK Inuvik 11.71 218 Pn Pn **09 59 21.6 -2.1**
INK Sn Sn **10 01 26.7 -7.5**
INK Inuvik 11.71 218 PN Pn **09 59 21.1 -2.6**
INK mb 09 59 23.1
comp=Z,2.0nm,0.5s
INK SN Sn **10 01 25.6 -8.6**
INK Trac 10 01 36.9
comp=Z,4.2nm,0.2s
KUGN Kugaaruk Camp, 12.47 135 PN Pn **09 59 34.2 +0.1**
KUGN SN Sn **10 01 53.5 +0.7**
JERN Jeri Cho Mine, 12.76 175 PN Pn **09 59 39.9 +1.8**
JERN mb 09 59 42.6
comp=Z,4.5nm,0.1s
JERN SN Sn **10 02 02.4 +2.5**
JERN Trac 10 02 07.1
comp=Z,11nm,0.3s
STLN Stellar Camp, 12.82 141 PN Pn **09 59 39.4 +0.4**
STLN mb 09 59 40.9
comp=Z,50nm,1.0s
STLN SN Sn **10 02 02.5 +1.1**
STLN Trac 10 02 08.8
comp=Z,8.9nm,0.5s
SRLN Sarcpa Lake, N 13.07 124 PN Pn **09 59 42.3 0.0**
SRLN SN Sn **10 02 05.0 -2.5**
SRLN Trac 10 02 08.7
comp=Z,37nm,0.9s
BULN Bullion Camp, 13.68 143 PN Pn **09 59 49.7 -0.9**
BULN mb 09 59 54.1
comp=Z,14nm,0.5s
BULN SN Sn **10 02 21.1 -1.3**
BULN Trac 10 02 26.3
comp=Z,7.7nm,0.4s
QILN Qiliigaq Expl 14.34 132 PN Pn **09 59 59.3 -0.3**
QILN SN Sn **10 02 38.4 0.0**
CTLN Castor Lake 14.35 184 PN Pn **10 00 00.2 +0.5**
CTLN mb 10 00 02.1
comp=Z,7.2nm,0.5s
CTLN SN Sn **10 02 37.0 -1.7**
CTLN Trac 10 02 43.5
comp=Z,5.4nm,0.3s
ILKN Indian Lake 14.55 182 PN Pn **10 00 03.2 +0.8**
ILKN SN Sn **10 02 42.8 -0.7**
ILKN Trac 10 02 47.0
comp=Z,16nm,0.3s
WAGN Wager Bay 14.64 138 PN Pn **10 00 02.9 -0.8**
WAGN SN Sn **10 02 43.6 -2.1**
GALN Gameti Lake 14.69 186 PN Pn **10 00 04.0 -0.4**
GALN SN Sn **10 02 44.8 -2.0**
GALN Trac 10 02 48.1
comp=Z,39nm,1.1s
NUNN Nunuq Camp, NU 15.07 141 PN Pn **10 00 08.6 -0.9**
NUNN SN Sn **10 02 56.9 +0.8**
COKN Cook Lake 15.58 171 PN Pn **10 00 16.6 +0.4**
COKN mb 10 00 20.0
comp=Z,4.8nm,0.1s
COKN SN Sn **10 03 07.0 -1.6**
COKN Trac 10 03 13.4
comp=Z,13nm,0.5s
YKW3 Yellowknife Ar 16.22 181 PN Pn **10 00 25.1 +0.7**
YKW3 mb 10 00 29.2
comp=Z,10nm,0.4s
YKW3 SN Sn **10 03 19.9 -4.1**
YKW3 Trac 10 03 44.1
comp=Z,3.8nm,0.4s
YKA Yellowknife Ar 16.29 181 Pn Pn **10 00 25.6 +0.3**
1.5nm,0.3s,baz=355,slow=12,SNR=41
YKA Sn Sn **10 03 25.8 +0.2**
0.9nm,0.3s,baz=321,slow=28,SNR=9.3
YKA Yellowknife Ar 16.29 181 Pn Pn **10 00 25.6 +0.3**
YKA Sn Sn **10 03 25.8 +0.2**
WHFN White Fish Lak 16.35 169 PN Pn **10 00 26.9 +0.8**
DAWY Dawson 16.50 222 *e*Pn Pn **10 00 24.3 -3.7**
DAWY Dawson 16.50 222 PN Pn **10 00 24.1 -3.9**
DAWY SN Sn **10 03 19.4 -11**
DAWY Trac 10 03 26.1
comp=Z,3.5nm,0.5s
ILAR Eielson Array 16.92 233 P Pn **10 00 33.1 -0.2**
0.3nm,0.3s,baz=12,slow=13,SNR=55
ILAR S Sn **10 03 31.9 -9.2**
0.1nm,0.3s,baz=16,slow=23,SNR=6.0
ILAR Eielson Array 16.92 233 P Pn **10 00 33.1 -0.2**
ILAR S Sn **10 03 31.9 -9.2**
SEDN First Sedna Si 16.95 143 PN Pn **10 00 33.0 -0.7**
SEDN mb 10 00 36.6
comp=Z,32nm,0.8s
SEDN SN Sn **10 03 35.7 -5.9**
COLA College 16.98 235 *e*Pn Pn **10 00 36.2 +2.1**
3.4nm,0.8s
JOSN Second Sedna S 16.99 144 PN Pn **10 00 34.2 0.0**
JOSN SN Sn **10 03 38.5 -4.2**
SLKM Skilak Lake 21.47 233 *e*P P **10 01 24.4 -0.6**
FFC Flin Flon 24.42 163 *e*P P **10 02 06.6 +12**
7.9nm,0.8s,mb4.2
GCMT Greycliff 33.06 175 *e*P P **10 03 15.6 +3.5**
5.1nm,0.8s,mb4.5
RSSD Black Hills 34.90 167 *e*P P **10 03 31.5 +3.4**
3.0nm,0.8s,mb4.3
PDAR Pinedale Array 36.09 175 P P **10 03 41.2 +2.9**
1.4nm,0.7s,mb4.2,baz=13,slow=7.6,SNR=12
PDAR Pinedale Array 36.09 175 P P **10 03 41.2 +2.9**
HVU Hansel Valley 37.03 179 *e*P P **10 03 45.6 -0.7**
NVAR Mina Array Bea 40.42 185 P P **10 04 17.6 +2.8**
1.3nm,0.9s,mb3.6,baz=0.2,slow=6.3,SNR=7.8
NVAR Mina Array Bea 40.42 185 P P **10 04 17.6 +2.8**
WUAZ Wupatki 43.30 177 *e*P P **10 04 41.4 +3.1**
4.9nm,0.8s,mb4.3
ANMO Albuquerque 43.96 171 P P **10 04 46.8 +3.1**
0.8nm,0.6s,mb3.6,baz=356,slow=6.9,SNR=5.4
ANMO Albuquerque 43.96 171 P P **10 04 46.8 +3.1**
ZALV Zalesovo Beam 47.13 345 P P **10 04 53.6 -15**
0.4nm,0.3s,mb3.8,baz=141,slow=21,SNR=1.1
ZALV Zalesovo Beam 47.13 345 P P **10 04 53.6 -15**
TXAR Lajitas Array 49.66 168 P P **10 05 30.1 +1.8**
0.5nm,0.6s,mb3.7,baz=24,slow=5.7,SNR=11
TXAR Lajitas Array 49.66 168 P P **10 05 30.1 +1.8**
KURK Kurchatov 50.63 350 P P **10 05 21.4 -14**
0.2nm,0.3s,mb3.5,baz=2.2,slow=7.6,SNR=4.3
KURK Kurchatov 50.63 350 P P **10 05 21.4 -14**
SONM Songino Array 51.46 326 P P **10 05 29.6 -12**
0.3nm,0.5s,mb3.5,baz=147,slow=45,SNR=4.1
SONM Songino Array 51.46 326 P P **10 05 29.6 -12**
MKAR Makanchi Array 54.40 346 P P **10 05 48.8 -15**
1.0nm,0.8s,mb3.8,baz=23,slow=6.6,SNR=4.2
MKAR Makanchi Array 54.40 346 P P **10 05 48.8 -15**
TORD Torodi Ar. Bea 82.05 62 P P **10 08 49.1 -7.9**
1.1nm,0.9s,mb3.8,baz=317,slow=5.3,SNR=5.5
TORD Torodi Ar. Bea 82.05 62 P P **10 08 49.1 -7.9**
ASAR Alice Springs 117.36 287 PKP PKPdf 10 15 13.2 -8.6
0.1nm,0.3s,baz=291,slow=13,SNR=2.8
ASAR Alice Springs 117.36 287 PKP PKPdf 10 15 13.2 -8.6

IDC ***19*** *10:23:20.0±1.0, 14°.50N×92°.51W, h28km±6km, mb4.2/14, mb1 4.4/16, mb1mx4.3/22, mbtmp4.2/16, ML4.4/2, MS4.0/15, Ms1 4.0/15, ms1mx3.8/29, Error ellipse: s-maj=29.2km s-min=13.8km az=60.0*
MEX ***19*** *10:23:20.2±1.5, 14°.21N×93°.05W, h20km±67km, MD4.6*
NEIC ***19*** *10:23:20.0, 14°.21N×93°.05W, h20km, mb4.7/62, MD4.6(MEX), After MEX.*
ISCJB ***19*** *10:23:23.5±0.6, 14°.50N±0°.04×92°.67W±0°.04, h66km±4km, mb4.5/66, Error ellipse: s-maj=8.2km s-min=3.9km az=38.3*
CASC ***19*** *10:23:24.4±1.8, 14°.15N×92°.67W, h48km±125km, MD4.2, ML4.2, mb4.7(NEIC)*
BJI ***19*** *10:23:25.8, 14°.60N×92°.60W, h57km, mB5.1/2, Ms4.8/2, Ms7 4.4/2*
ISC 19 10:23:23.7±0.6**, 14°49N**±0°.04×**92°.74W**±0°.03**, h46**km±4km**, n485**, σ0s**73**/479**, mb4.6**/66**, MS4.1**/14**, 165C-159D, Near**

coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
THIG		**0.62**	**48**	*i* P	**Pn**		**10 23 35.6**	**-0.6**
THIG				*i* S	**Sn**		**10 23 47.9**	**+2.5**
JAT	**Jato**	**1.08**	**99**	‖ *i*P	**Pn**		**10 23 43.0**	**+0.6**
PCIG		**1.29**	**339**	*e*P	**Pn**		**10 23 41.9**	**-3.5**
PCIG				*i* S	**Sn**		**10 24 00.1**	**-1.4**
TP2	**Tecpan 2**	**1.69**	**80**	*e*P	**Pn**		**10 23 53.1**	**+2.4**
FG6		**1.80**	**88**	*e*P	**Pn**		**10 23 53.2**	**+0.9**
FUG	**Fuego 3**	**1.84**	**91**	*e*P	**Pn**		**10 23 52.9**	**+0.1**
CCIG	**Comitan**	**1.88**	**18**	*e*P	**Pn**		**10 23 55.6**	**+2.3**
CCIG				*i* S	**Sn**		**10 24 19.4**	**+3.6**
PCG	**Pacaya**	**2.07**	**92**	*e*P	**Pn**		**10 23 56.8**	**+0.8**
PCG				*e*S	**Sn**		**10 24 26.5**	**+6.0**
SCX	**San Cristobal**	**2.24**	**3**	*e*P	**Pn**		**10 23 58.3**	**0.0**
SCX				*i* S	**Sn**		**10 24 28.1**	**+3.4**
TGIG		**2.31**	**351**	*e*P	**Pn**		**10 23 58.8**	**-0.5**
TGIG				*i* S	**Sn**		**10 24 28.9**	**+2.6**
NBG	**Las Nubes**	**2.32**	**87**	*e*P	**Pn**		**10 24 02.0**	**+2.6**
RTR	**El Retiro**	**3.06**	**101**	*e*P	**Pn**		**10 24 09.4**	**-0.2**
SBLS	**San Blas**	**3.09**	**102**	*e*P	**Pn**		**10 24 09.1**	**-1.0**
SBLS				*e*S	**Sn**		**10 24 45.4**	**-0.4**
CMIG	**Matias Romero**	**3.31**	**322**	Pn	**Pn**		**10 24 09.6**	**-3.4**
	31nm,0.3s,baz=143,slow=11,SNR=486							
CMIG					Sn	**Sn**	**10 24 43.5**	**-7.6**
	40nm,0.3s,baz=104,slow=14,SNR=12							
CMIG					LR	LR	10 25 50.8	
	comp=Z,920nm,18.5s,baz=142,slow=44							
CMIG	**Matias Romero**	**3.31**	**322**	Pn	**Pn**		**10 24 09.6**	**-3.4**
CMIG					Sn	**Sn**	**10 24 43.5**	**-7.6**
CMIG					LR	LR	10 25 50.8	
CMIG	**Matias Romero**	**3.31**	**322**	*e*P	**Pn**		**10 24 09.2**	**-3.8**
CMIG				*i* S	**Sn**		**10 24 47.1**	**-4.0**
HUIG	**Huatulco**	**3.49**	**292**	*i* P	**Pn**		**10 24 09.6**	**-5.9**
HUIG				*i* S	**Sn**		**10 24 46.5**	**-9.0**
SNET	**Serv Nac Est T**	**3.50**	**103**	*e*P	**Pn**		**10 24 14.9**	**-0.7**
SNET				*e*S	**Sn**		**10 24 54.8**	**-0.9**
SNET				AML	AML		10 25 19.7	
	comp=Z,1μm,0.5s							
OXX	**Oaxaca**	**4.62**	**304**	*e*P	**Pn**		**10 24 31.0**	**+0.1**
VHO	**Vista Hermosa**	**4.62**	**304**	*i* P	**Pn**		**10 24 25.4**	**-5.6**
VHO				*i* S	**Sn**		**10 25 17.4**	**-6.1**
TGUH	**Tegucigalpa,Un**	**5.32**	**94**	*e*Pn	**Pn**		**10 24 40.5**	**-0.1**
PNIG	**Pinotepa**	**5.53**	**291**	*e*P	**Pn**		**10 24 38.3**	**-5.2**
PNIG				*i* S	**Sn**		**10 25 37.2**	**-8.5**
UTMO	**Huajuapan**	**5.89**	**305**	*i* P	**Pn**		**10 24 44.9**	**-3.5**
UTMO				*i* S	**Sn**		**10 25 49.5**	**-5.2**
TPIG	**Tehuac#an**	**5.91**	**312**	*e*P	**Pn**		**10 24 45.8**	**-2.9**
TPIG				*i* S	**Sn**		**10 25 50.9**	**-4.2**
TEIG	**Tepich**	**7.12**	**36**	Pn	**Pn**		**10 25 05.3**	**0.0**
	comp=Z,31nm,0.3s,baz=236,slow=4.9,SNR=147							
TEIG					Sn	**Sn**	**10 26 25.0**	**0.0**
	comp=Z,7.3nm,0.3s,baz=61,slow=19,SNR=2.5							
TEIG	**Tepich**	**7.12**	**36**	*e*Pn	**Pn**		**10 25 05.2**	**-0.1**
TEIG				Sn	**Sn**		**10 26 25.4**	**+0.5**
PPM	**Popocatepetl**	**7.24**	**310**	*i* P	**Pn**		**10 25 06.7**	**-0.3**
JTS	**Juntasabangare**	**8.68**	**118**	*e*Pn	**Pn**		**10 25 27.4**	**+0.7**
HKT	**Hockley**	**15.65**	**350**	*e*Pn	**Pn**		**10 27 02.2**	**+1.1**
	comp=Z,40nm,1.5s							
JCT	**Junction City**	**17.19**	**339**	‖P	**Pn**		**10 27 21.0**	**+0.4**
	baz=17,SNR=5.9							
JCT	**Junction City**	**17.19**	**339**	*e*Pn	**Pn**		**10 27 19.5**	**-1.0**
	comp=Z,12nm,0.7s							
627A	**Terlingua Ranc**	**17.85**	**328**	‖P	**Pn**		**10 27 29.1**	**+0.4**
	baz=18,SNR=62							
TXAR	**Lajitas Array**	**17.90**	**327**	P	**Pn**		**10 27 29.5**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=152,slow=9.6,SNR=53							
TXAR					PcP	PcP	10 32 02.5	-1.3
	comp=Z,0.0nm,0.3s,baz=153,slow=6.1,SNR=3.0							
TXAR					LR	LR	10 35 25.7	
	comp=Z,181nm,18.1s,baz=0.0,slow=40							
TXAR	**Lajitas Array**	**17.90**	**327**	P	**Pn**		**10 27 29.5**	**+0.3**
TXAR				PcP	PcP		10 32 02.5	-1.3
TXAR				LR	LR		10 35 25.8	
528A	**Cox Ranch, San**	**18.14**	**331**	⇑P	**Pn**		**10 27 32.7**	**+0.5**
	baz=18							
626A	**Big Bend Ranch**	**18.32**	**327**	‖P	**Pn**		**10 27 34.6**	**+0.2**
	baz=18,SNR=44							
527A	**Woodward Ranch**	**18.52**	**329**	‖P	**Pn**		**10 27 36.9**	**0.0**
	baz=19,SNR=32							
428A	**Kincaid Ranch,**	**18.57**	**332**	‖P	**Pn**		**10 27 37.8**	**+0.4**
	baz=19,SNR=15							
526A	**Mary Lane Ranc**	**18.70**	**328**	‖P	**Pn**		**10 27 38.9**	**-0.1**
	baz=19,SNR=35							
427A	**Hayter Ranch,**	**19.00**	**331**	⇑P	**Pn**		**10 27 42.6**	**-0.1**
	baz=19,SNR=22							
426A	**Mcnald Obser**	**19.16**	**329**	⇑P	**Pn**		**10 27 43.8**	**-0.7**
	baz=19,SNR=31							
328A	**Wristen Ranch,**	**19.18**	**333**	‖P	**Pn**		**10 27 43.6**	**-1.1**
	baz=19,SNR=68							
326A	**Caldwell Ranch**	**19.66**	**330**	⇑P	**Pn**		**10 27 49.0**	**-1.6**
	baz=20,SNR=18							
425A	**Indio Mountain**	**19.74**	**327**	⇑P	**Pn**		**10 27 50.2**	**-1.2**
	baz=20,SNR=8.1							
227A	**Bennet, Jal**	**19.93**	**333**	‖P	**Pn**		**10 27 51.7**	**-2.0**
	baz=20,SNR=29							
MIAR	**Mount Ida**	**19.98**	**358**	*e*P	**Pn**		**10 27 52.1**	**-2.2**
	comp=Z,25nm,0.8s							
325A	**Bean Ranch, Si**	**20.20**	**328**	⇑P	**P**		**10 27 54.7**	**+0.1**
	baz=20							
UALR	**University of**	**20.20**	**1**	*e*Pn	**P**		**10 27 54.4**	**-0.2**
	comp=Z,25nm,1.0s							
226A	**Malaga, Loving**	**20.34**	**331**	⇑P	**P**		**10 27 56.2**	**0.0**
	baz=20,SNR=16							
CLNB	**Carlsbad**	**20.41**	**332**	*e*P	**P**		**10 27 57.4**	**+0.6**
	comp=Z,11nm,0.7s							
ROSC	**El Rosal**	**20.50**	**116**	P	**P**		**10 28 00.9**	**+2.9**
	comp=Z,6.6nm,0.4s,baz=93,slow=22,SNR=10							
ROSC	**El Rosal**	**20.50**	**116**	P	**P**		**10 28 00.9**	**+2.9**
324A	**Moseley Ranch,**	**20.52**	**327**	‖P	**P**		**10 27 57.5**	**-0.6**
	baz=21,SNR=20							
127A	**Arkansas Junct**	**20.53**	**334**	⇑P	**P**		**10 27 57.5**	**-0.6**
	baz=21,SNR=24							
GOGA	**Godfrey**	**20.64**	**22**	*e*P	**P**		**10 27 58.4**	**-0.9**
	comp=Z,292nm,2.7s							
225A	**Deer Hill, Car**	**20.72**	**330**	‖P	**P**		**10 27 60.0**	**-0.3**
	baz=21,SNR=33							
126A	**Clayton Basin,**	**20.79**	**332**	⇑P	**P**		**10 28 00.2**	**-0.8**
	baz=21,SNR=28							
PLAL	**Pickwick Lake**	**20.84**	**11**	*e*P	**P**		**10 28 00.8**	**-0.6**
	comp=Z,115nm,2.3s							
WMOK	**Wichita Mounta**	**20.89**	**346**	*e*P	**P**		**10 28 02.1**	**+0.1**
	comp=Z,94nm,2.6s							
Z27A	**Tatum**	**21.02**	**335**	‖P	**P**		**10 28 02.5**	**-1.0**
	baz=21,SNR=13							
224A	**Cornudas Mount**	**21.04**	**328**	⇑P	**P**		**10 28 02.9**	**-0.8**
	baz=21,SNR=26							
CPRX	**Cap Rock**	**21.05**	**333**	*e*P	**P**		**10 28 03.7**	**-0.1**
	comp=Z,37nm,0.8s,mb4.8							
125A	**Gardner Draw,**	**21.10**	**331**	‖P	**P**		**10 28 03.3**	**-1.0**
	baz=21,SNR=68							
Z26A	**Caprock**	**21.31**	**333**	⇑P	**P**		**10 28 05.3**	**-1.2**
	baz=21,SNR=35							
MSTX	**Muleshoe**	**21.42**	**337**	⇑P	**P**		**10 28 06.5**	**-1.3**
	baz=22,SNR=18							
Y27A	**Causey**	**21.50**	**336**	⇑P	**P**		**10 28 07.2**	**-1.4**
	baz=22,SNR=12							
124A	**Stringfield Ra**	**21.51**	**330**	⇑P	**P**		**10 28 08.3**	**-0.5**
	baz=22,SNR=42							
SWET	**Sewanee**	**21.53**	**15**	*e*P	**P**		**10 28 08.5**	**-0.4**
	comp=Z,14nm,0.9s,mb4.4							
Z25A	**Roswell**	**21.64**	**332**	‖P	**P**		**10 28 09.0**	**-1.1**
	baz=22,SNR=39							
Y26A	**Elida**	**21.80**	**335**	‖P	**P**		**10 28 10.7**	**-1.1**
	baz=22							
AMTX	**Amarillo**	**21.85**	**340**	⇑P	**P**		**10 28 11.9**	**-0.4**
	baz=22,SNR=6.6							
AMTX	**Amarillo**	**21.85**	**340**	*e*P	**P**		**10 28 11.7**	**-0.7**
	comp=Z,32nm,0.7s,mb4.8							
123A	**Bell Site, Whi**	**21.87**	**328**	‖P	**P**		**10 28 11.7**	**-0.8**
	baz=22,SNR=11							
222A	**Williams Famil**	**21.90**	**326**	⇑P	**P**		**10 28 12.2**	**-0.7**
	baz=22,SNR=13							
Z24A	**Sheeppen Canyo**	**21.98**	**331**	⇑P	**P**		**10 28 14.0**	**+0.2**
	baz=22							
X27A	**F and S Farms,**	**22.14**	**337**	‖P	**P**		**10 28 14.0**	**-1.5**
	baz=22,SNR=24							
320A	**Kipp Ranch, An**	**22.15**	**322**	⇑P	**P**		**10 28 15.4**	**-0.2**
	baz=22,SNR=17							
Y25A	**Mesa, Roswell**	**22.17**	**333**	‖P	**P**		**10 28 15.4**	**-0.4**
	baz=22,SNR=38							
221A	**Mesquite Ranch**	**22.20**	**324**	‖P	**P**		**10 28 15.7**	**-0.4**
	baz=22,SNR=16							
122A	**Conniff Cattle**	**22.30**	**327**	‖P	**P**		**10 28 16.7**	**-0.4**
	baz=22							
X26A	**CR and CF Fran**	**22.34**	**335**	⇑P	**P**		**10 28 16.4**	**-1.1**
	baz=22,SNR=7.0							
SDV	**Santo Domingo**	**22.35**	**102**	*e*P	**P**		**10 28 18.3**	**+0.5**
	comp=Z,13nm,0.6s,mb4.5							
Z23A	**Rita Site, Whi**	**22.35**	**329**	‖P	**P**		**10 28 17.2**	**-0.5**
	baz=22,SNR=36							
W27A	**Bowe Ranch, En**	**22.50**	**337**	⇑P	**P**		**10 28 18.7**	**-0.5**
	baz=22,SNR=23							
Y24A	**Capitan**	**22.51**	**331**	⇑P	**P**		**10 28 19.2**	**-0.2**
	baz=23,SNR=43							
220A	**Playas Peak, P**	**22.55**	**323**	‖P	**P**		**10 28 19.7**	**-0.2**
	baz=23,SNR=12							
TKL	**Tuckaleechee C**	**22.57**	**19**	P	**P**		**10 28 17.4**	**-2.5**
	comp=Z,13nm,1.1s,mb4.3,baz=188,slow=13,SNR=4.7							
TKL	**Tuckaleechee C**	**22.57**	**19**	*e*P	**P**		**10 28 19.3**	**-0.7**
121A	**Cookes Peak, D**	**22.60**	**325**	⇑P	**P**		**10 28 20.3**	**-0.1**
	baz=23,SNR=28							
319A	**Douglas**	**22.63**	**321**	⇑P	**P**		**10 28 20.9**	**+0.2**
	baz=23,SNR=8.1							
X25A	**Clemmons Ranch**	**22.67**	**334**	⇑P	**P**		**10 28 21.2**	**+0.1**
	baz=23							
Z22A	**Elephant Butte**	**22.72**	**328**	⇑P	**P**		**10 28 21.9**	**+0.3**
	baz=23,SNR=23							
W26A	**Owens Ranch, T**	**22.79**	**336**	⇑P	**P**		**10 28 21.6**	**-0.8**
	baz=23,SNR=5.2							
Y23A	**Lovelace Mesa,**	**22.80**	**330**	⇑P	**P**		**10 28 23.3**	**+0.8**
	baz=23,SNR=56							
KMSC	**Kings Mountain**	**22.99**	**25**	⇑P	**P**		**10 28 23.3**	**-1.1**
	baz=23							
X24A	**Lazy VL Ranch,**	**23.04**	**332**	‖P	**P**		**10 28 24.5**	**-0.5**
	baz=23,SNR=13							
219A	**White Tail Can**	**23.06**	**322**	⇑P	**P**		**10 28 25.0**	**-0.2**
	baz=23,SNR=18							
120A	**U Bar Ranch, L**	**23.09**	**324**	⇑P	**P**		**10 28 25.9**	**+0.4**
	baz=23,SNR=12							
318A	**Bisbee**	**23.11**	**320**	‖P	**P**		**10 28 25.5**	**-0.3**
	baz=23							
Z21A	**St. Cloud Mine**	**23.13**	**327**	‖P	**P**		**10 28 26.0**	**0.0**
	baz=23,SNR=5.7							
W25A	**X Bar L Ranch,**	**23.18**	**335**	‖P	**P**		**10 28 26.1**	**-0.3**
	baz=23,SNR=29							
Y22A	**Socorro**	**23.26**	**329**	‖P	**P**		**10 28 28.0**	**+0.7**
	baz=23,SNR=26							
BNM	**Barren Site**	**23.26**	**330**	*e*P	**P**		**10 28 27.9**	**+0.6**
	comp=Z,13nm,0.8s,mb4.4							
LPM	**Los Pinos Moun**	**23.39**	**330**	*e*P	**P**		**10 28 29.3**	**+0.7**
X23A	**Hourglass Bar**	**23.40**	**331**	⇑P	**P**		**10 28 28.9**	**+0.3**
	baz=23,SNR=12							
V26A	**Tequesquite Ra**	**23.42**	**337**	⇑P	**P**		**10 28 28.2**	**-0.6**
	baz=24,SNR=19							
LENM	**Lemitar**	**23.44**	**329**	*e*P	**P**		**10 28 30.2**	**+1.2**
Z20A	**Nine Sixteen R**	**23.48**	**325**	‖P	**P**		**10 28 29.7**	**+0.3**
	baz=24,SNR=11							
CCM	**Cathedral Cave**	**23.51**	**3**	*e*P	**P**		**10 28 28.1**	**-1.5**
	comp=Z,235nm,2.9s,mb5.1							
218A	**Dragoon**	**23.52**	**321**	‖P	**P**		**10 28 29.7**	**0.0**
	baz=24,SNR=15							
W24A	**Lazy 6 Ranch,**	**23.57**	**333**	‖P	**P**		**10 28 30.0**	**-0.2**
	baz=24,SNR=24							
119A	**Ashpeak Ranch,**	**23.63**	**323**	‖P	**P**		**10 28 30.8**	**+0.1**
	baz=24,SNR=13							
Y21A	**Point of Rocks**	**23.67**	**328**	⇑P	**P**		**10 28 31.8**	**+0.7**
	baz=24,SNR=14							
LAZ	**Ladron**	**23.71**	**329**	*e*P	**P**		**10 28 31.9**	**+0.5**
	comp=Z,6.5nm,1.0s,mb4.0							
X22A	**Bernardo**	**23.73**	**330**	‖P	**P**		**10 28 31.9**	**+0.2**
	baz=24,SNR=9.7							
V25A	**Rancho No Teng**	**23.78**	**336**	‖P	**P**		**10 28 32.2**	**+0.2**
	baz=24,SNR=25							
ANMO	**Albuquerque**	**23.83**	**331**	P	**P**		**10 28 32.0**	**-0.5**
	comp=Z,8.5nm,0.8s,mb4.2,baz=159,slow=12,SNR=16							
ANMO					LR	LR	10 39 12.4	
	comp=Z,164nm,18.0s,MS3.5,baz=261,slow=40							
ANMO	**Albuquerque**	**23.83**	**331**	*e*P	**P**		**10 28 31.6**	**-0.9**
	comp=Z,7.4nm,0.7s,mb4.2							
217A	**Green Valley**	**23.86**	**319**	⇑P	**P**		**10 28 33.5**	**+0.6**
	baz=24,SNR=11							
W23A	**Werner Place,**	**23.86**	**332**	⇑P	**P**		**10 28 33.6**	**+0.8**
	baz=24,SNR=20							
U26A	**Atchley Ranch,**	**23.93**	**338**	‖P	**P**		**10 28 33.5**	**0.0**
	baz=24,SNR=28							
118A	**Homack Ranch,**	**23.93**	**322**	‖P	**P**		**10 28 33.6**	**+0.1**
	baz=24,SNR=18							
V24A	**Rampart Ranch,**	**23.95**	**334**	‖P	**P**		**10 28 34.0**	**+0.3**
	baz=24,SNR=20							
Y20A	**Horse Springs,**	**23.96**	**327**	⇑P	**P**		**10 28 34.6**	**+0.8**
	baz=24,SNR=22							
X21A	**Alamocita Cree**	**24.07**	**328**	⇑P	**P**		**10 28 35.2**	**+0.5**
	baz=24,SNR=19							
W22A	**Albuquerque**	**24.12**	**331**	‖P	**P**		**10 28 35.7**	**+0.5**
	baz=24							
U25A	**Circle Dot Ran**	**24.19**	**337**	‖P	**P**		**10 28 36.2**	**+0.4**
	baz=24,SNR=30							
TUC	**Tucson**	**24.20**	**320**	*e*P	**P**		**10 28 35.5**	**-0.5**
	comp=Z,13nm,0.9s,mb4.4							
WCI	**Wyandotte Cave**	**24.33**	**12**	*e*P	**P**		**10 28 36.6**	**-0.4**
	comp=Z,27nm,1.1s,mb4.6							
WCI				*e*pP			10 28 49.8	
117A	**Oracle**	**24.35**	**321**	‖P	**P**		**10 28 38.2**	**+0.8**
	baz=24,SNR=13							
V23A	**Ortiz Mt. (NFS**	**24.36**	**333**	⇑P	**P**		**10 28 38.3**	**+0.9**
	baz=24,SNR=16							
216A	**Three Points,**	**24.42**	**319**	⇑P	**P**		**10 28 38.9**	**+1.0**
	baz=24,SNR=8.8							
Y19A	**Nutrioso**	**24.48**	**325**	⇑P	**P**		**10 28 39.2**	**+0.7**
	baz=24,SNR=13							
X20A	**Quemado**	**24.52**	**327**	‖P	**P**		**10 28 39.9**	**+1.1**
	baz=25,SNR=14							
U24A	**Moreno Valley**	**24.54**	**335**	⇑P	**P**		**10 28 39.9**	**+0.9**
	baz=25,SNR=9.9							
KSU1	**Kansas State U**	**24.75**	**353**	*e*P	**P**		**10 28 39.2**	**-1.7**
	comp=Z,19nm,0.7s,mb4.7							
Y18A	**Canyon Day Jun**	**24.79**	**324**	‖P	**P**		**10 28 41.9**	**+

baz=26
S23A **Nye Farm, Mont** 25.95 335 ⇓P P 10 28 52.6 +0.8
baz=26,SNR=18
T21A **Navajo Lake** 26.00 332 ⇓P P 10 28 53.1 +0.8
baz=26
X16A **Lo Mia Camp, P** 26.06 323 ⇑P P 10 28 53.0 +0.2
baz=26,SNR=10
R24A **Sanders Place,** 26.06 337 ⇓P P 10 28 53.0 +0.2
baz=26,SNR=7.6
U19A **Dine' College,** 26.24 329 ⇑P P 10 28 54.6 +0.2
baz=26,SNR=7.9
Z14A **Wintersburg** 26.26 319 ⇓P P 10 28 55.0 +0.3
baz=26
Y15A **Casa Rosa Ranc** 26.27 321 ⇓P P 10 28 54.8 +0.1
baz=26
S22A **4UR Ranch, Cre** 26.32 334 ⇑P P 10 28 55.4 +0.2
baz=26,SNR=20
Q25A **Bedland, Calha** 26.36 339 ⇓P P 10 28 55.3 -0.2
baz=26,SNR=8.7
113A **Mohawk Valley,** 26.41 317 ⇑P P 10 28 56.1 +0.1
baz=26
V17A **Tonalea, Kykot** 26.56 326 ⇑P P 10 28 57.3 0.0
baz=27
W16A **Flagstaff** 26.59 324 ⇓P P 10 28 57.6 0.0
baz=27
Z13A **Yuma Proving G** 26.61 318 ⇓P P 10 28 57.7 0.0
baz=27,SNR=7.9
MVCO **Mesa Verde** 26.62 331 ⇑P P 10 28 58.2 +0.3
baz=27,SNR=16
MVCO **Mesa Verde** 26.62 331 *e*P P 10 28 58.7 +0.8
comp=Z,16nm,0.8s,mb4.6
S21A **Coal Bank Pass** 26.67 333 ⇑P P 10 28 58.5 +0.2
baz=27,SNR=8.2
WUAZ **Wupatki** 26.80 325 ⇑P P 10 28 59.9 +0.3
baz=27,SNR=7.0
WUAZ **Wupatki** 26.80 325 *e*P P 10 28 59.4 -0.2
comp=Z,5.9nm,0.9s,mb4.1
WUAZ *e*PcP PcP 10 32 21.5 -0.1
Q23A **Hartsel** 26.92 337 ⇑P P 10 29 01.0 +0.4
baz=27
S20A **Disappointment** 27.07 332 ⇓P P 10 29 02.4 +0.6
baz=27
U16A **Tuba City** 27.13 326 ⇓P P 10 29 02.5 +0.1
baz=27
R21A **Cimarron** 27.16 334 ⇓P P 10 29 02.8 +0.2
baz=27
U17A **Shonto** 27.22 327 ⇓P P 10 29 03.4 +0.1
baz=27
T18A **Mexican Hat** 27.23 329 ⇑P P 10 29 03.2 -0.2
baz=27
Q22A **Crested Butte,** 27.31 335 ⇓P P 10 29 04.1 +0.1
baz=27,SNR=9.3
P23A **Jefferson** 27.34 338 ⇓P P 10 29 04.6 +0.3
baz=27,SNR=8.4
S19A **Harvey Farm, M** 27.36 331 ⇑P P 10 29 05.2 +0.7
baz=27
R20A **Redvale** 27.37 332 ⇑P P 10 29 05.4 +0.8
baz=27
O25A **Wiggins** 27.40 341 ⇑P P 10 29 05.9 +1.0
baz=27
PV01 **Paradox Valley** 27.41 332 *e*P P 10 29 05.9 +1.0
comp=Z,1um,1.2s
V15A **Kaibab Nationa** 27.47 324 ⇓P P 10 29 06.1 +0.6
baz=28
Y12C **Blythe** 27.52 318 ⇓P P 10 29 06.0 +0.1
baz=28
Q21A **Lamborn Mesa,** 27.56 334 ⇓P P 10 29 06.6 +0.3
baz=28,SNR=10
T17A **Navajo Res., N** 27.60 328 ⇑P P 10 29 07.1 +0.5
baz=28
SMCO **Snowmass** 27.60 336 *e*pP pP 10 29 22.4 +3.6
PDMCI **Parker Dam,Lak** 27.62 319 ⇑P P 10 29 06.8 0.0
baz=28,SNR=5.3
ISCO **Idaho Springs** 27.63 338 ⇑P P 10 29 07.2 +0.3
baz=28
ISCO **Idaho Springs** 27.63 338 *e*P P 10 29 06.8 -0.1
comp=Z,83nm,2.8s,mb4.9
S18A **Hurst Farm, Bl** 27.73 330 ⇓P P 10 29 08.1 +0.3
baz=28
O24A **Longmont** 27.73 339 ⇑P P 10 29 07.9 +0.2
baz=28
PV04 **Paradox Valley** 27.77 332 *e*P P 10 29 08.6 +0.4
R19A **Curley Farm, L** 27.85 331 ⇓P P 10 29 09.4 +0.5
baz=28,SNR=6.6
SWSC **Sam W. Stewart** 27.87 315 ⇓P P 10 29 09.2 +0.1
baz=28
P22A **Eagle** 27.88 336 ⇓P P 10 29 09.7 +0.6
baz=28
Q20A **Ridgley Place,** 27.96 334 ⇑P P 10 29 10.5 +0.6
baz=28
U15A **North Rim** 27.98 325 ⇓P P 10 29 10.7 +0.7
baz=28
W13A **Hualapai Mount** 27.98 321 ⇑P P 10 29 10.6 +0.5
baz=28
BC3 **Big Chuckawall** 28.07 317 ⇑P P 10 29 10.8 0.0
baz=28,SNR=13
S17A **Black Ridge (B** 28.08 328 ⇓P P 10 29 11.4 +0.5
baz=28
P21A **Newcastle** 28.09 335 ⇑P P 10 29 11.8 +0.8
baz=28
O23A **Lake Granby, G** 28.10 338 ⇑P P 10 29 11.8 +0.7
baz=28
IRM **Iron Mountain** 28.18 318 ⇓P P 10 29 11.6 -0.2
baz=28,SNR=6.0
R18A **Canyonlands Na** 28.23 331 ⇓P P 10 29 13.4 +1.2
baz=28
MONP **Monument Peak** 28.27 314 ⇑P P 10 29 12.7 0.0
baz=28
O22A **Kremmling** 28.29 337 ⇑P P 10 29 12.8 +0.1
baz=28
Q19A **Hogan Spring (** 28.39 332 ⇓P P 10 29 13.8 +0.1
baz=28,SNR=12
P20A **De Beque** 28.46 334 ⇑P P 10 29 14.6 +0.3
baz=28,SNR=8.1
BELC **Belle Mtn. Jos** 28.64 317 ⇓P P 10 29 15.6 -0.3
baz=29
R17A **Hanksville Air** 28.65 330 ⇑P P 10 29 16.2 +0.2
baz=29
LDFC **Landfair** 28.73 320 *e*P P 10 29 18.0 +1.2
comp=Z,14nm,1.0s,mb4.7
N22A **Wattenberg Ran** 28.82 338 ⇓P P 10 29 17.4 -0.1
baz=29
P19A **Cripple Cowboy** 28.82 333 ⇑P P 10 29 18.0 +0.5
baz=29
GMRC **Granite Mounta** 28.89 318 ⇑P P 10 29 18.5 +0.3
baz=29
Q18A **Rafter H Ranch** 28.91 331 ⇑P P 10 29 19.0 +0.7
baz=29
R16A **Teasdale** 28.93 328 ⇓P P 10 29 19.3 +0.8
baz=29
O20A **White River Ci** 28.93 335 ⇓P P 10 29 19.4 +1.0
baz=29
SRU **San Rafael** 29.10 331 ⇑P P 10 29 20.9 +1.0
baz=29
N21A **Black Mountain** 29.18 337 ⇑P P 10 29 21.3 +0.7
baz=29,SNR=6.6
ALLY **Alegheny Colle** 29.19 20 *e*P P 10 29 19.4 -1.3
comp=Z,31nm,0.5s,mb5.3
Q16A **Castle Valley** 29.26 330 ⇑P P 10 29 22.4 +1.0
baz=29
ECSD **EROS Data Cent** 29.33 354 *e*P P 10 29 20.6 -1.4
comp=Z,7.8nm,0.8s,mb4.5
HEC **Hector,Ludlow** 29.36 318 ⇑P P 10 29 23.3 +1.0
baz=29
CCUT **Cedar City** 29.38 325 *e*P P 10 29 23.4 +1.0
comp=Z,4.6nm,1.0s,mb4.2
P18A **Preston Nutter** 29.38 332 ⇓P P 10 29 23.3 +0.8
baz=29
M22A **Cedar Creek Ra** 29.39 338 ⇓P P 10 29 23.4 +0.8
baz=29
BBRC **Big Bear Solar** 29.41 316 ⇑P P 10 29 23.0 +0.2
baz=30
O19A **Miners Draw (B** 29.44 334 ⇑P P 10 29 23.4 +0.5
baz=30
TUQ **Turquoise Moun** 29.47 319 ⇓P P 10 29 23.3 -0.1
baz=30
P17A **Butcher Ranch,** 29.49 331 ⇑P P 10 29 23.8 +0.3
baz=30
N20A **Spence Gulch,** 29.53 336 ⇓P P 10 29 24.2 +0.5
baz=30,SNR=13
ARUT **Antelope Range** 29.59 325 *e*P P 10 29 24.7 +0.3
comp=Z,22nm,1.4s,mb4.7
L23A **Garrett** 29.72 340 ⇓P P 10 29 25.8 +0.3
baz=30
O18A **Roosevelt** 29.79 333 ⇓P P 10 29 26.7 +0.6
baz=30,SNR=7.7
M21A **Separation Pea** 29.85 338 ⇓P P 10 29 27.0 +0.4
baz=30,SNR=7.9

RWWY **Rawlins** 29.87 338 *e*P P 10 29 27.1 +0.4
comp=Z,13nm,1.0s,mb4.6
BFSC **Mount Baldy Ra** 29.89 316 ⇑P P 10 29 27.2 +0.2
baz=30
GSC **Goldstone** 29.95 318 ⇑P P 10 29 28.0 +0.4
baz=30
N19A **John Jarvie Ra** 29.95 335 ⇓P P 10 29 28.0 +0.5
baz=30
M20A **Sweetwater, Wa** 30.06 336 ⇑P P 10 29 28.7 +0.2
baz=30,SNR=5.4
O17A **Robinson Place** 30.06 332 ⇑P P 10 29 29.0 +0.5
baz=30
L21A **Rawlins** 30.16 338 ⇓P P 10 29 29.4 +0.1
baz=30,SNR=9.3
R13A **O'Grain Ranch,** 30.16 325 ⇓P P 10 29 29.9 +0.4
baz=30,SNR=5.9
N18A **Larsen Ranch,** 30.23 334 ⇓P P 10 29 30.4 +0.5
baz=30,SNR=12
MPU **Maple Canyon** 30.34 331 *e*P P 10 29 33.5 +2.6
comp=Z,6.3nm,1.0s,mb4.3
O16A **Springville** 30.43 331 ⇑P P 10 29 31.9 +0.2
baz=30,SNR=7.2
K22A **Casper** 30.47 340 ⇓P P 10 29 32.2 +0.1
baz=30
DAU **Daniels Canyon** 30.48 331 *e*P P 10 29 32.7 +0.5
comp=Z,3.0nm,0.6s,mb4.2
LRMC **Laurel Mountai** 30.63 317 ⇓P P 10 29 33.1 -0.5
baz=31
SPMN **St. Paul** 30.64 360 ⇑P P 10 29 32.6 -0.9
baz=31
K21A **Alcova** 30.71 339 ⇑P P 10 29 33.7 -0.4
baz=31
FURC **Furnace Creek,** 30.71 320 ⇑P P 10 29 34.1 -0.2
baz=31
MPMC **Manual Prospec** 30.86 319 ⇑P P 10 29 35.5 -0.1
baz=31,SNR=7.8
L19A **Farson** 31.04 336 ⇓P P 10 29 37.0 -0.1
baz=31
K20A **Yellowstone Ra** 31.12 337 ⇓P P 10 29 37.3 -0.6
baz=31
J22A **Midwest** 31.14 340 ⇑P P 10 29 37.1 -0.8
baz=31
L18A **Fontenelle, Gr** 31.17 335 ⇑P P 10 29 38.1 -0.2
baz=31,SNR=6.5
R11A **Troy Canyon, C** 31.19 324 ⇑P P 10 29 38.4 -0.1
baz=31
GRAC **Grapevine Rang** 31.36 320 ⇓P P 10 29 40.5 +0.5
baz=31,SNR=9.3
M16A **Huntsville** 31.37 332 ⇑P P 10 29 40.4 +0.4
baz=31
J21A **Lysite** 31.40 339 ⇑P P 10 29 40.6 +0.3
baz=31,SNR=9.8
N15A **Stansbury Isla** 31.45 331 ⇑P P 10 29 40.9 +0.2
baz=32
K19A **Absolon Red Bu** 31.46 337 ⇑P P 10 29 40.4 -0.3
baz=32,SNR=5.7
HWUT **Hardware Ranch** 31.57 332 *e*P P 10 29 43.7 +1.9
comp=Z,109nm,3.0s
I22A **9 Mile Ranch,** 31.57 341 ⇓P P 10 29 41.3 -0.4
baz=32
L17A **Cokeville** 31.67 334 ⇑P P 10 29 42.3 -0.3
baz=32,SNR=6.9
BW06 **Boulder Array** 31.68 336 ⇓P P 10 29 42.7 -0.1
baz=32
BW06 **Boulder Array** 31.68 336 *e*P P 10 29 42.6 -0.1
comp=Z,5.6nm,1.1s,mb4.3
PDAR **Pinedale Array** 31.68 336 P P 10 29 42.2 -0.5
comp=Z,3.2nm,1.0s,mb4.1,baz=136,slow=8.7,SNR=15
PDAR PcP PcP 10 32 32.5 -1.3
comp=Z,0.5nm,0.6s,baz=145,slow=4.3,SNR=3.1
PDAR **Pinedale Array** 31.68 336 P P 10 29 42.2 -0.5
PDAR PcP PcP 10 32 32.5 -1.3
PD02 **Pinedale Array** 31.70 336 *e*P P 10 29 41.8 -1.1
PD01 **Pinedale Array** 31.70 336 *e*P P 10 29 42.6 -0.3
PKM **Peak Mountain** 31.73 315 ⇑P P 10 29 43.0 -0.3
baz=32
I21A **Big Trails, Te** 31.76 340 ⇓P P 10 29 43.1 -0.3
baz=32
K18A **Toltan Ranch,** 31.77 335 ⇓P P 10 29 43.5 +0.1
baz=32,SNR=15
H24A **Dirks Ranch, A** 31.79 344 ⇓P P 10 29 42.9 -0.7
baz=32
L16A **Fish Haven** 31.84 333 ⇓P P 10 29 44.1 -0.1
baz=32,SNR=11
M15A **Larsen Ranch,** 31.86 331 ⇓P P 10 29 44.6 +0.3
baz=32
J19A **Crowheart** 31.91 337 ⇑P P 10 29 44.3 -0.4
baz=32
RCTC **Rector, Farmer** 32.14 317 ⇓P P 10 29 46.9 0.0
baz=32,SNR=5.9
H22A **Clearmont** 32.16 342 ⇑P P 10 29 46.6 -0.3
baz=32
I20A **Wyland** 32.17 339 ⇑P P 10 29 46.9 -0.1
baz=32,SNR=7.8
K17A **Gardner Place,** 32.22 334 ⇑P P 10 29 47.5 +0.1
baz=32,SNR=12
J18A **Kendall Valley** 32.24 336 ⇑P P 10 29 47.5 -0.1
baz=32,SNR=8.9
L15A **Malad City** 32.26 332 ⇑P P 10 29 47.9 0.0
baz=32,SNR=6.0
HVU **Hansel Valley** 32.26 331 *e*P P 10 29 48.3 +0.5
comp=Z,10nm,0.9s,mb4.5
H21A **Big Horn, Sher** 32.41 341 ⇑P P 10 29 48.6 -0.5
baz=32
I19A **Meeteetse** 32.55 338 ⇑P P 10 29 50.8 +0.4
baz=33,SNR=7.0
K16A **Soda Springs** 32.57 334 ⇑P P 10 29 51.3 +0.8
baz=33,SNR=8.5
I18A **Diamond G Ranc** 32.57 337 ⇑P P 10 29 50.5 -0.1
baz=33,SNR=6.2
H20A **Greybull** 32.60 340 ⇓P P 10 29 50.4 -0.3
baz=33,SNR=6.4
J17A **Brown Place, J** 32.64 335 ⇓P P 10 29 51.8 +0.7
baz=33,SNR=40
L14A **Malta** 32.67 331 ⇑P P 10 29 52.0 +0.5
baz=33,SNR=9.0
REDW **Red Top Meadow** 32.70 335 *e*P P 10 29 51.8 +0.2
comp=Z,34nm,1.0s,mb5.2
SNOW **Snow King Moun** 32.74 335 *e*P P 10 29 52.5 +0.5
comp=Z,40nm,0.8s,mb5.4
NVAR **Mina Array Bea** 32.84 321 P P 10 29 53.9 +0.9
comp=Z,10nm,0.7s,mb4.8,baz=137,slow=8.6,SNR=86
NVAR PcP PcP 10 32 37.0 -0.1
comp=Z,2.3nm,0.7s,baz=142,slow=3.5,SNR=8.7
NVAR LR LR 10 44 51.5
comp=Z,319nm,19.1s,MS4.0,baz=269,slow=39
NVAR **Mina Array Bea** 32.84 321 P P 10 29 53.9 +0.9
NVAR PcP PcP 10 32 37.0 -0.1
NVAR LR LR 10 44 51.5
TPAW **Teton Pass** 32.84 335 *e*P P 10 29 53.3 +0.4
comp=Z,23nm,1.1s,mb5.0
K15A **Arbon** 32.86 333 ⇓P P 10 29 53.4 +0.3
baz=33,SNR=6.1
RRI2 **Red Ridge** 32.88 335 *e*P P 10 29 53.8 +0.6
comp=Z,16nm,1.1s,mb4.9
J16A **Bone** 32.94 334 ⇓P P 10 29 54.7 +0.9
baz=33,SNR=6.5
MOOW **Moose Ponds** 32.98 336 *e*P P 10 29 54.5 +0.4
comp=Z,10nm,1.1s,mb4.7
G21A **Lodge Grass** 32.99 341 ⇓P P 10 29 53.4 -0.9
baz=33
DCID1 **Drake Creek** 33.03 335 *e*P P 10 29 55.3 +0.8
comp=Z,15nm,0.9s,mb4.9
K14A **Jones Ranch, D** 33.04 332 ⇓P P 10 29 54.5 -0.2
baz=33
I17A **Pilgrim Ck.** 33.05 336 ⇓P P 10 29 55.6 +0.9
baz=33,SNR=12
H19A **Powell** 33.10 339 ⇑P P 10 29 55.5 +0.4
baz=33,SNR=7.0
G20A **Bridger** 33.32 340 ⇓P P 10 29 56.2 -0.9
baz=33
H18A **Shoshone NF, C** 33.35 338 ⇑P P 10 29 57.3 0.0
baz=33,SNR=24
I16A **Newdale** 33.38 335 ⇑P P 10 29 57.9 +0.3
baz=33,SNR=9.2
J15A **Blackfoot** 33.39 333 ⇓P P 10 29 57.5 -0.2
baz=33
H17A **Grant Village** 33.45 337 ⇑P P 10 29 59.1 +0.9
baz=34
LKWY **Lake** 33.53 337 *e*P P 10 30 00.4 +1.6
comp=Z,8.7nm,1.0s,mb4.6
RLMT **Red Lodge** 33.59 339 ⇓P P 10 29 59.3 -0.1
baz=34
RLMT **Red Lodge** 33.59 339 *e*P P 10 29 59.2 -0.2
comp=Z,38nm,2.0s,mb5.0
YFT **Old Faithful** 33.60 336 *e*P P 10 30 00.8 +1.3
comp=Z,28nm,1.4s,mb5.0
MDND **Maddock** 33.75 352 ⇓P P 10 29 59.6 -1.1
baz=34
J14A **Carey** 33.81 332 ⇑P P 10 30 01.7 +0.4
baz=34
YMR **Madison River** 33.83 336 *e*P P 10 30 02.3 +0.7
comp=Z,22nm,1.2s,mb5.0
G18A **Lazy EL Ranch,** 33.87 339 ⇑P P 10 30 01.7 -0.1
baz=34
CMB **Columbia Colle** 33.89 319 *e*P P 10 30 01.9 -0.2
comp=Z,5.3nm,1.1s,mb4.4
H16A **Russell Place,** 33.97 336 ⇑P P 10 30 03.1 +0.4
baz=34,SNR=7.2
F19A **Roth Farm, Mol** 34.12 340 ⇓P P 10 30 03.8 -0.1
baz=34
E21A **Keefer Ranch,** 34.14 342 ⇑P P 10 30 03.6 -0.5
baz=34
QLMT **Earthquake Lak** 34.15 336 *e*P P 10 30 05.7 +1.5
J13A **Cove Ranch, Pi** 34.17 332 ⇓P P 10 30 04.3 -0.1
baz=34
D23A **Lindsay** 34.21 345 ⇑P P 10 30 04.6 -0.2
baz=34
I14A **Mackay** 34.26 333 ⇑P P 10 30 05.6 +0.4
baz=34,SNR=9.2
WCN **Washoe City** 34.27 321 ⇑P P 10 30 05.7 +0.3
baz=34
C24A **Savage** 34.35 346 ⇑P P 10 30 05.8 -0.2
baz=34
HLID **Hailey** 34.41 332 ⇓P P 10 30 06.4 -0.1
baz=34,SNR=7.1
HLID **Hailey** 34.41 332 *e*P P 10 30 07.0 +0.5
comp=Z,4.5nm,0.8s,mb4.5
F18A **Big Timber** 34.43 339 ⇑P P 10 30 05.9 -0.8
baz=34,SNR=5.8
E20A **Meyer Farm, Mu** 34.43 341 ⇑P P 10 30 06.1 -0.5
baz=34,SNR=6.1
D22A **Cohagen** 34.44 344 ⇑P P 10 30 06.2 -0.5
baz=34,SNR=8.7
H15A **Lima** 34.47 335 ⇓P P 10 30 07.8 +0.7
baz=34,SNR=16
I13A **Wildhorse Cree** 34.54 332 ⇑P P 10 30 08.3 +0.6
baz=35
D21A **La Casta Ranch** 34.59 343 ⇓P P 10 30 08.5 +0.5
baz=35
E19A **Rath Farm, Rou** 34.60 340 ⇑P P 10 30 07.6 -0.5
baz=35
G16A **Moss Hill, Enn** 34.63 336 ⇑P P 10 30 09.0 +0.6
baz=35,SNR=7.7
MCMT **McKenzie Canyo** 34.72 335 *e*P P 10 30 10.4 +1.2
comp=Z,6.4nm,0.8s,mb4.6
F17A **Fitzpatrick Pl** 34.76 338 ⇓P P 10 30 09.8 +0.2
baz=35,SNR=20
H14A **Leadore** 34.77 334 ⇑P P 10 30 10.3 +0.6
baz=35,SNR=9.7
C23A **Lambert** 34.79 345 ⇓P P 10 30 09.2 -0.5
baz=35
G15A **Dillon** 34.85 335 ⇑P P 10 30 10.6 +0.2
baz=35,SNR=17
BOZ **Bozeman (W)** 34.91 337 ⇑P P 10 30 10.7 -0.1
baz=35,SNR=5.7
BOZ **Bozeman (W)** 34.91 337 *e*P P 10 30 11.1 +0.2
comp=Z,7.5nm,1.4s,mb4.4
C22A **Vida** 34.91 344 ⇑P P 10 30 10.8 0.0
baz=35,SNR=5.9
I12A **Atlanta** 34.92 331 ⇓P P 10 30 10.9 0.0
baz=35,SNR=11
D20A **Manuel Ranch,** 34.95 342 ⇓P P 10 30 10.7 -0.5
baz=35,SNR=9.4
F16A **Kennard Place,** 35.02 337 ⇑P P 10 30 11.8 0.0
baz=35,SNR=7.7
DLMT **Dillon** 35.05 335 *e*P P 10 30 12.7 +0.6
comp=Z,22nm,1.1s,mb5.0
E18A **Harlowton** 35.07 339 ⇑P P 10 30 12.2 0.0
baz=35
H13A **Challis** 35.12 333 ⇓P P 10 30 13.2 +0.6
baz=35,SNR=16
DGMT **Dagmar** 35.18 347 ⇑P P 10 30 12.8 -0.3
baz=35
DGMT **Dagmar** 35.18 347 *e*P P 10 30 11.7 -1.4
comp=Z,134nm,2.6s,mb5.4
D19A **Cripps Ranch,** 35.25 341 ⇓P P 10 30 13.3 -0.4
baz=35,SNR=9.9
E17A **Martinsdale** 35.31 338 ⇑P P 10 30 14.4 +0.1
baz=35
C21A **Desert Coulee** 35.31 343 ⇑P P 10 30 14.1 -0.2
baz=35
G14A **Jackson** 35.31 334 ⇓P P 10 30 14.5 +0.2
baz=35,SNR=7.9
H12A **Diamond D Ranc** 35.37 332 ⇑P P 10 30 15.0 +0.2
baz=35,SNR=15
LRM **Limekiln Ridge** 35.38 336 *e*P P 10 30 15.1 +0.2
F15A **Butte** 35.41 336 ⇓P P 10 30 15.0 -0.1
baz=36,SNR=8.9
B22A **Reddig Ranch S** 35.45 345 ⇓P P 10 30 15.3 -0.2
baz=36
G13A **Cobalt** 35.52 333 ⇓P P 10 30 16.1 0.0
baz=36
D18A **Linhart Farms,** 35.58 340 ⇓P P 10 30 16.4 -0.2
baz=36
E16A **East Helena** 35.67 337 ⇓P P 10 30 17.2 -0.2
baz=36
F14A **Wisdom** 35.74 335 ⇓P P 10 30 17.9 0.0
baz=36,SNR=5.0
ULM **Lac du Bonnet** 35.76 357 P P 10 30 15.4 -2.6
comp=Z,3.6nm,0.6s,mb4.5,baz=164,slow=7.0,SNR=6.4
ULM LR LR 10 47 54.4
comp=Z,141nm,19.8s,MS3.7,baz=287,slow=41
ULM **Lac du Bonnet** 35.76 357 P P 10 30 15.4 -2.6
ULM LR LR 10 47 54.4
A23A **Redstone** 35.80 346 ⇓P P 10 30 18.3 -0.1
baz=36
C19A **Slack Wire Ran** 35.81 341 ⇓P P 10 30 18.5 0.0
baz=36
D17A **Six Diamond Ra** 35.84 339 ⇓P P 10 30 18.3 -0.5
baz=36,SNR=6.8
E15A **Deer Lodge** 35.95 336 ⇑P P 10 30 19.0 -0.8
baz=36,SNR=9.3
G12A **Big Creek, Yel** 36.03 332 ⇑P P 10 30 19.8 -0.7
baz=36
D16A **Dana Ranch, Ca** 36.05 338 ⇓P P 10 30 21.3 +0.7
baz=36
F13A **Darby** 36.12 334 ⇓P P 10 30 20.5 -0.7
baz=36,SNR=11
B20A **Solberg Farm,** 36.13 343 ⇓P P 10 30 21.1 -0.2
baz=36
J08A **Circle Bar Ran** 36.24 328 ⇑P P 10 30 22.3 -0.1
baz=36,SNR=14
MOD **Modoc** 36.25 324 *e*P P 10 30 22.1 -0.3
comp=Z,7.2nm,1.3s,mb4.4
E14A **Clinton** 36.28 336 ⇑P P 10 30 22.3 -0.3
baz=36,SNR=6.8
C17A **Wharram Farm,** 36.28 339 ⇑P P 10 30 21.8 -0.8
baz=36,SNR=5.9
EGMT **Eagleton** 36.29 341 ⇓P P 10 30 22.0 -0.7
baz=36
EGMT **Eagleton** 36.29 341 *e*P P 10 30 22.6 -0.1
comp=Z,18nm,1.4s,mb4.8
A21A **Bergtoll Ranch** 36.33 344 ⇓P P 10 30 22.4 -0.6
baz=36
D15A **Lincoln** 36.41 337 ⇑P P 10 30 23.4 -0.3
baz=36
B19A **Brinkman Farms** 36.42 342 ⇓P P 10 30 23.2 -0.6
baz=36,SNR=6.0
F12A **Elk City** 36.49 333 ⇑P P 10 30 23.9 -0.4
baz=36,SNR=21
A20A **Cobblestone Ra** 36.50 343 ⇑P P 10 30 24.2 -0.2
baz=36
E13A **Victor** 36.58 335 ⇑P P 10 30 24.7 -0.4
baz=37,SNR=17
CHMT **Chamberlain Mo** 36.59 336 *e*P P 10 30 25.1 -0.1
B18A **Beardsley Farm** 36.62 341 ⇑P P 10 30 25.3 -0.2
baz=37
C16A **Fuhringer Ranc** 36.77 338 ⇓P P 10 30 26.4 -0.3
baz=37,SNR=10
A19A **Klindworth Far** 36.78 342 ⇑P P 10 30 26.4 -0.4
baz=37
MSO **Missoula** 36.79 336 ⇓P P 10 30 26.4 -0.6
baz=37,SNR=8.9
MSO **Missoula** 36.79 336 *e*P P 10 30 27.0 0.0
comp=Z,7.1nm,1.0s,mb4.5
B17A **L&G Farms, Che** 36.87 340 ⇓P P 10 30 26.9 -0.7
baz=37
SLMT **Seeley Lake** 36.95 336 *e*P P 10 30 27.4 -0.9
comp=Z,7.5nm,1.2s,mb4.4
C15A **Salmond Ranch,** 37.06 338 ⇓P P 10 30 28.4 -0.8
baz=37,SNR=5.3
A18A **Metzger Ranch,** 37.11 341 ⇓P P 10 30 28.5 -1.1
baz=37,SNR=6.5
E12A **Beaver Dam Sad** 37.14 334 ⇑P P 10 30 29.0 -0.9
baz=37

D13A	**Huson**	**37.22**	**335**	⇑P		**P**	**10 30 29.5**	**-1.1**
	baz=37,SNR=12								
I07A	**Izee**	**37.28**	**328**	⇓P		**P**	**10 30 30.3**	**-0.8**
	baz=37								
SWMT	**Swartz Lake**	**37.37**	**336**	*e*P		**P**	**10 30 31.5**	**-0.3**
A17A	**Triple J Farms**	**37.40**	**340**	⇑P		**P**	**10 30 31.7**	**-0.3**
	baz=37								
B15A	**Bradely Ranch,**	**37.49**	**338**	⇑P		**P**	**10 30 32.7**	**-0.2**
	baz=38								
F10A	**Beach Ranch, E**	**37.54**	**332**	⇑P		**P**	**10 30 32.6**	**-0.7**
	baz=38,SNR=16								
D12A	**Red Ives Fores**	**37.55**	**334**	⇓P		**P**	**10 30 32.5**	**-0.8**
	baz=38								
KHMM	**Horse Mountain**	**37.65**	**320**	*e*P		**P**	**10 30 34.7**	**+0.4**
	comp=Z,12nm,0.9s,mb4.6								
JTMT	**Jette**	**37.67**	**336**	*e*P		**P**	**10 30 34.3**	**-0.1**
C13A	**Hot Springs**	**37.73**	**336**	⇑P		**P**	**10 30 34.6**	**-0.3**
	baz=38								
BSMT	**Bassoo Peak**	**37.96**	**336**	*e*P		**P**	**10 30 36.1**	**-0.7**
A15A	**Johnson Ranch,**	**38.12**	**339**	⇓P		**P**	**10 30 37.3**	**-0.8**
	baz=38,SNR=8.5								
C12B	**Naegeli Ranch,**	**38.12**	**335**	⇑P		**P**	**10 30 37.7**	**-0.5**
	baz=38								
B13A	**Whitefish**	**38.26**	**337**	⇑P		**P**	**10 30 39.0**	**-0.3**
	baz=38,SNR=8.5								
A14A	**Double T Ranch**	**38.36**	**338**	⇓P		**P**	**10 30 39.6**	**-0.6**
	baz=38,SNR=6.8								
C11A	**Tepee Creek (N**	**38.55**	**334**	⇓P		**P**	**10 30 41.1**	**-0.7**
	baz=39								
A13A	**Flathead Natio**	**38.69**	**337**	⇑P		**P**	**10 30 43.1**	**+0.2**
	baz=39								
B12A	**Libby**	**38.77**	**336**	⇓P		**P**	**10 30 43.7**	**0.0**
	baz=39								
LPAZ	**La Paz**	**39.07**	**141**	P		**P**	**10 30 44.9**	**-1.6**
	comp=Z,1.1nm,0.8s,mb3.6,baz=4.7,slow=7.3,SNR=4.8								
LPAZ				LR		LR	10 46 10.4		
	comp=Z,96nm,21.3s,MS3.6,baz=250,slow=35								
LPAZ	**La Paz**	**39.07**	**141**	P		**P**	**10 30 44.9**	**-1.6**
LPAZ				LR		LR	10 46 10.3		
H04A	**Detroit Lake**	**39.11**	**326**	⇑P		**P**	**10 30 46.4**	**-0.1**
	baz=39								
A12A	**Yaak River Ran**	**39.17**	**336**	⇓P		**P**	**10 30 46.9**	**-0.1**
	baz=39								
HOOD	**Mount Hood Mea**	**39.25**	**327**	*e*P		**P**	**10 30 48.4**	**+0.8**
	comp=Z,18nm,0.9s,mb4.8								
C09A	**Chrisman Ranch**	**39.39**	**333**	⇓P		**P**	**10 30 48.6**	**-0.2**
	baz=39								
BMW	**Boistfort Moun**	**40.84**	**328**	*e*P		**P**	**10 30 59.9**	**-1.0**
SCHQ	**Schefferville**	**45.02**	**21**	LR		LR	10 52 15.7		
	comp=Z,293nm,18.4s,MS4.2,baz=304,slow=39								
YKA	**Yellowknife Ar**	**50.39**	**347**	P		**P**	**10 32 14.8**	**-1.2**
	comp=Z,10nm,0.8s,mb4.9,baz=153,slow=7.3,SNR=19								
YKA	**Yellowknife Ar**	**50.39**	**347**	P		**P**	**10 32 14.8**	**-1.2**
CFAA	**Coronel Fontan**	**51.51**	**153**	P		**P**	**10 32 23.3**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=330,slow=6.2,SNR=6.4								
CFAA	**Coronel Fontan**	**51.51**	**153**	P		**P**	**10 32 23.3**	**-1.5**
TAOE	**Nuku Hiva Isla**	**52.42**	**247**	*e*LR		LR	10 47 41.8		
	comp=Z,200nm,23.5s								
RKT	**Rikitea**	**55.72**	**228**	*e*LR		LR	10 49 06.5		
	comp=Z,479nm,37.2s								
RKT				*e*T			11 32 30.6		
	comp=Z,1.2nm,0.2s								
INK	**Inuvik**	**59.77**	**344**	P		**P**	**10 33 22.4**	**-1.2**
	comp=Z,5.5nm,0.8s,mb4.7,baz=121,slow=7.6,SNR=38								
INK	**Inuvik**	**59.77**	**344**	*e*P		**P**	**10 33 22.5**	**-1.1**
	comp=Z,11nm,1.0s,mb4.8								
EGAK	**Eagle**	**59.99**	**338**	*e*P		**P**	**10 33 24.5**	**-0.7**
DOT	**Dot Lake**	**60.49**	**336**	*e*P		**P**	**10 33 28.5**	**-0.1**
	comp=Z,21nm,0.8s,mb5.2								
PMOR	**Pomariorio Ree**	**61.91**	**244**	*e*T			11 40 13.7		
	comp=Z,0.9nm,0.2s								
ILAR	**Eielson Array**	**62.11**	**337**	P		**P**	**10 33 38.6**	**-0.9**
	comp=Z,5.8nm,0.9s,mb4.7,baz=137,slow=4.3,SNR=45								
ILAR				LR		LR	11 02 39.2		
	comp=Z,88nm,18.2s,MS4.0,baz=92,slow=38								
ILAR	**Eielson Array**	**62.11**	**337**	P		**P**	**10 33 38.6**	**-0.9**
ILAR				LR		LR	11 02 39.2		
MCK	**McKinley**	**62.45**	**335**	*e*P		**P**	**10 33 41.3**	**-0.6**
	comp=Z,10nm,1.1s,mb4.9								
MCK				*e*pP		pP	10 33 56.7	+1.7	
COLA	**College**	**62.52**	**337**	*e*P		**P**	**10 33 41.3**	**-1.0**
	comp=Z,3.3nm,0.9s,mb4.5								
TRF	**Thorofare Moun**	**62.89**	**335**	*e*P		**P**	**10 33 44.3**	**-0.5**
	comp=Z,11nm,0.9s,mb5.0								
PPT	**Papeete**	**64.47**	**242**	*e*LR		LR	10 53 05.0		
	comp=Z,90nm,25.0s								
TBI	**Tubuai**	**67.01**	**237**	*e*LR		LR	10 54 28.0		
	comp=Z,84nm,25.0s								
TBI				*e*T			11 46 36.4		
	comp=Z,1.6nm,0.2s								
SPITS	**Spitsbergen Ar**	**79.75**	**11**	LR		LR	11 11 35.8		
	comp=Z,133nm,19.2s,MS4.3,baz=285,slow=36								
ESDC	**Sonseca Array**	**79.98**	**52**	P		**P**	**10 35 25.1**	**-3.2**
	comp=Z,0.2nm,0.3s,mb3.6,baz=294,slow=5.7,SNR=4.8								
ESDC	**Sonseca Array**	**79.98**	**52**	P		**P**	**10 35 25.1**	**-3.2**
BILL	**Bilibino**	**80.74**	**338**	*e*P		**P**	**10 35 31.1**	**-0.7**
	comp=Z,11nm,0.8s,mb4.8								
NOA	**NORSAR Array B**	**84.06**	**28**	P		**P**	**10 35 48.0**	**-1.2**
	comp=Z,1.6nm,0.7s,mb4.2,baz=292,slow=5.0,SNR=4.0								
NOA				LR		LR	11 12 08.0		
	comp=Z,51nm,18.5s,MS3.9,baz=0.0,slow=35								
NOA	**NORSAR Array B**	**84.06**	**28**	P		**P**	**10 35 48.0**	**-1.2**
NOA				LR		LR	11 12 08.0		
ARCES	**ARCESS Array B**	**85.90**	**18**	P		**P**	**10 35 56.4**	**-1.9**
	comp=Z,1.6nm,0.6s,mb4.4,baz=320,slow=4.7,SNR=5.8								
ARCES				LR		LR	11 14 06.6		
	comp=Z,144nm,20.6s,MS4.3,baz=330,slow=36								
ARCES	**ARCESS Array B**	**85.90**	**18**	P		**P**	**10 35 56.4**	**-1.9**
ARCES				LR		LR	11 14 06.6		
DBIC	**Dimbokro**	**86.32**	**84**	P		**P**	**10 36 00.0**	**-1.5**
	comp=Z,2.6nm,0.7s,mb4.6,baz=243,slow=6.8,SNR=5.4								
DBIC	**Dimbokro**	**86.32**	**84**	P		**P**	**10 36 00.0**	**-1.5**
FINES	**FINESS Array B**	**90.36**	**25**	LR		LR	11 14 14.3		
	comp=Z,186nm,18.0s,MS4.6,baz=326,slow=34								
TORD	**Torodi Ar. Bea**	**90.96**	**76**	P		**P**	**10 36 20.1**	**-3.4**
	comp=Z,0.5nm,0.6s,mb4.0,baz=264,slow=5.9,SNR=4.4								
TORD				LR		LR	11 15 01.2		
	comp=Z,69nm,18.7s,MS4.1,baz=280,slow=34								
TORD	**Torodi Ar. Bea**	**90.96**	**76**	P		**P**	**10 36 20.1**	**-3.4**
TORD				LR		LR	11 15 01.2		
VRAC	**Vranov**	**91.26**	**38**	LR		LR	11 17 01.9		
	comp=Z,102nm,18.4s,MS4.3,baz=254,slow=35								
DZM	**Mont Dzumac**	**105.16**	**251**	*e*LR		LR	11 12 07.5		
	comp=Z,71nm,25.7s								
KURK	**Kurchatov**	**114.64**	**6**	PKP		PKiKP	10 41 57.6	-1.3	
	comp=Z,0.3nm,0.4s,baz=357,slow=2.2,SNR=4.2								
SONM	**Songino Array**	**115.65**	**346**	PKP		PKPdf	10 41 59.1	-1.8	
	comp=Z,0.2nm,0.4s,baz=157,slow=3.2,SNR=2.4								
MKAR	**Makanchi Array**	**118.84**	**4**	PKP		PKPdf	10 42 04.8	-2.3	
	comp=Z,0.5nm,0.8s,baz=73,slow=26,SNR=2.5								
HHC	**Hu-ho-hao-te**	**120.51**	**339**	*e*PKP		PKPdf	10 42 11.0	+0.5	
HHC				PP		PP	10 43 40.5	+3.9	
HHC				PKS			10 45 46.1		
HHC				SKS		SKSdf	10 49 18.8	-0.2	
HHC				SKKS		SKKSac	10 50 29.4	-4.3	
HHC				SS		SS	11 00 02.4	+0.7	
HHC				LR		LR			
	comp=N,130nm,19.5s,MS4.9								
HHC				LR		LR			
	comp=E,230nm,21.0s,MS4.9								
HHC				LR		LR			
	comp=Z,100nm,20.9s,MS4.4								
BOSA	**Boshof**	**121.21**	**115**	PKP		PKPdf	10 42 09.8	-2.4	
	comp=Z,4.4nm,0.8s,baz=214,slow=3.6,SNR=2.8								
WMQ	**Urumqi**	**121.97**	**360**	PKP		PKPdf	10 42 12.8	-0.5	
LZH	**Lanzhou**	**127.31**	**343**	*e*PKP		PKPdf	10 42 26.0	+2.3	
LZH				sPKP			10 42 43.5		
STKA	**Stephens Creek**	**127.67**	**241**	PKP		PKPdf	10 42 22.1	-2.4	
	comp=Z,3.0nm,1.1s,baz=118,slow=3.1,SNR=4.9								
STKA				pPKP		pPKPdf	10 42 32.4	-6.3	
	comp=Z,2.0nm,0.8s,baz=111,slow=9.0,SNR=3.2								
CD2	**Chengdu**	**132.16**	**341**	PKP		PKPdf	10 42 35.0	+1.9	
WRA	**Warramunga Arr**	**134.81**	**256**	PKP		PKPdf	10 42 36.0	-2.2	
	comp=Z,1.1nm,0.7s,baz=82,slow=2.1,SNR=18								
WRA				pPKP		pPKPdf	10 42 46.6	-5.9	
	comp=Z,1.4nm,0.7s,baz=77,slow=1.3,SNR=9.2								
ASAR	**Alice Springs**	**135.15**	**251**	PKP		PKPdf	10 42 36.6	-2.2	
	comp=Z,0.7nm,0.8s,baz=97,slow=2.5,SNR=8.9								
ASAR				pPKP		pPKPdf	10 42 47.0	-6.0	
	comp=Z,0.5nm,0.7s,baz=81,slow=2.6,SNR=4.0								
CM31	**Chiang Mai Arr**	**145.30**	**340**	*e*PKPbc		PKPbc	10 42 55.8	-1.2	
CMAR	**Chiang Mai Arr**	**145.30**	**340**	PKPbc		PKPbc	10 42 54.4	-2.7	
	comp=Z,4.6nm,0.8s,baz=345,slow=4.6,SNR=23								

*ISCJB **19** 10:49:17.2±0.9,34.07N±0.05×69.50E±0.06,h8km±5km,*
mb3.5/4,Error ellipse: s-maj=10.6km s-min=4.0km az=44.9
*NEIC **19** 10:49:18.8±3.5,34.14N×69.48E,h4km±21km,mb3.2/1, Error ellipse: s-maj=21.1km s-min=15.1km az=136.0*
*IDC **19** 10:49:18.7±1.3,34.18N×69.63E,h0km,mb3.6/4, mb1 3.6/8,mb1mx3.5/29,mbtmp3.6/8,ML3.7/4,Error ellipse: s-maj=33.7km s-min=25.0km az=90.0*
*NNC **19** 10:49:21.6±7.7,34.19N×69.33E,h0km,mb4.0,mpv4.0, Error ellipse: s-maj=74.8km s-min=54.0km az=141.0*

ISC 19 10:49:17.2±1.0,33.95N±0.05×69.37E±0.06,h2km±5km, n35,σ1°34/46,mb3.5/4,4C-2D,Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**0.64**	**336**	*e*Pg		**Pg**		**10 49 28.9**	**-0.6**
KBL				*e*Sg		**Sg**		**10 49 36.9**	**-1.0**
CEP	**Cherat**	**2.12**	**93**	⇓P		**Pb**		**10 49 56.7**	**+0.4**
CEP				S		**Sg**		**10 50 26.0**	**+0.7**
THW	**Thamme Wali**	**2.30**	**120**	P		**Pb**		**10 49 59.5**	**+0.1**
THW				S		**Sg**		**10 50 31.0**	**-0.1**
CHCP	**Chirah Chowk**	**3.26**	**94**	P		**Pn**		**10 50 12.0**	**+2.8**
BHK	**Bhakra**	**6.46**	**111**	*e*PKP		**Pg**		**10 51 20.1**	**-0.9**
SDNR	**Sundarnagar**	**6.86**	**109**	*e*PKP		**Pn**		**10 51 00.0**	**+1.3**
SDNR				*e*S		**Sn**		**10 52 17.0**	**-0.3**
SMLA	**Simla**	**7.16**	**111**	*i* P		**Pn**		**10 51 04.4**	**+1.5**
SMLA				*i* S		**Sn**		**10 52 24.3**	**-0.5**
SMLA				*i* S		**Sn**		**10 52 24.6**	**-0.3**
KHET	**Khetri**	**8.05**	**135**	*e*S		**Sn**		**10 52 44.3**	**-2.5**
KHET					AML	AML	10 53 50.0		
	comp=N,9.1nm,0.1s								
KHET					AML	AML	10 53 50.0		
	comp=E,6.1nm,0.1s								
DDI	**Dehra Dun**	**8.21**	**114**	*e*S		**Sb**		**10 53 18.5**	**+0.3**
KUDL	**Kundal**	**8.42**	**132**	*e*S		**Sn**		**10 52 52.2**	**-3.5**
SONA	**Sohna**	**8.72**	**129**	*e*PKP		**Pn**		**10 51 24.1**	**-0.2**
SONA				*e*S		**Sn**		**10 53 01.0**	**-2.2**
SONA					AML	AML	10 53 13.0		
	comp=N,13nm,0.4s								
SONA					AML	AML	10 53 16.8		
	comp=E,17nm,0.2s								
KK31	**Karatay Array**	**9.18**	**5**	⇑Pn		**Pn**		**10 51 32.3**	**+1.8**
	comp=E,2.7nm,0.5s,baz=192,slow=13								
KK31				⇑Sn		**Sn**		**10 53 16.1**	**+1.8**
	comp=E,3.3nm,0.5s,baz=189,slow=22								
KKAR	**Karatay Array**	**9.18**	**5**	*e*Pn		**Pn**		**10 51 31.5**	**+1.0**
	comp=E,4.3nm,0.4s								
KKAR				*e*Sn		**Sn**		**10 53 13.0**	**-1.4**
AAK	**Ala-Archa**	**9.55**	**23**	*e*Pn		**Pn**		**10 51 35.8**	**+0.1**
	comp=E,20nm,0.6s								
TKM2	**Tokmak 2**	**10.20**	**27**	⇑Pn		**Pn**		**10 51 45.9**	**+1.5**
	comp=E,3.2nm,0.7s								
TKM2				⇓Sn		**Sn**		**10 53 39.3**	**0.0**
	comp=E,4.5nm,0.9s								
TKM2	**Tokmak 2**	**10.20**	**27**	*e*Pn		**Pn**		**10 51 44.9**	**+0.4**
	comp=E,3.1nm,0.5s								
TKM2				*e*Sn		**Sn**		**10 53 29.7**	**-10**
MKAR	**Makanchi Array**	**16.14**	**34**	Pn		**Pn**		**10 53 03.5**	**-1.4**
	comp=E,0.3nm,0.3s,baz=206,slow=11,SNR=7.4								
MKAR	**Makanchi Array**	**16.14**	**34**	Pn		**Pn**		**10 53 03.5**	**-1.4**
AB31	**Akbulak array**	**16.81**	**338**	⇑P		**Pn**		**10 53 16.3**	**+2.8**
	comp=E,0.7nm,0.6s,baz=157,slow=12,SNR=4.8								
ABKAR	**Akbulak array**	**16.81**	**338**	*e*Pn		**Pn**		**10 53 12.2**	**-1.3**
	comp=E,0.7nm,0.4s								
KURK	**Kurchatov**	**18.07**	**19**	P		**Pn**		**10 53 26.0**	**-3.2**
	comp=E,0.1nm,0.3s,baz=205,slow=10,SNR=5.9								
KURK	**Kurchatov**	**18.07**	**19**	P		**Pn**		**10 53 26.0**	**-3.2**
AKTO	**Aktyubinsk**	**18.45**	**337**	P		**Pn**		**10 53 34.1**	**+0.3**
	comp=E,0.2nm,0.3s,baz=146,slow=11,SNR=3.3								
AKTO	**Aktyubinsk**	**18.45**	**337**	P		**Pn**		**10 53 34.1**	**+0.3**
BVAR	**Borovoye Array**	**19.08**	**2**	P		**Pn**		**10 53 39.4**	**-2.0**
	comp=E,0.3nm,0.3s,baz=153,slow=7.6,SNR=2.5								
BVAR	**Borovoye Array**	**19.08**	**2**	P		**Pn**		**10 53 39.4**	**-2.0**
ZAA0	**Zalesovo Array**	**22.78**	**24**	*e*P		**P**		**10 54 19.7**	**-0.9**
ZALV	**Zalesovo Beam**	**22.78**	**24**	P		**P**		**10 54 19.4**	**-1.3**
	comp=E,1.3nm,0.4s,mb3.8,baz=226,slow=11,SNR=7.8								
ZALV	**Zalesovo Beam**	**22.78**	**24**	P		**P**		**10 54 19.4**	**-1.3**
TORD	**Torodi Ar. Bea**	**64.32**	**269**	P		**P**		**10 59 58.1**	**+3.6**
	comp=E,0.2nm,0.4s,mb3.5,baz=64,slow=5.0,SNR=2.3								
TORD	**Torodi Ar. Bea**	**64.32**	**269**	P		**P**		**10 59 58.1**	**+3.6**
WRA	**Warramunga Arr**	**81.82**	**121**	P		**P**		**11 01 38.6**	**+0.7**
	comp=E,0.2nm,0.7s,mb3.2,baz=318,slow=5.1,SNR=2.0								
WRA	**Warramunga Arr**	**81.82**	**121**	P		**P**		**11 01 38.6**	**+0.7**
ASAR	**Alice Springs**	**83.93**	**124**	P		**P**		**11 01 50.9**	**+2.2**
	comp=E,0.2nm,0.6s,mb3.5,baz=308,slow=5.5,SNR=3.0								
ASAR	**Alice Springs**	**83.93**	**124**	P		**P**		**11 01 50.9**	**+2.2**

IDC 19 10:50:44.9±10.0,7.34S×117.87E,h308km±121km, mb2.6/3,mb1 2.8/4,mb1mx2.6/20,mbtmp2.6/4,MS3.2/1, Ms1 3.2/1,ms1mx2.2/4,Error ellipse: s-maj=170.5km s-min=31.3km az=60.0,Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.10**	**145**	P		P	Pn	10 53 40.6	0.0
	0.2nm,0.3s,baz=308,slow=4.5,SNR=8.1								
FITZ				S		S		10 56 11.5	+5.9
	0.1nm,0.3s,baz=342,slow=20,SNR=4.7								
DAV	**Davao City (W)**	**16.25**	**28**	LR		LR		11 00 56.6	
	comp=Z,90nm,20.2s,baz=305,slow=38								
WRA	**Warramunga Arr**	**20.30**	**130**	P		P		10 54 58.2	-0.3
	0.1nm,0.4s,baz=305,slow=10,SNR=6.9								
ASAR	**Alice Springs**	**22.37**	**138**	P		P		10 55 17.3	-0.4
	0.4nm,0.5s,baz=313,slow=9.0,SNR=9.6								
SONM	**Songino Array**	**55.86**	**351**	P		P		10 59 51.3	+0.4
	0.4nm,0.5s,baz=160,slow=4.6,SNR=3.9								

CASC 19 10:59:02.8±3.1,8.41N×82.74W,h11km±18km,MD4.2, 3C-1D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.38**	**8**	*e*P		Pg		10 59 12.9	+2.5
BRU2				*e*S		Sg		10 59 18.8	+3.3
ACR	**Cerro Adams**	**0.48**	**300**	⇑*i*P		Pg		10 59 12.2	0.0
BUS	**Buena Vista**	**1.51**	**319**	⇑*i*P		Pn		10 59 28.5	-1.4
QCR	**Quepos**	**1.73**	**306**	⇓*e*P		Pn		10 59 30.9	-2.0
URSC	**Urasca**	**1.74**	**324**	⇓*i*P		Pn		10 59 32.0	-1.1
PRS1	**Puriscal**	**2.20**	**315**	*e*P		Pn		10 59 37.6	-1.7
CGA2	**Cerro Gallo 2**	**2.33**	**313**	*e*P		Pn		10 59 40.9	-0.2
CGA2				*e*S		Sn		11 00 11.8	+2.1
JCR	**Jicaral**	**2.74**	**302**	*e*P		Pn		10 59 45.8	-1.0
PINA	**Piqa, Costa Ab**	**2.78**	**72**	*e*P		Pn		10 59 48.3	+1.0
BCIP	**Isla Barro Col**	**2.97**	**75**	*e*P		Pn		10 59 49.5	-0.4
BCIP				*e*S		Sn		11 00 26.6	+1.0
UPIG		**3.23**	**80**	*e*P		Pn		10 59 58.2	+4.7
UPIG				*e*S		Sn		11 00 39.9	+8.0

MAN 19 11:07:36,17.12N×122.51E,h31km,mb4.2,ML3.0,MS2.7, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.10**	**238**	*e*P		Pb		11 07 42.0	+0.6
PALP				*e*S		Sb		11 07 44.8	-0.4
CAUP	**Cauayan**	**0.68**	**256**	*e*P		Pb		11 07 50.7	+1.2
APYP	**Conner**	**1.42**	**302**	*e*P		Pn		11 07 59.6	-0.1
BALP	**Baler**	**1.64**	**213**	*e*P		Pn		11 08 03.7	+1.0

*NIED **19** 11:29:00,43.20N×147.50E,h32km,Mw3.8 Best double couple: M0 6.43000×10^14 NP1:ϕs70.00000°,δ89.00000°, λ170.00000°. NP2:ϕs160.00000°,δ80.00000°,λ1.00000°.*
*IDC **19** 11:29:15.9±1.4,43.01N×147.80E,h0km,mb3.5/5, mb1 3.6/6,mb1mx3.5/24,mbtmp3.5/6,ML3.0/1,Error ellipse: s-maj=34.4km s-min=24.6km az=166.0*
*ISCJB **19** 11:29:19.8±0.8,43.13N±0.08×147.62E±0.06,h33km, mb3.5/5,Error ellipse: s-maj=12.2km s-min=6.6km az=176.2*
*MOS **19** 11:29:20.4±1.1,43.13N×147.65E,h47km,mb3.8/4,Error ellipse: s-maj=27.1km s-min=21.2km az=25.7*
*JMA **19** 11:29:20.2±0.3,43.16N×147.54E,h29km,M3.9*
*NEIC **19** 11:29:21.9±2.8,43.07N×147.73E,h44km±26km, MG3.9(JMA),Error ellipse: s-maj=28.4km s-min=20.0km az=138.0*

ISC 19 11:29:21.7±0.8,43.18N±0.09×147.59E±0.07,h35km,n31, σ0°78/39,mb3.5/5,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.36**	**278**	P		P	**Pn**	**11 29 43.4**	**-0.7**
NEM2				*e*S		S	**Sn**	**11 30 00.1**	**-0.8**
YUK	**Yuzh-Kuril'sk**	**1.51**	**305**	*i* PN		P	**Pn**	**11 29 45.3**	**-1.0**
YUK				*i* S		S	**Sn**	**11 30 04.7**	**-0.1**
YUK				pmax		pmax			
	comp=E,94nm,0.2s								
YUK				pmax		pmax			
	comp=Z,262nm,0.5s								
YUK				pmax		pmax			
	comp=N,110nm,0.4s								
YUK				smax					
	comp=E,947nm,0.4s								
YUK				smax					
	comp=N,1μm,0.4s								
YUK				smax					
	comp=E,2μm,1.2s								
YUK				smax					
	comp=N,1μm,1.2s								
JRA	**Rausu**	**1.94**	**294**	P		P	**Pn**	**11 29 51.9**	**-0.3**
JAK	**Akkeshi**	**2.12**	**266**	P		P	**Pn**	**11 29 54.2**	**-0.5**
JAK				*e*S		S	**Sn**	**11 30 19.6**	**-0.2**
JNK	**Nakash**	**2.13**	**282**	P		P	**Pn**	**11 29 53.9**	**-0.8**
JNK				*e*S		S	**Sn**	**11 30 19.2**	**-0.7**
JOB	**Onbets**	**2.76**	**265**	P		P	**Pn**	**11 30 03.5**	**0.0**
JTKR	**Abashiri--Toko**	**2.79**	**288**	P		P	**Pn**	**11 30 04.2**	**+0.4**
JAR	**Ashorobuto**	**2.79**	**274**	P		P	**Pn**	**11 30 03.8**	**0.0**
JAR				*e*S		S	**Sn**	**11 30 36.6**	**+0.4**
JCH	**Churui**	**3.15**	**261**	P		P	**Pn**	**11 30 08.9**	**+0.1**
JCH				*e*S		S	**Sn**	**11 30 44.2**	**-1.0**
JMP	**Maruseppu**	**3.18**	**286**	P		P	**Pn**	**11 30 10.0**	**+0.8**
ERM	**Erimo**	**3.47**	**252**	*e*Pn		P	**Pn**	**11 30 14.3**	**+1.1**
ERM	**Erimo**	**3.47**	**252**	*e*PN		P	**Pn**	**11 30 14.3**	**+1.1**
JFR	**Furan**	**3.65**	**271**	P		P	**Pn**	**11 30 16.2**	**+0.5**
JFR				*e*S		S	**Sn**	**11 30 58.2**	**+0.7**
JNBK	**Urakawa-nobuka**	**3.67**	**257**	P		P	**Pn**	**11 30 16.4**	**+0.4**
ASAJ	**Asahikawa**	**3.74**	**286**	Pn		Pn	**Pn**	**11 30 19.0**	**+2.1**
	comp=N,0.9nm,0.3s,baz=158,slow=24,SNR=6.4								
ASAJ						Sn	**Sn**	**11 31 06.1**	**+6.5**
	comp=N,0.9nm,0.3s,baz=63,slow=30,SNR=3.8								
ASAJ	**Asahikawa**	**3.74**	**286**	PN		P	**Pn**	**11 30 19.0**	**+2.1**
ASAJ								11 31 06.1	
ASAJ				pmax		pmax			
	comp=Z,1.0nm,0.3s								
ASAJ				smax					
	comp=N,1.0nm,0.3s								
SONM	**Songino Array**	**28.98**	**294**	P		**P**		**11 35 18.5**	**+0.7**
	comp=N,0.6nm,0.6s,mb3.5,baz=81,slow=7.8,SNR=4.3								
SONM	**Songino Array**	**28.98**	**294**	P		**P**		**11 35 18.5**	**+0.7**
SONM	**Songino Array**	**28.98**	**294**	P		**P**		**11 35 18.5**	**+0.7**
SONM				pmax		pmax			
	comp=Z,1.0nm,0.6s								
ILAR	**Eielson Array**	**41.76**	**36**	P		**P**		**11 37 05.8**	**-1.2**
	comp=Z,0.8nm,1.2s,mb3.2,baz=270,slow=4.9,SNR=3.5								
ILAR	**Eielson Array**	**41.76**	**36**	P		**P**		**11 37 05.8**	**-1.2**
ILAR	**Eielson Array**	**41.76**	**36**	P		**P**		**11 37 05.9**	**-1.2**
ILAR				pmax		pmax			
	comp=Z,1.0nm,1.2s								
MKAR	**Makanchi Array**	**45.13**	**298**	P		**P**		**11 37 35.1**	**+0.6**
	comp=Z,0.5nm,0.7s,mb3.5,baz=186,slow=30,SNR=1.7								
MKAR	**Makanchi Array**	**45.13**	**298**	P		**P**		**11 37 35.1**	**+

ERBA	**Erbaa**	**2.03**	**27**	*i* P		**Pb**	**12 03 06.3**	**-0.7**
RSDY	**Resadiye-TOKAT**	**2.05**	**41**	*e*PN		**Pn**	**12 03 03.9**	**-1.0**
RSDY	**Resadiye-TOKAT**	**2.05**	**41**	*e*PN		**Pn**	**12 03 03.9**	**-1.0**
GAZ	**Gaziantep**	**2.14**	**142**	*e*PN		**Pn**	**12 03 05.8**	**-0.4**
GAZ	**Gaziantep**	**2.14**	**142**	*e*Pn		**Pn**	**12 03 05.8**	**-0.4**
KVT	**Kavak**	**2.24**	**10**	*e*PN		**Pn**	**12 03 08.1**	**+0.6**
KVT	**Kavak**	**2.24**	**10**	*e*Pn		**Pn**	**12 03 08.1**	**+0.6**
CANT	**Cankiri**	**2.29**	**320**	*e*PN		**Pn**	**12 03 08.6**	**+0.4**
MYA	**Malataya**	**2.31**	**103**	*e*PN		**Pn**	**12 03 08.9**	**+0.3**
MYA	**Malataya**	**2.31**	**103**	*e*Pn		**Pn**	**12 03 08.9**	**+0.3**
KEMA	**Kemaliye**	**2.32**	**79**	*i* P		**Pb**	**12 03 10.8**	**-1.1**
KEMA				*i* S		**Sg**	**12 03 44.6**	**+0.7**
LOD	**Lodumlu**	**2.39**	**296**	*e*PN		**Pn**	**12 03 09.4**	**-0.2**
LOD	**Lodumlu**	**2.39**	**296**	*e*Pn		**Pn**	**12 03 09.4**	**-0.2**
KUZU	**Kuzuini**	**2.42**	**150**	*i* P		**Pg**	**12 03 15.2**	**-0.4**
KUZU				*i* S		**Sg**	**12 03 48.3**	**+1.3**
TOS	**Tosya**	**2.46**	**332**	*e*PN		**Pn**	**12 03 10.7**	**+0.1**
TOS	**Tosya**	**2.46**	**332**	*e*Pn		**Pn**	**12 03 10.7**	**+0.1**
BYBT	**Boyabat**	**2.66**	**347**	*e*PN		**Pn**	**12 03 13.3**	**0.0**
BYBT	**Boyabat**	**2.66**	**347**	*e*Pn		**Pn**	**12 03 13.3**	**-0.1**
KONT	**Konya--Tatoy**	**2.67**	**251**	*e*PN		**Pn**	**12 03 13.9**	**+0.3**
KONT	**Konya--Tatoy**	**2.67**	**251**	*e*Pn		**Pn**	**12 03 13.9**	**+0.4**
KIZT	**Kizilcal**	**2.87**	**271**	*e*PN		**Pn**	**12 03 16.2**	**0.0**
KIZT	**Kizilcal**	**2.87**	**271**	*e*Pn		**Pn**	**12 03 16.2**	**0.0**
URFA	**Urfa**	**2.94**	**118**	*e*PN		**Pn**	**12 03 17.8**	**+0.5**
URFA	**Urfa**	**2.94**	**118**	*e*Pn		**Pn**	**12 03 17.8**	**+0.6**
SVRC	**Sivrice-ELAZID**	**2.98**	**98**	*e*PN		**Pn**	**12 03 17.5**	**-0.2**
SVRC	**Sivrice-ELAZID**	**2.98**	**98**	*e*Pn		**Pn**	**12 03 17.5**	**-0.2**
PTK	**Pertek**	**2.99**	**88**	*e*PN		**Pn**	**12 03 18.6**	**+0.6**
PTK	**Pertek**	**2.99**	**88**	*e*Pn		**Pn**	**12 03 18.6**	**+0.7**
EZC	**Erzincan**	**3.07**	**72**	*e*PN		**Pn**	**12 03 19.3**	**+0.3**
EZC	**Erzincan**	**3.07**	**72**	*e*Pn		**Pn**	**12 03 19.3**	**+0.3**
HDMB	**Hadim**	**3.08**	**233**	*e*PN		**Pn**	**12 03 19.9**	**+0.7**
HDMB	**Hadim**	**3.08**	**233**	*e*Pn		**Pn**	**12 03 19.9**	**+0.7**
ESPY	**Espiye-Giresun**	**3.18**	**49**	*e*PN		**Pn**	**12 03 21.2**	**+0.7**
ESPY	**Espiye-Giresun**	**3.18**	**49**	*e*Pn		**Pn**	**12 03 21.2**	**+0.7**
SVRH	**Sivrihisar-ESK**	**3.19**	**282**	*e*PN		**Pn**	**12 03 20.9**	**+0.3**
SVRH	**Sivrihisar-ESK**	**3.19**	**282**	*e*Pn		**Pn**	**12 03 20.9**	**+0.3**
SAFT	**Safranbolu**	**3.23**	**318**	*e*PN		**Pn**	**12 03 21.9**	**+0.8**
SAFT	**Safranbolu**	**3.23**	**318**	*e*Pn		**Pn**	**12 03 21.9**	**+0.7**
BZK	**Bozkurt**	**3.30**	**339**	*e*PN		**Pn**	**12 03 23.2**	**+1.1**
BZK	**Bozkurt**	**3.30**	**339**	*e*Pn		**Pn**	**12 03 23.3**	**+1.1**
ERZN	**Erzincan**	**3.31**	**76**	*e*PN		**Pn**	**12 03 22.7**	**+0.4**
GUMT	**Gumushane**	**3.42**	**61**	*e*PN		**Pn**	**12 03 24.0**	**+0.3**
GUMT	**Gumushane**	**3.42**	**61**	*e*Pn		**Pn**	**12 03 24.0**	**+0.2**
MDU	**Mudurnu**	**3.71**	**297**	*e*PN		**Pn**	**12 03 28.5**	**+0.7**
MDU	**Mudurnu**	**3.71**	**297**	*e*Pn		**Pn**	**12 03 28.5**	**+0.8**
GULT	**Gulveren**	**4.19**	**293**	*e*PN		**Pn**	**12 03 36.0**	**+1.7**
GULT	**Gulveren**	**4.19**	**293**	*e*Pn		**Pn**	**12 03 36.0**	**+1.6**

IDC 19 12:07:11.8±4.2, 6.16S×128.66E, h359km±45km, mb3.1/1, mb1 3.1/4, mb1mx2.8/17, mbtmp3.0/4, Error ellipse: s-maj=67.8km s-min=14.0km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.23**	**194**	P	P	P	12 09 54.2	-1.5
	0.5nm,0.3s,baz=29,slow=11,SNR=18							
FITZ				S		S	12 12 11.6	+0.4
	0.1nm,0.3s,baz=341,slow=3.0,SNR=3.1							
WRA	**Warramunga Arr**	**14.77**	**159**	P	P	P	12 10 23.2	-0.3
	0.6nm,0.3s,baz=334,slow=13,SNR=42							
WRA				S		S	12 13 01.3	-1.2
	0.2nm,0.3s,baz=338,slow=20,SNR=4.8							
ASAR	**Alice Springs**	**18.12**	**164**	P	P	P	12 11 00.2	+0.6
	0.2nm,0.3s,baz=344,slow=11,SNR=32							
ASAR				S		S	12 14 09.5	+1.1
	0.3nm,0.3s,baz=346,slow=21,SNR=41							
MKAR	**Makanchi Array**	**66.80**	**327**	P	P	P	12 17 25.8	0.0
	1.2nm,1.0s,baz=126,slow=7.3,SNR=4.0							

*ISCJB **19** 12:21:39.5±1.7, 52.28N±0.05×132.1W±0.2, h4km±10km, mb3.1/2, Error ellipse: s-maj=16.9km s-min=7.7km az=160.2*
*PGC **19** 12:21:40.7±0.0, 52.30N×131.74W, h20km, ML4.0/3, 106km south of Sandspit, Bc Queen Charlotte Islands Region*
*NEIC **19** 12:21:40.7, 52.30N×131.74W, h20km, ML4.0(PGC), After PGC.*
*IDC **19** 12:21:40.3±1.4, 52.35N×131.58W, h0km, mb3.3/2, mb1 3.7/6, mb1mx3.5/24, mbtmp3.5/6, ML3.4/3, Error ellipse: s-maj=20.1km s-min=6.9km az=33.0*
ISC 19 12:21:41.2±2.1, 52.31N±0.08×132.0W±0.2, h4km±13km, n23, σ0°82/30, mb3.1/2, 2D, Queen Charlotte Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BNB	**Barry Inlet**	**0.32**	**30**	P	P	**Pg**	**12 21 46.9**	**-0.4**
BNB				S	S	**Sg**	**12 21 51.2**	**-0.2**
BNB	**Barry Inlet**	**0.32**	**30**	P	P	**Pg**	**12 21 46.9**	**-0.4**
BNB				⇓S	S	**Sg**	**12 21 51.2**	**-0.2**
MOBC	**Moresby Island**	**0.84**	**2**	P	P	**Pg**	**12 21 56.6**	**-0.7**
MOBC				S	S	**Sg**	**12 22 08.5**	**+0.3**
MOBC	**Moresby Island**	**0.84**	**2**	⇑P	P	**Pg**	**12 21 56.6**	**-0.7**
MOBC				⇓S	S	**Sg**	**12 22 08.5**	**+0.3**
DIB	**Dawson Inlet,**	**0.94**	**343**	Pg	**Pg**	**Pg**	**12 21 58.7**	**-0.5**
DIB				Lg			12 22 12.8	
DIB	**Dawson Inlet,**	**0.94**	**343**	P	P	**Pg**	**12 21 58.3**	**-0.9**
DIB				⇑S	S	**Sg**	**12 22 12.8**	**+1.4**
BBB	**Bella Bella**	**2.40**	**91**	Pn	**Pn**	**Pn**	**12 22 15.9**	**-5.3**
	13nm,0.3s,baz=285,slow=16,SNR=122							
BBB				Pg		**Pg**	**12 22 18.9**	**-8.3**
	43nm,0.3s,baz=283,slow=16,SNR=91							
BBB				Lg			12 22 47.1	
	240nm,0.3s,baz=164,slow=20,SNR=28							
BBB	**Bella Bella**	**2.40**	**91**	Pn	**Pn**	**Pn**	**12 22 15.9**	**-5.3**
BBB				Lg			12 22 47.1	
WRAK	**Wrangell Islan**	**4.13**	**357**	*e*Pn	**Pn**	**Pn**	**12 22 43.7**	**-1.2**
WRAK				*e*Sg		**Sg**	**12 23 46.1**	**-7.5**
DLBC	**Dease Lake**	**6.25**	**10**	Pn	**Pn**	**Pn**	**12 23 14.7**	**+0.6**
	1.8nm,0.3s,baz=187,slow=18,SNR=53							
DLBC				Lg			12 24 53.5	
	1.1nm,0.3s,baz=295,slow=24,SNR=4.2							
DLBC	**Dease Lake**	**6.25**	**10**	Pn	**Pn**	**Pn**	**12 23 14.7**	**+0.6**
DLBC				Lg			12 24 53.5	
YKA	**Yellowknife Ar**	**13.81**	**36**	Pn	**Pn**	**Pn**	**12 24 53.2**	**-4.3**
	0.1nm,0.3s,baz=229,slow=12,SNR=4.8							
YKA	**Yellowknife Ar**	**13.81**	**36**	Pn	**Pn**	**Pn**	**12 24 53.2**	**-4.3**
INK	**Inuvik**	**16.07**	**358**	Pn	**Pn**	**Pn**	**12 25 28.5**	**+0.8**
	0.0nm,0.3s,baz=178,slow=11,SNR=2.8							
INK	**Inuvik**	**16.07**	**358**	Pn	**Pn**	**Pn**	**12 25 28.5**	**+0.8**
NVAR	**Mina Array Bea**	**16.85**	**140**	Pn	**Pn**	**Pn**	**12 25 38.9**	**+1.1**
	0.1nm,0.3s,baz=303,slow=12,SNR=2.4							
NVAR	**Mina Array Bea**	**16.85**	**140**	Pn	**Pn**	**Pn**	**12 25 38.9**	**+1.1**
PDAR	**Pinedale Array**	**17.85**	**113**	P	P	**Pn**	**12 25 50.5**	**+0.3**
	0.0nm,0.3s,baz=312,slow=8.4,SNR=8.6							
PDAR	**Pinedale Array**	**17.85**	**113**	P	P	**Pn**	**12 25 50.5**	**+0.3**
TXAR	**Lajitas Array**	**31.07**	**127**	P	P	**P**	**12 28 00.1**	**-0.1**
	0.2nm,0.8s,mb3.0,baz=331,slow=5.4,SNR=2.7							
TXAR	**Lajitas Array**	**31.07**	**127**	P	P	**P**	**12 28 00.1**	**-0.1**
MKAR	**Makanchi Array**	**77.00**	**337**	P	P	**P**	**12 33 33.5**	**-1.2**
	0.2nm,0.6s,mb3.2,baz=40,slow=4.8,SNR=4.1							
MKAR	**Makanchi Array**	**77.00**	**337**	P	P	**P**	**12 33 33.5**	**-1.2**

MEX 19 12:44:35.9±0.3, 17.08N×100.85W, h11km±7km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.56**	**93**	*e*P	P	Pg	12 44 45.6	-1.2
CAIG				*i* S		Sg	12 44 53.2	-0.9
ZIIG	**Zihuatanejo**	**0.79**	**312**	*e*P	P	Pg	12 44 49.0	-2.2
ZIIG				*i* S		Sg	12 44 59.1	-2.4
ACX	**Acapulco**	**0.97**	**102**	*i* P	P	Pg	12 44 50.7	-3.9
ACX				*i* S		Sg	12 45 02.9	-4.4
MEIG	**Mezcala**	**1.44**	**54**	*i* P	P	Pn	12 44 58.5	-3.5
MEIG				*i* S		Sn	12 45 15.9	-5.0
MMIG	**Aquila**	**2.67**	**297**	*i* P	P	Pn	12 45 15.6	-3.2
PPM	**Popocatepetl**	**2.89**	**47**	*i* P	P	Pn	12 45 20.1	-1.7
PPM				*i* S		Sn	12 45 53.6	-3.1
UTMO	**Huajuapan**	**3.00**	**75**	*i* P	P	Pn	12 45 22.1	-1.2
UTMO				*i* S		Sn	12 45 55.4	-3.9

*IDC **19** 12:53:55.8±5.0, 36.12N×71.01E, h70km±43km, mb3.9/13, mb1 4.1/17, mb1mx3.9/28, mbtmp4.0/17, ML4.5/4, Error ellipse: s-maj=23.7km s-min=17.1km az=15.0*

*BJI **19** 12:54:01.7, 36.70N×70.89E, h109km, mB4.9/5, mb4.4/9*
*ISCJB **19** 12:54:01.7±0.3, 36.45N±0.02×71.12E±0.04, h128km±4km, mb4.1/28, Error ellipse: s-maj=5.3km s-min=3.2km az=166.0*
*MOS **19** 12:54:01.9±1.1, 36.46N×71.06E, h127km, mb4.3/13, Error ellipse: s-maj=11.5km s-min=5.5km az=90.7*
*NEIC **19** 12:54:03.6±0.8, 36.56N×71.03E, h117km±9km, mb4.3/5, Error ellipse: s-maj=9.1km s-min=8.1km az=143.0*
*NNC **19** 12:54:06.2±4.7, 36.74N×70.96E, h125km±50km, mb4.0, mpv5.0, Error ellipse: s-maj=37.0km s-min=24.9km az=15.0*
ISC 19 12:54:02.9±0.3, 36.44N±0.02×71.12E±0.04, h125km±4km, n146, σ1°19/173, mb4.2/28, 9C-10D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.54**	**222**	*e*Pn		**Pn**	**12 54 44.2**	**+0.9**
KBL				*e*Sn		**Sn**	**12 55 15.0**	**+0.6**
KBL	**Kabul**	**2.54**	**222**	*e*PN		**Pn**	**12 54 44.2**	**+0.9**
KBL				*e*			12 55 15.0	
CEP	**Cherat**	**2.69**	**166**	⇓P		**Pn**	**12 54 47.3**	**+2.0**
CEP				S		**Sn**	**12 55 20.0**	**+2.2**
CHCP	**Chirah Chowk**	**3.28**	**147**	⇓P		**Pn**	**12 54 55.7**	**+2.7**
THW	**Thamme Wali**	**3.67**	**172**	P		**Pn**	**12 54 59.5**	**+1.4**
THW				S		**Sn**	**12 55 42.0**	**+1.1**
SARP	**Sargodha**	**4.69**	**164**	P		**Pn**	**12 55 12.2**	**+0.5**
SARP				S		**Sn**	**12 56 04.0**	**-1.1**
JMU	**Jammu**	**4.85**	**139**	*e*PKP		**Pn**	**12 55 15.5**	**+1.7**
JMU				*e*S		**Sn**	**12 56 09.5**	**+0.5**
KSH	**Kashi**	**4.92**	**50**	*e*P		**Pn**	**12 55 12.1**	**-2.6**
KSH				S		**Sn**	**12 55 53.0**	**-18**
KSH				smax				
	comp=N,2μm,0.5s							
KSH				smax				
	comp=E,1μm,0.4s							
AML	**Almayashu**	**6.03**	**19**	P		**Pn**	**12 55 30.1**	**+0.5**
	SNR=1016							
UCH	**Uchtor**	**6.35**	**23**	P		**Pn**	**12 55 35.2**	**+1.2**
	SNR=14							
KZA	**Kyzart**	**6.48**	**28**	P		**Pn**	**12 55 36.3**	**+0.6**
	SNR=55							
EKS2	**Erkin-Say**	**6.55**	**17**	P		**Pn**	**12 55 36.7**	**+0.1**
	SNR=103							
EKS2	**Erkin-Say**	**6.55**	**17**	*e*Pn		**Pn**	**12 55 37.0**	**+0.3**
EKS2	**Erkin-Say**	**6.55**	**17**	*e*PN		**Pn**	**12 55 37.0**	**+0.4**
BHK	**Bhakra**	**6.67**	**137**	*ex*	x		12 56 08.6	
BHK				*e*S		**Sn**	**12 56 52.2**	**-0.7**
KK31	**Karatay Array**	**6.67**	**356**	⇓P		**Pn**	**12 55 37.7**	**-0.6**
	comp=E,98nm,0.3s,baz=186,slow=13,SNR=765							
KK31				⇓S		**Sn**	**12 56 51.0**	**-1.9**
	comp=E,22nm,0.3s,baz=185,slow=23,SNR=6.4							
KK31	**Karatay Array**	**6.67**	**356**	PN		**Pn**	**12 55 37.7**	**-0.6**
KK31				pmax	pmax			
	comp=Z,202nm,0.3s							
KKAR	**Karatay Array**	**6.67**	**356**	*e*Pn		**Pn**	**12 55 37.8**	**-0.6**
KKAR	**Karatay Array**	**6.67**	**356**	*e*PN		**Pn**	**12 55 37.8**	**-0.5**
AAK	**Ala-Archa**	**6.71**	**22**	P		**Pn**	**12 55 39.5**	**+0.6**
	SNR=144							
AAK	**Ala-Archa**	**6.71**	**22**	*e*Pn		**Pn**	**12 55 39.4**	**+0.5**
AAK	**Ala-Archa**	**6.71**	**22**	*i* PN		**Pn**	**12 55 39.5**	**+0.6**
KBK	**Karagaybulak**	**6.88**	**24**	P		**Pn**	**12 55 41.7**	**+0.6**
	SNR=44							
SDNR	**Sundarnagar**	**6.92**	**134**	*e*PKP		**Pn**	**12 55 42.0**	**+0.3**
SDNR				*e*S		**Sn**	**12 56 55.0**	**-4.0**
ULHL	**Ulahol**	**7.03**	**33**	P		**Pn**	**12 55 44.1**	**+1.0**
	SNR=11							
CHMS	**Chumysh**	**7.13**	**22**	P		**Pn**	**12 55 44.5**	**+0.1**
	SNR=65							
USP	**Ospenovka**	**7.30**	**20**	P		**Pn**	**12 55 46.5**	**-0.3**
	SNR=77							
SMLA	**Simla**	**7.30**	**135**	*i* x		**Pn**	**12 55 45.8**	**-1.2**
SMLA				*i* S		**Sn**	**12 57 04.1**	**-4.3**
SMLA				⇓AML	AML		12 57 09.2	
	comp=N,1μm,0.3s							
SMLA				⇓AML	AML		12 57 11.1	
	comp=E,1μm,0.2s							
TKM2	**Tokmak 2**	**7.34**	**27**	P		**Pn**	**12 55 47.6**	**+0.3**
	SNR=44							
TKM2	**Tokmak 2**	**7.34**	**27**	⇑P		**Pn**	**12 55 47.8**	**+0.5**
	comp=E,29nm,0.5s							
TKM2				⇓S		**Sn**	**12 57 07.0**	**-2.0**
	comp=E,41nm,0.7s							
TKM2	**Tokmak 2**	**7.34**	**27**	PN		**Pn**	**12 55 47.0**	**-0.3**
TKM2				pmax	pmax			
	comp=Z,29nm,0.5s							
DDI	**Dehra Dun**	**8.41**	**134**	*e*PKP		**Pn**	**12 56 02.0**	**0.0**
DDI				*ex*	x		12 57 36.0	
KHET	**Khetri**	**9.23**	**153**	*e*PKP		**Pn**	**12 56 11.7**	**-1.3**
KHET				*e*S		**Sn**	**12 57 47.8**	**-7.3**
KHET				AML	AML		12 57 51.5	
	comp=N,83nm,0.4s							
KHET				AML	AML		12 57 51.8	
	comp=E,107nm,0.3s							
NDI	**New Delhi**	**9.29**	**145**	*e*PKP		**Pn**	**12 56 11.9**	**-1.8**
NDI				*e*S		**Sn**	**12 57 50.5**	**-5.9**
NDI				AML	AML		12 57 53.1	
	comp=N,116nm,0.4s							
NDI				AML	AML		12 57 53.6	
	comp=E,153nm,0.8s							
AYAN	**Aya Nagar**	**9.41**	**146**	*ex*		**Pn**	**12 56 12.4**	**-3.1**
AYAN				*e*S		**Sn**	**12 57 53.6**	**-5.8**
SONA	**Sohna**	**9.59**	**147**	*e*PKP		**Pn**	**12 56 16.5**	**-1.3**
SONA				*e*S		**Sn**	**12 57 58.0**	**-5.8**
SONA				AML	AML		12 58 01.4	
	comp=E,127nm,0.5s							
SONA				AML	AML		12 58 01.6	
	comp=N,49nm,0.4s							
AJM	**Ajmer**	**10.37**	**162**	*e*PKP		**Pn**	**12 56 27.0**	**-1.3**
AJM				*e*S		**Sn**	**12 58 15.0**	**-7.7**
AGRA	**Agra**	**10.86**	**146**	*ex*	x		12 56 29.0	
AGRA				*e*S		**Sn**	**12 58 25.5**	**-8.9**
AGRA				AML	AML		12 58 50.3	
	comp=N,102nm,0.4s							
AGRA				AML	AML		12 58 52.6	
	comp=E,99nm,0.3s							
PYUN	**Piuthan**	**13.03**	**126**	*e*P		**Pn**	**12 57 02.1**	**-1.2**
	comp=E,52nm,0.3s							
PYUN				*e*S		**Sn**	**12 59 18.1**	**-8.8**
MK31	**Makanchi Array**	**13.29**	**35**	⇑P		**Pn**	**12 57 07.1**	**+0.6**
	comp=E,4.3nm,0.6s,baz=220,slow=14,SNR=15							
MK31	**Makanchi Array**	**13.29**	**35**	*e*Pn		**Pn**	**12 57 06.5**	**+0.1**
MK31	**Makanchi Array**	**13.29**	**35**	*e*P		**Pn**	**12 57 06.5**	**0.0**
MKAR	**Makanchi Array**	**13.29**	**35**	P		**Pn**	**12 57 05.8**	**-0.6**
	comp=E,0.6nm,0.3s,baz=221,slow=14,SNR=19							
MKAR	**Makanchi Array**	**13.29**	**35**	P		**Pn**	**12 57 05.8**	**-0.6**
MKAR	**Makanchi Array**	**13.29**	**35**	P		**Pn**	**12 57 05.9**	**-0.6**
DANN	**Dangsing**	**13.37**	**123**	*e*P		**Pn**	**12 57 06.5**	**-1.3**
	comp=E,40nm,0.3s							
KOLN	**Koldanda**	**13.65**	**126**	*e*P		**Pn**	**12 57 10.4**	**-0.9**
	comp=E,35nm,0.4s							
GKN	**Gorkha**	**14.19**	**123**	*e*P		**Pn**	**12 57 17.0**	**-1.2**
GKN				*e*S		**Sn**	**12 59 44.8**	**-10**
BHPL	**Bhopal**	**14.24**	**156**	*e*PKP		**Pn**	**12 57 19.2**	**+0.4**
BHPL				*ex*	x		12 59 45.0	
WMQ	**Urumqi**	**14.66**	**55**	*e*P		**Pn**	**12 57 29.3**	**+5.3**
WMQ	**Urumqi**	**14.66**	**55**	P		**Pn**	**12 57 26.4**	**+2.4**
WMQ				S		**Sn**	**13 00 06.8**	**+0.9**
DMN	**Daman**	**14.76**	**123**	*e*P		**Pn**	**12 57 25.5**	**+0.1**
KKN	**Kakani**	**14.76**	**122**	*e*P		**Pn**	**12 57 25.5**	**0.0**
	comp=E,44nm,0.4s							
PKI	**Pulchoki**	**14.99**	**122**	*e*P		**Pn**	**12 57 27.1**	**-1.2**
PKI				*e*S		**Sn**	**13 00 04.4**	**-10**
GUN	**Gumba**	**15.10**	**120**	*e*P		**Pn**	**12 57 29.4**	**-0.3**
	comp=E,34nm,0.3s							
AB31	**Akbulak array**	**15.19**	**331**	⇑P		**Pn**	**12 57 28.7**	**-1.9**
	comp=E,9.0nm,0.5s,baz=144,slow=12,SNR=158							
AB31				⇑S		**S**	**13 00 08.8**	**-18**
	comp=E,10.0nm,0.6s,baz=160,slow=22,SNR=7.3							
AB31	**Akbulak array**	**15.19**	**331**	*i* P		**Pn**	**12 57 28.4**	**-2.1**
AB31				pmax	pmax			
	comp=Z,12nm,0.4s							
ABKAR	**Akbulak array**	**15.19**	**331**	*e*Pn		**Pn**	**12 57 28.1**	**-2.4**
ABKAR				*e*Sn		**Sn**	**13 00 05.2**	**-13**
KURK	**Kurchatov**	**15.26**	**18**	⇑P		**Pn**	**12 57 33.1**	**+1.6**
	comp=Z,18nm,0.8s							
KURK	**Kurchatov**	**15.26**	**18**	P		**Pn**	**12 57 27.9**	**-3.6**
	comp=Z,0.3nm,0.3s,baz=209,slow=10,SNR=15							
KURK	**Kurchatov**	**15.26**	**18**	*e*Pn		**Pn**	**12 57 31.8**	**+0.3**
	comp=Z,20nm,0.8s							
KURK	**Kurchatov**	**15.26**	**18**	P		**Pn**	**12 57 32.0**	**+0.5**
KURK				pmax	pmax			
	comp=Z,18nm,0.8s							

RAMN	**Ramite**	**16.20**	**121**	*e*P		**Pn**	**12 57 43.4**	**+0.1**
	comp=Z,41nm,0.4s							
VOSK	**Vostochnaya**	**16.29**	**360**	⇑P		**Pn**	**12 57 42.7**	**-1.5**
	comp=Z,9.3nm,0.7s							
ZRNK	**Zerenda**	**16.58**	**356**	⇓P		**Pn**	**12 57 49.1**	**+1.4**
	comp=Z,14nm,0.9s							
BVA0	**Borovoye Array**	**16.59**	**358**	⇑P		**Pn**	**12 57 48.0**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=167,slow=12,SNR=53							
BVA0	**Borovoye Array**	**16.59**	**358**	*i* P		**Pn**	**12 57 47.2**	**-0.7**
BVA0				pmax	pmax			
	comp=Z,1.0nm,0.5s							
BVAR	**Borovoye Array**	**16.59**	**358**	P		**Pn**	**12 57 45.8**	**-2.1**
	comp=Z,3.0nm,0.3s,baz=173,slow=13,SNR=35							
BVAR	**Borovoye Array**	**16.59**	**358**	P		**Pn**	**12 57 45.8**	**-2.1**
BVAR	**Borovoye Array**	**16.59**	**358**	P		**Pn**	**12 57 45.8**	**-2.1**
BRVK	**Borovoye**	**16.63**	**358**	*e*Pn		**Pn**	**12 57 47.0**	**-1.3**
	comp=Z,9.8nm,0.7s							
BRVK	**Borovoye**	**16.63**	**358**	*i* P		**Pn**	**12 57 47.5**	**-0.8**
BRVK				pmax	pmax			
	comp=Z,9.0nm,0.6s							
TAPN	**Taplejung**	**16.73**	**118**	*e*P		**Pn**	**12 57 50.0**	**+0.2**
	comp=Z,24nm,0.3s							
ODAN	**Odare**	**16.81**	**120**	*e*P		**Pn**	**12 57 51.0**	**+0.3**
AKTO	**Aktyubinsk**	**16.88**	**330**	⇓P		**Pn**	**12 57 51.9**	**+0.5**
	comp=Z,3.0nm,0.6s							
AKTO	**Aktyubinsk**	**16.88**	**330**	P		**Pn**	**12 57 50.6**	**-0.8**
	comp=Z,4.9nm,0.3s,baz=146,slow=12,SNR=37							
AKTO				S		**S**	**13 00 52.1**	**-7.4**
	comp=Z,1.2nm,0.3s,baz=342,slow=20,SNR=3.7							
AKTO	**Aktyubinsk**	**16.88**	**330**	P		**Pn**	**12 57 50.6**	**-0.8**
AKTO				S		**S**	**13 00 52.1**	**-7.4**
AKTO	**Aktyubinsk**	**16.88**	**330**	P		**Pn**	**12 57 50.6**	**-0.8**
AKTO				S		**S**	**13 00 52.1**	**-7.3**
LSA	**Lhasa**	**18.07**	**106**	*e*P		**P**	**12 58 09.2**	**+4.6**
	comp=Z,13nm,0.8s							
LSA	**Lhasa**	**18.07**	**106**	*e*P		**P**	**12 58 09.2**	**+4.5**
LSA				pmax	pmax			
	comp=Z,13nm,0.8s							
ZAA0	**Zalesovo Array**	**19.93**	**24**	*e*P		**P**	**12 58 25.1**	**+0.4**
ZALV	**Zalesovo Beam**	**19.93**	**24**	P		**P**	**12 58 25.2**	**+0.5**
	comp=Z,15nm,0.4s,baz=222,slow=10,SNR=147							
ZALV	**Zalesovo Beam**	**19.93**	**24**	P		**P**	**12 58 25.2**	**+0.5**
ZALV	**Zalesovo Beam**	**19.93**	**24**	P		**P**	**12 58 25.2**	**+0.5**
HYB	**Hyderabad**	**20.06**	**159**	*i* P		**P**	**12 58 28.0**	**+1.7**
NVS	**Novosibirsk**	**20.21**	**21**	⇑*i* P		**P**	**12 58 28.3**	**+0.7**
NVS				pmax	pmax			
	comp=Z,22nm,0.8s							
NVS				pmax	pmax			
	comp=N,21nm,0.8s							
SHL	**Shillong**	**20.80**	**116**	*e*PKP		**P**	**12 58 36.0**	**+1.8**
SHL				*ex*	x		13 02 17.5	
MIB	**Mutribah**	**20.96**	**258**	*e*P		**P**	**12 58 35.0**	**-0.9**
MIB				AMb	AMB		12 58 43.8	
	comp=Z,51nm,1.0s							
GNI	**Garni**	**21.00**	**288**	P		**P**	**12 58 38.8**	**+2.5**
	comp=Z,15nm,0.7s,mb4.5,baz=96,slow=9.2,SNR=5.0							
GNI	**Garni**	**21.00**	**288**	*e*P		**P**	**12 58 37.7**	**+1.4**
	comp=Z,70nm,1.3s,mb4.8

comp=Z,1.9nm,0.6s,mb4.0,baz=311,slow=4.7,SNR=12
INK Inuvik 73.95 9 P **P 13 05 24.8 +0.8**
INK pmax pmax
comp=Z,2.0nm,0.6s
ILAR Eielson Array 74.81 16 P **P 13 05 28.9 -0.1**
comp=Z,0.5nm,0.8s,mb3.3,baz=309,slow=4.6,SNR=5.6
ILAR Eielson Array 74.81 16 P **P 13 05 28.9 -0.1**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
BOSA Boshof 77.76 220 P **P 13 05 43.9 -2.2**
comp=Z,3.0nm,1.0s,mb4.0,baz=34,slow=3.6,SNR=2.6
BOSA Boshof 77.76 220 P **P 13 05 43.9 -2.2**
BOSA pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
YKA Yellowknife Ar 81.31 3 P **P 13 06 05.6 +0.8**
comp=Z,1.3nm,0.7s,mb3.9,baz=350,slow=5.4,SNR=6.2
YKA Yellowknife Ar 81.31 3 P **P 13 06 05.6 +0.7**
YKA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 81.88 122 P **P 13 06 07.8 -0.7**
comp=Z,0.4nm,0.3s,mb3.7,baz=326,slow=4.9,SNR=11
WRA Warramunga Arr 81.88 122 P **P 13 06 07.8 -0.7**
ASAR Alice Springs 84.14 125 P **P 13 06 19.1 -0.9**
comp=Z,0.6nm,0.6s,mb3.6,baz=309,slow=4.8,SNR=13
ASAR Alice Springs 84.14 125 P **P 13 06 19.2 -0.8**
ASAR pmax pmax
comp=Z,1.0nm,0.6s

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*DDA **19** 13:12:13.9,34′.28N×25′.75E,h23km,Md3.5*
*ISCJB **19** 13:12:15.2±0.5,34′.44N±0′.03×25′.54E±0′.08,h60km±20km, Error ellipse: s-maj=11.9km s-min=4.5km az=17.7*
*ATH **19** 13:12:15.1,34′.39N×25′.26E,h26km±2km,MD3.3/6*
*ISK **19** 13:12:16.8,34′.44N×25′.73E,h38km,ML3.4*
*CSEM **19** 13:12:16.7±0.2,34′.44N×25′.44E,h40km,MD3.3, Error ellipse: s-maj=5.8km s-min=3.4km az=86.0*
*HLW **19** 13:12:18.9,34′.28N×25′.65E,h33km±23km,Md3.7,Ml3.7*
ISC 19 13:12:16.7±0.4,34′.45N±0′.03×25′.47E±0′.07,h46km±47km, n60,σ1§02/78,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**0.46**	**23**	*e*PN	**Pn**	**13 12 27.0**	**-0.2**
XRY	**Khrisi**	**0.46**	**23**	*e*Pn	**Pn**	**13 12 27.0**	**-0.2**
SIVA	**Sivas**	**0.79**	**316**	*e*PN	**Pn**	**13 12 29.8**	**-1.6**
SIVA	**Sivas**	**0.79**	**316**	*e*Pn	**Pn**	**13 12 29.8**	**-1.6**
NPS	**Neapolis**	**0.82**	**8**	*e*PN	**Pn**	**13 12 32.6**	**+0.7**
NPS	**Neapolis**	**0.82**	**8**	*e*Pn	**Pn**	**13 12 32.6**	**+0.7**
IDI	**Anoyia**	**0.96**	**330**	*e*PN	**Pn**	**13 12 33.2**	**-0.6**
IDI				*e*Sn	**Sn**	**13 12 46.7**	**+0.3**
IDI	**Anoyia**	**0.96**	**330**	*e*Pn	**Pn**	**13 12 33.2**	**-0.6**
IDI				*e*Sn	**Sn**	**13 12 46.7**	**+0.3**
VAM	**Vamos**	**1.42**	**313**	*e*PN	**Pn**	**13 12 40.1**	**+0.1**
VAM	**Vamos**	**1.42**	**313**	*e*Pn	**Pn**	**13 12 40.1**	**+0.1**
KARP	**Karpathos**	**1.77**	**51**	*e*PN	**Pn**	**13 12 48.6**	**+3.8**
SLUM		**2.96**	**184**	P	**Pn**	**13 13 01.5**	**+0.4**
	baz=188						
SLUM				S	**Sn**	**13 13 33.1**	**-2.3**
	baz=188						
SLUM		**2.96**	**184**	P	**Pn**	**13 13 01.9**	**+0.8**
SLUM				S	**Sn**	**13 13 34.7**	**-0.6**
TURN	**Turunc**	**3.52**	**46**	*i* P	**Pn**	**13 13 06.3**	**-2.4**
TURN				*i* S	**Sn**	**13 13 41.2**	**-7.9**
TURN	**Turunc**	**3.52**	**46**	*i* P	**Pn**	**13 13 06.3**	**-2.4**
YER	**Yerkesik**	**3.52**	**40**	*e*PN	**Pn**	**13 13 09.6**	**+0.7**
YER				*e*SN	**Sn**	**13 13 48.3**	**-1.0**
YER	**Yerkesik**	**3.52**	**40**	*e*Pn	**Pn**	**13 13 09.6**	**+0.8**
YER				*e*Sn	**Sn**	**13 13 48.3**	**-0.9**
HMAT	**Matruh**	**3.61**	**157**	P	**Pn**	**13 13 09.9**	**-0.2**
	baz=158						
HMAT				S	**Sn**	**13 13 47.5**	**-4.0**
	baz=158						
HMAT	**Matruh**	**3.61**	**157**	P	**Pn**	**13 13 10.4**	**+0.3**
HMAT				S	**Sn**	**13 13 51.5**	**0.0**
FETY	**Fethiye**	**3.67**	**52**	*e*PN	**Pn**	**13 13 10.6**	**-0.2**
FETY				*e*SN	**Sn**	**13 13 49.4**	**-3.4**
FETY	**Fethiye**	**3.67**	**52**	*e*Pn	**Pn**	**13 13 10.6**	**-0.2**
FETY				*e*Sn	**Sn**	**13 13 49.4**	**-3.4**
AYDN	**Tasoluk**	**3.75**	**31**	*i* P	**Pn**	**13 13 14.4**	**+2.4**
AYDN	**Tasoluk**	**3.75**	**31**	*i* Pn	**Pn**	**13 13 14.4**	**+2.4**
GLHS	**Glhisar (BURDU**	**4.24**	**49**	*e*PN	**Pn**	**13 13 18.2**	**-0.6**
GLHS	**Glhisar (BURDU**	**4.24**	**49**	*e*Pn	**Pn**	**13 13 18.2**	**-0.5**
ELL	**Elmali**	**4.28**	**56**	*e*PN	**Pn**	**13 13 19.8**	**+0.5**
ELL	**Elmali**	**4.28**	**56**	*e*Pn	**Pn**	**13 13 19.8**	**+0.5**
GOLH	**Golhisar**	**4.33**	**49**	*i* P	**Pn**	**13 13 21.1**	**+1.1**
GOLH				*i* S	**Sn**	**13 14 07.5**	**-1.7**
GOLH	**Golhisar**	**4.33**	**49**	*i* Pn	**Pn**	**13 13 21.1**	**+1.1**
GOLH				*i* S	**Sn**	**13 14 07.5**	**-1.7**
KULA	**Kula-Manisa**	**4.80**	**31**	*e*PN	**Pn**	**13 13 27.5**	**+1.1**
KULA	**Kula-Manisa**	**4.80**	**31**	*e*Pn	**Pn**	**13 13 27.5**	**+1.1**
KHAL	**Karahalli**	**5.08**	**38**	*i* P	**Pn**	**13 13 30.4**	**+0.1**
KHAL				*i* S	**Sn**	**13 14 25.8**	**-1.8**
KHAL	**Karahalli**	**5.08**	**38**	*i* P	**Pn**	**13 13 30.4**	**+0.2**
KHAL				*i* S	**Sn**	**13 14 25.8**	**-1.8**
SWA2		**5.19**	**180**	P	**Pn**	**13 13 31.9**	**+0.2**
	baz=182						
SWA2				AMP		13 14 00.0	
	comp=N,90μm,0.4s,logA/T=5.4,baz=182						
SWA2				S	**Sn**	**13 14 27.4**	**-3.0**
	baz=182						
SWA2		**5.19**	**180**	P	**Pn**	**13 13 31.9**	**+0.1**
SWA2				S	**Sn**	**13 14 28.3**	**-2.0**
SUTC	**Sutluce-Ispart**	**5.41**	**54**	*e*PN	**Pn**	**13 13 35.4**	**+0.7**
SUTC	**Sutluce-Ispart**	**5.41**	**54**	*e*Pn	**Pn**	**13 13 35.4**	**+0.7**
LEF	**Lefka**	**6.14**	**82**	*e*PN	**Pn**	**13 13 45.0**	**+0.3**
LEF	**Lefka**	**6.14**	**82**	*e*Pn	**Pn**	**13 13 45.1**	**+0.3**
HDMB	**Hadim**	**6.23**	**64**	*e*PN	**Pn**	**13 13 46.7**	**+0.6**
HDMB	**Hadim**	**6.23**	**64**	*e*Pn	**Pn**	**13 13 46.7**	**+0.6**
HNAT	**Natroun**	**6.49**	**136**	P	**Pn**	**13 13 49.5**	**-0.1**
	baz=136						
HNAT	**Natroun**	**6.49**	**136**	P	**Pn**	**13 13 50.4**	**+0.8**
CSS	**Prodhromos**	**6.49**	**83**	*e*PN	**Pn**	**13 13 50.5**	**+0.8**
CSS	**Prodhromos**	**6.49**	**83**	*e*Pn	**Pn**	**13 13 50.5**	**+0.9**
AWBH		**6.78**	**153**	P	**Pn**	**13 13 53.9**	**+0.3**
	baz=154						
AWBH		**6.78**	**153**	P	**Pn**	**13 13 53.9**	**+0.4**
KIZT	**Kizilcal**	**6.79**	**47**	*e*PN	**Pn**	**13 13 54.3**	**+0.6**
KOT	**Kottamia**	**7.02**	**128**	P	**Pn**	**13 13 56.8**	**-0.1**
	baz=128						
KOT	**Kottamia**	**7.02**	**128**	P	**Pn**	**13 13 56.5**	**-0.4**
HSAF	**As Saff**	**7.06**	**131**	P	**Pn**	**13 13 57.9**	**+0.5**
	baz=131						
HSAF	**As Saff**	**7.06**	**131**	P	**Pn**	**13 13 58.2**	**+0.8**
GLL	**Jalalah**	**7.18**	**131**	P	**Pn**	**13 13 59.4**	**+0.3**
	baz=130						
GLL	**Jalalah**	**7.18**	**131**	P	**Pn**	**13 13 59.4**	**+0.3**
AMAG	**Maghara**	**7.55**	**118**	P	**Pn**	**13 14 04.3**	**+0.1**
	baz=117						
AMAG	**Maghara**	**7.55**	**118**	P	**Pn**	**13 14 03.2**	**-1.0**
HFRF	**Wahat Farafira**	**7.67**	**161**	P	**Pn**	**13 14 06.5**	**+0.7**
	baz=161						
HFRF				S	**Sn**	**13 15 27.0**	**-4.4**
	baz=161						
HFRF	**Wahat Farafira**	**7.67**	**161**	P	**Pn**	**13 14 05.4**	**-0.5**
HDK1	**Dakhla**	**9.51**	**158**	P	**Pn**	**13 14 31.6**	**+0.6**
	baz=158						
HDK1	**Dakhla**	**9.51**	**158**	P	**Pn**	**13 14 31.6**	**+0.7**

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*ISCJB **19** 13:20:02.2±0.6,46′.9S×0′.1×33′.3E±0′.3,h10km,mb4.0/9, MS3.4/6,Error ellipse: s-maj=26.8km s-min=10.5km az=154.7*
*IDC **19** 13:20:02.6±0.7,46′.83S×33′.74E,h0km,mb4.1/9, mb1 4.2/10,mb1mx4.0/20,mbtmp4.1/10,ML4.2/1,MS3.4/6, Ms1 3.4/6,ms1mx3.0/34,Error ellipse: s-maj=32.8km s-min=16.5km az=67.0*
*NEIC **19** 13:20:03.9±0.6,46′.85S×33′.36E,h10km,mb4.2/3,Error ellipse: s-maj=29.0km s-min=11.7km az=65.0*
ISC 19 13:20:03.9±0.6,46′.8S±0′.1×33′.4E±0′.2,h10km,n29, σ1§11/23,mb4.0/9,MS3.4/6,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**17.36**	**322**	P	**Pn**	**13 24 03.7**	**-2.5**
	0.8nm,0.3s,baz=150,slow=16,SNR=7.5						
SUR	**Sutherland**	**17.36**	**322**	*e*P	**Pn**	**13 24 04.5**	**-1.7**
BOSA	**Boshof**	**19.27**	**338**	P	**Pn**	**13 24 29.8**	**+0.2**
	0.5nm,0.3s,baz=164,slow=13,SNR=7.0						
BOSA	**Boshof**	**19.27**	**338**	*e*P	**Pn**	**13 24 30.0**	**+0.4**
	31nm,1.5s						
LBTB	**Lobatse**	**22.64**	**341**	P	**P**	**13 25 05.8**	**+0.8**
	9.3nm,1.0s,mb4.2,baz=187,slow=8.1,SNR=7.6						
LBTB				LR	LR	13 32 57.7	
	comp=Z,101nm,18.4s,MS3.3,baz=334,slow=34						
LBTB	**Lobatse**	**22.64**	**341**	*e*P	**P**	**13 25 05.5**	**+0.6**
LBTB				LR	LR	13 32 57.7	
MAW	**Mawson**	**25.76**	**154**	P	**P**	**13 25 35.0**	**+0.6**
	4.5nm,0.9s,mb4.0,baz=300,slow=14,SNR=5.8						
MAW				LR	LR	13 32 42.8	
	comp=Z,117nm,21.6s,MS3.4,baz=204,slow=30						
MAW	**Mawson**	**25.76**	**154**	P	**P**	**13 25 35.5**	**+1.1**
	1.4nm,1.0s,mb3.5						
MAW				LR	LR	13 32 42.8	
SNAA	**Sanae**	**30.15**	**202**	P	**P**	**13 26 14.0**	**+0.4**
	0.6nm,0.8s,mb3.4,baz=69,slow=11,SNR=7.3						
SNAA				LR	LR	13 34 14.2	
	comp=Z,11nm,21.9s,MS2.5,baz=214,slow=28						
SNAA	**Sanae**	**30.15**	**202**	*e*P	**P**	**13 26 11.3**	**-2.2**
SNAA				LR	LR	13 34 14.2	
QSPA	**South Pole Qui**	**43.40**	**180**	P	**P**	**13 28 05.9**	**-0.1**
	5.1nm,0.9s,mb4.3,baz=253,slow=6.1,SNR=11						
QSPA	**South Pole Qui**	**43.40**	**180**	*e*P	**P**	**13 28 08.0**	**+2.0**
	7.5nm,1.0s,mb4.4						
VNDA	**Vanda**	**51.93**	**167**	P	**P**	**13 29 12.1**	**-0.1**
	2.8nm,0.8s,mb4.2,baz=241,slow=6.1,SNR=12						
VNDA				LR	LR	13 49 23.2	
	comp=Z,79nm,20.4s,MS3.7,baz=161,slow=34						
VNDA	**Vanda**	**51.93**	**167**	P	**P**	**13 29 12.1**	**-0.1**
VNDA				LR	LR	13 49 23.2	
DBIC	**Dimbokro**	**63.16**	**316**	LR	LR	13 54 47.9	
	comp=Z,41nm,18.0s,MS3.6,baz=111,slow=33						
TORD	**Torodi Ar. Bea**	**66.13**	**326**	P	**P**	**13 30 53.0**	**+1.7**
	0.9nm,0.7s,mb3.9,baz=161,slow=7.1,SNR=6.9						
TORD	**Torodi Ar. Bea**	**66.13**	**326**	P	**P**	**13 30 53.0**	**+1.7**
STKA	**Stephens Creek**	**78.47**	**124**	P	**P**	**13 32 03.6**	**-1.4**
	1.9nm,0.7s,mb4.2,baz=220,slow=7.4,SNR=5.0						
STKA	**Stephens Creek**	**78.47**	**124**	P	**P**	**13 32 03.6**	**-1.4**
MMAI	**Mount Meron Ar**	**79.48**	**2**	LR	LR	14 06 06.7	
	comp=Z,27nm,18.4s,MS3.6,baz=235,slow=35						
ASAR	**Alice Springs**	**79.88**	**114**	P	**P**	**13 32 12.5**	**-0.4**
	1.0nm,0.8s,mb3.8,baz=220,slow=5.6,SNR=11						
ASAR	**Alice Springs**	**79.88**	**114**	P	**P**	**13 32 12.5**	**-0.4**
WRA	**Warramunga Arr**	**82.86**	**111**	P	**P**	**13 32 28.0**	**-0.7**
	1.1nm,1.1s,mb3.8,baz=217,slow=5.0,SNR=5.2						
WRA	**Warramunga Arr**	**82.86**	**111**	P	**P**	**13 32 28.0**	**-0.7**
WRAB	**Tennant Creek**	**82.87**	**111**	*e*P	**P**	**13 32 29.4**	**+0.6**
TXAR	**Lajitas Array**	**142.53**	**258**	PKhKP	PKPpre	13 39 33.4	
	0.3nm,0.5s,baz=124,slow=5.6,SNR=4.9						
TXAR	**Lajitas Array**	**142.53**	**258**	PKP	PKPpre	13 39 33.4	
PDAR	**Pinedale Array**	**153.59**	**275**	PKPbc	PKPbc	13 40 02.8	+0.6
	baz=64,slow=6.1						
PDAR				PKPab	PKPab	13 40 17.1	+2.2
	0.5nm,0.9s,baz=104,slow=3.8,SNR=3.6						
PDAR	**Pinedale Array**	**153.59**	**275**	PKPbc	PKPbc	13 40 02.8	+0.6
PDAR				PKPab	PKPab	13 40 17.1	+2.2

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*ISCJB **19** 13:44:55.5±0.6,18°.7S±0°.1×177°.76W±0°.09,h635km±9km, mb4.4/20,Error ellipse: s-maj=18.2km s-min=9.8km az=145.6*
*IDC **19** 13:44:55.2±1.1,18°.78S×177°.73W,h614km±15km, mb3.6/12,mb1 3.8/14,mb1mx3.6/20,mbtmp3.6/14,Error ellipse: s-maj=16.2km s-min=9.6km az=138.0*
*NEIC **19** 13:44:55.6±0.8,18°.73S×177°.65W,h623km±9km,mb4.6/7, Error ellipse: s-maj=15.4km s-min=10.8km az=134.0*
ISC 19 13:44:55.8±0.6,18°.68S±0°.1×177°.70W±0°.09, h621km±9km,n77,σ1§05/57,mb4.5/20,2C-4D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.15**	**282**	*e*P	**P**	**13 46 25.1**	**+1.2**
AFI	**Afiamalu**	**7.40**	**51**	P	**P**	**13 46 49.6**	**-0.8**
	3.1nm,0.3s,baz=204,slow=21,SNR=8.6						
AFI				S	**S**	**13 48 23.3**	**-0.9**
	11nm,0.3s,baz=252,slow=20,SNR=13						
AFI	**Afiamalu**	**7.40**	**51**	P	**P**	**13 46 49.6**	**-0.8**
AFI				S	**S**	**13 48 23.3**	**-0.9**
DZM	**Mont Dzumac**	**15.25**	**255**	*e*P	**P**	**13 48 06.8**	**+1.4**
	8.9nm,0.7s						
OUZ	**Omahuta**	**18.20**	**203**	*e*P	**P**	**13 48 34.4**	**+2.3**
	55nm,0.9s						
URZ	**Urewera**	**20.03**	**192**	P	**P**	**13 48 45.6**	**-3.1**
	5.7nm,0.3s,baz=27,slow=6.8,SNR=35						
URZ	**Urewera**	**20.03**	**192**	*e*P	**P**	**13 48 45.4**	**-3.2**
	20nm,0.4s						
RPZ	**Rata Peaks**	**26.70**	**198**	P	**P**	**13 49 45.5**	**-2.2**
	20nm,0.9s,mb4.8,baz=36,slow=19,SNR=7.1						
RPZ	**Rata Peaks**	**26.70**	**198**	P	**P**	**13 49 45.5**	**-2.2**
EIDS	**Eidsvold**	**29.65**	**251**	*e*P	**P**	**13 50 11.9**	**-1.5**
RMQ	**Roma**	**31.86**	**250**	*e*P	**P**	**13 50 32.9**	**+0.6**
	13nm,0.7s,mb4.7						
CNB	**Canberra Magne**	**33.51**	**234**	*e*P	**P**	**13 50 46.9**	**+0.9**
	51nm,0.4s,mb5.5						
CTA	**Charters Tower**	**34.00**	**262**	P	**P**	**13 50 50.5**	**+0.2**
	35nm,0.6s,mb5.2,baz=94,slow=12,SNR=77						
CTA	**Charters Tower**	**34.00**	**262**	*i* P	**P**	**13 50 50.6**	**+0.3**
	30nm,0.7s,mb5.0						
CTA	**Charters Tower**	**34.00**	**262**	P	**P**	**13 50 50.5**	**+0.2**
CTAO	**Charters Tower**	**34.00**	**262**	*e*P	**P**	**13 50 49.6**	**-0.7**
	34nm,0.6s,mb5.2						
CMSA	**Cobar Meteorol**	**35.37**	**242**	*e*P	**P**	**13 51 02.0**	**+0.5**
	90nm,0.6s,mb5.6						
QLP	**Quilpie**	**35.91**	**250**	*i* P	**P**	**13 51 06.1**	**+0.1**
MTSU	**Mount Surprise**	**36.00**	**265**	*i* P	**P**	**13 51 07.0**	**+0.1**
	32nm,0.6s,mb5.0						
COEN	**Coen**	**37.79**	**271**	*i* P	**P**	**13 51 22.4**	**+0.9**
	315nm,0.4s						
COEN	**Coen**	**37.79**	**271**	*e*P	**P**	**13 51 22.3**	**+0.8**
	397nm,0.6s						
STKA	**Stephens Creek**	**38.86**	**242**	P	**P**	**13 51 30.6**	**+0.7**
	9.3nm,0.7s,mb4.4,baz=82,slow=8.3,SNR=32						
STKA	**Stephens Creek**	**38.86**	**242**	*e*P	**P**	**13 51 30.5**	**+0.6**
	5.1nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**38.86**	**242**	P	**P**	**13 51 30.6**	**+0.7**
WB2	**Warramunga Arr**	**45.15**	**260**	*e*P	**P**	**13 52 18.3**	**-0.8**
WRAB	**Tennant Creek**	**45.16**	**260**	*e*P	**P**	**13 52 18.1**	**-1.1**
	12nm,0.3s,mb4.9						
WRA	**Warramunga Arr**	**45.16**	**260**	P	**P**	**13 52 18.9**	**-0.3**
	15nm,0.4s,mb4.9,baz=96,slow=7.5,SNR=504						
WRA				PcP	PcP	13 53 45.8	-0.1
	1.8nm,0.6s,baz=92,slow=3.7,SNR=5.2						
WRA				S	**S**	**13 58 12.5**	**-2.8**
	0.7nm,0.8s,baz=91,slow=15,SNR=7.7						
WRA	**Warramunga Arr**	**45.16**	**260**	P	**P**	**13 52 18.9**	**-0.3**
WRA				PcP	PcP	13 53 45.8	-0.1
WRA				S	**S**	**13 58 12.5**	**-2.8**
ASAR	**Alice Springs**	**45.24**	**255**	P	**P**	**13 52 19.8**	**0.0**
	18nm,0.5s,mb4.8,baz=85,slow=8.4,SNR=620						
ASAR				PcP	PcP	13 53 46.0	-0.1
	2.3nm,0.5s,baz=98,slow=4.1,SNR=8.0						
ASAR				S	**S**	**13 58 14.8**	**-1.5**
	2.2nm,0.7s,baz=92,slow=16,SNR=16						
ASAR	**Alice Springs**	**45.24**	**255**	P	**P**	**13 52 19.8**	**0.0**
ASAR				PcP	PcP	13 53 46.0	-0.1
ASAR				S	**S**	**13 58 14.8**	**-1.5**
FORT	**Forrest**	**50.30**	**245**	*e*P	**P**	**13 52 56.4**	**-0.8**
	12nm,0.5s,mb4.6						
FITZ	**Fitzroy Crossi**	**53.57**	**261**	*e*P	**P**	**13 53 20.3**	**-0.5**
	5.8nm,0.3s,mb4.4						
FITZ	**Fitzroy Crossi**	**53.57**	**261**	*e*P	**P**	**13 53 20.5**	**-0.3**
	3.2nm,0.3s,mb4.1						
MBWA	**Marble Bar**	**58.55**	**256**	*e*P	**P**	**13 53 53.9**	**-0.9**
MEEK	**Meekatharra**	**58.80**	**250**	*e*P	**P**	**13 53 55.7**	**-0.8**
	32nm,0.4s,mb4.8						
KLBR	**Kelberrin**	**59.10**	**244**	*e*P	**P**	**13 53 58.0**	**-0.4**
	12nm,0.7s,mb4.1						
VNDA	**Vanda**	**59.74**	**185**	P	**P**	**13 54 02.8**	**+1.0**
	1.0nm,0.6s,baz=18,slow=5.6,SNR=6.7						
VNDA	**Vanda**	**59.74**	**185**	*e*P	**P**	**13 54 02.7**	**+0.9**
	0.8nm,0.6s						
MJAR	**Matsushiro Arr**	**68.92**	**323**	P	**P**	**13 55 00.2**	**+0.1**
	3.4nm,0.6s,mb3.9,baz=165,slow=6.5,SNR=12						
MJAR	**Matsushiro Arr**	**68.92**	**323**	P	**P**	**13 55 00.2**	**+0.1**
QSPA	**South Pole Qui**	**71.38**	**180**	*e*P	**P**	**13 55 14.4**	**+0.4**
	7.2nm,1.2s,mb4.1						
PETK	**Petropavlovsk-**	**74.59**	**345**	P	**P**	**13 55 32.7**	**+0.2**
	2.8nm,0.6s,mb4.0,baz=153,slow=9.7,SNR=8.5						
PETK	**Petropavlovsk-**	**74.59**	**345**	P	**P**	**13 55 32.7**	**+0.2**
TXAR	**Lajitas Array**	**85.83**	**57**	P	**P**	**13 56 33.2**	**+1.9**
	0.5nm,0.7s,baz=216,slow=8.5,SNR=7.2						
TXAR	**Lajitas Array**	**85.83**	**57**	P	**P**	**13 56 33.2**	**+1.9**
ILAR	**Eielson Array**	**86.48**	**13**	P	**P**	**13 56 32.7**	**-0.8**
	0.6nm,0.6s,mb3.4,baz=227,slow=4.9,SNR=12						
ILAR	**Eielson Array**	**86.48**	**13**	P	**P**	**13 56 32.7**	**-0.8**
CMAR	**Chiang Mai Arr**	**89.78**	**289**	P	**P**	**13 56 51.1**	**+1.2**
	2.3nm,0.8s,mb4.0,baz=112,slow=2.8,SNR=13						
CMAR	**Chiang Mai Arr**	**89.78**	**289**	P	**P**	**13 56 51.1**	**+1.2**
SONM	**Songino Array**	**94.57**	**319**	P	**P**	**13 57 12.3**	**+1.1**
	0.3nm,0.5s,mb3.7,baz=131,slow=4.0,SNR=2.3						
SONM	**Songino Array**	**94.57**	**319**	P	**P**	**13 57 12.3**	**+1.1**
ZALV	**Zalesovo Beam**	**109.25**	**322**	PKiKP	PKiKP	14 02 14.6	-1.6
	0.6nm,0.4s,baz=13,slow=2.9,SNR=3.9						
ZALV	**Zalesovo Beam**	**109.25**	**322**	PKPdf	PKiKP	14 02 14.6	-1.6
MKAR	**Makanchi Array**	**110.15**	**314**	PKiKP	PKiKP	14 02 17.0	-1.1
	0.5nm,0.5s,baz=110,slow=1.7,SNR=4.5						
MKAR	**Makanchi Array**	**110.15**	**314**	PKPdf	PKiKP	14 02 17.0	-1.1
KURK	**Kurchatov**	**112.85**	**318**	PKiKP	PKiKP	14 02 22.0	-1.1
	0.7nm,0.6s,baz=86,slow=1.8,SNR=6.6						
KURK	**Kurchatov**	**112.85**	**318**	PKPdf	PKiKP	14 02 22.0	-1.1
ARCES	**ARCESS Array B**	**127.19**	**350**	PKP	PKPdf	14 02 49.7	-0.4
	1.7nm,0.5s,baz=11,slow=1.8,SNR=12						
ARCES	**ARCESS Array B**	**127.19**	**350**	PKP	PKPdf	14 02 49.7	-0.4
FINES	**FINESS Array B**	**134.11**	**344**	PKP	PKPdf	14 03 03.4	0.0
	3.4nm,0.8s,baz=108,slow=2.2,SNR=4.5						
FINES	**FINESS Array B**	**134.11**	**344**	PKP	PKPdf	14 03 03.4	0.0
AKASG	**Malin Array Be**	**141.55**	**332**	PKhKP	PKPpre	14 03 11.8	
	1.2nm,0.4s,baz=41,slow=3.8,SNR=5.2						
AKASG	**Malin Array Be**	**141.55**	**332**	PKP	PKPpre	14 03 11.8	
EKA	**Eskdalemuir Ar**	**143.17**	**5**	PKhKP	PKPpre	14 03 17.6	
	1.9nm,0.5s,baz=330,slow=2.6,SNR=8.3						
EKA	**Eskdalemuir Ar**	**143.17**	**5**	PKP	PKPpre	14 03 17.6	
BRTR	**Keskin Array B**	**145.80**	**314**	PKPbc	PKPbc	14 03 26.9	0.0
	2.4nm,0.7s,baz=146,slow=3.3,SNR=12						
BRTR	**Keskin Array B**	**145.80**	**314**	PKPbc	PKPbc	14 03 26.9	0.0
CLL	**Collm**	**146.35**	**348**	*i* PKPbc	PKPbc	14 03 28.2	+0.1
	comp=Z,9.0nm,0.6s						
MLR	**Muntele Rosu**	**146.84**	**329**	PKPbc	PKPbc	14 03 29.6	0.0
	comp=Z,0.6nm,0.4s,baz=336,slow=10,SNR=5.0						
MLR	**Muntele Rosu**	**146.84**	**329**	PKPbc	PKPbc	14 03 29.6	0.0
MMAI	**Mount Meron Ar**	**147.12**	**302**	PKPbc	PKPbc	14 03 31.4	+0.6
	comp=Z,3.6nm,0.5s,baz=68,slow=6.6,SNR=8.0						
MMAI	**Mount Meron Ar**	**147.12**	**302**	PKPbc	PKPbc	14 03 31.4	+0.6
KHC	**Kasperske Hory**	**148.28**	**346**	*i* ePKP	PKPbc	14 03 33.5	+0.3
GERES	**GERESS Array B**	**148.52**	**346**	PKPbc	PKPbc	14 03 33.9	+0.1
	comp=Z,2.4nm,0.9s,baz=43,slow=1.7,SNR=6.9						
GERES	**GERESS Array B**	**148.52**	**346**	PKPbc	PKPbc	14 03 33.9	+0.1
DAVOX	**Davos/Dischmat**	**151.29**	**349**	PKPbc	PKPbc	14 03 40.7	+0.4
	comp=Z,9.5nm,0.5s,baz=282,slow=2.2,SNR=11						
DAVOX	**Davos/Dischmat**	**151.29**	**349**	PKPbc	PKPbc	14 03 40.7	+0.4

CASC 19 13:52:08.5±2.4,8°.29N×82°.70W,h17km±24km,MD4.3, 2C-2D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACR	**Cerro Adams**	**0.58**	**308**	⇑*i*P	Pg	13 52 19.6	-0.4
BAR1		**1.12**	**327**	*e*P	Sg	13 52 47.5	+2.6
BUS	**Buena Vista**	**1.63**	**320**	⇑*i*P	Pn	13 52 35.6	-0.8
QCR	**Quepos**	**1.83**	**308**	*e*P	Pn	13 52 37.9	-1.3
URSC	**Urasca**	**1.86**	**325**	*e*P	Pn	13 52 39.3	-0.4
LAJ	**Bijagual**	**2.10**	**318**	⇓*e*P	Pn	13 52 45.0	+2.2
PRS1	**Puriscal**	**2.31**	**317**	⇓*i*P	Pn	13 52 45.1	-0.7
CGA2	**Cerro Gallo 2**	**2.44**	**315**	*e*P	Pn	13 52 47.7	+0.1
CGA

*ISCJB **19** 14:57:01.4±0.5, 30.62N±0.08×83.16E±0.07, h10km, mb3.6/12, MS3.3/3, Error ellipse: s-maj=12.0km s-min=8.0km az=30.9*
*IDC **19** 14:57:01.5±0.9, 30.63N×83.24E, h0km, mb3.6/10, mb1 3.7/12, mb1mx3.6/29, mbtmp3.6/12, ML2.7/1, MS3.4/3, Ms1 3.4/3, ms1mx2.6/49, Error ellipse: s-maj=26.0km s-min=18.3km az=54.0*
*NEIC **19** 14:57:03.2±0.5, 30.67N×83.19E, h10km, mb3.9/3, Error ellipse: s-maj=13.8km s-min=8.1km az=51.0*

ISC 19 14:57:03.2±0.6, 30.67N±0.08×83.16E±0.10, h10km, n33, σ0 99/32, mb3.6/12, MS3.3/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDI	**Dehra Dun**	**4.42**	**267**	*e*PKP	**Pb**	**14 58 18.5**	**-2.4**
DDI				*e*S	**Sg**	14 59 42.5	+17
LSA	**Lhasa**	**6.99**	**96**	*e*P	**Pn**	**14 58 47.7**	**+2.1**
	26nm,1.2s						
SHL	**Shillong**	**9.23**	**121**	*e*PKP	**Pn**	**14 59 18.0**	**+1.6**
MKAR	**Makanchi Array**	**16.12**	**358**	Pn	**Pn**	**15 00 49.7**	**-0.1**
	0.0nm,0.3s,baz=163,slow=10,SNR=2.5						
MKAR	**Makanchi Array**	**16.12**	**358**	Pn	**Pn**	**15 00 49.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**18.78**	**127**	P	**Pn**	**15 01 22.5**	**-0.7**
	baz=313,slow=12,SNR=6.9						
CMAR	**Chiang Mai Arr**	**18.78**	**127**	P	**Pn**	**15 01 22.5**	**-0.7**
KURK	**Kurchatov**	**20.32**	**352**	P	**P**	**15 01 38.2**	**-1.0**
	2.9nm,0.9s,baz=172,slow=10,SNR=17						
KURK	**Kurchatov**	**20.32**	**352**	P	**P**	**15 01 38.2**	**-1.0**
ZALV	**Zalesovo Beam**	**23.30**	**2**	P	**P**	**15 02 11.4**	**+0.3**
	0.9nm,0.6s,mb3.4,baz=189,slow=8.8,SNR=5.8						
ZALV	**Zalesovo Beam**	**23.30**	**2**	P	**P**	**15 02 11.4**	**+0.3**
BVAR	**Borovoye Array**	**24.21**	**341**	P	**P**	**15 02 20.3**	**+0.5**
	0.9nm,0.8s,mb3.2,baz=143,slow=8.3,SNR=5.3						
BVAR	**Borovoye Array**	**24.21**	**341**	P	**P**	**15 02 20.3**	**+0.5**
SONM	**Songino Array**	**24.71**	**39**	P	**P**	**15 02 24.0**	**-0.4**
	1.0nm,0.6s,mb3.5,baz=230,slow=8.5,SNR=6.7						
SONM	**Songino Array**	**24.71**	**39**	P	**P**	**15 02 24.0**	**-0.4**
ULN	**Ulaanbaatar**	**25.09**	**40**	*e*P	**P**	**15 02 27.6**	**-0.2**
	2.4nm,0.9s,mb3.7						
ABKAR	**Akbulak array**	**25.55**	**323**	*e*P	**P**	**15 02 33.7**	**+1.7**
	1.6nm,0.7s,mb3.7						
GNI	**Garni**	**32.50**	**298**	LR	LR	15 20 09.5	
	comp=Z,27nm,20.3s,MS2.9,baz=74,slow=43						
KSAR	**Wonju Array Be**	**37.40**	**67**	P	**P**	**15 04 15.7**	**-0.6**
KSAR				LR	LR	15 21 00.4	
KSRS	**Korea Array**	**37.42**	**67**	P	**P**	**15 04 15.7**	**-0.9**
	1.1nm,0.7s,mb3.8,baz=283,slow=9.8,SNR=3.7						
KSRS				LR	LR	15 21 00.4	
	comp=Z,71nm,19.5s,MS3.5,baz=307,slow=38						
MJAR	**Matsushiro Arr**	**45.71**	**67**	LR	LR	15 25 11.5	
	comp=Z,69nm,19.3s,MS3.6,baz=235,slow=37						
KEST	**Kesra**	**60.63**	**296**	P	**P**	**15 07 15.8**	**+1.4**
	1.1nm,0.8s,mb4.0,baz=270,slow=10,SNR=3.6						
KEST	**Kesra**	**60.63**	**296**	P	**P**	**15 07 15.8**	**+1.4**
WRA	**Warramunga Arr**	**70.36**	**129**	P	**P**	**15 08 16.9**	**-0.5**
	0.4nm,0.5s,mb3.6,baz=326,slow=6.3,SNR=11						
WRA	**Warramunga Arr**	**70.36**	**129**	P	**P**	**15 08 16.9**	**-0.5**
WRAB	**Tennant Creek**	**70.36**	**129**	*e*P	**P**	**15 08 17.2**	**-0.2**
	0.6nm,0.6s,mb3.7						
WB2	**Warramunga Arr**	**70.37**	**129**	*e*P	**P**	**15 08 16.9**	**-0.6**
ASAR	**Alice Springs**	**72.70**	**132**	P	**P**	**15 08 31.0**	**-0.5**
	0.2nm,0.9s,mb3.0,baz=311,slow=5.8,SNR=3.1						
ASAR	**Alice Springs**	**72.70**	**132**	P	**P**	**15 08 31.0**	**-0.5**
TORD	**Torodi Ar. Bea**	**76.15**	**277**	P	**P**	**15 08 51.8**	**-0.1**
	0.4nm,0.8s,mb3.4,baz=37,slow=5.8,SNR=3.4						
TORD	**Torodi Ar. Bea**	**76.15**	**277**	P	**P**	**15 08 51.8**	**-0.1**
ILAR	**Eielson Array**	**77.21**	**20**	P	**P**	**15 08 56.8**	**-0.3**
	1.0nm,0.9s,mb3.8,baz=308,slow=4.5,SNR=9.5						
ILAR	**Eielson Array**	**77.21**	**20**	P	**P**	**15 08 56.8**	**-0.3**

*ISCJB **19** 15:09:58.6±0.7, 31.11N±0.08×138.6E±0.1, h419km±8km, mb3.3/13, Error ellipse: s-maj=17.3km s-min=13.2km az=175.4*
*IDC **19** 15:09:60.0±2.1, 31.05N×138.29E, h405km±23km, mb3.1/12, mb1 3.1/13, mb1mx3.0/26, mbtmp3.0/13, Error ellipse: s-maj=33.0km s-min=11.2km az=75.0*
*JMA **19** 15:09:59.3±0.4, 31.05N×138.51E, h411km, M3.3*
*NEIC **19** 15:09:59.6±0.7, 31.05N×138.28E, h401km±9km, mb3.5/1, Error ellipse: s-maj=22.2km s-min=8.5km az=76.0*

ISC 19 15:09:59.9±0.7, 31.16N±0.08×138.6E±0.1, h413km±8km, n43, σ0 94/51, mb3.3/13, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIE	**Ise**	**3.59**	**334**	P	**P**	**15 11 09.6**	**+0.6**
BSO3	**Boso 3**	**3.97**	**23**	P	**P**	**15 11 13.6**	**+1.2**
BSO3				S	**S**	15 12 10.2	-1.2
BSO1	**Boso 1**	**4.02**	**29**	P	**P**	**15 11 13.4**	**+0.5**
BSO1				*e*S	**S**	15 12 11.3	-0.9
BSO4	**Boso 4**	**4.09**	**21**	*e*S	**S**	**15 12 12.9**	**-0.5**
JOD2	**Odawara 2**	**4.11**	**6**	P	**P**	**15 11 16.9**	**+3.2**
JOD2				*e*S	**S**	**15 12 14.2**	**+0.4**
JNY	**Yasuok**	**4.23**	**352**	P	**P**	**15 11 16.4**	**+1.6**
JAO	**Obara**	**4.25**	**345**	P	**P**	**15 11 16.5**	**+1.5**
JHU	**Hanno**	**4.71**	**7**	P	**P**	**15 11 19.4**	**-0.1**
JHU				S	**S**	15 12 20.2	-4.2
JRY	**Ryogami san**	**4.85**	**3**	P	**P**	**15 11 21.5**	**+0.6**
JRY				S	**S**	15 12 25.2	-1.7
JTO	**Tosashimizu**	**5.20**	**291**	P	**P**	**15 11 23.3**	**-1.2**
JAG	**Ashikaga**	**5.30**	**8**	P	**P**	**15 11 24.9**	**-0.6**
JAG				*e*S	**S**	**15 12 32.6**	**-2.7**
MJAR	**Matsushiro Arr**	**5.38**	**357**	P	**P**	**15 11 26.8**	**+0.5**
	1.8nm,0.3s,baz=176,slow=11,SNR=14						
MJAR	**Matsushiro Arr**	**5.38**	**357**	P	**P**	**15 11 26.8**	**+0.5**
MAJO	**Matsushiro**	**5.38**	**357**	*e*P	**P**	**15 11 26.4**	**+0.1**
MAT	**Matsushiro**	**5.38**	**357**	P	**P**	**15 11 26.6**	**+0.3**
MAT				S	**S**	**15 12 37.6**	**+0.9**
MAT	**Matsushiro**	**5.38**	**357**	P	**P**	**15 11 27.7**	**+1.4**
JHO	**Hitachi**	**5.68**	**16**	P	**P**	**15 11 29.2**	**-0.2**
JHO				S	**S**	**15 12 38.2**	**-4.3**
SONM	**Songino Array**	**29.63**	**313**	P	**P**	**15 15 29.3**	**+0.1**
	0.4nm,0.5s,mb3.0,baz=113,slow=6.9,SNR=4.2						
SONM	**Songino Array**	**29.63**	**313**	P	**P**	**15 15 29.3**	**+0.1**
CMAR	**Chiang Mai Arr**	**37.95**	**260**	P	**P**	**15 16 38.5**	**-1.8**
	0.4nm,0.6s,mb2.9,baz=54,slow=7.7,SNR=4.5						
CMAR	**Chiang Mai Arr**	**37.95**	**260**	P	**P**	**15 16 38.5**	**-1.8**
ZALV	**Zalesovo Beam**	**44.38**	**317**	P	**P**	**15 17 31.1**	**-0.2**
	0.5nm,0.4s,mb3.2,baz=88,slow=7.8,SNR=2.6						
ZALV	**Zalesovo Beam**	**44.38**	**317**	P	**P**	**15 17 31.1**	**-0.2**
MK31	**Makanchi Array**	**45.50**	**307**	*e*P	**P**	**15 17 39.8**	**-0.4**
MKAR	**Makanchi Array**	**45.50**	**307**	P	**P**	**15 17 39.7**	**-0.5**
	0.7nm,0.3s,mb3.4,baz=84,slow=10.0,SNR=18						
MKAR	**Makanchi Array**	**45.50**	**307**	P	**P**	**15 17 39.7**	**-0.5**
KURK	**Kurchatov**	**47.92**	**312**	P	**P**	**15 17 58.5**	**-0.1**
	1.5nm,0.5s,mb3.6,baz=22,slow=1.9,SNR=23						
KURK	**Kurchatov**	**47.92**	**312**	P	**P**	**15 17 58.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**50.53**	**196**	P	**P**	**15 18 18.2**	**-0.2**
	1.5nm,1.1s,mb3.1,baz=4.8,slow=12,SNR=2.8						
FITZ	**Fitzroy Crossi**	**50.53**	**196**	P	**P**	**15 18 18.2**	**-0.2**
WRA	**Warramunga Arr**	**50.97**	**185**	P	**P**	**15 18 21.3**	**-0.3**
	0.3nm,0.5s,mb2.8,baz=1.1,slow=7.7,SNR=4.3						
WRA	**Warramunga Arr**	**50.97**	**185**	P	**P**	**15 18 21.3**	**-0.4**
BVAR	**Borovoye Array**	**52.94**	**315**	P	**P**	**15 18 35.6**	**0.0**
	1.8nm,0.5s,mb3.6,baz=93,slow=7.0,SNR=14						
BVAR				PcP	PcP	15 19 38.9	+0.8
	0.3nm,0.4s,baz=71,slow=2.2,SNR=2.4						
BVAR	**Borovoye Array**	**52.94**	**315**	P	**P**	**15 18 35.6**	**0.0**
BVAR				PcP	PcP	15 19 38.9	+0.8
BRVK	**Borovoye**	**53.01**	**315**	*e*P	**P**	**15 18 36.1**	**0.0**
	1.5nm,0.6s,mb3.4						
ASAR	**Alice Springs**	**54.70**	**185**	P	**P**	**15 18 48.1**	**-0.3**
	0.1nm,0.6s,mb2.2,baz=18,slow=12,SNR=4.0						
ASAR				PcP	PcP	15 19 44.9	-0.3
	0.4nm,0.6s,baz=342,slow=2.0,SNR=7.6						
ASAR	**Alice Springs**	**54.70**	**185**	P	**P**	**15 18 48.1**	**-0.3**
ASAR				PcP	PcP	15 19 44.9	-0.3
ARCES	**ARCESS Array B**	**68.67**	**340**	P	**P**	**15 20 21.2**	**+1.4**
	3.6nm,1.0s,mb4.0,baz=60,slow=7.6,SNR=5.3						
ARCES	**ARCESS Array B**	**68.67**	**340**	P	**P**	**15 20 21.2**	**+1.4**
FINES	**FINESS Array B**	**72.92**	**332**	P	**P**	**15 20 45.8**	**+0.6**
	2.0nm,0.5s,mb3.9,baz=57,slow=7.0,SNR=7.5						
FINES	**FINESS Array B**	**72.92**	**332**	P	**P**	**15 20 45.8**	**+0.6**
AKASG	**Malin Array Be**	**77.49**	**322**	P	**P**	**15 21 11.2**	**+0.1**
	0.6nm,0.4s,mb3.6,baz=54,slow=5.2,SNR=2.8						
AKASG	**Malin Array Be**	**77.49**	**322**	P	**P**	**15 21 11.2**	**+0.1**

*IDC **19** 15:10:44.4±0.7, 0.21S×124.82E, h0km, mb3.9/11, mb1 3.9/12, mb1mx3.8/23, mbtmp3.8/12, ML3.5/1, Error ellipse: s-maj=68.6km s-min=13.5km az=69.0*

*NEIC **19** 15:10:49.4±0.5, 0.16S×125.07E, h35km, mb4.2/4, Error ellipse: s-maj=32.6km s-min=8.4km az=68.0*
*DJA **19** 15:10:50, 0.28S×125.19E, h12km, MLv4.6/4*
*ISCJB **19** 15:10:51.3±0.5, 0.25S±0.04×125.08E±0.04, h71km±6km, mb3.8/13, Error ellipse: s-maj=7.5km s-min=5.2km az=42.5*

ISC 19 15:10:52.6±0.5, 0.24S±0.04×125.09E±0.04, h66km±6km, n45, σ1 91/49, mb3.8/13, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**1.37**	**306**	P	**Pn**	**15 11 12.9**	**-2.9**
KMSI				S	**Sn**	**15 11 33.4**	**+0.3**
MNI	**Manado**	**1.69**	**351**	P	**Pn**	**15 11 20.6**	**+0.6**
LUWI	**Luwuk**	**2.46**	**251**	P	**Pn**	**15 11 31.1**	**+0.7**
LUWI				S	**Sn**	**15 12 06.0**	**+6.7**
TNTI	**Ternate**	**2.48**	**66**	P	**Pn**	**15 11 30.4**	**-0.3**
TNTI				S	**Sn**	**15 12 00.5**	**+0.5**
MRSI	**Marisa**	**3.23**	**283**	P	**Pn**	**15 11 42.0**	**+1.1**
MRSI	**Marisa**	**3.23**	**283**	P	**Pn**	**15 11 46.8**	**+5.9**
	2μm107nm,0.6s						
NLAI	**Namlea**	**3.59**	**146**	P	**Pn**	**15 11 44.0**	**-1.9**
NLAI				S	**Sn**	**15 12 25.5**	**-1.7**
KDI	**Kendari**	**4.45**	**214**	P	**Pn**	**15 12 00.6**	**+3.0**
KDI	**Kendari**	**4.45**	**214**	P	**Pn**	**15 12 00.6**	**+3.0**
AAI	**Ambon**	**4.62**	**138**	P	**Pn**	**15 11 59.2**	**-0.8**
AAI	**Ambon**	**4.62**	**138**	P	**Sn**	**15 12 54.0**	**+1.6**
	53nm,1.0s						
MSAI	**Masohi**	**4.92**	**129**	P	**Pn**	**15 12 04.0**	**-0.1**
MSAI				S	**Sn**	**15 12 59.8**	**0.0**
MSAI	**Masohi**	**4.92**	**129**	P	**Sn**	**15 13 02.3**	**+2.5**
BBSI	**Bau Bau**	**5.79**	**206**	P	Px	15 12 26.4	
TTSI	**Tana Toraja**	**5.96**	**242**	P	**Pn**	**15 12 18.2**	**-0.2**
	832nm31nm,0.6s						
SPSI	**Sidrap Palu**	**6.48**	**235**	P	**Pn**	**15 12 24.4**	**-1.1**
	34nm,0.8s						
BKSI	**Bulukumba**	**7.08**	**224**	P	**Pn**	**15 12 34.4**	**+0.7**
FITZ	**Fitzroy Crossi**	**17.76**	**178**	P	**Pn**	**15 14 55.2**	**-0.3**
	0.1nm,0.3s,baz=3.5,slow=10.0,SNR=5.9						
FITZ	**Fitzroy Crossi**	**17.76**	**178**	*e*P	**Pn**	**15 14 55.8**	**+0.3**
WRAB	**Tennant Creek**	**21.57**	**156**	*e*P	**P**	**15 15 36.0**	**-0.9**
	2.3nm,0.7s,mb3.6						
WRA	**Warramunga Arr**	**21.58**	**156**	P	**P**	**15 15 35.7**	**-1.2**
	0.9nm,0.5s,mb3.4,baz=331,slow=11,SNR=13						
WRA	**Warramunga Arr**	**21.58**	**156**	P	**P**	**15 15 35.7**	**-1.2**
WB2	**Warramunga Arr**	**21.58**	**156**	*e*P	**P**	**15 15 38.4**	**+1.4**
COEN	**Coen**	**22.50**	**128**	*e*P	**P**	**15 15 46.2**	**-0.6**
	22nm,0.8s,mb4.5						
AS31	**Alice Springs**	**24.81**	**160**	*e*P	**P**	**15 16 08.0**	**-0.7**
ASAR	**Alice Springs**	**24.81**	**160**	P	**P**	**15 16 09.2**	**+0.5**
	0.9nm,0.8s,mb3.3,baz=341,slow=7.4,SNR=15						
ASAR	**Alice Springs**	**24.81**	**160**	P	**P**	**15 16 09.2**	**+0.5**
STKA	**Stephens Creek**	**35.13**	**155**	P	**P**	**15 17 41.1**	**+1.2**
	3.6nm,0.5s,mb4.4,baz=326,slow=8.5,SNR=23						
STKA	**Stephens Creek**	**35.13**	**155**	*e*P	**P**	**15 17 40.9**	**+1.0**
	0.7nm,0.5s,mb3.8						
KSAR	**Wonju Array Be**	**37.58**	**4**	P	**P**	**15 18 01.6**	**+0.9**
KSRS	**Korea Array**	**37.59**	**4**	P	**P**	**15 18 01.6**	**+0.7**
	6.2nm,1.2s,mb4.3,baz=172,slow=10,SNR=4.2						
SONM	**Songino Array**	**50.57**	**344**	P	**P**	**15 19 44.5**	**+0.1**
	0.7nm,0.8s,mb3.8,baz=132,slow=6.4,SNR=3.8						
SONM	**Songino Array**	**50.57**	**344**	P	**P**	**15 19 44.5**	**+0.1**
MKAR	**Makanchi Array**	**59.92**	**327**	P	**P**	**15 20 51.9**	**0.0**
	0.7nm,0.4s,mb4.0,baz=126,slow=7.9,SNR=19						
MKAR	**Makanchi Array**	**59.92**	**327**	P	**P**	**15 20 51.9**	**0.0**
ZALV	**Zalesovo Beam**	**63.40**	**335**	P	**P**	**15 21 13.5**	**-1.6**
	0.3nm,0.4s,mb3.6,baz=124,slow=7.2,SNR=2.4						
ZALV	**Zalesovo Beam**	**63.40**	**335**	P	**P**	**15 21 13.5**	**-1.6**
KURK	**Kurchatov**	**64.23**	**329**	P	**P**	**15 21 19.2**	**-1.4**
	0.6nm,0.3s,mb3.9,baz=128,slow=6.4,SNR=4.2						
KURK	**Kurchatov**	**64.23**	**329**	P	**P**	**15 21 18.7**	**-2.0**
	1.5nm,0.3s,mb4.3						
BVAR	**Borovoye Array**	**69.77**	**328**	P	**P**	**15 21 55.6**	**-0.1**
	0.7nm,0.9s,mb3.5,baz=138,slow=7.6,SNR=3.1						
BVAR	**Borovoye Array**	**69.77**	**328**	P	**P**	**15 21 55.6**	**-0.1**
AKTO	**Aktyubinsk**	**75.76**	**323**	P	**P**	**15 22 31.1**	**-0.1**
	1.3nm,0.7s,mb3.8,baz=102,slow=6.6,SNR=5.7						
AKTO	**Aktyubinsk**	**75.76**	**323**	P	**P**	**15 22 31.1**	**-0.1**
VNDA	**Vanda**	**79.73**	**172**	P	**P**	**15 22 55.0**	**+2.1**
	0.7nm,0.7s,mb3.6,baz=312,slow=6.9,SNR=3.5						
VNDA	**Vanda**	**79.73**	**172**	P	**P**	**15 22 55.0**	**+2.1**

MEX 19 15:11:19.6±1.0, 16.11N×97.75W, h29km±19km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.46**	**308**	*e*P	Pb	15 11 27.5	-1.8
PNIG				*e*S	Sb	15 11 34.0	-1.5
VHO	**Vista Hermosa**	**1.37**	**45**	*i*P	Pn	15 11 44.0	-2.7
VHO				*i*S	Sn	15 11 57.1	-2.8
HUIG	**Huatulco**	**1.61**	**102**	*e*P	Pn	15 11 44.7	-1.5
HUIG				*i*S	Sn	15 12 02.9	-3.1
UTMO	**Huajuapan**	**1.71**	**358**	*e*P	Pn	15 11 45.7	-1.8
UTMO				*i*S	Sn	15 12 06.8	-1.7
ACX	**Acapulco**	**2.16**	**291**	*i*P	Pn	15 11 52.8	-0.9
ACX				*i*S	Sn	15 12 20.6	+1.1
MEIG	**Mezcala**	**2.54**	**316**	*i*P	Pn	15 11 59.6	+0.7
MEIG				*i*S	Sn	15 12 27.2	-1.8
CAIG	**El Cayaco**	**2.59**	**291**	*i*P	Pn	15 11 58.1	-1.4
CAIG				*i*S	Sn	15 12 26.7	-3.4
CMIG	**Matias Romero**	**2.92**	**70**	*i*P	Pn	15 12 02.0	-2.1
CMIG				*i*S	Sn	15 12 36.2	-2.0
PPM	**Popocatepetl**	**3.06**	**344**	*i*P	Pn	15 12 05.1	-1.0
PPM				*i*S	Sn	15 12 39.4	-2.3
ZIIG	**Zihuatanejo**	**3.86**	**293**	*i*P	Pn	15 12 11.7	-5.3
ZIIG				*i*S	Sn	15 12 58.3	-3.1

OTT 19 15:11:45.5±1.7, 79.17N×115.80W, h18km, ML3.8/4, Arctic Ocean. Aftershock. 240km west from Isachsen, Nu, Arctic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RES	**Resolute Bay**	**6.49**	**123**	PN	Pn	15 13 19.2	-0.6
RES				SN	Sn	15 14 29.3	-3.9
RES				Trac		15 14 34.7	
	comp=Z,7.6nm,0.5s						
KUGN	**Kugaaruk Camp,**	**13.06**	**134**	PN	Pn	15 14 49.3	-0.5
JERN	**Jeri Cho Mine,**	**13.28**	**172**	PN	Pn	15 14 51.8	-0.9
JERN				SN	Sn	15 17 10.8	-8.7
JERN				Trac		15 17 28.2	
	comp=Z,1.0nm,0.2s						
STLN	**Stellar Camp,**	**13.42**	**140**	PN	Pn	15 14 52.1	-2.6
STLN				SN	Sn	15 17 10.9	-12
STLN				Trac		15 17 18.6	
	comp=Z,3.8nm,0.9s						
SRLN	**Sarcpa Lake, N**	**13.64**	**123**	PN	Pn	15 14 55.8	-1.8
BULN	**Bullion Camp,**	**14.28**	**141**	PN	Pn	15 15 03.6	-2.7
BULN				SN	Sn	15 17 33.1	-11
BULN				Trac		15 17 38.4	
	comp=Z,3.7nm,0.9s						
CTLN	**Castor Lake**	**14.82**	**180**	PN	Pn	15 15 12.2	-1.5
CTLN				SN	Sn	15 17 48.6	-8.5
YKW3	**Yellowknife Ar**	**16.70**	**178**	PN	Pn	15 15 37.6	-0.4
YKW3				SN	Sn	15 18 32.9	-10
SEDN	**First Sedna Si**	**17.54**	**141**	PN	Pn	15 15 46.8	-1.8

WEL 19 15:12:10.8±0.4, 40.02S×173.61E, h217km±3km, ML3.6/5, 1C, Error ellipse: s-maj=3.1km s-min=1.9km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRZ	**Ngariki Road**	**0.73**	**20**	PN	Pn	15 12 41.0	+0.2
DFE	**Dawson Falls**	**0.79**	**29**	PN	Pn	15 12 41.4	+0.3
DUWZ	**D'Urville Isla**	**0.82**	**163**	PN	Pn	15 12 41.7	+0.5
DUWZ				SN	S	15 13 04.5	-0.5
NEZ	**North Egmont**	**0.84**	**27**	PN	Pn	15 12 41.7	+0.3
PKE	**Pukeiti**	**0.88**	**20**	PN	Pn	15 12 41.6	0.0
WAZ	**Wanganui**	**1.09**	**76**	PN	Pn	15 12 43.2	+0.3
WAZ				SN	S	15 13 08.8	+0.9
QRZ	**Quartz Range**	**1.15**	**225**	↑PN	Pn	15 12 42.8	-0.4
QRZ				SN	S	15 13 06.7	-2.0
NNZ	**Nelson**	**1.21**	**188**	PN	Pn	15 12 43.6	0.0
NNZ				SN	S	15 13 08.0	-1.5
VRZ	**Vera Road**	**1.26**	**45**	PN	Pn	15 12 43.6	-0.5
TCW	**Tory Channel**	**1.30**	**157**	PN	Pn	15 12 44.8	+0.5
TCW				SN	S	15 13 09.3	-1.3
KIW	**Kapiti Island**	**1.30**	**131**	PN	Pn	15 12 44.4	+0.1
KIW				SN	S	15 13 08.9	-1.7
TUWZ	**Tuamarina**	**1.43**	**170**	PN	Pn	15 12 45.6	+0.2
OGWZ	**Otaki Gorge**	**1.44**	**124**	PN	Pn	15 12 45.8	+0.4
PKVZ	**Pokaka**	**1.53**	**62**	PN	Pn	15 12 45.9	-0.3
CAW	**Cannon Point**	**1.56**	**135**	PN	Pn	15 12 46.4	0.0
MTVZ	**Mangateitei**	**1.57**	**67**	PN	Pn	15 12 46.3	-0.3
MRZ	**Mangatainoka R**	**1.64**	**114**	PN	Pn	15 12 47.0	-0.2
TRVZ	**Turoa**	**1.66**	**65**	PN	Pn	15 12 47.0	-0.4
FWVZ	**Far West T-bar**	**1.68**	**64**	PN	Pn	15 12 47.3	-0.3
WNVZ	**Wahianoa**	**1.68**	**66**	PN	Pn	15 12 46.9	-0.7
HOWZ	**Holdsworth Sta**	**1.70**	**122**	PN	Pn	15 12 50.5	+2.8
BSWZ	**Blackbirch Sta**	**1.71**	**173**	PN	Pn	15 12 47.9	+0.1
TUVZ	**Tukino**	**1.75**	**65**	PN	Pn	15 12 48.2	0.0
MOVZ	**Moawhango**	**1.76**	**70**	PN	Pn	15 12 47.6	-0.7
OTVZ	**Oturere**	**1.81**	**62**	PN	Pn	15 12 48.5	-0.2
TSZ	**Takapari Road**	**1.81**	**92**	PN	Pn	15 12 48.4	-0.3
THZ	**Tophouse**	**1.82**	**197**	PN	Pn	15 12 48.5	-0.3
KRVZ	**Karewarewa**	**1.82**	**60**	PN	Pn	15 12 48.5	-0.4
MTW	**Mount Morrison**	**1.84**	**129**	PN	Pn	15 12 48.7	-0.3
TIWZ	**Tintock**	**1.90**	**114**	PN	Pn	15 12 49.4	-0.1
BHHZ	**Black Hill Sta**	**1.97**	**75**	PN	Pn	15 12 49.4	-0.8
DVHZ	**Dannevirke**	**1.98**	**99**	PN	Pn	15 12 50.1	-0.2
PNHZ	**Pukenui**	**2.00**	**88**	PN	Pn	15 12 50.3	-0.2
BFZ	**Birch Farm**	**2.12**	**109**	PN	Pn	15 12 51.4	-0.3
WPHZ	**Waipukurau**	**2.17**	**92**	PN	Pn	15 12 52.1	-0.1
DSZ	**Denniston Nort**	**2.20**	**218**	PN	Pn	15 12 51.6	-0.9
BKZ	**Black Stump Fm**	**2.39**	**70**	PN	Pn	15 12 53.5	-1.0
KHZ	**Kahutara**	**2.40**	**181**	PN	Pn	15 12 53.6	-0.9
LTZ	**Lake Taylor**	**2.94**	**200**	PN	Pn	15 12 59.3	-1.2
WVZ	**Waitaha Valley**	**3.74**	**214**	PN	Pn	15 13 07.9	-2.0
MQZ	**McQueen's Vall**	**3.75**	**191**	PN	Pn	15 13 07.4	-2.6
RPZ	**Rata Peaks**	**4.16**	**206**	PN	Pn	15 13 12.9	-2.1
FOZ	**Fox Glacier**	**4.60**	**218**	PN	Pn	15 13 16.9	-3.5
JCZ	**Jackson Bay**	**5.43**	**220**	PN	Pn	15 13 27.9	-2.9
ODZ	**Otahua Downs**	**5.48**	**203**	PN	Pn	15 13 29.6	-1.9
WKZ	**Wanaka**	**5.88**	**214**	PN	Pn	15 13 32.9	-3.7

*MOS **19** 15:20:55.9±1.1, 47.25N×27.51W, h10km, mb5.1/31, MS4.8/10, Error ellipse: s-maj=8.7km s-min=6.7km az=159.0*
*IDC **19** 15:20:55.9±0.5, 47.29N×27.46W, h0km, mb4.1/24, mb1 4.3/26, mb1mx4.2/35, mbtmp4.1/26, ML4.4/2, MS4.6/41, Ms1 4.6/41, ms1mx4.5/47, Error ellipse: s-maj=15.8km s-min=11.5km az=4.0*
*ISCJB **19** 15:20:55.9±0.1, 47.26N±0.04×27.51W±0.02, h10km, mb4.7/140, MS4.7/57, Error ellipse: s-maj=6.2km s-min=1.7km az=11.3*
*BJI **19** 15:20:56.1, 47.50N×27.40W, h10km, mB5.3/13, mb4.9/22, Ms5.3/15, Ms7 5.0/17*
*NEIC **19** 15:20:58.0±0.2, 47.37N×27.45W, h10km, mb5.0/69, Error ellipse: s-maj=7.1km s-min=2.6km az=195.0*
*CSEM **19** 15:20:58.0±0.1, 47.41N×27.47W, h10km, mb5.0/89, Ms4.5, Mw5.2, Error ellipse: s-maj=7.2km s-min=2.5km az=12.0*
*GCMT **19** 15:20:59.8±0.1, 47.14N×27.23W, h12km, MW5.2, Moment Tensor Solution. s61,c97; s99,c188; Moment tensor: Scale 10^{16}Nm; M_{rr}-8.38±.14; $M_{\theta\the

84nm,1.5s
PBDV eLR LR 15 29 10.4
2µm,22.0s
PVAQ Vaqueiros 17.58 117 eP **Pn 15 25 01.5 -1.5**
59nm,1.9s
PVAQ eLR LR 15 28 51.6
2µm,22.0s
EGRO El Granado 17.64 116 P **Pn 15 25 03.8 0.0**
EGRO El Granado 17.64 116 P **Pn 15 25 03.8 0.0**
BORG Borgarnes 17.82 9 LR LR 15 29 57.4
comp=Z,1µm,20.0s,baz=185,slow=30
GRR Gorron 17.87 77 eP **Pn 15 25 06.6 +0.1**
331nm,1.9s
GRR Gorron 17.87 77 eP **Pn 15 25 06.6 +0.1**
165nm,1.9s
EMIN Mina Concepcio 17.99 114 P **Pn 15 25 09.5 +1.4**
EMIN Mina Concepcio 17.99 114 P **Pn 15 25 09.5 +1.4**
GUD Guadarrama 18.01 103 P **Pn 15 25 07.6 -0.7**
GUD Guadarrama 18.01 103 P **Pn 15 25 07.6 -0.7**
GUD Guadarrama 18.01 103 P **Pn 15 25 07.6 -0.7**
FLN La Foliniere 18.08 75 eP **Pn 15 25 08.9 -0.2**
120nm,1.2s
FLN eR
7µm,22.2s
FLN La Foliniere 18.08 75 eP **Pn 15 25 08.9 -0.2**
60nm,1.2s
LDF La Druitiere 18.33 76 eP **Pn 15 25 11.4 -0.8**
25nm,1.1s
LDF La Druitiere 18.33 76 eP **Pn 15 25 11.4 -0.8**
13nm,1.1s
PAB San Pablo 18.45 106 eP **Pn 15 25 13.8 +0.1**
41nm,1.4s
PAB San Pablo 18.45 106 eP **Pn 15 25 13.8 +0.1**
PAB pmax pmax
comp=Z,41nm,1.4s
PAB San Pablo 18.45 106 eP **Pn 15 25 13.8 +0.1**
comp=Z,41nm,1.4s
ESDC Sonseca Array 18.63 106 P **Pn 15 25 15.2 -0.7**
comp=Z,1.9nm,0.3s,baz=300,slow=10,SNR=16
ESDC LR LR 15 31 01.1
comp=Z,3µm,18.8s,baz=300,slow=32
ESDC Sonseca Array 18.63 106 P **Pn 15 25 14.1 -1.8**
ESDC Sonseca Array 18.63 106 P **Pn 15 25 14.1 -1.8**
ESLA Sonseca Array 18.63 106 P **Pn 15 25 15.6 -0.3**
comp=Z,8.1nm,1.2s
ESLA Sonseca Array 18.63 106 P **Pn 15 25 15.6 -0.3**
comp=Z,8.1nm,1.2s
MFF Saint Martin d 18.63 82 eP **Pn 15 25 14.8 -1.1**
comp=Z,105nm,1.5s
MFF Saint Martin d 18.63 82 eP **Pn 15 25 14.8 -1.1**
comp=Z,52nm,1.5s
SJPF Ste Jean 18.92 93 eP **Pn 15 25 20.6 +1.2**
comp=Z,109nm,1.5s
SJPF Ste Jean 18.92 93 eP **Pn 15 25 20.6 +1.2**
comp=Z,55nm,1.5s
ESPR Espera 19.06 115 P **Pn 15 25 28.6 +7.4**
comp=Z,33nm,1.1s
EADA Adamuz 19.07 110 P **Pn 15 25 21.6 +0.3**
comp=Z,4.4nm,0.7s
EADA Adamuz 19.07 110 P **Pn 15 25 21.6 +0.4**
comp=Z,4.4nm,0.7s
ETOR Torete 19.33 100 P **Pn 15 25 22.6 -1.7**
ETOR Torete 19.33 100 P **Pn 15 25 22.6 -1.7**
ETOR Torete 19.33 100 P **Pn 15 25 22.6 -1.7**
ETSF Etsaut 19.45 93 eP **Pn 15 25 25.0 -0.8**
comp=Z,113nm,1.5s
ETSF Etsaut 19.45 93 eP **Pn 15 25 25.0 -0.8**
comp=Z,56nm,1.5s
LFF La Frestale 19.65 86 eP **Pn 15 25 28.0 -0.2**
comp=Z,107nm,1.3s
LFF La Frestale 19.65 86 eP **Pn 15 25 28.0 -0.2**
comp=Z,54nm,1.3s
VIEF Viey 19.86 93 eP **Pn 15 25 29.5 -1.1**
VIEF Viey 19.86 93 eP **Pn 15 25 29.5 -1.1**
VIEF Viey 19.86 93 eP **Pn 15 25 29.5 -1.1**
EMIJ Mijas 19.93 114 P **Pn 15 25 31.6 +0.1**
comp=Z,12nm,0.7s
EMIJ Mijas 19.93 114 P **Pn 15 25 31.5 0.0**
comp=Z,12nm,0.7s
ELOJ Sierra Loja 19.95 112 P **Pn 15 25 31.6 -0.1**
ELOJ Sierra Loja 19.95 112 P **Pn 15 25 31.6 -0.2**
ELOJ Sierra Loja 19.95 112 P **Pn 15 25 31.6 -0.2**
ESAC San Caprasio 19.99 96 P **Pn 15 25 27.9 -4.3**
EBIE Bielsa 20.01 93 P **P 15 25 32.6 +1.9**
comp=Z,10nm,0.7s
EBIE Bielsa 20.01 93 P **P 15 25 32.6 +1.9**
comp=Z,10nm,0.7s
EPF Esparros 20.02 92 eP **P 15 25 32.2 +1.5**
comp=Z,132nm,1.4s
EPF Esparros 20.02 92 eP **P 15 25 32.2 +1.5**
comp=Z,66nm,1.4s
RJF Les Rejaudoux 20.08 85 eP **P 15 25 31.0 -0.4**
comp=Z,170nm,1.8s
RJF eR
comp=Z,5µm,21.8s
RJF Les Rejaudoux 20.08 85 eP **P 15 25 31.0 -0.4**
comp=Z,85nm,1.8s
RESF Ens 20.10 93 eP **P 15 25 32.2 +0.6**
RESF Ens 20.10 93 eP **P 15 25 32.2 +0.6**
RESF Ens 20.10 93 eP **P 15 25 32.2 +0.6**
EVIA Vianos 20.14 106 P **P 15 25 32.2 +0.1**
EVIA Vianos 20.14 106 P **P 15 25 32.2 0.0**
EVIA Vianos 20.14 106 P **P 15 25 32.2 0.0**
EQES Quesada 20.25 109 P **P 15 25 34.8 +1.4**
EQES Quesada 20.25 109 P **P 15 25 34.8 +1.5**
ERON Agron 20.25 112 P **P 15 25 34.4 +1.1**
ERON Agron 20.25 112 P **P 15 25 34.4 +1.1**
TCF Toulx Ste Croi 20.29 82 eP **P 15 25 33.5 -0.2**
comp=Z,93nm,1.2s
TCF Toulx Ste Croi 20.29 82 eP **P 15 25 33.5 -0.2**
comp=Z,46nm,1.2s
EGUA Guajares 20.52 112 P **P 15 25 37.4 +1.2**
EGUA Guajares 20.52 112 P **P 15 25 37.4 +1.2**
EGUA Guajares 20.52 112 P **P 15 25 37.4 +1.2**
EHUE Huescar 20.55 108 P **P 15 25 37.1 +0.5**
EHUE Huescar 20.55 108 P **P 15 25 37.1 +0.5**
EHUE Huescar 20.55 108 P **P 15 25 37.1 +0.5**
CAF Calviac 20.56 86 eP **P 15 25 38.0 +1.4**
comp=Z,158nm,1.7s
CAF Calviac 20.56 86 eP **P 15 25 38.0 +1.4**
comp=Z,79nm,1.7s
EMOS Mosqueruela 20.60 100 P **P 15 25 38.6 +1.4**
EMOS Mosqueruela 20.60 100 P **P 15 25 38.6 +1.4**
VERF Verneugheol 20.61 83 eP **P 15 25 37.9 +0.7**
VERF Verneugheol 20.61 83 eP **P 15 25 37.9 +0.7**
VERF Verneugheol 20.61 83 eP **P 15 25 37.9 +0.7**
ECHE Chera 20.65 102 P **P 15 25 38.4 +0.7**
ECHE Chera 20.65 102 P **P 15 25 38.4 +0.7**
ECHE Chera 20.65 102 P **P 15 25 38.4 +0.7**
BGF Bois d'Agland 20.66 81 eP **P 15 25 37.3 -0.4**
comp=Z,84nm,1.1s
BGF Bois d'Agland 20.66 81 eP **P 15 25 37.3 -0.4**
comp=Z,42nm,1.1s
SALF Salau 20.70 92 eP **P 15 25 38.8 +0.7**
SALF Salau 20.70 92 eP **P 15 25 38.8 +0.7**
SALF Salau 20.70 92 eP **P 15 25 38.8 +0.7**
ETOB Tobarra 20.77 105 P **P 15 25 41.2 +2.3**
ETOB Tobarra 20.77 105 P **P 15 25 41.2 +2.3**
CSOR Sort 20.81 93 P **P 15 25 38.7 -0.6**
CSOR Sort 20.81 93 P **P 15 25 38.7 -0.7**
EBER Berja 20.90 111 P **P 15 25 41.4 +1.0**
EBER Berja 20.90 111 P **P 15 25 41.4 +1.0**
AVF Avril sur Loir 20.95 80 eP **P 15 25 40.3 -0.5**
comp=Z,66nm,1.1s
AVF Avril sur Loir 20.95 80 eP **P 15 25 40.3 -0.5**
comp=Z,33nm,1.1s
SSF Saint Saulge 20.99 79 eP **P 15 25 40.9 -0.4**
comp=Z,86nm,1.2s
SSF Saint Saulge 20.99 79 eP **P 15 25 40.9 -0.4**
comp=Z,43nm,1.2s
BAIF Baives 21.02 71 eP **P 15 25 41.1 -0.4**
comp=Z,96nm,1.1s,mb4.8
BAIF Baives 21.02 71 eP **P 15 25 41.1 -0.4**
comp=Z,48nm,1.1s,mb4.8
SNF Seneffe 21.03 69 P **P 15 25 41.7 0.0**
comp=Z,52nm,1.8s,mb4.6
MTLF Montolieu 21.18 90 eP **P 15 25 45.2 +1.8**
comp=Z,341nm,1.9s,mb5.0
MTLF Montolieu 21.18 90 eP **P 15 25 45.2 +1.8**
comp=Z,171nm,1.9s,mb5.0
LOR Lormes 21.18 78 eP **P 15 25 42.8 -0.6**
comp=Z,50nm,0.9s,mb4.6
LOR eR
comp=Z,3µm,22.6s
LOR Lormes 21.18 78 eP **P 15 25 42.8 -0.6**
comp=Z,25nm,0.9s,mb4.6
EPOB Poblet 21.20 96 P **P 15 25 43.6 0.0**
EPOB Poblet 21.20 96 P **P 15 25 43.6 0.0**
DOU Dourbes 21.26 71 P **P 15 25 44.0 -0.2**
SMF Signal de Mont 21.31 80 eP **P 15 25 44.2 -0.5**
comp=Z,227nm,1.4s,mb5.0
SMF Signal de Mont 21.31 80 eP **P 15 25 44.2 -0.5**
comp=Z,113nm,1.4s,mb5.0
CLLI Llivia 21.34 92 P **P 15 25 46.3 +1.3**
CLLI Llivia 21.34 92 P **P 15 25 46.3 +1.2**
VALF Valcebollere 21.40 92 eP **P 15 25 47.3 +1.6**
VALF Valcebollere 21.40 92 eP **P 15 25 47.3 +1.6**
VALF Valcebollere 21.40 92 eP **P 15 25 47.3 +1.6**
GIVF Givet 21.41 70 eP **P 15 25 45.3 -0.4**
comp=Z,235nm,1.4s,mb5.0
GIVF Givet 21.41 70 eP **P 15 25 45.3 -0.4**
comp=Z,118nm,1.4s,mb5.0
EMUR La Murta 21.41 107 P **P 15 25 46.6 +0.7**
EMUR La Murta 21.41 107 P **P 15 25 46.6 +0.7**
EBEN Beniarda 21.61 103 P **P 15 25 43.6 -4.4**
BCLA Clavier 21.69 70 P **P 15 25 48.5 -0.2**
comp=Z,55nm,2.1s,mb4.6
MEZF Maizieres J'vi 21.75 75 eP **P 15 25 49.2 -0.3**
comp=Z,1µm,1.9s,mb5.6
MEZF Maizieres J'vi 21.75 75 eP **P 15 25 49.2 -0.3**
comp=Z,522nm,1.9s,mb5.6
SFTF Sexfontaines 21.79 76 eP **P 15 25 49.4 -0.5**
comp=Z,335nm,1.4s,mb5.3
SFTF Sexfontaines 21.79 76 eP **P 15 25 49.4 -0.5**
comp=Z,167nm,1.4s,mb5.3
LASF Ste Croix 22.04 87 eP **P 15 25 52.4 -0.2**
comp=Z,143nm,1.3s,mb5.0
LASF Ste Croix 22.04 87 eP **P 15 25 52.4 -0.2**
comp=Z,71nm,1.3s,mb5.0
MEM Membach 22.12 69 P **P 15 25 53.6 +0.2**
comp=Z,47nm,1.3s,mb4.8
SSB Saint Sauveur 22.13 83 eP **P 15 25 54.2 +0.6**
comp=Z,43nm,1.4s,mb4.7
SSB Saint Sauveur 22.13 83 eP **P 15 25 54.2 +0.6**
SSB pmax pmax
comp=Z,43nm,1.4s,mb4.7
SSB Saint Sauveur 22.13 83 eP **P 15 25 54.2 +0.6**
comp=Z,43nm,1.4s,mb4.7
PAGF Fort de Pagny 22.18 74 eP **P 15 25 53.5 -0.6**
comp=Z,48nm,1.4s,mb4.4
PAGF Fort de Pagny 22.18 74 eP **P 15 25 53.5 -0.6**
comp=Z,24nm,1.4s,mb4.4
WLF Walferdange 22.31 71 P **P 15 25 55.0 -0.4**
WLF Walferdange 22.31 71 P **P 15 25 55.0 -0.4**
WLF Walferdange 22.31 71 P **P 15 25 55.0 -0.4**
VIVF Saint-Julien-l 22.34 84 eP **P 15 25 58.7 +2.9**
comp=Z,72nm,1.3s,mb4.6
THEF They Montfort 22.41 75 eP **P 15 25 56.5 0.0**
THEF They Montfort 22.41 75 eP **P 15 25 56.5 0.0**
THEF They Montfort 22.41 75 eP **P 15 25 56.5 0.0**
THEF They Montfort 22.41 75 eP **P 15 25 56.5 0.0**
HAU Haudompre 22.69 76 eP **P 15 25 59.5 0.0**
comp=Z,49nm,1.1s,mb4.5
HAU eR
comp=Z,3µm,20.2s
HAU Haudompre 22.69 76 eP **P 15 25 59.5 0.0**
comp=Z,24nm,1.1s,mb4.5
CABF La Chapelle 22.82 79 eP **P 15 25 59.4 -1.4**
comp=Z,154nm,1.5s,mb4.9
CABF La Chapelle 22.82 79 eP **P 15 25 59.4 -1.4**
comp=Z,77nm,1.5s,mb4.9
OCF Saint Nazaire 22.86 85 eP **P 15 26 04.2 +2.9**
OG26 St.-Nazaire-De 22.86 85 eP **P 15 26 04.2 +2.9**
RUP Ruppelstein 22.89 71 eP **P 15 25 58.9 -2.6**
RUP Ruppelstein 22.89 71 eP **P 15 25 58.9 -2.6**
RUP Ruppelstein 22.89 71 eP **P 15 25 58.9 -2.6**
HINF Hinteralfeld 23.06 76 eP **P 15 26 04.0 +0.6**
comp=Z,291nm,1.6s,mb5.2
HINF Hinteralfeld 23.06 76 eP **P 15 26 04.0 +0.6**
comp=Z,145nm,1.6s,mb5.2
LOMF Lomont 23.14 77 eP **P 15 26 04.9 +0.7**
LOMF Lomont 23.14 77 eP **P 15 26 04.9 +0.7**
LOMF Lomont 23.14 77 eP **P 15 26 04.9 +0.7**
LOMF Lomont 23.14 77 eP **P 15 26 04.9 +0.7**
ORIF Oris-en-Rattie 23.14 84 eP **P 15 26 05.9 +1.6**
comp=Z,58nm,1.2s,mb4.6
ORIF eR
comp=Z,4µm,22.0s
ORIF Oris-en-Rattie 23.14 84 eP **P 15 26 05.9 +1.6**
comp=Z,29nm,1.2s,mb4.6
ABH Alteburg 23.18 71 eP **P 15 26 05.3 +0.7**
ABH Alteburg 23.18 71 eP **P 15 26 05.3 +0.7**
ECH Echery 23.18 75 eP **P 15 26 03.7 -1.0**
comp=Z,138nm,1.8s,mb5.1
ECH Echery 23.18 75 eP **P 15 26 03.7 -1.0**
ECH pmax pmax
comp=Z,138nm,1.8s,mb5.1
ECH Echery 23.18 75 eP **P 15 26 04.6 -0.1**
ECH Echery 23.18 75 eP **P 15 26 04.6 -0.1**
CDF Champ du Feu 23.23 74 eP **P 15 26 04.8 -0.3**
comp=Z,231nm,1.8s,mb5.0
CDF Champ du Feu 23.23 74 eP **P 15 26 04.8 -0.3**
comp=Z,116nm,1.8s,mb5.0
MOF Molkenrain 23.24 76 eP **P 15 26 05.3 0.0**
MOF Molkenrain 23.24 76 eP **P 15 26 05.3 0.0**
MOF Molkenrain 23.24 76 eP **P 15 26 05.3 0.0**
MOF Molkenrain 23.24 76 eP **P 15 26 05.3 0.0**
SMRF Simiane la Rot 23.24 86 eP **P 15 26 05.9 +0.6**
comp=Z,189nm,1.8s,mb4.9
SMRF Simiane la Rot 23.24 86 eP **P 15 26 05.9 +0.6**
comp=Z,94nm,1.8s,mb4.9
RSL Roselend 23.42 81 eP **P 15 26 07.1 -0.1**
RSL Roselend 23.42 81 eP **P 15 26 07.1 -0.1**
RSL Roselend 23.42 81 eP **P 15 26 07.1 -0.1**
RSL Roselend 23.42 81 eP **P 15 26 07.1 -0.1**
LANF Langenberg 23.47 73 eP **P 15 26 07.7 0.0**
LANF Langenberg 23.47 73 eP **P 15 26 07.7 0.0**
LANF Langenberg 23.47 73 eP **P 15 26 07.7 0.0**
LANF Langenberg 23.47 73 eP **P 15 26 07.7 0.0**
LPL La Plagne 23.54 82 eP **P 15 26 08.5 0.0**
LPL La Plagne 23.54 82 eP **P 15 26 08.5 0.0**
LPG La Plagne 23.56 82 eP **P 15 26 08.8 +0.2**
comp=Z,138nm,1.8s,mb4.8
LPG La Plagne 23.56 82 eP **P 15 26 08.8 +0.2**
comp=Z,69nm,1.8s,mb4.8
MBDF Montbardon 23.81 83 eP **P 15 26 12.0 +1.1**
comp=Z,129nm,1.6s,mb4.8
MBDF Montbardon 23.81 83 eP **P 15 26 12.0 +1.1**
comp=Z,65nm,1.6s,mb4.8
FELD Feldberg im Sc 23.81 75 eP **P 15 26 10.9 0.0**
FELD Feldberg im Sc 23.81 75 eP **P 15 26 10.9 0.0**
BFO Black Forest 23.93 74 eP **P 15 26 10.9 -1.1**
BFO Black Forest 23.93 74 eP **P 15 26 10.9 -1.1**
BFO Black Forest 23.93 74 eP **P 15 26 10.9 -1.1**
EANR 'Ain N'Sour 24.04 108 P **P 15 26 15.0 +1.9**
EANR 'Ain N'Sour 24.04 108 P **P 15 26 15.0 +1.9**
EBNR Beni Rached 24.12 107 P **P 15 26 14.0 +0.2**
EBNR Beni Rached 24.12 107 P **P 15 26 14.0 +0.2**
TOUF Mont Tournerai 24.36 85 eP **P 15 26 17.5 +1.5**
TOUF Mont Tournerai 24.36 85 eP **P 15 26 17.5 +1.5**
TOUF Mont Tournerai 24.36 85 eP **P 15 26 17.5 +1.5**
TOUF Mont Tournerai 24.36 85 eP **P 15 26 17.5 +1.5**
LUCF Luceram 24.47 85 eP **P 15 26 16.9 -0.1**
LUCF Luceram 24.47 85 eP **P 15 26 16.9 -0.1**
LUCF Luceram 24.47 85 eP **P 15 26 16.9 -0.1**
AUTN L'Aution 24.49 85 eP **P 15 26 18.0 +0.8**
AUTN L'Aution 24.49 85 eP **P 15 26 18.0 +0.8**
AUTN L'Aution 24.49 85 eP **P 15 26 18.0 +0.8**
AUTN L'Aution 24.49 85 eP **P 15 26 18.0 +0.8**
SBF Sospel 24.54 85 eP **P 15 26 18.6 +1.0**
comp=Z,90nm,1.1s,mb4.9
SBF Sospel 24.54 85 eP **P 15 26 18.6 +1.0**
comp=Z,45nm,1.1s,mb4.9
TUE Stuetta 25.03 78 eP **P 15 26 24.0 +1.9**
comp=Z,66nm,1.4s,mb5.0
TUE Stuetta 25.03 78 eP **P 15 26 24.0 +2.0**
comp=Z,66nm,1.4s,mb5.0
EMHD Djebel Mahouad 25.10 105 P **P 15 26 26.5 +3.7**
DAVA Damuels 25.18 76 *i*P **P 15 26 24.7 +1.3**
comp=Z,13nm,1.1s,mb4.4
DAVA Damuels 25.18 76 P **P 15 26 24.7 +1.3**
comp=Z,13nm,1.1s,mb4.4
DAVOX Davos/Dischmat 25.30 77 P **P 15 26 25.7 +1.2**
comp=Z,9.9nm,1.0s,mb4.3,baz=289,slow=14,SNR=6.6
DAVOX LR LR 15 35 05.8
comp=Z,2µm,21.8s,MS4.6,baz=292,slow=34
DAVOX Davos/Dischmat 25.30 77 P **P 15 26 25.7 +1.2**
DAVOX LR LR 15 35 05.8
DAVOX Davos/Dischmat 25.30 77 P **P 15 26 25.7 +1.2**
DAVOX Davos/Dischmat 25.30 77 P **P 15 26 25.7 +1.2**
JMIC Jan Mayen 25.43 14 LR LR 15 34 23.6
comp=Z,780nm,18.4s,MS4.3,baz=276,slow=32
GRF Grafenberg Arr 25.56 70 eL 15 35 18.4
comp=Z,4µm,21.5s
SCHQ Schefferville 25.58 302 P **P 15 26 26.0 -1.0**
comp=Z,4.2nm,0.6s,mb4.1,baz=80,slow=12,SNR=7.5
SCHQ LR LR 15 34 32.0
comp=Z,2µm,20.9s,MS4.5,baz=284,slow=32
SCHQ Schefferville 25.58 302 P **P 15 26 26.0 -1.0**
SCHQ LR LR 15 34 32.0
SCHQ Schefferville 25.58 302 P **P 15 26 26.0 -1.0**
GRA3 Grafenberg Arr 25.61 70 eP **P 15 26 28.9 +1.6**
comp=Z,282nm,2.7s,mb5.3
RETA Reutte 25.71 75⇓*i*sP **P 15 26 34.0 +5.8**
comp=Z,23nm,1.6s,mb4.5
FETA Feichten 25.80 76⇓*i*P **P 15 26 30.6 +1.5**
comp=Z,34nm,1.3s,mb4.7
FETA Feichten 25.80 76 P **P 15 26 30.6 +1.5**
comp=Z,34nm,1.3s,mb4.7
SUMG Summit 25.86 352 eP **P 15 26 29.6 +0.3**
comp=Z,45nm,1.3s,mb4.8
SUMG Summit 25.86 352 eP **P 15 26 29.7 +0.3**
SUMG pmax pmax
comp=Z,45nm,1.3s
SUMG Summit 25.86 352 *i* P **P 15 26 29.8 +0.4**
comp=Z,17nm,1.0s,mb4.5
SUMG Summit 25.86 352 eP **P 15 26 29.6 +0.2**
comp=Z,45nm,1.3s,mb4.8
NOA NORSAR Array B 26.03 44 LR LR 15 35 22.0
comp=Z,966nm,20.1s,MS4.3,baz=270,slow=33
WTTA Wattenberg 26.34 75⇓*i*pP **P 15 26 35.3 +1.4**
comp=Z,35nm,1.7s,mb4.6
WTTA Wattenberg 26.34 75 P **P 15 26 35.3 +1.4**
comp=Z,35nm,1.7s,mb4.6
CLL Collm 26.45 66 eP **P 15 26 36.0 +1.1**
CLL pmax pmax
comp=Z,55nm,1.8s,mb4.8
CLL MLR MLR
comp=Z,1µm,21.1s,MS4.5
CLL Collm 26.45 66 eP **P 15 26 36.0 +1.1**
comp=Z,55nm,1.8s,mb4.8
CLL ePP 15 27 06.0
CLL *e* 15 31 36.0
CLL LmV 15 36 00.0
comp=Z,1µm,21.1s
CLL Collm 26.45 66 eP **P 15 26 36.0 +1.1**
comp=Z,1µm,21.1s
HFS Hagfors 27.04 46 LR LR 15 37 06.5
comp=Z,597nm,20.0s,MS4.2,baz=251,slow=36
BRG Berggiesshubel 27.10 67 eP **P 15 26 43.0 +2.3**
comp=Z,16nm,1.5s,mb4.3
BRG *e* 15 26 50.4
comp=Z,38nm,1.5s
BRG
comp=N,1µm,17.3s
BRG
comp=E,2µm,18.6s
BRG
comp=Z,2µm,16.9s
BRG Berggiesshubel 27.10 67 eP **P 15 26 43.0 +2.3**
BRG *e* 15 26 50.4
BRG pmax pmax
comp=Z,16nm,1.5s,mb4.3
BRG pmax pmax
comp=Z,38nm,1.5s,mb4.7
BRG MLR MLR
comp=N,1µm,17.3s,MS4.8
BRG MLR MLR
comp=E,2µm,18.6s,MS4.8
BRG MLR MLR
comp=Z,2µm,16.9s,MS4.8
KHC Kasperske Hory 27.18 71 eP **P 15 26 48.0 +6.6**
KHC Kasperske Hory 27.18 71 eP **P 15 26 48.0 +6.6**
GERES GERESS Array B 27.32 71 P **P 15 26 43.4 +0.7**
comp=Z,3.4nm,1.0s,mb3.8,baz=302,slow=7.7,SNR=5.8
GERES LR LR 15 37 09.3
comp=Z,3µm,18.6s,MS4.9,baz=271,slow=36
GERES GERESS Array B 27.32 71 P **P 15 26 43.4 +0.7**
GERES LR LR 15 37 09.3
GERES GERESS Array B 27.32 71 P **P 15 26 43.4 +0.7**
GERES GERESS Array B 27.32 71 P **P 15 26 43.4 +0.7**
FRB Frobisher Bay 27.83 321 LR LR 15 35 03.6
comp=Z,825nm,19.8s,MS4.3,baz=186,slow=30
MYKA Terra Mystica 27.84 76⇑epP **P 15 26 48.5 +1.2**
comp=Z,22nm,1.5s,mb4.6
MYKA Terra Mystica 27.84 76 P **P 15 26 48.5 +1.2**
comp=Z,22nm,1.5s,mb4.6
MOA Molln 27.92 73⇑*i*pP **P 15 26 54.5 +6.4**
comp=Z,3.4nm,0.8s,mb4.1
OBKA Obir 28.47 76⇓*i*P **P 15 26 53.2 +0.2**
comp=Z,12nm,1.0s,mb4.5
OBKA Obir 28.47 76 P **P 15 26 53.2 +0.2**
comp=Z,12nm,1.0s,mb4.5
SOKA Soboth 28.74 75⇓epP **P 15 26 56.0 +0.6**
comp=Z,9.1nm,1.1s,mb4.4
SOKA Soboth 28.74 75 P **P 15 26 56.0 +0.6**
comp=Z,9.1nm,1.1s,mb4.4
ARSA Arzberg 28.90 74⇑*i*pP **P 15 26 57.4 +0.6**
comp=Z,13nm,1.0s,mb4.6
ARSA Arzberg 28.90 74 P **P 15 26 57.4 +0.6**
comp=Z,13nm,1.0s,mb4.6
CONA Conrad Observa 28.94 73⇓pP **P 15 26 57.8 +0.6**
comp=Z,7.3nm,1.2s,mb4.3
CONA Conrad Observa 28.94 73 P **P 15 26 57.8 +0.7**
comp=Z,7.3nm,1.2s,mb4.3
VRAC Vranov 29.07 70 LR LR 15 38 25.0
comp=Z,3µm,18.3s,MS5.1,baz=261,slow=36
KEST Kesra 29.62 99 P **P 15 27 03.2 -0.1**
comp=Z,3.6nm,0.9s,mb4.1,baz=325,slow=1.9,SNR=7.9
KEST LR LR 15 37 32.7
comp=Z,1µm,19.6s,MS4.6,baz=95,slow=34
KEST Kesra 29.62 99 eP **P 15 27 03.2 -0.1**
KEST Kesra 29.62 99 eP **P 15 27 03.2 -0.1**
DAG Danmarks Havn 29.80 4 eP **P 15 27 08.9 +4.4**
DAG pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
DAG Danmarks Havn 29.80 4 *i* P **P 15 27 08.9 +4.4**
comp=Z,5.9nm,1.0s,mb4.3
VYHS Vyhne 30.71 70 eP **P 15 27 14.9 +2.1**
VYHS pmax pmax
comp=Z,48nm,2.6s,mb4.9
VYHS Vyhne 30.71 70 eP **P 15 27 14.9 +2.1**
VYHS Vyhne 30.71 70 eP **P 15 27 14.9 +2.1**
comp=Z,48nm,2.6s,mb4.9
PSZ Piszkesteto 31.55 71 eP **P 15 27 21.6 +1.4**
comp=Z,69nm,1.8s,mb5.2
PSZ Piszkesteto 31.55 71 eP **P 15 27 21.6 +1.4**
PSZ pmax pmax
comp=Z,69nm,1.8s,mb5.2
PSZ Piszkesteto 31.55 71 eP **P 15 27 21.6 +1.4**
comp=Z,69nm,1.8s,mb5.2
CUC Castrocucco 31.82 87 eP **P 15 27 22.4 -0.4**
comp=Z,36nm,1.6s,mb5.0
CUC Castrocucco 31.82 87 eP **P 15 27 22.4 -0.3**
comp=Z,36nm,1.6s,mb5.0
CRVS Cervenica-Dubn 32.27 69 eP **P 15 27 24.4 -2.1**
CRVS Cervenica-Dubn 32.27 69 eP **P 15 27 24.3 -2.2**
CRVS Cervenica-Dubn 32.27 69 eP **P 15 27 24.4 -2.1**
UZH Uzhgorod 32.87 69 eP **P 15 27 30.2 -1.6**
UZH *e* 15 27 36.2
UZH *i* 15 32 47.8
FINES FINESS Array B 33.20 45 P **P 15 27 33.6 -0.9**
comp=Z,5.7nm,0.9s,mb4.5,baz=209,slow=2.6,SNR=3.2
FINES LR LR 15 39 21.8
comp=Z,964nm,19.3s,MS4.5,baz=286,slow=33
FINES FINESS Array B 33.20 45 P **P 15 27 33.6 -0.9**
FINES LR LR 15 39 21.8
FINES FINESS Array B 33.20 45 P **P 15 27 33.6 -0.9**
FINES FINESS Array B 33.20 45 P **P 15 27 33.6 -0.9**
BBTS Babate 33.78 161 LR LR 15 38 28.2
comp=Z,319nm,19.7s,MS4.0,baz=112,slow=31
ARCES ARCESS Array B 33.91 30 P **P 15 27 38.7 -1.9**
comp=Z,5.0nm,0.8s,mb4.5,baz=256,slow=8.5,SNR=8.1
ARCES LR LR 15 39 43.8
comp=Z,909nm,18.0s,MS4.5,baz=260,slow=33
ARCES ARCESS Array B 33.91 30 P **P 15 27 38.7 -1.9**
ARCES LR LR 15 39 43.8
ARCES ARCESS Array B 33.91 30 P **P 15 27 38.7 -1.9**
ARCES ARCESS Array B 33.91 30 P **P 15 27 38.7 -1.9**
SPITS Spitsbergen Ar 35.11 14 LR LR 15 38 41.5
comp=Z,339nm,18.7s,MS4.1,baz=235,slow=30
SADO Sadowa 35.43 285 LR LR 15 41 25.2
comp=Z,2µm,19.6s,MS4.9,baz=258,slow=35
TAM Tamanrasset 35.99 121 eP **P 15 27 59.1 0.0**
comp=Z,16nm,1.4s,mb4.8

TAM Tamanrasset 35.99 121 *e*P P **15 27 59.1 0.0**
TAM pmax pmax
comp=Z,16nm,1.4s,mb4.8
TAM Tamanrasset 35.99 121 *e*P P **15 27 59.1 0.0**
comp=Z,16nm,1.4s,mb4.8
MLR Muntele Rosu 36.28 73 P P **15 28 00.2 -1.1**
comp=Z,0.5nm,0.6s,mb3.7,baz=11,slow=10,SNR=2.9
MLR LR LR 15 42 59.5
comp=Z,404nm,20.1s,MS4.2,baz=290,slow=36
MLR Muntele Rosu 36.28 73 P P **15 28 00.2 -1.1**
MLR LR LR 15 42 59.5
MLR Muntele Rosu 36.28 73 P P **15 28 00.2 -1.2**
MLR Muntele Rosu 36.28 73 P P **15 28 00.2 -1.2**
APA Apatity 36.52 34⇓ *e*P P **15 27 54.0 -9.1**
APA MLR MLR
comp=Z,3µm,15.0s,MS5.2
AKASG Malin Array Be 36.58 63 P P **15 28 00.5 -3.3**
comp=Z,1.6nm,0.6s,mb4.0,baz=279,slow=8.9,SNR=8.2
AKASG LR LR 15 42 29.4
comp=Z,2µm,21.1s,MS4.8,baz=295,slow=35
AKASG Malin Array Be 36.58 63 P P **15 28 00.5 -3.3**
AKASG LR LR 15 42 29.4
AKASG Malin Array Be 36.58 63 P P **15 28 00.5 -3.3**
KIS Kishinev 37.56 69 *e*PP PP 15 29 36.0 -1.7
KIS *e*L 15 39 10.0
KIS LRM 15 43 08.0
comp=Z,2µm,20.0s
KIS Kishinev 37.56 69 *e*PP PP 15 29 36.0 -1.7
RES Resolute Bay 39.14 337 P P **15 28 24.4 -0.7**
comp=Z,3.8nm,1.0s,mb4.1,baz=106,slow=4.8,SNR=4.5
RES Resolute Bay 39.14 337 *e*P P **15 28 24.6 -0.6**
comp=Z,8.8nm,1.0s,mb4.4
RES Resolute Bay 39.14 337 *e*P P **15 28 24.6 -0.6**
RES pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
RES Resolute Bay 39.14 337 *e*P P **15 28 24.6 -0.6**
comp=Z,8.8nm,1.0s,mb4.4
OBN Obninsk 39.57 54⇑ *e*P P **15 28 29.7 +0.7**
OBN *e* 15 29 58.9
OBN *e*SS SS 15 37 24.2 -1.6
OBN pmax pmax
comp=Z,54nm,2.5s,mb4.8
OBN MLR MLR
comp=Z,2µm,19.0s,MS4.9
MOS Moscow 39.98 53 *e*P P **15 28 34.5 +2.1**
MOS MLR MLR
comp=Z,1µm,17.0s,MS4.8
TORD Torodi Ar. Bea 41.87 135 P P **15 28 46.6 -1.8**
comp=Z,11nm,0.8s,mb4.5,baz=328,slow=7.6,SNR=58
TORD LR LR 15 45 02.7
comp=Z,2µm,18.3s,MS5.1,baz=325,slow=35
TORD Torodi Ar. Bea 41.87 135 P P **15 28 46.6 -1.8**
TORD LR LR 15 45 02.7
TORD Torodi Ar. Bea 41.87 135 P P **15 28 46.6 -1.8**
TKL Tuckaleechee C 42.89 275 LR LR 15 46 12.4
comp=Z,1µm,19.5s,MS4.8,baz=62,slow=35
SJG San Juan 42.97 241 LR LR 15 42 41.5
comp=Z,917nm,21.8s,MS4.6,baz=77,slow=30
ULM Lac du Bonnet 43.74 300 P P **15 29 02.8 -0.4**
comp=Z,5.4nm,0.8s,mb4.3,baz=44,slow=10,SNR=5.7
ULM LR LR 15 45 39.5
comp=Z,804nm,18.1s,MS4.7,baz=89,slow=34
ULM Lac du Bonnet 43.74 300 P P **15 29 02.8 -0.4**
ULM LR LR 15 45 39.5
ULM Lac du Bonnet 43.74 300 P P **15 29 02.8 -0.4**
ULM Lac du Bonnet 43.74 300 P P **15 29 02.8 -0.4**
ANN Anapa 43.94 68 *e*P P **15 29 03.2 -1.7**
ANN *e**PP pP 15 29 06.2 -1.8
ANN *e*S S **15 35 33.7 -2.6**
ANN pmax pmax
comp=Z,35nm,1.4s,mb4.9
ANN MLR MLR
comp=N,2µm,22.0s,MS5.1
ANN MLR MLR
comp=E,2µm,22.0s,MS5.1
ANN MLR MLR
comp=Z,2µm,22.0s,MS5.0
BR131 Keskin Array S 43.95 77 *e*P P **15 29 05.4 +0.5**
comp=Z,5.9nm,1.0s,mb4.3
BR131 Keskin Array S 43.95 77 *e*P P **15 29 05.4 +0.4**
comp=Z,5.9nm,1.0s,mb4.3
BRTR Keskin Array B 43.95 77 P P **15 29 04.9 -0.1**
comp=Z,1.0nm,0.5s,mb3.8,baz=283,slow=7.5,SNR=7.1
BRTR PcP PcP 15 30 55.7 +5.0
comp=Z,1.4nm,0.8s,baz=264,slow=3.6,SNR=4.1
BRTR LR LR 15 47 21.2
comp=Z,883nm,21.2s,MS4.7,baz=302,slow=36
BRTR Keskin Array B 43.95 77 P P **15 29 04.9 -0.1**
BRTR PcP PcP 15 30 55.7 +5.0
BRTR LR LR 15 47 21.2
BRTR Keskin Array B 43.95 77 P P **15 29 04.9 -0.1**
BRTR 15 30 55.7
BRTR Keskin Array B 43.95 77 P P **15 29 04.9 -0.1**
DBIC Dimbokro 44.87 147 P P **15 29 11.2 -1.4**
comp=Z,2.0nm,0.5s,mb4.2,baz=334,slow=12,SNR=4.5
DBIC LR LR 15 46 05.0
comp=Z,628nm,19.7s,MS4.5,baz=324,slow=34
DBIC Dimbokro 44.87 147 P P **15 29 11.2 -1.4**
DBIC LR LR 15 46 05.0
DBIC Dimbokro 44.87 147 P P **15 29 11.2 -1.4**
DBIC Dimbokro 44.87 147 P P **15 29 11.1 -1.5**
KIV Kislovodsk 47.65 67 *e*P P **15 29 39.3 +5.1**
KIV *e*S S **15 36 36.3 +6.6**
KIV pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
KIV MLR MLR
comp=Z,1µm,16.0s,MS4.9
SOKR Solikamsk 48.30 43 *e*P P **15 29 43.6 +4.6**
SOKR S S **15 36 45.2 +6.7**
SOKR pmax pmax
comp=Z,20nm,1.3s,mb5.0
SOKR MLR MLR
comp=Z,420nm,16.0s,MS4.5
A24A Westby 49.07 302⇑ P P **15 29 45.7 +0.6**
baz=49
DGMT Dagmar 49.40 301⇓ P P **15 29 48.2 +0.6**
baz=49
A23A Redstone 49.56 302⇓ P P **15 29 49.2 +0.4**
baz=49
A22A Carney Farms, 50.14 303⇑ P P **15 29 54.0 +0.8**
baz=50
C23A Lambert 50.31 301⇑ P P **15 29 55.4 +0.9**
baz=50
B22A Reddig Ranch S 50.53 302⇓ P P **15 29 57.1 +1.0**
baz=50
ARU Arti 50.56 46 *e*P P **15 29 53.8 -2.4**
comp=Z,28nm,1.2s,mb5.1
ARU Arti 50.56 46 *d i*P P **15 29 56.6 +0.3**
ARU 15 31 51.3
ARU S S **15 37 11.5 +1.3**
ARU SS SS 15 40 42.7 -0.9
ARU pmax pmax
comp=Z,13nm,1.2s,mb4.7
ARU Arti 50.56 46 *e*P P **15 29 53.8 -2.5**
comp=Z,28nm,1.2s,mb5.1
A21A Bergtoll Ranch 50.72 303⇑ P P **15 29 58.1 +0.6**
baz=50
C22A Vida 50.74 301⇓ P P **15 29 57.9 +0.1**
baz=50
MAK Makhachkala 51.17 66 *e*P P **15 29 58.3 -2.8**
MAK *e*S S **15 37 17.5 -1.5**
MAK pmax pmax
comp=Z,247nm,2.3s,mb5.7
MAK MLR MLR
comp=Z,1µm,16.0s,MS5.1
D22A Cohagen 51.22 301⇓ P P **15 30 02.2 +0.8**
baz=51
A20A Cobblestone Ra 51.34 304⇑ P P **15 30 02.5 +0.2**
baz=51
SVE Sverdlovsk 51.37 45 *e*P P **15 30 02.2 -0.2**
SVE *e* 15 31 18.4
SVE *e*PPP 15 33 01.5
SVE *e*S S **15 37 27.4 +6.0**
SVE pmax pmax
comp=Z,17nm,1.3s,mb4.8
LAO LASA Array 51.49 300⇑ P P **15 30 03.9 +0.5**
baz=51
LAO LASA Array 51.49 300 *e*P P **15 30 04.5 +1.1**
comp=Z,54nm,1.1s,mb5.4
LAO LASA Array 51.49 300 *e*P P **15 30 04.5 +1.1**
comp=Z,54nm,1.1s,mb5.4
B20A Solberg Farm, 51.62 303⇑ P P **15 30 04.6 +0.2**
baz=51
D21A La Casta Ranch 51.74 301⇓ P P **15 30 05.9 +0.6**
baz=52

E21A Keefer Ranch, 52.07 301⇓ P P **15 30 08.3 +0.6**
baz=52
B19A Brinkman Farms 52.14 303⇑ P P **15 30 08.8 +0.6**
baz=52
D20A Manuel Ranch, 52.39 302⇓ P P **15 30 10.6 +0.5**
baz=52
A18A Metzger Ranch, 52.40 304⇓ P P **15 30 10.2 +0.1**
baz=52,SNR=6.4
C19A Slack Wire Ran 52.58 303⇓ P P **15 30 11.8 +0.3**
baz=52
B18A Beardsley Farm 52.64 304⇓ P P **15 30 12.0 +0.1**
baz=52
H22A Clearmont 52.68 298⇑ P P **15 30 12.0 -0.3**
baz=52
E20A Meyer Farm, Mu 52.70 301⇑ P P **15 30 12.4 0.0**
baz=52
D19A Cripps Ranch, 52.78 302⇑ P P **15 30 12.8 -0.3**
baz=52
EGMT Eagleton 52.83 303⇑ P P **15 30 13.4 +0.1**
baz=53,SNR=6.1
EGMT Eagleton 52.83 303 *e*P P **15 30 13.9 +0.5**
comp=Z,45nm,1.2s,mb5.3
EGMT Eagleton 52.83 303 *e*P P **15 30 13.9 +0.6**
comp=Z,45nm,1.2s,mb5.3
G21A Lodge Grass 52.85 299⇓ P P **15 30 13.1 -0.5**
baz=53
A17A Triple J Farms 52.87 305⇓ P P **15 30 13.9 +0.3**
baz=53,SNR=5.8
F20A Billings 53.09 300⇑ P P **15 30 15.1 -0.2**
baz=53
E19A Rath Farm, Rou 53.11 301⇑ P P **15 30 15.3 -0.1**
baz=53
I22A 9 Mile Ranch, 53.14 297⇑ P P **15 30 15.4 -0.3**
baz=53
B17A L&Q Farms, Che 53.27 304⇓ P P **15 30 16.7 +0.1**
baz=53,SNR=7.5
AKTO Aktyubinsk 53.31 53 P P **15 30 16.5 -0.3**
comp=Z,2.8nm,1.1s,mb4.1,baz=309,slow=8.4,SNR=5.6
AKTO LR LR 15 53 53.7
comp=Z,865nm,18.3s,MS4.8,baz=262,slow=37
AKTO Aktyubinsk 53.31 53 P P **15 30 16.5 -0.4**
AKTO LR LR 15 53 53.6
AKTO Aktyubinsk 53.31 53 P P **15 30 16.5 -0.4**
AKTO Aktyubinsk 53.31 53 P P **15 30 16.5 -0.4**
J22A Midwest 53.40 297⇑ P P **15 30 17.2 -0.4**
baz=53
G20A Bridger 53.45 300⇓ P P **15 30 18.1 +0.1**
baz=53,SNR=5.7
F19A Roth Farm, Mol 53.53 301⇓ P P **15 30 18.0 -0.5**
baz=53
C17A Wharram Farm, 53.61 303⇑ P P **15 30 19.0 -0.1**
baz=53,SNR=6.7
L23A Garrett 53.65 295⇓ P P **15 30 18.9 -0.6**
baz=53
I21A Big Trails, Te 53.67 298⇑ P P **15 30 18.8 -0.8**
baz=53
E18A Harlowton 53.70 302⇑ P P **15 30 19.7 -0.1**
baz=54
B16A M & M Farms, S 53.72 305⇓ P P **15 30 20.2 +0.3**
baz=54,SNR=6.8
H20A Greybull 53.72 299⇓ P P **15 30 20.2 +0.2**
baz=54,SNR=6.3
D17A Six Diamond Ra 53.83 303⇓ P P **15 30 21.0 +0.3**
baz=54,SNR=6.1
K22A Casper 53.86 296⇑ P P **15 30 20.6 -0.4**
baz=54
F18A Big Timber 53.95 301⇓ P P **15 30 21.3 -0.4**
baz=54
A15A Johnson Ranch, 53.98 306⇓ P P **15 30 21.1 -0.7**
baz=54
GCMT Greycliff 53.99 301 *e*P P **15 30 22.2 +0.3**
comp=Z,17nm,1.0s,mb4.9
GCMT Greycliff 53.99 301 *e*P P **15 30 22.2 +0.3**
comp=Z,17nm,1.0s,mb4.9
J21A Lysite 54.03 297⇓ P P **15 30 22.0 -0.2**
baz=54
C16A Fuhringer Ranc 54.07 304⇑ P P **15 30 22.7 +0.2**
baz=54,SNR=8.7
I20A Worland 54.10 298⇓ P P **15 30 22.2 -0.6**
baz=54
RLMT Red Lodge 54.12 300⇑ P P **15 30 23.2 +0.3**
baz=54,SNR=7.3
RLMT Red Lodge 54.12 300 *e*P P **15 30 23.6 +0.7**
comp=Z,30nm,1.4s,mb5.0
RLMT Red Lodge 54.12 300 *e*P P **15 30 23.6 +0.7**
comp=Z,30nm,1.4s,mb5.0
L22A Ellis Ranch, M 54.15 296⇓ P P **15 30 23.0 -0.1**
baz=54
G18A Lazy EL Ranch, 54.19 300⇑ P P **15 30 23.0 -0.4**
baz=54
H19A Powell 54.21 300⇑ P P **15 30 23.1 -0.5**
baz=54
B15A Brely Ranch, 54.25 305⇑ P P **15 30 23.3 -0.5**
baz=54,SNR=7.7
E17A Martinsdale 54.30 302⇓ P P **15 30 24.3 +0.1**
baz=54
K21A Alcova 54.31 297⇓ P P **15 30 24.3 0.0**
baz=54
A14A Double T Ranch 54.36 306⇓ P P **15 30 24.6 0.0**
baz=54,SNR=6.6
N23A Red Feather La 54.49 294⇓ P P **15 30 26.1 +0.4**
baz=54
F17A Fitzpatrick Pl 54.50 302⇓ P P **15 30 25.5 -0.1**
baz=54
I19A Meeteetse 54.57 299⇑ P P **15 30 26.6 +0.4**
baz=54,SNR=6.2
C15A Salmond Ranch, 54.57 304⇓ P P **15 30 25.9 -0.2**
baz=54,SNR=5.5
WALA Waterton Lakes 54.59 306 *e*P P **15 30 26.1 -0.1**
comp=Z,1.2nm,1.0s,mb3.9
WALA Waterton Lakes 54.59 306 *e*P P **15 30 26.1 -0.1**
comp=Z,1.1nm,1.0s,mb3.8
H18A Shoshone NF, C 54.60 300⇓ P P **15 30 25.8 -0.6**
baz=54
B14A Marquette Ranc 54.62 305⇑ P P **15 30 26.0 -0.5**
baz=54,SNR=6.9
HRY Holter Researc 54.73 303 *e*P P **15 30 27.5 +0.3**
comp=Z,16nm,1.0s,mb5.0
HRY Holter Researc 54.73 303 *e*P P **15 30 27.5 +0.3**
comp=Z,16nm,1.0s,mb5.0
L21A Rawlins 54.76 296⇓ P P **15 30 27.3 -0.3**
baz=54
RWWY Rawlins 54.82 296 *e*P P **15 30 28.4 +0.4**
comp=Z,43nm,1.2s,mb5.3
RWWY Rawlins 54.82 296 *e*P P **15 30 28.5 +0.5**
comp=Z,43nm,1.2s,mb5.3
N22A Wattenberg Ran 54.86 294⇑ P P **15 30 28.1 -0.2**
baz=55
G17A Pierce Place, 54.87 301⇓ P P **15 30 27.7 -0.6**
baz=55
A13A Flathead Natio 54.93 306⇑ P P **15 30 28.1 -0.6**
baz=55
D15A Lincoln 54.93 304⇓ P P **15 30 28.9 +0.2**
baz=55,SNR=15
K20A Yellowstone Ra 54.96 297⇓ P P **15 30 29.0 0.0**
baz=55,SNR=5.6
M21A Separation Pea 54.96 296⇓ P P **15 30 29.7 +0.6**
baz=55,SNR=7.8
ABKAR Akbulak array 55.00 53 *e*P P **15 30 28.8 -0.4**
comp=Z,6.3nm,1.1s,mb4.6
ABKAR Akbulak array 55.00 53 *e*P P **15 30 28.8 -0.4**
comp=Z,6.3nm,1.1s,mb4.6
J19A Crowheart 55.04 298⇑ P P **15 30 29.1 -0.4**
baz=55
K19A Absolon Red Bu 55.17 298⇑ P P **15 30 30.0 -0.6**
baz=55
BOZ Bozeman (W) 55.21 302⇓ P P **15 30 30.5 -0.3**
baz=55,SNR=9.1
BOZ Bozeman (W) 55.21 302 *e*P P **15 30 31.3 +0.5**
comp=Z,16nm,1.0s,mb5.0
BOZ Bozeman (W) 55.21 302 *e*P P **15 30 31.3 +0.5**
BOZ pmax pmax
comp=Z,16nm,1.0s,mb5.0
BOZ Bozeman (W) 55.21 302 *e*P P **15 30 31.3 +0.5**
comp=Z,16nm,1.0s,mb5.0
C14A Swan Lake 55.21 305⇑ P P **15 30 30.1 -0.7**
baz=55
B13A Whitefish 55.27 306⇓ P P **15 30 30.6 -0.6**
baz=55,SNR=5.7
O22A Kremmling 55.29 294⇓ P P **15 30 31.7 +0.3**
baz=55
H17A Grant Village 55.30 300⇓ P P **15 30 32.0 +0.5**
baz=55
L20A Wamsutter 55.33 297⇑ P P **15 30 31.3 -0.4**
baz=55,SNR=5.3
E15A Deer Lodge 55.35 303⇓ P P **15 30 32.1 +0.3**
baz=55
SLMT Seeley Lake 55.37 304 *e*P P **15 30 32.1 +0.2**
comp=Z,13nm,1.2s,mb4.8
SLMT Seeley Lake 55.37 304 *e*P P **15 30 32.1 +0.2**
comp=Z,13nm,1.2s,mb4.8
CHMT Chamberlain Mo 55.42 304 *e*P P **15 30 32.4 +0.2**
comp=Z,14nm,1.1s,mb4.9
CHMT Chamberlain Mo 55.42 304 *e*P P **15 30 32.4 +0.1**
comp=Z,14nm,1.1s,mb4.9
H16A Russell Place, 55.52 301⇓ P P **15 30 32.8 -0.2**
baz=55,SNR=5.9
M20A Sweetwater, Wa 55.53 296⇓ P P **15 30 33.2 0.0**
baz=55
G16A Moss Hill, Enn 55.55 301⇓ P P **15 30 32.7 -0.5**
baz=55
N21A Black Mountain 55.55 295⇑ P P **15 30 33.5 +0.3**
baz=55
FLWY Flagg Ranch 55.55 300 *e*P P **15 30 33.9 +0.6**
comp=Z,8.0nm,0.9s,mb4.8
FLWY Flagg Ranch 55.55 300 *e*P P **15 30 33.9 +0.6**
comp=Z,8.0nm,0.9s,mb4.8
I17A Pilgrim Ck. 55.57 300⇓ P P **15 30 33.4 0.0**
baz=55
PD02 Pinedale Array 55.63 298 *e*P P **15 30 33.2 -0.7**
PD02 Pinedale Array 55.63 298 *e*P P **15 30 33.2 -0.6**
BW06 Boulder Array 55.63 298⇓ P P **15 30 33.2 -0.7**
baz=55,SNR=16
PDAR Pinedale Array 55.63 298 P P **15 30 33.5 -0.4**
comp=Z,3.5nm,0.7s,mb4.5,baz=65,slow=7.8,SNR=26
PDAR LR LR 15 52 23.2
comp=Z,692nm,20.4s,MS4.7,baz=61,slow=34
PDAR Pinedale Array 55.63 298 P P **15 30 33.5 -0.4**
PDAR LR LR 15 52 23.2
PDAR Pinedale Array 55.63 298 P P **15 30 33.5 -0.3**
PD01 Pinedale Array 55.64 298 *e*P P **15 30 33.3 -0.6**
PD01 Pinedale Array 55.64 298 *e*P P **15 30 33.3 -0.6**
J18A Kendall Valley 55.65 299⇑ P P **15 30 34.2 +0.2**
baz=55,SNR=14
TEIG Tepich 55.70 263 LR LR 15 50 54.8
comp=Z,649nm,20.2s,MS4.7,baz=17,slow=32
C13A Hot Springs 55.73 305⇑ P P **15 30 34.1 -0.3**
baz=56
BSMT Bassoo Peak 55.74 306 P P **15 30 33.6 -1.0**
comp=Z,12nm,1.1s,mb4.8
BSMT Bassoo Peak 55.74 306 P P **15 30 33.6 -1.0**
comp=Z,12nm,1.1s,mb4.8
LOHW Long Hollow 55.77 299 *e*P P **15 30 35.2 +0.3**
comp=Z,18nm,1.2s,mb5.0
LOHW Long Hollow 55.77 299 *e*P P **15 30 35.2 +0.4**
comp=Z,18nm,1.2s,mb5.0
MOOW Moose Ponds 55.77 299 *e*P P **15 30 35.0 +0.1**
comp=Z,14nm,1.0s,mb4.9
MOOW Moose Ponds 55.77 299 *e*P P **15 30 35.0 +0.2**
comp=Z,14nm,1.0s,mb4.9
IMW Indian Meadow 55.80 300 *e*P P **15 30 35.3 +0.2**
comp=Z,15nm,1.0s,mb5.0
IMW Indian Meadow 55.80 300 *e*P P **15 30 35.3 +0.2**
comp=Z,15nm,1.0s,mb5.0
B12A Libby 55.84 306⇓ P P **15 30 35.0 -0.2**
baz=56
E14A Clinton 55.84 303⇓ P P **15 30 35.1 -0.2**
baz=56,SNR=8.9
MSO Missoula 55.85 304⇑ P P **15 30 34.7 -0.7**
baz=56
MSO Missoula 55.85 304 *e*P P **15 30 34.2 -1.2**
comp=Z,11nm,1.1s,mb4.8
MSO Missoula 55.85 304 *e*P P **15 30 34.2 -1.2**
comp=Z,11nm,1.1s,mb4.8
L19A Farson 55.89 297⇓ P P **15 30 35.6 -0.2**
baz=56
DLMT Dillon 55.93 302 *e*P P **15 30 36.4 +0.5**
comp=Z,24nm,1.3s,mb5.1
DLMT Dillon 55.93 302 *e*P P **15 30 36.4 +0.5**
comp=Z,24nm,1.3s,mb5.1
N20A Spence Gulch, 55.96 295⇑ P P **15 30 37.0 +0.7**
baz=56,SNR=7.5
J17A Brown Place, J 55.98 299⇑ P P **15 30 36.3 0.0**
baz=56
G15A Dillon 55.98 302⇑ P P **15 30 36.4 +0.1**
baz=56,SNR=10
D13A Huson 55.99 305⇑ P P **15 30 35.7 -0.7**
baz=56
K18A Toltan Ranch, 55.99 298⇑ P P **15 30 35.8 -0.7**
baz=56
TPAW Teton Pass 56.04 299 *e*P P **15 30 37.4 +0.6**
comp=Z,14nm,1.0s,mb4.9
TPAW Teton Pass 56.04 299 *e*P P **15 30 37.4 +0.6**
comp=Z,14nm,1.0s,mb4.9
REDW Red Top Meadow 56.06 299 *e*P P **15 30 37.0 +0.1**
comp=Z,41nm,1.3s,mb5.3
REDW Red Top Meadow 56.06 299 *e*P P **15 30 37.0 +0.1**
comp=Z,41nm,1.3s,mb5.3
F14A Wisdom 56.11 303⇓ P P **15 30 37.0 -0.3**
baz=56
U25A Circle Dot Ran 56.16 289⇑ P P **15 30 38.0 +0.3**
baz=56
C12B Naegeli Ranch, 56.21 306⇓ P P **15 30 37.3 -0.6**
baz=56
RRI2 Red Ridge 56.34 299 *e*P P **15 30 39.3 +0.4**
comp=Z,7.5nm,0.9s,mb4.7
RRI2 Red Ridge 56.34 299 *e*P P **15 30 39.3 +0.3**
comp=Z,7.5nm,0.9s,mb4.7
MCMT McKenzie Canyo 56.38 302 *e*P P **15 30 39.9 +0.7**
comp=Z,2.7nm,1.1s,mb4.2
MCMT McKenzie Canyo 56.38 302 *e*P P **15 30 39.9 +0.7**
comp=Z,2.7nm,1.1s,mb4.2
K17A Gardner Place, 56.45 299⇑ P P **15 30 39.4 -0.3**
baz=56
G14A Jackson 56.49 302⇑ P P **15 30 39.6 -0.4**
baz=56
D12A Red Ives Fores 56.52 305⇓ P P **15 30 39.8 -0.3**
baz=56
J16A Bone 56.56 299⇑ P P **15 30 39.9 -0.6**
baz=56
C11A Tepee Creek (N 56.56 306⇓ P P **15 30 40.3 -0.1**
baz=56,SNR=8.2
F13A Darby 56.68 303⇓ P P **15 30 40.6 -0.7**
baz=56
Q21A Lamborn Mesa, 56.72 293⇑ P P **15 30 41.6 -0.1**
baz=56
N18A Larsen Ranch, 56.74 296⇑ P P **15 30 41.7 -0.1**
baz=56
NEW Newport 56.79 307⇑ P P **15 30 41.4 -0.6**
baz=56
H14A Leadore 56.81 302⇓ P P **15 30 41.8 -0.4**
baz=57
K16A Soda Springs 56.81 299⇑ P P **15 30 41.8 -0.5**
baz=57
O19A Miners Draw (B 56.81 295⇓ P P **15 30 42.4 +0.1**
baz=57,SNR=9.9
DAWY Dawson 56.90 331 *e*P P **15 30 42.8 +0.3**
DAWY Dawson 56.90 331 *e*P P **15 30 42.8 +0.2**
J15A Blackfoot 56.97 300⇓ P P **15 30 43.1 -0.4**
baz=57
EGAK Eagle 57.00 332 *e*P P **15 30 42.7 -0.6**
comp=Z,26nm,1.8s,mb5.0
EGAK Eagle 57.00 332 *e*P P **15 30 42.7 -0.6**
comp=Z,26nm,1.8s,mb5.0
E12A Beaver Dam Sad 57.01 304⇓ P P **15 30 43.4 -0.2**
baz=57,SNR=7.2
G13A Cobalt 57.03 303⇓ P P **15 30 44.2 +0.5**
baz=57,SNR=8.7
M17A Scullys Gap (B 57.05 297⇓ P P **15 30 43.4 -0.7**
baz=57
L16A Fish Haven 57.19 298⇓ P P **15 30 44.7 -0.3**
baz=57
F12A Elk City 57.22 304⇑ P P **15 30 45.1 -0.1**
baz=57,SNR=9.2
H13A Challis 57.35 302⇑ P P **15 30 46.8 +0.7**
baz=57,SNR=7.0
T22A Edith 57.39 291⇓ P P **15 30 46.6 +0.1**
baz=57
K15A Arbon 57.45 299⇓ P P **15 30 46.7 -0.1**
baz=57
N17A Moffit Pass 57.47 297⇓ P P **15 30 46.9 0.0**
baz=57
HWUT Hardware Ranch 57.52 298 *e*P P **15 30 47.3 +0.1**
comp=Z,18nm,1.1s,mb5.0
HWUT Hardware Ranch 57.52 298 *e*P P **15 30 47.3 0.0**
comp=Z,18nm,1.1s,mb5.0
S21A Coal Bank Pass 57.56 292⇑ P P **15 30 47.6 0.0**
baz=57
G12A Big Creek, Yel 57.63 303⇓ P P **15 30 47.6 -0.4**
baz=57
I13A Wildhorse Cree 57.66 301⇑ P P **15 30 49.3 +1.1**
baz=57,SNR=8.4
J14A Carey 57.66 300⇑ P P **15 30 48.1 -0.1**
baz=57
H12A Diamond D Ranc 57.70 302⇑ P P **15 30 49.0 +0.5**
baz=58,SNR=7.9

M16A Huntsville 57.73 298 ⇓P P **15 30 48.3 -0.5**
baz=58
L15A Malad City 57.77 299 ⇓P P **15 30 48.6 -0.4**
baz=58
PV04 Paradox Valley 57.81 293 *e*P P **15 30 50.3 +0.8**
PV04 Paradox Valley 57.81 293 *e*P P **15 30 50.3 +0.9**
O17A Robinson Place 57.86 296 ⇓P P **15 30 49.7 0.0**
baz=58
COLD Coldfoot 57.90 337 P P **15 30 48.6 -1.0**
comp=Z,5,4nm,1.0s,mb4.5
COLD Coldfoot 57.90 337 P P **15 30 48.6 -1.0**
comp=Z,5,4nm,1.0s,mb4.5
P18A Preston Nutter 57.90 295 ⇓P P **15 30 50.1 +0.1**
baz=58,SNR=9.2
K14A Jones Ranch, D 57.92 300 ⇑P P **15 30 50.4 +0.3**
baz=58,SNR=5.4
J13A Cove Ranch, Pi 58.00 301 ⇓P P **15 30 50.6 0.0**
baz=58
HLID Hailey 58.04 301 ⇑P P **15 30 51.2 +0.2**
baz=58,SNR=6.8
HLID Hailey 58.04 301 *e*P P **15 30 51.2 +0.3**
comp=Z,17nm,1.2s,mb5.0
HLID Hailey 58.04 301 *e*P P **15 30 51.2 +0.3**
comp=Z,17nm,1.2s,mb5.0
DAU Daniels Canyon 58.05 297 *e*P P **15 30 51.1 +0.1**
comp=Z,16nm,1.1s,mb5.0
DAU Daniels Canyon 58.05 297 *e*P P **15 30 51.1 +0.1**
DAU pmax pmax
comp=Z,15nm,1.1s,mb4.9
DAU Daniels Canyon 58.05 297 *e*P P **15 30 51.1 +0.1**
comp=Z,15nm,1.1s,mb5.0
V22A San Miguel Ran 58.06 290 ⇓P P **15 30 51.2 0.0**
baz=58
BRVK Borovoye 58.09 45 *e*P P **15 30 51.1 0.0**
comp=Z,46nm,1.7s,mb5.2
BRVK Borovoye 58.09 45⇑ *e*P P **15 30 51.2 +0.1**
BRVK pmax pmax
comp=Z,13nm,3.7s
BRVK Borovoye 58.09 45 *e*P P **15 30 51.1 0.0**
comp=Z,46nm,1.7s,mb5.2
R19A Curley Farm, L 58.10 293 ⇓P P **15 30 51.9 +0.4**
baz=58
M15A Larsen Ranch, 58.13 298 ⇑P P **15 30 51.1 -0.6**
baz=58
Q18A Rafter H Ranch 58.15 295 ⇓P P **15 30 51.8 0.0**
baz=58
BVAR Borovoye Array 58.16 45 P P **15 30 51.7 +0.1**
comp=Z,6.5nm,0.9s,mb4.6,baz=316,slow=4.1,SNR=6.4
BVAR LR LR 15 55 04.4
comp=Z,746nm,21.9s,MS4.8,baz=134,slow=35
BVAR Borovoye Array 58.16 45 P P **15 30 51.7 +0.1**
BVAR LR LR 15 55 04.4
BVAR Borovoye Array 58.16 45 P P **15 30 51.7 +0.1**
BVAR Borovoye Array 58.16 45 P P **15 30 51.7 +0.1**
F10A Beach Ranch, E 58.20 305 ⇓P P **15 30 51.6 -0.5**
baz=58
SPUT South Promonto 58.23 298 *e*P P **15 30 51.5 -0.8**
comp=Z,19nm,1.2s,mb5.0
SPUT South Promonto 58.23 298 *e*P P **15 30 51.5 -0.8**
comp=Z,19nm,1.2s,mb5.0
MVCO Mesa Verde 58.28 292 *e*P P **15 30 55.1 +2.4**
comp=Z,13nm,1.2s,mb4.8
MVCO Mesa Verde 58.28 292 *e*P P **15 30 55.1 +2.4**
comp=Z,13nm,1.2s,mb4.8
ROSC El Rosal 58.31 239 LR LR 15 51 55.2
comp=Z,731nm,22.0s,MS4.8,baz=19,slow=32
I12A Atlanta 58.32 302 ⇑P P **15 30 53.1 +0.2**
baz=58,SNR=16
S19A Harvey Farm, M 58.35 293 ⇓P P **15 30 53.0 -0.2**
baz=58
SRU San Rafael 58.38 295 ⇓P P **15 30 52.7 -0.7**
baz=58
E09A Wood Farm, Sta 58.39 306 ⇓P P **15 30 52.6 -0.7**
baz=58,SNR=5.2
R18A Canyonlands Na 58.44 294 ⇓P P **15 30 53.5 -0.3**
baz=58
N15A Stansbury Isla 58.52 298 ⇓P P **15 30 54.3 0.0**
baz=58
ILAR Eielson Array 58.77 334 P P **15 30 56.0 +0.3**
comp=Z,1.5nm,0.9s,mb4.0,baz=42,slow=5.9,SNR=15
ILAR PcP PcP 15 31 44.4 -0.9
comp=Z,1.0nm,1.0s,baz=12,slow=3.5,SNR=3.1
ILAR LR LR 15 54 57.7
comp=Z,307nm,18.8s,MS4.5,baz=228,slow=35
ILAR Eielson Array 58.77 334 P P **15 30 56.0 +0.3**
ILAR PcP PcP 15 31 44.4 -0.9
ILAR LR LR 15 54 57.8
ILAR Eielson Array 58.77 334 P P **15 30 56.0 +0.3**
ILAR 15 31 44.4
ILAR Eielson Array 58.77 334 P P **15 30 56.0 +0.3**
ILAR Eielson Array 58.77 334 PcP PcP 15 31 44.3 -0.9
P16A Fountain Green 58.78 296 ⇓P P **15 30 54.4 -1.7**
baz=59
BGU Big Grassy Mou 58.81 298 *e*P P **15 30 55.4 -0.9**
comp=Z,15nm,1.2s,mb4.9
BGU Big Grassy Mou 58.81 298 *e*P P **15 30 55.4 -0.9**
comp=Z,15nm,1.2s,mb4.9
LNOR Lincton Mounta 58.85 305 *e*P P **15 30 56.0 -0.6**
comp=Z,16nm,1.1s,mb5.0
LNOR Lincton Mounta 58.85 305 *e*P P **15 30 56.0 -0.6**
LNOR pmax pmax
comp=Z,16nm,1.1s,mb5.0
LNOR Lincton Mounta 58.85 305 *e*P P **15 30 56.0 -0.6**
comp=Z,16nm,1.1s,mb5.0
O15A The Old Anders 58.86 297 ⇑P P **15 30 56.8 +0.1**
baz=59
Q16A Castle Valley 58.90 295 ⇑P P **15 30 57.0 0.0**
baz=59
ETW Entiat 58.92 308 *e*P P **15 30 56.0 -1.0**
comp=Z,34nm,1.1s,mb5.3
ETW Entiat 58.92 308 *e*P P **15 30 56.0 -1.0**
comp=Z,34nm,1.1s,mb5.3
BMO Blue Mountains 58.92 304 *e*P P **15 30 56.0 -1.1**
comp=Z,4.7nm,1.0s,mb4.5
BMO Blue Mountains 58.92 304 *e*P P **15 30 56.0 -1.1**
comp=Z,4.7nm,1.0s,mb4.5
S18A Hurst Farm, Bl 58.92 293 ⇓P P **15 30 57.5 +0.3**
baz=59
MFID Camas Ranch 58.95 302 ⇑P P **15 30 56.9 -0.4**
baz=59
528A Cox Ranch, San 58.96 282 ⇑P P **15 30 57.8 +0.2**
baz=59
124A Stringfield Ra 59.12 286 ⇑P P **15 30 58.8 +0.2**
baz=59
DUG Dugway 59.12 297 ⇑P P **15 30 58.8 +0.2**
baz=59,SNR=19
DUG Dugway 59.12 297 *e*P P **15 30 58.7 +0.1**
comp=Z,23nm,1.0s,mb5.2
DUG Dugway 59.12 297 *e*P P **15 30 58.7 +0.2**
DUG pmax pmax
comp=Z,23nm,1.0s,mb5.2
DUG Dugway 59.12 297 *e*P P **15 30 58.7 +0.2**
comp=Z,23nm,1.0s,mb5.2
P15A Leamington 59.18 296 ⇓P P **15 30 59.1 +0.1**
baz=59
U19A Dine' College, 59.29 292 ⇑P P **15 31 00.3 +0.5**
baz=59
E07A Sunnyside 59.30 307 ⇑P P **15 30 58.9 -0.7**
baz=59
426A McDonald Obser 59.47 283 ⇓P P **15 31 00.7 -0.4**
baz=59
527A Woodward Ranch 59.52 283 ⇑P P **15 31 01.1 -0.3**
baz=59
X21A Alamocita Cree 59.53 289 ⇓P P **15 31 01.0 -0.4**
baz=59
G08A Pilot Rock 59.58 305 ⇓P P **15 31 00.5 -1.1**
baz=59
Z22A Elephant Butte 59.75 287 ⇑P P **15 31 03.0 0.0**
baz=60
MSU Marysvale 59.77 295 *e*P P **15 31 04.0 +1.0**
comp=Z,18nm,1.0s,mb5.0
MSU Marysvale 59.77 295 *e*P P **15 31 04.0 +1.0**
MSU pmax pmax
comp=Z,18nm,1.0s,mb5.1
MSU Marysvale 59.77 295 *e*P P **15 31 04.0 +1.0**
comp=Z,18nm,1.0s,mb5.0
627A Terlingua Ranc 59.82 282 ⇑P P **15 31 03.8 +0.3**
baz=60
T17A Navajo Res., N 59.86 293 ⇑P P **15 31 03.8 +0.1**
baz=60
S16A Weppner Ranch, 59.90 294 ⇓P P **15 31 04.0 +0.1**
baz=60
U17A Shonto 60.02 293 ⇓P P **15 31 05.2 +0.5**
baz=60
TXAR Lajitas Array 60.08 282 P P **15 31 04.7 -0.6**
comp=Z,0.6nm,0.7s,mb3.7,baz=68,slow=7.2,SNR=6.7
TXAR LR LR 15 56 23.3
comp=Z,700nm,20.8s,MS4.8,baz=285,slow=35
TXAR Lajitas Array 60.08 282 P P **15 31 04.7 -0.6**
TXAR LR LR 15 56 23.3
TXAR Lajitas Array 60.08 282 P P **15 31 04.7 -0.6**
TXAR Lajitas Array 60.08 282 P P **15 31 04.7 -0.6**
I07A Izee 60.63 304 ⇑P P **15 31 08.1 -0.8**
baz=60
V17A Tonalea, Kykot 60.71 292 ⇑P P **15 31 09.3 -0.2**
baz=60
ARUT Antelope Range 61.00 295 *e*P P **15 31 12.1 +0.7**
comp=Z,18nm,1.2s,mb5.1
ARUT Antelope Range 61.00 295 *e*P P **15 31 12.1 +0.7**
ARUT pmax pmax
comp=Z,18nm,1.2s,mb5.1
ARUT Antelope Range 61.00 295 *e*P P **15 31 12.1 +0.7**
comp=Z,18nm,1.2s,mb5.1
CCUT Cedar City 61.10 295 *e*P P **15 31 13.0 +0.8**
comp=Z,20nm,1.0s,mb5.2
CCUT Cedar City 61.10 295 *e*P P **15 31 13.0 +0.9**
comp=Z,20nm,1.0s,mb5.2
U15A North Rim 61.15 293 ⇓P P **15 31 12.1 -0.4**
baz=61
WUAZ Wupatki 61.15 292 ⇓P P **15 31 12.0 -0.5**
baz=61
WUAZ Wupatki 61.15 292 P P **15 31 10.7 -1.8**
comp=Z,18nm,1.4s,mb5.0
WUAZ Wupatki 61.15 292 P P **15 31 10.7 -1.8**
comp=Z,18nm,1.4s,mb5.0
WVOR Wild Horse Val 61.17 302 *e*P P **15 31 12.8 +0.3**
comp=Z,28nm,1.1s,mb5.3
WVOR Wild Horse Val 61.17 302 *e*P P **15 31 12.8 +0.2**
WVOR pmax pmax
comp=Z,28nm,1.1s,mb5.3
WVOR Wild Horse Val 61.17 302 *e*P P **15 31 12.8 +0.2**
comp=Z,28nm,1.1s,mb5.3
V15A Kaibab Nationa 61.46 293 ⇓P P **15 31 14.6 0.0**
baz=61
BMN Battle Mountai 61.61 300 *e*P P **15 31 15.9 +0.4**
comp=Z,18nm,1.2s,mb5.1
BMN Battle Mountai 61.61 300 *e*P P **15 31 15.9 +0.3**
BMN pmax pmax
comp=Z,18nm,1.2s,mb5.1
BMN Battle Mountai 61.61 300 *e*P P **15 31 15.9 +0.3**
comp=Z,18nm,1.2s,mb5.1
H04A Detroit Lake 61.75 306 ⇑P P **15 31 15.9 -0.5**
baz=62
X16A Lo Mia Camp, P 61.89 291 ⇑P P **15 31 17.3 -0.2**
baz=62
R11A Troy Canyon, C 61.95 297 ⇑P P **15 31 17.8 -0.1**
baz=62
Y17A Roosevelt 61.97 290 ⇓P P **15 31 18.1 +0.1**
baz=62
K05A Summer Lake 62.28 304 ⇓P P **15 31 19.7 -0.3**
baz=62
CMIG Matias Romero 62.36 265 LR LR 15 59 38.4
comp=Z,507nm,19.8s,MS4.7,baz=350,slow=37
MOD Modoc 62.47 303 *e*P P **15 31 21.7 +0.4**
comp=Z,18nm,1.1s,mb5.1
MOD Modoc 62.47 303 *e*P P **15 31 21.7 +0.4**
comp=Z,18nm,1.1s,mb5.1
218A Dragoon 62.57 288 ⇓P P **15 31 22.7 +0.6**
baz=62
NVS Novosibirsk 62.72 38 *e*P P **15 31 27.2 +4.5**
NVAR Mina Array Bea 63.54 299 P P **15 31 28.5 +0.1**
comp=Z,1.4nm,0.7s,mb4.1,baz=56,slow=6.0,SNR=9.1
NVAR LR LR 15 57 26.4
comp=Z,619nm,20.0s,MS4.8,baz=127,slow=34
NVAR Mina Array Bea 63.54 299 P P **15 31 28.5 +0.1**
NVAR LR LR 15 57 26.4
NVAR Mina Array Bea 63.54 299 P P **15 31 28.5 +0.1**
KURK Kurchatov 63.54 43 P P **15 31 27.5 -0.8**
comp=Z,1.9nm,0.7s,mb4.2,baz=317,slow=7.1,SNR=18
KURK Kurchatov 63.54 43 *e*P P **15 31 26.4 -1.8**
comp=Z,9.1nm,1.0s,mb4.8
KURK Kurchatov 63.54 43*d i*P P **15 31 27.1 -1.2**
KURK pmax pmax
KURK comp=Z,9.0nm,2.5s,mb4.4 MLR MLR
comp=Z,579nm,18.0s,MS4.8
KURK Kurchatov 63.54 43 *e*P P **15 31 26.4 -1.9**
comp=Z,9.1nm,1.0s,mb4.8
LDFC Landfair 63.77 294 *e*P P **15 31 30.6 +0.6**
comp=Z,13nm,1.0s,mb4.9
LDFC Landfair 63.77 294 *e*P P **15 31 30.6 +0.6**
comp=Z,13nm,1.0s,mb4.9
114A Black Gap (USA 63.88 291 ⇑P P **15 31 31.5 +0.7**
baz=64
GRAC Grapevine Rang 63.91 297 ⇓P P **15 31 30.6 -0.3**
baz=64
FURC Furnace Creek, 63.94 296 ⇑P P **15 31 31.5 +0.3**
baz=64
ZALV Zalesovo Beam 64.01 37 P P **15 31 30.4 -0.8**
comp=Z,0.5nm,0.5s,mb3.8,baz=309,slow=5.6,SNR=4.5
ZALV LR LR 15 59 23.6
comp=Z,483nm,21.7s,MS4.7,baz=25,slow=36
ZALV Zalesovo Beam 64.01 37 P P **15 31 30.4 -0.8**
ZALV LR LR 15 59 23.6
ZALV Zalesovo Beam 64.01 37 P P **15 31 30.4 -0.9**
ZALV Zalesovo Beam 64.01 37 P P **15 31 30.4 -0.9**
TUQ Turquoise Moun 64.04 295 ⇓P P **15 31 32.1 +0.3**
baz=64
Z13A Yuma Proving G 64.08 292 ⇑P P **15 31 32.2 +0.1**
baz=64
GMRC Granite Mounta 64.30 294 ⇑P P **15 31 33.8 +0.2**
baz=64
OTAV Otavalo 64.44 239 P P **15 31 36.7 +2.1**
comp=Z,2.7nm,0.7s,mb4.4
OTAV Otavalo 64.44 239 P P **15 31 36.7 +2.1**
comp=Z,2.7nm,0.7s,mb4.4
BILL Bilibino 64.53 354 *i* P P **15 31 36.7 +2.2**
BILL pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
BILL MLR MLR
comp=Z,100nm,22.0s,MS4.0
MPMC Manual Prospec 64.59 296 ⇑P P **15 31 36.1 +0.7**
baz=64
GSC Goldstone 64.67 295 ⇓P P **15 31 36.6 +0.7**
baz=64
GSC Goldstone 64.67 295 *e*P P **15 31 36.8 +0.9**
comp=Z,26nm,1.2s,mb5.1
GSC Goldstone 64.67 295 *e*P P **15 31 36.8 +0.9**
GSC pmax pmax
comp=Z,26nm,1.2s,mb5.1
GSC Goldstone 64.67 295 *e*P P **15 31 36.8 +0.9**
comp=Z,26nm,1.2s,mb5.1
CWC Cottonwood Cre 64.70 297 ⇑P P **15 31 36.9 +0.8**
baz=64
BC3 Big Chuckawall 64.91 293 ⇓P P **15 31 37.8 +0.3**
baz=65
BELC Belle Mtn. Jos 65.03 294 ⇑P P **15 31 39.2 +0.9**
baz=65
CMB Columbia Colle 65.04 300 *e*P P **15 31 38.6 +0.3**
comp=Z,9.9nm,1.2s,mb4.7
CMB Columbia Colle 65.04 300 *e*P P **15 31 38.6 +0.3**
CMB pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
CMB Columbia Colle 65.04 300 *e*P P **15 31 38.6 +0.3**
comp=Z,9.9nm,1.2s,mb4.7
KHMM Horse Mountain 65.09 304 *e*P P **15 31 38.9 +0.4**
comp=Z,32nm,1.2s,mb5.2
KHMM Horse Mountain 65.09 304 *e*P P **15 31 38.9 +0.3**
comp=Z,32nm,1.2s,mb5.2
LRMC Laurel Mountai 65.10 296 ⇓P P **15 31 39.2 +0.5**
baz=65
ISA Isabella 65.45 296 ⇑P P **15 31 41.8 +0.8**
baz=65
ISA Isabella 65.45 296 *e*P P **15 31 42.1 +1.0**
comp=Z,18nm,1.1s,mb5.0
ISA Isabella 65.45 296 *e*P P **15 31 42.1 +1.1**
ISA pmax pmax
comp=Z,18nm,1.1s,mb5.0
ISA Isabella 65.45 296 *e*P P **15 31 42.1 +1.1**
comp=Z,18nm,1.1s,mb5.0
EDW2 Edwards Air Fo 65.68 296 ⇑P P **15 31 43.0 +0.5**
baz=66
HOPS Hopland 65.97 302 *e*P P **15 31 45.0 +0.7**
comp=Z,35nm,1.3s,mb5.2
HOPS Hopland 65.97 302 *e*P P **15 31 45.0 +0.7**
comp=Z,35nm,1.3s,mb5.2
DVTC Desert V Tower 65.98 293 ⇑P P **15 31 45.0 +0.6**
baz=66
MONP Monument Peak 66.03 293 ⇓P P **15 31 45.3 +0.5**
baz=66
EKS2 Erkin-Say 66.63 52 *e*P P **15 31 49.0 +0.6**
comp=Z,8.7nm,1.0s,mb4.7
EKS2 Erkin-Say 66.63 52 *e*P P **15 31 49.1 +0.7**
EKS2 pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
EKS2 Erkin-Say 66.63 52 *e*P P **15 31 49.0 +0.6**
comp=Z,8.7nm,1.0s,mb4.7
AAK Ala-Archa 67.03 52 P P **15 31 51.3 +0.3**
comp=Z,35nm,1.2s,mb5.3
AAK Ala-Archa 67.03 52 P P **15 31 51.3 +0.3**
AAK pmax pmax
comp=Z,35nm,1.2s,mb5.3
AAK Ala-Archa 67.03 52 P P **15 31 51.3 +0.3**
comp=Z,35nm,1.2s,mb5.3
MKAR Makanchi Array 68.03 44 P P **15 31 56.2 -1.0**
comp=Z,1.0nm,0.7s,mb4.0,baz=324,slow=4.7,SNR=5.0
MKAR LR LR 16 01 16.9
comp=Z,616nm,20.1s,MS4.8,baz=302,slow=36
MKAR Makanchi Array 68.03 44 P P **15 31 56.2 -1.0**
MKAR LR LR 16 01 16.9
MKAR Makanchi Array 68.03 44 P P **15 31 56.3 -0.9**
MKAR Makanchi Array 68.03 44 P P **15 31 56.2 -1.0**
YAK Yakutsk 69.50 11 *e*P P **15 32 05.0 -1.1**
comp=Z,27nm,1.0s,mb5.1
YAK Yakutsk 69.50 11 *e*P P **15 32 11.1 +5.0**
YAK pmax pmax
comp=Z,24nm,1.0s,mb5.1
YAK Yakutsk 69.50 11 *e*P P **15 32 05.0 -1.1**
comp=Z,27nm,1.0s,mb5.1
KSH Kashi 70.01 53 P P **15 32 11.1 +1.4**
KSH pP pP 15 32 15.8 +2.9
KSH sP sP 15 32 18.1 +3.9
KSH PcP PcP 15 32 33.5 +1.6
KSH PP PP 15 34 47.8 +3.7
KSH S S 15 41 19.3 -0.7
KSH sS sS 15 41 27.6 +2.2
KSH SKS 15 42 07.4
KSH ScS ScS 15 42 09.3 -2.6
KSH SS SS 15 45 50.1 +1.7
KSH pmax pmax
comp=Z,11nm,1.3s,mb4.6
KSH pmax pmax
comp=Z,140nm,3.4s
KSH LR LR
comp=N,92nm,4.5s
KSH LR LR
comp=E,110nm,5.8s
KSH LR LR
comp=Z,230nm,5.9s
WMQ Urumqi 72.79 43 P P **15 32 28.1 +1.7**
WMQ LR LR
comp=N,460nm,20.3s,MS4.9
WMQ LR LR
comp=E,450nm,20.3s,MS4.9
WMQ LR LR
comp=Z,440nm,23.7s,MS4.7
LPAZ La Paz 73.04 221 P P **15 32 29.2 +1.2**
comp=Z,0.8nm,0.7s,mb3.8,baz=44,slow=6.3,SNR=4.6
LPAZ LR LR 16 00 22.2
comp=Z,405nm,21.5s,MS4.7,baz=351,slow=32
LPAZ La Paz 73.04 221 P P **15 32 29.2 +1.2**
LPAZ LR LR 16 00 22.2
LPAZ La Paz 73.04 221 P P **15 32 29.2 +1.1**
LPAZ La Paz 73.04 221 P P **15 32 29.2 +1.1**
ZAK Zakamensk 73.84 30 *e*P P **15 32 31.6 -0.9**
ZAK pmax pmax
comp=Z,3.0nm,1.8s,mb3.9
SONM Songino Array 77.08 30 P P **15 32 51.1 0.0**
comp=Z,2.5nm,0.9s,mb4.1,baz=317,slow=5.4,SNR=7.7
SONM LR LR 16 09 40.7
comp=Z,277nm,18.4s,MS4.6,baz=193,slow=38
SONM Songino Array 77.08 30 P P **15 32 51.1 0.0**
SONM LR LR 16 09 40.7
SONM Songino Array 77.08 30 P P **15 32 51.1 0.0**
SONM Songino Array 77.08 30 P P **15 32 51.1 0.0**
ULN Ulaanbaatar 77.28 29 *e*P P **15 32 52.6 +0.3**
comp=Z,16nm,1.3s,mb4.8
ULN Ulaanbaatar 77.28 29 *e*P P **15 32 52.6 +0.4**
ULN pmax pmax
comp=Z,15nm,1.3s,mb4.8
ULN Ulaanbaatar 77.28 29 *e*P P **15 32 52.6 +0.4**
comp=Z,16nm,1.3s,mb4.8
CPUP Villa Florida 78.08 207 P P **15 32 56.4 -0.4**
comp=Z,3.4nm,0.8s,mb4.3,baz=34,slow=5.6,SNR=6.2
CPUP Villa Florida 78.08 207 P P **15 32 56.4 -0.4**
CPUP Villa Florida 78.08 207 P P **15 32 56.4 -0.4**
CPUP Villa Florida 78.08 207 P P **15 32 56.4 -0.4**
PETK Petropavlovsk- 79.88 357 LR LR 16 04 58.1
comp=Z,108nm,20.9s,MS4.2,baz=255,slow=33
GTA Gaotai 81.73 39 *e*P P **15 33 16.6 -0.1**
GTA pP pP 15 33 21.4 +1.4
GTA sP sP 15 33 24.1 +2.9
GTA pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
HHC Hu-ho-hao-te 84.99 30 *e*P P **15 33 31.9 -1.5**
HHC PP PP 15 36 49.9 +0.6
HHC SKS 15 43 51.6
HHC S S 15 43 57.5 -4.7
HHC SS SS 15 49 31.8 -1.8
HHC pmax pmax
comp=Z,19nm,0.8s,mb5.3
HHC pmax pmax
comp=Z,150nm,6.9s
HHC LR LR
comp=N,440nm,17.0s,MS5.0
HHC LR LR
comp=E,380nm,18.3s,MS5.0
HHC LR LR
comp=Z,320nm,18.7s,MS4.7
CN2 Changchun 86.19 19 *e*P P **15 33 37.3 -2.0**
CN2 *e*S S 15 44 07.8 -6.2
CN2 pmax pmax
comp=Z,10.0nm,0.7s,mb5.2
CN2 pmax pmax
comp=Z,300nm,6.0s
CN2 LR LR
comp=N,500nm,17.0s,MS5.0
CN2 LR LR
comp=E,300nm,17.0s,MS5.0
CN2 LR LR
comp=Z,600nm,19.0s,MS5.0
LZH Lanzhou 86.24 38 *e*P P **15 33 40.0 +0.3**
LZH pP pP 15 33 44.0 +1.0
LZH sP sP 15 33 47.0 +2.8
LZH pmax pmax
comp=Z,17nm,1.0s,mb5.2
LZH LR LR
comp=N,700nm,18.3s,MS5.2
LZH LR LR
comp=E,320nm,14.2s,MS5.2
LZH LR LR
comp=Z,640nm,19.3s
MDJ Mudanjiang 86.27 16 P P **15 33 36.9 -2.8**
MDJ PP PP 15 36 56.6 -2.9
MDJ S S 15 44 11.0 -3.7
MDJ pmax pmax
comp=Z,11nm,2.0s,mb4.7
MDJ pmax pmax
comp=Z,58nm,4.2s
MDJ LR LR
comp=N,75nm,27.8s,MS4.2
MDJ LR LR
comp=E,100nm,27.8s,MS4.2
MDJ LR LR
comp=Z,120nm,20.9s
BOSA Boshof 89.22 136 LR LR 16 12 41.3
comp=Z,444nm,18.1s,MS4.9,baz=327,slow=35
CD2 Chengdu 90.64 40 P P **15 34 00.5 -0.2**
CD2 pP pP 15 34 05.3 +1.2
CD2 sP sP 15 34 06.6 +1.4
CD2 PP PP 15 37 37.5 +2.5
CD2 SKS 15 44 29.4
CD2 S S 15 44 52.6 -3.9
CD2 SS SS 15 50 56.3 -0.2
CD2 pmax pmax
comp=Z,10.0nm,0.6s,mb5.3
CD2 pmax pmax
comp=Z,200nm,6.5s
CD2 LR LR
comp=N,610nm,14.9s
CD2 LR LR
comp=Z,610nm,18.4s,MS5.1
KSRS Korea Array 92.81 19 LR LR 16 17 14.2
comp=Z,117nm,21.9s,MS4.3,baz=340,slow=36
WHN Wuhan 95.23 32 P P **15 34 25.1 +3.2**
GYA Guiyang 95.75 40 P P **15 34 23.0 -1.4**
GYA PP PP 15 38 16.4 +1.2
GYA SKS 15 44 58.9
GYA S S 15 45 36.3 -5.7

GYA				SS	SS	15 52 07.3	-2.6		
GYA				pmax	pmax				
	comp=Z,20nm,1.0s,mb5.5								
GYA				pmax	pmax				
	comp=Z,130nm,5.2s								
GYA				LR	LR				
	comp=N,560nm,20.8s,MS5.1								
GYA				LR	LR				
	comp=E,440nm,21.5s,MS5.1								
GYA				LR	LR				
	comp=Z,590nm,20.0s,MS5.1								
CMAR	**Chiang Mai Arr**	**98.80**	**51**	LR	LR	16 25 49.6			
	comp=Z,152nm,19.5s,MS4.5,baz=315,slow=39								
TAOE	**Nuku Hiva Isla**	**111.81**	**281**	eLR	LR	16 12 49.1			
	comp=Z,564nm,23.9s								
RKT	**Rikitea**	**118.33**	**266**	eLR	LR	16 15 45.1			
	comp=Z,297nm,29.2s								
PPT	**Papeete**	**124.40**	**282**	eSS	SS	15 58 33.1	-2.6		
	comp=Z,138nm,29.0s								
PPT				eLR	LR	16 18 39.0			
	comp=Z,376nm,23.0s								
TBI	**Tubuai**	**128.33**	**276**	eLR	LR	16 20 26.6			
	comp=Z,414nm,38.8s								
QSPA	**South Pole Qui**	**137.17**	**180**	PKP	PKPdf	15 40 19.5	-0.2		
	comp=Z,3.7nm,0.8s,baz=153,slow=1.9,SNR=9.3								
QSPA	**South Pole Qui**	**137.17**	**180**	PKP	PKPdf	15 40 19.5	-0.2		
WRAB	**Tennant Creek**	**148.95**	**35**	ePKPbc	PKPbc	15 40 44.8	-1.4		
WRAB	**Tennant Creek**	**148.95**	**35**	ePKPbc	PKPbc	15 40 44.8	-1.3		
WRA	**Warramunga Arr**	**148.95**	**35**	PKPbc	PKPbc	15 40 44.6	-1.5		
	comp=Z,1.6nm,0.7s,baz=329,slow=2.7,SNR=27								
WRA	**Warramunga Arr**	**148.95**	**35**	PKPbc	PKPbc	15 40 44.6	-1.5		
WRA	**Warramunga Arr**	**148.95**	**35**	PKPbc	PKPbc	15 40 44.6	-1.6		
VNDA	**Vanda**	**149.44**	**184**	PKPbc	PKPbc	15 40 45.5	-0.3		
	comp=Z,3.8nm,0.9s,baz=252,slow=5.4,SNR=8.7								
VNDA	**Vanda**	**149.44**	**184**	ePKPbc	PKPbc	15 40 45.9	+0.1		
VNDA	**Vanda**	**149.44**	**184**	ePKPbc	PKPbc	15 40 45.9	+0.2		
CASY	**Casey**	**151.00**	**146**	ePKPbc	PKPbc	15 40 49.2	-0.5		
CASY	**Casey**	**151.00**	**146**	ePKPbc	PKPbc	15 40 49.2	-0.5		
ASAR	**Alice Springs**	**152.11**	**39**	PKPbc	PKPbc	15 40 52.0	-1.6		
	comp=Z,1.4nm,0.7s,baz=343,slow=2.0,SNR=21								
ASAR	**Alice Springs**	**152.11**	**39**	PKPbc	PKPbc	15 40 52.0	-1.6		
ASAR	**Alice Springs**	**152.11**	**39**	PKPbc	PKPbc	15 40 52.0	-1.6		
DZM	**Mont Dzumac**	**152.45**	**331**	eLR	LR	16 31 35.6			
	comp=Z,220nm,31.0s								

*NEIC **19** 15:25:00.5±0.5, 11°.23S×37°.24E, h10km, mb4.4/6, Error ellipse: s-maj=13.3km s-min=9.3km az=114.0*
*IDC **19** 15:25:01.7±0.6, 11°.30S×37°.31E, h16km±3km, mb4.2/13, mb1 4.3/14, mb1mx4.1/24, mbtmp4.2/14, ML4.4/1, MS3.7/5, Ms1 3.7/5, ms1mx3.3/37, Error ellipse: s-maj=17.8km s-min=15.6km az=81.0*

ISC 19 15:24:59.1±3.7, 11°.28S±0°.06×37°.16E±0°.07, h3km±23km, n61, σ1s24/57, mb4.2/15, MS3.6/4, 1D, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**9.60**	**245**	*e*P		**Pn**		**15 27 19.3**	**+0.9**
LSZ	**Lusaka**	**9.60**	**245**	*e*Pn		**Pn**		**15 27 19.0**	**+0.7**
	16nm,0.6s								
LSZ				*e*Sn		**Sn**		**15 29 05.1**	**-1.7**
KMBO	**Kilima Mbogo**	**10.08**	**1**	*e*P		**Pn**		**15 27 23.2**	**-1.9**
KMBO	**Kilima Mbogo**	**10.08**	**1**	*e*Pn		**Pn**		**15 27 23.6**	**-1.5**
	5.7nm,0.8s								
MBAR	**Mbarara**	**12.38**	**329**	*e*P		**Pn**		**15 27 50.1**	**-6.4**
ERPM	**east rand prop**	**17.19**	**208**	*e*P		**Pn**		**15 28 58.9**	**-1.6**
ERPM				AMB		AMB		15 28 59.3	
	comp=Z,16nm,3.6s								
KSR	**Koster**	**17.45**	**212**	*e*P		**Pn**		**15 29 05.5**	**+1.8**
KSR				AMB		AMB		15 29 13.6	
	comp=Z,28nm,3.1s								
LBTB	**Lobatse**	**17.52**	**217**	*e*P		**Pn**		**15 29 05.5**	**+0.9**
LBTB				AMB		AMB		15 29 07.0	
	comp=Z,28nm,1.1s								
LBTB	**Lobatse**	**17.52**	**217**	P		**Pn**		**15 29 05.2**	**+0.6**
	comp=Z,1.4nm,0.3s,baz=51,slow=11,SNR=24								
LBTB				S		**Sn**		**15 32 15.4**	**-4.8**
	comp=Z,1.2nm,0.3s,baz=87,slow=6.4,SNR=4.8								
LBTB				Lg				15 34 04.2	
	comp=Z,3.6nm,0.3s,baz=320,slow=15,SNR=8.9								
LBTB				LR		LR		15 35 48.7	
	comp=Z,317nm,18.9s,baz=244,slow=37								
LBTB	**Lobatse**	**17.52**	**217**	P		**Pn**		**15 29 05.2**	**+0.6**
LBTB				S		**Sn**		**15 32 15.4**	**-4.8**
LBTB				Lg				15 34 04.2	
LBTB				LR		LR		15 35 48.7	
PRYS	**Parys**	**18.10**	**209**	*e*P		**Pn**		**15 29 08.8**	**-2.9**
PRYS				AMB		AMB		15 29 18.5	
	comp=Z,25nm,3.9s								
SEK	**Senekal**	**19.17**	**206**	*e*P		**Pn**		**15 29 23.7**	**-1.1**
SEK				AMB		AMB		15 29 32.5	
	comp=Z,33nm,3.5s								
SWZ	**Schweizer**	**19.34**	**213**	*e*P		**Pn**		**15 29 19.3**	**-7.6**
SWZ				AMB		AMB		15 29 36.3	
	comp=Z,28nm,3.7s								
TSUM	**Tsumeb**	**20.45**	**245**	*e*P		**P**		**15 29 35.8**	**-2.2**
TSUM	**Tsumeb**	**20.45**	**245**	*e*P		**P**		**15 29 40.3**	**+2.2**
	comp=Z,7.9nm,0.8s								
BOSA	**Boshof**	**20.53**	**211**	*e*P		**P**		**15 29 41.5**	**+2.6**
BOSA				AMB		AMB		15 29 44.6	
	comp=Z,24nm,3.1s								
BOSA	**Boshof**	**20.53**	**211**	P		**P**		**15 29 39.4**	**+0.6**
	comp=Z,10nm,0.7s,baz=32,slow=11,SNR=20								
BOSA				S		**S**		**15 33 20.5**	**-8.8**
	comp=Z,4.3nm,0.9s,baz=84,slow=19,SNR=2.2								
BOSA				Lg				15 35 41.8	
	comp=Z,32nm,0.8s,baz=312,slow=22,SNR=5.5								
BOSA				LR		LR		15 37 49.2	
	comp=Z,237nm,18.8s,MS3.6,baz=235,slow=37								
BOSA	**Boshof**	**20.53**	**211**	P		**P**		**15 29 39.4**	**+0.6**
BOSA				S		**S**		**15 33 20.5**	**-8.8**
BOSA				Lg				15 35 41.8	
BOSA				LR		LR		15 37 49.2	
HVD	**Gariep Dam**	**22.07**	**208**	*e*P		**P**		**15 29 55.9**	**+0.4**
HVD				AMB		AMB		15 30 07.9	
	comp=Z,36nm,4.0s								
UPI	**Upington**	**22.60**	**219**	*e*P		**P**		**15 30 00.7**	**-0.4**
UPI				AMB		AMB		15 30 04.0	
	comp=Z,46nm,1.0s,mb4.9								
PKA	**Prieska**	**22.70**	**214**	*e*P		**P**		**15 30 01.1**	**-1.0**
PKA				AMB		AMB		15 30 02.3	
	comp=Z,11nm,4.1s								
MSKU	**Masuku**	**25.25**	**291**	P		**P**		**15 30 27.1**	**+0.2**
	comp=Z,24nm,0.8s,mb4.8,baz=145,slow=22,SNR=7.1								
MSKU				LR		LR		15 40 01.9	
	comp=Z,225nm,21.0s,MS3.7,baz=135,slow=36								
MSKU	**Masuku**	**25.25**	**291**	P		**P**		**15 30 27.1**	**+0.2**
MSKU				LR		LR		15 40 01.9	
SUR	**Sutherland**	**25.84**	**213**	P		**P**		**15 30 32.0**	**0.0**
	comp=Z,8.9nm,0.6s,mb4.5,baz=40,slow=9.9,SNR=8.7								
SUR				Lg				15 38 26.9	
	comp=Z,38nm,1.0s,baz=136,slow=19,SNR=5.2								
SUR	**Sutherland**	**25.84**	**213**	*e*P		**P**		**15 30 33.4**	**+1.4**
	comp=Z,9.3nm,0.7s,mb4.4								
SUR				Lg				15 38 26.9	
EIL	**Elat**	**40.76**	**357**	LR		LR		15 48 57.4	
	comp=Z,79nm,21.7s,MS3.5,baz=293,slow=35								
TORD	**Torodi Ar. Bea**	**42.75**	**304**	P		**P**		**15 32 59.6**	**+1.4**
	comp=Z,3.1nm,0.7s,mb4.1,baz=114,slow=8.0,SNR=19								
TORD				PP		PP		15 34 39.9	+2.5
	comp=Z,3.5nm,1.1s,baz=125,slow=11,SNR=8.0								
TORD	**Torodi Ar. Bea**	**42.75**	**304**	P		**P**		**15 32 59.6**	**+1.4**
TORD				PP		PP		15 34 39.9	+2.5
DBIC	**Dimbokro**	**45.46**	**291**	*e*P		**P**		**15 33 20.5**	**+0.5**
	comp=Z,10nm,1.1s,mb4.6,baz=89,slow=6.9,SNR=4.2								
DBIC	**Dimbokro**	**45.46**	**291**	*e*P		**P**		**15 33 20.9**	**+0.9**
	comp=Z,14nm,1.1s,mb4.7								
BRTR	**Keskin Array B**	**50.84**	**356**	P		**P**		**15 34 03.6**	**+2.4**
	comp=Z,1.4nm,0.9s,mb3.9,baz=178,slow=5.6,SNR=4.0								
BRTR	**Keskin Array B**	**50.84**	**356**	P		**P**		**15 34 03.6**	**+2.4**
KEST	**Kesra**	**53.63**	**332**	*e*P		**P**		**15 34 20.9**	**-1.1**
SYO	**Syowa Base**	**57.70**	**179**	⇓*e*P		**P**		**15 34 51.2**	**+0.4**
MAW	**Mawson**	**58.79**	**169**	P		**P**		**15 35 00.1**	**+1.7**
	comp=Z,4.0nm,0.8s,mb4.5,baz=340,slow=7.5,SNR=6.3								
MAW	**Mawson**	**58.79**	**169**	P		**P**		**15 35 00.1**	**+1.7**
ESDC	**Sonseca Array**	**63.47**	**325**	P		**P**		**15 35 32.3**	**+1.7**
	comp=Z,0.2nm,0.2s,mb3.8,baz=148,slow=8.6,SNR=5.5								
ESDC	**Sonseca Array**	**63.47**	**325**	P		**P**		**15 35 32.3**	**+1.7**
AKTO	**Aktyubinsk**	**64.10**	**15**	pP		pP		15 35 38.0	+2.7
	comp=Z,1.2nm,0.7s,baz=203,slow=9.5,SNR=3.6								
SNAA	**Sanae**	**65.04**	**193**	*e*P		**P**		**15 35 40.5**	**+0.1**
	comp=Z,3.5nm,1.0s,mb4.3								
VNA2	**Neumayer--Watz**	**65.59**	**195**	*e*		**P**		**15 35 43.6**	**-0.4**
	baz=33,slow=7.3								
VNA1	**Neumayer--Stat**	**65.63**	**195**	*e*		**P**		**15 35 44.1**	**-0.2**
VNA3	**Neumayer Olymp**	**66.36**	**195**	*e*		**P**		**15 35 48.7**	**-0.3**
CMAR	**Chiang Mai Arr**	**67.72**	**65**	P		**P**		**15 35 57.8**	**-0.7**
	comp=Z,1.2nm,0.7s,mb4.1,baz=250,slow=8.9,SNR=7.4								
CMAR	**Chiang Mai Arr**	**67.72**	**65**	P		**P**		**15 35 57.8**	**-0.7**
MKAR	**Makanchi Array**	**70.47**	**31**	pP		pP		15 36 19.6	+3.7
	comp=Z,2.0nm,0.9s,baz=238,slow=6.8,SNR=6.7								
KURK	**Kurchatov**	**71.49**	**26**	P		**P**		**15 36 19.4**	**-1.8**
	comp=Z,0.5nm,0.7s,mb3.5,baz=229,slow=6.8,SNR=3.6								
KURK				pP		pP		15 36 24.8	+2.8
	comp=Z,1.9nm,1.0s,baz=227,slow=6.5,SNR=9.8								
KURK	**Kurchatov**	**71.49**	**26**	*e*P		**P**		**15 36 20.0**	**-1.1**
	comp=Z,2.8nm,1.0s,mb4.2								
KURK				pP		pP		15 36 24.8	+2.8
ZALV	**Zalesovo Beam**	**76.47**	**27**	pP		pP		15 36 55.7	+4.6
	comp=Z,0.3nm,0.3s,baz=230,slow=3.7,SNR=2.6								
QSPA	**South Pole Qui**	**78.82**	**180**	P		**P**		**15 37 05.1**	**+2.1**
	comp=Z,2.9nm,0.7s,mb4.3,baz=246,slow=3.4,SNR=9.0								
QSPA	**South Pole Qui**	**78.82**	**180**	P		**P**		**15 37 05.1**	**+2.1**
SONM	**Songino Array**	**84.79**	**39**	pP		pP		15 37 40.3	+4.4
	comp=Z,0.9nm,0.7s,baz=230,slow=3.6,SNR=3.0								
FITZ	**Fitzroy Crossi**	**85.13**	**107**	pP		pP		15 37 42.5	+4.2
	comp=Z,2.6nm,0.7s,baz=230,slow=6.4,SNR=5.6								
ULN	**Ulaanbaatar**	**85.21**	**39**	*e*P		**P**		**15 37 36.8**	**-0.3**
	comp=Z,1.7nm,0.9s,mb4.2								
ASAR	**Alice Springs**	**91.61**	**114**	P		**P**		**15 38 07.8**	**-0.5**
	comp=Z,0.5nm,0.6s,mb4.0,baz=262,slow=4.6,SNR=12								
ASAR				pP		pP		15 38 12.7	+3.5
	comp=Z,1.8nm,0.7s,baz=263,slow=4.4,SNR=15								
ASAR	**Alice Springs**	**91.61**	**114**	P		**P**		**15 38 07.8**	**-0.5**
ASAR				pP		pP		15 38 12.7	+3.5
WRA	**Warramunga Arr**	**92.83**	**111**	P		**P**		**15 38 12.9**	**-1.1**
	comp=Z,0.3nm,0.9s,mb3.7,baz=268,slow=2.7,SNR=3.0								
WRA				pP		pP		15 38 18.3	+3.4
	comp=Z,0.6nm,0.8s,baz=260,slow=2.6,SNR=4.2								
WRA	**Warramunga Arr**	**92.83**	**111**	P		**P**		**15 38 12.9**	**-1.1**
WRA				pP		pP		15 38 18.3	+3.4
CFAA	**Coronel Fontan**	**96.95**	**236**	LR		LR		16 16 32.1	
	comp=Z,16nm,19.4s,MS3.5,baz=175,slow=32								
NVAR	**Mina Array Bea**	**145.20**	**325**	PKPbc		PKPbc		15 44 40.5	+2.2
	comp=Z,8.5nm,0.8s,baz=49,slow=4.9,SNR=50								
NVAR				pPKPbc		pPKPbc		15 44 45.3	+6.1
	comp=Z,4.9nm,0.7s,baz=46,slow=5.2,SNR=14								
NVAR	**Mina Array Bea**	**145.20**	**325**	PKPbc		PKPbc		15 44 40.5	+2.2
NVAR				pPKPbc		pPKPbc		15 44 45.3	+6.1

IDC 19 15:29:12.9±1.5, 5°.87N×127°.01E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/21, mbtmp3.6/5, Error ellipse: s-maj=155.0km s-min=19.4km az=68.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.64**	**164**	P		P		15 34 53.0	-0.5
	0.6nm,0.4s,baz=344,slow=10,SNR=9.1								
ASAR	**Alice Springs**	**30.11**	**167**	P		P		15 35 25.0	+0.5
	0.3nm,0.5s,baz=346,slow=6.7,SNR=12								
ASAR				PcP		PcP		15 38 26.2	0.0
	0.2nm,0.5s,baz=350,slow=2.2,SNR=5.2								
MKAR	**Makanchi Array**	**55.98**	**324**	P		P		15 38 53.9	+0.7
	0.3nm,0.4s,baz=120,slow=8.5,SNR=3.8								
ZALV	**Zalesovo Beam**	**58.83**	**332**	P		P		15 39 12.1	-1.0
	0.5nm,0.3s,baz=135,slow=5.1,SNR=3.9								
BVAR	**Borovoye Array**	**65.70**	**326**	P		P		15 39 59.6	+0.4
	0.4nm,0.6s,baz=126,slow=7.3,SNR=3.9								

ECX 19 15:35:39.2±0.3, 30°.56N×114°.35W, h4km, MD4.0, ML4.2, 1C-3D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SPX	**San Pedro Mart**	**1.07**	**297**	⇑*e*P		Pg		15 35 58.0	-1.7
SPX				*e*S		Sg		15 36 12.6	-1.0
SPX				⇓*e*				15 36 16.1	
	comp=N,4μm,0.5s								
RDX	**Rancho Dawling**	**1.92**	**315**	*e*P		Pn		15 36 12.2	-0.5
RDX				*e*S		Sn		15 36 38.2	+0.9
RDX				⇓*e*				15 36 44.0	
	comp=N,1μm,1.0s								
ECNX	**Esteban Cantu**	**2.21**	**300**	⇓*e*P		Pn		15 36 16.6	0.0
PBX	**Punta Banda**	**2.35**	**301**	*e*P		Pn		15 36 18.3	-0.2
RMX	**La Rumorosa**	**2.51**	**325**	*e*P		Pn		15 36 20.4	-0.4
CBX	**Cerro Bola**	**2.63**	**312**	*e*P		Pn		15 36 22.2	-0.2

IDC 19 15:50:35.0±5.6, 27°.90S×178°.96W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.5/14, mbtmp3.5/2, MS3.2/1, Ms1 3.2/1, ms1mx2.9/12, Error ellipse: s-maj=107.1km s-min=53.1km az=75.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**10.84**	**197**	Pn		Pn		15 53 12.5	+1.0
AFI	**Afiamalu**	**15.45**	**27**	LR		LR		15 59 26.6	
	comp=Z,92nm,19.6s,slow=34								
ASAR	**Alice Springs**	**42.45**	**265**	P		P		15 58 30.8	-1.1
	0.2nm,0.4s,baz=105,slow=7.2,SNR=11								
WRA	**Warramunga Arr**	**43.21**	**270**	P		P		15 58 38.8	+0.8
	0.4nm,0.3s,baz=110,slow=8.1,SNR=14								
FINES	**FINESS Array B**	**142.52**	**340**	PKP		PKPdf		16 10 08.4	-0.8
	3.6nm,0.8s,baz=24,slow=5.0,SNR=7.2								

IDC 19 16:15:09.0±10.0, 7°.06N×76°.97W, h0km, mb1 3.3/1, mb1mx3.1/19, mbtmp3.6/1, ML2.2/1, Error ellipse: s-maj=580.9km s-min=33.5km az=31.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**3.42**	**130**	Pn		Pn		16 16 03.8	+0.2
	4.8nm,0.3s,baz=33,slow=4.0,SNR=5.9								
ROSC				Sn		Sn		16 16 47.4	+2.5
	5.1nm,0.3s,baz=53,slow=22,SNR=3.7								
ASAR	**Alice Springs**	**146.08**	**237**	PKPbc		PKPbc		16 34 51.3	-0.5
	0.3nm,0.6s,baz=120,slow=3.6,SNR=8.8								
WRA	**Warramunga Arr**	**147.05**	**244**	PKPbc		PKPbc		16 34 53.9	-0.9
	0.2nm,0.6s,baz=105,slow=3.4,SNR=7.0								

*ISCJB **19** 16:51:01.7±0.4, 50°.12N±0°.02×18°.35E±0°.03, h0km, Error ellipse: s-maj=3.2km s-min=2.1km az=25.4*
*CSEM **19** 16:51:02.8±0.1, 50°.11N×18°.40E, h1km, ML3.6/5, Error ellipse: s-maj=2.9km s-min=2.0km az=26.0*
*IPEC **19** 16:51:03.7±0.1, 50°.09N×18°.42E, h8km±1km, ML2.7/4, Error ellipse: s-maj=1.1km s-min=0.7km az=164.0*
*WAR **19** 16:51:03.6, 50°.07N×18°.43E*
*BGR **19** 16:51:03.9±0.3, 50°.10N×18°.41E, h1km, ML3.1/8, Error ellipse: s-maj=4.4km s-min=3.3km az=1.0*
*IDC **19** 16:51:03.3±1.9, 49°.88N×18°.55E, h0km, mb1 3.6/4, mb1mx3.3/23, mbtmp3.5/4, ML2.9/4, Error ellipse: s-maj=34.2km s-min=10.6km az=138.0*
*PRU **19** 16:51:04.5, 50°.08N×18°.34E, h0km*

ISC 19 16:51:03.0±0.3, 50°.10N±0°.02×18°.37E±0°.03, h0km, n76, σ1s08/127, 3C-12D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.11**	**262**	⇓*i*Pg		**Pg**		**16 51 07.3**	**+2.1**
RAC				*e*Sg		**Sg**		**16 51 10.5**	**+3.9**
OKC	**Ostrava-Krasne**	**0.30**	**208**	*e*Pg		**Pg**		**16 51 09.2**	**+0.6**
OKC				*e*Sg		**Sg**		**16 51 14.2**	**+1.7**
OKC	**Ostrava-Krasne**	**0.30**	**208**	*e*PG		**Pg**		**16 51 09.6**	**+0.9**
OKC				*e*SG		**Sg**		**16 51 14.2**	**+1.7**
	comp=Z,529nm,0.4s								
OKC				AMS		AMS		16 51 40.0	
	comp=Z,2μm,1.9s								
OKC	**Ostrava-Krasne**	**0.30**	**208**	*e*Pg		**Pg**		**16 51 09.4**	**+0.7**
	baz=34								
OKC				*e*Sg		**Sg**		**16 51 14.1**	**+1.6**
	baz=34								
MORC	**Moravsky Berou**	**0.62**	**239**	*e*Pg		**Pg**		**16 51 15.7**	**+0.8**
MORC				*e*Sg		**Sg**		**16 51 24.8**	**+1.9**
MORC	**Moravsky Berou**	**0.62**	**239**	Pg		**Pg**		**16 51 15.7**	**+0.8**
MORC				*e*Sg		**Sg**		**16 51 24.6**	**+1.6**
	comp=Z,194nm,0.2s,baz=60								
OJC	**Ojcow**	**0.93**	**82**	*e*Pg		**Pg**		**16 51 20.3**	**-0.5**
OJC				*e*Sg		**Sg**		**16 51 33.0**	**+0.1**
OJC	**Ojcow**	**0.93**	**82**	*e*Pg		**Pg**		**16 51 20.3**	**-0.5**
OJC				*e*Sg		**Sg**		**16 51 33.0**	**+0.1**
OJC	**Ojcow**	**0.93**	**82**	Pg		**Pg**		**16 51 20.3**	**-0.5**
OJC				*e*Sg		**Sg**		**16 51 32.8**	**-0.1**
	baz=262								
LIKS	**Likavka**	**1.16**	**155**	*e*PG		**Pg**		**16 51 25.7**	**+0.6**
LIKS				*e*SG		**Sg**		**16 51 41.4**	**+1.3**
LIKS	**Likavka**	**1.16**	**155**	*e*Pg		**Pg**		**16 51 25.7**	**+0.6**
JAVC	**Velka Javorina**	**1.32**	**200**	*e*Pn		**Pn**		**16 51 28.7**	**0.0**
	baz=21								
JAVC				*e*Sg		**Sg**		**16 51 46.8**	**+1.4**
	comp=Z,51nm,0.3s,baz=21								
DPC	**Dobruska-Polom**	**1.34**	**282**	*e*Pn		**Pn**		**16 51 29.3**	**+0.3**
DPC	**Dobruska-Polom**	**1.34**	**282**	*e*PG		**Pg**		**16 51 29.5**	**+0.9**
DPC				*e*SG		**Sg**		**16 51 46.8**	**+0.9**
	comp=Z,140nm,0.5s								
DPC	**Dobruska-Polom**	**1.34**	**282**	*e*Pn		**Pn**		**16 51 29.1**	**+0.2**
	baz=100								
DPC				*e*Sg		**Sg**		**16 51 47.0**	**+1.1**
	baz=100								
VRAC	**Vranov**	**1.40**	**236**	Pg		**Pg**		**16 51 29.7**	**-0.1**
	comp=Z,19nm,0.3s,baz=58,slow=12,SNR=52								
VRAC				Lg				16 51 48.1	
	comp=Z,49nm,0.3s,baz=136,slow=19,SNR=36								
VRAC	**Vranov**	**1.40**	**236**	⇑*i*P		**Pn**		**16 51 29.6**	**-0.1**
VRAC				S		**Sg**		**16 51 46.6**	**-1.2**
VRAC	**Vranov**	**1.40**	**236**	⇑*i*P		**Pn**		**16 51 29.6**	**-0.1**
VRAC				S		**Sg**		**16 51 46.6**	**-1.2**
VRAC				*e*Sg		**Sg**		**16 51 47.9**	**+0.1**
	comp=Z,139nm,0.3s,baz=56								
NIE	**Niedzica**	**1.44**	**118**	*e*Pg		**Pg**		**16 51 30.3**	**-0.2**
NIE				*e*Sg		**Sg**		**16 51 49.9**	**+0.8**
KSP	**Ksiaz**	**1.52**	**300**	*e*Pn		**Pn**		**16 51 31.6**	**+0.2**
KSP				*e*Pg		**Pg**		**16 51 34.7**	**+2.5**
KSP				*e*Sn		**Sn**		**16 51 51.9**	**0.0**
KSP				*e*Sg		**Sg**		**16 51 54.0**	**+2.2**
KSP	**Ksiaz**	**1.52**	**300**	*e*Pn		**Pn**		**16 51 31.5**	**0.0**
KSP				*e*Sg		**Sg**		**16 51 53.7**	**+1.9**
KSP	**Ksiaz**	**1.52**	**300**	*e*Pg		**Pg**		**16 51 31.4**	**-0.7**
KSP				*e*Sg		**Sg**		**16 51 52.4**	**+0.6**
KSP	**Ksiaz**	**1.52**	**300**	Pn		**Pn**		**16 51 31.5**	**+0.1**
KSP				*e*Sg		**Sg**		**16 51 52.4**	**+0.6**
KOLL	**Kolacno**	**1.52**	**179**	*e*PN		**Pn**		**16 51 30.7**	**-0.7**
KOLL				*e*SN		**Sn**		**16 51 50.9**	**-1.0**
KOLL	**Kolacno**	**1.52**	**179**	*e*Pn		**Pn**		**16 51 30.7**	**-0.7**
KOLL				*e*Sg		**Sg**		**16 51 50.9**	**-1.0**
UPC	**Upice**	**1.56**	**286**	*e*PG		**Pg**		**16 51 33.9**	**+0.9**
UPC				*e*SG		**Sg**		**16 51 54.4**	**+1.2**
	comp=Z,34nm,0.3s								
VYHS	**Vyhne**	**1.64**	**169**	*e*PN		**Pn**		**16 51 32.4**	**-0.6**
VYHS				*e*SN		**Sn**		**16 51 53.6**	**-1.1**
VYHS	**Vyhne**	**1.64**	**169**	*e*Pn		**Pn**		**16 51 32.4**	**-0.6**
	baz=350								
VYHS				*e*Sn		**Sn**		**16 51 53.6**	**-1.1**
KRUC	**Moravsky**	**1.65**	**232**	*e*Pn		**Pn**		**16 51 33.1**	**-0.1**
	baz=51								
KRUC				*e*Sg		**Sg**		**16 51 54.9**	**-1.1**
	comp=Z,64nm,0.2s,baz=51								
SMOL	**Smolenice**	**1.70**	**201**	*e*PN		**Pn**		**16 51 33.5**	**-0.4**
SMOL				*e*SN		**Sn**		**16 51 54.4**	**-1.9**
SMOL	**Smolenice**	**1.70**	**201**	*e*Pn		**Pn**		**16 51 33.5**	**-0.4**
SMOL				*e*Sn		**Sn**		**16 51 54.4**	**-1.9**
STHS	**Stebnicka Huta**	**1.99**	**109**	*e*PN		**Pn**		**16 51 40.5**	**+2.6**
STHS				*e*SN		**Sn**		**16 52

IDC 19 17:11:34.2 3.1, 10.78N 91.51E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.4/25, mbtmp3.5/6, MS4.3/1, Ms1 4.3/1, ms1mx3.1/25, Error ellipse: s-maj=125.5km s-min=19.6km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**36.73**	**349**	P	P	17 18 43.8	+0.7
	0.6nm,0.6s,baz=169,slow=8.0,SNR=7.2						
SONM	**Songino Array**	**39.00**	**16**	P	P	17 19 02.2	0.0
	0.2nm,0.3s,baz=198,slow=8.2,SNR=3.3						
ZALV	**Zalesovo Beam**	**43.38**	**354**	P	P	17 19 37.4	-0.8
	0.5nm,0.5s,baz=169,slow=8.2,SNR=3.4						
FITZ	**Fitzroy Crossi**	**44.26**	**130**	P	P	17 19 45.7	-0.1
	1.1nm,0.6s,baz=288,slow=5.0,SNR=4.3						
WRA	**Warramunga Arr**	**52.05**	**126**	P	P	17 20 45.9	-0.2
	0.3nm,0.8s,baz=301,slow=10.0,SNR=4.8						
WRA				LR	LR	17 48 12.0	
	comp=Z,258nm,18.4s,baz=275,slow=42						
ASAR	**Alice Springs**	**53.76**	**130**	P	P	17 20 59.0	+0.3
	0.2nm,0.6s,baz=308,slow=7.5,SNR=5.4						

*BJI **19** 17:14:15.5, 8.39N 93.45E, h42km, mB5.2/40, mb5.0/58, Ms4.8/56, Ms7 4.6/50*

*SZGRF **19** 17:14:15.5, 8.30N 92.94E, h33km, mb5.3, Nicobar Islands, India, region*

*ISCJB **19** 17:14:17.7 0.5, 8.65N 0.02 93.58E 0.02, h36km 4km, mb5.2/271, MS4.5/61, Error ellipse: s-maj=3.9km s-min=2.5km az=42.4*

*IDC **19** 17:14:19.9 1.4, 8.75N 93.77E, h39km 11km, mb4.9/43, mb1 4.9/43, mb1mx4.9/44, mbtmp4.8/43, MS4.4/35, Ms1 4.4/35, ms1mx4.4/41, Error ellipse: s-maj=11.6km s-min=8.3km az=51.0*

*GCMT **19** 17:14:20.6 0.2, 8.76N 93.76E, h19km, MW5.2, Moment Tensor Solution. s68,c98; s82,c149; Moment tensor: Scale 10^16 Nm; Mrr-7.61±.20; Mθθ 0.12±.12; Mφφ 7.49±.14; Mrθ 2.02±.30; Mθφ 0.75±.09; Mrφ 0.25±.26; Best double couple: M=7.80000×10^16 NP1: φs 353.00000°, δ 45.00000°, λ -110.00000°. NP2: φs 199.00000°, δ 48.00000°, λ -72.00000°. Principal axes: T 7.5800, Plg2.0000°, Azm276.0000°; N 0.5300, Plg14.0000°, Azm7.0000°; P -8.1100, Plg76.0000°, Azm179.0000°; Data Used: II IU IC G CN.*

*TEH **19** 17:14:20.0, 8.66N 93.63E, h37km*

*NEIC **19** 17:14:20.2 0.8, 8.66N 93.64E, h44km 7km, mb5.4/75, Error ellipse: s-maj=6.3km s-min=3.9km az=48.0*

*MOS **19** 17:14:21.3 1.1, 8.93N 93.59E, h58km, mb5.5/72, MS4.6/11, Error ellipse: s-maj=7.7km s-min=4.2km az=114.0*

*DJA **19** 17:14:23, 8.57N 93.76E, h53km, Mw5.1/44*

ISC 19 17:14:20.9 0.4, 8.65N 0.02 93.60E 0.02, h49km 3km, h39km 3.0km; pP-P, n863, σ1 904/795, mb5.2/271, MS4.5/61, 30C-41D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**3.56**	**152**	P	**Pn**	**17 15 13.9**	**+0.3**
BSI				S	**Sn**	**17 15 55.5**	**+1.1**
LHMI	**Lhok Sumawe**	**4.75**	**135**	P	**Pn**	**17 15 29.6**	**-0.4**
TPTI		**6.43**	**146**	P	**Pn**	**17 15 52.1**	**-1.0**
	248nm,0.9s						
TPTI				S	**Sn**	**17 17 04.5**	**-0.7**
	248nm,0.9s						
SNG	**Songkhla**	**7.10**	**101**	P	**Pn**	**17 16 05.0**	**+2.7**
	300nm,0.9s						
TSI	**Tuntungan**	**7.11**	**136**	P	**Pn**	**17 16 04.6**	**+2.2**
	2.1nm6μm592nm,1.0s						
NNT	**Nongplab**	**7.19**	**56**	P	**Pn**	**17 16 02.0**	**-1.4**
KULM	**Kulim**	**7.75**	**115**	P	**Pn**	**17 16 08.8**	**-2.4**
KULM	**Kulim**	**7.75**	**115**	⇑*e*Pn	**Pn**	**17 16 08.3**	**-2.9**
	223nm,1.0s						
KULM	**Kulim**	**7.75**	**115**	P	**Pn**	**17 16 08.3**	**-2.9**
	0.6nm2μm225nm,1.0s						
PSI	**Prapat**	**7.86**	**137**	P	**Pn**	**17 16 13.4**	**+0.7**
	0.9nm3μm250nm,1.3s						
IPM	**Ipoh**	**8.46**	**119**	P	**Pn**	**17 16 18.1**	**-2.8**
IPM	**Ipoh**	**8.46**	**119**	*e*Pn	**Pn**	**17 16 17.6**	**-3.3**
	182nm,1.0s						
IPM	**Ipoh**	**8.46**	**119**	P	**Pn**	**17 16 18.3**	**-2.6**
	2μm136nm,1.3s						
NST	**Nakhon Sawan**	**9.46**	**42**	P	**Pn**	**17 16 33.5**	**-1.0**
MNSI	**Mandailing Nat**	**9.82**	**142**	P	**Pn**	**17 16 37.9**	**-1.6**
	2μm75nm,0.7s						
BDT	**Bhumibol Dam**	**10.03**	**31**	P	**Pn**	**17 16 43.0**	**+0.6**
	51nm,0.9s						
CM31	**Chiang Mai Arr**	**11.04**	**27**	*e*Pn	**Pn**	**17 16 57.3**	**+1.1**
	16nm,0.4s						
CMAR	**Chiang Mai Arr**	**11.04**	**27**	Pn	**Pn**	**17 16 57.2**	**+1.0**
	2.8nm,0.3s,baz=212,slow=15,SNR=45						
CMAR				LR	LR	17 21 02.6	
	comp=Z,2μm,20.4s,baz=214,slow=37						
CMAR				ScP	ScP	17 26 22.7	+2.5
	baz=235,slow=3.0,SNR=6.3						
CMAR				PKiKP	PKiKP	17 30 50.2	-0.3
	0.1nm,0.3s,baz=234,slow=2.5,SNR=4.4						
CMAR	**Chiang Mai Arr**	**11.04**	**27**	Pn	**Pn**	**17 16 57.2**	**+1.0**
CMAR				LR	LR	17 21 02.6	
CMAR				ScP	ScP	17 26 22.7	+2.5
CMAR	**Chiang Mai Arr**	**11.04**	**27**	P	**Pn**	**17 16 57.2**	**+1.0**
BKNI	**Bangkinang**	**11.11**	**138**	P	**Pn**	**17 16 56.4**	**-0.7**
	2μm180nm,1.0s						
PPI	**Padang Panjang**	**11.30**	**143**	P	**Pn**	**17 16 57.8**	**-2.0**
	70nm,0.9s						
SISI	**Saibi**	**11.32**	**151**	P	**Pn**	**17 17 01.1**	**+1.0**
	3μm69nm,1.2s						
CHG	**Chiang Mai**	**11.35**	**27**	⇑P	**Pn**	**17 17 02.5**	**+2.0**
	58nm,1.2s						
CHTO	**Chiang Mai**	**11.35**	**27**	*e*Pn	**Pn**	**17 17 01.6**	**+1.1**
	60nm,1.0s						
CHTO	**Chiang Mai**	**11.35**	**27**	*e*P	**Pn**	**17 17 01.6**	**+1.1**
CHTO				pmax	pmax		
	comp=Z,60nm,1.0s						
CHTO	**Chiang Mai**	**11.35**	**27**	P	**Pn**	**17 17 02.1**	**+1.6**
	comp=Z,1μmcomp=Z,65nm,1.5s						
CHTO	**Chiang Mai**	**11.35**	**27**	P	**Pn**	**17 17 03.0**	**+2.5**
	SNR=13						
KGM	**Kluang**	**11.71**	**124**	P	**Pn**	**17 17 07.7**	**+2.4**
PDSI	**Padang**	**11.71**	**144**	P	**Pn**	**17 17 01.9**	**-3.4**
	comp=Z,1μmcomp=Z,107nm,0.8s						
MYKOM	**Kota Tinggi**	**12.27**	**123**	P	**Pn**	**17 17 14.3**	**+1.3**
MYKOM	**Kota Tinggi**	**12.27**	**123**	P	**Pn**	**17 17 11.6**	**-1.4**
	comp=Z,2μmcomp=Z,116nm,1.8s						
CHRT	**Chiangrai**	**12.66**	**28**	P	**Pn**	**17 17 19.0**	**+0.7**
	comp=Z,263nm,0.9s						
UBT	**Ubonrachathani**	**12.95**	**59**	⇓P	**Pn**	**17 17 26.2**	**+3.9**
CAL	**Calcutta**	**14.71**	**340**	*e*PKP	**Pn**	**17 17 44.8**	**-1.1**
CAL				*e*S	**Sn**	**17 20 29.6**	**+1.9**
KSI	**Kapahiang**	**15.16**	**143**	P	**Pn**	**17 17 48.8**	**-3.1**
	comp=Z,632nm,0.9s						
AGT	**Agartala**	**15.31**	**352**	*ex*	**Pn**	**17 17 50.0**	**-3.8**
AGT				*ex*	x	17 18 25.0	
MNAI	**Manna**	**15.94**	**144**	P	**Pn**	**17 18 03.8**	**+1.8**
	comp=Z,444nm,0.7s						
TRD	**Trivandrum**	**16.46**	**271**	*e*PKP	**Pn**	**17 18 08.2**	**-0.4**
TRD				AMb	AMB	17 18 18.1	
	comp=Z,81nm,0.9s						
PPBI	**Pangkal Pinang**	**16.48**	**130**	P	**Pn**	**17 18 07.8**	**-1.0**
	comp=Z,2μmcomp=Z,140nm,1.1s						
MDSI	**Maura Dua**	**16.78**	**141**	P	**Pn**	**17 18 09.9**	**-2.7**
	comp=Z,2μmcomp=Z,128nm,1.1s						
SHL	**Shillong**	**16.90**	**355**	⇑*i*P	**Pn**	**17 18 15.0**	**+1.0**
SHL				*e*S	**S**	**17 21 21.0**	**-8.2**
HYB	**Hyderabad**	**17.04**	**302**	*i* P	**Pn**	**17 18 14.0**	**-1.8**
	comp=Z,160nm,1.0s						
HYB				*e*		17 21 09.5	
HYB				*e*S	**S**	**17 21 21.0**	**-11**
LWLI	**Liwa**	**17.12**	**142**	P	**Pn**	**17 18 17.2**	**+0.4**
	comp=Z,2μmcomp=Z,298nm,0.8s						
KLSI		**17.29**	**140**	P	**Pn**	**17 18 17.2**	**-1.7**
TPI	**Tanjungpandan**	**18.02**	**128**	P	**Pn**	**17 18 28.5**	**+0.6**
	comp=Z,686nmcomp=Z,48nm,1.2s						
KSM	**Kuching**	**18.10**	**112**	P	**Pn**	**17 18 29.9**	**+1.1**
KSM	**Kuching**	**18.10**	**112**	*e*Pn	**Pn**	**17 18 29.6**	**+0.7**
	comp=Z,269nm,1.0s						
KSM	**Kuching**	**18.10**	**112**	P	**Pn**	**17 18 29.7**	**+0.8**
	comp=Z,4μmcomp=Z,326nm,1.1s						
KMI	**Kunming**	**18.55**	**27**	P	**Pn**	**17 18 35.5**	**+1.2**
KMI				pP	pP	17 18 43.8	-1.1
KMI				sP	sP	17 18 48.6	-2.6
KMI				PP		17 18 52.8	
KMI				S	**S**	**17 22 01.0**	**-1.0**
KMI				sS	sS	17 22 13.8	-7.1
KMI				SS		17 22 26.3	
KMI				pmax	pmax		
	comp=Z,53nm,1.4s						
KMI				pmax	pmax		
	comp=Z,860nm,8.3s						
KMI				LR	LR		
	comp=N,960nm,15.0s						
KMI				LR	LR		
	comp=E,1μm,14.7s						
KMI				LR	LR		
	comp=Z,1μm,20.6s						
QIZ	**Qiongzhong**	**18.83**	**55**	P	**Pn**	**17 18 35.0**	**-2.6**
QIZ				pP	pP	17 18 45.5	-2.5
QIZ				S	**S**	**17 22 06.3**	**-2.1**
QIZ				pmax	pmax		
	comp=Z,810nm,4.4s						
QIZ				LR	LR		
	comp=N,6μm,14.6s						
QIZ				LR	LR		
	comp=E,780nm,15.8s						
QIZ				LR	LR		
	comp=Z,3μm,14.1s						
QIZ	**Qiongzhong**	**18.83**	**55**	*e*P	**Pn**	**17 18 38.7**	**+1.1**
	comp=Z,244nm,1.3s						
ODAN	**Odare**	**19.04**	**343**	*e*P	**Pn**	**17 18 39.3**	**-0.8**
	comp=Z,416nm,0.8s						
LATR	**Latur**	**19.18**	**302**	*e*PKP	**Pn**	**17 18 41.9**	**0.0**
LATR				*ex*	x	17 22 02.7	
SBJI	**Serang**	**19.27**	**139**	P	**Pn**	**17 18 45.2**	**+2.2**
RAMN	**Ramite**	**19.37**	**341**	*e*P	**Pn**	**17 18 44.2**	**+0.1**
	comp=Z,727nm,0.8s						
CGJI	**Cibinong**	**19.37**	**141**	P	**Pn**	**17 18 38.3**	**-5.9**
	comp=Z,99nm,0.9s						
TAPN	**Taplejung**	**19.41**	**344**	*e*P	**Pn**	**17 18 43.6**	**-1.0**
	comp=Z,967nm,1.0s						
SBUM	**Sibu**	**19.52**	**107**	P	**Pn**	**17 18 45.1**	**-0.9**
SBUM	**Sibu**	**19.52**	**107**	P	**Pn**	**17 18 46.0**	**0.0**
	comp=Z,2μmcomp=Z,239nm,1.2s						
STKI	**Sintang**	**19.75**	**115**	P	**Pn**	**17 18 48.5**	**-0.2**
	comp=Z,4μmcomp=Z,210nm,1.1s						
AKL	**Akola**	**20.00**	**309**	⇓*i*P	**Pn**	**17 18 50.8**	**-0.7**
AKL				AMb	AMB	17 18 52.2	
	comp=Z,107nm,0.9s						
AKL				*i* x	x	17 22 39.7	
DBJI	**Dramaga**	**20.00**	**139**	P	**P**	**17 18 48.2**	**-1.4**
	comp=Z,92nm,0.9s						
BTM	**Bintulu**	**20.11**	**104**	P	**P**	**17 18 53.1**	**+2.2**
SKJI	**Sukabumi**	**20.22**	**140**	P	**P**	**17 18 53.5**	**+1.6**
	comp=Z,134nm,1.0s						
HMDM	**Hanimaadhoo**	**20.32**	**266**	P	**P**	**17 18 57.7**	**+4.7**
	comp=Z,6μmcomp=Z,306nm,1.9s						
PKI	**Pulchoki**	**20.35**	**339**	*e*P	**P**	**17 18 53.6**	**+0.4**
	comp=Z,491nm,0.9s						
GOA	**Goa**	**20.49**	**291**	⇑*i*P	**P**	**17 18 56.4**	**+1.6**
GOA				*ex*	x	17 22 42.5	
DMN	**Daman**	**20.49**	**338**	*e*P	**P**	**17 18 55.4**	**+0.6**
GUN	**Gumba**	**20.50**	**340**	*e*P	**P**	**17 18 55.4**	**+0.6**
	comp=Z,978nm,0.9s						
KKN	**Kakani**	**20.59**	**339**	*e*P	**P**	**17 18 56.1**	**+0.2**
	comp=Z,489nm,1.1s						
KAD	**Karad**	**20.77**	**296**	*e*PKP	**P**	**17 18 59.4**	**+1.5**
KAD				AMb	AMB	17 19 04.1	
	comp=Z,309nm,1.5s						
LEM	**Lembang**	**20.78**	**137**	P	**P**	**17 18 58.6**	**+0.6**
	comp=Z,76nm,1.2s						
COCO	**West Island**	**20.95**	**171**	P	**P**	**17 19 02.1**	**+2.3**
	comp=Z,344nm,1.4s						
GKN	**Gorkha**	**21.02**	**337**	*e*P	**P**	**17 19 01.0**	**+0.5**
	comp=Z,906nm,0.7s,mb6.2						
LSA	**Lhasa**	**21.07**	**354**	P	**P**	**17 19 00.1**	**-0.8**
LSA				pP		17 19 09.6	
LSA				sP	sP	17 19 22.3	+3.7
LSA				pmax	pmax		
	comp=Z,120nm,1.0s,mb5.2						
LSA	**Lhasa**	**21.07**	**354**	*e*P	**P**	**17 19 00.2**	**-0.8**
	comp=Z,97nm,0.8s,mb5.2						
LSA	**Lhasa**	**21.07**	**354**	*e*P	**P**	**17 19 00.2**	**-0.7**
LSA				pmax	pmax		
	comp=Z,97nm,0.8s,mb5.2						
BHPL	**Bhopal**	**21.23**	**315**	*e*PKP	**P**	**17 19 04.3**	**+1.5**
BHPL				AMb	AMB	17 19 10.6	
	comp=Z,133nm,0.7s,mb5.4						
KOLN	**Koldanda**	**21.23**	**335**	*e*P	**P**	**17 19 03.3**	**+0.5**
	comp=Z,328nm,0.6s,mb5.8						
PBKI	**Pangkalan Bun**	**21.26**	**121**	P	**P**	**17 19 05.8**	**+2.6**
	comp=Z,166nm,1.3s,mb5.2						
CISI	**Cisompet, Garu**	**21.45**	**138**	P	**P**	**17 19 03.8**	**-1.4**
	comp=Z,66nm,1.3s,mb4.8						
POO	**Poona**	**21.54**	**299**	*e*PKP	**P**	**17 19 07.4**	**+1.2**
POO				AMb	AMB	17 19 11.7	
	comp=Z,160nm,1.5s,mb5.2						
GYA	**Guiyang**	**21.62**	**33**	⇑*i*P	**P**	**17 19 07.4**	**+0.5**
GYA				pP		17 19 18.3	
GYA				sP	sP	17 19 24.0	-0.6
GYA				PP		17 19 34.8	
GYA				S	**S**	**17 23 00.5**	**-3.1**
GYA				sS	sS	17 23 18.9	-3.5
GYA				SS		17 23 38.8	
GYA				ScP	ScP	17 26 41.8	+1.2
GYA				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.0						
GYA				pmax	pmax		
	comp=Z,360nm,9.9s						
GYA				LR	LR		
	comp=N,1μm,15.2s,MS4.6						
GYA				LR	LR		
	comp=E,1μm,13.7s,MS4.6						
GYA				LR	LR		
	comp=Z,1μm,15.5s,MS4.5						
DANN	**Dangsing**	**21.68**	**336**	*e*P	**P**	**17 19 08.0**	**+0.5**
	comp=Z,881nm,0.8s,mb6.2						
PYUN	**Piuthan**	**21.78**	**334**	*e*P	**P**	**17 19 09.3**	**+0.7**
	comp=Z,502nm,0.9s,mb6.0						
XMIS	**Christmas Isla**	**22.48**	**148**	P	**P**	**17 19 14.5**	**-1.6**
	comp=Z,431nm,1.5s,mb5.7						
KKM	**Kota Kinabalu**	**22.58**	**95**	P	**P**	**17 19 19.4**	**+2.1**
KKM	**Kota Kinabalu**	**22.58**	**95**	*e*P	**P**	**17 19 18.5**	**+1.2**
	comp=Z,147nm,1.1s,mb5.3						
KKM	**Kota Kinabalu**	**22.58**	**95**	P	**P**	**17 19 17.6**	**+0.3**
	comp=Z,2μmcomp=Z,130nm,1.6s,mb5.1						
BJII	**Banjamegara**	**22.58**	**134**	P	**P**	**17 19 16.9**	**-0.4**
	comp=Z,66nm,1.3s,mb4.9						
SMRI	**Semarang**	**22.91**	**132**	P	**P**	**17 19 20.5**	**-0.3**
	comp=Z,299nm,1.0s,mb5.7						
KDM	**Kudat**	**23.08**	**93**	P	**P**	**17 19 23.8**	**+1.1**
SDKM	**Sandakan**	**23.60**	**96**	P	**P**	**17 19 28.6**	**+1.0**
GZH	**Guangzhou**	**23.76**	**51**	P	**P**	**17 19 34.8**	**+5.9**
GZH				S	**S**	**17 23 58.3**	**+17**
GZH				LR	LR		
	comp=N,2μm,9.5s						
GZH				LR	LR		
	comp=E,1μm,10.0s						
CD2	**Chengdu**	**24.09**	**22**	P	**P**	**17 19 30.8**	**-1.0**
CD2				pP		17 19 40.1	
CD2				sP	sP	17 19 44.0	-6.3
CD2				PP		17 20 06.0	
CD2				S	**S**	**17 23 48.4**	**+2.3**
CD2				sS	sS	17 24 00.0	-7.4
CD2				SS		17 24 37.4	
CD2				pmax	pmax		
	comp=Z,140nm,1.1s,mb5.3						
CD2				pmax	pmax		
	comp=Z,510nm,4.1s						
CD2				LR	LR		
	comp=N,1μm,13.7s						
CD2				LR	LR		
	comp=Z,1μm,14.3s,MS4.6						
PCJI	**Pacitan**	**24.23**	**133**	P	**P**	**17 19 34.1**	**+0.9**
	comp=Z,81nm,1.1s,mb5.1						
SJI	**Sawahan**	**24.35**	**131**	P	**P**	**17 19 34.9**	**+0.5**
	comp=Z,1μmcomp=Z,72nm,2.0s,mb4.8						
BBKI	**Banjar Baru**	**24.36**	**119**	P	**P**	**17 19 34.7**	**+0.2**
	comp=Z,2μmcomp=Z,163nm,1.2s,mb5.3						
TSM	**Tawau**	**24.50**	**99**	P	**P**	**17 19 37.7**	**+1.9**
PWJI	**Pagerwojo**	**24.57**	**132**	P	**P**	**17 19 35.8**	**-0.6**
	comp=Z,36nm,1.4s,mb4.7						
MYLDM	**Lahad Datu**	**24.95**	**96**	P	**P**	**17 19 42.1**	**+2.2**
MYLDM	**Lahad Datu**	**24.95**	**96**	P	**P**	**17 19 40.9**	**+1.0**
	comp=Z,5μmcomp=Z,499nm,1.4s,mb5.9						
NDI	**New Delhi**	**25.20**	**324**	*ex*	**P**	**17 19 40.8**	**-1.1**
SMKI	**Samarinda**	**25.20**	**110**	P	**P**	**17 19 46.6**	**+4.4**
KBKI	**Kotabaru**	**25.44**	**117**	P	**P**	**17 19 46.0**	**+1.6**
	comp=Z,43nm,1.1s,mb4.9						
KMMI	**Kalianget**	**25.60**	**127**	P	**P**	**17 19 45.5**	**-0.3**
	comp=Z,92nm,2.0s,mb5.0						
BLJI	**Banyuglugur**	**25.74**	**129**	P	**P**	**17 19 46.1**	**-0.9**
	comp=Z,2μmcomp=Z,92nm,1.1s,mb5.2						
GMJI	**Gumukmas**	**25.95**	**130**	P	**P**	**17 19 48.7**	**-0.3**
	comp=Z,28nm,1.0s,mb4.8						
ENH	**Enshi**	**26.14**	**33**	*e*P	**P**	**17 19 48.8**	**-1.7**
	comp=Z,32nm,0.8s,mb4.9						
BYJI	**Banyuwangi**	**26.62**	**128**	P	**P**	**17 19 53.9**	**-1.1**
	comp=Z,6μmcomp=Z,76nm,1.1s,mb5.1						
JAGI	**Jajag, Banyuwa**	**26.62**	**129**	P	**P**	**17 19 51.8**	**-3.2**
	comp=Z,36nm,1.3s,mb4.8						
SRBI	**Singaraja**	**27.21**	**127**	P	**P**	**17 19 59.1**	**-1.2**
	comp=Z,842nmcomp=Z,81nm,1.4s,mb5.1						
KHKI	**Kahang-Kahang**	**27.69**	**127**	P	**P**	**17 20 02.6**	**-2.0**
	comp=Z,48nm,1.1s,mb5.0						
MTNI	**Mataram**	**28.29**	**127**	P	**P**	**17 20 07.3**	**-2.7**
	comp=Z,21nm,1.2s,mb4.6						
TTSI	**Tana Toraja**	**28.61**	**113**	P	**P**	**17 20 14.7**	**+1.9**
	comp=Z,832nmcomp=Z,70nm,1.4s,mb5.2						
QZH	**Quanzhou**	**28.81**	**53**	*e*P	**P**	**17 20 16.6**	**+2.1**
QZH				*e*S	**S**	**17 25 02.1**	**+1.1**
QZH				LR	LR		
	comp=N,3μm,15.3s,MS5.2						
QZH				LR	LR		
	comp=E,3μm,12.0s,MS5.2						
QZH				LR	LR		
	comp=Z,4μm,15.0s,MS5.2						
RCP	**Roxas**	**28.83**	**82**	⇓*e*P	**P**	**17 20 16.3**	**+1.5**
LZH	**Lanzhou**	**28.86**	**17**	*e*P	**P**	**17 20 14.3**	**-0.5**
LZH				pP	pP	17 20 24.1	-3.4
LZH				sP	sP	17 20 29.0	-4.4
LZH				*e*S	**S**	**17 24 59.3**	**-2.3**
LZH				sS	sS	17 25 20.0	-3.1
LZH				SS	SS	17 26 29.0	-36
LZH				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.7						
LZH				pmax	pmax		
	comp=Z,83nm,5.6s						
LZH				LR	LR		
	comp=N,670nm,12.9s,MS4.6						
LZH				LR	LR		
	comp=E,570nm,10.4s,MS4.6						
LZH				LR	LR		
	comp=Z,920nm,14.1s,MS4.5						
MSSI	**Masamba**	**28.88**	**112**	P	**P**	**17 20 15.9**	**+0.7**
	comp=Z,4μmcomp=Z,147nm,1.3s,mb5.6						
XAN	**Xi'an**	**28.94**	**27**	P	**P**	**17 20 13.8**	**-1.7**
XAN				pP	pP	17 20 22.0	-6.2
XAN				S	**S**	**17 25 04.4**	**+1.6**
XAN				SS	SS	17 26 33.5	-34
XAN				PcS	PcS	17 27 03.3	-3.0
XAN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
XAN				pmax	pmax		
	comp=Z,35nm,6.8s						
XAN				LR	LR		
	comp=N,1μm,14.3s						
XAN				LR	LR		
	comp=Z,460nm,14.3s,MS4.2						
SPSI	**Sidrap Palu**	**28.95**	**115**	P	**P**	**17 20 16.2**	**+0.4**
	comp=Z,22nm,1.7s,mb4.6						
WHN	**Wuhan**	**29.16**	**39**	⇑P	**P**	**17 20 17.6**	**+0.1**
WHN				S	**S**	**17 25 12.6**	**+6.2**
WHN				pmax	pmax		
	comp=Z,37nm,1.0s,mb5.1						
WHN				pmax	pmax		
	comp=Z,410nm,13.0s						
WHN				LR	LR		
	comp=N,700nm,6.7s						
WHN				LR	LR		
	comp=E,3μm,13.6s						
WHN				LR	LR		
	comp=Z,2μm,14.8s,MS5.0						
MRSI	**Marisa**	**29.37**	**105**	P	**P**	**17 20 20.5**	**+0.9**
	comp=Z,1μmcomp=Z,107nm,1.0s,mb5.5						
PAGZ	**Pagadian**	**29.48**	**89**	*e*P	**P**	**17 20 22.8**	**+2.2**
PAGZ				*e*S	pP	17 20 31.8	-1.5
BKSI	**Bulukumba**	**29.87**	**117**	P	**P**	**17 20 24.5**	**+0.5**
	comp=Z,548nmcomp=Z,78nm,0.9s,mb5.4						
SSLB	**Suanglung**	**30.18**	**57**	P	**P**	**17 20 27.2**	**+0.5**
CTBH	**Cotabato--PC H**	**30.38**	**90**	⇑*i*P	**P**	**17 20 29.8**	**+1.2**
LUWI	**Luwuk**	**30.63**	**107**	P	**P**	**17 20 31.3**	**+0.6**
	comp=Z,3μmcomp=Z,393nm,1.1s,mb6.2						
GTA	**Gaotai**	**31.13**	**9**	P	**P**	**17 20 34.6**	**-0.2**
GTA				pP	pP	17 20 43.8	-3.8
GTA				sP	sP	17 20 48.4	-5.0
GTA				PcP	PcP	17 23 30.6	+1.4
GTA				S	**S**	**17 25 37.3**	**+0.2**
GTA				ScP	ScP	17 27 09.8	+1.6
GTA				PcS	PcS	17 27 14.1	+0.8
GTA				pmax	pmax		
	comp=Z,30nm,1.1s,mb5.0						
GTA				pmax	pmax		
	comp=Z,150nm,6.6s						
GTA				LR	LR		
	comp=N,420nm,13.5s,MS4.4						
GTA				LR	LR		
	comp=E,410nm,12.8s,MS4.4						
GTA				LR	LR		
	comp=Z,420nm,13.8s,MS4.3						
BUKP	**Musuan**	**31.14**	**89**	*e*P	**P**	**17 20 37.5**	**+2.3**
BUKP				*e*S	pP	17 20 51.9	+3.9
KMSI	**Cibinong**	**31.30**	**103**	P	**P**	**17 20 38.0**	**+1.3**
	comp=Z,6μmcomp=Z,711nm,1.1s,mb6.4						
KDI	**Kendari**	**31.53**	**112**	P	**P**	**17 20 39.3**	**+0.6**
	comp=Z,867nmcomp=Z,69nm,1.0s,mb5.4						
DAV	**Davao City (W)**	**31.71**	**91**	P	**P**	**17 20 42.3**	**+2.0**
	comp=Z,38nm,0.4s,mb5.6,baz=271,slow=8.4,SNR=5.7						
DAV	**Davao City (W)**	**31.71**	**91**	*e*P	**P**	**17 20 41.9**	**+1.6**
MNI	**Manado**	**31.91**	**101**	P	**P**	**17 20 43.1**	**+1.1**
	comp=Z,3μmcomp=Z,328nm,1.1s,mb6.1						
NJ2	**Nanjing**	**33.04**	**42**	*e*P	**P**	**17 20 52.5**	**+0.8**
NJ2				pP	pP	17 21 02.9	-1.6
NJ2				sP	sP	17 21 09.8	-0.5
NJ2				PP	PP	17 22 03.3	-3.8
NJ2				S	**S**	**17 26 08.0**	**+0.9**
NJ2				sS	sS

KSH LR LR
comp=E,130nm,2.8s
KSH LR LR
comp=Z,74nm,3.4s
BTO Baotou 35.02 22 *e*P **P 17 21 10.3 +1.6**
WMQ Urumqi 35.41 353 P **P 17 21 12.5 +0.5**
WMQ pP pP 17 21 22.3 -2.7
WMQ sP sP 17 21 26.1 -4.7
WMQ PP PP 17 22 32.6 -0.6
WMQ S **S 17 26 44.3 +0.9**
WMQ sS sS 17 27 00.3 -4.8
WMQ ScS ScS 17 31 27.3 -0.1
WMQ pmax pmax
comp=Z,25nm,1.0s,mb5.1
WMQ pmax pmax
comp=Z,540nm,5.8s
WMQ LR LR
comp=N,380nm,12.1s,MS4.6
WMQ LR LR
comp=E,420nm,11.0s,MS4.6
WMQ LR LR
comp=Z,410nm,20.1s
NLAI Namlea 35.43 108 P **P 17 21 14.0 +1.4**
comp=Z,1µmcomp=Z,142nm,1.0s,mb5.9
HHC Hu-ho-hao-te 35.82 24 *e*P **P 17 21 15.8 +0.2**
HHC sP sP 17 21 30.1 -4.2
HHC PP PP 17 22 38.0 +0.3
HHC PcP PcP 17 23 42.3 -0.1
HHC S **S 17 26 51.8 +2.1**
HHC sS sS 17 27 08.0 -3.4
HHC ScP ScP 17 27 25.1 +0.5
HHC PcS PcS 17 27 29.8 +0.2
HHC SS SS 17 29 13.0 -14
HHC ScS ScS 17 31 28.9 -0.8
HHC pmax pmax
comp=Z,16nm,0.5s,mb5.2
HHC pmax pmax
comp=Z,170nm,5.5s
HHC LR LR
comp=N,560nm,13.5s,MS4.7
HHC LR LR
comp=E,640nm,12.7s,MS4.7
HHC LR LR
comp=Z,520nm,12.1s,MS4.5
AAI Ambon 36.61 108 P **P 17 21 22.9 +0.2**
comp=Z,2µmcomp=Z,154nm,1.3s,mb5.7
ULHL Ulahol 36.79 338 P **P 17 21 24.3 +0.5**
SNR=7.3
SMDO Samad 36.95 297 P **P 17 21 29.4 +3.9**
SNR=8.4
KZA Kyzart 37.02 337 P **P 17 21 26.5 +0.7**
SNR=35
BJT Baijiatuau 37.16 29 *e*P **P 17 21 27.7 +0.6**
comp=Z,60nm,0.7s,mb5.5
BJT Baijiatuau 37.16 29 *e*P **P 17 21 27.7 +0.6**
BJT pmax pmax
comp=Z,60nm,0.7s
BJI Beijing 37.18 29 P **P 17 21 27.8 +0.5**
BJI pP pP 17 21 34.5 -5.7
BJI sP sP 17 21 44.0 -2.0
BJI PP PP 17 22 56.3 +3.5
BJI S **S 17 27 13.3 +2.7**
BJI sS sS 17 27 32.4 0.0
BJI SS SS 17 29 46.0 -9.1
BJI pmax pmax
comp=Z,20nm,0.7s,mb5.1
BJI pmax pmax
comp=Z,300nm,4.8s
BJI LR LR
comp=N,700nm,20.0s,MS4.6
BJI LR LR
comp=E,750nm,21.9s,MS4.6
BJI LR LR
comp=Z,490nm,23.8s,MS4.2
MSAI Masohi 37.19 107 P **P 17 21 27.4 -0.3**
comp=Z,364nmcomp=Z,36nm,1.1s,mb5.1
JOW Kunigami 37.47 57 P **P 17 21 31.7 +1.8**
comp=Z,30nm,0.8s,mb5.2,baz=49,slow=20,SNR=2.7
JOW LR LR 17 38 51.0
comp=Z,999nm,18.1s,MS4.7,baz=301,slow=40
JOW Kunigami 37.47 57 P **P 17 21 31.7 +1.8**
JOW LR LR 17 38 51.0
TKM2 Tokmak 2 37.61 338 P **P 17 21 31.0 +0.2**
SNR=25
TKM2 Tokmak 2 37.61 338 ⇓ *i*P **P 17 21 30.7 -0.1**
comp=Z,25nm,0.8s,mb5.0
TKM2 Tokmak 2 37.61 338 ⇓ *i*P **P 17 21 30.7 -0.1**
TKM2 pmax pmax
comp=Z,25nm,0.8s,mb5.0
BSY Bisya 37.61 296 P **P 17 21 34.9 +3.7**
SNR=12
KBK Karagaybulak 37.63 337 P **P 17 21 32.0 +1.0**
SNR=56
AML Almayashu 37.68 336 P **P 17 21 32.5 +1.0**
SNR=92
HOQ Hogain 37.75 298 P **P 17 21 36.1 +3.8**
SNR=17
AAK Ala-Archa 37.78 337 P **P 17 21 33.1 +0.8**
SNR=64
AAK Ala-Archa 37.78 337 *e*P **P 17 21 32.5 +0.2**
comp=Z,381nm,1.0s,mb6.1
AAK *e*PP PP 17 23 06.2 +6.8
AAK *e*PcP PcP 17 23 48.9 +0.6
AAK *e*ScP ScP 17 27 34.6 +2.7
AAK Ala-Archa 37.78 337 *e*P **P 17 21 32.5 +0.2**
AAK *e* 17 23 06.2
AAK *e* 17 23 48.9
AAK pmax pmax
comp=Z,381nm,1.0s,mb6.1
AAK Ala-Archa 37.78 337 P **P 17 21 32.9 +0.6**
comp=Z,388nm,1.0s,mb6.1
AAK Ala-Archa 37.78 337 P **P 17 21 33.3 +1.0**
comp=Z,482nm,0.9s,mb6.2,SNR=52
AAK Ala-Archa 37.78 337 P **P 17 21 33.2 +0.9**
SNR=41
FRU Bishkek 37.91 337 ⇑ *e*P **P 17 21 34.0 +0.7**
FRU *e* pP 17 21 49.0 +2.7
FRU pmax pmax
comp=Z,110nm,1.2s,mb5.5
CHMS Chumysh 37.99 337 P **P 17 21 34.1 0.0**
SNR=22
EKS2 Erkin-Say 38.09 336 P **P 17 21 35.6 +0.8**
SNR=42
EKS2 Erkin-Say 38.09 336 *e*P **P 17 21 35.1 +0.3**
comp=Z,29nm,0.8s,mb5.1
EKS2 *e*PP PP 17 23 09.6 +6.9
EKS2 *e*S **S 17 27 24.6 +0.4**
EKS2 Erkin-Say 38.09 336 *e*P **P 17 21 35.1 +0.2**
EKS2 *e* 17 23 09.6
EKS2 *e*S **S 17 27 24.6 +0.4**
EKS2 pmax pmax
comp=Z,29nm,0.8s,mb5.1
USP Ospenovka 38.32 337 P **P 17 21 36.9 +0.1**
SNR=65
ARQ Araqi 38.38 297 P **P 17 21 41.0 +3.4**
SNR=10.0
BNDI Bandanaira 38.49 109 P **P 17 21 36.1 -2.6**
comp=Z,523nm,1.1s,mb6.2
SWI Sorong 38.70 102 P **P 17 21 39.9 -0.5**
HATD Hatta, Dubai 39.15 299 P **P 17 21 48.1 +4.0**
SNR=10
ASHO Ashiyiah 39.17 299 P **P 17 21 49.1 +4.8**
SNR=13
MBWA Marble Bar 39.20 139 *e*P **P 17 21 42.1 -2.3**
comp=Z,9.8nm,0.8s,mb4.6
MBWA Marble Bar 39.20 139 P **P 17 21 43.1 -1.3**
comp=Z,30nm,1.5s,mb4.8
MK31 Makanchi Array 39.22 348 *e*P **P 17 21 42.7 -1.5**
MK31 Makanchi Array 39.22 348 *e*P **P 17 21 42.7 -1.5**
MKAR Makanchi Array 39.22 348 P **P 17 21 43.3 -0.9**
comp=Z,14nm,0.8s,mb4.8,baz=168,slow=8.3,SNR=63
MKAR PcP PcP 17 23 53.2 +0.6
comp=Z,5.4nm,0.7s,baz=142,slow=4.1,SNR=3.5
MKAR LR LR 17 42 00.0
comp=Z,271nm,18.4s,MS4.1,baz=163,slow=42
MKAR Makanchi Array 39.22 348 P **P 17 21 43.3 -0.9**
MKAR PcP PcP 17 23 53.2 +0.6
MKAR LR LR 17 42 00.0
MKAR Makanchi Array 39.22 348 P **P 17 21 43.3 -0.9**
MKAR 17 23 53.2
ASUD Al Ashush, Dub 39.79 298 P **P 17 21 53.8 +4.5**
SNR=7.1
KKAR Karatay Array 39.83 333 *e*P **P 17 21 49.1 -0.3**
comp=Z,39nm,0.9s,mb5.1
KKAR Karatay Array 39.83 333 *e*P **P 17 21 49.1 -0.3**
KKAR pmax pmax
comp=Z,39nm,0.9s,mb5.1
SONM Songino Array 40.53 13 P **P 17 21 54.8 -0.3**
comp=Z,11nm,1.0s,mb4.4,baz=197,slow=8.3,SNR=43
SONM PcP PcP 17 23 57.8 +1.0
comp=Z,15nm,0.8s,baz=198,slow=3.8,SNR=14
SONM ScP ScP 17 27 43.2 +0.9
comp=Z,1.9nm,0.9s,baz=178,slow=3.7,SNR=4.8
SONM LR LR 17 40 20.4
comp=Z,778nm,18.4s,MS4.6,baz=177,slow=39
SONM Songino Array 40.53 13 P **P 17 21 54.8 -0.3**
SONM PcP PcP 17 23 57.8 +1.0
SONM ScP ScP 17 27 43.2 +0.9
SONM LR LR 17 40 20.4
SONM Songino Array 40.53 13 P **P 17 21 54.8 -0.3**
SONM 17 23 57.8
ULN Ulaanbaatar 40.71 14 *e*P **P 17 21 55.4 -1.2**
comp=Z,15nm,0.9s,mb4.6
ULN *e*PcP PcP 17 23 58.3 +0.9
ULN Ulaanbaatar 40.71 14 *e*P **P 17 21 55.4 -1.2**
ULN *e* 17 23 58.3
ULN pmax pmax
comp=Z,15nm,0.9s,mb4.6
ULN Ulaanbaatar 40.71 14 P **P 17 21 55.6 -1.0**
comp=Z,17nm,0.9s,mb4.7
IMYA Miami 41.07 317 *e*P **P 17 22 01.2 +1.4**
FITZ Fitzroy Crossi 41.32 130 P **P 17 21 59.7 -2.3**
comp=Z,8.1nm,0.9s,mb4.3,baz=312,slow=7.9,SNR=11
FITZ PcP PcP 17 24 00.7 +0.8
comp=Z,5.9nm,0.6s,baz=251,slow=3.1,SNR=6.2
FITZ ScP ScP 17 27 45.6 -0.5
comp=Z,3.6nm,0.8s,baz=264,slow=5.8,SNR=7.0
FITZ Fitzroy Crossi 41.32 130 *e*P **P 17 21 59.3 -2.7**
comp=Z,13nm,0.9s,mb4.6
FITZ *e* 17 24 00.2
FITZ Fitzroy Crossi 41.32 130 *e*P **P 17 21 59.0 -3.0**
comp=Z,10nm,1.0s,mb4.4
FITZ *e*PcP PcP 17 23 59.9 -0.1
FITZ Fitzroy Crossi 41.32 130 P **P 17 21 59.5 -2.5**
comp=Z,12nm,1.0s,mb4.5
TLE Tual 41.52 109 P **P 17 22 04.3 +0.5**
comp=Z,220nm,1.2s,mb5.7
IAKL Akhelmad 42.12 317 *e*P **P 17 22 09.7 +1.3**
KSAR Wonju Array Be 42.21 42 P **P 17 22 07.3 -1.7**
KSAR PcP PcP 17 24 02.9 +0.3
KSAR Wonju Array Be 42.21 42 P **P 17 22 07.4 -1.7**
KSAR 17 24 02.9
KSRS Korea Array 42.24 42 P **P 17 22 07.3 -2.0**
comp=Z,2.8nm,0.6s,mb4.0,baz=248,slow=8.5,SNR=14
KSRS PcP PcP 17 24 02.9 +0.2
comp=Z,2.1nm,0.7s,baz=222,slow=2.5,SNR=5.1
SNY Shenyang 42.32 34 ⇓ P **P 17 22 09.8 -0.1**
SNY pmax pmax
comp=Z,15nm,1.6s,mb4.4
SNY pmax pmax
comp=Z,370nm,5.1s
SNY LR LR
comp=N,370nm,13.9s,MS4.6
SNY LR LR
comp=E,410nm,11.6s,MS4.6
SNY LR LR
comp=Z,470nm,13.3s,MS4.5
ZAK Zakamensk 42.37 9 *e*P **P 17 22 08.8 -1.4**
ZAK pmax pmax
comp=Z,5.0nm,1.2s,mb4.0
IKRD Kardeh 42.38 317 *e*P **P 17 22 07.0 -3.5**
IEMG Emamgholi 42.63 318 *e*P **P 17 22 14.6 +2.1**
ISFR Sfrayin 42.87 317 *e*P **P 17 22 16.4 +1.9**
ABKT Ailbek 43.27 318 P **P 17 22 19.0 +1.3**
comp=Z,1µm,0.8s,mb6.6,SNR=56
MOY Mondy 43.31 7 *e*P **P 17 22 22.7 +4.9**
IPAR Pars 43.39 305 *e*P **P 17 22 20.6 +1.8**
BAKI Biak 43.48 101 P **P 17 22 19.1 -0.6**
comp=Z,87nm,1.1s,mb5.4
TLY Talaya 43.69 9 *e*P **P 17 22 20.5 -0.3**
TLY pmax pmax
comp=Z,12nm,1.1s,mb4.5
TLY MLR MLR
comp=Z,138nm,14.0s,MS4.0
KURK Kurchatov 43.73 346 P **P 17 22 20.0 -1.2**
comp=Z,23nm,0.8s,mb5.0,baz=165,slow=7.4,SNR=141
KURK PcP PcP 17 24 07.5 +0.2
comp=Z,13nm,0.8s,baz=161,slow=2.7,SNR=11
KURK ScP ScP 17 27 55.2 +0.1
comp=Z,2.2nm,0.8s,baz=162,slow=4.1,SNR=7.2
KURK LR LR 17 43 37.9
comp=Z,454nm,19.7s,MS4.4,baz=130,slow=40
KURK Kurchatov 43.73 346 *e*P **P 17 22 20.1 -1.0**
comp=Z,59nm,1.3s,mb5.2
KURK Kurchatov 43.73 346 *d i*P **P 17 22 20.4 -0.8**
KURK pmax pmax
comp=Z,39nm,1.0s,mb5.1
KURK MLR MLR
comp=Z,591nm,18.0s,MS4.5
KURK Kurchatov 43.73 346 P **P 17 22 20.4 -0.8**
comp=Z,178nm,1.0s,mb5.8,SNR=23
KURK Kurchatov 43.73 346 P **P 17 22 20.9 -0.3**
SNR=13
CN2 Changchun 44.66 33 ⇑ P **P 17 22 29.0 +0.2**
CN2 *e*sP sP 17 22 44.8 -2.9
CN2 *e*S **S 17 29 02.8 +1.1**
CN2 pmax pmax
comp=Z,20nm,0.8s,mb5.0
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,600nm,15.0s,MS4.8
CN2 LR LR
comp=E,600nm,15.0s,MS4.8
CN2 LR LR
comp=Z,800nm,17.0s,MS4.7
IANJ Anjilo 44.97 312 *e*P **P 17 22 32.8 +1.4**
IKIA Kiasar 45.47 313 *e*P **P 17 22 37.9 +2.6**
ILAS Lasjerd 45.63 312 *e*P **P 17 22 37.8 +1.2**
ZAAO Zalesovo Array 45.72 353 *e*P **P 17 22 36.1 -0.8**
ZALV Zalesovo Beam 45.72 353 P **P 17 22 36.5 -0.5**
comp=Z,68nm,0.9s,mb5.6,baz=169,slow=8.6,SNR=227
ZALV PcP PcP 17 24 13.3 -0.8
comp=Z,4.9nm,0.5s,baz=158,slow=4.0,SNR=3.4
ZALV LR LR 17 46 04.2
comp=Z,245nm,19.7s,MS4.2,baz=185,slow=42
ZALV Zalesovo Beam 45.72 353 P **P 17 22 36.5 -0.5**
ZALV PcP PcP 17 24 13.3 -0.8
ZALV LR LR 17 46 04.2
ZALV Zalesovo Beam 45.72 353 P **P 17 22 36.5 -0.5**
ZALV 17 24 13.3
ISFB Sefidab 45.74 310 *e*P **P 17 22 37.7 +0.3**
IKLH Kolahrood 45.83 309 *e*P **P 17 22 39.0 +0.8**
IFIR Firoozkooh 45.90 312 *e*P **P 17 22 40.5 +1.8**
HIA Hailar 46.02 24 *e*P **P 17 22 39.3 -0.2**
comp=Z,47nm,0.9s,mb5.4
HIA Hailar 46.02 24 *e*P **P 17 22 39.3 -0.1**
HIA pmax pmax
comp=Z,47nm,0.9s
IPIR Pirpir 46.13 307 *e*P **P 17 22 42.3 +1.7**
SMPI Sarmi 46.19 101 P **P 17 22 41.6 +0.3**
comp=Z,1µmcomp=Z,80nm,1.2s,mb5.5
KLBR Kellerberrin 46.21 151 *e*P **P 17 22 40.8 -0.3**
comp=Z,206nm,1.0s,mb6.0
IDMV Damavand 46.40 312 *e*P **P 17 22 44.0 +1.3**
IPRN Peran 46.46 313 *e*P **P 17 22 45.1 +2.0**
NVS Novosibirsk 46.80 352 ⇓ *i*P **P 17 22 44.3 -1.1**
NVS *i* 17 24 16.4
NVS *e*S **S 17 29 26.5 -5.6**
NVS *e* 17 32 31.0
NVS pmax pmax
comp=Z,74nm,1.1s,mb5.5
NVS pmax pmax
comp=N,45nm,1.3s
NVS pmax pmax
comp=E,24nm,1.2s
NVS smax
comp=E,32nm,2.2s
NWAO Narrogin (SRO) 47.08 153 P **P 17 22 47.9 -0.1**
comp=E,181nm,1.0s,mb6.0,baz=318,slow=7.1,SNR=39
NWAO Narrogin (SRO) 47.08 153 *e*P **P 17 22 47.7 -0.2**
comp=E,176nm,1.1s,mb5.9
NWAO Narrogin (SRO) 47.08 153 *e*P **P 17 22 47.7 -0.2**
NWAO pmax pmax
comp=Z,176nm,1.1s
NWAO Narrogin (SRO) 47.08 153 P **P 17 22 48.2 +0.3**
SNR=9.0
IR3 Iran Long-Peri 47.11 311 *e*P **P 17 22 49.3 +1.1**
QRN Al-Qurain 47.30 301 *e*P **P 17 22 50.3 +0.5**
QRN AMb AMb 17 22 56.7
comp=Z,110nm,1.1s,mb5.7
MDJ Mudanjiang 47.47 35 P **P 17 22 51.1 +0.3**
MDJ pP pP 17 23 02.3 -1.9
MDJ sP sP 17 23 07.4 -2.5
MDJ PP PP 17 24 43.5 +1.0
MDJ S **S 17 29 43.9 +1.9**
MDJ sS sS 17 30 07.1 +2.8
MDJ pmax pmax
comp=Z,12nm,1.5s,mb4.6
MDJ pmax pmax
comp=Z,180nm,4.8s
MDJ LR LR
comp=N,250nm,10.3s,MS4.6
MDJ LR LR
comp=E,340nm,14.0s,MS4.6
MDJ LR LR
comp=Z,460nm,16.0s,MS4.5
MDJ Mudanjiang 47.47 35 *e*P **P 17 22 51.0 +0.1**
comp=Z,25nm,1.1s,mb5.1
KBD Kabd 47.61 302 *e*P **P 17 22 52.8 +0.6**
KBD AMb AMB 17 22 54.5
comp=Z,86nm,1.1s,mb5.7
RDF Al-Radifah 47.66 301 *e*P **P 17 22 53.6 +1.0**
RDF AMb AMB 17 23 00.1
comp=Z,173nm,0.8s,mb6.1
UMR Umm Al-Rimmam 47.70 302 *e*P **P 17 22 53.3 +0.4**
UMR AMb AMB 17 23 01.6
comp=Z,128nm,0.9s,mb5.9
IRAZ Razeghan 47.90 311 *e*P **P 17 22 55.0 +0.7**
VLA Vladivostok 47.93 38 ⇓ *e*P **P 17 22 51.7 -2.7**
VLA 17 24 20.2
VLA 17 24 43.7
VLA *e*S **S 17 29 48.7 +0.1**
VLA pmax pmax
comp=Z,26nm,1.3s,mb5.1
VLA smax
comp=N,383nm,0.8s
NAY Al-Naaiem 48.01 302 *e*P **P 17 22 55.7 +0.4**
NAY AMb AMB 17 22 56.9
comp=Z,104nm,0.8s,mb5.9
MIB Mutribah 48.08 302 *e*P **P 17 22 56.0 +0.2**
MIB AMb AMB 17 22 58.0
comp=Z,236nm,0.9s,mb6.2
BVAR Borovoye Array 48.09 341 P **P 17 22 54.4 -1.0**
comp=Z,6.0nm,0.5s,mb4.8,baz=142,slow=8.7,SNR=57
BVAR PcP PcP 17 24 23.2 +0.7
comp=Z,7.7nm,0.8s,baz=119,slow=5.4,SNR=5.4
BVAR LR LR 17 46 01.6
comp=Z,268nm,18.6s,MS4.2,baz=155,slow=40
BVAR Borovoye Array 48.09 341 P **P 17 22 54.4 -1.0**
BVAR PcP PcP 17 24 23.2 +0.7
BVAR LR LR 17 46 01.6
BVAR Borovoye Array 48.09 341 P **P 17 22 54.4 -1.0**
BVAR 17 24 23.2
BRVK Borovoye 48.15 341 *e*P **P 17 22 54.3 -1.6**
comp=Z,24nm,1.0s,mb5.2
BRVK Borovoye 48.15 341 *d i*P **P 17 22 54.9 -1.0**
BRVK pmax pmax
comp=Z,20nm,1.2s,mb5.0
BRVK MLR MLR
comp=Z,274nm,15.0s,MS4.3
BRVK Borovoye 48.15 341 P **P 17 22 55.0 -0.9**
comp=Z,124nm,0.8s,mb6.0,SNR=12
BRVK Borovoye 48.15 341 P **P 17 22 55.3 -0.7**
SNR=6
JAY Jayapura 48.25 101 P **P 17 22 58.7 +1.3**
comp=Z,24nm,1.3s,mb5.1
MAT Matsushiro 49.04 48 PCP PcP 17 24 26.7 +0.3
MJAR Matsushiro Arr 49.04 48 P **P 17 23 03.4 +0.2**
comp=Z,2.9nm,0.7s,mb4.4,baz=239,slow=8.2,SNR=6.3
MJAR PcP PcP 17 24 26.9 +0.5
comp=Z,23nm,0.9s,baz=246,slow=4.8,SNR=25
MJAR Matsushiro Arr 49.04 48 P **P 17 23 03.4 +0.2**
MJAR PcP PcP 17 24 26.9 +0.5
MJAR Matsushiro Arr 49.04 48 P **P 17 23 03.4 +0.3**
MJAR 17 24 26.9
WRA Warramunga Arr 49.15 126 P **P 17 23 02.1 -2.0**
comp=Z,16nm,0.9s,mb5.1,baz=305,slow=9.0,SNR=122
WRA PcP PcP 17 24 26.8 -0.2
comp=Z,7.3nm,0.9s,baz=311,slow=4.1,SNR=5.8
WRA ScP ScP 17 28 18.0 -0.4
comp=Z,1.0nm,0.9s,baz=326,slow=4.5,SNR=3.5
WRA Warramunga Arr 49.15 126 P **P 17 23 02.1 -2.0**
WRA PcP PcP 17 24 26.8 -0.2
WRA ScP ScP 17 28 18.0 -0.4
WRA Warramunga Arr 49.15 126 P **P 17 23 02.2 -1.9**
WRA 17 24 26.8
WRAB Tennant Creek 49.15 126 *e*P **P 17 23 02.0 -2.1**
comp=Z,25nm,0.9s,mb5.2
WRAB Tennant Creek 49.15 126 *e*P **P 17 23 02.0 -2.1**
WRAB pmax pmax
comp=Z,25nm,0.9s,mb5.2
WRAB Tennant Creek 49.15 126 P **P 17 23 02.0 -2.1**
comp=Z,154nm,0.9s,mb6.0,SNR=20
WRAB Tennant Creek 49.15 126 P **P 17 23 03.2 -0.9**
comp=Z,60nm,1.1s,mb5.5
WB2 Warramunga Arr 49.16 126 *e*P **P 17 23 02.0 -2.1**
ABKAR Akbulak array 49.30 331 *e*P **P 17 23 04.5 -0.3**
comp=Z,30nm,0.6s,mb5.5
IKOM Komasi 49.30 308 *e*P **P 17 23 03.4 -1.7**
IGHG Ghaleghazi 50.09 308 *e*P **P 17 23 10.5 -0.6**
IDHR Dehrash 50.35 308 *e*P **P 17 23 12.2 -0.9**
AS31 Alice Springs 50.82 130 *e*P **P 17 23 14.7 -2.1**
ASAR Alice Springs 50.82 130 P **P 17 23 14.8 -1.9**
comp=Z,18nm,0.8s,mb5.0,baz=301,slow=6.9,SNR=190
ASAR PcP PcP 17 24 33.1 +0.1
comp=Z,7.6nm,0.7s,baz=308,slow=3.4,SNR=12
ASAR ScP ScP 17 28 24.0 -1.4
comp=Z,0.7nm,0.8s,baz=316,slow=3.9,SNR=4.8
ASAR LR LR 17 47 27.8
comp=Z,439nm,19.3s,MS4.5,baz=351,slow=39
ASAR Alice Springs 50.82 130 P **P 17 23 14.8 -1.9**
ASAR PcP PcP 17 24 33.1 +0.1
ASAR ScP ScP 17 28 24.0 -1.4
ASAR LR LR 17 47 27.8
ASAR Alice Springs 50.82 130 P **P 17 23 14.9 -1.9**
ASAR 17 24 33.2
AKTO Aktyubinsk 51.01 331 P **P 17 23 17.4 -0.4**
comp=Z,14nm,0.9s,mb4.9,baz=125,slow=7.9,SNR=43
AKTO PcP PcP 17 24 34.0 +0.7
comp=Z,9.2nm,0.7s,baz=127,slow=6.8,SNR=2.4
AKTO LR LR 17 47 30.3
comp=Z,281nm,18.0s,MS4.3,baz=150,slow=39
AKTO Aktyubinsk 51.01 331 P **P 17 23 17.4 -0.4**
AKTO PcP PcP 17 24 34.0 +0.7
AKTO LR LR 17 47 30.3
AKTO Aktyubinsk 51.01 331 P **P 17 23 17.4 -0.4**
AKTO 17 24 34.0
IBST Bostanabad 51.04 312 *e*P **P 17 23 17.8 -0.4**
IHRS Heris 51.16 313 *e*P **P 17 23 19.0 -0.2**
FORT Forrest 51.28 141 *e*P **P 17 23 19.1 -0.9**
comp=Z,35nm,0.8s,mb5.3
FORT Forrest 51.28 141 *e*P **P 17 23 19.0 -1.1**
comp=Z,65nm,1.0s,mb5.5
IMRD Marand 52.28 313 *e*P **P 17 23 27.7 +0.2**
MAK Makhachkala 52.78 318 *e*P **P 17 23 33.7 +2.6**
MAK *e*S **S 17 30 55.8 -0.2**
MAK pmax pmax
comp=Z,198nm,1.8s,mb5.7
MAK MLR MLR
comp=Z,566nm,18.0s,MS4.7
HAKT HAKKARI 53.35 311 *i*P **P 17 23 33.8 -1.6**
GNI Garni 53.52 314 P **P 17 23 37.6 +1.1**
comp=Z,9.2nm,0.5s,mb5.0,baz=101,slow=1.4,SNR=6.6
GNI Garni 53.52 314 *e*P **P 17 23 37.5 +1.0**
comp=Z,67nm,1.0s,mb5.5
GNI Garni 53.52 314 *e*P **P 17 23 37.5 +0.9**
GNI pmax pmax
comp=Z,67nm,1.0s
DGRG David-gareji 53.58 316 P **P 17 23 37.0 0.0**
CLNS Chul'man 53.90 21 *e*P **P 17 23 37.0 -2.0**
CLNS *e* 17 24 41.5
CLNS *e* 17 25 43.3
CLNS *e*S **S 17 31 12.3 +1.7**
CLNS *e* 17 33 17.2
CLNS *e*SS SS 17 34 47.4 -4.9
CLNS pmax pmax
comp=Z,32nm,1.4s,mb5.1
CLNS pmax pmax
comp=N,16nm,1.1s
CLNS pmax pmax
comp=E,18nm,1.1s
CLNS pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
CLNS pmax pmax

comp=N,9.0nm,1.2s
CLNS pmax pmax
comp=E,7.0nm,1.6s
CLNS smax
comp=N,190nm,13.0s
CLNS smax
comp=E,349nm,16.0s
CLNS MLR MLR
comp=Z,483nm,14.0s,MS4.7
CLNS MLR MLR
comp=N,389nm,15.0s,MS4.8
CLNS MLR MLR
comp=E,457nm,15.0s,MS4.8
MTA Mtatsminda 54.07 316 P **P** **17 23 41.2 +0.6**
COEN Coen 54.08 114 *e*P **P** **17 23 40.1 -1.0**
comp=E,94nm,0.9s,mb5.7
COEN Coen 54.08 114 P **P** **17 23 40.0 -1.0**
comp=E,27nm,1.8s,mb4.9
TBLG Delisi 54.13 316 P **P** **17 23 41.5 +0.5**
TBLG Delisi 54.13 316 P **P** **17 23 41.5 +0.5**
SVE Sverdlovsk 54.48 338⇑ *i*P **P** **17 23 43.2 -0.1**
SVE *e* 17 25 45.9
SVE *e*PPP 17 27 05.2
SVE *e* 17 37 01.3
SVE pmax pmax
comp=Z,82nm,1.2s,mb5.5
SVE MLR MLR
comp=Z,1μm,19.0s,MS5.0
GOR Gori 54.66 316 P **P** **17 23 43.9 -1.0**
AKH Akhalkalaki 54.87 315 P **P** **17 23 47.6 +1.2**
ARU Arti 54.97 337 *e*P **P** **17 23 45.9 -0.9**
comp=Z,37nm,1.1s,mb5.3
ARU Arti 54.97 337 *c i*P **P** **17 23 45.8 -1.0**
ARU 17 25 47.7
ARU S **S** **17 31 28.7 +3.6**
ARU SS SS 17 35 11.3 +2.1
ARU pmax pmax
comp=Z,41nm,1.2s,mb5.3
ARU Arti 54.97 337 P **P** **17 23 46.2 -0.6**
comp=Z,191nm,1.2s,mb6.0,SNR=7.0
ZEI Tsey 55.11 317 *e*P **P** **17 23 49.3 +1.2**
ZEI pmax pmax
comp=Z,31nm,1.0s,mb5.3
ONI Oni 55.34 316 P **P** **17 23 50.7 +0.9**
MARD Mardin 55.49 310 *i*P **P** **17 23 49.7 -1.2**
PMG Port Moresby 56.27 107 P **P** **17 23 57.0 +0.1**
comp=Z,45nm,0.8s,mb5.5,baz=326,slow=5.4,SNR=16
PMG Port Moresby 56.27 107 *e*P **P** **17 23 56.2 -0.7**
comp=Z,43nm,0.8s,mb5.5
PMG Port Moresby 56.27 107 *d i*P **P** **17 23 57.0 +0.1**
PMG pmax pmax
comp=Z,48nm,0.6s
PMG Port Moresby 56.27 107 P **P** **17 23 57.5 +0.6**
comp=Z,758nmcomp=Z,76nm,1.1s,mb5.6
KIV Kislovodsk 56.38 318 *e*P **P** **17 23 57.5 +0.3**
comp=Z,69nm,1.0s,mb5.6
KIV Kislovodsk 56.38 318 *e*P **P** **17 23 57.3 +0.1**
KIV *e* 17 26 01.9
KIV *e*S **S** **17 31 46.7 +2.3**
KIV pmax pmax
comp=Z,80nm,1.1s,mb5.7
KIV pmax pmax
comp=Z,85nm,4.9s
KIV Kislovodsk 56.38 318 P **P** **17 23 57.3 +0.1**
comp=Z,402nm,0.9s,mb6.5,SNR=12
KIV Kislovodsk 56.38 318 P **P** **17 23 58.1 +0.9**
SNR=12
YSS Yuzh-Sakhalins 56.51 38 *e*P **P** **17 23 58.1 +0.1**
comp=Z,162nm,1.4s,mb5.9
YSS Yuzh-Sakhalins 56.51 38 *e*P **P** **17 23 56.0 -2.0**
KMBO Kilima Mbogo 56.98 263 *e*P **P** **17 24 03.4 +1.4**
comp=Z,14nm,1.0s,mb4.9
KMBO Kilima Mbogo 56.98 263 *e*P **P** **17 24 03.4 +1.4**
KMBO pmax pmax
comp=Z,14nm,1.0s
KMBO Kilima Mbogo 56.98 263 P **P** **17 24 06.6 +4.6**
SNR=6.0
YUK Yuzh-Kuril'sk 57.32 43 P **P** **17 24 03.2 -0.6**
YUK *e*S **S** **17 32 04.0 +7.3**
YUK *e*SS SS 17 35 43.6 -3.0
YUK MLR MLR
comp=N,174nm,22.0s,MS4.7
YUK MLR MLR
comp=E,614nm,22.0s,MS4.7
YUK MLR MLR
comp=Z,760nm,22.0s,MS4.8
ASF Jabal al Asfar 57.35 303 P **P** **17 24 05.4 +1.2**
comp=Z,9.4nm,0.8s,mb4.9,baz=296,slow=2.0,SNR=19
ASF LR LR 17 51 52.2
comp=Z,150nm,18.8s,MS4.1,baz=136,slow=39
ASF Jabal al Asfar 57.35 303 P **P** **17 24 05.4 +1.2**
ASF LR LR 17 51 52.2
ASF Jabal al Asfar 57.35 303 P **P** **17 24 05.4 +1.1**
KEMA Kemaliye 57.77 311 *i*P **P** **17 24 06.7 -0.4**
SOKR Solikamsk 57.88 339 *e*P **P** **17 24 07.7 +0.2**
SOKR pmax pmax
comp=Z,20nm,0.5s,mb5.4
SOKR MLR MLR
comp=Z,1μm,26.0s,MS4.9
AKCD Akcadag 57.93 310 *i*P **P** **17 24 08.5 +0.2**
GZT Gaziantep 57.96 309 *i*P **P** **17 24 07.8 -0.8**
GRSN GIRESUNGRSN 58.42 313 *i*P **P** **17 24 10.4 -1.3**
EIL Elat 58.58 299 P **P** **17 24 14.2 +1.3**
comp=Z,23nm,0.8s,mb5.3,baz=88,slow=2.7,SNR=20
EIL LR LR 17 50 01.1
comp=Z,344nm,20.6s,MS4.5,baz=99,slow=36
EIL Elat 58.58 299 P **P** **17 24 14.2 +1.3**
EIL LR LR 17 50 01.1
MMAI Mount Meron Ar 58.74 303 P **P** **17 24 14.4 +0.4**
comp=Z,8.3nm,0.8s,mb4.8,baz=103,slow=6.9,SNR=11
MMAI LR LR 17 53 15.5
comp=Z,274nm,18.6s,MS4.4,baz=190,slow=40
MMAI Mount Meron Ar 58.74 303 P **P** **17 24 14.4 +0.4**
MMAI LR LR 17 53 15.5
CTA Charters Tower 59.15 120 P **P** **17 24 16.4 -0.6**
comp=Z,12nm,0.8s,mb5.0,baz=293,slow=7.7,SNR=18
CTA PcP PcP 17 25 04.1 -1.1
comp=Z,7.5nm,0.6s,baz=282,slow=5.6,SNR=6.3
CTA Charters Tower 59.15 120 *e*P **P** **17 24 15.8 -1.2**
comp=Z,14nm,0.9s,mb5.0
CTA *e*PCP PcP 17 25 04.0 -1.2
CTA Charters Tower 59.15 120 P **P** **17 24 16.4 -0.6**
CTA PcP PcP 17 25 04.1 -1.1
CTA Charters Tower 59.15 120 P **P** **17 24 16.4 -0.6**
CTA 17 25 04.1
CTAO Charters Tower 59.15 120 *e*P **P** **17 24 16.0 -1.0**
comp=Z,88nm,1.6s,mb5.5
CTAO Charters Tower 59.15 120 *e*P **P** **17 24 16.0 -1.0**
CTAO pmax pmax
comp=Z,88nm,1.6s,mb5.5
CTAO Charters Tower 59.15 120 P **P** **17 24 16.0 -1.0**
comp=Z,32nm,1.5s,mb5.1
PINB Pinarbasi 59.18 310 *i*P **P** **17 24 16.9 -0.1**
YAK Yakutsk 59.43 19 *e*P **P** **17 24 17.2 -1.0**
comp=Z,70nm,0.9s,mb5.7
YAK Yakutsk 59.43 19 *e*P **P** **17 24 16.4 -1.8**
YAK *e**PP pP 17 24 38.5 +6.5
YAK *e* 17 25 05.0
YAK *e* 17 26 24.7
YAK *e*PPP 17 28 00.2
YAK *e*S **S** **17 32 19.9 -3.7**
YAK *e* 17 34 02.9
YAK *e*SS SS 17 36 18.5 -0.7
YAK pmax pmax
comp=Z,62nm,0.9s,mb5.6
YAK pmax pmax
comp=E,27nm,1.1s
YAK pmax pmax
comp=N,23nm,0.9s
YAK pmax pmax
comp=Z,37nm,13.0s
YAK smax
comp=E,9.0nm,1.3s
YAK smax
comp=N,22nm,1.4s
ANN Anapa 60.20 317 *e*P **P** **17 24 23.8 -0.1**
ANN pmax pmax
comp=Z,44nm,1.6s,mb5.2
AVNT Avonos 60.38 310 *i*P **P** **17 24 25.0 -0.2**
STKA Stephens Creek 61.03 134 P **P** **17 24 28.5 -1.2**
comp=Z,19nm,0.9s,mb5.2,baz=322,slow=6.9,SNR=24
STKA LR LR 17 53 50.7
comp=Z,499nm,19.5s,MS4.7,baz=22,slow=39
STKA Stephens Creek 61.03 134 *e*P **P** **17 24 28.5 -1.2**
comp=Z,16nm,1.0s,mb5.1
STKA Stephens Creek 61.03 134 *e*P **P** **17 24 27.5 -2.2**
comp=Z,4.6nm,1.0s,mb4.6
STKA Stephens Creek 61.03 134 *e*P **P** **17 24 27.5 -2.2**
STKA pmax pmax
comp=Z,5.0nm,1.0s
VSR Storozhevoye 61.45 324 *e*P **P** **17 24 30.4 -1.8**
VSR pmax pmax
comp=N,10.0nm,0.9s
VSR pmax pmax
comp=E,30nm,0.9s
VSR pmax pmax
comp=Z,30nm,0.9s,mb5.4
BR131 Keskin Array S 61.52 311 *e*P **P** **17 24 31.8 -1.1**
comp=Z,20nm,0.7s,mb5.4
BRTR Keskin Array B 61.52 311 P **P** **17 24 31.8 -1.1**
comp=Z,26nm,0.7s,mb5.4,baz=125,slow=7.6,SNR=130
BRTR LR LR 17 55 43.4
comp=Z,111nm,19.6s,MS4.0,baz=344,slow=40
BRTR Keskin Array B 61.52 311 P **P** **17 24 31.8 -1.1**
BRTR LR LR 17 55 43.4
BRTR Keskin Array B 61.52 311 P **P** **17 24 31.8 -1.1**
BALT Daday 62.13 313 *i*P **P** **17 24 35.6 -1.4**
KORT Korkueli 63.52 307 *i*P **P** **17 24 46.2 -0.1**
ESKT Eskisehir 63.58 310 *i*P **P** **17 24 44.8 -1.9**
HENT Hendek 63.80 311 *i*P **P** **17 24 45.8 -2.3**
MOS Moscow 64.14 329 *e*P **P** **17 24 48.2 -1.8**
MOS *e* 17 27 11.9
MOS pmax pmax
comp=Z,83nm,1.3s,mb5.6
GOLH Golhisar 64.18 307 *i*P **P** **17 24 48.8 -1.9**
OBN Obninsk 64.44 328 *e*P **P** **17 24 51.3 -0.7**
comp=Z,107nm,1.3s,mb5.7
OBN Obninsk 64.44 328 *c i*P **P** **17 24 51.5 -0.5**
OBN *e* 17 25 26.6
OBN *e* 17 27 14.2
OBN pmax pmax
comp=Z,87nm,1.2s,mb5.7
OBN MLR MLR
comp=Z,400nm,23.0s,MS4.5
MANT Manisa 65.16 308 *i*P **P** **17 24 56.7 -0.3**
EIDS Eidsvold 65.34 123 *e*P **P** **17 24 57.5 -0.9**
comp=Z,31nm,1.4s,mb5.1
DURS Dursunbey 65.40 310 *i*P **P** **17 24 57.4 -1.2**
KLMR Klimovskoe 65.53 334 *e*P **P** **17 24 53.8 -5.1**
KLMR pmax pmax
comp=Z,68nm,1.3s,mb5.5
AYDN Tasoluk 65.57 307 *i*P **P** **17 24 59.8 +0.1**
KARP Karpathos 65.87 305 *e*P **P** **17 25 02.1 +0.4**
BALY Balya 66.08 310 *i*P **P** **17 25 01.6 -1.3**
TIRR Tirgusor 66.33 315 *e*P **P** **17 25 03.0 -1.5**
comp=Z,16nm,0.9s,mb5.0
TIRR Tirgusor 66.33 315 *e*P **P** **17 25 03.0 -1.5**
TIRR pmax pmax
comp=Z,16nm,0.9s,mb5.0
TIRR Tirgusor 66.33 315⇑ *i*P **P** **17 25 03.6 -0.9**
KIS Kishinev 66.59 318 *e*PUNK **P** 17 25 04.0
KIS Kishinev 66.59 318 *e*P **P** **17 25 04.0 -2.1**
KIS *e* 17 25 34.0
CFR Carcaliu 66.67 316⇑ P **P** **17 25 05.6 -1.0**
CFR Carcaliu 66.67 316⇑ *i*P **P** **17 25 05.6 -1.0**
TOO Toolangi 66.79 137 *e*P **P** **17 25 07.8 +0.4**
comp=Z,110nm,0.9s,mb5.9
PRK Paraskevi 67.04 309 *e*P **P** **17 25 08.9 -0.2**
NPS Neapolis 67.10 305 *e*P **P** **17 25 09.7 +0.2**
AKASG Malin Array Be 67.22 322 P **P** **17 25 08.4 -1.5**
comp=Z,14nm,0.7s,mb5.1,baz=89,slow=5.1,SNR=36
AKASG PP PP 17 27 36.9 -1.6
comp=Z,0.6nm,0.4s,baz=97,slow=7.6,SNR=4.3
AKASG LR LR 17 59 10.3
comp=Z,255nm,20.3s,MS4.4,baz=85,slow=40
AKASG Malin Array Be 67.22 322 P **P** **17 25 08.4 -1.5**
AKASG PP PP 17 27 36.9 -1.6
AKASG LR LR 17 59 10.3
AKASG Malin Array Be 67.22 322 P **P** **17 25 08.4 -1.6**
AKASG 17 27 36.9
AKBB Malin Array Si 67.22 322 *e*P **P** **17 25 08.6 -1.3**
AKBB Malin Array Si 67.22 322 *e*P **P** **17 25 08.6 -1.4**
KIEV Kiev 67.22 322 *e*P **P** **17 25 08.6 -1.5**
comp=Z,57nm,1.4s,mb5.4
KIEV Kiev 67.22 322 *e*P **P** **17 25 08.6 -1.4**
KIEV pmax pmax
comp=Z,57nm,1.4s,mb5.4
IDI Anoyia 67.69 305 *e*P **P** **17 25 13.1 -0.2**
comp=Z,35nm,0.7s,mb5.5
PETK Petropavlovsk- 67.69 36 P **P** **17 25 13.4 +0.5**
comp=Z,3.9nm,0.7s,mb4.6,baz=232,slow=3.3,SNR=6.9
PETK LR LR 17 59 26.3
comp=Z,96nm,19.2s,MS4.0,baz=51,slow=40
PETK Petropavlovsk- 67.69 36 P **P** **17 25 13.4 +0.5**
PETK LR LR 17 59 26.3
PETK Petropavlovsk- 67.69 36 P **P** **17 25 13.5 +0.6**
ISR Istrita 67.76 315⇓ *i*P **P** **17 25 14.3 +0.8**
VRI Vrincioaia 67.77 316⇓ P **P** **17 25 13.6 0.0**
VRI Vrincioaia 67.77 316⇓ *i*P **P** **17 25 13.6 0.0**
PLOR Plostina 67.82 316⇓ P **P** **17 25 14.3 +0.4**
PLOR Plostina 67.82 316⇓ *i*P **P** **17 25 14.3 +0.4**
ARMA Armidale 67.85 128 *e*P **P** **17 25 15.5 +1.2**
RDO Rodhopi 67.86 311 *e*P **P** **17 25 13.7 -0.5**
LIA Limnos Island 67.96 309 *e*P **P** **17 25 13.9 -1.0**
PET Petropavlovsk 68.22 36 *e*P **P** **17 25 19.9 +3.7**
PET Petropavlovsk 68.22 36 *e*P **P** **17 25 18.8 +2.6**
PET *e*S S 17 34 17.8 +4.8
PET MLR MLR
comp=Z,200nm,15.0s,MS4.5
MLR Muntele Rosu 68.24 316⇑ P **P** **17 25 17.1 +0.5**
MLR Muntele Rosu 68.24 316⇑ *i*P **P** **17 25 17.0 +0.4**
VAM Vamos 68.26 305 *e*P **P** **17 25 17.5 +0.6**
CNB Canberra Magne 68.35 133 *e*P **P** **17 25 12.3 -5.0**
comp=Z,69nm,1.0s,mb5.6
SEY Seymchan 68.45 25⇓ *e*P **P** **17 25 16.1 -1.4**
HNR Honiara 68.47 104 *e*P **P** **17 25 18.5 0.0**
comp=Z,146nm,1.0s,mb6.0
HNR Honiara 68.47 104 *e*P **P** **17 25 18.5 0.0**
HNR pmax pmax
comp=Z,146nm,1.0s,mb6.0
RZN Rozhen 68.54 311 P **P** **17 25 18.0 -0.5**
HUMR Humele 68.76 314⇓ *i*P **P** **17 25 19.3 -0.5**
VLY Voula,Athens 68.81 307 *e*P **P** **17 25 18.3 -1.9**
VOIR 68.86 315⇑ P **P** **17 25 19.4 -1.0**
VOIR 68.86 315⇑ *i*P **P** **17 25 19.4 -1.0**
MICGM Minsk 68.99 325 *e*P **P** **17 25 19.0 -2.0**
MNK Minsk 69.02 325 *e*P **P** **17 25 19.0 -2.2**
LSZ Lusaka 69.03 250 *e*P **P** **17 25 24.0 +2.1**
comp=Z,83nm,1.4s,mb5.5
LSZ Lusaka 69.03 250 *e*P **P** **17 25 24.0 +2.1**
LSZ pmax pmax
comp=Z,83nm,1.4s,mb5.5
BURAR Bucovina Array 69.11 318⇓ *i*P **P** **17 25 21.8 -0.1**
BURAR Bucovina Array 69.11 318⇓ *i*P **P** **17 25 21.8 -0.1**
BUR08 Bucovina Ar. S 69.13 318 *e*P **P** **17 25 22.1 0.0**
NVR Nevrokopi 69.14 311 *e*P **P** **17 25 21.4 -0.8**
KYTH Kithira 69.27 305 *e*P **P** **17 25 22.4 -0.8**
PUL Pulkovo 69.28 331 *i*P **P** **17 25 23.2 +0.5**
PUL pmax pmax
comp=Z,66nm,1.1s,mb5.5
PLG Polygyros 69.34 310 *e*P **P** **17 25 22.4 -1.1**
VLI Veliai 69.39 306 *e*P **P** **17 25 22.7 -1.2**
MPEP Malo Peshtene 69.48 313 P **P** **17 25 23.8 -0.5**
LKR Lokris 69.50 308 *e*P **P** **17 25 22.4 -2.1**
NACGM Naroch 69.71 326 *e* **P** **17 25 21.0 -4.4**
LOT Lotru 69.75 315⇓ *i*P **P** **17 25 25.1 -0.8**
VTS Vitosha 69.77 312⇓ *i*P **P** **17 25 25.1 -1.0**
VTS Vitosha 69.77 312 P **P** **17 25 25.2 -0.9**
KKB Krupnik 69.78 311 *i*P **P** **17 25 25.1 -1.0**
JOF Joensuu 69.92 334 *e*P **P** **17 25 26.8 +0.2**
JOF pmax pmax
comp=Z,27nm,0.7s,mb5.3
JOF Joensuu 69.92 334 *e*p **P** **17 25 26.8 +0.2**
comp=Z,27nm,0.7s,mb5.3
IIGN Ignalina 70.13 326 *e*P **P** **17 25 28.1 +0.1**
IIGN AMB AMB 17 25 28.9
comp=Z,22nm,1.2s,mb5.0
IZAR Zarasai 70.21 326 *e*P **P** **17 25 28.6 +0.1**
IZAR AMB AMB 17 25 29.4
comp=Z,17nm,1.2s,mb4.8
ISAL Salakas 70.24 326 *e*P **P** **17 25 28.7 +0.1**
ISAL AMB AMB 17 25 30.8
comp=Z,16nm,1.5s,mb4.7
LVV L'vov 70.28 320 *e*P **P** **17 25 28.4 -0.7**
THL Klokotos Trika 70.35 309 *e*P **P** **17 25 27.5 -2.2**
GZR Gura Zlata 70.43 315⇓ *i*P **P** **17 25 29.6 -0.5**
GZR Gura Zlata 70.43 315⇓ *i*P **P** **17 25 29.5 -0.6**
EVR Evrytania 70.46 308 *e*P **P** **17 25 29.3 -1.1**
VSU Vasula 70.65 329 *i*P **P** **17 25 30.6 -0.5**
VSU pmax pmax
comp=Z,44nm,1.0s,mb5.3
VSU MLR MLR
comp=Z,382nm,24.0s,MS4.6
RLS Riolos of Patr 70.66 307 *e*P **P** **17 25 29.8 -1.8**
DRGR 70.67 317⇑ P **P** **17 25 31.3 -0.2**
DRGR 70.67 317⇑ *i*P **P** **17 25 31.3 -0.2**
APA Apatity 70.94 339⇓ *i*P **P** **17 25 31.8 -0.9**
APA *i* pP 17 25 44.0 -2.7
APA pmax pmax
comp=Z,70nm,1.2s,mb5.5
APA MLR MLR
comp=Z,2μm,19.0s,MS5.3
TRPA Tarpa 70.98 318⇓ *i*P **P** **17 25 33.5 +0.2**
SKO Skopje 71.01 311 *e*P **P** **17 25 32.4 -1.3**
KRUS Krusevo 71.09 311 *e*P **P** **17 25 31.6 -2.6**
KWP Kalwaria Pacla 71.09 320 *e*P **P** **17 25 33.8 -0.3**
KWP Kalwaria Pacla 71.09 320 *e*P **P** **17 25 34.0 -0.1**
comp=Z,28nm,0.4s,mb5.5
KWP Kalwaria Pacla 71.09 320 *e*P **P** **17 25 34.0 0.0**
KWP pmax pmax
comp=Z,28nm,0.4s,mb5.5
KWP Kalwaria Pacla 71.09 320⇑ *i*P **P** **17 25 33.3 -0.7**
UZH Uzhgorod 71.21 318 *e*P **P** **17 25 34.3 -0.5**
UZH *i* pP 17 25 48.3 -0.5
JAN Janina 71.25 309 *e*P **P** **17 25 34.0 -1.2**
BZS Buzias 71.27 315⇑ *i*P **P** **17 25 34.3 -0.9**
VLS Valsamata 71.36 307 *e*P **P** **17 25 34.4 -1.4**
SUW Suwalki 71.56 324 *e*P **P** **17 25 35.5 -1.3**
SUW Suwalki 71.56 324 *e*P **P** **17 25 35.9 -0.9**
comp=Z,143nm,1.1s,mb5.8
SUW Suwalki 71.56 324 *e*P **P** **17 25 35.9 -0.9**
SUW pmax pmax
comp=Z,143nm,1.1s,mb5.8
FINES FINESS Array B 71.78 332 P **P** **17 25 37.5 -0.4**
comp=Z,14nm,0.7s,mb5.0,baz=98,slow=6.0,SNR=31
FINES LR LR 17 59 57.4
comp=Z,252nm,19.6s,MS4.5,baz=122,slow=38
FINES FINESS Array B 71.78 332 P **P** **17 25 37.5 -0.4**
FINES LR LR 17 59 57.4
FINES FINESS Array B 71.78 332 P **P** **17 25 37.5 -0.4**
CRVS Cervenica-Dubn 71.80 319 *e*P **P** **17 25 38.7 +0.4**
CRVS pmax pmax
comp=Z,27nm,1.1s,mb5.1
CRVS Cervenica-Dubn 71.80 319 *e*P **P** **17 25 38.7 +0.4**
KAF Kangasniemi 71.86 333 *e*P **P** **17 25 38.0 -0.4**
KAF pmax pmax
comp=Z,8.0nm,0.4s,mb5.0
KAF Kangasniemi 71.86 333 *ep* **P** **17 25 38.0 -0.4**
comp=Z,7.5nm,0.4s,mb5.0
STHS Stebnicka Huta 72.01 319 *e*P **P** **17 25 39.8 +0.3**
STHS pmax pmax
comp=Z,16nm,0.9s,mb5.0
STHS Stebnicka Huta 72.01 319 *e*P **P** **17 25 39.8 +0.3**
NIE Niedzica 72.61 319 *e*P **P** **17 25 43.7 +0.6**
NIE Niedzica 72.61 319 *e*P **P** **17 25 43.7 +0.6**
BEL Belsk 72.63 322 *e*P **P** **17 25 41.7 -1.5**
BEL Belsk 72.63 322 *e*P **P** **17 25 41.7 -1.5**
PSZ Piszkesteto 72.71 317 *e*P **P** **17 25 43.6 -0.2**
comp=Z,56nm,1.4s,mb5.3
PSZ Piszkesteto 72.71 317 *e*P **P** **17 25 43.6 -0.1**
PSZ pmax pmax
comp=Z,56nm,1.4s,mb5.3
PSZ Piszkesteto 72.71 317⇓ *e*P **P** **17 25 43.5 -0.2**
PSZ Piszkesteto 72.71 317⇓ *i*P **P** **17 25 43.3 -0.4**
OJC Ojcow 73.04 320 *e*P **P** **17 25 45.4 -0.2**
OJC Ojcow 73.04 320 *e*P **P** **17 25 45.4 -0.2**
BUD Budapest 73.25 317 *e*P **P** **17 25 46.0 -1.0**
PKSM Moragy 73.40 316⇑ *i*P **P** **17 25 46.9 -0.9**
VYHS Vyhne 73.47 318 *e*P **P** **17 25 48.1 -0.2**
VYHS pmax pmax
comp=Z,24nm,1.6s,mb4.9
VYHS Vyhne 73.47 318 *e*P **P** **17 25 48.1 -0.2**
KEV Kevo 73.93 341 *e*P **P** **17 25 50.4 -0.1**
KEV pmax pmax
comp=Z,17nm,0.7s,mb5.1
KEV Kevo 73.93 341 *ep* **P** **17 25 50.4 -0.1**
comp=Z,17nm,0.7s,mb5.1
OKC Ostrava-Krasne 74.06 319 *e*P **P** **17 25 51.4 -0.2**
OKC Ostrava-Krasne 74.06 319 *e*P **P** **17 25 51.4 -0.2**
LBTB Lobatse 74.15 241 P **P** **17 25 55.0 +2.4**
comp=Z,37nm,0.8s,mb5.4,baz=97,slow=5.5,SNR=49
LBTB LR LR 17 53 37.2
comp=Z,493nm,21.4s,MS4.8,baz=85,slow=32
LBTB Lobatse 74.15 241 *e*P **P** **17 25 54.7 +2.1**
comp=Z,44nm,0.9s,mb5.4
LBTB Lobatse 74.15 241 *e*P **P** **17 25 54.7 +2.1**
LBTB pmax pmax
comp=Z,44nm,0.9s,mb5.4
ARCES ARCESS Array B 74.36 340 P **P** **17 25 53.0 0.0**
comp=Z,16nm,0.8s,mb5.0,baz=99,slow=5.3,SNR=31
ARCES LR LR 18 01 35.9
comp=Z,899nm,18.8s,MS5.1,baz=115,slow=38
ARCES ARCESS Array B 74.36 340 P **P** **17 25 53.0 0.0**
ARCES LR LR 18 01 35.9
ARCES ARCESS Array B 74.36 340 P **P** **17 25 53.0 0.0**
ARE0 ARCESS Array S 74.36 340 *e*P **P** **17 25 52.9 -0.1**
MORC Moravsky Berou 74.44 319 *e*P **P** **17 25 53.8 -0.1**
comp=Z,50nm,1.2s,mb5.3
MORC Moravsky Berou 74.44 319 *e*P **P** **17 25 53.8 -0.1**
MORC pmax pmax
comp=Z,50nm,1.2s,mb5.3
MORC Moravsky Berou 74.44 319⇑ *i*P **P** **17 25 54.3 +0.4**
ZST Bratislava 74.60 318 *e*P **P** **17 25 55.0 +0.2**
ZST pmax pmax
comp=Z,27nm,0.9s,mb5.2
ZST Bratislava 74.60 318 *e*P **P** **17 25 55.0 +0.2**
SOP Sopron 74.93 317⇓ *e*P **P** **17 25 56.6 -0.2**
KTK1 Kautokeino 74.98 339 *e*P **P** **17 25 56.5 -0.2**
CEL Celeste 75.05 307 *e*P **P** **17 25 58.0 +0.4**
comp=Z,69nm,1.1s,mb5.5
KOGS Kog 75.07 316 *e*P **P** **17 25 57.2 -0.3**
CUC Castrocucco 75.14 309 *e*P **P** **17 25 57.0 -1.1**
comp=Z,19nm,1.2s,mb4.9
DPC Dobruska-Polom 75.27 320 *e*P **P** **17 25 59.5 +0.8**
DPC Dobruska-Polom 75.27 320 *e*P **P** **17 25 59.5 +0.8**
KSP Ksiaz 75.33 320 *e*P **P** **17 25 59.4 +0.5**
CONA Conrad Observa 75.41 317⇑ *i*P **P** **17 25 59.6 0.0**
comp=Z,19nm,1.3s,mb4.9
UPC Upice 75.48 320 *e*P **P** **17 26 00.3 +0.5**
UPC Upice 75.48 320 *e*P **P** **17 26 00.3 +0.5**
BOSA Boshof 75.55 238 P **P** **17 26 02.6 +2.0**
comp=Z,30nm,0.7s,mb5.4,baz=85,slow=5.7,SNR=67
BOSA LR LR 17 53 50.8
comp=Z,468nm,21.5s,MS4.8,baz=68,slow=31
BOSA Boshof 75.55 238 *e*P **P** **17 26 02.4 +1.8**
comp=Z,69nm,1.1s,mb5.5
BOSA Boshof 75.55 238 *e*P **P** **17 26 02.4 +1.8**
BOSA pmax pmax
comp=Z,69nm,1.1s,mb5.5
BILL Bilibino 75.57 22 *e*P **P** **17 25 59.3 -0.7**
comp=Z,48nm,1.3s,mb5.3
BILL Bilibino 75.57 22 *c i*P **P** **17 25 59.5 -0.5**
BILL *e* 17 28 46.1
BILL pmax pmax
comp=Z,40nm,1.2s,mb5.2
BILL MLR MLR
comp=Z,300nm,15.0s,MS4.7
ARSA Arzberg 75.61 317⇓ *i*P **P** **17 26 00.8 +0.2**
comp=Z,30nm,1.1s,mb5.1,SNR=12
BOJS Bojanci 75.72 315 *e*P **P** **17 26 00.9 -0.4**
CASY Casey 75.76 173 *e*P **P** **17 26 01.5 +0.5**
CASY Casey 75.76 173 *e*P **P** **17 26 01.5 +0.5**
comp=Z,21nm,0.9s,mb5.1
PERS Pernice 75.86 316 *e*P **P** **17 26 02.1 0.0**
SOKA Soboth 75.92 316⇓ *i*P **P** **17 26 02.5 +0.1**
comp=Z,39nm,1.2s,mb5.2
LJU Ljubljana 76.24 315 *e*P **P** **17 26 04.5 +0.2**
OBKA Obir 76.24 316⇓ *i*P **P** **17 26 04.5 +0.2**
comp=Z,45nm,1.4s,mb5.2,SNR=9.9
PRU Pruhonice 76.39 319 *e*P **P** **17 26 05.7 +0.6**
PRU Pruhonice 76.39 319 *e*P **P** **17 26 05.7 +0.6**
PVCC Panska Ves 76.40 320 *e*P **P** **17 26 05.6 +0.5**
PVCC Panska Ves 76.40 320 *e*P **P** **17 26 05.6 +0.5**
MOA Molln 76.48 317⇓ *i*P **P** **17 26 05.2 -0.4**
comp=Z,25nm,1.2s,mb5.0,SNR=8.3
VOY Vojsko 76.69 315 *e*P **P** **17 26 06.6 -0.2**
VOY *e* 17 26 13.6
CADS Cadrg 76.80 315 *e*P **P** **17 26 06.9 -0.5**
BRG Berggiesshubel 76.81 320 *i*P **P** **17 26 07.6 +0.2**
comp=Z,16nm,0.9s,mb4.9
BRG *i* 17 26 12.0
comp=Z,28nm,1.1s

BRG Berggiesshubel 76.81 320 *e*P **P** 17 26 07.6 +0.2
comp=Z,14nm,0.9s,mb4.9
BRG Berggiesshubel 76.81 320 *i* P **P** 17 26 07.6 +0.2
BRG *i* 17 26 12.0
BRG pmax pmax
comp=Z,16nm,0.9s,mb5.0
BRG pmax pmax
comp=Z,28nm,1.1s,mb5.1
FX1 Attu Island--F 76.86 38 P **P** 17 26 07.7 0.0
comp=Z,24nm,0.5s,mb5.3,baz=277,slow=2.3,SNR=12
FX1 Attu Island--F 76.86 38 P **P** 17 26 07.7 0.0
FX1 Attu Island--F 76.86 38 P **P** 17 26 07.7 +0.1
MYKA Terra Mystica 76.87 316 ||*i*P **P** 17 26 07.9 0.0
comp=Z,11nm,0.9s,mb4.8
GEC2 GERESS Array S 76.89 318 *e*P **P** 17 26 08.1 +0.2
comp=Z,21nm,1.0s,mb5.0
GEC2 GERESS Array S 76.89 318 *e*P **P** 17 26 08.1 +0.2
GEC2 pmax pmax
comp=Z,21nm,1.0s,mb5.0
GERES GERESS Array B 76.89 318 P **P** 17 26 08.1 +0.2
comp=Z,12nm,0.7s,mb5.0,baz=86,slow=5.4,SNR=68
GERES LR LR 18 04 46.7
comp=Z,141nm,18.6s,MS4.3,baz=67,slow=39
GERES GERESS Array B 76.89 318 P **P** 17 26 08.1 +0.2
GERES LR LR 18 04 46.7
GERES GERESS Array B 76.89 318 P **P** 17 26 08.1 +0.2
KHC Kasperske Hory 76.98 318 P **P** 17 26 08.3 -0.1
KHC Kasperske Hory 76.98 318 *e*P **P** 17 26 08.3 -0.1
KHC *ex* x 17 26 42.0
RUE Ruedersdorf 76.99 322 *e*P **P** 17 26 08.2 -0.1
comp=Z,52nm,0.8s,mb5.5
CLL Collm 77.42 321 *e*P **P** 17 26 10.6 -0.2
comp=Z,10.0nm,1.1s,mb4.7
CLL Collm 77.42 321 *i* P **P** 17 26 10.3 -0.5
CLL *i* *PP pP 17 26 14.7 -10
CLL pmax pmax
comp=Z,40nm,1.7s,mb5.1
CLL Collm 77.42 321 *i* P **P** 17 26 10.3 -0.5
comp=Z,40nm,1.7s,mb5.1
CLL *i* 17 26 14.7
CLL *i* sP sP 17 26 28.0 -2.5
CLL *e*PP PP 17 29 02.0 -3.7
WET Wettzell 77.44 318 *e*P **P** 17 26 11.2 +0.2
comp=Z,17nm,0.9s,mb5.0
WET Wettzell 77.44 318 *e*P **P** 17 26 11.2 +0.2
WET pmax pmax
comp=Z,17nm,0.9s,mb5.0
RJOB Jochberg 77.47 317 *e*P **P** 17 26 10.6 -0.6
comp=Z,16nm,1.1s,mb4.9
HFS Hagfors 77.52 330 P **P** 17 26 11.0 -0.2
comp=Z,14nm,0.6s,mb5.1,baz=102,slow=6.2,SNR=6.3
HFS Hagfors 77.52 330 P **P** 17 26 11.0 -0.2
HFS Hagfors 77.52 330 P **P** 17 26 11.0 -0.2
DZM Mont Dzumac 77.60 115 *e*P **P** 17 26 12.8 +0.4
comp=Z,87nm,1.6s,mb5.5
DZM *e*SS SS 17 41 03.8 +2.5
comp=Z,304nm,34.0s
DZM *e*LR LR 17 50 18.8
comp=Z,230nm,21.1s
ABTA Abfaltersbach 77.65 316 ||*i*P **P** 17 26 11.5 -0.7
comp=Z,14nm,1.3s,mb4.7
TANN Tannenbergstha 77.74 320 *e*P **P** 17 26 12.6 0.0
comp=Z,18nm,1.5s,mb4.8
NKC Novy Kostel 77.75 320 *e*P **P** 17 26 13.0 +0.3
NKC Novy Kostel 77.75 320 *e*P **P** 17 26 13.0 +0.3
ROTZ Rotzenmuhle 77.89 319 *e*P **P** 17 26 14.2 +0.7
comp=Z,16nm,1.1s,mb4.9
WTTA Wattenberg 78.25 316 ||*i*P **P** 17 26 15.1 -0.5
comp=Z,24nm,0.8s,mb5.2,SNR=8.8
MOX Moxa 78.29 320 *e*P **P** 17 26 16.0 +0.4
comp=Z,15nm,0.9s,mb4.9
MOX Moxa 78.29 320 *e*P **P** 17 26 16.0 +0.4
MOX pmax pmax
comp=Z,15nm,0.9s,mb4.9
WATA Walderalm 78.30 317 ||*i*P **P** 17 26 15.1 -0.7
comp=Z,15nm,0.7s,mb5.0
GRF Grafenberg Arr 78.53 319 *e*P **P** 17 26 17.5 +0.5
comp=Z,31nm,0.9s,mb5.2
GRF Grafenberg Arr 78.53 319 *e*P **P** 17 26 17.5 +0.5
GRF pmax pmax
comp=Z,31nm,0.9s,mb5.2
SQTA Sankt Quirin 78.55 316 ||*i*P **P** 17 26 16.7 -0.5
comp=Z,15nm,0.6s,mb5.1
MOTA Moosalm 78.62 317 ||*i*P **P** 17 26 16.8 -0.7
comp=Z,21nm,0.9s,mb5.0,SNR=10
NC602 NORSAR Array S 78.62 330 *e*P **P** 17 26 16.5 -0.8
NB2 NORSAR Subarra 78.80 331 P **P** 17 26 17.5 -0.7
comp=Z,20nm,0.7s,mb5.2,baz=93,slow=5.6
NOA NORSAR Array B 78.80 331 P **P** 17 26 17.4 -0.8
comp=Z,16nm,0.8s,mb5.0,baz=92,slow=5.7,SNR=41
NOA LR LR 18 04 07.1
comp=Z,252nm,19.3s,MS4.6,baz=90,slow=38
NOA NORSAR Array B 78.80 331 P **P** 17 26 17.4 -0.8
NOA LR LR 18 04 07.1
NOA NORSAR Array B 78.80 331 P **P** 17 26 17.5 -0.7
RETA Reutte 78.85 317 *i* P **P** 17 26 18.4 -0.4
comp=Z,28nm,0.7s,mb5.3,SNR=20
FETA Feichten 78.88 316 *i* P **P** 17 26 18.6 -0.4
comp=Z,30nm,1.2s,mb5.1,SNR=14
NAO01 NORSAR Array S 78.95 330 *e*P **P** 17 26 18.5 -0.6
comp=Z,29nm,0.8s,mb5.3
SPB4 Spitsbergen Ar 78.98 348 *e*P **P** 17 26 18.9 0.0
OSL Oslo 79.00 329 *e*P **P** 17 26 19.4 +0.1
BSEG Bad Segeberg 79.11 323 *e*P **P** 17 26 20.5 +0.4
comp=Z,53µm,15.9s
BSEG Bad Segeberg 79.11 323 *e*P **P** 17 26 20.5 +0.4
BSEG pmax pmax
comp=Z,53µm,15.9s
MAW Mawson 79.18 191 P **P** 17 26 21.7 +1.6
comp=Z,10nm,0.8s,mb4.8,baz=5.8,slow=6.3,SNR=15
MAW LR LR 17 55 55.1
comp=Z,169nm,19.8s,MS4.4,baz=21,slow=32
MAW Mawson 79.18 191 *e*P **P** 17 26 21.7 +1.6
comp=Z,8.1nm,0.8s,mb4.7
MAW Mawson 79.18 191 P **P** 17 26 21.7 +1.5
MAW LR LR 17 55 55.1
MAW Mawson 79.18 191 P **P** 17 26 21.7 +1.6
NRDL Niedersach Rie 79.23 322 *e*P **P** 17 26 21.4 +0.6
comp=Z,16nm,1.1s,mb4.9
DAVA Damuels 79.45 316 ||*i*P **P** 17 26 22.1 0.0
comp=Z,20nm,0.7s,mb5.2,SNR=11
KONO Kongsberg 79.56 329 *e*P **P** 17 26 21.8 -0.6
MUD Monsted U'grnd 79.77 326 *i* P **P** 17 26 24.3 +0.7
MUD pmax pmax
comp=Z,36nm,1.0s,mb5.3
MUD Monsted U'grnd 79.77 326 *i* P **P** 17 26 24.3 +0.7
comp=Z,36nm,1.0s,mb5.3
TSUM Tsumeb 79.81 249 *e*P **P** 17 26 26.0 +1.4
comp=Z,12nm,0.9s,mb4.8
TUE Stuetta 79.84 316 *e*P **P** 17 26 23.5 -0.7
comp=Z,17nm,0.7s,mb5.1
STU Stuttgart 79.87 318 *e*P **P** 17 26 24.6 +0.2
comp=Z,22nm,0.8s,mb5.1
STU Stuttgart 79.87 318 *e*P **P** 17 26 24.6 +0.2
STU pmax pmax
comp=Z,22nm,0.8s,mb5.1
KBS Kingsbay 79.96 349 *ce*P **P** 17 26 24.3 0.0
KBS pmax pmax
comp=Z,56nm,1.7s,mb5.2
SPAK Spaichingen-Ko 80.17 317 *e*P **P** 17 26 25.3 -0.7
TNS Taunus Mts 80.32 320 *e*P **P** 17 26 27.2 +0.5
comp=Z,51nm,1.9s,mb5.1
TNS Taunus Mts 80.32 320 *e*P **P** 17 26 27.2 +0.5
TNS pmax pmax
comp=Z,51nm,1.9s,mb5.1
SUR Sutherland 80.33 235 P **P** 17 26 30.0 +2.9
comp=Z,55nm,0.9s,mb5.5,baz=63,slow=5.8,SNR=23
SUR Sutherland 80.33 235 *e*P **P** 17 26 29.9 +2.7
comp=Z,56nm,1.0s,mb5.5
SUR Sutherland 80.33 235 P **P** 17 26 29.6 +2.5
comp=Z,349nm,0.8s,mb6.3,SNR=14
MSKU Masuku 80.36 267 P **P** 17 26 29.2 +1.5
comp=Z,28nm,0.8s,mb5.2,baz=90,slow=6.8,SNR=9.7
MSKU Masuku 80.36 267 P **P** 17 26 29.2 +1.5
KEST Kesra 80.36 305 P **P** 17 26 27.8 +0.5
comp=Z,7.1nm,0.8s,mb4.7,baz=350,slow=2.0,SNR=20
KEST LR LR 18 02 34.7
comp=Z,74nm,21.2s,MS4.0,baz=16,slow=36
KEST Kesra 80.36 305 *e*P **P** 17 26 27.5 +0.2
BFO Black Forest 80.46 318 *e*P **P** 17 26 27.2 -0.4
comp=Z,19nm,1.2s,mb4.9
BFO Black Forest 80.46 318 *e*P **P** 17 26 27.2 -0.4
BFO pmax pmax
comp=Z,19nm,1.2s,mb4.9
IBBN Ibbenburen 80.68 322 *e*P **P** 17 26 29.0 +0.4
comp=Z,44nm,1.0s,mb5.3

FELD Feldberg im Sc 80.70 317 *e*P **P** 17 26 29.2 +0.4
LANF Langenberg 80.78 318 *e*P **P** 17 26 29.7 +0.5
LANF Langenberg 80.78 318 *e*P **P** 17 26 29.7 +0.5
LANF Langenberg 80.78 318 *e*P **P** 17 26 29.7 +0.5
BUG Bochum--Univer 81.02 321 *e*P **P** 17 26 30.5 +0.1
comp=Z,36nm,1.1s,mb5.2
CDF Champ du Feu 81.16 318 *e*P **P** 17 26 30.9 -0.4
comp=Z,20nm,0.9s,mb4.7
RUP Ruppelstein 81.23 319 *e*P **P** 17 26 31.2 -0.4
RUP Ruppelstein 81.23 319 *e*P **P** 17 26 31.2 -0.4
ECH Echery 81.25 318 *e*P **P** 17 26 31.4 -0.4
comp=Z,15nm,1.1s,mb4.8
ECH Echery 81.25 318 *e*P **P** 17 26 31.4 -0.4
ECH pmax pmax
comp=Z,15nm,1.1s,mb4.8
MOF Molkenrain 81.28 317 *e*P **P** 17 26 31.9 -0.1
MOF Molkenrain 81.28 317 *e*P **P** 17 26 31.9 -0.1
MOF Molkenrain 81.28 317 *e*P **P** 17 26 31.9 -0.1
SBF Sospel 81.31 313 *e*P **P** 17 26 32.1 -0.1
comp=Z,51nm,0.7s,mb5.2
LUCF Luceram 81.38 313 *e*P **P** 17 26 32.9 +0.4
LUCF Luceram 81.38 313 *e*P **P** 17 26 32.9 +0.4
TOUF Mont Tournerai 81.44 313 *e*P **P** 17 26 32.9 0.0
TOUF Mont Tournerai 81.44 313 *e*P **P** 17 26 32.9 0.0
TOUF Mont Tournerai 81.44 313 *e*P **P** 17 26 32.9 0.0
HINF Hinteralfeld 81.48 317 *e*P **P** 17 26 32.1 -0.9
comp=Z,23nm,1.1s,mb4.7
LOMF Lomont 81.52 317 *e*P **P** 17 26 33.2 0.0
LOMF Lomont 81.52 317 *e*P **P** 17 26 33.2 0.0
LOMF Lomont 81.52 317 *e*P **P** 17 26 33.2 0.0
LPG La Plagne 81.69 315 *e*P **P** 17 26 34.5 +0.3
comp=Z,65nm,0.7s,mb5.4
LPL La Plagne 81.70 315 *e*P **P** 17 26 34.6 +0.4
comp=Z,88nm,0.7s,mb5.5
CALN Calern 81.72 313 *e*P **P** 17 26 34.3 0.0
CALN Calern 81.72 313 *e*P **P** 17 26 34.3 0.0
CALN Calern 81.72 313 *e*P **P** 17 26 34.3 0.0
MBDF Montbardon 81.73 314 *e*P **P** 17 26 33.8 -0.6
comp=Z,25nm,0.7s,mb5.0
RSL Roselend 81.77 315 *e*P **P** 17 26 34.8 +0.2
RSL Roselend 81.77 315 *e*P **P** 17 26 34.8 +0.2
RSL Roselend 81.77 315 *e*P **P** 17 26 34.8 +0.2
BNI Bardonecchia 81.78 314 *e*P **P** 17 26 34.4 -0.2
comp=Z,31nm,0.9s,mb5.2
BNI Bardonecchia 81.78 314 *e*P **P** 17 26 34.4 -0.2
BNI pmax pmax
comp=Z,31nm,0.9s,mb5.2
HAU Haidompre 81.80 317 *e*P **P** 17 26 34.3 -0.4
comp=Z,52nm,0.8s,mb5.2
HAU *e*R
comp=Z,145nm,17.2s
WLF Walferdange 81.82 319 P **P** 17 26 35.6 +0.8
WLF Walferdange 81.82 319 *e*P **P** 17 26 35.3 +0.5
comp=Z,23nm,1.2s,mb5.0
CMAH Djebel Manchou 81.85 306 P **P** 17 26 36.0 +0.8
MEM Membach 81.86 320 P **P** 17 26 34.9 0.0
FRF La Foret Royal 81.90 313 *e*P **P** 17 26 35.3 0.0
comp=Z,41nm,0.8s,mb5.1
LMR La Mourre 82.02 313 *e*P **P** 17 26 35.8 -0.1
comp=Z,27nm,0.9s,mb4.9
THEF They Montfort 82.03 318 *e*P **P** 17 26 35.5 -0.4
THEF They Montfort 82.03 318 *e*P **P** 17 26 35.5 -0.4
THEF They Montfort 82.03 318 *e*P **P** 17 26 35.5 -0.4
CABF La Chapelle 82.08 316 *e*P **P** 17 26 36.2 0.0
comp=Z,29nm,0.8s,mb5.0
PAGF Fort de Pagny 82.18 318 *e*P **P** 17 26 36.4 -0.3
comp=Z,8.2nm,0.9s,mb4.4
OG25 Le Caire 82.26 314 *e*P **P** 17 26 37.5 +0.4
OG25 Le Caire 82.26 314 *e*P **P** 17 26 37.5 +0.4
BCLA Clavier 82.32 320 P **P** 17 26 37.2 -0.1
comp=Z,17nm,1.7s,mb4.7
ORIF Oris-en-Rattie 82.35 314 *e*P **P** 17 26 37.2 -0.4
comp=Z,22nm,0.7s,mb4.9
ORIF *e*R
comp=Z,198nm,18.5s
CASM Ain Smara 82.63 306 P **P** 17 26 39.7 +0.4
SMRF Simiane la Rot 82.64 313 *e*P **P** 17 26 39.5 +0.3
comp=Z,86nm,1.4s,mb5.3
SFTF Sexfontaines 82.66 318 *e*P **P** 17 26 38.9 -0.3
comp=Z,42nm,0.7s,mb5.3
DOU Dourbes 82.80 320 P **P** 17 26 39.8 0.0
SNF Seneffe 82.96 320 P **P** 17 26 40.5 -0.1
BAIF Baives 83.05 320 *e*P **P** 17 26 41.2 +0.1
comp=Z,69nm,1.2s,mb5.3
DFRA Djebel Bou Aff 83.09 306 P **P** 17 26 43.0 +1.3
VIVF Saint-Julien-l 83.21 314 *e*P **P** 17 26 42.0 -0.1
comp=Z,63nm,1.3s,mb5.2
SSB Saint Sauveur 83.26 315 *e*P **P** 17 26 42.4 0.0
comp=Z,21nm,1.0s,mb5.1
SSB Saint Sauveur 83.26 315 *e*P **P** 17 26 42.4 0.0
SSB pmax pmax
comp=Z,21nm,1.0s,mb5.1
LOR Lormes 83.54 317 *e*P **P** 17 26 43.4 -0.3
comp=Z,37nm,0.8s,mb5.3
LOR *e*R
comp=Z,164nm,22.8s
SMF Signal de Mont 83.62 316 *e*P **P** 17 26 43.8 -0.3
comp=Z,32nm,0.8s,mb5.2
SSF Saint Saulge 83.80 317 *e*P **P** 17 26 44.7 -0.4
comp=Z,40nm,1.2s,mb5.1
PLDF La Plantade 83.84 315 *e*P **P** 17 26 45.6 +0.3
PLDF La Plantade 83.84 315 *e*P **P** 17 26 45.6 +0.3
PLDF La Plantade 83.84 315 *e*P **P** 17 26 45.6 +0.3
LASF Ste Croix 83.87 314 *e*P **P** 17 26 45.7 +0.2
comp=Z,53nm,1.2s,mb5.2
AVF Avril sur Loir 83.94 316 *e*P **P** 17 26 45.4 -0.4
comp=Z,28nm,1.0s,mb5.0
AGO Saint Agoulin 84.17 316 *e*P **P** 17 26 47.2 +0.2
AGO Saint Agoulin 84.17 316 *e*P **P** 17 26 47.2 +0.2
LBL Lubilhac 84.18 315 *e*P **P** 17 26 47.4 +0.4
LBL Lubilhac 84.18 315 *e*P **P** 17 26 47.4 +0.4
LBL Lubilhac 84.18 315 *e*P **P** 17 26 47.4 +0.4
PYM Petit Puy Mans 84.29 315 *e*P **P** 17 26 47.9 +0.3
PYM Petit Puy Mans 84.29 315 *e*P **P** 17 26 47.9 +0.3
PYM Petit Puy Mans 84.29 315 *e*P **P** 17 26 47.9 +0.3
BGF Bois d'Agland 84.31 316 *e*P **P** 17 26 47.7 0.0
comp=Z,24nm,0.8s,mb5.1
HYF Humbligny 84.37 317 *e*P **P** 17 26 48.2 +0.2
GAMB Gambell 84.38 26 *e*P **P** 17 26 47.9 +0.2
TCF Toulx Ste Croi 84.78 316 *e*P **P** 17 26 50.0 0.0
comp=Z,12nm,0.7s,mb4.8
TAM Tamanrasset 84.94 292 *e*P **P** 17 26 53.1 +1.7
comp=Z,25nm,1.3s,mb5.2
TAM Tamanrasset 84.94 292 *e*P **P** 17 26 53.1 +1.7
TAM pmax pmax
comp=Z,25nm,1.3s,mb5.2
CAF Calviac 85.05 315 *e*P **P** 17 26 51.7 +0.3
comp=Z,19nm,0.8s,mb5.0
MTLF Montolieu 85.14 313 *e*P **P** 17 26 52.1 +0.2
comp=Z,29nm,1.0s,mb5.0
RJF Les Rejaudoux 85.38 315 *e*P **P** 17 26 53.5 +0.4
comp=Z,50nm,1.0s,mb5.3
RJF *e*R
comp=Z,157nm,17.2s
JMIC Jan Mayen 85.80 341 LR LR 18 10 14.2
comp=Z,532nm,18.7s,MS5.0,baz=58,slow=39
LFF La Frestale 85.98 315 *e*P **P** 17 26 56.5 +0.4
SYO Syowa Base 85.99 197 ||*e*P **P** 17 26 55.6 +0.1
LDF La Druitiere 86.03 318 *e*P **P** 17 26 56.0 -0.3
comp=Z,20nm,0.6s,mb5.2
FLN La Foliniere 86.25 319 *e*P **P** 17 26 57.1 -0.2
comp=Z,73nm,1.1s,mb5.5
FLN *e*R
comp=Z,191nm,20.2s
MFF Saint Martin d 86.35 316 *e*P **P** 17 26 57.7 -0.1
DAG Danmarks Havn 86.61 348 *i* P **P** 17 26 57.2 -1.3
DAG pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
DAG Danmarks Havn 86.61 348 *i* P **P** 17 26 57.2 -1.3
comp=Z,9.1nm,0.7s,mb5.1
EKA Eskdalemuir Ar 86.78 325 P **P** 17 27 00.3 +0.6
comp=Z,18nm,0.7s,mb5.4,baz=96,slow=5.4,SNR=8.7
EKA Eskdalemuir Ar 86.78 325 P **P** 17 27 00.3 +0.6
EKA Eskdalemuir Ar 86.78 325 P **P** 17 27 00.3 +0.5
ESK Eskdalemuir 86.81 325 *e*P **P** 17 27 00.5 +0.6
comp=Z,47nm,1.0s,mb5.7
ESK Eskdalemuir 86.81 325 *e*P **P** 17 27 00.5 +0.6
ESK pmax pmax
comp=Z,47nm,1.0s,mb5.7
ESK Eskdalemuir 86.81 325 P **P** 17 27 00.6 +0.7
comp=Z,232nm,1.1s,mb6.3,SNR=6.3
RPZ Rata Peaks 86.97 135 LR LR 18 06 35.4
comp=Z,379nm,19.7s,MS4.8,baz=187,slow=36
ETSF Etsaut 87.21 313 *e*P **P** 17 27 02.6 +0.5
comp=Z,50nm,1.1s,mb5.3

MSVF Nonsavu 87.37 108 *e*P **P** 17 27 05.3 +1.9
comp=Z,50nm,1.2s,mb5.6
MSVF Nonsavu 87.37 108 *e*P **P** 17 27 05.3 +1.9
MSVF pmax pmax
comp=Z,50nm,1.2s,mb5.6
ALE Alert 88.31 357 P **P** 17 27 06.0 -0.7
comp=Z,216nm,0.8s,mb6.4,SNR=12
TORD Torodi Ar. Bea 89.90 283 P **P** 17 27 16.4 +1.0
comp=Z,8.3nm,0.8s,mb5.1,baz=87,slow=4.6,SNR=56
TORD PP PP 17 30 54.5 +5.8
comp=Z,2.9nm,1.2s,baz=70,slow=6.7,SNR=4.5
TORD PKKP PKKPbc 17 44 47.8 +0.8
comp=Z,1.0nm,0.8s,baz=298,slow=1.9,SNR=5.1
TORD LR LR 18 07 00.6
comp=Z,227nm,19.1s,MS4.6,baz=80,slow=35
TORD Torodi Ar. Bea 89.90 283 P **P** 17 27 16.4 +1.0
TORD PP PP 17 30 54.5 +5.8
TORD PKKP PKKPbc 17 44 47.8 +0.8
TORD LR LR 18 07 00.6
URZ Urewera 90.24 129 LR LR 18 09 30.1
comp=Z,368nm,19.6s,MS4.8,baz=281,slow=37
ESDC Sonseca Array 90.31 310 P **P** 17 27 17.4 +0.6
comp=Z,5.5nm,0.6s,mb5.0,baz=56,slow=4.6,SNR=17
ESDC LR LR 18 08 42.8
comp=Z,80nm,19.2s,MS4.2,baz=145,slow=36
ESDC Sonseca Array 90.31 310 P **P** 17 27 17.4 +0.6
ESDC LR LR 18 08 42.8
ESLA Sonseca Array 90.31 310 *e*P **P** 17 27 17.6 +0.8
comp=Z,5.7nm,1.1s,mb4.8
PAB San Pablo 90.63 310 *e*P **P** 17 27 19.0 +0.7
comp=Z,19nm,1.0s,mb5.4
PAB San Pablo 90.63 310 *e*P **P** 17 27 19.0 +0.7
PAB pmax pmax
comp=Z,19nm,1.0s,mb5.4
COLD Coldfoot 91.85 20 *e*P **P** 17 27 23.6 +0.2
comp=Z,12nm,1.0s,mb5.2
PBRG Braganca 91.92 313 *e*P **P** 17 27 24.9 +0.6
comp=Z,43nm,1.7s,mb5.5
MVO Moncorvo 92.28 312 *e*P **P** 17 27 27.0 +1.1
comp=Z,41nm,1.1s,mb5.7
BORG Borgarnes 92.51 337 LR LR 18 17 04.6
comp=Z,345nm,19.0s,MS4.8,baz=20,slow=41
MTE Manteigas 92.83 311 *e*P **P** 17 27 29.8 +1.3
comp=Z,47nm,2.0s,mb5.6
PCBR Castelo Branco 92.92 311 *e*P **P** 17 27 29.3 +0.4
comp=Z,34nm,1.8s,mb5.5
PBAR Barrancos 92.97 309 *e*P **P** 17 27 30.2 +1.0
comp=Z,50nm,1.5s,mb5.7
PVIS Viseu 93.02 312 *e*P **P** 17 27 30.7 +1.3
comp=Z,48nm,1.6s,mb5.7
PPLA Purkeypile 93.03 25 *e*P **P** 17 27 29.7 +0.7
comp=Z,69nm,1.5s,mb5.9
SUMG Summit 93.27 347 *e*P **P** 17 27 29.9 0.0
comp=Z,28nm,1.0s,mb5.7
SUMG Summit 93.27 347 *e*P **P** 17 27 29.9 0.0
SUMG pmax pmax
comp=Z,29nm,1.0s
SUMG Summit 93.27 347 *i* P **P** 17 27 30.2 +0.3
comp=Z,24nm,1.0s,mb5.6
TRF Thorofare Moun 93.56 24 *e*P **P** 17 27 31.4 +0.1
comp=Z,30nm,1.4s,mb5.5
PVAQ Vaqueiros 93.68 309 *e*P **P** 17 27 34.1 +1.6
comp=Z,47nm,1.9s,mb5.6
VNDA Vanda 93.79 168 P **P** 17 27 31.7 -0.4
comp=Z,2.4nm,0.8s,mb4.7,baz=291,slow=4.8,SNR=7.6
VNDA LR LR 18 06 54.8
comp=Z,227nm,18.0s,MS4.7,baz=303,slow=34
VNDA Vanda 93.79 168 P **P** 17 27 31.7 -0.4
VNDA LR LR 18 06 54.8
VNDA Vanda 93.79 168 P **P** 17 27 31.7 -0.4
PBDV Barranco-do-Ve 93.88 308 *e*P **P** 17 27 34.3 +0.9
comp=Z,63nm,1.5s,mb5.8
MCK McKinley 93.96 23 *e*P **P** 17 27 33.0 -0.2
comp=Z,38nm,1.2s,mb5.7
MCK McKinley 93.96 23 *e*P **P** 17 27 33.0 -0.2
MCK pmax pmax
comp=Z,38nm,1.2s,mb5.7
ILAR Eielson Array 94.23 22 P **P** 17 27 33.1 -1.3
comp=Z,7.6nm,0.7s,mb5.2,baz=299,slow=4.2,SNR=80
ILAR PP PP 17 31 13.7 -7.5
comp=Z,0.6nm,0.7s,baz=301,slow=7.1,SNR=4.5
ILAR LR LR 18 14 58.1
comp=Z,108nm,18.1s,MS4.3,baz=301,slow=39
ILAR Eielson Array 94.23 22 P **P** 17 27 33.1 -1.3
ILAR PP PP 17 31 13.7 -7.5
ILAR LR LR 18 14 58.1
ILAR Eielson Array 94.23 22 P **P** 17 27 33.2 -1.2
SBA Scott Base 94.90 168 *e*P **P** 17 27 38.5 +1.3
comp=Z,15nm,1.2s,mb5.3
SBA Scott Base 94.90 168 *e*P **P** 17 27 38.5 +1.3
SBA pmax pmax
comp=Z,15nm,1.2s,mb5.3
KDAK Kodiak Island 95.03 29 P **P** 17 27 37.1 -1.1
comp=Z,25nm,0.9s,mb5.7,baz=91,slow=4.8,SNR=5.0
KDAK Kodiak Island 95.03 29 P **P** 17 27 37.1 -1.1
KDAK Kodiak Island 95.03 29 *i* P **P** 17 27 39.7 +1.5
SML Sawmill 95.13 25 *e*P **P** 17 27 38.9 +0.3
comp=Z,5.9nm,0.8s,mb5.1
SML Sawmill 95.13 25 *e*P **P** 17 27 38.9 +0.3
SML pmax pmax
comp=Z,6.0nm,0.8s,mb5.1
MAIT Maitri 95.43 199 *e*P **P** 17 27 41.3 +1.6
EGAK Eagle 96.28 21 *e*P **P** 17 27 43.6 -0.2
comp=Z,12nm,1.2s,mb5.2
INK Inuvik 96.40 16 P **P** 17 27 44.1 -0.2
comp=Z,21nm,1.0s,mb5.5,baz=344,slow=5.4,SNR=28
INK PKKP PKKPbc 17 44 28.4 -3.4
comp=Z,1.2nm,0.8s,baz=266,slow=2.3,SNR=3.6
INK LR LR 18 11 36.1
comp=Z,90nm,20.0s,MS4.2,baz=325,slow=36
INK Inuvik 96.40 16 *e*P **P** 17 27 44.0 -0.3
comp=Z,42nm,1.2s,mb5.7
INK Inuvik 96.40 16 *e*P **P** 17 27 44.0 -0.2
INK pmax pmax
comp=Z,41nm,1.2s
AFI Afiamalu 96.49 103 LR LR 18 08 32.7
comp=Z,90nm,18.5s,MS4.3,baz=275,slow=34
RES Resolute Bay 96.65 2 *e*P **P** 17 27 45.5 +0.2
comp=Z,26nm,0.9s,mb5.7
RES Resolute Bay 96.65 2 *e*P **P** 17 27 45.5 +0.2
RES pmax pmax
comp=Z,26nm,0.9s,mb5.7
DBIC Dimbokro 97.31 278 P **P** 17 27 51.0 +1.5
comp=Z,8.4nm,1.0s,mb5.1,baz=75,slow=7.0,SNR=3.7
DBIC LR LR 18 10 44.6
comp=Z,297nm,19.8s,MS4.8,baz=60,slow=35
DBIC Dimbokro 97.31 278 P **P** 17 27 51.0 +1.5
DBIC LR LR 18 10 44.6
DBIC Dimbokro 97.31 278 P **P** 17 27 51.1 +1.6
DAWY Dawson 97.33 21 *e*P **P** 17 27 48.7 +0.2
QSPA South Pole Qui 98.55 180 P **P** 17 27 55.5 +1.9
comp=Z,1.1nm,0.8s,mb4.5,baz=286,slow=2.0,SNR=3.3
QSPA South Pole Qui 98.55 180 P **P** 17 27 55.5 +1.9
SNAA Sanae 100.19 199 P Pdif 17 28 03.3 +1.8
comp=Z,0.4nm,0.7s,baz=43,slow=6.2,SNR=3.5
SNAA Sanae 100.19 199 P Pdif 17 28 03.3 +1.8
SNAA Sanae 100.19 199 P Pdif 17 28 03.3 +1.8
PPT Papeete 118.06 105 *e*PS PS 17 44 05.2 0.0
comp=Z,114nm,25.8s
PPT *e*LR LR 18 09 11.6
comp=Z,158nm,22.5s
TBI Tubuai 118.07 112 *e*LR LR 18 09 09.3
comp=Z,171nm,36.0s
SWMT Swartz Lake 118.96 21 *e*PKPdf PKPdf 17 33 03.6 -0.6
HUMO Hull Mountain 119.05 30 *e*PKPdf PKPdf 17 33 05.1 +0.6
MSO Missoula 119.56 21 *e*PKPdf PKPdf 17 33 05.0 -0.4
CHMT Chamberlain Mo 119.73 21 *e*PKPdf PKPdf 17 33 05.6 -0.1
EGMT Eagleton 119.91 18 *e*PKPdf PKPdf 17 33 06.3 +0.3
ULM Lac du Bonnet 120.77 7 PKP PKPdf 17 33 07.1 -0.5
comp=Z,12nm,0.9s,baz=339,slow=3.3,SNR=9.6
ULM Lac du Bonnet 120.77 7 PKP PKPdf 17 33 07.1 -0.5
ULM Lac du Bonnet 120.77 7 PKIKP PKPdf 17 33 07.1 -0.5
KIPM Iron Peak 120.82 33 *e*PKPdf PKPdf 17 33 09.1 +1.1
MOD Modoc 120.88 29 *e*PKPdf PKPdf 17 33 08.9 +0.8
WVOR Wild Horse Val 121.25 28 *e*PKPdf PKPdf 17 33 09.5 +0.7
WVOR Wild Horse Val 121.25 28 *e*PKIKP PKPdf 17 33 09.5 +0.7
DLMT Dillon 121.30 21 *e*PKPdf PKPdf 17 33 09.0 +0.2
BOZ Bozeman (W) 121.39 21 *e*PKPdf PKPdf 17 33 09.2 +0.3
BOZ Bozeman (W) 121.39 21 *e*PKIKP PKPdf 17 33 09.2 +0.3
MCMT McKenzie Canyo 121.67 22 *e*PKPdf PKPdf 17 33 10.3 +0.8
MFID Camas Ranch 121.68 25 *e*PKPdf PKPdf 17 33 10.4 +0.8
GCMT Greycliff 121.92 19 *e*PKPdf PKPdf 17 33 09.8 -0.2
HLID Hailey 122.14 24 *e*PKPdf PKPdf 17 33 10.2 -0.2
LAO LASA Array 122.14 16 *e*PKPdf PKPdf 17 33 07.8 -2.5
YMR Madison River 122.48 21 *e*PKPdf PKPdf 17 33 11.9 +0.9

RLMT	**Red Lodge**	**122.65**	**19**	*e*PKPdf	PKPdf	17 33 12.1	+0.7
LKWY	**Lake**	**122.76**	**20**	*e*PKPdf	PKPdf	17 33 13.4	+1.8
LKWY	**Lake**	**122.76**	**20**	*e*PKIKP	PKPdf	17 33 13.4	+1.8
IMW	**Indian Meadow**	**123.16**	**21**	*e*PKPdf	PKPdf	17 33 13.4	+1.0
MOOW	**Moose Ponds**	**123.36**	**21**	*e*PKPdf	PKPdf	17 33 13.6	+0.8
RRI2	**Red Ridge**	**123.50**	**22**	*e*PKPdf	PKPdf	17 33 14.0	+1.0
TPAW	**Teton Pass**	**123.51**	**21**	*e*PKPdf	PKPdf	17 33 14.1	+1.0
LOHW	**Long Hollow**	**123.53**	**21**	*e*PKPdf	PKPdf	17 33 13.9	+0.8
REDW	**Red Top Meadow**	**123.66**	**21**	*e*PKPdf	PKPdf	17 33 13.1	-0.3
NVAR	**Mina Array Bea**	**124.53**	**30**	PKP	PKPdf	17 33 16.6	+1.4
	comp=Z,8.1nm,0.8s,baz=279,slow=1.7,SNR=49						
NVAR				PKPab		17 42 59.8	
	comp=Z,0.5nm,0.7s,baz=144,slow=5.5,SNR=3.7						
NVAR	**Mina Array Bea**	**124.53**	**30**	PKP	PKPdf	17 33 16.6	+1.4
NVAR				PKKPab		17 42 59.8	
PD01	**Pinedale Array**	**124.62**	**21**	*e*PKPdf	PKPdf	17 33 15.4	+0.1
PD02	**Pinedale Array**	**124.62**	**21**	*e*PKPdf	PKPdf	17 33 15.4	+0.1
PDAR	**Pinedale Array**	**124.64**	**21**	PKP	PKPdf	17 33 15.5	+0.2
	comp=Z,8.6nm,0.8s,baz=46,slow=1.1,SNR=53						
PDAR				PKKPbc		17 42 57.2	
	comp=Z,0.5nm,0.6s,baz=145,slow=5.4,SNR=5.4						
PDAR	**Pinedale Array**	**124.64**	**21**	PKP	PKPdf	17 33 15.5	+0.2
PDAR				PKKPbc		17 42 57.2	
HWUT	**Hardware Ranch**	**124.91**	**23**	*e*PKPdf	PKPdf	17 33 16.3	+0.5
RSSD	**Black Hills**	**125.10**	**15**	*e*PKPdf	PKPdf	17 33 15.8	-0.3
RSSD	**Black Hills**	**125.10**	**15**	*e*PKIKP	PKPdf	17 33 15.8	-0.3
DUG	**Dugway**	**125.61**	**25**	*e*PKPdf	PKPdf	17 33 18.1	+0.9
DUG	**Dugway**	**125.61**	**25**	*e*PKIKP	PKPdf	17 33 18.1	+0.9
DAU	**Daniels Canyon**	**126.05**	**23**	*e*PKPdf	PKPdf	17 33 18.9	+0.8
DAU	**Daniels Canyon**	**126.05**	**23**	*e*PKIKP	PKPdf	17 33 18.9	+0.9
RWWY	**Rawlins**	**126.39**	**19**	*e*PKPdf	PKPdf	17 33 18.8	+0.2
ECSD	**EROS Data Cent**	**127.04**	**9**	*e*PKPdf	PKPdf	17 33 19.7	-0.1
MSU	**Marysvale**	**127.29**	**25**	*e*PKPdf	PKPdf	17 33 21.7	+1.2
MSU	**Marysvale**	**127.29**	**25**	*e*PKIKP	PKPdf	17 33 21.7	+1.2
GSC	**Goldstone**	**127.70**	**32**	*e*PKPdf	PKPdf	17 33 22.8	+1.4
GSC	**Goldstone**	**127.70**	**32**	*e*PKIKP	PKPdf	17 33 22.8	+1.5
LDFC	**Landfair**	**128.74**	**30**	*e*PKPdf	PKPdf	17 33 24.1	+0.8
SDCO	**Great Sand Dun**	**130.51**	**20**	*e*PKPdf	PKPdf	17 33 26.9	+0.3
ANMO	**Albuquerque**	**132.67**	**23**	*e*PKPdf	PKPdf	17 33 31.8	+1.1
ANMO	**Albuquerque**	**132.67**	**23**	*e*PKIKP	PKPdf	17 33 31.8	+1.0
TUC	**Tucson**	**133.09**	**29**	*e*PKPdf	PKPdf	17 33 32.0	+0.4
TUC	**Tucson**	**133.09**	**29**	*e*PKIKP	PKPdf	17 33 32.0	+0.3
BNM	**Barren Site**	**133.31**	**23**	*e*PKPdf	PKPdf	17 33 32.4	+0.4
MIAR	**Mount Ida**	**136.50**	**9**	*e*PKPdf	PKPdf	17 33 37.2	-0.8
MIAR	**Mount Ida**	**136.50**	**9**	*e*PKIKP	PKPdf	17 33 37.2	-0.8
PLAL	**Pickwick Lake**	**136.57**	**2**	*e*PKPdf	PKPdf	17 33 36.0	-2.1
TXAR	**Lajitas Array**	**138.73**	**23**	PKhKP	PKPpre	17 33 32.5	
	comp=Z,0.4nm,0.5s,baz=41,slow=1.0,SNR=5.6						
TXAR				PKP	PKPdf	17 33 44.0	+1.7
	comp=Z,3.6nm,0.8s,baz=183,slow=0.9,SNR=17						
TXAR				PP	PP	17 36 31.0	-1.3
	comp=Z,0.9nm,0.9s,baz=11,slow=6.5,SNR=3.8						
TXAR				SKP		17 37 13.9	
	comp=Z,2.1nm,0.8s,baz=281,slow=2.3,SNR=6.4						
TXAR	**Lajitas Array**	**138.73**	**23**	PKP	PKPpre	17 33 32.5	
TXAR				PKP	PKPdf	17 33 44.0	+1.7
TXAR				PP	PP	17 36 31.0	-1.3
TXAR				SKP		17 37 13.9	
TXAR	**Lajitas Array**	**138.73**	**23**	PKHKP	PKPpre	17 33 32.5	
TXAR						17 33 44.0	
TXAR						17 36 31.0	
JCT	**Junction City**	**139.02**	**18**	*e*PKPpre	PKPpre	17 33 33.8	
JCT	**Junction City**	**139.02**	**18**	*e*PKHKP	PKPpre	17 33 33.8	
STVI	**Saint Thomas**	**145.82**	**322**	*e*PKPdf	PKPdf	17 33 55.4	+0.3
FDF	**Fort de France**	**145.84**	**313**	*e*PKPdf	PKPdf	17 33 56.4	+1.3
FDF	**Fort de France**	**145.84**	**313**	*e*PKP2	PKPab	17 33 56.4	+0.2
SJG	**San Juan**	**146.73**	**323**	*e*PKPdf	PKPdf	17 33 58.2	+1.5
SJG	**San Juan**	**146.73**	**323**	*e*PKP2	PKPab	17 33 58.2	-1.3
LRS	**Lares**	**147.00**	**324**	*e*PKPbc	PKPbc	17 33 58.8	-0.2
AGRR	**Aguadilla, PR**	**147.01**	**325**	*e*PKPdf	PKPdf	17 33 58.2	+1.1
CELP	**Cerrillos**	**147.01**	**324**	*e*PKPdf	PKPdf	17 33 57.3	+0.2
OBIP	**Obispado Ponce**	**147.05**	**324**	*e*PKPdf	PKPdf	17 33 57.1	-0.1
OBIP				*e*PKPbc	PKPbc	17 33 59.5	+0.3
ICM	**Isla Caja Muer**	**147.12**	**323**	*e*PKPdf	PKPdf	17 33 56.7	-0.6
ICM				*e*PKPbc	PKPbc	17 33 59.4	0.0
LSP	**Las Mesas**	**147.22**	**324**	*e*PKPdf	PKPdf	17 33 56.6	-0.9
LSP				*e*PKPbc	PKPbc	17 33 59.5	-0.2
CPUP	**Villa Florida**	**147.30**	**234**	PKPbc	PKPbc	17 33 58.4	-1.3
	comp=Z,32nm,0.8s,baz=82,slow=2.8,SNR=54						
CPUP				SKPbc	SKPbc	17 37 35.5	+1.3
	comp=Z,4.0nm,0.9s,baz=104,slow=1.6,SNR=3.1						
CPUP	**Villa Florida**	**147.30**	**234**	PKPbc	PKPbc	17 33 58.4	-1.3
CPUP				SKPbc	SKPbc	17 37 35.5	+1.3
CPUP	**Villa Florida**	**147.30**	**234**	PKIKP	PKPdf	17 33 58.4	+1.0
CPUP						17 37 35.5	
CRPR	**Cabo Rojo, PR**	**147.37**	**324**	*e*PKPbc	PKPbc	17 34 00.6	+0.4
SDDR	**Presa de Saban**	**148.76**	**332**	*e*PKPbc	PKPbc	17 34 04.6	+0.8
TEIG	**Tepich**	**151.24**	**4**	*e*PKPbc	PKPbc	17 34 10.0	+0.2
LCO	**Las Campanas**	**154.94**	**214**	*e*PKPdf	PKPdf	17 34 10.7	+1.7
SDV	**Santo Domingo**	**156.54**	**318**	*e*PKPdf	PKPdf	17 34 12.0	+0.5
LPAZ	**La Paz**	**160.63**	**245**	PKP	PKPdf	17 34 17.9	+1.7
	comp=Z,4.7nm,0.7s,baz=78,slow=2.6,SNR=9.9						
LPAZ				PKPab	PKPab	17 34 59.7	+1.6
	comp=Z,13nm,0.9s,baz=98,slow=2.2,SNR=11						
LPAZ	**La Paz**	**160.63**	**245**	*e*PKPdf	PKPdf	17 34 18.1	+1.8
LPAZ	**La Paz**	**160.63**	**245**	*e*PKIKP	PKPdf	17 34 18.1	+1.8
ROSC	**El Rosal**	**161.97**	**318**	PKP	PKPdf	17 34 18.8	+1.0
	comp=Z,6.3nm,0.4s,baz=281,slow=23,SNR=8.1						
ROSC	**El Rosal**	**161.97**	**318**	PKP	PKPdf	17 34 18.8	+1.0
OTAV	**Otavalo**	**168.14**	**318**	*e*PKPdf	PKPdf	17 34 24.5	+1.4

*NEIC **19** 17:17:32.9, 30.46S×71.91W, h46km, MD3.8(GUC), After GUC.*

GUC 19 17:17:32.9±0.5, 30.46S×71.91W, h46km±1km, MD3.8, ML3.5,5C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
OVCH	**Ovalle**	**0.63**	**104**	⇑*i*P		Pn	17 17 46.0	+0.4
OVCH				*i* S		Sn	17 17 55.5	+1.0
OVCH	**Ovalle**	**0.63**	**104**	⇑*i*P		Pn	17 17 46.0	+0.4
OVCH				*i* S		Sn	17 17 55.5	+1.0
OVCH				AML		AML	17 17 57.9	
	comp=N,4μm,0.5s							
LSCH	**La Serena**	**0.79**	**47**	*i* P		Pn	17 17 48.1	+0.5
LSCH				*i* S		Sn	17 17 59.5	+1.0
LSCH	**La Serena**	**0.79**	**47**	*i* P		Pn	17 17 48.1	+0.5
LSCH				*i* S		Sn	17 17 59.5	+1.0
TLL	**Tololo Astrono**	**0.99**	**74**	⇓*i*P		Pn	17 17 52.1	+1.7
TLL				*i* S		Sn	17 18 06.5	+3.2
TLL	**Tololo Astrono**	**0.99**	**74**	⇓*i*P		Pn	17 17 52.1	+1.7
TLL				*i* S		Sn	17 18 06.5	+3.2
TLL				AML		AML	17 18 13.5	
	comp=E,2μm,0.5s							
CMCH	**Combarbala**	**1.06**	**133**	⇑*i*P		Pn	17 17 52.2	+0.9
CMCH				*i* S		Sn	17 18 06.8	+1.9
CMCH	**Combarbala**	**1.06**	**133**	⇑*i*P		Pn	17 17 52.2	+0.9
CMCH				*i* S		Sn	17 18 06.8	+1.9
CMCH				AML		AML	17 18 15.6	
	comp=E,7μm,0.7s							
CHNG	**Los Chungos**	**1.47**	**166**	⇑*i*P		Pn	17 17 57.2	+0.4
CHNG				*i* S		Sn	17 18 16.0	+1.1
CHNG				AML		AML	17 18 24.0	
	comp=E,586nm,0.6s							
LCO	**Las Campanas**	**1.78**	**36**	⇓*i*P		Pn	17 18 02.4	+1.2
LCO				*i* S		Sn	17 18 25.0	+2.4
LCO	**Las Campanas**	**1.78**	**36**	⇓*i*P		Pn	17 18 02.4	+1.2
LCO				*i* S		Sn	17 18 25.0	+2.4
LCO				AML		AML	17 18 29.2	
	comp=N,641nm,0.4s							
ROCH	**El Roble**	**2.62**	**163**	*i* P		Pn	17 18 14.2	+1.5
ROCH				*i* S		Sn	17 18 45.4	+2.1
ROCH				AML		AML	17 19 04.6	
	comp=N,423nm,0.4s							

MEX 19 17:38:19.4±1.0, 17.36N×95.19W, h104km±17km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
OXX	**Oaxaca**	**1.50**	**259**	*i* P		Pn	17 38 45.4	-0.4
OXX				*i* S		Sn	17 39 04.6	-1.3
VHO	**Vista Hermosa**	**1.51**	**259**	*e*P		Pn	17 38 45.6	-0.4
VHO				*i* S		Sn	17 39 05.0	-1.1
HUIG	**Huatulco**	**1.82**	**209**	*e*P		Pn	17 38 48.6	-1.2
HUIG				*i* S		Sn	17 39 11.3	-1.7
TGIG		**2.06**	**106**	*i* P		Pn	17 38 52.5	-0.4
TGIG				*i* S		Sn	17 39 16.4	-2.1
TPIG	**Tehuac#an**	**2.32**	**297**	*i* P		Pn	17 38 55.4	-0.9
TPIG				*i* S		Sn	17 39 22.4	-2.2
PCIG		**2.51**	**131**	*i* P		Pn	17 38 58.5	-0.2
PCIG				*i* S		Sn	17 39 28.2	-0.7
UTMO	**Huajuapan**	**2.54**	**281**	*e*P		Pn	17 38 59.0	-0.1
UTMO				*i* S		Sn	17 39 29.1	-0.6
PNIG	**Pinotepa**	**2.98**	**251**	*e*P		Pn	17 39 03.3	-1.6
PNIG				*i* S		Sn	17 39 37.9	-2.1
CCIG	**Comitan**	**3.11**	**110**	*i* P		Pn	17 39 06.8	0.0
CCIG				*i* S		Sn	17 39 42.0	-1.3

IDC 19 17:44:08.0±16.0, 14.70S×178.60W, h520km±177km, mb2.9/4, mb1 3.1/4, mb1mx2.8/16, mbtmp2.9/4, Error ellipse: s-maj=137.4km s-min=55.6km az=131.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
STKA	**Stephens Creek**	**40.10**	**238**	P		P	17 50 57.8	-0.6
	1.5nm,1.0s,baz=80,slow=6.1,SNR=4.3							
WRA	**Warramunga Arr**	**45.12**	**256**	P		P	17 51 38.2	+0.2
	0.2nm,0.6s,baz=90,slow=8.4,SNR=9.9							
ASAR	**Alice Springs**	**45.57**	**251**	P		P	17 51 41.4	0.0
	1.7nm,0.4s,baz=86,slow=8.2,SNR=57							
ILAR	**Eielson Array**	**82.82**	**13**	P		P	17 55 37.1	0.0
	0.6nm,0.8s,baz=228,slow=5.3,SNR=4.5							
BRTR	**Keskin Array B**	**142.35**	**318**	PKP		PKPdf	18 02 41.0	-0.5
	0.8nm,0.7s,baz=25,slow=3.3,SNR=3.9							

*ISCJB **19** 17:59:01.5±1.4, 36.15N±0.06×21.90E±0.07, h13km±6km, Error ellipse: s-maj=12.0km s-min=7.5km az=43.5*
*ATH **19** 17:59:01.5, 36.05N×21.88E, h28km±2km, MD3.6/11*
*CSEM **19** 17:59:02.3±0.6, 36.16N×21.87E, h20km, ML2.8/3, Error ellipse: s-maj=13.4km s-min=6.4km az=43.0*
*THE **19** 17:59:05.2, 36.28N×21.97E, h20km±1km, ML2.8/3, Error ellipse: s-maj=1.9km s-min=0.9km az=207.0*

ISC 19 17:59:02.2±1.4, 36.16N±0.06×21.90E±0.08, h17km±6km, n36, σ0 78/48, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
PYL	**PYLOS**	**0.74**	**350**	*e*PB		**Pg**	**17 59 17.5**	**+0.8**
PYL				*e*SN		**Sn**	**17 59 29.7**	**+1.0**
PYL	**PYLOS**	**0.74**	**350**	P		**Pg**	**17 59 17.6**	**+0.9**
PYL				S		**Sg**	**17 59 26.9**	**+0.3**
PYL	**PYLOS**	**0.74**	**350**	*e*Pb		**Pg**	**17 59 17.5**	**+0.8**
PYL				S		**Sg**	**17 59 26.9**	**+0.3**
PYL				*e*Sn		**Sn**	**17 59 29.7**	**+1.0**
KYTH	**Kithira**	**0.93**	**82**	*e*PN		**Pg**	**17 59 20.9**	**+0.7**
KYTH	**Kithira**	**0.93**	**82**	P		**Pg**	**17 59 21.0**	**+0.8**
KYTH	**Kithira**	**0.93**	**82**	*e*Pn		**Pg**	**17 59 20.9**	**+0.7**
VLI	**Veliai**	**1.01**	**56**	*e*PN		**Pg**	**17 59 21.9**	**+0.2**
VLI	**Veliai**	**1.01**	**56**	P		**Pg**	**17 59 21.2**	**-0.5**
VLI				S		**Sg**	**17 59 34.9**	**0.0**
VLI	**Veliai**	**1.01**	**56**	P		**Pg**	**17 59 21.2**	**-0.5**
VLI	**Veliai**	**1.01**	**56**	*e*Pn		**Pg**	**17 59 21.9**	**+0.2**
VLI				S		**Sg**	**17 59 34.9**	**0.0**
VLX	**Vlachokerasia**	**1.27**	**18**	*e*PB		**Pb**	**17 59 26.1**	**+0.5**
VLX				*e*SN		**Sn**	**17 59 45.4**	**+3.7**
VLX	**Vlachokerasia**	**1.27**	**18**	P		**Pn**	**17 59 25.7**	**+0.6**
VLX				S		**Sb**	**17 59 40.8**	**-0.8**
VLX	**Vlachokerasia**	**1.27**	**18**	P		**Pn**	**17 59 25.7**	**+0.6**
VLX	**Vlachokerasia**	**1.27**	**18**	*e*Pb		**Pb**	**17 59 26.1**	**+0.5**
VLX				S		**Sb**	**17 59 40.8**	**-0.8**
VLX				*e*Sn		**Sn**	**17 59 45.4**	**+3.7**
DID	**Didima**	**1.72**	**38**	*e*PB		**Pb**	**17 59 32.9**	**-0.4**
DID	**Didima**	**1.72**	**38**	P		**Pn**	**17 59 31.6**	**+0.3**
DID	**Didima**	**1.72**	**38**	P		**Pn**	**17 59 31.6**	**+0.3**
DID	**Didima**	**1.72**	**38**	*e*Pb		**Pb**	**17 59 32.9**	**-0.4**
GUR	**Goura**	**1.81**	**11**	*e*PN		**Pn**	**17 59 34.0**	**+1.5**
GUR	**Goura**	**1.81**	**11**	P		**Pn**	**17 59 33.1**	**+0.6**
GUR	**Goura**	**1.81**	**11**	P		**Pn**	**17 59 33.1**	**+0.6**
GUR	**Goura**	**1.81**	**11**	*e*Pn		**Pn**	**17 59 34.0**	**+1.5**
RLS	**Riolos of Patr**	**1.93**	**350**	*e*PB		**Pb**	**17 59 36.6**	**-0.2**
RLS	**Riolos of Patr**	**1.93**	**350**	*e*Pb		**Pb**	**17 59 36.6**	**-0.2**
VAM	**Vamos**	**2.02**	**111**	*e*PN		**Pn**	**17 59 35.0**	**-0.4**
VAM	**Vamos**	**2.02**	**111**	*e*Pn		**Pn**	**17 59 35.0**	**-0.4**
LAKA	**Lakka**	**2.08**	**2**	P		**Pn**	**17 59 36.8**	**+0.6**
LAKA				S		**Sn**	**18 00 01.4**	**-0.2**
LAKA	**Lakka**	**2.08**	**2**	P		**Pn**	**17 59 36.8**	**+0.6**
LAKA				S		**Sn**	**18 00 01.4**	**-0.2**
EFP	**Efpalio**	**2.26**	**0**	*e*PB		**Pb**	**17 59 41.8**	**-0.7**
EFP	**Efpalio**	**2.26**	**0**	*e*Pb		**Pb**	**17 59 41.8**	**-0.7**
VLS	**Valsamata**	**2.27**	**333**	*e*PB		**Pb**	**17 59 41.6**	**-1.0**
VLS	**Valsamata**	**2.27**	**333**	*e*Pb		**Pb**	**17 59 41.6**	**-1.0**
VLY	**Voula,Athens**	**2.27**	**41**	*e*PB		**Pb**	**17 59 41.9**	**-0.8**
VLY	**Voula,Athens**	**2.27**	**41**	*e*Pb		**Pb**	**17 59 41.9**	**-0.8**
EVR	**Evrytania**	**2.75**	**359**	*e*PB		**Pb**	**17 59 49.1**	**-1.8**
EVR	**Evrytania**	**2.75**	**359**	*e*Pb		**Pb**	**17 59 49.1**	**-1.8**

IDC 19 18:13:49.4±40.0, 30.07S×177.82W, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.6/14, mbtmp3.7/3, Error ellipse: s-maj=734.6km s-min=180.3km az=97.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
STKA	**Stephens Creek**	**34.71**	**256**	P		P	18 20 40.9	-0.2
	1.5nm,0.7s,baz=100,slow=15,SNR=3.8							
ASAR	**Alice Springs**	**43.29**	**267**	P		P	18 21 52.8	-0.3
	0.3nm,0.6s,baz=101,slow=7.3,SNR=9.6							
WRA	**Warramunga Arr**	**44.25**	**272**	P		P	18 22 01.1	+0.3
	1.0nm,0.9s,baz=110,slow=8.2,SNR=13							

IDC 19 18:13:53.4±7.4, 7.24S×119.68E, h438km±102km, mb2.8/3, mb1 3.0/5, mb1mx2.7/20, mbtmp2.8/5, Error ellipse: s-maj=142.6km s-min=29.7km az=51.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
FITZ	**Fitzroy Crossi**	**12.25**	**152**	P		P	18 16 35.6	+0.4
	0.1nm,0.3s,baz=333,slow=13,SNR=4.5							
WRA	**Warramunga Arr**	**19.01**	**133**	P		P	18 17 46.4	-0.1
	0.5nm,0.3s,baz=307,slow=11,SNR=55							
ASAR	**Alice Springs**	**21.28**	**142**	P		P	18 18 07.2	0.0
	0.6nm,0.4s,baz=314,slow=8.9,SNR=32							
STKA	**Stephens Creek**	**31.90**	**143**	P		P	18 19 41.2	+0.2
	1.2nm,0.6s,baz=316,slow=9.2,SNR=4.1							
MKAR	**Makanchi Array**	**63.22**	**332**	P		P	18 23 37.4	0.0
	0.4nm,0.6s,baz=143,slow=8.9,SNR=7.4							

*NIED **19** 18:44:00, 36.00N×141.80E, h23km, Mw3.9 Best double couple: M0 6.92000×10^14 NP1:φ 13.00000°, δ 72.00000°, λ 78.00000°. NP2:φ 228.00000°, δ 22.00000°, λ 123.00000°.*
*ISCJB **19** 18:44:45.2±1.3, 36.03N±0.04×141.87E±0.06, h20km±8km, mb3.8/10, MS4.0/2, Error ellipse: s-maj=8.5km s-min=6.0km az=170.8*
*JMA **19** 18:44:45.8±0.3, 36.03N×141.83E, h28km, M3.8*
*IDC **19** 18:44:49.1±1.2, 35.95N×141.65E, h31km±7km, mb3.6/8, mb1 3.7/10, mb1mx3.6/27, mbtmp3.7/10, ML3.7/2, MS3.4/4, Ms1 3.4/4, ms1mx2.8/43, Error ellipse: s-maj=24.8km s-min=17.4km az=89.0*
*NEIC **19** 18:44:50.0±2.5, 36.04N×141.62E, h35km±21km, mb4.1/3, Error ellipse: s-maj=23.1km s-min=14.0km az=78.0*

ISC 19 18:44:45.4±1.3, 36.03N±0.04×141.81E±0.05, h9km±7km, h33km±2.2km: pP-P, n39, σ0 78/46, mb3.8/10, MS4.0/2, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
CHOJ	**Chosi**	**0.84**	**247**	P		**Pg**	**18 45 01.7**	**+0.2**
CHOJ				S		**Sg**	**18 45 13.9**	**+1.5**
JHO	**Hitachi**	**1.16**	**300**	P		**Pb**	**18 45 06.2**	**-1.3**
JHO				S		**Sb**	**18 45 22.4**	**-0.2**
JFK	**Kawauchi**	**1.53**	**331**	P		**Pn**	**18 45 12.7**	**-0.2**
BSO1	**Boso 1**	**1.53**	**207**	P		**Pn**	**18 45 12.5**	**-0.4**
BSO1				S		**Sn**	**18 45 33.2**	**+0.3**
BSO3	**Boso 3**	**1.62**	**221**	P		**Pn**	**18 45 14.0**	**-0.1**
JFT	**Otama**	**1.90**	**322**	P		**Pn**	**18 45 18.4**	**+0.5**
JFT				S		**Sn**	**18 45 41.6**	**-0.3**
JAG	**Ashikaga**	**1.94**	**282**	P		**Pn**	**18 45 17.3**	**-1.2**
JMM	**Marumori**	**2.00**	**336**	P		**Pn**	**18 45 19.3**	**-0.1**
JFY	**Yanaizu**	**2.18**	**310**	P		**Pn**	**18 45 22.0**	**+0.2**
JKT	**Katashina**	**2.19**	**290**	P		**Pn**	**18 45 21.8**	**-0.2**
JKT				S		**Sn**	**18 45 49.5**	**+0.3**
JIM2	**Oshima 3**	**2.34**	**237**	P		**Pn**	**18 45 23.1**	**-0.9**
JOD2	**Odawara 2**	**2.34**	**252**	P		**Pn**	**18 45 24.0**	**0.0**
JRY	**Ryogami san**	**2.36**	**271**	P		**Pn**	**18 45 23.0**	**-1.2**
MJAR	**Matsushiro Arr**	**2.95**	**281**	Pn		**Pn**	**18 45 31.9**	**-0.5**
	7.4nm,0.3s,baz=281,slow=3.8,SNR=61							
MJAR				Sn		**Sn**	**18 46 09.6**	**+1.6**
	5.5nm,0.3s,baz=43,slow=22,SNR=7.0							
MJAR	**Matsushiro Arr**	**2.95**	**281**	Pn		**Pn**	**18 45 31.9**	**-0.5**
MJAR				Sn		**Sn**	**18 46 09.6**	**+1.6**
MAJO	**Matsushiro**	**2.96**	**281**	*e*P		**Pn**	**18 45 32.6**	**+0.2**
MAT	**Matsushiro**	**2.96**	**281**	P		**Pn**	**18 45 32.5**	**+0.1**
MAT				S		**Sn**	**18 46 08.2**	**+0.2**
JHJ	**Hachijo jima 2**	**3.35**	**210**	Pn		**Pn**	**18 45 37.7**	**-0.2**
	33nm,0.3s,baz=82,slow=23,SNR=18							
JHJ				Sn		**Sn**	**18 46 14.2**	**-3.6**
	61nm,0.3s,baz=271,slow=23,SNR=9.0							
JHJ				LR		LR	18 46 36.4	
	comp=Z,143nm,19.3s,baz=271,slow=33							
ASAJ	**Asahikawa**	**8.10**	**4**	Pn		**Pn**	**18 46 42.7**	**-0.4**
	0.8nm,0.3s,baz=225,slow=20,SNR=5.6							
ASAJ				LR		LR	18 50 44.4	
	comp=Z,68nm,19.6s,baz=19,slow=43							
SONM	**Songino Array**	**28.62**	**305**	P		**P**	**18 50 42.0**	**+0.1**
	0.3nm,0.5s,mb3.3,baz=110,slow=12,SNR=3.2							
SONM				pP		pP	18 50 50.4	+5.8
	0.6nm,0.6s,baz=108,slow=10,SNR=4.3							
SONM	**Songino Array**	**28.62**	**305**	P		**P**	**18 50 42.0**	**+0.1**
SONM				pP		pP	18 50 50.4	+5.8
ZALV	**Zalesovo Beam**	**42.83**	**313**	P		**P**	**18 52 43.7**	**+0.3**
	1.1nm,0.5s,mb3.9,baz=97,slow=7.6,SNR=5.5							
ZALV				pP		pP	18 52 53.1	+6.9
	1.3nm,0.5s,baz=90,slow=6.9,SNR=5.3							
ZALV	**Zalesovo Beam**	**42.83**	**313**	P		**P**	**18 52 43.7**	**+0.3**
ZALV				pP		pP	18 52 53.1	+6.9
MKAR	**Makanchi Array**	**44.93**	**303**	P		**P**	**18 53 00.3**	**-0.1**
	0.4nm,0.6s,mb3.4,baz=94,slow=10,SNR=5.3							
MKAR	**Makanchi Array**	**44.93**	**303**	P		**P**	**18 53 00.3**	**-0.1**
KURK	**Kurchatov**	**46.80**	**309**	P		**P**	**18 53 15.5**	**+0.4**
	1.5nm,0.5s,mb4.2,baz=84,slow=8.0,SNR=5.2							
KURK				pP		pP	18 53 25.5	+7.5
	2.9nm,0.7s,baz=85,slow=7.9,SNR=4.0							
KURK	**Kurchatov**	**46.80**	**309**	*e*P		**P**	**18 53 14.7**	**-0.4**
	7.2nm,0.8s,mb4.7							
KURK				pP		pP	18 53 25.5	+7.5
ILAR	**Eielson Array**	**50.17**	**32**	P		**P**	**18 53 42.1**	**+1.2**
	0.3nm,0.8s,mb3.4,baz=259,slow=6.3,SNR=3.2							
ILAR	**Eielson Array**	**50.17**	**32**	P		**P**	**18 53 42.1**	**+1.2**
WRAB	**Tennant Creek**	**56.10**	**188**	*e*P		**P**	**18 54 27.7**	**+2.7**
	1.2nm,0.8s,mb4.0							
WRA	**Warramunga Arr**	**56.11**	**188**	P		**P**	**18 54 24.9**	**-0.2**
	0.5nm,0.6s,mb3.7,baz=4.8,slow=7.5,SNR=7.3							
WRA	**Warramunga Arr**	**56.11**	**188**	P		**P**	**18 54 24.9**	**-0.2**
ABKAR	**

TIRR	**Tirgusor**	**5.03**	**313**	⇑	*i* P	**Pn**	**18 59 49.3**	**0.0**
TIRR					S	**Sn**	**19 00 44.3**	**-3.1**
TLCR		**5.32**	**321**	⇑	*i* P	**Pn**	**18 59 52.7**	**-0.6**
TLCR		**5.32**	**321**	⇑	*i* P	**Pn**	**18 59 52.7**	**-0.6**
CFR	**Carcaliu**	**5.65**	**317**	⇑	*i* P	**Pn**	**18 59 58.1**	**+0.3**
CFR	**Carcaliu**	**5.65**	**317**	⇑	*i* P	**Pn**	**18 59 58.1**	**+0.3**
VOIR		**7.54**	**307**	⇓	*i* P	**Pn**	**19 00 26.3**	**+2.5**
VOIR		**7.54**	**307**		S	**Sn**	**19 01 49.1**	**-0.2**
VOIR		**7.54**	**307**	⇓	*i* P	**Pn**	**19 00 26.3**	**+2.5**
BURAR	**Bucovina Array**	**8.80**	**320**	⇑	*i* P	**Pn**	**19 00 41.5**	**+0.5**
BURAR	**Bucovina Array**	**8.80**	**320**	⇑	*i* P	**Pn**	**19 00 41.5**	**+0.5**

ISCJB ***19*** *19:20:52.9±1.1, 14.°05N±0.°05×43.°04E±0.°06, h10km, Error ellipse: s-maj=10.2km s-min=5.2km az=142.1*
SGS ***19*** *19:20:52.5, 13.°72N×42.°81E, h23km*
CSEM ***19*** *19:20:53.2±0.7, 14.°07N×43.°10E, h2km, ML3.6, Error ellipse: s-maj=16.7km s-min=7.4km az=47.0*
DHMR ***19*** *19:20:54.0±1.6, 14.°07N×43.°19E, h14km±7km, ML3.6*

ISC 19 19:20:54.2±1.1, 14.°06N±0.°05×43.°10E±0.°06, h10km, n17, σ1§21/29, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
UDYN	**Al 'Udayn**	**0.85**	**96**	*i* P			**Pg**	**19 21 09.2**	**-1.3**
UDYN				*i* S			**Sg**	**19 21 19.3**	**-2.3**
UDYN					AML		AML	19 21 21.1	
	comp=N,1μm,0.2s								
DHBB	**Dhamar BB**	**1.35**	**68**	*i* P			**Pn**	**19 21 17.6**	**-1.6**
DHBB				*i* S			**Sb**	**19 21 35.6**	**-1.3**
DHBB	**Dhamar BB**	**1.35**	**68**	*i* P			**Pn**	**19 21 17.6**	**-1.6**
DHBB				*i* S			**Sb**	**19 21 35.7**	**-1.3**
SANA	**San'a**	**1.70**	**39**	*i* P			**Pn**	**19 21 23.7**	**-0.3**
SANA				*i* S			**Sn**	**19 21 46.9**	**+1.1**
SANA					AML		AML	19 21 53.0	
	comp=E,3μm,0.3s								
HAJJ	**Hajjah**	**1.70**	**16**	*i* P			**Pn**	**19 21 23.2**	**-0.8**
HAJJ				*i* S			**Sn**	**19 21 46.0**	**+0.2**
HAJJ					AML		AML	19 21 54.6	
	comp=E,569nm,0.4s								
HAJJ	**Hajjah**	**1.70**	**16**	*i* P			**Pn**	**19 21 23.2**	**-0.8**
HAJJ				*i* S			**Sn**	**19 21 46.0**	**+0.2**
	comp=E,284nm,0.4s								
LBOS		**2.09**	**95**	*i* P			**Pn**	**19 21 28.8**	**-0.6**
LBOS				*i* S			**Sn**	**19 21 56.8**	**+1.2**
ADEN	**Aden**	**2.23**	**125**	*i* P			**Pn**	**19 21 31.4**	**+0.1**
ADEN				*i* S			**Sn**	**19 22 00.2**	**+1.3**
ADEN					AML		AML	19 22 05.1	
	comp=E,435nm,0.6s								
ADEN	**Aden**	**2.23**	**125**	*i* P			**Pn**	**19 21 31.4**	**+0.1**
ADEN				*i* S			**Sn**	**19 22 00.2**	**+1.3**
	comp=E,217nm,0.6s								
BDHA	**Al Bayda'**	**2.40**	**92**	*i* P			**Pn**	**19 21 34.8**	**+1.2**
BDHA				*i* S			**Sn**	**19 22 05.4**	**+2.4**
BDHA					AML		AML	19 22 08.0	
	comp=N,658nm,0.4s								
BDHA	**Al Bayda'**	**2.40**	**92**	*i* P			**Pn**	**19 21 34.8**	**+1.2**
BDHA				*i* S			**Sn**	**19 22 05.4**	**+2.4**
	comp=N,329nm,0.4s								
FRSS	**Farasan al Kab**	**2.83**	**341**	P			**Pn**	**19 21 38.0**	**-1.5**
FRSS	**Farasan al Kab**	**2.83**	**341**	P			**Pn**	**19 21 38.0**	**-1.5**
DJNS	**Zahran al Janu**	**3.65**	**7**	P			**Pn**	**19 21 50.9**	**+0.2**
DJNS	**Zahran al Janu**	**3.65**	**7**	P			**Pn**	**19 21 50.9**	**+0.1**
DJNS				S			**Sn**	**19 22 35.2**	**+1.3**
TATS	**Tathlith**	**5.46**	**4**	P			**Pn**	**19 22 16.4**	**+0.6**
TATS	**Tathlith**	**5.46**	**4**	P			**Pn**	**19 22 16.4**	**+0.6**

NIED ***19*** *19:25:00, 36.°00N×141.°90E, h23km, Mw4.9 Best double couple: M0 2.49000×10^16 NP1:φs=27.00000°, δ67.00000°, λ95.00000°. NP2:φs=195.00000°, δ23.00000°, λ79.00000°.*
IDC ***19*** *19:25:37.5±0.5, 35.°98N×141.°59E, h0km, mb4.6/25, mb1 4.7/29, mb1mx4.6/34, mbtmp4.6/29, ML4.7/4, MS4.5/28, Ms1 4.5/28, ms1mx4.3/44, Error ellipse: s-maj=14.5km s-min=12.6km az=97.0*
JMA ***19*** *19:25:39.2±0.2, 36.°03N×141.°81E, h38km, M4.9*
JMA Felt I J1.
BJI ***19*** *19:25:40.9, 36.°13N×141.°60E, h38km, mB5.0/36, mb4.8/54, Ms4.8/53, Ms7 4.6/52*
ISCJB ***19*** *19:25:40.8±0.2, 35.°97N±0.°02×141.°64E±0.°03, h34km, mb4.9/120, MS4.6/49, Error ellipse: s-maj=3.1km s-min=2.9km az=19.1*
MOS ***19*** *19:25:41.4±1.1, 36.°07N×141.°65E, h39km, mb5.1/34, MS4.7/10, Error ellipse: s-maj=8.9km s-min=5.4km az=118.3*
NEIC ***19*** *19:25:42.7±0.2, 35.°97N×141.°57E, mb4.8/36, MW4.9(NIED), Error ellipse: s-maj=5.7km s-min=4.2km az=166.0*
NEIC Recorded [1 JMA] in Chiba, Fukushima, Ibaraki and Tochigi.
DJA ***19*** *19:25:45, 35.°89N×141.°44E, h42km, mb5.4/21*
GCMT ***19*** *19:25:45.8±0.3, 35.°97N×141.°73E, h28km±1km, MW5.0, Moment Tensor Solution. s33,c43; s67,c111; Moment tensor: Scale 10^16Nm; Mrr 2.46±.15; Mθθ-0.23±.09; Mφφ-2.23±.10; Mrθ 1.16±.15; Mθφ-1.21±.06; Mφr 2.41±.15; Best double couple: M0 3.80000×10^16 NP1:φs=205.00000°, δ22.00000°, λ89.00000°. NP2:φs=26.00000°, δ68.00000°, λ90.00000°. Principal axes: T 3.5800, Plg67.0000°, Azm296.0000°; N 0.3400, Plg0.0000°, Azm205.0000°; P -3.9200, Plg23.0000°, Azm115.0000°; Data Used: II IU IC G CN.*

ISC 19 19:25:43.0±0.2, 35.°99N±0.°02×141.°57E±0.°03, h36km, h36km±1.2km: pP-P, n326, σ1§01/336, mb4.9/120, MS4.6/49, 13C-10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.64**	**244**	P			**Pn**	**19 25 54.8**	**-0.8**
CHOJ				S			**Sn**	**19 26 06.6**	**+2.0**
JHO	**Hitachi**	**1.01**	**308**	⇓	P		**Pn**	**19 25 59.3**	**-1.4**
JHO				*e*S			**Sn**	**19 26 15.2**	**+1.4**
BSO1	**Boso 1**	**1.42**	**200**	P			**Pn**	**19 26 05.8**	**-0.5**
BSO1				*e*S			**Sn**	**19 26 23.8**	**+0.1**
BSO3	**Boso 3**	**1.47**	**216**	P			**Pn**	**19 26 06.7**	**-0.2**
BSO3				*e*S			**Sn**	**19 26 24.2**	**-0.7**
JFK	**Kawauchi**	**1.48**	**338**	P			**Pn**	**19 26 05.5**	**-1.6**
JFK				*e*S			**Sn**	**19 26 24.0**	**-1.3**
JAG	**Ashikaga**	**1.76**	**285**	⇓	P		**Pn**	**19 26 10.4**	**-0.6**
JAG				*e*S			**Sn**	**19 26 33.4**	**+1.2**
JFT	**Otama**	**1.81**	**327**	P			**Pn**	**19 26 11.4**	**-0.3**
JFT				*e*S			**Sn**	**19 26 34.8**	**+1.3**
JMM	**Marumori**	**1.97**	**342**	P			**Pn**	**19 26 12.3**	**-1.6**
JMM				*e*S			**Sn**	**19 26 38.3**	**+0.9**
JKT	**Katashina**	**2.02**	**293**	⇓	P		**Pn**	**19 26 14.6**	**0.0**
JKT				*e*S			**Sn**	**19 26 38.8**	**+0.2**
JFY	**Yanaizu**	**2.06**	**314**	P			**Pn**	**19 26 14.8**	**-0.3**
JOD2	**Odawara 2**	**2.15**	**251**	P			**Pn**	**19 26 17.0**	**+0.7**
JRY	**Ryogami san**	**2.16**	**271**	P			**Pn**	**19 26 16.0**	**-0.5**
MJAR	**Matsushiro Arr**	**2.77**	**282**	Pn			**Pn**	**19 26 24.4**	**-0.4**
	57nm,0.3s,baz=281,slow=4.1,SNR=493								
MJAR				Sn			**Sn**	**19 26 54.6**	**-2.4**
	40nm,0.3s,baz=26,slow=37,SNR=6.5								
MJAR	**Matsushiro Arr**	**2.77**	**282**	Pn			**Pn**	**19 26 24.4**	**-0.4**
MJAR				Sn			**Sn**	**19 26 54.6**	**-2.4**
MJAR	**Matsushiro Arr**	**2.77**	**282**	P			**Pn**	**19 26 24.4**	**-0.4**
MJAR								19 26 54.7	
MAJO	**Matsushiro**	**2.77**	**282**	*e*P			**Pn**	**19 26 25.4**	**+0.6**
MAJO	**Matsushiro**	**2.77**	**282**	*e*P			**Pn**	**19 26 25.4**	**+0.5**
MAT	**Matsushiro**	**2.77**	**282**	P			**Pn**	**19 26 26.0**	**+1.1**
MAT				S			**Sn**	**19 26 56.3**	**-0.7**
JHJ	**Hachijo jima 2**	**3.22**	**208**	Pn			**Pn**	**19 26 30.9**	**-0.1**
	302nm,0.3s,baz=26,slow=12,SNR=61								
JHJ				Sn			**Sn**	**19 27 06.8**	**-1.3**
	523nm,0.3s,baz=81,slow=23,SNR=12								
JHJ				LR			LR	19 27 56.6	
	comp=Z,2μm,19.3s,baz=268,slow=43								
ERM	**Erimo**	**6.14**	**11**	*i* P			**Pn**	**19 27 09.1**	**-2.1**
ERM	**Erimo**	**6.14**	**11**	Pn			**Pn**	**19 27 10.9**	**-0.3**
	650nm,0.5s,SNR=5.2								
ASAJ	**Asahikawa**	**8.15**	**5**	Pn			**Pn**	**19 27 36.1**	**-2.7**
	5.0nm,0.3s,baz=213,slow=13,SNR=9.9								
ASAJ				Sn			**Sn**	**19 29 03.0**	**-6.6**
	2.4nm,0.3s,baz=225,slow=20,SNR=2.2								
ASAJ				LR			LR	19 31 38.0	
	comp=Z,2μm,19.9s,baz=181,slow=44								
ASAJ	**Asahikawa**	**8.15**	**5**	*e*P			**Pn**	**19 27 36.3**	**-2.5**
	18nm,0.8s								
ASAJ	**Asahikawa**	**8.15**	**5**	P			**Pn**	**19 27 36.1**	**-2.7**
ASAJ								19 29 03.0	
ASAJ					pmax		pmax		
	comp=Z,5.0nm,0.3s								
ASAJ					smax				
	comp=N,2.0nm,0.3s								
ASAJ					MLR		MLR		
	comp=Z,2μm,20.0s								
YUK	**Yuzh-Kuril'sk**	**8.68**	**21**	*i* P			**Pn**	**19 27 42.0**	**-4.0**
YUK				*i* S			**Sn**	**19 29 13.3**	**-9.3**
YUK					pmax		pmax		
	comp=N,103nm,0.7s								
YUK					pmax		pmax		
	comp=Z,186nm,0.7s								
YUK					pmax		pmax		
	comp=E,99nm,0.7s								
YUK					smax				
	comp=E,327nm,0.6s								
YUK					smax				
	comp=N,445nm,0.5s								
YUK					smax				
	comp=N,460nm,0.6s								
YUK					smax				
	comp=E,325nm,0.6s								
YUK					MLR		MLR		
	comp=N,354nm,19.0s								
YUK					MLR		MLR		
	comp=E,459nm,19.0s								
YUK					MLR		MLR		
	comp=Z,1μm,19.0s								
CBIJ	**Chichi jima**	**8.88**	**176**	Pn			**Pn**	**19 27 45.7**	**-3.2**
	comp=Z,57nm,0.3s,baz=290,slow=9.9,SNR=11								
CBIJ				Sn			**Sn**	**19 29 17.8**	**-10**
	comp=Z,30nm,0.3s,baz=252,slow=22,SNR=3.4								
JNU	**Nakatsue**	**9.27**	**255**	*e*P			**Pn**	**19 27 55.8**	**+1.7**
	comp=Z,47nm,1.4s								
VLA	**Vladivostok**	**10.31**	**317**	⇓	*e*P		**Pn**	**19 28 12.2**	**+3.9**
VLA					S		**Sn**	**19 30 08.7**	**+6.1**
VLA					smax				
	comp=N,281nm,0.6s								
YSS	**Yuzh-Sakhalins**	**10.99**	**4**	*e*P			**Pn**	**19 28 15.5**	**-2.1**
	comp=N,42nm,0.8s								
YSS	**Yuzh-Sakhalins**	**10.99**	**4**	*e*P			**Pn**	**19 28 14.0**	**-3.6**
YSS				*e*S			**Sn**	**19 30 14.0**	**-5.2**
YSS					MLR		MLR		
	comp=N,2μm,14.0s								
YSS					MLR		MLR		
	comp=Z,2μm,14.0s								
KSRS	**Korea Array**	**11.05**	**282**	Pn			**Pn**	**19 28 23.0**	**+4.5**
	comp=Z,0.4nm,0.3s,baz=101,slow=13,SNR=15								
KSRS					LR		LR	19 32 34.2	
	comp=Z,2μm,20.0s,baz=91,slow=38								
KSRS	**Korea Array**	**11.05**	**282**	P			**Pn**	**19 28 23.0**	**+4.5**
KSRS					MLR		MLR		
	comp=Z,2μm,20.0s								
KSAR	**Wonju Array Be**	**11.08**	**282**	Pn			**Pn**	**19 28 23.0**	**+4.1**
KSAR					LR		LR	19 32 34.2	
KSAR	**Wonju Array Be**	**11.08**	**282**	P			**Pn**	**19 28 23.0**	**+4.1**
MDJ	**Mudanjiang**	**12.55**	**317**	P			**Pn**	**19 28 41.3**	**+2.4**
MDJ				S			**Sn**	**19 31 01.5**	**+4.2**
MDJ					PcP		PcP	19 34 17.9	+1.7
MDJ					ScP		ScP	19 37 50.1	+3.7
MDJ					ScS		ScS	19 41 24.8	+2.3
MDJ					pmax		pmax		
	comp=Z,15nm,1.2s								
MDJ					pmax		pmax		
	comp=Z,210nm,5.6s								
MDJ					LR		LR		
	comp=N,2μm,20.8s								
MDJ					LR		LR		
	comp=E,2μm,18.0s								
MDJ					LR		LR		
	comp=Z,3μm,18.6s								
MDJ	**Mudanjiang**	**12.55**	**317**	*e*P			**Pn**	**19 28 40.3**	**+1.4**
	comp=Z,29nm,1.0s								
KLR	**Kul'dur**	**15.06**	**335**	*e*P			**Pn**	**19 29 12.3**	**-0.6**
KLR					MLR		MLR		
	comp=N,2μm,13.0s								
KLR					MLR		MLR		
	comp=Z,6μm,13.0s								
SNY	**Shenyang**	**15.16**	**298**	⇓	P		**Pn**	**19 29 14.5**	**+0.2**
SNY					pmax		pmax		
	comp=Z,31nm,1.7s								
SNY					pmax		pmax		
	comp=Z,480nm,10.6s								
SNY					LR		LR		
	comp=N,2μm,15.7s								
SNY					LR		LR		
	comp=E,2μm,15.1s								
SNY					LR		LR		
	comp=Z,2μm,16.6s								
DL2	**Dalian**	**16.10**	**286**	P			**Pn**	**19 29 26.8**	**+0.3**
DL2				*e*S			**S**	**19 32 20.3**	**-16**
DL2					pmax		pmax		
	comp=Z,30nm,1.1s								
DL2					pmax		pmax		
	comp=Z,290nm,6.4s								
DL2					LR		LR		
	comp=N,250nm,15.0s								
DL2					LR		LR		
	comp=E,1μm,14.0s								
DL2					LR		LR		
	comp=Z,1μm,15.2s								
SSE	**Sheshan**	**17.67**	**260**	P			**Pn**	**19 29 44.3**	**-2.0**
SSE				sP			sP	19 29 59.6	-1.1
SSE				S			**S**	**19 33 00.6**	**-7.9**
SSE					pmax		pmax		
	comp=Z,35nm,0.6s								
SSE					pmax		pmax		
	comp=Z,310nm,5.3s								
SSE					LR		LR		
	comp=N,1μm,16.2s								
SSE					LR		LR		
	comp=E,540nm,17.3s								
SSE					LR		LR		
	comp=Z,1μm,14.1s								
NJ2	**Nanjing**	**19.22**	**265**	*e*P			**Pn**	**19 30 07.3**	**+2.1**
NJ2				pP			pP	19 30 16.3	+3.0
NJ2				sP			sP	19 30 18.4	+0.6
NJ2				S			**S**	**19 33 37.5**	**-2.4**
NJ2				sS			sS	19 33 53.0	-1.6
NJ2					pmax		pmax		
	comp=Z,10.0nm,1.0s								
NJ2					pmax		pmax		
	comp=Z,350nm,5.6s								
NJ2					LR		LR		
	comp=N,890nm,16.1s								
NJ2					LR		LR		
	comp=E,1μm,21.2s								
NJ2					LR		LR		
	comp=Z,1μm,22.3s								
BJI	**Beijing**	**20.39**	**289**	P			**P**	**19 30 14.4**	**-2.2**
BJI					pmax		pmax		
	comp=Z,31nm,1.5s								
BJI					pmax		pmax		
	comp=Z,100nm,4.0s								
BJI					LR		LR		
	comp=N,710nm,14.8s,MS4.3								
BJI					LR		LR		
	comp=E,750nm,15.8s,MS4.3								
BJI					LR		LR		
	comp=Z,490nm,17.1s,MS3.9								
BJT	**Baijiatuan**	**20.39**	**289**	*e*P			**P**	**19 30 14.9**	**-1.8**
	comp=Z,16nm,0.4s								
BJT	**Baijiatuan**	**20.39**	**289**	*e*P			**P**	**19 30 14.9**	**-1.8**
BJT					pmax		pmax		
	comp=Z,16nm,0.4s								
PETK	**Petropavlovsk-**	**20.54**	**29**	P			**P**	**19 30 18.4**	**+0.3**
	comp=Z,2.7nm,0.9s,baz=218,slow=11,SNR=5.4								
PETK	**Petropavlovsk-**	**20.54**	**29**	P			**P**	**19 30 18.4**	**+0.3**
PETK	**Petropavlovsk-**	**20.54**	**29**	P			**P**	**19 30 18.4**	**+0.3**
HIA	**Hailar**	**20.73**	**317**	*e*P			**P**	**19 30 19.1**	**-1.2**
	comp=Z,30nm,1.0s								
HIA	**Hailar**	**20.73**	**317**	*e*P			**P**	**19 30 19.1**	**-1.2**
HIA					pmax		pmax		
	comp=Z,30nm,1.0s								
PET	**Petropavlovsk**	**20.85**	**30**	*e*P			**P**	**19 30 20.0**	**-1.5**
PET				*e*S			**S**	**19 34 04.0**	**-7.9**
PET					MLR		MLR		
	comp=Z,400nm,17.0s,MS3.9								
SSLB	**Suanglung**	**21.57**	**241**	*e*P			**P**	**19 30 27.4**	**-2.1**
QZH	**Quanzhou**	**22.60**	**247**	P			**P**	**19 30 39.1**	**-1.4**
QZH				S			**S**	**19 34 42.9**	**-3.4**
QZH					LR		LR		
	comp=Z,3μm,21.7s,MS4.7								
WHN	**Wuhan**	**23.36**	**264**	P			**P**	**19 30 47.4**	**-1.0**
WHN					LR		LR		
	comp=N,2μm,11.9s,MS5.0								
WHN					LR		LR		
	comp=E,3μm,12.8s,MS5.0								
WHN					LR		LR		
	comp=Z,3μm,12.3s,MS5.0								
CLNS	**Chul'man**	**23.68**	**337**	*e*P			**P**	**19 30 49.5**	**-1.7**
CLNS					pmax		pmax		
	comp=Z,16nm,1.0s,mb4.4								
CLNS					pmax		pmax		
	comp=N,25nm,1.3s								
CLNS					pmax		pmax		
	comp=E,12nm,1.4s								
CLNS					MLR		MLR		
	comp=Z,892nm,15.0s,MS4.4								
CLNS					MLR		MLR		
	comp=N,886nm,14.0s,MS4.4								
CLNS					MLR		MLR		
	comp=E,393nm,13.0s,MS4.4								
HHC	**Hu-ho-hao-te**	**23.94**	**291**	*e*P			**P**	**19 30 51.6**	**-2.1**
HHC					sP		sP	19 31 04.8	-3.3
HHC					PP			19 31 24.9	
HHC					PcP		PcP	19 34 35.6	+0.2
HHC					S		**S**	**19 35 01.6**	**-6.2**
HHC					sS		sS	19 35 17.1	-7.3
HHC					ScP		ScP	19 38 10.9	-0.1
HHC					PcS		PcS	19 38 14.0	-0.9
HHC					pmax		pmax		
	comp=Z,12nm,0.6s,mb4.5								
HHC					pmax		pmax		
	comp=Z,120nm,4.7s								
HHC					LR		LR		
	comp=N,540nm,12.1s,MS4.5								
HHC					LR		LR		
	comp=E,990nm,12.5s,MS4.5								
HHC					LR		LR		
	comp=Z,1μm,13.4s,MS4.6								
XAN	**Xi'an**	**26.74**	**275**	P			**P**	**19 31 18.5**	**-0.7**
XAN					pP		pP	19 31 26.0	-3.3
XAN					sP		sP	19 31 29.8	-3.8
XAN					pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.2								
XAN					pmax		pmax		
	comp=Z,43nm,5.9s								
XAN					LR		LR		
	comp=N,580nm,18.1s								
XAN					LR		LR		
	comp=Z,320nm,16.6s,MS4.0								
YAK	**Yakutsk**	**27.11**	**348**	*e*P			**P**	**19 31 21.3**	**-0.9**
	comp=Z,103nm,1.0s,mb5.3								
YAK	**Yakutsk**	**27.11**	**348**	*e*P			**P**	**19 31 19.2**	**-3.0**
YAK				*e**PP			pP	19 31 31.0	-1.3
YAK				*e*PPP				19 32 09.9	
YAK				*e*				19 34 37.7	
YAK				*e*S			**S**	**19 35 52.6**	**-5.2**
YAK				*e**SS			sS	19 36 12.2	-2.4
YAK				*e*SSS				19 37 23.8	
YAK				*e*				19 42 05.5	
YAK					pmax		pmax		
	comp=Z,54nm,1.2s,mb5.0								
YAK					pmax		pmax		
	comp=E,23nm,0.9s								
YAK					pmax		pmax		
	comp=N,48nm,1.1s								
YAK					pmax		pmax		
	comp=Z,304nm,4.3s								
YAK					smax				
	comp=E,725nm,5.8s								
YAK					smax				
	comp=N,652nm,5.6s								
YAK					MLR		MLR		
	comp=N,1μm,15.0s,MS4.5								
YAK					MLR		MLR		
	comp=Z,1μm,15.0s,MS4.5								
YAK					MLR		MLR		
	comp=E,342nm,15.0s,MS4.5								
ENH	**Enshi**	**27.39**	**267**	*e*P			**P**	**19 31 24.0**	**-1.0**
	comp=E,38nm,0.9s,mb4.9								
FX1	**Attu Island--F**	**27.87**	**43**	LR			LR	19 41 31.7	
	comp=E,233nm,19.3s,MS3.8,baz=84,slow=34								
ULN	**Ulaanbaatar**	**28.05**	**306**	*e*P			**P**	**19 31 29.4**	**-1.4**
	comp=E,13nm,0.9s,mb4.6								
ULN	**Ulaanbaatar**	**28.05**	**306**	*e*P			**P**	**19 31 29.4**	**-1.4**
ULN					pmax		pmax		
	comp=Z,13nm,0.9s,mb4.6								
ULN	**Ulaanbaatar**	**28.05**	**306**	P			**P**	**19 31 32.1**	**+1.3**
	comp=Z,14nm,1.0s,mb4.5								
SONM	**Songino Array**	**28.48**	**306**	P			**P**	**19 31 34.8**	**+0.2**
	comp=Z,6.5nm,0.6s,mb4.4,baz=103,slow=9.0,SNR=30								
SONM					PcP		PcP	19 34 46.3	+0.6
	comp=Z,0.8nm,0.6s,baz=105,slow=3.2,SNR=4.3								
SONM					LR		LR	19 43 30.4	
	comp=Z,1μm,18.2s,MS4.5,baz=104,slow=38								
SONM	**Songino Array**	**28.48**	**306**	P			**P**	**19 31 34.8**	**+0.2**
SONM					PcP		PcP	19 34 46.3	+0.6
SONM					LR		LR	19 43 30.4	
SONM	**Songino Array**	**28.48**	**306**	P			**P**	**19 31 34.8**	**+0.2**
SONM								19 34 46.3	
LZH	**Lanzhou**	**30.38**	**281**	*e*P			**P**	**19 31 51.5**	**-0.1**
LZH					pP		pP	19 32 01.6	-0.1
LZH					sP		sP	19 32 06.0	0.0
LZH					pmax		pmax		
	comp=Z,28nm,1.1s,mb4.9								
LZH					pmax		pmax		
	comp=Z,93nm,7.0s								
LZH					LR		LR		
	comp=N,1μm,14.6s,MS5.0								
LZH					LR		LR		
	comp=E,2μm,14.3s,MS5.0								
LZH					LR		LR		
	comp=Z,3μm,16.2s,MS5.0								
IRK	**Irkutsk**	**30.90**	**313**	*e*P			**P**	**19 31 54.6**	**-1.3**
IRK				*e*				19 34 51.0	
IRK					pmax		pmax		
	comp=Z,51nm,1.1s,mb5.3								
ZAK	**Zakamensk**	**31.02**	**310**	*e*P			**P**	**19 31 57.2**	**+0.1**
ZAK				*e*				19 32 11.0	
ZAK				*e*				19 34 53.3	
ZAK					pmax		pmax		
	comp=Z,8.0nm,1.2s,mb4.4								
TLY	**Talaya**	**31.11**	**312**	*e*P			**P**	**19 31 57.5**	**-0.4**
TLY				*e*				19 33 07.9	
TLY				*e*S			**S**	**19 37 07.9**	**+7.0**
TLY					pmax		pmax		
	comp=Z,47nm,1.5s,mb5.1								
TLY					MLR		MLR		
	comp=Z,1μm,16.0s,MS4.6								
GYA	**Guiyang**	**31.18**	**262**	⇑	*i* P		**P**	**19 31 56.8**	**-2.0**
GYA					pP		pP	19 32 08.9	0.0
GYA					PP		PP	19 33 03.3	-6.2
GYA					PcP		PcP	19 34 53.6	+0.5
GYA					S		**S**	**19 37 01.8**	**-0.7**
GYA					sS		sS	19 37 17.8	-1.5
GYA					ScP		ScP	19 38 33.5	+0.2
GYA					SS		SS	19 38 47.0	-30
GYA					pmax		pmax		
	comp=Z,20nm,1.0s,mb4.9								
GYA					pmax		pmax		
	com

QIZ LR LR
comp=N,850nm,4.5s
QIZ LR LR
comp=Z,760nm,5.5s
GTA Gaotai 33.00 289 *e*P **P 19 32 15.3 +0.7**
GTA pmax pmax
comp=Z,26nm,1.2s,mb5.0
GTA pmax pmax
comp=Z,160nm,6.4s
GTA LR LR
comp=N,790nm,13.8s,MS4.7
GTA LR LR
comp=E,770nm,18.5s,MS4.7
GTA LR LR
comp=Z,1µm,18.3s,MS4.6
KMI Kunming 34.94 263 P **P 19 32 31.3 -0.3**
KMI sP sP 19 32 47.8 +1.7
KMI S **S 19 38 01.3 +0.5**
KMI sS sS 19 38 20.8 +3.1
KMI pmax pmax
comp=Z,12nm,1.6s,mb4.6
KMI LR LR
comp=N,960nm,17.1s,MS4.7
KMI LR LR
comp=E,560nm,13.2s,MS4.7
KMI LR LR
comp=Z,500nm,16.8s,MS4.3
BILL Bilibino 34.99 16 *e*P **P 19 32 31.1 -0.4**
comp=Z,21nm,1.5s,mb4.8
BILL Bilibino 34.99 16↓ *e*P **P 19 32 31.2 -0.3**
BILL *e* pP 19 32 38.8 -2.9
BILL *e* 19 33 46.6
BILL pmax pmax
comp=Z,12nm,1.1s,mb4.7
BILL MLR MLR
comp=Z,400nm,15.0s,MS4.3
CHTO Chiang Mai 41.16 257 *e*P **P 19 33 24.3 +0.2**
comp=Z,12nm,1.4s,mb4.3
CHTO Chiang Mai 41.16 257 *e*P **P 19 33 24.3 +0.2**
CHTO pmax pmax
comp=Z,12nm,1.4s,mb4.3
CHTO Chiang Mai 41.16 257 P **P 19 33 24.2 +0.1**
comp=Z,8.1nm,1.4s,mb4.2
CM31 Chiang Mai Arr 41.36 257 *e*P **P 19 33 25.2 -0.5**
comp=Z,2.1nm,0.5s,mb4.0
CMAR Chiang Mai Arr 41.36 257 P **P 19 33 25.4 -0.3**
comp=Z,1.1nm,0.5s,mb3.8,baz=51,slow=6.6,SNR=16
CMAR LR LR 19 52 22.7
comp=Z,456nm,18.1s,MS4.4,baz=60,slow=39
CMAR Chiang Mai Arr 41.36 257 P **P 19 33 25.4 -0.3**
CMAR LR LR 19 52 22.7
CMAR Chiang Mai Arr 41.36 257 P **P 19 33 25.4 -0.3**
AAI Ambon 41.41 200 P **P 19 33 28.6 +2.6**
comp=Z,0.3nmcomp=Z,897nmcomp=Z,91nm,1.0s,mb5.3
AAI Ambon 41.41 200 P **P 19 33 27.4 +1.4**
comp=Z,897nmcomp=Z,91nm,1.0s,mb5.3
WMQ Urumqi 41.43 298 P **P 19 33 27.5 +1.5**
WMQ pP pP 19 33 37.3 +1.0
WMQ sP sP 19 33 41.3 +0.7
WMQ PP PP 19 35 06.3 +4.4
WMQ S **S 19 39 39.3 +0.8**
WMQ sS sS 19 39 55.5 -0.1
WMQ pmax pmax
comp=Z,77nm,1.4s,mb5.1
WMQ LR LR
comp=N,590nm,15.6s,MS4.7
WMQ LR LR
comp=E,710nm,18.1s,MS4.7
WMQ LR LR
comp=Z,440nm,18.0s,MS4.4
BNDI Bandanaira 41.76 198 P pP 19 33 39.8 +0.5
comp=Z,77nm,1.0s,comp=Z,0.3nm
PCI Palu 41.92 214 P **P 19 33 23.4 -6.9**
comp=Z,0.5nmcomp=Z,105nm,0.8s,mb5.5
LSA Lhasa 42.44 276 P **P 19 33 35.0 +0.6**
LSA Lhasa 42.44 276 *e*P **P 19 33 35.8 +1.4**
comp=Z,5.9nm,0.6s,mb4.4
LSA Lhasa 42.44 276 *e*P **P 19 33 35.8 +1.4**
LSA pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
ZAA0 Zalesovo Array 42.71 313 *e*P **P 19 33 36.0 -0.3**
ZALV Zalesovo Beam 42.71 313 P **P 19 33 36.4 +0.1**
comp=Z,10nm,0.7s,mb4.7,baz=90,slow=6.5,SNR=64
ZALV PcP PcP 19 35 27.2 -0.3
comp=Z,4.1nm,0.6s,baz=88,slow=3.1,SNR=4.1
ZALV LR LR 19 52 13.4
comp=Z,510nm,18.9s,MS4.4,baz=78,slow=37
ZALV Zalesovo Beam 42.71 313 P **P 19 33 36.4 +0.1**
ZALV PcP PcP 19 35 27.2 -0.3
ZALV LR LR 19 52 13.4
ZALV Zalesovo Beam 42.71 313 P **P 19 33 36.4 +0.1**
ZALV 19 35 27.2
SHL Shillong 43.53 271 *e*PKP **P 19 33 44.5 +1.2**
NVS Novosibirsk 43.65 315 *e*P **P 19 33 43.8 -0.1**
NVS pmax pmax
comp=E,33nm,1.2s
NVS pmax pmax
comp=Z,45nm,1.2s,mb5.1
MK31 Makanchi Array 44.78 303 *e*P **P 19 33 52.9 -0.1**
MK31 Makanchi Array 44.78 303 *e*P **P 19 33 52.9 -0.1**
MKAR Makanchi Array 44.78 303 P **P 19 33 53.5 +0.5**
comp=Z,22nm,1.0s,mb4.9,baz=83,slow=8.9,SNR=40
MKAR LR LR 19 53 27.2
comp=Z,895nm,18.0s,MS4.7,baz=94,slow=37
MKAR Makanchi Array 44.78 303 P **P 19 33 53.5 +0.5**
MKAR LR LR 19 53 27.2
MKAR Makanchi Array 44.78 303 P **P 19 33 53.5 +0.5**
TAPN Taplejung 46.15 275 *e*P **P 19 34 04.7 +0.6**
comp=Z,16nm,0.4s,mb5.3
BBKI Banjar Baru 46.53 218 P sP 19 34 20.4 -1.5
comp=Z,40nm,0.9s
ODAN Odare 46.61 275 *e*P **P 19 34 08.2 +0.5**
comp=Z,25nm,0.6s,mb5.3
KURK Kurchatov 46.68 309 P **P 19 34 08.6 +0.6**
comp=Z,14nm,0.5s,mb5.2,baz=84,slow=8.4,SNR=44
KURK LR LR 19 54 34.2
comp=Z,699nm,19.9s,MS4.6,baz=100,slow=37
KURK Kurchatov 46.68 309 P **P 19 34 08.6 +0.6**
KURK LR LR 19 54 34.2
KURK Kurchatov 46.68 309*c i*P **P 19 34 07.7 -0.2**
KURK pmax pmax
comp=Z,68nm,1.7s,mb5.3
KURK MLR MLR
comp=Z,1µm,17.0s,MS4.9
KURK Kurchatov 46.68 309 P **P 19 34 07.6 -0.3**
comp=Z,305nm,0.7s,SNR=36
RAMN Ramite 47.21 275 *e*P **P 19 34 13.2 +0.8**
GUN Gumba 47.39 277 *e*P **P 19 34 14.8 +1.0**
comp=Z,20nm,0.5s,mb5.3
PKI Pulchoki 47.91 277 *e*P **P 19 34 18.4 +0.5**
KKN Kakani 47.92 277 *e*P **P 19 34 18.6 +0.6**
MMRI Maumere 47.98 206 P **P 19 34 17.9 -0.5**
comp=Z,37nm,1.2s,mb5.3
DMN Daman 48.14 277 *e*P **P 19 34 20.3 +0.7**
GKN Gorkha 48.35 277 *e*P **P 19 34 21.8 +0.5**
comp=Z,224nm,1.3s,mb6.0
DANN Dangsing 48.91 278 *e*P **P 19 34 26.7 +1.1**
comp=Z,125nm,0.8s,mb6.0
KOLN Koldanda 49.28 278 *e*P **P 19 34 29.2 +0.8**
PYUN Piuthan 49.63 278 *e*P **P 19 34 31.8 +0.7**
COEN Coen 49.70 178 *e*P **P 19 34 31.9 +0.4**
comp=Z,88nm,0.8s,mb5.8
COEN *e*S **S 19 41 36.6 -1.4**
COEN Coen 49.70 178 *e*P **P 19 34 31.9 +0.4**
comp=Z,117nm,0.8s,mb6.0
COEN Coen 49.70 178 P **P 19 34 32.3 +0.8**
comp=Z,24nm,0.8s,mb5.2
TKM2 Tokmak 2 50.24 299 P **P 19 34 37.0 +1.5**
SNR=27
TKM2 Tokmak 2 50.24 299 *e*P **P 19 34 36.6 +1.1**
TKM2 Tokmak 2 50.24 299 *i* P **P 19 34 37.0 +1.5**
ILAR Eielson Array 50.31 32 P **P 19 34 35.5 -0.1**
comp=Z,5.4nm,0.8s,mb4.7,baz=267,slow=6.3,SNR=58
ILAR LR LR 19 57 41.4
comp=Z,179nm,18.2s,MS4.1,baz=274,slow=38
ILAR Eielson Array 50.31 32 P **P 19 34 35.5 -0.1**
ILAR LR LR 19 57 41.4
ILAR Eielson Array 50.31 32 P **P 19 34 35.6 -0.1**
MTNI Mataram 50.42 213 P **P 19 34 38.0 +0.9**
comp=Z,1µmcomp=Z,35nm,0.8s,mb5.4
KHKI Kahang-Kahang 50.43 214 P **P 19 34 37.1 -0.1**
KHKI Kahang-Kahang 50.43 214 P **P 19 34 36.5 -0.7**
comp=Z,956nmcomp=Z,104nm,1.1s,mb5.8
KZA Kyzart 50.72 298 P **P 19 34 41.2 +2.1**
SNR=8.0
KBK Karagaybulak 50.77 299 P **P 19 34 40.8 +1.3**
SNR=16
CHMS Chumysh 50.81 300 P **P 19 34 41.1 +1.2**
SNR=6.8
BYJI Banyuwangi 50.88 216 P **P 19 34 41.9 +1.3**
comp=Z,107nm,1.0s,mb5.7
USP Ospenovka 50.92 300 P **P 19 34 41.0 +0.4**
SNR=10
KSH Kashi 50.95 295 P **P 19 34 45.4 +4.5**
KSH pP pP 19 34 55.3 +3.8
KSH sP sP 19 34 59.3 +3.6
KSH PcP PcP 19 36 00.6 +3.8
KSH PP PP 19 36 43.0 +5.7
KSH ScP ScP 19 39 53.0 +2.6
KSH PcS PcS 19 39 56.9 +2.6
KSH S **S 19 41 59.6 +4.4**
KSH sS sS 19 42 16.8 +4.1
KSH ScS ScS 19 44 30.1 +1.4
KSH SS SS 19 45 33.4 +3.4
KSH pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
KSH pmax pmax
comp=Z,110nm,4.4s
KSH LR LR
comp=N,180nm,4.3s
KSH LR LR
comp=E,230nm,5.5s
KSH LR LR
comp=Z,230nm,5.3s
AAK Ala-Archa 51.10 299 P **P 19 34 43.3 +1.3**
SNR=6.6
AAK Ala-Archa 51.10 299 *e*P **P 19 34 42.5 +0.5**
AAK Ala-Archa 51.10 299 *i* P **P 19 34 43.3 +1.3**
AAK Ala-Archa 51.10 299 P **P 19 34 43.4 +1.4**
comp=Z,56nm,1.3s,mb5.3
BVAR Borovoye Array 51.37 313 P **P 19 34 44.0 +0.2**
comp=Z,5.2nm,0.5s,mb4.7,baz=73,slow=7.0,SNR=34
BVAR PcP PcP 19 35 58.6 +0.4
comp=Z,2.7nm,0.5s,baz=45,slow=3.0,SNR=4.8
BVAR LR LR 19 57 41.4
comp=Z,783nm,18.8s,MS4.8,baz=76,slow=37
BVAR Borovoye Array 51.37 313 P **P 19 34 44.0 +0.2**
BVAR PcP PcP 19 35 58.6 +0.4
BVAR LR LR 19 57 41.4
BVAR Borovoye Array 51.37 313 P **P 19 34 44.0 +0.2**
BVAR 19 35 58.6
BRVK Borovoye 51.42 313 *e*P **P 19 34 44.5 +0.3**
comp=Z,30nm,1.1s,mb5.1
BRVK Borovoye 51.42 313*c i*P **P 19 34 44.7 +0.5**
BRVK pmax pmax
comp=Z,56nm,2.5s,mb5.0
BRVK MLR MLR
comp=Z,991nm,18.0s,MS4.9
EKS2 Erkin-Say 51.60 299 P **P 19 34 46.6 +0.9**
SNR=6.2
EKS2 Erkin-Say 51.60 299 *e*P **P 19 34 46.1 +0.4**
comp=Z,116nm,1.4s,mb5.6
EKS2 Erkin-Say 51.60 299 *e*P **P 19 34 46.1 +0.4**
EKS2 pmax pmax
comp=Z,116nm,1.4s,mb5.6
BKNI Bangkinang 51.70 236 P **P 19 34 46.6 -0.2**
comp=Z,76nm,1.1s,mb5.6
SJI Sawahan 51.74 219 P **P 19 34 47.9 +0.9**
comp=Z,46nm,1.3s,mb5.2
KRKI Karangkates 51.76 218 P **P 19 34 47.0 -0.2**
comp=Z,8µmcomp=Z,178nm,0.9s,mb6.0
AML Almayashu 51.81 299 P **P 19 34 49.3 +2.0**
SNR=22
PWJI Pagerwojo 51.97 219 P **P 19 34 48.2 -0.5**
comp=Z,111nm,0.9s,mb5.8
KLSI 53.17 228 P **P 19 34 58.1 +0.4**
comp=Z,3µmcomp=Z,91nm,1.3s,mb5.6
LEM Lembang 53.20 224 P **P 19 34 58.6 +0.7**
comp=Z,1µmcomp=Z,73nm,1.2s,mb5.5
KLI Kotabumi 53.23 228 P **P 19 34 59.8 +1.7**
comp=Z,3µmcomp=Z,141nm,1.2s,mb5.8
MDSI Maura Dua 53.35 229 P **P 19 34 58.6 -0.4**
comp=Z,72nm,0.9s,mb5.6
KKAR Karatay Array 53.76 301 *e*P **P 19 35 01.5 -0.2**
KKAR Karatay Array 53.76 301 *e*P **P 19 35 01.5 -0.2**
MTSU Mount Surprise 53.89 177 *e*P **P 19 35 03.2 +0.4**
comp=Z,29nm,1.1s,mb5.1
INK Inuvik 55.26 27 P **P 19 35 12.8 +0.6**
comp=Z,1.8nm,0.7s,mb4.2,baz=302,slow=6.0,SNR=4.2
INK Inuvik 55.26 27 P **P 19 35 12.8 +0.6**
INK Inuvik 55.26 27 P **P 19 35 12.8 +0.6**
FITZ Fitzroy Crossi 55.87 198 *e*P **P 19 35 17.2 +0.1**
comp=Z,13nm,0.6s,mb5.1
FITZ Fitzroy Crossi 55.87 198 *e*P **P 19 35 17.2 +0.1**
comp=Z,29nm,1.3s,mb5.2
FITZ Fitzroy Crossi 55.87 198 P **P 19 35 20.2 +3.1**
comp=Z,18nm,1.4s,mb4.9
SVE Sverdlovsk 56.01 319↑ *i*P **P 19 35 18.7 +1.0**
SVE *e*S **S 19 43 06.7 +3.3**
SVE *e* 19 44 56.0
SVE pmax pmax
comp=Z,34nm,1.2s,mb5.2
SVE MLR MLR
comp=Z,2µm,17.0s,MS5.2
WRAB Tennant Creek 56.04 188 *e*P **P 19 35 17.3 -1.0**
comp=Z,25nm,1.0s,mb5.2
WRAB Tennant Creek 56.04 188 *e*P **P 19 35 17.3 -0.9**
WRAB pmax pmax
comp=Z,25nm,1.0s,mb5.2
WRAB Tennant Creek 56.04 188 P **P 19 35 17.0 -1.2**
comp=Z,137nm,1.2s,mb5.9,SNR=8.6
WRAB Tennant Creek 56.04 188 P **P 19 35 17.8 -0.4**
comp=Z,45nm,1.0s,mb5.5
WB2 Warramunga Arr 56.05 188 *e*P **P 19 35 17.4 -0.9**
WRA Warramunga Arr 56.05 188 P **P 19 35 17.4 -0.9**
comp=Z,9.4nm,0.7s,mb4.9,baz=7.1,slow=7.4,SNR=66
WRA Warramunga Arr 56.05 188 P **P 19 35 17.4 -0.9**
WRA Warramunga Arr 56.05 188 P **P 19 35 17.4 -0.9**
ARU Arti 57.22 319 *e*P **P 19 35 26.1 -0.2**
comp=Z,42nm,1.0s,mb5.4
ARU Arti 57.22 319*c i*P **P 19 35 26.3 -0.1**
ARU *e* 19 37 30.8
ARU PPP 19 38 50.7
ARU S **S 19 43 20.3 +0.9**
ARU SSS 19 49 29.9
ARU pmax pmax
comp=Z,59nm,1.7s,mb5.3
ARU MLR MLR
comp=Z,838nm,16.0s,MS4.9
SOKR Solikamsk 57.23 323 *e*P **P 19 35 27.1 +0.7**
SOKR pmax pmax
comp=Z,20nm,1.2s,mb5.0
SOKR MLR MLR
comp=Z,730nm,22.0s,MS4.7
HYB Hyderabad 58.30 269 *i* P **P 19 35 35.0 +0.5**
HYB *e* pP 19 35 45.0 -0.3
AKTO Aktyubinsk 59.47 312 P **P 19 35 40.9 -1.3**
comp=Z,7.0nm,0.8s,mb4.7,baz=71,slow=10,SNR=12
AKTO Aktyubinsk 59.47 312 P **P 19 35 40.9 -1.3**
AKTO Aktyubinsk 59.47 312 P **P 19 35 40.9 -1.2**
AS31 Alice Springs 59.77 188 *e*P **P 19 35 43.8 -0.6**
ASAR Alice Springs 59.77 188 P **P 19 35 44.0 -0.5**
comp=Z,2.3nm,0.8s,mb4.3,baz=5.5,slow=7.0,SNR=30
ASAR Alice Springs 59.77 188 P **P 19 35 44.0 -0.5**
ASAR Alice Springs 59.77 188 P **P 19 35 44.0 -0.4**
MBWA Marble Bar 60.48 204 *e*P **P 19 35 49.3 0.0**
POO Poona 61.54 273↑ *i*P **P 19 35 54.5 -2.2**
comp=Z,40nm,1.0s,mb5.5
KBS Kingsbay 61.70 350 *i* P **P 19 35 58.7 +1.7**
DZM Mont Dzumac 62.36 154 *e*LR LR 19 54 40.6
comp=Z,635nm,20.9s
APA Apatity 63.69 336↑ *e*P sP 19 36 25.6 +0.3
APA *i* 19 38 32.0
APA *i* PPP 19 40 06.0
APA *e*S sS 19 45 08.0 +8.3
APA MLR MLR
comp=Z,2µm,16.0s,MS5.3
YKA Yellowknife Ar 64.65 30 P **P 19 36 16.1 -0.5**
comp=Z,3.0nm,0.8s,mb4.4,baz=304,slow=6.8,SNR=4.9
YKA Yellowknife Ar 64.65 30 P **P 19 36 16.1 -0.5**
YKA Yellowknife Ar 64.65 30 P **P 19 36 16.1 -0.6**
YKA pmax pmax
comp=Z,3.0nm,0.8s
KLMR Klimovskoe 64.70 328 *e*P **P 19 36 15.9 -1.2**
KLMR pmax pmax
comp=Z,28nm,1.1s,mb5.2
KLMR pmax pmax
comp=Z,17nm,0.8s,mb5.1
ARCES ARCESS Array B 65.02 340 P **P 19 36 19.1 +0.1**
comp=Z,6.8nm,0.8s,mb4.7,baz=57,slow=8.8,SNR=14
ARCES LR LR 20 07 34.8
comp=Z,498nm,18.6s,MS4.7,baz=35,slow=39
ARCES ARCESS Array B 65.02 340 P **P 19 36 19.1 +0.1**
ARCES LR LR 20 07 34.9
ARCES ARCESS Array B 65.02 340 P **P 19 36 19.1 +0.1**
DAG Danmarks Havn 66.82 355 *i* P **P 19 36 30.2 -0.3**
DAG *i* pP 19 36 40.6 -0.8
DAG pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
DAG Danmarks Havn 66.82 355 *i* P **P 19 36 30.2 -0.3**
comp=Z,6.7nm,1.1s,mb4.6
DAG *i* pP 19 36 40.6 -0.8
JOF Joensuu 66.94 332 *e*P **P 19 36 31.6 +0.2**
JOF pmax pmax
comp=Z,6.0nm,0.4s,mb5.0
JOF Joensuu 66.94 332 *e*p **P 19 36 31.6 +0.2**
comp=Z,6.2nm,0.4s,mb5.0
CMSA Cobar Meteorol 67.28 176 *e*P **P 19 36 34.8 +0.9**
comp=Z,29nm,1.1s,mb5.2
STKA Stephens Creek 67.51 180 P **P 19 36 36.5 +1.2**
comp=Z,3.6nm,0.8s,mb4.5,baz=352,slow=5.9,SNR=6.6
STKA LR LR 20 05 11.3
comp=Z,131nm,19.1s,MS4.2,baz=22,slow=35
STKA Stephens Creek 67.51 180 *e*P **P 19 36 35.7 +0.4**
comp=Z,3.3nm,0.9s,mb4.4
STKA Stephens Creek 67.51 180 P **P 19 36 36.5 +1.2**
STKA LR LR 20 05 11.3
STKA Stephens Creek 67.51 180 P **P 19 36 36.5 +1.2**
FORT Forrest 67.62 193 *e*P **P 19 36 35.2 -0.8**
comp=Z,9.5nm,0.6s,mb5.0
MOS Moscow 68.16 324 *e*P **P 19 36 38.3 -0.9**
MOS pmax pmax
comp=Z,61nm,1.0s,mb5.6
OBN Obninsk 69.00 324↑ *e*P **P 19 36 44.6 +0.1**
OBN *e* pP 19 36 53.7 -1.8
OBN pmax pmax
comp=Z,44nm,1.3s,mb5.2
OBN MLR MLR
comp=Z,600nm,17.0s,MS4.9
KAF Kangasniemi 69.29 333 *e*P **P 19 36 46.0 -0.2**
KAF pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
KAF Kangasniemi 69.29 333 *e*p **P 19 36 46.0 -0.2**
comp=Z,7.9nm,0.5s,mb4.9
FINES FINESS Array B 69.79 332 P **P 19 36 49.0 -0.2**
comp=Z,19nm,1.0s,mb5.0,baz=53,slow=6.7,SNR=22
FINES LR LR 20 09 56.6
comp=Z,434nm,18.1s,MS4.7,baz=148,slow=38
FINES FINESS Array B 69.79 332 P **P 19 36 49.0 -0.2**
FINES LR LR 20 09 56.6
FINES FINESS Array B 69.79 332 P **P 19 36 49.1 -0.2**
VSR Storozhevoye 69.80 319 *e*P **P 19 36 49.0 -0.5**
VSR pmax pmax
comp=N,10.0nm,1.1s
VSR pmax pmax
comp=E,10.0nm,1.1s
VSR pmax pmax
comp=Z,20nm,1.1s,mb5.0
NEW Newport 70.79 44 *e*P **P 19 36 54.9 -0.7**
comp=Z,7.1nm,1.0s,mb4.5
NEW *e*pP pP 19 37 05.9 -0.7
NEW Newport 70.79 44 *e*P **P 19 36 54.9 -0.7**
NEW *e**PP pP 19 37 05.9 -0.7
NEW pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 71.68 311 *e*P **P 19 37 01.9 +0.8**
comp=Z,18nm,0.8s,mb5.1
KIV Kislovodsk 71.68 311 *e*P **P 19 37 02.2 +1.1**
KIV pmax pmax
comp=Z,23nm,1.1s,mb5.0
BMO Blue Mountains 72.55 47 *e*P **P 19 37 06.4 +0.1**
comp=Z,6.8nm,1.1s,mb4.5
SWMT Swartz Lake 72.96 43 *e*P **P 19 37 07.4 -1.3**
comp=Z,11nm,1.0s,mb4.8
IZAR Zarasai 73.35 328 *e*P **P 19 37 12.1 +1.3**
MSO Missoula 73.38 44 P **P 19 37 10.6 -0.6**
comp=Z,7.8nm,1.3s,mb4.5
IDID Didziasalis 73.42 327 *e*P **P 19 37 10.2 -1.0**
ISAL Salakas 73.52 328 *e*P **P 19 37 11.8 0.0**
IIGN Ignalina 73.62 327 *e*P **P 19 37 12.4 0.0**
SOC Sochi 73.69 312*c i*P **P 19 37 12.5 -0.5**
SOC *e*S S 19 46 39.5 -1.6
SOC pmax pmax
comp=Z,49nm,0.9s,mb5.4
SOC MLR MLR
comp=Z,601nm,16.0s,MS5.0
MFID Camas Ranch 74.24 48 *e*P **P 19 37 15.6 -0.7**
comp=Z,17nm,1.5s,mb4.8
ANN Anapa 74.34 314 *e*P **P 19 37 16.1 -0.7**
ANN pmax pmax
comp=Z,36nm,1.4s,mb5.1
FFC Flin Flon 74.52 33 *e*P **P 19 37 16.7 -1.0**
comp=Z,18nm,1.0s,mb5.0
FFC Flin Flon 74.52 33 *e*P **P 19 37 16.7 -0.9**
FFC pmax pmax
comp=Z,18nm,1.0s,mb5.0
HRY Holter Researc 74.63 43 *e*P **P 19 37 19.5 +1.0**
comp=Z,12nm,0.8s,mb4.9
LRM Limekiln Ridge 74.81 44 *e*P **P 19 37 19.9 +0.4**
comp=Z,183nm,1.0s,mb6.0
EGMT Eagleton 74.97 41 *e*P **P 19 37 20.6 +0.2**
comp=Z,18nm,1.0s,mb5.0
DLMT Dillon 75.00 45 *e*P **P 19 37 21.3 +0.7**
comp=Z,18nm,1.2s,mb4.9
NB2 NORSAR Subarra 75.19 337 P **P 19 37 21.6 +0.2**
comp=Z,9.9nm,0.8s,mb4.8,baz=39,slow=5.9
NOA NORSAR Array B 75.19 337 P **P 19 37 21.5 0.0**
comp=Z,6.3nm,0.9s,mb4.5,baz=39,slow=5.7,SNR=8.9
NOA LR LR 20 13 42.9
comp=Z,525nm,18.6s,MS4.9,baz=0.0,slow=38
NOA NORSAR Array B 75.19 337 P **P 19 37 21.5 0.0**
NOA LR LR 20 13 42.9
NOA NORSAR Array B 75.19 337 P **P 19 37 21.5 +0.1**
AKASG Malin Array Be 75.20 323 P **P 19 37 21.4 -0.3**
comp=Z,3.6nm,0.5s,mb4.6,baz=46,slow=5.9,SNR=23
AKASG LR LR 20 13 25.4
comp=Z,715nm,19.3s,MS5.0,baz=25,slow=38
AKASG Malin Array Be 75.20 323 P **P 19 37 21.4 -0.3**
AKASG LR LR 20 13 25.4
AKASG Malin Array Be 75.20 323 P **P 19 37 21.4 -0.3**
KIEV Kiev 75.21 323 *e*P **P 19 37 19.7 -2.0**
comp=Z,17nm,1.4s,mb4.8
KIEV Kiev 75.21 323 *e*P **P 19 37 19.7 -2.0**
KIEV pmax pmax
comp=Z,17nm,1.4s,mb4.8
NVAR Mina Array Bea 75.52 53 P **P 19 37 25.0 +1.3**
comp=Z,1.0nm,0.6s,mb3.9,baz=275,slow=5.0,SNR=6.4
NVAR Mina Array Bea 75.52 53 P **P 19 37 25.0 +1.3**
QLMT Earthquake Lak 75.98 45 *e*P **P 19 37 27.4 +1.2**
comp=Z,1.2nm,1.0s,mb3.8
MIB Mutribah 76.27 297 *e*P **P 19 37 27.7 -0.4**
MIB AMb AMB 19 37 29.8
comp=Z,36nm,1.4s,mb5.1
RDF Al-Radifah 76.60 296 *e*P **P 19 37 30.3 +0.2**
RDF AMb AMB 19 37 31.8
comp=Z,61nm,1.2s,mb5.4
NAY Al-Naaiem 76.64 296 *e*P **P 19 37 29.9 -0.5**
NAY AMb AMB 19 37 32.0
comp=Z,35nm,1.3s,mb5.1
IMW Indian Meadow 76.82 45 *e*P **P 19 37 31.9 +0.8**
comp=Z,9.1nm,1.0s,mb4.7
IMW *e*pP pP 19 37 43.0 +0.8
FLWY Flagg Ranch 76.85 45 *e*P **P 19 37 29.6 -1.6**
comp=Z,21nm,1.4s,mb4.9
TPAW Teton Pass 77.06 45 *e*P **P 19 37 32.9 +0.5**
comp=Z,8.3nm,1.1s,mb4.6
TPAW *e*pP pP 19 37 44.1 +0.6
BGU Big Grassy Mou 77.38 48 *e*P **P 19 37 34.9 +0.6**
comp=Z,3.0nm,0.8s,mb4.3
BGU *e*pP pP 19 37 45.3 0.0
KIS Kishinev 77.77 320 *e*P **P 19 37 35.0 -1.3**
KIS *e*L 20 12 00.0
KIS LRM 20 15 06.0
comp=Z,2µm,18.0s
KIS Kishinev 77.77 320 *e*P **P 19 37 35.0 -1.3**
KIS MLR MLR
comp=Z,2µm,17.0s,MS5.5
KIS MLR MLR
comp=Z,2µm,18.0s
DUG Dugway 77.95 49 *e*P **P 19 37 37.7 +0.3**
comp=Z,12nm,1.1s,mb4.7
DUG *e*pP pP 19 37 48.5 0.0
DUG Dugway 77.95 49 *e*P **P 19 37 37.7 +0.3**
DUG *e**PP pP 19 37 48.5 0.0
DUG pmax pmax
comp=Z,11nm,1.1s,mb4.7
PD01 Pinedale Array 78.29 45 *e*P **P 19 37 39.5 +0.3**

PD02	**Pinedale Array**	**78.30**	**45**	*eP*		**P**		**19 37 39.2**	**-0.2**
PDAR	**Pinedale Array**	**78.31**	**45**	P		**P**		**19 37 39.6**	**+0.3**
	comp=Z,1.7nm,0.7s,mb4.1,baz=260,slow=1.5,SNR=12								
PDAR	**Pinedale Array**	**78.31**	**45**	P		**P**		**19 37 39.6**	**+0.3**
NLU	**North Lily Min**	**78.54**	**49**	P		**P**		**19 37 41.3**	**+0.6**
	comp=Z,4.3nm,0.4s,mb4.7								
DAU	**Daniels Canyon**	**78.76**	**48**	*eP*		**P**		**19 37 42.8**	**+0.8**
	comp=Z,8.1nm,1.0s,mb4.6								
DAU				*ep*	P	pP		19 37 53.4	+0.4
DAU	**Daniels Canyon**	**78.76**	**48**	*eP*		**P**		**19 37 42.8**	**+0.9**
DAU				*e*	*PP	pP		19 37 53.4	+0.4
DAU					pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.6								
BUR08	**Bucovina Ar. S**	**79.19**	**322**	*eP*		**P**		**19 37 44.5**	**+0.3**
BURAR	**Bucovina Array**	**79.20**	**322**	⇑*iP*		**P**		**19 37 44.9**	**+0.7**
MSU	**Marysvale**	**79.36**	**50**	*eP*		**P**		**19 37 44.8**	**-0.4**
	comp=Z,6.2nm,1.1s,mb4.5								
MSU	**Marysvale**	**79.36**	**50**	*eP*		**P**		**19 37 44.8**	**-0.4**
MSU					pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.4								
BR131	**Keskin Array S**	**79.64**	**312**	*eP*		**P**		**19 37 47.1**	**+0.4**
	comp=Z,3.9nm,0.8s,mb4.4								
BRTR	**Keskin Array B**	**79.64**	**312**	P		**P**		**19 37 47.4**	**+0.7**
	comp=Z,5.9nm,1.0s,mb4.5,baz=94,slow=3.7,SNR=15								
BRTR					LR	LR		20 17 41.1	
	comp=Z,172nm,18.2s,MS4.4,baz=278,slow=39								
BRTR	**Keskin Array B**	**79.64**	**312**	P		**P**		**19 37 47.4**	**+0.7**
BRTR					LR	LR		20 17 41.1	
BRTR	**Keskin Array B**	**79.64**	**312**	P		**P**		**19 37 47.4**	**+0.7**
OJC	**Ojcow**	**79.97**	**326**	*eP*		**P**		**19 37 49.0**	**+0.7**
OJC	**Ojcow**	**79.97**	**326**	*eP*		**P**		**19 37 49.0**	**+0.7**
SRU	**San Rafael**	**80.01**	**49**	*eP*		**P**		**19 37 49.5**	**+0.8**
	comp=Z,13nm,0.8s,mb4.9								
SRU				*ep*	P	pP		19 37 59.6	-0.3
SRU	**San Rafael**	**80.01**	**49**	*eP*		**P**		**19 37 49.6**	**+0.9**
SRU				*e*	*PP	pP		19 37 59.6	-0.2
SRU					pmax	pmax			
	comp=Z,13nm,0.8s,mb4.9								
CRVS	**Cervenica-Dubn**	**80.14**	**325**	*eP*		**P**		**19 37 49.9**	**+0.6**
CRVS	**Cervenica-Dubn**	**80.14**	**325**	*eP*		**P**		**19 37 49.9**	**+0.6**
TRPA	**Tarpa**	**80.17**	**324**	⇑*iP*		**P**		**19 37 50.1**	**+0.7**
MLR	**Muntele Rosu**	**80.26**	**320**	LR		LR		20 16 35.3	
	comp=Z,217nm,20.3s,MS4.5,baz=248,slow=38								
VYHS	**Vyhne**	**81.65**	**326**	*eP*		**P**		**19 37 57.8**	**+0.5**
VYHS					pmax	pmax			
	comp=Z,6.0nm,1.3s,mb4.4								
VYHS	**Vyhne**	**81.65**	**326**	*eP*		**P**		**19 37 57.8**	**+0.5**
PV01	**Paradox Valley**	**81.81**	**49**	*eP*		**P**		**19 37 59.4**	**+1.0**
	comp=Z,1μm,1.0s								
BRG	**Berggiesshubel**	**82.01**	**330**	*eP*		pP		19 38 07.2	-3.1
	comp=Z,14nm,1.3s								
BRG	**Berggiesshubel**	**82.01**	**330**	*eP*		pP		19 38 07.2	-3.1
BRG					pmax	pmax			
	comp=Z,14nm,1.3s,mb4.7								
CLL	**Collm**	**82.06**	**330**	*iP*		**P**		**19 37 59.2**	**-0.2**
CLL				*e*		pP		19 38 10.0	-0.6
CLL				*e*				19 38 14.0	
CLL					pmax	pmax			
	comp=Z,12nm,1.0s,mb4.8								
CLL	**Collm**	**82.06**	**330**	*iP*		**P**		**19 37 59.2**	**-0.2**
	comp=Z,12nm,1.0s,mb4.8								
CLL				*ep*		pP		19 38 10.0	-0.6
CLL				*es*		sP		19 38 14.0	-0.6
CLL				*eP*		PP		19 41 06.0	-0.8
VRAC	**Vranov**	**82.06**	**327**	LR		LR		20 17 50.2	
	comp=Z,332nm,18.4s,MS4.7,baz=20,slow=38								
ASF	**Jabal al Asfar**	**82.19**	**304**	LR		LR		20 18 26.3	
	comp=Z,145nm,18.4s,MS4.4,baz=51,slow=38								
MMAI	**Mount Meron Ar**	**82.67**	**306**	P		**P**		**19 38 03.7**	**+0.8**
	comp=Z,2.1nm,0.7s,mb4.3,baz=38,slow=4.2,SNR=5.3								
MMAI					LR	LR		20 18 41.1	
	comp=Z,282nm,19.0s,MS4.7,baz=60,slow=38								
MMAI	**Mount Meron Ar**	**82.67**	**306**	P		**P**		**19 38 03.7**	**+0.8**
MMAI					LR	LR		20 18 41.1	
CONA	**Conrad Observa**	**83.42**	**327**	⇓*iP*cP		PcP		19 38 07.7	-3.1
	comp=Z,14nm,1.5s								
CONA				⇓*is*		sP		19 38 18.1	-3.6
	comp=Z,6.3nm,0.9s								
KHC	**Kasperske Hory**	**83.50**	**329**	*eP*		**P**		**19 38 07.0**	**+0.1**
KHC				*e*		pP		19 38 17.0	-1.1
KHC	**Kasperske Hory**	**83.50**	**329**	*eP*		**P**		**19 38 07.0**	**+0.1**
KHC				*ep*		pP		19 38 17.0	-1.1
PMOR	**Pomariorio Ree**	**83.65**	**114**	*eT*				21 10 15.8	
	comp=Z,5.0nm,0.2s								
GERES	**GERESS Array B**	**83.66**	**328**	LR		LR		20 19 20.9	
	comp=Z,351nm,18.2s,MS4.8,baz=308,slow=38								
VTS	**Vitosha**	**83.68**	**319**	⇑*iP*		**P**		**19 38 08.8**	**+0.8**
PPT	**Papeete**	**84.06**	**117**	*eLR*		LR		20 04 40.5	
	comp=Z,374nm,21.5s,baz=315								
ARSA	**Arzberg**	**84.08**	**326**	⇑*iP*		**P**		**19 38 09.7**	**-0.2**
	comp=Z,5.1nm,1.1s,mb4.5								
SOKA	**Soboth**	**84.73**	**326**	⇓*i*PcP		PcP		19 38 13.7	-2.9
	comp=Z,10.0nm,1.4s								
EIL	**Elat**	**85.05**	**303**	P		**P**		**19 38 15.1**	**0.0**
	comp=Z,12nm,1.1s,mb4.9,baz=64,slow=5.5,SNR=6.0								
EIL					LR	LR		20 20 11.6	
	comp=Z,144nm,19.7s,MS4.4,baz=50,slow=38								
EIL	**Elat**	**85.05**	**303**	P		**P**		**19 38 15.1**	**0.0**
EIL					LR	LR		20 20 11.6	
SCHQ	**Schefferville**	**86.31**	**16**	P		**P**		**19 38 20.7**	**-0.2**
	comp=Z,6.4nm,0.9s,mb4.9,baz=340,slow=5.7,SNR=4.2								
SCHQ					LR	LR		20 17 01.6	
	comp=Z,204nm,20.8s,MS4.5,baz=72,slow=36								
SCHQ	**Schefferville**	**86.31**	**16**	P		**P**		**19 38 20.7**	**-0.2**
SCHQ					LR	LR		20 17 01.6	
FETA	**Feichten**	**86.34**	**329**	⇓*iP*		**P**		**19 38 19.5**	**-1.7**
	comp=Z,6.8nm,1.4s,mb4.7								
CDF	**Champ du Feu**	**86.62**	**331**	*eP*		**P**		**19 38 25.9**	**+3.3**
	comp=Z,17nm,1.0s,mb4.9								
DAVOX	**Davos/Dischmst**	**86.89**	**329**	LR		LR		20 20 49.8	
	comp=Z,553nm,18.5s,MS5.0,baz=110,slow=38								
PAGF	**Fort de Pagny**	**87.09**	**332**	*eP*		**P**		**19 38 29.7**	**+4.8**
	comp=Z,3.7nm,0.7s,mb4.4								
LPG	**La Plagne**	**89.20**	**330**	*eP*		**P**		**19 38 39.3**	**+4.3**
	comp=Z,9.3nm,0.9s,mb4.8								
TXAR	**Lajitas Array**	**90.66**	**52**	P		**P**		**19 38 42.3**	**+0.2**
	comp=Z,1.0nm,0.8s,mb4.2,baz=293,slow=3.3,SNR=13								
TXAR					LR	LR		20 14 35.9	
	comp=Z,131nm,19.6s,MS4.4,baz=200,slow=32								
TXAR	**Lajitas Array**	**90.66**	**52**	P		**P**		**19 38 42.3**	**+0.2**
TXAR					LR	LR		20 14 35.9	
TXAR	**Lajitas Array**	**90.66**	**52**	P		**P**		**19 38 42.3**	**+0.2**
KEST	**Kesra**	**95.92**	**323**	LR		LR		20 27 32.9	
	comp=Z,146nm,19.4s,MS4.5,baz=313,slow=39								
RKT	**Rikitea**	**98.25**	**112**	*eLR*		LR		20 11 06.7	
	comp=Z,301nm,24.8s								
ESDC	**Sonseca Array**	**98.28**	**334**	LR		LR		20 28 09.1	
	comp=Z,225nm,19.5s,MS4.7,baz=65,slow=38								
TORD	**Torodi Ar. Bea**	**118.15**	**315**	PKP		PKPdf		19 44 24.9	-1.8
	comp=Z,0.3nm,0.5s,baz=27,slow=1.9,SNR=5.2								
TORD	**Torodi Ar. Bea**	**118.15**	**315**	PKP		PKPdf		19 44 24.9	-1.8
VNA2	**Neumayer--Watz**	**141.35**	**196**	*e*		PKPdf		19 45 04.0	-4.8
	baz=70,slow=1.8								
VNA2				*e*		PKPdf		19 45 10.3	+1.5
VNA3	**Neumayer Olymp**	**141.59**	**195**	*e*		PKPdf		19 45 10.1	+0.8
VNA1	**Neumayer--Stat**	**141.75**	**196**	*e*		PKPdf		19 45 13.0	+3.5
LPAZ	**La Paz**	**147.10**	**61**	PKPbc		PKPbc		19 45 22.9	+0.3
	comp=Z,3.7nm,0.6s,baz=319,slow=2.7,SNR=16								
LPAZ	**La Paz**	**147.10**	**61**	PKPbc		PKPbc		19 45 22.9	+0.3

ISC **19** *19:29:36.1±0.7,* **38°14N**±0°.08×**73°9E**±0°.4, **h35**km, **n12**, σ**0**s**52**/13, **1D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.99**	**358**	P	**Pn**	**19 30 35.1**	**+0.4**
	SNR=76						
KZA	**Kyzart**	**4.07**	**14**	P	**Pn**	**19 30 35.9**	**+0.1**
	SNR=46						
ULHL	**Ulahol**	**4.48**	**23**	P	**Pn**	**19 30 41.0**	**-0.4**
	SNR=10						
CHCP	**Chirah Chowk**	**4.50**	**187**	P	**Pn**	**19 30 42.8**	**+1.1**
AAK	**Ala-Archa**	**4.51**	**6**	P	**Pn**	**19 30 42.2**	**+0.3**
	SNR=9.4						
EKS2	**Erkin-Say**	**4.52**	**359**	P	**Pn**	**19 30 42.4**	**+0.5**
	SNR=20						
KBK	**Karagaybulak**	**4.58**	**10**	P	**Pn**	**19 30 43.1**	**+0.3**
	SNR=24						
CEP	**Cherat**	**4.60**	**201**	⇓P	**Pn**	**19 30 43.2**	**+0.1**
CEP				S	**Sn**	**19 31 35.0**	**-0.2**
CHMS	**Chumysh**	**4.90**	**7**	P	**Pn**	**19 30 47.0**	**-0.2**
	SNR=9.4						
TKM2	**Tokmak 2**	**4.95**	**15**	P	**Pn**	**19 30 47.4**	**-0.4**
	SNR=10						
USP	**Ospenovka**	**5.14**	**5**	P	**Pn**	**19 30 49.8**	**-0.7**
	SNR=6.3						
THW	**Thamme Wali**	**5.61**	**199**	P	**Pn**	**19 30 56.1**	**-0.9**

IDC **19** *19:43:24.6±1.1,30°.19N×67°.41E,h0km,mb3.7/7, mb1 3.8/7,mb1mx3.5/29,mbtmp3.7/7,MS3.3/2,Ms1 3.3/2, ms1mx2.6/50,Error ellipse: s-maj=31.4km s-min=24.3km az=91.0*
NEIC **19** *19:43:26.3±1.0,30°.27N×67°.52E,h10km,mb3.7/2,Error ellipse: s-maj=21.6km s-min=14.5km az=102.0*
ISC 19 19:43:26.5±4.8,30°.28N±0°.10×67°.5E±0°.1,h11km±29km, **n30,σ1**s**07/29,mb3.7/6,MS3.2/2, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**4.44**	**17**	*eP*	**Pn**	**19 44 35.4**	**+1.6**
AJM	**Ajmer**	**7.34**	**119**	*eP*KP	**Pn**	**19 45 14.0**	**+0.4**
AJM				*eS*	**Sn**	**19 46 36.0**	**-0.9**
AAK	**Ala-Archa**	**13.54**	**23**	*eP*	**Pn**	**19 46 37.3**	**-1.2**
	23nm,0.9s						
PYUN	**Piuthan**	**13.70**	**95**	*eP*	**Pn**	**19 46 40.3**	**-0.5**
	12nm,0.6s						
TKM2	**Tokmak 2**	**14.18**	**25**	*eP*	**Pn**	**19 46 45.6**	**-1.6**
	2.5nm,0.6s						
KOLN	**Koldanda**	**14.30**	**96**	*eP*	**Pn**	**19 46 47.8**	**-1.2**
	11nm,0.5s						
GKN	**Gorkha**	**15.14**	**94**	*eP*	**Pn**	**19 46 56.3**	**-4.1**
KKN	**Kakani**	**15.74**	**95**	*eP*	**Pn**	**19 47 08.5**	**+0.2**
	6.9nm,0.5s						
GUN	**Gumba**	**16.23**	**94**	*eP*	**Pn**	**19 47 19.0**	**+4.4**
RAMN	**Ramite**	**17.09**	**96**	*eP*	**Pn**	**19 47 29.2**	**+3.8**
	19nm,0.5s						
ODAN	**Odare**	**17.79**	**96**	*eP*	**Pn**	**19 47 35.4**	**+1.2**
TAPN	**Taplejung**	**17.95**	**94**	*eP*	**Pn**	**19 47 39.3**	**+3.3**
	14nm,0.9s						
ABKAR	**Akbulak array**	**19.80**	**345**	*eP*	**Pn**	**19 47 57.3**	**-1.0**
	2.0nm,0.9s						
MKAR	**Makanchi Array**	**20.08**	**31**	P	**P**	**19 47 58.9**	**-1.0**
	1.1nm,0.8s,baz=221,slow=9.4,SNR=7.4						
MKAR	**Makanchi Array**	**20.08**	**31**	P	**P**	**19 47 58.9**	**-1.0**
AKTO	**Aktyubinsk**	**21.36**	**343**	P	**P**	**19 48 14.3**	**+0.6**
	1.6nm,0.6s,mb3.5,baz=158,slow=11,SNR=5.0						
AKTO	**Aktyubinsk**	**21.36**	**343**	P	**P**	**19 48 14.3**	**+0.6**
KURK	**Kurchatov**	**22.05**	**19**	P	**P**	**19 48 21.4**	**+0.3**
	1.8nm,0.4s,mb3.9,baz=209,slow=11,SNR=14						
KURK	**Kurchatov**	**22.05**	**19**	*eP*	**P**	**19 48 21.9**	**+0.9**
	4.7nm,0.9s,mb3.9						
ASF	**Jabal al Asfar**	**26.20**	**282**	LR	LR	20 00 40.6	
	comp=Z,54nm,19.8s,MS3.1,baz=70,slow=40						
ZAA0	**Zalesovo Array**	**26.77**	**23**	*eP*	**P**	**19 49 06.7**	**+0.6**
ZALV	**Zalesovo Beam**	**26.77**	**23**	P	**P**	**19 49 07.4**	**+1.3**
	3.3nm,0.7s,mb4.0,baz=226,slow=10,SNR=17						
ZALV	**Zalesovo Beam**	**26.77**	**23**	P	**P**	**19 49 07.4**	**+1.3**
EIL	**Elat**	**28.16**	**277**	LR	LR	20 02 36.3	
	comp=Z,73nm,18.8s,MS3.3,baz=284,slow=41						
TORD	**Torodi Ar. Bea**	**62.70**	**270**	P	**P**	**19 53 50.9**	**-0.9**
	0.6nm,0.7s,mb3.8,baz=58,slow=6.0,SNR=4.9						
TORD	**Torodi Ar. Bea**	**62.70**	**270**	P	**P**	**19 53 50.9**	**-0.9**
WRA	**Warramunga Arr**	**81.37**	**119**	P	**P**	**19 55 43.6**	**+0.1**
	0.3nm,0.7s,mb3.3,baz=317,slow=4.6,SNR=3.8						
WRA	**Warramunga Arr**	**81.37**	**119**	P	**P**	**19 55 43.6**	**+0.1**
ASAR	**Alice Springs**	**83.26**	**122**	P	**P**	**19 55 53.6**	**+0.3**
	0.3nm,0.5s,mb3.5,baz=305,slow=5.2,SNR=8.1						
ASAR	**Alice Springs**	**83.26**	**122**	P	**P**	**19 55 53.6**	**+0.3**

ISCJB **19** *20:12:47.8±0.8,37°.63N±0°.03×26°.85E±0°.06,h10km, Error ellipse: s-maj=7.7km s-min=4.1km az=155.1*
DDA **19** *20:12:47.8,37°.63N×26°.86E,h6km±4km,Md2.7*
CSEM **19** *20:12:48.8±0.3,37°.66N×26°.91E,h2km,MD2.7,Error ellipse: s-maj=8.1km s-min=4.9km az=68.0*
ISK **19** *20:12:48.8,37°.66N×27°.01E,h7km,MD2.6*
ISC 19 20:12:48.9±0.7,37°.65N±0°.03×26°.89E±0°.06,h10km**,n18,** σ**0**s**94/28, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCAM	**G?zelcaml?**	**0.28**	**78**	*iP*	**Pg**	**20 12 54.8**	**+0.3**
GCAM				*iS*	**Sg**	**20 12 59.6**	**+1.3**
GCAM	**G?zelcaml?**	**0.28**	**78**	*iP*	**Pg**	**20 12 54.8**	**+0.3**
GCAM				*iS*	**Sg**	**20 12 59.6**	**+1.3**
BODT	**Bodrum**	**0.67**	**150**	*eP*G	**Pg**	**20 13 01.4**	**-0.5**
BODT				*eS*G	**Sg**	**20 13 11.1**	**+0.4**
BODT	**Bodrum**	**0.67**	**150**	*eP*g	**Pg**	**20 13 01.4**	**-0.5**
BODT				*eS*g	**Sg**	**20 13 11.1**	**+0.4**
BLCB	**Balcova**	**0.75**	**9**	*eP*G	**Pg**	**20 13 03.0**	**-0.4**
BLCB				*eS*G	**Sg**	**20 13 14.0**	**+0.8**
BLCB	**Balcova**	**0.75**	**9**	*eP*g	**Pg**	**20 13 03.0**	**-0.4**
BLCB				*eS*g	**Sg**	**20 13 14.0**	**+0.8**
URLA	**Izmir**	**0.75**	**342**	*iP*	**Pg**	**20 13 01.6**	**-1.9**
URLA				*iS*	**Sg**	**20 13 13.8**	**+0.5**
URLA	**Izmir**	**0.75**	**342**	*iP*	**Pg**	**20 13 01.6**	**-1.8**
URLA				*iS*	**Sg**	**20 13 13.8**	**+0.6**
AYDN	**Tasoluk**	**0.79**	**89**	*iP*	**Pg**	**20 13 03.3**	**-0.8**
AYDN				*iS*	**Sg**	**20 13 14.6**	**+0.2**
AYDN	**Tasoluk**	**0.79**	**89**	*iP*	**Pg**	**20 13 03.3**	**-0.8**
AYDN				*iS*	**Sg**	**20 13 14.6**	**+0.2**
MLSB	**Milas**	**0.79**	**116**	*eP*G	**Pg**	**20 13 03.2**	**-1.0**
MLSB	**Milas**	**0.79**	**116**	*eP*g	**Pg**	**20 13 03.2**	**-0.9**
IZM	**Izmir**	**0.81**	**21**	*eP*G	**Pg**	**20 13 03.9**	**-0.6**
IZM	**Izmir**	**0.81**	**21**	*eP*g	**Pg**	**20 13 03.9**	**-0.6**
DAT	**Datca**	**1.07**	**149**	*eP*G	**Pg**	**20 13 09.1**	**-0.3**
DAT	**Datca**	**1.07**	**149**	*eP*g	**Pg**	**20 13 09.1**	**-0.3**
APE	**Apeiranthos**	**1.23**	**242**	*eP*N	**Pn**	**20 13 14.3**	**+2.3**
APE	**Apeiranthos**	**1.23**	**242**	*eP*n	**Pn**	**20 13 14.3**	**+2.2**

SZGRF **19** *20:37:48.0,23°.21S×178°.09W,h596km, South of Fiji Islands*
DJA **19** *20:38:55,22°.18S×179°.62W,h560km,mb5.5/28*
MOS **19** *20:38:57.6±1.2,22°.13S×179°.72W,h588km,mb5.1/35, Error ellipse: s-maj=9.6km s-min=8.0km az=56.4*
IDC **19** *20:38:57.0±0.9,22°.16S×179°.62W,h574km±9km,mb4.6/23, mb1 4.6/24,mb1mx4.6/25,mbtmp4.6/24, Error ellipse: s-maj=9.1km s-min=8.4km az=165.0*
ISCJB **19** *20:38:57.6±0.1,22°.35S±0°.02×179°.68W±0°.02,h596km, mb5.2/198,Error ellipse: s-maj=3.5km s-min=2.2km az=144.9*
NEIC **19** *20:38:58.8±0.1,22°.17S×179°.72W,mb5.2/125,MW5.8, MW5.7,Error ellipse: s-maj=6.2km s-min=3.7km az=152.0, Moment Tensor Solution. s46 Moment tensor: Scale 10*^{17}*Nm; Mrr2.43; Mθθ-0.37; Mϕϕ-2.06; Mrθ-1.30; Mrϕ-1.22; Mθϕ-4.71; Best double couple: M*$_0$*5.50000×10*^{17} *NP1:*ϕ*s40.00000°,*δ*15.00000°,*λ*113.00000°. NP2: *ϕ*s197.00000°,*δ*76.00000°,*λ*84.00000°. Principal axes: T 5.4400, Plg58.0000°, Azm98.0000°; N 0.1600, Plg5.0000°, Azm198.0000°; P -5.6000, Plg31.0000°, Azm291.0000°;*
BGS **19** *20:39:01.9±4.5,22°.17S×179°.72W,h596km,mb5.2(NEIC)*
BJI **19** *20:39:01.1,21°.41S×179°.89W,h596km,mb5.3/31, mb5.1/51*
GCMT **19** *20:39:01.9±0.1,22°.20S×179°.30W,h604km±1km,MW5.8, Moment Tensor Solution. s97,c200; s55,c57; Moment tensor: Scale 10*^{17}*Nm; Mrr3.56±.06; Mθθ-0.86±.10; Mϕϕ-2.71±.11; Mrθ-1.56±.11; Mθϕ-2.60±.09; Mϕr-5.36±.09; Best double couple: M*$_0$*6.90000×10*^{17} *NP1:*ϕ*s56.00000°,*δ*21.00000°,*λ*125.00000°. NP2:*ϕ*s199.00000°,*δ*73.00000°,*λ*78.00000°. Principal axes: T 6.6400, Plg60.0000°, Azm91.0000°; N 0.5800, Plg12.0000°, Azm203.0000°; P -7.2300, Plg27.0000°, Azm299.0000°; Data Used: II IU IC G CN.*
ISC 19 20:38:59.0±0.1,22°.36S±0°.03×179°.65W±0°.02,h598km, **h598**km±1.8km**:pP-P, n1184,** σ**0**s**72**/823, **mb5.2**/197, **272C-206D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.08**	**334**	*eP*	**P**	**20 40 29.5**	**-3.0**
MSVF	**Nonsavu**	**5.08**	**334**	*eP*	**P**	**20 40 29.5**	**-3.0**
MSVF	**Nonsavu**	**5.08**	**334**	P	**P**	**20 40 29.7**	**-2.8**
	10μm,0.6s						
RAO	**Raoul Island**	**7.04**	**168**	*eP*	**P**	**20 40 47.5**	**-1.5**
RAO	**Raoul Island**	**7.04**	**168**	*eP*	**P**	**20 40 47.6**	**-1.5**
AFI	**Afiamalu**	**11.25**	**43**	P	**P**	**20 41 23.9**	**-6.4**
	16nm,0.3s,baz=35,slow=6.0,SNR=8.0						
AFI					S	**S**	**20 43 20.2**	**-14**
	12nm,0.3s,baz=38,slow=22,SNR=12						
AFI	**Afiamalu**	**11.25**	**43**	P	**P**	**20 41 23.9**	**-6.4**
AFI					S	**S**	**20 43 20.2**	**-14**
AFI	**Afiamalu**	**11.25**	**43**	P	**P**	**20 41 23.9**	**-6.4**
AFI					S	**S**	**20 43 20.2**	**-14**
DZM	**Mont Dzumac**	**12.88**	**269**	*eP*	**P**	**20 41 46.6**	**0.0**
	183nm,0.9s						
DZM	**Mont Dzumac**	**12.88**	**269**	*eP*	**P**	**20 41 46.1**	**-0.5**
DZM	**Mont Dzumac**	**12.88**	**269**	*eP*	**P**	**20 41 46.1**	**-0.5**
	100nm,0.8s						
NOUC	**Port Laguerre**	**13.01**	**268**	*eP*	**P**	**20 41 47.1**	**-0.8**
FUNA	**Funafuti**	**13.80**	**355**	*eP*	**P**	**20 41 51.8**	**-4.2**
DUZ	**Omahuta**	**14.11**	**203**	*eP*	**P**	**20 41 59.8**	**+1.0**
PUZ	**Puketiti**	**15.76**	**186**	PN	**P**	**20 42 12.7**	**-1.3**
PUZ				SN	**S**	**20 44 49.7**	**-3.2**
URZ	**Urewera**	**16.09**	**189**	P	**P**	**20 42 15.2**	**-1.7**
	15nm,0.3s,baz=336,slow=1.4,SNR=38						
URZ					S	**S**	**20 44 53.9**	**-4.5**
	8.0nm,0.3s,baz=205,slow=9.0,SNR=12						
URZ					ScP	ScP	20 49 13.9	+1.6
	1.8nm,0.3s,baz=3.4,slow=3.9,SNR=3.6						
URZ	**Urewera**	**16.09**	**189**	*eP*		**P**	**20 42 15.1**	**-1.9**
	138nm,0.7s						
URZ	**Urewera**	**16.09**	**189**	PN		**P**	**20 42 14.1**	**-2.9**
URZ				SN		**S**	**20 44 51.6**	**-6.7**
MWZ	**Matawai**	**16.11**	**188**	PN		**P**	**20 42 15.6**	**-1.5**
NMHZ	**Naumai**	**16.96**	**189**	PN		**P**	**20 42 25.1**	**+0.2**
BKZ	**Black Stump Fm**	**17.07**	**190**	PN		**P**	**20 42 24.2**	**-1.8**
BKZ				SN		**S**	**20 45 10.1**	**-4.3**
FWVZ	**Far West T-bar**	**17.33**	**193**	PN		**P**	**20 42 28.7**	**+0.4**
WNVZ	**Wahianoa**	**17.39**	**192**	PN		**P**	**20 42 28.7**	**-0.1**
BHHZ	**Black Hill Sta**	**17.46**	**191**	PN		**P**	**20 42 27.8**	**-1.7**
RAEZ	**Rainy Point**	**17.62**	**195**	PN		**P**	**20 42 34.7**	**+3.7**
KAHZ	**Kahuranaki**	**17.63**	**189**	PN		**P**	**20 42 31.1**	**0.0**
NEZ	**North Egmont**	**17.68**	**196**	PN		**P**	**20 42 35.1**	**+3.6**
PNHZ	**Pukenui**	**17.85**	**190**	PN		**P**	**20 42 32.1**	**-1.0**
TSZ	**Takapari Road**	**18.04**	**191**	PN		**P**	**20 42 34.3**	**-0.4**
POWZ	**Post Office Ro**	**18.39**	**191**	SN		**S**	**20 45 38.7**	**+3.0**
RAR	**Rarotonga**	**18.50**	**90**	P		**P**	**20 42 37.2**	**-2.0**
	4.8nm,0.3s,baz=252,slow=7.3,SNR=14							
RAR	**Rarotonga**	**18.50**	**90**	*eP*		**P**	**20 42 36.6**	**-2.7**
	546nm,2.0s							
RAR	**Rarotonga**	**18.50**	**90**	*eP*		**P**	**20 42 36.6**	**-2.6**
RAR					pmax	pmax		
	comp=Z,546nm,2.0s							
MRZ	**Mangatainoka R**	**18.69**	**191**	PN		**P**	**20 42 40.1**	**-0.5**
MRZ				SN		**S**	**20 45 37.7**	**-2.7**
OGWZ	**Otaki Gorge**	**18.92**	**192**	PN		**P**	**20 42 42.1**	**-0.6**
HOWZ	**Holdsworth Sta**	**18.93**	**191**	PN		**P**	**20 42 42.7**	**-0.1**
HOWZ				SN		**S**	**20 45 40.9**	**-3.4**
KIW	**Kapiti Island**	**19.01**	**193**	PN		**P**	**20 42 43.4**	**-0.2**
MTW	**Mount Morrison**	**19.18**	**191**	PN		**P**	**20 42 45.0**	**-0.1**
CAW	**Cannon Point**	**19.22**	**192**	PN		**P**	**20 42 45.6**	**+0.2**
TCW	**Tory Channel**	**19.48**	**194**	PN		**P**	**20 42 48.7**	**+0.9**
QRZ	**Quartz Range**	**19.56**	**198**	PN		**P**	**20 42 49.5**	**+1.0**
NNZ	**Nelson**	**19.70**	**196**	PN		**P**	**20 42 50.0**	**+0.2**
TUWZ	**Tuamarina**	**19.77**	**194**	PN		**P**	**20 42 51.6**	**+1.2**
THZ	**Tophouse**	**20.33**	**196**	PN		**P**	**20 42 55.2**	**-0.4**
KHZ	**Kahutara**	**20.80**	**194**	*eP*		**P**	**20 42 57.9**	**-1.7**
	comp=Z,47nm,1.0s							
**KHZ

STKA pmax pmax
comp=Z,14nm,0.6s
COEN Coen 36.22 277 *eP* **P 20 45 13.1 0.0**
comp=Z,722nm,1.0s,mb6.2
COEN Coen 36.22 277 P **P 20 45 13.9 +0.7**
comp=Z,2µmcomp=Z,142nm,0.9s,mb5.5
TAOE Nuku Hiva Isla 40.21 77 *eP* **P 20 45 43.8 -1.6**
comp=Z,439nm,1.0s,mb5.9
MMPI Merauke 40.78 283 P **P 20 45 49.8 -0.2**
comp=Z,2µm,0.5s
RKT Rikitea 41.09 100 *eP* **P 20 45 51.8 -0.5**
comp=Z,157nm,1.4s,mb5.4
AS31 Alice Springs 42.62 259 *eP* **P 20 46 04.1 -0.1**
ASAR Alice Springs 42.62 259 P **P 20 46 04.2 0.0**
comp=Z,145nm,0.7s,mb5.6,baz=101,slow=8.0,SNR=1099
ASAR PcP PcP 20 47 44.0 +1.6
comp=Z,9.0nm,0.6s,baz=100,slow=5.4,SNR=4.5
ASAR ScP ScP 20 50 41.7 +4.7
comp=Z,8.2nm,0.8s,baz=99,slow=3.8,SNR=7.6
ASAR S **S 20 51 46.5 +1.2**
comp=Z,27nm,1.0s,baz=94,slow=16,SNR=24
ASAR ScS ScS 20 55 02.1 +3.3
comp=Z,6.5nm,0.9s,baz=77,slow=5.5,SNR=4.6
ASAR P3KPbc 21 15 06.8
comp=Z,0.3nm,0.5s,baz=288,slow=3.3,SNR=5.4
ASAR Alice Springs 42.62 259 P **P 20 46 04.2 0.0**
ASAR PcP PcP 20 47 44.0 +1.6
ASAR ScP ScP 20 50 41.7 +4.7
ASAR S **S 20 51 46.5 +1.2**
ASAR Alice Springs 42.62 259 P **P 20 46 04.3 0.0**
ASAR pP 20 47 44.0 -4.2
ASAR S **S 20 51 46.5 +1.2**
WB2 Warramunga Arr 42.84 264 *eP* **P 20 46 05.0 -1.0**
WRAB Tennant Creek 42.84 264 *eP* **P 20 46 04.5 -1.6**
comp=Z,128nm,0.6s,mb5.6
WRAB Tennant Creek 42.84 264 *eP* **P 20 46 04.5 -1.6**
WRAB pmax pmax
comp=Z,129nm,0.6s,mb5.6
WRAB Tennant Creek 42.84 264 P **P 20 46 05.0 -1.1**
comp=Z,1µm,0.8s
WRAB Tennant Creek 42.84 264 P ScP 20 50 43.4 +5.5
WRAB Tennant Creek 42.84 264 P **P 20 46 05.1 -1.0**
comp=Z,1.1nmcomp=Z,4µmcomp=Z,307nm,0.9s,mb5.8
WRAB Tennant Creek 42.84 264 P **P 20 46 04.9 -1.2**
comp=Z,4µmcomp=Z,307nm,0.9s,mb5.8
WRA Warramunga Arr 42.85 264 P **P 20 46 05.3 -0.8**
comp=Z,84nm,0.3s,mb5.7,baz=94,slow=8.1,SNR=628
WRA PcP PcP 20 47 44.5 +1.3
comp=Z,9.5nm,0.6s,baz=101,slow=4.5,SNR=4.9
WRA ScP ScP 20 50 42.2 +4.2
comp=Z,30nm,0.9s,baz=97,slow=4.3,SNR=18
WRA S **S 20 51 49.0 +0.3**
comp=Z,5.6nm,0.6s,baz=97,slow=14,SNR=16
WRA ScS ScS 20 55 05.8 +5.5
comp=Z,2.1nm,1.0s,baz=92,slow=8.8,SNR=4.7
WRA P3KPbc 21 15 06.3
comp=Z,0.6nm,0.6s,baz=298,slow=3.2,SNR=14
WRA P4KPbc 21 24 11.2
comp=Z,0.1nm,0.3s,baz=113,slow=2.2,SNR=5.4
WRA Warramunga Arr 42.85 264 P **P 20 46 05.3 -0.8**
WRA PcP PcP 20 47 44.5 +1.3
WRA ScP ScP 20 50 42.2 +4.2
WRA S **S 20 51 49.0 +0.3**
WRA Warramunga Arr 42.85 264 P **P 20 46 05.3 -0.8**
WRA 20 47 44.5
WRA S **S 20 51 49.0 +0.4**
JAY Jayapura 43.23 291 P **P 20 46 08.6 -0.5**
comp=Z,365nm,0.7s,mb6.0
WAKE Wake Island 43.50 341 *eP* **P 20 46 08.4 -2.6**
comp=Z,179nm,0.6s,mb5.8
SMPI Sarmi 45.21 291 P **P 20 46 23.8 -0.6**
comp=Z,2µmcomp=Z,154nm,1.0s,mb5.5
FORT Forrest 47.16 248 *eP* **P 20 46 38.6 -0.3**
comp=Z,222nm,0.7s,mb5.8
BAKI Biak 47.87 290 P **P 20 46 44.3 0.0**
comp=Z,3µmcomp=Z,339nm,0.8s,mb5.9
TLE Tual 48.85 283 P **P 20 46 51.3 -0.3**
comp=Z,4µmcomp=Z,297nm,1.0s,mb5.7
TLE Tual 48.85 283 P **P 20 46 51.6 0.0**
comp=Z,4µmcomp=Z,297nm,1.0s,mb5.7
GUMO Guam 49.86 312 *eP* **P 20 46 58.5 -0.4**
comp=Z,280nm,0.9s,mb5.7
GUMO Guam 49.86 312 *eP* **P 20 46 58.5 -0.4**
GUMO pmax pmax
comp=Z,280nm,0.9s,mb5.7
GUMO Guam 49.86 312 P **P 20 46 58.6 -0.3**
comp=Z,465nm,1.1s,mb5.8
DRV Dumont d'Urvil 51.10 199 R 20 56 00.0
FITZ Fitzroy Crossi 51.28 264 S **S 20 53 47.0 +2.1**
comp=Z,9.2nm,0.9s,baz=62,slow=23,SNR=11
FITZ Fitzroy Crossi 51.28 264 *eP* **P 20 47 09.0 -0.3**
comp=Z,140nm,0.4s,mb5.7
FITZ *eS* **S 20 53 42.9 -2.0**
FITZ *e* 20 56 00.4
FITZ Fitzroy Crossi 51.28 264 *eP* **P 20 47 08.3 -0.9**
comp=Z,60nm,0.4s,mb5.4
FITZ Fitzroy Crossi 51.28 264 P **P 20 47 09.1 -0.2**
comp=Z,2µmcomp=Z,132nm,0.8s,mb5.4
BNDI Bandanaira 51.88 282 P **P 20 47 12.9 -0.7**
comp=Z,9µmcomp=Z,729nm,0.7s,mb6.1
MSAI Masohi 53.26 283 P **P 20 47 23.0 -0.4**
AAI Ambon 53.77 282 P **P 20 47 26.0 -1.1**
comp=Z,7µmcomp=Z,458nm,0.5s,mb6.0
NLAI Namlea 54.95 282 P **P 20 47 34.8 -0.5**
comp=Z,4µmcomp=Z,193nm,0.6s,mb5.6
SBA Scott Base 55.93 183 *eP* **P 20 47 44.4 +3.4**
comp=Z,59nm,0.9s,mb4.8
SBA Scott Base 55.93 183 *eP* **P 20 47 44.4 +3.4**
SBA pmax pmax
comp=Z,59nm,0.9s,mb4.8
VNDA Vanda 55.93 185 P **P 20 47 43.0 +2.0**
comp=Z,25nm,0.7s,mb4.5,baz=354,slow=7.4,SNR=130
VNDA PcP PcP 20 48 32.0 +1.4
comp=Z,11nm,0.8s,baz=347,slow=5.6,SNR=4.8
VNDA Vanda 55.93 185 *eP* **P 20 47 43.0 +2.0**
comp=Z,29nm,0.8s,mb4.6
VNDA Vanda 55.93 185 *eP* **P 20 47 43.0 +2.0**
VNDA pmax pmax
comp=Z,29nm,0.8s
MBWA Marble Bar 55.97 259 *eP* **P 20 47 41.8 -0.4**
comp=Z,166nm,0.6s,mb5.4
MBWA Marble Bar 55.97 259 P **P 20 47 41.6 -0.6**
comp=Z,3µmcomp=Z,280nm,0.7s,mb5.6
MBWA Marble Bar 55.97 259 P **P 20 47 41.8 -0.4**
comp=Z,3µmcomp=Z,280nm,0.7s,mb5.6
NWAO Narrogin (SRO) 56.17 245 P **P 20 47 43.3 -0.1**
comp=Z,31nm,0.5s,mb4.8,baz=95,slow=7.1,SNR=36
NWAO Narrogin (SRO) 56.17 245 *eP* **P 20 47 42.8 -0.7**
comp=Z,40nm,0.9s,mb4.7
NWAO Narrogin (SRO) 56.17 245 *eP* **P 20 47 42.8 -0.6**
NWAO pmax pmax
comp=Z,40nm,0.9s
BBSI Bau Bau 58.18 278 P **P 20 48 01.6 +4.2**
comp=Z,0.4nmcomp=Z,127nm,0.9s,mb5.0
KDI Kendari 58.73 279 P **P 20 48 00.4 -0.7**
SGSI Sangihe 59.46 289 P **P 20 48 07.9 +2.0**
MATI Mati 60.42 292 *eP* **P 20 48 10.2 -2.1**
DAV Davao City (W) 61.07 292 P **P 20 48 17.1 +0.6**
comp=Z,257nm,0.5s,mb5.7,baz=169,slow=0.7,SNR=12
DAV Davao City (W) 61.07 292 *eP* **P 20 48 17.1 +0.6**
comp=Z,274nm,0.7s,mb5.6
DAV Davao City (W) 61.07 292 P **P 20 48 17.3 +0.8**
comp=Z,1.4nmcomp=Z,409nm,0.7s,mb5.7
DAV Davao City (W) 61.07 292 P **P 20 48 17.0 +0.5**
comp=Z,409nm,0.7s,mb5.7
CBIJ Chichi jima 61.48 321 P **P 20 48 17.8 -1.1**
comp=Z,91nm,0.4s,mb5.4,baz=241,slow=20,SNR=9.6
CASY Casey 61.63 206 *eP* **P 20 48 18.1 -1.1**
comp=Z,33nm,0.8s,mb4.6
BUKP Musuan 61.92 293 *eP* **P 20 48 21.8 -0.2**
CGP Cagayan de Oro 62.52 293 *eP* **P 20 48 25.6 -0.3**
SCPH Surigao 62.53 295 *eP* **P 20 48 25.1 -0.9**
MTNI Mataram 62.93 272 P **P 20 48 28.0 -0.5**
comp=Z,6µmcomp=Z,344nm,0.7s,mb5.8
PAGZ Pagadian 63.34 292 *eP* **P 20 48 30.9 -0.2**
KHKI Kahang-Kahang 63.54 272 P **P 20 48 31.7 -0.8**
comp=Z,2µmcomp=Z,127nm,0.8s,mb5.3
SRBI Singaraja 64.01 272 P **P 20 48 35.2 -0.2**
comp=Z,2µmcomp=Z,171nm,0.9s,mb5.4
NBBI Negara 64.45 271 P **P 20 48 38.9 +0.6**
comp=Z,3µmcomp=Z,194nm,0.8s,mb5.5
BYJI Banyuwangi 64.75 271 P **P 20 48 40.8 +0.7**
comp=Z,3µmcomp=Z,285nm,0.9s,mb5.7
JAGI Jajag, Banyuwa 64.85 271 P **P 20 48 39.5 -1.3**
comp=Z,2µmcomp=Z,236nm,0.9s,mb5.6
KMMI Kalianget 65.53 272 P **P 20 48 46.2 +1.2**
GMJI Gumukmas 65.58 271 P **P 20 48 44.7 -0.6**
comp=Z,2µmcomp=Z,152nm,1.0s,mb5.4
BLJI Banyuglugur 65.62 272 P **P 20 48 45.2 -0.4**
comp=Z,3µmcomp=Z,270nm,0.7s,mb5.8
RCP Roxas 65.75 295 *eP* **P 20 48 44.6 -1.7**
MYLDM Lahad Datu 66.35 287 P **P 20 48 51.1 +1.1**
MYLDM Lahad Datu 66.35 287 P **P 20 48 52.5 +2.4**
TSM Tawau 66.52 285 P **P 20 48 52.2 +1.1**
KRKI Karangkates 66.53 271 P **P 20 48 52.2 +1.0**
comp=Z,352nm,0.6s,mb5.7
PWJI Pagerwojo 67.18 271 P **P 20 48 54.9 -0.3**
comp=Z,2µmcomp=Z,190nm,0.8s,mb5.6
SJI Sawahan 67.32 271 P **P 20 48 56.2 +0.2**
comp=Z,2µmcomp=Z,150nm,0.8s,mb5.5
PCJI Pacitan 67.70 270 P **P 20 48 58.3 -0.1**
comp=Z,7µmcomp=Z,735nm,0.9s,mb6.1
QSPA South Pole Qui 67.72 180 *eP* **P 20 48 58.8 +1.5**
comp=Z,116nm,1.0s,mb5.3
SDKM Sandakan 67.72 286 P **P 20 48 59.1 +0.7**
UGM Wanagama 68.41 270 *eP* **P 20 49 02.9 +0.3**
comp=Z,653nm,1.6s,mb5.8
KDM Kudat 68.61 287 P **P 20 49 05.4 +1.6**
KKM Kota Kinabalu 68.77 286 P **P 20 49 05.2 +0.4**
KKM Kota Kinabalu 68.77 286 *eP* **P 20 49 04.7 -0.1**
comp=Z,84nm,0.5s,mb5.4
KKM Kota Kinabalu 68.77 286 P **P 20 49 04.8 0.0**
comp=Z,2µmcomp=Z,114nm,0.8s,mb5.3
SMRI Semarang 68.79 271 P **P 20 49 07.1 +2.2**
BJII Banjamegara 69.37 270 P **P 20 49 09.9 +1.5**
comp=Z,83nm,0.8s,mb5.2
JOW Kunigami 70.21 311 P **P 20 49 13.6 +0.5**
comp=Z,96nm,0.7s,mb5.3,baz=154,slow=5.1,SNR=12
JOW Kunigami 70.21 311 P **P 20 49 13.6 +0.5**
BTM Bintulu 70.35 282 P **P 20 49 15.2 +0.9**
MJAR Matsushiro Arr 70.82 325 P **P 20 49 15.2 -1.2**
comp=Z,38nm,0.7s,mb5.0,baz=157,slow=6.0,SNR=97
MJAR Matsushiro Arr 70.82 325 P **P 20 49 15.2 -1.2**
MJAR Matsushiro Arr 70.82 325 P **P 20 49 15.2 -1.2**
MAJO Matsushiro 70.82 325 *eP* **P 20 49 14.8 -1.6**
comp=Z,44nm,0.8s,mb5.0
MAJO Matsushiro 70.82 325 *eP* **P 20 49 14.8 -1.6**
MAJO pmax pmax
comp=Z,44nm,0.8s,mb5.0
SBUM Sibu 70.82 281 P **P 20 49 17.8 +0.8**
SBUM Sibu 70.82 281 P **P 20 49 17.0 0.0**
comp=Z,642nmcomp=Z,38nm,1.2s,mb4.8
JCJI Jatiwangi 71.00 271 P **P 20 49 19.1 +1.1**
comp=Z,333nm,0.8s,mb5.9
CISI Cisompet, Garu 71.04 269 P **P 20 49 17.8 -0.5**
comp=Z,154nm,0.9s,mb5.5
LEM Lembang 71.48 270 P **P 20 49 21.4 +0.5**
comp=Z,3µmcomp=Z,372nm,0.9s,mb5.9
KSM Kuching 72.17 279 P **P 20 49 25.3 +0.5**
KSM Kuching 72.17 279 *eP* **P 20 49 24.6 -0.2**
comp=Z,114nm,0.8s,mb5.5
KSM Kuching 72.17 279 P **P 20 49 24.9 +0.1**
comp=Z,167nm,0.9s,mb5.6
CBJI Citeko 72.34 270 P **P 20 49 25.0 -0.8**
comp=Z,396nm,0.8s,mb6.0
DBJI Dramaga 72.39 270 P **P 20 49 26.0 -0.1**
comp=Z,158nm,0.9s,mb5.5
JNU Nakatsue 72.59 318 *eP* **P 20 49 26.8 0.0**
comp=Z,30nm,1.2s,mb4.7
TWG Pinlang 73.11 304 *eP* **P 20 49 28.0 -2.0**
comp=Z,134nm,0.5s,mb5.7
YUK Yuzh-Kuril'sk 73.24 335 P **P 20 49 25.4 -4.8**
YUK *i* S 20 58 09.9 -1.4
YULB Yu-li 73.26 305 *eP* **P 20 49 29.9 -0.9**
comp=Z,66nm,1.1s,mb5.1
CGJI Cibinong 73.34 270 P **P 20 49 30.7 -0.8**
comp=Z,2µmcomp=Z,121nm,0.6s,mb5.6
NACB Ninganchiao 73.47 305 *eP* **P 20 49 30.2 -1.8**
comp=Z,105nm,0.7s,mb5.5
TPUB Ta-pu 73.72 304 *eP* **P 20 49 31.6 -1.7**
comp=Z,234nm,0.8s,mb5.8
SSLB Suanglung 73.74 305 *eP* **P 20 49 31.6 -1.9**
comp=Z,107nm,0.7s,mb5.5
YHNB Yeheng 73.91 306 *eP* **P 20 49 34.7 +0.3**
comp=Z,67nm,0.7s,mb5.3
TATO Taipei 74.00 306 *eP* **P 20 49 34.5 -0.4**
comp=Z,136nm,0.8s,mb5.5
ASAJ Asahikawa 74.64 333 *eP* **P 20 49 39.2 +1.1**
comp=Z,162nm,2.0s,mb5.2
KLSI 74.94 271 P **P 20 49 49.5 +9.0**
FX1 Attu Island--F 75.18 356 *eP* **P 20 49 39.4 -1.5**
FX1 Attu Island--F 75.18 356 *eP* **P 20 49 39.4 -1.5**
LWLI Liwa 75.44 271 P **P 20 49 47.7 +4.4**
comp=Z,101nm,0.8s,mb5.4
MDSI Maura Dua 75.52 271 P **P 20 49 42.6 -1.2**
comp=Z,895nmcomp=Z,61nm,0.9s,mb5.0
QZH Quanzhou 76.17 305 *iP* **P 20 49 45.8 -1.2**
QZH pmax pmax
comp=Z,180nm,0.7s,mb5.6
YSS Yuzh-Sakhalins 76.88 335 *eP* **P 20 49 50.7 +0.3**
comp=Z,59nm,1.0s,mb5.0
YSS Yuzh-Sakhalins 76.88 335 *eP* **P 20 49 52.2 +1.8**
YSS pmax pmax
comp=Z,37nm,0.7s,mb4.9
KSRS Korea Array 77.28 320 P **P 20 49 53.2 +0.4**
comp=Z,11nm,0.8s,mb4.3,baz=132,slow=5.7,SNR=24
KSAR Wonju Array Be 77.29 320 P **P 20 49 53.2 +0.3**
KSAR Wonju Array Be 77.29 320 P **P 20 49 53.2 +0.3**
KSI Kapahiang 77.30 271 P **P 20 49 53.0 -0.5**
comp=Z,178nm,1.1s,mb5.4
PET Petropavlovsk 77.40 347 *eP* **P 20 49 51.8 -1.2**
PET *e**PP pP 20 51 57.7 +0.2
PET *e* 20 53 02.1
PET *e*S S 20 58 56.9 +1.4
PET *e*SS SS 21 04 17.7 +5.1
PET pmax pmax
comp=Z,42nm,0.8s,mb4.9
PET pmax pmax
comp=Z,100nm,18.6s
PET MLR MLR
comp=Z,100nm,17.0s
PEA0B Petropavlovsk- 77.68 346 *eP* **P 20 49 53.5 -1.0**
PETK Petropavlovsk- 77.68 346 P **P 20 49 53.7 -0.9**
comp=Z,47nm,0.6s,mb5.1,baz=141,slow=7.6,SNR=34
PETK Petropavlovsk- 77.68 346 P **P 20 49 53.7 -0.9**
PETK Petropavlovsk- 77.68 346 P **P 20 49 53.7 -0.9**
SSE Sheshan 77.72 311 P **P 20 49 54.4 -0.9**
SSE pP pP 20 51 55.4 -4.4
SSE sP sP 20 52 55.8 -4.8
SSE S S 20 58 59.9 +0.1
SSE pmax pmax
comp=Z,51nm,0.7s,mb5.1
SSE pmax pmax
comp=Z,300nm,5.7s
MYKOM Kota Tinggi 78.21 277 P **P 20 49 59.0 +0.6**
RGRI Rengat 78.78 274 P **P 20 50 03.0 +1.6**
KGM Kluang 78.79 277 P **P 20 50 01.6 +0.2**
MAW Mawson 79.30 200 P **P 20 50 04.2 +1.2**
comp=Z,20nm,0.7s,mb4.6,baz=133,slow=7.3,SNR=45
MAW Mawson 79.30 200 *eP* **P 20 50 04.0 +0.9**
comp=Z,5.6nm,0.8s,mb4.0
MAW Mawson 79.30 200 *eP* **P 20 50 04.0 +0.9**
MAW pmax pmax
comp=Z,6.0nm,0.8s
NJ2 Nanjing 79.90 311 *eP* **P 20 50 07.1 +0.3**
NJ2 pP pP 20 52 10.5 -1.8
NJ2 S S 20 59 22.0 -0.3
NJ2 SKS 20 59 26.0
NJ2 pmax pmax
comp=Z,60nm,0.8s,mb5.0
NJ2 pmax pmax
comp=Z,570nm,4.8s
BSC Santa Cruz Isl 79.99 47 ⇓P **P 20 50 07.4 +0.1**
baz=80
SBC Santa Barbara 80.19 47 ⇓P **P 20 50 08.6 +0.3**
baz=80
QIZ Qiongzhong 80.23 295 P **P 20 50 08.6 -0.2**
QIZ pP pP 20 52 13.0 -1.4
QIZ sP sP 20 53 13.3 -1.7
QIZ S S 20 59 26.6 +0.4
QIZ sS sS 21 03 08.5 -1.4
QIZ pmax pmax
comp=Z,54nm,2.0s,mb4.5
QIZ pmax pmax
comp=Z,600nm,4.5s
KTGM Kuala Trenggan 80.26 280 P **P 20 50 09.2 0.0**
PDSI Padang 80.30 273 P **P 20 50 08.6 -0.8**
comp=Z,52nm,0.9s,mb4.9
PKM Peak Mountain 80.39 46 ⇑P **P 20 50 09.3 0.0**
baz=80,SNR=6.1
SAO San Andreas Ge 80.43 44 *eP* **P 20 50 09.6 +0.2**
comp=Z,109nm,1.8s,mb4.9
SAO San Andreas Ge 80.43 44 *eP* **P 20 50 09.6 +0.1**
SAO pmax pmax
comp=Z,109nm,1.8s,mb4.9
CIS Catalina Islan 80.49 48 ⇑P **P 20 50 09.7 -0.2**
baz=81
SMMC Simmler 80.51 46 ⇓P **P 20 50 10.1 +0.2**
baz=81
PPI Padang Panjang 80.53 273 P **P 20 50 11.4 +0.8**
comp=Z,22nm,1.6s,mb4.3
FMP Fort Macarthur 80.74 48 ⇓P **P 20 50 11.2 +0.1**
baz=81
HOPS Hopland 80.78 41 *eP* **P 20 50 11.1 -0.1**
comp=Z,114nm,1.4s,mb5.1
HOPS *e*PP PP 20 53 25.4 -1.7
KCPM Cahto Peak 80.90 40 *eP* **P 20 50 12.0 +0.2**
comp=Z,70nm,1.5s,mb4.9
OSI Osito Adit 80.96 47 ⇑P **P 20 50 12.2 0.0**
baz=81
DECC Green Verdugo 81.02 47 ⇑P **P 20 50 12.2 -0.4**
baz=81
KIPM Iron Peak 81.04 40 *eP* **P 20 50 12.9 +0.4**
comp=Z,133nm,1.4s,mb5.2
109C Camp Elliot, M 81.10 49 ⇓P **P 20 50 12.8 -0.2**
baz=81
MDJ Mudanjiang 81.17 326 P **P 20 50 13.8 +0.7**
MDJ pP pP 20 52 17.3 -1.8
MDJ sP sP 20 53 18.3 -1.2
MDJ PP PP 20 53 29.5 -0.6
MDJ S S 20 59 35.8 +1.2
MDJ sS sS 21 03 13.6 -5.6
MDJ SS SS 21 05 02.8 -5.8
MDJ pmax pmax
comp=Z,43nm,0.8s,mb4.9
MDJ pmax pmax
comp=Z,280nm,6.2s
MDJ Mudanjiang 81.17 326 *eP* **P 20 50 13.3 +0.2**
comp=Z,34nm,0.8s,mb4.8
ARVC Arvin 81.18 46 ⇑P **P 20 50 13.1 -0.3**
baz=81
MWC Mount Wilson 81.19 48 *eP* **P 20 50 13.4 -0.1**
comp=Z,19nm,0.8s,mb4.6
MWC Mount Wilson 81.19 48 *eP* **P 20 50 13.4 0.0**
MWC pmax pmax
comp=Z,19nm,0.8s,mb4.6
BAR Barrett 81.29 49 *eP* **P 20 50 13.9 -0.1**
comp=Z,77nm,1.8s,mb4.8
MURC Murrieta 81.43 48 ⇑P **P 20 50 14.4 -0.3**
baz=82,SNR=5.5
BFSC Mount Baldy Ra 81.47 48 ⇓P **P 20 50 14.3 -0.6**
baz=82,SNR=14
KHMM Horse Mountain 81.56 39 *eP* **P 20 50 16.2 +1.0**
comp=Z,156nm,1.5s,mb5.3
MONP Monument Peak 81.58 49 ⇑P **P 20 50 15.3 -0.2**
baz=82,SNR=34
RCTC Rector, Farmer 81.59 45 ⇓P **P 20 50 14.8 -0.6**
baz=82
EDW2 Edwards Air Fo 81.61 47 ⇓P **P 20 50 15.2 -0.4**
baz=82,SNR=25
DVTC Desert V Tower 81.68 50 ⇑P **P 20 50 15.8 -0.2**
baz=82,SNR=11
ISA Isabella 81.73 46 ⇑P **P 20 50 16.2 0.0**
baz=82,SNR=42
ISA Isabella 81.73 46 *eP* **P 20 50 15.4 -0.7**
comp=Z,198nm,1.8s,mb5.3
ISA *e*pP pP 20 52 25.3 +2.9
ISA Isabella 81.73 46 *eP* **P 20 50 15.4 -0.7**
ISA *e**PP pP 20 52 25.3 +2.9
ISA pmax pmax
comp=Z,198nm,1.8s,mb5.3
MNSI Mandailing Nat 81.76 274 P **P 20 50 15.8 -1.1**
comp=Z,679nmcomp=Z,55nm,0.8s,mb5.2
IPM Ipoh 81.86 278 P **P 20 50 17.9 +0.5**
IPM Ipoh 81.86 278 *eP* **P 20 50 17.2 -0.1**
comp=Z,70nm,0.9s,mb5.2
IPM Ipoh 81.86 278 P **P 20 50 17.8 +0.5**
IPM Ipoh 81.86 278 P **P 20 50 17.8 +0.5**
comp=Z,90nm,0.9s,mb5.3
CMB Columbia Colle 81.86 43 *eP* **P 20 50 16.1 -0.6**
comp=Z,32nm,0.8s,mb4.9
CMB Columbia Colle 81.86 43 *eP* **P 20 50 16.1 -0.7**
CMB pmax pmax
comp=Z,32nm,0.8s,mb4.9
KRMB Red Mountain 81.87 39 *eP* **P 20 50 15.9 -0.8**
comp=Z,98nm,1.3s,mb5.2
PFO Pinyon Flat Ob 81.95 49 ⇓P **P 20 50 16.9 -0.5**
baz=82,SNR=8.9
PFO Pinyon Flat Ob 81.95 49 *eP* **P 20 50 17.3 -0.1**
comp=Z,16nm,1.0s,mb4.5
PFO Pinyon Flat Ob 81.95 49 *eP* **P 20 50 17.3 0.0**
PFO pmax pmax
comp=Z,16nm,1.0s,mb4.5
OHCM Honcut 81.96 42 *eP* **P 20 50 17.2 -0.1**
BBRC Big Bear Solar 81.99 48 ⇓P **P 20 50 17.4 -0.1**
baz=82
SWSC Sam W. Stewart 82.05 50 ⇑P **P 20 50 17.6 -0.3**
baz=82,SNR=10
WDC Whiskeytown Da 82.08 40 *eP* **P 20 50 17.3 -0.5**
comp=Z,126nm,1.6s,mb5.2
WDC Whiskeytown Da 82.08 40 *eP* **P 20 50 17.3 -0.5**
WDC pmax pmax
comp=Z,126nm,1.6s,mb5.2
KBO Bosley Butte 82.12 38 *eP* **P 20 50 18.3 +0.3**
comp=Z,136nm,1.5s,mb5.3
LRMC Laurel Mountai 82.15 47 ⇓P **P 20 50 18.1 -0.2**
baz=82,SNR=19
RRX Edison Barstow 82.28 47 ⇓P **P 20 50 18.5 -0.5**
baz=82
WHN Wuhan 82.32 307 P **P 20 50 19.8 +0.5**
WHN S S 20 59 41.3 -5.4
WHN pmax pmax
comp=Z,68nm,1.1s,mb5.1
CWC Cottonwood Cre 82.43 46 ⇓P **P 20 50 19.5 -0.1**
baz=82,SNR=20
KEBM Edson Butte 82.48 38 *eP* **P 20 50 20.6 +0.8**
comp=Z,68nm,1.1s,mb5.1
BELC Belle Mtn. Jos 82.49 49 ⇓P **P 20 50 19.7 -0.3**
baz=83,SNR=38
KULM Kulim 82.52 279 P **P 20 50 21.8 +1.1**
KULM Kulim 82.52 279 *eP* **P 20 50 20.5 -0.1**
comp=Z,37nm,0.9s,mb4.9
KULM Kulim 82.52 279 P **P 20 50 22.2 +1.5**
KULM Kulim 82.52 279 P **P 20 50 22.2 +1.5**
comp=Z,52nm,1.0s,mb5.0
MPMC Manual Prospec 82.61 46 ⇓P **P 20 50 20.6 0.0**
baz=83,SNR=35
MLAC Mammoth Lakes 82.62 44 ⇑P **P 20 50 20.6 -0.1**
baz=83
MTUM Tungsten Hills 82.64 45 *eP* **P 20 50 20.6 -0.1**
MTUM *e*pP pP 20 52 29.6 +2.3
GSC Goldstone 82.65 47 ⇑P **P 20 50 20.6 -0.2**
baz=83,SNR=17
GSC Goldstone 82.65 47 *eP* **P 20 50 20.3 -0.5**
comp=Z,108nm,1.7s,mb5.1
GSC Goldstone 82.65 47 *eP* **P 20 50 20.3 -0.5**
GSC pmax pmax
comp=Z,108nm,1.7s,mb5.1
UBT Ubonrachathani 82.68 290 ⇑P **P 20 50 22.9 +1.5**
BC3 Big Chuckawall 82.68 49 ⇑P **P 20 50 20.9 -0.1**
baz=83,SNR=26
TIN Tinemaha 82.69 45 ⇑P **P 20 50 21.2 +0.2**
baz=83
YBH Yreka Blue Hor 82.70 39 *eP* **P 20 50 21.0 +0.1**
comp=Z,166nm,1.9s,mb5.2
YBH *e*pP pP 20 52 28.5 +0.9
YBH Yreka Blue Hor 82.70 39 *eP* **P 20 50 21.0 +0.1**
YBH *e**PP pP 20 52 28.5 +1.0
YBH pmax pmax
comp=Z,166nm,1.9s
HEC Hector,Ludlow 82.71 48 ⇑P **P 20 50 20.7 -0.5**
baz=83,SNR=7.2
GLA Glamis 82.80 50 ⇑P **P 20 50 21.8 +0.2**
baz=83,SNR=13
GLA Glamis 82.80 50 *eP* **P 20 50 22.5 +0.9**
comp=Z,181nm,1.6s,mb5.3
GLA Glamis 82.80 50 *eP* **P 20 50 22.5 +0.9**
GLA pmax pmax
comp=Z,181nm,1.6s,mb5.3
CN2 Changchun 82.85 323 ⇑P **P 20 50 21.8 +0.2**
CN2 *e*pP pP 20 52 27.3 -1.0
CN2 *e*S S 20 59 51.1 -0.2
CN2 pmax pmax
comp=Z,40nm,0.8s,mb5.0
CN2 pmax pmax
comp=Z,200nm,4.0s
KDAK Kodiak Island 82.98 14 *i*P **P 20 50 22.9 +1.0**
WCN Washoe City 83.01 43 ⇑P **P 20 50 22.8 +0.3**

baz=83
WCN Washoe City 83.01 43 *e*P **P 20 50 22.3 -0.2**
comp=Z,27nm,0.8s,mb4.8
WCN Washoe City 83.01 43 *e*P **P 20 50 22.3 -0.2**
WCN pmax pmax
comp=Z,27nm,0.8s,mb4.8
HUMO Hull Mountain 83.10 38 *e*P **P 20 50 22.5 -0.3**
comp=Z,138nm,1.6s,mb5.2
PSI Prapat 83.14 276 P **P 20 50 23.6 -0.2**
comp=Z,51nm,1.2s,mb4.9
PSI Prapat 83.14 276 P **P 20 50 23.6 -0.2**
comp=Z,51nm,1.2s,mb4.9
GMRC Granite Mounta 83.14 48 ⇑P **P 20 50 23.6 +0.3**
baz=83,SNR=20
IRM Iron Mountain 83.16 49 ⇓P **P 20 50 23.3 -0.1**
baz=83,SNR=31
GRAC Grapevine Rang 83.22 46 ⇓P **P 20 50 23.8 +0.2**
baz=83
FURC Furnace Creek, 83.26 46 ⇑P **P 20 50 23.6 -0.2**
baz=83,SNR=7.9
TUQ Turquoise Moun 83.32 47 ⇓P **P 20 50 23.8 -0.4**
baz=83,SNR=22
SHOC Shoshone 83.34 47 ⇓P **P 20 50 24.0 -0.2**
baz=83
Y12C Blythe 83.38 50 ⇑P **P 20 50 24.8 +0.4**
baz=84,SNR=9.2
113A Mohawk Valley, 83.40 51 ⇓P **P 20 50 24.9 +0.3**
baz=84,SNR=14
USHA Ushuaia 83.42 147 P **P 20 50 26.1 +1.7**
baz=213,slow=6.0,SNR=12
USHA Ushuaia 83.42 147 P **P 20 50 26.1 +1.7**
NVAR Mina Array Bea 83.43 44 P **P 20 50 24.8 +0.2**
comp=Z,15nm,0.7s,mb4.6,baz=222,slow=8.4,SNR=93
NVAR pP pP 20 52 29.3 -2.2
comp=Z,2.5nm,1.1s,baz=239,slow=28,SNR=3.0
NVAR PKKPbc PKKPbc 21 08 41.2 +1.4
comp=Z,0.5nm,0.6s,baz=76,slow=4.6,SNR=4.2
NVAR Mina Array Bea 83.43 44 P **P 20 50 24.8 +0.2**
NVAR pP pP 20 52 29.3 -2.2
NVAR PKKPbc PKKPbc 21 08 41.2 +1.4
214A Organ Pipe Nat 83.67 52 ⇓P **P 20 50 26.6 +0.6**
baz=84,SNR=12
LDFC Landfair 83.69 48 *e*P **P 20 50 26.1 +0.1**
comp=Z,361nm,1.8s,mb5.6
LDFC *e*pP pP 20 52 36.7 +3.6
Z13A Yuma Proving G 83.71 50 ⇓P **P 20 50 26.3 +0.2**
baz=84,SNR=48
NEE2 Needles Airpor 83.86 49 ⇓P **P 20 50 27.1 +0.3**
baz=84
PDMCI Parker Dam,Lak 83.94 49 ⇑P **P 20 50 27.2 -0.1**
baz=84,SNR=12
MPOR Mary's Peak 83.96 37 P **P 20 50 27.8 +0.7**
114A Black Gap (USA 84.03 51 ⇑P **P 20 50 27.9 +0.2**
baz=84,SNR=16
MOD Modoc 84.22 40 *e*P **P 20 50 27.8 -0.7**
comp=Z,94nm,1.6s,mb5.1
Z14A Wintersburg 84.30 51 ⇑P **P 20 50 29.4 +0.4**
baz=84,SNR=17
K05A Summer Lake 84.37 39 ⇓P **P 20 50 29.5 +0.4**
baz=84
BROR Big Rock Looko 84.42 37 P **P 20 50 29.4 0.0**
115A Sonoran Desert 84.47 51 ⇓P **P 20 50 30.2 +0.3**
baz=85,SNR=5.8
W13A Hualapai Mount 84.55 49 ⇓P **P 20 50 30.5 +0.3**
baz=85,SNR=21
Y14A Wickenburg 84.56 50 ⇑P **P 20 50 30.3 +0.1**
baz=85,SNR=14
SYO Syowa Base 84.58 193⇓ *e*P **P 20 50 27.8 -2.0**
SYO Syowa Base 84.58 193⇓ *e*PcP PcP 20 50 31.6 -0.4
FRIS Frissel Point 84.59 38 P **P 20 50 30.4 +0.3**
216A Three Points, 84.68 52 ⇑P **P 20 50 31.5 +0.6**
baz=85,SNR=15
116A Eloy 84.78 52 ⇑P **P 20 50 32.2 +0.8**
baz=85
Z15A Gila River Ind 84.83 51 ⇑P **P 20 50 31.5 -0.1**
baz=85
H04A Detroit Lake 84.83 37 ⇑P **P 20 50 31.0 -0.3**
baz=85,SNR=7.7
TPTI 84.92 276 P **P 20 50 33.6 +1.1**
comp=Z,40nm,1.3s,mb4.9
217A Green Valley 85.04 53 ⇓P **P 20 50 33.4 +0.8**
baz=85,SNR=39
Y15A Casa Rosa Ranc 85.04 50 ⇓P **P 20 50 32.9 +0.2**
baz=85,SNR=20
R11A Troy Canyon, C 85.15 45 ⇑P **P 20 50 32.8 -0.2**
baz=85
E03A Lebam 85.25 35 ⇑P **P 20 50 33.5 +0.2**
baz=85
BMN Battle Mountai 85.26 43 *e*P **P 20 50 33.1 -0.4**
comp=Z,18nm,0.8s,mb4.8
BMN Battle Mountai 85.26 43 *e*P **P 20 50 33.1 -0.4**
BMN pmax pmax
comp=Z,18nm,0.8s,mb4.8
TUC Tucson 85.33 52 *e*P **P 20 50 34.6 +0.6**
comp=Z,29nm,0.9s,mb4.9
TUC *e*pP pP 20 52 45.0 +3.2
TUC Tucson 85.33 52 *e*P **P 20 50 34.6 +0.6**
TUC *e**PP pP 20 52 45.0 +3.2
TUC pmax pmax
comp=Z,29nm,0.9s,mb4.9
BMW Boistfort Moun 85.39 35 *e*P **P 20 50 34.6 +0.6**
BMW Boistfort Moun 85.39 35 *e*P **P 20 50 34.6 +0.7**
318A Bisbee 85.49 54 ⇑P **P 20 50 35.9 +1.1**
baz=86,SNR=39
117A Oracle 85.49 52 ⇑P **P 20 50 35.5 +0.7**
baz=86,SNR=21
HOOD Mount Hood Mea 85.52 37 *e*P **P 20 50 35.1 +0.4**
comp=Z,136nm,2.0s,mb5.2
WVOR Wild Horse Val 85.54 41 *e*P **P 20 50 34.8 0.0**
comp=Z,28nm,1.1s,mb4.8
WVOR Wild Horse Val 85.54 41 *e*P **P 20 50 34.8 0.0**
WVOR pmax pmax
comp=Z,28nm,1.1s,mb4.8
VIPM Ingram Point 85.61 38 P **P 20 50 35.4 +0.3**
VIPM Ingram Point 85.61 38 P **P 20 50 35.4 +0.3**
Y16A Circle Bar Ran 85.61 51 ⇑P **P 20 50 36.1 +0.7**
baz=86,SNR=24
NLWA Neilton Lookou 85.63 34 *e*P **P 20 50 35.5 +0.4**
218A Dragoon 85.71 53 ⇓P **P 20 50 36.8 +0.9**
baz=86,SNR=63
ENH Enshi 85.82 305 *e*P **P 20 50 36.3 -0.2**
comp=Z,81nm,0.9s,mb5.4
X16A Lo Mia Camp, P 85.91 50 ⇓P **P 20 50 37.2 +0.5**
baz=86,SNR=17
Y17A Roosevelt 85.98 51 ⇑P **P 20 50 37.4 +0.3**
baz=86,SNR=5.7
319A Douglas 85.98 54 ⇑P **P 20 50 38.0 +0.8**
baz=86,SNR=6.5
I07A Izee 85.99 39 ⇓P **P 20 50 37.5 +0.6**
baz=86
G06A Carlson Farm, 86.04 37 ⇑P **P 20 50 37.3 +0.2**
baz=86,SNR=12
Z17A San Carlos Hig 86.05 52 ⇑P **P 20 50 38.0 +0.6**
baz=86
118A Homack Ranch, 86.09 52 ⇑P **P 20 50 38.4 +0.7**
baz=86
V15A Kaibab Nationa 86.11 49 ⇓P **P 20 50 38.2 +0.5**
baz=86,SNR=21
R13A O'Grain Ranch, 86.12 46 ⇑P **P 20 50 38.2 +0.6**
baz=86
BJT Baijiatuau 86.14 316 *e*P **P 20 50 37.8 +0.1**
comp=Z,29nm,0.5s,mb5.2
BJT Baijiatuau 86.14 316 *e*P **P 20 50 37.8 +0.1**
BJT pmax pmax
comp=Z,29nm,0.5s
BJI Beijing 86.14 316 P **P 20 50 38.1 +0.4**
BJI pP pP 20 52 47.0 +1.2
BJI sP sP 20 53 44.6 -1.1
BJI PP PP 20 54 09.9 -0.2
BJI SKS 21 00 06.8
BJI S S 21 00 24.9 +1.7
BJI pmax pmax
comp=Z,59nm,0.8s,mb5.3
J08A Circle Bar Ran 86.17 40 ⇑P **P 20 50 37.9 +0.2**
baz=86
W16A Flagstaff 86.19 50 ⇑P **P 20 50 38.6 +0.5**
baz=86,SNR=6.9
SNAA Sanae 86.19 179 *e*P **P 20 50 34.6 -2.9**
comp=Z,11nm,0.7s,mb4.6
SNAA Sanae 86.19 179 *e*P **P 20 50 34.6 -2.9**
SNAA pmax pmax
comp=Z,11nm,0.7s
CCUT Cedar City 86.20 47 *e*P **P 20 50 38.7 +0.7**
comp=Z,42nm,1.5s,mb4.8
CCUT *e*pP pP 20 52 46.4 +0.2
GYA Guiyang 86.24 300⇓ *e*P **P 20 50 39.8 +1.3**
GYA pP pP 20 52 47.5 +0.9
GYA sP sP 20 53 46.0 -0.5
GYA PP PP 20 54 13.3 +2.2
GYA SKS 21 00 07.6
GYA S S 21 00 23.5 -1.3
GYA sS sS 21 04 10.3 -2.7
GYA pmax pmax
comp=Z,40nm,1.0s,mb5.0
GYA pmax pmax
comp=Z,160nm,5.2s
Z18A Geronimo 86.26 52 ⇑P **P 20 50 38.9 +0.4**
baz=86
ARUT Antelope Range 86.27 47 *e*P **P 20 50 39.1 +0.8**
comp=Z,7.8nm,0.7s,mb4.5
ARUT Antelope Range 86.27 47 *e*P **P 20 50 39.1 +0.7**
ARUT pmax pmax
comp=Z,8.0nm,0.7s,mb4.5
GNW Green Mountain 86.29 35 *e*P **P 20 50 38.5 +0.3**
comp=Z,71nm,1.8s,mb5.0
219A White Tail Can 86.30 53 ⇓P **P 20 50 39.5 +0.8**
baz=86,SNR=34
LON Longmire 86.32 36 *e*P **P 20 50 38.1 -0.3**
comp=Z,62nm,1.8s,mb4.9
LON *e*pP pP 20 52 49.0 +2.4
LON Longmire 86.32 36 *e*P **P 20 50 38.1 -0.3**
LON *e**PP pP 20 52 49.0 +2.5
LON pmax pmax
comp=Z,62nm,1.8s,mb4.9
X17A Forest Lakes 86.33 51 ⇑P **P 20 50 39.2 +0.5**
baz=86,SNR=6.8
U15A North Rim 86.34 48 ⇓P **P 20 50 39.1 +0.4**
baz=86,SNR=66
D05A Emmclaw 86.50 35 ⇑P **P 20 50 39.6 +0.5**
baz=87,SNR=9.0
WUAZ Wupatki 86.52 49 ⇓P **P 20 50 39.9 +0.3**
baz=87,SNR=8.8
WUAZ Wupatki 86.52 49 *e*P **P 20 50 40.1 +0.5**
comp=Z,45nm,1.4s,mb5.0
WUAZ *e*pP pP 20 52 48.3 +0.5
320A Kipp Ranch, An 86.53 54 ⇓P **P 20 50 41.3 +1.5**
baz=87
Y18A Canon Day Jun 86.61 51 ⇑P **P 20 50 40.6 +0.6**
baz=87,SNR=9.3
119A Ashpeak Ranch, 86.64 53 ⇓P **P 20 50 41.0 +0.7**
baz=87,SNR=13
W17A Winslow 86.76 50 ⇑P **P 20 50 41.1 +0.4**
baz=87
MAIT Maitri 86.77 184 *e*P **P 20 50 40.0 -0.2**
220A Playas Peak, P 86.80 54 ⇓P **P 20 50 41.5 +0.4**
baz=87,SNR=13
F07A Phinny Hill Vi 86.83 37 ⇓P **P 20 50 40.9 +0.1**
baz=87
Z19A T-Link Ranch, 86.93 52 ⇑P **P 20 50 42.0 +0.4**
baz=87
V17A Tonalea, Kykot 86.98 50 ⇑P **P 20 50 41.9 +0.2**
baz=87
U16A Tuba City 87.00 49 ⇓P **P 20 50 42.0 +0.1**
baz=87,SNR=10
G08A Pilot Rock 87.02 38 ⇑P **P 20 50 41.9 +0.2**
baz=87,SNR=44
120A U Bar Ranch, L 87.03 53 ⇑P **P 20 50 42.7 +0.6**
baz=87,SNR=18
X18A Snowflake 87.04 51 ⇑P **P 20 50 42.4 +0.4**
baz=87,SNR=6.2
JCW Jim Creek 87.15 35 *e*P **P 20 50 42.2 -0.1**
PMR Palmer 87.18 14 *e*P **P 20 50 40.3 -1.8**
comp=Z,420nm,2.8s,mb5.7
PMR Palmer 87.18 14 *e*P **P 20 50 40.3 -1.7**
PMR pmax pmax
comp=Z,420nm,2.8s,mb5.7
Y19A Nutrioso 87.26 52 ⇓P **P 20 50 43.7 +0.6**
baz=87,SNR=20
E07A Sunnyside 87.27 37 ⇑P **P 20 50 43.0 +0.2**
baz=87,SNR=11
R15A Junction 87.28 47 ⇑P **P 20 50 43.9 +0.8**
baz=87
RSW Rattlesnake Hi 87.32 37 *e*P **P 20 50 43.1 0.0**
RSW *e*pP pP 20 52 52.6 +1.0
Z20A Nine Sixteen R 87.33 53 ⇓P **P 20 50 44.4 +0.9**
baz=87,SNR=17
HAWA Hanford 87.35 37 *e*P **P 20 50 43.6 +0.4**
comp=Z,38nm,0.8s,mb5.2
HAWA *e*pP pP 20 52 52.0 +0.2
221A Mesquite Ranch 87.41 54 ⇑P **P 20 50 44.4 +0.6**
baz=88,SNR=8.3
X19A St. Johns 87.46 51 ⇑P **P 20 50 44.5 +0.4**
baz=88
W18A Petrified Fore 87.48 50 ⇑P **P 20 50 44.1 0.0**
baz=88
S16A Weppner Ranch, 87.48 47 ⇓P **P 20 50 44.2 +0.1**
baz=88,SNR=7.6
MSU Marysvale 87.50 46 *e*P **P 20 50 44.8 +0.7**
MSU *e*pP pP 20 52 53.4 +0.7
MSU Marysvale 87.50 46 *e*P **P 20 50 44.8 +0.7**
MSU *e**PP pP 20 52 53.4 +0.7
U17A Shonto 87.56 49 ⇑P **P 20 50 44.6 +0.1**
baz=88,SNR=7.9
A05A Maple Falls 87.57 34 ⇑P **P 20 50 44.1 -0.1**
baz=88
V18A Ganado 87.63 50 ⇑P **P 20 50 44.7 -0.1**
baz=88
ETW Entiat 87.64 36 *e*P **P 20 50 44.7 +0.1**
ETW *e*pP pP 20 52 53.3 +0.1
121A Cookes Peak, D 87.65 53 ⇓P **P 20 50 45.8 +0.8**
baz=88,SNR=14
T17A Navajo Res., N 87.66 48 ⇑P **P 20 50 45.4 +0.4**
baz=88,SNR=23
E08A Dider Farm, El 87.67 37 ⇓P **P 20 50 44.8 +0.1**
baz=88,SNR=7.9
BMO Blue Mountains 87.72 39 *e*P **P 20 50 44.0 -1.0**
comp=Z,89nm,1.8s,mb5.2
BMO *e*pP pP 20 52 53.3 -0.4
BMO Blue Mountains 87.72 39 *e*P **P 20 50 44.0 -1.0**
BMO *e**PP pP 20 52 53.3 -0.4
BMO pmax pmax
comp=Z,89nm,1.8s,mb5.2
W19A Sanders 87.72 51 ⇓P **P 20 50 45.5 +0.2**
baz=88
LNOR Lincton Mounta 87.75 38 *e*P **P 20 50 44.7 -0.4**
LNOR Lincton Mounta 87.75 38 *e*P **P 20 50 44.7 -0.4**
MFID Camas Ranch 87.79 41 ⇓P **P 20 50 45.6 +0.2**
baz=88,SNR=20
MFID Camas Ranch 87.79 41 *e*pP pP 20 52 52.6 -1.4
SEY Seymchan 87.84 348⇓ *e*P **P 20 50 44.0 -1.1**
R16A Teasdale 87.85 47 ⇑P **P 20 50 46.2 +0.5**
baz=88,SNR=18
Y20A Horse Springs, 87.87 52 ⇑P **P 20 50 46.5 +0.5**
baz=88,SNR=22
WTV Waterville 87.90 36 P **P 20 50 45.6 -0.1**
DUG Dugway 87.95 45 ⇑P **P 20 50 46.1 -0.1**
baz=88
DUG Dugway 87.95 45 *e*P **P 20 50 45.3 -0.8**
comp=Z,12nm,1.2s,mb4.5
DUG *e*pP pP 20 52 54.4 -0.5
DUG Dugway 87.95 45 *e*P **P 20 50 45.3 -0.9**
DUG *e**PP pP 20 52 54.4 -0.6
DUG pmax pmax
comp=Z,12nm,1.2s,mb4.5
222A Williams Famil 87.96 54 ⇑P **P 20 50 47.2 +0.7**
baz=88
P15A Leamington 87.98 46 ⇑P **P 20 50 46.5 +0.2**
baz=88
S17A Black Ridge (B 87.98 48 ⇓P **P 20 50 46.3 -0.1**
baz=88,SNR=18
XAN Xi'an 88.05 308 P **P 20 50 47.6 +0.8**
XAN pmax pmax
comp=Z,14nm,0.9s,mb4.7
XAN pmax pmax
comp=Z,62nm,5.9s
X20A Quemado 88.09 51 ⇑P **P 20 50 47.2 +0.3**
baz=88
Z21A St. Cloud Mine 88.11 53 ⇓P **P 20 50 48.1 +1.0**
baz=88,SNR=7.6
PNL Peninsula 88.13 19 *e*P **P 20 50 46.5 0.0**
BGU Big Grassy Mou 88.19 44 *e*P **P 20 50 47.0 -0.3**
comp=Z,16nm,1.3s,mb4.6
E09A Wood Farm, Sta 88.20 37 ⇑P **P 20 50 47.0 -0.1**
baz=88,SNR=21
O15A The Old Anders 88.22 45 ⇑P **P 20 50 47.7 +0.2**
baz=88
V19A Window Rock 88.26 50 ⇓P **P 20 50 48.1 +0.3**
baz=88
NLU North Lily Min 88.31 45 *e*P **P 20 50 49.4 +1.5**
comp=Z,23nm,1.3s,mb4.8
122A Conniff Cattle 88.32 54 ⇑P **P 20 50 49.1 +1.0**
baz=88,SNR=8.0
W20A Ramah 88.37 51 ⇑P **P 20 50 48.8 +0.6**
baz=88
T18A Mexican Hat 88.38 49 ⇑P **P 20 50 48.6 +0.3**
baz=88
Q16A Castle Valley 88.38 47 ⇓P **P 20 50 48.6 +0.4**
baz=88,SNR=8.9
OD2 Odessa Site #2 88.40 36 P **P 20 50 48.0 0.0**
P16A Fountain Green 88.41 46 ⇑P **P 20 50 49.1 +0.8**
baz=88
F10A Beach Ranch, E 88.41 38 ⇓P **P 20 50 47.6 -0.6**
baz=88,SNR=30
I12A Atlanta 88.42 41 ⇑P **P 20 50 48.5 +0.3**
baz=88,SNR=40
223A Chaparral, Ant 88.42 54 ⇓P **P 20 50 49.0 +0.4**
baz=88
U19A Dine' College, 88.43 50 ⇑P **P 20 50 48.7 +0.2**
baz=88
Y21A Point of Rocks 88.43 52 ⇓P **P 20 50 49.4 +0.8**
baz=88,SNR=22
R17A Hanksville Air 88.44 47 ⇑P **P 20 50 48.6 +0.1**
baz=88
N15A Stansbury Isla 88.50 44 ⇑P **P 20 50 48.7 -0.1**
baz=89,SNR=8.1
TMUT Trail Mountain 88.55 46 *e*P **P 20 50 50.0 +1.0**
comp=Z,160nm,1.6s,mb5.6
TMUT *e*PP PP 20 54 19.3 -10
X21A Alamocita Cree 88.56 52 ⇑P **P 20 50 49.7 +0.5**
baz=89
S18A Hurst Farm, Bl 88.57 48 ⇑P **P 20 50 49.0 -0.1**
baz=89,SNR=7.7
TRF Thorofare Moun 88.59 13 *e*P **P 20 50 46.0 -2.6**
comp=Z,21nm,0.7s,mb5.1
Z22A Elephant Butte 88.60 53 ⇑P **P 20 50 49.9 +0.5**
baz=89,SNR=6.8
MPU Maple Canyon 88.63 45 *e*P **P 20 50 49.7 +0.3**
comp=Z,28nm,1.3s,mb4.9
MPU *e*pP pP 20 52 58.0 -0.3
L14A Malta 88.64 43 ⇓P **P 20 50 49.4 0.0**
baz=89,SNR=11
V20A Brimhall 88.72 50 ⇑P **P 20 50 50.0 +0.2**
baz=89
HLID Hailey 88.73 41 ⇑P **P 20 50 50.1 +0.4**
baz=89,SNR=35
HLID Hailey 88.73 41 *e*P **P 20 50 49.7 0.0**
comp=Z,19nm,0.8s,mb5.0
HLID *e*pP pP 20 52 58.4 -0.3
SPUT South Promonto 88.77 44 *e*P **P 20 50 50.0 +0.1**
comp=Z,54nm,1.4s,mb5.2
J13A Cove Ranch, Pi 88.79 42 ⇑P **P 20 50 50.4 +0.4**
baz=89,SNR=18
HVU Hansel Valley 88.81 43 *e*P **P 20 50 50.4 +0.3**
comp=Z,27nm,0.7s,mb5.2
HVU *e*pP pP 20 52 58.5 -0.6
HVU Hansel Valley 88.81 43 *e*P **P 20 50 50.4 +0.3**
HVU *e**PP pP 20 52 58.5 -0.7
HVU pmax pmax
comp=Z,27nm,0.7s,mb5.2
O16A Springville 88.82 45 ⇓P **P 20 50 50.3 +0.1**
baz=89,SNR=13
T19A Beclabito 88.82 49 ⇓P **P 20 50 50.5 +0.2**
baz=89
KMI Kunming 88.83 298 P **P 20 50 52.0 +1.4**
KMI SKS 21 00 24.0
KMI S S 21 00 48.8 0.0
123A Bell Site, Whi 88.84 54 ⇓P **P 20 50 51.0 +0.5**
baz=89
M15A Larsen Ranch, 88.85 44 ⇑P **P 20 50 50.3 -0.1**
baz=89,SNR=22
C09A Chrisman Ranch 88.88 36 ⇑P **P 20 50 50.2 -0.1**
baz=89,SNR=6.7
324A Moseley Ranch, 88.88 55 ⇓P **P 20 50 50.8 +0.1**
baz=89,SNR=63
SRU San Rafael 88.91 47 ⇑P **P 20 50 50.5 -0.2**
baz=89,SNR=30
SRU San Rafael 88.91 47 *e*pP pP 20 52 59.4 -0.3
Y22A Socorro 88.92 53 ⇑P **P 20 50 51.0 +0.2**
baz=89,SNR=9.1
P17A Butcher Ranch, 88.95 46 ⇓P **P 20 50 51.2 +0.3**
baz=89,SNR=8.6
U20A Newcomb 88.95 50 ⇑P **P 20 50 51.1 +0.1**
baz=89
K14A Jones Ranch, D 88.95 43 ⇑P **P 20 50 51.1 +0.3**
baz=89,SNR=35
425A Indio Mountain 88.97 56 ⇑P **P 20 50 51.9 +0.7**
baz=89,SNR=44
W21A San Fidel 88.98 51 ⇓P **P 20 50 51.4 +0.3**
baz=89
R18A Canyonlands Na 88.98 48 ⇓P **P 20 50 51.0 0.0**
baz=89,SNR=24
H12A Diamond D Ranc 89.00 40 ⇓P **P 20 50 51.2 +0.2**
baz=89,SNR=45
LAZ Ladron 89.01 52 *e*P **P 20 50 51.7 +0.5**
comp=Z,28nm,0.7s,mb5.2
Y22D IRIS PASSCAL I 89.02 52 ⇑P **P 20 50 51.9 +0.6**
baz=89
LENM Lemitar 89.02 52 *e*P **P 20 50 51.8 +0.5**
G12A Big Creek, Yel 89.04 40 ⇓P **P 20 50 51.0 -0.1**
baz=89,SNR=26
JLU Jordanelle 89.05 45 *e*P **P 20 50 51.5 +0.2**
comp=Z,72nm,1.7s,mb5.2
626A Big Bend Ranch 89.08 58 ⇓P **P 20 50 52.1 +0.4**
baz=89,SNR=10
DAU Daniels Canyon 89.08 45 *e*P **P 20 50 51.6 +0.2**
DAU Daniels Canyon 89.08 45 *e*P **P 20 50 51.6 +0.2**
I13A Wildhorse Cree 89.10 41 ⇓P **P 20 50 51.7 +0.2**
baz=89,SNR=11
MCK McKinley 89.12 13 *e*P **P 20 50 49.1 -1.9**
comp=Z,25nm,1.1s,mb5.0
MCK McKinley 89.12 13 *e*P **P 20 50 49.2 -1.8**
MCK pmax pmax
comp=Z,25nm,1.1s,mb5.0
224A Cornudas Mount 89.14 55 ⇑P **P 20 50 52.6 +0.7**
baz=89,SNR=30
CHRT Chiangrai 89.14 292 P **P 20 50 52.0 -0.2**
comp=Z,342nm,0.8s,mb6.2
Z23A Rita Site, Whi 89.15 53 ⇓P **P 20 50 52.2 +0.3**
baz=89,SNR=12
X22A Bernardo 89.15 52 ⇑P **P 20 50 52.9 +0.9**
baz=89
J14A Carey 89.16 42 ⇓P **P 20 50 52.2 +0.5**
baz=89,SNR=68
L15A Malad City 89.17 43 ⇓P **P 20 50 51.8 0.0**
baz=89,SNR=17
Q18A Rafter H Ranch 89.17 47 ⇑P **P 20 50 51.8 -0.1**
baz=89,SNR=16
S19A Harvey Farm, M 89.19 48 ⇑P **P 20 50 52.0 0.0**
baz=89
N16A Rees Ranch, Co 89.21 45 ⇓P **P 20 50 52.3 +0.3**
baz=89,SNR=12
325A Bean Ranch, Si 89.24 56 ⇑P **P 20 50 52.6 +0.2**
baz=89,SNR=34
BNM Barren Site 89.27 52 *e*P **P 20 50 52.7 +0.2**
comp=Z,11nm,0.8s,mb4.7
CM31 Chiang Mai Arr 89.30 290 *e*P **P 20 50 53.8 +0.9**
comp=Z,43nm,0.9s,mb5.3
CMAR Chiang Mai Arr 89.30 290 P **P 20 50 54.1 +1.2**
comp=Z,38nm,0.8s,mb5.3,baz=132,slow=3.2,SNR=179
CMAR PP PP 20 54 35.8 +0.6
comp=Z,3.3nm,0.8s,baz=125,slow=6.4,SNR=8.2
CMAR PKKPbc PKKPbc 21 08 25.4 +0.3
comp=Z,2.7nm,0.6s,baz=281,slow=4.2,SNR=28
CMAR Chiang Mai Arr 89.30 290 P **P 20 50 54.1 +1.2**
CMAR PP PP 20 54 35.8 +0.6
CMAR PKKPbc PKKPbc 21 08 25.4 +0.3
CMAR Chiang Mai Arr 89.30 290 P **P 20 50 54.1 +1.2**
CMAR 20 54 35.8
M16A Huntsville 89.30 44 ⇓P **P 20 50 52.4 0.0**
baz=89
V21A Milan 89.31 51 ⇓P **P 20 50 52.6 0.0**
baz=89
O17A Robinson Place 89.31 46 ⇓P **P 20 50 53.2 +0.7**
baz=89,SNR=54
526A Mary Lane Ranc 89.34 57 ⇑P **P 20 50 53.5 +0.6**
baz=89,SNR=11
LPM Los Pinos Moun 89.34 52 *e*P **P 20 50 53.1 +0.3**
TXAR Lajitas Array 89.35 58 P **P 20 50 53.4 +0.5**
comp=Z,15nm,0.8s,mb4.9,baz=222,slow=6.1,SNR=41
TXAR pP pP 20 53 01.6 -0.5
comp=Z,4.4nm,1.0s,baz=224,slow=5.2,SNR=6.5
TXAR PKKPbc PKKPbc 21 08 26.4 +1.0
comp=Z,0.5nm,0.6s,baz=121,slow=2.8,SNR=6.0
TXAR Lajitas Array 89.35 58 P **P 20 50 53.4 +0.5**
TXAR pP pP 20 53 01.6 -0.5
TXAR PKKPbc PKKPbc 21 08 26.4 +1.1
TXAR Lajitas Array 89.35 58 P **P 20 50 53.4 +0.5**
TXAR *PP pP 20 53 01.7 -0.4
P18A Preston Nutter 89.36 46 ⇑P **P 20 50 53.0 +0.3**
baz=90,SNR=12

R19A **Curley Farm, L** 89.37 48 ⇑P P 20 50 52.7 -0.1
baz=90
H13A **Challis** 89.37 41 ⇓P P 20 50 52.9 +0.3
baz=90,SNR=26
MVCO **Mesa Verde** 89.37 49 ⇑P P 20 50 52.7 -0.1
baz=90
F12A **Elk City** 89.43 39 ⇑P P 20 50 52.7 -0.2
baz=90,SNR=24
K15A **Arbon** 89.43 43 ⇑P P 20 50 53.2 +0.1
baz=90,SNR=32
CHG **Chiang Mai** 89.44 291 ⇑P P 20 50 54.8 +1.2
comp=Z,71nm,0.7s,mb5.6
CHTO **Chiang Mai** 89.44 291 *e*P P 20 50 54.4 +0.9
comp=Z,58nm,0.9s,mb5.4
CHTO *e*PP PP 20 54 35.1 -1.2
CHTO **Chiang Mai** 89.44 291 *e*P P 20 50 54.4 +0.8
CHTO *e* 20 54 35.1
CHTO pmax pmax
comp=Z,58nm,0.9s,mb5.4
CHTO **Chiang Mai** 89.44 291 P P 20 50 54.7 +1.1
124A **Stringfield Ra** 89.47 54 ⇑P P 20 50 54.0 +0.6
baz=90,SNR=20
HWUT **Hardware Ranch** 89.49 44 *e*P P 20 50 53.2 -0.1
comp=Z,18nm,0.7s,mb5.0
HWUT *e*PP PP 20 54 34.1 -2.3
I14A **Mackay** 89.52 41 ⇑P P 20 50 54.1 +0.7
baz=90
W22A **Albuquerque** 89.52 52 ⇓P P 20 50 54.0 +0.4
baz=90
HHC **Hu-ho-hao-te** 89.56 315 *e*P P 20 50 54.3 +0.7
HHC pP pP 20 53 03.5 +0.6
HHC sP sP 20 54 02.4 0.0
HHC PP PP 20 54 39.4 +2.5
HHC SKS 21 00 27.9
HHC S S 21 00 53.8 -0.9
HHC sS sS 21 04 43.6 -1.7
HHC pmax pmax
comp=Z,31nm,0.7s,mb5.2
HHC pmax pmax
comp=Z,350nm,6.9s
Y23A **Lovelace Mesa,** 89.59 53 ⇑P P 20 50 53.9 0.0
baz=90,SNR=13
U21A **Nageezi** 89.59 50 ⇑P P 20 50 54.3 +0.5
baz=90,SNR=10
E12A **Beaver Dam Sad** 89.61 38 ⇑P P 20 50 53.3 -0.4
baz=90
627A **Terlingua Ranc** 89.62 58 ⇓P P 20 50 54.6 +0.4
baz=90,SNR=13
N17A **Moffit Pass** 89.63 45 ⇓P P 20 50 54.2 +0.3
baz=90,SNR=10
426A **McDonald Obser** 89.65 57 ⇓P P 20 50 54.8 +0.5
baz=90,SNR=14
G13A **Cobalt** 89.67 40 ⇓P P 20 50 53.8 -0.2
baz=90,SNR=14
225A **Deer Hill, Car** 89.69 55 ⇓P P 20 50 54.9 +0.5
baz=90,SNR=45
Q19A **Hogan Spring (** 89.69 47 ⇓P P 20 50 54.2 -0.1
baz=90,SNR=11
527A **Woodward Ranch** 89.75 57 ⇑P P 20 50 54.8 0.0
baz=90,SNR=10
ANMO **Albuquerque** 89.76 52 *e*P P 20 50 54.6 -0.1
comp=Z,67nm,1.7s,mb5.2
ANMO *e*pP pP 20 53 04.0 +0.1
ANMO **Albuquerque** 89.76 52 *e*P P 20 50 54.7 0.0
ANMO *e**PP pP 20 53 04.1 +0.1
ANMO pmax pmax
comp=Z,67nm,1.7s
S20A **Disappointment** 89.77 49 ⇓P P 20 50 54.6 -0.1
baz=90
NEW **Newport** 89.78 36 ⇑P P 20 50 54.2 -0.2
baz=90
L16A **Fish Haven** 89.79 44 ⇓P P 20 50 54.4 -0.3
baz=90,SNR=24
Z24A **Sheeppen Canyo** 89.83 54 ⇓P P 20 50 55.3 +0.2
baz=90,SNR=11
O18A **Roosevelt** 89.83 46 ⇓P P 20 50 55.4 +0.5
baz=90
J15A **Blackfoot** 89.87 42 ⇑P P 20 50 55.6 +0.6
baz=90,SNR=45
V22A **San Miguel Ran** 89.88 51 ⇑P P 20 50 55.3 +0.1
baz=90
R20A **Redvale** 89.92 48 ⇑P P 20 50 55.4 0.0
baz=90
H14A **Leadore** 89.93 41 ⇓P P 20 50 55.7 +0.4
baz=90,SNR=12
T21A **Navajo Lake** 89.94 50 ⇑P P 20 50 55.8 +0.3
baz=90
326A **Caldwell Ranch** 89.98 56 ⇓P P 20 50 55.7 -0.1
baz=90
F13A **Darby** 89.99 39 ⇑P P 20 50 55.0 -0.5
baz=90,SNR=16
M17A **Scullys Gap (B** 90.00 45 ⇑P P 20 50 55.4 -0.3
baz=90,SNR=18
C11A **Tepee Creek (N** 90.01 37 ⇑P P 20 50 55.5 0.0
baz=90
628A **Black Gap, Mar** 90.02 58 ⇑P P 20 50 56.3 +0.2
baz=90
Y24A **Capitan** 90.04 53 ⇑P P 20 50 56.3 +0.3
baz=90,SNR=51
125A **Gardner Draw,** 90.06 55 ⇓P P 20 50 56.4 +0.2
baz=90,SNR=12
S21A **Coal Bank Pass** 90.08 49 ⇓P P 20 50 56.1 -0.1
baz=90,SNR=12
W23A **Werner Place,** 90.08 52 ⇓P P 20 50 56.0 -0.2
baz=90,SNR=6.0
D12A **Red Ives Fores** 90.08 38 ⇓P P 20 50 55.3 -0.6
baz=90,SNR=15
K16A **Soda Springs** 90.10 43 ⇑P P 20 50 56.7 +0.6
baz=90,SNR=19
U22A **Llaves** 90.14 50 ⇑P P 20 50 56.6 +0.2
baz=90
I15A **Monteview** 90.15 42 ⇓P P 20 50 56.8 +0.5
baz=90,SNR=6.8
226A **Malaga, Loving** 90.21 55 ⇓P P 20 50 56.8 0.0
baz=90,SNR=10.0
G14A **Jackson** 90.21 40 ⇑P P 20 50 56.7 +0.2
baz=90
P19A **Cripple Cowboy** 90.21 47 ⇑P P 20 50 56.8 +0.1
baz=90
427A **Hayter Ranch,** 90.22 57 ⇑P P 20 50 57.2 +0.3
baz=90,SNR=38
Z25A **Roswell** 90.29 54 ⇓P P 20 50 57.6 +0.4
baz=90,SNR=8.7
J16A **Bone** 90.32 43 ⇑P P 20 50 57.5 +0.4
baz=90,SNR=12
V23A **Ortiz Mt. (NFS** 90.33 51 ⇑P P 20 50 58.0 +0.7
baz=90
X24A **Lazy VL Ranch,** 90.33 53 ⇑P P 20 50 57.3 -0.1
baz=90
EFI **East Falkland** 90.34 148 *e*P P 20 50 57.0 -0.1
comp=Z,42nm,0.8s,mb5.3
EFI **East Falkland** 90.34 148 *e*P P 20 50 57.0 -0.2
EFI pmax pmax
comp=Z,42nm,0.8s,mb5.3
EFI **East Falkland** 90.34 148 P P 20 50 57.0 -0.2
comp=Z,322nm,0.9s,mb6.2,SNR=8.4
Q20A **Ridgley Place,** 90.35 48 ⇓P P 20 50 57.3 0.0
baz=90
COLA **College** 90.35 13 *e*P P 20 50 54.6 -2.1
comp=Z,9.0nm,0.6s,mb4.8
COLA **College** 90.35 13 *e*P P 20 50 54.6 -2.1
COLA pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
MCMT **McKenzie Canyo** 90.36 41 *e*P P 20 50 57.3 0.0
comp=Z,4.8nm,0.7s,mb4.4
M18A **Lyman** 90.37 45 ⇓P P 20 50 57.4 0.0
baz=90,SNR=25
H15A **Lima** 90.37 41 ⇑P P 20 50 57.5 +0.2
baz=90,SNR=6.5
AHID **Auburn Hatcher** 90.38 43 *e*P P 20 50 57.2 -0.1
comp=Z,27nm,0.8s,mb5.1
C12B **Naegeli Ranch,** 90.38 37 ⇑P P 20 50 57.2 0.0
baz=90
528A **Cox Ranch, San** 90.39 58 ⇓P P 20 50 58.0 +0.3
baz=90,SNR=5.5
T22A **Edith** 90.40 50 ⇓P P 20 50 57.7 0.0
baz=90
N18A **Larsen Ranch,** 90.41 45 ⇓P P 20 50 57.3 -0.2
baz=90,SNR=13
E13A **Victor** 90.42 39 ⇑P P 20 50 57.0 -0.5
baz=90
O19A **Miners Draw (B** 90.44 46 ⇓P P 20 50 57.6 -0.1
baz=90,SNR=7.7
ILAR **Eielson Array** 90.47 13 P P 20 50 55.0 -2.2
comp=Z,3.6nm,0.4s,mb4.5,baz=210,slow=4.8,SNR=58
ILAR pP pP 20 53 06.3 -0.4
comp=Z,2.8nm,1.0s,baz=232,slow=5.9,SNR=5.1
ILAR PKiKP PKiKP 20 55 49.9 +2.4
comp=Z,0.4nm,0.6s,baz=315,slow=3.3,SNR=4.7
ILAR PKKPbc PKKPbc 21 08 21.1 -2.9
comp=Z,0.3nm,0.6s,baz=348,slow=2.2,SNR=5.7
ILAR **Eielson Array** 90.47 13 P P 20 50 55.0 -2.2
ILAR pP pP 20 53 06.3 -0.4
ILAR **Eielson Array** 90.47 13 P P 20 50 55.0 -2.2
ILAR *PP pP 20 53 06.3 -0.4
K17A **Gardner Place,** 90.49 43 ⇑P P 20 50 58.2 +0.4
baz=91,SNR=6.0
CD2 **Chengdu** 90.50 303 P P 20 51 00.3 +2.0
CD2 pP pP 20 53 11.0 +3.3
CD2 sP sP 20 54 09.8 +2.7
CD2 PP PP 20 54 49.1 +4.6
CD2 SKS 21 00 34.5
CD2 S S 21 01 03.3 -0.3
CD2 pmax pmax
comp=Z,20nm,1.0s,mb5.0
CD2 pmax pmax
comp=Z,330nm,4.3s
126A **Clayton Basin,** 90.53 55 ⇑P P 20 50 58.1 -0.2
baz=91,SNR=7.1
RRI2 **Red Ridge** 90.54 43 *e*pP pP 20 53 04.6 -2.9
P20A **De Beque** 90.55 47 ⇓P P 20 50 58.2 0.0
baz=91
F14A **Wisdom** 90.57 40 ⇑P P 20 50 58.1 0.0
baz=91
R21A **Cimarron** 90.58 48 ⇑P P 20 50 58.7 +0.2
baz=91,SNR=15
Y25A **Mesa, Roswell** 90.59 53 ⇓P P 20 50 58.5 -0.1
baz=91,SNR=21
L18A **Fontenelle, Gr** 90.64 44 ⇓P P 20 50 58.5 -0.1
baz=91
W24A **Lazy 6 Ranch,** 90.65 52 ⇓P P 20 50 58.7 -0.1
baz=91,SNR=9.9
N19A **John Jarvie Ra** 90.69 46 ⇑P P 20 50 58.7 -0.2
baz=91
I16A **Newdale** 90.70 42 ⇓P P 20 50 59.2 +0.3
baz=91
428A **Kincaid Ranch,** 90.72 57 ⇓P P 20 50 59.6 +0.3
baz=91,SNR=8.6
BILL **Bilibino** 90.73 355 *e*P P 20 50 57.5 -0.9
comp=Z,14nm,0.8s,mb4.9
BILL **Bilibino** 90.73 355 *c i*P P 20 50 57.6 -0.8
BILL *e**PP pP 20 53 05.4 -2.5
BILL *e**SP sP 20 54 03.2 -4.0
BILL *e*SS SS 21 07 29.4 +3.7
BILL pmax pmax
comp=Z,19nm,1.0s,mb5.0
B12A **Libby** 90.74 37 ⇓P P 20 50 58.8 0.0
baz=91
G15A **Dillon** 90.75 41 ⇓P P 20 50 59.2 +0.1
baz=91,SNR=11
MSO **Missoula** 90.78 39 ⇓P P 20 50 59.1 0.0
baz=91
MSO **Missoula** 90.78 39 *e*P P 20 50 59.4 +0.3
comp=Z,3.1nm,0.8s,mb4.3
S22A **4UR Ranch, Cre** 90.79 49 ⇓P P 20 50 59.7 +0.3
baz=91,SNR=19
E14A **Clinton** 90.82 39 ⇑P P 20 50 58.8 -0.5
baz=91,SNR=5.6
Z26A **Caprock** 90.84 54 ⇓P P 20 50 59.4 -0.3
baz=91,SNR=18
REDW **Red Top Meadow** 90.84 43 *e*P P 20 50 59.8 +0.3
comp=Z,86nm,1.6s,mb5.4
REDW *e*pP pP 20 53 08.6 -0.4
TPAW **Teton Pass** 90.84 43 *e*P P 20 50 59.7 +0.2
comp=Z,65nm,1.8s,mb5.3
BSMT **Bassoo Peak** 90.84 38 *e*P P 20 50 59.0 -0.4
C13A **Hot Springs** 90.87 38 ⇓P P 20 50 59.2 -0.4
baz=91
X25A **Clemmons Ranch** 90.89 53 ⇑P P 20 50 59.6 -0.3
baz=91
328A **Wristen Ranch,** 90.90 56 ⇓P P 20 50 59.8 -0.3
baz=91,SNR=6.6
J17A **Brown Place, J** 90.93 43 ⇑P P 20 50 59.9 0.0
baz=91,SNR=7.0
SNOW **Snow King Moun** 90.95 43 *e*P P 20 51 00.5 +0.5
comp=Z,21nm,0.8s,mb5.1
O20A **White River Ci** 90.95 47 ⇓P P 20 51 00.1 0.0
baz=91,SNR=5.6
A12A **Yaak River Ran** 90.96 36 ⇑P P 20 50 59.9 0.0
baz=91
V24A **Rampart Ranch,** 90.98 52 ⇓P P 20 51 00.4 0.0
baz=91,SNR=11
K18A **Toltan Ranch,** 90.99 44 ⇑P P 20 51 00.5 +0.3
baz=91,SNR=10
M19A **Rock Springs** 91.00 45 ⇓P P 20 51 00.3 -0.1
baz=91,SNR=7.8
127A **Arkansas Junct** 91.05 55 ⇑P P 20 51 00.5 -0.2
baz=91,SNR=11
IMW **Indian Meadow** 91.05 42 *e*P P 20 51 01.0 +0.5
comp=Z,34nm,1.4s,mb5.1
MOOW **Moose Ponds** 91.10 43 *e*P P 20 51 00.7 0.0
comp=Z,25nm,1.8s,mb4.8
MOOW *e*pP pP 20 53 09.8 -0.4
F15A **Butte** 91.10 40 ⇑P P 20 51 00.6 -0.1
baz=91,SNR=6.2
LRM **Limekiln Ridge** 91.12 40 *e*P P 20 51 00.4 -0.3
LRM *e*pP pP 20 53 10.5 +0.3
LRM *e*PP PP 20 54 46.5 -2.5
LOHW **Long Hollow** 91.12 43 *e*P P 20 51 01.0 +0.3
comp=Z,51nm,2.0s,mb5.1
D14A **Greenough** 91.16 39 ⇓P P 20 51 00.9 0.0
baz=91
L19A **Farson** 91.17 44 ⇓P P 20 51 01.1 +0.1
baz=91,SNR=19
P21A **Newcastle** 91.20 47 ⇓P P 20 51 01.1 -0.2
baz=91
G16A **Mcks Hill, Enn** 91.20 41 ⇑P P 20 51 01.1 0.0
baz=91
CHMT **Chamberlain Mo** 91.22 39 *e*P P 20 51 00.5 -0.6
CHMT *e*pP pP 20 53 10.2 -0.4
QLMT **Earthquake Lak** 91.22 41 *e*P P 20 51 02.0 +0.7
QLMT *e*pP pP 20 53 11.4 +0.7
Y26A **Elida** 91.24 54 ⇑P P 20 51 01.3 -0.3
baz=91,SNR=5.5
Q22A **Crested Butte,** 91.26 48 ⇑P P 20 51 01.7 +0.2
baz=91,SNR=16
H16A **Russell Place,** 91.27 42 ⇓P P 20 51 01.9 +0.5
baz=91,SNR=8.7
N20A **Spence Gulch,** 91.27 46 ⇑P P 20 51 01.6 0.0
baz=91,SNR=12
J18A **Kendall Valley** 91.29 43 ⇑P P 20 51 01.7 +0.1
baz=91,SNR=16
FLWY **Flagg Ranch** 91.30 42 *e*P P 20 51 02.2 +0.6
comp=Z,70nm,1.7s,mb5.3
B13A **Whitefish** 91.31 37 ⇑P P 20 51 01.3 -0.2
baz=91
E15A **Deer Lodge** 91.32 40 ⇑P P 20 51 01.6 0.0
baz=91
W25A **X Bar L Ranch,** 91.34 52 ⇑P P 20 51 01.6 -0.5
baz=91,SNR=9.9
PD01 **Pinedale Array** 91.35 44 *e*P P 20 50 59.9 -2.0
SMCO **Snowmass** 91.36 48 *e*P P 20 51 02.3 +0.3
comp=Z,12nm,0.7s,mb4.9
SMCO *e*pP pP 20 53 12.0 +0.5
BW06 **Boulder Array** 91.36 44 ⇑P P 20 51 01.4 -0.5
baz=92,SNR=13
BW06 **Boulder Array** 91.36 44 *e*P P 20 51 01.5 -0.5
comp=Z,16nm,1.1s,mb4.8
PD02 **Pinedale Array** 91.36 44 *e*P P 20 51 01.4 -0.6
PDAR **Pinedale Array** 91.36 44 P P 20 51 01.4 -0.6
comp=Z,6.7nm,0.7s,mb4.7,baz=204,slow=3.3,SNR=36
PDAR PP PP 20 54 47.8 -3.2
comp=Z,0.4nm,0.3s,baz=235,slow=5.2,SNR=3.8
PDAR PKKPbc PKKPbc 21 08 22.1 +1.2
comp=Z,0.6nm,0.7s,baz=92,slow=5.6,SNR=5.8
PDAR **Pinedale Array** 91.36 44 P P 20 51 01.4 -0.6
PDAR PP PP 20 54 47.8 -3.2
PDAR PKKPbc PKKPbc 21 08 22.1 +1.2
Z27A **Tatum** 91.43 55 ⇑P P 20 51 02.1 -0.4
baz=92,SNR=6.8
V25A **Rancho No Teng** 91.50 52 ⇓P P 20 51 02.5 -0.2
baz=92,SNR=15
O21A **Pagoda** 91.51 47 ⇓P P 20 51 02.3 -0.3
baz=92
BOZ **Bozeman (W)** 91.52 41 ⇑P P 20 51 02.3 -0.3
baz=92,SNR=7.9
BOZ **Bozeman (W)** 91.52 41 *e*P P 20 51 02.5 0.0
comp=Z,6.1nm,0.8s,mb4.7
BOZ *e*pP pP 20 53 11.9 -0.2
BOZ *e*PP PP 20 54 49.4 -2.7
BOZ **Bozeman (W)** 91.52 41 *e*P P 20 51 02.5 -0.1
BOZ *e**PP pP 20 53 11.9 -0.2
BOZ *e* 20 54 49.4
BOZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
X26A **CR and CF Fran** 91.53 53 ⇓P P 20 51 02.7 -0.2
baz=92
H17A **Grant Village** 91.53 42 ⇓P P 20 51 03.7 +1.0
baz=92,SNR=5.8
F16A **Kennard Place,** 91.59 40 ⇑P P 20 51 02.9 0.0
baz=92
M20A **Sweetwater, Wa** 91.64 45 ⇑P P 20 51 03.3 0.0
baz=92,SNR=8.1
A13A **Flathead Natio** 91.64 37 ⇓P P 20 51 02.9 -0.1
baz=92
DAWY **Dawson** 91.67 17 *e*P P 20 51 01.3 -1.5
D15A **Lincoln** 91.71 39 ⇑P P 20 51 03.3 -0.1
baz=92,SNR=6.4
Y27A **Causey** 91.72 54 ⇑P P 20 51 03.5 -0.3
baz=92,SNR=6.9
SDCO **Great Sand Dun** 91.73 50 ⇑P P 20 51 03.7 -0.1
baz=92,SNR=21
SDCO **Great Sand Dun** 91.73 50 *e*P P 20 51 03.3 -0.5
comp=Z,9.3nm,0.8s,mb4.9
N21A **Black Mountain** 91.73 46 ⇓P P 20 51 03.6 0.0
baz=92,SNR=11
T24A **Torres, Weston** 91.74 50 ⇓P P 20 51 04.0 +0.2
baz=92
L20A **Wamsutter** 91.78 45 ⇑P P 20 51 04.0 +0.1
baz=92,SNR=10
EGAK **Eagle** 91.79 15 *e*P P 20 51 01.3 -2.0
comp=Z,151nm,2.8s,mb5.5
W26A **Owens Ranch, T** 91.80 53 ⇑P P 20 51 04.2 +0.1
baz=92
K19A **Absolon Red Bu** 91.85 44 ⇑P P 20 51 03.5 -0.6
baz=92,SNR=8.6
S24A **Houchin Ranch,** 91.89 50 ⇓P P 20 51 04.6 +0.2
baz=92,SNR=14
G17A **Pierce Place,** 91.89 41 ⇑P P 20 51 04.5 +0.2
baz=92
U25A **Circle Dot Ran** 91.91 51 ⇓P P 20 51 04.2 -0.3
baz=92,SNR=12
J19A **Crowheart** 91.93 44 ⇓P P 20 51 04.2 -0.3
baz=92,SNR=10.0
E16A **East Helena** 91.95 40 ⇓P P 20 51 04.1 -0.4
baz=92
B14A **Marquette Ranc** 91.97 38 ⇑P P 20 51 03.9 -0.7
baz=92,SNR=11
COLD **Coldfoot** 91.98 11 *e*P P 20 51 04.1 -0.1
comp=Z,52nm,2.2s,mb5.2
WALA **Waterton Lakes** 91.99 37 *e*P P 20 51 04.1 -0.5
comp=Z,0.2nm,0.6s
Q23A **Hartsel** 92.02 49 ⇓P P 20 51 05.0 0.0
baz=92
C15A **Salmond Ranch,** 92.05 38 ⇓P P 20 51 04.2 -0.7
baz=92
MSTX **Muleshoe** 92.05 54 ⇓P P 20 51 05.2 -0.1
baz=92,SNR=8.0
V26A **Tequesquite Ra** 92.09 52 ⇑P P 20 51 05.3 -0.1
baz=92
K20A **Yellowstone Ra** 92.09 44 ⇑P P 20 51 04.7 -0.6
baz=92,SNR=6.3
X27A **F and S Farms,** 92.10 53 ⇓P P 20 51 04.9 -0.6
baz=92
O22A **Kremmling** 92.11 47 ⇑P P 20 51 05.3 -0.1
baz=92,SNR=11
A14A **Double T Ranch** 92.22 37 ⇓P P 20 51 05.3 -0.4
baz=92,SNR=9.5
R24A **Sanders Place,** 92.22 49 ⇑P P 20 51 05.9 -0.1
baz=92,SNR=10.0
T25A **Trinidad** 92.23 51 ⇑P P 20 51 05.9 -0.2
baz=92,SNR=6.3
P23A **Jefferson** 92.23 48 ⇓P P 20 51 06.3 +0.3
baz=92,SNR=6.9
H18A **Shoshone NF, C** 92.24 42 ⇑P P 20 51 05.8 -0.1
baz=92
M21A **Separation Pea** 92.24 46 ⇓P P 20 51 05.8 -0.2
baz=92,SNR=12
F17A **Fitzpatrick Pl** 92.24 41 ⇑P P 20 51 05.8 0.0
baz=92
W27A **Bowe Ranch, En** 92.30 53 ⇑P P 20 51 05.7 -0.7
baz=92
I19A **Meeteetse** 92.34 43 ⇓P P 20 51 06.3 -0.1
baz=92,SNR=6.1
B15A **Bradely Ranch,** 92.35 38 ⇓P P 20 51 05.5 -0.8
baz=92,SNR=5.1
RWWY **Rawlins** 92.38 46 *e*P P 20 51 06.3 -0.3
comp=Z,72nm,1.8s,mb5.4
RWWY *e*pP pP 20 53 16.4 +0.2
U26A **Atchley Ranch,** 92.38 52 ⇑P P 20 51 06.4 -0.4
baz=92,SNR=11
E17A **Martinsdale** 92.40 40 ⇑P P 20 51 06.4 -0.2
baz=92
L21A **Rawlins** 92.40 45 ⇓P P 20 51 06.4 -0.3
baz=92
S25A **Robets Cordova** 92.44 50 ⇑P P 20 51 06.8 -0.2
baz=92,SNR=16
N22A **Wattenberg Ran** 92.47 47 ⇓P P 20 51 07.0 0.0
baz=93,SNR=10
Q24A **Divide** 92.53 49 ⇓P P 20 51 07.2 -0.1
baz=93
C16A **Fuhringer Ranc** 92.56 39 ⇑P P 20 51 06.8 -0.4
baz=93,SNR=5.6
O23A **Lake Granby, G** 92.56 47 ⇓P P 20 51 07.5 0.0
baz=93
ISCO **Idaho Springs** 92.58 48 ⇑P P 20 51 07.7 +0.1
baz=93,SNR=8.5
ISCO **Idaho Springs** 92.58 48 *e*P P 20 51 07.7 +0.1
comp=Z,5.1nm,0.7s,mb4.7
ISCO **Idaho Springs** 92.58 48 *e*P P 20 51 07.7 +0.1
ISCO pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
J20A **Shoshoni** 92.59 44 ⇓P P 20 51 07.3 -0.2
baz=93
A15A **Johnson Ranch,** 92.60 37 ⇑P P 20 51 06.8 -0.6
baz=93,SNR=5.9
G18A **Lazy EL Ranch,** 92.61 42 ⇓P P 20 51 07.5 -0.1
baz=93
M22A **Cedar Creek Ra** 92.65 46 ⇑P P 20 51 07.6 -0.2
baz=93,SNR=8.1
H19A **Powell** 92.66 42 ⇓P P 20 51 08.0 +0.1
baz=93,SNR=6.7
LZH **Lanzhou** 92.68 308 P P 20 51 09.5 +1.3
LZH pP pP 20 53 19.0 +1.2
LZH sP sP 20 54 18.5 +1.4
LZH SKS 21 00 44.0
LZH S S 21 01 20.0 -2.4
LZH pmax pmax
comp=Z,32nm,1.0s,mb5.3
LZH pmax pmax
comp=Z,210nm,5.7s
RLMT **Red Lodge** 92.70 42 ⇑P P 20 51 08.0 0.0
baz=93
RLMT **Red Lodge** 92.70 42 *e*P P 20 51 08.5 +0.5
comp=Z,54nm,2.5s,mb5.1
RLMT *e*pP pP 20 53 21.4 +3.7
R25A **Fountain Ranch** 92.77 50 ⇓P P 20 51 08.1 -0.4
baz=93
K21A **Alcova** 92.79 45 ⇓P P 20 51 08.2 -0.3
baz=93,SNR=6.2
F18A **Big Timber** 92.81 41 ⇑P P 20 51 08.5 +0.1
baz=93
D17A **Six Diamond Ra** 92.85 40 ⇑P P 20 51 08.5 -0.2
baz=93,SNR=12
I20A **Worland** 92.85 43 ⇑P P 20 51 08.7 -0.1
baz=93
N23A **Red Feather La** 92.85 47 ⇓P P 20 51 08.8 0.0
baz=93
JCT **Junction City** 92.87 58 ⇑P P 20 51 08.7 -0.5
baz=93
B16A **M & M Farms, S** 92.89 38 ⇓P P 20 51 07.7 -1.1
baz=93
J21A **Lysite** 93.00 44 ⇑P P 20 51 09.4 0.0
baz=93,SNR=11
E18A **Harlowton** 93.02 40 ⇓P P 20 51 09.3 -0.1
baz=93
C17A **Wharram Farm,** 93.04 39 ⇓P P 20 51 09.0 -0.5
baz=93,SNR=17
L22A **Ellis Ranch, M** 93.05 46 ⇓P P 20 51 09.9 +0.2
baz=93,SNR=7.1
Q25A **Bedland, Calha** 93.13 49 ⇑P P 20 51 09.6 -0.5
baz=93
H20A **Greybull** 93.19 43 ⇑P P 20 51 09.7 -0.5
baz=93
AMTX **Amarillo** 93.25 54 ⇑P P 20 51 10.5 -0.2
baz=93
F19A **Roth Farm, Mol** 93.25 41 ⇓P P 20 51 10.0 -0.5
baz=93,SNR=5.2
M23A **Laramie** 93.26 46 ⇑P P 20 51 10.5 -0.1
baz=93
YAK **Yakutsk** 93.26 339 *e*P P 20 51 07.9 -2.3

comp=Z,42nm,0.7s,mb5.6
YAK ep P pP 20 53 20.8 +0.9
YAK Yakutsk 93.26 339 *e*P **P** **20 51 09.1 -1.0**
YAK pmax pmax
comp=Z,42nm,0.7s,mb5.6
K22A Casper 93.27 45 ⇑P **P** **20 51 10.5 -0.2**
baz=93
I21A Big Trails, Te 93.32 44 ⇑P **P** **20 51 10.2 -0.6**
baz=93,SNR=9.4
B17A L&G Farms, Che 93.35 39 ⇓P **P** **20 51 10.3 -0.6**
baz=93,SNR=8.8
P25A Willow Gulch B 93.45 49 ⇓P **P** **20 51 11.6 0.0**
baz=94,SNR=7.9
L23A Garrett 93.57 46 ⇑P **P** **20 51 12.0 -0.1**
baz=94,SNR=9.9
E19A Rath Farm, Rou 93.64 41 ⇓P **P** **20 51 12.1 -0.1**
baz=94
J22A Midwest 93.66 44 ⇓P **P** **20 51 11.9 -0.5**
baz=94
A17A Triple J Farms 93.74 38 ⇑P **P** **20 51 12.4 -0.3**
baz=94
EGMT Eagleton 93.83 39 *e*pP pP 20 53 23.3 +0.5
EGMT *e*PP PP 20 55 05.7 -4.1
M24A Cheyenne 93.87 47 ⇑P **P** **20 51 13.6 +0.2**
baz=94
I22A 9 Mile Ranch, 93.87 44 ⇓P **P** **20 51 13.2 -0.2**
baz=94
D19A Cripps Ranch, 93.93 40 ⇑P **P** **20 51 13.2 -0.3**
baz=94
B18A Beardsley Farm 94.00 39 ⇑P **P** **20 51 13.3 -0.5**
baz=94,SNR=6.7
L24A Wheatland 94.05 46 ⇑P **P** **20 51 14.1 -0.2**
baz=94
E20A Meyer Farm, Mu 94.06 41 ⇑P **P** **20 51 13.9 -0.3**
baz=94
C19A Slack Wire Ran 94.10 40 ⇑P **P** **20 51 14.3 0.0**
baz=94,SNR=7.9
A18A Metzger Ranch, 94.22 38 ⇑P **P** **20 51 14.4 -0.4**
baz=94,SNR=7.4
H22A Clearmont 94.28 43 ⇓P **P** **20 51 15.4 +0.2**
baz=94
D20A Manuel Ranch, 94.34 41 ⇑P **P** **20 51 15.4 0.0**
baz=94
B19A Brinkman Farms 94.51 39 ⇑P **P** **20 51 16.2 +0.1**
baz=95
LCO Las Campanas 94.64 124 *e*P **P** **20 51 18.1 +0.8**
comp=Z,15nm,0.8s,mb5.2
C20A Veseth Ranch, 94.71 40 ⇓P **P** **20 51 17.2 +0.1**
baz=95
D21A La Casta Ranch 95.02 41 ⇓P **P** **20 51 18.5 0.0**
baz=95
B20A Solberg Farm, 95.04 39 ⇓P **P** **20 51 18.6 +0.1**
baz=95
CFAA Coronel Fontan 95.23 127 P **P** **20 51 20.4 +0.4**
comp=Z,1.8nm,0.7s,mb4.3,baz=237,slow=4.2,SNR=14
CFAA Coronel Fontan 95.23 127 P **P** **20 51 20.4 +0.4**
A20A Cobblestone Ra 95.31 39 ⇓P **P** **20 51 19.8 +0.1**
baz=95
E22A Miles City 95.37 42 ⇓P **P** **20 51 20.1 +0.1**
baz=96
H24A Dirks Ranch, A 95.49 44 ⇓P **P** **20 51 20.3 -0.4**
baz=96
K26A Motz Farm, Whi 95.51 46 ⇓P **P** **20 51 20.8 0.0**
baz=96
RSSD Black Hills 95.55 45 *e*P **P** **20 51 20.4 -0.5**
comp=Z,5.5nm,0.9s,mb4.8
RSSD *e*pP pP 20 53 30.2 -0.7
RSSD Black Hills 95.55 45 *e*P **P** **20 51 20.4 -0.6**
RSSD *e**PP pP 20 53 30.2 -0.7
RSSD pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
ULN Ulaanbaatar 95.77 320 *e*P **P** **20 51 21.7 -0.2**
comp=Z,5.8nm,0.8s,mb4.9
ULN *e*PP PP 20 55 18.2 -6.3
ULN Ulaanbaatar 95.77 320 *e*P **P** **20 51 21.7 -0.1**
ULN *e* 20 55 18.2
ULN pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
ULN Ulaanbaatar 95.77 320 P **P** **20 51 27.7 +5.9**
HKT Hockley 95.82 60 *e*P **P** **20 51 23.7 +1.2**
comp=Z,9.3nm,1.3s,mb4.8
HKT Hockley 95.82 60 *e*P **P** **20 51 23.7 +1.2**
HKT pmax pmax
comp=Z,9.0nm,1.3s,mb4.8
SONM Songino Array 96.15 319 P **P** **20 51 23.7 +0.1**
comp=Z,1.3nm,0.4s,mb4.5,baz=133,slow=4.0,SNR=12
SONM PP PP 20 55 28.6 +1.2
comp=Z,2.5nm,0.9s,baz=132,slow=6.2,SNR=7.1
SONM PKKPbc PKKPbc 21 08 07.3 -1.2
comp=Z,1.3nm,0.6s,baz=273,slow=3.5,SNR=9.2
SONM Songino Array 96.15 319 P **P** **20 51 23.7 +0.1**
SONM PP PP 20 55 28.6 +1.2
SONM PKKPbc PKKPbc 21 08 07.3 -1.2
SONM Songino Array 96.15 319 P **P** **20 51 23.7 +0.1**
SONM 20 55 28.6
B22A Reddig Ranch S 96.18 40 ⇓Pdiff **P** **20 51 23.7 +0.1**
baz=96
CBKS Cedar Bluff 96.28 51 *e*P **P** **20 51 22.1 -2.3**
comp=Z,18nm,0.4s,mb5.7
CBKS Cedar Bluff 96.28 51 *e*P **P** **20 51 22.1 -2.3**
CBKS pmax pmax
comp=Z,18nm,0.4s,mb5.7
C23A Lambert 96.44 41 ⇑Pdiff **P** **20 51 24.9 0.0**
baz=96
GTA Gaotai 96.96 310 *e*P **P** **20 51 28.0 +0.6**
GTA pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
YKA Yellowknife Ar 98.84 25 P Pdif 20 51 35.3 -0.4
comp=Z,0.8nm,0.4s,baz=237,slow=4.8,SNR=5.0
YKA PKKPbc PKKPbc 21 07 59.5 -2.2
comp=Z,0.6nm,0.5s,baz=45,slow=2.4,SNR=6.3
YKA Yellowknife Ar 98.84 25 P Pdif 20 51 35.4 -0.4
YKA PKKPbc PKKPbc 21 07 59.5 -2.2
YKA Yellowknife Ar 98.84 25 P Pdif 20 51 35.4 -0.3
ZAK Zakamensk 99.09 321 *e*P Pdif 20 51 37.4 +0.6
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb4.1
LSA Lhasa 100.09 298 *e*P Pdif 20 51 41.2 -0.1
comp=Z,3.6nm,1.0s
LSA Lhasa 100.09 298 *e*P Pdif 20 51 41.2 -0.1
LSA pmax pmax
comp=Z,4.0nm,1.0s
ZAA0 Zalesovo Array 110.97 321 *e*P PKiKP 20 56 23.2 -1.6
ZALV Zalesovo Beam 110.97 321 PKiKP PKiKP 20 56 22.6 -2.1
comp=Z,2.4nm,0.4s,baz=94,slow=0.9,SNR=11
ZALV PP PP 20 57 17.1 +1.6
comp=Z,1.7nm,0.7s,baz=103,slow=6.0,SNR=4.9
ZALV SKiKP 20 59 05.1
comp=Z,2.8nm,0.7s,baz=138,slow=1.6,SNR=5.6
ZALV PKKPbc PKKPbc 21 07 22.9 -2.2
comp=Z,0.7nm,0.5s,baz=252,slow=3.9,SNR=4.0
ZALV Zalesovo Beam 110.97 321 PKPdf PKiKP 20 56 22.6 -2.1
ZALV PP PP 20 57 17.1 +1.6
ZALV SKKP 20 59 05.1
ZALV PKKPbc PKKPbc 21 07 22.9 -2.2
ZALV Zalesovo Beam 110.97 321 PKiKP PKiKP 20 56 22.7 -2.1
ZALV 20 57 17.1
MK31 Makanchi Array 111.34 313 *e*P PKiKP 20 56 24.0 -1.7
MK31 Makanchi Array 111.34 313 *e*PKiKP PKiKP 20 56 24.0 -1.7
MKAR Makanchi Array 111.34 313 Pdiff Pdif 20 52 34.1 +2.8
comp=Z,0.7nm,0.7s,baz=91,slow=5.0,SNR=8.3
MKAR PKiKP PKiKP 20 56 24.2 -1.5
comp=Z,1.9nm,0.4s,baz=163,slow=0.7,SNR=34
MKAR SKiKP 20 59 06.3
comp=Z,1.4nm,0.7s,baz=141,slow=1.2,SNR=3.4
MKAR PKKPbc PKKPbc 21 07 22.1 -1.6
comp=Z,2.6nm,0.6s,baz=279,slow=2.7,SNR=15
MKAR Makanchi Array 111.34 313 Pdif Pdif 20 52 34.1 +2.8
MKAR PKPdf PKiKP 20 56 24.2 -1.5
MKAR SKKP 20 59 06.3
MKAR PKKPbc PKKPbc 21 07 22.1 -1.6
MKAR Makanchi Array 111.34 313 P Pdif 20 52 34.1 +2.8
MKAR 20 56 24.2
KURK Kurchatov 114.30 317 ⇑*i*PKIKP PKiKP 20 56 30.9 -0.4
KURK pmax pmax
comp=Z,11nm,2.5s
TKM2 Tokmak 2 115.45 308 *e*PKPdf PKPdf 20 56 32.5 -1.2
TKM2 Tokmak 2 115.45 308 *e*PKIKP PKPdf 20 56 32.5 -1.2
AAK Ala-Archa 116.22 308 *e*PKPdf PKPdf 20 56 34.1 -1.1
AAK Ala-Archa 116.22 308 *e*PKIKP PKPdf 20 56 34.1 -1.1
SJG San Juan 117.90 81 PKP PKPdf 20 56 37.3 -1.8
comp=Z,5.5nm,0.3s,baz=281,slow=6.7,SNR=5.4
SJG San Juan 117.90 81 PKP PKPdf 20 56 37.3 -1.8
SJG San Juan 117.90 81 PKIKP PKPdf 20 56 37.3 -1.9
HUMP Col San Antoni 118.19 81 *e*PKPdf PKPdf 20 56 38.1 -1.6
KKAR Karatay Array 119.18 308 *e*PKPdf PKPdf 20 56 39.6 -1.3
KKAR Karatay Array 119.18 308 *e*PKIKP PKPdf 20 56 39.6 -1.3
BVAR Borovoye Array 119.49 319 PKP PKPdf 20 56 39.7 -1.4
comp=Z,7.9nm,0.3s,baz=127,slow=2.4,SNR=46
BVAR PP PP 20 58 13.4 -1.0
comp=Z,3.0nm,0.7s,baz=114,slow=6.6,SNR=6.3
BVAR SKP 20 59 21.8
comp=Z,4.9nm,0.7s,baz=0.0,slow=0.3,SNR=7.2
BVAR Borovoye Array 119.49 319 PKP PKPdf 20 56 39.7 -1.4
BVAR PP PP 20 58 13.4 -1.0
BVAR SKP 20 59 21.8
BVAR Borovoye Array 119.49 319 PKIKP PKPdf 20 56 39.7 -1.5
BVAR 20 58 13.4
BRVK Borovoye 119.56 319 ⇑*i*PKIKP PKPdf 20 56 41.1 -0.2
BRVK pmax pmax
comp=Z,8.0nm,1.0s
SUR Sutherland 122.16 200 PKP PKPdf 20 56 47.1 0.0
comp=Z,14nm,0.7s,baz=145,slow=6.0,SNR=10
SUR Sutherland 122.16 200 *e*PKPdf PKPdf 20 56 47.2 +0.1
BOSA Boshof 123.92 207 PKP PKPdf 20 56 51.5 +1.0
comp=Z,3.5nm,0.6s,baz=61,slow=1.9,SNR=10
BOSA PKKPab PKKPab 21 06 40.1 -1.9
comp=Z,1.8nm,0.6s,baz=8.1,slow=7.2,SNR=5.6
BOSA Boshof 123.92 207 PKP PKPdf 20 56 51.5 +1.0
BOSA PKKPab PKKPab 21 06 40.1 -1.9
BOSA Boshof 123.92 207 PKIKP PKPdf 20 56 51.6 +1.0
SVE Sverdlovsk 124.62 325 ⇓*e*PKIKP PKPdf 20 56 51.1 +0.2
SVE pmax pmax
comp=Z,13nm,1.0s
ARU Arti 125.83 324 *e*PKPdf PKPdf 20 56 52.3 -0.9
ARU *e*PP PP 20 58 50.6 -5.6
ARU Arti 125.83 324 *i* PKIKP PKPdf 20 56 52.6 -0.6
ARU 20 58 54.5
ARU 21 03 02.0
ARU SS SS 21 15 10.1 -1.5
SOKR Solikamsk 125.88 328 *e*PKIKP PKPdf 20 56 53.3 +0.1
SOKR pmax pmax
comp=Z,10.0nm,0.6s
ABKAR Akbulak array 126.35 315 *e*PKPdf PKPdf 20 56 52.6 -1.9
LBTB Lobatse 126.91 209 PKP PKPdf 20 56 57.2 +0.8
comp=Z,3.2nm,0.6s,baz=214,slow=5.8,SNR=8.4
LBTB Lobatse 126.91 209 PKP PKPdf 20 56 57.2 +0.8
LBTB Lobatse 126.91 209 PKIKP PKPdf 20 56 57.2 +0.8
AKTO Aktyubinsk 127.40 317 PKP PKPdf 20 56 56.8 +0.4
comp=Z,2.6nm,0.4s,baz=127,slow=0.9,SNR=9.2
AKTO Aktyubinsk 127.40 317 PKP PKPdf 20 56 56.8 +0.4
AKTO Aktyubinsk 127.40 317 PKIKP PKPdf 20 56 56.8 +0.4
KEV Kevo 129.98 348 *e*PKHKP PKPpre 20 56 46.6
KEV Kevo 129.98 348 *ep* SKPbc 20 59 29.2 +0.7
comp=Z,16nm,0.8s
ARCES ARCESS Array B 130.45 349 PKhKP PKPpre 20 56 51.4
comp=Z,7.8nm,1.0s,baz=13,slow=1.7,SNR=8.3
ARCES PKP PKPdf 20 57 00.6 -1.0
comp=Z,7.8nm,0.4s,baz=79,slow=0.9,SNR=38
ARCES SKPbc SKPbc 20 59 31.4 +1.2
comp=Z,22nm,0.8s,baz=357,slow=6.1,SNR=15
ARCES PKKP 21 07 03.0
comp=Z,3.4nm,0.9s,baz=226,slow=2.3,SNR=6.4
ARCES ARCESS Array B 130.45 349 PKP PKPpre 20 56 51.4
ARCES PKP PKPdf 20 57 00.6 -1.0
ARCES SKPbc SKPbc 20 59 31.4 +1.2
ARCES PKKP 21 07 03.0
ARCES ARCESS Array B 130.45 349 PKHKP PKPpre 20 56 51.4
ARCES 20 57 00.6
ARCES 20 59 31.5
LSZ Lusaka 133.71 219 *e*PKPdf PKPdf 20 57 11.1 +1.7
LSZ Lusaka 133.71 219 *e*PKIKP PKPdf 20 57 11.1 +1.7
JOF Joensuu 134.40 341 *e*PKHKP PKPpre 20 56 59.2
JOF Joensuu 134.40 341 *ep* SKPbc 20 59 45.0 +1.3
comp=Z,7.0nm,0.6s
RCBR Riachuelo 134.80 124 SKPbc SKPbc 20 59 46.5 -0.2
comp=Z,12nm,0.8s,baz=51,slow=24,SNR=5.1
TSUM Tsumeb 135.39 204 *e*PKPdf PKPdf 20 57 11.2 -1.3
TSUM *e*SKPbc SKPbc 20 59 51.8 +3.5
KAF Kangasniemi 136.48 343 *e*PKHKP PKPpre 20 57 00.9
KAF Kangasniemi 136.48 343 *ep* SKPbc 20 59 50.2 +0.1
comp=Z,5.6nm,0.6s
FINES FINESS Array B 137.09 342 PKhKP PKPpre 20 57 03.0
comp=Z,2.0nm,0.4s,baz=72,slow=4.1,SNR=13
FINES PKP PKPdf 20 57 15.0 +0.8
comp=Z,3.8nm,0.4s,baz=112,slow=2.8,SNR=12
FINES SKPbc SKPbc 20 59 53.0 +1.1
comp=Z,10nm,0.7s,baz=79,slow=4.1,SNR=8.6
FINES SKKPbc 21 08 44.3
comp=Z,1.4nm,0.8s,baz=270,slow=1.9,SNR=3.4
FINES FINESS Array B 137.09 342 PKP PKPpre 20 57 03.0
FINES PKP PKPdf 20 57 15.1 +0.8
FINES SKPbc SKPbc 20 59 53.0 +1.1
FINES SKKPbc 21 08 44.3
FINES FINESS Array B 137.09 342 PKHKP PKPpre 20 57 03.0
FINES 20 57 15.1
KMBO Kilima Mbogo 137.11 242 *e*PKPdf PKPdf 20 57 18.1 +2.2
KMBO *e*SKPbc SKPbc 20 59 57.8 +4.1
KMBO Kilima Mbogo 137.11 242 *e*PKIKP PKPdf 20 57 18.1 +2.2
OBN Obninsk 137.62 330 *i* PKIKP PKPdf 20 57 15.5 0.0
OBN pmax pmax
comp=Z,6.0nm,0.8s
VSR Storozhevoye 138.39 324 *e*PKIKP PKPdf 20 57 17.2 +0.2
VSR pmax pmax
comp=Z,8.0nm,0.8s
VSR pmax pmax
comp=N,2.0nm,0.4s
VSR pmax pmax
comp=E,5.0nm,0.8s
GNI Garni 138.58 306 *i* PKIKP PKPdf 20 57 19.2 +1.5
ZEI Tsey 138.59 310 *i* PKIKP PKPdf 20 57 19.1 +1.5
ZEI pmax pmax
comp=Z,7.0nm,0.9s
KIV Kislovodsk 139.09 312 *i* PKIKP PKPdf 20 57 18.0 -0.5
KIV pmax pmax
comp=Z,9.0nm,1.1s
DAGI Agillar 140.46 308 *i* P PKPdf 20 57 16.8 -4.2
NB2 NORSAR Subarra 140.61 352 PKP PKPpre 20 57 14.3
comp=Z,12nm,1.2s,baz=16,slow=3.2
NOA NORSAR Array B 140.61 352 PKhKP PKPpre 20 57 14.0
comp=Z,1.6nm,0.5s,baz=4.0,slow=2.2,SNR=13
NOA SKPbc SKPbc 21 00 02.4 +0.8
comp=Z,12nm,0.8s,baz=15,slow=4.3,SNR=22
NOA NORSAR Array B 140.61 352 PKP PKPpre 20 57 14.0
NOA SKPbc SKPbc 21 00 02.4 +0.8
NOA NORSAR Array B 140.61 352 PKHKP PKPpre 20 57 14.0
DBAD Bademkaya 140.64 308 *i* P PKPdf 20 57 15.9 -5.5
HFS Hagfors 141.10 349 SKPbc SKPbc 21 00 04.0 +1.2
comp=Z,23nm,0.8s,baz=0.0,slow=0.0,SNR=17
IZAR Zarasai 141.52 337 *e*P PKPdf 20 57 18.1 -4.4
IZAR AMB AMB 20 57 19.7
comp=Z,11nm,1.1s
BNGL BINGOL 141.56 305 *i* P PKPdf 20 57 18.9 -4.2
ISAL Salakas 141.70 337 *e*P PKPdf 20 57 18.4 -4.4
IGN Ignalina 141.83 336 *e*P PKPdf 20 57 18.8 -4.3
NACGM Naroch 141.96 335 *e* SKPbc 21 00 03.0 -2.1
ANN Anapa 142.31 315 *i* PKHKP PKPpre 20 57 21.1
ANN pmax pmax
comp=Z,35nm,1.1s
ELZG Elazig 143.31 305 *i* P PKPdf 20 57 25.4 -0.8
KEMA Kemaliye 143.47 306 *i* P PKPdf 20 57 25.5 -1.0
AKASG Malin Array Be 143.84 329 PKP PKPdf 20 57 24.2 -2.5
comp=Z,26nm,0.4s,baz=42,slow=4.4,SNR=126
AKASG SKPbc SKPbc 21 00 10.7 +0.9
comp=Z,24nm,0.8s,baz=45,slow=2.9,SNR=20
AKASG Malin Array Be 143.84 329 PKP PKPdf 20 57 24.2 -2.5
AKASG SKPbc SKPbc 21 00 10.7 +0.9
AKASG Malin Array Be 143.84 329 PKIKP PKPdf 20 57 24.2 -2.5
AKBB Malin Array Si 143.84 329 *e*PKPdf PKPdf 20 57 24.2 -2.6
AKBB Malin Array Si 143.84 329 *e*PKIKP PKPdf 20 57 24.2 -2.5
KIEV Kiev 143.85 329 *e*PKPdf PKPdf 20 57 24.3 -2.5
KIEV *e*SKPbc SKPbc 21 00 11.0 +1.2
KIEV Kiev 143.85 329 *e*PKIKP PKPdf 20 57 24.3 -2.5
SUW Suwalki 143.99 337 *e*PKP PKPdf 20 57 25.4 -1.5
SUW Suwalki 143.99 337 *e*PKPdf PKPdf 20 57 25.4 -1.5
SUW Suwalki 143.99 337 *e*PKIKP PKPdf 20 57 25.4 -1.5
AKCD Akcadag 144.17 305 *i* P PKPdf 20 57 27.5 -0.2
SCER sogukcermik 144.31 308 *i* P PKPdf 20 57 28.2 +0.3
ERBA Erbaa 144.31 309 *i* P PKPdf 20 57 27.9 0.0
KAC Achnashellach 144.66 5 *e*P PKPdf 20 57 27.2 -0.8
MCD Coleburn Disti 144.72 3 *e*P PKPdf 20 57 27.5 -0.6
KPL Plockton 144.79 6 *e*P PKPdf 20 57 27.0 -1.1
MDO Dochfour 144.79 4 *e*P PKPdf 20 57 27.2 -0.9
KUZU Kuzuini 145.20 303 *i* P PKPdf 20 57 30.6 +1.1
ANDN Andirin 145.56 304 *i* P PKPdf 20 57 31.6 +1.5
EBH Black Hill 146.03 4 *e*P PKPdf 20 57 32.0 +1.6
EAB Aberfoyle 146.04 5 *e*P PKPdf 20 57 31.5 +1.2
YAYL Yayladag 146.14 302 *i* P PKPdf 20 57 31.8 +0.7
ASF Jabal al Asfar 146.21 295 PKPbc PKPbc 20 57 33.7 0.0
comp=Z,18nm,0.8s,baz=354,slow=4.0,SNR=25
ASF SKPbc SKPbc 21 00 18.5 +2.7
comp=Z,2.4nm,0.6s,baz=328,slow=7.8,SNR=3.7
ASF Jabal al Asfar 146.21 295 PKPbc PKPbc 20 57 33.7 0.0
ASF SKPbc SKPbc 21 00 18.5 +2.7
ASF Jabal al Asfar 146.21 295 PKP2 PKPab 20 57 33.7 -2.5
AVNT Avonos 146.32 307 *i* P PKPdf 20 57 32.2 +0.9
BALT Daday 146.35 312 *i* P PKPdf 20 57 33.0 +1.6
KIS Kishinev 146.38 324 *e*UNK PKPdf 20 57 32.0 +0.8
KIS XM 20 57 34.0
comp=Z,200nm,2.3s
KIS Kishinev 146.38 324 *e*PKIKP PKPdf 20 57 32.0 +0.8
KIS pmax pmax
comp=Z,200nm,2.3s
ESY Stoneypath 146.41 3 *e*P PKPdf 20 57 32.1 +1.1
EAU Auchinoon 146.44 4 *e*P PKPbc 20 57 33.2 -0.3
EBL Broad Law 146.54 3 *e*P PKPbc 20 57 33.5 -0.3
GKP Gorka Klasztor 146.56 342 *e*PKP PKPab 20 57 36.7 -0.2
GKP Gorka Klasztor 146.56 342 *e*PKP2 PKPab 20 57 36.7 -0.1
BEL Belsk 146.60 337 *e*PKP PKPbc 20 57 33.5 -0.6
BEL Belsk 146.60 337 *e*PKP2 PKPbc 20 57 33.5 -0.6
GULE Gulek 146.84 304 *i* P PKPbc 20 57 35.4 +0.1
LVV L'vov 146.85 332 *e*PKIKP PKPdf 20 57 33.8 +1.9
BR131 Keskin Array S 146.88 309 *e*PKPdf PKPdf 20 57 32.5 +0.3
BR131 *e*PKPbc PKPbc 20 57 34.3 -0.9
BRTR Keskin Array B 146.88 309 PKPbc PKPbc 20 57 34.5 -0.8
comp=Z,8.5nm,0.5s,baz=135,slow=4.2,SNR=51
BRTR Keskin Array B 146.88 309 PKPbc PKPbc 20 57 34.5 -0.8
BRTR Keskin Array B 146.88 309 PKIKP PKPbc 20 57 34.5 -0.8
EKA Eskdalemuir Ar 146.97 4 PKPbc PKPbc 20 57 33.9 -1.1
baz=351,slow=2.3
EKA Eskdalemuir Ar 146.97 4 PKPbc PKPbc 20 57 33.9 -1.1
EKA Eskdalemuir Ar 146.97 4 PKIKP PKPbc 20 57 33.9 -1.1
ESK Eskdalemuir 146.98 4 *e*P PKPdf 20 57 32.8 +0.9
LEOM Leova 147.01 324 ⇑PKP2 PKPbc 20 57 34.8 -0.6
LEOM Leova 147.01 324 ⇑*i*P PKPbc 20 57 34.8 -0.6
ECK Cauldkaine Hil 147.12 4 *e*P PKPbc 20 57 34.3 -1.1
GAL1 Galloway 147.32 5 *e*P PKPbc 20 57 34.5 -1.3
BBAL Bala 147.32 309 *i* P PKPbc 20 57 35.3 -1.1
MMAI Mount Meron Ar 147.33 297 PKPbc PKPbc 20 57 37.0 +0.3
comp=Z,8.1nm,0.3s,baz=78,slow=7.8,SNR=50
MMAI Mount Meron Ar 147.33 297 PKPbc PKPbc 20 57 37.0 +0.3
TLCR 147.45 321 ⇓PKIKP PKPbc 20 57 35.3 -1.3
TLCR 147.45 321 ⇓*i*P PKPbc 20 57 35.3 -1.3
KWP Kalwaria Pacla 147.57 333 *e*PKP PKPbc 20 57 36.0 -0.7
KWP Kalwaria Pacla 147.57 333 *e*PKPbc PKPbc 20 57 35.9 -0.8
KWP Kalwaria Pacla 147.57 333 *e*PKP2 PKPbc 20 57 36.0 -0.7
BSEG Bad Segeberg 147.58 349 *e*PKPbc PKPbc 20 57 36.9 +0.3
BSEG Bad Segeberg 147.58 349 *e*PKP2 PKPbc 20 57 36.9 +0.3
KESW Keswick, Cumbr 147.71 4 *e*P PKPbc 20 57 36.2 -0.7
GHRR 147.72 324 ⇑*i*P PKPbc 20 57 37.1 -0.1
XDE Dent Fell 147.77 4 *e*P PKPbc 20 57 36.5 -0.6
GMM Mts of Mourne 147.81 7 *e*P PKPbc 20 57 36.3 -0.9
CFR Carcaliu 147.85 322 ⇑PKP2 PKPbc 20 57 37.8 +0.2
CFR Carcaliu 147.85 322 ⇑*i*P PKPbc 20 57 37.8 +0.2
BUR08 Bucovina Ar. S 147.85 328 *e*PKPbc PKPbc 20 57 37.7 +0.2
BURAR Bucovina Array 147.86 328 ⇑PKP2 PKPbc 20 57 37.9 +0.4
BURAR Bucovina Array 147.86 328 ⇑*i*P PKPbc 20 57 37.9 +0.4
TIRR Tirgusor 148.10 320 ⇓PKHKP PKPbc 20 57 37.4 -0.8
TIRR Tirgusor 148.10 320 ⇓*i*P PKPbc 20 57 37.4 -0.8
EIL Elat 148.15 291 PKPbc PKPbc 20 57 38.6 -0.2
comp=Z,28nm,0.8s,baz=5.8,slow=3.4,SNR=24
EIL pPKPbc pPKPbc 20 59 50.7 -4.7
comp=Z,2.3nm,0.8s,baz=164,slow=2.0,SNR=1.4
EIL Elat 148.15 291 PKPbc PKPbc 20 57 38.6 -0.2
EIL pPKPbc pPKPbc 20 59 50.7 -4.7
VRI Vrincioaia 148.22 324 ⇑PKP2 PKPbc 20 57 38.0 -0.5
VRI Vrincioaia 148.22 324 ⇑*i*P PKPbc 20 57 38.0 -0.5
PLOR Plostina 148.27 324 ⇑PKP2 PKPbc 20 57 38.9 +0.3
PLOR Plostina 148.27 324 ⇑*i*P PKPbc 20 57 38.9 +0.3
OJC Ojcow 148.28 336 *e*PKPdf PKPdf 20 57 35.1 +0.9
OJC *e*PKPbc PKPbc 20 57 38.1 -0.4
OJC *e*PKPab PKPab 20 57 43.2 -0.7
OJC Ojcow 148.28 336 *e*PKP2 PKPbc 20 57 38.1 -0.4
STHS Stebnicka Huta 148.35 334 *e*PKP2 PKPbc 20 57 38.3 -0.4
STHS Stebnicka Huta 148.35 334 *e*PKP PKPbc 20 57 38.3 -0.4
STHS *e* 21 00 00.5
MANR Mangalia 148.35 319 ⇑*i*P PKPbc 20 57 39.0 +0.1
KDHN Kadinhani 148.42 308 *i* P PKPbc 20 57 37.4 -1.9
ERMK Ermenek 148.46 304 *i* P PKPdf 20 57 25.3 -10
UZH Uzhgorod 148.50 332 *e*PKHKP PKPbc 20 57 38.7 -0.4
UZH *e* 20 57 43.7
CSS Prodhromos 148.60 301 *e*PKPbc PKPbc 20 57 39.0 -0.8
CRVS Cervenica-Dubn 148.65 333 *e*PKHKP PKPbc 20 57 38.1 -1.3
CRVS Cervenica-Dubn 148.65 333 *e*PKP PKPbc 20 57 38.1 -1.3
CRVS *e* 20 59 56.1
DLF Lyons Farm 148.67 8 *e*P PKPbc 20 57 37.7 -1.6
NIE Niedzica 148.72 335 *e*PKP PKPbc 20 57 39.7 +0.1
NIE Niedzica 148.72 335 *e*PKP2 PKPbc 20 57 39.7 +0.1
TRPA Tarpa 148.76 331 ⇑*i*P PKPbc 20 57 39.3 -0.4
MLR Muntele Rosu 148.88 324 PKPbc PKPbc 20 57 39.1 -1.0
comp=Z,1.8nm,0.4s,baz=15,slow=6.1,SNR=14
MLR Muntele Rosu 148.88 324 PKPbc PKPbc 20 57 39.1 -1.0
MLR Muntele Rosu 148.88 324 ⇑PKHKP PKPbc 20 57 39.3 -0.8
MLR Muntele Rosu 148.88 324 ⇑*i*P PKPbc 20 57 39.3 -0.8
WLF1 Llynfaes 148.91 6 *e*P PKPbc 20 57 38.0 -2.0
ESKT Eskisehir 148.94 310 *i* P PKPbc 20 57 38.4 -2.0
KSP Ksiaz 148.96 340 *e*PKP PKPbc 20 57 40.0 -0.1
GAZI Gazipasa 149.04 304 *i* P PKPbc 20 57 41.0 +0.2
KBI1 Birley Grange 149.12 2 *e*P PKPbc 20 57 39.6 -0.8
OKC Ostrava-Krasne 149.20 337 *e*PKHKP PKPbc 20 57 40.7 0.0
OKC Ostrava-Krasne 149.20 337 ⇑*e*PKP PKPbc 20 57 40.7 0.0
UPC Upice 149.34 340 *e*PKHKP PKPbc 20 57 41.1 +0.1
UPC Upice 149.34 340 ⇑*e*PKP PKPbc 20 57 41.1 +0.1
KWE Weaver Farm 149.35 3 *e*P PKPbc 20 57 40.0 -1.0
DPC Dobruska-Polom 149.38 340 *e*PKHKP PKPbc 20 57 40.9 -0.2
DPC Dobruska-Polom 149.38 340 ⇑*e*PKP PKPbc 20 57 40.9 -0.2
KECS Kecovo 149.39 333 *e*PKHKP PKPbc 20 57 41.7 +0.5
KECS Kecovo 149.39 333 *e*PKP PKPbc 20 57 41.7 +0.5
KECS *e* 20 59 56.7
FOEL Foel Wylfa 149.40 4 *e*P PKPbc 20 57 38.8 -2.3
VOIR 149.40 325 ⇓PKHKP PKPbc 20 57 40.9 -0.4
VOIR 149.40 325 ⇓*i*P PKPbc 20 57 40.9 -0.4
PRD Provadia 149.41 319 P PKPbc 20 57 42.6 +1.1
PRD Provadia 149.41 319 P PKPbc 20 57 42.6 +1.1
MORC Moravsky Berou 149.46 338 *e*PKPbc PKPbc 20 57 40.4 -1.0
MORC Moravsky Berou 149.46 338 ⇑PKHKP PKPbc 20 57 40.9 -0.5
MORC Moravsky Berou 149.46 338 ⇑*i*P PKPbc 20 57 40.9 -0.5
CLL Collm 149.47 344 *e*PKPbc PKPbc 20 57 41.5 +0.2
CLL Collm 149.47 344 ⇓*e*PKHKP PKPdf 20 57 36.0 -0.1
CLL *i* 20 57 48.2
CLL pmax pmax
comp=Z,72nm,0.9s
CLL pmax pmax
comp=Z,39nm,0.9s
IBBN Ibbenburen 149.56 351 *e*PKPbc PKPbc 20 57 41.8 +0.3
CLZ Clausthal 149.56 348 *e*PKPbc PKPbc 20 57 42.1 +0.6
CLZ Clausthal 149.56 348 *e*PKHKP PKPbc 20 57 42.1 +0.6
BRG Berggiesshubel 149.62 343 *i* PKP PKPbc 20 57 41.0 -0.7
comp=Z,54nm,0.9s
BRG *i* 20 57 49.4
comp=Z,18nm,0.8s
BRG *e*pPKP pPKPdf 20 59 57.6 +2.5
comp=Z,32nm,1.4s
BRG Berggiesshubel 149.62 343 *e*PKPbc PKPbc 20 57 42.1 +0.4
BRG Berggiesshubel 149.62 343 *i* PKHKP PKPbc 20 57 41.0 -0.7
BRG *i* 20 57 49.4
BRG pmax pmax
comp=Z,54nm,0.9s
BRG pmax pmax
comp=Z,18nm,0.8s
BRG pmax pmax
comp=Z,32nm,1.4s
DRGR 149.66 329 ⇑PKHKP PKPbc 20 57 42.5 +0.6
DRGR 149.66 329 ⇑*i*P PKPbc 20 57 42.5 +0.6
PVCC Panska Ves 149.76 342 *e*PKHKP PKPbc 20 57 41.9 -0.1
PVCC Panska Ves 149.76 342 ⇑*e*PKP PKPbc 20 57 41.9 -0.1
HLM1 Long Mynd 149.79 4 *e*P PKPbc 20 57 39.4 -2.6
HUMR Humele 150.02 323 ⇑*i*P PKPbc 20 57 41.3 -1.5
PSZ Piszkesteto 150.08 333 *e*PKPbc PKPbc 20 57 42.3 -0.6
PSZ Piszkesteto 150.08 333 ⇓PKHKP PKPbc 20 57 42.5 -0.4
GDZ Gediz 150.09 311 *i* P PKPbc 20 57 41.4 -1.8
KOLL Kolacno 150.14 336 *e*PKHKP PKPbc 20 57 42.4 -0.6
KOLL Kolacno 150.14 336 *e*PKP PKPbc 20 57 42.4 -0.6
VRAC Vranov 150.19 338 PKP PKPdf 20 57 36.5 -0.7
comp=Z,3.0nm,0.5s,baz=178,slow=7.9,SNR=3.6
VRAC PKPbc PKPbc 20 57 43.0 -0.1
comp=Z,8.5nm,0.5s,baz=350,slow=2.0,SNR=11
VRAC PKPab PKPab 20 57 50.8 -1.1
comp=Z,9.6nm,0.6s,baz=38,slow=4.5,SNR=9.0
VRAC Vranov 150.19 338 P

VRAC					PKPbc	PKPbc	20 57 43.0	-0.1
VRAC					PKPab	PKPab	20 57 50.8	-1.1
VRAC	**Vranov**	**150.19**	**338**	PKIKP	PKPbd		20 57 36.5	-0.7
VRAC							20 57 50.8	
PRA	**Prague**	**150.21**	**342**	⇑PKP	PKPbc		20 57 44.0	+0.9
PRA					pPKP	pPKPdf	21 00 01.0	+5.0
PRU	**Pruhonice**	**150.25**	**341**	*e*PKIKP	PKPbc		20 57 43.4	+0.2
PRU	**Pruhonice**	**150.25**	**341**⇑	*e*PKP	PKPbc		20 57 43.4	+0.2
SZH	**Strazhica**	**150.25**	**321**	P	PKPbc		20 57 42.4	-1.0
SZH	**Strazhica**	**150.25**	**321**	P	PKPbc		20 57 42.4	-1.0
KORT	**Korkueli**	**150.28**	**306**	*i* P	PKPbc		20 57 42.8	-0.9
PCED	**Cedros**	**150.34**	**50**	*e*PKP	PKPbc		20 57 43.9	+0.1
CALA	**Caldeira**	**150.36**	**50**	*e*PKP	PKPbc		20 57 44.0	+0.2
KHAL	**Karahalli**	**150.38**	**309**	*i* P	PKPbc		20 57 43.2	-0.6
MOX	**Moxa**	**150.42**	**345**	*e*PKPbc	PKPbc		20 57 43.8	+0.2
MOX	**Moxa**	**150.42**	**345**	*e*PKIKP	PKPbc		20 57 43.8	+0.2
TANN	**Tannenbergstha**	**150.43**	**344**	*e*PKPbc	PKPbc		20 57 44.0	+0.4
BUG	**Bochum--Univer**	**150.48**	**351**	*e*PKPbc	PKPbc		20 57 43.6	-0.1
DURS	**Dursunbey**	**150.56**	**312**	*i* P	PKPbc		20 57 42.5	-1.8
PCAN	**Candelaria**	**150.57**	**50**	*e*PKP	PKPbc		20 57 43.1	-1.2
PICO	**Pico**	**150.59**	**50**	*e*PKP	PKPbc		20 57 44.7	+0.3
NKC	**Novy Kostel**	**150.60**	**344**	*e*PKIKP	PKPbc		20 57 44.3	+0.3
NKC	**Novy Kostel**	**150.60**	**344**⇑	*e*PKP	PKPbc		20 57 44.3	+0.3
UBBA	**Unterbreizbach**	**150.61**	**347**	*e*PKPbc	PKPbc		20 57 44.2	+0.2
GZR	**Gura Zlata**	**150.61**	**327**	⇑PKIKP	PKPbc		20 57 43.1	-1.1
GZR	**Gura Zlata**	**150.61**	**327**⇑	*i* P	PKPbc		20 57 43.1	-1.1
ROSA	**Rosais**	**150.63**	**50**	*e*PKP	PKPbc		20 57 44.1	-0.4
HGH	**Gray Hill**	**150.67**	**4**	*e*P	PKPbc		20 57 42.3	-1.8
PMAN	**Manadas**	**150.78**	**50**	*e*PKP	PKPbc		20 57 44.8	0.0
GOLH	**Golhisar**	**150.78**	**307**	*i* P	PKPbc		20 57 42.6	-2.2
BUD	**Budapest**	**150.78**	**334**⇓	*e*PKP	PKPbc		20 57 44.6	+0.1
PID	**Ribeirinha**	**150.84**	**50**	*e*PKP	PKPbc		20 57 44.4	-0.5
DNZL	**Cakiroluk**	**150.98**	**308**	P	PKPbc		20 57 44.3	-0.9
MANT	**Manisa**	**151.00**	**310**	*i* P	PKPbc		20 57 44.7	-0.6
BZS	**Buzias**	**151.03**	**328**	⇑PKIKP	PKPbc		20 57 43.7	-1.4
BZS	**Buzias**	**151.03**	**328**⇑	*i* P	PKPbc		20 57 43.7	-1.4
WOL	**Wolverton**	**151.07**	**2**	*e*P	PKPbc		20 57 42.7	-2.3
ROTZ	**Rotzenmuhle**	**151.09**	**344**	*e*PKPbc	PKPbc		20 57 45.6	+0.5
ROTZ				*ep*PKPbc	pPKPbc		21 00 02.3	-0.2
AKAS	**Kas**	**151.11**	**305**	*i* P	PKPbc		20 57 43.1	-2.5
HEX	**Exmoor**	**151.16**	**5**	*e*P	PKPbc		20 57 43.9	-1.4
HTL	**Hartland**	**151.17**	**6**	*e*P	PKPbc		20 57 44.0	-1.3
DIM	**Dimitrovgrad**	**151.20**	**319**	P	PKPbc		20 57 46.3	+0.7
DIM	**Dimitrovgrad**	**151.20**	**319**	P	PKPbc		20 57 46.3	+0.7
ELSH	**Elham, Standar**	**151.26**	**359**	*e*P	PKPbc		20 57 44.6	-0.9
KHC	**Kasperske Hory**	**151.30**	**342**	*e*PKIKP	PKPdf		20 57 39.5	+0.6
KHC				*e*			20 57 44.5	
KHC				*e*			20 57 56.0	
KHC	**Kasperske Hory**	**151.30**	**342**	*e*PKPDF	PKPdf		20 57 39.5	+0.6
KHC				⇑*e*PKP	PKPbc		20 57 44.5	-1.1
KHC				*e*PKPAB	PKPab		20 57 56.0	-0.5
KHC				*ep*PKP	pPKPdf		21 00 00.0	+2.2
AKHS	**Akhisar**	**151.35**	**311**	*i* P	PKPbc		20 57 45.0	-1.1
ADH	**Angra Heroismo**	**151.37**	**49**	*e*PKP	PKPdf		20 57 39.9	+0.5
GRFO	**Grafenberg**	**151.40**	**345**	*e*PKPab	PKPab		20 57 57.8	+0.8
MEM	**Membach**	**151.46**	**352**	PKPbc	PKPbc		20 57 46.0	+0.1
MPEP	**Malo Peshtene**	**151.46**	**323**	P	PKPbc		20 57 46.1	-0.1
MPEP	**Malo Peshtene**	**151.46**	**323**	P	PKPbc		20 57 46.1	-0.1
TNS	**Taunus Mts**	**151.47**	**349**	*e*PKPbc	PKPbc		20 57 46.1	+0.1
TNS	**Taunus Mts**	**151.47**	**349**	*e*PKIKP	PKPbc		20 57 46.1	+0.1
KDZ	**Kurdzhali**	**151.50**	**318**	P	PKPbc		20 57 47.5	+1.2
KDZ	**Kurdzhali**	**151.50**	**318**	P	PKPbc		20 57 47.5	+1.2
GEC2	**GERESS Array S**	**151.52**	**341**	*e*PKPbc	PKPbc		20 57 46.4	+0.3
GEC2	**GERESS Array S**	**151.52**	**341**	*e*PKIKP	PKPbc		20 57 46.4	+0.3
GERES	**GERESS Array B**	**151.52**	**341**	PKPbc	PKPbc		20 57 45.5	-0.7
	comp=Z,5.7nm,0.4s,baz=14,slow=1.6,SNR=33							
GERES				PKPab	PKPab		20 57 57.0	-0.4
	comp=Z,5.1nm,0.7s,baz=180,slow=1.3,SNR=6.9							
GERES				pPKPbc	pPKPbc		21 00 00.1	-3.4
	comp=Z,4.0nm,1.0s,baz=54,slow=2.3,SNR=4.0							
GERES	**GERESS Array B**	**151.52**	**341**	PKPbc	PKPbc		20 57 45.5	-0.7
GERES				PKPab	PKPab		20 57 57.0	-0.4
GERES				pPKPbc	pPKPbc		21 00 00.1	-3.4
GERES	**GERESS Array B**	**151.52**	**341**	PKIKP	PKPbc		20 57 45.5	-0.6
GERES							20 57 57.1	
GERES							21 00 00.2	
SOP	**Sopron**	**151.58**	**337**⇓	*e*PKP	PKPbc		20 57 45.4	-0.9
CONA	**Conrad Observa**	**151.62**	**338**⇓	*i*PKPbc	PKPbc		20 57 45.6	-0.8
	comp=Z,12nm,0.6s							
CONA				⇓*i*PKPab	PKPab		20 57 57.5	-0.5
	comp=Z,18nm,0.7s							
CONA				⇑*ip*PKiKP			21 00 04.1	
CSNA	**Conrad Observa**	**151.62**	**338**⇑	*i*PKPdf	pPKPdf		20 59 58.7	+0.3
TURN	**Turunc**	**151.62**	**307**	*i* P	PKPbc		20 57 47.7	+0.9
BCLA	**Clavier**	**151.73**	**353**	PKPbc	PKPbc		20 57 46.4	-0.1
SNF	**Seneffe**	**151.74**	**355**	PKPbc	PKPbc		20 57 46.0	-0.6
DYA	**Yadsworthy**	**151.78**	**6**	*e*P	PKPdf		20 57 42.8	+3.2
AYDN	**Tasoluk**	**151.84**	**309**	*i* P	PKPbc		20 57 45.9	-1.3
PKSM	**Moragy**	**151.95**	**332**	⇓PKIKP	PKPbc		20 57 46.2	-0.9
PKSM	**Moragy**	**151.95**	**332**⇓	*i* P	PKPbc		20 57 46.2	-0.9
DOU	**Dourbes**	**152.12**	**354**	PKPbc	PKPbc		20 57 47.7	+0.3
MOA	**Molln**	**152.22**	**340**⇑	*i*PKiKP	PKPbc		20 57 47.9	+0.2
	comp=Z,5.3nm,0.5s							
MOA				⇑*i*PKPab	PKPab		20 58 01.5	+1.0
	comp=Z,15nm,1.1s							
MOA				⇑*ip*PKiKP			21 00 06.5	
	comp=Z,12nm,1.2s							
VTS	**Vitosha**	**152.25**	**322**	⇑PKIKP	PKPbc		20 57 47.4	-0.5
VTS	**Vitosha**	**152.25**	**322**⇑	*i*P	PKPbc		20 57 47.4	-0.5
VTS	**Vitosha**	**152.25**	**322**	P	PKPab		20 58 01.5	+0.7
VTS	**Vitosha**	**152.25**	**322**	P	PKPab		20 58 01.5	+0.7
ARSA	**Arzberg**	**152.32**	**337**⇑	*e*PKPbc	PKPbc		20 57 46.8	-1.1
	comp=Z,6.3nm,0.8s							
ARSA				⇑*e*PKPab	PKPab		20 58 01.3	+0.3
	comp=Z,6.3nm,0.9s							
MMB	**Musomiste**	**152.56**	**320**	P	PKPab		20 58 02.3	+0.1
MMB	**Musomiste**	**152.56**	**320**	P	PKPab		20 58 02.3	+0.1
KKB	**Krupnik**	**152.77**	**321**	P	PKPab		20 58 03.7	+0.6
KKB	**Krupnik**	**152.77**	**321**	P	PKPab		20 58 03.7	+0.6
PDA	**Ponta Delgada**	**152.88**	**50**	*e*PKP	PKPdf		20 57 43.4	+1.8
SOKA	**Soboth**	**152.98**	**337**⇑	*i*PKPdf	PKPdf		20 57 41.3	-0.2
	comp=Z,6.1nm,1.7s							
SOKA				⇑*i*PKiKP	PKPbc		20 57 49.4	0.0
	comp=Z,1.9nm,0.5s							
SOKA				⇑*i*PKPab	PKPab		20 58 03.2	-0.6
	comp=Z,14nm,1.2s							
SOKA				⇑*ip*PKiKP			21 00 08.3	
	comp=Z,14nm,1.2s							
KBA	**Koelnbreinsper**	**153.20**	**340**⇑	*i*PKPbc	PKPbc		20 57 48.7	-1.2
	comp=Z,9.3nm,0.5s							
KBA				⇓*i*PKPab	PKPab		20 58 04.4	-0.3
	comp=Z,14nm,0.6s							
BART	**Pico Bartolome**	**153.22**	**49**	*e*PKP	PKPdf		20 57 41.8	-0.3
OBKA	**Obir**	**153.30**	**338**⇓	*i*PKiKP	PKiKP		20 57 50.2	+0.1
	comp=Z,3.4nm,0.5s							
OBKA				⇓*i*PKPab	PKPab		20 58 04.5	-0.7
	comp=Z,8.3nm,0.8s							
BFO	**Black Forest**	**153.31**	**348**	*e*PKPbc	PKPbc		20 57 50.2	+0.2
BFO	**Black Forest**	**153.31**	**348**	*e*PKPab	PKPab		20 58 04.0	-1.1
BFO	**Black Forest**	**153.31**	**348**	*e*PKIKP	PKPbc		20 57 50.2	+0.2
WATA	**Walderalm**	**153.49**	**343**⇓	*i*PKPdf	PKPdf		20 57 41.9	-0.3
	comp=Z,4.3nm,0.9s							
WATA				⇑*i*PKiKP	PKiKP		20 57 50.1	-0.3
	comp=Z,6.4nm,0.4s							
WATA				⇓*i*PKPab	PKPab		20 58 04.6	-1.3
	comp=Z,15nm,0.5s							
MYKA	**Terra Mystica**	**153.50**	**339**⇓	*i*PKPdf	PKPdf		20 57 39.6	-2.6
MYKA				⇑*i*PKPbc	PKPbc		20 57 50.1	-0.4
	comp=Z,5.2nm,0.6s							
MYKA				⇓*i*PKPab	PKPab		20 58 04.1	-1.9
	comp=Z,18nm,0.7s							
WTTA	**Wattenberg**	**153.54**	**343**⇓	*i*PKPdf	PKPdf		20 57 41.1	-1.2
	comp=Z,8.8nm,1.1s							
WTTA				⇑*i*PKPbc	PKPbc		20 57 50.1	-0.5
	comp=Z,11nm,0.4s							
WTTA				⇓*i*PKPab	PKPab		20 58 05.4	-0.8
	comp=Z,22nm,0.6s							
WTTA				⇑*ip*PKPbc	pPKPbc		21 00 03.4	-4.9
WTTA				⇑*ip*PKPab	pPKPab		21 00 12.9	-4.6
RETA	**Reutte**	**153.57**	**344**⇑	*i*PKPdf	PKPdf		20 57 41.7	-0.6
	comp=Z,4.0nm,1.0s							
RETA				⇑*i*PKPab	PKPab		20 58 05.7	-0.6
	comp=Z,10nm,0.5s							
PSMA	**Santa Maria**	**153.60**	**51**	*e*PKP	PKPdf		20 57 43.7	+1.0
MOTA	**Moosalm**	**153.61**	**343**⇑	*i*PKiKP	PKiKP		20 57 51.7	+0.9
	comp=Z,3.2nm,0.4s							
MOTA				⇑*i*PKPab	PKPab		20 58 06.5	+0.1
	comp=Z,14nm,0.8s							
FLN	**La Foliniere**	**153.65**	**1**	*e*PKIKP	PKPdf		20 57 42.1	-0.3
	comp=Z,20nm,0.8s							
FLN				*e*R				
	comp=Z,129nm,18.5s							
SKO	**Skopje**	**153.65**	**323**	*e*PKP	PKPdf		20 57 43.1	+0.5
SKO				*e*PKP	PKPab		20 58 06.1	-0.7
SQTA	**Sankt Quirin**	**153.69**	**343**⇓	*i*PKPdf	PKPdf		20 57 42.8	+0.3
SQTA				⇑*i*PKiKP	PKPbc		20 57 51.2	+0.3
SQTA				⇑*i*PKPab	PKPab		20 58 07.1	+0.2
ABTA	**Abfaltersbach**	**153.75**	**341**⇑	*i*PKPdf	PKPdf		20 57 42.3	-0.2
	comp=Z,6.2nm,0.9s							
ABTA				⇓*i*PKPbc	PKPbc		20 57 49.8	-1.2
	comp=Z,7.1nm,0.7s							
ABTA				⇑*i*PKPab	PKPab		20 58 06.3	-0.8
	comp=Z,13nm,0.6s							
ABTA				⇓*ip*PKPbc	pPKPbc		21 00 05.8	-3.0
	comp=Z,16nm,1.2s							
LDF	**La Druitiere**	**153.82**	**1**	*e*PKIKP	PKPdf		20 57 42.2	-0.4
	comp=Z,5.5nm,0.7s							
BOJS	**Bojanci**	**153.90**	**336**	*e*PKPdf	PKPdf		20 57 43.1	+0.3
BOJS				*e*PKPbc	PKPbc		20 57 52.2	+0.8
SFTF	**Sexfontaines**	**153.94**	**353**	*e*PKIKP	PKPdf		20 57 43.0	+0.2
DAVA	**Damuels**	**153.97**	**345**⇑	*i*PKPdf	PKPdf		20 57 42.2	-0.7
	comp=Z,8.2nm,1.6s							
DAVA				⇑*i*PKiKP	PKiKP		20 57 52.2	+0.7
	comp=Z,4.5nm,0.6s							
DAVA				⇓*i*PKPab	PKPab		20 58 07.3	-0.7
	comp=Z,14nm,0.7s							
DAVA				⇑*ip*PKPbc	pPKPbc		21 00 04.8	-4.5
	comp=Z,13nm,1.8s							
DAVA				⇑*ip*PKPab	pPKPab		21 00 14.6	-4.7
	comp=Z,13nm,1.1s							
FETA	**Feichten**	**154.01**	**344**⇑	*i*PKPdf	PKPdf		20 57 42.1	-0.8
	comp=Z,6.6nm,0.7s,SNR=7.2							
FETA				⇓*i*PKPab	PKPab		20 58 08.2	+0.1
	comp=Z,6.9nm,0.7s							
FETA				⇓*ip*PKPbc	pPKPbc		21 00 05.5	-3.9
GRR	**Gorron**	**154.01**	**2**	*e*PKIKP	PKPdf		20 57 42.8	-0.1
KRUS	**Krusevo**	**154.15**	**322**	*e*PKP	PKPdf		20 57 44.4	+1.1
KRUS				*e*PKP	PKPab		20 58 08.3	-0.7
DAVOX	**Davos/Dischmat**	**154.44**	**345**	PKP	PKPdf		20 57 44.0	+0.5
	comp=Z,4.2nm,0.7s,baz=211,slow=3.0,SNR=6.2							
DAVOX				PKPab	PKPab		20 58 09.9	-0.1
	comp=Z,15nm,0.6s,baz=350,slow=4.7,SNR=13							
DAVOX	**Davos/Dischmat**	**154.44**	**345**	PKP	PKPdf		20 57 44.0	+0.4
DAVOX				PKPab	PKPab		20 58 09.9	-0.1
DAVOX	**Davos/Dischmat**	**154.44**	**345**	PKIKP	PKPdf		20 57 44.0	+0.5
DAVOX							20 58 09.9	
TUE	**Stuetta**	**154.86**	**345**	*e*PKPab	PKPab		20 58 11.8	-0.1
LOR	**Lormes**	**154.99**	**354**	*e*PKIKP	PKPdf		20 57 44.3	0.0
	comp=Z,9.3nm,0.8s							
LOR				*e*R				
	comp=Z,167nm,19.5s							
SSF	**Saint Saulge**	**155.22**	**355**	*e*PKIKP	PKPdf		20 57 44.6	0.0
	comp=Z,12nm,0.9s							
CABF	**La Chapelle**	**155.36**	**350**	*e*PKIKP	PKPdf		20 57 44.4	-0.4
	comp=Z,19nm,0.8s							
SENIN	**Lac Senin/Sane**	**155.40**	**348**	*e*PKPab	PKPab		20 58 13.8	-0.3
BGF	**Bois d'Agland**	**155.78**	**356**	*e*PKIKP	PKPdf		20 57 45.4	+0.1
MFF	**Saint Martin d**	**155.81**	**1**	*e*PKIKP	PKPdf		20 57 45.3	-0.1
	comp=Z,11nm,0.9s							
TCF	**Toulx Ste Croi**	**156.08**	**357**	*e*PKIKP	PKPdf		20 57 45.6	-0.1
	comp=Z,13nm,0.8s							
LPL	**La Plagne**	**156.32**	**349**	*e*PKIKP	PKPdf		20 57 46.6	+0.5
LPG	**La Plagne**	**156.33**	**349**	*e*PKIKP	PKPdf		20 57 46.5	+0.4
	comp=Z,9.6nm,0.9s							
ORIF	**Oris-en-Rattie**	**157.04**	**350**	*e*PKIKP	PKPdf		20 57 48.8	+1.8
ORIF				*e*R				
	comp=Z,127nm,19.8s							
MBDF	**Montbardon**	**157.07**	**348**	*e*PKIKP	PKPdf		20 57 47.2	+0.2
	comp=Z,13nm,0.9s							
VIVF	**Saint-Julien-l**	**157.28**	**352**	*e*PKIKP	PKPdf		20 57 47.5	+0.2
LFF	**La Frestale**	**157.48**	**359**	*e*PKIKP	PKPdf		20 57 48.1	+0.6
LASF	**Ste Croix**	**158.15**	**353**	*e*PKIKP	PKPdf		20 57 48.5	+0.1
MTLF	**Montolieu**	**159.02**	**356**	*e*PKIKP	PKPdf		20 57 49.6	+0.2
CEL	**Celeste**	**159.28**	**323**	*e*PKPab	PKPab		20 58 30.5	-0.8
EPF	**Esparros**	**159.39**	**0**	*e*PKIKP	PKPdf		20 57 50.2	+0.4
	comp=Z,6.4nm,0.9s							
PBRG	**Braganca**	**159.72**	**15**	*e*PKPab	PKPab		20 58 33.3	+0.2
MVO	**Moncorvo**	**160.25**	**17**	*e*PKPdf	PKPdf		20 57 51.9	+1.0
PTOM	**Tomar**	**161.25**	**21**	*e*PKPdf	PKPdf		20 57 52.8	+0.8
PTOM	**Tomar**	**161.25**	**21**	*e*PKPab	PKPab		20 58 39.1	-0.7
PCBR	**Castelo Branco**	**161.35**	**19**	*e*PKPdf	PKPdf		20 57 52.5	+0.4
PMAR	**Madeira**	**161.56**	**52**	*e*PKPdf	PKPdf		20 57 53.1	+0.6
PMPS	**Porto Santo**	**161.81**	**51**	*e*PKPdf	PKPdf		20 57 56.7	+3.9
BBTS	**Babate**	**162.26**	**113**	PKPab	PKPab		20 58 45.1	0.0
	comp=Z,24nm,0.8s,baz=212,slow=1.9,SNR=4.5							
ESDC	**Sonseca Array**	**162.35**	**11**	PKPab	PKPab		20 58 44.7	+0.1
	comp=Z,0.7nm,0.4s,baz=355,slow=4.3,SNR=9.2							
EVO	**Evora**	**162.36**	**22**	*e*PKIKP	PKPdf		20 57 53.6	+0.5
	comp=Z,15nm,0.8s							
EVO				*e*R				
	comp=Z,100nm,17.2s							
PNCL	**Nicolau / Gran**	**162.54**	**24**	*e*PKPdf	PKPdf		20 57 53.0	-0.3
PNCL	**Nicolau / Gran**	**162.54**	**24**	*e*PKPab	PKPab		20 58 44.4	-1.2
PBEJ	**Beja**	**162.86**	**23**	*e*PKPdf	PKPdf		20 57 54.9	+1.3
PTEO	**Sao Teotonio**	**162.96**	**25**	*e*PKPdf	PKPdf		20 57 55.5	+1.8
PBAR	**Barrancos**	**163.01**	**20**	*e*PKPab	PKPab		20 58 47.1	-0.5
PVAQ	**Vaqueiros**	**163.47**	**23**	*e*PKPdf	PKPdf		20 57 56.1	+1.9
PVAQ	**Vaqueiros**	**163.47**	**23**	*e*PKPab	PKPab		20 58 49.3	-0.4
PBDV	**Barranco-do-Ve**	**163.53**	**24**	*e*PKPdf	PKPdf		20 57 56.1	+1.8
DBIC	**Dimbokro**	**163.61**	**161**	PKP	PKPdf		20 57 54.4	-0.7
	comp=Z,7.6nm,0.7s,baz=152,slow=1.8,SNR=15							
DBIC				PKPab	PKPab		20 58 51.4	+0.6
	comp=Z,23nm,0.8s,baz=180,slow=5.9,SNR=14							
DBIC	**Dimbokro**	**163.61**	**161**	PKPbc	PKPdf		20 57 54.4	-0.7
DBIC				PKPab	PKPab		20 58 51.4	+0.6
DBIC				*e*PKPab	PKPab		20 58 51.6	+0.8
DBIC	**Dimbokro**	**163.61**	**161**	PKIKP	PKPdf		20 57 54.4	-0.7
DBIC							20 58 51.4	
KEST	**Kesra**	**164.54**	**331**	PKPab	PKPab		20 58 54.0	-0.4
	comp=Z,2.7nm,0.8s,baz=326,slow=0.3,SNR=8.0							
KEST	**Kesra**	**164.54**	**331**	*e*PKPab	PKPab		20 58 54.5	0.0
TORD	**Torodi Ar. Bea**	**170.75**	**188**	PKP	PKPdf		20 57 58.7	-1.4
	comp=Z,6.2nm,0.8s,baz=304,slow=0.5,SNR=41							
TORD				PKPab	PKPab		20 59 22.5	+0.3
	comp=Z,13nm,0.8s,baz=176,slow=3.9,SNR=34							
TORD				pPKPab	pPKPab		21 01 31.7	-0.9
	comp=Z,2.0nm,0.8s,baz=184,slow=3.7,SNR=4.4							
TORD				PP	PP		21 03 13.8	+1.4
	comp=Z,3.4nm,0.9s,baz=175,slow=4.6,SNR=6.7							
TORD	**Torodi Ar. Bea**	**170.75**	**188**	PKP	PKPdf		20 57 58.7	-1.4
TORD				PKPab	PKPab		20 59 22.5	+0.3
TORD				pPKPab	pPKPab		21 01 31.7	-0.9
TORD				PP	PP		21 03 13.8	+1.4
TAM	**Tamanrasset**	**175.20**	**276**	*e*PKPbc	PKPdf		20 58 02.6	+1.0
TAM	**Tamanrasset**	**175.20**	**276**	*e*PKIKP	PKPdf		20 58 02.7	+1.1

ISCJB ***19*** *20:52:06.6± 1.3, 22.′47S± 0.′07×67.′6W± 0.′2, h159km± 21km, mb4.0/3, Error ellipse: s-maj=29.9km s-min=9.2km az=12.9*

NEIC ***19*** *20:52:07.2± 1.5, 22.′51S× 67.′45W, h148km± 17km, mb4.4/2, Error ellipse: s-maj=51.6km s-min=12.8km az=96.0*

IDC ***19*** *20:52:07.9± 2.4, 22.′44S× 67.′29W, h148km± 24km, mb3.9/3, mb1 3.8/5, mb1mx3.5/19, mbtmp3.7/5, MS2.8/2, Ms1 2.9/2, ms1mx2.6/33, Error ellipse: s-maj=48.9km s-min=17.3km az=100.0*

GUC ***19*** *20:52:08.5± 0.6, 22.′39S× 67.′82W, h170km, ML4.1*

ISC 19 20:52:07.1±1.2, 22.′47S±0.′07×67.′5W±0.′2, h142km±19km, n23, σ1°11/23, mb4.0/3, 1C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MACH	**Maria Elena**	**2.13**	**277**	⇑*i*P		**Pn**	**20 52 44.0**	**+0.7**
MACH				*i* S		**Sn**	**20 53 11.2**	**+0.2**
MECH	**Mejillones**	**2.81**	**257**	*e*P		**Pn**	**20 52 52.4**	**+0.6**
MECH				*i* S		**Sn**	**20 53 25.7**	**-0.5**
MECH				AML		AML	20 53 32.3	
	comp=N,641nm,0.4s							
ANCH	**Antofagasta**	**2.96**	**245**⇓	*i*P		**Pn**	**20 52 54.3**	**+0.7**
ANCH				*i* S		**Sn**	**20 53 28.8**	**-0.7**
ANCH				AML		AML	20 53 30.6	
	comp=E,415nm,0.4s							
LPAZ	**La Paz**	**6.18**	**354**	P		**Pn**	**20 53 38.0**	**+1.7**
	comp=E,2.5nm,0.3s,baz=159,slow=6.7,SNR=23							
LPAZ				S		**Sn**	**20 54 44.2**	**-1.7**
	comp=E,0.7nm,0.3s,baz=347,slow=15,SNR=4.0							
LPAZ				LR		LR	20 56 04.8	
	comp=E,54nm,18.7s,baz=11,slow=38							
LPAZ	**La Paz**	**6.18**	**354**	P		**Pn**	**20 53 38.0**	**+1.7**
LPAZ				S		**Sn**	**20 54 44.2**	**-1.7**
LPAZ				LR		LR	20 56 04.8	
LCO	**Las Campanas**	**7.13**	**203**	*e*P		**Pn**	**20 53 46.9**	**-2.0**
	comp=E,11nm,0.3s							
CFAA	**Coronel Fontan**	**9.12**	**184**	P		**Pn**	**20 54 16.0**	**+0.5**
	comp=E,0.1nm,0.3s,baz=4.2,slow=16,SNR=6.4							
CFAA				S		**Sn**	**20 55 51.7**	**-4.9**
	comp=E,0.2nm,0.3s,baz=257,slow=21,SNR=11							
CFAA	**Coronel Fontan**	**9.12**	**184**	P		**Pn**	**20 54 16.0**	**+0.5**
CFAA				S		**Sn**	**20 55 51.7**	**-4.9**
PLCA	**Paso Flores**	**18.39**	**187**	P		**P**	**20 56 11.8**	**+0.7**
	comp=E,0.4nm,0.3s,baz=3.3,slow=9.1,SNR=4.7							
PLCA	**Paso Flores**	**18.39**	**187**	P		**P**	**20 56 11.8**	**+0.7**
CMIG	**Matias Romero**	**47.60**	**323**	LR		LR	21 20 23.6	
	comp=E,20nm,21.6s,baz=9.9,slow=36							
SNAA	**Sanae**	**60.93**	**161**	P		**P**	**21 02 05.1**	**+0.5**
	comp=E,0.7nm,0.6s,mb3.7,baz=283,slow=9.3,SNR=12							
SNAA	**Sanae**	**60.93**	**161**	*e*P		**P**	**21 02 02.5**	**-2.1**
	comp=E,2.0nm,0.8s,mb4.0							
QSPA	**South Pole Qui**	**67.72**	**180**	P		**P**	**21 02 50.0**	**+1.3**
	comp=E,1.1nm,0.4s,mb3.9,baz=155,slow=3.9,SNR=18							
QSPA	**South Pole Qui**	**67.72**	**180**	P		**P**	**21 02 50.0**	**+1.3**
TORD	**Torodi Ar. Bea**	**76.44**	**69**	P		**P**	**21 03 40.5**	**-1.1**
	comp=E,2.9nm,0.5s,mb4.2,baz=260,slow=6.0,SNR=48							
TORD	**Torodi Ar. Bea**	**76.44**	**69**	P		**P**	**21 03 40.5**	**-1.1**
ASAR	**Alice Springs**	**129.64**	**206**	PKP		PKPdf	21 10 59.1	-0.9
	comp=E,0.4nm,0.5s,baz=134,slow=1.6,SNR=5.6							
ASAR	**Alice Springs**	**129.64**	**206**	PKP		PKPdf	21 10 59.1	-0.9
WRA	**Warramun

CPUP Villa Florida 145.51 267 PKPbc PKPbc 21 38 36.7 +0.8

*IDC **19** 21:21:44.9±1.2,34°.82N×23°.58E,h0km,mb3.9/8, mb1 3.8/12,mb1mx3.7/31,mbtmp3.8/12,ML3.7/4,Error ellipse: s-maj=24.0km s-min=19.9km az=4.0*
*ISCJB **19** 21:21:50.2±0.5,34°.79N±0°.03×23°.61E±0°.05,h62km±5km, mb3.8/9,Error ellipse: s-maj=7.5km s-min=4.4km az=146.5*
*CSEM **19** 21:21:51.2±0.3,34°.77N×23°.56E,h54km±3km,MD3.6, Error ellipse: s-maj=8.1km s-min=4.1km az=57.0*
*THE **19** 21:21:53.7,34°.95N×23°.62E,h44km±3km,ML3.0/4,Error ellipse: s-maj=4.0km s-min=1.0km az=158.0*
*NEIC **19** 21:21:57.0,35°.35N×23°.86E,h54km,MD3.1(ATH),After ATH.*
*ATH **19** 21:21:57.0,35°.35N×23°.86E,h54km±4km,MD3.6/17, ML3.1*

ISC 19 21:21:51.6±0.5,34°.79N±0°.03×23°.61E±0°.05,h53km±5km, n115,σ1°07/140,mb3.8/9,Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.40**	**83**	*e*Pn		**Pn**		**21 22 01.2**	**-0.7**
GVD				*e*Sn		**Sn**		**21 22 09.9**	**+0.6**
GVD	**Gavdhos**	**0.40**	**83**	P		**Pn**		**21 22 02.6**	**+0.7**
GVD				S		**Sn**		**21 22 10.1**	**+0.8**
GVD	**Gavdhos**	**0.40**	**83**	*e*Pn		**Pn**		**21 22 01.2**	**-0.7**
GVD	**Gavdhos**	**0.40**	**83**	P		**Pn**		**21 22 02.6**	**+0.7**
GVD				*e*Sn		**Sn**		**21 22 09.9**	**+0.6**
GVD				S		**Sn**		**21 22 10.1**	**+0.8**
VAM	**Vamos**	**0.78**	**38**	*e*P		**Pn**		**21 22 07.9**	**+0.5**
VAM	**Vamos**	**0.78**	**38**	P		**Pn**		**21 22 06.7**	**+0.2**
VAM				S		**Sn**		**21 22 16.8**	**-0.6**
VAM	**Vamos**	**0.78**	**38**	P		**Pn**		**21 22 06.7**	**+0.2**
VAM				S		**Sn**		**21 22 16.8**	**-0.6**
SIVA	**Sivas**	**1.01**	**77**	P		**Pn**		**21 22 11.6**	**+2.1**
SIVA	**Sivas**	**1.01**	**77**	P		**Pn**		**21 22 11.6**	**+2.1**
IDI	**Anoyia**	**1.16**	**64**	*e*Pn		**Pn**		**21 22 13.1**	**+1.6**
IDI				*e*Sn		**Sn**		**21 22 24.3**	**-2.1**
IDI	**Anoyia**	**1.16**	**64**	*e*Pn		**Pn**		**21 22 13.1**	**+1.6**
IDI				*e*Sn		**Sn**		**21 22 24.3**	**-2.1**
KYTH	**Kithira**	**1.56**	**343**	*e*P		**Pn**		**21 22 16.9**	**0.0**
KYTH	**Kithira**	**1.56**	**343**	P		**Pn**		**21 22 17.0**	**+0.1**
KYTH	**Kithira**	**1.56**	**343**	*e*P		**Pn**		**21 22 16.9**	**0.0**
NPS	**Neapolis**	**1.71**	**73**	*e*P		**Pn**		**21 22 21.8**	**+2.8**
NPS	**Neapolis**	**1.71**	**73**	*e*P		**Pn**		**21 22 21.8**	**+2.8**
VLI	**Veliai**	**2.00**	**344**	*e*P		**Pn**		**21 22 23.8**	**+0.8**
VLI	**Veliai**	**2.00**	**344**	*e*P		**Pn**		**21 22 23.8**	**+0.8**
THR3	**Thira Island,**	**2.18**	**42**	P		**Pn**		**21 22 25.8**	**+0.4**
THR3	**Thira Island,**	**2.18**	**42**	P		**Pn**		**21 22 25.8**	**+0.4**
THR1	**Thera Island**	**2.18**	**43**	P		**Pn**		**21 22 25.7**	**+0.3**
THR1	**Thera Island**	**2.18**	**43**	P		**Pn**		**21 22 25.7**	**+0.3**
THR2	**Thira island,**	**2.22**	**41**	P		**Pn**		**21 22 26.7**	**+0.7**
THR2	**Thira island,**	**2.22**	**41**	P		**Pn**		**21 22 26.7**	**+0.7**
DID	**Didima**	**2.73**	**354**	*e*P		**Pn**		**21 22 32.9**	**0.0**
DID	**Didima**	**2.73**	**354**	P		**Pn**		**21 22 32.9**	**0.0**
DID				S		**Sn**		**21 23 02.9**	**-1.8**
DID	**Didima**	**2.73**	**354**	*e*P		**Pn**		**21 22 32.9**	**0.0**
DID				S		**Sn**		**21 23 02.9**	**-1.8**
APE	**Apeiranthos**	**2.76**	**34**	*e*P		**Pn**		**21 22 33.0**	**-0.3**
APE	**Apeiranthos**	**2.76**	**34**	P		**Pn**		**21 22 32.9**	**-0.4**
APE				S		**Sn**		**21 23 04.1**	**-1.3**
APE	**Apeiranthos**	**2.76**	**34**	*e*P		**Pn**		**21 22 33.0**	**-0.3**
APE				S		**Sn**		**21 23 04.1**	**-1.3**
VLX	**Vlachokerasia**	**2.76**	**339**	*e*P		**Pn**		**21 22 35.7**	**+2.3**
NAIG	**Nisos Aigina**	**2.96**	**358**	*e*P		**Pn**		**21 22 36.0**	**-0.1**
NAIG	**Nisos Aigina**	**2.96**	**358**	*e*P		**Pn**		**21 22 36.0**	**-0.1**
KARP	**Karpathos**	**3.01**	**74**	*e*P		**Pn**		**21 22 39.3**	**+2.6**
KARP	**Karpathos**	**3.01**	**74**	P		**Pn**		**21 22 38.4**	**+1.7**
KARP				S		**Sn**		**21 23 12.7**	**+1.2**
KARP	**Karpathos**	**3.01**	**74**	P		**Pn**		**21 22 38.4**	**+1.7**
KARP				S		**Sn**		**21 23 12.7**	**+1.2**
VLY	**Voula,Athens**	**3.06**	**3**	*e*P		**Pn**		**21 22 37.1**	**-0.4**
VLY	**Voula,Athens**	**3.06**	**3**	P		**Pn**		**21 22 37.2**	**-0.3**
VLY	**Voula,Athens**	**3.06**	**3**	P		**Pn**		**21 22 37.2**	**-0.3**
ATH	**Athens Observa**	**3.18**	**2**	*e*P		**Pn**		**21 22 38.1**	**-1.0**
ATH	**Athens Observa**	**3.18**	**2**	*e*P		**Pn**		**21 22 38.1**	**-1.0**
PTL	**Penteli**	**3.26**	**4**	*e*P		**Pn**		**21 22 39.6**	**-0.6**
PTL	**Penteli**	**3.26**	**4**	P		**Pn**		**21 22 39.7**	**-0.5**
PTL	**Penteli**	**3.26**	**4**	P		**Pn**		**21 22 39.7**	**-0.5**
LTK	**Loutraki**	**3.27**	**351**	*e*P		**Pn**		**21 22 40.1**	**-0.2**
LTK	**Loutraki**	**3.27**	**351**	*e*P		**Pn**		**21 22 40.1**	**-0.2**
GUR	**Goura**	**3.30**	**342**	*e*P		**Pn**		**21 22 41.6**	**+0.8**
GUR	**Goura**	**3.30**	**342**	P		**Pn**		**21 22 41.7**	**+0.9**
GUR	**Goura**	**3.30**	**342**	*e*P		**Pn**		**21 22 41.6**	**+0.8**
SLUM		**3.55**	**157**	P		**Pn**		**21 22 44.3**	**+0.1**
DSF	**Desfina**	**3.72**	**347**	P		**Pn**		**21 22 46.2**	**-0.3**
DSF	**Desfina**	**3.72**	**347**	P		**Pn**		**21 22 46.2**	**-0.3**
EFP	**Efpalio**	**3.88**	**340**	*e*P		**Pn**		**21 22 48.6**	**-0.1**
EFP	**Efpalio**	**3.88**	**340**	*e*P		**Pn**		**21 22 48.6**	**-0.1**
LKR	**Lokris**	**3.88**	**353**	*e*P		**Pn**		**21 22 48.0**	**-0.8**
LKR	**Lokris**	**3.88**	**353**	*e*P		**Pn**		**21 22 48.0**	**-0.8**
SMG	**Samos**	**3.91**	**41**	*e*P		**Pn**		**21 22 48.6**	**-0.5**
SMG	**Samos**	**3.91**	**41**	*e*P		**Pn**		**21 22 48.6**	**-0.5**
ATAL	**Atalanti**	**3.92**	**353**	P		**Pn**		**21 22 49.0**	**-0.3**
ATAL				S		**Sn**		**21 23 33.1**	**-0.9**
ATAL	**Atalanti**	**3.92**	**353**	P		**Pn**		**21 22 49.0**	**-0.3**
ATAL				S		**Sn**		**21 23 33.1**	**-0.9**
ARG	**Arkhangelos**	**3.95**	**68**	*e*P		**Pn**		**21 22 51.1**	**+1.5**
ARG	**Arkhangelos**	**3.95**	**68**	*e*P		**Pn**		**21 22 51.1**	**+1.5**
AGG	**Agios Georgios**	**4.35**	**347**	P		**Pn**		**21 22 55.0**	**-0.1**
AGG				S		**Sn**		**21 23 44.0**	**-0.4**
AGG	**Agios Georgios**	**4.35**	**347**	P		**Pn**		**21 22 55.0**	**-0.1**
AGG				S		**Sn**		**21 23 44.0**	**-0.4**
EVR	**Evrytania**	**4.37**	**341**	*e*P		**Pn**		**21 22 57.1**	**+1.8**
EVR	**Evrytania**	**4.37**	**341**	*e*P		**Pn**		**21 22 57.1**	**+1.8**
NEO	**Neokhori**	**4.52**	**356**	*e*P		**Pn**		**21 22 56.9**	**-0.5**
NEO	**Neokhori**	**4.52**	**356**	*e*P		**Pn**		**21 22 56.9**	**-0.5**
HMAT	**Matruh**	**4.71**	**141**	P		**Pn**		**21 22 59.6**	**-0.5**
HMAT				S		**Sn**		**21 23 49.6**	**-3.8**
SWA2		**5.75**	**164**	P		**Pn**		**21 23 13.6**	**-0.7**
AWBH		**7.87**	**144**	P		**Pn**		**21 23 42.3**	**-1.1**
HFRF	**Wahat Farafira**	**8.62**	**151**	P		**Pn**		**21 23 52.5**	**-1.2**
STON	**Ston**	**9.29**	**332**	*e*Pn		**Pn**		**21 23 56.8**	**-6.0**
STON				Sn		**Sn**		**21 25 32.2**	**-14**
BRTR	**Keskin Array B**	**9.39**	**55**	Pn		**Pn**		**21 24 03.4**	**-0.7**
	0.1nm,0.3s,baz=269,slow=17,SNR=2.9								
BRTR	**Keskin Array B**	**9.39**	**55**	Pn		**Pn**		**21 24 03.4**	**-0.7**
BRTR	**Keskin Array B**	**9.39**	**55**	Pn		**Pn**		**21 24 03.4**	**-0.7**
MMAI	**Mount Meron Ar**	**9.96**	**97**	Pn		**Pn**		**21 24 10.9**	**-1.1**
	1.1nm,0.3s,baz=289,slow=11,SNR=7.0								
MMAI				Sn		**Sn**		**21 25 54.7**	**-7.6**
	0.8nm,0.3s,baz=263,slow=22,SNR=3.3								
MMAI	**Mount Meron Ar**	**9.96**	**97**	Pn		**Pn**		**21 24 10.9**	**-1.1**
MMAI				Sn		**Sn**		**21 25 54.7**	**-7.6**
MMAI	**Mount Meron Ar**	**9.96**	**97**	Pn		**Pn**		**21 24 10.9**	**-1.1**
HNKL	**Nakhl**	**10.02**	**116**	P		**Pn**		**21 24 10.8**	**-2.0**
EIL	**Elat**	**10.87**	**115**	Pn		**Pn**		**21 24 21.2**	**-3.3**
	0.5nm,0.3s,baz=294,slow=5.1,SNR=12								
EIL				Sn		**Sn**		**21 26 17.9**	**-6.8**
	0.8nm,0.3s,baz=10,slow=14,SNR=6.3								
EIL	**Elat**	**10.87**	**115**	Pn		**Pn**		**21 24 21.2**	**-3.3**
EIL				Sn		**Sn**		**21 26 17.9**	**-6.8**
NVLJ	**Novalja**	**11.85**	**328**	*e*Pn		**Pn**		**21 24 33.6**	**-4.2**
NVLJ				Sn		**Sn**		**21 26 36.5**	**-12**
GERES	**GERESS Array B**	**15.85**	**335**	Pn		**Pn**		**21 25 32.4**	**+1.3**
	0.2nm,0.3s,baz=147,slow=12,SNR=3.2								
GERES	**GERESS Array B**	**15.85**	**335**	Pn		**Pn**		**21 25 32.4**	**+1.3**
GERES	**GERESS Array B**	**15.85**	**335**	Pn		**Pn**		**21 25 32.4**	**+1.4**
KHC	**Kasperske Hory**	**16.13**	**336**	*e*P		**Pn**		**21 25 36.5**	**+1.8**
MIB	**Mutribah**	**20.65**	**97**	*e*P		**P**		**21 26 27.0**	**+0.1**
MIB					AMb	AMB		21 26 28.7	
	comp=Z,9.5nm,0.5s								
MIB	**Mutribah**	**20.65**	**97**	*e*P		**P**		**21 26 27.0**	**+0.2**
	comp=Z,10.0nm,0.5s								
NAY	**Al-Naaiem**	**20.77**	**99**	*e*P		**P**		**21 26 29.2**	**+1.1**
NAY					AMb	AMB		21 26 34.6	
	comp=Z,3.5nm,0.8s								
NAY	**Al-Naaiem**	**20.77**	**99**	*e*P		**P**		**21 26 29.2**	**+1.1**
	comp=Z,4.0nm,0.8s								
UMR	**Umm Al-Rimmam**	**21.04**	**98**	*e*P		**P**		**21 26 31.6**	**+0.5**
UMR					AMb	AMB		21 26 32.7	
	comp=Z,15nm,0.6s,mb4.5								
UMR	**Umm Al-Rimmam**	**21.04**	**98**	*e*P		**P**		**21 26 31.6**	**+0.5**
	comp=Z,15nm,0.6s,mb4.5								
HFS	**Hagfors**	**26.17**	**349**	P		**P**		**21 27 19.4**	**-1.3**
	comp=Z,3.2nm,0.8s,mb3.9,baz=155,slow=15,SNR=8.3								
HFS	**Hagfors**	**26.17**	**349**	P		**P**		**21 27 19.4**	**-1.3**
HFS	**Hagfors**	**26.17**	**349**	P		**P**		**21 27 19.4**	**-1.3**
FINES	**FINESS Array B**	**26.72**	**3**	P		**P**		**21 27 24.1**	**-1.6**
	comp=Z,2.4nm,0.9s,mb3.7,baz=170,slow=8.5,SNR=3.3								
FINES	**FINESS Array B**	**26.72**	**3**	P		**P**		**21 27 24.1**	**-1.6**
FINES	**FINESS Array B**	**26.72**	**3**	P		**P**		**21 27 24.1**	**-1.6**
EKA	**Eskdalemuir Ar**	**27.62**	**326**	P		**P**		**21 27 34.6**	**+0.8**
	comp=Z,2.1nm,0.9s,mb3.7,baz=121,slow=7.9,SNR=5.2								
EKA	**Eskdalemuir Ar**	**27.62**	**326**	P		**P**		**21 27 34.6**	**+0.8**
EKA	**Eskdalemuir Ar**	**27.62**	**326**	P		**P**		**21 27 34.6**	**+0.8**
TORD	**Torodi Ar. Bea**	**29.29**	**228**	P		**P**		**21 27 49.0**	**0.0**
	comp=Z,0.2nm,0.3s,mb3.3,baz=34,slow=8.2,SNR=8.6								
KURK	**Kurchatov**	**42.40**	**51**	P		**P**		**21 29 40.4**	**-0.3**
	comp=Z,1.1nm,0.4s,mb3.9,baz=272,slow=8.6,SNR=29								
KURK	**Kurchatov**	**42.40**	**51**	P		**P**		**21 29 40.4**	**-0.3**
KURK	**Kurchatov**	**42.40**	**51**	P		**P**		**21 29 40.3**	**-0.4**
MKAR	**Makanchi Array**	**45.04**	**56**	P		**P**		**21 30 02.5**	**+0.5**
	comp=Z,0.4nm,0.4s,mb3.6,baz=270,slow=8.3,SNR=18								
MKAR	**Makanchi Array**	**45.04**	**56**	P		**P**		**21 30 02.5**	**+0.5**
MKAR	**Makanchi Array**	**45.04**	**56**	P		**P**		**21 30 02.5**	**+0.6**
ZALV	**Zalesovo Beam**	**46.18**	**46**	P		**P**		**21 30 10.3**	**-0.5**
	comp=Z,0.8nm,0.3s,mb4.1,baz=264,slow=9.3,SNR=4.8								
ZALV	**Zalesovo Beam**	**46.18**	**46**	P		**P**		**21 30 10.3**	**-0.5**
ZALV	**Zalesovo Beam**	**46.18**	**46**	P		**P**		**21 30 10.3**	**-0.5**
SONM	**Songino Array**	**60.70**	**50**	P		**P**		**21 31 58.4**	**+1.0**
	comp=Z,0.4nm,0.4s,mb3.9,baz=286,slow=6.8,SNR=5.4								
SONM	**Songino Array**	**60.70**	**50**	P		**P**		**21 31 58.4**	**+1.0**
SONM	**Songino Array**	**60.70**	**50**	P		**P**		**21 31 58.4**	**+1.0**

*ISCJB **19** 21:40:19.9±0.2,79°.32N±0°.02×115°.1W±0°.2,h10km, mb4.5/49,MS3.4/4,Error ellipse: s-maj=4.6km s-min=3.5km az=4.3*
*IDC **19** 21:40:22.1±0.4,79°.71N×115°.74W,h0km,mb4.3/25, mb1 4.5/28,mb1mx4.4/35,mbtmp4.3/28,ML4.8/3,MS3.2/6, Ms1 3.2/6,ms1mx2.9/48,Error ellipse: s-maj=15.9km s-min=10.7km az=104.0*
*OTT **19** 21:40:23.7±0.9,79°.43N×115°.16W,h18km,mb5.2/16, Arctic Ocean. Aftershock. 277km northwest from Isachsen, Nu*
*NEIC **19** 21:40:23.4±0.3,79°.67N×115°.10W,h10km,mb4.4/24, ML4.8(OTT),Error ellipse: s-maj=8.1km s-min=5.9km az=107.0*

ISC 19 21:40:21.8±0.2,79°.32N±0°.02×115°.2W±0°.2,h10km,n161, σ1°01/192,mb4.5/49,MS3.4/4,3C-1D,Arctic Ocean

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EUNU	**Eureka**	**5.18**	**68**	PN		**Pn**		**21 41 39.3**	**+0.1**
EUNU				mb				21 41 40.3	
	comp=Z,19nm,0.2s								
EUNU				SN		**Sn**		**21 42 30.6**	**-8.2**
EUNU				Trac				21 42 39.1	
	comp=Z,243nm,0.8s								
RES	**Resolute Bay**	**6.47**	**125**	Pn		**Pn**		**21 41 59.5**	**+2.6**
	11nm,0.3s,baz=316,slow=13,SNR=537								
RES				Sn		**Sn**		**21 43 11.1**	**+0.5**
	16nm,0.3s,baz=265,slow=23,SNR=7.5								
RES				LR		LR		21 45 37.3	
	comp=Z,155nm,18.6s,baz=70,slow=46								
RES	**Resolute Bay**	**6.47**	**125**	Pn		**Pn**		**21 41 59.5**	**+2.6**
RES				Sn		**Sn**		**21 43 11.1**	**+0.5**
RES				LR		LR		21 45 37.3	
RES	**Resolute Bay**	**6.47**	**125**	PN		**Pn**		**21 41 59.6**	**+2.7**
RES				mb				21 42 00.7	
	comp=Z,39nm,0.2s								
RES				SN		**Sn**		**21 43 08.2**	**-2.5**
RES				Trac				21 43 13.6	
	comp=Z,135nm,0.5s								
CB31	**Cambridge Bay**	**10.57**	**160**	PN		**Pn**		**21 42 54.6**	**+1.6**
CB31				mb				21 42 57.5	
	comp=Z,217nm,0.2s								
CB31				SN		**Sn**		**21 44 47.4**	**-4.0**
CB31				Trac				21 44 56.2	
	comp=Z,85nm,0.3s								
INK	**Inuvik**	**12.08**	**214**	Pn		**Pn**		**21 43 15.6**	**+1.9**
	6.0nm,0.3s,baz=19,slow=15,SNR=38								
INK				Sn		**Sn**		**21 45 24.2**	**-3.9**
	5.3nm,0.3s,baz=132,slow=20,SNR=8.4								
INK	**Inuvik**	**12.08**	**214**	Pn		**Pn**		**21 43 15.6**	**+1.9**
INK				Sn		**Sn**		**21 45 24.2**	**-3.9**
INK	**Inuvik**	**12.08**	**214**	PN		**Pn**		**21 43 14.1**	**+0.5**
INK				mb				21 43 17.9	
	comp=Z,19nm,0.3s								
INK				SN		**Sn**		**21 45 21.1**	**-7.0**
INK				Trac				21 45 28.9	
	comp=Z,15nm,0.3s								
KUGN	**Kugaaruk Camp,**	**13.09**	**135**	Pn		**Pn**		**21 43 26.2**	**-1.2**
KUGN	**Kugaaruk Camp,**	**13.09**	**135**	PN		**Pn**		**21 43 26.2**	**-1.2**
KUGN				mb				21 43 30.7	
	comp=Z,12nm,0.3s								
JERN	**Jeri Cho Mine,**	**13.41**	**173**	PN		**Pn**		**21 43 33.1**	**+1.3**
JERN				mb				21 43 37.0	
	comp=Z,21nm,0.2s								
JERN				SN		**Sn**		**21 45 53.0**	**-7.6**
JERN				Trac				21 45 58.1	
	comp=Z,11nm,0.3s								
STLN	**Stellar Camp,**	**13.46**	**141**	Pn		**Pn**		**21 43 32.2**	**-0.3**
STLN				Sn		**Sn**		**21 45 59.7**	**-2.1**
STLN	**Stellar Camp,**	**13.46**	**141**	PN		**Pn**		**21 43 32.2**	**-0.3**
STLN				mb				21 43 33.5	
	comp=Z,54nm,0.5s								
STLN				SN		**Sn**		**21 45 59.7**	**-2.1**
STLN				Trac				21 46 09.6	
	comp=Z,112nm,1.3s								
SRLN	**Sarcpa Lake, N**	**13.62**	**125**	Pn		**Pn**		**21 43 34.5**	**-0.2**
SRLN	**Sarcpa Lake, N**	**13.62**	**125**	PN		**Pn**		**21 43 34.5**	**-0.2**
SRLN				mb				21 43 39.0	
	comp=Z,43nm,0.8s								
BULN	**Bullion Camp,**	**14.32**	**142**	Pn		**Pn**		**21 43 44.0**	**-0.2**
BULN				Sn		**Sn**		**21 46 15.6**	**-7.2**
BULN	**Bullion Camp,**	**14.32**	**142**	PN		**Pn**		**21 43 44.0**	**-0.2**
BULN				mb				21 43 46.3	
	comp=Z,27nm,0.3s								
BULN				SN		**Sn**		**21 46 15.6**	**-7.2**
BULN				Trac				21 46 18.5	
	comp=Z,25nm,0.6s								
QILN	**Qililugaq Expl**	**14.94**	**132**	Pn		**Pn**		**21 43 51.1**	**-1.5**
QILN	**Qililugaq Expl**	**14.94**	**132**	PN		**Pn**		**21 43 51.1**	**-1.5**
QILN				mb				21 43 54.9	
	comp=Z,24nm,0.5s								
CTLN	**Castor Lake**	**14.97**	**181**	Pn		**Pn**		**21 43 53.5**	**+0.4**
CTLN				Sn		**Sn**		**21 46 31.7**	**-6.9**
CTLN	**Castor Lake**	**14.97**	**181**	PN		**Pn**		**21 43 53.5**	**+0.4**
CTLN				mb				21 43 55.5	
	comp=Z,41nm,0.7s								
CTLN				SN		**Sn**		**21 46 31.7**	**-6.9**
CTLN				Trac				21 46 45.8	
	comp=Z,31nm,1.0s								
ILKN	**Indian Lake**	**15.17**	**180**	Pn		**Pn**		**21 43 56.1**	**+0.4**
ILKN				Sn		**Sn**		**21 46 36.5**	**-7.1**
ILKN	**Indian Lake**	**15.17**	**180**	PN		**Pn**		**21 43 56.1**	**+0.4**
ILKN				mb				21 44 00.6	
	comp=Z,50nm,0.2s								
ILKN				SN		**Sn**		**21 46 36.5**	**-7.1**
WAGN	**Wager Bay**	**15.26**	**137**	PN		**Pn**		**21 43 56.3**	**-0.6**
WAGN				mb				21 43 58.0	
	comp=Z,35nm,0.3s								
WAGN				SN		**Sn**		**21 46 30.8**	**-15**
WAGN				Trac				21 46 49.5	
	comp=Z,17nm,0.5s								
GALN	**Gameti Lake**	**15.29**	**184**	Pn		**Pn**		**21 43 56.8**	**-0.6**
GALN				Sn		**Sn**		**21 46 37.6**	**-8.8**
GALN	**Gameti Lake**	**15.29**	**184**	PN		**Pn**		**21 43 56.8**	**-0.6**
GALN				SN		**Sn**		**21 46 37.6**	**-8.8**
COLD	**Coldfoot**	**15.33**	**238**	*e*Pn		**Pn**		**21 43 56.1**	**-1.8**
	7.7nm,0.6s								
COLD				*e*Sn		**Sn**		**21 46 30.4**	**-17**
NUNN	**Nunuq Camp, NU**	**15.70**	**141**	Pn		**Pn**		**21 44 02.0**	**-0.6**
NUNN	**Nunuq Camp, NU**	**15.70**	**141**	PN		**Pn**		**21 44 02.0**	**-0.6**
NUNN				mb				21 44 02.5	
	comp=Z,27nm,0.5s								
YBKN	**Baker Lake, Hu**	**16.04**	**149**	PN		**Pn**		**21 44 05.1**	**-1.9**
YBKN				mb				21 44 08.3	
	comp=Z,18nm,0.3s								
YBKN				SN		**Sn**		**21 46 59.9**	**-4.7**
COKN	**Cook Lake**	**16.24**	**170**	PN		**Pn**		**21 44 09.0**	**-0.6**
COKN				mb				21 44 12.7	
	comp=Z,24nm,0.3s								
COKN				SN		**Sn**		**21 47 00.8**	**-8.6**
COKN				Trac				21 47 03.0	
	comp=Z,39nm,1.1s								
EGAK	**Eagle**	**16.36**	**222**	*e*Pn		**Pn**		**21 44 11.5**	**+0.4**
	17nm,0.8s								
EGAK				*e*Sn		**Sn**		**21 47 11.7**	**-0.5**
DAWY	**Dawson**	**16.83**	**219**	*e*Pn		**Pn**		**21 44 18.4**	**+1.4**
DAWY				Sn		**Sn**		**21 47 14.1**	**-10**
DAWY	**Dawson**	**16.83**	**219**	PN		**Pn**		**21 44 17.4**	**+0.3**
DAWY				mb				21 44 19.6	
	comp=Z,11nm,0.3s								
DAWY				SN		**Sn**		**21 47 14.1**	**-10**
DAWY				Trac				21 47 23.4	
	comp=Z,6.7nm,0.3s								
YKW3	**Yellowknife Ar**	**16.84**	**179**	Pn		**Pn**		**21 44 18.1**	**+0.8**
YKW3				Sn		**Sn**		**21 47 15.8**	**-8.3**
YKW3	**Yellowknife Ar**	**16.84**	**179**	PN		**Pn**		**21 44 18.1**	**+0.8**
YKW3				mb				21 44 22.0	
	comp=Z,37nm,0.3s								
YKW3				SN		**Sn**		**21 47 15.8**	**-8.3**
YKW3				Trac				21 47 33.6	
	comp=Z,8.0nm,0.4s								
YKA	**Yellowknife Ar**	**16.91**	**179**	Pn		**Pn**		**21 44 18.5**	**+0.4**
	6.8nm,0.3s,baz=356,slow=13,SNR=68								
YKA				Sn		**Sn**		**21 47 18.7**	**-7.0**
	1.3nm,0.3s,baz=355,slow=22,SNR=3.7								
YKA				LR		LR		21 51 40.1	
	comp=Z,17nm,18.9s,baz=245,slow=39								
YKA	**Yellowknife Ar**	**16.91**	**179**	Pn		**Pn**		**21 44 18.5**	**+0.4**
YKA				Sn		**Sn**		**21 47 18.7**	**-7.0**
YKA				LR		LR		21 51 40.1	
WHFN	**White Fish Lak**	**17.01**	**167**	PN		**Pn**		**21 44 19.2**	**-0.2**
WHFN				mb				21 44 25.1	
	comp=Z,13nm,0.2s								
WHFN				SN		**Sn**		**21 47 21.5**	**-6.7**
ILAR	**Eielson Array**	**17.13**	**230**	P		**Pn**		**21 44 24.2**	**+3.5**
	0.4nm,0.3s,baz=14,slow=14,SNR=31								
ILAR				S		**Sn**		**21 47 22.4**	**-8.5**
	0.3nm,0.3s,baz=16,slow=24,SNR=4.9								
ILAR	**Eielson Array**	**17.13**	**230**	P		**Pn**		**21 44 24.2**	**+3.5**
ILAR				S		**Sn**		**21 47 22.4**	**-8.5**
COLA	**College**	**17.17**	**231**	*e*Pn		**Pn**		**21 44 21.0**	**-0.3**
	7.9nm,0.8s								
COLA				*e*Sn		**Sn**		**21 47 30.1**	**-1.9**
SEDN	**First Sedna Si**	**17.59**	**143**	PN		**Pn**		**21 44 26.1**	**-0.5**
SEDN				mb				21 44 30.4	
	comp=Z,26nm,0.3s								
GDLN	**Gardenia Lake,**	**17.60**	**166**	Pn		**Pn**		**21 44 26.9**	**+0.2**
GDLN				Sn		**Sn**		**21 47 37.4**	**-5.0**
GDLN	**Gardenia Lake,**	**17.60**	**166**	PN		**Pn**		**21 44 26.9**	**+0.2**
GDLN				SN		**Sn**		**21 47 37.4**	**-5.0**
JOSN	**Second Sedna S**	**17.64**	**143**	PN		**Pn**		**21 44 27.0**	**-0.1**
JOSN				mb				21 44 28.3	
	comp=Z,28nm,0.4s								
DOT	**Dot Lake**	**17.81**	**225**	*e*Pn		**Pn**		**21 44 29.6**	**+0.3**
	82nm,1.1s								
DAG	**Danmarks Havn**	**17.98**	**48**	*i* P		**Pn**		**21 44 31.4**	**+0.1**
	3.2nm,0.9s								
SUMG	**Summit**	**18.25**	**69**	*e*Pn		**Pn**		**21 44 31.9**	**-2.7**
	36nm,1.0s

comp=Z,5.1nm,0.7s,mb4.7,baz=354,slow=8.5,SNR=11
AKASG PcP PcP 21 50 30.4 +0.3
comp=Z,1.5nm,0.5s,baz=352,slow=3.3,SNR=6.6
AKASG Malin Array Be 48.57 30 P P 21 49 03.9 -0.7
AKASG PcP PcP 21 50 30.4 +0.3
GERES GERESS Array B 48.68 43 P P 21 49 06.6 +1.1
comp=Z,0.6nm,0.7s,mb3.7,baz=32,slow=5.8,SNR=2.3
GERES PcP PcP 21 50 31.9 +1.4
comp=Z,0.6nm,0.7s,baz=343,slow=5.1,SNR=2.9
GERES GERESS Array B 48.68 43 P P 21 49 06.6 +1.1
GERES PcP PcP 21 50 31.9 +1.4
TXAR Lajitas Array 50.32 167 P P 21 49 23.4 +5.2
comp=Z,1.1nm,0.7s,mb4.0,baz=18,slow=6.2,SNR=9.3
TXAR LR LR 22 10 31.8
comp=Z,72nm,18.2s,MS3.7,baz=0.0,slow=36
TXAR Lajitas Array 50.32 167 P P 21 49 23.4 +5.2
TXAR LR LR 22 10 31.8
TRPA Tarpa 50.44 36 ⇑iP P 21 49 19.1 +0.2
AKTO Aktyubinsk 50.45 6 P P 21 49 18.6 -0.3
comp=Z,2.6nm,0.8s,mb4.3,baz=350,slow=8.1,SNR=8.8
AKTO PcP PcP 21 50 37.5 +0.6
comp=Z,3.6nm,0.6s,baz=32,slow=4.5,SNR=12
AKTO Aktyubinsk 50.45 6 P P 21 49 18.6 -0.3
AKTO PcP PcP 21 50 37.5 +0.6
SONM Songino Array 50.81 325 P P 21 49 21.6 -0.1
comp=Z,4.2nm,0.8s,mb4.4,baz=351,slow=6.3,SNR=28
SONM PcP PcP 21 50 39.2 +0.9
comp=Z,1.4nm,0.8s,baz=334,slow=3.2,SNR=4.7
SONM Songino Array 50.81 325 P P 21 49 21.6 -0.1
SONM PcP PcP 21 50 39.2 +0.9
BURAR Bucovina Array 51.23 34 ⇓iP P 21 49 25.3 +0.5
ABKAR Akbulak array 51.66 4 eP P 21 49 25.2 -2.8
comp=Z,2.0nm,0.9s,mb4.0
GZR Gura Zlata 53.17 36 ⇑iP P 21 49 40.3 +1.1
MLR Muntele Rosu 53.41 33 ⇑iP P 21 49 42.2 +1.2
MKAR Makanchi Array 53.73 345 P P 21 49 41.7 -1.7
comp=Z,3.1nm,0.8s,mb4.3,baz=7.2,slow=6.1,SNR=22
MKAR PcP PcP 21 50 48.9 -0.4
comp=Z,0.9nm,0.7s,baz=7.8,slow=2.7,SNR=4.2
MKAR Makanchi Array 53.73 345 P P 21 49 41.7 -1.7
MKAR PcP PcP 21 50 48.9 -0.4
ESDC Sonseca Array 55.07 61 P P 21 49 54.5 +1.3
comp=Z,2.0nm,0.8s,mb4.2,baz=348,slow=8.2,SNR=9.0
ESDC Sonseca Array 55.07 61 P P 21 49 54.5 +1.3
MJAR Matsushiro Art 57.36 294 P P 21 50 10.2 +0.6
comp=Z,1.4nm,0.6s,mb4.2,baz=55,slow=5.5,SNR=5.8
MJAR Matsushiro Art 57.36 294 P P 21 50 10.2 +0.6
KKAR Karatay Array 57.80 355 eP P 21 50 12.0 -0.6
comp=Z,1.6nm,0.6s,mb4.2
TKM2 Tokmak 2 57.86 351 eP P 21 50 12.6 -0.4
comp=Z,1.8nm,0.6s,mb4.3
TKM2 ePcP PcP 21 51 06.4 +1.1
KSRS Korea Array 58.15 303 LR LR 22 15 26.0
comp=Z,30nm,21.5s,MS3.4,baz=245,slow=36
BRTR Keskin Array B 59.85 28 P P 21 50 26.3 -0.6
comp=Z,1.1nm,0.7s,mb4.0,baz=359,slow=6.2,SNR=5.0
BRTR PcP PcP 21 51 13.8 +0.6
comp=Z,1.6nm,0.7s,baz=9.8,slow=2.4,SNR=5.0
BRTR Keskin Array B 59.85 28 P P 21 50 26.3 -0.6
BRTR PcP PcP 21 51 13.8 +0.6
KEST Kesra 60.98 50 P P 21 50 35.9 +1.3
comp=Z,2.0nm,0.8s,mb4.3,baz=171,slow=1.7,SNR=8.7
KEST Kesra 60.98 50 P P 21 50 35.9 +1.3
ASF Jabal al Asfar 67.62 25 P P 21 51 18.8 +0.6
comp=Z,1.6nm,0.8s,mb4.1,baz=16,slow=8.3,SNR=4.3
ASF Jabal al Asfar 67.62 25 P P 21 51 18.8 +0.6
EIL Elat 69.94 27 P P 21 51 33.2 +0.5
comp=Z,5.1nm,0.7s,mb4.6,baz=36,slow=3.6,SNR=6.0
EIL Elat 69.94 27 P P 21 51 33.2 +0.5
LSA Lhasa 70.20 336 eP P 21 51 35.0 +0.7
comp=Z,3.5nm,0.7s,mb4.4
MIB Mutribah 70.66 16 eP P 21 51 37.0 -0.1
MIB AMb AMB 21 51 37.9
comp=Z,30nm,0.7s,mb5.3
UMR Umm Al-Rimmam 70.93 16 eP P 21 51 38.9 +0.1
UMR AMb AMB 21 51 39.9
comp=Z,36nm,1.0s,mb5.3
NAY Al-Naaiem 71.21 16 eP P 21 51 40.1 -0.3
NAY AMb AMB 21 51 40.9
comp=Z,6.9nm,1.0s,mb4.5
RDF Al-Radifah 71.55 16 eP P 21 51 43.2 +0.7
RDF AMb AMB 21 51 44.2
comp=Z,31nm,1.1s,mb5.2
DANN Dangsing 72.03 343 eP P 21 51 45.3 -0.1
comp=Z,57nm,0.7s
PYUN Piuthan 72.33 342 eP P 21 51 46.5 -0.6
GKN Gorkha 72.33 342 eP P 21 51 46.8 -0.4
comp=Z,39nm,0.8s,mb5.4
GUN Gumba 72.34 341 eP P 21 51 47.7 +0.4
comp=Z,59nm,0.8s
KKN Kakani 72.50 341 eP P 21 51 48.4 +0.2
comp=Z,53nm,0.8s,mb5.5
KOLN Koldanda 72.62 343 eP P 21 51 48.3 -0.6
comp=Z,13nm,0.8s,mb4.9
DMN Daman 72.69 341 eP P 21 51 49.7 +0.4
comp=Z,55nm,0.8s
PKI Pulchoki 72.71 341 eP P 21 51 49.5 0.0
comp=Z,38nm,0.9s,mb5.3
TAPN Taplejung 72.78 339 eP P 21 51 50.1 +0.2
RAMN Ramite 73.25 340 eP P 21 51 52.6 -0.1
comp=Z,45nm,0.8s,mb5.5
ODAN Odare 73.29 339 eP P 21 51 53.2 +0.3
comp=Z,44nm,0.7s,mb5.5
CMAR Chiang Mai Arr 80.65 327 P P 21 52 33.8 -0.6
comp=Z,3.7nm,0.9s,mb4.3,baz=347,slow=6.1,SNR=22
CMAR Chiang Mai Arr 80.65 327 P P 21 52 33.8 -0.6
TORD Torodi Ar. Bea 81.96 61 P P 21 52 42.0 +0.7
comp=Z,4.4nm,0.8s,mb4.5,baz=333,slow=5.3,SNR=29
TORD Torodi Ar. Bea 81.96 61 P P 21 52 42.0 +0.7
WRA Warramunga Arr 113.24 286 PKiKP PKiKP 21 58 59.1 +0.3
comp=Z,0.3nm,0.5s,baz=351,slow=2.2,SNR=4.5
WRA Warramunga Arr 113.24 286 PKPdf PKiKP 21 58 59.1 +0.3
ASAR Alice Springs 116.95 286 PKP PKPdf 21 59 06.0 +0.2
comp=Z,0.7nm,0.6s,baz=356,slow=2.1,SNR=13
ASAR Alice Springs 116.95 286 PKP PKPdf 21 59 06.0 +0.2
STKA Stephens Creek 123.55 276 PKP PKPdf 21 59 18.4 +0.1
comp=Z,1.3nm,0.7s,baz=91,slow=20,SNR=3.6
STKA Stephens Creek 123.55 276 PKP PKPdf 21 59 18.4 +0.1

NIED ***19*** *21:43:00.38˚.50N×141˚.70E, h68km, Mw4.2 Best double couple: M₀2.03000×10¹⁵ NP1:φ₀32.00000°, δ65.00000°, λ-41.00000°. NP2:φ₀142.00000°, δ53.00000°, λ-148.00000°.*

JMA 19 21:43:01.2±0.1, 38˚.54N×141˚.72E, h54km±1km, M3.5, 1C-7D Broadband fault plane solution: P waves. NP1:φ₀197.00000°, δ22.00000°, λ102.00000°. **NP2:** φ₀4.00000°, δ69.00000°, λ85.00000°. **Principal axes:** T Plg66.0000°, Azm266.0000°; N Plg4.0000°, Azm6.0000°; P Plg24.0000°, Azm98.0000°; **Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
OFUJ	**Ofunato**	**0.54**	**356**	⇑P	Pn	21 43 13.2	0.0
OFUJ				S	Sn	21 43 21.5	-0.3
JMK	**Ichinoseki**	**0.57**	**317**	⇓P	Pn	21 43 13.7	+0.2
JMK				S	Sn	21 43 22.4	0.0
JOU	**Okura**	**0.85**	**258**	⇓P	Pn	21 43 16.9	-0.1
JOU				S	Sn	21 43 28.7	+0.1
JOM	**Ohasama**	**0.99**	**340**	⇓P	Pn	21 43 19.0	+0.1
JOM				eS	Sn	21 43 31.9	0.0
JMM	**Marumori**	**0.99**	**228**	⇓P	Pn	21 43 18.3	-0.6
JMM				S	Sn	21 43 31.3	-0.7
JYK	**Kaneyama**	**1.13**	**290**	⇓P	Pn	21 43 21.0	+0.3
JYS	**Shirataka**	**1.34**	**257**	⇓P	Pn	21 43 23.8	+0.3
JYS				S	Sn	21 43 41.0	+0.7
JFK	**Kawauchi**	**1.35**	**210**	⇓P	Pn	21 43 23.4	-0.3
JFK				S	Sn	21 43 39.7	-0.8
JFT	**Otama**	**1.50**	**227**	P	Pn	21 43 26.0	+0.3

ISCJB ***19*** *22:08:34.7±1.1, 39˚.45N±0˚.03×25˚.86E±0˚.07, h1km±6km Error ellipse: s-maj=9.9km s-min=5.2km az=168.8*
CSEM ***19*** *22:08:34.7±0.6, 39˚.43N×25˚.84E, h2km, MD2.8, Error ellipse: s-maj=12.1km s-min=5.8km az=75.0*
DDA ***19*** *22:08:36.2, 39˚.46N×25˚.97E, h7km±2km, Md2.6*
ISK ***19*** *22:08:36.9, 39˚.58N×26˚.00E, h5km, MD2.8*

ISC 19 22:08:35.0±1.1, 39˚.43N±0˚.03×25˚.86E±0˚.08, h3km±5km, n34, σ0˚93/49, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
BOZC	**Bozcaada**	**0.43**	**20**	*i* P	**Pg**	**22 08 44.0**	**+0.6**
BOZC				*i* S	**Sg**	**22 08 50.4**	**+1.4**
EZN	**Ezine**	**0.53**	**43**	*e*Pg	**Pg**	**22 08 45.2**	**-0.1**
EZN	**Ezine**	**0.53**	**43**	*e*Pg	**Pg**	**22 08 45.2**	**0.0**
AYVA	**Ayvalik**	**0.66**	**101**	*i* P	**Pg**	**22 08 46.7**	**-1.0**
AYVA				*i* S	**Sg**	**22 08 56.8**	**+0.6**
AYVA	**Ayvalik**	**0.66**	**101**	*i* P	**Pg**	**22 08 46.7**	**-0.9**
AYVA				*i* S	**Sg**	**22 08 56.8**	**+0.6**
GADA	**Gvkgeada**	**0.76**	**2**	*e*PG	**Pg**	**22 08 50.5**	**+1.0**
GADA	**Gvkgeada**	**0.76**	**2**	*e*Pg	**Pg**	**22 08 50.5**	**+1.0**
GELI	**Tayfun-Gelibol**	**1.07**	**26**	*e*PG	**Pg**	**22 08 55.9**	**+0.3**
GELI				*e*SG	**Sg**	**22 09 09.4**	**-0.2**
GELI	**Tayfun-Gelibol**	**1.07**	**26**	*e*Pg	**Pg**	**22 08 55.9**	**+0.3**
GELI				*e*Sg	**Sg**	**22 09 09.4**	**-0.1**
LPK	**Lapseki**	**1.17**	**36**	*e*PG	**Pg**	**22 08 56.0**	**-1.3**
LPK				*e*SG	**Sg**	**22 09 11.5**	**-1.0**
LPK	**Lapseki**	**1.17**	**36**	*e*Pg	**Pg**	**22 08 56.1**	**-1.3**
LPK				*e*Sg	**Sg**	**22 09 11.5**	**-1.0**
URLA	**Izmir**	**1.22**	**152**	*i* P	**Pg**	**22 08 57.2**	**-1.1**
URLA				*i* S	**Sg**	**22 09 14.0**	**-0.1**
URLA	**Izmir**	**1.22**	**152**	*i* P	**Pg**	**22 08 57.2**	**-1.2**
URLA				*i* S	**Sg**	**22 09 14.0**	**-0.1**
ENEZ	**Enez**	**1.32**	**10**	*e*PN	**Pn**	**22 08 59.6**	**-0.8**
ENEZ	**Enez**	**1.32**	**10**	*e*Pn	**Pn**	**22 08 59.6**	**-0.8**
ERIK	**Erikli-Kesan**	**1.33**	**22**	*e*PN	**Pn**	**22 08 59.8**	**-0.8**
ERIK				*e*SN	**Sn**	**22 09 16.9**	**-1.9**
ERIK	**Erikli-Kesan**	**1.33**	**22**	*e*Pn	**Pn**	**22 08 59.8**	**-0.7**
ERIK				*e*Sn	**Sn**	**22 09 16.9**	**-1.9**
BALY	**Balya**	**1.40**	**77**	*i* P	**Pn**	**22 09 01.6**	**+0.2**
BALY				*i* S	**Sg**	**22 09 19.5**	**-0.3**
BALY	**Balya**	**1.40**	**77**	*i* P	**Pn**	**22 09 01.6**	**+0.2**
BALY				*i* S	**Sg**	**22 09 19.5**	**-0.4**
BLCB	**Balcova**	**1.40**	**138**	*e*PN	**Pn**	**22 09 05.6**	**+4.2**
KRBG	**Karabiga-Canak**	**1.46**	**49**	*e*PN	**Pn**	**22 09 02.2**	**-0.1**
KRBG	**Karabiga-Canak**	**1.46**	**49**	*e*Pn	**Pn**	**22 09 02.2**	**-0.1**
GONE	**Gonen-Balikesi**	**1.54**	**66**	*e*PN	**Pn**	**22 09 05.1**	**+1.7**
GONE	**Gonen-Balikesi**	**1.54**	**66**	*e*Pn	**Pn**	**22 09 05.1**	**+1.8**
BALB	**Balikesir**	**1.58**	**82**	*e*PN	**Pn**	**22 09 05.0**	**+1.2**
BALB	**Balikesir**	**1.58**	**82**	*e*Pn	**Pn**	**22 09 05.1**	**+1.2**
RKY	**Sarkoy-Tekirda**	**1.61**	**39**	*e*PN	**Pn**	**22 09 04.5**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.61**	**39**	*e*Pn	**Pn**	**22 09 04.5**	**+0.2**
SART	**Tekirdag**	**1.61**	**39**	*i* P	**Pn**	**22 09 03.5**	**-0.8**
SART				*i* S	**Sn**	**22 09 25.6**	**-0.1**
SART	**Tekirdag**	**1.61**	**39**	*i* P	**Pn**	**22 09 03.5**	**-0.9**
SART				*i* S	**Sn**	**22 09 25.5**	**-0.2**
MFT	**Murefte**	**1.74**	**38**	*e*PN	**Pn**	**22 09 06.8**	**+0.7**
MFT	**Murefte**	**1.74**	**38**	*e*Pn	**Pn**	**22 09 06.8**	**+0.7**
KCTX	**Karacabey (Bur**	**2.10**	**66**	*e*PN	**Pn**	**22 09 12.6**	**+1.6**
KCTX	**Karacabey (Bur**	**2.10**	**66**	*e*Pn	**Pn**	**22 09 12.6**	**+1.6**

MAN 19 22:11:40, 13˚.61N×120˚.11E, h31km, mb4.3, ML3.1, MS2.9, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
LUBP	**Lubang**	**0.18**	**47**	*e*P	Pb	22 11 47.8	+1.6
LUBP				*e*S	Sb	22 11 51.6	+1.3
TGY	**Tagaytay City**	**0.94**	**58**	⇑*e*P	Pn	22 12 01.2	+4.1
BUSP	**Coron**	**1.60**	**177**	*e*P	Pn	22 12 07.6	+1.4
BUSP				*e*S	Sn	22 12 25.7	0.0
BOAC	**Boac**	**1.70**	**95**	*e*P	Pn	22 12 08.5	+1.0

ATH 19 22:11:49.0, 35˚.20N×24˚.09E, h10km, MD3.6/3, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
NPS	**Neapolis**	**1.25**	**87**	*e*PB	Pb	22 12 12.3	-0.3
KYTH	**Kithira**	**1.38**	**322**	*e*PB	Pb	22 12 15.4	+0.6
VLI	**Veliai**	**1.78**	**329**	*e*PN	Pn	22 12 21.1	+1.3

CSEM 19 22:16:04.8, 41˚.27N×44˚.04E, h0km, ML1.4, After TIF, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
AKH	**Akhalkalaki**	**0.44**	**289**	P	Pg	22 16 13.1	-0.1
AKH				S	Sg	22 16 18.8	-0.1
AKH	**Akhalkalaki**	**0.44**	**289**	P	Pg	22 16 13.1	-0.1
AKH				S	Sg	22 16 18.8	-0.1
TBLG	**Delisi**	**0.70**	**48**	P	Pg	22 16 18.4	+0.2
TBLG				S	Sg	22 16 28.4	+1.1
TBLG	**Delisi**	**0.70**	**48**	P	Pg	22 16 18.4	+0.2
TBLG				S	Sg	22 16 28.4	+1.1
MTA	**Mtatsminda**	**0.71**	**53**	P	Pg	22 16 18.6	+0.2
MTA				S	Sg	22 16 28.5	+0.9
MTA	**Mtatsminda**	**0.71**	**53**	P	Pg	22 16 18.6	+0.2
MTA				S	Sg	22 16 28.5	+0.9
DGRG	**David-gareji**	**1.02**	**79**	P	Pg	22 16 25.7	+1.4
DGRG				S	Sg	22 16 39.7	+2.2
DGRG	**David-gareji**	**1.02**	**79**	P	Pg	22 16 25.7	+1.4
DGRG				S	Sg	22 16 39.7	+2.2
ONI	**Oni**	**1.40**	**342**	P	Sg	22 16 48.7	-0.9
ONI	**Oni**	**1.40**	**342**	S	Sg	22 16 48.7	-0.9

ISCJB ***19*** *22:19:28.9±0.5, 10˚.33N±0˚.06×125˚.52E±0˚.08, h126km±4km, mb3.6/14, Error ellipse: s-maj=14.1km s-min=8.6km az=161.7*
MAN ***19*** *22:19:28, 10˚.12N×125˚.77E, h45km, mb4.4, ML3.3, MS3.2*
IDC ***19*** *22:19:32.2±6.2, 10˚.33N×125˚.47E, h140km±57km, mb3.4/13, mb1 3.5/13, mb1mx3.5/24, mbtmp3.4/13, MS2.9/1, Ms1 2.9/1, ms1mx2.1/22, Error ellipse: s-maj=39.2km s-min=12.0km az=65.0*
NEIC ***19*** *22:19:33.8±1.8, 10˚.32N×125˚.49E, h159km±18km, mb3.7/3, Error ellipse: s-maj=11.7km s-min=6.5km az=68.0*

ISC 19 22:19:30.1±0.5, 10˚.34N±0˚.06×125˚.48E±0˚.08, h120km±4km, n42, σ0˚68/43, mb3.6/14, 1C-3D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
SCPH	**Surigao**	**0.55**	**179**	⇓*e*P	**Pn**	**22 19 40.4**	**-8.1**
SCPH				*e*S	**Sn**	**22 20 01.5**	**-0.7**
MSLP	**Maasin**	**0.65**	**252**	*e*P	**Pn**	**22 19 49.4**	**+0.3**
MSLP				*e*S	**Sn**	**22 19 57.2**	**-6.1**
PLP	**Palo**	**0.96**	**329**	⇓*e*P	**Pn**	**22 19 51.4**	**-0.5**
PLP				*e*S	**Sn**	**22 20 07.4**	**-0.8**
OCLP	**Ormoc**	**1.11**	**310**	*e*P	**Pn**	**22 19 54.2**	**+0.8**
OCLP				*e*S	**Sn**	**22 20 03.3**	**-7.7**
LLP	**Lapu-Lapu**	**1.49**	**269**	⇑*i*P	**Pn**	**22 19 57.7**	**+0.2**
TBP	**Tagbilaran**	**1.72**	**248**	*e*P	**Pn**	**22 20 00.5**	**+0.3**
SNPH	**Sibulan**	**2.42**	**246**	⇓*e*P	**Pn**	**22 20 09.6**	**+0.6**
DAV	**Davao City (W)**	**3.25**	**178**	LR	LR	22 21 08.1	
	comp=Z,209nm,20.2s,baz=22,slow=30						
NACB	**Ninganchiao**	**14.25**	**345**	*e*Pn	**Pn**	**22 22 49.3**	**+2.8**
	18nm,0.8s						
GUMO	**Guam**	**19.24**	**78**	*e*P	**P**	**22 23 45.8**	**+0.6**
ENH	**Enshi**	**24.81**	**325**	*e*P	**P**	**22 24 40.2**	**-0.9**
CMAR	**Chiang Mai Arr**	**26.91**	**290**	P	**P**	**22 25 01.2**	**+0.9**
	1.2nm,0.9s,mb3.4,baz=106,slow=7.1,SNR=7.1						
CMAR	**Chiang Mai Arr**	**26.91**	**290**	P	**P**	**22 25 01.2**	**+0.9**
INCN	**Inchon**	**27.05**	**2**	*e*P	**P**	**22 25 01.2**	**0.0**
FITZ	**Fitzroy Crossi**	**28.26**	**180**	P	**P**	**22 25 11.7**	**-0.4**
	0.6nm,0.5s,mb3.4,baz=24,slow=10.0,SNR=3.4						
FITZ	**Fitzroy Crossi**	**28.26**	**180**	*e*P	**P**	**22 25 11.9**	**-0.2**
	0.6nm,0.4s,mb3.5						
WRAB	**Tennant Creek**	**31.32**	**164**	*e*P	**P**	**22 25 39.1**	**-0.1**
	0.2nm,0.5s,mb3.1						
WRA	**Warramunga Arr**	**31.33**	**164**	P	**P**	**22 25 39.0**	**-0.2**
	0.2nm,0.3s,mb3.3,baz=346,slow=7.8,SNR=4.6						
WRA				PcP	PcP	22 28 29.9	-0.7
	0.2nm,0.3s,baz=348,slow=30,SNR=4.7						
WRA	**Warramunga Arr**	**31.33**	**164**	P	**P**	**22 25 39.0**	**-0.2**
WRA				PcP	PcP	22 28 29.9	-0.7
ASAR	**Alice Springs**	**34.78**	**166**	P	**P**	**22 26 09.4**	**+0.1**
	0.3nm,0.4s,mb3.5,baz=346,slow=6.6,SNR=10.0						
ASAR				PcP	PcP	22 28 40.6	+0.4
	0.4nm,0.4s,baz=347,slow=2.8,SNR=6.4						
ASAR	**Alice Springs**	**34.78**	**166**	P	**P**	**22 26 09.4**	**+0.1**
ASAR				PcP	PcP	22 28 40.6	+0.4
ASAJ	**Asahikawa**	**36.77**	**21**	P	**P**	**22 26 26.0**	**-0.1**
LSA	**Lhasa**	**37.36**	**306**	*e*P	**P**	**22 26 31.6**	**+0.4**
SONM	**Songino Array**	**40.69**	**340**	P	**P**	**22 26 58.9**	**+0.2**
	0.4nm,0.6s,mb3.5,baz=158,slow=8.7,SNR=4.6						
SONM	**Songino Array**	**40.69**	**340**	P	**P**	**22 26 58.9**	**+0.2**
STKA	**Stephens Creek**	**44.72**	**160**	P	**P**	**22 27 32.0**	**+0.7**
	1.4nm,0.4s,mb4.1,baz=8.4,slow=4.1,SNR=6.1						
POO	**Poona**	**50.52**	**285**	*e*PKP	**P**	**22 28 15.0**	**-1.5**
MKAR	**Makanchi Array**	**51.51**	**323**	P	**P**	**22 28 23.7**	**+0.3**
	0.6nm,0.6s,mb3.8,baz=122,slow=8.1,SNR=8.5						
MKAR				PcP	PcP	22 29 35.9	-0.2
	1.0nm,0.7s,baz=113,slow=5.3,SNR=6.1						
MKAR	**Makanchi Array**	**51.51**	**323**	P	**P**	**22 28 23.7**	**+0.3**
MKAR				PcP	PcP	22 29 35.9	-0.2
ZALV	**Zalesovo Beam**	**54.20**	**332**	P	**P**	**22 28 42.3**	**-0.8**
	0.4nm,0.5s,mb3.7,baz=184,slow=11,SNR=3.6						
ZALV	**Zalesovo Beam**	**54.20**	**332**	P	**P**	**22 28 42.3**	**-0.8**
KURK	**Kurchatov**	**55.58**	**326**	P	**P**	**22 28 53.0**	**0.0**
	0.6nm,0.4s,mb4.0,baz=125,slow=6.7,SNR=12						
ILAR	**Eielson Array**	**79.72**	**26**	P	**P**	**22 31 24.6**	**+0.2**
	0.2nm,0.5s,mb3.2,baz=235,slow=4.7,SNR=4.6						
ILAR	**Eielson Array**	**79.72**	**26**	P	**P**	**22 31 24.6**	**+0.2**
ARCES	**ARCESS Array B**	**83.86**	**340**	P	**P**	**22 31 45.8**	**-0.2**
	1.3nm,0.6s,mb3.9,baz=79,slow=6.5,SNR=6.9						
ARCES	**ARCESS Array B**	**83.86**	**340**	P	**P**	**22 31 45.8**	**-0.2**
BRTR	**Keskin Array B**	**84.89**	**309**	P	**P**	**22 31 51.1**	**-0.7**
	0.5nm,0.7s,mb3.6,baz=106,slow=4.8,SNR=2.7						
BRTR	**Keskin Array B**	**84.89**	**309**	P	**P**	**22 31 51.1**	**-0.7**
FINES	**FINESS Array B**	**85.47**	**332**	P	**P**	**22 31 53.8**	**-0.4**
	3.1nm,0.9s,mb4.2,baz=49,slow=4.3,SNR=10						
FINES	**FINESS Array B**	**85.47**	**332**	P	**P**	**22 31 53.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**119.52**	**292**	PKP	PKPdf	22 38 05.6	-1.0
	0.3nm,0.7s,baz=68,slow=2.3,SNR=3.5						
TORD	**Torodi Ar. Bea**	**119.52**	**292**	PKP	PKPdf	22 38 05.6	-1.0

JMA 19 22:20:56.3±0.3, 37˚.26N×135˚.06E, h383km, M3.8, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
JFM	**Mihama**	**1.88**	**156**	P	Pn	22 21 50.2	+0.2
JGM	**Miyama**	**2.05**	**139**	P	Pn	22 21 50.9	-0.1
JNG	**Nsakai**	**2.58**	**108**	P	Pn	22 21 56.0	+1.2
JRY	**Ryogami san**	**3.33**	**111**	P	Pn	22 22 02.4	+1.4
JOD2	**Odawara 2**	**3.82**	**120**	P	Pn	22 22 05.8	+0.3
JFT	**Otama**	**4.21**	**85**	P	Pn	22 22 10.0	+0.7
JMM	**Marumori**	**4.59**	**81**	P	Pn	22 22 13.1	-0.1
JMM				*e*S	S	22 22 13.4	-1.2
JFK	**Kawauchi**	**4.64**	**87**	P	Pn	22 22 13.4	-0.2
JFK				*e*S	S	22 22 13.6	-2.7

WEL 19 22:21:22.3±0.4, 45˚.22S×167˚.12E, h29km±2km, ML4.0/16, 2D, Error ellipse: s-maj=3.6km s-min=3.2km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
DCZ	**Deep Cove**	**0.26**	**175**	⇓P*	Pb	22 21 29.0	-0.1
DCZ				S*	Sb	22 21 33.8	+0.2
DCZ				S*	Sb	22 21 34.1	+0.4
MLZ	**Mavora Lakes**	**0.75**	**100**	⇓PN	Pn	22 21 35.4	-1.6
MLZ				S*	Sb	22 21 45.2	-1.4
MLZ				S*	Sb	22 21 45.4	-1.3
MSZ	**Milford Sound**	**0.79**	**47**	PN	Pn	22 21 36.1	-1.3
WHZ	**Wether Hill Ro**	**0.89**	**140**	PN	Pn	22 21 38.6	-0.2
WHZ				SN	Sn	22 21 51.0	+0.2
PYZ	**Puysegur Point**	**1.00**	**198**	PN	Pn	22 21 39.3	-1.0
WKZ	**Wanaka**	**1.40**	**74**	PN	Pn	22 21 45.9	0.0
EAZ	**Earnscleugh**	**1.54**	**91**	PN	Pn	22 21 48.2	+0.4
JCZ	**Jackson Bay**	**1.64**	**46**	PN	Pn	22 21 48.0	-1.0
APZ	**The Paps**	**1.72**	**160**	PN	Pn	22 21 51.0	+0.7
TUZ	**Tuapeka**	**1.91**	**114**	PN	Pn	22 21 53.2	+0.4
SYZ	**Scrubby Hill**	**1.93**	**134**	PN	Pn	22 21 53.5	+0.4
SYZ				SN	Sn	22 22 16.6	+0.2
LBZ	**Lake Benmore**	**2.33**	**70**	PN	Pn	22 21 58.2	-0.4
FOZ	**Fox Glacier**	**2.47**	**49**	PN	Pn	22 22 00.1	-0.6
ODZ	**Otahua Downs**	**2.50**	**87**	PN	Pn	22 22 00.4	-0.6
RPZ	**Rata Peaks**	**3.19**	**63**	PN	Pn	22 22 09.6	-0.8
WVZ	**Waitaha Valley**	**3.37**	**52**	PN	Pn	22 22 11.3	-1.7
MQZ	**McQueen's Vall**	**4.24**	**71**	PN	Pn	22 22 23.5	-1.3
MQZ				SN	Sn	22 23 10.0	-3.3
LTZ	**Lake Taylor**	**4.44**	**59**	PN	Pn	22 22 26.1	-1.5
THZ	**Tophouse**	**5.44**	**53**	PN	Pn	22 22 40.0	-1.4
QRZ	**Quartz Range**	**5.91**	**44**	PN	Pn	22 22 45.5	-2.3

ISCJB ***19*** *22:24:43.4±0.6, 21˚.70N±0˚.08×62˚.18E±0˚.05, h10km, mb3.8/10, Error ellipse: s-maj=11.6km s-min=6.0km az=9.4*
IDC ***19*** *22:24:43.2±0.9, 21˚.55N×62˚.25E, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.7/27, mbtmp3.8/10, MS3.3/1, Ms1 3.3/1, ms1mx2.5/47, Error ellipse: s-maj=26.6km s-min=19.5km az=144.0*
OMAN ***19*** *22:24:51.1±0.3, 21˚.67N×61˚.62E, h0km±14km, Error ellipse: s-maj=37.8km s-min=4.7km az=264.0*

ISC 19 22:24:45.4±0.6, 21˚.72N±0˚.08×62˚.19E±0˚.05, h10km, n26, σ1˚18/29, mb3.8/10, 2C-2D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
WBK	**Wadi Bani Khal**	**3.11**	**287**	P	**Pn**	**22 25 34.7**	**+0.1**

mb3.7/12, Error ellipse: s-maj=28.6km s-min=13.7km az=157.0
NEIC 19 22:40:24.2±1.4, 46.71N×152.47E, h80km±12km, mb3.9/1, Error ellipse: s-maj=19.5km s-min=9.4km az=157.0
IDC 19 22:40:24.6±3.6, 46.73N×152.52E, h81km±32km, mb3.6/11, mb1 3.8/13, mb1mx3.6/28, mbtmp3.7/13, Error ellipse: s-maj=26.3km s-min=20.1km az=158.0

ISC 19 22:40:24.2±1.4, 46.7N±0.2×152.5E±0.1, h79km±15km, n30, σ0$72/30, mb3.7/12, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**7.42**	**253**	P		**Pn**	**22 42 10.6**	**+0.9**
	0.8nm,0.3s,baz=90,slow=16,SNR=3.1							
ASAJ	**Asahikawa**	**7.42**	**253**	*e*Pn		**Pn**	**22 42 10.5**	**+0.8**
	1.9nm,0.4s							
ERM	**Erimo**	**8.16**	**238**	*e*Pn		**Pn**	**22 42 18.8**	**-0.9**
FX1	**Attu Island--F**	**14.70**	**58**	P		**Pn**	**22 43 47.9**	**+0.2**
	1.7nm,0.3s,baz=252,slow=19,SNR=2.5							
FX1	**Attu Island--F**	**14.70**	**58**	P		**Pn**	**22 43 47.9**	**+0.2**
SONM	**Songino Array**	**30.93**	**289**	P		**P**	**22 46 34.7**	**+1.3**
	0.3nm,0.8s,mb3.1,baz=69,slow=7.9,SNR=2.4							
SONM	**Songino Array**	**30.93**	**289**	P		**P**	**22 46 34.7**	**+1.3**
ILAR	**Eielson Array**	**36.86**	**39**	P		**P**	**22 47 24.2**	**-0.2**
	0.3nm,0.9s,mb3.2,baz=266,slow=11,SNR=4.2							
ILAR	**Eielson Array**	**36.86**	**39**	P		**P**	**22 47 24.2**	**-0.2**
MKAR	**Makanchi Array**	**46.57**	**297**	P		**P**	**22 48 43.4**	**-0.4**
	0.5nm,0.6s,mb3.4,baz=58,slow=5.6,SNR=9.2							
MKAR				PcP		PcP	22 50 17.1	+0.4
	0.4nm,0.6s,baz=81,slow=4.5,SNR=4.3							
MKAR	**Makanchi Array**	**46.57**	**297**	P		**P**	**22 48 43.4**	**-0.4**
MKAR				PcP		PcP	22 50 17.1	+0.4
KURK	**Kurchatov**	**47.02**	**303**	*e*P		**P**	**22 48 45.8**	**-1.5**
	1.2nm,0.6s,mb3.8							
FINES	**FINESS Array B**	**63.89**	**334**	P		**P**	**22 50 47.8**	**-0.3**
	1.8nm,0.5s,mb4.2,baz=266,slow=9.1,SNR=13							
FINES	**FINESS Array B**	**63.89**	**334**	P		**P**	**22 50 47.8**	**-0.3**
NB2	**NORSAR Subarra**	**68.12**	**341**	P		**P**	**22 51 15.1**	**-0.1**
	comp=Z,0.8nm,0.5s,mb3.8,baz=28,slow=6.5							
NOA	**NORSAR Array B**	**68.12**	**341**	P		**P**	**22 51 14.6**	**-0.6**
	comp=Z,0.8nm,0.6s,mb3.7,baz=15,slow=4.8,SNR=6.9							
NOA	**NORSAR Array B**	**68.12**	**341**	P		**P**	**22 51 14.6**	**-0.6**
HFS	**Hagfors**	**68.34**	**339**	P		**P**	**22 51 16.5**	**-0.1**
	comp=Z,1.8nm,0.5s,mb4.2,baz=57,slow=5.5,SNR=12							
HFS	**Hagfors**	**68.34**	**339**	P		**P**	**22 51 16.5**	**-0.1**
AKASG	**Malin Array Be**	**71.34**	**326**	P		**P**	**22 51 34.9**	**-0.3**
	comp=Z,1.4nm,0.3s,mb4.2,baz=34,slow=5.9,SNR=4.5							
AKASG	**Malin Array Be**	**71.34**	**326**	P		**P**	**22 51 34.9**	**-0.3**
ASAR	**Alice Springs**	**72.03**	**198**	P		**P**	**22 51 39.3**	**-0.1**
	comp=Z,0.4nm,0.6s,mb3.4,baz=13,slow=5.6,SNR=5.5							
ASAR	**Alice Springs**	**72.03**	**198**	P		**P**	**22 51 39.3**	**-0.1**
BUR08	**Bucovina Ar. S**	**75.36**	**326**	*e*P		**P**	**22 51 58.4**	**-0.4**
TXAR	**Lajitas Array**	**77.90**	**60**	P		**P**	**22 52 13.8**	**+0.3**
	comp=Z,0.2nm,0.4s,mb3.2,baz=296,slow=4.8,SNR=5.2							
TXAR	**Lajitas Array**	**77.90**	**60**	P		**P**	**22 52 13.8**	**+0.3**
BRTR	**Keskin Array B**	**78.12**	**316**	P		**P**	**22 52 15.4**	**+0.9**
	comp=Z,1.1nm,0.9s,mb3.6,baz=34,slow=6.4,SNR=3.4							
BRTR	**Keskin Array B**	**78.12**	**316**	P		**P**	**22 52 15.4**	**+1.0**
MMAI	**Mount Meron Ar**	**82.51**	**311**	P		**P**	**22 52 39.2**	**+1.0**
	comp=Z,0.9nm,0.4s,mb4.0,baz=45,slow=6.4,SNR=5.4							
MMAI	**Mount Meron Ar**	**82.51**	**311**	P		**P**	**22 52 39.1**	**+1.0**

IDC 19 22:42:01.1±1.1, 11.62N×142.93E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.5/24, mbtmp3.4/5, ML3.8/1, Error ellipse: s-maj=41.5km s-min=19.9km az=114.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.72**	**44**	Pn		Pn	22 42 47.8	+1.7
	14nm,0.3s,baz=200,slow=16,SNR=4.5							
GUMO				Sn		Sn	22 43 20.6	+0.9
	12nm,0.3s,baz=203,slow=18,SNR=3.0							
WRA	**Warramunga Arr**	**32.49**	**195**	P		P	22 48 32.4	-1.2
	0.4nm,0.5s,baz=17,slow=9.6,SNR=4.7							
ASAR	**Alice Springs**	**36.17**	**194**	P		P	22 49 06.5	+1.1
	0.3nm,0.5s,baz=18,slow=12,SNR=9.0							
MKAR	**Makanchi Array**	**61.61**	**317**	P		P	22 52 21.0	+0.5
	0.2nm,0.6s,baz=114,slow=6.9,SNR=3.3							
ILAR	**Eielson Array**	**71.14**	**25**	P		P	22 53 20.5	-0.8
	0.1nm,0.5s,baz=246,slow=5.3,SNR=3.2							

IDC 19 22:52:30.0±2.4, 6.84S×129.34E, h0km, mb3.5/1, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, ML3.7/3, MS3.0/1, Ms1 3.0/1, ms1mx2.3/17, Error ellipse: s-maj=104.7km s-min=28.7km az=76.0
ISCJB 19 22:52:33.3±0.9, 7.08S±0.07×129.36E±0.10, h33km, mb3.7/3, Error ellipse: s-maj=14.5km s-min=8.6km az=158.6
NEIC 19 22:52:41.0±2.7, 7.29S×129.36E, h109km±29km, mb4.4/3, Error ellipse: s-maj=23.2km s-min=15.5km az=212.0

ISC 19 22:52:35.6±0.9, 7.04S±0.07×129.44E±0.10, h35km, n13, σ1$22/20, mb3.7/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.60**	**198**	Pn		**Pn**	**22 55 19.6**	**+0.8**
	0.4nm,0.3s,baz=46,slow=6.7,SNR=13							
FITZ				Sn		**Sn**	**22 57 26.9**	**-0.2**
	0.7nm,0.3s,baz=98,slow=21,SNR=6.8							
FITZ	**Fitzroy Crossi**	**11.60**	**198**	Pn		**Pn**	**22 55 19.6**	**+0.8**
FITZ				Sn		**Sn**	**22 57 26.9**	**-0.2**
WRAB	**Tennant Creek**	**13.67**	**160**	*e*Pn		**Pn**	**22 55 48.8**	**+1.7**
WRAB				*e*Sn		**Sn**	**22 58 17.4**	**-0.4**
WRA	**Warramunga Arr**	**13.68**	**160**	Pn		**Pn**	**22 55 47.8**	**+0.6**
	0.3nm,0.3s,baz=334,slow=13,SNR=12							
WRA				Sn		**Sn**	**22 58 16.1**	**-1.8**
	0.7nm,0.3s,baz=341,slow=18,SNR=9.9							
WRA	**Warramunga Arr**	**13.68**	**160**	Pn		**Pn**	**22 55 47.8**	**+0.6**
WRA				Sn		**Sn**	**22 58 16.1**	**-1.8**
COEN	**Coen**	**15.15**	**118**	*e*Pn		**Pn**	**22 56 07.7**	**+0.7**
	17nm,0.6s							
ASAR	**Alice Springs**	**17.08**	**166**	P		**Pn**	**22 56 33.3**	**+1.6**
	0.2nm,0.3s,baz=347,slow=9.1,SNR=9.2							
ASAR				S		**S**	**22 59 40.0**	**-9.4**
	0.2nm,0.3s,baz=359,slow=27,SNR=6.6							
ASAR				LR		LR	23 03 44.7	
	comp=Z,59nm,21.7s,baz=348,slow=39							
ASAR	**Alice Springs**	**17.08**	**166**	P		**Pn**	**22 56 33.3**	**+1.6**
ASAR				S		**S**	**22 59 40.0**	**-9.4**
ASAR				LR		LR	23 03 44.6	
KSM	**Kuching**	**20.88**	**293**	*e*P		**P**	**22 57 15.2**	**+0.2**
	6.4nm,0.9s							
STKA	**Stephens Creek**	**27.19**	**157**	*e*P		**P**	**22 58 13.8**	**-2.2**
	0.6nm,1.0s,mb3.1							
NWAO	**Narrogin (SRO)**	**28.14**	**202**	*e*P		**P**	**22 58 19.2**	**-5.3**
	21nm,1.1s,mb4.7							
MKAR	**Makanchi Array**	**67.95**	**327**	P		**P**	**23 03 29.5**	**-1.4**
	0.2nm,0.6s,mb3.4,baz=121,slow=7.6,SNR=4.6							
MKAR	**Makanchi Array**	**67.95**	**327**	P		**P**	**23 03 29.5**	**-1.4**

ISCJB 19 22:56:22.9±0.8, 3.52N±0.05×76.98W±0.06, h80km±10km, mb3.7/7, Error ellipse: s-maj=10.1km s-min=8.2km az=38.7
NEIC 19 22:56:23.9±0.8, 3.52N×76.94W, h72km±9km, mb3.4/1, Error ellipse: s-maj=10.6km s-min=8.4km az=222.0
IDC 19 22:56:24.6±5.5, 3.51N×76.95W, h81km±38km, mb3.6/6, mb1 3.8/7, mb1mx3.5/22, mbtmp3.7/7, Error ellipse: s-maj=61.1km s-min=18.3km az=13.0

ISC 19 22:56:24.1±0.7, 3.52N±0.05×76.96W±0.05, h75km±9km, n23, σ1$06/25, mb3.7/7, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.94**	**63**	P		**Pn**	**22 57 09.8**	**+1.2**
	51nm,0.3s,baz=305,slow=1.7,SNR=50							
ROSC				S		**Sn**	**22 57 44.6**	**+1.8**
	13nm,0.3s,baz=272,slow=22,SNR=4.3							
ROSC	**El Rosal**	**2.94**	**63**	P		**Pn**	**22 57 09.8**	**+1.2**
ROSC				S		**Sn**	**22 57 44.6**	**+1.8**
OTAV	**Otavalo**	**3.59**	**205**	*e*Pn		**Pn**	**22 57 17.8**	**+0.3**
OTAV				*e*Sn		**Sn**	**22 57 58.4**	**-0.3**
BCIP	**Isla Barro Col**	**6.29**	**333**	*e*Pn		**Pn**	**22 57 52.8**	**-1.6**
SDV	**Santo Domingo**	**8.24**	**49**	*e*Pn		**Pn**	**22 58 19.7**	**-1.3**
	8.1nm,0.4s							
SDV				*e*Sn		**Sn**	**22 59 49.3**	**-3.3**
JTS	**JuntasAbangare**	**10.40**	**311**	Pn		**Pn**	**22 58 51.2**	**+0.7**
TGUH	**Tegucigalpa,Un**	**14.60**	**316**	*e*Pn		**Pn**	**22 59 47.3**	**+0.4**
SAML	**Samuel**	**18.50**	**132**	*e*P		**Pn**	**23 00 33.8**	**-1.6**
LPAZ	**La Paz**	**21.53**	**156**	*e*P		**P**	**23 01 07.9**	**+0.6**
	1.4nm,0.8s,mb3.3							
CMIG	**Matias Romero**	**22.16**	**309**	P		**P**	**23 01 14.2**	**+0.1**
	2.3nm,0.7s,mb3.6,baz=173,slow=8.1,SNR=3.0							
CMIG	**Matias Romero**	**22.16**	**309**	P		**P**	**23 01 14.2**	**+0.1**
NVAR	**Mina Array Bea**	**51.22**	**318**	P		**P**	**23 05 21.3**	**+1.2**
	0.2nm,0.4s,mb3.5,baz=130,slow=8.4,SNR=3.7							
NVAR	**Mina Array Bea**	**51.22**	**318**	P		**P**	**23 05 21.3**	**+1.2**
YKA	**Yellowknife Ar**	**65.10**	**342**	P		**P**	**23 06 55.6**	**-0.9**
	1.3nm,0.7s,mb3.9,baz=136,slow=6.0,SNR=5.2							
YKA	**Yellowknife Ar**	**65.10**	**342**	P		**P**	**23 06 55.6**	**-0.9**
DBIC	**Dimbokro**	**71.84**	**84**	P		**P**	**23 07 39.5**	**0.0**
	1.9nm,0.8s,mb4.0,baz=256,slow=9.2,SNR=2.8							
DBIC	**Dimbokro**	**71.84**	**84**	P		**P**	**23 07 39.5**	**0.0**
ESDC	**Sonseca Array**	**74.69**	**50**	P		**P**	**23 07 56.8**	**+0.9**
	0.5nm,0.5s,mb3.5,baz=267,slow=5.7,SNR=6.7							
ESDC	**Sonseca Array**	**74.69**	**50**	P		**P**	**23 07 56.8**	**+0.9**
TORD	**Torodi Ar. Bea**	**78.17**	**77**	P		**P**	**23 08 15.6**	**-0.4**
	1.4nm,0.5s,mb3.9,baz=282,slow=6.4,SNR=24							
TORD	**Torodi Ar. Bea**	**78.17**	**77**	P		**P**	**23 08 15.6**	**-0.4**
ASAR	**Alice Springs**	**144.09**	**233**	PKP		PKPdf	23 15 51.1	-0.9
	0.4nm,0.3s,baz=120,slow=3.9,SNR=8.8							
ASAR	**Alice Springs**	**144.09**	**233**	PKP		PKPdf	23 15 51.1	-0.9

IDC 19 23:27:50.6±0.8, 14.37N×92.50W, h0km, mb4.4/16, mb1 4.6/18, mb1mx4.5/26, mbtmp4.4/18, ML4.6/2, MS3.8/11, Ms1 3.8/11, ms1mx3.5/36, Error ellipse: s-maj=29.1km s-min=17.0km az=53.0
CASC 19 23:27:52.7±3.3, 14.39N×92.88W, h144km±34km, MD4.2
ISCJB 19 23:27:53.3±1.1, 14.23N±0.04×93.00W±0.03, h23km±7km, mb4.5/44, MS4.0/9, Error ellipse: s-maj=6.9km s-min=3.9km az=23.7
MEX 19 23:27:54.6±1.4, 14.10N×93.03W, h16km±38km, MD4.5
NEIC 19 23:27:54.0, 14.10N×93.03W, h16km, mb4.5/32, MD4.5(MEX), After MEX.

ISC 19 23:27:54.3±1.2, 14.30N±0.04×92.96W±0.02, h14km±8km, n129, σ1$33/131, mb4.5/44, MS4.0/9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THIG		**0.90**	**48**	*i* P		**Pb**	**23 28 11.3**	**-0.5**
THIG				*i* S		**Sb**	**23 28 23.4**	**-0.3**
JAT	**Jato**	**1.28**	**89**	*e*P		**Pn**	**23 28 18.8**	**+1.0**
JAT				*e*S		**Sb**	**23 28 40.0**	**+5.5**
PCIG		**1.42**	**350**	*e*P		**Pn**	**23 28 17.3**	**-2.6**
PCIG				*i* S		**Sn**	**23 28 38.0**	**-0.4**
FG6		**2.02**	**82**	*e*P		**Pn**	**23 28 28.4**	**+0.3**
FG6				*e*S		**Sn**	**23 28 47.7**	**-5.6**
FUG	**Fuego 3**	**2.05**	**86**	*e*P		**Pn**	**23 28 26.1**	**-2.4**
FUG				*e*S		**Sn**	**23 29 01.9**	**+8.0**
CCIG	**Comitan**	**2.13**	**22**	*e*P		**Pn**	**23 28 30.7**	**+1.2**
CCIG				*i* S		**Sn**	**23 28 56.4**	**+0.7**
PCG	**Pacaya**	**2.28**	**87**	*e*P		**Pn**	**23 28 30.4**	**-1.2**
PCG				*e*S		**Sn**	**23 28 58.5**	**-0.9**
SCX	**San Cristobal**	**2.45**	**7**	*e*P		**Pn**	**23 28 34.8**	**+0.9**
SCX				*i* S		**Sn**	**23 29 04.0**	**+0.4**
TGIG		**2.47**	**356**	*i* P		**Pn**	**23 28 34.4**	**+0.1**
TGIG				*i* S		**Sn**	**23 29 05.2**	**+0.9**
NBG	**Las Nubes**	**2.54**	**83**	*e*P		**Pn**	**23 28 36.6**	**+1.4**
NBG				*e*S		**Sn**	**23 29 06.5**	**+0.5**
CMIG	**Matias Romero**	**3.34**	**327**	Pn		**Pn**	**23 28 45.1**	**-1.1**
	42nm,0.3s,baz=158,slow=9.5,SNR=199							
CMIG				Sn		**Sn**	**23 29 23.7**	**-2.1**
	146nm,0.3s,baz=80,slow=15,SNR=10							
CMIG				LR		LR	23 30 25.8	
	comp=Z,435nm,18.1s,baz=149,slow=44							
CMIG	**Matias Romero**	**3.34**	**327**	Pn		**Pn**	**23 28 45.1**	**-1.1**
CMIG				Sn		**Sn**	**23 29 23.7**	**-2.1**
CMIG				LR		LR	23 30 25.8	
CMIG	**Matias Romero**	**3.34**	**327**	*e*P		**Pn**	**23 28 44.8**	**-1.4**
CMIG				*i* S		**Sn**	**23 29 24.5**	**-1.3**
HUIG	**Huatulco**	**3.38**	**296**	*e*P		**Pn**	**23 28 45.1**	**-1.6**
HUIG				*i* S		**Sn**	**23 29 22.3**	**-4.4**
OXX	**Oaxaca**	**4.56**	**308**	*i* P		**Pn**	**23 29 04.1**	**+1.1**
OXX				*i* S		**Sn**	**23 29 54.3**	**-1.7**
VHO	**Vista Hermosa**	**4.57**	**308**	*i* P		**Pn**	**23 29 01.0**	**-2.0**
VHO				*i* S		**Sn**	**23 29 53.6**	**-2.4**
PNIG	**Pinotepa**	**5.41**	**293**	*i* P		**Pn**	**23 29 13.9**	**-0.7**
PNIG				*i* S		**Sn**	**23 30 12.5**	**-4.2**
TGUH	**Tegucigalpa,Un**	**5.52**	**92**	*e*Pn		**Pn**	**23 29 16.7**	**+0.5**
TGUH				*e*			23 29 19.1	
TGUH				*e*Pg		**Pg**	**23 29 38.9**	**-1.2**
TGUH				*e*Sn		**Sn**	**23 30 21.1**	**+1.7**
UTMO	**Huajuapan**	**5.84**	**308**	*i* P		**Pn**	**23 29 19.9**	**-0.6**
UTMO				*i* S		**Sn**	**23 30 26.2**	**-1.1**
TEIG	**Tepich**	**7.40**	**36**	Pn		**Pn**	**23 29 41.1**	**-0.8**
	59nm,0.3s,baz=235,slow=3.9,SNR=55							
TEIG				Sn		**Sn**	**23 31 03.4**	**-2.4**
	14nm,0.3s,baz=124,slow=23,SNR=4.2							
TEIG	**Tepich**	**7.40**	**36**	*e*Pn		**Pn**	**23 29 41.0**	**-1.0**
TEIG				*e*Sn		**Sn**	**23 31 05.4**	**-0.4**
JTS	**JuntasAbangare**	**8.77**	**116**	*e*Pn		**Pn**	**23 30 00.2**	**-0.7**
JCT	**Junction City**	**17.30**	**340**	*e*Pn		**Pn**	**23 31 57.8**	**+2.2**
	11nm,0.6s							
TXAR	**Lajitas Array**	**17.95**	**328**	P		**Pn**	**23 32 05.9**	**+2.3**
	0.5nm,0.3s,baz=150,slow=10,SNR=41							
TXAR				LR		LR	23 39 38.8	
	comp=Z,66nm,19.4s,baz=10.0,slow=39							
TXAR	**Lajitas Array**	**17.95**	**328**	P		**Pn**	**23 32 05.9**	**+2.3**
TXAR				LR		LR	23 39 38.8	
MIAR	**Mount Ida**	**20.17**	**359**	*e*P		**P**	**23 32 27.2**	**-1.2**
	20nm,0.8s							
UALR	**University of**	**20.40**	**1**	*e*P		**P**	**23 32 32.4**	**+1.5**
	16nm,0.9s							
ROSC	**El Rosal**	**20.60**	**115**	P		**P**	**23 32 34.8**	**+1.4**
	16nm,0.9s,baz=91,slow=23,SNR=8.7							
ROSC	**El Rosal**	**20.60**	**115**	P		**P**	**23 32 34.8**	**+1.4**
CPRX	**Cap Rock**	**21.13**	**334**	*e*P		**P**	**23 32 38.7**	**-0.2**
SWET	**Sewanee**	**21.77**	**16**	*e*P		**P**	**23 32 38.5**	**-7.2**
AMTX	**Amarillo**	**21.96**	**341**	*e*P		**P**	**23 32 47.0**	**-0.8**
	36nm,0.6s,mb5.0							
AMTX				*e*S		**S**	**23 36 49.5**	**-0.4**
SDV	**Santo Domingo**	**22.51**	**101**	*e*P		**P**	**23 32 53.6**	**-0.2**
	10nm,0.7s,mb4.4							
TKL	**Tuckaleechee C**	**22.82**	**20**	P		**P**	**23 32 54.5**	**-2.4**
	2.5nm,0.5s,mb3.9,baz=193,slow=12,SNR=8.8							
TKL	**Tuckaleechee C**	**22.82**	**20**	*e*P		**P**	**23 32 50.1**	**-6.8**
TKL				*e*P			23 32 57.6	
BNM	**Barren Site**	**23.32**	**330**	*e*P		**P**	**23 33 03.1**	**+0.9**
LPM	**Los Pinos Moun**	**23.46**	**331**	*e*P		**P**	**23 33 04.8**	**+1.2**
TZTN	**Tazewell**	**23.70**	**19**	*e*P		**P**	**23 33 15.8**	**+10**
CCM	**Cathedral Cave**	**23.71**	**3**	*e*P		**P**	**23 33 03.4**	**-2.6**
	36nm,1.7s,mb4.5							
LAZ	**Ladron**	**23.77**	**330**	*e*P		**P**	**23 33 07.5**	**+0.9**
ANMO	**Albuquerque**	**23.90**	**332**	P		**P**	**23 33 07.7**	**-0.1**
	7.2nm,0.8s,mb4.2,baz=159,slow=11,SNR=13							
ANMO	**Albuquerque**	**23.90**	**332**	*e*P		**P**	**23 33 07.8**	**+0.1**
	6.9nm,0.8s,mb4.1							
TUC	**Tucson**	**24.22**	**321**	*e*P		**P**	**23 33 11.7**	**+1.0**
	9.6nm,0.9s,mb4.2							
KSU1	**Kansas State U**	**24.92**	**353**	*e*P		**P**	**23 33 15.2**	**-1.8**
	16nm,0.6s,mb4.7							
ATAH	**Atahualpa**	**25.73**	**145**	LR		LR	23 41 36.9	
	comp=Z,117nm,19.4s,MS3.4,baz=92,slow=32							
SDCO	**Great Sand Dun**	**25.88**	**337**	*e*P		**P**	**23 33 26.9**	**+1.2**
	8.0nm,0.8s,mb4.3							
SJG	**San Juan**	**26.01**	**78**	LR		LR	23 43 07.7	
	comp=Z,175nm,22.0s,MS3.5,baz=92,slow=36							
MVCO	**Mesa Verde**	**26.70**	**332**	*e*P		**P**	**23 33 34.3**	**+1.2**
	13nm,0.8s,mb4.5							
WUAZ	**Wupatki**	**26.84**	**325**	*e*P		**P**	**23 33 35.8**	**+1.3**
	4.8nm,0.9s,mb4.0							
PV01	**Paradox Valley**	**27.48**	**333**	*e*P		**P**	**23 33 41.0**	**+0.8**
SMCO	**Snowmass**	**27.69**	**336**	*e*P		**P**	**23 33 43.2**	**+1.1**
	4.7nm,0.9s,mb4.1							
ISCO	**Idaho Springs**	**27.73**	**339**	*e*P		**P**	**23 33 44.1**	**+1.7**
	2.6nm,0.6s,mb4.0							
PV04	**Paradox Valley**	**27.85**	**332**	*e*P		**P**	**23 33 44.8**	**+1.3**
LDFC	**Landfair**	**28.74**	**320**	*e*P		**P**	**23 33 53.7**	**+2.2**
	9.5nm,0.9s,mb4.5							
CCUT	**Cedar City**	**29.42**	**326**	*e*P		**P**	**23 33 59.7**	**+2.2**
	2.7nm,0.9s,mb4.0							
ECSD	**EROS Data Cent**	**29.50**	**355**	*e*P		**P**	**23 33 56.2**	**-1.9**
	5.7nm,0.6s,mb4.5							
ARUT	**Antelope Range**	**29.63**	**326**	*e*P		**P**	**23 34 01.8**	**+2.4**
HWUT	**Hardware Ranch**	**31.65**	**333**	*e*P		**P**	**23 34 19.1**	**+2.0**
	4.6nm,0.9s,mb4.3							
BW06	**Boulder Array**	**31.77**	**336**	*e*P		**P**	**23 34 18.2**	**0.0**
	9.2nm,1.4s,mb4.4							
PDAR	**Pinedale Array**	**31.77**	**336**	P		**P**	**23 34 17.9**	**-0.4**
	2.6nm,0.9s,mb4.0,baz=139,slow=8.6,SNR=11							
PDAR	**Pinedale Array**	**31.77**	**336**	P		**P**	**23 34 17.9**	**-0.4**
HVU	**Hansel Valley**	**32.33**	**332**	*e*P		**P**	**23 34 24.7**	**+1.6**
	4.9nm,0.9s,mb4.3							
SADO	**Sadowa**	**32.56**	**18**	P		**P**	**23 34 21.9**	**-3.2**
	4.4nm,0.6s,mb4.5,baz=225,slow=9.7,SNR=3.4							
SADO	**Sadowa**	**32.56**	**18**	P		**P**	**23 34 21.9**	**-3.2**
REDW	**Red Top Meadow**	**32.79**	**336**	P		**P**	**23 34 27.7**	**+0.6**
SNOW	**Snow King Moun**	**32.83**	**336**	*e*P		**P**	**23 34 28.1**	**+0.7**
	38nm,0.7s,mb5.4							
NVAR	**Mina Array Bea**	**32.86**	**322**	P		**P**	**23 34 29.5**	**+1.7**
	8.6nm,0.7s,mb4.8,baz=135,slow=8.6,SNR=55							
NVAR				PcP		PcP	23 37 12.3	-0.2
	2.1nm,0.8s,baz=136,slow=3.5,SNR=6.8							
NVAR	**Mina Array Bea**	**32.86**	**322**	P		**P**	**23 34 29.5**	**+1.7**
NVAR				PcP		PcP	23 37 12.3	-0.2
LOHW	**Long Hollow**	**32.90**	**336**	*e*P		**P**	**23 34 28.5**	**+0.4**
	8.9nm,0.7s,mb4.8							
TPAW	**Teton Pass**	**32.93**	**336**	*e*P		**P**	**23 34 29.3**	**+0.9**
	17nm,1.1s,mb4.9							
RRI2	**Red Ridge**	**32.96**	**335**	*e*P		**P**	**23 34 29.4**	**+0.8**
	7.1nm,0.8s,mb4.7							
MOOW	**Moose Ponds**	**33.07**	**336**	*e*P		**P**	**23 34 30.1**	**+0.6**
	8.4nm,1.1s,mb4.6							
IMW	**Indian Meadow**	**33.27**	**336**	*e*P		**P**	**23 34 31.9**	**+0.6**
	6.4nm,0.6s,mb4.7							
FLWY	**Flagg Ranch**	**33.33**	**336**	*e*P		**P**	**23 34 32.6**	**+0.8**
	7.7nm,0.8s,mb4.7							
HLID	**Hailey**	**34.48**	**332**	*e*P		**P**	**23 34 42.2**	**+0.4**
	3.7nm,0.8s,mb4.4							
MCMT	**McKenzie Canyo**	**34.81**	**335**	*e*P		**P**	**23 34 44.5**	**-0.1**
LRM	**Limekiln Ridge**	**35.47**	**336**	*e*P		**P**	**23 34 51.1**	**+0.8**
ULM	**Lac du Bonnet**	**35.94**	**357**	P		**P**	**23 34 50.5**	**-3.7**
	3.2nm,0.5s,mb4.5,baz=174,slow=11,SNR=7.3							
ULM	**Lac du Bonnet**	**35.94**	**357**	P		**P**	**23 34 50.5**	**-3.7**
CHMT	**Chamberlain Mo**	**36.68**	**337**	*e*P		**P**	**23 35 00.8**	**+0.1**
MSO	**Missoula**	**36.88**	**336**	*e*P		**P**	**23 35 02.6**	**+0.2**
	13nm,1.3s,mb4.4							
KHMM	**Horse Mountain**	**37.67**	**321**	*e*P		**P**	**23 35 10.3**	**+1.1**
	13nm,1.0s,mb4.6							
LPAZ	**La Paz**	**39.05**	**140**	LR		LR	23 50 23.4	
	comp=Z,81nm,21.5s,MS3.5,baz=65,slow=35							
HOOD	**Mount Hood Mea**	**39.30**	**328**	*e*P		**P**	**23 35 24.5**	**+1.7**
	21nm,1.1s,mb4.8							
LON	**Longmire**	**40.36**	**329**	*e*P		**P**	**23 35 31.9**	**+0.3**
	9.9nm,0.4s,mb4.9							
PGC	**Sidney**	**42.47**	**330**	*e*P		**P**	**23 35 56.2**	**+7.3**
YKA	**Yellowknife Ar**	**50.53**	**347**	P		**P**	**23 36 50.4**	**-1.5**
	8.5nm,0.8s,mb4.8,baz=149,slow=7.5,SNR=15							
YKA				PcP		PcP	23 38 09.8	+0.1
	2.3nm,0.7s,baz=162,slow=3.0,SNR=4.7							
YKA	**Yellowknife Ar**	**50.53**	**347**	P		**P**	**23 36 50.4**	**-1.5**
YKA				PcP		PcP	23 38 09.8	+0.1

0.8nm,0.6s,mb3.6,baz=120,slow=5.8,SNR=5.0

CMAR	**Chiang Mai Arr**	**44.25**	**303**	P	**P**	**00 03 44.8**	**-0.3**
MKAR	**Makanchi Array**	**70.61**	**323**	P	**P**	**00 06 49.6**	**-0.9**
	0.7nm,0.5s,mb3.8,baz=118,slow=6.8,SNR=11						
MKAR	**Makanchi Array**	**70.61**	**323**	P	**P**	**00 06 49.6**	**-0.9**
ILAR	**Eielson Array**	**88.51**	**25**	P	**P**	**00 08 25.6**	**-1.7**
	0.9nm,0.7s,mb4.2,baz=265,slow=4.5,SNR=9.6						
ILAR	**Eielson Array**	**88.51**	**25**	P	**P**	**00 08 25.6**	**-1.7**

IGQ 19 23:57:56.0, 1°24′S × 78°20′W, h14 km ± 2 km, Mb4.1, Ms3.9, 2C-4D, Error ellipse: s-maj=2.4km s-min=1.0km az=21.4, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PISA	**Pisayambo**	**0.26**	**313**	⇓P	Pg	23 58 02.4	+0.9
BRUN	**Tungurahua Vol**	**0.28**	**229**	⇓P	Pg	23 58 02.8	+0.7
RUN5	**Runtun**	**0.29**	**232**	S	Sg	23 58 07.2	+0.9
RUN5	**Runtun**	**0.29**	**232**	P	Pg	23 58 02.7	+0.6
BULB	**Ulba Tungurahu**	**0.29**	**227**	P	Pg	23 58 02.6	+0.4
ULBA	**Ulba**	**0.30**	**225**	P	Pg	23 58 02.7	+0.4
RETU	**Refugio**	**0.33**	**229**	S	Sg	23 58 07.8	+0.4
RETU	**Refugio**	**0.33**	**229**	P	Pg	23 58 03.7	+0.9
JUI6	**Juive**	**0.33**	**235**	S	Sg	23 58 07.5	0.0
JUI6	**Juive**	**0.33**	**235**	P	Pg	23 58 03.1	+0.2
BBIL	**Ulba Tungurahu**	**0.36**	**234**	S	Sg	23 58 08.6	+0.2
BBIL	**Ulba Tungurahu**	**0.36**	**234**	P	Pg	23 58 03.7	+0.3
PAT1	**Patacocha**	**0.36**	**222**	P	Pg	23 58 04.0	+0.5
PAT1	**Patacocha**	**0.36**	**222**	S	Sg	23 58 08.8	+0.4
ARRY	**Arrayan**	**0.37**	**224**	⇑S	Sg	23 58 08.8	+0.1
ARRY	**Arrayan**	**0.37**	**224**	⇑P	Pg	23 58 03.9	+0.3
BMAS	**Trigal station**	**0.39**	**227**	⇓P	Pg	23 58 04.3	+0.4
IGUA	**Igualata**	**0.51**	**240**	S	Sg	23 58 15.0	+2.1
IGUA	**Igualata**	**0.51**	**240**	P	Pg	23 58 07.2	+1.0
TAMB	**Tambo**	**0.56**	**342**	P	Pg	23 58 07.6	+0.4
BMOR	**Cotopaxi Volca**	**0.57**	**332**	⇓P	Pg	23 58 07.8	+0.6
MOV1	**Cotopaxi Vol s**	**0.57**	**335**	P	Pg	23 58 07.7	+0.4
MOV1	**Cotopaxi Vol s**	**0.57**	**335**	S	Sg	23 58 16.2	+1.2
VC1	**Cotopaxi 1**	**0.62**	**341**	S	Sg	23 58 18.9	+2.4
VC1	**Cotopaxi 1**	**0.62**	**341**	P	Pg	23 58 08.8	+0.5
PITA	**Cotopaxi Volc**	**0.71**	**341**	P	Pg	23 58 10.9	+1.0
ANTI	**Antisana**	**0.78**	**3**	S	Sg	23 58 20.9	-0.7
ANTI	**Antisana**	**0.78**	**3**	P	Pg	23 58 11.0	-0.2

*ISCJB **20** 00:05:04.7±0.7,24′.04S±0′.05×66°.87W±0°.09, h199 km ± 10 km, mb3.6/4, Error ellipse: s-maj=13.2km s-min=7.3km az=168.9*
*IDC **20** 00:05:06.0±1.9,23′.97S×66°.74W,h193 km ± 18 km, mb3.5/4, mb1 3.6/6, mb1mx3.4/18, mbtmp3.5/6, MS3.5/1, Ms1 3.4/1, ms1mx2.4/22, Error ellipse: s-maj=22.7km s-min=16.1km az=81.0*
*NEIC **20** 00:05:05.6±0.8,24′.02S×66°.81W, h194 km ± 8 km, mb4.1/2, Error ellipse: s-maj=12.4km s-min=8.2km az=80.0*
*GUC **20** 00:05:08.3±0.5,23′.78S×67°.25W, h220 km, ML4.9*

ISC 20 00:05:05.6±0.7, 24′.00S±0′.05 × 66°.83W±0°.09, h188 km ± 10 km, n33, σ 0°.98/33, mb3.8/4, 2C-1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACH	**Maria Elena**	**3.24**	**303**	⇓*i*P	**Pn**	**00 05 58.9**	**+1.4**
MACH				*i* S	**Sn**	**00 06 37.9**	**-0.2**
ANCH	**Antofagasta**	**3.29**	**275**	⇑*i*P	**Pn**	**00 05 59.5**	**+1.3**
ANCH				*i* S	**Sn**	**00 06 38.3**	**-0.9**
ANCH				AML	AML	00 06 40.4	
	comp=E,2μm,0.3s						
MECH	**Mejillones**	**3.44**	**284**	⇑*i*P	**Pn**	**00 06 01.4**	**+1.4**
MECH				*i* S	**Sn**	**00 06 41.6**	**-0.9**
MECH				AML	AML	00 06 45.7	
	comp=N,2μm,0.3s						
LCO	**Las Campanas**	**6.08**	**214**	*e*Pn	**Pn**	**00 06 33.0**	**-0.6**
LCO				*e*Sn	**Sn**	**00 07 34.0**	**-9.1**
CFAA	**Coronel Fontan**	**7.67**	**189**	P	**Pn**	**00 06 54.9**	**+0.3**
	comp=N,0.1nm,0.3s,baz=6.9,slow=11,SNR=18						
CFAA				S	**Sn**	**00 08 16.4**	**-4.5**
	comp=N,0.8nm,0.3s,baz=259,slow=19,SNR=17						
CFAA	**Coronel Fontan**	**7.67**	**189**	P	**Pn**	**00 06 54.9**	**+0.3**
CFAA				S	**Sn**	**00 08 16.4**	**-4.5**
LPAZ	**La Paz**	**7.77**	**351**	P	**Pn**	**00 06 56.9**	**+1.0**
	comp=N,0.7nm,0.3s,baz=160,slow=7.7,SNR=30						
LPAZ				S	**Sn**	**00 08 21.6**	**-1.8**
	comp=N,0.6nm,0.3s,baz=355,slow=9.5,SNR=6.6						
LPAZ	**La Paz**	**7.77**	**351**	P	**Pn**	**00 06 56.9**	**+1.0**
LPAZ				S	**Sn**	**00 08 21.6**	**-1.8**
CPUP	**Villa Florida**	**8.91**	**107**	P	**Pn**	**00 07 11.2**	**+0.4**
	comp=N,0.5nm,0.3s,baz=268,slow=10,SNR=14						
CPUP	**Villa Florida**	**8.91**	**107**	P	**Pn**	**00 07 11.2**	**+0.4**
TRQA	**Tornquist**	**14.61**	**165**	*e*Pn	**Pn**	**00 08 22.1**	**-1.3**
	comp=N,4.8nm,0.6s						
NNA	**Nana**	**15.27**	**320**	*e*Pn	**Pn**	**00 08 32.1**	**+0.4**
PLCA	**Paso Flores**	**16.97**	**190**	P	**Pn**	**00 08 51.1**	**-0.9**
	comp=N,0.1nm,0.3s,baz=357,slow=18,SNR=2.5						
PLCA				LR	LR	00 15 37.0	
	comp=N,151nm,20.0s,baz=215,slow=37						
PLCA	**Paso Flores**	**16.97**	**190**	P	**Pn**	**00 08 51.1**	**-0.9**
PLCA				LR	LR	00 15 37.0	
VNA3	**Neumayer Olymp**	**57.10**	**161**	*e*	**P**	**00 14 35.6**	**+3.8**
	baz=286,slow=9.3						
VNA1	**Neumayer--Stat**	**57.29**	**160**	*e*	**P**	**00 14 34.3**	**+1.1**
VNA2	**Neumayer--Watz**	**57.66**	**160**	*e*	**P**	**00 14 36.3**	**+0.6**
	baz=286,slow=9.3						
SNAA	**Sanae**	**59.30**	**161**	P	**P**	**00 14 47.0**	**0.0**
	comp=N,0.5nm,0.7s,mb3.5,baz=288,slow=12,SNR=10						
SNAA	**Sanae**	**59.30**	**161**	P	**P**	**00 14 47.0**	**0.0**
TXAR	**Lajitas Array**	**63.77**	**324**	P	**P**	**00 15 17.6**	**+0.1**
	comp=N,0.7nm,0.8s,mb3.6,baz=150,slow=6.2,SNR=7.3						
TXAR	**Lajitas Array**	**63.77**	**324**	P	**P**	**00 15 17.6**	**+0.1**
DBIC	**Dimbokro**	**67.65**	**71**	P	**P**	**00 15 41.5**	**-1.3**
	comp=N,5.4nm,1.1s,mb4.2,baz=234,slow=8.7,SNR=3.6						
DBIC	**Dimbokro**	**67.65**	**71**	*e*P	**P**	**00 15 41.6**	**-1.1**
	comp=N,3.3nm,0.7s,mb4.2						
TORD	**Torodi Ar. Bea**	**76.42**	**69**	P	**P**	**00 16 34.2**	**-0.6**
	comp=N,1.6nm,0.6s,mb3.8,baz=253,slow=4.7,SNR=14						
TORD				pP	pP	00 17 24.4	+4.3
	comp=N,0.8nm,0.6s,baz=246,slow=6.0,SNR=4.2						
TORD	**Torodi Ar. Bea**	**76.42**	**69**	P	**P**	**00 16 34.2**	**-0.6**
TORD				pP	pP	00 17 24.4	+4.3
ASAR	**Alice Springs**	**128.52**	**205**	PKP	PKPdf	00 23 51.1	+0.5
	comp=N,0.2nm,0.4s,baz=140,slow=1.9,SNR=5.8						
ASAR	**Alice Springs**	**128.52**	**205**	PKP	PKPdf	00 23 51.1	+0.5
WRA	**Warramunga Arr**	**131.70**	**207**	PKP	PKPdf	00 23 57.2	+0.4
	comp=N,0.2nm,0.3s,baz=151,slow=2.0,SNR=13						
WRA	**Warramunga Arr**	**131.70**	**207**	PKP	PKPdf	00 23 57.2	+0.4
ZALV	**Zalesovo Beam**	**143.32**	**28**	PKP	PKPdf	00 24 15.2	-1.8
	comp=N,0.4nm,0.3s,baz=336,slow=3.2,SNR=3.4						
ZALV	**Zalesovo Beam**	**143.32**	**28**	PKP	PKPdf	00 24 15.2	-1.8
MKAR	**Makanchi Array**	**146.43**	**40**	PKPbc	PKPbc	00 24 22.8	-1.5
	comp=N,0.6nm,0.6s,baz=310,slow=3.1,SNR=3.6						
MKAR	**Makanchi Array**	**146.43**	**40**	PKPbc	PKPbc	00 24 22.8	-1.5

*ISCJB **20** 00:18:36.0±0.7,32°.49N±0°.04×115°.36W±0°.03, h13 km ± 6 km, Error ellipse: s-maj=6.6km s-min=4.2km az=156.9*
*NEIC **20** 00:18:35.0,32°.37N×115°.35W, h6 km, MD3.8(ECX), ML3.7(PAS), After PAS.*
NEIC Felt in the Calexico area, California.
*ECX **20** 00:18:37.1±0.6,32°.45N×115°.34W, h4 km, ML3.8*

ISC 20 00:18:36.2±0.5, 32°.48N±0°.03×115°.39W±0°.03, h11 km ± 5 km, n30, σ 1°.21/43, 4C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.10**	**132**	⇑*i*P	**Pg**	**00 18 37.8**	**-1.1**
CPBX	**Cerro Prieto**	**0.10**	**132**	⇑*i*P	**Pg**	**00 18 37.8**	**-1.1**
SGL	**Mount Signal**	**0.33**	**300**	*e*P	**Pg**	**00 18 43.7**	**+1.0**
SGL	**Mount Signal**	**0.33**	**300**	*e*P	**Pg**	**00 18 43.7**	**+1.0**
ERPC	**Ernies Place**	**0.35**	**318**	*e*P	**Pg**	**00 18 44.6**	**+1.5**
WESC	**Westside Schoo**	**0.40**	**314**	*i* P	**Pg**	**00 18 45.5**	**+1.5**
EMSC	**East Mesa**	**0.43**	**53**	*e*P	**Pg**	**00 18 45.4**	**+0.8**
COA	**Coachella**	**0.44**	**31**	⇓*i*P	**Pg**	**00 18 45.9**	**+1.0**
COA	**Coachella**	**0.44**	**31**	*i* P	**Pg**	**00 18 45.9**	**+1.0**
COK	**Cook Ranch**	**0.46**	**322**	*e*P	**Pg**	**00 18 46.3**	**+1.0**
COK	**Cook Ranch**	**0.46**	**322**	*e*P	**Pg**	**00 18 46.3**	**+1.0**
YUH	**Yuha Desert**	**0.48**	**290**	*e*P	**Pg**	**00 18 46.1**	**+0.5**
YUH	**Yuha Desert**	**0.48**	**290**	*e*P	**Pg**	**00 18 46.1**	**+0.5**
DVTC	**Desert V Tower**	**0.62**	**286**	*i* P	**Pg**	**00 18 48.9**	**+0.6**
YMD	**Yuma Desert**	**0.72**	**84**	*e*P	**Pg**	**00 18 48.7**	**-1.3**
YMD	**Yuma Desert**	**0.72**	**84**	*e*P	**Pg**	**00 18 48.7**	**-1.3**
GLA	**Glamis**	**0.74**	**40**	*e*Pg	**Pg**	**00 18 53.2**	**+2.7**
GLA				*e*Sg	**Sg**	**00 19 00.4**	**+0.2**
CBX	**Cerro Bola**	**1.09**	**261**	⇑*e*P	**Pb**	**00 18 56.8**	**-0.2**
CBX				*e*S	**Sb**	**00 19 11.8**	**+0.6**
BAR	**Barrett**	**1.10**	**281**	*e*Pg	**Pg**	**00 18 56.8**	**-0.6**
BAR				*e*Sg	**Sg**	**00 19 11.7**	**0.0**
CCX	**Cicese**	**1.24**	**241**	*e*Pn	**Pn**	**00 19 01.0**	**+1.6**
CCX				*e*S	**Sb**	**00 19 16.3**	**+0.7**
ECNX	**Esteban Cantu**	**1.32**	**232**	*e*Pn	**Pn**	**00 19 01.0**	**+0.6**
ECNX				*e*PN	**Pn**	**00 19 01.0**	**+0.6**
ECNX				*e*S	**Sb**	**00 19 16.3**	**-1.4**
ECNX				*e*S	**Sb**	**00 19 18.5**	**+0.8**
SPX	**San Pedro Mart**	**1.44**	**183**	*e*P	**Pn**	**00 19 01.8**	**-0.2**
SPX				*e*S	**Sn**	**00 19 20.6**	**-0.2**
SPX				⇓*e*		00 19 26.8	
	comp=N,888nm,0.4s						
SPX				⇑*e*		00 19 31.7	
	comp=E,943nm,0.4s						
PFO	**Pinyon Flat Ob**	**1.44**	**322**	*e*Pn	**Pn**	**00 19 00.3**	**-1.8**
PFO				*e*Sg	**Sg**	**00 19 18.6**	**-3.8**
LDFC	**Landfair**	**2.60**	**5**	*e*Pn	**Pn**	**00 19 18.1**	**0.0**
MWC	**Mount Wilson**	**2.83**	**309**	*e*Pg	**Pg**	**00 19 27.5**	**-2.8**
PASC	**Pasadena Art C**	**2.88**	**306**	*e*Pn	**Pn**	**00 19 20.8**	**-1.1**
PASC				*e*Pg	**Pg**	**00 19 29.0**	**-2.5**
PASC				*e*Sg	**Sg**	**00 20 06.1**	**-2.7**
TUC	**Tucson**	**3.90**	**91**	*e*Pn	**Pn**	**00 19 35.4**	**-0.5**
TUC				*e*Sg	**Sg**	**00 20 38.1**	**-3.3**
ISA	**Isabella**	**4.08**	**322**	*e*Pg	**Pg**	**00 19 51.8**	**-0.4**
ISA				*e*Sg	**Sg**	**00 20 45.8**	**-1.3**
WUAZ	**Wupatki**	**4.50**	**47**	*e*Pn	**Pn**	**00 19 44.9**	**+0.7**
CCUT	**Cedar City**	**5.32**	**18**	*e*Pn	**Pn**	**00 19 56.9**	**+1.4**

MEX 20 00:30:40.1±0.9, 18°.50N×101°.68W, h49 km ± 19 km, MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.91**	**167**	*e*P	Pn	00 30 54.4	-2.2
ZIIG				*e*S	Sn	00 31 07.0	-1.7
MOIG	**Morelia**	**1.26**	**22**	*e*P	Pn	00 30 59.3	-2.1
MOIG				*e*S	Sn	00 31 16.3	-0.8
MMIG	**Aquila**	**1.60**	**263**	*e*P	Pn	00 31 05.0	-0.9
MMIG				*i* S	Sn	00 31 23.7	-1.6
CAIG	**El Cayaco**	**1.98**	**137**	*e*P	Pn	00 31 10.0	-1.1
CAIG				*i* S	Sn	00 31 32.5	-2.2
MEIG	**Mezcala**	**2.04**	**106**	*i* P	Pn	00 31 10.9	-1.0
MEIG				*i* S	Sn	00 31 34.5	-1.8
PPM	**Popocatepetl**	**2.95**	**79**	*i* P	Pn	00 31 23.3	-1.1
PPM				*i* S	Sn	00 31 58.0	-0.6
UTMO	**Huajuapan**	**3.75**	**100**	*i* P	Pn	00 31 34.5	-0.9
UTMO				*i* S	Sn	00 32 16.9	-1.4
PNIG	**Pinotepa**	**3.99**	**121**	*i* P	Pn	00 31 37.6	-1.1
PNIG				*i* S	Sn	00 32 22.8	-1.4

*NEIC **20** 00:36:02.5, 18°.05N×68°.07W, h87 km, MD3.2(RSPR), After RSPR.*

RSPR 20 00:36:02.2, 18°.24N×68°.03W, h108 km ± 2 km, MD3.1/10, 19C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**0.90**	**94**	⇑*e*P	Pn	00 36 21.5	-0.8
AGPR	**Aguadilla, PR**	**0.90**	**75**	⇑*e*P	Pn	00 36 21.8	-0.5
AGPR				*e*S	Sn	00 36 37.2	-1.2
AGPR	**Aguadilla, PR**	**0.90**	**75**	⇑*e*P	Pn	00 36 21.8	-0.5
AGPR	**Aguadilla, PR**	**0.90**	**75**	*e*S	Sn	00 36 37.8	+0.3
AGPR	**Aguadilla, PR**	**0.90**	**75**	⇑*e*P	Pn	00 36 21.8	-0.5
AGPR				*e*S	Sn	00 36 36.2	-1.2
CRPR	**Cabo Rojo, PR**	**0.91**	**105**	*e*S	Sn	00 36 36.7	-0.8
CRPR	**Cabo Rojo, PR**	**0.91**	**105**	⇑*e*P	Pn	00 36 22.0	-0.3
CRPR	**Cabo Rojo, PR**	**0.91**	**105**	⇑*e*P	Pn	00 36 22.0	-0.3
CRPR				*e*S	Sn	00 36 36.7	-0.8
LRS	**Lares**	**1.13**	**87**	⇑*i*P	Pn	00 36 24.1	-0.5
LRS				*e*S	Sn	00 36 42.4	+0.8
LRS	**Lares**	**1.13**	**87**	⇑*i*P	Pn	00 36 24.1	-0.5
LRS				*e*S	Sn	00 36 42.4	+0.8
AOPR	**Arecibo Observ**	**1.22**	**85**	⇑*e*P	Pn	00 36 25.0	-0.7
AOPR				*e*S	Sn	00 36 42.5	-0.9
AOPR	**Arecibo Observ**	**1.22**	**85**	⇑*e*P	Pn	00 36 25.0	-0.7
AOPR	**Arecibo Observ**	**1.22**	**85**	*e*S	Sn	00 36 43.0	-0.4
AOPR	**Arecibo Observ**	**1.22**	**85**	⇑*e*P	Pn	00 36 25.0	-0.7
AOPR				*e*S	Sn	00 36 42.5	-0.9
OBIP	**Obispado Ponce**	**1.37**	**98**	⇑*e*P	Pn	00 36 27.6	+0.2
OBIP				*e*S	Sn	00 36 44.8	-1.6
OBIP	**Obispado Ponce**	**1.37**	**98**	⇑*e*P	Pn	00 36 27.5	+0.1
OBIP	**Obispado Ponce**	**1.37**	**98**	⇑*e*P	Pn	00 36 27.5	+0.1
OBIP				*e*S	Sn	00 36 44.8	-1.6
CELP	**Cerrillos**	**1.39**	**97**	⇑*e*P	Pn	00 36 27.9	+0.3
CELP				*e*S	Sn	00 36 44.8	-2.1
CELP	**Cerrillos**	**1.39**	**97**	⇓*e*P	Pn	00 36 27.7	+0.1
CELP	**Cerrillos**	**1.39**	**97**	⇓*e*P	Pn	00 36 27.7	+0.1
CELP				*e*S	Sn	00 36 44.8	-2.1
DR12	**Loma Pena Alta**	**1.39**	**293**	⇑*i*P	Pn	00 36 27.0	-0.7
DR12				*e*S	Sn	00 36 45.6	-1.3
DR12				*e*S	Sn	00 36 49.7	+2.7
DR12	**Loma Pena Alta**	**1.39**	**293**	⇑*e*P	Pn	00 36 27.0	-0.7
DR12				*e*S	Sn	00 36 45.2	-1.8
SMN1	**Samana, DR**	**1.51**	**309**	⇑*e*P	Pn	00 36 28.6	-0.5
SMN1				*e*S	Sn	00 36 49.7	+0.3
HUMP	**Col San Antoni**	**2.08**	**92**	⇑*e*P	Pn	00 36 35.6	-0.5
HUMP				*e*S	Sn	00 37 01.0	-1.0
HUMP	**Col San Antoni**	**2.08**	**92**	*e*S	Sn	00 37 01.2	-0.8
HUMP	**Col San Antoni**	**2.08**	**92**	⇑*e*P	Pn	00 36 35.7	-0.4
HUMP	**Col San Antoni**	**2.08**	**92**	⇑*e*P	Pn	00 36 35.6	-0.5
HUMP				*e*S	Sn	00 37 01.2	-0.8

WEL 20 00:36:28.3±0.3, 38°.42S×176°.03E, h159 km ± 2 km, ML3.9/16, 3D, Error ellipse: s-maj=1.8km s-min=1.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALRZ	**Allen Road**	**0.29**	**121**	PN	Pn	00 36 49.8	-0.1
ALRZ				SN	Sn	00 37 07.2	+0.9
TARZ	**Mount Tarawera**	**0.42**	**65**	PN	Pn	00 36 50.5	+0.2
KRVZ	**Karewarewa**	**0.74**	**204**	PN	Pn	00 36 52.2	+0.2
KRVZ				SN	Sn	00 37 11.0	+0.7
WTVZ	**West Tongariro**	**0.78**	**206**	PN	Pn	00 36 52.5	+0.2
WTVZ				SN	Sn	00 37 10.3	-0.4
OTVZ	**Oturere**	**0.80**	**201**	PN	Pn	00 36 52.8	+0.4
OTVZ				SN	Sn	00 37 11.4	+0.5
TWVZ	**Taurewa**	**0.80**	**215**	PN	Pn	00 36 52.5	+0.1
TWVZ				SN	Sn	00 37 11.0	+0.1
NGZ	**Ngauruhoe**	**0.83**	**203**	PN	Pn	00 36 52.9	+0.3
NGZ				SN	Sn	00 37 11.3	0.0
BKZ	**Black Stump Fm**	**0.83**	**154**	⇓PN	Pn	00 36 52.6	0.0
BKZ				SN	Sn	00 37 10.1	-1.3
URZ	**Urewera**	**0.87**	**80**	⇓PN	Pn	00 36 52.3	-0.6
URZ				SN	Sn	00 37 10.1	-1.5
WPVZ	**Whakapapa**	**0.88**	**205**	PN	Pn	00 36 53.1	+0.2
WPVZ				SN	Sn	00 37 11.7	-0.2
TUVZ	**Tukino**	**0.90**	**199**	PN	Pn	00 36 53.4	+0.2
TUVZ				SN	Sn	00 37 11.6	-0.6
NMHZ	**Naumai**	**0.92**	**139**	PN	Pn	00 36 54.1	+0.9
NMHZ				SN	Sn	00 37 13.5	+1.1
FWVZ	**Far West T-bar**	**0.92**	**204**	PN	Pn	00 36 53.4	+0.2
FWVZ				SN	Sn	00 37 12.1	-0.3
HIZ	**Hauiti**	**0.93**	**263**	⇓PN	Pn	00 36 53.4	+0.1
RAHZ	**Arahi**	**0.97**	**122**	PN	Pn	00 36 54.1	+0.5
WNVZ	**Wahianoa**	**0.97**	**200**	PN	Pn	00 36 53.8	+0.1
MOVZ	**Moawhango**	**1.01**	**192**	PN	Pn	00 36 53.7	-0.3
PKVZ	**Pokaka**	**1.02**	**211**	PN	Pn	00 36 54.0	-0.1
MTVZ	**Mangateitei**	**1.06**	**204**	PN	Pn	00 36 54.4	0.0
BHHZ	**Black Hill Sta**	**1.07**	**179**	PN	Pn	00 36 54.3	-0.2
MCHZ	**McNeill Hill**	**1.15**	**153**	PN	Pn	00 36 55.9	+0.7
MWZ	**Matawai**	**1.18**	**87**	PN	Pn	00 36 55.2	-0.3
VRZ	**Vera Road**	**1.22**	**234**	PN	Pn	00 36 55.8	0.0
KNZ	**Kokohu**	**1.42**	**116**	PN	Pn	00 36 57.6	-0.1
MKAZ	**Moumakai**	**1.47**	**332**	PN	Pn	00 36 58.4	+0.1
CKHZ	**Cape Kidnapper**	**1.49**	**147**	PN	Pn	00 36 58.7	+0.3
PNHZ	**Pukenui**	**1.50**	**175**	PN	Pn	00 36 58.1	-0.4
KAHZ	**Kahuranaki**	**1.53**	**155**	PN	Pn	00 36 59.1	+0.2
PRGZ	**Paritu Road**	**1.54**	**110**	PN	Pn	00 36 59.0	+0.1
WAZ	**Wanganui**	**1.57**	**211**	PN	Pn	00 36 58.8	-0.4
MHGZ	**Mahia Peninsul**	**1.64**	**117**	PN	Pn	00 37 00.2	+0.2
TSZ	**Takapari Road**	**1.64**	**182**	PN	Pn	00 36 59.5	-0.5
WPHZ	**Waipukurau**	**1.68**	**169**	PN	Pn	00 36 60.0	-0.4
CNGZ	**Carnagh Statio**	**1.71**	**93**	PN	Pn	00 37 01.1	+0.4
PXZ	**Pawanui**	**1.74**	**158**	PN	Pn	00 37 00.7	-0.3
PKE	**Pukeiti**	**1.77**	**243**	PN	Pn	00 37 01.4	0.0
PUZ	**Puketiti**	**1.79**	**80**	PN	Pn	00 37 00.9	-0.7
WTAZ	**Waiatarua**	**1.88**	**322**	PN	Pn	00 37 03.1	+0.5
DVHZ	**Dannevirke**	**1.89**	**177**	PN	Pn	00 37 01.7	-0.9
PRHZ	**Porangahau**	**1.91**	**166**	PN	Pn	00 37 02.5	-0.4
POWZ	**Post Office Ro**	**1.99**	**186**	PN	Pn	00 37 02.7	-1.1
MXZ	**Matakaoa Point**	**1.99**	**65**	PN	Pn	00 37 03.3	-0.5
BFZ	**Birch Farm**	**2.27**	**176**	PN	Pn	00 37 05.7	-1.4
MRZ	**Mangatainoka R**	**2.27**	**189**	PN	Pn	00 37 05.5	-1.6
TIWZ	**Tintock**	**2.36**	**183**	PN	Pn	00 37 06.7	-1.5
OGWZ	**Otaki Gorge**	**2.49**	**195**	PN	Pn	00 37 08.1	-1.6
HOWZ	**Holdsworth Sta**	**2.51**	**189**	PN	Pn	00 37 08.0	-1.9
KIW	**Kapiti Island**	**2.59**	**199**	PN	Pn	00 37 08.8	-2.1
TMWZ	**Te Maipa**	**2.69**	**182**	PN	Pn	00 37 10.1	-2.0
MTW	**Mount Morrison**	**2.77**	**188**	PN	Pn	00 37 10.7	-2.4
CAW	**Cannon Point**	**2.79**	**195**	PN	Pn	00 37 11.1	-2.2
DUWZ	**D'Urville Isla**	**2.89**	**214**	PN	Pn	00 37 12.1	-2.5
TRWZ	**Traveller**	**2.99**	**185**	PN	Pn	00 37 13.6	-2.3
PAWZ	**Paruwai Farm**	**3.00**	**189**	PN	Pn	00 37 13.4	-2.6
WEL	**Wellington**	**3.03**	**198**	PN	Pn	00 37 14.0	-2.3
MSWZ	**Moikau Station**	**3.06**	**191**	PN	Pn	00 37 14.0	-2.7
SNZO	**South Karori**	**3.07**	**199**	PN	Pn	00 37 14.1	-2.7
TCW	**Tory Channel**	**3.10**	**205**	PN	Pn	00 37 14.6	-2.6
BHW	**Baring Head**	**3.12**	**196**	PN	Pn	00 37 14.7	-2.8
PLWZ	**Palliser**	**3.21**	**190**	PN	Pn	00 37 15.7	-2.8
TUWZ	**Tuamarina**	**3.41**	**207**	PN	Pn	00 37 18.2	-3.0
NNZ	**Nelson**	**3.46**	**215**	PN	Pn	00 37 18.7	-3.1
QRZ	**Quartz Range**	**3.62**	**227**	PN	Pn	00 37 20.2	-3.6
BSWZ	**Blackbirch Sta**	**3.69**	**206**	PN	Pn	00 37 21.8	-2.9
THZ	**Tophouse**	**4.11**	**215**	PN	Pn	00 37 26.9	-3.3
KHZ	**Kahutara**	**4.43**	**205**	PN	Pn	00 37 30.9	-3.4
LTZ	**Lake Taylor**	**5.22**	**212**	PN	Pn	00 37 40.1	-4.5
MQZ	**McQueen's Vall**	**5.87**	**205**	PN	Pn	00 37 47.9	-5.3
FOZ	**Fox Glacier**	**7.03**	**221**	PN	Pn	00 38 03.5	-5.2
ODZ	**Otahua Downs**	**7.75**	**210**	PN	Pn	00 38 13.1	-5.1
JCZ	**Jackson Bay**	**7.87**	**222**	PN	Pn	00 38 14.3	-5.5

*IDC **20** 00:43:09.4±2.7,2°.63N×99°.07E, h156 km ± 23 km, mb3.6/14, mb1 3.7/14, mb1mx3.6/26, mbtmp3.6/14, Error ellipse: s-maj=38.0km s-min=11.0km az=54.0*
*ISCJB **20** 00:43:10.1±0.4,2°.72N±0°.04×99°.09E±0°.05, h176 km ± 3 km, mb3.9/18, Error ellipse: s-maj=8.7km s-min=6.6km az=158.8*
*NEIC **20** 00:43:11.1±1.7,2°.63N×99°.11E, h173 km ± 13 km, mb4.0/4,

DZM	**Mont Dzumac**	**3.53**	**235**	*e*Pn	**Pn**	00 48 49.4	+0.4
DZM				*e*Sn	**Sn**	**00 49 29.8**	**-0.4**
NOUC	**Port Laguerre**	**3.66**	**236**	*e*P	**Pn**	00 48 50.9	+0.3
NOUC				*e*S	**Sn**	**00 49 33.5**	**+0.2**
EIDS	**Eidsvold**	**17.85**	**249**	*e*P	**Pn**	00 51 57.3	+1.3
	37nm,0.4s						
ARMA	**Armidale**	**19.19**	**234**	*e*P	**P**	**00 52 12.1**	**+2.5**
ARMA	**Armidale**	**19.19**	**234**	*e*P	**P**	**00 52 10.8**	**+1.3**
	7.3nm,0.6s						
CTA	**Charters Tower**	**21.90**	**266**	P	**P**	**00 52 38.6**	**-0.1**
	7.0nm,0.7s,mb4.1,baz=89,slow=12,SNR=12						
CTA				LR	LR	00 59 44.2	
	comp=Z,29nm,18.0s,baz=52,slow=32						
CTA	**Charters Tower**	**21.90**	**266**	P	**P**	**00 52 38.6**	**-0.1**
CTA				LR	LR	00 59 44.2	
CTAO	**Charters Tower**	**21.90**	**266**	*e*P	**P**	**00 52 39.5**	**+0.8**
	5.5nm,0.5s,mb4.1						
YNG	**Young**	**23.50**	**229**	*e*P	**P**	**00 52 55.1**	**+1.1**
	11nm,0.7s,mb4.3						
CAN	**Canberra**	**23.64**	**226**	*e*P	**P**	**00 52 55.4**	**+0.1**
	7.7nm,0.7s,mb4.1						
COEN	**Coen**	**25.95**	**279**	*e*P	**P**	**00 53 17.7**	**+1.2**
	9.7nm,0.6s,mb4.4						
COEN	**Coen**	**25.95**	**279**	*e*P	**P**	**00 53 16.2**	**-0.2**
	15nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**27.68**	**239**	P	**P**	**00 53 32.1**	**+0.4**
	4.1nm,0.7s,mb4.0,baz=86,slow=9.7,SNR=11						
STKA	**Stephens Creek**	**27.68**	**239**	*e*P	**P**	**00 53 32.0**	**+0.2**
	3.4nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**27.68**	**239**	*e*P	**P**	**00 53 32.4**	**+0.6**
	0.7nm,0.6s,mb3.4						
WRAB	**Tennant Creek**	**33.06**	**264**	*e*P	**P**	**00 54 18.0**	**-1.4**
	1.4nm,0.4s,mb4.1						
WRA	**Warramunga Arr**	**33.07**	**264**	P	**P**	**00 54 18.4**	**-1.1**
	1.3nm,0.4s,mb4.1,baz=93,slow=8.4,SNR=37						
WRA	**Warramunga Arr**	**33.07**	**264**	P	**P**	**00 54 18.4**	**-1.1**
ASAR	**Alice Springs**	**33.24**	**257**	P	**P**	**00 54 20.5**	**-0.4**
	10nm,0.7s,mb4.8,baz=85,slow=9.4,SNR=118						
ASAR				pP	pP	00 54 49.2	+0.9
	3.2nm,0.6s,baz=84,slow=8.9,SNR=6.8						
ASAR	**Alice Springs**	**33.24**	**257**	P	**P**	**00 54 20.5**	**-0.4**
ASAR				pP	pP	00 54 49.2	+0.9
FITZ	**Fitzroy Crossi**	**41.48**	**265**	*e*P	**P**	**00 55 30.0**	**-0.4**
	3.9nm,0.6s,mb4.4						
QSPA	**South Pole Qui**	**69.97**	**180**	*e*P	**P**	**00 58 53.6**	**+0.8**
	3.2nm,1.0s,mb4.1						
SONM	**Songino Array**	**88.08**	**323**	P	**P**	**01 00 32.5**	**+0.8**
	0.2nm,0.3s,mb3.6,baz=106,slow=3.1,SNR=3.9						
SONM	**Songino Array**	**88.08**	**323**	P	**P**	**01 00 32.5**	**+0.8**
SNAA	**Sanae**	**88.34**	**182**	*e*P	**P**	**01 00 29.3**	**-3.3**
	3.5nm,1.1s,mb4.3						
VNA3	**Neumayer Olymp**	**88.91**	**180**	*e*	**P**	**01 00 31.3**	**-4.0**
NVAR	**Mina Array Bea**	**89.12**	**48**	P	**P**	**01 00 37.6**	**+0.8**
	0.4nm,0.7s,mb3.6,baz=228,slow=8.0,SNR=3.5						
NVAR	**Mina Array Bea**	**89.12**	**48**	P	**P**	**01 00 37.6**	**+0.8**
VNA2	**Neumayer--Watz**	**89.21**	**181**	*e*	**P**	**01 00 33.0**	**-3.7**
	baz=189,slow=5.2						
ILAR	**Eielson Array**	**90.94**	**17**	P	**P**	**01 00 43.0**	**-1.6**
	0.3nm,0.7s,mb3.5,baz=231,slow=4.9,SNR=6.5						
ILAR	**Eielson Array**	**90.94**	**17**	P	**P**	**01 00 43.0**	**-1.6**
KHC	**Kasperske Hory**	**145.22**	**332**	*e*PKP	PKPdf	01 07 17.5	-0.7
GERES	**GERESS Array B**	**145.38**	**332**	PKPbc	PKPbc	01 07 17.6	-1.0
	4.0nm,0.9s,baz=48,slow=2.0,SNR=6.2						
GERES	**GERESS Array B**	**145.38**	**332**	PKPbc	PKPbc	01 07 17.6	-1.0
DAVOX	**Davos/Dischmat**	**148.63**	**333**	PKPbc	PKPbc	01 07 26.9	-0.8
	4.8nm,0.7s,baz=342,slow=8.1,SNR=5.8						
DAVOX	**Davos/Dischmat**	**148.63**	**333**	PKPbc	PKPbc	01 07 26.9	-0.8

*ISCJB **20** 01:08:06.4±1.3,24°.07N±0°.07×141°.3E±0°.2, h155km±16km, mb3.4/5, Error ellipse: s-maj=35.7km s-min=11.6km az=174.9*
*IDC **20** 01:08:06.5±2.7,23°.80N×141°.71E, h130km±28km, mb3.3/5, mb1 3.5/7, mb1mx3.3/24, mbtmp3.3/7, Error ellipse: s-maj=44.1km s-min=17.9km az=98.0*
*JMA **20** 01:08:08.7±0.1,24°.16N×140°.92E, h101km, M5.0*

ISC 20 01:08:07.3±1.4, 24°.08N±0°.09×141°.1E±0°.2, h144km±18km, n17, σ0°.97/22, mb3.4/5, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**2.71**	**20**	P	**Pn**	**01 08 51.1**	**+0.4**
JHHJ				*e*S	**Sn**	**01 09 23.6**	**-0.6**
CBIJ	**Chichi jima**	**3.15**	**17**	P	**Pn**	**01 08 57.2**	**+0.9**
	38nm,0.3s,baz=100,slow=14,SNR=12						
CBIJ				S	**Sn**	**01 09 33.2**	**-1.0**
	184nm,0.3s,baz=284,slow=23,SNR=33						
CBIJ	**Chichi jima**	**3.15**	**17**	P	**Pn**	**01 08 57.1**	**+0.8**
CBIJ				*e*S	**Sn**	**01 09 33.8**	**-0.4**
BSO1	**Boso 1**	**10.54**	**359**	*e*S	**Sn**	**01 12 28.3**	**-2.5**
BSO4	**Boso 4**	**10.89**	**357**	P	**Pn**	**01 10 40.1**	**+1.0**
BSO4				*e*S	**Sn**	**01 12 39.1**	**-0.3**
JOD2	**Odawara 2**	**11.29**	**351**	P	**Pn**	**01 10 46.1**	**+1.8**
JRY	**Ryogami san**	**12.05**	**351**	P	**Pn**	**01 10 55.5**	**+1.2**
JWT	**Wachi**	**12.22**	**337**	P	**Pn**	**01 10 55.5**	**-1.0**
JAG	**Ashikaga**	**12.39**	**354**	P	**Pn**	**01 10 59.0**	**+0.3**
JHO	**Hitachi**	**12.50**	**358**	P	**Pn**	**01 10 59.7**	**-0.4**
JHO				*e*S	**Sn**	**01 13 11.4**	**-6.7**
MJAR	**Matsushiro Arr**	**12.68**	**349**	P	**Pn**	**01 11 06.3**	**+3.9**
	0.6nm,0.3s,baz=161,slow=12,SNR=3.4						
JFT	**Otama**	**13.41**	**357**	P	**Pn**	**01 11 12.1**	**+0.3**
WRA	**Warramunga Arr**	**44.25**	**189**	P	**P**	**01 16 01.9**	**-0.6**
	1.0nm,0.4s,mb3.8,baz=8.8,slow=8.1,SNR=31						
FITZ	**Fitzroy Crossi**	**44.57**	**201**	P	**P**	**01 16 04.6**	**-0.4**
	1.4nm,0.8s,mb3.6,baz=41,slow=9.3,SNR=5.3						
ASAR	**Alice Springs**	**47.98**	**189**	P	**P**	**01 16 30.6**	**-0.9**
	0.2nm,0.6s,mb2.9,baz=19,slow=9.0,SNR=4.2						
MKAR	**Makanchi Array**	**51.71**	**311**	P	**P**	**01 17 04.9**	**+5.3**
	0.4nm,0.6s,mb3.2,baz=96,slow=8.7,SNR=4.3						
ILAR	**Eielson Array**	**60.80**	**28**	P	**P**	**01 18 04.4**	**+0.7**
	0.5nm,0.9s,mb3.4,baz=276,slow=8.1,SNR=3.1						

NNC 20 01:27:31.6±6.7, 37°.31N×70°.02E, h0km, mb3.6, mpv3.4, 4C-1D, Error ellipse: s-maj=58.7km s-min=52.7km az=94.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.80**	**4**	Pn	Pn	01 29 02.1	+3.2
	1.9nm,0.3s,baz=179,slow=13,SNR=75						
KK31				⇑Sn	Sn	01 30 12.2	+6.1
	0.8nm,0.3s,baz=187,slow=26,SNR=8.1						
TKM2	**Tokmak 2**	**7.05**	**36**	⇑Pn	Pn	01 29 12.1	-3.8
	1.2nm,0.7s						
TKM2				⇑Sn	Sn	01 30 41.3	+4.6
	1.6nm,0.8s						
AB31	**Akbulak array**	**14.00**	**332**	⇑Pn	Pn	01 30 54.4	+3.3
	0.2nm,0.5s,baz=0.0,slow=0.1,SNR=8.6						
AB31				⇓Sn	Sn	01 33 27.6	+0.5
	0.7nm,0.6s,baz=157,slow=22,SNR=4.5						

IDC 20 01:36:15.9±1.4, 6°.76S×126°.92E, h0km, mb3.9/4, mb1 4.1/6, mb1mx3.8/17, mbtmp3.9/6, ML4.1/2, Error ellipse: s-maj=202.8km s-min=27.2km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.96**	**152**	Pn	Pn	01 39 50.0	+1.2
	0.6nm,0.3s,baz=338,slow=12,SNR=36						
WRA				Sn	Sn	01 42 24.3	-11
	0.5nm,0.3s,baz=332,slow=21,SNR=9.1						
ASAR	**Alice Springs**	**18.11**	**159**	P	Pn	01 40 28.5	-0.5
	0.9nm,0.3s,baz=340,slow=11,SNR=79						
ASAR				S	Sn	01 43 35.2	-17
	0.1nm,0.3s,baz=339,slow=22,SNR=9.8						
SONM	**Songino Array**	**57.30**	**344**	P	P	01 46 06.3	+0.8
	0.9nm,0.8s,baz=155,slow=5.6,SNR=5.0						
MKAR	**Makanchi Array**	**66.38**	**328**	P	P	01 47 07.5	+0.8
	0.4nm,0.4s,baz=118,slow=7.9,SNR=12						
ZALV	**Zalesovo Beam**	**70.04**	**335**	P	P	01 47 27.9	-1.6
	0.2nm,0.3s,baz=126,slow=5.9,SNR=3.6						
KURK	**Kurchatov**	**70.74**	**330**	P	P	01 47 33.7	-0.2
	1.1nm,0.6s,baz=132,slow=5.1,SNR=10						

*ATH **20** 02:19:21.1,36°.50N×24°.26E, h38km±6km, MD3.1/12, ML2.5*
*ISCJB **20** 02:19:22.2±0.8,36°.49N±0°.04×24°.22E±0°.04, h70km±15km, Error ellipse: s-maj=6.7km s-min=4.5km az=39.5*
*CSEM **20** 02:19:22.4±0.4,36°.50N×24°.21E, h25km±4km, ML2.6/6, Error ellipse: s-maj=4.6km s-min=3.0km az=34.0*
*THE **20** 02:19:24.1,36°.52N×24°.19E, h32km±19km, ML2.6/6, Error ellipse: s-maj=19.6km s-min=0.5km az=121.0*

ISC 20 02:19:22.9±0.9, 36°.48N±0°.03×24°.21E±0°.04, h66km±19km, n46, σ0°.39/70, 2D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THR3	**Thira Island,**	**0.96**	**94**	P	**Pn**	**02 19 41.0**	**+0.4**
THR3	**Thira Island,**	**0.96**	**94**	P	**Pn**	**02 19 41.0**	**+0.4**
KYTH	**Kithira**	**0.97**	**258**	P	**Pn**	**02 19 40.9**	**+0.1**
KYTH	**Kithira**	**0.97**	**258**	P	**Pn**	**02 19 40.9**	**+0.1**
THR2	**Thira island,**	**0.98**	**92**	P	**Pn**	**02 19 41.4**	**+0.4**
THR2	**Thira island,**	**0.98**	**92**	P	**Pn**	**02 19 41.4**	**+0.4**
THR1	**Thera Island**	**1.01**	**96**	P	**Pn**	**02 19 41.6**	**+0.3**
THR1	**Thera Island**	**1.01**	**96**	P	**Pn**	**02 19 41.6**	**+0.3**
VLI	**Veliai**	**1.05**	**283**	P	**Pn**	**02 19 41.8**	**0.0**
VLI				S	**Sn**	**02 19 55.2**	**-0.7**
VLI	**Veliai**	**1.05**	**283**	P	**Pn**	**02 19 41.8**	**0.0**
VLI				S	**Sn**	**02 19 55.2**	**-0.7**
VAM	**Vamos**	**1.07**	**181**	*e*PN	**Pn**	**02 19 41.9**	**-0.2**
VAM				*e*SN	**Sn**	**02 19 57.0**	**+0.6**
VAM	**Vamos**	**1.07**	**181**	*e*Pn	**Pn**	**02 19 41.9**	**-0.2**
VAM				*e*Sn	**Sn**	**02 19 57.0**	**+0.6**
APE	**Apeiranthos**	**1.21**	**61**	P	**Pn**	**02 19 43.9**	**+0.1**
APE				S	**Sn**	**02 19 59.5**	**0.0**
APE	**Apeiranthos**	**1.21**	**61**	P	**Pn**	**02 19 43.9**	**+0.1**
APE				S	**Sn**	**02 19 59.5**	**0.0**
DID	**Didima**	**1.29**	**323**	⇓*i*PN	**Pn**	**02 19 44.9**	**0.0**
DID				*e*SN	**Sn**	**02 20 02.3**	**+0.9**
DID	**Didima**	**1.29**	**323**	P	**Pn**	**02 19 45.0**	**+0.1**
DID				S	**Sn**	**02 20 00.7**	**-0.7**
DID	**Didima**	**1.29**	**323**	⇓*i*Pn	**Pn**	**02 19 44.9**	**0.0**
DID				S	**Sn**	**02 20 00.7**	**-0.7**
DID				*e*Sn	**Sn**	**02 20 02.3**	**+0.9**
VLY	**Voula,Athens**	**1.41**	**346**	P	**Pn**	**02 19 46.6**	**+0.1**
VLY				S	**Sn**	**02 20 03.8**	**-0.4**
VLY	**Voula,Athens**	**1.41**	**346**	P	**Pn**	**02 19 46.6**	**+0.1**
VLY				S	**Sn**	**02 20 03.8**	**-0.4**
ATH	**Athens Observa**	**1.54**	**345**	*e*PB	**Pn**	**02 19 48.4**	**+0.2**
ATH	**Athens Observa**	**1.54**	**345**	*e*Pb	**Pn**	**02 19 48.4**	**+0.2**
SIVA	**Sivas**	**1.54**	**161**	*e*PB	**Pn**	**02 19 48.1**	**+0.4**
SIVA	**Sivas**	**1.54**	**161**	*e*Pb	**Pn**	**02 19 48.1**	**-0.2**
PTL	**Penteli**	**1.59**	**350**	P	**Pn**	**02 19 49.1**	**+0.2**
PTL				S	**Sn**	**02 20 08.2**	**-0.3**
PTL	**Penteli**	**1.59**	**350**	P	**Pn**	**02 19 49.1**	**+0.2**
PTL				S	**Sn**	**02 20 08.2**	**-0.3**
NPS	**Neapolis**	**1.67**	**137**	*e*PN	**Pn**	**02 19 48.8**	**-1.1**
NPS	**Neapolis**	**1.67**	**137**	*e*Pn	**Pn**	**02 19 48.8**	**-1.1**
VLX	**Vlachokerasia**	**1.72**	**302**	*e*PN	**Pn**	**02 19 50.7**	**+0.1**
VLX				*e*SN	**Sn**	**02 20 11.4**	**-0.2**
VLX	**Vlachokerasia**	**1.72**	**302**	P	**Pn**	**02 19 50.8**	**+0.2**
VLX				S	**Sn**	**02 20 11.3**	**-0.3**
VLX	**Vlachokerasia**	**1.72**	**302**	*e*Pn	**Pn**	**02 19 50.7**	**+0.1**
VLX				*e*Sn	**Sn**	**02 20 11.4**	**-0.2**
LTK	**Loutraki**	**1.83**	**327**	*e*PN	**Pn**	**02 19 52.3**	**+0.1**
LTK	**Loutraki**	**1.83**	**327**	P	**Pn**	**02 19 52.4**	**+0.2**
LTK				S	**Sn**	**02 20 14.3**	**-0.1**
LTK	**Loutraki**	**1.83**	**327**	*e*Pn	**Pn**	**02 19 52.3**	**+0.1**
LTK				S	**Sn**	**02 20 14.3**	**-0.1**
PYL	**PYLOS**	**2.03**	**282**	*e*PN	**Pn**	**02 19 54.7**	**-0.1**
PYL	**PYLOS**	**2.03**	**282**	P	**Pn**	**02 19 54.8**	**0.0**
PYL				S	**Sn**	**02 20 19.6**	**+0.5**
PYL	**PYLOS**	**2.03**	**282**	P	**Pn**	**02 19 54.8**	**0.0**
PYL				S	**Sn**	**02 20 19.6**	**+0.5**
GUR	**Goura**	**2.08**	**315**	*e*PN	**Pn**	**02 19 55.4**	**-0.1**
GUR				*e*SN	**Sn**	**02 20 20.5**	**+0.1**
GUR	**Goura**	**2.08**	**315**	P	**Pn**	**02 19 55.5**	**-0.1**
GUR				S	**Sn**	**02 20 20.6**	**+0.2**
GUR	**Goura**	**2.08**	**315**	P	**Pn**	**02 19 55.5**	**-0.1**
GUR				S	**Sn**	**02 20 20.6**	**+0.2**
LKR	**Lokris**	**2.37**	**336**	*e*PN	**Pn**	**02 19 59.4**	**0.0**
LKR	**Lokris**	**2.37**	**336**	P	**Pn**	**02 19 59.5**	**+0.1**
LKR	**Lokris**	**2.37**	**336**	P	**Pn**	**02 19 59.5**	**+0.1**
KARP	**Karpathos**	**2.56**	**110**	*e*PN	**Pn**	**02 20 01.6**	**-0.5**
KARP	**Karpathos**	**2.56**	**110**	*e*Pn	**Pn**	**02 20 01.6**	**-0.5**
AGG	**Agios Georgios**	**2.94**	**330**	*e*PN	**Pn**	**02 20 07.7**	**+0.5**
AGG	**Agios Georgios**	**2.94**	**330**	*e*Pn	**Pn**	**02 20 07.7**	**+0.5**

*ISCJB **20** 02:30:21.0±0.5, 60°.87N±0°.03×152°.72W±0°.09, h141km±5km, mb3.3/4, Error ellipse: s-maj=7.3km s-min=5.3km az=16.3*
*IDC **20** 02:30:21.1±1.4, 60°.87N×152°.74W, h115km±13km, mb3.1/4, mb1 3.7/8, mb1mx3.4/27, mbtmp3.4/8, Error ellipse: s-maj=23.1km s-min=10.3km az=103.0*
*NEIC **20** 02:30:22.4, 60°.88N×152°.77W, h148km, MG3.6(AEIC), After AEIC.*

ISC 20 02:30:22.1±0.5, 60°.87N±0°.03×152°.77W±0°.09, h133km±5km, n35, σ0°.96/50, mb3.3/4, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSO	**Redoubt South**	**0.41**	**179**	*e*Pg	**Pn**	**02 30 42.5**	**+1.4**
SLKM	**Skilak Lake**	**1.31**	**105**	*e*Pn	**Pn**	**02 30 49.0**	**+0.7**
SLKM				*e*S	**Sn**	**02 31 09.1**	**+0.9**
SVW2	**Sparrevohn**	**1.39**	**281**	*e*P	**Pn**	**02 30 48.6**	**-0.6**
RC01	**Rabbit Creek A**	**1.50**	**80**	*e*Pn	**Pn**	**02 30 51.0**	**+0.7**
RC01				*e*S	**Sn**	**02 31 11.3**	**-0.5**
SEW	**Seward**	**1.81**	**114**	*e*Pn	**Pn**	**02 30 54.3**	**+0.3**
SEW				*e*S	**Sn**	**02 31 18.9**	**+0.4**
PMR	**Palmer**	**1.90**	**66**	*e*Pn	**Pn**	**02 30 54.6**	**-0.4**
PMR				*e*S	**Sn**	**02 31 21.0**	**+0.7**
PPLA	**Purkeypile**	**2.05**	**7**	*e*Pn	**Pn**	**02 30 57.5**	**+0.7**
PPLA				*e*S	**Sn**	**02 31 25.5**	**+2.0**
SML	**Sawmill**	**2.34**	**64**	*e*Pn	**Pn**	**02 31 00.0**	**-0.3**
SML				*e*S	**Sn**	**02 31 30.0**	**+0.4**
TRF	**Thorofare Moun**	**2.84**	**23**	*e*Pn	**Pn**	**02 31 06.7**	**0.0**
TRF				*e*S	**Sn**	**02 31 41.6**	**+0.5**
KDAK	**Kodiak Island**	**3.10**	**178**	P	**Pn**	**02 31 08.9**	**-1.2**
	6.0nm,0.3s,baz=14,slow=7.7,SNR=57						
KDAK				S	**Sn**	**02 31 45.4**	**-1.7**
	40nm,0.3s,baz=127,slow=22,SNR=30						
KDAK	**Kodiak Island**	**3.10**	**178**	*e*Pn	**Pn**	**02 31 09.1**	**-1.0**
KDAK				*e*S	**Sn**	**02 31 45.1**	**-1.9**
BPAW	**Bear Paw Mtn.**	**3.35**	**14**	*e*Pn	**Pn**	**02 31 12.4**	**-0.8**
PAX	**Paxson**	**4.04**	**55**	*e*Pn	**Pn**	**02 31 22.8**	**+0.4**
PAX				*e*S	**Sn**	**02 32 08.5**	**-0.7**
COLA	**College**	**4.61**	**27**	*e*Pn	**Pn**	**02 31 29.2**	**-0.6**
COLA				*e*S	**Sn**	**02 32 22.7**	**+0.2**
ILAR	**Eielson Array**	**4.75**	**32**	P	**Pn**	**02 31 30.6**	**-1.2**
	12nm,0.3s,baz=214,slow=14,SNR=421						
ILAR				S	**Sn**	**02 32 24.7**	**-1.3**
	11nm,0.3s,baz=211,slow=24,SNR=3.0						
ILAR	**Eielson Array**	**4.75**	**32**	P	**Pn**	**02 31 30.6**	**-1.2**
ILAR				S	**Sn**	**02 32 24.7**	**-1.3**
MENT	**Mentasta**	**4.76**	**60**	*e*Pn	**Pn**	**02 31 32.0**	**+0.2**
DOT	**Dot Lake**	**4.93**	**52**	*e*Pn	**Pn**	**02 31 34.1**	**-0.1**
DOT				*e*S	**Sn**	**02 32 28.9**	**-1.4**
CHGN	**Chignik**	**5.45**	**215**	*e*Pn	**Pn**	**02 31 40.0**	**-1.1**
EGAK	**Eagle**	**6.60**	**49**	*e*Pn	**Pn**	**02 31 55.5**	**-1.1**
	16nm,0.6s						
PNL	**Peninsula**	**6.76**	**94**	*e*Pn	**Pn**	**02 31 59.5**	**+0.8**
PNL				*e*S	**Sn**	**02 33 12.3**	**-2.0**
DAWY	**Dawson**	**6.98**	**57**	*e*Pn	**Pn**	**02 32 02.0**	**+0.4**
SIT	**Sitka**	**9.78**	**105**	Pn	**Pn**	**02 32 41.5**	**+2.4**
INK	**Inuvik**	**11.09**	**40**	P	**Pn**	**02 32 55.1**	**-1.3**
	0.3nm,0.3s,baz=240,slow=20,SNR=6.4						
INK	**Inuvik**	**11.09**	**40**	*e*Pn	**Pn**	**02 32 54.8**	**-1.7**
YKA	**Yellowknife Ar**	**18.00**	**68**	P	**P**	**02 34 22.6**	**+0.5**
	0.7nm,0.3s,baz=280,slow=11,SNR=15						
YKA	**Yellowknife Ar**	**18.00**	**68**	P	**P**	**02 34 22.6**	**+0.5**
NVAR	**Mina Array Bea**	**31.06**	**121**	P	**P**	**02 36 27.8**	**+0.7**
	0.6nm,0.7s,mb3.5,baz=314,slow=9.6,SNR=5.0						
NVAR	**Mina Array Bea**	**31.06**	**121**	P	**P**	**02 36 27.8**	**+0.7**
PDAR	**Pinedale Array**	**31.50**	**105**	P	**P**	**02 36 31.9**	**+1.0**
	0.6nm,1.0s,mb3.3,baz=36,slow=7.8,SNR=3.5						
PDAR	**Pinedale Array**	**31.50**	**105**	P	**P**	**02 36 31.9**	**+1.0**
TXAR	**Lajitas Array**	**45.19**	**112**	P	**P**	**02 38 25.9**	**+0.5**
	0.3nm,0.7s,mb3.1,baz=315,slow=7.7,SNR=5.4						
TXAR	**Lajitas Array**	**45.19**	**112**	P	**P**	**02 38 25.9**	**+0.5**
SONM	**Songino Array**	**54.38**	**306**	P	**P**	**02 39 35.6**	**+1.0**
	0.5nm,0.5s,mb3.5,baz=67,slow=7.2,SNR=4.5						
SONM	**Songino Array**	**54.38**	**306**	P	**P**	**02 39 35.6**	**+1.0**

NNC 20 02:39:23.4±5.8, 38°.44N×71°.57E, h0km, mb3.5, mpv3.1, 9C, Error ellipse: s-maj=44.5km s-min=33.4km az=1.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.73**	**351**	⇑Pn	Pn	02 40 39.9	+4.0
	0.7nm,0.2s,baz=162,slow=13,SNR=98						
KK31				⇑Sn	Sn	02 41 38.0	+6.6
	29nm,0.4s,baz=166,slow=19						
TKM2	**Tokmak 2**	**5.42**	**33**	⇑Pn	Pn	02 40 44.1	-1.4
	4.1nm,1.2s						
TKM2				⇑Sn	Sn	02 41 51.5	+3.0
	3.8nm,0.8s						
TKM2				⇑Lg		02 42 11.1	
	2.8nm,0.8s						
AB31	**Akbulak array**	**13.67**	**326**	⇑Pn	Pn	02 42 34.2	-4.1
	0.8nm,0.5s						
AB31				⇑Sn	Sn	02 45 07.8	-3.0
	1.2nm,0.5s						
AKTO	**Aktyubinsk**	**15.38**	**326**	⇑Pn	Pn	02 42 56.7	-4.9
	0.2nm,0.6s						
AKTO				⇑Sn	Sn	02 45 52.2	-0.3
	0.3nm,0.7s						

*ISCJB **20** 02:51:03.0±0.4, 44°.81N±0°.02×17°.28E±0°.03, h1km±3km, Error ellipse: s-maj=4.0km s-min=2.4km az=37.1*
*CSEM **20** 02:51:04.0±0.1, 44°.80N×17°.33E, h2km, ML3.1/5, Error ellipse: s-maj=4.3km s-min=2.5km az=32.0*
*BEO **20** 02:51:04.0±0.3, 44°.78N×17°.24E, h7km±3km, ML2.7/7*
*VIE **20** 02:51:08.1±1.4, 45°.11N×17°.38E, h10km, mb2.3/6, ML2.3/6, Error ellipse: s-maj=12.4km s-min=6.7km az=2.0 50 km W of Slavonski Brod*

ISC 20 02:51:04.5±0.4, 44°.79N±0°.02×17°.27E±0°.03, h7km±3km, n83, σ0°.96/140, 10C-17D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.07**	**236**	⇓*i*Pg	**Pg**	**02 51 06.1**	**-0.3**
BLY				*e*Sg	**Sg**	**02 51 07.7**	**0.0**
BLY	**Banja Luka**	**0.07**	**236**	⇓*i*Pg	**Pg**	**02 51 06.1**	**-0.3**
BLY				*e*Sg	**Sg**	**02 51 07.7**	**0.0**
SISC	**Sisak**	**0.93**	**317**	*i* Pg	**Pg**	**02 51 22.4**	**0.0**
SISC				Sg	**Sg**	**02 51 37.8**	**+3.3**
SISC	**Sisak**	**0.93**	**317**	*i* Pg	**Pg**	**02 51 22.4**	**0.0**
SISC				Sg	**Sg**	**02 51 37.7**	**+3.2**
RHK3	**Tenkes**	**1.30**	**32**	*e*Sn	**Sn**	**02 51 46.3**	**-0.3**
GCIS	**Gornji Cirnik**	**1.58**	**314**	*i* Pn	**Pn**	**02 51 32.8**	**-0.1**
GCIS				*i* Sn	**Sg**	**02 51 57.0**	**+1.6**
	comp=Z,6.0nm,0.1s						
GCIS	**Gornji Cirnik**	**1.58**	**314**	*i* Pn	**Pn**	**02 51 32.8**	**-0.1**
GCIS				*i* Sn	**Sg**	**02 51 57.0**	**+1.7**
	comp=Z,6.0nm,0.1s						
BOJS	**Bojanci**	**1.59**	**297**	*i* Pn	**Pn**	**02 51 33.2**	**+0.1**
BOJS				*i* Sn	**Sg**	**02 51 55.4**	**-0.3**
BOJS							
	comp=Z,38nm,0.3s						
BOJS	**Bojanci**	**1.59**	**297**	*i* Pn	**Pn**	**02 51 33.2**	**+0.1**
BOJS				*i* Sn	**Sg**	**02 51 55.4**	**-0.4**
	comp=Z,38nm,0.3s						
CRES	**Cresnjev**	**1.65**	**310**	*i* Pn	**Pn**	**02 51 33.5**	**-0.2**
CRES				*i* Sn	**Sg**	**02 51 57.3**	**-0.1**
CRES							
	comp=Z,24nm,0.3s						
CRES	**Cresnjev**	**1.65**	**310**	*i* Pn	**Pn**	**02 51 33.5**	**-0.3**
CRES				*i* Sn	**Sg**	**02 51 57.3**	**-0.1**
	comp=Z,24nm,0.3s						
GOLS	**Golise**	**1.68**	**317**	*i* Pn	**Pn**	**02 51 33.9**	**-0.4**
GOLS				*i* Sn	**Sg**	**02 52 00.6**	**+2.0**
GOLS							
	comp=Z,12nm,0.2s						
GOLS	**Golise**	**1.68**	**317**	*i* Pn	**Pn**	**02 51 33.9**	**-0.4**
GOLS

SJES				*i* Sg		**Sg**	02 52 24.0	-0.1
CRNS	**Crni Vrh**	**2.48**	**302**	*e*Pn		**Pb**	02 51 47.6	-1.7
JAVS	**Javornik**	**2.51**	**297**	*i* Pn		**Pn**	02 51 47.6	+1.9
JAVS	**Javornik**	**2.51**	**297**	*i* Pn		**Pn**	02 51 47.6	+1.9
OBKA	**Obir**	**2.57**	**313**	⇓Pn		**Pn**	02 51 47.9	+1.5
OBKA	comp=Z,9.2nm,0.4s			⇑*i*Pg		**Pg**	02 51 54.0	+0.3
OBKA	comp=Z,10nm,0.4s			⇑*e*Sg		**Sg**	02 52 27.4	+0.4
OBKA	**Obir**	**2.57**	**313**	Pn		**Pn**	02 51 47.9	+1.5
OBKA	**Obir**	**2.57**	**313**	Pg		**Pg**	02 51 54.0	+0.3
OBKA	comp=Z,9.2nm,0.4s			Sg		**Sg**	02 52 27.4	+0.4
OBKA	comp=Z,10nm,0.4s							
GRUS	**Gruza**	**2.63**	**109**	⇓*e*Pn		**Pn**	02 51 47.5	+0.2
GRUS				*e*Sn		**Sn**	02 52 20.3	+0.8
GRUS	**Gruza**	**2.63**	**109**	⇓*e*Pn		**Pn**	02 51 47.5	+0.2
GRUS				*e*Sn		**Sn**	02 52 20.3	+0.8
VOY	**Vojsko**	**2.68**	**299**	*e*		**Pb**	02 51 51.2	-1.6
VOY				*e*		**Pg**	02 51 54.6	-1.3
VOY				*e*Sn		**Sb**	02 52 27.1	+1.3
VOJS	**Vojsko**	**2.69**	**299**	*i* Pn		**Pn**	02 51 49.1	+1.0
VOJS	**Vojsko**	**2.69**	**299**	*i* Pn		**Pn**	02 51 49.1	+1.0
PKSG		**2.72**	**16**	*e*Pn		**Pn**	02 51 48.9	+0.4
ARSA	**Arzberg**	**2.75**	**334**	⇑*e*Pn		**Pn**	02 51 49.2	+0.3
ARSA	comp=Z,4.5nm,0.2s,SNR=12			⇑*i*Sn		**Sn**	02 52 21.0	-1.2
ARSA	comp=Z,2.1nm,0.3s **Arzberg**	**2.75**	**334**	Pn		**Pn**	02 51 49.2	+0.3
ARSA	comp=Z,4.5nm,0.2s,SNR=12			Sn		**Sn**	02 52 21.0	-1.3
SOP	comp=Z,2.1nm,0.3s **Sopron**	**2.94**	**351**	⇓*e*Pn		**Pn**	02 51 52.2	+0.7
SOP	**Sopron**	**2.94**	**351**	⇓*e*Pn		**Pn**	02 51 52.2	+0.7
MYKA	**Terra Mystica**	**3.14**	**307**	⇑Pg		**Pg**	02 52 06.9	+2.3
MYKA	comp=Z,2.3nm,0.3s			⇓*i*Sg		**Sg**	02 52 44.9	-0.4
MYKA	comp=Z,4.4nm,0.5s **Terra Mystica**	**3.14**	**307**	Pg		**Pg**	02 52 06.9	+2.3
MYKA	comp=Z,2.3nm,0.3s			Sg		**Sg**	02 52 44.9	-0.3
BZS	comp=Z,4.4nm,0.5s **Buzias**	**3.18**	**73**	⇓*i*P		**Pn**	02 51 52.1	-2.8
BZS	**Buzias**	**3.18**	**73**	⇓*i*P		**Pn**	02 51 52.1	-2.8
SELS	**Selova**	**3.19**	**116**	*e*Pn		**Pn**	02 51 54.7	-0.3
CONA	**Conrad Observa**	**3.29**	**343**	⇑*i*Pn		**Pn**	02 51 57.0	+0.7
CONA	comp=Z,5.5nm,0.3s,SNR=18			⇓*i*Sn		**Sn**	02 52 29.5	-6.1
CONA	comp=Z,3.2nm,0.3s **Conrad Observa**	**3.29**	**343**	Pn		**Pn**	02 51 57.0	+0.7
MOA	comp=Z,5.5nm,0.3s,SNR=18			⇑*i*Sn		**Sn**	02 52 45.3	-0.5
MOA	comp=Z,5.8nm,0.3s,SNR=22 **Molln**	**3.70**	**327**	⇑*i*Pn		**Pn**	02 52 03.3	+1.3
MOA	comp=Z,6.6nm,0.2s			⇑*i*Sn		**Sn**	02 52 45.3	-0.5
MOA	**Molln**	**3.70**	**327**	Pn		**Pn**	02 52 03.3	+1.3
MOA	comp=Z,5.8nm,0.3s,SNR=22			Sn		**Sn**	02 52 45.3	-0.5
BARS	comp=Z,6.6nm,0.2s **Barje**	**3.84**	**119**	*e*Pn		**Pn**	02 52 03.7	-0.2
BARS	**Barje**	**3.84**	**119**	⇓*i*Pn		**Pn**	02 52 03.8	-0.1
BARS	**Barje**	**3.84**	**119**	⇓*i*Pn		**Pn**	02 52 03.8	-0.1
GZR	**Gura Zlata**	**3.95**	**79**	⇑*i*P		**Pb**	02 52 13.7	-0.7
ZAPS	**Zavoj**	**4.16**	**110**	⇑*i*Pn		**Pn**	02 52 08.5	+0.2

*ISCJB **20** 03:13:32.7±0.5,38°.91N±0°.02×28°.20E±0°.03,h3km±5km, Error ellipse: s-maj=4.1km s-min=4.0km az=31.1*
*DDA **20** 03:13:33.0,38°.87N×28°.20E,h7km±3km,Md2.8*
*ISK **20** 03:13:32.3,38°.90N×28°.20E,h5km,MD2.8*
*CSEM **20** 03:13:33.1±0.1,38°.90N×28°.19E,h5km,MD2.8, Error ellipse: s-maj=2.4km s-min=2.0km az=122.0*

ISC 20 03:13:33.3±0.5, 38°.91N±0°.02×28°.20E±0°.03, h5km±5km, n59, σ0°53/72, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	**Akhisar**	**0.30**	**265**	*i* P	**Pg**	**03 13 38.7**	**-0.4**
AKHS				*i* S	**Sg**	**03 13 43.9**	**+0.8**
AKS	**Akhisar**	**0.30**	**265**	PG	**Pg**	**03 13 38.7**	**-0.4**
AKS	**Akhisar**	**0.30**	**265**	*i* Pg	**Pg**	**03 13 38.7**	**-0.4**
MANT	**Manisa**	**0.50**	**145**	*i* P	**Pg**	**03 13 42.6**	**-0.3**
MANT				*i* S	**Sg**	**03 13 49.2**	**-0.3**
MANT	**Manisa**	**0.50**	**145**	*i* P	**Sg**	**03 13 42.6**	**-0.3**
MANT				*i* S	**Sg**	**03 13 49.2**	**-0.2**
KULA	**Kula-Manisa**	**0.53**	**137**	PG	**Pg**	**03 13 43.3**	**-0.3**
KULA				SG	**Sg**	**03 13 43.3**	**0.0**
KULA	**Kula-Manisa**	**0.53**	**137**	*i* Pg	**Pg**	**03 13 43.3**	**-0.2**
KULA				*i* Sg	**Sg**	**03 13 50.5**	**+0.1**
DST	**Dursunbey**	**0.77**	**25**	*e*PG	**Pg**	**03 13 47.1**	**-1.0**
DST				*e*SG	**Sg**	**03 13 58.8**	**+0.7**
DST	**Dursunbey**	**0.77**	**25**	*e*Pg	**Pg**	**03 13 47.1**	**-1.0**
DST				*e*Sg	**Sg**	**03 13 58.8**	**+0.7**
BALB	**Balikesir**	**0.77**	**342**	*e*PG	**Pg**	**03 13 48.0**	**-0.1**
BALB				*e*SG	**Sg**	**03 13 58.7**	**+0.5**
BALB	**Balikesir**	**0.77**	**342**	*e*Pg	**Pg**	**03 13 48.1**	**-0.1**
BALB				*e*Sg	**Sg**	**03 13 58.7**	**+0.5**
IZM	**Izmir**	**0.89**	**236**	*e*PG	**Pg**	**03 13 49.7**	**-0.7**
IZM				*e*SG	**Sg**	**03 14 02.5**	**+0.7**
IZM	**Izmir**	**0.89**	**236**	*e*Pg	**Pg**	**03 13 49.7**	**-0.6**
IZM				*e*Sg	**Sg**	**03 14 02.5**	**+0.6**
BLCB	**Balcova**	**1.04**	**241**	*e*PG	**Pg**	**03 13 52.9**	**-0.4**
BLCB				*e*SG	**Sg**	**03 14 07.6**	**+0.8**
BLCB	**Balcova**	**1.04**	**241**	*e*Pg	**Pg**	**03 13 52.9**	**-0.4**
BLCB				*e*Sg	**Sg**	**03 14 07.6**	**+0.8**
GONE	**Gonen-Balikesi**	**1.21**	**341**	*e*PN	**Pn**	**03 13 55.6**	**-1.1**
GONE	**Gonen-Balikesi**	**1.21**	**341**	*e*Pn	**Pn**	**03 13 55.7**	**-1.0**
KCTX	**Karacabey (Bur**	**1.36**	**5**	*e*PN	**Pn**	**03 13 57.9**	**-1.0**
KCTX	**Karacabey (Bur**	**1.36**	**5**	*e*Pn	**Pn**	**03 13 57.9**	**-1.0**
URLA	**Izmir**	**1.37**	**247**	*i* P	**Pn**	**03 13 58.5**	**-0.5**
URLA	**Izmir**	**1.37**	**247**	*i* P	**Pn**	**03 13 58.5**	**-0.4**
ALT	**Altintas**	**1.50**	**84**	*e*PN	**Pn**	**03 14 00.6**	**-0.1**
ALT	**Altintas**	**1.50**	**84**	*e*Pn	**Pn**	**03 14 00.6**	**-0.2**
MDNY	**Mudanya-Bursa**	**1.56**	**20**	*e*PN	**Pn**	**03 14 01.7**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.56**	**20**	*e*Pn	**Pn**	**03 14 01.7**	**+0.2**
KRBG	**Karabiga-Canak**	**1.64**	**335**	*e*PN	**Pn**	**03 14 02.5**	**-0.2**
KRBG	**Karabiga-Canak**	**1.64**	**335**	*e*Pn	**Pn**	**03 14 02.5**	**-0.2**
MLSB	**Milas**	**1.64**	**192**	*e*PN	**Pn**	**03 14 02.8**	**+0.1**
MLSB	**Milas**	**1.64**	**192**	*e*Pn	**Pn**	**03 14 02.8**	**+0.1**
GEMT	**Gemlik**	**1.71**	**26**	*e*PN	**Pn**	**03 14 03.5**	**-0.1**
GEMT	**Gemlik**	**1.71**	**26**	*e*Pn	**Pn**	**03 14 03.6**	**-0.1**
ARMT	**Armutlu**	**1.74**	**17**	*e*PN	**Pn**	**03 14 03.8**	**-0.2**
ARMT	**Armutlu**	**1.74**	**17**	*e*Pn	**Pn**	**03 14 03.8**	**-0.2**
CAVI	**Cavuskoy**	**1.82**	**44**	*e*PN	**Pn**	**03 14 04.9**	**-0.2**
CAVI	**Cavuskoy**	**1.82**	**44**	*e*Pn	**Pn**	**03 14 04.9**	**-0.2**
YLV	**Yalova**	**1.89**	**28**	*e*PN	**Pn**	**03 14 06.9**	**+0.7**
YLV	**Yalova**	**1.89**	**28**	*e*Pn	**Pn**	**03 14 06.9**	**+0.7**
ADVT	**Abdulvahap**	**1.94**	**37**	*e*PN	**Pn**	**03 14 07.3**	**+0.5**
ADVT	**Abdulvahap**	**1.94**	**37**	*e*Pn	**Pn**	**03 14 07.3**	**+0.5**
BODT	**Bodrum**	**1.97**	**201**	*e*PN	**Pn**	**03 14 07.5**	**+0.3**
BODT	**Bodrum**	**1.97**	**201**	*e*Pn	**Pn**	**03 14 07.5**	**+0.3**
GELI	**Tayfur-Gelibol**	**2.00**	**319**	*e*PN	**Pn**	**03 14 07.0**	**-0.6**
GELI	**Tayfur-Gelibol**	**2.00**	**319**	*e*Pn	**Pn**	**03 14 07.0**	**-0.6**
MFT	**Murefte**	**2.01**	**340**	*e*PN	**Pn**	**03 14 08.1**	**+0.3**
MFT	**Murefte**	**2.01**	**340**	*e*Pn	**Pn**	**03 14 08.1**	**+0.3**
ESKT	**Eskisehir**	**2.15**	**73**	*e*PN	**Pn**	**03 14 09.9**	**+0.2**
ESKT	**Eskisehir**	**2.15**	**73**	*e*Pn	**Pn**	**03 14 09.9**	**+0.2**
ERIK	**Erikli-Kesan**	**2.19**	**324**	*e*PN	**Pn**	**03 14 09.9**	**-0.3**
ERIK	**Erikli-Kesan**	**2.19**	**324**	*e*Pn	**Pn**	**03 14 09.9**	**-0.3**
BGKT	**Bogazkoy**	**2.32**	**11**	*e*PN	**Pn**	**03 14 12.1**	**+0.1**
BGKT	**Bogazkoy**	**2.32**	**11**	*e*Pn	**Pn**	**03 14 12.1**	**+0.1**
CTKS	**Kestanelik-??a**	**2.34**	**6**	*e*PN	**Pn**	**03 14 12.3**	**0.0**
CTKS	**Kestanelik-??a**	**2.34**	**6**	*e*Pn	**Pn**	**03 14 12.3**	**0.0**
GULT	**Gulveren**	**2.35**	**49**	*e*PN	**Pn**	**03 14 12.8**	**+0.4**
GULT	**Gulveren**	**2.35**	**49**	*e*Pn	**Pn**	**03 14 12.9**	**+0.4**
SVRH	**Sivrihisar-ESK**	**2.64**	**77**	*e*PN	**Pn**	**03 14 17.4**	**+0.9**
SVRH	**Sivrihisar-ESK**	**2.64**	**77**	*e*Pn	**Pn**	**03 14 17.4**	**+0.9**
MDU	**Mudurnu**	**2.80**	**55**	*e*PN	**Pn**	**03 14 19.5**	**+0.8**
MDU	**Mudurnu**	**2.80**	**55**	*e*Pn	**Pn**	**03 14 19.5**	**+0.8**

*IDC **20** 03:34:18.2±2.2,21°.30S×178°.80W,h520km±26km, mb3.4/11,mb1 3.7/13,mb1mx3.5/20,mbtmp3.5/13, Error ellipse: s-maj=24.0km s-min=13.5km az=150.0*
*NEIC **20** 03:34:19.1±1.0,21°.38S×178°.71W,h537km±11km, mb3.5/1, Error ellipse: s-maj=21.6km s-min=12.9km az=138.0*
*ISCJB **20** 03:34:20.3±1.1,21°.4S±0°.1×179°.0W±0°.1,h554km±12km, mb3.9/12, Error ellipse: s-maj=20.1km s-min=14.2km az=143.4*

ISC 20 03:34:21.0±1.1, 21°.4S±0°.1×178°.9W±0°.1, h550km±12km, n49, σ0°89/32, mb3.9/12, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.63**	**321**	*e*P	**P**	**03 35 47.8**	**-0.1**
AFI	**Afiamalu**	**10.09**	**44**	P	**P**	**03 36 34.1**	**-5.8**
AFI	7.6nm,0.3s,baz=296,slow=2.6,SNR=3.7 **Afiamalu**	**10.09**	**44**	P	**P**	**03 36 34.1**	**-5.9**
URZ	4.1nm,0.3s,baz=12,slow=3.8,SNR=9.0 **Urewera**	**17.15**	**191**	P	**P**	**03 37 49.2**	**-1.6**
URZ	7.0nm,0.3s,mb4.7,baz=338,slow=1,SNR=3.4 **Urewera**	**17.15**	**191**	P	**P**	**03 37 49.2**	**-1.6**
RPZ	**Rata Peaks**	**23.77**	**198**	P	**P**	**03 38 51.1**	**+0.6**
CTA	**Charters Tower**	**32.56**	**266**	P	**P**	**03 40 07.3**	**0.0**
CTA	1.7nm,0.5s,mb3.9,baz=101,slow=5.2,SNR=3.8 **Charters Tower**	**32.56**	**266**	P	**P**	**03 40 07.3**	**0.0**
STKA	**Stephens Creek**	**36.63**	**245**	P	**P**	**03 40 42.5**	**+1.2**
STKA	3.4nm,0.7s,mb4.0,baz=96,slow=10,SNR=8.4 **Stephens Creek**	**36.63**	**245**	P	**P**	**03 40 42.5**	**+1.2**
ASAR	**Alice Springs**	**43.48**	**258**	P	**P**	**03 41 36.6**	**+0.5**
ASAR	2.2nm,0.6s,mb3.9,baz=96,slow=8.0,SNR=44 S				**S**	**03 47 25.5**	**+0.2**
ASAR	1.0nm,1.0s,baz=93,slow=14,SNR=5.8 **Alice Springs**	**43.48**	**258**	P	**P**	**03 41 36.6**	**+0.5**
ASAR				S	**S**	**03 47 25.5**	**+0.2**
WRAB	**Tennant Creek**	**43.62**	**263**	P	**P**	**03 41 37.2**	**-0.1**
WRA	1.2nm,0.7s,mb3.5 **Warramunga Arr**	**43.63**	**263**	P	**P**	**03 41 37.2**	**-0.1**
WRA	0.7nm,0.3s,mb3.7,baz=94,slow=7.8,SNR=35 S				**S**	**03 47 25.8**	**-1.7**
WRA	0.2nm,0.6s,baz=98,slow=14,SNR=3.1 **Warramunga Arr**	**43.63**	**263**	P	**P**	**03 41 37.2**	**-0.1**
WRA				S	**S**	**03 47 25.8**	**-1.7**
MJAR	**Matsushiro Arr**	**70.43**	**324**	P	**P**	**03 44 39.3**	**-0.8**
MJAR	1.6nm,0.6s,mb3.7,baz=158,slow=5.7,SNR=4.5 **Matsushiro Arr**	**70.43**	**324**	P	**P**	**03 44 39.3**	**-0.8**
NVAR	**Mina Array Bea**	**82.27**	**44**	P	**P**	**03 45 45.7**	**+0.6**
NVAR	1.4nm,0.5s,mb3.6,baz=225,slow=8.3,SNR=14 **Mina Array Bea**	**82.27**	**44**	P	**P**	**03 45 45.7**	**+0.6**
TXAR	**Lajitas Array**	**88.26**	**58**	P	**P**	**03 46 15.2**	**+1.0**
TXAR	1.3nm,0.9s,mb3.7,baz=223,slow=5.1,SNR=12 **Lajitas Array**	**88.26**	**58**	P	**P**	**03 46 15.2**	**+1.0**
ILAR	**Eielson Array**	**89.38**	**13**	P	**P**	**03 46 17.4**	**-1.2**
CMAR	1.1nm,0.6s,mb3.9,baz=221,slow=5.5,SNR=11 **Chiang Mai Arr**	**89.61**	**290**	P	**P**	**03 46 22.1**	**+1.4**
CMAR	0.8nm,0.4s,mb4.0,baz=130,slow=4.6,SNR=5.4 **Chiang Mai Arr**	**89.61**	**290**	P	**P**	**03 46 22.1**	**+1.4**
PDAR	**Pinedale Array**	**90.20**	**44**	P	**P**	**03 46 22.3**	**-0.6**
SPITS	1.7nm,0.7s,mb4.0,baz=203,slow=3.2,SNR=14 **Spitsbergen Ar**	**122.70**	**356**	PKP	PKPdf	03 52 12.4	-1.1
SPITS	4.0nm,0.7s,baz=6.6,slow=10,SNR=4.9 **Spitsbergen Ar**	**122.70**	**356**	PKP	PKPdf	03 52 12.4	-1.1
ARCES	**ARCESS Array B**	**129.64**	**349**	PKP	PKPdf	03 52 26.1	-0.8
ARCES	6.0nm,0.9s,baz=94,slow=1.2,SNR=8.5 **ARCESS Array B**	**129.64**	**349**	PKP	PKPdf	03 52 26.1	-0.8
JOF	**Joensuu**	**133.71**	**341**	*ep*	PKPdf	03 52 35.2	+0.4
FINES	**FINESS Array B**	**136.38**	**343**	PKP	PKPdf	03 52 40.1	+0.3
FINES	2.2nm,0.9s,baz=5.6,slow=1.4,SNR=6.2 **FINESS Array B**	**136.38**	**343**	PKP	PKPdf	03 52 40.1	+0.3
NOA	**NORSAR Array B**	**139.76**	**352**	PKP	PKPdf	03 52 46.9	+0.9
NOA	0.5nm,0.7s,baz=43,slow=2.5,SNR=2.4 **NORSAR Array B**	**139.76**	**352**	PKP	PKPdf	03 52 46.9	+0.9
AKASG	**Malin Array Be**	**143.37**	**330**	PKP	PKPdf	03 52 50.3	-2.5
AKASG	2.9nm,0.4s,baz=44,slow=4.1,SNR=18 **Malin Array Be**	**143.37**	**330**	PKP	PKPdf	03 52 50.3	-2.5
BRTR	**Keskin Array B**	**146.79**	**311**	PKPbc	PKPbc	03 53 01.6	-0.2
BRTR	0.8nm,0.6s,baz=142,slow=6.5,SNR=5.7 **Keskin Array B**	**146.79**	**311**	PKPbc	PKPbc	03 53 01.6	-0.2
CLL	**Collm**	**148.73**	**346**	*e*PKPbc	PKPbc	03 53 06.0	-0.3
KHC	**Kasperske Hory**	**150.59**	**343**	⇑*e*PKP	PKPbc	03 53 10.5	-0.3
GERES	**GERESS Array B**	**150.82**	**343**	PKPbc	PKPbc	03 53 11.3	0.0
GERES	1.5nm,0.6s,baz=116,slow=3.1,SNR=4.6 **GERESS Array B**	**150.82**	**343**	PKPbc	PKPbc	03 53 11.3	0.0
DAVOX	**Davos/Dischmat**	**153.69**	**346**	PKPbc	PKPbc	03 53 16.5	-1.2
DAVOX	1.6nm,0.5s,baz=194,slow=4.2,SNR=4.5 **Davos/Dischmat**	**153.69**	**346**	PKPbc	PKPbc	03 53 16.5	-1.2
TORD	**Torodi Ar. Bea**	**171.77**	**184**	PKP	PKPdf	03 53 26.3	-1.2
TORD	0.7nm,1.1s,baz=279,slow=3.0,SNR=3.8 **Torodi Ar. Bea**	**171.77**	**184**	PKP	PKPdf	03 53 26.3	-1.2

WEL 20 04:00:49.4±0.7, 38°.55S×175°.35E, h242km±6km, ML3.6/10, 2D, Error ellipse: s-maj=9.1km s-min=7.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FWVZ	**Far West T-bar**	**0.72**	**167**	PN	Pn	04 01 22.3	+0.2
TUVZ	**Tukino**	**0.76**	**162**	PN	Pn	04 01 22.6	+0.3
WNVZ	**Wahianoa**	**0.80**	**166**	PN	Pn	04 01 22.8	+0.3
MOVZ	**Moawhango**	**0.91**	**160**	⇓PN	Pn	04 01 22.7	-0.3
MOVZ				SN	S	04 01 49.1	-0.5
BKZ	**Black Stump Fm**	**1.08**	**125**	⇓PN	Pn	04 01 24.2	+0.2
BHHZ	**Black Hill Sta**	**1.09**	**150**	PN	Pn	04 01 23.8	-0.2
BHHZ				SN	S	04 01 51.1	-0.2
NMHZ	**Naumai**	**1.26**	**116**	PN	Pn	04 01 26.1	+0.9
MCHZ	**McNeill Hill**	**1.38**	**131**	PN	Pn	04 01 26.7	+0.7
URZ	**Urewera**	**1.41**	**79**	PN	Pn	04 01 25.9	-0.4
PNHZ	**Pukenui**	**1.51**	**154**	PN	Pn	04 01 26.4	-0.6
KAHZ	**Kahuranaki**	**1.72**	**137**	PN	Pn	04 01 28.7	0.0
MWZ	**Matawai**	**1.72**	**84**	PN	Pn	04 01 28.1	-0.1
KNZ	**Kokohu**	**1.88**	**105**	PN	Pn	04 01 30.1	0.0
PRHZ	**Porangahau**	**1.98**	**150**	PN	Pn	04 01 30.1	-0.9
CNGZ	**Carnagh Station**	**2.24**	**89**	PN	Pn	04 01 33.8	+0.3
OGWZ	**Otaki Gorge**	**2.27**	**183**	PN	Pn	04 01 31.3	-2.4
KIW	**Kapiti Island**	**2.33**	**188**	PN	Pn	04 01 31.6	-2.7
HOWZ	**Holdsworth Sta**	**2.35**	**177**	PN	Pn	04 01 31.8	-2.7
DUWZ	**D'Urville Isla**	**2.50**	**206**	PN	Pn	04 01 32.8	-3.2
MXZ	**Matakaoa Point**	**2.53**	**68**	PN	Pn	04 01 36.0	-0.5
CAW	**Cannon Point**	**2.56**	**185**	PN	Pn	04 01 33.7	-3.0
MTW	**Mount Morrison**	**2.61**	**177**	PN	Pn	04 01 34.1	-3.0
TCW	**Tory Channel**	**2.78**	**197**	PN	Pn	04 01 35.7	-3.2
PLWZ	**Palliser**	**3.02**	**181**	PN	Pn	04 01 37.9	-3.6
NNZ	**Nelson**	**3.06**	**209**	PN	Pn	04 01 37.8	-4.2
TUWZ	**Tuamarina**	**3.07**	**200**	PN	Pn	04 01 38.4	-3.7
QRZ	**Quartz Range**	**3.15**	**223**	PN	Pn	04 01 37.7	-5.2
THZ	**Tophouse**	**3.71**	**210**	PN	Pn	04 01 44.7	-4.7
KHZ	**Kahutara**	**4.10**	**199**	PN	Pn	04 01 49.3	-4.7

IGQ 20 04:11:29.4, 0°.94S×79°.21W, h110km±2km, Mb4.0, Ms3.8, 20C-2D, Error ellipse: s-maj=0.9km s-min=0.8km az=160.2, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BMOR	**Cotopaxi Volca**	**0.78**	**74**	⇑P	Pn	04 11 49.4	+0.9
BMOR	**Cotopaxi Volca**	**0.78**	**74**	⇑S	Sn	04 12 04.0	+1.2
IGUA	**Igualata**	**0.79**	**134**	P	Pn	04 11 49.8	+1.2
MOV1	**Cotopaxi Vol s**	**0.80**	**74**	P	Pn	04 11 49.4	+0.8
BREF	**Cotopaxi Volca**	**0.81**	**71**	⇑P	Pn	04 11 50.1	+1.4
PISA	**Pisayambo**	**0.83**	**98**	P	Pn	04 11 49.8	+0.9
BVC2	**Cotopaxi Volca**	**0.84**	**71**	⇑P	Pn	04 11 50.2	+1.2
BTAM	**Cotopaxi Volca**	**0.85**	**72**	⇑P	Pn	04 11 50.2	+1.1
PECV	**Mancha de Ca P**	**0.86**	**281**	P	Pn	04 11 53.2	+4.0
VC1	**Cotopaxi 1**	**0.86**	**70**	P	Pn	04 11 50.3	+1.1
PITA	**Cotopaxi Volc**	**0.86**	**64**	P	Pn	04 11 50.2	+1.0
TAMB	**Tambo**	**0.87**	**74**	P	Pn	04 11 50.5	+1.1
BBIL	**Ulba Tungurahu**	**0.88**	**125**	⇑P	Pn	04 11 50.1	+0.7
JUI6	**Juive**	**0.88**	**123**	P	Pn	04 11 49.9	+0.5
COV1	**Cotopaxi Volc**	**0.91**	**72**	P	Pn	04 11 50.0	+0.4
RUN5	**Runtun**	**0.91**	**121**	P	Pn	04 11 50.3	+0.6
RETU	**Refugio**	**0.91**	**124**	P	Pn	04 11 50.6	+0.8
BMAS	**Trigal station**	**0.92**	**128**	⇑P	Pn	04 11 50.4	+0.6
BRUN	**Tungurahua Vol**	**0.93**	**121**	⇑P	Pn	04 11 50.4	+0.5
BULB	**Ulba Tungurahu**	**0.94**	**122**	⇑S	Sn	04 12 05.6	+0.2
BULB	**Ulba Tungurahu**	**0.94**	**122**	⇑P	Pn	04 11 50.6	+0.6
ARRY	**Arrayan**	**0.94**	**127**	⇑P	Pn	04 11 50.4	+0.4
JUA2	**San Juan 2**	**0.94**	**40**	P	Pn	04 11 51.0	+1.0
PAT1	**Patacocha**	**0.95**	**126**	⇑P	Pn	04 11 50.9	+0.8
GGP	**Refugio Guagua**	**0.98**	**39**	P	Pn	04 11 51.4	+1.0
PINO	**Pino**	**0.98**	**38**	⇑S	Sn	04 12 07.6	+1.4
PINO	**Pino**	**0.98**	**38**	⇑P	Pn	04 11 51.5	+1.1
RIOE	**Riobamba**	**0.99**	**144**	⇓P	Pn	04 11 51.3	+0.8
YANA	**Yana**	**1.03**	**38**	P	Pn	04 11 51.8	+0.9
GOLV	**Golondrinas**	**1.14**	**3**	P	Pn	04 11 51.2	-1.0
ANTI	**Antisana**	**1.15**	**65**	⇑P	Pn	04 11 53.4	+1.1
JAMA	**Jama**	**1.21**	**304**	S	Sn	04 12 10.4	-0.2
JAMA	**Jama**	**1.21**	**304**	P	Pn	04 11 52.3	-0.5
OTAV	**Otavalo**	**1.39**	**33**	⇑S	Sn	04 12 15.8	+1.4
OTAV	**Otavalo**	**1.39**	**33**	⇑P	Pn	04 11 55.6	+0.7
CHIS	**Cerro-Chispas-**	**1.52**	**266**	P	Pn	04 11 56.5	0.0
CAYA	**Cayambe**	**1.58**	**50**	⇓P	Pn	04 11 58.7	+1.5
MACE	**Macas**	**1.65**	**142**	⇑P	Pn	04 11 59.2	+1.1
CHAR	**Charly**	**1.75**	**61**	P	Pn	04 12 00.8	+1.4
LAV4	**Lava4-Reventad**	**1.79**	**62**	P	Pn	04 12 00.6	+0.8
LITE	**Lita**	**1.93**	**26**	⇑S	Sn	04 12 30.2	+4.1
LITE	**Lita**	**1.93**	**26**	⇑P	Pn	04 12 02.4	+0.8

NNC 20 04:50:03.3±4.5, 54°.10N×86°.27E, h0km, mb4.0, mpv3.7, 4C-7D, Error ellipse: s-maj=35.3km s-min=22.9km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.78**	**237**	⇑Pn	Pn	04 51 32.0	+1.8
KURK	12nm,0.8s			⇓Sn	Sn	04 52 40.5	+3.4
KURK	6.9nm,1.0s			⇑Lg		04 53 08.4	
KURBB	19nm,0.8s **Kurchatov Arra**	**5.88**	**237**	Pn	Pn	04 51 33.7	+2.2
KURBB	2.4nm,0.6s,baz=54,slow=14			Sn	Sn	04 52 43.7	+4.1
MK31	2.3nm,0.6s,baz=48,slow=20 **Makanchi Array**	**7.74**	**201**	⇓Pn	Pn	04 51 58.1	+0.9
MK31	1.0nm,0.3s,baz=26,slow=14,SNR=14			Sn	Sn	04 53 28.5	+3.1
MK31	2.1nm,0.5s,baz=25,slow=22,SNR=12			Lg		04 54 05.4	
VOSK	7.9nm,0.9s,baz=26,slow=30,SNR=4.8 **Vostochnaya**	**9.24**	**268**	⇓Pn	Pn	04 52 19.4	+1.8
VOSK	3.7nm,0.5s			⇓Sn	Sn	04 53 59.9	-2.2
BVA0	10nm,0.8s **Borovoye Array**	**9.51**	**270**	⇑Pn	Pn	04 52 22.4	+1.1
BVA0	0.2nm,0.5s,baz=73,slow=14,SNR=7.3			Sn	Sn	04 54 06.2	-2.7
BRVK	0.9nm,0.8s,baz=74,slow=17,SNR=9.3 **Borovoye**	**9.57**	**270**	⇓Pn	Pn	04 52 22.7	+0.6
BRVK	4.8nm,0.6s		

DBIC	**Dimbokro**	**80.99**	**57**	P		**P**	05 05 40.2	+0.1	
TORD	**Torodi Ar. Bea**	**89.48**	**60**	P		**P**	05 06 22.4	-0.2	
	0.6nm,0.7s,mb4.1,baz=203,slow=4.5,SNR=5.8								
TORD	**Torodi Ar. Bea**	**89.48**	**60**	P		**P**	05 06 22.4	-0.2	
WRA	**Warramunga Arr**	**97.16**	**195**	P		**P**	05 06 54.0	-4.1	
	0.2nm,0.5s,mb3.8,baz=177,slow=4.2,SNR=5.0								
WRA	**Warramunga Arr**	**97.16**	**195**	P		**P**	05 06 54.0	-4.1	
ILAR	**Eielson Array**	**141.64**	**316**	PKP		PKPdf	05 12 49.5	-5.8	
	0.5nm,0.5s,baz=176,slow=2.2,SNR=12								
ILAR	**Eielson Array**	**141.64**	**316**	PKP		PKPdf	05 12 49.5	-5.8	
ARCES	**ARCESS Array B**	**144.83**	**38**	PKP		PKPdf	05 12 59.2	-1.6	
	2.8nm,0.5s,baz=225,slow=1.6,SNR=25								
ARCES	**ARCESS Array B**	**144.83**	**38**	PKP		PKPdf	05 12 59.2	-1.6	
KKAR	**Karatay Array**	**145.99**	**101**	PKPbc		PKPbc	05 13 03.3	-1.1	
MKAR	**Makanchi Array**	**154.15**	**110**	PKPbc		PKPbc	05 13 22.4	-2.1	
	0.3nm,0.4s,baz=288,slow=0.8,SNR=4.4								
MKAR				PKPab		PKPab	05 13 38.2	-0.1	
	3.1nm,0.6s,baz=225,slow=5.4,SNR=26								
MKAR	**Makanchi Array**	**154.15**	**110**	PKPbc		PKPbc	05 13 22.4	-2.1	
MKAR				PKPab		PKPab	05 13 38.2	-0.1	
SONM	**Songino Array**	**163.88**	**148**	PKPab		PKPab	05 14 18.4	-2.1	
	0.4nm,0.6s,baz=209,slow=3.8,SNR=2.8								

*CSEM **20** 05:05:42.6±0.2, 43.42N×18.77E, h10km, ML2.2/9, Error ellipse: s-maj=4.1km s-min=2.4km az=128.0*
*BEO **20** 05:05:45.0±0.7, 43.42N×18.91E, h8km±3km, ML2.1/6*
PDG 20 05:05:45.1±0.2, 43.33N×18.90E, h11km, MD2.3/2, ML2.2/9, 16C-8D, Error ellipse: s-maj=0.7km s-min=0.7km az=0.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UPM	**Unac-Piva**	**0.13**	**179**	⇑*i* Pg	Pg	05 05 48.2	0.0
UPM				*e*Sg	Sg	05 05 51.1	+0.8
UPM	**Unac-Piva**	**0.13**	**179**	⇑*i* Pg	Pg	05 05 48.2	0.0
UPM				*e*Sg	Sg	05 05 51.1	+0.8
PLE	**Pljevlja**	**0.35**	**90**	⇓*i* Pg	Pg	05 05 51.8	-0.3
PLE				*e*Sg	Sg	05 05 57.7	+0.8
PLE	**Pljevlja**	**0.35**	**90**	⇓*i* Pg	Pg	05 05 51.8	-0.3
PLE				*e*Sg	Sg	05 05 57.7	+0.8
BRY	**Bratogost**	**0.51**	**212**	⇑*i* Pg	Pg	05 05 53.7	-1.2
BRY				*e*Sg	Sg	05 06 02.4	+0.8
BRY	**Bratogost**	**0.51**	**212**	⇑*i* Pg	Pg	05 05 53.7	-1.2
BRY				*e*Sg	Sg	05 06 02.4	+0.8
NKY	**Niksic**	**0.52**	**173**	⇑*i* Pg	Pg	05 05 54.6	-0.7
NKY				*e*Sg	Sg	05 06 03.6	+1.4
NKY	**Niksic**	**0.52**	**173**	⇑*i* Pg	Pg	05 05 54.6	-0.7
NKY				*e*Sg	Sg	05 06 03.6	+1.4
BBLS	**Lazići**	**0.65**	**34**	⇑*i* Pg	Pg	05 05 55.5	-2.1
BBLS				*e*Sg	Sg	05 06 03.8	-2.3
BBLS	**Lazići**	**0.65**	**34**	⇑*i* Pg	Pg	05 05 55.5	-2.1
BBLS				*e*Sg	Sg	05 06 03.8	-2.3
SJES	**Sjenica**	**0.79**	**95**	*e*Pg	Pg	05 05 59.7	-0.5
SJES	**Sjenica**	**0.79**	**95**	*e*Pg	Pg	05 05 59.8	-0.4
SJES				*i* Sg	Sg	05 06 10.2	-0.3
BEY	**Berane**	**0.86**	**122**	⇑*i* Pg	Pg	05 06 01.1	-0.5
BEY				*e*Sg	Sg	05 06 14.6	+1.8
IVA	**Berane**	**0.86**	**122**	⇑*i* Pg	Pg	05 06 01.1	-0.6
IVA				*e*Sg	Sg	05 06 14.6	+1.7
HCY	**Herceg Novi**	**0.93**	**199**	⇑*i* Pg	Pg	05 06 02.4	-0.7
HCY				*e*Sg	Sg	05 06 17.3	+2.1
HCY	**Herceg Novi**	**0.93**	**199**	⇑*i* Pg	Pg	05 06 02.4	-0.7
PDG	**Podgorica**	**0.94**	**164**	⇑*i* Pg	Pg	05 06 02.2	-0.9
PDG				*e*Sg	Sg	05 06 17.6	+2.3
TTG	**Podgorica**	**0.94**	**164**	⇑*i* Pg	Pg	05 06 02.2	-1.0
TTG				*e*Sg	Sg	05 06 17.6	+2.2
STON	**Ston**	**0.99**	**243**	*e*Pg	Pg	05 06 00.6	-3.6
STON				Sg	Sg	05 06 16.7	-0.4
STON	**Ston**	**0.99**	**243**	*e*Pg	Pg	05 06 00.5	-3.7
BUM	**Brajici-Budva**	**1.03**	**180**	⇓*i* Pg	Pg	05 06 04.2	-0.7
BUM				*e*Sg	Sg	05 06 20.6	+2.3
BUM	**Brajici-Budva**	**1.03**	**180**	⇓*i* Pg	Pg	05 06 04.2	-0.7
BUM				*e*Sg	Sg	05 06 20.6	+2.3
PVY	**Plav**	**1.07**	**133**	⇓*i* Pg	Pg	05 06 05.1	-0.5
PVY				*e*Sg	Sg	05 06 21.9	+2.3
PVY	**Plav**	**1.07**	**133**	⇓*i* Pg	Pg	05 06 05.1	-0.5
PVY				*e*Sg	Sg	05 06 21.9	+2.3
DIVS	**Divibare**	**1.10**	**46**	⇑*i* Pg	Pg	05 06 04.1	-2.1
DIVS				*i* Sg	Sg	05 06 17.8	-2.7
DIVS	**Divibare**	**1.10**	**46**	⇑*i* Pg	Pg	05 06 04.1	-2.1
ULC	**Ulcinj**	**1.39**	**169**	⇓*i* Pg	Pg	05 06 11.0	-0.8
ULC				*e*Sg	Sg	05 06 32.5	+2.7
ULC	**Ulcinj**	**1.39**	**169**	⇓*i* Pg	Pg	05 06 11.0	-0.8
ULC				*e*Sg	Sg	05 06 32.5	+2.7
GRUS	**Gruza**	**1.43**	**66**	*e*Pg	Pg	05 06 11.4	-1.1
GRUS				*i* Sg	Sg	05 06 31.5	+0.4
BLY	**Banja Luka**	**1.88**	**319**	*e*Pn	Pn	05 06 17.0	-0.1
BLY				*e*Sn	Sn	05 06 42.1	+1.3
BLY	**Banja Luka**	**1.88**	**319**	*e*Pn	Pn	05 06 17.0	-0.1
BARS	**Barje**	**2.20**	**103**	*e*Pn	Pn	05 06 21.2	-0.2
BARS				*e*Sg	Sg	05 06 57.1	+1.5
ZAPS	**Zavoj**	**2.73**	**90**	*e*Pn	Pn	05 06 29.0	+0.3
ZAPS				*e*Sn	Sn	05 07 01.7	+0.1
NVLJ	**Novalja**	**3.16**	**294**	*e*Pn	Pn	05 06 34.3	-0.4
NVLJ				Sn	Sn	05 07 13.5	+1.1
NVLJ	**Novalja**	**3.16**	**294**	*e*Pn	Pn	05 06 34.3	-0.4

*CSEM **20** 05:07:30.5±0.1, 39.72N×31.05E, h12km, MD2.8, Error ellipse: s-maj=3.2km s-min=2.6km az=61.0*
*DDA **20** 05:07:33.4, 39.65N×30.93E, h8km, Md2.8*
ISK 20 05:07:30.1, 39.72N×31.05E, h15km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESKT	**Eskisehir**	**0.25**	**218**	PG	Pg	05 07 36.0	+0.4
ESKT				SG	Sg	05 07 40.4	+1.2
ESKT	**Eskisehir**	**0.25**	**218**	*i* P	Pg	05 07 34.9	-0.7
ESKT				*i* S	Sg	05 07 39.1	-0.1
ESKT	**Eskisehir**	**0.25**	**218**	*i* Pg	Pg	05 07 36.0	+0.4
ESKT				*i* Sg	Sg	05 07 40.4	+1.1
SEYT	**Eskypehyr**	**0.25**	**218**	*i* P	Pg	05 07 34.9	-0.7
SEYT				*i* S	Sg	05 07 39.1	-0.2
SVRH	**Sivrihisar-ESK**	**0.46**	**127**	*e*PG	Pg	05 07 39.6	+0.4
SVRH				*e*SG	Sg	05 07 45.9	+0.5
SVRH	**Sivrihisar-ESK**	**0.46**	**127**	*e*Pg	Pg	05 07 39.6	+0.4
SVRH				*e*Sg	Sg	05 07 45.9	+0.6
BORA	**Eskisehir**	**0.49**	**289**	*i* P	Pg	05 07 39.5	-0.2
BORA				*i* S	Sg	05 07 48.4	+2.1
BORA	**Eskisehir**	**0.49**	**289**	*i* P	Pg	05 07 39.5	-0.3
BORA				*i* S	Sg	05 07 48.4	+2.1
MDU	**Mudurnu**	**0.76**	**10**	*e*PG	Pg	05 07 44.7	-0.1
MDU				*e*SG	Sg	05 07 56.2	+1.4
MDU	**Mudurnu**	**0.76**	**10**	*e*Pg	Pg	05 07 44.7	-0.1
MDU				*e*Sg	Sg	05 07 56.2	+1.4
GULT	**Gulveren**	**0.82**	**330**	*e*PG	Pg	05 07 46.2	+0.1
GULT				*e*SG	Sg	05 07 58.6	+1.7
GULT	**Gulveren**	**0.82**	**330**	*e*Pg	Pg	05 07 46.2	+0.1
GULT				*e*Sg	Sg	05 07 58.6	+1.7
ALT	**Altintas**	**0.98**	**228**	*e*PG	Pg	05 07 49.6	+0.5
ALT				*e*SG	Sg	05 08 02.7	+0.7
ALT	**Altintas**	**0.98**	**228**	*e*Pg	Pg	05 07 49.6	+0.5
ALT				*e*Sg	Sg	05 08 02.7	+0.7
BOLV	**Bolvadin**	**1.00**	**184**	*i* P	Pb	05 07 50.1	+0.9
BOLV				*i* S	Sb	05 08 04.1	+2.0
BOLV	**Bolvadin**	**1.00**	**184**	*i* P	Pb	05 07 50.1	+0.9
BOLV				*i* S	Sb	05 08 04.1	+2.0
CAVI	**Cavuskoy**	**1.04**	**298**	*e*PG	Pg	05 07 51.6	+1.3
CAVI	**Cavuskoy**	**1.04**	**298**	*e*Pg	Pg	05 07 51.6	+1.3
KIZT	**Kizilcal**	**1.06**	**142**	*e*PG	Pg	05 07 51.8	+1.3
KIZT	**Kizilcal**	**1.06**	**142**	*e*Pg	Pg	05 07 51.8	+1.3
SHUT	**Suhut-Afyon**	**1.23**	**199**	*e*PN	Pn	05 07 53.1	+0.4
SHUT	**Suhut-Afyon**	**1.23**	**199**	*e*Pn	Pn	05 07 53.1	+0.4
ADVT	**Abdulvahap**	**1.23**	**306**	*e*Pn	Pn	05 07 53.1	+0.4
ADVT	**Abdulvahap**	**1.23**	**306**	*e*Pn	Pn	05 07 53.1	+0.3
LOD	**Lodumlu**	**1.33**	**82**	*e*PN	Pn	05 07 55.5	+1.4
LOD	**Lodumlu**	**1.33**	**82**	*e*Pn	Pn	05 07 55.5	+1.4
GDZ	**Gediz**	**1.37**	**243**	*i* P	Pn	05 07 54.4	-0.2
GDZ				*i* S	Sn	05 08 13.6	+1.1
GDZ	**Gediz**	**1.37**	**243**	*i* P	Pn	05 07 54.4	-0.2
GDZ				*i* S	Sn	05 08 13.6	+1.1
KDHN	**Kadinhani**	**1.46**	**145**	*i* P	Pn	05 07 57.2	+1.4
KDHN				*i* S	Sn	05 08 19.4	+4.8
KDHN	**Kadinhani**	**1.46**	**145**	*i* P	Pn	05 07 57.2	+1.4
KDHN				*i* S	Sn	05 08 19.4	+4.8
HRT	**Hereke**	**1.53**	**317**	*e*PN	Pn	05 07 57.6	+0.8
HRT	**Hereke**	**1.53**	**317**	*e*Pn	Pn	05 07 57.6	+0.8
AFSR	**Af ar-Bala (A**	**1.59**	**99**	*e*PN	Pn	05 07 59.2	+1.6
AFSR	**Af ar-Bala (A**	**1.59**	**99**	*e*Pn	Pn	05 07 59.2	+1.6
GEMT	**Gemlik**	**1.60**	**297**	*e*PN	Pn	05 07 58.2	+0.4
GEMT	**Gemlik**	**1.60**	**297**	*e*Pn	Pn	05 07 58.2	+0.4
KDZE	**Karadeniz Ereo**	**1.62**	**11**	*e*PN	Pn	05 07 59.2	+1.1
KDZE	**Karadeniz Ereo**	**1.62**	**11**	*e*Pn	Pn	05 07 59.2	+1.1
ARMT	**Armutlu**	**1.88**	**297**	*e*PN	Pn	05 08 02.1	+0.5
ARMT	**Armutlu**	**1.88**	**297**	*e*Pn	Pn	05 08 02.2	+0.6
GONE	**Gonen-Balikesi**	**2.61**	**278**	*e*PN	Pn	05 08 12.2	+0.5
GONE	**Gonen-Balikesi**	**2.61**	**278**	*e*Pn	Pn	05 08 12.2	+0.5
ELL	**Elmali**	**3.10**	**197**	*e*PN	Pn	05 08 19.6	+1.2
ELL	**Elmali**	**3.10**	**197**	*e*Pn	Pn	05 08 19.6	+1.2

*IDC **20** 05:17:05.4±2.5, 34.48N×139.43E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.3/25, mbtmp3.4/3, ML3.6/1, Error ellipse: s-maj=115.3km s-min=22.4km az=74.0*
*ISCJB **20** 05:17:07.4±0.6, 34.84N±0.04×140.17E±0.04, h49km±5km, mb3.5/2, Error ellipse: s-maj=7.7km s-min=4.8km az=17.6*
*NEIC **20** 05:17:07.8, 34.89N×140.17E, h46km, MG3.2(JMA), After JMA.*
*JMA **20** 05:17:07.7±0.1, 34.89N×140.17E, h46km±1km, M3.2*
JMA Felt I J1.
ISC 20 05:17:08.3±0.5, 34.83N±0.05×140.16E±0.04, h41km±6km, n19, σ0.70/32, mb3.5/2, 3C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO4	**Boso 4**	**0.21**	**42**	⇓P	Pn	05 17 15.4	-0.5
BSO4				*e*S	Sn	05 17 21.5	+0.4
BSO3	**Boso 3**	**0.29**	**96**	⇑P	Pn	05 17 16.3	-0.2
BSO3				S	Sn	05 17 23.4	+1.1
TATJ	**Tateyama 2**	**0.30**	**312**	⇓P	Pn	05 17 16.6	-0.1
TATJ				S	Sn	05 17 23.3	+0.7
KTR	**Katsuura**	**0.34**	**21**	P	Pn	05 17 16.3	-0.9
KTR				S	Sn	05 17 22.0	-1.3
BSO2	**Boso 2**	**0.49**	**99**	*e*S	Sn	05 17 27.4	+0.9
JIM2	**Oshima 3**	**0.61**	**260**	⇓P	Pn	05 17 20.4	-0.2
JIM2				S	Sn	05 17 29.1	-0.3
BSO1	**Boso 1**	**0.69**	**105**	⇑P	Pn	05 17 21.0	-0.7
BSO1				S	Sn	05 17 30.8	-0.5
KTJJ	**Kamata 2**	**0.91**	**276**	P	Pn	05 17 24.2	-0.4
KTJJ				S	Sn	05 17 35.5	-1.1
JOD2	**Odawara 2**	**0.98**	**296**	⇑P	Pn	05 17 24.9	-0.7
JOD2				S	Sn	05 17 37.2	-1.2
JIZS	**Izushimoda**	**1.06**	**264**	⇓P	Pn	05 17 26.8	0.0
JIZS				S	Sn	05 17 40.1	-0.3
JKO	**Kozu shima**	**1.06**	**233**	*e*S	Sn	05 17 41.5	+1.2
MJAR	**Matsushiro Arr**	**2.33**	**318**	Pn	Pn	05 17 44.7	+0.5
	15nm,0.3s,baz=150,slow=12,SNR=74						
MJAR				Sn	Sn	05 18 12.2	+0.6
	9.0nm,0.3s,baz=234,slow=30,SNR=9.5						
MJAR	**Matsushiro Arr**	**2.33**	**318**	Pn	Pn	05 17 44.7	+0.5
MJAR				Sn	Sn	05 18 12.2	+0.6
MAJO	**Matsushiro**	**2.34**	**318**	*e*Pn	Pn	05 17 44.7	+0.5
MAJO				*e*Sn	Sn	05 18 12.8	+1.1
MAT	**Matsushiro**	**2.34**	**318**	P	Pn	05 17 44.7	+0.5
MAT				S	Sn	05 18 12.4	+0.7
WRA	**Warramunga Arr**	**54.75**	**187**	P	P	05 26 33.6	-0.1
	0.5nm,0.6s,mb3.7,baz=2.7,slow=7.6,SNR=14						
WRA	**Warramunga Arr**	**54.75**	**187**	P	P	05 26 33.6	-0.1
ASAR	**Alice Springs**	**58.48**	**187**	P	P	05 27 00.5	+0.3
	0.2nm,0.7s,mb3.2,baz=11,slow=10,SNR=3.5						
ASAR	**Alice Springs**	**58.48**	**187**	P	P	05 27 00.5	+0.3

*IDC **20** 05:28:45.1±8.7, 36.80N×71.43E, h82km±80km, mb3.5/4, mb1 3.7/8, mb1mx3.3/28, mbtmp3.6/8, ML4.0/4, Error ellipse: s-maj=52.1km s-min=24.5km az=16.0*
*ISCJB **20** 05:28:48.2±0.7, 36.83N±0.06×71.69E±0.07, h135km±12km, mb3.5/4, Error ellipse: s-maj=10.6km s-min=8.1km az=44.3*
*NEIC **20** 05:28:48.9±1.0, 37.00N×71.40E, h117km±11km, mb4.0/1, Error ellipse: s-maj=13.4km s-min=9.4km az=113.0*
ISC 20 05:28:49.2±0.7, 36.81N±0.06×71.73E±0.07, h124km±11km, n37, σ1.914/44, mb3.6/4, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.98**	**177**	P	Pn	05 29 37.4	+2.0
CEP				S	Sn	05 30 15.0	+4.0
KBL	**Kabul**	**3.15**	**225**	*e*Pn	Pn	05 29 37.1	-0.4
KBL				*e*Sn	Sn	05 30 13.8	-1.1
CHCP	**Chirah Chowk**	**3.38**	**158**	P	Pn	05 29 44.6	+3.9
THW	**Thamme Wali**	**4.01**	**180**	P	Pn	05 29 50.4	+1.5
SARP	**Sargodha**	**4.94**	**171**	P	Pn	05 30 02.8	+1.4
SDNR	**Sundarnagar**	**6.85**	**139**	*e*PKP	Pn	05 30 29.2	+2.1
SDNR				*e*S	Sn	05 31 42.6	-1.0
SMLA	**Simla**	**7.24**	**140**	*i* P	Pn	05 30 33.2	+0.7
SMLA				*i* S	Sn	05 31 51.2	-2.0
SMLA				*i* S	Sn	05 31 51.5	-1.7
SMLA				AML	AML	05 31 55.5	
	comp=N,903nm,0.3s						
SMLA				AML	AML	05 31 55.7	
	comp=E,1μm,0.2s						
KHET	**Khetri**	**9.37**	**157**	*e*PKP	Pn	05 31 00.3	-0.8
KHET				*e*S	Sn	05 32 40.9	-3.7
KHET				AML	AML	05 32 44.3	
	comp=E,21nm,0.4s						
KHET				AML	AML	05 32 45.3	
	comp=N,21nm,0.4s						
KUDL	**Kundal**	**9.53**	**154**	*e*PKP	Pn	05 31 02.3	-1.1
KUDL				*e*S	Sn	05 32 43.6	-5.0
KUDL				AML	AML	05 32 49.4	
	comp=N,13nm,0.4s						
KUDL				AML	AML	05 32 50.1	
	comp=E,13nm,0.5s						
MK31	**Makanchi Array**	**12.70**	**35**	*e*Pn	Pn	05 31 45.4	+0.3
MKAR	**Makanchi Array**	**12.70**	**35**	P	Pn	05 31 44.9	-0.3
	comp=E,0.2nm,0.3s,baz=222,slow=14,SNR=13						
MKAR	**Makanchi Array**	**12.70**	**35**	P	Pn	05 31 44.9	-0.3
PYUN	**Piuthan**	**12.87**	**129**	*e*P	Pn	05 31 46.8	-0.7
	comp=E,14nm,0.4s						
DANN	**Dangsing**	**13.18**	**126**	*e*P	Pn	05 31 51.5	-0.1
	comp=E,14nm,0.4s						
KOLN	**Koldanda**	**13.48**	**129**	*e*P	Pn	05 31 54.8	-0.7
	comp=E,18nm,0.5s						
GKN	**Gorkha**	**13.98**	**125**	*e*P	Pn	05 32 02.0	0.0
	comp=E,17nm,0.4s						
KKN	**Kakani**	**14.55**	**124**	*e*P	Pn	05 32 09.3	+0.2
	comp=E,12nm,0.5s						
DMN	**Daman**	**14.56**	**125**	*e*P	Pn	05 32 09.1	-0.1
	comp=E,9.2nm,0.4s						
KURK	**Kurchatov**	**14.75**	**17**	P	Pn	05 32 06.4	-5.1
	comp=E,0.1nm,0.3s,baz=213,slow=12,SNR=7.0						
KURK	**Kurchatov**	**14.75**	**17**	*e*Pn	Pn	05 32 13.8	+2.3
GUN	**Gumba**	**14.87**	**123**	*e*P	Pn	05 32 13.5	+0.3
	comp=E,14nm,0.5s						
ABKAR	**Akbulak array**	**15.11**	**329**	*e*Pn	Pn	05 32 11.0	-5.0
	comp=E,3.8nm,0.4s						
RAMN	**Ramite**	**15.98**	**124**	*e*P	Pn	05 32 27.0	0.0
	comp=E,23nm,0.5s						
BVAR	**Borovoye Array**	**16.24**	**357**	P	Pn	05 32 27.4	-2.6
	comp=E,0.8nm,0.3s,baz=163,slow=11,SNR=7.8						
BVAR	**Borovoye Array**	**16.24**	**357**	P	Pn	05 32 27.4	-2.6
TAPN	**Taplejung**	**16.48**	**120**	*e*P	Pn	05 32 33.0	-0.2
	comp=E,7.4nm,0.4s						
ODAN	**Odare**	**16.57**	**122**	*e*P	Pn	05 32 33.4	-0.9
	comp=E,11nm,0.5s						
ZALV	**Zalesovo Beam**	**19.39**	**24**	P	P	05 33 05.6	+0.4
	comp=E,0.5nm,0.3s,baz=220,slow=10,SNR=4.1						
ZALV	**Zalesovo Beam**	**19.39**	**24**	P	P	05 33 05.6	+0.4
ARCES	**ARCESS Array B**	**41.09**	**337**	P	P	05 36 19.6	-0.7
	comp=E,7.5nm,1.0s,mb4.5,baz=106,slow=8.9,SNR=4.6						
ARCES	**ARCESS Array B**	**41.09**	**337**	P	P	05 36 19.6	-0.7
TORD	**Torodi Ar. Bea**	**66.31**	**269**	P	P	05 39 23.7	-1.0
	comp=E,0.8nm,0.7s,mb3.7,baz=51,slow=6.4,SNR=13						
TORD	**Torodi Ar. Bea**	**66.31**	**269**	P	P	05 39 23.7	-0.9
WRA	**Warramunga Arr**	**81.66**	**122**	P	P	05 40 55.7	+2.0
	comp=E,0.1nm,0.4s,mb3.0,baz=323,slow=4.9,SNR=6.9						
WRA	**Warramunga Arr**	**81.66**	**122**	P	P	05 40 55.7	+1.9
ASAR	**Alice Springs**	**83.95**	**125**	P	P	05 41 07.1	+1.6
	comp=E,0.2nm,0.6s,mb3.2,baz=309,slow=5.9,SNR=3.9						
ASAR	**Alice Springs**	**83.95**	**125**	P	P	05 41 07.1	+1.6

*ISCJB **20** 05:28:51.8±2.7, 39.5N±0.2×73.66E±0.10, h10km, Error ellipse: s-maj=28.8km s-min=9.5km az=10.4*
*NNC **20** 05:28:54.0±2.7, 39.93N×73.84E, h0km, mb3.7, mpv3.0, Error ellipse: s-maj=22.7km s-min=10.7km az=166.0*
ISC 20 05:28:53.2±2.7, 39.5N±0.2×73.72E±0.10, h10km, n17, σ1.914/26, 8C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.74**	**89**	Pg	Pn	05 29 15.8	-7.6
KSH				Sg	Sn	05 29 35.5	-10
KSH				smax			
	comp=N,480nm,0.8s						
KSH				smax			
	comp=E,420nm,1.0s						
AML	**Almayashu**	**2.61**	**360**	P	Pn	05 29 34.7	-0.7
	SNR=88						
UCH	**Uchtor**	**2.77**	**12**	P	Pn	05 29 37.3	-0.3
	SNR=11						
KZA	**Kyzart**	**2.81**	**24**	P	Pn	05 29 37.2	-0.9
	SNR=23						
EKS2	**Erkin-Say**	**3.14**	**1**	P	Pn	05 29 42.8	+0.1
	SNR=13						
AAK	**Ala-Archa**	**3.17**	**10**	P	Pn	05 29 42.2	-0.9
	SNR=48						
KBK	**Karagaybulak**	**3.27**	**16**	P	Pn	05 29 44.7	+0.2
	SNR=11						
ULHL	**Ulahol**	**3.33**	**34**	P	Pn	05 29 46.8	+1.6
	SNR=14						
CHMS	**Chumysh**	**3.56**	**12**	P	Pn	05 29 51.4	+3.0
	SNR=16						
TKM2	**Tokmak 2**	**3.68**	**22**	P	Pn	05 29 48.6	-1.6
	SNR=10						
TKM2	**Tokmak 2**	**3.68**	**22**	⇑Pn	Pn	05 29 47.8	-2.4
TKM2				⇑Pg	Pn	05 29 52.7	+2.6
TKM2				⇑Sn	Sn	05 30 26.7	-6.9
TKM2				⇓Lg		05 30 41.3	
USP	**Ospenovka**	**3.79**	**9**	P	Pn	05 29 55.8	+4.2
	SNR=34						
KK31	**Karatay Array**	**4.32**	**327**	Pn	Pn	05 29 59.4	+0.5
	comp=E,0.8nm,0.3s,baz=132,slow=12,SNR=30						
KK31				⇑Pg	Pb	05 30 08.6	-0.5
	comp=E,1.9nm,0.3s,baz=135,slow=14,SNR=51						
KK31				⇓Sn	Sn	05 30 50.8	+1.4
KK31				⇑Lg		05 31 03.8	
	comp=E,32nm,0.6s,baz=144,slow=26,SNR=4.3						
AB31	**Akbulak array**	**13.83**	**319**	⇑Pn	Pn	05 32 08.2	-0.9
	comp=E,2.7nm,0.5s,baz=125,slow=14,SNR=83						
AB31				⇓Sn	Sn	05 34 41.8	-0.9
	comp=E,3.4nm,0.7s,baz=153,slow=22,SNR=7.8						
AKTO	**Aktyubinsk**	**15.54**	**320**	⇑Pn	Pn	05 32 33.4	+1.2
	comp=E,0.9nm,0.9s						
AKTO				⇑Sn	Sn	05 35 25.8	+1.5
	comp=E,0.5nm,0.9s						
AKTO	**Aktyubinsk**	**15.54**	**320**	P	Pn	05 32 33.6	+1.4
	comp=E,0.7nm,0.3s,baz=150,slow=14,SNR=4.6						
AKTO				S	Sn	05 35 23.4	-0.9
	comp=E,0.3nm,0.3s,baz=38,slow=16,SNR=2.7						
AKTO	**Aktyubinsk**	**15.54**	**320**	P	Pn	05 32 33.6	+1.4
AKTO				S	Sn	05 35 23.4	-0.9

*ISCJB **20** 05:30:59.5±0.4, 49.90N±0.03×18.39E±0.03, h0km, Error ellipse: s-maj=3.7km s-min=2.4km az=12.4*
*CSEM **20** 05:31:00.8±0.2, 49.90N×18.44E, h2km, ML3.0/9, Error ellipse: s-maj=4.4km s-min=2.9km az=11.0*
*IPEC **20** 05:31:01.0±0.2, 49.85N×18.53E, h1km±3km, ML2.5/3, Error ellipse: s-maj=2.2km s-min=1.1km az=161.0*
*PRU **20** 05:31:01.4, 49.87N×18.42E, h0km*
ISC 20 05:31:00.9±0.4, 49.89N±0.02×18.42E±0.03, h0km, n46, σ1.918/74, 2C-1D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.18**	**253**	*e*PG	Pg	05 31 06.3	+1.9
OKC				*e*SG	Sg	05 31 09.1	+2.3
	comp=Z,280nm,0.6s						
OKC	**Ostrava-Krasne**	**0.18**	**253**	*e*Pg	Pg	05 31 05.8	+1.4
	baz=87						
OKC				Sg	Sg	05 31 09.1	+2.3
	comp=Z,280nm,0.6s						
RAC	**Raciborz**	**0.24**	**323**	*e*Sg	Sg	05 31 10.4	+1.7
MORC	**Moravsky Berou**	**0.58**	**259**	*e*Pg	Pg	05 31 13.6	+1.6
	baz=83						
MORC				*e*Sg	Sg	05 31 21.1

NKC	**Novy Kostel**	**3.86**	**277**	*e*SG	**Sg**	**05**	**33**	**02.4 -2.5**

IDC 20 05:41:18.9±8.8, 41°.28S×85°.46W, h0km, mb3.9/4, mb1 4.3/4, mb1mx4.0/15, mbtmp3.9/4, Error ellipse: s-maj=718.8km s-min=35.0km az=90.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**47.02**	**155**	*e*	**P**	05 49 56.6	+5.2
VNA2	**Neumayer--Watz**	**47.78**	**154**	*e*	**P**	05 50 02.0	+4.7
VNDA	**Vanda**	**54.67**	**194**	P	**P**	05 50 48.8	-0.1
	1.3nm,1.0s,baz=132,slow=12,SNR=2.5						
TXAR	**Lajitas Array**	**72.26**	**343**	P	**P**	05 52 45.7	-0.1
	1.5nm,0.8s,baz=165,slow=8.0,SNR=18						
NVAR	**Mina Array Bea**	**84.81**	**335**	P	**P**	05 53 55.2	+0.4
	0.3nm,0.6s,baz=186,slow=7.3,SNR=2.9						
PDAR	**Pinedale Array**	**86.45**	**342**	P	**P**	05 54 03.7	+0.9
	1.3nm,0.9s,baz=165,slow=6.2,SNR=6.8						

*ISCJB **20** 05:41:24.9±0.7, 51°.40N±0°.03×16°.22E±0°.04, h0km, Error ellipse: s-maj=5.2km s-min=3.0km az=19.7*
*CSEM **20** 05:41:26.5±0.5, 51°.42N×16°.20E, h2km, ML3.6/7, Error ellipse: s-maj=7.3km s-min=4.2km az=11.0*
*PRU **20** 05:41:27.8, 51°.38N×16°.19E, h0km, Felt In Harrachov*
*WAR **20** 05:41:27.5, 51°.44N×16°.20E, ML2.8, Mining Induced*
*IDC **20** 05:41:28.1±1.0, 51°.41N×16°.09E, h0km, mb1 3.6/4, mb1mx3.3/24, mbtmp3.4/4, ML3.0/4, Error ellipse: s-maj=23.4km s-min=9.0km az=128.0*
*VIE **20** 05:41:30.8±1.7, 51°.19N×16°.16E, h0km, mb2.2/4, ML3.0/4, Error ellipse: s-maj=12.6km s-min=9.5km az=91.0 60 km WNW of Wroclaw Suspected Mining induced.*

ISC 20 05:41:25.7±0.6, 51°.45N±0°.03×16°.23E±0°.03, h0km, n38, σ1s0.3/65, 2C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.61**	**176**	*e*Pg	**Pg**	**05**	**41**	**38.5 +1.1**
KSP				*e*Sg	**Sg**	**05**	**41**	**46.8 +1.5**
KSP	**Ksiaz**	**0.61**	**176**	*i* Pg	**Pg**	**05**	**41**	**38.5 +1.1**
KSP				*i* Sg	**Sg**	**05**	**41**	**46.7 +1.4**
KSP	**Ksiaz**	**0.61**	**176**	⇓*i*Pg	**Pg**	**05**	**41**	**38.5 +1.1**
KSP				*i* Sg	**Sg**	**05**	**41**	**46.7 +1.4**
UPC	**Upice**	**0.95**	**188**	*e*PG	**Pg**	**05**	**41**	**44.8 +0.8**
UPC	**Upice**	**0.95**	**188**	Pg	**Pg**	**05**	**41**	**44.8 +0.8**
DPC	**Dobruska-Polom**	**1.10**	**177**	*e*PG	**Pg**	**05**	**41**	**47.5 +0.7**
DPC				*e*SG	**Sg**	**05**	**42**	**01.2 +0.1**
	comp=Z,59nm,0.5s							
DPC	**Dobruska-Polom**	**1.10**	**177**	Pg	**Pg**	**05**	**41**	**47.5 +0.7**
DPC				Sg	**Sg**	**05**	**42**	**01.2 +0.1**
	comp=Z,59nm,0.5s							
PVCC	**Panska Ves**	**1.40**	**229**	*e*PG	**Pg**	**05**	**41**	**53.3 +0.8**
PVCC				*e*SG	**Sg**	**05**	**42**	**11.7 +1.1**
	comp=Z,362nm,0.4s							
PVCC	**Panska Ves**	**1.40**	**229**	Pg	**Pg**	**05**	**41**	**53.3 +0.8**
PVCC				Sg	**Sg**	**05**	**42**	**11.7 +1.1**
	comp=Z,362nm,0.4s							
KRLC	**Kraliky**	**1.42**	**166**	*e*PG	**Pg**	**05**	**41**	**53.5 +0.6**
KRLC	**Kraliky**	**1.42**	**166**	Pg	**Pg**	**05**	**41**	**53.5 +0.6**
BRG	**Berggiesshubel**	**1.55**	**249**	PN	**Pn**	**05**	**41**	**53.9 -0.7**
BRG				PG	**Sg**	**05**	**41**	**55.4 -0.1**
BRG				SG	**Sg**	**05**	**42**	**16.3 +0.7**
	comp=Z,95nm,0.3s							
PRU	**Pruhonice**	**1.82**	**217**	*e*PG	**Pg**	**05**	**42**	**00.7 +0.2**
PRU				*e*SG	**Sg**	**05**	**42**	**23.7 -0.3**
	comp=Z,61nm,0.6s							
PRU	**Pruhonice**	**1.82**	**217**	Pg	**Pg**	**05**	**42**	**00.7 +0.2**
PRU				Sg	**Sg**	**05**	**42**	**23.7 -0.3**
	comp=Z,61nm,0.6s							
MORC	**Moravsky Berou**	**1.87**	**153**	*e*Pn	**Pn**	**05**	**41**	**59.3 +0.4**
MORC				*e*SG	**Sg**	**05**	**42**	**24.7 -1.1**
OKC	**Ostrava-Krasne**	**2.02**	**142**	*e*PG	**Sg**	**05**	**42**	**04.5 0.0**
OKC				*e*SG	**Sg**	**05**	**42**	**29.6 -1.1**
	comp=Z,49nm,0.7s							
OKC	**Ostrava-Krasne**	**2.02**	**142**	Pg	**Pg**	**05**	**42**	**04.5 0.0**
OKC				Sg	**Sg**	**05**	**42**	**29.6 -1.1**
	comp=Z,49nm,0.7s							
CLL	**Collm**	**2.03**	**267**	*e*Pg	**Pg**	**05**	**42**	**05.0 +0.4**
CLL				*e*Sg	**Sg**	**05**	**42**	**31.0 +0.1**
	comp=Z,33nm,0.5s							
VRAC	**Vranov**	**2.16**	**174**	*e*Pn	**Pn**	**05**	**42**	**03.9 +1.0**
VRAC				*e*Sg	**Sg**	**05**	**42**	**34.6 -0.4**
KRUC	**Moravsky**	**2.39**	**177**	*e*Pn	**Pn**	**05**	**42**	**07.7 +1.6**
KRUC				*e*Sg	**Sg**	**05**	**42**	**42.3 -0.3**
OJC	**Ojcow**	**2.58**	**117**	*e*Pg	**Pg**	**05**	**42**	**15.5 +0.5**
OJC				*e*Sg	**Sg**	**05**	**42**	**50.2 +1.8**
OJC	**Ojcow**	**2.58**	**117**	*e*Pg	**Pg**	**05**	**42**	**15.5 +0.5**
OJC				*e*Sg	**Sg**	**05**	**42**	**50.2 +1.8**
NKC	**Novy Kostel**	**2.69**	**245**	*e*PN	**Pn**	**05**	**42**	**10.6 +0.4**
NKC				*e*PG	**Pg**	**05**	**42**	**16.0 -1.3**
NKC				*e*SG	**Sg**	**05**	**42**	**51.6 -0.5**
	comp=Z,55nm,0.5s							
NKC	**Novy Kostel**	**2.69**	**245**	Pn	**Pn**	**05**	**42**	**10.6 +0.4**
NKC	**Novy Kostel**	**2.69**	**245**	Pg	**Pg**	**05**	**42**	**16.0 -1.3**
NKC				Sg	**Sg**	**05**	**42**	**51.6 -0.5**
	comp=Z,55nm,0.5s							
JAVC	**Velka Javorina**	**2.75**	**160**	*e*Sg	**Sg**	**05**	**42**	**54.0 -0.1**
KHC	**Kasperske Hory**	**2.88**	**217**	*e*PN	**Pn**	**05**	**42**	**13.5 +0.7**
KHC				*e*PG	**Pg**	**05**	**42**	**19.5 -1.4**
KHC				*ex*	x	05	42	41.0
KHC				*e*SG	**Sg**	**05**	**42**	**55.0 -3.2**
KHC	**Kasperske Hory**	**2.88**	**217**	Pn	**Pn**	**05**	**42**	**13.5 +0.7**
GERES	**GERESS Array B**	**3.08**	**213**	Pn	**Pn**	**05**	**42**	**16.8 +1.4**
	comp=Z,0.6nm,0.3s,baz=27,slow=15,SNR=8.4							
GERES				Pg	**Pg**	**05**	**42**	**22.7 -1.9**
	comp=Z,7.0nm,0.3s,baz=30,slow=17,SNR=50							
GERES				Lg		05	43	02.5
	comp=Z,5.9nm,0.3s,baz=36,slow=25,SNR=12							
KOLL	**Kolacno**	**3.20**	**153**	*e*SN	**Sn**	**05**	**43**	**01.8 +5.9**
VYHS	**Vyhne**	**3.40**	**149**	*e*SN	**Sg**	**05**	**43**	**13.0 -2.0**
CONA	**Conrad Observa**	**3.53**	**184**	⇓*i*Pn	**Pn**	**05**	**42**	**25.0 +3.2**
	comp=Z,1.1nm,0.2s							
CONA				⇑*i*Pg	**Pg**	**05**	**42**	**32.8 -0.6**
	comp=Z,2.4nm,0.2s							
CONA				⇑*i*Sg	**Sg**	**05**	**43**	**18.4 -0.7**
	comp=Z,31nm,0.5s							
CONA	**Conrad Observa**	**3.53**	**184**	Pn	**Pn**	**05**	**42**	**25.0 +3.2**
	comp=Z,1.1nm,0.2s							
ARSA	**Arzberg**	**4.23**	**187**	⇓*i*Sg	**Sg**	**05**	**43**	**40.7 -0.8**
	comp=Z,9.6nm,0.5s							
ARSA	**Arzberg**	**4.23**	**187**	Sg	**Sg**	**05**	**43**	**40.7 -0.8**
	comp=Z,9.6nm,0.5s							
AKASG	**Malin Array Be**	**8.22**	**90**	Pn	**Pn**	**05**	**43**	**25.9 -0.2**
	comp=Z,0.4nm,0.3s,baz=284,slow=12,SNR=2.9							
FINES	**FINESS Array B**	**11.38**	**25**	Pn	**Pn**	**05**	**44**	**08.1 -1.2**
	comp=Z,0.3nm,0.3s,baz=203,slow=14,SNR=3.1							
ARCES	**ARCESS Array B**	**18.67**	**10**	Pn	**Pn**	**05**	**45**	**43.4 -1.7**
	comp=Z,0.2nm,0.3s,baz=191,slow=12,SNR=5.7							

IDC 20 05:41:44.6±7.8, 19°.43S×68°.55W, h207km±62km, mb3.0/1, mb1 3.0/2, mb1mx2.9/17, mbtmp2.9/2, Error ellipse: s-maj=110.2km s-min=88.8km az=130.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.15**	**7**	P	Pn	05	42	37.1 +0.6
	2.0nm,0.3s,baz=193,slow=5.6,SNR=31							
LPAZ				S	Sn	05	43	18.6 +1.5
	0.3nm,0.3s,baz=153,slow=6.8,SNR=2.4							
TORD	**Torodi Ar. Bea**	**76.35**	**71**	P	P	05	53	11.5 +0.1
	0.2nm,0.5s,baz=246,slow=6.0,SNR=4.8							
MKAR	**Makanchi Array**	**143.76**	**34**	PKP	PKPdf	06	00	54.5 -0.4
	0.3nm,0.5s,baz=325,slow=2.3,SNR=4.6							

*ISCJB **20** 05:43:23.6±0.7, 41°.5S±0°.1×85°.6W±0°.2, h10km, mb4.0/7, Error ellipse: s-maj=18.3km s-min=14.6km az=12.1*
*IDC **20** 05:43:24.1±0.9, 41°.38S×85°.60W, h0km, mb4.1/7, mb1 4.4/7, mb1mx4.2/16, mbtmp4.1/7, ML2.6/1, Error ellipse: s-maj=37.3km s-min=23.7km az=90.0*
*NEIC **20** 05:43:25.7±0.7, 41°.38S×85°.59W, h10km, mb4.3/1, Error ellipse: s-maj=17.0km s-min=15.1km az=139.0*

ISC 20 05:43:25.4±0.7, 41°.5S±0°.1×85°.6W±0°.2, h10km, n23, σ1s14/19, mb4.0/7, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**17.05**	**60**	Pn	**Pn**	**05**	**47**	**22.4 -1.5**
	0.0nm,0.3s,baz=236,slow=11,SNR=7.3							
CFAA	**Coronel Fontan**	**17.05**	**60**	Pn	**Pg**	**05**	**47**	**22.4 -1.5**
TRQA	**Tornquist**	**18.44**	**87**	*e*Pn	**Pn**	**05**	**47**	**42.5 +1.5**
	27nm,1.3s							
LPAZ	**La Paz**	**29.30**	**36**	P	**P**	**05**	**49**	**28.9 +0.9**
	1.8nm,0.8s,mb3.8,baz=197,slow=4.5,SNR=5.8							
LPAZ	**La Paz**	**29.30**	**36**	P	**P**	**05**	**49**	**28.9 +0.9**
RKT	**Rikitea**	**44.96**	**278**	*e*LR	LR	06	04	11.7
	324nm,29.0s							
VNA3	**Neumayer Olymp**	**46.83**	**155**	*e*	**P**	**05**	**51**	**53.3 -1.6**
VNA3				*e*		05	52	01.3
VNA2	**Neumayer--Watz**	**47.60**	**154**	*e*	**P**	**05**	**51**	**59.4 -1.4**
VNA2				*e*		05	52	06.5
SNAA	**Sanae**	**48.96**	**155**	P	**P**	**05**	**52**	**11.8 +0.5**
	1.0nm,1.1s,mb3.8,baz=228,slow=9.3,SNR=3.9							
SNAA	**Sanae**	**48.96**	**155**	P	**P**	**05**	**52**	**11.8 +0.5**
VNDA	**Vanda**	**54.42**	**194**	P	**P**	**05**	**52**	**54.0 +1.9**
	2.8nm,1.1s,mb4.1,baz=119,slow=8.0,SNR=4.8							
VNDA	**Vanda**	**54.42**	**194**	P	**P**	**05**	**52**	**54.0 +1.9**
TBI	**Tubuai**	**55.68**	**268**	*e*LR	LR	06	09	11.0
	288nm,31.5s							
PPT	**Papeete**	**59.21**	**273**	*e*LR	LR	06	10	48.6
	264nm,27.5s							
TXAR	**Lajitas Array**	**72.46**	**343**	P	**P**	**05**	**54**	**51.1 -0.7**
	3.6nm,0.9s,mb4.3,baz=158,slow=5.3,SNR=25							
TXAR	**Lajitas Array**	**72.46**	**343**	P	**P**	**05**	**54**	**51.1 -0.7**
NVAR	**Mina Array Bea**	**84.99**	**335**	P	**P**	**05**	**56**	**00.8 +0.2**
	1.1nm,0.8s,mb4.0,baz=154,slow=4.7,SNR=6.8							
NVAR	**Mina Array Bea**	**84.99**	**335**	P	**P**	**05**	**56**	**00.8 +0.2**
PDAR	**Pinedale Array**	**86.65**	**343**	P	**P**	**05**	**56**	**08.4 -0.3**
	3.1nm,0.9s,mb4.5,baz=130,slow=3.3,SNR=13							
PDAR	**Pinedale Array**	**86.65**	**343**	P	**P**	**05**	**56**	**08.4 -0.3**
DZM	**Mont Dzumac**	**88.19**	**242**	*e*LR	LR	06	24	17.3
	211nm,24.8s							
TORD	**Torodi Ar. Bea**	**96.56**	**78**	P	**P**	**05**	**56**	**56.1 +0.6**
	0.1nm,0.3s,mb3.7,baz=240,slow=3.8,SNR=2.2							
TORD	**Torodi Ar. Bea**	**96.56**	**78**	P	**P**	**05**	**56**	**56.1 +0.6**

*ISCJB **20** 05:48:30.8±0.4, 41°.51S±0°.08×85°.3W±0°.1, h10km, mb4.6/22, MS4.1/4, Error ellipse: s-maj=11.6km s-min=10.6km az=41.3*
*IDC **20** 05:48:30.8±0.9, 41°.44S×85°.39W, h0km, mb4.3/9, mb1 4.5/9, mb1mx4.3/19, mbtmp4.2/9, ML2.6/1, MS4.0/6, Ms1 4.0/6, ms1mx3.6/29, Error ellipse: s-maj=36.2km s-min=19.7km az=88.0*
*GCMT **20** 05:48:32.6±0.4, 41°.43S×85°.66W, h17km±1km, MW4.9, Moment Tensor Solution. s17,c20; s55,c76; Moment tensor: Scale 10^{16}Nm; M_{rr}-2.57±.21; $M_{\theta\theta}$0.21±.12; $M_{\phi\phi}$2.36±.15; $M_{r\theta}$0.20±.37; $M_{r\phi}$-0.95±.07; $M_{\theta\phi}$0.09±.32; Best double couple: M_o2.70000×10^{16} NP1:ϕ_s334.00000°, δ45.00000°, λ-97.00000°. NP2:ϕ_s164.00000°, δ45.00000°, λ-83.00000°. Principal axes: T 2.7200, Plg0.0000°, Azm249.0000°; N -0.1300, Plg5.0000°, Azm339.0000°; P -2.5900, Plg85.0000°, Azm157.0000°; Data Used: IC G IU II.*
*NEIC **20** 05:48:32.7±0.5, 41°.41S×85°.34W, h10km, mb4.8/11 Error ellipse: s-maj=12.0km s-min=10.6km az=190.0*

ISC 20 05:48:32.5±0.4, 41°.50S±0°.08×85°.3W±0°.1, h10km, n53, σ1s0.3/44, mb4.6/22, MS4.1/4, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**16.90**	**60**	Pn	**Pn**	**05**	**52**	**28.0 -1.0**
	0.0nm,0.3s,baz=236,slow=9.9,SNR=13							
CFAA				LR	LR	05	57	44.0
	comp=Z,152nm,20.1s,baz=173,slow=33							
CFAA	**Coronel Fontan**	**16.90**	**60**	Pn	**Pn**	**05**	**52**	**28.0 -1.0**
CFAA				LR	LR	05	57	44.0
LCO	**Las Campanas**	**17.24**	**48**	*e*Pn	**Pn**	**05**	**52**	**32.0 -1.4**
	12nm,1.2s							
USHA	**Ushuaia**	**17.40**	**146**	LR	LR	05	57	55.9
	comp=Z,188nm,19.8s,baz=229,slow=32							
TRQA	**Tornquist**	**18.27**	**87**	*e*Pn	**Pn**	**05**	**52**	**48.2 +2.2**
	39nm,1.2s							
RPN	**Rapa Nui**	**24.36**	**299**	LR	LR	06	00	26.6
	comp=Z,584nm,20.9s,MS4.0,baz=233,slow=30							
CPUP	**Villa Florida**	**27.58**	**66**	LR	LR	06	04	47.7
	comp=Z,780nm,18.9s,MS4.3,baz=222,slow=35							
LPAZ	**La Paz**	**29.18**	**36**	P	**P**	**05**	**54**	**35.4 +1.3**
	1.6nm,0.7s,mb3.8,baz=223,slow=5.7,SNR=7.2							
LPAZ				LR	LR	06	03	47.7
	comp=Z,187nm,20.1s,MS3.7,baz=234,slow=32							
LPAZ	**La Paz**	**29.18**	**36**	P	**P**	**05**	**54**	**35.4 +1.3**
LPAZ				LR	LR	06	03	47.7
NNA	**Nana**	**30.33**	**17**	P	**P**	**05**	**54**	**43.4 -0.8**
	4.2nm,0.5s,mb4.5,baz=254,slow=14,SNR=2.4							
NNA	**Nana**	**30.33**	**17**	P	**P**	**05**	**54**	**43.4 -0.8**
ATAH	**Atahualpa**	**34.78**	**152**	P	**P**	**05**	**55**	**24.4 +1.2**
	2.1nm,0.6s,mb4.2,baz=219,slow=14,SNR=3.8							
ATAH	**Atahualpa**	**34.78**	**152**	P	**P**	**05**	**55**	**24.4 +1.2**
RKT	**Rikitea**	**45.12**	**278**	*e*LR	LR	06	09	19.1
	701nm,26.8s							
VNA3	**Neumayer Olymp**	**46.78**	**155**	*e*	**P**	**05**	**57**	**00.4 -1.2**
VNA3				*e*		05	57	14.6
VNA1	**Neumayer--Stat**	**47.28**	**154**	*e*	Px	05	57	19.1
VNA2	**Neumayer--Watz**	**47.55**	**154**	*e*	**P**	**05**	**57**	**06.5 -1.1**
VNA2				*e*		05	57	20.7
QSPA	**South Pole Qui**	**48.74**	**180**	P	**P**	**05**	**57**	**17.6 +1.0**
	2.7nm,0.9s,mb4.3,baz=153,slow=4.0,SNR=7.1							
QSPA	**South Pole Qui**	**48.74**	**180**	P	**P**	**05**	**57**	**17.6 +1.0**
SNAA	**Sanae**	**48.91**	**155**	P	**P**	**05**	**57**	**18.9 +0.8**
	1.5nm,1.0s,mb4.0,baz=268,slow=7.3,SNR=8.4							
SNAA	**Sanae**	**48.91**	**155**	P	**P**	**05**	**57**	**18.9 +0.8**
TBI	**Tubuai**	**55.84**	**268**	*e*LR	LR	06	14	19.0
	563nm,29.2s,baz=127							
TAOE	**Nuku Hiva Isla**	**58.08**	**288**	*e*S	**S**	**06**	**06**	**24.7 -2.5**
	160nm,28.9s							
TAOE				*e*LR	LR	06	15	21.4
	252nm,25.6s							
PPT	**Papeete**	**59.37**	**273**	*e*S	**S**	**06**	**06**	**41.0 -3.0**
	151nm,28.2s							
PPT				*e*LR	LR	06	15	55.6
	580nm,27.0s,baz=137							
HKT	**Hockley**	**71.75**	**350**	*e*P	**P**	**05**	**59**	**53.0 -1.8**
	4.9nm,1.3s,mb4.3							
TXAR	**Lajitas Array**	**72.49**	**343**	P	**P**	**05**	**59**	**58.6 -0.5**
	4.0nm,0.8s,mb4.4,baz=165,slow=8.9,SNR=54							
TXAR	**Lajitas Array**	**72.49**	**343**	P	**P**	**05**	**59**	**58.6 -0.5**
CPRX	**Cap Rock**	**76.10**	**344**	*e*P	**P**	**06**	**00**	**19.3 -0.8**
LAZ	**Ladron**	**78.14**	**342**	*e*P	**P**	**06**	**00**	**31.8 +0.2**
	1.5nm,mb4.4							
WUAZ	**Wupatki**	**80.28**	**339**	*e*P	**P**	**06**	**00**	**43.3 +0.1**
	19nm,1.6s,mb4.8							
LDFC	**Landfair**	**80.96**	**336**	*e*P	**P**	**06**	**00**	**47.8 +1.0**
	10.0nm,1.1s,mb4.7							
MVCO	**Mesa Verde**	**81.15**	**341**	*e*P	**P**	**06**	**00**	**48.0 +0.1**
	19nm,1.4s,mb4.8							
PV01	**Paradox Valley**	**82.05**	**342**	*e*P	**P**	**06**	**00**	**52.8 +0.3**
	3um,1.5s							
BBTS	**Babate**	**84.45**	**65**	LR	LR	06	35	01.2
	comp=Z,178nm,21.1s,MS4.4,baz=208,slow=33							
NVAR	**Mina Array Bea**	**85.04**	**335**	P	**P**	**06**	**01**	**08.3 +0.4**
	1.4nm,0.9s,mb4.1,baz=159,slow=5.0,SNR=8.9							
NVAR	**Mina Array Bea**	**85.04**	**335**	P	**P**	**06**	**01**	**08.3 +0.4**
PDAR	**Pinedale Array**	**86.68**	**342**	P	**P**	**06**	**01**	**15.4 -0.5**
	2.5nm,1.0s,mb4.4,baz=162,slow=5.6,SNR=13							
PDAR	**Pinedale Array**	**86.68**	**342**	P	**P**	**06**	**01**	**15.4 -0.5**
PD02	**Pinedale Array**	**86.69**	**342**	*e*P	**P**	**06**	**01**	**14.7 -1.3**
PD01	**Pinedale Array**	**86.70**	**342**	*e*P	**P**	**06**	**01**	**15.6 -0.5**
DZM	**Mont Dzumac**	**88.35**	**242**	*e*LR	LR	06	29	26.5
	376nm,29.8s							
YFT	**Old Faithful**	**88.57**	**342**	*e*P	**P**	**06**	**01**	**26.7 +1.7**
	3.5nm,0.3s,mb5.2							
YMR	**Madison River**	**88.81**	**342**	*e*P	**P**	**06**	**01**	**26.5 +0.4**
	40nm,1.4s,mb5.5							
RLMT	**Red Lodge**	**88.86**	**343**	*e*P	**P**	**06**	**01**	**26.3 0.0**
	13nm,1.4s,mb5.1							
QLMT	**Earthquake Lak**	**89.07**	**342**	*e*P	**P**	**06**	**01**	**28.3 +1.0**
	0.6nm,0.8s,mb4.0							
MCMT	**McKenzie Canyo**	**89.41**	**341**	*e*P	**P**	**06**	**01**	**29.8 +0.9**
	10nm,1.6s,mb4.9							
BOZ	**Bozeman (W)**	**89.89**	**342**	*e*P	**P**	**06**	**01**	**30.4 -0.7**
	9.9nm,1.6s,mb4.9							
LRM	**Limekiln Ridge**	**90.25**	**341**	*e*P	**P**	**06**	**01**	**33.5 +0.8**
	140nm,1.6s							
CHMT	**Chamberlain Mo**	**91.46**	**341**	*e*P	**P**	**06**	**01**	**39.1 +0.7**
	10nm,1.5s,mb4.9							
SLMT	**Seeley Lake**	**91.83**	**341**	P	**P**	**06**	**01**	**40.8 +0.7**
	30nm,1.9s,mb5.3							
TORD	**Torodi Ar. Bea**	**96.39**	**78**	P	**P**	**06**	**02**	**00.5 -1.4**
	1.0nm,1.0s,mb4.2,baz=230,slow=3.6,SNR=4.7							
TORD	**Torodi Ar. Bea**	**96.39**	**78**	P	**P**	**06**	**02**	**00.5 -1.4**
KURK	**Kurchatov**	**165.58**	**45**	PKPab	PKPab	06	09	34.3 -1.1
	0.5nm,0.5s,baz=304,slow=5.3,SNR=5.0							

*NEIC **20** 05:53:55.1±2.4, 23°.96N×121°.78E, h10km, Error ellipse: s-maj=27.8km s-min=8.6km az=95.0*
*ISCJB **20** 05:53:56.9±0.4, 24°.02N±0°.02×121°.71E±0°.03, h25km±2km, Error ellipse: s-maj=4.8km s-min=2.4km az=19.4*
*TAP **20** 05:53:56.6, 24.03N×121.65E, h32km, ML3.6, C*

ISC 20 05:53:57.0±0.4, 24°.02N±0°.02×121°.70E±0°.03, h24km±2km, n53, σ0s2.82/89, 10C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.10**	**243**	⇓*i*P	**Pb**	**05**	**54**	**02.3 +0.8**
	baz=205							
HWA				S	**Sb**	**05**	**54**	**07.2 +2.6**
	baz=205							
TWD	**Chiawan**	**0.11**	**300**	⇓*i*P	**Pb**	**05**	**54**	**02.2 +0.6**
	baz=311							
TWD				*i* S	**Sb**	**05**	**54**	**06.2 +1.5**
	baz=311							
NACB	**Ninganchiao**	**0.18**	**327**	*e*Pg	**Pb**	**05**	**54**	**01.9 -0.4**
NACB				*e*Sg	**Sb**	**05**	**54**	**06.6 +0.7**
ESF	**Shoufeng Towns**	**0.23**	**230**	*e*P	**Pb**	**05**	**54**	**03.1 +0.1**
	baz=228							
ESF				*e*S	**Sb**	**05**	**54**	**08.4 +1.3**
	baz=228							
EHP	**Heping Village**	**0.29**	**7**	*e*P	**Pb**	**05**	**54**	**04.1 +0.3**
	baz=24							
ESL	**Shilin**	**0.32**	**230**	⇑*i*P	**Pb**	**05**	**54**	**03.8 -0.5**
	baz=229							
TEGC	**Jichi Village**	**0.35**	**206**	*e*P	**Pb**	**05**	**54**	**05.3 +0.6**
	baz=185							
ENA	**Nanau**	**0.40**	**5**	⇓*i*P	**Pb**	**05**	**54**	**05.7 +0.1**
	baz=7.0							
ENA				S	**Sb**	**05**	**54**	**12.5 +1.1**
	baz=7.0							
WHF	**Hehuan Shan**	**0.42**	**287**	⇑*i*P	**Pb**	**05**	**54**	**05.4 -0.4**
	baz=285							
WHF				*e*S	**Sb**	**05**	**54**	**11.8 0.0**
	baz=285							
NNS	**Nan Shan**	**0.51**	**324**	⇑*i*P	**Pb**	**05**	**54**	**06.9 -0.5**
	baz=323							
NNS				S	**Sb**	**05**	**54**	**13.9 -0.6**
	baz=323							
TWT	**Tachien**	**0.53**	**296**	⇑*i*P	**Pb**	**05**	**54**	**07.5 -0.3**
	baz=296							
TWT				*e*S	**Sb**	**05**	**54**	**14.6 -0.4**
	baz=296							
EHY	**Hungye**	**0.62**	**214**	⇑P	**Pb**	**05**	**54**	**07.5 -1.7**
	baz=209							
ENTT	**Nioudou**	**0.63**	**349**	*e*P	**Pb**	**05**	**54**	**08.8 -0.5**
	baz=353							
ENTT				*e*S	**Sb**	**05**	**54**	**17.6 -0.1**
	baz=353							
TWE	**Neicheng**	**0.70**	**357**	*e*P	**Pb**	**05**	**54**	**09.8 -0.7**
	baz=356							
TWE				*e*S	**Sb**	**05**	**54**	**20.2 +0.6**
	baz=356							
YHNB	**Yeheng**	**0.71**	**335**	*e*Pg	**Pb**	**05**	**54**	**09.8 -0.9**
YHNB				*e*Sg	**Sb**	**05**	**54**	**19.1 -1.0**
NSK	**Sanguang**	**0.72**	**334**	⇑*i*P	**Pb**	**05**	**54**	**10.3 -0.7**
	baz=337							
NSK				S	**Sb**	**05**	**54**	**19.2 -1.2**
	baz=337							
SSLB	**Suanglung**	**0.72**	**251**	*e*Pg	**Pb**	**05**	**54**	**09.6 -1.4**
YULB	**Yu-li**	**0.73**	**211**	*e*Pg	**Pb**	**05**	**54**	**09.9 -1.2**
SMLT	**Sun Moon Lake**	**0.75**	**259**	⇑*i*P	**Pb**	**05**	**54**	**10.6 -0.8**
	baz=256							
SMLT				S	**Sb**	**05**	**54**	**20.1 -1.0**
	baz=256							
TWF1	**Yuli**	**0.77**	**209**	⇑P	**Pb**	**05**	**54**	**09.6 -2.0**
	baz=214							
**T

baz=234
SSD Sandimen 1.61 218 *e*P Pn 05 54 24.9 +0.9
baz=229
SSD *e*S Sn 05 54 45.1 +1.2
baz=229
EAST Anshuo 1.81 206 *e*P Pn 05 54 26.0 -0.7
baz=196
SCZT Fangliau 1.92 211 *e*P Pn 05 54 28.6 +0.4
baz=211
SCZT *e*S Sn 05 54 52.5 +0.8
baz=211
PNG Penghu 2.02 257 *e*P Pn 05 54 29.1 -0.4
baz=258

IDC 20 05:57:02.1±2.2, 1°02S×127°76E, h0km, mb3.3/2, mb1 3.4/3, mb1mx3.2/19, mbtmp3.2/3, ML3.0/1, Error ellipse: s-maj=173.4km s-min=27.3km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.88**	**162**	P		Pn		06 01 35.3	-1.3
	0.1nm,0.3s,baz=340,slow=12,SNR=2.4								
ASAR	**Alice Springs**	**23.29**	**166**	P		P		06 02 11.6	-0.1
	0.5nm,0.7s,baz=343,slow=10.0,SNR=7.3								
MKAR	**Makanchi Array**	**62.04**	**326**	P		P		06 07 24.4	+0.1
	0.2nm,0.4s,baz=119,slow=8.1,SNR=5.0								

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*ISCJB **20** 06:00:20.0±0.4, 42°.61N±0°.04×142°.74E±0°.05, h103km±3km, mb3.4/6, Error ellipse: s-maj=6.1km s-min=5.4km az=151.5*
*NEIC **20** 06:00:21.5, 42°.66N×142°.80E, h92km, MG3.2(JMA), After JMA.*
*JMA **20** 06:00:21.4±0.2, 42°.66N×142°.80E, h92km±2km, M3.2*
*IDC **20** 06:00:22.3±1.5, 42°.71N×142°.74E, h108km±12km, mb3.2/6, mb1 3.4/7, mb1mx3.2/25, mbtmp3.2/7, Error ellipse: s-maj=30.1km s-min=17.0km az=96.0*

ISC 20 06:00:21.0±0.4, 42°.61N±0°.04×142°.74E±0°.04, h97km±3km, n32, σ0°62/47, mb3.4/6, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JBT2	**Biratori 2**	**0.32**	**302**	P		P	Pn	06 00 35.3	0.0
JNBK	**Urakawa-nobuka**	**0.33**	**178**	P		P	Pn	06 00 35.9	+0.5
JNBK				*e*S			Sn	06 00 47.3	+1.2
JCH	**Churui**	**0.46**	**89**	P		P	Pn	06 00 35.8	-0.4
JCH				*e*S			Sn	06 00 46.5	-1.0
JFR	**Furan**	**0.56**	**349**	P		P	Pn	06 00 36.6	-0.4
JEM	**Erimo**	**0.67**	**152**	P		P	Pn	06 00 38.4	+0.5
ERM	**Erimo**	**0.67**	**152**	*e*Pn		P	Pn	06 00 38.6	+0.7
ERM				*e*Sn		S	Sn	06 00 51.1	+0.6
JOB	**Onbets**	**0.86**	**70**	P		P	Pn	06 00 39.9	+0.2
JOB				*e*S		S	Sn	06 00 54.3	+0.6
JAB	**Ashibetsu**	**0.97**	**337**	P		P	Pn	06 00 40.8	-0.1
JAB				*e*S		S	Sn	06 00 55.5	-0.3
JEW	**Eniwo**	**0.97**	**284**	P		P	Pn	06 00 41.1	+0.2
JEW				*e*S		S	Sn	06 00 56.2	+0.3
JAR	**Ashorobuto**	**1.02**	**48**	P		P	Pn	06 00 41.2	-0.2
JAR				*e*S		S	Sn	06 00 56.1	-0.7
JNB	**Noboribetsu**	**1.26**	**264**	P		P	Pn	06 00 43.7	-0.5
JNB				*e*S		S	Sn	06 01 00.8	-0.9
JKK2	**Kamakawa 2**	**1.26**	**0**	P		P	Pn	06 00 44.2	0.0
JKK2				*e*S		S	Sn	06 01 02.0	+0.3
JHR	**Hokuryu**	**1.35**	**327**	P		P	Pn	06 00 45.6	+0.3
JHR				*e*S		S	Sn	06 01 04.3	+0.7
JKB	**Kayabe**	**1.46**	**241**	P		P	Pn	06 00 46.1	-0.4
JKB				*e*S		S	Sn	06 01 04.5	-1.4
JAK	**Akkeshi**	**1.49**	**74**	P		P	Pn	06 00 46.6	-0.4
JAK				*e*S		S	Sn	06 01 05.6	-1.1
ASAJ	**Asahikawa**	**1.51**	**356**	P		P	Pn	06 00 47.5	+0.3
	35nm,0.3s,baz=221,slow=12,SNR=106								
ASAJ				S			Sn	06 01 07.2	+0.2
	18nm,0.3s,baz=30,slow=31,SNR=8.3								
ASAJ	**Asahikawa**	**1.51**	**356**	*e*Pn		P	Pn	06 00 47.4	+0.2
ASAJ				*e*Sn		S	Sn	06 01 08.5	+1.4
JTKR	**Abashiri--Toko**	**1.61**	**32**	P		P	Pn	06 00 48.5	+0.1
JTKR				*e*S		S	Sn	06 01 09.0	-0.2
MJAR	**Matsushiro Arr**	**7.00**	**211**	P		P	Pn	06 02 05.0	+4.2
	0.7nm,0.3s,baz=34,slow=15,SNR=4.0								
MJAR	**Matsushiro Arr**	**7.00**	**211**	P			Pn	06 02 05.0	+4.2
MKAR	**Makanchi Array**	**42.24**	**297**	P		P	P	06 08 04.2	-0.2
	0.3nm,0.5s,mb3.3,baz=75,slow=10.0,SNR=4.8								
MKAR	**Makanchi Array**	**42.24**	**297**	P		P	P	06 08 04.2	-0.2
KURK	**Kurchatov**	**43.48**	**304**	P		P	P	06 08 15.2	+0.8
	1.3nm,0.6s,mb3.8,baz=75,slow=8.9,SNR=6.0								
KURK	**Kurchatov**	**43.48**	**304**	P		P	P	06 08 15.2	+0.8
ILAR	**Eielson Array**	**44.30**	**35**	P		P	P	06 08 20.9	+0.2
	0.6nm,0.8s,mb3.4,baz=267,slow=6.7,SNR=6.9								
ILAR	**Eielson Array**	**44.30**	**35**	P		P	P	06 08 20.9	+0.2
WRA	**Warramunga Arr**	**62.72**	**189**	P		P	P	06 10 35.3	-0.3
	0.2nm,0.7s,mb3.2,baz=7.8,slow=6.8,SNR=4.5								
WRA	**Warramunga Arr**	**62.72**	**189**	P		P	P	06 10 35.3	-0.3
FINES	**FINESS Array B**	**64.38**	**332**	P		P	P	06 10 45.3	-0.9
	0.9nm,0.5s,mb3.9,baz=59,slow=7.4,SNR=4.8								
FINES	**FINESS Array B**	**64.38**	**332**	P		P	P	06 10 45.3	-0.9
ASAR	**Alice Springs**	**66.44**	**189**	P		P	P	06 11 00.7	+0.9
	0.2nm,0.8s,mb3.0,baz=2.9,slow=3.7,SNR=2.1								
ASAR	**Alice Springs**	**66.44**	**189**	P		P	P	06 11 00.8	+0.9

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*BJI **20** 06:01:35.9, 40°.62S×84°.79W, h10km, mB5.0/7, Ms5.3/5, Ms7 5.0/5*
*IDC **20** 06:01:37.8±0.8, 41°.35S×85°.42W, h0km, mb4.4/8, mb1 4.6/8, mb1mx4.4/17, mbtmp4.4/8, ML2.7/1, MS4.1/18, Ms1 4.1/18, ms1mx3.9/27, Error ellipse: s-maj=34.1km s-min=18.2km az=92.0*
*ISCJB **20** 06:01:38.3±0.3, 41°.37S±0°.07×85°.29W±0°.09, h10km, mb4.7/38, MS4.2/16, Error ellipse: s-maj=10.2km s-min=9.3km az=34.0*
*NEIC **20** 06:01:39.7±0.4, 41°.42S×85°.25W, h10km, mb4.8/33, Error ellipse: s-maj=11.6km s-min=11.3km az=36.0*
*GCMT **20** 06:01:40.3±0.3, 41°.12S×85°.64W, h27km±1km, MW5.1, Moment Tensor Solution. s22,c26; s65,c83; Moment tensor: Scale 10^16^Nm; Mrr-3.70±.32; Mθθ-0.95±.19; Mφφ4.65±.22; Mrθ2.98±.37; Mrφ-2.28±.17; Mθφ-0.49±.29; Best double couple: M0 5.70000×10^16^ NP1:φ190.00000°, δ45.00000°, λ-41.00000°. NP2:φ311.00000°, δ62.00000°, λ-128.00000°. Principal axes: T 5.7100, Plg10.0000°, Azm67.0000°; N -0.0400, Plg33.0000°, Azm331.0000°; P -5.6800, Plg56.0000°, Azm171.0000°; Data Used: G IU IC II CN.*

ISC 20 06:01:39.9±0.3, 41°.40S±0°.07×85°.31W±0°.09, h10km, n314, σ0°71/291, mb4.7/38, MS4.2/16, 119C-94D, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**16.82**	**60**	Pn		Pn	Pn	06 05 34.6	-0.9
	0.0nm,0.3s,baz=231,slow=12,SNR=6.1								
CFAA				LR			LR	06 10 51.5	
	comp=Z,165nm,20.3s,baz=177,slow=33								
CFAA	**Coronel Fontan**	**16.82**	**60**	Pn		Pn		06 05 34.6	-0.9
CFAA				LR				06 10 51.5	
LCO	**Las Campanas**	**17.15**	**49**	*e*Pn		Pn		06 05 40.8	+1.2
	74nm,2.0s								
USHA	**Ushuaia**	**17.47**	**146**	LR		LR		06 11 13.8	
	comp=Z,325nm,18.9s,baz=306,slow=33								
TRQA	**Tornquist**	**18.24**	**87**	*e*Pn		Pn		06 05 54.2	+1.1
	54nm,1.4s								
RPN	**Rapa Nui**	**24.33**	**298**	LR		LR		06 13 33.6	
	comp=Z,646nm,19.7s,MS4.1,baz=315,slow=30								
CPUP	**Villa Florida**	**27.52**	**66**	LR		LR		06 18 04.1	
	comp=Z,818nm,18.1s,MS4.3,baz=223,slow=36								
LPAZ	**La Paz**	**29.09**	**36**	P		P		06 07 40.8	+0.2
	1.7nm,0.8s,mb3.9,baz=179,slow=7.5,SNR=6.4								
LPAZ				LR		LR		06 16 55.1	
	comp=Z,265nm,19.5s,MS3.9,baz=214,slow=32								
LPAZ	**La Paz**	**29.09**	**36**	P		P		06 07 40.8	+0.2
LPAZ				LR		LR		06 16 55.1	
NNA	**Nana**	**30.23**	**17**	P		P		06 07 48.6	-2.1
	5.3nm,0.7s,mb4.4,baz=229,slow=6.2,SNR=4.1								
NNA				LR		LR		06 16 25.2	
	comp=Z,313nm,21.4s,MS3.9,baz=153,slow=29								
NNA	**Nana**	**30.23**	**17**	P		P		06 07 48.6	-2.1
NNA				LR		LR		06 16 25.2	
ATAH	**Atahualpa**	**34.67**	**12**	LR		LR		06 19 06.6	
	comp=Z,296nm,21.5s,MS4.0,baz=119,slow=30								
OTAV	**Otavalo**	**41.91**	**10**	*e*P		P		06 09 31.0	+0.4
	3.8nm,1.0s,mb4.0								
RKT	**Rikitea**	**45.13**	**278**	*e*LR		LR		06 22 36.3	
	909nm,27.8s,baz=128								
VNA3	**Neumayer Olymp**	**46.87**	**155**	*e*		P		06 10 07.9	-1.7
VNA3				*e*				06 10 15.9	
ROSC	**El Rosal**	**47.11**	**15**	LR		LR		06 28 14.3	
	comp=Z,245nm,18.8s,MS4.2,baz=292,slow=34								
VNA2	**Neumayer--Watz**	**47.63**	**154**	*e*		P		06 10 13.7	-1.9
	baz=276,slow=6.5								
VNA2				*e*				06 10 21.4	
QSPA	**South Pole Qui**	**48.84**	**180**	P		P		06 10 24.6	-0.3
	4.0nm,1.1s,mb4.4,baz=151,slow=4.4,SNR=6.0								
QSPA	**South Pole Qui**	**48.84**	**180**	P		P		06 10 24.6	-0.3
SNAA	**Sanae**	**48.99**	**155**	P		P		06 10 25.8	-0.3
	0.5nm,0.8s,baz=264,slow=6.6,SNR=9.5								
SNAA	**Sanae**	**48.99**	**155**	*e*P		P		06 10 23.5	-2.6
	13nm,1.4s,mb4.8								
JTS	**JuntasAbangare**	**51.43**	**0**	LR		LR		06 26 51.9	
	comp=Z,85nm,21.7s,MS3.7,baz=218,slow=30								
VNDA	**Vanda**	**54.59**	**194**	P		P		06 11 07.6	-0.2
	1.7nm,1.0s,mb4.0,baz=140,slow=7.4,SNR=4.6								
VNDA				LR		LR		06 29 00.4	
	comp=Z,221nm,21.9s,MS4.2,baz=134,slow=30								
VNDA	**Vanda**	**54.59**	**194**	*e*P		P		06 11 08.4	+0.6
	3.3nm,1.1s,mb4.3								
TBI	**Tubuai**	**55.87**	**268**	*e*S		S		06 19 05.6	+0.3
	125nm,26.4s								
TBI				*e*LR		LR		06 27 27.5	
	662nm,29.8s,baz=128								
RCBR	**Riachuelo**	**56.40**	**65**	LR		LR		06 34 55.5	
	comp=Z,348nm,21.8s,MS4.4,baz=138,slow=35								
TAOE	**Nuku Hiva Isla**	**58.07**	**288**	*e*LR		LR		06 28 37.7	
	255nm,26.1s								
PPT	**Papeete**	**59.39**	**273**	*e*S		S		06 19 50.0	-1.6
	150nm,26.2s								
PPT				*e*LR		LR		06 29 01.6	
	699nm,27.2s,baz=134								
PPT	**Papeete**	**59.39**	**273**	LR		LR		06 29 28.9	
	comp=Z,348nm,18.1s,MS4.5,baz=173,slow=28								
SYO	**Syowa Base**	**62.65**	**161**	*e*P		P		06 12 11.6	+7.6
MAW	**Mawson**	**68.68**	**167**	LR		LR		06 39 15.5	
	comp=Z,70nm,19.4s,MS3.9,baz=29,slow=33								
628A	**Black Gap, Mar**	**72.38**	**344**	P		P		06 13 04.4	-1.5
	baz=73,SNR=12								
TXAR	**Lajitas Array**	**72.40**	**343**	P		P		06 13 04.6	-1.4
	6.2nm,0.8s,mb4.6,baz=162,slow=7.3,SNR=36								
TXAR				LR		LR		06 37 46.5	
	comp=Z,78nm,18.8s,MS4.0,baz=70,slow=30								
TXAR	**Lajitas Array**	**72.40**	**343**	P		P		06 13 04.6	-1.4
TXAR				LR		LR		06 37 46.5	
627A	**Terlingua Ranc**	**72.45**	**344**	⇓P		P		06 13 05.0	-1.3
	baz=73								
626A	**Big Bend Ranch**	**72.71**	**343**	⇑P		P		06 13 06.6	-1.3
	baz=73								
JCT	**Junction City**	**72.76**	**347**	⇑P		P		06 13 07.4	-0.7
	baz=73								
JCT	**Junction City**	**72.76**	**347**	*e*P		P		06 13 08.6	+0.5
	9.6nm,1.1s,mb4.6								
528A	**Cox Ranch, San**	**73.01**	**344**	⇓P		P		06 13 09.0	-0.6
	baz=73								
527A	**Woodward Ranch**	**73.17**	**343**	P		P		06 13 10.0	-0.5
	baz=74,SNR=16								
526A	**Mary Lane Ranc**	**73.19**	**343**	⇓P		P		06 13 10.0	-0.7
	baz=74,SNR=12								
428A	**Kincaid Ranch,**	**73.54**	**344**	⇑P		P		06 13 12.1	-0.6
	baz=74								
426A	**McDonald Obser**	**73.77**	**343**	⇓P		P		06 13 12.4	-1.6
	baz=74								
427A	**Hayter Ranch,**	**73.81**	**344**	⇑P		P		06 13 13.6	-0.6
	baz=74,SNR=11								
425A	**Indio Mountain**	**74.09**	**342**	⇑P		P		06 13 14.7	-1.3
	baz=74								
328A	**Wristen Ranch,**	**74.20**	**344**	⇑P		P		06 13 15.6	-1.0
	baz=75								
326A	**Caldwell Ranch**	**74.38**	**343**	⇑P		P		06 13 16.6	-1.0
	baz=75								
325A	**Bean Ranch, Si**	**74.65**	**343**	⇑P		P		06 13 18.2	-1.0
	baz=75								
324A	**Moseley Ranch,**	**74.83**	**342**	⇑P		P		06 13 19.1	-1.1
	baz=75								
227A	**Bennet, Jal**	**74.91**	**344**	⇑P		P		06 13 20.2	-0.5
	baz=75								
226A	**Malaga, Loving**	**75.12**	**344**	⇓P		P		06 13 21.7	-0.2
	baz=76								
225A	**Deer Hill, Car**	**75.33**	**343**	⇑P		P		06 13 22.7	-0.4
	baz=76								
224A	**Cornudas Mount**	**75.45**	**342**	⇑P		P		06 13 23.3	-0.5
	baz=76								
320A	**Kipp Ranch, An**	**75.48**	**340**	⇑P		P		06 13 23.0	-1.0
	baz=76								
126A	**Clayton Basin,**	**75.67**	**344**	⇓P		P		06 13 24.1	-1.0
	baz=76								
319A	**Douglas**	**75.72**	**339**	⇓P		P		06 13 23.9	-1.5
	baz=76								
125A	**Gardner Draw,**	**75.82**	**343**	⇑P		P		06 13 25.0	-0.9
	baz=76,SNR=5.8								
318A	**Bisbee**	**75.97**	**338**	⇑P		P		06 13 26.1	-0.7
	baz=76								
220A	**Playas Peak, P**	**76.02**	**340**	⇑P		P		06 13 25.9	-1.2
	baz=76								
124A	**Stringfield Ra**	**76.04**	**343**	⇑P		P		06 13 26.0	-1.1
	baz=76								
Z27A	**Tatum**	**76.15**	**345**	⇓P		P		06 13 26.1	-1.7
	baz=77								
123A	**Bell Site, Whi**	**76.16**	**342**	⇓P		P		06 13 26.4	-1.4
	baz=77								
Z26A	**Caprock**	**76.27**	**344**	⇓P		P		06 13 27.2	-1.2
	baz=77,SNR=7.7								
121A	**Cookes Peak, D**	**76.43**	**341**	⇓P		P		06 13 28.4	-0.9
	baz=77								
Z25A	**Roswell**	**76.43**	**343**	⇑P		P		06 13 28.5	-0.9
	baz=77,SNR=5.7								
CPCT	**Cooper Cave**	**76.48**	**1**	*e*P		P		06 13 27.7	-1.8
Z24A	**Sheppen Canyo**	**76.62**	**343**	⇓P		P		06 13 30.7	+0.2
	baz=77,SNR=8.0								
120A	**U Bar Ranch, L**	**76.66**	**340**	⇓P		P		06 13 30.2	-0.4
	baz=77								
Y27A	**Causey**	**76.69**	**345**	⇑P		P		06 13 29.4	-1.5
	baz=77								
MSTX	**Muleshoe**	**76.70**	**345**	⇑P		P		06 13 29.9	-0.9
	baz=77								
Y26A	**Elida**	**76.86**	**344**	⇑P		P		06 13 31.1	-0.7
	baz=77								
Z22A	**Elephant Butte**	**76.92**	**341**	⇓P		P		06 13 31.1	-1.0
	baz=77								
Y25A	**Mesa, Roswell**	**77.05**	**344**	⇓P		P		06 13 32.1	-0.7
	baz=78								
Z21A	**St. Cloud Mine**	**77.14**	**341**	⇑P		P		06 13 32.3	-1.0
	baz=78								
Z20A	**Nine Sixteen R**	**77.19**	**340**	⇓P		P		06 13 33.3	-0.3
	baz=78								
Y24A	**Capitan**	**77.21**	**343**	⇑P		P		06 13 33.4	-0.4
	baz=78								
117A	**Oracle**	**77.25**	**338**	⇓P		P		06 13 33.3	-0.7
	baz=78								
214A	**Organ Pipe Nat**	**77.28**	**336**	⇓P		P		06 13 33.4	-0.8
	baz=78								
Y23A	**Lovelace Mesa,**	**77.35**	**342**	P		P		06 13 33.9	-0.6
	baz=78								
AMTX	**Amarillo**	**77.39**	**346**	⇓P		P		06 13 34.0	-0.7
	baz=78								
AMTX	**Amarillo**	**77.39**	**346**	*e*P		P		06 13 34.3	-0.4
	18nm,1.1s,mb4.9								
X26A	**CR and CF Fran**	**77.47**	**344**	⇑P		P		06 13 35.1	-0.1
	baz=78								
TUL1	**Tulsa**	**77.53**	**351**	⇑P		P		06 13 34.8	-0.7
	baz=78								
115A	**Sonoran Desert**	**77.80**	**337**	⇑P		P		06 13 37.0	0.0
	baz=78								
Y21A	**Point of Rocks**	**77.81**	**341**	⇑P		P		06 13 37.1	0.0
	baz=78								
W27A	**Bowe Ranch, En**	**77.82**	**345**	⇓P		P		06 13 36.5	-0.6
	baz=78								
LPM	**Los Pinos Moun**	**77.85**	**342**	*e*P		P		06 13 38.3	+1.0
	3.4nm,0.8s,mb4.3								
Y20A	**Horse Springs,**	**77.89**	**341**	⇑P		P		06 13 37.1	-0.4
	baz=78								
W26A	**Owens Ranch, T**	**77.98**	**345**	⇓P		P		06 13 37.6	-0.5
	baz=78								
114A	**Black Gap (USA**	**78.04**	**337**	⇓P		P		06 13 38.2	-0.1
	baz=78								
LAZ	**Ladron**	**78.06**	**342**	*e*P		P		06 13 39.0	+0.6
	3.9nm,1.2s,mb4.2								
X22A	**Bernardo**	**78.12**	**342**	⇑P		P		06 13 38.6	-0.3
	baz=78								
Y19A	**Nutrioso**	**78.16**	**340**	⇓P		P		06 13 38.6	-0.4
	baz=79								
Y18A	**Canyon Day Jun**	**78.19**	**339**	⇑P		P		06 13 38.4	-0.8
	baz=79								
W25A	**X Bar L Ranch,**	**78.25**	**344**	⇓P		P		06 13 38.9	-0.6
	baz=79								
X21A	**Alamocita Cree**	**78.25**	**341**	⇑P		P		06 13 39.3	-0.3
	baz=79								
Y17A	**Roosevelt**	**78.33**	**338**	⇑P		P		06 13 39.4	-0.6
	baz=79								
ANMO	**Albuquerque**	**78.42**	**342**	*e*P		P		06 13 40.7	+0.2
	9.4nm,1.0s,mb4.7								
W24A	**Lazy 6 Ranch,**	**78.44**	**343**	⇑P		P		06 13 40.9	+0.4
	baz=79,SNR=15								
X20A	**Quemado**	**78.52**	**341**	⇑P		P		06 13 40.4	-0.7
	baz=79								
W23A	**Werner Place,**	**78.56**	**343**	⇑P		P		06 13 41.4	+0.2
	baz=79,SNR=11								
V26A	**Tequesquite Ra**	**78.67**	**345**	⇓P		P		06 13 41.4	-0.5
	baz=79								
Y16A	**Circle Bar Ran**	**78.69**	**338**	⇓P		P		06 13 41.7	-0.2
	baz=79								
Z13A	**Yuma Proving G**	**78.69**	**336**	⇑P		P		06 13 41.7	-0.3
	baz=79								
W21A	**San Fidel**	**78.86**	**341**	⇑P		P		06 13 42.6	-0.3
	baz=79								
V25A	**Rancho No Teng**	**78.88**	**344**	⇑P		P		06 13 43.0	0.0
	baz=79								
X18A	**Snowflake**	**78.88**	**339**	⇑P		P		06 13 42.8	-0.2
	baz=79								
V24A	**Rampart Ranch,**	**78.91**	**344**	⇑P		P		06 13 43.0	-0.1
	baz=79								
X17A	**Forest Lakes**	**78.93**	**339**	⇑P		P		06 13 43.1	-0.2
	baz=79								
Y15A	**Casa Rosa Ranc**	**79.00**	**337**	⇑P		P		06 13 43.4	-0.3
	baz=79								
USIN	**University of**	**79.02**	**358**	*e*P		P		06 13 41.0	-2.7
	20nm,0.7s,mb5.2								
W20A	**Ramah**	**79.08**	**341**	⇑P		P		06 13 43.8	-0.3
	baz=80								
V23A	**Ortiz Mt. (NFS**	**79.12**	**343**	⇓P		P		06 13 43.9	-0.4
	baz=80								
X16A	**Lo Mia Camp, P**	**79.18**	**338**	⇓P		P		06 13 44.3	-0.4
	baz=80								
Y14A	**Wickenburg**	**79.18**	**337**	⇑P		P		06 13 44.4	-0.3
	baz=80								
CCM	**Cathedral Cave**	**79.26**	**355**	*e*P		P		06 13 42.9	-2.1
	13nm,0.8s,mb4.9								
U25A	**Circle Dot Ran**	**79.38**	**344**	⇑P		P		06 13 45.3	-0.3
	baz=80								
V22A	**San Miguel Ran**	**79.45**	**342**	⇑P		P		06 13 46.3	+0.2
	baz=80,SNR=9.5								
Y12C	**Blythe**	**79.47**	**336**	⇑P		P		06 13 45.9	-0.3
	baz=80								
U24A	**Moreno Valley**	**79.57**	**344**	⇑P		P		06 13 47.3	+0.6
	baz=80								
U23A	**El Rito**	**79.69**	**343**	⇑P		P		06 13 47.2	-0.1
	baz=80,SNR=14								
V20A	**Brimhall**	**79.71**	**341**	⇓P		P		06 13 47.0	-0.5
	baz=80								
U22A	**Llaves**	**79.88**	**342**	⇑P		P		06 13 48.9	+0.5
	baz=80								
PFO	**Pinyon Flat Ob**	**79.96**	**334**	⇑P		P		06 13 49.1	+0.2
	baz=80								
V18A	**Ganado**	**79.99**	**340**	⇑P		P		06 13 49.1	+0.1
	baz=80								
IRM	**Iron Mountain**	**80.04**	**335**	⇓P		P		06 13 49.4	0.0
	baz=80								
T25A	**Trinidad**	**80.09**	**345**	⇓P		P		06 13 49.6	0.0
	baz=80								
U21A	**Nageezi**	**80.11**	**342**	⇑P		P		06 13 49.4	-0.3
	baz=80								
V17A	**Tonalea, Kykot**	**80.14**	**339**	⇓P		P		06 13 49.6	-0.2
	baz=80								
T24A	**Torres, Weston**	**80.16**	**344**	⇓P		P		06 13 50.0	+0.1
	baz=81								
BELC	**Belle Mtn. Jos**	**80.17**	**335**	⇑P		P		06 13 49.6	-0.5
	baz=81								
BLO	**Bloomington**	**80.20**	**359**	*e*P		P		06 13 48.6	-1.5
	18nm,0.9s,mb5.0								
U20A	**Newcomb**	**80.27**	**341**	⇓P		P		06 13 50.5	0.0
	baz=81								
T23A	**Casias Ranch,**	**80.33**	**343**	⇑P		P		06 13 51.0	+0.1
	baz=81								
U19A	**Dine' College,**	**80.36**	**341**	⇓P		P		06 13 50.6	-0.4
	baz=81								
T22A	**Edith**	**80.50**	**343**	⇑P		P		06 13 51.5	-0.3
	baz=81,SNR=6.9								
W13A	**Hualapai Mount**	**80.52**	**337**	⇓P		P		06 13 51.6	-0.3
	baz=81								
S25A	**Robets Cordova**	**80.60**	**345**	⇑P		P		06 13 51.8	-0.5
	baz=81								
T21A	**Navajo Lake**	**80.62**	**342**	⇑P		P		06 13 52.3	-0.1
	baz=81								
V15A	**Kaibab Nationa**	**80.70**	**338**	⇓P		P		06 13 53.0	+0.1
	baz=81								
U16A	**Tuba City**	**80.72**	**339**	⇑P		P		06 13 53.0	0.0
	baz=81								
S24A	**Houchin Ranch,**	**80.74**	**344**	⇓P		P		06 13 53.4	+0.4
	baz=81,SNR=8.5								
GMRC	**Granite Mounta**	**80.77**	**335**	P		P		06 13 53.2	-0.1
	baz=81								
T19A	**Beclabito**	**80

baz=83
R17A **Hanksville Air** 82.75 340 ⇑P P 06 14 03.2 -0.5
baz=83
ISCO **Idaho Springs** 82.90 344 ⇑P P 06 14 04.7 +0.4
baz=83
P22A **Eagle** 82.94 343 ⇑P P 06 14 05.1 +0.5
baz=83
R15A **Junction** 82.97 339 ⇓P P 06 14 05.0 +0.3
baz=83
P21A **Newcastle** 83.03 343 ⇓P P 06 14 05.2 +0.2
baz=83
P20A **De Beque** 83.22 342 ⇑P P 06 14 06.6 +0.6
baz=84,SNR=7.1
Q18A **Rafter H Ranch** 83.25 341 ⇓P P 06 14 06.6 +0.4
baz=84
Q16A **Castle Valley** 83.34 340 ⇓P P 06 14 07.2 +0.5
baz=84
SRU **San Rafael** 83.36 341 ⇓P P 06 14 07.0 +0.3
baz=84
SRU **San Rafael** 83.36 341 *e*P P 06 14 06.7 0.0
4.7nm,0.9s,mb4.5
O23A **Lake Granby, G** 83.36 344 ⇓P P 06 14 07.3 +0.6
baz=84
O22A **Kremmling** 83.44 344 ⇓P P 06 14 07.7 +0.6
baz=84
P19A **Cripple Cowboy** 83.48 342 ⇑P P 06 14 07.7 +0.3
baz=84,SNR=6.8
O21A **Pagoda** 83.69 343 ⇑P P 06 14 09.0 +0.6
baz=84
TMUT **Trail Mountain** 83.71 340 *e*P P 06 14 09.5 +1.0
9.0nm,0.7s,mb5.0
N24A **Carr** 83.75 345 ⇓P P 06 14 09.3 +0.6
baz=84
P17A **Butcher Ranch,** 83.75 340 ⇓P P 06 14 09.4 +0.7
baz=84
P18A **Preston Nutter** 83.78 341 ⇓P P 06 14 09.0 +0.2
baz=84
O20A **White River Ci** 83.79 343 ⇓P P 06 14 08.9 0.0
baz=84
N23A **Red Feather La** 84.02 344 ⇓P P 06 14 10.8 +0.7
baz=84
N22A **Wattenberg Ran** 84.04 344 ⇑P P 06 14 10.6 +0.5
baz=84
R11A **Troy Canyon, C** 84.04 337 ⇑P P 06 14 10.1 -0.2
baz=84
O19A **Miners Draw (B** 84.14 342 ⇑P P 06 14 10.9 +0.2
baz=85
N21A **Black Mountain** 84.22 343 ⇑P P 06 14 12.3 +1.2
baz=85
O18A **Roosevelt** 84.33 341 ⇓P P 06 14 12.1 +0.4
baz=85,SNR=7.1
M24A **Cheyenne** 84.36 345 ⇑P P 06 14 12.3 +0.5
baz=85
O17A **Robinson Place** 84.44 341 ⇑P P 06 14 12.1 -0.1
baz=85
N20A **Spence Gulch,** 84.46 343 ⇑P P 06 14 12.4 +0.1
baz=85
MPU **Maple Canyon** 84.49 340 *e*P P 06 14 13.3 +0.8
7.9nm,1.0s,mb4.8
NLU **North Lily Min** 84.55 340 *e*P P 06 14 14.6 +1.8
9.3nm,1.3s,mb4.8
N19A **John Jarvie Ra** 84.72 342 ⇓P P 06 14 13.9 +0.3
baz=85,SNR=6.8
N18A **Larsen Ranch,** 84.92 342 ⇑P P 06 14 15.0 +0.4
baz=85
NVAR **Mina Array Bea** 84.96 335 P P 06 14 15.8 +0.9
1.9nm,0.8s,mb4.3,baz=170,slow=6.2,SNR=10
NVAR **Mina Array Bea** 84.96 335 P P 06 14 15.8 +0.9
DUG **Dugway** 84.97 339 P P 06 14 14.9 0.0
baz=85
DUG **Dugway** 84.97 339 *e*P P 06 14 15.6 +0.7
5.8nm,1.0s,mb4.7
M21A **Separation Pea** 85.00 344 ⇓P P 06 14 15.5 +0.5
baz=85
RWWY **Rawlins** 85.05 344 *e*P P 06 14 16.5 +1.3
13nm,1.2s,mb4.9
M20A **Sweetwater, Wa** 85.07 343 ⇓P P 06 14 15.9 +0.6
baz=86
L23A **Garrett** 85.15 345 ⇑P P 06 14 16.6 +0.8
baz=86
N17A **Moffit Pass** 85.17 341 ⇑P P 06 14 16.4 +0.5
baz=86
BOSA **Boshof** 85.33 124 LR LR 06 46 25.6
comp=Z,88nm,18.6s,MS4.2,baz=60,slow=32
L21A **Rawlins** 85.35 344 ⇓P P 06 14 17.6 +0.8
baz=86
ECSD **EROS Data Cent** 85.36 352 *e*P P 06 14 16.4 -0.3
45nm,1.8s,mb5.3
M17A **Scullys Gap (B** 85.63 341 ⇑P P 06 14 18.7 +0.5
baz=86
M16A **Huntsville** 85.72 340 ⇓P P 06 14 19.2 +0.6
baz=86
K22A **Casper** 85.83 344 ⇑P P 06 14 19.5 +0.3
baz=86
L18A **Fontenelle, Gr** 85.90 342 ⇑P P 06 14 20.0 +0.5
baz=86
K21A **Alcova** 85.96 344 P P 06 14 20.4 +0.6
baz=86
M15A **Larsen Ranch,** 86.06 340 ⇑P P 06 14 20.6 +0.2
baz=86
J24A **Dixon Ranch, L** 86.13 346 ⇓P P 06 14 21.1 +0.5
baz=87
K20A **Yellowstone Ra** 86.22 343 ⇑P P 06 14 21.1 +0.1
baz=87
WCN **Washoe City** 86.23 334 ⇑P P 06 14 21.6 +0.5
baz=87
L17A **Cokeville** 86.27 341 ⇓P P 06 14 21.2 -0.1
baz=87
L16A **Fish Haven** 86.33 341 ⇓P P 06 14 21.5 -0.1
baz=87,SNR=9.6
K19A **Absolon Red Bu** 86.49 343 ⇑P P 06 14 21.8 -0.6
baz=87
J22A **Midwest** 86.55 345 ⇓P P 06 14 22.6 0.0
baz=87
BW06 **Boulder Array** 86.59 342 ⇓P P 06 14 23.0 +0.2
baz=87,SNR=6.8
BW06 **Boulder Array** 86.59 342 *e*P P 06 14 22.6 -0.3
7.3nm,1.0s,mb4.9
PDAR **Pinedale Array** 86.59 342 P P 06 14 22.4 -0.4
4.9nm,0.9s,mb4.7,baz=148,slow=2.9,SNR=23
PDAR **Pinedale Array** 86.59 342 P P 06 14 22.4 -0.4
PD02 **Pinedale Array** 86.61 342 *e*P P 06 14 23.4 +0.4
PD01 **Pinedale Array** 86.61 342 *e*P P 06 14 23.6 +0.6
J21A **Lysite** 86.69 344 ⇑P P 06 14 23.3 -0.1
baz=87
RSSD **Black Hills** 86.78 347 *e*P P 06 14 22.9 -0.9
7.8nm,1.0s,mb4.9
L14A **Malta** 86.81 340 ⇑P P 06 14 24.2 +0.2
baz=87
J20A **Shoshoni** 86.83 344 ⇓P P 06 14 24.1 +0.1
baz=87
J19A **Crowheart** 86.95 343 ⇑P P 06 14 24.7 0.0
baz=87
I21A **Big Trails, Te** 87.10 344 ⇑P P 06 14 25.3 -0.1
baz=88
J18A **Kendall Valley** 87.12 342 ⇓P P 06 14 25.3 -0.1
baz=88
DBIC **Dimbokro** 87.25 79 LR LR 06 49 20.7
comp=Z,109nm,18.1s,MS4.3,baz=217,slow=33
I20A **Worland** 87.41 344 ⇑P P 06 14 27.1 +0.3
baz=88
REDW **Red Top Meadow** 87.46 342 *e*P P 06 14 27.9 +0.8
11nm,1.4s,mb4.9
H24A **Dirks Ranch, A** 87.48 346 ⇓P P 06 14 27.0 -0.2
baz=88
TPAW **Teton Pass** 87.60 342 *e*P P 06 14 29.2 +1.5
73nm,2.8s,mb5.4
J14A **Carey** 88.08 340 ⇑P P 06 14 30.3 +0.2
baz=88
J13A **Cove Ranch, Pi** 88.33 339 ⇓P P 06 14 31.5 +0.3
baz=89,SNR=7.7
DZM **Mont Dzumac** 88.42 242 *e*LR LR 06 42 31.7
806nm,24.4s
HLID **Hailey** 88.54 339 ⇓P P 06 14 32.3 0.0
baz=89,SNR=6.8
HLID **Hailey** 88.54 339 *e*P P 06 14 33.0 +0.7
6.4nm,1.0s,mb4.9
I14A **Mackay** 88.63 340 ⇓P P 06 14 32.8 +0.2
baz=89
MFID **Camas Ranch** 88.79 338 ⇑P P 06 14 33.3 -0.1
baz=89
MFID **Camas Ranch** 88.79 338 *e*P P 06 14 33.7 +0.3
5.3nm,1.0s,mb4.8
I13A **Wildhorse Cree** 88.79 340 P P 06 14 33.5 0.0
baz=89,SNR=7.8
H16A **Russell Place,** 88.82 342 ⇑P P 06 14 34.0 +0.5
baz=89
I12A **Atlanta** 88.95 339 ⇑P P 06 14 34.6 +0.4
baz=89
H15A **Lima** 89.07 341 ⇓P P 06 14 35.4 +0.7
baz=90
H14A **Leadore** 89.25 340 ⇓P P 06 14 35.9 +0.3
baz=90
MCMT **McKenzie Canyo** 89.32 341 *e*P P 06 14 37.2 +1.4
3.9nm,1.2s,mb4.6
H13A **Challis** 89.43 340 ⇓P P 06 14 37.1 +0.7
baz=90
G16A **Moss Hill, Enn** 89.44 342 ⇑P P 06 14 36.7 +0.2
baz=90
J08A **Circle Bar Ran** 89.50 336 P P 06 14 36.9 +0.1
baz=90
G15A **Dillon** 89.55 341 ⇓P P 06 14 37.0 +0.1
baz=90
H12A **Diamond D Ranc** 89.58 339 P P 06 14 37.4 +0.3
baz=90
F18A **Big Timber** 89.61 343 ⇓P P 06 14 37.9 +0.7
baz=90
LAO **LASA Array** 89.66 346 ⇓P P 06 14 37.3 -0.1
baz=90
K05A **Summer Lake** 89.69 335 ⇑P P 06 14 37.8 +0.2
baz=90
D24A **Glendive** 89.74 347 ⇓P P 06 14 38.1 +0.3
baz=90
DLMT **Dillon** 89.76 341 *e*P P 06 14 38.6 +0.7
112nm,2.8s,mb5.7
BOZ **Bozeman (W)** 89.80 342 ⇑P P 06 14 38.7 +0.6
baz=90
BOZ **Bozeman (W)** 89.80 342 *e*P P 06 14 39.2 +1.1
51nm,2.8s,mb5.4
E20A **Meyer Farm, Mu** 89.85 344 ⇑P P 06 14 39.6 +1.3
baz=90
G14A **Jackson** 89.86 341 ⇓P P 06 14 39.3 +0.9
baz=90
G13A **Cobalt** 89.92 340 ⇓P P 06 14 39.2 +0.6
baz=90
D23A **Lindsay** 89.94 347 ⇓P P 06 14 39.6 +0.9
baz=90
C24A **Savage** 90.16 347 ⇑P P 06 14 39.6 -0.1
baz=91
LRM **Limekiln Ridge** 90.16 341 *e*P P 06 14 40.8 +1.0
F15A **Butte** 90.19 341 P P 06 14 40.1 +0.2
baz=91
G12A **Big Creek, Yel** 90.24 339 ⇑P P 06 14 40.4 +0.3
baz=91
E18A **Harlowton** 90.28 343 ⇑P P 06 14 41.2 +0.9
baz=91
F14A **Wisdom** 90.37 341 ⇓P P 06 14 41.3 +0.6
baz=91
C23A **Lambert** 90.55 347 ⇑P P 06 14 42.0 +0.4
baz=91
F13A **Darby** 90.59 340 P P 06 14 42.1 +0.3
baz=91
E15A **Deer Lodge** 90.77 341 ⇑P P 06 14 42.8 +0.2
baz=91
F12A **Elk City** 90.80 340 ⇓P P 06 14 43.2 +0.4
baz=91
D18A **Linhart Farms,** 90.86 344 P P 06 14 43.6 +0.6
baz=91
E14A **Clinton** 90.97 341 P P 06 14 44.2 +0.7
baz=91
D17A **Six Diamond Ra** 91.01 343 P P 06 14 44.3 +0.6
baz=91
E13A **Victor** 91.17 340 ⇑P P 06 14 44.9 +0.4
baz=92
D15A **Lincoln** 91.32 342 ⇑P P 06 14 45.9 +0.7
baz=92
CHMT **Chamberlain Mo** 91.38 341 *e*P P 06 14 47.4 +2.0
C17A **Wharram Farm,** 91.48 343 ⇓P P 06 14 47.2 +1.4
baz=92
D14A **Greenough** 91.59 341 ⇓P P 06 14 47.4 +1.0
baz=92
H04A **Detroit Lake** 91.86 335 ⇑P P 06 14 48.0 +0.3
baz=92
TORD **Torodi Ar. Bea** 96.35 78 P P 06 15 09.3 +0.2
1.0nm,1.0s,mb4.2,baz=214,slow=3.5,SNR=4.8
TORD LR LR 06 54 28.7
comp=Z,148nm,20.3s,MS4.5,baz=40,slow=33
TORD **Torodi Ar. Bea** 96.35 78 P P 06 15 09.3 +0.2
TORD LR LR 06 54 28.7
SCHQ **Schefferville** 97.15 11 LR LR 06 55 49.2
comp=Z,106nm,18.2s,MS4.4,baz=66,slow=34
NJ2 **Nanjing** 158.56 252 *e*PKP PKPdf 06 21 33.5 -4.0
GYA **Guiyang** 162.12 217 *e*PKP PKPdf 06 21 41.0 -0.6
GYA PKPab PKPab 06 22 29.8 +1.7
GYA PKS 06 25 12.6
GYA PP PP 06 26 13.0 +1.4
GYA AMB AMB
comp=Z,90nm,8.3s
BJI **Beijing** 163.66 272 PKP PKPdf 06 21 42.6 -0.1
BJI SS SS 06 46 49.8 +0.8
BJI LR LR
comp=N,280nm,25.6s
BJI LR LR
comp=E,300nm,25.2s
BJI LR LR
comp=Z,78nm,23.3s
KURK **Kurchatov** 165.49 45 PKP PKPdf 06 21 42.3 -1.6
comp=Z,0.4nm,0.3s,baz=310,slow=50,SNR=2.7
KURK PKPab PKPab 06 22 42.4 0.0
comp=Z,0.5nm,0.2s,baz=270,slow=7.7,SNR=1.7
CD2 **Chengdu** 167.23 218 PKP PKPdf 06 21 46.5 +0.6
CD2 PKPab PKPab 06 22 53.0 +2.5
CD2 PKS 06 25 17.8
CD2 PP PP 06 26 42.0 +3.6
CD2 SKS SKSdf 06 28 48.9 -0.9
CD2 SKKS SKKSac 06 33 28.0 +1.9
CD2 SS SS 06 47 26.3 +2.5
CD2 AMB AMB
comp=Z,140nm,8.3s
CD2 LR LR
comp=E,330nm,6.5s
CD2 LR LR
comp=Z,220nm,7.1s
HHC **Hu-ho-hao-te** 167.26 273 *e*PKP PKPdf 06 21 43.9 -1.7
HHC PKS 06 25 15.3
HHC PP PP 06 26 39.9 +0.4
HHC SKS SKSdf 06 28 43.4 -6.0
HHC SKKS SKKSac 06 33 24.4 -1.8
HHC SS SS 06 47 22.6 -3.2
HHC AMB AMB
comp=Z,65nm,6.6s
HHC LR LR
comp=N,200nm,19.8s
HHC LR LR
comp=E,260nm,19.7s
HHC LR LR
comp=Z,180nm,19.8s
MKAR **Makanchi Array** 169.58 55 PKPab PKPab 06 23 02.3 +1.8
comp=Z,0.5nm,0.9s,baz=204,slow=2.7,SNR=3.9
LZH **Lanzhou** 171.10 236 *e*PKP PKPdf 06 21 41.5 -6.7
LZH pPKP pPKPdf 06 21 45.0 -6.6
LZH sPKP 06 21 47.0

ISCJB ***20*** *06:07:37.9±0.5,26.11N±0.08×124.74E±0.06, h173km±7km, mb3.4/6, Error ellipse: s-maj=15.3km s-min=5.4km az=149.9*
NEIC ***20*** *06:07:39.1±0.8,26.13N×124.75E, h168km±9km, Error ellipse: s-maj=13.4km s-min=11.9km az=148.0*
IDC ***20*** *06:07:40.9±6.2,26.30N×125.09E, h193km±79km, mb3.0/6, mb1 3.2/7, mb1mx3.1/26, mbtmp3.1/7, Error ellipse: s-maj=102.7km s-min=15.2km az=62.0*
JMA ***20*** *06:07:40.5±0.5,26.18N×124.72E, h155km*
ISC 20 06:07:38.9±0.5, 26°15N±0.08×124°73E±0.06, h164km±8km, n25, σ1s02/33, mb3.4/6, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMJ	**Miyako jima 2**	1.42	159	P	Pn	06 08 10.4	+1.6
JMJ				eS	Sn	06 08 32.5	+0.7
JKE	**Kume jima 2**	1.85	84	P	Pn	06 08 14.3	+1.1
JIJ	**Ishigaki jima**	1.86	197	P	Pn	06 08 14.1	+0.8
JIJ				S	Sn	06 08 39.0	-0.8
IRIF	**Iriomote-Funau**	2.02	207	S	Sn	06 08 43.5	+0.4
HATJ	**Hateruma jima**	2.25	202	S	Sn	06 08 47.6	-0.1
NAH1	**Naha**	2.66	88	eS	Sn	06 08 55.3	-1.1
JJT2	**Tamagusuku 2**	2.71	90	P	Pn	06 08 24.2	+0.9
JJT2				eS	Sn	06 08 57.5	-0.1
JIH	**Iheya**	3.03	72	P	Pn	06 08 28.0	+0.9
JOW	**Kunigami**	3.25	77	P	Pn	06 08 30.1	+0.2
JOW	35nm,0.3s,baz=114,slow=24,SNR=69			S	Sn	06 09 06.6	-2.9
	39nm,0.3s,baz=127,slow=28,SNR=24						
JOW **Kunigami** 3.25 77 P Pn 06 08 30.1 +0.2
JOW S Sn 06 09 06.6 -2.9
JTK **Tokunoshima** 4.10 66 P Pn 06 08 40.6 -0.2
JTK S Sn 06 09 25.9 -3.2
YULB **Yu-li** 4.16 229 *e*Pn Pn 06 08 40.8 -0.8
YULB *e*Sn Sn 06 09 27.8 -2.6
SSLB **Suanglung** 4.16 236 *e*Pn Pn 06 08 43.0 +1.5
SSLB *e*Sn Sn 06 09 29.6 -0.7
SONM **Songino Array** 26.01 331 P P 06 12 57.1 +0.7
0.2nm,0.3s,mb3.2,baz=142,slow=10,SNR=2.1
SONM **Songino Array** 26.01 331 P P 06 12 57.1 +0.7
MKAR **Makanchi Array** 39.26 313 P P 06 14 51.1 -0.2
0.4nm,0.5s,mb3.3,baz=105,slow=8.0,SNR=6.8
MKAR **Makanchi Array** 39.26 313 P P 06 14 51.1 -0.2
ZALV **Zalesovo Beam** 40.44 324 P P 06 15 00.9 0.0
1.0nm,0.3s,mb3.9,baz=108,slow=8.4,SNR=5.7
ZALV **Zalesovo Beam** 40.44 324 P P 06 15 00.9 0.0
KURK **Kurchatov** 42.73 318 P P 06 15 19.5 -0.2
0.5nm,0.4s,mb3.5,baz=108,slow=9.2,SNR=3.1
KURK **Kurchatov** 42.73 318 P P 06 15 19.4 -0.2
WRA **Warramunga Arr** 46.76 168 P P 06 15 51.0 -0.8
0.3nm,0.5s,mb3.2,baz=350,slow=8.8,SNR=6.0
WRA **Warramunga Arr** 46.76 168 P P 06 15 51.0 -0.8
ASAR **Alice Springs** 50.31 169 P P 06 16 19.2 +0.4
0.3nm,0.5s,mb3.2,baz=356,slow=14,SNR=5.7
ASAR **Alice Springs** 50.31 169 P P 06 16 19.2 +0.4

DJA 20 06:22:03.0±1.0, 22°41S×122°51E±0.1, h12km±5km, MLv3.9/5.1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	0.68	157	P	Pg	06 22 14.8	-1.4
LUWI				S	Sg	06 22 27.2	+2.0
MRSI	**Marisa**	1.05	327	P	Pb	06 22 20.6	-2.5
MRSI				S	Sb	06 22 37.3	+0.5
KMSI	**Cibinong**	1.77	56	P	Pn	06 22 33.5	+0.1
TTSI	**Tana Toraja**	3.75	226	P	Pn	06 23 01.8	+1.0
TTSI				S	Sn	06 23 46.7	+1.8
LBMI	**Labuha**	5.00	93	P	Pn	06 23 15.5	-2.4
NLAI	**Namlea**	5.38	122	P	Pn	06 23 22.4	-0.7

IDC ***20*** *06:42:34.2±1.0,22.03S×170.41E, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.1/18, mbtmp4.1/9, MS3.6/7, Ms1 3.6/7, ms1mx3.3/27, Error ellipse: s-maj=28.4km s-min=25.5km az=179.0*
ISCJB ***20*** *06:42:38.0±0.6,22.2S±0.1×170.16E±0.05, h33km, mb4.1/11, MS3.5/6, Error ellipse: s-maj=18.1km s-min=6.9km az=0.6*
NEIC ***20*** *06:42:41.5±1.4,22.07S×170.12E, h48km±14km, mb4.4/1, Error ellipse: s-maj=24.7km s-min=11.2km az=166.0*
ISC 20 06:42:40.1±0.6, 22°3S±0.1×170°14E±0°06, h35km, n46, σ1s41/31, mb4.1/11, MS3.5/6, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	3.44	274	*e*Pn	Pn	06 43 30.8	-0.4
	14nm,0.2s						
DZM				*e*Sn	Sn	06 44 11.2	+0.5
	24nm,0.2s						
DZM				*e*LR	LR	06 44 18.3	
	806nm,24.4s						
DZM	**Mont Dzumac**	3.44	274	*e*P	Pn	06 43 30.5	-0.7
DZM	**Mont Dzumac**	3.44	274	*e*Pn	Pn	06 43 31.0	-0.1
NOUC	**Port Laguerre**	3.57	273	*e*P	Pn	06 43 32.4	-0.5
NOUC				*e*S	Sn	06 44 12.2	-1.7
MSVF	**Nonsavu**	8.73	60	*e*Pn	Pn	06 44 44.5	+0.6
	51nm,1.1s						
URZ	**Urewera**	16.96	161	LR	LR	06 51 41.2	
	comp=Z,195nm,19.4s,baz=341,slow=32						
RPZ	**Rata Peaks**	21.34	178	LR	LR	06 54 26.5	
	comp=Z,91nm,21.1s,MS3.1,baz=166,slow=33						
CTA	**Charters Tower**	22.38	271	LR	LR	06 54 11.8	
	comp=Z,134nm,18.0s,MS3.4,baz=233,slow=31						
PMG	**Port Moresby**	25.52	297	P	P	06 48 05.8	+0.2
	8.2nm,0.8s,mb4.3,baz=141,slow=13,SNR=3.9						
PMG	**Port Moresby**	25.52	297	P	P	06 48 05.8	+0.2
STKA	**Stephens Creek**	27.06	243	P	P	06 48 22.1	+2.7
	3.2nm,0.7s,mb3.9,baz=81,slow=9.3,SNR=9.4						
STKA	**Stephens Creek**	27.06	243	*e*P	P	06 48 22.3	+2.9
	3.4nm,0.8s,mb3.9						
STKA	**Stephens Creek**	27.06	243	P	P	06 48 22.1	+2.7
ASAR	**Alice Springs**	33.33	261	P	P	06 49 16.0	+1.1
	1.5nm,0.8s,mb4.0,baz=89,slow=8.8,SNR=18						
ASAR	**Alice Springs**	33.33	261	P	P	06 49 16.0	+1.1
WRAB	**Tennant Creek**	33.42	267	*e*P	P	06 49 15.5	-0.3
	6.5nm,1.2s,mb4.4						
WRA	**Warramunga Arr**	33.43	267	P	P	06 49 15.9	0.0
	2.0nm,0.8s,mb4.1,baz=100,slow=8.2,SNR=15						
WRA	**Warramunga Arr**	33.43	267	P	P	06 49 15.9	0.0
TBI	**Tubuai**	37.16	100	*e*LR	LR	06 59 41.7	
	78nm,27.2s						
PPT	**Papeete**	38.08	90	*e*LR	LR	07 00 06.7	
	84nm,28.8s						
PPT	**Papeete**	38.08	90	LR	LR	07 02 11.6	
	comp=Z,89nm,20.5s,MS3.6,baz=180,slow=31						
FITZ	**Fitzroy Crossi**	41.86	267	*e*P	P	06 50 28.5	+1.4
	11nm,0.9s,mb4.5						
GUMO	**Guam**	43.46	323	LR	LR	07 06 12.7	
	comp=Z,46nm,18.6s,MS3.4,baz=92,slow=33						
TAOE	**Nuku Hiva Isla**	49.50	82	*e*LR	LR	07 05 26.9	
	70nm,25.3s						
DAV	**Davao City (W)**	52.52	299	LR	LR	07 12 58.6	
	comp=Z,107nm,18.9s,MS3.9,baz=124,slow=35						
VNDA	**Vanda**	55.38	182	LR	LR	07 11 16.2	
	comp=Z,62nm,18.5s,MS3.7,baz=250,slow=31						
QSPA	**South Pole Qui**	67.74	180	P	P	06 53 35.9	+2.3
	2.2nm,0.6s,mb4.4,baz=58,slow=2.1,SNR=8.1						
QSPA	**South Pole Qui**	67.74	180	P	P	06 53 35.9	+2.3
CMAR	**Chiang Mai Arr**	80.54	294	P	P	06 54 51.0	+1.8
	0.8nm,0.3s,mb4.1,baz=131,slow=3.3,SNR=7.1						
CMAR	**Chiang Mai Arr**	80.54	294	P	P	06 54 51.0	+1.8
SNAA	**Sanae**	86.12	182	P	P	06 55 17.8	+0.7
	0.8nm,0.8s,mb4.0,baz=160,slow=2.5,SNR=8.4						
SNAA	**Sanae**	86.12	182	P	P	06 55 17.8	+0.7
VNA3	**Neumayer Olymp**	86.68	180	*e*	P	06 55 17.5	-2.3
VNA3				*e*		06 55 24.5	
VNA2	**Neumayer--Watz**	86.98	181	*e*	P	06 55 19.4	-1.9
	baz=178,slow=3.8						
VNA2				*e*		06 55 26.7	
VNA1	**Neumayer--Stat**	87.27	181	*e*	P	06 55 20.9	-1.8
VNA1				*e*		06 55 28.3	
NVAR	**Mina Array Bea**	90.22	48	P	P	06 55 35.0	-2.0
	0.1nm,0.3s,mb3.6,baz=218,slow=5.7,SNR=2.6						
NVAR	**Mina Array Bea**	90.22	48	P	P	06 55 35.0	-2.0
ILAR	**Eielson Array**	92.92	17	P	P	06 55 45.0	-3.9
	0.4nm,0.9s,mb3.9,baz=202,slow=5.5,SNR=2.0						
ILAR	**Eielson Array**	92.92	17	P	P	06 55 45.0	-3.9
VYHS	**Vyhne**	145.32	326	*e*PKP	PKPdf	07 02 13.4	-0.7
VRAC	**Vranov**	145.91	329	PKPbc	PKPbc	07 02 15.1	-0.6
	2.1nm,0.4s,baz=8.3,slow=4.0,SNR=4.2						
VRAC	**Vranov**	145.91	329	PKPbc	PKPbc	07 02 15.1	-0.6
BRG	**Berggiesshubel**	146.00	333	*e*PKP	PKPdf	07 02 14.9	-0.2
	11nm,1.0s						
BRG				*e*		07 02 33.0	
	20nm,1.3s						
CLL	**Collm**	146.06	334	*i* PKPbc	PKPbc	07 02 14.9	-1.2
	comp=Z,11nm,0.9s						
GERES	**GERESS Array B**	147.60	330	PKPbc	PKPbc	07 02 19.5	-1.1
	comp=Z,1.6nm,0.7s,baz=28,slow=6.0,SNR=4.2						
GERES	**GERESS Array B**	147.60	330	PKPbc	PKPbc	07 02 19.5	-1.1

ISCJB ***20*** *07:10:38.4±0.5,39.59N±0.02×21.67E±0.03, h10km, Error ellipse: s-maj=3.9km s-min=3.3km az=173.8*
CSEM ***20*** *07:10:38.2±0.2,39.57N×21.67E, h7km, MD3.1, Error ellipse: s-maj=4.1km s-min=2.9km az=90.0*
THE ***20*** *07:10:38.0,39.55N×21.64E, h2km±16km, ML2.1/5, Error ellipse: s-maj=16.4km s-min=0.3km az=0.0*
ATH ***20*** *07:10:38.6,39.56N×21.68E, h12km±4km, MD3.1/5*
ISC 20 07:10:38.6±0.5, 39°57N±0.02×21°66E±0.04, h6km±6km, n32, σ0s74/59, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THL	**Klokotos Trika**	0.27	90	*e*PG	Pg	07 10 43.3	-0.6
THL				*e*SG	Sg	07 10 47.9	+0.4
THL	**Klokotos Trika**	0.27	90	P	Pg	07 10 43.2	-0.7
THL				S	Sg	07 10 47.8	+0.3
THL	**Klokotos Trika**	0.27	90	*e*Pg	Pg	07 10 43.3	-0.6

THL				S	Sg	07 10 47.8	+0.3		
JAN	**Janina**	**0.63**	**278**	*e*PB	Pg	07 10 51.2	+0.4		
JAN				*e*SB	Sg	07 10 59.5	+0.4		
JAN	**Janina**	**0.63**	**278**	*e*Pb	Pg	07 10 51.2	+0.4		
JAN				*e*Sb	Sg	07 10 59.5	+0.4		
EVR	**Evrytania**	**0.66**	**170**	*e*PB	Pg	07 10 50.3	-1.0		
EVR				*e*SB	Sb	07 11 01.0	-0.9		
EVR	**Evrytania**	**0.66**	**170**	P	Pg	07 10 50.1	-1.2		
EVR				S	Sg	07 10 59.5	-0.3		
EVR	**Evrytania**	**0.66**	**170**	*e*Pb	Pg	07 10 50.3	-1.0		
EVR				S	Sg	07 10 59.5	-0.3		
EVR				*e*Sb	Sb	07 11 01.0	-0.9		
KZN	**Kozani**	**0.74**	**6**	*e*PB	Pg	07 10 52.2	-0.7		
KZN				*e*SB	Sb	07 11 03.9	-0.4		
KZN	**Kozani**	**0.74**	**6**	P	Pg	07 10 52.2	-0.7		
KZN				S	Sg	07 11 03.3	+0.7		
KZN	**Kozani**	**0.74**	**6**	P	Pg	07 10 52.2	-0.7		
KZN				S	Sg	07 11 03.3	+0.7		
KZN				*e*Sb	Sb	07 11 03.9	-0.4		
AGG	**Agios Georgios**	**0.75**	**136**	*e*PG	Pg	07 10 52.6	-0.4		
AGG				*e*SB	Sg	07 11 03.5	+0.7		
AGG	**Agios Georgios**	**0.75**	**136**	P	Pg	07 10 52.1	-0.9		
AGG				S	Sg	07 11 03.0	+0.2		
AGG	**Agios Georgios**	**0.75**	**136**	P	Pg	07 10 52.1	-0.9		
AGG	**Agios Georgios**	**0.75**	**136**	*e*Pg	Pg	07 10 52.6	-0.4		
AGG				S	Sg	07 11 03.0	+0.2		
AGG				*e*Sb	Sg	07 11 03.5	+0.7		
LIT	**Litokhoron**	**0.83**	**50**	*e*PB	Pg	07 10 54.8	+0.2		
LIT				*e*SB	Sg	07 11 06.2	+0.9		
LIT	**Litokhoron**	**0.83**	**50**	P	Pg	07 10 54.2	-0.4		
LIT				S	Sg	07 11 06.7	+1.4		
LIT	**Litokhoron**	**0.83**	**50**	P	Pg	07 10 54.2	-0.4		
LIT	**Litokhoron**	**0.83**	**50**	*e*Pb	Pg	07 10 54.8	+0.2		
LIT				*e*Sb	Sg	07 11 06.2	+0.9		
LIT				S	Sg	07 11 06.7	+1.4		
NEST	**Nestorio**	**0.97**	**331**	P	Pg	07 10 56.4	-0.8		
NEST	**Nestorio**	**0.97**	**331**	P	Pg	07 10 56.4	-0.8		
EFP	**Efpalio**	**1.15**	**171**	*e*PB	Pb	07 11 00.8	-0.1		
EFP				*e*SB	Sb	07 11 16.3	+0.2		
EFP	**Efpalio**	**1.15**	**171**	*e*Pb	Pb	07 11 00.8	-0.1		
EFP				*e*Sb	Sb	07 11 16.3	+0.2		
NEO	**Neokhori**	**1.24**	**102**	*e*PN	Pn	07 11 01.2	-1.2		
NEO	**Neokhori**	**1.24**	**102**	P	Pg	07 11 01.4	-0.9		
NEO				S	Sg	07 11 19.6	+1.3		
NEO	**Neokhori**	**1.24**	**102**	P	Pg	07 11 01.4	-0.9		
NEO				S	Sg	07 11 19.6	+1.3		
RLS	**Riolos of Patr**	**1.52**	**186**	*e*PB	Pb	07 11 07.3	+0.2		
RLS				*e*SB	Sb	07 11 27.7	+1.2		
RLS	**Riolos of Patr**	**1.52**	**186**	*e*Pb	Pb	07 11 07.3	+0.2		
RLS				*e*Sb	Sb	07 11 27.7	+1.2		
VLS	**Valsamata**	**1.62**	**211**	*e*PB	Pb	07 11 09.7	+0.8		
VLS	**Valsamata**	**1.62**	**211**	*e*Pb	Pb	07 11 09.7	+0.8		
GUR	**Goura**	**1.71**	**162**	*e*PN	Pn	07 11 09.5	+0.6		
GUR	**Goura**	**1.71**	**162**	*e*Pn	Pn	07 11 09.5	+0.6		

THE 20 07:11:33.7, 39°.32N × 23°.52E, h2km ± 15km, ML 1.7/1, Error ellipse: s-maj=15.3km s-min=0.4km az=269.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.23**	**266**	P	Pg	07 11 38.4	+0.2
NEO				S	Sg	07 11 41.6	+0.4
AOS	**Alonnisos**	**0.32**	**119**	P	Pg	07 11 39.4	-0.3
AOS				S	Sg	07 11 44.1	+0.3
PAIG	**Paliouri**	**0.62**	**11**	P	Pg	07 11 45.4	-0.1

*IDC **20** 07:16:22.2±5.7, 17°.18S × 167°.97E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/18, mbtmp3.9/4, Error ellipse: s-maj=150.0km s-min=46.8km az=122.0*
*NOU **20** 07:16:29.2±0.6, 16°.98S × 167°.56E, h30km, MD3.0, ML2.9*
*ISCJB **20** 07:16:31.7±2.9, 17°.4S±0°.1 × 167°.8E±0°.2, h81km±23km, mb3.5/4, Error ellipse: s-maj=35.5km s-min=21.6km az=0.3*

ISC 20 07:16:32.6±2.8, 17°.4S±0°.1 × 167°.9E±0°.2, h80km ± 22km, n9, σ 0s.74/12, mb3.5/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**4.85**	**191**	*e*P	**Pn**	**07 17 43.5**	**+0.3**
BAYA				*e*S	**Sn**	**07 18 39.1**	**+0.9**
NOUC	**Port Laguerre**	**4.94**	**197**	*e*P	**Pn**	**07 17 44.2**	**-0.1**
NOUC				*e*S	**Sn**	**07 18 39.6**	**-0.6**
NOUC	comp=Z,11nm,4.2s			AMP		07 18 45.7	
NORM	**Noumea**	**5.01**	**195**	*e*P	**Pn**	**07 17 45.4**	**0.0**
NORM				*e*S	**Sn**	**07 18 41.3**	**-0.7**
NORM	comp=Z,92nm,0.9s			AMP		07 18 45.5	
STKA	**Stephens Creek**	**27.83**	**234**	P	**P**	**07 22 16.4**	**+1.8**
WRA	**Warramunga Ar**	**31.86**	**260**	P	**P**	**07 22 49.2**	**-1.1**
ASAR	**Alice Springs**	**32.38**	**253**	P	**P**	**07 22 55.0**	**+0.2**
SONM	**Songino Array**	**84.96**	**324**	P	**P**	**07 28 58.9**	**0.0**
VNA3	**Neumayer Olymp**	**91.60**	**181**	*e*	**P**	**07 29 29.6**	**-0.8**
VNA2	**Neumayer--Watz**	**91.88**	**182**	*e*	**P**	**07 29 31.8**	**+0.2**

comp=Z,50nm,19.0s,baz=265,slow=33 (STKA)
comp=Z,20nm,0.4s,baz=91,slow=10,SNR=5.9 (STKA)
comp=Z,7nm,0.5s,mb3.5,baz=27,slow=11,SNR=3.0 (WRA)
comp=Z,0.4nm,0.7s,mb3.3,baz=98,slow=7.7,SNR=7.4 (WRA)
comp=Z,2.8nm,0.5s,mb4.2,baz=80,slow=8.5,SNR=59 (ASAR)
comp=Z,0.1nm,0.4s,mb3.1,baz=136,slow=7.0,SNR=4.3 (SONM)

IDC 20 07:18:47.1±59.0, 19°.38S × 179°.31W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/16, mbtmp3.9/3, MS3.6/1, Ms1 3.7/1, ms1mx2.8/22, Error ellipse: s-maj=1077.0km s-min=153.1km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.18**	**243**	P	P	07 26 00.1	0.0
WRA	**Warramunga Arr**	**43.54**	**261**	P	P	07 26 52.7	-0.2
ASAR	**Alice Springs**	**43.58**	**256**	P	P	07 26 53.2	0.0
VNDA	**Vanda**	**58.92**	**185**	LR	LR	07 51 34.4	

comp=Z,2.9nm,1.8s,baz=91,slow=11,SNR=2.9 (STKA)
comp=Z,1.0nm,0.4s,baz=98,slow=8.2,SNR=8.4 (WRA)
comp=Z,0.8nm,0.8s,baz=88,slow=9.2,SNR=8.7 (ASAR)

*IDC **20** 07:35:35.1±0.9, 5°.43N × 72°.47W, h0km, mb3.6/8, mb1 3.9/8, mb1mx3.8/21, mbtmp3.6/8, Error ellipse: s-maj=21.8km s-min=14.9km az=156.0*
*FUNV **20** 07:35:40.5, 5°.07N × 72°.88W, h34km, MW3.8*
*ISCJB **20** 07:35:41.6±1.0, 5°.25N±0°.07 × 72°.54W±0°.06, h70km±9km, mb3.5/8, Error ellipse: s-maj=11.8km s-min=9.4km az=144.6*
*NEIC **20** 07:35:43.6±1.1, 5°.33N × 72°.64W, h64km±10km, Error ellipse: s-maj=14.0km s-min=11.4km az=113.0*

ISC 20 07:35:43.3±0.8, 5°.30N±0°.06 × 72°.61W±0°.06, h61km ± 9km, n44, σ 0s.84/45, mb3.5/8, 2C, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.77**	**256**	Pg	**Pn**	**07 36 11.7**	**+0.1**
ROSC	130nm,0.3s,baz=79,slow=19,SNR=17			Lg		07 36 35.9	
ROSC	**El Rosal**	**1.77**	**256**	Pg	**Pn**	**07 36 11.7**	**0.0**
ROSC				Lg		07 36 35.9	
CAPV	**Capacho**	**2.57**	**7**	↑*e*P	**Pn**	**07 36 22.6**	**+0.1**
CAPV				*e*S	**Sn**	**07 36 54.0**	**+1.4**
SOCV	**Socops**	**3.44**	**30**	*e*P	**Pn**	**07 36 34.8**	**+0.3**
SOCV				*e*S	**Sn**	**07 37 14.9**	**+0.8**
ELOV	**Elorza**	**3.54**	**61**	*e*P	**Pn**	**07 36 36.2**	**+0.3**
VIGV	**El Vigia**	**3.73**	**19**	*e*P	**Pn**	**07 36 38.9**	**+0.5**
VIGV				*e*S	**Sn**	**07 37 22.1**	**+0.9**
SDV	**Santo Domingo**	**4.07**	**29**	*e*Pn	**Pn**	**07 36 43.7**	**+0.6**
SDV				*e*Sn	**Sn**	**07 37 30.1**	**+0.6**
SANV	**Sanarito**	**5.17**	**36**	*e*P	**Pn**	**07 36 58.3**	**+0.1**
VIRV	**Villa del Rosa**	**5.17**	**2**	*e*P	**Pn**	**07 36 56.5**	**-1.7**
VIRV				*e*S	**Sn**	**07 37 53.9**	**-2.7**
QARV	**Quebrada Arrib**	**5.30**	**23**	*e*P	**Pn**	**07 36 59.6**	**-0.3**
CURV	**Curarigua**	**5.37**	**29**	*e*P	**Pn**	**07 37 01.6**	**+0.7**
TEPV	**Terepaima**	**5.74**	**36**	*e*P	**Pn**	**07 37 06.4**	**+0.3**
BAUV	**El Baul**	**5.80**	**51**	*e*P	**Pn**	**07 37 06.3**	**-0.6**
DABV	**Dabajuro**	**5.92**	**19**	*e*P	**Pn**	**07 37 08.5**	**+0.1**
SIQV	**Siquisique**	**6.00**	**27**	*e*P	**Pn**	**07 37 08.9**	**-0.7**
MAPV	**Macapo**	**6.10**	**42**	*e*P	**Pn**	**07 37 11.6**	**+0.7**
JACV	**Jacura**	**6.86**	**33**	*e*P	**Pn**	**07 37 21.9**	**+0.5**
TURV	**Turiamo**	**6.97**	**42**	*e*P	**Pn**	**07 37 22.3**	**-0.5**
MONV	**Montecano**	**7.11**	**21**	*e*P	**Pn**	**07 37 23.2**	**-1.6**
MERV	**Las Mercedes**	**7.39**	**58**	*e*P	**Pn**	**07 37 28.1**	**-0.6**
BIRV	**Birongo**	**8.12**	**50**	*e*P	**Pn**	**07 37 38.1**	**-0.4**
CUPV	**Cœpira**	**8.25**	**55**	↑*i*P	**Pn**	**07 37 40.2**	**-0.2**
PCRV	**Puerto La Cruz**	**9.27**	**58**	*e*P	**Pn**	**07 37 54.1**	**-0.2**
GUNV	**Guanoco**	**10.73**	**63**	*e*P	**Pn**	**07 38 13.1**	**-1.2**
LPAZ	**La Paz**	**21.90**	**168**	P	**P**	**07 40 33.4**	**+1.9**
LPAZ	**La Paz**	**21.90**	**168**	P	**P**	**07 40 33.4**	**+1.9**
TXAR	**Lajitas Array**	**37.85**	**313**	P	**P**	**07 42 53.9**	**-0.5**
TXAR	**Lajitas Array**	**37.85**	**313**	P	**P**	**07 42 53.9**	**-0.5**
ULM	**Lac du Bonnet**	**48.88**	**340**	P	**P**	**07 44 21.8**	**-1.0**
ULM	**Lac du Bonnet**	**48.88**	**340**	P	**P**	**07 44 21.8**	**-1.0**
PDAR	**Pinedale Array**	**49.60**	**324**	P	**P**	**07 44 28.8**	**+0.3**
NVAR	**Mina Array Bea**	**52.91**	**315**	P	**P**	**07 44 53.9**	**+0.6**
NVAR	**Mina Array Bea**	**52.91**	**315**	P	**P**	**07 44 53.9**	**+0.6**
YKA	**Yellowknife Ar**	**64.86**	**340**	P	**P**	**07 46 15.4**	**-0.3**
YKA	**Yellowknife Ar**	**64.86**	**340**	P	**P**	**07 46 15.4**	**-0.3**
TORD	**Torodi Ar. Bea**	**73.56**	**78**	P	**P**	**07 47 09.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**73.56**	**78**	P	**P**	**07 47 09.7**	**-0.8**
ILAR	**Eielson Array**	**78.55**	**335**	P	**P**	**07 47 39.0**	**+1.1**
ILAR	**Eielson Array**	**78.55**	**335**	P	**P**	**07 47 39.0**	**+1.1**
ASAR	**Alice Springs**	**148.60**	**232**	PKPbc	PKPbc	07 55 23.9	-0.4
WRA	**Warramunga Arr**	**150.01**	**239**	PKPbc	PKPbc	07 55 27.6	-0.3
WRA	**Warramunga Arr**	**150.01**	**239**	PKPbc	PKPbc	07 55 27.6	-0.3

comp=Z,2.9nm,18.9s,baz=5.0,slow=32 (TXAR)
comp=Z,58nm,19.4s,baz=271,slow=32 (NVAR)
comp=Z,86nm,20.5s,baz=318,slow=32 (BBTS)
comp=Z,71nm,18.6s,baz=134,slow=33 (DBIC)
comp=Z,57nm,20.4s,baz=35,slow=31 (TORD)
comp=Z,48nm,18.8s,baz=175,slow=33 (CPUP)
comp=Z,52nm,18.4s,baz=194,slow=39 (LPAZ)
comp=Z,57nm,19.9s,baz=30,slow=35 (TXAR)
comp=Z,48nm,18.8s,baz=81,slow=5.7,SNR=3.7 (PDAR)
comp=Z,260nm,19.4s,baz=285,slow=40 (VNA3)
comp=Z,23nm,19.6s,baz=53,slow=32 (CTA)

*ISCJB **20** 08:44:00.6±0.4, 32°.42N±0°.03 × 115°.30W±0°.02, h23km±3km, Error ellipse: s-maj=4.6km s-min=2.9km az=2.1*
*NEIC **20** 08:44:01.8, 32°.40N × 115°.36W, h0km, ML3.7(ECX), ML3.4(PAS), After ECX.*
NEIC Felt at Mexicali. Also felt in the Calexico area, California.
*ECX **20** 08:44:01.8±0.7, 32°.40N × 115°.36W, h10km, MD3.6, ML3.7*

ISC 20 08:44:00.8±0.4, 32°.44N±0°.02 × 115°.32W±0°.02, h16km ± 2km, n59, σ 1s.24/89, 30C-24D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.03**	**146**	↑*e*P	**Pg**	**08 44 03.1**	**-0.4**
CPBX				*e*S	**Sg**	**08 44 05.6**	**+0.2**
CPBX	comp=N,108μm,0.4s			↑*e*		08 44 06.9	
COA	**Coachella**	**0.45**	**22**	↓*e*P	**Pg**	**08 44 11.0**	**+1.1**
COK	**Cook Ranch**	**0.53**	**320**	↑*e*P	**Pg**	**08 44 11.4**	**+0.1**
YUH	**Yuha Desert**	**0.55**	**292**	↑*e*P	**Pg**	**08 44 11.2**	**-0.3**
SWSC	**Sam W. Stewart**	**0.64**	**321**	P	**Pg**	**08 44 12.7**	**-0.6**
SWSC	baz=0.7,SNR=530			↓S	**Sg**	**08 44 21.5**	**-0.2**
RMX	**La Rumorosa**	**0.66**	**284**	↑*e*P	**Pg**	**08 44 17.3**	**+3.6**
RMX				*e*S	**Sg**	**08 44 26.0**	**+3.6**
YMD	**Yuma Desert**	**0.67**	**80**	↓*e*P	**Pg**	**08 44 14.1**	**+0.3**
DVTC	**Desert V Tower**	**0.69**	**288**	P	**Pg**	**08 44 14.0**	**-0.3**
DVTC	baz=0.7,SNR=1000			↑S	**Sg**	**08 44 23.3**	**-0.2**
CRR	**Carrizo Plain**	**0.70**	**309**	↑*e*P	**Pg**	**08 44 14.0**	**-0.5**
RDX	**Rancho Dawling**	**0.73**	**226**	↓*e*P	**Pg**	**08 44 18.6**	**+3.5**
RDX				*e*S	**Sg**	**08 44 27.9**	**+3.1**
GLA	**Glamis**	**0.74**	**34**	↑P	**Pg**	**08 44 15.0**	**-0.2**
GLA	baz=0.8			↓S	**Sg**	**08 44 25.0**	**0.0**
GLA	**Glamis**	**0.74**	**34**	*e*Pg	**Pg**	**08 44 14.9**	**-0.3**
GLA				*e*Sg	**Sg**	**08 44 25.4**	**+0.5**
MONP	**Monument Peak**	**1.03**	**296**	P	**Pb**	**08 44 19.2**	**-1.0**
MONP	baz=1.0,SNR=1000			↓S	**Sb**	**08 44 32.9**	**-0.6**
CBX	**Cerro Bola**	**1.14**	**264**	*e*P	**Pn**	**08 44 21.6**	**-0.5**
CBX				*e*S	**Sb**	**08 44 36.0**	**-0.8**
BAR	**Barrett**	**1.16**	**282**	*e*Pg	**Pg**	**08 44 21.3**	**-2.0**
BAR				*e*Sg	**Sg**	**08 44 36.9**	**-1.6**
BC3	**Big Chuckawall**	**1.21**	**355**	↓P	**Pn**	**08 44 21.9**	**-1.2**
BC3	baz=1.3,SNR=129			↑S	**Sb**	**08 44 37.0**	**-1.9**
ECNX	**Esteban Cantu**	**1.34**	**234**	*e*PN	**Pn**	**08 44 28.9**	**+4.1**
ECNX				*e*PN	**Pn**	**08 44 28.1**	**+3.3**
113A	**Mohawk Valley,**	**1.35**	**76**	↓P	**Pn**	**08 44 24.3**	**-0.8**
113A	baz=1.4			↓S	**Sn**	**08 44 41.3**	**-1.5**
PBX	**Punta Banda**	**1.38**	**240**	*e*PN	**Pn**	**08 44 29.5**	**+4.1**
SPX	**San Pedro Mart**	**1.40**	**185**	*e*P	**Pn**	**08 44 25.4**	**-0.3**
SPX				*e*S	**Sn**	**08 44 43.6**	**-0.2**
SPX	comp=N,617nm,0.4s			*e*		08 44 47.0	
Y12C	**Blythe**	**1.47**	**27**	↓P	**Pn**	**08 44 25.8**	**-0.8**
Y12C	baz=1.5,SNR=32			↑Sb	**Sb**	**08 44 47.0**	**+0.8**
PFO	**Pinyon Flat Ob**	**1.50**	**321**	P	**Pn**	**08 44 25.6**	**-1.5**
PFO	baz=1.5,SNR=131			↑S	**Sn**	**08 44 44.1**	**-2.3**
PFO	**Pinyon Flat Ob**	**1.50**	**321**	*e*Pn	**Pn**	**08 44 25.5**	**-1.6**
PFO				*e*Sg	**Sg**	**08 44 43.5**	**-5.8**
109C	**Camp Elliot, M**	**1.57**	**287**	↑P	**Pn**	**08 44 27.1**	**-0.9**
109C	baz=1.6,SNR=248			↓Sb	**Sb**	**08 44 48.9**	**-0.2**
Z13A	**Yuma Proving G**	**1.59**	**61**	↑P	**Pn**	**08 44 27.9**	**-0.5**
Z13A	baz=1.6			↑S	**Sn**	**08 44 48.7**	**0.0**
BELC	**Belle Mtn. Jos**	**1.65**	**340**	↑P	**Pn**	**08 44 28.0**	**-1.2**
IRM	**Iron Mountain**	**1.72**	**5**	↑P	**Pn**	**08 44 29.1**	**-0.9**
MURC	**Murrieta**	**1.95**	**307**	↓Sb	**Sb**	**08 45 01.5**	**+1.3**
114A	**Black Gap (USA**	**2.08**	**81**	↓P	**Pn**	**08 44 34.8**	**-0.3**
114A	baz=2.1			↑Sb	**Sb**	**08 45 06.3**	**+2.4**
PDMCI	**Parker Dam,Lak**	**2.10**	**28**	↓Sb	**Sb**	**08 45 06.3**	**+1.9**
214A	**Organ Pipe Nat**	**2.18**	**102**	↓P	**Pn**	**08 44 35.2**	**-1.3**
Z14A	**Wintersburg**	**2.20**	**65**	↑P	**Pn**	**08 44 36.3**	**-0.4**
GMRC	**Granite Mounta**	**2.35**	**353**	↓S	**Sn**	**08 45 05.3**	**-2.0**
115A	**Sonoran Desert**	**2.63**	**84**	↑P	**Pn**	**08 44 42.6**	**0.0**
LDFC	**Landfair**	**2.63**	**4**	Pn	**Pn**	**08 44 43.7**	**+1.0**
LDFC				*e*Sg	**Sg**	**08 45 28.1**	**+2.6**
BFSC	**Mount Baldy Ra**	**2.65**	**313**	↓Sb	**Sb**	**08 45 21.7**	**+1.4**
CIS	**Catalina Islan**	**2.76**	**291**	↓Sb	**Sb**	**08 45 25.0**	**+1.6**
FMP	**Fort Macarthur**	**2.80**	**298**	↑Sb	**Sb**	**08 45 25.8**	**+1.4**
MWC	**Mount Wilson**	**2.90**	**309**	*e*Pn	**Pn**	**08 44 52.2**	**+5.9**
MWC				*e*Sn	**Sn**	**08 45 29.0**	**+8.2**
W13A	**Hualapai Mount**	**2.91**	**24**	↑P	**Pn**	**08 44 46.1**	**-0.3**
Y15A	**Casa Rosa Ranc**	**2.92**	**58**	↓P	**Pn**	**08 44 46.8**	**+0.1**
Y15A	baz=3.0,SNR=8.8			↑S	**Sn**	**08 45 20.8**	**-0.7**
PASC	**Pasadena Art C**	**2.95**	**307**	*e*Pn	**Pn**	**08 44 52.9**	**+5.9**
PASC				*e*Sn	**Sn**	**08 45 29.7**	**+7.6**
DECC	**Green Verdugo**	**3.10**	**306**	↑Sb	**Sb**	**08 45 35.2**	**+2.1**
GSC	baz=3.1						
GSC	**Goldstone**	**3.11**	**337**	Pn	**Pn**	**08 44 55.1**	**+6.0**
GSC				*e*Sg	**Sg**	**08 45 46.9**	**+6.3**
X16A	**Lo Mia Camp, P**	**3.80**	**58**	↑P	**Pn**	**08 45 00.1**	**+1.4**
TUC	**Tucson**	**3.84**	**91**	*e*Pn	**Pn**	**08 44 57.9**	**-1.4**
TUC				*e*Sg	**Sg**	**08 46 02.6**	**-1.6**

comp=N,108μm,0.4s (CPBX)
comp=Z,1.0nm,0.6s (BBTS)
comp=Z,7nm,0.5s,mb3.5,baz=27,slow=11,SNR=3.0 (WRA)
comp=Z,0.4nm,0.7s,mb3.3,baz=98,slow=7.7,SNR=7.4 (WRA)
comp=Z,2.8nm,0.5s,mb4.2,baz=80,slow=8.5,SNR=59 (ASAR)
comp=Z,0.1nm,0.4s,mb3.1,baz=136,slow=7.0,SNR=4.3 (SONM)
comp=Z,0.4nm,0.8s,baz=91,slow=10,SNR=5.9 (STKA)
comp=Z,0.8nm,0.8s,baz=88,slow=9.2,SNR=8.7 (ASAR)
comp=Z,50nm,19.0s,baz=265,slow=33 (STKA)
comp=Z,1.0nm,0.4s,baz=91,slow=10,SNR=5.9 (ROSC)
130nm,0.3s,baz=79,slow=19,SNR=17 (ROSC)
comp=Z,86nm,20.5s,baz=318,slow=32 (SOCV)
comp=Z,0.7nm,0.4s,baz=91,slow=7.7,SNR=7.4 (VIGV)
comp=Z,0.1nm,0.4s,baz=288,slow=20,SNR=2.8 (SDV)
comp=Z,0.2nm,0.4s,baz=258,slow=5.4,SNR=3.2 (SDV)
comp=Z,0.4nm,0.8s,baz=97,slow=8.4,SNR=31 (SANV)
comp=Z,0.4nm,0.8s,baz=85,slow=5.7,SNR=3.7 (VIRV)
comp=Z,0.4nm,0.8s,baz=88,slow=8.5,SNR=3.7 (QARV)
comp=Z,0.4nm,0.8s,baz=89,slow=8.6,SNR=6.4 (CURV)
comp=Z,0.4nm,0.8s,baz=90,slow=11,SNR=3.2 (TEPV)
comp=Z,0.4nm,0.8s,baz=88,slow=8.6,SNR=6.7 (BAUV)
comp=Z,0.4nm,0.8s,baz=85,slow=8.2,SNR=6.7 (DABV)
comp=Z,0.4nm,0.8s,baz=86,slow=8.2,SNR=6.7 (SIQV)
comp=Z,0.4nm,0.8s,baz=87,slow=8.2,SNR=6.7 (MAPV)
comp=Z,0.4nm,0.8s,baz=88,slow=8.2,SNR=6.7 (JACV)
comp=Z,0.4nm,0.8s,baz=89,slow=8.2,SNR=6.7 (TURV)

117A	**Oracle**	**3.88**	**87**	↑P	**Pn**	**08 44 59.2**	**-0.5**		
117A	baz=3.9			↑S	**Sn**	**08 45 44.2**	**-0.7**		
Y17A	**Roosevelt**	**3.96**	**70**	↑P	**Pn**	**08 45 01.2**	**+0.3**		
Y17A	baz=4.0,SNR=11			↓S	**Sn**	**08 45 46.7**	**-0.4**		
ISA	**Isabella**	**4.14**	**322**	*e*Pn	**Pn**	**08 45 05.7**	**+2.3**		
ISA				*e*Sg	**Sg**	**08 46 12.3**	**-1.5**		
Z17A	**San Carlos Hig**	**4.17**	**77**	↑P	**Pn**	**08 45 04.1**	**+0.3**		
WUAZ	**Wupatki**	**4.49**	**46**	*e*Pn	**Pn**	**08 45 10.8**	**+2.6**		
WUAZ				*e*Sg	**Sg**	**08 46 23.4**	**-1.6**		
318A	**Bisbee**	**4.64**	**101**	↑P	**Pn**	**08 45 10.1**	**-0.2**		
X18A	**Snowflake**	**4.95**	**64**	↑P	**Pn**	**08 45 16.1**	**+1.6**		
Y19A	**Nutrioso**	**5.31**	**72**	↓P	**Pn**	**08 45 21.0**	**+1.5**		
CCUT	**Cedar City**	**5.34**	**17**	*e*Pn	**Pn**	**08 45 21.6**	**+1.6**		
Y20A	**Horse Springs,**	**6.00**	**74**	↓P	**Pn**	**08 45 31.1**	**+2.1**		
121A	**Cookes Peak, D**	**6.37**	**87**	↓P	**Pn**	**08 45 34.5**	**+0.5**		
MSU	**Marysvale**	**6.58**	**22**	*e*Pn	**Pn**	**08 45 36.8**	**-0.1**		
Y21A	**Point of Rocks**	**6.60**	**74**	↓P	**Pn**	**08 45 39.7**	**+2.5**		

baz=3.9 (117A)
baz=4.0 (Y17A)
comp=N,7.4nm,1.0s (CCUT)
baz=6.0,SNR=5.4 (Y20A)
baz=6.4,SNR=12 (121A)
comp=N,5.1nm,0.6s (MSU)
baz=6.6,SNR=7.0 (Y21A)

IDC 20 08:56:37.6±1.2, 3°.76N × 32°.03W, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.8/25, mbtmp3.7/7, ML3.5/1, MS3.3/6, Ms1 3.3/6, ms1mx2.9/36, Error ellipse: s-maj=39.0km s-min=26.3km az=151.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**10.28**	**202**	Pn	Pn	08 59 05.5	-1.0
RCBR	0.4nm,0.3s,baz=49,slow=19,SNR=4.5			Sn	Sn	09 00 50.3	-12
RCBR	0.3nm,0.3s,baz=58,slow=19,SNR=3.2			LR	LR	09 02 04.0	
BBTS	**Babate**	**18.72**	**54**	LR	LR	09 06 48.4	
DBIC	**Dimbokro**	**27.21**	**83**	LR	LR	09 10 29.6	
CPUP	**Villa Florida**	**38.66**	**218**	LR	LR	09 21 30.5	
LPAZ	**La Paz**	**40.88**	**240**	P	P	09 04 22.8	+1.1
LPAZ	0.8nm,0.8s,baz=9.5,slow=12,SNR=3.5			LR	LR	09 20 33.1	
TXAR	**Lajitas Array**	**72.17**	**299**	P	P	09 08 05.0	+0.3
PDAR	**Pinedale Array**	**78.30**	**313**	P	P	09 08 39.9	+0.2
NVAR	**Mina Array Bea**	**84.76**	**308**	P	P	09 09 13.8	-0.2
ILAR	**Eielson Array**	**96.94**	**337**	P	P	09 10 10.8	+0.1

0.3nm,0.3s,baz=288,slow=14,SNR=4.7 (RAR)
comp=Z,0.4nm,0.8s,baz=90,slow=11,SNR=3.2 (FITZ)
comp=Z,0.4nm,0.8s,baz=88,slow=9.0,SNR=8.2 (RAR)
comp=Z,0.4nm,0.8s,baz=87,slow=8.4,SNR=9.0 (STKA)

IDC 20 09:48:39.0±20.0, 22°.75S × 175°.15W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/19, mbtmp4.0/5, Error ellipse: s-maj=374.3km s-min=144.6km az=83.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.97**	**267**	P	P	09 55 43.3	+1.6
STKA	**Stephens Creek**	**39.28**	**247**	P	P	09 56 08.8	-0.9
ASAR	**Alice Springs**	**46.63**	**258**	P	P	09 57 08.6	-0.8
WRA	**Warramunga Arr**	**46.95**	**263**	P	P	09 57 11.6	-0.3
FITZ	**Fitzroy Crossi**	**55.38**	**263**	P	P	09 58 16.0	+0.6

**IDC 20 09:55:23.2±8.0, 5°.25S × 105°.62W, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.9/13, mbtmp3.8/4, MS3.3/2, Ms1 3

STKA	**Stephens Creek**	**43.75**	**240**	P		**P**	**10 13 39.4**	**-0.6**
STKA				*e*P			10 13 39.7	
WRAB	**Tennant Creek**	**49.56**	**257**	*e*P		**P**	**10 14 24.6**	**-1.0**
	1.6nm,0.5s,mb4.2							
WRA	**Warramunga Arr**	**49.57**	**257**	P		**P**	**10 14 24.3**	**-1.3**
	1.6nm,0.5s,mb4.2,baz=91,slow=6.9,SNR=41							
WRA	**Warramunga Arr**	**49.57**	**257**	P		**P**	**10 14 24.3**	**-1.3**
ASAR	**Alice Springs**	**49.83**	**252**	P		**P**	**10 14 26.7**	**-0.9**
	10nm,0.7s,mb4.9,baz=87,slow=8.3,SNR=157							
ASAR	**Alice Springs**	**49.83**	**252**	P		**P**	**10 14 26.7**	**-0.9**
NVAR	**Mina Array Bea**	**74.60**	**42**	P		**P**	**10 17 13.6**	**+0.8**
	0.9nm,0.8s,mb3.6,baz=227,slow=11,SNR=6.3							
NVAR	**Mina Array Bea**	**74.60**	**42**	P		**P**	**10 17 13.7**	**+0.8**
TXAR	**Lajitas Array**	**80.90**	**56**	P		**P**	**10 17 49.2**	**+1.2**
	0.6nm,0.7s,mb3.5,baz=220,slow=8.1,SNR=3.8							
TXAR	**Lajitas Array**	**80.90**	**56**	P		**P**	**10 17 49.2**	**+1.2**
PDAR	**Pinedale Array**	**82.54**	**42**	P		**P**	**10 17 57.0**	**+0.6**
	0.7nm,0.9s,mb3.5,baz=172,slow=3.0,SNR=4.7							
PDAR	**Pinedale Array**	**82.54**	**42**	P		**P**	**10 17 57.0**	**+0.6**
ILAR	**Eielson Array**	**82.64**	**11**	P		**P**	**10 17 56.3**	**-0.1**
	0.7nm,1.1s,mb3.4,baz=228,slow=6.1,SNR=5.5							
ILAR	**Eielson Array**	**82.64**	**11**	P		**P**	**10 17 56.3**	**-0.1**
MAW	**Mawson**	**87.57**	**199**	P		**P**	**10 18 21.5**	**+0.3**
	1.8nm,0.6s,mb4.3,baz=137,slow=7.8,SNR=7.9							
MAW	**Mawson**	**87.57**	**199**	P		**P**	**10 18 21.5**	**+0.3**
BRTR	**Keskin Array B**	**146.12**	**321**	PKPbc		PKPbc	10 25 13.7	+0.2
	1.8nm,0.7s,baz=64,slow=1.7,SNR=8.4							
BRTR	**Keskin Array B**	**146.12**	**321**	PKPbc		PKPbc	10 25 13.7	+0.2

IDC ***20*** *10:08:07.9±0.6,30˚.44N×67˚.38E, h0km, mb4.2/23, mb1 4.3/23, mb1mx4.3/30, mbtmp4.2/23, MS4.0/23, Ms1 4.0/23, ms1mx3.8/39, Error ellipse: s-maj=15.8km s-min=13.6km az=10.0*

ISCJB ***20*** *10:08:08.8±0.9,30˚.40N±0˚.03×67˚.50E±0˚.02, h17km±7km, mb4.5/60, MS4.1/33, Error ellipse: s-maj=5.6km s-min=3.3km az=12.2*

NEIC ***20*** *10:08:09.7±5.0,30˚.42N×67˚.41E, h11km±30km, mb4.7/11, Error ellipse: s-maj=12.1km s-min=7.0km az=200.0*

MOS ***20*** *10:08:12.7±1.1,30˚.51N×67˚.52E, h40km, mb4.7/15, MS4.0/4, Error ellipse: s-maj=11.2km s-min=5.8km az=83.5*

BJI ***20*** *10:08:16.3,30˚.88N×67˚.47E, h66km, mB5.0/16, mb4.7/31, Ms4.7/22, Ms7 4.4/19*

ISC 20 10:08:12.0±0.9,30˚.42N±0˚.03×67˚.49E±0˚.02,h25km±7km, h44km±2.2km:pP-P,n195,σ1§20/212,mb4.5/60,MS4.1/33, 2C-4D,Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
KBL	**Kabul**	**4.32**	**17**	*e*Pn		**Pn**	**10 09 16.9**	**+0.9**
KBL	**Kabul**	**4.32**	**17**	*e*P		**Pn**	**10 09 17.0**	**+1.0**
THW	**Thamme Wali**	**4.33**	**56**	P		**Pn**	**10 09 17.2**	**+1.0**
CEP	**Cherat**	**5.06**	**47**	P		**Pn**	**10 09 27.2**	**+1.0**
CEP				S		**Sn**	**10 10 29.0**	**+5.2**
CHCP	**Chirah Chowk**	**5.87**	**55**	P		**Pn**	**10 09 40.8**	**+3.4**
AJM	**Ajmer**	**7.42**	**120**	*e*PKP		**Pn**	**10 09 59.0**	**+0.3**
AJM				*ex*		**Sn**	**10 11 22.0**	**0.0**
KHET	**Khetri**	**7.63**	**106**	*e*PKP		**Pn**	**10 10 01.5**	**-0.1**
KHET				*e*S		**Sn**	**10 11 23.9**	**-3.3**
BHK	**Bhakra**	**7.73**	**80**	*e*PKP		**Pn**	**10 10 03.0**	**0.0**
BHK				*e*S		**Sn**	**10 11 26.6**	**-3.2**
SDNR	**Sundarnagar**	**8.21**	**80**	*e*PKP		**Pn**	**10 10 09.2**	**-0.3**
SDNR				*ex*		**Sn**	**10 11 42.2**	**+0.7**
SMLA	**Simla**	**8.36**	**83**	*i* P		**Pn**	**10 10 11.8**	**+0.3**
SMLA				*i* x		**Sn**	**10 11 46.0**	**+0.9**
SMLA				||AML	AML	10 11 51.0	
	comp=E,2μm,0.4s							
SMLA				||AML	AML	10 11 51.8	
	comp=N,2μm,0.3s							
AYAN	**Aya Nagar**	**8.62**	**101**	*e*PKP		**Pn**	**10 10 15.9**	**+0.7**
NDI	**New Delhi**	**8.65**	**99**	*e*PKP		**Pn**	**10 10 14.6**	**-1.0**
NDI				*e*PKP			10 10 15.0	
NDI				*e*S		**Sn**	**10 11 48.0**	**-4.2**
NDI				*e*S		**Sn**	**10 11 51.0**	**-1.2**
SONA	**Sohna**	**8.65**	**102**	*e*PKP		**Pn**	**10 10 14.5**	**-1.0**
SONA				*e*S		**Sn**	**10 11 48.0**	**-4.3**
DDI	**Dehra Dun**	**9.13**	**88**	*e*PKP		**Pn**	**10 10 23.5**	**+1.4**
DDI				*ex*		x	10 13 31.4	
AGRA	**Agra**	**9.70**	**107**	*e*PKP		**Pn**	**10 10 29.7**	**-0.3**
AGRA				*e*S		**Sn**	**10 12 12.9**	**-5.3**
AGRA					AML	AML	10 12 22.4	
	comp=N,62nm,0.4s							
AGRA					AML	AML	10 12 23.6	
	comp=E,52nm,0.4s							
HOQ	**Hoqain**	**11.34**	**236**	P		**Pn**	**10 10 53.2**	**+0.7**
	SNR=7.3							
BHPL	**Bhopal**	**11.39**	**127**	*e*PKP		**Pn**	**10 10 54.2**	**+1.1**
BHPL				*ex*		x	10 13 00.5	
KSH	**Kashi**	**11.43**	**35**	P		**Pn**	**10 10 48.0**	**-5.6**
KSH				PP			10 10 57.3	
KSH				sP			10 11 02.8	
KSH				S		**Sn**	**10 12 44.5**	**-16**
KSH				SS			10 13 00.6	
KSH				PcP		PcP	10 16 48.5	+2.8
KSH				ScP		ScP	10 20 15.9	-0.9
KSH				PcS		PcS	10 20 20.9	+1.4
KSH				ScS		ScS	10 23 49.8	-2.4
KSH				pmax		pmax		
	comp=Z,68nm,0.7s							
KSH				LR		LR		
	comp=N,1μm,7.5s							
KSH				LR		LR		
	comp=E,2μm,6.0s							
KSH				LR		LR		
	comp=Z,1μm,6.6s							
ASHO	**Ashiyiah**	**11.64**	**243**	P		**Pn**	**10 10 58.7**	**+2.2**
	SNR=6.9							
BSY	**Bisya**	**11.96**	**233**	P		**Pn**	**10 11 01.6**	**+0.6**
	SNR=11							
ARQ	**Araqi**	**12.06**	**237**	P		**Pn**	**10 11 04.7**	**+2.4**
	SNR=7.6							
KK31	**Karatay Array**	**12.89**	**10**	*e*P		**Pn**	**10 11 13.6**	**+0.1**
KK31				pmax		pmax		
	comp=Z,6.0nm,0.4s							
KKAR	**Karatay Array**	**12.89**	**10**	*e*Pn		**Pn**	**10 11 14.3**	**+0.8**
KKAR	**Karatay Array**	**12.89**	**10**	*e*P		**Pn**	**10 11 14.3**	**+0.8**
AKL	**Akola**	**12.93**	**136**	*i* P		**Pn**	**10 11 15.2**	**+0.9**
AKL				*i* x		x	10 13 38.7	
EKS2	**Erkin-Say**	**13.22**	**21**	*e*Pn		**Pn**	**10 11 17.6**	**-0.4**
EKS2	**Erkin-Say**	**13.22**	**21**	*e*P		**Pn**	**10 11 17.6**	**-0.4**
PYUN	**Piuthan**	**13.73**	**96**	*e*P		**Pn**	**10 11 22.8**	**-2.3**
	comp=Z,95nm,0.5s							
TKM2	**Tokmak 2**	**14.06**	**25**	*e*Pn		**Pn**	**10 11 28.4**	**-1.1**
TKM2	**Tokmak 2**	**14.06**	**25**	*e*P		**Pn**	**10 11 28.4**	**-1.1**
KOLN	**Koldanda**	**14.33**	**97**	*e*P		**Pn**	**10 11 31.3**	**-2.0**
	comp=Z,53nm,0.5s							
DANN	**Dangsing**	**14.34**	**94**	*e*P		**Pn**	**10 11 30.9**	**-2.5**
	comp=Z,126nm,0.7s							
GKN	**Gorkha**	**15.17**	**95**	*e*P		**Pn**	**10 11 42.1**	**-2.5**
	comp=Z,57nm,0.6s							
DMN	**Daman**	**15.66**	**96**	*e*P		**Pn**	**10 11 49.4**	**-1.7**
	comp=Z,43nm,0.6s							
KKN	**Kakani**	**15.77**	**95**	*e*P		**Pn**	**10 11 50.6**	**-1.8**
	comp=Z,96nm,0.6s							
PKI	**Pulchoki**	**15.93**	**96**	*e*P		**Pn**	**10 11 53.2**	**-1.4**
	comp=Z,68nm,0.7s							
GUN	**Gumba**	**16.26**	**94**	*e*P		**Pn**	**10 11 55.0**	**-3.7**
	comp=Z,329nm,0.8s							
HYB	**Hyderabad**	**16.41**	**140**	*i* P		**Pn**	**10 12 04.5**	**+3.8**
HYB				*e*S		**Sn**	**10 15 02.0**	**-0.1**
RAMN	**Ramite**	**17.12**	**97**	*e*P		**Pn**	**10 12 09.0**	**-0.6**
	comp=Z,95nm,0.6s							
RDF	**Al-Radifah**	**17.39**	**270**	*e*P		**Pn**	**10 12 12.4**	**-0.6**
MIB	**Mutribah**	**17.45**	**273**	*e*P		**Pn**	**10 12 12.8**	**-0.9**
MIB					AMb	AMB	10 12 19.6	
	comp=Z,86nm,0.9s							
NAY	**Al-Naaiem**	**17.61**	**271**	*e*P		**Pn**	**10 12 15.6**	**-0.1**
NAY					AMb	AMB	10 12 22.8	
	comp=Z,22nm,1.5s							
ODAN	**Odare**	**17.82**	**97**	*e*P		**Pn**	**10 12 18.7**	**+0.4**
	comp=Z,189nm,0.9s							
TAPN	**Taplejung**	**17.97**	**95**	*e*P		**Pn**	**10 12 20.0**	**-0.1**
	comp=Z,153nm,1.2s							
AB31	**Akbulak array**	**19.67**	**345**	*i* P		**Pn**	**10 12 40.3**	**-0.1**
AB31				pmax		pmax		
	comp=Z,8.0nm,0.6s							
ABKAR	**Akbulak array**	**19.67**	**345**	*e*P		**Pn**	**10 12 39.2**	**-1.2**
MK31	**Makanchi Array**	**19.97**	**31**	*e*P		**Pn**	**10 12 41.1**	**-3.0**
MK31	**Makanchi Array**	**19.97**	**31**	*i* P		**Pn**	**10 12 41.6**	**-2.5**
MK31				pmax		pmax		
	comp=Z,8.0nm,0.4s							
MKAR	**Makanchi Array**	**19.97**	**31**	P		**Pn**	**10 12 41.1**	**-3.0**
	comp=Z,10nm,0.6s,baz=211,slow=10,SNR=55							
MKAR				LR		LR	10 22 00.5	
	comp=Z,324nm,18.5s,baz=47,slow=42							
MKAR	**Makanchi Array**	**19.97**	**31**	P		**Pn**	**10 12 41.1**	**-3.0**
MKAR				LR		LR	10 22 00.5	
MKAR	**Makanchi Array**	**19.97**	**31**	P		**Pn**	**10 12 41.1**	**-3.0**
CAL	**Calcutta**	**20.22**	**108**	*ex*		x	10 16 39.6	
CAL				*ex*		x	10 19 03.4	
LSA	**Lhasa**	**20.49**	**86**	*e*Pn		**P**	**10 12 51.1**	**+3.0**
	comp=Z,41nm,0.9s							
LSA	**Lhasa**	**20.49**	**86**	*e*P		**P**	**10 12 51.1**	**+3.0**
LSA				pmax		pmax		
	comp=Z,41nm,0.9s							
WMQ	**Urumqi**	**20.87**	**45**	P		**P**	**10 12 54.8**	**+2.7**
WMQ				pP			10 13 05.6	
WMQ				sP		sP	10 13 11.4	+9.2
WMQ				PP			10 13 17.3	
WMQ				S		**S**	**10 16 37.5**	**-6.0**
WMQ				pmax		pmax		
	comp=Z,51nm,1.2s							
WMQ				pmax		pmax		
	comp=Z,370nm,5.0s							
WMQ				LR		LR		
	comp=N,2μm,15.5s,MS4.6							
WMQ				LR		LR		
	comp=E,680nm,15.0s,MS4.6							
GNI	**Garni**	**20.91**	**304**	LR		LR	10 22 15.8	
	comp=E,296nm,21.1s,MS3.6,baz=335,slow=41							
AKTO	**Aktyubinsk**	**21.22**	**343**	P		**P**	**10 12 55.9**	**+0.1**
	comp=E,5.9nm,0.6s,mb4.1,baz=145,slow=11,SNR=11							
AKTO				LR		LR	10 22 09.2	
	comp=E,547nm,18.2s,MS4.0,baz=148,slow=40							
AKTO	**Aktyubinsk**	**21.22**	**343**	P		**P**	**10 12 55.9**	**+0.1**
AKTO				LR		LR	10 22 09.2	
AKTO	**Aktyubinsk**	**21.22**	**343**	P		**P**	**10 12 57.1**	**+1.3**
AKTO				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb3.6							
KURK	**Kurchatov**	**21.92**	**19**	P		**P**	**10 13 00.8**	**-2.4**
	comp=Z,15nm,0.8s,mb4.5,baz=210,slow=9.0,SNR=38							
KURK				LR		LR	10 22 27.3	
	comp=Z,310nm,18.4s,MS3.8,baz=205,slow=39							
KURK	**Kurchatov**	**21.92**	**19**	*e*P		**P**	**10 13 01.7**	**-1.5**
	comp=Z,50nm,1.5s,mb4.7							
KURK	**Kurchatov**	**21.92**	**19**	*e*P		**P**	**10 13 01.7**	**-1.6**
KURK				pmax		pmax		
	comp=Z,50nm,1.5s,mb4.7							
KURK	**Kurchatov**	**21.92**	**19**	P		**P**	**10 13 07.8**	**+4.5**
	SNR=7.7							
SHL	**Shillong**	**22.06**	**97**	*e*PKP		**P**	**10 13 06.0**	**+1.0**
SHL				*e*S		**S**	**10 17 09.5**	**+2.4**
VOSK	**Vostochnaya**	**22.43**	**6**	P		**P**	**10 13 10.2**	**+1.5**
VOSK				pmax		pmax		
	comp=Z,16nm,0.8s,mb4.5							
ZEI	**Tsey**	**22.52**	**310**	*e*P		**P**	**10 13 13.8**	**+4.1**
ZEI				pmax		pmax		
	comp=Z,11nm,0.6s,mb4.5							
ZRNK	**Zerenda**	**22.54**	**2**	P		**P**	**10 13 11.3**	**+1.4**
ZRNK				pmax		pmax		
	comp=Z,27nm,1.2s,mb4.5							
BVA0	**Borovoye Array**	**22.69**	**5**	*i* P		**P**	**10 13 13.4**	**+2.0**
BVAR	**Borovoye Array**	**22.69**	**5**	P		**P**	**10 13 11.3**	**-0.1**
	comp=Z,6.5nm,0.6s,mb4.3,baz=172,slow=9.0,SNR=27							
BVAR				LR		LR	10 23 16.5	
	comp=Z,2μm,18.1s,MS4.5,baz=223,slow=40							
BVAR	**Borovoye Array**	**22.69**	**5**	P		**P**	**10 13 11.3**	**-0.1**
BVAR				LR		LR	10 23 16.6	
BVAR	**Borovoye Array**	**22.69**	**5**	P		**P**	**10 13 11.3**	**-0.1**
BRVK	**Borovoye**	**22.71**	**4**	*e*P		**P**	**10 13 11.4**	**-0.3**
	comp=Z,25nm,0.8s,mb4.7							
BRVK	**Borovoye**	**22.71**	**4**	*e*P		**P**	**10 13 11.6**	**-0.1**
BRVK				pmax		pmax		
	comp=Z,13nm,1.7s,mb4.1							
BRVK	**Borovoye**	**22.71**	**4**	P		**P**	**10 13 11.7**	**0.0**
	SNR=17							
KIV	**Kislovodsk**	**23.83**	**311**	*e*P		**P**	**10 13 26.0**	**+3.0**
KIV				pmax		pmax		
	comp=Z,13nm,0.9s,mb4.4							
ASF	**Jabal al Asfar**	**26.16**	**282**	P		**P**	**10 13 48.4**	**+4.0**
	comp=Z,5.6nm,0.8s,mb4.2,baz=82,slow=7.1,SNR=7.7							
ASF				LR		LR	10 25 39.8	
	comp=Z,143nm,18.3s,MS3.5,baz=317,slow=40							
ASF	**Jabal al Asfar**	**26.16**	**282**	P		**P**	**10 13 48.4**	**+4.0**
ASF				LR		LR	10 25 39.8	
ASF	**Jabal al Asfar**	**26.16**	**282**	P		**P**	**10 13 48.4**	**+4.0**
ZAL0	**Zalesovo Array**	**26.65**	**23**	*e*P		**P**	**10 13 48.5**	**+0.1**
ZALV	**Zalesovo Beam**	**26.65**	**23**	P		**P**	**10 13 48.4**	**-0.1**
	comp=Z,14nm,0.5s,mb4.8,baz=222,slow=10,SNR=36							
ZALV				LR		LR	10 25 18.3	
	comp=Z,236nm,18.2s,MS3.8,baz=46,slow=39							
ZALV	**Zalesovo Beam**	**26.65**	**23**	P		**P**	**10 13 48.4**	**-0.1**
ZALV				LR		LR	10 25 18.3	
ZALV	**Zalesovo Beam**	**26.65**	**23**	P		**P**	**10 13 48.4**	**-0.1**
ARU	**Arti**	**26.75**	**349**	*e*P		**P**	**10 13 55.2**	**+5.8**
	comp=Z,18nm,1.3s,mb4.4							
ARU	**Arti**	**26.75**	**349**	*d i*P		**P**	**10 13 50.9**	**+1.5**
ARU							10 14 31.7	
ARU				S		**S**	**10 18 26.1**	**+2.6**
ARU				SS			10 19 30.4	
ARU				pmax		pmax		
	comp=Z,12nm,1.0s,mb4.4							
MMAI	**Mount Meron Ar**	**27.36**	**284**	LR		LR	10 26 13.5	
	comp=Z,211nm,18.0s,MS3.8,baz=85,slow=40							
ANN	**Anapa**	**27.62**	**310**	*e*P		**P**	**10 13 58.7**	**+1.4**
ANN				pmax		pmax		
	comp=Z,79nm,2.4s,mb4.9							
GTA	**Gaotai**	**27.86**	**62**	*e*P		**P**	**10 14 01.4**	**+1.8**
GTA				pP		pP	10 14 12.9	+5.9
GTA				PP			10 14 51.5	
GTA				S		**S**	**10 18 41.1**	**-0.4**
GTA				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.0							
GTA				LR		LR		
	comp=N,390nm,11.8s,MS4.4							
GTA				LR		LR		
	comp=E,400nm,10.0s,MS4.4							
GTA				LR		LR		
	comp=Z,370nm,9.3s							
BRTR	**Keskin Array B**	**29.08**	**298**	P		**P**	**10 14 08.0**	**-2.4**
	comp=Z,0.3nm,0.3s,mb3.5,baz=74,slow=6.4,SNR=12							
BRTR				LR		LR	10 27 26.2	
	comp=Z,189nm,20.4s,MS3.7,baz=103,slow=40							
BRTR	**Keskin Array B**	**29.08**	**298**	P		**P**	**10 14 08.0**	**-2.4**
BRTR				LR		LR	10 27 26.2	
BRTR	**Keskin Array B**	**29.08**	**298**	P		**P**	**10 14 08.0**	**-2.4**
SOKR	**Solikamsk**	**30.04**	**349**	*e*P		**P**	**10 14 24.3**	**+5.7**
SOKR				pmax		pmax		
	comp=Z,20nm,1.4s,mb4.7							
SOKR				MLR		MLR		
	comp=Z,250nm,13.0s,MS4.0							
CHTO	**Chiang Mai**	**30.74**	**105**	*e*P		**P**	**10 14 26.5**	**+1.2**
	comp=Z,12nm,1.0s,mb4.7							
CHTO	**Chiang Mai**	**30.74**	**105**	*e*P		**P**	**10 14 26.5**	**+1.2**
CHTO				pmax		pmax		
	comp=Z,12nm,1.0s,mb4.7							
LZH	**Lanzhou**	**30.80**	**70**	*e*P		**P**	**10 14 27.5**	**+1.8**
LZH				pP		pP	10 14 39.0	+5.9
LZH				pmax		pmax		
	comp=Z,13nm,1.0s,mb4.7							
CMAR	**Chiang Mai Arr**	**30.91**	**105**	P		**P**	**10 14 26.6**	**-0.2**
	comp=Z,1.9nm,0.8s,mb4.0,baz=306,slow=6.6,SNR=8.0							
CMAR				LR		LR	10 27 27.6	
	comp=Z,115nm,20.1s,MS3.5,baz=300,slow=37							
CMAR	**Chiang Mai Arr**	**30.91**	**105**	P		**P**	**10 14 26.6**	**-0.2**
CMAR				LR		LR	10 27 27.6	
CMAR	**Chiang Mai Arr**	**30.91**	**105**	P		**P**	**10 14 26.6**	**-0.2**
CD2	**Chengdu**	**31.12**	**80**	P		**P**	**10 14 30.6**	**+2.1**
CD2				pP		pP	10 14 42.5	+6.5
CD2				PP		PP	10 15 32.8	-6.1
CD2				S		**S**	**10 19 29.6**	**-3.1**
CD2				SS		SS	10 21 14.5	-32
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s,mb4.9							
CD2				pmax		pmax		
	comp=Z,170nm,5.4s							
CD2				LR		LR		
	comp=E,460nm,12.5s							
CD2				LR		LR		
	comp=Z,460nm,11.9s,MS4.4							
OBN	**Obninsk**	**33.06**	**327**	||*e*P	**P**	**10 14 45.1**	**-0.2**
OBN				*e*			10 15 55.1	
OBN				*e*S		**S**	**10 20 03.1**	**+0.6**
OBN				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.5							
OBN				MLR		MLR		
	comp=Z,400nm,18.0s,MS4.2							
ZAK	**Zakamensk**	**33.32**	**43**	*e*P		**P**	**10 14 48.8**	**+1.2**
ZAK				*e*			10 15 59.5	
ZAK				pmax		pmax		
	comp=Z,1.0nm,0.8s,mb3.8							
TLY	**Talaya**	**34.06**	**41**	*e*P		**P**	**10 14 53.5**	**-0.5**
TLY				pmax		pmax		
	comp=Z,2.0nm,0.9s,mb4.0							
TLY				MLR		MLR		
	comp=Z,290nm,18.0s,MS4.0							
SONM	**Songino Array**	**34.39**	**49**	P		**P**	**10 14 57.9**	**+0.9**
	comp=Z,1.2nm,0.7s,mb4.0,baz=256,slow=9.1,SNR=8.8							
SONM				LR		LR	10 31 34.4	
	comp=Z,519nm,18.1s,MS4.3,baz=204,slow=41							
SONM	**Songino Array**	**34.39**	**49**	P		**P**	**10 14 57.9**	**+0.9**
SONM				LR		LR	10 31 34.4	
SONM	**Songino Array**	**34.39**	**49**	P		**P**	**10 14 57.9**	**+0.9**
GYA	**Guiyang**	**34.56**	**87**	P		**P**	**10 15 00.4**	**+1.7**
GYA				pP		pP	10 15 13.6	+7.5
GYA				sP		sP	10 15 20.3	+11
GYA				PP		PP	10 16 16.0	-1.1
GYA				S		**S**	**10 20 21.8**	**-4.5**
GYA				ScP		ScP	10 21 15.0	-1.8
GYA				ScS		ScS	10 25 14.5	-5.3
GYA				pmax		pmax		
	comp=Z,20nm,0.8s,mb5.1							
GYA				LR		LR		
	comp=N,450nm,15.2s,MS4.4							
GYA				LR		LR		
	comp=E,370nm,16.7s,MS4.4							
GYA				LR		LR		
	comp=Z,470nm,17.5s,MS4.3							
AKASG	**Malin Array Be**	**34.91**	**317**	P		**P**	**10 15 01.2**	**-0.1**
	comp=Z,2.8nm,0.8s,mb4.3,baz=102,slow=7.4,SNR=6.7							
AKASG	**Malin Array Be**	**34.91**	**317**	P		**P**	**10 15 01.2**	**-0.1**
AKASG	**Malin Array Be**	**34.91**	**317**	P		**P**	**10 15 01.3**	**-0.1**
XAN	**Xi'an**	**35.06**	**73**	P		**P**	**10 15 05.0**	**+2.0**
XAN				S		**S**	**10 20 34.3**	**+0.3**
XAN				LR		LR		
	comp=N,470nm,14.1s							
KLMR	**Klimovskoe**	**35.63**	**337**	*e*P		**P**	**10 15 07.1**	**-0.4**
KLMR				pmax		pmax		
	comp=Z,41nm,1.7s,mb5.1							
KLMR				MLR		MLR		
	comp=Z,988nm,11.0s,MS4.8							
ENH	**Enshi**	**36.09**	**79**	*e*P		**P**	**10 15 13.1**	**+1.3**
	comp=Z,12nm,0.6s,mb5.0							
HHC	**Hu-ho-hao-te**	**36.96**	**61**	*e*P		**P**	**10 15 20.1**	**+1.0**
HHC				pP		pP	10 15 33.0	+6.4
HHC				PP		PP	10 16 45.5	+2.0
HHC				PcP		PcP	10 17 42.9	+2.9
HHC				S		**S**	**10 20 59.1**	**-3.8**
HHC				SS		SS	10 23 27.3	-18
HHC				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.1							
UZH	**Uzhgorod**	**38.67**	**311**	*e*P		**P**	**10 15 39.1**	**+5.7**
UZH				*e*		pP	10 15 46.3	+5.3
UZH				*e*S		**S**	**10 21 31.1**	**+2.6**
QIZ	**Qiongzhong**	**39.90**	**96**	P		**P**	**10 15 43.9**	**-0.2**
QIZ				pP		pP	10 15 57.9	+6.3
QIZ				S		**S**	**10 21 45.8**	**-1.9**
QIZ				pmax		pmax		
	comp=Z,29nm,1.5s,mb4.8							
QIZ				LR		LR		
	comp=Z,890nm,5.6s							
PSZ	**Piszkesteto**	**40.13**	**310**	*e*P		**P**	**10 15 47.0**	**+1.4**
	comp=Z,17nm,1.1s,mb4.7							
PSZ	**Piszkesteto**	**40.13**	**310**	*e*P		**P**	**10 15 47.1**	**+1.5**
PSZ				pmax		pmax		
	comp=Z,17nm,1.1s,mb4.7							
WHN	**Wuhan**	**40.15**	**77**	P		**P**	**10 15 49.4**	**+3.3**
FINES	**FINESS Array B**	**41.14**	**331**	P		**P**	**10 15 53.5**	**-0.3**
	comp=Z,5.6nm,0.9s,mb4.2,baz=113,slow=6.5,SNR=7.4							
FINES				LR		LR	10 36 08.7	
	comp=Z,831nm,18.4s,MS4.6,baz=125,slow=41							
FINES	**FINESS Array B**	**41.14**	**331**	P		**P**	**10 15 53.5**	**-0.3**
FINES				LR		LR	10 36 08.7	
FINES	**FINESS Array B**	**41.14**	**331**	P		**P**	**10 15 53.5**	**-0.3**
APA	**Apatity**	**42.29**	**341**	||*e*P	**P**	**10 16 09.0**	**+5.9**
APA				*e*S		**S**	**10 22 28.0**	**+5.9**
APA				*e*SS		SS	10 25 20.0	-11
APA				MLR		MLR		
	comp=Z,4μm,24.0s,MS5.2							
CUC	**Castrocucco**	**42.77**	**297**	*e*P		**P**	**10 16 11.7**	**+4.2**
	comp=Z,7.4nm,0.8s,mb4.5							
NJ2	**Nanjing**	**43.61**	**74**	*e*P		**P**	**10 16 15.9**	**+1.6**
NJ2				pP		pP	10 16 28.3	+6.4
NJ2				PP		PP	10 17 59.3	+3.4
NJ2				S		**S**	**10 22 38.0**	**-4.4**
NJ2				pmax		pmax		
	comp=Z,20nm,0.6s,mb5.0							
NJ2				pmax		pmax		
	comp=Z,170nm

SMRF	**Simiane la Rot**	**50.05**	**304**	*eP*	**P**	**10 17 03.9**	**-0.6**
MDJ	**Mudanjiang**	**50.11**	**55**	P	**P**	**10 17 03.5**	**-1.5**
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.4						
MDJ				pmax	pmax		
	comp=Z,53nm,3.2s						
VIVF	**Saint-Julien-l**	**50.59**	**305**	*eP*	**P**	**10 17 08.1**	**-0.5**
	comp=Z,33nm,1.2s,mb4.8						
YAK	**Yakutsk**	**50.63**	**33**	*eP*	**P**	**10 17 08.8**	**+0.2**
	comp=Z,33nm,0.7s,mb5.4						
YAK	**Yakutsk**	**50.63**	**33**	*eP*	**P**	**10 17 08.3**	**-0.3**
YAK				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
SMF	**Signal de Mont**	**51.00**	**307**	*eP*	**P**	**10 17 10.3**	**-1.4**
	comp=Z,14nm,0.7s,mb4.7						
SSF	**Saint Saulge**	**51.19**	**308**	*eP*	**P**	**10 17 13.2**	**+0.1**
	comp=Z,11nm,0.8s,mb4.5						
CAF	**Calviac**	**52.43**	**305**	*eP*	**P**	**10 17 22.2**	**-0.1**
	comp=Z,38nm,1.3s,mb4.9						
MTLF	**Montolieu**	**52.54**	**303**	*eP*	**P**	**10 17 22.7**	**-0.5**
RJF	**Les Rejaudoux**	**52.76**	**306**	*eP*	**P**	**10 17 23.5**	**-1.3**
RJF				*eR*			
	comp=Z,137nm,22.5s						
JOW	**Kunigami**	**52.92**	**78**	LR	LR	10 41 00.6	
	comp=Z,53nm,19.1s,MS3.6,baz=55,slow=37						
LDF	**La Druitiere**	**53.48**	**310**	*eP*	**P**	**10 17 29.0**	**-1.0**
FLN	**La Foliniere**	**53.69**	**310**	*eP*	**P**	**10 17 29.6**	**-2.0**
FLN				*eR*			
	comp=Z,151nm,19.2s						
ETSF	**Etsaut**	**54.62**	**303**	*eP*	**P**	**10 17 38.2**	**-0.3**
	comp=Z,14nm,0.7s,mb4.8						
SJPF	**Ste Jean**	**55.06**	**304**	*eP*	**P**	**10 17 41.5**	**-0.1**
QUIF	**Quistinic**	**55.58**	**310**	*eP*	**P**	**10 17 45.3**	**0.0**
ESDC	**Sonseca Array**	**57.83**	**300**	P	**P**	**10 17 58.7**	**-2.7**
	comp=Z,1.8nm,0.6s,mb4.3,baz=69,slow=6.8,SNR=6.4						
ESDC	**Sonseca Array**	**57.83**	**300**	P	**P**	**10 17 58.7**	**-2.7**
TORD	**Torodi Ar. Bea**	**62.69**	**270**	P	**P**	**10 18 34.2**	**-0.8**
	comp=Z,3.5nm,0.7s,mb4.6,baz=60,slow=6.1,SNR=26						
TORD	**Torodi Ar. Bea**	**62.69**	**270**	P	**P**	**10 18 34.2**	**-0.8**
BILL	**Bilibino**	**65.34**	**24**	*eP*	**P**	**10 18 51.1**	**-0.5**
BILL				*eS*	S	10 27 39.4	+5.6
BILL				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.2						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.1						
PETK	**Petropavlovsk-**	**66.42**	**41**	LR	LR	10 47 41.4	
	comp=Z,143nm,18.1s,MS4.2,baz=288,slow=36						
BOSA	**Boshof**	**71.20**	**219**	P	**P**	**10 19 29.2**	**+0.5**
	comp=Z,4.3nm,0.7s,mb4.5,baz=30,slow=8.2,SNR=11						
BOSA	**Boshof**	**71.20**	**219**	P	**P**	**10 19 29.2**	**+0.5**
BOSA	**Boshof**	**71.20**	**219**	P	**P**	**10 19 29.3**	**+0.5**
DBIC	**Dimbokro**	**71.44**	**267**	P	**P**	**10 19 30.7**	**0.0**
	comp=Z,3.2nm,0.7s,mb4.4,baz=56,slow=7.3,SNR=3.8						
DBIC				LR	LR	10 51 04.6	
	comp=Z,93nm,19.0s,MS4.1,baz=38,slow=36						
DBIC	**Dimbokro**	**71.44**	**267**	P	**P**	**10 19 30.7**	**0.0**
DBIC				LR	LR	10 51 04.6	
DBIC	**Dimbokro**	**71.44**	**267**	P	**P**	**10 19 30.7**	**0.0**
INK	**Inuvik**	**80.34**	**8**	*eP*	**P**	**10 20 21.8**	**+1.2**
	comp=Z,5.0nm,0.8s,mb4.5						
INK	**Inuvik**	**80.34**	**8**	*eP*	**P**	**10 20 21.8**	**+1.3**
INK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
ILAR	**Eielson Array**	**81.40**	**14**	P	**P**	**10 20 26.3**	**0.0**
	comp=Z,1.2nm,0.9s,mb3.8,baz=319,slow=3.9,SNR=8.4						
ILAR				PP	PP	10 23 31.9	+0.4
	comp=Z,0.2nm,0.8s,baz=332,slow=7.4,SNR=3.2						
ILAR				LR	LR	11 00 29.1	
	comp=Z,119nm,20.0s,MS4.2,baz=314,slow=39						
ILAR	**Eielson Array**	**81.40**	**14**	P	**P**	**10 20 26.3**	**0.0**
ILAR				PP	PP	10 23 31.9	+0.4
ILAR				LR	LR	11 00 29.1	
ILAR	**Eielson Array**	**81.40**	**14**	P	**P**	**10 20 26.3**	**+0.1**
ILAR						10 23 32.0	
WRA	**Warramunga Arr**	**81.45**	**119**	P	**P**	**10 20 27.8**	**+0.6**
	comp=Z,1.6nm,0.8s,mb4.0,baz=321,slow=5.0,SNR=20						
WRA				LR	LR	11 03 30.7	
	comp=Z,46nm,19.7s,MS3.8,baz=240,slow=41						
WRA	**Warramunga Arr**	**81.45**	**119**	P	**P**	**10 20 27.8**	**+0.6**
WRA				LR	LR	11 03 30.7	
WRA	**Warramunga Arr**	**81.45**	**119**	P	**P**	**10 20 27.8**	**+0.6**
ASAR	**Alice Springs**	**83.35**	**122**	P	**P**	**10 20 37.7**	**+0.6**
	comp=Z,2.0nm,0.8s,mb4.2,baz=308,slow=5.0,SNR=18						
ASAR	**Alice Springs**	**83.35**	**122**	P	**P**	**10 20 37.7**	**+0.6**
ASAR	**Alice Springs**	**83.35**	**122**	P	**P**	**10 20 37.7**	**+0.7**
YKA	**Yellowknife Ar**	**87.40**	**1**	P	**P**	**10 20 57.2**	**+0.5**
	comp=Z,3.5nm,0.8s,mb4.7,baz=352,slow=4.9,SNR=7.7						
YKA				LR	LR	11 04 51.0	
	comp=Z,12nm,18.1s,MS3.4,baz=240,slow=39						
YKA	**Yellowknife Ar**	**87.40**	**1**	P	**P**	**10 20 57.2**	**+0.5**
YKA				LR	LR	11 04 51.0	
YKA	**Yellowknife Ar**	**87.40**	**1**	P	**P**	**10 20 57.2**	**+0.5**
STKA	**Stephens Creek**	**93.64**	**125**	LR	LR	11 08 07.7	
	comp=Z,78nm,19.7s,MS4.2,baz=207,slow=38						
TXAR	**Lajitas Array**	**119.99**	**351**	PKP	PKPdf	10 27 01.2	+0.4
	comp=Z,0.3nm,0.8s,baz=43,slow=1.7,SNR=3.2						
TXAR	**Lajitas Array**	**119.99**	**351**	PKP	PKPdf	10 27 01.2	+0.4
TXAR	**Lajitas Array**	**119.99**	**351**	PKIKP	PKPdf	10 27 01.2	+0.4

WEL 20 10:15:47.8±0.2,38°44s×176°06E,h159km±1km,ML3.9/16, 6C-3D, Error ellipse: s-maj=1.6km s-min=1.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRRZ	**Handcock Road**	**0.18**	**74**	⇓P	Pn	10 16 09.2	+0.2
WHTZ	**Whakaora**	**0.24**	**200**	P	Pn	10 16 09.5	+0.4
PRRZ	**Plateau Road**	**0.27**	**103**	P	Pn	10 16 09.2	0.0
PRRZ				P	Sn	10 16 26.4	+0.9
RRRZ	**Republican Roa**	**0.37**	**74**	P	Pn	10 16 09.5	0.0
RRRZ				P	Sn	10 16 25.6	-0.4
WATZ	**Wairara**	**0.37**	**224**	P	Pn	10 16 09.5	0.0
HATZ	**Hinemaiaia**	**0.45**	**177**	P	Pn	10 16 09.9	0.0
RATZ	**Rangitukua**	**0.49**	**208**	P	Pn	10 16 10.1	+0.1
KATZ	**Kakaramea**	**0.61**	**208**	P	Pn	10 16 10.8	+0.2
KRVZ	**Karewarewa**	**0.73**	**207**	P	Pn	10 16 11.7	+0.3
WTVZ	**West Tongariro**	**0.77**	**209**	P	Pn	10 16 11.9	+0.3
WTVZ				P	Sn	10 16 29.7	-0.2
OTVZ	**Oturere**	**0.79**	**203**	P	Pn	10 16 12.3	+0.6
OTVZ				P	Sn	10 16 30.8	+0.7
TWVZ	**Taurewa**	**0.80**	**218**	P	Pn	10 16 11.8	+0.1
TWVZ				P	Sn	10 16 30.2	-0.1
BKZ	**Black Stump Fm**	**0.80**	**155**	⇓P	Pn	10 16 12.0	+0.2
NGZ	**Ngauruhoe**	**0.82**	**206**	P	Pn	10 16 12.2	+0.3
URZ	**Urewera**	**0.84**	**78**	⇓P	Pn	10 16 11.6	-0.4
URZ				P	Sn	10 16 29.4	-1.3
WPVZ	**Whakapapa**	**0.86**	**208**	P	Pn	10 16 12.5	+0.2
NMHZ	**Naumai**	**0.88**	**139**	P	Pn	10 16 13.5	+1.2
TUVZ	**Tukino**	**0.89**	**201**	P	Pn	10 16 12.7	+0.3
FWVZ	**Far West T-bar**	**0.91**	**206**	P	Pn	10 16 13.0	+0.4
RAHZ	**Arahi**	**0.93**	**121**	P	Pn	10 16 13.5	+0.7
TRVZ	**Turoa**	**0.95**	**205**	P	Pn	10 16 12.8	-0.1
HIZ	**Hauiti**	**0.95**	**265**	P	Pn	10 16 12.8	-0.1
HIZ				P	Sn	10 16 32.1	0.0
WNVZ	**Wahianoa**	**0.96**	**202**	P	Pn	10 16 13.2	+0.2
MOVZ	**Moawhango**	**1.00**	**194**	P	Pn	10 16 13.1	-0.1
PKVZ	**Pokaka**	**1.02**	**213**	P	Pn	10 16 13.4	0.0
PKVZ				P	Sn	10 16 33.0	-0.2
BHHZ	**Black Hill Sta**	**1.05**	**180**	P	Pn	10 16 13.8	+0.1
BHHZ				P	Sn	10 16 32.3	-1.4
MTVZ	**Mangateitei**	**1.05**	**206**	P	Pn	10 16 13.7	0.0
MCHZ	**McNeill Hill**	**1.12**	**154**	P	Pn	10 16 13.3	+1.0
MWZ	**Matawai**	**1.16**	**85**	P	Pn	10 16 14.3	-0.3
VRZ	**Vera Road**	**1.23**	**236**	P	Pn	10 16 15.2	-0.1
KNZ	**Kokohu**	**1.39**	**115**	P	Pn	10 16 17.0	+0.2
CKHZ	**Cape Kidnapper**	**1.45**	**147**	P	Pn	10 16 18.1	+0.7
PNHZ	**Pukenui**	**1.48**	**176**	P	Pn	10 16 17.5	-0.2
KAHZ	**Kahuranaki**	**1.49**	**155**	P	Pn	10 16 18.5	+0.6
PRGZ	**Paritu Road**	**1.50**	**109**	P	Pn	10 16 18.3	+0.4
MKAZ	**Moumakai**	**1.50**	**332**	P	Pn	10 16 17.7	-0.3
RAEZ	**Rainy Point**	**1.56**	**236**	P	Pn	10 16 18.9	+0.4
WAZ	**Wanganui**	**1.56**	**212**	P	Pn	10 16 18.1	-0.4
MHGZ	**Mahia Peninsul**	**1.61**	**117**	P	Pn	10 16 19.6	+0.6
TSZ	**Takapari Road**	**1.62**	**183**	P	Pn	10 16 18.9	-0.3
DREZ	**Durham Road**	**1.64**	**242**	P	Pn	10 16 19.3	-0.1
WPHZ	**Waipukurau**	**1.65**	**170**	P	Pn	10 16 19.3	-0.1
PXZ	**Pawanui**	**1.71**	**159**	P	Pn	10 16 20.1	0.0
KUZ	**Kuaotunu**	**1.71**	**351**	P	Pn	10 16 19.6	-0.6
NEZ	**North Egmont**	**1.75**	**241**	P	Pn	10 16 20.6	+0.1
PUZ	**Puketiti**	**1.77**	**79**	P	Pn	10 16 20.2	-0.5
PKE	**Pukeiti**	**1.79**	**244**	P	Pn	10 16 20.7	-0.3
DVHZ	**Dannevirke**	**1.86**	**178**	⇑P	Pn	10 16 21.1	-0.6
PRHZ	**Porangahau**	**1.88**	**167**	P	Pn	10 16 21.7	-0.2
NWEZ	**Newall Road**	**1.91**	**243**	P	Pn	10 16 22.0	-0.3
POWZ	**Post Office Ro**	**1.96**	**187**	P	Pn	10 16 22.1	-0.8
MXZ	**Matakaoa Point**	**1.98**	**64**	P	Pn	10 16 22.7	-0.4
BFZ	**Birch Farm**	**2.24**	**176**	P	Pn	10 16 25.1	-1.0
MRZ	**Mangatainoka R**	**2.25**	**189**	⇑P	Pn	10 16 24.9	-1.4
TIWZ	**Tintock**	**2.34**	**183**	P	Pn	10 16 26.1	-1.2
OGWZ	**Otaki Gorge**	**2.47**	**196**	⇑P	Pn	10 16 27.5	-1.4
HOWZ	**Holdsworth Sta**	**2.49**	**190**	⇑P	Pn	10 16 27.4	-1.7
KIW	**Kapiti Island**	**2.58**	**200**	P	Pn	10 16 28.2	-1.9
TMWZ	**Te Maipa**	**2.67**	**183**	P	Pn	10 16 29.5	-1.8
MTW	**Mount Morrison**	**2.75**	**189**	⇑P	Pn	10 16 30.1	-2.1
CAW	**Cannon Point**	**2.77**	**196**	P	Pn	10 16 30.5	-2.1
DUWZ	**D'Urville Isla**	**2.88**	**214**	P	Pn	10 16 31.4	-2.5
TRWZ	**Traveller**	**2.97**	**185**	P	Pn	10 16 32.9	-2.1
PAWZ	**Paruwai Farm**	**2.98**	**189**	P	Pn	10 16 32.7	-2.4
WEL	**Wellington**	**3.01**	**199**	P	Pn	10 16 33.1	-2.4
MSWZ	**Moikau Station**	**3.04**	**192**	P	Pn	10 16 33.4	-2.5
SNZO	**South Karori**	**3.05**	**200**	P	Pn	10 16 33.4	-2.6
TCW	**Tory Channel**	**3.09**	**206**	P	Pn	10 16 33.9	-2.6
BHW	**Baring Head**	**3.10**	**197**	P	Pn	10 16 34.1	-2.6
PLWZ	**Palliser**	**3.19**	**191**	⇑P	Pn	10 16 35.1	-2.6
TUWZ	**Tuamarina**	**3.40**	**208**	P	Pn	10 16 37.7	-2.8
NNZ	**Nelson**	**3.46**	**216**	P	Pn	10 16 38.1	-3.1
QRZ	**Quartz Range**	**3.62**	**228**	P	Pn	10 16 39.5	-3.8
BSWZ	**Blackbirch Sta**	**3.68**	**206**	P	Pn	10 16 41.0	-3.0
THZ	**Tophouse**	**4.11**	**215**	P	Pn	10 16 46.3	-3.3
KHZ	**Kahutara**	**4.42**	**205**	P	Pn	10 16 50.3	-3.3
DSZ	**Denniston Nort**	**4.65**	**223**	P	Pn	10 16 52.0	-4.5
LTZ	**Lake Taylor**	**5.21**	**212**	P	Pn	10 16 59.4	-4.5
MQZ	**McQueen's Vall**	**5.86**	**205**	P	Pn	10 17 07.4	-5.1
WVZ	**Waitaha Valley**	**6.15**	**219**	P	Pn	10 17 13.0	-5.3
RPZ	**Rata Peaks**	**6.49**	**214**	P	Pn	10 17 16.3	-4.6
ODZ	**Otahua Downs**	**7.74**	**210**	P	Pn	10 17 32.8	-4.8
WKZ	**Wanaka**	**8.28**	**217**	P	Pn	10 17 38.8	-5.9

*ISK **20** 10:31:26.3,35°.84N×27°.89E,h21km,MD2.8*
*ISCJB **20** 10:31:27.8±1.3,35°.86N±0°.06×27°.91E±0°.09,h61km±12km, Error ellipse: s-maj=14.4km s-min=7.2km az=40.2*
*CSEM **20** 10:31:28.8±0.5,35°.92N×27°.87E,h50km±8km,MD3.0, Error ellipse: s-maj=11.9km s-min=6.9km az=126.0*
*ATH **20** 10:31:28.1,35°.84N×27°.90E,h49km±4km,MD3.0/4*

ISC 20 10:31:28.2±1.3,35°.85N±0°.07×27°.93E±0°.09,h58km±12km, n18,σ0°60/28, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.40**	**24**	*eP*	**Pn**	**10 31 39.0**	**0.0**
ARG				*eS*	**Sn**	**10 31 46.8**	**-0.1**
ARG	**Arkhangelos**	**0.40**	**24**	*eP*	**Pn**	**10 31 39.0**	**0.0**
ARG				*eS*	**Sn**	**10 31 46.8**	**-0.1**
KARP	**Karpathos**	**0.69**	**245**	*eP*	**Pn**	**10 31 42.1**	**-0.1**
KARP				*eS*	**Sn**	**10 31 52.5**	**0.0**
KARP	**Karpathos**	**0.69**	**245**	*eP*	**Pn**	**10 31 42.1**	**-0.1**
KARP				*eS*	**Sn**	**10 31 52.5**	**0.0**
DAT	**Datca**	**0.92**	**342**	*e*PG	**Pn**	**10 31 45.3**	**+0.1**
DAT				*e*SG	**Sn**	**10 31 58.3**	**+0.6**
DAT	**Datca**	**0.92**	**342**	*e*Pg	**Pn**	**10 31 45.3**	**+0.1**
DAT				*e*Sg	**Sn**	**10 31 58.3**	**+0.6**
FETY	**Fethiye**	**1.22**	**50**	*e*PN	**Pn**	**10 31 49.6**	**+0.5**
FETY	**Fethiye**	**1.22**	**50**	*e*Pn	**Pn**	**10 31 49.6**	**+0.5**
BODT	**Bodrum**	**1.31**	**338**	*e*PN	**Pn**	**10 31 49.1**	**-1.1**
BODT				*e*SN	**Sn**	**10 32 06.8**	**0.0**
BODT	**Bodrum**	**1.31**	**338**	*e*Pn	**Pn**	**10 31 49.2**	**-1.1**
BODT				*e*Sn	**Sn**	**10 32 06.8**	**0.0**
YER	**Yerkesik**	**1.32**	**13**	*e*PN	**Pn**	**10 31 49.8**	**-0.6**
YER	**Yerkesik**	**1.32**	**13**	*e*Pn	**Pn**	**10 31 49.8**	**-0.6**
MLSB	**Milas**	**1.45**	**355**	*e*PN	**Pn**	**10 31 51.4**	**-0.8**
MLSB	**Milas**	**1.45**	**355**	*e*Pn	**Pn**	**10 31 51.4**	**-0.8**
NPS	**Neapolis**	**1.97**	**253**	*e*P	**Pn**	**10 32 00.2**	**+0.9**
NPS				*e*S	**Sn**	**10 32 22.3**	**-0.6**
NPS	**Neapolis**	**1.97**	**253**	*e*P	**Pn**	**10 32 00.2**	**+0.9**
NPS				*e*S	**Sn**	**10 32 22.3**	**-0.6**
SMG	**Samos**	**2.05**	**335**	*e*P	**Pn**	**10 32 01.4**	**+1.1**
SMG	**Samos**	**2.05**	**335**	*e*P	**Pn**	**10 32 01.4**	**+1.1**

KRSC 20 10:33:28.2±1.1,55°.02N×160°.62E,h133km±37km,ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**0.38**	**314**	P	Pn	10 33 47.1	+0.2
KMNR	**Kamenistaya**	**0.77**	**344**	P	Pn	10 33 50.7	+1.4
MKZ	**Mys Kozlova**	**0.79**	**125**	*i* P	Pn	10 33 50.4	+0.9
MKZ				*e*S	Sn	10 34 07.3	+1.6
KOZ	**Kozyrevsk**	**1.12**	**338**	P	Pn	10 33 54.2	+1.7
SRDR	**Sredinnyy**	**1.40**	**339**	P	Pn	10 33 56.1	+0.8
KBTR	**Krutoberegovo**	**1.73**	**45**	*i* P	Pn	10 33 59.9	+0.9
KBTR				*e*S	Sn	10 34 22.9	+0.4
SPN	**Mys Shipunski**	**1.96**	**191**	S	Sn	10 34 27.0	-0.5
SDLR	**Sedlovina**	**2.02**	**211**	P	Pn	10 34 04.1	+1.6
GNL	**Ganaly**	**2.05**	**231**	P	Pn	10 34 04.4	+1.5
SMR	**Somma**	**2.06**	**212**	P	Pn	10 34 04.6	+1.6
AVH	**Avacha**	**2.08**	**213**	P	Pn	10 34 04.2	+1.0
UGLR	**Uglovaya**	**2.10**	**211**	P	Pn	10 34 05.1	+1.6
PET	**Petropavlovsk**	**2.31**	**211**	P	Pn	10 34 07.4	+1.3

*ISCJB **20** 10:42:31.0±1.0,29°.75N±0°.04×90°.40E±0°.05,h6km±7km, mb4.1/14,MS3.8/16,Error ellipse: s-maj=7.3km s-min=5.9km az=147.4*
*IDC **20** 10:42:31.4±0.8,29°.72N×90°.37E,h0km,mb4.1/11, mb1 4.2/13,mb1mx4.0/28,mbtmp4.1/13,ML3.2/2,MS3.8/18, Ms1 3.8/18,ms1mx3.6/42,Error ellipse: s-maj=32.9km s-min=14.2km az=59.0*
*MOS **20** 10:42:32.9±1.3,29°.74N×90°.52E,h20km,mb4.6/1,Error ellipse: s-maj=15.3km s-min=8.2km az=111.6*
*NEIC **20** 10:42:33.5±0.5,29°.77N×90°.52E,h10km,mb4.4/4,Error ellipse: s-maj=14.0km s-min=7.5km az=224.0*
*BJI **20** 10:42:33.9,29°.70N×90°.52E,h15km,mB4.6/4,mb4.3/12, ML4.0/1,Ms4.5/6,Ms7 4.4/6*

ISC 20 10:42:32.9±1.1,29°.84N±0°.04×90°.45E±0°.04,h3km±7km, n77,σ1°24/75,mb4.1/14,MS3.8/16,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**0.62**	**103**	Pg	**Pg**	**10 42 43.4**	**-1.4**
LSA				Sg	**Sg**	**10 42 52.3**	**-0.6**
LSA				smax			
	comp=N,4μm,0.5s						
LSA				smax			
	comp=E,10μm,0.8s						
LSA	**Lhasa**	**0.62**	**103**	*e*Pg	**Pg**	**10 42 43.5**	**-1.3**
LSA				*e*Sg	**Sg**	**10 42 52.1**	**-0.8**
LSA	**Lhasa**	**0.62**	**103**	*e*P	**Pg**	**10 42 43.5**	**-1.3**
LSA				*e*		10 42 52.1	
GTK	**Gangtok**	**2.98**	**213**	*e*PKP	**Pn**	**10 43 24.0**	**+3.1**
GTK				*e*S	**Sn**	**10 44 01.1**	**+4.0**
SHL	**Shillong**	**4.45**	**163**	*e*PKP	**Pn**	**10 43 42.5**	**+1.4**
SHL				*e*PG	**Pg**	**10 43 57.0**	**-1.1**
SHL				*ex*	x	10 44 40.0	
SHL				*e*SG	**Sg**	**10 44 58.0**	**+2.3**
CAL	**Calcutta**	**7.52**	**195**	*e*PKP	**Pn**	**10 44 25.3**	**+1.9**
CAL				*ex*	x	10 46 12.8	
CAL				AML	AML	10 46 53.0	
	comp=N,1μm,0.4s						
CAL				AML	AML	10 46 56.7	
	comp=E,985nm,0.4s						
DDI	**Dehra Dun**	**10.75**	**276**	*ex*	**Pn**	**10 45 09.0**	**+1.3**
DDI				*ex*	**Sn**	**10 47 07.3**	**-1.2**
NDI	**New Delhi**	**11.62**	**268**	*e*PKP	**Pn**	**10 45 16.6**	**-3.0**
NDI				*e*S	**Sn**	**10 47 18.5**	**-11**
NDI				AML	AML	10 50 19.1	
	comp=E,17nm,0.2s						
NDI				AML	AML	10 50 21.2	
	comp=N,12nm,0.6s						
BHPL	**Bhopal**	**13.38**	**244**	*ex*	**Pn**	**10 45 40.8**	**-2.9**
CMAR	**Chiang Mai Arr**	**13.72**	**144**	Pn	**Pn**	**10 45 48.0**	**-0.4**
	comp=N,0.1nm,0.3s,baz=320,slow=13,SNR=12						
CMAR				Sn	**Sn**	**10 48 20.9**	**-0.4**
	comp=N,0.2nm,0.3s,baz=286,slow=23,SNR=2.7						
CMAR				LR	LR	10 52 26.3	
	comp=N,105nm,21.7s,baz=315,slow=44						
CMAR	**Chiang Mai Arr**	**13.72**	**144**	Pn	**Pn**	**10 45 48.0**	**-0.4**
CMAR				Sn	**Sn**	**10 48 20.9**	**-0.4**
CMAR				LR	LR	10 52 26.3	
CMAR	**Chiang Mai Arr**	**13.72**	**144**	P	**Pn**	**10 45 48.0**	**-0.4**
CMAR						10 48 21.0	

MK31	**Makanchi Array**	**18.08**	**342**	*e*Pn	**Pn**	**10 46 46.0**	**+1.1**
MK31	**Makanchi Array**	**18.08**	**342**	*e*P	**Pn**	**10 46 46.0**	**+1.1**
MKAR	**Makanchi Array**	**18.08**	**342**	P	**Pn**	**10 46 46.0**	**+1.1**
	comp=N,0.0nm,0.3s,baz=143,slow=12,SNR=9.5						
MKAR				LR	LR	10 54 22.6	
	comp=N,115nm,20.2s,baz=156,slow=39						
MKAR	**Makanchi Array**	**18.08**	**342**	P	**Pn**	**10 46 46.0**	**+1.1**
MKAR				LR	LR	10 54 22.6	
MKAR	**Makanchi Array**	**18.08**	**342**	P	**Pn**	**10 46 46.0**	**+1.1**
AAK	**Ala-Archa**	**18.09**	**319**	*e*P	**Pn**	**10 46 48.9**	**+3.8**
	comp=N,2nm,0.6s						
AAK	**Ala-Archa**	**18.09**	**319**	*e*P	**Pn**	**10 46 48.9**	**+3.8**
AAK				pmax	pmax		
	comp=Z,20nm,0.6s						
KBL	**Kabul**	**18.71**	**290**	*e*P	**Pn**	**10 46 52.2**	**-0.5**
	comp=Z,7.9nm,0.6s						
KBL	**Kabul**	**18.71**	**290**	*e*P	**Pn**	**10 46 52.2**	**-0.5**
KBL				pmax	pmax		
	comp=Z,8.0nm,0.6s						
WHN	**Wuhan**	**20.66**	**82**	P	**P**	**10 47 15.0**	**+1.2**
WHN				S	**S**	**10 51 05.3**	**+0.1**
WHN				LR	LR		
	comp=N,2μm,17.9s						
WHN				LR	LR		
	comp=E,2μm,11.7s						
WHN				LR	LR		
	comp=Z,3μm,12.2s						
SONM	**Songino Array**	**21.76**	**30**	P	**P**	**10 47 26.1**	**+0.7**
	comp=Z,8.9nm,0.8s,mb4.2,baz=218,slow=12,SNR=70						
SONM				LR	LR	10 56 14.6	
	comp=Z,143nm,19.4s,MS3.4,baz=209,slow=38						
SONM	**Songino Array**	**21.76**	**30**	P	**P**	**10 47 26.1**	**+0.7**
SONM				LR	LR	10 56 14.6	
SONM	**Songino Array**	**21.76**	**30**	P	**P**	**10 47 26.1**	**+0.6**
ULN	**Ulaanbaatar**	**22.07**	**31**	*e*P	**P**	**10 47 29.1**	**+0.3**
	comp=Z,24nm,1.4s,mb4.4						
ULN	**Ulaanbaatar**	**22.07**	**31**	*e*P	**P**	**10 47 29.1**	**+0.3**
ULN				pmax	pmax		
	comp=Z,24nm,1.4s,mb4.4						
KURK	**Kurchatov**	**22.66**	**340**	P	**P**	**10 47 35.1**	**+0.1**
	comp=Z,5.5nm,0.9s,mb4.0,baz=155,slow=10.0,SNR=21						
KURK				LR	LR	10 57 43.7	
	comp=Z,176nm,18.6s,MS3.5,baz=155,slow=40						
KURK	**Kurchatov**	**22.66**	**340**	P	**P**	**10 47 35.1**	**+0.1**
KURK				LR	LR	10 57 43.7	
KURK	**Kurchatov**	**22.66**	**340**	P	**P**	**10 47 35.2**	**+0.2**
ZAK	**Zakamensk**	**22.68**	**22**	*e*P	**P**	**10 47 33.7**	**-1.5**
MOY	**Mondy**	**23.17**	**17**	*e*P	**P**	**10 47 42.4**	**+2.0**
ZAA0	**Zalesovo Array**	**24.43**	**352**	*e*P	**P**	**10 47 53.1**	**+0.7**
ZALV	**Zalesovo Beam**	**24.43**	**352**	P	**P**	**10 47 52.8**	**+0.4**
	comp=Z,1.8nm,0.6s,mb3.7,baz=161,slow=9.4,SNR=10						
ZALV	**Zalesovo Beam**	**24.43**	**352**	P	**P**	**10 47 52.8**	**+0.4**
ZALV	**Zalesovo Beam**	**24.43**	**352**	P	**P**	**10 47 52.8**	**+0.3**
NVS	**Novosibirsk**	**25.52**	**350**	*e*P	**P**	**10 48 02.0**	**-0.3**
BVAR	**Borovoye Array**	**27.43**	**333**	P	**P**	**10 48 19.7**	**0.0**
	comp=Z,0.8nm,0.6s,mb3.4,baz=142,slow=7.5,SNR=3.9						
BVAR				LR	LR	11 00 47.3	
	comp=Z,214nm,19.1s,MS3.7,baz=236,slow=40						
BVAR	**Borovoye Array**	**27.43**	**333**	P	**P**	**10 48

QSPA	South Pole Qui	56.61	180	P		P		10 55 34.9	+0.1
	9.4nm,0.8s,mb4.9,baz=263,slow=3.3,SNR=30								
QSPA	South Pole Qui	56.61	180	P		P		10 55 34.9	+0.1
VNDA	Vanda	60.58	166	P		P		10 56 02.2	-0.3
	3.5nm,1.0s,mb4.5,baz=260,slow=7.9,SNR=11								
VNDA				LR		LR		11 19 22.8	
	comp=Z,155nm,19.5s,MS4.2,baz=247,slow=33								
VNDA	Vanda	60.58	166	P		P		10 56 02.2	-0.3
VNDA				LR		LR		11 19 22.8	
CMAR	Chiang Mai Arr	65.28	44	P		P		10 56 34.7	+0.2
	5.6nm,0.8s,mb4.6,baz=229,slow=7.2,SNR=26								
CMAR				LR		LR		11 19 27.9	
	comp=Z,73nm,19.6s,MS3.9,baz=172,slow=31								
CMAR	Chiang Mai Arr	65.28	44	P		P		10 56 34.7	+0.2
CMAR				LR		LR		11 19 27.9	
KOLN	Koldanda	65.94	26	eP		P		10 56 38.3	-0.3
	18nm,0.8s,mb5.1								
PYUN	Piuthan	66.02	25	eP		P		10 56 38.8	-0.3
	34nm,0.9s,mb5.4								
RAMN	Ramite	66.34	29	eP		P		10 56 41.5	+0.4
	30nm,0.9s,mb5.3								
DMN	Daman	66.35	27	eP		P		10 56 41.0	-0.2
	21nm,0.9s,mb5.2								
DANN	Dangsing	66.53	25	eP		P		10 56 41.8	-0.5
	15nm,0.7s,mb5.2								
GKN	Gorkha	66.53	26	eP		P		10 56 41.9	-0.4
	22nm,0.8s,mb5.2								
ODAN	Odare	66.58	29	eP		P		10 56 42.6	-0.1
	21nm,0.8s,mb5.2								
ASAR	Alice Springs	66.68	104	P		P		10 56 43.5	-0.1
	1.1nm,0.8s,mb3.9,baz=234,slow=6.2,SNR=16								
ASAR	Alice Springs	66.68	104	P		P		10 56 43.5	-0.1
GUN	Gumba	66.92	27	eP		P		10 56 44.6	-0.2
	20nm,0.8s,mb5.2								
TAPN	Taplejung	67.14	29	eP		P		10 56 46.3	0.0
	20nm,1.1s,mb5.1								
WRA	Warramunga Arr	68.80	100	P		P		10 56 57.1	+0.1
	2.8nm,0.9s,mb4.2,baz=239,slow=5.4,SNR=20								
WRA	Warramunga Arr	68.80	100	P		P		10 56 57.1	+0.1
WRAB	Tennant Creek	68.81	100	eP		P		10 56 57.7	+0.6
	5.7nm,1.2s,mb4.4								
STKA	Stephens Creek	68.98	115	P		P		10 56 58.3	+0.3
	1.4nm,0.8s,mb3.9,baz=281,slow=5.2,SNR=2.1								
STKA				LR		LR		11 20 10.0	
	comp=Z,109nm,18.2s,MS4.1,baz=22,slow=30								
STKA	Stephens Creek	68.98	115	P		P		10 56 58.3	+0.3
STKA				LR		LR		11 20 10.0	
TORD	Torodi Ar. Bea	70.36	302	P		P		10 57 06.9	+0.3
	1.4nm,0.9s,mb3.9,baz=137,slow=6.1,SNR=6.9								
TORD				LR		LR		11 26 07.9	
	comp=Z,144nm,20.2s,MS4.2,baz=165,slow=34								
TORD	Torodi Ar. Bea	70.36	302	P		P		10 57 06.9	+0.3
TORD				LR		LR		11 26 07.9	
DBIC	Dimbokro	71.03	292	LR		LR		11 25 54.6	
	comp=Z,111nm,19.8s,MS4.1,baz=85,slow=34								
BRTR	Keskin Array B	76.12	341	P		P		10 57 40.0	-0.1
	1.4nm,0.9s,mb3.9,baz=190,slow=4.1,SNR=5.1								
BRTR				LR		LR		11 26 17.4	
	comp=Z,46nm,20.7s,MS3.8,baz=1.3,slow=32								
BRTR	Keskin Array B	76.12	341	P		P		10 57 40.0	-0.1
BRTR				LR		LR		11 26 17.4	
KEST	Kesra	82.20	322	LR		LR		11 34 16.0	
	comp=Z,45nm,21.3s,MS3.8,baz=288,slow=35								
MK31	Makanchi Array	83.12	17	eP		P		10 58 18.3	+0.3
MKAR	Makanchi Array	83.12	17	P		P		10 58 18.1	+0.2
	1.2nm,0.7s,mb4.0,baz=215,slow=3.6,SNR=7.1								
MKAR				LR		LR		11 29 02.0	
	comp=Z,36nm,18.9s,MS3.8,baz=174,slow=31								
MKAR	Makanchi Array	83.12	17	P		P		10 58 18.1	+0.2
MKAR				LR		LR		11 29 02.0	
AKTO	Aktyubinsk	83.64	1	P		P		10 58 20.3	-0.2
	1.3nm,0.8s,mb4.1,baz=182,slow=4.8,SNR=5.5								
AKTO	Aktyubinsk	83.64	1	P		P		10 58 20.3	-0.2
KURK	Kurchatov	86.02	13	P		P		10 58 32.2	-0.3
	2.4nm,0.8s,mb4.5,baz=210,slow=5.4,SNR=17								
KURK	Kurchatov	86.02	13	P		P		10 58 32.2	-0.3
BVAR	Borovoye Array	86.99	8	P		P		10 58 37.7	+0.5
	3.7nm,0.7s,mb4.8,baz=176,slow=5.8,SNR=17								
BVAR	Borovoye Array	86.99	8	P		P		10 58 37.7	+0.5
RCBR	Riachuelo	89.41	263	LR		LR		11 30 28.8	
	comp=Z,30nm,20.7s,MS3.7,baz=228,slow=30								
INK	Inuvik	144.68	7	ePKPdf		PKPdf		11 05 26.9	-1.3
ILAR	Eielson Array	145.48	18	PKPbc		PKPbc		11 05 28.6	-1.1
	2.1nm,0.7s,baz=319,slow=3.8,SNR=30								
ILAR	Eielson Array	145.48	18	PKPbc		PKPbc		11 05 28.6	-1.1
YKA	Yellowknife Ar	150.59	352	PKPbc		PKPbc		11 05 43.4	-0.2
	1.4nm,0.8s,baz=4.4,slow=2.4,SNR=5.3								
YKA	Yellowknife Ar	150.59	352	PKPbc		PKPbc		11 05 43.4	-0.2

IDC 20 11:13:49.7±2.4, 21°48S×67°84W, h135km±20km, mb3.5/3, mb1 3.6/5, mb1mx3.4/17, mbtmp3.3/5, MS3.7/1, Ms1 3.7/1, ms1mx2.4/18, Error ellipse: s-maj=35.1km s-min=19.3km az=82.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	5.17	357	P	Pn	11 15 07.5	+2.3
	4.8nm,0.3s,baz=159,slow=5.2,SNR=56						
LPAZ				S	Sn	11 16 04.6	+0.6
	baz=306,slow=13,SNR=1.4						
CFAA	Coronel Fontan	10.09	182	P	Pn	11 16 10.6	-0.6
	0.1nm,0.3s,baz=11,slow=14,SNR=7.4						
PLCA	Paso Flores	19.33	186	LR	LR	11 25 23.2	
	comp=Z,246nm,19.8s,baz=116,slow=36						
TXAR	Lajitas Array	61.18	324	P	P	11 23 50.1	-0.1
	0.2nm,0.9s,baz=132,slow=8.7,SNR=2.5						
TORD	Torodi Ar. Bea	76.41	70	P	P	11 25 24.7	-0.1
	1.8nm,0.6s,baz=256,slow=5.5,SNR=13						
YKA	Yellowknife Ar	91.50	340	P	P	11 26 40.3	0.0
	1.2nm,0.8s,baz=136,slow=4.8,SNR=6.5						
WRA	Warramunga Arr	133.47	209	PKP	PKPdf	11 32 51.2	+0.3
	0.3nm,0.8s,baz=155,slow=1.7,SNR=5.3						
MKAR	Makanchi Array	145.03	37	PKPbc	PKPbc	11 33 10.2	-0.4
	1.4nm,0.7s,baz=323,slow=2.0,SNR=10						

*ISCJB **20** 11:34:06.9±1.7, 69.°05N±0.°03×144.°4W±0.°1, h21km±14km, mb4.1/14, MS3.6/5, Error ellipse: s-maj=7.3km s-min=4.8km az=29.1*

*IDC **20** 11:34:07.6±0.6, 69.°25N×144.°78W, h0km, mb4.0/12, mb1 4.3/17, mb1mx4.1/30, mbtmp4.1/17, ML4.0/5, MS3.3/9, Ms1 3.3/9, ms1mx3.0/44, Error ellipse: s-maj=15.7km s-min=10.6km az=54.0*

*PGC **20** 11:34:08.0±14.0, 69.°16N×144.°78W, h10km, ML4.6/1, Mw4.7, 183km Ese of Prudhoe Bay, Ak Alaska*

*NEIC **20** 11:34:09.2, 69.°11N×144.°79W, h26km, mb4.3/3, ML4.1(AEIC), MW4.7(PGC), MW4.1(SLM), After AEIC.*

ISC 20 11:34:08.2±1.7, 69°09N±0.°03×144°6W±0.°1, h13km±11km, n66, σ1°21/81, mb4.1/14, MS3.6/5, 6D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COLD	Coldfoot	2.82	231	ePn	Pn	11 34 51.9	-1.0
INK	Inuvik	4.10	96	Pn	Pn	11 35 12.4	+1.9
	4.5nm,0.3s,baz=291,slow=14,SNR=58						
INK				Sn	Sn	11 36 01.6	+3.4
	8.1nm,0.3s,baz=256,slow=8.3,SNR=8.8						
INK				Lg		11 36 19.4	
	11nm,0.3s,baz=344,slow=27,SNR=10						
INK				LR	LR	11 36 34.5	
	comp=Z,133nm,18.8s,baz=318,slow=35						
INK	Inuvik	4.10	96	Pn	Pn	11 35 12.4	+2.0
INK				Sn	Sn	11 36 01.6	+3.4
INK				Lg		11 36 19.4	
INK				LR	LR	11 36 34.5	
INK	Inuvik	4.10	96	⇓P	Pn	11 35 11.8	+1.3
INK				⇑Sn	Sn	11 35 57.9	-0.3
COLA	College	4.43	199	ePn	Pn	11 35 15.2	+0.3
COLA				eSn	Sn	11 36 05.1	-1.2
ILAR	Eielson Array	4.43	193	Pn	Pn	11 35 14.9	-0.1
	3.4nm,0.3s,baz=1.1,slow=13,SNR=138						
ILAR				Sn	Sn	11 36 08.0	+1.6
	10.0nm,0.3s,baz=10,slow=22,SNR=11						
ILAR				Lg		11 36 32.8	
	16nm,0.3s,baz=6.4,slow=33,SNR=7.1						
ILAR	Eielson Array	4.43	193	Pn	Pn	11 35 14.9	-0.1
ILAR				Sn	Sn	11 36 08.0	+1.6
ILAR				Lg		11 36 32.8	
EGAK	Eagle	4.53	161	ePn	Pn	11 35 16.9	+0.6
DAWY	Dawson	5.45	155	ePn	Pn	11 35 29.7	+0.7
DAWY				eSn	Sn	11 36 33.2	+1.8
DAWY	Dawson	5.45	155	⇑Pn	Pn	11 35 30.0	+1.0
DAWY				⇑Sn	Sn	11 36 29.0	-2.4
DOT	Dot Lake	5.47	178	ePn	Pn	11 35 29.9	+0.7
	225nm,0.8s						
BPAW	Bear Paw Mtn.	5.62	210	ePn	Pn	11 35 31.2	-0.2
	73nm,1.1s						
BPAW				eSn	Sn	11 36 34.1	-1.7
MCK	McKinley	5.66	200	ePn	Pn	11 35 32.1	+0.3
	35nm,0.5s						
MCK				eSn	Sn	11 36 35.1	-1.5
TRF	Thorofare Moun	6.11	205	ePn	Pn	11 35 38.2	+0.1
	36nm,0.8s						
PAX	Paxson	6.16	184	ePn	Pn	11 35 39.4	+0.7
	84nm,0.8s						
PAX				eSn	Sn	11 36 48.3	-0.5
MENT	Mentasta	6.19	176	eP	Pn	11 35 39.9	+0.8
PPLA	Purkeypile	6.95	210	ePn	Pn	11 35 49.5	0.0
	22nm,0.6s						
SML	Sawmill	7.48	194	ePn	Pn	11 35 56.1	-0.7
	5.1nm,0.6s						
PMR	Palmer	7.76	196	ePn	Pn	11 36 03.3	+2.5
	12nm,0.6s						
RC01	Rabbit Creek A	8.32	198	ePn	Pn	11 36 08.9	+0.5
	25nm,0.6s						
RC01				eSn	Sn	11 37 41.2	-0.8
SVW2	Sparrevohn	9.26	215	eP	Pn	11 36 16.1	-5.0
	243nm,0.4s						
WHY	Whitehorse	9.39	150	⇑Pn	Pn	11 36 23.5	+0.5
GALN	Gameti Lake	11.84	102	⇑P	Pn	11 36 55.1	-1.4
CTLN	Castor Lake	12.11	99	⇑P	Pn	11 36 58.7	-1.4
CTLN				⇑Sn	Sn	11 39 05.8	-9.0
DLBC	Dease Lake	12.42	142	Pn	Pn	11 37 06.3	+1.9
	0.4nm,0.3s,baz=345,slow=12,SNR=5.0						
DLBC				Lg		11 40 47.3	
	0.1nm,0.3s,baz=257,slow=26,SNR=3.8						
DLBC				LR	LR	11 43 06.8	
	comp=Z,66nm,21.1s,baz=279,slow=43						
DLBC	Dease Lake	12.42	142	Pn	Pn	11 37 06.3	+1.9
DLBC				Lg		11 40 47.3	
DLBC				LR	LR	11 43 06.8	
DLBC	Dease Lake	12.42	142	⇓P	Pn	11 37 04.5	+0.1
ILKN	Indian Lake	12.55	99	⇑P	Pn	11 37 04.6	-1.5
ILKN				⇑Sn	Sn	11 39 17.8	-7.7
JERN	Jeri Cho Mine,	12.90	88	⇓P	Pn	11 37 08.4	-2.5
JERN				⇓Sn	Sn	11 39 24.7	-9.4
YKW3	Yellowknife Ar	13.77	104	⇓P	Pn	11 37 21.0	-1.8
YKW3				⇓Sn	Sn	11 39 45.2	-10
YKA	Yellowknife Ar	13.82	104	Pn	Pn	11 37 21.2	-2.2
	1.0nm,0.3s,baz=307,slow=13,SNR=27						
YKA				Sn	Sn	11 39 45.5	-11
	0.8nm,0.3s,baz=312,slow=25,SNR=4.7						
YKA	Yellowknife Ar	13.82	104	Pn	Pn	11 37 21.2	-2.2
YKA				Sn	Sn	11 39 45.5	-11
RES	Resolute Bay	15.94	48	Pn	Pn	11 37 50.8	-1.0
	0.8nm,0.3s,baz=249,slow=14,SNR=11						
RES				Sn	Sn	11 40 38.8	-9.2
	0.8nm,0.3s,baz=90,slow=19,SNR=6.1						
RES				LR	LR	11 44 30.9	
	comp=Z,44nm,21.6s,baz=22,slow=39						
RES	Resolute Bay	15.94	48	Pn	Pn	11 37 50.8	-1.0
RES				Sn	Sn	11 40 38.8	-9.2
RES				LR	LR	11 44 30.9	
BILL	Bilibino	17.62	290	ePn	Pn	11 38 12.0	-1.0
	135nm,2.3s						
BBB	Bella Bella	18.66	147	LR	LR	11 46 16.0	
	comp=Z,51nm,19.0s,baz=275,slow=39						
FX1	Attu Island--F	25.39	252	LR	LR	11 50 18.0	
	comp=Z,111nm,18.4s,MS3.4,baz=86,slow=38						
FRB	Frobisher Bay	29.01	63	LR	LR	11 52 30.9	
	comp=Z,117nm,19.1s,MS3.5,baz=345,slow=38						
PETK	Petropavlovsk-	30.67	268	LR	LR	11 53 08.4	
	comp=Z,125nm,18.0s,MS3.6,baz=258,slow=37						
PDAR	Pinedale Array	32.00	127	P	P	11 40 36.7	+2.9
	1.7nm,0.7s,mb4.0,baz=10,slow=4.9,SNR=13						
PDAR	Pinedale Array	32.00	127	P	P	11 40 36.7	+2.9
NVAR	Mina Array Bea	33.84	141	P	P	11 40 54.0	+4.1
	2.7nm,0.8s,mb4.2,baz=324,slow=8.4,SNR=17						
NVAR				LR	LR	11 55 35.2	
	comp=Z,89nm,21.1s,MS3.5,baz=311,slow=38						
NVAR	Mina Array Bea	33.84	141	P	P	11 40 54.0	+4.1
NVAR				LR	LR	11 55 35.2	
SRU	San Rafael	35.13	131	eP	P	11 41 02.6	+1.6
	3.0nm,0.7s,mb4.3						
SCHQ	Schefferville	36.35	73	P	P	11 41 12.6	+1.3
	8.3nm,0.9s,mb4.7,baz=26,slow=5.8,SNR=5.6						
SCHQ	Schefferville	36.35	73	P	P	11 41 12.6	+1.3
ARCES	ARCESS Array B	41.47	5	P	P	11 41 54.8	+0.8
	4.2nm,0.8s,mb4.1,baz=354,slow=7.4,SNR=3.3						
ARCES	ARCESS Array B	41.47	5	P	P	11 41 54.8	+0.8
TXAR	Lajitas Array	46.22	128	P	P	11 42 35.0	+2.4
	0.2nm,0.4s,mb3.4,baz=332,slow=4.1,SNR=7.9						
TXAR	Lajitas Array	46.22	128	P	P	11 42 35.0	+2.4
FINES	FINESS Array B	49.59	6	P	P	11 42 58.5	+0.3
	2.5nm,0.7s,mb4.3,baz=354,slow=7.9,SNR=4.9						
FINES	FINESS Array B	49.59	6	P	P	11 42 58.5	+0.3
ZALV	Zalesovo Beam	52.08	325	P	P	11 43 17.1	-0.1
	0.9nm,0.4s,mb4.1,baz=21,slow=6.3,SNR=5.3						
ZALV	Zalesovo Beam	52.08	325	P	P	11 43 17.1	-0.1
SONM	Songino Array	52.36	306	P	P	11 43 19.5	+0.2
	2.1nm,1.1s,mb4.0,baz=28,slow=6.7,SNR=10						
SONM	Songino Array	52.36	306	P	P	11 43 19.5	+0.2
KURK	Kurchatov	56.36	329	P	P	11 43 49.1	+0.8
	3.4nm,0.9s,mb4.4,baz=13,slow=7.0,SNR=12						
KURK	Kurchatov	56.36	329	P	P	11 43 49.1	+0.8
MKAR	Makanchi Array	59.38	324	P	P	11 44 10.1	+0.6
	1.1nm,0.8s,mb3.9,baz=45,slow=6.7,SNR=6.8						
MKAR	Makanchi Array	59.38	324	P	P	11 44 10.1	+0.6
AKASG	Malin Array Be	60.44	5	P	P	11 44 16.5	-0.3
	0.8nm,0.6s,mb4.0,baz=356,slow=6.8,SNR=3.3						
AKASG	Malin Array Be	60.44	5	P	P	11 44 16.5	-0.3
ABKAR	Akbulak array	60.59	342	eP	P	11 44 16.7	-1.2
	0.5nm,0.4s,mb4.0						
GUMO	Guam	70.49	257	LR	LR	12 12 49.5	
	comp=Z,58nm,21.4s,MS3.8,baz=42,slow=33						
CMAR	Chiang Mai Arr	81.86	301	P	P	11 46 27.6	+0.7
	0.8nm,0.4s,mb4.0,baz=13,slow=5.2,SNR=5.8						
CMAR	Chiang Mai Arr	81.86	301	P	P	11 46 27.6	+0.7

*NIED **20** 11:58:00, 36.°00N×141.°50E, h17km, Mw4.3 Best double couple: M∂3.01000×10^15 NP1:φ∂58.00000°, δ81.00000°, λ98.00000°. NP2:φ∂193.00000°, δ12.00000°, λ49.00000°.*

*IDC **20** 11:58:25.0±0.6, 35.°98N×141.°66E, h0km, mb4.1/15, mb1 4.2/20, mb1mx4.1/32, mbtmp4.1/20, ML4.2/4, MS3.9/15, Ms1 3.9/15, ms1mx3.6/36, Error ellipse: s-maj=16.0km s-min=14.3km az=80.0*

*ISCJB **20** 11:58:26.5±1.0, 36.°02N±0.°03×141.°73E±0.°05, h21km±7km, mb4.3/24, MS3.9/13, Error ellipse: s-maj=6.8km s-min=4.7km az=8.7*

*JMA **20** 11:58:29.5±0.2, 36.°05N×141.°55E, h40km±3km, M4.3*

*NEIC **20** 11:58:30.2±0.9, 35.°98N×141.°62E, h35km±7km, mb4.5/2, MW4.3(NIED), Error ellipse: s-maj=9.6km s-min=6.3km az=150.0*

ISC 20 11:58:26.8±1.0, 36°00N±0.°03×141°69E±0.°05, h11km±5km, n73, σ0°86/73, mb4.3/24, MS3.9/13, 2D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.74	246	⇓P	Pg	11 58 42.3	+1.3
CHOJ				eS	Sg	11 58 51.3	+0.6
JHO	Hitachi	1.09	304	⇓P	Pg	11 58 46.8	-0.9
JHO				eS	Sg	11 58 59.0	-2.9
BSO1	Boso 1	1.47	204	P	Pn	11 58 53.3	+0.1
BSO1				eS	Sn	11 59 11.8	-0.6
JFK	Kawauchi	1.51	335	P	Pn	11 58 53.3	-0.5
JFK				eS	Sn	11 59 11.1	-2.4
BSO3	Boso 3	1.54	219	P	Pn	11 58 54.8	+0.6
BSO3				eS	Sn	11 59 13.6	-0.5
JAG	Ashikaga	1.86	284	P	Pn	11 58 57.9	-0.7
JFT	Otama	1.86	325	P	Pn	11 58 59.0	+0.3
JFT				eS	Sn	11 59 22.3	+0.1
JMM	Marumori	2.00	339	P	Pn	11 58 59.7	-0.8
JKT	Katashina	2.11	292	P	Pn	11 59 02.1	0.0
JKT				eS	Sn	11 59 27.1	-1.2
MJAR	Matsushiro Arr	2.86	282	Pn	Pn	11 59 12.7	+0.2
	21nm,0.3s,baz=118,slow=7.4,SNR=129						
MJAR				Sn	Sn	11 59 48.6	+1.7
	8.9nm,0.3s,baz=101,slow=10.0,SNR=5.7						
MJAR				LR	LR	12 00 27.1	
	comp=Z,1μm,18.7s,baz=95,slow=43						
MJAR	Matsushiro Arr	2.86	282	Pn	Pn	11 59 12.7	+0.2
MJAR				Sn	Sn	11 59 48.6	+1.7
MJAR				LR	LR	12 00 27.1	
MAJO	Matsushiro	2.87	282	ePn	Pn	11 59 13.3	+0.9
MAT	Matsushiro	2.87	282	P	Pn	11 59 13.2	+0.8
MAT				S	Sn	11 59 48.8	+1.9
JHJ	Hachijo jima 2	3.28	209	Pn	Pn	11 59 18.5	+0.4
	55nm,0.3s,baz=43,slow=19,SNR=72						
JHJ				Sn	Sn	11 59 55.7	-1.4
	114nm,0.3s,baz=65,slow=22,SNR=9.1						
ERM	Erimo	6.11	10	ePn	Pn	11 59 57.3	+0.3
ASAJ	Asahikawa	8.13	5	Pn	Pn	12 00 24.6	-0.2
	2.5nm,0.3s,baz=213,slow=13,SNR=16						
CBIJ	Chichi jima	8.89	177	Pn	Pn	12 00 33.6	-1.6
	18nm,0.3s,baz=309,slow=23,SNR=5.0						
YSS	Yuzh-Sakhalins	10.97	4	ePn	Pn	12 01 05.9	+2.2
KSRS	Korea Array	11.14	282	Pn	Pn	12 01 06.4	+0.3
	0.1nm,0.3s,baz=87,slow=15,SNR=2.9						
KSRS				LR	LR	12 05 01.7	
	comp=Z,295nm,21.6s,baz=175,slow=36						
KSAR	Wonju Array Be	11.17	281	Pn	Pn	12 01 06.4	-0.1
KSAR				LR	LR	12 05 01.7	
ENH	Enshi	27.49	267	eP	P	12 04 12.2	-0.9
	7.4nm,0.7s,mb4.3						
SONM	Songino Array	28.55	305	P	P	12 04 22.3	-0.2
	1.4nm,0.6s,mb3.9,baz=105,slow=9.0,SNR=13						
SONM				LR	LR	12 16 08.7	
	comp=Z,175nm,19.1s,MS3.7,baz=163,slow=37						
SONM	Songino Array	28.55	305	P	P	12 04 22.3	-0.2
SONM				LR	LR	12 16 08.7	
GTA	Gaotai	33.09	289	eP	P	12 05 03.4	+0.8
GTA				pP	pP	12 05 12.3	+6.4
GTA				sP	sP	12 05 16.1	+8.9
GTA				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
WMQ	Urumqi	41.51	298	P	P	12 06 15.0	+1.0
ZALV	Zalesovo Beam	42.78	313	P	P	12 06 24.3	+0.2
	comp=Z,2.8nm,0.6s,mb4.2,baz=90,slow=6.9,SNR=6.2						
ZALV				PcP	PcP	12 08 15.2	-0.1
	comp=Z,0.9nm,0.5s,baz=93,slow=3.5,SNR=4.2						
ZALV				LR	LR	12 24 41.6	
	comp=Z,52nm,19.9s,MS3.4,baz=68,slow=37						
ZALV	Zalesovo Beam	42.78	313	P	P	12 06 24.3	+0.2
ZALV				PcP	PcP	12 08 15.2	-0.1
ZALV				LR	LR	12 24 41.6	
MKAR	Makanchi Array	44.86	303	P	P	12 06 41.1	+0.1
	comp=Z,1.8nm,0.7s,mb4.0,baz=88,slow=9.4,SNR=15						
MKAR				LR	LR	12 26 15.2	
	comp=Z,119nm,19.2s,MS3.8,baz=257,slow=37						
MKAR	Makanchi Array	44.86	303	P	P	12 06 41.1	+0.1
MKAR				LR	LR	12 26 15.2	
TAPN	Taplejung	46.24	275	eP	P	12 06 52.2	0.0
	comp=Z,4.3nm,0.4s,mb4.7						
KURK	Kurchatov	46.75	309	P	P	12 06 56.0	+0.1
	comp=Z,3.8nm,0.5s,mb4.6,baz=84,slow=7.8,SNR=14						
KURK				LR	LR	12 27 23.0	
	comp=Z,112nm,20.9s,MS3.8,baz=110,slow=37						
KURK	Kurchatov	46.75	309	P	P	12 06 56.0	+0.1
KURK				LR	LR	12 27 23.0	
RAMN	Ramite	47.31	275	eP	P	12 06 59.2	-1.4
	comp=Z,13nm,0.6s,mb5.0						
GUN	Gumba	47.49	277	eP	P	12 07 02.6	+0.6
	comp=Z,7.1nm,0.5s,mb4.8						
GKN	Gorkha	48.45	277	eP	P	12 07 09.8	+0.4
	comp=Z,10nm,0.6s,mb5.0						
DANN	Dangsing	49.01	278	eP	P	12 07 14.5	+0.8
	comp=Z,16nm,0.6s,mb5.3						
PYUN	Piuthan	49.73	278	eP	P	12 07 19.7	+0.5
	comp=Z,28nm,1.0s,mb5.2						
ILAR	Eielson Array	50.25	32	P	P	12 07 22.8	+0.2
	comp=Z,1.7nm,0.8s,mb4.1,baz=262,slow=5.0,SNR=20						
ILAR	Eielson Array	50.25	32	P	P	12 07 22.8	+0.2
BVAR	Borovoye Array	51.43	313	P	P	12 07 31.5	-0.2
	comp=Z,0.8nm,0.5s,mb3.9,baz=78,slow=6.6,SNR=6.3						
BVAR				PcP	PcP	12 08 46.0	-0.1
	comp=Z,1.0nm,0.6s,baz=65,slow=5.1,SNR=3.8						
BVAR				LR	LR	12 30 30.2	
	comp=Z,126nm,19.4s,MS4.0,baz=238,slow=37						
BVAR	Borovoye Array	51.43	313	P	P	12 07 31.5	-0.2
BVAR				PcP	PcP	12 08 46.0	-0.1
BVAR				LR	LR	12 30 30.2	
KKAR	Karatay Array	53.84	301	eP	P	12 07 49.7	0.0
WRA	Warramunga Arr	56.07	188	P	P	12 08 05.5	-0.4
	comp=Z,3.9nm,0.8s,mb4.5,baz=6.0,slow=7.5,SNR=43						
WRA	Warramunga Arr	56.07	188	P	P	12 08 05.5	-0.4
ABKAR	Akbulak array	58.78	311	eP	P	12 08 24.3	-0.5
	comp=Z,2.4nm,0.5s,mb4.5

BAYT	**Ayd¨–ntepe-Bay**	**0.50**	**265**	*e*Pg	**Pg**	**12 36 06.4**	**-1.0**
BAYT				*e*Sg	**Sg**	**12 36 14.9**	**+0.7**
EZM	**Erzurum**	**0.69**	**140**	*e*PG	**Pg**	**12 36 11.1**	**+0.1**
EZM				*e*SG	**Sg**	**12 36 20.1**	**0.0**
PZAR	**Pazar-Rize**	**0.74**	**6**	*e*PG	**Pg**	**12 36 11.6**	**-0.3**
PZAR				*e*SG	**Sg**	**12 36 23.1**	**+1.2**
PZAR	**Pazar-Rize**	**0.74**	**6**	*e*Pg	**Pg**	**12 36 11.6**	**-0.3**
PZAR				*e*Sg	**Sg**	**12 36 23.1**	**+1.3**
DDEM	**Demirkent**	**0.86**	**58**	*i* P	**Pb**	**12 36 13.1**	**-0.5**
DDEM				*i* S	**Sb**	**12 36 24.7**	**0.0**
DDEM	**Demirkent**	**0.86**	**58**	*i* P	**Pb**	**12 36 13.1**	**-0.5**
DDEM				*i* S	**Sb**	**12 36 24.7**	**+0.1**
DBAD	**Bademkaya**	**0.90**	**50**	*i* P	**Pb**	**12 36 13.8**	**-0.5**
DBAD				*i* S	**Sb**	**12 36 25.7**	**-0.1**
DBAD	**Bademkaya**	**0.90**	**50**	*i* P	**Pb**	**12 36 13.8**	**-0.4**
DBAD				*i* S	**Sb**	**12 36 25.7**	**-0.1**
MACK	**Trabzon**	**0.93**	**303**	*i* P	**Pb**	**12 36 14.4**	**-0.3**
MACK				*i* S	**Sb**	**12 36 26.9**	**+0.4**
MACK	**Trabzon**	**0.93**	**303**	*i* P	**Pb**	**12 36 14.4**	**-0.3**
MACK				*i* S	**Sb**	**12 36 26.9**	**+0.3**
KTUT	**Trabzon**	**0.95**	**305**	*e*PG	**Pg**	**12 36 15.1**	**-0.8**
KTUT	**Trabzon**	**0.95**	**305**	*e*Pg	**Pg**	**12 36 15.1**	**-0.8**
GUMT	**Gumushane**	**1.00**	**272**	*e*PG	**Pg**	**12 36 15.6**	**-1.2**
GUMT	**Gumushane**	**1.00**	**272**	*e*Pg	**Pg**	**12 36 15.6**	**-1.2**
DAGI	**Agillar**	**1.06**	**53**	*i* P	**Pb**	**12 36 16.9**	**-0.2**
DAGI				*i* S	**Sb**	**12 36 31.1**	**+0.5**
ARTV	**Artvin**	**1.14**	**49**	*i* P	**Pn**	**12 36 17.3**	**-0.9**
ARTV				*i* S	**Sb**	**12 36 33.0**	**+0.2**
ARTV	**Artvin**	**1.14**	**49**	*i* P	**Pn**	**12 36 17.3**	**-0.9**
ARTV				*i* S	**Sb**	**12 36 33.0**	**+0.3**
BCA	**Borcka**	**1.19**	**32**	*e*PN	**Pn**	**12 36 19.5**	**+0.7**
BCA	**Borcka**	**1.19**	**163**	*e*Pn	**Pn**	**12 36 19.5**	**+0.7**
ESPY	**Espiye-Giresun**	**1.64**	**288**	*e*PN	**Pn**	**12 36 26.0**	**+0.9**
ESPY	**Espiye-Giresun**	**1.64**	**288**	*e*Pn	**Pn**	**12 36 26.0**	**+1.0**

FUNV 20 12:42:54.5, 9˚.66N × 70˚.68W, h13 km, MW3.6, 5C-2D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QARV	**Quebrada Arrib**	**0.56**	**16**	*e*S	Sg	12 43 13.8	+0.8
CURV	**Curarigua**	**0.79**	**64**	⇓*i*P	Sg	12 43 09.2	-0.6
CURV				*e*S	Sg	12 43 19.9	-0.3
VIGV	**El Vigia**	**1.06**	**220**	⇑*e*P	Pb	12 43 13.9	-0.8
VIGV				*e*S	Sb	12 43 28.2	-0.3
SANV	**Sanarito**	**1.14**	**98**	⇓*i*P	Pb	12 43 15.5	-0.5
SANV				*e*S	Sb	12 43 30.7	0.0
DABV	**Dabajuro**	**1.25**	**2**	*e*P	Pn	12 43 17.0	-0.7
DABV				*e*S	Sb	12 43 34.0	-0.1
SIQV	**Siquisique**	**1.30**	**41**	*e*P	Pn	12 43 18.2	-0.2
SIQV				*e*S	Sb	12 43 35.5	0.0
SOCV	**Socops**	**1.38**	**187**	⇑*e*P	Pn	12 43 18.8	-0.7
SOCV				*e*S	Sn	12 43 37.3	-0.2
TEPV	**Terepaima**	**1.50**	**78**	*e*P	Pn	12 43 20.6	-0.4
TEPV				*e*S	Sn	12 43 40.8	+0.4
VIRV	**Villa del Rosa**	**1.90**	**296**	⇑*e*P	Pn	12 43 26.4	-0.2
VIRV				*e*S	Sn	12 43 49.5	-0.8
MAPV	**Macapo**	**2.20**	**85**	*e*P	Pn	12 43 30.5	-0.1
MAPV				*e*S	Sn	12 43 56.4	-1.3
MONV	**Montecano**	**2.38**	**17**	⇑*i*P	Pn	12 43 31.7	-1.6
MONV				*e*S	Sn	12 44 00.2	-2.1
CAPV	**Capacho**	**2.41**	**222**	*e*P	Pn	12 43 32.3	-1.3
CAPV				*e*S	Sn	12 44 02.5	-0.5
IMOV	**Isla Los Monje**	**2.69**	**355**	*e*P	Pn	12 43 37.0	-0.4
IMOV				*e*S	Sn	12 44 07.5	-2.5
BAUV	**El Baul**	**2.70**	**105**	*e*P	Pn	12 43 36.4	-1.2
ELOV	**Elorza**	**2.90**	**156**	*e*P	Pn	12 43 39.4	-0.9
TURV	**Turiamo**	**2.90**	**74**	⇑*e*P	Pn	12 43 38.6	-1.8
MERV	**Las Mercedes**	**4.34**	**95**	*e*P	Pn	12 43 59.2	-1.1
BIRV	**Birongo**	**4.42**	**79**	*e*P	Pn	12 43 60.0	-1.3
CUPV	**Cœpira**	**4.84**	**85**	*e*P	Pn	12 44 05.7	-1.3
PCRV	**Puerto La Cruz**	**5.98**	**85**	*e*P	Pn	12 44 21.0	-1.7
LUEV	**Luepa**	**9.89**	**112**	*e*P	Pn	12 45 13.0	-3.5

IDC 20 13:17:44.4±1.9, 2˚.55N × 127˚.11E, h0 km, mb3.5/4, mb1 3.7/4, mb1mx3.4/20, mbtmp3.5/4, Error ellipse: s-maj=111.9km s-min=23.1km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.57**	**184**	P	P	13 22 24.8	-0.2
	0.6nm,0.4s,baz=19,slow=11,SNR=8.0						
WRA	**Warramunga Arr**	**23.49**	**163**	P	P	13 22 54.3	-1.5
	1.4nm,0.7s,baz=342,slow=11,SNR=16						
ASAR	**Alice Springs**	**26.89**	**166**	P	P	13 23 28.8	+1.6
	0.2nm,0.4s,baz=345,slow=7.1,SNR=12						
MKAR	**Makanchi Array**	**58.73**	**325**	P	P	13 27 44.0	-0.1
	0.2nm,0.5s,baz=125,slow=8.2,SNR=3.6						

*ISCJB **20** 13:18:20.7±0.9, 37˚.16N±0˚.06 × 37˚.31E±0˚.05, h5 km±5km, Error ellipse: s-maj=10.5km s-min=5.1km az=150.3*
*CSEM **20** 13:18:20.9±0.3, 37˚.16N × 37˚.31E, h8 km, MD2.5, Error ellipse: s-maj=8.5km s-min=4.3km az=143.0*
*ISK **20** 13:18:20.1, 37˚.23N × 37˚.29E, h4 km, MD2.5*
*DDA **20** 13:18:20.4, 37˚.16N × 37˚.33E, h7 km ± 2km, Md2.8*

ISC 20 13:18:20.8±0.9, 37˚.15N±0˚.05 × 37˚.32E±0˚.05, h7 km±5km, n18, σ0°62/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.09**	**285**	*e*PG	**Pg**	**13 18 22.1**	**-0.9**
GAZ				*e*SG	**Sg**	**13 18 24.2**	**-0.3**
GAZ	**Gaziantep**	**0.09**	**285**	*e*Pg	**Pg**	**13 18 22.1**	**-0.9**
GAZ				*e*Sg	**Sg**	**13 18 24.2**	**-0.3**
GZT	**Gaziantep**	**0.28**	**43**	*i* P	**Pg**	**13 18 26.3**	**0.0**
ANDN	**Andirin**	**0.89**	**299**	*i* P	**Pg**	**13 18 37.7**	**-0.3**
ANDN				*i* S	**Sg**	**13 18 50.5**	**+1.0**
ANDN	**Andirin**	**0.89**	**299**	*i* P	**Pg**	**13 18 37.7**	**-0.2**
ANDN				*i* S	**Sg**	**13 18 50.5**	**+1.0**
COBT	**Iskenderun**	**1.06**	**234**	*i* P	**Pg**	**13 18 41.0**	**-0.2**
COBT				*i* S	**Sg**	**13 18 55.9**	**+0.9**
COBT	**Iskenderun**	**1.06**	**234**	*i* P	**Pg**	**13 18 41.0**	**-0.2**
COBT				*i* S	**Sg**	**13 18 55.9**	**+0.9**
KOZT	**Kozan**	**1.24**	**286**	*e*PN	**Pn**	**13 18 44.4**	**-0.1**
KOZT				*e*SN	**Sn**	**13 19 00.9**	**-0.5**
KOZT	**Kozan**	**1.24**	**286**	*e*Pn	**Pn**	**13 18 44.4**	**-0.1**
KOZT				*e*Sn	**Sn**	**13 19 00.9**	**-0.5**
AKCD	**Akcadag**	**1.24**	**22**	*i* P	**Pb**	**13 18 44.2**	**-0.3**
AKCD				*i* S	**Sg**	**13 19 01.2**	**+0.6**
AKCD	**Akcadag**	**1.24**	**22**	*i* P	**Pb**	**13 18 44.2**	**-0.3**
AKCD				*i* S	**Sg**	**13 19 01.2**	**+0.5**
MALT	**Malatya**	**1.46**	**37**	*e*PN	**Pn**	**13 18 47.5**	**+0.1**
MALT	**Malatya**	**1.46**	**37**	*e*Pn	**Pn**	**13 18 47.5**	**0.0**
MYA	**Malataya**	**1.46**	**36**	*e*PN	**Pn**	**13 18 47.5**	**-0.1**
MYA				*e*SN	**Sn**	**13 19 07.3**	**+0.3**
MYA	**Malataya**	**1.46**	**36**	*e*Pn	**Pn**	**13 18 47.5**	**-0.1**
MYA				*e*Sn	**Sn**	**13 19 07.3**	**+0.3**
SARI	**SarD1z-Kayseri**	**1.61**	**342**	*e*PN	**Pn**	**13 18 46.0**	**-3.5**
SARI				*e*SN	**Sn**	**13 19 05.6**	**-4.9**
PINB	**Pinarbasi**	**1.69**	**335**	*i* P	**Pn**	**13 18 51.5**	**+0.7**
PINB				*i* S	**Sn**	**13 19 12.3**	**-0.3**
PINB	**Pinarbasi**	**1.69**	**335**	*i* P	**Pn**	**13 18 51.5**	**+0.8**
PINB				*i* S	**Sn**	**13 19 12.3**	**-0.3**

*NEIC **20** 13:20:10.4±6.3, 2˚.71S × 139˚.52E, h44 km±56km, mb3.8/1, Error ellipse: s-maj=44.4km s-min=19.3km az=68.0*
*ISCJB **20** 13:20:11.2±3.4, 2˚.78S±0˚.08 × 139˚.3E±0˚.2, h62 km±32km, mb4.4/19, Error ellipse: s-maj=26.1km s-min=13.5km az=179.4*
*IDC **20** 13:20:12.3±11.0, 2˚.71S × 139˚.53E, h60 km±101km, mb3.6/10, mb1 3.8/11, mb1mx3.7/17, mbtmp3.6/11, ML4.3/1, Error ellipse: s-maj=54.8km s-min=20.8km az=65.0*

ISC 20 13:20:11.3±3.4, 2.75S±0˚.08 × 139˚.5E±0˚.2, h48 km±30km, n35, σ0°69/39, mb4.4/19, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**17.79**	**196**	*e*P	**Pn**	**13 24 14.5**	**-1.0**
	5.3nm,0.6s						
WRA	**Warramunga Arr**	**17.80**	**196**	P	**Pn**	**13 24 14.8**	**-0.9**
	1.0nm,0.3s,baz=18,slow=13,SNR=25						
WRA				S	**S**	**13 27 20.9**	**-17**
	0.2nm,0.3s,baz=14,slow=22,SNR=3.9						
WRA	**Warramunga Arr**	**17.80**	**196**	P	**Pn**	**13 24 14.8**	**-0.9**
WRA				S	**S**	**13 27 20.9**	**-17**
FITZ	**Fitzroy Crossi**	**20.40**	**221**	P	**P**	**13 24 45.0**	**+0.7**
	1.4nm,0.6s,baz=37,slow=10,SNR=8.7						
FITZ				S	**S**	**13 28 22.2**	**-8.1**
	2.7nm,0.8s,baz=256,slow=15,SNR=3.8						
FITZ	**Fitzroy Crossi**	**20.40**	**221**	P	**P**	**13 24 45.0**	**+0.7**
FITZ				S	**S**	**13 28 22.2**	**-8.1**
ASAR	**Alice Springs**	**21.48**	**194**	P	**P**	**13 24 56.9**	**+1.0**
	1.9nm,0.6s,mb3.6,baz=18,slow=10,SNR=30						
ASAR				S	**S**	**13 28 50.4**	**-1.1**
	0.4nm,0.6s,baz=13,slow=25,SNR=4.7						
ASAR	**Alice Springs**	**21.48**	**194**	P	**P**	**13 24 56.9**	**+1.0**
ASAR				S	**S**	**13 28 50.4**	**-1.1**
STKA	**Stephens Creek**	**29.05**	**176**	P	**P**	**13 26 08.5**	**+1.5**
	0.9nm,0.5s,mb3.8,baz=349,slow=16,SNR=3.2						
STKA	**Stephens Creek**	**29.05**	**176**	P	**P**	**13 26 08.5**	**+1.5**
CMAR	**Chiang Mai Arr**	**45.10**	**299**	P	**P**	**13 28 23.2**	**+0.2**
	1.6nm,0.8s,mb3.9,baz=122,slow=6.5,SNR=10						
CMAR	**Chiang Mai Arr**	**45.10**	**299**	P	**P**	**13 28 23.2**	**+0.2**
SONM	**Songino Array**	**58.07**	**334**	P	**P**	**13 30 00.8**	**+1.3**
	0.3nm,0.6s,mb3.5,baz=154,slow=5.2,SNR=3.4						
SONM	**Songino Array**	**58.07**	**334**	P	**P**	**13 30 00.8**	**+1.3**
TAPN	**Taplejung**	**58.10**	**305**	*e*P	**P**	**13 30 00.2**	**+0.1**
	4.7nm,0.5s,mb4.8						
ODAN	**Odare**	**58.18**	**304**	*e*P	**P**	**13 30 00.3**	**-0.4**
	9.5nm,0.6s,mb5.0						
RAMN	**Ramite**	**58.87**	**304**	*e*P	**P**	**13 30 05.3**	**-0.2**
	11nm,0.8s,mb4.9						
GUN	**Gumba**	**59.82**	**305**	*e*P	**P**	**13 30 12.3**	**+0.3**
	11nm,0.7s,mb5.0						
KKN	**Kakani**	**60.27**	**304**	*e*P	**P**	**13 30 15.1**	**0.0**
	9.5nm,0.7s,mb4.9						
DMN	**Daman**	**60.34**	**304**	*e*P	**P**	**13 30 15.4**	**-0.2**
	9.7nm,0.7s,mb5.0						
GKN	**Gorkha**	**60.87**	**304**	*e*P	**P**	**13 30 19.2**	**0.0**
	11nm,0.7s,mb5.1						
KOLN	**Koldanda**	**61.65**	**304**	*e*P	**P**	**13 30 24.3**	**-0.2**
	6.8nm,0.7s,mb4.9						
DANN	**Dangsing**	**61.72**	**304**	*e*P	**P**	**13 30 25.3**	**+0.3**
	9.3nm,0.7s,mb5.0						
PYUN	**Piuthan**	**62.27**	**304**	*e*P	**P**	**13 30 28.5**	**-0.2**
	17nm,0.7s,mb5.3						
MKAR	**Makanchi Array**	**70.27**	**322**	P	**P**	**13 31 19.9**	**+0.3**
	0.9nm,0.7s,mb3.8,baz=114,slow=8.1,SNR=9.5						
MKAR	**Makanchi Array**	**70.27**	**322**	P	**P**	**13 31 19.9**	**+0.3**
ZALV	**Zalesovo Beam**	**72.34**	**330**	P	**P**	**13 31 31.0**	**-0.9**
	0.3nm,0.4s,mb3.6,baz=112,slow=9.8,SNR=3.8						
ZALV	**Zalesovo Beam**	**72.34**	**330**	P	**P**	**13 31 31.0**	**-0.9**
VNDA	**Vanda**	**75.68**	**175**	P	**P**	**13 31 51.2**	**+0.2**
	1.1nm,0.5s,mb4.1,baz=337,slow=5.7,SNR=6.4						
VNDA	**Vanda**	**75.68**	**175**	P	**P**	**13 31 51.2**	**+0.2**
BVAR	**Borovoye Array**	**79.76**	**325**	P	**P**	**13 32 14.0**	**-0.2**
	0.6nm,0.4s,mb3.8,baz=122,slow=6.5,SNR=4.0						
BVAR	**Borovoye Array**	**79.76**	**325**	P	**P**	**13 32 14.0**	**-0.2**
ILAR	**Eielson Array**	**85.56**	**24**	P	**P**	**13 32 42.9**	**-1.2**
	0.9nm,0.7s,mb4.1,baz=263,slow=4.4,SNR=13						
ILAR	**Eielson Array**	**85.56**	**24**	P	**P**	**13 32 42.9**	**-1.2**
DBIC	**Dimbokro**	**144.22**	**278**	PKP	PKPdf	13 39 40.3	-2.7
	3.3nm,0.5s,baz=101,slow=3.7,SNR=8.7						
DBIC	**Dimbokro**	**144.22**	**278**	PKP	PKPdf	13 39 40.3	-2.7

*ISCJB **20** 13:20:17.1±0.2, 46˚.052N±0˚.010 × 6˚.79E±0˚.02, h2 km±2km, Error ellipse: s-maj=1.9km s-min=1.6km az=177.0*
*CSEM **20** 13:20:18.4±0.1, 46˚.03N × 6˚.85E, h10 km, ML3.4/38, Error ellipse: s-maj=1.7km s-min=1.3km az=90.0*
*ZUR **20** 13:20:19.4, 46˚.04N × 6˚.91E, h5 km±1km, ML2.9/10*
*STR **20** 13:20:19.8±0.3, 46˚.05N × 6˚.84E, h5 km, MlI3.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*GEN **20** 13:20:19.3, 46˚.01N × 6˚.95E, h0 km, ML2.7*
*LDG **20** 13:20:19.2±0.0, 46˚.03N × 6˚.90E, h2 km, Md3.2/5, MlI3.4/35, Error ellipse: s-maj=1.0km s-min=0.7km az=103.0*
*NEIC **20** 13:20:19.2, 46˚.03N × 6˚.90E, h2 km, ML3.4(LDG), ML3.1(STR), After LDG.*
*ROM **20** 13:20:19.1±0.2, 46˚.01N × 6˚.95E, h5 km±2km, Md2.6/6, Ml2.7/8, Error ellipse: s-maj=2.2km s-min=2.2km az=57.0*

ISC 20 13:20:18.4±0.2, 46.034N±0˚.009 × 6˚.82E±0˚.01, h8 km±2km, n249, σ1°81/417, 18C-8D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMV	**Vieux Emosson**	**0.06**	**62**	⇓*i*Pg	**Pg**	**13 20 20.8**	**+0.5**
	21µm,0.2s						
EMV				*i* Sg	**Sg**	**13 20 21.7**	**+0.1**
	21µm,0.2s						
EMV	**Vieux Emosson**	**0.06**	**62**	Pg	**Pg**	**13 20 20.8**	**+0.5**
EMV				Sg	**Sg**	**13 20 21.7**	**+0.1**
EMV	**Vieux Emosson**	**0.06**	**62**	⇓*i*Pg	**Pg**	**13 20 20.8**	**+0.5**
	21µm,0.2s						
EMV				*i* Sg	**Sg**	**13 20 21.7**	**+0.1**
	21µm,0.2s						
GRYON	**Gryon**	**0.30**	**43**	⇑*i*Pg	**Pg**	**13 20 24.5**	**+0.2**
	2µm,0.2s						
GRYON				*e*Sg	**Sg**	**13 20 28.1**	**-0.2**
	2µm,0.2s						
GRYON	**Gryon**	**0.30**	**43**	⇑*i*Pg	**Pg**	**13 20 24.5**	**+0.2**
	2µm,0.2s						
GRYON				*e*Sg	**Sg**	**13 20 28.1**	**-0.2**
	2µm,0.2s						
OG01	**Vacheresse**	**0.31**	**342**	Pg	**Pg**	**13 20 25.9**	**+1.4**
OG01				Sg	**Sg**	**13 20 30.6**	**+1.9**
OG01	**Vacheresse**	**0.31**	**342**	Pg	**Pg**	**13 20 25.9**	**+1.4**
OG01				Sg	**Sg**	**13 20 30.6**	**+1.9**
OG01	**Vacheresse**	**0.31**	**342**	Pg	**Pg**	**13 20 25.9**	**+1.4**
OG01				Sg	**Sg**	**13 20 30.6**	**+1.9**
MRGE	**Morge**	**0.31**	**147**	⇑*i*Pg	**Pg**	**13 20 25.1**	**+0.5**
MRGE				Sg	**Sg**	**13 20 29.2**	**+0.5**
	3µm,0.2s						
MRGE	**Morge**	**0.31**	**147**	⇑*i*Pg	**Pg**	**13 20 25.1**	**+0.5**
MRGE				Sg	**Sg**	**13 20 29.2**	**+0.5**
	3µm,0.2s						
AIGLE	**Aigle**	**0.32**	**17**	⇑*i*Pg	**Pg**	**13 20 25.3**	**+0.6**
	3µm,0.4s						
AIGLE	**Aigle**	**0.32**	**17**	⇑*i*Pg	**Pg**	**13 20 25.3**	**+0.6**
	3µm,0.4s						
RSL	**Roselend**	**0.37**	**201**	Pg	**Pg**	**13 20 26.7**	**+1.1**
RSL				Sg	**Sg**	**13 20 31.7**	**+1.2**
RSL	**Roselend**	**0.37**	**201**	Pg	**Pg**	**13 20 26.7**	**+1.1**
RSL				Sg	**Sg**	**13 20 31.7**	**+1.2**
RSL	**Roselend**	**0.37**	**201**	Pg	**Pg**	**13 20 26.7**	**+1.1**
RSL				Sg	**Sg**	**13 20 31.7**	**+1.2**
DIX	**Grande Dixence**	**0.41**	**83**	⇓*i*Pg	**Pg**	**13 20 26.5**	**+0.1**
	5µm,0.2s						
DIX	**Grande Dixence**	**0.41**	**83**	⇓*i*Pg	**Pg**	**13 20 26.5**	**+0.1**
DIX				Sg	**Sg**	**13 20 31.3**	**-0.6**
DIX	**Grande Dixence**	**0.41**	**83**	⇓*i*Pg	**Pg**	**13 20 26.5**	**+0.1**
	5µm,0.2s						
DIX				Sg	**Sg**	**13 20 31.3**	**-0.6**
SENIN	**Lac Senin/Sane**	**0.47**	**45**	⇑*i*Pg	**Pg**	**13 20 27.6**	**+0.1**
	1µm,0.4s						
SENIN				*e*Sg	**Sg**	**13 20 33.7**	**0.0**
	1µm,0.4s						
SENIN	**Lac Senin/Sane**	**0.47**	**45**	⇑*i*Pg	**Pg**	**13 20 27.6**	**+0.1**
	1µm,0.4s						
SENIN				*e*Sg	**Sg**	**13 20 33.7**	**0.0**
	1µm,0.4s						
LPL	**La Plagne**	**0.52**	**187**	*e*Pg	**Pg**	**13 20 29.5**	**+1.0**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**13 20 35.9**	**+0.6**
	126nm,0.3s,SNR=1.0						
LPL	**La Plagne**	**0.52**	**187**	*e*Pg	**Pg**	**13 20 29.5**	**+1.0**
LPL				*e*Sg	**Sg**	**13 20 35.9**	**+0.6**
LPL	**La Plagne**	**0.52**	**187**	*e*Pg	**Pg**	**13 20 29.5**	**+1.0**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**13 20 35.9**	**+0.6**
	63nm,0.3s,SNR=1.0						
LPG	**La Plagne**	**0.54**	**185**	*e*Pg	**Pg**	**13 20 29.8**	**+1.0**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**13 20 36.8**	**+1.0**
	125nm,0.2s,SNR=1.0						
LPG	**La Plagne**	**0.54**	**185**	*e*Pg	**Pg**	**13 20 29.8**	**+1.0**
LPG				*e*Sg	**Sg**	**13 20 36.8**	**+1.0**
LPG	**La Plagne**	**0.54**	**185**	*e*Pg	**Pg**	**13 20 29.8**	**+1.0**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**13 20 36.8**	**+1.0**
	62nm,0.2s,SNR=1.0						
GIMEL	**St. Georges /**	**0.63**	**323**	*e*Pg	**Pg**	**13 20 32.2**	**+1.6**
	718nm,0.6s						
GIMEL	**St. Georges /**	**0.63**	**323**	*e*Pg	**Pg**	**13 20 32.2**	**+1.6**
	718nm,0.6s						
LKBD	**Leukerbad**	**0.66**	**58**	⇑*i*Pg	**Pg**	**13 20 31.1**	**-0.1**
	339nm,0.4s						
LKBD	**Leukerbad**	**0.66**	**58**	⇑*i*Pg	**Pg**	**13 20 31.1**	**-0.1**
	339nm,0.4s						
LKBD2	**Leukerbad 2**	**0.67**	**59**	⇑*i*Pg	**Pg**	**13 20 31.1**	**-0.2**
TORNY	**Torny/Romont**	**0.75**	**7**	⇓*i*Pg	**Pg**	**13 20 33.7**	**+0.9**
	3µm,0.4s						
TORNY	**Torny/Romont**	**0.75**	**7**	⇓*i*Pg	**Pg**	**13 20 33.7**	**+0.9**
	3µm,0.4s						
CABF	**La Chapelle**	**0.77**	**319**	*e*Pg	**Pg**	**13 20 34.5**	**+1.3**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**13 20 44.7**	**+1.5**
CABF				*e*Sn	**Sg**	**13 20 47.7**	**+4.5**
	276nm,0.3s,SNR=1.0						
CABF	**La Chapelle**	**0.77**	**319**	*e*Pg	**Pg**	**13 20 34.5**	**+1.3**
CABF				*e*Sg	**Sg**	**13 20 44.7**	**+1.5**
CABF				*e*Sn	**Sg**	**13 20 47.7**	**+4.5**
CABF	**La Chapelle**	**0.77**	**319**	*e*Pg	**Pg**	**13 20 34.5**	**+1.3**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**13 20 44.7**	**+1.5**
CABF				*e*Sn	**Sg**	**13 20 47.7**	**+4.5**
	138nm,0.3s,SNR=1.0						
MMK	**Mattmark**	**0.80**	**88**	*e*Pg	**Pg**	**13 20 32.8**	**-1.0**
	286nm,0.3s						
MMK	**Mattmark**	**0.80**	**88**	Pg	**Pg**	**13 20 32.9**	**-0.9**
MMK				Sg	**Sg**	**13 20 42.4**	**-1.7**
MMK	**Mattmark**	**0.80**	**88**	Pg	**Pg**	**13 20 32.9**	**-0.9**
MMK				Sg	**Sg**	**13 20 42.4**	**-1.7**
TRAV	**Traversella**	**0.83**	**128**	Pg	**Pg**	**13 20 34.0**	**-0.4**
TRAV				Sg	**Sg**	**13 20 44.0**	**-1.2**
	365nm,0.5s						
TRAV	**Traversella**	**0.83**	**128**	Pg	**Pg**	**13 20 34.0**	**-0.4**
TRAV				S	**Sg**	**13 20 43.6**	**-1.6**
TRAV				Sg	**Sg**	**13 20 44.0**	**-1.2**
	365nm,0.5s						
WIMIS	**Wimmis**	**0.84**	**41**	⇑*i*Pg	**Pg**	**13 20 36.5**	**+1.9**
	446nm,0.3s						
WIMIS	**Wimmis**	**0.84**	**41**	⇑*i*Pg	**Pg**	**13 20 36.5**	**+1.9**
	446nm,0.3s						
RSP	**Reno Superiore**	**0.94**	**160**	Pg	**Pg**	**13 20 36.4**	**0.0**
	158nm,0.3s						
RSP	**Reno Superiore**	**0.94**	**160**	Pg	**Pg**	**13 20 36.4**	**0.0**
	158nm,0.3s						
RSP				S	**Sg**	**13 20 47.9**	**-0.7**
GDM	**Grand'Maison**	**0.96**	**211**	Pg	**Pg**	**13 20 37.5**	**+0.6**
GDM	**Grand'Maison**	**0.96**	**211**	Pg	**Pg**	**13 20 37.5**	**+0.6**
GDM	**Grand'Maison**	**0.96**	**211**	Pg	**Pg**	**13 20 37.5**	**+0.6**
BNI	**Bardonecchia**	**0.99**	**186**	*e*P	**Pg**	**13 20 37.4**	**+0.1**
BNI	**Bardonecchia**	**0.99**	**186**	Pg	**Pg**	**13 20 37.5**	**+0.2**
	55nm,0.7s						
BNI	**Bardonecchia**	**0.99**	**186**	Pg	**Pg**	**13 20 37.5**	**+0.2**
	55nm,0.7s						
GRN	**Grenoble**	**1.09**	**224**	Pg	**Pg**	**13 20 40.8**	**+1.4**
GRN	**Grenoble**	**1.09**	**224**	Pg	**Pg**	**13 20 40.8**	**+1.4**
GRN	**Grenoble**	**1.09**	**224**	Pg	**Pg**	**13 20 40.8**	**+1.4**
OG22	**Abries**	**1.21**	**176**	Pg	**Pg**	**13 20 41.5**	**-0.2**
OG22	**Abries**	**1.21**	**176**	Pg	**Pg**	**13 20 41.5**	**-0.2**
OG22	**Abries**	**1.21**	**176**	Pg	**Pg**	**13 20 41.5**	**-0.2**
ORIF	**Oris-en-Rattie**	**1.30**	**211**	*e*Pn	**Pn**	**13 20 43.1**	**+0.4**
	SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.30**	**211**	*e*Pg	**Pg**	**13 20 44.2**	**+0.9**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**13 21 00.9**	**+0.8**
	281nm,0.5s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.30**	**211**	*e*Pn	**Pn**	**13 20 43.1**	**+0.4**
ORIF				*e*Pg	**Pg**	**13 20 44.2**	**+0.9**
ORIF				*e*Sg	**Sg**	**13 21 00.9**	**+0.8**
ORIF	**Oris-en-Rattie**	**1.30**	**211**	*e*Pn	**Pn**	**13 20 43.1**

HAU	Haudompre	2.00 351	*e*Pg	Pg	13 20 56.5	-0.2
HAU			*e*Sn	Sn	13 21 15.4	-2.2
	SNR=1.0					
HAU			*e*Sg	Sg	13 21 22.1	-0.5
	95nm,0.2s,SNR=1.0					
HAU	**Haudompre**	2.00 351	*e*Pn	Pn	13 20 52.5	+0.1
HAU			*e*Pg	Pg	13 20 56.5	-0.2
HAU			*e*Sn	Sn	13 21 15.4	-2.2
HAU			*e*Sg	Sg	13 21 22.1	-0.5
HAU	**Haudompre**	2.00 351	*e*Pn	Pn	13 20 52.5	+0.1
	SNR=1.0					
HAU	**Haudompre**	2.00 351	*e*Pg	Pg	13 20 56.5	-0.2
HAU			*e*Sn	Sn	13 21 15.4	-2.2
	SNR=1.0					
HAU			*e*Sg	Sg	13 21 22.1	-0.5
	48nm,0.2s,SNR=1.0					
FELD	**Feldberg im Sc**	2.01 23	Pn	Pn	13 20 51.9	-0.7
FELD			Pg	Pg	13 20 56.5	-0.5
FELD	**Feldberg im Sc**	2.01 23	Pn	Pn	13 20 51.9	-0.7
TOUF	**Mont Tournerai**	2.04 171	Pn	Pn	13 20 56.9	+3.9
TOUF	**Mont Tournerai**	2.04 171	Pn	Pn	13 20 56.9	+3.9
TOUF	**Mont Tournerai**	2.04 171	Pn	Pn	13 20 56.9	+3.9
AUTN	**L'Aution**	2.08 168	Pn	Pn	13 20 56.0	+2.4
AUTN	**L'Aution**	2.08 168	Pn	Pn	13 20 56.0	+2.4
AUTN	**L'Aution**	2.08 168	Pn	Pn	13 20 56.0	+2.4
SAOF	**Saorge**	2.11 165	Pn	Pn	13 20 55.5	+1.5
SAOF	**Saorge**	2.11 165	Pn	Pn	13 20 55.5	+1.5
SAOF	**Saorge**	2.11 165	Pn	Pn	13 20 55.5	+1.5
SMF	**Signal de Mont**	2.15 288	*e*Pn	Pn	13 20 55.6	+1.1
	SNR=1.0					
SMF	**Signal de Mont**	2.15 288	*e*Pg	Pg	13 20 59.9	+0.3
SMF			*e*Sg	Sg	13 21 27.9	+0.4
	42nm,0.2s,SNR=1.0					
SMF	**Signal de Mont**	2.15 288	*e*Pn	Pn	13 20 55.6	+1.1
SMF			*e*Pg	Pg	13 20 59.9	+0.3
SMF			*e*Sg	Sg	13 21 27.9	+0.4
SMF	**Signal de Mont**	2.15 288	*e*Pn	Pn	13 20 55.6	+1.1
	SNR=1.0					
SMF	**Signal de Mont**	2.15 288	*e*Pg	Pg	13 20 59.9	+0.3
SMF			*e*Sg	Sg	13 21 27.9	+0.4
	21nm,0.2s,SNR=1.0					
ECH	**Echery**	2.19 6	Pn	Pn	13 20 54.8	-0.3
ECH	**Echery**	2.19 6	Pn	Pn	13 20 54.8	-0.3
ECH	**Echery**	2.19 6	Pn	Pn	13 20 54.8	-0.3
SBF	**Sospel**	2.21 168	*e*Pg	Pg	13 20 59.5	-1.3
	SNR=1.0					
SBF			*e*Sg	Sg	13 21 28.3	-1.2
	67nm,0.5s					
SBF	**Sospel**	2.21 168	*e*Pg	Pg	13 20 59.5	-1.3
SBF			*e*Sg	Sg	13 21 28.3	-1.2
SBF	**Sospel**	2.21 168	*e*Pg	Pg	13 20 59.5	-1.3
	SNR=1.0					
SBF			*e*Sg	Sg	13 21 28.3	-1.2
	33nm,0.5s					
RONM	**Roccetta Nervi**	2.23 165	P	Pn	13 20 55.8	+0.3
PLDF	**La Plantade**	2.23 270	Pn	Pn	13 20 56.6	+1.0
PLDF	**La Plantade**	2.23 270	Pn	Pn	13 20 56.6	+1.0
PLDF	**La Plantade**	2.23 270	Pn	Pn	13 20 56.6	+1.0
SMRF	**Simiane la Rot**	2.24 204	*e*Pn	Pn	13 20 55.7	0.0
	SNR=1.0					
SMRF	**Simiane la Rot**	2.24 204	*e*Pg	Pg	13 21 01.0	-0.3
SMRF			*e*Sn	Sn	13 21 21.3	-2.2
	SNR=1.0					
SMRF			*e*Sg	Sg	13 21 30.7	+0.4
	15nm,0.4s					
SMRF	**Simiane la Rot**	2.24 204	*e*Pn	Pn	13 20 55.7	0.0
SMRF			*e*Pg	Pg	13 21 01.0	-0.3
SMRF			*e*Sn	Sn	13 21 21.3	-2.2
SMRF			*e*Sg	Sg	13 21 30.7	+0.4
SMRF	**Simiane la Rot**	2.24 204	*e*Pn	Pn	13 20 55.7	0.0
	SNR=1.0					
SMRF	**Simiane la Rot**	2.24 204	*e*Pg	Pg	13 21 01.0	-0.3
SMRF			*e*Sn	Sn	13 21 21.3	-2.2
	SNR=1.0					
SMRF			*e*Sg	Sg	13 21 30.7	+0.4
	7.6nm,0.4s					
IMI	**Imperia**	2.26 160	P	Pn	13 20 55.3	-0.6
THEF	**They Montfort**	2.27 346	Pn	Pn	13 20 57.0	+0.9
THEF	**They Montfort**	2.27 346	Pn	Pn	13 20 57.0	+0.9
THEF	**They Montfort**	2.27 346	Pn	Pn	13 20 57.0	+0.9
NEGI	**Seborga**	2.27 164	P	Pn	13 20 55.8	-0.4
LOR	**Lormes**	2.38 302	*e*Pn	Pn	13 20 58.0	+0.3
	baz=118,SNR=1.0					
LOR	**Lormes**	2.38 302	*e*Pg	Pg	13 21 04.4	+0.3
	baz=124					
LOR			*e*Sn	Sn	13 21 26.1	-0.9
LOR			*e*Sg	Sg	13 21 34.9	-0.1
	51nm,0.3s,baz=114					
LOR	**Lormes**	2.38 302	*e*Pn	Pn	13 20 58.0	+0.3
LOR			*e*Pg	Pg	13 21 04.4	+0.3
LOR			*e*Sn	Sn	13 21 26.1	-0.9
LOR			*e*Sg	Sg	13 21 34.9	-0.1
LOR	**Lormes**	2.38 302	*e*Pn	Pn	13 20 58.0	+0.3
	baz=118,SNR=1.0					
LOR	**Lormes**	2.38 302	*e*Pg	Pg	13 21 04.4	+0.3
	baz=124					
LOR			*e*Sn	Sn	13 21 26.1	-0.9
LOR			*e*Sg	Sg	13 21 34.9	-0.1
	25nm,0.3s,baz=114					
CDF	**Champ du Feu**	2.40 7	*e*Pn	Pn	13 20 58.0	+0.1
	SNR=1.0					
CDF	**Champ du Feu**	2.40 7	*e*Pg	Pg	13 21 04.5	+0.1
	SNR=1.0					
CDF			*e*Sg	Sg	13 21 34.6	-0.9
	28nm,0.2s,SNR=1.0					
CDF	**Champ du Feu**	2.40 7	*e*Pn	Pn	13 20 58.0	+0.1
CDF			*e*Pg	Pg	13 21 04.5	+0.1
CDF			*e*Sg	Sg	13 21 34.6	-0.9
CDF	**Champ du Feu**	2.40 7	*e*Pn	Pn	13 20 58.0	+0.1
	SNR=1.0					
CDF	**Champ du Feu**	2.40 7	*e*Pg	Pg	13 21 04.5	+0.1
	SNR=1.0					
CDF			*e*Sg	Sg	13 21 34.6	-0.9
	14nm,0.2s,SNR=1.0					
DAVA	**Damuels**	2.45 58	⇑*i*Pg	Pg	13 21 05.1	-0.3
DAVA			⇓*i*Sg	Sg	13 21 37.9	+0.7
DAVA	**Damuels**	2.45 58	Pg	Pg	13 21 05.1	-0.3
DAVA			Sg	Sg	13 21 37.9	+0.7
FRF	**La Foret Royal**	2.48 183	*e*Pn	Pn	13 20 59.1	+0.1
	SNR=1.0					
FRF	**La Foret Royal**	2.48 183	*e*Pg	Pg	13 21 05.0	-0.8
FRF			*e*Sg	Sg	13 21 37.0	-0.9
	36nm,0.4s,SNR=1.0					
FRF	**La Foret Royal**	2.48 183	*e*Pn	Pn	13 20 59.1	+0.1
FRF			*e*Pg	Pg	13 21 05.0	-0.8
FRF			*e*Sg	Sg	13 21 37.0	-0.9
FRF	**La Foret Royal**	2.48 183	*e*Pn	Pn	13 20 59.1	+0.1
	SNR=1.0					
FRF	**La Foret Royal**	2.48 183	*e*Pg	Pg	13 21 05.0	-0.8
FRF			*e*Sg	Sg	13 21 37.0	-0.9
	18nm,0.4s,SNR=1.0					
SFTF	**Sexfontaines**	2.49 331	*e*Pn	Pn	13 20 59.5	+0.4
	baz=140					
SFTF	**Sexfontaines**	2.49 331	*e*Pg	Pg	13 21 05.8	-0.3
	baz=143					
SFTF			*e*Sn	Sn	13 21 28.5	-1.2
SFTF			*e*Sg	Sg	13 21 38.1	-0.2
	60nm,0.4s					
SFTF	**Sexfontaines**	2.49 331	*e*Pn	Pn	13 20 59.5	+0.4
SFTF			*e*Pg	Pg	13 21 05.8	-0.3
SFTF			*e*Sn	Sn	13 21 28.5	-1.2
SFTF			*e*Sg	Sg	13 21 38.1	-0.2
SFTF	**Sexfontaines**	2.49 331	*e*Pn	Pn	13 20 59.5	+0.4
	baz=140					
SFTF	**Sexfontaines**	2.49 331	*e*Pg	Pg	13 21 05.8	-0.3
	baz=143					
SFTF			*e*Sn	Sn	13 21 28.5	-1.2
SFTF			*e*Sg	Sg	13 21 38.1	-0.2
	30nm,0.4s					
SSF	**Saint Saulge**	2.51 295	*e*Pn	Pn	13 20 59.6	+0.2
	SNR=1.0					
SSF	**Saint Saulge**	2.51 295	*e*Pg	Pg	13 21 07.1	+0.7
SSF			*e*Sn	Sn	13 21 29.0	-1.1
	SNR=1.0					
SSF			*e*Sg	Sg	13 21 39.1	+0.2
	26nm,0.3s,SNR=1.0					
SSF	**Saint Saulge**	2.51 295	*e*Pn	Pn	13 20 59.6	+0.2
SSF			*e*Pg	Pg	13 21 07.1	+0.7
SSF			*e*Sn	Sn	13 21 29.0	-1.1
SSF			*e*Sg	Sg	13 21 39.1	+0.2
SSF	**Saint Saulge**	2.51 295	*e*Pn	Pn	13 20 59.6	+0.2
	SNR=1.0					
SSF	**Saint Saulge**	2.51 295	*e*Pg	Pg	13 21 07.1	+0.7
SSF			*e*Sn	Sn	13 21 29.0	-1.1
	SNR=1.0					
SSF			*e*Sg	Sg	13 21 39.1	+0.2
	13nm,0.3s,SNR=1.0					
AVF	**Avril sur Loir**	2.52 289	*e*Pn	Pn	13 21 00.5	+1.0
	SNR=1.0					
AVF	**Avril sur Loir**	2.52 289	*e*Pg	Pg	13 21 06.8	+0.2
AVF			*e*Sg	Sg	13 21 39.4	+0.2
	16nm,0.2s,SNR=1.0					
AVF	**Avril sur Loir**	2.52 289	*e*Pn	Pn	13 21 00.5	+1.0
AVF			*e*Pg	Pg	13 21 06.8	+0.2
AVF			*e*Sg	Sg	13 21 39.4	+0.2
AVF	**Avril sur Loir**	2.52 289	*e*Pn	Pn	13 21 00.5	+1.0
	SNR=1.0					
AVF	**Avril sur Loir**	2.52 289	*e*Pg	Pg	13 21 06.8	+0.2
AVF			*e*Sg	Sg	13 21 39.4	+0.2
	8.1nm,0.2s,SNR=1.0					
BFO	**Black Forest**	2.52 24	*e*Pn	Pn	13 20 58.4	-1.2
BFO	**Black Forest**	2.52 24	*e*Pn	Pn	13 20 58.4	-1.1
AGO	**Saint Agoulin**	2.57 272	Pn	Pn	13 21 00.2	0.0
AGO	**Saint Agoulin**	2.57 272	Pn	Pn	13 21 00.2	0.0
AGO	**Saint Agoulin**	2.57 272	Pn	Pn	13 21 00.2	0.0
PAGF	**Fort de Pagny**	2.63 344	*e*Pg	Pg	13 21 08.4	-0.4
PAGF			*e*Sg	Sg	13 21 42.3	-0.6
	22nm,0.6s					
PAGF	**Fort de Pagny**	2.63 344	*e*Pg	Pg	13 21 08.4	-0.4
PAGF			*e*Sg	Sg	13 21 42.3	-0.6
	11nm,0.6s					
LBL	**Lubilhac**	2.63 254	Pn	Pn	13 21 02.3	+1.2
LBL	**Lubilhac**	2.63 254	Pn	Pn	13 21 02.3	+1.2
LBL	**Lubilhac**	2.63 254	Pn	Pn	13 21 02.3	+1.2
PYM	**Petit Puy Mans**	2.68 265	Pn	Pn	13 21 03.0	+1.3
PYM	**Petit Puy Mans**	2.68 265	Pn	Pn	13 21 03.0	+1.3
PYM	**Petit Puy Mans**	2.68 265	Pn	Pn	13 21 03.0	+1.3
LMR	**La Mourre**	2.71 185	*e*P	Pn	13 21 04.4	+2.2
LMR	**La Mourre**	2.71 185	*e*Pg	Pg	13 21 09.0	-1.3
LMR			*e*Sn	Sn	13 21 33.2	-1.9
	SNR=1.0					
LMR			*e*Sg	Sg	13 21 44.6	-0.8
	15nm,0.4s,SNR=1.0					
LMR	**La Mourre**	2.71 185	*e*P	Pn	13 21 04.4	+2.2
LMR			*e*Pg	Pg	13 21 09.0	-1.3
LMR			*e*Sn	Sn	13 21 33.2	-1.9
LMR			*e*Sg	Sg	13 21 44.6	-0.8
LMR	**La Mourre**	2.71 185	*e*P	Pn	13 21 04.4	+2.2
LMR	**La Mourre**	2.71 185	*e*Pg	Pg	13 21 09.0	-1.3
LMR			*e*Sn	Sn	13 21 33.2	-1.9
	SNR=1.0					
LMR			*e*Sg	Sg	13 21 44.6	-0.8
	7.3nm,0.4s,SNR=1.0					
MEZF	**Maizieres J'vi**	2.75 335	*e*Pg	Pg	13 21 10.4	-0.6
	baz=153					
MEZF			*e*Sg	Sg	13 21 46.5	-0.1
	140nm,0.5s					
MEZF	**Maizieres J'vi**	2.75 335	*e*Pg	Pg	13 21 10.4	-0.6
	baz=153					
MEZF			*e*Sg	Sg	13 21 46.5	-0.1
	70nm,0.5s					
GRAM	**Graiana**	2.76 123	P	Pn	13 21 02.8	-0.1
GRAM			S	Sn	13 21 31.7	-4.7
BGF	**Bois d'Agland**	2.80 282	*e*Pn	Pn	13 21 04.0	+0.5
	SNR=1.0					
BGF	**Bois d'Agland**	2.80 282	*e*Pg	Pg	13 21 12.4	+0.3
BGF			*e*Sg	Sg	13 21 48.6	+0.2
	40nm,0.3s,SNR=1.0					
BGF	**Bois d'Agland**	2.80 282	*e*Pn	Pn	13 21 04.0	+0.5
BGF			*e*Pg	Pg	13 21 12.4	+0.3
BGF			*e*Sg	Sg	13 21 48.6	+0.2
BGF	**Bois d'Agland**	2.80 282	*e*Pn	Pn	13 21 04.0	+0.5
	SNR=1.0					
BGF	**Bois d'Agland**	2.80 282	*e*Pg	Pg	13 21 12.4	+0.3
BGF			*e*Sg	Sg	13 21 48.6	+0.2
	20nm,0.3s,SNR=1.0					
LASF	**Ste Croix**	2.87 228	*e*Pn	Pn	13 21 05.2	+0.8
LASF	**Ste Croix**	2.87 228	*e*Pg	Pg	13 21 12.8	-0.6
LASF			*e*Sg	Sg	13 21 49.0	-1.6
	75nm,0.5s,SNR=1.0					
LASF	**Ste Croix**	2.87 228	*e*Pn	Pn	13 21 05.2	+0.8
LASF			*e*Pg	Pg	13 21 12.8	-0.6
LASF			*e*Sg	Sg	13 21 49.0	-1.6
LASF	**Ste Croix**	2.87 228	*e*Pn	Pn	13 21 05.2	+0.8
LASF	**Ste Croix**	2.87 228	*e*Pg	Pg	13 21 12.8	-0.6
LASF			*e*Sg	Sg	13 21 49.0	-1.6
	38nm,0.5s,SNR=1.0					
FETA	**Feichten**	2.88 68	⇑*e*Sg	Sg	13 21 50.2	-0.5
	24nm,0.7s					
FETA	**Feichten**	2.88 68	Sg	Sg	13 21 50.2	-0.5
	24nm,0.7s					
HYF	**Humbligny**	3.13 295	*e*Pn	Pn	13 21 09.2	+1.2
HYF	**Humbligny**	3.13 295	*e*Pn	Pn	13 21 09.2	+1.2
HYF			*e*Pg	Pg	13 21 19.2	+0.8
HYF			*e*Sg	Sg	13 21 58.8	-0.2
HYF	**Humbligny**	3.13 295	*e*Pn	Pn	13 21 09.2	+1.2
TCF	**Toulx Ste Croi**	3.21 276	*e*Pn	Pn	13 21 09.7	+0.6
TCF	**Toulx Ste Croi**	3.21 276	*e*Pg	Pg	13 21 19.6	-0.3
TCF			*e*Sn	Sn	13 21 46.3	-1.2
	SNR=1.0					
TCF			*e*Sg	Sg	13 22 01.6	0.0
	14nm,0.2s,SNR=1.0					
TCF	**Toulx Ste Croi**	3.21 276	*e*Pn	Pn	13 21 09.7	+0.6
TCF			*e*Pg	Pg	13 21 19.6	-0.3
TCF			*e*Sn	Sn	13 21 46.3	-1.2
TCF			*e*Sg	Sg	13 22 01.6	0.0
TCF	**Toulx Ste Croi**	3.21 276	*e*Pn	Pn	13 21 09.7	+0.6
TCF	**Toulx Ste Croi**	3.21 276	*e*Pg	Pg	13 21 19.6	-0.3
TCF			*e*Sn	Sn	13 21 46.3	-1.2
	SNR=1.0					
TCF			*e*Sg	Sg	13 22 01.6	0.0
	7.0nm,0.2s,SNR=1.0					
CAF	**Calviac**	3.52 253	*e*Pn	Pn	13 21 15.0	+1.7
	SNR=1.0					
CAF			*e*Sg	Sg	13 22 10.2	-1.3
	32nm,0.4s,SNR=1.0					
CAF	**Calviac**	3.52 253	*e*Pn	Pn	13 21 15.0	+1.7
CAF			*e*Sg	Sg	13 22 10.2	-1.3
CAF	**Calviac**	3.52 253	*e*Pn	Pn	13 21 15.0	+1.7
	SNR=1.0					
CAF			*e*Sg	Sg	13 22 10.2	-1.3
	16nm,0.4s,SNR=1.0					
WTTA	**Wattenberg**	3.54 68	⇑*i*Pn	Pn	13 21 15.9	+2.4
	2.6nm,0.2s					
WTTA			⇑*i*Sg	Sg	13 22 14.3	+2.3
	19nm,0.5s					
WTTA	**Wattenberg**	3.54 68	Pn	Pn	13 21 15.9	+2.3
	2.6nm,0.2s					
WTTA			Sg	Sg	13 22 14.3	+2.3
	19nm,0.5s					
MTLF	**Montolieu**	4.24 232	*e*Pg	Pg	13 21 38.7	-1.0
MTLF			*e*Sg	Sg	13 22 33.1	-1.5
	23nm,0.5s					
MTLF	**Montolieu**	4.24 232	*e*Pg	Pg	13 21 38.7	-1.0
MTLF			*e*Sg	Sg	13 22 33.1	-1.5
	12nm,0.5s					
GIVF	**Givet**	4.29 343	*e*Pn	Pn	13 21 24.0	+0.2
	SNR=1.0					
GIVF			*e*Sg	Sg	13 22 34.5	-1.4
	18nm,0.6s,SNR=1.0					
GIVF	**Givet**	4.29 343	*e*Pn	Pn	13 21 24.0	+0.2
GIVF			*e*Sg	Sg	13 22 34.5	-1.4
GIVF	**Givet**	4.29 343	*e*Pn	Pn	13 21 24.0	+0.2
	SNR=1.0					
GIVF			*e*Sg	Sg	13 22 34.5	-1.4
	9.1nm,0.6s,SNR=1.0					
BAIF	**Baives**	4.39 337	*e*Pn	Pn	13 21 26.0	+0.7
BAIF			*e*Sg	Sg	13 22 37.7	-1.7
	6.6nm,0.4s					
BAIF	**Baives**	4.39 337	*e*Pn	Pn	13 21 26.0	+0.7
BAIF			*e*Sg	Sg	13 22 37.7	-1.7
BAIF	**Baives**	4.39 337	*e*Pn	Pn	13 21 26.0	+0.7
BAIF			*e*Sg	Sg	13 22 37.7	-1.7
	3.3nm,0.4s					
LFF	**La Frestale**	4.41 258	*e*Sg	Sg	13 22 38.8	-1.2
	25nm,0.4s					
LFF	**La Frestale**	4.41 258	*e*Sg	Sg	13 22 38.8	-1.2
	12nm,0.4s					
MFF	**Saint Martin d**	4.86 279	*e*Pn	Pn	13 21 33.1	+1.4
	SNR=1.0					
MFF			*e*Sg	Sg	13 22 53.1	-1.2
	7.9nm,0.4s,SNR=1.0					
MFF	**Saint Martin d**	4.86 279	*e*Pn	Pn	13 21 33.1	+1.4
MFF			*e*Sg	Sg	13 22 53.1	-1.2
MFF	**Saint Martin d**	4.86 279	*e*Pn	Pn	13 21 33.1	+1.4
	SNR=1.0					
MFF			*e*Sg	Sg	13 22 53.1	-1.2
	4.0nm,0.4s,SNR=1.0					
LDF	**La Druitiere**	5.37 301	*e*Sg	Sg	13 23 08.1	-2.6
	5.5nm,0.3s					
LDF	**La Druitiere**	5.37 301	*e*Sg	Sg	13 23 08.1	-2.6
	2.8nm,0.3s					
EPF	**Esparros**	5.52 239	*e*Sg	Sg	13 23 13.5	-2.0
	11nm,0.4s					
FLN	**La Foliniere**	5.66 301	*e*Sg	Sg	13 23 17.7	-2.3
	10.0nm,0.5s					
ETSF	**Etsaut**	6.14 242	*e*Sg	Sg	13 23 32.7	-2.7
	4.1nm,0.4s					
SJPF	**Ste Jean**	6.44 246	*e*Pn	Pn	13 21 51.7	-1.8
	SNR=1.0					
SJPF			*e*Sg	Sg	13 23 42.3	-2.9
	2.2nm,0.3s					
SJPF	**Ste Jean**	6.44 246	*e*Pn	Pn	13 21 51.7	-1.8
SJPF			*e*Sg	Sg	13 23 42.3	-2.9
SJPF	**Ste Jean**	6.44 246	*e*Pn	Pn	13 21 51.7	-1.8
	SNR=1.0					

ISK 20 13:37:31.2,39.°75N×34.°86E,h5km,MD2.9,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOZ	**Yozgat**	**0.37**	**108**	*e*Pg	Pg	13 37 38.7	+0.3
YOZ				*e*Sg	Sg	13 37 46.3	+3.1
CORM	**Corum**	**0.46**	**337**	*e*Pg	Pg	13 37 41.7	+1.6
AVNT	**Avonos**	**0.97**	**180**	*i* P	Pg	13 37 56.6	+6.8
BNN	**Bunyan**	**1.18**	**139**	*e*PN	Pn	13 37 54.6	+0.2
BNN				*e*SN	Sn	13 38 12.5	+1.8

*ISK **20** 13:51:47.7,38.°68N×38.°21E,h13km,MD2.9*
*CSEM **20** 13:51:48.5±0.3,38.°67N×38.°26E,h10km,MD2.9,Error ellipse: s-maj=6.5km s-min=6.2km az=45.0*
*DDA **20** 13:51:48.0,38.°75N×38.°18E,h7km±6km,Md2.9*
*ISCJB **20** 13:51:49.0±0.5,38.°64N±0.°04×38.°25E±0.°04,h13km±7km, Error ellipse: s-maj=6.3km s-min=5.0km az=160.4*

ISC 20 13:51:49.2±0.5,38.°66N±0.°03×38.°22E±0.°04,h8km±7km, n24,σ1s30/44,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYA	**Malataya**	**0.37**	**155**	*e*PG	Pg	13 51 55.5	-0.9
MYA				*e*SG	Sg	13 52 01.7	+0.3
MYA	**Malataya**	**0.37**	**155**	*e*Pg	Pg	13 51 55.6	-0.8
MYA				*e*Sg	Sg	13 52 01.7	+0.4
MALT	**Malatya**	**0.38**	**155**	*e*PG	Pg	13 51 56.2	-0.5
MALT				*e*SG	Sg	13 52 03.0	+1.3
MALT	**Malatya**	**0.38**	**155**	*e*Pg	Pg	13 51 56.2	-0.5
MALT				*e*Sg	Sg	13 52 03.0	+1.3
AKCD	**Akcadag**	**0.44**	**213**	*i* P	Pg	13 51 55.8	-1.8
AKCD				*i* S	Sg	13 52 04.4	+1.0
AKCD	**Akcadag**	**0.44**	**213**	*i* P	Pg	13 51 55.8	-1.9
AKCD				*i* S	Sg	13 52 04.4	+1.0
DARE	**Darende-Malaty**	**0.44**	**312**	*e*PG	Pg	13 51 59.3	+1.6
DARE				*e*SG	Sg	13 52 08.3	+4.9
DARE	**Darende-Malaty**	**0.44**	**312**	*e*Pg	Pg	13 51 59.3	+1.6
DARE				*e*Sg	Sg	13 52 08.3	+4.9
ELZG	**Elazig**	**0.62**	**105**	*i* P	Pg	13 52 00.7	-0.4
ELZG				*i* S	Sg	13 52 12.4	+3.2
ELZG	**Elazig**	**0.62**	**105**	*i* P	Pg	13 52 00.7	-0.4
ELZG				*i* S	Sg	13 52 12.4	+3.2
KEMA	**Kemaliye**	**0.64**	**19**	*i* P	Pg	13 51 59.2	-2.3
KEMA				*i* S	Sg	13 52 10.0	+0.1
KEMA	**Kemaliye**	**0.64**	**19**	*i* P	Pg	13 51 59.2	-2.4
KEMA				*i* S	Sg	13 52 10.0	+0.1
SVRC	**Sivrice-ELAZID**	**0.90**	**108**	*e*PG	Pg	13 52 05.7	-0.7
SVRC				*e*SG	Sg	13 52 18.4	+0.4
SVRC	**Sivrice-ELAZID**	**0.90**	**108**	*e*Pg	Pg	13 52 05.7	-0.7
SVRC				*e*Sg	Sg	13 52 18.4	+0.4
PTK	**Pertek**	**0.94**	**76**	*e*PG	Pg	13 52 05.4	-1.9
PTK				*e*SG	Sg	13 52 21.0	+1.5
PTK	**Pertek**	**0.94**	**76**	*e*Pg	Pg	13 52 05.4	-1.9
PTK				*e*Sg	Sg	13 52 21.0	+1.5
SARI	**SarD1z-Kayseri**	**1.20**	**271**	*e*PN	Pn	13 52 13.4	+1.2
SARI				*e*SN	Sn	13 52 32.9	+4.3
SARI	**SarD1z-Kayseri**	**1.20**	**271**	*e*Pn	Pn	13 52 13.4	+1.2
SARI				*e*Sn	Sn	13 52 32.9	+4.3
SUSE	**Susehri**	**1.54**	**359**	*i* P	Pn	13 52 15.8	-1.2
SUSE				*i* S	Sn	13 52 39.5	+2.3
SUSE	**Susehri**	**1.54**	**359**	*i* P	Pn	13 52 15.8	-1.2
SUSE				*i* S	Sn	13 52 39.5	+2.3
KMRS	**Kahramanmaras**	**1.56**	**223**	*e*PN	Pn	13 52 16.5	-0.6
KMRS	**Kahramanmaras**	**1.56**	**223**	*e*Pn	Pn	13 52 16.5	-0.7
BNN	**Bunyan**	**1.87**	**277**	*e*PN	Pn	13 52 20.5	-0.9
BNN	**Bunyan**	**1.87**	**277**	*e*Pn	Pn	13 52 20.5	-1.0

*ISCJB **20** 14:09:18.0±0.1,39.°29N±0.°01×17.°35E±0.°02,h10km, mb4.1/17,MS3.7/7, Error ellipse: s-maj=1.9km s-min=1.7km az=136.9*
*LDG **20** 14:09:17.8±0.2,39.°21N×17.°55E,h10km,Ml3.5/5,Error ellipse: s-maj=4.8km s-min=3.3km az=128.0*
*IDC **20** 14:09:17.5±0.8,39.°22N×17.°14E,h0km,mb3.9/13, mb1 4.0/19,mb1mx3.9/32,mbtmp3.9/19,ML4.0/6,MS3.

	1µm,0.6s										
SIRI	**Monte Sirino -**	**1.46**	**309**		Pg		**Pn**	**14 09 47.6**	**+1.7**
	1µm,0.6s										
MATE	**Matera**	**1.47**	**341**		Pg		**Pn**	**14 09 46.7**	**+0.7**
	3µm,0.4s										
MATE	**Matera**	**1.47**	**341**		Pg		**Pn**	**14 09 46.7**	**+0.7**
	3µm,0.4s										
MIGL	**Miglionico**	**1.51**	**333**		Pg		**Pn**	**14 09 47.7**	**+1.1**
	14µm,0.8s										
MIGL	**Miglionico**	**1.51**	**333**		Pg		**Pn**	**14 09 47.7**	**+1.1**
	14µm,0.8s										
CEL	**Celeste**	**1.51**	**229**		*e*P		**Pn**	**14 09 45.6**	**-1.0**
CEL	**Celeste**	**1.51**	**229**	⇑	*e*Pg		**Pn**	**14 09 46.2**	**-0.4**
	2µm,0.9s										
CEL	**Celeste**	**1.51**	**229**		*e*P		**Pn**	**14 09 45.6**	**-1.0**
CEL	**Celeste**	**1.51**	**229**	⇑	*e*Pg		**Pn**	**14 09 46.2**	**-0.4**
	2µm,0.9s										
NOCI	**Noci**	**1.54**	**352**		Pg		**Pn**	**14 09 47.5**	**+0.5**
	4µm,0.4s										
NOCI	**Noci**	**1.54**	**352**		Pg		**Pn**	**14 09 47.5**	**+0.5**
	4µm,0.4s										
PE1	**Pezze di Greco**	**1.54**	**2**	⇑	*i*Pn		**Pn**	**14 09 47.6**	**+0.6**
SOI	**Samo**	**1.56**	**221**		Pg		**Pn**	**14 09 46.8**	**-0.5**
	1µm,0.8s										
SOI	**Samo**	**1.56**	**221**		Pg		**Pn**	**14 09 46.8**	**-0.5**
	1µm,0.8s										
MCEL	**Monticello**	**1.59**	**312**		Pg		**Pn**	**14 09 49.4**	**+1.7**
	1µm,0.8s										
MCEL	**Monticello**	**1.59**	**312**		Pg		**Pn**	**14 09 49.4**	**+1.7**
	1µm,0.8s										
SCLL	**Scilla**	**1.62**	**232**		Pg		**Pn**	**14 09 47.7**	**-0.4**
	326nm,0.8s										
SG1	**Sgolgore (BA)**	**1.65**	**342**		*e*Pn		**Pn**	**14 09 48.9**	**+0.3**
MPAZ	**Palizzi**	**1.67**	**219**		Pg		**Pn**	**14 09 48.4**	**-0.5**
	971nm,0.2s										
BULG	**Bulgheria - Ca**	**1.72**	**299**		Pg		**Pn**	**14 09 50.5**	**+1.0**
	1µm,0.7s										
BULG	**Bulgheria - Ca**	**1.72**	**299**		Pg		**Pn**	**14 09 50.5**	**+1.0**
	1µm,0.7s										
AMUR	**Altamura**	**1.74**	**341**		Pg		**Pn**	**14 09 50.4**	**+0.7**
	2µm,0.5s										
AMUR	**Altamura**	**1.74**	**341**		Pg		**Pn**	**14 09 50.4**	**+0.7**
	2µm,0.5s										
MSRU	**Castanea**	**1.75**	**236**		Pg		**Pn**	**14 09 48.8**	**-1.0**
	1µm,0.5s										
MTTG	**Motta San Giov**	**1.80**	**226**		Pg		**Pn**	**14 09 50.5**	**-0.1**
BAI	**Bari**	**1.87**	**349**		*e*Pn		**Pn**	**14 09 51.8**	**+0.2**
CMPR	**Campora**	**1.89**	**305**		Pg		**Pn**	**14 09 52.3**	**+0.5**
	932nm,1.1s										
MILZ	**Milazzo**	**1.92**	**240**		Pg		**Pn**	**14 09 51.2**	**-1.1**
	2µm,0.5s										
KEK	**Kerkira**	**1.96**	**76**		*e*P		**Pn**	**14 09 51.8**	**-0.9**
KEK	**Kerkira**	**1.96**	**76**		P		**Pn**	**14 09 52.2**	**-0.5**
KEK					S		**Sn**	**14 10 17.1**	**-0.2**
KEK	**Kerkira**	**1.96**	**76**		P		**Pn**	**14 09 52.2**	**-0.5**
KEK					S		**Sn**	**14 10 17.1**	**-0.2**
PALZ	**Palazzo San Ge**	**1.98**	**328**		Pg		**Pn**	**14 09 54.7**	**+1.6**
	5µm,0.9s										
CDRU	**Civita di Ruta**	**1.99**	**309**		Pg		**Pn**	**14 09 54.0**	**+0.8**
	1µm,1.3s										
CDT	**Castel del Mon**	**1.99**	**336**		*e*Pn		**Pn**	**14 09 53.2**	**0.0**
MRVN	**Minervino Murg**	**2.00**	**334**		Pg		**Pn**	**14 09 54.0**	**+0.7**
	2µm,0.5s										
LLI	**Lipari**	**2.04**	**247**		Pg		**Pn**	**14 09 53.4**	**-0.5**
	6µm,0.5s										
VPL	**Vulcano Piano**	**2.04**	**245**		Pg		**Pn**	**14 09 53.1**	**-0.8**
	2µm,0.6s										
VLO	**Vlora**	**2.05**	**53**		*e*PN		**Pn**	**14 09 53.3**	**-0.7**
VLO					*i* SN		**Sg**	**14 10 27.1**	**+1.7**
VLO	**Vlora**	**2.05**	**53**		*e*Pn		**Pn**	**14 09 53.3**	**-0.7**
MMME	**Mongiuffi-Meli**	**2.10**	**232**		Pg		**Pn**	**14 09 54.9**	**+0.1**
	719nm,0.3s										
MCRV	**Calabrutti - M**	**2.25**	**313**		Pg		**Pn**	**14 09 58.2**	**+1.4**
	556nm,0.5s										
IFIL	**Filicudi I Eol**	**2.27**	**253**		Pg		**Pn**	**14 09 56.6**	**-0.5**
	722nm,0.6s										
SNAL	**S. Angelo Dei**	**2.33**	**316**		Pg		**Pn**	**14 09 59.3**	**+1.4**
IGT	**Igoumenitsa**	**2.33**	**82**		P		**Pn**	**14 09 57.9**	**0.0**
IGT					S		**Sn**	**14 10 26.6**	**-0.1**
IGT	**Igoumenitsa**	**2.33**	**82**		P		**Pn**	**14 09 57.9**	**0.0**
IGT					S		**Sn**	**14 10 26.6**	**-0.1**
CAFE	**Carife**	**2.39**	**318**		Pg		**Pn**	**14 10 01.2**	**+2.5**
	312nm,0.9s										
IACL	**Alicudi**	**2.44**	**254**		Pg		**Pn**	**14 09 58.9**	**-0.5**
	426nm,0.7s										
MNO	**Monte Soro**	**2.46**	**238**		Pg		**Pn**	**14 10 00.2**	**+0.5**
	470nm,0.4s										
AGST	**Augusta-Monte**	**2.60**	**220**		Pg		**Pn**	**14 09 59.7**	**-1.9**
LKD2	**Lefkada island**	**2.63**	**99**		P		**Pn**	**14 10 01.3**	**-0.7**
LKD2	**Lefkada island**	**2.63**	**99**		P		**Pn**	**14 10 01.3**	**-0.7**
ISOR	**Termini**	**2.66**	**301**		Pg		**Pn**	**14 10 02.7**	**+0.3**
	63nm,0.7s										
MS1	**Monte Sant'Ang**	**2.66**	**337**		*e*Pn		**Pn**	**14 10 03.8**	**+1.4**
GALF	**Gagliano Caste**	**2.67**	**235**		Pg		**Pn**	**14 10 03.0**	**+0.4**
	719nm,0.7s										
MSAG	**Monte S. Angel**	**2.68**	**336**		Pg		**Pn**	**14 10 03.5**	**+0.8**
	2µm,0.4s										
HCRL	**Carlentini**	**2.69**	**223**		Pg		**Pn**	**14 10 00.2**	**-2.6**
	531nm,0.7s										
JAN	**Janina**	**2.75**	**81**		*e*P		**Pn**	**14 10 03.3**	**-0.3**
JAN	**Janina**	**2.75**	**81**		P		**Pn**	**14 10 04.1**	**+0.5**
JAN	**Janina**	**2.75**	**81**		P		**Pn**	**14 10 04.1**	**+0.5**
RGNG	**Rignano Grg**	**2.75**	**332**		Pg		**Pn**	**14 10 05.1**	**+1.4**
SSY	**Sortino**	**2.76**	**221**		Pg		**Pn**	**14 10 01.1**	**-2.7**
	751nm,0.5s										
VLS	**Valsamata**	**2.76**	**112**		*e*P		**Pn**	**14 10 02.3**	**-1.5**
VLS	**Valsamata**	**2.76**	**112**		P		**Pn**	**14 10 02.4**	**-1.4**
VLS	**Valsamata**	**2.76**	**112**		P		**Pn**	**14 10 02.4**	**-1.4**
SGRT	**San Giovanni R**	**2.77**	**334**		Pg		**Pn**	**14 10 04.9**	**+1.0**
	1µm,0.9s										
TIR	**Tirane**	**2.84**	**42**		*e*PN		**Pn**	**14 10 06.2**	**+1.3**
TIR					*i* SN		**Sn**	**14 10 40.6**	**+1.5**
TIR	**Tirane**	**2.84**	**42**		*e*P		**Pn**	**14 10 06.2**	**+1.3**
TIR	**Tirane**	**2.84**	**42**		*e*P		**Pn**	**14 10 06.2**	**+1.3**
TIR	**Tirane**	**2.84**	**42**		*e*P		**Pn**	**14 10 06.2**	**+1.3**
TIR					*i* Sn		**Sn**	**14 10 40.6**	**+1.5**
HAVL	**Avola**	**2.89**	**218**		Pg		**Pn**	**14 10 02.8**	**-2.7**
	735nm,0.3s										
GIB	**Gibilmanna**	**2.89**	**245**		Pg		**Pn**	**14 10 05.0**	**-0.6**
	583nm,0.5s										
KFL	**Anninata**	**2.93**	**112**		P		**Pn**	**14 10 04.8**	**-1.4**
KFL	**Anninata**	**2.93**	**112**		P		**Pn**	**14 10 04.8**	**-1.4**
HMDC	**Modica**	**3.06**	**222**		Pg		**Pn**	**14 10 06.0**	**-1.9**
	614nm,0.4s										
ULC	**Ulcinj**	**3.06**	**28**	⇓	*i*Pn		**Pn**	**14 10 07.6**	**-0.4**
ULC					*e*Sn		**Sn**	**14 10 43.6**	**-1.0**
ULC	**Ulcinj**	**3.06**	**28**	⇓	*i*Pn		**Pn**	**14 10 07.6**	**-0.4**
ULC					*e*Sn		**Sn**	**14 10 43.6**	**-1.0**
NEST	**Nestorio**	**3.08**	**67**		P		**Pn**	**14 10 08.6**	**+0.4**
NEST	**Nestorio**	**3.08**	**67**		P		**Pn**	**14 10 08.6**	**+0.4**
RAFF	**Raffo Rosso**	**3.11**	**230**		Pg		**Pn**	**14 10 07.6**	**-0.9**
	279nm,0.6s										
ALJA	**Alia**	**3.19**	**243**		Pg		**Pn**	**14 10 10.6**	**+0.8**
	309nm,1.2s										
VAGA	**Valle Agricola**	**3.20**	**313**		Pg		**Pn**	**14 10 11.5**	**+1.6**
BUM	**Brajici-Budva**	**3.26**	**21**	⇑	*i*Pn		**Pn**	**14 10 10.5**	**-0.1**
BUM					*e*Sn		**Sn**	**14 10 48.9**	**-0.5**
BUM	**Brajici-Budva**	**3.26**	**21**	⇑	*i*Pn		**Pn**	**14 10 10.5**	**-0.1**
BUM					*e*Sn		**Sn**	**14 10 48.9**	**-0.5**
HCY	**Herceg Novi**	**3.30**	**15**	⇑	*i*Pn		**Pn**	**14 10 10.8**	**-0.4**
HCY					*e*Sn		**Sn**	**14 10 50.1**	**-0.4**
HCY	**Herceg Novi**	**3.30**	**15**	⇑	*i*Pn		**Pn**	**14 10 10.8**	**-0.4**
HCY					*e*Sn		**Sn**	**14 10 50.1**	**-0.4**
PUK	**Puka**	**3.39**	**34**		*e*PN		**Pn**	**14 10 13.1**	**+0.7**
PUK					*i* SN		**Sn**	**14 10 53.8**	**+1.2**
PUK	**Puka**	**3.39**	**34**		*e*Pn		**Pn**	**14 10 13.1**	**+0.7**
PUK					*i* Sn		**Sn**	**14 10 53.8**	**+1.2**
CERA	**Filignano**	**3.44**	**314**		Pg		**Pb**	**14 10 16.4**	**-4.2**
	322nm,0.8s										
RLS	**Riolos of Patr**	**3.45**	**109**		*e*P		**Pn**	**14 10 13.6**	**+0.4**
FNA	**Florina**	**3.45**	**63**		P		**Pn**	**14 10 14.0**	**+0.7**
FNA	**Florina**	**3.45**	**63**		P		**Pn**	**14 10 14.0**	**+0.7**
PDG	**Podgorica**	**3.48**	**24**	⇑	*i*Pn		**Pn**	**14 10 13.7**	**0.0**
PDG					*e*Sn		**Sn**	**14 10 54.2**	**-0.8**
TTG	**Podgorica**	**3.48**	**24**	⇑	*i*Pn		**Pn**	**14 10 13.7**	**0.0**
TTG					*e*Sn		**Sn**	**14 10 54.2**	**-0.8**
EVR	**Evrytania**	**3.50**	**94**		*e*P		**Pb**	**14 10 24.1**	**+2.7**
EVR	**Evrytania**	**3.50**	**94**		P		**Pn**	**14 10 14.7**	**+0.8**
EVR	**Evrytania**	**3.50**	**94**		P		**Pn**	**14 10 14.7**	**+0.8**
KZN	**Kozani**	**3.57**	**72**		*e*P		**Pn**	**14 10 15.4**	**+0.5**
KZN	**Kozani**	**3.57**	**72**		P		**Pn**	**14 10 16.1**	**+1.2**
KZN	**Kozani**	**3.57**	**72**		P		**Pn**	**14 10 16.1**	**+1.2**
STON	**Ston**	**3.62**	**4**	*i*	Pn		**Pn**	**14 10 14.6**	**-0.9**
STON					Sn		**Sn**	**14 10 56.3**	**-1.9**
STON	**Ston**	**3.62**	**4**	*i*	Pn		**Pn**	**14 10 14.6**	**-0.9**
STON					Sn		**Sn**	**14 10 56.3**	**-1.9**
THL	**Klokotos Trika**	**3.63**	**84**		*e*P		**Pn**	**14 10 17.3**	**+1.5**
THL	**Klokotos Trika**	**3.63**	**84**		P		**Pn**	**14 10 16.4**	**+0.6**
THL	**Klokotos Trika**	**3.63**	**84**		P		**Pn**	**14 10 16.4**	**+0.6**
KRUS	**Krusevo**	**3.65**	**54**		*e*Pn		**Pn**	**14 10 16.5**	**+0.4**
KRUS	**Krusevo**	**3.65**	**54**		*e*Pn		**Pn**	**14 10 16.4**	**+0.3**
POFI	**Posta Fibreno**	**3.70**	**313**		Pg		**Pn**	**14 10 17.9**	**+1.3**
BCI	**Bajram Curri**	**3.73**	**33**		*e*PN		**Pn**	**14 10 18.0**	**+0.9**
BCI					*i* SN		**Sn**	**14 10 58.0**	**-3.0**
BCI	**Bajram Curri**	**3.73**	**33**		*e*Pn		**Pn**	**14 10 18.0**	**+0.9**
BCI					*i* Sn		**Sn**	**14 10 58.0**	**-3.0**
BRY	**Bratogost**	**3.75**	**14**	⇓	*i*Pn		**Pn**	**14 10 17.3**	**0.0**
BRY					*e*Sn		**Sn**	**14 11 01.2**	**-0.3**
BRY	**Bratogost**	**3.75**	**14**	⇓	*i*Pn		**Pn**	**14 10 17.3**	**0.0**
BRY					*e*Sn		**Sn**	**14 11 01.2**	**-0.3**
NKY	**Niksic**	**3.76**	**19**	⇓	*i*Pn		**Pn**	**14 10 17.4**	**-0.1**
NKY					*e*Sn		**Sn**	**14 11 01.4**	**-0.4**
NKY	**Niksic**	**3.76**	**19**	⇓	*i*Pn		**Pn**	**14 10 17.4**	**-0.1**
NKY					*e*Sn		**Sn**	**14 11 01.4**	**-0.4**
VVLD	**Villa Vallelon**	**3.85**	**314**		Pg		**Pn**	**14 10 20.6**	**+1.9**
GIUL	**Giuliano Di Ro**	**3.87**	**308**		Pg		**Pn**	**14 10 20.3**	**+1.3**
	57nm,0.8s										
PVY	**Plav**	**3.88**	**30**	⇑	*i*Pn		**Pn**	**14 10 18.7**	**-0.5**
PVY					*e*Sn		**Sn**	**14 11 02.9**	**-1.9**
PVY	**Plav**	**3.88**	**30**	⇑	*i*Pn		**Pn**	**14 10 18.7**	**-0.5**
PVY					*e*Sn		**Sn**	**14 11 02.9**	**-1.9**
AGG	**Agios Georgios**	**3.89**	**92**		*e*P		**Pn**	**14 10 20.0**	**+0.7**
AGG	**Agios Georgios**	**3.89**	**92**		P		**Pn**	**14 10 20.4**	**+1.1**
AGG					S		**Sn**	**14 11 05.0**	**0.0**
AGG	**Agios Georgios**	**3.89**	**92**		P		**Pn**	**14 10 20.4**	**+1.1**
AGG					S		**Sn**	**14 11 05.0**	**0.0**
LIT	**Litokhoron**	**4.06**	**76**		P		**Pn**	**14 10 21.8**	**+0.1**
LIT	**Litokhoron**	**4.06**	**76**		P		**Pn**	**14 10 21.8**	**+0.1**
WDD	**Wield Dalam**	**4.06**	**214**		Pg		**Pn**	**14 10 20.3**	**-1.4**
BEY	**Berane**	**4.09**	**27**	⇑	*i*Pn		**Pn**	**14 10 22.1**	**0.0**
BEY					*e*Sn		**Sn**	**14 11 07.9**	**-2.1**
IVA	**Berane**	**4.09**	**27**	⇑	*i*Pn		**Pn**	**14 10 22.1**	**0.0**
IVA					*e*Sn		**Sn**	**14 11 07.9**	**-2.1**
UPM	**Unac-Piva**	**4.11**	**16**	⇑	*i*Pn		**Pn**	**14 10 22.7**	**+0.4**
UPM					*e*Sn		**Sn**	**14 11 09.6**	**-0.8**
UPM	**Unac-Piva**	**4.11**	**16**	⇑	*i*Pn		**Pn**	**14 10 22.7**	**+0.4**
UPM					*e*Sn		**Sn**	**14 11 09.6**	**-0.8**
SKO	**Skopje**	**4.13**	**48**		*e*Pn		**Pn**	**14 10 22.5**	**-0.1**
SKO	**Skopje**	**4.13**	**48**		*e*Pn		**Pn**	**14 10 22.5**	**-0.1**
GUR	**Goura**	**4.14**	**107**		*e*P		**Pn**	**14 10 24.4**	**+1.7**
GUR	**Goura**	**4.14**	**107**		P		**Pn**	**14 10 22.2**	**-0.5**
GUR	**Goura**	**4.14**	**107**		P		**Pn**	**14 10 22.2**	**-0.5**
DSF	**Desfina**	**4.14**	**100**		P		**Pn**	**14 10 23.6**	**+0.9**
DSF	**Desfina**	**4.14**	**100**		P		**Pn**	**14 10 23.6**	**+0.9**
ITM	**Ithomi**	**4.17**	**119**		*e*P		**Pn**	**14 10 21.5**	**-1.6**
ITM	**Ithomi**	**4.17**	**119**		P		**Pn**	**14 10 21.7**	**-1.4**
ITM	**Ithomi**	**4.17**	**119**		P		**Pn**	**14 10 21.7**	**-1.4**
PYL	**PYLOS**	**4.20**	**123**		*e*P		**Pn**	**14 10 21.7**	**-1.9**
GRG	**Griva**	**4.23**	**65**		P		**Pn**	**14 10 24.2**	**+0.2**
GRG	**Griva**	**4.23**	**65**		P		**Pn**	**14 10 24.2**	**+0.2**
AQU	**L'Aquila**	**4.30**	**317**		P		**Pn**	**14 10 23.3**	**-1.6**
AQU	**L'Aquila**	**4.30**	**317**		P		**Pn**	**14 10 23.3**	**-1.6**
AQU	**L'Aquila**	**4.30**	**317**		P		**Pn**	**14 10 23.3**	**-1.6**
PLE	**Pljevlja**	**4.35**	**20**	⇑	*i*Pn		**Pn**	**14 10 26.2**	**+0.6**
PLE					*e*Sn		**Sn**	**14 11 14.7**	**-1.6**
PLE	**Pljevlja**	**4.35**	**20**	⇑	*i*Pn		**Pn**	**14 10 26.2**	**+0.6**
PLE					*e*Sn		**Sn**	**14 11 14.7**	**-1.6**
VLX	**Vlachokerasia**	**4.39**	**114**		*e*P		**Pn**	**14 10 27.2**	**+1.0**
VLX	**Vlachokerasia**	**4.39**	**114**		P		**Pn**	**14 10 26.1**	**-0.1**
VLX	**Vlachokerasia**	**4.39**	**114**		P		**Pn**	**14 10 26.1**	**-0.1**
LKR	**Lokris**	**4.45**	**96**		*e*P		**Pn**	**14 10 27.5**	**+0.4**
LKR	**Lokris**	**4.45**	**96**		P		**Pn**	**14 10 26.9**	**-0.2**
LKR	**Lokris**	**4.45**	**96**		P		**Pn**	**14 10 26.9**	**-0.2**
SJES	**Sjenica**	**4.46**	**26**		*e*Pn		**Pn**	**14 10 28.6**	**+1.5**
NEO	**Neokhori**	**4.57**	**88**		*e*P		**Pn**	**14 10 29.5**	**+0.9**
NEO	**Neokhori**	**4.57**	**88**		P		**Pn**	**14 10 28.8**	**+0.2**
NEO	**Neokhori**	**4.57**	**88**		P		**Pn**	**14 10 28.8**	**+0.2**
LTK	**Loutraki**	**4.58**	**104**		*e*P		**Pn**	**14 10 29.2**	**+0.4**
LTK	**Loutraki**	**4.58**	**104**		P		**Pn**	**14 10 29.0**	**+0.2**
LTK	**Loutraki**	**4.58**	**104**		P		**Pn**	**14 10 29.0**	**+0.2**
HORT	**Hortiatis**	**4.62**	**71**		P		**Pn**	**14 10 29.5**	**+0.1**
HORT	**Hortiatis**	**4.62**	**71**		P		**Pn**	**14 10 29.5**	**+0.1**
KNT	**Kendrikon**	**4.66**	**64**		P		**Pn**	**14 10 30.4**	**+0.5**
KNT	**Kendrikon**	**4.66**	**64**		P		**Pn**	**14 10 30.4**	**+0.5**
IVAS	**Ivanjica**	**4.80**	**25**	⇑	*i*Pn		**Pn**	**14 10 32.3**	**+0.5**
PLG	**Polygyros**	**4.83**	**75**		*e*P		**Pn**	**14 10 32.0**	**-0.2**
BBLS	**Lazići**	**4.85**	**18**	⇓	*i*Pn		**Pn**	**14 10 33.4**	**+0.9**
SOH	**Sokhos**	**4.87**	**69**		*e*P		**Pn**	**14 10 34.8**	**+2.0**
BARS	**Barje**	**4.90**	**42**		*e*Pn		**Pn**	**14 10 33.9**	**+0.7**
PAIG	**Paliouri**	**4.94**	**80**		P		**Pn**	**14 10 33.6**	**-0.2**
PAIG	**Paliouri**	**4.94**	**80**		P		**Pn**	**14 10 33.6**	**-0.2**
DID	**Didima**	**4.95**	**109**		*e*P		**Pn**	**14 10 33.5**	**-0.4**
DID	**Didima**	**4.95**	**109**		P		**Pn**	**14 10 33.5**	**-0.4**
DID					S		**Sn**	**14 11 28.5**	**-2.8**
DID	**Didima**	**4.95**	**109**		P		**Pn**	**14 10 33.5**	**-0.4**
DID					S		**Sn**	**14 11 28.5**	**-2.8**
NAIG	**Nisos Aigina**	**5.05**	**105**		*e*P		**Pn**	**14 10 35.3**	**0.0**
AOS	**Alonnisos**	**5.08**	**89**		P		**Pn**	**14 10 35.5**	**-0.2**
AOS					S		**Sn**	**14 11 31.5**	**-2.9**
AOS	**Alonnisos**	**5.08**	**89**		P		**Pn**	**14 10 35.5**	**-0.2**
AOS					S		**Sn**	**14 11 31.5**	**-2.9**
VLI	**Veliai**	**5.10**	**118**		*e*P		**Pn**	**14 10 35.6**	**-0.3**
VLI	**Veliai**	**5.10**	**118**		P		**Pn**	**14 10 36.0**	**+0.1**
VLI	**Veliai**	**5.10**	**118**		P		**Pn**	**14 10 36.0**	**+0.1**
ATH	**Athens Observa**	**5.16**	**102**		*e*P		**Pn**	**14 10 36.9**	**+0.2**
ATH	**Athens Observa**	**5.16**	**102**		P		**Pn**	**14 10 37.3**	**+0.6**
ATH	**Athens Observa**	**5.16**	**102**		P		**Pn**	**14 10 37.3**	**+0.6**
DIVS	**Divibare**	**5.22**	**21**		P		**Pn**	**14 10 37.6**	**0.0**
DIVS					S		**Sn**	**14 11 36.8**	**-1.0**
DIVS	**Divibare**	**5.22**	**21**		P		**Pn**	**14 10 37.6**	**0.0**
DIVS					S		**Sn**	**14 11 36.8**	**-1.0**
OUR	**Ouranopolis**	**5.23**	**76**		P		**Pn**	**14 10 37.4**	**-0.3**
OUR	**Ouranopolis**	**5.23**	**76**		P		**Pn**	**14 10 37.4**	**-0.3**
PTL	**Penteli**	**5.25**	**101**		*e*P		**Pn**	**14 10 38.2**	**+0.2**
PTL	**Penteli**	**5.25**	**101**		P		**Pn**	**14 10 38.2**	**+0.2**
PTL	**Penteli**	**5.25**	**101**		P		**Pn**	**14 10 38.2**	**+0.2**
VLY	**Voula,Athens**	**5.25**	**104**		*e*P		**Pn**	**14 10 37.9**	**-0.1**
VLY	**Voula,Athens**	**5.25**	**104**		P		**Pn**	**14 10 38.0**	**0.0**
VLY	**Voula,Athens**	**5.25**	**104**		P		**Pn**	**14 10 38.0**	**0.0**
GRUS	**Gruza**	**5.27**	**28**		*e*Pn		**Pn**	**14 10 39.7**	**+1.5**
NVR	**Nevrokopi**	**5.40**	**65**		*e*P		**Pn**	**14 10 42.2**	**+2.1**
KYTH	**Kithira**	**5.41**	**122**		*e*P		**Pn**	**14 10 40.2**	**0.0**
KYTH	**Kithira**	**5.41**	**122**		P		**Pn**	**14 10 40.1**	**-0.1**
KYTH	**Kithira**	**5.41**	**122**		P		**Pn**	**14 10 40.1**	**-0.1**
TRUS	**Trudelj**	**5.46**	**24**	⇑	*i*Pn		**Pn**	**14 10 39.9**	**-1.0**
VTS	**Vitosha**	**5.55**	**51**	⇑	P		**Pn**	**14 10 43.4**	**+1.3**
VTS					S		**Sn**	**14 11 44.7**	**-1.2**
VTS	**Vitosha**	**5.55**	**51**	⇑	*i*P		**Pn**	**14 10 43.4**	**+1.3**
VTS	**Vitosha**	**5.55**	**51**		S		**Sn**	**14 11 44.7**	**-1.2**
VTS	**Vitosha**	**5.55**	**51**		P		**Pn**	**14 10 43.4**	**+1.3**
VTS					S		**Sn**	**14 11 44.7**	**-1.2**
PIEI	**Pieia**	**5.59**	**321**		Pg		**Pn**	**14 10 46.0**	**+3.3**
NVLJ	**Novalja**	**5.61**	**342**		*e*Pn		**Pn**	**14 10 43.0**	**+0.1**
NVLJ					Sn		**Sn**	**14 11 41.3**	**-6.0**
NVLJ	**Novalja**	**5.61**	**342**		*e*Pn		**Pn**	**14 10 43.0**	**+0.1**
BOLS	**Boljevac**	**5.72**	**36**		*i* Pn		**Pn**	**14 10 44.0**	**-0.5**
FGSL	**Fruska Gora**	**6.17**	**16**	⇑	*i*Pn		**Pn**	**14 10 48.5**	**-2.1**
VSL	**Villasalto**	**6.17**	**275**		*e*P		**Pn**	**14 10 49.4**	**-1.3**
	17nm,0.9s										
VSL	**Villasalto**	**6.17**	**275**		Pg		**Pn**	**14 10 50.5**	**-0.2**
	24nm,1.4s										
VSL	**Villasalto**	**6.17**	**275**		*e*P		**Pn**	**14 10 49.4**	**-1.3**
	17nm,0.9s										
BOJS	**Bojanci**	**6.42**	**347**		*i* Pn		**Pn**	**14 10 55.3**	**+1.2**
BOJS					*e*Sn		**Sn**	**14 12 06.5**	**-0.9**
BOJS											
	comp=Z,19nm,0.3s										
BOJS	**Bojanci**	**6.42**	**347**		Pn		**Pn**	**14 10 55.3**	**+1.2**
BOJS					*e*Sn		**Sn**	**14 12 06.5**	**-1.0**
	comp=Z,19nm,0.3s										
GBRS	**Gornja Briga**	**6.54**	**344**		*i* Pn		**Pn**	**14 10 57.1**	**+1.4**
GBRS					*e*Sn		**Sn**	**14 12 09.8**	**-0.4**
	comp=Z,28nm,0.4s										
KNDS	**Knezji Dol**	**6.63**	**342**		*i* Sn		**Sn**	**14 12 12.4**	**-0.1**
KNDS											
	comp=Z,23nm,0.3s										
KNDS	**Knezji Dol**	**6.63**	**342**		*i* Sn		**Sn**	**14 12 12.4**	**-0.1**
	comp=Z,23nm,0.3s										
RHK3	**Tenkes**	**6.66**	**6**		*e*Pn		**Pn**	**14 10 57.5**	**+0.2**
VAM	**Vamos**	**6.68**	**123**		*e*P		**Pn**	**14 10 56.0**	**-1.7**
VAM	**Vamos**	**6.68**	**123**		P		**Pn**	**14 10 56.2**	**-1.5**
VAM	**Vamos**	**6.68**	**123**		P		**Pn**	**14 10 56.2**	**-1.5**
CRES	**Cresnjev**	**6.70**	**349**	*i*	Pn		**Pn**	**14 10 59.0**	**+1.0**
CRES					*e*Sn		**Sn**	**14 12 10.7**	**-3.7**
CRES											
	comp=Z,21nm,0.5s										
CRES	**Cresnjev**	**6.70**	**349**	*i*	Pn		**Pn**	**14 10 59.0**	**+1.1**
GCIS	**Gornji Cirnik**	**6.72**	**350**	*i*	Pn		**Pn**	**14 10 59.0**	**+0.9**
GCIS					*e*Sn		**Sn**	**14 12 13.6**	**-1.1**
GCIS											
	comp=Z,21nm,0.6s										
GCIS	**Gornji Cirnik**	**6.72**	**350**	*i*	Pn		**Pn**	**14 10 59.0**	**+0.8**
GCIS					*e*Sn		**Sn**	**14

	comp=Z,4.2nm,0.5s							
LMR	**La Mourre**	**9.11**	**300**	*e*Pn		**Pn**	**14 11 29.1**	**-1.8**
LMR				*e*Sn		**Sn**	**14 13 07.9**	**-5.6**
LMR	**La Mourre**	**9.11**	**300**	*e*P		**Pn**	**14 11 29.1**	**-1.8**
LMR				*e*			14 13 07.9	
LMR	**La Mourre**	**9.11**	**300**	*e*Pn		**Pn**	**14 11 29.1**	**-1.8**
TUE	**Stuetta**	**9.29**	**323**	*e*P		**Pn**	**14 11 34.7**	**+1.3**
	comp=Z,5.1nm,0.6s							
TUE	**Stuetta**	**9.29**	**323**	*e*P		**Pn**	**14 11 34.7**	**+1.3**
	comp=Z,5.1nm,0.6s							
VYHS	**Vyhne**	**9.29**	**6**	*e*P		**Pn**	**14 11 33.6**	**+0.2**
VYHS				*e*			14 13 08.7	
VYHS	**Vyhne**	**9.29**	**6**	*e*PN		**Pn**	**14 11 33.6**	**+0.2**
VYHS				*e*SN		**Sn**	**14 13 08.7**	**-9.2**
VYHS	**Vyhne**	**9.29**	**6**	*e*P		**Pn**	**14 11 33.6**	**+0.2**
MBDF	**Montbardon**	**9.57**	**308**	*e*Pn		**Pn**	**14 11 35.6**	**-1.7**
MBDF				*e*Sn		**Sn**	**14 13 19.1**	**-5.8**
	comp=Z,1.2nm,0.4s							
MBDF	**Montbardon**	**9.57**	**308**	*e*Pn		**Pn**	**14 11 35.6**	**-1.7**
MBDF				*e*Sn		**Sn**	**14 13 19.1**	**-5.8**
MBDF	**Montbardon**	**9.57**	**308**	*e*P		**Pn**	**14 11 35.6**	**-1.7**
MBDF				*e*			14 13 19.1	
DAVA	**Damuels**	**9.69**	**328**	/*e*Pn		**Pn**	**14 11 40.8**	**+2.0**
	comp=Z,3.4nm,0.4s							
DAVA	**Damuels**	**9.69**	**328**	Pn		**Pn**	**14 11 40.8**	**+2.0**
	comp=Z,3.4nm,0.4s							
GERES	**GERESS Array B**	**9.93**	**346**	Pn		**Pn**	**14 11 42.3**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=159,slow=15,SNR=8.6							
GERES				Sn		**Sn**	**14 13 31.1**	**-2.5**
	comp=Z,1.1nm,0.3s,baz=157,slow=25,SNR=5.3							
GERES	**GERESS Array B**	**9.93**	**346**	Pn		**Pn**	**14 11 42.3**	**+0.2**
GERES				Sn		**Sn**	**14 13 31.1**	**-2.5**
GERES	**GERESS Array B**	**9.93**	**346**	P		**Pn**	**14 11 42.3**	**+0.2**
GERES							14 13 31.1	
GERES	**GERESS Array B**	**9.93**	**346**	P		**Pn**	**14 11 42.3**	**+0.2**
GERES				S		**Sn**	**14 13 31.1**	**-2.5**
UZH	**Uzhgorod**	**10.02**	**19**	*e*P		**Pn**	**14 11 41.4**	**-2.0**
UZH	**Uzhgorod**	**10.02**	**19**	*e*P		**Pn**	**14 11 41.4**	**-2.0**
CRVS	**Cervenica-Dubn**	**10.08**	**16**	*e*P		**Pn**	**14 11 44.4**	**+0.2**
CRVS	**Cervenica-Dubn**	**10.08**	**16**	*e*PN		**Pn**	**14 11 44.4**	**+0.2**
CRVS	**Cervenica-Dubn**	**10.08**	**16**	*e*P		**Pn**	**14 11 44.4**	**+0.2**
BURAR	**Bucovina Array**	**10.12**	**32**	⇓P		**Pn**	**14 11 47.8**	**+3.1**
BURAR	**Bucovina Array**	**10.12**	**32**	⇓/P		**Pn**	**14 11 47.8**	**+3.1**
KHC	**Kasperske Hory**	**10.23**	**346**	*e*P		**Pn**	**14 11 44.5**	**-1.7**
KHC				*e*			14 13 30.0	
KHC	**Kasperske Hory**	**10.23**	**346**	*e*PN		**Pn**	**14 11 44.5**	**-1.7**
KHC				*ex*		x	14 11 55.5	
KHC				*ex*		x	14 12 13.0	
KHC				*ex*		x	14 13 30.0	
KHC				*ex*		x	14 14 02.0	
KHC	**Kasperske Hory**	**10.23**	**346**	Pn		**Pn**	**14 11 44.5**	**-1.7**
MORC	**Moravsky Berou**	**10.51**	**1**	⇓P		**Pn**	**14 11 51.6**	**+1.5**
MORC	**Moravsky Berou**	**10.51**	**1**	⇓/P		**Pn**	**14 11 51.6**	**+1.5**
MORC	**Moravsky Berou**	**10.51**	**1**	P		**Pn**	**14 11 51.6**	**+1.5**
PRU	**Pruhonice**	**10.91**	**350**	*e*P		**Pn**	**14 11 54.5**	**-1.0**
PRU	**Pruhonice**	**10.91**	**350**	*e*PN		**Pn**	**14 11 54.5**	**-1.0**
PRU	**Pruhonice**	**10.91**	**350**	Pn		**Pn**	**14 11 54.5**	**-1.0**
CABF	**La Chapelle**	**11.04**	**315**	*e*Pn		**Pn**	**14 11 55.5**	**-1.8**
CABF				*e*Sn		**Sn**	**14 13 54.1**	**-6.6**
	comp=Z,1.7nm,0.4s							
CABF	**La Chapelle**	**11.04**	**315**	*e*Pn		**Pn**	**14 11 55.5**	**-1.8**
CABF				*e*Sn		**Sn**	**14 13 54.1**	**-6.6**
CABF	**La Chapelle**	**11.04**	**315**	*e*P		**Pn**	**14 11 55.5**	**-1.8**
CABF				*e*			14 13 54.1	
CABF	**La Chapelle**	**11.04**	**315**	*e*Pn		**Pn**	**14 11 55.5**	**-1.8**
BRTR	**Keskin Array B**	**12.60**	**83**	Pn		**Pn**	**14 12 20.4**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=263,slow=12,SNR=5.2							
BRTR	**Keskin Array B**	**12.60**	**83**	Pn		**Pn**	**14 12 20.4**	**+1.7**
BRTR	**Keskin Array B**	**12.60**	**83**	*e*P		**Pn**	**14 12 24.1**	**+5.3**
BRTR	**Keskin Array B**	**12.60**	**83**	Pn		**Pn**	**14 12 20.5**	**+1.7**
AKASG	**Malin Array Be**	**14.17**	**32**	Pn		**Pn**	**14 12 40.8**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=224,slow=10,SNR=2.7							
AKASG	**Malin Array Be**	**14.17**	**32**	Pn		**Pn**	**14 12 40.8**	**+0.7**
AKASG	**Malin Array Be**	**14.17**	**32**	P		**Pn**	**14 12 40.8**	**+0.7**
AKASG	**Malin Array Be**	**14.17**	**32**	P		**Pn**	**14 12 40.8**	**+0.7**
MMAI	**Mount Meron Ar**	**15.86**	**108**	Pn		**Pn**	**14 12 56.2**	**-6.6**
	comp=Z,3.4nm,0.3s,baz=296,slow=14,SNR=8.4							
MMAI	**Mount Meron Ar**	**15.86**	**108**	Pn		**Pn**	**14 12 56.2**	**-6.6**
ESDC	**Sonseca Array**	**16.46**	**278**	Pn		**Pn**	**14 13 07.7**	**-2.7**
	comp=Z,0.4nm,0.3s,baz=85,slow=9.7,SNR=2.6							
ESDC	**Sonseca Array**	**16.46**	**278**	Pn		**Pn**	**14 13 07.7**	**-2.7**
EIL	**Elat**	**17.37**	**118**	P		**Pn**	**14 13 18.1**	**-3.8**
	comp=Z,2.2nm,0.3s,baz=336,slow=10.0,SNR=11							
EIL	**Elat**	**17.37**	**118**	P		**Pn**	**14 13 18.1**	**-3.8**
ASF	**Jabal al Asfar**	**17.37**	**108**	P		**Pn**	**14 13 21.1**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=331,slow=11,SNR=3.8							
ASF	**Jabal al Asfar**	**17.37**	**108**	P		**Pn**	**14 13 21.1**	**-0.9**
ASF	**Jabal al Asfar**	**17.37**	**108**	P		**Pn**	**14 13 21.1**	**-0.9**
KIV	**Kislovodsk**	**19.49**	**68**	*e*P		**Pn**	**14 13 49.1**	**+1.3**
KIV				pmax	pmax			
	comp=Z,9.0nm,1.1s							
KIV	**Kislovodsk**	**19.49**	**68**	*e*P		**Pn**	**14 13 49.1**	**+1.3**
	comp=Z,9.0nm,1.1s							
ZEI	**Tsey**	**20.31**	**72**	*e*P		**P**	**14 13 54.8**	**-0.7**
ZEI				pmax	pmax			
	comp=Z,5.0nm,0.6s							
ZEI	**Tsey**	**20.31**	**72**	*e*P		**P**	**14 13 54.8**	**-0.7**
	comp=Z,5.0nm,0.6s							
OBN	**Obninsk**	**20.44**	**33⇑**	*e*P		**P**	**14 13 57.0**	**+0.3**
OBN				*e*S		**S**	**14 17 50.6**	**+5.2**
OBN				pmax	pmax			
	comp=Z,27nm,1.7s							
OBN	**Obninsk**	**20.44**	**33**	*e*P		**P**	**14 13 57.0**	**+0.3**
	comp=Z,27nm,1.7s							
HFS	**Hagfors**	**21.02**	**355**	P		**P**	**14 14 02.8**	**-0.2**
	comp=Z,3.3nm,0.6s,mb3.9,baz=172,slow=12,SNR=11							
HFS	**Hagfors**	**21.02**	**355**	P		**P**	**14 14 02.8**	**-0.2**
HFS	**Hagfors**	**21.02**	**355**	P		**P**	**14 14 02.8**	**-0.2**
HFS	**Hagfors**	**21.02**	**355**	P		**P**	**14 14 02.8**	**-0.2**
EKA	**Eskdalemuir Ar**	**21.12**	**326**	P		**P**	**14 14 04.3**	**+0.1**
	comp=Z,4.9nm,0.9s,mb3.8,baz=138,slow=11,SNR=6.5							
EKA	**Eskdalemuir Ar**	**21.12**	**326**	P		**P**	**14 14 04.3**	**+0.1**
EKA	**Eskdalemuir Ar**	**21.12**	**326**	P		**P**	**14 14 04.3**	**+0.1**
EKA	**Eskdalemuir Ar**	**21.12**	**326**	P		**P**	**14 14 04.3**	**+0.1**
PUL	**Pulkovo**	**22.11**	**18**	*e*P		**P**	**14 14 16.9**	**+2.2**
PUL				pmax	pmax			
	comp=Z,38nm,0.7s,mb4.9							
PUL	**Pulkovo**	**22.11**	**18**	*e*P		**P**	**14 14 16.9**	**+2.2**
	comp=Z,38nm,0.7s,mb4.9							
NB2	**NORSAR Subarra**	**22.13**	**352**	P		**P**	**14 14 14.0**	**-0.9**
	comp=Z,1.1nm,0.7s,mb3.4,baz=168,slow=10							
NB2	**NORSAR Subarra**	**22.13**	**352**	P		**P**	**14 14 15.0**	**+0.1**
	comp=Z,4.1nm,0.9s,mb3.9,baz=165,slow=10							
NB2	**NORSAR Subarra**	**22.13**	**352**	P		**P**	**14 14 15.0**	**+0.1**
	comp=Z,4.1nm,0.9s,mb3.9,baz=165,slow=9.8,SNR=4.1							
NOA	**NORSAR Array B**	**22.13**	**352**	P		**P**	**14 14 15.0**	**+0.1**
	comp=Z,2.0nm,0.9s,mb3.5,baz=165,slow=10,SNR=3.1							
NOA	**NORSAR Array B**	**22.13**	**352**	P		**P**	**14 14 15.0**	**+0.1**
NOA	**NORSAR Array B**	**22.13**	**352**	P		**P**	**14 14 15.0**	**+0.1**
NOA	**NORSAR Array B**	**22.13**	**352**	P		**P**	**14 14 15.0**	**+0.1**
FINES	**FINESS Array B**	**22.85**	**11**	P		**P**	**14 14 23.9**	**+1.3**
	comp=Z,3.8nm,0.8s,mb3.9,baz=182,slow=9.7,SNR=8.6							
FINES	**FINESS Array B**	**22.85**	**11**	P		**P**	**14 14 23.9**	**+1.3**
FINES	**FINESS Array B**	**22.85**	**11**	P		**P**	**14 14 23.9**	**+1.3**
FINES	**FINESS Array B**	**22.85**	**11**	P		**P**	**14 14 23.9**	**+1.3**
KLMR	**Klimovskoe**	**25.64**	**25**	*e*P		**P**	**14 14 55.3**	**+6.4**
KLMR				pmax	pmax			
	comp=Z,41nm,1.8s,mb4.7							
TORD	**Torodi Ar. Bea**	**29.46**	**212**	P		**P**	**14 15 22.9**	**-0.7**
	comp=Z,1.5nm,0.5s,mb4.0,baz=22,slow=9.4,SNR=24							
TORD				LR	LR		14 30 04.7	
	comp=Z,92nm,18.5s,MS3.4,baz=5.0,slow=42							
TORD	**Torodi Ar. Bea**	**29.46**	**212**	P		**P**	**14 15 22.9**	**-0.7**
TORD				LR	LR		14 30 04.7	
TORD	**Torodi Ar. Bea**	**29.46**	**212**	P		**P**	**14 15 22.9**	**-0.7**
ARCES	**ARCESS Array B**	**30.65**	**6**	P		**P**	**14 15 32.5**	**-1.0**
	comp=Z,5.4nm,1.0s,mb4.3,baz=188,slow=9.1,SNR=8.8							
ARCES	**ARCESS Array B**	**30.65**	**6**	P		**P**	**14 15 32.5**	**-1.0**
ARCES	**ARCESS Array B**	**30.65**	**6**	P		**P**	**14 15 32.5**	**-1.1**
ARCES	**ARCESS Array B**	**30.65**	**6**	P		**P**	**14 15 32.5**	**-1.1**
ABKAR	**Akbulak array**	**31.73**	**58**	*e*P		**P**	**14 15 41.0**	**-2.3**
	comp=Z,1.2nm,0.6s,mb3.9							
ABKAR	**Akbulak array**	**31.73**	**58**	*e*P		**P**	**14 15 41.0**	**-2.3**
	comp=Z,1.2nm,0.6s,mb3.9							
DBIC	**Dimbokro**	**38.12**	**217**	LR		LR	14 31 33.0	
	comp=Z,58nm,21.7s,MS3.4,baz=7.9,slow=35							
BRVK	**Borovoye**	**38.29**	**51**	*e*P		**P**	**14 16 38.9**	**-0.9**
	comp=Z,5.4nm,0.7s,mb4.4							
BRVK	**Borovoye**	**38.29**	**51**	*e*P		**P**	**14 16 41.2**	**+1.4**
BRVK				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.0							
BRVK	**Borovoye**	**38.29**	**51**	*e*P		**P**	**14 16 38.9**	**-0.9**
	comp=Z,5.4nm,0.7s,mb4.4							
KURK	**Kurchatov**	**43.64**	**54**	*e*P		**P**	**14 17 24.5**	**+0.6**
KURK				pmax	pmax			
	comp=Z,3.0nm,1.2s,mb3.9							
KURK	**Kurchatov**	**43.64**	**54**	*e*P		**P**	**14 17 24.5**	**+0.6**
	comp=Z,3.0nm,1.2s,mb3.9							
ZALV	**Zalesovo Beam**	**46.83**	**48**	P		**P**	**14 17 49.8**	**+0.6**
	comp=Z,0.8nm,0.4s,mb4.0,baz=272,slow=8.2,SNR=6.8							
ZALV	**Zalesovo Beam**	**46.83**	**48**	P		**P**	**14 17 49.8**	**+0.6**
ZALV	**Zalesovo Beam**	**46.83**	**48**	*e*P		**P**	**14 17 50.2**	**+1.0**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.4s,mb4.1							
ZALV	**Zalesovo Beam**	**46.83**	**48**	P		**P**	**14 17 49.8**	**+0.6**
MKAR	**Makanchi Array**	**46.86**	**59**	P		**P**	**14 17 49.5**	**0.0**
	comp=Z,1.4nm,0.5s,mb4.1,baz=282,slow=7.7,SNR=17							
MKAR	**Makanchi Array**	**46.86**	**59**	P		**P**	**14 17 49.5**	**0.0**
MKAR	**Makanchi Array**	**46.86**	**59**	P		**P**	**14 17 49.5**	**0.0**
MKAR	**Makanchi Array**	**46.86**	**59**	P		**P**	**14 17 49.5**	**0.0**
SCHQ	**Schefferville**	**55.96**	**316**	P		**P**	**14 18 55.5**	**-2.2**
	comp=Z,5.8nm,0.8s,mb4.7,baz=0.8,slow=9.4,SNR=7.0							
SCHQ	**Schefferville**	**55.96**	**316**	P		**P**	**14 18 55.5**	**-2.2**
SCHQ	**Schefferville**	**55.96**	**316**	P		**P**	**14 18 55.5**	**-2.1**
SONM	**Songino Array**	**61.68**	**50**	P		**P**	**14 19 38.2**	**+0.7**
	comp=Z,0.9nm,0.9s,mb3.9,baz=288,slow=7.1,SNR=6.2							
SONM	**Songino Array**	**61.68**	**50**	P		**P**	**14 19 38.2**	**+0.7**
SONM	**Songino Array**	**61.68**	**50**	P		**P**	**14 19 38.2**	**+0.7**
SONM	**Songino Array**	**61.68**	**50**	P		**P**	**14 19 38.2**	**+0.7**
BOSA	**Boshof**	**67.93**	**172**	LR		LR	14 52 33.8	
	comp=Z,69nm,18.0s,MS3.9,baz=178,slow=38							
YKA	**Yellowknife Ar**	**71.50**	**339**	LR		LR	14 52 53.2	
	comp=Z,7.4nm,19.8s,MS3.0,baz=295,slow=37							
ULM	**Lac du Bonnet**	**73.33**	**322**	LR		LR	14 52 33.9	
	comp=Z,76nm,20.7s,MS4.0,baz=66,slow=35							
ILAR	**Eielson Array**	**75.56**	**353**	P		**P**	**14 21 04.7**	**+0.9**
	comp=Z,0.3nm,0.5s,mb3.4,baz=2.7,slow=3.7,SNR=8.6							
ILAR	**Eielson Array**	**75.56**	**353**	P		**P**	**14 21 04.7**	**+0.9**
ILAR	**Eielson Array**	**75.56**	**353**	P		**P**	**14 21 04.7**	**+0.9**
ILAR	**Eielson Array**	**75.56**	**353**	P		**P**	**14 21 04.7**	**+0.9**
PDAR	**Pinedale Array**	**85.23**	**324**	P		**P**	**14 21 56.1**	**-0.1**
	comp=Z,0.4nm,0.5s,mb3.8,baz=69,slow=4.9,SNR=4.4							
PDAR				LR	LR		14 59 49.9	
	comp=Z,65nm,19.0s,MS4.0,baz=189,slow=36							
PDAR	**Pinedale Array**	**85.23**	**324**	P		**P**	**14 21 56.1**	**-0.1**
PDAR				LR	LR		14 59 49.9	
PDAR	**Pinedale Array**	**85.23**	**324**	P		**P**	**14 21 56.1**	**-0.1**
TXAR	**Lajitas Array**	**92.41**	**311**	P		**P**	**14 22 32.0**	**+1.4**
	comp=Z,0.3nm,0.7s,mb3.7,baz=106,slow=3.2,SNR=4.1							
TXAR	**Lajitas Array**	**92.41**	**311**	P		**P**	**14 22 32.0**	**+1.4**
TXAR	**Lajitas Array**	**92.41**	**311**	P		**P**	**14 22 32.0**	**+1.4**
TXAR	**Lajitas Array**	**92.41**	**311**	P		**P**	**14 22 32.0**	**+1.4**
CPUP	**Villa Florida**	**95.39**	**240**	LR		LR	15 08 39.8	
	comp=Z,67nm,18.3s,MS4.2,baz=181,slow=37							
WRA	**Warramunga Arr**	**123.04**	**90**	PKP	PKPdf		14 28 15.5	-1.0
	comp=Z,0.4nm,0.8s,baz=307,slow=1.6,SNR=3.5							
WRA	**Warramunga Arr**	**123.04**	**90**	PKP	PKPdf		14 28 15.5	-1.0
WRA	**Warramunga Arr**	**123.04**	**90**	PKIKP	PKPdf		14 28 15.5	-0.9
ASAR	**Alice Springs**	**124.74**	**94**	PKP	PKPdf		14 28 17.9	-1.7
	comp=Z,2.0nm,0.9s,baz=288,slow=2.6,SNR=4.2							
ASAR	**Alice Springs**	**124.74**	**94**	PKP	PKPdf		14 28 17.9	-1.7
ASAR	**Alice Springs**	**124.74**	**94**	*e*PKIKP	PKPdf		14 28 21.0	+1.4

DDA **20** *14:24:01.9,39.99N×39.97E,h7km±3km,Md2.6*
ISK **20** *14:24:01.6,39.98N×40.04E,h6km,MD2.8*
ISCJB **20** *14:24:02.3±0.7,39.97N±0.03×40.00E±0.05,h6km±7km, Error ellipse: s-maj=6.5km s-min=5.5km az=176.7*
CSEM **20** *14:24:02.3±0.2,39.96N×40.02E,h10km,MD2.6, Error ellipse: s-maj=4.8km s-min=4.1km az=122.0*

ISC 20 14:24:02.7±0.6, 39.97N±0.04×40.01E±0.05, h9km±7km, n19,σ0963/31, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KOPT	**Kop Dagi**	**0.38**	**83**	*i* P		**Pg**	**14 24 10.2**	**0.0**
KOPT				*i* S		**Sg**	**14 24 16.3**	**+1.1**
KOPT	**Kop Dagi**	**0.38**	**83**	*i* P		**Pg**	**14 24 10.2**	**0.0**
KOPT				*i* S		**Sg**	**14 24 16.3**	**+1.1**
BAYT	**Ayd¯–ntepe-Bay**	**0.43**	**14**	*e*PG		**Pg**	**14 24 10.7**	**-0.5**
BAYT				*e*SG		**Sg**	**14 24 16.4**	**-0.6**
BAYT	**Ayd¯–ntepe-Bay**	**0.43**	**14**	*e*Pg		**Pg**	**14 24 10.7**	**-0.5**
BAYT				*e*Sg		**Sg**	**14 24 16.4**	**-0.5**
ERZN	**Erzincan**	**0.44**	**210**	*e*PG		**Pg**	**14 24 10.8**	**-0.5**
EZC	**Erzincan**	**0.55**	**247**	*e*PG		**Pg**	**14 24 14.0**	**+0.7**
EZC	**Erzincan**	**0.55**	**247**	*e*Pg		**Pg**	**14 24 14.0**	**+0.7**
GUMT	**Gumushane**	**0.63**	**321**	*e*PG		**Pg**	**14 24 14.8**	**-0.1**
GUMT				*e*SG		**Sg**	**14 24 23.7**	**+0.5**
GUMT	**Gumushane**	**0.63**	**321**	*e*Pg		**Pg**	**14 24 14.9**	**0.0**
GUMT				*e*Sg		**Sg**	**14 24 23.7**	**+0.5**
MACK	**Trabzon**	**0.99**	**350**	*i* P		**Pg**	**14 24 22.2**	**+0.5**
MACK				*i* S		**Sg**	**14 24 34.3**	**-0.2**
MACK	**Trabzon**	**0.99**	**350**	*i* P		**Pg**	**14 24 22.2**	**+0.5**
MACK				*i* S		**Sg**	**14 24 34.3**	**-0.2**
KTUT	**Trabzon**	**1.03**	**350**	*e*PG		**Pg**	**14 24 22.1**	**-0.4**
KTUT	**Trabzon**	**1.03**	**350**	*e*Pg		**Pg**	**14 24 22.1**	**-0.4**
PTK	**Pertek**	**1.18**	**204**	*e*PN		**Pn**	**14 24 24.5**	**-0.8**
PTK				*e*SN		**Sn**	**14 24 41.5**	**+0.1**
PTK	**Pertek**	**1.18**	**204**	*e*Pn		**Pn**	**14 24 24.5**	**-0.8**
PTK				*e*Sn		**Sn**	**14 24 41.5**	**+0.1**
ESPY	**Espiye-Giresun**	**1.36**	**314**	*e*PN		**Pn**	**14 24 28.0**	**+0.3**
ESPY	**Espiye-Giresun**	**1.36**	**314**	*e*Pn		**Pn**	**14 24 28.0**	**+0.2**
SUSE	**Susehri**	**1.40**	**280**	*i* P		**Pn**	**14 24 27.3**	**-1.1**
SUSE				*i* S		**Sn**	**14 24 48.1**	**+1.2**
SUSE	**Susehri**	**1.40**	**280**	*i* P		**Pn**	**14 24 27.3**	**-1.1**
SUSE				*i* S		**Sn**	**14 24 48.1**	**+1.1**

DJA 20 14:28:23,8.93S×108.55E,h10km,MLv3.5/5,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CLJI	**Cilicap**	**1.29**	**21**	P		Pn	14 28 58.9	+12
CISI	**Cisompet, Garu**	**1.55**	**332**	P		Pn	14 28 50.5	-0.1
BJII	**Banjamegara**	**1.96**	**36**	P		Pn	14 28 57.4	+1.1
UGM	**Wanagama**	**2.20**	**63**	P		Pn	14 28 59.4	-0.2
PCJI	**Pacitan**	**2.70**	**74**	P		Pn	14 29 07.8	+1.3
PWJI	**Pagerwojo**	**3.34**	**75**	P		Pn	14 29 16.7	+1.3
SJI	**Sawahan**	**3.40**	**70**	P		Pn	14 29 18.5	+2.4
CGJI	**Cibinong**	**3.65**	**309**	P		Pn	14 29 19.5	-0.1

DJA 20 14:30:54,2.05S×139.19E,h44km,MLv3.8/3,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SMPI	**Sarmi**	**0.48**	**277**	P		Pn	14 31 04.6	-0.1
SMPI				S		Sn	14 31 16.3	+4.0
JAY	**Jayapura**	**1.58**	**107**	P		Pn	14 31 19.9	+0.3
BAKI	**Biak**	**3.20**	**285**	P		Pn	14 31 43.3	+1.5
BAKI				S		Sn	14 32 20.4	+1.7

IDC 20 14:35:12.5±5.7, 8.40N×138.45E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.5/23, mbtmp3.5/5, Error ellipse: s-maj=276.0km s-min=23.2km az=79.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.45**	**188**	P		P	14 41 10.8	+1.5
	0.7nm,1.0s,baz=7.7,slow=9.4,SNR=3.8							
ASAR	**Alice Springs**	**32.18**	**188**	P		P	14 41 41.1	-1.2
	0.2nm,0.5s,baz=21,slow=12,SNR=6.5							
MKAR	**Makanchi Array**	**61.05**	**319**	P		P	14 45 28.2	0.0
	0.4nm,0.6s,baz=98,slow=8.9,SNR=4.4							
KURK	**Kurchatov**	**64.65**	**323**	P		P	14 45 52.4	+0.3
	0.6nm,0.5s,baz=115,slow=5.4,SNR=6.3							
BVAR	**Borovoye Array**	**70.19**	**323**	P		P	14 46 27.0	0.0
	0.6nm,0.5s,baz=111,slow=7.9,SNR=6.7							

IDC **20** *14:35:28.5±10.0, 37.55N×72.20E, h100km±101km, mb3.4/2, mb1 3.6/7, mb1mx3.2/29, mbtmp3.6/7, ML3.8/5, Error ellipse: s-maj=74.6km s-min=27.2km az=9.0*
ISCJB **20** *14:35:30.2±0.4, 37.60N±0.03×72.26E±0.07, h179km±9km, mb3.4/2, Error ellipse: s-maj=9.7km s-min=4.1km az=171.6*
NEIC **20** *14:35:32.6±0.9, 37.78N×72.09E, h140km±11km, mb4.2/5, Error ellipse: s-maj=14.2km s-min=9.2km az=122.0*
NNC **20** *14:35:37.8±4.5, 38.20N×71.91E, h188km±37km, mb3.0, mpv4.6, Error ellipse: s-maj=41.4km s-min=19.4km az=13.0*

ISC 20 14:35:31.1±0.4, 37.60N±0.03×72.27E±0.07, h177km±9km, n60,σ0890/73, mb3.4/2, 8C-6D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CEP	**Cherat**	**3.78**	**185**	⇑P		**Pn**	**14 36 28.6**	**-0.7**
CEP				S		**Sn**	**14 37 14.0**	**-0.7**
CHCP	**Chirah Chowk**	**4.01**	**168**	P		**Pn**	**14 36 34.5**	**+2.2**
KBL	**Kabul**	**4.02**	**222**	*e*P		**Pn**	**14 36 33.7**	**+1.4**
AML	**Almayashu**	**4.66**	**13**	P		**Pn**	**14 36 39.9**	**-0.5**
	SNR=259							
THW	**Thamme Wali**	**4.81**	**185**	P		**Pn**	**14 36 42.9**	**+0.4**
UCH	**Uchtor**	**4.94**	**20**	P		**Pn**	**14 36 44.4**	**+0.4**
	SNR=9.3							
KZA	**Kyzart**	**5.03**	**26**	P		**Pn**	**14 36 45.0**	**-0.2**
	SNR=30							
EKS2	**Erkin-Say**	**5.19**	**12**	P		**Pn**	**14 36 47.3**	**0.0**
	SNR=62							
EKS2	**Erkin-Say**	**5.19**	**12**	*e*P		**Pn**	**14 36 46.8**	**-0.4**
	76nm,0.5s							
AAK	**Ala-Archa**	**5.31**	**18**	P		**Pn**	**14 36 49.3**	**+0.4**
	SNR=53							
AAK	**Ala-Archa**	**5.31**	**18**	*e*P		**Pn**	**14 36 49.2**	**+0.3**
	225nm,0.4s							
KBK	**Karagaybulak**	**5.45**	**21**	P		**Pn**	**14 36 51.2**	**+0.5**
	SNR=15							
ULHL	**Ulahol**	**5.56**	**32**	P		**Pn**	**14 36 52.1**	**+0.1**
	SNR=25							
KK31	**Karatay Array**	**5.66**	**347**	P		**Pn**	**14 36 52.3**	**-1.1**
	58nm,0.3s,baz=166,slow=12,SNR=617							
KK31				⇓S		**Sn**	**14 37 50.9**	**-7.3**
	26nm,0.6s,baz=176,slow=20,SNR=7.9							
KKAR	**Karatay Array**	**5.66**	**347**	*e*P		**Pn**	**14 36 51.9**	**-1.5**
	160nm,0.3s							
CHMS	**Chumysh**	**5.72**	**19**	P		**Pn**	**14 36 54.4**	**+0.2**
	SNR=33							
TKM2	**Tokmak 2**	**5.89**	**25**	P		**Pn**	**14 36 57.9**	**+1.4**
	SNR=23							
TKM2	**Tokmak 2**	**5.89**	**25**	⇑P		**Pn**	**14 36 56.8**	**+0.3**
	14nm,0.4s							
TKM2				⇑S		**Sn**	**14 38 03.2**	**-0.5**
	6.6nm,0.5s					

Error ellipse: s-maj=3.0km s-min=2.3km az=18.3
*ROM **20** 15:39:38.4±0.3, 43°.26N×15°.42E, h10km, Ml3.1/26, Error ellipse: s-maj=5.7km s-min=2.9km az=42.0*
*CSEM **20** 15:39:39.7±0.4, 43°.11N×15°.16E, h20km, ML3.5, Error ellipse: s-maj=8.1km s-min=4.4km az=71.0*
*LDG **20** 15:39:41.7±0.1, 43°.23N×15°.10E, h10km, Ml3.5/21, Error ellipse: s-maj=3.7km s-min=2.1km az=78.0*
*PDG **20** 15:39:41.2±0.8, 43°.19N×15°.13E, h11km±2km, ML3.4/10, Error ellipse: s-maj=1.1km s-min=1.3km az=0.0*
*VIE **20** 15:39:42.5±0.4, 43°.23N×15°.02E, h10km, mb3.2/7, ML3.3/7, Error ellipse: s-maj=5.5km s-min=1.5km az=111.0 121 km WSW of Split*
*PRU **20** 15:39:42.0, 43°.15N×15°.24E, h10km*
*NEIC **20** 15:39:43.3±2.0, 43°.26N×14°.70E, h10km, ML3.5(LDG), Error ellipse: s-maj=23.2km s-min=9.5km az=106.0*

ISC 20 15:39:38.0±0.3, 43°29N±0°.02×15°40E±0°.02, h7km±3km, n207, σ1s26/313, 11C-16D, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GUMA	**Gualdo di Mace**	**1.09 258**		Pg	**Pg**	**Pg**	**15 40 06.1**	**+7.2**
	1µm,0.4s							
GUMA	**Gualdo di Mace**	**1.09 258**		Pg	**Pg**	**Pg**	**15 40 06.1**	**+7.2**
	1µm,0.4s							
TRTR	**Tortoreto Alta**	**1.19 246**		Pg	**Pg**		**15 40 01.4**	**+0.7**
TRTR	**Tortoreto Alta**	**1.19 246**		Pg	**Pg**		**15 40 01.4**	**+0.7**
OFFI	**Offida**	**1.30 255**		Pg	**Pg**		**15 40 02.9**	**0.0**
OFFI				Sg	**Sg**		**15 40 21.5**	**+1.7**
OFFI	**Offida**	**1.30 255**		Pg	**Pg**		**15 40 02.9**	**0.0**
OFFI				Sg	**Sg**		**15 40 21.5**	**+1.7**
CAFR	**Castel Frentan**	**1.31 216**		Pg	**Pg**		**15 40 03.0**	**-0.2**
	1µm,0.7s							
CAFR	**Castel Frentan**	**1.31 216**		Pg	**Pg**		**15 40 03.0**	**-0.2**
	1µm,0.7s							
NVLJ	**Novalja**	**1.32 344**		*e*Pn	**Pg**		**15 40 06.9**	**+3.6**
NVLJ				Sn	**Sg**		**15 40 28.1**	**+7.5**
NVLJ	**Novalja**	**1.32 344**		*e*Pn	**Pg**		**15 40 06.9**	**+3.5**
NVLJ				Sn	**Sg**		**15 40 28.0**	**+7.4**
AOI	**Ancona**	**1.33 282**		Pg	**Pg**		**15 40 03.6**	**+0.1**
AOI				Sg	**Sg**		**15 40 21.7**	**+1.0**
	484nm,0.5s							
AOI	**Ancona**	**1.33 282**		Pg	**Pg**		**15 40 03.6**	**+0.1**
AOI				Sg	**Sg**		**15 40 21.7**	**+1.0**
	484nm,0.5s							
FRES	**Fresagrandinar**	**1.42 202**		Pg	**Pn**		**15 40 04.6**	**+0.5**
FRES	**Fresagrandinar**	**1.42 202**		Pg	**Pn**		**15 40 04.6**	**+0.5**
VCEL	**Villa Celiera**	**1.45 232**		Pg	**Pn**		**15 40 03.7**	**-0.8**
VCEL				Sg	**Sg**		**15 40 24.3**	**-0.4**
	593nm,0.6s							
VCEL	**Villa Celiera**	**1.45 232**		Pg	**Pn**		**15 40 03.7**	**-0.8**
VCEL				Sg	**Sg**		**15 40 24.3**	**-0.4**
	593nm,0.6s							
TERO	**Teramo**	**1.48 244**		Pg	**Pn**		**15 40 04.3**	**-0.5**
TERO	**Teramo**	**1.48 244**		Pg	**Pn**		**15 40 04.3**	**-0.5**
SGRT	**San Giovanni R**	**1.56 170**		Pg	**Pn**		**15 40 06.2**	**+0.2**
SGRT	**San Giovanni R**	**1.56 170**		Pg	**Pn**		**15 40 06.2**	**+0.2**
CING	**Cingoli**	**1.61 274**		Pg	**Pn**		**15 40 07.3**	**+0.6**
CING	**Cingoli**	**1.61 274**		Pg	**Pn**		**15 40 07.3**	**+0.6**
RGNG	**Rignano Grg**	**1.62 175**		Pg	**Pn**		**15 40 07.3**	**+0.4**
RGNG	**Rignano Grg**	**1.62 175**		Pg	**Pn**		**15 40 07.3**	**+0.4**
MSAG	**Monte S. Angel**	**1.62 166**		Pg	**Pn**		**15 40 07.4**	**+0.5**
MSAG	**Monte S. Angel**	**1.62 166**		Pg	**Pn**		**15 40 07.4**	**+0.5**
MS1	**Monte Sant'Ang**	**1.64 166**		*e*Pn	**Pg**		**15 40 10.1**	**+0.8**
CAMP	**Campotosto**	**1.64 243**		Pg	**Pn**		**15 40 06.5**	**-0.7**
	35nm,0.6s							
CAMP	**Campotosto**	**1.64 243**		Pg	**Pn**		**15 40 06.5**	**-0.7**
	35nm,0.6s							
TRIV	**Trivento**	**1.65 203**		Pg	**Pn**		**15 40 08.5**	**+1.3**
	256nm,1.0s							
TRIV	**Trivento**	**1.65 203**		Pg	**Pn**		**15 40 08.5**	**+1.3**
	256nm,1.0s							
FAGN	**Fagnano**	**1.68 233**		Pg	**Pn**		**15 40 07.1**	**-0.6**
	701nm,0.4s							
FAGN	**Fagnano**	**1.68 233**		Pg	**Pn**		**15 40 07.1**	**-0.6**
	701nm,0.4s							
INTR	**Introdacqua**	**1.69 221**		Pg	**Pn**		**15 40 06.8**	**-1.0**
	370nm,0.5s							
INTR	**Introdacqua**	**1.69 221**		Pg	**Pn**		**15 40 06.8**	**-1.0**
	370nm,0.5s							
FDMO	**Fiordimonte**	**1.71 262**		Pg	**Pn**		**15 40 07.8**	**-0.2**
	127nm,0.4s							
FDMO	**Fiordimonte**	**1.71 262**		Pg	**Pn**		**15 40 07.8**	**-0.2**
	127nm,0.4s							
NRCA	**Norcia**	**1.73 255**		Pg	**Pn**		**15 40 08.3**	**-0.1**
	35nm,0.3s							
NRCA	**Norcia**	**1.73 255**		Pg	**Pn**		**15 40 08.3**	**-0.1**
	35nm,0.3s							
AQU	**L'Aquila**	**1.74 238**		*e*Pn	**Pn**		**15 40 07.5**	**-1.0**
AQU				*e*Sn	**Sn**		**15 40 28.5**	**-2.3**
AQU	**L'Aquila**	**1.74 238**		*e*Pn	**Pn**		**15 40 07.5**	**-1.0**
STON	**Ston**	**1.74 103**		*e*Pn	**Pg**		**15 40 12.1**	**+0.8**
STON				Sn	**Sg**		**15 40 37.3**	**+3.5**
STON	**Ston**	**1.74 103**		*e*Pn	**Pg**		**15 40 12.1**	**+0.8**
STON				Sn	**Sg**		**15 40 37.3**	**+3.4**
SNTG	**Esanatoglia**	**1.79 270**		Pg	**Pn**		**15 40 09.3**	**+0.1**
	99nm,0.4s							
SNTG	**Esanatoglia**	**1.79 270**		Pg	**Pn**		**15 40 09.3**	**+0.1**
	99nm,0.4s							
ARVD	**Arcevia**	**1.80 277**		Pg	**Pn**		**15 40 10.7**	**+1.4**
	181nm,1.0s							
ARVD	**Arcevia**	**1.80 277**		Pg	**Pn**		**15 40 10.7**	**+1.4**
	181nm,1.0s							
CESI	**CESI - Serrava**	**1.84 262**		Pg	**Pn**		**15 40 10.1**	**+0.2**
	92nm,0.5s							
CESI	**CESI - Serrava**	**1.84 262**		Pg	**Pn**		**15 40 10.1**	**+0.2**
	92nm,0.5s							
MIDA	**Miranda**	**1.85 207**		Pg	**Pn**		**15 40 11.1**	**+1.1**
	114nm,0.4s							
MIDA	**Miranda**	**1.85 207**		Pg	**Pn**		**15 40 11.1**	**+1.1**
	114nm,0.4s							
LNSS	**Leonessa**	**1.86 249**		Pg	**Pn**		**15 40 10.1**	**0.0**
	507nm,0.5s							
LNSS	**Leonessa**	**1.86 249**		Pg	**Pn**		**15 40 10.1**	**0.0**
	507nm,0.5s							
VVLD	**Villa Vallelon**	**1.93 223**		Pg	**Pn**		**15 40 10.2**	**-0.9**
	292nm,0.7s							
VVLD	**Villa Vallelon**	**1.93 223**		Pg	**Pn**		**15 40 10.2**	**-0.9**
	292nm,0.7s							
PTQR	**Pietraquaria**	**1.94 230**		Pg	**Pn**		**15 40 12.0**	**+0.7**
	13nm,0.3s							
PTQR	**Pietraquaria**	**1.94 230**		Pg	**Pn**		**15 40 12.0**	**+0.7**
	13nm,0.3s							
FSSB	**Fossombrone**	**1.95 283**		Pg	**Pn**		**15 40 12.4**	**+1.1**
	74nm,0.4s							
FSSB	**Fossombrone**	**1.95 283**		Pg	**Pn**		**15 40 12.4**	**+1.1**
	74nm,0.4s							
FIAM	**Fiamignano**	**1.96 239**		Pg	**Pn**		**15 40 11.7**	**+0.1**
	228nm,0.6s							
FIAM	**Fiamignano**	**1.96 239**		Pg	**Pn**		**15 40 11.7**	**+0.1**
	228nm,0.6s							
CERA	**Filignano**	**1.98 211**		Pg	**Pb**		**15 40 13.9**	**-0.3**
	220nm,0.8s							
CERA	**Filignano**	**1.98 211**		Pg	**Pb**		**15 40 13.9**	**-0.3**
	220nm,0.8s							
PTRJ	**Pietraroja**	**2.03 199**		Pg	**Pn**		**15 40 13.2**	**+0.7**
	335nm,0.6s							
PTRJ	**Pietraroja**	**2.03 199**		Pg	**Pn**		**15 40 13.2**	**+0.7**
	335nm,0.6s							
SGG	**Gregorio Mates**	**2.05 202**		Pg	**Pb**		**15 40 14.7**	**-0.7**
	122nm,0.7s							
SGG	**Gregorio Mates**	**2.05 202**		Pg	**Pb**		**15 40 14.7**	**-0.7**
	122nm,0.7s							
MURB	**Monte Urbino**	**2.10 270**		Pg	**Pn**		**15 40 14.2**	**+0.8**
	355nm,0.5s							
MURB	**Monte Urbino**	**2.10 270**		Pg	**Pn**		**15 40 14.2**	**+0.8**
	355nm,0.5s							
BOJS	**Bojanci**	**2.21 357**		*i* Pn	**Pg**		**15 40 20.7**	**+0.3**
BOJS				*e*Sn	**Sg**		**15 40 51.0**	**+2.0**
BOJS								
	comp=Z,76nm,0.4s							
BOJS	**Bojanci**	**2.21 357**		*i* Pn	**Pg**		**15 40 20.7**	**+0.3**
BOJS				*e*Sn	**Sg**		**15 40 51.0**	**+2.0**
	comp=Z,76nm,0.4s							
RSM	**Repubblica di**	**2.23 288**		Pg	**Pn**		**15 40 17.2**	**+2.0**
	comp=Z,131nm,1.1s							
RSM	**Repubblica di**	**2.23 288**		Pg	**Pn**		**15 40 17.2**	**+2.0**
	comp=Z,131nm,1.1s							
GBRS	**Gornja Briga**	**2.28 350**		*i* Pn	**Pg**		**15 40 21.3**	**-0.3**
GBRS				*e*Sn	**Sg**		**15 40 52.3**	**+1.2**
	comp=Z,136nm,0.7s							
CDT	**Castel del Mon**	**2.30 163**		*e*Pn	**Pn**		**15 40 16.3**	**+0.1**
BADI	**Badiali**	**2.31 276**		Pg	**Pn**		**15 40 18.1**	**+1.8**
	comp=Z,109nm,0.6s							
BADI	**Badiali**	**2.31 276**		Pg	**Pn**		**15 40 18.1**	**+1.8**
	comp=Z,109nm,0.6s							
MRVN	**Minervino Murg**	**2.31 165**		Pg	**Pn**		**15 40 16.4**	**+0.1**
	comp=Z,74nm,0.9s							
MRVN	**Minervino Murg**	**2.31 165**		Pg	**Pn**		**15 40 16.4**	**+0.1**
	comp=Z,74nm,0.9s							
PARC	**Parchiule**	**2.33 280**		Pg	**Pn**		**15 40 17.8**	**+1.3**
	comp=Z,139nm,1.1s							
PARC	**Parchiule**	**2.33 280**		Pg	**Pn**		**15 40 17.8**	**+1.3**
	comp=Z,139nm,1.1s							
BRY	**Bratogost**	**2.34 99**	⇓	*i*Pn	**Pg**		**15 40 22.9**	**+0.1**
BRY				*e*Sn	**Sg**		**15 40 56.4**	**+3.3**
BRY	**Bratogost**	**2.34 99**	⇓	*i*Pn	**Pg**		**15 40 22.9**	**+0.1**
BRY				*e*Sn	**Sg**		**15 40 56.4**	**+3.3**
KNDS	**Knezji Dol**	**2.35 342**		*i* Pn	**Pb**		**15 40 21.4**	**+0.9**
KNDS				*e*Sn	**Sg**		**15 40 53.3**	**-0.1**
KNDS								
	comp=Z,126nm,0.5s							
KNDS	**Knezji Dol**	**2.35 342**		*i* Pn	**Pb**		**15 40 21.4**	**+0.9**
KNDS				*e*Sn	**Sg**		**15 40 53.3**	**-0.1**
	comp=Z,126nm,0.5s							
HCY	**Herceg Novi**	**2.43 109**	⇑	*i*Pn	**Pg**		**15 40 24.2**	**-0.4**
HCY				*e*Sn	**Sg**		**15 40 57.7**	**+1.6**
HCY	**Herceg Novi**	**2.43 109**	⇑	*i*Pn	**Pg**		**15 40 24.2**	**-0.4**
HCY				*e*Sn	**Sg**		**15 40 57.7**	**+1.6**
SKDS	**Skadanscina**	**2.46 337**		*i* Pn	**Pb**		**15 40 21.9**	**-0.5**
SKDS				*e*Sn	**Sb**		**15 40 54.2**	**+1.4**
SKDS								
	comp=Z,53nm,0.3s							
SKDS	**Skadanscina**	**2.46 337**		*i* Pn	**Pb**		**15 40 22.0**	**-0.4**
SKDS				*e*Sn	**Sb**		**15 40 54.2**	**+1.3**
	comp=Z,53nm,0.3s							
CAFI	**Castiglion Fio**	**2.50 272**		Pg	**Pn**		**15 40 20.3**	**+1.3**
CAFI	**Castiglion Fio**	**2.50 272**		Pg	**Pn**		**15 40 20.3**	**+1.3**
MCRV	**Calabrutti - M**	**2.51 184**		Pg	**Pn**		**15 40 19.5**	**+0.4**
MCRV	**Calabrutti - M**	**2.51 184**		Pg	**Pn**		**15 40 19.5**	**+0.4**
CRE	**Caprese Michel**	**2.53 279**		Pg	**Pn**		**15 40 21.0**	**+1.7**
	comp=Z,74nm,1.4s							
CRE	**Caprese Michel**	**2.53 279**		Pg	**Pn**		**15 40 21.0**	**+1.7**
	comp=Z,74nm,1.4s							
VISS	**Visnje**	**2.54 351**		*i* Pn	**Pb**		**15 40 24.9**	**+1.1**
VISS				*e*Sn	**Sb**		**15 40 57.0**	**+1.8**
VISS								
	comp=Z,54nm,0.3s							
VISS	**Visnje**	**2.54 351**		*i* Pn	**Pb**		**15 40 24.9**	**+1.1**
VISS				*e*Sn	**Sb**		**15 40 57.0**	**+1.8**
	comp=Z,54nm,0.3s							
AMUR	**Altamura**	**2.55 159**		Pg	**Pn**		**15 40 20.8**	**+1.2**
AMUR	**Altamura**	**2.55 159**		Pg	**Pn**		**15 40 20.8**	**+1.2**
UPM	**Unac-Piva**	**2.57 91**	⇑	*i*Pn	**Pg**		**15 40 26.8**	**-0.4**
UPM				*e*Sn	**Sg**		**15 41 02.3**	**+1.8**
UPM	**Unac-Piva**	**2.57 91**	⇑	*i*Pn	**Pg**		**15 40 26.8**	**-0.4**
UPM				*e*Sn	**Sg**		**15 41 02.3**	**+1.8**
SACS	**San Casciano d**	**2.59 261**		Pg	**Pn**		**15 40 20.5**	**+0.3**
	comp=Z,83nm,0.9s							
SACS	**San Casciano d**	**2.59 261**		Pg	**Pn**		**15 40 20.5**	**+0.3**
	comp=Z,83nm,0.9s							
SFI	**Santa Sofia**	**2.65 285**		Pg	**Pn**		**15 40 22.7**	**+1.7**
	comp=Z,72nm,1.0s							
SFI	**Santa Sofia**	**2.65 285**		Pg	**Pn**		**15 40 22.7**	**+1.7**
	comp=Z,72nm,1.0s							
ASQU	**Asqua**	**2.67 282**		Pg	**Pn**		**15 40 23.3**	**+2.0**
ASQU	**Asqua**	**2.67 282**		Pg	**Pn**		**15 40 23.3**	**+2.0**
TRI	**Trieste**	**2.68 335**		*e*Pn	**Pn**		**15 40 24.7**	**+3.3**
TRI				*e*Sn	**Sn**		**15 40 56.7**	**+2.6**
TRI	**Trieste**	**2.68 335**		*e*Pn	**Pn**		**15 40 24.7**	**+3.3**
TRI				*e*Sn	**Sn**		**15 40 56.7**	**+2.6**
NKY	**Niksic**	**2.68 99**	⇓	*i*Pn	**Pg**		**15 40 27.7**	**-1.7**
NKY				*e*Sn	**Sg**		**15 41 04.2**	**0.0**
NKY	**Niksic**	**2.68 99**	⇓	*i*Pn	**Pg**		**15 40 27.7**	**-1.7**
NKY				*e*Sn	**Sg**		**15 41 04.2**	**0.0**
LATE	**Laterza**	**2.72 257**		Pg	**Pn**		**15 40 23.5**	**+1.5**
	comp=Z,22nm,1.3s							
LATE	**Laterza**	**2.72 257**		Pg	**Pn**		**15 40 23.5**	**+1.5**
	comp=Z,22nm,1.3s							
BUM	**Brajici-Budva**	**2.76 110**	⇑	*i*Pn	**Pg**		**15 40 28.6**	**-2.3**
BUM				*e*Sn	**Sg**		**15 41 05.1**	**-1.6**
BUM	**Brajici-Budva**	**2.76 110**	⇑	*i*Pn	**Pg**		**15 40 28.6**	**-2.3**
BUM				*e*Sn	**Sg**		**15 41 05.1**	**-1.6**
VNDS	**Vrh nad Dolski**	**2.85 350**		*i* Pn	**Pb**		**15 40 29.1**	**0.0**
VMG	**Vicchio**	**2.88 285**		Pg	**Pn**		**15 40 26.6**	**+2.5**
	comp=Z,60nm,0.8s							
VMG	**Vicchio**	**2.88 285**		Pg	**Pn**		**15 40 26.6**	**+2.5**
	comp=Z,60nm,0.8s							
CRNS	**Crni Vrh**	**2.90 344**		*i* Pn	**Pb**		**15 40 29.2**	**-0.7**
PLE	**Pljevlja**	**2.92 88**	⇓	*i*Pn	**Pg**		**15 40 31.4**	**-2.5**
PLE				*e*Sn	**Sg**		**15 41 10.6**	**-1.1**
PLE	**Pljevlja**	**2.92 88**	⇓	*i*Pn	**Pg**		**15 40 31.4**	**-2.5**
PLE				*e*Sn	**Sg**		**15 41 10.6**	**-1.1**
VOY	**Vojsko**	**2.94 339**		*e*Pn	**Pb**		**15 40 28.8**	**-1.8**
VOY				*e*(Sn)	**Sg**		**15 41 09.0**	**-3.4**
VOY				*e*			15 41 18.0	
VOY	**Vojsko**	**2.94 339**		*e*Pn	**Pb**		**15 40 28.8**	**-1.8**
BBLS	**Lazići**	**2.97 78**		*e*Pn	**Pg**		**15 40 32.9**	**-1.9**
PDG	**Podgorica**	**2.97 106**	⇓	*i*Pn	**Pg**		**15 40 31.7**	**-3.1**
PDG				*e*Sn	**Sg**		**15 41 10.6**	**-2.7**
TTG	**Podgorica**	**2.97 106**	⇓	*i*Pn	**Pg**		**15 40 31.7**	**-3.1**
TTG				*e*Sn	**Sg**		**15 41 10.6**	**-2.7**
ULC	**Ulcinj**	**3.14 114**	⇓	*i*Pn	**Pb**		**15 40 33.7**	**-0.3**
ULC				*e*Sn	**Sb**		**15 41 13.8**	**+1.4**
ULC	**Ulcinj**	**3.14 114**	⇓	*i*Pn	**Pb**		**15 40 33.7**	**-0.3**
ULC				*e*Sn	**Sb**		**15 41 13.8**	**+1.4**
OBKA	**Obir**	**3.27 350**		*i* Pn	**Pb**		**15 40 34.8**	**-1.5**
	SNR=20							
OBKA				⇑ *i*Sn	**Sb**		**15 41 14.6**	**-1.6**
OBKA				⇑ *i*Sg	**Sg**		**15 41 31.9**	**+9.0**
	comp=Z,110nm,0.6s							
OBKA	**Obir**	**3.27 350**		Pn	**Pb**		**15 40 34.8**	**-1.4**
	SNR=20							
OBKA				Sn	**Sb**		**15 41 14.6**	**-1.6**
OBKA				Sg	**Sg**		**15 41 31.9**	**+8.9**
	comp=Z,110nm,0.6s							
BEY	**Berane**	**3.33 96**	⇑	*i*Pn	**Pb**		**15 40 37.4**	**+0.2**
BEY				*e*Sn	**Sb**		**15 41 19.2**	**+1.4**
IVA	**Berane**	**3.33 96**	⇑	*i*Pn	**Pb**		**15 40 37.4**	**+0.2**
IVA				*e*Sn	**Sb**		**15 41 19.2**	**+1.4**
SOKA	**Soboth**	**3.39 356**	⇑	*i*Pn	**Pb**		**15 40 36.4**	**-2.0**
SOKA				⇓ *i*Sg	**Sg**		**15 41 36.8**	**+10**
	comp=Z,27nm,0.6s							
SOKA	**Soboth**	**3.39 356**		Pn	**Pb**		**15 40 36.4**	**-1.9**
SOKA				Sg	**Sg**		**15 41 36.8**	**+10**
	comp=Z,27nm,0.6s							
DIVS	**Divibare**	**3.43 75**		*e*Pn	**Pg**		**15 40 40.8**	**-2.8**
PVY	**Plav**	**3.43 100**	⇓	*i*Pn	**Pb**		**15 40 38.7**	**-0.3**
PVY				*e*Sn	**Sb**		**15 41 22.6**	**+1.7**
PVY	**Plav**	**3.43 100**	⇓	*i*Pn	**Pb**		**15 40 38.7**	**-0.3**
PVY				*e*Sn	**Sb**		**15 41 22.6**	**+1.7**
IVAS	**Ivanjica**	**3.48 84**		*e*Pn	**Pb**		**15 40 38.7**	**-1.1**
GRUS	**Gruza**	**3.91 79**		*e*Pn	**Pb**		**15 40 44.8**	**-2.3**
SOP	**Sopron**	**4.47 10**		*e*Sn	**Sb**		**15 41 45.2**	**-5.4**
SOP	**Sopron**	**4.47 10**		*e*Sn	**Sb**		**15 41 45.3**	**-5.3**
MOA	**Molln**	**4.62 351**		*i* Pn	**Pn**		**15 40 53.7**	**+5.5**
	SNR=16							
MOA				⇓ *i*Sn	**Sn**		**15 41 48.2**	**+6.1**
MOA	**Molln**	**4.62 351**		Pn	**Pn**		**15 40 53.7**	**+5.6**
	SNR=16							
MOA				Sn	**Sn**		**15 41 48.2**	**+6.2**
CONA	**Conrad Observa**	**4.65 4**	⇓	*i*Pn	**Pn**		**15 40 54.2**	**+5.7**
CONA				⇓ *i*Sn	**Sn**		**15 41 49.1**	**+6.5**
CONA	**Conrad Observa**	**4.65 4**		Pn	**Pn**		**15 40 54.2**	**+5.8**
CONA				Sn	**Sn**		**15 41 49.1**	**+6.6**
BARS	**Barje**	**4.73 94**		*e*Pn	**Pn**		**15 40 54.4**	**+4.8**
BUD	**Budapest**	**4.91 30**		*e*Sn	**Sb**		**15 42 08.0**	**+4.7**
TUE	**Stuetta**	**5.34 309**		*e*Pn	**Pn**		**15 41 00.7**	**+2.7**
TUE	**Stuetta**	**5.34 309**		*e*Pn	**Pn**		**15 41 00.7**	**+2.7**
SBF	**Sospel**	**5.81 278**		*e*Pn	**Pn**		**15 41 02.8**	**-1.6**
SBF				*e*Sn	**Sn**		**15 42 03.8**	**-7.4**
	comp=Z,18nm,0.7s							
SBF	**Sospel**	**5.81 278**		*e*Pn	**Pn**		**15 41 02.8**	**-1.6**
SBF				*e*Sn	**Sn**		**15 42 03.8**	**-7.4**
SBF	**Sospel**	**5.81 278**		*e*Pn	**Pn**		**15 41 02.8**	**-1.6**
SBF				*e*Sn	**Sn**		**15 42 03.8**	**-7.4**
	comp=Z,8.8nm,0.7s							
KHC	**Kasperske Hory**	**5.97 348**		*e*PN	**Pn**		**15 41 11.0**	**+4.4**
KHC				*ex*	x		15 41 19.0	
KHC				*ex*	x		15 42 03.0	
KHC				*e*SN	**Sn**		**15 42 21.0**	**+5.8**
KHC	**Kasperske Hory**	**5.97 348**		Pn	**Pn**		**15 41 11.0**	**+4.4**
KHC				Sn	**Sn**		**15 42 21.0**	**+5.8**
FRF	**La Foret Royal**	**6.38 275**		*e*Pn	**Pn**		**15 41 10.5**	**-1.7**
FRF				*e*Sn	**Sn**		**15 42 17.1**	**-8.1**
	comp=Z,2.1nm,0.2s							
FRF	**La Foret Royal**	**6.38 275**		*e*Pn	**Pn**		**15 41 10.5**	**-1.7**
FRF				*e*Sn	**Sn**		**15 42 17.1**	**-8.1**
	comp=Z,1.0nm,0.2s							
MBDF	**Montbardon**	**6.38 286**		*e*Pn	**Pn**		**15 41 11.0**	**-1.3**
MBDF				*e*Sn	**Sn**		**15 42 18.2**	**-7.1**
	comp=Z,8.1nm,0.5s							
MBDF	**Montbardon**	**6.38 286**		*e*Pn	**Pn**		**15 41 11.0**	**-1.3**
MBDF				*e*Sn	**Sn**		**15 42 18.2**	**-7.1**
MBDF	**Montbardon**	**6.38 286**		*e*Pn	**Pn**		**15 41 11.0**	**-1.3**
MBDF				*e*Sn	**Sn**		**15 42 18.2**	**-7.1**
	comp=Z,1.1nm,0.5s							
LMR	**La Mourre**	**6.48 273**		*e*Pn	**Pn**		**15 41 12.0**	**-1.6**
LMR				*e*Sn	**Sn**		**15 42 19.7**	**-8.1**
	comp=Z,4.9nm,0.5s							
LMR	**La Mourre**	**6.48 273**		*e*Pn	**Pn**		**15 41 12.0**	**-1.6**
LMR				*e*Sn	**Sn**		**15 42 19.7**	**-8.1**
LMR	**La Mourre**	**6.48 273**		*e*Pn	**Pn**		**15 41 12.0**	**-1.6**
LMR				*e*Sn	**Sn**		**15 42 19.7**	**-8.1**
	comp=Z,2.5nm,0.5s							
LPG	**La Plagne**	**6.57 293**		*e*Pn	**Pn**		**15 41 14.3**	**-0.6**
LPG				*e*Sn	**Sn**		**15 42 23.1**	**-6.9**
	comp=Z,16nm,0.5s							
LPG	**La Plagne**	**6.57 293**		*e*Pn	**Pn**		**15 41 14.3**	**-0.6**
LPG				*e*Sn	**Sn**		**15 42 23.1**	**-6.9**
LPG	**La Plagne**	**6.57 293**		*e*Pn	**Pn**		**15 41 14.3**	**-0.6**
LPG				*e*Sn	**Sn**		**15 42 23.1**	**-6.9**
	comp=Z,8.2nm,0.5s							
LPL	**La Plagne**	**6.59 293**		*e*Pn	**Pn**		**15 41 14.1**	**-1.0**
LPL				*e*Sn	**Sn**		**15 42 23.6**	**-6.8**
	comp=Z,14nm,0.4s							
LPL	**La Plagne**	**6.59 293**		*e*Pn	**Pn**		**15 41 14.1**	**-1.0**
LPL				*e*Sn	**Sn**		**15 42 23.6**	**-6.8**
LPL	**La Plagne**	**6.59 293**		*e*Pn	**Pn**		**15 41 14.1**	**-1.0**
LPL				*e*Sn	**Sn**		**15 42 23.6**	**-6.8**
	comp=Z,7.1nm,0.4s							
ORIF	**Oris-en-Rattie**	**7.04 287**		*e*Pn	**Pn**		**15 41 19.9**	**-1.4**
ORIF				*e*Sn	**Sn**		**15 42 33.9**	**-7.6**
	comp=Z,14nm,0.7s							
ORIF	**Oris-en-Rattie**	**7.04 287**		*e*Pn	**Pn**		**15 41 19.9**	**-1.4**
ORIF				*e*Sn	**Sn**		**15 42 33.9**	**-7.6**
ORIF	**Oris-en-Rattie**	**7.04 287**		*e*Pn	**Pn**		**15 41 19.9**	**-1.4**
ORIF				*e*Sn	**Sn**		**15 42 33.9**	**-7.6**
	comp=Z,7.2nm,0.7s							
SMRF	**Simiane la Rot**	**7.16 279**		*e*Pn	**Pn**		**15 41 21.3**	**-1.6**
SMRF				*e*Sn	**Sn**		**15 42 36.1**	**-8.3**
	comp=Z,2.3nm,0.3s							
SMRF	**Simiane la Rot**	**7.16 279**		*e*Pn	**Pn**		**15 41 21.3**	**-1.6**
SMRF				*e*Sn	**Sn**		**15 42 36.1**	**-8.3**
SMRF	**Simiane la Rot**	**7.16 279**		*e*Pn	**Pn**		**15 41 21.3**	**-1.6**
SMRF				*e*Sn	**Sn**		**15 42 36.1**	**-8.3**
	comp=Z,1.1nm,0.3s							
NKC	**Novy Kostel**	**

3.8nm,0.8s,baz=59,slow=12,SNR=5.8
MKAR Makanchi Array 73.11 321 P P 16 04 49.0 +0.8
0.3nm,0.6s,baz=104,slow=6.1,SNR=4.1
ILAR Eielson Array 85.50 24 P P 16 05 55.0 -0.5
0.5nm,0.6s,baz=257,slow=4.9,SNR=13

*IDC **20** 15:55:08.4±6.5, 43.01N×147.40E, h0km, mb3.8/3, mb1 3.7/4, mb1mx3.4/24, mbtmpb3.7/4, ML3.2/1, Error ellipse: s-maj=176.0km s-min=47.6km az=178.0*
*MOS **20** 15:55:13.2±0.9, 42.95N×147.21E, h50km, mb4.2/2, Error ellipse: s-maj=99.9km s-min=29.9km az=43.9*
*JMA **20** 15:55:15.8±0.2, 42.92N×146.84E, h58km±3km, M3.7*
ISC 20 15:55:16.4±1.6, 42.91N±0.10×146.9E±0.1, h44km±14km, n18, σ0961/25, mb3.6/3, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.94**	**299**	P	**Pn**	**15 55 32.9**	**-0.2**
NEM2				*e*S	**Sn**	**15 55 45.5**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**1.34**	**327**	*i* PN	**Pn**	**15 55 37.9**	**-0.7**
YUK				*i*		15 55 54.7	
YUK				pmax	pmax		
	comp=E,27nm,0.1s						
YUK				pmax	pmax		
	comp=N,31nm,0.2s						
YUK				pmax	pmax		
	comp=Z,175nm,0.2s						
YUK				pmax	pmax		
	comp=Z,996nm,1.8s						
YUK				pmax	pmax		
	comp=E,1.0nm,0.4s						
YUK				pmax	pmax		
	comp=N,309nm,0.4s						
JAK	**Akkeshi**	**1.59**	**274**	P	**Pn**	**15 55 41.9**	**-0.2**
JAK				*e*S	**Sn**	**15 56 01.2**	**-0.2**
JRA	**Rausu**	**1.63**	**310**	P	**Pn**	**15 55 42.5**	**-0.1**
JRA				*e*S	**Sn**	**15 56 02.4**	**0.0**
JNK	**Nakash**	**1.70**	**294**	P	**Pn**	**15 55 43.2**	**-0.4**
JNK				*e*S	**Sn**	**15 56 03.2**	**-1.0**
JOB	**Onbets**	**2.22**	**271**	P	**Pn**	**15 55 50.8**	**0.0**
JAR	**Ashorobuto**	**2.30**	**281**	P	**Pn**	**15 55 52.0**	**+0.2**
JAR				*e*S	**Sn**	**15 56 18.8**	**0.0**
JTKR	**Abashiri--Toko**	**2.40**	**297**	P	**Pn**	**15 53.9**	**+0.8**
JTKR				*e*S	**Sn**	**15 56 22.1**	**+0.8**
JCH	**Churui**	**2.59**	**265**	P	**Pn**	**15 55 55.8**	**0.0**
JCH				*e*S	**Sn**	**15 56 25.6**	**-0.5**
ASAJ	**Asahikawa**	**3.33**	**293**	Pn	**Pn**	**15 56 07.5**	**+1.5**
	comp=N,1.5nm,0.3s,baz=104,slow=12,SNR=14						
ASAJ				Sn	**Sn**	**15 56 49.9**	**+5.7**
	comp=N,2.1nm,0.3s,baz=342,slow=20,SNR=8.2						
ASAJ	**Asahikawa**	**3.33**	**293**	PN	**Pn**	**15 56 07.5**	**+1.6**
ASAJ						15 56 49.9	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
SONM	**Songino Array**	**28.61**	**294**	P	**P**	**16 01 09.2**	**+0.8**
	comp=N,0.7nm,0.6s,mb3.5,baz=80,slow=8.7,SNR=5.7						
SONM	**Songino Array**	**28.61**	**294**	P	**P**	**16 01 09.2**	**+0.9**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**41.34**	**308**	PcP	PcP	16 04 55.0	-0.2
	comp=Z,0.3nm,0.4s,baz=50,slow=2.3,SNR=2.2						
MKAR	**Makanchi Array**	**44.79**	**298**	P	**P**	**16 03 25.7**	**+0.1**
	comp=Z,0.3nm,0.7s,mb3.2,baz=78,slow=9.3,SNR=3.5						
MKAR	**Makanchi Array**	**44.79**	**298**	P	**P**	**16 03 25.7**	**+0.1**
FINES	**FINESS Array B**	**65.53**	**333**	P	**P**	**16 05 53.8**	**-1.0**
	comp=Z,2.1nm,0.9s,mb4.2,baz=35,slow=5.1,SNR=4.6						
FINES	**FINESS Array B**	**65.53**	**333**	P	**P**	**16 05 53.8**	**-1.0**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						

*CSEM **20** 15:56:28.8±0.4, 39.13N×17.41E, h20km, Error ellipse: s-maj=10.3km s-min=4.7km az=118.0*
*ISCJB **20** 15:56:30.4±1.1, 39.19N±0.03×17.48E±0.04, h23km±12km, Error ellipse: s-maj=5.7km s-min=5.0km az=13.2*
*ROM **20** 15:56:30.8±0.3, 39.16N×17.43E, h23km±4km, Ml2.7/16, Error ellipse: s-maj=6.1km s-min=2.9km az=117.0*
ISC 20 15:56:30.5±0.6, 39.20N±0.03×17.39E±0.04, h16km±5km, n61, σ1907/69, Southern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIPA	**Pietrapaola**	**0.53**	**302**	Pg	**Pg**	**15 56 41.1**	**+0.1**
	916nm,0.4s						
PIPA	**Pietrapaola**	**0.53**	**302**	Pg	**Pg**	**15 56 41.1**	**+0.1**
	916nm,0.4s						
CARO	**Carolei**	**0.91**	**274**	Pg	**Pg**	**15 56 49.0**	**+0.8**
	189nm,0.6s						
CARO	**Carolei**	**0.91**	**274**	Pg	**Pg**	**15 56 49.0**	**+0.8**
	189nm,0.6s						
PLAC	**Placanica**	**1.06**	**225**	Pg	**Pg**	**15 56 50.3**	**-0.7**
	76nm,0.7s						
PLAC	**Placanica**	**1.06**	**225**	Pg	**Pg**	**15 56 50.3**	**-0.7**
	76nm,0.7s						
ORI	**Oriolo Calabro**	**1.13**	**320**	Pg	**Pg**	**15 56 52.3**	**0.0**
ORI	**Oriolo Calabro**	**1.13**	**320**	Pg	**Pg**	**15 56 52.3**	**0.0**
SCTE	**Santa Cesarea**	**1.20**	**43**	Pg	**Pg**	**15 56 52.9**	**-0.8**
SCTE				Sg	**Sg**	**15 57 10.5**	**+1.1**
	278nm,0.3s						
SCTE	**Santa Cesarea**	**1.20**	**43**	Pg	**Pg**	**15 56 52.9**	**-0.8**
SCTE				Sg	**Sg**	**15 57 10.5**	**+1.1**
	278nm,0.3s						
JOPP	**Joppolo**	**1.32**	**244**	Pg	**Pg**	**15 56 54.1**	**-1.8**
JOPP				Sg	**Sg**	**15 57 12.5**	**-0.6**
	53nm,0.7s						
JOPP	**Joppolo**	**1.32**	**244**	Pg	**Pg**	**15 56 54.1**	**-1.8**
JOPP				Sg	**Sg**	**15 57 12.5**	**-0.6**
	53nm,0.7s						
TAR1	**Taranto**	**1.32**	**356**	*e*Pn	**Pn**	**15 56 53.3**	**-1.1**
CRAC	**Craco**	**1.38**	**328**	Pg	**Pn**	**15 56 56.2**	**+1.1**
	215nm,0.4s						
CRAC	**Craco**	**1.38**	**328**	Pg	**Pn**	**15 56 56.2**	**+1.1**
	215nm,0.4s						
CUC	**Castrocucco**	**1.45**	**303**	Pg	**Pn**	**15 56 57.6**	**+1.4**
	50nm,0.6s						
CUC	**Castrocucco**	**1.45**	**303**	Pg	**Pn**	**15 56 57.6**	**+1.4**
	50nm,0.6s						
CEL	**Celeste**	**1.50**	**232**	Pg	**Pn**	**15 56 56.9**	**0.0**
	43nm,0.6s						
CEL	**Celeste**	**1.50**	**232**	Pg	**Pn**	**15 56 56.9**	**0.0**
	43nm,0.6s						
SIRI	**Monte Sirino -**	**1.53**	**310**	Pg	**Pn**	**15 56 59.0**	**+1.8**
	39nm,0.5s						
SIRI	**Monte Sirino -**	**1.53**	**310**	Pg	**Pn**	**15 56 59.0**	**+1.8**
	39nm,0.5s						
MATE	**Matera**	**1.54**	**340**	Pg	**Pn**	**15 56 59.8**	**+2.4**
	108nm,0.6s						
MATE	**Matera**	**1.54**	**340**	Pg	**Pn**	**15 56 59.8**	**+2.4**
	108nm,0.6s						
SOI	**Samo**	**1.54**	**223**	Pg	**Pn**	**15 56 57.6**	**+0.2**
	28nm,0.6s						
SOI	**Samo**	**1.54**	**223**	Pg	**Pn**	**15 56 57.6**	**+0.2**
	28nm,0.6s						
MIGL	**Miglionico**	**1.58**	**333**	Pg	**Pn**	**15 56 58.9**	**+1.0**
	358nm,0.6s						
MIGL	**Miglionico**	**1.58**	**333**	Pg	**Pn**	**15 56 58.9**	**+1.0**
	358nm,0.6s						
PE1	**Pezze di Greco**	**1.60**	**1**	*e*Pn	**Pn**	**15 56 57.6**	**-0.6**
NOCI	**Noci**	**1.60**	**351**	Pg	**Pn**	**15 56 58.2**	**-0.1**
MPAZ	**Palizzi**	**1.65**	**221**	Pg	**Pn**	**15 56 58.9**	**0.0**
	58nm,0.2s						
MPAZ	**Palizzi**	**1.65**	**221**	Pg	**Pn**	**15 56 58.9**	**0.0**
	58nm,0.2s						
MTTG	**Motta San Giov**	**1.79**	**229**	Pg	**Pn**	**15 57 00.8**	**0.0**
	50nm,0.4s						
MTTG	**Motta San Giov**	**1.79**	**229**	Pg	**Pn**	**15 57 00.8**	**0.0**
	50nm,0.4s						
AMUR	**Altamura**	**1.81**	**341**	Pg	**Pn**	**15 57 01.2**	**+0.2**
	71nm,0.3s						
KEK	**Kerkira**	**1.93**	**74**	*e*P	**Pn**	**15 57 02.5**	**-0.3**
CDT	**Castel del Mon**	**2.06**	**336**	*e*Pn	**Pn**	**15 57 05.1**	**+0.5**
MRVN	**Minervino Murg**	**2.07**	**334**	Pg	**Pn**	**15 57 04.8**	**+0.1**
	61nm,0.6s						
MMME	**Mongiuffi-Meli**	**2.10**	**234**	Pg	**Pn**	**15 57 05.5**	**+0.4**
	37nm,0.3s						
EFP	**Efpalio**	**3.61**	**101**	*e*P	**Pn**	**15 57 24.9**	**-0.9**
STON	**Ston**	**3.67**	**4**	*e*Pn	**Pn**	**15 57 25.1**	**-1.6**
STON					**Sn**	**15 58 07.8**	**-1.9**
STON	**Ston**	**3.67**	**4**	*e*Pn	**Pn**	**15 57 25.1**	**-1.6**
STON					**Sn**	**15 58 07.7**	**-2.0**
AGG	**Agios Georgios**	**3.85**	**91**	*e*P	**Pn**	**15 57 31.1**	**+2.0**
DID	**Didima**	**4.90**	**108**	*e*P	**Pn**	**15 57 44.3**	**+0.8**
NAIG	**Nisos Aigina**	**5.00**	**105**	*e*P	**Pn**	**15 57 45.5**	**+0.6**
VLI	**Veliai**	**5.04**	**118**	*e*PG	**Pn**	**15 57 46.2**	**+0.8**
VLI	**Veliai**	**5.04**	**118**	*e*P	**Pn**	**15 57 45.9**	**+0.5**
VLI	**Veliai**	**5.04**	**118**	*e*Pg	**Pn**	**15 57 46.2**	**+0.8**
VLY	**Voula,Athens**	**5.20**	**103**	*e*P	**Pn**	**15 57 47.8**	**+0.1**
KYTH	**Kithira**	**5.34**	**121**	*e*PB	**Pn**	**15 57 50.7**	**+1.1**
KYTH	**Kithira**	**5.34**	**121**	*e*P	**Pn**	**15 57 50.8**	**+1.2**
KYTH	**Kithira**	**5.34**	**121**	*e*Pb	**Pn**	**15 57 50.7**	**+1.1**
NVLJ	**Novalja**	**5.68**	**341**	*e*Pn	**Pn**	**15 57 54.1**	**-0.1**
NVLJ				Sn	**Sn**	**15 58 56.8**	**-2.2**
NVLJ	**Novalja**	**5.68**	**341**	*e*Pn	**Pn**	**15 57 54.0**	**-0.2**
NVLJ				Sn	**Sn**	**15 58 56.8**	**-2.3**
VAM	**Vamos**	**6.62**	**123**	*e*PG	**Pn**	**15 58 06.1**	**-1.0**
VAM	**Vamos**	**6.62**	**123**	*e*Pg	**Pn**	**15 58 06.1**	**-1.0**
APE	**Apeiranthos**	**6.76**	**106**	*e*PB	**Pn**	**15 58 09.6**	**+0.5**
APE	**Apeiranthos**	**6.76**	**106**	*e*Pb	**Pn**	**15 58 09.6**	**+0.5**
NPS	**Neapolis**	**7.64**	**118**	*e*PB	**Pn**	**15 58 18.7**	**-2.6**
NPS	**Neapolis**	**7.64**	**118**	*e*Pb	**Pn**	**15 58 18.7**	**-2.6**
KARP	**Karpathos**	**8.59**	**112**	*e*PN	**Pn**	**15 58 32.7**	**-1.5**
KARP	**Karpathos**	**8.59**	**112**	*e*Pn	**Pn**	**15 58 32.7**	**-1.5**

IDC 20 16:00:30.4±19.0, 23.06S×174.41W, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/20, mbtmpb3.8/5, Error ellipse: s-maj=366.0km s-min=147.7km az=83.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.63**	**267**	P	P	16 07 39.2	+0.3
	1.8nm,0.4s,baz=91,slow=9.9,SNR=5.3						
STKA	**Stephens Creek**	**39.80**	**247**	P	P	16 08 05.5	+0.1
	0.6nm,0.5s,baz=73,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**47.24**	**259**	P	P	16 09 05.1	-0.5
	0.2nm,0.3s,baz=95,slow=6.6,SNR=16						
WRA	**Warramunga Arr**	**47.60**	**264**	P	P	16 09 07.6	-0.7
	0.6nm,0.3s,baz=104,slow=8.3,SNR=25						
FITZ	**Fitzroy Crossi**	**56.02**	**263**	P	P	16 10 12.3	+0.9
	0.5nm,0.5s,baz=97,slow=8.1,SNR=3.3						

*IDC **20** 16:07:26.9±1.3, 2.55N×127.15E, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.7/20, mbtmp4.0/5, MS2.8/1, Ms1 2.8/1, ms1mx2.4/26, Error ellipse: s-maj=87.1km s-min=20.9km az=69.0*
*NEIC **20** 16:07:29.1±0.8, 2.54N×127.16E, h15km, mb4.4/2, Error ellipse: s-maj=43.6km s-min=9.2km az=64.0*
*ISCJB **20** 16:07:30.0±1.2, 2.5N±0.2×127.0E±0.4, h33km, mb4.1/6, Error ellipse: s-maj=60.9km s-min=12.7km az=153.8*
ISC 20 16:07:32.0±1.1, 2.5N±0.2×127.1E±0.4, h35km, n13, σ0521/13, mb4.1/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.52**	**184**	P	**P**	**16 12 07.5**	**+0.1**
	0.9nm,0.3s,baz=18,slow=10.0,SNR=11						
FITZ				LR	LR	16 19 01.2	
	comp=Z,28nm,21.7s,baz=190,slow=34						
FITZ	**Fitzroy Crossi**	**20.52**	**184**	P	**P**	**16 12 07.5**	**+0.1**
FITZ				LR	LR	16 19 01.2	
WRAB	**Tennant Creek**	**23.40**	**163**	*e*P	**P**	**16 12 37.7**	**-0.3**
	5.2nm,0.4s,mb4.3						
WRA	**Warramunga Arr**	**23.40**	**163**	P	**P**	**16 12 37.8**	**-0.3**
	2.7nm,0.4s,mb4.1,baz=342,slow=11,SNR=88						
WRA				PcP	PcP	16 16 24.8	+0.9
	0.2nm,0.5s,baz=338,slow=1.9,SNR=3.5						
WRA	**Warramunga Arr**	**23.40**	**163**	P	**P**	**16 12 37.8**	**-0.3**
WRA				PcP	PcP	16 16 24.8	+0.9
ASAR	**Alice Springs**	**26.84**	**166**	P	**P**	**16 13 09.6**	**+0.3**
	0.9nm,0.6s,mb3.5,baz=348,slow=7.7,SNR=37						
ASAR				PcP	PcP	16 16 31.9	+0.3
	0.3nm,0.6s,baz=339,slow=2.1,SNR=4.3						
ASAR	**Alice Springs**	**26.84**	**166**	P	**P**	**16 13 09.6**	**+0.3**
ASAR				PcP	PcP	16 16 31.9	+0.3
CHTO	**Chiang Mai**	**32.00**	**302**	P	**P**	**16 13 55.0**	**-0.1**
STKA	**Stephens Creek**	**36.85**	**159**	P	**P**	**16 14 37.2**	**+0.2**
	3.2nm,0.5s,mb4.4,baz=335,slow=9.3,SNR=15						
STKA	**Stephens Creek**	**36.85**	**159**	P	**P**	**16 14 37.2**	**+0.2**
MKAR	**Makanchi Array**	**58.78**	**325**	P	**P**	**16 17 26.8**	**+0.1**
	0.6nm,0.3s,mb4.0,baz=116,slow=7.6,SNR=12						
MKAR	**Makanchi Array**	**58.78**	**325**	P	**P**	**16 17 26.8**	**+0.1**
KURK	**Kurchatov**	**62.98**	**328**	*e*P	**P**	**16 17 55.1**	**0.0**
	1.6nm,0.5s,mb4.4						

*ISCJB **20** 16:28:57.0±0.6, 2.80N±0.08×124.2E±0.1, h324km±7km, mb3.7/11, Error ellipse: s-maj=21.3km s-min=8.6km az=150.2*
*NEIC **20** 16:29:00.9±1.8, 2.66N×123.85E, h347km±21km, mb3.8/6, Error ellipse: s-maj=27.1km s-min=8.5km az=64.0*
*IDC **20** 16:29:01.7±2.5, 2.78N×124.30E, h357km±26km, mb3.5/7, mb1 3.7/7, mb1mx3.3/22, mbtmpb3.5/7, Error ellipse: s-maj=71.8km s-min=9.4km az=68.0*
*DJA **20** 16:29:14, 1.79N×124.76E, h160km, MLv4.3/7*
ISC 20 16:28:57.8±0.7, 2.80N±0.08×124.2E±0.1, h315km±7km, n30, σ0885/35, mb3.8/11, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**2.22**	**186**	P	**Pn**	**16 29 45.7**	**-2.0**
TNTI	**Ternate**	**3.74**	**123**	P	**Pn**	**16 30 00.7**	**-1.4**
TNTI				S	**S**	**16 30 35.9**	**-18**
LUWI	**Luwuk**	**4.08**	**201**	P	**Pn**	**16 30 07.1**	**+1.3**
MSSI	**Masamba**	**6.59**	**216**	P	**Pn**	**16 30 27.9**	**-6.7**
NLAI	**Namlea**	**6.66**	**154**	P	**Pn**	**16 30 35.6**	**+0.2**
	0.3nm1μm27nm,1.0s						
AAI	**Ambon**	**7.58**	**148**	P	**Pn**	**16 30 46.8**	**+0.3**
	0.1nm2μm25nm,0.7s						
MSAI	**Masohi**	**7.71**	**142**	P	**Pn**	**16 30 49.5**	**+1.3**
	0.0nm11nm,0.7s						
KKM	**Kota Kinabalu**	**8.60**	**292**	Pn	**Pn**	**16 30 59.0**	**+0.1**
BNDI	**Bandanaira**	**9.23**	**142**	P	**Pn**	**16 31 07.4**	**+0.8**
FITZ	**Fitzroy Crossi**	**20.82**	**176**	P	**P**	**16 33 16.3**	**+0.3**
	5.6nm,0.3s,baz=2.1,slow=9.3,SNR=102						
FITZ	**Fitzroy Crossi**	**20.82**	**176**	P	**P**	**16 33 16.3**	**+0.3**
YHNB	**Yeheng**	**21.91**	**353**	*e*P	**P**	**16 33 27.2**	**+1.2**
MBWA	**Marble Bar**	**24.21**	**190**	*e*P	**P**	**16 33 46.9**	**+0.1**
	7.4nm,1.0s,mb4.0						
WRAB	**Tennant Creek**	**24.69**	**157**	*e*P	**P**	**16 33 50.5**	**-0.7**
	14nm,0.3s,mb4.9						
WRA	**Warramunga Arr**	**24.69**	**157**	P	**P**	**16 33 50.7**	**-0.5**
	7.9nm,0.3s,mb4.6,baz=338,slow=9.8,SNR=239						
WRA				PcP	PcP	16 37 17.8	-1.3
	0.3nm,0.4s,baz=326,slow=2.2,SNR=6.6						
WRA				S	**S**	**16 37 45.0**	**-4.3**
	0.4nm,0.5s,baz=337,slow=16,SNR=5.0						
WRA	**Warramunga Arr**	**24.69**	**157**	P	**P**	**16 33 50.7**	**-0.5**
WRA				PcP	PcP	16 37 17.8	-1.3
WRA				S	**S**	**16 37 45.0**	**-4.3**
PMG	**Port Moresby**	**25.88**	**118**	P	**P**	**16 34 06.6**	**+4.7**
	3.8nm,0.7s,mb3.9						
ASAR	**Alice Springs**	**27.95**	**161**	P	**P**	**16 34 20.1**	**0.0**
	1.2nm,0.5s,mb3.6,baz=344,slow=7.4,SNR=78						
ASAR				PcP	PcP	16 37 25.2	-1.5
	0.3nm,0.5s,baz=330,slow=1.5,SNR=5.2						
ASAR				S	**S**	**16 38 39.6**	**-1.0**
	0.3nm,0.7s,baz=331,slow=13,SNR=4.7						
ASAR	**Alice Springs**	**27.95**	**161**	P	**P**	**16 34 20.1**	**0.0**
ASAR				PcP	PcP	16 37 25.2	-1.5
ASAR				S	**S**	**16 38 39.6**	**-1.0**
STKA	**Stephens Creek**	**38.24**	**156**	P	**P**	**16 35 49.1**	**+0.6**
	2.7nm,0.4s,mb4.0,baz=335,slow=8.3,SNR=21						
STKA	**Stephens Creek**	**38.24**	**156**	*e*P	**P**	**16 35 48.8**	**+0.4**
	0.9nm,0.6s,mb3.4						
SONM	**Songino Array**	**47.42**	**344**	P	**P**	**16 37 02.0**	**+0.7**
	0.9nm,0.6s,mb3.3,baz=158,slow=8.0,SNR=8.2						
SONM	**Songino Array**	**47.42**	**344**	P	**P**	**16 37 02.0**	**+0.7**
MK31	**Makanchi Array**	**56.91**	**327**	*e*P	**P**	**16 38 10.5**	**-0.3**
MKAR	**Makanchi Array**	**56.91**	**327**	P	**P**	**16 38 11.1**	**+0.4**
	1.0nm,0.3s,mb3.7,baz=120,slow=7.6,SNR=45						
MKAR	**Makanchi Array**	**56.91**	**327**	P	**P**	**16 38 11.1**	**+0.4**
ZALV	**Zalesovo Beam**	**60.30**	**334**	P	**P**	**16 38 33.4**	**-0.3**
	0.3nm,0.3s,mb3.3,baz=126,slow=7.3,SNR=3.9						
ZALV	**Zalesovo Beam**	**60.30**	**334**	P	**P**	**16 38 33.4**	**-0.3**
KURK	**Kurchatov**	**61.20**	**329**	*e*P	**P**	**16 38 38.6**	**-1.2**
	3.1nm,0.8s,mb3.9						
ABKAR	**Akbulak array**	**71.29**	**321**	*e*P	**P**	**16 39 43.1**	**-0.4**
	0.8nm,0.7s,mb3.5						

IDC 20 16:45:51.5±2.0, 3.40N×128.45E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/21, mbtmpb3.4/4, MS3.3/1, Ms1 3.3/1, ms1mx2.3/19, Error ellipse: s-maj=149.8km s-min=23.9km az=67.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**4.63**	**322**	LR	LR	16 48 59.9	
	comp=Z,347nm,19.4s,baz=199,slow=41						
WRA	**Warramunga Arr**	**23.90**	**166**	P	P	16 51 06.5	-0.7
	0.3nm,0.5s,baz=346,slow=10,SNR=8.7						
ASAR	**Alice Springs**	**27.42**	**169**	P	P	16 51 40.0	+0.9
	0.1nm,0.5s,baz=354,slow=8.1,SNR=5.6						
STKA	**Stephens Creek**	**37.24**	**161**	P	P	16 53 04.5	-0.4
	0.7nm,0.5s,baz=336,slow=12,SNR=3.7						
MKAR	**Makanchi Array**	**58.81**	**325**	P	P	16 55 51.9	+0.2
	0.2nm,0.3s,baz=113,slow=8.3,SNR=7.4						

*ISCJB **20** 16:47:28.9±1.4, 5.61N±0.04×124.57E±0.07, h9km±9km, mb3.2/4, Error ellipse: s-maj=12.7km s-min=6.6km az=18.9*
*MAN **20** 16:47:28, 5.57N×124.54E, h16km, mb4.8, ML3.8, MS3.8*
*IDC **20** 16:47:29.1±1.2, 5.53N×124.65E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/23, mbtmpb3.4/4, Error ellipse: s-maj=46.0km s-min=20.2km az=85.0*
*DJA **20** 16:48:19, 0.48S×123.36E, h216km, MLv2.8/3*
ISC 20 16:47:29.3±1.6, 5.63N±0.05×124.59E±0.08, h4km±11km, n17, σ0890/21, mb3.3/4, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**0.57**	**38**	*e*P	**Pg**	**16 47 40.8**	**+0.4**
GSPH				*i* S	**Sg**	**16 47 53.5**	**+5.6**
KCP	**Kidapawan**	**1.46**	**20**	*e*P	**Pn**	**16 47 54.5**	**-1.9**
KCP				*i* S	Px	16 47 58.6	
CTBH	**Cotabato--PC H**	**1.62**	**348**	*e*P	**Pn**	**16 47 57.6**	**-1.1**
DMPH	**Davao City--Mi**	**1.70**	**32**	*e*P	**Pn**	**16 48 00.4**	**+0.5**
DMPH				*i* S	**Sn**	**16 48 23.2**	**+1.1**
DAV	**Davao City (W)**	**1.73**	**34**	Pn	**Pn**	**16 48 00.9**	**+0.7**
	98nm,0.3s,baz=97,slow=12,SNR=12						
DAV				Sn	**Sn**	**16 48 22.0**	**-0.8**
	130nm,0.3s,baz=45,slow=20,SNR=13						
MATI	**Mati**	**2.11**	**52**	*e*P	**Pn**	**16 48 05.1**	**-0.3**
BUKP	**Musuan**	**2.28**	**12**	*e*P	**Pn**	**16 48 07.8**	**+0.1**
PAGZ	**Pagadian**	**2.51**	**331**	*e*P	**Pn**	**16 48 11.6**	**+0.7**
CGP	**Cagayan de Oro**	**2.81**	**2**	*e*P	**Pn**	**16 48 14.7**	**-0.3**
CGP				*e*S	**Sn**	**16 48 49.8**	**+0.5**
IPIL	**Ipil**	**2.94**	**317**	*e*P	**Pn**	**16 48 15.7**	**-1.1**
KMSI	**Cibinong**	**5.06**	**187**	P	**Pn**	**16 48 52.4**	**+6.4**
MRSI	**Marisa**	**5.76**	**207**	P	**Pn**	**16 48 56.5**	**+0.8**
LUWI	**Luwuk**	**6.87**	**195**	S	**Pn**	**16 49 14.6**	**+3.6**
FITZ	**Fitzroy Crossi**	**23.60**	**178**	P	**P**	**16 52 41.2**	**-0.4**
	1.8nm,0.7s,mb3.6,baz=20,slow=9.8,SNR=5.3						
WRA	**Warramunga Arr**	**27.16**	**160**	P	**P**	**16 53 13.0**	**-1.0**
	0.5nm,0.9s,mb3.0,baz=334,slow=11,SNR=4.3						
ASAR	**Alice Springs**	**30.50**	**163**	P	**P**	**16 53 43.5**	**-0.1**
	0.2nm,0.8s,mb3.0,baz=341,slow=7.3,SNR=4.1						
MKAR	**Makanchi Array**	**54.79**	**326**	P	**P**	**16 57 01.8**	**+1.5**
	0.3nm,0.7s,mb3.4,baz=128,slow=7.7,SNR=2.6						

*IDC **20** 16:54:26.3±0.9, 12.87N×124.25E, h0km, mb3.6/8, mb1 3.7/8, mb1mx3.6/21, mbtmpb3.6/8, MS3.2/1, Ms1 3.2/1, ms1mx2.3/38, Error ellipse: s-maj=46.7km s-min=17.1km az=66.0*
*MAN **20** 16:54:27, 13.01N×124.31E, h1km, mb4.8, ML3.7, MS3.8*
*ISCJB **20** 16:54:31.8±1.3, 12.90N±0.08×124.36E±0.10, h57km±13km, mb3.6/11, Error ellipse: s-maj=19.7km s-min=6.2km az=140.7*
*NEIC **20** 16:54:37.5±2.8, 12.64N×123.83E, h95km±26km, mb4.2/3, Error ellipse: s-maj=33.8km s-min=11.1km az=73.0*
ISC 20 16:54:32.9±1.2, 12.89N±0.08×124.34E±0.09, h49km±12km, n33, σ0997/37, mb3.6/11, 2C-2D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**0.72**	**345**	*e*P	**Pn**	**16 54 38.8**	**-8.1**
PVCP				*e*S	**Sn**	**16 54 50.5**	**-6.5**
MMPH	**Masbate**	**0.88**	**233**	*e*P	**Pn**	**16 54 46.5**	**-2.4**
MMPH				*i* S	**Sn**	**16 55 00.8**	**+0.1**
AUQP	**San Andres**	**1.68**	**285**	*e*P	**Pn**	**16 55 00.1**	**+0.3**
AUQP				*e*S	**Sn**	**16 55 22.1**	**+1.9**
PLP	**Palo**	**1.82**	**160**	*e*P	**Pn**	**16 55 00.2**	**-1.6**
PLP				*e*S	**Sn**	**16 55 24.7**	**+1.0**
RCP	**Roxas**	**2.05**	**230**	*e*P	**Pn**	**16 55 04.5**	**-0.4**
GQP	**Guinayangan**	**2.10**	**299**	*e*P	**Pn**	**16 55 04.1**	**-1.5**
SCPH	**Surigao**	**3.29**	**160

SONM	**Songino Array**	**16.97**	**351**	Pn	**Pn**	**17 08 16.0**	**+1.2**
	comp=E,0.1nm,0.3s,baz=170,slow=10,SNR=3.3						
SONM	**Songino Array**	**16.97**	**351**	Pn	**Pn**	**17 08 16.0**	**+1.2**
MKAR	**Makanchi Array**	**26.53**	**314**	P	**P**	**17 09 56.3**	**+1.2**
	comp=E,0.8nm,0.8s,mb3.3,baz=112,slow=10,SNR=7.2						
MKAR	**Makanchi Array**	**26.53**	**314**	P	**P**	**17 09 56.3**	**+1.2**
ZALV	**Zalesovo Beam**	**29.19**	**329**	P	**P**	**17 10 18.9**	**0.0**
	comp=E,1.6nm,0.8s,mb3.8,baz=123,slow=11,SNR=7.0						
ZALV	**Zalesovo Beam**	**29.19**	**329**	P	**P**	**17 10 18.9**	**0.0**
WRAB	**Tennant Creek**	**55.82**	**152**	*eP*	**P**	**17 13 54.3**	**-0.6**
	comp=E,1.9nm,1.0s,mb4.1						
WRA	**Warramunga Arr**	**55.82**	**152**	P	**P**	**17 13 53.8**	**-1.1**
	comp=E,0.3nm,0.3s,mb3.8,baz=344,slow=8.0,SNR=5.7						
WRA	**Warramunga Arr**	**55.82**	**152**	P	**P**	**17 13 53.8**	**-1.1**
ASAR	**Alice Springs**	**59.03**	**154**	P	**P**	**17 14 17.1**	**-0.4**
	comp=E,0.2nm,0.3s,mb3.6,baz=339,slow=6.6,SNR=15						
ASAR	**Alice Springs**	**59.03**	**154**	P	**P**	**17 14 17.1**	**-0.4**

*CSEM **20** 17:16:33.6±0.8, 38.16N×20.46E, h20km, MD2.9, Error ellipse: s-maj=19.4km s-min=11.7km az=65.0*
*ATH **20** 17:16:34.0, 38.13N×20.64E, h19km±2km, MD2.9/6*
*THE **20** 17:16:35.0, 38.24N×20.43E, h10km±2km, Error ellipse: s-maj=3.0km s-min=0.5km az=88.0*

ISC 20 17:16:33.4±2.0, 38.16N±0.08×20.4E±0.1, h23km±5km, n16, σ1§08/29, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
VLS	**Valsamata**	**0.13**	**82**	*e*PB		**Pb**	**17 16 38.2**	**+0.2**
VLS				*e*SB		**Sb**	**17 16 40.3**	**-0.9**
VLS	**Valsamata**	**0.13**	**82**	P		**Pb**	**17 16 38.2**	**+0.2**
VLS				S		**Sb**	**17 16 40.4**	**-0.8**
VLS	**Valsamata**	**0.13**	**82**	P		**Pb**	**17 16 38.2**	**+0.2**
VLS				*e*Sb		**Sb**	**17 16 40.3**	**-0.9**
KFL	**Anninata**	**0.29**	**100**	P		**Pb**	**17 16 41.2**	**+1.1**
KFL				S		**Sb**	**17 16 45.7**	**+1.1**
KFL	**Anninata**	**0.29**	**100**	P		**Pb**	**17 16 41.2**	**+1.1**
KFL				S		**Sb**	**17 16 45.7**	**+1.1**
LKD2	**Lefkada island**	**0.66**	**16**	P		**Pb**	**17 16 45.8**	**-0.4**
LKD2				S		**Sb**	**17 16 54.8**	**-0.1**
LKD2	**Lefkada island**	**0.66**	**16**	P		**Pb**	**17 16 45.8**	**-0.4**
LKD2				S		**Sb**	**17 16 54.8**	**-0.1**
RLS	**Riolos of Patr**	**0.83**	**97**	*e*PB		**Pb**	**17 16 46.3**	**-2.8**
EFP	**Efpalio**	**1.19**	**77**	*e*PN		**Pn**	**17 16 53.4**	**-1.3**
EFP				*e*SN		**Sn**	**17 17 08.8**	**-1.4**
EFP	**Efpalio**	**1.19**	**77**	*e*Pn		**Pn**	**17 16 53.4**	**-1.3**
EFP				*e*Sn		**Sn**	**17 17 08.8**	**-1.4**
EVR	**Evrytania**	**1.32**	**55**	*e*PN		**Pn**	**17 16 57.1**	**+0.6**
EVR	**Evrytania**	**1.32**	**55**	*e*Pn		**Pn**	**17 16 57.1**	**+0.6**
GUR	**Goura**	**1.53**	**98**	*e*PN		**Pn**	**17 16 59.0**	**-0.3**
GUR				*e*SN		**Sn**	**17 17 18.7**	**+0.3**
GUR	**Goura**	**1.53**	**98**	*e*Pn		**Pn**	**17 16 59.0**	**-0.3**
GUR				*e*Sn		**Sn**	**17 17 18.7**	**+0.3**
AGG	**Agios Georgios**	**1.72**	**59**	*e*PN		**Pn**	**17 17 04.0**	**+2.0**
AGG				*e*SN		**Sn**	**17 17 24.0**	**+0.7**
AGG	**Agios Georgios**	**1.72**	**59**	*e*Pn		**Pn**	**17 17 04.0**	**+2.0**
AGG				*e*Sn		**Sn**	**17 17 24.0**	**+0.7**

*IDC **20** 17:27:32.8±0.8, 1.13N×121.61E, h0km, mb4.0/7, mb1 4.0/8, mb1mx3.8/23, mbtmp4.0/8, ML3.8/1, Error ellipse: s-maj=121.9km s-min=14.8km az=65.0*
*DJA **20** 17:27:34, 1.31N×122.32E, h10km, MLv4.4/6*
*ISCJB **20** 17:27:35.7±0.5, 1.37N±0.04×122.19E±0.06, h33km, mb4.0/8, Error ellipse: s-maj=8.6km s-min=6.3km az=13.3*
*NEIC **20** 17:27:37.9±0.6, 1.10N×121.68E, h35km, mb4.3/2, Error ellipse: s-maj=75.6km s-min=10.4km az=66.0*

ISC 20 17:27:38.0±0.5, 1.38N±0.05×122.23E±0.06, h35km, n27, σ1§09/28, mb4.0/8, 1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MRSI	**Marisa**	**0.94**	**198**	P		**Pn**	**17 27 51.5**	**-3.3**
MRSI				S		**Sn**	**17 28 02.4**	**-4.6**
LUWI	**Luwuk**	**2.46**	**167**	P		**Pn**	**17 28 16.8**	**+1.1**
MNI	**Manado**	**2.61**	**89**	S		**Sn**	**17 28 47.7**	**-0.5**
MSSI	**Masamba**	**4.35**	**206**	P		**Pn**	**17 28 39.3**	**-2.4**
TTSI	**Tana Toraja**	**5.01**	**209**	P		**Pn**	**17 28 51.5**	**+0.7**
MYLDM	**Lahad Datu**	**5.30**	**315**	P		**Pn**	**17 28 55.7**	**+0.9**
	0.2nm48nm,0.9s							
KDI	**Kendari**	**5.32**	**176**	P		**Pn**	**17 28 56.0**	**+1.0**
	0.1nm28nm,0.8s							
SPSI	**Sidrap Palu**	**5.85**	**205**	P		**Pn**	**17 29 03.4**	**+1.1**
CTBH	**Cotabato--PC H**	**6.14**	**19**	⇓*i*P		**Pn**	**17 29 05.6**	**-0.7**
IGBI	**Denpasar**	**12.35**	**215**	P		**Pn**	**17 30 30.1**	**-1.4**
FITZ	**Fitzroy Crossi**	**19.65**	**170**	P		**Pn**	**17 32 01.4**	**-4.1**
	0.2nm,0.3s,baz=354,slow=9.2,SNR=8.7							
FITZ	**Fitzroy Crossi**	**19.65**	**170**	P		**Pn**	**17 32 01.4**	**-4.1**
WRAB	**Tennant Creek**	**24.29**	**151**	*e*P		**P**	**17 32 51.6**	**-0.7**
	5.1nm,1.0s,mb3.9							
WRA	**Warramunga Arr**	**24.29**	**151**	P		**P**	**17 32 52.2**	**-0.1**
	3.0nm,0.7s,mb3.8,baz=326,slow=11,SNR=23							
WRA	**Warramunga Arr**	**24.29**	**151**	P		**P**	**17 32 52.2**	**-0.1**
ASAR	**Alice Springs**	**27.36**	**156**	P		**P**	**17 33 20.6**	**+0.6**
	0.9nm,0.8s,mb3.4,baz=332,slow=10,SNR=18							
ASAR	**Alice Springs**	**27.36**	**156**	P		**P**	**17 33 20.6**	**+0.6**
STKA	**Stephens Creek**	**37.83**	**153**	P		**P**	**17 34 52.4**	**+1.1**
	1.6nm,0.4s,mb4.1,baz=305,slow=9.3,SNR=4.4							
STKA	**Stephens Creek**	**37.83**	**153**	P		**P**	**17 34 52.4**	**+1.1**
SONM	**Songino Array**	**48.27**	**346**	P		**P**	**17 36 16.8**	**+1.2**
	2.1nm,0.8s,mb4.2,baz=168,slow=7.7,SNR=17							
SONM	**Songino Array**	**48.27**	**346**	P		**P**	**17 36 16.8**	**+1.2**
MKAR	**Makanchi Array**	**57.04**	**328**	P		**P**	**17 37 20.9**	**+0.4**
	1.2nm,0.6s,mb4.1,baz=126,slow=9.0,SNR=19							
MKAR	**Makanchi Array**	**57.04**	**328**	P		**P**	**17 37 20.9**	**+0.4**
ZALV	**Zalesovo Beam**	**60.75**	**336**	P		**P**	**17 37 45.0**	**-1.1**
	1.6nm,0.8s,mb4.2,baz=126,slow=7.3,SNR=8.7							
ZALV	**Zalesovo Beam**	**60.75**	**336**	P		**P**	**17 37 45.0**	**-1.1**
KURK	**Kurchatov**	**61.41**	**330**	P		**P**	**17 37 49.6**	**-1.0**
	1.3nm,0.6s,mb4.2,baz=115,slow=4.4,SNR=11							
KURK	**Kurchatov**	**61.41**	**330**	*e*P		**P**	**17 37 50.8**	**+0.2**
	4.4nm,0.8s,mb4.6							

*IDC **20** 17:31:18.8±1.8, 7.50S×151.05E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.5/18, mbtmp3.4/6, ML2.5/1, Error ellipse: s-maj=68.0km s-min=22.0km az=131.0*
*ISCJB **20** 17:31:20.4±1.3, 7.9S±0.2×151.4E±0.2, h33km, mb3.4/4, Error ellipse: s-maj=39.4km s-min=12.4km az=148.3*
*NEIC **20** 17:31:23.5±1.2, 7.72S×151.16E, h35km, Error ellipse: s-maj=43.5km s-min=13.1km az=130.0*

ISC 20 17:31:22.3±1.2, 7.9S±0.2×151.4E±0.2, h35km, n14, σ0§97/14, mb3.4/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**4.48**	**250**	Pn		**Pn**	**17 32 26.0**	**-1.8**
	2.2nm,0.3s,baz=51,slow=10,SNR=15							
PMG				Sn		**Sn**	**17 33 19.7**	**+1.0**
	3.8nm,0.3s,baz=94,slow=19,SNR=6.2							
PMG	**Port Moresby**	**4.48**	**250**	Pn		**Pn**	**17 32 26.0**	**-1.8**
PMG				Sn		**Sn**	**17 33 19.7**	**+1.0**
WRA	**Warramunga Arr**	**20.43**	**232**	P		**P**	**17 35 56.3**	**-0.5**
	0.2nm,0.6s,baz=50,slow=10,SNR=5.3							
WRA	**Warramunga Arr**	**20.43**	**232**	P		**P**	**17 35 56.3**	**-0.5**
ASAR	**Alice Springs**	**22.98**	**225**	P		**P**	**17 36 25.4**	**+1.3**
	0.4nm,0.8s,mb2.9,baz=57,slow=9.2,SNR=6.9							
ASAR	**Alice Springs**	**22.98**	**225**	P		**P**	**17 36 25.4**	**+1.3**
FITZ	**Fitzroy Crossi**	**27.06**	**245**	P		**P**	**17 37 00.9**	**-0.8**
	1.5nm,0.7s,mb3.6,baz=60,slow=8.1,SNR=5.3							
FITZ	**Fitzroy Crossi**	**27.06**	**245**	P		**P**	**17 37 00.9**	**-0.8**
SONM	**Songino Array**	**68.23**	**329**	P		**P**	**17 42 19.7**	**+0.3**
	0.3nm,0.7s,mb3.5,baz=138,slow=6.1,SNR=3.9							
SONM	**Songino Array**	**68.23**	**329**	P		**P**	**17 42 19.7**	**+0.3**
ILAR	**Eielson Array**	**85.52**	**22**	P		**P**	**17 43 56.8**	**+0.4**
	0.3nm,0.7s,mb3.6,baz=257,slow=5.1,SNR=7.3							
ILAR	**Eielson Array**	**85.52**	**22**	P		**P**	**17 43 56.8**	**+0.4**
TORD	**Torodi Ar. Bea**	**149.81**	**283**	PKPbc		PKPbc	17 51 10.5	+0.8
	0.3nm,0.8s,baz=105,slow=2.1,SNR=2.3							
TORD	**Torodi Ar. Bea**	**149.81**	**283**	PKPbc		PKPbc	17 51 10.5	+0.8

*IDC **20** 17:40:33.6±1.2, 5.89S×150.78E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.9/18, mbtmp3.8/8, ML3.0/1, MS2.9/3, Ms1 2.9/3, ms1mx2.7/22, Error ellipse: s-maj=40.7km s-min=20.8km az=110.0*
*ISCJB **20** 17:40:37.3±0.9, 5.9S±0.1×150.6E±0.2, h33km, mb3.7/8, MS2.8/2, Error ellipse: s-maj=31.6km s-min=11.2km az=37.5*

*NEIC **20** 17:40:38.9±1.0, 5.93S×150.63E, h35km, mb4.2/1, Error ellipse: s-maj=35.3km s-min=14.9km az=120.0*

ISC 20 17:40:39.1±0.9, 5.9S±0.1×150.6E±0.2, h35km, n23, σ1§07/21, mb3.7/8, MS2.8/2, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**4.87**	**225**	Pn		**Pn**	**17 41 51.1**	**+1.1**
	3.9nm,0.3s,baz=27,slow=7.0,SNR=23							
PMG				Sn		**Sn**	**17 42 45.2**	**0.0**
	5.6nm,0.3s,baz=98,slow=18,SNR=9.3							
PMG	**Port Moresby**	**4.87**	**225**	Pn		**Pn**	**17 41 51.1**	**+1.1**
PMG				Sn		**Sn**	**17 42 45.2**	**0.0**
COEN	**Coen**	**10.84**	**222**	*e*P		**Pn**	**17 43 09.3**	**-2.5**
CTA	**Charters Tower**	**14.69**	**196**	LR		LR	17 48 44.2	
	comp=Z,63nm,18.8s,baz=38,slow=33							
WRAB	**Tennant Creek**	**21.07**	**227**	*e*P		**P**	**17 45 20.3**	**-0.2**
	4.9nm,0.5s,mb4.1							
WRA	**Warramunga Arr**	**21.09**	**227**	P		**P**	**17 45 20.6**	**0.0**
	2.2nm,0.5s,mb3.7,baz=51,slow=10,SNR=20							
WRA	**Warramunga Arr**	**21.09**	**227**	P		**P**	**17 45 20.6**	**0.0**
AS31	**Alice Springs**	**23.87**	**221**	*e*P		**P**	**17 45 48.4**	**-1.1**
ASAR	**Alice Springs**	**23.87**	**221**	P		**P**	**17 45 50.3**	**+0.7**
	1.0nm,0.6s,mb3.4,baz=54,slow=9.1,SNR=23							
ASAR	**Alice Springs**	**23.87**	**221**	P		**P**	**17 45 50.3**	**+0.7**
STKA	**Stephens Creek**	**27.15**	**197**	P		**P**	**17 46 19.9**	**+0.7**
	4.3nm,0.8s,mb4.0,baz=5.5,slow=12,SNR=6.6							
STKA				LR		LR	17 55 38.7	
	comp=Z,7.9nm,20.7s,MS2.3,baz=24,slow=33							
STKA	**Stephens Creek**	**27.15**	**197**	P		**P**	**17 46 19.9**	**+0.7**
STKA				LR		LR	17 55 38.7	
FITZ	**Fitzroy Crossi**	**27.23**	**241**	P		**P**	**17 46 20.0**	**0.0**
	1.8nm,0.8s,mb3.7,baz=64,slow=11,SNR=8.1							
FITZ	**Fitzroy Crossi**	**27.23**	**241**	P		**P**	**17 46 20.0**	**0.0**
CBIJ	**Chichi jima**	**33.85**	**346**	LR		LR	17 58 11.4	
	comp=Z,61nm,21.7s,MS3.3,baz=193,slow=31							
SONM	**Songino Array**	**66.17**	**329**	P		**P**	**17 51 24.5**	**+1.4**
	0.3nm,0.8s,mb3.4,baz=126,slow=7.3,SNR=4.2							
SONM	**Songino Array**	**66.17**	**329**	P		**P**	**17 51 24.5**	**+1.4**
VNDA	**Vanda**	**71.78**	**177**	P		**P**	**17 51 58.4**	**+0.8**
	0.4nm,0.4s,mb3.8,baz=287,slow=3.7,SNR=6.8							
VNDA	**Vanda**	**71.78**	**177**	P		**P**	**17 51 58.4**	**+0.8**
ILAR	**Eielson Array**	**84.03**	**22**	P		**P**	**17 53 03.9**	**-1.8**
	0.4nm,0.8s,mb3.6,baz=258,slow=4.3,SNR=4.3							
ILAR	**Eielson Array**	**84.03**	**22**	P		**P**	**17 53 03.9**	**-1.8**
TORD	**Torodi Ar. Bea**	**148.57**	**285**	PKPbc		PKPbc	18 00 23.1	-0.3
	3.6nm,0.7s,baz=67,slow=2.5,SNR=21							
TORD	**Torodi Ar. Bea**	**148.57**	**285**	PKPbc		PKPbc	18 00 23.1	-0.3

MAN 20 17:47:20, 13.17N×124.55E, h21km, mb4.4, ML3.3, MS3.1, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PVCP	**Virac**	**0.57**	**318**	*e*P		Pb	17 47 32.7	+1.3
PVCP				*e*S		Sb	17 47 37.8	-1.3
AUQP	**San Andres**	**1.83**	**275**	*e*P		Pn	17 47 54.4	+4.1
AUQP				*e*S		Sn	17 48 12.8	-0.1
PLP	**Palo**	**2.03**	**168**	⇓*e*P		Pn	17 47 54.5	+1.4
PLP				*e*S		Sn	17 48 17.3	-0.5
RCP	**Roxas**	**2.38**	**228**	⇑*e*P		Pn	17 47 59.5	+1.7

KRSC 20 17:54:30.1±1.2, 50.87N×158.03E, h5km±5km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
RUS	**Russkaya**	**1.59**	**11**	*e*P		Pn	17 54 59.7	+0.8
RUS				*e*S		Sn	17 55 21.2	+1.3
SDLR	**Sedlovina**	**2.47**	**12**	*e*P		Pn	17 55 11.8	+0.9
SPN	**Mys Shipunski**	**2.55**	**28**	S		Sn	17 55 46.5	+3.1
GNL	**Ganaly**	**2.83**	**359**	P		Pn	17 55 17.5	+1.6
KBTR	**Krutoberegovo**	**6.06**	**26**	P		Pn	17 56 02.6	+2.4

*CASC **20** 17:55:07.3±1.7, 13.17N×90.44W, h24km±5km, MD4.6, ML4.8, mb4.7(NEIC)*
*IDC **20** 17:55:11.9±1.8, 13.61N×89.90W, h61km±16km, mb4.2/21, mb1 4.4/24, mb1mx4.3/30, mbtmp4.3/24, MS4.0/10, Ms1 4.0/10, ms1mx3.8/30, Error ellipse: s-maj=22.2km s-min=9.6km az=40.0*
*ISCJB **20** 17:55:11.7±0.4, 13.34N±0.04×90.01W±0.04, h82km±3km, mb4.5/74, Error ellipse: s-maj=8.6km s-min=3.1km az=36.5*
*MOS **20** 17:55:13.5±1.4, 13.55N×89.92W, h85km, mb4.6/16, Error ellipse: s-maj=15.0km s-min=6.2km az=111.4*
*BJI **20** 17:55:14.0, 13.30N×89.90W, h91km, mB5.2/5*
*NEIC **20** 17:55:14.1±0.6, 13.39N×89.92W, h89km±5km, mb4.7/40, MD5.0(SNET), Error ellipse: s-maj=8.6km s-min=3.8km az=53.0*
NEIC Felt [II] at San Salvador.

ISC 20 17:55:13.6±0.4, 13.43N±0.04×89.93W±0.04, h80km±2km, n566, σ0§68/513, mb4.5/73, 132C-139D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SONS	**Sonsonate**	**0.37**	**34**	*e*P		**Pn**	**17 55 23.6**	**-2.8**
SONS				*e*S		**Sn**	**17 55 36.5**	**+0.7**
SONS				AML		AML	17 55 38.2	
	comp=Z,23μm,0.7s							
SBLS	**San Blas**	**0.51**	**36**	⇓*i*P		**Pn**	**17 55 25.9**	**-1.5**
SNJE	**San Jose**	**0.54**	**36**	⇓*i*P		**Pn**	**17 55 26.3**	**-1.4**
RTR	**El Retiro**	**0.54**	**31**	⇓*i*P		**Pn**	**17 55 26.4**	**-1.4**
BOQS	**Boqueron**	**0.70**	**64**	*e*P		**Pn**	**17 55 28.9**	**-0.4**
SNET	**Serv Nac Est T**	**0.73**	**69**	⇓*i*P		**Pn**	**17 55 29.0**	**-0.6**
SNET				*e*S		**Sn**	**17 55 46.6**	**+5.2**
SNET				AML		AML	17 55 51.2	
	comp=Z,25μm,0.3s							
LFU	**La Fuente**	**0.85**	**68**	*e*P		**Pn**	**17 55 31.4**	**+0.5**
LFRS	**El Faro**	**0.87**	**77**	⇓*i*P		**Pn**	**17 55 30.8**	**-0.3**
IXG	**Ixpaco**	**0.90**	**326**	*e*P		**Pn**	**17 55 26.1**	**-5.4**
LBRS	**Las Brisas**	**0.92**	**70**	⇓*i*P		**Pn**	**17 55 32.0**	**+0.3**
MTO2	**Montecristo 2**	**1.11**	**30**	⇓*i*P		**Pn**	**17 55 34.8**	**+0.8**
PCG	**Pacaya**	**1.16**	**326**	*e*P		**Pn**	**17 55 29.6**	**-5.1**
NBG	**Las Nubes**	**1.22**	**341**	*e*P		**Pn**	**17 55 33.4**	**-2.0**
FUG	**Fuego 3**	**1.34**	**319**	*e*P		**Pn**	**17 55 30.7**	**-6.2**
FG6		**1.46**	**321**	*e*P		**Pn**	**17 55 32.6**	**-5.8**
VSM	**San Miguel**	**1.61**	**90**	*e*P		**Pn**	**17 55 41.2**	**+0.8**
BLLM	**Bellamira**	**1.65**	**89**	*e*P		**Pn**	**17 55 41.7**	**+0.9**
CAHU	**Cacacuatique**	**1.71**	**78**	*e*P		**Pn**	**17 55 43.2**	**+1.5**
JAT	**Jato**	**1.88**	**298**	*e*P		**Pn**	**17 55 35.2**	**-8.7**
CNCH	**Conchagua**	**2.05**	**94**	*e*P		**Pn**	**17 55 46.5**	**+0.4**
TGUH	**Tegucigalpa,Un**	**2.66**	**76**	*e*Pn		**Pn**	**17 55 56.2**	**+1.8**
TGUH	**Tegucigalpa,Un**	**2.66**	**76**	*e*P		**Pn**	**17 55 55.8**	**+1.5**
TEL3	**Telica 3**	**3.12**	**105**	*e*P		**Pn**	**17 56 00.8**	**+0.1**
MIRN	**Miramar**	**3.29**	**107**	*e*P		**Pn**	**17 56 03.1**	**+0.2**
MOMJ	**Momotombo**	**3.46**	**107**	*e*P		**Pn**	**17 56 05.9**	**+0.7**
COPN	**Copaltepe**	**3.48**	**110**	*e*P		**Pn**	**17 56 05.0**	**-0.5**
COPN				*e*S		**Sn**	**17 56 52.2**	**+6.4**
XAVN	**Gruta Xavier**	**3.74**	**109**	*e*P		**Pn**	**17 56 09.3**	**+0.3**
MGAN	**Managua**	**3.81**	**109**	AML		AML	17 57 04.6	
	comp=E,1μm,0.4s							
HUEN		**3.82**	**106**	*e*P		**Pn**	**17 56 10.4**	**+0.2**
CRUN	**El Crucero**	**3.82**	**112**	*e*P		**Pn**	**17 56 10.1**	**-0.1**
TICN	**Ticuantepe**	**3.87**	**111**	*e*P		**Pn**	**17 56 11.1**	**+0.3**
CONN	**Concepcion**	**4.59**	**113**	*e*P		**Pn**	**17 56 20.6**	**-0.1**
CRZC	**La Cruz**	**4.90**	**120**	*e*P		**Pn**	**17 56 23.3**	**-1.5**
JTS	**JuntasAbangare**	**5.79**	**122**	P		**Pn**	**17 56 36.2**	**-0.7**
	comp=E,11nm,0.3s,baz=318,slow=14,SNR=27							
JTS				S		**Sn**	**17 57 43.0**	**+1.1**
	comp=E,9.2nm,0.3s,baz=266,slow=19,SNR=1.6							
JTS				LR		LR	17 59 14.1	
	comp=E,2μm,19.5s,baz=148,slow=41							
JTS	**JuntasAbangare**	**5.79**	**122**	*e*Pn		**Pn**	**17 56 36.0**	**-0.9**
JTS	**JuntasAbangare**	**5.79**	**122**	P		**Pn**	**17 56 36.2**	**-0.7**
JTS				S		**Sn**	**17 57 43.0**	**+1.0**
JTS				pmax		pmax		
	comp=Z,11nm,0.3s							
JTS				smax				
	comp=Z,9.0nm,0.3s							
JTS				MLR		MLR		
	comp=Z,2μm,19.5s							
JCR	**Jicaral**	**5.91**	**126**	*e*P		**Pn**	**17 56 37.2**	**-1.4**
JCR	**Jicaral**	**5.91**	**126**	*e*P		**Pn**	**17 56 37.2**	**-1.4**
CMIG	**Matias Romero**	**6.01**	**308**	P		**Pn**	**17 56 36.6**	**-3.4**
	comp=Z,3.2nm,0.3s,baz=123,slow=11,SNR=30							
CMIG				S		**Sn**	**17 57 41.2**	**-6.2**
	comp=Z,21nm,0.3s,baz=67,slow=18,SNR=8.4							
CMIG	**Matias Romero**	**6.01**	**308**	P		**Pn**	**17 56 36.6**	**-3.4**
CMIG				S		**Sn**	**17 57 41.2**	**-6.2**

CGA2	**Cerro Gallo 2**	**6.33**	**122**	*e*P		**Pn**	**17 56 46.0**	**+1.6**
CGA2	**Cerro Gallo 2**	**6.33**	**122**	*e*P		**Pn**	**17 56 46.0**	**+1.6**
PRS1	**Puriscal**	**6.48**	**121**	*e*P		**Pn**	**17 56 47.2**	**+0.7**
PRS1	**Puriscal**	**6.48**	**121**	*e*P		**Pn**	**17 56 47.2**	**+0.7**
LAJ	**Bijagual**	**6.70**	**121**	*e*P		**Pn**	**17 56 45.9**	**-3.5**
LAJ	**Bijagual**	**6.70**	**121**	*e*P		**Pn**	**17 56 45.9**	**-3.5**
QCR	**Quepos**	**6.91**	**125**	*e*P		**Pn**	**17 56 53.5**	**+1.1**
QCR	**Quepos**	**6.91**	**125**	*e*P		**Pn**	**17 56 53.5**	**+1.1**
TEIG	**Tepich**	**6.94**	**13**	P		**Pn**	**17 56 54.6**	**+1.9**
	comp=Z,22nm,0.3s,baz=200,slow=14,SNR=66							
TEIG				LR		LR	18 00 03.0	
	comp=Z,928nm,19.2s,baz=91,slow=43							
TEIG	**Tepich**	**6.94**	**13**	*e*Pn		**Pn**	**17 56 54.7**	**+2.0**
URSC	**Urasca**	**7.00**	**120**	*e*P		**Pn**	**17 56 55.1**	**+1.5**
URSC				*e*S		**Sn**	**17 58 12.1**	**+0.3**
URSC	**Urasca**	**7.00**	**120**	*e*P		**Pn**	**17 56 55.1**	**+1.5**
URSC				*e*S		**Sn**	**17 58 12.1**	**+0.3**
BUS	**Buena Vista**	**7.17**	**122**	*e*P		**Pn**	**17 56 55.0**	**-0.9**
BUS	**Buena Vista**	**7.17**	**122**	*e*P		**Pn**	**17 56 55.0**	**-0.9**
ACR	**Cerro Adams**	**8.16**	**125**	*e*P		**Pn**	**17 57 09.2**	**-0.1**
ACR	**Cerro Adams**	**8.16**	**125**	*e*P		**Pn**	**17 57 09.2**	**-0.1**
HKT	**Hockley**	**17.32**	**343**	*e*Pn		**Pn**	**17 59 11.2**	**+0.9**
	comp=Z,121nm,2.3s							
HKT	**Hockley**	**17.32**	**343**	*e*P		**Pn**	**17 59 11.2**	**+0.9**
HKT				pmax		pmax		
	comp=Z,121nm,2.3s							
ROSC	**El Rosal**	**17.59**	**118**	P		**Pn**	**17 59 16.2**	**+2.5**
	comp=E,1.3nm,0.3s,baz=289,slow=16,SNR=8.7							
ROSC	**El Rosal**	**17.59**	**118**	*e*P		**Pn**	**17 59 12.3**	**-1.4**
VBMS	**Vicksburg**	**18.71**	**358**	*e*Pn		**Pn**	**17 59 26.9**	**-0.1**
	comp=Z,198nm,1.2s							
NATX	**Nacogdoches**	**18.75**	**347**	*e*Pn		**Pn**	**17 59 28.2**	**+0.6**
	comp=Z,34nm,0.7s							
JCT	**Junction City**	**19.26**	**333**	⇓P		**Pn**	**17 59 32.2**	**-1.4**
	baz=19,SNR=6.0							
JCT	**Junction City**	**19.26**	**333**	*e*P		**Pn**	**17 59 31.9**	**-1.7**
	comp=Z,20nm,1.0s							
JCT	**Junction City**	**19.26**	**333**	*e*P		**Pn**	**17 59 31.9**	**-1.7**
JCT				pmax		pmax		
	comp=Z,19nm,1.0s							
SDV	**Santo Domingo**	**19.46**	**101**	*e*P		**Pn**	**17 59 34.6**	**-1.5**
628A	**Black Gap, Mar**	**19.99**	**325**	⇑P		**Pn**	**17 59 39.5**	**-2.6**
	baz=20,SNR=34							
627A	**Terlingua Ranc**	**20.25**	**324**	⇑P		**P**	**17 59 42.4**	**-0.1**
	baz=20,SNR=51							
TXAR	**Lajitas Array**	**20.32**	**323**	P		**P**	**17 59 43.2**	**-0.1**
	comp=Z,14nm,0.7s,baz=147,slow=12,SNR=145							
TXAR	**Lajitas Array**	**20.32**	**323**	P		**P**	**17 59 43.2**	**-0.1**
TXAR	**Lajitas Array**	**20.32**	**323**	P		**P**	**17 59 43.2**	**-0.1**
528A	**Cox Ranch, San**	**20.46**	**327**	⇓P		**P**	**17 59 45.0**	**+0.2**
	baz=21,S

121A **Cookes Peak, D** 25.06 322 ⇑P P 18 00 30.8 +0.2
baz=25,SNR=51
220A **Playas Peak, P** 25.08 320 ⇑P P 18 00 30.6 -0.1
baz=25,SNR=39
Z22A **Elephant Butte** 25.11 325 ⇓P P 18 00 30.9 -0.1
baz=25,SNR=23
Y23A **Lovelace Mesa,** 25.12 327 ⇓P P 18 00 31.2 +0.1
baz=25,SNR=7.8
319A **Douglas** 25.21 318 ⇓P P 18 00 31.5 -0.4
baz=25
OLIL **Olney** 25.26 3 eP P 18 00 32.6 +0.3
comp=Z,46nm,0.8s,mb5.0
X24A **Lazy VL Ranch,** 25.30 329 ⇑P P 18 00 33.0 +0.3
baz=25
W25A **X Bar L Ranch,** 25.35 331 ⇑P P 18 00 33.7 +0.5
baz=26
V26A **Tequesquite Ra** 25.53 333 ⇓P P 18 00 34.8 0.0
baz=26
Z21A **St. Cloud Mine** 25.55 324 ⇓P P 18 00 35.3 +0.2
baz=26,SNR=10
120A **U Bar Ranch, L** 25.58 321 ⇑P P 18 00 35.6 +0.3
baz=26,SNR=22
219A **White Tail Can** 25.60 319 ⇑P P 18 00 35.7 +0.2
baz=26,SNR=50
Y22A **Socorro** 25.62 326 ⇓P P 18 00 35.9 +0.3
baz=26,SNR=11
X23A **Hourglass Bar** 25.70 328 ⇓P P 18 00 36.3 0.0
baz=26
318A **Bisbee** 25.71 317 ⇑P P 18 00 36.5 0.0
baz=26,SNR=24
LPM **Los Pinos Moun** 25.72 327 eP P 18 00 37.5 +0.9
W24A **Lazy 6 Ranch,** 25.80 330 ⇑P P 18 00 37.9 +0.7
baz=26,SNR=5.9
V25A **Rancho No Teng** 25.93 332 ⇓P P 18 00 39.0 +0.5
baz=26,SNR=7.5
Z20A **Nine Sixteen R** 25.95 322 ⇓P P 18 00 39.0 +0.3
baz=26,SNR=40
LAZ **Ladron** 26.06 326 eP P 18 00 40.6 +0.9
comp=Z,3.7nm,1.0s,mb3.8
Y21A **Point of Rocks** 26.07 325 ⇓P P 18 00 40.0 +0.3
baz=26,SNR=20
218A **Dragoon** 26.09 318 ⇑P P 18 00 40.0 +0.1
baz=26,SNR=7.8
ANMO **Albuquerque** 26.12 328 P P 18 00 41.0 +0.8
comp=Z,2.2nm,0.7s,mb3.7,baz=139,slow=12,SNR=6.5
ANMO PcP PcP 18 04 05.8 0.0
comp=Z,1.4nm,0.3s,baz=112,slow=1.2,SNR=6.0
ANMO LR LR 18 12 52.3
comp=Z,206nm,19.0s,baz=340,slow=41
ANMO **Albuquerque** 26.12 328 eP P 18 00 40.5 +0.3
comp=Z,5.0nm,1.1s,mb3.9
ANMO **Albuquerque** 26.12 328 P P 18 00 41.0 +0.8
ANMO 18 04 05.8
ANMO pmax pmax
comp=Z,2.0nm,0.7s
ANMO pmax pmax
comp=Z,1.0nm,0.3s
ANMO MLR MLR
comp=Z,206nm,19.0s
119A **Ashpeak Ranch,** 26.14 321 ⇑P P 18 00 40.5 +0.1
baz=26,SNR=14
V24A **Rampart Ranch,** 26.15 331 ⇑P P 18 00 40.7 +0.3
baz=26
KSU1 **Kansas State U** 26.24 348 eP P 18 00 41.1 -0.1
comp=Z,20nm,0.8s,mb4.6
Y20A **Horse Springs,** 26.39 324 ⇑P P 18 00 43.3 +0.6
baz=26,SNR=32
X21A **Alamocita Cree** 26.45 325 ⇑P P 18 00 43.6 +0.5
baz=27,SNR=22
217A **Green Valley** 26.47 317 ⇓P P 18 00 43.3 0.0
baz=27,SNR=7.6
Z19A **T-Link Ranch,** 26.48 322 ⇑P P 18 00 43.8 +0.4
baz=27
V23A **Ortiz Mt. (NFS** 26.61 329 ⇑P P 18 00 45.1 +0.5
baz=27
TUC **Tucson** 26.79 318 eP P 18 00 46.4 +0.2
TUC **Tucson** 26.79 318 eP P 18 00 46.4 +0.2
W21A **San Fidel** 26.88 327 ⇑P P 18 00 47.3 +0.3
baz=27
X20A **Quemado** 26.92 325 ⇑P P 18 00 47.8 +0.5
baz=27,SNR=12
117A **Oracle** 26.92 319 ⇑P P 18 00 47.2 -0.2
baz=27,SNR=11
T25A **Trinidad** 26.93 334 ⇑P P 18 00 47.9 +0.5
baz=27
Y19A **Nutrioso** 26.94 323 ⇓P P 18 00 48.0 +0.5
baz=27,SNR=26
216A **Three Points,** 27.04 317 ⇑P P 18 00 48.0 -0.4
baz=27,SNR=5.7
V22A **San Miguel Ran** 27.10 329 ⇑P P 18 00 49.5 +0.5
baz=27
T24A **Torres, Weston** 27.15 333 ⇑P P 18 00 50.5 +1.1
baz=27
Z17A **San Carlos Hig** 27.23 320 ⇑P P 18 00 50.6 +0.5
baz=27
Y18A **Canyon Day Jun** 27.28 321 ⇓P P 18 00 50.6 0.0
baz=27
X19A **St. Johns** 27.29 323 ⇑P P 18 00 51.1 +0.4
baz=27,SNR=11
W20A **Ramah** 27.35 325 ⇑P P 18 00 51.8 +0.6
baz=28,SNR=5.6
S25A **Robets Cordova** 27.38 334 ⇓P P 18 00 52.1 +0.7
baz=28
U22A **Llaves** 27.44 329 ⇑P P 18 00 52.6 +0.6
baz=28
Y17A **Roosevelt** 27.72 320 ⇓P P 18 00 54.5 0.0
baz=28
X18A **Snowflake** 27.75 323 ⇓P P 18 00 54.8 0.0
baz=28,SNR=6.7
V20A **Brimhall** 27.83 326 ⇑P P 18 00 55.6 +0.1
baz=28,SNR=5.6
W19A **Sanders** 27.84 324 ⇑P P 18 00 55.8 +0.2
baz=28,SNR=7.2
U21A **Nageezi** 27.88 328 ⇓P P 18 00 56.5 +0.6
baz=28
214A **Organ Pipe Nat** 27.92 315 ⇑P P 18 00 55.9 -0.5
baz=28,SNR=5.3
W18A **Petrified Fore** 28.04 324 ⇓P P 18 00 57.6 +0.2
baz=28
X17A **Forest Lakes** 28.13 321 ⇓P P 18 00 58.8 +0.6
baz=28
Y16A **Circle Bar Ran** 28.24 320 ⇑P P 18 00 59.3 +0.1
baz=28
U20A **Newcomb** 28.29 327 ⇑P P 18 00 59.9 +0.3
baz=28
Q25A **Bedland, Calha** 28.37 336 ⇑P P 18 01 00.7 +0.5
baz=28
114A **Black Gap (USA** 28.45 316 ⇓P P 18 01 01.2 +0.2
baz=29
S22A **4UR Ranch, Cre** 28.52 331 ⇓P P 18 01 01.6 0.0
baz=29,SNR=9.3
X16A **Lo Mia Camp, P** 28.57 321 ⇓P P 18 01 02.0 -0.1
baz=29,SNR=5.3
V18A **Ganado** 28.57 324 ⇑P P 18 01 02.3 +0.2
baz=29
U19A **Dine' College,** 28.60 326 ⇑P P 18 01 02.3 0.0
baz=29,SNR=6.3
Y15A **Casa Rosa Ranc** 28.83 319 ⇓P P 18 01 04.3 -0.1
baz=29
S21A **Coal Bank Pass** 28.91 330 ⇓P P 18 01 05.3 +0.3
baz=29
MVCO **Mesa Verde** 28.91 328 ⇑P P 18 01 05.2 +0.1
baz=29,SNR=7.6
MVCO **Mesa Verde** 28.91 328 eP P 18 01 06.0 +0.9
comp=Z,10nm,0.8s,mb4.5
V17A **Tonalea, Kykot** 29.01 323 ⇓P P 18 01 06.1 +0.1
baz=29,SNR=21
113A **Mohawk Valley,** 29.05 315 ⇓P P 18 01 06.3 -0.1
baz=29
W16A **Flagstaff** 29.08 322 ⇓P P 18 01 07.0 +0.4
baz=29
Z13A **Yuma Proving G** 29.23 316 ⇑P P 18 01 07.7 -0.3
baz=29,SNR=6.0
WUAZ **Wupatki** 29.27 322 ⇓P P 18 01 09.0 +0.7
baz=29
WUAZ **Wupatki** 29.27 322 eP P 18 01 08.4 +0.1
comp=Z,18nm,1.0s,mb4.7
S20A **Disappointment** 29.32 329 ⇓P P 18 01 09.2 +0.4
baz=30,SNR=6.1
P23A **Jefferson** 29.41 334 ⇑P P 18 01 09.8 +0.3
baz=30
U16A **Tuba City** 29.57 324 ⇑P P 18 01 11.0 +0.1
baz=30,SNR=6.1
T18A **Mexican Hat** 29.58 326 ⇓P P 18 01 11.7 +0.7
baz=30
R20A **Redvale** 29.61 330 ⇑P P 18 01 11.9 +0.6
baz=30
GLA **Glamis** 29.95 315 ⇓P P 18 01 14.1 -0.2
baz=30
GLA **Glamis** 29.95 315 eP P 18 01 14.0 -0.3
comp=Z,7.9nm,0.8s,mb4.4
GLA **Glamis** 29.95 315 eP P 18 01 14.0 -0.3
GLA pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
V15A **Kaibab Nationa** 29.96 322 ⇑P P 18 01 14.7 +0.4
baz=30,SNR=16
T17A **Navajo Res., N** 29.99 325 ⇑P P 18 01 15.0 +0.4
baz=30,SNR=18
PV04 **Paradox Valley** 30.03 329 eP P 18 01 15.6 +0.6
S18A **Hurst Farm, Bl** 30.05 327 ⇓P P 18 01 15.3 +0.1
baz=30,SNR=8.3
R19A **Curley Farm, L** 30.13 329 ⇓P P 18 01 16.5 +0.6
baz=30
PDMCI **Parker Dam,Lak** 30.22 318 ⇓P P 18 01 16.7 0.0
baz=30
O22A **Kremmling** 30.37 334 ⇓P P 18 01 18.2 +0.3
baz=30
U15A **North Rim** 30.44 323 ⇓P P 18 01 19.1 +0.5
baz=31,SNR=15
S17A **Black Ridge (B** 30.45 326 ⇑P P 18 01 18.9 +0.2
baz=31,SNR=8.6
R18A **Canyonlands Na** 30.52 328 ⇑P P 18 01 19.5 +0.2
baz=31
W13A **Hualapai Mount** 30.55 319 ⇓P P 18 01 19.8 +0.3
baz=31,SNR=8.7
SWSC **Sam W. Stewart** 30.56 314 ⇑P P 18 01 19.8 +0.1
baz=31
Q19A **Hogan Spring (** 30.64 330 ⇓P P 18 01 20.7 +0.4
baz=31,SNR=6.4
BC3 **Big Chuckawall** 30.72 315 ⇑P P 18 01 21.1 -0.1
baz=31,SNR=11
ECSD **EROS Data Cent** 30.74 350 eP P 18 01 20.6 -0.5
comp=Z,14nm,1.1s,mb4.6
N23A **Red Feather La** 30.74 336 ⇓P P 18 01 21.8 +0.6
baz=31
IRM **Iron Mountain** 30.80 316 ⇑P P 18 01 21.7 -0.2
baz=31,SNR=6.2
N22A **Wattenberg Ran** 30.87 335 ⇓P P 18 01 23.0 +0.7
baz=31
S16A **Weppner Ranch,** 30.95 325 ⇑P P 18 01 23.2 +0.2
baz=31,SNR=11
MONP **Monument Peak** 30.97 313 ⇓P P 18 01 23.4 +0.1
baz=31
R17A **Hanksville Air** 30.97 327 ⇓P P 18 01 24.0 +0.7
baz=31
P19A **Cripple Cowboy** 31.03 331 ⇓P P 18 01 24.7 +0.9
baz=31
O20A **White River Ci** 31.09 332 ⇓P P 18 01 24.9 +0.6
baz=31
Q18A **Rafter H Ranch** 31.19 329 ⇓P P 18 01 25.8 +0.6
baz=31
N21A **Black Mountain** 31.28 334 ⇑P P 18 01 26.2 +0.2
baz=31
BELC **Belle Mtn. Jos** 31.29 315 ⇑P P 18 01 26.3 +0.1
baz=31
R16A **Teasdale** 31.29 326 ⇓P P 18 01 26.4 +0.3
baz=31,SNR=13
LDFC **Landfair** 31.32 318 eP P 18 01 27.5 +1.1
comp=Z,25nm,1.0s,mb4.9
PFO **Pinyon Flat Ob** 31.39 314 ⇓P P 18 01 27.2 +0.2
baz=32
SRU **San Rafael** 31.39 328 ⇑P P 18 01 27.8 +0.8
baz=32
SRU **San Rafael** 31.39 328 eP P 18 01 27.8 +0.8
SRU **San Rafael** 31.39 328 eP P 18 01 27.8 +0.8
GMRC **Granite Mounta** 31.51 317 ⇓P P 18 01 28.0 -0.1
baz=32,SNR=5.8
Q16A **Castle Valley** 31.59 327 ⇑P P 18 01 29.2 +0.5
baz=32
P18A **Preston Nutter** 31.64 329 ⇓P P 18 01 29.1 -0.1
baz=32,SNR=6.1
N20A **Spence Gulch,** 31.66 333 ⇑P P 18 01 29.6 +0.3
baz=32,SNR=8.1
R15A **Junction** 31.67 325 ⇑P P 18 01 29.6 +0.2
baz=32
L23A **Garrett** 31.69 337 ⇑P P 18 01 29.9 +0.3
baz=32
P17A **Butcher Ranch,** 31.78 329 ⇓P P 18 01 30.4 0.0
baz=32,SNR=6.3
MSU **Marysvale** 31.83 326 eP P 18 01 31.2 +0.4
MSU **Marysvale** 31.83 326 eP P 18 01 31.2 +0.4
CCUT **Cedar City** 31.83 323 eP P 18 01 32.3 +1.5
comp=Z,13nm,0.8s,mb4.7
TMUT **Trail Mountain** 31.89 328 eP P 18 01 26.4 -4.9
M21A **Separation Pea** 31.91 335 ⇓P P 18 01 32.0 +0.5
baz=32
RWWY **Rawlins** 31.92 335 eP P 18 01 32.2 +0.7
HEC **Hector,Ludlow** 31.99 316 ⇑P P 18 01 32.7 +0.4
baz=32
O18A **Roosevelt** 32.02 330 ⇑P P 18 01 33.2 +0.7
baz=32
TUQ **Turquoise Moun** 32.07 318 ⇓P P 18 01 32.7 -0.3
baz=32,SNR=5.6
L21A **Rawlins** 32.22 335 ⇓P P 18 01 34.8 +0.6
baz=32,SNR=8.5
O17A **Robinson Place** 32.32 329 ⇓P P 18 01 35.6 +0.4
baz=32,SNR=8.3
N18A **Larsen Ranch,** 32.42 332 ⇓P P 18 01 36.5 +0.5
baz=33
K22A **Casper** 32.46 337 ⇓P P 18 01 37.0 +0.7
baz=33
SADO **Sadowa** 32.56 14 P P 18 01 36.2 -0.9
comp=Z,8.8nm,0.8s,mb4.7,baz=229,slow=11,SNR=6.1
SADO **Sadowa** 32.56 14 P P 18 01 36.2 -0.9
GSC **Goldstone** 32.58 317 ⇓P P 18 01 37.7 +0.3
baz=33
CIS **Catalina Islan** 32.66 312 ⇑P P 18 01 38.4 +0.3
baz=33
O16A **Springville** 32.71 329 ⇑P P 18 01 38.7 +0.1
baz=33,SNR=7.1
EDW2 **Edwards Air Fo** 33.14 315 ⇓P P 18 01 42.5 +0.1
baz=33
L19A **Farson** 33.17 333 ⇓P P 18 01 43.2 +0.7
baz=33
LRMC **Laurel Mountai** 33.27 316 ⇓P P 18 01 43.6 +0.1
baz=33,SNR=5.7
M17A **Scullys Gap (B** 33.27 331 ⇓P P 18 01 43.2 -0.1
baz=33
L18A **Fontenelle, Gr** 33.34 332 ⇑P P 18 01 44.2 +0.3
baz=34
DUG **Dugway** 33.38 327 ⇓P P 18 01 44.9 +0.5
baz=34
J21A **Lysite** 33.41 336 ⇓P P 18 01 45.2 +0.6
baz=34,SNR=7.3
MPMC **Manual Prospec** 33.47 317 ⇓P P 18 01 45.1 -0.1
baz=34,SNR=13
I22A **9 Mile Ranch,** 33.52 338 ⇑P P 18 01 45.7 +0.2
baz=34
H24A **Dirks Ranch, A** 33.61 341 ⇑P P 18 01 46.7 +0.4
baz=34
R11A **Troy Canyon, C** 33.67 322 ⇓P P 18 01 47.6 +0.6
baz=34,SNR=14
BW06 **Boulder Array** 33.80 334 ⇑P P 18 01 47.9 -0.1
baz=34
PDAR **Pinedale Array** 33.80 334 P P 18 01 47.3 -0.6
comp=Z,1.8nm,0.8s,mb4.0,baz=131,slow=9.7,SNR=8.7
PDAR PcP PcP 18 04 25.6 +0.1
comp=Z,3.7nm,0.8s,baz=133,slow=5.0,SNR=15
PDAR **Pinedale Array** 33.80 334 P P 18 01 47.3 -0.6
PDAR PcP PcP 18 04 25.6 +0.1
HWUT **Hardware Ranch** 33.80 330 eP P 18 01 48.2 +0.2
L17A **Cokeville** 33.86 331 ⇑P P 18 01 48.2 -0.3
baz=34
ISA **Isabella** 33.90 316 ⇓P P 18 01 48.6 -0.3
baz=34,SNR=7.2
ISA **Isabella** 33.90 316 eP P 18 01 48.9 0.0
comp=Z,12nm,1.3s,mb4.6
ISA **Isabella** 33.90 316 eP P 18 01 48.9 -0.1
ISA pmax pmax
comp=Z,13nm,1.3s,mb4.6
K18A **Toltan Ranch,** 33.91 333 ⇓P P 18 01 48.8 0.0
baz=34,SNR=5.6
J19A **Crowheart** 33.99 335 ⇓P P 18 01 49.9 +0.3
baz=34
L16A **Fish Haven** 34.05 331 ⇑P P 18 01 50.0 -0.2
baz=34
CWC **Cottonwood Cre** 34.08 317 ⇑P P 18 01 50.6 +0.1
baz=34
M15A **Larsen Ranch,** 34.13 329 ⇓P P 18 01 50.3 -0.5
baz=34,SNR=8.8
J18A **Kendall Valley** 34.36 334 ⇓P P 18 01 53.2 +0.4
baz=34,SNR=8.6
K17A **Gardner Place,** 34.39 332 ⇓P P 18 01 53.4 +0.4
baz=34
PKM **Peak Mountain** 34.43 314 ⇓P P 18 01 53.1 -0.4
baz=34
L15A **Malad City** 34.51 330 ⇓P P 18 01 53.3 -0.8
baz=35,SNR=10
HVU **Hansel Valley** 34.53 329 eP P 18 01 54.1 -0.2
comp=Z,7.3nm,1.0s,mb4.5
HVU **Hansel Valley** 34.53 329 eP P 18 01 54.1 -0.2
HVU pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
H20A **Greybull** 34.59 337 ⇓P P 18 01 54.4 -0.4
baz=35
I19A **Meeteetse** 34.60 335 ⇑P P 18 01 55.0 +0.1
baz=35,SNR=5.1
I18A **Diamond G Ranc** 34.67 334 ⇑P P 18 01 55.4 -0.1
baz=35
J17A **Brown Place, J** 34.78 333 ⇑P P 18 01 56.8 +0.4
baz=35
REDW **Red Top Meadow** 34.84 333 eP P 18 01 57.6 +0.6
SNOW **Snow King Moun** 34.88 333 eP P 18 01 57.7 +0.4
MTUM **Tungsten Hills** 34.92 318 eP P 18 01 58.6 +0.8
LOHW **Long Hollow** 34.93 333 eP P 18 01 57.7 0.0
L14A **Malta** 34.95 329 ⇓P P 18 01 58.0 +0.1
baz=35,SNR=7.7
TPAW **Teton Pass** 34.99 333 eP P 18 01 58.6 +0.4
MOOW **Moose Ponds** 35.10 333 eP P 18 01 59.0 -0.2
comp=Z,5.2nm,1.2s,mb4.2
AGMN **Agassiz Nation** 35.11 353 eP P 18 01 57.9 -1.3
comp=Z,17nm,0.8s,mb4.9
J16A **Bone** 35.11 332 ⇑P P 18 01 59.6 +0.3
baz=35
MDND **Maddock** 35.25 349 ⇑P P 18 02 00.8 +0.4
baz=35,SNR=10.0
K14A **Jones Ranch, D** 35.30 330 ⇑P P 18 02 00.5 -0.4
baz=35,SNR=11
IMW **Indian Meadow** 35.30 333 eP P 18 02 03.0 +2.0
comp=Z,35nm,2.3s,mb4.8
NVAR **Mina Array Bea** 35.39 320 P P 18 02 02.7 +1.0
comp=Z,34nm,0.9s,mb5.2,baz=136,slow=8.4,SNR=142
NVAR PcP PcP 18 04 31.7 +1.5
comp=Z,7.7nm,0.7s,baz=131,slow=2.7,SNR=20
NVAR **Mina Array Bea** 35.39 320 P P 18 02 02.7 +1.0
NVAR PcP PcP 18 04 31.7 +1.5
H18A **Shoshone NF, C** 35.40 335 ⇓P P 18 02 01.1 -0.6
baz=36,SNR=9.7
E23A **Ismay** 35.42 342 ⇑P P 18 02 01.6 -0.3
baz=36
J15A **Blackfoot** 35.59 331 ⇓P P 18 02 03.8 +0.4
baz=36
RLMT **Red Lodge** 35.61 336 ⇓P P 18 02 03.6 +0.1
baz=36
D24A **Glendive** 35.69 343 ⇑P P 18 02 04.0 -0.1
baz=36,SNR=5.4
YFT **Old Faithful** 35.70 334 eP P 18 02 03.3 -1.1
F20A **Billings** 35.76 338 ⇑P P 18 02 05.0 +0.2
baz=36
LAO **LASA Array** 35.87 341 ⇑P P 18 02 06.2 +0.4
baz=36
G18A **Lazy EL Ranch,** 35.89 336 ⇓P P 18 02 06.0 +0.1
baz=36
BMN **Battle Mountai** 35.99 323 eP P 18 02 07.2 +0.3
comp=Z,35nm,1.1s,mb5.2
BMN **Battle Mountai** 35.99 323 eP P 18 02 07.2 +0.4
BMN pmax pmax
comp=Z,35nm,1.1s,mb5.2
D23A **Lindsay** 35.99 342 ⇓P P 18 02 07.5 +0.7
baz=36
E21A **Keefer Ranch,** 36.02 340 ⇓P P 18 02 07.1 0.0
baz=36
J14A **Carey** 36.05 330 ⇑P P 18 02 07.5 +0.3
baz=36
C24A **Savage** 36.09 343 ⇑P P 18 02 07.9 +0.4
baz=36
F19A **Roth Farm, Mol** 36.10 337 ⇑P P 18 02 07.7 0.0
baz=36
QLMT **Earthquake Lak** 36.26 334 eP P 18 02 10.3 +1.2
comp=Z,0.3nm,0.7s
D22A **Cohagen** 36.27 341 ⇑P P 18 02 08.9 -0.2
baz=36,SNR=9.9
E20A **Meyer Farm, Mu** 36.36 339 ⇓P P 18 02 09.4 -0.5
baz=36,SNR=5.4
J13A **Cove Ranch, Pi** 36.42 330 ⇓P P 18 02 11.2 +0.7
baz=37
I14A **Mackay** 36.47 331 ⇑P P 18 02 11.2 +0.3
baz=37
CMB **Columbia Colle** 36.49 318 eP P 18 02 11.3 +0.1
CMB **Columbia Colle** 36.49 318 eP P 18 02 11.3 +0.1
SAO **San Andreas Ge** 36.52 315 eP P 18 02 15.3 +3.9
SAO **San Andreas Ge** 36.52 315 eP P 18 02 15.3 +3.8
LPAZ **La Paz** 36.55 143 P P 18 02 13.6 +1.8
comp=Z,1.7nm,0.7s,mb4.1,baz=324,slow=9.0,SNR=6.7
LPAZ LR LR 18 17 10.9
comp=Z,287nm,21.1s,baz=55,slow=36
LPAZ **La Paz** 36.55 143 P P 18 02 13.6 +1.8
LPAZ LR LR 18 17 10.9
LPAZ **La Paz** 36.55 143 P P 18 02 13.6 +1.7
C23A **Lambert** 36.55 343 ⇓P P 18 02 11.3 -0.2
baz=37,SNR=5.3
E19A **Rath Farm, Rou** 36.56 338 ⇓P P 18 02 11.6 0.0
baz=37
H15A **Lima** 36.63 332 ⇓P P 18 02 12.3 +0.1
baz=37,SNR=7.7
HLID **Hailey** 36.66 330 ⇑P P 18 02 12.2 -0.3
baz=37
HLID **Hailey** 36.66 330 eP P 18 02 12.2 -0.3
comp=Z,5.0nm,1.1s,mb4.4
C22A **Vida** 36.71 342 ⇑P P 18 02 12.9 +0.1
baz=37,SNR=7.3
I13A **Wildhorse Cree** 36.78 330 ⇓P P 18 02 13.5 0.0
baz=37,SNR=12
F17A **Fitzpatrick Pl** 36.81 336 ⇓P P 18 02 14.2 +0.4
baz=37
D20A **Manuel Ranch,** 36.86 339 ⇓P P 18 02 14.4 +0.2
baz=37
MCMT **McKenzie Canyo** 36.88 333 eP P 18 02 15.0 +0.6
comp=Z,9.6nm,1.1s,mb4.6
DGMT **Dagmar** 36.89 344 ⇑P P 18 02 14.6 +0.2
baz=37
DGMT **Dagmar** 36.89 344 eP P 18 02 14.1 -0.2
comp=Z,21nm,0.8s,mb5.1
H14A **Leadore** 36.96 332 ⇑P P 18 02 15.9 +0.9
baz=37
G15A **Dillon** 36.99 333 ⇑P P 18 02 15.6 +0.3
baz=37
BOZ **Bozeman (W)** 37.00 334 ⇑P P 18 02 16.0 +0.6
baz=37
ULM **Lac du Bonnet** 37.04 354 P P 18 02 13.9 -1.7
comp=Z,8.9nm,0.6s,mb4.8,baz=177,slow=7.3,SNR=8.2
ULM LR LR 18 20 33.6
comp=Z,204nm,18.7s,baz=284,slow=41
ULM **Lac du Bonnet** 37.04 354 P P 18 02 13.9 -1.7
ULM LR LR 18 20 33.6
ULM **Lac du Bonnet** 37.04 354 P P 18 02 13.9 -1.7
E18A **Harlowton** 37.06 337 ⇑P P 18 02 15.8 -0.1
baz=37
C21A **Desert Coulee** 37.16 341 ⇓P P 18 02 17.2 +0.5
baz=37
I12A **Atlanta** 37.19 329 ⇓P P 18 02 17.0 0.0
baz=37,SNR=15
D19A **Cripps Ranch,** 37.19 338 ⇓P P 18 02 17.3 +0.3
baz=37
B22A **Reddig Ranch S** 37.24 342 ⇓P P 18 02 17.7 +0.3
baz=37
A24A **Westby** 37.25 345 ⇓P P 18 02 17.8 +0.4
baz=37
MFID **Camas Ranch** 37.26 328 ⇑P P 18 02 18.0 +0.4
baz=37
MFID **Camas Ranch** 37.26 328 eP P 18 02 17.6 -0.1
comp=Z,9.0nm,1.1s,mb4.6
H13A **Challis** 37.33 331 ⇓P P 18 02 18.0 -0.1
baz=38,SNR=12
LRM **Limekiln Ridge** 37.49 334 eP P 18 02 19.8 +0.3
A23A **Redstone** 37.52 344 ⇑P P 18 02 20.1 +0.5
baz=38
F15A **Butte** 37.52 334 ⇓P P 18 02 19.8 +0.1
baz=38
D18A **Linhart Farms,** 37.55 338 ⇑P P 18 02 20.7 +0.7
baz=38
H12A **Diamond D Ranc** 37.60 330 ⇑P P 18 02 20.5 0.0
baz=38,SNR=12
G13A **Cobalt** 37.72 332 ⇓P P 18 02 21.3 -0.1
baz=38
C19A **Slack Wire Ran** 37.73 339 ⇑P P 18 02 21.8 +0.2
baz=38
A22A **Carney Farms,** 37.84 343 ⇓P P 18 02 22.5 +0.1
baz=38,SNR=5.6
D17A **Six Diamond Ra** 37.85 337 ⇑P P 18 02 22.4 -0.1
baz=38
F14A **Wisdom** 37.88 333 ⇓P P 18 02 22.7 -0.1
baz=38

OHCM	Honcut	37.93	319	*e*P		P	18 02 23.5	+0.1		
E15A	Deer Lodge	38.05	334	⇑P		P	18 02 24.4	+0.2		
	baz=38									
WVOR	Wild Horse Val	38.10	325	*e*P		P	18 02 24.1	-0.6		
	comp=Z,15nm,0.9s,mb4.8									
WVOR	Wild Horse Val	38.10	325	*e*P		P	18 02 24.1	-0.6		
WVOR				pmax	pmax					
	comp=Z,15nm,0.9s,mb4.8									
A21A	Bergtoll Ranch	38.13	342	⇓P		P	18 02 25.2	+0.3		
	baz=38									
EGMT	Eagleton	38.23	338	P		P	18 02 27.9	+2.2		
G12A	Big Creek, Yel	38.26	331	⇑P		P	18 02 25.5	-0.5		
	baz=38,SNR=5.3									
C17A	Wharram Farm,	38.27	337	⇑P		P	18 02 25.9	-0.2		
	baz=38									
F13A	Darby	38.29	332	⇑P		P	18 02 25.9	-0.4		
	baz=38									
B19A	Brinkman Farms	38.32	340	⇓P		P	18 02 26.5	+0.1		
	baz=38									
A20A	Cobblestone Ra	38.35	341	⇑P		P	18 02 27.1	+0.4		
	baz=38									
B18A	Beardsley Farm	38.55	339	⇓P		P	18 02 28.5	+0.1		
	baz=39									
J08A	Circle Bar Ran	38.62	326	⇑P		P	18 02 28.8	-0.3		
	baz=39,SNR=8.1									
F12A	Elk City	38.69	331	⇓P		P	18 02 29.0	-0.6		
	baz=39,SNR=15									
MOD	Modoc	38.72	323	*e*P		P	18 02 29.2	-0.7		
	comp=Z,14nm,0.9s,mb4.8									
E13A	Victor	38.73	333	⇓P		P	18 02 29.5	-0.3		
	baz=39									
C16A	Fuhringer Ranc	38.79	336	⇑P		P	18 02 30.2	-0.2		
	baz=39									
B17A	L&G Farms, Che	38.84	338	⇑P		P	18 02 30.3	-0.5		
	baz=39									
MSO	Missoula	38.92	334	⇑P		P	18 02 31.3	-0.2		
	baz=39									
MSO	Missoula	38.92	334	*e*P		P	18 02 31.1	-0.4		
D14A	Greenough	38.93	334	⇑P		P	18 02 31.0	-0.6		
	baz=39									
A18A	Metzger Ranch,	39.02	339	⇑P		P	18 02 32.0	-0.3		
	baz=39									
BMO	Blue Mountains	39.03	329	*e*P		P	18 02 31.4	-1.1		
	comp=Z,3.5nm,0.9s,mb4.2									
C15A	Salmond Ranch,	39.11	336	⇓P		P	18 02 33.3	+0.2		
	baz=39									
E12A	Beaver Dam Sad	39.33	332	⇑P		P	18 02 33.8	-1.1		
	baz=40									
A17A	Triple J Farms	39.35	338	⇑P		P	18 02 34.7	-0.3		
	baz=40									
D13A	Huson	39.35	333	⇓P		P	18 02 34.2	-0.8		
	baz=40									
B15A	Bradely Ranch,	39.53	336	⇑P		P	18 02 35.8	-0.8		
	baz=40									
K05A	Summer Lake	39.57	323	⇑P		P	18 02 36.6	-0.4		
	baz=40									
I07A	Izee	39.66	326	⇓P		P	18 02 36.8	-1.0		
	baz=40,SNR=9.1									
F10A	Beach Ranch, E	39.79	330	⇑P		P	18 02 37.8	-0.9		
	baz=40,SNR=17									
YBH	Yreka Blue Hor	40.06	321	*e*P		P	18 02 38.6	-2.5		
	comp=Z,8.6nm,0.9s,mb4.6									
YBH	Yreka Blue Hor	40.06	321	*e*P		P	18 02 38.6	-2.5		
YBH				pmax	pmax					
	comp=Z,9.0nm,0.9s									
A15A	Johnson Ranch,	40.13	337	⇑P		P	18 02 41.0	-0.6		
	baz=40,SNR=5.2									
KHMM	Horse Mountain	40.22	319	*e*P		P	18 02 41.6	-0.8		
B13A	Whitefish	40.34	335	⇑P		P	18 02 43.0	-0.3		
	baz=40									
A14A	Double T Ranch	40.40	336	⇑P		P	18 02 43.5	-0.2		
	baz=41									
C11A	Tepee Creek (N	40.71	333	⇓P		P	18 02 45.9	-0.4		
	baz=41									
A13A	Flathead Natio	40.76	335	⇓P		P	18 02 46.8	0.0		
	baz=41									
E07A	Sunnyside	41.50	329	⇑P		P	18 02 52.5	-0.3		
	baz=42									
OD2	Odessa Site #2	41.52	330	*e*P		P	18 02 52.8	-0.2		
	comp=Z,10nm,0.9s,mb4.6									
H04A	Detroit Lake	41.52	325	⇑P		P	18 02 52.2	-0.9		
	baz=42,SNR=11									
HOOD	Mount Hood Mea	41.63	326	*e*P		P	18 02 54.7	+0.8		
	comp=Z,83nm,1.0s,mb5.4									
FFC	Flin Flon	42.27	350	*e*P		P	18 02 58.2	-0.7		
	comp=Z,6.2nm,0.8s,mb4.4									
FFC	Flin Flon	42.27	350	*e*P		P	18 02 58.2	-0.8		
FFC				pmax	pmax					
	comp=Z,6.0nm,0.8s,mb4.4									
LON	Longmire	42.63	328	*e*P		P	18 03 01.8	-0.3		
	comp=Z,7.1nm,0.9s,mb4.4									
LON	Longmire	42.63	328	*e*P		P	18 03 01.8	-0.3		
LON				pmax	pmax					
	comp=Z,7.0nm,0.9s,mb4.4									
E03A	Lebam	43.44	326	⇓P		P	18 03 08.3	-0.2		
	baz=44									
SCHQ	Schefferville	45.09	19	P		P	18 03 20.6	-1.0		
	comp=Z,11nm,0.5s,mb4.9,baz=228,slow=7.0,SNR=28									
SCHQ				LR		LR	18 22 46.5			
	comp=Z,188nm,19.6s,baz=126,slow=37									
SCHQ	Schefferville	45.09	19	P		P	18 03 20.6	-1.0		
SCHQ				LR		LR	18 22 46.5			
CPUP	Villa Florida	50.67	141	LR		LR	18 27 58.2			
	comp=Z,126nm,19.5s,baz=80,slow=39									
YKA	Yellowknife Ar	52.05	346	P		P	18 04 13.9	-1.0		
	comp=Z,6.2nm,0.7s,mb4.7,baz=153,slow=7.4,SNR=9.6									
YKA	Yellowknife Ar	52.05	346	P		P	18 04 13.9	-1.0		
YKA	Yellowknife Ar	52.05	346	P		P	18 04 13.9	-1.0		
DLBC	Dease Lake	54.00	335	P		P	18 04 29.5	+0.2		
	comp=Z,4.7nm,0.8s,mb4.6,baz=192,slow=14,SNR=4.8									
DLBC	Dease Lake	54.00	335	P		P	18 04 29.5	+0.2		
RKT	Rikitea	57.12	231	*e*T			19 05 42.2			
	comp=Z,3.3nm,0.2s									
INK	Inuvik	61.56	343	P		P	18 05 20.9	-1.2		
	comp=Z,6.6nm,0.8s,mb4.7,baz=124,slow=5.7,SNR=17									
INK	Inuvik	61.56	343	*e*P		P	18 05 20.6	-1.4		
	comp=Z,8.2nm,0.9s,mb4.8									
INK	Inuvik	61.56	343	P		P	18 05 20.9	-1.2		
INK				pmax	pmax					
	comp=Z,7.0nm,0.8s									
ILAR	Eielson Array	64.16	336	P		P	18 05 38.0	-1.3		
	comp=Z,5.0nm,1.0s,mb4.3,baz=116,slow=5.6,SNR=24									
ILAR	Eielson Array	64.16	336	P		P	18 05 38.0	-1.3		
ILAR	Eielson Array	64.16	336	P		P	18 05 38.1	-1.3		
SUMG	Summit	66.26	15	*i* P		P	18 05 52.4	-0.4		
	comp=Z,8.8nm,0.8s,mb4.8									
PPT	Papeete	66.43	244	eLR		LR	18 25 42.5			
	comp=Z,262nm,24.2s									
PPT	Papeete	66.43	244	LR		LR	18 27 31.5			
	comp=Z,213nm,18.0s,baz=360,slow=29									
TBI	Tubuai	68.75	238	eLR		LR	18 26 57.1			
	comp=Z,168nm,29.2s,baz=60									
DAG	Danmarks Havn	72.75	13	*i* P		P	18 06 31.6	-1.2		
DAG				pmax	pmax					
	comp=Z,4.0nm,0.9s,mb4.2									
EVO	Evora	75.50	53	*e*P		P	18 06 48.2	-1.3		
	comp=Z,2.8nm,0.5s,mb4.0									
EKA	Eskdalemuir Ar	77.25	36	P		P	18 06 57.4	-1.6		
	comp=Z,3.9nm,0.7s,mb4.2,baz=269,slow=5.9,SNR=7.1									
EKA	Eskdalemuir Ar	77.25	36	P		P	18 06 57.5	-1.6		
EKA	Eskdalemuir Ar	77.25	36	P		P	18 06 57.5	-1.5		
ROSF	Rostrenen	77.89	43	*e*P		P	18 07 02.6	-0.2		
QUIF	Quistinic	78.01	43	*e*P		P	18 07 02.1	-1.3		
ESDC	Sonseca Array	78.49	52	P		P	18 07 06.2	-0.1		
	comp=Z,5.7nm,0.6s,mb4.5,baz=284,slow=4.9,SNR=24									
ESDC	Sonseca Array	78.49	52	P		P	18 07 06.2	-0.1		
GRR	Gorron	79.48	43	*e*P		P	18 07 11.4	-0.1		
	comp=Z,15nm,0.7s,mb4.7									
FLN	La Foliniere	79.68	42	*e*P		P	18 07 12.5	0.0		
	comp=Z,23nm,0.9s,mb4.7									
LDF	La Druitiere	79.94	42	*e*P		P	18 07 13.8	-0.2		
	comp=Z,12nm,1.0s,mb4.4									
SJPF	Ste Jean	80.02	48	*e*P		P	18 07 13.9	-0.6		
MFF	Saint Martin d	80.23	44	*e*P		P	18 07 15.3	-0.3		
	comp=Z,15nm,0.8s,mb4.5									
ETSF	Etsaut	80.54	48	*e*P		P	18 07 17.7	+0.4		
LFF	La Frestale	81.12	46	*e*P		P	18 07 20.3	-0.1		
EPF	Esparros	81.17	48	*e*P		P	18 07 20.9	+0.2		
RJF	Les Rejaudoux	81.60	45	*e*P		P	18 07 22.6	-0.3		
TCF	Toulx Ste Croi	81.89	44	*e*P		P	18 07 24.0	-0.4		
BGF	Bois d'Agland	82.27	44	*e*P		P	18 07 26.0	-0.4		
	comp=Z,11nm,0.8s,mb4.5									
MTLF	Montolieu	82.46	47	*e*P		P	18 07 27.4	0.0		
AVF	Avril sur Loir	82.57	44	*e*P		P	18 07 27.2	-0.7		
	comp=Z,18nm,1.3s,mb4.5									
SSF	Saint Saulge	82.61	43	*e*P		P	18 07 27.6	-0.6		
	comp=Z,9.5nm,0.8s,mb4.4									
BILL	Bilibino	82.73	338	⇓*e*P		P	18 07 28.1	-0.2		
BILL				*e*S		S	18 17 35.0	-4.5		
BILL				pmax	pmax					
	comp=Z,10.0nm,1.2s,mb4.5									
LOR	Lormes	82.81	43	*e*P		P	18 07 28.9	-0.3		
	comp=Z,21nm,1.0s,mb4.6									
SMF	Signal de Mont	82.92	44	*e*P		P	18 07 29.0	-0.8		
	comp=Z,10nm,0.9s,mb4.4									
MEZF	Maizieres J'vi	83.33	42	*e*P		P	18 07 31.7	-0.1		
SFTF	Sexfontaines	83.39	42	*e*P		P	18 07 31.8	-0.3		
LASF	Ste Croix	83.47	46	*e*P		P	18 07 33.0	+0.3		
NOA	NORSAR Array B	83.68	29	P		P	18 07 32.8	-0.6		
	comp=Z,1.8nm,0.8s,mb3.9,baz=286,slow=5.3,SNR=3.3									
NOA	NORSAR Array B	83.68	29	P		P	18 07 32.8	-0.6		
NOA	NORSAR Array B	83.68	29	P		P	18 07 32.8	-0.6		
DBIC	Dimbokro	83.71	85	P		P	18 07 35.2	+0.7		
	comp=Z,8.5nm,0.7s,mb4.7,baz=281,slow=6.2,SNR=14									
DBIC	Dimbokro	83.71	85	P		P	18 07 35.2	+0.7		
DBIC	Dimbokro	83.71	85	P		P	18 07 35.2	+0.8		
PAGF	Fort de Pagny	83.76	42	*e*P		P	18 07 33.4	-0.6		
VIVF	Saint-Julien-l	83.88	45	*e*P		P	18 07 34.6	-0.1		
HAU	Haudompre	84.29	42	*e*P		P	18 07 36.6	-0.1		
HINF	Hinteralfeld	84.66	42	*e*P		P	18 07 38.4	-0.2		
CDF	Champ du Feu	84.79	42	*e*P		P	18 07 39.2	-0.1		
	comp=Z,6.7nm,0.7s,mb4.4									
HFS	Hagfors	85.12	29	P		P	18 07 39.5	-1.2		
	comp=Z,3.7nm,0.7s,mb4.4,baz=188,slow=9.0,SNR=3.9									
HFS	Hagfors	85.12	29	P		P	18 07 39.5	-1.2		
HFS	Hagfors	85.12	29	P		P	18 07 39.5	-1.1		
LPL	La Plagne	85.14	44	*e*P		P	18 07 40.8	-0.3		
	comp=Z,4.3nm,0.7s,mb4.2									
LPG	La Plagne	85.16	45	*e*P		P	18 07 41.3	+0.1		
	comp=Z,9.0nm,0.9s,mb4.4									
MBDF	Montbardon	85.36	45	*e*P		P	18 07 41.4	-0.8		
	comp=Z,11nm,0.9s,mb4.5									
ARCES	ARCESS Array B	86.04	19	P		P	18 07 45.3	+0.3		
	comp=Z,2.9nm,0.8s,mb4.3,baz=296,slow=6.7,SNR=3.5									
ARCES	ARCESS Array B	86.04	19	P		P	18 07 45.3	+0.3		
ARCES	ARCESS Array B	86.04	19	P		P	18 07 45.3	+0.3		
DAVOX	Davos/Dischmat	86.92	43	P		P	18 07 49.5	-0.3		
	comp=Z,3.9nm,0.8s,mb4.4,baz=298,slow=11,SNR=4.2									
DAVOX	Davos/Dischmat	86.92	43	P		P	18 07 49.5	-0.3		
DAVOX	Davos/Dischmat	86.92	43	P		P	18 07 49.5	-0.3		
CLL	Collm	87.54	38	*e*P		P	18 07 52.0	-0.7		
CLL				pmax	pmax					
	comp=Z,6.0nm,0.8s,mb4.7									
CLL	Collm	87.54	38	*e*P		P	18 07 52.0	-0.7		
	comp=Z,6.0nm,0.8s,mb4.7									
TORD	Torodi Ar. Bea	88.55	77	P		P	18 07 56.8	-1.4		
	comp=Z,1.5nm,0.6s,mb4.2,baz=293,slow=5.5,SNR=12									
TORD	Torodi Ar. Bea	88.55	77	P		P	18 07 56.8	-1.4		
GERES	GERESS Array B	88.75	40	P		P	18 07 57.2	-1.3		
	comp=Z,0.8nm,0.6s,mb3.9,baz=270,slow=2.9,SNR=2.2									
GERES	GERESS Array B	88.75	40	P		P	18 07 57.2	-1.3		
GERES	GERESS Array B	88.75	40	P		P	18 07 57.2	-1.3		
KEST	Kesra	89.62	53	P		P	18 08 03.1	+0.2		
	comp=Z,0.7nm,0.6s,mb4.0,baz=292,slow=5.4,SNR=5.0									
KEST	Kesra	89.62	53	P		P	18 08 03.1	+0.2		
DZM	Mont Dzumac	107.39	251	eLR		LR	18 44 53.8			
	comp=Z,113nm,24.6s									
ZALV	Zalesovo Beam	112.74	3	PKiKP	PKiKP		18 13 41.6	+0.6		
	comp=Z,0.9nm,0.5s,baz=314,slow=1.0,SNR=6.4									
ZALV				PP	PP		18 14 27.3	-1.1		
	comp=Z,2.3nm,1.0s,baz=337,slow=7.1,SNR=6.7									
ZALV	Zalesovo Beam	112.74	3	PKPdf	PKiKP		18 13 41.6	+0.6		
ZALV				PP	PP		18 14 27.3	-1.1		
ZALV	Zalesovo Beam	112.74	3	PKIKP	PKiKP		18 13 41.6	+0.6		
ZALV							18 14 27.3			
SONM	Songino Array	117.30	348	PKP	PKPdf		18 13 50.0	+0.1		
	comp=Z,0.7nm,0.7s,baz=9.8,slow=0.7,SNR=4.5									
SONM	Songino Array	117.30	348	PKP	PKPdf		18 13 50.0	+0.1		
SONM	Songino Array	117.30	348	PKIKP	PKPdf		18 13 50.0	+0.1		
KSRS	Korea Array	118.14	326	PKP	PKPdf		18 13 52.4	+0.5		
	comp=Z,3.5nm,0.8s,baz=356,slow=1.8,SNR=9.8									
KSRS	Korea Array	118.14	326	PKIKP	PKPdf		18 13 52.4	+0.5		
KSRS				pmax	pmax					
	comp=Z,4.0nm,0.8s									
KSAR	Wonju Array Be	118.17	326	PKP	PKPdf		18 13 52.4	+0.5		
KSAR	Wonju Array Be	118.17	326	PKIKP	PKPdf		18 13 52.4	+0.5		
BOSA	Boshof	118.29	115	PKP	PKPdf		18 13 54.0	+1.7		
	comp=Z,7.4nm,0.7s,baz=267,slow=2.6,SNR=17									
BOSA	Boshof	118.29	115	PKP	PKPdf		18 13 54.0	+1.7		
BOSA	Boshof	118.29	115	PKIKP	PKPdf		18 13 54.0	+1.7		
MKAR	Makanchi Array	119.65	6	PKP	PKPdf		18 13 53.9	-0.6		
	comp=Z,1.0nm,0.7s,baz=343,slow=2.9,SNR=9.3									
MKAR	Makanchi Array	119.65	6	PKP	PKPdf		18 13 53.9	-0.6		
MKAR	Makanchi Array	119.65	6	PKIKP	PKPdf		18 13 53.9	-0.6		
BJI	Beijing	121.53	337	PKP	PKPdf		18 13 56.5	-1.8		
BJI				SS	SS		18 31 57.3	-1.1		
BJI				LR	LR					
	comp=N,600nm,25.4s									
BJI				LR	LR					
	comp=E,440nm,25.5s									
BJI				LR	LR					
	comp=Z,140nm,28.1s									
HHC	Hu-ho-hao-te	122.44	341	*e*PKP	PKPdf		18 13 58.0	-2.0		
HHC				PP	PP		18 15 39.3	+3.3		
HHC				PKS			18 17 33.1			
HHC				SKS	SKSdf		18 20 58.4	-6.7		
HHC				SKKS	SKKSac		18 22 20.3	-8.7		
HHC				SS	SS		18 32 08.3	-1.5		
HHC				AMB	AMB					
	comp=Z,130nm,5.6s									
HHC				LR	LR					
	comp=N,250nm,18.4s									
HHC				LR	LR					
	comp=E,400nm,16.7s									
HHC				LR	LR					
	comp=Z,150nm,19.8s									
KSH	Kashi	125.72	13	*e*PKP	PKPdf		18 14 08.5	+2.1		
KSH				sPKP			18 14 45.9			
KSH				PKS			18 17 43.9			
KSH				SKS	SKSdf		18 21 09.3	-2.0		
KSH				AMB	AMB					
	comp=Z,520nm,6.2s									
KSH				LR	LR					
	comp=N,100nm,7.3s									
KSH				LR	LR					
	comp=E,90nm,4.4s									
KSH				LR	LR					
	comp=Z,340nm,6.8s									
GTA	Gaotai	126.66	351	*e*PKP	PKPdf		18 14 08.9	+0.7		
NJ2	Nanjing	127.03	329	*e*PKP	PKPdf		18 14 07.8	-1.3		
LZH	Lanzhou	129.06	346	*e*PKP	PKPdf		18 14 08.0	-4.9		
LZH				sPKP			18 14 45.0			
XAN	Xi'an	129.50	340	PKP	PKPdf		18 14 14.3	+0.6		
CD2	Chengdu	134.00	344	PKP	PKPdf		18 14 19.9	-2.4		
WRAB	Tennant Creek	137.19	255	PKPdf	PKPdf		18 14 29.3	+0.8		
WRAB	Tennant Creek	137.19	255	PKIKP	PKPdf		18 14 29.3	+0.8		
GYA	Guiyang	137.19	338	PKP	PKPdf		18 14 25.0	-3.4		
GYA				sPKP			18 15 01.4			
GYA				PP	PP		18 17 14.3	+2.3		
GYA				AMB	AMB					
	comp=Z,80nm,7.9s									
WRA	Warramunga Arr	137.20	255	PKP	PKPdf		18 14 28.1	-0.4		
	comp=Z,2.7nm,0.7s,baz=87,slow=2.4,SNR=12									
WRA	Warramunga Arr	137.20	255	PKP	PKPdf		18 14 28.1	-0.4		
WRA	Warramunga Arr	137.20	255	PKIKP	PKPdf		18 14 28.1	-0.4		
ASAR	Alice Springs	137.36	250	PKhKP	PKPpre		18 14 25.0			
	comp=Z,0.6nm,0.7s,baz=110,slow=2.9,SNR=5.4									
ASAR	Alice Springs	137.36	250	PKP	PKPpre		18 14 25.0			
ASAR	Alice Springs	137.36	250	PKIKP	PKPpre		18 14 25.0			
DANN	Dangsing	138.02	8	*e*P	PKPdf		18 14 28.9	-1.0		
	comp=Z,26nm,0.8s									
PYUN	Piuthan	138.15	9	*e*P	PKPdf		18 14 29.4	-0.7		
	comp=Z,16nm,1.0s									
GKN	Gorkha	138.48	7	*e*P	PKPdf		18 14 27.9	-2.8		
	comp=Z,14nm,0.7s									
KOLN	Koldanda	138.57	9	*e*P	PKPdf		18 14 29.1	-1.8		
	comp=Z,8.4nm,0.9s									
GUN	Gumba	138.71	6	*e*P	PKPdf		18 14 26.3	-4.9		
	comp=Z,9.6nm,0.6s									
KKN	Kakani	138.76	6	*e*P	PKPdf		18 14 26.9	-4.4		
	comp=Z,13nm,0.8s									
DMN	Daman	138.92	7	*e*P	PKPdf		18 14 27.2	-4.4		
	comp=Z,11nm,0.8s									
TAPN	Taplejung	139.40	3	*e*P	PKPdf		18 14 23.9	-8.5		
	comp=Z,16nm,1.0s									
RAMN	Ramite	139.72	5	*e*P	PKPdf		18 14 24.8	-8.2		
	comp=Z,15nm,0.8s									
ODAN	Odare	139.87	4	*e*P	PKPdf		18 14 23.7	-10		
FITZ	Fitzroy Crossi	145.49	258	PKPbc	PKPbc		18 14 42.3	-1.3		
	comp=Z,5.1nm,0.6s,baz=61,slow=1.0,SNR=15									
FITZ	Fitzroy Crossi	145.49	258	*e*PKPdf	PKPbc		18 14 42.0	-1.6		
CHTO	Chiang Mai	146.79	345	*e*PKPbc	PKPbc		18 14 46.8	-0.7		
CHTO	Chiang Mai	146.79	345	*e*PKP2	PKPbc		18 14 46.8	-0.6		
CMAR	Chiang Mai Arr	147.13	344	PKPbc	PKPbc		18 14 48.1	-0.3		
	comp=Z,15nm,0.7s,baz=343,slow=3.1,SNR=79									
CMAR	Chiang Mai Arr	147.13	344	PKPbc	PKPbc		18 14 48.1	-0.3		
CMAR	Chiang Mai Arr	147.13	344	PKP2	PKPbc		18 14 48.1	-0.3		
HYB	Hyderabad	147.31	21	*i* PKP	PKPdf		18 14 48.0	+1.5		
BDT	Bhumibol Dam	148.27	344	P	PKPdf		18 14 49.5	+1.4		
NST	Nakhon Sawan	149.42	341	P	PKPbc		18 14 55.0	+0.5		
MBWA	Marble Bar	150.69	251	*e*PKPbc	PKPbc		18 14 55.9	-1.5		

*IDC **20** 17:56:41.1±1.6, 4.°68S×152.°94E, h0km, mb4.0/6, mb1 4.3/6, mb1mx3.9/19, mbtmp4.0/6, Error ellipse: s-maj=44.0km s-min=28.3km az=107.0*

*ISCJB **20** 17:56:42.6±0.9, 4.°7S±0.°1×153.°3E±0.°1, h33km, mb4.2/9, Error ellipse: s-maj=22.7km s-min=12.8km az=141.0*

*NEIC **20** 17:56:43.6±8.8, 4.°70S×153.°33E, h29km±57km, mb4.5/2, Error ellipse: s-maj=30.4km s-min=19.1km az=224.0*

ISC 20 17:56:44.2±0.9, 4.°7S±0.°1×153.°4E±0.°1, h35km, n22, σ0s85/21, mb4.2/9, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	7.75	232	Pn	Pn	17 58 34.5	-0.1
	3.8nm,0.3s,baz=38,slow=13,SNR=14						
PMG				Sn	Sn	18 00 01.8	+0.7
	3.7nm,0.3s,baz=180,slow=20,SNR=6.2						
PMG	Port Moresby	7.75	232	Pn	Pn	17 58 34.5	-0.1
PMG				Sn	Sn	18 00 01.8	+0.7
WRAB	Tennant Creek	23.93	229	*e*P	P	18 01 54.8	-0.4
	10nm,0.8s,mb4.3						
WRA	Warramunga Arr	23.95	229	P	P	18 01 55.0	-0.4
	6.7nm,0.5s,mb4.3,baz=54,slow=10,SNR=96						
WRA	Warramunga Arr	23.95	229	P	P	18 01 55.0	-0.4
AS31	Alice Springs	26.62	223	*e*P	P	18 02 20.2	+0.7
ASAR	Alice Springs	26.62	223	P	P	18 02 19.7	+0.1
	2.3nm,0.5s,mb4.0,baz=57,slow=8.9,SNR=19						
ASAR	Alice Springs	26.62	223	P	P	18 02 19.7	+0.1
FITZ	Fitzroy Crossi	30.21	242	P	P	18 02 50.4	-1.3
	7.4nm,0.6s,mb4.6,baz=53,slow=9.4,SNR=36						
FITZ	Fitzroy Crossi	30.21	242	P	P	18 02 50.4	-1.3
OUZ	Omahuta	35.68	151	*e*P	P	18 03 38.5	-0.7
MBWA	Marble Bar	36.52	240	*e*P	Px	18 04 03.9	
MBWA	Marble Bar	36.52	240	*e*P	P	18 03 45.9	-0.6
	7.9nm,0.9s,mb4.5						
MEEK	Meekatharra	39.73	233	*e*P	P	18 04 12.9	-0.6
	33nm,0.9s,mb5.1						
CMAR	Chiang Mai Arr	58.34	295	P	P	18 06 36.1	-0.2
	0.3nm,0.6s,mb3.5,baz=118,slow=5.2,SNR=3.9						
CMAR	Chiang Mai Arr	58.34	295	P	P	18 06 36.1	-0.2
MKAR	Makanchi Array	80.61	319	P	P	18 08 54.3	+1.0
	0.1nm,0.3s,mb3.2,baz=96,slow=7.1,SNR=4.7						
MKAR	Makanchi Array	80.61	319	P	P	18 08 54.2	+1.0
QSPA	South Pole Qui

MJAR Matsushiro Arr 65.62 324 P **P** 18 09 42.8 +0.2
5.4nm,0.9s,mb4.6,baz=158,slow=7.5,SNR=7.8
MJAR LR LR 18 33 11.7
comp=Z,267nm,21.3s,MS4.4,baz=135,slow=31
MJAR Matsushiro Arr 65.62 324 P **P** 18 09 42.8 +0.2
MJAR LR LR 18 33 11.7
JOW Kunigami 66.09 309 LR LR 18 31 53.5
comp=Z,354nm,21.8s,MS4.5,baz=119,slow=30
PETK Petropavlovsk- 71.42 346 LR LR 18 41 32.3
comp=Z,85nm,19.1s,MS4.0,baz=39,slow=36
KSRS Korea Array 72.46 318 P **P** 18 10 23.6 -1.4
1.3nm,0.8s,mb3.9,baz=124,slow=9.3,SNR=3.1
KSRS LR LR 18 36 06.5
comp=Z,198nm,20.0s,MS4.4,baz=118,slow=31
KSAR Wonju Array Be 72.48 318 P **P** 18 10 23.6 -1.5
KSAR LR LR 18 36 06.5
QSPA South Pole Qui 74.20 180 P **P** 18 10 35.7 +1.1
6.6nm,0.7s,mb4.7,baz=4.3,slow=3.6,SNR=13
QSPA South Pole Qui 74.20 180 *eP* **P** 18 10 35.6 +0.9
ISA Isabella 77.17 47 P **P** 18 10 51.0 -1.3
11nm,1.1s,mb4.7
YBH Yreka Blue Hor 77.61 40 *eP* **P** 18 10 54.2 -0.5
10nm,1.0s,mb4.7
NVAR Mina Array Bea 78.69 45 P **P** 18 11 00.9 +0.2
0.6nm,0.4s,mb3.9,baz=226,slow=8.6,SNR=8.4
NVAR Mina Array Bea 78.69 45 P **P** 18 11 00.9 +0.2
ILAR Eielson Array 84.13 13 P **P** 18 11 27.9 -1.0
5.9nm,1.1s,mb4.6,baz=230,slow=5.8,SNR=12
ILAR LR LR 18 46 38.5
comp=Z,149nm,18.0s,MS4.4,baz=190,slow=34
ILAR Eielson Array 84.13 13 P **P** 18 11 27.9 -1.0
ILAR LR LR 18 46 38.5
MCMT McKenzie Canyo 85.38 41 P **P** 18 11 36.6 +1.0
3.7nm,1.2s,mb4.4
MAW Mawson 85.43 200 LR LR 18 47 21.8
comp=Z,183nm,19.3s,MS4.5,baz=100,slow=34
EGAK Eagle 85.51 15 *eP* **P** 18 11 38.9 +3.0
19nm,1.2s,mb5.2
COLD Coldfoot 85.60 11 *eP* **P** 18 11 38.9 +2.7
5.1nm,1.3s,mb4.6
ANMO Albuquerque 85.66 52 LR LR 18 42 08.2
comp=Z,222nm,19.7s,MS4.6,baz=66,slow=30
DLMT Dillon 85.78 41 *eP* **P** 18 11 36.8 -0.9
12nm,1.3s,mb5.0
TXAR Lajitas Array 85.80 58 P **P** 18 11 38.4 +0.3
0.4nm,0.8s,mb3.7,baz=186,slow=7.3,SNR=3.2
TXAR LR LR 18 42 20.3
comp=Z,238nm,19.6s,MS4.6,baz=185,slow=30
TXAR Lajitas Array 85.80 58 P **P** 18 11 38.4 +0.3
TXAR LR LR 18 42 20.3
REDW Red Top Meadow 86.00 43 *eP* **P** 18 11 40.1 +1.3
25nm,1.4s,mb5.3
PDAR Pinedale Array 86.60 44 P **P** 18 11 44.8 +3.1
1.8nm,0.9s,mb4.3,baz=252,slow=1.8,SNR=9.3
PDAR LR LR 18 42 59.3
comp=Z,211nm,20.5s,MS4.5,baz=273,slow=30
PDAR Pinedale Array 86.60 44 P **P** 18 11 44.8 +3.1
PDAR LR LR 18 42 59.3
CMAR Chiang Mai Arr 87.19 290 P **P** 18 11 47.0 +1.8
1.2nm,0.9s,mb4.1,baz=104,slow=3.8,SNR=6.8
CMAR LR LR 18 43 37.9
comp=Z,142nm,21.7s,MS4.3,baz=274,slow=31
CMAR Chiang Mai Arr 87.19 290 P **P** 18 11 47.0 +1.8
CMAR LR LR 18 43 37.9
USHA Ushuaia 88.80 147 LR LR 18 46 27.1
comp=Z,203nm,19.1s,MS4.6,baz=225,slow=32
CMIG Matias Romero 89.61 72 LR LR 18 43 31.3
comp=Z,152nm,18.7s,MS4.5,baz=193,slow=30
SONM Songino Array 91.30 320 P **P** 18 12 03.5 -0.4
1.0nm,1.1s,mb4.1,baz=94,slow=1.7,SNR=4.0
SONM LR LR 18 47 51.7
comp=Z,180nm,19.0s,MS4.5,baz=118,slow=32
SNAA Sanae 92.67 179 P **P** 18 12 09.2 -0.7
0.4nm,0.9s,mb3.8,baz=198,slow=6.4,SNR=4.3
SNAA Sanae 92.67 179 P **P** 18 12 09.2 -0.7
VNA3 Neumayer Olymp 92.85 177 *e* **P** 18 12 07.7 -3.0
YKA Yellowknife Ar 92.91 25 LR LR 18 50 04.8
comp=Z,34nm,18.0s,MS3.8,baz=170,slow=33
VNA2 Neumayer--Watz 93.28 177 *e* **P** 18 12 14.0 +1.3
baz=192,slow=3.1
VNA1 Neumayer--Stat 93.51 177 *e* **P** 18 12 17.4 +3.6
PLCA Paso Flores 93.52 134 LR LR 18 43 27.0
comp=Z,182nm,20.2s,MS4.5,baz=145,slow=28
ULM Lac du Bonnet 98.03 40 LR LR 18 51 05.2
comp=Z,176nm,18.3s,MS4.6,baz=310,slow=32
NNA Nana 98.67 105 LR LR 18 47 02.1
comp=Z,108nm,20.4s,MS4.3,baz=325,slow=29
MMAI Mount Meron Ar 144.12 305 PKP PKPdf 18 18 38.8 +4.3
14nm,1.1s,baz=62,slow=3.4,SNR=4.5
MMAI Mount Meron Ar 144.12 305 PKP PKPdf 18 18 38.8 +4.3
GERES GERESS Array B 145.35 345 PKPbc PKPbc 18 18 37.5 +1.5
1.9nm,0.9s,baz=0.0,slow=2.9,SNR=2.4
GERES GERESS Array B 145.35 345 PKPbc PKPbc 18 18 37.5 +1.5
TORD Torodi Ar. Bea 177.07 204 PKP PKPdf 18 19 13.4 +3.8
1.0nm,1.0s,baz=288,slow=1.4,SNR=5.1
TORD PKPab PKPab 18 20 52.9 -0.3
0.6nm,0.9s,baz=56,slow=2.6,SNR=2.4

IDC 20 18:01:14.1±3.4, 5.47S×150.47E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML2.4/1, Error ellipse: s-maj=112.0km s-min=42.0km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.11**	**220**	Pn	Pn	18 02 33.9	+2.0
	0.9nm,0.3s,baz=41,slow=4.1,SNR=6.8						
PMG				Sn	Sn	18 03 28.9	-2.7
	1.9nm,0.3s,baz=7.6,slow=15,SNR=3.1						
WRA	**Warramunga Arr**	**21.29**	**226**	P	P	18 06 01.8	-0.6
	0.4nm,0.4s,baz=51,slow=10,SNR=5.8						
ASAR	**Alice Springs**	**24.12**	**220**	P	P	18 06 31.1	-0.7
	0.2nm,0.6s,baz=56,slow=8.3,SNR=3.4						
FITZ	**Fitzroy Crossi**	**27.31**	**241**	P	P	18 07 00.5	-0.2
	1.1nm,0.8s,baz=68,slow=8.7,SNR=2.9						
TORD	**Torodi Ar. Bea**	**148.28**	**286**	PKPbc	PKPbc	18 21 03.3	0.0
	1.6nm,0.7s,baz=82,slow=2.3,SNR=7.2						

*ISCJB **20** 18:17:14.0±2.9, 14.°65N±0.°05×55.°70E±0.°04, h0km±17km, mb4.7/96, MS4.0/18, Error ellipse: s-maj=7.9km s-min=6.3km az=171.2*

*GCMT **20** 18:17:15.9±0.4, 14.°52N×55.°66E, h13km±1km, MW4.9, Moment Tensor Solution. s19,c21; s58,c80; Moment tensor: Scale 10^16 Nm; Mrr-1.87±.17; Mθθ1.53±.12; Mφφ0.34±.12; Mrθ-0.32±.29; Mθφ-0.26±.07; Mφr-2.06±.44; Best double couple: M0 2.40000×10^16 NP1:φs100.00000°, δ34.00000°, λ-137.00000°. NP2:φs333.00000°, δ68.00000°, λ-64.00000°. Principal axes: T 1.6300, Plg19.0000°, Azm44.0000°; N 1.5100, Plg24.0000°, Azm142.0000°; P -3.1400, Plg59.0000°, Azm280.0000°; Data Used: II IU IC G CN.*

*IDC **20** 18:17:15.5±0.4, 14.°62N×55.°72E, h0km, mb4.3/32, mb1 4.4/33, mb1mx4.3/39, mbtmp4.3/33, ML3.8/1, MS4.0/17, Ms1 4.0/17, ms1mx3.8/38 Error ellipse: s-maj=12.3km s-min=12.0km az=68.0*

*BJI **20** 18:17:16.1, 14.°45N×55.°85E, h10km, mb4.5/11, Ms4.7/1, Ms7 4.7/1*

*NEIC **20** 18:17:17.2±0.3, 14.°61N×55.°74E, h10km, mb4.8/18, Error ellipse: s-maj=7.6km s-min=6.1km az=136.0*

*MOS **20** 18:17:20.3±1.2, 14.°63N×55.°78E, h43km, mb5.0/25, Error ellipse: s-maj=9.4km s-min=5.5km az=95.9*

*CSEM **20** 18:17:21.6±0.1, 14.°64N×55.°71E, h40km, mb4.9/56, Ms4.0, Mw4.9, Error ellipse: s-maj=5.9km s-min=5.3km az=148.0*

*OMAN **20** 18:17:23.2±99.0, 14.°90N×55.°68E, h49km±10km, Error ellipse: s-maj=79.9km s-min=6.5km az=334.0*

*DJA **20** 18:17:33, 14.°53N×55.°76E, h146km, mb4.5/6*

*TEH **20** 18:17:54.5, 14.°47N×55.°50E, h400km*

ISC 20 18:17:19.7±2.2, 14.°63N±0.°05×55.°71E±0.°04, h25km±15km, n414, σ1°00/393, mb4.7/96, MS4.0/18, 17C-20D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABTO	**Aybut**	**3.57**	**320**	P	**Pn**	**18 18 13.1**	**-0.4**
	SNR=12						
ABTO	**Aybut**	**3.57**	**320**	P	**Pn**	**18 18 13.1**	**-0.4**
	SNR=12						
BSY	**Bisya**	**8.20**	**10**	P	**Pn**	**18 19 15.1**	**-2.0**
	SNR=9.0						
SMDO	**Samad**	**8.67**	**14**	P	**Pn**	**18 19 23.0**	**-0.6**
	SNR=13						
SMDO	**Samad**	**8.67**	**14**	P	**Pn**	**18 19 23.0**	**-0.6**
	SNR=13						
ARQ	**Araqi**	**8.70**	**5**	P	**Pn**	**18 19 23.0**	**-0.9**
	SNR=13						
ARQ	**Araqi**	**8.70**	**5**	P	**Pn**	**18 19 23.0**	**-0.9**
	SNR=13						
ASHO	**Ashiyiah**	**10.01**	**2**	P	**Pn**	**18 19 41.6**	**-0.3**
	SNR=12						
ASHO	**Ashiyiah**	**10.01**	**2**	P	**Pn**	**18 19 41.7**	**-0.2**
	SNR=12						
HATD	**Hatta, Dubai**	**10.15**	**2**	P	**Pn**	**18 19 45.8**	**+1.9**
	SNR=6.7						
HATD	**Hatta, Dubai**	**10.15**	**2**	P	**Pn**	**18 19 45.8**	**+1.9**
	SNR=6.7						
BANOM	**Banah**	**11.25**	**3**	P	**Pn**	**18 20 00.6**	**+1.6**
	SNR=9.4						
BANOM	**Banah**	**11.25**	**3**	P	**Pn**	**18 20 00.6**	**+1.6**
	SNR=9.4						
ATD	**Arta Tunnel**	**12.91**	**258**	Pn	**Pn**	**18 20 22.4**	**+0.7**
	0.6nm,0.3s,baz=59,slow=18,SNR=2.2						
ATD				LR	LR	18 24 00.8	
	comp=Z,547nm,21.4s,baz=77,slow=31						
ATD	**Arta Tunnel**	**12.91**	**258**	Pn	**Pn**	**18 20 22.4**	**+0.8**
ATD				LR	LR	18 24 00.8	
ATD	**Arta Tunnel**	**12.91**	**258**	Pn	**Pn**	**18 20 22.4**	**+0.8**
RDF	**Al-Radifah**	**16.11**	**333**	*eP*	**Pn**	**18 21 00.7**	**-3.9**
RDF				AMb	AMB	18 21 10.2	
	comp=Z,175nm,1.1s						
RDF	**Al-Radifah**	**16.11**	**333**	*eP*	**Pn**	**18 21 00.7**	**-3.9**
	comp=Z,175nm,1.1s						
KBD	**Kabd**	**16.27**	**334**	*eP*	**Pn**	**18 21 03.1**	**-3.5**
KBD				AMb	AMB	18 21 14.6	
	comp=Z,94nm,0.8s						
NAY	**Al-Naaiem**	**16.53**	**333**	*eP*	**Pn**	**18 21 05.6**	**-4.2**
NAY				AMb	AMB	18 21 12.3	
	comp=Z,29nm,1.5s						
IMEH	**Mehriz**	**16.72**	**357**	*eP*	**Pn**	**18 21 08.4**	**-3.8**
IBAF	**Bafgh**	**16.89**	**360**	*eP*	**Pn**	**18 21 10.2**	**-4.2**
MIB	**Mutribah**	**16.97**	**334**	*eP*	**Pn**	**18 21 11.4**	**-3.9**
MIB				AMb	AMB	18 21 21.9	
	comp=Z,108nm,1.3s						
ICHK	**Chekchek**	**17.58**	**356**	*eP*	**Pn**	**18 21 19.4**	**-3.6**
IGAR	**Gharneh**	**18.01**	**350**	*eP*	**Pn**	**18 21 26.7**	**-1.6**
IZEF	**Zefreh**	**18.45**	**351**	*eP*	**Pn**	**18 21 30.1**	**-3.5**
IPIR	**Pirpir**	**18.51**	**347**	*eP*	**Pn**	**18 21 31.3**	**-3.0**
IKLH	**Kolahrood**	**18.99**	**349**	*eP*	**Pn**	**18 21 38.6**	**-1.5**
IKLH	**Kolahrood**	**18.99**	**349**	*eP*	**Pn**	**18 21 38.6**	**-1.5**
IDMV	**Damavand**	**21.12**	**352**	*eP*	**P**	**18 22 03.1**	**+0.5**
IDMV	**Damavand**	**21.12**	**352**	*eP*	**P**	**18 22 03.1**	**+0.5**
BHD	**Baghdad**	**21.23**	**333**	*ex*	x	18 22 01.0	
BHD				*ex*	x	18 25 55.0	
IGHG	**Ghaleghazi**	**21.29**	**339**	*eP*	**P**	**18 22 02.8**	**-1.6**
IGHG	**Ghaleghazi**	**21.29**	**339**	*eP*	**P**	**18 22 02.8**	**-1.6**
IRAZ	**Razeghan**	**21.33**	**347**	*eP*	**P**	**18 22 05.1**	**+0.2**
IRAZ	**Razeghan**	**21.33**	**347**	*eP*	**P**	**18 22 05.1**	**+0.2**
IMHD	**Mahdasht**	**21.45**	**349**	*eP*	**P**	**18 22 06.0**	**-0.1**
IMHD	**Mahdasht**	**21.45**	**349**	*eP*	**P**	**18 22 06.0**	**-0.1**
IKIA	**Kiasar**	**21.57**	**356**	*eP*	**P**	**18 22 09.2**	**+1.8**
IKIA	**Kiasar**	**21.57**	**356**	*eP*	**P**	**18 22 09.2**	**+1.8**
IDHR	**Dehrash**	**21.69**	**339**	*eP*	**P**	**18 22 07.2**	**-1.4**
IDHR	**Dehrash**	**21.69**	**339**	*eP*	**P**	**18 22 07.2**	**-1.4**
IPRN	**Peran**	**21.74**	**353**	*eP*	**P**	**18 22 10.9**	**+1.7**
HYB	**Hyderabad**	**22.12**	**80**	*i P*	**P**	**18 22 14.5**	**+1.0**
KBL	**Kabul**	**23.19**	**29**	*eP*	**P**	**18 22 27.3**	**+2.6**
	comp=Z,38nm,1.3s,mb4.7						
KBL	**Kabul**	**23.19**	**29**	*eP*	**P**	**18 22 27.3**	**+2.6**
KBL				pmax	pmax		
	comp=Z,38nm,1.3s,mb4.7						
KBL	**Kabul**	**23.19**	**29**	*eP*	**P**	**18 22 27.3**	**+2.6**
	comp=Z,38nm,1.3s,mb4.7						
KMBO	**Kilima Mbogo**	**24.06**	**231**	*eP*	**P**	**18 22 32.4**	**-0.7**
	comp=Z,16nm,1.1s,mb4.3						
KMBO	**Kilima Mbogo**	**24.06**	**231**	*eP*	**P**	**18 22 32.4**	**-0.7**
KMBO				pmax	pmax		
	comp=Z,15nm,1.1s						
KMBO	**Kilima Mbogo**	**24.06**	**231**	P	**P**	**18 22 35.8**	**+2.6**
	SNR=8.8						
KMBO	**Kilima Mbogo**	**24.06**	**231**	*eP*	**P**	**18 22 32.4**	**-0.7**
	comp=Z,15nm,1.1s,mb4.3						
EIL	**Elat**	**24.31**	**311**	P	**P**	**18 22 35.0**	**-0.3**
	comp=Z,4.7nm,0.9s,mb3.9,baz=118,slow=11,SNR=4.0						
EIL				LR	LR	18 32 15.7	
	comp=Z,288nm,18.7s,MS3.8,baz=332,slow=37						
EIL	**Elat**	**24.31**	**311**	P	**P**	**18 22 35.0**	**-0.3**
EIL				LR	LR	18 32 15.7	
EIL	**Elat**	**24.31**	**311**	P	**P**	**18 22 35.0**	**-0.3**
ASF	**Jabal al Asfar**	**24.49**	**319**	P	**P**	**18 22 37.4**	**+0.4**
	comp=Z,2.4nm,0.4s,mb3.9,baz=51,slow=3.8,SNR=2.8						
ASF				LR	LR	18 32 56.2	
	comp=Z,211nm,20.6s,MS3.6,baz=163,slow=38						
ASF	**Jabal al Asfar**	**24.49**	**319**	P	**P**	**18 22 37.4**	**+0.4**
ASF				LR	LR	18 32 56.2	
ASF	**Jabal al Asfar**	**24.49**	**319**	P	**P**	**18 22 37.4**	**+0.5**
IHRS	**Heris**	**24.82**	**344**	*eP*	**P**	**18 22 41.0**	**+1.2**
IHRS	**Heris**	**24.82**	**344**	*eP*	**P**	**18 22 41.0**	**+1.2**
ITBZ	**Tabriz**	**24.99**	**342**	*eP*	**P**	**18 22 41.8**	**+0.4**
ITBZ	**Tabriz**	**24.99**	**342**	*eP*	**P**	**18 22 41.8**	**+0.4**
ISHB	**Shabestar**	**25.20**	**341**	*eP*	**P**	**18 22 43.3**	**0.0**
ISHB	**Shabestar**	**25.20**	**341**	*eP*	**P**	**18 22 43.3**	**0.0**
MMAI	**Mount Meron Ar**	**26.00**	**318**	P	**P**	**18 22 49.1**	**-1.5**
	comp=Z,3.9nm,0.8s,mb4.0,baz=113,slow=11,SNR=2.9						
MMAI				LR	LR	18 33 34.4	
	comp=Z,136nm,20.0s,MS3.5,baz=115,slow=38						
MMAI	**Mount Meron Ar**	**26.00**	**318**	P	**P**	**18 22 49.1**	**-1.5**
MMAI				LR	LR	18 33 34.4	
MMAI	**Mount Meron Ar**	**26.00**	**318**	P	**P**	**18 22 49.1**	**-1.5**
GNI	**Garni**	**27.18**	**341**	P	**P**	**18 23 01.8**	**+0.7**
	comp=Z,1.5nm,0.4s,mb3.9,baz=163,slow=17,SNR=2.0						
GNI				LR	LR	18 35 43.0	
	comp=Z,492nm,19.9s,MS4.1,baz=152,slow=41						
GNI	**Garni**	**27.18**	**341**	*eP*	**P**	**18 23 03.2**	**+2.1**
	comp=Z,65nm,1.3s,mb5.0						
GNI				LR	LR	18 35 43.0	
GNI	**Garni**	**27.18**	**341**	*eP*	**P**	**18 23 03.2**	**+2.0**
GNI				pmax	pmax		
	comp=Z,65nm,1.3s						
GNI	**Garni**	**27.18**	**341**	*eP*	**P**	**18 23 03.2**	**+2.0**
	comp=Z,65nm,1.3s,mb5.0						
ZEI	**Tsey**	**29.83**	**342**	*eP*	**P**	**18 23 26.2**	**+1.4**
ZEI				*e*		18 24 28.8	
ZEI				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.8						
ZEI	**Tsey**	**29.83**	**342**	*eP*	**P**	**18 23 26.2**	**+1.4**
	comp=Z,24nm,1.3s,mb4.8						
KSH	**Kashi**	**30.52**	**32**	P	**P**	**18 23 28.0**	**-2.9**
KSH				pP	pP	18 23 36.4	-2.0
KSH				pmax	pmax		
	comp=Z,54nm,3.1s						
KKAR	**Karatay Array**	**31.10**	**21**	*eP*	**P**	**18 23 37.1**	**+1.2**
	comp=Z,3.5nm,0.8s,mb4.2						
KKAR	**Karatay Array**	**31.10**	**21**	*eP*	**P**	**18 23 37.1**	**+1.2**
KKAR				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
KKAR	**Karatay Array**	**31.10**	**21**	*eP*	**P**	**18 23 37.1**	**+1.2**
	comp=Z,3.5nm,0.8s,mb4.2						
KIV	**Kislovodsk**	**31.28**	**342**	*eP*	**P**	**18 23 42.3**	**+4.8**
KIV				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.8						
KIV				MLR	MLR		
	comp=Z,215nm,14.0s,MS4.0						
BRTR	**Keskin Array B**	**31.62**	**326**	P	**P**	**18 23 40.0**	**-0.6**
	comp=Z,1.5nm,0.8s,mb3.9,baz=134,slow=8.8,SNR=8.2						
BRTR				PcP	PcP	18 26 31.7	-0.8
	comp=Z,1.2nm,0.8s,baz=145,slow=3.5,SNR=3.8						
BRTR				LR	LR	18 38 07.7	
	comp=Z,161nm,18.3s,MS3.7,baz=119,slow=40						
BRTR	**Keskin Array B**	**31.62**	**326**	P	**P**	**18 23 40.0**	**-0.6**
BRTR				PcP	PcP	18 26 31.7	-0.8
BRTR				LR	LR	18 38 07.7	
BRTR	**Keskin Array B**	**31.62**	**326**	P	**P**	**18 23 40.0**	**-0.6**
BRTR						18 26 31.7	
BRTR	**Keskin Array B**	**31.62**	**326**	P	**P**	**18 23 40.0**	**-0.6**
AAK	**Ala-Archa**	**32.26**	**26**	*eP*	**P**	**18 23 48.1**	**+2.0**
	comp=Z,195nm,1.8s,mb5.6						
AAK	**Ala-Archa**	**32.26**	**26**	*eP*	**P**	**18 23 48.1**	**+1.9**
AAK				pmax	pmax		
	comp=Z,195nm,1.8s,mb5.6						
AAK	**Ala-Archa**	**32.26**	**26**	P	**P**	**18 23 48.2**	**+2.0**
	comp=Z,54nm,1.7s,mb5.1						
AAK	**Ala-Archa**	**32.26**	**26**	*eP*	**P**	**18 23 48.1**	**+1.9**
	comp=Z,195nm,1.8s,mb5.6						
FRU	**Bishkek**	**32.47**	**26**	*e*P	**P**	**18 23 49.5**	**+1.5**
FRU				pmax	pmax		
	comp=Z,350nm,3.8s						
FRU	**Bishkek**	**32.47**	**26**	*e*P	**P**	**18 23 49.5**	**+1.5**
	comp=Z,350nm,3.8s						
TKM2	**Tokmak 2**	**32.97**	**27**	*e*P	**P**	**18 23 50.7**	**-1.7**
	comp=Z,3.2nm,0.7s,mb4.4						
TKM2	**Tokmak 2**	**32.97**	**27**	*e*P	**P**	**18 23 50.7**	**-1.7**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
TKM2	**Tokmak 2**	**32.97**	**27**	*e*P	**P**	**18 23 50.7**	**-1.7**
	comp=Z,3.2nm,0.7s,mb4.4						
AB31	**Akbulak array**	**34.71**	**5**	*i* P	**P**	**18 24 07.4**	**0.0**
AB31	**Akbulak array**	**34.71**	**5**	*i* P	**P**	**18 24 07.4**	**0.0**
ABKAR	**Akbulak array**	**34.71**	**5**	*e*P	**P**	**18 24 07.3**	**-0.1**
	comp=Z,11nm,0.9s,mb4.8						
ABKAR	**Akbulak array**	**34.71**	**5**	*e*P	**P**	**18 24 07.3**	**-0.1**
	comp=Z,11nm,0.9s,mb4.8						
SIM	**Simferopol'**	**35.33**	**333**	P	sP	18 24 23.6	0.0
SIM				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.1						
SHL	**Shillong**	**35.56**	**66**	*e*PKP	**P**	**18 24 16.5**	**+1.4**
AKTK	**Aktyubinsk**	**35.76**	**3**	P	**P**	**18 24 16.5**	**0.0**
AKTO	**Aktyubinsk**	**35.76**	**3**	P	**P**	**18 24 16.5**	**0.0**
	comp=Z,5.3nm,0.7s,mb4.6,baz=181,slow=10,SNR=17						
AKTO	**Aktyubinsk**	**35.76**	**3**	P	**P**	**18 24 16.5**	**0.0**
AKTO	**Aktyubinsk**	**35.76**	**3**	P	**P**	**18 24 16.5**	**0.0**
AKTO	**Aktyubinsk**	**35.76**	**3**	P	**P**	**18 24 16.5**	**0.0**
LSA	**Lhasa**	**35.91**	**59**	*eP*	**P**	**18 24 16.8**	**-1.3**
	comp=Z,4.0nm,0.9s,mb4.3						
LSA	**Lhasa**	**35.91**	**59**	*eP*	**P**	**18 24 16.8**	**-1.3**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
LSA	**Lhasa**	**35.91**	**59**	*eP*	**P**	**18 24 16.8**	**-1.3**
	comp=Z,4.0nm,0.9s,mb4.3						
VSR	**Storozhevoye**	**38.86**	**343**	*eP*	**P**	**18 24 43.4**	**+0.7**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.4						
VSR				pmax	pmax		
	comp=N,5.0nm,0.6s						
VSR				pmax	pmax		
	comp=E,10.0nm,1.2s						
VSR	**Storozhevoye**	**38.86**	**343**	*eP*	**P**	**18 24 43.4**	**+0.7**
	comp=E,5.0nm,0.6s,mb4.4						
MK31	**Makanchi Array**	**39.00**	**29**	*eP*	**P**	**18 24 44.6**	**+0.7**
MK31	**Makanchi Array**	**39.00**	**29**	*eP*	**P**	**18 24 44.6**	**+0.6**
MK31	**Makanchi Array**	**39.00**	**29**	*eP*	**P**	**18 24 44.6**	**+0.6**
MKAR	**Makanchi Array**	**39.00**	**29**	P	**P**	**18 24 44.6**	**+0.7**
	comp=E,1.7nm,0.5s,mb4.1,baz=214,slow=8.9,SNR=41						
MKAR				PcP	PcP	18 26 53.6	-0.4
	comp=E,1.0nm,0.9s,baz=238,slow=4.8,SNR=4.0						
MKAR				LR	LR	18 41 38.2	
	comp=E,187nm,21.9s,MS3.9,baz=272,slow=38						
MKAR	**Makanchi Array**	**39.00**	**29**	P	**P**	**18 24 44.6**	**+0.7**
MKAR				PcP	PcP	18 26 53.6	-0.4
MKAR				LR	LR	18 41 38.2	
MKAR	**Makanchi Array**	**39.00**	**29**	P	**P**	**18 24 44.7**	**+0.7**
MKAR						18 26 53.6	
MKAR	**Makanchi Array**	**39.00**	**29**	P	**P**	**18 24 44.7**	**+0.7**
VTS	**Vitosha**	**39.46**	**321**	⇑P	**P**	**18 24 48.9**	**+1.0**
VTS	**Vitosha**	**39.46**	**321**	⇑*i*P	**P**	**18 24 48.9**	**+1.0**
VTS	**Vitosha**	**39.46**	**321**	P	**P**	**18 24 48.9**	**+1.0**
VRI	**Vrincioaia**	**39.54**	**328**	⇓P	**P**	**18 24 50.6**	**+2.1**
VRI	**Vrincioaia**	**39.54**	**328**	⇓*i*P	**P**	**18 24 50.6**	**+2.1**
VRI	**Vrincioaia**	**39.54**	**328**	P	**P**	**18 24 50.6**	**+2.1**
PLOR	**Plostina**	**39.57**	**328**	⇓P	**P**	**18 24 51.7**	**+2.9**
PLOR	**Plostina**	**39.57**	**328**	⇓*i*P	**P**	**18 24 51.7**	**+2.9**
MLR	**Muntele Rosu**	**39.70**	**327**	P	**P**	**18 24 49.8**	**0.0**
	comp=E,1.8nm,0.8s,mb3.9,baz=140,slow=14,SNR=3.3						
MLR	**Muntele Rosu**	**39.70**	**327**	P	**P**	**18 24 49.8**	**0.0**
MLR	**Muntele Rosu**	**39.70**	**327**	P	**P**	**18 24 49.8**	**0.0**
MLR	**Muntele Rosu**	**39.70**	**327**	⇓*i*P	**P**	**18 24 53.3**	**+3.5**
MLR	**Muntele Rosu**	**39.70**	**327**	P	**P**	**18 24 49.8**	**0.0**
VOSK	**Vostochnaya**	**39.90**	**14**	P	**P**	**18 24 51.1**	**-0.3**
VOSK				pmax	pmax		
	comp=Z,24nm,1.4s,mb4.7						
VOSK	**Vostochnaya**	**39.90**	**14**	P	**P**	**18 24 51.1**	**-0.3**
	comp=Z,24nm,1.4s,mb4.7						
BVA0	**Borovoye Array**	**40.04**	**14**	P	**P**	**18 24 52.9**	**+0.4**
BVA0	**Borovoye Array**	**40.04**	**14**	P	**P**	**18 24 52.9**	**+0.4**
BVAR	**Borovoye Array**	**40.04**	**14**	P	**P**	**18 24 52.8**	**+0.3**
	comp=Z,1.2nm,0.5s,mb3.9,baz=198,slow=7.1,SNR=11						
BVAR				PcP	PcP	18 26 56.6	-0.5
	comp=Z,2.5nm,0.8s,baz=185,slow=5.4,SNR=4.9						
BVAR	**Borovoye Array**	**40.04**	**14**	P	**P**	**18 24 52.8**	**+0.3**
BVAR				PcP	PcP	18 26 56.6	-0.5
BVAR	**Borovoye Array**	**40.04**	**14**	P	**P**	**18 24 52.8**	**+0.3**
BVAR						18 26 56.6	
BVAR	**Borovoye Array**	**40.04**	**14**	P	**P**	**18 24 52.8**	**+0.3**
BVAR	**Borovoye Array**	**40.04**	**14**	PcP	PcP	18 26 56.6	-0.5
BRVK	**Borovoye**	**40.04**	**14**	*eP*	**P**	**18 24 52.8**	**+0.3**
	comp=Z,24nm,1.4s,mb4.7						
BRVK	**Borovoye**	**40.04**	**14**	*ce*P	**P**	**18 24 53.0**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.5						
BRVK	**Borovoye**	**40.04**	**14**	*eP*	**P**	**18 24 53.0**	**+0.4**
	comp=Z,13nm,1.3s,mb4.5						
LSZ	**Lusa

OBN	**Obninsk**	**43.05**	**344**	*eP*	**P**	**18 25 18.3**	**+1.1**
	comp=Z,55nm,2.1s,mb4.9							
PKSM	**Moragy**	**44.20**	**323**⇓	*eP*	**P**	**18 25 26.9**	**+0.3**
CRVS	**Cervenica-Dubn**	**44.23**	**328**	*e*	sP	18 25 37.9	+0.2
PSZ	**Piszkesteto**	**44.47**	**326**⇓	*eP*	**P**	**18 25 28.4**	**-0.3**
PSZ	**Piszkesteto**	**44.47**	**326**⇓	*eP*	**P**	**18 25 28.4**	**-0.3**
SOKR	**Solikamsk**	**44.88**	**1**	*eP*	**P**	**18 25 33.2**	**+1.4**
SOKR				pmax	pmax			
	comp=Z,30nm,1.6s,mb4.9							
SOKR	**Solikamsk**	**44.88**	**1**	*eP*	**P**	**18 25 33.2**	**+1.4**
	comp=Z,30nm,1.6s,mb4.9							
PKSG		**45.00**	**324**	*eP*	**P**	**18 25 34.3**	**+1.4**
VYHS	**Vyhne**	**45.38**	**326**	*eP*	**P**	**18 25 35.8**	**-0.1**
VYHS	**Vyhne**	**45.38**	**326**	*eP*	**P**	**18 25 35.8**	**-0.1**
VYHS	**Vyhne**	**45.38**	**326**	*eP*	**P**	**18 25 35.8**	**-0.1**
ZAA0	**Zalesovo Array**	**45.38**	**24**	*eP*	**P**	**18 25 35.6**	**-0.3**
ZAA0	**Zalesovo Array**	**45.38**	**24**	*eP*	**P**	**18 25 35.6**	**-0.3**
ZALV	**Zalesovo Beam**	**45.38**	**24**	P	**P**	**18 25 35.3**	**-0.6**
	comp=Z,6.8nm,0.7s,mb4.6,baz=228,slow=7.3,SNR=36							
ZALV				LR	LR	18 45 46.5		
	comp=Z,141nm,18.8s,MS3.9,baz=96,slow=38							
ZALV	**Zalesovo Beam**	**45.38**	**24**	P	**P**	**18 25 35.3**	**-0.6**
ZALV				LR	LR	18 45 46.5		
ZALV	**Zalesovo Beam**	**45.38**	**24**	P	**P**	**18 25 35.3**	**-0.6**
ZALV	**Zalesovo Beam**	**45.38**	**24**	P	**P**	**18 25 35.3**	**-0.6**
NVS	**Novosibirsk**	**45.47**	**22**	*eP*	**P**	**18 25 35.2**	**-1.4**
NVS				pmax	pmax			
	comp=Z,28nm,1.2s,mb5.0							
NVS				pmax	pmax			
	comp=N,19nm,1.0s							
NVS	**Novosibirsk**	**45.47**	**22**	*eP*	**P**	**18 25 35.2**	**-1.4**
	comp=N,19nm,1.0s,mb4.9							
GTA	**Gaotai**	**45.80**	**49**	*eP*	**P**	**18 25 40.3**	**+0.9**
GTA				pP	pP	18 25 46.8	-0.4
GTA				sP	sP	18 25 49.9	-0.4
GTA				pmax	pmax			
	comp=Z,4.0nm,1.3s,mb4.2							
SOP	**Sopron**	**46.20**	**324**⇑	*eP*	**P**	**18 25 43.3**	**+0.9**
SOP	**Sopron**	**46.20**	**324**⇑	*eP*	**P**	**18 25 43.3**	**+0.9**
KEST	**Kesra**	**46.42**	**306**	P	**P**	**18 25 45.0**	**+0.5**
	comp=Z,1.9nm,1.0s,mb4.0,baz=135,slow=2.2,SNR=5.0							
KEST	**Kesra**	**46.42**	**306**	P	**P**	**18 25 45.0**	**+0.5**
KEST	**Kesra**	**46.42**	**306**	P	**P**	**18 25 45.0**	**+0.6**
ARSA	**Arzberg**	**46.57**	**323**⇑	*iP*	**P**	**18 25 46.4**	**+1.0**
	comp=Z,9.7nm,0.9s,mb4.7							
ARSA	**Arzberg**	**46.57**	**323**	P	**P**	**18 25 46.4**	**+1.0**
	comp=Z,9.7nm,0.9s,mb4.7							
SOKA	**Soboth**	**46.57**	**322**⇑	*iP*	**P**	**18 25 46.2**	**+0.8**
	comp=Z,13nm,1.3s,mb4.7							
SOKA	**Soboth**	**46.57**	**322**	P	**P**	**18 25 46.2**	**+0.8**
	comp=Z,13nm,1.3s,mb4.7							
CONA	**Conrad Observa**	**46.73**	**324**⇑	*iP*	**P**	**18 25 47.2**	**+0.7**
	comp=Z,22nm,1.3s,mb4.9							
CONA	**Conrad Observa**	**46.73**	**324**	P	**P**	**18 25 47.2**	**+0.6**
	comp=Z,22nm,1.3s,mb4.9							
MYKA	**Terra Mystica**	**47.39**	**321**⇑	*iP*	**P**	**18 25 52.6**	**+0.8**
	comp=Z,12nm,0.7s,mb5.0							
MYKA	**Terra Mystica**	**47.39**	**321**	P	**P**	**18 25 52.6**	**+0.8**
	comp=Z,12nm,0.7s,mb5.0							
MOA	**Molln**	**47.61**	**323**⇓	*iP*	**P**	**18 25 54.0**	**+0.5**
	comp=Z,16nm,1.4s,mb4.8							
MOA	**Molln**	**47.61**	**323**	P	**P**	**18 25 54.0**	**+0.5**
	comp=Z,16nm,1.4s,mb4.8							
KLMR	**Klimovskoe**	**47.63**	**349**	*eP*	**P**	**18 25 51.6**	**-1.8**
KLMR				pmax	pmax			
	comp=Z,34nm,1.1s,mb5.3							
KLMR	**Klimovskoe**	**47.63**	**349**	*eP*	**P**	**18 25 51.6**	**-1.8**
	comp=Z,34nm,1.1s,mb5.3							
DPC	**Dobruska-Polom**	**47.78**	**327**	*eP*	**P**	**18 25 55.4**	**+0.6**
DPC				*e*		18 26 06.4		
DPC	**Dobruska-Polom**	**47.78**	**327**	*eP*	**P**	**18 25 55.4**	**+0.6**
DPC				*ex*	x	18 26 06.4		
DPC	**Dobruska-Polom**	**47.78**	**327**	*eP*	**P**	**18 25 55.4**	**+0.6**
TAM	**Tamanrasset**	**48.04**	**288**	*eP*	**P**	**18 25 57.9**	**+0.7**
	comp=Z,8.8nm,0.8s,mb4.8							
TAM	**Tamanrasset**	**48.04**	**288**	*eP*	**P**	**18 25 57.9**	**+0.7**
TAM				pmax	pmax			
	comp=Z,9.0nm,0.8s,mb4.8							
TAM	**Tamanrasset**	**48.04**	**288**	*eP*	**P**	**18 25 57.9**	**+0.7**
	comp=Z,8.8nm,0.8s,mb4.8							
GERES	**GERESS Array B**	**48.43**	**324**	P	**P**	**18 25 58.1**	**-1.8**
	comp=Z,1.1nm,0.8s,mb4.0,baz=140,slow=4.7,SNR=2.0							
GERES				LR	LR	18 46 47.4		
	comp=Z,183nm,18.6s,MS4.1,baz=273,slow=37							
GERES	**GERESS Array B**	**48.43**	**324**	P	**P**	**18 25 58.1**	**-1.8**
GERES				LR	LR	18 46 47.4		
GERES	**GERESS Array B**	**48.43**	**324**	P	**P**	**18 25 58.1**	**-1.7**
GERES	**GERESS Array B**	**48.43**	**324**	P	**P**	**18 25 58.1**	**-1.7**
PRU	**Pruhonice**	**48.55**	**325**	*eP*	**P**	**18 26 03.4**	**+2.7**
PRU	**Pruhonice**	**48.55**	**325**	*eP*	**P**	**18 26 03.4**	**+2.7**
KHC	**Kasperske Hory**	**48.65**	**324**	*eP*	**P**	**18 26 00.0**	**-1.5**
KHC	**Kasperske Hory**	**48.65**	**324**	*eP*	**P**	**18 26 00.0**	**-1.5**
KHC	**Kasperske Hory**	**48.65**	**324**	*eP*	**P**	**18 26 00.0**	**-1.5**
LBTB	**Lobatse**	**49.14**	**217**	P	**P**	**18 26 07.0**	**+1.5**
	comp=Z,16nm,1.0s,mb5.0,baz=38,slow=6.5,SNR=12							
LBTB	**Lobatse**	**49.14**	**217**	P	**P**	**18 26 07.0**	**+1.5**
LBTB	**Lobatse**	**49.14**	**217**	P	**P**	**18 26 07.0**	**+1.5**
MOTA	**Moosalm**	**49.26**	**321**⇑	*iP*	**P**	**18 26 05.7**	**-0.5**
	comp=Z,12nm,0.8s,mb5.0							
MOTA	**Moosalm**	**49.26**	**321**	P	**P**	**18 26 05.7**	**-0.5**
	comp=Z,12nm,0.8s,mb5.0							
NKC	**Novy Kostel**	**49.83**	**325**	*eP*	**P**	**18 26 10.9**	**+0.4**
NKC	**Novy Kostel**	**49.83**	**325**	*eP*	**P**	**18 26 10.9**	**+0.4**
NKC	**Novy Kostel**	**49.83**	**325**	P	**P**	**18 26 10.9**	**+0.4**
DAVA	**Damuels**	**49.99**	**320**⇑	*iP*	**P**	**18 26 11.4**	**-0.4**
	comp=Z,15nm,0.8s,mb5.1							
DAVA	**Damuels**	**49.99**	**320**	P	**P**	**18 26 11.4**	**-0.3**
	comp=Z,15nm,0.8s,mb5.1							
CLL	**Collm**	**50.07**	**326**	*eP*	**P**	**18 26 22.0**	**+10**
CLL	**Collm**	**50.07**	**326**	*e*(P)	**P**	**18 26 12.0**	**-0.3**
SBF	**Sospel**	**50.27**	**315**	*eP*	**P**	**18 26 14.1**	**+0.2**
	comp=Z,32nm,0.8s,mb5.1							
TSUM	**Tsumeb**	**50.39**	**229**	*eP*	**P**	**18 26 16.9**	**+1.8**
	comp=Z,11nm,1.1s,mb4.8							
FRF	**La Foret Royal**	**50.70**	**315**	*eP*	**P**	**18 26 17.3**	**+0.1**
	comp=Z,54nm,1.2s,mb5.1							
LMR	**La Mourre**	**50.72**	**314**	*eP*	**P**	**18 26 17.4**	**0.0**
	comp=Z,89nm,1.2s,mb5.3							
MBDF	**Montbardon**	**51.01**	**316**	*eP*	**P**	**18 26 19.3**	**-0.2**
	comp=Z,16nm,0.6s,mb4.8							
JOF	**Joensuu**	**51.20**	**346**	*eP*	**P**	**18 26 20.2**	**-0.4**
JOF				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.3							
JOF	**Joensuu**	**51.20**	**346**	*ep*	**P**	**18 26 20.2**	**-0.4**
	comp=Z,2.9nm,0.7s,mb4.3							
JOF	**Joensuu**	**51.20**	**346**	*eP*	**P**	**18 26 20.2**	**-0.4**
	comp=Z,2.9nm,0.7s,mb4.3							
LPG	**La Plagne**	**51.29**	**317**	*eP*	**P**	**18 26 21.3**	**-0.3**
	comp=Z,43nm,0.9s,mb5.1							
LPL	**La Plagne**	**51.31**	**317**	*eP*	**P**	**18 26 21.3**	**-0.5**
	comp=Z,43nm,0.9s,mb5.1							
FINES	**FINESS Array B**	**51.37**	**342**	P	**P**	**18 26 21.5**	**-0.4**
	comp=Z,2.4nm,0.7s,mb4.2,baz=131,slow=10,SNR=11							
FINES	**FINESS Array B**	**51.37**	**342**	P	**P**	**18 26 21.5**	**-0.4**
FINES	**FINESS Array B**	**51.37**	**342**	P	**P**	**18 26 21.5**	**-0.4**
SMRF	**Simiane la Rot**	**51.57**	**315**	*eP*	**P**	**18 26 23.5**	**-0.2**
SMRF	**Simiane la Rot**	**51.57**	**315**	*eP*	**P**	**18 26 23.5**	**-0.2**
ORIF	**Oris-en-Rattie**	**51.67**	**316**	*eP*	**P**	**18 26 24.3**	**-0.2**
ORIF	**Oris-en-Rattie**	**51.67**	**316**	*eP*	**P**	**18 26 24.3**	**-0.2**
CDF	**Champ du Feu**	**52.05**	**321**	*eP*	**P**	**18 26 26.6**	**-0.6**
	comp=Z,32nm,1.2s,mb4.8							
CDF	**Champ du Feu**	**52.05**	**321**	*eP*	**P**	**18 26 26.6**	**-0.6**
	comp=Z,16nm,1.2s,mb4.8							
HINF	**Hinteralfeld**	**52.08**	**320**	*eP*	**P**	**18 26 26.8**	**-0.7**
HINF	**Hinteralfeld**	**52.08**	**320**	*eP*	**P**	**18 26 26.8**	**-0.7**
BOSA	**Boshof**	**52.11**	**214**	P	**P**	**18 26 27.5**	**-0.4**
	comp=Z,7.6nm,0.9s,mb4.6,baz=26,slow=8.6,SNR=9.5							
BOSA				LR	LR	18 49 28.4		
	comp=Z,187nm,19.1s,MS4.1,baz=80,slow=37							
BOSA	**Boshof**	**52.11**	**214**	P	**P**	**18 26 27.5**	**-0.4**
BOSA				LR	LR	18 49 28.4		
BOSA	**Boshof**	**52.11**	**214**	P	**P**	**18 26 27.5**	**-0.4**
BOSA	**Boshof**	**52.11**	**214**	P	**P**	**18 26 27.5**	**-0.4**
CABF	**La Chapelle**	**52.12**	**318**	*eP*	**P**	**18 26 27.8**	**0.0**
	comp=Z,50nm,1.0s,mb5.1							
CABF	**La Chapelle**	**52.12**	**318**	*eP*	**P**	**18 26 27.8**	**0.0**
	comp=Z,25nm,1.0s,mb5.1							
TORD	**Torodi Ar. Bea**	**52.36**	**275**	P	**P**	**18 26 29.9**	**-0.1**
	comp=Z,6.9nm,1.0s,mb4.6,baz=94,slow=6.5,SNR=35							
TORD				PcP	PcP	18 27 40.7	-0.3	
	comp=Z,3.0nm,0.8s,baz=72,slow=3.3,SNR=8.1							
TORD				LR	LR	18 48 10.6		
	comp=Z,172nm,18.3s,MS4.1,baz=355,slow=35							
TORD	**Torodi Ar. Bea**	**52.36**	**275**	P	**P**	**18 26 29.9**	**-0.1**
TORD				PcP	PcP	18 27 40.7	-0.3
TORD				LR	LR	18 48 10.7		
TORD	**Torodi Ar. Bea**	**52.36**	**275**	P	**P**	**18 26 30.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**52.36**	**275**	PcP	PcP	18 27 40.7	-0.3
VIVF	**Saint-Julien-l**	**52.46**	**316**	*eP*	**P**	**18 26 29.9**	**-0.5**
VIVF	**Saint-Julien-l**	**52.46**	**316**	*eP*	**P**	**18 26 29.9**	**-0.5**
SSB	**Saint Sauveur**	**52.68**	**316**	*eP*	**P**	**18 26 32.0**	**0.0**
	comp=Z,22nm,1.2s,mb5.0							
SSB	**Saint Sauveur**	**52.68**	**316**	*eP*	**P**	**18 26 32.0**	**0.0**
SSB				pmax	pmax			
	comp=Z,22nm,1.2s,mb5.0							
SSB	**Saint Sauveur**	**52.68**	**316**	*eP*	**P**	**18 26 32.0**	**0.0**
	comp=Z,22nm,1.2s,mb5.0							
LASF	**Ste Croix**	**52.78**	**315**	*eP*	**P**	**18 26 32.5**	**-0.2**
	comp=Z,38nm,1.2s,mb4.9							
LASF	**Ste Croix**	**52.78**	**315**	*eP*	**P**	**18 26 32.5**	**-0.2**
	comp=Z,19nm,1.2s,mb4.9							
PAGF	**Fort de Pagny**	**53.06**	**320**	*eP*	**P**	**18 26 34.2**	**-0.5**
PAGF	**Fort de Pagny**	**53.06**	**320**	*eP*	**P**	**18 26 34.2**	**-0.5**
SONM	**Songino Array**	**53.23**	**41**	P	**P**	**18 26 37.3**	**+1.4**
	comp=Z,1.7nm,0.8s,mb4.0,baz=244,slow=7.8,SNR=11							
SONM				PcP	PcP	18 27 43.8	+0.2	
	comp=Z,1.8nm,1.0s,baz=245,slow=4.1,SNR=2.8							
SONM	**Songino Array**	**53.23**	**41**	P	**P**	**18 26 37.3**	**+1.4**
SONM				PcP	PcP	18 27 43.8	+0.2	
SONM	**Songino Array**	**53.23**	**41**	P	**P**	**18 26 37.3**	**+1.4**
SONM						18 27 43.8		
SONM	**Songino Array**	**53.23**	**41**	P	**P**	**18 26 37.3**	**+1.4**
SFTF	**Sexfontaines**	**53.35**	**320**	*eP*	**P**	**18 26 36.6**	**-0.3**
SFTF	**Sexfontaines**	**53.35**	**320**	*eP*	**P**	**18 26 36.6**	**-0.3**
MEZF	**Maizieres J'vi**	**53.45**	**320**	*eP*	**P**	**18 26 37.5**	**-0.1**
	comp=Z,58nm,1.1s,mb5.1							
MEZF	**Maizieres J'vi**	**53.45**	**320**	*eP*	**P**	**18 26 37.5**	**-0.1**
	comp=Z,29nm,1.1s,mb5.1							
SMF	**Signal de Mont**	**53.59**	**318**	*eP*	**P**	**18 26 38.1**	**-0.5**
	comp=Z,17nm,0.9s,mb4.7							
SMF	**Signal de Mont**	**53.59**	**318**	*eP*	**P**	**18 26 38.1**	**-0.5**
	comp=Z,8.4nm,0.9s,mb4.7							
MTLF	**Montolieu**	**53.72**	**313**	*eP*	**P**	**18 26 39.4**	**-0.3**
	comp=Z,30nm,1.3s,mb4.8							
MTLF	**Montolieu**	**53.72**	**313**	*eP*	**P**	**18 26 39.4**	**-0.3**
	comp=Z,15nm,1.3s,mb4.8							
LOR	**Lormes**	**53.78**	**318**	*eP*	**P**	**18 26 39.6**	**-0.4**
	comp=Z,52nm,1.1s,mb5.1							
LOR	**Lormes**	**53.78**	**318**	*eP*	**P**	**18 26 39.6**	**-0.4**
	comp=Z,26nm,1.1s,mb5.1							
SSF	**Saint Saulge**	**53.94**	**318**	*eP*	**P**	**18 26 40.7**	**-0.5**
	comp=Z,30nm,1.0s,mb4.8							
SSF	**Saint Saulge**	**53.94**	**318**	*eP*	**P**	**18 26 40.7**	**-0.5**
	comp=Z,15nm,1.0s,mb4.9							
AVF	**Avril sur Loir**	**53.95**	**318**	*eP*	**P**	**18 26 40.5**	**-0.8**
	comp=Z,28nm,1.2s,mb4.8							
AVF	**Avril sur Loir**	**53.95**	**318**	*eP*	**P**	**18 26 40.5**	**-0.8**
	comp=Z,14nm,1.2s,mb4.8							
GIVF	**Givet**	**54.18**	**322**	*eP*	**P**	**18 26 42.9**	**0.0**
	comp=Z,40nm,1.1s,mb5.0							
GIVF	**Givet**	**54.18**	**322**	*eP*	**P**	**18 26 42.9**	**0.0**
	comp=Z,20nm,1.1s,mb5.0							
BGF	**Bois d'Agland**	**54.21**	**317**	*eP*	**P**	**18 26 43.1**	**-0.1**
	comp=Z,35nm,0.9s,mb5.0							
BGF	**Bois d'Agland**	**54.21**	**317**	*eP*	**P**	**18 26 43.1**	**-0.1**
	comp=Z,17nm,0.9s,mb5.0							
CAF	**Calviac**	**54.25**	**315**	*eP*	**P**	**18 26 43.1**	**-0.4**
CAF	**Calviac**	**54.25**	**315**	*eP*	**P**	**18 26 43.1**	**-0.4**
BAIF	**Baives**	**54.54**	**322**	*eP*	**P**	**18 26 45.4**	**-0.1**
	comp=Z,40nm,1.2s,mb5.0							
BAIF	**Baives**	**54.54**	**322**	*eP*	**P**	**18 26 45.4**	**-0.1**
	comp=Z,20nm,1.2s,mb5.0							
TCF	**Toulx Ste Croi**	**54.55**	**317**	*eP*	**P**	**18 26 46.0**	**+0.4**
	comp=Z,21nm,1.2s,mb4.8							
TCF	**Toulx Ste Croi**	**54.55**	**317**	*eP*	**P**	**18 26 46.0**	**+0.4**
	comp=Z,10nm,1.2s,mb4.8							
HYF	**Humbligny**	**54.56**	**318**	*eP*	**P**	**18 26 45.7**	**0.0**
HYF	**Humbligny**	**54.56**	**318**	*eP*	**P**	**18 26 45.7**	**0.0**
RJF	**Les Rejaudoux**	**54.73**	**315**	*eP*	**P**	**18 26 46.7**	**-0.3**
RJF	**Les Rejaudoux**	**54.73**	**315**	*eP*	**P**	**18 26 46.7**	**-0.3**
HFS	**Hagfors**	**54.75**	**336**	P	**P**	**18 26 47.4**	**+0.6**
	comp=Z,1.6nm,0.7s,mb4.2,baz=134,slow=6.4,SNR=4.6							
HFS	**Hagfors**	**54.75**	**336**	P	**P**	**18 26 47.4**	**+0.6**
HFS	**Hagfors**	**54.75**	**336**	P	**P**	**18 26 47.4**	**+0.6**
HFS	**Hagfors**	**54.75**	**336**	P	**P**	**18 26 47.4**	**+0.6**
EPF	**Esparros**	**54.98**	**313**	*eP*	**P**	**18 26 49.5**	**+0.7**
EPF	**Esparros**	**54.98**	**313**	*eP*	**P**	**18 26 49.5**	**+0.7**
LFF	**La Frestale**	**55.16**	**315**	*eP*	**P**	**18 26 49.8**	**-0.3**
	comp=Z,44nm,1.2s,mb5.1							
LFF	**La Frestale**	**55.16**	**315**	*eP*	**P**	**18 26 49.8**	**-0.3**
	comp=Z,22nm,1.2s,mb5.1							
ETSF	**Etsaut**	**55.59**	**312**	*eP*	**P**	**18 26 53.2**	**0.0**
	comp=Z,22nm,1.0s,mb4.8							
ETSF	**Etsaut**	**55.59**	**312**	*eP*	**P**	**18 26 53.2**	**0.0**
	comp=Z,11nm,1.0s,mb4.8							
SJPF	**Ste Jean**	**56.11**	**312**	*eP*	**P**	**18 26 56.8**	**-0.2**
	comp=Z,49nm,1.0s,mb5.2							
SJPF	**Ste Jean**	**56.11**	**312**	*eP*	**P**	**18 26 56.8**	**-0.2**
	comp=Z,24nm,1.0s,mb5.2							
MFF	**Saint Martin d**	**56.20**	**317**	*eP*	**P**	**18 26 56.9**	**-0.6**
MFF	**Saint Martin d**	**56.20**	**317**	*eP*	**P**	**18 26 56.9**	**-0.6**
NOA	**NORSAR Array B**	**56.27**	**336**	LR	LR	18 51 06.5		
	comp=Z,245nm,18.5s,MS4.3,baz=350,slow=36							
LDF	**La Druitiere**	**56.73**	**319**	*eP*	**P**	**18 27 00.3**	**-1.0**
	comp=Z,12nm,0.9s,mb4.6							
LDF	**La Druitiere**	**56.73**	**319**	*eP*	**P**	**18 27 00.3**	**-1.0**
	comp=Z,6.2nm,0.9s,mb4.6							
FLN	**La Foliniere**	**57.01**	**319**	*eP*	**P**	**18 27 02.6**	**-0.7**
	comp=Z,31nm,0.9s,mb5.0							
FLN	**La Foliniere**	**57.01**	**319**	*eP*	**P**	**18 27 02.6**	**-0.7**
	comp=Z,15nm,0.9s,mb5.0							
GRR	**Gorron**	**57.15**	**319**	*eP*	**P**	**18 27 03.2**	**-1.0**
	comp=Z,64nm,1.4s,mb5.2							
GRR	**Gorron**	**57.15**	**319**	*eP*	**P**	**18 27 03.2**	**-1.0**
	comp=Z,32nm,1.4s,mb5.2							
ESDC	**Sonseca Array**	**57.54**	**308**	P	**P**	**18 27 06.8**	**-0.4**
	comp=Z,9.1nm,0.8s,mb4.9,baz=85,slow=6.3,SNR=46							
ESDC	**Sonseca Array**	**57.54**	**308**	P	**P**	**18 27 06.8**	**-0.4**
ESDC	**Sonseca Array**	**57.54**	**308**	P	**P**	**18 27 06.8**	**-0.4**
ESLA	**Sonseca Array**	**57.54**	**308**	*eP*	**P**	**18 27 06.7**	**-0.4**
	comp=Z,7.3nm,1.2s,mb4.6							
ESLA	**Sonseca Array**	**57.54**	**308**	*eP*	**P**	**18 27 06.7**	**-0.5**
	comp=Z,7.3nm,1.2s,mb4.6							
PAB	**San Pablo**	**57.81**	**308**	*eP*	**P**	**18 27 08.9**	**-0.2**
	comp=Z,22nm,1.2s,mb5.1							
PAB	**San Pablo**	**57.81**	**308**	*eP*	**P**	**18 27 08.9**	**-0.2**
PAB				pmax	pmax			
	comp=Z,22nm,1.2s,mb5.1							
PAB	**San Pablo**	**57.81**	**308**	*eP*	**P**	**18 27 08.9**	**-0.2**
	comp=Z,22nm,1.2s,mb5.1							
ARCES	**ARCESS Array B**	**58.05**	**348**	P	**P**	**18 27 09.4**	**-0.9**
	comp=Z,5.6nm,0.9s,mb4.6,baz=145,slow=4.4,SNR=9.3							
ARCES	**ARCESS Array B**	**58.05**	**348**	P	**P**	**18 27 09.4**	**-0.9**
ARCES	**ARCESS Array B**	**58.05**	**348**	P	**P**	**18 27 09.4**	**-0.9**
ARCES	**ARCESS Array B**	**58.05**	**348**	P	**P**	**18 27 09.4**	**-0.9**
DBIC	**Dimbokro**	**59.91**	**269**	P	**P**	**18 27 24.2**	**+0.2**
	comp=Z,10nm,0.9s,mb4.8,baz=42,slow=8.3,SNR=7.3							
DBIC	**Dimbokro**	**59.91**	**269**	P	**P**	**18 27 24.2**	**+0.2**
DBIC	**Dimbokro**	**59.91**	**269**	P	**P**	**18 27 24.2**	**+0.2**
DBIC	**Dimbokro**	**59.91**	**269**	P	**P**	**18 27 24.2**	**+0.1**
EKA	**Eskdalemuir Ar**	**60.54**	**326**	P	**P**	**18 27 27.4**	**-0.3**
	comp=Z,1.9nm,0.8s,mb4.3,baz=104,slow=7.0,SNR=3.6							
EKA	**Eskdalemuir Ar**	**60.54**	**326**	P	**P**	**18 27 27.4**	**-0.3**
EKA	**Eskdalemuir Ar**	**60.54**	**326**	P	**P**	**18 27 27.4**	**-0.3**
EKA	**Eskdalemuir Ar**	**60.54**	**326**	P	**P**	**18 27 27.4**	**-0.3**
EVO	**Evora**	**60.55**	**306**	*eP*	**P**	**18 27 27.7**	**-0.4**
	comp=Z,17nm,1.0s,mb4.8							
EVOP	**Sao Brissos**	**60.63**	**306**	*eP*	**P**	**18 27 27.7**	**-0.9**
	comp=Z,8.3nm,1.0s,mb4.8							
CN2	**Changchun**	**65.43**	**48**	*eP*	**P**	**18 28 00.3**	**-0.1**
SPITS	**Spitsbergen Ar**	**66.43**	**352**	LR	LR	19 00 36.5		
	comp=Z,199nm,20.4s,MS4.3,baz=205,slow=39							
KSAR	**Wonju Array Be**	**67.18**	**55**	P	**P**	**18 28 10.8**	**-0.9**
KSAR				LR	LR	18 57 14.7		
KSAR	**Wonju Array Be**	**67.18**	**55**	P	**P**	**18 28 10.9**	**-0.9**
KSAR	**Wonju Array Be**	**67.18**	**55**	P	**P**	**18 28 10.9**	**-0.9**
KSRS	**Korea Array**	**67.21**	**55**	P	**P**	**18 28 10.8**	**-1.1**
	comp=Z,4.6nm,0.7s,mb4.6,baz=269,slow=6.7,SNR=18							
KSRS				LR	LR	18 57 14.7		
	comp=Z,70nm,18.6s,MS3.9,baz=136,slow=36							
KSRS	**Korea Array**	**67.21**	**55**	P	**P**	**18 28 10.9**	**-1.1**
KSRS				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.7							
KSRS				MLR	MLR			
	comp=Z,71nm,18.6s,MS3.9							
KSRS	**Korea Array**	**67.21**	**55**	P	**P**	**18 28 10.9**	**-1.1**
	comp=Z,71nm,18.6s							
YAK	**Yakutsk**	**69.68**	**29**	*eP*	**P**	**18 28 26.2**	**-0.7**
	comp=Z,20nm,0.6s,mb5.2							
YAK	**Yakutsk**	**69.68**	**29**	*eP*	**P**	**18 28 25.2**	**-1.7**
YAK				pmax	pmax			
	comp=Z,11nm,0.9s,mb4.8							
YAK	**Yakutsk**	**69.68**	**29**	*eP*	**P**	**18 28 26.2**	**-0.7**
	comp=Z,20nm,0.6s,mb5.2							
FITZ	**Fitzroy Crossi**	**76.20**	**113**	P	**P**	**18 29 05.8**	**-0.5**
	comp=Z,5.5nm,1.0s,mb4.4,baz=299,slow=4.0,SNR=5.9							
FITZ	**Fitzroy Crossi**	**76.20**	**113**	P	**P**	**18 29 05.8**	**-0.5**
FITZ	**Fitzroy Crossi**	**76.20**	**113**	P	**P**	**18 29 05.8**	**-0.5**
SUMG	**Summit**	**77.41**	**342**	*eP*	**P**	**18 29 13.7**	**+1.5**
	comp=Z,16nm,1.1s,mb4.9							
SUMG	**Summit**	**77.41**	**342**	*eP*	**P**	**18 29 13.7**	**+1.5**
SUMG				pmax	pmax			
	comp=Z,16nm,1.1s							
SUMG	**Summit**	**77.41**	**342**	*eP*	**P**	**18 29 13.7**	**+1.5**
	comp=Z,16nm,1.1s,mb4.9							
MAW	**Mawson**	**82.17**	**177**	P	**P**	**18 29 38.1**	**+0.3**
	comp=Z,3.2nm,0.8s,mb4.3,baz=344,slow=6.9,SNR=8.4							
MAW				LR	LR	18 56 57.0		
	comp=Z,154nm,20.7s,MS4.3,baz=280,slow=29							
MAW	**Mawson**	**82.17**	**177**	P	**P**	**18 29 38.1**	**+0.3**
MAW				LR	LR	18 56 57.0		
MAW	**Mawson**	**82.17**	**177**	P	**P**	**18 29 38.1**	**+0.3**
MAW	**Mawson**	**82.17**	**177**	P	**P**	**18 29 38.1**	**+0.3**
WRA	**Warramunga Arr**	**84.58**	**112**	P	**P**	**18 29 50.6**	**-0.7**
	comp=Z,8.2nm,0.9s,mb4.9,baz=299,slow=4.1,SNR=50							
WRA	**Warramunga Arr**	**84.58**	**112**	P	**P**	**18 29 50.6**	**-0.7**
WRA	**Warramunga Arr**	**84.58**	**112**	P	**P**	**18 29 50.6**	**-0.7**
WRA	**Warramunga Arr**

TORD	**Torodi Ar. Bea**	**149.80**	**288**	PKPbc	PKPbc	19 09 09.0	-0.5	

*CSEM **20** 18:51:31.2±0.4,37.74N×21.08E,h20km,MD2.8,Error ellipse: s-maj=9.5km s-min=6.2km az=48.0*
*ATH **20** 18:51:31.1,37.75N×21.09E,h15km±1km,MD2.8/8*
*ISCJB **20** 18:51:32.0±0.7,37.79N±0.05×21.07E±0.05,h28km±5km,Error ellipse: s-maj=9.3km s-min=5.1km az=32.8*
*THE **20** 18:51:32.2,37.79N×21.10E,h16km±2km,Error ellipse: s-maj=3.0km s-min=0.7km az=14.0*

ISC 20 18:51:32.1±0.7,37.79N±0.05×21.08E±0.05,h26km±6km, n24,σ1§04/38,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFL	**Anninata**	**0.39**	**325**	P	**Pb**	**18 51 40.3**	**-0.3**
KFL				S	**Sb**	**18 51 46.8**	**+0.4**
KFL	**Anninata**	**0.39**	**325**	P	**Pb**	**18 51 40.3**	**-0.3**
KFL				S	**Sb**	**18 51 46.8**	**+0.4**
RLS	**Riolos of Patr**	**0.41**	**49**	*e*PB	**Pb**	**18 51 39.6**	**-1.3**
RLS				*e*SB	**Sb**	**18 51 46.0**	**-0.8**
RLS	**Riolos of Patr**	**0.41**	**49**	P	**Pb**	**18 51 39.7**	**-1.2**
RLS				S	**Sb**	**18 51 46.5**	**-0.3**
RLS	**Riolos of Patr**	**0.41**	**49**	*e*Pb	**Pb**	**18 51 39.6**	**-1.3**
RLS				*e*Sb	**Sb**	**18 51 46.0**	**-0.8**
RLS				S	**Sb**	**18 51 46.5**	**-0.3**
VLS	**Valsamata**	**0.54**	**315**	*e*PN	**Pn**	**18 51 42.7**	**-1.4**
VLS				*e*SN	**Sb**	**18 51 51.2**	**+0.7**
VLS	**Valsamata**	**0.54**	**315**	P	**Pb**	**18 51 42.5**	**-0.6**
VLS				S	**Sb**	**18 51 52.0**	**+1.5**
VLS	**Valsamata**	**0.54**	**315**	*e*Pn	**Pn**	**18 51 42.7**	**-1.4**
VLS				S	**Sb**	**18 51 52.0**	**+1.5**
EFP	**Efpalio**	**0.91**	**46**	*e*PN	**Pn**	**18 51 49.0**	**-0.2**
EFP				*e*SN	**Sn**	**18 52 01.3**	**-0.2**
EFP	**Efpalio**	**0.91**	**46**	*e*Pn	**Pn**	**18 51 49.0**	**-0.2**
EFP				*e*Sn	**Sn**	**18 52 01.3**	**-0.2**
ITM	**Ithomi**	**0.91**	**132**	*e*PN	**Pn**	**18 51 48.2**	**-1.0**
ITM	**Ithomi**	**0.91**	**132**	P	**Pn**	**18 51 48.6**	**-0.6**
ITM				S	**Sb**	**18 52 02.2**	**+1.2**
ITM	**Ithomi**	**0.91**	**132**	*e*Pn	**Pn**	**18 51 48.2**	**-1.0**
ITM	**Ithomi**	**0.91**	**132**	P	**Pn**	**18 51 48.6**	**-0.6**
GUR	**Goura**	**1.01**	**81**	*e*PN	**Pn**	**18 51 50.2**	**-0.4**
GUR				*e*SN	**Sn**	**18 52 04.1**	**+0.1**
GUR	**Goura**	**1.01**	**81**	*e*Pn	**Pn**	**18 51 50.2**	**-0.4**
GUR				*e*Sn	**Sn**	**18 52 04.1**	**+0.1**
PYL	**PYLOS**	**1.04**	**149**	*e*PN	**Pn**	**18 51 49.9**	**-1.1**
PYL	**PYLOS**	**1.04**	**149**	*e*Pn	**Pn**	**18 51 49.9**	**-1.1**
LKD2	**Lefkada island**	**1.05**	**342**	P	**Pn**	**18 51 51.4**	**+0.3**
LKD2	**Lefkada island**	**1.05**	**342**	P	**Pn**	**18 51 51.4**	**+0.3**
DID	**Didima**	**1.74**	**99**	*e*PN	**Pn**	**18 52 02.8**	**+2.2**
DID	**Didima**	**1.74**	**99**	*e*Pn	**Pn**	**18 52 02.8**	**+2.2**
THL	**Klokotos Trika**	**1.92**	**22**	*e*PN	**Pn**	**18 52 05.7**	**+2.7**
THL	**Klokotos Trika**	**1.92**	**22**	*e*Pn	**Pn**	**18 52 05.7**	**+2.7**

*IDC **20** 18:57:21.3±2.0,32.63S×178.69W,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.7/18,mbtmp3.7/4,ML3.5/1,Error ellipse: s-maj=45.6km s-min=43.4km az=71.0*

ISC 20 18:57:26.3±3.2,32.8S±0.1×178.6W±0.2,h42km±25km,n12, σ0§68/12,mb3.6/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.39**	**208**	PN	**Pn**	**18 58 43.1**	**-1.0**
MXZ				SN	**Sn**	**18 59 45.3**	**+0.4**
CNGZ	**Carnagh Statio**	**6.25**	**204**	*e*PN	**Pn**	**18 58 57.5**	**+1.6**
URZ	**Urewera**	**6.48**	**212**	Pn	**Pn**	**18 58 58.0**	**-1.1**
	0.9nm,0.3s,baz=130,slow=5.1,SNR=15						
URZ				Sn	**Sn**	**19 00 11.4**	**-0.3**
	1.7nm,0.3s,baz=35,slow=16,SNR=6.4						
URZ	**Urewera**	**6.48**	**212**	*e*PN	**Pn**	**18 58 59.0**	**-0.1**
TCW	**Tory Channel**	**10.15**	**212**	SN	**Sn**	**19 01 35.3**	**-6.5**
ASAR	**Alice Springs**	**42.56**	**270**	P	**P**	**19 05 18.5**	**+0.4**
	0.4nm,0.5s,mb3.4,baz=110,slow=7.1,SNR=6.6						
WRA	**Warramunga Arr**	**43.77**	**275**	P	**P**	**19 05 27.9**	**0.0**
	0.5nm,0.4s,mb3.6,baz=113,slow=8.2,SNR=6.7						
FITZ	**Fitzroy Crossi**		**51.92 272**	P	**P**	**19 06 30.9**	**-0.2**
	1.5nm,1.0s,mb3.9,baz=98,slow=7.1,SNR=1.9						
VNA3	**Neumayer Olymp**	**75.94**	**176**	*e*	**P**	**19 09 07.9**	**-0.2**
VNA2	**Neumayer--Watz**	**76.37**	**177**	*e*	**P**	**19 09 10.6**	**0.0**
	baz=180,slow=4.8						
FINES	**FINESS Array B**	**147.22**	**338**	PKPbc	PKPbc	19 17 04.5	+0.3
	4.4nm,1.1s,baz=26,slow=3.5,SNR=7.2						
TORD	**Torodi Ar. Bea**	**160.43**	**181**	PKPab	PKPab	19 18 04.6	+1.9
	0.5nm,0.8s,baz=197,slow=3.1,SNR=3.3						

*IDC **20** 19:09:55.1±1.2,12.59S×166.42E,h0km,mb4.0/10, mb1 4.1/10,mb1mx4.0/19,mbtmp3.9/10,MS3.3/2, Ms1 3.3/2,ms1mx2.8/30,Error ellipse: s-maj=39.4km s-min=23.8km az=110.0*
*ISCJB **20** 19:09:58.9±0.9,12.6S±0.1×166.3E±0.2,h33km,mb3.9/10, MS3.2/2,Error ellipse: s-maj=22.0km s-min=18.6km az=10.5*
*NEIC **20** 19:09:59.2±8.5,12.60S×166.41E,h26km±54km,mb3.4/1, Error ellipse: s-maj=34.4km s-min=15.3km az=98.0*

ISC 20 19:10:00.7±0.9,12.6S±0.1×166.4E±0.2,h35km,n24, σ0§68/21,mb3.9/10,MS3.2/2,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.04**	**296**	*e*P	**Pn**	**19 11 41.4**	**+0.2**
	57nm,0.7s						
CTA	**Charters Tower**	**20.68**	**246**	LR	LR	19 21 14.7	
	comp=Z,52nm,21.6s,MS2.9,baz=50,slow=33						
STKA	**Stephens Creek**	**29.79**	**226**	P	**P**	**19 16 05.5**	**+1.3**
	1.7nm,0.9s,mb3.8,baz=78,slow=17,SNR=3.7						
STKA				LR	LR	19 27 55.0	
	comp=Z,95nm,18.8s,MS3.5,baz=205,slow=36						
STKA	**Stephens Creek**	**29.79**	**226**	P	**P**	**19 16 05.1**	**+0.9**
	0.5nm,0.8s,mb3.3						
STKA				LR	LR	19 27 55.0	
WRA	**Warramunga Arr**	**31.57**	**252**	P	**P**	**19 16 19.0**	**-1.1**
	0.4nm,0.7s,mb3.4,baz=82,slow=9.1,SNR=4.2						
WRA	**Warramunga Arr**	**31.57**	**252**	P	**P**	**19 16 19.0**	**-1.1**
ASAR	**Alice Springs**	**32.69**	**246**	P	**P**	**19 16 29.1**	**-0.8**
	0.9nm,0.8s,mb3.7,baz=75,slow=9.3,SNR=9.4						
ASAR	**Alice Springs**	**32.69**	**246**	P	**P**	**19 16 29.1**	**-0.8**
MJAR	**Matsushiro Arr**	**55.60**	**333**	P	**P**	**19 19 32.6**	**-0.3**
	1.0nm,0.8s,mb3.9,baz=169,slow=9.1,SNR=6.5						
MJAR	**Matsushiro Arr**	**55.60**	**333**	P	**P**	**19 19 32.6**	**-0.3**
CMAR	**Chiang Mai Arr**	**73.28**	**294**	P	**P**	**19 21 29.3**	**+0.3**
	0.4nm,0.3s,mb3.8,baz=122,slow=4.9,SNR=4.8						
CMAR	**Chiang Mai Arr**	**73.28**	**294**	P	**P**	**19 21 29.3**	**+0.3**
QSPA	**South Pole Qui**	**77.44**	**180**	P	**P**	**19 21 51.9**	**+0.1**
	1.9nm,0.6s,mb4.2,baz=5.1,slow=2.6,SNR=6.1						
QSPA	**South Pole Qui**	**77.44**	**180**	P	**P**	**19 21 51.9**	**+0.1**
SONM	**Songino Array**	**80.25**	**324**	P	**P**	**19 22 08.3**	**+0.6**
	0.8nm,0.8s,mb3.7,baz=139,slow=5.7,SNR=5.5						
SONM	**Songino Array**	**80.25**	**324**	P	**P**	**19 22 08.3**	**+0.6**
ILAR	**Eielson Array**	**84.77**	**18**	P	**P**	**19 22 30.0**	**-0.8**
	0.5nm,0.9s,mb3.7,baz=242,slow=5.5,SNR=3.4						
ILAR	**Eielson Array**	**84.77**	**18**	P	**P**	**19 22 30.0**	**-0.8**
MKAR	**Makanchi Array**	**95.05**	**317**	P	**P**	**19 23 20.9**	**+1.0**
	1.0nm,0.8s,mb4.3,baz=96,slow=6.7,SNR=9.5						
MKAR	**Makanchi Array**	**95.05**	**317**	P	**P**	**19 23 20.9**	**+1.0**
ZALV	**Zalesovo Beam**	**95.15**	**324**	P	**P**	**19 23 20.1**	**-0.1**
	1.2nm,0.9s,mb4.3,baz=96,slow=3.0,SNR=5.3						
ZALV	**Zalesovo Beam**	**95.15**	**324**	P	**P**	**19 23 20.1**	**-0.1**
KEST	**Kesra**	**148.99**	**322**	PKPbc	PKPbc	19 29 45.7	+0.2
	0.5nm,0.6s,baz=7.0,slow=17,SNR=6.4						
KEST	**Kesra**	**148.99**	**322**	PKPbc	PKPbc	19 29 45.7	+0.2

*ISCJB **20** 19:12:40.9±0.5,38.79N±0.03×39.99E±0.03,h8km±5km, Error ellipse: s-maj=5.5km s-min=3.5km az=178.6*
*ISK **20** 19:12:40.9,38.81N×39.94E,h8km,MD2.8*
*DDA **20** 19:12:40.2,38.75N×40.02E,h12km±2km,Md3.1*
*CSEM **20** 19:12:41.3±0.3,38.80N×39.95E,h5km,MD2.8,Error ellipse: s-maj=8.1km s-min=5.1km az=159.0*

ISC 20 19:12:41.5±0.5,38.79N±0.03×39.99E±0.03,h14km±5km, n23,σ1§06/40,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.40**	**78**	*e*PG	**Pg**	**19 12 49.1**	**-0.4**
BINT				*e*SG	**Sg**	**19 12 56.5**	**+1.6**
BINT	**Bingol**	**0.40**	**78**	*e*Pg	**Pg**	**19 12 49.1**	**-0.4**
BINT				*e*Sg	**Sg**	**19 12 56.5**	**+1.6**
PTK	**Pertek**	**0.48**	**282**	*e*PG	**Pg**	**19 12 49.2**	**-1.8**
PTK				*e*SG	**Sg**	**19 12 56.4**	**-1.1**
PTK	**Pertek**	**0.48**	**282**	*e*Pg	**Pg**	**19 12 49.2**	**-1.8**
PTK				*e*Sg	**Sg**	**19 12 56.4**	**-1.1**
SVRC	**Sivrice-ELAZID**	**0.68**	**233**	*e*PG	**Pg**	**19 12 54.2**	**-0.6**
SVRC				*e*SG	**Sg**	**19 13 04.1**	**+0.4**
SVRC	**Sivrice-ELAZID**	**0.68**	**233**	*e*Pg	**Pg**	**19 12 54.2**	**-0.6**
SVRC				*e*Sg	**Sg**	**19 13 04.1**	**+0.4**
ERZN	**Erzincan**	**0.82**	**345**	*e*PG	**Pg**	**19 12 56.6**	**-0.9**
ELZG	**Elazig**	**0.84**	**250**	*e*P	**Pg**	**19 12 57.0**	**-0.9**
ELZG				*e*S	**Sg**	**19 13 10.5**	**+1.6**
ELZG	**Elazig**	**0.84**	**250**	*e*P	**Pg**	**19 12 57.0**	**-0.9**
ELZG				*e*S	**Sg**	**19 13 10.5**	**+1.6**
BNGL	**BINGOL**	**0.92**	**80**	*e*P	**Pg**	**19 12 58.0**	**-1.3**
BNGL				*e*S	**Sg**	**19 13 12.4**	**+1.1**
EZC	**Erzincan**	**1.08**	**333**	*e*PG	**Pg**	**19 13 01.9**	**-0.5**
EZC				*e*SG	**Sg**	**19 13 16.7**	**+0.2**
EZC	**Erzincan**	**1.08**	**333**	*e*Pg	**Pg**	**19 13 01.9**	**-0.5**
EZC				*e*Sg	**Sg**	**19 13 16.7**	**+0.2**
KEMA	**Kemaliye**	**1.26**	**293**	*e*P	**Pn**	**19 13 03.6**	**-1.1**
KEMA				*e*S	**Sb**	**19 13 22.3**	**+1.1**
KEMA	**Kemaliye**	**1.26**	**293**	*e*P	**Pn**	**19 13 03.6**	**-1.1**
KEMA				*e*S	**Sb**	**19 13 22.3**	**+1.1**
MYA	**Malataya**	**1.31**	**250**	*e*PN	**Pn**	**19 13 05.0**	**-0.4**
MYA	**Malataya**	**1.31**	**250**	*e*Pn	**Pn**	**19 13 05.0**	**-0.5**
MALT	**Malatya**	**1.32**	**249**	*e*PN	**Pn**	**19 13 06.2**	**+0.7**
MALT	**Malatya**	**1.32**	**249**	*e*Pn	**Pn**	**19 13 06.2**	**+0.7**
BEST	**Besiri**	**1.35**	**131**	*e*P	**Pn**	**19 13 06.3**	**+0.4**
BEST				*e*S	**Sn**	**19 13 23.6**	**0.0**
EZM	**Erzurum**	**1.54**	**43**	*e*PN	**Pn**	**19 13 09.9**	**+1.3**
MARD	**Mardin**	**1.60**	**157**	*e*P	**Pn**	**19 13 08.3**	**-1.1**
MARD				*e*S	**Sn**	**19 13 28.7**	**-1.2**
AKCD	**Akcadag**	**1.70**	**254**	*e*P	**Pn**	**19 13 11.9**	**+1.2**
AKCD				*e*S	**Sg**	**19 13 38.2**	**+2.0**
AKCD	**Akcadag**	**1.70**	**254**	*e*P	**Pn**	**19 13 11.9**	**+1.2**
AKCD				*e*S	**Sg**	**19 13 38.2**	**+2.0**

IDC 20 19:16:38.7±9.2,30.06S×179.70W,h444km±99km, mb2.5/2,mb1 3.0/3,mb1mx2.8/17,mbtmp2.8/3,Error ellipse: s-maj=91.4km s-min=49.1km az=25.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.60**	**197**	P	P	19 18 41.5	+1.1
	2.8nm,0.3s,baz=38,slow=18,SNR=11						
URZ				S	S	19 20 19.4	-0.9
	1.2nm,0.3s,baz=102,slow=23,SNR=7.7						
ASAR	**Alice Springs**	**41.66**	**267**	P	P	19 23 46.9	0.0
	0.3nm,0.9s,baz=102,slow=6.7,SNR=5.8						
WRA	**Warramunga Arr**	**42.62**	**273**	P	P	19 23 54.5	-0.1
	0.7nm,0.6s,baz=109,slow=7.6,SNR=10						
VNA3	**Neumayer Olymp**	**78.74**	**177**	*e*	P	19 27 53.3	-0.2
VNA3				*e*		19 42 02.6	
VNA2	**Neumayer--Watz**	**79.15**	**177**	*e*	P	19 27 55.8	+0.1
	baz=192,slow=5.6						
VNA2				*e*		19 42 05.1	
FINES	**FINESS Array B**	**144.31**	**339**	PKP	PKPdf	19 35 21.8	-0.7
	4.5nm,0.9s,baz=40,slow=3.2,SNR=4.5						

*ISCJB **20** 19:21:52.9±0.4,37.31N±0.03×36.89E±0.03,h6km±6km, Error ellipse: s-maj=4.6km s-min=4.5km az=145.7*
*DDA **20** 19:21:52.8,37.31N×36.90E,h7km±4km,Md3.1*
*ISK **20** 19:21:52.8,37.32N×36.92E,h8km,MD2.9*
*CSEM **20** 19:21:53.3±0.1,37.31N×36.90E,h10km,MD2.9,Error ellipse: s-maj=2.4km s-min=2.1km az=150.0*

ISC 20 19:21:53.4±0.4,37.31N±0.03×36.90E±0.03,h8km±5km, n29,σ0§47/44,2C,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMRS	**Kahramanmaras**	**0.19**	**1**	*e*PG	**Pg**	**19 21 56.9**	**-0.4**
KMRS				*e*SG	**Sg**	**19 21 60.0**	**0.0**
KMRS	**Kahramanmaras**	**0.19**	**1**	*e*Pg	**Pg**	**19 21 56.9**	**-0.4**
KMRS				*e*Sg	**Sg**	**19 22 00.0**	**0.0**
GAZ	**Gaziantep**	**0.29**	**119**	*e*PG	**Pg**	**19 21 59.0**	**-0.1**
GAZ				*e*SG	**Sg**	**19 22 03.2**	**+0.3**
GAZ	**Gaziantep**	**0.29**	**119**	*e*Pg	**Pg**	**19 21 59.0**	**-0.1**
GAZ				*e*Sg	**Sg**	**19 22 03.2**	**+0.3**
ANDN	**Andirin**	**0.51**	**301**	*i*P	**Pg**	**19 22 03.4**	**0.0**
ANDN				*i* S	**Sg**	**19 22 10.2**	**+0.1**
ANDN	**Andirin**	**0.51**	**301**	*i* P	**Pg**	**19 22 03.3**	**0.0**
ANDN				*i* S	**Sg**	**19 22 10.2**	**+0.1**
KUZU	**Kuzuini**	**0.56**	**165**	*i*P	**Pg**	**19 22 04.2**	**+0.1**
KUZU				*i* S	**Sg**	**19 22 12.0**	**+0.6**
KUZU	**Kuzuini**	**0.56**	**165**	*i* P	**Pg**	**19 22 04.2**	**0.0**
KUZU				*i* S	**Sg**	**19 22 12.0**	**+0.6**
KOZT	**Kozan**	**0.87**	**281**	*e*PG	**Pg**	**19 22 10.4**	**+0.3**
KOZT	**Kozan**	**0.87**	**281**	*e*Pg	**Pg**	**19 22 10.4**	**+0.3**
COBT	**Iskenderun**	**0.94**	**213**	*e*P	**Pg**	**19 22 11.0**	**-0.5**
COBT				*e*S	**Sg**	**19 22 23.8**	**0.0**
COBT	**Iskenderun**	**0.94**	**213**	*e*P	**Pg**	**19 22 11.0**	**-0.5**
COBT				*e*S	**Sg**	**19 22 23.8**	**0.0**
CEYT	**Ceyhan**	**0.97**	**252**	*e*PG	**Pg**	**19 22 12.6**	**+0.6**
CEYT	**Ceyhan**	**0.97**	**252**	*e*Pg	**Pg**	**19 22 12.6**	**+0.7**
ATAB	**Bozova**	**1.12**	**82**	*e*P	**Pg**	**19 22 14.1**	**-0.8**
ATAB				*e*S	**Sg**	**19 22 29.4**	**-0.2**
ATAB	**Bozova**	**1.12**	**82**	*e*P	**Pg**	**19 22 14.1**	**-0.9**
ATAB				*e*S	**Sg**	**19 22 29.4**	**-0.2**
AKCD	**Akcadag**	**1.27**	**39**	*e*P	**Pn**	**19 22 17.4**	**-0.1**
AKCD				*e*S	**Sb**	**19 22 35.0**	**+0.8**
AKCD	**Akcadag**	**1.27**	**39**	*e*P	**Pn**	**19 22 17.4**	**-0.1**
AKCD				*e*S	**Sb**	**19 22 35.0**	**+0.8**
HTY	**Hatay**	**1.34**	**207**	*e*PN	**Pn**	**19 22 17.6**	**-0.7**
HTY	**Hatay**	**1.34**	**207**	*e*Pn	**Pn**	**19 22 17.6**	**-0.7**
SARI	**SarD1z-Kayseri**	**1.37**	**353**	*e*PN	**Pn**	**19 22 14.9**	**-3.9**
SARI				*e*SN	**Sn**	**19 22 32.4**	**-4.8**
MALT	**Malatya**	**1.57**	**50**	*e*PN	**Pn**	**19 22 21.8**	**+0.2**
MALT	**Malatya**	**1.57**	**50**	*e*Pn	**Pn**	**19 22 21.8**	**+0.2**
MYA	**Malataya**	**1.58**	**50**	*e*PN	**Pn**	**19 22 21.6**	**-0.1**
MYA	**Malataya**	**1.58**	**50**	*e*Pn	**Pn**	**19 22 21.6**	**-0.1**
BNN	**Bunyan**	**1.75**	**332**	*e*PN	**Pn**	**19 22 23.7**	**-0.3**
BNN	**Bunyan**	**1.75**	**332**	*e*Pn	**Pn**	**19 22 23.7**	**-0.3**
PTK	**Pertek**	**2.52**	**51**	*e*PN	**Pn**	**19 22 35.1**	**+0.5**
PTK	**Pertek**	**2.52**	**51**	*e*Pn	**Pn**	**19 22 35.1**	**+0.5**

*ECX **20** 19:23:00.9±0.4,32.39N×115.39W,h9km,MD5.1,ML5.3, MW4.9*
*ISCJB **20** 19:23:00.7±0.5,32.31N±0.02×115.32W±0.01,h10km±3km, mb4.6/20,MS4.2/22,Error ellipse: s-maj=3.0km s-min=1.7km az=17.0*
*BJI **20** 19:23:00.5,32.26N×116.28W,h12km,mB4.9/3,mb5.1/12, Ms5.3/8,Ms7 4.9/8*
*MOS **20** 19:23:01.5±1.5,32.44N×115.37W,h10km,mb4.7/5,Error ellipse: s-maj=8.1km s-min=5.1km az=91.2*
*IDC **20** 19:23:02.9±0.9,32.49N×115.10W,h0km,mb4.2/7, mb1 4.2/11,mb1mx4.0/29,mbtmp4.0/11,ML3.9/4,MS4.1/22, Ms1 4.1/22,ms1mx4.0/41,Error ellipse: s-maj=17.7km s-min=9.9km az=51.0*
*NEIC **20** 19:23:03.3,32.41N×115.33W,h4km,mb4.6/12, ML5.3(ECX),ML5.0(PAS),MW4.7(SLM),After ECX.*
NEIC Felt at Mexicali. Felt [IV] at Calexico, El Centro, Imperial, San Diego and Winterhaven; [III] at Brawley, Chula Vista, El Cajon, Lakeside and Santee; [II] at Aliso Viejo, Boulevard, Escondido, Holtville, La Jolla, La Mesa and Newport Beach, California. Also felt at Alpine, Blythe, Calipatria, Campo, Carlsbad, Downey, Encinitas, Fountain Valley, Heber, Indio, Irvine, Jacumba, Julian, Laguna Niguel, Lake Elsinore, Mission Viejo, Murrieta, Oceanside, Orange, Pine Valley, Poway, Ramona, Rancho Cucamonga, Riverside, San Dimas, San Jacinto, Solana Beach, Spring Valley, Temecula and Westmorland. Felt [III] at Somerton and Yuma, Arizona. Also felt at Cibola, Sierra Vista, Tucson and Wellton.

ISC 20 19:23:01.4±0.4,32.26N±0.02×115.41W±0.01,h4km±2km, n501,σ1§39/497,mb4.6/21,MS4.2/22,163C-175D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.18**	**30**	*e*P	**Pg**	**19 23 04.4**	**-0.6**
DELX	**Delta**	**0.21**	**64**	*e*P	**Pg**	**19 23 07.2**	**+1.7**
CHIX	**Chihuahua**	**0.27**	**33**	*e*P	**Pg**	**19 23 06.4**	**-0.2**
CHIX				*e*S	**Sg**	**19 23 10.0**	**-0.1**
SGL	**Mount Signal**	**0.47**	**326**	*i*P	**Pg**	**19 23 10.1**	**-0.3**
RDX	**Rancho Dawling**	**0.56**	**234**	*e*P	**Pg**	**19 23 16.0**	**+3.8**
RDX				*e*S	**Sg**	**19 23 25.1**	**+5.8**
YUH	**Yuha Desert**	**0.58**	**312**	*i*P	**Pg**	**19 23 12.5**	**0.0**
SNR	**Schaffner Ranc**	**0.60**	**358**	*i*P	**Pg**	**19 23 11.9**	**-1.1**
COK	**Cook Ranch**	**0.64**	**336**	*e*P	**Pg**	**19 23 12.8**	**-1.0**
COA	**Coachella**	**0.65**	**22**	*i*P	**Pg**	**19 23 12.3**	**-1.6**
DVTC	**Desert V Tower**	**0.70**	**305**	P	**Pg**	**19 23 15.4**	**+0.4**
	baz=0.7,SNR=1000						
DVTC				S	**Sg**	**19 23 24.6**	**+0.6**
	baz=0.7						
SWSC	**Sam W. Stewart**	**0.75**	**335**	P	**Pg**	**19 23 14.2**	**-1.7**
	baz=0.7,SNR=905						
SWSC				S	**Sg**	**19 23 23.2**	**-2.4**
	baz=0.7						
YMD	**Yuma Desert**	**0.79**	**68**	*i*P	**Pg**	**19 23 15.3**	**-1.2**
ECBX	**El Chinero**	**0.84**	**159**	*e*P	**Pg**	**19 23 18.8**	**+1.2**
ECBX				*e*S	**Sg**	**19 23 33.2**	**+4.6**
GLA	**Glamis**	**0.93**	**32**	P	**Pg**	**19 23 16.4**	**-2.9**
	baz=0.8						
GLA				S	**Sg**	**19 23 26.8**	**-4.6**
	baz=0.8						
GLA	**Glamis**	**0.93**	**32**	*e*Pg	**Pg**	**19 23 15.9**	**-3.4**
GLA	**Glamis**	**0.93**	**32**	*e*P	**Pg**	**19 23 15.9**	**-3.4**
MONP	**Monument Peak**	**1.06**	**307**	P	**Pg**	**19 23 20.6**	**-1.1**
	baz=1.1,SNR=1000						
MONP				S	**Sg**	**19 23 34.1**	**-1.3**
	baz=1.1						
CBX	**Cerro Bola**	**1.06**	**273**	*i*P	**Pg**	**19 23 23.0**	**+1.3**
CBX				*e*S	**Sg**	**19 23 37.8**	**+2.3**
BAR	**Barrett**	**1.14**	**292**	*e*P	**Pg**	**19 23 22.4**	**-1.0**
ECNX	**Esteban Cantu**	**1.17**	**239**	*e*P	**Pg**	**19 23 26.3**	**+2.4**
ECNX				*e*P		19 23 25.1	
SPX	**San Pedro Mart**	**1.21**	**182**	*e*P	**Pg**	**19 23 26.8**	**+2.1**
SPX				*e*S	**Sg**	**19 23 46.8**	**+6.4**
SPX				*e*S	**Sg**	**19 23 47.0**	**+6.6**
SPX				*e*		19 23 53.5	
	comp=N,31μm,0.8s						
SPX				*e*		19 23 54.9	
	comp=E,31μm,0.6s						
PBX	**Punta Banda**	**1.23**	**245**	*e*P	**Pg**	**19 23 26.8**	**+1.8**
PBX				*e*S	**Sg**	**19 23 44.9**	**+3.9**
BC3	**Big Chuckawall**	**1.39**	**359**	P	**Pn**	**19 23 23.3**	**-4.3**
	baz=1.3,SNR=985						
BC3				S	**Sb**	**19 23 38.5**	**-7.6**
	baz=1.3						
113A	**Mohawk Valley,**	**1.48**	**70**	P	**Pn**	**19 23 25.6**	**-3.2**
	baz=1.4,SNR=1000						
113A				S	**Sn**	**19 23 42.5**	**-6.2**
	baz=1.4						
109C	**Camp Elliot, M**	**1.56**	**294**	P	**Pn**	**19 23 28.6**	**-1.4**
	baz=1.6,SNR=639						
109C				S	**Sb**	**19 23 50.5**	**-0.5**
	baz=1.6						
PFO	**Pinyon Flat Ob**	**1.60**	**327**	P	**Pn**	**19 23 27.1**	**-3.5**
	baz=1.6,SNR=534						
PFO				S	**Sn**	**19 23 45.2**	**-6.6**
	baz=1.6						
PFO	**Pinyon Flat Ob**	**1.60**	**327**	*e*Pn	**Pn**	**19 23 27.0**	**-3.6**
PFO	**Pinyon Flat Ob**	**1.60**	**327**	*e*P	**Pn**	**19 23 27.0**	**-3.6**
Y12C	**Blythe**	**1.66**	**26**	P	**Pn**	**19 23 27.1**	**-4.3**
	baz=1.6,SNR=60						
Y12C				S	**Sb**	**19 23 48.7**	**-5.3**
	baz=1.6						
Z13A	**Yuma Proving G**	**1.75**	**57**	P	**Pn**	**19 23 28.9**	**-3.7**
	baz=1.7,SNR=979						
Z13A				S	**Sn**	**19 23 49.8**	**-5.5**
	baz=1.7						
BELC	**Belle Mtn. Jos**	**1.80**	**344**	P	**Pn**	**19 23 29.4**	**-4.0**
	baz=1.8,SNR=91						
IRM	**Iron Mountain**	**1.91**	**7**	P	**Pn**	**19 23 30.7**	**-4.0**
	baz=1.8,SNR=193						
MURC	**Murrieta**	**2.01**	**312**	P	**Pn**	**19 23 33.5**	**-2.7**
	baz=2.0,SNR=47						
MURC				S	**Sb**	**19 24 02.6**	**-1.3**
	baz=2.0						
114A	**Black Gap (USA**	**2.19**	**76**	P	**Pn**	**19 23 36.1**	**-2.5**
	baz=2.1,SNR=124						
114A				S	**Sb**	**19 24 07.0**	**-2.2**
	baz=2.1						
214A	**Organ Pipe Nat**	**2.23**	**97**	P	**Pn**	**19 23 36.6**	**-2.5**
	baz=2.2,SNR=290						
PDMCI	**Parker Dam,Lak**	**2.30**	**27**	P	**Pn**	**19 23 36.2**	**-3.9**
	baz=2.2						
**Z14A

ISA	Isabella	4.24	324	⇑P		Pn	19 24 04.2	-2.6		
	baz=4.2									
ISA	Isabella	4.24	324	*e*Pn		Pn	19 24 04.5	-2.3		
ISA	Isabella	4.24	324	*e*P		Pn	19 24 04.5	-2.3		
Z17A	San Carlos Hig	4.29	75	⇑P		Pn	19 24 05.4	-2.1		
	baz=4.2,SNR=22									
W16A	Flagstaff	4.30	48	⇑P		Pn	19 24 05.1	-2.4		
	baz=4.2									
FURC	Furnace Creek,	4.37	344	⇑Pb		Pb	19 24 16.3	-2.5		
	baz=4.3									
X17A	Forest Lakes	4.38	61	⇓P		Pn	19 24 06.7	-2.0		
	baz=4.3									
V15A	Kaibab Nationa	4.45	36	⇑P		Pn	19 24 08.0	-1.7		
	baz=4.4									
PKM	Peak Mountain	4.52	307	⇑P		Pn	19 24 09.4	-1.2		
	baz=4.5									
218A	Dragoon	4.56	92	⇑P		Pn	19 24 09.0	-2.3		
	baz=4.5,SNR=16									
Z18A	Geronimo	4.61	78	⇑P		Pn	19 24 10.1	-1.8		
	baz=4.5,SNR=15									
WUAZ	Wupatki	4.67	45	⇑P		Pn	19 24 11.5	-1.3		
	baz=4.6									
WUAZ	Wupatki	4.67	45	*e*Pn		Pn	19 24 12.1	-0.7		
318A	Bisbee	4.69	99	⇑P		Pn	19 24 11.1	-1.8		
	baz=4.6,SNR=29									
CWC	Cottonwood Cre	4.72	333	⇓P		Pn	19 24 12.2	-1.2		
	baz=4.7									
Y18A	Canyon Day Jun	4.76	70	⇓P		Pn	19 24 11.9	-2.1		
	baz=4.7									
SMMC	Simmler	4.88	310	⇑P		Pn	19 24 13.8	-1.8		
	baz=4.9									
U15A	North Rim	4.89	31	⇓P		Pn	19 24 13.2	-2.6		
	baz=4.8									
V17A	Tonalea, Kykot	5.10	48	⇓P		Pn	19 24 17.2	-1.4		
	baz=5.0									
X18A	Snowflake	5.10	62	⇓P		Pn	19 24 17.5	-1.1		
	baz=5.0									
119A	Ashpeak Ranch,	5.19	83	⇑P		Pn	19 24 18.0	-1.8		
	baz=5.1,SNR=13									
219A	White Tail Can	5.23	91	⇓P		Pn	19 24 18.1	-2.3		
	baz=5.2									
U16A	Tuba City	5.25	41	⇓P		Pn	19 24 20.1	-0.6		
	baz=5.2									
Z19A	T-Link Ranch,	5.28	77	⇑P		Pn	19 24 19.8	-1.3		
	baz=5.2									
319A	Douglas	5.29	98	⇓P		Pn	19 24 19.7	-1.6		
	baz=5.2,SNR=9.1									
Y19A	Nutrioso	5.44	70	⇑P		Pn	19 24 22.2	-1.0		
	baz=5.3									
W18A	Petrified Fore	5.52	57	⇑P		Pn	19 24 23.9	-0.5		
	baz=5.4									
CCUT	Cedar City	5.54	17	*e*Pn		Pn	19 24 23.3	-1.3		
MTUM	Tungsten Hills	5.70	334	*e*Pn		Pn	19 24 31.4	+4.4		
V18A	Ganado	5.71	51	⇓P		Pn	19 24 27.0	0.0		
	baz=5.6									
120A	U Bar Ranch, L	5.74	85	⇓P		Pn	19 24 25.8	-1.7		
	baz=5.7,SNR=42									
ARUT	Antelope Range	5.75	16	*e*Pn		Pn	19 24 26.0	-1.5		
	comp=E,577nm,1.0s									
ARUT	Antelope Range	5.75	16	*e*P		Pn	19 24 26.0	-1.5		
ARUT					pmax	pmax				
	comp=Z,577nm,1.0s									
W19A	Sanders	5.77	59	⇑P		Pn	19 24 26.8	-1.0		
	baz=5.7									
Z20A	Nine Sixteen R	5.81	80	⇑P		Pn	19 24 27.3	-1.1		
	baz=5.7									
U17A	Shonto	5.84	41	⇑P		Pn	19 24 27.5	-1.3		
	baz=5.7									
220A	Playas Peak, P	5.86	92	⇑P		Pn	19 24 27.9	-1.1		
	baz=5.8									
R13A	O'Grain Ranch,	6.02	11	⇓P		Pn	19 24 29.7	-1.6		
	baz=6.0									
T17A	Navajo Res., N	6.06	38	⇑P		Pn	19 24 31.2	-0.6		
	baz=6.0									
R11A	Troy Canyon, C	6.08	359	⇑P		Pn	19 24 30.4	-1.6		
	baz=6.0									
Y20A	Horse Springs,	6.13	73	⇑P		Pn	19 24 32.1	-0.7		
	baz=6.0									
X20A	Quemado	6.21	67	⇓P		Pn	19 24 33.6	-0.3		
	baz=6.1									
S16A	Weppner Ranch,	6.28	29	⇓P		Pn	19 24 34.0	-0.9		
	baz=6.2									
V19A	Window Rock	6.31	55	⇓P		Pn	19 24 35.0	-0.3		
	baz=6.2									
W20A	Ramah	6.43	62	⇑P		Pn	19 24 36.4	-0.5		
	baz=6.3									
121A	Cookes Peak, D	6.46	86	⇓P		Pn	19 24 36.1	-1.2		
	baz=6.4,SNR=90									
221A	Mesquite Ranch	6.48	90	⇑P		Pn	19 24 36.5	-1.1		
	baz=6.4									
U19A	Dine' College,	6.52	50	⇓P		Pn	19 24 37.8	-0.4		
	baz=6.4									
S17A	Black Ridge (B	6.56	34	⇓P		Pn	19 24 38.3	-0.4		
	baz=6.5									
NVAR	Mina Array Bea	6.59	340	Pn		Pn	19 24 41.1	+2.0		
	comp=Z,0.6nm,0.3s,baz=164,slow=15,SNR=12									
NVAR					Lg		19 26 26.1			
	baz=163,slow=28,SNR=1.8									
NVAR	Mina Array Bea	6.59	340	Pn		Pn	19 24 41.1	+2.0		
NVAR					Lg		19 26 26.1			
Z21A	St. Cloud Mine	6.60	79	⇓P		Pn	19 24 38.7	-0.6		
	baz=6.5									
T18A	Mexican Hat	6.67	42	⇓P		Pn	19 24 39.6	-0.5		
	baz=6.6									
SAO	San Andreas Ge	6.71	314	*e*Pn		Pn	19 24 39.2	-1.5		
SAO	San Andreas Ge	6.71	314	*e*P		Pn	19 24 39.2	-1.5		
Y21A	Point of Rocks	6.72	73	⇓P		Pn	19 24 40.6	-0.4		
	baz=6.6									
X21A	Alamocita Cree	6.74	69	⇓P		Pn	19 24 40.7	-0.5		
	baz=6.6									
V20A	Brimhall	6.76	57	⇑P		Pn	19 24 41.5	+0.1		
	baz=6.7									
MSU	Marysvale	6.77	22	*e*Pn		Pn	19 24 41.4	-0.2		
MSU	Marysvale	6.77	22	*e*P		Pn	19 24 41.4	-0.2		
R16A	Teasdale	6.81	27	⇑P		Pn	19 24 41.8	-0.4		
	baz=6.7									
S18A	Hurst Farm, Bl	7.01	38	⇓P		Pn	19 24 45.1	+0.3		
	baz=6.9									
U20A	Newcomb	7.03	52	⇓P		Pn	19 24 45.5	+0.4		
	baz=6.9									
CMB	Columbia Colle	7.05	326	*e*Pn		Pn	19 24 44.9	-0.6		
CMB	Columbia Colle	7.05	326	*e*P		Pn	19 24 44.9	-0.6		
122A	Conniff Cattle	7.12	84	⇑P		Pn	19 24 45.9	-0.5		
	baz=7.0									
Z22A	Elephant Butte	7.19	80	⇑P		Pn	19 24 46.5	-0.8		
	baz=7.1									
R17A	Hanksville Air	7.25	31	⇓P		Pn	19 24 47.6	-0.5		
	baz=7.2									
LAZ	Ladron	7.25	71	*e*Pn		Pn	19 24 47.8	-0.3		
	comp=Z,45nm,0.9s									
Y22A	Socorro	7.28	74	⇓P		Pn	19 24 47.7	-0.9		
	baz=7.2									
LENM	Lemitar	7.32	73	*e*Pn		Pn	19 24 48.5	-0.7		
Y22D	IRIS PASSCAL I	7.35	73	⇑P		Pn	19 24 49.7	+0.2		
	baz=7.2									
V21A	Milan	7.36	59	⇑P		Pn	19 24 49.6	0.0		
	baz=7.3									
Q16A	Castle Valley	7.49	26	⇑P		Pn	19 24 51.5	+0.1		
	baz=7.4									
MVCO	Mesa Verde	7.53	47	⇓P		Pn	19 24 52.2	+0.2		
	baz=7.4									
MVCO	Mesa Verde	7.53	47	*e*Pn		Pn	19 24 52.7	+0.7		
R18A	Canyonlands Na	7.59	35	⇓P		Pn	19 24 53.3	+0.5		
	baz=7.5									
BNM	Barren Site	7.60	73	*e*Pn		Pn	19 24 52.6	-0.4		
	comp=Z,46nm,0.8s									
LPM	Los Pinos Moun	7.63	72	*e*Pn		Pn	19 24 52.5	-0.9		
U21A	Nageezi	7.64	55	⇑P		Pn	19 24 54.0	+0.5		
	baz=7.5									
123A	Bell Site, Whi	7.74	85	⇓P		Pn	19 24 53.8	-1.1		
	baz=7.7									
Z23A	Rita Site, Whi	7.80	80	⇓P		Pn	19 24 55.1	-0.6		
	baz=7.7									
TMUT	Trail Mountain	7.81	25	*e*Pn		Pn	19 24 55.7	-0.1		
R19A	Curley Farm, L	7.84	38	⇑P		Pn	19 24 56.1	-0.2		
	baz=7.7									
WCN	Washoe City	7.86	335	Pn		Pn	19 24 56.5	-0.1		
	comp=Z,25nm,1.0s									
WCN	Washoe City	7.86	335	P		Pn	19 24 56.5	0.0		
WCN					pmax	pmax				
	comp=Z,25nm,1.0s									
SRU	San Rafael	7.91	29	⇓P		Pn	19 24 56.2	-0.9		
	baz=7.8									
SRU	San Rafael	7.91	29	*e*Pn		Pn	19 24 55.7	-1.4		
SRU	San Rafael	7.91	29	*e*P		Pn	19 24 55.7	-1.5		
ANMO	Albuquerque	7.94	68	Pn		Pn	19 24 56.3	-1.2		
	comp=Z,0.5nm,0.3s,baz=247,slow=13,SNR=7.0									
ANMO					Lg		19 27 03.3			
	comp=Z,0.5nm,0.3s,baz=198,slow=20,SNR=1.7									
ANMO					LR	LR	19 28 14.7			
	comp=Z,1μm,18.6s,baz=254,slow=41									
ANMO	Albuquerque	7.94	68	*e*Pn		Pn	19 24 56.2	-1.4		
ANMO	Albuquerque	7.94	68	P		Pn	19 24 56.3	-1.3		
ANMO					pmax	pmax				
	comp=Z,1.0nm,0.3s									
ANMO					MLR	MLR				
	comp=Z,1μm,18.6s									
V22A	San Miguel Ran	7.94	60	⇑P		Pn	19 24 57.6	0.0		
	baz=7.8									
S20A	Disappointment	8.02	44	⇓P		Pn	19 24 58.3	-0.4		
	baz=7.9									
T21A	Navajo Lake	8.03	52	⇓P		Pn	19 24 57.5	-1.3		
	baz=7.9									
Y23A	Lovelace Mesa,	8.03	76	⇓P		Pn	19 24 57.4	-1.5		
	baz=7.9									
X23A	Hourglass Bar	8.05	71	⇓P		Pn	19 24 58.8	-0.3		
	baz=8.0									
Q18A	Rafter H Ranch	8.06	31	⇑P		Pn	19 24 58.9	-0.4		
	baz=8.0									
PV01	Paradox Valley	8.10	42	*e*Pn		Pn	19 24 59.7	-0.1		
	comp=Z,577nm,1.0s									
PV04	Paradox Valley	8.11	39	*e*Pn		Pn	19 25 00.8	+0.9		
P17A	Butcher Ranch,	8.13	26	⇓P		Pn	19 25 00.1	-0.2		
	baz=8.1									
U22A	Llaves	8.18	58	⇓P		Pn	19 25 01.4	+0.4		
	baz=8.1									
DUG	Dugway	8.19	14	⇑P		Pn	19 25 01.3	+0.3		
	baz=8.1									
DUG	Dugway	8.19	14	*e*Pn		Pn	19 25 03.6	+2.5		
DUG	Dugway	8.19	14	*e*P		Pn	19 25 03.6	+2.5		
W23A	Werner Place,	8.24	67	⇓P		Pn	19 25 02.0	+0.3		
	baz=8.1									
R20A	Redvale	8.25	42	⇓P		Pn	19 25 02.5	+0.6		
	baz=8.2									
S21A	Coal Bank Pass	8.25	47	⇑P		Pn	19 25 02.3	+0.3		
	baz=8.2									
BMN	Battle Mountai	8.28	350	Pn		Pn	19 25 03.2	+0.9		
	comp=Z,13nm,1.1s									
BMN	Battle Mountai	8.28	350	P		Pn	19 25 03.3	+1.0		
BMN					pmax	pmax				
	comp=Z,13nm,1.1s									
MPU	Maple Canyon	8.32	20	*e*Pn		Pn	19 25 05.7	+2.9		
Q19A	Hogan Spring (	8.35	35	⇑P		Pn	19 25 03.2	0.0		
	baz=8.3									
O15A	The Old Anders	8.35	16	⇓P		Pn	19 25 01.4	-1.8		
	baz=8.3									
224A	Cornudas Mount	8.39	89	⇓P		Pn	19 25 02.4	-1.4		
	baz=8.3,SNR=6.7									
124A	Stringfield Ra	8.43	84	⇓P		Pn	19 25 02.9	-1.4		
	baz=8.3,SNR=11									
P18A	Preston Nutter	8.46	28	⇓P		Pn	19 25 03.5	-1.2		
	baz=8.4									
T22A	Edith	8.46	54	⇓P		Pn	19 25 03.8	-1.0		
	baz=8.4									
324A	Moseley Ranch,	8.49	93	⇓P		Pn	19 25 04.0	-1.1		
	baz=8.4,SNR=9.6									
O16A	Springville	8.53	21	⇑P		Pn	19 25 06.1	+0.3		
	baz=8.5									
Y24A	Capitan	8.53	76	⇑P		Pn	19 25 04.6	-1.2		
	baz=8.4									
U23A	El Rito	8.64	59	⇑P		Pn	19 25 07.5	+0.2		
	baz=8.5									
X24A	Lazy VL Ranch,	8.65	72	⇑P		Pn	19 25 07.7	+0.3		
	baz=8.6									
O17A	Robinson Place	8.77	24	⇑P		Pn	19 25 10.7	+1.7		
	baz=8.7									
DAU	Daniels Canyon	8.80	21	*e*Pn		Pn	19 25 11.0	+1.6		
DAU	Daniels Canyon	8.80	21	*e*P		Pn	19 25 11.0	+1.6		
W24A	Lazy 6 Ranch,	8.84	68	⇓P		Pn	19 25 09.7	-0.2		
	baz=8.7									
Q20A	Ridgley Place,	8.84	39	⇑P		Pn	19 25 10.8	+0.9		
	baz=8.7									
R21A	Cimarron	8.85	44	⇑P		Pn	19 25 11.5	+1.3		
	baz=8.8									
BGU	Big Grassy Mou	8.86	12	*e*Pn		Pn	19 25 09.7	-0.5		
	comp=Z,43nm,1.0s									
JLU	Jordanelle	8.91	20	*e*Pn		Pn	19 25 10.5	-0.5		
S22A	4UR Ranch, Cre	8.91	50	⇑P		Pn	19 25 11.1	+0.1		
	baz=8.8									
325A	Bean Ranch, Si	8.93	93	⇓P		Pn	19 25 11.1	-0.1		
	baz=8.8									
225A	Deer Hill, Car	8.98	88	⇑P		Pn	19 25 11.9	0.0		
	baz=8.9									
P19A	Cripple Cowboy	9.01	34	⇑P		Pn	19 25 12.4	0.0		
	baz=8.9									
425A	Indio Mountain	9.02	97	⇑P		Pn	19 25 15.0	+2.5		
	baz=8.9									
Z25A	Roswell	9.06	81	⇓P		Pn	19 25 13.6	+0.6		
	baz=9.0									
T23A	Casias Ranch,	9.07	56	⇑P		Pn	19 25 13.5	+0.3		
	baz=9.0									
O18A	Roosevelt	9.10	27	⇑P		Pn	19 25 15.2	+1.7		
	baz=9.0									
V24A	Rampart Ranch,	9.10	65	⇑P		Pn	19 25 14.0	+0.4		
	baz=9.0									
Y25A	Mesa, Roswell	9.15	77	⇓P		Pn	19 25 13.8	-0.4		
	baz=9.0									
Q21A	Lamborn Mesa,	9.15	42	⇑P		Pn	19 25 15.7	+1.4		
	baz=9.1									
N16A	Rees Ranch, Co	9.18	19	⇓P		Pn	19 25 16.1	+1.4		
	baz=9.1									
P20A	De Beque	9.20	36	⇑P		Pn	19 25 15.7	+0.8		
	baz=9.1									
X25A	Clemmons Ranch	9.27	73	⇑P		Pn	19 25 16.3	+0.5		
	baz=9.2									
SPUT	South Promonto	9.34	14	*e*Pn		Pn	19 25 14.8	-2.0		
	comp=Z,12nm,0.9s									
N17A	Moffit Pass	9.41	22	⇓P		Pn	19 25 19.7	+1.9		
	baz=9.3									
M15A	Larsen Ranch,	9.49	14	⇓P		Pn	19 25 20.3	+1.5		
	baz=9.4									
Q22A	Crested Butte,	9.55	44	⇑P		Pn	19 25 21.3	+1.6		
	baz=9.5									
W25A	X Bar L Ranch,	9.59	69	⇑P		Pn	19 25 20.2	+0.1		
	baz=9.5									
226A	Malaga, Loving	9.59	88	⇑P		Pn	19 25 21.1	+0.8		
	baz=9.5									
126A	Clayton Basin,	9.63	85	⇓P		Pn	19 25 20.9	0.0		
	baz=9.5									
V25A	Rancho No Teng	9.64	65	⇓P		Pn	19 25 20.7	-0.3		
	baz=9.5									
Z26A	Caprock	9.68	81	⇓P		Pn	19 25 21.4	-0.2		
	baz=9.6									
SMCO	Snowmass	9.73	42	*e*Pn		Pn	19 25 23.5	+1.4		
HVU	Hansel Valley	9.73	12	*e*Pn		Pn	19 25 21.5	-0.7		
HVU	Hansel Valley	9.73	12	*e*P		Pn	19 25 21.5	-0.7		
O20A	White River Ci	9.76	34	⇓P		Pn	19 25 22.6	0.0		
	baz=9.7									
326A	Caldwell Ranch	9.78	92	⇑P		Pn	19 25 23.3	+0.5		
	baz=9.7									
T24A	Torres, Weston	9.79	58	⇓P		Pn	19 25 23.7	+0.7		
	baz=9.7									
HWUT	Hardware Ranch	9.82	17	*e*Pn		Pn	19 25 24.9	+1.5		
N18A	Larsen Ranch,	9.84	26	⇓P		Pn	19 25 24.2	+0.5		
	baz=9.8									
426A	McDonald Obser	9.85	96	⇑P		Pn	19 25 24.4	+0.5		
	baz=9.8									
L14A	Malta	9.91	9	⇓P		Pn	19 25 23.9	-0.7		
	baz=9.8									
S24A	Houchin Ranch,	9.94	55	⇑P		Pn	19 25 26.0	+1.0		
	baz=9.8									
526A	Mary Lane Ranc	9.95	100	⇑P		Pn	19 25 28.5	+3.3		
	baz=9.9									
M17A	Scullys Gap (B	9.95	21	⇓P		Pn	19 25 26.5	+1.3		
	baz=9.9									
X26A	CR and CF Fran	9.96	74	⇑P		Pn	19 25 25.5	+0.1		
	baz=9.9									
N19A	John Jarvie Ra	9.96	28	⇓P		Pn	19 25 25.5	+0.2		
	baz=9.9									
U25A	Circle Dot Ran	9.99	63	⇓P		Pn	19 25 27.8	+2.1		
	baz=9.9									
L15A	Malad City	10.02	13	⇑P		Pn	19 25 26.8	+0.6		
	baz=10.0									
626A	Big Bend Ranch	10.06	103	⇑P		Pn	19 25 27.6	+0.9		
	baz=10.0									
P22A	Eagle	10.13	41	⇑P		Pn	19 25 28.4	+0.7		
	baz=10.0									
127A	Arkansas Junct	10.19	84	⇓P		Pn	19 25 28.8	+0.3		
	baz=10									
O21A	Pagoda	10.20	37	⇓P		Pn	19 25 29.0	+0.4		
	baz=10									
Q23A	Hartsel	10.23	47	⇓P		Pn	19 25 29.6	+0.6		
	baz=10									
L16A	Fish Haven	10.24	17	⇓P		Pn	19 25 30.4	+1.3		
	baz=10									
V26A	Tequesquite Ra	10.27	67	⇓P		Pn	19 25 32.1	+2.5		
	baz=10									
T25A	Trinidad	10.28	59	⇑P		Pn	19 25 32.1	+2.4		
	baz=10									
N20A	Spence Gulch,	10.30	32	⇓P		Pn	19 25 30.8	+0.8		
	baz=10									
R24A	Sanders Place,	10.32	52	⇓P		Pn	19 25 31.9	+1.8		
	baz=10									
Z27A	Tatum	10.32	81	⇑P		Pn	19 25 31.8	+1.5		
	baz=10									
527A	Woodward Ranch	10.32	99	⇑P		Pn	19 25 28.9	-1.5		
	baz=10									
427A	Hayter Ranch,	10.34	95	⇑P		Pn	19 25 30.9	+0.2		
	baz=10									
Y27A	Causey	10.41	78	⇓P		Pn	19 25 34.4	+2.9		
	baz=10									
K14A	Jones Ranch, D	10.42	9	⇓P		Pn	19 25 32.0	+0.4		
	baz=10									
L17A	Cokeville	10.46	19	⇓P		Pn	19 25 34.0	+1.8		
	baz=10									
WVOR	Wild Horse Val	10.47	347	*e*Pn		Pn	19 25 30.0	-2.3		
	comp=Z,6.0nm,0.7s									
WVOR	Wild Horse Val	10.47	347	*e*P		Pn	19 25 30.0	-2.3		
WVOR					pmax	pmax				
	comp=Z,6.0nm,0.7s									
U26A	Atchley Ranch,	10.49	64	⇓P		Pn	19 25 36.1	+3.5		
	baz=10									
S25A	Robets Cordova	10.49	56	⇑P		Pn	19 25 34.2	+1.6		
	baz=10									
M19A	Rock Springs	10.49	27	⇑P		Pn	19 25 33.9	+1.3		
	baz=10									
TXAR	Lajitas Array	10.51	103	Pn		Pn	19 25 33.8	+0.8		
	comp=Z,1.9nm,0.3s,baz=285,slow=13,SNR=48									
TXAR					Lg		19 28 30.2			
	comp=Z,0.4nm,0.3s,baz=300,slow=36,SNR=3.2									
TXAR					LR	LR	19 29 59.2			
	comp=Z,2μm,19.5s,baz=10.0,slow=40									
TXAR	Lajitas Array	10.51	103	Pn		Pn	19 25 33.8	+0.8		
TXAR					Lg		19 28 30.2			
TXAR					LR	LR	19 29 59.2			
TXAR	Lajitas Array	10.51	103	P		Pn	19 25 33.8	+0.9		
P23A	Jefferson	10.52	45	⇓P		Pn	19 25 35.2	+2.2		
	baz=10									
L18A	Fontenelle, Gr	10.55	22	⇓P		Pn	19 25 37.1	+3.6		
	baz=10									
X27A	F and S Farms,	10.56	74	⇓P		Pn	19 25 34.7	+1.1		
	baz=10									
N21A	Black Mountain	10.59	35	⇓P		Pn	19 25 35.3	+1.4		
	baz=10									
O22A	Kremmling	10.65	40	⇓P		Pn	19 25 36.3	+1.6		
	baz=11									
W27A	Bowe Ranch, En	10.66	71	⇓P		Pn	19 25 35.5	+0.5		
	baz=11									
Q24A	Divide	10.70	48	⇑P		Pn	19 25 36.7	+1.3		
	baz=11									
627A	Terlingua Ranc	10.71	102	⇓P		Pn	19 25 36.7	+1.2		
	baz=11									
MSTX	Muleshoe	10.74	77	⇑P		Pn	19 25 38.0	+2.1		
	baz=11									
328A	Wristen Ranch,	10.76	91	⇑P		Pn	19 25 37.3	+1.0		
	baz=11									
ISCO	Idaho Springs	10.93	44	⇑P		Pn	19 25 40.9	+2.4		
	baz=11									
ISCO	Idaho Springs	10.93	44	*e*Pn		Pn	19 25 39.9	+1.3		
ISCO	Idaho Springs	10.93	44	*e*P		Pn	19 25 39.9	+1.3		
L19A	Farson	10.94	24	⇑P		Pn	19 25 40.7	+1.9		
	baz=11									
428A	Kincaid Ranch,	10.97	95	⇑P		Pn	19 25 40.1	+0.9		
	baz=11									
528A	Cox Ranch, San	11.01	98	⇓P		Pn	19 25 41.4	+1.6		
	baz=11									
O23A	Lake Granby, G	11.03	41	⇓P		Pn	19 25 42.1	+2.2		
	baz=11									
AHID	Auburn Hatcher	11.03	17	*e*Pn		Pn	19 25 42.0	+2.0		
K17A	Gardner Place,	11.06	18	⇑P		Pn	19 25 42.4	+2.0		
	baz=11									
628A	Black Gap, Mar	11.11	101	⇓P		Pn	19 25 41.6	+0.5		
	baz=11									
MFID	Camas Ranch	11.14	358	⇓P		Pn	19 25 44.9	+3.4		
	baz=11									
MFID	Camas Ranch	11.14	358	*e*Pn		Pn	19 25 44.0	+2.5		
J14A	Carey	11.14	7	⇑P		Pn	19 25 43.5

I20A	Worland	12.99	24	⇑P		Pn	19 26 03.3	-3.5		
	baz=13									
G15A	Dillon	13.09	9	⇓P		Pn	19 26 07.3	-0.8		
	baz=13									
J22A	Midwest	13.17	30	⇓P		Pn	19 26 08.1	-1.1		
	baz=13									
I21A	Big Trails, Te	13.18	27	⇑P		Pn	19 26 11.2	+1.9		
	baz=13									
H18A	Shoshone NF, C	13.18	18	⇑P		Pn	19 26 10.1	+0.8		
	baz=13									
DLMT	Dillon	13.26	9	*e*Pn		Pn	19 26 09.6	-0.9		
H19A	Powell	13.37	20	⇑P		Pn	19 26 12.2	+0.3		
	baz=13									
JCT	Junction City	13.46	93	⇑P		Pn	19 26 12.9	-0.3		
	baz=13									
JCT	Junction City	13.46	93	*e*Pn		Pn	19 26 16.3	+3.0		
JCT	Junction City	13.46	93	*e*P		Pn	19 26 16.3	+3.1		
F12A	Elk City	13.48	0	⇑P		Pn	19 26 16.1	+2.7		
	baz=13									
H04A	Detroit Lake	13.48	339	⇓P		Pn	19 26 15.6	+2.1		
	baz=14									
F13A	Darby	13.54	3	⇓P		Pn	19 26 15.6	+1.4		
	baz=14									
G17A	Pierce Place,	13.54	14	⇑P		Pn	19 26 15.2	+1.0		
	baz=14									
I22A	9 Mile Ranch,	13.56	29	⇑P		Pn	19 26 15.2	+0.6		
	baz=14									
G06A	Carlson Farm,	13.58	344	⇓P		Pn	19 26 16.7	+2.0		
	baz=14									
F14A	Wisdom	13.62	6	⇓P		Pn	19 26 17.2	+1.8		
	baz=14									
BOZ	Bozeman (W)	13.69	11	⇑P		Pn	19 26 18.3	+2.1		
	baz=14									
BOZ	Bozeman (W)	13.69	11	*e*Pn		Pn	19 26 18.1	+1.9		
BOZ	Bozeman (W)	13.69	11	*e*P		Pn	19 26 18.2	+2.0		
RLMT	Red Lodge	13.70	19	⇓P		Pn	19 26 18.0	+1.6		
	baz=14									
RLMT	Red Lodge	13.70	19	*e*Pn		Pn	19 26 18.3	+1.8		
LRM	Limekiln Ridge	13.73	9	*e*Pn		Pn	19 26 19.9	+3.0		
F15A	Butte	13.75	9	⇑P		Pn	19 26 18.0	+0.9		
	baz=14									
G18A	Lazy EL Ranch,	13.81	18	⇓P		Pn	19 26 17.8	-0.1		
	baz=14									
HOOD	Mount Hood Mea	13.91	341	*e*Pn		Pn	19 26 23.8	+4.5		
G20A	Bridger	14.10	21	⇓P		Pn	19 26 21.5	-0.3		
	baz=14									
F17A	Fitzpatrick Pl	14.11	14	⇑P		Pn	19 26 23.9	+1.9		
	baz=14									
E13A	Victor	14.19	3	⇓P		Pn	19 26 25.2	+2.1		
	baz=14									
E14A	Clinton	14.21	5	⇓P		Pn	19 26 25.0	+1.6		
	baz=14									
E15A	Deer Lodge	14.30	8	⇓P		Pn	19 26 26.9	+2.2		
	baz=14									
E09A	Wood Farm, Sta	14.39	352	⇓P		Pn	19 26 27.9	+2.1		
	baz=14									
HAWA	Hanford	14.46	349	*e*Pn		Pn	19 26 30.4	+3.6		
RSW	Rattlesnake Hi	14.48	348	*e*Pn		Pn	19 26 28.8	+1.8		
E16A	East Helena	14.54	10	⇑P		Pn	19 26 26.5	-1.4		
	baz=14									
MSO	Missoula	14.59	4	⇓P		Pn	19 26 29.8	+1.2		
	baz=14									
MSO	Missoula	14.59	4	*e*Pn		Pn	19 26 27.1	-1.5		
F20A	Billings	14.64	20	⇑P		Pn	19 26 29.3	+0.1		
	baz=15									
E07A	Sunnyside	14.68	348	⇑P		Pn	19 26 31.1	+1.3		
	baz=15									
CHMT	Chamberlain Mo	14.73	6	*e*Pn		Pn	19 26 32.1	+1.6		
RSSD	Black Hills	14.82	34	*e*Pn		Pn	19 26 30.9	-0.8		
RSSD	Black Hills	14.82	34	*e*P		Pn	19 26 30.9	-0.8		
D13A	Huson	14.83	3	⇑P		Pn	19 26 33.5	+1.7		
	baz=15									
D14A	Greenough	14.87	5	⇑P		Pn	19 26 32.6	+0.1		
	baz=15									
E18A	Harlowton	14.90	15	⇓P		Pn	19 26 32.9	+0.2		
	baz=15									
D15A	Lincoln	14.93	8	⇑P		Pn	19 26 34.5	+1.3		
	baz=15									
F21A	Absaloka Mine,	14.98	23	⇑P		Pn	19 26 34.3	+0.4		
	baz=15									
SLMT	Seeley Lake	15.03	5	*e*P		Pn	19 26 35.1	+0.5		
D16A	Dana Ranch, Ca	15.04	10	⇓P		Pn	19 26 36.4	+1.6		
	baz=15									
E19A	Rath Farm, Rou	15.07	18	⇑P		Pn	19 26 34.5	-0.6		
	baz=15									
H24A	Dirks Ranch, A	15.07	31	⇑P		Pn	19 26 35.8	+0.7		
	baz=15									
SWMT	Swartz Lake	15.27	4	P		Pn	19 26 38.0	+0.3		
E20A	Meyer Farm, Mu	15.29	19	⇓P		Pn	19 26 37.9	0.0		
	baz=15									
D17A	Six Diamond Ra	15.31	12	⇓P		Pn	19 26 39.6	+1.4		
	baz=15									
OD2	Odessa Site #2	15.32	351	Pn		Pn	19 26 39.4	+1.0		
C13A	Hot Springs	15.41	2	⇑P		Pn	19 26 39.5	-0.1		
	baz=15									
C15A	Salmond Ranch,	15.64	7	⇓P		Pn	19 26 42.8	+0.2		
	baz=16									
D19A	Cripps Ranch,	15.70	17	⇑P		Pn	19 26 42.7	-0.6		
	baz=16									
C17A	Wharram Farm,	15.76	12	⇓P		Pn	19 26 44.8	+0.7		
	baz=16									
D20A	Manuel Ranch,	15.82	19	⇓P		Pn	19 26 44.5	-0.5		
	baz=16									
E22A	Miles City	15.92	24	⇑P		Pn	19 26 45.9	-0.4		
	baz=16									
NEW	Newport	16.04	356	⇓P		Pn	19 26 46.8	-0.9		
	baz=16									
NEW	Newport	16.04	356	*e*Pn		Pn	19 26 49.0	+1.3		
	comp=Z,27nm,1.0s									
NEW	Newport	16.04	356	*e*P		Pn	19 26 49.0	+1.3		
NEW					pmax	pmax				
	comp=Z,27nm,1.0s									
LAO	LASA Array	16.04	23	⇓P		Pn	19 26 47.7	-0.2		
	baz=16									
LAO	LASA Array	16.04	23	*e*Pn		Pn	19 26 46.1	-1.7		
	comp=Z,58nm,1.4s									
B14A	Marquette Ranc	16.16	5	⇓P		Pn	19 26 48.0	-1.3		
	baz=16									
B15A	Bradely Ranch,	16.18	7	⇓P		Pn	19 26 48.0	-1.6		
	baz=16									
B12A	Libby	16.19	360	⇑P		Pn	19 26 52.5	+2.7		
	baz=16									
C19A	Slack Wire Ran	16.20	16	⇓P		Pn	19 26 48.3	-1.5		
	baz=16									
E23A	Ismay	16.20	26	⇑P		Pn	19 26 48.4	-1.5		
	baz=16									
B16A	M & M Farms, S	16.38	9	⇓P		Pn	19 26 52.1	+0.1		
	baz=16									
D22A	Cohagen	16.46	23	⇑P		Pn	19 26 52.2	-1.0		
	baz=16									
A12A	Yaak River Ran	16.66	359	⇓P		Pn	19 26 54.6	-1.0		
	baz=17									
B18A	Beardsley Farm	16.67	13	⇑P		Pn	19 26 56.2	+0.4		
	baz=17									
A13A	Flathead Natio	16.67	2	⇑P		Pn	19 26 55.8	-0.1		
	baz=17									
KSU1	Kansas State U	16.72	61	Pn		Pn	19 26 57.1	+0.6		
	comp=Z,60nm,1.3s									
A14A	Double T Ranch	16.76	5	⇑P		Pn	19 26 55.8	-1.1		
	baz=17									
D23A	Lindsay	16.81	25	⇓P		Pn	19 26 57.8	+0.2		
	baz=17									
WALA	Waterton Lakes	16.82	3	*e*Pn		Pn	19 26 58.9	+1.2		
A15A	Johnson Ranch,	16.82	6	⇓P		Pn	19 26 58.0	+0.3		
	baz=17									
B19A	Brinkman Farms	16.90	15	⇓P		Pn	19 26 56.3	-2.4		
	baz=17									
A17A	Triple J Farms	17.04	11	⇓P		Pn	19 27 01.1	+0.6		
	baz=17									
D24A	Glendive	17.09	27	⇑P		Pn	19 26 59.8	-1.3		
	baz=17									
B20A	Solberg Farm,	17.10	17	⇑P		Pn	19 27 00.5	-0.7		
	baz=17									
A20A	Cobblestone Ra	17.53	17	⇓P		Pn	19 27 05.3	-1.4		
	baz=18									
B22A	Reddig Ranch S	17.54	21	⇓P		Pn	19 27 05.2	-1.5		
	baz=18									
A21A	Bergtoll Ranch	17.89	18	⇑P		Pn	19 27 09.8	-1.2		
	baz=18									
A22A	Carney Farms,	18.18	20	⇑P		Pn	19 27 14.2	-0.4		
	baz=18									
DGMT	Dagmar	18.27	24	⇓P		Pn	19 27 15.3	-0.5		
	baz=18									
DGMT	Dagmar	18.27	24	Pn		Pn	19 27 11.1	-4.7		
	comp=Z,36nm,1.1s									
MIAR	Mount Ida	18.38	77	*e*Pn		Pn	19 27 16.0	-1.2		
	comp=Z,23nm,1.0s									
MIAR	Mount Ida	18.38	77	*e*P		Pn	19 27 16.0	-1.1		
MIAR					pmax	pmax				
	comp=Z,23nm,1.0s									
ECSD	EROS Data Cent	18.68	47	*e*P		Pn	19 27 20.3	-0.5		
	comp=Z,11nm,0.9s									
VBMS	Vicksburg	21.05	83	*e*P		P	19 27 48.9	+2.4		
	comp=Z,95nm,1.1s,mb5.0									
AGMN	Agassiz Nation	21.79	37	*e*P		P	19 27 53.7	-0.6		
	comp=Z,45nm,1.3s,mb4.7									
BBB	Bella Bella	21.96	339	LR		LR	19 35 53.1			
	comp=Z,354nm,19.9s,MS3.8,baz=159,slow=35									
PLAL	Pickwick Lake	22.90	76	P		P	19 28 07.7	+1.4		
	comp=Z,9.2nm,0.8s,mb4.3									
ULM	Lac du Bonnet	23.09	33	P		P	19 28 06.1	-2.0		
	comp=Z,4.5nm,0.8s,mb4.0,baz=272,slow=7.6,SNR=3.6									
ULM	Lac du Bonnet	23.09	33	P		P	19 28 06.1	-2.0		
ULM	Lac du Bonnet	23.09	33	P		P	19 28 06.1	-2.0		
WVT	Waverly	23.11	73	*e*P		P	19 28 13.8	+5.3		
	comp=Z,8.1nm,0.8s,mb4.2									
WVT	Waverly	23.11	73	*e*P		P	19 28 13.8	+5.4		
WVT					pmax	pmax				
	comp=Z,8.0nm,0.8s,mb4.2									
CMIG	Matias Romero	23.94	124	P		P	19 28 17.5	+0.7		
	comp=Z,8.5nm,1.0s,mb4.1,baz=299,slow=8.0,SNR=6.6									
CMIG					LR	LR	19 37 37.6			
	comp=Z,422nm,19.7s,MS3.9,baz=178,slow=37									
CMIG	Matias Romero	23.94	124	P		P	19 28 17.5	+0.7		
CMIG					LR	LR	19 37 37.6			
FFC	Flin Flon	24.39	19	*i* P		P	19 28 25.2	+4.6		
TKL	Tuckaleechee C	26.40	74	LR		LR	19 39 16.3			
	comp=Z,456nm,21.1s,MS4.0,baz=268,slow=37									
TEIG	Tepich	27.05	110	LR		LR	19 42 58.0			
	comp=Z,338nm,18.1s,MS4.0,baz=308,slow=44									
DLBC	Dease Lake	27.99	344	LR		LR	19 40 01.8			
	comp=Z,562nm,19.7s,MS4.2,baz=8.9,slow=37									
YKA	Yellowknife Ar	30.25	1	LR		LR	19 42 05.8			
	comp=Z,45nm,18.1s,MS3.1,baz=330,slow=38									
SADO	Sadowa	30.75	56	LR		LR	19 41 28.0			
	comp=Z,374nm,19.3s,MS4.1,baz=274,slow=36									
CBN	Corbin	31.48	68	*e*P		P	19 29 26.2	+2.0		
	comp=Z,32nm,0.7s,mb5.2									
JTS	JuntasAbangare	35.61	121	*e*P		P	19 30 00.5	+0.1		
INK	Inuvik	37.58	349	P		P	19 30 17.9	+1.3		
	comp=Z,4.9nm,1.1s,mb4.1,baz=161,slow=14,SNR=4.8									
INK	Inuvik	37.58	349	P		P	19 30 17.9	+1.3		
INK	Inuvik	37.58	349	P		P	19 30 17.9	+1.3		
ILAR	Eielson Array	37.85	339	P		P	19 30 19.4	+0.5		
	comp=Z,2.4nm,0.9s,mb3.9,baz=152,slow=6.8,SNR=20									
ILAR					LR	LR	19 44 33.6			
	comp=Z,289nm,21.1s,MS4.1,baz=309,slow=34									
ILAR	Eielson Array	37.85	339	P		P	19 30 19.4	+0.5		
ILAR					LR	LR	19 44 33.6			
ILAR	Eielson Array	37.85	339	P		P	19 30 19.4	+0.5		
ROSC	El Rosal	47.08	117	LR		LR	19 51 01.6			
	comp=Z,170nm,20.4s,MS4.0,baz=23,slow=36									
TAOE	Nuku Hiva Isla	47.22	214	*e*LR		LR	19 44 55.7			
	comp=Z,229nm,26.4s									
OTAV	Otavalo	47.22	125	*e*P		P	19 31 37.5	+1.8		
	comp=Z,13nm,1.3s,mb4.7									
ATAH	Atahualpa	52.72	131	P		P	19 32 20.8	+3.3		
	comp=Z,8.1nm,0.8s,mb4.7,baz=315,slow=6.1,SNR=5.6									
ATAH	Atahualpa	52.72	131	P		P	19 32 20.8	+3.3		
SUMG	Summit	55.66	21	P		P	19 32 39.0	+0.8		
	comp=Z,9.5nm,1.0s,mb4.8									
SUMG	Summit	55.66	21	P		P	19 32 39.0	+0.8		
SUMG					pmax	pmax				
	comp=Z,10.0nm,1.0s									
SUMG	Summit	55.66	21	*i* P		P	19 32 39.0	+0.8		
	comp=Z,6.9nm,0.9s,mb4.7									
BILL	Bilibino	56.17	334	*e*P		P	19 32 41.5	-0.4		
BILL					pmax	pmax				
	comp=Z,6.0nm,1.3s,mb4.5									
RKT	Rikitea	58.16	201	*e*LR		LR	19 50 05.1			
	comp=Z,314nm,28.5s									
PPT	Papeete	59.38	218	*e*LR		LR	19 50 34.4			
	comp=Z,178nm,25.2s									
PPT	Papeete	59.38	218	LR		LR	19 53 44.8			
	comp=Z,83nm,19.3s,MS3.9,baz=8.6,slow=31									
PETK	Petropavlovsk-	63.16	318	LR		LR	19 57 36.5			
	comp=Z,97nm,18.1s,MS4.0,baz=112,slow=33									
TBI	Tubuai	64.16	215	*e*LR		LR	19 52 51.5			
	comp=Z,130nm,28.2s									
LPAZ	La Paz	66.18	130	P		P	19 33 52.2	+1.7		
	comp=Z,0.6nm,0.3s,mb4.0,baz=355,slow=6.3,SNR=3.5									
LPAZ					LR	LR	20 00 17.5			
	comp=Z,95nm,19.4s,MS4.0,baz=168,slow=34									
LPAZ	La Paz	66.18	130	P		P	19 33 52.2	+1.7		
LPAZ					LR	LR	20 00 17.5			
LPAZ	La Paz	66.18	130	P		P	19 33 52.2	+1.8		
ARCES	ARCESS Array B	74.58	13	LR		LR	20 11 03.9			
	comp=Z,291nm,20.4s,MS4.6,baz=51,slow=39									
MJAR	Matsushiro Arr	82.96	309	LR		LR	20 04 35.3			
	comp=Z,92nm,20.2s,MS4.2,baz=85,slow=30									
MDJ	Mudanjiang	83.33	319	P		P	19 35 23.4	-6.2		
MDJ					pmax	pmax				
	comp=Z,11nm,2.5s,mb4.4									
MDJ					pmax	pmax				
	comp=Z,62nm,3.4s									
CN2	Changchun	86.12	321	*e*P		P	19 35 41.5	-2.2		
CN2				*e*PP		PP	19 39 02.3	-1.0		
CN2				*e*S		S	19 46 14.1	-4.8		
CN2					pmax	pmax				
	comp=Z,10.0nm,0.7s,mb5.2									
CN2					LR	LR				
	comp=N,200nm,18.0s,MS4.8									
CN2					LR	LR				
	comp=E,300nm,18.0s,MS4.8									
CN2					LR	LR				
	comp=Z,400nm,20.0s,MS4.8									
OBN	Obninsk	89.71	16	*e*P		P	19 36 02.0	+1.4		
OBN					pmax	pmax				
	comp=Z,7.0nm,1.3s,mb4.8									
AKASG	Malin Array Be	91.69	22	LR		LR	20 18 26.2			
	comp=Z,296nm,19.4s,MS4.7,baz=320,slow=36									
SONM	Songino Array	91.89	333	LR		LR	20 22 08.6			
	comp=Z,146nm,18.9s,MS4.5,baz=355,slow=39									
ZALV	Zalesovo Beam	92.38	348	P		P	19 36 13.5	+0.5		
	comp=Z,0.4nm,0.6s,mb4.0,baz=1.9,slow=4.3,SNR=3.6									
ZALV	Zalesovo Beam	92.38	348	P		P	19 36 13.5	+0.5		
ZALV	Zalesovo Beam	92.38	348	P		P	19 36 13.5	+0.5		
BJI	Beijing	93.66	323	P		P	19 36 16.9	-2.3		
BJI					pmax	pmax				
	comp=Z,7.0nm,0.5s,mb5.3									
HHC	Hu-ho-hao-te	95.30	326	*e*P		P	19 36 24.3	-2.5		
HHC					sP	sP	19 36 31.8	+3.3		
HHC					PP	PP	19 40 15.6	-0.5		
HHC					SKS		19 46 57.8			
HHC					S	S	19 47 35.8	-7.5		
HHC					sS	sS	19 47 43.3	-2.1		
HHC					SS	SS	19 54 03.4	-5.1		
HHC					pmax	pmax				
	comp=Z,8.0nm,0.6s,mb5.3									
HHC					LR	LR				
	comp=N,220nm,16.9s,MS5.0									
HHC					LR	LR				
	comp=E,370nm,16.1s,MS5.0									
HHC					LR	LR				
	comp=Z,210nm,16.5s,MS4.7									
JOW	Kunigami	95.57	306	LR		LR	20 14 58.0			
	comp=Z,108nm,18.8s,MS4.3,baz=62,slow=33									
AKTO	Aktyubinsk	97.46	4	LR		LR	20 23 28.8			
	comp=Z,210nm,21.6s,MS4.6,baz=336,slow=37									
NJ2	Nanjing	98.03	316	*e*P		P	19 36 36.8	-2.5		
NJ2					pmax	pmax				
	comp=Z,10.0nm,0.6s,mb5.5									
MKAR	Makanchi Array	99.71	348	LR		LR	20 23 54.3			
	comp=Z,152nm,19.9s,MS4.5,baz=348,slow=37									
WMQ	Urumqi	101.39	343	P		Pdif	19 36 53.8	-0.2		
GYA	Guiyang	109.17	321	Pdif		Pdif	19 37 26.0	-2.6		
GYA				PKP		PKiKP	19 41 29.8	-3.3		
GYA				PP		PP	19 42 01.4	+0.9		
GYA				PKS			19 45 04.3			
GYA				SS		SS	19 57 16.5	-4.3		
GYA				LR		LR				
	comp=N,150nm,20.2s,MS4.7									
GYA				LR		LR				
	comp=E,130nm,21.7s,MS4.7									
GYA				LR		LR				
	comp=Z,140nm,22.5s,MS4.5									
KMI	Kunming	112.31	323	PKP		PKiKP	19 41 37.3	-1.8		
ASAR	Alice Springs	119.10	259	PKP		PKPdf	19 41 54.3	+2.3		
	comp=Z,0.3nm,0.8s,baz=77,slow=1.9,SNR=4.0									
ASAR	Alice Springs	119.10	259	PKIKP		PKPdf	19 41 54.3	+2.3		
MAW	Mawson	144.60	179	PKP		PKPdf	19 42 38.6	+0.3		
	comp=Z,5.0nm,0.8s,baz=268,slow=6.3,SNR=9.1									
MAW	Mawson	144.60	179	*e*P		PKPdf	19 42 38.5	+0.2		
	comp=Z,5.4nm,0.9s									
MAW	Mawson	144.60	179	PKIKP		PKPdf	19 42 38.6	+0.3		
MAW				PKPpre		PKPpre				
	comp=Z,5.0nm,0.8s									
LBTB	Lobatse	145.17	88	*e*PKPdf		PKPdf	19 42 40.7	0.0		
LBTB	Lobatse	145.17	88	*e*PKIKP		PKPdf	19 42 40.7	0.0		
BOSA	Boshof	146.02	94	PKPbc		PKPbc	19 42 43.9	+1.0		
	comp=Z,5.5nm,1.1s,baz=300,slow=6.4,SNR=4.0									

IDC ***20*** *19:44:32.6±12.0,26°.86S×177°.83W,h160km±110km, mb3.8/10,mb1 4.0/10,mb1mx3.8/18,mbtmp3.8/10,Error ellipse: s-maj=43.5km s-min=21.9km az=63.0*

ISCJB ***20*** *19:44:33.7±1.2,26°.84S±0°.10×177°.9W±0°.2,h184km±11km, mb3.9/11,Error ellipse: s-maj=24.2km s-min=14.5km az=159.3*

NEIC ***20*** *19:44:34.4±1.1,26°.77S×177°.90W,h175km±9km,mb3.9/1, Error ellipse: s-maj=18.1km s-min=12.3km az=71.0*

ISC 20 19:44:34.4±1.2, 26°.80S±0°.10×177°.9W±0°.2, h176km±11km, n67,σ0°.96/25, mb3.9/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RAO	Raoul Island	2.44	181	*e*Pn	Pn	Pn	19 45 16.8	+0.6
MSVF	Nonsavu	9.78	336	*e*Pn	Pn	Pn	19 46 50.1	-1.0
	204nm,1.4s							
MXZ	Matakaoa Point	11.21	196	PN	Px	Px	19 46 58.5	
MXZ				SN	Sx	Sx	19 49 01.5	
PUZ	Puketiti	11.71	195	*e*PN	Px	Px	19 47 05.5	
PUZ				SN	Sx	Sx	19 49 11.2	
CNGZ	Carnagh Statio	12.11	195	*e*PN	Px	Px	19 47 13.8	
MWZ	Matawai	12.14	197	*e*PN	Px	Px	19 47 13.5	
MWZ				SN	Sx	Sx	19 49 23.1	
URZ	Urewera	12.19	199	P	Px	Px	19 47 14.6	
	1.1nm,0.3s,baz=353,slow=14,SNR=11							
URZ				S	Sx	Sx	19 49 24.6	
	3.0nm,0.3s,baz=58,slow=8.0,SNR=10							
URZ	Urewera	12.19	199	P	Px	Px	19 47 14.6	
URZ				S	Sx	Sx	19 49 24.6	
URZ	Urewera	12.19	199	PN	Px	Px	19 47 14.0	
URZ				SN	Sx	Sx	19 49 23.7	
KNZ	Kokohu	12.75	196	*e*PN	Px	Px	19 47 20.6	
MCHZ	McNeill Hill	13.40	198	*e*PN	Px	Px	19 47 30.1	
MCHZ				SN	Sx	Sx	19 49 53.2	
PNHZ	Pukenui	13.98	199	SN	Sx	Sx	19 50 04.8	
AFI	Afiamalu	14.03	25	P	Px	Px	19 47 39.4	
	6.4nm,0.3s,baz=205,slow=17,SNR=3.6							
AFI				S	Sx	Sx	19 50 01.1	
	1.8nm,0.3s,baz=217,slow=20,SNR=3.1							
AFI	Afiamalu	14.03	25	P	Px	Px	19 47 39.4	
AFI				S	Sx	Sx	19 50 01.1	
DVHZ	Dannevirke	14.35	199	SN	Sx	Sx	19 50 11.4	
BFZ	Birch Farm	14.68	198	SN	Sx	Sx	19 50 16.4	
MRZ	Mangatainoka R	14.86	200	SN	Sx	Sx	19 50 20.5	
TIWZ	Tintock	14.87	199	SN	Sx	Sx	19 50 24.1	
HOWZ	Holdsworth Sta	15.09	200	SN	Sx	Sx	19 50 28.4	
TMWZ	Te Maipa	15.18	198	SN	Sx	Sx	19 50 30.5	
KIW	Kapiti Island	15.25	201	SN	Sx	Sx	19 50 33.7	
MTW	Mount Morrison	15.34	199	SN	Sx	Sx	19 50 33.7	
PAWZ	Paruwai Farm	15.56	199	SN	Sx	Sx	19 50 38.8	
TCW	Tory Channel	15.77	202	SN	Sx	Sx	19 50 44.0	
PLWZ	Palliser	15.79	199	SN	Sx	Sx	19 50 43.4	
NNZ	Nelson	16.10	204	SN	Sx	Sx	19 50 54.1	
THZ	Tophouse	16.75	205	*e*PN	Px	Px	19 48 11.2	
THZ				SN	Sx	Sx	19 51 07.0	
LTZ	Lake Taylor	17.86	204	SN	Sx	Sx	19 51 29.4	
MQZ	McQueen's Vall	18.54	202	SN	Sx	Sx	19 51 44.4	
CTA	Charters Tower	33.51	274	P	P	P	19 50 57.8	+0.4
	3.2nm,0.8s,mb4.1,baz=90,slow=11,SNR=4.3							
CTA	Charters Tower	33.51	274	P	P	P	19 50 57.8	+0.4
ASAR	Alice Springs	43.53	263	P	P	P	19 52 20.9	+0.1
	0.5nm,0.4s,mb3.5,baz=97,slow=7.2,SNR=12							
ASAR				pP		pP	19 53 04.0	+4.9
	2.3nm,1.1s,baz=112,slow=8.6,SNR=4.5							
ASAR	Alice Springs	43.53	263	P	P	P	19 52 20.9	+0.1
ASAR				pP		pP	19 53 04.0	+4.8
WRAB	Tennant Creek	44.19	268	*e*P	P	P	19 52 25.4	-0.7

MKAR				Sn	**Sn**	19 53 16.6	**-10**
TKM2	**Tokmak 2**	**16.24**	**296**	*e*P	**Pn**	19 51 32.3	**+0.8**
	comp=E,3.3nm,0.6s						
KURK	**Kurchatov**	**17.96**	**323**	P	**Pn**	19 51 52.1	**-0.9**
	comp=E,0.1nm,0.3s,baz=133,slow=11,SNR=13						
KURK	**Kurchatov**	**17.96**	**323**	P	**Pn**	19 51 52.1	**-0.9**
ZALV	**Zalesovo Beam**	**18.09**	**339**	P	**Pn**	19 51 55.4	**+0.8**
	comp=E,0.1nm,0.3s,baz=146,slow=8.0,SNR=2.5						
ZALV	**Zalesovo Beam**	**18.09**	**339**	P	**Pn**	19 51 55.4	**+0.8**
CMAR	**Chiang Mai Arr**	**19.16**	**170**	P	**Pn**	19 52 07.1	**-0.7**
	comp=E,0.1nm,0.3s,baz=335,slow=9.9,SNR=5.0						
CMAR	**Chiang Mai Arr**	**19.16**	**170**	P	**Pn**	19 52 07.1	**-0.7**
BVAR	**Borovoye Array**	**23.44**	**320**	P	**P**	19 52 54.0	**+1.2**
	comp=E,0.9nm,0.5s,mb3.5,baz=114,slow=7.1,SNR=6.9						
BVAR	**Borovoye Array**	**23.44**	**320**	P	**P**	19 52 54.0	**+1.2**
BRTR	**Keskin Array B**	**47.65**	**293**	P	**P**	19 56 20.7	**+0.9**
	comp=E,0.3nm,0.6s,mb3.5,baz=76,slow=6.1,SNR=4.2						
BRTR	**Keskin Array B**	**47.65**	**293**	P	**P**	19 56 20.7	**+0.9**
ASAR	**Alice Springs**	**70.67**	**143**	P	**P**	19 58 59.4	**0.0**
	comp=E,0.3nm,0.5s,mb3.5,baz=326,slow=6.2,SNR=7.4						
ASAR	**Alice Springs**	**70.67**	**143**	P	**P**	19 58 59.4	**0.0**

IDC ***20*** *20:01:53.1±1.3,34°.41N×73°.97E,h0km,mb3.8/5, mb1 3.9/9,mb1mx3.6/29,mbtmp3.8/9,ML3.8/4,Error ellipse: s-maj=25.8km s-min=23.9km az=41.0*
ISCJB ***20*** *20:01:55.8±1.0,34°.36N±0°.04×74°.0E±0°.1,h42km±14km, mb3.6/5,Error ellipse: s-maj=16.8km s-min=5.2km az=161.3*
NDI ***20*** *20:01:57.7±2.4,34°.57N×73°.95E,h33km,ML3.6, mb3.6(NEIC)*
NEIC ***20*** *20:02:02.4±1.1,34°.62N×74°.00E,h74km±12km,mb3.6/2, Error ellipse: s-maj=11.8km s-min=10.1km az=199.0*
NNC ***20*** *20:02:06.1±6.5,34°.85N×73°.73E,h75km±48km,mb3.4, mpv3.7,Error ellipse: s-maj=54.6km s-min=38.6km az=25.0*

ISC 20 20:01:58.2±0.7,**34°.38N**±0°.04×**73°.9E**±0°.1,**h46**km±12km, **n42,**σ1°**19/46,mb3.6/5,7C-4D,Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SDNR	**Sundarnagar**	**3.84**	**137**	*e*PKP		**Pn**	**20 02 58.2**	**+3.4**
SDNR				*ex*		x	20 03 53.2	
KBL	**Kabul**	**4.04**	**274**	*e*P		**Pn**	**20 03 02.5**	**+5.1**
SMLA	**Simla**	**4.24**	**139**	*i* P		**Pn**	**20 03 01.0**	**+0.8**
SMLA				*i* S		**Sn**	**20 03 48.3**	**-0.1**
SMLA				*i* S		**Sn**	**20 03 48.4**	**0.0**
SMLA				⇓AML		AML	20 03 52.1	
	comp=E,919nm,0.3s							
SMLA				⇓AML		AML	20 03 52.2	
	comp=N,730nm,0.3s							
DDI	**Dehra Dun**	**5.34**	**138**	*ex*		x	20 03 40.0	
NDI	**New Delhi**	**6.33**	**153**	*e*S		**Sn**	**20 04 39.0**	**-1.0**
KHET	**Khetri**	**6.49**	**165**	*e*S		**Sn**	**20 04 43.3**	**-0.4**
KUDL	**Kundal**	**6.59**	**160**	*e*PKP		**Pn**	**20 03 33.7**	**+1.2**
KUDL				*e*S		**Sn**	**20 04 44.1**	**-2.2**
KUDL				AML		AML	20 05 29.1	
	comp=E,14nm,0.4s							
KUDL				AML		AML	20 05 29.6	
	comp=N,8.5nm,0.6s							
SONA	**Sohna**	**6.68**	**155**	*e*PKP		**Pn**	**20 03 34.9**	**+1.3**
SONA				*e*S		**Sn**	**20 04 46.4**	**-2.1**
EKS2	**Erkin-Say**	**8.27**	**359**	*e*P		**Pn**	**20 03 57.3**	**+1.9**
	comp=N,4.1nm,0.6s							
TKM2	**Tokmak 2**	**8.63**	**8**	*e*P		**Pn**	**20 04 01.9**	**+1.5**
	comp=N,1.8nm,0.4s							
KK31	**Karatay Array**	**9.11**	**344**	P		**Pn**	**20 04 07.2**	**+0.3**
	comp=N,1.4nm,0.4s,baz=159,slow=12,SNR=28							
KK31				⇑S		**Sn**	**20 05 44.8**	**-3.3**
	comp=N,2.4nm,0.4s,baz=148,slow=22,SNR=12							
KKAR	**Karatay Array**	**9.11**	**344**	*e*P		**Pn**	**20 04 07.8**	**+0.9**
	comp=N,4.7nm,0.6s							
MK31	**Makanchi Array**	**13.92**	**25**	⇓P		**Pn**	**20 05 17.7**	**+5.1**
	comp=N,0.7nm,0.6s,baz=204,slow=11,SNR=13							
MKAR	**Makanchi Array**	**13.92**	**25**	Pn		**Pn**	**20 05 11.9**	**-0.8**
	comp=N,0.2nm,0.3s,baz=208,slow=13,SNR=4.4							
MKAR	**Makanchi Array**	**13.92**	**25**	Pn		**Pn**	**20 05 11.9**	**-0.8**
LSA	**Lhasa**	**15.33**	**103**	*e*P		**Pn**	**20 05 35.9**	**+4.5**
KURBB	**Kurchatov Arra**	**16.58**	**10**	⇑P		**Pn**	**20 05 46.5**	**-0.7**
	comp=N,0.4nm,0.6s							
KURK	**Kurchatov**	**16.68**	**10**	⇓P		**Pn**	**20 05 49.2**	**+0.7**
	comp=N,4.8nm,0.9s							
KURK	**Kurchatov**	**16.68**	**10**	Pn		**Pn**	**20 05 44.4**	**-4.1**
	comp=N,0.2nm,0.3s,baz=199,slow=11,SNR=9.4							
KURK	**Kurchatov**	**16.68**	**10**	*e*P		**Pn**	**20 05 46.3**	**-2.2**
AB31	**Akbulak array**	**18.11**	**329**	P		**Pn**	**20 06 05.7**	**-0.4**
	comp=N,1.7nm,0.8s,baz=137,slow=12,SNR=13							
ABKAR	**Akbulak array**	**18.11**	**329**	*e*P		**Pn**	**20 06 05.7**	**-0.5**
	comp=N,1.4nm,0.7s							
VOSK	**Vostochnaya**	**18.46**	**354**	⇑P		**Pn**	**20 06 08.3**	**-2.1**
	comp=N,5.1nm,1.6s							
BVA0	**Borovoye Array**	**18.81**	**353**	⇑P		**Pn**	**20 06 14.6**	**+0.1**
	comp=N,0.7nm,0.9s,baz=161,slow=11,SNR=17							
BVAR	**Borovoye Array**	**18.81**	**353**	P		**Pn**	**20 06 13.7**	**-0.8**
	comp=N,0.6nm,0.3s,baz=161,slow=10,SNR=22							
BVAR	**Borovoye Array**	**18.81**	**353**	P		**Pn**	**20 06 13.7**	**-0.8**
BRVK	**Borovoye**	**18.85**	**353**	⇑P		**Pn**	**20 06 15.2**	**+0.1**
	comp=N,11nm,1.0s							
BRVK	**Borovoye**	**18.85**	**353**	*e*P		**Pn**	**20 06 14.7**	**-0.4**
	comp=N,12nm,1.3s							
ZRNK	**Zerenda**	**18.90**	**351**	⇑P		**Pn**	**20 06 15.3**	**-0.3**
	comp=N,7.6nm,1.2s							
AKTO	**Aktyubinsk**	**19.82**	**329**	⇑P		**Pn**	**20 06 26.2**	**-0.4**
	comp=N,0.6nm,0.7s							
AKTO	**Aktyubinsk**	**19.82**	**329**	P		**Pn**	**20 06 25.5**	**-1.1**
	comp=N,0.3nm,0.3s,baz=141,slow=12,SNR=5.4							
AKTO	**Aktyubinsk**	**19.82**	**329**	P		**Pn**	**20 06 25.5**	**-1.1**
ZALV	**Zalesovo Beam**	**21.02**	**18**	P		**P**	**20 06 36.9**	**-0.9**
	comp=N,3.3nm,0.6s,mb3.8,baz=213,slow=11,SNR=11							
ZALV	**Zalesovo Beam**	**21.02**	**18**	P		**P**	**20 06 36.9**	**-0.9**
CMAR	**Chiang Mai Arr**	**27.34**	**119**	P		**P**	**20 07 39.7**	**+0.8**
	comp=N,0.5nm,0.5s,mb3.3,baz=302,slow=10.0,SNR=7.4							
CMAR	**Chiang Mai Arr**	**27.34**	**119**	P		**P**	**20 07 39.7**	**+0.8**
SONM	**Songino Array**	**27.69**	**51**	P		**P**	**20 07 42.8**	**+1.0**
	comp=N,0.4nm,0.6s,mb3.2,baz=274,slow=11,SNR=3.9							
SONM	**Songino Array**	**27.69**	**51**	P		**P**	**20 07 42.8**	**+1.0**
FINES	**FINESS Array B**	**40.57**	**327**	P		**P**	**20 09 33.7**	**+0.9**
	comp=N,5.2nm,1.0s,mb4.1,baz=153,slow=13,SNR=3.6							
FINES	**FINESS Array B**	**40.57**	**327**	P		**P**	**20 09 33.7**	**+0.9**
TORD	**Torodi Ar. Bea**	**68.11**	**271**	P		**P**	**20 12 55.3**	**+1.7**
	comp=N,0.4nm,0.5s,mb3.7,baz=44,slow=5.6,SNR=8.2							
TORD	**Torodi Ar. Bea**	**68.11**	**271**	P		**P**	**20 12 55.3**	**+1.7**

ISCJB ***20*** *20:05:47.7±0.5,37°.35N±0°.03×36°.87E±0°.03,h10km±5km, Error ellipse: s-maj=5.4km s-min=4.1km az=174.1*
CSEM ***20*** *20:05:47.8±0.2,37°.34N×36°.87E,h10km,MD2.8,Error ellipse: s-maj=4.5km s-min=3.1km az=170.0*
ISK ***20*** *20:05:47.4,37°.37N×36°.88E,h11km,MD2.8*
DDA ***20*** *20:05:48.0,37°.35N×36°.88E,h7km±3km,Md3.0*

ISC 20 20:05:48.3±0.5,**37°.36N**±0°.03×**36°.87E**±0°.03,**h10**km±4km, **n28,**σ0°**83/41,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KMRS	**Kahramanmaras**	**0.15**	**8**	*e*PG		**Pg**	**20 05 51.1**	**-0.6**
KMRS				*e*SG		**Sg**	**20 05 53.6**	**-0.3**
KMRS	**Kahramanmaras**	**0.15**	**8**	*e*Pg		**Pg**	**20 05 51.1**	**-0.5**
KMRS				*e*Sg		**Sg**	**20 05 53.7**	**-0.2**
GAZ	**Gaziantep**	**0.33**	**125**	*e*PG		**Pg**	**20 05 54.4**	**-0.4**
GAZ				*e*SG		**Sg**	**20 05 59.6**	**+0.4**
GAZ	**Gaziantep**	**0.33**	**125**	*e*Pg		**Pg**	**20 05 54.4**	**-0.4**
GAZ				*e*Sg		**Sg**	**20 05 59.6**	**+0.4**
ANDN	**Andirin**	**0.47**	**298**	*i* P		**Pg**	**20 05 57.5**	**0.0**
ANDN				*i* S		**Sg**	**20 06 04.2**	**+0.3**
ANDN	**Andirin**	**0.47**	**298**	*i* P		**Pg**	**20 05 57.5**	**-0.1**
KOZT	**Kozan**	**0.84**	**279**	*e*PG		**Pg**	**20 06 04.5**	**0.0**
KOZT				*e*SG		**Sg**	**20 06 16.6**	**+1.1**
KOZT	**Kozan**	**0.84**	**279**	*e*Pg		**Pg**	**20 06 04.5**	**0.0**
KOZT				*e*Sg		**Sg**	**20 06 16.6**	**+1.1**
COBT	**Iskenderun**	**0.97**	**211**	*e*P		**Pg**	**20 06 06.3**	**-0.7**
COBT				*e*S		**Sg**	**20 06 21.0**	**+1.4**
COBT	**Iskenderun**	**0.97**	**211**	*e*P		**Pg**	**20 06 06.3**	**-0.7**
ATAB	**Bozova**	**1.14**	**84**	*e*P		**Pg**	**20 06 08.5**	**-1.6**
ATAB				*e*S		**Sg**	**20 06 25.4**	**+0.6**
ATAB	**Bozova**	**1.14**	**84**	*e*P		**Pg**	**20 06 08.5**	**-1.6**
ATAB				*e*S		**Sg**	**20 06 25.5**	**+0.6**
AKCD	**Akcadag**	**1.25**	**41**	*e*P		**Pn**	**20 06 12.1**	**+0.3**
AKCD				*e*S		**Sb**	**20 06 30.0**	**+1.9**
AKCD	**Akcadag**	**1.25**	**41**	*e*P		**Pn**	**20 06 12.1**	**+0.3**
AKCD				*e*S		**Sb**	**20 06 30.0**	**+1.9**
SARI	**SarD1z-Kayseri**	**1.32**	**354**	*e*PN		**Pn**	**20 06 09.1**	**-3.7**
SARI				*e*SN		**Sn**	**20 06 24.4**	**-6.1**
KRTS	**Karatas**	**1.43**	**237**	*e*PN		**Pn**	**20 06 13.6**	**-0.7**
KRTS	**Karatas**	**1.43**	**237**	*e*Pn		**Pn**	**20 06 13.6**	**-0.7**
KARA	**Karaisali**	**1.45**	**267**	*e*PN		**Pn**	**20 06 13.6**	**-0.9**
KARA	**Karaisali**	**1.45**	**267**	*e*Pn		**Pn**	**20 06 13.6**	**-1.0**
MALT	**Malatya**	**1.56**	**52**	*e*PN		**Pn**	**20 06 16.5**	**+0.6**
MALT	**Malatya**	**1.56**	**52**	*e*Pn		**Pn**	**20 06 16.5**	**+0.5**
MYA	**Malatya**	**1.56**	**51**	*e*PN		**Pn**	**20 06 15.8**	**-0.3**
MYA	**Malatya**	**1.56**	**51**	*e*Pn		**Pn**	**20 06 15.8**	**-0.2**
BNN	**Bunyan**	**1.70**	**332**	*e*PN		**Pn**	**20 06 17.4**	**-0.5**
BNN	**Bunyan**	**1.70**	**332**	*e*Pn		**Pn**	**20 06 17.4**	**-0.5**
DARE	**Darende-Malaty**	**1.75**	**24**	*e*PN		**Pn**	**20 06 12.3**	**-6.4**
SVRC	**Sivrice-ELAZID**	**2.18**	**61**	*e*PN		**Pn**	**20 06 24.7**	**+0.2**
SVRC	**Sivrice-ELAZID**	**2.18**	**61**	*e*Pn		**Pn**	**20 06 24.7**	**+0.2**

IDC 20 20:06:37.9±38.0,**6°.28N**×**126°.94E,h0**km**,mb3.4/4, mb1 3.6/4,mb1mx3.3/22,mbtmp3.4/4,Error ellipse: s-maj=642.7km s-min=116.0km az=163.0,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**24.26**	**183**	P	P		20 11 58.5	+1.7
	0.4nm,0.6s,baz=5.2,slow=11,SNR=2.1							
WRA	**Warramunga Arr**	**27.06**	**165**	P	P		20 12 21.6	-0.6
	0.2nm,0.3s,baz=343,slow=10,SNR=9.8							
ASAR	**Alice Springs**	**30.53**	**167**	P	P		20 12 53.1	+0.1
	0.2nm,0.5s,baz=350,slow=6.8,SNR=4.2							
STKA	**Stephens Creek**	**40.44**	**161**	P	P		20 14 17.5	-0.6
	2.0nm,1.1s,baz=326,slow=15,SNR=2.7							

NEIC ***20*** *20:10:02.3±3.8,7°.53S×127°.78E,h114km±42km,Error ellipse: s-maj=24.4km s-min=16.8km az=196.0*
ISCJB ***20*** *20:10:05.5±2.4,7°.79S±0°.10×127°.8E±0°.1,h174km±27km, mb3.5/5,Error ellipse: s-maj=18.0km s-min=15.0km az=153.3*
IDC ***20*** *20:10:11.4±12.0,7°.95S×127°.47E,h213km±139km, mb3.3/5,mb1 3.4/7,mb1mx3.2/18,mbtmp3.3/7,Error ellipse: s-maj=132.6km s-min=40.6km az=48.0*

ISC 20 20:10:09.6±1.8,**8°.01S**±0°.09×**127°.8E**±0°.1,**h207**km±20km, **n20,**σ0°**69/27,mb3.4/5,Timor region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.25**	**192**	P		**Pn**	**20 12 32.4**	**+0.4**
	0.7nm,0.3s,baz=18,slow=13,SNR=31							
FITZ				S		**Sn**	**20 14 25.7**	**-1.0**
	2.5nm,0.3s,baz=351,slow=19,SNR=7.8							
FITZ	**Fitzroy Crossi**	**10.25**	**192**	P		**Pn**	**20 12 32.4**	**+0.4**
FITZ				S		**Sn**	**20 14 25.7**	**-1.0**
WRAB	**Tennant Creek**	**13.44**	**153**	*e*P		**Pn**	**20 13 12.2**	**-0.2**
WRAB				*e*S		**S**	**20 15 31.9**	**-10**
WRA	**Warramunga Arr**	**13.44**	**153**	P		**Pn**	**20 13 12.0**	**-0.4**
	0.5nm,0.3s,baz=325,slow=13,SNR=22							
WRA				S		**S**	**20 15 34.9**	**-7.3**
	2.1nm,0.3s,baz=332,slow=20,SNR=8.0							
WRA	**Warramunga Arr**	**13.44**	**153**	P		**Pn**	**20 13 12.0**	**-0.4**
WRA				S		**S**	**20 15 34.9**	**-7.3**
MBWA	**Marble Bar**	**15.22**	**210**	*e*P		**Pn**	**20 13 35.9**	**+1.6**
COEN	**Coen**	**16.19**	**113**	*e*P		**P**	**20 13 45.7**	**+0.4**
AS31	**Alice Springs**	**16.62**	**160**	*e*P		**P**	**20 13 54.3**	**+4.3**
ASAR	**Alice Springs**	**16.62**	**160**	P		**P**	**20 13 55.1**	**+5.2**
	0.4nm,0.3s,baz=338,slow=10,SNR=36							
ASAR				S		**S**	**20 16 53.2**	**+0.1**
	0.8nm,0.3s,baz=344,slow=26,SNR=11							
ASAR	**Alice Springs**	**16.62**	**160**	P		**P**	**20 13 55.1**	**+5.2**
ASAR				S		**S**	**20 16 53.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**38.77**	**313**	P		**P**	**20 17 14.4**	**0.0**
	0.3nm,0.6s,mb3.0,baz=137,slow=6.5,SNR=4.3							
CMAR	**Chiang Mai Arr**	**38.77**	**313**	P		**P**	**20 17 14.4**	**0.0**
SONM	**Songino Array**	**58.74**	**343**	P		**P**	**20 19 46.4**	**+0.7**
	0.5nm,0.9s,mb3.2,baz=168,slow=6.9,SNR=3.5							
SONM	**Songino Array**	**58.74**	**343**	P		**P**	**20 19 46.4**	**+0.7**
MKAR	**Makanchi Array**	**67.91**	**328**	P		**P**	**20 20 45.4**	**-0.5**
	0.5nm,0.4s,mb3.5,baz=120,slow=7.4,SNR=16							
MKAR	**Makanchi Array**	**67.91**	**328**	P		**P**	**20 20 45.4**	**-0.5**
ZALV	**Zalesovo Beam**	**71.55**	**335**	P		**P**	**20 21 07.0**	**-0.9**
	0.5nm,0.5s,mb3.4,baz=145,slow=5.3,SNR=3.4							
ZALV	**Zalesovo Beam**	**71.55**	**335**	P		**P**	**20 21 07.0**	**-0.9**
KURK	**Kurchatov**	**72.27**	**330**	P		**P**	**20 21 12.0**	**-0.3**
	0.7nm,0.2s,mb3.9,baz=131,slow=5.1,SNR=2.5							
KURK	**Kurchatov**	**72.27**	**330**	P		**P**	**20 21 12.0**	**-0.2**

NNC 20 20:26:35.0±1.6,**42°.56N**×**81°.32E,h0**km**,mb3.5,mpv3.1, 5C-3D,Error ellipse: s-maj=17.3km s-min=5.4km az=140.0,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**3.27**	**283**	⇑Pn		Pn	20 27 28.0	+0.5
	6.8nm,0.5s							
KNDC				⇓Lg			20 28 17.6	
	24nm,0.5s							
TKM2	**Tokmak 2**	**4.23**	**277**	⇑Pn		Pn	20 27 41.5	+0.8
	1.5nm,0.4s							
TKM2				⇓Pg		Pg	20 27 52.2	-3.9
	7.7nm,0.7s							
TKM2				⇑Lg			20 28 48.8	
	9.2nm,0.6s							
MK31	**Makanchi Array**	**4.29**	**9**	⇓Pn		Pn	20 27 43.7	+2.2
	0.6nm,0.7s,baz=185,slow=13,SNR=8.3							
MK31				⇑Pg		Pg	20 27 53.5	-3.8
	1.9nm,0.5s,baz=191,slow=17,SNR=4.6							
MK31				Sn		Sn	20 28 39.3	+7.0
	0.9nm,0.3s,baz=191,slow=21,SNR=4.4							
MK31				⇑Lg			20 28 51.9	
	1.9nm,0.5s,baz=197,slow=27,SNR=6.1							

IDC ***20*** *20:33:16.5±4.2,2°.99S×99°.87E,h0km,mb3.3/5,mb1 3.4/5, mb1mx3.3/22,mbtmp3.3/5,Error ellipse: s-maj=176.9km s-min=24.5km az=55.0*
ISCJB ***20*** *20:33:19.5±2.4,3°.1S±0°.1×99°.6E±0°.2,h42km±20km, mb3.3/5,Error ellipse: s-maj=27.6km s-min=20.2km az=160.1*
DJA ***20*** *20:33:31.1°.79S×99°.01E,h98km,MLv3.4/5*

ISC 20 20:33:20.1±4.5,**3°.11S**±0°.09×**99°.6E**±0°.2,**h30**km±33km,**n10,** σ1°**00/11,mb3.3/5,Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**1.85**	**343**	P		Pn	**20 33 48.4**	**-1.3**
PDSI	**Padang**	**2.34**	**21**	P		Pn	20 33 56.3	-0.2
PDSI				S		Sn	20 34 23.5	-0.7
PPI	**Padang Panjang**	**2.75**	**16**	P		Pn	20 34 02.3	+0.2
BKNI	**Bangkinang**	**3.69**	**23**	P		Pn	20 34 17.8	+2.6
MNSI	**Mandailing Nat**	**3.88**	**359**	P		Pn	20 34 13.0	-4.7
MNSI				S		Px	20 34 43.4	
WRA	**Warramunga Arr**	**37.78**	**119**	P		**P**	20 40 33.5	-0.4
	0.5nm,1.0s,mb3.2,baz=299,slow=8.6,SNR=3.0							
ASAR	**Alice Springs**	**38.92**	**125**	P		**P**	20 40 42.9	-0.5
	0.3nm,0.9s,mb3.0,baz=297,slow=7.8,SNR=4.0							
SONM	**Songino Array**	**51.08**	**6**	P		**P**	**20 42 20.9**	**+1.3**
	0.3nm,0.8s,mb3.3,baz=188,slow=10,SNR=2.5							
MKAR	**Makanchi Array**	**51.99**	**345**	P		**P**	**20 42 27.2**	**+0.7**
	0.2nm,0.4s,mb3.4,baz=158,slow=9.2,SNR=6.2							
ZALV	**Zalesovo Beam**	**58.18**	**350**	P		**P**	**20 43 10.6**	**-0.5**
	0.3nm,0.4s,mb3.7,baz=144,slow=7.6,SNR=2.2							

IDC 20 20:39:01.0±2.0,**8°.86S**×**125°.63E,h0**km**,mb3.1/1, mb1 3.4/4,mb1mx3.3/17,mbtmp3.2/4,ML3.1/3,Error ellipse: s-maj=103.9km s-min=29.4km az=67.0,Timor region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.19**	**180**	Pn		Pn	20 41 15.2	+0.4
	0.1nm,0.3s,baz=0.6,slow=14,SNR=6.7							
FITZ				Sn		Sn	20 42 53.2	-5.8
	0.2nm,0.3s,baz=345,slow=20,SNR=4.0							
WRA	**Warramunga Arr**	**13.87**	**144**	Pn		Pn	20 42 18.3	-0.6
	0.1nm,0.3s,baz=322,slow=14,SNR=8.3							
WRA				Sn		Sn	20 44 48.2	-5.6
	0.0nm,0.3s,baz=309,slow=22,SNR=2.8							
ASAR	**Alice Springs**	**16.72**	**153**	Pn		Pn	20 42 56.9	+0.2
	0.1nm,0.3s,baz=323,slow=12,SNR=6.5							
MKAR	**Makanchi Array**	**67.50**	**329**	P		P	20 49 58.9	+0.1
	0.1nm,0.6s,baz=116,slow=6.6,SNR=2.8							

NEIC ***20*** *20:43:26.3,32°.43N×115°.33W,h0km,ML3.5(ECX), ML3.3(PAS),After ECX.*
NEIC Felt in the Calexico area, California.

ECX 20 20:43:26.3±0.8,**32°.43N**×**115°.35W,h10**km**,MD3.3,ML3.5, 4C-4D,California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CPBX	**Cerro Prieto**	**0.04**	**111**	*e*P		Pg	20 43 22.5	-5.6
CPBX				*e*S		Sg	20 43 24.2	-5.3
CPBX				*e*			20 43 25.5	
	comp=N,51μm,0.3s							
CPBX				*e*			20 43 26.7	
	comp=E,117μm,0.3s							
SGL	**Mount Signal**	**0.39**	**304**	⇑*i*P		Pg	20 43 32.5	-1.4
SGL	**Mount Signal**	**0.39**	**304**	⇑*i*P		Pg	20 43 32.5	-1.4
ERPC	**Ernies Place**	**0.41**	**319**	⇓*i*P		Pg	20 43 34.3	-0.1
WESC	**Westside Schoo**	**0.46**	**315**	*e*P		Pg	20 43 34.3	-1.0
COA	**Coachella**	**0.47**	**24**	⇓*i*P		Pg	20 43 34.8	-0.7
RMX	**La Rumorosa**	**0.64**	**286**	⇑*e*P		Pg	20 43 37.9	-0.8
RMX				*e*S		Sg	20 43 46.9	-0.2
YMD	**Yuma Desert**	**0.69**	**80**	*e*P		Pg	20 43 37.9	-1.8
RDX	**Rancho Dawling**	**0.71**	**225**	*e*P		Pg	20 43 39.1	-1.0
RDX				*e*S		Sg	20 43 48.4	-1.0
RDX				⇓*e*			20 43 50.2	
	comp=N,1μm,0.4s							
GLA	**Glamis**	**0.76**	**35**	*e*Pg		Pg	20 43 38.5	-2.4
GLA				*e*Sg		Sg	20 43 48.9	-1.9
CBX	**Cerro Bola**	**1.12**	**264**	⇑*e*P		Pg	20 43 45.5	-2.2
BAR	**Barrett**	**1.15**	**283**	*e*Pg		Pg	20 43 45.6	-2.8
BAR				*e*Sg		Sg	20 43 59.8	-3.4
ECNX	**Esteban Cantu**	**1.31**	**234**	*e*P		Pn	20 43 49.8	-0.9
ECNX				*e*P			20 43 47.9	
SPX	**San Pedro Mart**	**1.39**	**184**	*e*P		Pn	20 43 50.4	-1.3
SPX				⇓*e*			20 44 11.4	
	comp=N,331nm,0.4s							
PFO	**Pinyon Flat Ob**	**1.50**	**322**	*e*P		Pn	20 43 49.2	-4.0
PFO				*e*P			20 43 55.2	
MWC	**Mount Wilson**	**2.89**	**309**	*e*Pn		Pn	20 44 12.9	+0.6
GSC	**Goldstone**	**3.11**	**337**	*e*Pg		Pg	20 44 27.2	+1.3
ISA	**Isabella**	**4.14**	**322**	Pn		Pn	20 44 25.5	-4.0
ISA				*e*P			20 44 39.4	

CSEM ***20*** *20:48:23.9±0.5,36°.15N×22°.38E,h2km,MD3.5,Error ellipse: s-maj=12.6km s-min=5.4km az=33.0*
THE ***20*** *20:48:23.3,36°.08N×22°.35E,h0km±3km,ML2.8/2,Error ellipse: s-maj=4.8km s-min=1.3km az=215.0*
ISCJB ***20*** *20:48:24.8±1.0,36°.18N±0°.06×22°.44E±0°.06,h10km,Error ellipse: s-maj=9.8km s-min=5.1km az=36.7*
ATH ***20*** *20:48:24.7,36°.18N×22°.47E,h21km±2km,MD3.5/11*

ISC 20 20:48:23.9±1.3,**36°.11N**±0°.06×**22°.43E**±0°.06,**h1**km±6km, **n39,**σ0°**99/52,Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.52**	**71**	*e*PB		**Pg**	**20 48 34.5**	**+0.6**
KYTH	**Kithira**	**0.52**	**71**	P		**Pg**	**20 48 34.4**	**+0.5**
KYTH	**Kithira**	**0.52**	**71**	P		**Pg**	**20 48 34.4**	**+0.5**
VLI	**Veliai**	**0.74**	**34**	*e*PN		**Pg**	**20 48 37.7**	**-0.3**
VLI				*e*SN		**Sg**	**20 48 46.6**	**-0.9**
VLI	**Veliai**	**0.74**	**34**	P		**Pg**	**20 48 37.6**	**-0.4**
VLI	**Veliai**	**0.74**	**34**	P		**Pg**	**20 48 37.6**	**-0.4**
PYL	**PYLOS**	**0.96**	**325**	*e*PB		**Pg**	**20 48 41.5**	**-0.8**
PYL		

0.0nm,0.3s,baz=223,slow=12,SNR=3.2
MKAR Makanchi Array 12.03 35 Pn Pn 20 54 36.9 -7.9
PYUN Piuthan 12.96 132 *eP* **Pn 20 54 54.8 -2.0**
10nm,0.3s
DANN Dangsing 13.24 129 *eP* **Pn 20 54 59.2 -1.1**
12nm,0.2s
KOLN Koldanda 13.56 132 *eP* **Pn 20 55 03.0 -1.3**
5.1nm,0.2s
KURBB Kurchatov Arra 14.00 17 ⇑P **Pn 20 55 11.7 +2.2**
0.2nm,0.9s
GKN Gorkha 14.03 128 *eP* **Pn 20 55 09.5 -0.6**
14nm,0.3s
KKN Kakani 14.58 127 *eP* **Pn 20 55 16.9 0.0**
12nm,0.5s
DMN Daman 14.60 128 *eP* **Pn 20 55 17.1 0.0**
11nm,0.4s
PKI Pulchoki 14.82 127 *eP* **Pn 20 55 19.7 -0.1**
8.4nm,0.3s
AB31 Akbulak array 14.82 327 ⇑P **Pn 20 55 19.2 -0.5**
2.1nm,0.5s,baz=136,slow=12,SNR=76
AB31 ⇑S **Sn 20 57 56.4 -9.0**
2.7nm,0.7s,baz=138,slow=25,SNR=6.6
ABKAR Akbulak array 14.82 327 *eP* **Pn 20 55 19.4 -0.3**
3.8nm,0.5s
GUN Gumba 14.88 125 *eP* **Pn 20 55 20.9 +0.3**
8.5nm,0.3s
VOSK Vostochnaya 15.37 357 ⇑P **Pn 20 55 26.4 +0.1**
1.1nm,0.5s
BVA0 Borovoye Array 15.70 356 P **Pn 20 55 29.9 -0.4**
0.3nm,0.6s,baz=236,slow=42,SNR=19
ZRNK Zerenda 15.74 353 ⇓P **Pn 20 55 30.2 -0.5**
2.1nm,0.6s
BRVK Borovoye 15.74 356 ⇑P **Pn 20 55 30.2 -0.6**
1.2nm,0.5s
RAMN Ramite 16.01 126 *eP* **Pn 20 55 34.9 +0.6**
14nm,0.4s
TAPN Taplejung 16.47 123 *eP* **Pn 20 55 41.2 +1.4**
6.3nm,0.4s
AKTO Aktyubinsk 16.54 327 ⇓P **Pn 20 55 41.8 +1.4**
1.5nm,0.7s
AKTO ⇓S **S 20 58 38.4 -3.7**
0.4nm,0.9s
ODAN Odare 16.58 125 *eP* **Pn 20 55 41.7 +0.6**
6.6nm,0.5s
ZALV Zalesovo Beam 18.73 24 P **P 20 56 03.9 +0.6**
0.9nm,0.3s,baz=225,slow=10,SNR=24
ZALV Zalesovo Beam 18.73 24 P **P 20 56 03.9 +0.6**
FINES FINESS Array B 37.30 325 P **P 20 58 52.8 +0.4**
2.3nm,0.9s,mb3.7,baz=128,slow=9.0,SNR=3.5
FINES FINESS Array B 37.30 325 P **P 20 58 52.8 +0.4**
ARCES ARCESS Array B 40.71 337 P **P 20 59 21.3 +0.8**
4.9nm,1.0s,mb3.9,baz=113,slow=7.0,SNR=3.7
ARCES ARCESS Array B 40.71 337 P **P 20 59 21.3 +0.8**
TORD Torodi Ar. Bea 66.69 269 P **P 21 02 28.1 -1.5**
0.5nm,0.4s,mb3.5,baz=49,slow=6.1,SNR=14
TORD Torodi Ar. Bea 66.69 269 P **P 21 02 28.1 -1.5**

MEX 20 20:59:30.5±0.9, 17°06'N×95°09'W, h125km±8km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.20**	**80**	*i*	P	Pn		20 59 46.4	-1.3
CMIG				*i*	S	Sn		20 59 58.2	-2.4
VHO	**Vista Hermosa**	**1.57**	**271**	*i*	P	Pn		20 59 58.2	-0.8
VHO				*i*	S	Sn		21 00 20.2	-0.7
HUIG	**Huatulco**	**1.61**	**218**	*i*	P	Pn		20 59 57.6	-1.9
HUIG				*i*	S	Sn		21 00 20.4	-1.3
TGIG		**1.90**	**98**	*e*	P	Pn		21 00 02.6	-0.5
TGIG				*i*	S	Sn		21 00 26.8	-1.1
PCIG		**2.24**	**127**	*e*	P	Pn		21 00 07.6	+0.4
PCIG				*i*	S	Sn		21 00 32.4	-3.0
TPIG	**Tehuac#an**	**2.56**	**302**	*i*	P	Pn		21 00 10.4	-0.8
TPIG				*i*	S	Sn		21 00 40.2	-2.3
CCIG	**Comitan**	**2.93**	**105**	*i*	P	Pn		21 00 15.9	-0.2
CCIG				*i*	S	Sn		21 00 49.9	-1.3
PNIG	**Pinotepa**	**2.98**	**258**	*i*	P	Pn		21 00 14.0	-2.8
PNIG				*i*	S	Sn		21 00 49.5	-3.0

*IDC **20** 21:29:29.8±1.5, 2°.63N×126°.11E, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.6/21, mbtmp3.9/5, Error ellipse: s-maj=105.7km s-min=22.5km az=68.0*
*ISCJB **20** 21:29:32.0±1.3, 2°.8N±0°.1×126°.56E±0°.10, h33km, mb3.9/4, Error ellipse: s-maj=19.0km s-min=13.2km az=21.2*
*DJA **20** 21:29:44, 2°.46N×125°.70E, h23km, ML v4.4/5*
ISC 20 21:29:34.4±1.3, 2.7N±0.1×126.5E±0.1, h35km, n12, σ1s00/12, mb3.9/4, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.36**	**314**			P	**Pn**	**21 30 05.6**	**+8.6**
MNI	**Manado**	**2.12**	**233**			P	**Pn**	**21 30 07.2**	**-0.1**
TNTI	**Ternate**	**2.13**	**157**			P	Px	21 30 22.3	
KMSI	**Cibinong**	**3.33**	**230**			P	**Pn**	**21 30 23.3**	**-0.7**
MRSI	**Marisa**	**5.10**	**244**			P	**Pn**	**21 30 48.2**	**-0.2**
LUWI	**Luwuk**	**5.31**	**225**			P	**Pn**	**21 30 53.2**	**+2.0**
NLAI	**Namlea**	**5.97**	**174**			P	Px	21 31 12.6	
FITZ	**Fitzroy Crossi**	**20.73**	**182**			P	**P**	**21 34 10.6**	**-1.4**
	0.6nm,0.4s,baz=358,slow=10,SNR=3.9								
WRA	**Warramunga Arr**	**23.81**	**162**			P	**P**	**21 34 44.8**	**+0.5**
	3.7nm,0.6s,mb4.0,baz=340,slow=11,SNR=66								
WRA						S	**S**	**21 38 53.5**	**-4.3**
	0.5nm,0.7s,baz=333,slow=20,SNR=5.2								
ASAR	**Alice Springs**	**27.21**	**165**			P	**P**	**21 35 15.5**	**+0.4**
	1.0nm,0.3s,mb3.8,baz=345,slow=11,SNR=22								
ASAR						PcP	PcP	21 38 35.8	+0.9
	0.3nm,0.4s,baz=342,slow=2.4,SNR=5.0								
ASAR						S	**S**	**21 39 48.3**	**-3.6**
	0.4nm,0.9s,baz=346,slow=18,SNR=3.3								
STKA	**Stephens Creek**	**37.29**	**159**			P	**P**	**21 36 44.4**	**+1.2**
	1.8nm,0.3s,mb4.4,baz=341,slow=6.8,SNR=5.9								
MKAR	**Makanchi Array**	**58.25**	**326**			P	**P**	**21 39 24.9**	**-0.5**
	0.2nm,0.4s,mb3.5,baz=121,slow=8.7,SNR=6.7								

*IDC **20** 21:41:22.9±15.0, 36°.21N×71°.55E, h115km±145km, mb3.3/3, mb1 3.2/6, mb1mx2.9/28, mbtmp3.1/6, ML3.5/3, Error ellipse: s-maj=87.3km s-min=57.3km az=167.0*
*ISCJB **20** 21:41:23.9±0.8, 36°.63N±0°.06×71°.10E±0°.1, h107km±11km, mb3.5/2, Error ellipse: s-maj=16.1km s-min=6.6km az=25.5*
*NEIC **20** 21:41:24.4±1.1, 36°.51N×71°.22E, h74km±26km, mb3.2/2, Error ellipse: s-maj=30.8km s-min=9.5km az=126.0*
*NNC **20** 21:41:26.9±1.5, 37°.17N×70°.67E, h0km, mb3.7, mpv4.2, Error ellipse: s-maj=26.4km s-min=11.6km az=93.0*
ISC 20 21:41:24.8±0.9, 36°.57N±0°.06×71°.0E±0°.1, h100km±10km, n18, σ0s99/25, mb3.5/2, 2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.60**	**219**	*eP*			**Pn**	**21 42 05.0**	**-0.2**
KBL				*eS*			**Sn**	**21 42 36.4**	**+0.1**
EKS2	**Erkin-Say**	**6.44**	**18**	*eP*			**Pn**	**21 42 57.0**	**+0.1**
EKS2				*eS*			**Sn**	**21 44 10.6**	**+1.6**
KK31	**Karatay Array**	**6.54**	**357**			Pn	**Pn**	**21 42 58.5**	**+0.2**
	9.3nm,0.4s,baz=176,slow=11,SNR=78								
KK31						Sn	**Sn**	**21 44 11.1**	**-0.3**
	2.4nm,0.4s,baz=179,slow=19,SNR=7.0								
KKAR	**Karatay Array**	**6.54**	**357**	*eP*			**Pn**	**21 42 58.6**	**+0.3**
KKAR				*eS*			**Sn**	**21 44 10.2**	**-1.2**
AAK	**Ala-Archa**	**6.62**	**23**	*eP*			**Pn**	**21 42 59.4**	**0.0**
AAK				*eS*			**Sn**	**21 44 12.4**	**-0.9**
TKM2	**Tokmak 2**	**7.25**	**28**	*eP*			**Pn**	**21 43 07.8**	**-0.1**
AB31	**Akbulak array**	**15.04**	**331**			Pn	**Pn**	**21 44 51.1**	**-0.8**
	0.6nm,0.3s,baz=137,slow=14,SNR=50								
AB31						⇓Sn	**Sn**	**21 47 32.0**	**-5.7**
	0.2nm,0.4s								
ABKAR	**Akbulak array**	**15.04**	**331**	*ePn*			**Pn**	**21 44 51.1**	**-0.7**
	1.4nm,0.4s								
ABKAR				*eS*			**S**	**21 47 29.5**	**-19**
KURK	**Kurchatov**	**15.15**	**19**	P			**Pn**	**21 44 53.1**	**-0.1**
	0.0nm,0.3s,baz=207,slow=10,SNR=5.4								
KURK	**Kurchatov**	**15.15**	**19**	*ePn*			**Pn**	**21 44 53.9**	**+0.6**
	0.3nm,0.5s								
BVAR	**Borovoye Array**	**16.46**	**359**	P			**Pn**	**21 45 11.5**	**+1.9**
	0.1nm,0.3s,baz=166,slow=9.0,SNR=3.3								
BVAR	**Borovoye Array**	**16.46**	**359**	P			**Pn**	**21 45 11.5**	**+1.9**
AKTO	**Aktyubinsk**	**16.74**	**330**	⇓P			**Pn**	**21 45 15.5**	**+2.5**
	0.1nm,0.5s								
AKTO	**Aktyubinsk**	**16.74**	**330**	P			**Pn**	**21 45 15.7**	**+2.7**
	0.3nm,0.3s,baz=139,slow=12,SNR=5.9								
AKTO	**Aktyubinsk**	**16.74**	**330**	P			**Pn**	**21 45 15.7**	**+2.7**
ZALV	**Zalesovo Beam**	**19.84**	**25**	P			**P**	**21 45 45.9**	**-1.6**
	2.1nm,0.4s,baz=205,slow=10,SNR=14								
FINES	**FINESS Array B**	**37.45**	**326**	P			**P**	**21 48 29.2**	**+1.2**
	2.0nm,0.8s,mb4.1,baz=116,slow=9.4,SNR=4.8								
TORD	**Torodi Ar. Bea**	**65.75**	**269**	P			**P**	**21 51 58.4**	**-0.9**
	0.1nm,0.4s,mb3.0,baz=51,slow=5.5,SNR=4.6								

MEX 20 21:50:07.8±1.1, 19°30'N×105°58'W, h16km±61km, MD3.6, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
R15V		**1.51**	**95**	*eP*		Pn		21 50 30.1	-4.1
R15V				*i*	S	Sn		21 50 47.7	-5.8
EZ5V		**1.87**	**84**	*eP*		Pn		21 50 36.6	-2.5
EZ5V				*i*	S	Sn		21 50 59.0	-3.5
ANIG	**Ahuacatlan**	**2.01**	**29**	*i*	P	Pn		21 50 38.5	-2.6
ANIG				*i*	S	Sn		21 51 01.5	-4.4
MMIG	**Aquila**	**2.34**	**115**	*i*	P	Pn		21 50 43.0	-2.6
MMIG				*i*	S	Sn		21 51 09.8	-4.2

*CSEM **20** 21:58:46.9±0.2, 39°.40N×33°.18E, h10km, MD3.0, Error ellipse: s-maj=5.3km s-min=4.2km az=176.0*
*ISK **20** 21:58:46.0, 39°.37N×33°.20E, h11km, MD3.0*
*ISCJB **20** 21:58:47.4±0.6, 39°.39N±0°.05×33°.16E±0°.06, h12km±6km, Error ellipse: s-maj=9.6km s-min=5.4km az=137.6*
*DDA **20** 21:58:47.1, 39°.34N×33°.20E, h7km±5km, Md2.8*
ISC 20 21:58:47.5±0.7, 39°.38N±0°.05×33°.18E±0°.07, h11km±7km, n16, σ0s71/29, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFSR	**Af˘ar-Bala (A**	**0.11**	**307**	*ePG*			**Pg**	**21 58 49.4**	**-0.9**
AFSR				*eSG*			**Sg**	**21 58 51.9**	**-0.5**
AFSR	**Af˘ar-Bala (A**	**0.11**	**307**	*ePg*			**Pg**	**21 58 49.4**	**-0.9**
AFSR				*eSg*			**Sg**	**21 58 51.9**	**-0.5**
BBAL	**Bala**	**0.17**	**344**	⇓*iPg*			**Pg**	**21 58 51.6**	**+0.4**
BBAL				*i*	Sg		**Sg**	**21 58 54.9**	**+1.1**
LOD	**Lodumlu**	**0.60**	**328**	*ePG*			**Pg**	**21 58 58.3**	**-0.8**
LOD				*eSG*			**Sg**	**21 59 08.0**	**+0.9**
LOD	**Lodumlu**	**0.60**	**328**	*ePg*			**Pg**	**21 58 58.3**	**-0.8**
LOD				*eSg*			**Sg**	**21 59 08.0**	**+1.0**
CDAG	**Cicekdag**	**0.95**	**75**	*eP*			**Pg**	**21 59 12.4**	**+6.6**
KIZT	**Kizilcal**	**1.13**	**244**	*ePN*			**Pg**	**21 59 08.5**	**-0.7**
KIZT				*eSN*			**Sg**	**21 59 24.3**	**+0.4**
KIZT	**Kizilcal**	**1.13**	**244**	*ePn*			**Pg**	**21 59 08.5**	**-0.7**
KIZT				*eSn*			**Sg**	**21 59 24.3**	**+0.4**
KDHN	**Kadinhani**	**1.20**	**224**	*eP*			**Pn**	**21 59 10.4**	**+0.4**
KDHN				*eS*			**Sb**	**21 59 25.5**	**0.0**
KDHN	**Kadinhani**	**1.20**	**224**	*eP*			**Pn**	**21 59 10.4**	**+0.3**
KDHN				*eS*			**Sb**	**21 59 25.5**	**0.0**
CORM	**Corum**	**1.37**	**54**	*ePN*			**Pn**	**21 59 11.5**	**-1.0**
CORM				*eSN*			**Sn**	**21 59 30.1**	**-0.5**
CORM	**Corum**	**1.37**	**54**	*ePn*			**Pn**	**21 59 11.5**	**-1.0**
CORM				*eSn*			**Sn**	**21 59 30.1**	**-0.5**
AVNT	**Avonos**	**1.44**	**114**	*eP*			**Pn**	**21 59 14.2**	**+0.9**
AVNT				*eS*			**Sn**	**21 59 32.9**	**+0.8**
AVNT	**Avonos**	**1.44**	**114**	*eP*			**Pn**	**21 59 14.2**	**+0.8**
AVNT				*eS*			**Sn**	**21 59 32.9**	**+0.7**
YOZ	**Yozgat**	**1.67**	**80**	*ePN*			**Pn**	**21 59 16.2**	**-0.4**
YOZ	**Yozgat**	**1.67**	**80**	*ePn*			**Pn**	**21 59 16.2**	**-0.4**

WEL 20 22:04:10.5±0.3, 36°.40S×179°.23W, h33km, ML3.8/7, Error ellipse: s-maj=6.3km s-min=4.8km az=0.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.29**	**239**			PN	Pn	22 04 45.3	-0.7
MXZ						SN	Sn	22 05 11.1	-1.9
PUZ	**Puketiti**	**2.61**	**229**			PN	Pn	22 04 50.2	-0.2
PUZ						SN	Sn	22 05 19.2	-1.7
CNGZ	**Carnagh Statio**	**2.92**	**224**	*ePN*			Pn	22 04 53.9	-0.6
MWZ	**Matawai**	**3.23**	**232**			PN	Pn	22 04 58.0	-0.8
MWZ						SN	Sn	22 05 34.5	-1.6
MWZ						SN	Sn	22 05 34.5	-1.6
PRGZ	**Paritu Road**	**3.41**	**221**	*ePN*			Pn	22 05 00.5	-0.8
URZ	**Urewera**	**3.46**	**236**			PN	Pn	22 05 01.4	-0.6
URZ						SN	Sn	22 05 40.4	-1.4
MHGZ	**Mahia Peninsul**	**3.57**	**219**			PN	Pn	22 05 02.2	-1.3
KNZ	**Kokohu**	**3.59**	**222**	*ePN*			Pn	22 05 02.8	-1.0
NMHZ	**Naumai**	**4.14**	**228**	*ePN*			Pn	22 05 10.5	-0.9
NMHZ						SN	Sn	22 05 56.7	-2.0
MCHZ	**McNeill Hill**	**4.43**	**225**	*ePN*			Pn	22 05 14.7	-0.7
MCHZ						SN	Sn	22 06 02.8	-2.9
BHHZ	**Black Hill Sta**	**4.83**	**229**	*ePN*			Pn	22 05 19.9	-1.0
BHHZ						SN	Sn	22 06 10.8	-4.9
WNVZ	**Wahianoa**	**5.03**	**233**	*ePN*			Pn	22 05 23.8	+0.2
PRHZ	**Porangahau**	**5.05**	**219**	*ePN*			Pn	22 05 21.0	-2.9
PRHZ						SN	Sn	22 06 16.8	-4.2
BFZ	**Birch Farm**	**5.56**	**218**			PN	Pn	22 05 26.8	-4.0
MRZ	**Mangatainoka R**	**5.89**	**222**			PN	Pn	22 05 31.7	-3.7
MRZ						SN	Sn	22 06 34.8	-6.9
KIW	**Kapiti Island**	**6.40**	**224**			SN	Sn	22 06 48.2	-6.0
CTZ	**Chatham Island**	**7.60**	**166**			PN	Pn	22 05 58.8	-0.1
CTZ						SN	Sn	22 07 16.0	-7.8
MQZ	**McQueen's Vall**	**9.59**	**218**			SN	Sn	22 07 58.6	-14

*CSEM **20** 22:18:57.8, 35°.40N×22°.70E, h23km, MD3.5, After ATH*
ATH 20 22:18:57.8, 35°.40N×22°.70E, h23km±2km, MD3.5/7, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.92**	**17**	*ePN*			Pn	22 19 15.6	+0.3
KYTH	**Kithira**	**0.92**	**17**	*ePn*			Pn	22 19 15.6	+0.3
VAM	**Vamos**	**1.23**	**89**	*ePN*			Pn	22 19 21.2	+1.7
VAM	**Vamos**	**1.23**	**89**	*ePn*			Pn	22 19 21.2	+1.7
VLI	**Veliai**	**1.33**	**8**	*ePN*			Pn	22 19 22.7	+1.8
VLI				*eSN*			Sn	22 19 41.3	+3.4
VLI	**Veliai**	**1.33**	**8**	*ePn*			Pn	22 19 22.7	+1.8
VLI				*eSn*			Sn	22 19 41.3	+3.4
PYL	**PYLOS**	**1.68**	**333**	*ePN*			Pn	22 19 27.8	+2.0
PYL	**PYLOS**	**1.68**	**333**	*ePn*			Pn	22 19 27.8	+2.0
ITM	**Ithomi**	**1.88**	**341**	*ePN*			Pn	22 19 31.0	+2.5
ITM	**Ithomi**	**1.88**	**341**	*ePn*			Pn	22 19 31.0	+2.5
DID	**Didima**	**2.15**	**11**	*ePB*			Pb	22 19 35.0	-1.0
DID	**Didima**	**2.15**	**11**	*ePb*			Pb	22 19 35.0	-1.0
GUR	**Goura**	**2.55**	**354**	*ePN*			Pn	22 19 39.3	+1.6
GUR	**Goura**	**2.55**	**354**	*ePn*			Pn	22 19 39.3	+1.6

IDC 20 22:25:10.2±1.6, 15°.54S×174°.46W, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.8/20, mbtmp4.0/5, ML2.7/1, Error ellipse: s-maj=52.3km s-min=28.3km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.06**	**58**	Pn		Pn		22 26 00.1	+0.2
	53nm,0.3s,baz=262,slow=3.7,SNR=13								
AFI						Sn	Sn	22 26 29.2	-8.0
	112nm,0.3s,baz=334,slow=21,SNR=17								
URZ	**Urewera**	**23.83**	**197**	P		P		22 30 24.6	-0.5
	5.8nm,0.8s,baz=345,slow=20,SNR=3.0								
STKA	**Stephens Creek**	**43.09**	**240**	P		P		22 33 13.6	+1.3
	1.2nm,0.8s,baz=68,slow=5.4,SNR=2.5								
WRA	**Warramunga Arr**	**48.82**	**257**	P		P		22 33 56.8	-0.9
	0.2nm,0.4s,baz=89,slow=7.2,SNR=11								
ASAR	**Alice Springs**	**49.10**	**252**	P		P		22 33 59.6	-0.2
	1.3nm,0.3s,baz=89,slow=7.7,SNR=26								

*IDC **20** 22:29:13.5±2.7, 24°.14S×179°.87W, h477km±29km, mb3.2/11, mb1 3.4/13, mb1mx3.3/23, mbtmp3.3/13, Error ellipse: s-maj=19.7km s-min=15.7km az=48.0*
*ISCJB **20** 22:29:14.3±1.1, 23°.94S±0°.09×179°.7W±0°.1, h532km±14km, mb3.6/12, Error ellipse: s-maj=18.0km s-min=14.3km az=172.4*
*NEIC **20** 22:29:14.8±1.0, 23°.93S×179°.81W, h512km±17km, mb3.6/2, Error ellipse: s-maj=20.4km s-min=16.0km az=90.0*
ISC 20 22:29:15.3±1.1, 24°.02S±0°.10×179°.7W±0°.1, h528km±13km, n32, σ1s35/32, mb3.6/12, South of Fiji Islands

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

RAO	**Raoul Island**	**5.45**	**163**	*eP*			**P**	**22 30 49.1**	**+1.4**
RAO						S	**S**	**22 32 08.0**	**+4.8**
AFI	**Afiamalu**	**12.54**	**38**	P		P	**P**	**22 31 58.3**	**-1.3**
	4.7nm,0.3s,baz=71,slow=18,SNR=3.2								
AFI	**Afiamalu**	**12.54**	**38**	P		P	**P**	**22 31 58.3**	**-1.3**
URZ	**Urewera**	**14.45**	**190**	P		P	**P**	**22 32 17.9**	**-1.3**
	2.0nm,0.3s,baz=37,slow=5.9,SNR=7.6								
URZ						S	**S**	**22 34 47.6**	**-3.1**
	1.0nm,0.3s,baz=67,slow=23,SNR=12								
URZ	**Urewera**	**14.45**	**190**	P		P	**P**	**22 32 18.0**	**-1.2**
URZ				*e*		S	**S**	**22 34 51.0**	**+0.3**
RPZ	**Rata Peaks**	**21.07**	**199**	P		P	**P**	**22 33 21.0**	**-0.9**
	6.0nm,0.5s,mb4.5,baz=24,slow=2.6,SNR=5.9								
RPZ	**Rata Peaks**	**21.07**	**199**	P		P	**P**	**22 33 21.0**	**-0.9**
CTA	**Charters Tower**	**31.75**	**270**	P		P	**P**	**22 34 56.5**	**+0.3**
	1.6nm,0.4s,mb3.9,baz=78,slow=9.3,SNR=2.4								
CTA	**Charters Tower**	**31.75**	**270**	P		P	**P**	**22 34 56.5**	**+0.3**
STKA	**Stephens Creek**	**34.94**	**248**	P		P	**P**	**22 35 23.3**	**+0.3**
	0.9nm,0.5s,mb3.5,baz=69,slow=8.6,SNR=5.3								
STKA	**Stephens Creek**	**34.94**	**248**	*eP*			**P**	**22 35 22.9**	**0.0**
	1.7nm,1.4s,mb3.4								
ASAR	**Alice Springs**	**42.29**	**261**	P		P	**P**	**22 36 22.7**	**0.0**
	0.7nm,0.5s,mb3.5,baz=90,slow=7.8,SNR=6.5								
ASAR	**Alice Springs**	**42.29**	**261**	P		P	**P**	**22 36 22.7**	**0.0**
WRAB	**Tennant Creek**	**42.67**	**266**	*eP*			**P**	**22 36 25.2**	**-0.5**
	3.5nm,1.0s,mb3.8								
WRA	**Warramunga Arr**	**42.67**	**266**	P		P	**P**	**22 36 25.4**	**-0.4**
	1.2nm,0.6s,mb3.6,baz=103,slow=8.1,SNR=13								
WRA	**Warramunga Arr**	**42.67**	**266**	P		P	**P**	**22 36 25.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**51.10**	**266**	P		P	**P**	**22 37 30.1**	**+0.7**
	1.4nm,0.7s,mb3.4,baz=108,slow=9.6,SNR=3.1								
FITZ	**Fitzroy Crossi**	**51.10**	**266**	P		P	**P**	**22 37 30.1**	**+0.7**
VNDA	**Vanda**	**54.28**	**185**	P		P	**P**	**22 37 53.4**	**+2.2**
	0.8nm,0.7s,mb3.1,baz=37,slow=5.1,SNR=4.8								
VNDA						PcP	PcP	22 38 49.5	+2.5
	1.0nm,0.7s,baz=0.1,slow=4.5,SNR=4.2								
VNDA	**Vanda**	**54.28**	**185**	P		P	**P**	**22 37 53.4**	**+2.2**
VNDA						PcP	PcP	22 38 49.5	+2.5
QSPA	**South Pole Qui**	**66.06**	**180**	P		P	**P**	**22 39 11.6**	**+2.4**
	6.0nm,0.7s,mb4.2,baz=46,slow=1.7,SNR=20								
QSPA	**South Pole Qui**	**66.06**	**180**	P		P	**P**	**22 39 11.6**	**+2.4**
MAW	**Mawson**	**77.73**	**200**	P		P	**P**	**22 40 18.7**	**+1.5**
	2.6nm,0.6s,mb3.8,baz=110,slow=8.1,SNR=11								
MAW	**Mawson**	**77.73**	**200**	P		P	**P**	**22 40 18.7**	**+1.5**
SNAA	**Sanae**	**84.54**	**179**	P		P	**P**	**22 40 53.2**	**+1.0**
	0.5nm,0.6s,mb3.2,baz=215,slow=6.8,SNR=18								
NVAR	**Mina Array Bea**	**84.65**	**44**	P		P	**P**	**22 40 58.3**	**+5.0**
	0.4nm,0.5s,mb3.2,baz=246,slow=6.8,SNR=2.5								
VNA3	**Neumayer Olymp**	**84.74**	**177**	*e*			**P**	**22 40 51.3**	**-1.9**
VNA2	**Neumayer--Watz**	**85.16**	**177**	*e*			**P**	**22 40 53.3**	**-2.0**
	baz=194,slow=3.4								
VNA1	**Neumayer--Stat**	**85.40**	**177**	*e*			**P**	**22 40 54.3**	**-2.1**
HFS	**Hagfors**	**142.72**	**349**	PKhKP		PKPpre		22 47 46.4	
	1.8nm,0.7s,baz=46,slow=4.7,SNR=4.6								
MMAI	**Mount Meron Ar**	**148.00**	**294**	PKPbc		PKPbc		22 48 04.5	+2.9
	0.9nm,0.4s,baz=68,slow=6.7,SNR=7.9								
TORD	**Torodi Ar. Bea**	**169.10**	**187**	PKPab		PKPab		22 49 38.9	+1.2
	0.9nm,0.6s,baz=182,slow=3.2,SNR=9.0								

*IDC **20** 22:34:10.3±0.9, 7°.53N×124°.54E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/23, mbtmp3.8/6, Error ellipse: s-maj=26.2km s-min=11.3km az=37.0*
*MAN **20** 22:34:12, 7°.72N×124°.75E, h1km, mb4.6, ML3.5, MS3.5*
MAN INTENSITY II - MALASAG CAGAYAN DE ORO.
*ISCJB **20** 22:34:13.4±0.6, 7°.66N±0°.03×124°.81E±0°.04, h33km±5km, mb3.7/7, Error ellipse: s-maj=7.4km s-min=4.9km az=158.2*
*NEIC **20** 22:34:15.1±0.6, 7°.63N×124°.83E, h35km, mb3.9/1, Error ellipse: s-maj=32.4km s-min=10.8km az=62.0*
NEIC Felt [II PIVS] at Malasag.
ISC 20 22:34:13.0±0.6, 7°.67N±0°.03×124°.77E±0°.04, h15km±4km, n26, σ1s12/34, mb3.7/7, 5C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.35**	**54**	*eP*			**Pg**	**22 34 20.2**	**0.0**
CTBH	**Cotabato--PC H**	**0.69**	**229**	⇑*iP*			**Pg**	**22 34 26.3**	**-0.2**
CTBH				*i*	S		**Sg**	**22 34 37.3**	**+1.7**
KCP	**Kidapawan**	**0.73**	**155**	⇑*iP*			**Pg**	**22 34 25.5**	**-1.8**
KCP				*i*	S		**Sg**	**22 34 37.7**	**+0.8**
CGP	**Cagayan de Oro**	**0.78**	**354**	⇑*eP*			**Pg**	**22 34 26.7**	**-1.5**
CGP			

s-min=12.1km az=5.3
IDC ***20*** *22:38:37.4±0.8, 38.96S×92.00W, h0km, mb4.0/9, mb1 4.2/10, mb1mx4.1/17, mbtmp3.9/10, ML3.9/1, MS4.3/19, Ms1 4.2/19, ms1mx4.2/22, Error ellipse: s-maj=26.1km s-min=18.9km az=103.0*
NEIC ***20*** *22:38:38.6±0.6, 38.97S×91.91W, h10km, mb4.4/3, Error ellipse: s-maj=16.0km s-min=13.7km az=104.0*
GCMT ***20*** *22:38:39.9±0.3, 39.02S×92.40W, h14km±1km, MW5.0, Moment Tensor Solution. s27,c31; s72,c86; Moment tensor: Scale 10^16 Nm; Mrr0.40±.13; Mθθ0.85±.16; Mϕϕ-1.25±.17; Mrθ-1.47±.37; Mrϕ-3.35±.14; Mθϕ0.37±.27; Best double couple: M0 3.80000×10^16 NP1:ϕs353.00000°, δ68.00000°, λ10.00000°. NP2:ϕs259.00000°, δ80.00000°, λ158.00000°. Principal axes: T 3.8900, Plg22.0000°, Azm215.0000°; N -0.0900, Plg66.0000°, Azm57.0000°; P -3.7900, Plg8.0000°, Azm308.0000°; Error in G IU IC.*

ISC 20 22:38:39.2±0.6, 39.01S±0.08×91.9W±0.1, h10km, n46, σ0s77/27, mb4.0/10, MS4.3/17, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**16.50**	**103**	Pn	**Pn**	**22 42 31.4**	**+0.8**
	0.1nm,0.3s,baz=351,slow=13,SNR=1.8						
PLCA				LR	LR	22 47 24.2	
	comp=Z,526nm,19.7s,baz=272,slow=32						
PLCA	**Paso Flores**	**16.50**	**103**	*eP*	**Pn**	**22 42 30.1**	**-0.5**
	17nm,1.4s						
RPN	**Rapa Nui**	**18.76**	**304**	LR	LR	22 48 03.0	
	comp=Z,2μm,19.0s,baz=124,slow=30						
CFAA	**Coronel Fontan**	**20.66**	**76**	P	**P**	**22 43 19.1**	**+0.1**
	0.1nm,0.4s,baz=207,slow=16,SNR=2.8						
CFAA				LR	LR	22 49 34.4	
	comp=Z,43nm,18.2s,baz=249,slow=32						
CFAA	**Coronel Fontan**	**20.66**	**76**	P	**P**	**22 43 19.1**	**+0.1**
CFAA				LR	LR	22 49 34.4	
USHA	**Ushuaia**	**22.37**	**143**	LR	LR	22 50 37.9	
	comp=Z,2μm,20.1s,MS4.4,baz=274,slow=32						
NNA	**Nana**	**30.07**	**31**	LR	LR	22 53 56.7	
	comp=Z,633nm,18.9s,MS4.3,baz=119,slow=31						
PMSA	**Palmer Station**	**30.51**	**157**	LR	LR	22 53 35.8	
	comp=Z,914nm,20.7s,MS4.4,baz=330,slow=29						
LPAZ	**La Paz**	**30.76**	**49**	P	**P**	**22 44 56.5**	**+1.8**
	1.2nm,0.9s,mb3.7,baz=196,slow=4.6,SNR=4.3						
LPAZ				LR	LR	22 54 38.6	
	comp=Z,401nm,20.4s,MS4.1,baz=19,slow=31						
LPAZ	**La Paz**	**30.76**	**49**	*eP*	**P**	**22 44 54.8**	**+0.1**
	8.3nm,1.2s,mb4.4						
CPUP	**Villa Florida**	**31.56**	**77**	P	**P**	**22 45 01.6**	**-0.2**
	0.3nm,0.3s,mb3.6,baz=315,slow=2.9,SNR=2.0						
CPUP				LR	LR	22 55 47.2	
	comp=Z,240nm,19.3s,MS3.9,baz=227,slow=33						
CPUP	**Villa Florida**	**31.56**	**77**	P	**P**	**22 45 01.6**	**-0.2**
CPUP				LR	LR	22 55 47.2	
ATAH	**Atahualpa**	**34.00**	**25**	P	**P**	**22 45 22.4**	**-0.8**
	1.6nm,0.3s,mb4.4,baz=50,slow=16,SNR=2.1						
ATAH				LR	LR	22 55 52.3	
	comp=Z,620nm,21.4s,MS4.3,baz=199,slow=30						
ATAH	**Atahualpa**	**34.00**	**25**	P	**P**	**22 45 22.4**	**-0.8**
ATAH				LR	LR	22 55 52.3	
RKT	**Rikitea**	**39.74**	**281**	*eLQ*		22 55 08.3	
	764nm,32.5s						
RKT				*eLR*	LR	22 56 47.9	
	194nm,29.8s						
ROSC	**El Rosal**	**46.58**	**24**	LR	LR	23 04 40.5	
	comp=Z,366nm,18.5s,MS4.4,baz=16,slow=34						
TBI	**Tubuai**	**50.85**	**270**	*eLQ*		23 00 07.1	
	285nm,30.2s						
TBI				*eLR*	LR	23 02 10.7	
	170nm,24.5s						
VNA3	**Neumayer Olymp**	**51.16**	**156**	*e*	**P**	**22 47 41.5**	**-0.3**
QSPA	**South Pole Qui**	**51.22**	**180**	P	**P**	**22 47 41.1**	**-1.0**
	0.8nm,0.3s,mb4.2,baz=86,slow=4.4,SNR=2.9						
QSPA	**South Pole Qui**	**51.22**	**180**	P	**P**	**22 47 41.1**	**-1.0**
VNA1	**Neumayer--Stat**	**51.70**	**155**	*e*	**P**	**22 47 46.5**	**+0.6**
VNA2	**Neumayer--Watz**	**51.94**	**155**	*e*	**P**	**22 47 47.5**	**-0.2**
	baz=246,slow=8.1						
SNAA	**Sanae**	**53.23**	**157**	*eP*	**P**	**22 47 55.7**	**-1.5**
	8.6nm,1.1s,mb4.6						
PPT	**Papeete**	**54.15**	**276**	*eS*	**S**	**22 55 36.5**	**-5.1**
	61nm,26.5s						
PPT				*eLR*	LR	23 03 33.0	
	134nm,23.0s						
VNDA	**Vanda**	**55.63**	**195**	P	**P**	**22 48 15.7**	**+1.1**
	1.3nm,1.0s,mb3.9,baz=103,slow=6.7,SNR=4.7						
VNDA				LR	LR	23 08 18.8	
	comp=Z,197nm,18.3s,MS4.2,baz=123,slow=32						
VNDA	**Vanda**	**55.63**	**195**	P	**P**	**22 48 15.7**	**+1.1**
VNDA				LR	LR	23 08 18.8	
RCBR	**Riachuelo**	**60.24**	**72**	LR	LR	23 12 55.3	
	comp=Z,135nm,18.2s,MS4.1,baz=119,slow=34						
SJG	**San Juan**	**61.74**	**28**	LR	LR	23 13 44.8	
	comp=Z,171nm,18.2s,MS4.2,baz=267,slow=34						
TXAR	**Lajitas Array**	**68.87**	**349**	P	**P**	**22 49 43.6**	**-0.1**
	1.5nm,0.8s,mb4.0,baz=163,slow=9.1,SNR=6.2						
TXAR				LR	LR	23 14 10.7	
	comp=Z,225nm,18.9s,MS4.4,baz=5.0,slow=31						
TXAR	**Lajitas Array**	**68.87**	**349**	P	**P**	**22 49 43.6**	**-0.1**
TXAR				LR	LR	23 14 10.7	
MAW	**Mawson**	**72.00**	**170**	P	**P**	**22 50 03.8**	**+1.2**
	1.6nm,0.7s,mb4.0,baz=211,slow=10,SNR=4.1						
MAW				LR	LR	23 22 27.2	
	comp=Z,76nm,18.0s,MS4.0,baz=325,slow=36						
MAW	**Mawson**	**72.00**	**170**	P	**P**	**22 50 03.8**	**+1.2**
MAW				LR	LR	23 22 27.2	
NVAR	**Mina Array Bea**	**80.78**	**339**	P	**P**	**22 50 52.8**	**+0.2**
	0.7nm,0.6s,mb3.8,baz=175,slow=6.7,SNR=5.1						
NVAR	**Mina Array Bea**	**80.78**	**339**	P	**P**	**22 50 52.8**	**+0.2**
PDAR	**Pinedale Array**	**82.96**	**347**	P	**P**	**22 51 03.8**	**-0.1**
	0.7nm,0.7s,mb3.8,baz=203,slow=6.7,SNR=3.4						
PDAR	**Pinedale Array**	**82.96**	**347**	P	**P**	**22 51 03.8**	**-0.1**
DZM	**Mont Dzumac**	**84.92**	**246**	*eLR*	LR	23 18 01.5	
	334nm,27.5s						
ULM	**Lac du Bonnet**	**88.95**	**357**	LR	LR	23 27 51.3	
	comp=Z,154nm,18.3s,MS4.5,baz=34,slow=33						
BOSA	**Boshof**	**90.81**	**129**	LR	LR	23 27 04.2	
	comp=Z,139nm,19.4s,MS4.4,baz=198,slow=32						
DBIC	**Dimbokro**	**91.88**	**83**	LR	LR	23 28 55.4	
	comp=Z,92nm,18.0s,MS4.3,baz=217,slow=33						
STKA	**Stephens Creek**	**93.70**	**223**	LR	LR	23 28 22.3	
	comp=Z,106nm,18.5s,MS4.3,baz=206,slow=32						
SCHQ	**Schefferville**	**95.92**	**14**	LR	LR	23 31 02.7	
	comp=Z,90nm,18.2s,MS4.3,baz=145,slow=33						
KSRS	**Korea Array**	**148.83**	**280**	PKPbc	PKPbc	22 58 30.3	+3.5
	3.9nm,1.0s,baz=108,slow=4.1,SNR=5.6						
KSAR	**Wonju Array Be**	**148.86**	**280**	PKPbc	PKPbc	22 58 30.3	+3.5
ZALV	**Zalesovo Beam**	**164.90**	**7**	PKP	PKPdf	22 58 40.9	-1.7
	0.7nm,0.7s,baz=22,slow=1.6,SNR=3.3						
ZALV				PKPab	PKPab	22 59 45.1	+6.3
	0.2nm,0.3s,baz=352,slow=3.0,SNR=3.6						
ZALV	**Zalesovo Beam**	**164.90**	**7**	PKP	PKPdf	22 58 40.9	-1.7
ZALV				PKPab	PKPab	22 59 45.1	+6.3

DJA 20 23:17:45, 3.89S×128.56E, h81km, MLv2.5/5, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**0.42**	**299**	P	Pn	23 18 02.5	+4.3
MSAI	**Masohi**	**0.65**	**34**	P	Pn	23 18 01.0	+0.7
NLAI	**Namlea**	**1.59**	**294**	P	Pn	23 18 09.5	-2.1
LBMI	**Labuha**	**3.40**	**342**	P	Pn	23 18 36.3	+0.5
SGSI	**Sangihe**	**8.11**	**338**	P	Pn	23 19 41.4	+1.3
	8μm176nm,0.3s						
MJSI	**Majene**	**9.57**	**272**	P	Pn	23 20 00.3	+0.4

DJA 20 23:29:07, 6.68S×117.47E, h10km, mb6.5/6, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRBI	**Singaraja**	**2.64**	**238**	P	Pn	23 29 50.0	+0.3
NGJI	**Ngawi**	**6.00**	**263**	P	Pn	23 30 36.3	+0.3
	35nm9μm,1.0s						
TNG	**Tangerang**	**10.77**	**272**	P	Pn	23 31 40.7	-0.7
	1μm,0.5s						
TNG				P		23 31 40.9	
	1μm,0.5s						
PMBI	**Palembang**	**13.19**	**286**	P	Pn	23 32 14.1	-0.4
	926nm,0.5s						
JAY	**Jayapura**	**23.52**	**81**	P	P	23 34 15.9	-1.9
	94nm,0.4s						

ISCJB ***20*** *23:43:57.9±1.2, 77.05N±0.07×19.2E±0.4, h10km, Error ellipse: s-maj=12.2km s-min=9.7km az=149.9*
CSEM ***20*** *23:43:59.5±0.1, 76.94N×17.99E, h4km±1km, ML2.5, Error ellipse: s-maj=7.9km s-min=1.3km az=63.0*
NAO ***20*** *23:44:00.9±1.6, 77.06N×19.15E, h14km±16km, ML2.5*
BER ***20*** *23:44:02.6±2.1, 77.07N×19.47E, h23km±26km, MD2.6, ML3.1, ML2.5(NAO)*

ISC 20 23:44:00.3±2.1, 77.07N±0.06×18.9E±0.5, h12km±19km, n9, σ0s39/14, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSP	**Hornsund**	**0.75**	**267**	*eP*	**Pg**	**23 44 15.0**	**+0.3**
HSP				*eS*	**Sg**	**23 44 24.4**	**-0.1**
SPA0	**Spitsbergen Ar**	**1.24**	**336**	Pg	**Pg**	**23 44 24.5**	**+0.4**
	baz=150,slow=18						
SPA0				Lg		23 44 41.5	
	baz=148,slow=37						
SPA0	**Spitsbergen Ar**	**1.24**	**336**	Pg	**Pg**	**23 44 24.5**	**+0.4**
	baz=150,slow=18,SNR=9.1						
SPA0				Lg		23 44 41.5	
	baz=148,slow=28,SNR=90						
KBS	**Kingsbay**	**2.36**	**326**	Pn	**Pn**	**23 44 39.1**	**+0.4**
KBS				Pg	**Pg**	**23 44 45.0**	**-0.5**
KBS				Lg		23 45 14.7	
KBS	**Kingsbay**	**2.36**	**326**	*eP*	**Pn**	**23 44 39.3**	**+0.5**
KBS				*ePg*	**Pg**	**23 44 45.8**	**+0.3**
KBS				*eSg*	**Sg**	**23 45 15.5**	**-0.6**
KBS				AML	AML	23 45 22.3	
	comp=Z,202nm,0.5s						
KBS	**Kingsbay**	**2.36**	**326**	Pn	**Pn**	**23 44 39.1**	**+0.3**
KBS	**Kingsbay**	**2.36**	**326**	*eP*	**Pn**	**23 44 39.3**	**+0.5**
	SNR=55						
ARA0	**ARCESS Array S**	**7.80**	**163**	Pn	**Pn**	**23 45 53.0**	**-0.4**
	baz=350,slow=11						
ARA0				Sn	**Sn**	**23 47 14.5**	**-6.9**
	baz=356,slow=22						
ARA0	**ARCESS Array S**	**7.80**	**163**	Pn	**Pn**	**23 45 53.0**	**-0.4**
	baz=350,slow=11,SNR=3.3						

GRAL 20 23:49:47.2±0.3, 33.02N×35.38E, h0km±5km, MD2.9, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCY	**Rachaya**	**0.59**	**39**	*eP*	Pg	23 49 58.1	-0.5
BHL	**Bhannes**	**0.91**	**15**	*eP*	Pg	23 50 03.5	-1.1
HWQ	**Hawqa**	**1.34**	**21**	*eP*	Pg	23 50 11.0	-1.9

IDC 21 00:02:18.4±1.9, 2.50N×126.90E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, Error ellipse: s-maj=116.0km s-min=23.8km az=70.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.51**	**183**	P	P	00 06 59.0	+0.7
	0.9nm,0.3s,baz=13,slow=8.3,SNR=5.7						
WRA	**Warramunga Arr**	**23.47**	**162**	P	P	00 07 28.8	-1.1
	0.8nm,0.4s,baz=340,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**26.89**	**166**	P	P	00 08 02.0	+0.9
	0.3nm,0.3s,baz=338,slow=7.0,SNR=4.9						
MKAR	**Makanchi Array**	**58.65**	**326**	P	P	00 12 17.3	-0.1
	0.3nm,0.5s,baz=123,slow=7.7,SNR=7.7						

IDC 21 00:32:20.7±261.0, 52.84N×108.60W, h0km, Error ellipse: s-maj=85.5km s-min=58.6km az=80.0, Saskatchewan

CASC 21 00:38:03.2±1.4, 13.04N×89.01W, h32km±5km, MD3.6, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNVI	**San Vicente**	**0.60**	**16**	*eP*	Pb	00 38 15.5	+0.2
BOQS	**Boqueron**	**0.74**	**339**	*eP*	Pn	00 38 17.7	+0.2
BOQS				*eS*	Sb	00 38 28.7	+1.1
VSM	**San Miguel**	**0.81**	**61**	*eP*	Pn	00 38 18.7	+0.3
SBLS	**San Blas**	**1.00**	**323**	*eP*	Pn	00 38 21.0	0.0
CAHU	**Cacacuatique**	**1.06**	**47**	*eP*	Pn	00 38 22.0	+0.1
CAHU				*eS*	Sn	00 38 37.2	+1.6
CNCH	**Conchagua**	**1.17**	**78**	*eP*	Pn	00 38 23.2	-0.2
IXG	**Ixpaco**	**1.81**	**309**	*eP*	Pn	00 38 32.4	+0.3
IXG				*eS*	Sn	00 38 53.9	0.0
FUG	**Fuego 3**	**2.27**	**308**	*eP*	Pn	00 38 39.4	+0.9
FUG				*eS*	Sn	00 39 07.0	+1.6
FG6		**2.37**	**310**	*eP*	Pn	00 38 40.6	+0.7
FG6				*eS*	Sn	00 39 09.8	+1.9

ISCJB ***21*** *00:50:21.9±0.5, 24.01S±0.04×179.75W±0.08, h519km±7km, mb4.1/17, Error ellipse: s-maj=11.9km s-min=5.9km az=176.5*
IDC ***21*** *00:50:22.0±1.4, 24.05S×179.83W, h495km±13km, mb3.5/11, mb1 3.7/13, mb1mx3.6/21, mbtmp3.6/13, Error ellipse: s-maj=15.7km s-min=13.4km az=79.0*
NEIC ***21*** *00:50:23.1±0.7, 24.05S×179.80W, h512km±8km, mb4.3/10, Error ellipse: s-maj=11.9km s-min=9.9km az=108.0*

ISC 21 00:50:23.3±0.6, 24.17S±0.04×179.72W±0.09, h525km±7km, h542km±5.9km: pP-P, n68, σ1s33/68, mb4.1/16, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.31**	**163**	*eP*	**P**	**00 51 55.5**	**+1.3**
	1μm,0.3s						
RAO				*eS*	**S**	**00 53 07.0**	**-1.6**
MSVF	**Nonsavu**	**6.74**	**342**	*eP*	**P**	**00 52 07.5**	**-0.3**
	13nm,0.5s						
MSVF				*eS*	**S**	**00 53 27.6**	**-5.7**
AFI	**Afiamalu**	**12.66**	**38**	P	**P**	**00 53 05.8**	**-3.0**
	4.9nm,0.3s,baz=252,slow=3.2,SNR=3.5						
AFI				S	**S**	**00 55 16.4**	**-8.8**
	2.0nm,0.3s,baz=264,slow=19,SNR=2.0						
AFI	**Afiamalu**	**12.66**	**38**	P	**P**	**00 53 05.8**	**-3.0**
AFI				S	**S**	**00 55 16.4**	**-8.8**
URZ	**Urewera**	**14.30**	**190**	P	**P**	**00 53 23.8**	**-1.8**
	9.8nm,0.3s,baz=273,slow=1.8,SNR=34						
URZ				S	**S**	**00 55 55.3**	**-0.7**
	4.3nm,0.3s,baz=207,slow=22,SNR=16						
URZ	**Urewera**	**14.30**	**190**	*eP*	**P**	**00 53 25.3**	**-0.3**
URZ				S	**S**	**00 55 55.3**	**-0.7**
URZ	**Urewera**	**14.30**	**190**	*ePN*	**P**	**00 53 25.0**	**-0.6**
URZ				SN	**S**	**00 55 55.0**	**-0.9**
MWZ	**Matawai**	**14.32**	**189**	*ePN*	**P**	**00 53 28.2**	**+2.4**
MWZ				SN	**S**	**00 55 58.9**	**+0.8**
CNGZ	**Carnagh Statio**	**14.38**	**187**	PN	**P**	**00 53 30.4**	**+4.0**
KNZ	**Kokohu**	**14.97**	**188**	SN	**S**	**00 56 11.7**	**+3.1**
CKHZ	**Cape Kidnapper**	**15.68**	**189**	PN	**P**	**00 53 41.1**	**+1.3**
CKHZ				SN	**S**	**00 56 21.4**	**-0.4**
WPHZ	**Waipukurau**	**16.18**	**191**	SN	**S**	**00 56 29.3**	**-1.3**
HOWZ	**Holdsworth Sta**	**17.15**	**192**	*ePN*	**P**	**00 53 53.7**	**-0.7**
HOWZ				SN	**S**	**00 56 43.9**	**-2.8**
QRZ	**Quartz Range**	**17.84**	**200**	*ePN*	**P**	**00 54 01.3**	**+0.6**
QRZ				SN	**S**	**00 56 59.2**	**+1.3**
THZ	**Tophouse**	**18.59**	**198**	PN	**P**	**00 54 07.8**	**+0.3**
THZ				SN	**S**	**00 57 07.4**	**-2.7**
LTZ	**Lake Taylor**	**19.71**	**198**	PN	**P**	**00 54 16.8**	**-0.9**
RPZ	**Rata Peaks**	**20.92**	**199**	P	**P**	**00 54 27.9**	**-0.7**
	5.7nm,0.4s,baz=0.0,slow=20,SNR=3.4						
RPZ	**Rata Peaks**	**20.92**	**199**	P	**P**	**00 54 27.9**	**-0.7**
ARMA	**Armidale**	**26.17**	**250**	*eP*	**P**	**00 55 16.8**	**+1.1**
	6.9nm,0.9s,mb4.3						
CAN	**Canberra**	**29.23**	**240**	*eP*	**P**	**00 55 42.7**	**+0.3**
CTA	**Charters Tower**	**31.74**	**271**	P	**P**	**00 56 04.7**	**+0.5**
	5.6nm,0.4s,mb4.5,baz=94,slow=11,SNR=12						
CTA	**Charters Tower**	**31.74**	**271**	P	**P**	**00 56 04.7**	**+0.5**
CTAO	**Charters Tower**	**31.74**	**271**	*eP*	**P**	**00 56 04.4**	**+0.2**
	5.3nm,0.4s,mb4.4						
TAU	**Tasmania Unive**	**32.94**	**227**	*eP*	**P**	**00 56 14.8**	**+0.7**
	50nm,1.3s,mb4.9						
PMG	**Port Moresby**	**34.83**	**289**	P	**P**	**00 56 30.0**	**-0.4**
	8.3nm,0.6s,mb4.4,baz=61,slow=8.9,SNR=4.9						
PMG	**Port Moresby**	**34.83**	**289**	P	**P**	**00 56 30.0**	**-0.4**
STKA	**Stephens Creek**	**34.86**	**248**	P	**P**	**00 56 30.7**	**+0.3**
	1.3nm,0.3s,mb3.9,baz=87,slow=8.8,SNR=9.3						
STKA	**Stephens Creek**	**34.86**	**248**	P	**P**	**00 56 30.7**	**+0.3**
COEN	**Coen**	**36.41**	**279**	*eP*	**P**	**00 56 43.7**	**+0.1**
	13nm,0.7s,mb4.6						
ASAR	**Alice Springs**	**42.25**	**261**	P	**P**	**00 57 30.4**	**-0.1**
	0.6nm,0.4s,mb3.5,baz=90,slow=6.9,SNR=11						
ASAR				pP	pP	00 59 06.7	+1.6
	0.5nm,0.6s,baz=86,slow=7.8,SNR=1.5						
ASAR				ScP	ScP	01 02 16.6	+3.5
	1.3nm,0.8s,baz=109,slow=4.4,SNR=7.0						
ASAR				S	**S**	**01 03 11.4**	**-1.5**
	0.3nm,0.3s,baz=98,slow=14,SNR=4.2						
ASAR	**Alice Springs**	**42.25**	**261**	P	**P**	**00 57 30.4**	**-0.1**
ASAR				pP	pP	00 59 06.7	+1.6
ASAR				ScP	ScP	01 02 16.6	+3.5
ASAR				S	**S**	**01 03 11.4**	**-1.5**
WRAB	**Tennant Creek**	**42.64**	**266**	*eP*	**P**	**00 57 32.7**	**-0.9**
WRA	**Warramunga Arr**	**42.65**	**266**	P	**P**	**00 57 33.1**	**-0.6**
	0.9nm,0.3s,mb3.8,baz=98,slow=8.5,SNR=17						
WRA				ScP	ScP	01 02 19.1	+4.4
	2.1nm,0.8s,baz=96,slow=3.8,SNR=10						
WRA				S	**S**	**01 03 16.4**	**-2.4**
	0.6nm,0.7s,baz=110,slow=14,SNR=5.0						
WRA	**Warramunga Arr**	**42.65**	**266**	P	**P**	**00 57 33.1**	**-0.6**
WRA				ScP	ScP	01 02 19.1	+4.4
WRA				S	**S**	**01 03 16.4**	**-2.4**
FITZ	**Fitzroy Crossi**	**51.07**	**266**	*eP*	**P**	**00 58 37.4**	**+0.1**
SBA	**Scott Base**	**54.12**	**184**	*eP*	**P**	**00 59 00.9**	**+2.7**
	9.1nm,1.0s,mb4.1						
VNDA	**Vanda**	**54.13**	**185**	P	**P**	**00 59 01.1**	**+2.9**
	2.0nm,0.6s,mb3.6,baz=358,slow=7.6,SNR=21						
VNDA				PcP	PcP	00 59 57.0	+2.3
	1.5nm,0.6s,baz=360,slow=4.8,SNR=7.4						
VNDA				ScP	ScP	01 03 05.3	+2.8
	0.7nm,0.7s,baz=332,slow=5.7,SNR=4.5						
VNDA	**Vanda**	**54.13**	**185**	*eP*	**P**	**00 59 01.3**	**+3.0**
	2.4nm,0.7s,mb3.6						
VNDA				PcP	PcP	00 59 57.0	+2.3
VNDA				ScP	ScP	01 03 05.3	+2.8
QSPA	**South Pole Qui**	**65.92**	**180**	*eP*	**P**	**01 00 19.9**	**+3.4**
	17nm,0.8s,mb4.6						
MAW	**Mawson**	**77.59**	**200**	P	**P**	**01 01 26.6**	**+2.0**
	6.5nm,0.5s,mb4.2,baz=133,slow=7.0,SNR=24						
MAW	**Mawson**	**77.59**	**200**	*eP*	**P**	**01 01 26.3**	**+1.7**
	1.3nm,0.5s,mb3.5						
PETK	**Petropavlovsk-**	**79.42**	**346**	P	**P**	**01 01 35.5**	**+1.0**
	2.8nm,0.6s,mb3.7,baz=152,slow=6.5,SNR=3.0						
PETK	**Petropavlovsk-**	**79.42**	**346**	P	**P**	**01 01 35.5**	**+1.0**
SYO	**Syowa Base**	**82.81**	**193**	*eP*	**P**	**01 01 51.4**	**-0.5**
SNAA	**Sanae**	**84.39**	**179**	*eP*	**P**	**01 01 56.1**	**-3.6**
	1.6nm,0.3s,mb4.0						
VNA3	**Neumayer Olymp**	**84.59**	**177**	*e*	**P**	**01 01 59.2**	**-1.5**
VNA3				*e*	pP	01 03 58.9	+3.9
VNA2	**Neumayer--Watz**	**85.01**	**177**	*e*	**P**	**01 02 01.3**	**-1.4**
	baz=194,slow=3.7						
VNA2				*e*	pP	01 03 59.3	+2.1
VNA1	**Neumayer--Stat**	**85.25**	**177**	*e*	**P**	**01 02 03.0**	**-0.9**
TXAR	**Lajitas Array**	**90.35**	**58**	P	**P**	**01 02 31.1**	**+2.5**
	1.9nm,0.8s,mb4.0,baz=205,slow=5.5,SNR=8.2						
TXAR	**Lajitas Array**	**90.35**	**58**	P	**P**	**01 02 31.1**	**+2.5**
ILAR	**Eielson Array**	**92.23**	**13**	P	**P**	**01 02 37.1**	**+0.8**
	0.2nm,0.7s,mb3.3,baz=220,slow=4.9,SNR=3.9						
ILAR	**Eielson Array**	**92.23**	**13**	P	**P**	**01 02 37.1**	**+0.8**
MKAR	**Makanchi Array**	**112.53**	**313**	PKiKP	PKiKP	01 07 59.7	+0.2
	0.2nm,0.5s,baz=132,slow=1.2,SNR=6.1						
MKAR	**Makanchi Array**	**112.53**	**313**	PKPdf	PKiKP	01 07 59.7	+0.2
ARCES	**ARCESS Array B**	**132.20**	**348**	PKP	PKPdf	01 08 37.4	+0.9
	6.1nm,1.0s,baz=3.8,slow=2.7,SNR=4.1						
ARCES	**ARCESS Array B**	**132.20**	**348**	PKP	PKPdf	01 08 37.4	+0.9
FINES	**FINESS Array B**	**138.78**	**341**	PKhKP	PKPpre	01 08 42.7	
	4.7nm,1.0s,baz=62,slow=5.0,SNR=3.5						
FINES				PKP	PKPdf	01 08 51.2	+2.2
	0.8nm,0.7s,baz=343,slow=1.5,SNR=3.2						
FINES				SKPbc	SKPbc	01 11 36.8	+2.4
	3.8nm,0.8s,baz=64,slow=4.4,SNR=6.4						
FINES	**FINESS Array B**	**138.78**	**341**	PKP	PKPpre	01 08 42.8	
FINES				PKP	PKPdf	01 08 51.2	+2.2
FINES				SKPbc	SKPbc	01 11 36.8	+2.4
AKASG	**Malin Array Be**	**145.34**	**327**	PKPbc	PKPbc	01 09 01.4	-0.6
	0.5nm,0.3s,baz=47,slow=3.8,SNR=3.7						
AKASG				SKPbc	SKPbc	01 11 53.6	+2.6
	0.5nm,0.3s,baz=42,slow=3.0,SNR=6.6						
AKASG	**Malin Array Be**	**145.34**	**327**	PKPbc	PKPbc	01 09 01.4	-0.6
AKASG				SKPbc	SKPbc	01 11 53.6	+2.6
BRTR	**Keskin Array B**	**147.95**	**307**	PKPbc	PKPbc	01 09 10.4	+0.9
	0.6nm,0.6s,baz=135,slow=4.1,SNR=3.4						
BRTR	**Keskin Array B**	**147.95**	**307**	PKPbc	PKPbc	01 09 10.4	+0.9
MMAI	**Mount Meron Ar**	**148.05**	**294**	PKPbc	PKPbc	01 09 11.8	+1.9
	2.9nm,0.4s,baz=76,slow=6.3,SNR=23						
MMAI	**Mount Meron Ar**	**148.05**	**294**	PKPbc	PKPbc	01 09 11.8	+1.9
CLL	**Collm**	**151.19**	**343**	*i* PKPbc	PKPbc	01 09 18.4	+1.6
DBIC	**Dimbokro**	**161.91**	**163**	PKPab	PKPab	01 10 15.8	+1.5

YUK *i* S **Sn** **00 51 43.4 +1.6**
YUK pmax pmax
comp=Z,422nm,0.6s
YUK pmax pmax
comp=Z,377nm,0.5s
YUK pmax pmax
comp=E,108nm,0.6s
YUK pmax pmax
comp=N,59nm,0.3s
YUK smax
comp=E,1μm,0.9s
YUK smax
comp=N,787nm,0.9s
YUK smax
comp=N,751nm,0.6s
YUK smax
comp=E,1μm,0.6s
YSS Yuzh-Sakhalins 3.92 356 *e*Pn **Pn** **00 51 37.1 -0.1**
YSS Yuzh-Sakhalins 3.92 356 ⇓*i*PN **Pn** **00 51 37.0 -0.2**
YSS *e* 00 52 18.0
YSS pmax pmax
comp=Z,50nm,0.8s
MAJO Matsushiro 7.54 212 *e*Pn **Pn** **00 52 26.1 0.0**
comp=Z,18nm,0.8s
MAJO Matsushiro 7.54 212 *e*PN **Pn** **00 52 26.1 0.0**
MAJO pmax pmax
comp=Z,18nm,0.8s
MJAR Matsushiro Arr 7.54 212 P **Pn** **00 52 25.7 -0.4**
comp=Z,17nm,0.3s,baz=16,slow=13,SNR=11
MJAR Matsushiro Arr 7.54 212 P **Pn** **00 52 25.7 -0.4**
MJAR Matsushiro Arr 7.54 212 PN **Pn** **00 52 25.7 -0.4**
MJAR pmax pmax
comp=Z,2.0nm,0.3s
KSRS Korea Array 12.93 250 P **Pn** **00 53 37.8 -0.2**
comp=Z,0.3nm,0.3s,baz=61,slow=13,SNR=4.3
KSRS Korea Array 12.93 250 PN **Pn** **00 53 37.8 -0.1**
KSAR Wonju Array Be 12.96 250 P **Pn** **00 53 37.8 -0.6**
KSAR Wonju Array Be 12.96 250 PN **Pn** **00 53 37.8 -0.5**
PETK Petropavlovsk- 13.95 39 P **Pn** **00 53 49.0 -2.0**
comp=Z,0.8nm,0.3s,baz=207,slow=11,SNR=8.8
PETK Petropavlovsk- 13.95 39 P **Pn** **00 53 49.0 -2.0**
PETK Petropavlovsk- 13.95 39 P **Pn** **00 53 49.0 -2.0**
PETK pmax pmax
comp=Z,1.0nm,0.3s
FX1 Attu Island--F 22.20 53 P **P** **00 55 26.6 +1.7**
comp=Z,14nm,0.7s,mb4.4,baz=247,slow=7.7,SNR=6.4
FX1 Attu Island--F 22.20 53 P **P** **00 55 26.6 +1.7**
FX1 Attu Island--F 22.20 53 P **P** **00 55 26.7 +1.7**
FX1 pmax pmax
comp=Z,14nm,0.7s
SONM Songino Array 26.09 293 P **P** **00 56 01.7 +0.8**
comp=Z,1.7nm,0.7s,mb3.6,baz=86,slow=8.5,SNR=10
SONM Songino Array 26.09 293 P **P** **00 56 01.7 +0.8**
SONM Songino Array 26.09 293 P **P** **00 56 01.7 +0.8**
SONM pmax pmax
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 39.12 307 P **P** **00 57 53.5 -0.5**
comp=Z,0.6nm,0.4s,mb3.7,baz=87,slow=7.6,SNR=3.6
ZALV PcP PcP 01 00 01.5 +0.4
comp=Z,0.8nm,0.5s,baz=108,slow=4.8,SNR=3.8
ZALV Zalesovo Beam 39.12 307 P **P** **00 57 53.5 -0.5**
ZALV PcP PcP 01 00 01.5 +0.4
ZALV Zalesovo Beam 39.12 307 P **P** **00 57 53.5 -0.5**
ZALV 01 00 01.5
ZALV pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
KDAK Kodiak Island 41.84 46 P **P** **00 58 15.8 -0.4**
comp=Z,13nm,1.0s,mb4.6,baz=322,slow=3.8,SNR=9.8
KDAK Kodiak Island 41.84 46 P **P** **00 58 15.8 -0.4**
KDAK Kodiak Island 41.84 46 P **P** **00 58 15.8 -0.5**
KDAK pmax pmax
comp=Z,13nm,1.0s,mb4.6
MK31 Makanchi Array 42.34 297 *e*P **P** **00 58 20.6 +0.1**
MK31 Makanchi Array 42.34 297 *e*P **P** **00 58 20.6 +0.1**
MKAR Makanchi Array 42.34 297 P **P** **00 58 20.6 0.0**
comp=Z,0.7nm,0.7s,mb3.5,baz=80,slow=10,SNR=14
MKAR PcP PcP 01 00 11.9 +0.2
comp=Z,0.5nm,0.6s,baz=53,slow=3.9,SNR=4.3
MKAR Makanchi Array 42.34 297 P **P** **00 58 20.6 0.0**
MKAR PcP PcP 01 00 11.9 +0.2
MKAR Makanchi Array 42.34 297 P **P** **00 58 20.6 +0.1**
MKAR 01 00 11.9
MKAR pmax pmax
comp=Z,1.0nm,0.7s
COLA College 43.33 36 *e*P **P** **00 58 28.0 -0.3**
comp=Z,6.5nm,0.8s,mb4.4
COLA College 43.33 36 *e*P **P** **00 58 28.0 -0.2**
COLA pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
KURK Kurchatov 43.52 304 P **P** **00 58 30.5 +0.5**
comp=Z,1.5nm,0.5s,mb4.0,baz=72,slow=9.0,SNR=16
KURK Kurchatov 43.52 304 P **P** **00 58 30.5 +0.5**
KURK Kurchatov 43.52 304 P **P** **00 58 30.5 +0.5**
KURK pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
ILAR Eielson Array 43.75 36 P **P** **00 58 31.4 -0.2**
comp=Z,3.8nm,0.5s,mb4.4,baz=259,slow=5.5,SNR=84
ILAR Eielson Array 43.75 36 P **P** **00 58 31.4 -0.2**
ILAR Eielson Array 43.75 36 P **P** **00 58 31.4 -0.2**
ILAR pmax pmax
comp=Z,4.0nm,0.5s
CMAR Chiang Mai Arr 44.56 251 P **P** **00 58 39.9 +1.2**
comp=Z,0.5nm,0.3s,mb3.7,baz=55,slow=30,SNR=2.9
CMAR Chiang Mai Arr 44.56 251 P **P** **00 58 39.9 +1.2**
CMAR Chiang Mai Arr 44.56 251 P **P** **00 58 39.9 +1.2**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR Borovoye Array 47.71 309 P **P** **00 59 02.9 +0.1**
comp=Z,1.2nm,0.3s,mb4.2,baz=83,slow=11,SNR=12
BVAR Borovoye Array 47.71 309 P **P** **00 59 02.9 +0.1**
BVAR Borovoye Array 47.71 309 P **P** **00 59 02.9 +0.1**
BVAR pmax pmax
comp=Z,1.0nm,0.3s
INK Inuvik 48.45 30 P **P** **00 59 08.2 -0.1**
comp=Z,3.9nm,0.4s,mb4.6,baz=279,slow=5.7,SNR=57
INK Inuvik 48.45 30 P **P** **00 59 08.2 -0.2**
INK Inuvik 48.45 30 P **P** **00 59 08.2 -0.2**
INK pmax pmax
comp=Z,4.0nm,0.4s
ABKAR Akbulak array 55.23 308 *e*P **P** **00 59 58.8 -0.1**
comp=Z,0.9nm,0.3s,mb4.3
YKA Yellowknife Ar 57.97 32 P **P** **01 00 17.9 -0.1**
comp=Z,2.4nm,0.6s,mb4.4,baz=305,slow=6.7,SNR=6.7
YKA Yellowknife Ar 57.97 32 P **P** **01 00 17.9 -0.1**
YKA Yellowknife Ar 57.97 32 P **P** **01 00 17.9 -0.1**
YKA pmax pmax
comp=Z,2.0nm,0.6s
KEV Kevo 58.33 338 *e*P **P** **01 00 19.5 -1.0**
KEV Kevo 58.33 338 *e*p **P** **01 00 19.5 -1.0**
ARCES ARCESS Array B 58.88 339 P **P** **01 00 23.6 -0.6**
comp=Z,1.8nm,0.8s,mb4.2,baz=52,slow=7.9,SNR=6.0
ARCES ARCESS Array B 58.88 339 P **P** **01 00 23.6 -0.6**
ARCES ARCESS Array B 58.88 339 P **P** **01 00 23.6 -0.6**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
JOF Joensuu 61.34 331 *e*P **P** **01 00 39.9 -1.2**
JOF pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
JOF Joensuu 61.34 331 *e*p **P** **01 00 39.9 -1.2**
comp=Z,2.9nm,0.5s,mb4.6
KAF Kangasniemi 63.62 332 *e*P **P** **01 00 54.6 -1.7**
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
KAF Kangasniemi 63.62 332 *e*p **P** **01 00 54.6 -1.7**
comp=Z,2.9nm,0.6s,mb4.3
FINES FINESS Array B 64.16 332 P **P** **01 00 59.1 -0.7**
comp=Z,4.6nm,0.6s,mb4.5,baz=46,slow=7.5,SNR=32
FINES FINESS Array B 64.16 332 P **P** **01 00 59.1 -0.7**
FINES FINESS Array B 64.16 332 P **P** **01 00 59.1 -0.7**
FINES pmax pmax
comp=Z,5.0nm,0.6s
BSMT Bassoo Peak 66.43 46 *e*P **P** **01 01 16.1 +1.4**
NB2 NORSAR Subarra 69.18 337 P **P** **01 01 30.6 -1.1**
comp=Z,4.4nm,0.9s,mb4.3,baz=34,slow=6.5
NOA NORSAR Array B 69.18 337 P **P** **01 01 30.5 -1.2**
comp=Z,0.6nm,0.5s,mb3.7,baz=36,slow=6.8,SNR=3.7
NOA NORSAR Array B 69.18 337 P **P** **01 01 30.5 -1.2**
NOA NORSAR Array B 69.18 337 P **P** **01 01 30.5 -1.2**
NOA pmax pmax
comp=Z,1.0nm,0.5s
DLMT Dillon 69.18 47 *e*P **P** **01 01 31.8 -0.2**
comp=Z,3.3nm,0.5s,mb4.4
BOZ Bozeman (W) 69.51 46 *e*P **P** **01 01 33.6 -0.3**
comp=Z,2.2nm,0.6s,mb4.2
BOZ Bozeman (W) 69.51 46 *e*P **P** **01 01 33.7 -0.3**
BOZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
NVAR Mina Array Bea 70.38 56 P **P** **01 01 40.6 +1.2**
comp=Z,1.6nm,0.7s,mb4.0,baz=295,slow=6.0,SNR=11
NVAR Mina Array Bea 70.38 56 P **P** **01 01 40.6 +1.2**
AKASG Malin Array Be 70.40 322 P **P** **01 01 40.1 +0.8**
comp=Z,0.5nm,0.4s,mb3.7,baz=47,slow=8.5,SNR=4.9
AKASG Malin Array Be 70.40 322 P **P** **01 01 40.1 +0.8**
AKASG Malin Array Be 70.40 322 P **P** **01 01 40.1 +0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
PD02 Pinedale Array 72.53 47 *e*P **P** **01 01 52.3 +0.1**
PDAR Pinedale Array 72.54 47 P **P** **01 01 52.9 +0.5**
comp=Z,2.8nm,0.6s,mb4.2,baz=239,slow=1.1,SNR=20
PDAR pP pP 01 02 23.8 +1.3
comp=Z,0.6nm,0.6s,baz=273,slow=1.9,SNR=2.6
PDAR Pinedale Array 72.54 47 P **P** **01 01 52.9 +0.5**
PDAR pP pP 01 02 23.8 +1.3
ULM Lac du Bonnet 73.77 35 P **P** **01 01 58.8 -0.7**
comp=Z,3.2nm,0.8s,mb4.1,baz=321,slow=6.5,SNR=3.7
ULM Lac du Bonnet 73.77 35 P **P** **01 01 58.8 -0.7**
ULM Lac du Bonnet 73.77 35 P **P** **01 01 58.8 -0.6**
ULM pmax pmax
comp=Z,3.0nm,0.8s
PV10 Paradox Valley 75.84 51 *e*P **P** **01 02 13.3 +1.7**
comp=Z,184nm,0.8s
TXAR Lajitas Array 85.42 54 P **P** **01 03 03.3 +0.6**
comp=Z,1.6nm,0.5s,mb4.2,baz=285,slow=3.7,SNR=9.9
TXAR Lajitas Array 85.42 54 P **P** **01 03 03.3 +0.6**
TXAR Lajitas Array 85.42 54 P **P** **01 03 03.3 +0.6**
TXAR pmax pmax
comp=Z,2.0nm,0.5s
VNA2 Neumayer--Watz 148.46 198 *e* PKPdf 01 10 07.7 +1.7
baz=120,slow=1.9
VNA3 Neumayer Olymp 148.72 197 *e* PKPdf 01 10 08.2 +1.7

ISK ***21*** *00:50:51.6,38°.45N×40°.80E,h11km,MD3.0*
ISCJB ***21*** *00:50:52.2±0.5,38°.51N±0°.03×40°.81E±0°.03,h7km±5km, Error ellipse: s-maj=4.8km s-min=3.9km az=27.2*
CSEM ***21*** *00:50:52.1±0.2,38°.45N×40°.82E,h8km,MD3.0,Error ellipse: s-maj=6.7km s-min=4.0km az=172.0*
DDA ***21*** *00:50:52.3,38°.52N×40°.87E,h22km±2km,Md3.3*
ISC 21 00:50:53.1±0.5,38°.51N±0°.03×40°.84E±0°.03,h12km±5km, n32,σ1°00/51,Turkey

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
BINT Bingol 0.45 323 PG **Pg** **00 51 01.9 -0.1**
BINT SG **Sg** **00 51 09.1 +1.0**
BINT Bingol 0.45 323 *i* Pg **Pg** **00 51 01.9 -0.1**
BINT *i* Sg **Sg** **00 51 09.1 +1.0**
BNGL BINGOL 0.50 29 *e*P **Pg** **00 51 01.1 -1.9**
BNGL *e*S **Sg** **00 51 09.0 -0.7**
BEST Besiri 0.71 151 *e*P **Pg** **00 51 06.8 0.0**
BEST *e*S **Sg** **00 51 17.4 +1.3**
VRTB Varto-Mus 0.81 37 *e*PG **Pg** **00 51 08.3 -0.5**
VRTB *e*SG **Sg** **00 51 21.6 +2.3**
VRTB Varto-Mus 0.81 37 *e*Pg **Pg** **00 51 08.3 -0.4**
VRTB *e*Sg **Sg** **00 51 21.6 +2.3**
TATV Tatvan 1.12 90 *e*P **Pg** **00 51 13.9 -0.8**
TATV *e*S **Sg** **00 51 28.9 -0.4**
TATV Tatvan 1.12 90 *e*P **Pg** **00 51 13.9 -0.8**
TATV *e*S **Sg** **00 51 28.9 -0.4**
PTK Pertek 1.19 289 *e*PN **Pn** **00 51 14.4 -1.0**
PTK *e*SN **Sn** **00 51 31.4 -0.2**
PTK Pertek 1.19 289 *e*Pn **Pn** **00 51 14.5 -1.0**
PTK *e*Sn **Sn** **00 51 31.4 -0.1**
MARD Mardin 1.20 182 *e*P **Pn** **00 51 14.7 -0.9**
MARD *e*S **Sb** **00 51 30.9 -0.1**
SVRC Sivrice-ELAZID 1.21 264 *e*PN **Pn** **00 51 14.7 -1.0**
SVRC *e*SN **Sn** **00 51 31.4 -0.5**
SVRC Sivrice-ELAZID 1.21 264 *e*Pn **Pn** **00 51 14.7 -1.0**
ERZN Erzincan 1.38 321 *e*PN **Pn** **00 51 17.5 -0.6**
EZM Erzurum 1.45 16 *e*PN **Pn** **00 51 19.7 +0.6**
ELZG Elazig 1.45 270 *e*P **Pn** **00 51 20.1 +1.1**
ELZG *e*S **Sn** **00 51 40.9 +3.0**
ELZG Elazig 1.45 270 *e*P **Pn** **00 51 20.1 +1.1**
ELZG *e*S **Sn** **00 51 40.9 +2.9**
MALT Malatya 1.90 265 *e*PN **Pn** **00 51 24.9 -0.4**
MALT Malatya 1.90 265 *e*Pn **Pn** **00 51 24.9 -0.3**
MYA Malataya 1.90 265 *e*PN **Pn** **00 51 24.3 -0.9**
MYA Malataya 1.90 265 *e*Pn **Pn** **00 51 24.3 -0.9**
BAYT Ayd¨–ntepe-Bay 1.96 344 *e*PN **Pn** **00 51 26.0 0.0**
KEMA Kemaliye 1.98 293 *e*P **Pn** **00 51 27.3 +1.0**
KEMA *e*S **Sg** **00 51 56.1 -0.6**
KEMA Kemaliye 1.98 293 *e*P **Pn** **00 51 27.3 +1.0**
KEMA *e*S **Sg** **00 51 56.1 -0.5**
AGRB Hanur-Agry 1.99 57 *e*PN **Pn** **00 51 27.3 +0.9**
AGRB Hanur-Agry 1.99 57 *e*Pn **Pn** **00 51 27.3 +0.9**
ATAB Bozova 2.26 243 *e*P **Pn** **00 51 32.5 +2.3**
ATAB *e*S **Sn** **00 51 57.0 -0.9**
ATAB Bozova 2.26 243 *e*P **Pn** **00 51 32.5 +2.3**
ATAB *e*S **Sn** **00 51 57.0 -0.9**
AKCD Akcadag 2.30 266 *e*P **Pb** **00 51 34.2 -0.2**
AKCD *e*S **Sg** **00 52 07.0 +0.1**
AKCD Akcadag 2.30 266 *e*P **Pn** **00 51 34.2 +3.5**
CUKT Cukurca 2.53 119 *e*Pn **Pn** **00 51 33.6 -0.2**
CUKT Cukurca 2.53 119 *e*Pn **Pn** **00 51 33.7 -0.2**

ISK ***21*** *01:07:16.1,38°.38N×38°.99E,h5km,MD2.5*
ISCJB ***21*** *01:07:17.2±0.6,38°.35N±0°.03×38°.99E±0°.04,h10km,Error ellipse: s-maj=5.4km s-min=3.6km az=142.7*
CSEM ***21*** *01:07:17.3±0.2,38°.38N×39°.00E,h8km,MD2.5,Error ellipse: s-maj=6.0km s-min=3.8km az=152.0*
DDA ***21*** *01:07:17.5,38°.35N×38°.97E,h7km±1km,Md3.1*
ISC 21 01:07:17.3±1.0,38°.36N±0°.04×39°.01E±0°.05,h17km±10km, n15,σ0°64/28,1C-1D,Turkey

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
ELZG Elazig 0.14 351 *i*Pg **Pg** **01 07 21.1 -0.2**
ELZG *i* Sg **Sg** **01 07 23.8 -0.3**
SVRC Sivrice-ELAZID 0.23 86 *e*PG **Pg** **01 07 22.3 -0.4**
SVRC *e*SG **Sg** **01 07 26.8 +0.5**
SVRC Sivrice-ELAZID 0.23 86 *e*Pg **Pg** **01 07 22.3 -0.3**
SVRC *e*Sg **Sg** **01 07 26.8 +0.5**
MALT Malatya 0.46 264 *e*PG **Pg** **01 07 26.0 -0.7**
MALT *e*SG **Sg** **01 07 33.3 +0.4**
MALT Malatya 0.46 264 *e*Pg **Pg** **01 07 26.0 -0.6**
MALT *e*Sg **Sg** **01 07 33.3 +0.4**
MYA Malataya 0.46 266 *e*PG **Pg** **01 07 26.0 -0.6**
MYA Malataya 0.46 266 *e*Pg **Pg** **01 07 26.0 -0.6**
PTK Pertek 0.61 29 *e*PG **Pg** **01 07 28.1 -1.3**
PTK *e*SG **Sg** **01 07 38.5 +1.0**
PTK Pertek 0.61 29 *e*Pg **Pg** **01 07 28.1 -1.2**
PTK *e*Sg **Sg** **01 07 38.5 +1.0**
AKCD Akcadag 0.86 266 *i*P **Pg** **01 07 33.4 -0.7**
AKCD *i* S **Sg** **01 07 45.7 +0.3**
AKCD Akcadag 0.86 266 *i* P **Pg** **01 07 33.4 -0.6**
AKCD *i* S **Sg** **01 07 45.7 +0.3**
KEMA Kemaliye 0.99 336 *e*P **Pg** **01 07 36.3 -0.3**
KEMA *e*S **Sg** **01 07 50.6 +1.0**
KEMA Kemaliye 0.99 336 *e*P **Pg** **01 07 36.3 -0.3**
KEMA *e*S **Sg** **01 07 50.6 +1.0**
ATAB Bozova 1.06 213 *e*P **Pg** **01 07 38.1 +0.3**
ATAB *e*S **Sg** **01 07 52.3 +0.7**
ATAB Bozova 1.06 213 *e*P **Pg** **01 07 38.1 +0.4**
ATAB *e*S **Sg** **01 07 52.3 +0.7**

ISCJB ***21*** *01:40:13.5±1.4,17°.84S±0°.08×167°.5E±0°.2,h39km, mb3.9/5,MS3.4/4,Error ellipse: s-maj=26.1km s-min=10.9km az=177.7*
IDC ***21*** *01:40:15.6±2.4,17°.47S×167°.34E,h38km±9km,mb3.8/6, mb1 4.0/6,mb1mx3.7/19,mbtmp3.9/6,MS3.4/5,Ms1 3.4/5, ms1mx3.0/27,Error ellipse: s-maj=73.4km s-min=31.8km az=141.0*
NEIC ***21*** *01:40:16.8±1.1,17°.28S×167°.20E,mb3.9/1,Error ellipse: s-maj=36.1km s-min=19.1km az=155.0*
ISC 21 01:40:15.2±1.4,17°.81S±0°.08×167°.5E±0°.2,h41km, h41km±2.9km:pP-P,n23,σ0°79/17,mb3.9/5,MS3.4/4, Vanuatu Islands

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
DZM Mont Dzumac 4.36 193 *e*Pn **Pn** **01 41 19.7 +0.9**
14nm,0.2s
DZM *e*Sn **Sn** **01 42 07.6 -0.8**
18nm,0.2s
DZM *e*LR LR 01 42 21.7
155nm,24.1s
HNR Honiara 11.11 318 LR LR 01 46 24.0
comp=Z,67nm,19.9s,baz=57,slow=34
CTA Charters Tower 20.24 260 P **P** **01 44 47.4 +0.3**
4.2nm,0.7s,baz=80,slow=14,SNR=5.5
CTA LR LR 01 51 20.2
comp=Z,128nm,20.6s,MS3.3,baz=229,slow=33
CTA Charters Tower 20.24 260 P **P** **01 44 47.4 +0.3**
CTA LR LR 01 51 20.2
CTAO Charters Tower 20.24 260 *e*P **P** **01 44 46.6 -0.5**
5.2nm,0.8s
COEN Coen 23.72 276 *e*P **P** **01 45 23.8 +0.1**
STKA Stephens Creek 27.29 234 P **P** **01 45 57.7 +1.8**
8.9nm,0.8s,mb4.3,baz=56,slow=8.4,SNR=13
STKA pP pP 01 46 07.9 +0.9
6.7nm,0.9s,baz=78,slow=6.9,SNR=5.3
STKA LR LR 01 55 55.3
comp=Z,90nm,18.4s,MS3.4,baz=24,slow=34
STKA Stephens Creek 27.29 234 *e*P **P** **01 45 57.6 +1.7**
8.2nm,0.9s,mb4.3
STKA Stephens Creek 27.29 234 P **P** **01 45 57.7 +1.8**
STKA pP pP 01 46 07.9 +0.9
STKA LR LR 01 55 55.3
WRA Warramunga Arr 31.44 261 P **P** **01 46 32.4 -0.5**
0.8nm,1.0s,mb3.5,baz=92,slow=9.0,SNR=7.6
WRA Warramunga Arr 31.44 261 P **P** **01 46 32.4 -0.5**
ASAR Alice Springs 31.92 254 P **P** **01 46 36.1 -1.0**
1.1nm,0.7s,mb3.8,baz=81,slow=8.6,SNR=12
ASAR pP pP 01 46 47.9 -0.4
1.8nm,0.7s,baz=78,slow=9.1,SNR=8.3
ASAR LR LR 01 58 30.3
comp=Z,117nm,20.1s,MS3.6,baz=170,slow=34
ASAR Alice Springs 31.92 254 P **P** **01 46 36.1 -1.0**
ASAR pP pP 01 46 47.9 -0.4
ASAR LR LR 01 58 30.3
FITZ Fitzroy Crossi 39.78 263 P **P** **01 47 44.6 +0.1**
2.9nm,0.9s,mb4.0,baz=106,slow=9.2,SNR=4.5
FITZ pP pP 01 47 55.0 -0.9
1.1nm,0.7s,baz=117,slow=9.0,SNR=2.1
FITZ LR LR 02 02 18.7
comp=Z,78nm,19.5s,MS3.6,baz=81,slow=33
FITZ Fitzroy Crossi 39.78 263 P **P** **01 47 44.6 +0.1**
FITZ pP pP 01 47 55.0 -0.9
FITZ LR LR 02 02 18.7
TBI Tubuai 40.54 105 *e*LR LR 01 59 06.2
88nm,34.0s
PPT Papeete 40.81 96 *e*LR LR 01 59 12.0
91nm,27.8s
ILAR Eielson Array 89.37 18 P **P** **01 53 06.5 -0.4**
0.3nm,0.7s,mb3.8,baz=221,slow=4.8,SNR=4.7
ILAR Eielson Array 89.37 18 P **P** **01 53 06.5 -0.4**
CDF Champ du Feu 145.50 337 *e*PKP1 PKPbc 01 59 49.1 +0.2
13nm,0.7s
HINF Hinteralfeld 146.15 336 *e*PKP1 PKPbc 01 59 50.8 -0.1
HAU Haudompre 146.18 337 *e*PKP1 PKPbc 01 59 50.1 -0.9
MEZF Maizieres J'vi 146.22 339 *e*PKP1 PKPbc 01 59 50.8 -0.3

IDC ***21*** *01:41:12.0±2.2,21°.65S×179°.34W,h585km±24km, mb3.5/12,mb1 3.7/12,mb1mx3.5/19,mbtmp3.5/12,Error ellipse: s-maj=19.0km s-min=16.4km az=128.0*
ISCJB ***21*** *01:41:12.7±1.1,21°.7S±0°.1×179°.4W±0°.1,h612km±13km, mb4.2/20,Error ellipse: s-maj=18.7km s-min=14.0km az=158.5*
NEIC ***21*** *01:41:14.0±1.0,21°.64S×179°.43W,h609km±10km,mb4.5/7, Error ellipse: s-maj=16.7km s-min=11.6km az=145.0*
ISC 21 01:41:14.1±1.1,21°.7S±0°.1×179°.4W±0°.1,h609km±12km, n63,σ0°88/50,mb4.2/20,Fiji Islands region

Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
MSVF Nonsavu 4.57 328 *e*Pn **P** **01 42 43.5 -0.9**
DZM Mont Dzumac 13.12 266 *e*Pn **P** **01 44 06.1 +1.9**
EIDS Eidsvold 27.27 256 *e*P **P** **01 46 11.8 0.0**
21nm,0.3s,mb5.2
ARMA Armidale 27.37 245 *e*P **P** **01 46 13.5 +0.9**
CTA Charters Tower 32.07 266 P **P** **01 46 53.4 +0.3**
10nm,0.4s,mb4.8,baz=89,slow=11,SNR=19
CTA Charters Tower 32.07 266 *e*P **P** **01 46 53.1 0.0**
6.1nm,0.3s,mb4.7
CTA Charters Tower 32.07 266 P **P** **01 46 53.4 +0.3**
CTAO Charters Tower 32.07 266 *e*P **P** **01 46 53.1 0.0**
9.5nm,0.5s,mb4.7
CMSA Cobar Meteorol 32.58 245 *e*P **P** **01 46 57.3 0.0**
31nm,0.3s
PMG Port Moresby 34.33 286 *e*P **P** **01 47 12.1 0.0**
6.8nm,0.8s,mb4.3
STKA Stephens Creek 36.09 245 P **P** **01 47 26.7 +0.3**
4.0nm,0.4s,mb4.3,baz=90,slow=10,SNR=19
STKA Stephens Creek 36.09 245 *e*P **P** **01 47 26.8 +0.4**
3.3nm,0.4s,mb4.2
STKA Stephens Creek 36.09 245 P **P** **01 47 26.7 +0.3**
COEN Coen 36.35 276 *e*P **P** **01 47 29.2 +0.5**
41nm,0.6s,mb5.1
COEN Coen 36.35 276 *e*P **P** **01 47 29.0 +0.3**
ASAR Alice Springs 42.97 258 P **P** **01 48 21.2 -0.2**
10nm,0.6s,mb4.6,baz=95,slow=7.8,SNR=71
ASAR PcP PcP 01 49 57.8 +0.1
0.9nm,0.6s,baz=108,slow=3.8,SNR=4.1
ASAR ScP ScP 01 52 54.4 +2.7
0.5nm,0.7s,baz=130,slow=3.2,SNR=4.5
ASAR S **S** **01 54 02.2 -1.8**
1.2nm,0.8s,baz=91,slow=17,SNR=8.6
ASAR Alice Springs 42.97 258 P **P** **01 48 21.2 -0.2**
ASAR PcP PcP 01 49 57.8 +0.1
ASAR ScP ScP 01 52 54.4 +2.7
ASAR S **S** **01 54 02.2 -1.8**
WRAB Tennant Creek 43.12 264 *e*P **P** **01 48 21.6 -1.1**
11nm,0.8s,mb4.4
WRA Warramunga Arr 43.13 264 P **P** **01 48 22.0 -0.7**
4.6nm,0.3s,mb4.4,baz=97,slow=5.9,SNR=79
WRA ScP ScP 01 52 55.5 +3.1
0.9nm,0.9s,baz=82,slow=4.3,SNR=4.8
WRA S **S** **01 54 08.1 +1.6**
1.3nm,0.8s,baz=98,slow=14,SNR=3.6
WRA Warramunga Arr 43.13 264 P **P** **01 48 22.1 -0.7**
WRA ScP ScP 01 52 55.5 +3.1
WRA S **S** **01 54 08.1 +1.6**
FORT Forrest 47.62 248 *e*P **P** **01 48 55.5 -1.2**
11nm,0.6s,mb4.5
FITZ Fitzroy Crossi 51.56 264 P **P** **01 49 25.8 +0.1**
2.5nm,0.3s,mb4.0,baz=108,slow=11,SNR=34
FITZ Fitzroy Crossi 51.56 264 *e*P **P** **01 49 25.5 -0.2**
5.1nm,0.4s,mb4.2
FITZ Fitzroy Crossi 51.56 264 P **P** **01 49 25.8 +0.1**
MBWA Marble Bar 56.31 258 *e*P **P** **01 49 58.2 -0.7**
MBWA Marble Bar 56.31 258 *e*P **P** **01 49 58.0 -0.9**
7.4nm,0.3s,mb4.4
VNDA Vanda 56.64 185 P **P** **01 50 01.1 +0.8**
0.5nm,0.4s,mb3.1,baz=354,slow=2.6,SNR=8.0
VNDA Vanda 56.64 185 *e*P **P** **01 50 00.8 +0.5**
0.7nm,0.6s,mb3.1
QSPA South Pole Qui 68.41 180 *e*P **P** **01 51 16.2 +0.5**
4.1nm,1.0s,mb3.8
KKM Kota Kinabalu 68.78 286 *e*P **P** **01 51 18.4 -0.7**
20nm,1.0s,mb4.5
MJAR Matsushiro Arr 70.37 325 P **P** **01 51 28.1 +0.1**
2.0nm,0.5s,mb3.8,baz=150,slow=5.9,SNR=5.3
MJAR Matsushiro Arr 70.37 325 P **P** **01 51 28.1 +0.1**
PETK Petropavlovsk- 77.06 346 P **P** **01 52 05.8 +0.4**
2.0nm,0.6s,mb3.8,baz=151,slow=3.3,SNR=2.3
PETK Petropavlovsk- 77.06 346 P **P** **01 52 05.8 +0.4**
MAW Mawson 80.02 200 P **P** **01 52 20.4 -0.7**
0.9nm,0.8s,mb3.2,baz=191,slow=5.2,SNR=3.6
MAW Mawson 80.02 200 P **P** **01 52 20.4 -0.7**
NVAR Mina Array Bea 82.78 44 P **P** **01 52 35.2 -0.4**
0.8nm,0.7s,mb3.4,baz=217,slow=8.8,SNR=4.6
NVAR Mina Array Bea 82.78 44 P **P** **01 52 35.2 -0.4**
VNA3 Neumayer Olymp 87.07 177 *e* **P** **01 52 51.9 -3.9**
VNA3 Neumayer Olymp 87.07 177 *e* **P** **01 52 51.9 -3.9**
VNA3 *e* 01 53 16.8
VNA3 *e* 01 53 25.4
VNA2 Neumayer--Watz 87.50 177 *e* **P** **01 52 54.1 -3.7**
baz=344,slow=7.6
VNA2 Neumayer--Watz 87.50 177 *e* **P** **01 52 54.1 -3.7**
baz=193,slow=4.1
VNA2 *e* 01 53 17.7
VNA2 *e* 01 53 26.6
TXAR Lajitas Array 88.80 58 P **P** **01 53 05.2 +0.6**
1.3nm,0.9s,mb3.8,baz=238,slow=2.4,SNR=5.6
TXAR Lajitas Array 88.80 58 P **P** **01 53 05.2 +0.6**
CMAR Chiang Mai Arr 89.25 290 P **P** **01 53 08.8 +1.9**
1.2nm,0.3s,mb4.2,baz=117,slow=2.9,SNR=9.1

CMAR	Chiang Mai Arr	89.25	290	P	P	01 53 08.8	+1.9	
BVAR	Borovoye Array	119.10	320	PKP	PKPdf	01 58 53.7	-0.8	
	0.4nm,0.3s,baz=136,slow=3.1,SNR=4.3							
BVAR	Borovoye Array	119.10	320	PKP	PKPdf	01 58 53.7	-0.8	
FINES	FINESS Array B	136.49	343	PKP	PKPdf	01 59 28.2	+0.9	
	3.4nm,1.0s,baz=103,slow=6.1,SNR=3.9							
FINES	FINESS Array B	136.49	343	PKP	PKPdf	01 59 28.2	+0.9	
HFS	Hagfors	140.46	350	PKhKP	PKPpre	01 59 27.8		
	1.6nm,0.8s,baz=86,slow=2.0,SNR=6.2							
HFS	Hagfors	140.46	350	PKP	PKPpre	01 59 27.8		
AKASG	Malin Array Be	143.35	329	PKP	PKPdf	01 59 37.7	-2.3	
	1.3nm,0.3s,baz=43,slow=4.4,SNR=11							
AKASG	Malin Array Be	143.35	329	PKP	PKPdf	01 59 37.7	-2.3	
BR131	Keskin Array S	146.60	310	ePKPbc	PKPbc	01 59 48.5	-0.2	
BRTR	Keskin Array B	146.60	310	PKPbc	PKPbc	01 59 48.4	-0.2	
	1.1nm,0.7s,baz=145,slow=4.1,SNR=6.1							
BRTR	Keskin Array B	146.60	310	PKPbc	PKPbc	01 59 48.4	-0.2	
SSF	Saint Saulge	154.55	355	ePKP1	PKPdf	01 59 56.6	-1.2	
	11nm,0.9s							
SMF	Signal de Mont	154.93	355	ePKP1	PKPdf	01 59 56.7	-1.6	
	15nm,1.1s							
TCF	Toulx Ste Croi	155.40	357	ePKP1	PKPdf	01 59 58.5	-0.4	
	7.8nm,1.0s							
LPG	La Plagne	155.69	349	ePKP1	PKPdf	01 59 59.4	+0.1	
	12nm,1.0s							
ORIF	Oris-en-Rattie	156.39	351	ePKP1	PKPdf	02 00 00.0	-0.3	
	13nm,0.9s							
TORD	Torodi Ar. Bea	171.47	187	PKPab	PKPab	02 01 38.2	-1.5	
	0.2nm,0.6s,baz=178,slow=5.2,SNR=2.2							

*NEIC **21** 02:07:49.1,32°.40N×115°.40W,h6km, ML3.6(ECX), ML3.4(PAS), After ECX.*
*ECX **21** 02:07:49.4±0.2,32°.41N×115°.42W,h6km, MD3.4, ML3.6*
*ISCJB **21** 02:07:50.2±0.3,32°.43N±0°.02×115°.32W±0°.02, h27km±2km, Error ellipse: s-maj=3.8km s-min=2.8km az=3.3*

ISC 21 02:07:50.3±0.3,32°.45N±0°.02×115°.34W±0°.02,h19km±2km, n53,σ1°04/85,24C-21D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CPBX	Cerro Prieto	0.04	141	⇑*eP*		Pg	02 07 52.3	-1.3
CPBX				*eS*		Sg	02 07 55.0	-0.8
CHIX	Chihuahua	0.09	66	⇑*eP*		Pg	02 07 54.3	+0.4
CHIX				*eS*		Sg	02 07 58.1	+1.7
DELX	Delta	0.16	127	⇑*eP*		Pg	02 07 54.9	+0.2
DELX				*eS*		Sg	02 07 59.5	+1.8
SGL	Mount Signal	0.38	301	⇑*iP*		Pg	02 07 58.5	+0.2
SGL	Mount Signal	0.38	301	*i* P		Pg	02 07 58.5	+0.2
COK	Cook Ranch	0.52	320	⇓*iP*		Pg	02 08 01.0	+0.3
YUH	Yuha Desert	0.53	292	⇓*iP*		Pg	02 08 00.8	-0.1
SWSC	Sam W. Stewart	0.62	322	P		Pb	02 08 02.4	-0.2
	baz=0.7,SNR=135							
SWSC				⇓S		Sb	02 08 11.4	+0.5
	baz=0.7							
RMX	La Rumorosa	0.65	284	*eP*		Pb	02 08 05.8	+2.8
RMX	La Rumorosa	0.65	284	*eP*		Pb	02 08 05.8	+2.8
DVTC	Desert V Tower	0.68	288	⇓P		Pb	02 08 03.5	0.0
	baz=0.7,SNR=62							
DVTC				⇑S		Sb	02 08 13.0	+0.5
	baz=0.7							
CRR	Carrizo Plain	0.69	309	⇓*iP*		Pb	02 08 03.7	0.0
RDX	Rancho Dawling	0.73	225	*eS*		Sb	02 08 16.1	+2.1
RDX				⇑*e*			02 08 17.0	
	comp=N,3μm,0.8s							
GLA	Glamis	0.74	35	⇑P		Pb	02 08 04.5	0.0
	baz=0.8,SNR=73							
GLA				⇓S		Sb	02 08 14.6	+0.4
	baz=0.8							
GLA	Glamis	0.74	35	*ePg*		Pg	02 08 04.5	-0.3
GLA				*eSg*		Sg	02 08 14.9	+0.3
ECBX	El Chinero	1.01	166	⇓*eP*		Pb	02 08 08.5	-0.6
ECBX				*eS*		Sb	02 08 21.3	-0.6
ECBX				⇓*e*			02 08 22.1	
	comp=E,2μm,0.5s							
MONP	Monument Peak	1.01	296	⇑P		Pb	02 08 07.4	-1.9
	baz=1.1							
MONP				⇑S		Sb	02 08 23.1	+0.9
	baz=1.1							
CBX	Cerro Bola	1.13	263	*eP*		Pn	02 08 11.1	0.0
CBX				*eS*		Sb	02 08 25.9	+0.4
BAR	Barrett	1.15	282	*ePn*		Pn	02 08 11.3	-0.1
BAR				*eSn*		Sn	02 08 26.1	-0.5
BC3	Big Chuckawall	1.20	355	⇓P		Pn	02 08 11.5	-0.6
	baz=1.3							
BC3				⇓S		Sb	02 08 26.9	-0.7
	baz=1.3							
ECNX	Esteban Cantu	1.33	234	*eP*		Pn	02 08 17.2	+3.3
ECNX				*eS*		Sn	02 08 35.2	+4.1
113A	Mohawk Valley,	1.36	76	P		Pn	02 08 13.7	-0.6
	baz=1.4,SNR=282							
113A				⇑S		Sn	02 08 30.6	-1.2
	baz=1.4							
PBX	Punta Banda	1.38	239	*eP*		Pn	02 08 17.9	+3.5
PBX				*eS*		Sn	02 08 36.0	+3.9
PBX	Punta Banda	1.38	239	*eP*		Pn	02 08 17.9	+3.5
PBX				*eS*		Sn	02 08 36.0	+3.9
SPX	San Pedro Mart	1.41	184	*eP*		Pn	02 08 14.6	-0.3
SPX				*eS*		Sn	02 08 31.7	-1.2
SPX				⇑*e*			02 08 36.1	
	comp=E,382nm,0.2s							
SPX				⇓*e*			02 08 39.0	
	comp=N,345nm,0.1s							
Y12C	Blythe	1.46	28	⇑Pb		Pb	02 08 16.5	-0.4
	baz=1.5,SNR=20							
Y12C				⇑Sb		Sb	02 08 36.2	+1.1
	baz=1.5							
PFO	Pinyon Flat Ob	1.49	321	⇓P		Pn	02 08 15.3	-0.8
	baz=1.6							
PFO				⇑S		Sn	02 08 34.2	-0.8
	baz=1.6							
PFO	Pinyon Flat Ob	1.49	321	*ePn*		Pn	02 08 15.1	-0.9
PFO				*eSn*		Sn	02 08 33.6	-1.3
109C	Camp Elliot, M	1.56	287	⇑Pb		Pb	02 08 18.4	-0.1
	baz=1.6,SNR=89							
109C				⇓Sb		Sb	02 08 38.5	+0.7
	baz=1.6							
Z13A	Yuma Proving G	1.60	62	⇓P		Pn	02 08 16.8	-0.7
	baz=1.6,SNR=347							
Z13A				⇑Sb		Sb	02 08 40.0	+1.0
	baz=1.6							
BELC	Belle Mtn. Jos	1.64	340	⇑P		Pn	02 08 17.5	-0.6
	baz=1.7							
IRM	Iron Mountain	1.71	5	⇑P		Pn	02 08 18.5	-0.6
	baz=1.8,SNR=45							
MURC	Murrieta	1.94	307	⇓Sb		Sb	02 08 51.1	+2.2
	baz=2.0							
114A	Black Gap (USA	2.09	81	⇑P		Pn	02 08 24.1	-0.2
	baz=2.1,SNR=37							
114A				⇓Sb		Sb	02 08 54.8	+1.5
	baz=2.1							
PDMCI	Parker Dam,Lak	2.10	28	⇓Sb		Sb	02 08 55.5	+2.1
	baz=2.2							
214A	Organ Pipe Nat	2.20	102	P		Pn	02 08 24.6	-1.2
	baz=2.1,SNR=18							
Z14A	Wintersburg	2.21	65	⇓P		Pn	02 08 25.6	-0.3
	baz=2.2,SNR=18							
Z14A				⇓S		Sn	02 08 53.0	+0.4
	baz=2.2							
LDFC	Landfair	2.63	4	*ePn*		Pn	02 08 32.8	+1.1
LDFC				*ePg*		Pg	02 08 41.0	+0.3
LDFC				*eSg*		Sg	02 09 14.4	-0.3
115A	Sonoran Desert	2.64	84	⇑P		Pn	02 08 31.2	-0.5
	baz=2.6,SNR=34							
MWC	Mount Wilson	2.88	309	*ePg*		Pg	02 08 42.1	-3.5
MWC				*eSg*		Sg	02 09 19.5	-3.4
Y15A	Casa Rosa Ranc	2.93	58	⇓P		Pn	02 08 35.7	-0.1
	baz=3.0,SNR=13							
116A	Eloy	3.07	87	⇑P		Pn	02 08 37.5	-0.3
	baz=3.0							
GSC	Goldstone	3.10	337	*ePg*		Pg	02 08 48.0	-1.6
Y16A	Circle Bar Ran	3.54	65	⇓P		Pn	02 08 44.0	-0.2
	baz=3.5,SNR=5.6							
TUC	Tucson	3.85	91	*ePn*		Pn	02 08 48.9	+0.4
TUC				*ePg*		Pg	02 09 00.0	-4.1
TUC				*eSg*		Sg	02 09 50.0	-4.0
117A	Oracle	3.88	87	⇑P		Pn	02 08 48.5	-0.5
	baz=3.9,SNR=16							
Y17A	Roosevelt	3.97	71	⇑P		Pn	02 08 49.8	-0.3
	baz=4.0,SNR=14							
ISA	Isabella	4.13	322	*ePg*		Pg	02 09 07.7	-1.7
ISA				*eSg*		Sg	02 09 59.2	-3.6
WUAZ	Wupatki	4.49	46	*ePn*		Pn	02 08 59.7	+2.4
WUAZ				*eSg*		Sg	02 10 08.7	-5.7
118A	Homack Ranch,	4.54	86	⇑P		Pn	02 08 58.3	+0.3
	baz=4.5,SNR=13							
CCUT	Cedar City	5.34	17	*ePg*		Pg	02 09 33.1	+0.7
	comp=N,4.5nm,0.8s							
CCUT				*eSg*		Sg	02 10 37.0	-4.6
ARUT	Antelope Range	5.55	16	*ePg*		Pg	02 09 34.8	-1.7
	comp=N,4.4nm,0.6s							
MSU	Marysvale	6.57	22	*ePg*		Pb	02 09 49.7	+5.7
	comp=N,2.3nm,0.6s							

*ISCJB **21** 02:17:14.1±2.9,6°.5S±0°.1×147°.4E±0°.1, h72km±21km, mb4.5/11, Error ellipse: s-maj=26.8km s-min=19.3km az=136.4*
*NEIC **21** 02:17:16.0±2.6,6°.54S×147°.57E, h86km±21km, mb4.1/4, Error ellipse: s-maj=25.2km s-min=22.4km az=100.0*
*IDC **21** 02:17:16.6±4.3,6°.72S×147°.80E, h92km±33km, mb4.1/4, mb1 4.2/6, mb1mx3.8/16, mbtmp4.1/6, MS3.3/1, Ms1 3.3/1, ms1mx2.6/22, Error ellipse: s-maj=40.8km s-min=26.8km az=74.0*

ISC 21 02:17:15.3±2.0,6°.5S±0°.1×147°.4E±0°.1,h69km±15km,n38, σ0°.72/35,mb4.5/11,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.91	184	P		Pn	02 17 59.2	-0.1
	39nm,0.3s,baz=352,slow=5.0,SNR=83							
PMG				S		Sn	02 18 33.0	-0.2
	60nm,0.3s,baz=220,slow=22,SNR=12							
PMG	Port Moresby	2.91	184	P		Pn	02 17 59.2	-0.1
PMG				S		Sn	02 18 33.0	-0.2
COEN	Coen	8.51	209	*ePn*		Pn	02 19 15.8	0.0
	59nm,0.4s							
CTA	Charters Tower	13.57	185	P		Pn	02 20 26.0	+1.3
	0.5nm,0.3s,baz=360,slow=13,SNR=6.8							
CTA	Charters Tower	13.57	185	P		Pn	02 20 26.0	+1.3
CTAO	Charters Tower	13.57	185	*ePn*		Pn	02 20 25.5	+0.9
	3.9nm,0.6s							
WRAB	Tennant Creek	18.41	222	*eP*		Pn	02 21 25.1	-0.7
	3.9nm,0.6s							
WRA	Warramunga Arr	18.43	222	P		Pn	02 21 25.1	-0.9
	1.1nm,0.3s,baz=51,slow=11,SNR=43							
WRA	Warramunga Arr	18.43	222	P		Pn	02 21 25.1	-0.9
EIDS	Eidsvold	19.11	170	*eP*		Pn	02 21 33.4	-0.7
	17nm,0.5s							
AS31	Alice Springs	21.45	216	*eP*		P	02 21 58.3	+0.4
ASAR	Alice Springs	21.45	216	P		P	02 21 58.5	+0.6
	2.5nm,0.4s,mb3.9,baz=48,slow=8.9,SNR=42							
ASAR				S		S	02 25 51.9	-0.2
	1.6nm,0.8s,baz=34,slow=25,SNR=9.5							
ASAR	Alice Springs	21.45	216	P		P	02 21 58.5	+0.6
ASAR				S		S	02 25 51.9	-0.2
ARMA	Armidale	24.14	171	*eP*		P	02 22 24.4	-0.5
FITZ	Fitzroy Crossi	24.15	239	P		P	02 22 25.6	+0.6
	11nm,0.4s,mb4.5,baz=57,slow=7.8,SNR=170							
FITZ	Fitzroy Crossi	24.15	239	*eP*		P	02 22 25.5	+0.4
	23nm,0.4s,mb4.8							
FITZ	Fitzroy Crossi	24.15	239	P		P	02 22 25.6	+0.6
CMSA	Cobar Meteorol	24.98	183	*eP*		P	02 22 32.4	0.0
	18nm,0.7s,mb4.6							
STKA	Stephens Creek	25.84	191	P		P	02 22 39.9	-0.3
	3.9nm,0.6s,mb4.1,baz=22,slow=6.7,SNR=11							
STKA	Stephens Creek	25.84	191	*eP*		P	02 22 40.0	-0.2
	3.6nm,0.6s,mb4.0							
STKA	Stephens Creek	25.84	191	P		P	02 22 39.9	-0.3
YNG	Young	27.69	178	*eP*		P	02 22 58.2	+1.3
	10nm,1.2s,mb4.2							
MBWA	Marble Bar	30.48	239	*eP*		P	02 23 22.1	+0.3
	6.4nm,0.6s,mb4.4							
MEEK	Meekatharra	33.94	231	*eP*		P	02 23 52.6	+0.5
	1.5nm,0.1s,mb4.8							
MORW	Morawa	37.14	229	*eP*		P	02 24 19.5	0.0
	101nm,2.0s,mb5.4							
KLBR	Kellerberrin	37.29	224	*eP*		P	02 24 20.3	-0.5
	14nm,0.8s,mb4.9							
KSRS	Korea Array	47.34	339	LR	LR		02 45 16.5	
	comp=Z,29nm,18.8s,baz=339,slow=35							
VNDA	Vanda	71.41	177	P		P	02 28 23.9	-3.7
	1.7nm,0.5s,mb4.1,baz=0.0,slow=3.0,SNR=30							
VNDA	Vanda	71.41	177	*eP*		P	02 28 23.3	-4.3
	1.7nm,0.5s,mb4.1							
MKAR	Makanchi Array	78.11	320	P		P	02 29 07.9	+1.0
	0.1nm,0.3s,baz=101,slow=6.2,SNR=4.0							
MKAR	Makanchi Array	78.11	320	P		P	02 29 07.8	+1.0
ABKAR	Akbulak array	93.19	319	*eP*		P	02 30 20.4	-1.5
	0.2nm,0.3s,mb3.9							
GERES	GERESS Array B	122.52	325	PKP		PKPdf	02 36 01.7	-1.2
	0.4nm,0.5s,baz=15,slow=4.1,SNR=2.5							
GERES	GERESS Array B	122.52	325	PKP		PKPdf	02 36 01.7	-1.2
TORD	Torodi Ar. Bea	145.58	284	PKPbc		PKPbc	02 36 47.2	+0.2
	1.9nm,0.6s,baz=71,slow=4.0,SNR=37							
TORD				pPKPbc		pPKPbc	02 37 10.9	+4.3
	0.8nm,0.7s,baz=80,slow=4.5,SNR=3.7							
TORD	Torodi Ar. Bea	145.58	284	PKPbc		PKPbc	02 36 47.2	+0.2
TORD				pPKPbc		pPKPbc	02 37 10.9	+4.3
DBIC	Dimbokro	152.43	272	PKPbc		PKPbc	02 37 04.6	0.0
	1.4nm,0.5s,baz=45,slow=1.9,SNR=3.4							
DBIC				PKPab		PKPab	02 37 16.5	+1.5
	3.2nm,1.0s,baz=131,slow=5.0,SNR=4.1							
DBIC	Dimbokro	152.43	272	PKPbc		PKPbc	02 37 04.6	0.0
DBIC				PKPab		PKPab	02 37 16.5	+1.5

*ISCJB **21** 02:36:50.9±1.2,20°.8S±0°.1×178°.1W±0°.1, h541km±19km, mb4.0/10, Error ellipse: s-maj=21.6km s-min=13.9km az=138.9*
*IDC **21** 02:36:52.4±2.1,20°.82S×178°.10W, h542km±23km, mb3.4/7, mb1 3.6/9, mb1mx3.3/20, mbtmp3.4/9, Error ellipse: s-maj=28.7km s-min=16.9km az=146.0*
*NEIC **21** 02:36:52.5±1.0,20°.82S×178°.05W, h552km±11km, mb4.4/4, Error ellipse: s-maj=20.7km s-min=10.8km az=143.0*

ISC 21 02:36:52.5±1.4,20°.9S±0°.1×178°.1W±0°.1,h548km±19km, n45,σ0°84/29,mb4.0/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	9.20	42	P		P	02 39 01.7	-0.6
	6.1nm,0.3s,baz=243,slow=14,SNR=3.1							
AFI				S		S	02 40 42.3	-6.5
	6.2nm,0.3s,baz=221,slow=20,SNR=3.4							
AFI	Afiamalu	9.20	42	P		P	02 39 01.7	-0.6
AFI				S		S	02 40 42.3	-6.5
URZ	Urewera	17.79	192	P		P	02 40 29.2	+0.8
	1.0nm,0.3s,baz=17,slow=8.0,SNR=6.4							
URZ	Urewera	17.79	192	P		P	02 40 29.2	+0.8
CTAO	Charters Tower	33.37	265	*eP*		P	02 42 46.1	+0.2
	5.4nm,0.6s,mb4.2							
PMG	Port Moresby	35.35	284	P		P	02 43 02.6	0.0
	7.7nm,0.8s,mb4.3,baz=116,slow=6.3,SNR=5.2							
PMG	Port Moresby	35.35	284	*eP*		P	02 43 02.2	-0.3
	9.9nm,0.9s,mb4.3							
AS31	Alice Springs	44.34	257	*eP*		P	02 44 14.9	+0.3
ASAR	Alice Springs	44.34	257	P		P	02 44 14.8	+0.3
	3.8nm,0.6s,mb4.1,baz=87,slow=8.4,SNR=42							
ASAR				PcP	PcP		02 45 47.4	+0.7
	0.8nm,0.6s,baz=96,slow=3.8,SNR=5.3							
ASAR				S		S	02 50 06.7	-2.6
	0.5nm,0.8s,baz=91,slow=16,SNR=5.1							
ASAR	Alice Springs	44.34	257	P		P	02 44 14.8	+0.3
ASAR				PcP	PcP		02 45 47.4	+0.7
ASAR				S		S	02 50 06.7	-2.6
WRA	Warramunga Arr	44.46	262	P		P	02 44 15.2	-0.2
	1.8nm,0.3s,mb4.1,baz=97,slow=7.4,SNR=84							
WRA				S		S	02 50 06.5	-4.6
	0.4nm,0.7s,baz=100,slow=13,SNR=5.0							
WRA	Warramunga Arr	44.46	262	P		P	02 44 15.2	-0.2
WRA				S		S	02 50 06.5	-4.6
FORT	Forrest	49.06	247	*eP*		P	02 44 50.3	+0.3
	7.4nm,0.5s,mb4.5							
MBWA	Marble Bar	57.68	258	*eP*		P	02 45 51.0	-0.3
	4.8nm,0.6s,mb3.9							
MJAR	Matsushiro Arr	70.48	324	P		P	02 47 11.7	-0.5
	1.6nm,0.4s,mb3.9,baz=150,slow=5.0,SNR=4.1							
MJAR	Matsushiro Arr	70.48	324	P		P	02 47 11.7	-0.5
VNA3	Neumayer Olymp	87.75	176	*e*		P	02 48 41.8	-1.1
VNA2	Neumayer--Watz	88.19	177	*e*		P	02 48 44.3	-0.7
ILAR	Eielson Array	88.72	13	P		P	02 48 46.7	-0.6
	0.4nm,0.5s,mb3.5,baz=217,slow=4.9,SNR=7.5							
ILAR	Eielson Array	88.72	13	P		P	02 48 46.7	-0.6
PDAR	Pinedale Array	89.31	43	P		P	02 48 52.1	+1.5
	0.4nm,0.6s,mb3.4,baz=167,slow=2.6,SNR=3.6							
CMAR	Chiang Mai Arr	90.17	290	P		P	02 48 56.8	+1.7
	0.4nm,0.3s,mb3.7,baz=143,slow=2.3,SNR=5.7							
CMAR	Chiang Mai Arr	90.17	290	P		P	02 48 56.8	+1.7
MKAR	Makanchi Array	111.41	313	PKiKP	PKiKP		02 54 24.7	+0.2
	0.2nm,0.4s,baz=150,slow=2.0,SNR=4.2							
MKAR	Makanchi Array	111.41	313	PKiKP	PKiKP		02 54 24.7	+0.2
TKM2	Tokmak 2	115.69	309	*e*PKP	PKPdf		02 54 33.3	+0.5
BVAR	Borovoye Array	119.33	320	PKP	PKPdf		02 54 38.6	-0.9
	0.8nm,0.4s,baz=134,slow=1.7,SNR=5.6							
BVAR	Borovoye Array	119.33	320	PKP	PKPdf		02 54 38.6	-0.9
ABKAR	Akbulak array	126.31	316	*e*PKPdf	PKPdf		02 54 52.0	-1.0
ARCES	ARCESS Array B	129.29	350	PKP	PKPdf		02 54 57.1	-1.0
	4.8nm,0.9s,baz=108,slow=1.9,SNR=4.2							
ARCES	ARCESS Array B	129.29	350	PKP	PKPdf		02 54 57.1	-1.0
HFS	Hagfors	139.92	351	PKhKP	PKPpre		02 55 11.7	
	0.8nm,0.4s,baz=63,slow=6.8,SNR=7.4							
HFS	Hagfors	139.92	351	PKP	PKPpre		02 55 11.7	
AKASG	Malin Array Be	143.32	331	PKP	PKPdf		02 55 21.9	-2.5
	3.2nm,0.5s,baz=39,slow=4.2,SNR=7.1							
AKASG	Malin Array Be	143.32	331	PKP	PKPdf		02 55 21.9	-2.5
BR131	Keskin Array S	147.04	312	ePKPbc	PKPbc		02 55 33.3	-0.9
BRTR	Keskin Array B	147.04	312	PKPbc	PKPbc		02 55 33.8	-0.4
	0.9nm,0.6s,baz=20,slow=4.6,SNR=4.1							
BRTR	Keskin Array B	147.04	312	PKPbc	PKPbc		02 55 33.8	-0.4
MMAI	Mount Meron Ar	147.93	299	PKPbc	PKPbc		02 55 37.3	+0.6
	2.6nm,0.6s,baz=68,slow=6.7,SNR=12							
MMAI	Mount Meron Ar	147.93	299	PKPbc	PKPbc		02 55 37.3	+0.6
CLL	Collm	148.43	347	ePKPbc	PKPbc		02 55 37.0	-0.3
	comp=Z,7.0nm,1.1s							
GERES	GERESS Array B	150.56	344	PKPbc	PKPbc		02 55 42.7	+0.2
	comp=Z,0.6nm,0.6s,baz=29,slow=3.0,SNR=6.3							
GERES	GERESS Array B	150.56	344	PKPbc	PKPbc		02 55 42.7	+0.2
DAVOX	Davos/Dischmat	153.38	348	PKPbc	PKPbc		02 55 49.5	+0.7
	comp=Z,1.1nm,0.5s,baz=70,slow=7.3,SNR=3.5							
DAVOX	Davos/Dischmat	153.38	348	PKPbc	PKPbc		02 55 49.5	+0.7

*ISCJB **21** 02:52:18.2±0.5,24°.58N±0°.03×121°.83E±0°.02, h70km±4km, Error ellipse: s-maj=5.4km s-min=3.1km az=157.7*
*JMA **21** 02:52:18.5±0.3,24°.84N×121°.91E, h65km, M2.6*
*TAP **21** 02:52:18.1,24°.57N×121°.79E, h68km, ML3.6, B*

ISC 21 02:52:18.6±0.5,24°.59N±0°.03×121°.82E±0°.02,h69km±4km, n44,σ0°67/77,1C-6D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TWC	Suao	0.03	52	⇓*iP*		Pn	02 52 28.7	+0.1
	baz=63							
TWC				S		Sn	02 52 36.3	+0.4
	baz=63							
ENA	Nanau	0.18	205	⇓*iP*		Pn	02 52 28.8	-0.2
	baz=201							
ENA				*eS*		Sn	02 52 37.0	+0.5
	baz=201							
ILA	Ilan	0.19	339	*eP*		Pn	02 52 29.2	+0.1
	baz=345							
ILA				*eS*		Sn	02 52 38.0	+1.3
	baz=345							
TWE	Neicheng	0.19	313	*i* P		Pn	02 52 29.1	+0.1
	baz=319							
TWE				*eS*		Sn	02 52 36.9	+0.2
	baz=319							
ENTT	Nioudou	0.24	282	⇓*iP*		Pn	02 52 29.2	-0.1
	baz=288							
ENTT				*eS*		Sn	02 52 37.1	0.0
	baz=288							
EGS		0.27	22	⇑P		Pn	02 52 30.2	+0.7
	baz=33							
EGS				*eS*		Sn	02 52 38.7	+1.2
	baz=33							
NSK	Sanguang	0.43	282	⇓*iP*		Pn	02 52 30.2	-0.5
	baz=295							
NSK				*eS*		Sn	02 52 38.5	-1.1
	baz=295							
NNS	Nan Shan	0.43	250	⇓*iP*		Pn	02 52 30.7	0.0
	baz=250							
NNS				*i* S		Sn	02 52 39.2	-0.4
	baz=250							
TWB1	Santiao Chiao	0.44	20	P		Pn	02 52 31.1	+0.2
	baz=32							
TWB1				*eS*		Sn	02 52 40.0	+0.2
	baz=32							
TWA	Mucha	0.45	331	⇓*iP*		Pn	02 52 30.7	-0.1
	baz=328							
TWA				S		Sn	02 52 39.3	-0.5
	baz=328							
NWF	Wu-fen Shan	0.48	356	*eP*		Pn	02 52 31.3	+0.2
	baz=353							
NWF				*eS*		Sn	02 52 41.0	+0.6
	baz=353							
TAP1	Taipei	0.52	329	*eP*		Pn	02 52 31.4	-0.2
	baz=324							
TAP1				*eS*		Sn	02 52 40.2	-0.8
	baz=324							
TWD	Chiaw

IRIF	**Iriomote-Funau**	**1.76**	**98**	*P*	**Pn**	**02 52 46.5**	**-0.4**
IRIF				*eS*	**Sn**	**02 53 07.5**	**-0.9**
CHN1	**Nanshi** baz=232	**1.83**	**221**	*eP*	**Pn**	**02 52 47.6**	**-0.3**
HATJ	**Hateruma jima**	**1.89**	**106**	*P*	**Pn**	**02 52 49.5**	**+0.9**
HATJ				*eS*	**Sn**	**02 53 12.0**	**+0.5**
TWG	**Pinlang** baz=191	**1.89**	**201**	*eP*	**Pn**	**02 52 48.6**	**-0.1**
JKRS	**Kuro-shima**	**2.02**	**100**	*P*	**Pn**	**02 52 50.8**	**+0.3**
JKRS				*eS*	**Sn**	**02 53 14.8**	**-0.1**
JIJ	**Ishigaki jima**	**2.13**	**96**	*P*	**Pn**	**02 52 51.6**	**-0.3**
JIJ				*eS*	**Sn**	**02 53 16.3**	**-1.0**
JTJ	**Tarama**	**2.62**	**88**	*P*	**Pn**	**02 52 59.2**	**+0.6**
JTJ				*eS*	**Sn**	**02 53 29.6**	**+0.2**
QZH	**Quanzhou**	**2.96**	**278**	Pn	**Pn**	**02 52 59.8**	**-3.4**
QZH				Sn	**Sn**	**02 53 30.9**	**-6.6**

*DDA **21** 02:52:49.2, 38°.88N×35°.53E, h7km±2km, Md3.4*
*CSEM **21** 02:52:50.0±0.2, 38°.84N×35°.52E, h2km, MD3.1, Error ellipse: s-maj=5.3km s-min=3.7km az=23.0*

ISK 21 02:52:48.4, 38°.83N×35°.55E, h5km, MD3.1, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNN	**Bunyan**	**0.24**	**84**	PG	Pg	02 52 53.7	+0.7
BNN				SG	Sg	02 52 58.9	+2.8
BNN	**Bunyan**	**0.24**	**84**	*i* Pg	Pg	02 52 53.7	+0.7
BNN				*i* Sg	Sg	02 52 58.9	+2.8
AVNT	**Avonos**	**0.54**	**265**	*i* P	Pg	02 52 59.7	+0.9
AVNT				*i* S	Sg	02 53 07.7	+1.9
AVNT	**Avonos**	**0.54**	**265**	*i* P	Pg	02 52 59.7	+0.9
AVNT				*i* S	Sg	02 53 07.7	+1.9
PINB	**Pinarbasi**	**0.69**	**102**	*eP*	Pg	02 53 03.0	+1.4
PINB				*eS*	Sg	02 53 13.3	+2.8
PINB	**Pinarbasi**	**0.69**	**102**	*eP*	Pg	02 53 03.0	+1.4
PINB				*eS*	Sg	02 53 13.3	+2.8
YOZ	**Yozgat**	**0.83**	**348**	*e*PG	Pg	02 53 04.9	+0.6
YOZ				*e*SG	Sg	02 53 18.2	+3.1
YOZ	**Yozgat**	**0.83**	**348**	*e*Pg	Pg	02 53 04.9	+0.6
YOZ				*e*Sg	Sg	02 53 18.2	+3.1
SARI	**SarD1z-Kayseri**	**0.91**	**99**	*e*PG	Pg	02 53 04.4	-1.5
SARI				*e*SG	Sg	02 53 16.2	-1.5
KOZT	**Kozan**	**1.36**	**171**	*e*PN	Pn	02 53 15.6	+1.5
ANDN	**Andirin**	**1.40**	**153**	*eP*	Pn	02 53 17.3	+2.7
ANDN				*eS*	Sb	02 53 37.3	+4.2
ANDN	**Andirin**	**1.40**	**153**	*eP*	Pn	02 53 17.3	+2.8
ANDN				*eS*	Sb	02 53 37.3	+4.2
CORM	**Corum**	**1.52**	**333**	*e*PN	Pn	02 53 17.9	+1.6
CORM				*e*SN	Sn	02 53 38.5	+2.0
CORM	**Corum**	**1.52**	**333**	*e*Pn	Pn	02 53 17.9	+1.6
CORM				*e*Sn	Sn	02 53 38.5	+2.1
KARA	**Karaisali**	**1.61**	**194**	*e*PN	Pn	02 53 19.7	+2.2
KARA	**Karaisali**	**1.61**	**194**	*e*Pn	Pn	02 53 19.7	+2.2
KMRS	**Kahramanmaras**	**1.70**	**141**	*e*PN	Pn	02 53 20.8	+2.2
KMRS	**Kahramanmaras**	**1.70**	**141**	*e*Pn	Pn	02 53 20.8	+2.1
SULT	**Sultanhani-AKS**	**1.71**	**249**	*e*PN	Pn	02 53 20.3	+1.4
SULT	**Sultanhani-AKS**	**1.71**	**249**	*e*Pn	Pn	02 53 20.3	+1.4
DARE	**Darende-Malaty**	**1.77**	**85**	*e*PN	Pn	02 53 18.1	-1.6
CTKT	**Corum**	**1.88**	**342**	*eP*	Pn	02 53 23.0	+1.7
CTKT				*eS*	Sn	02 53 50.0	+4.6
CTKT	**Corum**	**1.88**	**342**	*eP*	Pn	02 53 23.0	+1.8
CTKT				*eS*	Sn	02 53 50.0	+4.6
AKCD	**Akcadag**	**1.94**	**105**	*eP*	Pn	02 53 26.6	+4.7
AKCD				*eS*	Sn	02 53 52.8	+6.1
AKCD	**Akcadag**	**1.94**	**105**	*eP*	Pn	02 53 26.6	+4.6
AKCD				*eS*	Sn	02 53 52.8	+6.1
BBAL	**Bala**	**2.01**	**291**	*eP*	Pn	02 53 26.5	+3.5
BBAL				*eS*	Sn	02 53 53.5	+4.9
BBAL	**Bala**	**2.01**	**291**	*eP*	Pn	02 53 26.5	+3.5
BBAL				*eS*	Sn	02 53 53.5	+5.0
AFSR	**Af ar-Bala (A**	**2.02**	**289**	*e*PN	Pn	02 53 24.9	+1.8
AFSR	**Af ar-Bala (A**	**2.02**	**289**	*e*Pn	Pn	02 53 25.0	+1.9
RSDY	**Resadiye-TOKAT**	**2.08**	**41**	*e*PN	Pn	02 53 26.3	+2.3
RSDY	**Resadiye-TOKAT**	**2.08**	**41**	*e*Pn	Pn	02 53 26.3	+2.3
KVT	**Kavak**	**2.28**	**10**	*e*PN	Pn	02 53 28.8	+2.1
KVT	**Kavak**	**2.28**	**10**	*e*Pn	Pn	02 53 28.8	+2.1
MALT	**Malatya**	**2.32**	**102**	*e*PN	Pn	02 53 29.4	+2.2
MALT	**Malatya**	**2.32**	**102**	*e*Pn	Pn	02 53 29.4	+2.2
LOD	**Lodumlu**	**2.40**	**297**	*e*PN	Pn	02 53 29.9	+1.6
LOD	**Lodumlu**	**2.40**	**297**	*e*Pn	Pn	02 53 29.9	+1.6
KIZT	**Kizilcal**	**2.86**	**272**	*e*PN	Pn	02 53 36.5	+1.8
KIZT	**Kizilcal**	**2.86**	**272**	*e*Pn	Pn	02 53 36.5	+1.8
SVRC	**Sivrice-ELAZID**	**2.98**	**98**	*e*PN	Pn	02 53 39.0	+2.7
SVRC	**Sivrice-ELAZID**	**2.98**	**98**	*e*Pn	Pn	02 53 39.0	+2.7
PTK	**Pertek**	**3.00**	**88**	*e*PN	Pn	02 53 38.8	+2.2
PTK	**Pertek**	**3.00**	**88**	*e*Pn	Pn	02 53 38.8	+2.2

*ISCJB **21** 03:16:56.9±0.6, 38°.37N±0°.03×39°.04E±0°.03, h11km±8km, Error ellipse: s-maj=5.1km s-min=4.3km az=171.9*
*ISK **21** 03:16:56.3, 38°.36N×39°.06E, h9km, MD2.5*
*CSEM **21** 03:16:57.0±0.1, 38°.39N×39°.05E, h5km, MD2.5, Error ellipse: s-maj=2.9km s-min=1.9km az=164.0*
*DDA **21** 03:16:57.3, 38°.37N×39°.03E, h7km±3km, Md2.8*

ISC 21 03:16:57.5±0.8, 38°.38N±0°.03×39°.05E±0°.03, h11km±11km, n17, σ0°.71/31, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.13**	**338**	*i* Pg	**Pg**	**03 17 00.8**	**+0.3**
ELZG				*i* Sg	**Sg**	**03 17 03.2**	**+0.5**
SVRC	**Sivrice-ELAZID**	**0.20**	**89**	*e*Pg	**Pg**	**03 17 01.2**	**-0.6**
SVRC				*e*Sg	**Sg**	**03 17 03.8**	**-0.9**
SVRC	**Sivrice-ELAZID**	**0.20**	**89**	*e*PG	**Pg**	**03 17 01.2**	**-0.6**
SVRC				*e*SG	**Sg**	**03 17 03.8**	**-0.9**
MALT	**Malatya**	**0.49**	**263**	*e*PG	**Pg**	**03 17 06.6**	**-0.5**
MALT				*e*SG	**Sg**	**03 17 14.0**	**+0.5**
MALT	**Malatya**	**0.49**	**263**	*e*Pg	**Pg**	**03 17 06.6**	**-0.5**
MALT				*e*Sg	**Sg**	**03 17 14.0**	**+0.5**
MYA	**Malataya**	**0.49**	**264**	*e*PG	**Pg**	**03 17 06.7**	**-0.3**
MYA	**Malataya**	**0.49**	**264**	*e*Pg	**Pg**	**03 17 06.7**	**-0.4**
PTK	**Pertek**	**0.58**	**28**	*e*PG	**Pg**	**03 17 07.8**	**-1.0**
PTK				*e*SG	**Sg**	**03 17 17.0**	**+0.6**
PTK	**Pertek**	**0.58**	**28**	*e*Pg	**Pg**	**03 17 07.8**	**-1.0**
PTK				*e*Sg	**Sg**	**03 17 17.0**	**+0.5**
AKCD	**Akcadag**	**0.89**	**265**	*i* P	**Pg**	**03 17 14.1**	**-0.5**
AKCD				*i* S	**Sg**	**03 17 26.1**	**0.0**
AKCD	**Akcadag**	**0.89**	**265**	*i* P	**Pg**	**03 17 14.1**	**-0.5**
AKCD				*i* S	**Sg**	**03 17 26.1**	**0.0**
DIYA	**Diyarbakir**	**0.96**	**118**	*eP*	**Pg**	**03 17 15.7**	**-0.2**
DIYA				*eS*	**Sg**	**03 17 30.8**	**+2.4**
DIYA	**Diyarbakir**	**0.96**	**118**	*eP*	**Pg**	**03 17 15.7**	**-0.3**
DIYA				*eS*	**Sg**	**03 17 30.8**	**+2.4**
KEMA	**Kemaliye**	**0.99**	**334**	*eP*	**Pg**	**03 17 16.3**	**-0.3**
KEMA				*eS*	**Sg**	**03 17 30.1**	**+0.7**
KEMA	**Kemaliye**	**0.99**	**334**	*eP*	**Pg**	**03 17 16.3**	**-0.3**
ATAB	**Bozova**	**1.08**	**214**	*eP*	**Pg**	**03 17 18.4**	**+0.1**
ATAB				*eS*	**Sg**	**03 17 32.5**	**+0.2**
ATAB	**Bozova**	**1.08**	**214**	*eP*	**Pg**	**03 17 18.4**	**+0.1**
ATAB				*eS*	**Sg**	**03 17 32.5**	**+0.1**

*ISK **21** 03:37:34.6, 39°.48N×33°.07E, h5km, MD3.2*
*ISCJB **21** 03:37:35.4±0.3, 39°.47N±0°.02×33°.12E±0°.03, h10km, Error ellipse: s-maj=3.4km s-min=2.9km az=136.0*
*CSEM **21** 03:37:35.8±0.1, 39°.47N×33°.06E, h2km, MD3.2, Error ellipse: s-maj=3.6km s-min=3.3km az=145.0*
*DDA **21** 03:37:35.5, 39°.45N×33°.10E, h10km±2km, Md3.1*

ISC 21 03:37:35.6±0.4, 39°.47N±0°.02×33°.09E±0°.03, h1km±4km, n56, σ1°.06/73, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFSR	**Af ar-Bala (A**	**0.03**	**217**	*eP*	**Pg**	**03 37 34.6**	**-1.5**
BBAL	**Bala**	**0.08**	**19**	*i* Pg	**Pg**	**03 37 37.8**	**+0.6**
BBAL				*i* Sg	**Sg**	**03 37 40.3**	**+2.1**
LOD	**Lodumlu**	**0.49**	**329**	PG	**Pg**	**03 37 44.2**	**-0.9**
LOD				SG	**Sg**	**03 37 52.2**	**+0.8**
LOD	**Lodumlu**	**0.49**	**329**	*i* Pg	**Pg**	**03 37 44.2**	**-0.9**
LOD				*i* Sg	**Sg**	**03 37 52.2**	**+0.8**
ELDT	**Eldivan**	**1.05**	**14**	*eP*	**Pg**	**03 37 57.1**	**+1.2**
ELDT				*eS*	**Sg**	**03 38 12.5**	**+3.0**
ELDT	**Eldivan**	**1.05**	**14**	*eP*	**Pg**	**03 37 57.1**	**+1.2**
ELDT				*eS*	**Sg**	**03 38 12.5**	**+3.0**
KIZT	**Kizilcal**	**1.11**	**238**	*e*PN	**Pg**	**03 37 56.7**	**-0.1**
KIZT				*e*SN	**Sg**	**03 38 12.7**	**+1.4**
KIZT	**Kizilcal**	**1.11**	**238**	*e*Pn	**Pg**	**03 37 56.7**	**-0.2**
KIZT				*e*Sn	**Sg**	**03 38 12.7**	**+1.5**
CANT	**Cankiri**	**1.21**	**19**	*e*PN	**Pn**	**03 37 59.6**	**-0.1**
KDHN	**Kadinhani**	**1.21**	**219**	*eP*	**Pg**	**03 37 57.9**	**-1.0**
KDHN				*eS*	**Sg**	**03 38 14.7**	**+0.2**
KDHN	**Kadinhani**	**1.21**	**219**	*eP*	**Pg**	**03 37 57.9**	**-1.0**
KDHN				*eS*	**Sg**	**03 38 14.7**	**+0.1**
SVRH	**Sivrihisar-ESK**	**1.21**	**270**	*e*PN	**Pn**	**03 37 58.5**	**-1.2**
SVRH				*e*SN	**Sg**	**03 38 17.1**	**+2.4**
SVRH	**Sivrihisar-ESK**	**1.21**	**270**	*e*Pn	**Pn**	**03 37 58.5**	**-1.2**
SVRH				*e*Sn	**Sg**	**03 38 17.1**	**+2.5**
SULT	**Sultanhani-AKS**	**1.31**	**165**	*e*PN	**Pg**	**03 38 00.6**	**-0.2**
SULT	**Sultanhani-AKS**	**1.31**	**165**	*e*Pn	**Pg**	**03 38 00.6**	**-0.1**
CORM	**Corum**	**1.38**	**59**	*e*PN	**Pg**	**03 38 01.9**	**-0.3**
CORM	**Corum**	**1.38**	**59**	*e*Pn	**Pg**	**03 38 01.9**	**-0.3**
AVNT	**Avonos**	**1.54**	**116**	*eP*	**Pg**	**03 38 04.2**	**-0.8**
AVNT				*eS*	**Sg**	**03 38 26.1**	**+1.1**
AVNT	**Avonos**	**1.54**	**116**	*eP*	**Pg**	**03 38 04.2**	**-0.9**
AVNT				*eS*	**Sg**	**03 38 26.1**	**+1.1**
KONT	**Konya--Tatoy**	**1.62**	**201**	*e*PN	**Pg**	**03 38 05.9**	**-0.8**
KONT	**Konya--Tatoy**	**1.62**	**201**	*e*Pn	**Pg**	**03 38 05.9**	**-0.8**
TOS	**Tosya**	**1.72**	**24**	*e*PN	**Pb**	**03 38 06.6**	**-1.5**
TOS	**Tosya**	**1.72**	**24**	*e*Pn	**Pb**	**03 38 06.6**	**-1.5**
YOZ	**Yozgat**	**1.73**	**84**	*e*PN	**Pg**	**03 38 08.0**	**-0.9**
YOZ	**Yozgat**	**1.73**	**84**	*e*Pn	**Pg**	**03 38 08.0**	**-0.9**
ESKT	**Eskisehir**	**1.73**	**272**	*e*PN	**Pb**	**03 38 07.1**	**-1.2**
ESKT	**Eskisehir**	**1.73**	**272**	*e*Pn	**Pb**	**03 38 07.1**	**-1.2**
CTKT	**Corum**	**1.74**	**48**	*eP*	**Pb**	**03 38 07.7**	**-0.7**
CTKT				*eS*	**Sg**	**03 38 31.3**	**-0.3**
CTKT	**Corum**	**1.74**	**48**	*eP*	**Pb**	**03 38 07.7**	**-0.7**
CTKT				*eS*	**Sg**	**03 38 31.3**	**-0.3**
MDU	**Mudurnu**	**1.75**	**305**	*e*PN	**Pb**	**03 38 07.2**	**-1.4**
MDU	**Mudurnu**	**1.75**	**305**	*e*Pn	**Pb**	**03 38 07.2**	**-1.4**
SAFT	**Safranbolu**	**1.80**	**350**	*e*PN	**Pb**	**03 38 08.0**	**-1.4**
SAFT	**Safranbolu**	**1.80**	**350**	*e*Pn	**Pb**	**03 38 08.0**	**-1.4**
BALT	**Daday**	**2.08**	**6**	*eP*	**Pg**	**03 38 14.8**	**-0.7**
BALT				*eS*	**Sg**	**03 38 41.6**	**-0.7**
BALT	**Daday**	**2.08**	**6**	*eP*	**Pg**	**03 38 14.8**	**-0.7**
BALT				*eS*	**Sg**	**03 38 41.7**	**-0.7**
SHUT	**Suhut-Afyon**	**2.18**	**246**	*e*PN	**Pb**	**03 38 14.0**	**-1.8**
SHUT	**Suhut-Afyon**	**2.18**	**246**	*e*Pn	**Pb**	**03 38 14.0**	**-1.8**
GULT	**Gulveren**	**2.20**	**297**	*e*PN	**Pn**	**03 38 13.8**	**+0.5**
GULT	**Gulveren**	**2.20**	**297**	*e*Pn	**Pn**	**03 38 13.8**	**+0.5**
BNN	**Bunyan**	**2.23**	**105**	*e*PN	**Pn**	**03 38 14.3**	**+0.6**
BNN	**Bunyan**	**2.23**	**105**	*e*Pn	**Pn**	**03 38 14.3**	**+0.6**
ALT	**Altintas**	**2.35**	**261**	*e*PN	**Pn**	**03 38 16.1**	**+0.7**
ALT	**Altintas**	**2.35**	**261**	*e*Pn	**Pn**	**03 38 16.1**	**+0.7**
SPNC	**Sapanca-Adapaz**	**2.46**	**301**	*e*PN	**Pn**	**03 38 17.2**	**+0.4**
SPNC	**Sapanca-Adapaz**	**2.46**	**301**	*e*Pn	**Pn**	**03 38 17.2**	**+0.4**
HDMB	**Hadim**	**2.54**	**191**	*e*PN	**Pn**	**03 38 18.8**	**+0.7**
HDMB	**Hadim**	**2.54**	**191**	*e*Pn	**Pn**	**03 38 18.8**	**+0.8**
SUTC	**Sutluce-Ispart**	**2.58**	**220**	*e*PN	**Pn**	**03 38 19.6**	**+1.1**
SUTC	**Sutluce-Ispart**	**2.58**	**220**	*e*Pn	**Pn**	**03 38 19.6**	**+1.1**
KARA	**Karaisali**	**2.69**	**144**	*e*PN	**Pn**	**03 38 21.0**	**+1.0**
KARA	**Karaisali**	**2.69**	**144**	*e*Pn	**Pn**	**03 38 21.0**	**+1.0**
BCK	**Bucak**	**2.81**	**225**	*e*PN	**Pn**	**03 38 22.3**	**+0.7**
BCK	**Bucak**	**2.81**	**225**	*e*Pn	**Pn**	**03 38 22.3**	**+0.7**
SARI	**SarD1z-Kayseri**	**2.92**	**105**	*e*PN	**Pn**	**03 38 23.1**	**-0.1**
SARI	**SarD1z-Kayseri**	**2.92**	**105**	*e*Pn	**Pn**	**03 38 23.1**	**-0.1**
KOZT	**Kozan**	**2.92**	**132**	*e*PN	**Pn**	**03 38 24.2**	**+1.0**

*ISCJB **21** 03:38:48.9±0.5, 30°.20N±0°.05×139°.0E±0°.1, h428km±7km, mb3.2/10, Error ellipse: s-maj=20.8km s-min=7.4km az=167.2*
*JMA **21** 03:38:49.7±0.3, 30°.26N×139°.14E, h433km, M3.7*
*NEIC **21** 03:38:50.3±0.9, 30°.18N×138°.73E, h416km±11km, mb3.4/4, Error ellipse: s-maj=19.2km s-min=10.7km az=72.0*
*IDC **21** 03:38:50.6±1.5, 30°.18N×138°.73E, h420km±19km, mb2.9/6, mb1 3.0/8, mb1mx2.8/26, mbtmp2.9/8, Error ellipse: s-maj=29.5km s-min=13.4km az=79.0*

ISC 21 03:38:49.8±0.5, 30°.22N±0°.05×139°.1E±0°.2, h423km±8km, n35, σ0°.97/38, mb3.2/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.94**	**11**	*P*	**P**	**03 39 55.8**	**+1.6**
JHJ	**Hachijo jima 2** 10.0nm,0.3s,baz=210,slow=14,SNR=5.1	**2.94**	**11**	*P*	**P**	**03 39 55.8**	**+1.6**
JHJ				S	**S**	**03 40 45.9**	**-0.6**
CBIJ	**Chichi jima** 15nm,0.3s,baz=52,slow=19,SNR=3.1	**4.10**	**139**	S	**S**	**03 41 03.5**	**-1.2**
CBIJ	**Chichi jima** 37nm,0.3s,baz=250,slow=23,SNR=10	**4.10**	**139**	*eS*	**S**	**03 41 03.5**	**-1.2**
JHHJ	**Haha-jima-NKT**	**4.46**	**142**	*eS*	**S**	**03 41 10.4**	**-0.6**
BSO1	**Boso 1**	**4.69**	**19**	*P*	**P**	**03 40 10.5**	**+0.8**
BSO1				*eS*	**S**	**03 41 13.8**	**-0.9**
BSO3	**Boso 3**	**4.71**	**14**	*eS*	**S**	**03 41 13.9**	**-1.3**
JWM	**Minabe**	**4.84**	**319**	*P*	**P**	**03 40 11.7**	**+0.5**
BSO4	**Boso 4**	**4.87**	**12**	*eS*	**S**	**03 41 18.2**	**+0.3**
JRY	**Ryogami san**	**5.79**	**358**	*P*	**P**	**03 40 21.8**	**+1.0**
JAG	**Ashikaga**	**6.20**	**2**	*P*	**P**	**03 40 24.8**	**-0.3**
MJAR	**Matsushiro Arr** 0.7nm,0.3s,baz=164,slow=9.4,SNR=5.2	**6.36**	**353**	*P*	**P**	**03 40 27.2**	**+0.4**
MJAR	**Matsushiro Arr**	**6.36**	**353**	*P*	**P**	**03 40 27.2**	**+0.4**
MAJO	**Matsushiro**	**6.36**	**353**	*e*Pn	**P**	**03 40 27.3**	**+0.5**
JHO	**Hitachi**	**6.49**	**10**	*P*	**P**	**03 40 28.6**	**+0.4**
JFK	**Kawauchi**	**7.28**	**11**	*P*	**P**	**03 40 38.3**	**+1.5**
JFK				*eS*	**S**	**03 42 02.5**	**-1.9**
MK31	**Makanchi Array**	**46.45**	**307**	*eP*	**P**	**03 46 35.3**	**-1.3**
MKAR	**Makanchi Array** 0.7nm,0.7s,mb3.1,baz=86,slow=9.4,SNR=6.2	**46.45**	**307**	*P*	**P**	**03 46 35.7**	**-0.9**
MKAR	**Makanchi Array**	**46.45**	**307**	*P*	**P**	**03 46 35.7**	**-0.9**
KURK	**Kurchatov** 0.4nm,0.4s,mb3.1,baz=91,slow=6.6,SNR=6.8	**48.90**	**313**	*P*	**P**	**03 46 54.7**	**-0.4**
KURK	**Kurchatov**	**48.90**	**313**	*P*	**P**	**03 46 54.7**	**-0.4**
WRA	**Warramunga Arr** 0.4nm,0.3s,mb3.2,baz=2.5,slow=7.8,SNR=17	**50.08**	**186**	*P*	**P**	**03 47 04.7**	**+0.5**
WRA	**Warramunga Arr**	**50.08**	**186**	*P*	**P**	**03 47 04.7**	**+0.5**
TKM2	**Tokmak 2** 1.6nm,0.8s,mb3.3	**51.46**	**303**	*eP*	**P**	**03 47 13.7**	**-0.5**
ASAR	**Alice Springs** 0.3nm,0.4s,mb2.9,baz=8.9,slow=6.6,SNR=3.6	**53.81**	**186**	*P*	**P**	**03 47 31.9**	**+0.7**
ASAR	**Alice Springs**	**53.81**	**186**	*P*	**P**	**03 47 31.9**	**+0.7**
BVAR	**Borovoye Array** baz=96,slow=6.3	**53.95**	**316**	*P*	**P**	**03 47 31.5**	**-0.3**
BVAR	**Borovoye Array**	**53.95**	**316**	*P*	**P**	**03 47 31.5**	**-0.3**
KKAR	**Karatay Array** 1.0nm,0.7s,mb3.1	**55.11**	**304**	*eP*	**P**	**03 47 39.5**	**-0.8**
ILAR	**Eielson Array** 0.4nm,0.8s,mb2.8,baz=259,slow=6.6,SNR=6.1	**56.30**	**30**	*P*	**P**	**03 47 50.9**	**+2.6**
ILAR	**Eielson Array**	**56.30**	**30**	*P*	**P**	**03 47 50.9**	**+2.6**
ABKAR	**Akbulak array** 0.6nm,0.5s,mb3.3	**61.02**	**313**	*eP*	**P**	**03 48 19.8**	**-0.7**
FINES	**FINESS Array B** 0.8nm,0.4s,mb3.7,baz=72,slow=6.0,SNR=3.9	**73.97**	**333**	*P*	**P**	**03 49 40.3**	**+0.1**
FINES	**FINESS Array B**	**73.97**	**333**	*P*	**P**	**03 49 40.3**	**+0.1**
BR131	**Keskin Array S** 0.9nm,0.7s,mb3.6	**81.93**	**311**	*eP*	**P**	**03 50 24.2**	**+0.3**

*ISK **21** 03:40:16.7, 39°.43N×33°.09E, h4km, MD3.0*
*CSEM **21** 03:40:17.5±0.2, 39°.41N×33°.05E, h2km, MD3.0, Error ellipse: s-maj=5.2km s-min=4.7km az=137.0*
*ISCJB **21** 03:40:18.6±0.4, 39°.42N±0°.03×33°.04E±0°.03, h10km, Error ellipse: s-maj=4.2km s-min=3.4km az=42.2*
*DDA **21** 03:40:18.5, 39°.42N×33°.07E, h2km±2km, Md2.8*

ISC 21 03:40:18.2±0.6, 39°.41N±0°.03×33°.04E±0°.04, h5km±4km, n41, σ1°.05/59, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFSR	**Af ar-Bala (A**	**0.04**	**32**	*e*PG	**Pg**	**03 40 17.4**	**-2.0**
AFSR	**Af ar-Bala (A**	**0.04**	**32**	*e*Pg	**Pg**	**03 40 17.4**	**-2.0**
BBAL	**Bala**	**0.15**	**26**	*i* Pg	**Pg**	**03 40 20.9**	**-0.2**
BBAL				*i* Sg	**Sg**	**03 40 23.4**	**+0.2**
LOD	**Lodumlu**	**0.53**	**336**	*e*PG	**Pg**	**03 40 27.4**	**-0.9**
LOD				*e*SG	**Sg**	**03 40 35.1**	**-0.1**
LOD	**Lodumlu**	**0.53**	**336**	*e*Pg	**Pg**	**03 40 27.4**	**-0.9**
LOD				*e*Sg	**Sg**	**03 40 35.1**	**0.0**
KIZT	**Kizilcal**	**1.04**	**240**	*e*PN	**Pn**	**03 40 38.8**	**-0.7**
KIZT				*e*SN	**Sn**	**03 40 54.1**	**-0.4**
KIZT	**Kizilcal**	**1.04**	**240**	*e*Pn	**Pn**	**03 40 38.8**	**-0.7**
KIZT				*e*Sn	**Sn**	**03 40 54.1**	**-0.4**
ELDT	**Eldivan**	**1.12**	**15**	*eP*	**Pg**	**03 40 40.4**	**+0.7**
ELDT				*eS*	**Sg**	**03 40 55.8**	**+1.5**
ELDT	**Eldivan**	**1.12**	**15**	*eP*	**Pg**	**03 40 40.3**	**+0.6**
ELDT				*eS*	**Sg**	**03 40 55.8**	**+1.6**
KDHN	**Kadinhani**	**1.14**	**219**	*eP*	**Pg**	**03 40 41.4**	**+1.3**
KDHN				*eS*	**Sg**	**03 40 57.6**	**+2.7**
KDHN	**Kadinhani**	**1.14**	**219**	*eP*	**Pg**	**03 40 41.3**	**+1.2**
KDHN				*eS*	**Sg**	**03 40 57.6**	**+2.7**
SVRH	**Sivrihisar-ESK**	**1.18**	**272**	*e*PN	**Pn**	**03 40 41.4**	**+0.1**
SVRH				*e*SN	**Sn**	**03 40 57.6**	**-0.1**
SVRH	**Sivrihisar-ESK**	**1.18**	**272**	*e*Pn	**Pn**	**03 40 41.4**	**+0.1**
SVRH				*e*Sn	**Sn**	**03 40 57.6**	**-0.1**
SULT	**Sultanhani-AKS**	**1.26**	**163**	*e*PN	**Pn**	**03 40 41.2**	**-1.3**
SULT	**Sultanhani-AKS**	**1.26**	**163**	*e*Pn	**Pn**	**03 40 41.2**	**-1.3**
CANT	**Cankiri**	**1.28**	**20**	*e*PN	**Pn**	**03 40 41.5**	**-1.2**
CANT				*e*SN	**Sn**	**03 40 60.0**	**-0.2**
CORM	**Corum**	**1.45**	**57**	*e*PN	**Pn**	**03 40 43.8**	**-1.2**
CORM	**Corum**	**1.45**	**57**	*e*Pn	**Pn**	**03 40 43.8**	**-1.2**
AVNT	**Avonos**	**1.55**	**113**	*eP*	**Pn**	**03 40 47.7**	**+1.3**
AVNT				*eS*	**Sn**	**03 41 07.5**	**+0.7**
AVNT	**Avonos**	**1.55**	**113**	*eP*	**Pn**	**03 40 47.7**	**+1.3**
AVNT				*eS*	**Sn**	**03 41 07.5**	**+0.7**
KONT	**Konya--Tatoy**	**1.56**	**200**	*e*PN	**Pn**	**03 40 46.6**	**+0.1**
KONT	**Konya--Tatoy**	**1.56**	**200**	*e*Pn	**Pn**	**03 40 46.6**	**+0.1**
ESKT	**Eskisehir**	**1.70**	**274**	*e*PN	**Pn**	**03 40 48.3**	**-0.2**
ESKT	**Eskisehir**	**1.70**	**274**	*e*Pn	**Pn**	**03 40 48.3**	**-0.2**
MDU	**Mudurnu**	**1.76**	**308**	*e*PN	**Pn**	**03 40 49.1**	**-0.2**
MDU	**Mudurnu**	**1.76**	**308**	*e*Pn	**Pn**	**03 40 49.1**	**-0.2**
YOZ	**Yozgat**	**1.78**	**82**	*e*PN	**Pn**	**03 40 49.1**	**-0.4**
YOZ	**Yozgat**	**1.78**	**82**	*e*Pn	**Pn**	**03 40 49.2**	**-0.4**
CTKT	**Corum**	**1.81**	**47**	*eP*	**Pn**	**03 40 51.7**	**+1.6**
CTKT				*eS*	**Sn**	**03 41 13.7**	**+0.3**
CTKT	**Corum**	**1.81**	**47**	*eP*	**Pn**	**03 40 51.7**	**+1.7**
CTKT				*eS*	**Sn**	**03 41 13.7**	**+0.3**
SAFT	**Safranbolu**	**1.85**	**352**	*e*PN	**Pn**	**03 40 49.1**	**-1.4**
SAFT	**Safranbolu**	**1.85**	**352**	*e*Pn	**Pn**	**03 40 49.2**	**-1.4**
SHUT	**Suhut-Afyon**	**2.12**	**247**	*e*PN	**Pn**	**03 40 54.1**	**-0.2**
SHUT	**Suhut-Afyon**	**2.12**	**247**	*e*Pn	**Pn**	**03 40 54.1**	**-0.2**
BALT	**Daday**	**2.14**	**7**	*eP*	**Pn**	**03 40 57.6**	**+3.1**
BALT				*eS*	**Sn**	**03 41 24.7**	**+3.2**
BALT	**Daday**	**2.14**	**7**	*eP*	**Pn**	**03 40 57.6**	**+3.0**
BALT				*eS*	**Sn**	**03 41 24.7**	**

PWJI	**Pagerwojo**	**3.40**	**72**	P	**Pn**	**04 29 05.5**		**+0.7**

IDC 21 04:47:33.0±3.0, 6°29.S×147°35.E, h0km, mb3.3/2, mb1 3.4/4, mb1mx3.3/18, mbtmp3.2/4, ML2.6/1, Error ellipse: s-maj=63.4km s-min=30.7km az=84.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.11**	**184**	Pn	Pn	04 48 24.8	+1.5
	5.5nm,0.3s,baz=332,slow=5.8,SNR=8.5						
PMG				Pg	Pg	04 48 30.0	-2.6
	12nm,0.3s,baz=31,slow=10,SNR=26						
PMG				Sn	Sn	04 48 55.9	-5.3
	3.7nm,0.3s,baz=229,slow=22,SNR=6.2						
WRA	**Warramunga Arr**	**18.55**	**222**	P	Pn	04 51 50.5	-1.1
	0.1nm,0.3s,baz=48,slow=11,SNR=5.9						
ASAR	**Alice Springs**	**21.59**	**215**	P	P	04 52 23.4	-1.0
	0.4nm,0.5s,baz=55,slow=8.9,SNR=7.2						
FITZ	**Fitzroy Crossi**	**24.22**	**239**	P	P	04 52 51.0	-0.7
	1.2nm,0.7s,baz=51,slow=11,SNR=7.0						
TORD	**Torodi Ar. Bea**	**145.50**	**284**	PKPbc	PKPbc	05 07 14.4	+0.1
	0.2nm,0.4s,baz=73,slow=3.6,SNR=4.0						

*ISCJB **21** 04:50:37.9±0.4, 38°.40N×0°.02×26°.99E±0°.03, h9km±4km, Error ellipse: s-maj=4.0km s-min=3.6km az=0.0*
*CSEM **21** 04:50:37.8±0.1, 38°.40N×26°.98E, h8km, MD3.0, Error ellipse: s-maj=2.6km s-min=2.2km az=90.0*
*DDA **21** 04:50:37.8, 38°.41N×26°.99E, h7km±5km, Md2.8*
*ISK **21** 04:50:37.0, 38°.39N×26°.97E, h9km, MD3.0*
*ATH **21** 04:50:38.3, 38°.41N×27°.01E, h11km±2km, MD3.0/3*

ISC 21 04:50:38.4±0.4, 38°.40N±0°.02×27°.00E±0°.03, h10km±3km, **n38, σ**0**974/60, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLCB	**Balcova**	**0.03**	**111**	*e*PG	**Pg**	**04 50 38.9**	**-1.4**
BLCB	**Balcova**	**0.03**	**111**	*e*Pg	**Pg**	**04 50 38.9**	**-1.4**
IZM	**Izmir**	**0.20**	**90**	*e*PG	**Pg**	**04 50 42.5**	**-0.2**
IZM				*e*SG	**Sg**	**04 50 46.0**	**+0.4**
IZM	**Izmir**	**0.20**	**90**	*e*Pg	**Pg**	**04 50 42.5**	**-0.2**
IZM				*e*Sg	**Sg**	**04 50 46.0**	**+0.4**
URLA	**Izmir**	**0.32**	**263**	*e*P	**Pg**	**04 50 44.0**	**-0.8**
URLA				*e*S	**Sg**	**04 50 48.8**	**-0.3**
URLA	**Izmir**	**0.32**	**263**	*e*P	**Pg**	**04 50 44.0**	**-0.8**
URLA				*e*S	**Sg**	**04 50 48.8**	**-0.3**
SMG	**Samos**	**0.70**	**191**	*e*PG	**Pg**	**04 50 51.6**	**-0.3**
SMG				*e*SB	**Sg**	**04 51 02.1**	**+1.0**
SMG	**Samos**	**0.70**	**191**	*e*Pg	**Pg**	**04 50 51.6**	**-0.3**
SMG				*e*Sb	**Sg**	**04 51 02.1**	**+1.0**
GCAM	**G?zelcaml?**	**0.72**	**165**	*e*P	**Pg**	**04 50 52.2**	**-0.1**
GCAM				*e*S	**Sg**	**04 51 02.2**	**+0.5**
GCAM	**G?zelcaml?**	**0.72**	**165**	*e*P	**Pg**	**04 50 52.2**	**-0.1**
GCAM				*e*S	**Sg**	**04 51 02.2**	**+0.5**
CHOS	**Chios island**	**0.74**	**269**	*e*PB	**Pg**	**04 50 52.5**	**-0.3**
CHOS				*e*SB	**Sg**	**04 51 03.1**	**+0.6**
CHOS	**Chios island**	**0.74**	**269**	*e*Pb	**Pg**	**04 50 52.5**	**-0.3**
CHOS				*e*Sb	**Sg**	**04 51 03.1**	**+0.6**
AKHS	**Akhisar**	**0.80**	**53**	*e*P	**Pg**	**04 50 53.2**	**-0.6**
AKHS				*e*S	**Sg**	**04 51 05.3**	**+1.1**
AKHS	**Akhisar**	**0.80**	**53**	*e*P	**Pg**	**04 50 53.2**	**-0.6**
AKHS				*e*S	**Sg**	**04 51 05.3**	**+1.1**
AYVA	**Ayvalik**	**0.94**	**345**	*e*P	**Pg**	**04 50 56.4**	**-0.2**
AYVA				*e*S	**Sg**	**04 51 10.3**	**+1.6**
AYVA	**Ayvalik**	**0.94**	**345**	*e*P	**Pg**	**04 50 56.3**	**-0.2**
AYVA				*e*S	**Sg**	**04 51 10.3**	**+1.5**
PRK	**Paraskevi**	**1.02**	**326**	*e*PB	**Pg**	**04 50 57.5**	**-0.5**
PRK				*e*SB	**Sg**	**04 51 11.8**	**+0.5**
PRK	**Paraskevi**	**1.02**	**326**	*e*Pb	**Pg**	**04 50 57.5**	**-0.5**
PRK				*e*Sb	**Sg**	**04 51 11.8**	**+0.5**
KULA	**Kula-Manisa**	**1.31**	**84**	*e*PN	**Pn**	**04 51 02.7**	**0.0**
KULA				*e*SN	**Sn**	**04 51 20.6**	**+0.5**
KULA	**Kula-Manisa**	**1.31**	**84**	*e*Pn	**Pn**	**04 51 02.7**	**0.0**
KULA				*e*Sn	**Sn**	**04 51 20.7**	**+0.5**
BODT	**Bodrum**	**1.36**	**169**	*e*PN	**Pn**	**04 51 03.4**	**+0.1**
BODT				*e*SN	**Sn**	**04 51 21.0**	**-0.4**
BODT	**Bodrum**	**1.36**	**169**	*e*Pn	**Pn**	**04 51 03.4**	**+0.1**
BODT				*e*Sn	**Sn**	**04 51 21.0**	**-0.3**
BALY	**Balya**	**1.42**	**20**	*e*P	**Pn**	**04 51 03.6**	**-0.7**
BALY				*e*S	**Sn**	**04 51 23.1**	**0.0**
BALY	**Balya**	**1.42**	**20**	*e*P	**Pn**	**04 51 03.6**	**-0.7**
BALY				*e*S	**Sn**	**04 51 23.1**	**0.0**
EZN	**Ezine**	**1.52**	**340**	*e*PN	**Pn**	**04 51 04.5**	**-1.1**
EZN	**Ezine**	**1.52**	**340**	*e*Pn	**Pn**	**04 51 04.5**	**-1.1**
DAT	**Datca**	**1.73**	**164**	*e*PN	**Pn**	**04 51 07.8**	**-0.7**
DAT	**Datca**	**1.73**	**164**	*e*Pn	**Pn**	**04 51 07.8**	**-0.6**
GONE	**Gonen-Balikesi**	**1.73**	**18**	*e*PN	**Pn**	**04 51 08.8**	**+0.3**
GONE	**Gonen-Balikesi**	**1.73**	**18**	*e*Pn	**Pn**	**04 51 08.8**	**+0.3**
DST	**Dursunbey**	**1.74**	**46**	*e*PN	**Pn**	**04 51 08.0**	**-0.7**
DST	**Dursunbey**	**1.74**	**46**	*e*Pn	**Pn**	**04 51 08.0**	**-0.7**
APE	**Apeiranthos**	**1.77**	**222**	*e*PN	**Pn**	**04 51 11.3**	**+2.3**
APE	**Apeiranthos**	**1.77**	**222**	*e*Pn	**Pn**	**04 51 11.3**	**+2.3**
KRBG	**Karabiga-Canak**	**2.01**	**6**	*e*PN	**Pn**	**04 51 12.2**	**-0.1**
KRBG	**Karabiga-Canak**	**2.01**	**6**	*e*Pn	**Pn**	**04 51 12.2**	**-0.1**
KCTX	**Karacabey (Bur**	**2.14**	**29**	*e*PN	**Pn**	**04 51 14.1**	**-0.1**
KCTX	**Karacabey (Bur**	**2.14**	**29**	*e*Pn	**Pn**	**04 51 14.1**	**0.0**

*ISCJB **21** 04:55:51.8±0.2, 0°.18N±0°.02×123°.66E±0°.03, h141km, mb4.8/90, Error ellipse: s-maj=4.2km s-min=3.2km az=158.4*
*IDC **21** 04:55:51.9±0.6, 0°.18N×123°.49E, h129km±5km, mb4.4/25, mb1 4.5/26, mb1mx4.5/28, mbtmp4.4/26, MS3.6/8, Ms1 3.6/8, ms1mx3.2/29, Error ellipse: s-maj=15.1km s-min=7.3km az=71.0*
*BJI **21** 04:55:52.5, 0°.10N×123°.60E, h151km, mB5.0/28, mb4.8/39*
*MOS **21** 04:55:53.7±1.3, 0°.21N×123°.49E, h161km, mb4.8/25, Error ellipse: s-maj=14.2km s-min=6.4km az=115.2*
*GCMT **21** 04:55:53.9±0.3, 0°.26N×123°.89E, h129km±2km, MW4.9, Moment Tensor Solution. s25,c27; s64,c88; Moment tensor: Scale 10¹⁶Nm; Mrr2.50±.11; Mθθ-2.00±.17; Mφφ-0.50±.21; Mrθ0.66±.10; Mθφ-1.61±.12; Mφr-1.19±.12; Best double couple: M₀3.10000×10¹⁶ NP1:φ82.00000°, δ50.00000°, λ126.00000°. NP2:φ213.00000°, δ52.00000°, λ55.00000°. Principal axes: T 3.1900, Plg63.0000°, Azm59.0000°; N -0.1600, Plg27.0000°, Azm237.0000°; P -3.0300, Plg1.0000°, Azm327.0000°; Data Used: IC G IU II CN.*
*NEIC **21** 04:55:55.6±0.9, 0°.09N×123°.53E, h163km±8km, mb4.8/33 Error ellipse: s-maj=8.7km s-min=4.9km az=66.0*
*DJA **21** 04:55:55, 0°.03S×123°.67E, h101km, mb5.1/16*
*TEH **21** 04:55:55.0, 0°.10N×123°.60E, h151km*

ISC 21 04:55:53.5±0.2, 0°.10N±0°.02×123°.66E±0°.03, h143km, **h143**km±3.3km:**pP-P, n310, σ193/268, mb4.8/90, 7C-6D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMSI	**Cibinong**	**0.57**	**34**	P	**Pn**	**04 56 13.7**	**-0.8**
LUWI	**Luwuk**	**1.44**	**218**	P	**Pn**	**04 56 20.5**	**-1.4**
MRSI	**Marisa**	**1.76**	**282**	P	**Pn**	**04 56 23.2**	**-2.2**
TNTI	**Ternate**	**3.77**	**80**	P	**Pn**	**04 56 50.1**	**-0.5**
KDI	**Kendari**	**4.16**	**194**	P	**Pn**	**04 56 54.0**	**-1.7**
NLAI	**Namlea**	**4.78**	**134**	P	**Pn**	**04 57 03.7**	**-0.2**
NLAI				S	**Sn**	**04 57 55.9**	**-2.7**
TTSI	**Tana Toraja**	**4.95**	**231**	P	**Pn**	**04 57 05.6**	**-0.5**
TTSI				S	**Sn**	**04 58 02.1**	**-0.6**
SPSI	**Sidrap Palu**	**5.60**	**224**	P	**Pn**	**04 57 15.6**	**+0.7**
	1.7nm5μm216nm,0.7s						
SPSI				S	**Sn**	**04 58 15.9**	**-2.5**
	1.7nm5μm216nm,0.7s						
BBSI	**Bau Bau**	**5.65**	**191**	P	Px	04 57 25.6	
KAPI	**Kappang**	**6.40**	**217**	*e*Pn	**Pn**	**04 57 24.8**	**-0.8**
KAPI	**Kappang**	**6.40**	**217**	P	**Pn**	**04 57 25.7**	**+0.1**
	0.8nm2μm156nm,0.7s						
BKSI	**Bulukumba**	**6.44**	**213**	P	**Pn**	**04 57 26.2**	**+0.1**
	0.7nm2μm97nm,0.7s						
CTBH	**Cotabato--PC H**	**7.10**	**5**	⇑*i*P	**Pn**	**04 57 36.8**	**+1.8**
DAV	**Davao City (W)**	**7.19**	**15**	P	**Pn**	**04 57 41.0**	**+4.9**
	207nm,0.3s,baz=117,slow=1.4,SNR=12						
DAV				S	**Sn**	**04 59 06.6**	**+10**
	48nm,0.3s,baz=127,slow=20,SNR=1.9						
DAV	**Davao City (W)**	**7.19**	**15**	P	**Pn**	**04 57 41.0**	**+4.9**
DAV				S	**Sn**	**04 59 06.6**	**+10**
MYLDM	**Lahad Datu**	**7.21**	**315**	P	**Pn**	**04 57 38.8**	**+2.3**
MYLDM	**Lahad Datu**	**7.21**	**315**	P	**Pn**	**04 57 37.8**	**+1.3**
	4.0nm513nm,1.1s						
PAGZ	**Pagadian**	**7.71**	**358**	*e*P	**Pn**	**04 57 47.3**	**+4.2**
PAGZ				*e*S	Px	04 57 55.6	
IPIL	**Ipil**	**7.72**	**352**	*e*P	**Pn**	**04 57 47.9**	**+4.6**
BNDI	**Bandanaira**	**7.74**	**126**	P	**Pn**	**04 57 43.6**	**0.0**
	3.8nm1μm,1.1s						
BUKP	**Musuan**	**7.86**	**10**	*e*P	**Pn**	**04 57 48.3**	**+3.2**
KBKI	**Kotabaru**	**8.21**	**246**	P	**Pn**	**04 57 50.1**	**+0.2**
	2μm100nm,1.0s						
SDKM	**Sandakan**	**8.48**	**311**	P	**Pn**	**04 57 55.5**	**+2.0**
MMRI	**Maumere**	**8.79**	**189**	P	Px	04 58 11.1	
KKM	**Kota Kinabalu**	**9.49**	**309**	P	**Pn**	**04 58 08.7**	**+1.8**
KKM	**Kota Kinabalu**	**9.49**	**309**	*e*Pn	**Pn**	**04 58 08.6**	**+1.6**
KKM				*e*Sn	**Sn**	**04 59 53.8**	**+1.6**
KKM	**Kota Kinabalu**	**9.49**	**309**	P	**Pn**	**04 58 08.9**	**+1.9**
	4μm327nm,0.7s						
TLE	**Tual**	**10.71**	**122**	P	**Pn**	**04 58 23.4**	**+0.3**
	9μm1μm,1.1s						
SBUM	**Sibu**	**11.67**	**282**	P	**Pn**	**04 58 34.7**	**-1.1**
	22nm,1.8s						
IGBI	**Denpasar**	**12.26**	**224**	P	**Pn**	**04 58 53.4**	**+10**
BLJI	**Banyuglugur**	**12.70**	**232**	P	Px	04 59 03.1	
JAGI	**Jajag, Banyuwa**	**12.73**	**228**	P	**Pn**	**04 58 58.3**	**+8.7**
GMJI	**Gumukmas**	**13.14**	**231**	P	**Pn**	**04 59 01.0**	**+6.1**
	57nm,1.0s						
KSM	**Kuching**	**13.42**	**276**	*e*Pn	**Pn**	**04 58 58.9**	**+0.4**
KSM	**Kuching**	**13.42**	**276**	P	**Pn**	**04 58 59.6**	**+1.2**
TGY	**Tagaytay City**	**14.17**	**349**	P	**Pn**	**04 59 12.8**	**+4.8**
	54nm,0.3s,baz=193,slow=22,SNR=4.6						
TGY	**Tagaytay City**	**14.17**	**349**	P	**Pn**	**04 59 12.8**	**+4.8**
TGY	**Tagaytay City**	**14.17**	**349**	P	**Pn**	**04 59 12.8**	**+4.8**
PWJI	**Pagerwojo**	**14.31**	**235**	P	**Pn**	**04 59 11.1**	**+1.4**
	60nm,0.7s						
PCJI	**Pacitan**	**14.92**	**236**	P	**Pn**	**04 59 19.8**	**+2.5**
	57nm,0.8s						
SMPI	**Sarmi**	**15.19**	**98**	P	**Pn**	**04 59 23.0**	**+2.3**
BJII	**Banjamegara**	**15.75**	**242**	P	**Pn**	**04 59 29.8**	**+2.2**
	32nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.19**	**174**	P	**P**	**04 59 56.1**	**+0.8**
	1.4nm,0.3s,baz=12,slow=9.2,SNR=41						
FITZ				S	**S**	**05 03 14.8**	**-1.5**
	baz=343,slow=16,SNR=6.2						
FITZ	**Fitzroy Crossi**	**18.19**	**174**	*e*P	**P**	**04 59 56.0**	**+0.6**
	32nm,0.8s						
FITZ				*e*S	**S**	**05 03 15.0**	**-1.3**
FITZ	**Fitzroy Crossi**	**18.19**	**174**	*e*P	**P**	**04 59 55.9**	**+0.5**
	31nm,1.0s						
FITZ				*e*S	**S**	**05 03 15.2**	**-1.1**
FITZ	**Fitzroy Crossi**	**18.19**	**174**	P	**P**	**04 59 55.9**	**+0.5**
MYKOM	**Kota Tinggi**	**19.88**	**275**	P	**P**	**05 00 15.4**	**+1.6**
MDSI	**Maura Dua**	**19.99**	**257**	P	**P**	**05 00 20.3**	**+5.3**
KGM	**Kluang**	**20.43**	**275**	P	**P**	**05 00 21.7**	**+2.0**
MBWA	**Marble Bar**	**21.47**	**190**	*e*P	**P**	**05 00 30.6**	**-0.2**
	21nm,0.9s,mb4.5						
MBWA	**Marble Bar**	**21.47**	**190**	P	**P**	**05 00 30.8**	**+0.1**
WRAB	**Tennant Creek**	**22.49**	**153**	*e*P	**P**	**05 00 41.2**	**-0.1**
	43nm,0.9s,mb4.9						
WRAB	**Tennant Creek**	**22.49**	**153**	*e*P	**P**	**05 00 41.3**	**0.0**
WRAB				pmax	pmax		
	comp=Z,43nm,0.9s,mb4.9						
WRAB	**Tennant Creek**	**22.49**	**153**	P	**P**	**05 00 41.6**	**+0.3**
WRA	**Warramunga Arr**	**22.50**	**153**	P	**P**	**05 00 40.8**	**-0.6**
	comp=Z,16nm,0.4s,mb4.8,baz=334,slow=10,SNR=231						
WRA				pP		05 01 05.5	
	comp=Z,12nm,0.9s,baz=331,slow=7.5,SNR=5.3						
WRA				PcP	PcP	05 04 30.6	+0.4
	comp=Z,2.8nm,0.6s,baz=328,slow=2.4,SNR=5.4						
WRA				S	**S**	**05 04 35.6**	**-1.8**
	comp=Z,12nm,1.0s,baz=333,slow=16,SNR=7.8						
WRA				ScP	ScP	05 07 54.5	-0.2
	comp=Z,0.6nm,0.9s,baz=339,slow=2.8,SNR=4.7						
WRA	**Warramunga Arr**	**22.50**	**153**	P	**P**	**05 00 40.8**	**-0.6**
WRA				pP		05 01 05.5	
WRA				PcP	PcP	05 04 30.6	+0.4
WRA				S	**S**	**05 04 35.6**	**-1.8**
WRA				ScP	ScP	05 07 54.5	-0.2
WRA	**Warramunga Arr**	**22.50**	**153**	P	**P**	**05 00 40.8**	**-0.6**
WRA						05 04 30.7	
WRA				S	**S**	**05 04 35.7**	**-1.8**
WB2	**Warramunga Arr**	**22.50**	**153**	*e*P	**P**	**05 00 41.0**	**-0.4**
IPM	**Ipoh**	**23.02**	**281**	P	**P**	**05 00 47.6**	**+1.3**
IPM	**Ipoh**	**23.02**	**281**	*e*P	**P**	**05 00 47.1**	**+0.8**
	comp=Z,53nm,1.0s,mb4.9						
IPM	**Ipoh**	**23.02**	**281**	P	**P**	**05 00 47.4**	**+1.1**
QIZ	**Qiongzhong**	**23.19**	**325**	P	**P**	**05 00 43.0**	**-4.7**
QIZ				pP		05 01 13.0	
QIZ				sP	sP	05 01 31.9	-1.1
QIZ				S	**S**	**05 04 44.1**	**-4.7**
QIZ				pmax	pmax		
	comp=Z,18nm,1.7s,mb4.2						
QIZ				pmax	pmax		
	comp=Z,170nm,5.4s						
TPUB	**Ta-pu**	**23.25**	**353**	*e*P	**P**	**05 00 49.1**	**+0.9**
PPI	**Padang Panjang**	**23.27**	**269**	P	**P**	**05 00 50.1**	**+1.6**
KULM	**Kulim**	**23.55**	**283**	P	**P**	**05 00 52.9**	**+1.8**
KULM	**Kulim**	**23.55**	**283**	*e*P	**P**	**05 00 52.6**	**+1.6**
	comp=Z,33nm,0.9s,mb4.9						
KULM	**Kulim**	**23.55**	**283**	P	**P**	**05 00 52.7**	**+1.6**
SSLB	**Suanglung**	**23.70**	**354**	*e*P	**P**	**05 00 54.6**	**+2.4**
COEN	**Coen**	**23.84**	**127**	*e*P	**P**	**05 00 53.5**	**-0.2**
	comp=Z,144nm,0.9s,mb5.5						
COEN				*e*S	**S**	**05 05 05.0**	**+5.7**
COEN	**Coen**	**23.84**	**127**	*e*P	**P**	**05 00 53.1**	**-0.6**
	comp=Z,250nm,1.0s,mb5.7						
COEN	**Coen**	**23.84**	**127**	P	**P**	**05 00 54.0**	**+0.3**
PMG	**Port Moresby**	**25.23**	**113**	P	**P**	**05 01 07.2**	**+0.9**
	comp=Z,34nm,1.0s,mb4.8,baz=305,slow=7.9,SNR=14						
PMG	**Port Moresby**	**25.23**	**113**	*e*P	**P**	**05 01 07.2**	**+0.8**
PMG	**Port Moresby**	**25.23**	**113**	*ce*P	**P**	**05 01 07.7**	**+1.4**
PMG				pmax	pmax		
	comp=Z,39nm,1.0s						
PMG	**Port Moresby**	**25.23**	**113**	P	**P**	**05 01 07.9**	**+1.6**
AS31	**Alice Springs**	**25.63**	**158**	*e*P	**P**	**05 01 10.3**	**+0.5**
AS31				*e*PcP	PcP	05 04 37.5	+0.5
ASAR	**Alice Springs**	**25.63**	**158**	P	**P**	**05 01 10.7**	**+0.8**
	comp=Z,9.5nm,0.9s,mb4.4,baz=338,slow=7.7,SNR=54						
ASAR				pP		05 01 38.3	-1.6
	comp=Z,17nm,0.9s,baz=320,slow=7.0,SNR=6.5						
ASAR				PcP	PcP	05 04 37.9	+0.8
	comp=Z,9.9nm,0.7s,baz=347,slow=2.0,SNR=15						
ASAR				S	**S**	**05 05 27.3**	**-0.3**
	comp=Z,4.8nm,0.9s,baz=350,slow=21,SNR=5.6						
ASAR				ScP	ScP	05 08 03.7	+0.4
	comp=Z,1.1nm,0.6s,baz=337,slow=2.8,SNR=4.8						
ASAR	**Alice Springs**	**25.63**	**158**	P	**P**	**05 01 10.7**	**+0.8**
ASAR				pP	pP	05 01 38.3	-1.6
ASAR				PcP	PcP	05 04 37.9	+0.8
ASAR				S	**S**	**05 05 27.3**	**-0.3**
ASAR				ScP	ScP	05 08 03.7	+0.4
ASAR	**Alice Springs**	**25.63**	**158**	P	**P**	**05 01 10.7**	**+0.9**
ASAR				*PP	pP	05 01 38.3	-1.6
ASAR						05 04 37.9	
ASAR				S	**S**	**05 05 27.3**	**-0.3**
JOW	**Kunigami**	**26.95**	**9**	LR	LR	05 12 45.3	
	comp=Z,103nm,19.6s,baz=151,slow=38						
CTA	**Charters Tower**	**29.87**	**134**	P	**P**	**05 01 48.5**	**+0.8**
	comp=Z,5.2nm,0.7s,mb4.4,baz=327,slow=10.0,SNR=6.3						
CTA				PcP	PcP	05 04 48.7	+1.3
	comp=Z,6.0nm,0.9s,baz=2.6,slow=5.4,SNR=4.0						
CTA				LR	LR	05 13 45.2	
	comp=Z,105nm,19.6s,baz=50,slow=36						
CTA	**Charters Tower**	**29.87**	**134**	P	**P**	**05 01 48.5**	**+0.8**
CTA				PcP	PcP	05 04 48.7	+1.3
CTA				LR	LR	05 13 45.2	
CTA	**Charters Tower**	**29.87**	**134**	P	**P**	**05 01 48.5**	**+0.9**
CTA						05 04 48.7	
CTAO	**Charters Tower**	**29.87**	**134**	*e*P	**P**	**05 01 48.4**	**+0.8**
	comp=Z,8.8nm,0.9s,mb4.5						
CTAO	**Charters Tower**	**29.87**	**134**	*e*P	**P**	**05 01 48.4**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.5						
CMAR	**Chiang Mai Arr**	**30.37**	**308**	P	**P**	**05 01 51.5**	**-0.6**
	comp=Z,11nm,1.0s,mb4.6,baz=136,slow=7.2,SNR=40						
CMAR				PcP	PcP	05 04 49.4	+0.6
	comp=Z,4.4nm,0.7s,baz=177,slow=1.8,SNR=10						
CMAR				ScP	ScP	05 08 18.8	+0.7
	comp=Z,0.7nm,0.4s,baz=160,slow=2.9,SNR=4.0						
CMAR				LR	LR	05 14 48.1	
	comp=Z,90nm,20.2s,baz=118,slow=38						
CMAR	**Chiang Mai Arr**	**30.37**	**308**	P	**P**	**05 01 51.5**	**-0.6**
CMAR				PcP	PcP	05 04 49.4	+0.6
CMAR				ScP	ScP	05 08 18.8	+0.7
CMAR				LR	LR	05 14 48.1	
CMAR	**Chiang Mai Arr**	**30.37**	**308**	P	**P**	**05 01 51.5**	**-0.6**
CMAR						05 04 49.4	
CHRT	**Chiangrai**	**30.55**	**311**	⇑P	**P**	**05 01 55.9**	**+2.2**
	comp=Z,297nm,1.0s						
CHTO	**Chiang Mai**	**30.57**	**309**	*e*P	**P**	**05 01 55.1**	**+1.2**
CHTO	**Chiang Mai**	**30.57**	**309**	*e*P	**P**	**05 01 55.1**	**+1.2**
CHTO	**Chiang Mai**	**30.57**	**309**	P	**P**	**05 01 55.9**	**+2.0**
GYA	**Guiyang**	**30.90**	**329**	P	**P**	**05 02 00.8**	**+4.1**
GYA				pP	pP	05 02 31.0	+3.7
GYA				sP	sP	05 02 50.5	+6.7
GYA				PP	PP	05 03 07.8	-1.6
GYA				PcP	PcP	05 04 51.8	+1.8
GYA				S	**S**	**05 06 52.4**	**+2.0**
GYA				sS	sS	05 07 47.8	+3.7
GYA				ScP	ScP	05 08 19.3	-0.3
GYA				PcS	PcS	05 08 34.4	+0.1
GYA				ScS	ScS	05 12 14.0	-2.8
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
GYA				pmax	pmax		
	comp=Z,110nm,4.8s						
FORT	**Forrest**	**30.99**	**173**	*e*P	**P**	**05 01 57.7**	**+0.3**
	comp=Z,61nm,0.6s,mb5.5						
FORT	**Forrest**	**30.99**	**173**	*e*P	**P**	**05 01 57.7**	**+0.3**
	comp=Z,76nm,0.7s,mb5.5						
WHN	**Wuhan**	**31.55**	**345**	⇓P	**P**	**05 02 05.4**	**+3.1**
KMI	**Kunming**	**32.06**	**322**	P	**P**	**05 02 11.8**	**+4.9**
KMI				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
NJ2	**Nanjing**	**32.11**	**352**	*e*P	**P**	**05 02 07.6**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
CBIJ	**Chichi jima**	**32.22**	**32**	P	**P**	**05 02 07.8**	**-0.4**
	comp=Z,185nm,0.4s,baz=223,slow=3.2,SNR=21						
CBIJ				LR	LR	05 13 39.0	
	comp=Z,94nm,20.2s,baz=133,slow=33						
ENH	**Enshi**	**32.90**	**337**	*e*P	**P**	**05 02 15.0**	**+0.9**
	comp=Z,38nm,1.0s,mb5.1						
ENH				*ep*P	pP	05 02 45.4	+0.5
NWAO	**Narrogin (SRO)**	**33.40**	**190**	P	**P**	**05 02 17.9**	**-0.5**
	comp=Z,14nm,0.8s,mb4.8,baz=24,slow=8.9,SNR=6.9						
NWAO	**Narrogin (SRO)**	**33.40**	**190**	P	**P**	**05 02 17.9**	**-0.5**
NWAO	**Narrogin (SRO)**	**33.40**	**190**	P	**P**	**05 02 17.9**	**-0.5**
CD2	**Chengdu**	**36.00**	**330**	P	**P**	**05 02 42.0**	**+1.2**
CD2				pP	pP	05 03 16.8	+4.9
CD2				sP	sP	05 03 35.3	+7.0
CD2				PP	PP	05 04 10.6	+4.9
CD2				S	**S**	**05 08 08.9**	**-0.1**
CD2				sS	sS	05 09 10.3	+6.9
CD2				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.1						
CD2				pmax	pmax		
	comp=Z,210nm,5.9s						
STKA	**Stephens Creek**	**36.05**	**154**	P	**P**	**05 02 42.5**	**+1.3**
	comp=Z,35nm,0.6s,mb5.2,baz=327,slow=8.7,SNR=61						
STKA				PcP	PcP	05 05 04.7	+0.2
	comp=Z,9.7nm,0.8s,baz=315,slow=5.4,SNR=3.7						
STKA	**Stephens Creek**	**36.05**	**154**	*e*P	**P**	**05 02 42.4**	**+1.2**
	comp=Z,26nm,0.6s,mb5.0						
STKA				*ep*P	pP	05 03 16.4	+4.1
STKA	**Stephens Creek**	**36.05**	**154**	*e*P	**P**	**05 02 42.0**	**+0.8**
	comp=Z,8.2nm,0.7s,mb4.5						
STKA				*ep*P	pP	05 03 17.0	+4.7
STKA	**Stephens Creek**	**36.05**	**154**	*e*P	**P**	**05 02 42.0**	**+0.8**
STKA				*e**PP	pP	05 03 17.0	+4.7
STKA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
XAN	**Xi'an**	**36.49**	**339**	P	**P**	**05 02 44.9**	**0.0**
KSAR	**Wonju Array Be**	**37.37**	**6**	P	**P**	**05 02 51.7**	**-0.6**
KSAR				LR	LR	05 17 55.7	
KSAR	**Wonju Array Be**	**37.37**	**6**	P	**P**	**05 02 51.7**	**-0.6**
KSRS	**Korea Array**	**37.38**	**6**	P	**P**	**05 02 51.7**	**-0.7**
	comp

GTA S **S** **05 10 23.9 +4.5**
GTA sS sS 05 11 20.3 +5.0
GTA pmax pmax
comp=Z,12nm,1.1s,mb4.4
GTA pmax pmax
comp=Z,100nm,5.7s
GUN Gumba 45.55 311 *e*P **P** **05 03 59.3 +0.1**
comp=Z,53nm,0.8s,mb5.2
KKN Kakani 45.95 310 *e*P **P** **05 04 02.3 0.0**
comp=Z,21nm,0.8s,mb4.8
DMN Daman 45.99 310 *e*P **P** **05 04 03.0 +0.3**
comp=Z,50nm,1.0s,mb5.1
GKN Gorkha 46.55 310 *e*P **P** **05 04 07.0 0.0**
comp=Z,50nm,1.0s,mb5.1
ASAJ Asahikawa 46.97 19 P **P** **05 04 10.5 +0.6**
comp=Z,21nm,0.7s,mb4.9,baz=224,slow=14,SNR=8.6
KOLN Koldanda 47.23 309 *e*P **P** **05 04 12.3 0.0**
comp=Z,47nm,0.9s,mb5.1
DANN Dangsing 47.39 310 *e*P **P** **05 04 13.4 -0.1**
comp=Z,68nm,0.8s,mb5.3
HYB Hyderabad 47.60 294 *i* P **P** **05 04 15.0 -0.3**
HYB *e*pP pP 05 04 50.0 +2.2
HYB *e*sP sP 05 05 06.5 +2.7
PYUN Piuthan 47.87 309 *e*P **P** **05 04 17.3 +0.1**
comp=Z,106nm,1.0s,mb5.4
HABR Khabarovsk 49.19 10 *e*P **P** **05 04 24.6 -2.3**
HABR *e**PP pP 05 04 58.7 -0.9
HABR *e* 05 05 45.5
HABR *e* 05 06 19.7
HABR *e*PPP 05 07 17.4
HABR *e*S **S** **05 11 19.5 -1.9**
HABR *e**SS sS 05 12 19.2 +1.0
HABR pmax pmax
comp=N,120nm,2.1s
HABR pmax pmax
comp=E,90nm,1.0s
HABR pmax pmax
comp=Z,205nm,2.3s,mb5.3
HABR MLR MLR
comp=Z,358nm,17.0s
ULN Ulaanbaatar 49.72 345 *e*P **P** **05 04 30.3 -0.7**
comp=Z,3.7nm,0.6s,mb4.2
ULN *e*pP pP 05 05 04.0 +0.2
ULN Ulaanbaatar 49.72 345 *e*P **P** **05 04 30.3 -0.7**
ULN *e**PP pP 05 05 04.0 +0.2
ULN pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
ULN Ulaanbaatar 49.72 345 P **P** **05 04 32.3 +1.3**
SONM Songino Array 49.86 345 P **P** **05 04 31.6 -0.4**
comp=Z,5.9nm,0.8s,mb4.3,baz=158,slow=8.5,SNR=33
SONM pP pP 05 05 01.8 -3.1
comp=Z,6.7nm,0.8s,baz=160,slow=7.9,SNR=5.9
SONM sP sP 05 05 15.2 -5.6
comp=Z,2.8nm,0.7s,baz=160,slow=8.1,SNR=3.2
SONM PcP PcP 05 05 49.8 -0.7
comp=Z,3.6nm,1.0s,baz=162,slow=3.2,SNR=3.7
SONM Songino Array 49.86 345 P **P** **05 04 31.6 -0.4**
SONM pP pP 05 05 01.8 -3.1
SONM sP sP 05 05 15.2 -5.6
SONM PcP PcP 05 05 49.8 -0.7
SONM Songino Array 49.86 345 P **P** **05 04 31.6 -0.4**
SONM 05 05 49.8
ZAK Zakamensk 53.03 344 *e*P **P** **05 04 55.4 -0.1**
WMQ Urumqi 54.05 328 P **P** **05 05 04.6 +1.4**
TLY Talaya 54.10 345 *e*P **P** **05 05 02.2 -1.2**
TLY pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
KSH Kashi 58.55 318 P **P** **05 05 35.6 +0.5**
KSH pP pP 05 06 08.8 -0.1
KSH sP sP 05 06 24.5 -0.1
KSH PP PP 05 07 47.8 +1.5
KSH ScP ScP 05 10 10.6 -0.5
KSH PcS PcS 05 10 25.3 -0.4
KSH S **S** **05 13 22.3 -5.5**
KSH ScS ScS 05 15 07.4 -3.6
KSH SS SS 05 17 19.8 -3.1
KSH pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
KSH pmax pmax
comp=Z,210nm,4.6s
KSH LR LR
comp=N,110nm,5.3s
KSH LR LR
comp=E,160nm,6.1s
KSH LR LR
comp=Z,230nm,7.5s
MK31 Makanchi Array 58.88 328 *e*P **P** **05 05 36.8 -0.5**
MK31 *e*PcP PcP 05 06 24.3 -0.8
MK31 Makanchi Array 58.88 328 *i* P **P** **05 05 36.7 -0.6**
MK31 pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
MKAR Makanchi Array 58.88 328 P **P** **05 05 36.6 -0.7**
comp=Z,9.1nm,0.6s,mb4.8,baz=125,slow=8.0,SNR=95
MKAR PcP PcP 05 06 24.2 -0.9
comp=Z,4.5nm,0.5s,baz=150,slow=2.9,SNR=14
MKAR PKP2bc 05 35 22.8
comp=Z,0.4nm,0.8s,baz=339,slow=3.2,SNR=3.6
MKAR Makanchi Array 58.88 328 P **P** **05 05 36.6 -0.7**
MKAR PcP PcP 05 06 24.2 -0.9
MKAR ⇑*e* 05 35 22.8
MKAR Makanchi Array 58.88 328 P **P** **05 05 36.6 -0.7**
MKAR 05 06 24.2
PETK Petropavlovsk- 59.94 23 P **P** **05 05 45.5 +1.2**
comp=Z,14nm,0.8s,mb4.9,baz=190,slow=8.5,SNR=8.5
PETK Petropavlovsk- 59.94 23 P **P** **05 05 45.5 +1.2**
TKM2 Tokmak 2 60.52 321 *e*P **P** **05 05 48.4 -0.2**
comp=Z,6.5nm,0.6s,mb4.6
TKM2 Tokmak 2 60.52 321 *e*P **P** **05 05 48.4 -0.2**
TKM2 pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
AAK Ala-Archa 61.07 320 *e*P **P** **05 05 52.4 +0.1**
comp=Z,12nm,0.7s,mb4.8
AAK Ala-Archa 61.07 320 *e*P **P** **05 05 52.4 +0.1**
AAK pmax pmax
comp=Z,12nm,0.7s,mb4.8
KBL Kabul 61.38 310 *e*P **P** **05 05 53.7 -0.8**
comp=Z,11nm,0.8s,mb4.8
KBL *e*pP pP 05 06 27.2 -1.5
KBL Kabul 61.38 310 *e*P **P** **05 05 53.7 -0.9**
KBL *e**PP pP 05 06 27.2 -1.4
KBL pmax pmax
comp=Z,11nm,0.8s,mb4.7
EKS2 Erkin-Say 61.55 320 *e*P **P** **05 05 55.3 -0.2**
comp=Z,3.3nm,0.6s,mb4.3
EKS2 *e*pP pP 05 06 28.8 -0.8
EKS2 Erkin-Say 61.55 320 *e*P **P** **05 05 55.3 -0.2**
EKS2 *e**PP pP 05 06 28.8 -0.8
EKS2 pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
YAK Yakutsk 61.94 3 *e*P **P** **05 05 57.1 -0.7**
comp=Z,66nm,0.8s,mb5.5
YAK Yakutsk 61.94 3 *e*P **P** **05 05 57.1 -0.7**
URZ Urewera 62.11 134 *e*P **P** **05 06 00.1 +0.8**
comp=Z,11nm,0.5s,mb5.0
ZAA0 Zalesovo Array 62.50 335 *e*P **P** **05 05 59.6 -2.0**
ZALV Zalesovo Beam 62.50 335 P **P** **05 05 59.6 -2.0**
comp=Z,7.8nm,0.7s,mb4.7,baz=120,slow=6.8,SNR=30
ZALV pP pP 05 06 32.0 -3.8
comp=Z,2.3nm,0.8s,baz=103,slow=6.4,SNR=2.1
ZALV PKP2bc 05 35 11.5
comp=Z,2.0nm,0.9s,baz=316,slow=4.0,SNR=5.9
ZALV Zalesovo Beam 62.50 335 P **P** **05 05 59.6 -2.0**
ZALV pP pP 05 06 32.0 -3.8
ZALV ⇑*e* 05 35 11.5
ZALV Zalesovo Beam 62.50 335 P **P** **05 05 59.6 -2.0**
ZALV *PP pP 05 06 32.0 -3.8
KURK Kurchatov 63.22 330 P **P** **05 06 05.2 -1.3**
comp=Z,16nm,0.7s,mb5.0,baz=129,slow=6.0,SNR=51
KURK pP pP 05 06 36.7 -4.1
comp=Z,4.2nm,0.5s,baz=127,slow=4.4,SNR=1.8
KURK Kurchatov 63.22 330 *e*P **P** **05 06 05.1 -1.4**
comp=Z,34nm,0.7s,mb5.3
KURK Kurchatov 63.22 330 P **P** **05 06 05.2 -1.3**
KURK pmax pmax
comp=Z,31nm,0.7s,mb5.2
NVS Novosibirsk 63.79 335 *e*P **P** **05 06 07.8 -2.3**
NVS pmax pmax
comp=Z,14nm,0.8s,mb4.8
NVS pmax pmax
comp=N,6.0nm,0.7s
NVS pmax pmax
comp=E,7.0nm,0.6s
SEY Seymchan 66.25 14 *de*P **P** **05 06 26.8 +0.9**
VOSK Vostochnaya 68.28 329 P **P** **05 06 37.1 -1.7**
VOSK pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
BVAR Borovoye Array 68.74 329 P **P** **05 06 40.3 -1.4**
comp=Z,5.5nm,0.9s,mb4.3,baz=145,slow=8.8,SNR=19
BVAR Borovoye Array 68.74 329 P **P** **05 06 40.3 -1.4**
BVAR Borovoye Array 68.74 329 P **P** **05 06 40.3 -1.4**
BRVK Borovoye 68.81 329 *e*P **P** **05 06 41.2 -0.9**
comp=Z,8.6nm,0.9s,mb4.5
BRVK Borovoye 68.81 329 *de*P **P** **05 06 41.3 -0.8**
BRVK pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
IMYA Miami 68.87 309 *e*P **P** **05 06 41.8 -1.1**
ZRNK Zerenda 69.43 328 P **P** **05 06 44.4 -1.5**
ZRNK pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
IBAF Bafgh 71.38 303 *e*P pP 05 07 32.4 -0.9
ISRV Sarvestan 73.05 301 *e*P **P** **05 07 06.7 -1.6**
AB31 Akbulak array 73.06 322 *i* P **P** **05 07 06.2 -1.7**
AB31 pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
ABKAR Akbulak array 73.06 322 *e*P **P** **05 07 06.4 -1.4**
comp=Z,1.2nm,0.5s,mb3.9
IPAR Pars 73.19 301 *e*P **P** **05 07 08.1 -0.9**
AKTO Aktyubinsk 74.63 323 P **P** **05 07 15.5 -1.5**
comp=Z,5.2nm,0.7s,mb4.3,baz=119,slow=4.0,SNR=19
AKTO Aktyubinsk 74.63 323 P **P** **05 07 15.5 -1.5**
AKTO Aktyubinsk 74.63 323 P **P** **05 07 15.1 -1.9**
SVE Sverdlovsk 75.48 330⇑ *e*P **P** **05 07 20.3 -1.4**
SVE pmax pmax
comp=Z,19nm,0.9s,mb4.7
ARU Arti 76.39 329 *e*P **P** **05 07 24.5 -2.4**
comp=Z,9.6nm,0.9s,mb4.4
ARU Arti 76.39 329 *d* P **P** **05 07 25.3 -1.6**
ARU S S 05 16 58.5 -1.7
ARU SS SS 05 21 48.1 -10
ARU pmax pmax
comp=Z,14nm,1.0s,mb4.5
IGHG Ghaleghazi 79.29 305 *e*P **P** **05 07 41.5 -1.9**
MAW Mawson 79.31 200 P **P** **05 07 43.7 +0.9**
comp=Z,16nm,1.0s,mb4.6,baz=71,slow=5.3,SNR=24
MAW LR LR 05 41 03.9
comp=Z,32nm,18.4s,baz=124,slow=34
MAW Mawson 79.31 200 *e*P **P** **05 07 43.2 +0.4**
comp=Z,4.9nm,1.1s,mb4.0
MAW Mawson 79.31 200 *e*P **P** **05 07 43.2 +0.4**
MAW pmax pmax
comp=Z,5.0nm,1.1s
IDHR Dehrash 79.49 305 *e*P **P** **05 07 41.4 -3.1**
VNDA Vanda 80.25 172 P **P** **05 07 48.6 +0.9**
comp=Z,11nm,0.8s,mb4.5,baz=316,slow=5.9,SNR=50
VNDA LR LR 05 42 26.3
comp=Z,54nm,20.7s,baz=348,slow=35
VNDA Vanda 80.25 172 *e*P **P** **05 07 48.3 +0.5**
comp=Z,12nm,0.8s,mb4.6
VNDA Vanda 80.25 172 *e*P **P** **05 07 48.3 +0.6**
VNDA pmax pmax
comp=Z,12nm,0.8s
SBA Scott Base 81.20 172 *e*P **P** **05 07 54.3 +1.5**
comp=Z,8.1nm,1.0s,mb4.3
SBA Scott Base 81.20 172 *e*P **P** **05 07 54.3 +1.5**
SBA pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
ZEI Tsey 82.41 313 *e*P **P** **05 07 58.3 -1.5**
ZEI pmax pmax
comp=Z,9.0nm,1.3s,mb4.2
KMBO Kilima Mbogo 86.41 269 *e*P **P** **05 08 20.4 -0.2**
comp=Z,2.4nm,0.9s,mb3.9
KMBO Kilima Mbogo 86.41 269 *e*P **P** **05 08 20.4 -0.2**
KMBO pmax pmax
comp=Z,2.0nm,0.9s
VSR Storozhevoye 86.47 321 *e*P **P** **05 08 18.2 -1.8**
VSR pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,7.0nm,0.7s
KDAK Kodiak Island 86.58 32 *i* P **P** **05 08 21.2 +0.8**
KLMR Klimovskoe 87.05 331 *e*P **P** **05 08 19.0 -3.7**
KLMR pmax pmax
comp=Z,16nm,0.8s,mb4.9
SYO Syowa Base 87.95 201⇓ *i* P **P** **05 08 25.6 -1.2**
SYO Syowa Base 87.95 201⇑ *e*pP pP 05 09 05.4 +2.2
OBN Obninsk 88.25 325⇓ *e*P **P** **05 08 25.9 -2.6**
OBN pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
PMOR Pomariorio Ree 88.52 105 *e*P **P** **05 08 34.9 +4.3**
comp=Z,76nm,1.1s,mb5.5
VAH Vaihoa 88.78 105 *e*P **P** **05 08 36.0 +4.2**
comp=Z,61nm,1.1s,mb5.4
ILAR Eielson Array 89.68 25 P **P** **05 08 33.6 -1.4**
comp=Z,2.0nm,0.5s,mb4.3,baz=246,slow=5.0,SNR=61
ILAR PKKPbc PKKPbc 05 26 08.6 -2.3
comp=Z,0.3nm,1.0s,baz=88,slow=1.5,SNR=4.7
ILAR Eielson Array 89.68 25 P **P** **05 08 33.6 -1.4**
ILAR PKKPbc PKKPbc 05 26 08.6 -2.3
ILAR Eielson Array 89.68 25 P **P** **05 08 33.6 -1.4**
BR131 Keskin Array S 89.95 310 *e*P **P** **05 08 35.4 -1.4**
comp=Z,3.1nm,0.9s,mb4.2
BRTR Keskin Array B 89.95 310 P **P** **05 08 34.8 -2.1**
comp=Z,2.0nm,0.9s,mb4.0,baz=120,slow=7.3,SNR=7.2
BRTR Keskin Array B 89.95 310 P **P** **05 08 34.8 -2.1**
BRTR Keskin Array B 89.95 310 P **P** **05 08 34.8 -2.0**
QSPA South Pole Qui 90.03 180 *e*P **P** **05 08 37.2 +0.9**
comp=Z,12nm,1.1s,mb4.7
AKASG Malin Array Be 92.75 321 P **P** **05 08 47.2 -2.3**
comp=Z,1.9nm,0.7s,mb4.3,baz=68,slow=4.8,SNR=6.9
AKASG Malin Array Be 92.75 321 P **P** **05 08 47.2 -2.3**
AKASG Malin Array Be 92.75 321 P **P** **05 08 47.2 -2.3**
ARCES ARCESS Array B 92.77 340 P **P** **05 08 47.0 -2.2**
comp=Z,3.0nm,0.6s,mb4.6,baz=93,slow=6.1,SNR=11
ARCES ARCESS Array B 92.77 340 P **P** **05 08 47.0 -2.2**
ARCES ARCESS Array B 92.77 340 P **P** **05 08 47.0 -2.2**
DAWY Dawson 92.96 26 *e*P **P** **05 08 50.5 +0.3**
FINES FINESS Array B 93.55 331 P **P** **05 08 50.4 -2.5**
comp=Z,2.5nm,0.8s,mb4.4,baz=91,slow=8.3,SNR=3.2
FINES FINESS Array B 93.55 331 P **P** **05 08 50.4 -2.5**
FINES FINESS Array B 93.55 331 P **P** **05 08 50.4 -2.6**
INK Inuvik 94.64 21 *e*P **P** **05 08 57.3 -0.5**
comp=Z,10nm,1.0s,mb5.0
INK Inuvik 94.64 21 *e*P **P** **05 08 57.3 -0.5**
INK pmax pmax
comp=Z,10.0nm,1.0s
LSZ Lusaka 95.30 255 *e*P **P** **05 09 01.1 -0.9**
comp=Z,14nm,0.9s,mb5.2
LSZ Lusaka 95.30 255 *e*P **P** **05 09 01.1 -0.9**
LSZ pmax pmax
comp=Z,14nm,0.9s,mb5.2
BUR08 Bucovina Ar. S 95.64 318 *e*P **P** **05 09 00.6 -2.3**
BOSA Boshof 97.43 241 P **P** **05 09 12.4 +1.0**
comp=Z,3.0nm,0.9s,mb4.6,baz=90,slow=8.1,SNR=3.5
BOSA LR LR 05 47 18.4
comp=Z,50nm,18.8s,baz=164,slow=32
BOSA Boshof 97.43 241 *e*P **P** **05 09 11.1 -0.3**
comp=Z,6.9nm,1.0s,mb4.9
BOSA Boshof 97.43 241 *e*P **P** **05 09 11.1 -0.3**
BOSA pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
NOA NORSAR Array B 100.62 333 P Pdif 05 09 22.7 -2.4
comp=Z,1.5nm,0.9s,baz=86,slow=6.6,SNR=2.8
NOA NORSAR Array B 100.62 333 P Pdif 05 09 22.7 -2.4
NOA NORSAR Array B 100.62 333 P Pdif 05 09 22.7 -2.3
NVAR Mina Array Bea 111.60 48 PKiKP PKiKP 05 14 13.1 +1.7
comp=Z,1.0nm,0.7s,baz=226,slow=2.4,SNR=7.1
NVAR Mina Array Bea 111.60 48 PKPdf PKiKP 05 14 13.1 +1.7
HLID Hailey 112.54 42 *e*PKP PKiKP 05 14 14.2 +1.1
BOZ Bozeman (W) 113.47 39 *e*PKP PKiKP 05 14 15.6 +0.8
BOZ Bozeman (W) 113.47 39 *e*PKIKP PKiKP 05 14 15.6 +0.8
FFC Flin Flon 113.84 27 *i* PKIKP PKiKP 05 14 14.8 -0.4
TPAW Teton Pass 114.86 41 *e*PKP PKiKP 05 14 18.2 +0.7
DUG Dugway 114.96 45 *e*PKP PKiKP 05 14 17.8 0.0
DUG Dugway 114.96 45 *e*PKIKP PKiKP 05 14 17.8 0.0
SNOW Snow King Moun 115.00 41 *e*PKPdf PKiKP 05 14 18.7 +1.0
LOHW Long Hollow 115.03 41 *e*PKP PKiKP 05 14 18.6 +0.7
HWUT Hardware Ranch 115.25 43 *e*PKPdf PKPdf 05 14 19.0 +0.6
TAM Tamanrasset 115.76 295 *e*PKPdf PKPdf 05 14 20.3 +0.4
TAM Tamanrasset 115.76 295 *e*PKIKP PKPdf 05 14 20.3 +0.5
MSU Marysvale 116.07 46 *e*PKPdf PKPdf 05 14 21.5 +1.5
MSU Marysvale 116.07 46 *e*PKIKP PKPdf 05 14 21.5 +1.5
PDAR Pinedale Array 116.09 41 PKP PKPdf 05 14 20.4 +0.5
comp=Z,0.7nm,0.6s,baz=197,slow=1.5,SNR=5.6
PDAR PKKPab PKKPab 05 24 55.4 -0.7
comp=Z,1.4nm,0.8s,baz=120,slow=5.4,SNR=9.7
PDAR Pinedale Array 116.09 41 PKP PKPdf 05 14 20.4 +0.5
PDAR PKKPab PKKPab 05 24 55.4 -0.7
PV01 Paradox Valley 118.81 45 *e*PKPdf PKPdf 05 14 26.6 +1.3
RSSD Black Hills 118.92 37 *e*PKPdf PKPdf 05 14 25.3 0.0
RSSD Black Hills 118.92 37 *e*PKIKP PKPdf 05 14 25.3 0.0
ULM Lac du Bonnet 119.59 28 PKP PKPdf 05 14 25.9 -0.5
comp=Z,6.0nm,0.8s,baz=342,slow=2.0,SNR=5.4
ULM Lac du Bonnet 119.59 28 *e*PKPdf PKPdf 05 14 25.9 -0.6
ULM Lac du Bonnet 119.59 28 *e*PKIKP PKPdf 05 14 25.9 -0.5
TORD Torodi Ar. Bea 121.02 285 PKP PKPdf 05 14 29.4 -0.8
comp=Z,3.7nm,0.8s,baz=66,slow=1.8,SNR=23
TORD PKKPbc PKKPbc 05 24 35.1 +1.8
comp=Z,2.9nm,0.8s,baz=296,slow=3.2,SNR=15
TORD Torodi Ar. Bea 121.02 285 PKP PKPdf 05 14 29.4 -0.7
TORD PKKPbc PKKPbc 05 24 35.1 +1.8
SDCO Great Sand Dun 121.16 44 *e*PKPdf PKPdf 05 14 30.2 +0.4
ANMO Albuquerque 121.72 48 *e*PKPdf PKPdf 05 14 32.3 +1.3
ANMO Albuquerque 121.72 48 *e*PKIKP PKPdf 05 14 32.3 +1.3
MNTX Cornudas Mount 123.91 51 *e*PKPdf PKPdf 05 14 36.2 +0.9
SCHQ Schefferville 124.58 7 PKP PKPdf 05 14 35.7 -0.1
comp=Z,7.7nm,0.7s,baz=247,slow=11,SNR=9.1
SCHQ Schefferville 124.58 7 PKP PKPdf 05 14 35.7 -0.1
TXAR Lajitas Array 126.23 53 PKP PKPdf 05 14 40.7 +0.9
comp=Z,1.1nm,0.8s,baz=321,slow=1.6,SNR=7.1
TXAR Lajitas Array 126.23 53 PKP PKPdf 05 14 40.7 +0.9
TXAR Lajitas Array 126.23 53 PKIKP PKPdf 05 14 40.7 +0.9
WMOK Wichita Mounta 127.36 44 *e*PKPdf PKPdf 05 14 41.9 +0.1
WMOK Wichita Mounta 127.36 44 *e*PKIKP PKPdf 05 14 41.9 +0.1
JCT Junction City 128.74 50 *e*PKPdf PKPdf 05 14 44.9 +0.3
JCT Junction City 128.74 50 *e*PKIKP PKPdf 05 14 44.9 +0.4
WVT Waverly 133.58 36 *e*PKPdf PKPdf 05 14 53.7 +0.1
WVT Waverly 133.58 36 *e*PKIKP PKPdf 05 14 53.7 +0.2
CMIG Matias Romero 138.38 64 PKP PKPdf 05 15 04.1 +1.2
comp=Z,2.6nm,1.0s,baz=330,slow=2.4,SNR=4.1
CMIG Matias Romero 138.38 64 PKP PKPdf 05 15 04.1 +1.2
TEIG Tepich 142.79 55 PKP PKPdf 05 15 08.6 -2.2
comp=Z,19nm,1.0s,baz=344,slow=3.6,SNR=3.7
TEIG Tepich 142.79 55 PKP PKPdf 05 15 08.6 -2.2
LCO Las Campanas 148.14 156 *e*PKPbc PKPbc 05 15 24.1 +1.0
JTS JuntasAbangare 149.73 69 PKPbc PKPbc 05 15 29.0 +1.4
comp=Z,19nm,0.9s,baz=15,slow=3.1,SNR=5.8
JTS JuntasAbangare 149.73 69 *e*PKPbc PKPbc 05 15 28.5 +0.9
CPUP Villa Florida 153.90 178 PKP PKPdf 05 15 28.8 +0.2
comp=Z,2.6nm,0.8s,baz=62,slow=6.9,SNR=3.9
CPUP PKPbc PKPbc 05 15 37.5 +0.7
comp=Z,2.2nm,0.6s,baz=99,slow=2.0,SNR=6.0
CPUP PKPab PKPab 05 15 50.3 +0.1
comp=Z,4.8nm,0.8s,baz=156,slow=5.1,SNR=5.8
CPUP Villa Florida 153.90 178 *e*PKPdf PKPdf 05 15 33.3 +4.6
CPUP *e*PKPbc PKPbc 05 15 40.7 +4.0
CPUP PKPab PKPab 05 15 50.3 +0.1
CPUP Villa Florida 153.90 178 *e*PKIKP PKPdf 05 15 33.3 +4.6
CPUP 05 15 50.3
OTAV Otavalo 157.89 89 *e*PKPdf PKPdf 05 15 36.3 +2.0
OTAV *e*PKPab PKPab 05 16 10.7 +2.7
LPAZ La Paz 160.15 145 PKP PKPdf 05 15 39.1 +2.3
comp=Z,2.4nm,0.8s,baz=267,slow=1.3,SNR=9.1
LPAZ PKPab PKPab 05 16 20.7 +3.3
comp=Z,6.5nm,0.9s,baz=203,slow=2.7,SNR=11
LPAZ La Paz 160.15 145 *e*PKPdf PKPdf 05 15 39.0 +2.2
LPAZ *e*PKPab PKPab 05 16 20.4 +3.0
LPAZ La Paz 160.15 145 *e*PKIKP PKPdf 05 15 39.0 +2.2
LPAZ *e* 05 16 20.4
ROSC El Rosal 161.37 74 PKP PKPdf 05 15 40.4 +2.2
comp=Z,1.2nm,0.3s,baz=279,slow=23,SNR=3.6
ROSC PKPab PKPab 05 16 26.7 +3.6
comp=Z,2.9nm,0.5s,baz=253,slow=19,SNR=4.9
ROSC El Rosal 161.37 74 PKP PKPdf 05 15 40.4 +2.2
ROSC PKPab PKPab 05 16 26.7 +3.6
SDV Santo Domingo 163.20 58 *e*PKPdf PKPdf 05 15 40.0 -0.1
SDV *e*PKPab PKPab 05 16 32.3 +1.3

ISCJB ***21*** *05:14:36.6±0.8, 2.°52N±0.°06×128.°60E±0.°07, h240km±8km, mb4.0/18, Error ellipse: s-maj=11.0km s-min=8.9km az=155.6*
IDC ***21*** *05:14:36.6±3.1, 2.°51N×128.°51E, h225km±31km, mb3.7/16, mb1 3.8/16, mb1mx3.7/23, mbtmp3.7/16, Error ellipse: s-maj=26.4km s-min=9.0km az=83.0*
NEIC ***21*** *05:14:38.0±1.7, 2.°52N×128.°63E, h241km±17km, mb4.3/6, Error ellipse: s-maj=13.5km s-min=6.1km az=71.0*
DJA ***21*** *05:14:42, 2.°49N×128.°34E, h210km, mb4.4/6*
ISC 21 05:14:37.4±0.9, 2.°51N±0.°06×128.°61E±0.°07, h232km±9km, n53, σ0°93/51, mb4.0/18, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.12**	**216**	P	**Pn**	**05 15 20.3**	**+0.7**
TNTI				S	**S**	**05 15 52.3**	**-0.5**
KMSI	**Cibinong**	**5.01**	**248**	P	**Pn**	**05 15 53.5**	**+0.7**
KMSI				S	**S**	**05 16 50.0**	**-2.6**
LUWI	**Luwuk**	**6.81**	**239**	P	**Pn**	**05 16 15.2**	**-0.4**
	3μm113nm,0.6s						
LUWI				S	**S**	**05 17 35.7**	**+1.6**
	3μm113nm,0.6s						
MRSI	**Marisa**	**6.96**	**253**	P	**Pn**	**05 16 17.1**	**-0.3**
	1μm48nm,0.7s						
MRSI				S	**S**	**05 17 35.9**	**-1.6**
	1μm48nm,0.7s						
TTSI	**Tana Toraja**	**10.37**	**238**	P	**Pn**	**05 17 00.5**	**-0.5**
	2μm48nm,0.7s						
TTSI				S	**S**	**05 18 53.3**	**-4.1**
	2μm48nm,0.7s						
MYLDM	**Lahad Datu**	**10.43**	**285**	P	**Pn**	**05 17 03.4**	**+1.7**
	28nm,1.4s						
SPSI	**Sidrap Palu**	**10.92**	**234**	P	**Pn**	**05 17 11.9**	**+3.9**
	1μm19nm,0.8s						
BKSI	**Bulukumba**	**11.50**	**227**	P	**Pn**	**05 17 17.6**	**+2.3**
KKM	**Kota Kinabalu**	**12.85**	**286**	*e*Pn	**Pn**	**05 17 32.2**	**+0.2**
KSM	**Kuching**	**18.32**	**267**	*e*P	**P**	**05 18 36.2**	**+1.5**
	7.2nm,0.4s						
FITZ	**Fitzroy Crossi**	**20.68**	**188**	P	**P**	**05 18 59.6**	**-0.3**
	1.8nm,0.6s,baz=21,slow=7.1,SNR=10						
FITZ	**Fitzroy Crossi**	**20.68**	**188**	*e*P	**P**	**05 18 59.5**	**-0.5**
	2.2nm,0.6s						
COEN	**Coen**	**21.82**	**139**	*e*P	**P**	**05 19 10.7**	**-0.7**
	32nm,1.1s,mb4.8						
WRAB	**Tennant Creek**	**23.00**	**166**	*e*P	**P**	**05 19 22.1**	**0.0**
	7.3nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**23.01**	**166**	P	**P**	**05 19 22.0**	**-0.1**
	5.0nm,0.7s,mb4.2,baz=336,slow=11,SNR=39						
WRA	**Warramunga Arr**	**23.01**	**166**	P	**P**	**05 19 22.0**	**-0.1**
AS31	**Alice Springs**	**26.52**	**169**	*e*P	**P**	**05 19 53.9**	**+0.1**
ASAR	**Alice Springs**	**26.52**	**169**	P	**P**	**05 19 54.0**	**+0.2**
	4.0nm,0.5s,mb4.3,baz=355,slow=8.1,SNR=52						
ASAR				PcP	PcP	05 23 12.2	0.0
	1.3nm,0.4s,baz=347,slow=2.2,SNR=12						
ASAR	**Alice Springs**	**26.52**	**169**	P	**P**	**05 19 54.0**	**+0.2**
ASAR				PcP	PcP	05 23 12.2	0.0
KSAR	**Wonju Array Be**	**34.77**	**359**	P	**P**	**05 21 06.3**	**+0.5**
KSRS	**Korea Array**	**34.78**	**359**	P	**P**	**05 21 06.3**	**+0.4**
	1.9nm,0.5s,mb3.9,baz=173,slow=9.3,SNR=5.5						
MJAR	**Matsushiro Arr**	**35.01**	**14**	P	**P**	**05 21 06.9**	**-1.0**
	4.0nm,0.7s,mb4.0,baz=191,slow=10,SNR=7.4						
MJAR	**Matsushiro Arr**	**35.01**	**14**	P	**P**	**05 21 06.9**	**-1.0**
STKA	**Stephens Creek**	**36.35**	**161**	P	**P**	**05 21 19.5**	**+0.1**
	3.1nm,0.4s,mb4.2,baz=332,slow=9.6,SNR=19						
STKA	**Stephens Creek**	**36.35**	**161**	*e*P	**P**	**05 21 19.6**	**+0.3**
	0.7nm,0.3s,mb3.7						
SONM	**Songino Array**	**49.06**	**340**	P	**P**	**05 23 01.2**	**+0.2**
	0.6nm,0.6s,mb3.1,baz=157,slow=8.5,SNR=7.4						
SONM	**Songino Array**	**49.06**	**340**	P	**P**	**05 23 01.2**	**+0.2**
PETK	**Petropavlovsk-**	**55.88**	**21**	P	**P**	**05 23 51.5**	**+0.7**
	3.0nm,0.7s,mb3.9,baz=190,slow=5.2,SNR=2.5						
PETK	**Petropavlovsk-**	**55.88**	**21**	P	**P**	**05 23 51.5**	**+0.7**
MKAR	**Makanchi Array**	**59.62**	**325**	P	**P**	**05 24 17.0**	**0.0**
	1.2nm,0.4s,mb3.9,baz=111,slow=8.8,SNR=16						
MKAR	**Makanchi Array**	**59.62**	**325**	P	**P**	**05 24 17.0**	**0.0**
ZALV	**Zalesovo Beam**	**62.52**	**333**	P	**P**	**05 24 35.3**	**-1.0**
	0.6nm,0.4s,mb3.6,baz=116,slow=6.8,SNR=4.4						
ZALV	**Zalesovo Beam**	**62.52**	**333**	P	**P**	**05 24 35.3**	**-1.0**
KURK	**Kurchatov**	**63.77**	**327**	*e*P	**P**	**05 24 44.1**	**-0.5**
	5.8nm,0.8s,mb4.3						
KDAK	**Kodiak Island**	**81.92**	**32**	P	**P**	**05 26 31.7**	**+0.8**
	18nm,1.1s,mb4.6,baz=219,slow=14,SNR=5.3						
KDAK	**Kodiak Island**	**81.92**	**32**	P	**P**	**05 26 31.7**	**+0.8**
VNDA	**Vanda**	**81.99**	**173**	P	**P**	**05 26 30.6**	**-0.2**
	2.0nm,0.7s,mb3.8,baz=309,slow=5.8,SNR=10.0						
VNDA	**Vanda**	**81.99**	**173**	P	**P**	**05 26 30.6**	**-0.2**
MAW	**Mawson**	**83.27**	**201**	P	**P**	**05 26 38.1**	**+0.5**
	1.6nm,0.9s,mb3.8,baz=68,slow=11,SNR=4.0						
MAW	**Mawson**	**83.27**	**201**	P	**P**	**05 26 38.1**	**+0.5**
ILAR	**Eielson Array**	**85.40**	**25**	P	**P**	**05 26 47.3**	**-1.0**
	0.3nm,0.5s,mb3.3,baz=246,slow

ARCES	**ARCESS Array B**	**92.23**	**340**	P		**P**	05 27 19.2	**-1.3**
RES	**Resolute Bay**	**98.67**	**11**	P		**P**	05 27 49.5	**-0.1**
	2.2nm,1.0s,mb4.4,baz=315,slow=7.1,SNR=2.9							
RES	**Resolute Bay**	**98.67**	**11**	P		**P**	05 27 49.5	**-0.1**
TXAR	**Lajitas Array**	**120.84**	**54**	PKP	PKPdf		05 33 02.2	-0.4
	0.4nm,0.7s,baz=176,slow=5.0,SNR=4.0							
TXAR	**Lajitas Array**	**120.84**	**54**	PKP	PKPdf		05 33 02.2	-0.4
TORD	**Torodi Ar. Bea**	**125.08**	**288**	PKP	PKPdf		05 33 10.1	-1.0
	0.5nm,0.6s,baz=75,slow=2.4,SNR=4.7							
TORD	**Torodi Ar. Bea**	**125.08**	**288**	PKP	PKPdf		05 33 10.1	-1.0
CFAA	**Coronel Fontan**	**146.99**	**153**	PKPbc	PKPbc		05 33 53.0	-0.2
	0.7nm,0.6s,baz=267,slow=3.7,SNR=16							
CFAA	**Coronel Fontan**	**146.99**	**153**	PKPbc	PKPbc		05 33 53.0	-0.2
LPAZ	**La Paz**	**158.58**	**131**	PKPab	PKPab		05 34 47.0	+2.6
	0.6nm,0.7s,baz=220,slow=6.1,SNR=3.8							

*BJI **21** 06:03:57.0,60.36N×153.58W,h136km,mb4.6/6*
*ISCJB **21** 06:03:58.6±0.4,59.76N±0.04×153.83W±0.07,*
h146km±4km,mb4.0/8, Error ellipse: s-maj=6.1km
s-min=5.4km az=136.7
*IDC **21** 06:03:58.6±1.3,59.78N×153.92W,h126km±16km,mb3.6/6,*
mb1 3.9/11,mb1mx3.6/29,mbtmp3.7/11, Error ellipse:
s-maj=16.4km s-min=15.5km az=159.0
*NEIC **21** 06:04:00.5,59.72N×153.78W,h151km,MG4.2(AEIC),*
After AEIC.
NEIC Felt at Homer.

ISC 21 06:03:59.8±0.4,59.76N±0.04×153.81W±0.07,
h139km±4km,n71,σ0.88/80,mb4.0/8,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RSO	**Redoubt South**	**0.88**	**36**	*e*Pg		**Pn**	**06 04 23.8**	**+1.4**
BRLK	**Bradley Lake**	**1.48**	**88**	P		**Pn**	**06 04 28.9**	**+0.7**
BRLK				S		**Sn**	**06 04 50.3**	**+0.3**
SVW2	**Sparrevohn**	**1.61**	**328**	*e*P		**Pn**	**06 04 30.6**	**+1.0**
SLKM	**Skilak Lake**	**1.95**	**66**	P		**Pn**	**06 04 34.3**	**+0.8**
KDAK	**Kodiak Island**	**2.08**	**162**	P		**Pn**	**06 04 34.3**	**-0.9**
	22nm,0.3s,baz=35,slow=7.7,SNR=326							
KDAK				S		**Sn**	**06 05 01.1**	**-1.2**
	94nm,0.3s,baz=198,slow=20,SNR=30							
KDAK	**Kodiak Island**	**2.08**	**162**	P		**Pn**	**06 04 35.2**	**+0.1**
SEW	**Seward**	**2.22**	**79**	P		**Pn**	**06 04 37.3**	**+0.5**
SUA	**Susitna One**	**2.28**	**40**	P		**Pn**	**06 04 38.6**	**+1.0**
FIB	**Fire Island**	**2.29**	**50**	P		**Pn**	**06 04 39.2**	**+1.5**
RC01	**Rabbit Creek A**	**2.42**	**55**	P		**Pn**	**06 04 39.6**	**+0.2**
SKT	**Skwentna**	**2.49**	**26**	P		**Pn**	**06 04 41.1**	**+0.9**
OHAK	**Old Harbor**	**2.56**	**174**	P		**Pn**	**06 04 39.9**	**-1.2**
PMR	**Palmer**	**2.95**	**49**	P		**Pn**	**06 04 45.2**	**-0.8**
PPLA	**Purkeypile**	**3.25**	**13**	P		**Pn**	**06 04 51.1**	**+1.4**
TT01	**Tatalina**	**3.33**	**342**	P		**Pn**	**06 04 51.0**	**+0.1**
SML	**Sawmill**	**3.38**	**50**	P		**Pn**	**06 04 50.8**	**-0.8**
SCM	**Sheep Creek Mo**	**3.80**	**54**	P		**Pn**	**06 04 56.3**	**-0.7**
TRF	**Thorofare Moun**	**4.07**	**23**	P		**Pn**	**06 05 00.8**	**+0.2**
EYAK	**Cordova Ski Ar**	**4.11**	**75**	P		**Pn**	**06 05 00.8**	**-0.2**
DIV	**Divide**	**4.21**	**67**	P		**Pn**	**06 05 02.8**	**+0.4**
CHGN	**Chignik**	**4.24**	**217**	*e*P		**Pn**	**06 05 02.5**	**-0.4**
KLU	**Klutina**	**4.26**	**62**	P		**Pn**	**06 05 02.5**	**-0.5**
RND	**Reindeer**	**4.36**	**31**	P		**Pn**	**06 05 04.0**	**-0.4**
DHY	**Denali Highway**	**4.54**	**40**	P		**Pn**	**06 05 06.3**	**-0.5**
BPAW	**Bear Paw Mtn.**	**4.56**	**16**	P		**Pn**	**06 05 06.6**	**-0.4**
MCK	**McKinley**	**4.61**	**28**	P		**Pn**	**06 05 07.5**	**-0.2**
BMRM	**Bremner River**	**4.73**	**77**	P		**Pn**	**06 05 09.3**	**0.0**
PAX	**Paxson**	**5.15**	**48**	P		**Pn**	**06 05 16.6**	**+1.7**
DDM	**Donnelly Dome**	**5.53**	**40**	P		**Pn**	**06 05 20.6**	**+0.6**
HDA	**Harding Lake**	**5.67**	**32**	P		**Pn**	**06 05 21.1**	**-0.6**
MENT	**Mentasta**	**5.81**	**52**	*e*P		**Pn**	**06 05 24.3**	**+0.6**
MDM	**Murphy Dome**	**5.83**	**24**	P		**Pn**	**06 05 23.2**	**-0.8**
COLA	**College**	**5.84**	**26**	P		**Pn**	**06 05 22.9**	**-1.1**
IL1	**Eielson Array**	**5.98**	**30**	P		**Pn**	**06 05 25.1**	**-0.8**
ILAR	**Eielson Array**	**5.98**	**30**	P		**Pn**	**06 05 24.9**	**-1.0**
	12nm,0.3s,baz=219,slow=13,SNR=701							
ILAR				S		**Sn**	**06 06 29.8**	**-3.4**
	32nm,0.3s,baz=215,slow=23,SNR=22							
ILAR	**Eielson Array**	**5.98**	**30**	P		**Pn**	**06 05 24.9**	**-1.0**
ILAR				S		**Sn**	**06 06 29.8**	**-3.4**
DOT	**Dot Lake**	**6.06**	**46**	P		**Pn**	**06 05 26.4**	**-0.6**
IM3	**Indian Mountai**	**6.25**	**0**	P		**Pn**	**06 05 28.9**	**+0.3**
BCA3	**Beaver Creek A**	**6.65**	**55**	P		**Pn**	**06 05 35.0**	**0.0**
FALS	**False Pass**	**7.15**	**231**	P		**Pn**	**06 05 41.2**	**-0.5**
PNL	**Peninsula**	**7.29**	**84**	P		**Pn**	**06 05 43.6**	**0.0**
COLD	**Coldfoot**	**7.67**	**11**	P		**Pn**	**06 05 47.6**	**-0.9**
EGAK	**Eagle**	**7.75**	**44**	P		**Pn**	**06 05 48.8**	**-0.9**
DAWY	**Dawson**	**8.05**	**51**	P		**Pn**	**06 05 53.8**	**0.0**
BM3	**Burnt Mountain**	**8.70**	**24**	P		**Pn**	**06 06 00.5**	**-1.9**
SKAG	**Skagway**	**9.37**	**84**	*e*Pn		**Pn**	**06 06 11.1**	**-0.3**
SKAG				*e*Sn		**Sn**	**06 07 56.9**	**+2.0**
WHY	**Whitehorse**	**9.46**	**76**	P		**Pn**	**06 06 12.6**	**0.0**
DLBC	**Dease Lake**	**12.28**	**86**	P		**Pn**	**06 06 50.5**	**+0.8**
	1.3nm,0.3s,baz=288,slow=14,SNR=16							
DLBC				S		**Sn**	**06 09 03.9**	**-1.2**
	0.3nm,0.3s,baz=114,slow=20,SNR=2.2							
DLBC	**Dease Lake**	**12.28**	**86**	*e*Pn		**Pn**	**06 06 50.3**	**+0.5**
INK	**Inuvik**	**12.28**	**37**	P		**Pn**	**06 06 48.7**	**-1.0**
	0.9nm,0.3s,baz=237,slow=15,SNR=31							
INK				S		**Sn**	**06 09 00.1**	**-4.8**
	0.2nm,0.3s,baz=190,slow=18,SNR=3.0							
INK	**Inuvik**	**12.28**	**37**	*e*Pn		**Pn**	**06 06 49.3**	**-0.4**
INK				*e*Sn		**Sn**	**06 09 17.8**	**+13**
YKA	**Yellowknife Ar**	**18.93**	**65**	P		**P**	**06 08 09.2**	**-0.3**
	2.0nm,0.3s,baz=278,slow=9.9,SNR=34							
YKA	**Yellowknife Ar**	**18.93**	**65**	P		**P**	**06 08 09.2**	**-0.3**
FX1	**Attu Island--F**	**19.40**	**264**	P		**P**	**06 08 17.4**	**+2.7**
	1.1nm,0.3s,baz=63,slow=4.5,SNR=3.2							
FX1	**Attu Island--F**	**19.40**	**264**	P		**P**	**06 08 17.4**	**+2.7**
RES	**Resolute Bay**	**25.73**	**32**	P		**P**	**06 09 16.6**	**-0.1**
	1.9nm,0.9s,mb3.7,baz=254,slow=15,SNR=2.5							
RES	**Resolute Bay**	**25.73**	**32**	P		**P**	**06 09 16.6**	**-0.1**
PETK	**Petropavlovsk-**	**27.09**	**277**	P		**P**	**06 09 28.5**	**-0.6**
	3.6nm,0.9s,mb4.0,baz=71,slow=9.6,SNR=2.9							
PETK	**Petropavlovsk-**	**27.09**	**277**	P		**P**	**06 09 28.5**	**-0.6**
NVAR	**Mina Array Bea**	**30.97**	**118**	P		**P**	**06 10 04.1**	**+0.5**
	1.0nm,0.7s,mb3.6,baz=307,slow=9.4,SNR=5.8							
NVAR	**Mina Array Bea**	**30.97**	**118**	P		**P**	**06 10 04.1**	**+0.5**
PDAR	**Pinedale Array**	**31.74**	**102**	P		**P**	**06 10 11.4**	**+1.1**
	0.5nm,0.6s,mb3.4,baz=344,slow=2.9,SNR=4.8							
PDAR	**Pinedale Array**	**31.74**	**102**	P		**P**	**06 10 11.4**	**+1.1**
ULM	**Lac du Bonnet**	**33.51**	**80**	P		**P**	**06 10 26.2**	**+0.5**
	3.8nm,0.6s,mb4.3,baz=319,slow=10,SNR=8.3							
ULM	**Lac du Bonnet**	**33.51**	**80**	P		**P**	**06 10 26.2**	**+0.5**
CN2	**Changchun**	**49.17**	**289**	*e*P		**P**	**06 12 34.8**	**+1.5**
SONM	**Songino Array**	**54.60**	**305**	P		**P**	**06 13 13.3**	**-0.1**
	1.1nm,0.7s,mb3.7,baz=47,slow=6.2,SNR=7.9							
SONM	**Songino Array**	**54.60**	**305**	P		**P**	**06 13 13.3**	**-0.1**
HHC	**Hu-ho-hao-te**	**57.93**	**297**	*e*P		**P**	**06 13 36.8**	**-0.3**
HHC				PcP		PcP	06 14 28.5	+0.8
HHC				PP		PP	06 15 09.4	+2.9
HHC				ScP		ScP	06 18 09.8	-4.6
HHC				S		**S**	**06 21 21.3**	**-4.7**
HHC				ScS		ScS	06 23 05.9	-6.7
HHC				SS		SS	06 25 15.5	-2.8
HHC				pmax		pmax		
	comp=Z,15nm,1.4s,mb4.6							
HHC				LR		LR		
	comp=N,280nm,16.7s							
HHC				LR		LR		
	comp=E,240nm,16.6s							
HHC				LR		LR		
	comp=Z,130nm,16.7s							
WMQ	**Urumqi**	**65.15**	**315**	*e*P		**P**	**06 14 26.3**	**+0.8**
GYA	**Guiyang**	**72.12**	**292**	*e*P		**P**	**06 15 07.9**	**-1.0**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.5							

IDC 21 06:10:15.2±1.3,45.87N×26.96W,h0km,mb3.5/2,
mb1 3.9/3,mb1mx3.4/29,mbtmp3.6/3,ML4.6/1,MS3.4/5,
Ms1 3.4/5,ms1mx3.0/34,Error ellipse: s-maj=95.9km
s-min=27.6km az=30.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ESDC	**Sonseca Array**	**17.95**	**102**	P		Pn	06 14 27.5	+1.4
	0.4nm,0.3s,baz=298,slow=13,SNR=5.3							
ESDC				LR		LR	06 19 05.2	
	comp=Z,60nm,19.1s,baz=0.0,slow=30							
KEST	**Kesra**	**29.06**	**97**	LR		LR	06 26 05.0	
	comp=Z,37nm,20.0s,baz=219,slow=33							
TORD	**Torodi Ar. Bea**	**40.63**	**134**	P		P	06 17 56.6	-0.2
	0.6nm,0.7s,baz=329,slow=8.1,SNR=5.2							
TORD				LR		LR	06 33 43.7	
	comp=Z,68nm,19.1s,baz=35,slow=35							
DBIC	**Dimbokro**	**43.48**	**147**	LR		LR	06 34 29.4	
	comp=Z,57nm,18.2s,baz=193,slow=33							
PDAR	**Pinedale Array**	**56.62**	**299**	P		P	06 20 00.3	+0.6
	0.3nm,0.7s,baz=82,slow=6.5,SNR=2.8							
TXAR	**Lajitas Array**	**60.73**	**283**	LR		LR	06 45 37.9	
	comp=Z,54nm,18.5s,baz=5.0,slow=35							
ASAR	**Alice Springs**	**152.97**	**41**	PKPbc		PKPbc	06 30 13.8	-0.6
	0.1nm,0.3s,baz=336,slow=2.0,SNR=3.2							

IDC 21 06:15:47.3±4.1,14.67S×68.86W,h132km±67km,mb3.7/1,
mb1 3.6/2,mb1mx3.2/19,mbtmp3.7/2,Error ellipse:
s-maj=132.5km s-min=15.8km az=31.0,Peru-Bolivia
border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LPAZ	**La Paz**	**1.76**	**156**	P		Pn	06 16 19.4	+0.8
	37nm,0.3s,baz=282,slow=7.4,SNR=1282							
LPAZ				S		Sn	06 16 43.7	+1.2
	3.4nm,0.3s,baz=96,slow=18,SNR=6.2							
NNA	**Nana**	**8.21**	**288**	P		Pn	06 17 44.3	+0.7
	2.6nm,0.3s,baz=144,slow=9.6,SNR=6.9							
NNA				S		Sn	06 19 14.4	-0.4
	0.8nm,0.3s,baz=9.3,slow=18,SNR=3.1							
TORD	**Torodi Ar. Bea**	**75.11**	**72**	P		P	06 27 15.2	-0.1
	0.8nm,0.5s,baz=258,slow=5.5,SNR=12							
SONM	**Songino Array**	**146.69**	**6**	PKPbc		PKPbc	06 35 13.4	-0.1
	0.3nm,0.5s,baz=339,slow=1.4,SNR=3.6							

*ISCJB **21** 06:48:11.7±0.8,9.89S×151.14E±0.08,h10km,*
mb3.8/7,MS3.2/2,Error ellipse: s-maj=12.8km
s-min=11.4km az=13.3
*IDC **21** 06:48:11.5±1.1,9.86S×151.17E,h0km,mb3.9/7,*
mb1 4.0/9,mb1mx3.9/17,mbtmp3.9/9,ML2.8/1,MS3.3/4,
Ms1 3.2/4,ms1mx3.0/28,Error ellipse: s-maj=25.5km
s-min=19.0km az=151.0
*NEIC **21** 06:48:13.1±0.8,9.84S×151.13E,h10km,mb3.8/4,Error*
ellipse: s-maj=17.3km s-min=12.1km az=111.0
ISC 21 06:48:13.2±0.8,9.88S±0.09×151.16E±0.08,h10km,n25,
σ1.09/27,mb3.8/7,MS3.2/2,D'Entrecasteaux Islands
region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**3.97**	**276**	Pn		**Pn**	**06 49 14.5**	**+0.3**
	5.1nm,0.3s,baz=149,slow=5.7,SNR=8.7							
PMG				Pg		**Pg**	**06 49 23.9**	**-5.5**
	5.5nm,0.3s,baz=109,slow=7.4,SNR=9.9							
PMG				Sn		**Sn**	**06 50 01.8**	**+1.0**
	2.1nm,0.3s,baz=109,slow=19,SNR=3.6							
PMG				Lg			06 50 18.1	
	3.1nm,0.3s,baz=266,slow=21,SNR=4.1							
PMG	**Port Moresby**	**3.97**	**276**	Pn		**Pn**	**06 49 14.5**	**+0.3**
PMG				Pg		**Pg**	**06 49 23.9**	**-5.5**
PMG				Sn		**Sn**	**06 50 01.8**	**+1.0**
PMG				Lg			06 50 18.1	
COEN	**Coen**	**8.80**	**242**	*e*Pn		**Pn**	**06 50 19.0**	**-1.5**
COEN				*e*Sn		**Sn**	**06 51 51.6**	**-8.3**
CTA	**Charters Tower**	**11.20**	**204**	LR		LR	06 54 30.7	
	comp=Z,79nm,21.2s,baz=232,slow=34							
EIDS	**Eidsvold**	**15.40**	**180**	*e*P		**Pn**	**06 51 51.7**	**+1.0**
	6.1nm,0.7s							
WRAB	**Tennant Creek**	**19.05**	**236**	*e*P		**Pn**	**06 52 34.8**	**-1.7**
	4.4nm,0.9s							
WRA	**Warramunga Arr**	**19.07**	**236**	P		**Pn**	**06 52 35.8**	**-0.8**
	0.1nm,0.3s,baz=62,slow=11,SNR=12							
WRA				LR		LR	06 59 50.6	
	comp=Z,72nm,18.5s,baz=60,slow=37							
WRA	**Warramunga Arr**	**19.07**	**236**	P		**Pn**	**06 52 35.8**	**-0.8**
AS31	**Alice Springs**	**21.43**	**228**	*e*P		**P**	**06 53 03.5**	**+1.9**
ASAR	**Alice Springs**	**21.43**	**228**	P		**P**	**06 53 01.8**	**+0.2**
	2.1nm,0.9s,mb3.5,baz=54,slow=9.7,SNR=18							
ASAR				LR		LR	07 01 45.8	
	comp=Z,102nm,18.3s,MS3.3,baz=351,slow=38							
ASAR	**Alice Springs**	**21.43**	**228**	P		**P**	**06 53 01.8**	**+0.2**
STKA	**Stephens Creek**	**23.61**	**201**	P		**P**	**06 53 25.4**	**+0.8**
	8.0nm,1.0s,mb4.1,baz=19,slow=12,SNR=6.5							
STKA				LR		LR	07 03 29.1	
	comp=Z,84nm,19.4s,MS3.2,baz=205,slow=39							
STKA	**Stephens Creek**	**23.61**	**201**	*e*P		**P**	**06 53 24.8**	**+0.2**
	2.2nm,1.0s,mb3.5							
FITZ	**Fitzroy Crossi**	**26.05**	**249**	P		**P**	**06 53 46.2**	**-0.8**
	1.3nm,0.7s,mb3.5,baz=45,slow=10.0,SNR=4.1							
FITZ	**Fitzroy Crossi**	**26.05**	**249**	*e*P		**P**	**06 53 46.7**	**-0.2**
	3.3nm,1.1s,mb3.8							
SONM	**Songino Array**	**69.79**	**330**	P		**P**	**06 59 25.3**	**+1.7**
	0.6nm,0.7s,mb3.6,baz=125,slow=7.2,SNR=3.2							
SONM	**Songino Array**	**69.79**	**330**	P		**P**	**06 59 25.4**	**+1.7**
MKAR	**Makanchi Array**	**83.09**	**320**	P		**P**	**07 00 39.3**	**+0.1**
	0.2nm,0.4s,mb3.5,baz=141,slow=5.0,SNR=3.3							
MKAR	**Makanchi Array**	**83.09**	**320**	P		**P**	**07 00 39.2**	**+0.1**
ZALV	**Zalesovo Beam**	**84.48**	**327**	P		**P**	**07 00 44.6**	**-1.4**
	0.5nm,0.3s,mb4.1,baz=88,slow=3.5,SNR=3.6							
ZALV	**Zalesovo Beam**	**84.48**	**327**	P		**P**	**07 00 44.6**	**-1.4**
ILAR	**Eielson Array**	**87.45**	**22**	P		**P**	**07 01 00.0**	**-0.5**
	1.2nm,1.0s,mb4.1,baz=250,slow=4.2,SNR=6.9							
ILAR	**Eielson Array**	**87.45**	**22**	P		**P**	**07 01 00.0**	**-0.5**
TORD	**Torodi Ar. Bea**	**149.91**	**279**	PKPbc		PKPbc	07 08 03.9	-0.9
	0.5nm,0.8s,baz=78,slow=4.0,SNR=3.3							
TORD				PKPab		PKPab	07 08 10.5	+0.1
	2.1nm,1.0s,baz=54,slow=2.5,SNR=9.6							
TORD	**Torodi Ar. Bea**	**149.91**	**279**	PKPbc		PKPbc	07 08 03.9	-0.9
TORD				PKPab		PKPab	07 08 10.5	+0.1

*IDC **21** 06:53:35.1±1.2,9.89S×151.17E,h0km,mb3.8/7,*
mb1 3.9/9,mb1mx3.8/17,mbtmp3.8/9,ML3.0/2,MS3.6/1,
Ms1 3.6/1,ms1mx2.6/31,Error ellipse: s-maj=27.3km
s-min=20.3km az=148.0
*ISCJB **21** 06:53:36.9±1.0,9.85S±0.1×150.8E±0.1,h10km,mb3.7/7,*
Error ellipse: s-maj=19.9km s-min=12.8km az=43.5
*NEIC **21** 06:53:36.9±0.8,9.88S×151.11E,h10km,mb3.7/2,Error*
ellipse: s-maj=20.1km s-min=11.1km az=126.0
ISC 21 06:53:37.8±0.9,9.85S±0.1×150.9E±0.1,h10km,n22,
σ1.04/23,mb3.7/7,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**3.73**	**276**	Pn		**Pn**	**06 54 37.7**	**+2.2**
	1.9nm,0.3s,baz=101,slow=10,SNR=4.0							
PMG				Pg		**Pg**	**06 54 47.6**	**-1.8**
	6.1nm,0.3s,baz=96,slow=6.1,SNR=10							
PMG				Lg			06 55 42.9	
	1.8nm,0.3s,baz=248,slow=19,SNR=2.8							
PMG				LR		LR	06 56 02.2	
	comp=Z,803nm,21.4s,baz=65,slow=37							
PMG	**Port Moresby**	**3.73**	**276**	Pn		**Pn**	**06 54 37.7**	**+2.2**
PMG				Pg		**Pg**	**06 54 47.6**	**-1.8**
PMG				Lg			06 55 42.9	
PMG				LR		LR	06 56 02.2	
COEN	**Coen**	**8.62**	**241**	*e*Pn		**Pn**	**06 55 43.0**	**+0.2**
COEN				*e*Sn		**Sn**	**06 57 16.4**	**-3.8**
WRAB	**Tennant Creek**	**18.89**	**236**	*e*P		**Pn**	**06 58 00.4**	**+1.2**
	2.7nm,0.9s							
WRA	**Warramunga Arr**	**18.91**	**236**	P		**Pn**	**06 57 58.9**	**-0.5**
	0.1nm,0.3s,baz=60,slow=11,SNR=10							
WRA	**Warramunga Arr**	**18.91**	**236**	P		**Pn**	**06 57 58.9**	**-0.5**
ASAR	**Alice Springs**	**21.30**	**228**	P		**P**	**06 58 24.4**	**-0.4**
	1.4nm,1.0s,mb3.2,baz=64,slow=10,SNR=3.5							
ASAR	**Alice Springs**	**21.30**	**228**	P		**P**	**06 58 24.4**	**-0.4**
STKA	**Stephens Creek**	**23.60**	**200**	P		**P**	**06 58 49.0**	**-0.1**
	3.3nm,0.7s,mb3.9,baz=30,slow=14,SNR=3.9							
STKA	**Stephens Creek**	**23.60**	**200**	P		**P**	**06 58 49.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**25.85**	**249**	P		**P**	**06 59 09.9**	**+0.1**
	2.3nm,0.8s,mb3.8,baz=134,slow=2.2,SNR=7.1							
FITZ	**Fitzroy Crossi**	**25.85**	**249**	*e*P		**P**	**06 59 09.8**	**0.0**
	2.0nm,0.7s,mb3.8							
SONM	**Songino Array**	**69.61**	**330**	P		**P**	**07 04 48.4**	**+1.1**
	0.3nm,0.8s,mb3.3,baz=160,slow=4.6,SNR=3.6							
SONM	**Songino Array**	**69.61**	**330**	P		**P**	**07 04 48.4**	**+1.1**
MKAR	**Makanchi Array**	**82.89**	**320**	P		**P**	**07 06 03.0**	**+0.2**
	0.4nm,0.8s,mb3.5,baz=114,slow=3.6,SNR=3.3							
MKAR	**Makanchi Array**	**82.89**	**320**	P		**P**	**07 06 03.0**	**+0.2**
ZALV	**Zalesovo Beam**	**84.29**	**327**	P		**P**	**07 06 09.3**	**-0.5**
	0.7nm,0.3s,mb4.3,baz=94,slow=4.3,SNR=4.7							
ZALV	**Zalesovo Beam**	**84.29**	**327**	P		**P**	**07 06 09.3**	**-0.5**
ILAR	**Eielson Array**	**87.47**	**22**	P		**P**	**07 06 24.1**	**-1.3**
	0.6nm,0.9s,mb3.8,baz=250,slow=3.8,SNR=4.1							
ILAR	**Eielson Array**	**87.47**	**22**	P		**P**	**07 06 24.1**	**-1.3**
TORD	**Torodi Ar. Bea**	**149.67**	**279**	PKPab		PKPab	07 13 33.8	-0.2
	1.4nm,0.9s,baz=90,slow=2.7,SNR=4.7							
TORD	**Torodi Ar. Bea**	**149.67**	**279**	PKPab		PKPab	07 13 33.8	-0.2

*ISCJB **21** 06:58:22.9±3.6,55.60S±0.07×26.1W±0.1,h7km±22km,*
mb4.8/16,MS4.7/6, Error ellipse: s-maj=13.7km
s-min=9.1km az=143.7
*IDC **21** 06:58:23.2±0.6,55.53S×26.09W,h0km,mb4.7/10,*
mb1 4.7/11,mb1mx4.5/18,mbtmp4.7/11,ML4.1/1,MS4.2/5,
Ms1 4.2/5,ms1mx4.0/22,Error ellipse: s-maj=18.9km
s-min=16.1km az=79.0
*BJI **21** 06:58:29.1,55.50S×26.10W,h35km,mB5.4/6,Ms5.7/7,*
Ms7 5.5/8
*NEIC **21** 06:58:31.2±3.1,55.62S×26.22W,h60km±28km,mb5.0/14,*
Error ellipse: s-maj=11.9km s-min=9.9km az=206.0
ISC 21 06:58:27.8±4.4,55.66S±0.08×26.1W±0.1,h28km±33km,
n60,σ0.98/42,mb4.8/16,MS4.7/6,1C,South Sandwich
Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**16.94**	**159**	*e*P		**Pn**	**07 02 22.4**	**0.0**
VNA1				*e*S		**Sn**	**07 05 18.5**	**-11**
VNA3	**Neumayer Olymp**	**17.16**	**162**	*e*P		**Pn**	**07 02 24.6**	**-0.6**
VNA3				*e*S		**Sn**	**07 05 18.8**	**-16**
VNA2	**Neumayer--Watz**	**17.33**	**159**	*e*P		**Pn**	**07 02 27.0**	**-0.3**
	baz=328,slow=15							
VNA2				*e*S		**Sn**	**07 05 24.4**	**-15**
SNAA	**Sanae**	**18.86**	**157**	P		**Pn**	**07 02 46.4**	**+0.4**
	0.6nm,0.3s,baz=308,slow=9.3,SNR=110							
SNAA				S		**Sn**	**07 06 06.3**	**-10**
	0.2nm,0.3s,baz=216,slow=14,SNR=3.1							
SNAA				LR		LR	07 08 52.3	
	comp=Z,175nm,21.4s,baz=324,slow=33							
SNAA	**Sanae**	**18.86**	**157**	*e*P		**Pn**	**07 02 42.3**	**-3.7**
	32nm,0.9s							
SNAA				S		**Sn**	**07 06 06.3**	**-10**
SNAA				LR		LR	07 08 52.3	
EFI	**East Falkland**	**19.24**	**269**	*e*P		**Pn**	**07 02 49.7**	**-1.1**
	44nm,0.8s							
PMSA	**Palmer Station**	**20.61**	**228**	P		**P**	**07 03 06.2**	**+1.8**
	134nm,0.5s,baz=56,slow=7.5,SNR=50							
PMSA				LR		LR	07 09 39.7	
	comp=Z,822nm,19.9s,MS4.1,baz=132,slow=33							
PMSA	**Palmer Station**	**20.61**	**228**	*e*P		**P**	**07 03 08.0**	**+3.6**
	139nm,0.6s							
MAIT	**Maitri**	**22.23**	**148**	*e*P		**P**	**07 03 22.7**	**+0.9**
MAIT				*e*S		**S**	**07 07 21.7**	**-3.1**
USHA	**Ushuaia**	**23.87**	**254**	P		**P**	**07 03 36.8**	**-1.8**
	12nm,0.8s,mb4.4,baz=104,slow=6.9,SNR=5.7							
USHA				LR		LR	07 10 44.4	
	comp=Z,904nm,19.5s,MS4.2,baz=66,slow=31							
USHA	**Ushuaia**	**23.87**	**254**	P		**P**	**07 03 36.8**	**-1.8**
USHA				LR		LR	07 10 44.4	
TRQA	**Tornquist**	**29.73**	**291**	*e*P		**P**	**07 04 31.7**	**+0.2**
	60nm,1.7s,mb5.0							
SYO	**Syowa Base**	**31.51**	**141**	*e*P		**P**	**07 04 45.4**	**-1.4**
QSPA	**South Pole Qui**	**34.59**	**180**	P		**P**	**07 05 14.5**	**+1.0**
	24nm,0.5s,mb5.4,baz=203,slow=3.7

IDC 21 07:02:39.1±5.1, 4.8^{88}**S×106.05W, h0**^{km}**, mb3.6/4, mb1 4.0/4, mb1mx3.8/14, mbtmp3.6/4, Error ellipse: s-maj=305.9km s-min=61.2km az=97.0, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVAR	**Mina Array Bea**	**44.57**	**346**	P	P	07 10 54.0	+1.1
	0.2nm,0.5s,baz=169,slow=6.1,SNR=2.0						
PDAR	**Pinedale Array**	**47.53**	**356**	P	P	07 11 17.0	+0.9
	0.6nm,0.7s,baz=165,slow=7.5,SNR=3.9						
INK	**Inuvik**	**75.51**	**350**	P	P	07 14 24.9	0.0
	0.9nm,0.8s,baz=142,slow=6.0,SNR=2.8						
ILAR	**Eielson Array**	**75.72**	**343**	P	P	07 14 24.8	-1.3
	0.8nm,0.8s,baz=161,slow=5.2,SNR=11						
CMAR	**Chiang Mai Arr**	**152.11**	**301**	PKPbc	PKPbc	07 22 38.0	+0.5
	1.0nm,0.4s,baz=90,slow=0.9,SNR=3.0						

*BJI **21** 07:05:30.3, 8.85S×160.02E, h108km, mB6.1/37, mb5.9/70*
*NOU **21** 07:05:31.5±2.4, 9.69S×158.03E, h16km±999km*
*MOS **21** 07:05:33.4±0.9, 8.79S×159.51E, h110km, mb6.0/70, MS5.1/11, Error ellipse: s-maj=7.3km s-min=5.6km az=90.0*
*NEIC **21** 07:05:34.9±0.1, 8.95S×159.55E, h118km, mb6.0/171, ME6.3, MW6.1, MW5.9, Error ellipse: s-maj=3.9km s-min=3.4km az=149.0 Broadband fault plane solution: P waves. NP1:φs315.00000°, δ55.00000°, λ90.00000°. NP2:φs135.00000°, δ35.00000°, λ90.00000°. Principal axes: T Plg80.0000°, Azm225.0000°; N Plg0.0000°, Azm0.0000°; P Plg10.0000°, Azm45.0000°; Moment Tensor Solution. s73 Moment tensor: Scale 10^18 Nm; Mrr1.49; Mθθ-0.64; Mφφ-0.84; Mrθ-0.53; Mθφ0.41; Mφr0.10; Best double couple: M0 1.50000×10^18 NP1:φs310.00000°, δ55.00000°, λ78.00000°. NP2:φs150.00000°, δ37.00000°, λ106.00000°. Principal axes: T 1.6100, Plg76.0000°, Azm180.0000°; N -0.3800, Plg9.0000°, Azm316.0000°; P -1.2300, Plg8.0000°, Azm48.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at Honiara.
*ISCJB **21** 07:05:34.2±0.1, 8.95S±0.02×159.49E±0.02, h122km, mb6.0/294 Error ellipse: s-maj=3.0km s-min=2.3km az=176.5*
*IDC **21** 07:05:34.9±0.4, 8.94S×159.64E, h119km±3km, mb5.5/38, mb1 5.5/38, mb1mx5.5/38, mbtmp5.5/38, MS5.1/19, Ms1 5.1/19, ms1mx4.8/30, Error ellipse: s-maj=9.0km s-min=7.6km az=73.0*
*GCMT **21** 07:05:36.6±0.1, 8.97S×159.73E, h126km, MW6.0, Moment Tensor Solution. s117,c256; s75,c92; Moment tensor: Scale 10^18 Nm; Mrr1.01±.01; Mθθ-0.44±.01; Mφφ-0.57±.01; Mrθ-0.70±.01; Mθφ0.61±.01; Mφr0.04±.01; Best double couple: M0 1.30000×10^18 NP1:φs158.00000°, δ36.00000°, λ126.00000°. NP2:φs296.00000°, δ61.00000°, λ67.00000°. Principal axes: T 1.3100, Plg65.0000°, Azm165.0000°; N -0.0800, Plg20.0000°, Azm308.0000°; P -1.2400, Plg14.0000°, Azm43.0000°; Data Used: II IU CN IC G. Surface waves: sta=126, comp=288, per= 50.*
*DJA **21** 07:05:42, 8.93S×159.65E, h193km, Mw5.9/47*
ISC 21 07:05:35.9±0.1, **8.94S**±0.02×**159.54E**±0.02, **h123**km, **h123**km, 6km**:pP-P, n1573,** sc0**s79**/1004, **mb6.0**/292,
253C-247D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.64**	**141**	P	**Pn**	**07 05 53.4**	**-1.6**
	5μm,0.3s,baz=207,slow=2.9,SNR=614						
HNR				S	**Sn**	**07 06 07.7**	**-1.9**
	17μm,0.3s,baz=49,slow=17,SNR=25						
HNR	**Honiara**	**0.64**	**141**	*e*Pn	**Pn**	**07 05 53.5**	**-1.6**
HNR	**Honiara**	**0.64**	**141**	P	**Pn**	**07 05 53.4**	**-1.7**
HNR				S	**Sn**	**07 06 07.7**	**-1.9**
PMG	**Port Moresby**	**12.23**	**267**	P	**Pn**	**07 08 30.6**	**+4.6**
	1.3nm,0.3s,baz=85,slow=8.1,SNR=114						
PMG				LR	LR	07 12 42.8	
	comp=Z,22μm,20.4s,baz=74,slow=35						
PMG	**Port Moresby**	**12.23**	**267**	*e*Pn	**Pn**	**07 08 30.4**	**+4.3**
PMG	**Port Moresby**	**12.23**	**267**	*d*iP	**Pn**	**07 08 30.7**	**+4.6**
PMG				pmax	pmax		
	comp=Z,577nm,1.6s						
PMG	**Port Moresby**	**12.23**	**267**	P	**Pn**	**07 08 31.1**	**+5.0**
	comp=Z,380nm,1.8s						
PMG	**Port Moresby**	**12.23**	**267**	P	**Pn**	**07 08 30.8**	**+4.7**
	comp=Z,485nm,1.3s						
NOUC	**Port Laguerre**	**14.62**	**154**	*e*P	**Pn**	**07 08 55.9**	**-0.8**
NOUC				*e*S	**Sn**	**07 11 39.9**	**+1.5**
DZM	**Mont Dzumac**	**14.65**	**154**	⇑*i*P	**Pn**	**07 08 57.3**	**+0.2**
	comp=Z,6μm,1.6s						
DZM				*e*LR	LR	07 12 27.3	
	comp=Z,25μm,34.1s						
DZM	**Mont Dzumac**	**14.65**	**154**	*e*Pn	**Pn**	**07 08 56.6**	**-0.5**
	comp=Z,5μm,1.5s						
NORM	**Noumea**	**14.80**	**154**	*e*P	**Pn**	**07 08 60.0**	**+0.9**
LASL	**Noumea**	**14.83**	**154**	*e*P	**Pn**	**07 09 03.2**	**+3.8**
PLUM	**Mont Dore**	**14.91**	**154**	*e*P	**Pn**	**07 09 02.5**	**+2.0**
BAYA	**Yate Dam**	**14.92**	**153**	*e*P	**Pn**	**07 09 03.9**	**+3.4**
BAYA				*e*S	**Sn**	**07 11 49.7**	**+4.0**
COEN	**Coen**	**16.80**	**251**	*e*P	**Pn**	**07 09 28.6**	**+4.8**
	comp=Z,4μm,1.1s						
COEN	**Coen**	**16.80**	**251**	P	**Pn**	**07 09 29.1**	**+5.3**
COEN	**Coen**	**16.80**	**251**	P	**Pn**	**07 09 28.7**	**+4.9**
	comp=Z,672nm,1.0s						
CTA	**Charters Tower**	**16.97**	**228**	P	**Pn**	**07 09 30.1**	**+4.3**
	comp=Z,29nm,0.3s,baz=52,slow=14,SNR=247						
CTA	**Charters Tower**	**16.97**	**228**	*e*P	**Pn**	**07 09 29.7**	**+3.9**
	comp=Z,779nm,1.5s						
CTA				*e*S	**S**	**07 12 41.9**	**+6.9**
CTA	**Charters Tower**	**16.97**	**228**	P	**Pn**	**07 09 30.1**	**+4.3**
CTA	**Charters Tower**	**16.97**	**228**	P	**Pn**	**07 09 30.2**	**+4.4**
CTA				pmax	pmax		
	comp=Z,29nm,0.3s						
CTAO	**Charters Tower**	**16.97**	**228**	*e*P	**Pn**	**07 09 29.5**	**+3.7**
	comp=Z,2μm,1.6s						
CTAO	**Charters Tower**	**16.97**	**228**	*e*P	**Pn**	**07 09 29.5**	**+3.7**
CTAO				pmax	pmax		
	comp=Z,2μm,1.6s						
CTAO	**Charters Tower**	**16.97**	**228**	P	**Pn**	**07 09 30.5**	**+4.7**
	comp=Z,928nm,1.4s						
CTAO	**Charters Tower**	**16.97**	**228**	P	**Pn**	**07 09 30.3**	**+4.5**
	comp=Z,928nm,1.4s						
EIDS	**Eidsvold**	**18.22**	**205**	*e*P	**P**	**07 09 42.7**	**+3.2**
	comp=Z,2μm,1.4s						
KWAJ	**Kwajalein Atol**	**19.37**	**25**	*e*P	**P**	**07 09 51.6**	**-0.4**
	comp=Z,6μm,1.7s						
KWAJ				*e*S	**S**	**07 13 18.9**	**-5.9**
KWAJ	**Kwajalein Atol**	**19.37**	**25**	*e*P	**P**	**07 09 51.6**	**-0.5**
KWAJ				*e*S	**S**	**07 13 18.9**	**-5.8**
KWAJ				pmax	pmax		
	comp=Z,6μm,1.7s						
FUNA	**Funafuti**	**19.43**	**90**	*e*P	**P**	**07 09 52.1**	**-0.8**
	comp=Z,891nm,1.1s						
MSVF	**Nonsavu**	**20.00**	**118**	*e*P	**P**	**07 09 58.0**	**-0.9**
	comp=Z,1μm,1.4s						
MSVF				*e*PcP	PcP	07 14 10.7	+0.5
MSVF	**Nonsavu**	**20.00**	**118**	*e*P	**P**	**07 09 58.0**	**-1.0**
MSVF				*e*		07 14 10.7	
MSVF				pmax	pmax		
	comp=Z,1μm,1.4s						
MSVF	**Nonsavu**	**20.00**	**118**	P	**P**	**07 09 59.9**	**+0.9**
	comp=Z,2μm,1.1s,SNR=25						
SMPI	**Sarmi**	**21.84**	**287**	P	**P**	**07 10 19.6**	**+1.0**
	comp=Z,3μm,1.8s,mb6.3						
SMPI	**Sarmi**	**21.84**	**287**	P	**P**	**07 10 19.8**	**+1.2**
	comp=Z,507nm,1.3s,mb5.7						
ARMA	**Armidale**	**22.61**	**198**	*e*P	**P**	**07 10 27.3**	**+0.8**
ARMA				*e*S	**S**	**07 14 27.4**	**+2.6**
ARMA	**Armidale**	**22.61**	**198**	*e*P	**P**	**07 10 26.9**	**+0.4**
	comp=Z,1μm,0.9s,mb6.2						
BAKI	**Biak**	**24.56**	**287**	P	**P**	**07 10 45.5**	**+1.0**
	comp=Z,9μmcomp=Z,297nm,1.2s,mb5.6						
BAKI	**Biak**	**24.56**	**287**	P	**P**	**07 10 46.1**	**+1.6**
	comp=Z,9μmcomp=Z,262nm,2.5s,mb5.2						
RIV	**Riverview**	**25.95**	**196**	*e*P	**P**	**07 10 58.5**	**+1.7**
WRAB	**Tennant Creek**	**26.69**	**243**	*e*P	**P**	**07 11 04.7**	**+1.1**
	comp=Z,2μm,1.7s,mb6.5						
WRAB	**Tennant Creek**	**26.69**	**243**	*e*P	**P**	**07 11 04.7**	**+1.1**
WRAB				pmax	pmax		
	comp=Z,2μm,1.7s,mb6.5						
WRAB	**Tennant Creek**	**26.69**	**243**	P	**P**	**07 11 04.0**	**+0.4**
	comp=Z,3μm,1.2s,mb6.8						
WRAB	**Tennant Creek**	**26.69**	**243**	P	**P**	**07 11 04.6**	**+1.0**
	comp=Z,1μm,1.4s,mb6.3						
WRAB	**Tennant Creek**	**26.69**	**243**	P	**P**	**07 11 04.3**	**+0.7**
	comp=Z,1μm,1.4s,mb6.3						
WB2	**Warramunga Arr**	**26.69**	**243**	*e*P	**P**	**07 11 04.6**	**+1.0**
GUMO	**Guam**	**26.70**	**327**	P	**P**	**07 11 03.8**	**+0.1**
	comp=Z,68nm,0.6s,mb5.4,baz=163,slow=12,SNR=6.2						
GUMO	**Guam**	**26.70**	**327**	P	**P**	**07 11 03.8**	**0.0**
GUMO	**Guam**	**26.70**	**327**	P	**P**	**07 11 03.8**	**+0.1**
GUMO				pmax	pmax		
	comp=Z,68nm,0.6s,mb5.3						
GUMO	**Guam**	**26.70**	**327**	P	**P**	**07 11 03.3**	**-0.4**
	comp=Z,448nm,0.8s,mb6.0						
WRA	**Warramunga Arr**	**26.70**	**243**	P	**P**	**07 11 04.7**	**+1.0**
	comp=Z,278nm,0.8s,mb5.8,baz=71,slow=8.9,SNR=375						
WRA				pP	pP	07 11 30.4	+0.1
	comp=Z,161nm,0.9s,baz=70,slow=9.4,SNR=4.8						
WRA				PcP	PcP	07 14 23.9	-0.5
	comp=Z,28nm,0.7s,baz=68,slow=2.2,SNR=5.1						
WRA				LR	LR	07 21 14.6	
	comp=Z,8μm,20.8s,baz=70,slow=35						
WRA				PKiKP	PKiKP	07 22 00.5	-2.3
	comp=Z,1.8nm,0.5s,baz=328,slow=0.6,SNR=10						
WRA				P3KPbc		07 43 37.9	
	comp=Z,1.1nm,0.7s,baz=247,slow=2.2,SNR=5.9						
WRA	**Warramunga Arr**	**26.70**	**243**	P	**P**	**07 11 04.7**	**+1.0**
WRA				pP	pP	07 11 30.4	+0.1
WRA				PcP	PcP	07 14 23.9	-0.5
WRA				LR	LR	07 14 36.4	
WRA	**Warramunga Arr**	**26.70**	**243**	P	**P**	**07 11 04.7**	**+1.0**
WRA				*PP	pP	07 11 30.4	+0.1
WRA						07 14 23.9	
WRA				pmax	pmax		
	comp=Z,278nm,0.8s						
WRA				MLR	MLR		
	comp=Z,8μm,20.8s						
TLE	**Tual**	**26.78**	**275**	P	**P**	**07 11 06.0**	**+1.4**
	comp=Z,160nm,1.8s,mb5.2						
TLE	**Tual**	**26.78**	**275**	P	**P**	**07 11 06.6**	**+2.0**
	comp=Z,120nm,1.8s,mb5.1						
CNB	**Canberra Magne**	**27.86**	**198**	*e*P	**P**	**07 11 15.4**	**+1.5**
	comp=Z,2μm,0.9s,mb6.6						
CAN	**Canberra**	**27.98**	**199**	*e*P	**P**	**07 11 17.2**	**+2.3**
	comp=Z,423nm,0.9s,mb6.0						
CAN	**Canberra**	**27.98**	**199**	*e*P	**P**	**07 11 17.2**	**+2.3**
CAN				pmax	pmax		
	comp=Z,423nm,0.9s,mb6.0						
STKA	**Stephens Creek**	**28.26**	**214**	P	**P**	**07 11 18.2**	**+0.7**
	comp=Z,123nm,0.4s,mb5.8,baz=13,slow=8.3,SNR=162						
STKA				PcP	PcP	07 14 27.6	-0.3
	comp=Z,48nm,0.7s,baz=4.4,slow=5.7,SNR=3.6						
STKA				LR	LR	07 22 38.3	
	comp=Z,8μm,19.0s,baz=16,slow=36						
STKA				P3KPbc		07 43 34.1	
	comp=Z,4.0nm,0.8s,baz=276,slow=5.3,SNR=4.0						
STKA	**Stephens Creek**	**28.26**	**214**	*e*P	**P**	**07 11 18.1**	**+0.6**
	comp=Z,130nm,0.5s,mb5.7						
STKA				*e*pP	pP	07 11 45.4	+1.2
STKA				*e*PcP	PcP	07 14 26.9	-1.0
STKA				*e*S	**S**	**07 15 55.0**	**+0.4**
STKA	**Stephens Creek**	**28.26**	**214**	*e*P	**P**	**07 11 18.2**	**+0.7**
	comp=Z,49nm,0.8s,mb5.1						
STKA	**Stephens Creek**	**28.26**	**214**	P	**P**	**07 11 18.2**	**+0.7**
STKA						07 14 27.6	
STKA				pmax	pmax		
	comp=Z,123nm,0.4s						
STKA				MLR	MLR		
	comp=Z,8μm,19.0s						
AFI	**Afiamalu**	**28.53**	**103**	P	**P**	**07 11 18.5**	**-1.6**
	comp=Z,1μm,1.0s,mb6.4,baz=257,slow=1.7,SNR=88						
AFI				PcP	PcP	07 14 29.9	+1.0
	comp=Z,46nm,0.9s,baz=301,slow=5.8,SNR=3.7						
AFI	**Afiamalu**	**28.53**	**103**	P	**P**	**07 11 18.5**	**-1.6**
AFI				PcP	PcP	07 14 29.9	+1.0
AFI	**Afiamalu**	**28.53**	**103**	P	**P**	**07 11 18.5**	**-1.6**
AFI						07 14 29.9	
AS31	**Alice Springs**	**28.56**	**236**	*e*P	**P**	**07 11 20.6**	**+0.3**
ASAR	**Alice Springs**	**28.56**	**236**	P	**P**	**07 11 20.5**	**+0.2**
	comp=Z,174nm,0.8s,mb5.7,baz=64,slow=10.0,SNR=721						
ASAR				ScP	ScP	07 17 58.1	-0.7
	comp=Z,3.2nm,0.4s,baz=65,slow=4.0,SNR=4.2						
ASAR				PKiKP	PKiKP	07 22 01.4	-2.4
	comp=Z,0.9nm,0.6s,baz=100,slow=1.4,SNR=5.4						
ASAR				LR	LR	07 23 02.4	
	comp=Z,5μm,18.6s,baz=105,slow=37						
ASAR				P3KPbc		07 43 35.4	
	comp=Z,2.2nm,0.9s,baz=231,slow=3.7,SNR=12						
ASAR				P3KP		07 44 46.1	
	comp=Z,1.2nm,0.9s,baz=260,slow=1.6,SNR=2.8						
ASAR	**Alice Springs**	**28.56**	**236**	P	**P**	**07 11 20.5**	**+0.2**
ASAR				ScP	ScP	07 17 58.1	-0.7
ASAR	**Alice Springs**	**28.56**	**236**	P	**P**	**07 11 20.5**	**+0.2**
ASAR				pmax	pmax		
	comp=Z,174nm,0.8s						
ASAR				MLR	MLR		
	comp=Z,5μm,18.6s						
OUZ	**Omahuta**	**29.15**	**156**	*e*P	**P**	**07 11 25.1**	**-0.2**
	comp=Z,725nm,1.5s,mb6.1						
TOO	**Toolangi**	**31.21**	**202**	*e*P	**P**	**07 11 45.1**	**+1.6**
	comp=Z,2μm,0.8s,mb6.8						
TOO				*e*S	**S**	**07 16 45.8**	**+5.1**
MKAZ	**Moumakai**	**31.42**	**156**	PN	**P**	**07 11 45.6**	**+0.3**
OPRZ	**Ohinepanea**	**32.62**	**155**	*e*PN	**P**	**07 11 54.6**	**-1.3**
NLAI	**Namlea**	**32.73**	**278**	P	**P**	**07 11 57.6**	**+0.4**
	comp=Z,6μmcomp=Z,144nm,1.9s,mb5.5						
NLAI	**Namlea**	**32.73**	**278**	P	**P**	**07 11 58.7**	**+1.5**
	comp=Z,6μmcomp=Z,144nm,1.9s,mb5.5						
URZ	**Urewera**	**33.21**	**154**	P	**P**	**07 11 59.5**	**-1.4**
	comp=Z,30nm,0.3s,mb5.6,baz=355,slow=3.6,SNR=30						
URZ				S	**S**	**07 17 10.7**	**-1.0**
	comp=Z,8.8nm,0.7s,baz=343,slow=19,SNR=4.4						
URZ	**Urewera**	**33.21**	**154**	*e*P	**P**	**07 12 00.3**	**-0.6**
	comp=Z,1μm,2.0s,mb6.4						
FWVZ	**Far West T-bar**	**33.42**	**157**	*e*PN	**P**	**07 12 03.3**	**+0.5**
FWVZ				pP	pP	07 12 33.9	+4.0
MWZ	**Matawai**	**33.45**	**154**	*e*PN	**P**	**07 12 01.7**	**-1.3**
MWZ				pP	pP	07 12 33.0	+2.9
TNTI	**Ternate**	**33.47**	**285**	P	**P**	**07 12 04.2**	**+0.6**
	comp=Z,7μmcomp=Z,147nm,1.4s,mb5.6						
BKZ	**Black Stump Fm**	**33.72**	**156**	*e*PN	**P**	**07 12 04.3**	**-1.1**
BKZ				pP	pP	07 12 33.2	+0.8
KNZ	**Kokohu**	**34.09**	**154**	*e*PN	**P**	**07 12 07.2**	**-1.3**
FITZ	**Fitzroy Crossi**	**34.14**	**251**	P	**P**	**07 12 09.3**	**0.0**
	comp=Z,28nm,0.4s,mb5.5,baz=80,slow=8.4,SNR=264						
FITZ				PcP	PcP	07 14 44.2	+0.3
	comp=Z,42nm,0.6s,baz=179,slow=8.0,SNR=3.8						
FITZ				LR	LR	07 26 12.4	
	comp=Z,6μm,19.3s,baz=68,slow=36						
FITZ				P3KPbc		07 43 10.0	
	comp=Z,1.7nm,0.7s,baz=224,slow=5.2,SNR=3.5						
FITZ	**Fitzroy Crossi**	**34.14**	**251**	*e*P	**P**	**07 12 09.0**	**-0.3**
	comp=Z,227nm,1.5s,mb5.8						
FITZ				*e*pP	pP	07 12 36.7	+0.3
FITZ				*e*PcP	PcP	07 14 44.4	+0.5
FITZ				*e*S	**S**	**07 17 20.9**	**-5.8**
FITZ	**Fitzroy Crossi**	**34.14**	**251**	*e*P	**P**	**07 12 09.0**	**-0.3**
	comp=Z,83nm,0.8s,mb5.6						
FITZ				*e*	pP	07 12 36.7	+0.3
FITZ	**Fitzroy Crossi**	**34.14**	**251**	P	**P**	**07 12 09.3**	**0.0**
	comp=Z,5μmcomp=Z,198nm,1.7s,mb5.7						
FITZ	**Fitzroy Crossi**	**34.14**	**251**	P	**P**	**07 12 09.0**	**-0.3**
	comp=Z,5μmcomp=Z,245nm,1.6s,mb5.8						
WPHZ	**Waipukurau**	**34.47**	**157**	*e*PN	**P**	**07 12 10.4**	**-1.4**
MRZ	**Mangatainoka R**	**34.66**	**158**	PN	**P**	**07 12 12.8**	**-0.7**
THZ	**Tophouse**	**34.76**	**162**	*e*PN	**P**	**07 12 13.0**	**-1.3**
THZ				pP	pP	07 12 44.3	+2.8
SNZO	**South Karori**	**34.93**	**160**	*e*P	**P**	**07 12 15.0**	**-0.7**
	comp=Z,74nm,0.9s,mb5.5						
MTW	**Mount Morrison**	**35.07**	**159**	*e*PN	**P**	**07 12 15.1**	**-1.9**
MTW				pP	pP	07 12 45.6	+1.5
MOO	**Moorlands**	**35.10**	**196**	*e*P	**P**	**07 12 18.9**	**+1.7**
	comp=Z,2μm,1.7s,mb6.6						
MOO				*e*S	**S**	**07 17 44.9**	**+4.2**
TAU	**Tasmania Unive**	**35.50**	**196**	*e*P	**P**	**07 12 22.8**	**+2.2**
	comp=Z,1μm,1.8s,mb6.5						
TAU	**Tasmania Unive**	**35.50**	**196**	*e*P	**P**	**07 12 22.8**	**+2.2**
TAU				pmax	pmax		
	comp=Z,1μm,1.8s,mb6.5						
TAU	**Tasmania Unive**	**35.50**	**196**	P	**P**	**07 12 22.4**	**+1.8**
	comp=Z,1μm,1.6s,mb6.5,SNR=7.5						
KHZ	**Kahutara**	**35.55**	**162**	*e*P	**P**	**07 12 19.5**	**-1.6**
	comp=Z,342nm,1.3s,mb6.1						
KHZ	**Kahutara**	**35.55**	**162**	*e*PN	**P**	**07 12 19.7**	**-1.3**
FOZ	**Fox Glacier**	**35.62**	**167**	*e*PN	**P**	**07 12 20.9**	**-0.7**
FOZ				pP	pP	07 12 50.5	+1.6
RPZ	**Rata Peaks**	**36.07**	**166**	P	**P**	**07 12 24.9**	**-0.6**
	comp=Z,117nm,0.8s,mb5.9,baz=7.4,slow=2.6,SNR=28						
RPZ	**Rata Peaks**	**36.07**	**166**	*e*P	**P**	**07 12 24.9**	**-0.6**
	comp=Z,772nm,1.7s,mb6.4						
FORT	**Forrest**	**36.51**	**229**	*e*P	**P**	**07 12 29.9**	**+0.5**
	comp=Z,476nm,0.8s,mb6.5						
FORT	**Forrest**	**36.51**	**229**	*e*P	**P**	**07 12 30.2**	**+0.8**
	comp=Z,588nm,0.8s,mb6.6						
KMSI	**Cibinong**	**36.66**	**283**	P	**P**	**07 12 31.9**	**+0.9**
	comp=Z,590nm,1.1s,mb6.4						
KMSI	**Cibinong**	**36.66**	**283**	P	**P**	**07 12 35.2**	**+4.2**
	comp=Z,438nm,1.2s,mb6.2						
BBSI	**Bau Bau**	**36.83**	**273**	P	**P**	**07 12 33.5**	**+1.2**
	comp=Z,9μmcomp=Z,394nm,1.3s,mb6.2						
BBSI	**Bau Bau**	**36.83**	**273**	P	**P**	**07 12 35.7**	**+3.4**
	comp=Z,9μmcomp=Z,394nm,1.3s,mb6.2						
MMRI	**Maumere**	**36.86**	**268**	P	**P**	**07 12 32.2**	**-0.4**
	comp=Z,1μm,1.5s,mb6.6						
MMRI	**Maumere**	**36.86**	**268**	P	**P**	**07 12 32.3**	**-0.3**
	comp=Z,1μm,1.5s,mb6.6						
DCZ	**Deep Cove**	**36.99**	**171**	*e*PN	**P**	**07 12 32.8**	**-0.5**
KDI	**Kendari**	**37.00**	**275**	P	**P**	**07 12 34.2**	**+0.3**
	comp=Z,2μmcomp=Z,97nm,1.4s,mb5.5						
KDI	**Kendari**	**37.00**	**275**	P	**P**	**07 12 34.1**	**+0.2**
	comp=Z,2μmcomp=Z,97nm,1.4s,mb5.5						
ODZ	**Otahua Downs**	**37.23**	**167**	*e*P	**P**	**07 12 34.2**	**-1.2**
	comp=Z,328nm,1.2s,mb6.1						
DAV	**Davao City (W)**	**37.40**	**294**	⇓*e*P	pP	07 13 09.5	+4.9
LUWI	**Luwuk**	**37.43**	**280**	P	**P**	**07 12 38.0**	**+0.6**
	comp=Z,343nm,1.5s,mb6.0						
LUWI	**Luwuk**	**37.43**	**280**	P	**P**	**07 12 38.0**	**+0.6**
	comp=Z,565nm,1.3s,mb6.3						
WHZ	**Wether Hill Ro**	**37.53**	**170**	*e*P	**P**	**07 12 37.0**	**-0.8**
MRSI	**Marisa**	**38.60**	**282**	P	**P**	**07 12 46.6**	**-0.7**
	comp=Z,3μmcomp=Z,124nm,1.5s,mb5.5						
MRSI	**Marisa**	**38.60**	**282**	P	**P**	**07 12 46.6**	**-0.7**
	comp=Z,3μmcomp=Z,54nm,2.0s,mb5.0						
WSI	**Waingapu**	**38.72**	**266**	P	**P**	**07 12 48.9**	**+0.6**
	comp=Z,1μm,0.7s,mb6.8						
BKSI	**Bulukumba**	**39.26**	**273**	P	**P**	**07 12 52.8**	**0.0**
	comp=Z,3μmcomp=Z,150nm,1.5s,mb5.6						
BKSI	**Bulukumba**	**39.26**	**273**	P	**P**	**07 12 52.7**	**-0.1**
	comp=Z,3μmcomp=Z,150nm,1.5s,mb5.6						
CBIJ	**Chichi jima**	**39.58**	**335**	P	**P**	**07 12 53.1**	**-2.0**
	comp=Z,134nm,0.7s,mb5.9,baz=310,slow=21,SNR=6.3						
KAPI	**Kappang**	**39.67**	**273**	P	**P**	**07 12 55.7**	**-0.5**
	comp=Z,198nm,0.9s,mb6.0,baz=100,slow=5.3,SNR=111						
KAPI				PcP	PcP	07 15 00.1	-0.7
	comp=Z,48nm,0.6s,baz=270,slow=2.5,SNR=6.4						
KAPI	**Kappang**	**39.67**	**273**	*e*P	**P**	**07 12 55.4**	**-0.8**
	comp=Z,319nm,1.0s,mb6.1						
KAPI				*e*	pP	07 13 24.4	+0.5
KAPI	**Kappang**	**39.67**	**273**	P	**P**	**07 12 55.8**	**-0.4**
	comp=Z,7μmcomp=Z,448nm,1.6s,mb6.0						
KAPI	**Kappang**	**39.67**	**273**	P	**P**	**07 12 55.4**	**-0.8**
	comp=Z,7μmcomp=Z,448nm,1.6s,mb6.0						
KAPI	**Kappang**	**39.67**	**273**	P	**P**	**07 12 56.1**	**-0.1**
	SNR=68						
SPSI	**Sidrap Palu**	**39.81**	**275**	P	**P**	**07 12 56.9**	**-0.4**
	comp=Z,4μmcomp=Z,207nm,1.1s,mb5.9						
SPSI	**Sidrap Palu**	**39.81**	**275**	P	**P**	**07 12 56.6**	**-0.7**
	comp=Z,4μmcomp=Z,207nm,1.1s,mb5.9						
TTSI	**Tana Toraja**	**39.91**	**276**	P	**P**	**07 12 58.5**	**+0.3**
	comp=Z,4μmcomp=Z,165nm,1.2s,mb5.8						
TTSI	**Tana Toraja**	**39.91**	**276**	P	**P**	**07 12 58.8**	**+0.6**
	comp=Z,4μmcomp=Z,165nm,1.2s,mb5.8						
MBWA	**Marble Bar**	**40.20**	**248**	*e*P	**P**	**07 13 00.6**	**+0.1**
	comp=Z,1μm,1.8s,mb6.4						
MBWA				*e*	pP	07 13 28.6	+0.4
MBWA	**Marble Bar**	**40.20**	**248**	P	**P**	**07 13 00.7**	**+0.2**
	comp=Z,7μmcomp=Z,351nm,1.5s,mb6.0						
MBWA	**Marble Bar**	**40.20**	**248**	P	**P**	**07 13 00.5**	**0.0**
	comp=Z,7μmcomp=Z,351nm,1.5s,mb6.0						
MBWA	**Marble Bar**	**40.20**	**248**	P	**P**	**07 13 01.1**	**+0.7**
	SNR=40						
RAR	**Rarotonga**	**41.01**	**112**	P	**P**	**07 13 05.8**	**-1.3**
	comp=Z,176nm,1.0s,mb5.8,baz=250,slow=5.7,SNR=31						
RAR	**Rarotonga**	**41.01**	**112**	*e*P	**P**	**07 13 05.7**	**-1.4**
	comp=Z,265nm,1.0s

PCJI **Pacitan** 47.80 267 P P 07 14 01.0 -0.6
comp=Z,1μm,1.3s,mb6.6
BTM **Bintulu** 47.85 283 P P 07 14 02.2 +0.6
UGM **Wanagama** 48.47 267 eP P 07 14 06.3 -0.1
comp=Z,846nm,1.2s,mb6.5
UGM **Wanagama** 48.47 267 P P 07 14 06.3 -0.1
comp=Z,8μmcomp=Z,472nm,1.6s,mb6.1
SBUM **Sibu** 48.50 281 P P 07 14 07.2 +0.5
comp=Z,3μmcomp=Z,103nm,2.0s,mb5.3
SBUM **Sibu** 48.50 281 P P 07 14 07.2 +0.5
comp=Z,3μmcomp=Z,103nm,2.0s,mb5.3
SMRI **Semarang** 48.63 268 P P 07 14 08.1 +0.4
comp=Z,10μmcomp=Z,484nm,1.8s,mb6.1
YOGI **Yogyakarta** 48.70 267 P P 07 14 08.3 +0.1
comp=Z,2μm,1.4s,mb6.9
TWG **Pinlang** 49.14 311 eP P 07 14 10.5 -0.9
comp=Z,160nm,1.1s,mb5.9
YULB **Yu-li** 49.30 311 eP P 07 14 12.3 -0.3
YULB e pP 07 14 43.9 +2.6
BJII **Banjamegara** 49.33 268 P P 07 14 13.3 +0.3
comp=Z,393nm,1.9s,mb6.0
MJAR **Matsushiro Arr** 49.48 337 P P 07 14 12.7 -1.0
comp=Z,28nm,0.7s,mb5.3,baz=169,slow=9.1,SNR=46
MJAR PcP PcP 07 15 33.6 -0.4
comp=Z,17nm,0.7s,baz=159,slow=4.8,SNR=6.0
MJAR LR LR 07 34 41.6
comp=Z,1μm,18.6s,baz=145,slow=35
MJAR **Matsushiro Arr** 49.48 337 P P 07 14 12.7 -1.0
MJAR PcP PcP 07 15 33.6 -0.4
MJAR LR LR 07 34 41.6
MJAR **Matsushiro Arr** 49.48 337 P P 07 14 12.7 -1.0
MJAR 07 15 33.6
MJAR pmax pmax
comp=Z,28nm,0.7s
MJAR MLR MLR
comp=Z,1μm,18.6s
MAJO **Matsushiro** 49.48 337 eP P 07 14 12.7 -1.0
comp=Z,77nm,0.9s,mb5.6
MAJO e 07 14 46.2
MAJO **Matsushiro** 49.48 337 eP P 07 14 12.7 -1.0
MAJO e 07 14 46.2
MAJO pmax pmax
comp=Z,77nm,0.9s,mb5.6
MAT **Matsushiro** 49.48 337 P P 07 14 12.9 -0.8
MAT S S 07 21 08.0 -3.8
NACB **Ninganchiao** 49.55 312 eP P 07 14 15.3 +0.9
comp=Z,4μm,2.1s,mb7.0
NACB e pP 07 14 47.1 +4.0
TPUB **Ta-pu** 49.75 311 eP P 07 14 16.1 +0.2
comp=Z,1μm,1.3s,mb6.6
SSLB **Suanglung** 49.79 312 eP P 07 14 16.6 +0.4
SSLB e pP 07 14 48.2 +3.2
JNU **Nakatsue** 49.94 328 eP P 07 14 17.7 +0.5
comp=Z,209nm,1.7s,mb5.8
JNU e pP 07 14 45.9 -0.1
YHNB **Yeheng** 50.01 313 eP P 07 14 19.0 +1.1
comp=Z,3μm,1.7s,mb6.9
YHNB e pP 07 14 50.8 +4.1
TATO **Taipei** 50.11 313 eP P 07 14 19.5 +0.9
comp=Z,2μm,1.7s,mb6.8
TATO e pP 07 14 50.7 +3.2
TATO **Taipei** 50.11 313 P P 07 14 20.3 +1.6
SNR=6.9
KSM **Kuching** 50.13 279 eP P 07 14 18.7 -0.4
comp=Z,361nm,1.0s,mb6.3
KSM e pP 07 14 49.9 +2.0
KSM **Kuching** 50.13 279 P P 07 14 18.7 -0.4
comp=Z,4μmcomp=Z,141nm,1.6s,mb5.7
KSM **Kuching** 50.13 279 P P 07 14 18.7 -0.4
comp=Z,4μmcomp=Z,141nm,1.6s,mb5.7
PPT **Papeete** 50.14 105⇑ iP P 07 14 18.4 -0.7
comp=Z,344nm,0.9s,mb6.3
PPT eS S 07 21 20.6 -1.1
comp=Z,4μm,24.2s
PPT eLQ 07 26 44.4
comp=Z,8μm,27.5s
PPT eLR LR 07 28 47.3
comp=Z,5μm,33.9s,baz=274
PPT **Papeete** 50.14 105 P P 07 14 18.5 -0.6
comp=Z,356nm,0.7s,mb6.4,baz=84,slow=2.2,SNR=44
PPT **Papeete** 50.14 105 P P 07 14 18.5 -0.6
PPT **Papeete** 50.14 105 P P 07 14 18.5 -0.6
PAE **Paea** 50.14 105⇑ iP P 07 14 17.1 -2.0
comp=Z,143nm,1.1s,mb5.8
TIAR **Tiarei** 50.36 105⇑ iP P 07 14 19.2 -1.5
comp=Z,832nm,0.9s,mb6.7
TBI **Tubuai** 50.78 113⇑ iP P 07 14 22.8 -1.0
comp=Z,1μm,1.3s,mb6.8
TBI esP sP 07 15 10.1 +3.7
comp=Z,555nm,1.2s
TBI eS S 07 21 29.4 -1.0
comp=Z,3μm,25.2s
TBI eLQ 07 27 01.3
comp=Z,5μm,42.8s
TBI eLR LR 07 29 09.8
comp=Z,9μm,37.5s
CISI **Cisompet, Garu** 51.18 267 P P 07 14 26.0 -0.9
comp=Z,7μmcomp=Z,480nm,1.4s,mb6.3
LEM **Lembang** 51.44 268 P P 07 14 28.9 0.0
comp=Z,10μmcomp=Z,608nm,1.7s,mb6.4
KIP **Kipapa** 51.44 54 eP P 07 14 28.4 -0.3
comp=Z,192nm,1.2s,mb6.0
KIP **Kipapa** 51.44 54 eP P 07 14 28.4 -0.3
KIP pmax pmax
comp=Z,192nm,1.2s,mb6.0
OPA **Opana** 51.59 53 eP P 07 14 30.1 +0.3
OPA **Opana** 51.59 53 eP P 07 14 30.1 +0.3
MEH **Mehetia** 51.59 106⇑ iP P 07 14 28.0 -1.9
comp=Z,920nm,1.1s,mb6.7
PMOR **Pomariorio Ree** 51.68 102⇑ iP P 07 14 30.2 -0.4
comp=Z,2μm,1.1s,mb7.1
PMOR epP pP 07 15 00.2 +0.7
comp=Z,478nm,1.1s
TPI **Tanjungpandan** 51.94 273 P P 07 14 32.8 +0.2
comp=Z,2μmcomp=Z,87nm,1.4s,mb5.6
VAH **Vaihoa** 51.94 102⇑ iP P 07 14 31.8 -0.7
comp=Z,1μm,1.1s,mb6.8
QZH **Quanzhou** 52.21 311⇑ iP P 07 14 33.5 -0.9
QZH pP pP 07 15 02.5 -0.9
QZH sP sP 07 15 18.8 +1.7
QZH sS sS 07 22 41.6 +1.7
QZH pmax pmax
comp=Z,1μm,0.8s,mb6.9
KHU **Kahuku** 52.31 57 eP P 07 14 35.1 -0.1
KHU **Kahuku** 52.31 57 eP P 07 14 35.1 -0.1
POHA **Pohakuloa** 52.63 57 eP P 07 14 37.2 -0.3
comp=Z,314nm,1.1s,mb6.3
ERM **Erimo** 52.88 345 eP P 07 14 40.0 +1.0
comp=Z,43nm,0.8s,mb5.5
ERM **Erimo** 52.88 345⇑ iP P 07 14 39.5 +0.5
ERM pmax pmax
comp=Z,59nm,1.2s,mb5.5
XMIS **Christmas Isla** 53.09 264 eP P 07 14 41.2 +0.2
comp=Z,1μm,1.1s,mb6.9
XMIS epP pP 07 15 10.0 -0.1
XMIS **Christmas Isla** 53.09 264 eP P 07 14 41.9 +0.8
comp=Z,986nm,0.8s,mb6.9
XMIS **Christmas Isla** 53.09 264 P P 07 14 41.9 +0.9
comp=Z,1μm,1.5s,mb6.7
CGJI **Cibinong** 53.37 268 P P 07 14 42.1 -1.0
comp=Z,948nm,0.8s,mb6.9
RBSI **Rajabasa** 53.40 269 P P 07 14 42.8 -0.6
comp=Z,1μmcomp=Z,90nm,0.5s,mb6.0
YUK **Yuzh-Kuril'sk** 54.16 348c iP P 07 14 54.3 +6.0
YUK i *PP pP 07 15 25.0 +7.6
YUK i 07 16 53.4
YUK i S S 07 22 08.1 -7.5
YUK pmax pmax
comp=Z,536nm,1.8s,mb6.3
YUK pmax pmax
comp=Z,456nm,1.7s,mb6.2
YUK pmax pmax
comp=E,456nm,1.7s
YUK pmax pmax
comp=N,101nm,0.9s
YUK smax
comp=E,1μm,2.8s
YUK smax
comp=N,2μm,2.8s
YUK MLR MLR
comp=Z,1μm,20.0s
SSE **Sheshan** 54.17 319⇑ P P 07 14 49.0 +0.4
SSE pP pP 07 15 16.6 -1.2
SSE sP sP 07 15 30.9 -0.5
SSE PcP PcP 07 15 55.1 +3.4
SSE S S 07 22 12.4 -3.9
SSE sS sS 07 23 01.6 -4.9
SSE pmax pmax
comp=Z,150nm,1.0s,mb6.0
SSE pmax pmax
comp=Z,680nm,4.7s
SSE LR LR
comp=N,460nm,19.9s
SSE LR LR
comp=E,1μm,19.8s
SSE LR LR
comp=Z,2μm,23.9s
KLSI **54.55 271** P P 07 14 50.1 -1.6
comp=Z,3μmcomp=Z,164nm,2.0s,mb5.7
KASI **Kota Agung** 54.67 270 P P 07 14 51.2 -1.4
comp=Z,5μmcomp=Z,356nm,1.2s,mb6.3
KSRS **Korea Array** 54.82 329 P P 07 14 53.5 +0.3
comp=Z,84nm,1.0s,mb5.7,baz=149,slow=7.4,SNR=93
KSRS **Korea Array** 54.82 329 P P 07 14 53.5 +0.3
KSRS pmax pmax
comp=Z,84nm,1.0s,mb5.7
KSAR **Wonju Array Be** 54.83 329 P P 07 14 53.5 +0.2
KSAR **Wonju Array Be** 54.83 329 P P 07 14 53.5 +0.2
ASAJ **Asahikawa** 54.99 345 P P 07 14 55.2 +1.0
comp=Z,47nm,0.5s,mb5.8,baz=211,slow=8.7,SNR=50
ASAJ **Asahikawa** 54.99 345 eP P 07 14 55.1 +0.9
comp=Z,199nm,1.8s,mb5.8
ASAJ **Asahikawa** 54.99 345 P P 07 14 55.3 +1.0
ASAJ pmax pmax
comp=Z,47nm,0.5s
MDSI **Maura Dua** 55.12 271 P P 07 14 53.8 -2.0
comp=Z,3μmcomp=Z,231nm,1.5s,mb6.0
GZH **Guangzhou** 55.28 306 P P 07 14 58.3 +1.6
GZH S S 07 22 30.4 -0.9
INCN **Inchon** 55.50 328 eP P 07 14 59.0 +0.9
comp=Z,270nm,0.8s,mb6.3
INCN e pP 07 15 26.3 -1.1
INCN **Inchon** 55.50 328 P P 07 14 59.2 +1.1
SNR=10
NJ2 **Nanjing** 56.31 318 eP P 07 15 04.6 +0.7
NJ2 pP pP 07 15 32.6 -0.7
NJ2 S S 07 22 43.5 -1.2
NJ2 pmax pmax
comp=Z,220nm,1.0s,mb6.1
NJ2 pmax pmax
comp=Z,1μm,8.6s
NJ2 LR LR
comp=N,1μm,19.0s
NJ2 LR LR
comp=E,890nm,13.7s
NJ2 LR LR
comp=Z,2μm,18.9s
QIZ **Qiongzhong** 56.32 300 P P 07 15 04.0 -0.2
QIZ pP pP 07 15 31.3 -2.3
QIZ sP sP 07 15 43.8 -3.4
QIZ S S 07 22 47.8 +2.5
QIZ pmax pmax
comp=Z,100nm,1.4s,mb5.7
QIZ pmax pmax
comp=Z,880nm,5.2s
QIZ **Qiongzhong** 56.32 300 eP P 07 15 03.9 -0.4
comp=Z,280nm,1.6s,mb6.0
QIZ e pP 07 15 35.8 +2.2
MYKOM **Kota Tinggi** 56.51 278 P P 07 15 05.7 0.0
MYKOM **Kota Tinggi** 56.51 278 P P 07 15 04.9 -0.8
comp=Z,2μmcomp=Z,92nm,1.8s,mb5.5
MYKOM **Kota Tinggi** 56.51 278 P P 07 15 05.6 -0.1
comp=Z,2μmcomp=Z,92nm,1.8s,mb5.5
KSI **Kapahiang** 56.80 271 P P 07 15 06.6 -1.2
comp=Z,195nm,1.4s,mb6.0
KGM **Kluang** 57.07 278 P P 07 15 09.6 -0.2
VLA **Vladivostok** 57.60 336⇓ iP P 07 15 10.7 -2.1
VLA eS S 07 22 59.7 -1.6
VLA pmax pmax
comp=Z,136nm,1.3s,mb5.8
VLA smax
comp=N,1μm,0.8s
YSS **Yuzh-Sakhalins** 57.62 346 eP P 07 15 13.6 +0.7
comp=N,90nm,0.8s,mb5.8
YSS e 07 15 36.2
YSS **Yuzh-Sakhalins** 57.62 346⇑ iP P 07 15 13.0 +0.2
YSS eSP pP 07 15 41.0 -1.3
YSS eSP sP 07 15 52.0 -3.9
YSS eS S 07 22 59.0 -2.3
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.8
YSS MLR MLR
comp=Z,2μm,16.0s
YSS MLR MLR
comp=N,2μm,18.0s
WHN **Wuhan** 58.49 314⇑ P P 07 15 19.5 +0.2
WHN pP pP 07 15 46.8 -2.0
WHN S S 07 23 12.3 -1.0
WHN pmax pmax
comp=Z,2μm,1.9s,mb6.7
WHN LR LR
comp=N,2μm,13.5s
WHN LR LR
comp=E,1μm,7.9s
WHN LR LR
comp=Z,3μm,25.6s
BKNI **Bangkinang** 58.98 276 P P 07 15 23.0 0.0
comp=Z,8μmcomp=Z,516nm,1.6s,mb6.3
DRV **Dumont d'Urvil** 59.17 189 P P 07 15 16.0 -7.4
DRV S S 07 23 18.0 -3.0
DRV L 07 30 00.0
DL2 **Dalian** 59.22 326⇑ iP P 07 15 23.9 -0.3
DL2 pP pP 07 15 51.3 -2.5
DL2 sP sP 07 16 05.5 -1.9
DL2 S S 07 23 22.1 -0.4
DL2 ScS ScS 07 25 02.6 +0.2
DL2 pmax pmax
comp=Z,120nm,0.7s,mb6.0
DL2 pmax pmax
comp=Z,490nm,6.3s
PPI **Padang Panjang** 59.47 275 P P 07 15 25.0 -1.4
comp=Z,4μmcomp=Z,194nm,1.8s,mb5.8
PPI **Padang Panjang** 59.47 275 P P 07 15 25.4 -1.0
comp=Z,4μmcomp=Z,194nm,1.8s,mb5.8
TAOE **Nuku Hiva Isla** 59.52 95 eP P 07 15 25.5 -1.3
comp=Z,2μm,1.5s,mb6.9
TAOE epP pP 07 15 55.1 -1.3
comp=Z,708nm,1.4s
MDJ **Mudanjiang** 59.77 336 P P 07 15 28.0 +0.2
MDJ pP pP 07 15 57.4 -0.1
MDJ sP sP 07 16 06.8 -4.2
MDJ PP PP 07 17 40.4 -0.9
MDJ ScP ScP 07 20 04.5 +1.6
MDJ PcS PcS 07 20 15.8 +0.3
MDJ S S 07 23 30.3 +0.9
MDJ sS sS 07 24 17.3 -3.2
MDJ pmax pmax
comp=Z,100nm,1.4s,mb5.7
MDJ pmax pmax
comp=Z,640nm,6.4s
MDJ LR LR
comp=N,2μm,23.4s
MDJ LR LR
comp=E,1μm,23.4s
MDJ LR LR
comp=Z,2μm,30.0s
MDJ **Mudanjiang** 59.77 336 eP P 07 15 28.0 +0.2
comp=Z,204nm,1.4s,mb6.0
MDJ e pP 07 15 57.3 -0.2
IPM **Ipoh** 59.84 280 P P 07 15 28.4 -0.5
IPM **Ipoh** 59.84 280 eP P 07 15 27.9 -0.9
comp=Z,499nm,1.7s,mb6.3
IPM e pP 07 16 00.3 +1.8
IPM **Ipoh** 59.84 280 P P 07 15 28.2 -0.7
comp=Z,3μmcomp=Z,153nm,2.1s,mb5.7
IPM **Ipoh** 59.84 280 P P 07 15 28.5 -0.4
comp=Z,3μmcomp=Z,153nm,2.1s,mb5.7
TIA **Tai'an** 60.06 321⇑ P P 07 15 29.6 -0.4
TIA pP pP 07 15 57.6 -2.1
TIA S S 07 23 31.1 -2.2
TIA pmax pmax
comp=Z,140nm,1.3s,mb5.8
TIA pmax pmax
comp=Z,1μm,6.2s
TIA LR LR
comp=N,870nm,29.7s
TIA LR LR
comp=E,4μm,39.0s
TIA LR LR
comp=Z,2μm,30.9s
SNY **Shenyang** 60.32 330⇑ P P 07 15 31.6 0.0
SNY pP pP 07 15 59.8 -1.6
SNY S S 07 23 35.3 -1.1
SNY pmax pmax
comp=Z,70nm,1.2s,mb5.6
SNY pmax pmax
comp=Z,1μm,3.5s
SNY LR LR
comp=N,940nm,14.1s
SNY LR LR
comp=E,760nm,16.9s
SNY LR LR
comp=Z,3μm,39.2s
KULM **Kulim** 60.38 281 P P 07 15 32.0 -0.6
KULM **Kulim** 60.38 281 eP P 07 15 31.8 -0.8
comp=Z,137nm,1.1s,mb5.9
KULM e pP 07 16 02.5 +0.1
KULM **Kulim** 60.38 281 P P 07 15 32.0 -0.6
comp=Z,2μmcomp=Z,85nm,1.8s,mb5.5
KULM **Kulim** 60.38 281 P P 07 15 32.0 -0.6
comp=Z,2μmcomp=Z,85nm,1.8s,mb5.5
MNSI **Mandailing Nat** 60.50 276 P P 07 15 32.3 -1.1
comp=Z,5μmcomp=Z,263nm,1.4s,mb6.1
MNSI **Mandailing Nat** 60.50 276 P P 07 15 32.1 -1.4
comp=Z,5μmcomp=Z,263nm,1.2s,mb6.1
SISI **Saibi** 60.62 274 P P 07 15 33.4 -0.8
comp=Z,5μmcomp=Z,168nm,2.2s,mb5.7
SISI **Saibi** 60.62 274 P P 07 15 33.7 -0.5
comp=Z,5μmcomp=Z,228nm,1.4s,mb6.0
SNG **Songkhla** 60.86 283⇑ P pP 07 16 07.0 +1.4
comp=Z,220nm,0.7s
CN2 **Changchun** 60.92 332⇑ P P 07 15 35.8 +0.1
CN2 epP pP 07 16 02.8 -2.6
CN2 eS S 07 23 44.8 +0.8
CN2 pmax pmax
comp=Z,280nm,1.1s,mb6.2
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,700nm,14.0s
CN2 LR LR
comp=E,400nm,14.0s
CN2 LR LR
comp=Z,500nm,15.0s
HABR **Khabarovsk** 61.11 342c iP P 07 15 36.0 -0.8
HABR e*PP pP 07 16 02.4 -4.2
HABR e 07 16 15.2
HABR eS S 07 23 46.9 +0.7
HABR e 07 25 12.3
HABR eSS SS 07 27 45.8 -2.7
HABR pmax pmax
comp=Z,286nm,1.5s,mb6.1
HABR pmax pmax
comp=N,109nm,1.6s
HABR pmax pmax
comp=E,133nm,2.0s
HABR MLR MLR
comp=Z,703nm,20.0s
COCO **West Island** 61.62 261 eP P 07 15 43.0 +2.0
comp=Z,2μm,1.8s,mb6.8
COCO **West Island** 61.62 261 iP P 07 15 43.6 +2.6
COCO **West Island** 61.62 261 P P 07 15 42.6 +1.6
COCO **West Island** 61.62 261 P P 07 15 43.4 +2.4
comp=Z,447nm,1.6s,mb6.2
PET **Petropavlovsk** 61.72 359 eP P 07 15 41.0 +0.1
comp=Z,208nm,1.2s,mb6.0
PET **Petropavlovsk** 61.72 359 eP P 07 15 40.1 -0.7
PET e*PP pP 07 16 09.7 -1.0
PET e*SP sP 07 16 23.9 -0.3
PET eS S 07 23 49.3 -4.5
PET pmax pmax
comp=Z,82nm,1.0s,mb5.7
PEA0B **Petropavlovsk-** 61.82 359 eP P 07 15 40.8 -0.7
PEA0B e pP 07 16 08.8 -2.5
PETK **Petropavlovsk-** 61.82 359 P P 07 15 41.3 -0.2
comp=Z,59nm,0.8s,mb5.7,baz=164,slow=8.4,SNR=23
PETK pP pP 07 16 10.0 -1.4
comp=Z,133nm,1.0s,baz=139,slow=7.0,SNR=8.9
PETK ScP ScP 07 20 12.9 +1.2
comp=Z,14nm,1.0s,baz=163,slow=5.6,SNR=4.1
PETK LR LR 07 39 28.9
comp=Z,2μm,20.1s,baz=175,slow=33
PETK **Petropavlovsk-** 61.82 359 P P 07 15 41.3 -0.2
PETK pP pP 07 16 10.0 -1.4
PETK ScP ScP 07 20 12.9 +1.2
PETK LR LR 07 39 28.9
PETK **Petropavlovsk-** 61.82 359 P P 07 15 41.3 -0.2
PETK *PP pP 07 16 10.0 -1.4
PETK pmax pmax
comp=Z,59nm,0.8s,mb5.7
ENH **Enshi** 61.87 311 eP P 07 15 42.0 -0.3
comp=Z,653nm,1.3s,mb6.5
ENH e pP 07 16 15.1 +2.9
GYA **Guiyang** 62.21 306⇑ iP P 07 15 45.4 +0.7
GYA pP pP 07 16 15.4 +0.8
GYA sP sP 07 16 28.6 +0.5
GYA PP PP 07 18 07.8 +4.6
GYA PcS PcS 07 20 25.5 -1.6
GYA S S 07 24 04.1 +3.1
GYA sS sS 07 24 51.0 -1.5
GYA SKS 07 25 24.6
GYA SS SS 07 28 10.0 +3.4
GYA pmax pmax
comp=Z,160nm,1.0s,mb6.0
GYA pmax pmax
comp=Z,870nm,6.2s
GYA LR LR
comp=N,830nm,18.7s
GYA LR LR
comp=E,610nm,19.6s
GYA LR LR
comp=Z,930nm,18.4s
FX1 **Attu Island--F** 62.66 9 P P 07 15 46.8 -0.3
comp=Z,67nm,0.6s,mb5.8,baz=194,slow=1.2,SNR=33
FX1 **Attu Island--F** 62.66 9 P P 07 15 46.8 -0.3
FX1 **Attu Island--F** 62.66 9 P P 07 15 46.8 -0.3
FX1 pmax pmax
comp=Z,67nm,0.6s
KLR **Kul'dur** 62.84 340⇓ iP P 07 15 45.0 -3.4
KLR e pP 07 16 12.5 -5.8
KLR eS S 07 24 03.0 -5.0
KLR pmax pmax
comp=E,110nm,1.6s
KLR pmax pmax
comp=Z,400nm,1.6s,mb6.1
KLR pmax pmax
comp=Z,1μm,8.0s
KLR smax
comp=N,2μm,11.0s
KLR smax
comp=E,2μm,11.0s
KLR MLR MLR
comp=N,900nm,14.0s
KLR MLR MLR
comp=Z,2μm,14.0s
BJT **Baijiatuau** 63.08 324 eP P 07 15 50.2 0.0
comp=Z,154nm,0.9s,mb5.9
BJT **Baijiatuau** 63.08 324 eP P 07 15 50.2 0.0
BJT pmax pmax
comp=Z,154nm,0.9s
BJI **Beijing** 63.09 324 P P 07 15 50.3 0.0
BJI S S 07 24 11.3 -0.2
BJI SS SS 07 28 24.9 +5.1
BJI pmax pmax
comp=Z,170nm,1.4s,mb5.8
BJI pmax pmax
comp=Z,1μm,4.0s
BJI LR LR
comp=N,1μm,14.8s
BJI LR LR
comp=E,1μm,25.8s
BJI LR LR
comp=Z,2μm,22.9s
NNT **Nongplab** 63.15 289 P P 07 15 52.0 +0.9
TPTI **63.33 278** P P 07 15 50.6 -1.8
comp=Z,52nm,1.6s,mb5.2
TPTI **63.33 278** P P 07 15 50.6 -1.8
comp=Z,120nm,0.8s,mb5.9
ADK **Adak** 63.94 16 eP P 07 15 54.9 -0.6
comp=Z,129nm,0.9s,mb5.8
ADK e pP 07 16 27.1 +1.5
ADK **Adak** 63.94 16 eP P 07 15 54.9 -0.7
ADK e pP 07 16 27.1 +1.5
ADK pmax pmax
comp=Z,129nm,0.9s,mb5.8
TIY **Taiyuan** 63.94 320 eP P 07 15 55.8 -0.1

TIY pP pP 07 16 24.9 -1.0
TIY S **S** **07 24 20.8 -1.3**
TIY sS sS 07 25 09.5 -4.3
TIY SS SS 07 28 32.8 -0.4
TIY LR LR
comp=N,190nm,7.3s
TIY LR LR
comp=E,890nm,15.5s
TIY LR LR
comp=Z,990nm,20.1s
LHMI Lhok Sumawe 63.96 280 P **P** **07 15 56.5 0.0**
comp=Z,3μmcomp=Z,154nm,1.7s,mb5.6
RKT Rikitea 64.05 111 *eP* **P** **07 15 55.3 -1.6**
comp=Z,408nm,1.2s,mb6.1
RKT *eS* **S** **07 24 22.5 -1.5**
comp=Z,2μm,27.8s
RKT *eLQ* 07 32 14.6
comp=Z,4μm,30.5s
RKT *eLR* LR 07 35 26.4
comp=Z,5μm,37.8s
XAN Xi'an 64.24 315 P **P** **07 15 58.0 +0.1**
XAN pP pP 07 16 25.4 -2.6
XAN sP sP 07 16 41.5 +0.1
XAN PP PP 07 18 23.5 +2.6
XAN S **S** **07 24 18.8 -7.2**
XAN pmax pmax
comp=Z,80nm,1.0s,mb5.5
XAN pmax pmax
comp=Z,320nm,7.3s
KMI Kunming 64.83 303 ⇑P **P** **07 16 03.5 +1.5**
KMI pP pP 07 16 32.6 +0.5
KMI PcP PcP 07 16 36.1 +1.7
KMI sP sP 07 16 45.6 +0.1
KMI PP PP 07 18 31.6 +5.4
KMI S **S** **07 24 35.4 +1.8**
KMI sS sS 07 25 25.1 -0.3
KMI SKS 07 25 43.9
KMI SS SS 07 28 49.6 +2.1
KMI pmax pmax
comp=Z,230nm,1.4s,mb5.8
KMI pmax pmax
comp=Z,2μm,4.4s
KMI LR LR
comp=N,740nm,21.7s
KMI LR LR
comp=E,580nm,26.8s
KMI LR LR
comp=Z,1μm,33.5s
BDT Bhumibol Dam 65.23 294 P **P** **07 15 56.0 -8.7**
comp=Z,22nm,1.0s,mb5.0
BSI Banda Aceh 65.62 280 P **P** **07 16 05.1 -2.2**
comp=Z,2μmcomp=Z,121nm,1.5s,mb5.5
BSI Banda Aceh 65.62 280 P **P** **07 16 06.3 -1.0**
comp=Z,2μmcomp=Z,127nm,1.4s,mb5.5
CM31 Chiang Mai Arr 65.68 295 *eP* **P** **07 16 08.4 +0.9**
comp=Z,58nm,0.8s,mb5.5
CM31 *e* pP 07 16 40.9 +3.2
CMAR Chiang Mai Arr 65.68 295 P **P** **07 16 08.4 +0.9**
comp=Z,49nm,0.7s,mb5.5,baz=118,slow=4.4,SNR=189
CMAR pP pP 07 16 36.0 -1.8
comp=Z,21nm,0.9s,baz=119,slow=4.5,SNR=2.0
CMAR LR LR 07 41 27.7
comp=Z,462nm,21.5s,baz=113,slow=33
CMAR PKPPKP 07 44 42.6
comp=Z,1.2nm,0.3s,baz=297,slow=6.3,SNR=8.4
CMAR PKP2bc 07 44 48.3
comp=Z,7.9nm,0.7s,baz=285,slow=4.1,SNR=11
CMAR Chiang Mai Arr 65.68 295 P **P** **07 16 08.4 +0.9**
CMAR pP pP 07 16 36.0 -1.8
CMAR LR LR 07 41 27.7
CMAR P'P' 07 44 42.6
CMAR ⇑*e* 07 44 48.3
CMAR Chiang Mai Arr 65.68 295 P **P** **07 16 08.4 +0.9**
CMAR *PP pP 07 16 36.0 -1.7
CMAR pmax pmax
comp=Z,49nm,0.7s
CHG Chiang Mai 65.79 295 P **P** **07 16 07.3 -1.0**
comp=Z,164nm,1.3s,mb5.7
CHTO Chiang Mai 65.79 295 *eP* **P** **07 16 08.7 +0.4**
comp=Z,332nm,1.5s,mb5.9
CHTO *e* pP 07 16 39.4 +1.0
CHTO Chiang Mai 65.79 295 *eP* **P** **07 16 08.7 +0.4**
CHTO *e* pP 07 16 39.4 +0.9
CHTO pmax pmax
comp=Z,332nm,1.5s,mb6.0
CHTO Chiang Mai 65.79 295 P **P** **07 16 08.3 0.0**
comp=Z,3μmcomp=Z,162nm,1.5s,mb5.7
CHTO Chiang Mai 65.79 295 P **P** **07 16 08.4 +0.1**
comp=Z,3μmcomp=Z,162nm,1.5s,mb5.7
CHTO Chiang Mai 65.79 295 P **P** **07 16 09.2 +1.0**
SNR=45
HHC Hu-ho-hao-te 66.35 322 ⇑P **P** **07 16 12.3 +0.9**
HHC PcP PcP 07 16 38.6 -1.7
HHC pP pP 07 16 43.4 +1.8
HHC ScP 07 20 25.8
HHC PcS 07 20 41.3
HHC S S 07 24 48.6 -2.8
HHC ScS ScS 07 25 49.3 -7.2
HHC SS SS 07 29 16.3 +5.8
HHC pmax pmax
comp=Z,190nm,1.8s,mb5.6
HHC pmax pmax
comp=Z,400nm,9.5s
HHC LR LR
comp=N,910nm,16.6s
HHC LR LR
comp=E,970nm,20.2s
HHC LR LR
comp=Z,1μm,20.2s
CD2 Chengdu 66.51 309 P **P** **07 16 13.1 +0.5**
CD2 pP pP 07 16 43.1 +0.3
CD2 sP sP 07 16 53.0 -3.2
CD2 PP PP 07 18 43.6 +2.8
CD2 S S 07 24 53.5 -0.2
CD2 SS SS 07 29 14.8 +1.5
CD2 pmax pmax
comp=Z,380nm,0.6s,mb6.4
CD2 pmax pmax
comp=Z,2μm,6.0s
CD2 LR LR
comp=N,1μm,15.7s
CD2 LR LR
comp=Z,1μm,25.5s
BTO Baotou 67.15 321 *eP* **P** **07 16 17.0 +0.5**
HIA Hailar 67.62 333 *eP* **P** **07 16 19.7 +0.4**
comp=Z,415nm,1.5s,mb6.0
HIA *e* pP 07 16 49.1 -0.4
HIA Hailar 67.62 333 *eP* **P** **07 16 19.7 +0.4**
HIA *e* pP 07 16 49.2 -0.4
HIA pmax pmax
comp=Z,415nm,1.5s
VNDA Vanda 68.57 179 P **P** **07 16 24.9 +0.2**
comp=Z,210nm,0.7s,mb6.0,baz=344,slow=7.7
VNDA LR LR 07 39 59.4
comp=Z,2μm,21.8s,baz=16,slow=30
VNDA PKPPKP 07 44 35.9
comp=Z,6.3nm,1.3s,baz=201,slow=1.7,SNR=9.9
VNDA Vanda 68.57 179 *eP* **P** **07 16 24.7 -0.1**
comp=Z,2μm,1.8s,mb6.5
VNDA Vanda 68.57 179 P **P** **07 16 25.0 +0.2**
VNDA pmax pmax
comp=Z,211nm,0.7s
UNV Unalaska Valle 68.82 21 *eP* **P** **07 16 25.2 -1.4**
comp=Z,78nm,0.8s,mb5.6
LZH Lanzhou 68.87 314 ⇑*i*P **P** **07 16 29.1 +1.8**
LZH pP pP 07 16 57.3 -0.4
LZH sP sP 07 17 09.3 -1.8
LZH PP PP 07 19 07.6 +6.5
LZH S S 07 25 24.0 +2.3
LZH SS SS 07 29 50.0 +0.3
LZH pmax pmax
comp=Z,540nm,1.5s,mb6.2
LZH pmax pmax
comp=Z,2μm,7.0s
LZH LR LR
comp=N,1μm,17.4s
LZH LR LR
comp=E,1μm,15.5s
LZH LR LR
comp=Z,1μm,15.8s
SBA Scott Base 69.00 178 *eP* **P** **07 16 28.4 +0.9**
comp=Z,756nm,1.5s,mb6.3
SBA Scott Base 69.00 178 *eP* **P** **07 16 28.4 +1.0**
SBA pmax pmax
comp=Z,757nm,1.5s,mb6.3

FALS False Pass 70.73 22 *eP* **P** **07 16 37.1 -1.2**
comp=Z,157nm,0.6s,mb6.0
FALS *e* pP 07 17 07.0 -1.8
CLNS Chul'man 71.47 341 *eP* **P** **07 16 43.5 +0.8**
CLNS *e* 07 17 01.6
CLNS *e**PP pP 07 17 13.1 -0.2
CLNS *e* 07 19 20.5
CLNS *ePPP 07 21 02.6
CLNS *eS S 07 25 49.8 -1.4
CLNS *e**SS sS 07 26 34.9 -9.0
CLNS pmax pmax
comp=Z,92nm,0.8s,mb5.7
CLNS pmax pmax
comp=N,42nm,0.9s
CLNS pmax pmax
comp=E,17nm,0.8s
CLNS smax
comp=N,657nm,10.4s
CLNS smax
comp=E,461nm,10.7s
SEY Seymchan 71.87 357*c i*P **P** **07 16 44.5 -0.5**
SDPT Sand Point 72.20 23 *eP* **P** **07 16 46.1 -1.0**
comp=E,130nm,0.7s,mb5.9
MIR Mirnyy 72.61 203 ⇑*i*P **P** **07 16 50.0 +0.6**
MIR *e**PP pP 07 17 10.0 -10
MIR *e**SP sP 07 17 20.0 -13
MIR *eS S 07 26 07.0 +3.0
MIR *e**SS sS 07 26 37.0 -20
MIR *ePS 07 26 57.0
MIR pmax pmax
comp=N,1μm,4.0s
MIR pmax pmax
comp=E,2μm,4.0s
MIR pmax pmax
comp=Z,4μm,4.0s
MIR pmax pmax
comp=Z,2μm,1.8s,mb6.6
MIR smax
comp=N,900nm,6.0s
MIR smax
comp=E,600nm,7.0s
ULN Ulaanbaatar 73.08 326 *eP* **P** **07 16 53.7 +1.2**
comp=E,619nm,1.2s,mb6.3
ULN *e* pP 07 17 23.1 -0.1
ULN Ulaanbaatar 73.08 326 *eP* **P** **07 16 53.7 +1.2**
ULN *e* pP 07 17 23.1 -0.1
ULN pmax pmax
comp=Z,619nm,1.2s,mb6.3
ULN Ulaanbaatar 73.08 326 P **P** **07 16 53.6 +1.1**
ULN Ulaanbaatar 73.08 326 P **P** **07 16 53.5 +1.0**
comp=Z,6μmcomp=Z,445nm,1.5s,mb6.1
ULN Ulaanbaatar 73.08 326 P **P** **07 16 53.9 +1.4**
SNR=168
GTA Gaotai 73.24 316 ⇑*i*P **P** **07 16 55.3 +1.6**
GTA pP pP 07 17 24.0 -0.4
GTA sP sP 07 17 35.8 -1.9
GTA S S 07 26 13.3 +1.2
GTA SKS 07 26 46.3
GTA sS sS 07 27 01.9 -3.2
GTA SS SS 07 30 57.0 +0.4
GTA pmax pmax
comp=Z,260nm,1.5s,mb5.8
GTA pmax pmax
comp=Z,2μm,3.8s
GTA LR LR
comp=N,630nm,14.2s
GTA LR LR
comp=E,920nm,20.4s
GTA LR LR
comp=Z,1μm,22.8s
SONM Songino Array 73.43 326 P **P** **07 16 55.6 +1.0**
comp=Z,187nm,0.7s,mb6.0,baz=140,slow=5.5,SNR=538
SONM pP pP 07 17 24.6 -0.7
comp=Z,113nm,0.8s,baz=141,slow=4.6,SNR=5.7
SONM PKPPKP 07 44 31.5
comp=Z,1.2nm,0.8s,baz=283,slow=2.0,SNR=4.4
SONM LR LR 07 48 32.1
comp=Z,736nm,19.5s,baz=134,slow=35
SONM Songino Array 73.43 326 P **P** **07 16 55.6 +1.0**
SONM pP pP 07 17 24.6 -0.7
SONM P'P' 07 44 31.5
SONM LR LR 07 48 32.1
SONM Songino Array 73.43 326 P **P** **07 16 55.6 +1.1**
SONM *PP pP 07 17 24.6 -0.7
SONM pmax pmax
comp=Z,187nm,0.7s
CHGN Chignik 73.69 23 *eP* **P** **07 16 54.4 -1.4**
SHL Shillong 74.16 300 ⇑*i*P **P** **07 16 59.0 -0.3**
SHL *i x* x 07 17 32.0
SHL *i x* x 07 26 21.0
YAK Yakutsk 74.46 346 *eP* **P** **07 17 00.5 +0.3**
comp=Z,438nm,0.6s,mb6.4
YAK *e* pP 07 17 30.7 -0.4
YAK Yakutsk 74.46 346 *eP* **P** **07 16 59.9 -0.3**
YAK *e* pP 07 17 28.7 -2.4
YAK *e* 07 19 45.9
YAK *eS S 07 26 24.3 -0.5
YAK *e* 07 26 55.1
YAK *e**SS sS 07 27 14.6 -3.4
YAK *eSS SS 07 31 09.7 -4.5
YAK pmax pmax
comp=Z,190nm,0.7s,mb5.9
YAK pmax pmax
comp=N,74nm,1.2s
YAK pmax pmax
comp=E,29nm,0.9s
YAK pmax pmax
comp=N,888nm,3.6s
YAK pmax pmax
comp=E,508nm,3.5s
YAK smax
comp=N,680nm,3.3s
YAK smax
comp=E,871nm,3.1s
YAK MLR MLR
comp=Z,1μm,20.0s
YAK MLR MLR
comp=N,849nm,18.0s
YAK MLR MLR
comp=E,266nm,20.0s
GAMB Gambell 75.73 13 *eP* **P** **07 17 07.6 +0.1**
comp=E,54nm,0.8s,mb5.3
LSA Lhasa 76.08 304 *eP* **P** **07 17 11.5 +1.2**
comp=E,252nm,1.4s,mb5.8
LSA *e* pP 07 17 44.2 +3.0
LSA Lhasa 76.08 304 *eP* **P** **07 17 11.5 +1.2**
LSA *e* pP 07 17 44.3 +3.1
LSA pmax pmax
comp=Z,252nm,1.4s,mb5.8
OHAK Old Harbor 76.36 24 *eP* **P** **07 17 11.1 -0.1**
comp=Z,92nm,0.9s,mb5.5
CAL Calcutta 76.38 296 ⇑*e*PKP **P** **07 17 11.4 -0.7**
CAL *ex* x 07 25 20.1
ZAK Zakamensk 76.54 327 *eP* **P** **07 17 12.4 0.0**
ZAK *e* pP 07 17 40.9 -2.4
ZAK pmax pmax
comp=Z,108nm,1.0s,mb5.5
KDAK Kodiak Island 77.01 24 P **P** **07 17 14.4 -0.5**
comp=Z,45nm,0.6s,mb5.4,baz=234,slow=3.5,SNR=35
KDAK Kodiak Island 77.01 24 *eP* **P** **07 17 14.4 -0.4**
comp=Z,662nm,1.9s,mb6.0
KDAK *e* pP 07 17 45.8 -0.1
KDAK Kodiak Island 77.01 24 *i* P **P** **07 17 14.3 -0.6**
KDAK Kodiak Island 77.01 24 *i* P **P** **07 17 14.0 -0.9**
comp=Z,554nm,0.8s,mb6.3,SNR=14
IRK Irkutsk 77.03 329 ⇑*i*P **P** **07 17 14.8 -0.3**
IRK *e* pP 07 17 44.4 -1.7
IRK *eS S 07 26 55.4 +1.9
IRK *e* 07 27 14.8
IRK pmax pmax
comp=Z,574nm,2.1s,mb5.9
TLY Talaya 77.05 328 *eP* **P** **07 17 15.7 +0.5**
comp=Z,1μm,1.9s,mb6.3
TLY *e* pP 07 17 45.6 -0.6
TLY Talaya 77.05 328*c i*P **P** **07 17 15.3 +0.1**
TLY *e* pP 07 17 45.5 -0.7
TLY *eS S 07 26 55.2 +1.5
TLY *e* 07 27 12.9
TLY *ePS 07 27 22.4
TLY pmax pmax
comp=Z,210nm,0.9s,mb5.9
TLY Talaya 77.05 328 P **P** **07 17 15.4 +0.2**
comp=Z,2μm,0.8s,mb6.8,SNR=61
TLY Talaya 77.05 328 P **P** **07 17 16.0 +0.8**
SNR=82

SVW2 Sparrevohn 78.16 21 *eP* **P** **07 17 20.6 -0.5**
comp=Z,887nm,1.9s,mb6.2
TAPN Taplejung 78.26 300 *eP* **P** **07 17 22.8 +0.3**
comp=Z,794nm,1.7s,mb6.2
ODAN Odare 78.39 300 *eP* **P** **07 17 23.8 +0.6**
comp=Z,325nm,0.7s,mb6.1
MOY Mondy 78.44 327 *eP* **P** **07 17 23.2 +0.3**
MOY pmax pmax
comp=Z,484nm,2.7s,mb5.8
RSO Redoubt South 78.73 22 *eP* **P** **07 17 22.9 -1.4**
comp=Z,136nm,0.8s,mb5.8
RAMN Ramite 79.10 300 *eP* **P** **07 17 27.4 +0.3**
comp=Z,74nm,0.6s,mb5.7
SPU Mount Spurr 79.47 22 *eP* **P** **07 17 27.5 -0.8**
JIRN Jiri 79.64 300 *eP* **P** **07 17 30.7 +0.7**
comp=Z,145nm,0.7s,mb5.9
SLKM Skilak Lake 79.71 23 *eP* **P** **07 17 28.9 -0.7**
SLKM *e* pP 07 17 59.4 -1.4
SLKM Skilak Lake 79.71 23 *eP* **P** **07 17 28.9 -0.7**
SLKM *e* pP 07 17 59.4 -1.4
SEW Seward 79.75 23 *eP* **P** **07 17 29.6 -0.2**
comp=Z,164nm,0.8s,mb5.9
SEW *e* pP 07 18 00.4 -0.7
GUN Gumba 79.97 300 *eP* **P** **07 17 32.4 +0.6**
comp=Z,305nm,0.9s,mb6.1
RC01 Rabbit Creek A 80.27 22 *eP* **P** **07 17 31.8 -0.8**
comp=Z,343nm,1.4s,mb6.0
RC01 *e* pP 07 18 03.4 -0.4
PKI Pulchoki 80.28 300 *eP* **P** **07 17 33.7 +0.2**
comp=Z,316nm,1.1s,mb6.0
KKN Kakani 80.45 300 *eP* **P** **07 17 34.6 +0.2**
comp=Z,206nm,1.0s,mb5.9
DMN Daman 80.55 300 *eP* **P** **07 17 35.5 +0.6**
comp=Z,198nm,0.7s,mb6.0
PPLA Purkeypile 80.56 20 *eP* **P** **07 17 33.4 -0.8**
comp=Z,62nm,0.8s,mb5.5
PPLA *e* pP 07 18 04.3 -1.1
PMR Palmer 80.81 22 *eP* **P** **07 17 34.0 -1.5**
comp=Z,490nm,1.6s,mb6.1
PMR pmax pmax
comp=Z,490nm,1.6s,mb6.1
PMR Palmer 80.81 22 *eP* **P** **07 17 34.0 -1.5**
QSPA South Pole Qui 81.05 180 P **P** **07 17 36.2 -0.4**
comp=Z,112nm,0.8s,mb5.8,baz=3.8,slow=1.7,SNR=121
QSPA PKKP PKKPbc 07 36 09.3 -6.7
comp=Z,3.5nm,0.8s,baz=232,slow=2.0,SNR=8.9
QSPA PKPPKP 07 44 14.6
comp=Z,0.8nm,0.3s,baz=129,slow=2.3,SNR=4.4
QSPA South Pole Qui 81.05 180 P **P** **07 17 36.2 -0.4**
QSPA PKKP PKKPbc 07 36 09.3 -6.7
QSPA P'P' 07 44 14.6
GKN Gorkha 81.06 300 *eP* **P** **07 17 37.6 0.0**
comp=Z,226nm,0.5s,mb6.3
MDRS Chennai 81.71 285 AMb AMB 07 18 36.5
comp=Z,82nm,0.4s,mb5.9
MDRS *ex* x 07 18 38.2
MDRS *ex* x 07 29 30.2
DIV Divide 81.82 24 *eP* **P** **07 17 40.2 -0.6**
comp=Z,65nm,0.9s,mb5.5
KOLN Koldanda 81.89 300 *eP* **P** **07 17 41.8 -0.2**
comp=Z,181nm,0.6s,mb6.1
DANN Dangsing 81.89 300 *eP* **P** **07 17 41.8 -0.2**
comp=Z,789nm,1.4s,mb6.4
PYUN Piuthan 82.49 300 *eP* **P** **07 17 44.5 -0.6**
PAF Port-aux-Franc 82.86 221 *eP* **P** **07 17 47.4 +0.8**
comp=Z,798nm,1.1s,mb6.5
PAF Port-aux-Franc 82.86 221 *eP* **P** **07 17 47.4 +0.8**
PAX Paxson 83.01 22 *eP* **P** **07 17 46.9 0.0**
comp=Z,252nm,1.8s,mb5.8
PAX Paxson 83.01 22 *eP* **P** **07 17 46.9 -0.1**
PAX pmax pmax
comp=Z,252nm,1.8s,mb5.8
COLA College 83.30 20 *eP* **P** **07 17 47.1 -1.3**
comp=Z,177nm,0.8s,mb5.9
COLA *e* pP 07 18 18.4 -1.5
COLA College 83.30 20 *eP* **P** **07 17 47.1 -1.3**
COLA *e* pP 07 18 18.4 -1.5
COLA pmax pmax
comp=Z,177nm,0.8s,mb5.9
WMQ Urumqi 83.32 316 P **P** **07 17 49.3 +0.3**
WMQ pP pP 07 18 17.8 -2.7
WMQ sP sP 07 18 29.8 -3.8
WMQ PP PP 07 21 04.1 +1.5
WMQ S S 07 27 59.1 -0.6
WMQ pmax pmax
comp=Z,300nm,1.7s,mb5.8
WMQ pmax pmax
comp=Z,3μm,4.6s
WMQ LR LR
comp=N,710nm,26.2s
WMQ LR LR
comp=E,660nm,35.4s
WMQ LR LR
comp=Z,820nm,32.0s
ILAR Eielson Array 83.57 20 P **P** **07 17 48.1 -1.7**
comp=Z,63nm,0.9s,mb5.4,baz=249,slow=4.6,SNR=589
ILAR PKiKP PKiKP 07 23 04.6 -1.3
comp=Z,1.1nm,0.6s,baz=293,slow=3.7,SNR=6.0
ILAR PKKP PKKPbc 07 36 03.8 -6.8
comp=Z,1.2nm,0.5s,baz=338,slow=1.9,SNR=22
ILAR PKPPKP 07 44 08.8
comp=Z,2.2nm,1.2s,baz=5.2,slow=2.3,SNR=9.7
ILAR LR LR 07 51 00.4
comp=Z,901nm,21.4s,baz=245,slow=33
ILAR Eielson Array 83.57 20 P **P** **07 17 48.1 -1.7**
ILAR Eielson Array 83.57 20 P **P** **07 17 48.1 -1.7**
ILAR *i* 07 23 04.6
ILAR pmax pmax
comp=Z,63nm,0.9s
MENT Mentasta 83.65 23 *eP* **P** **07 17 50.3 +0.1**
PNL Peninsula 83.70 27 *eP* **P** **07 17 50.3 -0.3**
comp=Z,394nm,1.5s,mb6.0
DOT Dot Lake 83.92 22 *eP* **P** **07 17 51.1 -0.5**
comp=Z,506nm,0.9s,mb6.3
DOT *e* pP 07 18 22.3 -0.8
COLD Coldfoot 84.04 18 *eP* **P** **07 17 52.7 +0.5**
comp=Z,41nm,0.8s,mb5.3
COLD *e* pP 07 18 22.5 -1.2
TRD Trivandrum 84.06 280 ⇑*i*P **P** **07 17 54.4 +0.9**
TRD AMb AMB 07 17 56.8
comp=Z,332nm,1.3s,mb6.0
HYB Hyderabad 84.15 289 *i* P **P** **07 17 53.0 -0.8**
comp=Z,140nm,1.0s,mb5.8
HYB *e* 07 18 08.5
HYB *ePP pP 07 18 24.0 -1.3
HYB *eSKS 07 28 04.0
HYB *eSKS 07 28 18.5
HYB *eSP 07 29 04.0
MAW Mawson 84.34 202 P **P** **07 17 53.7 -0.1**
comp=Z,102nm,0.8s,mb5.7,baz=97,slow=6.1,SNR=225
MAW PKKPbc PKKPbc 07 36 04.6 -3.5
comp=Z,2.5nm,0.7s,baz=323,slow=1.6,SNR=6.9
MAW LR LR 07 51 34.1
comp=Z,1μm,19.3s,baz=81,slow=33
MAW Mawson 84.34 202 *eP* **P** **07 17 53.5 -0.3**
comp=Z,99nm,0.8s,mb5.7
MAW *ePP pP 07 18 26.4 +1.1
MAW *eS S 07 28 07.0 -2.1
MAW *e* 07 28 50.9
MAW Mawson 84.34 202 *eP* **P** **07 17 53.6 -0.2**
comp=Z,234nm,1.8s,mb5.7
MAW *e* pP 07 18 26.2 +0.9
MAW Mawson 84.34 202 P **P** **07 17 53.7 -0.1**
MAW pmax pmax
comp=Z,102nm,0.8s
MAW pmax pmax
comp=Z,3.0nm,0.7s
SKAG Skagway 85.44 28 *eP* **P** **07 17 58.8 -0.5**
comp=Z,554nm,1.6s,mb6.2
EGAK Eagle 85.60 22 *eP* **P** **07 18 00.1 +0.1**
comp=Z,940nm,1.9s,mb6.4
EGAK *e* pP 07 18 31.9 +0.2
WRAK Wrangell Islan 85.62 31 *eP* **P** **07 17 59.7 -0.6**
comp=Z,178nm,1.5s,mb5.8
WRAK *e* pP 07 18 31.2 -0.7
KCPM Cahto Peak 85.70 49 *eP* **P** **07 18 02.3 +1.2**
comp=Z,80nm,1.0s,mb5.6
KCPM *e* pP 07 18 33.7 +1.0
KIPM Iron Peak 85.81 49 *eP* **P** **07 18 02.5 +0.8**
comp=Z,475nm,1.6s,mb6.2
KIPM *e* pP 07 18 34.0 +0.8
MCCM Marconi Confer 85.83 51 *eP* **P** **07 18 02.2 +0.4**
comp=Z,159nm,1.4s,mb5.8
DAWY Dawson 85.89 23 *eP* **P** **07 18 01.4 -0.1**
DAWY *e* pP 07 18 33.3 +0.2
HOPS Hopland 85.90 50 *eP* **P** **07 18 02.8 +0.7**

comp=Z,266nm,1.5s,mb6.0
HOPS *e* pP 07 18 33.8 +0.1
KHMM Horse Mountain 85.91 48 *e*P **P 07 18 03.6 +1.5**
comp=Z,420nm,1.7s,mb6.1
KHMM *e* pP 07 18 34.6 +0.9
KRMB Red Mountain 85.95 47 *e*P **P 07 18 03.8 +1.5**
comp=Z,340nm,1.6s,mb6.0
KRMB *e* pP 07 18 35.1 +1.2
DGAR Diego Garcia 86.01 263 *e*P **P 07 18 02.8 -0.5**
comp=Z,723nm,1.4s,mb6.4
DGAR Diego Garcia 86.01 263 *c i*P **P 07 18 02.4 -0.8**
AKL Akola 86.21 292⇑ *i*P **P 07 18 02.5 -1.6**
AKL *i* x x 07 28 24.6
BHPL Bhopal 86.32 294⇑ *i*P **P 07 18 03.5 -1.1**
SAO San Andreas Ge 86.60 52 *e*P **P 07 18 06.4 +0.8**
comp=Z,55nm,0.9s,mb5.5
SAO San Andreas Ge 86.60 52 *e*P **P 07 18 06.4 +0.8**
SAO pmax pmax
comp=Z,55nm,0.9s,mb5.5
AGRA Agra 86.66 298 *e*PKP **P 07 18 04.2 -1.8**
WDC Whiskeytown Da 86.70 48 *e*P **P 07 18 06.3 +0.3**
comp=Z,242nm,1.5s,mb5.9
WDC *e* pP 07 18 38.4 +0.7
WDC Whiskeytown Da 86.70 48 *e*P **P 07 18 06.3 +0.3**
WDC *e* pP 07 18 38.4 +0.7
WDC pmax pmax
comp=Z,242nm,1.5s,mb5.9
YBH Yreka Blue Hor 86.87 47 *e*P **P 07 18 07.5 +0.7**
comp=Z,73nm,1.0s,mb5.6
YBH *e* pP 07 18 39.0 +0.5
YBH Yreka Blue Hor 86.87 47 *e*P **P 07 18 07.5 +0.7**
YBH *e* pP 07 18 39.0 +0.5
YBH pmax pmax
comp=Z,73nm,1.0s
HUMO Hull Mountain 86.92 46 *e*P **P 07 18 08.0 +1.0**
comp=Z,448nm,2.0s,mb6.0
HUMO *e* pP 07 18 39.5 +0.8
ASOR Ausora 87.11 300 *e*PKP **P 07 18 07.1 -1.1**
OHCM Honcut 87.19 50 *e*P **P 07 18 08.3 -0.1**
BISR Bishrakh 87.36 299 *e*PKP **P 07 18 08.4 -1.1**
BISR AMb AMB 07 18 12.6
comp=Z,161nm,0.8s,mb6.0
SMMC Simmler 87.41 54 ⇓P **P 07 18 10.3 +0.7**
baz=88
SMMC ⇓SKSac SKSac 07 28 26.8 +0.7
baz=88
BSC Santa Cruz Isl 87.42 55 ⇑P **P 07 18 09.6 -0.1**
baz=88
BSC ⇑SKSac SKSac 07 28 26.5 +0.3
baz=88
SBC Santa Barbara 87.45 55 ⇑P **P 07 18 10.2 +0.4**
baz=88
SBC ⇓SKSac SKSac 07 28 26.8 +0.4
baz=88
HMDM Hanimaadhoo 87.46 277 P **P 07 18 09.4 -0.9**
HMDM Hanimaadhoo 87.46 277 P **P 07 18 11.6 +1.3**
comp=Z,4µmcomp=Z,232nm,1.6s,mb5.9
PKM Peak Mountain 87.47 54 ⇓P **P 07 18 10.3 +0.5**
baz=88
PKM ⇑SKSac SKSac 07 28 27.2 +0.8
baz=88
DLBC Dease Lake 87.55 30 P **P 07 18 09.5 -0.2**
comp=Z,33nm,1.1s,mb5.3,baz=239,slow=4.2,SNR=16
DLBC Dease Lake 87.55 30 *e*P **P 07 18 09.4 -0.2**
DLBC *e* pP 07 18 40.8 -0.5
NDI New Delhi 87.58 299 *ex* **P 07 18 07.0 -3.5**
SONA Sohna 87.61 299 *e*PKP **P 07 18 08.8 -1.8**
AYAN Aya Nagar 87.61 299 *e*PKP **P 07 18 09.1 -1.6**
AYAN *i* x pP 07 18 41.8 -0.7
CMB Columbia Colle 87.72 51 *e*P **P 07 18 10.7 -0.3**
comp=Z,385nm,2.1s,mb6.1
CMB Columbia Colle 87.72 51 *e*P **P 07 18 10.7 -0.3**
CMB pmax pmax
comp=Z,385nm,2.1s,mb6.1
MK31 Makanchi Array 87.84 318 *e*P **P 07 18 10.9 -0.4**
MK31 *e* pP 07 18 41.6 -1.5
MK31 Makanchi Array 87.84 318 *i* P **P 07 18 11.0 -0.3**
MK31 pmax pmax
comp=Z,194nm,1.0s,mb6.1
MKAR Makanchi Array 87.84 318 P **P 07 18 11.0 -0.3**
comp=Z,49nm,0.7s,mb5.6,baz=99,slow=6.2,SNR=236
MKAR pP pP 07 18 41.3 -1.7
comp=Z,29nm,0.6s,baz=97,slow=5.4,SNR=5.3
MKAR PKKPbc PKKPbc 07 35 55.9 -3.6
comp=Z,1.5nm,0.6s,baz=282,slow=2.7,SNR=11
MKAR PKPPKP 07 44 05.4
comp=Z,2.6nm,1.1s,baz=318,slow=1.6,SNR=7.7
MKAR Makanchi Array 87.84 318 P **P 07 18 11.0 -0.3**
MKAR pP pP 07 18 41.3 -1.7
MKAR PKKPbc PKKPbc 07 35 55.9 -3.6
MKAR P'P' 07 44 05.4
MKAR Makanchi Array 87.84 318 P **P 07 18 11.0 -0.3**
MKAR *PP pP 07 18 41.3 -1.8
MKAR pmax pmax
comp=Z,49nm,0.7s
BLG Laguna Peak 87.91 55 ⇑P **P 07 18 11.8 -0.1**
baz=88
H04A Detroit Lake 87.99 44 ⇓P **P 07 18 12.2 +0.1**
baz=88
SCI San Clemente I 88.10 56 ⇓P **P 07 18 13.0 +0.1**
baz=88
KUDL Kundal 88.10 299 *e*PKP **P 07 18 10.9 -2.1**
BEKR Beckworth 88.16 49 ⇓P **P 07 18 13.4 +0.5**
baz=88
KKR Kurukshetra 88.17 301 *e*PKP **P 07 18 12.5 -0.8**
RCTC Rector, Farmer 88.23 53 ⇓P **P 07 18 13.0 -0.4**
baz=88
KAD Karad 88.24 288 *e*PKP **P 07 18 13.1 -0.7**
KAD AMb AMB 07 18 16.7
comp=Z,155nm,1.1s,mb5.9
KAD *i* pP pP 07 18 44.6 -1.0
OSI Osito Adit 88.29 55 ⇓P **P 07 18 13.9 +0.2**
baz=88
OSI Osito Adit 88.29 55 *e*P **P 07 18 14.8 +1.1**
comp=Z,67nm,0.8s,mb5.7
GNW Green Mountain 88.30 41 *e*P **P 07 18 13.5 0.0**
comp=Z,50nm,1.6s,mb5.3
GNW *e* pP 07 18 44.0 -1.2
CIS Catalina Islan 88.30 56 ⇓P **P 07 18 13.9 +0.1**
baz=88
ARVC Arvin 88.31 54 ⇑P **P 07 18 14.1 +0.3**
baz=88
ZAA0 Zalesovo Array 88.31 325 *e*P **P 07 18 11.9 -1.5**
ZAA0 *e* pP 07 18 42.2 -3.0
ZALV Zalesovo Beam 88.31 325 P **P 07 18 11.9 -1.4**
comp=Z,30nm,0.6s,mb5.5,baz=112,slow=5.2,SNR=98
ZALV pP pP 07 18 43.0 -2.2
comp=Z,38nm,0.9s,baz=106,slow=5.3,SNR=4.8
ZALV PKPPKP 07 43 60.0
comp=Z,0.6nm,0.3s,baz=282,slow=2.9,SNR=4.6
ZALV LR LR 07 54 02.0
comp=Z,333nm,19.5s,baz=281,slow=33
ZALV Zalesovo Beam 88.31 325 P **P 07 18 11.9 -1.4**
ZALV pP pP 07 18 43.0 -2.2
ZALV P'P' 07 43 60.0
ZALV LR LR 07 54 02.0
ZALV Zalesovo Beam 88.31 325 P **P 07 18 12.0 -1.4**
ZALV *PP pP 07 18 43.0 -2.2
ZALV pmax pmax
comp=Z,30nm,0.6s,mb5.5
RTK Rohtak 88.33 300 *e*PKP **P 07 18 12.7 -1.4**
K05A Summer Lake 88.42 46 ⇓P **P 07 18 14.7 +0.6**
baz=88
FMP Fort Macarthur 88.45 56 ⇓P **P 07 18 14.7 +0.1**
baz=88
WCN Washoe City 88.48 50 ⇑P **P 07 18 15.2 +0.7**
baz=89
WCN Washoe City 88.48 50 *e*P **P 07 18 14.9 +0.4**
comp=Z,126nm,1.3s,mb5.8
WCN Washoe City 88.48 50 *e*P **P 07 18 14.9 +0.4**
WCN pmax pmax
comp=Z,126nm,1.3s,mb5.8
HOOD Mount Hood Mea 88.51 44 *e*P **P 07 18 16.1 +1.5**
comp=Z,289nm,1.8s,mb6.0
DECC Green Verdugo 88.53 55 ⇓P **P 07 18 14.9 0.0**
baz=89
PASC Pasadena Art C 88.63 55 *e*P **P 07 18 15.4 +0.1**
MOD Modoc 88.66 47 *e*P **P 07 18 15.7 +0.4**
comp=Z,285nm,1.8s,mb6.0
MOD *e* pP 07 18 47.3 +0.2
KHET Khetri 88.68 299 *e*PKP **P 07 18 13.8 -2.0**
KHET *i* x pP 07 18 47.6 +0.1
ISA Isabella 88.70 54 ⇓P **P 07 18 15.7 +0.1**
baz=89
ISA Isabella 88.70 54 *e*P **P 07 18 15.7 0.0**
comp=Z,150nm,1.4s,mb5.8
ISA Isabella 88.70 54 *e*P **P 07 18 15.7 0.0**
ISA pmax pmax
comp=Z,150nm,1.4s,mb5.8
MWC Mount Wilson 88.75 55 *e*P **P 07 18 16.1 +0.2**
comp=Z,1µm,1.8s,mb6.6
MWC *e* pP 07 18 48.0 +0.3
MWC Mount Wilson 88.75 55 *e*P **P 07 18 16.1 +0.2**
MWC *e* pP 07 18 48.0 +0.3
D05A Enumclaw 88.75 42 ⇑P **P 07 18 15.3 -0.3**
baz=89
POO Poona 88.76 289 *e*PKP **P 07 18 15.4 -0.8**
POO *i* x x 07 18 48.7
LON Longmire 88.76 42 *e*P **P 07 18 16.1 +0.5**
comp=Z,31nm,1.2s,mb5.2
LON Longmire 88.76 42 *e*P **P 07 18 16.1 +0.5**
LON pmax pmax
comp=Z,31nm,1.2s,mb5.2
MLAC Mammoth Lakes 88.83 52 ⇓P **P 07 18 16.9 +0.7**
baz=89
EDW2 Edwards Air Fo 88.93 55 ⇑P **P 07 18 17.4 +0.6**
baz=89
MTUM Tungsten Hills 88.98 52 *e*P **P 07 18 17.4 +0.5**
VIPM Ingram Point 89.03 45 P **P 07 18 17.1 +0.1**
VIPM Ingram Point 89.03 45 P **P 07 18 17.1 +0.1**
JCW Jim Creek 89.04 41 *e*P **P 07 18 16.7 -0.2**
JCW *e* pP 07 18 47.5 -1.2
BFSC Mount Baldy Ra 89.08 55 ⇑P **P 07 18 17.5 0.0**
baz=89
A05A Maple Falls 89.14 40 ⇓P **P 07 18 18.2 +0.9**
baz=89
CWC Cottonwood Cre 89.17 53 ⇓P **P 07 18 17.9 +0.1**
baz=89
TIN Tinemaha 89.18 52 ⇓P **P 07 18 18.3 +0.5**
baz=89
G06A Carlson Farm, 89.19 44 ⇑P **P 07 18 17.6 -0.1**
baz=89
109C Camp Elliot, M 89.27 57 ⇑P **P 07 18 18.7 +0.3**
baz=89
LRMC Laurel Mountai 89.29 54 ⇓P **P 07 18 19.0 +0.6**
baz=89
MURC Murrieta 89.32 56 ⇑P **P 07 18 18.6 0.0**
baz=89
NVAR Mina Array Bea 89.41 51 P **P 07 18 19.3 +0.4**
comp=Z,62nm,0.9s,mb5.6,baz=247,slow=5.0,SNR=105
NVAR PKPPKP 07 44 01.7
comp=Z,1.8nm,0.9s,baz=86,slow=4.5,SNR=6.9
NVAR LR LR 07 51 30.9
comp=Z,946nm,19.6s,baz=99,slow=31
NVAR Mina Array Bea 89.41 51 P **P 07 18 19.3 +0.4**
NVAR P'P' 07 44 01.7
NVAR LR LR 07 51 30.9
AJM Ajmer 89.41 297 *ex* **P 07 18 16.0 -3.2**
NVS Novosibirsk 89.46 326⇑ *i*P **P 07 18 17.6 -1.1**
NVS *e**PP pP 07 18 47.9 -2.6
NVS *i* S SKSac 07 28 34.4 -3.0
NVS pmax pmax
comp=N,128nm,1.7s
NVS pmax pmax
comp=E,272nm,1.7s
NVS pmax pmax
comp=Z,606nm,1.7s,mb6.3
NVS smax
comp=E,167nm,2.1s
MPMC Manual Prospec 89.57 54 ⇓P **P 07 18 20.1 +0.4**
baz=90
BAR Barrett 89.58 57 *e*P **P 07 18 19.9 +0.1**
comp=E,109nm,1.0s,mb5.9
BAR *e* pP 07 18 51.8 +0.2
EBG Ellensburg 89.62 42 P **P 07 18 19.9 +0.2**
BBRC Big Bear Solar 89.68 55 ⇑P **P 07 18 20.4 +0.1**
baz=90
I07A Izee 89.72 45 ⇓P **P 07 18 20.5 +0.3**
baz=90
RRX Edison Barstow 89.73 55 ⇑P **P 07 18 20.6 +0.1**
baz=90
F07A Phinny Hill Vi 89.83 44 ⇓P **P 07 18 20.6 0.0**
baz=90
MONP Monument Peak 89.83 57 ⇓P **P 07 18 21.6 +0.6**
baz=90
GRAC Grapevine Rang 89.84 53 ⇑P **P 07 18 21.2 +0.2**
baz=90
PFO Pinyon Flat Ob 89.94 56 ⇑P **P 07 18 21.7 +0.2**
baz=90
PFO Pinyon Flat Ob 89.94 56 *e*P **P 07 18 21.6 +0.1**
comp=E,124nm,1.2s,mb5.9
PFO *e* pP 07 18 53.1 -0.2
PFO Pinyon Flat Ob 89.94 56 *e*P **P 07 18 21.6 +0.1**
PFO *e* pP 07 18 53.1 -0.2
PFO pmax pmax
comp=Z,124nm,1.2s,mb5.9
PFO Pinyon Flat Ob 89.94 56 P **P 07 18 21.6 +0.1**
comp=Z,439nm,1.6s,mb6.3,SNR=29
INK Inuvik 89.96 20 P **P 07 18 21.6 +0.8**
comp=Z,16nm,0.5s,mb5.4,baz=258,slow=5.0,SNR=23
INK PKiKP PKiKP 07 23 15.6 -0.7
comp=Z,4.0nm,0.7s,baz=333,slow=4.6,SNR=5.6
INK Inuvik 89.96 20 P **P 07 18 21.6 +0.8**
INK Inuvik 89.96 20 P **P 07 18 21.6 +0.8**
INK pmax pmax
comp=Z,16nm,0.5s
GSC Goldstone 89.97 54 ⇑P **P 07 18 21.6 0.0**
baz=90
GSC Goldstone 89.97 54 *e*P **P 07 18 21.8 +0.2**
comp=Z,112nm,1.1s,mb5.9
GSC *e* pP 07 18 53.7 +0.2
GSC Goldstone 89.97 54 *e*P **P 07 18 21.8 +0.2**
GSC *e* pP 07 18 53.7 +0.3
GSC pmax pmax
comp=Z,112nm,1.1s,mb5.9
WVOR Wild Horse Val 89.98 47 *e*P **P 07 18 21.7 +0.2**
comp=Z,436nm,1.6s,mb6.3
WVOR *e* pP 07 18 54.8 +1.5
WVOR Wild Horse Val 89.98 47 *e*P **P 07 18 21.7 +0.2**
WVOR *e* pP 07 18 54.8 +1.5
WVOR pmax pmax
comp=Z,436nm,1.6s,mb6.3
E07A Sunnyside 90.02 43 ⇓P **P 07 18 21.4 -0.1**
baz=90
DVTC Desert V Tower 90.06 57 ⇓P **P 07 18 22.7 +0.7**
baz=90
FURC Furnace Creek, 90.15 53 ⇓P **P 07 18 22.8 +0.4**
baz=90
RSW Rattlesnake Hi 90.16 43 *e*P **P 07 18 22.8 +0.6**
RSW *e* pP 07 18 54.4 +0.3
CBSW Chelan Butte S 90.18 42 P **P 07 18 21.8 -0.4**
HAWA Hanford 90.20 43 *e*P **P 07 18 21.8 -0.6**
comp=Z,241nm,1.8s,mb6.0
HAWA *e* pP 07 18 54.4 +0.1
HEC Hector,Ludlow 90.26 55 ⇓P **P 07 18 23.1 +0.1**
baz=90
J08A Circle Bar Ran 90.29 46 ⇓P **P 07 18 23.0 +0.1**
baz=90
G08A Pilot Rock 90.36 44 ⇓P **P 07 18 23.4 +0.2**
baz=90
SWSC Sam W. Stewart 90.36 57 ⇑P **P 07 18 23.9 +0.4**
baz=90
BELC Belle Mtn. Jos 90.38 56 ⇑P **P 07 18 23.8 +0.2**
baz=90
OT3 Othello 3 90.47 43 P **P 07 18 23.8 +0.2**
SHOC Shoshone 90.50 54 ⇓P **P 07 18 24.2 +0.2**
baz=91
E08A Dider Farm, El 90.54 43 ⇓P **P 07 18 23.6 -0.4**
baz=91
WRD Warden 90.55 43 P **P 07 18 24.3 +0.3**
BMN Battle Mountai 90.62 49 *e*P **P 07 18 25.2 +0.7**
comp=Z,122nm,1.1s,mb6.0
BMN *e* pP 07 18 56.8 +0.4
BMN Battle Mountai 90.62 49 *e*P **P 07 18 25.2 +0.7**
BMN *e* pP 07 18 56.8 +0.4
BMN pmax pmax
comp=Z,122nm,1.1s,mb5.9
KSH Kashi 90.70 310⇑ *i*P **P 07 18 26.3 +1.4**
KSH pP pP 07 18 55.3 -1.4
KSH sP sP 07 19 07.1 -2.6
KSH PP PP 07 22 04.8 +2.8
KSH SKS 07 28 45.6
KSH S S 07 29 06.8 -3.9
KSH sS sS 07 30 00.0 -5.8
KSH SS SS 07 35 17.3 +1.6
KSH pmax pmax
comp=Z,320nm,1.8s,mb6.2
KSH LR LR
comp=N,530nm,6.5s
KSH LR LR
comp=E,480nm,6.7s
KSH LR LR
comp=Z,340nm,6.6s
TUQ Turquoise Moun 90.70 54⇑P **P 07 18 25.4 +0.4**
baz=91
BC3 Big Chuckawall 90.77 56⇑P **P 07 18 25.8 +0.5**
baz=91
GMRC Granite Mounta 90.80 55⇑P **P 07 18 25.8 +0.4**
baz=91
LNOR Lincton Mounta 90.94 44 *e*P **P 07 18 26.0 +0.2**
LNOR Lincton Mounta 90.94 44 *e*P **P 07 18 26.0 +0.1**
OD2 Odessa Site #2 90.97 42 P **P 07 18 25.2 -0.8**
ULHL Ulahol 91.02 312 P **P 07 18 26.7 +0.4**
SNR=35
IRM Iron Mountain 91.10 56⇑P **P 07 18 27.1 +0.2**
baz=91
KURK Kurchatov 91.15 321 P **P 07 18 25.7 -1.0**
comp=Z,33nm,0.8s,mb5.5,baz=103,slow=3.6,SNR=155
KURK PKiKP PKiKP 07 23 17.9 -0.9
comp=Z,2.5nm,0.9s,baz=102,slow=2.1,SNR=4.2
KURK PKKPbc PKKPbc 07 35 49.6 -1.8
comp=Z,1.6nm,0.5s,baz=289,slow=2.9,SNR=10
KURK LR LR 07 55 50.0
comp=Z,444nm,20.7s,baz=105,slow=33
KURK Kurchatov 91.15 321 *e*P **P 07 18 25.7 -1.0**
comp=Z,679nm,1.9s,mb6.5
KURK Kurchatov 91.15 321 *c i*P **P 07 18 25.2 -1.5**
KURK pmax pmax
comp=Z,390nm,2.1s,mb6.2
KURK Kurchatov 91.15 321 P **P 07 18 25.8 -0.9**
comp=Z,706nm,1.5s,mb6.6,SNR=32
KURK Kurchatov 91.15 321 P **P 07 18 26.0 -0.7**
SNR=73
E09A Wood Farm, Sta 91.17 43 ⇓P **P 07 18 26.2 -0.6**
baz=91
GLA Glamis 91.18 57 ⇓P **P 07 18 27.7 +0.4**
baz=91
GLA Glamis 91.18 57 *e*P **P 07 18 28.1 +0.8**
comp=Z,191nm,1.1s,mb6.1
GLA *e* pP 07 18 59.7 +0.6
GLA Glamis 91.18 57 *e*P **P 07 18 28.1 +0.8**
GLA *e* pP 07 18 59.7 +0.6
GLA pmax pmax
comp=Z,191nm,1.1s,mb6.1
LDFC Landfair 91.29 55 *e*P **P 07 18 28.3 +0.5**
comp=Z,346nm,1.0s,mb6.4
LDFC *e* pP 07 18 59.7 +0.1
C09A Chrisman Ranch 91.34 42 ⇓P **P 07 18 27.0 -0.6**
baz=91
BMO Blue Mountains 91.42 45 *e*P **P 07 18 27.8 -0.2**
comp=Z,73nm,1.0s,mb5.8
BMO *e* pP 07 18 59.4 -0.5
BMO Blue Mountains 91.42 45 *e*P **P 07 18 27.8 -0.3**
BMO *e* pP 07 18 59.4 -0.5
BMO pmax pmax
comp=Z,73nm,1.0s,mb5.8
R11A Troy Canyon, C 91.49 52 ⇓P **P 07 18 28.8 +0.2**
baz=92
Y12C Blythe 91.55 56 ⇓P **P 07 18 29.4 +0.4**
baz=92
TKM2 Tokmak 2 91.61 313 P **P 07 18 28.7 -0.3**
SNR=31
TKM2 Tokmak 2 91.61 313 *e*P **P 07 18 28.6 -0.4**
TKM2 *e* pP 07 18 59.3 -1.6
TKM2 Tokmak 2 91.61 313 *i* P **P 07 18 28.7 -0.3**
NEE2 Needles Airpor 91.64 55⇑P **P 07 18 29.5 +0.1**
baz=92
F10A Beach Ranch, E 91.68 44⇑P **P 07 18 29.0 -0.3**
baz=92
KZA Kyzart 91.71 312 P **P 07 18 30.3 +0.8**
SNR=32
SYO Syowa Base 91.94 198⇓ *i*P **P 07 18 27.3 -2.8**
SYO Syowa Base 91.94 198⇓ *i* PcP PcP 07 18 30.6 -0.2
PDMCI Parker Dam,Lak 91.95 56⇑P **P 07 18 30.8 -0.1**
baz=92
KBK Karagaybulak 92.03 313 P **P 07 18 31.4 +0.4**
SNR=7.5
Z13A Yuma Proving G 92.17 57 ⇓P **P 07 18 32.1 +0.3**
baz=92,SNR=50
NEW Newport 92.19 42⇑P **P 07 18 30.6 -1.0**
baz=92
NEW Newport 92.19 42 *e*P **P 07 18 30.8 -0.8**
comp=Z,37nm,0.8s,mb5.7
NEW *e* pP 07 19 02.2 -1.3
NEW Newport 92.19 42 *e*P **P 07 18 30.8 -0.8**
NEW *e* pP 07 19 02.2 -1.2
NEW pmax pmax
comp=Z,37nm,0.8s
MFID Camas Ranch 92.20 47 ⇓P **P 07 18 32.1 +0.3**
baz=92
MFID Camas Ranch 92.20 47 *e*P **P 07 18 32.0 +0.3**
comp=Z,207nm,1.5s,mb6.1
MFID *e* pP 07 19 04.1 +0.5
CHMS Chumysh 92.24 313 P **P 07 18 31.3 -0.6**
SNR=18
UCH Uchtor 92.28 312 P **P 07 18 32.9 +0.8**
SNR=7.7
W13A Hualapai Mount 92.29 55 ⇓P **P 07 18 32.7 +0.3**
baz=92
FRU Bishkek 92.31 313⇑ *i*P **P 07 18 32.0 -0.2**
FRU *i* 07 18 56.5
FRU *e* 07 28 53.0
FRU pmax pmax
comp=Z,290nm,2.0s,mb6.2
AAK Ala-Archa 92.36 313 P **P 07 18 32.3 -0.2**
SNR=18
AAK Ala-Archa 92.36 313 *e*P **P 07 18 32.1 -0.4**
comp=Z,1µm,2.3s,mb6.7
AAK *e* pP 07 19 03.1 -1.3
AAK Ala-Archa 92.36 313 *i* P **P 07 18 32.2 -0.3**
AAK Ala-Archa 92.36 313 P **P 07 18 32.3 -0.2**
comp=Z,163nm,1.8s,mb6.0
AAK Ala-Archa 92.36 313 P **P 07 18 32.7 +0.2**
comp=Z,136nm,0.8s,mb6.2,SNR=12
AAK Ala-Archa 92.36 313 P **P 07 18 32.7 +0.2**
SNR=17
USP Ospenovka 92.46 313 P **P 07 18 32.5 -0.4**
SNR=29
214A Organ Pipe Nat 92.68 58 ⇓P **P 07 18 34.4 +0.1**
baz=93,SNR=22
C11A Tepee Creek (N 92.68 42 ⇓P **P 07 18 33.5 -0.4**
baz=93
R13A O'Grain Ranch, 92.71 52 ⇓P **P 07 18 34.9 +0.7**
baz=93
114A Black Gap (USA 92.74 57⇑P **P 07 18 34.8 +0.3**
baz=93,SNR=16
I12A Atlanta 92.76 46 ⇓P **P 07 18 34.4 +0.1**
baz=93
Z14A Wintersburg 92.79 57 ⇓P **P 07 18 35.0 +0.3**
baz=93,SNR=13
Y14A Wickenburg 92.83 56⇑P **P 07 18 34.5 -0.3**
baz=93,SNR=18
G12A Big Creek, Yel 92.85 45 ⇓P **P 07 18 34.4 -0.2**
baz=93
AML Almayashu 92.86 312 P **P 07 18 35.3 +0.5**
SNR=25
EKS2 Erkin-Say 92.89 313 P **P 07 18 34.6 -0.3**
SNR=19
EKS2 Erkin-Say 92.89 313 *e*P **P 07 18 34.6 -0.4**
comp=Z,120nm,1.5s,mb6.0
EKS2 Erkin-Say 92.89 313 *e*P **P 07 18 34.6 -0.3**
EKS2 pmax pmax
comp=Z,120nm,1.5s,mb6.0
E12A Beaver Dam Sad 92.90 44⇑P **P 07 18 34.0 -0.8**
baz=93
F12A Elk City 93.00 44⇑P **P 07 18 34.4 -1.0**
baz=93
ARUT Antelope Range 93.06 52 *e*P **P 07 18 36.3 +0.4**
comp=Z,71nm,1.1s,mb5.9
ARUT Antelope Range 93.06 52 *e*P **P 07 18 36.3 +0.4**
ARUT pmax pmax
comp=Z,71nm,1.1s,mb5.9
H12A Diamond D Ranc 93.08 46 ⇓P **P 07 18 35.6 -0.2**
baz=93
CCUT Cedar City 93.09 53 *e*P **P 07 18 36.9 +0.9**
comp=Z,83nm,1.1s,mb6.0
CCUT *e* pP 07 19 09.1 +1.2
C12B Naegeli Ranch, 93.18 42⇑P **P 07 18 35.4 -0.8**
baz=93,SNR=5.8
B12A Libby 93.23 42⇑P **P 07 18 35.8 -0.5**
baz=93,SNR=6.0
HLID Hailey 93.24 47 ⇓P **P 07 18 36.8 +0.3**
baz=93
HLID Hailey 93.24 47 *e*P **P 07 18 37.2 +0.7**
comp=Z,198nm,1.5s,mb6.2
HLID *e* pP 07 19 09.1 +0.7
A12A Yaak River Ran 93.27 41⇑P **P 07 18 36.1 -0.4**
baz=93,SNR=7.2

115A **Sonoran Desert** 93.28 58 ⇑P P 07 18 37.1 +0.1
baz=93,SNR=17
BHJ **Bhuj** 93.37 293 *ex* x 07 19 36.9
BHJ AMb AMB 07 19 39.6
comp=Z,158nm,1.3s,mb6.2
Y15A **Casa Rosa Ranc** 93.38 56 ⇑P P 07 18 37.6 +0.1
baz=93,SNR=27
Z15A **Gila River Ind** 93.43 57 ⇓P P 07 18 37.2 -0.5
baz=94
I13A **Wildhorse Cree** 93.50 46 ⇑P P 07 18 38.2 +0.4
baz=94
H13A **Challis** 93.51 46 ⇓P P 07 18 37.9 +0.2
baz=94
G13A **Cobalt** 93.61 45 ⇓P P 07 18 38.3 +0.1
baz=94
F13A **Darby** 93.64 44 ⇓P P 07 18 37.7 -0.6
baz=94,SNR=76
BSMT **Bassoo Peak** 93.66 42 *e*P P 07 18 38.1 -0.3
BSMT *e* pP 07 19 08.9 -1.3
116A **Eloy** 93.70 58 ⇑P P 07 18 39.0 +0.1
baz=94,SNR=10
D13A **Huson** 93.76 43 ⇑P P 07 18 37.8 -1.1
baz=94,SNR=6.9
U15A **North Rim** 93.77 54 ⇓P P 07 18 39.5 +0.3
baz=94,SNR=62
C13A **Hot Springs** 93.78 42 ⇑P P 07 18 37.8 -1.1
baz=94
V15A **Kaibab Nationa** 93.78 55 ⇑P P 07 18 39.8 +0.6
baz=94,SNR=39
216A **Three Points,** 93.83 58 ⇓P P 07 18 40.0 +0.4
baz=94,SNR=13
E13A **Victor** 93.84 44 ⇑P P 07 18 37.5 -1.7
baz=94,SNR=18
J14A **Carey** 93.84 47 ⇑P P 07 18 39.9 +0.5
baz=94
BGU **Big Grassy Mou** 93.85 49 *e*P P 07 18 39.5 +0.1
comp=Z,108nm,1.4s,mb6.0
L14A **Malta** 93.86 48 ⇑P P 07 18 39.9 +0.5
baz=94
DUG **Dugway** 93.91 50 ⇑P P 07 18 39.6 -0.1
baz=94
DUG **Dugway** 93.91 50 *e*P P 07 18 40.6 +0.9
comp=Z,150nm,1.6s,mb6.1
DUG **Dugway** 93.91 50 *e*P P 07 18 40.6 +0.9
DUG pmax pmax
comp=Z,150nm,1.6s,mb6.1
B13A **Whitefish** 93.95 42 ⇓P P 07 18 38.9 -0.8
baz=94,SNR=15
K14A **Jones Ranch, D** 93.98 48 ⇑P P 07 18 40.6 +0.6
baz=94
I14A **Mackay** 93.98 46 ⇓P P 07 18 40.1 +0.2
baz=94
R15A **Junction** 94.04 52 ⇑P P 07 18 41.3 +1.0
baz=94
MSO **Missoula** 94.07 43 ⇑P P 07 18 39.4 -0.9
baz=94
MSO **Missoula** 94.07 43 *e*P P 07 18 42.8 +2.5
comp=Z,87nm,2.5s,mb5.6
Y16A **Circle Bar Ran** 94.07 57 ⇑P P 07 18 40.7 +0.1
baz=94,SNR=19
A13A **Flathead Natio** 94.08 41 ⇑P P 07 18 39.7 -0.6
baz=94,SNR=9.6
SWMT **Swartz Lake** 94.13 43 *e*P P 07 18 38.7 -1.9
SWMT *e* pP 07 19 11.7 -0.8
H14A **Leadore** 94.14 46 ⇓P P 07 18 41.0 +0.3
baz=94,SNR=44
MSU **Marysvale** 94.16 52 *e*P P 07 18 42.1 +1.2
MSU *e* pP 07 19 13.7 +0.9
MSU **Marysvale** 94.16 52 *e*P P 07 18 42.1 +1.2
MSU *e* pP 07 19 13.7 +0.9
HVU **Hansel Valley** 94.16 49 *e*P P 07 18 41.6 +0.8
comp=Z,666nm,1.9s,mb6.6
HVU *e* pP 07 19 13.2 +0.5
HVU **Hansel Valley** 94.16 49 *e*P P 07 18 41.6 +0.8
HVU *e* pP 07 19 13.2 +0.5
G14A **Jackson** 94.17 45 ⇑P P 07 18 40.8 +0.1
baz=94,SNR=9.0
X16A **Lo Mia Camp, P** 94.18 56 ⇑P P 07 18 41.2 +0.1
baz=94,SNR=21
O15A **The Old Anders** 94.18 50 ⇓P P 07 18 41.6 +0.7
baz=94
W16A **Flagstaff** 94.20 55 ⇑P P 07 18 41.7 +0.5
baz=94,SNR=11
P15A **Leamington** 94.22 51 ⇑P P 07 18 41.3 +0.2
baz=94
N15A **Stansbury Isla** 94.23 49 ⇓P P 07 18 41.3 +0.2
baz=94
F14A **Wisdom** 94.31 44 ⇓P P 07 18 40.8 -0.7
baz=94,SNR=8.5
E14A **Clinton** 94.32 44 ⇓P P 07 18 40.5 -0.9
baz=94,SNR=7.4
SPUT **South Promonto** 94.34 49 *e*P P 07 18 42.6 +0.9
comp=Z,25nm,0.9s,mb5.5
SPUT *e* pP 07 19 14.4 +0.9
C14A **Swan Lake** 94.34 42 ⇓P P 07 18 40.5 -1.0
baz=94
M15A **Larsen Ranch,** 94.36 49 ⇑P P 07 18 41.7 0.0
baz=94,SNR=23
WUAZ **Wupatki** 94.38 55 ⇑P P 07 18 42.5 +0.5
baz=94,SNR=19
WUAZ **Wupatki** 94.38 55 *e*P P 07 18 43.0 +1.0
comp=Z,254nm,2.1s,mb6.2
WUAZ *e* pP 07 19 15.3 +1.4
D14A **Greenough** 94.40 43 ⇑P P 07 18 40.7 -1.1
baz=94,SNR=8.5
WALA **Waterton Lakes** 94.42 41 *e*P P 07 18 41.4 -0.5
comp=Z,1.1nm,1.0s
SLMT **Seeley Lake** 94.44 43 *e*P P 07 18 41.4 -0.6
TUC **Tucson** 94.44 58 *e*P P 07 18 42.7 +0.4
comp=Z,17nm,0.9s,mb5.4
TUC *e* pP 07 19 14.1 -0.1
TUC **Tucson** 94.44 58 *e*P P 07 18 42.7 +0.4
TUC *e* pP 07 19 14.1 -0.1
TUC pmax pmax
comp=Z,17nm,0.9s,mb5.4
K15A **Arbon** 94.47 48 ⇓P P 07 18 42.7 +0.5
baz=94,SNR=24
L15A **Malad City** 94.48 48 ⇑P P 07 18 42.4 +0.1
baz=94,SNR=26
NOQ **North Oquirrh** 94.49 50 *e*P P 07 18 43.3 +0.9
comp=Z,73nm,1.0s,mb6.0
S16A **Weppner Ranch,** 94.50 53 ⇓P P 07 18 42.8 +0.3
baz=95,SNR=7.5
117A **Oracle** 94.51 58 ⇓P P 07 18 42.8 +0.2
baz=95,SNR=18
MCMT **McKenzie Canyo** 94.54 45 *e*P P 07 18 43.9 +1.4
comp=Z,27nm,1.5s,mb5.5
CHMT **Chamberlain Mo** 94.55 43 *e*P P 07 18 41.6 -0.9
CHMT *e* pP 07 19 14.6 +0.2
Y17A **Roosevelt** 94.57 57 ⇑P P 07 18 42.9 0.0
baz=95,SNR=16
J15A **Blackfoot** 94.64 47 ⇑P P 07 18 43.8 +0.9
baz=95,SNR=26
H15A **Lima** 94.65 46 ⇓P P 07 18 43.3 +0.3
baz=95,SNR=45
U16A **Tuba City** 94.66 54 ⇓P P 07 18 43.8 +0.5
baz=95,SNR=10
R16A **Teasdale** 94.67 52 ⇑P P 07 18 44.1 +0.8
baz=95,SNR=37
I15A **Monteview** 94.68 46 ⇓P P 07 18 43.8 +0.6
baz=95,SNR=14
X17A **Forest Lakes** 94.69 56 ⇑P P 07 18 44.5 +1.1
baz=95,SNR=13
P16A **Fountain Green** 94.70 51 ⇑P P 07 18 44.2 +0.9
baz=95,SNR=15
A14A **Double T Ranch** 94.73 41 ⇓P P 07 18 42.5 -0.7
baz=95,SNR=6.5
B14A **Marquette Ranc** 94.74 42 ⇓P P 07 18 42.2 -1.1
baz=95,SNR=8.9
MPU **Maple Canyon** 94.78 50 *e*P P 07 18 44.9 +1.2
comp=Z,226nm,1.8s,mb6.3
MPU *e* pP 07 19 16.2 +0.6
DLMT **Dillon** 94.79 45 *e*P P 07 18 44.1 +0.5
comp=Z,237nm,2.0s,mb6.3
Z17A **San Carlos Hig** 94.83 57 ⇓P P 07 18 44.5 +0.4
baz=95
G15A **Dillon** 94.84 45 ⇓P P 07 18 43.7 -0.1
baz=95,SNR=22
W17A **Winslow** 94.86 55 ⇑P P 07 18 44.4 +0.2
baz=95
V17A **Tonalea, Kykot** 94.86 55 ⇑P P 07 18 44.6 +0.4
baz=95,SNR=18
E15A **Deer Lodge** 94.90 44 ⇓P P 07 18 43.9 -0.2
baz=95,SNR=29
O16A **Springville** 94.90 50 ⇑P P 07 18 44.5 +0.3
baz=95,SNR=31
F15A **Butte** 94.92 45 ⇓P P 07 18 43.4 -0.8
baz=95,SNR=14
LRM **Limekiln Ridge** 94.95 45 *e*P P 07 18 44.2 -0.2
LRM *e* pP 07 19 16.6 +0.4
Q16A **Castle Valley** 94.99 52 ⇓P P 07 18 45.2 +0.5
baz=95
318A **Bisbee** 94.99 59 ⇑P P 07 18 44.8 -0.1
baz=95
JLU **Jordanelle** 94.99 50 *e*P P 07 18 45.4 +0.8
comp=Z,258nm,1.8s,mb6.4
JLU *e* pP 07 19 16.8 +0.2
TMUT **Trail Mountain** 95.01 51 *e*P P 07 18 46.2 +1.4
TMUT *e* pP 07 19 17.6 +0.9
218A **Dragoon** 95.01 59 ⇓P P 07 18 45.4 +0.4
baz=95
T17A **Navajo Res., N** 95.03 53 ⇑P P 07 18 45.5 +0.5
baz=95,SNR=12
HWUT **Hardware Ranch** 95.04 49 *e*P P 07 18 44.9 +0.1
comp=Z,43nm,0.8s,mb5.9
HWUT *e* pP 07 19 16.6 -0.1
N16A **Rees Ranch, Co** 95.04 50 ⇑P P 07 18 44.9 0.0
baz=95,SNR=29
D15A **Lincoln** 95.06 43 ⇑P P 07 18 44.4 -0.4
baz=95,SNR=8.3
U17A **Shonto** 95.09 54 ⇓P P 07 18 45.4 +0.2
baz=95,SNR=9.2
C15A **Salmond Ranch,** 95.10 43 ⇓P P 07 18 44.1 -0.9
baz=95,SNR=10
S17A **Black Ridge (B** 95.11 53 ⇑P P 07 18 45.0 -0.3
baz=95,SNR=12
DAU **Daniels Canyon** 95.12 50 *e*P P 07 18 46.5 +1.2
DAU **Daniels Canyon** 95.12 50 *e*P P 07 18 46.5 +1.3
118A **Homack Ranch,** 95.16 58 ⇑P P 07 18 45.3 -0.3
baz=95,SNR=26
Z18A **Geronimo** 95.16 57 ⇓P P 07 18 45.9 +0.3
baz=95
K16A **Soda Springs** 95.18 48 ⇑P P 07 18 45.5 +0.1
baz=95,SNR=20
A15A **Johnson Ranch,** 95.18 41 ⇓P P 07 18 44.4 -0.9
baz=95,SNR=15
L16A **Fish Haven** 95.19 48 ⇓P P 07 18 45.2 -0.3
baz=95,SNR=8.4
B15A **Bradely Ranch,** 95.20 42 ⇓P P 07 18 43.8 -1.6
baz=95,SNR=7.3
J16A **Bone** 95.22 47 ⇑P P 07 18 45.9 +0.3
baz=95,SNR=23
Y18A **Canyon Day Jun** 95.25 57 ⇑P P 07 18 46.9 +0.9
baz=95,SNR=19
R17A **Hanksville Air** 95.28 52 ⇑P P 07 18 46.1 +0.1
baz=95,SNR=28
G16A **Moss Hill, Enn** 95.33 45 ⇑P P 07 18 46.1 0.0
baz=95,SNR=23
KK31 **Karatay Array** 95.33 313 *i* P P 07 18 44.6 -1.5
KK31 pmax pmax
comp=Z,169nm,1.7s,mb6.2
KKAR **Karatay Array** 95.33 313 *e*P P 07 18 45.5 -0.6
KKAR *e* pP 07 19 16.0 -2.0
KKAR **Karatay Array** 95.33 313 *e*P P 07 18 45.5 -0.6
KKAR *e* pP 07 19 16.0 -2.0
I16A **Newdale** 95.38 47 ⇓P P 07 18 46.3 0.0
baz=95
P17A **Butcher Ranch,** 95.39 51 ⇑P P 07 18 46.9 +0.3
baz=95,SNR=8.5
KBL **Kabul** 95.40 304 *e*P P 07 18 45.9 -0.8
comp=Z,21nm,0.9s,mb5.6
KBL *e* pP 07 19 19.9 +1.3
KBL **Kabul** 95.40 304 *e*P P 07 18 45.9 -0.8
KBL *e* pP 07 19 19.9 +1.3
KBL pmax pmax
comp=Z,21nm,0.9s,mb5.6
X18A **Snowflake** 95.41 56 ⇑P P 07 18 47.1 +0.3
baz=96,SNR=16
RRI2 **Red Ridge** 95.44 47 *e*P P 07 18 47.7 +1.1
comp=Z,141nm,1.6s,mb6.1
O17A **Robinson Place** 95.48 50 ⇓P P 07 18 47.4 +0.5
baz=96,SNR=51
BOZ **Bozeman (W)** 95.50 45 ⇓P P 07 18 46.7 -0.1
baz=96,SNR=27
BOZ **Bozeman (W)** 95.50 45 *e*P P 07 18 47.0 +0.1
comp=Z,26nm,0.9s,mb5.7
BOZ *e* pP 07 19 18.4 -0.3
BOZ **Bozeman (W)** 95.50 45 *e*P P 07 18 47.0 +0.2
BOZ *e* pP 07 19 18.4 -0.3
BOZ pmax pmax
comp=Z,26nm,0.9s,mb5.7
N17A **Moffit Pass** 95.50 50 ⇓P P 07 18 47.0 0.0
baz=96,SNR=6.9
SRU **San Rafael** 95.51 51 ⇓P P 07 18 47.3 +0.2
baz=96,SNR=9.4
SRU **San Rafael** 95.51 51 *e*P P 07 18 47.7 +0.6
comp=Z,208nm,2.5s,mb6.1
SRU **San Rafael** 95.51 51 *e*P P 07 18 47.7 +0.6
SRU pmax pmax
comp=Z,208nm,2.5s,mb6.1
F16A **Kennard Place,** 95.52 45 ⇑P P 07 18 47.0 0.0
baz=96,SNR=28
AHID **Auburn Hatcher** 95.52 48 *e*P P 07 18 47.3 +0.3
comp=Z,43nm,1.1s,mb5.8
QLMT **Earthquake Lak** 95.54 46 *e*P P 07 18 48.3 +1.2
QLMT *e* pP 07 19 19.8 +0.9
DCID1 **Drake Creek** 95.56 47 *e*P P 07 18 48.3 +1.1
comp=Z,52nm,1.1s,mb5.9
V18A **Ganado** 95.57 55 ⇑P P 07 18 47.8 +0.4
baz=96,SNR=13
E16A **East Helena** 95.58 44 ⇑P P 07 18 47.0 -0.2
baz=96,SNR=5.7
319A **Douglas** 95.59 59 ⇓P P 07 18 47.8 +0.2
baz=96
L17A **Cokeville** 95.61 48 ⇓P P 07 18 47.0 -0.5
baz=96,SNR=19
H16A **Russell Place,** 95.65 46 ⇑P P 07 18 47.9 +0.4
baz=96,SNR=9.0
K17A **Gardner Place,** 95.65 48 ⇓P P 07 18 48.1 +0.4
baz=96,SNR=14
W18A **Petrified Fore** 95.66 55 ⇓P P 07 18 48.4 +0.6
baz=96
219A **White Tail Can** 95.68 59 ⇓P P 07 18 48.3 +0.2
baz=96
C16A **Fuhringer Ranc** 95.68 43 ⇓P P 07 18 46.7 -0.9
baz=96
M17A **Scullys Gap (B** 95.69 49 ⇓P P 07 18 47.8 0.0
baz=96,SNR=23
TPAW **Teton Pass** 95.72 47 *e*P P 07 18 49.0 +1.1
comp=Z,135nm,1.8s,mb6.1
TPAW *e* pP 07 19 20.6 +0.8
D16A **Dana Ranch, Ca** 95.72 43 ⇓P P 07 18 47.4 -0.4
baz=96,SNR=6.5
119A **Ashpeak Ranch,** 95.73 58 ⇓P P 07 18 48.4 +0.1
baz=96
S18A **Hurst Farm, Bl** 95.76 53 ⇓P P 07 18 48.5 +0.3
baz=96,SNR=14
IMW **Indian Meadow** 95.78 47 *e*P P 07 18 49.3 +1.1
comp=Z,208nm,2.0s,mb6.2
B16A **M & M Farms, S** 95.78 42 ⇑P P 07 18 46.9 -1.2
baz=96
T18A **Mexican Hat** 95.79 53 ⇑P P 07 18 48.9 +0.5
baz=96,SNR=11
P18A **Preston Nutter** 95.79 51 ⇑P P 07 18 48.8 +0.5
baz=96,SNR=14
Q18A **Rafter H Ranch** 95.81 51 ⇑P P 07 18 48.5 +0.1
baz=96,SNR=9.3
Z19A **T-Link Ranch,** 95.83 57 ⇓P P 07 18 48.9 +0.3
baz=96
YMR **Madison River** 95.85 46 *e*P P 07 18 50.2 +1.7
comp=Z,30nm,0.9s,mb5.7
SNOW **Snow King Moun** 95.86 47 *e*P P 07 18 49.6 +1.1
comp=Z,181nm,1.8s,mb6.2
J17A **Brown Place, J** 95.88 47 ⇓P P 07 18 49.3 +0.7
baz=96,SNR=12
MOOW **Moose Ponds** 95.90 47 *e*P P 07 18 49.0 +0.3
comp=Z,23nm,1.0s,mb5.6
MOOW *e* pP 07 19 20.7 +0.1
YFT **Old Faithful** 95.92 46 *e*P P 07 18 51.2 +2.4
comp=Z,25nm,0.8s,mb5.7
Y19A **Nutrioso** 95.92 57 ⇑P P 07 18 49.6 +0.5
baz=96,SNR=34
R18A **Canyonlands Na** 95.92 52 ⇓P P 07 18 49.3 +0.4
baz=96,SNR=14
W19A **Sanders** 95.94 56 ⇓P P 07 18 49.3 +0.2
baz=96
YKA **Yellowknife Ar** 95.94 28 P P 07 18 47.4 -1.0
comp=Z,27nm,0.7s,mb5.8,baz=261,slow=4.8,SNR=41
YKA pP pP 07 19 18.8 -1.6
comp=Z,12nm,0.7s,baz=262,slow=4.7,SNR=4.8
YKA PKiKP PKiKP 07 23 26.6 -0.1
comp=Z,3.3nm,0.9s,baz=273,slow=1.7,SNR=5.0
YKA PKKPbc PKKPbc 07 35 34.9 -4.3
comp=Z,3.6nm,0.6s,baz=73,slow=2.8,SNR=13
YKA LR LR 07 55 20.2
comp=Z,150nm,21.0s,baz=130,slow=31
YKA **Yellowknife Ar** 95.94 28 P P 07 18 47.4 -1.0
YKA pP pP 07 19 18.8 -1.6
YKA **Yellowknife Ar** 95.94 28 P P 07 18 47.4 -1.0
YKA *PP pP 07 19 18.8 -1.6
YKA pmax pmax
comp=Z,27nm,0.7s
X19A **St. Johns** 95.94 56 ⇑P P 07 18 49.8 +0.7
baz=96,SNR=14
FLWY **Flagg Ranch** 95.97 46 *e*P P 07 18 50.2 +1.2
comp=Z,24nm,0.8s,mb5.7
LOHW **Long Hollow** 95.98 47 *e*P P 07 18 49.2 +0.1
comp=Z,121nm,1.8s,mb6.0
LOHW *e* pP 07 19 21.4 +0.4
I17A **Pilgrim Ck.** 96.04 47 ⇓P P 07 18 49.8 +0.4
baz=96
O18A **Roosevelt** 96.05 50 ⇓P P 07 18 50.0 +0.6
baz=96,SNR=23
YNR **Norris Junctio** 96.06 46 *e*P P 07 18 51.3 +1.9
comp=Z,12nm,0.5s,mb5.6
G17A **Pierce Place,** 96.08 45 ⇑P P 07 18 50.0 +0.5
baz=96,SNR=7.9
H17A **Grant Village** 96.09 46 ⇓P P 07 18 51.1 +1.6
baz=96,SNR=7.1
E17A **Martinsdale** 96.13 44 ⇓P P 07 18 49.7 0.0
baz=96
M18A **Lyman** 96.13 49 ⇑P P 07 18 49.8 0.0
baz=96,SNR=9.8
VOSK **Vostochnaya** 96.17 322 P P 07 18 46.6 -3.1
F17A **Fitzpatrick Pl** 96.20 45 ⇑P P 07 18 50.4 +0.4
baz=96,SNR=25
L18A **Fontenelle, Gr** 96.21 49 ⇓P P 07 18 50.2 0.0
baz=96,SNR=11
320A **Kipp Ranch, An** 96.22 59 ⇑P P 07 18 50.9 +0.5
baz=96
U19A **Dine' College,** 96.22 54 ⇑P P 07 18 50.7 +0.3
baz=96,SNR=26
120A **U Bar Ranch, L** 96.27 58 ⇓P P 07 18 50.4 -0.3
baz=96
K18A **Toltan Ranch,** 96.28 48 ⇑P P 07 18 51.1 +0.6
baz=96,SNR=22
220A **Playas Peak, P** 96.29 59 ⇓P P 07 18 50.7 0.0
baz=96
V19A **Window Rock** 96.29 55 ⇓P P 07 18 51.0 +0.3
baz=96
D17A **Six Diamond Ra** 96.32 43 ⇑P P 07 18 50.3 -0.2
baz=96,SNR=11
C17A **Wharram Farm,** 96.32 43 ⇓P P 07 18 50.0 -0.6
baz=96,SNR=25
J18A **Kendall Valley** 96.36 47 ⇑P P 07 18 50.5 -0.3
baz=96,SNR=24
Z20A **Nine Sixteen R** 96.37 58 ⇑P P 07 18 51.1 0.0
baz=96
B17A **L&G Farms, Che** 96.37 42 ⇑P P 07 18 49.5 -1.2
baz=96,SNR=7.1
N18A **Larsen Ranch,** 96.38 50 ⇓P P 07 18 50.7 -0.3
baz=96
R19A **Curley Farm, L** 96.40 52 ⇓P P 07 18 51.4 +0.3
baz=96,SNR=11
T19A **Beclabito** 96.43 54 ⇓P P 07 18 51.8 +0.5
baz=96,SNR=16
S19A **Harvey Farm, M** 96.44 53 ⇓P P 07 18 51.7 +0.4
baz=96
Q19A **Hogan Spring (** 96.47 52 ⇑P P 07 18 51.2 -0.2
baz=96
A17A **Triple J Farms** 96.51 42 ⇑P P 07 18 50.9 -0.4
baz=97,SNR=15
BVA0 **Borovoye Array** 96.55 323 *i* P P 07 18 49.8 -1.6
BVA0 pmax pmax
comp=Z,79nm,1.9s,mb5.8
BVAR **Borovoye Array** 96.55 323 P P 07 18 50.0 -1.4
comp=Z,33nm,0.6s,mb5.9,baz=98,slow=4.9,SNR=98
BVAR PKKPbc PKKPbc 07 35 34.7 -2.5
comp=Z,0.9nm,0.5s,baz=298,slow=3.2,SNR=4.5
BVAR LR LR 08 07 15.6
comp=Z,614nm,18.3s,baz=282,slow=38
BVAR **Borovoye Array** 96.55 323 P P 07 18 50.0 -1.4
BVAR PKKPbc PKKPbc 07 35 34.7 -2.5
BVAR LR LR 08 07 15.6
BVAR **Borovoye Array** 96.55 323 P P 07 18 50.0 -1.4
BVAR pmax pmax
comp=Z,33nm,0.6s
I18A **Diamond G Ranc** 96.56 47 ⇑P P 07 18 51.8 0.0
baz=97,SNR=20
PV10 **Paradox Valley** 96.58 52 *e*P P 07 18 52.5 +0.6
comp=Z,328nm,0.8s,mb6.8
X20A **Quemado** 96.61 56 ⇑P P 07 18 52.8 +0.6
baz=97,SNR=16
BRVK **Borovoye** 96.62 323 *e*P P 07 18 50.2 -1.5
comp=Z,161nm,1.4s,mb6.3
BRVK *e* pP 07 19 21.0 -2.7
BRVK **Borovoye** 96.62 323 P P 07 18 50.0 -1.8
comp=Z,400nm,1.5s,mb6.6,SNR=30
BRVK **Borovoye** 96.62 323 *c i*P P 07 18 50.4 -1.4
BRVK **Borovoye** 96.62 323 P P 07 18 50.5 -1.2
SNR=34
Y20A **Horse Springs,** 96.64 57 ⇑P P 07 18 52.4 +0.1
baz=97
BW06 **Boulder Array** 96.65 48 ⇓P P 07 18 51.8 -0.4
baz=97,SNR=40
BW06 **Boulder Array** 96.65 48 *e*P P 07 18 51.4 -0.8
comp=Z,37nm,0.9s,mb5.8
BW06 *e* pP 07 19 23.3 -0.8
PDAR **Pinedale Array** 96.65 48 P P 07 18 51.8 -0.4
comp=Z,25nm,0.7s,mb5.8,baz=227,slow=2.2,SNR=142
PDAR pP pP 07 19 23.0 -1.1
comp=Z,16nm,0.9s,baz=242,slow=3.2,SNR=5.0
PDAR PKiKP PKiKP 07 23 28.5 -0.1
comp=Z,1.5nm,0.7s,baz=224,slow=2.5,SNR=2.9
PDAR PKKPbc PKKPbc 07 35 37.9 +1.4
comp=Z,0.5nm,0.6s,baz=104,slow=3.2,SNR=4.2
PDAR PKPPKP 07 43 48.6
comp=Z,1.6nm,0.9s,baz=116,slow=3.4,SNR=9.1
PDAR LR LR 07 56 18.4
comp=Z,379nm,19.0s,baz=271,slow=32
PDAR **Pinedale Array** 96.65 48 P P 07 18 51.8 -0.4
PDAR pP pP 07 19 23.0 -1.1
W20A **Ramah** 96.67 56 ⇓P P 07 18 52.6 +0.2
baz=97
PV04 **Paradox Valley** 96.69 52 *e*P P 07 18 53.4 +1.0
O19A **Miners Draw (B** 96.72 50 ⇓P P 07 18 52.5 -0.1
baz=97,SNR=19
L19A **Farson** 96.73 49 ⇓P P 07 18 52.5 0.0
baz=97,SNR=27
N19A **John Jarvie Ra** 96.74 50 ⇓P P 07 18 52.2 -0.4
baz=97
P19A **Cripple Cowboy** 96.76 51 ⇓P P 07 18 53.0 +0.3
baz=97,SNR=10
V20A **Brimhall** 96.77 55 ⇑P P 07 18 53.3 +0.4
baz=97
H18A **Shoshone NF, C** 96.77 46 ⇓P P 07 18 53.2 +0.6
baz=97,SNR=11
U20A **Newcomb** 96.78 54 ⇓P P 07 18 52.8 -0.1
baz=97
E18A **Harlowton** 96.79 44 ⇓P P 07 18 52.8 +0.1
baz=97,SNR=21
M19A **Rock Springs** 96.82 49 ⇑P P 07 18 52.4 -0.5
baz=97,SNR=6.5
F18A **Big Timber** 96.86 45 ⇓P P 07 18 53.1 +0.1
baz=97,SNR=12
GCMT **Greycliff** 96.88 45 *e*P P 07 18 53.8 +0.6
comp=Z,31nm,1.3s,mb5.6
MVCO **Mesa Verde** 96.89 53 ⇓P P 07 18 53.4 +0.1
baz=97
MVCO **Mesa Verde** 96.89 53 *e*P P 07 18 54.1 +0.8
comp=Z,35nm,1.4s,mb5.6
G18A **Lazy EL Ranch,** 96.91 45 ⇓P P 07 18 53.4 +0.2
baz=97,SNR=10
PV01 **Paradox Valley** 96.93 53 *e*P P 07 18 54.1 +0.6
comp=Z,806nm,0.8s,mb7.2
D18A **Linhart Farms,** 96.93 43 ⇓P P 07 18 52.6 -0.6
baz=97
221A **Mesquite Ranch** 96.93 59 ⇓P P 07 18 53.4 -0.3
baz=97
121A **Cookes Peak, D** 96.98 58 ⇓P P 07 18 54.1 +0.2
baz=97
EGMT **Eagleton** 97.04 43 ⇑P P 07 18 52.9 -0.9
baz=97,SNR=8.7
EGMT **Eagleton** 97.04 43 *e*P P 07 18 53.6 -0.2
comp=Z,46nm,1.1s,mb5.8
B18A **Beardsley Farm** 97.06 42 ⇓P P 07 18 52.9 -1.0
baz=97
S20A **Disappointment** 97.06 53 ⇑P P 07 18 54.2 +0.1
baz=97
A18A **Metzger Ranch,** 97.06 42 ⇓P P 07 18 53.1 -0.7
baz=97

J19A	Crowheart	97.07	47	⇓P		P	07 18 54.2	+0.1		
	baz=97,SNR=13									
R20A	Redvale	97.08	53	⇑P		P	07 18 54.2	0.0		
	baz=97									
RLMT	Red Lodge	97.10	46	⇓P		P	07 18 54.4	+0.3		
	baz=97,SNR=12									
RLMT	Red Lodge	97.10	46	*e*P		P	07 18 55.2	+1.1		
	comp=Z,145nm,2.0s,mb6.1									
Z21A	St. Cloud Mine	97.16	57	⇓P		P	07 18 55.3	+0.6		
	baz=97									
K19A	Absolon Red Bu	97.18	48	⇓P		P	07 18 54.0	-0.5		
	baz=97,SNR=33									
X21A	Alamocita Cree	97.18	56	⇑P		P	07 18 55.2	+0.5		
	baz=97									
I19A	Meeteetse	97.19	47	⇑P		P	07 18 54.2	-0.4		
	baz=97,SNR=9.4									
P20A	De Beque	97.20	51	⇑P		P	07 18 55.0	+0.3		
	baz=97,SNR=10									
Q20A	Ridgley Place,	97.22	52	⇑P		P	07 18 54.6	-0.3		
	baz=97,SNR=14									
Y21A	Point of Rocks	97.23	57	⇓P		P	07 18 55.4	+0.5		
	baz=97									
H19A	Powell	97.25	46	⇓P		P	07 18 55.2	+0.4		
	baz=97,SNR=16									
W21A	San Fidel	97.36	56	⇓P		P	07 18 55.9	+0.4		
	baz=97									
O20A	White River Ci	97.38	51	⇓P		P	07 18 55.9	+0.4		
	baz=97,SNR=10									
F19A	Roth Farm, Mol	97.39	45	⇓P		P	07 18 55.3	-0.1		
	baz=97,SNR=22									
N20A	Spence Gulch,	97.43	50	⇓P		P	07 18 55.5	-0.2		
	baz=98,SNR=11									
V21A	Milan	97.44	55	⇓P		P	07 18 55.9	0.0		
	baz=98									
L20A	Wamsutter	97.48	49	⇓P		P	07 18 55.7	-0.2		
	baz=98,SNR=16									
U21A	Nageezi	97.48	54	⇓P		P	07 18 56.7	+0.7		
	baz=98,SNR=15									
C19A	Slack Wire Ran	97.48	43	⇑P		P	07 18 55.4	-0.4		
	baz=98									
S21A	Coal Bank Pass	97.49	53	⇑P		P	07 18 56.5	+0.4		
	baz=98,SNR=15									
222A	Williams Famil	97.51	59	⇓P		P	07 18 56.1	-0.2		
	baz=98									
K20A	Yellowstone Ra	97.53	48	⇓P		P	07 18 55.5	-0.7		
	baz=98,SNR=14									
M20A	Sweetwater, Wa	97.54	49	⇑P		P	07 18 56.5	+0.3		
	baz=98,SNR=12									
MAIT	Maitri	97.55	190	*e*P		P	07 18 54.4	-1.2		
D19A	Cripps Ranch,	97.55	43	⇓P		P	07 18 55.7	-0.4		
	baz=98,SNR=33									
E19A	Rath Farm, Rou	97.55	44	⇓P		P	07 18 56.3	+0.2		
	baz=98,SNR=34									
B19A	Brinkman Farms	97.62	42	⇑P		P	07 18 56.0	-0.4		
	baz=98									
T21A	Navajo Lake	97.63	54	⇓P		P	07 18 56.8	0.0		
	baz=98									
LAZ	Ladron	97.71	56	*e*P		P	07 18 58.6	+1.5		
	comp=Z,11nm,1.3s,mb5.2									
Z22A	Elephant Butte	97.74	58	⇓P		P	07 18 57.2	-0.1		
	baz=98									
R21A	Cimarron	97.75	52	⇓P		P	07 18 57.4	+0.2		
	baz=98,SNR=17									
Q21A	Lamborn Mesa,	97.77	52	⇑P		P	07 18 57.6	+0.3		
	baz=98,SNR=21									
J20A	Shoshoni	97.78	47	⇑P		P	07 18 57.2	0.0		
	baz=98,SNR=8.6									
A19A	Klindworth Far	97.79	42	⇓P		P	07 18 56.5	-0.6		
	baz=98									
I20A	Worland	97.80	47	⇓P		P	07 18 57.4	+0.1		
	baz=98									
Y22A	Socorro	97.81	57	⇓P		P	07 18 57.6	+0.1		
	baz=98									
LENM	Lemitar	97.82	57	*e*P		P	07 18 59.0	+1.4		
X22A	Bernardo	97.82	56	⇓P		P	07 18 57.4	-0.3		
	baz=98									
G20A	Bridger	97.85	45	⇑P		P	07 18 57.7	+0.3		
	baz=98,SNR=8.7									
Y22D	IRIS PASSCAL I	97.86	57	⇓P		P	07 18 55.6	-2.2		
	baz=98									
H20A	Greybull	97.94	46	⇓P		P	07 18 56.8	-1.1		
	baz=98,SNR=6.2									
F20A	Billings	97.94	45	⇓P		P	07 18 57.3	-0.6		
	baz=98,SNR=7.1									
O21A	Pagoda	97.97	51	⇓P		P	07 18 58.4	+0.2		
	baz=98									
N21A	Black Mountain	97.98	50	⇓P		P	07 18 58.1	-0.1		
	baz=98,SNR=7.9									
W22A	Albuquerque	97.99	56	⇓P		P	07 18 58.9	+0.5		
	baz=98									
E20A	Meyer Farm, Mu	98.01	44	⇓P		P	07 18 58.1	-0.1		
	baz=98									
V22A	San Miguel Ran	98.03	55	⇓Pdiff		P	07 18 58.4	-0.1		
	baz=98									
D20A	Manuel Ranch,	98.05	44	⇓Pdiff		P	07 18 58.1	-0.2		
	baz=98									
223A	Chaparral, Ant	98.07	59	⇑Pdiff		P	07 18 58.2	-0.6		
	baz=98									
BNM	Barren Site	98.11	57	*e*P		P	07 18 59.7	+0.8		
	comp=Z,7.0nm,0.7s,mb5.3									
BNM				*e*		pP	07 19 30.9	0.0		
LPM	Los Pinos Moun	98.12	57	*e*P		P	07 18 59.2	+0.2		
	comp=Z,10.0nm,1.2s,mb5.2									
U22A	Llaves	98.12	54	⇓Pdiff		P	07 18 58.9	0.0		
	baz=98									
T22A	Edith	98.14	54	⇑Pdiff		P	07 18 59.1	+0.1		
	baz=98									
M21A	Separation Pea	98.17	49	⇓Pdiff		P	07 18 58.9	-0.1		
	baz=98									
C20A	Veseth Ranch,	98.19	43	⇓Pdiff		P	07 18 58.6	-0.3		
	baz=98									
L21A	Rawlins	98.19	49	⇑Pdiff		P	07 18 58.6	-0.5		
	baz=98									
B20A	Solberg Farm,	98.23	42	⇓Pdiff		P	07 18 58.6	-0.5		
	baz=98									
J21A	Lysite	98.25	47	⇓Pdiff		P	07 18 59.6	+0.3		
	baz=98									
S22A	4UR Ranch, Cre	98.26	53	⇑Pdiff		P	07 19 00.0	+0.5		
	baz=98									
SMCO	Snowmass	98.27	52	*e*P		P	07 19 00.5	+1.0		
	comp=Z,11nm,1.0s,mb5.3									
SMCO				*e*		pP	07 19 32.0	+0.5		
123A	Bell Site, Whi	98.27	58	⇑Pdiff		P	07 18 59.7	0.0		
	baz=98									
Q22A	Crested Butte,	98.29	52	⇑Pdiff		P	07 18 59.8	+0.2		
	baz=98									
RWWY	Rawlins	98.29	49	*e*P		P	07 19 00.7	+1.1		
RWWY				*e*		pP	07 19 31.8	+0.2		
ANMO	Albuquerque	98.31	56	P		P	07 18 59.7	-0.1		
	comp=Z,5.5nm,0.9s,mb5.1,baz=234,slow=4.6,SNR=16									
ANMO	Albuquerque	98.31	56	*e*P		P	07 18 59.8	-0.1		
	comp=Z,114nm,2.7s,mb5.9									
ANMO				*e*		pP	07 19 31.1	-0.7		
ANMO	Albuquerque	98.31	56	*e*P		P	07 18 59.8	0.0		
ANMO				*e*		pP	07 19 31.1	-0.7		
ANMO					pmax	pmax				
	comp=Z,114nm,2.7s									
A20A	Cobblestone Ra	98.32	42	⇓Pdiff		P	07 18 59.0	-0.5		
	baz=98									
K21A	Alcova	98.33	48	⇑Pdiff		P	07 18 59.5	-0.2		
	baz=98									
Z23A	Rita Site, Whi	98.35	58	⇑Pdiff		P	07 18 59.9	-0.1		
	baz=98									
I21A	Big Trails, Te	98.39	47	⇑Pdiff		P	07 18 59.5	-0.4		
	baz=98									
P22A	Eagle	98.47	51	⇑Pdiff		P	07 19 00.5	+0.1		
	baz=98									
X23A	Hourglass Bar	98.51	56	⇑Pdiff		P	07 19 00.5	-0.2		
	baz=98									
G21A	Lodge Grass	98.56	46	⇓Pdiff		P	07 19 01.0	+0.3		
	baz=99									
Y23A	Lovelace Mesa,	98.56	57	⇑Pdiff		P	07 19 00.7	-0.2		
	baz=99									
W23A	Werner Place,	98.59	56	⇓Pdiff		P	07 19 01.5	+0.4		
	baz=99									
V23A	Ortiz Mt. (NFS	98.61	55	⇓Pdiff		P	07 19 01.5	+0.3		
	baz=99									
H21A	Big Horn, Sher	98.63	46	⇑Pdiff		P	07 19 00.8	-0.2		
	baz=99									
U23A	El Rito	98.65	55	⇑Pdiff		P	07 19 01.4	+0.1		
	baz=99									
F21A	Absaloka Mine,	98.66	45	⇓Pdiff		P	07 19 01.3	+0.2		
	baz=99									
O22A	Kremmling	98.67	51	⇓Pdiff		P	07 19 01.4	+0.1		
	baz=99									
SNAA	Sanae	98.72	186	P		P	07 18 59.0	-1.9		
	comp=Z,4.2nm,0.6s,mb5.1,baz=180,slow=4.2,SNR=58									
SNAA	Sanae	98.72	186	*e*P		P	07 18 54.9	-6.0		
	comp=Z,76nm,1.4s,mb6.0									
SNAA	Sanae	98.72	186	P		P	07 18 59.0	-1.9		
SNAA					pmax	pmax				
	comp=Z,4.0nm,0.6s									
M22A	Cedar Creek Ra	98.73	49	⇑Pdiff		P	07 19 01.4	-0.1		
	baz=99									
E21A	Keefer Ranch,	98.74	44	⇓Pdiff		P	07 19 01.6	+0.1		
	baz=99									
N22A	Wattenberg Ran	98.79	50	⇑Pdiff		P	07 19 02.2	+0.3		
	baz=99									
C21A	Desert Coulee	98.81	43	⇑Pdiff		P	07 19 01.1	-0.6		
	baz=99									
324A	Moseley Ranch,	98.82	60	⇑Pdiff		P	07 19 01.9	-0.3		
	baz=99									
D21A	La Casta Ranch	98.83	44	⇓Pdiff		P	07 19 01.8	0.0		
	baz=99									
T23A	Casias Ranch,	98.83	54	⇓Pdiff		P	07 19 02.4	+0.4		
	baz=99									
224A	Cornudas Mount	98.84	59	⇑Pdiff		P	07 19 02.0	-0.3		
	baz=99									
K22A	Casper	98.87	48	⇑Pdiff		P	07 19 01.8	-0.4		
	baz=99									
L22A	Ellis Ranch, M	98.89	49	⇓Pdiff		P	07 19 02.4	+0.1		
	baz=99									
B21A	Ellsworth Farm	98.89	42	⇓Pdiff		P	07 19 01.8	-0.3		
	baz=99									
MNTX	Cornudas Mount	98.93	59	⇑Pdiff		P	07 19 02.5	-0.2		
	baz=99									
MNTX	Cornudas Mount	98.93	59	*e*P		P	07 19 02.6	0.0		
	comp=Z,13nm,1.3s,mb5.3									
MNTX				*e*		pP	07 19 34.4	-0.2		
124A	Stringfield Ra	98.95	58	⇑Pdiff		P	07 19 02.2	-0.5		
	baz=99									
J22A	Midwest	98.95	47	⇓Pdiff		P	07 19 02.5	0.0		
	baz=99									
I22A	9 Mile Ranch,	98.98	47	⇓Pdiff		P	07 19 02.6	0.0		
	baz=99									
A21A	Bergtoll Ranch	98.99	42	⇓Pdiff		P	07 19 02.0	-0.4		
	baz=99									
Y24A	Capitan	99.07	57	⇑Pdiff		P	07 19 03.1	-0.1		
	baz=99									
Z24A	Sheeppen Canyo	99.08	58	⇑Pdiff		P	07 19 03.2	-0.1		
	baz=99									
H22A	Clearmont	99.12	46	⇑Pdiff		P	07 19 03.4	+0.2		
	baz=99									
Q23A	Hartsel	99.13	52	⇑Pdiff		P	07 19 04.1	+0.8		
	baz=99									
O23A	Lake Granby, G	99.16	51	⇓Pdiff		P	07 19 04.4	+0.9		
	baz=99									
P23A	Jefferson	99.16	51	⇑Pdiff		P	07 19 04.5	+1.0		
	baz=99									
N23A	Red Feather La	99.18	50	⇑Pdiff		P	07 19 03.9	+0.3		
	baz=99									
425A	Indio Mountain	99.19	60	⇑Pdiff		P	07 19 03.4	-0.4		
	baz=99									
W24A	Lazy 6 Ranch,	99.20	56	⇑Pdiff		P	07 19 03.8	0.0		
	baz=99									
325A	Bean Ranch, Si	99.25	60	⇓Pdiff		P	07 19 03.4	-0.7		
	baz=99									
SDCO	Great Sand Dun	99.31	53	⇓Pdiff		Pdif	07 19 03.8	0.0		
	baz=99									
SDCO	Great Sand Dun	99.31	53	*e*P		Pdif	07 19 05.0	+1.1		
	comp=Z,18nm,1.7s									
LAO	LASA Array	99.33	44	⇑Pdiff		Pdif	07 19 04.1	+0.1		
	baz=99									
LAO	LASA Array	99.33	44	*e*P		Pdif	07 19 04.7	+0.8		
	comp=Z,132nm,1.3s									
V24A	Rampart Ranch,	99.35	55	⇑Pdiff		Pdif	07 19 04.4	+0.3		
	baz=99									
ISCO	Idaho Springs	99.36	51	⇑Pdiff		Pdif	07 19 04.6	+0.5		
	baz=99									
ISCO	Idaho Springs	99.36	51	*e*P		Pdif	07 19 05.7	+1.6		
	comp=Z,32nm,1.6s									
ISCO	Idaho Springs	99.36	51	*e*P		Pdif	07 19 05.7	+1.6		
ISCO					pmax	pmax				
	comp=Z,32nm,1.6s,mb5.6									
D22A	Cohagen	99.39	44	⇑Pdiff		Pdif	07 19 04.5	+0.3		
	baz=99									
M23A	Laramie	99.39	49	⇓Pdiff		Pdif	07 19 04.4	+0.2		
	baz=99									
U24A	Moreno Valley	99.39	55	⇓Pdiff		Pdif	07 19 04.9	+0.7		
	baz=99									
225A	Deer Hill, Car	99.44	59	⇓Pdiff		Pdif	07 19 05.1	+0.7		
	baz=100									
L23A	Garrett	99.44	49	⇑Pdiff		Pdif	07 19 04.9	+0.5		
	baz=100									
E22A	Miles City	99.51	44	⇑Pdiff		Pdif	07 19 04.5	-0.3		
	baz=100									
S24A	Houchin Ranch,	99.53	53	⇑Pdiff		Pdif	07 19 04.9	+0.1		
	baz=100									
B22A	Reddig Ranch S	99.57	42	⇓Pdiff		Pdif	07 19 04.5	-0.5		
	baz=100									
C22A	Vida	99.62	43	⇓Pdiff		Pdif	07 19 05.2	0.0		
	baz=100									
T24A	Torres, Weston	99.62	54	⇓Pdiff		Pdif	07 19 05.6	+0.3		
	baz=100									
Z25A	Roswell	99.62	58	⇑Pdiff		Pdif	07 19 05.4	+0.2		
	baz=100									
125A	Gardner Draw,	99.62	58	⇓Pdiff		Pdif	07 19 05.4	+0.2		
	baz=100									
J23A	Dilts Ranch, B	99.63	47	⇓Pdiff		Pdif	07 19 05.5	+0.2		
	baz=100									
A22A	Carney Farms,	99.65	42	⇓Pdiff		Pdif	07 19 05.6	+0.2		
	baz=100									
Q24A	Divide	99.67	52	⇑Pdiff		Pdif	07 19 05.7	+0.2		
	baz=100									
VNA3	Neumayer Olymp	99.67	184	*e*		Pdif	07 19 01.2	-4.3		
VNA3				*e*		Pdif	07 19 04.3			
Y25A	Mesa, Roswell	99.69	57	⇑Pdiff		Pdif	07 19 05.5	-0.1		
	baz=100									
O24A	Longmont	99.80	51	⇓Pdiff		Pdif	07 19 06.4	+0.3		
	baz=100									
H23A	Clabaugh Cattl	99.80	46	⇓Pdiff		Pdif	07 19 06.5	+0.5		
	baz=100									
626A	Big Bend Ranch	99.82	62	⇑Pdiff		Pdif	07 19 06.4	+0.3		
	baz=100									
VNA2	Neumayer--Watz	99.83	184	*e*		Pdif	07 19 02.3	-3.9		
	baz=186,slow=4.2									
VNA2				*e*			07 19 07.5			
VNA2				*e*			07 19 37.5			
V25A	Rancho No Teng	99.89	55	⇑Pdiff		Pdif	07 19 07.0	+0.6		
	baz=100									
526A	Mary Lane Ranc	99.90	61	⇓Pdiff		Pdif	07 19 06.7	+0.2		
	baz=100									
E23A	Ismay	99.96	44	⇑Pdiff		Pdif	07 19 06.7	0.0		
	baz=100									
W25A	X Bar L Ranch,	99.97	56	⇓Pdiff		Pdif	07 19 07.0	+0.2		
	baz=100									
N24A	Carr	99.98	50	⇑Pdiff		Pdif	07 19 07.4	+0.6		
	baz=100									
426A	McDonald Obser	100.00	60	⇓Pdiff		Pdif	07 19 06.7	-0.2		
	baz=100									
L24A	Wheatland	100.01	49	⇑Pdiff		Pdif	07 19 07.6	+0.6		
	baz=100									
226A	Malaga, Loving	100.05	59	⇓Pdiff		Pdif	07 19 07.3	+0.2		
	baz=100									
D23A	Lindsay	100.05	44	⇑Pdiff		Pdif	07 19 07.7	+0.6		
	baz=100									
C23A	Lambert	100.09	43	⇑Pdiff		Pdif	07 19 07.2	-0.2		
	baz=100									
U25A	Circle Dot Ran	100.09	55	⇓Pdiff		Pdif	07 19 07.8	+0.4		
	baz=100									
326A	Caldwell Ranch	100.09	60	⇓Pdiff		Pdif	07 19 07.4	+0.1		
	baz=100									
K24A	Anderson Ranch	100.13	48	⇓Pdiff		Pdif	07 19 07.5	-0.1		
	baz=100									
T25A	Trinidad	100.14	54	⇓Pdiff		Pdif	07 19 07.5	-0.1		
	baz=100									
S25A	Roberts Cordova	100.15	53	⇑Pdiff		Pdif	07 19 08.2	+0.6		
	baz=100									
126A	Clayton Basin,	100.16	58	⇓Pdiff		Pdif	07 19 07.7	+0.1		
	baz=100									
TXAR	Lajitas Array	100.21	62	P		Pdif	07 19 07.5	-0.4		
	comp=Z,2.0nm,0.7s,baz=242,slow=2.5,SNR=12									
TXAR				PP		PP	07 23 12.0	-4.0		
	comp=Z,1.1nm,0.7s,baz=230,slow=9.7,SNR=5.0									
TXAR				PKKPbc		PKKPbc	07 35 25.1	-0.9		
	comp=Z,1.0nm,0.7s,baz=97,slow=5.2,SNR=5.3									
TXAR	Lajitas Array	100.21	62	P		Pdif	07 19 07.5	-0.4		
TXAR				PP		PP	07 23 12.0	-4.0		
TXAR				PKKPbc		PKKPbc	07 35 25.1	-0.9		
TXAR	Lajitas Array	100.21	62	P		Pdif	07 19 07.5	-0.4		
TXAR							07 23 12.0			
TXAR					pmax	pmax				
	comp=Z,2.0nm,0.7s									
TXAR					pmax	pmax				
	comp=Z,1.0nm,0.7s									
Z26A	Caprock	100.23	58	⇓Pdiff		Pdif	07 19 08.2	+0.2		
	baz=100									
J24A	Dixon Ranch, L	100.27	48	⇑Pdiff		Pdif	07 19 08.7	+0.6		
	baz=100									
R25A	Fountain Ranch	100.30	53	⇑Pdiff		Pdif	07 19 08.6	+0.3		
	baz=100									
527A	Woodward Ranch	100.32	61	⇓Pdiff		Pdif	07 19 08.5	+0.2		
	baz=100									
I24A	Kuemmerle Ranc	100.32	47	⇑Pdiff		Pdif	07 19 08.2	-0.2		
	baz=100									
A23A	Redstone	100.33	42	⇓Pdiff		Pdif	07 19 08.4	-0.1		
	baz=100									
Q25A	Bedland, Calha	100.37	52	⇓Pdiff		Pdif	07 19 09.0	+0.4		
	baz=100									
Y26A	Elida	100.41	57	⇑Pdiff		Pdif	07 19 08.8	+0.1		
	baz=100									
H24A	Dirks Ranch, A	100.41	46	⇑Pdiff		Pdif	07 19 08.7	-0.1		
	baz=100									
627A	Terlingua Ranc	100.46	62	⇑Pdiff		Pdif	07 19 08.9	-0.1		
	baz=100									
427A	Hayter Ranch,	100.55	60	⇑Pdiff		Pdif	07 19 09.7	+0.3		
	baz=101									
V26A	Tequesquite Ra	100.56	55	⇓Pdiff		Pdif	07 19 10.2	+0.8		
	baz=101									
C24A	Savage	100.59	43	⇑Pdiff		Pdif	07 19 10.1	+0.6		
	baz=101									
U26A	Atchley Ranch,	100.63	55	⇓Pdiff		Pdif	07 19 10.0	+0.3		
	baz=101									
D24A	Glendive	100.65	44	⇑Pdiff		Pdif	07 19 09.8	-0.1		
	baz=101									
127A	Arkansas Junct	100.72	58	⇑Pdiff		Pdif	07 19 10.2	+0.1		
	baz=101									
RSSD	Black Hills	100.76	47	*e*Pdif		Pdif	07 19 10.5	+0.2		
RSSD	Black Hills	100.76	47	*e*P		Pdif	07 19 10.5	+0.2		
DGMT	Dagmar	100.77	42	⇑Pdiff		Pdif	07 19 10.1	-0.3		
	baz=101									
DGMT	Dagmar	100.77	42	*e*Pdif		Pdif	07 19 10.3	0.0		
K25A	Mack Ranch, Ha	100.82	48	⇓Pdiff		Pdif	07 19 10.0	-0.6		
	baz=101									
Z27A	Tatum	100.88	58	⇓Pdiff		Pdif	07 19 11.0	+0.2		
	baz=101									
628A	Black Gap, Mar	100.90	62	⇓Pdiff		Pdif	07 19 11.0	0.0		
	baz=101									
A24A	Westby	100.91	42	⇑Pdiff		Pdif	07 19 11.2	+0.2		
	baz=101									
Y27A	Causey	100.95	57	⇑Pdiff		Pdif	07 19 11.5	+0.3		
	baz=101									
528A	Cox Ranch, San	101.03	61	⇓Pdiff		Pdif	07 19 11.7	+0.2		
	baz=101									
X27A	F and S Farms,	101.05	56	⇑Pdiff		Pdif	07 19 11.5	-0.1		
	baz=101									
328A	Wristen Ranch,	101.10	60	⇓Pdiff		Pdif	07 19 11.8	0.0		
	baz=101									
W27A	Bowe Ranch, En	101.11	56	⇑Pdiff		Pdif	07 19 11.9	0.0		
	baz=101									
428A	Kincaid Ranch,	101.16	60	⇑Pdiff		Pdif	07 19 12.6	+0.5		
	baz=101									
MSTX	Muleshoe	101.28	57	⇓Pdiff		Pdif	07 19 12.8	+0.2		
	baz=101									
K26A	Motz Farm, Whi	101.34	48	⇑Pdiff		Pdif	07 19 13.5	+0.7		
	baz=101									
FFC	Flin Flon	102.14	36	*e*Pdif		Pdif	07 19 15.3	-1.1		
	comp=Z,362nm,3.0s									
FFC	Flin Flon	102.14	36	*i* P		Pdif	07 19 16.1	-0.3		
AMTX	Amarillo	102.23	56	⇓Pdiff		Pdif	07 19 17.5	+0.7		
	baz=102									
AMTX	Amarillo	102.23	56	*e*Pdif		Pdif	07 19 18.6	+1.8		
SVE	Sverdlovsk	102.30	326	*e*P		Pdif	07 19 15.7	-1.4		
SVE					pmax	pmax				
	comp=Z,66nm,1.8s									
RES	Resolute Bay	102.66	15	P		Pdif	07 19 17.5	-1.3		
	comp=Z,7.1nm,1.0s,baz=246,slow=7.6,SNR=7.4									
RES					PKiKP	PKiKP	07 23 37.4	-1.1		
	comp=Z,7.6nm,0.9s,baz=170,slow=5.9,SNR=7.7									
RES					PKKPbc	PKKPbc	07 35 16.7	-3.8		
	comp=Z,5.4nm,0.8s,baz=114,slow=2.4,SNR=13									
RES	Resolute Bay	102.66	15	*e*Pdif		Pdif	07 19 17.0	-1.7		
	comp=Z,9.0nm,1.0s									
RES	Resolute Bay	102.66	15	P		Pdif	07 19 17.5	-1.3		
RES				*i*			07 23 37.4			
RES					pmax	pmax				
	comp=Z,7.0nm,1.0s									
RES					pmax	pmax				
	comp=Z,8.0nm,1.0s									
AB31	Akbulak array	102.97	318	P		Pdif	07 19 17.9	-2.

KIV *i* 07 25 04.6
KIV *e*PS PS 07 34 43.7 -4.5
KIV *e*SS SS 07 40 59.1 +3.9
KIV pmax pmax
comp=Z,14nm,1.3s
SUMG Summit 115.48 6 *i* P PKiKP 07 24 02.8 +0.2
comp=Z,8.5nm,0.9s
SUMG *i* 07 24 38.8
FRB Frobisher Bay 115.58 22 PKP PKPdf 07 24 02.0 -1.0
comp=Z,18nm,0.6s,baz=343,slow=2.2,SNR=13
FRB Frobisher Bay 115.58 22 PKP PKPdf 07 24 02.0 -1.0
FRB Frobisher Bay 115.58 22 PKIKP PKPdf 07 24 02.0 -1.0
FRB pmax pmax
comp=Z,18nm,0.6s
VSR Storozhevoye 115.73 323 *e*PKIKP PKPdf 07 24 01.0 -2.6
VSR pmax pmax
comp=Z,20nm,1.0s
VSR pmax pmax
comp=N,5.0nm,0.5s
VSR pmax pmax
comp=E,8.0nm,0.7s
OBN Obninsk 115.80 328 *i* PKIKP PKPdf 07 24 02.6 -1.0
OBN *e* 07 25 05.8
OBN *e*PS PS 07 34 42.9 -8.3
OBN *e*SS SS 07 40 59.0 -0.5
OBN pmax pmax
comp=Z,20nm,1.2s
OBN MLR MLR
comp=Z,600nm,19.0s
BHD Baghdad 115.86 303 *ex* x 07 20 22.0
BHD *i* x PKP PKPdf 07 25 09.0
BHD *ex* x 07 30 51.0
BHD *i* x x 07 35 08.0
ACSO Alum Creek Sta 116.63 49 *e*PKPdf PKPdf 07 24 05.7 -0.1
TKL Tuckaleechee C 116.80 55 *e*PKPdf PKPdf 07 24 04.7 -1.5
TKL Tuckaleechee C 116.80 55 *e*PKIKP PKPdf 07 24 04.7 -1.5
TZTN Tazewell 116.85 54 *e*PKPdf PKPdf 07 24 05.4 -0.9
KAF Kangasniemi 117.03 337 *e*PKIKP PKPdf 07 24 03.4 -2.4
KAF Kangasniemi 117.03 337 *e*pkp PKPdf 07 24 03.4 -2.4
FINES FINESS Array B 117.51 337 Pdiff Pdif 07 20 23.6 -1.1
comp=Z,3.7nm,0.7s,baz=101,slow=4.4,SNR=6.1
FINES PKP PKPdf 07 24 05.5 -1.3
comp=Z,12nm,0.7s,baz=57,slow=3.2,SNR=16
FINES PKKPbc PKKPbc 07 34 29.8 -2.3
comp=Z,1.9nm,0.6s,baz=134,slow=5.5,SNR=4.7
FINES FINESS Array B 117.51 337 Pdif Pdif 07 20 23.6 -1.1
FINES PKP PKPdf 07 24 05.5 -1.3
FINES PKKPbc PKKPbc 07 34 29.8 -2.3
FINES FINESS Array B 117.51 337 PKIKP PKPdf 07 24 05.5 -1.2
FINES pmax pmax
comp=Z,12nm,0.7s
SCO Scoresbysund 118.51 1 *i* PKIKP PKPdf 07 24 07.9 -0.5
SCO pmax pmax
comp=Z,11nm,1.1s
SFJD Kangerlussuaq 118.53 13 *i* PKIKP PKPdf 07 24 07.4 -1.2
SFJD pmax pmax
comp=Z,25nm,0.8s
SFJD Kangerlussuaq 118.53 13 *i* P PKPdf 07 24 07.4 -1.2
comp=Z,25nm,0.8s
LCO Las Campanas 118.62 130 *e*PKPdf PKPdf 07 24 09.1 -0.9
ANN Anapa 118.83 316 *i* PKIKP PKPdf 07 24 16.1 +6.3
ANN *e* 07 24 48.8
ANN *e* 07 31 01.9
ANN pmax pmax
comp=Z,271nm,1.3s
ELN Prospectdale 118.93 52 *e*PKPdf PKPdf 07 24 08.8 -1.5
VSU Vasula 118.96 334 *d i* PKIKP PKPdf 07 24 10.1 +0.5
BLA Blacksburg 119.19 52 *e*PKPdf PKPdf 07 24 09.7 -1.1
BLA Blacksburg 119.19 52 *e*PKIKP PKPdf 07 24 09.7 -1.1
TRQA Tornquist 119.29 143 *e*PKPdf PKPdf 07 24 09.2 -1.7
NNA Nana 120.22 109 *e*PKPdf PKPdf 07 24 11.8 -1.5
NNA Nana 120.22 109 *i* PKIKP PKPdf 07 24 13.6 +0.2
SSPA Standing Stone 120.33 48 *e*PKPdf PKPdf 07 24 11.1 -1.7
NACGM Naroch 120.89 330 *e* PKPdf 07 24 10.0 -3.4
BINY Binghamton 121.25 46 *e*PKPdf PKPdf 07 24 12.9 -1.6
CBN Corbin 121.33 51 *e*PKPdf PKPdf 07 24 13.6 -1.2
SCHQ Schefferville 121.35 29 PKP PKPdf 07 24 13.3 -1.0
comp=Z,6.7nm,0.8s,baz=83,slow=6.2,SNR=3.6
SCHQ PKKPbc PKKPbc 07 34 16.3 -1.5
comp=Z,9.6nm,0.9s,baz=354,slow=2.4,SNR=5.4
SCHQ Schefferville 121.35 29 PKP PKPdf 07 24 13.3 -1.0
SCHQ PKKPbc PKKPbc 07 34 16.3 -1.5
OTAV Otavalo 121.62 95 *e*PKPdf PKPdf 07 24 15.3 -0.8
KMBO Kilima Mbogo 121.65 263 *e*PKPdf PKPdf 07 24 15.8 -0.3
KMBO Kilima Mbogo 121.65 263 *e*PKIKP PKPdf 07 24 15.8 -0.4
AKASG Malin Array Be 121.71 325 PKHKP PKPpre 07 24 07.3
comp=Z,0.9nm,0.6s,baz=353,slow=1.3,SNR=4.3
AKASG PKP PKPdf 07 24 13.7 -1.5
comp=Z,14nm,0.6s,baz=56,slow=2.2,SNR=60
AKASG pPKP pPKPdf 07 24 46.4 -2.0
comp=Z,20nm,0.8s,baz=63,slow=1.8,SNR=8.2
AKASG PKKPbc PKKPbc 07 34 14.7 -1.5
comp=Z,2.9nm,0.8s,baz=254,slow=4.2,SNR=7.1
AKASG Malin Array Be 121.71 325 PKP PKPdf 07 24 13.7 -1.5
AKASG pPKP pPKPdf 07 24 46.4 -2.0
AKASG PKKPbc PKKPbc 07 34 14.7 -1.5
AKASG Malin Array Be 121.71 325 PKIKP PKPdf 07 24 13.7 -1.4
AKASG 07 24 46.4
AKBB Malin Array Si 121.71 325 *e*PKPdf PKPdf 07 24 13.9 -1.2
AKBB *e* 07 24 45.9
AKBB Malin Array Si 121.71 325 *e*PKIKP PKPdf 07 24 13.9 -1.2
AKBB *e* 07 24 45.9
KIEV Kiev 121.72 325 *e*PKPdf PKPdf 07 24 13.5 -1.7
KIEV Kiev 121.72 325 *e*PKIKP PKPdf 07 24 13.5 -1.7
NCB Newcomb 121.90 43 *e*PKPdf PKPdf 07 24 14.5 -1.2
FRNY Flat Rock 122.02 42 *e*PKPdf PKPdf 07 24 14.1 -1.8
BOSA Boshof 122.21 228 PKP PKPdf 07 24 16.5 -0.4
comp=Z,33nm,0.6s,baz=127,slow=1.7,SNR=104
BOSA PKKPbc PKKPbc 07 34 12.5 -1.3
comp=Z,8.8nm,0.8s,baz=293,slow=4.4,SNR=17
BOSA PKKP PKKPdf 07 34 48.8 -0.6
comp=Z,3.2nm,0.8s,baz=29,slow=4.2,SNR=4.6
BOSA Boshof 122.21 228 *e*PKPdf PKPdf 07 24 16.4 -0.5
BOSA Boshof 122.21 228 PKIKP PKPdf 07 24 16.5 -0.4
BOSA pmax pmax
comp=Z,33nm,0.6s
ASF Jabal al Asfar 122.26 302 PKP PKPdf 07 24 16.6 -0.2
comp=Z,8.6nm,0.7s,baz=17,slow=3.0,SNR=13
ASF PP PP 07 25 55.3 +1.4
comp=Z,1.8nm,0.5s,baz=260,slow=1.4,SNR=3.7
ASF PKKPbc PKKPbc 07 34 13.2 -0.4
comp=Z,5.0nm,0.8s,baz=164,slow=3.9,SNR=6.1
ASF PKKP PKKPdf 07 34 49.6 -0.1
comp=Z,1.2nm,0.5s,baz=36,slow=0.2,SNR=3.5
ASF Jabal al Asfar 122.26 302 PKP PKPdf 07 24 16.6 -0.2
ASF PP PP 07 25 55.3 +1.4
ASF PKKPbc PKKPbc 07 34 13.2 -0.4
ASF PKKP PKKPdf 07 34 49.6 -0.1
ASF Jabal al Asfar 122.26 302 PKIKP PKPdf 07 24 16.6 -0.2
ASF 07 25 55.3
ASF pmax pmax
comp=Z,9.0nm,0.7s
MDV Middlebury 122.59 43 *e*PKPdf PKPdf 07 24 15.8 -1.2
TRY Troy 122.71 45 *e*PKPdf PKPdf 07 24 15.8 -1.5
BRNJ Basking Ridge 122.73 47 *e*PKPdf PKPdf 07 24 16.3 -1.2
HFS Hagfors 122.88 340 PKP PKPdf 07 24 15.9 -1.2
comp=Z,21nm,0.6s,baz=69,slow=4.9,SNR=36
HFS Hagfors 122.88 340 PKP PKPdf 07 24 15.9 -1.2
HFS Hagfors 122.88 340 PKIKP PKPdf 07 24 15.9 -1.2
HFS pmax pmax
comp=Z,21nm,0.6s
NB2 NORSAR Subarra 122.96 342 PKPdf PKPdf 07 24 16.2 -1.0
comp=Z,38nm,0.8s,baz=41,slow=1.9
NB2 NORSAR Subarra 122.96 342 PKPdf PKPdf 07 24 16.2 -1.0
baz=41,slow=1.9
NOA NORSAR Array B 122.96 342 PKP PKPdf 07 24 16.4 -0.8
comp=Z,25nm,0.7s,baz=43,slow=1.9,SNR=77
NOA pPKP pPKPdf 07 24 48.7 -1.8
comp=Z,14nm,0.8s,baz=42,slow=1.9,SNR=5.7
NOA NORSAR Array B 122.96 342 PKP PKPdf 07 24 16.4 -0.8
NOA pPKP pPKPdf 07 24 48.7 -1.8
NOA NORSAR Array B 122.96 342 PKIKP PKPdf 07 24 16.4 -0.8
NOA 07 24 48.7
NOA pmax pmax
comp=Z,25nm,0.7s
BR131 Keskin Array S 123.03 312 *e*PKPdf PKPdf 07 24 16.9 -1.1
BRTR Keskin Array B 123.03 312 PKP PKPdf 07 24 16.8 -1.3
comp=Z,7.0nm,0.6s,baz=136,slow=3.8,SNR=22
BRTR pPKP pPKPdf 07 24 49.5 -1.8
comp=Z,4.2nm,0.8s,baz=49,slow=3.8,SNR=4.0
BRTR PKKPbc PKKPbc 07 34 10.2 -0.6
comp=Z,4.4nm,0.8s,baz=210,slow=3.2,SNR=10
BRTR PKKP PKKPdf 07 34 44.9 -3.5
comp=Z,1.8nm,0.7s,baz=213,slow=2.1,SNR=4.5
BRTR SKKP 07 38 07.5
comp=Z,2.9nm,1.1s,baz=222,slow=3.7,SNR=5.4
BRTR Keskin Array B 123.03 312 PKP PKPdf 07 24 16.8 -1.3
BRTR pPKP pPKPdf 07 24 49.5 -1.8
BRTR PKKPbc PKKPbc 07 34 10.2 -0.6
BRTR PKKP PKKPdf 07 34 44.9 -3.5
BRTR SKKP 07 38 07.5
BRTR Keskin Array B 123.03 312 PKIKP PKPdf 07 24 16.8 -1.2
BRTR 07 24 49.5
BRTR pmax pmax
comp=Z,7.0nm,0.6s
PAL Palisades 123.11 47 *e*PKPdf PKPdf 07 24 16.9 -1.2
PAL Palisades 123.11 47 *e*PKIKP PKPdf 07 24 16.9 -1.2
SUW Suwalki 123.13 331 *e*PKP PKPdf 07 24 17.4 -0.3
SUW Suwalki 123.13 331 *e*PKPdf PKPdf 07 24 17.1 -0.6
SUW Suwalki 123.13 331 *e*PKIKP PKPdf 07 24 17.4 -0.4
NAO01 NORSAR Array S 123.21 342 *e*PKPdf PKPdf 07 24 17.1 -0.6
HNH Hanover 123.31 43 *e*PKPdf PKPdf 07 24 16.6 -1.8
MMAI Mount Meron Ar 123.33 304 PKP PKPdf 07 24 18.8 -0.1
comp=Z,11nm,0.6s,baz=81,slow=6.8,SNR=10
MMAI Mount Meron Ar 123.33 304 PKP PKPdf 07 24 18.8 -0.1
LBNH Lisbon 123.35 42 *e*PKPdf PKPdf 07 24 17.9 -0.6
LBNH Lisbon 123.35 42 *e*PKIKP PKPdf 07 24 17.9 -0.6
KIS Kishinev 123.62 321 *e*PKP PKPdf 07 24 18.0 -0.9
KIS Kishinev 123.62 321 *e*PKIKP PKPdf 07 24 18.0 -0.9
KIS *e* 07 26 00.0
YLE Yale 123.70 46 *e*PKPdf PKPdf 07 24 17.3 -1.9
LBTB Lobatse 123.86 232 PKKPbc PKKPbc 07 34 07.0 -0.4
comp=Z,5.3nm,0.7s,baz=299,slow=4.1,SNR=11
LEOM Leova 124.20 321 PKIKP PKPdf 07 24 19.7 -0.4
BORG Borgarnes 124.28 0 PKP PKPdf 07 24 19.7 0.0
comp=Z,23nm,1.0s,baz=36,slow=7.1,SNR=6.0
BORG Borgarnes 124.28 0 PKP PKPdf 07 24 19.7 0.0
BORG Borgarnes 124.28 0 PKIKP PKPdf 07 24 19.7 0.0
BORG pmax pmax
comp=Z,23nm,1.0s
EIL Elat 124.34 300 PKP PKPdf 07 24 20.2 -0.7
comp=Z,22nm,0.6s,baz=35,slow=1.0,SNR=16
EIL PP PP 07 26 09.2 +1.2
comp=Z,2.9nm,0.5s,baz=128,slow=3.0,SNR=5.1
EIL PKKPbc PKKPbc 07 34 04.7 -0.7
comp=Z,11nm,1.0s,baz=165,slow=24,SNR=7.4
EIL Elat 124.34 300 PKP PKPdf 07 24 20.2 -0.7
EIL PP PP 07 26 09.2 +1.2
EIL PKKPbc PKKPbc 07 34 04.7 -0.7
BRYW Bryant College 124.47 45 *e*PKPdf PKPdf 07 24 20.1 -0.6
CSS Prodhromos 124.57 306 *e*PKPdf PKPdf 07 24 19.9 -1.2
PKME Peaks-Kenny Pk 124.65 40 *e*PKPdf PKPdf 07 24 19.9 -1.1
PQI Presque Isle 124.82 38 *e*PKPdf PKPdf 07 24 19.9 -1.4
TIRR Tirgusor 124.97 319 ||PKIKP PKPdf 07 24 21.4 -0.2
TIRR Tirgusor 124.97 319 ||*i*P PKPdf 07 24 21.4 -0.2
LVV L'vov 125.04 326 *e*PKIKP PKPdf 07 24 20.8 -0.8
VRI Vrincioaia 125.42 321 ||PKIKP PKPdf 07 24 22.0 -0.4
VRI Vrincioaia 125.42 321 ||*i*P PKPdf 07 24 22.0 -0.4
BUR08 Bucovina Ar. S 125.50 324 *e*PKPdf PKPdf 07 24 23.3 +0.8
BURAR Bucovina Array 125.50 324 ⇑PKIKP PKPdf 07 24 24.0 +1.5
BURAR Bucovina Array 125.50 324 ⇑*i*P PKPdf 07 24 24.0 +1.5
BEL Belsk 125.59 330 *e*PKP PKPdf 07 24 23.0 +0.5
BEL Belsk 125.59 330 *e*PKIKP PKPdf 07 24 23.0 +0.5
KWP Kalwaria Pacla 125.86 327 *e*PKP PKPdf 07 24 23.3 +0.2
KWP Kalwaria Pacla 125.86 327 *e*PKPdf PKPdf 07 24 23.0 -0.1
KWP Kalwaria Pacla 125.86 327 *e*PKIKP PKPdf 07 24 23.0 -0.1
MLR Muntele Rosu 126.08 321 PKP PKPdf 07 24 22.9 -0.8
comp=Z,6.2nm,1.0s,baz=12,slow=2.4,SNR=25
MLR PKKPbc 07 33 58.3
comp=Z,0.8nm,0.5s,baz=198,slow=5.5,SNR=5.0
MLR Muntele Rosu 126.08 321 PKP PKPdf 07 24 22.9 -0.8
MLR PKKPbc 07 33 58.3
MLR Muntele Rosu 126.08 321 PKIKP PKPdf 07 24 23.2 -0.5
MLR Muntele Rosu 126.08 321 ⇑*i*P PKPdf 07 24 22.8 -0.9
LSZ Lusaka 126.13 244 *e*PKPdf PKPdf 07 24 24.6 0.0
LSZ Lusaka 126.13 244 *e*PKIKP PKPdf 07 24 24.6 0.0
PRD Provadia 126.16 318 P PKPdf 07 24 22.8 -1.1
ROSC El Rosal 126.40 91 PKP PKPdf 07 24 24.5 -0.7
comp=Z,118nm,0.6s,baz=94,slow=1.7,SNR=113
ROSC PP PP 07 26 20.9 -1.3
comp=Z,3.9nm,0.7s,baz=81,slow=23,SNR=6.1
ROSC El Rosal 126.40 91 *e*PKPdf PKPdf 07 24 25.0 -0.3
LPAZ La Paz 126.58 118 PKHKP PKPpre 07 24 07.8
comp=Z,0.9nm,0.7s,baz=239,slow=5.9,SNR=4.1
LPAZ PKP PKPdf 07 24 25.3 -0.2
comp=Z,84nm,1.0s,baz=296,slow=2.1,SNR=106
LPAZ La Paz 126.58 118 *e*PKPdf PKPdf 07 24 25.4 0.0
LPAZ La Paz 126.58 118 *e*PKIKP PKPdf 07 24 25.5 0.0
UZH Uzhgorod 126.64 326 ||*i*PKIKP PKPdf 07 24 23.6 -1.1
UZH *e* 07 24 55.8
UZH *e* 07 26 22.2
UZH *e* 07 31 23.4
VOIR 126.66 321 PKIKP PKPdf 07 24 25.0 +0.2
STHS Stebnicka Huta 126.77 327 *e*PKIKP PKPdf 07 24 25.7 +0.8
STHS Stebnicka Huta 126.77 327 *e*PKP PKPdf 07 24 25.7 +0.8
TRPA Tarpa 126.77 325 ||*i*P PKPdf 07 24 24.3 -0.6
CRVS Cervenica-Dubn 126.94 327 *e*PKIKP PKPdf 07 24 24.7 -0.5
CRVS Cervenica-Dubn 126.94 327 *e*PKP PKPdf 07 24 24.7 -0.5
CRVS *e* 07 26 59.2
OJC Ojcow 127.06 329 *e*PKPdf PKPdf 07 24 25.6 +0.2
OJC Ojcow 127.06 329 *e*PKIKP PKPdf 07 24 25.6 +0.2
SZH Strazhica 127.10 318 P PKPdf 07 24 23.0 -2.7
HUMR Humele 127.14 320 ||*i*P PKPdf 07 24 25.0 -0.8
NIE Niedzica 127.27 328 *e*PKP PKPdf 07 24 26.0 +0.2
NIE Niedzica 127.27 328 *e*PKIKP PKPdf 07 24 26.0 +0.2
DRGR 127.39 324 ||PKIKP PKPdf 07 24 25.9 -0.3
DRGR 127.39 324 ||*i*P PKPdf 07 24 25.9 -0.3
PVL Pavlikeni 127.51 319 P PKPdf 07 24 26.3 -0.2
DIM Dimitrovgrad 127.90 317 P PKPdf 07 24 26.0 -1.3
GZR Gura Zlata 128.08 322 ⇑PKIKP PKPdf 07 24 27.6 +0.1
GZR Gura Zlata 128.08 322 ⇑*i*P PKPdf 07 24 27.6 +0.1
OKC Ostrava-Krasne 128.13 329 *e*PKIKP PKPdf 07 24 27.8 +0.3
OKC *e* 07 25 00.3
OKC Ostrava-Krasne 128.13 329 *e*PKPdf PKPdf 07 24 27.8 +0.3
OKC epPKP pPKPdf 07 25 08.3 -0.4
OKC *ex* x 07 27 04.7
KDZ Kurdzhali 128.15 317 P PKPdf 07 24 26.6 -1.2
PSZ Piszkesteto 128.37 326 *e*PKPdf PKPdf 07 24 27.8 -0.2
PSZ Piszkesteto 128.37 326 *e*PKIKP PKPdf 07 24 27.8 -0.2
PSZ Piszkesteto 128.37 326 ||*e*PKP PKPdf 07 24 28.1 +0.1
PSZ Piszkesteto 128.37 326 ⇑*i*P PKPdf 07 24 27.9 -0.1
KSP Ksiaz 128.41 331 *e*PKP PKPdf 07 24 28.5 +0.5
PLD Plovdiv 128.43 318 P PKPdf 07 24 27.0 -1.3
RUE Ruedersdorf 128.44 334 *e*PKPdf PKPdf 07 24 27.2 -0.8
RUE Ruedersdorf 128.44 334 *e*PKP PKPdf 07 24 27.6 -0.4
MORC Moravsky Berou 128.48 329 *e*PKPdf PKPdf 07 24 27.6 -0.5
MORC Moravsky Berou 128.48 329 ⇑PKIKP PKPdf 07 24 27.8 -0.3
MORC Moravsky Berou 128.48 329 ⇑*i*P PKPdf 07 24 27.8 -0.3
MPEP Malo Peshtene 128.48 319 P PKPdf 07 24 27.8 -0.6
PGB Panagyurishte 128.58 318 P PKPdf 07 24 26.6 -2.0
VYHS Vyhne 128.60 327 *e*PKIKP PKPdf 07 24 27.9 -0.5
VYHS Vyhne 128.60 327 *e*PKP PKPdf 07 24 27.9 -0.5
VYHS *e* 07 27 03.5
RZN Rozhen 128.60 317 P PKPdf 07 24 27.5 -1.1
BZS Buzias 128.66 323 PKIKP PKPdf 07 24 28.3 -0.3
BZS Buzias 128.66 323 ||*i*P PKPdf 07 24 28.3 -0.3
KRLC Kraliky 128.67 330 *e*PKPdf PKPdf 07 24 28.5 0.0
DPC Dobruska-Polom 128.72 331 *e*PKIKP PKPdf 07 24 28.2 -0.4
DPC *e* 07 25 00.6
DPC Dobruska-Polom 128.72 331 *e*PKPdf PKPdf 07 24 28.2 -0.4
DPC epPKP pPKPdf 07 25 00.6 -1.2
DPC *ex* x 07 27 10.0
UPC Upice 128.76 331 *e*PKIKP PKPdf 07 24 28.7 0.0
UPC *e* 07 25 00.6
UPC Upice 128.76 331 *e*PKPdf PKPdf 07 24 28.7 0.0
UPC epPKP pPKPdf 07 25 00.6 -1.3
UPC *ex* x 07 27 12.5
BSEG Bad Segeberg 128.78 337 *e*PKPdf PKPdf 07 24 27.9 -0.7
BSEG Bad Segeberg 128.78 337 *e*PKP PKPdf 07 24 28.4 -0.3
BSEG Bad Segeberg 128.78 337 *e*PKIKP PKPdf 07 24 28.3 -0.3
BUD Budapest 129.10 326 ⇑*e*PKP PKPdf 07 24 28.9 -0.5
VTS Vitosha 129.19 319 ||PKIKP PKPdf 07 24 29.6 -0.1
VTS Vitosha 129.19 319 ||*i*P PKPdf 07 24 29.6 -0.1
VTS Vitosha 129.19 319 P PKPdf 07 24 28.7 -1.0
VRAC Vranov 129.25 329 PKP PKPdf 07 24 29.2 -0.4
comp=Z,8.4nm,0.9s,baz=58,slow=2.4,SNR=18
VRAC Vranov 129.25 329 PKP PKPdf 07 24 29.2 -0.4
VRAC Vranov 129.25 329 ||PKIKP PKPdf 07 24 30.1 +0.5
VRAC Vranov 129.25 329 ||*i*P PKPdf 07 24 30.1 +0.5
MMB Musomiste 129.31 317 P PKPdf 07 24 28.4 -1.6
PVCC Panska Ves 129.43 332 *e*PKIKP PKPdf 07 24 30.0 +0.1
PVCC *e* 07 25 03.0
PVCC Panska Ves 129.43 332 *e*PKPdf PKPdf 07 24 30.0 +0.1
PVCC epPKP pPKPdf 07 25 03.0 -0.2
CLL Collm 129.61 333 *e*PKPdf PKPdf 07 24 29.2 -1.0
CLL *ep*PKPdf pPKPdf 07 25 02.9 -0.6
CLL Collm 129.61 333 *e*PKP PKPdf 07 24 29.6 -0.6
CLL Collm 129.61 333 ⇑*i*PKIKP PKPdf 07 24 29.6 -0.6
CLL *e* 07 25 03.0
CLL pmax pmax
comp=Z,190nm,1.8s
CLL Collm 129.61 333 ⇑*i*PKPdf PKPdf 07 24 29.6 -0.6
comp=Z,190nm,1.8s
CLL *ep*PKPdf pPKPdf 07 25 03.0 -0.5
CLL *e*PP PP 07 26 40.0 -1.4
CLL *e*PP 07 27 09.0
CLL *e*PPS 07 38 42.0
CLL *e*PPPrev 07 41 00.0
CLL *e*SS SS 07 43 54.0 0.0
CLL Lm 08 22 00.0
comp=N,900nm,21.3s
CLL Lm 08 22 00.0
comp=E,800nm,19.8s
CLL Lm 08 22 00.0
comp=Z,1μm,21.5s
ZST Bratislava 129.70 328 *e*PKIKP PKPdf 07 24 31.1 +0.6
ZST Bratislava 129.70 328 *e*PKP PKPdf 07 24 31.1 +0.6
FBE Freiberg 129.72 333 *e*PKPdf PKPdf 07 24 29.9 -0.6
FBE *ep*PKPdf pPKPdf 07 25 03.5 -0.2
FBE Freiberg 129.72 333 *e*PKP PKPdf 07 24 30.3 -0.2
PRA Prague 129.81 331 PKPdf PKPdf 07 24 30.0 -0.7
TREC Trest 129.81 330 *e*PKIKP PKPdf 07 24 30.6 -0.1
TREC *e* 07 25 02.7
TREC Trest 129.81 330 *e*PKPdf PKPdf 07 24 30.6 -0.1
TREC *ep*PKP pPKPdf 07 25 02.7 -1.3
SDDR Presa de Saban 129.83 73 *e*PKPdf PKPdf 07 24 31.6 0.0
CPUP Villa Florida 129.89 135 PKhKP PKPpre 07 24 13.7
comp=Z,2.0nm,0.7s,baz=228,slow=2.4,SNR=5.1
CPUP PKP PKPdf 07 24 30.0 -1.6
comp=Z,35nm,0.9s,baz=245,slow=1.4,SNR=25
CPUP Villa Florida 129.89 135 *e*PKPdf PKPdf 07 24 30.2 -1.4
CPUP Villa Florida 129.89 135 *e*PKIKP PKPdf 07 24 30.2 -1.4
NRDL Niedersach Rie 129.96 336 *e*PKPdf PKPdf 07 24 30.2 -0.7
NRDL Niedersach Rie 129.96 336 *e*PKP PKPdf 07 24 30.6 -0.3
PKSM Moragy 130.05 325 ||PKIKP PKPdf 07 24 31.6 +0.3
PKSM Moragy 130.05 325 ||*i*P PKPdf 07 24 31.6 +0.3
NEUB Neuenburg 130.22 334 *e*PKPdf PKPdf 07 24 30.7 -0.7
NEUB Neuenburg 130.22 334 *e*PKP PKPdf 07 24 31.1 -0.3
CLZ Clausthal 130.34 335 *e*PKPdf PKPdf 07 24 31.2 -0.4
CLZ *e*SKP 07 27 45.6
CLZ Clausthal 130.34 335 *e*PKP PKPdf 07 24 31.6 0.0
CLZ Clausthal 130.34 335 *e*PKIKP PKPdf 07 24 31.2 -0.4
SDV Santo Domingo 130.47 86 *e*PKPdf PKPdf 07 24 31.7 -1.3
TANN Tannenbergstha 130.48 333 *e*PKPdf PKPdf 07 24 31.3 -0.6
TANN *e*PP PP 07 26 48.6 +1.5
TANN *ep*PP 07 27 18.4
TANN *e*SKP 07 27 45.6
TANN Tannenbergstha 130.48 333 *e*PKP PKPdf 07 24 31.7 -0.2
CONA Conrad Observa 130.51 328 ⇑*i*PKPdf PKPdf 07 24 28.8 -3.3
comp=Z,110nm,1.9s,SNR=18
WERD Werda 130.53 333 *e*PKPdf PKPdf 07 24 31.3 -0.7
WERD Werda 130.53 333 *e*PKP PKPdf 07 24 31.7 -0.3
PLN Plauen 130.57 333 *e*PKPdf PKPdf 07 24 31.5 -0.6
PLN *e*PP PP 07 26 48.6 +0.9
PLN *e*SKP 07 27 45.8
PLN Plauen 130.57 333 *e*PKP PKPdf 07 24 31.9 -0.2
GUNZ Gunzen 130.58 333 *e*PKPdf PKPdf 07 24 31.5 -0.6
GUNZ *e*SKP 07 27 45.8
GUNZ Gunzen 130.58 333 *e*PKP PKPdf 07 24 31.9 -0.2
WERN Wernitzgruen 130.61 333 *e*PKPdf PKPdf 07 24 31.7 -0.5
WERN Wernitzgruen 130.61 333 *e*PKP PKPdf 07 24 32.1 -0.1
SKO Skopje 130.63 319 *e*PKP PKPdf 07 24 32.5 +0.1
MOX Moxa 130.69 334 *e*PKPdf PKPdf 07 24 31.6 -0.7
MOX *e*PP PP 07 26 49.3 +0.8
MOX *e*SKP 07 27 49.7
MOX Moxa 130.69 334 *e*PKP PKPdf 07 24 32.0 -0.3
MOX Moxa 130.69 334 *e*PKIKP PKPdf 07 24 32.0 -0.3
KHC Kasperske Hory 130.85 331 *ep*PKP pPKPdf 07 25 04.0 -1.9
KHC *es*PKP 07 25 14.0
KHC *e*SKP 07 27 47.5
GEC2 GERESS Array S 130.99 331 *e*PKPdf PKPdf 07 24 32.2 -0.7
GEC2 *ep*PP 07 27 21.1
GEC2 GERESS Array S 130.99 331 *e*PKP PKPdf 07 24 32.6 -0.3
GEC2 GERESS Array S 130.99 331 *e*PKIKP PKPdf 07 24 32.6 -0.3
GERES GERESS Array B 130.99 331 PKhKP PKPpre 07 24 16.7
comp=Z,0.8nm,0.6s,baz=35,slow=2.4,SNR=3.8
GERES PKP PKPdf 07 24 32.4 -0.5
comp=Z,17nm,0.6s,baz=70,slow=1.7,SNR=46
GERES pPKP pPKPdf 07 25 05.6 -0.6
comp=Z,10nm,0.7s,baz=90,slow=1.3,SNR=5.8
GERES GERESS Array B 130.99 331 PKP PKPdf 07 24 32.4 -0.5
GERES pPKP pPKPdf 07 25 05.6 -0.6
GERES GERESS Array B 130.99 331 PKIKP PKPdf 07 24 32.4 -0.5
GERES 07 25 05.6
IBBN Ibbenburen 131.02 337 *e*PKPdf PKPdf 07 24 32.2 -0.7
IBBN Ibbenburen 131.02 337 *e*PKP PKPdf 07 24 32.6 -0.3
ROTZ Rotzenmuhle 131.06 332 *e*PKPdf PKPdf 07 24 32.5 -0.5
ROTZ *e*PP PP 07 26 52.0 +1.2
ROTZ *e*SKP 07 27 48.0
ROTZ Rotzenmuhle 131.06 332 *e*PKP PKPdf 07 24 32.9 -0.1
ARSA Arzberg 131.12 328 ⇑*i*PKPdf PKPdf 07 24 32.3 -0.9
comp=Z,36nm,1.6s
WET Wettzell 131.18 331 *e*PKPdf PKPdf 07 24 32.7 -0.6
WET Wettzell 131.18 331 *e*PKP PKPdf 07 24 33.1 -0.2
WET Wettzell 131.18 331 *e*PKIKP PKPdf 07 24 33.1 -0.2
KOGS Kog 131.24 327 *e*PKPdf PKPdf 07 24 32.5 -1.0
KOGS *e* 07 27 48.0
UBBA Unterbreizbach 131.26 335 *e*PKPdf PKPdf 07 24 32.6 -0.8
UBBA *e*SKP 07 27 48.5
UBBA Unterbreizbach 131.26 335 *e*PKP PKPdf 07 24 33.0 -0.4
MOA Molln 131.38 329 ⇑*i*PKPdf PKPdf 07 24 32.7 -1.0
comp=Z,48nm,1.6s
GRF Grafenberg Arr 131.56 333 *e*PKPdf PKPdf 07 24 33.3 -0.7
GRF *e*SKP 07 27 49.7
GRF Grafenberg Arr 131.56 333 *e*PKP PKPdf 07 24 33.7 -0.3
GRF Grafenberg Arr 131.56 333 *e*PKIKP PKPdf 07 24 33.7 -0.3
GRFO Grafenberg 131.56 333 *e*PKPdf PKPdf 07 24 34.4 +0.4
GRFO Grafenberg 131.56 333 *e*PKIKP PKPdf 07 24 34.4 +0.4
PERS Pernice 131.73 328 *e*PKPdf PKPdf 07 24 33.5 -0.9
EKA Eskdalemuir Ar 131.73 347 PKHKP PKPpre 07 24 18.8
comp=Z,2.3nm,0.8s,baz=30,slow=3.5,SNR=4.0
EKA PKP PKPdf 07 24 33.1 -1.0
comp=Z,11nm,0.7s,baz=34,slow=3.4,SNR=17
EKA Eskdalemuir Ar 131.73 347 PKP PKPdf 07 24 33.1 -1.0
EKA Eskdalemuir Ar 131.73 347 PKIKP PKPdf 07 24 33.2 -0.9
SOKA Soboth 131.74 328 ⇑*i*PKPdf PKPdf 07 24 33.5 -0.9
comp=Z,52nm,1.2s
BUG Bochum--Univer 131.89 337 *e*PKPdf PKPdf 07 24 33.7 -0.9
BUG Bochum--Univer 131.89 337 *e*PKP PKPdf 07 24 34.1 -0.5
RJOB Jochberg 132.19 330 *e*PKPdf PKPdf 07 24 34.1 -1.1
RJOB *e*SKP 07 27 51.3
RJOB Jochberg 132.19 330 *e*PKP PKPdf 07 24 34.5 -0.7
TNS Taunus Mts 132.37 335 *e*PKPdf PKPdf 07 24 35.0 -0.5
TNS *e*PP PP 07 26 59.7 +0.6
TNS *e*SKP 07 27 52.6
TNS Taunus Mts 132.37 335 *e*PKP PKPdf 07 24 35.4 -0.1
TNS Taunus Mts 132.37 335 *e*PKIKP PKPdf 07 24 35.4 -0.1
BOJS Bojanci 132.37 326 *e*PKPdf PKPdf 07 24 35.1 -0.6
BOJS *i* 07 27 52.6
LJU Ljubljana 132.42 327 *e*PKPdf PKPdf 07 24 35.0 -0.7
LJU *ep*PKPdf pPKPdf 07 25 09.6 +0.6
LJU *e* 07 27 52.3
LJU *e* 07 28 03.0
LJU *e* 07 28 35.9
MYKA Terra Mystica 132.50 328 ||*i*PKPdf PKPdf 07 24 34.5 -1.4
comp=Z,22nm,1.1s
FUR Furstenfeldbru 132.62 331 *e*PKPdf PKPdf 07 24 35.3 -0.8
FUR *e*SKP 07 27 54.2
FUR Furstenfeldbru 132.62 331 *e*PKP PKPdf 07 24 35.7 -0.4
FUR Furstenfeldbru 132.62 331 *e*PKIKP PKPdf 07 24 35.7 -0.4
TOD Tromm 132.68 334 PKP PKPdf 07 24 34.5 -1.6
TOD Tromm 132.68 334 PKIKP P

MOTA	Moosalm	133.29	331	⇓*i*PKPdf	PKPdf	07 24 36.5	-0.8	
	comp=Z,25nm,0.6s							
RUP	Ruppelstein	133.34	336	PKP	PKPdf	07 24 34.3	-3.1	
RUP	Ruppelstein	133.34	336	PKIKP	PKPdf	07 24 34.3	-3.1	
RETA	Reutte	133.35	331	⇑*i*PKiKP	PKiKP	07 24 37.6	-1.1	
	comp=Z,32nm,1.5s,SNR=24							
BCLA	Clavier	133.46	337	PKP	PKPdf	07 24 37.0	-0.6	
LANF	Langenberg	133.58	334	PKP	PKPdf	07 24 37.7	-0.1	
LANF	Langenberg	133.58	334	PKIKP	PKPdf	07 24 37.7	-0.1	
LANF	Langenberg	133.58	334	PKP	PKPdf	07 24 37.7	-0.1	
FETA	Feichten	133.70	331	⇑*i*PKPdf	PKPdf	07 24 37.4	-0.7	
	comp=Z,44nm,1.4s,SNR=7.9							
WLF	Walferdange	133.73	336	PKP	PKPdf	07 24 39.0	+0.9	
WLF	Walferdange	133.73	336	*e*PKP	PKPdf	07 24 38.6	+0.5	
WLF	Walferdange	133.73	336	*e*PKPdf	PKPdf	07 24 39.5	+1.4	
WLF	Walferdange	133.73	336	*e*PKIKP	PKPdf	07 24 39.5	+1.4	
SNF	Seneffe	133.77	338	PKP	PKPdf	07 24 37.9	-0.3	
SPAK	Spaichingen-Ko	133.82	333	PKP	PKPdf	07 24 36.4	-1.9	
BFO	Black Forest	133.85	334	*e*PKPdf	PKPdf	07 24 37.5	-0.9	
BFO				*e*SKP		07 27 57.8		
BFO	Black Forest	133.85	334	*e*PKP	PKPdf	07 24 37.9	-0.5	
BFO	Black Forest	133.85	334	*e*PKIKP	PKPdf	07 24 37.9	-0.5	
CRPR	Cabo Rojo, PR	133.85	74	*e*PKPdf	PKPdf	07 24 38.4	-0.9	
LSP	Las Mesas	133.86	73	*e*PKPdf	PKPdf	07 24 38.5	-0.7	
GIVF	Givet	133.90	338	*e*PKIKP	PKPdf	07 24 38.2	-0.2	
	comp=Z,148nm,1.0s							
DOU	Dourbes	133.99	338	PKP	PKPdf	07 24 38.5	-0.1	
DOU				APKP		07 25 11.7		
BAIF	Baives	134.16	338	*e*PKIKP	PKPdf	07 24 38.8	-0.1	
	comp=Z,67nm,0.9s							
CDF	Champ du Feu	134.25	334	*e*PKIKP	PKPdf	07 24 38.5	-0.6	
	comp=Z,55nm,1.0s							
DAVOX	Davos/Dischmat	134.28	331	PKhKP	PKPpre	07 24 24.4		
	comp=Z,3.7nm,0.6s,baz=92,slow=8.8,SNR=5.3							
DAVOX				PKP	PKPdf	07 24 39.2	0.0	
	comp=Z,6.3nm,0.6s,baz=129,slow=9.0,SNR=5.9							
DAVOX	Davos/Dischmat	134.28	331	PKP	PKPdf	07 24 39.2	0.0	
DAVOX	Davos/Dischmat	134.28	331	PKIKP	PKPdf	07 24 39.2	0.0	
LIBD	Limburg	134.30	334	PKP	PKPdf	07 24 38.4	-0.8	
LIBD	Limburg	134.30	334	PKIKP	PKPdf	07 24 38.4	-0.8	
FELD	Feldberg im Sc	134.34	333	PKP	PKPdf	07 24 38.6	-0.7	
CELP	Cerrillos	134.35	74	*e*PKPdf	PKPdf	07 24 39.7	-0.5	
ECH	Echery	134.45	334	*e*PKPdf	PKPdf	07 24 39.4	-0.1	
ECH	Echery	134.45	334	*e*PKIKP	PKPdf	07 24 39.4	-0.1	
ECH	Echery	134.45	334	PKP	PKPdf	07 24 38.1	-1.4	
MOF	Molkenrain	134.74	334	PKP	PKPdf	07 24 39.5	-0.5	
MOF	Molkenrain	134.74	334	PKIKP	PKPdf	07 24 39.5	-0.5	
MOF	Molkenrain	134.74	334	PKP	PKPdf	07 24 39.5	-0.5	
PAGF	Fort de Pagny	134.78	336	*e*PKIKP	PKPdf	07 24 40.0	-0.1	
BBS	Basel-Blauen	134.87	333	PKP	PKPdf	07 24 38.6	-1.7	
BBS	Basel-Blauen	134.87	333	PKIKP	PKPdf	07 24 38.6	-1.7	
HINF	Hinteralfeld	134.88	334	*e*PKIKP	PKPdf	07 24 39.8	-0.5	
	comp=Z,152nm,1.2s							
THEF	They Montfort	134.93	335	PKP	PKPdf	07 24 39.2	-1.2	
THEF	They Montfort	134.93	335	PKIKP	PKPdf	07 24 39.2	-1.2	
THEF	They Montfort	134.93	335	PKP	PKPdf	07 24 39.2	-1.2	
HAU	Haudompre	134.95	335	*e*PKIKP	PKPdf	07 24 40.0	-0.4	
	comp=Z,90nm,1.0s							
MEZF	Maizieres J'vi	135.10	336	*e*PKIKP	PKPdf	07 24 40.9	+0.2	
	comp=Z,329nm,1.3s							
LOMF	Lomont	135.25	334	PKP	PKPdf	07 24 37.5	-3.5	
LOMF	Lomont	135.25	334	PKIKP	PKPdf	07 24 37.5	-3.5	
LOMF	Lomont	135.25	334	PKP	PKPdf	07 24 37.5	-3.5	
MTP	Monte Pirata	135.32	73	*e*PKPpre	PKPpre	07 24 31.7		
MTP				*e*PKPdf	PKPdf	07 24 41.5	-0.5	
SFTF	Sexfontaines	135.34	336	*e*PKIKP	PKPdf	07 24 41.1	-0.1	
STVI	Saint Thomas	135.86	73	*e*PKPdf	PKPdf	07 24 41.5	-1.4	
CABF	La Chapelle	136.15	334	*e*PKIKP	PKPdf	07 24 43.1	+0.4	
	comp=Z,89nm,0.8s							
LOR	Lormes	136.57	336	*e*PKIKP	PKPdf	07 24 43.5	0.0	
	comp=Z,97nm,1.1s							
LPL	La Plagne	136.69	332	*e*PKIKP	PKPdf	07 24 44.2	+0.5	
	comp=Z,53nm,0.9s							
LPG	La Plagne	136.69	332	*e*PKIKP	PKPdf	07 24 44.3	+0.5	
	comp=Z,58nm,0.8s							
SSF	Saint Saulge	136.88	336	*e*PKIKP	PKPdf	07 24 44.1	+0.1	
FLN	La Foliniere	136.90	341	*e*PKIKP	PKPdf	07 24 43.9	-0.1	
	comp=Z,124nm,1.0s							
LDF	La Druitiere	136.93	340	*e*PKIKP	PKPdf	07 24 43.8	-0.3	
	comp=Z,22nm,0.7s							
BNI	Bardonecchia	137.06	332	*e*PKPpre	PKPpre	07 24 39.1		
BNI				*e*PKPdf	PKPdf	07 24 44.8	+0.3	
BNI	Bardonecchia	137.06	332	*e*PKIKP	PKPpre	07 24 39.2		
SMF	Signal de Mont	137.07	335	*e*PKIKP	PKPdf	07 24 44.5	+0.1	
AVF	Avril sur Loir	137.16	336	*e*PKIKP	PKPdf	07 24 44.4	-0.2	
	comp=Z,42nm,1.0s							
GRR	Gorron	137.35	341	*e*PKIKP	PKPdf	07 24 45.0	+0.1	
	comp=Z,134nm,1.2s							
BGF	Bois d'Agland	137.55	336	*e*PKIKP	PKPdf	07 24 45.6	+0.3	
	comp=Z,92nm,0.9s							
LUCF	Luceram	137.60	330	PKP	PKPdf	07 24 38.2	-7.3	
PLDF	La Plantade	137.71	335	PKP	PKPdf	07 24 35.8	-10	
SSB	Saint Sauveur	137.86	334	*e*PKPpre	PKPpre	07 24 36.7		
SSB	Saint Sauveur	137.86	334	*e*PKHKP	PKPpre	07 24 36.7		
TCF	Toulx Ste Croi	138.02	336	*e*PKIKP	PKPdf	07 24 46.5	+0.3	
	comp=Z,93nm,1.0s							
PYM	Petit Puy Mans	138.14	335	PKP	PKPdf	07 24 35.2	-11	
ROSF	Rostrenen	138.14	343	*e*PKIKP	PKPdf	07 24 46.3	0.0	
LBL	Lubilhac	138.46	335	PKP	PKPdf	07 24 34.7	-12	
QUIF	Quistinic	138.48	342	*e*PKIKP	PKPdf	07 24 46.2	-0.8	
	comp=Z,14nm,0.7s							
LZG	Guadaloupe-1	139.10	76	*e*P	PKPdf	07 24 43.7	-5.3	
HMG	Houelmont	139.18	76	*e*P	PKPdf	07 24 42.5	-6.7	
SCG	Saint Claude	139.20	76	*e*P	PKPdf	07 24 48.8	-0.4	
PHG	Guadaloupe-2	139.24	76	*e*P	PKPdf	07 24 38.9	-10	
TBG	Guadaloupe-3	139.25	76	*e*P	PKPdf	07 24 41.2	-8.1	
DOG	Dongo Capester	139.26	76	*e*P	PKPdf	07 24 42.5	-6.8	
GRGR	Grenville	139.40	82	*e*PKPdf	PKPdf	07 24 46.8	-2.8	
VSL	Villasalto	139.54	324	*e*PKPdf	PKPdf	07 24 48.7	-0.5	
FDF	Fort de France	139.80	78	*e*PKPpre	PKPpre	07 24 42.7		
FDF				*e*PKPdf	PKPdf	07 24 50.2	-0.1	
FDF	Fort de France	139.80	78	*e*PKHKP	PKPpre	07 24 42.7		
FDF				*e*		07 24 50.2		
FDF	Fort de France	139.80	78	*e*P	PKPpre	07 24 41.5		
BIM	Bigot	139.89	78	*e*P	PKPdf	07 24 41.6	-8.9	
MVM	Montagne Vaucl	140.06	78	*e*P	PKPdf	07 24 41.3	-9.5	
FILF	Fillols	140.88	333	PKP	PKPdf	07 24 45.5	-6.0	
MLS	Moulis	141.21	335	PKP	PKPdf	07 24 45.2	-6.9	
VALF	Valcebollere	141.25	333	PKP	PKPdf	07 24 46.0	-6.2	
RESF	Ens	141.65	335	PKP	PKPdf	07 24 46.8	-6.1	
VIEF	Viey	141.72	335	PKP	PKPdf	07 24 48.4	-4.6	
VIEF	Viey	141.72	335	PKP	PKPdf	07 24 48.4	-4.6	
REYF	Montagne du Re	141.73	336	PKP	PKPdf	07 24 48.9	-4.1	
REYF	Montagne du Re	141.73	336	PKP	PKPdf	07 24 48.9	-4.1	
ATE	Arette	141.84	336	PKP	PKPdf	07 24 48.1	-5.1	
KEST	Kesra	141.93	319	PKhKP	PKPpre	07 24 48.6		
	comp=Z,5.2nm,0.6s,baz=152,slow=0.5,SNR=22							
KEST	Kesra	141.93	319	*e*PKPdf	PKPpre	07 24 48.6		
LARF	Larrau	141.99	337	PKP	PKPdf	07 24 48.6	-4.9	
LARF	Larrau	141.99	337	PKP	PKPdf	07 24 48.6	-4.9	
SJPF	Ste Jean	142.02	337	*e*PKIKP	PKPdf	07 24 51.6	-1.9	
	comp=Z,78nm,1.0s							
CAM4	Nova Friburgo	142.10	145	⇑*i*P	PKPdf	07 24 50.4	-3.9	
CAM4				*i*		07 24 53.7		
CAM4				*i*		07 24 56.8		
CAM4				*i*		07 25 03.2		
CAM4				*i*		07 25 05.2		
CAM4				*i*		07 25 31.7		
CAM4				*i*		07 25 46.3		
CAM4				*i*		07 25 51.7		
CAM4				*i*		07 25 56.3		
CMAH	Djebel Manchou	142.58	322	P	PKPdf	07 24 50.1	-4.7	
ABSA	Djebel Ababsia	142.78	321	P	PKPdf	07 24 52.7	-2.4	
CAEH	'Ain El Ouahch	142.83	322	P	PKPdf	07 24 52.5	-2.7	
CASM	Ain Smara	143.39	322	P	PKPdf	07 24 53.5	-2.7	
DFRA	Djebel Bou Aff	143.57	323	P	PKPdf	07 24 54.8	-1.7	
CTEI	Djebel Teioual	143.57	322	P	PKPdf	07 24 54.4	-2.1	
SET	Setif	144.08	323	P	PKPdf	07 24 52.0	-5.4	
MSKU	Masuku	144.45	254	PKP	PKPdf	07 24 56.9	-1.8	
	comp=Z,762nm,0.7s,baz=100,slow=2.7,SNR=231							
MSKU	Masuku	144.45	254	PKP	PKPdf	07 24 57.0	-1.8	
PBRG	Braganca	145.09	342	*e*PKPdf	PKPdf	07 24 58.2	-0.8	
PBRG	Braganca	145.09	342	*e*LR	LR	08 13 45.1		
	comp=Z,189nm,20.0s							
PGAV	Gavieira, Arco	145.39	344	*e*PKPab	PKPab	07 24 59.2	-0.6	
PGAV	Gavieira, Arco	145.39	344	*e*LR	LR	08 13 50.3		
	comp=Z,158nm,18.0s							
EMHD	Djebel Mahouad	145.50	325	P	PKPdf	07 25 00.0	+0.2	
PCAB	Cabril	145.56	343	*e*PKPab	PKPab	07 25 00.0	-0.5	
MVO	Moncorvo	145.77	342	*e*PKPab	PKPab	07 25 00.4	-0.9	
MVO	Moncorvo	145.77	342	*e*LR	LR	08 14 37.8		
	comp=Z,156nm,20.0s							
POLO	Lamas de Olo	145.80	343	*e*PKPab	PKPab	07 25 01.0	-0.4	
POLO	Lamas de Olo	145.80	343	*e*LR	LR	08 14 19.8		
	comp=Z,63nm,18.0s							
PVRL	Vila Real	145.87	343	*e*PKPab	PKPab	07 25 00.8	-0.9	
ESDC	Sonseca Array	146.03	337	PKPbc	PKPbc	07 25 00.6	-1.0	
	comp=Z,22nm,0.6s,baz=19,slow=3.3,SNR=62							
ESDC				pPKPbc	pPKPbc	07 25 32.9	-1.5	
	comp=Z,93nm,1.1s,baz=24,slow=3.3,SNR=7.6							
ESLA	Sonseca Array	146.03	337	*e*PKPdf	PKPdf	07 25 00.7	0.0	
EBNR	Beni Rached	146.21	327	P	PKPdf	07 25 02.3	+1.2	
PTO	Porto	146.25	344	*e*PKPab	PKPab	07 25 02.9	-0.2	
PAB	San Pablo	146.28	337	*e*PKPdf	PKPdf	07 25 00.7	-0.4	
PAB	San Pablo	146.28	337	*e*PKIKP	PKPdf	07 25 00.7	-0.4	
ECHA	Ech Chlef	146.41	327	P	PKPdf	07 25 02.6	+1.2	
PVIS	Viseu	146.44	343	*e*PKPab	PKPbc	07 25 02.6	-0.2	
CART	Cartagena	146.49	331	*e*PKPdf	PKPdf	07 25 01.6	+0.1	
MTE	Manteigas	146.62	342	*e*PKPdf	PKPdf	07 25 01.6	-0.1	
MTE				*e*PKPbc	PKPbc	07 25 03.9	+0.6	
MTE	Manteigas	146.62	342	*e*PKPdf	PKPdf	07 25 01.1	-0.5	
MTE	Manteigas	146.62	342	*e*PKPab	PKPab	07 25 03.7	-0.9	
MTE	Manteigas	146.62	342	*e*LQ		08 09 20.4		
MTE				*e*LR	LR	08 15 07.3		
	comp=Z,179nm,20.0s							
EANR	'Ain N'Sour	146.70	327	P	PKPdf	07 25 03.7	+1.8	
ETRT	Tiaret	147.01	326	P	PKPab	07 25 05.1	-1.2	
PCBR	Castelo Branco	147.11	341	*e*PKPdf	PKPdf	07 25 02.2	-0.3	
PMRV	Marv??o	147.46	341	*e*PKPdf	PKPdf	07 25 02.3	-0.8	
PMRV	Marv??o	147.46	341	*e*PKPbc	PKPbc	07 25 05.5	-0.2	
PMRV	Marv??o	147.46	341	*e*LR	LR	08 14 33.2		
	comp=Z,134nm,20.0s							
PTOM	Tomar	147.60	342	*e*PKPdf	PKPdf	07 25 02.9	-0.4	
PESTR	Estremoz	148.04	341	*e*PKPdf	PKPdf	07 25 03.1	-0.9	
PESTR	Estremoz	148.04	341	*e*PKPbc	PKPbc	07 25 06.9	-0.4	
PESTR	Estremoz	148.04	341	*e*LQ		08 09 19.2		
PESTR				*e*LR	LR	08 15 47.5		
	comp=Z,131nm,18.0s							
PMTG	Montargil	148.05	342	*e*PKPdf	PKPdf	07 25 03.7	-0.3	
PMTG	Montargil	148.05	342	*e*PKPbc	PKPbc	07 25 06.6	-0.7	
PMTG	Montargil	148.05	342	*e*LR	LR	08 15 26.3		
	comp=Z,190nm,18.0s							
ALMR	Almeirim	148.08	342	*e*P	PKPdf	07 25 03.8	-0.2	
ALMR	Almeirim	148.08	342	*e*PKIKP	PKPdf	07 25 03.8	-0.3	
PMAFR	Mafra	148.47	343	*e*PKPbc	PKPbc	07 25 07.8	-0.6	
PBAR	Barrancos	148.48	340	*e*PKPdf	PKPdf	07 25 04.2	-0.6	
PBAR	Barrancos	148.48	340	*e*LR	LR	08 15 59.8		
	comp=Z,143nm,18.0s							
EVO	Evora	148.48	341	⇑*i*PKIKP	PKPdf	07 25 04.3	-0.5	
	comp=Z,715nm,1.4s							
EVO	Evora	148.48	341	*e*PKPdf	PKPdf	07 25 04.3	-0.5	
EVO	Evora	148.48	341	*e*PKPbc	PKPbc	07 25 08.1	-0.3	
LIS	Lisbon	148.65	343	*e*P	PKPdf	07 25 05.9	+0.9	
LIS				*e*SS	SS	07 47 40.5	+3.3	
LIS				AMS	AMS	07 59 45.4		
	comp=E,874nm,20.9s							
LIS	Lisbon	148.65	343	*e*PKIKP	PKPdf	07 25 05.9	+0.9	
LIS				*e*SS	SS	07 47 40.4	+3.2	
PLML	Palmela	148.73	342	PKPab	PKPbc	07 25 09.9	+0.8	
PBEJ	Beja	148.89	341	*e*PKiKP	PKPbc	07 25 09.3	-0.2	
PNCL	Nicolau / Gran	149.02	342	*e*PKPdf	PKPdf	07 25 05.3	-0.4	
PNCL	Nicolau / Gran	149.02	342	*e*PKPbc	PKPbc	07 25 09.3	-0.5	
PNCL	Nicolau / Gran	149.02	342	*e*LR	LR	08 15 49.8		
	comp=E,204nm,20.0s							
PCVE	Castro Verde	149.30	340	*e*PKPdf	PKPdf	07 25 06.0	-0.1	
PCVE	Castro Verde	149.30	340	*e*PKPbc	PKPbc	07 25 09.7	-0.9	
PCVE	Castro Verde	149.30	340	*e*LR	LR	08 16 11.3		
	comp=E,219nm,18.0s							
PVAQ	Vaqueiros	149.40	340	*e*PKPdf	PKPdf	07 25 03.2	-3.1	
PVAQ	Vaqueiros	149.40	340	*e*LR	LR	08 16 17.1		
	comp=E,164nm,18.0s							
PCED	Cedros	149.52	13	*e*PKP	PKPbc	07 25 11.5	+0.4	
ROSA	Rosais	149.53	12	*e*PKP	PKPbc	07 25 11.3	+0.2	
CALA	Caldeira	149.57	13	*e*PKP	PKPbc	07 25 12.2	+1.0	
PTEO	Sao Teotonio	149.60	341	*e*PKPdf	PKPdf	07 25 06.8	+0.2	
PBDV	Barranco-do-Ve	149.62	340	*e*PKPdf	PKPdf	07 25 06.2	-0.4	
PBDV	Barranco-do-Ve	149.62	340	*e*PKPbc	PKPbc	07 25 11.8	+0.5	
PBDV				*i* P		07 25 44.6		
PBDV	Barranco-do-Ve	149.62	340	*e*LR	LR	08 16 37.7		
	comp=E,152nm,22.0s							
PMAN	Mamadas	149.65	12	*e*PKP	PKPbc	07 25 10.5	-0.9	
SFS	San Fernando	149.69	337	*e*PKPbc	PKPbc	07 25 12.6	+1.1	
SFS	San Fernando	149.69	337	*e*PKP2	PKPbc	07 25 12.6	+1.1	
PICO	Pico	149.70	12	*e*PKP	PKPbc	07 25 11.7	+0.2	
PCAN	Candelaria	149.73	13	*e*PKP	PKPbc	07 25 11.7	+0.1	
ADH	Angra Heroismo	149.79	11	*e*PKP	PKPbc	07 25 12.2	+0.5	
MORF	Marmelete	149.80	341	*e*PKHKP	PKPdf	07 25 06.6	-0.3	
MORF				*e*SS	SS	07 47 52.9	+2.8	
MORF	Marmelete	149.80	341	PKPbc	PKPbc	07 25 11.6	-0.2	
MORF	Marmelete	149.80	341	*e*PP	PP	07 28 46.0	+0.9	
PFVI	Vila Bisbo	150.01	341	*e*PKPbc	PKPbc	07 25 11.2	-1.1	
PSET	Sete Cidades	150.85	9	*e*PKP	PKPbc	07 25 11.0	-3.3	
GRON	Grota Negra	150.93	8	*e*PKP	PKPbc	07 25 12.2	-2.3	
PDA	Ponta Delgada	150.93	9	*e*PKP	PKPdf	07 25 08.1	-0.6	
BART	Pico Bartolome	150.97	8	*e*PKP	PKPbc	07 25 12.6	-2.0	
SHEL	Horse Pasture	151.29	211	*e*PKPbc	PKPbc	07 25 16.3	+0.5	
SHEL	Horse Pasture	151.29	211	*e*PKIKP	PKPbc	07 25 16.3	+0.4	
TAM	Tamanrasset	151.53	302	*e*PKPdf	PKPdf	07 25 09.7	-0.4	
TAM				*e*PKPbc	PKPbc	07 25 16.6	+0.3	
TAM	Tamanrasset	151.53	302	*e*PKIKP	PKPdf	07 25 09.7	-0.3	
PSMA	Santa Maria	151.75	8	*e*PKP	PKPbc	07 25 13.1	-3.3	
PSMN	Pico do Norte,	151.75	8	*e*PKP	PKPdf	07 25 10.1	+0.2	
PMOZ	Porto Moniz, M	156.04	353	*e*LR	LR	08 19 14.5		
	comp=E,184nm,20.0s							
TORD	Torodi Ar. Bea	157.86	283	PKP	PKPdf	07 25 17.4	-1.5	
	comp=E,11nm,0.8s,baz=26,slow=0.8,SNR=48							
TORD				PKPab	PKPab	07 25 51.8	-0.6	
	comp=E,42nm,1.0s,baz=80,slow=3.1,SNR=31							
TORD				pPKPab	pPKPab	07 26 23.4	-1.1	
	comp=E,12nm,0.9s,baz=75,slow=3.4,SNR=1.5							
TORD	Torodi Ar. Bea	157.86	283	PKP	PKPdf	07 25 17.4	-1.5	
TORD				PKPab	PKPab	07 25 51.8	-0.6	
TORD				pPKPab	pPKPab	07 26 23.4	-1.1	
RCBR	Riachuelo	158.74	133	PKP	PKPdf	07 25 19.1	-0.9	
	comp=E,46nm,1.2s,baz=58,slow=20,SNR=15							
RCBR				PKPab	PKPab	07 25 55.2	-0.9	
	comp=E,9.1nm,0.6s,baz=57,slow=18,SNR=6.9							
RCBR	Riachuelo	158.74	133	*e*PKPdf	PKPdf	07 25 19.0	-1.1	
RCBR				*e*PKPab	PKPab	07 25 54.6	-1.5	
DBIC	Dimbokro	164.38	263	PKP	PKPdf	07 25 24.4	-1.5	
	comp=E,11nm,0.9s,baz=117,slow=3.3,SNR=13							
DBIC				PKPab	PKPab	07 26 20.6	-0.4	
	comp=E,22nm,0.9s,baz=104,slow=4.4,SNR=10							
DBIC				PP	PP	07 30 05.2	-2.4	
	comp=E,6.0nm,1.0s,baz=104,slow=5.1,SNR=5.3							
DBIC	Dimbokro	164.38	263	PKP	PKPdf	07 25 24.4	-1.5	
DBIC				PKPab	PKPab	07 26 20.6	-0.4	
DBIC				PP	PP	07 30 05.2	-2.4	
DBIC	Dimbokro	164.38	263	PKIKP	PKPdf	07 25 24.5	-1.4	
DBIC						07 26 20.6		
DBIC						07 30 05.2		
DBIC				pmax	pmax			
	comp=Z,11nm,0.9s							
DBIC				pmax	pmax			
	comp=Z,22nm,0.9s							
DBIC				pmax	pmax			
	comp=Z,6.0nm,1.0s							
BBTS	Babate	173.13	326	PKP	PKPdf	07 25 30.6	-0.8	
	comp=Z,112nm,1.1s,baz=262,slow=1.8,SNR=11							
BBTS				PKPab	PKPab	07 26 59.2	-0.1	
	comp=Z,115nm,1.0s,baz=317,slow=1.5,SNR=8.3							
BBTS				pPKPab	pPKPab	07 27 29.9	-1.4	
	comp=Z,159nm,1.2s,baz=279,slow=1.4,SNR=4.2							
BBTS				PP	PP	07 30 49.7	-0.3	
	comp=Z,7.4nm,0.3s,baz=328,slow=19,SNR=3.6							
BBTS	Babate	173.13	326	PKP	PKPdf	07 25 30.6	-0.8	
BBTS				PKPab	PKPab	07 26 59.2	-0.1	
BBTS				pPKPab	pPKPab	07 27 29.9	-1.4	
BBTS				PP	PP	07 30 49.7	-0.3	

BYKL ***21*** *07:23:13.6±0.4,56°.33N×112°.74E*
MOS 21 07:23:13.0±3.3,56°.40N×112°.70E,h10km,mb4.2/1,5C-1D,
Error ellipse: s-maj=52.0km s-min=41.2km az=70.7,
Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SVKR	**Severomuysk**	**0.56**	**120**	*e*PG	Pg	07 23 22.2	-1.6
SVKR				*e*		07 23 29.4	
SVKR				pmax	pmax		
	comp=Z,581nm,0.1s						
SVKR				smax			
	comp=N,3μm,0.6s						
SVKR	**Severomuysk**	**0.56**	**120**	⇑*i*Pg	Pg	07 23 22.3	-1.5
SVKR				*e*Sg	Sg	07 23 29.6	-1.5
SVKR				Pmax			
	comp=N,556nm,0.1s						
SVKR				Smax			
	comp=N,2μm,0.4s						
YOA	**Uoyan**	**0.61**	**244**	*e*Pg	Pg	07 23 23.9	-0.8
YOA				*e*Sg	Sg	07 23 33.4	+0.7
YOA				Pmax			
	comp=N,358nm,0.2s						
YOA				Smax			
	comp=N,1μm,0.3s						
KMO	**Kumora**	**0.98**	**239**	*e*PG	Pg	07 23 30.4	-1.5
KMO				*e*		07 23 43.7	
KMO				pmax	pmax		
	comp=Z,50nm,0.2s						
KMO				smax			
	comp=E,367nm,0.4s						
KMO	**Kumora**	**0.98**	**239**	⇓*i*Pg	Pg	07 23 30.5	-1.4
KMO				*e*Pb	Pb	07 23 32.0	-0.1
KMO				*e*Sg	Sg	07 23 44.3	-0.4
KMO				max			
	comp=E,41nm,0.2s						
KMO				Smax			
	comp=E,367nm,0.7s						
UKT	**Uakit**	**1.05**	**150**	⇑*i*Pg	Pg	07 23 31.1	-2.1
UKT				*e*Pb	Pb	07 23 33.3	+0.1
UKT				*e*Sg	Sg	07 23 45.1	-1.7
UKT				*e*Sb	Sb	07 23 48.3	+1.3
UKT				max			
	comp=E,61nm,0.5s						
UKT				max			
	comp=E,653nm,0.2s						
NLYR	**Nelyaty**	**1.67**	**86**	*e*Pg	Pg	07 23 41.6	-3.4
NLYR				*e*Sg	Sg	07 24 04.4	-2.2
NLYR				Pmax			
	comp=E,23nm,0.3s						
NLYR				Smax			
	comp=E,262nm,1.1s						
YLYR	**Ulyunkhan**	**1.76**	**210**	*e*PN	Pn	07 23 43.1	-0.4
YLYR				*e*		07 23 43.3	
YLYR				*e*		07 24 06.5	
YLYR				pmax	pmax		
	comp=Z,47nm,0.3s						
YLYR				smax			
	comp=E,444nm,0.2s						
YLYR	**Ulyunkhan**	**1.76**	**210**	⇑*i*Pg	Pg	07 23 43.1	-3.6
YLYR				*e*Sg	Sg	07 24 06.7	-2.8
YLYR				Pmax			
	comp=E,22nm,0.1s						
YLYR				Smax			
	comp=E,440nm,0.2s						
NIZ	**Nizh Angar

NLYR	**Nelyaty**	**1.68**	**82**	*e*Pg	Pg	07 24 08.0	-1.4	
NLYR				*e*Sg	Sg	07 24 30.3	-0.9	
NLYR				*e*		07 24 36.1		
NLYR				Pmax				
	comp=N,190nm,0.8s							
NLYR				max				
	comp=N,873nm,1.2s							
NIZ	**Nizh Angarsk**	**1.85**	**255**	*e*PN	Pn	07 24 10.7	+1.8	
NIZ				*e*		07 24 36.7		
NIZ				pmax	pmax			
	comp=Z,130nm,0.6s							
NIZ				smax				
	comp=N,573nm,0.5s							
NIZ	**Nizh Angarsk**	**1.85**	**255**	*e*Sg	Sg	07 24 36.7	+0.1	
NIZ				Smax				
	comp=N,573nm,0.5s							
SYVR	**Suvo**	**3.07**	**212**	*e*Pg	Pg	07 24 32.7	-3.3	
SYVR				*e*Sg	Sg	07 25 13.4	-2.3	
SYVR				Pmax				
	comp=N,53nm,0.8s							
SYVR				Smax				
	comp=N,259nm,0.7s							
CRS	**Chara**	**3.14**	**77**	*e*PN	Pn	07 24 33.3	+6.7	
CRS				*e*		07 25 13.5		
CRS				pmax	pmax			
	comp=Z,126nm,0.8s							
CRS				smax				
	comp=E,290nm,1.6s							
CRS	**Chara**	**3.14**	**77**	*e*Sg	Sg	07 25 14.4	-3.5	
CRS				Smax				
	comp=E,344nm,2.2s							
MXMB	**Maximikha**	**3.81**	**219**	*e*Pg	Pg	07 24 46.3	-3.8	
MXMB				*e*Sg	Sg	07 25 36.2	-3.2	
MXMB				Pmax				
	comp=E,21nm,0.6s							
MXMB				Smax				
	comp=E,555nm,0.8s							
OGRR	**Ongureny**	**3.97**	**230⇑**	*i*Pn	Pn	07 24 38.7	+0.7	
OGRR				*e*Sg	Sg	07 25 40.4	-4.1	
OGRR				max				
	comp=E,14nm,0.4s							
OGRR				Smax				
	comp=E,94nm,0.6s							
KHNR	**Khani**	**4.07**	**78**	*e*Pg	Pg	07 24 50.0	-5.1	
KHNR				*e*Sg	Sg	07 25 41.9	-5.9	
TUP	**Tupik**	**4.54**	**111**	*e*PN	Pn	07 24 45.3	-0.6	
TUP				*e*		07 24 58.1		
TUP				*e*		07 25 57.4		
TUP				pmax	pmax			
	comp=Z,28nm,0.5s							
TUP				smax				
	comp=N,181nm,0.7s							
TUP	**Tupik**	**4.54**	**111**	*e*Pn	Pn	07 24 45.4	-0.5	
TUP				*e*Sg	Sg	07 25 57.9	-5.1	
TUP				max				
	comp=N,12nm,0.3s							
TUP				Smax				
	comp=N,179nm,0.7s							
ZRHB	**Zarechye**	**4.96**	**223**	*e*Sg	Sg	07 26 13.7	-2.5	
ZRHB				Smax				
	comp=N,316nm,1.0s							
TRG	**Tyrgan**	**5.12**	**229**	*e*Sg	Sg	07 26 17.4	-4.2	
TRG				Smax				
	comp=N,66nm,0.7s							
UUDB	**Ulan-Yde**	**5.34**	**216**	*e*Pg	Pg	07 25 14.6	-4.8	
UUDB				*e*Sg	Sg	07 26 24.9	-3.6	
UUDB				Pmax				
	comp=N,14nm,0.8s							
UUDB				Smax				
	comp=N,244nm,2.2s							
FFNB	**Fofonovo**	**5.50**	**222**	*e*Sg	Sg	07 26 29.1	-4.7	
FFNB				Smax				
	comp=N,21nm,0.3s							
KPC	**Khapcheranga**	**6.61**	**182**	*e*Pg	Pg	07 25 37.3	-6.4	
KPC				*e*Sg	Sg	07 27 04.0	-5.2	
KPC				Pmax				
	comp=N,9.0nm,1.0s							
KPC				Smax				
	comp=N,199nm,1.6s							
IENR	**Iengra**	**6.78**	**86**	*e*Sg	Sg	07 27 07.2	-7.2	
TLY	**Talaya**	**7.06**	**233**	*e*Sg	Sg	07 27 16.5	-7.2	
TLY				Smax				
	comp=N,19nm,0.7s							
ARS	**Arshan**	**7.46**	**238**	*e*Pg	Pg	07 25 52.2	-7.8	
ARS				*e*Sg	Sg	07 27 29.7	-6.8	
ARS				Pmax				
	comp=N,14nm,0.8s							
ARS				Smax				
	comp=N,147nm,1.0s							
ZAK	**Zakamensk**	**8.18**	**227**	*e*Sg	Sn	07 27 52.3	+44	
ZAK				Smax				
	comp=N,25nm,1.6s							
HIA	**Hailar**	**8.23**	**146**	*e*Sg	Sn	07 27 52.8	+43	
MOY	**Mondy**	**8.31**	**241**	*e*Sg	Sn	07 27 56.5	+45	
ORL	**Orlik**	**8.41**	**249**	*e*Sg	Sn	07 27 59.8	+46	
ULN	**Ulaanbaatar**	**9.13**	**205**	*e*Sg	Sn	07 28 22.9	+51	

CSEM ***21*** *07:36:20.4±0.2, 43.°17N×46.°17E, h5km, mb4.2, Error ellipse: s-maj=8.0km s-min=3.1km az=21.0*
MOS ***21*** *07:36:20.6±1.3, 43.°21N×46.°20E, h13km, mb4.2/1, Error ellipse: s-maj=8.6km s-min=5.6km az=34.2*
ISC 21 07:36:20.2±0.5, 43°24'N±0'.03×46°24'E±0'.03, h4km±3km, n69, σ1$1/21, 8C-3D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRO	**Groznyy**	**0.36**	**282⇓**	*i*PG	**Pg**	**07 36 27.0**	**-0.2**
GRO				*i* S	**Sg**	**07 36 32.5**	**+0.5**
GRO	**Groznyy**	**0.36**	**282**	*i* Pg	**Pg**	**07 36 27.0**	**-0.2**
GRO				*i* Sg	**Sg**	**07 36 32.5**	**+0.5**
DBC	**Dubki**	**0.49**	**117⇑**	*i*PG	**Pg**	**07 36 29.3**	**-0.3**
DBC				*e*S	**Sg**	**07 36 36.5**	**+0.5**
DBC				pmax	pmax		
	comp=Z,383nm,0.3s						
DBC	**Dubki**	**0.49**	**117**	*i* Pg	**Pg**	**07 36 29.3**	**-0.3**
	comp=Z,383nm,0.3s						
DBC				*e*Sg	**Sg**	**07 36 36.5**	**+0.5**
BTLR	**Botlikh**	**0.58**	**181**	*e*PG	**Pg**	**07 36 29.5**	**-1.8**
BTLR				*e*S	**Sg**	**07 36 37.5**	**-1.3**
BTLR				pmax	pmax		
	comp=Z,264nm,0.2s						
BTLR	**Botlikh**	**0.58**	**181**	*e*Pg	**Pg**	**07 36 29.5**	**-1.8**
	comp=Z,264nm,0.2s						
BTLR				*e*Sg	**Sg**	**07 36 37.5**	**-1.3**
KRNR	**Karanay**	**0.64**	**130**	*e*PG	**Pg**	**07 36 31.8**	**-0.8**
KRNR				*i* S	**Sg**	**07 36 41.0**	**+0.1**
KRNR				pmax	pmax		
	comp=Z,86nm,0.2s						
KRNR	**Karanay**	**0.64**	**130**	*e*Pg	**Pg**	**07 36 31.8**	**-0.8**
	comp=Z,86nm,0.2s						
KRNR				*i* Sg	**Sg**	**07 36 41.0**	**+0.1**
UNCR	**Uncukul**	**0.67**	**142**	*e*PG	**Pg**	**07 36 32.0**	**-1.1**
UNCR				*e*S	**Sg**	**07 36 41.5**	**-0.2**
UNCR	**Uncukul**	**0.67**	**142**	*e*Pg	**Pg**	**07 36 32.0**	**-1.1**
UNCR				*e*Sg	**Sg**	**07 36 41.5**	**-0.2**
BUJR	**Buynaksk**	**0.76**	**123**	*e*PG	**Pg**	**07 36 36.2**	**+1.3**
BUJR				*i* S	**Sg**	**07 36 46.0**	**+1.2**
BUJR				pmax	pmax		
	comp=Z,134nm,0.2s						
BUJR	**Buynaksk**	**0.76**	**123**	*e*Pg	**Pg**	**07 36 36.2**	**+1.3**
	comp=Z,134nm,0.2s						
BUJR				*i* Sg	**Sg**	**07 36 46.0**	**+1.2**
MAK	**Makhachkala**	**0.97**	**106**	*e*PG	**Pg**	**07 36 42.4**	**+3.6**
MAK				*e*		07 36 55.2	
MAK				pmax	pmax		
	comp=Z,254nm,0.2s						
MAK				smax			
	comp=E,1.0nm,0.4s						
MAK				smax			
	comp=N,1.0nm,0.5s						
MAK	**Makhachkala**	**0.97**	**106**	*i* Pg	**Pg**	**07 36 42.4**	**+3.6**
	comp=N,254nm,0.2s						
MAK				*e*Sg	**Sg**	**07 36 55.2**	**+3.8**
	comp=N,1.0nm,0.5s						
SNJR	**Sundja**	**1.06**	**261**	*e*PG	**Pg**	**07 36 40.5**	**0.0**
SNJR				*e*S	**Sg**	**07 36 55.1**	**+0.9**
SNJR	**Sundja**	**1.06**	**261**	*e*Pg	**Pg**	**07 36 40.5**	**0.0**
SNJR				*e*Sg	**Sg**	**07 36 55.1**	**+0.9**
VLKR	**Vladikavkaz**	**1.16**	**261**	*e*PG	**Pg**	**07 36 41.5**	**-0.9**
VLKR				*e*S	**Sg**	**07 36 57.9**	**+0.5**
VLKR	**Vladikavkaz**	**1.16**	**261**	*e*Pg	**Pg**	**07 36 41.5**	**-0.9**
VLKR				*e*Sg	**Sg**	**07 36 57.9**	**+0.5**
TRKR	**Terskaya**	**1.20**	**294⇑**	*i*PG	**Pg**	**07 36 42.7**	**-0.5**
TRKR				*e*S	**Sg**	**07 37 00.2**	**+1.6**
TRKR	**Terskaya**	**1.20**	**294**	*i* Pg	**Pg**	**07 36 42.7**	**-0.5**
TRKR				*e*Sg	**Sg**	**07 37 00.2**	**+1.6**
BTKR	**Batakoyurt**	**1.24**	**277**	*e*PG	**Pg**	**07 36 43.6**	**-0.5**
BTKR				*e*S	**Sg**	**07 37 01.0**	**+0.8**
BTKR	**Batakoyurt**	**1.24**	**277**	*e*Pg	**Pg**	**07 36 43.6**	**-0.5**
BTKR				*e*Sg	**Sg**	**07 37 01.0**	**+0.8**
KMKR	**Kumukh**	**1.28**	**150⇑**	*i*PG	**Pg**	**07 36 44.0**	**-0.8**
KMKR				*e*S	**Sg**	**07 37 01.0**	**-0.3**
KMKR				pmax	pmax		
	comp=Z,119nm,0.2s						
KMKR	**Kumukh**	**1.28**	**150**	*i* Pg	**Pg**	**07 36 44.0**	**-0.8**
	comp=Z,119nm,0.2s						
KMKR				*e*Sg	**Sg**	**07 37 01.0**	**-0.3**
SGKR	**Sergokala**	**1.31**	**126**	*e*PG	**Pn**	**07 36 44.0**	**-1.2**
SGKR				*i* S	**Sg**	**07 37 06.0**	**+3.8**
SGKR	**Sergokala**	**1.31**	**126**	*e*Pg	**Pn**	**07 36 44.0**	**-1.2**
SGKR				*i* Sg	**Sg**	**07 37 06.0**	**+3.8**
ARNR	**Ardon**	**1.43**	**269**	*e*PG	**Pn**	**07 36 45.6**	**-1.3**
ARNR				*e*S	**Sb**	**07 37 05.6**	**-0.4**
ARNR	**Ardon**	**1.43**	**269**	*e*Pg	**Pn**	**07 36 45.6**	**-1.3**
ARNR				*e*Sg	**Sb**	**07 37 05.6**	**-0.4**
LACR	**Lac**	**1.48**	**254**	*e*PG	**Pn**	**07 36 45.1**	**-2.5**
LACR				*i* S	**Sn**	**07 37 04.9**	**-2.5**
LACR	**Lac**	**1.48**	**254**	*e*Pg	**Pn**	**07 36 45.1**	**-2.5**
LACR				*i* Sg	**Sn**	**07 37 04.9**	**-2.5**
URKR	**Urkarakh**	**1.49**	**136**	*i*PG	**Pg**	**07 36 48.0**	**-0.8**
URKR				*e*S	**Sg**	**07 37 09.5**	**+1.4**
URKR				pmax	pmax		
	comp=Z,134nm,0.2s						
URKR	**Urkarakh**	**1.49**	**136**	*i* Pg	**Pg**	**07 36 48.0**	**-0.8**
	comp=Z,134nm,0.2s						
URKR				*e*Sg	**Sg**	**07 37 09.5**	**+1.4**
PRTR	**Priterechnaya**	**1.51**	**290**	*e*PG	**Pn**	**07 36 47.8**	**-0.2**
PRTR				*e*S	**Sg**	**07 37 08.8**	**+0.1**
PRTR	**Priterechnaya**	**1.51**	**290**	*e*Pg	**Pn**	**07 36 47.8**	**-0.2**
PRTR				*e*Sg	**Sg**	**07 37 08.8**	**+0.1**
KORR	**Kora**	**1.59**	**265**	*e*PG	**Pn**	**07 36 47.9**	**-1.3**
KORR				*e*S	**Sn**	**07 37 10.2**	**0.0**
KORR	**Kora**	**1.59**	**265**	*e*Pg	**Pn**	**07 36 47.9**	**-1.3**
KORR				*e*Sg	**Sn**	**07 37 10.2**	**0.0**
LSNR	**Lesken**	**1.77**	**272**	*e*PN	**Pn**	**07 36 51.7**	**+0.1**
LSNR				*e*S	**Sn**	**07 37 15.1**	**+0.6**
LSNR	**Lesken**	**1.77**	**272**	*e*Pn	**Pn**	**07 36 51.7**	**+0.1**
LSNR				*e*Sg	**Sn**	**07 37 15.1**	**+0.6**
ZEI	**Tsey**	**1.78**	**255**	*e*PN	**Pn**	**07 36 50.9**	**-0.8**
ZEI	**Tsey**	**1.78**	**255**	*e*Pn	**Pn**	**07 36 50.9**	**-0.8**
TBLG	**Delisi**	**1.87**	**217**	PN	**Pn**	**07 36 53.0**	**0.0**
TBLG				S	**Sn**	**07 37 17.4**	**+0.3**
TBLG	**Delisi**	**1.87**	**217**	P	**Pn**	**07 36 53.0**	**0.0**
TBLG				S	**Sn**	**07 37 17.4**	**+0.3**
TBLG	**Delisi**	**1.87**	**217**	Pn	**Pn**	**07 36 53.0**	**0.0**
TBLG				Sg	**Sn**	**07 37 17.4**	**+0.3**
MTA	**Mtatsminda**	**1.88**	**215**	P	**Pn**	**07 36 53.2**	**+0.1**
MTA				S	**Sn**	**07 37 18.1**	**+0.9**
DGRG	**David-gareji**	**1.90**	**200**	P	**Pn**	**07 36 54.3**	**+0.9**
DGRG				S	**Sn**	**07 37 20.9**	**+3.1**
DRN	**Derbent**	**1.96**	**127**	*e*PN	**Pn**	**07 36 56.8**	**+2.6**
DRN				*i* S	**Sg**	**07 37 23.2**	**-0.1**
DRN	**Derbent**	**1.96**	**127**	*e*Pn	**Pn**	**07 36 56.8**	**+2.6**
DRN				*i* Sg	**Sg**	**07 37 23.2**	**-0.1**
DIGR	**Digorskoe uzhe**	**1.98**	**261**	*e*PN	**Pn**	**07 36 53.0**	**-1.4**
DIGR	**Digorskoe uzhe**	**1.98**	**261**	*e*Pn	**Pn**	**07 36 53.0**	**-1.4**
GOR	**Gori**	**2.01**	**232**	P	**Pn**	**07 36 56.2**	**+1.3**
GOR				S	**Sn**	**07 37 20.2**	**-0.3**
AKT	**Akhty**	**2.08**	**147**	*e*PN	**Pn**	**07 36 57.5**	**+1.6**
AKT				*e*S	**Sg**	**07 37 26.5**	**-0.6**
AKT				pmax	pmax		
	comp=Z,63nm,0.3s						
AKT	**Akhty**	**2.08**	**147**	*e*Pn	**Pn**	**07 36 57.5**	**+1.6**
	comp=Z,63nm,0.3s						
AKT				*e*Sg	**Sg**	**07 37 26.5**	**-0.6**
ONI	**Oni**	**2.15**	**253**	P	**Pn**	**07 36 56.1**	**-0.7**
ONI				S	**Sn**	**07 37 24.9**	**+1.1**
BEYR	**Belyy Ugol+**	**2.60**	**288⇑**	*e*PN	**Pn**	**07 37 07.3**	**+4.3**
BEYR	**Belyy Ugol+**	**2.60**	**288**	*e*Pn	**Pn**	**07 37 07.3**	**+4.3**
KIV	**Kislovodsk**	**2.67**	**287**	*de*PN	**Pn**	**07 37 09.6**	**+5.6**
KIV				*i*		07 37 14.3	
KIV						07 37 52.3	
KIV				pmax	pmax		
	comp=Z,3.0nm,0.4s						
KIV				pmax	pmax		
	comp=Z,28nm,0.6s						
KIV				pmax	pmax		
	comp=N,97nm,1.2s						
KIV	**Kislovodsk**	**2.67**	**287**	*e*Pn	**Pn**	**07 37 09.6**	**+5.6**
	comp=N,3.0nm,0.4s						
KIV	**Kislovodsk**	**2.67**	**287**	*i* Pg	**Pg**	**07 37 14.3**	**+2.8**
	comp=N,28nm,0.6s						
KIV				Sg	**Sg**	**07 37 52.3**	**+6.2**
	comp=N,97nm,1.2s						
AKH	**Akhalkalaki**	**2.74**	**229**	P	**Pn**	**07 37 06.6**	**+1.7**
AKH				S	**Sn**	**07 37 42.5**	**+4.1**
GNI	**Garni**	**3.29**	**200⇑**	*e*PN	**Pn**	**07 37 17.7**	**+5.3**
GNI	**Garni**	**3.29**	**200**	*e*Pn	**Pn**	**07 37 17.7**	**+5.3**
ANN	**Anapa**	**6.54**	**287**	*e*P	**Pn**	**07 37 54.3**	**-2.8**
ANN	**Anapa**	**6.54**	**287**	*e*P	**Pn**	**07 37 54.3**	**-2.8**
AKTO	**Aktyubinsk**	**10.80**	**44**	⇑S	**Sn**	**07 40 47.4**	**-9.4**
	comp=N,1.3nm,1.3s						
AKTO	**Aktyubinsk**	**10.80**	**44**	S	**Sn**	**07 40 47.4**	**-9.3**
	comp=N,1.3nm,1.3s						
AB31	**Akbulak array**	**11.23**	**53**	P	**Pn**	**07 39 00.2**	**-1.1**
	comp=N,0.3nm,0.3s,baz=244,slow=11,SNR=9.7						
AB31				⇑S	**Sn**	**07 40 57.5**	**-10**
	comp=N,1.5nm,0.5s,baz=243,slow=5.4,SNR=3.5						
AB31	**Akbulak array**	**11.23**	**53**	P	**Pn**	**07 39 00.2**	**-1.2**
	comp=N,0.3nm,0.3s,baz=244,SNR=9.7						
AB31				S	**Sn**	**07 40 57.5**	**-10**
	comp=N,1.5nm,0.5s,SNR=3.5						
OBN	**Obninsk**	**13.44**	**335⇓**	*e*P	**Pn**	**07 39 32.4**	**+0.9**
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
OBN	**Obninsk**	**13.44**	**335**	*e*P	**Pn**	**07 39 32.4**	**+0.9**
	comp=Z,5.0nm,1.0s						

MEX 21 08:21:03.5±0.6, 16°.04N×96°.43W, h29km±11km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**0.41**	**131**	*i* P	Pb	08 21 10.7	-1.8
HUIG				*i* S	Sb	08 21 17.2	-1.4
VHO	**Vista Hermosa**	**1.07**	**344**	*e*P	Pn	08 21 19.9	-2.6
VHO				*i* S	Sn	08 21 33.9	-2.5
OXX	**Oaxaca**	**1.07**	**345**	*i* P	Pn	08 21 20.8	-1.8
OXX				*i* S	Sn	08 21 34.0	-2.5
PNIG	**Pinotepa**	**1.67**	**282**	*i* P	Pn	08 21 29.2	-1.5
PNIG				*i* S	Sn	08 21 48.0	-3.2
CMIG	**Matias Romero**	**1.81**	**55**	*i* P	Pn	08 21 30.9	-1.9
CMIG				*i* S	Sn	08 21 52.5	-2.3
TPIG	**Tehuac#an**	**2.53**	**339**	*i* P	Pn	08 21 43.5	+0.9
TPIG				*i* S	Sn	08 22 10.2	-2.3
PCIG		**3.11**	**96**	*i* P	Pn	08 21 48.9	-1.7
PCIG				*i* S	Sn	08 22 24.6	-2.2
TGIG		**3.26**	**77**	*e*P	Pn	08 21 51.3	-1.3
TGIG				*i* S	Sn	08 22 28.1	-2.4
CCIG	**Comitan**	**4.13**	**86**	*e*P	Pn	08 22 03.6	-1.1
CCIG				*i* S	Sn	08 22 50.4	-1.7

IDC ***21*** *08:32:16.4±1.2, 32°.37N×105°.41E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.5/25, mbtmp3.5/5, ML3.3/1, MS4.0/2, Ms1 3.9/2, ms1mx3.1/38, Error ellipse: s-maj=96.5km s-min=20.5km az=56.0*
BJI ***21*** *08:32:17.7, 32°.43N×105°.47E, h14km, ML3.6/14, Ms3.6/1, Ms7 3.4/3*
ISC 21 08:32:17.3±1.0, 32°.40N±0'.03×105°.32E±0'.05, h1km±8km, n13, σ1$25/21, mb3.7/4, MS4.0/2, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.00**	**222**	Pn	**Pn**	**08 32 52.0**	**-0.2**
CD2				Pg	**Pg**	**08 32 56.9**	**+1.3**
CD2				Sg	**Sg**	**08 33 21.8**	**+0.3**
CD2				smax			
	comp=N,2μm,0.7s						
CD2				smax			
	comp=E,2μm,0.8s						
XAN	**Xi'an**	**3.43**	**61**	Pn	**Pn**	**08 33 12.1**	**+0.1**
XAN				Pg	**Pg**	**08 33 21.3**	**-1.8**
XAN				Sg	**Sb**	**08 34 02.1**	**+1.0**
XAN				smax			
	comp=N,250nm,0.7s						
XAN				smax			
	comp=E,120nm,0.9s						
LZH	**Lanzhou**	**3.88**	**342**	Pn	**Pn**	**08 33 18.6**	**+0.5**
LZH				Pg	**Pg**	**08 33 29.0**	**-2.6**
LZH				Sn	**Sn**	**08 34 01.6**	**-2.7**
LZH				Sg	**Sb**	**08 34 15.6**	**+1.6**
LZH				smax			
	comp=N,270nm,0.9s						
LZH				smax			
	comp=E,490nm,1.1s						
LZH				LR	LR		
	comp=N,270nm,4.7s						
LZH				LR	LR		
	comp=E,310nm,4.3s						
LZH				LR	LR		
	comp=Z,310nm,5.8s						
GYA	**Guiyang**	**6.04**	**168**	Pn	**Pn**	**08 33 50.9**	**+3.1**
GYA				Sn	**Sn**	**08 34 57.3**	**-0.2**
GYA				Sg	**Sg**	**08 35 31.6**	**+0.4**
GYA				smax			
	comp=N,60nm,0.9s						
GYA				smax			
	comp=E,40nm,0.7s						
WHN	**Wuhan**	**7.93**	**101**	*e*P	**Pn**	**08 34 10.3**	**-3.5**
HHC	**Hu-ho-hao-te**	**9.81**	**29**	*e*P	**Pn**	**08 34 40.5**	**+1.0**
HHC				sP		08 34 46.6	
HHC				S	**Sn**	**08 36 31.8**	**+1.5**
HHC				sS		08 36 36.6	
HHC				PcP	PcP	08 40 53.3	-0.1
SONM	**Songino Array**	**15.44**	**3**	Pn	**Pn**	**08 35 56.3**	**+0.1**
	comp=E,0.1nm,0.3s,baz=186,slow=13,SNR=2.3						
MKAR	**Makanchi Array**	**22.73**	**316**	P	**P**	**08 37 20.1**	**-0.5**
	comp=E,0.8nm,0.7s,mb3.4,baz=108,slow=12,SNR=6.8						
KURK	**Kurchatov**	**26.87**	**321**	P	**P**	**08 37 59.4**	**-0.1**
	comp=E,0.3nm,0.3s,mb3.5,baz=134,slow=9.2,SNR=5.5						
FINES	**FINESS Array B**	**57.08**	**326**	LR	LR	09 10 48.7	
	comp=E,357nm,21.7s,MS4.4,baz=312,slow=40						
WRA	**Warramunga Arr**	**58.99**	**148**	P	**P**	**08 42 17.4**	**-1.3**
	comp=E,1.0nm,0.5s,mb4.1,baz=340,slow=7.8,SNR=16						
ASAR	**Alice Springs**	**62.08**	**150**	P	**P**	**08 42 38.7**	**-1.0**
	comp=E,0.7nm,0.8s,mb3.9,baz=334,slow=6.5,SNR=7.4						
YKA	**Yellowknife Ar**	**80.15**	**18**	LR	LR	09 25 36.8	
	comp=E,29nm,19.8s,MS3.6,baz=140,slow=40						

NIED ***21*** *08:32:00, 43.°90N×147.°20E, h130km, Mw5.1 Best double couple: M0 4.79000×10^16 NP1:φ0=63.00000°, δ=89.00000°, λ=48.00000°. NP2:φ0=332.00000°, δ=42.00000°, λ=179.00000°.*
MOS ***21*** *08:32:47.6±1.1, 43.°48N×147.°85E, h46km, mb4.4/5, Error ellipse: s-maj=29.0km s-min=23.0km az=92.5*
ISCJB ***21*** *08:32:53.0±0.8, 43.°95N±0'.09×147.°3E±0'.1, h88km±8km, mb4.0/7, Error ellipse: s-maj=18.2km s-min=6.2km az=138.4*
SKHL ***21*** *08:32:54.6±0.6, 43.°84N×147.°42E, h50km±10km, mb5.6/2*
JMA ***21*** *08:32:54.8±0.2, 43.°88N×147.°20E, h83km±4km, M3.9*
IDC ***21*** *08:32:57.9±3.6, 44.°16N×146.°93E, h120km±40km, mb3.7/7, mb1 4.0/8, mb1mx3.5/26, mbtmp3.7/8, MS4.3/1, Ms1 4.3/1, ms1mx2.8/42, Error ellipse: s-maj=58.9km s-min=38.3km az=179.0*
ISC 21 08:32:54.0±0.9, 43°.95N±0'.09×147°.3E±0'.1, h80km±8km, n35, σ0$83/45, mb4.0/7, 2C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK	**Yuzh-Kuril'sk**	**1.04**	**275**	*c*PN	**Pn**	**08 33 13.4**	**-0.1**
YUK				*i* S	**Sn**	**08 33 27.4**	**-0.7**
YUK				pmax	pmax		
	comp=Z,5μm,0.2s						
YUK				pmax	pmax		
	comp=N,514nm,0.1s						
YUK				pmax	pmax		
	comp=Z,996nm,0.2s						
YUK				pmax	pmax		
	comp=E,928nm,0.1s						
YUK				smax			
	comp=N,3μm,0.4s						
YUK				smax			
	comp=E,7μm,0.5s						
YUK				smax			
	comp=N,3μm,0.6s						
YUK				smax			
	comp=E,2μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**1.04**	**275⇑**	*i*P	**Pn**	**08 33 13.5**	**0.0**
YUK				AMB	AMB	08 33 14.0	
YUK				AMB	AMB	08 33 14.0	
	comp=E,510nm,0.2s						
YUK				AMB	AMB	08 33 14.0	
	comp=E,930nm,0.2s						
YUK				AMB	AMB	08 33 14.0	
	comp=E,5μm,0.2s						
YUK				*i* S	**Sn**	**08 33 27.4**	**-0.7**
YUK				A		08 33 28.4	
	comp=E,3μm,0.4s						
YUK				A		08 33 28.4	
	comp=E,7μm,0.4s						
NEM2	**Nemuro 2**	**1.27**	**243**	P	**Pn**	**08 33 16.4**	**0.0**
NEM2				*e*S	**Sn**	**08 33 32.4**	**-0.8**
KUR	**Kuril'sk**	**1.35**	**17**	*e*PN	**Pn**	**08 33 17.0**	**-0.3**
KUR				*e*S	**Sn**	**08 33 34.2**	**-0.7**
KUR				pmax	pmax		
	comp=E,240nm,0.5s						
KUR				pmax	pmax		
	comp=Z,760nm,0.5s						
KUR				pmax	pmax		
	comp=N,380nm,0.6s						
KUR				smax			
	comp=E,4μm,1.0s						
KUR				smax			
	comp=N,2μm,0.6s						
KUR				smax			
	comp=N,2μm,0.3s						
KUR				smax			
	comp=E,2μm,0.3s						
KUR	**Kuril'sk**	**1.35**	**17**	*e*P	**Pn**	**08 33 17.0**	**-0.3**
KUR				AMB	AMB	08 33 17.5	
	comp=E,380nm,0.5s						
KUR				AMB	AMB	08 33 17.5	
	comp=E,240nm,0.5s						
KUR				AMB	AMB	08 33 17.5	
	comp=E,760nm,0.5s						
KUR				*e*S	**Sn**	**08 33 34.0**	**-0.9**
KUR				A		08 33 35.0	
	comp=E,4μm,1.0s						
KUR				A		08 33 35.0	
	comp=E,2μm,0.3s						
KUR				A		08 33 35.0	
	comp=E,2μm,0.3s						
KUR				A		08 33 35.0	
	comp=E,2μm,0.6s						
JRA	**Rausu**	**1.57**	**270**	P	**Pn**	**08 33 20.7**	**+0.5**
JRA				*e*S	**Sn**	**08 33

comp=Z,1.7nm,0.4s,mb4.1,baz=292,slow=4.8,SNR=21

INK	**Inuvik**	**46.18**	**30**	P	**P**	**08 41 09.5**	**-0.6**
INK				pmax	pmax		

comp=Z,2.0nm,0.4s

YKA	**Yellowknife Ar**	**55.58**	**34**	P	**P**	**08 42 20.2**	**-0.5**

comp=Z,2.5nm,0.8s,mb4.3,baz=305,slow=7.2,SNR=2.6

YKA	**Yellowknife Ar**	**55.58**	**34**	P	**P**	**08 42 20.2**	**-0.5**
YKA				pmax	pmax		

comp=Z,3.0nm,0.9s

ARCES	**ARCESS Array B**	**59.10**	**340**	LR	LR	09 15 58.1	

comp=Z,219nm,18.8s,baz=58,slow=44

NVAR	**Mina Aray Bea**	**67.38**	**58**	P	**P**	**08 43 40.8**	**+0.2**

comp=Z,1.8nm,0.8s,mb4.0,baz=293,slow=7.4,SNR=8.3

HFS	**Hagfors**	**69.55**	**337**	P	**P**	**08 43 51.3**	**-2.4**

comp=Z,1.1nm,0.3s,mb4.1,baz=41,slow=4.6,SNR=5.6

HFS	**Hagfors**	**69.55**	**337**	P	**P**	**08 43 51.3**	**-2.4**
HFS				pmax	pmax		

comp=Z,1.0nm,0.4s

PDAR	**Pinedale Array**	**69.70**	**50**	P	**P**	**08 43 55.1**	**+0.2**

comp=Z,1.0nm,0.5s,mb3.9,baz=252,slow=2.5,SNR=9.3

TXAR	**Lajitas Array**	**82.45**	**56**	P	**P**	**08 45 07.9**	**+0.3**

comp=Z,1.2nm,0.5s,mb4.0,baz=298,slow=3.7,SNR=13

TXAR	**Lajitas Array**	**82.45**	**56**	P	**P**	**08 45 07.9**	**+0.4**
TXAR				pmax	pmax		

comp=Z,1.0nm,0.5s

GUC 21 08:38:50.6±0.7, 22°09'S×70°12'W, h60km±4km, ML3.8, 1C-6D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MACH	**Maria Elena**	**0.35**	**108**	*e*P	Pn	08 39 01.5	+0.4
MACH				*e*S	Sn	08 39 09.9	+1.2
PB07	**Plate Boundary**	**0.42**	**31**	↓*i*P	Pn	08 39 02.1	+0.4
PB07				*i* S	Sn	08 39 10.8	+0.9
PB07				AML	AML	08 39 11.2	

comp=N,10μm,0.4s

PB04	**Plate Boundary**	**0.61**	**107**	↑*i*P	Pn	08 39 00.9	-2.9
PB04				*i* S	Sn	08 39 08.7	-4.8
PB04				AML	AML	08 39 09.7	

comp=N,13μm,0.4s

PB09	**Plate Boundary**	**0.86**	**71**	↓*i*P	Pn	08 39 07.8	+0.9
PB09				*e*S	Sn	08 39 20.4	+1.6
PB09				AML	AML	08 39 20.9	

comp=E,13μm,0.1s

MECH	**Mejillones**	**1.06**	**197**	↓*i*P	Pn	08 39 09.3	-0.1
MECH				*i* S	Sn	08 39 24.1	+0.7
MECH				AML	AML	08 39 24.7	

comp=N,2μm,0.4s

ANCH	**Antofagasta**	**1.61**	**190**	↓*e*P	Pn	08 39 16.0	-0.8
HMBC	**Humberston**	**1.81**	**7**	↓*e*P	Pn	08 39 18.8	-0.7
PSGC	**Pisagua**	**2.48**	**360**	↓*i*P	Pn	08 39 27.2	-1.4

*IDC **21** 08:49:34.9±1.4, 32°42'N×105°61'E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.5/26, mbtmp3.5/5, ML3.8/2, Error ellipse: s-maj=72.8km s-min=26.5km az=70.0*
*BJI **21** 08:49:35.9, 32°27'N×105°11'E, h14km, ML3.4/11, Ms3.4/1, Ms7 3.3/1*

ISC 21 08:49:34.8±1.0, 32°28'N±0°04×104°92'E±0°07, h3km±9km, n8, σ1°15/14, mb3.6/3, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**1.69**	**216**	Pg	**Pg**	**08 50 07.1**	**-0.1**
CD2				Sg	**Sg**	**08 50 29.6**	**+0.5**
CD2				smax			

comp=N,1μm,0.5s

CD2				smax			

comp=E,2μm,0.7s

XAN	**Xi'an**	**3.78**	**61**	Pn	**Pn**	**08 50 34.5**	**+0.5**
XAN				Pg	**Pg**	**08 50 45.3**	**-2.0**
XAN				Sg	**Sb**	**08 51 30.0**	**+1.5**
XAN				smax			

comp=N,110nm,0.6s

XAN				smax			

comp=E,38nm,0.6s

LZH	**Lanzhou**	**3.90**	**347**	*e*Pn	**Pb**	**08 50 40.5**	**-3.7**
LZH				Pg	**Pg**	**08 50 50.0**	**+0.5**
LZH				Sn	**Sb**	**08 51 29.8**	**-2.0**
LZH				Sg	**Sg**	**08 51 40.8**	**+0.8**
LZH				smax			

comp=N,200nm,0.6s

LZH				smax			

comp=E,110nm,0.5s

LZH				LR	LR		

comp=N,210nm,4.2s

LZH				LR	LR		

comp=E,210nm,4.8s

LZH				LR	LR		

comp=Z,260nm,7.2s

CMAR	**Chiang Mai Arr**	**14.78**	**203**	Pn	**Pn**	**08 53 11.3**	**+6.5**

comp=Z,0.2nm,0.3s,baz=11,slow=9.3,SNR=4.3

SONM	**Songino Array**	**15.57**	**4**	Pn	**Pn**	**08 53 15.6**	**+0.3**

comp=Z,0.2nm,0.3s,baz=167,slow=7.0,SNR=3.2

ZALV	**Zalesovo Beam**	**25.98**	**332**	P	**P**	**08 55 10.0**	**+1.4**

comp=Z,0.5nm,0.5s,mb3.3,baz=138,slow=13,SNR=2.1

WRA	**Warramunga Arr**	**59.07**	**147**	P	**P**	**08 59 36.1**	**-0.3**

comp=Z,0.6nm,0.6s,mb3.8,baz=343,slow=7.5,SNR=5.9

ASAR	**Alice Springs**	**62.14**	**150**	P	**P**	**08 59 56.0**	**-1.3**

comp=Z,0.3nm,0.4s,mb3.7,baz=329,slow=6.3,SNR=4.5

IDC 21 08:54:17.7±1.5, 9°85'S×151°23'E, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.9/17, mbtmp3.9/8, ML3.2/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/28, Error ellipse: s-maj=43.2km s-min=22.8km az=120.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.04**	**276**	Pn	Pn	08 55 21.9	+1.1

4.0nm,0.3s,baz=108,slow=5.5,SNR=9.5

CTA	**Charters Tower**	**11.26**	**205**	LR	LR	09 00 31.1	

comp=Z,85nm,19.4s,baz=186,slow=33

WRA	**Warramunga Arr**	**19.14**	**236**	P	Pn	08 58 43.1	-0.3

0.1nm,0.3s,baz=62,slow=11,SNR=15

ASAR	**Alice Springs**	**21.50**	**228**	P	P	08 59 08.3	0.0

1.7nm,0.8s,baz=59,slow=11,SNR=16

STKA	**Stephens Creek**	**23.67**	**201**	P	P	08 59 32.2	+1.0

9.8nm,1.0s,baz=24,slow=12,SNR=7.1

FITZ	**Fitzroy Crossi**	**26.12**	**249**	P	P	08 59 52.8	-0.9

2.2nm,0.7s,baz=118,slow=7.6,SNR=7.3

SONM	**Songino Array**	**69.80**	**330**	P	P	09 05 31.1	+1.3

1.0nm,0.9s,baz=82,slow=3.9,SNR=4.3

MKAR	**Makanchi Array**	**83.11**	**320**	P	P	09 06 45.5	0.0

0.4nm,0.6s,baz=107,slow=8.1,SNR=4.3

ILAR	**Eielson Array**	**87.39**	**22**	P	P	09 07 06.8	+0.4

0.7nm,1.0s,baz=286,slow=6.3,SNR=5.8

TORD	**Torodi Ar. Bea**	**149.97**	**279**	PKPbc	PKPbc	09 14 08.6	-2.6

0.9nm,1.0s,baz=50,slow=1.6,SNR=4.0

IDC 21 09:05:51.6±8.0, 12°09'N×147°20'E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.7/25, mbtmp4.0/5, ML4.7/1, Error ellipse: s-maj=222.7km s-min=44.6km az=4.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.72**	**304**	Pn	Pn	09 06 36.6	+0.1

140nm,0.3s,baz=118,slow=4.0,SNR=92

GUMO				Sn	Sn	09 06 52.0	-18

193nm,0.3s,baz=0.0,slow=20,SNR=15

MKAR	**Makanchi Array**	**64.14**	**316**	P	P	09 16 27.9	0.0

0.2nm,0.5s,baz=98,slow=7.6,SNR=3.6

ZALV	**Zalesovo Beam**	**64.16**	**324**	P	P	09 16 27.5	-0.3

0.4nm,0.4s,baz=95,slow=3.0,SNR=2.6

KURK	**Kurchatov**	**67.19**	**320**	P	P	09 16 48.1	+0.6

1.3nm,0.3s,baz=99,slow=6.8,SNR=6.9

ILAR	**Eielson Array**	**68.95**	**25**	P	P	09 16 58.5	+0.1

0.5nm,1.1s,baz=246,slow=5.9,SNR=2.7

*IDC **21** 09:14:08.9±1.2, 2°91'S×119°54'E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.6/21, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=70.7km s-min=17.9km az=70.0*
*DJA **21** 09:14:09, 2°85'S×119°52'E, h10km, MLv3.9/4*
*ISCJB **21** 09:14:11.7±0.7, 2°86'S±0°05×119°49'E±0°09, h33km, mb3.5/4, Error ellipse: s-maj=13.6km s-min=7.5km az=169.4*

ISC 21 09:14:13.6±0.7, 2°91'S±0°06×119°50'E±0°10, h35km, n13, σ1°05/16, mb3.5/4, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTSI	**Tana Toraja**	**0.35**	**113**	P	**Pn**	**09 14 14.2**	**-8.0**
SPSI	**Sidrap Palu**	**1.09**	**165**	P	**Pn**	**09 14 29.6**	**-2.7**
SPSI				S	**Sn**	**09 14 46.2**	**0.0**
KAPI	**Kappang**	**2.11**	**173**	Pn	**Pn**	**09 14 45.3**	**-1.2**

15nm,0.3s,baz=324,slow=9.0,SNR=46

KAPI				Sn	**Sn**	**09 15 13.5**	**+2.0**

22nm,0.3s,baz=255,slow=22,SNR=19

KAPI	**Kappang**	**2.11**	**173**	P	**Pn**	**09 14 45.3**	**-1.1**
BKSI	**Bulukumba**	**2.48**	**165**	P	**Pn**	**09 14 51.9**	**+0.4**
BKSI				S	**Sn**	**09 15 25.8**	**+5.2**
KDI	**Kendari**	**3.29**	**109**	P	**Pn**	**09 15 07.3**	**+4.7**
KBKI	**Kotabaru**	**3.35**	**263**	P	**Pn**	**09 15 02.8**	**-0.7**
LUWI	**Luwuk**	**3.76**	**61**	P	**Pn**	**09 15 08.9**	**-0.2**
MRSI	**Marisa**	**4.16**	**36**	P	**Pn**	**09 15 23.4**	**+8.8**
WRA	**Warramunga Arr**	**22.29**	**141**	P	**P**	**09 19 07.4**	**-0.5**

1.1nm,0.8s,mb3.4,baz=320,slow=10,SNR=7.8

ASAR	**Alice Springs**	**24.90**	**147**	P	**P**	**09 19 33.6**	**+0.2**

1.0nm,0.9s,mb3.4,baz=326,slow=7.6,SNR=17

SONM	**Songino Array**	**51.82**	**349**	P	**P**	**09 23 19.1**	**+1.1**

0.4nm,0.5s,mb3.6,baz=179,slow=6.7,SNR=4.4

MKAR	**Makanchi Array**	**59.34**	**331**	P	**P**	**09 24 12.7**	**+0.6**

0.4nm,0.6s,mb3.6,baz=130,slow=8.2,SNR=6.0

RSPR 21 09:21:38.0, 17°93'N×65°83'W, h8km±14km, 10C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPD	**Cerro la Pandu**	**0.14**	**321**	↑*e*P	Pg	09 21 41.1	+0.2
CPD	**Cerro la Pandu**	**0.14**	**321**	↑*e*P	Pg	09 21 41.1	+0.2
CPD				*e*S	Sg	09 21 43.8	+0.9
HUMP	**Col San Antoni**	**0.21**	**354**	↑*e*P	Pg	09 21 42.5	+0.2
HUMP	**Col San Antoni**	**0.21**	**354**	↑*e*P	Pg	09 21 42.5	+0.2
HUMP				*e*S	Sg	09 21 45.9	+0.7
MTP	**Monte Pirata**	**0.31**	**58**	↑*e*P	Pg	09 21 44.2	+0.1
MTP	**Monte Pirata**	**0.31**	**58**	↑*e*P	Pg	09 21 44.2	+0.1
MTP				*e*S	Sg	09 21 48.6	+0.4
CBYP	**Canovanas**	**0.34**	**355**	↑*e*P	Pg	09 21 44.9	+0.2
CBYP	**Canovanas**	**0.34**	**355**	↑*e*P	Pg	09 21 44.9	+0.2
CBYP				*e*S	Sg	09 21 50.8	+1.6
STVI	**Saint Thomas**	**0.93**	**63**	↑*e*P	Pg	09 21 54.6	-1.3
STVI	**Saint Thomas**	**0.93**	**63**	↑*e*P	Pg	09 21 54.6	-1.3
STVI				*e*S	Sg	09 22 07.2	-0.8

*NOU **21** 09:32:37.3±0.7, 19°87'S×169°43'E, h30km, MD2.9, ML2.8*
*ISCJB **21** 09:32:38.3±2.0, 20°8'S±0°1×169°8'E±0°1, h128km±15km, mb4.0/12, Error ellipse: s-maj=21.8km s-min=19.9km az=144.9*
*NEIC **21** 09:32:38.8±2.0, 20°65'S×169°78'E, h114km±15km, mb4.2/5, Error ellipse: s-maj=18.2km s-min=13.8km az=66.0*
*IDC **21** 09:32:40.1±1.5, 20°66'S×169°73'E, h124km±10km, mb3.7/8, mb1 4.0/8, mb1mx3.8/16, mbtmp3.7/8, Error ellipse: s-maj=26.1km s-min=22.6km az=130.0*

ISC 21 09:32:39.1±1.9, 20°7'S±0°1×169°7'E±0°1, h115km±14km, h122km±3.0km: pP-P, n33, σ0°73/31, mb4.1/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.02**	**241**	*e*P	**Pn**	**09 33 25.3**	**-0.1**
BAYA				*e*S	**Sn**	**09 34 01.2**	**+0.1**
BAYA				AMP		09 34 03.7	

comp=Z,47nm,2.1s

DZM	**Mont Dzumac**	**3.35**	**246**	*e*Pn	**Pn**	**09 33 30.4**	**+0.6**
DZM				*e*Sn	**Sn**	**09 34 09.4**	**+0.3**
MVNO	**Noumea**	**3.44**	**243**	*e*P	**Pn**	**09 33 31.3**	**+0.4**
MVNO				*e*S	**Sn**	**09 34 10.3**	**-0.8**
MVNO				AMP		09 34 13.9	

comp=Z,26nm,4.7s

NOUC	**Port Laguerre**	**3.48**	**246**	*e*P	**Pn**	**09 33 31.4**	**-0.3**
NOUC				*e*S	**Sn**	**09 34 12.0**	**-0.2**
NOUC				AMP		09 34 29.8	

comp=Z,146nm,2.5s

WRAB	**Tennant Creek**	**33.16**	**265**	*e*P	**P**	**09 39 05.0**	**+0.3**

comp=Z,0.7nm,0.5s,mb3.8

WRA	**Warramunga Arr**	**33.16**	**265**	P	**P**	**09 39 03.9**	**-0.9**

comp=Z,0.7nm,0.5s,mb3.8,baz=92,slow=8.4,SNR=25

WRA				pP	pP	09 39 31.9	+1.6

comp=Z,0.5nm,0.8s,baz=96,slow=7.8,SNR=2.7

WRA				PcP	PcP	09 41 44.9	-0.3

comp=Z,0.5nm,0.4s,baz=94,slow=3.5,SNR=8.1

WRA	**Warramunga Arr**	**33.16**	**265**	P	**P**	**09 39 03.9**	**-0.9**
WRA				pP	pP	09 39 31.9	+1.6
WRA				PcP	PcP	09 41 44.9	-0.3
ASAR	**Alice Springs**	**33.26**	**258**	P	**P**	**09 39 05.9**	**+0.4**

comp=Z,1.9nm,0.5s,mb4.2,baz=92,slow=9.0,SNR=59

ASAR				pP	pP	09 39 32.5	+1.4

comp=Z,1.5nm,0.8s,baz=83,slow=8.6,SNR=4.4

ASAR				PcP	PcP	09 41 45.1	-0.2

comp=Z,1.4nm,0.7s,baz=97,slow=2.8,SNR=11

ASAR	**Alice Springs**	**33.26**	**258**	P	**P**	**09 39 05.9**	**+0.4**
ASAR				pP	pP	09 39 32.5	+1.4
ASAR				PcP	PcP	09 41 45.1	-0.2
FITZ	**Fitzroy Crossi**	**41.58**	**266**	P	**P**	**09 40 16.7**	**+1.0**

comp=Z,2.7nm,0.7s,mb4.1,baz=97,slow=7.6,SNR=8.6

FITZ				pP	pP	09 40 44.4	+2.3

comp=Z,3.5nm,0.8s,baz=120,slow=4.0,SNR=4.2

FITZ	**Fitzroy Crossi**	**41.58**	**266**	*e*P	**P**	**09 40 16.9**	**+1.1**

comp=Z,2.3nm,0.7s,mb4.0

FITZ				pP	pP	09 40 44.4	+2.3
VNDA	**Vanda**	**56.97**	**182**	P	**P**	**09 42 12.2**	**+0.2**

comp=Z,0.8nm,0.6s,mb4.0,baz=20,slow=4.0,SNR=3.7

VNDA	**Vanda**	**56.97**	**182**	P	**P**	**09 42 12.2**	**+0.2**
SBA	**Scott Base**	**57.19**	**181**	*e*P	**P**	**09 42 14.3**	**+0.8**

comp=Z,4.1nm,0.8s,mb4.5

MJAR	**Matsushiro Arr**	**64.28**	**332**	P	**P**	**09 43 01.9**	**-0.1**

comp=Z,0.6nm,0.4s,mb3.8,baz=213,slow=16,SNR=4.8

MJAR	**Matsushiro Arr**	**64.28**	**332**	P	**P**	**09 43 01.9**	**-0.1**
QSPA	**South Pole Qui**	**69.34**	**180**	*e*P	**P**	**09 43 33.4**	**-0.2**

comp=Z,7.8nm,1.0s,mb4.5

MAW	**Mawson**	**77.24**	**202**	P	**P**	**09 44 21.1**	**+1.0**

comp=Z,1.8nm,0.6s,mb4.0,baz=119,slow=7.3,SNR=8.0

MAW	**Mawson**	**77.24**	**202**	P	**P**	**09 44 21.1**	**+1.0**
SNAA	**Sanae**	**87.71**	**182**	*e*P	**P**	**09 45 09.3**	**-5.1**

comp=Z,1.2nm,0.6s,mb4.1

VNA3	**Neumayer Olymp**	**88.28**	**180**	*e*	P	09 45 13.2	-3.9
VNA3				*e*	pP	09 45 43.2	-3.8
VNA2	**Neumayer--Watz**	**88.58**	**181**	*e*	**P**	**09 45 15.2**	**-3.3**
VNA2				*e*		09 45 25.2	
SONM	**Songino Array**	**88.68**	**323**	P	P	**09 45 18.8**	**-0.4**

comp=Z,1.0nm,0.7s,mb3.9,baz=142,slow=3.0,SNR=5.4

SONM	**Songino Array**	**88.68**	**323**	P	**P**	**09 45 18.8**	**-0.4**
VNA1	**Neumayer--Stat**	**88.86**	**181**	*e*	**P**	**09 45 16.1**	**-3.7**
NVAR	**Mina Aray Bea**	**89.43**	**48**	P	**P**	**09 45 23.0**	**+0.1**

comp=Z,2.4nm,0.8s,mb4.3,baz=224,slow=7.9,SNR=11

NVAR	**Mina Aray Bea**	**89.43**	**48**	P	**P**	**09 45 23.0**	**+0.1**
ARCES	**ARCESS Array B**	**126.61**	**345**	PKP	PKPdf	09 51 27.3	-0.7

comp=Z,7.7nm,1.0s,baz=66,slow=3.0,SNR=4.9

ARCES	**ARCESS Array B**	**126.61**	**345**	PKP	PKPdf	09 51 27.3	-0.6
CLL	**Collm**	**144.45**	**335**	*e*PKPdf	PKPdf	09 52 00.0	-1.5
GERES	**GERESS Array B**	**146.01**	**331**	PKPbc	PKPbc	09 52 05.2	0.0

comp=Z,1.8nm,0.6s,baz=29,slow=3.0,SNR=11

GERES	**GERESS Array B**	**146.01**	**331**	PKPbc	PKPbc	09 52 05.2	0.0
ORIF	**Oris-en-Rattie**	**152.43**	**335**	*e*PKP1	PKPbc	09 52 21.2	-0.4

comp=Z,6.6nm,0.6s

NNC 21 09:49:31.2±1.7, 53°38'N×87°41'E, h8km±10km, mb3.6, mpv3.3, 3C-5D, Error ellipse: s-maj=11.7km s-min=10.9km az=74.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**6.04**	**247**	↓Pn	Pn	09 51 00.8	+0.1

3.5nm,0.7s

KURK				↓Sn	Sn	09 52 11.1	+1.1

3.9nm,0.9s

KURK				↑Lg		09 52 42.2	

28nm,0.9s

KURBB	**Kurchatov Arra**	**6.14**	**247**	Pn	Pn	09 51 02.4	+0.4

1.0nm,0.5s

KURBB				Sn	Sn	09 52 13.8	+1.5

2.2nm,0.9s

KURBB				↓Lg		09 52 46.7	

5.1nm,0.8s

MK31	**Makanchi Array**	**7.37**	**209**	↑Pn	Pn	09 51 19.5	+0.6

0.8nm,0.5s,baz=29,slow=13,SNR=20

MK31				↓Sn	Sn	09 52 43.0	+0.4

1.1nm,0.6s,baz=29,slow=19,SNR=4.9

MK31				Lg		09 53 24.8	

VOSK	**Vostochnaya**	**9.92**	**273**	↑Pn	Pn	09 51 52.5	-1.4

4.6nm,1.4s

BVA0	**Borovoye Array**	**10.22**	**275**	↓Pn	Pn	09 51 58.3	+0.3

0.5nm,0.9s,baz=76,slow=14,SNR=4.9

*NIED **21** 10:10:00, 36°20'N×140°50'E, h50km, Mw3.8 Best double couple: M0 6.39000×10^14 NP1: ϕs 346.00000°, δ 73.00000°, λ 60.00000°. NP2: ϕs 230.00000°, δ 34.00000°, λ 149.00000°.*
*ISCJB **21** 10:10:17.3±0.7, 36°26'N±0°05×140°64'E±0°08, h60km±4km, mb3.7/9, Error ellipse: s-maj=10.5km s-min=8.1km az=175.2*
*IDC **21** 10:10:18.2±2.6, 36°26'N×140°77'E, h57km±20km, mb3.5/8, mb1 3.6/12, mb1mx3.5/30, mbtmp3.6/12, ML3.5/4, MS3.1/1, Ms1 3.1/1, ms1mx2.4/34, Error ellipse: s-maj=34.2km s-min=11.5km az=79.0*
*NEIC **21** 10:10:19.3, 36°25'N×140°48'E, h52km, mb4.1/1, After JMA.*
*JMA **21** 10:10:19.3±0.1, 36°25'N×140°48'E, h52km±1km, M3.5 Broadband fault plane solution: P waves. NP1: ϕs 238.00000°, δ 15.00000°, λ 138.00000°. NP2: ϕs 9.00000°, δ 80.00000°, λ 78.00000°. Principal axes: T Plg 54.0000°, Azm 265.0000°; N Plg 11.0000°, Azm 11.0000°; P Plg 34.0000°, Azm 109.0000°;*
JMA Felt II J1.

ISC 21 10:10:18.8±0.7, 36°27'N±0°05×140°57'E±0°08, h53km±4km, n30, σ0°84/35, mb3.7/9, 1C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.31**	**263**	↓P	**Pn**	**10 10 28.2**	**-0.1**
JYT				S	**Sn**	**10 10 34.3**	**-0.8**
JHO	**Hitachi**	**0.34**	**360**	↑P	**Pn**	**10 10 29.1**	**+0.4**
JHO				S	**Sn**	**10 10 36.0**	**+0.3**
JAG	**Ashikaga**	**0.92**	**280**	↓P	**Pn**	**10 10 35.1**	**-0.4**
JKT	**Katashina**	**1.18**	**295**	↓P	**Pn**	**10 10 39.0**	**0.0**
JKT				S	**Sn**	**10 10 53.9**	**-0.1**
JRY	**Ryogami san**	**1.38**	**260**	↓P	**Pn**	**10 10 41.2**	**-0.4**
MJAR	**Matsushiro Arr**	**1.93**	**279**	P	**Pn**	**10 10 48.6**	**-0.5**

19nm,0.3s,baz=122,slow=8.5,SNR=179

MJAR				LR	LR	10 11 22.6	

comp=Z,497nm,20.9s,baz=35,slow=31

MJAR	**Matsushiro Arr**	**1.93**	**279**	P	**Pn**	**10 10 48.6**	**-0.5**
MJAR				LR	LR	10 11 22.6	
MAJO	**Matsushiro**	**1.93**	**279**	*e*Pn	**Pn**	**10 10 49.7**	**+0.5**
MAT	**Matsushiro**	**1.93**	**279**	P	**Pn**	**10 10 49.3**	**+0.1**
MAT				S	**Sn**	**10 11 11.7**	**-0.6**
JHJ	**Hachijo jima 2**	**3.21**	**192**	P	**Pn**	**10 11 07.2**	**+0.6**

25nm,0.3s,baz=282,slow=14,SNR=14

JHJ				S	**Sn**	**10 11 44.4**	**+0.7**

89nm,0.3s,baz=228,slow=23,SNR=9.8

ASAJ	**Asahikawa**	**7.99**	**11**	P	**Pn**	**10 12 11.7**	**-0.5**

0.6nm,0.3s,baz=240,slow=30,SNR=6.0

KSRS	**Korea Array**	**10.21**	**280**	P	**Pn**	**10 12 46.1**	**+3.5**

0.2nm,0.3s,baz=295,slow=26,SNR=3.2

KSAR	**Wonju Array Be**	**10.24**	**280**	P	**Pn**	**10 12 46.1**	**+3.1**
SONM	**Songino Array**	**27.66**	**305**	P	**P**	**10 16 01.0**	**-0.5**

0.6nm,0.5s,mb3.5

SNGE	**Sanandaj**	**2.93**	**139**	*e*Sg	**Sg**	**10 13 46.0**	**-1.4**
BEST	**Besiri**	**3.03**	**282**	*i* P	**Pn**	**10 13 05.8**	**+4.4**
IVIS	**Veis**	**3.17**	**152**	*e*Pn	**Pn**	**10 13 04.4**	**+1.0**
IVIS				*e*Sg	**Sg**	**10 13 55.8**	**+0.4**
IVIS				*e*		10 13 59.7	
	comp=Z,1μm,0.4s						
IVIS	**Veis**	**3.17**	**152**	*e*Pn	**Pn**	**10 13 04.4**	**+1.0**
IVIS				*e*Sg	**Sg**	**10 13 55.8**	**+0.4**
VRTB	**Varto-Mus**	**3.34**	**304**	*e*PN	**Pn**	**10 13 05.0**	**-0.7**
VRTB	**Varto-Mus**	**3.34**	**304**	*e*Pn	**Pn**	**10 13 05.0**	**-0.7**
MARD	**Mardin**	**3.38**	**271**	*i* P	**Pn**	**10 13 04.0**	**-2.3**
DIYA	**Diyarbakir**	**3.93**	**280**	*i* P	**Pn**	**10 13 21.1**	**+7.2**
BHD	**Baghdad**	**4.09**	**188**	*ex*	x	10 13 12.5	
BHD				*ex*	x	10 14 01.0	
BHD				*ex*	x	10 14 26.0	
BHD	**Baghdad**	**4.09**	**188**	*e*Pn	**Pn**	**10 13 12.5**	**-3.5**
BHD				*e*Sg	**Sg**	**10 14 26.0**	**+1.2**
IRAZ	**Razeghan**	**4.41**	**114**	*e*Pn	**Pn**	**10 13 22.0**	**+1.7**
IRAZ				*e*		10 13 45.2	
	comp=Z,373nm,0.2s						
IRAZ	**Razeghan**	**4.41**	**114**	*e*Pn	**Pn**	**10 13 22.0**	**+1.7**
PTK	**Pertek**	**4.70**	**291**	*e*PN	**Pn**	**10 13 22.9**	**-1.5**
PTK	**Pertek**	**4.70**	**291**	*e*Pn	**Pn**	**10 13 22.9**	**-1.5**
ELZG	**Elazig**	**4.91**	**285**	*i* P	**Pg**	**10 13 41.9**	**-5.6**
GZT	**Gaziantep**	**5.94**	**272**	*i* P	**Pn**	**10 13 48.1**	**+6.7**
MIB	**Mutribah**	**7.76**	**165**	*e*P	**Pn**	**10 14 05.9**	**-0.5**
MIB	**Mutribah**	**7.76**	**165**	*e*P	**Pn**	**10 14 05.9**	**-0.5**
NAY	**Al-Naaiem**	**8.28**	**166**	*e*P	**Pn**	**10 14 11.9**	**-1.6**
NAY				*e*S	**Sn**	**10 15 39.9**	**-7.2**
NAY				AML	AML	10 15 43.5	
	comp=Z,2.6nm,0.6s						
NAY	**Al-Naaiem**	**8.28**	**166**	*e*P	**Pn**	**10 14 11.9**	**-1.6**
NAY				*e*S	**Sn**	**10 15 39.9**	**-7.2**
RDF	**Al-Radifah**	**8.65**	**165**	*e*P	**Pn**	**10 14 17.8**	**-0.9**
RDF				*e*S	**Sn**	**10 15 49.9**	**-6.4**
RDF				AML	AML	10 15 59.4	
	comp=Z,9.4nm,0.6s						
RDF	**Al-Radifah**	**8.65**	**165**	*e*P	**Pn**	**10 14 17.8**	**-0.9**
RDF				*e*S	**Sn**	**10 15 49.9**	**-6.4**

*NEIC **21** 10:14:30.3, 65.36N×134.20W, h5km, ML3.4(PGC), After PGC.*

PGC 21 10:14:30.3±0.0, 65.36N×134.20W, h5km, ML3.4/3, 10D, 232km south of Fort McPherson, Nt Northern Yukon Territory, Canada, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAWY	**Dawson**	**2.58**	**242**	P	Pn	10 15 12.5	0.0
DAWY				S	Sn	10 15 44.5	+0.3
DAWY	**Dawson**	**2.58**	**242**	⇑Pn	Pn	10 15 12.4	-0.1
DAWY				⇓Sn	Sn	10 15 44.5	+0.3
INK	**Inuvik**	**2.98**	**5**	*e*Pn	Pn	10 15 16.7	-1.4
INK				*e*Sg	Sg	10 15 58.9	-6.8
INK	**Inuvik**	**2.98**	**5**	⇑Pn	Pn	10 15 16.8	-1.2
INK				⇑Pg	Pg	10 15 24.8	-2.4
INK				⇓Sn	Sn	10 15 51.9	-2.2
EGAK	**Eagle**	**3.00**	**262**	P	Pn	10 15 16.9	-1.6
EGAK				S	Sn	10 15 53.4	-1.3
BCA3	**Beaver Creek A**	**4.03**	**239**	P	Pn	10 15 32.5	0.0
BM3	**Burnt Mountain**	**4.67**	**301**	P	Pn	10 15 38.7	-2.6
WHY	**Whitehorse**	**4.72**	**184**	P	Pn	10 15 43.0	+1.0
WHY	**Whitehorse**	**4.72**	**184**	⇑Pn	Pn	10 15 41.9	-0.2
WHY				⇑Sg	Sg	10 16 56.3	-5.5
PLBC	**Pleasant Camp**	**6.00**	**191**	⇓Sg	Sg	10 17 35.5	-7.3
DLBC	**Dease Lake**	**7.21**	**162**	*e*Pn	Pn	10 16 16.7	+0.5
DLBC				*e*Sg	Sg	10 18 14.1	-7.5
DLBC	**Dease Lake**	**7.21**	**162**	⇓Pn	Pn	10 16 17.0	+0.8
DLBC				⇓Sg	Sg	10 18 14.1	-7.5
GALN	**Gameti Lake**	**7.33**	**92**	⇑Pn	Pn	10 16 16.7	-1.1
GALN				⇑Sn	Sn	10 17 31.6	-10
CTLN	**Castor Lake**	**7.79**	**89**	⇓Pn	Pn	10 16 22.4	-1.5
CTLN				⇑Sn	Sn	10 17 45.5	-6.9
ILKN	**Indian Lake**	**8.21**	**89**	⇑Pn	Pn	10 16 29.1	-0.7
ILKN				⇑Sn	Sn	10 17 56.0	-6.9
YKW3	**Yellowknife Ar**	**9.04**	**99**	⇓Pn	Pn	10 16 40.0	-1.2
YKW3				⇓Sn	Sn	10 18 13.0	-10
JERN	**Jeri Cho Mine,**	**9.38**	**76**	⇑Pn	Pn	10 16 44.3	-1.5
JERN				⇓Sn	Sn	10 18 21.6	-10

IDC 21 10:20:01.1±10.0, 18.92N×108.10W, h0km, mb3.1/3, mb1 3.6/4, mb1mx3.6/19, mbtmp3.1/4, ML3.5/1, MS3.2/3, Ms1 3.2/3, ms1mx2.9/11, Error ellipse: s-maj=178.0km s-min=74.0km az=148.0, Revilla Gigedo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**11.13**	**20**	Pn	Pn	10 22 41.6	0.0
	0.1nm,0.3s,baz=209,slow=16,SNR=3.1						
CMIG	**Matias Romero**	**12.71**	**96**	LR	LR	10 28 05.1	
	comp=Z,126nm,19.6s,baz=161,slow=38						
ANMO	**Albuquerque**	**16.04**	**5**	LR	LR	10 29 31.0	
	comp=Z,76nm,18.7s,baz=195,slow=36						
TEIG	**Tepich**	**18.73**	**83**	LR	LR	10 32 59.7	
	comp=Z,85nm,18.4s,baz=51,slow=42						
NVAR	**Mina Array Bea**	**21.37**	**338**	P	P	10 24 49.8	-0.3
	0.7nm,0.7s,baz=154,slow=12,SNR=5.1						
PDAR	**Pinedale Array**	**23.81**	**357**	P	P	10 25 17.4	+1.7
	0.4nm,0.8s,baz=251,slow=5.6,SNR=3.2						
RKT	**Rikitea**	**49.34**	**213**	*e*T		11 21 51.7	
	3.2nm,0.3s						
PMOR	**Pomariorio Ree**	**51.68**	**232**	*e*T		11 24 34.8	
	1.8nm,0.3s						
ILAR	**Eielson Array**	**52.60**	**340**	P	P	10 29 15.8	-0.6
	0.2nm,0.7s,baz=151,slow=5.1,SNR=4.3						
PPT	**Papeete**	**54.55**	**231**	*e*LR	LR	10 45 18.4	
	62nm,26.2s						

*ISCJB **21** 11:04:04.8±1.1, 35.76N±0.08×68.9E±0.2, h10km, Error ellipse: s-maj=22.7km s-min=11.1km az=9.7*
*NNC **21** 11:04:27.8±14.0, 37.42N×69.13E, h11km±61km, mb3.8, mpv3.6, Error ellipse: s-maj=103.1km s-min=60.3km az=8.0*

ISC 21 11:04:07.3±1.1, 35.80N±0.08×68.7E±0.2, h10km, n12, σ0.95/13, 2C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**7.41**	**30**	P	**Pn**	**11 05 55.6**	**+0.1**
	SNR=46						
KK31	**Karatay Array**	**7.42**	**10**	Pn	**Pn**	**11 05 54.9**	**-0.7**
	0.6nm,0.3s,baz=204,slow=15,SNR=9.5						
KK31				⇑Pg	**Pb**	**11 06 13.8**	**-2.3**
	5.4nm,0.7s,baz=196,slow=18,SNR=4.4						
KK31				⇑Lg		11 07 29.6	
	5.4nm,0.3s,baz=193,slow=28,SNR=9.0						
EKS2	**Erkin-Say**	**7.89**	**28**	P	**Pn**	**11 06 03.4**	**+1.4**
	SNR=6.7						
KZA	**Kyzart**	**8.07**	**37**	P	**Pn**	**11 06 04.7**	**+0.2**
	SNR=13						
AAK	**Ala-Archa**	**8.16**	**32**	P	**Pn**	**11 06 05.8**	**+0.1**
	SNR=21						
KBK	**Karagaybulak**	**8.38**	**33**	P	**Pn**	**11 06 09.6**	**+0.9**
	SNR=7.1						
CHMS	**Chumysh**	**8.57**	**31**	P	**Pn**	**11 06 11.1**	**-0.2**
	SNR=8.6						
USP	**Ospenovka**	**8.69**	**29**	P	**Pn**	**11 06 09.2**	**-3.7**
	SNR=5.8						
TKM2	**Tokmak 2**	**8.88**	**35**	P	**Pn**	**11 06 15.6**	**+0.1**
	SNR=9.2						
TKM2	**Tokmak 2**	**8.88**	**35**	⇓P	**Pn**	**11 06 14.9**	**-0.7**
	3.8nm,0.4s						
BHJ	**Bhuj**	**12.53**	**176**	*e*PKP	**Pn**	**11 07 05.3**	**-0.4**
BHJ				*e*S	Px	11 07 09.2	
BHJ				AML	AML	11 07 11.9	
	comp=N,138nm,0.3s						
BHJ				AML	AML	11 07 12.4	
	comp=E,93nm,0.2s						
AB31	**Akbulak array**	**14.90**	**337**	⇓P	**Pn**	**11 07 38.9**	**+1.0**
	comp=E,0.4nm,0.4s,baz=156,slow=13,SNR=13						

*ISK **21** 11:15:24.4, 38.66N×39.27E, h23km, MD2.7*
*ISCJB **21** 11:15:25.8±0.7, 38.67N±0.03×39.23E±0.06, h10km, Error ellipse: s-maj=6.4km s-min=4.5km az=18.0*
*CSEM **21** 11:15:25.2±0.3, 38.66N×39.25E, h15km, MD2.7, Error ellipse: s-maj=6.9km s-min=4.8km az=101.0*
*DDA **21** 11:15:25.8, 38.65N×39.24E, h5km, Md2.8*
ISC 21 11:15:26.2±0.7, 38.66N±0.03×39.25E±0.06, h10km, n10, σ0.72/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTK	**Pertek**	**0.26**	**26**	PG	**Pg**	**11 15 30.8**	**-0.6**
PTK				*e*SG	**Sg**	**11 15 35.6**	**+0.7**
PTK	**Pertek**	**0.26**	**26**	*i* Pg	**Pg**	**11 15 30.8**	**-0.6**
PTK				*e*Sg	**Sg**	**11 15 35.7**	**+0.8**
ELZG	**Elazig**	**0.26**	**232**	*i* P	**Pg**	**11 15 30.9**	**-0.6**
ELZG				*i* S	**Sg**	**11 15 35.4**	**+0.2**
ELZG	**Elazig**	**0.26**	**232**	*i* P	**Pg**	**11 15 31.0**	**-0.5**
ELZG				*i* S	**Sg**	**11 15 35.3**	**+0.2**
SVRC	**Sivrice-ELAZID**	**0.29**	**171**	*e*PG	**Pg**	**11 15 31.8**	**-0.2**
SVRC				*e*SG	**Sg**	**11 15 36.5**	**+0.7**
SVRC	**Sivrice-ELAZID**	**0.29**	**171**	*e*Pg	**Pg**	**11 15 31.8**	**-0.1**
SVRC				*e*Sg	**Sg**	**11 15 36.5**	**+0.7**
MALT	**Malatya**	**0.73**	**242**	*e*PG	**Pg**	**11 15 39.4**	**-0.9**
MALT				*e*SG	**Sg**	**11 15 50.6**	**+0.7**
MALT	**Malatya**	**0.73**	**242**	*e*Pg	**Pg**	**11 15 39.4**	**-0.9**
MALT				*e*Sg	**Sg**	**11 15 50.6**	**+0.7**
KEMA	**Kemaliye**	**0.85**	**316**	*i* P	**Pg**	**11 15 41.5**	**-1.1**
KEMA				*i* S	**Sg**	**11 15 54.5**	**+0.9**
KEMA	**Kemaliye**	**0.85**	**316**	*i* P	**Pg**	**11 15 41.5**	**-1.0**
KEMA				*i* S	**Sg**	**11 15 54.5**	**+1.0**

*IDC **21** 11:36:44.9±0.8, 2.16S×119.78E, h0km, mb4.2/8, mb1 4.3/10, mb1mx4.0/23, mbtmp4.2/10, ML3.5/2, MS3.0/5, Ms1 3.0/5, ms1mx2.7/35, Error ellipse: s-maj=44.3km s-min=13.9km az=60.0*
*ISCJB **21** 11:36:45.9±2.1, 2.15S±0.03×119.57E±0.05, h14km±14km, mb4.2/11, MS2.9/3, Error ellipse: s-maj=8.5km s-min=5.5km az=168.9*
*DJA **21** 11:36:48, 2.22S×119.55E, h14km, MLv4.6/10*
*NEIC **21** 11:36:50.4±0.5, 2.23S×119.67E, h35km, mb4.2/3, Error ellipse: s-maj=28.6km s-min=8.3km az=62.0*

ISC 21 11:36:47.1±1.3, 2.20S±0.04×119.59E±0.05, h10km±8km, n38, σ1.913/42, mb4.2/11, MS2.9/3, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**0.88**	**165**	P	**Pg**	**11 37 02.1**	**-1.9**
TTSI				S	**Sg**	**11 37 17.0**	**+1.6**
SPSI	**Sidrap Palu**	**1.77**	**174**	P	**Pn**	**11 37 18.0**	**+0.2**
SPSI				S	**Sn**	**11 37 40.6**	**+0.3**
KAPI	**Kappang**	**2.81**	**177**	Pn	**Pn**	**11 37 31.7**	**-0.4**
	27nm,0.3s,baz=342,slow=9.7,SNR=86						
KAPI				LR	LR	11 38 47.5	
	comp=Z,718nm,18.7s,baz=204,slow=43						
KAPI	**Kappang**	**2.81**	**177**	Pn	**Pn**	**11 37 31.7**	**-0.4**
KAPI				LR	LR	11 38 47.5	
KAPI	**Kappang**	**2.81**	**177**	P	**Pn**	**11 37 31.8**	**-0.2**
BKSI	**Bulukumba**	**3.15**	**170**	P	**Pn**	**11 37 38.6**	**+1.8**
BKSI				S	**Sn**	**11 38 15.5**	**+1.0**
LUWI	**Luwuk**	**3.38**	**70**	P	**Pn**	**11 37 41.0**	**+1.1**
KDI	**Kendari**	**3.49**	**120**	P	**Pn**	**11 37 41.4**	**-0.1**
MRSI	**Marisa**	**3.54**	**42**	P	**Pn**	**11 37 41.7**	**-0.5**
KBKI	**Kotabaru**	**3.59**	**252**	P	**Pn**	**11 37 42.2**	**-0.7**
KBKI				S	**Sn**	**11 38 25.4**	**0.0**
KMSI	**Cibinong**	**5.18**	**58**	P	**Pn**	**11 38 05.4**	**+0.7**
	2.8nm4μm449nm,1.0s						
SRBI	**Singaraja**	**7.30**	**217**	P	**Pn**	**11 38 33.6**	**-0.2**
	0.2nm30nm,0.4s						
MYLDM	**Lahad Datu**	**7.41**	**352**	P	**Pn**	**11 38 38.0**	**+2.7**
FITZ	**Fitzroy Crossi**	**16.89**	**160**	Pn	**Pn**	**11 40 42.7**	**-1.0**
	0.1nm,0.3s,baz=338,slow=10,SNR=3.4						
FITZ				LR	LR	11 47 30.2	
	comp=Z,31nm,18.2s,baz=220,slow=38						
FITZ	**Fitzroy Crossi**	**16.89**	**160**	Pn	**Pn**	**11 40 42.7**	**-1.0**
FITZ				LR	LR	11 47 30.2	
WRAB	**Tennant Creek**	**22.78**	**142**	*e*P	**P**	**11 41 51.1**	**+1.2**
	8.2nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**22.78**	**142**	P	**P**	**11 41 47.8**	**-2.1**
	4.7nm,0.9s,mb3.9,baz=320,slow=10,SNR=17						
WRA				LR	LR	11 50 58.6	
	comp=Z,35nm,21.6s,MS2.8,baz=335,slow=38						
WRA	**Warramunga Arr**	**22.78**	**142**	P	**P**	**11 41 47.8**	**-2.1**
WRA				LR	LR	11 50 58.6	
WB2	**Warramunga Arr**	**22.79**	**142**	*e*P	**P**	**11 41 49.3**	**-0.7**
AS31	**Alice Springs**	**25.45**	**148**	*e*P	**P**	**11 42 16.8**	**+1.4**
ASAR	**Alice Springs**	**25.45**	**148**	P	**P**	**11 42 14.0**	**-1.3**
	1.2nm,0.6s,mb3.6,baz=327,slow=8.4,SNR=14						
ASAR				LR	LR	11 54 02.8	
	comp=Z,15nm,18.9s,MS2.5,baz=348,slow=41						
ASAR	**Alice Springs**	**25.45**	**148**	P	**P**	**11 42 14.0**	**-1.3**
ASAR				LR	LR	11 54 02.8	
PMG	**Port Moresby**	**28.33**	**106**	P	**P**	**11 42 39.4**	**-2.0**
	3.6nm,0.4s,mb4.4,baz=344,slow=6.6,SNR=5.1						
PMG	**Port Moresby**	**28.33**	**106**	P	**P**	**11 42 39.4**	**-2.0**
CMAR	**Chiang Mai Arr**	**28.88**	**316**	P	**P**	**11 42 46.5**	**+0.2**
	0.7nm,0.3s,mb3.9,baz=143,slow=7.7,SNR=3.7						
CMAR	**Chiang Mai Arr**	**28.88**	**316**	P	**P**	**11 42 46.5**	**+0.2**
STKA	**Stephens Creek**	**36.08**	**147**	P	**P**	**11 43 48.0**	**-1.0**
	4.0nm,0.6s,mb4.5,baz=313,slow=9.6,SNR=8.4						
STKA				LR	LR	11 58 37.0	
	comp=Z,53nm,19.0s,MS3.3,baz=23,slow=36						
STKA	**Stephens Creek**	**36.08**	**147**	P	**P**	**11 43 48.0**	**-1.0**
STKA				LR	LR	11 58 37.0	
SONM	**Songino Array**	**51.14**	**349**	P	**P**	**11 45 49.5**	**-0.7**
	1.4nm,0.8s,mb3.9,baz=168,slow=7.3,SNR=7.4						
SONM	**Songino Array**	**51.14**	**349**	P	**P**	**11 45 49.5**	**-0.7**
MK31	**Makanchi Array**	**58.77**	**331**	*e*P	**P**	**11 46 45.1**	**-0.3**
MKAR	**Makanchi Array**	**58.77**	**331**	P	**P**	**11 46 44.9**	**-0.5**
	3.1nm,0.8s,mb4.4,baz=132,slow=7.1,SNR=18						
MKAR	**Makanchi Array**	**58.77**	**331**	P	**P**	**11 46 44.9**	**-0.5**
ZAA0	**Zalesovo Array**	**62.97**	**338**	*e*P	**P**	**11 47 16.1**	**+2.4**
ZALV	**Zalesovo Beam**	**62.97**	**338**	P	**P**	**11 47 13.8**	**+0.1**
	3.0nm,0.7s,mb4.5,baz=142,slow=5.3,SNR=10.0						
ZALV	**Zalesovo Beam**	**62.97**	**338**	P	**P**	**11 47 13.8**	**+0.1**
KURK	**Kurchatov**	**63.24**	**332**	*e*P	**P**	**11 47 14.8**	**-0.9**
	5.6nm,0.8s,mb4.8						
ABKAR	**Akbulak array**	**72.42**	**324**	*e*P	**P**	**11 48 14.4**	**+0.8**
	0.6nm,0.6s,mb3.7						

*SKHL **21** 12:30:12.5±2.5, 48.31N×155.71E, h140km±9km, mb5.2/2, msh6.1/2*
*KRSC **21** 12:30:16.6±2.2, 48.92N×155.37E, h183km±83km, ML4.8*
*MOS **21** 12:30:16.4±1.1, 49.44N×153.89E, h138km, mb4.1/18, Error ellipse: s-maj=12.2km s-min=6.5km az=62.8*
*ISCJB **21** 12:30:17.0±0.5, 49.36N±0.06×153.92E±0.08, h144km±4km, mb4.3/36, Error ellipse: s-maj=11.8km s-min=4.5km az=138.6*
*IDC **21** 12:30:19.6±0.7, 49.40N×153.86E, h150km±6km, mb3.7/22, mb1 3.9/26, mb1mx3.9/35, mbtmp3.8/26, Error ellipse: s-maj=13.1km s-min=7.6km az=147.0*
*NEIC **21** 12:30:20.1±0.8, 49.42N×153.90E, h154km±7km, mb4.5/7, Error ellipse: s-maj=10.6km s-min=5.4km az=151.0*

ISC 21 12:30:18.1±0.4, 49.36N±0.06×153.91E±0.08, h137km±4km, h151km±4.0km: pP-P, n135, σ1.906/153, mb4.3/36, 6C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.94**	**46**	*e*PN	**Pn**	**12 30 52.0**	**+0.3**
SKR				*e*S	**Sn**	**12 31 19.0**	**+1.5**
SKR				pmax	pmax		
	comp=Z,360nm,1.0s						
SKR				smax			
	comp=N,820nm,0.3s						
SKR				smax			
	comp=E,710nm,0.3s						
SKR	**Severo-Kuril's**	**1.94**	**46**	*e*P	**Pn**	**12 30 52.0**	**+0.3**
SKR				AMB	AMB	12 30 53.0	
	comp=E,360nm,1.0s						
SKR				*e*rx	rx	12 31 08.5	
SKR				*e*S	**Sn**	**12 31 19.0**	**+1.5**
SKR				A		12 31 26.0	
	comp=E,820nm,0.2s						
SKR				A		12 31 26.0	
	comp=E,710nm,0.2s						
SKR				A		12 31 26.0	
	comp=E,150nm,0.5s						
MIPR	**Malaya Ipel'ka**	**3.43**	**31**	*i* P	**Pn**	**12 31 11.5**	**+1.0**
MIPR				*i* S	**Sn**	**12 31 51.6**	**+0.6**
GRL	**Gorelyy**	**4.14**	**38**	*e*P	**Pn**	**12 31 20.5**	**+0.8**
GRL				*i* S	**Sn**	**12 32 06.8**	**-0.8**
RUS	**Russkaya**	**4.24**	**42**	*i* P	**Pn**	**12 31 19.6**	**-1.4**
RUS				*i* S	**Sn**	**12 32 05.4**	**-4.5**
RUS	**Russkaya**	**4.24**	**42**	PN	**Pn**	**12 31 19.6**	**-1.4**
RUS				S	**Sn**	**12 32 05.4**	**-4.5**

PEA0B	**Petropavlovsk-**	**4.44**	**31**	*e*Pn	**Pn**	**12 31 25.7**	**+1.9**
PETK	**Petropavlovsk-**	**4.44**	**31**	P	**Pn**	**12 31 24.9**	**+1.1**
	comp=E,10nm,0.3s,baz=169,slow=11,SNR=209						
PETK				S	**Sn**	**12 32 17.4**	**+2.5**
	comp=E,1.0nm,0.3s,baz=131,slow=15,SNR=2.7						
PETK	**Petropavlovsk-**	**4.44**	**31**	P	**Pn**	**12 31 24.9**	**+1.1**
PETK				S	**Sn**	**12 32 17.4**	**+2.5**
PETK	**Petropavlovsk-**	**4.44**	**31**	*e*PN	**Pn**	**12 31 24.8**	**+1.0**
PETK				pmax	pmax		
	comp=Z,10.0nm,0.3s						
PET	**Petropavlovsk**	**4.73**	**37**	*i* P	**Pn**	**12 31 27.3**	**-0.2**
PET				*i* S	**Sn**	**12 32 19.4**	**-2.2**
PET	**Petropavlovsk**	**4.73**	**37**	PN	**Pn**	**12 31 27.3**	**-0.2**
PET				S	**Sn**	**12 32 19.4**	**-2.2**
SDLR	**Sedlovina**	**5.01**	**37**	*i* P	**Pn**	**12 31 31.6**	**+0.3**
GNL	**Ganaly**	**5.02**	**29**	*e*P	**Pn**	**12 31 32.9**	**+1.5**
NLC	**Nalytchevo**	**5.12**	**40**	P	**Pn**	**12 31 30.9**	**-1.8**
NLC				*i* S	**Sn**	**12 32 24.9**	**-6.0**
NLC	**Nalytchevo**	**5.12**	**40**	PN	**Pn**	**12 31 30.9**	**-1.8**
NLC				S	**Sn**	**12 32 24.9**	**-6.0**
SPN	**Mys Shipunski**	**5.36**	**43**	P	**Pn**	**12 31 33.5**	**-2.5**
SPN				*i* S	**Sn**	**12 32 29.8**	**-6.9**
SPN	**Mys Shipunski**	**5.36**	**43**	PN	**Pn**	**12 31 33.5**	**-2.5**
SPN				S	**Sn**	**12 32 29.8**	**-6.9**
KUR	**Kuril'sk**	**5.82**	**227**	*e*P	**Pn**	**12 31 42.0**	**-0.3**
TUMR	**Tumrok**	**7.05**	**30**	P	**Pn**	**12 31 58.9**	**+0.2**
MKZ	**Mys Kozlova**	**7.10**	**40**	*i* P	**Pn**	**12 31 56.8**	**-2.5**
MKZ				*i* S	**Sn**	**12 33 09.6**	**-8.8**
MKZ	**Mys Kozlova**	**7.10**	**40**	PN	**Pn**	**12 31 56.8**	**-2.5**
ESO	**Esso**	**7.19**	**22**	P	**Pn**	**12 32 03.3**	**+2.8**
ESO	**Esso**	**7.19**	**22**	PN	**Pn**	**12 32 03.3**	**+2.8**
YUK	**Yuzh-Kuril'sk**	**7.68**	**229**	⇑*i*PN	**Pn**	**12 32 06.8**	**-0.3**
YUK				*e*S	**Sn**	**12 33 32.2**	**-0.3**
YUK				pmax	pmax		
	comp=Z,123nm,0.4s						
YUK				pmax	pmax		
	comp=E,65nm,0.4s						
YUK				pmax	pmax		
	comp=Z,205nm,0.4s						
YUK				pmax	pmax		
	comp=N,49nm,0.2s						
YUK				smax			
	comp=N,221nm,0.9s						
YUK				smax			
	comp=E,95nm,0.9s						
YUK				smax			
	comp=N,102nm,0.5s						
YUK				smax			
	comp=E,82nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**7.68**	**229**	⇑*i*P	**Pn**	**12 32 06.9**	**-0.2**
YUK				AMB	AMB	12 32 09.3	
	comp=E,164nm,0.5s						
YUK				AMB	AMB	12 32 09.3	
	comp=E,159nm,0.5s						
YUK				AMB	AMB	12 32 09.3	
	comp=E,309nm,0.5s						
YUK				*e*S	**Sn**	**12 33 32.2**	**-0.3**
YUK				A		12 33 36.9	
	comp=E,193nm,0.5s						
YUK				A		12 33 36.9	
	comp=E,127nm,0.5s						
BDR	**Baidarnaya**	**8.45**	**29**	P	**Pn**	**12 32 17.5**	**+0.1**
SRKR	**Sorokina**	**8.51**	**28**	P	**Pn**	**12 32 17.6**	**-0.6**
KBTR	**Krutoberegovo**	**8.72**	**35**	*e*P	**Pn**	**12 32 18.4**	**-2.6**
KBTR				*i* S	**Sn**	**12 33 46.5**	**-11**
KBTR	**Krutoberegovo**	**8.72**	**35**	PN	**Pn**	**12 32 18.4**	**-2.6**
ASAJ	**Asahikawa**	**9.37**	**240**	P	**Pn**	**12 32 32.8**	**+3.0**
	comp=E,3.4nm,0.3s,baz=69,slow=13,SNR=30						
ASAJ	**Asahikawa**	**9.37**	**240**	*e*Pn	**Pn**	**12 32 33.1**	**+3.4**
	comp=E,15nm,0.8s						
ASAJ	**Asahikawa**	**9.37**	**240**	PN	**Pn**	**12 32 32.8**	**+3.0**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BKI	**Bering**	**9.42**	**47**	*e*P	**Pn**	**12 32 27.6**	**-2.8**
BKI				*i* S	**Sn**	**12 34 00.8**	**-14**
BKI	**Bering**	**9.42**	**47**	PN	**Pn**	**12 32 27.6**	**-2.8**
ERM	**Erimo**	**10.51**	**230**	⇑*e*PN	**Pn**	**12 32 43.0**	**-1.9**
ERM	**Erimo**	**10.51**	**230**	*e*P	**Pn**	**12 32 43.0**	**-1.9**
FX1	**Attu Island--F**	**12.60**	**66**	P	**Pn**	**12 33 12.1**	**-0.2**
	comp=Z,2.9nm,0.3s,baz=264,slow=22,SNR=25						
FX1				S	**Sn**	**12 35 22.6**	**-8.5**
	comp=Z,16nm,0.3s,baz=292,slow=21,SNR=15						
FX1	**Attu Island--F**	**12.60**	**66**	P	**Pn**	**12 33 12.1**	**-0.2**
FX1				S	**Sn**	**12 35 22.6**	**-8.5**
FX1	**Attu Island--F**	**12.60**	**66**	PN	**Pn**	**12 33 12.1**	**-0.2**
FX1				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KLR	**Kul'dur**	**14.46**	**278**	*e*P	**Pn**	**12 33 36.7**	**+0.7**
KLR				pmax	pmax		
	comp=E,30nm,1.6s						
KLR				pmax	pmax		
	comp=Z,45nm,1.6s						
MJAR	**Matsushiro Arr**	**17.16**	**228**	P	**Pn**	**12 34 11.0**	**+1.5**
	comp=Z,6.6nm,0.3s,baz

DLBC	**Dease Lake**	**43.42**	**48**	P		**P**	**12 38 08.2**	**+1.5**
MK31	**Makanchi Array**	**46.26**	**296**	*e*P		**P**	**12 38 28.6**	**-0.8**
MK31	**Makanchi Array**	**46.26**	**296**	*e*P		**P**	**12 38 28.6**	**-0.7**
MKAR	**Makanchi Array**	**46.26**	**296**	P		**P**	**12 38 28.8**	**-0.6**
	comp=Z,2.3nm,0.6s,mb4.0,baz=70,slow=7.9,SNR=24							
MKAR				pP		pP	12 39 03.1	+2.8
	comp=Z,1.9nm,0.7s,baz=63,slow=8.5,SNR=5.3							
MKAR				PcP		PcP	12 40 02.3	-0.1
	comp=Z,0.6nm,0.5s,baz=52,slow=4.4,SNR=3.0							
MKAR	**Makanchi Array**	**46.26**	**296**	P		**P**	**12 38 28.8**	**-0.6**
MKAR				pP		pP	12 39 03.1	+2.8
MKAR				PcP		PcP	12 40 02.4	-0.1
MKAR	**Makanchi Array**	**46.26**	**296**	*e*P		**P**	**12 38 28.7**	**-0.6**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
KURK	**Kurchatov**	**46.40**	**302**	P		**P**	**12 38 30.5**	**+0.1**
	comp=Z,3.4nm,0.7s,mb4.1,baz=66,slow=8.1,SNR=25							
KURK				pP		pP	12 39 05.2	+3.8
	comp=Z,2.5nm,0.7s,baz=66,slow=8.5,SNR=6.1							
KURK				PcP		PcP	12 40 03.0	+0.2
	comp=Z,1.1nm,0.6s,baz=65,slow=3.1,SNR=9.3							
KURK	**Kurchatov**	**46.40**	**302**	P		**P**	**12 38 30.5**	**+0.1**
KURK				pP		pP	12 39 05.2	+3.8
KURK				PcP		PcP	12 40 03.0	+0.2
KURK	**Kurchatov**	**46.40**	**302**⇑	*e*P		**P**	**12 38 29.5**	**-0.9**
KURK				*i* *PP		pP	12 39 02.2	+0.8
KURK				pmax		pmax		
	comp=Z,7.0nm,1.2s,mb4.2							
RES	**Resolute Bay**	**48.19**	**19**	P		**P**	**12 38 43.8**	**-0.2**
	comp=Z,1.3nm,0.5s,mb3.8,baz=292,slow=11,SNR=6.6							
RES	**Resolute Bay**	**48.19**	**19**	P		**P**	**12 38 43.8**	**-0.2**
RES	**Resolute Bay**	**48.19**	**19**	P		**P**	**12 38 43.8**	**-0.2**
RES				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb3.7							
YKA	**Yellowknife Ar**	**48.53**	**38**	P		**P**	**12 38 46.8**	**+0.2**
	comp=Z,3.8nm,0.6s,mb4.2,baz=306,slow=7.0,SNR=10							
YKA	**Yellowknife Ar**	**48.53**	**38**	P		**P**	**12 38 46.9**	**+0.2**
YKA	**Yellowknife Ar**	**48.53**	**38**	P		**P**	**12 38 46.9**	**+0.2**
BVAR	**Borovoye Array**	**49.64**	**308**	P		**P**	**12 38 54.8**	**-0.4**
	comp=Z,1.0nm,0.3s,mb3.9,baz=60,slow=7.7,SNR=11							
BVAR				pP		pP	12 39 29.8	+3.2
	comp=Z,0.6nm,0.5s,baz=64,slow=10,SNR=2.4							
BVAR				PcP		PcP	12 40 14.1	-0.4
	comp=Z,1.4nm,0.4s,baz=79,slow=2.8,SNR=8.5							
BVAR	**Borovoye Array**	**49.64**	**308**	P		**P**	**12 38 54.8**	**-0.4**
BVAR				pP		pP	12 39 29.8	+3.2
BVAR				PcP		PcP	12 40 14.1	-0.4
BVAR	**Borovoye Array**	**49.64**	**308**	P		**P**	**12 38 54.8**	**-0.4**
BVAR				*PP		pP	12 39 29.8	+3.2
BVAR							12 40 14.1	
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.4s							
BRVK	**Borovoye**	**49.68**	**308**⇑	*e*P		**P**	**12 38 54.7**	**-0.8**
BRVK				pmax		pmax		
	comp=Z,26nm,5.0s							
CHTO	**Chiang Mai**	**53.27**	**255**	*e*P		**P**	**12 39 23.5**	**+0.9**
	comp=Z,4.2nm,0.9s,mb4.2							
CHTO	**Chiang Mai**	**53.27**	**255**	*e*P		**P**	**12 39 23.5**	**+0.8**
CHTO				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.2							
ARU	**Arti**	**53.47**	**316***c*	*i*P		**P**	**12 39 22.5**	**-1.1**
ARU							12 41 20.7	
ARU				S		**S**	**12 46 45.5**	**+0.3**
ARU				SS		SS	12 50 23.6	-2.8
ARU				pmax		pmax		
	comp=Z,13nm,2.5s,mb4.2							
CMAR	**Chiang Mai Arr**	**53.53**	**255**	P		**P**	**12 39 25.7**	**+1.1**
	comp=Z,2.5nm,0.5s,mb4.2,baz=30,slow=7.3,SNR=24							
CMAR	**Chiang Mai Arr**	**53.53**	**255**	P		**P**	**12 39 25.7**	**+1.1**
CMAR	**Chiang Mai Arr**	**53.53**	**255**	P		**P**	**12 39 25.7**	**+1.1**
CMAR				pmax		pmax		
	comp=Z,3.0nm,0.5s							
TAPN	**Taplejung**	**54.52**	**272**	*e*P		**P**	**12 39 31.4**	**-0.3**
	comp=Z,5.7nm,0.3s,mb4.8							
GUN	**Gumba**	**55.33**	**274**	*e*P		**P**	**12 39 37.2**	**-0.3**
	comp=Z,12nm,0.4s,mb5.0							
RAMN	**Ramite**	**55.51**	**272**	*e*P		**P**	**12 39 38.6**	**-0.2**
	comp=Z,37nm,0.7s,mb5.3							
DMN	**Daman**	**56.04**	**274**	*e*P		**P**	**12 39 42.7**	**+0.1**
	comp=Z,16nm,0.5s,mb5.1							
GKN	**Gorkha**	**56.08**	**275**	*e*P		**P**	**12 39 42.8**	**-0.1**
	comp=Z,12nm,0.4s,mb5.0							
DANN	**Dangsing**	**56.42**	**276**	*e*P		**P**	**12 39 45.6**	**+0.4**
	comp=Z,23nm,0.5s,mb5.2							
KOLN	**Koldanda**	**56.91**	**275**	*e*P		**P**	**12 39 48.7**	**0.0**
	comp=Z,11nm,0.5s,mb4.9							
PYUN	**Piuthan**	**57.09**	**276**	*e*P		**P**	**12 39 50.0**	**0.0**
	comp=Z,36nm,0.9s,mb5.2							
NVAR	**Mina Array Bea**	**60.78**	**64**	P		**P**	**12 40 16.1**	**+0.8**
	comp=Z,3.5nm,0.6s,mb4.3,baz=295,slow=7.7,SNR=24							
NVAR	**Mina Array Bea**	**60.78**	**64**	P		**P**	**12 40 16.1**	**+0.8**
FINES	**FINESS Array B**	**61.91**	**335**	P		**P**	**12 40 21.6**	**-0.8**
	comp=Z,2.9nm,0.8s,mb4.2,baz=28,slow=8.6,SNR=6.3							
FINES	**FINESS Array B**	**61.91**	**335**	P		**P**	**12 40 21.6**	**-0.8**
FINES	**FINESS Array B**	**61.91**	**335**	P		**P**	**12 40 21.7**	**-0.8**
FINES				pmax		pmax		
	comp=Z,3.0nm,0.8s							
HWUT	**Hardware Ranch**	**62.49**	**57**	*e*P		**P**	**12 40 28.1**	**+1.3**
	comp=Z,6.4nm,1.1s,mb4.4							
PDAR	**Pinedale Array**	**62.80**	**55**	P		**P**	**12 40 29.4**	**+0.7**
	comp=Z,4.7nm,0.8s,mb4.4,baz=299,slow=1.4,SNR=34							
PDAR	**Pinedale Array**	**62.80**	**55**	P		**P**	**12 40 29.4**	**+0.7**
NOA	**NORSAR Array B**	**65.93**	**341**	P		**P**	**12 40 47.9**	**-0.8**
	comp=Z,1.4nm,0.8s,mb3.9,baz=12,slow=6.8,SNR=4.0							
NOA	**NORSAR Array B**	**65.93**	**341**	P		**P**	**12 40 47.9**	**-0.9**
NOA	**NORSAR Array B**	**65.93**	**341**	P		**P**	**12 40 47.9**	**-0.9**
NOA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
ANMO	**Albuquerque**	**70.02**	**60**	P		**P**	**12 41 15.2**	**+0.4**
	comp=Z,1.9nm,0.7s,mb3.9,baz=334,slow=8.5,SNR=8.3							
ANMO	**Albuquerque**	**70.02**	**60**	P		**P**	**12 41 15.2**	**+0.4**
ANMO	**Albuquerque**	**70.02**	**60**	P		**P**	**12 41 15.3**	**+0.5**
ANMO				pmax		pmax		
	comp=Z,2.0nm,0.7s							
WRA	**Warramunga Arr**	**71.15**	**199**	P		**P**	**12 41 20.8**	**-0.8**
	comp=Z,0.3nm,0.5s,mb3.3,baz=15,slow=6.6,SNR=13							
WRA	**Warramunga Arr**	**71.15**	**199**	P		**P**	**12 41 20.8**	**-0.8**
WRA	**Warramunga Arr**	**71.15**	**199**	P		**P**	**12 41 20.8**	**-0.8**
EKA	**Eskdalemuir Ar**	**73.92**	**347**	P		**P**	**12 41 36.8**	**-0.9**
	comp=Z,1.2nm,0.6s,mb3.8,baz=19,slow=4.6,SNR=3.6							
EKA	**Eskdalemuir Ar**	**73.92**	**347**	P		**P**	**12 41 36.8**	**-0.9**
EKA	**Eskdalemuir Ar**	**73.92**	**347**	P		**P**	**12 41 36.8**	**-0.9**
EKA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
ASAR	**Alice Springs**	**74.85**	**199**	P		**P**	**12 41 43.5**	**+0.2**
	comp=Z,0.5nm,0.5s,mb3.4,baz=10,slow=5.3,SNR=20							
ASAR				pP		pP	12 42 18.9	+1.8
	comp=Z,0.7nm,0.9s,baz=11,slow=6.1,SNR=3.3							
ASAR	**Alice Springs**	**74.85**	**199**	P		**P**	**12 41 43.5**	**+0.2**
ASAR				pP		pP	12 42 18.9	+1.8
ASAR	**Alice Springs**	**74.85**	**199**	*e*P		**P**	**12 41 43.5**	**+0.2**
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
TXAR	**Lajitas Array**	**75.76**	**62**	P		**P**	**12 41 49.2**	**+0.5**
	comp=Z,3.8nm,0.6s,mb4.2,baz=302,slow=4.4,SNR=43							
TXAR	**Lajitas Array**	**75.76**	**62**	P		**P**	**12 41 49.2**	**+0.5**
TXAR	**Lajitas Array**	**75.76**	**62**	P		**P**	**12 41 49.2**	**+0.5**
TXAR				pmax		pmax		
	comp=Z,4.0nm,0.6s							
GERES	**GERESS Array B**	**76.34**	**334**	P		**P**	**12 41 52.1**	**+0.5**
	comp=Z,0.3nm,0.5s,mb3.2,baz=32,slow=5.3,SNR=3.7							
GERES	**GERESS Array B**	**76.34**	**334**	P		**P**	**12 41 52.1**	**+0.5**
GERES	**GERESS Array B**	**76.34**	**334**	P		**P**	**12 41 52.2**	**+0.6**
CPUP	**Villa Florida**	**146.67**	**58**	PKPbc	PKPbc		12 49 44.6	+1.1
	comp=Z,1.0nm,0.5s,baz=279,slow=4.3,SNR=3.2							
CPUP	**Villa Florida**	**146.67**	**58**	PKPbc	PKPbc		12 49 44.6	+1.1
PLCA	**Paso Flores**	**147.83**	**92**	PKPbc	PKPbc		12 49 46.5	+0.2
	comp=Z,1.9nm,0.7s,baz=339,slow=7.2,SNR=4.2							
PLCA	**Paso Flores**	**147.83**	**92**	PKPbc	PKPbc		12 49 46.5	+0.2

*TIF **21** 12:30:20.4,43.38N×45.73E,h10km±4km*
*ISCJB **21** 12:30:23.0±0.4,43.28N±0.04×45.71E±0.02,h1km±4km, Error ellipse: s-maj=6.9km s-min=2.6km az=11.7*
*MOS **21** 12:30:22.8±1.7,43.27N×45.61E,h6km,mb3.9/1, Error ellipse: s-maj=10.5km s-min=6.3km az=6.9*
*CSEM **21** 12:30:23.3±0.2,43.25N×45.71E,h2km,mb3.9, Error ellipse: s-maj=6.8km s-min=3.1km az=14.0*

ISC 21 12:30:23.5±0.5,**43.32N**±0.05×**45.72E**±0.03,**h7**km±3km,
n51,σ1°23/89,5C-1D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRO	**Groznyy**	**0.02**	**91**⇑	*i*PG	**Pg**	**12 30 24.9**	**0.0**
GRO	**Groznyy**	**0.02**	**91**	*i* Pg	**Pg**	**12 30 24.9**	**0.0**
SNJR	**Sundja**	**0.71**	**250**	*e*PG	**Pg**	**12 30 36.8**	**-0.4**
SNJR				*e*S	**Sg**	**12 30 46.8**	**+0.3**
SNJR	**Sundja**	**0.71**	**250**	*e*Pg	**Pg**	**12 30 36.8**	**-0.4**
SNJR				*e*Sg	**Sg**	**12 30 46.8**	**+0.3**
VLKR	**Vladikavkaz**	**0.81**	**251**	*e*PG	**Pg**	**12 30 38.8**	**-0.3**
VLKR				*e*S	**Sg**	**12 30 50.6**	**+0.9**
VLKR	**Vladikavkaz**	**0.81**	**251**	*e*Pg	**Pg**	**12 30 38.8**	**-0.3**
VLKR				*e*Sg	**Sg**	**12 30 50.6**	**+0.9**
TRKR	**Terskaya**	**0.82**	**300**⇑	*i*PG	**Pg**	**12 30 39.4**	**0.0**
TRKR				*i* S	**Sg**	**12 30 52.3**	**+2.2**
TRKR	**Terskaya**	**0.82**	**300**	*i* Pg	**Pg**	**12 30 39.4**	**0.0**
TRKR				*i* Sg	**Sg**	**12 30 52.3**	**+2.2**
BTKR	**Batakoyurt**	**0.86**	**274**	*e*PG	**Pg**	**12 30 39.7**	**-0.4**
BTKR				*e*S	**Sg**	**12 30 52.9**	**+1.6**
BTKR	**Batakoyurt**	**0.86**	**274**	*e*Pg	**Pg**	**12 30 39.7**	**-0.4**
BTKR				*e*Sg	**Sg**	**12 30 52.9**	**+1.6**
DBC	**Dubki**	**0.86**	**110**⇑	*i*PG	**Pg**	**12 30 39.3**	**-0.8**
DBC				*i* S	**Sg**	**12 30 52.1**	**+0.7**
DBC				pmax	pmax		
	comp=Z,38nm,0.3s						
DBC	**Dubki**	**0.86**	**110**	*i* Pg	**Pg**	**12 30 39.3**	**-0.8**
	comp=Z,38nm,0.3s						
DBC				*i* Sg	**Sg**	**12 30 52.1**	**+0.7**
UNCR	**Uncukul**	**0.99**	**127**	*e*PG	**Pg**	**12 30 41.0**	**-1.6**
UNCR				pmax	pmax		
	comp=Z,67nm,0.2s						
UNCR	**Uncukul**	**0.99**	**127**	*e*Pg	**Pg**	**12 30 41.0**	**-1.6**
	comp=Z,67nm,0.2s						
KRNR	**Karanay**	**1.00**	**119**	*e*PG	**Pg**	**12 30 43.0**	**+0.3**
KRNR				*i* S	**Sg**	**12 30 57.0**	**+1.4**
KRNR				pmax	pmax		
	comp=Z,30nm,0.3s						
KRNR	**Karanay**	**1.00**	**119**	*e*Pg	**Pg**	**12 30 43.0**	**+0.3**
	comp=Z,30nm,0.3s						
KMSR	**Komsomolskaya**	**1.04**	**273**	*e*PG	**Pg**	**12 30 43.3**	**-0.3**
KMSR				*e*S	**Sg**	**12 30 58.7**	**+1.6**
KMSR	**Komsomolskaya**	**1.04**	**273**	*e*Pg	**Pg**	**12 30 43.3**	**-0.3**
KMSR				*e*Sg	**Sg**	**12 30 58.7**	**+1.6**
ARNR	**Ardon**	**1.06**	**263**	*e*PG	**Pg**	**12 30 42.8**	**-1.1**
ARNR				*e*S	**Sg**	**12 30 58.4**	**+0.7**
ARNR	**Ardon**	**1.06**	**263**	*e*Pg	**Pg**	**12 30 42.8**	**-1.1**
ARNR				*e*Sg	**Sg**	**12 30 58.4**	**+0.7**
BUJR	**Buynaksk**	**1.13**	**116**	*e*PG	**Pg**	**12 30 46.2**	**+1.0**
BUJR				*e*S	**Sg**	**12 31 00.0**	**+0.1**
BUJR				pmax	pmax		
	comp=Z,27nm,0.3s						
BUJR	**Buynaksk**	**1.13**	**116**	*e*Pg	**Pg**	**12 30 46.2**	**+1.0**
	comp=Z,27nm,0.3s						
BUJR				*e*Sg	**Sg**	**12 31 00.0**	**+0.1**
PRTR	**Priterechnaya**	**1.13**	**293**	*e*PG	**Pg**	**12 30 44.8**	**-0.5**
PRTR				*e*S	**Sg**	**12 31 01.8**	**+1.8**
PRTR	**Priterechnaya**	**1.13**	**293**	*e*Pg	**Pg**	**12 30 44.8**	**-0.5**
PRTR				*e*Sg	**Sg**	**12 31 01.8**	**+1.8**
LACR	**Lac**	**1.16**	**245**	*e*PG	**Pg**	**12 30 43.5**	**-2.2**
LACR				*e*S	**Sg**	**12 30 59.0**	**-1.7**
LACR	**Lac**	**1.16**	**245**	*e*Pg	**Pg**	**12 30 43.5**	**-2.2**
LACR				*e*Sg	**Sg**	**12 30 59.0**	**-1.7**
KORR	**Kora**	**1.23**	**260**	*e*PG	**Pg**	**12 30 45.5**	**-1.7**
KORR				*i* S	**Sb**	**12 31 02.5**	**-0.6**
KORR	**Kora**	**1.23**	**260**	*e*Pg	**Pg**	**12 30 45.5**	**-1.7**
KORR				*i* Sg	**Sb**	**12 31 02.5**	**-0.6**
MAK	**Makhachkala**	**1.35**	**105**	*e*PG	**Pg**	**12 30 55.7**	**+6.2**
MAK				*e*		12 31 11.8	
LSNR	**Lesken**	**1.39**	**269**	*e*PG	**Pn**	**12 30 48.2**	**-1.1**
LSNR				*e*S	**Sb**	**12 31 07.4**	**-0.4**
LSNR	**Lesken**	**1.39**	**269**	*e*Pg	**Pn**	**12 30 48.2**	**-1.1**
LSNR				*e*Sg	**Sb**	**12 31 07.4**	**-0.4**
ZEI	**Tsey**	**1.45**	**248**	*e*PG	**Pn**	**12 30 47.6**	**-2.4**
ZEI				*e*S	**Sn**	**12 31 06.5**	**-2.7**
KMKR	**Kumukh**	**1.56**	**139**	*e*PG	**Pn**	**12 30 52.0**	**+0.4**
KMKR				*e*S	**Sn**	**12 31 12.0**	**-0.1**
KMKR				pmax	pmax		
	comp=Z,35nm,0.2s						
KMKR	**Kumukh**	**1.56**	**139**	*e*Pg	**Pn**	**12 30 52.0**	**+0.4**
	comp=Z,35nm,0.2s						
KMKR				*e*Sg	**Sn**	**12 31 12.0**	**-0.1**
DIGR	**Digorskoe uzhe**	**1.62**	**256**⇓	*i*PG	**Pn**	**12 30 50.9**	**-1.6**
DIGR				*e*S	**Sn**	**12 31 12.4**	**-1.2**
TBLG	**Delisi**	**1.75**	**205**	P	**Pn**	**12 30 53.9**	**-0.3**
TBLG				S	**Sn**	**12 31 18.5**	**+1.8**
TBLG	**Delisi**	**1.75**	**205**	P	**Pn**	**12 30 53.8**	**-0.4**
MTA	**Mtatsminda**	**1.77**	**203**	P	**Pn**	**12 30 54.1**	**-0.3**
MTA				S	**Sn**	**12 31 18.8**	**+1.7**
MTA	**Mtatsminda**	**1.77**	**203**	P	**Pn**	**12 30 54.1**	**-0.3**
GOR	**Gori**	**1.79**	**222**	P	**Pn**	**12 30 57.0**	**+2.3**
GOR				S	**Sn**	**12 31 19.1**	**+1.5**
GOR	**Gori**	**1.79**	**222**	P	**Pn**	**12 30 57.0**	**+2.3**
GOR				S	**Sn**	**12 31 19.1**	**+1.5**
ONI	**Oni**	**1.82**	**247**	P	**Pn**	**12 30 54.6**	**-0.6**
ONI				S	**Sn**	**12 31 19.2**	**+0.7**
ONI	**Oni**	**1.82**	**247**	P	**Pn**	**12 30 54.6**	**-0.6**
ONI				S	**Sn**	**12 31 19.2**	**+0.8**
DGRG	**David-gareji**	**1.89**	**188**	P	**Pn**	**12 30 56.1**	**0.0**
DGRG				S	**Sn**	**12 31 25.2**	**+5.1**
DGRG	**David-gareji**	**1.89**	**188**	P	**Pn**	**12 30 56.1**	**0.0**
KIV	**Kislovodsk**	**2.29**	**287**⇑	*e*PN	**Pn**	**12 30 54.5**	**-7.2**
KIV				*e*		12 31 33.0	
KIV				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KIV				smax			
	comp=E,115nm,0.9s						
KIV	**Kislovodsk**	**2.29**	**287**	*e*Sn	**Sn**	**12 31 33.0**	**+2.9**
AKH	**Akhalkalaki**	**2.52**	**222**	P	**Pn**	**12 31 05.3**	**+0.4**
AKH				S	**Sn**	**12 31 36.5**	**+0.7**
AKH	**Akhalkalaki**	**2.52**	**222**	P	**Pn**	**12 31 05.3**	**+0.4**
AKH				S	**Sn**	**12 31 36.5**	**+0.7**
GNI	**Garni**	**3.25**	**193**⇑	*e*PN	**Pn**	**12 31 12.5**	**-2.4**
GNI	**Garni**	**3.25**	**193**	*e*Pn	**Pn**	**12 31 12.5**	**-2.4**

DJA 21 12:32:37,1°21S×100°54E,h10km,MLv3.6/3,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**0.76**	**349**	P	Pg	12 32 48.5	-3.2
PPI				S	Sg	12 33 03.3	+1.6
MNSI	**Mandailing Nat**	**2.21**	**334**	P	Pn	12 33 13.1	-0.7
MNSI				S	Sn	12 33 43.5	+2.3
KSI	**Kapahiang**	**3.18**	**140**	P	Pn	12 33 28.1	+1.0

*TRN **21** 12:42:03.8,18°.44N×64°.04W,h46km,M3.9(RSPR)*
*NEIC **21** 12:42:05.4,18°.48N×63°.97W,h41km,MD3.0(RSPR), After RSPR.*

RSPR 21 12:42:05.4,18°.48N×63°.97W,h41km±3km,12C,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.62**	**264**⇑	*e*P	Pn	12 42 16.8	-1.0
TBVI	**Tortola**	**0.62**	**264**⇑	*e*P	Pn	12 42 16.8	-1.0
TBVI	**Tortola**	**0.62**	**264**⇑	*e*P	Pn	12 42 16.8	-1.0
STVI	**Saint Thomas**	**0.94**	**262**⇑	*e*P	Pn	12 42 21.0	-1.1
STVI	**Saint Thomas**	**0.94**	**262**⇑	*e*P	Pn	12 42 21.0	-1.1
STVI	**Saint Thomas**	**0.94**	**262**⇑	*e*P	Pn	12 42 21.4	-0.8
MTP	**Monte Pirata**	**1.55**	**256**⇑	*e*P	Pn	12 42 29.7	-0.8
MTP	**Monte Pirata**	**1.55**	**256**⇑	*e*P	Pn	12 42 29.7	-0.8
MTP				*e*S	Sn	12 42 48.2	-1.2
MTP	**Monte Pirata**	**1.55**	**256**⇑	*e*P	Pn	12 42 29.7	-0.8
MTP				*e*S	Sn	12 42 48.2	-1.2
CBYP	**Canovanas**	**1.80**	**264**⇑	*e*P	Pn	12 42 32.9	-1.1
CBYP	**Canovanas**	**1.80**	**264**⇑	*e*P	Pn	12 42 32.9	-1.1
CBYP				*e*S	Sn	12 42 54.7	-1.0
CBYP	**Canovanas**	**1.80**	**264**⇑	*e*P	Pn	12 42 32.9	-1.1
CBYP				*e*S	Sn	12 42 54.7	-1.0
CPD	**Cerro la Pandu**	**1.90**	**257**	*e*S	Sn	12 42 57.0	-1.1
CPD	**Cerro la Pandu**	**1.90**	**257**	*e*S	Sn	12 42 57.0	-1.1

*ISCJB **21** 13:17:32.2±0.9,24°.22S±0°.06×67°.0W±0°.1,h188km±11km, mb4.0/7, Error ellipse: s-maj=21.1km s-min=9.3km az=5.2*
*IDC **21** 13:17:32.5±1.5,24°.16S×67°.00W,h172km±12km,mb3.8/4, mb1 3.7/7,mb1mx3.5/19,mbtmp3.6/7,MS3.4/1,Ms1 3.4/1, ms1mx2.4/34, Error ellipse: s-maj=27.4km s-min=13.4km az=92.0*
*NEIC **21** 13:17:33.2±0.9,24°.13S×67°.02W,h181km±8km,mb4.2/4, Error ellipse: s-maj=15.2km s-min=10.6km az=103.0*

ISC 21 13:17:33.0±0.9,**24.19S**±0.06×**67.0W**±0.1,**h178**km±10km,
n31,σ1°20/26,mb4.0/7,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**5.82**	**214**	*e*Pn	**Pn**	**13 18 57.9**	**+0.3**
	45nm,0.6s						
LCO				*e*Sn	**Sn**	**13 19 55.0**	**-9.1**
CFAA	**Coronel Fontan**	**7.46**	**188**	P	**Pn**	**13 19 19.9**	**+0.7**
	0.4nm,0.3s,baz=12,slow=11,SNR=21						
CFAA				S	**Sn**	**13 20 40.1**	**-3.0**
	0.6nm,0.3s,baz=243,slow=20,SNR=9.1						
CFAA	**Coronel Fontan**	**7.46**	**188**	P	**Pn**	**13 19 19.9**	**+0.7**
CFAA				S	**Sn**	**13 20 40.1**	**-3.0**
LPAZ	**La Paz**	**7.93**	**352**	P	**Pn**	**13 19 26.4**	**+1.0**
	3.1nm,0.3s,baz=151,slow=8.5,SNR=60						
LPAZ				S	**Sn**	**13 20 52.9**	**-1.6**
	baz=53,slow=20,SNR=1.9						
LPAZ	**La Paz**	**7.93**	**352**	*e*Pn	**Pn**	**13 19 26.3**	**+0.9**
LPAZ				*e*Sn	**Sn**	**13 20 49.8**	**-4.6**
CPUP	**Villa Florida**	**9.03**	**106**	P	**Pn**	**13 19 40.6**	**+0.8**
	0.2nm,0.3s,baz=279,slow=13,SNR=3.3						
CPUP	**Villa Florida**	**9.03**	**106**	P	**Pn**	**13 19 40.6**	**+0.8**
PLCA	**Paso Flores**	**16.76**	**189**	LR	LR	13 27 42.0	
	comp=Z,119nm,19.3s,baz=127,slow=36						
VNA1	**Neumayer--Stat**	**57.18**	**160**	*e*	**P**	**13 27 00.1**	**-0.7**
VNA2	**Neumayer--Watz**	**57.55**	**160**	*e*	**P**	**13 27 02.2**	**-1.1**
SNAA	**Sanae**	**59.18**	**161**	*e*	**P**	**13 27 11.9**	**-2.7**
SNAA	**Sanae**	**59.18**	**161**	P	**P**	**13 27 15.1**	**+0.4**
	0.3nm,0.3s,mb3.5,baz=287,slow=8.1,SNR=5.7						
SNAA	**Sanae**	**59.18**	**161**	P	**P**	**13 27 15.1**	**+0.4**
QSPA	**South Pole Qui**	**66.01**	**180**	*e*P	**P**	**13 28 01.8**	**+2.0**
	1.3nm,0.5s,mb4.0						
DBIC	**Dimbokro**	**67.88**	**71**	*e*P	**P**	**13 28 11.2**	**-1.4**
	2.0nm,0.7s,mb4.0						
TORD	**Torodi Ar. Bea**	**76.66**	**69**	P	**P**	**13 29 03.6**	**-0.9**
	2.4nm,0.6s,mb4.0,baz=251,slow=5.6,SNR=25						
TORD	**Torodi Ar. Bea**	**76.66**	**69**	P	**P**	**13 29 03.6**	**-0.9**
BOSA	**Boshof**	**80.67**	**117**	P	**P**	**13 29 27.2**	**+0.8**
	3.7nm,0.6s,mb4.2,baz=247,slow=3.6,SNR=6.6						
BOSA	**Boshof**	**80.67**	**117**	P	**P**	**13 29 27.2**	**+0.8**
MAW	**Mawson**	**81.26**	**163**	P	**P**	**13 29 30.1**	**+1.4**
	2.2nm,0.7s,mb3.9,baz=182,slow=5.6,SNR=8.9						
MAW	**Mawson**	**81.26**	**163**	P	**P**	**13 29 30.1**	**+1.4**
LBTB	**Lobatse**	**82.33**	**114**	*e*P	**P**	**13 29 35.0**	**-0.2**
	3.7nm,0.6s,mb4.2						
ASAR	**Alice Springs**	**128.27**	**205**	PKP	PKPdf	13 36 19.3	+0.5
	0.4nm,0.5s,baz=128,slow=1.8,SNR=10.0						
ASAR	**Alice Springs**	**128.27**	**205**	PKP	PKPdf	13 36 19.3	+0.5
WRA	**Warramunga Arr**	**131.45**	**207**	PKP	PKPdf	13 36 25.9	+1.0
	0.4nm,0.3s,baz=99,slow=6.8,SNR=32						
WRA				SKPbc	SKPbc	13 39 33.0	-0.5
	0.4nm,0.6s,baz=148,slow=3.3,SNR=8.5						
WRA	**Warramunga Arr**	**131.45**	**207**	PKP	PKPdf	13 36 25.9	+1.0
WRA				SKPbc	SKPbc	13 39 33.0	-0.5
ZALV	**Zalesovo Beam**	**143.57**	**28**	PKP	PKPdf	13 36 44.8	-1.2
	2.8nm,0.6s,baz=303,slow=3.6,SNR=13						
ZALV	**Zalesovo Beam**	**143.57**	**28**

BJI ***21*** *13:55:40.7, 14.˚80S×167.˚10E, h130km, mB5.1/16, mb4.8/28*

ISCJB ***21*** *13:55:40.4±0.3, 14.˚79S±0.˚03×167.˚17E±0.˚06, h109km, mb4.8/53, Error ellipse: s-maj=8.0km s-min=4.1km az=165.0*

NEIC ***21*** *13:55:41.6±0.3, 14.˚72S×167.˚22E, mb4.9/22, Error ellipse: s-maj=7.6km s-min=6.9km az=64.0*

IDC ***21*** *13:55:41.3±0.5, 14.˚75S×167.˚26E, h106km±3km, mb4.4/20, mb1 4.5/21, mb1mx4.4/25, mbtmp4.4/21, MS3.9/16, Ms1 3.9/16, ms1mx3.7/33, Error ellipse: s-maj=13.1km s-min=10.7km az=105.0*

NOU ***21*** *13:55:42.3±1.0, 14.˚64S×166.˚53E, h30km, MD3.8, ML3.9*

GCMT ***21*** *13:55:43.7±0.2, 14.˚87S×167.˚02E, h111km±2km, MW5.1, Moment Tensor Solution. s51,c71; s90,c145; Moment tensor: Scale 10¹⁶Nm; Mrr 1.59±.15; Mθθ-0.20±.16; Mφφ-1.39±.14; Mrθ-4.40±.11; Mθφ 4.04±.15; Mφr 0.14±.10; Best double couple: M₀6.20000×10¹⁶ NP1:φs179.00000°, δ42.00000°, λ165.00000°. NP2:φs280.00000°, δ80.00000°, λ49.00000°. Principal axes: T 6.1100, Plg40.0000°, Azm152.0000°; N 0.0900, Plg40.0000°, Azm289.0000°; P -6.2100, Plg24.0000°, Azm41.0000°; Data Used: II IU IC G CN.*

DJA ***21*** *13:55:44, 14.˚80S×167.˚28E, h131km, mb4.7/9*

LDG ***21*** *13:55:45.9±0.2, 14.˚87S×166.˚37E, h130km, Mb4.7/4, Error ellipse: s-maj=25.9km s-min=8.8km az=83.0*

ISC 21 13:55:42.2±0.3, 14.79S±0.03×167.19E±0.05, h111km, h111km±1.3km; pP-P, n172, σ1²12/125, mb4.8/53, 36C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.28**	**185**	*e*Pn		**Pn**		**13 57 27.1**	**+1.2**
	190nm,0.3s								
DZM				*e*Sn		**Sn**		**13 58 44.9**	**-2.2**
	310nm,0.3s								
DZM				*e*LR		LR		13 59 07.0	
	2μm,27.4s								
DZM	**Mont Dzumac**	**7.28**	**185**	*e*P		**Pn**		**13 57 26.8**	**+0.8**
DZM				*e*S		**Sn**		**13 58 44.6**	**-2.4**
DZM				AMP				13 58 56.4	
	comp=Z,3μm,4.3s								
DZM	**Mont Dzumac**	**7.28**	**185**	*e*Pn		**Pn**		**13 57 26.6**	**+0.7**
DZM				*e*Sn		**Sn**		**13 58 45.0**	**-2.1**
NOUC	**Port Laguerre**	**7.33**	**186**	*e*P		**Pn**		**13 57 26.8**	**+0.3**
NOUC				*e*S		**Sn**		**13 58 44.2**	**-3.9**
NOUC				AMP				13 58 56.6	
	comp=Z,138nm,3.0s								
BAYA	**Yate Dam**	**7.33**	**182**	*e*P		**Pn**		**13 57 27.5**	**+0.9**
BAYA				*e*S		**Sn**		**13 58 46.9**	**-1.5**
BAYA				AMP				13 58 57.5	
	comp=Z,45nm,0.7s								
LASL	**Noumea**	**7.43**	**185**	*e*P		**Pn**		**13 57 29.7**	**+1.7**
MVNO	**Noumea**	**7.48**	**185**	*e*P		**Pn**		**13 57 30.5**	**+1.9**
MVNO				*e*S		**Sn**		**13 58 49.5**	**-2.3**
MVNO				AMP				13 58 59.8	
	comp=Z,25nm,1.9s								
HNR	**Honiara**	**8.86**	**306**	P		**Pn**		**13 57 48.3**	**+0.9**
	comp=Z,40nm,0.3s,baz=180,slow=4.6,SNR=17								
HNR	**Honiara**	**8.86**	**306**	*e*Pn		**Pn**		**13 57 47.8**	**+0.4**
HNR				*e*Sn		**Sn**		**13 59 23.5**	**-2.1**
MSVF	**Nonsavu**	**10.83**	**107**	Pn		**Pn**		**13 58 14.7**	**+0.7**
EIDS	**Eidsvold**	**18.42**	**233**	*e*Pn		**Pn**		**13 59 51.4**	**+1.1**
	comp=Z,52nm,0.6s								
PMG	**Port Moresby**	**20.30**	**283**	P		**P**		**14 00 11.2**	**+1.7**
	comp=Z,27nm,1.1s,baz=156,slow=3.7,SNR=8.7								
PMG				pP				14 00 29.7	
	comp=Z,27nm,1.0s,baz=93,slow=5.9,SNR=5.8								
PMG	**Port Moresby**	**20.30**	**283**	*e*P		**P**		**14 00 10.7**	**+1.2**
	comp=Z,39nm,1.0s								
PMG	**Port Moresby**	**20.30**	**283**	P		**P**		**14 00 10.9**	**+1.5**
	comp=Z,604nmcomp=Z,40nm,1.1s								
AFI	**Afiamalu**	**20.39**	**90**	LR		LR		14 05 28.0	
	comp=Z,132nm,19.6s,baz=52,slow=29								
CTA	**Charters Tower**	**20.66**	**252**	P		**P**		**14 00 14.9**	**+1.7**
	comp=Z,21nm,0.6s,baz=80,slow=12,SNR=45								
CTA				pP				14 00 33.8	
	comp=Z,19nm,0.9s,baz=76,slow=13,SNR=4.1								
CTA				LR		LR		14 07 21.2	
	comp=Z,271nm,18.4s,baz=80,slow=34								
CTA	**Charters Tower**	**20.66**	**252**	*e*P		**P**		**14 00 14.7**	**+1.5**
	comp=Z,19nm,0.6s								
CTA				*e*pP				14 00 50.9	
CTA				*e*S		**S**		**14 03 59.9**	**+1.9**
CTA	**Charters Tower**	**20.66**	**252**	P		**P**		**14 00 14.9**	**+1.7**
CTA				pP				14 00 33.8	
CTA				LR		LR		14 07 21.2	
CTAO	**Charters Tower**	**20.66**	**252**	*e*P		**P**		**14 00 14.6**	**+1.3**
	comp=Z,29nm,0.7s								
CTAO	**Charters Tower**	**20.66**	**252**	P		**P**		**14 00 14.9**	**+1.7**
	comp=Z,34nm,0.9s								
ARMA	**Armidale**	**21.14**	**220**	*e*P		**P**		**14 00 20.4**	**+2.1**
ARMA				*e*S		**S**		**14 04 11.9**	**+4.7**
ARMA	**Armidale**	**21.14**	**220**	*e*P		**P**		**14 00 19.8**	**+1.5**
	comp=Z,104nm,1.4s,mb5.0								
OUZ	**Omahuta**	**21.15**	**165**	*e*P		**P**		**14 00 19.7**	**+1.4**
	comp=Z,192nm,1.0s,mb5.4								
OUZ	**Omahuta**	**21.15**	**165**	*e*PN		**P**		**14 00 19.3**	**+1.0**
COEN	**Coen**	**23.28**	**269**	*e*P		**P**		**14 00 39.3**	**-0.9**
	comp=Z,148nm,1.1s,mb5.2								
RIV	**Riverview**	**23.88**	**215**	*e*P		**P**		**14 00 46.9**	**+1.4**
HIZ	**Hauiti**	**24.59**	**165**	*e*PN		**P**		**14 00 52.3**	**+0.5**
URZ	**Urewera**	**24.97**	**161**	P		**P**		**14 00 55.1**	**-0.3**
	comp=Z,73nm,0.8s,mb5.1,baz=304,slow=2.3,SNR=26								
URZ				LR		LR		14 08 51.1	
	comp=Z,243nm,21.9s,baz=341,slow=32								
URZ	**Urewera**	**24.97**	**161**	*e*P		**P**		**14 00 55.0**	**-0.3**
	comp=Z,102nm,0.9s,mb5.3								
URZ	**Urewera**	**24.97**	**161**	PN		**P**		**14 00 55.0**	**-0.4**
BKZ	**Black Stump Fm**	**25.63**	**163**	PN		**P**		**14 01 01.3**	**-0.1**
CNB	**Canberra Magne**	**25.97**	**215**	*e*P		**P**		**14 01 05.4**	**+0.9**
	comp=Z,92nm,1.1s,mb5.1								
STKA	**Stephens Creek**	**28.90**	**230**	P		**P**		**14 01 31.8**	**+1.1**
	comp=Z,69nm,0.5s,mb5.5,baz=46,slow=7.9,SNR=246								
STKA				LR		LR		14 13 19.8	
	comp=Z,206nm,19.1s,baz=33,slow=36								
STKA	**Stephens Creek**	**28.90**	**230**	*e*P		**P**		**14 01 31.6**	**+0.9**
	comp=Z,62nm,0.5s,mb5.5								
STKA	**Stephens Creek**	**28.90**	**230**	*e*P		**P**		**14 01 31.9**	**+1.2**
	comp=Z,14nm,0.6s,mb4.8								
RPZ	**Rata Peaks**	**29.02**	**174**	P		**P**		**14 01 32.2**	**+0.7**
	comp=Z,21nm,0.5s,mb5.0,baz=0.6,slow=2.8,SNR=7.1								
RPZ				LR		LR		14 10 58.7	
	comp=Z,414nm,21.1s,baz=106,slow=32								
RPZ	**Rata Peaks**	**29.02**	**174**	*e*P		**P**		**14 01 31.2**	**-0.4**
	comp=Z,19nm,0.5s,mb5.0								
TOO	**Toolangi**	**29.76**	**216**	*e*P		**P**		**14 01 39.0**	**+0.8**
	comp=Z,126nm,1.2s,mb5.4								
SMPI	**Sarmi**	**30.86**	**292**	P		**P**		**14 01 49.7**	**+1.5**
	comp=Z,26nm,1.0s,mb4.9								
WB2	**Warramunga Arr**	**31.73**	**256**	*e*P		**P**		**14 01 54.0**	**-1.8**
WRAB	**Tennant Creek**	**31.73**	**256**	*e*P		**P**		**14 01 54.4**	**-1.4**
	comp=Z,11nm,1.0s,mb4.5								
WRA	**Warramunga Arr**	**31.74**	**256**	P		**P**		**14 01 54.5**	**-1.4**
	comp=Z,2.1nm,0.6s,mb4.0,baz=86,slow=9.1,SNR=37								
WRA				pP		pP		14 02 19.6	-0.9
	comp=Z,7.8nm,1.0s,baz=85,slow=9.0,SNR=7.7								
WRA				ScP		ScP		14 08 19.3	+1.0
	comp=Z,1.8nm,0.8s,baz=81,slow=3.7,SNR=7.9								
WRA				LR		LR		14 13 11.3	
	comp=Z,125nm,19.8s,baz=80,slow=33								
WRA	**Warramunga Arr**	**31.74**	**256**	P		**P**		**14 01 54.5**	**-1.4**
WRA				pP		pP		14 02 19.6	-0.9
WRA				ScP		ScP		14 08 19.3	+1.0
WRA				LR		LR		14 13 11.3	
AS31	**Alice Springs**	**32.58**	**249**	*e*P		**P**		**14 02 02.1**	**-1.1**
ASAR	**Alice Springs**	**32.59**	**249**	P		**P**		**14 02 02.2**	**-1.0**
	comp=Z,7.8nm,0.7s,mb4.7,baz=78,slow=9.1,SNR=124								
ASAR				pP		pP		14 02 26.6	-1.2
	comp=Z,20nm,1.0s,baz=80,slow=9.1,SNR=11								
ASAR				ScP		ScP		14 08 21.8	+0.7
	comp=Z,3.2nm,0.9s,baz=88,slow=3.5,SNR=13								
ASAR				LR		LR		14 14 36.7	
	comp=Z,196nm,21.0s,baz=85,slow=35								
ASAR	**Alice Springs**	**32.59**	**249**	P		**P**		**14 02 02.2**	**-1.0**
ASAR				pP		pP		14 02 26.6	-1.2
ASAR				ScP		ScP		14 08 21.8	+0.7
ASAR				LR		LR		14 14 36.7	
FORT	**Forrest**	**39.21**	**239**	*e*P		**P**		**14 02 59.8**	**+0.1**
	comp=Z,46nm,0.6s,mb5.5								
FORT	**Forrest**	**39.21**	**239**	*e*P		**P**		**14 02 59.5**	**-0.2**
	comp=Z,52nm,0.6s,mb5.5								
FITZ	**Fitzroy Crossi**	**39.93**	**259**	P		**P**		**14 03 05.6**	**-0.2**
	comp=Z,7.5nm,0.9s,mb4.5,baz=97,slow=7.3,SNR=11								
FITZ				pP		pP		14 03 30.0	-1.1
	comp=Z,8.6nm,0.9s,baz=110,slow=7.3,SNR=4.4								
FITZ	**Fitzroy Crossi**	**39.93**	**259**	*e*P		**P**		**14 03 05.4**	**-0.4**
	comp=Z,6.3nm,0.9s,mb4.5								
FITZ	**Fitzroy Crossi**	**39.93**	**259**	*e*P		**P**		**14 03 05.0**	**-0.8**
	comp=Z,11nm,1.0s,mb4.6								
PPT	**Papeete**	**41.55**	**100**	*e*LR		LR		14 15 02.0	
	comp=Z,140nm,28.8s								
TBI	**Tubuai**	**41.72**	**109**	*e*LR		LR		14 15 10.1	
	comp=Z,191nm,32.8s								
MBWA	**Marble Bar**	**45.46**	**255**	*e*P		**P**		**14 03 50.6**	**+0.1**
	comp=Z,13nm,0.9s,mb4.7								
MBWA				*e*pP		pP		14 04 17.2	+1.0
MBWA	**Marble Bar**	**45.46**	**255**	P		**P**		**14 03 50.8**	**+0.3**
	comp=Z,19nm,1.2s,mb4.7								
KAPI	**Kappang**	**47.64**	**277**	P		**P**		**14 04 07.2**	**-0.5**
	comp=Z,5.4nm,0.4s,mb4.7,baz=100,slow=12,SNR=3.3								
KAPI	**Kappang**	**47.64**	**277**	P		**P**		**14 04 07.2**	**-0.5**
KLBR	**Kellerberrin**	**48.01**	**241**	*e*P		**P**		**14 04 08.4**	**-1.8**
	comp=Z,14nm,0.6s,mb5.0								
NWAO	**Narrogin (SRO)**	**48.66**	**239**	P		**P**		**14 04 14.6**	**-0.6**
	comp=Z,12nm,0.7s,mb4.9,baz=64,slow=4.6,SNR=11								
NWAO				pP		pP		14 04 40.2	-1.1
	comp=Z,12nm,0.8s,baz=75,slow=5.4,SNR=2.7								
NWAO				LR		LR		14 26 15.9	
	comp=Z,309nm,18.2s,baz=293,slow=38								
NWAO	**Narrogin (SRO)**	**48.66**	**239**	P		**P**		**14 04 14.6**	**-0.6**
NWAO				pP		pP		14 04 40.2	-1.1
NWAO				LR		LR		14 26 15.9	
MORW	**Morawa**	**49.18**	**244**	*e*P		**P**		**14 04 18.6**	**-0.6**
	comp=Z,65nm,0.6s,mb5.7								
MORW				*e*pP		pP		14 04 43.8	-1.5
MJAR	**Matsushiro Arr**	**57.92**	**333**	P		**P**		**14 05 21.9**	**-0.9**
	comp=Z,9.3nm,0.7s,mb4.9,baz=176,slow=8.2,SNR=21								
MJAR				pP		pP		14 05 47.4	-2.2
	comp=Z,7.4nm,0.9s,baz=170,slow=8.7,SNR=5.3								
MJAR	**Matsushiro Arr**	**57.92**	**333**	P		**P**		**14 05 21.9**	**-0.9**
MJAR				pP		pP		14 05 47.4	-2.2
MAT	**Matsushiro**	**57.92**	**333**	P		**P**		**14 05 22.0**	**-0.8**
VNDA	**Vanda**	**62.80**	**181**	P		**P**		**14 05 55.3**	**-0.2**
	comp=Z,9.5nm,0.8s,mb4.8,baz=358,slow=7.4,SNR=30								
VNDA	**Vanda**	**62.80**	**181**	*e*P		**P**		**14 05 55.2**	**-0.3**
	comp=Z,39nm,1.4s,mb5.1								
VNDA				*e*pP		pP		14 06 23.6	+0.9
SBA	**Scott Base**	**63.08**	**180**	*e*P		**P**		**14 05 58.2**	**+0.9**
	comp=Z,49nm,0.9s,mb5.4								
KSRS	**Korea Array**	**63.74**	**326**	P		**P**		**14 06 02.2**	**0.0**
	comp=Z,3.3nm,0.7s,mb4.2,baz=138,slow=7.2,SNR=9.9								
KSRS				pP		pP		14 06 28.1	-1.4
	comp=Z,5.2nm,0.9s,baz=138,slow=6.7,SNR=9.1								
KSAR	**Wonju Array Be**	**63.76**	**326**	P		**P**		**14 06 02.2**	**-0.1**
KSAR				pP		pP		14 06 28.1	-1.5
PETK	**Petropavlovsk-**	**68.11**	**354**	P		**P**		**14 06 30.1**	**+0.3**
	comp=Z,4.8nm,0.6s,mb4.5,baz=158,slow=9.7,SNR=6.0								
PETK				LR		LR		14 33 26.6	
	comp=Z,94nm,18.4s,baz=339,slow=33								
PETK	**Petropavlovsk-**	**68.11**	**354**	P		**P**		**14 06 30.1**	**+0.3**
PETK				LR		LR		14 33 26.6	
CN2	**Changchun**	**69.66**	**329**	*e*P		**P**		**14 06 39.5**	**-0.1**
CN2				*e*pP		pP		14 07 13.8	+6.4
CN2				*e*S		S		14 15 35.9	-3.4
CN2				pmax		pmax			
	comp=Z,10.0nm,0.7s,mb4.8								
ENH	**Enshi**	**71.34**	**309**	*e*P		**P**		**14 06 49.5**	**-0.7**
	comp=Z,12nm,1.0s,mb4.7								
ENH				*e*pP		pP		14 07 17.6	-0.5
GYA	**Guiyang**	**71.69**	**305**	P		**P**		**14 06 54.0**	**+1.7**
GYA				pP		pP		14 07 26.8	+6.6
GYA				sP		sP		14 07 41.0	+8.8
GYA				PP		PP		14 09 37.4	+4.3
GYA				S		S		14 16 01.6	-1.9
GYA				SKS				14 16 40.5	
GYA				ScS		ScS		14 16 43.3	-4.6
GYA				pmax		pmax			
	comp=Z,20nm,1.0s,mb4.9								
GYA				pmax		pmax			
	comp=Z,110nm,5.7s								
BJI	**Beijing**	**72.26**	**321**	P		**P**		**14 06 56.9**	**+1.4**
BJI				S		S		14 16 10.5	+0.9
BJI				pmax		pmax			
	comp=Z,6.0nm,0.6s,mb4.6								
BJI				pmax		pmax			
	comp=Z,190nm,6.9s								
BJI				LR		LR			
	comp=N,190nm,35.4s								
BJI				LR		LR			
	comp=E,210nm,35.4s								
BJI				LR		LR			
	comp=Z,140nm,35.9s								
XAN	**Xi'an**	**73.67**	**313**	P		**P**		**14 07 04.1**	**+0.1**
XAN				pP		pP		14 07 31.8	-0.1
XAN				pmax		pmax			
	comp=Z,3.0nm,0.9s,mb4.0								
XAN				pmax		pmax			
	comp=Z,41nm,7.6s								
KMI	**Kunming**	**74.27**	**302**	P		**P**		**14 07 09.8**	**+2.2**
KMI				pmax		pmax			
	comp=Z,17nm,1.2s,mb4.7								
CHRT	**Chiangrai**	**74.69**	**296**	⇑P		**P**		**14 07 10.5**	**+0.3**
CM31	**Chiang Mai Arr**	**74.91**	**294**	*e*P		**P**		**14 07 12.9**	**+1.5**
	comp=Z,3.4nm,0.8s,mb4.1								
CMAR	**Chiang Mai Arr**	**74.91**	**294**	P		**P**		**14 07 12.8**	**+1.4**
	comp=Z,3.8nm,0.8s,mb4.2,baz=127,slow=4.3,SNR=23								
CMAR				pP		pP		14 07 38.6	-0.8
	comp=Z,7.1nm,0.9s,baz=124,slow=4.4,SNR=8.4								
CMAR	**Chiang Mai Arr**	**74.91**	**294**	P		**P**		**14 07 12.8**	**+1.4**
CMAR				pP		pP		14 07 38.6	-0.8
CHTO	**Chiang Mai**	**75.03**	**294**	*e*P		**P**		**14 07 12.2**	**0.0**
	comp=Z,4.8nm,0.7s,mb4.3								
CHTO				*e*pP		pP		14 07 40.7	+0.4
CHTO	**Chiang Mai**	**75.03**	**294**	P		**P**		**14 07 12.9**	**+0.8**
	comp=Z,9.6nm,1.4s,mb4.3								
QSPA	**South Pole Qui**	**75.24**	**180**	⇑*e*P		**P**		**14 07 12.2**	**-0.1**
	comp=Z,41nm,0.9s,mb5.2								
QSPA				*e*pP		pP		14 07 42.9	+2.5
QSPA				*e*sP		sP		14 07 52.9	+0.5
CD2	**Chengdu**	**75.98**	**308**	P		**P**		**14 07 18.6**	**+1.3**
CD2				pP		pP		14 07 51.8	+6.3
CD2				sP		sP		14 08 06.4	+9.0
CD2				PP		PP		14 10 13.3	+3.8
CD2				S		S		14 16 49.4	-2.2
CD2				SKS				14 17 11.3	
CD2				sS		sS		14 17 46.6	+6.6
CD2				pmax		pmax			
	comp=Z,10.0nm,0.6s,mb4.7								
CD2				pmax		pmax			
	comp=Z,240nm,5.9s								
LZH	**Lanzhou**	**78.30**	**312**	*e*P		**P**		**14 07 30.9**	**+0.7**
LZH				pP		pP		14 08 00.1	+1.6
LZH				sP		sP		14 08 16.3	+5.9
LZH				pmax		pmax			
	comp=Z,20nm,1.2s,mb4.7								
MAW	**Mawson**	**81.81**	**202**	P		**P**		**14 07 48.5**	**0.0**
	comp=Z,7.6nm,0.9s,mb4.5,baz=124,slow=6.0,SNR=12								
MAW				pP		pP		14 08 16.5	-0.5
	comp=Z,5.5nm,1.1s,baz=80,slow=11,SNR=3.2								
MAW				LR		LR		14 39 00.4	
	comp=Z,124nm,18.7s,baz=310,slow=32								
MAW	**Mawson**	**81.81**	**202**	*e*P		**P**		**14 07 48.0**	**-0.5**
	comp=Z,6.8nm,1.0s,mb4.4								
MAW	**Mawson**	**81.81**	**202**	P		**P**		**14 07 48.5**	**-0.1**
MAW				pP		pP		14 08 16.5	-0.5
MAW				LR		LR		14 39 00.4	
ULN	**Ulaanbaatar**	**82.14**	**324**	*e*P		**P**		**14 07 50.5**	**+0.1**
	comp=Z,3.3nm,0.6s,mb4.3								
ULN				*e*pP		pP		14 08 18.7	-0.3
ULN	**Ulaanbaatar**	**82.14**	**324**	P		**P**		**14 07 50.9**	**+0.4**
SONM	**Songino Array**	**82.50**	**324**	P		**P**		**14 07 52.2**	**-0.2**
	comp=Z,1.9nm,0.5s,mb4.2,baz=158,slow=7.9,SNR=16								
SONM				pP		pP		14 08 19.5	-1.4
	comp=Z,4.0nm,1.0s,baz=141,slow=4.8,SNR=6.5								
SONM				LR		LR		14 41 50.6	
	comp=Z,46nm,18.3s,baz=15,slow=34								
SONM	**Songino Array**	**82.50**	**324**	P		**P**		**14 07 52.2**	**-0.2**
SONM				pP		pP		14 08 19.5	-1.4
SONM				LR		LR		14 41 50.6	
GTA	**Gaotai**	**82.65**	**314**	*e*P		**P**		**14 07 54.3**	**+0.9**
GTA				pP		pP		14 08 23.1	+1.2
GTA				sP		sP		14 08 36.8	+3.0
GTA				SS		SS		14 23 22.6	-4.0
GTA				pmax		pmax			
	comp=Z,9.0nm,1.1s,mb4.5								
LSA	**Lhasa**	**85.53**	**302**	*e*P		**P**		**14 08 09.0**	**+0.9**
	comp=Z,4.4nm,0.6s,mb4.6								
ILAR	**Eielson Array**	**86.60**	**18**	P		**P**		**14 08 10.4**	**-2.2**
	comp=Z,3.7nm,0.6s,mb4.5,baz=234,slow=4.0,SNR=79								
ILAR				pP		pP		14 08 39.9	-1.5
	comp=Z,1.3nm,0.7s,baz=240,slow=4.8,SNR=3.7								
ILAR				LR		LR		14 40 05.4	
	comp=Z,123nm,20.0s,baz=120,slow=31								
ILAR	**Eielson Array**	**86.60**	**18**	P		**P**		**14 08 10.4**	**-2.2**
ILAR				pP		pP		14 08 39.9	-1.5
ILAR				LR		LR		14 40 05.4	
NVAR	**Mina Array Bea**	**87.36**	**49**	P		**P**		**14 08 16.0**	**-1.0**
	comp=Z,0.6nm,0.6s,mb3.7,baz=235,slow=6.7,SNR=3.5								
NVAR				pP		pP		14 08 45.1	-0.6
	comp=Z,0.9nm,0.8s,baz=240,slow=9.0,SNR=3.4								
NVAR				LR		LR		14 40 26.9	
	comp=Z,99nm,18.6s,baz=335,slow=31								
NVAR	**Mina Array Bea**	**87.36**	**49**	P		**P**		**14 08 16.0**	**-1.0**
NVAR				pP		pP		14 08 45.1	-0.6
NVAR				LR		LR		14 40 26.9	
TAPN	**Taplejung**	**87.64**	**299**	*e*P		**P**		**14 08 18.1**	**-0.4**
	comp=Z,11nm,0.7s,mb5.0								
ODAN	**Odare**	**87.77**	**298**	*e*P		**P**		**14 08 18.5**	**-0.6**
	comp=Z,16nm,0.6s,mb5.2								
RAMN	**Ramite**	**88.46**	**298**	*e*P		**P**		**14 08 22.1**	**-0.3**
	comp=Z,5.0nm,0.5s,mb4.8								
SYO	**Syowa Base**	**88.63**	**197**	⇓*e*P		**P**		**14 08 20.0**	**-2.4**
SYO	**Syowa Base**	**88.63**	**197**	⇓*e*PcP		PcP		14 08 25.1	+1.1
SYO	**Syowa Base**	**88.63**	**197**	⇓*e*X		pP		14 08 52.4	+1.1
GUN	**Gumba**	**89.36**	**299**	*e*P		**P**		**14 08 26.0**	**-0.6**
	comp=Z,9.8nm,0.7s,mb5.0								
KKN	**Kakani**	**89.83**	**299**	*e*P		**P**		**14 08 28.7**	**-0.1**
	comp=Z,9.8nm,0.8s,mb5.0								
DMN	**Daman**	**89.93**	**298**	*e*P		**P**		**14 08 29.4**	**+0.1**
	comp=Z,14nm,0.8s,mb5.2								
DANN	**Dangsing**	**91.28**	**299**	*e*P		**P**		**14 08 35.1**	**-0.5**
	comp=Z,6.7nm,0.5s,mb5.0								
WMQ	**Urumqi**	**92.72**	**315**	P		**P**		**14 08 40.8**	**-1.0**
SNAA	**Sanae**	**93.49**	**183**	*e*		**P**		**14 08 39.7**	**-5.3**
SNAA	**Sanae**	**93.49**	**183**	*e*P		**P**		**14 08 39.3**	**-5.7**
	comp=Z,24nm,1.3s,mb5.4								
SNAA				*e*pP		pP		14 09 08.6	-5.3
VNA3	**Neumayer Olymp**	**94.16**	**181**	*e*		**P**		**14 08 43.9**	**-4.1**
VNA2	**Neumayer--Watz**	**94.42**	**182**	*e*		**P**		**14 08 45.6**	**-3.6**
	baz=186,slow=3.6								
VNA1	**Neumayer--Stat**	**94.72**	**182**	*e*		**P**		**14 08 47.3**	**-3.3**
PDAR	**Pinedale Array**	**95.04**	**47**	LR		LR		14 51 03.5	
	comp=Z,53nm,18.3s,baz=332,slow=35								
ANMO	**Albuquerque**	**95.39**	**55**	LR		LR		14 42 00.7	
	comp=Z,65nm,20.9s,baz=278,slow=29								
TXAR	**Lajitas Array**	**96.37**	**61**	LR		LR		14 46 24.8	
	comp=Z,41nm,18.0s,baz=185,slow=32								
MK31	**Makanchi Array**	**97.19**	**316**	*e*P		**P**		**14 09 01.9**	**-0.3**
MK31				*e*pP		pP		14 09 30.2	-1.1
MKAR	**Makanchi Array**	**97.19**	**316**	P		**P**		**14 09 02.4**	**+0.2**
	comp=Z,1.5nm,0.6s,mb4.6,baz=89,slow=6.4,SNR=16								
MKAR				pP		pP		14 09 29.3	-1.9
	comp=Z,2.2nm,0.8s,baz=99,slow=6.3,SNR=6.3								
MKAR	**Makanchi Array**	**97.19**	**316**	P		**P**		**14 09 02.4**	**+0.2**
MKAR				pP		pP		14 09 29.3	-1.9
ZAA0	**Zalesovo Array**	**97.39**	**324**	*e*P		**P**		**14 09 01.4**	**-1.5**
ZAA0				*e*pP		pP		14 09 29.3	-2.6
ZALV	**Zalesovo Beam**	**97.39**	**324**	P		**P**		**14 09 01.7**	**-1.2**
	comp=Z,3.2nm,0.7s,mb4.9,baz=114,slow=4.5,SNR=19								
ZALV				pP		pP		14 09 29.9	-2.0
	comp=Z,1.3nm,0.7s,baz=130,slow=6.0,SN

KMSI	**Cibinong**	**1.96**	**71**	P	Pn	13 59 29.5	+0.7
KMSI				S	Sn	13 59 54.1	+1.4
PCI	**Palu**	**2.44**	**250**	P	Pn	13 59 35.9	+0.6

WEL 21 14:02:29.9±0.3, 36°.85S × 177°.61E, h165km±3km, ML3.8/5, 1C, Error ellipse: s-maj=2.6km s-min=2.3km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.91**	**142**	⇑PN	Pn	14 02 55.3	-0.1
MXZ				SN	Sn	14 03 15.2	+0.2
OPRZ	**Ohinepanea**	**1.31**	**220**	PN	Pn	14 02 59.0	+0.3
PUZ	**Puketiti**	**1.33**	**157**	PN	Pn	14 02 58.9	0.0
PUZ				SN	Sn	14 03 21.4	0.0
URZ	**Urewera**	**1.47**	**196**	PN	Pn	14 03 00.2	0.0
URZ				SN	Sn	14 03 23.3	-0.5
MWZ	**Matawai**	**1.49**	**183**	PN	Pn	14 03 00.5	0.0
MWZ				SN	Sn	14 03 24.1	0.0
KUZ	**Kuaotunu**	**1.52**	**273**	PN	Pn	14 03 00.9	+0.1
CNGZ	**Carnagh Statio**	**1.70**	**164**	PN	Pn	14 03 03.0	+0.4
PRGZ	**Paritu Road**	**2.09**	**174**	PN	Pn	14 03 06.8	0.0
RAHZ	**Arahi**	**2.11**	**191**	PN	Pn	14 03 07.1	-0.1
KNZ	**Kokohu**	**2.17**	**179**	PN	Pn	14 03 07.3	-0.6
MHGZ	**Mahia Peninsul**	**2.32**	**174**	PN	Pn	14 03 09.3	-0.2
BKZ	**Black Stump Fm**	**2.48**	**201**	PN	Pn	14 03 10.8	-0.6
HIZ	**Hauiti**	**2.75**	**232**	PN	Pn	14 03 15.7	+1.0
CKHZ	**Cape Kidnapper**	**2.84**	**188**	PN	Pn	14 03 14.9	-1.0
BHHZ	**Black Hill Sta**	**2.91**	**204**	PN	Pn	14 03 15.5	-1.2
WNVZ	**Wahianoa**	**2.94**	**212**	PN	Pn	14 03 16.7	-0.4
KAHZ	**Kahuranaki**	**3.00**	**191**	PN	Pn	14 03 17.0	-0.8
MTVZ	**Mangateitei**	**3.05**	**213**	PN	Pn	14 03 17.8	-0.6
PXZ	**Pawanui**	**3.23**	**190**	PN	Pn	14 03 19.0	-1.7
PNHZ	**Pukenui**	**3.26**	**199**	PN	Pn	14 03 19.4	-1.6
WPHZ	**Waipukurau**	**3.34**	**196**	PN	Pn	14 03 21.2	-1.0
TSZ	**Takapari Road**	**3.46**	**201**	PN	Pn	14 03 21.8	-1.8
PRHZ	**Porangahau**	**3.50**	**192**	PN	Pn	14 03 22.4	-1.7
POWZ	**Post Office Ro**	**3.83**	**202**	PN	Pn	14 03 26.0	-2.3
MRZ	**Mangatainoka R**	**4.13**	**202**	PN	Pn	14 03 29.2	-2.9
TIWZ	**Tintock**	**4.15**	**198**	PN	Pn	14 03 30.1	-2.3
HOWZ	**Holdsworth Sta**	**4.37**	**201**	PN	Pn	14 03 31.9	-3.3
OGWZ	**Otaki Gorge**	**4.40**	**205**	PN	Pn	14 03 32.4	-3.2
TMWZ	**Te Maipa**	**4.46**	**197**	PN	Pn	14 03 33.6	-2.8
KIW	**Kapiti Island**	**4.53**	**207**	PN	Pn	14 03 33.8	-3.5
MTW	**Mount Morrison**	**4.61**	**200**	PN	Pn	14 03 34.6	-3.8
CAW	**Cannon Point**	**4.70**	**204**	PN	Pn	14 03 35.5	-3.9
MSWZ	**Moikau Station**	**4.92**	**201**	PN	Pn	14 03 38.3	-4.1
WEL	**Wellington**	**4.96**	**206**	PN	Pn	14 03 39.1	-3.8
PLWZ	**Palliser**	**5.06**	**200**	PN	Pn	14 03 40.2	-4.0
TCW	**Tory Channel**	**5.08**	**210**	PN	Pn	14 03 41.0	-3.4
TUWZ	**Tuamarina**	**5.39**	**211**	PN	Pn	14 03 44.5	-4.1
NNZ	**Nelson**	**5.47**	**216**	PN	Pn	14 03 45.2	-4.4
QRZ	**Quartz Range**	**5.62**	**223**	PN	Pn	14 03 46.7	-4.9
BSWZ	**Blackbirch Sta**	**5.66**	**210**	PN	Pn	14 03 48.3	-3.8
THZ	**Tophouse**	**6.12**	**215**	PN	Pn	14 03 54.0	-4.2
KHZ	**Kahutara**	**6.39**	**208**	PN	Pn	14 03 57.4	-4.4

*IDC **21** 14:21:55.7±4.4, 19°.43S × 178°.23W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.9/18, mbtmp4.2/4, Error ellipse: s-maj=185.5km s-min=35.4km az=141.0*
*ISCJB **21** 14:22:48.1±1.8, 21°.5S±0°.2 × 178°.1W±0°.2, h576km±18km, mb3.8/4, Error ellipse: s-maj=34.4km s-min=26.0km az=10.8*
*NEIC **21** 14:22:48.3±1.7, 21°.46S × 177°.96W, h568km±16km, mb4.0/2, Error ellipse: s-maj=30.9km s-min=23.9km az=107.0*
ISC 21 14:22:48.4±1.9, 21°.5S±0°.2 × 178°.0W±0°.2, h568km±18km, n14, σ0°.79/14, mb3.8/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.29**	**314**	*e*Pn	**P**	**14 24 21.8**	**+0.1**
URZ	**Urewera**	**17.26**	**193**	*e*P	**P**	**14 26 18.0**	**-0.4**
CTAO	**Charters Tower**	**33.44**	**266**	*e*P	**P**	**14 28 41.0**	**-0.3**
	3.1nm,0.4s						
STKA	**Stephens Creek**	**37.40**	**245**	P	**P**	**14 29 16.3**	**+2.4**
	2.8nm,0.7s,mb3.9,baz=68,slow=7.6,SNR=3.0						
STKA	**Stephens Creek**	**37.40**	**245**	P	**P**	**14 29 16.3**	**+2.4**
AS31	**Alice Springs**	**44.34**	**258**	*e*P	**P**	**14 30 09.1**	**+0.1**
ASAR	**Alice Springs**	**44.34**	**258**	P	**P**	**14 30 09.6**	**+0.6**
	2.9nm,0.5s,mb4.1,baz=93,slow=7.9,SNR=107						
ASAR	**Alice Springs**	**44.34**	**258**	P	**P**	**14 30 09.6**	**+0.6**
WB2	**Warramunga Arr**	**44.50**	**263**	*e*P	**P**	**14 30 09.8**	**-0.5**
WB2				*e*		14 32 00.1	
WRAB	**Tennant Creek**	**44.50**	**263**	*e*P	**P**	**14 30 09.4**	**-0.8**
	1.5nm,0.5s						
WRAB				*e*PP	PP	14 32 02.8	-2.0
WRA	**Warramunga Arr**	**44.51**	**263**	P	**P**	**14 30 09.7**	**-0.6**
	1.5nm,0.3s,mb4.0,baz=97,slow=7.4,SNR=119						
WRA	**Warramunga Arr**	**44.51**	**263**	P	**P**	**14 30 09.7**	**-0.6**
ILAR	**Eielson Array**	**89.26**	**13**	P	**P**	**14 34 44.0**	**+0.2**
	0.4nm,0.8s,mb3.3,baz=221,slow=4.7,SNR=5.5						
ILAR	**Eielson Array**	**89.26**	**13**	P	**P**	**14 34 44.0**	**+0.2**

*ISCJB **21** 14:39:41.7±0.5, 59°.68N±0°.04 × 153°.1W±0°.1, h118km±6km, mb3.8/5, Error ellipse: s-maj=8.7km s-min=6.3km az=17.9*
*IDC **21** 14:39:41.9±2.3, 59°.72N × 153°.39W, h94km±39km, mb3.5/5, mb1 3.5/8, mb1mx3.3/28, mbtmp3.5/8, Error ellipse: s-maj=49.7km s-min=16.5km az=109.0*
*NEIC **21** 14:39:44.2, 59°.67N × 153°.09W, h101km, MG3.1(AEIC), After AEIC.*
ISC 21 14:39:42.9±0.5, 59°.68N±0°.04 × 153°.1W±0°.1, h109km±6km, n50, σ0°.74/59, mb3.8/5, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSO	**Redoubt South**	**0.80**	**12**	*e*P	**Pn**	**14 40 02.0**	**0.0**
BRLK	**Bradley Lake**	**1.12**	**85**	P	**Pn**	**14 40 05.2**	**0.0**
BRLK				S	**Sn**	**14 40 22.0**	**-0.1**
SLKM	**Skilak Lake**	**1.66**	**59**	P	**Pn**	**14 40 12.1**	**+0.5**
SVW2	**Sparrevohn**	**1.88**	**320**	*e*P	**Pn**	**14 40 13.4**	**-0.9**
SEW	**Seward**	**1.89**	**75**	P	**Pn**	**14 40 14.4**	**+0.1**
SEW				S	**Sn**	**14 40 37.3**	**-1.0**
KDAK	**Kodiak Island**	**1.92**	**172**	P	**Pn**	**14 40 14.2**	**-0.6**
	35nm,0.3s,baz=5.5,slow=13,SNR=152						
KDAK				S	**Sn**	**14 40 38.9**	**-0.2**
	23nm,0.3s,baz=299,slow=22,SNR=16						
KDAK	**Kodiak Island**	**1.92**	**172**	P	**Pn**	**14 40 15.2**	**+0.4**
KDAK				S	**Sn**	**14 40 39.8**	**+0.7**
FIB	**Fire Island**	**2.08**	**43**	P	**Pn**	**14 40 18.2**	**+1.4**
SUA	**Susitna One**	**2.13**	**32**	P	**Pn**	**14 40 18.3**	**+0.9**
SUA				S	**Sn**	**14 40 44.4**	**+0.5**
RC01	**Rabbit Creek A**	**2.19**	**48**	P	**Pn**	**14 40 18.3**	**+0.2**
RC01				S	**Sn**	**14 40 44.4**	**-0.7**
SKT	**Skwentna**	**2.43**	**18**	P	**Pn**	**14 40 21.4**	**+0.1**
OHAK	**Old Harbor**	**2.47**	**182**	*e*Pn	**Pn**	**14 40 20.8**	**-1.1**
PMR	**Palmer**	**2.74**	**44**	P	**Pn**	**14 40 25.2**	**-0.1**
PPLA	**Purkeypile**	**3.26**	**7**	P	**Pn**	**14 40 33.6**	**+1.4**
MID	**Middleton Isla**	**3.45**	**91**	*e*Pn	**Pn**	**14 40 34.8**	**0.0**
TT01	**Tatalina**	**3.53**	**338**	P	**Pn**	**14 40 35.3**	**-0.6**
SCM	**Sheep Creek Mo**	**3.56**	**50**	P	**Pn**	**14 40 36.1**	**-0.1**
EYAK	**Cordova Ski Ar**	**3.78**	**73**	P	**Pn**	**14 40 39.5**	**+0.3**
DIV	**Divide**	**3.91**	**65**	*e*Pn	**Pn**	**14 40 41.3**	**+0.3**
DIV				*e*Sn	**Sn**	**14 41 23.9**	**-2.0**
KLU	**Klutina**	**3.98**	**60**	P	**Pn**	**14 40 41.4**	**-0.4**
TRF	**Thorofare Moun**	**4.01**	**18**	P	**Pn**	**14 40 42.8**	**+0.5**
RND	**Reindeer**	**4.25**	**27**	P	**Pn**	**14 40 45.6**	**+0.1**
BMRM	**Bremner River**	**4.41**	**69**	P	**Pn**	**14 40 48.3**	**+0.6**
BPAW	**Bear Paw Mtn.**	**4.55**	**12**	P	**Pn**	**14 40 49.2**	**-0.2**
PAX	**Paxson**	**4.94**	**45**	P	**Pn**	**14 40 55.3**	**+0.6**
DDM	**Donnelly Dome**	**5.36**	**37**	P	**Pn**	**14 41 01.7**	**+1.2**
MENT	**Mentasta**	**5.57**	**50**	*e*P	**Pn**	**14 41 03.8**	**+0.5**
COLA	**College**	**5.76**	**23**	P	**Pn**	**14 41 05.2**	**-0.5**
MDM	**Murphy Dome**	**5.76**	**21**	P	**Pn**	**14 41 05.5**	**-0.4**
DOT	**Dot Lake**	**5.86**	**43**	*e*Pn	**Pn**	**14 41 07.3**	**+0.1**
ILAR	**Eielson Array**	**5.87**	**27**	P	**Pn**	**14 41 06.5**	**-0.9**
	3.1nm,0.3s,baz=214,slow=13,SNR=125						
ILAR				S	**Sn**	**14 42 09.9**	**-3.3**
	1.1nm,0.3s,baz=194,slow=15,SNR=5.0						
ILAR	**Eielson Array**	**5.87**	**27**	P	**Pn**	**14 41 06.5**	**-0.9**
ILAR				S	**Sn**	**14 42 09.9**	**-3.3**
IL1	**Eielson Array**	**5.87**	**27**	P	**Pn**	**14 41 06.8**	**-0.6**
IM3	**Indian Mountai**	**6.33**	**358**	P	**Pn**	**14 41 14.1**	**+0.4**
BCA3	**Beaver Creek A**	**6.41**	**53**	P	**Pn**	**14 41 15.2**	**+0.6**
COLD	**Coldfoot**	**7.69**	**8**	*e*Pn	**Pn**	**14 41 31.5**	**-0.4**
DLBC	**Dease Lake**	**11.92**	**86**	P	**Pn**	**14 42 32.4**	**+3.3**
	0.6nm,0.3s,baz=284,slow=8.3,SNR=12						
DLBC	**Dease Lake**	**11.92**	**86**	P	**Pn**	**14 42 32.4**	**+3.3**
INK	**Inuvik**	**12.12**	**36**	P	**Pn**	**14 42 31.3**	**-0.3**
	0.1nm,0.3s,baz=230,slow=13,SNR=3.0						
INK	**Inuvik**	**12.12**	**36**	P	**Pn**	**14 42 31.3**	**-0.3**
SONM	**Songino Array**	**54.94**	**306**	P	**P**	**14 49 02.8**	**+0.8**
	0.9nm,0.7s,mb3.9,baz=29,slow=4.8,SNR=8.5						
SONM	**Songino Array**	**54.94**	**306**	P	**P**	**14 49 02.8**	**+0.8**
ZALV	**Zalesovo Beam**	**57.61**	**324**	P	**P**	**14 49 20.8**	**-0.1**
	1.1nm,0.5s,mb4.1,baz=31,slow=6.5,SNR=7.3						
ZALV	**Zalesovo Beam**	**57.61**	**324**	P	**P**	**14 49 20.8**	**-0.1**
KURK	**Kurchatov**	**62.27**	**326**	P	**P**	**14 49 53.1**	**+0.3**
	0.4nm,0.3s,mb4.0,baz=28,slow=6.5,SNR=3.6						
KURK	**Kurchatov**	**62.27**	**326**	P	**P**	**14 49 53.1**	**+0.3**
BVAR	**Borovoye Array**	**62.33**	**332**	P	**P**	**14 49 52.4**	**-0.8**
	0.6nm,0.6s,mb3.8,baz=32,slow=8.5,SNR=3.1						
BVAR	**Borovoye Array**	**62.33**	**332**	P	**P**	**14 49 52.4**	**-0.8**
MKAR	**Makanchi Array**	**64.65**	**321**	P	**P**	**14 50 07.7**	**-0.8**
	0.1nm,0.4s,mb3.0,baz=41,slow=6.1,SNR=3.1						
MKAR	**Makanchi Array**	**64.65**	**321**	P	**P**	**14 50 07.7**	**-0.8**

*NIED **21** 14:51:00, 33°.10N × 135°.80E, h11km, Mw3.6 Best double couple: M◎3.17000×10^14 NP1:φ◎162.00000°, δ78.00000°, λ41.00000°. NP2:φ◎61.00000°, δ50.00000°, λ164.00000°.*
JMA 21 14:51:32.5±0.1, 33°.15N × 135°.80E, h31km±1km, M3.8, 4C-1D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWZ	**Kozaga**	**0.39**	**349**	⇑P	Pb	14 51 40.9	-0.3
JWZ				S	Sb	14 51 46.9	-0.3
JWM	**Minabe**	**0.79**	**332**	⇑P	Pn	14 51 47.2	-0.3
JWM				S	Sb	14 51 57.5	-0.7
TTO1	**TONANKAI O.B.S**	**0.95**	**60**	S	Sn	14 52 02.7	+0.5
JWY	**Kouya**	**1.08**	**351**	⇑P	Pn	14 51 51.7	+0.2
JWY				S	Sn	14 52 05.7	+0.3
JKN2	**Miekihoku**	**1.16**	**20**	⇑P	Pn	14 51 52.5	0.0
TTO2	**TONANKAI O.B.S**	**1.18**	**60**	S	Sn	14 52 08.9	+1.0
JAI	**Aioi**	**1.30**	**300**	⇓P	Pn	14 51 54.2	-0.3

*DDA **21** 15:10:33.6, 37°.22N × 28°.04E, h7km, 3km, Md3.1*
*ISCJB **21** 15:10:34.3±0.6, 37°.20N±0°.05 × 28°.20E±0°.05, h5km±9km, Error ellipse: s-maj=8.6km s-min=6.2km az=27.6*
*CSEM **21** 15:10:34.4±0.1, 37°.20N × 28°.20E, h8km, MD2.6, Error ellipse: s-maj=4.0km s-min=3.0km az=13.0*
*ISK **21** 15:10:34.0, 37°.20N × 28°.19E, h8km, MD2.6*
ISC 21 15:10:34.6±0.6, 37°.20N±0°.05 × 28°.21E±0°.05, h8km±9km, n18, σ0°.54/26, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.09**	**136**	*e*PG	**Pg**	**15 10 36.8**	**0.0**
YER	**Yerkesik**	**0.09**	**136**	*e*Pg	**Pg**	**15 10 36.8**	**0.0**
MLSB	**Milas**	**0.36**	**286**	*e*PG	**Pg**	**15 10 41.2**	**-0.4**
MLSB				*e*SG	**Sg**	**15 10 47.1**	**+0.8**
MLSB	**Milas**	**0.36**	**286**	*e*Pg	**Pg**	**15 10 41.2**	**-0.4**
MLSB				*e*Sg	**Sg**	**15 10 47.1**	**+0.8**
TURN	**Turunc**	**0.45**	**136**	*i* P	**Pg**	**15 10 42.9**	**-0.4**
TURN	**Turunc**	**0.45**	**136**	*i* P	**Pg**	**15 10 42.9**	**-0.5**
AYDN	**Tasoluk**	**0.53**	**331**	*i* P	**Pg**	**15 10 44.4**	**-0.4**
AYDN				*i* S	**Sg**	**15 10 51.5**	**-0.3**
AYDN	**Tasoluk**	**0.53**	**331**	*i* P	**Pg**	**15 10 44.4**	**-0.4**
AYDN				*i* S	**Sg**	**15 10 51.5**	**-0.3**
DAT	**Datca**	**0.69**	**227**	*e*PG	**Pg**	**15 10 48.4**	**+0.6**
DAT	**Datca**	**0.69**	**227**	*e*Pg	**Pg**	**15 10 48.4**	**+0.6**
BODT	**Bodrum**	**0.73**	**260**	*e*PG	**Pg**	**15 10 47.6**	**-1.0**
BODT				*e*SG	**Sg**	**15 10 58.4**	**+0.3**
BODT	**Bodrum**	**0.73**	**260**	*e*Pg	**Pg**	**15 10 47.6**	**-1.0**
BODT				*e*Sg	**Sg**	**15 10 58.4**	**+0.3**
DNZL	**Cakiroluk**	**0.83**	**53**	*i* P	**Pg**	**15 10 51.1**	**+0.6**
DNZL				*i* S	**Sg**	**15 11 05.5**	**+4.2**
DNZL	**Cakiroluk**	**0.83**	**53**	*i* P	**Pg**	**15 10 51.1**	**+0.6**
DNZL				*i* S	**Sg**	**15 11 05.5**	**+4.2**
KULA	**Kula-Manisa**	**1.36**	**15**	*e*PN	**Pn**	**15 10 59.9**	**+0.1**
KULA	**Kula-Manisa**	**1.36**	**15**	*e*Pn	**Pn**	**15 10 59.9**	**+0.1**
ELL	**Elmali**	**1.44**	**108**	*e*PN	**Pn**	**15 11 00.8**	**0.0**
ELL	**Elmali**	**1.44**	**108**	*e*Pn	**Pn**	**15 11 00.8**	**0.0**

*ISCJB **21** 15:31:40.6±0.6, 42°.15N±0°.03 × 8°.43W±0°.05, h27km±4km, Error ellipse: s-maj=6.8km s-min=4.7km az=9.8*
*CSEM **21** 15:31:40.3±0.1, 42°.16N × 8°.40W, h15km, ML3.1/10, Error ellipse: s-maj=3.6km s-min=2.2km az=91.0*
*INMG **21** 15:31:41.8±1.2, 42°.17N × 8°.40W, h12km±2km, ML2.3, Error ellipse: s-maj=3.6km s-min=1.4km az=81.0*
*NEIC **21** 15:31:41.4, 42°.16N × 8°.42W, h16km, MN2.5(MDD), After MDD.*
*MDD **21** 15:31:41.5±0.5, 42°.16N × 8°.41W, h17km±4km, mbLg2.5/12, Error ellipse: s-maj=6.3km s-min=3.0km az=66.0, PRIMO*
ISC 21 15:31:40.5±0.6, 42°.14N±0°.02 × 8°.41W±0°.05, h18km±2km, n75, σ1°.00/127, 3C, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PGAV	**Gavieira, Arco**	**0.21**	**150**	*e*Pg	**Pg**	**15 31 46.3**	**+0.8**
PGAV				*e*Sg	**Sg**	**15 31 49.7**	**+0.8**
	449nm,0.1s						
PGAV	**Gavieira, Arco**	**0.21**	**150**	*e*Pg	**Pg**	**15 31 46.3**	**+0.8**
PGAV				*e*Sg	**Sg**	**15 31 49.7**	**+0.8**
PGAV				A		15 31 50.3	
	449nm,0.1s						
ELOB	**Lobios**	**0.38**	**137**	⇑Pg	**Pg**	**15 31 49.1**	**+0.7**
ELOB				Lg		15 31 54.4	
ELOB	**Lobios**	**0.38**	**137**	⇑Pg	**Pg**	**15 31 49.1**	**+0.7**
	37nm,0.1s,SNR=18						
ELOB				Lg		15 31 54.4	
	97nm,0.1s,SNR=73						
ELOB	**Lobios**	**0.38**	**137**	Pg	**Pg**	**15 31 49.1**	**+0.7**
	37nm,0.1s,SNR=18						
ELOB				Lg		15 31 54.4	
	97nm,0.1s,SNR=73						
PCAB	**Cabril**	**0.52**	**147**	⇑*i*Pg	**Pg**	**15 31 51.6**	**+0.7**
PCAB				*e*Sg	**Sg**	**15 31 58.8**	**+0.9**
PCAB				A		15 32 01.8	
	182nm,0.1s						
STS	**Santiago**	**0.75**	**352**	Pg	**Pg**	**15 31 54.8**	**-0.4**
STS				Lg		15 32 04.6	
STS	**Santiago**	**0.75**	**352**	Pg	**Pg**	**15 31 54.8**	**-0.4**
	38nm,0.2s,SNR=12						
STS				Lg		15 32 04.6	
	53nm,0.1s,SNR=19						
STS	**Santiago**	**0.75**	**352**	Pg	**Pg**	**15 31 54.8**	**-0.4**
	38nm,0.2s,SNR=12						
STS				Lg		15 32 04.6	
	53nm,0.1s,SNR=19						
POLO	**Lamas de Olo**	**0.90**	**149**	*e*P	**Pb**	**15 31 58.3**	**+0.8**
POLO				*e*S	**Sb**	**15 32 10.7**	**+1.6**
	32nm,0.2s						
POLO	**Lamas de Olo**	**0.90**	**149**	*e*P	**Pb**	**15 31 58.3**	**+0.8**
POLO				*e*S	**Sb**	**15 32 10.7**	**+1.6**
POLO				A		15 32 11.7	
	32nm,0.2s						
EMAZ	**Mazaricos**	**0.91**	**333**	Pg	**Pg**	**15 31 57.7**	**-0.5**
EMAZ				Lg		15 32 09.6	
EMAZ	**Mazaricos**	**0.91**	**333**	Pg	**Pg**	**15 31 57.7**	**-0.5**
	28nm,0.1s,SNR=32						
EMAZ				Lg		15 32 09.5	
	65nm,0.1s,SNR=32						
EMAZ	**Mazaricos**	**0.91**	**333**	Pg	**Pg**	**15 31 57.7**	**-0.5**
	28nm,0.1s,SNR=32						
EMAZ				Lg		15 32 09.5	
	65nm,0.1s,SNR=32						
ERUA	**La Rua**	**0.97**	**75**	Pg	**Pg**	**15 31 58.3**	**-1.1**
ERUA				Lg		15 32 12.0	
ERUA	**La Rua**	**0.97**	**75**	Pg	**Pg**	**15 31 58.3**	**-1.1**
	29nm,0.2s,SNR=7.9						
ERUA				Lg		15 32 12.0	
	26nm,0.1s,SNR=7.9						
ERUA	**La Rua**	**0.97**	**75**	Pg	**Pg**	**15 31 58.3**	**-1.1**
	29nm,0.2s,SNR=7.9						
ERUA				Lg		15 32 12.0	
	26nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**1.01**	**149**	*e*P	**Pb**	**15 32 00.6**	**+1.1**
PVRL				*e*S	**Sb**	**15 32 14.1**	**+1.7**
	105nm,0.1s						
PVRL	**Vila Real**	**1.01**	**149**	*e*P	**Pb**	**15 32 00.6**	**+1.1**
PVRL				*e*S	**Sb**	**15 32 14.1**	**+1.7**
PVRL				A		15 32 15.6	
	105nm,0.1s						
PTO	**Porto**	**1.01**	**188**	*e*P	**Pb**	**15 32 00.6**	**+1.1**
PTO				*e*S	**Sb**	**15 32 13.4**	**+0.9**
	143nm,0.1s						
PTO	**Porto**	**1.01**	**188**	*e*P	**Pb**	**15 32 00.6**	**+1.1**
PTO				*e*S	**Sb**	**15 32 13.4**	**+0.9**
PTO				A		15 32 14.5	
	143nm,0.1s						
ECAL	**Calabor**	**1.26**	**99**	Pn	**Pn**	**15 32 03.5**	**+0.2**
ECAL				Pg	**Pg**	**15 32 04.8**	**-0.1**
ECAL				Lg		15 32 21.6	
ECAL	**Calabor**	**1.26**	**99**	Pn	**Pn**	**15 32 03.5**	**+0.2**
	0.5nm,0.1s,SNR=30						
ECAL				Pg	**Pg**	**15 32 04.7**	**-0.1**
	8.9nm,0.2s,SNR=11						
ECAL				Lg		15 32 21.5	
	81nm,0.2s,SNR=5.0						
ECAL	**Calabor**	**1.26**	**99**	Pn	**Pn**	**15 32 03.5**	**+0.3**
	0.5nm,0.1s,SNR=30						
PBRG	**Braganca**	**1.29**	**105**	*e*P	**Pn**	**15 32 05.1**	**+1.5**
PBRG				*e*S	**Sn**	**15 32 21.7**	**+1.3**
	45nm,0.3s						
PBRG	**Braganca**	**1.29**	**105**	*e*P	**Pn**	**15 32 05.1**	**+1.5**
PBRG				*e*S	**Sn**	**15 32 21.7**	**+1.3**
PBRG				A		15 32 23.3	
	45nm,0.3s						
MVO	**Moncorvo**	**1.42**	**133**	Pn	**Pn**	**15 32 05.7**	**+0.3**
MVO				Pg	**Pg**	**15 32 07.5**	**-0.5**
MVO				Lg		15 32 26.1	
MVO	**Moncorvo**	**1.42**	**133**	Pn	**Pn**	**15 32 05.7**	**+0.3**
	0.1nm,0.1s,SNR=12						
MVO				Pg	**Pg**	**15 32 07.5**	**-0.5**
	6.4nm,0.1s,SNR=7.9						
MVO				Lg		15 32 26.1	
	29nm,0.1s,SNR=18						
MVO	**Moncorvo**	**1.42**	**133**	Pn	**Pn**	**15 32 05.7**	**+0.2**
	0.1nm,0.1s,SNR=12						
MVO	**Moncorvo**	**1.42**	**133**	Pg	**Pg**	**15 32 07.5**	**-0.5**
	6.4nm,0.1s,SNR=7.9						
MVO				*e*Sn	**Sn**	**15 32 23.8**	**+0.1**
MVO				Lg		15 32 26.1	
	29nm,0.1s,SNR=18						
MVO				*e*Sg	**Sg**	**15 32 26.9**	**+0.4**
	51nm,0.6s						
MVO	**Moncorvo**	**1.42**	**133**	*e*Pn	**Pn**	**15 32 06.0**	**+0.5**
MVO				*e*Sn	**Sn**	**15 32 23.8**	**+0.1**
MVO				*e*Sg	**Sg**	**15 32 26.9**	**+0.4**
MVO				A		15 32 27.8	
	51nm,0.6s						
PVIS	**Viseu**	**1.48**	**165**	*e*Pn	**Pn**	**15 32 06.6**	**+0.4**
PVIS				*e*Sn	**Sn**	**15 32 25.4**	**+0.3**
PVIS				*e*Sg	**Sg**	**15 32 28.0**	**-0.3**
	42nm,0.1s						
PVIS	**Viseu**	**1.48**	**165**	*e*Pn	**Pn**	**15 32 06.6**	**+0.4**
PVIS				*e*Sn	**Sn**	**15 32 25.4**	**+0.3**
PVIS				*e*Sg	**Sg**	**15 32 28.0**	**-0.3**
PVIS				A		15 32 31.1	
	42nm,0.1s						
EPON	**Pontenova**	**1.50**	**38**	Pn	**Pn**	**15 32 05.4**	**-1.2**
EPON				Pg	**Pg**	**15 32 08.3**	**-1.1**
EPON				Lg		15 32 27.1	
EPON	**Pontenova**	**1.50**	**38**	Pn	**Pn**	**15 32 05.5**	**-1.1**
	1.3nm,0.1s,SNR=7.9						
EPON				Pg	**Pg**	**15 32 08.3**	**-1.1**
	4.0nm,0.2s,SNR=6.2						
EPON				Lg		15 32 27.9	
	16nm,0.1s,SNR=18						
EPON	**Pontenova**	**1.50**	**38**	Pn	**Pn**	**15 32 05.4**	**-1.2**
	1.3nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**1.50**	**38**	Pg	**Pg**	**15 32 08.3**	**-1.2**
	4.0nm,0.2s,SNR=6.2						
EPON				Lg		15 32 27.1	
	16nm,0.1s,SNR=18						
MTE	**Manteigas**	**1.86**	**159**	*e*Pg	**Pg**	**15 32 15.5**	**-0.8**
MTE				*e*Sg	**Sg**	**15 32 39.6**	**-0.8**
	23nm,0.3s						
MTE	**Manteigas**	**1.86**	**159**	*e*Pg	**Pg**	**15 32 15.5**	**-0.8**
MTE				*e*Sg	**Sg**	**15 32 39.6**	**-0.8**
MTE				A		15 32 43.8	
	23nm,0.3s						
PCBR	**

ELAN				Lg			15 33 41.3	
ELAN	**Lanestosa**	**3.83**	**72**	Pn		**Pn**	**15 32 39.1**	**+0.6**
	2.8nm,0.3s,SNR=7.9							
ELAN				Sn		**Sn**	**15 33 20.3**	**-2.7**
	0.3nm,0.2s,SNR=7.9							
ELAN				Lg			15 33 41.3	
	3.3nm,0.3s,SNR=4.0							
ELAN	**Lanestosa**	**3.83**	**72**	Pn		**Pn**	**15 32 39.1**	**+0.6**
	2.8nm,0.3s,SNR=7.9							
ELAN				Sn		**Sn**	**15 33 22.3**	**-0.7**
	SNR=7.9							
ELAN				Lg			15 33 41.3	
	3.3nm,0.3s,SNR=4.0							
PNCL	**Nicolau / Gran**	**4.03**	**181**	*e*Pn		**Pn**	**15 32 41.9**	**+0.6**
PNCL	**Nicolau / Gran**	**4.03**	**181**	*e*Pn		**Pn**	**15 32 41.9**	**+0.6**
PBAR	**Barrancos**	**4.10**	**165**	*e*Pn		**Pn**	**15 32 42.7**	**+0.4**
PBAR	**Barrancos**	**4.10**	**165**	*e*Pn		**Pn**	**15 32 42.7**	**+0.4**
PBAR				*e*Sn		**Sn**	**15 33 27.8**	**-2.0**
PBAR				A			15 34 07.4	
	2.5nm,0.6s							
PCVE	**Castro Verde**	**4.51**	**176**	*e*Pn		**Pn**	**15 32 47.8**	**-0.2**
PCVE	**Castro Verde**	**4.51**	**176**	*e*Pn		**Pn**	**15 32 47.8**	**-0.2**
EMIN	**Mina Concepcio**	**4.57**	**162**	Pn		**Pn**	**15 32 49.0**	**+0.3**
EMIN				Sn		**Sn**	**15 33 39.3**	**-2.1**
EMIN				Lg			15 34 03.9	
EMIN	**Mina Concepcio**	**4.57**	**162**	Pn		**Pn**	**15 32 49.0**	**+0.3**
	0.7nm,0.1s,SNR=7.9							
EMIN				Sn		**Sn**	**15 33 39.3**	**-2.1**
	0.6nm,0.2s,SNR=7.9							
EMIN				Lg			15 34 01.3	
	1.9nm,0.3s,SNR=7.9							
EMIN	**Mina Concepcio**	**4.57**	**162**	Pn		**Pn**	**15 32 49.0**	**+0.3**
	0.7nm,0.1s,SNR=7.9							
EMIN				Sn		**Sn**	**15 33 39.3**	**-2.1**
	0.6nm,0.2s,SNR=7.9							
EMIN				Lg			15 34 03.9	
	1.9nm,0.3s,SNR=7.9							
PVAQ	**Vaqueiros**	**4.76**	**173**	*e*Pn		**Pn**	**15 32 51.8**	**+0.4**
PVAQ	**Vaqueiros**	**4.76**	**173**	*e*Pn		**Pn**	**15 32 51.8**	**+0.4**

IDC ***21*** *15:37:29.6±2.0, 4.°08S×102.°26E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.8/22, mbtmp3.9/9, MS4.8/1, Ms1 4.8/1, ms1mx2.9/39, Error ellipse: s-maj=92.8km s-min=15.5km az=55.0*

NEIC ***21*** *15:37:33.4±1.1, 4.°26S×101.°92E, h35km, mb4.2/2, Error ellipse: s-maj=52.1km s-min=8.1km az=55.0*

ISCJB ***21*** *15:37:35.6±1.0, 4.°28S±0.°09×102.°08E±0.°09, h72km±8km, mb4.2/17, Error ellipse: s-maj=20.1km s-min=6.1km az=44.5*

DJA ***21*** *15:37:36, 4.°36S×102.°14E, h25km, MLv4.4/9*

ISC 21 15:37:37.0±1.0, 4.°28S±0.°08×102.°11E±0.°09, h65km±8km, n42, σ0s97/43, mb4.2/17, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
KSI	**Kapahiang**	**0.79**	**38**	P	**Pn**	**15**	**37**	**51.0**	**-1.6**
KSI				S	**Sn**	**15**	**38**	**04.5**	**+0.4**
MNAI	**Manna**	**0.85**	**96**	P	**Pn**	**15**	**37**	**52.2**	**-1.2**
MDSI	**Maura Dua**	**2.08**	**96**	P	**Pn**	**15**	**38**	**08.9**	**-0.7**
MDSI				S	**Sn**	**15**	**38**	**35.0**	**+0.6**
LWLI	**Liwa**	**2.08**	**111**	P	**Pn**	**15**	**38**	**09.8**	**+0.2**
LWLI				S	**Sn**	**15**	**38**	**34.4**	**-0.1**
KRJI	**Kerinci**	**2.26**	**343**	P	**Pn**	**15**	**38**	**14.0**	**+1.8**
KRJI				S	**Sn**	**15**	**38**	**42.9**	**+3.9**
PDSI	**Padang**	**3.73**	**334**	P	**Pn**	**15**	**38**	**32.3**	**+0.2**
RBSI	**Rajabasa**	**3.94**	**113**	P	**Pn**	**15**	**38**	**34.7**	**-0.3**
PPI	**Padang Panjang**	**4.16**	**336**	P	**Pn**	**15**	**38**	**44.1**	**+6.0**
SISI	**Saibi**	**4.20**	**314**	P	**Pn**	**15**	**38**	**38.6**	**0.0**
CGJI	**Cibinong**	**4.26**	**123**	P	**Pn**	**15**	**38**	**39.2**	**-0.2**
MYKOM	**Kota Tinggi**	**5.27**	**16**	P	**Pn**	**15**	**39**	**08.3**	**+1.3**
CMAR	**Chiang Mai Arr**	**22.80**	**352**	P	**P**	**15**	**42**	**33.1**	**-1.4**
	0.7nm,0.5s,mb3.3,baz=171,slow=9.7,SNR=5.3								
CMAR	**Chiang Mai Arr**	**22.80**	**352**	P	**P**	**15**	**42**	**33.1**	**-1.4**
FITZ	**Fitzroy Crossi**	**26.81**	**123**	P	**P**	**15**	**43**	**12.0**	**+0.6**
	1.0nm,0.8s,mb3.4,baz=304,slow=3.6,SNR=2.7								
FITZ	**Fitzroy Crossi**	**26.81**	**123**	P	**P**	**15**	**43**	**12.0**	**+0.6**
ODAN	**Odare**	**34.07**	**336**	*e*P	**P**	**15**	**44**	**15.0**	**-0.3**
	8.9nm,0.5s,mb4.8								
TAPN	**Taplejung**	**34.38**	**337**	*e*P	**P**	**15**	**44**	**17.2**	**-0.8**
	9.2nm,0.7s,mb4.7								
WRA	**Warramunga Arr**	**35.04**	**119**	P	**P**	**15**	**44**	**24.0**	**+0.2**
	0.6nm,0.4s,mb3.7,baz=304,slow=8.7,SNR=14								
WRA	**Warramunga Arr**	**35.04**	**119**	P	**P**	**15**	**44**	**24.0**	**+0.2**
WRAB	**Tennant Creek**	**35.05**	**119**	*e*P	**P**	**15**	**44**	**20.8**	**-3.1**
	1.3nm,0.5s,mb4.0								
GUN	**Gumba**	**35.62**	**335**	*e*P	**P**	**15**	**44**	**28.6**	**0.0**
	14nm,0.5s,mb5.1								
KKN	**Kakani**	**35.77**	**334**	*e*P	**P**	**15**	**44**	**30.0**	**0.0**
	5.2nm,0.5s,mb4.7								
AS31	**Alice Springs**	**36.22**	**125**	*e*P	**P**	**15**	**44**	**35.9**	**+2.0**
ASAR	**Alice Springs**	**36.22**	**125**	P	**P**	**15**	**44**	**34.3**	**+0.4**
	0.5nm,0.4s,mb3.8,baz=296,slow=7.4,SNR=17								
ASAR	**Alice Springs**	**36.22**	**125**	P	**P**	**15**	**44**	**34.3**	**+0.4**
DANN	**Dangsing**	**36.94**	**333**	*e*P	**P**	**15**	**44**	**40.1**	**+0.2**
	10nm,0.4s,mb5.1								
PYUN	**Piuthan**	**37.09**	**331**	*e*P	**P**	**15**	**44**	**41.5**	**+0.3**
	6.5nm,0.6s,mb4.7								
STKA	**Stephens Creek**	**46.08**	**131**	P	**P**	**15**	**45**	**55.7**	**+1.0**
	1.7nm,0.7s,mb3.9,baz=315,slow=5.7,SNR=3.7								
STKA	**Stephens Creek**	**46.08**	**131**	P	**P**	**15**	**45**	**55.7**	**+1.0**
SONM	**Songino Array**	**52.03**	**4**	P	**P**	**15**	**46**	**39.9**	**+0.1**
	1.0nm,0.5s,mb4.1,baz=186,slow=9.1,SNR=12								
SONM	**Songino Array**	**52.03**	**4**	P	**P**	**15**	**46**	**39.9**	**+0.1**
MK31	**Makanchi Array**	**53.79**	**343**	*e*P	**P**	**15**	**46**	**51.6**	**-1.2**
MKAR	**Makanchi Array**	**53.79**	**343**	P	**P**	**15**	**46**	**52.3**	**-0.5**
	1.2nm,0.4s,mb4.2,baz=149,slow=9.1,SNR=20								
MKAR	**Makanchi Array**	**53.79**	**343**	P	**P**	**15**	**46**	**52.3**	**-0.5**
KURK	**Kurchatov**	**58.38**	**343**	LR	LR	16	18	04.8	
	comp=Z,765nm,18.4s,baz=225,slow=42								
ZALV	**Zalesovo Beam**	**59.79**	**348**	P	**P**	**15**	**47**	**34.4**	**-0.8**
	1.9nm,0.5s,mb4.4,baz=172,slow=5.3,SNR=11								
ZALV	**Zalesovo Beam**	**59.79**	**348**	P	**P**	**15**	**47**	**34.4**	**-0.8**
ABKAR	**Akbulak array**	**64.64**	**331**	*e*P	**P**	**15**	**48**	**06.8**	**-1.0**
	1.0nm,0.5s,mb3.9								
FINES	**FINESS Array B**	**87.09**	**332**	P	**P**	**15**	**50**	**18.2**	**+2.8**
	2.2nm,1.0s,mb4.0,baz=98,slow=2.8,SNR=3.9								
FINES	**FINESS Array B**	**87.09**	**332**	P	**P**	**15**	**50**	**18.2**	**+2.8**
TXAR	**Lajitas Array**	**145.11**	**42**	PKP	PKPdf	15	57	07.7	-0.1
	0.8nm,0.5s,baz=232,slow=2.2,SNR=16								
TXAR	**Lajitas Array**	**145.11**	**42**	PKP	PKPdf	15	57	07.7	-0.1

NIED ***21*** *15:44:00, 43.°10N×145.°80E, h44km, Mw5.1 Best double couple: M0 5.74000×10^16 NP1:φs41.00000°, δ67.00000°, λ87.00000°. NP2:φs228.00000°, δ23.00000°, λ97.00000°.*

MOS ***21*** *15:44:46.4±0.9, 43.°17N×145.°78E, h40km, mb5.5/106, MS4.5/23, Error ellipse: s-maj=5.9km s-min=3.9km az=101.2*

NEIC ***21*** *15:44:46.7±0.1, 43.°19N×145.°81E, h29km, mb5.3/163, MW5.2, MW5.1(NIED), Error ellipse: s-maj=3.7km s-min=2.1km az=154.0, Moment Tensor Solution. s14 Moment tensor: Scale 10^16 Nm; Mrr 3.14; Mθθ -1.97; Mφφ -1.16; Mrθ 3.51; Mθφ -5.02; Mrφ 2.91; Best double couple: M0 7.30000×10^16 NP1:φs54.00000°, δ67.00000°, λ98.00000°. NP2:φs213.00000°, δ24.00000°, λ71.00000°. Principal axes: T 4.9700, Plg66.0000°, Azm339.0000°; N 3.4400, Plg7.0000°, Azm230.0000°; P -8.4000, Plg21.0000°, Azm137.0000°;*

NEIC Felt at Bihoro. Recorded [4 JMA] in eastern Hokkaido. Also recorded [1 JMA] in Aomori, Honshu.

IDC ***21*** *15:44:47.2±3.7, 43.°19N×145.°83E, h33km±27km, mb5.1/28, mb1 5.2/33, mb1mx5.2/34, mbtmp5.1/33, ML4.5/5, MS4.4/34, Ms1 4.4/34, ms1mx4.3/50 Error ellipse: s-maj=13.2km s-min=9.5km az=117.0*

ISCJB ***21*** *15:44:47.2±0.1, 43.°11N±0.°02×145.°81E±0.°02, h47km, mb5.4/351, MS4.5/53, Error ellipse: s-maj=2.6km s-min=1.5km az=161.3*

BJI ***21*** *15:44:48.7, 43.°24N×145.°74E, h62km, mB5.3/36, mb5.5/67, Ms4.6/54, Ms7 4.4/51*

JMA ***21*** *15:44:48.4±0.1, 43.°13N×145.°84E, h46km±1km, M5.2*

JMA Felt IV J1.

DJA ***21*** *15:44:48, 43.°27N×146.°21E, h54km, mb5.4/28*

SKHL ***21*** *15:44:49.6±0.8, 43.°20N×145.°86E, h51km±18km, mb5.6/7, mbh6.3/1, Ms4.6/3, msh6.2/1*

SKHL Felt (II-III) at Yushno-Kurilsk.

TEH ***21*** *15:44:50.0, 43.°17N×145.°73E, h58km*

BGS ***21*** *15:44:51.6±1.5, 43.°54N×143.°75E, h33km, mb5.7*

GCMT ***21*** *15:44:52.3±0.2, 43.°12N×145.°94E, h52km, MW5.2, Moment Tensor Solution. s62,c95; s84,c137; Moment tensor: Scale 10^16 Nm; Mrr 5.86±.20; Mθθ -2.80±.14; Mφφ -3.06±.14; Mrθ 1.05±.11; Mθφ -3.53±.10; Mrφ 2.50±.10; Best double couple: M0 6.70000×10^16 NP1:φs234.00000°, δ35.00000°, λ106.00000°. NP2:φs35.00000°, δ57.00000°, λ80.00000°. Principal axes: T 6.5200, Plg76.0000°, Azm274.0000°; N 0.4500, Plg9.0000°, Azm41.0000°; P -6.9700, Plg11.0000°, Azm132.0000°; Data Used: II IU IC G CN.*

ISC 21 15:44:49.3±0.1, 43.°18N±0.°02×145.°76E±0.°02, h49km, h49km±1.4km:pP-P, n1405, σ0s69/1384, mb5.4/351, MS4.5/53, 376C-243D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
NEM2	**Nemuro 2**	**0.18**	**357**	⇓P	**Pn**	**15**	**44**	**56.6**	**-0.9**
NEM2				*e*S	**Sn**	**15**	**45**	**02.3**	**-1.0**
JAK	**Akkeshi**	**0.80**	**257**	⇓P	**Pn**	**15**	**45**	**04.0**	**-0.3**
JAK				*e*S	**Sn**	**15**	**45**	**15.4**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**0.86**	**5**	⇑*i*PN	**Pn**	**15**	**45**	**04.3**	**-0.8**
YUK				*i* S	**Sn**	**15**	**45**	**15.9**	**-0.7**
YUK				pmax	pmax				
	comp=N,14μm,0.3s								
YUK				pmax	pmax				
	comp=Z,19μm,0.3s								
YUK				pmax	pmax				
	comp=E,9μm,0.1s								
YUK				smax					
	comp=N,105μm,0.6s								
YUK				smax					
	comp=E,114μm,0.6s								
YUK	**Yuzh-Kuril'sk**	**0.86**	**5**	⇓*i*P	**Pn**	**15**	**45**	**04.3**	**-0.8**
YUK				AMB	AMB	15	45	05.7	
	comp=E,58μm,0.8s								
YUK				AMB	AMB	15	45	05.7	
	comp=E,19μm,0.3s								
YUK				*i* S	**Sn**	**15**	**45**	**15.9**	**-0.7**
YUK				A		15	45	17.1	
	comp=E,87μm,0.6s								
YUK				A		15	45	17.1	
	comp=E,42μm,0.6s								
YUK				A		15	45	17.1	
	comp=E,105μm,0.6s								
YUK				A		15	45	17.1	
	comp=E,114μm,0.6s								
JNK	**Nakash**	**0.86**	**298**	⇓P	**Pn**	**15**	**45**	**05.1**	**0.0**
JNK				*e*S	**Sn**	**15**	**45**	**17.3**	**+0.6**
JRA	**Rausu**	**0.89**	**329**	⇓P	**Pn**	**15**	**45**	**05.8**	**+0.3**
JRA				*e*S	**Sn**	**15**	**45**	**18.7**	**+1.4**
JOB	**Onbets**	**1.44**	**260**	⇓P	**Pn**	**15**	**45**	**12.9**	**0.0**
JOB				*e*S	**Sn**	**15**	**45**	**31.0**	**+0.4**
JAR	**Ashorobuto**	**1.46**	**275**	⇓P	**Pn**	**15**	**45**	**13.7**	**+0.5**
JAR				*e*S	**Sn**	**15**	**45**	**32.3**	**+1.1**
JTKR	**Abashiri--Toko**	**1.56**	**301**	⇓P	**Pn**	**15**	**45**	**15.9**	**+1.3**
JCH	**Churui**	**1.85**	**253**	⇓P	**Pn**	**15**	**45**	**18.0**	**-0.6**
JMP	**Maruseppu**	**1.93**	**296**	⇓P	**Pn**	**15**	**45**	**21.2**	**+1.6**
ERM	**Erimo**	**2.25**	**240**	*e*Pn	**Pn**	**15**	**45**	**24.9**	**+0.9**
ERM				*e*Sn	**Sn**	**15**	**45**	**55.4**	**+4.9**
ERM	**Erimo**	**2.25**	**240**	*d*↓PN	**Pn**	**15**	**45**	**26.1**	**+2.1**
JFR	**Furan**	**2.31**	**271**	⇓P	**Pn**	**15**	**45**	**25.9**	**+1.0**
JNBK	**Urakawa-nobuka**	**2.39**	**249**	P	**Pn**	**15**	**45**	**25.5**	**-0.5**
ASAJ	**Asahikawa**	**2.48**	**293**	Pn	**Pn**	**15**	**45**	**29.4**	**+2.2**
	comp=E,434nm,0.3s,baz=115,slow=12,SNR=2844								
ASAJ				Sn	**Sn**	**15**	**46**	**03.0**	**+6.8**
	comp=E,487nm,0.3s,baz=230,slow=26,SNR=7.5								
ASAJ				LR	LR	15	46	43.8	
	comp=E,14μm,19.1s,baz=95,slow=46								
ASAJ	**Asahikawa**	**2.48**	**293**	*e*Pn	**Pn**	**15**	**45**	**29.2**	**+2.1**
ASAJ	**Asahikawa**	**2.48**	**293**	PN	**Pn**	**15**	**45**	**29.4**	**+2.2**
ASAJ				pmax	pmax				
	comp=Z,434nm,0.3s								
ASAJ	**Asahikawa**	**2.48**	**293**	⇓P	**Pn**	**15**	**45**	**29.4**	**+2.2**
KUR	**Kuril'sk**	**2.55**	**36**	*e*PN	**Pn**	**15**	**45**	**28.0**	**-0.2**
KUR				*e*S	**Sn**	**15**	**45**	**54.0**	**-4.0**
KUR				pmax	pmax				
	comp=N,1μm,0.6s								
KUR				pmax	pmax				
	comp=E,1.0nm,0.6s								
KUR				pmax	pmax				
	comp=Z,5μm,0.6s								
KUR				pmax	pmax				
	comp=Z,12μm,1.0s								
KUR				pmax	pmax				
	comp=N,10μm,2.0s								
KUR				pmax	pmax				
	comp=E,3μm,1.5s								
KUR				smax					
	comp=N,45μm,2.0s								
KUR				smax					
	comp=E,23μm,2.0s								
KUR	**Kuril'sk**	**2.55**	**36**	*e*P	**Pn**	**15**	**45**	**28.0**	**-0.2**
KUR				AMB	AMB	15	45	44.0	
	comp=E,1μm,0.6s								
KUR				AMB	AMB	15	45	44.0	
	comp=E,1μm,0.6s								
KUR				AMB	AMB	15	45	44.0	
	comp=E,5μm,0.6s								
KUR				AMB	AMB	15	45	45.0	
	comp=E,10μm,2.0s								
KUR				AMB	AMB	15	45	45.0	
	comp=E,12μm,1.0s								
KUR				AMB	AMB	15	45	45.0	
	comp=E,3μm,1.5s								
KUR				*e*S	**Sn**	**15**	**45**	**54.0**	**-4.0**
KUR				A		15	46	22.0	
	comp=E,15μm,1.0s								
KUR				A		15	46	22.0	
	comp=E,30μm,2.0s								
KUR				A		15	46	22.0	
	comp=E,45μm,2.0s								
KUR				A		15	46	22.0	
	comp=E,23μm,2.0s								
JAB	**Ashibetsu**	**2.60**	**278**	⇓P	**Pn**	**15**	**45**	**31.3**	**+2.5**
JSE	**Soyaes**	**2.90**	**309**	⇓P	**Pn**	**15**	**45**	**34.0**	**+1.1**
JHR	**Hokuryu**	**2.99**	**282**	⇓P	**Pn**	**15**	**45**	**36.7**	**+2.5**
JWK2	**Keihoku**	**3.50**	**309**	⇓P	**Pn**	**15**	**45**	**43.8**	**+2.6**
JNB	**Noboribetsu**	**3.54**	**260**	⇓P	**Pn**	**15**	**45**	**42.7**	**+0.9**
JKB	**Kayabe**	**3.72**	**251**	⇑P	**Pn**	**15**	**45**	**45.6**	**+1.3**
JOT	**Ohata**	**3.93**	**244**	⇑P	**Pn**	**15**	**45**	**47.5**	**+0.4**
YSS	**Yuzh-Sakhalins**	**4.33**	**332**	*e*Pn	**Pn**	**15**	**45**	**53.8**	**+1.2**
YSS	**Yuzh-Sakhalins**	**4.33**	**332**	⇓*i*PN	**Pn**	**15**	**45**	**53.0**	**+0.4**
YSS				pmax	pmax				
	comp=Z,1μm,0.9s								
YSS				pmax	pmax				
	comp=N,570nm,0.8s								
YSS				pmax	pmax				
	comp=E,540nm,0.8s								
YSS				MLR	MLR				
	comp=N,6μm,18.0s								
YSS				MLR	MLR				
	comp=Z,6μm,18.0s								
YSS	**Yuzh-Sakhalins**	**4.33**	**332**	⇓*i*P	**Pn**	**15**	**45**	**53.0**	**+0.4**
YSS				AMB	AMB	15	45	54.0	
	comp=E,570nm,0.8s								
YSS				AMB	AMB	15	45	54.0	
	comp=E,540nm,0.8s								
YSS				AMB	AMB	15	45	54.0	
	comp=Z,1μm,0.9s								
YSS				*e*S	**Sn**	**15**	**46**	**40.0**	**-1.7**
YSS				A		15	46	42.0	
	comp=Z,1μm,1.0s								
YSS				*e*LR	LR	15	47	18.0	
YSS				AMS	AMS	15	47	50.0	
	comp=Z,8μm,16.0s								
YSS				AMS	AMS	15	47	50.0	
	comp=Z,6μm,18.0s								
YSS				AMS	AMS	15	47	50.0	
	comp=Z,6μm,18.0s								
YSS				AMS	AMS	15	47	50.0	
	comp=Z,8μm,14.0s								
JAH	**Hinai**	**4.86**	**234**	⇑P	**Pn**	**15**	**45**	**59.5**	**-0.4**
JOM	**Ohasama**	**5.00**	**224**	⇑P	**Pn**	**15**	**46**	**00.3**	**-1.5**
UGL	**Uglegorsk**	**6.43**	**338**	⇓*i*PN	**Pn**	**15**	**46**	**23.5**	**+2.2**
UGL				S	**Sn**	**15**	**47**	**39.8**	**+6.5**
UGL				pmax	pmax				
	comp=Z,650nm,0.7s								
UGL				smax					
	comp=N,170nm,0.6s								
UGL				smax					
	comp=E,210nm,0.6s								
UGL				MLR	MLR				
	comp=N,4μm,20.0s								
UGL				MLR	MLR				
	comp=E,3μm,20.0s								
UGL	**Uglegorsk**	**6.43**	**338**	⇓*i*P	**Pn**	**15**	**46**	**23.5**	**+2.2**
UGL				AMB	AMB	15	46	24.5	
	comp=E,180nm,0.7s								
UGL				AMB	AMB	15	46	24.5	
	comp=E,390nm,0.7s								
UGL				AMB	AMB	15	46	24.5	
	comp=E,650nm,0.7s								
UGL				*e*L		15	48	00.0	
UGL				AMS	AMS	15	48	50.0	
	comp=E,4μm,20.0s								
UGL				AMS	AMS	15	48	50.0	
	comp=E,3μm,20.0s								
JAW	**Awa shima**	**6.83**	**228**	P	**Pn**	**15**	**46**	**26.8**	**-0.1**
TEY	**Ternei**	**6.85**	**289**	*e*P	**Pn**	**15**	**46**	**31.0**	**+3.9**
TEY				AMB	AMB	15	46	32.3	
	comp=E,17nm,0.7s								
TEY				AMB	AMB	15	46	32.3	
	comp=E,66nm,0.8s								
TEY				AMB	AMB	15	46	32.3	
	comp=E,60nm,0.9s								
TEY				*e*LR	LR	15	48	40.0	
TEY				AMS	AMS	15	49	00.0	
	comp=E,5μm,22.0s								
TEY				AMS	AMS	15	49	00.0	
	comp=E,2μm,16.0s								
JHK	**Hiroka**	**7.85**	**223**	P	**Pn**	**15**	**46**	**39.9**	**-1.0**
JAG	**Ashikaga**	**8.31**	**218**	P	**Pn**	**15**	**46**	**45.1**	**-2.0**
JSZ	**Suzu**	**8.59**	**231**	P	**Pn**	**15**	**46**	**51.0**	**0.0**
MJAR	**Matsushiro Arr**	**8.81**	**224**	Pn	**Pn**	**15**	**46**	**52.9**	**-1.1**
	comp=E,4.4nm,0.3s,baz=28,slow=14,SNR=82								
MJAR				Sn	**Sn**	**15**	**48**	**31.5**	**-0.3**
	baz=1.8,slow=40,SNR=2.8								
MJAR				LR	LR	15	51	09.5	
	comp=E,882nm,18.6s,baz=55,slow=43								
MJAR	**Matsushiro Arr**	**8.81**	**224**	Pn	**Pn**	**15**	**46**	**52.9**	**-1.1**
MJAR				Sn	**Sn**	**15**	**48**	**31.5**	**-0.3**
MJAR				LR	LR	15	51	09.5	
MJAR	**Matsushiro Arr**	**8.81**	**224**	PN	**Pn**	**15**	**46**	**52.9**	**-1.1**
MJAR				pmax	pmax				
	comp=Z,4.0nm,0.3s								
MAJO	**Matsushiro**	**8.81**	**224**	*e*Pn	**Pn**	**15**	**46**	**52.9**	**-1.0**
MAJO	**Matsushiro**	**8.81**	**224**	*e*PN	**Pn**	**15**	**46**	**52.9**	**-1.1**
MAT	**Matsushiro**	**8.81**	**224**	P	**Pn**	**15**	**46**	**52.8**	**-1.2**
MAT				*e*S	**Sn**	**15**	**48**	**30.4**	**-1.4**
MAT	**Matsushiro**	**8.81**	**224**	P	**Pn**	**15**	**46**	**53.1**	**-0.9**
JRY	**Ryugami san**	**8.90**	**219**	P	**Pn**	**15**	**46**	**53.9**	**-1.3**
JNG	**Nsakai**	**8.97**	**224**	P	**Pn**	**15**	**46**	**55.3**	**-0.9**
HABR	**Khabarovsk**	**9.15**	**309**	*c* iPN	**Pn**	**15**	**47**	**03.1**	**+4.5**
HABR				*e*S	**Sn**	**15**	**48**	**46.9**	**+6.7**
HABR				pmax	pmax				
	comp=Z,411nm,0.9s								
HABR				pmax	pmax				
	comp=E,283nm,1.0s								
HABR				pmax	pmax				
	comp=N,88nm,0.8s								
JOD2	**Odawara 2**	**9.45**	**215**	P	**Pn**	**15**	**47**	**00.2**	**-2.5**
JNY	**Yasuok**	**9.92**	**221**	P	**Pn**	**15**	**47**	**08.3**	**-0.9**
JGF	**Kuroka**	**9.97**	**223**	P	**Pn**	**15**	**47**	**09.8**	**-0.1**
JIZS	**Izushimoda**	**10.00**	**215**	P	**Pn**	**15**	**47**	**07.8**	**-2.5**
VLA	**Vladivostok**	**10.14**	**274**	*d* iPN	**Pn**	**15**	**47**	**13.8**	**+1.7**
VLA				*i* S	**Sn**	**15**	**49**	**10.5**	**+6.2**
JAO	**Obara**	**10.29**	**223**	P	**Pn**	**15**	**47**	**13.8**	**-0.4**
SKR	**Severo-Kuril's**	**10.31**	**40**	*e*PN	**Pn**	**15**	**47**	**14.1**	**-0.3**
SKR				MLR	MLR				
	comp=Z,3μm,14.0s								
SKR	**Severo-Kuril's**	**10.31**	**40**	*e*P	**Pn**	**15**	**47**	**14.1**	**-0.3**
SKR				*e*S	**Sn**	**15**	**49**	**09.5**	**+1.0**
SKR				A		15	49	35.0	
	comp=Z,100nm,0.5s								
SKR				A		15	49	35.0	
	comp=Z,60nm,0.5s								
SKR				A		15	49	35.0	
	comp=Z,310nm,1.0s								
SKR				AMS	AMS	15	51	51.0	
	comp=Z,3μm,14.0s								
NKL	**Nikolayevsk**	**10.53**	**343**	*e*P	**Pn**	**15**	**47**	**14.0**	**-3.4**
NKL				AMB	AMB	15	47	15.0	
	comp=Z,43nm,0.5s								
NKL				AMB	AMB	15	47	15.0	
	comp=Z,26nm,0.5s								
NKL				AMB	AMB	15	47	15.0	
	comp=Z,61nm,0.5s								
NKL				*e*L		15	50	21.0	
NKL				AMS	AMS	15	51	24.0	
	comp=Z,2μm,16.0s								
NKL				AMS	AMS	15	51	24.0	
	comp=Z,2μm,16.0s								
OKH	**Okha**	**10.54**	**351**	*e*P	**Pn**	**15**	**47**	**23.9**	**+6.3**
JFM	**Mihama**	**10.75**	**228**	P	**Pn**	**15**	**47**	**21.0**	**+0.5**
JHJ	**Hachijo jima 2**	**11.09**	**207**	Pn	**Pn**	**15**	**47**	**23.1**	**-2.1**
	comp=Z,18nm,0.3s,baz=260,slow=17,SNR=5.1								
JHJ				Sn	**Sn**	**15**	**49**	**17.5**	**-10**
	comp=

INCN Inchon 15.64 255 *e*Pn **Pn 15 48 24.8 -1.6**
comp=Z,50nm,0.9s
ZEA Zeya 16.14 317 *e*P **Pn 15 48 33.7 +1.1**
ZEA AMB AMB 15 48 37.7
comp=Z,65nm,1.0s
ZEA AMB AMB 15 48 37.7
comp=Z,62nm,0.8s
ZEA AMB AMB 15 48 37.7
comp=Z,78nm,1.2s
CBIJ Chichi jima 16.31 191 Pn **Pn 15 48 32.3 -2.6**
comp=Z,10nm,0.3s,baz=265,slow=17,SNR=4.2
SNY Shenyang 16.41 273 ⇓P sP sP 15 48 57.3 +1.6
SNY S **S 15 51 39.1 -8.1**
SNY pmax pmax
comp=Z,140nm,3.5s
SNY LR LR
comp=N,440nm,13.1s
SNY LR LR
comp=E,660nm,16.3s
SNY LR LR
comp=Z,1μm,24.9s
DL2 Dalian 18.68 265 ⇑P **Pn 15 49 03.3 -0.7**
DL2 pP pP 15 49 14.8 +0.3
DL2 PP 15 49 19.1
DL2 S **S 15 52 26.8 -6.1**
DL2 pmax pmax
comp=Z,100nm,0.8s
DL2 pmax pmax
comp=Z,190nm,5.4s
DL2 LR LR
comp=N,200nm,19.0s
DL2 LR LR
comp=E,350nm,20.4s
DL2 LR LR
comp=Z,360nm,25.7s
HIA Hailar 18.95 298 *e*P **Pn 15 49 04.9 -2.3**
comp=Z,38nm,0.8s
HIA Hailar 18.95 298 *e*P **Pn 15 49 04.9 -2.3**
HIA pmax pmax
comp=Z,38nm,0.8s
CLNS Chul'man 19.04 323 *e*P **Pn 15 49 06.3 -1.9**
CLNS *e*S **S 15 52 40.0 -0.2**
CLNS pmax pmax
comp=N,22nm,0.9s
CLNS pmax pmax
comp=Z,28nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,1.0s
CLNS smax
comp=N,18nm,0.8s
CLNS smax
comp=E,31nm,1.3s
CLNS MLR MLR
comp=E,421nm,14.0s
CLNS MLR MLR
comp=N,997nm,16.0s
CLNS MLR MLR
comp=Z,1μm,16.0s
SEY Seymchan 20.16 9⇓ *e*P **P 15 49 17.9 -1.3**
FX1 Attu Island--F 20.62 52 P **P 15 49 24.8 +0.6**
comp=Z,192nm,0.8s,baz=322,slow=1.9,SNR=23
FX1 LR LR 15 56 25.2
comp=Z,787nm,20.1s,MS4.1,baz=151,slow=34
FX1 Attu Island--F 20.62 52 P **P 15 49 24.8 +0.6**
FX1 LR LR 15 56 25.2
FX1 Attu Island--F 20.62 52 P **P 15 49 24.8 +0.5**
FX1 pmax pmax
comp=Z,193nm,0.8s
FX1 MLR MLR
comp=Z,787nm,20.1s
YAK Yakutsk 21.14 339 *e*P **P 15 49 25.9 -3.9**
comp=Z,121nm,0.8s,mb5.3
YAK *e*S **S 15 53 22.6 +0.8**
YAK Yakutsk 21.14 339 *e*P **P 15 49 27.8 -2.0**
YAK *e* 15 49 42.0
YAK *e*S **S 15 53 19.0 -2.9**
YAK *e**SS sS 15 53 34.0 -6.5
YAK pmax pmax
comp=E,12nm,0.9s
YAK pmax pmax
comp=Z,64nm,0.9s,mb5.0
YAK pmax pmax
comp=N,27nm,1.0s
YAK smax
comp=N,446nm,2.7s
YAK smax
comp=E,516nm,3.5s
YAK MLR MLR
comp=Z,1μm,27.0s,MS4.1
YAK MLR MLR
comp=E,316nm,22.0s,MS4.0
YAK MLR MLR
comp=N,679nm,24.0s,MS4.0
JOW Kunigami 21.64 227 P **P 15 49 36.0 +0.6**
comp=N,254nm,0.8s,mb5.7,baz=33,slow=10
JOW Kunigami 21.64 227 *e*P **P 15 49 35.8 +0.5**
comp=N,126nm,0.9s,mb5.3
JOW Kunigami 21.64 227 P **P 15 49 36.7 +1.3**
BJI Beijing 22.29 272 P **P 15 49 41.5 -0.7**
BJI S **S 15 53 44.0 -0.6**
BJI pmax pmax
comp=Z,150nm,0.9s,mb5.4
BJI pmax pmax
comp=Z,320nm,3.5s
BJI LR LR
comp=N,410nm,12.5s,MS4.3
BJI LR LR
comp=E,650nm,15.8s,MS4.3
BJI LR LR
comp=Z,920nm,26.0s
BJT Baijiatuan 22.30 272 *e*P **P 15 49 41.0 -1.3**
comp=Z,188nm,0.9s,mb5.5
BJT Baijiatuan 22.30 272 *e*P **P 15 49 41.1 -1.3**
BJT pmax pmax
comp=Z,188nm,0.9s
SSE Sheshan 22.91 246 ⇑P **P 15 49 50.8 +1.9**
SSE pP 15 50 04.8
SSE sP sP 15 50 12.1 +5.4
SSE S **S 15 53 56.3 +1.1**
SSE pmax pmax
comp=Z,140nm,1.4s,mb5.2
SSE pmax pmax
comp=Z,420nm,3.5s
SSE LR LR
comp=N,370nm,22.4s,MS4.1
SSE LR LR
comp=E,630nm,22.4s,MS4.1
SSE LR LR
comp=Z,800nm,24.3s,MS4.1
TIA Tai'an 23.03 262 ⇑P **P 15 49 49.3 -0.8**
TIA pmax pmax
comp=Z,220nm,1.3s,mb5.4
NJ2 Nanjing 23.93 251 *e*P **P 15 49 59.3 +0.6**
NJ2 pP 15 50 07.6
NJ2 PP 15 50 35.3
NJ2 S **S 15 54 11.0 -0.7**
NJ2 pmax pmax
comp=Z,310nm,0.9s,mb5.7
NJ2 pmax pmax
comp=Z,720nm,4.3s
NJ2 LR LR
comp=N,1μm,21.6s,MS4.3
NJ2 LR LR
comp=E,700nm,23.0s,MS4.3
NJ2 LR LR
comp=Z,2μm,23.0s,MS4.6
HHC Hu-ho-hao-te 25.41 277 ⇑P **P 15 50 12.5 +0.4**
HHC pP pP 15 50 26.8 +2.1
HHC sP sP 15 50 33.9 +3.3
HHC PP 15 50 53.0
HHC PcP PcP 15 53 45.4 +2.3
HHC S **S 15 54 33.0 -2.2**
HHC sS sS 15 54 56.8 +0.1
HHC SS 15 55 38.4
HHC ScP ScP 15 57 15.9 -2.2
HHC pmax pmax
comp=Z,110nm,1.0s,mb5.3
HHC pmax pmax
comp=Z,300nm,6.0s
HHC LR LR
comp=N,400nm,17.8s,MS4.2
HHC LR LR
comp=E,490nm,15.5s,MS4.2
HHC LR LR
comp=Z,850nm,19.0s,MS4.3

BTO Baotou 26.60 277 *e*P **P 15 50 22.3 -0.6**
ULN Ulaanbaatar 27.32 293 *e*P **P 15 50 29.3 +0.1**
comp=Z,79nm,1.1s,mb5.2
ULN *e*PcP PcP 15 53 47.0 -0.4
ULN Ulaanbaatar 27.32 293 *e*P **P 15 50 29.3 +0.1**
ULN *e* 15 53 47.0
ULN pmax pmax
comp=Z,79nm,1.1s,mb5.2
ULN Ulaanbaatar 27.32 293 P **P 15 50 29.8 +0.6**
comp=Z,934nmcomp=Z,63nm,1.1s,mb5.0
ULN Ulaanbaatar 27.32 293 P **P 15 50 30.1 +0.9**
SNR=18
SONM Songino Array 27.76 293 P **P 15 50 33.7 +0.6**
comp=Z,66nm,0.9s,mb5.3,baz=84,slow=7.2,SNR=232
SONM PcP PcP 15 53 48.5 0.0
comp=Z,4.6nm,0.6s,baz=117,slow=2.3,SNR=6.0
SONM LR LR 16 02 37.0
comp=Z,2μm,20.0s,MS4.7,baz=94,slow=38
SONM Songino Array 27.76 293 P **P 15 50 33.7 +0.6**
SONM PcP PcP 15 53 48.5 0.0
SONM LR LR 16 02 37.0
SONM Songino Array 27.76 293 P **P 15 50 33.7 +0.5**
SONM 15 53 48.5
SONM pmax pmax
comp=Z,66nm,0.9s
SONM MLR MLR
comp=Z,2μm,20.0s
WHN Wuhan 27.95 254 ⇑P **P 15 50 35.9 +0.9**
WHN pmax pmax
comp=Z,410nm,0.8s,mb6.1
WHN LR LR
comp=N,580nm,4.8s
WHN LR LR
comp=E,660nm,6.1s
WHN LR LR
comp=Z,2μm,25.3s,MS4.5
TPUB Ta-pu 28.71 234 *e*P **P 15 50 42.5 +0.7**
comp=Z,101nm,0.8s,mb5.6
QZH Quanzhou 28.75 240 P **P 15 50 42.1 0.0**
QZH S **S 15 55 27.0 -1.0**
QZH pmax pmax
comp=Z,170nm,0.9s,mb5.8
TWG Pinlang 28.82 233 *e*P **P 15 50 42.9 +0.2**
comp=Z,27nm,0.6s,mb5.2
IRK Irkutsk 29.00 303 *e*P **P 15 50 44.2 +0.1**
IRK *e* 15 53 50.6
IRK pmax pmax
comp=Z,39nm,2.2s,mb4.8
TLY Talaya 29.38 302 *e*P **P 15 50 47.6 +0.1**
comp=Z,10nm,0.8s,mb4.6
TLY *e* pP 15 51 04.1 +3.9
TLY *e*PcP PcP 15 53 52.0 -0.5
TLY Talaya 29.38 302 *e*P **P 15 50 47.7 +0.2**
TLY *e* 15 53 52.5
TLY pmax pmax
comp=Z,11nm,0.8s,mb4.6
TLY MLR MLR
comp=Z,1μm,17.0s,MS4.5
GUMO Guam 29.50 182 LR LR 15 59 37.7
comp=Z,529nm,21.8s,MS4.1,baz=149,slow=30
ZAK Zakamensk 29.64 299 ⇑*i*P **P 15 50 49.9 +0.1**
ZAK pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
XAN Xi'an 30.00 265 P **P 15 50 53.4 +0.3**
XAN pP pP 15 51 07.6 +1.7
XAN sP sP 15 51 15.0 +3.2
XAN PP PP 15 51 51.9 -9.5
XAN S **S 15 55 44.8 -2.8**
XAN SS SS 15 57 23.9 -33
XAN pmax pmax
comp=Z,36nm,1.0s,mb5.1
XAN pmax pmax
comp=Z,74nm,5.5s
XAN LR LR
comp=N,200nm,26.0s,MS3.6
XAN LR LR
comp=E,68nm,29.7s,MS3.6
XAN LR LR
comp=Z,100nm,24.9s,MS3.4
MOY Mondy 31.03 302 *e*P **P 15 51 02.9 +0.9**
ENH Enshi 31.55 258 *e*P **P 15 51 06.8 -0.1**
comp=Z,101nm,0.8s,mb5.7
ENH *e*PcP PcP 15 53 58.4 -0.1
LZH Lanzhou 32.78 272 *e*P **P 15 51 18.8 +1.2**
LZH pP pP 15 51 33.9 +3.5
LZH sP sP 15 51 41.0 +4.7
LZH PP PP 15 52 28.1 -4.1
LZH *e*S **S 15 56 34.5 +3.5**
LZH pmax pmax
comp=Z,120nm,1.4s,mb5.6
LZH pmax pmax
comp=Z,290nm,4.1s
LZH LR LR
comp=N,290nm,11.6s,MS4.4
LZH LR LR
comp=E,380nm,12.5s,MS4.4
LZH LR LR
comp=Z,510nm,14.2s,MS4.4
GTA Gaotai 34.39 280 ⇑P **P 15 51 32.3 +0.7**
GTA pP pP 15 51 47.4 +2.9
GTA sP sP 15 51 54.6 +4.3
GTA PcP PcP 15 54 07.4 +1.1
GTA S **S 15 56 53.4 -2.5**
GTA sS sS 15 57 19.9 +2.3
GTA ScP ScP 15 57 48.4 +1.3
GTA SS SS 15 59 06.3 -20
GTA pmax pmax
comp=Z,39nm,1.0s,mb5.3
GTA pmax pmax
comp=Z,250nm,8.1s
GTA LR LR
comp=N,400nm,16.6s,MS4.5
GTA LR LR
comp=E,610nm,15.2s,MS4.5
GTA LR LR
comp=Z,730nm,20.4s
CD2 Chengdu 35.34 264 P **P 15 51 40.4 +0.6**
CD2 pP pP 15 51 55.8 +3.0
CD2 sP sP 15 52 02.6 +4.0
CD2 PP PP 15 53 01.5 +0.9
CD2 S **S 15 57 09.4 -1.2**
CD2 sS sS 15 57 34.5 +2.1
CD2 SS SS 15 59 30.8 -15
CD2 pmax pmax
comp=Z,400nm,0.6s,mb6.5
CD2 pmax pmax
comp=Z,250nm,5.3s
CD2 LR LR
comp=E,320nm,13.7s
CD2 LR LR
comp=Z,330nm,10.8s,MS4.4
TGY Tagaytay City 35.98 224 P **P 15 51 46.7 +1.3**
comp=Z,101nm,0.4s,mb6.1,baz=232,slow=8.0,SNR=5.4
TGY Tagaytay City 35.98 224 P **P 15 51 46.7 +1.3**
TGY Tagaytay City 35.98 224 P **P 15 51 46.7 +1.3**
QIZ Qiongzhong 38.61 243 P **P 15 52 08.0 +0.3**
QIZ pP pP 15 52 22.1 +1.4
QIZ sP sP 15 52 27.8 +1.3
QIZ S **S 15 58 01.0 +0.5**
QIZ pmax pmax
comp=Z,28nm,1.4s,mb4.8
QIZ pmax pmax
comp=Z,530nm,5.2s
QIZ LR LR
comp=N,630nm,4.5s
QIZ LR LR
comp=E,650nm,19.0s,MS4.5
KMI Kunming 39.40 257 ⇑P **P 15 52 15.3 +1.0**
KMI pP pP 15 52 29.8 +2.4
KMI sP sP 15 52 36.0 +2.8
KMI PP PP 15 53 50.6 +5.3
KMI S **S 15 58 11.4 -1.0**
KMI sS sS 15 58 38.8 +4.4
KMI SS SS 16 00 59.6 -8.2
KMI pmax pmax
comp=Z,130nm,0.8s,mb5.7
KMI LR LR
comp=N,350nm,14.5s,MS4.4
KMI LR LR
comp=E,350nm,17.6s,MS4.4
KMI LR LR
comp=Z,440nm,17.6s,MS4.3
RSO Redoubt South 40.07 43 *e*P **P 15 52 18.9 -0.4**
comp=Z,97nm,0.8s,mb5.6
PPLA Purkeypile 40.26 39 *e*P **P 15 52 21.7 +0.8**
comp=Z,228nm,1.7s,mb5.6
KDAK Kodiak Island 40.38 47 *e*P **P 15 52 20.9 -1.0**
comp=Z,94nm,0.7s,mb5.6
KDAK *e*pP pP 15 52 32.2 -2.9
KDAK Kodiak Island 40.38 47 *i*P **P 15 52 20.8 -1.2**
ZAA0 Zalesovo Array 40.54 307 *e*P **P 15 52 22.1 -1.2**
ZALV Zalesovo Beam 40.54 307 P **P 15 52 22.8 -0.5**
comp=Z,12nm,0.7s,mb4.6,baz=89,slow=6.9,SNR=36
ZALV PcP PcP 15 54 25.0 +0.2
comp=Z,68nm,0.6s,baz=86,slow=3.1,SNR=42
ZALV LR LR 16 10 33.8
comp=Z,566nm,19.1s,MS4.4,baz=176,slow=38
ZALV Zalesovo Beam 40.54 307 P **P 15 52 22.8 -0.5**
ZALV PcP PcP 15 54 25.0 +0.2
ZALV LR LR 16 10 33.8
ZALV Zalesovo Beam 40.54 307 P **P 15 52 22.8 -0.5**
ZALV 15 54 25.0
ZALV pmax pmax
comp=Z,12nm,0.7s,mb4.6
ZALV MLR MLR
comp=Z,566nm,19.1s,MS4.4
BPAW Bear Paw Mtn. 40.79 37 *e*P **P 15 52 25.5 +0.2**
comp=Z,29nm,1.0s,mb4.9
TRF Thorofare Moun 41.11 38 *e*P **P 15 52 27.7 -0.2**
comp=Z,21nm,0.8s,mb4.8
COLD Coldfoot 41.17 32 *e*P **P 15 52 27.6 -0.9**
comp=Z,39nm,0.8s,mb5.1
NVS Novosibirsk 41.29 309⇓ *i*P **P 15 52 29.3 -0.2**
NVS *i* PPP 15 54 27.1
NVS *i* 15 54 40.1
NVS *e*S **S 15 58 31.5 -8.3**
NVS pmax pmax
comp=Z,112nm,2.9s,mb5.0
NVS pmax pmax
comp=N,59nm,3.3s
NVS pmax pmax
comp=E,17nm,1.7s
NVS smax
comp=N,25nm,2.4s
NVS smax
comp=E,40nm,2.2s
SLKM Skilak Lake 41.32 42 *e*P **P 15 52 28.9 -0.7**
SLKM Skilak Lake 41.32 42 *e*P **P 15 52 28.9 -0.8**
WMQ Urumqi 41.36 292 P **P 15 52 31.1 +0.8**
WMQ pP pP 15 52 46.4 +3.0
WMQ sP sP 15 52 53.6 +4.4
WMQ PP PP 15 54 10.6 +4.3
WMQ S **S 15 58 40.6 -0.7**
WMQ pmax pmax
comp=Z,82nm,0.9s,mb5.4
WMQ pmax pmax
comp=Z,350nm,4.6s
WMQ LR LR
comp=N,850nm,13.2s,MS5.0
WMQ LR LR
comp=E,1μm,15.0s,MS5.0
WMQ LR LR
comp=Z,1μm,18.5s,MS4.8
RC01 Rabbit Creek A 41.50 41 *e*P **P 15 52 30.3 -0.9**
comp=Z,31nm,0.8s,mb5.0
RC01 *e*PcP PcP 15 54 26.6 -1.3
MCK McKinley 41.70 37 *e*P **P 15 52 32.5 -0.3**
comp=Z,45nm,1.0s,mb5.0
MCK *e*PcP PcP 15 54 28.0 -0.5
MCK McKinley 41.70 37 *e*P **P 15 52 32.5 -0.3**
MCK *e* 15 54 28.0
MCK pmax pmax
comp=Z,45nm,1.0s,mb5.0
SEW Seward 41.74 43 *e*P **P 15 52 32.2 -0.9**
comp=Z,54nm,1.0s,mb5.1
PMR Palmer 41.75 41 *e*P **P 15 52 32.0 -1.2**
comp=Z,16nm,0.7s,mb4.8
PMR Palmer 41.75 41 *e*P **P 15 52 32.0 -1.2**
PMR pmax pmax
comp=Z,16nm,0.7s,mb4.8
SML Sawmill 42.11 40 *e*P **P 15 52 35.6 -0.6**
comp=Z,15nm,0.8s,mb4.7
SML *e*pP pP 15 52 47.8 -1.5
SML Sawmill 42.11 40 *e*P **P 15 52 35.6 -0.5**
SML *e**PP pP 15 52 47.8 -1.5
SML pmax pmax
comp=Z,15nm,0.8s,mb4.7
COLA College 42.13 36 *e*P **P 15 52 36.2 0.0**
comp=Z,90nm,0.8s,mb5.5
COLA College 42.13 36 *e*P **P 15 52 36.3 +0.1**
COLA pmax pmax
comp=Z,90nm,0.8s,mb5.5
ILAR Eielson Array 42.54 36 P **P 15 52 39.0 -0.7**
comp=Z,31nm,0.8s,mb5.1,baz=259,slow=4.6,SNR=149
ILAR PcP PcP 15 54 30.0 -1.2
comp=Z,2.5nm,0.9s,baz=275,slow=3.4,SNR=1.7
ILAR Eielson Array 42.54 36 P **P 15 52 39.0 -0.7**
ILAR PcP PcP 15 54 30.0 -1.3
ILAR Eielson Array 42.54 36 P **P 15 52 39.0 -0.6**
ILAR 15 54 30.0
ILAR pmax pmax
comp=Z,31nm,0.8s
PAX Paxson 43.32 38 *e*P **P 15 52 45.7 -0.2**
comp=Z,14nm,0.8s,mb4.8
PAX Paxson 43.32 38 *e*P **P 15 52 45.7 -0.2**
PAX pmax pmax
comp=Z,14nm,0.8s,mb4.7
DIV Divide 43.41 41 *e*P **P 15 52 46.6 0.0**
comp=Z,40nm,0.9s,mb5.2
DOT Dot Lake 43.87 37 *e*P **P 15 52 49.3 -1.1**
comp=Z,68nm,0.7s,mb5.5
MK31 Makanchi Array 43.95 298 *e*P **P 15 52 51.2 0.0**
MK31 *e*PcP PcP 15 54 36.4 +0.1
MK31 Makanchi Array 43.95 298 *e*P **P 15 52 51.3 +0.1**
MK31 *e* 15 54 36.4
MKAR Makanchi Array 43.95 298 P **P 15 52 51.5 +0.2**
comp=Z,70nm,0.7s,mb5.5,baz=79,slow=8.7,SNR=479
MKAR PcP PcP 15 54 36.4 +0.1
comp=Z,11nm,0.7s,baz=71,slow=5.8,SNR=8.1
MKAR Makanchi Array 43.95 298 P **P 15 52 51.5 +0.2**
MKAR PcP PcP 15 54 36.4 +0.1
MKAR Makanchi Array 43.95 298 P **P 15 52 51.5 +0.3**
MKAR 15 54 36.4
MKAR pmax pmax
comp=Z,71nm,0.7s
MKAR pmax pmax
comp=Z,11nm,0.7s
BMRM Bremner River 44.00 41 *e*P **P 15 52 51.3 -0.1**
comp=Z,45nm,0.8s,mb5.2
BMRM *e*PcP PcP 15 54 36.7 +0.5
MENT Mentasta 44.12 38 *e*P **P 15 52 52.5 +0.2**
CHRT Chiangrai 44.86 254 ⇑P **P 15 52 59.0 +0.2**
comp=Z,524nm,0.9s,mb6.4
MYLDM Lahad Datu 44.86 220 P **P 15 53 00.9 +2.1**
MYLDM Lahad Datu 44.86 220 P **P 15 53 01.5 +2.7**
EGAK Eagle 44.99 35⇑ *e*P **P 15 52 58.5 -0.7**
comp=Z,39nm,0.7s,mb5.3
KURK Kurchatov 45.01 304⇑ *e*P **P 15 52 59.4 -0.3**
comp=Z,49nm,0.6s,mb5.5
KURK *e*PcP PcP 15 54 39.7 -0.1
KURK Kurchatov 45.01 304*c i*P **P 15 52 59.2 -0.4**
KURK pmax pmax
comp=Z,59nm,0.7s,mb5.5
KURK Kurchatov 45.01 304 P **P 15 52 59.7 +0.1**
SNR=19
SDKM Sandakan 45.09 222 P **P 15 53 01.9 +1.2**
LSA Lhasa 45.19 271⇑ *e*P **P 15 53 02.9 +1.6**
comp=Z,45nm,0.8s,mb5.3
LSA Lhasa 45.19 271⇑ *e*P **P 15 53 02.9 +1.6**
LSA pmax pmax
comp=Z,45nm,0.8s,mb5.3
KKM Kota Kinabalu 45.23 224 P **P 15 53 03.1 +1.4**
KKM Kota Kinabalu 45.23 224 P **P 15 53 02.9 +1.1**
comp=Z,40nm,1.1s,mb5.1
TNTI Ternate 45.32 206 P **P 15 53 02.1 -0.3**
comp=Z,846nmcomp=Z,62nm,0.8s,mb5.5
JAY Jayapura 45.71 187 P **P 15 53 05.0 -0.5**
comp=Z,4μmcomp=Z,20nm,1.0s,mb5.0
SWI Sorong 45.74 200 P **P 15 53 05.7 0.0**
comp=Z,820nmcomp=Z,83nm,0.9s,mb5.7
DAWY Dawson 45.86 36 *e*P **P 15 53 05.6 -0.5**
TSM Tawau 45.94 220 P **P 15 53 09.1 +1.8**
CHG Chiang Mai 46.15 253 ⇑P **P 15 53 09.9 +0.9**
comp=Z,60nm,0.7s,mb5.6
CHTO Chiang Mai 46.15 253⇑ *i*P **P 15 53 09.8 +0.8**
comp=Z,44nm,0.8s,mb5.4
CHTO *e*pP pP 15 53 21.0 -1.3
CHTO *e*sP sP 15 53 27.3 -0.8
CHTO Chiang Mai 46.15 253⇑ *i*P **P 15 53 09.8 +0.8**
CHTO *e**PP pP 15 53 21.0 -1.3

CHTO e*SP sP 15 53 27.3 -0.7
CHTO pmax pmax
comp=Z,44nm,0.8s,mb5.4
CHTO Chiang Mai 46.15 253 P **P** **15 53 09.7 +0.7**
comp=Z,86nm,1.5s,mb5.5
CHTO Chiang Mai 46.15 253 P **P** **15 53 10.3 +1.3**
SNR=11
CM31 Chiang Mai Arr 46.39 253⇑ *eP* **P** **15 53 11.8 +0.9**
comp=Z,15nm,0.7s,mb5.0
CMAR Chiang Mai Arr 46.39 253 P **P** **15 53 11.9 +1.0**
comp=Z,16nm,0.7s,mb5.0,baz=42,slow=7.5,SNR=178
CMAR PcP PcP 15 54 46.5 +1.3
comp=Z,2.5nm,0.7s,baz=56,slow=0.6,SNR=6.4
CMAR LR LR 16 12 51.5
comp=Z,305nm,21.3s,MS4.2,baz=56,slow=36
CMAR Chiang Mai Arr 46.39 253 P **P** **15 53 11.9 +1.0**
CMAR PcP PcP 15 54 46.5 +1.3
CMAR LR LR 16 12 51.5
CMAR Chiang Mai Arr 46.39 253 P **P** **15 53 11.9 +1.0**
CMAR 15 54 46.5
CMAR pmax pmax
comp=Z,16nm,0.7s
CMAR MLR MLR
comp=Z,305nm,21.3s
KMSI Cibinong 46.68 211 P **P** **15 53 13.9 +0.7**
comp=Z,2µmcomp=Z,136nm,0.8s,mb5.9
INK Inuvik 47.40 30⇑ *iP* **P** **15 53 17.8 -0.4**
comp=Z,35nm,0.8s,mb5.3
INK Inuvik 47.40 30⇑ *iP* **P** **15 53 17.8 -0.4**
INK pmax pmax
comp=Z,35nm,0.8s
MRSI Marisa 47.56 213 P **P** **15 53 20.3 +0.3**
comp=Z,1µmcomp=Z,173nm,1.0s,mb6.0
LUWI Luwuk 48.62 211 P **P** **15 53 26.5 -1.7**
MSAI Masohi 48.74 203 P **P** **15 53 29.4 +0.3**
comp=Z,322nmcomp=Z,12nm,0.8s,mb5.0
VOSK Vostochnaya 48.85 309 P **P** **15 53 28.7 -0.8**
VOSK pmax pmax
comp=Z,45nm,1.9s,mb5.2
TAPN Taplejung 49.01 271 *eP* **P** **15 53 32.0 +0.9**
comp=Z,69nm,0.6s,mb5.8
BVA0 Borovoye Array 49.08 309 *eP* **P** **15 53 31.4 +0.1**
BRVK Borovoye 49.13 309 *eP* **P** **15 53 31.4 -0.3**
comp=Z,11nm,0.8s,mb4.9
BRVK *e*PcP PcP 15 54 54.3 -0.1
BRVK Borovoye 49.13 309⇓ *iP* **P** **15 53 31.8 +0.1**
BRVK pmax pmax
comp=Z,11nm,0.8s,mb4.9
BTM Bintulu 49.26 225 P **P** **15 53 33.8 +0.6**
AAI Ambon 49.28 203 P **P** **15 53 32.6 -0.6**
comp=Z,80nm,1.1s,mb5.5
ODAN Odare 49.52 271 *eP* **P** **15 53 35.6 +0.6**
comp=Z,137nm,1.0s,mb5.9
ULHL Ulahol 49.70 294 P **P** **15 53 37.2 +1.0**
SNR=10
TKM2 Tokmak 2 49.83 295 P **P** **15 53 38.3 +1.1**
SNR=96
TKM2 Tokmak 2 49.83 295 *eP* **P** **15 53 38.0 +0.8**
comp=Z,137nm,0.8s,mb6.0
TKM2 *e*pP pP 15 53 49.0 -1.6
TKM2 *e*sP sP 15 53 55.2 -1.2
TKM2 Tokmak 2 49.83 295 *i* P **P** **15 53 38.3 +1.1**
NNT Nongplab 49.95 247 P **P** **15 53 40.2 +1.9**
GUN Gumba 50.03 273 *eP* **P** **15 53 39.7 +0.8**
comp=Z,457nm,0.8s,mb6.6
RAMN Ramite 50.05 271 *eP* **P** **15 53 39.6 +0.6**
comp=Z,215nm,0.8s,mb6.2
SBUM Sibu 50.35 226 P **P** **15 53 42.3 +1.0**
SBUM Sibu 50.35 226 P **P** **15 53 41.9 +0.5**
comp=Z,22nm,0.8s,mb5.2
CHMS Chumysh 50.36 296 P **P** **15 53 41.4 +0.3**
SNR=8.7
KBK Karagaybulak 50.38 295 P **P** **15 53 42.3 +1.0**
SNR=125
USP Ospenovka 50.41 296 P **P** **15 53 42.2 +0.7**
SNR=100
KZA Kyzart 50.44 294 P **P** **15 53 43.6 +1.9**
SNR=85
FRU Bishkek 50.52 296⇑ *iP* **P** **15 53 42.0 -0.4**
FRU *i* pP 15 53 59.5 +3.7
FRU pmax pmax
comp=Z,90nm,1.8s,mb5.4
KKN Kakani 50.54 273 *eP* **P** **15 53 43.2 +0.5**
comp=Z,219nm,0.8s,mb6.2
PKI Pulchoki 50.57 273 *eP* **P** **15 53 43.5 +0.6**
comp=Z,231nm,1.1s,mb6.0
AAK Ala-Archa 50.69 295 P **P** **15 53 44.2 +0.6**
SNR=45
AAK Ala-Archa 50.69 295⇑ *iP* **P** **15 53 44.1 +0.4**
comp=Z,361nm,1.1s,mb6.2
AAK Ala-Archa 50.69 295 *i* P **P** **15 53 44.2 +0.5**
AAK Ala-Archa 50.69 295 P **P** **15 53 44.1 +0.4**
comp=Z,240nm,1.2s,mb6.0
AAK Ala-Archa 50.69 295 P **P** **15 53 44.0 +0.3**
comp=Z,293nm,0.5s,mb6.5,SNR=37
AAK Ala-Archa 50.69 295 P **P** **15 53 44.3 +0.6**
SNR=17
DMN Daman 50.77 273 *eP* **P** **15 53 45.2 +0.7**
comp=Z,212nm,0.7s,mb6.2
GKN Gorkha 50.89 274 *eP* **P** **15 53 45.7 +0.3**
comp=Z,177nm,0.6s,mb6.1
KSH Kashi 51.12 291⇑ *iP* **P** **15 53 51.0 +4.0**
KSH pP pP 15 54 06.8 +6.3
KSH sP sP 15 54 13.8 +7.6
KSH PcP PcP 15 55 05.1 +3.1
KSH PP PP 15 55 49.8 +6.0
KSH ScP ScP 15 58 54.9 +0.8
KSH PcS PcS 15 59 01.5 +1.9
KSH S **S** **16 01 04.1 +2.9**
KSH ScS ScS 16 03 32.6 -0.4
KSH SS SS 16 04 39.1 +2.6
KSH pmax pmax
comp=Z,56nm,0.9s,mb5.5
KSH pmax pmax
comp=Z,300nm,3.7s
KSH LR LR
comp=N,280nm,6.0s
KSH LR LR
comp=E,330nm,6.8s
KSH LR LR
comp=Z,580nm,6.2s
EKS2 Erkin-Say 51.15 296 P **P** **15 53 47.8 +0.7**
SNR=84
EKS2 Erkin-Say 51.15 296⇑ *iP* **P** **15 53 47.6 +0.5**
comp=Z,53nm,0.8s,mb5.5
EKS2 *e*sP sP 15 54 04.5 -1.8
EKS2 *e*PcP PcP 15 55 02.4 +0.4
EKS2 Erkin-Say 51.15 296⇑ *iP* **P** **15 53 47.6 +0.5**
EKS2 *e**SP sP 15 54 04.5 -1.8
EKS2 *e* 15 55 02.4
EKS2 pmax pmax
comp=Z,53nm,0.8s,mb5.5
DANN Dangsing 51.33 275 *eP* **P** **15 53 49.7 +1.0**
comp=Z,1µm,0.8s,mb6.9
KDI Kendari 51.37 210 P **P** **15 53 49.7 +0.7**
comp=Z,681nmcomp=Z,71nm,1.0s,mb5.6
AML Almayashu 51.45 295 P **P** **15 53 50.6 +1.3**
SNR=12
KOLN Koldanda 51.78 274 *eP* **P** **15 53 52.9 +0.9**
comp=Z,211nm,0.6s,mb6.2
DLBC Dease Lake 51.78 42⇑ *eP* **P** **15 53 52.8 +1.2**
PYUN Piuthan 52.03 275 *eP* **P** **15 53 54.8 +0.9**
comp=Z,774nm,1.0s,mb6.6
KSM Kuching 52.19 227 P **P** **15 53 56.7 +1.6**
KSM Kuching 52.19 227⇑ *eP* **P** **15 53 56.0 +0.9**
comp=Z,50nm,0.9s,mb5.5
KSM Kuching 52.19 227 P **P** **15 53 56.1 +1.0**
comp=Z,69nm,1.0s,mb5.5
PMG Port Moresby 52.35 178⇑ *eP* **P** **15 53 55.3 -0.9**
PMG pmax pmax
comp=Z,14nm,1.7s
PMG Port Moresby 52.35 178 P **P** **15 53 55.3 -0.9**
comp=Z,12nm,1.1s,mb4.7
SPSI Sidrap Palu 52.47 213 P **P** **15 53 55.9 -1.3**
comp=Z,19nm,1.0s,mb5.0
STKI Sintang 52.76 225 P **P** **15 54 00.3 +0.9**
comp=Z,72nm,0.9s,mb5.6
SVE Sverdlovsk 52.86 317⇑ *iP* **P** **15 53 59.8 +0.2**
SVE pmax pmax
comp=Z,36nm,0.9s,mb5.3
KK31 Karatay Array 53.08 298 P **P** **15 54 00.9 -0.6**
KK31 pmax pmax
comp=Z,39nm,0.5s,mb5.6
KKAR Karatay Array 53.08 298⇑ *iP* **P** **15 54 01.5 0.0**
comp=Z,52nm,0.6s,mb5.6
KKAR Karatay Array 53.08 298⇑ *iP* **P** **15 54 01.5 0.0**
KKAR pmax pmax
comp=Z,52nm,0.6s,mb5.6
SNG Songkhla 53.37 241 P **P** **15 54 05.0 +1.1**
comp=Z,160nm,0.6s,mb6.1
KBKI Kotabaru 53.41 218 P **P** **15 54 03.4 -0.8**
comp=Z,29nm,1.0s,mb5.2
KAPI Kappang 53.43 213 P **P** **15 54 03.3 -1.0**
comp=Z,18nm,0.6s,mb5.2,baz=10,slow=3.5,SNR=18
KAPI Kappang 53.43 213 P **P** **15 54 03.3 -1.0**
KAPI Kappang 53.43 213 P **P** **15 54 03.5 -0.8**
comp=Z,462nmcomp=Z,34nm,0.9s,mb5.3
SOKR Solikamsk 53.59 321 *d iP* **P** **15 54 04.5 -0.4**
SOKR pmax pmax
comp=Z,20nm,0.8s,mb5.1
SOKR MLR MLR
comp=Z,860nm,18.0s,MS4.8
HNR Honiara 53.93 163 LR LR 16 15 37.7
comp=Z,382nm,19.4s,MS4.5,baz=343,slow=34
ARU Arti 54.07 317 *eP* **P** **15 54 07.5 -0.9**
comp=Z,19nm,0.6s,mb5.2
ARU *e*PcP PcP 15 55 12.6 -0.2
ARU Arti 54.07 317 *c iP* **P** **15 54 07.8 -0.7**
ARU *e* 15 55 12.1
ARU *e* 15 56 07.2
ARU S **S** **16 01 40.7 -0.2**
ARU SS SS 16 05 17.2 -5.0
ARU pmax pmax
comp=Z,34nm,1.2s,mb5.2
DDI Dehra Dun 54.37 280 *e*PKP **P** **15 54 11.0 -0.1**
SMLA Simla 54.57 282 *i* P **P** **15 54 11.8 -0.7**
KULM Kulim 54.79 240 P **P** **15 54 15.6 +1.3**
KULM Kulim 54.79 240 *eP* **P** **15 54 15.2 +0.9**
comp=Z,66nm,0.8s,mb5.7
KULM Kulim 54.79 240 P **P** **15 54 15.3 +1.0**
comp=Z,90nm,0.9s,mb5.8
BHK Bhakra 54.95 282 *e*PKP **P** **15 54 15.2 0.0**
SPITS Spitsbergen Ar 55.15 349 LR LR 16 19 40.2
comp=Z,254nm,19.4s,MS4.3,baz=75,slow=38
IPM Ipoh 55.18 239 P **P** **15 54 17.9 +0.8**
IPM Ipoh 55.18 239 *eP* **P** **15 54 17.3 +0.2**
comp=Z,19nm,0.8s,mb5.2
IPM Ipoh 55.18 239 P **P** **15 54 17.7 +0.6**
comp=Z,46nm,1.1s,mb5.4
MYKOM Kota Tinggi 55.58 234 P **P** **15 54 21.6 +1.7**
MYKOM Kota Tinggi 55.58 234 P **P** **15 54 21.4 +1.5**
comp=Z,39nm,0.9s,mb5.4
KGM Kluang 55.71 235 P **P** **15 54 22.6 +1.7**
RES Resolute Bay 55.80 16 *eP* **P** **15 54 19.7 -1.1**
comp=Z,206nm,0.8s,mb6.2
RES Resolute Bay 55.80 16 *eP* **P** **15 54 19.7 -1.0**
AB31 Akbulak array 56.63 309 *i* P **P** **15 54 26.7 -0.3**
AB31 pmax pmax
comp=Z,28nm,0.6s,mb5.5
ABKAR Akbulak array 56.63 309⇑ *eP* **P** **15 54 27.0 0.0**
comp=Z,77nm,0.9s,mb5.7
YKA Yellowknife Ar 56.84 33 P **P** **15 54 27.9 -0.3**
comp=Z,31nm,0.8s,mb5.4,baz=300,slow=6.8,SNR=24
YKA LR LR 16 22 21.4
comp=Z,25nm,18.2s,MS3.4,baz=135,slow=40
YKA Yellowknife Ar 56.84 33 P **P** **15 54 27.9 -0.3**
YKA LR LR 16 22 21.4
YKA Yellowknife Ar 56.84 33 P **P** **15 54 27.9 -0.4**
YKA pmax pmax
comp=Z,31nm,0.8s
COEN Coen 56.91 183 *eP* **P** **15 54 29.3 +0.1**
comp=Z,129nm,0.9s,mb6.0
COEN Coen 56.91 183 *eP* **P** **15 54 29.3 +0.1**
comp=Z,212nm,1.0s,mb6.1
AKTO Aktyubinsk 57.14 310 P **P** **15 54 29.3 -1.3**
PSI Prapat 57.80 239 P **P** **15 54 36.2 +0.5**
comp=Z,42nm,1.0s,mb5.4
LVZ Lovozero 57.90 335 *eP* **P** **15 54 34.7 -1.0**
comp=Z,22nm,0.6s,mb5.4
LVZ Lovozero 57.90 335 *eP* **P** **15 54 35.3 -0.4**
LVZ pmax pmax
comp=Z,56nm,1.7s,mb5.3
KBL Kabul 58.43 289⇑ *eP* **P** **15 54 39.0 -0.9**
comp=Z,117nm,0.8s,mb6.0
KBL Kabul 58.43 289⇑ *eP* **P** **15 54 39.0 -0.9**
KBL pmax pmax
comp=Z,117nm,0.8s,mb6.0
APA Apatity 58.48 335⇑ *iP* **P** **15 54 38.0 -1.7**
APA *i* S **S** **16 02 35.0 -4.0**
APA *i* SS SS 16 06 34.0 +2.9
APA pmax pmax
comp=Z,27nm,0.7s,mb5.4
APA MLR MLR
comp=Z,3µm,18.0s,MS5.5
KEV Kevo 58.89 339 *eP* **P** **15 54 41.6 -0.9**
comp=Z,33nm,0.8s,mb5.4
KEV Kevo 58.89 339 *eP* **P** **15 54 41.6 -0.9**
KEV pmax pmax
comp=Z,33nm,0.8s,mb5.4
KEV Kevo 58.89 339 *ep* **P** **15 54 41.0 -1.5**
comp=Z,3.0nm,0.3s,mb4.8
ARCES ARCESS Array B 59.42 339 P **P** **15 54 45.8 -0.5**
comp=Z,12nm,0.6s,mb5.1,baz=46,slow=7.0,SNR=40
ARCES LR LR 16 26 06.3
comp=Z,511nm,19.0s,MS4.7,baz=166,slow=42
ARCES ARCESS Array B 59.42 339 P **P** **15 54 45.8 -0.5**
ARCES LR LR 16 26 06.3
ARCES ARCESS Array B 59.42 339 P **P** **15 54 45.8 -0.5**
ARCES pmax pmax
comp=Z,12nm,0.6s
ARCES MLR MLR
comp=Z,511nm,19.0s
ARE0 ARCESS Array S 59.42 339 *eP* **P** **15 54 45.9 -0.4**
DAG Danmarks Havn 59.92 356 *i* P **P** **15 54 47.8 -1.8**
DAG *i* 15 55 32.6
DAG pmax pmax
comp=Z,18nm,1.0s,mb5.1
DAG Danmarks Havn 59.92 356 *i* P **P** **15 54 47.8 -1.8**
comp=Z,18nm,1.0s,mb5.0
DAG *j* 15 55 32.6
A05A Maple Falls 60.33 49⇑ P **P** **15 54 52.6 -0.2**
baz=60
KLMR Klimovskoe 60.37 327 *eP* **P** **15 54 50.9 -1.9**
KLMR pmax pmax
comp=Z,66nm,1.6s,mb5.4
KLMR MLR MLR
comp=Z,896nm,12.0s,MS5.1
KTK1 Kautokeino 60.37 340 *eP* **P** **15 54 52.5 -0.2**
JCW Jim Creek 60.86 50 *eP* **P** **15 54 56.2 -0.2**
comp=Z,63nm,0.8s,mb5.8
JCW *e*pP pP 15 55 08.0 -2.1
JCW *e*sP sP 15 55 13.7 -2.1
TRO Tromso 60.98 341 *eP* **P** **15 54 56.2 -0.6**
D05A Enumclaw 61.38 51⇓ P **P** **15 55 00.1 +0.1**
baz=61
WRW Wenatchee Ridg 61.63 50 P **P** **15 55 01.9 +0.3**
RCM Mount Rainier- 61.72 51 P **P** **15 55 03.4 +1.2**
HYB Hyderabad 61.74 268⇑ *iP* **P** **15 55 02.0 -0.8**
comp=Z,150nm,1.0s,mb6.1
HYB *e*PcP PcP 15 55 43.5 -0.2
MTMW Mount Mitchell 61.90 52 P **P** **15 55 04.5 +1.1**
ETW Entiat 62.08 50 P **P** **15 55 04.7 +0.1**
JOF Joensuu 62.12 332 *eP* **P** **15 55 02.4 -2.2**
JOF pmax pmax
comp=Z,19nm,0.5s,mb5.5
JOF Joensuu 62.12 332 *ep* **P** **15 55 02.4 -2.2**
comp=Z,19nm,0.5s,mb5.5
TBM Table Mountain 62.17 50 P **P** **15 55 05.6 +0.4**
VLL Laurance Lake 62.52 52 P **P** **15 55 08.2 +0.6**
LATR Latur 62.56 270 *e*PKP **P** **15 55 08.2 -0.1**
HOOD Mount Hood Mea 62.62 53 *eP* **P** **15 55 08.7 +0.4**
comp=Z,71nm,1.0s,mb5.8
HOOD *e*pP pP 15 55 21.1 -1.1
H04A Detroit Lake 62.67 53⇓ P **P** **15 55 08.4 -0.2**
baz=62
E07A Sunnyside 62.94 51⇓ P **P** **15 55 10.2 -0.2**
baz=63,SNR=6.0
CTA Charters Tower 62.95 179 LR LR 16 18 50.5
comp=Z,186nm,21.9s,MS4.2,baz=18,slow=32
CTAO Charters Tower 62.95 179 *eP* **P** **15 55 10.5 -0.1**
comp=Z,31nm,1.4s,mb5.2
CTAO Charters Tower 62.95 179 *eP* **P** **15 55 10.5 -0.1**
CTAO pmax pmax
comp=Z,31nm,1.4s,mb5.2
OD2 Odessa Site #2 63.10 49 *eP* **P** **15 55 10.8 -0.7**
comp=Z,55nm,0.9s,mb5.7
OD2 *e*pP pP 15 55 23.3 -2.0
C09A Chrisman Ranch 63.11 49⇓ P **P** **15 55 11.5 0.0**
baz=63
STEI Steigen 63.15 341 *eP* **P** **15 55 10.9 -0.5**
RSW Rattlesnake Hi 63.19 51 P **P** **15 55 12.7 +0.7**
comp=Z,5.2nm,0.4s,mb5.0
RSW *e* pP 15 55 24.2 -1.7
HAWA Hanford 63.22 51 *eP* **P** **15 55 12.2 0.0**
comp=Z,4.6nm,0.6s,mb4.8
HAWA *e*pP pP 15 55 24.4 -1.7
G06A Carlson Farm, 63.26 52⇑ P **P** **15 55 12.7 +0.1**
baz=63
F07A Phinny Hill Vi 63.28 51⇓ P **P** **15 55 12.9 +0.3**
baz=63
MDRS Chennai 63.34 263 *e*PKP **P** **15 55 12.8 -0.7**
E08A Dider Farm, El 63.43 50⇓ P **P** **15 55 13.5 -0.1**
baz=63,SNR=5.3
IMYA Miami 63.45 296 *eP* **P** **15 55 14.3 +0.4**
NEW Newport 63.47 48⇑ P **P** **15 55 13.5 -0.4**
baz=63,SNR=8.4
NEW Newport 63.47 48 *eP* **P** **15 55 13.3 -0.5**
comp=Z,39nm,1.0s,mb5.5
NEW *e*pP pP 15 55 25.5 -2.2
NEW Newport 63.47 48 *eP* **P** **15 55 13.3 -0.6**
NEW *e**PP pP 15 55 25.5 -2.2
NEW pmax pmax
comp=Z,39nm,1.0s
WRAB Tennant Creek 63.67 192 *eP* **P** **15 55 14.1 -1.3**
comp=Z,42nm,1.3s,mb5.3
WRAB Tennant Creek 63.67 192 *eP* **P** **15 55 14.1 -1.3**
WRAB pmax pmax
comp=Z,42nm,1.3s,mb5.3
WRAB Tennant Creek 63.67 192 P **P** **15 55 14.7 -0.7**
comp=Z,67nm,1.0s,mb5.6
WB2 Warramunga Arr 63.68 192 *eP* **P** **15 55 14.2 -1.3**
WRA Warramunga Arr 63.68 192 P **P** **15 55 14.3 -1.1**
comp=Z,9.4nm,0.7s,mb4.9,baz=12,slow=6.8,SNR=59
WRA LR LR 16 22 01.2
comp=Z,82nm,20.5s,MS3.9,baz=5.0,slow=35
WRA PKP2bc 16 24 14.6
comp=Z,1.9nm,0.9s,baz=208,slow=2.4,SNR=9.8
WRA Warramunga Arr 63.68 192 P **P** **15 55 14.3 -1.1**
WRA LR LR 16 22 01.2
WRA ⇑ *e* 16 24 14.6
WRA Warramunga Arr 63.68 192 P **P** **15 55 14.3 -1.1**
WRA pmax pmax
comp=Z,9.0nm,0.7s
FITZ Fitzroy Crossi 63.72 201 P **P** **15 55 15.2 -0.5**
comp=Z,12nm,0.9s,mb4.9,baz=20,slow=8.5,SNR=16
FITZ Fitzroy Crossi 63.72 201 *eP* **P** **15 55 15.6 -0.2**
comp=Z,21nm,0.9s,mb5.2
FITZ Fitzroy Crossi 63.72 201 P **P** **15 55 15.2 -0.5**
A12A Yaak River Ran 63.86 47⇑ P **P** **15 55 16.6 +0.1**
baz=64
KHMM Horse Mountain 63.93 58 *eP* **P** **15 55 18.2 +1.2**
comp=Z,36nm,1.2s,mb5.3
E09A Wood Farm, Sta 63.93 50⇑ P **P** **15 55 17.1 +0.1**
baz=64,SNR=11
C11A Tepee Creek (N 64.19 48⇑ P **P** **15 55 18.7 +0.1**
baz=64,SNR=12
G08A Pilot Rock 64.19 51⇑ P **P** **15 55 18.3 -0.4**
baz=64
LNOR Lincton Mounta 64.23 51 *eP* **P** **15 55 19.0 +0.1**
comp=Z,12nm,0.8s,mb5.0
LNOR Lincton Mounta 64.23 51 *eP* **P** **15 55 19.0 +0.1**
LNOR pmax pmax
comp=Z,12nm,0.8s,mb5.0
IKRD Kardeh 64.23 297 *eP* **P** **15 55 15.2 -3.9**
MOS Moscow 64.31 323 *eP* **P** **15 55 15.8 -3.4**
MOS *e* pP 15 55 33.8 +0.7
MOS pmax pmax
comp=Z,63nm,1.5s,mb5.4
KAF Kangasniemi 64.36 333 *eP* **P** **15 55 17.3 -2.2**
KAF pmax pmax
comp=Z,27nm,0.6s,mb5.5
KAF Kangasniemi 64.36 333 *ep* **P** **15 55 17.3 -2.2**
comp=Z,26nm,0.6s,mb5.5
POO Poona 64.48 272 *e*PKP **P** **15 55 20.8 -0.1**
SUMG Summit 64.51 1⇑ *eP* **P** **15 55 20.6 +0.3**
comp=Z,121nm,0.8s,mb6.0
SUMG Summit 64.51 1⇑ *eP* **P** **15 55 20.6 +0.3**
SUMG pmax pmax
comp=Z,121nm,0.8s
SUMG Summit 64.51 1⇑ *iP* **P** **15 55 20.8 +0.5**
comp=Z,105nm,0.8s,mb5.9
A13A Flathead Natio 64.52 46⇓ P **P** **15 55 20.7 0.0**
baz=64,SNR=10.0
K05A Summer Lake 64.57 55⇓ P **P** **15 55 21.2 0.0**
baz=64,SNR=7.7
BHJ Bhuj 64.58 279 *e*PKP **P** **15 55 21.2 -0.4**
I07A Izee 64.59 53⇑ P **P** **15 55 21.3 0.0**
baz=64
C12B Naegeli Ranch, 64.69 48⇑ P **P** **15 55 22.0 +0.1**
baz=64
WALA Waterton Lakes 64.70 46 *eP* **P** **15 55 22.0 +0.1**
comp=Z,1.8nm,1.0s,mb4.1
WALA *e*pP pP 15 55 34.3 -1.6
MOR8 Moi Rana 64.73 340⇑ *iP* **P** **15 55 19.9 -2.0**
F10A Beach Ranch, E 64.76 50⇑ P **P** **15 55 22.4 0.0**
baz=64
B13A Whitefish 64.83 47⇑ P **P** **15 55 23.1 +0.4**
baz=65,SNR=17
WDC Whiskeytown Da 64.83 57 *eP* **P** **15 55 23.3 +0.4**
comp=Z,30nm,1.1s,mb5.2
WDC Whiskeytown Da 64.83 57 *eP* **P** **15 55 23.3 +0.4**
WDC pmax pmax
comp=Z,30nm,1.1s,mb5.2
FLOS Flostrand 64.86 341 *eP* **P** **15 55 22.4 -0.3**
FINES FINESS Array B 64.92 333 P **P** **15 55 22.4 -0.7**
comp=Z,71nm,0.7s,mb5.8,baz=42,slow=7.6,SNR=357
FINES LR LR 16 23 49.2
comp=Z,433nm,20.4s,MS4.6,baz=222,slow=36
FINES FINESS Array B 64.92 333 P **P** **15 55 22.4 -0.7**
FINES LR LR 16 23 49.2
FINES FINESS Array B 64.92 333 P **P** **15 55 22.5 -0.6**
FINES pmax pmax
comp=Z,71nm,0.7s
FINES MLR MLR
comp=Z,433nm,20.4s
STOK Stokkvaagen 64.95 341 *eP* **P** **15 55 22.7 -0.6**
BSMT Bassoo Peak 64.97 47 *eP* **P** **15 55 24.0 +0.3**
comp=Z,18nm,1.0s,mb5.1
KAD Karad 65.01 271 *e*PKP **P** **15 55 24.2 -0.2**
A14A Double T Ranch 65.01 46⇑ P **P** **15 55 24.3 +0.4**
baz=65,SNR=6.6
OBN Obninsk 65.17 323 *eP* **P** **15 55 23.9 -1.0**
comp=Z,37nm,0.8s,mb5.5
OBN Obninsk 65.17 323 *c iP* **P** **15 55 23.9 -1.0**
OBN *i* pP 15 55 35.6 -3.2
OBN *e*S S 16 04 20.4 +17
OBN pmax pmax
comp=Z,104nm,1.2s,mb5.7
OBN MLR MLR
comp=Z,600nm,19.0s,MS4.8
C13A Hot Springs 65.19 47⇑ P **P** **15 55 25.3 +0.1**
baz=65,SNR=5.4
JTMT Jette 65.31 47 *eP* **P** **15 55 25.5 -0.3**
comp=Z,21nm,1.0s,mb5.1
A15A Johnson Ranch, 65.37 45⇓ P **P** **15 55 25.6 -0.6**
baz=65,SNR=8.0
BMO Blue Mountains 65.39 51 *eP* **P** **15 55 26.5 +0.1**
comp=Z,14nm,1.0s,mb4.9
BMO Blue Mountains 65.39 51 *eP* **P** **15 55 26.5 0.0**
BMO pmax pmax
comp=Z,14nm,1.0s,mb5.0
MOD Modoc 65.41 55 *eP* **P** **15 55 26.8 +0.2**
comp=Z,23nm,1.0s,mb5.2
MOD *e*pP pP 15 55 38.9 -1.6
E12A Beaver Dam Sad 65.42 49⇓ P **P** **15 55 26.7 +0.1**
baz=65,SNR=26
B14A Marquette Ranc 65.47 46⇑ P **P** **15 55 27.0 +0.1**
baz=65,SNR=9.3
C14A Swan Lake 65.58 47⇓ P **P** **15 55 27.9 +0.2**
baz=65,SNR=5.7
SWMT Swartz Lake 65.60 47 *eP* **P** **15 55 27.9 +0.1**
comp=Z,40nm,1.0s,mb5.4
SWMT *e* pP 15 55 40.1 -1.6
D13A Huson 65.61 48⇑ P **P** **15 55 27.8 0.0**
baz=65,SNR=6.7
J08A Circle Bar Ran 65.62 53⇓ P **P** **15 55 28.2 +0.3**
baz=65,SNR=11
B15A Bradely Ranch, 65.87 46⇓ P **P** **15 55 29.6 +0.1**
baz=66,SNR=8.1
F12A Elk City 65.99 49⇓ P **P** **15 55 30.3 0.0**
baz=66,SNR=10
SLMT Seeley Lake 66.04 47 *eP* **P** **15 55 30.5 -0.1**
comp=Z,63nm,1.1s,mb5.6
SLMT *e*pP pP 15 55 42.4 -2.1
MSO Missoula 66.05 48⇓ P **P** **15 55 30.4 -0.3**
baz=66,SNR=6.2
MSO Missoula 66.05 48 *eP* **P** **15 55 30.3 -0.4**

comp=Z,24nm,1.1s,mb5.1
WVOR Wild Horse Val 66.08 54 *e*P **P** 15 55 31.1 +0.1
comp=Z,20nm,1.0s,mb5.1
WVOR Wild Horse Val 66.08 54 *e*P **P** 15 55 31.1 +0.1
WVOR pmax pmax
comp=Z,20nm,1.0s,mb5.1
D14A Greenough 66.13 47 ⇑P **P** 15 55 30.8 -0.4
baz=66,SNR=10.0
E13A Victor 66.16 48 ⇓P **P** 15 55 31.1 -0.3
baz=66
C15A Salmond Ranch, 66.18 46 ⇑P **P** 15 55 31.9 +0.3
baz=66,SNR=9.2
SCO Scoresbysund 66.30 356 *i* P **P** 15 55 31.0 -0.9
SCO pmax pmax
comp=Z,22nm,0.8s,mb5.2
G12A Big Creek, Yel 66.34 50 ⇓P **P** 15 55 31.9 -0.6
baz=66
CHMT Chamberlain Mo 66.37 47 *e*P **P** 15 55 32.2 -0.6
comp=Z,6.7nm,0.9s,mb4.7
A17A Triple J Farms 66.44 44 ⇑P **P** 15 55 32.6 -0.5
baz=66
F13A Darby 66.48 49 ⇓P **P** 15 55 32.7 -0.8
baz=66
VSR Storozhevoye 66.50 319 *e*P **P** 15 55 33.0 -0.5
VSR pmax pmax
comp=Z,90nm,0.5s,mb6.1
VSR pmax pmax
comp=N,40nm,0.8s
VSR pmax pmax
comp=E,40nm,0.7s
E14A Clinton 66.55 48 ⇓P **P** 15 55 33.3 -0.6
baz=66
C16A Fuhringer Ranc 66.62 46 ⇓P **P** 15 55 34.5 +0.2
baz=66,SNR=9.0
D15A Lincoln 66.68 47 ⇓P **P** 15 55 34.2 -0.5
baz=66
FFC Flin Flon 66.76 36⇑*e*P **P** 15 55 34.8 -0.3
comp=E,58nm,0.9s,mb5.6
FFC *ep*P pP 15 55 47.0 -2.0
FFC *es*P sP 15 55 52.6 -2.1
FFC Flin Flon 66.76 36⇑*e*P **P** 15 55 34.8 -0.3
FFC *e**PP pP 15 55 47.0 -2.0
FFC *e**SP sP 15 55 52.6 -2.0
FFC pmax pmax
comp=Z,58nm,0.9s,mb5.6
B17A L&G Farms, Che 66.80 45 ⇑P **P** 15 55 34.8 -0.7
baz=67,SNR=5.8
VSU Vasula 66.83 330*d i*P **P** 15 55 34.9 -0.5
VSU pmax pmax
comp=Z,192nm,1.2s,mb6.0
A18A Metzger Ranch, 66.89 44 ⇓P **P** 15 55 35.7 -0.3
baz=67,SNR=11
H12A Diamond D Ranc 66.96 50 ⇑P **P** 15 55 36.4 -0.1
baz=67,SNR=15
G13A Cobalt 66.97 49 ⇓P **P** 15 55 36.3 -0.3
baz=67,SNR=9.8
F14A Wisdom 66.99 48 ⇑P **P** 15 55 36.1 -0.6
baz=67
E15A Deer Lodge 67.01 47 ⇑P **P** 15 55 36.5 -0.3
baz=67,SNR=8.2
MFID Camas Ranch 67.11 51 ⇓P **P** 15 55 37.5 0.0
baz=67,SNR=10
MFID Camas Ranch 67.11 51 *e*P **P** 15 55 37.4 -0.1
comp=Z,7.2nm,0.6s,mb4.9
D16A Dana Ranch, Ca 67.21 46 ⇑P **P** 15 55 37.8 -0.3
baz=67
B18A Beardsley Farm 67.26 44 ⇑P **P** 15 55 38.3 0.0
baz=67,SNR=11
I12A Atlanta 67.27 51 ⇑P **P** 15 55 38.8 +0.2
baz=67,SNR=34
H13A Challis 67.29 50 ⇓P **P** 15 55 38.5 -0.1
baz=67,SNR=23
WCN Washoe City 67.31 57 ⇓P **P** 15 55 39.0 +0.2
baz=67,SNR=7.1
WCN Washoe City 67.31 57 *e*P **P** 15 55 39.2 +0.3
comp=Z,22nm,0.9s,mb5.2
WCN Washoe City 67.31 57 *e*P **P** 15 55 39.2 +0.3
WCN pmax pmax
comp=Z,22nm,0.9s,mb5.2
AS31 Alice Springs 67.40 192 *e*P **P** 15 55 39.2 -0.2
ASAR Alice Springs 67.40 192 P **P** 15 55 39.2 -0.2
comp=Z,13nm,0.7s,mb5.1,baz=9.4,slow=5.0,SNR=198
ASAR LR LR 16 22 14.4
comp=Z,187nm,21.4s,MS4.3,baz=5.0,slow=33
ASAR PKP2bc 16 24 05.3
comp=Z,0.9nm,0.7s,baz=188,slow=3.2,SNR=9.9
ASAR Alice Springs 67.40 192 P **P** 15 55 39.2 -0.2
ASAR LR LR 16 22 14.4
ASAR ⇑*e* 16 24 05.3
ASAR Alice Springs 67.40 192 P **P** 15 55 39.2 -0.2
ASAR pmax pmax
comp=Z,13nm,0.7s
A19A Klindworth Far 67.44 43 ⇓P **P** 15 55 39.7 +0.2
baz=67,SNR=7.3
F15A Butte 67.45 48 ⇑P **P** 15 55 39.9 +0.2
baz=67,SNR=16
E16A East Helena 67.45 47 ⇑P **P** 15 55 39.6 0.0
baz=67
LRM Limekiln Ridge 67.49 48 *e*P **P** 15 55 39.9 0.0
comp=Z,355nm,1.0s,mb6.3
EGMT Eagleton 67.51 45 ⇑P **P** 15 55 39.9 0.0
baz=67,SNR=5.6
EGMT Eagleton 67.51 45 *e*P **P** 15 55 39.6 -0.4
comp=Z,67nm,0.9s,mb5.7
EGMT *ep*P pP 15 55 52.4 -1.6
D17A Six Diamond Ra 67.58 46 ⇑P **P** 15 55 40.3 -0.2
baz=67,SNR=6.9
B19A Brinkman Farms 67.65 44 ⇓P **P** 15 55 41.0 +0.2
baz=67,SNR=10
DZM Mont Dzumac 67.66 159 *e*S S 16 04 34.2 -0.4
comp=Z,503nm,31.6s
DZM *e*SS SS 16 08 59.9 +3.0
comp=Z,205nm,29.5s
DZM *e*LR LR 16 16 02.6
comp=Z,566nm,23.1s
IKIA Kiasar 67.69 299 *e*P **P** 15 55 38.2 -3.1
CMB Columbia Colle 67.70 58 *e*P **P** 15 55 41.3 0.0
comp=Z,16nm,0.8s,mb5.1
CMB Columbia Colle 67.70 58 *e*P **P** 15 55 41.3 0.0
CMB pmax pmax
comp=Z,16nm,0.8s,mb5.1
DLMT Dillon 67.70 48 *e*P **P** 15 55 41.4 +0.2
comp=Z,35nm,1.0s,mb5.3
DLMT *ep*P pP 15 55 54.0 -1.2
H14A Leadore 67.75 49 ⇑P **P** 15 55 41.4 -0.1
baz=68,SNR=5.7
I13A Wildhorse Cree 67.77 50 ⇓P **P** 15 55 42.0 +0.4
baz=68,SNR=15
HLID Hailey 67.82 51 ⇑P **P** 15 55 42.1 +0.1
baz=68,SNR=10
HLID Hailey 67.82 51 *e*P **P** 15 55 42.1 +0.1
comp=Z,13nm,1.0s,mb4.9
A20A Cobblestone Ra 67.88 43 ⇓P **P** 15 55 42.5 +0.2
baz=68
G15A Dillon 67.88 48 ⇑P **P** 15 55 42.7 +0.4
baz=68,SNR=14
MCMT McKenzie Canyo 67.90 49 *e*P **P** 15 55 42.2 -0.3
comp=Z,4.4nm,1.0s,mb4.4
E17A Martinsdale 67.94 47 ⇓P **P** 15 55 43.0 +0.3
baz=68,SNR=11
F16A Kennard Place, 67.96 47 ⇑P **P** 15 55 42.9 +0.1
baz=68,SNR=5.4
IANJ Anjilo 68.00 298 *e*P **P** 15 55 44.2 +0.9
D18A Linhart Farms, 68.02 45 ⇓P **P** 15 55 43.3 +0.1
baz=68
BOZ Bozeman (W) 68.04 48 ⇑P **P** 15 55 43.6 +0.2
baz=68,SNR=12
BOZ Bozeman (W) 68.04 48⇑*e*P **P** 15 55 43.8 +0.4
comp=Z,18nm,0.8s,mb5.1
BOZ Bozeman (W) 68.04 48⇑*e*P **P** 15 55 43.8 +0.4
BOZ pmax pmax
comp=Z,17nm,0.8s,mb5.1
C19A Slack Wire Ran 68.06 45 ⇓P **P** 15 55 43.6 +0.2
baz=68,SNR=16
B20A Solberg Farm, 68.12 44 ⇓P **P** 15 55 43.8 0.0
baz=68,SNR=9.4
I14A Mackay 68.13 50 ⇑P **P** 15 55 44.2 +0.2
baz=68,SNR=15
H15A Lima 68.15 49 ⇓P **P** 15 55 43.9 -0.1
baz=68
BMN Battle Mountai 68.15 55 *e*P **P** 15 55 44.3 +0.2
comp=Z,28nm,1.1s,mb5.2
BMN Battle Mountai 68.15 55 *e*P **P** 15 55 44.3 +0.2
BMN pmax pmax
comp=Z,28nm,1.1s,mb5.2
ISHM Shahmirzad 68.19 299 *e*P **P** 15 55 45.4 +1.0
G16A Moss Hill, Enn 68.22 48 ⇑P **P** 15 55 44.4 0.0
baz=68,SNR=9.4
A21A Bergtoll Ranch 68.31 43 ⇑P **P** 15 55 45.0 +0.1
baz=68,SNR=8.9
MBWA Marble Bar 68.36 206 *e*P **P** 15 55 45.0 -0.5
MBWA *ep*P pP 15 55 59.2 -0.3
MBWA Marble Bar 68.36 206 *e*P **P** 15 55 44.8 -0.7
comp=Z,17nm,0.9s,mb5.1
MBWA Marble Bar 68.36 206 P **P** 15 55 45.7 +0.2
comp=Z,27nm,1.2s,mb5.2
E18A Harlowton 68.37 46 ⇓P **P** 15 55 45.2 -0.2
baz=68
F17A Fitzpatrick Pl 68.40 47 ⇑P **P** 15 55 45.6 0.0
baz=68,SNR=6.0
J14A Carey 68.48 50 ⇑P **P** 15 55 46.4 +0.2
baz=68,SNR=21
D19A Cripps Ranch, 68.52 45 ⇓P **P** 15 55 46.5 +0.2
baz=68,SNR=9.0
C20A Veseth Ranch, 68.61 44 ⇓P **P** 15 55 47.2 +0.3
baz=68,SNR=20
IFIR Firoozkooh 68.63 299 *e*P **P** 15 55 47.6 +0.4
B21A Ellsworth Farm 68.64 43 ⇓P **P** 15 55 47.4 +0.3
baz=68,SNR=5.7
ILAS Lasjerd 68.66 299 *e*P **P** 15 55 48.2 +0.8
QLMT Earthquake Lak 68.67 48 *e*P **P** 15 55 47.4 +0.1
comp=Z,5.3nm,1.2s,mb4.3
G17A Pierce Place, 68.73 47 ⇑P **P** 15 55 47.6 0.0
baz=68
NVAR Mina Array Bea 68.74 57 P **P** 15 55 48.4 +0.5
comp=Z,30nm,0.7s,mb5.3,baz=288,slow=6.6,SNR=153
NVAR Mina Array Bea 68.74 57 P **P** 15 55 48.4 +0.5
A22A Carney Farms, 68.81 42 ⇑P **P** 15 55 48.0 -0.1
baz=69,SNR=19
AFI Afiamalu 68.83 135 LR LR 16 21 14.4
comp=Z,182nm,20.4s,MS4.3,baz=292,slow=32
H16A Russell Place, 68.86 48 ⇓P **P** 15 55 48.7 +0.2
baz=69,SNR=12
F18A Big Timber 68.90 46 ⇓P **P** 15 55 49.1 +0.3
baz=69,SNR=12
MLAC Mammoth Lakes 68.91 58 ⇓P **P** 15 55 49.1 +0.2
baz=69
D20A Manuel Ranch, 68.95 45 ⇓P **P** 15 55 49.4 +0.5
baz=69,SNR=22
IZAR Zarasai 68.98 328 *e*P **P** 15 55 49.0 0.0
IZAR AMB AMB 15 55 49.5
comp=Z,34nm,0.8s,mb5.3
C21A Desert Coulee 68.99 44 ⇑P **P** 15 55 49.4 +0.2
baz=69
E19A Rath Farm, Rou 69.03 46 ⇓P **P** 15 55 49.8 +0.3
baz=69,SNR=8.3
J15A Blackfoot 69.04 50 ⇑P **P** 15 55 49.7 +0.1
baz=69
IDID Didziasalis 69.11 328 *e*P **P** 15 55 50.0 +0.1
IDID AMB AMB 15 55 51.4
comp=Z,62nm,1.0s,mb5.5
IDMV Damavand 69.13 299 *e*P **P** 15 55 51.1 +0.8
ISAL Salakas 69.16 328 *e*P **P** 15 55 50.2 +0.1
ISAL AMB AMB 15 55 51.7
comp=Z,56nm,0.9s,mb5.5
K14A Jones Ranch, D 69.17 51 ⇓P **P** 15 55 50.7 +0.2
baz=69,SNR=10
B22A Reddig Ranch S 69.23 43 ⇓P **P** 15 55 50.4 -0.3
baz=69
YFT Old Faithful 69.24 48 *e*P **P** 15 55 52.6 +1.7
comp=Z,20nm,0.9s,mb5.0
MICGM Minsk 69.25 327⇑*e*P **P** 15 55 48.0 -2.7
I16A Newdale 69.26 49 ⇓P **P** 15 55 51.6 +0.6
baz=69,SNR=11
MNK Minsk 69.27 327⇑*e*P **P** 15 55 48.0 -2.8
MNK pmax pmax
comp=Z,390nm,1.0s,mb6.3
IIGN Ignalina 69.28 328 *e*P **P** 15 55 51.0 +0.1
IIGN AMB AMB 15 55 51.7
comp=Z,61nm,0.8s,mb5.6
IBAF Bafgh 69.31 294 *e*P **P** 15 55 50.6 -0.9
E20A Meyer Farm, Mu 69.34 45 ⇓P **P** 15 55 51.4 0.0
baz=69
G18A Lazy EL Ranch, 69.37 47 ⇓P **P** 15 55 51.4 -0.2
baz=69
KIV Kislovodsk 69.38 311 *e*P **P** 15 55 52.6 +0.9
comp=Z,222nm,0.8s,mb6.1
KIV Kislovodsk 69.38 311⇑*i*P **P** 15 55 52.5 +0.8
KIV *i* 15 55 59.2
KIV *e* 15 56 14.5
KIV pmax pmax
comp=Z,200nm,0.7s,mb6.2
KIV MLR MLR
comp=Z,500nm,22.0s,MS4.7
KIV Kislovodsk 69.38 311 P **P** 15 55 53.0 +1.3
SNR=14
NACGM Naroch 69.40 327 *e*P **P** 15 55 48.0 -3.6
H17A Grant Village 69.42 48 ⇑P **P** 15 55 53.7 +1.7
baz=69,SNR=8.7
QLP Quilpie 69.43 181 *e*P **P** 15 55 51.9 -0.1
QLP *ep*P pP 15 56 06.8 +0.8
SFJD Kangerlussuaq 69.44 7⇑*i*P **P** 15 55 50.9 -0.8
SFJD pmax pmax
comp=Z,57nm,0.9s,mb5.5
SFJD Kangerlussuaq 69.44 7⇑*i*P **P** 15 55 50.9 -0.8
comp=Z,57nm,0.9s,mb5.5
K15A Arbon 69.44 50 ⇑P **P** 15 55 53.0 +0.9
baz=69,SNR=13
L14A Malta 69.46 51 ⇓P **P** 15 55 52.7 +0.5
baz=69,SNR=12
ZEI Tsey 69.47 310⇑*i*P **P** 15 55 52.4 +0.1
ZEI pmax pmax
comp=Z,77nm,0.9s,mb5.6
DGRG David-gareji 69.48 308 P **P** 15 55 52.0 -0.3
IMW Indian Meadow 69.55 49 *e*P **P** 15 55 53.4 +0.7
comp=Z,33nm,1.1s,mb5.2
D21A La Casta Ranch 69.55 44 ⇓P **P** 15 55 52.8 +0.1
baz=69
J16A Bone 69.58 50 ⇑P **P** 15 55 53.7 +0.7
baz=69,SNR=14
DCID1 Drake Creek 69.61 49 *e*P **P** 15 55 54.0 +0.9
comp=Z,83nm,1.1s,mb5.6
RLMT Red Lodge 69.65 47 ⇑P **P** 15 55 53.7 +0.3
baz=69,SNR=7.8
RLMT Red Lodge 69.65 47 *e*P **P** 15 55 53.9 +0.5
comp=Z,26nm,1.3s,mb5.0
MTA Mttatsminda 69.66 308 P **P** 15 55 54.1 +0.6
TBLG Delisi 69.67 308 *i* P **P** 15 55 54.1 +0.6
TBLG Delisi 69.67 308 P **P** 15 55 54.1 +0.6
IVRN Varamin 69.69 299 *e*P **P** 15 55 54.1 +0.3
RRI2 Red Ridge 69.69 49 *e*P **P** 15 55 54.6 +0.9
comp=Z,46nm,1.0s,mb5.4
RRI2 *ep*P pP 15 56 07.1 -0.6
H18A Shoshone NF, C 69.73 47 ⇓P **P** 15 55 54.5 +0.6
baz=70,SNR=6.4
I17A Pilgrim Ck. 69.73 48 ⇓P **P** 15 55 53.6 -0.3
baz=70
MOOW Moose Ponds 69.75 49 *e*P **P** 15 55 54.8 +0.8
comp=Z,33nm,1.1s,mb5.2
NB2 NORSAR Subarra 69.76 338 P **P** 15 55 53.3 -0.5
comp=Z,130nm,0.8s,mb5.9,baz=34,slow=6.2
NOA NORSAR Array B 69.76 338 P **P** 15 55 53.2 -0.5
comp=Z,96nm,0.8s,mb5.8,baz=35,slow=6.2,SNR=216
NOA LR LR 16 31 33.4
comp=Z,450nm,18.3s,MS4.8,baz=0.0,slow=40
NOA NORSAR Array B 69.76 338 P **P** 15 55 53.2 -0.5
NOA LR LR 16 31 33.4
NOA NORSAR Array B 69.76 338 P **P** 15 55 53.3 -0.5
NOA pmax pmax
comp=Z,96nm,0.8s
NOA MLR MLR
comp=Z,450nm,18.3s
A24A Westby 69.78 41 ⇓P **P** 15 55 53.9 -0.2
baz=70
F20A Billings 69.80 46 ⇓P **P** 15 55 54.2 0.0
baz=70
TPAW Teton Pass 69.81 49 *e*P **P** 15 55 55.1 +0.7
comp=Z,44nm,1.1s,mb5.3
TPAW *ep*P pP 15 56 08.0 -0.4
ONI Oni 69.84 310 P **P** 15 55 55.5 +0.9
E21A Keefer Ranch, 69.86 45 ⇓P **P** 15 55 54.4 -0.2
baz=70
GOR Gori 69.86 309 P **P** 15 55 54.4 +0.6
K16A Soda Springs 69.88 50 ⇑P **P** 15 55 55.3 +0.5
baz=70,SNR=14
HVU Hansel Valley 69.89 51 *e*P **P** 15 55 55.3 +0.4
comp=Z,16nm,0.9s,mb5.0
HVU Hansel Valley 69.89 51 *e*P **P** 15 55 55.3 +0.4
HVU pmax pmax
comp=Z,17nm,0.9s,mb5.0
D22A Cohagen 69.91 44 ⇑P **P** 15 55 55.0 +0.1
baz=70,SNR=6.9
LOHW Long Hollow 69.92 49 *e*P **P** 15 55 55.4 +0.3
comp=Z,31nm,1.4s,mb5.0
NC602 NORSAR Array S 69.93 338 *e*P **P** 15 55 54.1 -0.7
C23A Lambert 69.97 43 ⇑P **P** 15 55 55.3 +0.1
baz=70,SNR=5.7
L15A Malad City 69.97 51 ⇓P **P** 15 55 55.4 0.0
baz=70,SNR=7.9
DGMT Dagmar 70.00 42 ⇓P **P** 15 55 54.9 -0.6
baz=70
DGMT Dagmar 70.00 42 *e*P **P** 15 55 55.2 -0.2
comp=Z,65nm,0.8s,mb5.6
DGMT *ep*P pP 15 56 07.5 -1.9
PKM Peak Mountain 70.00 61 ⇓P **P** 15 55 56.4 +0.7
baz=70,SNR=5.3
NAO01 NORSAR Array S 70.02 338 *e*P **P** 15 55 54.4 -0.9
comp=Z,75nm,0.8s,mb5.7
J17A Brown Place, J 70.02 49 ⇑P **P** 15 55 56.4 +0.7
baz=70,SNR=14
IMEH Mehriz 70.07 295 *e*P **P** 15 55 54.9 -1.3
H19A Powell 70.10 47 ⇓P **P** 15 55 56.3 +0.2
baz=70
CWC Cottonwood Cre 70.13 58 ⇑P **P** 15 55 56.8 +0.3
baz=70,SNR=13
G20A Bridger 70.15 46 ⇓P **P** 15 55 56.0 -0.4
baz=70,SNR=7.3
LAO LASA Array 70.20 44 ⇓P **P** 15 55 56.8 +0.1
baz=70
GRAC Grapevine Rang 70.21 58 ⇓P **P** 15 55 57.7 +0.7
baz=70,SNR=17
M15A Larsen Ranch, 70.28 51 ⇑P **P** 15 55 57.7 +0.4
baz=70,SNR=17
I18A Diamond G Ranc 70.29 48 ⇑P **P** 15 55 57.9 +0.6
baz=70,SNR=8.4
BGU Big Grassy Mou 70.30 52 *e*P **P** 15 55 57.2 -0.2
comp=Z,5.4nm,0.8s,mb4.5
F21A Absaloka Mine, 70.31 45 ⇓P **P** 15 55 57.4 0.0
baz=70
ISA Isabella 70.37 59 ⇑P **P** 15 55 57.2 -0.8
baz=70,SNR=12
ISA Isabella 70.37 59 *e*P **P** 15 55 56.9 -1.1
comp=Z,12nm,0.8s,mb4.9
ISA Isabella 70.37 59 *e*P **P** 15 55 56.9 -1.1
ISA pmax pmax
comp=Z,12nm,0.8s,mb4.9
D23A Lindsay 70.38 43 ⇑P **P** 15 55 58.1 +0.3
baz=70
R11A Troy Canyon, C 70.44 56 ⇓P **P** 15 55 58.4 0.0
baz=70,SNR=30
ARVC Arvin 70.49 60 ⇓P **P** 15 55 58.9 +0.2
baz=70
L16A Fish Haven 70.50 50 ⇓P **P** 15 55 58.9 +0.2
baz=70,SNR=5.9
IHRS Heris 70.50 304 *e*P **P** 15 55 59.5 +0.8
J18A Kendall Valley 70.50 49 ⇓P **P** 15 55 59.1 +0.5
baz=70,SNR=11
E22A Miles City 70.50 44 ⇓P **P** 15 55 58.8 +0.2
baz=70
I19A Meeteetse 70.52 48 ⇓P **P** 15 55 59.3 +0.6
baz=70,SNR=6.3
C24A Savage 70.53 43 ⇓P **P** 15 55 58.6 -0.1
baz=70
IRAZ Razeghan 70.58 300 *e*P **P** 15 55 58.9 -0.3
AKH Akhalkalaki 70.59 309 P **P** 15 56 00.4 +1.2
N15A Stansbury Isla 70.61 52 ⇓P **P** 15 55 59.1 -0.2
baz=70
IZEF Zefreh 70.62 297 *e*P **P** 15 55 59.3 -0.2
G21A Lodge Grass 70.67 46 ⇓P **P** 15 55 59.4 -0.2
baz=70,SNR=5.3
GNI Garni 70.69 307 LR LR 16 30 28.4
comp=Z,336nm,19.2s,MS4.6,baz=43,slow=39
GNI Garni 70.69 307⇑*e*P **P** 15 56 01.4 +1.6
comp=Z,65nm,0.9s,mb5.6
GNI Garni 70.69 307*c i*P **P** 15 56 01.2 +1.4
GNI pmax pmax
comp=Z,61nm,1.2s
GNI Garni 70.69 307 P **P** 15 56 02.1 +2.3
SNR=6.5
HWUT Hardware Ranch 70.69 51 *e*P **P** 15 56 00.1 +0.3
comp=Z,30nm,1.1s,mb5.1
MPMC Manual Prospec 70.74 58 ⇑P **P** 15 56 00.1 0.0
baz=70,SNR=29
H20A Greybull 70.75 47 ⇑P **P** 15 56 00.1 0.0
baz=70
L17A Cokeville 70.76 50 ⇓P **P** 15 56 00.6 +0.4
baz=70,SNR=7.9
OSL Oslo 70.82 338 *e*P **P** 15 56 00.3 +0.1
IKLH Kolahrood 70.84 298 *e*P **P** 15 56 00.9 0.0
D24A Glendive 70.86 43 ⇓P **P** 15 56 00.7 -0.1
baz=71,SNR=7.8
FURC Furnace Creek, 70.87 58 ⇑P **P** 15 56 01.3 +0.3
baz=71,SNR=30
K18A Toltan Ranch, 70.87 49 ⇓P **P** 15 56 01.2 +0.4
baz=71,SNR=8.7
OSI Osito Adit 70.88 60 ⇓P **P** 15 56 01.3 +0.2
baz=71,SNR=5.5
OSI Osito Adit 70.88 60 *e*P **P** 15 56 01.2 +0.2
comp=Z,47nm,0.8s,mb5.5
DUG Dugway 70.89 53 ⇑P **P** 15 56 01.3 +0.3
baz=71,SNR=20
DUG Dugway 70.89 53 *e*P **P** 15 56 01.2 +0.2
comp=Z,20nm,0.8s,mb5.1
DUG Dugway 70.89 53 *e*P **P** 15 56 01.2 +0.1
DUG pmax pmax
comp=Z,20nm,0.8s,mb5.1
LRMC Laurel Mountai 70.98 59 ⇑P **P** 15 56 01.5 -0.1
baz=71,SNR=10
BLG Laguna Peak 70.98 61 ⇑P **P** 15 56 01.4 -0.3
baz=71
IBST Bostanabad 70.99 304 *e*P **P** 15 56 01.8 +0.1
J19A Crowheart 71.00 48 ⇓P **P** 15 56 02.2 +0.6
baz=71,SNR=11
I20A Worland 71.04 47 ⇓P **P** 15 56 02.3 +0.5
baz=71,SNR=7.5
O15A The Old Anders 71.04 52 ⇑P **P** 15 56 02.2 +0.3
baz=71
IMRD Marand 71.05 305 *e*P **P** 15 56 02.3 +0.3
BW06 Boulder Array 71.05 49 ⇓P **P** 15 56 01.8 -0.1
baz=71,SNR=20
PDAR Pinedale Array 71.05 49 P **P** 15 56 01.8 -0.1
comp=Z,17nm,0.7s,mb5.1,baz=265,slow=2.1,SNR=124
PDAR LR LR 16 26 46.4
comp=Z,175nm,20.9s,MS4.3,baz=335,slow=36
PDAR Pinedale Array 71.05 49 P **P** 15 56 01.8 -0.1
PDAR LR LR 16 26 46.4
H21A Big Horn, Sher 71.16 46 ⇑P **P** 15 56 02.4 -0.2
baz=71,SNR=7.4
EDW2 Edwards Air Fo 71.18 60 ⇓P **P** 15 56 02.8 -0.1
baz=71,SNR=20
N16A Rees Ranch, Co 71.24 51 ⇓P **P** 15 56 03.4 +0.2
baz=71
E24A Baker 71.25 43 ⇑P **P** 15 56 02.7 -0.4
baz=71
F23A Volborg 71.27 44 ⇑P **P** 15 56 03.2 -0.1
baz=71
M17A Scullys Gap (B 71.29 50 ⇑P **P** 15 56 03.4 0.0
baz=71,SNR=6.6
L18A Fontenelle, Gr 71.34 50 ⇓P **P** 15 56 04.2 +0.5
baz=71
DECC Green Verdugo 71.36 60 ⇑P **P** 15 56 04.2 +0.2
baz=71
KONO Kongsberg 71.37 338 *e*P **P** 15 56 03.5 0.0
ISHB Shabestar 71.38 305 *e*P **P** 15 56 04.9 +0.9
K19A Absolon Red Bu 71.40 48 ⇓P **P** 15 56 03.7 -0.4
baz=71,SNR=9.0
AKASG Malin Array Be 71.43 323 P **P** 15 56 03.6 -0.5
comp=Z,94nm,0.6s,mb5.9,baz=40,slow=6.0,SNR=312
AKASG Malin Array Be 71.43 323 P **P** 15 56 03.6 -0.5
AKASG Malin Array Be 71.43 323 P **P** 15 56 03.7 -0.4
AKASG pmax pmax
comp=Z,94nm,0.6s
AKBB Malin Array Si 71.43 323⇑*e*P **P** 15 56 03.6 -0.5
AKBB Malin Array Si 71.43 323⇑*e*P **P** 15 56 03.6 -0.5
KIEV Kiev 71.44 323⇑*i*P **P** 15 56 03.5 -0.7
comp=Z,118nm,0.8s,mb5.9
KIEV Kiev 71.44 323⇑*i*P **P** 15 56 03.5 -0.7
KIEV pmax pmax
comp=Z,118nm,0.8s,mb5.9
SUW Suwalki 71.46 328 *e*P **P** 15 56 03.6 -0.6
SUW LMZ 16 28 37.1
comp=Z,800nm,23.8s
SUW Suwalki 71.46 328 *e*P **P** 15 56 03.4 -0.8
comp=Z,111nm,0.8s,mb5.8
SUW Suwalki 71.46 328 *e*P **P** 15 56 03.6 -0.6
SUW MLR MLR
comp=Z,800nm,23.8s,MS4.9
J20A Shoshoni 71.46 48 ⇑P **P** 15 56 04.5 +0.1
baz=71,SNR=8.7
R13A O'Grain Ranch, 71.52 55 ⇓P **P** 15 56 05.1 +0.2
baz=71,SNR=5.3

N17A **Moffit Pass** 71.54 51 ⇓P P 15 56 05.1 +0.1
baz=71,SNR=11
H22A **Clearmont** 71.55 46 ⇑P P 15 56 04.9 -0.1
baz=71
IAZR **Azarshahr** 71.55 304 *e*P P 15 56 05.5 +0.4
MWC **Mount Wilson** 71.55 60 *e*P P 15 56 04.8 -0.3
comp=Z,14nm,0.8s,mb4.9
MWC **Mount Wilson** 71.55 60 *e*P P 15 56 04.9 -0.2
MWC pmax pmax
comp=Z,13nm,0.8s,mb4.9
I21A **Big Trails, Te** 71.58 47 ⇓P P 15 56 05.6 +0.5
baz=71,SNR=19
L19A **Farson** 71.60 49 ⇑P P 15 56 05.4 +0.1
baz=71,SNR=9.4
P15A **Leamington** 71.61 53 ⇑P P 15 56 05.4 0.0
baz=71,SNR=8.2
ANN **Anapa** 71.63 315 *e*P P 15 56 05.4 0.0
ANN *e**PP pP 15 56 21.2 +1.7
ANN *e*S S 16 05 25.3 +4.3
ANN pmax pmax
comp=Z,273nm,1.0s,mb6.1
O16A **Springville** 71.65 52 ⇑P P 15 56 05.7 +0.1
baz=71,SNR=5.5
GSC **Goldstone** 71.65 59 ⇑P P 15 56 05.7 0.0
baz=72,SNR=12
GSC **Goldstone** 71.65 59 *e*P P 15 56 05.6 -0.1
comp=Z,14nm,0.8s,mb5.0
GSC **Goldstone** 71.65 59 *e*P P 15 56 05.6 -0.1
GSC pmax pmax
comp=Z,14nm,0.8s,mb4.9
DAU **Daniels Canyon** 71.65 52 *e*P P 15 56 06.1 +0.5
comp=Z,14nm,0.9s,mb4.9
DAU **Daniels Canyon** 71.65 52 *e*P P 15 56 06.1 +0.5
DAU pmax pmax
comp=Z,14nm,0.9s,mb4.9
M18A **Lyman** 71.66 50 ⇑P P 15 56 05.6 0.0
baz=71
F24A **Ekalaka** 71.67 44 ⇑P P 15 56 05.8 +0.2
baz=71
MPU **Maple Canyon** 71.70 52 *e*P P 15 56 06.2 +0.3
comp=Z,26nm,1.0s,mb5.1
ASK **Askoy** 71.78 341 *e*P P 15 56 05.8 -0.2
K20A **Yellowstone Ra** 71.79 48 ⇑P P 15 56 06.0 -0.4
baz=72,SNR=13
BFSC **Mount Baldy Ra** 71.80 60 ⇓P P 15 56 06.6 0.0
baz=72,SNR=14
RUND **Rundenannen** 71.80 341 *e*P P 15 56 06.1 0.0
J21A **Lysite** 71.81 47 ⇑P P 15 56 06.1 -0.4
baz=72,SNR=10
BER **Bergen** 71.84 341 *e*P P 15 56 05.2 -1.2
CIS **Catalina Islan** 71.86 61 ⇓P P 15 56 06.6 -0.4
baz=72,SNR=6.8
I22A **9 Mile Ranch,** 71.95 46 ⇓P P 15 56 07.2 -0.2
baz=72,SNR=15
EGD **Espegrend** 71.96 341 *e*P P 15 56 06.7 -0.4
SCI **San Clemente I** 72.04 62 ⇑P P 15 56 08.1 0.0
baz=72
IPAR **Pars** 72.09 294 *e*P P 15 56 08.5 +0.1
O17A **Robinson Place** 72.09 52 ⇓P P 15 56 08.5 +0.2
baz=72,SNR=6.6
ARUT **Antelope Range** 72.10 55 *e*P P 15 56 08.4 0.0
comp=Z,14nm,1.0s,mb4.9
ARUT **Antelope Range** 72.10 55 *e*P P 15 56 08.4 +0.1
ARUT pmax pmax
comp=Z,14nm,1.0s,mb4.8
TUQ **Turquoise Moun** 72.11 58 ⇓P P 15 56 08.8 +0.3
baz=72,SNR=26
N18A **Larsen Ranch,** 72.18 50 ⇑P P 15 56 08.7 0.0
baz=72
L20A **Wamsutter** 72.23 49 ⇓P P 15 56 08.9 -0.2
baz=72
BBRC **Big Bear Solar** 72.25 60 ⇓P P 15 56 09.2 -0.2
baz=72
HEC **Hector,Ludlow** 72.25 59 ⇑P P 15 56 09.5 +0.2
baz=72,SNR=20
J22A **Midwest** 72.28 47 ⇑P P 15 56 09.7 +0.3
baz=72,SNR=19
CCUT **Cedar City** 72.30 55 *e*P P 15 56 09.9 +0.4
comp=Z,9.8nm,0.8s,mb4.8
MSU **Marysvale** 72.37 54 *e*P P 15 56 10.6 +0.7
comp=Z,22nm,1.2s,mb5.0
MSU **Marysvale** 72.37 54 *e*P P 15 56 10.6 +0.6
MSU pmax pmax
comp=Z,22nm,1.2s,mb5.0
H24A **Dirks Ranch, A** 72.38 45 ⇑P P 15 56 09.0 -0.9
baz=72,SNR=8.5
BANOM **Banah** 72.38 289 P P 15 56 10.7 +0.5
SNR=26
BLS5 **Blasjo** 72.39 340 ⇑*i*P P 15 56 09.8 +0.1
BLS5 AMB AMB 15 56 10.6
comp=Z,52nm,0.8s,mb5.5
K21A **Alcova** 72.40 48 ⇑P P 15 56 09.5 -0.5
baz=72,SNR=12
MURC **Murrieta** 72.50 60 ⇑P P 15 56 10.4 -0.4
baz=72,SNR=5.8
R15A **Junction** 72.51 54 ⇓P P 15 56 11.2 +0.4
baz=72,SNR=5.7
N19A **John Jarvie Ra** 72.51 50 ⇑P P 15 56 10.5 -0.3
baz=72
ULM **Lac du Bonnet** 72.56 36 P P 15 56 09.9 -1.0
comp=Z,14nm,0.8s,mb5.0,baz=317,slow=6.3,SNR=15
ULM LR LR 16 30 13.3
comp=Z,156nm,20.6s,MS4.3,baz=288,slow=38
ULM **Lac du Bonnet** 72.56 36 P P 15 56 09.9 -1.0
ULM LR LR 16 30 13.3
ULM **Lac du Bonnet** 72.56 36 P P 15 56 09.9 -1.0
ULM pmax pmax
comp=Z,14nm,0.8s
ULM MLR MLR
comp=Z,156nm,20.6s
P17A **Butcher Ranch,** 72.57 52 ⇑P P 15 56 11.1 0.0
baz=72,SNR=7.7
MDND **Maddock** 72.63 40 ⇑P P 15 56 11.1 -0.2
baz=72
WBK **Wadi Bani Khal** 72.63 285 P P 15 56 13.1 +1.3
SNR=13
M20A **Sweetwater, Wa** 72.66 49 ⇓P P 15 56 11.7 +0.1
baz=72,SNR=9.5
Q16A **Castle Valley** 72.69 53 ⇑P P 15 56 12.1 +0.3
baz=72,SNR=9.3
GMRC **Granite Mounta** 72.70 58 ⇑P P 15 56 12.2 +0.2
baz=72,SNR=16
K22A **Casper** 72.78 47 ⇑P P 15 56 12.0 -0.3
baz=72,SNR=9.5
J23A **Dilts Ranch, B** 72.78 46 ⇑P P 15 56 12.1 -0.2
baz=72
L21A **Rawlins** 72.79 48 ⇑P P 15 56 12.4 0.0
baz=72,SNR=10
LDFC **Landfair** 72.85 58 *e*P P 15 56 12.9 0.0
comp=Z,49nm,0.8s,mb5.5
R16A **Teasdale** 72.93 53 ⇓P P 15 56 14.0 +0.8
baz=73,SNR=20
SRU **San Rafael** 72.94 52 ⇑P P 15 56 13.6 +0.3
baz=73,SNR=25
SRU **San Rafael** 72.94 52 *e*P P 15 56 13.3 -0.1
comp=Z,24nm,0.8s,mb5.2
SRU **San Rafael** 72.94 52 *e*P P 15 56 13.3 0.0
SRU pmax pmax
comp=Z,24nm,0.8s,mb5.2
O19A **Miners Draw (B** 72.94 51 ⇓P P 15 56 13.1 -0.3
baz=73,SNR=5.9
I24A **Kuemmerle Ranc** 72.95 45 ⇓P P 15 56 12.8 -0.6
baz=73,SNR=6.1
PFO **Pinyon Flat Ob** 72.97 60 ⇓P P 15 56 13.4 -0.2
baz=73,SNR=9.9
PFO **Pinyon Flat Ob** 72.97 60 *e*P P 15 56 13.3 -0.2
comp=Z,13nm,0.9s,mb4.8
PFO **Pinyon Flat Ob** 72.97 60 *e*P P 15 56 13.3 -0.3
PFO pmax pmax
comp=Z,13nm,0.9s,mb4.9
SMDO **Samad** 72.99 286 P P 15 56 15.0 +1.1
SNR=10
BELC **Belle Mtn. Jos** 73.00 59 ⇓P P 15 56 13.2 -0.5
baz=73,SNR=15
109C **Camp Elliot, M** 73.02 61 ⇑P P 15 56 13.8 -0.1
baz=73
M21A **Separation Pea** 73.04 49 ⇑P P 15 56 13.7 -0.2
baz=73
N20A **Spence Gulch,** 73.06 50 ⇑P P 15 56 14.1 +0.1
baz=73,SNR=15
RSSD **Black Hills** 73.08 45 *e*P P 15 56 13.3 -0.7
comp=Z,14nm,0.8s,mb5.0
RSSD *e*pP pP 15 56 26.5 -1.7
RSSD **Black Hills** 73.08 45 *e*P P 15 56 13.3 -0.8
RSSD *e**PP pP 15 56 26.5 -1.7
RSSD pmax pmax
comp=Z,14nm,0.8s,mb4.9

SNART **Snartemo** 73.14 339 *e*P P 15 56 14.1 -0.1
Q18A **Rafter H Ranch** 73.17 52 ⇓P P 15 56 14.6 -0.1
baz=73
HOQ **Hoqain** 73.18 287 P P 15 56 15.5 +0.6
SNR=18
K23A **Bowen Ranch, D** 73.19 47 ⇑P P 15 56 14.2 -0.5
baz=73
HATD **Hatta, Dubai** 73.20 288 P P 15 56 15.6 +0.5
SNR=15
SIM **Simferopol'** 73.23 316 *d*/P P 15 56 12.3 -2.6
S16A **Weppner Ranch,** 73.24 54 ⇓P P 15 56 15.6 +0.5
baz=73,SNR=18
IDHR **Dehrash** 73.25 302 *e*P P 15 56 14.6 -0.6
L22A **Ellis Ranch, M** 73.25 48 ⇓P P 15 56 15.2 +0.1
baz=73,SNR=12
R17A **Hanksville Air** 73.29 53 ⇑P P 15 56 15.3 -0.1
baz=73
J24A **Dixon Ranch, L** 73.30 46 ⇑P P 15 56 15.1 -0.3
baz=73
ASHO **Ashiyiah** 73.34 288 P P 15 56 16.3 +0.4
SNR=14
IGHG **Ghaleghazi** 73.38 302 *e*P P 15 56 15.2 -0.8
JMDO **Jabal Madar** 73.40 285 P P 15 56 16.8 +0.5
SNR=15
NAZ **Nazwa, Dubai** 73.42 289 P P 15 56 16.6 +0.2
SNR=9.7
IRM **Iron Mountain** 73.43 59 ⇑P P 15 56 16.3 0.0
baz=73,SNR=20
BAR **Barrett** 73.43 61 *e*P P 15 56 16.0 -0.4
comp=Z,20nm,0.8s,mb5.1
ARMA **Armidale** 73.44 175 *e*P P 15 56 13.1 -3.0
ARMA *e*pP pP 15 56 29.8 -0.4
MONP **Monument Peak** 73.46 60 ⇑P P 15 56 16.2 -0.3
baz=73,SNR=12
P19A **Cripple Cowboy** 73.47 51 ⇓P P 15 56 16.6 +0.1
baz=73,SNR=16
N21A **Black Mountain** 73.53 49 ⇓P P 15 56 16.6 -0.1
baz=73,SNR=14
LRW **Lerwick** 73.53 343 *e*P P 15 56 15.5 -0.9
LRW **Lerwick** 73.53 343 P P 15 56 15.5 -0.9
BSD **Bornholm Skovb** 73.55 333 ⇑*i*P P 15 56 16.1 -0.5
BSD pmax pmax
comp=Z,99nm,0.8s,mb5.8
O20A **White River Ci** 73.55 50 ⇑P P 15 56 16.6 -0.3
baz=73,SNR=6.0
BC3 **Big Chuckawall** 73.57 59 ⇓P P 15 56 16.8 -0.3
baz=73,SNR=15
L23A **Garrett** 73.59 47 ⇓P P 15 56 16.8 -0.3
baz=73
W13A **Hualapai Mount** 73.59 57 ⇓P P 15 56 17.4 +0.2
baz=73,SNR=12
M22A **Cedar Creek Ra** 73.59 48 ⇑P P 15 56 17.0 -0.2
baz=73,SNR=14
U15A **North Rim** 73.68 55 ⇑P P 15 56 18.3 +0.5
baz=74,SNR=41
S17A **Black Ridge (B** 73.76 54 ⇑P P 15 56 17.8 -0.4
baz=74,SNR=27
Q19A **Hogan Spring (** 73.77 52 ⇑P P 15 56 17.7 -0.5
baz=74,SNR=26
R18A **Canyonlands Na** 73.79 52 ⇓P P 15 56 17.7 -0.6
baz=74,SNR=15
BSY **Bisya** 73.79 286 P P 15 56 19.2 +0.6
SNR=25
DVTC **Desert V Tower** 73.81 60 ⇑P P 15 56 18.3 -0.3
baz=74,SNR=8.3
SWSC **Sam W. Stewart** 73.82 60 ⇑P P 15 56 18.2 -0.4
baz=74
COP **Copenhagen** 73.88 335 *i*P P 15 56 18.5 0.0
COP pmax pmax
comp=Z,73nm,0.8s,mb5.7
COP **Copenhagen** 73.88 335 *i*P P 15 56 18.5 0.0
comp=Z,73nm,0.8s,mb5.7
ASUD **Al Ashush, Dub** 73.89 289 P P 15 56 19.8 +0.6
SNR=16
ARQ **Araqi** 73.89 287 P P 15 56 19.8 +0.7
SNR=16
P20A **De Beque** 73.90 51 ⇓P P 15 56 18.6 -0.4
baz=74
O21A **Pagoda** 73.93 50 ⇑P P 15 56 19.0 -0.1
baz=74
PDMCI **Parker Dam,Lak** 73.96 58 ⇓P P 15 56 19.4 -0.1
baz=74,SNR=14
AGMN **Agassiz Nation** 74.02 38 *e*P P 15 56 18.1 -1.3
comp=Z,33nm,1.1s,mb5.2
AGMN *e*pP pP 15 56 30.7 -2.9
M23A **Laramie** 74.03 48 ⇑P P 15 56 19.5 -0.2
baz=74,SNR=7.5
BEL **Belsk** 74.06 328 *e*P P 15 56 20.3 +0.6
BEL **Belsk** 74.06 328 *e*P P 15 56 20.3 +0.6
N22A **Wattenberg Ran** 74.09 49 ⇓P P 15 56 20.1 +0.1
baz=74
Y12C **Blythe** 74.09 59 ⇑P P 15 56 20.1 0.0
baz=74,SNR=9.2
T17A **Navajo Res., N** 74.19 54 ⇓P P 15 56 20.5 -0.2
baz=74,SNR=6.2
S18A **Hurst Farm, Bl** 74.20 53 ⇑P P 15 56 20.8 0.0
baz=74,SNR=24
MUD **Monsted U'grnd** 74.21 337 *i*P P 15 56 20.2 -0.3
MUD pmax pmax
comp=Z,38nm,0.8s,mb5.4
MUD **Monsted U'grnd** 74.21 337 *i*P P 15 56 20.2 -0.3
comp=Z,38nm,0.8s,mb5.4
R19A **Curley Farm, L** 74.22 52 ⇑P P 15 56 20.7 -0.1
baz=74,SNR=5.9
LLD **Lille Linde** 74.24 335 ⇑*i*P P 15 56 16.1 -4.5
comp=Z,99nm,0.8s,mb5.8
GKP **Gorka Klasztor** 74.25 331 *e*P P 15 56 20.8 0.0
GKP **Gorka Klasztor** 74.25 331 *e*P P 15 56 20.8 +0.1
N23A **Red Feather La** 74.30 48 ⇓P P 15 56 21.6 +0.3
baz=74,SNR=8.2
LVV **L'vov** 74.32 325 *e*P P 15 56 21.0 -0.2
KIS **Kishinev** 74.32 321 ⇓*i*P P 15 56 21.0 -0.3
comp=Z,400nm,1.0s,mb6.3
KIS **Kishinev** 74.32 321 ⇑*i*P P 15 56 21.0 -0.3
KIS pmax pmax
comp=Z,400nm,1.0s,mb6.3
Q20A **Ridgley Place,** 74.32 51 ⇓P P 15 56 21.7 +0.2
baz=74
PV04 **Paradox Valley** 74.36 52 *e*P P 15 56 21.7 0.0
GLA **Glamis** 74.36 59 ⇓P P 15 56 22.0 +0.2
baz=74,SNR=9.7
GLA **Glamis** 74.36 59 *e*P P 15 56 21.8 0.0
comp=Z,31nm,0.8s,mb5.3
GLA **Glamis** 74.36 59 *e*P P 15 56 21.8 0.0
GLA pmax pmax
comp=Z,31nm,0.8s,mb5.3
P21A **Newcastle** 74.41 50 ⇑P P 15 56 22.3 +0.4
baz=74,SNR=5.8
O22A **Kremmling** 74.48 49 ⇓P P 15 56 22.5 +0.2
baz=74,SNR=7.1
M24A **Cheyenne** 74.51 47 ⇑P P 15 56 23.1 +0.6
baz=74,SNR=10
K26A **Motz Farm, Whi** 74.52 46 ⇓P P 15 56 22.6 +0.1
baz=74,SNR=7.7
U17A **Shonto** 74.54 54 ⇑P P 15 56 23.2 +0.4
baz=74,SNR=12
U16A **Tuba City** 74.57 55 ⇓P P 15 56 23.6 +0.7
baz=74,SNR=46
T18A **Mexican Hat** 74.64 53 ⇓P P 15 56 23.1 -0.2
baz=74,SNR=19
S19A **Harvey Farm, M** 74.66 53 ⇓P P 15 56 23.4 0.0
baz=74,SNR=16
PV01 **Paradox Valley** 74.72 52 *e*P P 15 56 23.8 0.0
comp=Z,1μm,0.7s,mb6.9
P22A **Eagle** 74.75 50 ⇑P P 15 56 24.3 +0.4
baz=74,SNR=5.5
IAS **Iasi** 74.75 321 P P 15 56 24.0 +0.2
IAS **Iasi** 74.75 321 ⇓*i*P P 15 56 24.2 +0.4
O23A **Lake Granby, G** 74.79 49 ⇑P P 15 56 24.9 +0.7
baz=74,SNR=18
STKA **Stephens Creek** 74.79 184 P P 15 56 23.5 -0.4
comp=Z,14nm,0.9s,mb4.9,baz=351,slow=5.7,SNR=12
STKA LR LR 16 26 41.8
comp=Z,245nm,18.7s,MS4.5,baz=20,slow=34
STKA **Stephens Creek** 74.79 184 *e*P P 15 56 23.2 -0.7
comp=Z,9.7nm,0.9s,mb4.7
STKA **Stephens Creek** 74.79 184 P P 15 56 23.5 -0.4
STKA LR LR 16 26 41.8
STKA **Stephens Creek** 74.79 184 P P 15 56 23.5 -0.4
STKA pmax pmax
comp=Z,14nm,1.0s
STKA MLR MLR
comp=Z,245nm,18.7s
R20A **Redvale** 74.80 52 ⇑P P 15 56 24.5 +0.2
baz=75,SNR=7.7
Q21A **Lamborn Mesa,** 74.81 51 ⇑P P 15 56 24.7 +0.4
baz=75,SNR=7.1

WUAZ **Wupatki** 74.84 55 ⇑P P 15 56 24.9 +0.4
baz=75,SNR=12
WUAZ **Wupatki** 74.84 55 *e*P P 15 56 24.8 +0.2
comp=Z,18nm,0.8s,mb5.0
Y14A **Wickenburg** 74.91 58 ⇑P P 15 56 25.1 +0.2
baz=75,SNR=23
SMCO **Snowmass** 74.92 50 *e*P P 15 56 25.1 +0.2
comp=Z,16nm,0.9s,mb4.9
N24A **Carr** 74.93 48 ⇑P P 15 56 25.4 +0.5
baz=75
M25A **Palm-Egli Farm** 74.95 47 ⇓P P 15 56 25.3 +0.3
baz=75
LEOM **Leova** 74.97 321 P P 15 56 25.1 0.0
LEOM **Leova** 74.97 321 ⇑*i*P P 15 56 25.4 +0.3
Z13A **Yuma Proving G** 74.99 59 ⇑P P 15 56 25.8 +0.3
baz=75,SNR=21
KWP **Kalwaria Pacla** 75.01 326 *e*P P 15 56 26.0 +0.8
KWP LMZ 16 31 17.9
comp=Z,600nm,22.6s
KWP **Kalwaria Pacla** 75.01 326 *e*P P 15 56 25.8 +0.5
comp=Z,204nm,0.8s,mb6.1
KWP **Kalwaria Pacla** 75.01 326 *e*P P 15 56 25.8 +0.6
KWP **Kalwaria Pacla** 75.01 326 ⇑*i*P P 15 56 26.0 +0.8
W16A **Flagstaff** 75.03 56 ⇓P P 15 56 26.0 +0.4
baz=75
S20A **Disappointment** 75.05 52 ⇑P P 15 56 25.8 +0.1
baz=75,SNR=11
V17A **Tonalea, Kykot** 75.12 55 ⇑P P 15 56 26.7 +0.5
baz=75
R21A **Cimarron** 75.15 51 ⇓P P 15 56 26.6 +0.4
baz=75,SNR=15
Q22A **Crested Butte,** 75.17 50 ⇓P P 15 56 26.6 +0.2
baz=75,SNR=12
ISCO **Idaho Springs** 75.24 49 ⇓P P 15 56 27.2 +0.5
baz=75,SNR=9.7
ISCO **Idaho Springs** 75.24 49 *e*P P 15 56 27.2 +0.4
comp=Z,59nm,1.6s,mb5.3
ISCO **Idaho Springs** 75.24 49 *e*P P 15 56 27.2 +0.4
ISCO pmax pmax
comp=Z,59nm,1.6s,mb5.3
Z14A **Wintersburg** 75.33 58 ⇑P P 15 56 27.1 -0.3
baz=75,SNR=5.7
T19A **Beclabito** 75.35 53 ⇑P P 15 56 27.2 -0.2
baz=75,SNR=8.9
FORT **Forrest** 75.37 196 *e*P P 15 56 27.8 +0.5
comp=Z,52nm,0.7s,mb5.6
FORT **Forrest** 75.37 196 *e*P P 15 56 27.4 +0.1
comp=Z,41nm,0.6s,mb5.5
MVCO **Mesa Verde** 75.40 53 ⇑P P 15 56 27.7 0.0
baz=75,SNR=14
MVCO **Mesa Verde** 75.40 53 *e*P P 15 56 28.0 +0.3
comp=Z,9.2nm,0.7s,mb4.8
BRSD **Miller** 75.41 42 ⇑P P 15 56 26.9 -0.7
baz=75
P23A **Jefferson** 75.42 49 ⇓P P 15 56 28.3 +0.6
baz=75
BHD **Baghdad** 75.44 302 *i* x x 15 56 26.0
BHD *i* x x 16 06 15.0
BUR08 **Bucovina Ar. S** 75.47 323 ⇑*i*P P 15 56 28.3 +0.4
BURAR **Bucovina Array** 75.49 323 ⇑P P 15 56 28.3 +0.3
BURAR **Bucovina Array** 75.49 323 ⇑*i*P P 15 56 28.3 +0.3
S21A **Coal Bank Pass** 75.50 52 ⇑P P 15 56 28.7 +0.5
baz=75,SNR=26
W17A **Winslow** 75.54 55 ⇑P P 15 56 29.1 +0.5
baz=75
X16A **Lo Mia Camp, P** 75.54 56 ⇓P P 15 56 29.3 +0.7
baz=75,SNR=32
V18A **Ganado** 75.58 55 ⇑P P 15 56 29.1 +0.4
baz=75,SNR=16
U19A **Dine' College,** 75.61 54 ⇓P P 15 56 29.3 +0.4
baz=75,SNR=9.3
TLCR 75.66 319 ⇓P P 15 56 29.5 +0.5
TLCR 75.66 319 ⇓*i*P P 15 56 29.5 +0.5
TESR 75.68 321 ⇑*i*P P 15 56 29.4 +0.3
OJC **Ojcow** 75.72 328 *e*P P 15 56 29.8 +0.5
OJC **Ojcow** 75.72 328 *e*P P 15 56 29.8 +0.5
Q23A **Hartsel** 75.75 50 ⇓P P 15 56 30.0 +0.4
baz=76,SNR=5.3
114A **Black Gap (USA** 75.78 58 ⇓P P 15 56 30.3 +0.3
baz=76,SNR=23
STHS **Stebnicka Huta** 75.78 326 *e*P P 15 56 30.3 +0.7
STHS pmax pmax
comp=Z,46nm,0.7s,mb5.5
STHS **Stebnicka Huta** 75.78 326 *e*P P 15 56 30.3 +0.7
UMR **Umm Al-Rimmam** 75.79 297 *e*P P 15 56 29.4 -0.7
UMR AMb AMB 15 56 30.4
comp=Z,136nm,0.8s,mb5.9
MIB **Mutribah** 75.87 298 *e*P P 15 56 30.0 -0.5
MIB AMb AMB 15 56 31.3
comp=Z,151nm,0.9s,mb5.9
Y16A **Circle Bar Ran** 75.88 57 ⇓P P 15 56 30.8 +0.3
baz=76,SNR=15
U20A **Newcomb** 75.96 53 ⇓P P 15 56 31.5 +0.6
baz=76
UZH **Uzhgorod** 75.96 325 ⇓*i*P P 15 56 30.5 -0.2
UZH *e* 15 56 38.0
UZH *e* pP 15 56 43.0 -1.9
UZH *e*S S 16 06 02.5 -7.1
X17A **Forest Lakes** 75.98 56 ⇓P P 15 56 32.0 +0.9
baz=76,SNR=7.8
CFR **Carcaliu** 75.99 320 ⇑P P 15 56 30.8 -0.1
CFR **Carcaliu** 75.99 320 ⇑*i*P P 15 56 30.8 -0.1
S22A **4UR Ranch, Cre** 75.99 51 ⇓P P 15 56 31.4 +0.4
baz=76,SNR=12
Q24A **Divide** 76.08 49 ⇑P P 15 56 32.1 +0.5
baz=76
CRVS **Cervenica-Dubn** 76.09 326 *e*P P 15 56 31.5 +0.1
CRVS pmax pmax
comp=Z,28nm,0.8s,mb5.2
CRVS **Cervenica-Dubn** 76.09 326 *e*P P 15 56 31.5 +0.1
CRVS *e* 16 15 06.6
W18A **Petrified Fore** 76.10 55 ⇓P P 15 56 32.1 +0.4
baz=76
T21A **Navajo Lake** 76.11 52 ⇑P P 15 56 32.0 +0.3
baz=76,SNR=6.2
VRI **Vrincioaia** 76.13 321 ⇑P P 15 56 32.5 +0.8
VRI **Vrincioaia** 76.13 321 ⇑*i*P P 15 56 32.5 +0.8
NIE **Niedzica** 76.15 327 *e*P P 15 56 32.7 +0.9
NIE **Niedzica** 76.15 327 *e*P P 15 56 32.7 +0.9
PLOR **Plostina** 76.18 321 ⇓P P 15 56 32.2 +0.2
PLOR **Plostina** 76.18 321 ⇓*i*P P 15 56 32.2 +0.2
MVH1 **Achvaich** 76.18 344 ⇑*e*P P 15 56 31.5 -0.3
MVH1 **Achvaich** 76.18 344 P P 15 56 31.5 -0.3
EYMN **Ely** 76.19 36 *e*P P 15 56 30.8 -1.2
comp=Z,41nm,0.9s,mb5.4
BMR **Baia Mare** 76.19 324 ⇑P P 15 56 33.3 +1.3
BMR **Baia Mare** 76.19 324 ⇑*i*P P 15 56 33.3 +1.3
QRN **Al-Qurain** 76.20 296 *e*P P 15 56 32.1 -0.3
QRN AMb AMB 15 56 32.9
comp=Z,259nm,0.8s,mb6.2
115A **Sonoran Desert** 76.22 58 ⇓P P 15 56 32.7 +0.2
baz=76,SNR=7.7
P25A **Willow Gulch B** 76.24 48 ⇓P P 15 56 32.3 -0.2
baz=76,SNR=6.5
TRPA **Tarpa** 76.25 325 ⇓*i*P P 15 56 33.4 +1.1
NAY **Al-Naaiem** 76.30 297 *e*P P 15 56 32.3 -0.7
NAY AMb AMB 15 56 33.3
comp=Z,64nm,0.8s,mb5.6
RDF **Al-Radifah** 76.32 297 *e*P P 15 56 33.1 +0.1
RDF AMb AMB 15 56 34.0
comp=Z,222nm,0.8s,mb6.1
214A **Organ Pipe Nat** 76.36 59 ⇓P P 15 56 33.2 0.0
baz=76,SNR=7.6
OGNE **Ogallala** 76.37 46 ⇑P P 15 56 33.0 -0.2
baz=76,SNR=7.2
OGNE **Ogallala** 76.37 46 *e*P P 15 56 32.9 -0.3
comp=Z,76nm,0.8s,mb5.7
X18A **Snowflake** 76.37 55 ⇓P P 15 56 33.6 +0.3
baz=76,SNR=5.8
GRER 76.38 321 ⇑*i*P P 15 56 35.5 +2.4
V20A **Brimhall** 76.38 54 ⇓P P 15 56 33.5 +0.1
baz=76
TIRR **Tirgusor** 76.39 319 *e*P P 15 56 33.0 -0.2
comp=Z,25nm,0.9s,mb5.1
TIRR **Tirgusor** 76.39 319 ⇓P P 15 56 33.4 +0.2
TIRR **Tirgusor** 76.39 319 ⇓*i*P P 15 56 33.4 +0.2
Y17A **Roosevelt** 76.40 57 ⇓P P 15 56 33.6 +0.2
baz=76,SNR=14
U21A **Nageezi** 76.42 53 ⇑P P 15 56 33.9 +0.4
baz=76,SNR=7.3
T22A **Edith** 76.45 52 ⇓P P 15 56 34.2 +0.5
baz=76,SNR=12
KSP **Ksiaz** 76.56 330 *e*P P 15 56 34.5 +0.5
KSP LMZ 16 32 53.4
comp=Z,800nm,19.8s
Q25A **Bedland, Calha** 76.62 49 ⇑P P 15 56 34.7 +0.1

baz=76,SNR=7.5
R24A Sanders Place, 76.62 50 ⇑P P 15 56 35.1 +0.5
baz=76,SNR=11
116A Eloy 76.64 58 ⇓P P 15 56 35.2 +0.3
baz=76,SNR=5.2
DOPR Dopca 76.66 322⇑*iP* P 15 56 36.3 +1.6
MDO Dochfour 76.67 344⇑*eP* P 15 56 34.0 -0.5
MDO Dochfour 76.67 344 P P 15 56 34.0 -0.5
OKC Ostrava-Krasne 76.67 328⇑*iP* P 15 56 34.9 +0.2
OKC Ostrava-Krasne 76.67 328⇑*iP* P 15 56 34.9 +0.2
OKC *ex* x 15 56 59.6
SDCO Great Sand Dun 76.74 50 ⇓P P 15 56 35.6 +0.2
baz=76,SNR=8.5
MLR Muntele Rosu 76.77 321 LR LR 16 33 17.3
comp=Z,153nm,19.4s,MS4.3,baz=55,slow=38
MLR Muntele Rosu 76.77 321 P P 15 56 36.0 +0.7
MLR Muntele Rosu 76.77 321⇓*iP* P 15 56 36.1 +0.8
ISR Istrita 76.78 321 ⇑P P 15 56 36.2 +0.8
ISR Istrita 76.78 321⇑*iP* P 15 56 36.2 +0.8
KAC Achnashellach 76.80 344⇑*eP* P 15 56 35.1 -0.1
KAC Achnashellach 76.80 344 P P 15 56 35.1 -0.1
KECS Kecovo 76.82 326 *eP* P 15 56 35.8 +0.2
KECS Kecovo 76.82 326 *eP* P 15 56 35.8 +0.2
KECS *e* 16 15 16.7
W20A Ramah 76.83 54 ⇓P P 15 56 36.1 +0.3
baz=77,SNR=8.0
Y18A Canyon Day Jun 76.83 56 ⇓P P 15 56 36.8 +0.9
baz=77,SNR=21
X19A St. Johns 76.84 55 ⇑P P 15 56 36.5 +0.5
baz=77,SNR=30
V21A Milan 76.87 53 ⇑P P 15 56 36.5 +0.4
baz=77,SNR=5.3
Z17A San Carlos Hig 76.89 57 ⇑P P 15 56 36.8 +0.6
baz=77
MORW Morawa 76.90 206 *eP* P 15 56 35.9 -0.2
comp=Z,39nm,0.6s,mb5.5
U22A Llaves 76.92 52 ⇑P P 15 56 36.9 +0.5
baz=77
LIKS Likavka 76.93 327 *eP* P 15 56 36.9 +0.8
LIKS pmax pmax
comp=Z,73nm,0.9s,mb5.6
LIKS Likavka 76.93 327 *eP* P 15 56 36.9 +0.8
UPC Upice 76.93 330⇑*iP* P 15 56 36.5 +0.3
UPC *e* pP 15 56 52.7 +2.3
UPC Upice 76.93 330⇑*iP* P 15 56 36.5 +0.3
UPC *ex* x 15 56 52.7
T23A Casias Ranch, 76.94 51 ⇓P P 15 56 36.7 +0.2
baz=77
DPC Dobruska-Polom 76.95 329⇑*iP* P 15 56 36.9 +0.7
DPC Dobruska-Polom 76.95 329⇑*iP* P 15 56 36.9 +0.7
DPC *ex* x 15 57 01.0
MORC Moravsky Berou 76.95 328⇑*eP* P 15 56 36.7 +0.5
comp=Z,62nm,0.8s,mb5.6
MORC Moravsky Berou 76.95 328⇑*eP* P 15 56 36.7 +0.4
MORC pmax pmax
comp=Z,62nm,0.8s,mb5.6
MORC Moravsky Berou 76.95 328⇑*iP* P 15 56 36.8 +0.5
S24A Houchin Ranch, 76.98 50 ⇓P P 15 56 36.9 +0.2
baz=77,SNR=5.3
KRLC Kraliky 77.00 329⇑*iP* P 15 56 36.9 +0.4
KRLC *ex* x 15 57 01.3
KPL Plockton 77.02 345⇑*eP* P 15 56 36.5 -0.1
KPL AMB AMB 15 56 36.5
comp=Z,296nm,1.9s,mb5.9
KPL Plockton 77.02 345 P P 15 56 36.5 -0.1
KPL AMB AMB 15 56 36.5
comp=Z,296nm,1.9s,mb5.9
ECSD EROS Data Cent 77.07 41 *eP* P 15 56 36.0 -1.0
comp=Z,41nm,1.1s,mb5.3
ECSD *ep*P pP 15 56 48.7 -2.5
ECSD *es*P sP 15 56 54.4 -2.4
PSN Preselentsi 77.08 319 *eP* P 15 56 34.0 -3.1
PSN Preselentsi 77.08 319 *eP* P 15 56 34.0 -3.1
KSB Sheil Bridge 77.10 344 *eP* P 15 56 36.8 -0.2
KSB Sheil Bridge 77.10 344 P P 15 56 36.8 -0.2
R25A Fountain Ranch 77.14 49 ⇑P P 15 56 37.4 -0.1
baz=77,SNR=7.7
YNG Young 77.14 178 *eP* P 15 56 38.3 +1.0
comp=Z,12nm,0.8s,mb4.9
216A Three Points, 77.17 58 ⇓P P 15 56 38.4 +0.6
baz=77,SNR=14
Y19A Nutrioso 77.18 55 ⇓P P 15 56 38.4 +0.5
baz=77,SNR=6.8
BR131 Keskin Array S 77.20 313 *eP* P 15 56 38.0 +0.2
comp=Z,12nm,0.8s,mb4.9
BRTR Keskin Array B 77.20 313 P P 15 56 38.2 +0.4
comp=Z,14nm,0.8s,mb5.0,baz=78,slow=3.8,SNR=55
BRTR LR LR 16 36 55.3
comp=Z,216nm,18.4s,MS4.5,baz=230,slow=40
BRTR Keskin Array B 77.20 313 P P 15 56 38.2 +0.4
BRTR LR LR 16 36 55.2
BRTR Keskin Array B 77.20 313 P P 15 56 38.3 +0.5
BRTR pmax pmax
comp=Z,14nm,0.8s
BRTR MLR MLR
comp=Z,216nm,18.4s
DRGR 77.21 324 ⇑P P 15 56 38.2 +0.4
DRGR 77.21 324⇑*iP* P 15 56 38.2 +0.4
V22A San Miguel Ran 77.22 53 ⇑P P 15 56 38.8 +0.8
baz=77
VOIR 77.22 322 ⇓P P 15 56 38.9 +1.0
VOIR 77.22 322⇓*iP* P 15 56 38.8 +0.9
117A Oracle 77.23 57 ⇓P P 15 56 38.8 +0.7
baz=77,SNR=6.0
X20A Quemado 77.23 55 ⇑P P 15 56 38.8 +0.7
baz=77,SNR=22
CLL Collm 77.34 332⇑*iP* P 15 56 38.3 -0.2
CLL pmax pmax
comp=Z,134nm,0.9s,mb5.9
CLL MLR MLR
comp=Z,500nm,21.6s,MS4.8
CLL Collm 77.34 332⇑*iP* P 15 56 38.3 -0.2
comp=Z,134nm,0.9s,mb5.9
CLL *es*PcP 15 57 03.0
CLL Lm 16 33 00.0
comp=Z,500nm,21.6s
TUC Tucson 77.38 58⇑*eP* P 15 56 39.0 0.0
comp=Z,12nm,0.9s,mb4.8
TUC Tucson 77.38 58⇑*eP* P 15 56 39.0 0.0
TUC pmax pmax
comp=Z,12nm,0.9s,mb4.8
S25A Robets Cordova 77.40 50 ⇑P P 15 56 38.8 -0.3
baz=77
PVCC Panska Ves 77.44 331⇑*iP* P 15 56 39.3 +0.3
PVCC Panska Ves 77.44 331⇑*iP* P 15 56 39.3 +0.3
PVCC *ex* x 15 57 03.9
PVCC *ex* x 15 57 04.3
T24A Torres, Weston 77.47 51 ⇓P P 15 56 39.8 +0.4
baz=77,SNR=12
PSZ Piszkesteto 77.51 326⇑*eP* P 15 56 40.0 +0.6
comp=Z,70nm,0.9s,mb5.6
PSZ Piszkesteto 77.51 326⇑*eP* P 15 56 40.0 +0.6
PSZ pmax pmax
comp=Z,70nm,0.9s,mb5.6
PSZ Piszkesteto 77.51 326⇑*eP* P 15 56 40.2 +0.8
PSZ Piszkesteto 77.51 326⇓*iP* P 15 56 40.6 +1.2
KOLL Kolacno 77.58 327 *eP* P 15 56 40.5 +0.7
KOLL Kolacno 77.58 327 *eP* P 15 56 40.5 +0.7
EBH Black Hill 77.60 343⇑*eP* P 15 56 39.8 0.0
EBH Black Hill 77.60 343 P P 15 56 39.8 0.0
Z19A T-Link Ranch, 77.63 56 ⇓P P 15 56 40.8 +0.4
baz=77
118A Homack Ranch, 77.65 57 ⇓P P 15 56 41.0 +0.4
baz=77,SNR=43
VRAC Vranov 77.69 329 LR LR 16 32 51.8
comp=Z,814nm,21.8s,MS5.0,baz=39,slow=37
VRAC Vranov 77.69 329 ⇓P P 15 56 41.0 +0.6
VRAC Vranov 77.69 329⇓*iP* P 15 56 41.0 +0.6
ESY Stoneypath 77.71 342⇑*eP* P 15 56 40.2 -0.1
ESY Stoneypath 77.71 342 P P 15 56 40.2 -0.1
SPMN St. Paul 77.72 38 ⇓P P 15 56 39.3 -1.4
baz=77
X21A Alamocita Cree 77.72 54 ⇑P P 15 56 41.5 +0.7
baz=78,SNR=20
Y20A Horse Springs, 77.74 55 ⇓P P 15 56 42.3 +1.3
baz=78,SNR=28
V23A Ortiz Mt. (NFS 77.75 52 ⇓P P 15 56 42.0 +1.0
baz=78
T25A Trinidad 77.78 50 ⇓P P 15 56 41.4 +0.2
baz=78,SNR=8.2
EAB Aberfoyle 77.83 343⇑*eP* P 15 56 40.4 -0.6
EAB Aberfoyle 77.83 343 P P 15 56 40.4 -0.6
PRA Prague 77.87 330 ⇑P P 15 56 42.0 +0.6
EBL Broad Law 77.94 343⇑*eP* P 15 56 41.4 -0.3
EBL Broad Law 77.94 343 P P 15 56 41.4 -0.3
baz=80,SNR=6.4
Z24A Sheeppen Canyo 79.94 54 ⇓P P 15 56 53.3 +0.3
baz=80,SNR=8.2
X26A CR and CF Fran 79.97 52 ⇓P P 15 56 53.3 +0.1
baz=80,SNR=5.6
GMM Mts of Mourne 79.98 344⇑*eP* P 15 56 52.5 -0.4
GMM Mts of Mourne 79.98 344 P P 15 56 52.5 -0.4
W27A Bowe Ranch, En 80.03 51 ⇑P P 15 56 53.6 +0.1
baz=80
SCIA State Center 80.08 40 *eP* P 15 56 53.0 -0.6
comp=Z,48nm,0.7s,mb5.5
BEBN Eben Emael 80.16 336 P P 15 56 53.4 -0.5
comp=Z,28nm,0.9s,mb5.2
KOGS Kog 80.17 327 *eP* P 15 56 53.7 -0.3
TOD Tromm 80.21 333 *eP* P 15 56 53.1 -1.1
TOD Tromm 80.21 333 *eP* P 15 56 53.1 -1.1
MEM Membach 80.22 335 P P 15 56 54.3 0.0
comp=Z,34nm,1.1s,mb5.2
VTS Vitosha 80.26 321 ⇓P P 15 56 55.3 +0.7
VTS Vitosha 80.26 321⇓*iP* P 15 56 55.3 +0.7
VTS Vitosha 80.26 321 *eP* P 15 56 55.0 +0.4
VTS Vitosha 80.26 321 *eP* P 15 56 55.0 +0.4
RDO Rodhopi 80.28 319 *eP* P 15 56 55.3 +0.6
RDO Rodhopi 80.28 319 P P 15 56 55.2 +0.5
124A Stringfield Ra 80.33 54 ⇑P P 15 56 55.1 -0.1
baz=80,SNR=11
Z25A Roswell 80.35 53 ⇑P P 15 56 55.2 -0.1
baz=80,SNR=8.7
ABH Alteburg 80.38 334 *eP* P 15 56 53.9 -1.2
Y26A Elida 80.41 52 ⇑P P 15 56 55.5 -0.1
baz=80
SOKA Soboth 80.45 328⇑*iP* P 15 56 55.8 +0.2
comp=Z,44nm,0.8s,mb5.5
PERS Pernice 80.45 328 *eP* P 15 56 55.6 +0.1
BCLA Clavier 80.61 336 P P 15 56 56.1 -0.2
comp=Z,31nm,1.4s,mb5.0
FOEL Foel Wylfa 80.64 342⇑*eP* P 15 56 55.8 -0.6
FOEL AMB AMB 15 56 56.8
comp=Z,235nm,0.9s,mb6.1
FOEL Foel Wylfa 80.64 342 P P 15 56 55.8 -0.6
FOEL AMB AMB 15 56 56.8
comp=Z,235nm,0.9s,mb6.1
RUP Ruppelstein 80.69 334 *eP* P 15 56 55.5 -1.3
RUP Ruppelstein 80.69 334 *eP* P 15 56 55.5 -1.3
224A Cornudas Mount 80.73 55 ⇓P P 15 56 57.5 +0.2
baz=80,SNR=20
ASF Jabal al Asfar 80.75 306 P P 15 56 58.4 +1.0
comp=Z,16nm,0.8s,mb5.0,baz=274,slow=3.8,SNR=26
ASF Jabal al Asfar 80.75 306 P P 15 56 58.4 +1.0
ASF Jabal al Asfar 80.75 306 P P 15 56 58.4 +1.0
ASF pmax pmax
comp=Z,16nm,0.8s
KBA Koelnbreinsper 80.76 329⇑*iP* P 15 56 58.0 +0.7
comp=Z,53nm,0.9s,mb5.5,SNR=5.6
OBKA Obir 80.78 328⇑*iP* P 15 56 57.3 0.0
comp=Z,25nm,0.8s,mb5.2,SNR=14
Z26A Caprock 80.79 53 ⇓P P 15 56 57.5 -0.1
baz=81,SNR=23
STU Stuttgart 80.80 333 *eP* P 15 56 57.0 -0.4
comp=Z,34nm,0.8s,mb5.3
STU Stuttgart 80.80 333 *eP* P 15 56 57.0 -0.4
STU pmax pmax
comp=Z,34nm,0.8s,mb5.3
MMB Musomiste 80.80 320 *iP* P 15 56 57.4 -0.1
MMB Musomiste 80.80 320 *iP* P 15 56 57.4 -0.1
CSS Prodhromos 80.81 310 *eP* P 15 56 57.8 +0.1
CSS Prodhromos 80.81 310 *eP* P 15 56 57.5 -0.2
comp=Z,32nm,0.8s,mb5.3
Y27A Causey 80.82 52 ⇑P P 15 56 57.5 -0.3
baz=81
125A Gardner Draw, 80.83 54 ⇑P P 15 56 57.9 0.0
baz=81,SNR=16
SNF Seneffe 80.83 336 P P 15 56 57.2 -0.3
KAVA Kavala 80.89 319 P P 15 56 58.4 +0.4
KKB Krupnik 80.89 320 *eP* P 15 56 58.0 0.0
KKB Krupnik 80.89 320 *eP* P 15 56 58.0 0.0
HLM1 Long Mynd 80.91 341 *eP* P 15 56 56.9 -1.0
HLM1 AMB AMB 15 57 07.4
comp=Z,105nm,2.9s,mb5.3
HLM1 Long Mynd 80.91 341 P P 15 56 56.9 -1.0
HLM1 AMB AMB 15 57 07.4
comp=Z,105nm,2.9s,mb5.3
NVR Nevrokopi 80.92 320 *eP* P 15 56 58.4 +0.2
NVR Nevrokopi 80.92 320 P P 15 56 58.5 +0.3
AMTX Amarillo 80.94 50 ⇑P P 15 56 58.4 0.0
baz=81,SNR=5.8
AMTX Amarillo 80.94 50 *eP* P 15 56 58.4 0.0
comp=Z,10nm,0.6s,mb4.9
MSTX Muleshoe 80.98 52 ⇓P P 15 56 58.1 -0.5
baz=81
DLF Lyons Farm 80.99 344⇑*iP* P 15 56 58.5 +0.2
WLF Walferdange 81.01 335 P P 15 56 58.9 +0.4
MYKA Terra Mystica 81.03 329⇑*iP* P 15 56 58.2 -0.4
comp=Z,29nm,1.0s,mb5.1
GIVF Givet 81.03 336⇑*iP* P 15 56 58.1 -0.5
comp=Z,32nm,0.8s,mb5.0
LANF Langenberg 81.08 333 *eP* P 15 56 58.6 -0.3
LANF Langenberg 81.08 333 *eP* P 15 56 58.6 -0.3
LANF Langenberg 81.08 333 *eP* P 15 56 58.6 -0.3
DOU Dourbes 81.10 336 P P 15 56 58.5 -0.5
225A Deer Hill, Car 81.12 54 ⇓P P 15 56 59.5 0.0
baz=81,SNR=14
ELSH Elham, Standar 81.15 338 *eP* P 15 56 58.5 -0.7
ELSH AMB AMB 15 57 09.4
comp=Z,221nm,1.4s,mb5.9
ELSH Elham, Standar 81.15 338 P P 15 56 58.5 -0.7
ELSH AMB AMB 15 57 09.4
comp=Z,221nm,1.4s,mb5.9
LJU Ljubljana 81.17 328 *eP* P 15 56 58.9 -0.6
WATA Walderalm 81.19 330⇑*iP* P 15 56 59.7 +0.2
comp=Z,24nm,0.7s,mb5.3,SNR=14
Z27A Tatum 81.20 52 ⇓P P 15 56 59.6 -0.3
baz=81,SNR=29
324A Moseley Ranch, 81.21 55 ⇓P P 15 56 59.7 -0.2
baz=81,SNR=24
126A Clayton Basin, 81.21 53 ⇓P P 15 56 59.7 -0.2
baz=81
SRS Serrai 81.23 320 P P 15 56 59.9 +0.1
WTTA Wattenberg 81.23 330 *iP* P 15 57 00.2 +0.5
comp=Z,42nm,0.8s,mb5.4,SNR=13
BAIF Baives 81.25 336⇑*iP* P 15 56 59.4 -0.4
comp=Z,38nm,0.9s,mb5.0
RAR Rarotonga 81.29 130 LR LR 16 27 01.1
comp=Z,189nm,19.9s,MS4.5,baz=145,slow=31
CADS Cadrg 81.33 329 *eP* P 15 56 58.9 -1.3
MOTA Moosalm 81.36 331 *iP* P 15 57 00.6 +0.3
comp=Z,45nm,0.8s,mb5.4,SNR=17
RETA Reutte 81.36 331⇑*iP* P 15 57 00.5 +0.1
comp=Z,34nm,1.0s,mb5.2,SNR=12
MCH1 Michaelchurch 81.42 341⇑*eP* P 15 57 00.4 -0.2
MCH1 AMB AMB 15 57 01.7
comp=Z,110nm,0.8s,mb5.8
MCH1 Michaelchurch 81.42 341 P P 15 57 00.4 -0.2
MCH1 AMB AMB 15 57 01.7
comp=Z,110nm,0.8s,mb5.8
BFO Black Forest 81.47 333 *eP* P 15 57 00.5 -0.5
comp=Z,18nm,0.8s,mb5.0
BFO Black Forest 81.47 333 *eP* P 15 57 00.5 -0.5
BFO pmax pmax
comp=Z,18nm,0.8s,mb5.0
SPAK Spaichingen-Ko 81.51 332 *eP* P 15 57 00.3 -0.9
KNT Kendrikon 81.52 320 P P 15 57 01.6 +0.2
SKO Skopje 81.56 321 *eP* P 15 57 02.2 +0.6
325A Bean Ranch, Si 81.56 55 ⇓P P 15 57 01.6 -0.2
baz=81,SNR=19
226A Malaga, Loving 81.58 54 ⇓P P 15 57 01.9 0.0
baz=81,SNR=8.6
WOL Wolverton 81.61 340⇑*eP* P 15 57 01.1 -0.5
WOL AMB AMB 15 57 02.4
comp=Z,174nm,0.9s,mb6.0
WOL Wolverton 81.61 340 P P 15 57 01.1 -0.5
WOL AMB AMB 15 57 02.4
comp=Z,174nm,0.9s,mb6.0
HGH Gray Hill 81.70 341⇑*eP* P 15 57 02.0 -0.1
HGH Gray Hill 81.70 341 P P 15 57 02.0 -0.1
CDF Champ du Feu 81.75 333⇑*iP* P 15 57 02.2 -0.2
comp=Z,90nm,0.9s,mb5.4
TRI Trieste 81.75 328 *eP* P 15 57 01.1 -1.4
comp=Z,32nm,0.8s,mb5.3
TRI Trieste 81.75 328 *eP* P 15 57 01.1 -1.4
TRI pmax pmax
comp=Z,32nm,0.8s,mb5.3
FETA Feichten 81.77 331⇑*iP* P 15 57 02.8 +0.2
comp=Z,34nm,1.1s,mb5.2,SNR=16
DAVA Damuels 81.84 331 *iP* P 15 57 03.1 +0.2

EAU Auchinoon 77.96 343⇑*eP* P 15 56 41.3 -0.5
EAU Auchinoon 77.96 343 P P 15 56 41.3 -0.5
119A Ashpeak Ranch, 77.97 56 ⇓P P 15 56 42.9 +0.6
baz=78,SNR=9.7
BGNE Belgrade 78.04 44 ⇑P P 15 56 41.9 -0.6
baz=78
218A Dragoon 78.06 57 ⇑P P 15 56 43.4 +0.6
baz=78,SNR=6.0
Y21A Point of Rocks 78.09 54 ⇑P P 15 56 43.7 +0.8
baz=78,SNR=16
TREC Trest 78.12 329⇑*iP* P 15 56 43.2 +0.4
TREC Trest 78.12 329⇑*iP* P 15 56 43.2 +0.4
Z20A Nine Sixteen R 78.16 56 ⇑P P 15 56 44.1 +0.8
baz=78,SNR=37
W23A Werner Place, 78.18 53 ⇑P P 15 56 44.1 +0.6
baz=78,SNR=5.7
PGBU Glenifferbraes 78.21 343⇑*eP* P 15 56 43.5 +0.3
PGBU AMB AMB 15 56 44.4
comp=Z,152nm,0.9s,mb5.9
PGBU Glenifferbraes 78.21 343 P P 15 56 43.5 +0.3
PGBU AMB AMB 15 56 44.4
comp=Z,152nm,0.9s,mb5.9
BUD Budapest 78.21 326⇑*eP* P 15 56 44.1 +0.7
GZR Gura Zlata 78.27 323 ⇑P P 15 56 44.2 +0.5
GZR Gura Zlata 78.27 323⇑*iP* P 15 56 44.2 +0.5
V24A Rampart Ranch, 78.29 52 ⇓P P 15 56 44.6 +0.6
baz=78,SNR=6.6
U25A Circle Dot Ran 78.31 51 ⇑P P 15 56 44.3 +0.2
baz=78,SNR=9.1
ESK Eskdalemuir 78.39 342 AMB AMB 15 56 43.0
comp=Z,98nm,1.5s,mb5.5
ESK ⇑*eP* 15 56 43.1
ESK Eskdalemuir 78.39 342 P P 15 56 43.1 -1.1
ESK Eskdalemuir 78.39 342 *eP* P 15 56 44.2 0.0
comp=Z,72nm,0.7s,mb5.7
ESK Eskdalemuir 78.39 342 AMB AMB 15 56 43.0
comp=Z,98nm,1.5s,mb5.5
ESK Eskdalemuir 78.39 342 *iP* P 15 56 44.6 +0.4
ZST Bratislava 78.40 328 *eP* P 15 56 45.4 +1.0
ZST pmax pmax
comp=Z,22nm,0.8s,mb5.1
ZST Bratislava 78.40 328 *eP* P 15 56 45.4 +1.0
NKC Novy Kostel 78.44 332⇑*iP* P 15 56 44.5 0.0
NKC *e* pP 15 57 01.5 +2.7
NKC Novy Kostel 78.44 332⇑*iP* P 15 56 44.5 0.0
NKC *ex* x 15 57 01.5
318A Bisbee 78.46 58 ⇓P P 15 56 45.6 +0.6
baz=78,SNR=25
SCHQ Schefferville 78.49 19 P P 15 56 43.7 -1.0
comp=Z,44nm,0.7s,mb5.5,baz=353,slow=5.5,SNR=37
SCHQ LR LR 16 31 49.9
comp=Z,420nm,18.6s,MS4.8,baz=59,slow=36
SCHQ Schefferville 78.49 19 *eP* P 15 56 43.7 -1.0
comp=Z,48nm,0.7s,mb5.5
SCHQ *ep*P pP 15 56 56.6 -2.4
LPM Los Pinos Moun 78.50 54 *eP* P 15 56 45.4 +0.3
comp=Z,9.1nm,1.0s,mb4.7
ECK Cauldkaine Hil 78.50 342⇑*eP* P 15 56 44.9 +0.1
ECK Cauldkaine Hil 78.50 342 P P 15 56 44.9 +0.1
219A White Tail Can 78.53 57 ⇓P P 15 56 46.2 +0.8
baz=78,SNR=47
120A U Bar Ranch, L 78.53 56 ⇑P P 15 56 45.9 +0.6
baz=78,SNR=16
Y22A Socorro 78.56 54 ⇓P P 15 56 46.1 +0.5
baz=78,SNR=5.9
X23A Hourglass Bar 78.57 53 ⇓P P 15 56 45.8 +0.3
baz=78
W24A Lazy 6 Ranch, 78.58 52 ⇓P P 15 56 46.7 +1.1
baz=78,SNR=12
Z21A St. Cloud Mine 78.58 55 ⇓P P 15 56 46.3 +0.7
baz=78,SNR=34
V25A Rancho No Teng 78.59 51 ⇑P P 15 56 46.0 +0.4
baz=78,SNR=5.4
XAL Allendale 78.59 342⇑*eP* P 15 56 45.1 -0.2
XAL Allendale 78.59 342 P P 15 56 45.1 -0.2
BZS Buzias 78.61 324 ⇑P P 15 56 45.8 +0.2
BZS Buzias 78.61 324⇑*iP* P 15 56 45.8 +0.2
BNM Barren Site 78.61 54 *eP* P 15 56 46.1 +0.3
comp=Z,10nm,0.9s,mb4.8
U26A Atchley Ranch, 78.69 50 ⇑P P 15 56 46.1 -0.1
baz=78,SNR=5.2
PVL Pavlikeni 78.79 320 *eP* P 15 56 47.0 +0.4
PVL Pavlikeni 78.79 320 *eP* P 15 56 47.0 +0.4
319A Douglas 78.95 57 ⇑P P 15 56 48.3 +0.6
baz=79,SNR=13
KHC Kasperske Hory 78.96 330⇑*eP* P 15 56 47.7 +0.3
comp=Z,54nm,0.8s,mb5.5
KHC Kasperske Hory 78.96 330 *iP* P 15 56 47.5 +0.1
KHC *e* pP 15 57 00.0 -1.7
KHC Kasperske Hory 78.96 330⇑*iP* P 15 56 47.5 +0.1
KHC *ep*P pP 15 57 00.0 -1.7
GCD Castle Douglas 78.97 343⇑*eP* P 15 56 47.0 -0.4
GCD Castle Douglas 78.97 343 P P 15 56 47.0 -0.4
X24A Lazy VL Ranch, 79.02 53 ⇓P P 15 56 48.8 +0.8
baz=79,SNR=12
SOP Sopron 79.03 328⇑*eP* P 15 56 48.8 +0.9
Z22A Elephant Butte 79.04 55 ⇑P P 15 56 48.7 +0.5
baz=79,SNR=17
220A Playas Peak, P 79.04 57 ⇑P P 15 56 48.9 +0.7
baz=79,SNR=24
KESW Keswick, Cumbr 79.05 342⇑*eP* P 15 56 48.1 +0.3
KESW AMB AMB 15 56 48.6
comp=Z,205nm,1.2s,mb5.9
KESW Keswick, Cumbr 79.05 342 P P 15 56 48.1 +0.3
KESW AMB AMB 15 56 48.6
comp=Z,205nm,1.2s,mb5.9
121A Cookes Peak, D 79.05 56 ⇓P P 15 56 48.9 +0.7
baz=79,SNR=13
V26A Tequesquite Ra 79.09 51 ⇑P P 15 56 48.5 +0.1
baz=79
CONA Conrad Observa 79.10 328 *iP* P 15 56 49.0 +0.8
comp=Z,41nm,0.8s,mb5.4,SNR=30
Y23A Lovelace Mesa, 79.11 54 ⇑P P 15 56 49.3 +0.8
baz=79,SNR=17
W25A X Bar L Ranch, 79.12 52 ⇓P P 15 56 48.9 +0.4
baz=79,SNR=9.2
GAL1 Galloway 79.14 343⇑*eP* P 15 56 47.7 -0.6
GAL1 AMB AMB 15 56 49.1
comp=Z,108nm,0.8s,mb5.8
GAL1 Galloway 79.14 343 P P 15 56 47.7 -0.6
GAL1 AMB AMB 15 56 49.1
comp=Z,108nm,0.8s,mb5.8
GERES GERESS Array B 79.15 330 P P 15 56 48.5 0.0
comp=Z,11nm,0.7s,mb4.9,baz=35,slow=4.9,SNR=42
GERES LR LR 16 35 32.6
comp=Z,635nm,19.6s,MS5.0,baz=199,slow=38
GERES GERESS Array B 79.15 330 P P 15 56 48.5 0.0
GERES LR LR 16 35 32.6
GERES GERESS Array B 79.15 330 P P 15 56 48.5 0.0
GERES pmax pmax
comp=Z,11nm,0.7s
GERES MLR MLR
comp=Z,635nm,19.6s
XDE Dent Fell 79.21 342⇑*eP* P 15 56 48.4 -0.3
XDE Dent Fell 79.21 342 P P 15 56 48.4 -0.3
GRFO Grafenberg 79.32 332⇑*eP* P 15 56 49.2 -0.2
comp=Z,62nm,0.9s,mb5.5
GRFO Grafenberg 79.32 332⇑*eP* P 15 56 49.2 -0.2
GRFO pmax pmax
comp=Z,62nm,0.9s,mb5.5
PKSM Moragy 79.39 326 P P 15 56 49.8 0.0
PKSM Moragy 79.39 326⇓*iP* P 15 56 49.5 -0.3
122A Conniff Cattle 79.41 55 ⇑P P 15 56 50.7 +0.5
baz=79
MPEP Malo Peshtene 79.42 321 *iP* P 15 56 49.8 -0.3
MPEP Malo Peshtene 79.42 321 *iP* P 15 56 49.8 -0.3
Y24A Capitan 79.47 53 ⇓P P 15 56 50.9 +0.4
baz=79,SNR=16
Z23A Rita Site, Whi 79.47 54 ⇓P P 15 56 50.9 +0.4
baz=79,SNR=9.4
X25A Clemmons Ranch 79.50 52 ⇓P P 15 56 51.1 +0.5
baz=79
W26A Owens Ranch, T 79.61 51 ⇑P P 15 56 51.5 +0.2
baz=79
222A Williams Famil 79.77 55 ⇓P P 15 56 52.4 +0.3
baz=80
MOA Molln 79.77 329 *iP* P 15 56 52.1 +0.2
comp=Z,19nm,0.8s,mb5.1,SNR=16
ARSA Arzberg 79.79 328⇑*iP* P 15 56 52.2 +0.2
comp=Z,17nm,1.0s,mb4.9
PGB Panagyurishte 79.85 320 *eP* P 15 56 53.0 +0.6
PGB Panagyurishte 79.85 320 *eP* P 15 56 53.0 +0.6
KBI1 Birley Grange 79.91 341⇑*eP* P 15 56 52.5 0.0
KBI1 Birley Grange 79.91 341 P P 15 56 52.5 0.0
Y25A Mesa, Roswell 79.91 53 ⇑P P 15 56 52.8 -0.1

comp=Z,32nm,0.7s,mb5.3,SNR=12
LIBD Limburg 81.87 333 *e*P P 15 57 02.9 -0.2
LIBD Limburg 81.87 333 *e*P P 15 57 02.9 -0.2
HORT Hortiatis 81.87 320 P P 15 57 02.9 -0.3
PLG Polygyros 81.88 319 *e*P P 15 57 03.2 -0.1
PLG Polygyros 81.88 319 P P 15 57 03.1 -0.2
GRG Griva 81.92 320 P P 15 57 03.4 -0.1
ECH Echery 81.96 333 *e*P P 15 57 03.1 -0.4
ECH Echery 81.96 333 *e*P P 15 57 03.1 -0.4
ECH Echery 81.96 333 *e*P P 15 57 03.1 -0.4
425A Indio Mountain 81.97 55 ⇑P P 15 57 04.1 +0.2
baz=82,SNR=45
FELD Feldberg im Sc 81.97 333 *e*P P 15 57 03.1 -0.5
227A Bennet, Jal 82.10 53 ⇓P P 15 57 04.6 0.0
baz=82
PAGF Fort de Pagny 82.12 334 ⇑*i*P P 15 57 04.4 0.0
comp=Z,39nm,0.7s,mb5.1
KRUS Krusevo 82.13 321 *i* P P 15 57 04.3 -0.2
326A Caldwell Ranch 82.19 54 ⇓P P 15 57 05.0 -0.1
baz=82,SNR=6.8
DAVOX Davos/Dischmat 82.27 331 LR LR 16 36 29.2
comp=Z,471nm,19.6s,MS4.9,baz=85,slow=38
MOF Molkenrain 82.28 333 *e*P P 15 57 04.4 -0.8
MOF Molkenrain 82.28 333 *e*P P 15 57 04.4 -0.8
MOF Molkenrain 82.28 333 *e*P P 15 57 04.4 -0.8
THEF They Montfort 82.33 334 *e*P P 15 57 05.3 -0.2
THEF They Montfort 82.33 334 *e*P P 15 57 05.3 -0.2
THEF They Montfort 82.33 334 *e*P P 15 57 05.3 -0.2
MEZF Maizieres J'vi 82.38 335 ⇑*i*P P 15 57 05.6 -0.1
comp=Z,76nm,0.9s,mb5.3
HAU Haudompre 82.40 334 ⇑*i*P P 15 57 05.4 -0.5
comp=Z,38nm,0.8s,mb5.0
HAU *e*R
comp=Z,654nm,21.0s
HINF Hinteralfeld 82.41 333 ⇑*i*P P 15 57 05.2 -0.7
comp=Z,21nm,0.7s,mb4.9
BBS Basel-Blauen 82.50 333 *e*P P 15 57 05.1 -1.3
BBS Basel-Blauen 82.50 333 *e*P P 15 57 05.1 -1.3
FNA Florina 82.53 321 P P 15 57 06.2 -0.5
LIT Litokhoron 82.55 320 P P 15 57 05.4 -1.4
426A McDonald Obser 82.63 55 ⇑P P 15 57 07.1 -0.2
baz=82,SNR=16
SFTF Sexfontaines 82.64 335 ⇑*i*P P 15 57 06.8 -0.3
comp=Z,102nm,0.9s,mb5.5
WMOK Wichita Mounta 82.66 49 *e*P P 15 57 06.9 -0.5
comp=Z,12nm,1.0s,mb4.9
WMOK Wichita Mounta 82.66 49 *e*P P 15 57 06.9 -0.5
WMOK pmax pmax
comp=Z,12nm,1.0s,mb4.9
HTL Hartland 82.70 342 *e*P P 15 57 07.6 +0.3
HTL AMB AMB 15 57 15.4
comp=Z,104nm,2.2s,mb5.5
HTL Hartland 82.70 342 P P 15 57 07.6 +0.3
HTL AMB AMB 15 57 15.4
comp=Z,104nm,2.2s,mb5.5
ARG Arkhangelos 82.72 314 *e*P P 15 57 07.9 +0.2
ARG Arkhangelos 82.72 314 P P 15 57 07.1 -0.6
TUE Stuetta 82.73 331 ⇑*e*P P 15 57 07.6 0.0
comp=Z,21nm,0.8s,mb5.2
TIR Tirane 82.77 322 *e*P P 15 57 07.1 -0.8
TIR Tirane 82.77 322 *e*P P 15 57 07.8 -0.1
comp=Z,67nm,0.9s,mb5.7
TIR Tirane 82.77 322 *e*P P 15 57 07.9 0.0
TIR pmax pmax
comp=Z,67nm,0.9s,mb5.7
LOMF Lomont 82.82 333 *e*P P 15 57 07.6 -0.5
LOMF Lomont 82.82 333 *e*P P 15 57 07.6 -0.5
LOMF Lomont 82.82 333 *e*P P 15 57 07.6 -0.5
NEO Neokhori 82.82 319 *e*P P 15 57 07.5 -0.7
328A Wristen Ranch, 82.84 53 ⇓P P 15 57 08.6 +0.1
baz=83,SNR=24
427A Hayter Ranch, 82.87 54 ⇑P P 15 57 08.8 +0.1
baz=83,SNR=20
HDIL Hopedale 82.97 39 *e*P P 15 57 07.9 -1.1
comp=Z,27nm,0.6s,mb5.5
NEST Nestorio 82.97 321 P P 15 57 08.4 -0.6
526A Mary Lane Ranc 83.03 55 ⇓P P 15 57 09.9 +0.4
baz=83,SNR=30
527A Woodward Ranch 83.25 55 ⇑P P 15 57 10.6 0.0
baz=83,SNR=17
626A Big Bend Ranch 83.37 55 ⇓P P 15 57 11.4 +0.2
baz=83,SNR=24
TUL1 Tulsa 83.38 46 ⇑P P 15 57 10.8 -0.3
baz=83,SNR=6.8
428A Kincaid Ranch, 83.39 54 ⇑P P 15 57 11.8 +0.5
baz=83,SNR=14
LKR Lokris 83.44 318 *e*P P 15 57 10.4 -1.0
LKR Lokris 83.44 318 P P 15 57 09.0 -2.4
AGG Agios Georgios 83.47 319 *e*P P 15 57 10.5 -1.1
JAN Janina 83.67 320 *e*P P 15 57 12.9 +0.3
EIL Elat 83.70 305 *e*P P 15 57 13.3 +0.4
CABF La Chapelle 83.71 333 ⇑*i*P P 15 57 12.5 -0.2
comp=Z,19nm,0.7s,mb5.0
528A Cox Ranch, San 83.73 54 ⇑P P 15 57 13.3 +0.3
baz=84,SNR=23
KARP Karpathos 83.74 314 *e*P P 15 57 12.5 -0.5
FLN La Foliniere 83.75 338 ⇑*i*P P 15 57 12.4 -0.4
comp=Z,75nm,1.0s,mb5.5
FLN *e*R
comp=Z,464nm,20.5s
JSA Saint Aubin 83.81 339 *e*P P 15 57 12.2 -0.9
JSA AMB AMB 15 57 12.6
comp=Z,80nm,1.0s,mb5.8
JSA Saint Aubin 83.81 339 P P 15 57 12.2 -0.9
JSA AMB AMB 15 57 12.6
comp=Z,80nm,1.0s,mb5.8
LDF La Druitiere 83.81 338 ⇑*i*P P 15 57 12.6 -0.5
comp=Z,27nm,0.8s,mb5.1
TXAR Lajitas Array 83.81 55 P P 15 57 13.8 +0.3
comp=Z,28nm,0.7s,mb5.5,baz=299,slow=3.7,SNR=209
TXAR PKKPbc PKKPbc 16 15 29.4 +2.1
comp=Z,0.2nm,0.7s,baz=133,slow=5.5,SNR=3.6
TXAR LR LR 16 32 26.7
comp=Z,116nm,18.1s,MS4.3,baz=90,slow=34
TXAR Lajitas Array 83.81 55 P P 15 57 13.8 +0.3
TXAR PKKPbc PKKPbc 16 15 29.4 +2.1
TXAR LR LR 16 32 26.7
TXAR Lajitas Array 83.81 55 P P 15 57 13.8 +0.3
TXAR pmax pmax
comp=Z,28nm,0.7s
TXAR MLR MLR
comp=Z,116nm,18.2s
LOR Lormes 83.84 335 ⇑*i*P P 15 57 12.9 -0.4
comp=Z,98nm,1.0s,mb5.6
LOR *e*R
comp=Z,547nm,20.5s
627A Terlingua Ranc 83.89 55 ⇓P P 15 57 13.8 -0.1
baz=84,SNR=14
CCM Cathedral Cave 84.03 42 *e*P P 15 57 13.6 -0.9
comp=Z,34nm,1.0s,mb5.4
CCM Cathedral Cave 84.03 42 *e*P P 15 57 13.6 -0.8
CCM pmax pmax
comp=Z,34nm,1.0s,mb5.4
KEK Kerkira 84.11 321 *e*P P 15 57 14.9 +0.1
SFIN Scholer Farm 84.11 38 ⇓P P 15 57 13.8 -1.0
baz=84
SSF Saint Saulge 84.14 335 ⇑*i*P P 15 57 14.4 -0.4
comp=Z,46nm,0.9s,mb5.3
EFP Efpalio 84.15 319 *e*P P 15 57 15.1 +0.1
628A Black Gap, Mar 84.16 55 ⇑P P 15 57 15.1 -0.2
baz=84,SNR=9.6
GRR Gorron 84.20 338 ⇑*i*P P 15 57 15.0 -0.1
comp=Z,65nm,0.9s,mb5.5
HYF Humbligny 84.21 336 *e*P P 15 57 15.2 0.0
DID Didima 84.22 318 *e*P P 15 57 12.9 -2.5
GUR Goura 84.32 318 *e*P P 15 57 15.1 -0.8
SMF Signal de Mont 84.40 335 ⇑*i*P P 15 57 16.0 -0.2
comp=Z,124nm,0.9s,mb5.8
AVF Avril sur Loir 84.42 335 ⇑*i*P P 15 57 16.1 -0.2
comp=Z,97nm,0.9s,mb5.7
SCTE Santa Cesarea 84.43 322 *e*P P 15 57 16.0 -0.4
LPL La Plagne 84.46 332 ⇑*i*P P 15 57 16.9 +0.4
comp=Z,46nm,0.8s,mb5.4
NOCI Noci 84.46 323 *e*P P 15 57 16.0 -0.6
LPG La Plagne 84.47 332 ⇑*i*P P 15 57 17.0 +0.5
comp=Z,67nm,0.9s,mb5.5
PPT Papeete 84.60 120 *e*S S 16 07 37.7 -3.2
comp=Z,88nm,25.5s
PPT *e*LR LR 16 23 46.6
comp=Z,835nm,25.5s,baz=319
PPT Papeete 84.60 120 LR LR 16 27 10.9
comp=Z,346nm,20.2s,MS4.7,baz=346,slow=30
TAOE Nuku Hiva Isla 84.61 107 *e*LR LR 16 23 53.5
comp=Z,660nm,25.1s
RLS Riolos of Patr 84.65 319 *e*P P 15 57 17.2 -0.4
AQU L'Aquila 84.70 327 *e*P P 15 57 17.4 -0.4
AQU L'Aquila 84.70 327 *e*P P 15 57 18.2 +0.4
comp=Z,34nm,0.8s,mb5.5
AQU L'Aquila 84.70 327 *e*P P 15 57 18.2 +0.4
AQU pmax pmax
comp=Z,34nm,0.8s,mb5.5
NPS Neapolis 84.76 315 *e*P P 15 57 16.3 -1.9
BGF Bois d'Agland 84.79 335 ⇑*i*P P 15 57 18.0 -0.1
comp=Z,35nm,0.6s,mb5.3
ROSF Rostrenen 84.87 340 ⇑*i*P P 15 57 18.9 +0.4
comp=Z,259nm,0.9s,mb6.1
BNI Bardonecchia 84.89 332 *e*P P 15 57 18.8 +0.2
comp=Z,20nm,0.8s,mb5.3
BNI Bardonecchia 84.89 332 *e*P P 15 57 18.8 +0.2
BNI pmax pmax
comp=Z,20nm,0.8s,mb5.3
VLI Veliai 84.99 317 *e*P P 15 57 18.7 -0.6
PLDF La Plantade 85.08 335 *e*P P 15 57 20.1 +0.5
PLDF La Plantade 85.08 335 *e*P P 15 57 20.1 +0.5
PLDF La Plantade 85.08 335 *e*P P 15 57 20.1 +0.5
BST Brest 85.10 340 *e*P P 15 57 20.0 +0.3
BST Brest 85.10 340 *e*P P 15 57 20.0 +0.3
ITM Ithomi 85.12 318 *e*P P 15 57 19.3 -0.7
MBDF Montbardon 85.14 332 ⇑*i*P P 15 57 19.5 -0.4
comp=Z,26nm,0.6s,mb5.2
AGO Saint Agoulin 85.15 335 *e*P P 15 57 20.5 +0.5
AGO Saint Agoulin 85.15 335 *e*P P 15 57 20.5 +0.5
TCF Toulx Ste Croi 85.22 336 ⇑*i*P P 15 57 20.3 0.0
comp=Z,29nm,0.9s,mb5.1
QUIF Quistinic 85.24 340 ⇑*i*P P 15 57 20.4 +0.1
comp=Z,102nm,0.8s,mb5.7
JCT Junction City 85.25 52 ⇓P P 15 57 20.3 -0.4
baz=85,SNR=8.1
JCT Junction City 85.25 52 *e*P P 15 57 19.9 -0.9
comp=Z,25nm,0.8s,mb5.4
JCT Junction City 85.25 52 *e*P P 15 57 19.9 -0.8
JCT pmax pmax
comp=Z,25nm,0.8s,mb5.4
ORIF Oris-en-Rattie 85.27 333 ⇑*i*P P 15 57 20.8 +0.2
comp=Z,45nm,0.9s,mb5.3
ORIF *e*R
comp=Z,632nm,22.0s
SIUC Southern Illin 85.27 41 *e*P P 15 57 20.1 -0.6
comp=Z,66nm,0.8s,mb5.8
KYTH Kithira 85.28 317 *e*P P 15 57 19.5 -1.3
SIVA Sivas 85.37 315 *e*P P 15 57 21.1 -0.1
SSB Saint Sauveur 85.40 334 *e*P P 15 57 20.9 -0.2
comp=Z,11nm,0.9s,mb5.0
SSB Saint Sauveur 85.40 334 *e*P P 15 57 21.0 -0.2
SSB pmax pmax
comp=Z,11nm,0.9s,mb5.0
PYM Petit Puy Mans 85.46 335 *e*P P 15 57 22.0 +0.5
PYM Petit Puy Mans 85.46 335 *e*P P 15 57 22.0 +0.5
PYM Petit Puy Mans 85.46 335 *e*P P 15 57 22.0 +0.5
AUTN L'Aution 85.55 331 *e*P P 15 57 22.1 +0.1
AUTN L'Aution 85.55 331 *e*P P 15 57 22.1 +0.1
AUTN L'Aution 85.55 331 *e*P P 15 57 22.1 +0.1
MIAR Mount Ida 85.59 45 *e*P P 15 57 21.9 -0.5
comp=Z,30nm,0.8s,mb5.6
MIAR Mount Ida 85.59 45 *e*P P 15 57 21.9 -0.5
MIAR pmax pmax
comp=Z,30nm,0.8s,mb5.6
MFF Saint Martin d 85.63 337 ⇑*i*P P 15 57 22.5 +0.2
comp=Z,158nm,1.0s,mb5.9
SBF Sospel 85.66 331 ⇑*i*P P 15 57 21.9 -0.6
comp=Z,124nm,1.0s,mb5.8
LUCF Luceram 85.67 331 *e*P P 15 57 21.7 -0.9
LUCF Luceram 85.67 331 *e*P P 15 57 21.7 -0.9
VIVF Saint-Julien-l 85.73 333 ⇑*i*P P 15 57 23.1 +0.3
comp=Z,47nm,0.9s,mb5.4
MVIF Mont Vial 85.73 331 *e*P P 15 57 21.9 -1.0
MVIF Mont Vial 85.73 331 *e*P P 15 57 21.9 -1.0
MVIF Mont Vial 85.73 331 *e*P P 15 57 21.9 -1.0
REVF Revere 85.79 331 *e*P P 15 57 23.0 -0.2
REVF Revere 85.79 331 *e*P P 15 57 23.0 -0.2
REVF Revere 85.79 331 *e*P P 15 57 23.0 -0.2
LBL Lubilhac 85.85 334 *e*P P 15 57 24.3 +0.9
LBL Lubilhac 85.85 334 *e*P P 15 57 24.3 +0.9
LBL Lubilhac 85.85 334 *e*P P 15 57 24.3 +0.9
URZ Urewera 85.91 156 LR LR 16 28 31.1
comp=Z,200nm,21.1s,MS4.5,baz=180,slow=30
NCB Newcomb 86.16 28 *e*P P 15 57 24.0 -1.0
comp=Z,12nm,0.8s,mb5.2
FRF La Foret Royal 86.20 332 ⇑*i*P P 15 57 24.6 -0.6
comp=Z,147nm,1.5s,mb5.7
SMRF Simiane la Rot 86.21 332 *e*P P 15 57 25.4 +0.2
WCI Wyandotte Cave 86.22 38 *e*P P 15 57 24.8 -0.6
comp=Z,14nm,0.8s,mb5.3
WCI Wyandotte Cave 86.22 38 *e*P P 15 57 24.8 -0.6
WCI pmax pmax
comp=Z,15nm,0.8s,mb5.3
RJF Les Rejaudoux 86.32 336 ⇑*i*P P 15 57 26.0 +0.2
comp=Z,78nm,1.0s,mb5.6
RJF *e*R
comp=Z,475nm,20.5s
LMR La Mourre 86.45 331 ⇑*i*P P 15 57 26.1 -0.3
comp=Z,92nm,0.8s,mb5.8
CAF Calviac 86.50 335 ⇑*i*P P 15 57 27.4 +0.8
comp=Z,163nm,1.0s,mb5.9
LASF Ste Croix 86.69 334 ⇑*i*P P 15 57 28.1 +0.5
comp=Z,56nm,1.0s,mb5.4
LFF La Frestale 86.89 336 ⇑*i*P P 15 57 29.1 +0.6
comp=Z,110nm,0.9s,mb5.8
WVT Waverly 87.21 41 *e*P P 15 57 29.6 -0.7
comp=Z,15nm,0.7s,mb5.3
WVT Waverly 87.21 41 *e*P P 15 57 29.6 -0.7
WVT pmax pmax
comp=Z,15nm,0.7s,mb5.3
OXF Oxford 87.73 43 *e*P P 15 57 32.2 -0.7
comp=Z,80nm,1.1s,mb5.9
OXF *ep*P pP 15 57 44.9 -2.4
OXF Oxford 87.73 43 *e*P P 15 57 32.2 -0.6
OXF *e**PP pP 15 57 44.9 -2.4
OXF pmax pmax
comp=Z,80nm,1.1s,mb5.9
SSPA Standing Stone 87.74 32 *e*P P 15 57 32.0 -0.7
comp=Z,15nm,0.8s,mb5.3
MCWV Mont Chateau 87.80 34 *e*P P 15 57 32.9 -0.2
comp=Z,29nm,0.8s,mb5.6
MTLF Montolieu 87.88 334 ⇑*i*P P 15 57 33.8 +0.5
comp=Z,60nm,1.0s,mb5.5
PLAL Pickwick Lake 88.01 42 *e*P P 15 57 33.0 -1.2
comp=Z,13nm,0.7s,mb5.3
EPF Esparros 88.74 335 ⇑*i*P P 15 57 37.1 -0.3
comp=Z,26nm,1.0s,mb5.2
SWET Sewanee 88.85 40 *e*P P 15 57 37.2 -0.9
comp=Z,37nm,0.7s,mb5.8
TBI Tubuai 88.98 124 *e*S S 16 08 22.1 -0.9
comp=Z,104nm,27.0s
TBI *e*LR LR 16 25 50.9
comp=Z,372nm,23.2s,baz=310
ETSF Etsaut 89.13 336 ⇑*i*P P 15 57 39.8 +0.5
comp=Z,44nm,0.7s,mb5.6
SJPF Ste Jean 89.13 336 *e*P P 15 57 39.6 +0.3
comp=Z,36nm,1.1s,mb5.3
RPZ Rata Peaks 89.43 162 LR LR 16 32 03.1
comp=Z,279nm,20.7s,MS4.7,baz=110,slow=32
TKL Tuckaleechee C 89.48 38 ⇑*e*P P 15 57 40.5 -0.6
TKL Tuckaleechee C 89.48 38 ⇑*e*P P 15 57 40.5 -0.5
ELN Prospectdale 89.49 35 *e*P P 15 57 40.3 -0.8
BLA Blacksburg 89.64 35 *e*P P 15 57 41.2 -0.6
comp=Z,36nm,0.9s,mb5.7
BLA Blacksburg 89.64 35 *e*P P 15 57 41.2 -0.6
BLA pmax pmax
comp=Z,36nm,0.9s,mb5.7
KMSC Kings Mountain 91.00 37 ⇓P P 15 57 47.5 -0.6
baz=91
PBRG Braganca 91.85 340 *e*P P 15 57 51.0 -0.9
comp=Z,30nm,1.7s,mb5.3
KEST Kesra 91.99 326 P P 15 57 52.0 -0.7
comp=Z,5.1nm,0.9s,mb4.8,baz=332,slow=2.4,SNR=9.0
KEST LR LR 16 43 27.3
comp=Z,132nm,18.3s,MS4.4,baz=340,slow=38
KEST Kesra 91.99 326 P P 15 57 52.0 -0.7
KEST LR LR 16 43 27.3
POLO Lamas de Olo 92.52 340 *e*P P 15 57 53.3 -1.7
comp=Z,23nm,1.3s,mb5.5
POLO Lamas de Olo 92.52 340 *e*P P 15 57 54.0 -1.0
comp=Z,23nm,1.3s,mb5.5
POLO A 15 57 55.8
comp=Z,23nm,1.2s
MVO Moncorvo 92.53 340 *e*P P 15 57 53.8 -1.3
comp=Z,28nm,1.3s,mb5.5
MVO Moncorvo 92.53 340 *e*P P 15 57 54.1 -1.0
comp=Z,28nm,1.3s,mb5.5
MVO A 15 57 59.4
comp=Z,28nm,1.8s
PVRL Vila Real 92.59 340 *e*P P 15 57 54.8 -0.6
comp=Z,23nm,1.2s,mb5.5
ESDC Sonseca Array 93.09 337 P P 15 57 57.2 -0.5
comp=Z,7.5nm,0.7s,mb5.2,baz=19,slow=3.9,SNR=27
ESDC Sonseca Array 93.09 337 P P 15 57 57.2 -0.5
ESLA Sonseca Array 93.09 337 *e*P P 15 57 56.9 -0.8
comp=Z,3.7nm,1.3s,mb4.7
PVIS Viseu 93.17 340 *e*P P 15 57 57.3 -0.7
comp=Z,28nm,1.4s,mb5.5
PAB San Pablo 93.32 337 *e*P P 15 57 58.1 -0.7
comp=Z,9.9nm,1.1s,mb5.2
PAB San Pablo 93.32 337 *e*P P 15 57 58.1 -0.7
PAB pmax pmax
comp=Z,10.0nm,1.1s,mb5.2
MTE Manteigas 93.38 340 *e*P P 15 57 57.9 -1.1
comp=Z,27nm,0.8s,mb5.7
MTE Manteigas 93.38 340 *e*P P 15 57 58.2 -0.8
comp=Z,27nm,0.8s,mb5.7
MTE A 15 57 59.3
comp=Z,30nm,1.0s
EVO Evora 95.26 340 ⇑*i*P P 15 58 07.5 -0.2
comp=Z,13nm,1.0s,mb5.0
EVO *e*R
comp=Z,246nm,21.2s
PBAR Barrancos 95.34 339 *e*P P 15 58 07.1 -1.0
comp=Z,28nm,1.7s,mb5.4
PNCL Nicolau / Gran 95.79 340 *e*P P 15 58 09.1 -1.0
PVAQ Vaqueiros 96.25 339 *e*P P 15 58 11.4 -0.8
comp=Z,44nm,2.1s,mb5.5
PTEO Sao Teotonio 96.37 340 *e*P P 15 58 12.0 -0.8
comp=Z,93nm,2.0s,mb5.9
RKT Rikitea 98.09 114 *e*LR LR 16 30 12.7
comp=Z,551nm,28.0s,baz=316
CMIG Matias Romero 98.27 57 LR LR 16 37 09.4
comp=Z,123nm,20.5s,MS4.4,baz=9.6,slow=32
TORD Torodi Ar. Bea 115.01 321 PKP PKiKP 16 03 24.0 -1.1
comp=Z,2.2nm,0.5s,baz=18,slow=2.2,SNR=20
TORD PKKPbc PKKPbc 16 14 01.5 +2.0
comp=Z,0.8nm,0.8s,baz=216,slow=4.0,SNR=4.6
TORD Torodi Ar. Bea 115.01 321 PKP PKiKP 16 03 24.0 -1.1
TORD PKKPbc PKKPbc 16 14 01.5 +2.0
SDV Santo Domingo 118.50 42 *e*PKPdf PKPdf 16 03 31.1 -0.8
SDV *ep*PKPdf pPKPdf 16 03 44.9 -2.0
LSZ Lusaka 120.35 278 *e*PKPdf PKPdf 16 03 35.1 -0.1
LSZ Lusaka 120.35 278 *e*PKIKP PKPdf 16 03 35.2 -0.1
VNDA Vanda 120.84 176 PKP PKPdf 16 03 34.7 +0.3
comp=Z,4.9nm,0.6s,baz=318,slow=4.2,SNR=22
VNDA Vanda 120.84 176 PKP PKPdf 16 03 34.7 +0.3
VNDA Vanda 120.84 176 PKIKP PKPdf 16 03 34.7 +0.3
VNDA pmax pmax
comp=Z,5.0nm,0.6s
SBA Scott Base 121.45 175 *e*PKPdf PKPdf 16 03 36.3 +0.7
SBA *ep*PKPdf pPKPdf 16 03 49.6 -1.0
SBA Scott Base 121.45 175 *e*PKIKP PKPdf 16 03 36.3 +0.7
SBA *e* 16 03 49.6
DBIC Dimbokro 123.67 324 PKP PKPdf 16 03 40.8 -1.0
comp=Z,9.8nm,0.7s,baz=3.1,slow=3.2,SNR=16
DBIC Dimbokro 123.67 324 PKP PKPdf 16 03 40.8 -1.0
DBIC Dimbokro 123.67 324 PKIKP PKPdf 16 03 40.8 -1.0
DBIC pmax pmax
comp=Z,10.0nm,0.7s
MAW Mawson 126.52 208 PKP PKPdf 16 03 45.5 0.0
comp=Z,5.4nm,0.8s,baz=72,slow=1.4,SNR=14
MAW Mawson 126.52 208 *e*PKP PKPdf 16 03 46.1 +0.6
comp=Z,4.9nm,0.8s
MAW Mawson 126.52 208 PKP PKPdf 16 03 45.5 0.0
MAW Mawson 126.52 208 PKIKP PKPdf 16 03 45.5 0.0
MAW pmax pmax
comp=Z,5.0nm,0.8s
ATAH Atahualpa 127.23 60 PKP PKPdf 16 03 49.6 +1.0
comp=Z,10nm,0.7s,baz=299,slow=2.9,SNR=7.1
ATAH Atahualpa 127.23 60 PKP PKPdf 16 03 49.6 +1.0
TSUM Tsumeb 130.56 282 *e*PKPdf PKPdf 16 03 55.4 +0.7
BOSA Boshof 130.64 267 PKP PKPdf 16 03 55.6 +1.0
comp=Z,2.8nm,0.6s,baz=1.6,slow=2.3,SNR=3.5
BOSA PP PP 16 06 09.1 -1.6
comp=Z,9.2nm,0.9s,baz=55,slow=7.8,SNR=8.5
BOSA Boshof 130.64 267 PKP PKPdf 16 03 55.6 +1.0
BOSA PP PP 16 06 09.1 -1.6
BOSA Boshof 130.64 267 PKIKP PKPdf 16 03 55.6 +1.0
BOSA 16 06 09.1
BOSA pmax pmax
comp=Z,3.0nm,0.6s
BOSA pmax pmax
comp=Z,9.0nm,0.9s
QSPA South Pole Qui 132.92 180 *e*PKPdf PKPdf 16 03 57.4 0.0
QSPA *ep*PKPdf pPKPdf 16 04 11.3 -1.1
LPAZ La Paz 140.64 58 PKhKP PKPpre 16 04 07.9
comp=Z,4.3nm,0.8s,baz=68,slow=1.8,SNR=4.7
LPAZ PKP PKPdf 16 04 15.1 +1.6
comp=Z,4.3nm,0.7s,baz=296,slow=3.2,SNR=17
LPAZ La Paz 140.64 58 PKP PKPpre 16 04 07.9
LPAZ PKP PKPdf 16 04 15.1 +1.6
LPAZ La Paz 140.64 58 PKHKP PKPpre 16 04 07.9
LPAZ pmax pmax
comp=Z,4.0nm,0.8s
RCBR Riachuelo 142.77 3 PKP PKPdf 16 04 17.5 -0.1
comp=Z,8.8nm,1.0s,baz=224,slow=1.6,SNR=4.0
RCBR Riachuelo 142.77 3 PKP PKPdf 16 04 17.5 -0.1
NVL N'lazarevskaya 144.24 204 *e*PKIKP PKPdf 16 04 18.7 +0.4
NVL *e*PP 16 04 31.8
NVL pmax pmax
comp=Z,59nm,1.2s
MAIT Maitri 144.27 204 *e*P PKPdf 16 04 17.4 -1.0
MAIT *e* 16 04 31.4
LCO Las Campanas 147.60 76 *e*PKPbc PKPbc 16 04 28.2 +0.1
SNAA Sanae 147.60 198 *e* PKPpre 16 04 19.7
SNAA *e* 16 04 22.8
SNAA Sanae 147.60 198 *e*PKPpre PKPpre 16 04 19.5
SNAA Sanae 147.60 198 *e*PKHKP PKPpre 16 04 19.5
VNA2 Neumayer--Watz 149.15 197 *e* PKPdf 16 04 24.1 -2.4
baz=78,slow=0.8
VNA2 *e* 16 04 28.6
VNA2 *e* 16 04 31.3
VNA2 *e* 16 04 42.3
VNA3 Neumayer Olymp 149.36 195 *e* PKPdf 16 04 24.0 -2.9
VNA3 *e* 16 04 28.9
VNA1 Neumayer--Stat 149.55 197 *e* PKPdf 16 04 26.3 -0.9
VNA1 *e* 16 04 29.7
VNA1 *e* 16 04 43.7
CFAA Coronel Fontan 150.81 78 PKP PKPdf 16 04 30.4 0.0
comp=Z,5.0nm,0.9s,baz=311,slow=2.2,SNR=4.1
CFAA PKPbc PKPbc 16 04 35.5 -0.5
comp=Z,3.9nm,0.8s,baz=274,slow=2.2,SNR=78
CFAA Coronel Fontan 150.81 78 PKP PKPdf 16 04 30.4 0.0
CFAA PKPbc PKPbc 16 04 35.5 -0.5
PLCA Paso Flores 153.02 97 PKPbc PKPbc 16 04 40.7 -0.1
comp=Z,9.4nm,0.7s,baz=277,slow=2.3,SNR=14
PLCA Paso Flores 153.02 97 PKPbc PKPbc 16 04 40.7 -0.1
CPUP Villa Florida 154.78 56 PKPbc PKPbc 16 04 44.6 -0.4
comp=Z,1.1nm,0.5s,baz=303,slow=1.9,SNR=5.8
CPUP Villa Florida 154.78 56 PKPbc PKPbc 16 04 44.6 -0.4

IDC 21 15:58:35.9±5.7, 6°90S×129°27E, h161km±56km, mb2.9/1, mb1 3.2/4, mb1mx2.9/18, mbtmp3.0/4, Error ellipse: s-maj=59.8km s-min=24.6km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.69**	**197**	P		Pn	16 01 19.3	+1.4
	0.2nm,0.3s,baz=159,slow=17,SNR=20							
FITZ				S		Sn	16 03 27.9	+0.6
	0.1nm,0.3s,baz=233,slow=20,SNR=2.6							
WRA	**Warramunga Arr**	**13.87**	**160**	P		Pn	16 01 44.2	-1.6
	0.2nm,0.3s,baz=340,slow=12,SNR=22							
WRA				S		Sn	16 04 14.3	-5.4
	0.3nm,0.3s,baz=334,slow=24,SNR=5.9							
ASAR	**Alice Springs**	**17.25**	**166**	P		Pn	16 02 28.4	+1.0
	0.6nm,0.3s,baz=345,slow=9.9,SNR=75							
ASAR				S		S	16 05 38.8	+1.0
	0.1nm,0.3s,baz=328,slow=15,SNR=4.3							
MKAR	**Makanchi Array**	**67.75**	**327**	P		P	16 09 16.0	-0.1
	0.2nm,0.4s,baz=114,slow=6.8,SNR=3.2							

*MAN **21** 16:09:03, 10.1°11N×126.1°89E, h63km, mb5.1, ML4.0, MS4.2*
*ISCJB **21** 16:09:05.8±0.4, 10.1°23N±0.0°04×126.1°70E±0.0°05, h41km, mb4.2/23, Error ellipse: s-maj=6.5km s-min=5.1km az=16.2*
*IDC **21** 16:09:08.0±0.7, 10.1°23N×126.1°60E, h39km±5km, mb3.9/17, mb1 4.0/18, mb1mx3.9/27, mbtmp4.0/18, ML4.4/1, MS3.2/2, Ms1 3.2/2, ms1mx2.5/41, Error ellipse: s-maj=26.8km*

s-min=10.8km az=75.0
*NEIC **21** 16:09:08.2±0.4, 10°.20N×126°.51E, mb3.9/2, Error ellipse: s-maj=17.0km s-min=7.4km az=80.0*
ISC 21 16:09:07.9±0.4, 10°.21N±0°.04×126°.63E±0°.05, h43km, h43km±.6km: pP-P, n65, σ1s 07/64, mb4.2/23, 2C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.59**	**219**	*eP*	**Pn**	**16 09 32.1**	**-1.4**
BUTP				*eS*	**Sn**	**16 09 51.4**	**-1.5**
MSLP	**Maasin**	**1.75**	**268**	*eP*	**Pn**	**16 09 35.4**	**-0.3**
MSLP				*eS*	**Sn**	**16 09 59.6**	**+2.8**
PLP	**Palo**	**1.88**	**300**	*eP*	**Pn**	**16 09 35.8**	**-1.8**
PLP				*eS*	**Sn**	**16 09 59.1**	**-0.9**
OCLP	**Ormoc**	**2.15**	**293**	*eP*	**Pn**	**16 09 42.6**	**+1.2**
CGP	**Cagayan de Oro**	**2.59**	**228**	*i P*	**Pn**	**16 09 46.4**	**-0.9**
CGP				*i S*	**Sn**	**16 10 18.0**	**+0.5**
LLP	**Lapu-Lapu**	**2.62**	**272**	*eP*	**Pn**	**16 09 47.2**	**-0.6**
LLP				*eS*	**Sn**	**16 10 25.1**	**+6.7**
TBP	**Tagbilaran**	**2.77**	**259**	*eP*	**Pn**	**16 09 49.6**	**-0.3**
BUKP	**Musuan**	**2.79**	**214**	*eP*	**Pn**	**16 09 51.7**	**+1.6**
CNP	**Catarman**	**2.99**	**320**	*eP*	**Pn**	**16 09 53.0**	**+0.2**
DAV	**Davao City (W)**	**3.29**	**198**	Pn	**Pn**	**16 09 57.5**	**+0.5**
	35nm,0.3s,baz=248,slow=19,SNR=2.1						
DAV	**Davao City (W)**	**3.29**	**198**	Pn	**Pn**	**16 09 57.5**	**+0.5**
SNPH	**Sibulan**	**3.46**	**256**	*eP*	**Pn**	**16 10 02.2**	**+3.0**
CTBH	**Cotabato--PC H**	**3.79**	**219**	*i P*	**Pn**	**16 10 01.5**	**-2.4**
GUIM	**Jordan**	**4.00**	**276**	*eP*	**Pn**	**16 10 07.8**	**+1.1**
RCP	**Roxas**	**4.04**	**290**	*eP*	**Pn**	**16 10 07.7**	**+0.3**
PVCP	**Virac**	**4.14**	**324**	*eP*	**Pn**	**16 10 08.5**	**-0.2**
GUMO	**Guam**	**18.16**	**78**	LR	LR	16 18 51.6	
	comp=Z,109nm,18.2s,baz=85,slow=32						
CBIJ	**Chichi jima**	**22.30**	**39**	LR	LR	16 21 55.8	
	comp=Z,33nm,18.2s,baz=326,slow=34						
KSAR	**Wonju Array Be**	**27.13**	**2**	P	**P**	**16 14 45.5**	**-1.5**
KSRS	**Korea Array**	**27.15**	**2**	P	**P**	**16 14 45.5**	**-1.6**
	2.2nm,0.9s,mb3.7,baz=193,slow=11,SNR=3.4						
CM31	**Chiang Mai Arr**	**28.02**	**290**	P	**P**	**16 14 54.6**	**-0.5**
	1.4nm,0.7s,mb3.7						
CMAR	**Chiang Mai Arr**	**28.02**	**290**	P	**P**	**16 14 54.6**	**-0.5**
	1.0nm,0.8s,mb3.5,baz=99,slow=7.0,SNR=10						
CMAR	**Chiang Mai Arr**	**28.02**	**290**	P	**P**	**16 14 54.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**28.15**	**182**	P	**P**	**16 14 56.9**	**+0.6**
	1.4nm,0.5s,mb3.8,baz=24,slow=14,SNR=4.2						
FITZ	**Fitzroy Crossi**	**28.15**	**182**	P	**P**	**16 14 56.9**	**+0.6**
WRA	**Warramunga Arr**	**30.91**	**166**	P	**P**	**16 15 20.1**	**-0.6**
	0.8nm,0.9s,mb3.6,baz=347,slow=9.7,SNR=3.6						
WRA	**Warramunga Arr**	**30.91**	**166**	P	**P**	**16 15 20.1**	**-0.6**
ASAR	**Alice Springs**	**34.41**	**168**	P	**P**	**16 15 51.1**	**-0.2**
	0.6nm,0.6s,mb3.7,baz=353,slow=6.4,SNR=9.8						
ASAR				PcP	PcP	16 18 27.4	+1.1
	0.6nm,0.6s,baz=345,slow=2.7,SNR=7.6						
ASAR	**Alice Springs**	**34.41**	**168**	P	**P**	**16 15 51.1**	**-0.2**
ASAR				PcP	PcP	16 18 27.4	+1.1
ULN	**Ulaanbaatar**	**41.00**	**340**	*eP*	**P**	**16 16 48.3**	**+1.6**
	3.4nm,0.8s,mb4.0						
SONM	**Songino Array**	**41.20**	**339**	P	**P**	**16 16 50.0**	**+1.7**
	1.1nm,0.6s,mb3.7,baz=157,slow=9.5,SNR=11						
SONM	**Songino Array**	**41.20**	**339**	P	**P**	**16 16 50.0**	**+1.7**
NWAO	**Narrogin (SRO)**	**43.82**	**191**	P	**P**	**16 17 10.9**	**+1.1**
	18nm,1.1s,mb4.7,baz=14,slow=8.5,SNR=5.9						
NWAO	**Narrogin (SRO)**	**43.82**	**191**	P	**P**	**16 17 10.9**	**+1.1**
STKA	**Stephens Creek**	**44.23**	**162**	P	**P**	**16 17 13.7**	**+0.6**
	2.0nm,0.5s,mb4.1,baz=316,slow=13,SNR=9.1						
STKA	**Stephens Creek**	**44.23**	**162**	P	**P**	**16 17 13.7**	**+0.6**
PETK	**Petropavlovsk-**	**49.54**	**24**	P	**P**	**16 17 57.8**	**+3.5**
	2.1nm,0.6s,mb4.4,baz=208,slow=2.7,SNR=4.8						
PETK	**Petropavlovsk-**	**49.54**	**24**	P	**P**	**16 17 57.8**	**+3.5**
MK31	**Makanchi Array**	**52.29**	**323**	*eP*	**P**	**16 18 15.0**	**-0.1**
MK31				*ep*	pP	16 18 26.3	-1.0
MKAR	**Makanchi Array**	**52.29**	**323**	P	**P**	**16 18 15.1**	**0.0**
	1.7nm,0.6s,mb4.2,baz=122,slow=7.7,SNR=25						
MKAR				pP	pP	16 18 27.1	-0.1
	1.4nm,0.7s,baz=128,slow=8.3,SNR=5.9						
MKAR				PcP	PcP	16 19 27.0	+1.1
	1.5nm,0.6s,baz=108,slow=5.3,SNR=6.6						
MKAR				pPcP		16 19 38.6	
	2.1nm,0.9s,baz=116,slow=5.5,SNR=4.6						
MKAR	**Makanchi Array**	**52.29**	**323**	P	**P**	**16 18 15.1**	**0.0**
MKAR				pP	pP	16 18 27.1	-0.1
MKAR				PcP	PcP	16 19 27.0	+1.1
MKAR				pPcP		16 19 38.6	
ZAA0	**Zalesovo Array**	**54.85**	**331**	*e*P	**P**	**16 18 33.8**	**+0.1**
ZALV	**Zalesovo Beam**	**54.85**	**331**	P	**P**	**16 18 33.4**	**-0.3**
	3.9nm,0.8s,mb4.5,baz=124,slow=7.4,SNR=11						
ZALV				pP	pP	16 18 45.5	-0.5
	2.1nm,0.7s,baz=107,slow=8.4,SNR=3.5						
ZALV				PcP	PcP	16 19 35.5	0.0
	0.7nm,0.5s,baz=131,slow=5.9,SNR=3.0						
ZALV				pPcP		16 19 47.5	
	1.1nm,0.6s,baz=136,slow=5.1,SNR=2.5						
ZALV	**Zalesovo Beam**	**54.85**	**331**	P	**P**	**16 18 33.4**	**-0.3**
ZALV				pP	pP	16 18 45.5	-0.5
ZALV				PcP	PcP	16 19 35.5	0.0
ZALV				pPcP		16 19 47.5	
KURK	**Kurchatov**	**56.31**	**325**	P	**P**	**16 18 44.2**	**-0.1**
	2.7nm,0.6s,mb4.5,baz=126,slow=7.0,SNR=15						
KURK				pP	pP	16 18 55.9	-0.7
	2.2nm,0.7s,baz=126,slow=6.9,SNR=6.2						
KURK	**Kurchatov**	**56.31**	**325**	P	**P**	**16 18 44.2**	**-0.1**
KURK				pP	pP	16 18 55.9	-0.7
BVAR	**Borovoye Array**	**61.91**	**325**	P	**P**	**16 19 22.5**	**-0.6**
	1.3nm,0.9s,mb4.1,baz=119,slow=8.6,SNR=4.4						
BVAR				pP	pP	16 19 34.4	-1.1
	1.8nm,0.9s,baz=95,slow=7.4,SNR=4.2						
BVAR				PcP	PcP	16 20 04.1	+0.6
	2.5nm,0.8s,baz=94,slow=4.9,SNR=6.8						
BVAR				pPcP		16 20 15.2	
	1.5nm,0.7s,baz=121,slow=4.4,SNR=4.3						
BVAR	**Borovoye Array**	**61.91**	**325**	P	**P**	**16 19 22.5**	**-0.6**
BVAR				pP	pP	16 19 34.4	-1.1
BVAR				PcP	PcP	16 20 04.1	+0.6
BVAR				pPcP		16 20 15.2	
ILAR	**Eielson Array**	**79.34**	**26**	P	**P**	**16 21 09.6**	**+0.7**
	0.4nm,0.7s,mb3.5,baz=242,slow=4.6,SNR=12						
ILAR				pP	pP	16 21 21.9	+0.2
	0.5nm,0.7s,baz=235,slow=5.8,SNR=4.0						
ILAR	**Eielson Array**	**79.34**	**26**	P	**P**	**16 21 09.6**	**+0.7**
ILAR				pP	pP	16 21 21.9	+0.2
JOF	**Joensuu**	**83.40**	**333**	*ep*	**P**	**16 21 30.2**	**-0.3**
	2.7nm,0.5s,mb4.5						
KEV	**Kevo**	**83.81**	**340**	*ep*	**P**	**16 21 30.7**	**-1.7**
	7.0nm,0.8s,mb4.8						
ARCES	**ARCESS Array B**	**84.37**	**340**	P	**P**	**16 21 35.9**	**+0.6**
	8.7nm,1.1s,mb4.8,baz=25,slow=3.2,SNR=8.5						
ARCES	**ARCESS Array B**	**84.37**	**340**	P	**P**	**16 21 35.9**	**+0.6**
BRTR	**Keskin Array B**	**85.84**	**309**	P	**P**	**16 21 44.6**	**+1.4**
	0.6nm,0.8s,mb3.9,baz=86,slow=4.5,SNR=2.5						
BRTR	**Keskin Array B**	**85.84**	**309**	P	**P**	**16 21 44.6**	**+1.4**
KAF	**Kangasniemi**	**85.84**	**332**	*ep*	**P**	**16 21 42.4**	**-0.4**
	2.2nm,0.5s,mb4.6						
FINES	**FINESS Array B**	**86.11**	**332**	P	**P**	**16 21 44.5**	**+0.4**
	2.9nm,0.5s,mb4.8,baz=77,slow=4.6,SNR=26						
FINES	**FINESS Array B**	**86.11**	**332**	P	**P**	**16 21 44.5**	**+0.4**
HFS	**Hagfors**	**92.26**	**333**	P	**P**	**16 22 13.2**	**0.0**
	4.7nm,0.9s,mb4.8,baz=70,slow=4.9,SNR=6.5						
HFS	**Hagfors**	**92.26**	**333**	P	**P**	**16 22 13.2**	**0.0**
TORD	**Torodi Ar. Bea**	**120.62**	**292**	PKP	PKPdf	16 27 56.2	+0.2
	0.5nm,0.8s,baz=48,slow=2.1,SNR=3.0						
TORD				pPKP	pPKPdf	16 28 08.4	-1.1
	0.6nm,0.9s,baz=70,slow=1.7,SNR=2.9						
TORD	**Torodi Ar. Bea**	**120.62**	**292**	PKP	PKPdf	16 27 56.2	+0.2
TORD				pPKP	pPKPdf	16 28 08.4	-1.2
PLCA	**Paso Flores**	**146.01**	**156**	PKPbc	PKPbc	16 28 44.7	+1.3
	5.7nm,1.0s,baz=297,slow=4.2,SNR=3.8						
PLCA	**Paso Flores**	**146.01**	**156**	PKPbc	PKPbc	16 28 44.7	+1.3

IDC 21 16:11:28.4±11.0, 7°.52S×129°.42E, h106km±126km, mb3.0/1, mb1 3.2/4, mb1mx3.0/18, mbtmp3.0/4, ML3.3/3, Error ellipse: s-maj=74.5km s-min=49.2km az=16.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.15**	**199**	P	Pn	16 14 06.2	+1.6
	0.1nm,0.3s,baz=36,slow=13,SNR=5.4						
FITZ				S	Sn	16 16 05.9	-1.3
	0.1nm,0.3s,baz=36,slow=17,SNR=3.8						
WRA	**Warramunga Arr**	**13.24**	**159**	P	Pn	16 14 31.9	-0.4
	0.2nm,0.3s,baz=338,slow=13,SNR=6.3						
WRA				S	Sn	16 16 58.3	+0.2
	0.2nm,0.3s,baz=337,slow=21,SNR=4.8						
ASAR	**Alice Springs**	**16.62**	**165**	P	Pn	16 15 15.5	+0.4
	0.1nm,0.3s,baz=339,slow=9.5,SNR=24						
MKAR	**Makanchi Array**	**68.34**	**327**	P	P	16 22 18.3	0.0
	0.3nm,0.9s,baz=117,slow=8.4,SNR=3.1						

IDC 21 16:15:46.5±1.6, 1°.56N×122°.76E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.3/22, mbtmp3.3/4, Error ellipse: s-maj=152.6km s-min=23.5km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.74**	**172**	P	Pn	16 20 16.5	-2.9
	0.1nm,0.3s,baz=8.5,slow=9.5,SNR=3.6						
WRA	**Warramunga Arr**	**24.20**	**153**	P	P	16 21 05.3	+0.5
	0.3nm,0.4s,baz=337,slow=9.1,SNR=9.2						
ASAR	**Alice Springs**	**27.31**	**157**	P	P	16 21 33.0	-0.1
	0.2nm,0.4s,baz=333,slow=10,SNR=5.3						
MKAR	**Makanchi Array**	**57.17**	**328**	P	P	16 25 35.6	+0.4
	0.3nm,0.5s,baz=120,slow=7.7,SNR=3.7						

*ISCJB **21** 16:25:09.3±0.8, 20°.76S±0°.09×178°.58W±0°.09, h615km±10km, mb4.2/23, Error ellipse: s-maj=15.2km s-min=10.1km az=140.7*
*IDC **21** 16:25:09.7±1.7, 20°.57S×178°.58W, h599km±19km, mb3.6/16, mb1 3.8/18, mb1mx3.7/23, mbtmp3.7/18, Error ellipse: s-maj=16.6km s-min=11.3km az=145.0*
*NEIC **21** 16:25:10.0±0.7, 20°.67S×178°.56W, h609km±7km, mb4.2/8, Error ellipse: s-maj=13.0km s-min=8.1km az=143.0*
ISC 21 16:25:10.1±0.9, 20°.73S±0°.09×178°.54W±0°.09, h609km±10km, n109, σ1s 10/60, mb4.2/23, 11C-5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.39**	**312**	*i* P	**P**	**16 26 40.1**	**+1.0**
AFI	**Afiamalu**	**9.37**	**45**	P	**P**	**16 27 20.7**	**-2.2**
	7.4nm,0.3s,baz=39,slow=1.3,SNR=18						
AFI				S	**S**	**16 29 04.2**	**-7.7**
	5.0nm,0.3s,baz=34,slow=22,SNR=13						
AFI	**Afiamalu**	**9.37**	**45**	P	**P**	**16 27 20.7**	**-2.2**
AFI				S	**S**	**16 29 04.2**	**-7.7**
URZ	**Urewera**	**17.87**	**191**	P	**P**	**16 28 43.3**	**-0.6**
	3.0nm,0.3s,baz=344,slow=3.4,SNR=21						
URZ				S	**S**	**16 31 32.1**	**-5.4**
	0.2nm,0.3s,baz=243,slow=11,SNR=2.9						
URZ	**Urewera**	**17.87**	**191**	*eP*	**P**	**16 28 43.0**	**-0.9**
SNZO	**South Karori**	**21.30**	**194**	*eP*	**P**	**16 29 15.0**	**+0.1**
RMQ	**Roma**	**30.45**	**253**	*eP*	**P**	**16 30 36.5**	**+1.2**
	4.2nm,0.6s,mb4.2						
CTA	**Charters Tower**	**32.96**	**265**	P	**P**	**16 30 57.3**	**+0.7**
	6.4nm,0.5s,mb4.5,baz=90,slow=10,SNR=17						
CTA	**Charters Tower**	**32.96**	**265**	*eP*	**P**	**16 30 57.1**	**+0.4**
	5.1nm,0.4s,mb4.5						
CTA	**Charters Tower**	**32.96**	**265**	P	**P**	**16 30 57.3**	**+0.7**
CTAO	**Charters Tower**	**32.96**	**265**	*eP*	**P**	**16 30 56.8**	**+0.1**
	6.6nm,0.4s,mb4.6						
CMSA	**Cobar Meteorol**	**33.73**	**244**	*eP*	**P**	**16 31 03.5**	**+0.6**
	29nm,0.6s,mb5.1						
QLP	**Quilpie**	**34.50**	**253**	*eP*	**P**	**16 31 09.9**	**+0.4**
PMG	**Port Moresby**	**34.90**	**284**	P	**P**	**16 31 12.8**	**-0.1**
	11nm,0.7s,mb4.6,baz=94,slow=4.5,SNR=8.7						
PMG	**Port Moresby**	**34.90**	**284**	*eP*	**P**	**16 31 12.5**	**-0.4**
	13nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**37.23**	**244**	P	**P**	**16 31 33.0**	**+1.2**
	3.8nm,0.5s,mb4.2,baz=87,slow=9.5,SNR=12						
STKA	**Stephens Creek**	**37.23**	**244**	*eP*	**P**	**16 31 32.5**	**+0.7**
	3.6nm,0.6s,mb4.1						
STKA	**Stephens Creek**	**37.23**	**244**	*eP*	**P**	**16 31 32.4**	**+0.6**
	0.8nm,0.3s,mb3.7						
AS31	**Alice Springs**	**43.97**	**257**	*eP*	**P**	**16 32 25.3**	**+0.1**
AS31				*ePcP*	PcP	16 33 57.3	+0.1
ASAR	**Alice Springs**	**43.97**	**257**	P	**P**	**16 32 25.4**	**+0.2**
	13nm,0.6s,mb4.7,baz=95,slow=7.5,SNR=299						
ASAR				PcP	PcP	16 33 57.4	+0.2
	1.9nm,0.5s,baz=98,slow=3.9,SNR=8.8						
ASAR				S	**S**	**16 38 11.7**	**-2.7**
	2.8nm,1.1s,baz=96,slow=15,SNR=11						
ASAR	**Alice Springs**	**43.97**	**257**	P	**P**	**16 32 25.4**	**+0.2**
ASAR				PcP	PcP	16 33 57.4	+0.2
ASAR				S	**S**	**16 38 11.7**	**-2.7**
WB2	**Warramunga Arr**	**44.05**	**262**	*eP*	**P**	**16 32 25.3**	**-0.6**
WRAB	**Tennant Creek**	**44.06**	**262**	*eP*	**P**	**16 32 25.2**	**-0.7**
	8.4nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**44.06**	**262**	P	**P**	**16 32 25.4**	**-0.6**
	8.1nm,0.6s,mb4.5,baz=98,slow=8.0,SNR=209						
WRA				PcP	PcP	16 33 57.7	+0.1
	1.4nm,0.7s,baz=95,slow=3.7,SNR=4.8						
WRA	**Warramunga Arr**	**44.06**	**262**	P	**P**	**16 32 25.4**	**-0.6**
WRA				PcP	PcP	16 33 57.7	+0.1
FITZ	**Fitzroy Crossi**	**52.49**	**263**	P	**P**	**16 33 28.4**	**+0.1**
	4.0nm,0.5s,mb4.0,baz=129,slow=4.1,SNR=49						
FITZ	**Fitzroy Crossi**	**52.49**	**263**	*eP*	**P**	**16 33 28.3**	**-0.1**
	9.6nm,0.5s,mb4.4						
FITZ	**Fitzroy Crossi**	**52.49**	**263**	P	**P**	**16 33 28.4**	**+0.1**
NWAO	**Narrogin (SRO)**	**57.81**	**243**	P	**P**	**16 34 04.7**	**-0.3**
	7.5nm,0.9s,mb3.8,baz=117,slow=6.8,SNR=3.2						
NWAO	**Narrogin (SRO)**	**57.81**	**243**	P	**P**	**16 34 04.7**	**-0.3**
QSPA	**South Pole Qui**	**69.33**	**180**	P	**P**	**16 35 20.0**	**+2.7**
	baz=54,slow=1.0						
QSPA	**South Pole Qui**	**69.33**	**180**	*eP*	**P**	**16 35 19.7**	**+2.4**
	4.8nm,0.9s,mb3.9						
MJAR	**Matsushiro Arr**	**70.10**	**324**	P	**P**	**16 35 21.2**	**-1.3**
	2.7nm,0.6s,mb3.9,baz=159,slow=6.7,SNR=9.6						
MJAR	**Matsushiro Arr**	**70.10**	**324**	P	**P**	**16 35 21.2**	**-1.3**
PETK	**Petropavlovsk-**	**76.37**	**346**	P	**P**	**16 35 57.0**	**-0.7**
	4.5nm,0.6s,mb4.1,baz=156,slow=7.6,SNR=10						
PETK	**Petropavlovsk-**	**76.37**	**346**	P	**P**	**16 35 57.0**	**-0.7**
KSRS	**Korea Array**	**76.73**	**319**	P	**P**	**16 35 59.9**	**-0.2**
	1.7nm,0.6s,mb3.6,baz=132,slow=6.5,SNR=7.2						
KSAR	**Wonju Array Be**	**76.74**	**319**	P	**P**	**16 35 59.9**	**-0.3**
NVAR	**Mina Array Bea**	**81.54**	**44**	P	**P**	**16 36 26.6**	**+1.2**
	1.8nm,0.5s,mb3.9,baz=223,slow=8.0,SNR=14						
NVAR	**Mina Array Bea**	**81.54**	**44**	P	**P**	**16 36 26.6**	**+1.2**
TUC	**Tucson**	**83.52**	**52**	*eP*	**P**	**16 36 36.9**	**+1.4**
	2.2nm,0.8s,mb3.7						
TRF	**Thorofare Moun**	**86.78**	**12**	*eP*	**P**	**16 36 49.5**	**-0.9**
	6.6nm,0.7s,mb4.5						
TXAR	**Lajitas Array**	**87.61**	**58**	P	**P**	**16 36 57.0**	**+1.8**
	1.9nm,0.8s,mb3.9,baz=219,slow=6.0,SNR=20						
TXAR	**Lajitas Array**	**87.61**	**58**	P	**P**	**16 36 57.0**	**+1.8**
VNA3	**Neumayer Olymp**	**87.34**	**176**	*e*	**P**	**16 36 53.8**	**-2.1**
VNA2	**Neumayer--Watz**	**88.38**	**177**	*e*	**P**	**16 36 55.8**	**-2.1**
MCMT	**McKenzie Canyo**	**88.46**	**40**	*eP*	**P**	**16 37 00.1**	**+1.4**
	2.4nm,1.1s,mb3.8						
ILAR	**Eielson Array**	**88.65**	**13**	P	**P**	**16 36 57.9**	**-1.2**
	2.8nm,0.8s,mb4.2,baz=221,slow=5.6,SNR=43						
ILAR	**Eielson Array**	**88.65**	**13**	P	**P**	**16 36 57.9**	**-1.2**
PDAR	**Pinedale Array**	**89.48**	**43**	P	**P**	**16 37 04.2**	**+0.7**
	2.5nm,0.6s,mb4.2,baz=210,slow=3.7,SNR=18						
PDAR	**Pinedale Array**	**89.48**	**43**	P	**P**	**16 37 04.2**	**+0.7**
CMAR	**Chiang Mai Arr**	**89.71**	**290**	P	**P**	**16 37 06.5**	**+1.4**
	3.8nm,0.8s,mb4.2,baz=128,slow=2.7,SNR=22						
CMAR	**Chiang Mai Arr**	**89.71**	**290**	P	**P**	**16 37 06.5**	**+1.4**
SONM	**Songino Array**	**95.60**	**319**	P	**P**	**16 37 31.3**	**-0.1**
	0.3nm,0.8s,mb3.6,baz=94,slow=3.0,SNR=2.8						
SONM	**Songino Array**	**95.60**	**319**	P	**P**	**16 37 31.3**	**-0.1**
MKAR	**Makanchi Array**	**110.99**	**313**	PKiKP	PKiKP	16 42 34.2	-1.0
	0.5nm,0.4s,baz=98,slow=2.9,SNR=8.0						
MKAR	**Makanchi Array**	**110.99**	**313**	PKPdf	PKiKP	16 42 34.2	-1.0
KURK	**Kurchatov**	**113.82**	**317**	PKiKP	PKiKP	16 42 39.4	-1.2
	1.2nm,0.6s,baz=99,slow=1.7,SNR=13						
KURK	**Kurchatov**	**113.82**	**317**	PKPdf	PKiKP	16 42 39.4	-1.2
BVAR	**Borovoye Array**	**118.93**	**320**	PKP	PKPdf	16 42 49.4	-0.9
	3.0nm,0.4s,baz=145,slow=1.8,SNR=13						
BVAR	**Borovoye Array**	**118.93**	**320**	PKP	PKPdf	16 42 49.4	-0.9
AKTO	**Aktyubinsk**	**126.90**	**318**	PKP	PKPdf	16 43 05.7	0.0
	1.9nm,0.7s,baz=61,slow=2.8,SNR=7.7						
AKTO	**Aktyubinsk**	**126.90**	**318**	PKP	PKPdf	16 43 05.7	0.0
ARCES	**ARCESS Array B**	**129.06**	**349**	PKP	PKPdf	16 43 08.3	-0.9
	2.3nm,0.6s,baz=45,slow=1.9,SNR=14						
ARCES	**ARCESS Array B**	**129.06**	**349**	PKP	PKPdf	16 43 08.3	-0.9
FINES	**FINESS Array B**	**135.85**	**343**	PKP	PKPdf	16 43 20.3	-1.9
	1.8nm,0.6s,baz=48,slow=2.8,SNR=6.6						
HFS	**Hagfors**	**139.69**	**351**	PKhKP	PKPpre	16 43 20.9	
	1.6nm,0.4s,baz=83,slow=4.6,SNR=9.5						
HFS	**Hagfors**	**139.69**	**351**	PKP	PKPpre	16 43 20.9	
AKASG	**Malin Array Be**	**142.97**	**331**	PKhKP	PKPpre	16 43 32.0	
	12nm,0.5s,baz=40,slow=4.2,SNR=54						
AKASG	**Malin Array Be**	**142.97**	**331**	PKP	PKPpre	16 43 32.0	
EKA	**Eskdalemuir Ar**	**145.28**	**5**	PKPbc	PKPbc	16 43 39.7	-0.8
	5.2nm,0.8s,baz=314,slow=2.1,SNR=8.0						
EKA	**Eskdalemuir Ar**	**145.28**	**5**	PKPbc	PKPbc	16 43 39.7	-0.8
ASF	**Jabal al Asfar**	**146.43**	**297**	PKPbc	PKPbc	16 43 44.8	+0.3
	4.0nm,0.7s,baz=286,slow=3.5,SNR=7.5						
ASF	**Jabal al Asfar**	**146.43**	**297**	PKPbc	PKPbc	16 43 44.8	+0.3
KWP	**Kalwaria Pacla**	**146.58**	**335**	*i* P	PKPbc	16 43 44.2	-0.1
BR131	**Keskin Array S**	**146.62**	**312**	*e*PKPdf	PKPdf	16 43 41.3	-0.7
BR131				*e*PKPbc	PKPbc	16 43 44.3	-0.5
BRTR	**Keskin Array B**	**146.62**	**312**	PKPbc	PKPbc	16 43 44.1	-0.6
	3.4nm,0.6s,baz=137,slow=4.7,SNR=16						
BRTR	**Keskin Array B**	**146.62**	**312**	PKPbc	PKPbc	16 43 44.1	-0.6
BUR08	**Bucovina Ar. S**	**147.00**	**330**	*e*PKPbc	PKPbc	16 43 45.9	+0.4
BURAR	**Bucovina Array**	**147.01**	**330**	*i* P	PKPbc	16 43 46.0	+0.5
TIRR	**Tirgusor**	**147.47**	**323**	*i* P	PKPbc	16 43 46.6	-0.2
VRI	**Vrincioaia**	**147.48**	**326**	*i* P	PKPbc	16 43 46.7	-0.1
MMAI	**Mount Meron Ar**	**147.49**	**299**	PKPbc	PKPbc	16 43 47.8	+0.5
	7.8nm,0.6s,baz=72,slow=6.2,SNR=32						
MMAI	**Mount Meron Ar**	**147.49**	**299**	PKPbc	PKPbc	16 43 47.8	+0.5
CRVS	**Cervenica-Dubn**	**147.65**	**335**	*e*PKP	PKPbc	16 43 47.5	+0.4
TRPA	**Tarpa**	**147.82**	**333**	*i* P	PKPbc	16 43 47.4	-0.2
DOPR	**Dopca**	**148.10**	**328**	*i* P	PKPbc	16 43 48.8	+0.5
MLR	**Muntele Rosu**	**148.14**	**326**	PKPbc	PKPbc	16 43 48.2	-0.3
	1.0nm,0.4s,baz=324,slow=3.4,SNR=6.7						
MLR	**Muntele Rosu**	**148.14**	**326**	PKPbc	PKPbc	16 43 48.2	-0.3
MLR	**Muntele Rosu**	**148.14**	**326**	*i* P	PKPbc	16 43 48.0	-0.5
CLL	**Collm**	**148.17**	**346**	*i* PKPbc	PKPbc	16 43 47.9	-0.4
	comp=Z,15nm,0.8s						
CLL					*i*PKPab	PKPab	16 43 52.8	-0.9
	comp=Z,10.0nm,0.9s						
MORC	**Moravsky Berou**	**148.32**	**340**	*i* P	PKPbc	16 43 49.0	+0.2
KECS	**Kecovo**	**148.37**	**336**	*e*PKP	PKPbc	16 43 49.2	+0.3
EIL	**Elat**	**148.51**	**293**	PKPbc	PKPbc	16 43 49.8	-0.1
	comp=Z,5.1nm,0.7s,baz=351,slow=4.7,SNR=5.5						
EIL	**Elat**	**148.51**	**293**	PKPbc	PKPbc	16 43 49.8	-0.1
VOIR		**148.64**	**327**	*i* P	PKPbc	16 43 49.9	+0.2
PSZ	**Piszkesteto**	**149.06**	**336**	*i* P	PKPbc	16 43 55.9	+5.3
KOLL	**Kolacno**	**149.06**	**338**	*e*PKP	PKPbc	16 43 50.8	+0.2
GZR	**Gura Zlata**	**149.79**	**329**	*i* P	PKP

RAC				*e*Sg		**Sg**	**16 38 55.2**	**+0.6**
MORC	**Moravsky Berou**	**1.99**	**152**	*e*Pn		**Pn**	**16 38 25.9**	**-0.1**
MORC				*e*Sn		**Sn**	**16 38 50.0**	**-1.6**
MORC	**Moravsky Berou**	**1.99**	**152**	⇓*i*P		**Pn**	**16 38 26.4**	**+0.4**
MORC	**Moravsky Berou** baz=335	**1.99**	**152**	*e*Pn		**Pn**	**16 38 26.1**	**+0.1**
MORC	**Moravsky Berou**	**1.99**	**152**	⇓*i*P		**Pn**	**16 38 26.4**	**+0.4**
MORC				*e*Sn		**Sn**	**16 38 50.0**	**-1.7**
MORC				*e*Sg		**Sg**	**16 38 53.5**	**-1.6**
	comp=Z,45nm,0.3s,baz=335							
OKC	**Ostrava-Krasne**	**2.15**	**142**	*e*PG		**Pg**	**16 38 31.9**	**-0.4**
OKC				*e*SG		**Sg**	**16 38 58.4**	**-1.7**
	comp=Z,84nm,0.7s							
OKC	**Ostrava-Krasne**	**2.15**	**142**	Pg		**Pg**	**16 38 31.9**	**-0.4**
OKC				Sg		**Sg**	**16 38 58.4**	**-1.7**
	comp=Z,84nm,0.7s							
VRAC	**Vranov**	**2.26**	**172**	Pn		**Pn**	**16 38 30.1**	**+0.5**
	comp=Z,3.1nm,0.3s,baz=332,slow=15,SNR=12							
VRAC				Lg			16 39 02.7	
	comp=Z,4.0nm,0.3s,baz=98,slow=14,SNR=5.0							
VRAC	**Vranov**	**2.26**	**172**	Pn		**Pn**	**16 38 30.1**	**+0.4**
VRAC				Lg			16 39 02.7	
VRAC	**Vranov**	**2.26**	**172**	⇑*i*P		**Pn**	**16 38 31.3**	**+1.6**
VRAC	**Vranov**	**2.26**	**172**	S		**Sn**	**16 39 02.7**	**+4.5**
VRAC	**Vranov**	**2.26**	**172**	Pn		**Pn**	**16 38 30.1**	**+0.4**
VRAC	**Vranov**	**2.26**	**172**	⇑*i*P		**Pn**	**16 38 31.3**	**+1.6**
VRAC				*e*Sg		**Sg**	**16 39 02.6**	**-1.1**
	comp=Z,32nm,0.3s,baz=354							
KRUC	**Moravsky** baz=357	**2.49**	**175**	*e*Pn		**Pn**	**16 38 33.7**	**+0.8**
KRUC				*e*Sg		**Sg**	**16 39 10.1**	**-1.0**
	comp=Z,39nm,0.4s,baz=357							
NKC	**Novy Kostel**	**2.66**	**242**	*e*PN		**Pn**	**16 38 36.6**	**+1.5**
NKC				*e*PG		**Pg**	**16 38 41.8**	**-0.2**
NKC				*e*SG		**Sg**	**16 39 17.6**	**+1.2**
	comp=Z,57nm,0.3s							
NKC	**Novy Kostel**	**2.66**	**242**	Pn		**Pn**	**16 38 36.6**	**+1.5**
NKC	**Novy Kostel**	**2.66**	**242**	Pg		**Pg**	**16 38 41.8**	**-0.2**
NKC				Sg		**Sg**	**16 39 17.6**	**+1.2**
	comp=Z,57nm,0.3s							
OJC	**Ojcow**	**2.69**	**118**	*e*Pn		**Pn**	**16 38 36.4**	**+0.7**
OJC				*e*Pg		**Pg**	**16 38 43.6**	**+0.9**
OJC				*e*Sg		**Sg**	**16 39 19.5**	**+1.9**
OJC	**Ojcow**	**2.69**	**118**	*e*Pn		**Pn**	**16 38 36.4**	**+0.7**
KHC	**Kasperske Hory**	**2.90**	**215**	*e*Pn		**Pn**	**16 38 38.8**	**+0.3**
KHC	**Kasperske Hory**	**2.90**	**215**	*e*PN		**Pn**	**16 38 39.0**	**+0.5**
KHC				*e*PG		**Pg**	**16 38 44.5**	**-2.2**
KHC				*e*SN		**Sn**	**16 39 10.0**	**-4.1**
KHC				*e*SG		**Sg**	**16 39 21.5**	**-2.9**
KHC	**Kasperske Hory**	**2.90**	**215**	Pn		**Pn**	**16 38 39.0**	**+0.5**
GERES	**GERESS Array B**	**3.11**	**211**	Pn		**Pn**	**16 38 42.5**	**+1.1**
	comp=Z,2.8nm,0.3s,baz=30,slow=12,SNR=25							
GERES				Pg		**Pg**	**16 38 48.9**	**-1.8**
	comp=Z,6.2nm,0.3s,baz=27,slow=17,SNR=21							
GERES				Lg			16 39 28.4	
	comp=Z,7.9nm,0.3s,baz=36,slow=26,SNR=11							
GERES	**GERESS Array B**	**3.11**	**211**	Pn		**Pn**	**16 38 42.5**	**+1.1**
GERES				Pg		**Pg**	**16 38 48.9**	**-1.8**
GERES				Lg			16 39 28.4	
GERES	**GERESS Array B**	**3.11**	**211**	Pn		**Pn**	**16 38 42.5**	**+1.2**
KOLL	**Kolacno**	**3.32**	**153**	*e*PG		**Pg**	**16 38 54.5**	**-0.2**
KOLL	**Kolacno**	**3.32**	**153**	*e*Pg		**Pg**	**16 38 54.5**	**-0.2**
ZST	**Bratislava**	**3.41**	**169**	*e*SG		**Sg**	**16 39 37.9**	**-2.8**
ZST	**Bratislava**	**3.41**	**169**	*e*Sg		**Sg**	**16 39 37.9**	**-2.8**
NIE	**Niedzica**	**3.43**	**127**	*e*Pg		**Pg**	**16 38 56.7**	**-0.2**
NIE				*e*Sg		**Sg**	**16 39 41.4**	**+0.1**
GRFO	**Grafenberg**	**3.62**	**241**	*e*Pn		**Pn**	**16 38 49.3**	**+1.0**
GRFO				*e*Pg		**Pg**	**16 39 01.9**	**+1.5**
GRFO				*e*Sg		**Sg**	**16 39 46.2**	**-1.0**
GRFO	**Grafenberg**	**3.62**	**241**	*e*Pn		**Pn**	**16 38 49.3**	**+1.0**
CONA	**Conrad Observa**	**3.62**	**182**	⇑*i*Pn		**Pn**	**16 38 49.5**	**+1.1**
CONA				⇑*i*Sg		**Sg**	**16 39 45.1**	**-2.3**
	comp=Z,35nm,0.4s							
CONA	**Conrad Observa**	**3.62**	**182**	Pn		**Pn**	**16 38 49.5**	**+1.1**
CONA				Sg		**Sg**	**16 39 45.1**	**-2.3**
	comp=Z,35nm,0.4s							
BSD	**Bornholm Skovb**	**3.65**	**349**	*i* Pn		**Pn**	**16 38 49.5**	**+0.8**
BSD				*i* S		**Sn**	**16 39 30.2**	**-2.2**
MOA	**Molln**	**3.88**	**199**	⇑*i*Pn		**Pn**	**16 38 53.1**	**+1.1**
MOA				⇑*i*Sg		**Sg**	**16 39 55.7**	**-0.1**
	comp=Z,33nm,0.5s							
MOA	**Molln**	**3.88**	**199**	Pn		**Pn**	**16 38 53.1**	**+1.1**
MOA				Sg		**Sg**	**16 39 55.7**	**-0.1**
	comp=Z,33nm,0.5s							
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*PN		**Pn**	**16 38 52.9**	**+0.4**
STHS				*e*PG		**Pg**	**16 39 07.6**	**+1.4**
STHS				*e*SG		**Sg**	**16 40 01.8**	**+4.9**
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*Pn		**Pn**	**16 38 52.9**	**+0.4**
KECS	**Kecovo**	**4.17**	**136**	*e*PN		**Pn**	**16 38 56.9**	**+1.0**
KECS				*e*PG		**Pg**	**16 39 12.8**	**+1.8**
KECS	**Kecovo**	**4.17**	**136**	*e*Pn		**Pn**	**16 38 56.9**	**+1.0**
CRVS	**Cervenica-Dubn**	**4.34**	**125**	*e*PN		**Pn**	**16 38 59.7**	**+1.4**
CRVS				*e*PG		**Pg**	**16 39 15.3**	**+1.0**
CRVS	**Cervenica-Dubn**	**4.34**	**125**	*e*Pn		**Pn**	**16 38 59.7**	**+1.4**
PSZ	**Piszkesteto**	**4.39**	**144**	⇑*i*P		**Pn**	**16 38 59.6**	**+0.7**
PSZ	**Piszkesteto**	**4.39**	**144**	⇑*i*P		**Pn**	**16 38 59.6**	**+0.7**
KWP	**Kalwaria Pacla**	**4.63**	**112**	*e*Pg		**Pg**	**16 39 17.4**	**-2.4**
KWP	**Kalwaria Pacla**	**4.63**	**112**	⇓*i*P		**Pn**	**16 39 00.7**	**-1.5**
KWP	**Kalwaria Pacla**	**4.63**	**112**	⇓*i*P		**Pn**	**16 39 00.7**	**-1.5**
PKSM	**Moragy**	**5.59**	**162**	⇑*i*P		**Pn**	**16 39 17.2**	**+1.7**
PKSM	**Moragy**	**5.59**	**162**	⇑*i*P		**Pn**	**16 39 17.2**	**+1.7**
DAVOX	**Davos/Dischmat**	**6.27**	**223**	Pn		**Pn**	**16 39 25.7**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=14,slow=17,SNR=3.3							
DAVOX				Lg			16 41 03.9	
	comp=Z,0.5nm,0.3s,baz=200,slow=4.5,SNR=5.2							
DAVOX	**Davos/Dischmat**	**6.27**	**223**	Pn		**Pn**	**16 39 25.7**	**+0.9**
DAVOX				Lg			16 41 03.9	
DAVOX	**Davos/Dischmat**	**6.27**	**223**	Pn		**Pn**	**16 39 25.7**	**+0.9**
DRGR		**6.43**	**135**	⇓*i*P		**Pn**	**16 39 28.1**	**+1.1**
DRGR		**6.43**	**135**	⇓*i*P		**Pn**	**16 39 28.1**	**+1.1**
BURAR	**Bucovina Array**	**7.11**	**120**	⇓*i*P		**Pn**	**16 39 36.1**	**-0.3**
BURAR	**Bucovina Array**	**7.11**	**120**	⇓*i*P		**Pn**	**16 39 36.1**	**-0.3**
AKASG	**Malin Array Be**	**8.31**	**91**	Pn		**Pn**	**16 39 51.5**	**-1.2**
	comp=Z,1.4nm,0.3s,baz=280,slow=12,SNR=6.1							
AKASG	**Malin Array Be**	**8.31**	**91**	Pn		**Pn**	**16 39 51.5**	**-1.2**
AKASG	**Malin Array Be**	**8.31**	**91**	Pn		**Pn**	**16 39 51.5**	**-1.2**
HFS	**Hagfors**	**8.72**	**352**	Pn		**Pn**	**16 39 57.9**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=156,slow=11,SNR=5.8							
HFS	**Hagfors**	**8.72**	**352**	Pn		**Pn**	**16 39 57.9**	**-0.4**
FINES	**FINESS Array B**	**11.34**	**25**	Pn		**Pn**	**16 40 33.3**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=214,slow=12,SNR=7.5							
FINES				Sn		**Sn**	**16 42 33.5**	**-7.9**
	comp=Z,0.3nm,0.3s,baz=212,slow=20,SNR=5.0							
FINES	**FINESS Array B**	**11.34**	**25**	Pn		**Pn**	**16 40 33.3**	**-0.8**
FINES				Sn		**Sn**	**16 42 33.5**	**-7.9**
KAF	**Kangasniemi** comp=Z,0.4nm,0.4s	**11.96**	**24**	*ep*		**Pn**	**16 40 41.3**	**-1.3**
EKA	**Eskdalemuir Ar**	**12.08**	**296**	Pn		**Pn**	**16 40 41.6**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=102,slow=14,SNR=2.7							
EKA	**Eskdalemuir Ar**	**12.08**	**296**	Pn		**Pn**	**16 40 41.6**	**-2.8**
JOF	**Joensuu** comp=Z,0.4nm,0.3s	**14.02**	**30**	*ep*		**Pn**	**16 41 09.5**	**-1.2**
ARCES	**ARCESS Array B**	**18.59**	**10**	Pn		**Pn**	**16 42 06.5**	**-3.1**
	comp=Z,0.2nm,0.3s,baz=194,slow=12,SNR=7.1							
ARCES	**ARCESS Array B**	**18.59**	**10**	Pn		**Pn**	**16 42 06.5**	**-3.1**

IDC ***21*** *16:45:22.6±2.9, 18°.22S×169°.36E, h0km, mb4.1/6, mb1 4.3/6, mb1mx4.0/18, mbtmp4.1/6, Error ellipse: s-maj=100.2km s-min=28.6km az=139.0*

ISCJB ***21*** *16:45:48.4±2.3, 19°.0S±0°.5×169°.2E±0°.4, h248km±33km, mb3.7/7, Error ellipse: s-maj=98.1km s-min=29.7km az=147.8*

NEIC ***21*** *16:45:48.1±2.2, 18°.84S×169°.23E, h230km±29km, mb3.7/1, Error ellipse: s-maj=70.0km s-min=21.9km az=149.0*

ISC 21 16:45:48.3±2.5, 18°.9S±0°.5×169°.2E±0°.4, h232km±34km, n18, σ0°63/18, mb3.7/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.13**	**219**	*e*P	**Pn**	**16 46 52.5**	**-0.4**
DZM	**Mont Dzumac**	**4.13**	**219**	*e*Pn	**Pn**	**16 46 52.9**	**+0.1**
NOUC	**Port Laguerre**	**4.24**	**220**	*e*P	**Pn**	**16 46 54.4**	**+0.2**
STKA	**Stephens Creek** 2.3nm,0.9s,mb3.8,baz=72,slow=13,SNR=4.4	**28.04**	**237**	P	**P**	**16 51 18.5**	**+0.3**
STKA	**Stephens Creek**	**28.04**	**237**	P	**P**	**16 51 18.5**	**+0.3**
WB2	**Warramunga Arr**	**32.88**	**262**	*e*P	**P**	**16 52 00.2**	**-0.7**
WRAB	**Tennant Creek** 0.7nm,0.4s,mb3.5	**32.89**	**262**	*e*P	**P**	**16 52 00.3**	**-0.6**
WRA	**Warramunga Arr** 0.8nm,0.4s,mb3.6,baz=89,slow=8.4,SNR=39	**32.90**	**262**	P	**P**	**16 52 00.5**	**-0.5**
WRA	**Warramunga Arr**	**32.90**	**262**	P	**P**	**16 52 00.5**	**-0.5**
AS31	**Alice Springs**	**33.21**	**255**	*e*P	**P**	**16 52 03.8**	**+0.1**
ASAR	**Alice Springs** 7.4nm,0.4s,mb4.6,baz=81,slow=8.7,SNR=278	**33.21**	**255**	P	**P**	**16 52 03.9**	**+0.2**
ASAR	**Alice Springs**	**33.21**	**255**	P	**P**	**16 52 03.9**	**+0.2**
FITZ	**Fitzroy Crossi** 2.4nm,0.7s,mb3.7,baz=91,slow=8.7,SNR=9.4	**41.27**	**264**	P	**P**	**16 53 12.2**	**+0.8**
FITZ	**Fitzroy Crossi**	**41.27**	**264**	P	**P**	**16 53 12.2**	**+0.8**
SONM	**Songino Array** 0.3nm,0.7s,mb3.1,baz=134,slow=6.2,SNR=3.3	**86.91**	**323**	P	**P**	**16 58 08.2**	**+1.3**
SONM	**Songino Array**	**86.91**	**323**	P	**P**	**16 58 08.2**	**+1.3**
ILAR	**Eielson Array** 0.3nm,0.6s,mb3.3,baz=238,slow=5.3,SNR=2.5	**89.87**	**17**	P	**P**	**16 58 19.6**	**-0.8**
ILAR	**Eielson Array**	**89.87**	**17**	P	**P**	**16 58 19.6**	**-0.8**

IDC 21 17:13:02.0±1.4, 14°.51N×147°.80E, h0km, mb3.7/3, mb1 4.1/4, mb1mx3.7/23, mbtmp3.8/4, ML4.3/1, Error ellipse: s-maj=44.6km s-min=23.7km az=128.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam** 41nm,0.3s,baz=89,slow=7.7,SNR=41	**2.99**	**253**	Pn	**Pn**	17 13 51.4	**+0.7**
GUMO				Sn	Sn	17 14 27.0	-0.3
	69nm,0.3s,baz=33,slow=23,SNR=11						
WRA	**Warramunga Arr** 2.2nm,0.7s,baz=25,slow=9.6,SNR=18	**36.70**	**201**	P	P	17 20 10.9	-0.1
ASAR	**Alice Springs** 0.5nm,0.4s,baz=22,slow=7.6,SNR=12	**40.30**	**200**	P	P	17 20 41.1	0.0
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=88,slow=9.5,SNR=3.2	**62.83**	**315**	P	P	17 23 34.2	+4.6
ILAR	**Eielson Array** 0.2nm,0.6s,baz=253,slow=5.9,SNR=6.1	**66.53**	**25**	P	P	17 23 53.5	0.0

ISCJB ***21*** *17:21:57.6±0.6, 45°.90N±0°.03×15°.88E±0°.05, h8km±5km, Error ellipse: s-maj=6.1km s-min=4.0km az=162.9*

LJU ***21*** *17:21:57.3, 45°.88N×15°.88E, h16km, ML2.3*

CSEM ***21*** *17:21:58.0±0.2, 45°.89N×15°.87E, h10km, ML2.9/8, Error ellipse: s-maj=3.6km s-min=2.5km az=64.0*

VIE ***21*** *17:21:59.5±0.3, 45°.93N×15°.70E, h14km±1km, mb1.8/3, ML2.3/3, Error ellipse: s-maj=1.7km s-min=0.9km az=119.0 17 km ESE of Krsko*

ISC 21 17:21:58.2±0.6, 45°.89N±0°.03×15°.87E±0°.05, h9km±5km, n26, σ0°56/50, 12C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCIS	**Gornji Cirnik**	**0.17**	**264**	⇑*i*Pg	**Pg**	**17 22 01.8**	**-0.1**
GCIS				*i* Sg	**Sg**	**17 22 04.3**	**0.0**
GCIS							
	comp=Z,374nm,0.1s						
GCIS	**Gornji Cirnik**	**0.17**	**264**	Pg	**Pg**	**17 22 01.8**	**-0.1**
GCIS				*i* Sg	**Sg**	**17 22 04.3**	**-0.1**
	comp=Z,374nm,0.1s						
GOLS	**Golise**	**0.21**	**306**	⇑*i*Pg	**Pg**	**17 22 02.8**	**+0.2**
GOLS				*i* Sg	**Sg**	**17 22 06.0**	**+0.5**
GOLS							
	comp=Z,339nm,0.2s						
GOLS	**Golise**	**0.21**	**306**	⇑*i*Pg	**Pg**	**17 22 02.8**	**+0.2**
GOLS				*i* Sg	**Sg**	**17 22 06.1**	**+0.5**
	comp=Z,339nm,0.2s						
CRES	**Cresnjev**	**0.30**	**258**	⇑*i*Pg	**Pg**	**17 22 03.9**	**-0.2**
CRES				*i* Sg	**Sg**	**17 22 08.8**	**+0.7**
CRES							
	comp=Z,172nm,0.1s						
CRES	**Cresnjev**	**0.30**	**258**	⇑*i*Pg	**Pg**	**17 22 03.9**	**-0.2**
CRES				*i* Sg	**Sg**	**17 22 08.8**	**+0.7**
	comp=Z,172nm,0.1s						
DOBS	**Dobrina**	**0.39**	**313**	⇓*i*Pg	**Pg**	**17 22 06.1**	**+0.3**
DOBS				*i* Sg	**Sg**	**17 22 11.7**	**+0.8**
DOBS							
	comp=Z,123nm,0.1s						
DOBS	**Dobrina**	**0.39**	**313**	⇓*i*Pg	**Pg**	**17 22 06.1**	**+0.3**
DOBS				*i* Sg	**Sg**	**17 22 11.7**	**+0.8**
	comp=Z,123nm,0.1s						
LEGS	**Legarje**	**0.39**	**279**	⇑*i*Pg	**Pg**	**17 22 06.0**	**+0.1**
LEGS				*i* Sg	**Sg**	**17 22 11.4**	**+0.3**
LEGS	**Legarje**	**0.39**	**279**	⇑*i*Pg	**Pg**	**17 22 06.0**	**+0.1**
LEGS				*i* Sg	**Sg**	**17 22 11.4**	**+0.3**
SISC	**Sisak**	**0.54**	**140**	*e*Pg	**Pg**	**17 22 08.0**	**-0.7**
SISC				Sg	**Sg**	**17 22 16.3**	**+0.5**
SISC	**Sisak**	**0.54**	**140**	*e*Pg	**Pg**	**17 22 08.0**	**-0.7**
SISC				Sg	**Sg**	**17 22 16.2**	**+0.4**
BOJS	**Bojanci**	**0.58**	**229**	*i* Pg	**Pg**	**17 22 08.7**	**-0.7**
BOJS				*i* Sg	**Sg**	**17 22 17.4**	**+0.4**
BOJS							
	comp=Z,47nm,0.1s						
BOJS	**Bojanci**	**0.58**	**229**	*i* Pg	**Pg**	**17 22 08.7**	**-0.7**
BOJS				*i* Sg	**Sg**	**17 22 17.4**	**+0.4**
	comp=Z,47nm,0.1s						
PDKS	**Podkum**	**0.64**	**286**	⇑*i*Pg	**Pg**	**17 22 10.5**	**0.0**
PDKS	**Podkum**	**0.64**	**286**	⇑*i*Pg	**Pg**	**17 22 10.5**	**0.0**
VISS	**Visnje**	**0.73**	**264**	*i* Pg	**Pg**	**17 22 11.7**	**-0.5**
VISS	**Visnje**	**0.73**	**264**	*i* Pg	**Pg**	**17 22 11.7**	**-0.5**
SOKA	**Soboth**	**0.98**	**324**	⇓*i*Pg	**Pg**	**17 22 16.7**	**-0.4**
SOKA				⇑⇓*i*Sg	**Sg**	**17 22 29.4**	**-0.5**
	comp=Z,22nm,0.2s						
SOKA	**Soboth**	**0.98**	**324**	Pg	**Pg**	**17 22 16.7**	**-0.4**
SOKA				Sg	**Sg**	**17 22 29.4**	**-0.5**
	comp=Z,22nm,0.2s						
OBKA	**Obir** SNR=15	**1.11**	**305**	⇑*e*Pg	**Pg**	**17 22 18.5**	**-1.0**
OBKA				⇓*i*Sg	**Sg**	**17 22 32.7**	**-1.3**
	comp=Z,80nm,0.3s						
OBKA	**Obir** SNR=15	**1.11**	**305**	Pg	**Pg**	**17 22 18.5**	**-1.1**
OBKA				Sg	**Sg**	**17 22 32.7**	**-1.3**
	comp=Z,80nm,0.3s						
ARSA	**Arzberg** SNR=8.2	**1.39**	**350**	⇓*e*Pn	**Pn**	**17 22 23.8**	**+0.1**
ARSA				⇑*i*Sn	**Sn**	**17 22 42.1**	**0.0**
ARSA				⇓*i*Sg	**Sg**	**17 22 43.8**	**+1.0**
	comp=Z,6.2nm,0.3s						
ARSA	**Arzberg** SNR=8.2	**1.39**	**350**	Pn	**Pn**	**17 22 23.8**	**+0.1**
ARSA				Sn	**Sn**	**17 22 42.1**	**0.0**
ARSA				Sg	**Sg**	**17 22 43.8**	**+1.0**
	comp=Z,6.2nm,0.3s						
NVLJ	**Novalja**	**1.50**	**209**	*e*Pn	**Pn**	**17 22 25.9**	**+0.6**
NVLJ				Sn	**Sn**	**17 22 45.1**	**+0.2**
NVLJ	**Novalja**	**1.50**	**209**	*e*Pn	**Pn**	**17 22 25.8**	**+0.5**
NVLJ				Sn	**Sn**	**17 22 45.0**	**+0.1**

ISCJB ***21*** *17:23:44.2±0.8, 14°.06N±0°.09×91°.68W±0°.06, h74km±6km, mb3.6/3, Error ellipse: s-maj=16.1km s-min=6.1km az=26.6*

CASC ***21*** *17:23:45.5±1.9, 13°.99N×91°.62W, h49km±23km, MD3.6*

IDC ***21*** *17:23:46.9±2.9, 14°.29N×91°.64W, h62km±21km, mb3.4/3, mb1 3.8/7, mb1mx3.5/25, mbtmp3.6/7, Error ellipse: s-maj=40.5km s-min=17.6km az=28.0*

ISC 21 17:23:44.8±0.9, 14°.02N±0°.09×91°.71W±0°.06, h57km±9km, n22, σ0°94/31, mb3.8/3, 1C, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.30**	**13**	*e*P	**Pn**	**17 22 55.5**	**+0.6**
JAT				*e*S	**Sn**	**17 24 06.5**	**+4.8**
PSG	**Pto de San Jos**	**0.89**	**94**	*e*P	**Pn**	**17 24 01.5**	**+0.2**
PSG				*e*S	**Sn**	**17 24 11.3**	**-2.2**
FUG	**Fuego 3**	**0.94**	**63**	*e*P	**Pn**	**17 24 01.9**	**-0.1**
FG6		**0.96**	**56**	*e*P	**Pn**	**17 24 02.5**	**+0.2**
FG6				*e*S	**Sn**	**17 24 15.2**	**+0.1**
PCG	**Pacaya**	**1.13**	**71**	*e*P	**Pn**	**17 24 04.9**	**+0.4**
PCG				*e*S	**Sn**	**17 24 19.4**	**+0.3**
IXG	**Ixpaco**	**1.23**	**83**	*e*P	**Pn**	**17 24 05.5**	**-0.3**
IXG				*e*S	**Sn**	**17 24 20.6**	**-0.8**
NBG	**Las Nubes**	**1.44**	**67**	*e*P	**Pn**	**17 24 09.8**	**+1.2**
NBG				*e*S	**Sn**	**17 24 28.3**	**+1.9**
RBDL	**Robledal**	**1.96**	**87**	⇑*e*P	**Pn**	**17 24 15.7**	**0.0**
RTR	**El Retiro**	**2.01**	**93**	*e*P	**Pn**	**17 24 16.4**	**+0.1**
RTR				*e*S	**Sn**	**17 24 40.3**	**0.0**
SBLS	**San Blas**	**2.03**	**95**	*e*P	**Pn**	**17 24 16.5**	**-0.2**
MTO2	**Montecristo 2**	**2.31**	**80**	*e*P	**Pn**	**17 24 19.7**	**-0.7**
BOQS	**Boqueron**	**2.38**	**97**	*e*P	**Pn**	**17 24 21.1**	**-0.2**
BOQS				*e*S	**Sn**	**17 24 49.0**	**-0.3**
LFRS	**El Faro**	**2.60**	**98**	*e*P	**Pn**	**17 24 24.6**	**+0.2**
LFRS				*e*S	**Sn**	**17 24 54.3**	**-0.6**
CAHU	**Cacacuatique**	**3.41**	**94**	*e*P	**Pn**	**17 24 35.0**	**-0.4**
CMIG	**Matias Romero**	**4.32**	**315**	P	**Pn**	**17 24 47.8**	**-0.2**
	2.3nm,0.3s,baz=126,slow=12,SNR=24						
CMIG				S	**Sn**	**17 25 35.8**	**-1.4**
	5.8nm,0.3s,baz=95,slow=23,SNR=6.6						
TEIG	**Tepich** 7.8nm,0.3s,baz=236,slow=9.1,SNR=8.2	**6.99**	**28**	P	**Pn**	**17 25 24.7**	**+0.2**
JTS	**JuntasAbangare** 1.6nm,0.3s,baz=300,slow=19,SNR=3.8	**7.57**	**119**	P	**Pn**	**17 25 35.4**	**+2.8**
TXAR	**Lajitas Array** 0.0nm,0.3s,baz=158,slow=13,SNR=7.8	**18.84**	**326**	P	**Pn**	**17 28 01.6**	**+0.5**
TKL	**Tuckaleechee C** 1.4nm,0.4s,mb3.8,baz=266,slow=13,SNR=3.8	**22.70**	**17**	P	**P**	**17 28 39.3**	**-2.3**
NVAR	**Mina Array Bea** 1.0nm,0.7s,mb3.9,baz=142,slow=8.3,SNR=7.1	**33.84**	**321**	P	**P**	**17 30 23.7**	**+2.0**
NVAR				pP	pP	17 30 39.4	+3.3
	0.6nm,0.6s,baz=143,slow=6.9,SNR=4.2						
ILAR	**Eielson Array** 0.5nm,0.9s,mb3.6,baz=118,slow=5.0,SNR=6.0	**62.93**	**337**	P	**P**	**17 34 04.7**	**-0.3**
CMAR	**Chiang Mai Arr** 1.8nm,0.8s,baz=332,slow=3.8,SNR=14	**146.06**	**342**	PKPbc	PKPbc	17 43 18.6	-0.7
CMAR				pPKPbc	pPKPbc	17 43 35.0	-0.9
	0.8nm,0.7s,baz=322,slow=3.4,SNR=5.6						

ISCJB ***21*** *17:26:59.4±3.1, 18°.15N±0°.04×147°.06E±0°.09, h2km±19km, mb4.4/36, MS4.1/23, Error ellipse: s-maj=15.1km s-min=6.9km az=8.5*

IDC ***21*** *17:27:01.1±0.5, 18°.09N×147°.08E, h0km, mb4.2/20, mb1 4.3/22, mb1mx4.3/29, mbtmp4.2/22, ML4.1/2, MS4.1/24, Ms1 4.1/24, ms1mx3.9/39, Error ellipse: s-maj=19.5km s-min=11.9km az=95.0*

NEIC ***21*** *17:27:04.8±4.0, 18°.13N×147°.09E, h27km±28km, mb4.7/16, Error ellipse: s-maj=13.3km s-min=6.9km az=90.0*

ISC 21 17:27:03.8±3.2, 18°.18N±0°.04×147°.03E±0°.09, h17km±19km, n81, σ1°11/72, mb4.4/36, MS4.1/23, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam** 23nm,0.3s,baz=183,slow=19,SNR=15	**5.01**	**205**	Pn	**Pn**	**17 28 19.6**	**+1.4**
GUMO				Sn	**Sn**	**17 29 16.4**	**+0.6**
	48nm,0.3s,baz=123,slow=20,SNR=3.2						
GUMO				LR	LR	17 30 08.5	
	comp=Z,1μm,20.1s,baz=41,slow=38						
GUMO	**Guam**	**5.01**	**205**	*e*Pn	**Pn**	**17 28 19.4**	**+1.1**
GUMO				Pn	**Pn**	**17 28 19.6**	**+1.4**
GUMO				*e*Sn	**Sn**	**17 29 16.0**	**+0.2**
GUMO				Sn	**Sn**	**17 29 16.4**	**+0.6**
GUMO				LR	LR	17 30 08.5	
CBIJ	**Chichi jima** 5.3nm,0.3s,baz=258,slow=19,SNR=3.4	**9.94**	**334**	Pn	**Pn**	**17 29 26.1**	**+0.2**
CBIJ				Sn	**Sn**	**17 31 15.0**	**-2.0**
	2.7nm,0.3s,baz=139,slow=20,SNR=3.8						
MJAR	**Matsushiro Arr** 0.7nm,0.3s,baz=165,slow=10,SNR=12	**19.88**	**339**	P	**Pn**	**17 31 36.1**	**+0.2**
MJAR	**Matsushiro Arr**	**19.88**	**339**	P	**Pn**	**17 31 36.1**	**+0.2**
MAJO	**Matsushiro** 9.9nm,0.6s	**19.88**	**339**	*e*Pn	**Pn**	**17 31 33.6**	**-2.3**
DAV	**Davao City (W)** comp=Z,519nm,19.1s,MS4.0,baz=84,slow=34	**23.64**	**245**	LR	LR	17 40 33.6	
KSRS	**Korea Array** 4.0nm,0.7s,mb4.0,baz=145,slow=10.0,SNR=10	**25.49**	**323**	P	**P**	**17 32 32.3**	**+1.2**
KSRS				LR	LR	17 42 08.

ILAR	**Eielson Array**	**63.55**	**26**	P	**P**	**17 37 31.8**	**-1.3**
ILAR				LR	LR	18 02 39.3	
RAR	**Rarotonga**	**65.17**	**125**	LR	LR	18 03 25.8	
	comp=Z,84nm,18.4s,MS4.0,baz=38,slow=34						
AAK	**Ala-Archa**	**65.18**	**309**	P	**P**	**17 37 43.8**	**-0.3**
BRVK	**Borovoye**	**67.74**	**321**	*e*P	**P**	**17 38 00.0**	**-0.2**
	6.4nm,0.9s,mb4.7						
INK	**Inuvik**	**69.36**	**23**	P	**P**	**17 38 10.7**	**+0.6**
	1.0nm,0.6s,mb3.9,baz=241,slow=6.7,SNR=3.1						
INK	**Inuvik**	**69.36**	**23**	*e*P	**P**	**17 38 10.1**	**+0.1**
	8.1nm,1.3s,mb4.5						
PPT	**Papeete**	**71.75**	**116**	*e*S	S	17 47 43.0	-2.3
	48nm,28.0s						
PPT				*e*LR	LR	18 00 22.8	
	135nm,23.2s,baz=297						
ARU	**Arti**	**74.22**	**325**	*e*P	**P**	**17 38 39.2**	**-0.3**
	17nm,1.1s,mb4.9						
ABKAR	**Akbulak array**	**74.58**	**317**	*e*P	**P**	**17 38 40.8**	**-1.0**
	0.8nm,0.3s,mb4.1						
AKTO	**Aktyubinsk**	**75.59**	**319**	P	**P**	**17 38 48.0**	**+0.4**
	0.9nm,0.6s,mb3.9,baz=73,slow=4.0,SNR=3.5						
AKTO				LR	LR	18 14 30.1	
	comp=Z,268nm,20.8s,MS4.5,baz=281,slow=38						
AKTO	**Aktyubinsk**	**75.59**	**319**	P	**P**	**17 38 48.0**	**+0.4**
AKTO				LR	LR	18 14 30.1	
YKA	**Yellowknife Ar**	**77.85**	**28**	P	**P**	**17 38 60.0**	**-0.1**
	1.9nm,0.5s,mb4.2,baz=284,slow=5.8,SNR=4.6						
YKA				LR	LR	18 13 01.7	
	comp=Z,33nm,18.3s,MS3.7,baz=310,slow=35						
YKA	**Yellowknife Ar**	**77.85**	**28**	P	**P**	**17 38 60.0**	**-0.1**
YKA				LR	LR	18 13 01.7	
SPITS	**Spitsbergen Ar**	**79.88**	**351**	LR	LR	18 15 53.0	
	comp=Z,97nm,20.3s,MS4.1,baz=140,slow=37						
NVAR	**Mina Array Bea**	**82.46**	**52**	P	**P**	**17 39 26.3**	**+0.8**
	0.8nm,0.6s,mb3.9,baz=278,slow=5.3,SNR=5.7						
NVAR				LR	LR	18 15 25.0	
	comp=Z,111nm,18.6s,MS4.3,baz=294,slow=35						
NVAR	**Mina Array Bea**	**82.46**	**52**	P	**P**	**17 39 26.3**	**+0.8**
NVAR				LR	LR	18 15 25.0	
KEV	**Kevo**	**82.81**	**342**	*e*p	**P**	**17 39 26.4**	**-0.3**
	4.6nm,0.8s,mb4.6						
ARCES	**ARCESS Array B**	**83.37**	**342**	P	**P**	**17 39 30.4**	**+0.9**
	3.7nm,0.9s,mb4.4,baz=74,slow=8.9,SNR=5.2						
ARCES				LR	LR	18 24 51.2	
	comp=Z,221nm,18.5s,MS4.6,baz=360,slow=42						
ARCES	**ARCESS Array B**	**83.37**	**342**	P	**P**	**17 39 30.4**	**+0.9**
ARCES				LR	LR	18 24 51.2	
JOF	**Joensuu**	**85.02**	**336**	*e*p	**P**	**17 39 36.2**	**-1.8**
	4.3nm,0.6s,mb4.8						
PDAR	**Pinedale Array**	**87.28**	**46**	P	**P**	**17 39 51.9**	**+2.3**
	0.3nm,0.5s,mb3.8,baz=339,slow=2.2,SNR=2.7						
PDAR				LR	LR	18 15 38.9	
	comp=Z,84nm,18.2s,MS4.2,baz=157,slow=33						
PDAR	**Pinedale Array**	**87.28**	**46**	P	**P**	**17 39 51.9**	**+2.3**
PDAR				LR	LR	18 15 38.9	
KAF	**Kangasniemi**	**87.41**	**336**	*e*p	**P**	**17 39 47.8**	**-2.0**
	2.8nm,0.8s,mb4.5						
FINES	**FINESS Array B**	**87.88**	**336**	P	**P**	**17 39 51.4**	**-0.7**
	2.0nm,0.5s,mb4.6,baz=53,slow=4.4,SNR=18						
FINES	**FINESS Array B**	**87.88**	**336**	P	**P**	**17 39 51.4**	**-0.7**
ULM	**Lac du Bonnet**	**92.31**	**35**	LR	LR	18 20 29.4	
	comp=Z,198nm,18.3s,MS4.6,baz=315,slow=35						
AKASG	**Malin Array Be**	**92.45**	**326**	LR	LR	18 22 57.4	
	comp=Z,148nm,19.5s,MS4.5,baz=55,slow=36						
BRTR	**Keskin Array B**	**95.38**	**315**	LR	LR	18 28 09.9	
	comp=Z,67nm,18.7s,MS4.1,baz=281,slow=38						
VNDA	**Vanda**	**95.89**	**177**	LR	LR	18 24 25.7	
	comp=Z,65nm,18.7s,MS4.1,baz=354,slow=36						
TORD	**Torodi Ar. Bea**	**133.76**	**310**	PKP	PKPdf	17 46 21.1	+0.5
	0.3nm,0.4s,baz=32,slow=1.4,SNR=5.9						
TORD	**Torodi Ar. Bea**	**133.76**	**310**	PKP	PKPdf	17 46 21.1	+0.5
LPAZ	**La Paz**	**146.39**	**92**	PKPbc	PKPbc	17 46 44.0	-0.6
	1.4nm,0.5s,baz=297,slow=4.6,SNR=8.2						
LPAZ	**La Paz**	**146.39**	**92**	PKPbc	PKPbc	17 46 44.0	-0.6

IDC 21 17:37:05.5±10.0, **9°.59N**×**87°.38W**, **h0**km, **mb3.9**/3, **mb1 4.1**/4, **mb1mx3.8**/22, **mbtmp3.8**/4, **ML3.2/1**, **Error ellipse: s-maj=225.6km s-min=26.4km az=6.0, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JTS	**JuntasAbangare**	**2.49**	**73**	Pn	Pn		17 37 47.1	-0.2
	4.7nm,0.3s,baz=284,slow=12,SNR=7.8							
JTS				Sn	Sn		17 38 19.8	+1.5
	4.7nm,0.3s,baz=278,slow=20,SNR=5.6							
TXAR	**Lajitas Array**	**24.88**	**324**	P	P		17 42 30.2	+0.2
	1.4nm,0.5s,baz=137,slow=9.3,SNR=15							
PDAR	**Pinedale Array**	**38.33**	**333**	P	P		17 44 28.1	+0.1
	0.4nm,0.5s,baz=131,slow=9.7,SNR=4.0							
SCHQ	**Schefferville**	**47.99**	**16**	P	P		17 45 46.1	+0.1
	3.2nm,0.7s,baz=225,slow=8.6,SNR=3.2							

IDC 21 17:41:19.5±3.4, **17°.26S**×**174°.48W**, **h0**km, **mb4.4**/4, **mb1 4.5**/4, **mb1mx3.9**/19, **mbtmp4.4**/4, **Error ellipse: s-maj=158.4km s-min=70.4km az=161.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CTA	**Charters Tower**	**37.25**	**259**	P	P		17 48 34.3	+1.1
	1.6nm,0.4s,baz=114,slow=10.0,SNR=3.6							
STKA	**Stephens Creek**	**42.23**	**241**	P	P		17 49 15.7	+1.2
	2.1nm,0.8s,baz=94,slow=14,SNR=4.1							
WRA	**Warramunga Arr**	**48.43**	**258**	P	P		17 50 03.0	-1.0
	2.3nm,0.4s,baz=97,slow=6.9,SNR=95							
WRA				PcP	PcP		17 51 30.4	0.0
	0.2nm,0.3s,baz=92,slow=3.5,SNR=4.7							
ASAR	**Alice Springs**	**48.57**	**253**	P	P		17 50 04.1	-0.9
	4.6nm,0.7s,baz=92,slow=7.6,SNR=143							
ASAR				PcP	PcP		17 51 30.8	-0.1
	0.4nm,0.4s,baz=104,slow=3.9,SNR=7.9							

*ISCJB **21** 17:56:32.7±0.5, 50°.27N±0°.03×18°.86E±0°.03, h0km, Error ellipse: s-maj=4.9km s-min=2.5km az=14.6*
*IPEC **21** 17:56:33.7±0.2, 50°.28N×18°.90E, h0km±1km, ML2.3/3, Error ellipse: s-maj=2.5km s-min=1.1km az=169.0*
*CSEM **21** 17:56:33.6±0.2, 50°.27N×18°.87E, h2km, ML2.9/5, Error ellipse: s-maj=5.7km s-min=2.7km az=12.0*
*WAR **21** 17:56:34.1, 50°.24N×18°.93E*
*PRU **21** 17:56:34.4, 50°.27N×18°.86E, h0km*

ISC 21 17:56:34.1±0.5, **50°.25N**±0°.03×**18°.87E**±0°.03, **h0**km, **n37**, **s19°.09**/62, **7C-2D, Poland**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
RAC	**Raciborz**	**0.47**	**250**	*e*Pg	**Pg**		**17 56 44.3**	**+1.3**
RAC				*e*Sg	**Sg**		**17 56 52.2**	**+3.2**
OJC	**Ojcow**	**0.60**	**92**	*e*Pg	**Pg**		**17 56 45.2**	**-0.3**
OJC				*e*Sg	**Sg**		**17 56 53.2**	**0.0**
OJC	**Ojcow**	**0.60**	**92**	*e*Pg	**Pg**		**17 56 44.9**	**-0.6**
	baz=276							
OKC	**Ostrava-Krasne**	**0.62**	**229**	*e*PG	**Pg**		**17 56 46.1**	**+0.1**
OKC				*e*SG	**Sg**		**17 56 54.5**	**+0.5**
	comp=Z,21nm,0.4s							
OKC	**Ostrava-Krasne**	**0.62**	**229**	*e*Pg	**Pg**		**17 56 46.2**	**+0.2**
	baz=47							
OKC				Sg	**Sg**		**17 56 54.5**	**+0.5**
	comp=Z,21nm,0.4s							
MORC	**Moravsky Berou**	**0.98**	**242**	⇑*i*P	**Pg**		**17 56 53.3**	**+0.5**
MORC	**Moravsky Berou**	**0.98**	**242**	*e*Pg	**Pg**		**17 56 52.5**	**-0.3**
	baz=60							
MORC	**Moravsky Berou**	**0.98**	**242**	⇑*i*P	**Pg**		**17 56 53.3**	**+0.5**
MORC				*e*Sg	**Sg**		**17 57 05.2**	**-0.3**
	comp=Z,29nm,0.5s,baz=60							
LIKS	**Likavka**	**1.21**	**173**	*e*PG	**Pg**		**17 56 58.1**	**+0.9**
LIKS				*e*SG	**Sg**		**17 57 13.9**	**+1.0**
LIKS	**Likavka**	**1.21**	**173**	*e*Pg	**Pg**		**17 56 58.1**	**+0.9**
LIKS				*e*Sg	**Sg**		**17 57 13.9**	**+1.0**
NIE	**Niedzica**	**1.25**	**131**	*e*Pg	**Pg**		**17 56 57.8**	**-0.2**
NIE				*e*Sg	**Sg**		**17 57 15.4**	**+1.2**
NIE	**Niedzica**	**1.25**	**131**	*e*Pg	**Pg**		**17 56 57.8**	**-0.2**
NIE				*e*Sg	**Sg**		**17 57 15.4**	**+1.2**
DPC	**Dobruska-Polom**	**1.64**	**275**	*e*PG	**Pg**		**17 57 03.5**	**-2.0**
DPC				*e*SG	**Sg**		**17 57 25.2**	**-1.5**
	comp=Z,21nm,0.4s							
DPC	**Dobruska-Polom**	**1.64**	**275**	*e*Pn	**Pn**		**17 57 03.6**	**-0.5**
	baz=92							
DPC				*e*Sg	**Sg**		**17 57 25.7**	**-1.0**
	baz=92							
KOLL	**Kolacno**	**1.70**	**191**	*e*PG	**Pg**		**17 57 07.4**	**+0.8**
KOLL				*e*SG	**Sg**		**17 57 27.7**	**-0.9**
KOLL	**Kolacno**	**1.70**	**191**	*e*Pg	**Pg**		**17 57 07.4**	**+0.8**
KOLL				*e*Sg	**Sg**		**17 57 27.7**	**-0.9**
STHS	**Stebnicka Huta**	**1.75**	**118**	*e*PN	**Pn**		**17 57 06.8**	**+1.2**
STHS				*e*SG	**Sg**		**17 57 30.8**	**+0.6**
STHS	**Stebnicka Huta**	**1.75**	**118**	*e*Pn	**Pn**		**17 57 06.8**	**+1.2**
STHS				*e*Sg	**Sg**		**17 57 30.8**	**+0.6**
KSP	**Ksiaz**	**1.75**	**291**	*e*Pn	**Pn**		**17 57 07.2**	**+1.5**
KSP				*e*Sn	**Sn**		**17 57 31.0**	**+2.4**
KSP	**Ksiaz**	**1.75**	**291**	*e*Pg	**Pg**		**17 57 07.1**	**-0.5**
KSP				*e*Sg	**Sg**		**17 57 30.5**	**+0.2**
KSP	**Ksiaz**	**1.75**	**291**	*e*Pg	**Pg**		**17 57 07.1**	**-0.5**
KSP				*e*Sg	**Sg**		**17 57 30.5**	**+0.2**
VRAC	**Vranov**	**1.75**	**238**	⇑*i*P	**Pn**		**17 57 06.1**	**+0.4**
VRAC	**Vranov**	**1.75**	**238**	*e*Pn	**Pn**		**17 57 05.9**	**+0.2**
	baz=56							
VRAC				*e*Sg	**Sg**		**17 57 29.4**	**-0.9**
	comp=Z,39nm,0.6s,baz=56							
VRAC				S	**Sn**		**17 57 29.9**	**+1.3**
KRUC	**Moravsky**	**2.00**	**235**	*e*Pn	**Pn**		**17 57 09.2**	**+0.1**
	baz=52							
KRUC				*e*Sn	**Sn**		**17 57 36.2**	**+1.4**
	comp=Z,11nm,0.5s,baz=52							
KECS	**Kecovo**	**2.06**	**149**	*e*PN	**Pn**		**17 57 08.4**	**-1.5**
KECS				*e*PG	**Pg**		**17 57 12.4**	**-1.1**
KECS	**Kecovo**	**2.06**	**149**	*e*Pn	**Pn**		**17 57 08.4**	**-1.5**
PSZ	**Piszkesteto**	**2.43**	**164**	⇑*i*P	**Pn**		**17 57 14.4**	**-0.6**
PSZ	**Piszkesteto**	**2.43**	**164**	⇑*i*P	**Pn**		**17 57 14.4**	**-0.6**
PVCC	**Panska Ves**	**2.77**	**277**	*e*SG	**Sg**		**17 58 02.5**	**-0.5**
	comp=Z,18nm,0.4s							
PVCC	**Panska Ves**	**2.77**	**277**	Sg	**Sg**		**17 58 02.5**	**-0.5**
	comp=Z,18nm,0.4s							
KHC	**Kasperske Hory**	**3.61**	**254**	*e*PN	**Pn**		**17 57 30.0**	**-1.3**
KHC				*e*PG	**Pg**		**17 57 41.0**	**-2.3**
KHC				*e*SG	**Sg**		**17 58 28.5**	**-1.6**
KHC	**Kasperske Hory**	**3.61**	**254**	Pn	**Pn**		**17 57 30.0**	**-1.3**
CLL	**Collm**	**3.87**	**288**	*e*Sg	**Sg**		**17 58 40.0**	**+1.6**
DRGR		**4.30**	**142**	⇑*i*P	**Pn**		**17 57 40.2**	**-0.5**
DRGR		**4.30**	**142**	⇑*i*P	**Pn**		**17 57 40.2**	**-0.5**
DRGR				S	**Sn**		**17 58 30.1**	**-1.4**
BURAR	**Bucovina Array**	**4.94**	**120**	⇓*i*P	**Pn**		**17 57 49.5**	**0.0**
BURAR	**Bucovina Array**	**4.94**	**120**	⇓*i*P	**Pn**		**17 57 49.5**	**0.0**

*NEIC **21** 17:56:48.6±3.1, 7°.15S×129°.19E, h88km±35km, mb4.2/4, Error ellipse: s-maj=23.6km s-min=18.5km az=211.0*
*IDC **21** 17:56:49.4±11.0, 7°.17S×129°.01E, h95km±123km, mb3.3/2, mb1 3.4/5, mb1mx3.1/18, mbtmp3.3/5, ML3.8/3, Error ellipse: s-maj=80.7km s-min=60.9km az=34.0*

ISC 21 17:56:48.2±2.5, **7°.1S**±0°.1×**129°.27E**±0°.08, **h83**km±29km, **n17**, **σ1°.17**/24, **mb3.5**/3, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
FITZ	**Fitzroy Crossi**	**11.47**	**198**	P	**Pn**		**17 59 28.9**	**-0.1**
	0.5nm,0.3s,baz=42,slow=11,SNR=13							
FITZ				S	**Sn**		**18 01 34.5**	**-0.9**
	0.1nm,0.3s,baz=184,slow=13,SNR=2.0							
FITZ	**Fitzroy Crossi**	**11.47**	**198**	P	**Pn**		**17 59 28.9**	**-0.1**
FITZ				S	**Sn**		**18 01 34.5**	**-0.9**
WRAB	**Tennant Creek**	**13.66**	**159**	*e*Pn	**Pn**		**17 59 57.3**	**-1.0**
WRAB				*e*Sn	**Sn**		**18 02 19.5**	**-9.0**
WRA	**Warramunga Arr**	**13.66**	**159**	P	**Pn**		**17 59 58.1**	**-0.3**
	0.5nm,0.3s,baz=327,slow=14,SNR=17							
WRA				S	**Sn**		**18 02 18.8**	**-10**
	0.1nm,0.3s,baz=330,slow=21,SNR=3.9							
WRA	**Warramunga Arr**	**13.66**	**159**	P	**Pn**		**17 59 58.1**	**-0.3**
WRA				S	**Sn**		**18 02 18.8**	**-10**
COEN	**Coen**	**15.26**	**118**	*e*Pn	**Pn**		**18 00 18.8**	**-0.3**
	14nm,0.6s							
COEN				*e*Sn	**Sn**		**18 03 05.9**	**-1.6**
MBWA	**Marble Bar**	**16.73**	**212**	*e*Pn	**Pn**		**18 00 27.0**	**-10**
AS31	**Alice Springs**	**17.04**	**165**	*e*Pn	**Pn**		**18 00 43.1**	**+1.8**
AS31				*e*Sn	**Sn**		**18 03 51.7**	**+1.3**
ASAR	**Alice Springs**	**17.04**	**165**	P	**Pn**		**18 00 43.2**	**+2.0**
	0.4nm,0.3s,baz=339,slow=9.2,SNR=16							
ASAR	**Alice Springs**	**17.04**	**165**	P	**Pn**		**18 00 43.2**	**+2.0**
PMG	**Port Moresby**	**17.85**	**99**	P	**Pn**		**18 00 53.3**	**+2.1**
	8.0nm,0.8s							
STKA	**Stephens Creek**	**27.18**	**157**	*e*P	**P**		**18 02 22.7**	**-1.3**
	2.1nm,1.1s,mb3.6							
NACB	**Ninganchiao**	**31.99**	**347**	*e*P	**P**		**18 03 07.0**	**+0.4**
	36nm,1.1s							
MKAR	**Makanchi Array**	**67.93**	**327**	P	**P**		**18 07 37.5**	**-0.5**
	0.3nm,0.5s,mb3.4,baz=114,slow=7.7,SNR=5.4							
MKAR	**Makanchi Array**	**67.93**	**327**	P	**P**		**18 07 37.5**	**-0.5**
ZALV	**Zalesovo Beam**	**71.37**	**334**	P	**P**		**18 07 58.5**	**-0.4**
	0.3nm,0.4s,mb3.5,baz=141,slow=4.8,SNR=2.9							
ZALV	**Zalesovo Beam**	**71.37**	**334**	P	**P**		**18 07 58.5**	**-0.4**

IDC 21 18:12:30.1±2.9, **7°.06N**×**92°.66E**, **h0**km, **mb3.5**/3, **mb1 3.6**/4, **mb1mx3.3**/25, **mbtmp3.4**/4, **ML3.4**/1, **Error ellipse: s-maj=96.8km s-min=27.3km az=66.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CMAR	**Chiang Mai Arr**	**12.88**	**28**	Pn	Pn		18 15 35.2	+0.6
	0.1nm,0.3s,baz=204,slow=15,SNR=5.0							
ZALV	**Zalesovo Beam**	**47.18**	**354**	P	P		18 21 04.2	-0.2
	0.3nm,0.3s,baz=173,slow=7.6,SNR=2.9							
WRA	**Warramunga Arr**	**49.01**	**124**	P	P		18 21 18.6	-0.4
	0.5nm,0.5s,baz=304,slow=8.8,SNR=11							
ASAR	**Alice Springs**	**50.54**	**128**	P	P		18 21 31.1	+0.4
	0.3nm,0.6s,baz=304,slow=7.3,SNR=6.3							

*ISCJB **21** 18:33:16.4±1.9, 18°.05S±0°.4×178°.4W±0°.3, h549km±12km, mb3.5/8, Error ellipse: s-maj=70.8km s-min=21.0km az=150.8*
*IDC **21** 18:33:17.2±6.9, 18°.05S×178°.29W, h546km±76km, mb3.0/7, mb1 3.3/7, mb1mx3.0/19, mbtmp3.0/7, Error ellipse: s-maj=55.1km s-min=23.6km az=145.0*
*NEIC **21** 18:33:17.7±1.7, 17°.69S×178°.59W, h548km±10km, mb3.5/2, Error ellipse: s-maj=88.1km s-min=15.8km az=153.0*

ISC 21 18:33:17.0±2.0, **18°.0S**±0°.4×**178°.4W**±0°.3, **h541**km±12km, **n24**, **σ0°.87**/18, **mb3.5**/8, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MSVF	**Nonsavu**	**3.41**	**274**	*e*P	**P**		**18 34 34.0**	**0.0**
MSVF				*e*S	**S**		**18 35 36.7**	**0.0**
AFI	**Afiamalu**	**7.55**	**58**	S	**S**		**18 36 29.5**	**-13**
	2.2nm,0.3s,baz=30,slow=20,SNR=4.2							
WRAB	**Tennant Creek**	**44.63**	**260**	P	**P**		**18 40 40.6**	**-1.1**
	6.8nm,1.3s,mb4.0							
WRA	**Warramunga Arr**	**44.64**	**260**	P	**P**		**18 40 41.0**	**-0.7**
	0.4nm,0.4s,mb3.3,baz=96,slow=6.8,SNR=21							
WRA	**Warramunga Arr**	**44.64**	**260**	P	**P**		**18 40 41.0**	**-0.7**
ASAR	**Alice Springs**	**44.79**	**254**	P	**P**		**18 40 42.9**	**0.0**
	2.9nm,0.6s,mb4.0,baz=88,slow=8.4,SNR=65							
ASAR				PcP	PcP		18 42 13.0	-0.3
	0.3nm,0.4s,baz=104,slow=4.1,SNR=5.9							
ASAR	**Alice Springs**	**44.79**	**254**	P	**P**		**18 40 42.9**	**0.0**
ASAR				PcP	PcP		18 42 13.0	-0.3
FITZ	**Fitzroy Crossi**	**53.04**	**261**	P	**P**		**18 41 46.3**	**+2.3**
	2.2nm,1.0s,mb3.5,baz=117,slow=4.5,SNR=2.7							
FITZ	**Fitzroy Crossi**	**53.04**	**261**	P	**P**		**18 41 46.3**	**+2.3**
VNDA	**Vanda**	**60.34**	**185**	*e*P	Px		18 42 44.9	
	0.5nm,0.7s							
PETK	**Petropavlovsk-**	**73.79**	**345**	P	**P**		**18 43 56.5**	**+0.6**
	2.4nm,0.6s,mb3.8,baz=124,slow=6.8,SNR=7.5							
PETK	**Petropavlovsk-**	**73.79**	**345**	P	**P**		**18 43 56.5**	**+0.6**
NVAR	**Mina Array Bea**	**79.48**	**44**	P	**P**		**18 44 27.7**	**+0.2**
	0.5nm,0.7s,mb3.0,baz=224,slow=8.8,SNR=2.8							
NVAR	**Mina Array Bea**	**79.48**	**44**	P	**P**		**18 44 27.7**	**+0.2**
ILAR	**Eielson Array**	**85.98**	**13**	P	**P**		**18 44 58.5**	**-1.1**
	0.3nm,0.4s,mb3.3,baz=218,slow=5.2,SNR=16							
ILAR	**Eielson Array**	**85.98**	**13**	P	**P**		**18 44 58.5**	**-1.1**
TXAR	**Lajitas Array**	**86.03**	**58**	P	**P**		**18 45 00.8**	**+0.2**
	0.5nm,0.6s,mb3.3,baz=220,slow=6.2,SNR=7.0							
TXAR	**Lajitas Array**	**86.03**	**58**	P	**P**		**18 45 00.8**	**+0.2**
ARCES	**ARCESS Array B**	**126.42**	**350**	PKP	PKPdf		18 51 16.7	-1.1
	2.6nm,0.8s,baz=48,slow=1.3,SNR=4.0							
ARCES	**ARCESS Array B**	**126.42**	**350**	PKP	PKPdf		18 51 16.7	-1.1
BRTR	**Keskin Array B**	**144.88**	**315**	PKP	PKPdf		18 51 55.5	+2.9
	0.4nm,0.4s,baz=104,slow=2.1,SNR=4.1							
BRTR	**Keskin Array B**	**144.88**	**315**	PKP	PKPdf		18 51 55.5	+2.9
GERES	**GERESS Array B**	**147.72**	**345**	PKPbc	PKPbc		18 52 00.5	-0.3
	1.1nm,0.6s,baz=20,slow=4.3,SNR=8.0							
GERES	**GERESS Array B**	**147.72**	**345**	PKPbc	PKPbc		18 52 00.5	-0.3

IDC 21 18:34:07.9±55.0, **17°.88S**×**173°.19W**, **h0**km, **mb3.8**/3, **mb1 4.0**/3, **mb1mx3.6**/19, **mbtmp3.8**/3, **Error ellipse: s-maj=1056.0km s-min=176.2km az=82.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
STKA	**Stephens Creek**	**43.02**	**242**	P	P		18 42 09.1	-0.2
	2.0nm,0.9s,baz=111,slow=8.6,SNR=3.3							
WRA	**Warramunga Arr**	**49.52**	**259**	P	P		18 43 00.8	+0.1
	0.2nm,0.3s,baz=96,slow=7.1,SNR=7.1							
ASAR	**Alice Springs**	**49.58**	**254**	P	P		18 43 01.0	-0.1
	1.2nm,0.7s,baz=86,slow=7.8,SNR=8.6							

MAN 21 18:34:10, 10°.21N×**121°.80E**, **h20**km, **mb4.5, ML3.3, MS3.2, 1D, Panay**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GUIM	**Jordan**	**0.88**	**62**	*e*P	Pb		18 34 26.8	+0.1
GUIM				*e*S	Sb		18 34 41.8	+3.7
CUYO	**Cuyo Island**	**1.00**	**310**	*e*P	Pb		18 34 30.7	+2.1
SNPH	**Sibulan**	**1.66**	**121**	⇓*e*P	Pn		18 34 30.8	-7.2
MSLP	**Maasin**	**3.02**	**91**	*e*P	Pn		18 34 49.0	-7.7

JMA 21 18:37:26.1, 35°.13N×**135°.70E**, **h8**km, **M2.7, Western Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JWT	**Wachi**	**0.29**	**302**	P	Pg		18 37 31.9	+0.1
JWT				S	Sg		18 37 35.6	-0.1
JHE	**Heguri**	**0.48**	**181**	P	Pg		18 37 35.5	+0.2
JHE				S	Sg		18 37 41.9	+0.4
MAT	**Matsushiro**	**2.48**	**55**	P	Pn		18 38 12.4	+5.7
MAT				S	Sn		18 38 44.0	+6.8

*IDC **21** 18:41:27.9±2.1, 0°.88S×127°.37E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.2/19, mbtmp3.2/3, MS2.9/1, Ms1 2.9/1, ms1mx2.3/13, Error ellipse: s-maj=157.6km s-min=26.8km az=66.0*
*ISCJB **21** 18:41:33.4±0.6, 1°.09S±0°.06×126°.73E±0°.05, h58km±13km, mb3.2/2, Error ellipse: s-maj=10.9km s-min=7.1km az=41.3*
*DJA **21** 18:41:33, 1°.10S×126°.77E, h19km, MLv3.8/12*

ISC 21 18:41:34.8±0.6, **1°.09S**±0°.06×**126°.75E**±0°.05, **h51**km±13km, **n16**, **σ0°.67**/18, **mb3.2**/2, **Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
TNTI	**Ternate**	**1.94**	**18**	P	**Pn**		**18 42 05.0**	**-0.4**
NLAI	**Namlea**	**2.17**	**171**	P	**Pn**		**18 42 08.0**	**-0.5**
AAI	**Ambon**	**2.96**	**151**	P	**Pn**		**18 42 19.2**	**-0.2**
AAI				S	**Sn**		**18 42 55.1**	**+1.5**
MSAI	**Masohi**	**3.12**	**136**	P	**Pn**		**18 42 22.0**	**+0.4**
KMSI	**Cibinong**	**3.23**	**301**	P	**Pn**		**18 42 23.7**	**+0.7**
LUWI	**Luwuk**	**3.98**	**271**	P	**Pn**		**18 42 32.9**	**-0.5**
SWI	**Sorong**	**4.51**	**87**	P	**Pn**		**18 42 40.5**	**-0.2**
SGSI	**Sangihe**	**4.89**	**346**	P	**Pn**		**18 42 45.9**	**0.0**
MRSI	**Marisa**	**5.06**	**288**	P	**Pn**		**18 42 48.0**	**-0.2**
	0.1nm10nm,0.9s							
MRSI				S	**Sn**		**18 43 49.5**	**+4.2**
	0.1nm10nm,0.9s							
TLE	**Tual**	**7.49**	**127**	P	**Pn**		**18 43 21.4**	**-0.2**
	0.2nm30nm,1.4s							
SPSI	**Sidrap Palu**	**7.54**	**248**	P	**Pn**		**18 43 22.5**	**+0.2**
	0.1nm13nm,0.3s							
BKSI	**Bulukumba**	**7.84**	**237**	P	**Pn**		**18 43 26.2**	**-0

ISCJB ***21*** *19:16:00.0±1.5, 18°.6S×0°.2×178°.2W±0°.2, h643km±15km, mb4.0/10, Error ellipse: s-maj=34.1km s-min=23.7km az=170.5*
NEIC ***21*** *19:16:00.4±1.0, 18°.49S×178°.14W, h637km±10km, mb4.4/5, Error ellipse: s-maj=21.5km s-min=14.8km az=159.0*
IDC ***21*** *19:16:02.0±5.6, 18°.34S×178°.23W, h649km±62km, mb3.2/6, mb1 3.4/6, mb1mx3.0/18, mbtmp3.2/6, Error ellipse: s-maj=73.6km s-min=37.8km az=156.0*

ISC 21 19:16:00.8±1.4, 18°.5S±0°.2×178°.2W±0°.2, h635km±14km, n27, σ0°60/22, mb4.1/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.66**	**282**	*eP*	**P**	**19 17 26.7**	**+0.1**
EIDS	**Eidsvold** 9.1nm,1.0s,mb4.4	**29.25**	**251**	P	**P**	**19 21 12.8**	**-1.5**
CTA	**Charters Tower**	**33.55**	**261**	P	**P**	**19 21 51.6**	**+0.8**
	6.6nm,0.6s,mb4.5,baz=107,slow=9.5,SNR=9.8						
CTA	**Charters Tower**	**33.55**	**261**	P	**P**	**19 21 51.6**	**+0.8**
CTAO	**Charters Tower** 9.2nm,0.7s,mb4.5	**33.55**	**261**	*eP*	**P**	**19 21 51.1**	**+0.2**
PMG	**Port Moresby** 11nm,0.8s,mb4.5	**34.77**	**280**	*eP*	**P**	**19 22 01.0**	**0.0**
STKA	**Stephens Creek**	**38.52**	**242**	P	**P**	**19 22 32.8**	**+1.6**
	2.1nm,0.5s,mb4.0,baz=85,slow=11,SNR=6.4						
STKA	**Stephens Creek** 1.0nm,0.8s,mb3.4	**38.52**	**242**	*eP*	**P**	**19 22 32.4**	**+1.1**
WB2	**Warramunga Arr**	**44.72**	**260**	*eP*	**P**	**19 23 19.8**	**-0.1**
WRAB	**Tennant Creek** 4.6nm,0.5s,mb4.3	**44.72**	**260**	*eP*	**P**	**19 23 19.7**	**-0.3**
WRA	**Warramunga Arr**	**44.73**	**260**	P	**P**	**19 23 20.0**	**0.0**
	3.0nm,0.4s,mb4.2,baz=97,slow=7.1,SNR=110						
WRA				PcP	PcP	19 24 47.9	-0.2
	0.4nm,0.4s,baz=92,slow=3.6,SNR=4.6						
WRA	**Warramunga Arr**	**44.73**	**260**	P	**P**	**19 23 20.0**	**0.0**
WRA				PcP	PcP	19 24 47.9	-0.2
AS31	**Alice Springs**	**44.82**	**255**	*eP*	**P**	**19 23 20.9**	**+0.2**
ASAR	**Alice Springs**	**44.83**	**255**	P	**P**	**19 23 20.8**	**+0.1**
	6.7nm,0.7s,mb4.3,baz=91,slow=8.0,SNR=101						
ASAR				PcP	PcP	19 24 48.0	-0.3
	0.7nm,0.5s,baz=102,slow=3.7,SNR=6.8						
ASAR	**Alice Springs**	**44.83**	**255**	P	**P**	**19 23 20.8**	**+0.1**
ASAR				PcP	PcP	19 24 48.0	-0.3
MBWA	**Marble Bar**	**58.12**	**256**	*eP*	**P**	**19 24 55.3**	**-0.7**
CASY	**Casey** 17nm,0.8s,mb4.5	**65.66**	**205**	P	**P**	**19 25 43.7**	**0.0**
QSPA	**South Pole Qui**	**71.52**	**180**	*eP*	**P**	**19 26 18.7**	**0.0**
TXAR	**Lajitas Array**	**86.16**	**58**	P	**P**	**19 27 36.5**	**-0.2**
	0.3nm,0.7s,mb3.0,baz=224,slow=6.3,SNR=3.8						
TXAR	**Lajitas Array**	**86.16**	**58**	P	**P**	**19 27 36.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**89.29**	**290**	P	**P**	**19 27 52.1**	**+0.6**
	0.6nm,0.8s,mb3.5,baz=121,slow=3.3,SNR=5.9						
CMAR	**Chiang Mai Arr**	**89.29**	**290**	P	**P**	**19 27 52.1**	**+0.6**
BRTR	**Keskin Array B**	**145.37**	**314**	PKPbc	PKPbc	19 34 28.2	-1.3
	0.6nm,0.6s,baz=110,slow=4.2,SNR=3.1						
BRTR	**Keskin Array B**	**145.37**	**314**	PKPbc	PKPbc	19 34 28.2	-1.3
CLL	**Collm**	**146.12**	**347**	*e*PKPbc	PKPbc	19 34 30.0	-1.2
GERES	**GERESS Array B** 0.7nm,0.8s,baz=23,slow=5.3,SNR=3.7	**148.27**	**345**	PKPbc	PKPbc	19 34 36.0	-0.8
GERES	**GERESS Array B**	**148.27**	**345**	PKPbc	PKPbc	19 34 36.0	-0.8

ISCJB ***21*** *20:33:09.9±1.0, 37°.58N±0°.07×35°.69E±0°.04, h15km±6km, Error ellipse: s-maj=11.3km s-min=5.0km az=171.6*
CSEM ***21*** *20:33:09.6±0.1, 37°.60N×35°.70E, h12km, MD2.5, Error ellipse: s-maj=3.4km s-min=1.6km az=169.0*
DDA ***21*** *20:33:09.7, 37°.54N×35°.76E, h6km±4km, Md2.7, Ml2.8*
ISK ***21*** *20:33:09.5, 37°.58N×35°.67E, h9km, MD2.5*

ISC 21 20:33:10.4±1.0, 37°.57N±0°.07×35°.71E±0°.04, h16km±5km, n13, σ0°91/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOZT	**Kozan**	**0.13**	**132**	*e*PG	**Pg**	**20 33 13.6**	**-0.4**
KOZT				*e*SG	**Sg**	**20 33 15.9**	**-0.5**
ANDN	**Andirin**	**0.51**	**88**	*i* P	**Pg**	**20 33 19.9**	**-0.5**
ANDN				*i* S	**Sg**	**20 33 29.6**	**+2.4**
ANDN	**Andirin**	**0.51**	**88**	*i* P	**Pg**	**20 33 19.9**	**-0.5**
ANDN				*i* S	**Sg**	**20 33 29.6**	**+2.4**
CEYT	**Ceyhan**	**0.56**	**177**	*e*PG	**Pg**	**20 33 21.2**	**-0.1**
CEYT				*e*SG	**Sg**	**20 33 29.3**	**+0.6**
CEYT	**Ceyhan**	**0.56**	**177**	*e*Pg	**Pg**	**20 33 21.2**	**-0.1**
CEYT				*e*Sg	**Sg**	**20 33 29.3**	**+0.5**
KARA	**Karaisali**	**0.60**	**240**	*e*PG	**Pg**	**20 33 21.4**	**-0.8**
KARA				*e*SG	**Sg**	**20 33 29.8**	**-0.5**
KARA	**Karaisali**	**0.60**	**240**	*e*Pg	**Pg**	**20 33 21.4**	**-0.8**
KARA				*e*Sg	**Sg**	**20 33 29.8**	**-0.4**
GULE	**Gulek**	**0.79**	**249**	*i* P	**Pg**	**20 33 25.4**	**-0.4**
GULE				*i* S	**Sg**	**20 33 38.5**	**+2.2**
GULE	**Gulek**	**0.79**	**249**	*i* P	**Pg**	**20 33 25.4**	**-0.4**
GULE				*i* S	**Sg**	**20 33 38.5**	**+2.2**
KMRS	**Kahramanmaras**	**0.95**	**93**	*e*PG	**Pg**	**20 33 28.3**	**-0.5**
KMRS	**Kahramanmaras**	**0.95**	**93**	*e*Pg	**Pg**	**20 33 28.3**	**-0.5**
KUZU	**Kuzuini**	**1.35**	**126**	*i* P	**Pn**	**20 33 34.4**	**-0.1**
KUZU				*i* S	**Sn**	**20 33 51.9**	**-0.2**
KUZU	**Kuzuini**	**1.35**	**126**	*i* P	**Pn**	**20 33 34.4**	**-0.1**
KUZU				*i* S	**Sn**	**20 33 51.9**	**-0.2**

WEL 21 20:38:14.4±0.2, 41°.15S×172°.72E, h201km±1km, ML3.7/3, Error ellipse: s-maj=2.8km s-min=2.2km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QRZ	**Quartz Range**	**0.35**	**335**	PN	Pn	20 38 40.9	-0.2
QRZ				SN	Sn	20 39 00.6	-1.0
NNZ	**Nelson**	**0.50**	**99**	PN	Pn	20 38 41.4	-0.1
NNZ				SN	Sn	20 39 02.2	-0.3
THZ	**Tophouse**	**0.63**	**168**	PN	Pn	20 38 41.9	-0.1
THZ				SN	Sn	20 39 02.4	-1.3
TCW	**Tory Channel**	**1.18**	**94**	PN	Pn	20 38 45.6	+0.2
TCW				SN	Sn	20 39 09.0	-0.4
CAW	**Cannon Point**	**1.77**	**90**	PN	Pn	20 38 50.6	0.0
MTW	**Mount Morrison**	**2.10**	**91**	PN	Pn	20 38 53.8	-0.1

MAN 21 20:40:29.9, 7.5N×121.86E, h34km, mb4.4, ML3.3, MS3.1, 2C, Sulu Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**1.13**	**39**	*e*P	Pn	20 40 49.2	+0.8
CUYO	**Cuyo Island**	**1.38**	**323**	*e*P	Pn	20 40 53.1	+1.3
CUYO				*e*S	Sn	20 41 08.0	-0.8
SNPH	**Sibulan**	**1.41**	**106**	*e*P	Pn	20 40 53.3	+1.0
SNPH				*e*S	Sn	20 41 15.8	+6.0
RCP	**Roxas**	**2.00**	**26**	*e*P	Pn	20 41 11.8	+11
RCP				*e*S	Sn	20 41 29.4	+5.1
BUSP	**Coron**	**2.77**	**324**	*e*P	Pn	20 41 12.5	+1.5
ENPP	**El Nido**	**2.80**	**301**	*e*P	Pn	20 41 13.0	+1.6

ISCJB ***21*** *21:06:46.0±0.4, 50°.33N±0°.03×18°.82E±0°.02, h0km, Error ellipse: s-maj=4.2km s-min=2.1km az=12.5*
IPEC ***21*** *21:06:46.8±0.2, 50°.31N×18°.89E, h3km±1km, ML2.5/3, Error ellipse: s-maj=2.5km s-min=1.1km az=169.0*
CSEM ***21*** *21:06:46.9±0.2, 50°.32N×18°.85E, h2km, ML3.3/6, Error ellipse: s-maj=4.7km s-min=2.1km az=10.0*
WAR ***21*** *21:06:47.1, 50°.27N×18°.91E*
PRU ***21*** *21:06:47.6, 50°.28N×18°.85E, h0km*
NEIC ***21*** *21:06:48.8±1.7, 50°.22N×18°.77E, h5km, ML2.9(CSEM), Error ellipse: s-maj=33.4km s-min=8.7km az=179.0*
IDC ***21*** *21:06:48.8±1.7, 50°.24N×18°.77E, h0km, mb1 3.5/2, mb1mx3.1/21, mbtmp3.3/2, ML2.6/2, Error ellipse: s-maj=34.8km s-min=11.8km az=143.0*

ISC 21 21:06:47.2±0.4, 50°.31N±0°.03×18°.84E±0°.02, h0km, n61, σ1°07/101, 5C-7D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.47**	**242**	*e*Pg	**Pg**	**21 06 57.3**	**+1.0**
RAC				*e*Sg	**Sg**	**21 07 05.0**	**+2.6**
OJC	**Ojcow**	**0.62**	**98**	*e*Pg	**Pg**	**21 06 58.5**	**-0.5**
OJC				*e*Sg	**Sg**	**21 07 06.5**	**-0.5**
OJC	**Ojcow** baz=279	**0.62**	**98**	*e*Pg	**Pg**	**21 06 58.3**	**-0.7**
OJC				*e*Sg	**Sg**	**21 07 06.5**	**-0.5**
OKC	**Ostrava-Krasne**	**0.65**	**224**	*e*PG	**Pg**	**21 07 00.0**	**+0.4**
OKC				*e*SG	**Sg**	**21 07 08.5**	**+0.4**
	comp=Z,84nm,0.6s						
OKC	**Ostrava-Krasne** baz=45	**0.65**	**224**	*e*Pg	**Pg**	**21 06 59.8**	**+0.2**
OKC				Sg	**Sg**	**21 07 08.5**	**+0.4**
	comp=Z,84nm,0.6s						
MORC	**Moravsky Berou**	**0.99**	**238**	*e*Pg	**Pg**	**21 07 05.8**	**-0.4**
MORC				*e*Sg	**Sg**	**21 07 18.1**	**-1.0**
MORC	**Moravsky Berou**	**0.99**	**238**	⇓*i*P	**Pg**	**21 07 05.9**	**-0.3**
MORC	**Moravsky Berou**	**0.99**	**238**	⇓*i*P	**Pg**	**21 07 05.9**	**-0.3**
MORC				*e*Sg	**Sg**	**21 07 18.8**	**-0.3**
	comp=Z,100nm,0.4s,baz=58						
MORC				S	**Sg**	**21 07 19.6**	**+0.5**
LIKS	**Likavka**	**1.27**	**172**	*e*PG	**Pg**	**21 07 10.7**	**-0.8**
LIKS				*e*SG	**Sg**	**21 07 27.7**	**-0.3**
LIKS	**Likavka**	**1.27**	**172**	*e*Pg	**Pg**	**21 07 10.7**	**-0.8**
LIKS				*e*Sg	**Sg**	**21 07 27.7**	**-0.3**
NIE	**Niedzica**	**1.30**	**133**	*e*Pg	**Pg**	**21 07 11.0**	**-1.1**
NIE				*e*Sg	**Sg**	**21 07 29.0**	**0.0**
NIE	**Niedzica**	**1.30**	**133**	*e*Pg	**Pg**	**21 07 11.2**	**-0.9**
NIE				*e*Sg	**Sg**	**21 07 29.1**	**+0.1**
KRLC	**Kraliky**	**1.35**	**261**	*e*PG	**Pg**	**21 07 12.0**	**-0.9**
KRLC				*e*SG	**Sg**	**21 07 30.4**	**0.0**
KRLC	**Kraliky**	**1.35**	**261**	Pg	**Pg**	**21 07 12.0**	**-0.9**
KRLC				Sg	**Sg**	**21 07 30.4**	**0.0**
DPC	**Dobruska-Polom**	**1.62**	**272**	*e*PG	**Pg**	**21 07 16.7**	**-1.4**
DPC				*e*SG	**Sg**	**21 07 38.7**	**-0.4**
	comp=Z,40nm,0.5s						
DPC	**Dobruska-Polom** baz=90	**1.62**	**272**	*e*Pn	**Pn**	**21 07 16.6**	**-0.3**
DPC				Sg	**Sg**	**21 07 38.7**	**-0.4**
	comp=Z,40nm,0.5s						
KSP	**Ksiaz**	**1.71**	**289**	*e*Pn	**Pn**	**21 07 20.3**	**+2.1**
KSP				*e*Sn	**Sn**	**21 07 43.7**	**+3.0**
KSP	**Ksiaz**	**1.71**	**289**	*e*Pn	**Pn**	**21 07 17.7**	**-0.5**
KSP				*i* Pg	**Pg**	**21 07 20.1**	**+0.1**
KSP				*e*Sg	**Sg**	**21 07 43.3**	**+1.2**
KSP	**Ksiaz**	**1.71**	**289**	*e*Pn	**Pn**	**21 07 17.7**	**-0.5**
KOLL	**Kolacno**	**1.76**	**190**	*e*PN	**Pn**	**21 07 19.6**	**+0.8**
KOLL				*e*SN	**Sn**	**21 07 41.9**	**+0.1**
KOLL	**Kolacno**	**1.76**	**190**	*e*Pn	**Pn**	**21 07 19.6**	**+0.8**
KOLL				*e*Sn	**Sn**	**21 07 41.9**	**+0.1**
VRAC	**Vranov**	**1.77**	**236**	⇑*i*P	**Pn**	**21 07 18.2**	**-0.8**
VRAC	**Vranov**	**1.77**	**236**	S	**Sn**	**21 07 43.3**	**+1.1**
VRAC	**Vranov** baz=55	**1.77**	**236**	*e*Pn	**Pn**	**21 07 18.4**	**-0.6**
VRAC				*e*Sg	**Sg**	**21 07 43.1**	**-0.9**
	comp=Z,33nm,0.3s,baz=55						
STHS	**Stebnicka Huta**	**1.79**	**119**	*e*PN	**Pn**	**21 07 18.5**	**-0.8**
STHS				*e*SN	**Sn**	**21 07 44.6**	**+1.9**
STHS	**Stebnicka Huta**	**1.79**	**119**	*e*Pn	**Pn**	**21 07 18.5**	**-0.8**
STHS				*e*Sn	**Sn**	**21 07 44.6**	**+1.9**
UPC	**Upice**	**1.82**	**277**	*e*SG	**Sg**	**21 07 45.6**	**-0.1**
UPC	**Upice**	**1.82**	**277**	Sg	**Sg**	**21 07 45.6**	**-0.1**
KRUC	**Moravsky** baz=51	**2.02**	**233**	*e*Pn	**Pn**	**21 07 22.0**	**-0.5**
KRUC				*e*Sn	**Sn**	**21 07 49.4**	**+1.0**
	comp=Z,26nm,0.5s,baz=51						
KECS	**Kecovo**	**2.12**	**149**	*e*PN	**Pn**	**21 07 22.0**	**-1.8**
KECS				*e*SN	**Sn**	**21 07 49.0**	**-1.8**
KECS	**Kecovo**	**2.12**	**149**	*e*Pn	**Pn**	**21 07 22.0**	**-1.8**
KECS				*e*Sn	**Sn**	**21 07 49.1**	**-1.7**
CRVS	**Cervenica-Dubn**	**2.21**	**129**	*e*PN	**Pn**	**21 07 24.4**	**-0.6**
CRVS	**Cervenica-Dubn**	**2.21**	**129**	*e*Pn	**Pn**	**21 07 24.4**	**-0.6**
PSZ	**Piszkesteto**	**2.49**	**164**	*e*Pn	**Pn**	**21 07 29.8**	**+0.9**
PSZ				*e*Sn	**Sn**	**21 08 01.0**	**+1.3**
PSZ	**Piszkesteto**	**2.49**	**164**	⇓*e*PB	**Pb**	**21 07 34.3**	**+1.6**
PSZ				*e*SB	**Sb**	**21 08 04.2**	**+0.3**
PSZ	**Piszkesteto**	**2.49**	**164**	⇑*i*P	**Pn**	**21 07 29.2**	**+0.3**
PSZ	**Piszkesteto**	**2.49**	**164**	⇑*i*P	**Pn**	**21 07 29.2**	**+0.3**
PSZ	**Piszkesteto**	**2.49**	**164**	*e*Pn	**Pn**	**21 07 29.8**	**+0.9**
PSZ				*e*Sn	**Sn**	**21 08 01.2**	**+1.2**
KWP	**Kalwaria Pacla**	**2.58**	**104**	*e*Pn	**Pn**	**21 07 32.5**	**+2.3**
KWP				*e*Sn	**Sn**	**21 08 03.7**	**+1.4**
KWP	**Kalwaria Pacla**	**2.58**	**104**	S	**Pb**	**21 07 35.3**	**+1.0**
KWP	**Kalwaria Pacla**	**2.58**	**104**	*e*Pn	**Pn**	**21 07 32.5**	**+2.3**
KWP				*e*Sn	**Sn**	**21 08 03.7**	**+1.4**
PVCC	**Panska Ves** comp=Z,34nm,0.4s	**2.74**	**276**	*e*SG	**Sg**	**21 08 15.0**	**-0.2**
PVCC	**Panska Ves** comp=Z,34nm,0.4s	**2.74**	**276**	Sg	**Sg**	**21 08 15.0**	**-0.2**
TRPA	**Tarpa**	**3.26**	**131**	⇑*i*P	**Pn**	**21 07 39.5**	**0.0**
TRPA	**Tarpa**	**3.26**	**131**	⇑*i*P	**Pn**	**21 07 39.5**	**0.0**
KHC	**Kasperske Hory**	**3.62**	**253**	*e*Pb	**Pb**	**21 07 51.9**	**0.0**
KHC				*e*Sn	**Sn**	**21 08 27.3**	**-0.4**
KHC	**Kasperske Hory**	**3.62**	**253**	*e*PN	**Pn**	**21 07 43.0**	**-1.4**
KHC				*ex*	x	21 07 49.5	
KHC				*e*SN	**Sn**	**21 08 26.0**	**-1.7**
KHC				*e*SG	**Sg**	**21 08 41.0**	**-2.2**
KHC	**Kasperske Hory**	**3.62**	**253**	Pn	**Pn**	**21 07 43.0**	**-1.4**
KHC	**Kasperske Hory**	**3.62**	**253**	*e*Pb	**Pb**	**21 07 51.9**	**0.0**
KHC				*e*Sn	**Sn**	**21 08 27.3**	**-0.4**
KHC				Sg	**Sg**	**21 08 41.0**	**-2.2**
GERES	**GERESS Array B** comp=Z,0.3nm,0.3s,baz=63,slow=14,SNR=9.7	**3.65**	**248**	Pn	**Pn**	**21 07 45.4**	**+0.5**
GERES				Pg	**Pg**	**21 07 54.2**	**-3.0**
	comp=Z,0.6nm,0.3s,baz=61,slow=14,SNR=9.7						
GERES				Lg		21 08 39.9	
	comp=Z,1.0nm,0.3s,baz=66,slow=27,SNR=4.0						
GERES	**GERESS Array B**	**3.65**	**248**	Pn	**Pn**	**21 07 45.4**	**+0.5**
GERES				Pg	**Pg**	**21 07 54.2**	**-3.0**
GERES				Lg		21 08 39.9	
GERES	**GERESS Array B**	**3.65**	**248**	Pn	**Pn**	**21 07 45.3**	**+0.4**
CLL	**Collm**	**3.84**	**287**	*e*Pg	**Pg**	**21 08 01.0**	**+0.3**
CLL				*e*Sg	**Sg**	**21 08 52.0**	**+1.6**
	comp=Z,14nm,1.0s						
BUR08	**Bucovina Ar. S**	**4.96**	**120**	*e*Pn	**Pn**	**21 08 02.5**	**-0.4**
BUR08	**Bucovina Ar. S**	**4.96**	**120**	*e*Pn	**Pn**	**21 08 02.5**	**-0.4**
BURAR	**Bucovina Array**	**4.99**	**120**	⇓*i*P	**Pn**	**21 08 03.1**	**-0.1**
BURAR	**Bucovina Array**	**4.99**	**120**	⇓*i*P	**Pn**	**21 08 03.1**	**-0.1**
GZR	**Gura Zlata**	**5.58**	**150**	⇓*i*P	**Pn**	**21 08 11.4**	**0.0**
GZR	**Gura Zlata**	**5.58**	**150**	⇓*i*P	**Pn**	**21 08 11.4**	**0.0**
AKASG	**Malin Array Be**	**6.63**	**83**	Pg	**Pb**	**21 08 43.2**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=271,slow=14,SNR=4.4						
AKASG				Lg		21 10 16.5	
	comp=Z,0.5nm,0.3s,baz=207,slow=26,SNR=1.7						
FINES	**FINESS Array B** comp=Z,0.2nm,0.3s,baz=190,slow=12,SNR=9.0	**11.87**	**17**	Pn	**Pn**	**21 09 34.4**	**-3.1**

NIED ***21*** *21:27:00, 38°.60N×138°.00E, h20km, Mw3.8 Best double couple: M0 5.12000×10^14 NP1:φ=17.00000°, δ=56.00000°, λ=89.00000°. NP2:φ=198.00000°, δ=34.00000°, λ=91.00000°.*
IDC ***21*** *21:27:11.3±0.7, 38°.66N×137°.98E, h0km, mb3.7/9, mb1 4.0/10, mb1mx3.7/25, mbtmp3.7/10, ML3.0/2, Error ellipse: s-maj=21.9km s-min=19.1km az=91.0*
ISCJB ***21*** *21:27:14.1±1.0, 38°.63N±0°.04×138°.05E±0°.04, h32km±7km, mb3.5/9, Error ellipse: s-maj=7.1km s-min=5.9km az=0.2*
NEIC ***21*** *21:27:14.1, 38°.65N×138°.04E, h41km, MG4.0(JMA), After JMA.*
NEIC Recorded [1 JMA] on Sadogo-shima.
JMA ***21*** *21:27:14.0±0.1, 38°.65N×138°.04E, h41km±1km, M4.0*
JMA Felt I J1.

ISC 21 21:27:14.9±1.0, 38°.60N±0°.04×138°.11E±0°.05, h25km±7km, n33, σ0°67/40, mb3.5/9, 3C-4D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSD	**Sado**	**0.57**	**168**	⇓P	**Pb**	**21 27 26.4**	**0.0**
JSD				*e*S	**Sb**	**21 27 35.1**	**+1.0**
JAW	**Awa shima**	**0.91**	**99**	⇓P	**Pb**	**21 27 31.2**	**-0.8**
JAW				*e*S	**Sb**	**21 27 43.8**	**+0.2**
JNS	**Sasagawa**	**1.23**	**129**	⇓P	**Pn**	**21 27 36.0**	**-0.5**
JNS				*e*S	**Sn**	**21 27 52.2**	**-0.1**
JYA	**Atsumi**	**1.26**	**90**	P	**Pn**	**21 27 36.2**	**-0.7**
JYA				*e*S	**Sn**	**21 27 52.6**	**-0.4**
JSZ	**Suzu**	**1.29**	**207**	⇑P	**Pn**	**21 27 36.6**	**-0.7**
JSZ				*e*S	**Sn**	**21 27 53.1**	**-0.7**
JHK	**Hiroka**	**1.53**	**152**	⇓P	**Pn**	**21 27 40.3**	**-0.3**
JHK				*e*S	**Sn**	**21 27 59.7**	**+0.1**
JYS	**Shirataka**	**1.58**	**103**	⇑P	**Pn**	**21 27 41.7**	**+0.3**
JFY	**Yanaizu**	**1.73**	**133**	P	**Pn**	**21 27 43.5**	**+0.1**
JYK	**Kaneyama**	**1.79**	**79**	⇑P	**Pn**	**21 27 43.8**	**-0.4**
MAJO	**Matsushiro**	**2.05**	**178**	*e*Pn	**Pn**	**21 27 48.1**	**+0.3**
MAT	**Matsushiro**	**2.05**	**178**	P	**Pn**	**21 27 47.8**	**0.0**
MAT				S	**Sn**	**21 28 12.0**	**-0.6**
MJAR	**Matsushiro Arr** 2.9nm,0.3s,baz=346,slow=13,SNR=31	**2.06**	**178**	Pn	**Pn**	**21 27 48.4**	**+0.6**
MJAR	**Matsushiro Arr**	**2.06**	**178**	Pn	**Pn**	**21 27 48.4**	**+0.6**
KSRS	**Korea Array** 0.3nm,0.3s,baz=79,slow=14,SNR=6.3	**8.12**	**265**	Pn	**Pn**	**21 29 11.7**	**+0.5**
KSAR	**Wonju Array Be**	**8.15**	**265**	Pn	**Pn**	**21 29 11.7**	**+0.1**
SONM	**Songino Array** 0.9nm,0.8s,mb3.3,baz=108,slow=11,SNR=6.8	**24.74**	**302**	P	**P**	**21 32 33.4**	**-0.7**
SONM	**Songino Array**	**24.74**	**302**	P	**P**	**21 32 33.4**	**-0.7**
MKAR	**Makanchi Array** 0.2nm,0.7s,mb2.9,baz=88,slow=12,SNR=2.5	**41.07**	**300**	P	**P**	**21 34 54.7**	**-1.6**
MKAR	**Makanchi Array**	**41.07**	**300**	P	**P**	**21 34 54.7**	**-1.6**
ILAR	**Eielson Array** 0.7nm,0.9s,mb3.7,baz=270,slow=5.4,SNR=3.6	**49.59**	**33**	P	**P**	**21 36 03.5**	**-0.1**
ILAR	**Eielson Array**	**49.59**	**33**	P	**P**	**21 36 03.5**	**-0.1**
WRA	**Warramunga Arr** 1.1nm,1.0s,mb3.9,baz=0.1,slow=7.6,SNR=10	**58.34**	**184**	P	**P**	**21 37 08.0**	**+0.2**
WRA	**Warramunga Arr**	**58.34**	**184**	P	**P**	**21 37 08.0**	**+0.2**
ASAR	**Alice Springs** 0.2nm,0.6s,mb3.4,baz=15,slow=14,SNR=4.7	**62.06**	**184**	P	**P**	**21 37 34.2**	**+1.0**
ASAR	**Alice Springs**	**62.06**	**184**	P	**P**	**21 37 34.2**	**+1.0**
BRTR	**Keskin Array B** 0.3nm,0.4s,mb3.5,baz=59,slow=6.9,SNR=3.3	**75.85**	**310**	P	**P**	**21 38 59.0**	**0.0**
BRTR	**Keskin Array B**	**75.85**	**310**	P	**P**	**21 38 59.0**	**0.0**
NVAR	**Mina Array Bea** 0.9nm,0.7s,mb3.8,baz=278,slow=5.8,SNR=6.0	**76.12**	**52**	P	**P**	**21 39 02.2**	**+1.7**
NVAR	**Mina Array Bea**	**76.12**	**52**	P	**P**	**21 39 02.2**	**+1.7**
PDAR	**Pinedale Array** 0.9nm,0.8s,mb3.8,baz=297,slow=4.6,SNR=4.7	**78.40**	**44**	P	**P**	**21 39 13.6**	**+0.4**
PDAR	**Pinedale Array**	**78.40**	**44**	P	**P**	**21 39 13.6**	**+0.4**
TXAR	**Lajitas Array** 0.1nm,0.8s,mb3.2,baz=291,slow=2.3,SNR=5.5	**91.19**	**50**	P	**P**	**21 40 19.4**	**+1.5**
TXAR	**Lajitas Array**	**91.19**	**50**	P	**P**	**21 40 19.4**	**+1.5**

IDC ***21*** *21:42:21.6±9.7, 31°.12S×178°.80W, h90km±93km, mb3.4/2, mb1 3.7/3, mb1mx3.2/16, mbtmp3.5/3, Error ellipse: s-maj=77.0km s-min=54.0km az=169.0*

ISC 21 21:42:28.2±2.4, 31°.7S±0°.1×179°.1W±0°.2, h135km±20km, n14, σ0°84/17, mb3.5/2, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**6.27**	**199**	*e*PN	**Pn**	**21 44 00.0**	**+1.7**
PUZ	**Puketiti**	**6.76**	**198**	*e*PN	**Pn**	**21 44 03.9**	**-1.0**
PUZ				*e*SN	**Sn**	**21 45 26.3**	**+5.8**
URZ	**Urewera**	**7.28**	**204**	P	**Pn**	**21 44 13.6**	**+1.6**
URZ				S	**Sn**	**21 45 41.1**	**+7.9**
URZ	**Urewera**	**7.28**	**204**	*e*PN	**Pn**	**21 44 12.1**	**+0.1**
URZ				*e*SN	**Sn**	**21 45 41.5**	**+8.3**
PRHZ	**Porangahau**	**9.26**	**201**	*e*PN	**Pn**	**21 44 37.7**	**-0.8**
MRZ	**Mangatainoka R**	**9.96**	**204**	*e*SN	**Sn**	**21 46 36.7**	**-1.1**
TCW	**Tory Channel**	**10.92**	**207**	*e*SN	**Sn**	**21 47 01.5**	**+0.4**
NNZ	**Nelson**	**11.29**	**210**	*e*SN	**Sn**	**21 47 10.8**	**+0.7**
THZ	**Tophouse**	**11.94**	**210**	*e*PN	**Pn**	**21 45 13.0**	**-1.1**
THZ				*e*SN	**Sn**	**21 47 25.9**	**+0.1**
ASAR	**Alice Springs** 0.5nm,0.7s,mb3.3,baz=103,slow=7.3,SNR=8.5	**42.10**	**269**	P	**P**	**21 50 07.3**	**+0.2**
WRA	**Warramunga Arr** 1.1nm,0.6s,mb3.7,baz=111,slow=8.0,SNR=21	**43.20**	**274**	P	**P**	**21 50 15.7**	**-0.3**
VNA3	**Neumayer Olymp**	**77.12**	**177**	*e*	**P**	**21 54 06.2**	**-0.1**
VNA2	**Neumayer--Watz** baz=185,slow=4.0	**77.55**	**177**	*e*	**P**	**21 54 09.1**	**+0.5**
FINES	**FINESS Array B** 3.2nm,0.8s,baz=54,slow=3.3,SNR=9.4	**145.97**	**339**	PKPbc	PKPbc	22 01 48.1	-3.2

IDC ***21*** *21:48:28.8±3.5, 4°.37S×101°.96E, h0km, mb3.6/6, mb1 3.7/6, mb1m

VOIR			1.99	82	⇑*iP*	**Pn**	**21 56 48.8**	**+0.5**
VOIR			1.99	82	*i* S	**Sn**	**21 57 14.0**	**+0.1**
VOIR			1.99	82	⇑*iP*	**Pn**	**21 56 48.8**	**+0.5**
VOIR					*i* S	**Sn**	**21 57 14.0**	**+0.1**
VOIR			1.99	82	⇑*iP*	**Pn**	**21 56 48.8**	**+0.5**
VOIR					S	**Sn**	**21 57 14.0**	**+0.1**
HUMR	**Humele**		2.05	108	⇓*iP*	**Pn**	**21 56 50.8**	**+1.8**
HUMR	**Humele**		2.05	108	S	**Sn**	**21 57 15.8**	**+0.5**
HUMR	**Humele**		2.05	108	⇓*iP*	**Pn**	**21 56 50.8**	**+1.8**
HUMR					*i* S	**Sn**	**21 57 15.8**	**+0.5**
HUMR	**Humele**		2.05	108	⇓*iP*	**Pn**	**21 56 50.8**	**+1.8**
HUMR					S	**Sn**	**21 57 15.8**	**+0.5**
SELS	**Selova**		2.12	203	*e*Pn	**Pn**	**21 56 51.5**	**+1.4**
IVAS	**Ivanjica**		2.20	224	*e*Pn	**Pn**	**21 56 50.4**	**-0.7**
IVAS	**Ivanjica**		2.20	224	*e*Pn	**Pn**	**21 56 50.4**	**-0.7**
BARS	**Barje**		2.39	188	*e*Pn	**Pn**	**21 56 54.3**	**+0.6**
BARS	**Barje**		2.39	188	*e*Pg	**Pn**	**21 56 56.6**	**+2.9**
BARS					*i* Sn	**Sn**	**21 57 23.7**	**+0.1**
BARS					*e*Sg	**Sg**	**21 57 29.4**	**-0.7**
BARS	**Barje**		2.39	188	*e*Pn	**Pn**	**21 56 54.3**	**+0.6**
BARS	**Barje**		2.39	188	*e*Pg	**Pn**	**21 56 56.6**	**+2.9**
BARS					*i* Sn	**Sn**	**21 57 23.7**	**+0.1**
BARS					*e*Sg	**Sg**	**21 57 29.4**	**-0.7**
MLR	**Muntele Rosu**		2.62	82	*e*Pn	**Pn**	**21 56 58.1**	**+1.2**
MLR					*e*Sg	**Sg**	**21 57 37.7**	**0.0**
MLR	**Muntele Rosu**		2.62	82	⇑*iP*	**Pn**	**21 56 58.3**	**+1.4**
MLR	**Muntele Rosu**		2.62	82	⇑*iP*	**Pn**	**21 56 58.3**	**+1.4**
MLR	**Muntele Rosu**		2.62	82	*e*Pn	**Pn**	**21 56 58.1**	**+1.2**
MLR					*e*Sg	**Sg**	**21 57 37.7**	**0.0**
VTS	**Vitosha**		2.68	165	*e*Pn	**Pn**	**21 56 56.6**	**-1.1**
VTS	**Vitosha**		2.68	165	⇑*iP*	**Pn**	**21 57 00.2**	**+2.5**
VTS	**Vitosha**		2.68	165	⇑*iP*	**Pn**	**21 57 00.2**	**+2.5**
VTS	**Vitosha**		2.68	165	*e*Pn	**Pn**	**21 56 56.6**	**-1.1**
VTS	**Vitosha**		2.68	165	⇑*iP*	**Pn**	**21 57 00.2**	**+2.5**
PKSM	**Moragy**		2.73	293	*e*Pn	**Pn**	**21 56 57.7**	**-0.7**
PKSM	**Moragy**		2.73	293	*e*Pn	**Pn**	**21 56 57.7**	**-0.7**
PSZ	**Piszkesteto**		3.18	330	⇑*iP*	**Pn**	**21 57 05.3**	**+0.7**
PSZ	**Piszkesteto**		3.18	330	⇑*iP*	**Pn**	**21 57 05.3**	**+0.7**
PSZ	**Piszkesteto**		3.18	330	⇑*iP*	**Pn**	**21 57 05.3**	**+0.7**
BURAR	**Bucovina Array**		3.18	39	⇓*iP*	**Pn**	**21 57 05.3**	**+0.7**
BURAR	**Bucovina Array**		3.18	39	⇓*iP*	**Pn**	**21 57 05.3**	**+0.7**
BURAR	**Bucovina Array**		3.18	39	⇓*iP*	**Pn**	**21 57 05.3**	**+0.7**

*ISCJB **21** 21:58:21.8±0.8, 24°.32S±0°.05×67°.8W±0°.2, h226km±21km, Error ellipse: s-maj=24.0km s-min=8.2km az=2.2*
*IDC **21** 21:58:22.2±1.6, 24°.26S×67°.66W, h205km±21km, mb2.9/1, mb1 3.1/4, mb1mx2.8/18, mbtmp2.9/4, Error ellipse: s-maj=38.0km s-min=15.0km az=89.0*
*NEIC **21** 21:58:23.9±1.1, 24°.24S×67°.51W, h215km±16km, mb3.7/1, Error ellipse: s-maj=21.7km s-min=14.1km az=95.0*

ISC 21 21:58:22.1±0.8, **24°.31S**±0°.05×**67°.8W**±0°.2, **h211**km±19km, **n12**, σ**1°15/15**, **Chagos-Archipelago border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**5.34**	**208**	*e*Pn	**Pn**	**21 59 46.8**	**+5.8**
LCO				*e*S	**S**	**22 00 42.7**	**-0.8**
CFAA	**Coronel Fontan**	**7.28**	**183**	P	**Pn**	**22 00 07.8**	**+1.9**
	0.1nm,0.3s,baz=18,slow=11,SNR=13						
CFAA				S	**S**	**22 01 28.1**	**-0.6**
	0.5nm,0.3s,baz=222,slow=16,SNR=13						
CFAA	**Coronel Fontan**	**7.28**	**183**	P	**Pn**	**22 00 07.8**	**+1.9**
CFAA				S	**S**	**22 01 28.1**	**-0.6**
LPAZ	**La Paz**	**7.98**	**358**	P	**Pn**	**22 00 17.0**	**+1.8**
	0.9nm,0.3s,baz=150,slow=9.1,SNR=15						
LPAZ				S	**S**	**22 01 43.0**	**-2.5**
	0.4nm,0.3s,baz=348,slow=17,SNR=1.9						
LPAZ	**La Paz**	**7.98**	**358**	*e*Pn	**Pn**	**22 00 16.6**	**+1.4**
LPAZ				*e*Sn	**S**	**22 01 45.3**	**-0.3**
CPUP	**Villa Florida**	**9.72**	**104**	P	**Pn**	**22 00 37.0**	**-0.5**
	1.2nm,0.3s,baz=257,slow=10,SNR=7.5						
CPUP	**Villa Florida**	**9.72**	**104**	P	**Pn**	**22 00 37.0**	**-0.5**
TRQA	**Tornquist**	**14.59**	**161**	*e*Pn	**Pn**	**22 01 39.2**	**+0.5**
	2.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**77.39**	**69**	P	**P**	**22 09 53.3**	**-0.9**
	0.2nm,0.4s,baz=256,slow=6.8,SNR=5.3						
TORD	**Torodi Ar. Bea**	**77.39**	**69**	P	**P**	**22 09 53.3**	**-0.9**
WRA	**Warramunga Arr**	**131.00**	**208**	PKP	PKPdf	22 17 12.3	+3.0
	1.4nm,1.3s,baz=158,slow=1.8,SNR=4.8						
WRA	**Warramunga Arr**	**131.00**	**208**	PKP	PKPdf	22 17 12.3	+3.0

IDC 21 22:04:58.0±4.0, **3°.04N**×**96°.76E**, **h0**km, **mb3.4**/4, **mb1 3.5**/4, **mb1mx3.3**/23, **mbtmp3.4**/4, **Error ellipse: s-maj=152.3km s-min=28.8km az=58.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.39**	**123**	P	P	22 13 02.6	-0.1
	0.3nm,0.5s,baz=302,slow=9.0,SNR=6.1						
MKAR	**Makanchi Array**	**45.36**	**346**	P	P	22 13 18.0	-0.1
	0.3nm,0.7s,baz=149,slow=9.1,SNR=5.6						
SONM	**Songino Array**	**45.40**	**9**	P	P	22 13 18.4	+0.2
	0.2nm,0.7s,baz=188,slow=8.7,SNR=2.7						
ZALV	**Zalesovo Beam**	**51.69**	**351**	P	P	22 14 06.5	-0.2
	0.4nm,0.4s,baz=167,slow=7.0,SNR=2.8						

*TEH **21** 22:06:38.4, 26°.64N×55°.88E, h18km*
*KISR **21** 22:06:41.5±0.9, 27°.21N×55°.40E, h34km±999km, ML3.4*
*CSEM **21** 22:06:44.4±0.8, 26°.79N×55°.68E, h20km, ML3.4, Error ellipse: s-maj=33.4km s-min=5.0km az=50.0*
*OMAN **21** 22:06:48.8±99.0, 26°.44N×56°.12E, h24km±204km, Error ellipse: s-maj=926.0km s-min=27.7km az=11.0*

ISC 21 22:06:43.3±2.3, **26°.76N**±0°.05×**55°.64E**±0°.08, **h10**km±19km, **n22**, σ**0°83/29**, **2D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BANOM	**Banah**	**1.03**	**145**	P	**Pg**	**22 06 59.6**	**-3.4**
	SNR=125						
BANOM	**Banah**	**1.03**	**145**	P	**Pg**	**22 06 59.6**	**-3.4**
	SNR=125						
NAZ	**Nazwa, Dubai**	**1.77**	**179**	⇓P	**Pn**	**22 07 14.1**	**+0.2**
NAZ	**Nazwa, Dubai**	**1.77**	**179**	P	**Pn**	**22 07 14.1**	**+0.2**
HATD	**Hatta, Dubai**	**1.98**	**167**	⇓P	**Pn**	**22 07 17.0**	**+0.2**
HATD	**Hatta, Dubai**	**1.98**	**167**	P	**Pn**	**22 07 17.0**	**+0.2**
ASHO	**Ashiyiah**	**2.11**	**170**	P	**Pn**	**22 07 17.7**	**-0.8**
	SNR=14						
ASHO	**Ashiyiah**	**2.11**	**170**	P	**Pn**	**22 07 17.7**	**-0.8**
	SNR=14						
ASUD	**Al Ashush, Dub**	**2.15**	**188**	P	**Pn**	**22 07 20.3**	**+1.3**
	SNR=14						
ASUD	**Al Ashush, Dub**	**2.15**	**188**	P	**Pn**	**22 07 20.3**	**+1.2**
	SNR=14						
ISRV	**Sarvestan**	**3.43**	**320**	*e*Pn	**Pn**	**22 07 37.3**	**+0.5**
ISRV				*e*		22 08 26.2	
	comp=Z,337nm,0.1s						
IPAR	**Pars**	**3.82**	**324**	*e*Pn	**Pn**	**22 07 43.1**	**+0.9**
IPAR				*e*		22 08 32.1	
	comp=Z,307nm,0.3s						
IMEH	**Mehriz**	**4.70**	**349**	*e*Pn	**Pn**	**22 07 54.0**	**-0.1**
IMEH				*e*		22 08 03.3	
	comp=Z,168nm,0.1s						
IMEH				*e*Sn	**Sn**	**22 08 49.0**	**+0.3**
IBAF	**Bafgh**	**4.81**	**359**	*e*Pn	**Pn**	**22 07 54.6**	**-1.1**
IBAF				*e*		22 07 56.4	
	comp=Z,186nm,0.1s						
RDF	**Al-Radifah**	**7.48**	**289**	*e*P	**Pn**	**22 08 33.0**	**+0.7**
RDF				*e*S	**Sn**	**22 09 57.2**	**-0.1**
RDF				AML	AML	22 09 59.1	
	comp=Z,6.2nm,0.3s						
RDF	**Al-Radifah**	**7.48**	**289**	*e*P	**Pn**	**22 08 33.0**	**+0.6**
RDF				*e*S	**Sn**	**22 09 57.2**	**0.0**
UMR	**Umm Al-Rimmam**	**7.53**	**293**	*e*P	**Pn**	**22 08 33.5**	**+0.5**
UMR	**Umm Al-Rimmam**	**7.53**	**293**	*e*P	**Pn**	**22 08 33.5**	**+0.5**
NAY	**Al-Naaiem**	**7.82**	**290**	*e*P	**Pn**	**22 08 37.8**	**+0.6**
NAY				*e*S	**Sn**	**22 10 04.5**	**-1.2**
NAY				AML	AML	22 10 05.9	
	comp=Z,3.7nm,0.7s						
NAY	**Al-Naaiem**	**7.82**	**290**	*e*P	**Pn**	**22 08 37.8**	**+0.7**
NAY				*e*S	**Sn**	**22 10 04.5**	**-1.3**
	comp=Z,6.0nm,0.6s						
MIB	**Mutribah**	**7.92**	**294**	*e*P	**Pn**	**22 08 38.7**	**+0.3**
MIB				*e*S	**Sn**	**22 10 06.9**	**-1.1**
MIB				AML	AML	22 10 07.8	
	comp=Z,5.8nm,0.6s						
MIB	**Mutribah**	**7.92**	**294**	*e*P	**Pn**	**22 08 38.7**	**+0.3**
MIB				*e*S	**Sn**	**22 10 06.9**	**-1.2**

*NEIC **21** 22:28:13.1, 39°.46N×33°.07E, h5km, MD3.0(ISK), After ISK.*
*ISK **21** 22:28:13.1, 39°.46N×33°.07E, h5km, MD3.1*
*ISCJB **21** 22:28:14.1±0.7, 39°.43N±0°.04×33°.08E±0°.04, h2km±7km, Error ellipse: s-maj=6.7km s-min=4.6km az=145.1*
*CSEM **21** 22:28:14.0±0.2, 39°.45N×33°.04E, h2km, MD3.1, Error ellipse: s-maj=5.5km s-min=4.5km az=145.0*
*DDA **21** 22:28:14.9, 39°.55N×32°.94E, h3km±5km, Md2.9*

ISC 21 22:28:14.4±0.6, **39°.43N**±0°.04×**33°.09E**±0°.04, **h2**km±6km, **n38**, σ**0°89/49**, **1C, Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFSR	**Afʿar-Bala (A**	**0.02**	**313**	*e*PG	**Pg**	**22 28 13.3**	**-1.7**
AFSR	**Afʿar-Bala (A**	**0.02**	**313**	*e*Pg	**Pg**	**22 28 13.3**	**-1.7**
BBAL	**Bala**	**0.11**	**14**	⇑*iP*	**Pg**	**22 28 17.5**	**+0.9**
BBAL				*i* S	**Sg**	**22 28 19.9**	**+1.7**
BBAL	**Bala**	**0.11**	**14**	*i* P	**Pg**	**22 28 17.5**	**+0.9**
BBAL				*i* S	**Sg**	**22 28 19.9**	**+1.8**
BR131	**Keskin Array S**	**0.52**	**55**	*i* P	**Pg**	**22 28 24.8**	**+0.5**
BR131				S	**Sg**	**22 28 29.8**	**-1.2**
BR131	**Keskin Array S**	**0.52**	**55**	*i* P	**Pg**	**22 28 24.8**	**+0.5**
BR131				S	**Sg**	**22 28 29.8**	**-1.2**
LOD	**Lodumlu**	**0.52**	**331**	*e*PG	**Pg**	**22 28 23.8**	**-0.6**
LOD				*e*SG	**Sg**	**22 28 31.7**	**+0.5**
LOD	**Lodumlu**	**0.52**	**331**	Pg	**Pg**	**22 28 23.8**	**-0.6**
LOD				Sg	**Sg**	**22 28 31.8**	**+0.7**
LOD	**Lodumlu**	**0.52**	**331**	*e*Pg	**Pg**	**22 28 23.8**	**-0.6**
LOD				*e*Sg	**Sg**	**22 28 31.7**	**+0.6**
KIZT	**Kizilcal**	**1.09**	**240**	*e*PN	**Pg**	**22 28 35.1**	**-0.2**
KIZT				*e*SN	**Sg**	**22 28 51.0**	**+1.6**
KIZT	**Kizilcal**	**1.09**	**240**	Pn	**Pg**	**22 28 35.1**	**-0.2**
KIZT	**Kizilcal**	**1.09**	**240**	*e*Pn	**Pg**	**22 28 35.1**	**-0.2**
KIZT				*e*Sn	**Sg**	**22 28 51.0**	**+1.5**
KDHN	**Kadinhani**	**1.19**	**220**	*i* P	**Pg**	**22 28 36.9**	**-0.2**
KDHN	**Kadinhani**	**1.19**	**220**	*i* P	**Pg**	**22 28 36.9**	**-0.3**
SVRH	**Sivrihisar-ESK**	**1.21**	**271**	*e*PN	**Pn**	**22 28 37.1**	**-1.2**
SVRH	**Sivrihisar-ESK**	**1.21**	**271**	Pn	**Pn**	**22 28 37.1**	**-1.2**
SVRH	**Sivrihisar-ESK**	**1.21**	**271**	*e*Pn	**Pn**	**22 28 37.1**	**-1.2**
CANT	**Cankiri**	**1.24**	**19**	*e*PN	**Pg**	**22 28 37.6**	**-0.6**
CANT	**Cankiri**	**1.24**	**19**	*e*P	**Pg**	**22 28 37.6**	**-0.6**
SULT	**Sultanhani-AKS**	**1.28**	**165**	*e*PN	**Pn**	**22 28 39.0**	**-0.2**
SULT	**Sultanhani-AKS**	**1.28**	**165**	Pn	**Pn**	**22 28 39.0**	**-0.2**
SULT	**Sultanhani-AKS**	**1.28**	**165**	*e*Pn	**Pn**	**22 28 39.0**	**-0.2**
CORM	**Corum**	**1.40**	**57**	*e*PN	**Pn**	**22 28 40.3**	**-0.6**
CORM	**Corum**	**1.40**	**57**	*e*Pn	**Pn**	**22 28 40.3**	**-0.6**
AVNT	**Avonos**	**1.52**	**115**	*i* P	**Pn**	**22 28 44.5**	**+1.9**
AVNT				*i* S	**Sn**	**22 29 02.5**	**-0.5**
AVNT	**Avonos**	**1.52**	**115**	*i* P	**Pn**	**22 28 44.5**	**+1.9**
AVNT				*i* S	**Sn**	**22 29 02.5**	**-0.4**
KONT	**Konya--Tatoy**	**1.59**	**201**	*e*PN	**Pn**	**22 28 43.5**	**0.0**
KONT	**Konya--Tatoy**	**1.59**	**201**	*e*Pn	**Pn**	**22 28 43.5**	**0.0**
ESKT	**Eskisehir**	**1.73**	**274**	*e*PN	**Pn**	**22 28 45.2**	**-0.3**
ESKT	**Eskisehir**	**1.73**	**274**	*e*Pn	**Pn**	**22 28 45.2**	**-0.3**
YOZ	**Yozgat**	**1.74**	**82**	*e*PN	**Pn**	**22 28 45.9**	**+0.3**
YOZ	**Yozgat**	**1.74**	**82**	*e*Pn	**Pn**	**22 28 45.9**	**+0.3**
TOS	**Tosya**	**1.75**	**24**	*e*PN	**Pn**	**22 28 45.8**	**0.0**
TOS	**Tosya**	**1.75**	**24**	*e*Pn	**Pn**	**22 28 45.8**	**0.0**
SAFT	**Safranbolu**	**1.83**	**350**	*e*PN	**Pn**	**22 28 46.5**	**-0.4**
SAFT	**Safranbolu**	**1.83**	**350**	*e*Pn	**Pn**	**22 28 46.5**	**-0.3**
BNN	**Bunyan**	**2.22**	**104**	*e*PN	**Pn**	**22 28 52.8**	**+0.5**
BNN	**Bunyan**	**2.22**	**104**	*e*Pn	**Pn**	**22 28 52.8**	**+0.6**

IDC 21 22:34:15.6±10.0, **23°.40S×66°.40W, h217**km±80km, **mb2.8/1, mb1 2.8/2, mb1mx2.5/16, mbtmp2.7/2, Error ellipse: s-maj=131.7km s-min=81.3km az=47.0, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**7.26**	**347**	P	Pn	22 35 59.9	+0.6
	0.2nm,0.3s,baz=172,slow=7.9,SNR=6.5						
LPAZ				S	S	22 37 23.6	+1.5
	0.1nm,0.3s,baz=347,slow=13,SNR=2.1						
TORD	**Torodi Ar. Bea**	**75.84**	**69**	P	P	22 45 38.5	+0.1
	0.1nm,0.3s,baz=261,slow=5.6,SNR=4.3						
MKAR	**Makanchi Array**	**145.71**	**39**	PKPbc	PKPbc	22 53 28.1	-0.7
	0.9nm,0.9s,baz=326,slow=3.3,SNR=5.4						

*ISCJB **21** 22:34:59.1±0.5, 55°.13S±0°.07×129°.5W±0°.2, h10km, mb4.5/14, MS4.9/26, Error ellipse: s-maj=13.9km s-min=9.9km az=160.8*
*IDC **21** 22:35:00.1±0.5, 55°.06S×129°.48W, h0km, mb4.3/10, mb1 4.5/10, mb1mx4.3/14, mbtmp4.3/10, MS4.8/22, Ms1 4.8/22, ms1mx4.7/27, Error ellipse: s-maj=24.6km s-min=16.2km az=161.0*
*NEIC **21** 22:35:01.5±0.4, 55°.03S×129°.57W, h10km, mb4.8/4, MS5.0/6, Error ellipse: s-maj=19.4km s-min=12.5km az=147.0*
*GCMT **21** 22:35:06.1±0.1, 55°.22S×129°.49W, h24km, MW5.6, Moment Tensor Solution. s90,c151; s40,c40; Moment tensor: Scale 10^{17}Nm; M_{rr}-0.25±.04; $M_{\theta\theta}$1.95±.05; $M_{\phi\phi}$-1.70±.04; $M_{r\theta}$0.17±.10; $M_{\theta\phi}$2.20±.04; $M_{\phi r}$0.06±.10; Best double couple: $M_0$2.90000×10^{17} NP1:ϕ_s20.00000°, δ87.00000°, λ178.00000°. NP2:ϕ_s110.00000°, δ88.00000°, λ3.00000°. Principal axes: T 2.9900, Plg3.0000°, Azm335.0000°; N -0.2600, Plg87.0000°, Azm148.0000°; P -2.7300, Plg0.0000°, Azm245.0000°; Data Used: II IU IC G CN. Surface waves: sta=104, comp=190, per= 50.*

ISC 21 22:35:00.9±0.5, **55°.10S**±0°.07×**129°.6W**±0°.2, **h10**km, **n80**, σ**1°28/34**, **mb4.5/14**, **MS4.9/26**, **Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**31.60**	**36**	LR	LR	22 50 57.6	
	comp=Z,1μm,21.0s,MS4.5,baz=184,slow=30						
RKT	**Rikitea**	**32.19**	**351**	*e*S	**S**	**22 46 41.1**	**-0.4**
	622nm,31.0s						
RKT				*e*LQ		22 48 29.7	
	1μm,32.1s						
RKT				*e*LR	LR	22 49 52.5	
	5μm,30.0s,baz=171						
RKT				*e*T		23 14 58.8	
	25nm,0.3s						
VNDA	**Vanda**	**32.39**	**202**	P	**P**	**22 41 34.4**	**+4.3**
	2.2nm,0.8s,mb4.0,baz=90,slow=7.2,SNR=3.6						
VNDA				LR	LR	22 52 28.2	
	comp=Z,441nm,18.5s,MS4.2,baz=82,slow=32						
VNDA	**Vanda**	**32.39**	**202**	*e*P	**P**	**22 41 31.9**	**+1.8**
	9.1nm,1.1s,mb4.5						
VNDA				LR	LR		
	comp=Z,929nm,20.0s,MS4.5						
PMSA	**Palmer Station**	**32.72**	**134**	LR	LR	22 51 17.5	
	comp=Z,2μm,21.4s,MS4.8,baz=322,slow=30						
USHA	**Ushuaia**	**34.13**	**115**	LR	LR	22 51 41.7	
	comp=Z,2μm,18.4s,MS4.8,baz=231,slow=29						
TBI	**Tubuai**	**34.98**	**327**	*e*S	**S**	**22 47 24.0**	**-0.9**
	comp=Z,504nm,29.9s						
TBI				*e*LR	LR	22 51 01.2	
	comp=Z,5μm,29.8s,baz=163						
TBI				*e*T		23 18 28.5	
	comp=Z,208nm,0.4s						
QSPA	**South Pole Qui**	**35.08**	**180**	P	**P**	**22 41 56.3**	**+2.8**
	comp=Z,20nm,1.1s,mb5.0,baz=94,slow=4.4,SNR=22						
QSPA	**South Pole Qui**	**35.08**	**180**	P	**P**	**22 41 56.3**	**+2.8**
QSPA				LR	LR		
	comp=Z,3μm,20.0s,MS5.1						
MEH	**Mehetia**	**39.75**	**332**	*e*T		23 24 26.6	
	comp=Z,44nm,0.2s						
PPT	**Papeete**	**40.46**	**330**	*e*S	**S**	**22 48 47.3**	**-0.8**
	comp=Z,842nm,26.0s						
PPT				*e*LQ		22 51 50.5	
	comp=Z,957nm,24.0s						
PPT				*e*LR	LR	22 53 47.9	
	comp=Z,6μm,26.8s,baz=170						
VAH	**Vaihoa**	**42.16**	**334**	*e*T		23 27 27.1	
	comp=Z,211nm,0.3s						
PMOR	**Pomariorio Ree**	**42.45**	**333**	*e*T		23 27 49.0	
	comp=Z,10.0nm,0.2s						
TAOE	**Nuku Hiva Isls**	**46.88**	**346**	*e*S	**S**	**22 50 20.1**	**-1.7**
	comp=Z,535nm,24.1s						
TAOE				*e*LR	LR	22 56 43.6	
	comp=Z,4μm,26.0s						
VNA3	**Neumayer Olymp**	**47.04**	**157**	*e*	**P**	**22 43 29.4**	**-2.5**
VNA2	**Neumayer--Watz**	**47.77**	**158**	*e*	**P**	**22 43 35.3**	**-2.3**
	baz=224,slow=8.6						
VNA1	**Neumayer--Stat**	**47.79**	**157**	*e*	**P**	**22 43 36.4**	**-1.3**
SNAA	**Sanae**	**48.13**	**160**	*e*	**P**	**22 43 36.5**	**-3.8**
SNAA	**Sanae**	**48.13**	**160**	LR	LR	23 02 21.9	
	comp=Z,984nm,20.5s,MS4.8,baz=233,slow=34						
SNAA	**Sanae**	**48.13**	**160**	*e*P	**P**	**22 43 36.0**	**-4.3**
	comp=Z,5.2nm,0.8s,mb4.6						
CFAA	**Coronel Fontan**	**48.56**	**87**	P	**P**	**22 43 43.8**	**-0.4**
	comp=Z,1.7nm,0.9s,mb4.1,baz=227,slow=6.7,SNR=19						
CFAA	**Coronel Fontan**	**48.56**	**87**	P	**P**	**22 43 43.8**	**-0.4**
LCO	**Las Campanas**	**49.09**	**83**	*e*P	**P**	**22 43 47.9**	**-0.3**
	comp=Z,19nm,0.9s,mb5.1						
LCO				LR	LR		
	comp=Z,485nm,21.0s,MS4.5						
MAW	**Mawson**	**57.27**	**186**	P	**P**	**22 44 48.8**	**+0.9**
	comp=Z,5.4nm,1.1s,mb4.5,baz=185,slow=5.9,SNR=8.6						
MAW				LR	LR	23 06 51.5	
	comp=Z,900nm,19.2s,MS4.9,baz=165,slow=33						
MAW	**Mawson**	**57.27**	**186**	*e*P	**P**	**22 44 48.8**	**+0.9**
	comp=Z,5.3nm,0.9s,mb4.6						
MAW	**Mawson**	**57.27**	**186**	*e*P	**P**	**22 44 48.2**	**+0.3**
DZM	**Mont Dzumac**	**57.33**	**278**	*e*LR	LR	23 01 48.2	
	comp=Z,2μm,28.9s						
CPUP	**Villa Florida**	**58.80**	**92**	P	**P**	**22 44 58.6**	**-0.6**
	comp=Z,1.6nm,0.5s,mb4.3,baz=208,slow=7.8,SNR=5.7						
CPUP				LR	LR	23 06 49.4	
	comp=Z,2μm,19.2s,MS5.3,baz=207,slow=32						
CPUP	**Villa Florida**	**58.80**	**92**	P	**P**	**22 44 58.6**	**-0.6**
CPUP				LR	LR	23 06 49.4	
LPAZ	**La Paz**	**60.55**	**76**	P	**P**	**22 45 12.6**	**+1.2**
	comp=Z,16nm,1.1s,mb5.0,baz=195,slow=4.2,SNR=21						
LPAZ				LR	LR	23 06 05.1	
	comp=Z,209nm,20.5s,MS4.3,baz=273,slow=31						
LPAZ	**La Paz**	**60.55**	**76**	P	**P**	**22 45 12.6**	**+1.2**
STKA	**Stephens Creek**	**63.88**	**251**	LR	LR	23 07 40.2	
	comp=Z,1μm,21.2s,MS5.1,baz=88,slow=31						
CTA	**Charters Tower**	**70.46**	**263**	LR	LR	23 15 08.4	
	comp=Z,422nm,18.0s,MS4.7,baz=302,slow=34						
ASAR	**Alice Springs**	**74.51**	**251**	P	**P**	**22 46 40.0**	**+0.4**
	comp=Z,1.7nm,0.9s,mb4.0,baz=143,slow=5.7,SNR=12						
ASAR				LR		23 15 35.1	
	comp=Z,980nm,19.1s,MS5.1,baz=129,slow=33						
ASAR	**Alice Springs**	**74.51**	**251**	P	**P**	**22 46 40.0**	**+0.4**
ASAR				LR	LR	23 15 35.1	
ROSC	**El Rosal**	**75.08**	**58**	P	**P**	**22 46 44.7**	**+1.9**
	comp=Z,5.2nm,0.4s,mb4.8,baz=95,slow=18,SNR=6.0						
ROSC				LR	LR	23 13 44.2	
	comp=Z,323nm,18.4s,MS4.7,baz=196,slow=31						
ROSC	**El Rosal**	**75.08**	**58**	P	**P**	**22 46 44.7**	**+1.9**
ROSC				LR	LR	23 13 44.2	
JTS	**JuntasAbangare**	**75.10**	**46**	LR	LR	23 12 44.1	
	comp=Z,638nm,18.1s,MS5.0,baz=195,slow=30						
NWAO	**Narrogin (SRO)**	**75.37**	**233**	LR	LR	23 11 24.2	
	comp=Z,582nm,21.6s,MS4.8,baz=142,slow=29						
NWAO	**Narrogin (SRO)**	**75.37**	**233**	PFAKE		22 47 00.0	+16
NWAO				LR	LR		
	comp=Z,1μm,19.0s,MS5.1						
WRA	**Warramunga Arr**	**77.27**	**254**	P	**P**	**22 46 55.5**	**+0.1**
	comp=Z,1.3nm,0.6s,mb4.1,baz=142,slow=5.4,SNR=27						
WRA				LR	LR	23 17 34.2	
	comp=Z,814nm,19.5s,MS5.0,baz=140,slow=33						
WRA	**Warramunga Arr**	**77.27**	**254**	P	**P**	**22 46 55.5**	**+0.2**
WRA				LR	LR	23 17 34.2	
WRAB	**Tennant Creek**	**77.27**	**254**	*e*P	**P**	**22 46 54.9**	**-0.5**
	comp=Z,8.8nm,0.9s,mb4.7						
WRAB				LR	LR		
	comp=Z,909nm,20.0s,MS5.1						
TXAR	**Lajitas Array**	**86.99**	**22**	P	**P**	**22 47 47.1**	**+1.2**
	comp=Z,1.3nm,0.9s,mb4.2,baz=186,slow=7.4,SNR=7.6						
TXAR				LR	LR	23 19 30.6	
	comp=Z,160nm,18.9s,MS4.5,baz=295,slow=31						

0.6nm,0.6s,mb3.7,baz=195,slow=7.2,SNR=5.6
MKAR Makanchi Array 53.38 12 P P 22 45 10.4 -0.7
ZALV Zalesovo Beam 60.69 11 P P 22 46 01.7 -1.0
1.4nm,0.7s,mb4.2,baz=196,slow=8.3,SNR=7.6
ZALV Zalesovo Beam 60.69 11 P P 22 46 01.7 -1.0
SONM Songino Array 62.51 28 P P 22 46 16.0 +0.9
1.0nm,0.8s,mb4.0,baz=216,slow=6.6,SNR=8.0
SONM Songino Array 62.51 28 P P 22 46 16.0 +0.9
ASAR Alice Springs 65.06 113 P P 22 46 33.2 +0.6
1.3nm,0.7s,mb4.1,baz=280,slow=6.1,SNR=15
ASAR Alice Springs 65.06 113 P P 22 46 33.2 +0.6
WRA Warramunga Arr 65.20 109 P P 22 46 34.2 +0.7
3.2nm,0.7s,mb4.5,baz=280,slow=6.4,SNR=31
WRA Warramunga Arr 65.20 109 P P 22 46 34.2 +0.7
WB2 Warramunga Arr 65.21 109 *eP* P 22 46 33.7 +0.1
WB2 *e*PcP PcP 22 47 07.3 +1.2
NVAR Mina Array Bea 146.55 10 PKPbc PKPbc 22 55 35.0 +1.5
0.6nm,0.7s,baz=350,slow=3.5,SNR=3.9
NVAR Mina Array Bea 146.55 10 PKPbc PKPbc 22 55 35.0 +1.5

NEIC ***21*** *22:36:10.0,39.˚39N×38.˚40E,h5km,MD3.1(ISK),After ISK.*
ISCJB ***21*** *22:36:12.5±0.4,39.˚39N±0.˚02×38.˚40E±0.˚03,h10km,Error ellipse: s-maj=3.6km s-min=3.4km az=35.9*
CSEM ***21*** *22:36:12.3±0.2,39.˚38N×38.˚33E,h8km,MD2.9,Error ellipse: s-maj=6.1km s-min=5.9km az=81.0*
DDA ***21*** *22:36:12.2,39.˚39N×38.˚30E,h7km±3km,Md2.9*
ISK ***21*** *22:36:12.0,39.˚37N×38.˚40E,h8km,MD3.2*

ISC 21 22:36:12.3±0.6,39.˚41N±0.˚03×38.˚35E±0.˚03,h3km±6km, n43,σ0.92/61,1C,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KEMA	**Kemaliye**	**0.18**	**142**	↑*i*P		**Pg**	**22 36 16.8**	**+1.0**
KEMA				*i* S		**Sg**	**22 36 20.2**	**+2.2**
KEMA	**Kemaliye**	**0.18**	**142**	*i* P		**Pg**	**22 36 16.8**	**+1.1**
KEMA				*i* S		**Sg**	**22 36 20.2**	**+2.2**
EZC	**Erzincan**	**0.84**	**66**	*e*PG		**Pg**	**22 36 29.0**	**+0.5**
EZC				*e*SG		**Sg**	**22 36 40.6**	**+1.1**
EZC	**Erzincan**	**0.84**	**66**	*e*P		**Pg**	**22 36 27.6**	**-0.9**
EZC				Sg		**Sg**	**22 36 39.6**	**+0.2**
EZC	**Erzincan**	**0.84**	**66**	*e*P		**Pg**	**22 36 27.6**	**-0.9**
EZC	**Erzincan**	**0.84**	**66**	*e*Pg		**Pg**	**22 36 32.2**	**+3.7**
EZC				*e*Sg		**Sg**	**22 36 47.0**	**+7.5**
PTK	**Pertek**	**0.96**	**122**	*e*PG		**Pg**	**22 36 29.4**	**-1.3**
PTK				*e*SG		**Sg**	**22 36 43.2**	**+0.1**
PTK	**Pertek**	**0.96**	**122**	Pg		**Pg**	**22 36 29.4**	**-1.3**
PTK	**Pertek**	**0.96**	**122**	*e*Pg		**Pg**	**22 36 29.4**	**-1.3**
PTK				*e*Sg		**Sg**	**22 36 43.2**	**+0.1**
SCER	**sogukcermik**	**1.05**	**296**	*i* P		**Pg**	**22 36 31.7**	**-0.7**
SCER				*i* S		**Sg**	**22 36 46.5**	**+0.5**
SCER	**sogukcermik**	**1.05**	**296**	*i* P		**Pg**	**22 36 31.7**	**-0.7**
SCER				*i* S		**Sg**	**22 36 46.5**	**+0.5**
ERZN	**Erzincan**	**1.07**	**80**	*e*PG		**Pg**	**22 36 32.2**	**-0.6**
ERZN				*e*SG		**Sg**	**22 36 47.0**	**+0.2**
MYA	**Malatya**	**1.08**	**177**	*e*PG		**Pg**	**22 36 32.7**	**-0.4**
MYA				*e*SG		**Sg**	**22 36 47.3**	**+0.2**
MYA	**Malatya**	**1.08**	**177**	Pg		**Pg**	**22 36 32.2**	**-0.8**
MYA	**Malatya**	**1.08**	**177**	*e*Pg		**Pg**	**22 36 32.7**	**-0.3**
MYA				*e*Sg		**Sg**	**22 36 47.3**	**+0.2**
MALT	**Malatya**	**1.10**	**177**	*e*PG		**Pg**	**22 36 32.3**	**-0.9**
MALT	**Malatya**	**1.10**	**177**	Pg		**Pg**	**22 36 32.3**	**-0.9**
MALT	**Malatya**	**1.10**	**177**	*e*Pg		**Pg**	**22 36 32.3**	**-1.0**
AKCD	**Akcadag**	**1.16**	**197**	*i* P		**Pg**	**22 36 34.2**	**-0.4**
AKCD				*i* S		**Sg**	**22 36 50.2**	**+0.6**
AKCD	**Akcadag**	**1.16**	**197**	*i* P		**Pg**	**22 36 34.2**	**-0.4**
AKCD				*i* S		**Sg**	**22 36 50.2**	**+0.6**
RSDY	**Resadiye-TOKAT**	**1.26**	**322**	*e*PN		**Pn**	**22 36 37.1**	**+0.3**
RSDY	**Resadiye-TOKAT**	**1.26**	**322**	*e*Pn		**Pn**	**22 36 37.1**	**+0.3**
SVRC	**Sivrice-ELAZID**	**1.27**	**144**	*e*PN		**Pn**	**22 36 35.5**	**-1.4**
SVRC	**Sivrice-ELAZID**	**1.27**	**144**	*e*Pn		**Pn**	**22 36 35.5**	**-1.4**
GUMT	**Gumushane**	**1.36**	**39**	*e*PN		**Pn**	**22 36 37.9**	**-0.3**
GUMT	**Gumushane**	**1.36**	**39**	*e*Pn		**Pn**	**22 36 37.9**	**-0.3**
SARI	**SarD1z-Kayseri**	**1.48**	**241**	*e*PN		**Pn**	**22 36 44.7**	**+4.9**
SARI	**SarD1z-Kayseri**	**1.48**	**241**	*e*Pn		**Pn**	**22 36 44.7**	**+4.9**
ESPY	**Espiye-Giresun**	**1.53**	**11**	*e*PN		**Pn**	**22 36 41.0**	**+0.4**
ESPY				*e*SN		**Sn**	**22 37 01.4**	**+0.5**
ESPY	**Espiye-Giresun**	**1.53**	**11**	*e*Pn		**Pn**	**22 36 41.0**	**+0.5**
ESPY				*e*Sn		**Sn**	**22 37 01.4**	**+0.4**
BAYT	**Ayd¯–ntepe-Bay**	**1.69**	**54**	*e*PN		**Pn**	**22 36 42.2**	**-0.5**
BAYT	**Ayd¯–ntepe-Bay**	**1.69**	**54**	*e*Pn		**Pn**	**22 36 42.2**	**-0.5**
TOKA	**Tokat**	**1.71**	**303**	*i* P		**Pn**	**22 36 42.3**	**-0.6**
TOKA				*i* S		**Sn**	**22 37 07.3**	**+2.0**
TOKA	**Tokat**	**1.71**	**303**	*i* P		**Pn**	**22 36 42.3**	**-0.6**
TOKA				*i* S		**Sn**	**22 37 07.3**	**+2.0**
BINT	**Bingol**	**1.74**	**107**	*e*Pn		**Pn**	**22 36 44.5**	**+1.1**
BNGB	**Bing¶l**	**1.85**	**102**	*e*PN		**Pn**	**22 36 44.5**	**-0.5**
BNN	**Bunyan**	**2.03**	**255**	*e*PN		**Pn**	**22 36 47.4**	**+0.1**
BNN	**Bunyan**	**2.03**	**255**	*e*Pn		**Pn**	**22 36 47.4**	**+0.1**
KMRS	**Kahramanmaras**	**2.22**	**211**	*e*PN		**Pn**	**22 36 50.0**	**+0.1**
KMRS	**Kahramanmaras**	**2.22**	**211**	*e*Pn		**Pn**	**22 36 50.0**	**+0.1**
KOZT	**Kozan**	**2.77**	**227**	*e*PN		**Pn**	**22 36 58.0**	**+0.5**
BR131	**Keskin Array S**	**3.66**	**276**	*e*P		**Pn**	**22 37 07.2**	**-2.6**
BR131	**Keskin Array S**	**3.66**	**276**	*e*P		**Pn**	**22 37 07.2**	**-2.5**

ISCJB ***21*** *22:42:35.6±0.5,55.˚1S±0.˚1×129.˚4W±0.˚2,h10km,mb4.3/14, MS4.3/2,Error ellipse: s-maj=14.9km s-min=13.1km az=169.8*
IDC ***21*** *22:42:36.2±0.5,54.˚88S×129.˚52W,h0km,mb4.3/15, mb1 4.4/15,mb1mx4.3/18,mbtmp4.3/15,MS4.2/2, Ms1 4.2/2,ms1mx3.8/25,Error ellipse: s-maj=19.0km s-min=14.7km az=162.0*
NEIC ***21*** *22:42:37.6±0.3,54.˚87S×129.˚56W,h10km,Error ellipse: s-maj=14.4km s-min=11.1km az=156.0*
GCMT ***21*** *22:42:42.2±0.2,55.˚19S×129.˚59W,h18km±1km,MW5.2, Moment Tensor Solution. s23,c30; s77,c118; Moment tensor: Scale 10¹⁶Nm; Mrr=.1.17±.28; Mθθ5.08±.28; Mϕϕ=3.92±.25; Mrθ=-0.24±.55; Mθϕ5.26±.20; Mϕr0.85±.56; Best double couple: M₀7.00000×10¹⁶ NP1:ϕ±110.00000°, δ83.00000°,λ=-6.00000°. NP2:ϕ±201.00000°,δ84.00000°, λ=-173.00000°. Principal axes: T 7.5000, Plg1.0000°, Azm335.0000°; N -1.0300, Plg81.0000°, Azm240.0000°; P -6.4900, Plg9.0000°, Azm65.0000°; Data Used: ll IU IC G CN.*

ISC 21 22:42:37.4±0.5,55.˚0S±0.˚1×129.˚5W±0.˚2,h10km, (h8km±.3km:pP-P),n68,σ1.9/36,mb4.3/14,MS4.3/2, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**32.13**	**350**	*e*LQ			22 56 03.3	
	508nm,33.5s							
RKT				*e*LR		LR	22 57 26.4	
	2µm,29.8s							
RKT				*e*T			23 22 34.3	
	24nm,0.3s							
VNDA	**Vanda**	**32.49**	**202**	P		**P**	**22 49 10.8**	**+3.3**
	3.0nm,0.9s,mb4.1,baz=88,slow=7.7,SNR=9.2							
VNDA	**Vanda**	**32.49**	**202**	P		**P**	**22 49 10.8**	**+3.3**
QSPA	**South Pole Qui**	**35.15**	**180**	P		**P**	**22 49 33.0**	**+2.4**
	8.6nm,0.8s,mb4.7,baz=95,slow=5.9,SNR=17							
QSPA	**South Pole Qui**	**35.15**	**180**	P		**P**	**22 49 32.9**	**+2.3**
MEH	**Mehetia**	**39.72**	**332**	*e*T			23 32 01.9	
	56nm,0.2s							
PPT	**Papeete**	**40.44**	**330**	*e*LR		LR	23 01 22.3	
	2µm,26.2s,baz=171							
VAH	**Vaihoa**	**42.13**	**333**	*e*T			23 35 02.5	
	176nm,0.3s							
PMOR	**Pomariorio Ree**	**42.42**	**333**	*e*T			23 35 24.5	
	11nm,0.3s							
TAOE	**Nuku Hiva Isla**	**46.83**	**345**	*e*LR		LR	23 04 17.2	
	1µm,25.0s							
VNA3	**Neumayer Olymp**	**47.07**	**157**	*e*P		**P**	**22 51 06.1**	**-2.5**
VNA3				*e*		pP	22 51 08.6	-3.2
VNA2	**Neumayer--Watz**	**47.81**	**158**	*e*P		**P**	**22 51 12.3**	**-2.0**
	baz=320,slow=18							
VNA2				*e*		pP	22 51 14.8	-2.7
VNA1	**Neumayer--Stat**	**47.83**	**157**	*e*P		**P**	**22 51 13.1**	**-1.4**
VNA1				*e*		pP	22 51 15.3	-2.3
SNAA	**Sanae**	**48.17**	**160**	*e*P		**P**	**22 51 13.1**	**-4.0**
SNAA				*e*		pP	22 51 15.3	-5.0
SNAA	**Sanae**	**48.17**	**160**	P		**P**	**22 51 17.3**	**+0.1**
	1.1nm,0.8s,mb4.0,baz=248,slow=4.3,SNR=12							
SNAA	**Sanae**	**48.17**	**160**	P		**P**	**22 51 17.3**	**+0.1**
CFAA	**Coronel Fontan**	**48.48**	**87**	P		**P**	**22 51 19.8**	**-0.2**
	1.4nm,1.0s,mb4.0,baz=219,slow=7.4,SNR=14							
CFAA	**Coronel Fontan**	**48.48**	**87**	P		**P**	**22 51 19.8**	**-0.2**
AFI	**Afiamalu**	**52.50**	**305**	P		**P**	**22 51 49.4**	**-1.1**
	11nm,0.3s,baz=111,slow=14,SNR=2.0							
AFI	**Afiamalu**	**52.50**	**305**	P		**P**	**22 51 49.4**	**-1.1**
MAW	**Mawson**	**57.35**	**186**	P		**P**	**22 52 25.6**	**+0.7**
	3.2nm,1.0s,mb4.3,baz=120,slow=5.6,SNR=5.6							
MAW	**Mawson**	**57.35**	**186**	P		**P**	**22 52 25.6**	**+0.7**
DZM	**Mont Dzumac**	**57.40**	**278**	*e*LR		LR	23 09 20.2	
	531nm,31.9s							
CPUP	**Villa Florida**	**58.72**	**92**	P		**P**	**22 52 35.4**	**+0.2**
	1.6nm,0.5s,mb4.3,baz=219,slow=5.8,SNR=5.4							
CPUP	**Villa Florida**	**58.72**	**92**	P		**P**	**22 52 35.4**	**+0.2**
NNA	**Nana**	**59.28**	**65**	LR		LR	23 13 34.3	
	comp=Z,65nm,18.6s,MS3.8,baz=182,slow=31							
LPAZ	**La Paz**	**60.45**	**76**	P		**P**	**22 52 48.9**	**+1.8**
	8.3nm,1.0s,mb4.7,baz=197,slow=5.8,SNR=21							
LPAZ	**La Paz**	**60.45**	**76**	P		**P**	**22 52 48.9**	**+1.8**
ATAH	**Atahualpa**	**62.61**	**60**	LR		LR	23 13 34.9	
	comp=Z,599nm,19.5s,MS4.8,baz=208,slow=30							
STKA	**Stephens Creek**	**63.98**	**251**	P		**P**	**22 53 12.0**	**+1.3**
	3.8nm,1.0s,mb4.4,baz=60,slow=8.1,SNR=2.7							
STKA	**Stephens Creek**	**63.98**	**251**	P		**P**	**22 53 12.0**	**+1.3**
AS31	**Alice Springs**	**74.62**	**251**	*e*P		**P**	**22 54 16.6**	**-0.1**
ASAR	**Alice Springs**	**74.62**	**251**	P		**P**	**22 54 16.0**	**-0.7**
	1.5nm,0.8s,mb4.0,baz=144,slow=6.7,SNR=9.1							
ASAR	**Alice Springs**	**74.62**	**251**	P		**P**	**22 54 16.0**	**-0.7**
ROSC	**El Rosal**	**74.97**	**58**	P		**P**	**22 54 18.2**	**-0.5**
	4.0nm,0.4s,mb4.7,baz=76,slow=18,SNR=5.9							
ROSC	**El Rosal**	**74.97**	**58**	P		**P**	**22 54 18.2**	**-0.5**
WB2	**Warramunga Arr**	**77.36**	**253**	*e*P		**P**	**22 54 31.7**	**-0.7**
WB2				*e*PP		PP	22 57 25.8	-0.5
WRA	**Warramunga Arr**	**77.37**	**253**	P		**P**	**22 54 31.7**	**-0.7**
	3.2nm,0.7s,mb4.3,baz=143,slow=5.3,SNR=31							
WRA	**Warramunga Arr**	**77.37**	**253**	P		**P**	**22 54 31.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**83.59**	**248**	P		**P**	**22 55 06.6**	**+0.8**
	3.6nm,0.9s,mb4.5,baz=197,slow=8.7,SNR=4.1							
FITZ	**Fitzroy Crossi**	**83.59**	**248**	P		**P**	**22 55 06.6**	**+0.8**
TXAR	**Lajitas Array**	**86.89**	**22**	P		**P**	**22 55 23.0**	**+1.1**
	0.6nm,1.0s,mb3.8,baz=183,slow=3.6,SNR=2.8							
TXAR	**Lajitas Array**	**86.89**	**22**	P		**P**	**22 55 23.0**	**+1.1**
NVAR	**Mina Array Bea**	**93.57**	**9**	P		**P**	**22 55 52.6**	**-0.3**
	0.9nm,0.8s,mb4.3,baz=204,slow=2.0,SNR=3.5							
NVAR	**Mina Array Bea**	**93.57**	**9**	P		**P**	**22 55 52.6**	**-0.3**
ILAR	**Eielson Array**	**120.21**	**351**	PKP		PKPdf	23 01 27.6	+0.7
	1.3nm,0.7s,baz=202,slow=2.3,SNR=8.7							
ILAR	**Eielson Array**	**120.21**	**351**	PKP		PKPdf	23 01 27.6	+0.7
TORD	**Torodi Ar. Bea**	**123.64**	**118**	PKP		PKPdf	23 01 34.8	-0.3
	0.6nm,0.6s,baz=349,slow=1.2,SNR=4.1							
TORD	**Torodi Ar. Bea**	**123.64**	**118**	PKP		PKPdf	23 01 34.8	-0.3
ESDC	**Sonseca Array**	**141.07**	**90**	PKP		PKPdf	23 02 08.7	+1.6
	0.2nm,0.5s,baz=222,slow=2.5,SNR=3.7							
ESDC	**Sonseca Array**	**141.07**	**90**	PKP		PKPdf	23 02 08.7	+1.6
SJPF	**Ste Jean**	**144.86**	**88**	*e*PKP1		PKPdf	23 02 11.5	-2.2
	72nm,1.3s							
ULN	**Ulaanbaatar**	**144.92**	**282**	*e*PKPdf		PKPdf	23 02 13.1	-0.5
ETSF	**Etsaut**	**145.11**	**89**	*e*PKP1		PKPbc	23 02 11.6	-2.1
	42nm,1.1s							
SONM	**Songino Array**	**145.28**	**282**	PKPbc		PKPbc	23 02 14.1	0.0
	1.8nm,0.7s,baz=144,slow=3.1,SNR=13							
SONM	**Songino Array**	**145.28**	**282**	PKPbc		PKPbc	23 02 14.1	0.0
EPF	**Esparros**	**145.71**	**89**	*e*PKP1		PKPbc	23 02 12.2	-3.4
	35nm,1.1s							
KEST	**Kesra**	**145.88**	**107**	PKPbc		PKPbc	23 02 17.6	+1.3
	3.4nm,1.0s,baz=297,slow=2.3,SNR=3.0							
KEST	**Mesra**	**145.88**	**107**	PKPbc		PKPbc	23 02 17.6	+1.3
MFF	**Saint Martin d**	**147.53**	**84**	*e*PKP1		PKPbc	23 02 16.7	-4.0
	36nm,1.2s							
DAVOX	**Davos/Dischmat**	**153.39**	**91**	PKPbc		PKPbc	23 02 36.3	+1.5
	4.4nm,0.9s,baz=153,slow=18,SNR=3.2							
DAVOX	**Davos/Dischmat**	**153.39**	**91**	PKPbc		PKPbc	23 02 36.3	+1.5
GERES	**GERESS Array B**	**156.67**	**90**	PKP		PKPdf	23 02 33.1	+1.4
	0.9nm,0.9s,baz=336,slow=2.9,SNR=4.9							
GERES	**GERESS Array B**	**156.67**	**90**	PKP		PKPdf	23 02 33.1	+1.4
MKAR	**Makanchi Array**	**158.51**	**261**	PKPab		PKPab	23 03 08.5	-0.6
	0.7nm,0.7s,baz=106,slow=4.3,SNR=3.7							
ZALV	**Zalesovo Beam**	**160.17**	**281**	PKPab		PKPab	23 03 15.4	-0.6
	1.7nm,0.9s,baz=100,slow=3.3,SNR=5.8							
BRTR	**Keskin Array B**	**160.97**	**137**	PKPab		PKPab	23 03 20.8	+0.9
	2.3nm,0.7s,baz=184,slow=5.7,SNR=8.5							
BVAR	**Borovoye Array**	**168.16**	**268**	PKPab		PKPab	23 03 53.5	+2.2
	0.4nm,0.6s,baz=142,slow=5.4,SNR=3.0							

IDC 21 22:46:50.4±1.1,54.˚80S×129.˚55W,h0km,mb3.8/5, mb1 4.0/5,mb1mx3.6/14,mbtmp3.8/5,Error ellipse: s-maj=37.2km s-min=28.2km az=151.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**32.68**	**202**	P		P	22 53 25.4	+1.8
	1.0nm,0.9s,baz=90,slow=9.1,SNR=2.4							
QSPA	**South Pole Qui**	**35.38**	**180**	P		P	22 53 46.5	-0.6
	0.7nm,0.3s,baz=96,slow=7.4,SNR=3.4							
LPAZ	**La Paz**	**60.45**	**76**	P		P	22 57 02.3	+0.5
	2.5nm,1.1s,baz=184,slow=3.5,SNR=3.5							
ASAR	**Alice Springs**	**74.64**	**251**	P		P	22 58 29.9	-1.5
	0.3nm,0.6s,baz=125,slow=4.9,SNR=4.1							
WRA	**Warramunga Arr**	**77.38**	**253**	P		P	22 58 46.1	-1.0
	0.3nm,0.8s,baz=134,slow=7.1,SNR=4.4							
SONM	**Songino Array**	**145.18**	**282**	PKPbc		PKPbc	23 06 29.2	+0.8
	0.6nm,0.5s,baz=93,slow=3.0,SNR=5.4							
MKAR	**Makanchi Array**	**158.49**	**261**	PKPab		PKPab	23 07 25.2	+1.6
	0.5nm,0.7s,baz=139,slow=6.8,SNR=3.2							

ISCJB ***21*** *23:07:45.5±0.2,24.˚27S±0.˚02×69.˚30W±0.˚05,h77km, mb4.7/34,Error ellipse: s-maj=6.1km s-min=3.1km az=168.3*
NEIC ***21*** *23:07:45.8±0.5,24.˚24S×69.˚23W,h68km±4km,mb4.8/14, Error ellipse: s-maj=8.4km s-min=4.4km az=66.0*
NEIC Felt [III] at Sierra Gorda and [II] at Antofagasta.
BJI ***21*** *23:07:46.7,24.˚20S×69.˚20W,h47km,mB5.0/11,Ms5.3/7, Ms7 5.3/7*
GUC ***21*** *23:07:46.7±0.7,24.˚16S×69.˚59W,h100km±7km,ML5.3*
IDC ***21*** *23:07:47.1±0.3,24.˚18S×69.˚33W,h78km±2km,mb4.5/20, mb1 4.6/24,mb1mx4.5/27,mbtmp4.5/24,Error ellipse: s-maj=15.5km s-min=8.9km az=62.0*

ISC 21 23:07:47.6±0.2,24.˚21S±0.˚03×69.˚18W±0.˚06,h79km, h79km±.8km:pP-P,n554,σ0.9/69/506,mb4.7/34,176C-180D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ANCH	**Antofagasta**	**1.24**	**295**	↓*i*P		**Pn**	**23 08 06.6**	**-2.9**
ANCH				*i* S		**Sn**	**23 08 20.8**	**-5.2**
ANCH				AML		AML	23 08 24.9	
	comp=N,37µm,0.3s							
SPCH	**San Pedro de A**	**1.58**	**35**	*e*P		**Pn**	**23 08 17.7**	**+3.8**
SPCH				*i* S		**Sn**	**23 08 41.4**	**+7.5**
SPCH				AML		AML	23 08 43.8	
	comp=N,40µm,0.6s							
MECH	**Mejillones**	**1.60**	**313**	↓*i*P		**Pn**	**23 08 12.2**	**-2.0**
MECH				*i* S		**Sn**	**23 08 30.7**	**-3.6**
MECH				AML		AML	23 08 42.5	
	comp=E,34µm,0.5s							
PB04	**Plate Boundary**	**1.96**	**352**	↓*i*P		**Pn**	**23 08 18.8**	**-0.1**
PB04				*e*S		**Sn**	**23 08 43.3**	**+0.5**
PB04				AML		AML	23 08 51.0	
	comp=E,41µm,0.4s							
MACH	**Maria Elena**	**2.08**	**345**	↑*i*P		**Pn**	**23 08 20.0**	**-0.4**
MACH				*i* S		**Sn**	**23 08 45.4**	**-0.1**
PB09	**Plate Boundary**	**2.41**	**359**	↑*i*P		**Pn**	**23 08 25.8**	**+0.9**
PB07	**Plate Boundary**	**2.56**	**345**	↑*i*P		**Pn**	**23 08 26.0**	**-0.9**
PB07				*i* S		**Sn**	**23 08 56.3**	**-0.8**
PB07				AML		AML	23 09 07.9	
	comp=E,21µm,0.5s							
PB01	**Plate Boundary**	**3.17**	**355**	↑*i*P		**Pn**	**23 08 34.6**	**-0.6**
PB01				*i* S		**Sn**	**23 09 12.3**	**+0.4**
PB01				AML		AML	23 09 21.5	
	comp=E,17µm,0.2s							
CDCH	**Caldera**	**3.20**	**207**	↓*i*P		**Pn**	**23 08 31.6**	**-4.1**
CDCH				*i* S		**Sn**	**23 09 07.7**	**-5.1**
CDCH				AML		AML	23 09 18.5	
	comp=N,7µm,0.6s							
LCO	**Las Campanas**	**4.97**	**196**	*e*Pn		**Pn**	**23 08 55.2**	**-4.5**
LCO				*e*Sn		**Sn**	**23 09 55.3**	**-0.5**
CFAA	**Coronel Fontan**	**7.41**	**174**	P		**Pn**	**23 09 31.4**	**-1.5**
	comp=N,1.8nm,0.3s,baz=348,slow=13,SNR=64							
CFAA				S		**Sn**	**23 10 56.8**	**+1.3**
	comp=N,4.9nm,0.3s,baz=196,slow=16,SNR=6.3							
CFAA	**Coronel Fontan**	**7.41**	**174**	P		**Pn**	**23 09 31.4**	**-1.5**
CFAA				S		**Sn**	**23 10 56.8**	**+1.3**
LPAZ	**La Paz**	**7.95**	**7**	P		**Pn**	**23 09 41.1**	**+0.7**
	comp=N,5.5nm,0.3s,baz=196,slow=6.3,SNR=113							
LPAZ	**La Paz**	**7.95**	**7**	*e*Pn		**Pn**	**23 09 41.1**	**+0.7**
	comp=N,103nm,0.6s							
CPUP	**Villa Florida**	**10.93**	**104**	P		**Pn**	**23 10 21.6**	**+0.6**
	comp=N,0.8nm,0.3s,baz=266,slow=12,SNR=17							
CPUP	**Villa Florida**	**10.93**	**104**	*e*Pn		**Pn**	**23 10 23.6**	**+2.5**
NNA	**Nana**	**14.17**	**328**	P		**Pn**	**23 11 01.3**	**-3.2**
	comp=N,1.5nm,0.3s,baz=180,slow=8.1,SNR=2.2							
NNA				S		**Sn**	**23 13 33.4**	**-7.0**
	comp=N,2.0nm,0.3s,baz=244,slow=15,SNR=1.7							
NNA	**Nana**	**14.17**	**328**	*e*Pn		**Pn**	**23 11 06.0**	**+1.4**
	comp=N,65nm,1.4s							
NNA				S		**Sn**	**23 13 33.4**	**-7.0**
TRQA	**Tornquist**	**15.11**	**158**	*e*Pn		**Pn**	**23 11 15.6**	**-0.9**
ATAH	**Atahualpa**	**19.14**	**331**	P		**Pn**	**23 12 05.3**	**-1.0**
	comp=N,0.6nm,0.3s,baz=161,slow=5.5,SNR=4.2							
ATAH	**Atahualpa**	**19.14**	**331**	P		**Pn**	**23 12 05.3**	**-1.0**
SPB	**Sao Paulo**	**19.90**	**93**	*e*P		**Pn**	**23 12 12.3**	**-2.8**
	comp=N,13nm,0.4s							
OTAV	**Otavalo**	**25.91**	**338**	*e*P		**P**	**23 13 12.9**	**+0.4**
	comp=N,6.0nm,0.7s,mb4.1							
SDV	**Santo Domingo**	**32.93**	**357**	*e*P		**P**	**23 14 12.9**	**-1.7**
RCBR	**Riachuelo**	**36.82**	**66**	*e*P		**P**	**23 14 49.1**	**+0.9**
	comp=N,7.6nm,0.6s,mb4.8							
JTS	**JuntasAbangare**	**37.59**	**334**	P		**P**	**23 14 52.6**	**-2.1**
	comp=N,1.8nm,0.3s,mb4.4,baz=204,slow=13,SNR=3.1							
JTS	**JuntasAbangare**	**37.59**	**334**	P		**P**	**23 14 52.6**	**-2.1**
CELP	**Cerrillos**	**42.11**	**4**	*e*P		**P**	**23 15 29.5**	**-2.5**
TEIG	**Tepich**	**47.93**	**336**	P		**P**	**23 16 17.1**	**-1.1**
	comp=N,17nm,0.5s,mb5.1,baz=313,slow=1.8,SNR=11							
TEIG				pP		pP	23 16 34.6	-3.0
	comp=N,7.2nm,0.3s,baz=60,slow=4.3,SNR=2.5							
TEIG	**Tepich**	**47.93**	**336**	*e*P		**P**	**23 16 16.9**	**-1.3**
	comp=N,16nm,0.5s,mb5.1							
CMIG	**Matias Romero**	**48.11**	**326**	P		**P**	**23 16 18.6**	**-1.0**
	comp=N,8.8nm,0.8s,mb4.6,baz=32,slow=1.3,SNR=6.9							
CMIG	**Matias Romero**	**48.11**	**326**	P		**P**	**23 16 18.6**	**-1.0**
VNA3	**Neumayer Olymp**	**57.60**	**161**	*e*		**P**	**23 17 25.8**	**-3.1**
VNA1	**Neumayer--Stat**	**57.83**	**160**	*e*		**P**	**23 17 27.8**	**-2.7**
VNA2	**Neumayer--Watz**	**58.19**	**160**	*e*		**P**	**23 17 30.0**	**-3.0**
	baz=294,slow=8.6							
VNA2				*e*			23 17 38.2	
HKT	**Hockley**	**59.62**	**333**	*e*P		**P**	**23 17 42.5**	**-0.9**
SNAA	**Sanae**	**59.81**	**160**	*e*		**P**	**23 17 39.6**	**-4.6**
SNAA	**Sanae**	**59.81**	**160**	*e*P		**P**	**23 17 38.8**	**-5.5**
KMSC	**Kings Mountain**	**60.14**	**349**	↑P		**P**	**23 17 46.1**	**-0.7**
	baz=60							
NATX	**Nacogdoches**	**60.76**	**335**	*e*P		**P**	**23 17 51.0**	**-0.1**
CPCT	**Cooper Cave**	**61.09**	**346**	*e*P		**P**	**23 17 50.

219A	White Tail Can	67.76	324	⇓P		P	23	18	37.0 +0.1
	baz=68,SNR=12								
X24A	Lazy VL Ranch,	67.83	328	⇑P		P	23	18	36.9 -0.4
	baz=68,SNR=5.8								
120A	U Bar Ranch, L	67.84	325	⇑P		P	23	18	37.8 +0.3
	baz=68,SNR=5.3								
W25A	X Bar L Ranch,	67.90	329	⇓P		P	23	18	37.3 -0.5
	baz=68,SNR=10								
Z21A	St. Cloud Mine	67.94	326	⇓P		P	23	18	38.4 +0.3
	baz=68,SNR=16								
V26A	Tequesquite Ra	68.07	330	⇓P		P	23	18	38.3 -0.5
	baz=68,SNR=8.0								
Y22A	Socorro	68.08	327	⇑P		P	23	18	39.1 +0.2
	baz=68,SNR=6.8								
BNM	Barren Site	68.08	327	eP		P	23	18	39.0 +0.1
	comp=N,6.1nm,1.0s,mb4.4								
218A	Dragoon	68.17	323	⇑P		P	23	18	39.9 +0.4
	baz=68,SNR=13								
X23A	Hourglass Bar	68.21	328	⇑P		P	23	18	40.0 +0.3
	baz=68,SNR=12								
Z20A	Nine Sixteen R	68.27	325	⇓P		P	23	18	40.6 +0.5
	baz=68,SNR=16								
W24A	Lazy 6 Ranch,	68.34	329	⇑P		P	23	18	40.2 -0.3
	baz=69,SNR=8.4								
119A	Ashpeak Ranch,	68.37	324	⇓P		P	23	18	41.1 +0.4
	baz=69,SNR=5.7								
217A	Green Valley	68.44	323	⇑P		P	23	18	41.5 +0.3
	baz=69								
V25A	Rancho No Teng	68.48	330	⇑P		P	23	18	41.0 -0.4
	baz=69,SNR=11								
Y21A	Point of Rocks	68.49	326	⇓P		P	23	18	42.1 +0.6
	baz=69,SNR=12								
U26A	Atchley Ranch,	68.55	331	⇑P		P	23	18	41.2 -0.6
	baz=69,SNR=10								
118A	Homack Ranch,	68.63	324	⇓P		P	23	18	42.5 +0.1
	baz=69,SNR=17								
ANMO	Albuquerque	68.64	328	P		P	23	18	42.6 +0.2
	comp=N,11nm,0.7s,mb4.8,baz=146,slow=6.7,SNR=37								
ANMO				pP		pP	23	19	02.6 -0.3
	comp=N,1.3nm,0.5s,baz=135,slow=9.2,SNR=2.7								
W23A	Werner Place,	68.66	328	⇓P		P	23	18	42.6 +0.1
	baz=69,SNR=10								
V24A	Rampart Ranch,	68.70	329	⇑P		P	23	18	42.5 -0.3
	baz=69,SNR=12								
Z19A	T-Link Ranch,	68.76	325	⇑P		P	23	18	43.4 +0.3
	baz=69								
Y20A	Horse Springs,	68.78	326	⇑P		P	23	18	43.6 +0.4
	baz=69,SNR=15								
U25A	Circle Dot Ran	68.85	330	⇑P		P	23	18	43.2 -0.4
	baz=69,SNR=14								
X21A	Alamocita Cree	68.90	326	⇓P		P	23	18	44.5 +0.5
	baz=69,SNR=13								
CBKS	Cedar Bluff	68.92	335	⇓P		P	23	18	43.4 -0.6
	baz=69,SNR=6.0								
CBKS	Cedar Bluff	68.92	335	eP		P	23	18	43.1 -0.9
	comp=N,11nm,0.7s,mb4.8								
W22A	Albuquerque	68.94	327	⇓P		P	23	18	44.7 +0.5
	baz=69								
216A	Three Points,	68.97	322	⇓P		P	23	18	44.7 +0.2
	baz=69								
117A	Oracle	69.00	323	⇑P		P	23	18	44.9 +0.2
	baz=69,SNR=17								
Z18A	Geronimo	69.01	324	⇑P		P	23	18	45.0 +0.3
	baz=69								
V23A	Ortiz Mt. (NFS	69.15	328	⇑P		P	23	18	45.8 +0.3
	baz=69,SNR=7.0								
SADO	Sadowa	69.25	352	P		P	23	18	44.9 -1.0
	comp=N,18nm,0.8s,mb4.9,baz=188,slow=4.0,SNR=9.0								
SADO				pP		pP	23	19	05.3 -1.1
	comp=N,8.2nm,0.6s,baz=198,slow=8.2,SNR=3.4								
SADO				sP		sP	23	19	14.2 -0.8
	comp=N,8.6nm,0.8s,baz=247,slow=9.0,SNR=2.8								
SADO	Sadowa	69.25	352	P		P	23	18	44.9 -1.0
SADO				pP		pP	23	19	05.3 -1.1
SADO				sP		sP	23	19	14.2 -0.8
Y19A	Nutrioso	69.27	325	⇓P		P	23	18	47.1 +0.8
	baz=70,SNR=29								
X20A	Quemado	69.33	326	⇑P		P	23	18	47.4 +0.7
	baz=70,SNR=7.0								
W21A	San Fidel	69.36	327	⇑P		P	23	18	47.2 +0.4
	baz=70,SNR=7.3								
Z17A	San Carlos Hig	69.41	324	⇑P		P	23	18	47.6 +0.4
	baz=70								
T25A	Trinidad	69.46	331	⇓P		P	23	18	47.3 -0.1
	baz=70,SNR=5.6								
Y18A	Canyon Day Jun	69.54	324	⇓P		P	23	18	48.5 +0.5
	baz=70								
JFWS	Jewell Farm	69.56	344	eP		P	23	18	46.7 -1.2
U23A	El Rito	69.62	329	⇓P		P	23	18	49.5 +1.0
	baz=70								
V22A	San Miguel Ran	69.63	328	⇑P		P	23	18	49.4 +0.9
	baz=70								
X19A	St. Johns	69.65	325	⇑P		P	23	18	48.7 +0.1
	baz=70								
214A	Organ Pipe Nat	69.70	321	⇑P		P	23	18	49.1 +0.1
	baz=70,SNR=7.9								
T24A	Torres, Weston	69.70	330	⇓P		P	23	18	49.3 +0.4
	baz=70,SNR=5.3								
DBIC	Dimbokro	69.76	73	P		P	23	18	50.3 +0.5
	comp=N,15nm,0.7s,mb5.0,baz=209,slow=5.1,SNR=29								
DBIC				pP		pP	23	19	10.8 +0.5
	comp=N,21nm,0.7s,baz=215,slow=6.8,SNR=13								
DBIC	Dimbokro	69.76	73	eP		P	23	18	50.0 +0.2
DBIC				ePcP		PcP	23	19	11.0 -1.1
W20A	Ramah	69.79	326	⇑P		P	23	18	50.0 +0.5
	baz=70,SNR=12								
Y17A	Roosevelt	69.91	324	⇑P		P	23	18	50.7 +0.4
	baz=70,SNR=19								
115A	Sonoran Desert	69.92	322	⇓P		P	23	18	51.0 +0.6
	baz=70								
U22A	Llaves	69.98	328	⇓P		P	23	18	51.5 +0.9
	baz=70								
X18A	Snowflake	70.07	325	⇓P		P	23	18	51.5 +0.3
	baz=70,SNR=5.7								
W19A	Sanders	70.23	326	⇓P		P	23	18	53.1 +0.9
	baz=70								
S24A	Houchin Ranch,	70.24	330	⇑P		P	23	18	52.6 +0.4
	baz=70,SNR=11								
R25A	Fountain Ranch	70.24	331	⇓P		P	23	18	51.9 -0.2
	baz=70								
V20A	Brimhall	70.31	327	⇑P		P	23	18	52.7 +0.1
	baz=70,SNR=6.9								
114A	Black Gap (USA	70.33	322	⇑P		P	23	18	52.8 0.0
	baz=70,SNR=5.4								
X17A	Forest Lakes	70.38	324	⇓P		P	23	18	54.1 +1.0
	baz=71,SNR=13								
Y16A	Circle Bar Ran	70.39	324	⇑P		P	23	18	53.6 +0.4
	baz=71,SNR=8.8								
U21A	Nageezi	70.40	328	⇓P		P	23	18	53.5 +0.3
	baz=71,SNR=12								
W18A	Petrified Fore	70.42	326	⇑P		P	23	18	53.9 +0.6
	baz=71								
SDCO	Great Sand Dun	70.45	330	⇓P		P	23	18	53.7 +0.3
	baz=71,SNR=16								
SDCO	Great Sand Dun	70.45	330	eP		P	23	18	53.6 +0.1
T22A	Edith	70.51	329	⇓P		P	23	18	54.3 +0.5
	baz=71,SNR=6.1								
BGNE	Belgrade	70.60	337	⇑P		P	23	18	53.8 -0.5
	baz=71								
R24A	Sanders Place,	70.67	331	⇓P		P	23	18	55.4 +0.6
	baz=71								
X16A	Lo Mia Camp, P	70.78	324	⇑P		P	23	18	55.9 +0.4
	baz=71,SNR=15								
U20A	Newcomb	70.79	327	⇑P		P	23	18	55.7 +0.1
	baz=71,SNR=8.9								
T21A	Navajo Lake	70.79	328	⇑P		P	23	18	55.8 +0.3
	baz=71,SNR=5.6								
W17A	Winslow	70.90	325	⇑P		P	23	18	56.6 +0.3
	baz=71								
Y15A	Casa Rosa Ranc	70.92	323	⇓P		P	23	18	56.4 0.0
	baz=71,SNR=7.8								
R23A	Moffat	70.96	330	⇑P		P	23	18	57.3 +0.7
	baz=71								
V18A	Ganado	70.98	326	⇓P		P	23	18	57.1 +0.4
	baz=71								
U19A	Dine' College,	71.06	327	⇓P		P	23	18	57.1 -0.1
	baz=71								
S22A	4UR Ranch, Cre	71.07	329	⇑P		P	23	18	57.2 0.0
	baz=71,SNR=5.1								
Z13A	Yuma Proving G	71.09	322	⇑P		P	23	18	57.7 +0.2
	baz=71								
Y14A	Wickenburg	71.27	323	⇑P		P	23	18	59.3 +0.8
	baz=72								
Q24A	Divide	71.30	331	⇓P		P	23	18	58.7 +0.2
	baz=72,SNR=6.0								
P25A	Willow Gulch B	71.32	332	⇑P		P	23	18	59.3 +0.6
	baz=72								
V17A	Tonalea, Kykot	71.36	325	⇓P		P	23	18	59.5 +0.5
	baz=72,SNR=15								
T19A	Beclabito	71.39	327	⇑P		P	23	18	59.4 +0.2
	baz=72,SNR=13								
MVCO	Mesa Verde	71.44	328	⇓P		P	23	18	59.8 +0.4
	baz=72,SNR=11								
MVCO	Mesa Verde	71.44	328	eP		P	23	18	59.5 +0.1
S21A	Coal Bank Pass	71.45	329	⇓P		P	23	18	60.0 +0.5
	baz=72,SNR=7.8								
WUAZ	Wupatki	71.58	325	⇑P		P	23	19	01.1 +0.8
	baz=72,SNR=14								
WUAZ	Wupatki	71.58	325	eP		P	23	19	00.8 +0.4
S20A	Disappointment	71.86	328	⇑P		P	23	19	02.7 +0.7
	baz=72,SNR=8.7								
R21A	Cimarron	71.90	329	⇓P		P	23	19	02.6 +0.4
	baz=72,SNR=7.3								
U16A	Tuba City	71.93	325	⇓P		P	23	19	03.0 +0.6
	baz=72,SNR=7.6								
P23A	Jefferson	71.94	331	⇑P		P	23	19	04.0 +1.6
	baz=72								
Y12C	Blythe	71.99	321	⇓P		P	23	19	03.9 +1.0
	baz=72								
Q22A	Crested Butte,	72.00	330	⇑P		P	23	19	03.8 +1.0
	baz=72								
U17A	Shonto	72.04	326	⇑P		P	23	19	03.9 +0.8
	baz=72,SNR=8.9								
T18A	Mexican Hat	72.06	327	⇑P		P	23	19	03.5 +0.3
	baz=72,SNR=16								
DVTC	Desert V Tower	72.12	320	⇓P		P	23	19	04.3 +0.7
	baz=72								
SWSC	Sam W. Stewart	72.14	320	⇑P		P	23	19	03.6 -0.2
	baz=72								
ECSD	EROS Data Cent	72.15	339	eP		P	23	19	02.2 -1.4
R20A	Redvale	72.15	328	⇑P		P	23	19	04.5 +0.8
	baz=72,SNR=7.7								
S19A	Harvey Farm, M	72.17	328	⇓P		P	23	19	04.4 +0.6
	baz=72								
PDMCI	Parker Dam,Lak	72.17	322	⇓P		P	23	19	04.2 +0.3
	baz=72								
ISCO	Idaho Springs	72.19	331	⇑P		P	23	19	04.4 +0.5
	baz=72								
ISCO	Idaho Springs	72.19	331	eP		P	23	19	04.4 +0.5
PV01	Paradox Valley	72.20	328	eP		P	23	19	03.9 -0.1
	comp=N,1μm,1.2s								
SMCO	Snowmass	72.29	330	eP		P	23	19	05.3 +0.8
SPMN	St. Paul	72.38	343	⇓P		P	23	19	03.5 -1.5
	baz=73								
T17A	Navajo Res., N	72.42	326	⇑P		P	23	19	06.3 +1.0
	baz=73,SNR=5.1								
BC3	Big Chuckawall	72.45	321	⇑P		P	23	19	05.8 +0.2
	baz=73,SNR=10								
MONP	Monument Peak	72.47	320	⇑P		P	23	19	05.6 -0.2
	baz=73								
BAR	Barrett	72.47	319	eP		P	23	19	06.1 +0.4
P22A	Eagle	72.53	330	⇓P		P	23	19	06.6 +0.7
	baz=73								
S18A	Hurst Farm, Bl	72.55	327	⇑P		P	23	19	06.9 +0.8
	baz=73,SNR=19								
W13A	Hualapai Mount	72.62	323	⇑P		P	23	19	07.3 +0.7
	baz=73								
IRM	Iron Mountain	72.64	321	⇑P		P	23	19	06.9 +0.2
	baz=73,SNR=6.2								
O23A	Lake Granby, G	72.66	331	⇓P		P	23	19	07.2 +0.6
	baz=73								
R19A	Curley Farm, L	72.66	328	⇓P		P	23	19	06.9 +0.1
	baz=73,SNR=5.1								
N24A	Carr	72.72	332	⇓P		P	23	19	07.8 +0.8
	baz=73								
U15A	North Rim	72.75	325	⇓P		P	23	19	08.2 +0.8
	baz=73,SNR=9.6								
P21A	Newcastle	72.78	330	⇓P		P	23	19	08.2 +0.8
	baz=73								
O22A	Kremmling	72.89	331	⇑P		P	23	19	08.1 0.0
	baz=73								
S17A	Black Ridge (B	72.91	327	⇓P		P	23	19	08.7 +0.5
	baz=73,SNR=5.4								
PFO	Pinyon Flat Ob	73.00	320	⇓P		P	23	19	09.1 +0.3
	baz=73								
BELC	Belle Mtn. Jos	73.02	321	⇑P		P	23	19	09.2 +0.2
	baz=73								
R18A	Canyonlands Na	73.04	328	⇓P		P	23	19	09.4 +0.5
	baz=73								
SBA	Scott Base	73.13	191	eP		P	23	19	09.6 +0.6
Q19A	Hogan Spring (	73.18	328	⇓P		P	23	19	10.5 +0.7
	baz=73								
P20A	De Beque	73.20	329	⇑P		P	23	19	10.9 +1.0
	baz=73								
M24A	Cheyenne	73.23	333	⇓P		P	23	19	10.7 +0.7
	baz=74								
N23A	Red Feather La	73.23	332	⇓P		P	23	19	10.7 +0.7
	baz=74								
K27A	Flueckinger Fa	73.23	335	⇓P		P	23	19	10.9 +0.9
	baz=74								
LDFC	Landfair	73.29	322	eP		P	23	19	11.1 +0.6
O21A	Pagoda	73.35	330	⇑P		P	23	19	11.6 +0.8
	baz=74								
N22A	Wattenberg Ran	73.38	331	⇓P		P	23	19	11.7 +0.8
	baz=74								
S16A	Weppner Ranch,	73.38	326	⇑P		P	23	19	11.5 +0.5
	baz=74								
GMRC	Granite Mounta	73.38	321	⇓P		P	23	19	11.6 +0.5
	baz=74,SNR=9.4								
MURC	Murrieta	73.44	320	⇑P		P	23	19	11.8 +0.3
	baz=74								
R17A	Hanksville Air	73.47	327	⇑P		P	23	19	12.0 +0.5
	baz=74,SNR=5.5								
P19A	Cripple Cowboy	73.58	329	⇓P		P	23	19	12.6 +0.5
	baz=74,SNR=12								
M23A	Laramie	73.60	332	⇓P		P	23	19	12.5 +0.3
	baz=74,SNR=5.3								
O20A	White River Ci	73.64	330	⇑P		P	23	19	12.7 +0.2
	baz=74,SNR=7.7								
Q18A	Rafter H Ranch	73.72	328	⇑P		P	23	19	13.5 +0.6
	baz=74								
R16A	Teasdale	73.75	327	⇑P		P	23	19	13.7 +0.6
	baz=74								
HEC	Hector,Ludlow	73.80	321	⇓P		P	23	19	14.1 +0.5
	baz=74,SNR=5.7								
SCI	San Clemente I	73.81	318	⇑P		P	23	19	14.4 +0.8
	baz=74								
SRU	San Rafael	73.91	328	⇓P		P	23	19	14.2 +0.2
	baz=74,SNR=5.6								
M22A	Cedar Creek Ra	73.93	332	⇑P		P	23	19	15.2 +1.1
	baz=74								
TUQ	Turquoise Moun	74.00	322	⇑P		P	23	19	14.9 +0.2
	baz=74,SNR=9.3								
CIS	Catalina Islan	74.02	319	⇑P		P	23	19	15.2 +0.3
	baz=74								
SYO	Syowa Base	74.06	159	⇑eP		P	23	19	12.7 -1.9
Q16A	Castle Valley	74.08	327	⇓P		P	23	19	16.0 +1.0
	baz=74								
R15A	Junction	74.10	326	⇓P		P	23	19	16.1 +0.9
	baz=74								
L23A	Garrett	74.13	333	⇓P		P	23	19	15.8 +0.5
	baz=74								
VNDA	Vanda	74.15	190	P		P	23	19	15.1 +0.1
	comp=N,3.1nm,0.8s,mb4.1,baz=128,slow=6.4,SNR=17								
VNDA				sP		sP	23	19	44.3 0.0
	comp=N,2.7nm,0.8s,baz=86,slow=4.2,SNR=4.4								
VNDA	Vanda	74.15	190	eP		P	23	19	14.9 -0.1
BFSC	Mount Baldy Ra	74.15	320	⇑P		P	23	19	15.6 0.0
	baz=74,SNR=5.3								
CCUT	Cedar City	74.16	325	eP		P	23	19	16.6 +1.0
O19A	Miners Draw (B	74.18	329	⇑P		P	23	19	15.8 +0.2
	baz=74,SNR=5.4								
N20A	Spence Gulch,	74.21	330	⇓P		P	23	19	16.7 +0.9
	baz=74								
MSU	Marysvale	74.28	326	eP		P	23	19	16.6 +0.4
P17A	Butcher Ranch,	74.30	328	⇓P		P	23	19	17.1 +0.7
	baz=74								
MWC	Mount Wilson	74.38	320	eP		P	23	19	17.5 +0.6
GSC	Goldstone	74.41	321	⇓P		P	23	19	17.7 +0.7
	baz=75								
GSC	Goldstone	74.41	321	eP		P	23	19	17.8 +0.7
RWWY	Rawlins	74.43	331	eP		P	23	19	17.5 +0.5
M21A	Separation Pea	74.43	331	⇓P		P	23	19	17.8 +0.8
	baz=75								
O18A	Roosevelt	74.57	329	⇑P		P	23	19	18.2 +0.4
	baz=75								
K23A	Bowen Ranch, D	74.62	333	⇓P		P	23	19	18.2 +0.1
	baz=75,SNR=5.2								
N19A	John Jarvie Ra	74.67	330	⇓P		P	23	19	19.1 +0.7
	baz=75								
M20A	Sweetwater, Wa	74.70	331	⇑P		P	23	19	19.2 +0.6
	baz=75								
J24A	Dixon Ranch, L	74.71	334	⇓P		P	23	19	19.3 +0.6
	baz=75								
L21A	Rawlins	74.72	331	⇑P		P	23	19	18.6 -0.1
	baz=75,SNR=11								
EDW2	Edwards Air Fo	74.80	320	⇑P		P	23	19	19.1 -0.2
	baz=75,SNR=5.1								
O17A	Robinson Place	74.86	328	⇑P		P	23	19	20.2 +0.6
	baz=75,SNR=11								
K22A	Casper	74.92	332	⇓P		P	23	19	20.3 +0.5
	baz=75								
R13A	O'Grain Ranch,	74.95	325	⇓P		P	23	19	21.3 +1.2
	baz=75								
N18A	Larsen Ranch,	74.97	329	⇑P		P	23	19	21.3 +1.2
	baz=75								
LRMC	Laurel Mountai	75.04	321	⇑P		P	23	19	20.7 0.0
	baz=75,SNR=5.1								
RSSD	Black Hills	75.13	335	eP		P	23	19	20.8 -0.2
I24A	Kuemmerle Ranc	75.14	334	⇓P		P	23	19	21.6 +0.5
	baz=75								
MPU	Maple Canyon	75.16	328	eP		P	23	19	21.8 +0.5
L20A	Wamsutter	75.18	331	⇓P		P	23	19	21.8 +0.5
	baz=75								
K21A	Alcova	75.21	332	⇑P		P	23	19	21.8 +0.2
	baz=76,SNR=9.7								
O16A	Springville	75.24	328	⇑P		P	23	19	21.8 +0.1
	baz=76,SNR=5.2								
FURC	Furnace Creek,	75.28	322	⇓P		P	23	19	22.5 +0.4
	baz=76								
DAU	Daniels Canyon	75.28	328	eP		P	23	19	22.8 +0.8
MPMC	Manual Prospec	75.34	321	⇑P		P	23	19	22.4 0.0
	baz=76,SNR=5.7								
N17A	Moffit Pass	75.49	329	⇓P		P	23	19	23.8 +0.6
	baz=76,SNR=10								
M18A	Lyman	75.51	329	⇑P		P	23	19	23.0 -0.2
	baz=76								
JLU	Jordanelle	75.52	328	eP		P	23	19	24.0 +0.7
J22A	Midwest	75.52	333	⇑P		P	23	19	23.0 -0.3
	baz=76,SNR=7.7								
ISA	Isabella	75.63	320	⇓P		P	23	19	24.4 +0.3
	baz=76,SNR=9.7								
ISA	Isabella	75.63	320	eP		P	23	19	24.4 +0.3
K20A	Yellowstone Ra	75.70	331	⇓P		P	23	19	24.0 -0.4
	baz=76,SNR=9.1								
L19A	Farson	75.71	330	⇑P		P	23	19	24.6 +0.2
	baz=76,SNR=6.4								
N16A	Rees Ranch, Co	75.73	328	⇑P		P	23	19	25.2 +0.6
	baz=76								
M17A	Scullys Gap (B	75.82	329	⇓P		P	23	19	25.0 -0.1
	baz=76								
H24A	Dirks Ranch, A	75.85	335	⇓P		P	23	19	24.8 -0.4
	baz=76,SNR=9.7								
DUG	Dugway	75.88	327	⇓P		P	23	19	25.6 +0.2
	baz=76,SNR=6.6								
DUG	Dugway	75.88	327	eP		P	23	19	25.4 0.0
L18A	Fontenelle, Gr	75.88	330	⇑P		P	23	19	25.3 -0.1
	baz=76,SNR=17								
PKM	Peak Mountain	75.89	319	⇑P		P	23	19	25.7 +0.1
	baz=76,SNR=7.1								
I22A	9 Mile Ranch,	75.92	333	⇑P		P	23	19	25.1 -0.4
	baz=76,SNR=6.3								
R11A	Troy Canyon, C	75.93	324	⇑P		P	23	19	26.4 +0.6
	baz=76,SNR=13								
GRAC	Grapevine Rang	75.94	322	⇓P		P	23	19	26.1 +0.3
	baz=76								
CWC	Cottonwood Cre	75.95	321	⇓P		P	23	19	25.9 +0.1
	baz=76								
AGMN	Agassiz Nation	76.04	342	eP		P	23	19	25.1 -1.0
K19A	Absolon Red Bu	76.06	331	⇑P		P	23	19	25.9 -0.4
	baz=76,SNR=6.4								
J20A	Shoshoni	76.15	332	⇓P		P	23	19	26.9 0.0
	baz=76								
I21A	Big Trails, Te	76.19	333	⇓P		P	23	19	26.6 -0.5
	baz=76,SNR=12								
SMMC	Simmler	76.28	319	⇑P		P	23	19	28.3 +0.5
	baz=76,SNR=5.2								
BW06	Boulder Array	76.33	331	⇑P		P	23	19	27.6 -0.3
	baz=77								
PDAR	Pinedale Array	76.33	331	P		P	23	19	27.1 -0.8
	comp=N,2.6nm,0.7s,mb4.1,baz=134,slow=7.4,SNR=10								
PDAR	Pinedale Array	76.33	331	P		P	23	19	27.1 -0.8
PD02	Pinedale Array	76.34	331	eP		P	23	19	27.2 -0.8
HWUT	Hardware Ranch	76.35	329	eP		P	23	19	27.5 -0.5
H22A	Clearmont	76.44	334	⇓P		P	23	19	28.4 -0.1
	baz=77								
K18A	Toltan Ranch,	76.45	330	⇓P		P	23	19	29.0 +0.4
	baz=77,SNR=6.5								
J19A	Crowheart	76.50	331	⇓P		P	23	19	28.7 -0.1
	baz=77,SNR=7.7								
L16A	Fish

baz=78,SNR=6.0
RLMT Red Lodge 78.08 332 *e*P **P 23 19 37.5 -0.1**
LAO LASA Array 78.12 335 ⇑P **P 23 19 37.8 0.0**
baz=78
D23A Lindsay 78.13 336 ⇑P **P 23 19 38.2 +0.3**
baz=78
J15A Blackfoot 78.14 329 ⇓P **P 23 19 38.3 +0.3**
baz=78,SNR=11
C24A Savage 78.14 336 ⇓P **P 23 19 38.4 +0.5**
baz=78
F20A Billings 78.16 333 ⇓P **P 23 19 38.0 -0.1**
baz=78
YFT Old Faithful 78.23 331 *e*P **P 23 19 40.8 +2.3**
G18A Lazy EL Ranch, 78.36 332 ⇓P **P 23 19 38.9 -0.2**
baz=79,SNR=5.4
CMB Columbia Colle 78.38 321 *e*P **P 23 19 39.2 -0.2**
D22A Cohagen 78.48 335 ⇓P **P 23 19 40.1 +0.3**
baz=79
TORD Torodi Ar. Bea 78.51 70 P **P 23 19 40.8 +0.1**
comp=N,16nm,0.6s,mb5.0,baz=257,slow=5.6,SNR=147
TORD pP pP 23 20 01.9 +0.3
comp=N,36nm,0.7s,baz=255,slow=5.4,SNR=24
TORD Torodi Ar. Bea 78.51 70 P **P 23 19 40.8 +0.1**
TORD pP pP 23 20 01.9 +0.3
F19A Roth Farm, Mol 78.53 333 ⇓P **P 23 19 39.9 -0.2**
baz=79,SNR=8.5
J14A Carey 78.59 329 ⇓P **P 23 19 40.9 +0.4**
baz=79,SNR=7.3
H16A Russell Place, 78.61 331 ⇑P **P 23 19 41.3 +0.8**
baz=79,SNR=6.6
I15A Monteview 78.63 330 ⇑P **P 23 19 41.0 +0.3**
baz=79
C23A Lambert 78.65 336 ⇑P **P 23 19 40.7 0.0**
baz=79
E20A Meyer Farm, Mu 78.72 334 ⇑P **P 23 19 41.1 0.0**
baz=79,SNR=10
D21A La Casta Ranch 78.73 335 ⇑P **P 23 19 41.1 0.0**
baz=79,SNR=5.8
SCHQ Schefferville 78.75 1 P **P 23 19 40.7 -0.3**
comp=N,4.7nm,0.7s,mb4.4,baz=51,slow=6.8,SNR=4.2
SCHQ pP pP 23 20 00.7 -1.3
comp=N,7.1nm,0.8s,baz=198,slow=3.2,SNR=2.8
SCHQ Schefferville 78.75 1 P **P 23 19 40.7 -0.3**
SCHQ pP pP 23 20 00.7 -1.3
DGMT Dagmar 78.86 337 ⇓P **P 23 19 42.2 +0.4**
baz=79
C22A Vida 78.86 336 ⇓P **P 23 19 41.7 -0.2**
baz=79
G17A Pierce Place, 78.87 332 ⇑P **P 23 19 42.5 +0.5**
baz=79
F18A Big Timber 78.89 332 ⇓P **P 23 19 42.1 0.0**
baz=79,SNR=11
E19A Rath Farm, Rou 78.95 333 ⇓P **P 23 19 42.4 0.0**
baz=79,SNR=13
J13A Cove Ranch, Pi 78.96 328 ⇓P **P 23 19 43.1 +0.5**
baz=79,SNR=11
A24A Westby 79.17 337 ⇓P **P 23 19 43.7 +0.1**
baz=79
H15A Lima 79.17 330 ⇓P **P 23 19 44.4 +0.7**
baz=79
D20A Manuel Ranch, 79.20 334 ⇓P **P 23 19 43.5 -0.2**
baz=79,SNR=6.4
HLID Hailey 79.20 328 ⇑P **P 23 19 44.5 +0.7**
baz=79,SNR=22
HLID Hailey 79.20 328 *e*P **P 23 19 44.0 +0.1**
G16A Moss Hill, Enn 79.27 331 ⇓P **P 23 19 44.3 +0.1**
baz=80
F17A Fitzpatrick Pl 79.30 332 ⇓P **P 23 19 44.6 +0.3**
baz=80,SNR=7.5
I13A Wildhorse Cree 79.32 329 ⇑P **P 23 19 45.2 +0.7**
baz=80,SNR=18
B22A Reddig Ranch S 79.37 336 ⇓P **P 23 19 44.6 0.0**
baz=80
C21A Desert Coulee 79.39 335 ⇓P **P 23 19 44.5 -0.3**
baz=80
MCMT McKenzie Canyo 79.43 330 *e*P **P 23 19 45.1 +0.1**
comp=N,7.5nm,0.9s,mb4.5
E18A Harlowton 79.50 333 ⇑P **P 23 19 45.8 +0.4**
baz=80
H14A Leadore 79.51 330 ⇑P **P 23 19 46.2 +0.7**
baz=80,SNR=6.7
TSUM Tsumeb 79.51 106 *e*P **P 23 19 46.9 +0.7**
BOZ Bozeman (W) 79.52 331 ⇓P **P 23 19 45.5 0.0**
baz=80
G15A Dillon 79.53 330 ⇑P **P 23 19 45.9 +0.3**
baz=80,SNR=6.7
D19A Cripps Ranch, 79.56 334 ⇓P **P 23 19 45.7 +0.1**
baz=80
F16A Kennard Place, 79.62 331 ⇓P **P 23 19 46.3 +0.2**
baz=80
C20A Veseth Ranch, 79.65 335 ⇓P **P 23 19 45.8 -0.4**
baz=80
I12A Atlanta 79.72 328 ⇓P **P 23 19 47.0 +0.3**
baz=80,SNR=10
DLMT Dillon 79.73 330 *e*P **P 23 19 47.1 +0.4**
MFID Camas Ranch 79.78 327 ⇑P **P 23 19 47.7 +0.8**
baz=80
MFID Camas Ranch 79.78 327 *e*P **P 23 19 47.0 0.0**
E17A Martinsdale 79.82 332 ⇓P **P 23 19 47.5 +0.4**
baz=80
B21A Ellsworth Farm 79.86 335 ⇓P **P 23 19 47.5 +0.2**
baz=80
H13A Challis 79.88 329 ⇑P **P 23 19 48.1 +0.7**
baz=80,SNR=21
A22A Carney Farms, 79.92 336 ⇓P **P 23 19 48.0 +0.5**
baz=80
D18A Linhart Farms, 79.96 333 ⇓P **P 23 19 48.1 +0.3**
baz=80
LRM Limekiln Ridge 80.02 331 *e*P **P 23 19 48.2 0.0**
G14A Jackson 80.03 330 ⇓P **P 23 19 48.7 +0.5**
baz=80
F15A Butte 80.05 331 ⇓P **P 23 19 48.7 +0.3**
baz=80,SNR=10
C19A Slack Wire Ran 80.08 334 ⇑P **P 23 19 48.2 -0.3**
baz=80
H12A Diamond D Ranc 80.15 329 ⇑P **P 23 19 49.2 +0.3**
baz=80,SNR=7.6
E16A East Helena 80.23 332 ⇓P **P 23 19 49.7 +0.4**
baz=80
B20A Solberg Farm, 80.25 335 ⇓P **P 23 19 49.2 -0.2**
baz=80
G13A Cobalt 80.27 329 ⇑P **P 23 19 50.1 +0.5**
baz=80,SNR=20
A21A Bergtoll Ranch 80.29 336 ⇑P **P 23 19 49.4 -0.2**
baz=80
D17A Six Diamond Ra 80.29 333 ⇓P **P 23 19 49.6 -0.1**
baz=80,SNR=9.2
F14A Wisdom 80.42 330 ⇑P **P 23 19 50.8 +0.4**
baz=81,SNR=5.8
D16A Dana Ranch, Ca 80.56 332 ⇑P **P 23 19 51.3 +0.2**
baz=81,SNR=11
E15A Deer Lodge 80.56 331 ⇑P **P 23 19 51.1 0.0**
baz=81,SNR=7.3
A20A Cobblestone Ra 80.57 335 ⇓P **P 23 19 50.7 -0.4**
baz=81,SNR=5.8
EGMT Eagleton 80.60 334 ⇓P **P 23 19 50.6 -0.7**
baz=81
B19A Brinkman Farms 80.62 334 ⇓P **P 23 19 51.1 -0.2**
baz=81,SNR=5.8
F13A Darby 80.84 330 ⇓P **P 23 19 52.7 +0.1**
baz=81,SNR=15
B18A Beardsley Farm 80.91 334 ⇑P **P 23 19 52.7 -0.2**
baz=81,SNR=8.9
E14A Clinton 80.94 331 ⇓P **P 23 19 53.3 +0.2**
baz=81,SNR=5.4
D15A Lincoln 80.99 332 ⇑P **P 23 19 53.6 +0.2**
baz=81
MOD Modoc 81.00 324 *e*P **P 23 19 53.9 +0.3**
J08A Circle Bar Ran 81.06 326 ⇑P **P 23 19 54.1 +0.2**
baz=81
B17A L&G Farms, Che 81.24 333 ⇓P **P 23 19 53.8 -0.8**
baz=82,SNR=6.0
F12A Elk City 81.24 329 ⇑P **P 23 19 54.7 -0.1**
baz=82
C16A Fuhringer Ranc 81.25 333 ⇓P **P 23 19 54.5 -0.2**
baz=82,SNR=8.0
E13A Victor 81.27 330 ⇓P **P 23 19 55.1 +0.3**
baz=82,SNR=7.9
WDC Whiskeytown Da 81.33 322 *e*P **P 23 19 53.6 -1.8**
A18A Metzger Ranch, 81.35 334 ⇓P **P 23 19 54.6 -0.7**
baz=82
D14A Greenough 81.45 331 ⇑P **P 23 19 55.8 0.0**
baz=82
MSO Missoula 81.45 331 ⇑P **P 23 19 56.2 +0.3**
baz=82
BMO Blue Mountains 81.56 328 *e*P **P 23 19 56.4 -0.1**
SLMT Seeley Lake 81.57 331 *e*P **P 23 19 56.7 +0.2**
C15A Salmond Ranch, 81.59 332 ⇓P **P 23 19 56.8 +0.3**
baz=82,SNR=16
A17A Triple J Farms 81.72 334 ⇑P **P 23 19 56.7 -0.5**
baz=82,SNR=10
MAW Mawson 81.82 163 P **P 23 19 57.3 -0.3**
comp=N,19nm,0.8s,mb5.0,baz=219,slow=6.4,SNR=52
MAW pP pP 23 20 19.7 +1.0
comp=N,5.7nm,0.7s,baz=228,slow=13,SNR=3.9
MAW Mawson 81.82 163 *e*P **P 23 19 57.3 -0.3**
comp=N,15nm,0.9s,mb4.8
MAW Mawson 81.82 163 *e*P **P 23 19 57.0 -0.6**
D13A Huson 81.88 331 ⇑P **P 23 19 57.9 -0.2**
baz=82,SNR=7.4
K05A Summer Lake 81.88 324 ⇓P **P 23 19 58.6 +0.4**
baz=82,SNR=7.1
B15A Bradely Ranch, 81.99 332 ⇓P **P 23 19 57.9 -0.8**
baz=82,SNR=9.3
SWMT Swartz Lake 81.99 331 *e*P **P 23 19 58.5 -0.2**
I07A Izee 82.10 326 ⇑P **P 23 19 59.4 +0.1**
baz=82
YBH Yreka Blue Hor 82.20 323 *e*P **P 23 19 58.7 -1.1**
JTMT Jette 82.30 331 *e*P **P 23 20 00.1 -0.2**
B14A Marquette Ranc 82.33 332 ⇓P **P 23 20 00.5 +0.1**
baz=83
F10A Beach Ranch, E 82.33 328 ⇓P **P 23 20 00.5 0.0**
baz=83
C13A Hot Springs 82.38 331 ⇑P **P 23 20 00.9 +0.2**
baz=83
BOSA Boshof 82.41 118 P **P 23 20 01.6 +0.1**
comp=N,6.7nm,0.8s,mb4.5,baz=266,slow=5.8,SNR=11
BOSA pP pP 23 20 22.9 +0.3
comp=N,7.3nm,0.6s,baz=279,slow=5.3,SNR=6.2
BLMT Blacktail Moun 82.53 331 *e*P **P 23 20 01.1 -0.4**
comp=N,6.5nm,0.6s,mb4.6
A15A Johnson Ranch, 82.58 333 ⇓P **P 23 20 00.8 -0.9**
baz=83
BSMT Bassoo Peak 82.60 331 *e*P **P 23 20 01.7 -0.1**
G08A Pilot Rock 82.68 327 ⇑P **P 23 20 02.4 +0.1**
baz=83
C12B Naegeli Ranch, 82.80 331 ⇓P **P 23 20 03.0 +0.1**
baz=83
B13A Whitefish 82.86 331 ⇑P **P 23 20 02.6 -0.5**
baz=83,SNR=5.6
A14A Double T Ranch 82.86 332 ⇑P **P 23 20 02.5 -0.6**
baz=83
E09A Wood Farm, Sta 83.16 328 ⇓P **P 23 20 04.1 -0.7**
baz=83
B12A Libby 83.42 331 ⇑P **P 23 20 06.3 +0.2**
baz=84
FFC Flin Flon 83.51 342 *e*P **P 23 20 05.3 -1.0**
comp=N,16nm,1.2s,mb4.7
A12A Yaak River Ran 83.79 331 ⇑P **P 23 20 08.0 +0.1**
baz=84
H04A Detroit Lake 83.91 325 ⇑P **P 23 20 07.9 -0.7**
baz=84
OD2 Odessa Site #2 84.06 329 *e*P **P 23 20 08.4 -0.9**
comp=N,40nm,1.2s,mb5.1
LBTB Lobatse 84.12 115 P **P 23 20 10.7 +0.4**
comp=N,7.9nm,0.8s,mb4.6,baz=254,slow=5.7,SNR=3.5
LBTB pP pP 23 20 31.8 +0.3
comp=N,9.7nm,0.8s,baz=248,slow=7.3,SNR=5.5
LBTB Lobatse 84.12 115 *e*P **P 23 20 10.6 +0.2**
C09A Chrisman Ranch 84.15 329 ⇑P **P 23 20 09.3 -0.5**
baz=84
EVO Evora 84.70 44 *e*P **P 23 20 12.8 0.0**
comp=N,36nm,1.0s,mb4.9
ETW Entiat 84.99 328 *e*P **P 23 20 13.8 -0.2**
TAM Tamanrasset 86.26 63 *e*P **P 23 20 19.9 -1.0**
comp=N,0.8nm,0.5s,mb3.9
A05A Maple Falls 86.80 328 ⇑P **P 23 20 21.6 -1.4**
baz=87
ESDC Sonseca Array 87.94 45 P **P 23 20 28.9 +0.2**
comp=N,4.2nm,1.2s,mb4.3,baz=252,slow=4.7,SNR=8.1
ESDC pP pP 23 20 50.4 +0.5
comp=N,1.6nm,0.8s,baz=262,slow=5.0,SNR=4.3
ESDC Sonseca Array 87.94 45 P **P 23 20 28.9 +0.2**
ESDC pP pP 23 20 50.4 +0.5
CASY Casey 89.79 180 *e*P **P 23 20 36.8 -0.2**
comp=N,18nm,0.8s,mb5.2
ETSF Etsaut 91.84 43 *e*P **P 23 20 43.4 -3.4**
YKA Yellowknife Ar 93.65 341 P **P 23 20 53.2 -1.4**
comp=N,5.6nm,0.7s,mb5.0,baz=137,slow=4.7,SNR=12
YKA pP pP 23 21 13.9 -2.2
comp=N,2.8nm,0.7s,baz=133,slow=4.4,SNR=4.2
YKA sP sP 23 21 23.5 -0.9
comp=N,2.5nm,0.7s,baz=137,slow=4.2,SNR=3.5
YKA Yellowknife Ar 93.65 341 P **P 23 20 53.2 -1.4**
YKA pP pP 23 21 13.9 -2.2
YKA sP sP 23 21 23.6 -0.9
MTLF Montolieu 93.81 44 *e*P **P 23 20 51.5 -4.4**
comp=N,43nm,1.4s,mb5.3
DLBC Dease Lake 96.48 332 P **P 23 21 07.5 -0.2**
comp=N,3.8nm,0.7s,mb4.9,baz=284,slow=8.3,SNR=3.0
DLBC Dease Lake 96.48 332 P **P 23 21 07.5 -0.2**
ILAR Eielson Array 106.57 334 PKiKP PKiKP 23 26 06.3 +3.5
comp=N,0.5nm,1.0s,baz=100,slow=3.1,SNR=3.3
ILAR Eielson Array 106.57 334 PKPdf PKiKP 23 26 06.3 +3.5
ARCES ARCESS Array B 114.08 23 PKKPbc PKKPbc 23 36 57.4 -3.0
comp=N,5.4nm,0.9s,baz=59,slow=5.5,SNR=4.7
BRTR Keskin Array B 114.58 56 PKP PKiKP 23 26 18.6 -0.1
comp=N,0.7nm,0.8s,baz=208,slow=8.2,SNR=3.7
BRTR Keskin Array B 114.58 56 PKP PKiKP 23 26 18.6 -0.1
ASAR Alice Springs 127.40 207 PKP PKPdf 23 26 42.4 -1.5
comp=N,4.2nm,0.6s,baz=135,slow=1.6,SNR=45
ASAR pPKP pPKPdf 23 27 04.1 -2.0
comp=N,4.6nm,0.6s,baz=132,slow=1.6,SNR=14
ASAR sPKP 23 27 13.3
comp=N,1.9nm,0.7s,baz=130,slow=1.8,SNR=4.8
ASAR Alice Springs 127.40 207 PKP PKPdf 23 26 42.4 -1.5
ASAR pPKP pPKPdf 23 27 04.1 -2.0
ASAR sPKP 23 27 13.3
AS31 Alice Springs 127.40 207 *e*PKPdf PKPdf 23 26 42.1 -1.8
AS31 *e*pPKPdf pPKPdf 23 27 04.2 -2.0
WRA Warramunga Arr 130.49 210 PKP PKPdf 23 26 48.7 -1.2
comp=N,4.5nm,0.8s,baz=153,slow=1.6,SNR=40
WRA pPKP pPKPdf 23 27 10.4 -1.6
comp=N,4.3nm,0.8s,baz=154,slow=1.6,SNR=11
WRA Warramunga Arr 130.49 210 PKP PKPdf 23 26 48.7 -1.2
WRA pPKP pPKPdf 23 27 10.4 -1.6
ARU Arti 130.51 35 *e*PKPdf PKPdf 23 26 48.7 -0.1
ABKAR Akbulak array 133.28 44 *e*PKPdf PKPdf 23 27 54.5 +0.3
ABKAR *e* 23 27 56.5
MBWA Marble Bar 134.07 192 *e*PKPdf PKPdf 23 26 55.6 -1.1
PETK Petropavlovsk- 134.56 322 PKP PKPdf 23 26 56.7 +0.3
comp=N,1.8nm,0.6s,baz=46,slow=4.2,SNR=3.3
PETK Petropavlovsk- 134.56 322 PKP PKPdf 23 26 56.7 +0.3
BRVK Borovoye 138.07 36 *e*PKPdf PKPdf 23 27 03.5 +0.5
BVAR Borovoye Array 138.15 36 PKP PKPdf 23 27 03.7 +0.6
comp=N,2.2nm,0.7s,baz=286,slow=2.6,SNR=17
BVAR pPKP pPKPdf 23 27 25.6 +0.3
comp=N,1.2nm,0.7s,baz=259,slow=3.6,SNR=4.0
BVAR Borovoye Array 138.15 36 PKP PKPdf 23 27 03.7 +0.6
BVAR pPKP pPKPdf 23 27 25.6 +0.3
KURK Kurchatov 143.71 35 PKP PKPdf 23 27 11.2 -2.0
comp=N,6.3nm,0.8s,baz=299,slow=3.3,SNR=55
KURK pPKP pPKPdf 23 27 33.0 -2.4
comp=N,4.8nm,0.8s,baz=303,slow=3.5,SNR=7.5
KURK Kurchatov 143.71 35 *e*PKPdf PKPdf 23 27 11.1 -2.1
EKS2 Erkin-Say 144.39 50 P PKPdf 23 27 14.7 0.0
SNR=7.1
EKS2 Erkin-Say 144.39 50 *e*PKPdf PKPdf 23 27 14.6 -0.1
ZAA0 Zalesovo Array 144.49 26 *e*PKPdf PKPdf 23 27 13.1 -1.3
ZALV Zalesovo Beam 144.49 26 PKP PKPdf 23 27 13.3 -1.2
comp=N,36nm,0.7s,baz=307,slow=4.2,SNR=173
ZALV pPKP pPKPdf 23 27 35.1 -1.6
comp=N,19nm,0.7s,baz=285,slow=4.0,SNR=8.2
ZALV Zalesovo Beam 144.49 26 PKP PKPdf 23 27 13.3 -1.2
ZALV pPKP pPKPdf 23 27 35.1 -1.6
AML Almayashu 144.50 51 P PKPdf 23 27 15.4 +0.5
SNR=17
USP Ospenovka 144.68 48 P PKPdf 23 27 14.8 -0.4
SNR=7.8
AAK Ala-Archa 144.90 49 P PKPdf 23 27 16.1 +0.6
SNR=28
AAK Ala-Archa 144.90 49 *e*PKPdf PKPdf 23 27 16.0 +0.5
AAK *e* 23 27 37.4
CHMS Chumysh 144.95 49 P PKPdf 23 27 15.4 -0.2
SNR=13
KBK Karagaybulak 145.20 49 P PKPbc 23 27 17.2 +1.3
SNR=22
TKM2 Tokmak 2 145.55 49 P PKPdf 23 27 17.5 +0.9
SNR=12
TKM2 Tokmak 2 145.55 49 *e*PKPbc PKPbc 23 27 17.2 +0.2
TKM2 *e* 23 27 39.7
KZA Kyzart 145.61 50 P PKPdf 23 27 18.7 +1.9
SNR=10
ULHL Ulahol 146.24 49 P PKPdf 23 27 19.6 +1.7
SNR=5.5
KSH Kashi 146.94 54 PKPbc PKPbc 23 27 20.0 -1.2
KSH pPKP pPKPdf 23 27 30.5 -11
KSH PKS 23 30 54.4
KSH SKS SKSdf 23 34 24.1 +3.2
KSH AMB AMB
comp=Z,320nm,6.1s
KSH LR LR
comp=N,49nm,4.0s
KSH LR LR
comp=E,35nm,3.0s
KSH LR LR
comp=Z,110nm,4.5s
ASAJ Asahikawa 147.35 315 PKPbc PKPbc 23 27 21.1 -1.1
comp=Z,220nm,1.0s,baz=266,slow=13,SNR=3.0
ASAJ pPKPbc pPKPbc 23 27 43.9 -0.3
comp=Z,14nm,0.8s,baz=64,slow=10,SNR=2.9
MK31 Makanchi Array 147.94 38 *e*PKPdf PKPdf 23 27 20.6 0.0
MK31 *e* 23 27 45.6
MKAR Makanchi Array 147.94 38 PKP PKPdf 23 27 20.5 0.0
comp=Z,15nm,0.7s,baz=6.7,slow=1.5,SNR=78
MKAR PKPbc PKPbc 23 27 23.7 0.0
comp=Z,15nm,0.7s,baz=309,slow=2.7,SNR=70
MKAR pPKPbc pPKPbc 23 27 45.4 -0.3
comp=Z,11nm,0.8s,baz=329,slow=2.7,SNR=9.1
MKAR Makanchi Array 147.94 38 PKP PKPdf 23 27 20.5 0.0
MKAR PKPbc PKPbc 23 27 23.7 0.0
MKAR pPKPbc pPKPbc 23 27 45.4 -0.3
HYB Hyderabad 149.14 96 *i* PKP PKPbc 23 27 28.0 +0.4
DDI Dehra Dun 150.32 71 *ex* PKPbc 23 27 29.5 -0.7
WMQ Urumqi 152.77 38 PKPbc PKPdf 23 27 27.3 -0.9
MJAR Matsushiro Arr 153.46 304 PKPbc PKPbc 23 27 36.0 -1.1
comp=Z,1.9nm,0.7s,baz=161,slow=24,SNR=5.5
MJAR PKPab PKPab 23 27 48.7 -1.0
comp=Z,4.1nm,0.8s,baz=121,slow=2.5,SNR=6.2
MJAR pPKPbc pPKPbc 23 27 57.8 -1.5
comp=Z,3.3nm,0.8s,baz=142,slow=1.6,SNR=4.0
MJAR Matsushiro Arr 153.46 304 PKPbc PKPbc 23 27 36.0 -1.1
MJAR PKPab PKPab 23 27 48.7 -1.0
MJAR pPKPbc pPKPbc 23 27 57.8 -1.5
SONM Songino Array 156.17 7 PKP PKPdf 23 27 33.2 +0.5
comp=Z,1.4nm,0.9s,baz=188,slow=0.7,SNR=7.7
SONM PKPbc PKPdf 23 27 42.3 +10
comp=Z,1.5nm,1.0s,baz=308,slow=2.3,SNR=5.3
SONM pPKP pPKPdf 23 27 55.4 +0.3
comp=Z,1.3nm,0.9s,baz=292,slow=0.2,SNR=4.3
SONM PKPab PKPab 23 28 01.2 +0.5
comp=Z,2.1nm,0.8s,baz=332,slow=4.6,SNR=8.9
SONM Songino Array 156.17 7 PKP PKPdf 23 27 33.2 +0.5
SONM PKPbc PKPdf 23 27 42.3 +10
SONM pPKP pPKPdf 23 27 55.4 +0.3
SONM PKPab PKPab 23 28 01.2 +0.5
ULN Ulaanbaatar 156.21 6 *e*PKPab PKPab 23 28 00.6 -0.3
CN2 Changchun 157.07 332 *e*PKPdf PKPdf 23 27 34.8 +0.7
KSRS Korea Array 160.30 316 PKP PKPdf 23 27 37.8 -0.4
comp=Z,2.8nm,0.9s,baz=175,slow=1.5,SNR=6.4
KSRS PKPab PKPab 23 28 18.8 -0.2
comp=Z,3.7nm,0.7s,baz=65,slow=5.1,SNR=6.4
KSAR Wonju Array Be 160.33 316 PKP PKPdf 23 27 37.8 -0.4
KSAR PKPab PKPab 23 28 18.8 -0.3
GTA Gaotai 162.22 29 *e*PKP PKPdf 23 27 40.9 +0.8
GTA PKPab PKPab 23 28 27.8 +0.5
GTA PKS 23 31 13.3
GTA SS SS 23 52 32.8 +8.0
GTA AMB AMB
comp=Z,160nm,10.4s
HHC Hu-ho-hao-te 163.40 358 *e*PKP PKPdf 23 27 47.4 +6.2
HHC PKS 23 31 20.0
HHC PP PP 23 32 26.6 +10
HHC AMB AMB
comp=Z,140nm,11.9s
HHC LR LR
comp=N,170nm,14.3s
HHC LR LR
comp=E,190nm,17.8s
HHC LR LR
comp=Z,260nm,13.1s
BJI Beijing 163.59 345 PKP PKPdf 23 27 41.8 +0.4
LZH Lanzhou 166.72 25 *e*PKP PKPdf 23 27 43.3 -0.9
CMAR Chiang Mai Arr 167.54 115 PKP PKPdf 23 27 44.9 -0.4
comp=Z,0.6nm,0.3s,baz=265,slow=2.1,SNR=4.4
CMAR pPKP pPKPdf 23 28 05.7 -2.0
comp=Z,0.4nm,0.3s,baz=143,slow=33,SNR=0.9
CMAR PKPab PKPab 23 28 51.7 +0.2
comp=Z,0.6nm,0.4s,baz=235,slow=3.2,SNR=4.0
CMAR Chiang Mai Arr 167.54 115 PKP PKPdf 23 27 44.9 -0.4
CMAR pPKP pPKPdf 23 28 05.7 -2.0
CMAR PKPab PKPab 23 28 51.7 +0.2
CD2 Chengdu 170.85 42 PKP PKPdf 23 27 46.3 -0.7
CD2 PKPab PKPab 23 29 06.6 +0.9
CD2 PKS 23 31 17.5
CD2 PP PP 23 32 58.0 +2.1
CD2 SKS SKSdf 23 34 44.6 +1.0
CD2 SKKS SKKSac 23 39 39.9 +3.8
CD2 SS SS 23 53 55.3 +2.3
CD2 AMB AMB
comp=Z,220nm,5.9s
CD2 LR LR
comp=N,370nm,5.4s
CD2 LR LR
comp=Z,200nm,6.5s
KMI Kunming 172.60 81 PKP PKPdf 23 27 50.5 +2.5
GYA Guiyang 175.63 58 PKP PKPdf 23 27 48.0 -1.0
GYA sPKP 23 28 08.8
GYA PKPab PKPab 23 29 28.3 +1.2
GYA PKS 23 31 18.9
GYA PP PP 23 33 21.0 +1.1
GYA SKKS SKKSac 23 40 01.3 +2.0
GYA SS SS 23 54 40.6 +0.1
GYA AMB AMB
comp=Z,120nm,8.4s
GYA LR LR
comp=N,130nm,24.7s
GYA LR LR
comp=E,110nm,25.6s
GYA LR LR
comp=Z,130nm,22.4s

IDC ***22*** *00:00:22.3±1.5,6.°94S×128.°92E,h0km,mb3.6/3, mb1 3.7/6,mb1mx3.5/18,mbtmp3.6/6,ML3.4/3,Error ellipse: s-maj=73.5km s-min=21.9km az=82.0*
NEIC ***22*** *00:00:23.8±0.6,6.°92S×129.°01E,h10km,mb4.2/1,Error ellipse: s-maj=21.2km s-min=8.9km az=69.0*
ISCJB ***22*** *00:00:26.0±2.8,7.°03S±0.°07×129.°0E±0.°1,h45km±29km, mb3.7/4, Error ellipse: s-maj=20.7km s-min=12.5km az=0.8*

ISC 22 00:00:28.3±3.7,**7.°0S**±0.°2×**129.°2E**±0.°1,**h48**km±42km,**n16**, σ1§**16**/**22**,**mb3.7**/**4**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.53**	**197**	Pn		**Pn**		**00 03 09.5**	**-0.7**
	0.1nm,0.3s,baz=22,slow=11,SNR=8.1								
FITZ				Sn		**Sn**		**00 05 18.8**	**+1.1**
	0.3nm,0.3s,baz=298,slow=17,SNR=3.2								
FITZ	**Fitzroy Crossi**	**11.53**	**197**	Pn		**Pn**		**00 03 09.5**	**-0.7**
FITZ				Sn		**Sn**		**00 05 18.8**	**+1.1**
WRA	**Warramunga Arr**	**13.78**	**159**	Pn		**Pn**		**00 03 40.1**	**-0.9**
	0.2nm,0.3s,baz=340,slow=13,SNR=20								
WRA				Sn		**Sn**		**00 06 09.2**	**-3.6**
	0.2nm,0.3s,baz=332,slow=23,SNR=4.7								
WRA	**Warramunga Arr**	**13.78**	**159**	Pn		**Pn**		**00 03 40.1**	**-0.9**
WRA				Sn		**Sn**		**00 06 09.2**	**-3.6**
WB2	**Warramunga Arr**	**13.79**	**159**	*e*Pn		**Pn**		**00 03 40.9**	**-0.2**
COEN	**Coen**	**15.40**	**118**	*e*Pn		**Pn**		**00 04 04.0**	**+1.5**
AS31	**Alice Springs**	**17.16**	**165**	*e*P		**Pn**		**00 04 27.3**	**+2.6**
ASAR	**Alice Springs**	**17.16**	**165**	P		**Pn**		**00 04 26.1**	**+1.5**
	0.1nm,0.3s,baz=347,slow=11,SNR=7.7								
ASAR				S		**S**		**00 07 32.2**	**-10**
	0.1nm,0.3s,baz=344,slow=27,SNR=3.4								
ASAR	**Alice Springs**	**17.16**	**165**	P		**Pn**		**00 04 26.1**	**+1.5**
ASAR				S		**S**		**00 07 32.2**	**-10**
SONM	**Songino Array**	**58.21**	**342**	P		**P**		**00 10 17.9**	**+0.4**
	0.4nm,0.8s,mb3.5,baz=142,slow=7.3,SNR=3.3								
SONM	**Songino Array**	**59.21**	**342**	P		**P**		**00 10 17.9**	**+0.4**
MKAR	**Makanchi Array**	**67.80**	**327**	P		**P**		**00 11 20.1**	**-1.0**
	0.6nm,0.8s,mb3.7,baz=124,slow=7.2,SNR=3.8								
MKAR	**Makanchi Array**	**67.80**	**327**	P		**P**		**00 11 20.1**	**-1.0**
ZALV	**Zalesovo Beam**	**71.24**	**334**	P		**P**		**00 11 42.4**	**+0.1**
	0.2nm,0.3s,mb3.5,baz=142,slow=7.3,SNR=2.9								
ZALV	**Zalesovo Beam**	**71.24**	**334**	P		**P**		**00 11 42.4**	**+0.1**
KURK	**Kurchatov**	**72.11**	**329**	*e*P		**P**		**00 11 47.1**	**-0.5**
	1.9nm,0.9s,mb4.0								

ISCJB ***22*** *00:20:18.6±0.5, 13°.44N±0°.07×88°.28W±0°.07, h192km±4km, mb3.8/8, Error ellipse: s-maj=14.8km s-min=6.7km az=39.2*

CASC ***22*** *00:20:19.3±2.0, 13°.55N×88°.33W, h186km±20km, MD3.8, ML3.8, mb3.8(NEIC)*

NEIC ***22*** *00:20:21.4±1.1, 13°.62N×88°.20W, h196km±12km, mb3.8/4, Error ellipse: s-maj=31.6km s-min=15.4km az=71.0*

IDC ***22*** *00:20:30.8±17.0, 13°.92N×88°.39W, h276km±140km, mb3.3/5, mb1 3.5/5, mb1mx3.0/22, mbtmp3.3/5, Error ellipse: s-maj=119.2km s-min=35.0km az=163.0*

ISC 22 00:20:19.8±0.5, 13°.47N±0°.08×88°.30W±0°.07, h186km±4km, n41, σ0s95/41, mb3.8/8, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.05**	**152**	*i* P	**Pn**	**00 20 44.2**	**0.0**
BLLM	**Bellamira**	**0.06**	**116**	*e*P	**Pn**	**00 20 44.1**	**-0.1**
CAHU	**Cacaucatique**	**0.31**	**16**	*e*P	**Pn**	**00 20 44.6**	**0.0**
CNCH	**Conchagua**	**0.49**	**113**	*e*P	**Pn**	**00 20 45.3**	**+0.1**
SNVI	**San Vicente**	**0.55**	**285**	*e*P	**Pn**	**00 20 46.0**	**+0.6**
LFRS	**El Faro**	**0.76**	**282**	*e*P	**Pn**	**00 20 46.1**	**-0.3**
LBRS	**Las Brisas**	**0.77**	**290**	*e*P	**Pn**	**00 20 46.5**	**0.0**
LFU	**La Fuente**	**0.84**	**289**	*e*P	**Pn**	**00 20 47.1**	**+0.1**
SNET	**Serv Nac Est T**	**0.93**	**283**	*e*P	**Pn**	**00 20 46.8**	**-0.8**
BOQS	**Boqueron**	**0.99**	**285**	*e*P	**Pn**	**00 20 47.9**	**-0.1**
TGUH	**Tegucigalpa,Un**	**1.15**	**60**	*e*Pn	**Pn**	**00 20 49.7**	**+0.5**
TGUH				*e*Sn	**Sn**	**00 21 12.3**	**+0.4**
TGUH	**Tegucigalpa,Un**	**1.15**	**60**	*i* P	**Pn**	**00 20 49.4**	**+0.2**
TGUH				*e*S	**Sn**	**00 21 12.1**	**+0.1**
TGUH	comp=N,914nm,0.6s			AML	AML	00 21 13.7	
SBLS	**San Blas**	**1.34**	**286**	*e*P	**Pn**	**00 20 50.8**	**0.0**
RTR	**El Retiro**	**1.38**	**288**	*e*P	**Pn**	**00 20 51.1**	**0.0**
MTO2	**Montecristo 2**	**1.39**	**312**	*e*P	**Pn**	**00 20 51.3**	**+0.1**
MTO2				*e*S	**Sn**	**00 21 15.1**	**-0.4**
CRIN	**San Cristobal**	**1.44**	**122**	*e*P	**Pn**	**00 20 51.9**	**+0.2**
RBDL	**Robledal**	**1.49**	**295**	*e*P	**Pn**	**00 20 52.0**	**-0.2**
JTS	**JuntasAbangare**	**4.55**	**134**	*e*Pn	**Pn**	**00 21 31.6**	**+3.5**
JTS				*e*Sn	**Sn**	**00 22 19.7**	**-2.0**
JCR	**Jicaral**	**4.76**	**139**	*e*P	**Pn**	**00 21 34.7**	**+3.9**
JCR				*e*S	**Sn**	**00 22 24.0**	**-2.6**
CGA2	**Cerro Gallo 2**	**5.09**	**132**	*e*P	**Pn**	**00 21 39.5**	**+4.5**
PRS1	**Puriscal**	**5.22**	**131**	*e*P	**Pn**	**00 21 40.3**	**+3.5**
LAJ	**Bijagual**	**5.44**	**131**	*e*P	**Pn**	**00 21 37.4**	**-2.2**
URSC	**Urasca**	**5.71**	**129**	*e*P	**Pn**	**00 21 43.6**	**+0.4**
BUS	**Buena Vista**	**5.91**	**131**	*e*P	Px	00 22 04.1	
TXAR	**Lajitas Array**	**21.27**	**320**	P	**P**	**00 24 52.3**	**+0.6**
	comp=N,0.8nm,0.5s,mb3.3,baz=131,slow=9.7,SNR=16						
TXAR	**Lajitas Array**	**21.27**	**320**	P	**P**	**00 24 52.3**	**+0.6**
TKL	**Tuckaleechee C**	**22.46**	**10**	P	**P**	**00 25 03.3**	**-0.2**
	comp=N,7.2nm,0.7s,mb4.2,baz=186,slow=10,SNR=8.6						
TKL	**Tuckaleechee C**	**22.46**	**10**	P	**P**	**00 25 03.3**	**-0.2**
WVT	**Waverly**	**22.57**	**1**	*e*P	**P**	**00 25 04.0**	**-0.3**
	comp=N,1.6nm,0.6s,mb3.6						
SADO	**Sadowa**	**32.16**	**12**	P	**P**	**00 26 29.1**	**-0.7**
	comp=N,8.8nm,1.0s,mb4.5,baz=214,slow=9.8,SNR=7.2						
SADO	**Sadowa**	**32.16**	**12**	P	**P**	**00 26 29.1**	**-0.7**
HWUT	**Hardware Ranch**	**34.58**	**329**	*e*P	**P**	**00 26 51.7**	**+0.9**
	comp=N,1.8nm,0.7s,mb3.8						
ULM	**Lac du Bonnet**	**37.20**	**352**	P	**P**	**00 27 11.6**	**-1.4**
	comp=N,3.0nm,0.7s,mb4.0,baz=160,slow=8.9,SNR=3.2						
ULM	**Lac du Bonnet**	**37.20**	**352**	*e*P	**P**	**00 27 11.5**	**-1.4**
	comp=N,0.9nm,0.4s,mb3.8						
MCMT	**McKenzie Canyo**	**37.60**	**331**	*e*P	**P**	**00 27 18.3**	**+1.9**
	comp=N,4.7nm,1.5s,mb3.9						
ILAR	**Eielson Array**	**64.76**	**336**	P	**P**	**00 30 36.9**	**-1.1**
	comp=N,0.2nm,0.5s,mb3.2,baz=170,slow=5.1,SNR=6.3						
ILAR	**Eielson Array**	**64.76**	**336**	P	**P**	**00 30 36.9**	**-1.1**
WRA	**Warramunga Arr**	**138.75**	**255**	PKP	PKPdf	00 39 25.6	+1.0
	comp=N,1.0nm,0.6s,baz=89,slow=2.3,SNR=13						
WRA	**Warramunga Arr**	**138.75**	**255**	PKP	PKPdf	00 39 25.6	+1.0
ASAR	**Alice Springs**	**138.87**	**249**	PKP	PKPdf	00 39 23.8	-0.9
	comp=N,0.3nm,0.6s,baz=112,slow=2.0,SNR=3.3						
ASAR	**Alice Springs**	**138.87**	**249**	PKP	PKPdf	00 39 23.8	-0.9

WEL 22 00:22:32.8±0.8, 36°.44S×178°.79E, h33km, ML3.8/4, Error ellipse: s-maj=11.2km s-min=5.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.19**	**199**	P*	Pb	00 22 51.7	-3.0
MXZ				S*	Sb	00 23 06.8	-2.9
MXZ				S*	Sb	00 23 07.1	-2.6
PUZ	**Puketiti**	**1.68**	**194**	PN	Pn	00 23 00.2	+0.4
PUZ				SN	Sn	00 23 19.1	-1.2
PUZ				SN	Sn	00 23 20.0	-0.3
CNGZ	**Carnagh Statio**	**2.09**	**193**	PN	Pn	00 23 05.9	+0.4
MWZ	**Matawai**	**2.14**	**208**	P*	Pb	00 23 06.7	-4.2
MWZ				S*	Sb	00 23 30.1	-6.9
URZ	**Urewera**	**2.25**	**216**	P*	Pb	00 23 06.3	-6.5
PRGZ	**Paritu Road**	**2.58**	**196**	PN	Pn	00 23 11.2	-1.0
KNZ	**Kokohu**	**2.72**	**199**	PN	Pn	00 23 12.7	-1.4
MHGZ	**Mahia Peninsul**	**2.80**	**194**	*e*PN	Pn	00 23 12.8	-2.4
RAHZ	**Arahi**	**2.82**	**208**	*e*PN	Pn	00 23 14.8	-0.6
RAHZ					SN	00 23 45.1	-3.2
MKAZ	**Moumakai**	**2.98**	**256**	P*	Pb	00 23 17.3	-0.4
KAHZ	**Kahuranaki**	**3.67**	**204**	PN	Pn	00 23 25.0	-2.1
FWVZ	**Far West T-bar**	**3.80**	**221**	*e*P*	Pb	00 23 29.3	-10
WNVZ	**Wahianoa**	**3.83**	**220**	*e*P*	Pb	00 23 28.2	-11
PXZ	**Pawanui**	**3.89**	**202**	*e*PN	Pn	00 23 26.9	-3.3
PXZ				SN	Sn	00 24 09.2	-5.6
PNHZ	**Pukenui**	**4.02**	**210**	*e*PN	Pn	00 23 28.9	-3.1
PRHZ	**Porangahau**	**4.18**	**203**	*e*PN	Pn	00 23 30.6	-3.6
MRZ	**Mangatainoka R**	**4.91**	**210**	PN	Pn	00 23 40.1	-4.1
MRZ				SN	Sn	00 24 30.6	-9.1
HOWZ	**Holdsworth Sta**	**5.13**	**209**	SN	Sn	00 24 36.0	-9.4
TCW	**Tory Channel**	**5.92**	**215**	SN	Sn	00 24 55.3	-9.5
CTZ	**Chatham Island**	**8.09**	**156**	*e*PN	Pn	00 24 27.0	-0.8
CTZ				SN	Sn	00 25 48.7	-9.4
MQZ	**McQueen's Vall**	**8.65**	**211**	SN	Sn	00 25 56.3	-15

ISCJB ***22*** *00:36:57.8±0.6, 38°.13N±0°.03×37°.50E±0°.04, h6km±6km, Error ellipse: s-maj=6.5km s-min=3.9km az=139.7*

CSEM ***22*** *00:36:57.9±0.1, 38°.16N×37°.49E, h8km, MD2.8, Error ellipse: s-maj=4.0km s-min=2.4km az=149.0*

DDA ***22*** *00:36:57.7, 38°.13N×37°.52E, h7km±3km, MD2.8*

ISK ***22*** *00:36:57.4, 38°.17N×37°.47E, h9km, MD2.9*

ISC 22 00:36:58.3±0.5, 38°.14N±0°.04×37°.50E±0°.04, h9km±7km, n24, σ0s78/37, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.37**	**65**	*i* P	**Pg**	**00 37 05.4**	**-0.1**
AKCD				*i* S	**Sg**	**00 37 10.3**	**-0.1**
AKCD	**Akcadag**	**0.37**	**65**	*i* P	**Pg**	**00 37 05.4**	**-0.1**
AKCD				*i* S	**Sg**	**00 37 10.3**	**-0.1**
MALT	**Malatya**	**0.75**	**77**	*e*PG	**Pg**	**00 37 12.4**	**-0.4**
MALT				*e*SG	**Sg**	**00 37 23.6**	**+1.1**
MALT	**Malatya**	**0.75**	**77**	*e*Pg	**Pg**	**00 37 12.4**	**-0.4**
MALT				*e*Sg	**Sg**	**00 37 23.6**	**+1.0**
GZT	**Gaziantep**	**0.79**	**176**	*i* P	**Pg**	**00 37 14.5**	**+1.0**
GZT				*i* S	**Sg**	**00 37 23.7**	**0.0**
KMRS	**Kahramanmaras**	**0.79**	**217**	*e*PG	**Pg**	**00 37 13.4**	**-0.2**
KMRS				*e*SG	**Sg**	**00 37 24.8**	**+0.9**
KMRS	**Kahramanmaras**	**0.79**	**217**	*e*Pg	**Pg**	**00 37 13.4**	**-0.2**
KMRS				*e*Sg	**Sg**	**00 37 24.8**	**+0.9**
SARI	**SarD1z-Kayseri**	**0.83**	**311**	*e*PG	**Pg**	**00 37 13.7**	**-0.6**
SARI	**SarD1z-Kayseri**	**0.83**	**311**	*e*Pg	**Pg**	**00 37 13.7**	**-0.5**
DARE	**Darende-Malaty**	**0.84**	**16**	*e*PG	**Pg**	**00 37 05.3**	**-9.3**
DARE				*e*SG	**Sg**	**00 37 12.5**	**-13**
ATAB	**Bozova**	**0.92**	**137**	*i* P	**Pg**	**00 37 13.3**	**-2.8**
ATAB				*i* S	**Sg**	**00 37 27.7**	**-0.4**
GAZ	**Gaziantep**	**1.00**	**193**	*e*PG	**Pg**	**00 37 17.3**	**-0.1**
GAZ	**Gaziantep**	**1.00**	**193**	*e*Pg	**Pg**	**00 37 17.3**	**-0.2**
ANDN	**Andirin**	**1.07**	**239**	*i* P	**Pg**	**00 37 18.8**	**-0.2**
ANDN				*i* S	**Sg**	**00 37 33.5**	**+0.6**
ANDN	**Andirin**	**1.07**	**239**	*i* P	**Pg**	**00 37 18.8**	**-0.1**
ANDN				*i* S	**Sg**	**00 37 33.5**	**+0.7**
KEMA	**Kemaliye**	**1.37**	**34**	*i* P	**Pn**	**00 37 23.1**	**-0.5**
KEMA				*i* S	**Sb**	**00 37 43.1**	**+1.4**
KEMA	**Kemaliye**	**1.37**	**34**	*i* P	**Pn**	**00 37 23.1**	**-0.5**
KEMA				*i* S	**Sb**	**00 37 43.1**	**+1.5**
SVRC	**Sivrice-ELAZID**	**1.44**	**80**	*e*PN	**Pn**	**00 37 25.0**	**+0.4**
SVRC	**Sivrice-ELAZID**	**1.44**	**80**	*e*Pn	**Pn**	**00 37 25.0**	**+0.4**
BNN	**Bunyan**	**1.48**	**299**	*e*PN	**Pn**	**00 37 24.0**	**-1.1**
BNN	**Bunyan**	**1.48**	**299**	*e*Pn	**Pn**	**00 37 24.0**	**-1.1**
KOZT	**Kozan**	**1.48**	**244**	*e*PN	**Pn**	**00 37 25.4**	**+0.2**
PTK	**Pertek**	**1.66**	**63**	*e*PN	**Pn**	**00 37 27.2**	**-0.4**
PTK	**Pertek**	**1.66**	**63**	*e*Pn	**Pn**	**00 37 27.2**	**-0.4**

TIF ***22*** *00:41:14.9, 41°.26N×45°.48E, h9km±1km*

NSSP ***22*** *00:41:14.7, 41°.38N×45°.37E, h10km, Ms2.7*

ISCJB ***22*** *00:41:15.6±0.5, 41°.26N±0°.02×45°.50E±0°.03, h6km±4km, Error ellipse: s-maj=4.4km s-min=3.0km az=28.6*

CSEM ***22*** *00:41:15.9±0.2, 41°.28N×45°.53E, h2km, ML2.7, Error ellipse: s-maj=7.0km s-min=3.8km az=27.0*

ISC 22 00:41:16.1±0.5, 41°.28N±0°.03×45°.50E±0°.03, h8km±5km, n25, σ1s05/50, 5C-9D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGRG	**David-gareji**	**0.20**	**331**	P	**Pg**	**00 41 20.4**	**+0.3**
DGRG				S	**Sg**	**00 41 25.5**	**+2.7**
DGRG	**David-gareji**	**0.20**	**331**	P	**Pg**	**00 41 20.4**	**+0.2**
DGRG				S	**Sg**	**00 41 25.5**	**+2.6**
MTA	**Mtatsminda**	**0.68**	**308**	P	**Pg**	**00 41 28.8**	**-0.4**
MTA				S	**Sg**	**00 41 38.5**	**+0.6**
MTA	**Mtatsminda**	**0.68**	**308**	P	**Pg**	**00 41 28.8**	**-0.3**
MTA				S	**Sg**	**00 41 38.5**	**+0.6**
CKLZ	**Chkalov**	**0.73**	**242**	⇓*i* P	**Pg**	**00 41 29.6**	**-0.5**
CKLZ				⇓*i* S	**Sg**	**00 41 40.4**	**+0.8**
TBLG	**Delisi**	**0.73**	**309**	P	**Pg**	**00 41 29.7**	**-0.4**
TBLG				S	**Sg**	**00 41 40.2**	**+0.5**
TBLG	**Delisi**	**0.73**	**309**	P	**Pg**	**00 41 29.7**	**-0.5**
TBLG				S	**Sg**	**00 41 40.2**	**+0.5**
LMTZ	**Lermontov**	**0.83**	**232**	⇑*i* P	**Pg**	**00 41 31.5**	**-0.6**
LMTZ				⇓*i* S	**Sg**	**00 41 43.9**	**+1.0**
STEZ	**Stepenevan**	**0.88**	**252**	⇑*i* P	**Pg**	**00 41 32.3**	**-0.7**
STEZ				⇓*i* S	**Sg**	**00 41 44.6**	**+0.2**
STEZ	**Stepenevan**	**0.88**	**252**	⇓*i* P	**Pg**	**00 41 33.0**	**0.0**
STEZ				⇓*i* S	**Sg**	**00 41 45.6**	**+1.2**
GANJ	**Ganja**	**0.89**	**135**	P	**Pg**	**00 41 32.0**	**-1.1**
	SNR=28						
GANJ				S	**Sg**	**00 41 44.1**	**-0.5**
STE	**Stepanavan**	**0.90**	**252**	⇑P	**Pg**	**00 41 32.3**	**-1.1**
STE				S	**Sg**	**00 41 44.6**	**-0.4**
SPIZ	**Spitak**	**1.04**	**245**	⇑*i* P	**Pg**	**00 41 33.4**	**-2.5**
SPIZ				⇓*i* S	**Sg**	**00 41 47.0**	**-2.4**
GOR	**Gori**	**1.26**	**305**	P	**Pn**	**00 41 39.6**	**-0.4**
GOR				S	**Sb**	**00 41 56.8**	**+0.3**
GOR	**Gori**	**1.26**	**305**	P	**Pn**	**00 41 39.6**	**-0.4**
GOR				S	**Sb**	**00 41 56.8**	**+0.3**
GNI	**Garni**	**1.27**	**207**	⇓*i* P	**Pn**	**00 41 40.8**	**+0.7**
GNI				⇓*i* S	**Sg**	**00 41 59.6**	**+2.8**
GNI	**Garni**	**1.27**	**207**	⇓P	**Pn**	**00 41 40.8**	**+0.7**
GNI				S	**Sg**	**00 41 59.6**	**+2.8**
SEKA	**Sheki**	**1.28**	**93**	P	**Pn**	**00 41 38.7**	**-1.6**
	SNR=12						
SEKA				S	**Sb**	**00 41 56.8**	**-0.2**
AKH	**Akhalkalaki**	**1.52**	**276**	P	**Pg**	**00 41 45.3**	**+0.1**
AKH				S	**Sn**	**00 42 03.8**	**+0.4**
AKH	**Akhalkalaki**	**1.52**	**276**	P	**Pg**	**00 41 45.3**	**+0.1**
AKH				S	**Sn**	**00 42 03.8**	**+0.3**
BRDA	**Brd**	**1.63**	**128**	P	**Pg**	**00 41 46.8**	**-0.5**
	SNR=2.7						
BRDA				S	**Sg**	**00 42 10.3**	**+1.9**
ONI	**Oni**	**2.01**	**311**	P	**Pb**	**00 41 51.9**	**-1.1**
ONI				S	**Sb**	**00 42 18.7**	**+0.6**
ONI	**Oni**	**2.01**	**311**	P	**Pb**	**00 41 51.9**	**-1.0**
ONI				S	**Sb**	**00 42 18.7**	**+0.5**
IML	**Ismayilli**	**2.08**	**103**	P	**Pn**	**00 41 51.3**	**0.0**
	SNR=9.3						
IML				S	**Sn**	**00 42 18.8**	**+1.4**
NAX	**Nakhchivan**	**2.10**	**180**	P	**Pg**	**00 41 55.8**	**-0.6**
	SNR=3.4						
NAX				S	**Sg**	**00 42 24.8**	**+1.2**

IDC 22 00:41:26.0±8.0, 20°.48N×93°.67E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.2/25, mbtmp3.2/3, Error ellipse: s-maj=183.4km s-min=87.2km az=173.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**5.37**	**111**	Pn	Pn	00 42 47.6	+0.1
	0.3nm,0.3s,baz=290,slow=13,SNR=6.1						
WRA	**Warramunga Arr**	**56.56**	**133**	P	P	00 51 10.1	-0.6
	0.3nm,0.8s,baz=319,slow=7.5,SNR=5.3						
ASAR	**Alice Springs**	**58.84**	**136**	P	P	00 51 27.3	+0.7
	0.2nm,0.5s,baz=322,slow=5.9,SNR=3.3						

ISCJB ***22*** *01:04:46.9±0.6, 66°.43N±0°.05×157°.3W±0°.1, h10km, mb3.6/5, Error ellipse: s-maj=8.1km s-min=6.2km az=33.5*

NEIC ***22*** *01:04:48.4, 66°.35N×157°.36W, h10km, ML3.5(AEIC), After AEIC.*

IDC ***22*** *01:04:49.5±1.0, 66°.71N×157°.46W, h0km, mb3.6/4, mb1 3.7/7, mb1mx3.5/26, mbtmp3.6/7, ML3.6/3, Error ellipse: s-maj=27.9km s-min=14.4km az=32.0*

ISC 22 01:04:49.1±0.6, 66°.46N±0°.05×157°.2W±0°.1, h10km, n38, σ0s84/47, mb3.6/5, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMA2	**Indian Mountai**	**1.48**	**104**	*e*Pn	**Pn**	**01 05 15.8**	**+0.3**
IMA2				*e*Sn	**Sn**	**01 05 36.7**	**+1.8**
IM3	**Indian Mountai**	**1.48**	**107**	P	**Pn**	**01 05 15.4**	**-0.3**
IM3				S	**Sn**	**01 05 33.8**	**-1.2**
COLD	**Coldfoot**	**2.87**	**71**	P	**Pn**	**01 05 35.5**	**+0.7**
CHUM	**Lake Minchumin**	**3.31**	**139**	P	**Pn**	**01 05 40.2**	**-0.6**
CHUM				S	**Sn**	**01 06 21.0**	**+0.9**
BPAW	**Bear Paw Mtn.**	**3.53**	**129**	P	**Pn**	**01 05 43.2**	**-0.6**
TT01	**Tatalina**	**3.61**	**171**	P	**Pn**	**01 05 42.8**	**-2.1**
MDM	**Murphy Dome**	**4.00**	**108**	P	**Pn**	**01 05 50.4**	**+0.1**
PPLA	**Purkeypile**	**4.18**	**147**	P	**Pn**	**01 05 52.8**	**+0.1**
PPLA				S	**Sn**	**01 06 41.8**	**+0.3**
COLA	**College**	**4.18**	**108**	P	**Pn**	**01 05 52.9**	**+0.1**
TRF	**Thorofare Moun**	**4.21**	**133**	P	**Pn**	**01 05 52.9**	**-0.4**
MCK	**McKinley**	**4.44**	**124**	P	**Pn**	**01 05 56.0**	**-0.3**
IL1	**Eielson Array**	**4.60**	**107**	P	**Pn**	**01 05 58.4**	**-0.1**
ILAR	**Eielson Array**	**4.60**	**107**	Pn	**Pn**	**01 05 58.5**	**0.0**
	5.1nm,0.3s,baz=295,slow=14,SNR=391						
ILAR				Sn	**Sn**	**01 06 51.7**	**-0.1**
	3.1nm,0.3s,baz=297,slow=24,SNR=5.6						
ILAR				Lg		01 07 12.4	
	7.1nm,0.3s,baz=299,slow=32,SNR=5.8						
ILAR	**Eielson Array**	**4.60**	**107**	Pn	**Pn**	**01 05 58.5**	**0.0**
ILAR				Sn	**Sn**	**01 06 51.7**	**-0.1**
ILAR				Lg		01 07 12.4	
RND	**Reindeer**	**4.69**	**127**	P	**Pn**	**01 05 59.7**	**-0.1**
SKT	**Skwentna**	**5.13**	**149**	P	**Pn**	**01 06 05.8**	**-0.1**
PMR	**Palmer**	**6.04**	**140**	*e*Pn	**Pn**	**01 06 18.2**	**0.0**
	15nm,0.6s						
SML	**Sawmill**	**6.07**	**136**	*e*Pn	**Pn**	**01 06 18.3**	**-0.3**
	6.9nm,0.8s						
PAX	**Paxson**	**6.12**	**119**	*e*Pn	**Pn**	**01 06 19.8**	**+0.4**
	36nm,1.5s						
RC01	**Rabbit Creek A**	**6.32**	**145**	*e*Pn	**Pn**	**01 06 22.1**	**-0.1**
RSO	**Redoubt South**	**6.34**	**160**	*e*Pn	**Pn**	**01 06 21.9**	**-0.6**
	43nm,0.6s						
EGAK	**Eagle**	**6.85**	**97**	*e*Pn	**Pn**	**01 06 29.3**	**-0.1**
	7.2nm,0.8s						
EGAK				*e*Sg	**Sg**	**01 08 20.1**	**-8.5**
DAWY	**Dawson**	**7.84**	**100**	*e*Pn	**Pn**	**01 06 43.6**	**+0.7**
DAWY				*e*Lg		01 08 56.1	
BMRR	**Bremner River**	**7.84**	**129**	*e*Pn	**Pn**	**01 06 46.1**	**+3.2**
KDAK	**Kodiak Island**	**8.97**	**164**	Pn	**Pn**	**01 06 59.0**	**+0.5**
	0.5nm,0.3s,baz=297,slow=3.9,SNR=4.4						
KDAK	**Kodiak Island**	**8.97**	**164**	Pn	**Pn**	**01 06 59.0**	**+0.5**
INK	**Inuvik**	**9.28**	**68**	Pn	**Pn**	**01 07 03.2**	**+0.6**
	0.1nm,0.3s,baz=284,slow=8.3,SNR=3.8						
INK				Sn	**Sn**	**01 08 44.2**	**-2.7**
	0.2nm,0.3s,baz=284,slow=4.2,SNR=2.7						
INK	**Inuvik**	**9.28**	**68**	Pn	**Pn**	**01 07 03.2**	**+0.6**
INK				Sn	**Sn**	**01 08 44.2**	**-2.7**
NVAR	**Mina Array Bea**	**35.67**	**122**	P	**P**	**01 11 50.9**	**+3.9**
	0.3nm,0.6s,mb3.4,baz=313,slow=7.3,SNR=3.6						
NVAR	**Mina Array Bea**	**35.67**	**122**	P	**P**	**01 11 50.9**	**+4.0**
TXAR	**Lajitas Array**	**49.10**	**112**	P	**P**	**01 13 36.5**	**+0.2**
	0.3nm,0.8s,mb3.4,baz=334,slow=8.1,SNR=2.9						
TXAR	**Lajitas Array**	**49.10**	**112**	P	**P**	**01 13 36.5**	**+0.2**
SONM	**Songino Array**	**49.72**	**299**	P	**P**	**01 13 42.4**	**+1.6**
	0.7nm,1.0s,mb3.7,baz=46,slow=6.2,SNR=3.3						
SONM	**Songino Array**	**49.72**	**299**	P	**P**	**01 13 42.4**	**+1.6**
ZALV	**Zalesovo Beam**	**51.15**	**318**	P	**P**	**01 13 50.5**	**-1.0**
	0.6nm,0.5s,mb3.8,baz=42,slow=9.0,SNR=4.8						
ZALV	**Zalesovo Beam**	**51.15**	**318**	P	**P**	**01 13 50.5**	**-1.0**
MKAR	**Makanchi Array**	**58.31**	**316**	P	**P**	**01 14 43.5**	**0.0**
	0.5nm,0.7s,mb3.6,baz=25,slow=6.9,SNR=4.7						
MKAR	**Makanchi Array**	**58.31**	**316**	P	**P**	**01 14 43.5**	**0.0**

IDC ***22*** *01:21:49.8±1.2, 37°.17N×72°.48E, h0km, mb3.8/6, mb1 3.9/10, mb1mx3.7/28, mbtmp3.7/10, ML3.4/4, Error ellipse: s-maj=24.9km s-min=23.5km az=143.0*

NNC ***22*** *01:21:54.1±5.3, 37°.60N×72°.62E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=52.1km s-min=38.5km az=56.0*

ISCJB ***22*** *01:21:56.9±0.6, 37°.40N±0°.03×72°.94E±0°.06, h92km±9km, mb3.9/9, Error ellipse: s-maj=8.3km s-min=5.4km az=161.3*

NEIC ***22*** *01:22:00.1±1.1, 37°.55N×72°.40E, h76km±11km, mb4.3/1, Error ellipse: s-maj=15.7km s-min=10.3km az=131.0*

ISC 22 01:21:58.4±0.6, 37°.49N±0°.04×72°.78E±0°.07, h74km±8km, n47, σ1s57/54, mb3.9/9, 4C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.22**	**50**	Pn	**Pn**	**01 22 45.0**	**-1.6**
KSH				Sn	**Sn**	**01 23 22.8**	**-1.0**
KSH				smax			
	comp=N,280nm,0.8s						
KSH				smax			
	comp=E,320nm,0.7s						
CEP	**Cherat**	**3.73**	**191**	P	**Pn**	**01 22 54.0**	**+0.4**
CEP				S	**Sn**	**01 23 48.0**	**+12**
CHCP	**Chirah Chowk**	**3.84**	**174**	P	**Pn**	**01 22 58.5**	**+3.3**
KBL	**Kabul**	**4.22**	**227**	*e*Pn	**Pn**	**01 23 00.1**	**-0.2**
KBL				*e*Sn	**Sn**	**01 23 54.2**	**+5.8**
THW	**Thamme Wali**	**4.76**	**191**	P	**Pn**	**01 23 08.4**	**+0.7**
EKS2	**Erkin-Say**	**5.22**	**8**	*e*Pn	**Pn**	**01 23 17.2**	**+3.3**
	comp=E,26nm,0.6s						
AAK	**Ala-Archa**	**5.30**	**14**	*e*Pn	**Pn**	**01 23 17.9**	**+2.8**
	comp=E,27nm,0.4s						
TKM2	**Tokmak 2**	**5.84**	**21**	⇑Pn	**Pn**	**01 23 24.0**	**+1.7**
	comp=E,2.8nm,0.8s						
TKM2				⇓Lg		01 25 00.8	
	comp=E,7.4nm,0.8s						
TKM2	**Tokmak 2**	**5.84**	**21**	*e*Pn	**Pn**	**01 23 25.3**	**+3.0**
	comp=E,3.3nm,0.5s						
KK31	**Karatay Array**	**5.87**	**344**	Pn	**Pn**	**01 23 22.4**	**-0.4**
	comp=E,1.3nm,0.3s,baz=154,slow=11,SNR=35						
KK31				⇑Sn	**Sn**	**01 24 33.5**	**+5.0**
	comp=E,5.4nm,0.5s,baz=158,slow=23						
KKAR	**Karatay Array**	**5.87**	**344**	*e*Pn	**Pn**	**01 23 21.8**	**-0.9**
	comp=E,5.4nm,0.3s						
MK31	**Makanchi Array**	**11.66**	**34**	*e*Pn	**Pn**	**01 24 44.7**	**+2.9**
PYUN	**Piuthan**	**12.70**	**135**	*e*P	**Pn**	**01 24 52.3**	**-3.7**
	comp=E,6.4nm,0.4s						
DANN	**Dangsing**	**12.96**	**132**	*e*P	**Pn**	**01 24 56.6**	**-2.9**
	comp=E,6.3nm,0.4s						
KOLN	**Koldanda**	**13.30**	**134**	*e*P	**Pn**	**01 25 00.5**	**-3.5**
	comp=E,4.3nm,0.4s						
GKN	**Gorkha**	**13.74**	**130**	*e*P	**Pn**	**01 25 06.9**	**-3.0**
	comp=E,10nm,0.4s						
KURK	**Kurchatov**	**13.86**	**16**	Pn	**Pn**	**01 25 08.5**	**-2.9**
	comp=E,0.1nm,0.3s,baz=208,slow=11,SNR=2.6						
KURK	**Kurchatov**	**13.86**	**16**	Pn	**Pn**	**01 25 08.5**	**-2.9**
**

CERR	**Cheremushki**	**3.11**	**16**	*i* PN		**Pb**	**01 44 15.0**	**-0.4**
CERR				*i*			01 44 53.6	
ELT	**Yel'tsovka**	**4.11**	**327**	*e*PN		**Pb**	**01 44 34.2**	**+1.8**
ELT				*e*			01 45 25.1	
ZAA0	**Zalesovo Array**	**5.18**	**324**	*e*Pn		**Pn**	**01 44 37.2**	**-0.2**
ZAA0				*e*Pg		**Pb**	**01 44 50.9**	**+0.4**
ZAA0				*e*Sg		**Sb**	**01 45 55.0**	**+2.2**
ZALV	**Zalesovo Beam**	**5.18**	**324**	Pn		**Pn**	**01 44 36.5**	**-1.0**
	1.4nm,0.3s,baz=142,slow=13,SNR=16							
ZALV				Pg		**Pb**	**01 44 51.1**	**+0.6**
	3.2nm,0.3s,baz=143,slow=15,SNR=22							
ZALV				Lg			01 45 56.9	
	8.0nm,0.3s,baz=144,slow=29,SNR=12							
ZALV	**Zalesovo Beam**	**5.18**	**324**	Pn		**Pn**	**01 44 36.5**	**-1.0**
ZALV				Pg		**Pb**	**01 44 51.1**	**+0.6**
ZALV				Lg			01 45 56.9	
ZALV	**Zalesovo Beam**	**5.18**	**324**	PN		**Pn**	**01 44 36.5**	**-1.0**
ZALV							01 45 56.9	
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MK31	**Makanchi Array**	**5.98**	**242**	⇓Pn		**Pn**	**01 44 50.9**	**+2.4**
	comp=Z,3.0nm,0.5s,baz=41,slow=14,SNR=69							
MK31				⇓Pg		**Pb**	**01 45 06.2**	**+1.9**
	comp=Z,14nm,0.5s,baz=68,slow=14,SNR=6.9							
MK31				⇓Sn		**Sn**	**01 45 59.4**	**+2.4**
	comp=Z,46nm,0.8s							
MK31				⇓Lg			01 46 19.8	
	comp=Z,29nm,0.6s,baz=53,slow=30,SNR=3.5							
MK31	**Makanchi Array**	**5.98**	**242**	*e*Pn		**Pn**	**01 44 50.2**	**+1.7**
MK31				*e*Pg		**Pg**	**01 45 12.5**	**-2.0**
MK31				*e*Sg		**Sg**	**01 46 26.3**	**-5.5**
MK31	**Makanchi Array**	**5.98**	**242**	*e*PN		**Pn**	**01 44 50.2**	**+1.7**
MKAR	**Makanchi Array**	**5.98**	**242**	Pn		**Pn**	**01 44 49.7**	**+1.2**
	comp=Z,1.4nm,0.3s,baz=69,slow=11,SNR=35							
MKAR				Pg		**Pg**	**01 45 10.8**	**-3.6**
	comp=Z,1.6nm,0.3s,baz=69,slow=16,SNR=15							
MKAR				Lg			01 46 26.4	
	comp=Z,3.6nm,0.3s,baz=53,slow=31,SNR=4.6							
MKAR	**Makanchi Array**	**5.98**	**242**	Pn		**Pn**	**01 44 49.7**	**+1.2**
MKAR				Pg		**Pg**	**01 45 10.8**	**-3.6**
MKAR				Lg			01 46 26.4	
MKAR	**Makanchi Array**	**5.98**	**242**	PN		**Pn**	**01 44 49.7**	**+1.2**
MKAR							01 45 10.8	
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.3s							
WMQ	**Urumqi**	**6.26**	**195**	Pn		**Pg**	**01 45 16.0**	**-3.7**
WMQ				Sg		**Sg**	**01 46 40.0**	**-0.7**
WMQ				smax				
	comp=N,78nm,1.0s							
WMQ				smax				
	comp=E,47nm,0.7s							
NVS	**Novosibirsk**	**6.46**	**323**	*e*PN		**Pb**	**01 45 03.6**	**-8.8**
NVS				*i*			01 46 34.4	
KURK	**Kurchatov**	**7.32**	**281**	⇓Pn		**Pn**	**01 45 06.3**	**-0.7**
	comp=E,5.2nm,0.6s							
KURK				⇑Lg			01 47 03.5	
	comp=E,61nm,0.9s							
KURK	**Kurchatov**	**7.32**	**281**	Pn		**Pn**	**01 45 06.9**	**0.0**
	comp=E,0.7nm,0.3s,baz=91,slow=14,SNR=96							
KURK				Sn		**Sn**	**01 46 29.0**	**-1.1**
	comp=E,0.5nm,0.3s,baz=86,slow=27,SNR=4.4							
KURK				Lg			01 47 11.2	
	comp=E,1.0nm,0.3s,baz=92,slow=34,SNR=13							
KURK	**Kurchatov**	**7.32**	**281**	*e*Pn		**Pn**	**01 45 06.1**	**-0.8**
KURK				*e*Sg		**Sg**	**01 47 04.6**	**-10**
KURK				Lg			01 47 11.2	
KURK	**Kurchatov**	**7.32**	**281**	P		**Pn**	**01 45 06.9**	**0.0**
KURK							01 46 29.0	
KURK				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KURK				smax				
	comp=N,1.0nm,0.3s							
KURBB	**Kurchatov Arra**	**7.38**	**280**	⇓Pn		**Pn**	**01 45 07.2**	**-0.5**
	comp=N,1.7nm,0.5s							
SONM	**Songino Array**	**11.01**	**94**	Pg		Px	01 46 41.8	
	comp=N,0.1nm,0.3s,baz=283,slow=18,SNR=3.2							
SONM				Lg			01 49 06.1	
	comp=N,0.6nm,0.3s,baz=282,slow=30,SNR=12							
TKM2	**Tokmak 2**	**12.11**	**240**	⇑Pn		**Pn**	**01 46 13.8**	**+1.3**
	comp=N,1.6nm,0.7s							
TKM2				⇑Sn		**Sn**	**01 48 25.9**	**-1.6**
	comp=N,2.4nm,0.7s							
VOSK	**Vostochnaya**	**12.22**	**291**	⇑Pn		**Pn**	**01 46 13.1**	**-0.9**
	comp=N,1.0nm,1.1s							
VOSK				⇓Sn		**Sn**	**01 48 26.3**	**-3.9**
	comp=N,2.7nm,0.8s							
BVA0	**Borovoye Array**	**12.61**	**292**	⇑Pn		**Pn**	**01 46 18.8**	**-0.5**
	comp=N,0.1nm,0.5s,baz=96,slow=14,SNR=8.0							
BVA0				⇓Sn		**Sn**	**01 48 35.8**	**-3.9**
	comp=N,0.2nm,0.5s,baz=88,slow=24,SNR=4.3							
BVAR	**Borovoye Array**	**12.61**	**292**	Pn		**Pn**	**01 46 17.1**	**-2.2**
	comp=N,0.3nm,0.3s,baz=92,slow=13,SNR=7.5							
BVAR				Sn		**Sn**	**01 48 31.5**	**-8.2**
	comp=N,0.5nm,0.3s,baz=88,slow=26,SNR=5.9							
BVAR	**Borovoye Array**	**12.61**	**292**	Pn		**Pn**	**01 46 17.1**	**-2.2**
BVAR				Sn		**Sn**	**01 48 31.5**	**-8.2**
BVAR	**Borovoye Array**	**12.61**	**292**	P		**Pn**	**01 46 17.1**	**-2.2**
BRVK	**Borovoye**	**12.68**	**292**	⇑Pn		**Pn**	**01 46 19.8**	**-0.4**
	comp=N,1.3nm,0.5s							
BRVK				⇑Sn		**Sn**	**01 48 37.6**	**-3.8**
	comp=N,2.7nm,0.5s							
BRVK	**Borovoye**	**12.68**	**292**	*e*Pn		**Pn**	**01 46 21.5**	**+1.3**
BRVK	**Borovoye**	**12.68**	**292**	*e*P		**Pn**	**01 46 21.5**	**+1.3**
AAK	**Ala-Archa**	**12.92**	**242**	*e*Pn		**Pn**	**01 46 25.2**	**+1.7**
AAK	**Ala-Archa**	**12.92**	**242**	*e*P		**Pn**	**01 46 25.2**	**+1.7**
EKS2	**Erkin-Say**	**13.31**	**243**	*e*Pn		**Pn**	**01 46 30.5**	**+1.6**
	comp=N,2.1nm,0.6s							
EKS2	**Erkin-Say**	**13.31**	**243**	*e*P		**Pn**	**01 46 30.5**	**+1.6**
EKS2				pmax	pmax			
	comp=Z,2.0nm,0.6s							
KK31	**Karatay Array**	**15.00**	**251**	⇑Pn		**Pn**	**01 46 54.3**	**+2.4**
	comp=Z,0.4nm,0.3s,baz=53,slow=12,SNR=5.9							
KK31				⇓Sn		**Sn**	**01 49 40.3**	**+2.3**
	comp=Z,0.5nm,0.5s,baz=58,slow=20,SNR=4.5							
HHC	**Hu-ho-hao-te**	**17.60**	**113**	*e*P		**Pn**	**01 47 19.5**	**-5.7**
HHC				sP		sP	01 48 01.8	+32
HHC				S		**Sn**	**01 50 27.9**	**-13**
HHC				PcP		PcP	01 51 52.9	-11
HHC				pmax	pmax			
	comp=Z,11nm,0.6s							
HHC				pmax	pmax			
	comp=Z,120nm,4.4s							
HHC				LR		LR		
	comp=N,200nm,6.4s							
HHC				LR		LR		
	comp=E,250nm,5.8s							
HHC				LR		LR		
	comp=Z,110nm,7.2s							
AB31	**Akbulak array**	**19.43**	**280**	⇓Pn		**Pn**	**01 47 48.0**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=88,slow=7.9,SNR=11							
ABKAR	**Akbulak array**	**19.43**	**280**	*e*P		**Pn**	**01 47 45.5**	**-2.0**
	comp=Z,13nm,1.3s							
AKTO	**Aktyubinsk**	**20.41**	**284**	P		**P**	**01 47 57.4**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=88,slow=14,SNR=3.8							
AKTO	**Aktyubinsk**	**20.41**	**284**	P		**P**	**01 47 57.4**	**+0.4**
AKTO	**Aktyubinsk**	**20.41**	**284**	P		**P**	**01 47 57.4**	**+0.5**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.4s							
FINES	**FINESS Array B**	**36.34**	**313**	P		**P**	**01 50 22.6**	**-1.0**
	comp=Z,8.9nm,1.1s,mb4.6,baz=101,slow=9.9,SNR=5.1							
FINES	**FINESS Array B**	**36.34**	**313**	P		**P**	**01 50 22.6**	**-1.0**
FINES	**FINESS Array B**	**36.34**	**313**	P		**P**	**01 50 22.7**	**-1.0**
FINES				pmax	pmax			
	comp=Z,9.0nm,1.2s							
BRTR	**Keskin Array B**	**40.36**	**278**	P		**P**	**01 50 57.9**	**+0.1**
	comp=Z,0.5nm,0.5s,mb3.5,baz=57,slow=5.3,SNR=3.3							
BRTR	**Keskin Array B**	**40.36**	**278**	P		**P**	**01 50 57.9**	**+0.1**
BRTR	**Keskin Array B**	**40.36**	**278**	P		**P**	**01 50 57.9**	**+0.2**
BRTR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
TORD	**Torodi Ar. Bea**	**78.97**	**277**	P		**P**	**01 55 23.4**	**-0.7**
	comp=Z,0.4nm,0.8s,mb3.4,baz=42,slow=5.0,SNR=4.5							
TORD	**Torodi Ar. Bea**	**78.97**	**277**	P		**P**	**01 55 23.4**	**-0.7**
WRAB	**Tennant Creek**	**79.83**	**138**	*e*P		**P**	**01 55 28.0**	**-0.5**
	comp=Z,1.4nm,0.7s,mb4.0							
WRAB	**Tennant Creek**	**79.83**	**138**	*e*P		**P**	**01 55 28.0**	**-0.5**
WRAB				pmax	pmax			
	comp=Z,1.0nm,0.7s,mb3.9							
WRA	**Warramunga Arr**	**79.83**	**138**	P		**P**	**01 55 28.3**	**-0.2**
	comp=Z,1.3nm,0.8s,mb3.9,baz=340,slow=5.7,SNR=11							
WRA	**Warramunga Arr**	**79.83**	**138**	P		**P**	**01 55 28.3**	**-0.2**
WRA	**Warramunga Arr**	**79.83**	**138**	P		**P**	**01 55 28.3**	**-0.2**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.8s							
ASAR	**Alice Springs**	**82.94**	**140**	P		**P**	**01 55 45.1**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.8,baz=335,slow=5.3,SNR=7.2							
ASAR	**Alice Springs**	**82.94**	**140**	P		**P**	**01 55 45.1**	**+0.2**
ASAR	**Alice Springs**	**82.94**	**140**	P		**P**	**01 55 45.2**	**+0.3**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.6s							

IDC 22 02:21:48.1±36.0, 14°.08S×170°.60E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.8/4, Error ellipse: s-maj=637.1km s-min=117.1km az=71.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**31.89**	**231**	P		P	02 28 14.7	-0.6
	3.2nm,1.0s,baz=31,slow=12,SNR=3.0							
WRA	**Warramunga Arr**	**35.11**	**255**	P		P	02 28 44.1	+0.6
	0.8nm,0.8s,baz=86,slow=9.0,SNR=9.6							
ASAR	**Alice Springs**	**35.91**	**249**	P		P	02 28 50.5	+0.1
	0.5nm,0.6s,baz=78,slow=9.2,SNR=7.1							
FITZ	**Fitzroy Crossi**	**43.30**	**258**	P		P	02 29 51.6	-0.4
	1.3nm,1.0s,baz=80,slow=11,SNR=3.9							

KRSC 22 02:37:21.9±0.7, 52°.38N×157°.60E, h172km±32km, ML3.7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**0.53**	**259**	*i* P		Pn	02 37 45.5	-0.3
MIPR				*e*S		Sn	02 38 02.9	-1.2
RUS	**Russkaya**	**0.56**	**84**	*i* P		Pn	02 37 47.0	+1.0
RUS				*i* S		Sn	02 38 05.5	+1.1
PET	**Petropavlovsk**	**0.91**	**44**	*e*P		Pn	02 37 49.3	+1.3
PET				S		Sn	02 38 09.6	+1.4
KOK	**Koryaka**	**1.11**	**34**	*i* P		Pn	02 37 51.4	+1.8
UGLR	**Uglovaya**	**1.11**	**41**	*i* P		Pn	02 37 51.8	+2.2
UGLR				*e*S		Sn	02 38 13.4	+2.4
AVH	**Avacha**	**1.12**	**37**	*i* P		Pn	02 37 51.5	+1.8
AVH				S		Sn	02 38 13.1	+1.9
SMAR	**Somma**	**1.15**	**39**	*i* P		Pn	02 37 52.0	+2.1
SMAR				S		Sn	02 38 14.1	+2.6
SDLR	**Sedlovina**	**1.19**	**40**	*i* P		Pn	02 37 52.0	+1.8
SDLR				S		Sn	02 38 13.9	+1.7
NLC	**Nalytchevo**	**1.32**	**53**	S		Sn	02 38 14.4	+0.2
GNL	**Ganaly**	**1.33**	**9**	*i* P		Pn	02 37 52.1	+0.6
GNL				S		Sn	02 38 14.6	+0.1
SPN	**Mys Shipunski**	**1.64**	**63**	P		Pn	02 37 55.4	+0.9
SPN				*e*S		Sn	02 38 20.3	+0.6
MKZ	**Mys Kozlova**	**3.29**	**47**	*i* P		Pn	02 38 15.1	+1.4
MKZ				*e*S		Sn	02 38 52.8	-1.2
KBTR	**Krutoberegovo**	**4.90**	**36**	*e*P		Pn	02 38 35.6	+1.3

MEX 22 02:52:11.1±0.3, 15°.99N×97°.75W, h10km±6km, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.54**	**318**	*i* P		Pg	02 52 20.7	-0.8
PNIG				*i* S		Sg	02 52 28.4	-0.3
VHO	**Vista Hermosa**	**1.45**	**42**	*i* P		Pn	02 52 34.0	-3.4
VHO				*i* S		Sn	02 52 51.8	-4.7
HUIG	**Huatulco**	**1.59**	**98**	*i* P		Pn	02 52 36.5	-2.9
HUIG				*i* S		Sn	02 52 55.1	-5.0
UTMO	**Huajuapan**	**1.83**	**358**	*e*P		Pn	02 52 40.0	-2.7
UTMO				*i* S		Sn	02 53 01.7	-4.1

IDC 22 03:25:30.7±8.4, 31°.34N×104°.90E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.3/25, mbtmp3.4/3, ML3.2/1, Error ellipse: s-maj=438.6km s-min=42.1km az=81.0

ISC 22 03:25:29.4±1.8, 31°.32N±0°.08×103°.7E±0°.2, h6km±11km, n5, σt1s20/9, mb3.5/2, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.41**	**177**	Pg		**Pg**	**03 25 37.3**	**0.0**
CD2				Sg		**Sg**	**03 25 43.4**	**+0.8**
CD2				smax				
	comp=N,3μm,0.6s							
CD2				smax				
	comp=E,2μm,0.5s							
XAN	**Xi'an**	**5.15**	**57**	Pn		**Pn**	**03 26 49.1**	**+2.1**
XAN				Pg		**Pg**	**03 27 06.3**	**-1.7**
XAN				Sn		**Sn**	**03 27 47.3**	**+0.6**
XAN				Sg		**Sg**	**03 28 06.6**	**-8.2**
XAN				smax				
	comp=N,27nm,0.9s							
XAN				smax				
	comp=E,13nm,0.7s							
SONM	**Songino Array**	**16.62**	**6**	Pn		**Pn**	**03 29 23.5**	**+0.7**
	comp=E,0.1nm,0.3s,baz=187,slow=11,SNR=2.4							
WRA	**Warramunga Arr**	**58.83**	**146**	P		**P**	**03 35 27.2**	**-1.6**
	comp=E,0.4nm,0.4s,mb3.8,baz=337,slow=8.0,SNR=8.6							
ASAR	**Alice Springs**	**61.84**	**148**	P		**P**	**03 35 48.5**	**-0.8**
	comp=E,0.2nm,0.8s,mb3.3,baz=345,slow=6.8,SNR=3.4							

IDC 22 03:48:37.5±3.7, 7°.40S×155°.12E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=126.3km s-min=34.0km az=117.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.69**	**236**	P		P	03 53 51.1	-0.1
	0.9nm,0.6s,baz=59,slow=9.8,SNR=12							
ASAR	**Alice Springs**	**26.00**	**229**	P		P	03 54 12.4	+0.2
	0.5nm,0.7s,baz=59,slow=8.8,SNR=6.5							
MKAR	**Makanchi Array**	**83.79**	**319**	P		P	04 01 09.9	+1.2
	0.6nm,0.8s,baz=104,slow=7.8,SNR=4.4							
KURK	**Kurchatov**	**87.23**	**322**	P		P	04 01 26.2	+0.5
	0.2nm,0.5s,baz=103,slow=5.0,SNR=3.1							
TORD	**Torodi Ar. Bea**	**153.25**	**284**	PKPbc		PKPbc	04 08 36.7	-1.8
	0.2nm,0.8s,baz=66,slow=1.4,SNR=3.4							

IDC 22 03:52:52.1±3.2, 7°.85S×155°.98E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/17, mbtmp3.7/3, MS2.8/1, Ms1 2.8/1, ms1mx2.3/29, Error ellipse: s-maj=112.6km s-min=37.8km az=122.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.38**	**217**	LR		LR	04 01 32.7	
	comp=Z,32nm,18.3s,baz=231,slow=34							
WRA	**Warramunga Arr**	**24.16**	**238**	P		P	03 58 09.3	-0.9
	1.8nm,0.7s,baz=62,slow=9.2,SNR=15							
ASAR	**Alice Springs**	**26.36**	**231**	P		P	03 58 31.1	+0.9
	0.9nm,0.8s,baz=62,slow=8.5,SNR=8.7							
MKAR	**Makanchi Array**	**84.69**	**319**	P		P	04 05 29.2	+1.3
	0.3nm,0.3s,baz=91,slow=9.8,SNR=4.3							
TORD	**Torodi Ar. Bea**	**154.18**	**284**	PKPbc		PKPbc	04 12 54.0	-1.1
	0.3nm,0.7s,baz=91,slow=2.8,SNR=4.3							

IDC 22 04:15:01.5±27.0, 24°.67S×179°.50W, h448km±256km, mb3.7/4, mb1 3.8/4, mb1mx3.3/17, mbtmp3.7/4, Error ellipse: s-maj=163.3km s-min=42.3km az=68.0

NEIC 22 04:15:05.5±1.2, 25°.03S×179°.58W, h500km, mb4.3/3, Error ellipse: s-maj=54.4km s-min=21.4km az=161.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.88**	**272**	P		P	04 20 49.5	+0.2
	8.8nm,0.4s,baz=97,slow=9.8,SNR=18							
CTA	**Charters Tower**	**31.88**	**272**	P		P	04 20 49.5	+0.3
CTAO	**Charters Tower**	**31.88**	**272**	*e*P		P	04 20 49.2	0.0
	4.2nm,0.4s							
STKA	**Stephens Creek**	**34.68**	**250**	P		P	04 21 14.2	+1.5
	2.6nm,0.4s,baz=88,slow=11,SNR=4.6							
STKA	**Stephens Creek**	**34.68**	**250**	P		P	04 21 14.2	+1.5
AS31	**Alice Springs**	**42.24**	**262**	*e*P		P	04 22 14.6	+0.2
ASAR	**Alice Springs**	**42.24**	**262**	P		P	04 22 14.8	+0.3
	1.2nm,0.4s,baz=90,slow=8.3,SNR=26							
ASAR	**Alice Springs**	**42.24**	**262**	P		P	04 22 14.8	+0.3
WB2	**Warramunga Arr**	**42.72**	**267**	*e*P		P	04 22 17.4	-0.8
WRAB	**Tennant Creek**	**42.72**	**267**	*e*P		P	04 22 17.5	-0.7
	4.2nm,0.4s							
WRA	**Warramunga Arr**	**42.73**	**267**	P		P	04 22 17.6	-0.7
	5.0nm,0.4s,baz=104,slow=8.1,SNR=75							
WRA	**Warramunga Arr**	**42.73**	**267**	P		P	04 22 17.6	-0.6
FORT	**Forrest**	**46.29**	**251**	*e*P		P	04 22 45.8	+0.1
	5.7nm,0.6s							
HFS	**Hagfors**	**143.73**	**349**	PKP		PKPdf	04 33 41.9	-0.7
	1.3nm,0.3s,baz=8.1,slow=1.4,SNR=21							
HFS	**Hagfors**	**143.73**	**349**	PKP		PKPdf	04 33 41.9	-0.7
BRTR	**Keskin Array B**	**148.56**	**306**	PKPbc		PKPbc	04 33 57.1	+1.4
	0.4nm,0.4s,baz=125,slow=2.9,SNR=3.5							
BRTR				PKPab		PKPab	04 34 02.1	+0.9
	0.8nm,0.6s,baz=136,slow=3.2,SNR=5.3							
BRTR	**Keskin Array B**	**148.56**	**306**	PKPbc		PKPbc	04 33 57.1	+1.4
BRTR				PKPab		PKPab	04 34 02.1	+0.9
TORD	**Torodi Ar. Bea**	**168.12**	**186**	PKP		PKPdf	04 34 14.2	-0.9
	0.4nm,0.9s,baz=243,slow=2.6,SNR=4.1							
TORD				PKPab		PKPab	04 35 28.8	+2.6
	0.6nm,1.0s,baz=196,slow=3.9,SNR=2.9							
TORD	**Torodi Ar. Bea**	**168.12**	**186**	PKP		PKPdf	04 34 14.2	-0.9
TORD				PKPab		PKPab	04 35 28.8	+2.6

ISCJB 22 04:51:57.4±0.6, 18°.70N±0°.05×145°.40E±0°.08, h604km±9km, mb4.0/42, Error ellipse: s-maj=11.2km s-min=8.3km az=174.4

IDC 22 04:51:58.4±0.8, 18°.70N×145°.48E, h596km±10km, mb3.5/18, mb1 3.6/22, mb1mx3.5/30, mbtmp3.6/22, Error ellipse: s-maj=12.9km s-min=8.2km az=82.0

NEIC 22 04:51:58.3±0.6, 18°.70N×145°.43E, h596km±7km, mb4.1/19, Error ellipse: s-maj=7.0km s-min=5.0km az=86.0

ISC 22 04:51:57.9±0.7, 18°.70N±0°.06×145°.46E±0°.08, h591km±9km, n81, σt0s74/75, mb4.0/42, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.11**	**186**	P		**P**	**04 53 31.3**	**0.0**
	19nm,0.3s,baz=14,slow=4.2,SNR=6.1							
GUMO				S		**S**	**04 54 46.5**	**-0.8**
	11nm,0.3s,baz=239,slow=23,SNR=3.8							
GUMO	**Guam**	**5.11**	**186**	P		**P**	**04 53 31.3**	**0.0**
GUMO				S		**S**	**04 54 46.5**	**-0.8**
JHJ	**Hachijo jima 2**	**15.24**	**342**	P		**P**	**04 55 08.7**	**+0.3**
	8.0nm,0.3s,baz=73,slow=22,SNR=7.0							
JOW	**Kunigami**	**17.78**	**300**	P		**P**	**04 55 33.1**	**+1.2**
	7.1nm,0.3s,baz=126,slow=12,SNR=12							
JOW	**Kunigami**	**17.78**	**300**	P		**P**	**04 55 33.1**	**+1.2**
MJAR	**Matsushiro Arr**	**18.89**	**342**	P		**P**	**04 55 41.1**	**-0.7**
	0.9nm,0.3s,baz=171,slow=9.2,SNR=11							
MJAR	**Matsushiro Arr**	**18.89**	**342**	P		**P**	**04 55 41.1**	**-0.7**
MAJO	**Matsushiro**	**18.89**	**342**	*e*P		**P**	**04 55 41.8**	**0.0**
	12nm,0.8s							
KSRS	**Korea Array**	**24.18**	**324**	P		**P**	**04 56 29.4**	**+0.1**
	5.1nm,0.8s,mb4.2,baz=144,slow=9.3,SNR=12							
KSAR	**Wonju Array Be**	**24.20**	**324**	P		**P**	**04 56 29.4**	**0.0**
ASAJ	**Asahikawa**	**25.46**	**355**	P		**P**	**04 56 41.5**	**+1.2**
	13nm,0.8s,mb4.6,baz=308,slow=12,SNR=3.8							
ASAJ	**Asahikawa**	**25.46**	**355**	P		**P**	**04 56 41.5**	**+1.2**
KKM	**Kota Kinabalu**	**31.15**	**250**	*e*P		**P**	**04 57 30.3**	**+0.1**
	17nm,0.8s,mb4.7							
CTA	**Charters Tower**	**38.55**	**179**	P		**P**	**04 58 32.3**	**+0.9**
	2.1nm,0.4s,mb4.0,baz=355,slow=11,SNR=3.4							
CTA	**Charters Tower**	**38.55**	**179**	P		**P**	**04 58 32.3**	**+0.9**
WRA	**Warramunga Arr**	**39.92**	**196**	P		**P**	**04 58 42.6**	**+0.2**
	3.4nm,0.6s,mb4.1,baz=20,slow=8.5,SNR=15							
WRA				ScP		ScP	05 03 24.8	-1.5
	1.4nm,0.7s,baz=17,slow=4.3,SNR=9.4							
WRA	**Warramunga Arr**	**39.92**	**196**	P		**P**	**04 58 42.6**	**+0.2**
WRA				ScP		ScP	05 03 24.8	-1.5
FITZ	**Fitzroy Crossi**	**41.43**	**209**	P		**P**	**04 58 54.8**	**+0.4**
	11nm,0.5s,mb4.6,baz=35,slow=12							
FITZ	**Fitzroy Crossi**	**41.43**	**209**	P		**P**	**04 58 54.8**	**+0.4**
ULN	**Ulaanbaatar**	**42.63**	**322**	*e*P		**P**	**04 59 03.4**	**0.0**
	1.9nm,0.6s,mb3.8							
SONM	**Songino Array**	**43.00**	**321**	P		**P**	**04 59 06.9**	**+0.7**
	3.4nm,0.6s,mb4.1,baz=126,slow=6.1,SNR=24							
SONM				PcP		PcP	05 00 42.6	-0.2
	0.7nm,0.8s,baz=121,slow=3.4,SNR=3.7							
SONM	**Songino Array**	**43.00**	**321**	P		**P**	**04 59 06.9**	**+0.7**
SONM				PcP		PcP	05 00 42.6	-0.2
AS31	**Alice Springs**	**43.59**	**195**	*e*P		**P**	**04 59 11.2**	**+0.1**
ASAR	**Alice Springs**	**43.59**	**195**	P		**P**	**04 59 11.1**	**0.0**
	1.7nm,0.6s,mb3.8,baz=16,slow=8.1,SNR=34							
ASAR				ScP		ScP	05 03 39.5	-1.6
	0.7nm,0.8s,baz=17,slow=4.6,SNR=5.8							
ASAR	**Alice Springs**	**43.59**	**195**	P		**P**

2.3nm,0.6s,mb4.2
SNAA Sanae 123.88 192 *e*PKPdf PKPdf 05 09 48.3 -0.6
TORD Torodi Ar. Bea 132.28 309 PKP PKPdf 05 10 06.0 -0.4
0.1nm,0.4s,baz=47,slow=0.7,SNR=5.3
TORD SKPbc SKPbc 05 12 35.0 -3.7
0.4nm,0.5s,baz=56,slow=3.3,SNR=9.8
TORD Torodi Ar. Bea 132.28 309 PKP PKPdf 05 10 06.0 -0.4
TORD SKPbc SKPbc 05 12 35.0 -3.7
LCO Las Campanas 145.49 114 ePKPbc PKPbc 05 10 32.4 +0.9
CFAA Coronel Fontan 147.04 120 PKPbc PKPbc 05 10 36.0 +0.3
0.1nm,0.7s,baz=261,slow=5.2,SNR=6.9
CFAA Coronel Fontan 147.04 120 PKPbc PKPbc 05 10 36.0 +0.3
LPAZ La Paz 147.90 91 PKPbc PKPbc 05 10 40.0 +1.8
1.7nm,0.6s,baz=297,slow=2.3,SNR=9.5
LPAZ La Paz 147.90 91 PKPbc PKPbc 05 10 40.0 +1.8

NEIC ***22*** *04:59:23.5±1.9, 5.51S×147.16E, h116km±16km, mb4.3/4, Error ellipse: s-maj=26.2km s-min=13.5km az=140.0*
IDC ***22*** *04:59:26.7±2.2, 5.81S×147.25E, h140km±19km, mb3.7/4, mb1 4.0/6, mb1mx3.6/18, mbtmp3.8/6, Error ellipse: s-maj=36.7km s-min=13.6km az=118.0*

ISC 22 04:59:27.5±1.9, 5.38S±0.1×146.96E±0.1, h120km±13km, n32, σ0s92/37, mb4.2/10, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.59**	**176**	P		**Pn**	**05 00 21.1**	**-0.6**
	12nm,0.3s,baz=0.0,slow=14,SNR=28							
PMG				S		**Sn**	**05 01 03.4**	**-0.2**
	26nm,0.3s,baz=124,slow=23,SNR=8.3							
PMG	**Port Moresby**	**3.59**	**176**	P		**Pn**	**05 00 21.1**	**-0.5**
PMG				S		**Sn**	**05 01 03.4**	**-0.2**
COEN	**Coen**	**8.90**	**204**	*e*P		**Pn**	**05 01 34.2**	**+0.8**
	19nm,0.3s							
COEN				*e*S		**Sn**	**05 03 10.4**	**-1.5**
COEN	**Coen**	**8.90**	**204**	*e*Pn		**Pn**	**05 01 34.3**	**+1.0**
	21nm,0.3s							
CTA	**Charters Tower**	**14.22**	**183**	P		**Pn**	**05 02 46.8**	**+3.3**
	0.4nm,0.3s,baz=8.7,slow=12,SNR=6.7							
CTA	**Charters Tower**	**14.22**	**183**	*e*P		**Pn**	**05 02 48.5**	**+5.0**
	7.7nm,0.9s							
CTA	**Charters Tower**	**14.22**	**183**	P		**Pn**	**05 02 46.8**	**+3.3**
WRAB	**Tennant Creek**	**18.62**	**220**	*e*P		**P**	**05 03 36.5**	**+0.8**
	7.7nm,0.4s							
WB2	**Warramunga Arr**	**18.63**	**220**	*e*P		**P**	**05 03 36.5**	**+0.6**
WRA	**Warramunga Arr**	**18.63**	**220**	P		**P**	**05 03 36.8**	**+0.9**
	5.0nm,0.3s,baz=45,slow=9.6,SNR=138							
WRA				S		**S**	**05 07 02.9**	**+0.8**
	baz=42,slow=21,SNR=5.3							
WRA	**Warramunga Arr**	**18.63**	**220**	P		**P**	**05 03 36.8**	**+0.8**
WRA				S		**S**	**05 07 03.0**	**+0.8**
EIDS	**Eidsvold**	**19.86**	**169**	*e*P		**P**	**05 03 49.8**	**+0.5**
	49nm,1.0s							
AS31	**Alice Springs**	**21.74**	**214**	*e*P		**P**	**05 04 09.5**	**+0.2**
ASAR	**Alice Springs**	**21.74**	**214**	P		**P**	**05 04 09.9**	**+0.6**
	8.2nm,0.7s,mb4.2,baz=50,slow=8.4,SNR=124							
ASAR				S		**S**	**05 08 01.9**	**-0.9**
	0.9nm,0.9s,baz=38,slow=17,SNR=3.4							
ASAR	**Alice Springs**	**21.74**	**214**	P		**P**	**05 04 09.9**	**+0.6**
ASAR				S		**S**	**05 08 01.9**	**-0.9**
FITZ	**Fitzroy Crossi**	**24.11**	**238**	P		**P**	**05 04 32.0**	**-0.2**
	3.2nm,0.3s,mb4.1,baz=67,slow=7.1,SNR=51							
FITZ	**Fitzroy Crossi**	**24.11**	**238**	*e*P		**P**	**05 04 32.0**	**-0.2**
	6.1nm,0.6s,mb4.1							
FITZ	**Fitzroy Crossi**	**24.11**	**238**	P		**P**	**05 04 32.0**	**-0.2**
ARMA	**Armidale**	**24.89**	**170**	*e*P		**P**	**05 04 38.9**	**-0.3**
CMSA	**Cobar Meteorol**	**25.63**	**182**	*e*P		**P**	**05 04 47.8**	**+1.9**
	19nm,0.8s,mb4.6							
STKA	**Stephens Creek**	**26.42**	**190**	*e*P		**P**	**05 04 58.0**	**+5.0**
	4.1nm,1.2s,mb3.7							
MBWA	**Marble Bar**	**30.45**	**237**	*e*P		**P**	**05 05 28.1**	**-0.9**
	3.2nm,0.6s,mb4.1							
FORT	**Forrest**	**30.52**	**213**	*e*P		**P**	**05 05 28.9**	**-0.6**
	7.9nm,0.6s,mb4.6							
FORT	**Forrest**	**30.52**	**213**	*e*P		**P**	**05 05 28.8**	**-0.7**
	3.6nm,0.5s,mb4.4							
MEEK	**Meekatharra**	**34.02**	**229**	*e*P		**P**	**05 05 59.7**	**-0.4**
	17nm,0.6s,mb5.1							
KLBR	**Kellerberrin**	**37.46**	**223**	*e*P		**P**	**05 06 28.4**	**-1.1**
	4.6nm,0.3s,mb4.9							
VNDA	**Vanda**	**72.12**	**177**	P		**P**	**05 10 37.2**	**-1.2**
	0.6nm,0.8s,mb3.5,baz=336,slow=7.2,SNR=3.5							
VNDA	**Vanda**	**72.12**	**177**	*e*P		**P**	**05 10 36.7**	**-1.7**
	0.6nm,0.6s,mb3.6							
ILAR	**Eielson Array**	**85.33**	**23**	P		**P**	**05 11 45.7**	**-5.1**
	1.2nm,1.2s,mb3.7,baz=256,slow=5.5,SNR=3.4							
ILAR	**Eielson Array**	**85.33**	**23**	P		**P**	**05 11 45.7**	**-5.1**
TORD	**Torodi Ar. Bea**	**144.96**	**285**	PKPbc	PKPdf		05 18 48.6	-3.0
	0.2nm,0.6s,baz=65,slow=3.3,SNR=4.2							
TORD	**Torodi Ar. Bea**	**144.96**	**285**	PKPbc	PKPdf		05 18 48.6	-3.0

MEX 22 05:07:21.4±0.6, 16.82N×100.15W, h7km±2km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.25**	**332**	*i* P		Pg	05 07 26.0	-0.4
CAIG				*i* S		Sg	05 07 29.9	+0.1
ACX	**Acapulco**	**0.28**	**80**	*i* P		Pg	05 07 25.5	-1.4
ACX				*i* S		Sg	05 07 29.0	-1.6
MEIG	**Mezcala**	**1.21**	**25**	*i* P		Pg	05 07 40.5	-4.0
MEIG				*i* S		Sg	05 07 56.5	-3.7
ZIIG	**Zihuatanejo**	**1.48**	**302**	*i* P		Pn	05 07 45.4	-3.1
ZIIG				*e*S		Sn	05 08 03.1	-5.1
PNIG	**Pinotepa**	**1.98**	**102**	*i* P		Pn	05 07 52.0	-3.4
PNIG				*i* S		Sn	05 08 16.0	-4.5
UTMO	**Huajuapan**	**2.45**	**66**	*i* P		Pn	05 07 58.8	-3.1
UTMO				*i* S		Sn	05 08 28.7	-3.4
MZVM		**2.51**	**20**	*i* P		Pn	05 08 00.0	-2.7
MZVM				*i* S		Sn	05 08 29.2	-4.4
MMIG	**Aquila**	**3.38**	**296**	*e*P		Pn	05 08 11.9	-2.8

IDC ***22*** *05:08:11.4±7.4, 41.33S×91.78W, h0km, mb3.9/4, mb1 4.3/4, mb1mx4.0/14, mbtmp3.9/4, MS3.3/6, Ms1 3.3/6, ms1mx3.2/19, Error ellipse: s-maj=202.4km s-min=36.5km az=2.0*
ISCJB ***22*** *05:08:12.6±0.7, 41.2S±0.1×91.6W±0.2, h10km, mb3.5/5, MS3.1/5, Error ellipse: s-maj=19.4km s-min=16.2km az=148.7*

ISC 22 05:08:14.3±0.7, 41.2S±0.1×91.7W±0.2, h10km, n16, σ0s36/9, mb3.5/5, MS3.1/5, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**16.01**	**95**	LR		LR	05 16 44.7	
	comp=Z,314mm,21.5s,baz=68,slow=32							
CFAA	**Coronel Fontan**	**21.13**	**71**	P		**P**	**05 12 58.8**	**-0.5**
	0.2nm,0.8s,mb2.5,baz=224,slow=12,SNR=4.2							
CFAA				LR		LR	05 19 19.2	
	comp=Z,32nm,19.0s,MS2.7,baz=237,slow=32							
CPUP	**Villa Florida**	**31.97**	**73**	LR		LR	05 26 14.4	
	comp=Z,141nm,19.2s,MS3.7,baz=52,slow=34							
LPAZ	**La Paz**	**32.09**	**46**	P		**P**	**05 14 42.3**	**+0.7**
	1.1nm,0.7s,mb3.8,baz=233,slow=5.1,SNR=3.9							
LPAZ				LR		LR	05 24 56.5	
	comp=Z,30nm,21.6s,MS2.9,baz=250,slow=31							
ATAH	**Atahualpa**	**35.91**	**23**	LR		LR	05 25 36.8	
	comp=Z,73nm,21.6s,MS3.4,baz=148,slow=29							
RKT	**Rikitea**	**40.33**	**283**	*e*LR		LR	05 26 54.3	
	292nm,30.2s							
VNA3	**Neumayer Olymp**	**49.14**	**155**	*e*		**P**	**05 17 01.6**	**-0.1**
VNA3				*e*			05 17 07.9	
VNA1	**Neumayer--Stat**	**49.70**	**154**	*e*		**P**	**05 17 06.1**	**+0.2**
VNA1				*e*			05 17 11.5	
VNA2	**Neumayer--Watz**	**49.93**	**155**	*e*		**P**	**05 17 07.7**	**0.0**
VNA2				*e*			05 17 14.1	
TBI	**Tubuai**	**51.03**	**272**	*e*LR		LR	05 31 52.6	
	250nm,28.0s							
PPT	**Papeete**	**54.55**	**278**	*e*S		**S**	**05 25 22.2**	**0.0**
	52nm,24.5s							
PPT				*e*LR		LR	05 33 25.2	
	158nm,27.2s							
PPT	**Papeete**	**54.55**	**278**	LR		LR	05 33 04.1	
	comp=Z,7.6nm,19.7s,MS2.8,baz=167,slow=27							
TXAR	**Lajitas Array**	**71.01**	**349**	P		**P**	**05 19 31.6**	**-0.5**
	1.0nm,1.0s,mb3.7,baz=173,slow=8.2,SNR=6.3							
NVAR	**Mina Array Bea**	**82.85**	**339**	P		**P**	**05 20 38.8**	**+0.2**
	0.2nm,0.5s,mb3.4,baz=170,slow=6.0,SNR=3.9							
DZM	**Mont Dzumac**	**84.18**	**246**	*e*LR		LR	05 47 25.2	
	59nm,22.9s							
PDAR	**Pinedale Array**	**85.08**	**347**	P		**P**	**05 20 49.8**	**-0.1**
	1.6nm,0.8s,mb4.2,baz=158,slow=5.8,SNR=11							

MEX 22 05:08:29.2±0.9, 16.76N×100.19W, h7km±4km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.29**	**346**	*i* P		Pg	05 08 34.8	-0.2
CAIG				*i* S		Sg	05 08 39.1	+0.2
ACX	**Acapulco**	**0.34**	**72**	*i* P		Pg	05 08 34.5	-1.3
ACX				*i* S		Sg	05 08 38.0	-2.3
MEIG	**Mezcala**	**1.28**	**25**	*i* P		Pn	05 08 49.9	-3.6
MEIG				*i* S		Sb	05 09 05.9	-4.4
ZIIG	**Zihuatanejo**	**1.48**	**305**	*i* P		Pn	05 08 52.1	-4.0
ZIIG				*i* S		Sn	05 09 10.0	-5.7
PNIG	**Pinotepa**	**2.02**	**100**	*i* P		Pn	05 09 01.1	-2.5
PNIG				*i* S		Sn	05 09 26.1	-2.9
UTMO	**Huajuapan**	**2.52**	**65**	*i* P		Pn	05 09 08.7	-1.8
UTMO				*i* S		Sn	05 09 38.6	-2.8
MZVM		**2.58**	**21**	*i* P		Pn	05 09 11.9	+0.5
MZVM				*i* S		Sn	05 09 43.8	+0.8

GRAL 22 05:14:34.1±0.5, 32.86N×35.50E, h13km±4km, MD3.1, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MATL	**Matarih**	**0.64**	**347**	*e*P		Pg	05 14 45.8	-0.8
RCY	**Rachaya**	**0.70**	**24**	*e*P		Pg	05 14 46.5	-1.1
BEYL	**Beirut**	**1.01**	**360**	*e*P		Pb	05 14 51.4	-2.0
BHL	**Bhannes**	**1.05**	**7**	*e*P		Pb	05 14 52.3	-1.9
BHL				*e*S		Sb	05 15 03.0	-4.9
HWQ	**Hawqa**	**1.46**	**15**	*e*P		Pn	05 14 60.0	-0.2
HWQ				*e*S		Sn	05 15 16.1	-3.1

NIED ***22*** *06:21:00, 33.70N×135.10E, h11km, Mw3.4 Best double couple: M₀1.43000×10¹⁴ NP1:φ₀211.00000°, δ80.00000°, λ156.00000°. NP2:φ₀305.00000°, δ67.00000°, λ11.00000°.*
IDC ***22*** *06:21:58.0±4.3, 33.35N×135.61E, h0km, mb3.4/2, mb1 3.4/3, mb1mx3.2/26, mbtmp3.3/3, ML2.9/1, Error ellipse: s-maj=71.1km s-min=22.5km az=146.0*
ISCJB ***22*** *06:21:59.3±0.9, 33.66N±0.06×135.11E±0.04, h20km±13km, mb3.0/2, Error ellipse: s-maj=9.6km s-min=6.1km az=6.0*
JMA ***22*** *06:21:59.5, 33.68N×135.10E, h16km±1km, M3.9*
JMA Felt II J1.

ISC 22 06:21:59.4±0.9, 33.67N±0.05×135.10E±0.04, h11km±6km, n9, σ0s31/16, mb3.0/2, 1C-2D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JWM	**Minabe**	**0.28**	**50**	P		**Pg**	**06 22 05.3**	**+0.2**
JWM				S		**Sg**	**06 22 09.3**	**+0.4**
JWZ	**Kozaga**	**0.53**	**105**	P		**Pg**	**06 22 09.5**	**-0.3**
JWZ				S		**Sg**	**06 22 16.9**	**+0.1**
JAI	**Aioi**	**0.55**	**283**	⇓P		**Pg**	**06 22 10.3**	**+0.1**
JAI				S		**Sg**	**06 22 17.6**	**+0.1**
JWY	**Kouya**	**0.68**	**37**	⇓P		**Pg**	**06 22 12.4**	**-0.3**
JWY				S		**Sg**	**06 22 21.3**	**-0.4**
JAJ2	**Tsuna**	**0.77**	**347**	⇑P		**Pg**	**06 22 14.1**	**-0.2**
JAJ2				S		**Sg**	**06 22 24.4**	**0.0**
MAT	**Matsushiro**	**3.83**	**41**	P		**Pn**	**06 22 57.9**	**-0.4**
MAT				*e*S		**Sn**	**06 23 43.7**	**+0.3**
MJAR	**Matsushiro Arr**	**3.83**	**41**	Pn		**Pn**	**06 22 58.5**	**+0.2**
	0.9nm,0.3s,baz=229,slow=16,SNR=5.1							
MJAR				Pg		**Pg**	**06 23 08.5**	**-4.4**
	1.9nm,0.3s,baz=213,slow=17,SNR=11							
MJAR				Lg			06 23 59.9	
	2.0nm,0.3s,baz=215,slow=30,SNR=4.9							
SONM	**Songino Array**	**25.76**	**312**	P		**P**	**06 27 34.8**	**+4.8**
	0.1nm,0.3s,mb2.8,baz=128,slow=11,SNR=3.6							
MKAR	**Makanchi Array**	**41.64**	**305**	P		**P**	**06 29 52.6**	**+5.1**
	0.5nm,0.8s,mb3.2,baz=88,slow=9.5,SNR=3.1							

SKHL 22 06:30:23.3±0.3, 54.08N×134.48E, h16km±2km, mb3.8/2, 1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
EKMR	**Ekimchan**	**1.36**	**223**	⇓*i*P		Pg	06 30 48.5	-1.0
EKMR					AMB	AMB	06 30 52.0	
	28nm,0.4s							
EKMR					AMB	AMB	06 30 52.0	
	65nm,0.4s							
EKMR					AMB	AMB	06 30 52.0	
	64nm,0.4s							
EKMR					pPg		06 30 53.6	
EKMR					*e*Sg	Sg	06 31 06.7	-0.5
EKMR					A		06 31 09.5	
	460nm,0.3s							
EKMR					A		06 31 09.5	
	240nm,0.3s							
BMKR	**Bomnak**	**3.36**	**283**	*e*Pn		Pn	06 31 16.0	+1.0
BMKR				*e*Pg		Pg	06 31 23.4	-4.1
BMKR					AMB	AMB	06 31 27.0	
	11nm,0.5s							
BMKR					sPg		06 31 29.4	
BMKR					*e*Sn	Sn	06 31 54.0	-0.5
BMKR					*e*Sg	Sg	06 32 06.0	-5.0
BMKR					A		06 32 11.0	
	113nm,0.5s							
NKL	**Nikolayevsk**	**3.81**	**102**	*e*Sg		Sg	06 32 21.5	-4.0
NKL					A		06 32 23.2	
	46nm,0.6s							
ZEA	**Zeya**	**4.29**	**268**	*e*Pg		Pg	06 31 39.8	-5.6
ZEA					sPg		06 31 47.4	
ZEA					*e*rx	rx	06 32 04.3	
ZEA					*e*Sg	Sg	06 32 34.9	-6.0
ZEA					A		06 32 37.9	
	50nm,0.7s							
ZEA					A		06 32 37.9	
	52nm,0.7s							
ZEA					A		06 32 37.9	
	19nm,0.7s							
KROS	**Kirovskiy**	**4.42**	**278**	*e*Sg		Sg	06 32 40.9	-4.1
KROS					A		06 32 45.4	
	21nm,0.6s							
KLR	**Kul'dur**	**5.15**	**200**	*e*rx		rx	06 32 43.6	
KLR					*e*Sg	Sg	06 33 04.2	-4.1
IENR	**Iengra**	**5.92**	**295**	*e*Sg		Sg	06 33 28.8	-4.3
IENR					A		06 33 28.9	
	22nm,0.8s							

CSEM ***22*** *06:44:58.4±0.5, 27.03N×56.04E, h2km, ML3.6, Error ellipse: s-maj=19.5km s-min=3.9km az=51.0*
ISCJB ***22*** *06:45:00.2±1.2, 26.93N±0.04×55.92E±0.09, h15km±12km, Error ellipse: s-maj=12.9km s-min=6.1km az=176.0*
TEH ***22*** *06:45:01.5, 26.88N×55.96E, h7km*
KISR ***22*** *06:45:01.6±0.5, 27.48N×55.40E, h34km, ML3.6*
OMAN ***22*** *06:45:02.2±99.0, 26.81N×56.07E, h8km±17km, Error ellipse: s-maj=77.9km s-min=7.2km az=345.0*

ISC 22 06:45:01.1±1.1, 26.90N±0.04×55.96E±0.09, h10km±11km, n24, σ0s86/30, 1C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.75**	**43**	*e*Pg		**Pg**	**06 45 15.2**	**-0.4**
IBND				*e*Pg		**Pg**	**06 45 15.5**	**-0.1**
IBND				*e*Sg		**Sg**	**06 45 25.4**	**-0.1**
IBND				*e*			06 45 42.7	
	comp=Z,27μm,0.1s							
BANOM	**Banah**	**1.02**	**162**	P		**Pg**	**06 45 19.6**	**-1.1**
	SNR=646							
BANOM	**Banah**	**1.02**	**162**	P		**Pg**	**06 45 19.6**	**-1.2**
	SNR=646							
NAZ	**Nazwa, Dubai**	**1.93**	**188**	⇓P		**Pg**	**06 45 39.9**	**+1.9**
NAZ	**Nazwa, Dubai**	**1.93**	**188**	P		**Pg**	**06 45 39.9**	**+1.9**
ASHO	**Ashiyiah**	**2.21**	**178**	P		**Pn**	**06 45 37.8**	**0.0**
	SNR=48							
ASHO	**Ashiyiah**	**2.21**	**178**	P		**Pn**	**06 45 37.8**	**0.0**
	SNR=48							
ASUD	**Al Ashush, Dub**	**2.34**	**194**	P		**Pn**	**06 45 40.0**	**+0.4**
	SNR=26							
ASUD	**Al Ashush, Dub**	**2.34**	**194**	P		**Pn**	**06 45 40.0**	**+0.4**
	SNR=26							
ISRV	**Sarvestan**	**3.52**	**315**	*e*Pn		**Pn**	**06 45 56.7**	**+0.8**
ISRV				*e*			06 47 29.9	
	comp=Z,788nm,0.5s							
ARQ	**Araqi**	**3.59**	**172**	⇓P		**Pn**	**06 45 56.8**	**0.0**
ARQ	**Araqi**	**3.59**	**172**	P		**Pn**	**06 45 56.8**	**0.0**
IPAR	**Pars**	**3.89**	**319**	*e*Pn		**Pn**	**06 46 01.7**	**+0.7**
IPAR				*e*			06 47 28.0	
	comp=Z,334nm,0.3s							
SMDO	**Samad**	**4.27**	**153**	⇑P		**Pn**	**06 46 05.8**	**-0.3**
SMDO	**Samad**	**4.27**	**153**	P		**Pn**	**06 46 05.8**	**-0.4**
IMEH	**Mehriz**	**4.62**	**346**	*e*Pn		**Pn**	**06 46 11.7**	**+0.7**
IMEH				*e*			06 46 20.2	
	comp=Z,221nm,0.1s							
IBAF	**Bafgh**	**4.68**	**356**	*e*Pn		**Pn**	**06 46 12.0**	**+0.2**
IBAF				*e*			06 46 35.9	
	comp=Z,160nm,0.2s							
ICHK	**Chekchek**	**5.49**	**346**	*e*Pn		**Pn**	**06 46 24.0**	**+1.0**
ICHK				*e*			06 46 31.1	
	comp=Z,136nm,0.1s							
IZEF	**Zefreh**	**6.75**	**333**	*e*Pn		**Pn**	**06 46 39.5**	**-0.8**
IZEF				*e*			06 46 46.6	
	comp=Z,71nm,0.2s							
IKLH	**Kolahrood**	**7.43**	**330**	*e*Pn		**Pn**	**06 46 49.6**	**0.0**
IKLH				*e*			06 47 06.8	
	comp=Z,69nm,0.1s							
NAY	**Al-Naaiem**	**8.05**	**289**	*e*P		**Pn**	**06 46 56.9**	**-1.1**
NAY				*e*S		**Sn**	**06 48 23.0**	**-6.1**
NAY					AML	AML	06 48 26.5	
	comp=Z,4.9nm,0.6s							
NAY	**Al-Naaiem**	**8.05**	**289**	*e*P		**Pn**	**06 46 56.9**	**-1.1**
NAY				*e*S		**Sn**	**06 48 23.0**	**-6.1**
MIB	**Mutribah**	**8.12**	**293**	*e*P		**Pn**	**06 46 57.3**	**-1.9**
MIB				*e*S		**Sn**	**06 48 24.4**	**-6.6**
MIB					AML	AML	06 48 29.1	
	comp=Z,11nm,0.5s							
MIB	**Mutribah**	**8.12**	**293**	*e*P		**Pn**	**06 46 57.3**	**-1.8**
MIB				*e*S		**Sn**	**06 48 24.4**	**-6.6**

ISCJB ***22*** *07:07:11.3±0.8, 15.5S±0.2×174.9W±0.1, h303km±8km, mb3.7/11, Error ellipse: s-maj=32.4km s-min=12.1km az=150.5*
IDC ***22*** *07:07:11.2±1.2, 15.61S×174.86W, h292km±11km, mb3.6/9, mb1 3.8/10, mb1mx3.6/19, mbtmp3.5/10, Error ellipse: s-maj=30.3km s-min=13.5km az=149.0*
NEIC ***22*** *07:07:11.9±0.7, 15.53S×174.84W, h299km±6km, mb3.7/4, Error ellipse: s-maj=19.8km s-min=8.5km az=149.0*

ISC 22 07:07:12.0±0.8, 15.5S±0.2×174.9W±0.1, h297km±8km, n33, σ0s61/25, mb3.7/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.38**	**62**	P		**Pn**	**07 08 10.8**	**-0.8**
	6.0nm,0.3s,baz=316,slow=11,SNR=9.8							
AFI				S		**S**	**07 08 59.1**	**0.0**
	7.9nm,0.3s,baz=270,slow=20,SNR=7.5							
AFI	**Afiamalu**	**3.38**	**62**	P		**Pn**	**07 08 10.8**	**-0.8**
AFI				S		**S**	**07 08 59.1**	**0.0**
MSVF	**Nonsavu**	**7.15**	**251**	*e*Pn		**Pn**	**07 08 56.4**	**+1.2**
	10nm,0.8s							
WRAB	**Tennant Creek**	**48.44**	**257**	*e*P		**P**	**07 15 24.8**	**-0.6**
	1.9nm,0.7s,mb3.5							
WRA	**Warramunga Arr**	**48.45**	**257**	P		**P**	**07 15 24.8**	**-0.6**
	0.8nm,0.5s,mb3.3,baz=92,slow=6.7,SNR=20							
WRA				PcP		PcP	07 16 46.6	-0.1
	0.3nm,0.8s,baz=93,slow=4.3,SNR=5.0							
WRA	**Warramunga Arr**	**48.45**	**257**	P		**P**	**07 15 24.9**	**-0.6**
WRA				PcP		PcP	07 16 46.6	-0.1
ASAR	**Alice Springs**	**48.74**	**252**	P		**P**	**07 15 27.1**	**-0.5**
	3.9nm,0.5s,mb4.0,baz=88,slow=7.8,SNR=78							
ASAR	**Alice Springs**	**48.74**	**252**	P		**P**	**07 15 27.1**	**-0.5**
PETK	**Petropavlovsk-**	**72.34**	**343**	P		**P**	**07 18 05.6**	**+0.1**
	3.6nm,0.7s,mb4.1,baz=116,slow=8.9,SNR=4.3							
PETK	**Petropavlovsk-**	**72.34**	**343**	P		**P**	**07 18 05.6**	**+0.1**
QSPA	**South Pole Qui**	**74.50**	**180**	*e*P		**P**	**07 18 18.2**	**+0.5**
	3.3nm,1.0s,mb3.9							
NVAR	**Mina Array Bea**	**75.37**	**43**	P		**P**	**07 18 24.2**	**+0.9**
	2.0nm,0.8s,mb3.8,baz=228,slow=10.0,SNR=13							
NVAR	**Mina Array Bea**	**75.37**	**43**	P		**P**	**07 18 24.2**	**+0.9**
TXAR	**Lajitas Array**	**81.85**	**57**	P		**P**	**07 18 59.2**	**+0.5**
	0.5nm,0.9s,mb3.2,baz=224,slow=8.8,SNR=4.1							
TXAR	**Lajitas Array**	**81.85**	**57**	P		**P**	**07 18 59.2**	**+0.5**
ILAR	**Eielson Array**	**82.86**	**12**	P		**P**	**07 19 02.5**	**-0.6**
	0.6nm,0.4s,mb3.8,baz=209,slow=5.5,SNR=32							
ILAR	**Eielson Array**	**82.86**	**12**	P		**P**	**07 19 02.5**	**-0.6**
PDAR	**Pinedale Array**	**83.30**	**42**	P		**P**	**07 19 06.0**	**+0.2**
	1.3nm,0.6s,mb3.9,baz=214,slow=3.2,SNR=10							
PDAR	**Pinedale Array**	**83.30**	**42**	P		**P**	**07 19 06.0**	**+0.2**
MAW	**Mawson**	**87.21**	**199**	P		**P**	**07 19 24.1**	**-0.6**
	1.1nm,0.7s,mb3.8,baz=117,slow=6.8,SNR=4.1							
MAW	**Mawson**	**87.21**	**199**	*e*P		**P**	**07 19 24.1**	**-0.6**
	0.3nm,0.8s,mb3.2							
YKA	**Yellowknife Ar**	**90.78**	**24**	P		**P**	**07 19 41.6**	**+0.3**
	1.7nm,0.8s,mb4.0,baz=235,slow=4.0,SNR=3.1							
YKA	**Yellowknife Ar**	**90.78**	**24**	P		**P**	**07 19 41.6**	**+0.3**
ARCES	**ARCESS Array B**	**124.55**	**351**	PKP		PKPdf	07 25 34.9	-0.6
	3.0nm,0.9s,baz=60,slow=2.2,SNR=6.2							
ARCES	**ARCESS Array B**	**124.55**	**351**	PKP		PKPdf	07 25 34.9	-0.6
FINES	**FINESS Array B**	**131.77**	**347**	PKP		PKPdf	07 25 49.4	0.0
	6.3nm,1.2s,baz=318,slow=1.9,SNR=3.9							
FINES	**FINESS

IBBN				*e*Sg		**Sg**	07 41 52.1	+0.6
IBBN	**Ibbenburen**	**0.97**	**40**	Pg		**Pg**	07 41 38.5	-0.5
	SNR=11							
IBBN				Sg		**Sg**	07 41 52.1	+0.6
STB	**Steinbach**	**0.97**	**177**	*e*Pg		**Pg**	07 41 40.8	+1.9
STB				*e*Sg		**Sg**	07 41 54.6	+3.1
	174nm,0.7s							
STB	**Steinbach**	**0.97**	**177**	Pg		**Pg**	07 41 40.8	+1.9
STB				Sg		**Sg**	07 41 54.6	+3.1
	174nm,0.7s							
BEBN	**Eben Emael**	**1.02**	**222**	P		**Pg**	07 41 42.1	+2.2
BEBN	**Eben Emael**	**1.02**	**222**	P		**Pg**	07 41 42.0	+2.1
MEM	**Membach**	**1.06**	**206**	P		**Pg**	07 41 42.2	+1.5
MEM	**Membach**	**1.06**	**206**	P		**Pg**	07 41 42.1	+1.4
HILG	**Hillesheim**	**1.27**	**182**	*e*Pg		**Pg**	07 41 45.5	+0.8
HILG				*e*Sg		**Sg**	07 42 03.4	+2.2
	397nm,0.5s							
HILG	**Hillesheim**	**1.27**	**182**	Pg		**Pg**	07 41 45.5	+0.8
HILG				Sg		**Sg**	07 42 03.4	+2.2
	397nm,0.5s							
KOE	**Koeppel**	**1.30**	**151**	*e*Pg		**Pg**	07 41 45.9	+0.7
KOE	**Koeppel**	**1.30**	**151**	Pg		**Pg**	07 41 45.8	+0.6
BGG	**Burgeitz**	**1.41**	**164**	*e*Pg		**Pg**	07 41 47.5	+0.2
BGG				*e*Sg		**Sg**	07 42 05.5	0.0
	106nm,0.5s							
BGG	**Burgeitz**	**1.41**	**164**	Pg		**Pg**	07 41 47.5	+0.2
BGG				Sg		**Sg**	07 42 05.5	0.0
	106nm,0.5s							
BCLA	**Clavier**	**1.47**	**219**	P		**Pn**	07 41 48.2	+0.3
BCLA	**Clavier**	**1.47**	**219**	P		**Pn**	07 41 48.2	+0.2
TNS	**Taunus Mts**	**1.72**	**141**	*e*Pn		**Pn**	07 41 51.6	+0.1
	SNR=14							
TNS				*e*Sg		**Sg**	07 42 14.7	-0.8
TNS	**Taunus Mts**	**1.72**	**141**	Pn		**Pn**	07 41 51.6	+0.1
	SNR=14							
TNS				Sg		**Sg**	07 42 14.7	-0.8
ABH	**Alteburg**	**1.76**	**163**	Pg		**Pg**	07 41 54.2	+0.2
ABH				Sg		**Sg**	07 42 16.0	-0.8
ABH	**Alteburg**	**1.76**	**163**	Pg		**Pg**	07 41 54.2	+0.2
ABH				Sg		**Sg**	07 42 16.0	-0.8
RUP	**Ruppelstein**	**1.87**	**174**	Pn		**Pn**	07 41 54.1	+0.5
RUP				Pg		**Pg**	07 41 57.2	+1.0
RUP	**Ruppelstein**	**1.87**	**174**	Pn		**Pn**	07 41 54.1	+0.5
SNF	**Seneffe**	**1.88**	**237**	P		**Pn**	07 41 54.4	+0.7
SNF	**Seneffe**	**1.88**	**237**	P		**Pn**	07 41 54.3	+0.6
GIVF	**Givet**	**1.91**	**221**	*e*Pn		**Pn**	07 41 55.2	+1.2
	SNR=1.0							
GIVF				*e*Sn		**Sn**	07 42 18.4	-0.3
	SNR=1.0							
GIVF				*e*Sg		**Sg**	07 42 23.5	+2.0
	122nm,0.5s							
GIVF	**Givet**	**1.91**	**221**	*e*Pn		**Pn**	07 41 55.2	+1.2
GIVF				*e*Sn		**Sn**	07 42 18.4	-0.3
GIVF				*e*Sg		**Sg**	07 42 23.5	+2.0
GIVF	**Givet**	**1.91**	**221**	*e*Pn		**Pn**	07 41 55.2	+1.2
	SNR=1.0							
GIVF				*e*Sn		**Sn**	07 42 18.4	-0.3
	SNR=1.0							
GIVF				*e*Sg		**Sg**	07 42 23.5	+2.0
	61nm,0.5s							
WLF	**Walferdange**	**1.94**	**192**	P		**Pn**	07 41 57.9	+3.4
WLF	**Walferdange**	**1.94**	**192**	*e*Pn		**Pn**	07 41 57.6	+3.2
WLF				*e*Sg		**Sg**	07 42 23.8	+1.2
WLF	**Walferdange**	**1.94**	**192**	*e*Pg		**Pg**	07 41 58.4	+1.0
	SNR=5.4							
WLF				*e*Sg		**Sg**	07 42 22.8	+0.3
WLF	**Walferdange**	**1.94**	**192**	*e*Pn		**Pn**	07 41 57.6	+3.1
WLF	**Walferdange**	**1.94**	**192**	P		**Pn**	07 41 57.9	+3.4
WLF	**Walferdange**	**1.94**	**192**	Pg		**Pg**	07 41 58.4	+0.9
	SNR=5.4							
WLF				Sg		**Sg**	07 42 22.8	+0.2
DOU	**Dourbes**	**2.01**	**224**	P		**Pn**	07 41 56.1	+0.7
DOU	**Dourbes**	**2.01**	**224**	P		**Pn**	07 41 56.1	+0.7
BAIF	**Baives**	**2.21**	**228**	*e*Pn		**Pn**	07 41 58.7	+0.5
	SNR=1.0							
BAIF				*e*Sn		**Sn**	07 42 23.8	-2.3
	SNR=1.0							
BAIF				*e*Sg		**Sg**	07 42 33.1	+1.9
	65nm,0.6s							
BAIF	**Baives**	**2.21**	**228**	*e*Pn		**Pn**	07 41 58.7	+0.5
BAIF				*e*Sn		**Sn**	07 42 23.8	-2.3
BAIF				*e*Sg		**Sg**	07 42 33.1	+1.9
BAIF	**Baives**	**2.21**	**228**	*e*Pn		**Pn**	07 41 58.7	+0.5
	SNR=1.0							
BAIF				*e*Sn		**Sn**	07 42 23.8	-2.3
	SNR=1.0							
BAIF				*e*Sg		**Sg**	07 42 33.1	+1.9
	32nm,0.6s							
CLZ	**Clausthal**	**2.27**	**82**	*e*Pg		**Pg**	07 42 02.2	-1.6
	SNR=9.0							
CLZ				*e*Sg		**Sg**	07 42 31.3	-2.0
CLZ	**Clausthal**	**2.27**	**82**	Pg		**Pg**	07 42 02.2	-1.6
	SNR=9.0							
CLZ				Sg		**Sg**	07 42 31.3	-2.0
NRDL	**Niedersach Rie**	**2.27**	**64**	*e*Pg		**Pg**	07 42 05.2	+1.3
	SNR=7.0							
NRDL	**Niedersach Rie**	**2.27**	**64**	Pg		**Pg**	07 42 05.2	+1.3
	SNR=7.0							
TOD	**Tromm**	**2.36**	**145**	Pn		**Pn**	07 42 00.5	+0.3
TOD				Sg		**Sg**	07 42 31.7	-4.3
TOD	**Tromm**	**2.36**	**145**	Pn		**Pn**	07 42 00.5	+0.3
TOD				Sg		**Sg**	07 42 31.7	-4.3
PAGF	**Fort de Pagny**	**3.08**	**193**	*e*Pn		**Pn**	07 42 10.3	+0.1
PAGF	**Fort de Pagny**	**3.08**	**193**	*e*Pg		**Pg**	07 42 19.8	+0.4
	baz=24							
PAGF				*e*Sg		**Sg**	07 42 59.6	+0.3
	12nm,0.6s							
PAGF	**Fort de Pagny**	**3.08**	**193**	*e*Pn		**Pn**	07 42 10.3	+0.1
PAGF	**Fort de Pagny**	**3.08**	**193**	*e*Pg		**Pg**	07 42 19.8	+0.4
	baz=24							
PAGF				*e*Sg		**Sg**	07 42 59.6	+0.3
	6.1nm,0.6s							
CDF	**Champ du Feu**	**3.17**	**174**	*e*Pn		**Pn**	07 42 11.5	+0.1
	SNR=1.0							
CDF				*e*Sg		**Sg**	07 43 01.5	-0.7
	26nm,0.5s							
CDF	**Champ du Feu**	**3.17**	**174**	*e*Pn		**Pn**	07 42 11.5	+0.1
CDF				*e*Sg		**Sg**	07 43 01.5	-0.7
CDF	**Champ du Feu**	**3.17**	**174**	*e*Pn		**Pn**	07 42 11.5	+0.1
	SNR=1.0							
CDF				*e*Sg		**Sg**	07 43 01.5	-0.7
	13nm,0.5s							
MEZF	**Maizieres J'vi**	**3.25**	**200**	*e*Pn		**Pn**	07 42 12.2	-0.4
	baz=35,SNR=1.0							
MEZF	**Maizieres J'vi**	**3.25**	**200**	*e*Pg		**Pg**	07 42 23.0	+0.3
	baz=27							
MEZF				*e*Sg		**Sg**	07 43 04.9	+0.1
	38nm,0.4s,SNR=1.0							
MEZF	**Maizieres J'vi**	**3.25**	**200**	*e*Pn		**Pn**	07 42 12.2	-0.4
MEZF				*e*Pg		**Pg**	07 42 23.0	+0.3
MEZF				*e*Sg		**Sg**	07 43 04.9	+0.1
MEZF	**Maizieres J'vi**	**3.25**	**200**	*e*Pn		**Pn**	07 42 12.2	-0.4
	baz=35,SNR=1.0							
MEZF	**Maizieres J'vi**	**3.25**	**200**	*e*Pg		**Pg**	07 42 23.0	+0.3
	baz=27							
MEZF				*e*Sg		**Sg**	07 43 04.9	+0.1
	19nm,0.4s,SNR=1.0							
SFTF	**Sexfontaines**	**3.54**	**199**	*e*Pn		**Pn**	07 42 16.5	0.0
	baz=20							
SFTF	**Sexfontaines**	**3.54**	**199**	*e*Pg		**Pg**	07 42 28.3	+0.2
	baz=13							
SFTF				*e*Sg		**Sg**	07 43 14.2	+0.2
	23nm,0.4s							
SFTF	**Sexfontaines**	**3.54**	**199**	*e*Pn		**Pn**	07 42 16.5	0.0
SFTF				*e*Pg		**Pg**	07 42 28.3	+0.2
SFTF				*e*Sg		**Sg**	07 43 14.2	+0.2
SFTF	**Sexfontaines**	**3.54**	**199**	*e*Pn		**Pn**	07 42 16.5	0.0
	baz=20							
SFTF	**Sexfontaines**	**3.54**	**199**	*e*Pg		**Pg**	07 42 28.3	+0.2
	baz=13							
SFTF				*e*Sg		**Sg**	07 43 14.2	+0.2
	11nm,0.4s							
HAU	**Haudompre**	**3.57**	**184**	*e*Pn		**Pn**	07 42 16.9	0.0
HAU	**Haudompre**	**3.57**	**184**	*e*Pg		**Pg**	07 42 28.6	-0.1
HAU				*e*Sg		**Sg**	07 43 14.6	-0.4
	22nm,0.4s,SNR=1.0							
HAU	**Haudompre**	**3.57**	**184**	*e*Pn		**Pn**	07 42 16.9	0.0
HAU				*e*Pg		**Pg**	07 42 28.6	-0.1
HAU				*e*Sg		**Sg**	07 43 14.6	-0.4
HAU	**Haudompre**	**3.57**	**184**	*e*Pn		**Pn**	07 42 16.9	0.0
HAU	**Haudompre**	**3.57**	**184**	*e*Pg		**Pg**	07 42 28.6	-0.1
HAU				*e*Sg		**Sg**	07 43 14.6	-0.4
	11nm,0.4s,SNR=1.0							
HINF	**Hinteralfeld**	**3.75**	**179**	*e*Pn		**Pn**	07 42 19.2	-0.2
HINF	**Hinteralfeld**	**3.75**	**179**	*e*Pg		**Pg**	07 42 31.9	-0.3
HINF				*e*Sg		**Sg**	07 43 20.4	-0.4
	20nm,0.6s							
HINF	**Hinteralfeld**	**3.75**	**179**	*e*Pn		**Pn**	07 42 19.2	-0.2
HINF				*e*Pg		**Pg**	07 42 31.9	-0.3
HINF				*e*Sg		**Sg**	07 43 20.4	-0.4
HINF	**Hinteralfeld**	**3.75**	**179**	*e*Pn		**Pn**	07 42 19.2	-0.2
HINF	**Hinteralfeld**	**3.75**	**179**	*e*Pg		**Pg**	07 42 31.9	-0.3
HINF				*e*Sg		**Sg**	07 43 20.4	-0.4
	10nm,0.6s							
NKC	**Novy Kostel**	**3.84**	**108**	*e*PN		**Pn**	07 42 21.6	+0.9
NKC				*e*SG		**Sg**	07 43 20.5	-3.3
NKC	**Novy Kostel**	**3.84**	**108**	Pn		**Pn**	07 42 21.6	+0.9
CLL	**Collm**	**3.92**	**91**	*e*Pg		**Pg**	07 42 34.0	-1.4
CLL				*i* Sg		**Sg**	07 43 22.8	-3.4
	comp=Z,16nm,0.7s							
BRG	**Berggiesshubel**	**4.57**	**96**	PG		**Pg**	07 42 48.8	+0.9
BRG				SG		**Sg**	07 43 41.5	-5.7
	comp=Z,8.0nm,0.8s							
LOR	**Lormes**	**4.69**	**205**	*e*Pn		**Pn**	07 42 31.8	-0.5
	baz=31,SNR=1.0							
LOR				*e*Sn		**Sn**	07 43 24.5	-3.0
	SNR=1.0							
LOR				*e*Sg		**Sg**	07 43 50.5	-0.5
	comp=Z,24nm,0.5s							
LOR	**Lormes**	**4.69**	**205**	*e*Pn		**Pn**	07 42 31.8	-0.5
LOR				*e*Sn		**Sn**	07 43 24.5	-3.0
LOR				*e*Sg		**Sg**	07 43 50.5	-0.5
LOR	**Lormes**	**4.69**	**205**	*e*Pn		**Pn**	07 42 31.8	-0.5
	baz=31,SNR=1.0							
LOR				*e*Sn		**Sn**	07 43 24.5	-3.0
	SNR=1.0							
LOR				*e*Sg		**Sg**	07 43 50.5	-0.5
	comp=Z,12nm,0.5s							
CABF	**La Chapelle**	**4.97**	**185**	*e*Pn		**Pn**	07 42 36.8	+0.6
	SNR=1.0							
CABF				*e*Sg		**Sg**	07 43 58.5	-1.6
	comp=Z,45nm,0.9s							
CABF	**La Chapelle**	**4.97**	**185**	*e*Pn		**Pn**	07 42 36.8	+0.6
CABF				*e*Sg		**Sg**	07 43 58.5	-1.6
CABF	**La Chapelle**	**4.97**	**185**	*e*Pn		**Pn**	07 42 36.8	+0.6
	SNR=1.0							
CABF				*e*Sg		**Sg**	07 43 58.5	-1.6
	comp=Z,23nm,0.9s							
SSF	**Saint Saulge**	**4.98**	**206**	*e*Pn		**Pn**	07 42 36.3	0.0
	SNR=1.0							
SSF				*e*Sn		**Sn**	07 43 31.6	-2.9
	SNR=1.0							
SSF				*e*Sg		**Sg**	07 43 59.3	-0.9
	comp=Z,26nm,0.6s,SNR=1.0							
SSF	**Saint Saulge**	**4.98**	**206**	*e*Pn		**Pn**	07 42 36.3	0.0
SSF				*e*Sn		**Sn**	07 43 31.6	-2.9
SSF				*e*Sg		**Sg**	07 43 59.3	-0.9
SSF	**Saint Saulge**	**4.98**	**206**	*e*Pn		**Pn**	07 42 36.3	0.0
	SNR=1.0							
SSF				*e*Sn		**Sn**	07 43 31.6	-2.9
	SNR=1.0							
SSF				*e*Sg		**Sg**	07 43 59.3	-0.9
	comp=Z,13nm,0.6s,SNR=1.0							
KHC	**Kasperske Hory**	**5.00**	**116**	*e*PN		**Pn**	07 42 37.0	+0.4
KHC				*ex*		x	07 42 45.0	
KHC				*e*SG		**Sg**	07 43 59.7	-1.3
KHC	**Kasperske Hory**	**5.00**	**116**	Pn		**Pn**	07 42 37.0	+0.4
KHC				Sg		**Sg**	07 43 59.7	-1.3
HYF	**Humbligny**	**5.07**	**214**	*e*Pn		**Pn**	07 42 37.6	+0.1
HYF				*e*Sg		**Sg**	07 44 02.1	-0.9
HYF	**Humbligny**	**5.07**	**214**	*e*Pn		**Pn**	07 42 37.6	+0.1
HYF				*e*Sg		**Sg**	07 44 02.1	-0.9
HYF	**Humbligny**	**5.07**	**214**	*e*Pn		**Pn**	07 42 37.6	+0.1
HYF				*e*Sg		**Sg**	07 44 02.1	-0.9
AVF	**Avril sur Loir**	**5.27**	**206**	*e*Pn		**Pn**	07 42 40.4	+0.1
	SNR=1.0							
AVF				*e*Sn		**Sn**	07 43 38.4	-3.2
	SNR=1.0							
AVF				*e*Sg		**Sg**	07 44 08.2	-1.3
	comp=Z,13nm,0.7s,SNR=1.0							
AVF	**Avril sur Loir**	**5.27**	**206**	*e*Pn		**Pn**	07 42 40.4	+0.1
AVF				*e*Sn		**Sn**	07 43 38.4	-3.2
AVF				*e*Sg		**Sg**	07 44 08.2	-1.3
AVF	**Avril sur Loir**	**5.27**	**206**	*e*Pn		**Pn**	07 42 40.4	+0.1
	SNR=1.0							
AVF				*e*Sn		**Sn**	07 43 38.4	-3.2
	SNR=1.0							
AVF				*e*Sg		**Sg**	07 44 08.2	-1.3
	comp=Z,6.6nm,0.7s,SNR=1.0							
SMF	**Signal de Mont**	**5.28**	**202**	*e*Pn		**Pn**	07 42 39.8	-0.6
	SNR=1.0							
SMF				*e*Sn		**Sn**	07 43 38.5	-3.4
SMF				*e*Sg		**Sg**	07 44 08.6	-1.2
	comp=Z,22nm,0.5s							
SMF	**Signal de Mont**	**5.28**	**202**	*e*Pn		**Pn**	07 42 39.8	-0.6
SMF				*e*Sn		**Sn**	07 43 38.5	-3.4
SMF				*e*Sg		**Sg**	07 44 08.6	-1.2
SMF	**Signal de Mont**	**5.28**	**202**	*e*Pn		**Pn**	07 42 39.8	-0.6
	SNR=1.0							
SMF				*e*Sn		**Sn**	07 43 38.5	-3.4
SMF				*e*Sg		**Sg**	07 44 08.6	-1.2
	comp=Z,11nm,0.5s							
LDF	**La Druitiere**	**5.33**	**239**	*e*Pn		**Pn**	07 42 41.8	+0.7
	SNR=1.0							
LDF				*e*Sn		**Sn**	07 43 40.2	-2.9
	comp=Z,9.8nm,0.4s							
LDF	**La Druitiere**	**5.33**	**239**	*e*Pn		**Pn**	07 42 41.8	+0.7
LDF				*e*Sn		**Sn**	07 43 40.2	-2.9
LDF	**La Druitiere**	**5.33**	**239**	*e*Pn		**Pn**	07 42 41.8	+0.7
	SNR=1.0							
LDF				*e*Sn		**Sn**	07 43 40.2	-2.9
	comp=Z,4.9nm,0.4s							
FLN	**La Foliniere**	**5.43**	**242**	*e*Pn		**Pn**	07 42 42.8	+0.4
	baz=69,SNR=1.0							
FLN				*e*Sn		**Sn**	07 43 42.7	-2.8
	comp=Z,9.9nm,0.4s,SNR=1.0							
FLN	**La Foliniere**	**5.43**	**242**	*e*Pn		**Pn**	07 42 42.8	+0.4
FLN				*e*Sn		**Sn**	07 43 42.7	-2.8
FLN	**La Foliniere**	**5.43**	**242**	*e*Pn		**Pn**	07 42 42.8	+0.4
	baz=69,SNR=1.0							
FLN				*e*Sn		**Sn**	07 43 42.7	-2.8
	comp=Z,4.9nm,0.4s,SNR=1.0							
BGF	**Bois d'Agland**	**5.63**	**209**	*e*Pn		**Pn**	07 42 45.1	-0.1
	SNR=1.0							
BGF				*e*Sn		**Sn**	07 43 46.6	-3.8
BGF				*e*Sg		**Sg**	07 44 19.6	-1.4
	comp=Z,40nm,0.5s,SNR=1.0							
BGF	**Bois d'Agland**	**5.63**	**209**	*e*Pn		**Pn**	07 42 45.1	-0.1
BGF				*e*Sn		**Sn**	07 43 46.6	-3.8
BGF				*e*Sg		**Sg**	07 44 19.6	-1.4
BGF	**Bois d'Agland**	**5.63**	**209**	*e*Pn		**Pn**	07 42 45.1	-0.1
	SNR=1.0							
BGF				*e*Sn		**Sn**	07 43 46.6	-3.8
BGF				*e*Sg		**Sg**	07 44 19.6	-1.4
	comp=Z,20nm,0.5s,SNR=1.0							
GRR	**Gorron**	**5.85**	**240**	*e*Pn		**Pn**	07 42 48.3	+0.1
	SNR=1.0							
GRR				*e*Sn		**Sn**	07 43 52.5	-3.3
	comp=Z,19nm,0.3s							
GRR	**Gorron**	**5.85**	**240**	*e*Pn		**Pn**	07 42 48.3	+0.1
GRR				*e*Sn		**Sn**	07 43 52.5	-3.3
GRR	**Gorron**	**5.85**	**240**	*e*Pn		**Pn**	07 42 48.3	+0.1
	SNR=1.0							
GRR				*e*Sn		**Sn**	07 43 52.5	-3.3
	comp=Z,9.5nm,0.3s							
LPL	**La Plagne**	**6.05**	**180**	*e*Pn		**Pn**	07 42 50.9	-0.1
	SNR=1.0							
LPL				*e*Sn		**Sn**	07 43 56.6	-4.3
	comp=Z,1.2nm,0.4s							
LPL	**La Plagne**	**6.05**	**180**	*e*Pn		**Pn**	07 42 50.9	-0.1
LPL				*e*Sn		**Sn**	07 43 56.6	-4.3
LPL	**La Plagne**	**6.05**	**180**	*e*Pn		**Pn**	07 42 50.9	-0.1
	SNR=1.0							
LPL				*e*Sn		**Sn**	07 43 56.6	-4.3
	comp=Z,0.6nm,0.4s							
TCF	**Toulx Ste Croi**	**6.07**	**211**	*e*Pn		**Pn**	07 42 51.1	-0.1
TCF				*e*Sn		**Sn**	07 43 57.7	-3.6
TCF				*e*Sg		**Sg**	07 44 33.2	-1.9
	comp=Z,26nm,0.9s							
TCF	**Toulx Ste Croi**	**6.07**	**211**	*e*Pn		**Pn**	07 42 51.1	-0.1
TCF				*e*Sn		**Sn**	07 43 57.7	-3.6
TCF				*e*Sg		**Sg**	07 44 33.2	-1.9
TCF	**Toulx Ste Croi**	**6.07**	**211**	*e*Pn		**Pn**	07 42 51.1	-0.1
TCF				*e*Sn		**Sn**	07 43 57.7	-3.6
TCF				*e*Sg		**Sg**	07 44 33.2	-1.9
	comp=Z,13nm,0.9s							
LPG	**La Plagne**	**6.07**	**180**	*e*Pn		**Pn**	07 42 51.0	-0.2
LPG				*e*Sn		**Sn**	07 43 57.1	-4.2
	comp=Z,2.9nm,0.3s							
LPG	**La Plagne**	**6.07**	**180**	*e*Pn		**Pn**	07 42 51.0	-0.2
LPG				*e*Sn		**Sn**	07 43 57.1	-4.2
	comp=Z,1.5nm,0.3s							
ORIF	**Oris-en-Rattie**	**6.67**	**185**	*e*Pn		**Pn**	07 42 59.1	-0.4
ORIF				*e*Sn		**Sn**	07 44 11.6	-4.6
	comp=Z,3.9nm,0.6s							
ORIF	**Oris-en-Rattie**	**6.67**	**185**	*e*Pn		**Pn**	07 42 59.1	-0.4
ORIF				*e*Sn		**Sn**	07 44 11.6	-4.6
ORIF	**Oris-en-Rattie**	**6.67**	**185**	*e*Pn		**Pn**	07 42 59.1	-0.4
ORIF				*e*Sn		**Sn**	07 44 11.6	-4.6
	comp=Z,2.0nm,0.6s							
MFF	**Saint Martin d**	**6.72**	**225**	*e*Pn		**Pn**	07 42 58.9	-1.2
	SNR=1.0							
MFF				*e*Sn		**Sn**	07 44 13.1	-4.2
	comp=Z,3.0nm,0.3s,SNR=1.0							
MFF	**Saint Martin d**	**6.72**	**225**	*e*Pn		**Pn**	07 42 58.9	-1.2
MFF				*e*Sn		**Sn**	07 44 13.1	-4.2
MFF	**Saint Martin d**	**6.72**	**225**	*e*Pn		**Pn**	07 42 58.9	-1.2
	SNR=1.0							
MFF				*e*Sn		**Sn**	07 44 13.1	-4.2
	comp=Z,1.5nm,0.3s,SNR=1.0							
MBDF	**Montbardon**	**6.84**	**180**	*e*Pn		**Pn**	07 43 01.4	-0.4
MBDF				*e*Sn		**Sn**	07 44 15.4	-4.9
	comp=Z,0.5nm,0.3s							
MBDF	**Montbardon**	**6.84**	**180**	*e*Pn		**Pn**	07 43 01.4	-0.4
MBDF				*e*Sn		**Sn**	07 44 15.4	-4.9
MBDF	**Montbardon**	**6.84**	**180**	*e*Pn		**Pn**	07 43 01.4	-0.4
MBDF				*e*Sn		**Sn**	07 44 15.4	-4.9
	comp=Z,0.2nm,0.3s							
VIVF	**Saint-Julien-l**	**6.85**	**192**	*e*Pn		**Pn**	07 43 01.9	-0.1
VIVF				*e*Sn		**Sn**	07 44 15.9	-4.7
	comp=Z,0.9nm,0.4s							
VIVF	**Saint-Julien-l**	**6.85**	**192**	*e*Pn		**Pn**	07 43 01.9	-0.1
VIVF				*e*Sn		**Sn**	07 44 15.9	-4.7
VIVF	**Saint-Julien-l**	**6.85**	**192**	*e*Pn		**Pn**	07 43 01.9	-0.1
VIVF				*e*Sn		**Sn**	07 44 15.9	-4.7
	comp=Z,0.4nm,0.4s							
RJF	**Les Rejaudoux**	**7.16**	**211**	*e*Pn		**Pn**	07 43 06.0	-0.2
RJF				*e*Sn		**Sn**	07 44 23.7	-4.6
	comp=Z,1.4nm,0.4s							
RJF	**Les Rejaudoux**	**7.16**	**211**	*e*Pn		**Pn**	07 43 06.0	-0.2
RJF				*e*Sn		**Sn**	07 44 23.7	-4.6
RJF	**Les Rejaudoux**	**7.16**	**211**	*e*Pn		**Pn**	07 43 06.0	-0.2
RJF				*e*Sn		**Sn**	07 44 23.7	-4.6
	comp=Z,0.7nm,0.4s							
ROSF	**Rostrenen**	**7.23**	**247**	*e*Pn		**Pn**	07 43 07.3	+0.2
ROSF				*e*Sn		**Sn**	07 44 25.7	-4.1
	comp=Z,13nm,0.6s							
ROSF	**Rostrenen**	**7.23**	**247**	*e*Pn		**Pn**	07 43 07.3	+0.2
ROSF				*e*Sn		**Sn**	07 44 25.7	-4.1
ROSF	**Rostrenen**	**7.23**	**247**	*e*Pn		**Pn**	07 43 07.3	+0.2
CAF	**Calviac**	**7.34**	**207**	*e*Pn		**Pn**	07 43 08.3	-0.4
CAF				*e*Sn		**Sn**	07 44 28.1	-4.5
	comp=Z,2.1nm,0.4s,SNR=1.0							
CAF	**Calviac**	**7.34**	**207**	*e*Pn		**Pn**	07 43 08.3	-0.4
CAF				*e*Sn		**Sn**	07 44 28.1	-4.5
CAF	**Calviac**	**7.34**	**207**	*e*Pn		**Pn**	07 43 08.3	-0.4
CAF				*e*Sn		**Sn**	07 44 28.1	-4.5
	comp=Z,1.0nm,0.4s,SNR=1.0							
QUIF	**Quistinic**	**7.39**	**244**	*e*Pn		**Pn**	07 43 09.4	+0.1
	SNR=1.0							
QUIF				*e*Sn		**Sn**	07 44 29.4	-4.4
	comp=Z,8.8nm,0.8s							
QUIF	**Quistinic**	**7.39**	**244**	*e*Pn		**Pn**	07 43 09.4	+0.1
QUIF				*e*Sn		**Sn**	07 44 29.4	-4.4
QUIF	**Quistinic**	**7.39**	**244**	*e*Pn		**Pn**	07 43 09.4	+0.1
	SNR=1.0							
LFF	**La Frestale**	**7.

mb3.2/3,Error ellipse: s-maj=10.9km s-min=4.1km az=14.5

IDC ***22*** *07:57:38.1±3.4,36°.61S×72°.33W,h51km±31km,mb3.2/4, mb1 3.6/6,mb1mx3.5/17,mbtmp3.4/6,ML4.6/1,MS2.7/1, Ms1 2.7/1,ms1mx2.2/9,Error ellipse: s-maj=41.4km s-min=17.9km az=96.0*

GUC ***22*** *07:57:38.2±0.8,36°.65S×72°.14W,h72km±3km,ML4.8*

ISC 22 07:57:38.9±0.4,36°.64S±0°.03×72°.19W±0°.08,h67km±5km, n31,σ90/43,mb3.2/3,4C-5D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CCHI	**Chillan**	**0.10**	**69**	⇑	*i*	P	**Pn**	**07 57 49.0**	**+0.2**
CCHI						S	**Sn**	**07 57 56.6**	**+0.7**
COCH	**Cobquecura**	**0.70**	**316**	⇓	*i*	P	**Pn**	**07 57 53.8**	**+0.2**
COCH						S	**Sn**	**07 58 05.4**	**+1.1**
LNCH	**Linares**	**0.92**	**31**	⇓	*i*	P	**Pn**	**07 57 56.2**	**0.0**
LNCH						S	**Sn**	**07 58 09.5**	**+0.4**
LNCH				AML		AML	AML	07 58 10.3	
	comp=N,28μm,0.5s								
CNCO	**Chanco**	**0.94**	**343**	⇓	*e*	P	**Pn**	**07 57 56.9**	**+0.4**
CNCO						S	**Sn**	**07 58 10.7**	**+1.1**
CTCH	**Constitucion**	**1.32**	**352**		*e*	P	**Pn**	**07 57 59.3**	**-2.0**
CTCH						S	**Sn**	**07 58 14.7**	**-3.4**
CTCH				AML		AML	AML	07 58 28.4	
	comp=E,26μm,0.6s								
TALC	**Talca**	**1.32**	**20**	⇓	*i*	P	**Pn**	**07 58 01.3**	**0.0**
TALC						S	**Sn**	**07 58 18.0**	**-0.1**
TALC				AML		AML	AML	07 58 20.0	
	comp=N,17μm,0.1s								
TMU	**Temuco**	**2.12**	**189**		*e*	P	**Pn**	**07 58 12.2**	**+0.1**
TMU						S	**Sn**	**07 58 37.1**	**-0.3**
LNV	**Longovilo**	**2.75**	**14**	⇑	*e*	P	**Pn**	**07 58 20.4**	**-0.3**
CACH	**El Canelo**	**2.83**	**28**	⇓	*e*	P	**Pn**	**07 58 21.6**	**-0.1**
CACH						S	**Sn**	**07 58 55.2**	**+0.6**
CHCH	**Chadas Angostu**	**2.98**	**25**		*e*	P	**Pn**	**07 58 23.5**	**-0.2**
CHCH						S	**Sn**	**07 58 58.0**	**-0.2**
TACH	**Talagante**	**3.15**	**19**		*e*	P	**Pn**	**07 58 25.4**	**-0.7**
LMEL	**Las Melosas**	**3.22**	**31**		*e*	P	**Pn**	**07 58 28.4**	**+1.3**
LMEL				AML		AML	AML	07 59 14.2	
	comp=N,1μm,0.4s								
PCH	**Pirque**	**3.31**	**25**		*e*	P	**Pn**	**07 58 27.9**	**-0.3**
ANTU	**Antumapu**	**3.32**	**23**		*e*	P	**Pn**	**07 58 28.3**	**0.0**
ANTU						S	**Sn**	**07 59 06.5**	**-0.1**
ANTU				AML		AML	AML	07 59 22.3	
	comp=N,2μm,0.3s								
CLCH	**Cerro Calan**	**3.51**	**23**		*e*	P	**Pn**	**07 58 30.4**	**-0.6**
CLCH				AML		AML	AML	07 59 29.4	
	comp=E,2μm,0.7s								
FCH	**Farellones**	**3.65**	**26**		*e*	P	**Pn**	**07 58 34.2**	**+1.3**
PEL	**Peldehue**	**3.70**	**20**	⇑	*i*	P	**Pn**	**07 58 33.1**	**-0.4**
ROCH	**El Roble**	**3.78**	**15**		*e*	P	**Pn**	**07 58 34.1**	**-0.6**
OSCH	**Osorno**	**4.00**	**190**	⇑	*e*	P	**Pn**	**07 58 36.7**	**-1.0**
PUYE	**Entre Lagos**	**4.05**	**184**		*e*	P	**Pn**	**07 58 38.4**	**0.0**
JACH	**Jahuel**	**4.16**	**19**		*e*	P	**Pn**	**07 58 39.0**	**-0.9**
PLCA	**Paso Flores**	**4.29**	**163**		P		**Pn**	**07 58 43.2**	**+1.6**
	comp=E,6.9nm,0.3s,baz=324,slow=14,SNR=129								
PLCA					S		**Sn**	**07 59 39.0**	**+8.8**
	comp=E,1.8nm,0.3s,baz=32,slow=17,SNR=1.9								
PLCA					LR		LR	08 00 38.7	
	comp=E,91nm,18.2s,baz=326,slow=42								
ILCA	**Isla Las Cabra**	**5.42**	**183**		*e*	P	**Pn**	**07 58 56.1**	**-1.0**
CMCH	**Combarbala**	**5.54**	**11**		*e*	P	**Pn**	**07 58 56.8**	**-1.9**
HUNY	**Huinay**	**5.74**	**182**		*e*	P	**Pn**	**07 59 01.0**	**-0.4**
CFAA	**Coronel Fontan**	**5.99**	**34**		P		**Pn**	**07 59 04.1**	**-0.9**
	comp=E,0.3nm,0.3s,baz=208,slow=16,SNR=40								
CFAA					S		**Sn**	**08 00 12.7**	**+0.5**
	comp=E,0.5nm,0.3s,baz=266,slow=19,SNR=3.2								
TLL	**Tololo Astrono**	**6.55**	**11**		*e*	P	**Pn**	**07 59 11.6**	**-1.1**
LPAZ	**La Paz**	**20.59**	**11**		P		**P**	**08 02 14.1**	**+1.7**
	comp=E,3.6nm,0.8s,baz=172,slow=8.5,SNR=14								
SNAA	**Sanae**	**49.20**	**157**		P		**P**	**08 06 19.9**	**0.0**
	comp=E,0.3nm,0.6s,mb3.4,baz=276,slow=11,SNR=4.0								
TXAR	**Lajitas Array**	**71.98**	**331**		P		**P**	**08 08 55.8**	**+0.6**
	comp=E,0.1nm,0.6s,mb2.8,baz=144,slow=7.8,SNR=2.2								
TXAR					pP		pP	08 09 14.2	+1.0
	comp=E,0.4nm,0.8s,baz=152,slow=6.1,SNR=3.7								
TORD	**Torodi Ar. Bea**	**85.23**	**70**		P		**P**	**08 10 10.8**	**+2.4**
	comp=E,0.3nm,0.7s,mb3.3,baz=255,slow=4.3,SNR=2.3								

MEX 22 07:59:46.0±1.0,16°.46N×94°.00W,h119km±13km,MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TGIG		**0.90**	**69**		*i*	P	Pn	08 00 05.3	-1.6
TGIG						S	Sn	08 00 21.5	-1.4
CMIG	**Matias Romero**	**1.05**	**307**		*i*	P	Pn	08 00 07.7	-0.8
CMIG						S	Sn	08 00 23.2	-2.3
PCIG		**1.06**	**135**		*e*	P	Pn	08 00 08.0	-0.6
PCIG						S	Sn	08 00 23.3	-2.3
SCX	**San Cristobal**	**1.34**	**78**		*i*	P	Pn	08 00 10.8	-0.7
SCX						S	Sn	08 00 30.3	-0.6
CCIG	**Comitan**	**1.80**	**95**		*i*	P	Pn	08 00 15.1	-1.8
CCIG						S	Sn	08 00 39.2	-1.3
HUIG	**Huatulco**	**2.14**	**252**		*i*	P	Pn	08 00 19.4	-1.8
HUIG						S	Sn	08 00 46.5	-1.6
VHO	**Vista Hermosa**	**2.69**	**283**		*i*	P	Pn	08 00 28.1	-0.1
VHO						S	Sn	08 00 58.5	-2.1
UTMO	**Huajuapan**	**3.88**	**291**		*e*	P	Pn	08 00 42.7	-1.2
UTMO						S	Sn	08 01 29.3	+0.5
PNIG	**Pinotepa**	**3.96**	**270**		*e*	P	Pn	08 00 42.8	-2.2
PNIG						S	Sn	08 01 31.1	+0.4

BJI ***22*** *08:01:15.7,31°.02N×110°.77E,h9km,mB4.9/17,mb4.6/35, ML4.5/16,Ms4.4/36,Ms7 4.2/36*

ISCJB ***22*** *08:01:17.9±0.8,30°.99N±0°.03×110°.81E±0°.03,h26km±6km, mb4.5/51,MS3.6/8,Error ellipse: s-maj=5.0km s-min=4.4km az=153.5*

MOS ***22*** *08:01:19.0±1.0,31°.01N×110°.80E,h33km,mb4.7/31,Error ellipse: s-maj=9.0km s-min=5.8km az=116.8*

NEIC ***22*** *08:01:20.4±1.9,31°.03N×110°.82E,h30km±14km,mb4.5/18, Error ellipse: s-maj=6.6km s-min=5.8km az=59.0*

IDC ***22*** *08:01:20.4±5.8,31°.00N×110°.83E,h33km±45km,mb4.1/23, mb1 4.2/26,mb1mx4.1/35,mbtmp4.1/26,ML4.0/3,MS3.3/6, Ms1 3.3/6,ms1mx2.9/46,Error ellipse: s-maj=18.6km s-min=12.3km az=45.0*

DJA ***22*** *08:01:22,31°.14N×110°.59E,h10km,mb5.0/7*

ISC 22 08:01:17.6±0.9,30°.98N±0°.03×110°.82E±0°.02,h10km±6km, n182,σ1°.09/201,mb4.5/51,MS3.6/8,11C-11D, Southeastern China

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ENH	**Enshi**	**1.35**	**239**		*e*	Pn	**Pn**	**08 01 41.3**	**-1.1**
ENH					*e*	Sn	**Sn**	**08 02 00.9**	**+0.6**
WHN	**Wuhan**	**3.07**	**97**			Pn	**Pn**	**08 02 05.8**	**-0.4**
WHN						Pg	**Pb**	**08 02 13.3**	**+1.0**
WHN						Sn	**Sn**	**08 02 42.4**	**-0.6**
WHN						Sg	**Sg**	**08 02 54.5**	**-1.8**
WHN						smax			
	comp=N,5μm,0.8s								
WHN						smax			
	comp=E,2μm,0.8s								
XAN	**Xi'an**	**3.44**	**333**			Pn	**Pn**	**08 02 11.6**	**+0.4**
XAN						Pg	**Pb**	**08 02 18.6**	**0.0**
XAN						Sn	**Sn**	**08 02 51.8**	**-0.3**
XAN						Sg	**Sb**	**08 03 03.8**	**+3.3**
XAN						smax			
	comp=N,2μm,0.9s								
XAN						smax			
	comp=E,630nm,0.9s								
XAN						LR	LR		
	comp=N,3μm,6.8s								
XAN						LR	LR		
	comp=E,550nm,8.8s								
XAN						LR	LR		
	comp=Z,1μm,8.4s								
GYA	**Guiyang**	**5.80**	**220**	⇑	*i*	Pn	**Pn**	**08 02 45.3**	**+1.7**
GYA						Sn	**Sn**	**08 03 50.5**	**+0.4**
GYA						LR	LR		
	comp=N,2μm,4.7s								
GYA						LR	LR		
	comp=E,2μm,4.7s								
GYA						LR	LR		
	comp=Z,1μm,4.7s								
CD2	**Chengdu**	**6.06**	**271**			Pn	**Pn**	**08 02 47.0**	**-0.3**
CD2						Sn	**Sn**	**08 03 54.3**	**-2.4**
CD2						Sg	**Sg**	**08 04 31.8**	**-0.5**
CD2						smax			
	comp=N,600nm,0.9s								
CD2						smax			
	comp=E,630nm,1.0s								
CD2						LR	LR		
	comp=E,5μm,8.9s								
CD2						LR	LR		
	comp=Z,3μm,7.7s								
TIA	**Tai'an**	**7.41**	**44**			Pg	Px	08 03 13.9	
TIA						Sg	**Sb**	**08 04 53.8**	**-0.8**
TIA						smax			
	comp=N,150nm,1.3s								
TIA						smax			
	comp=E,120nm,1.6s								
LZH	**Lanzhou**	**7.73**	**313**	⇓		Pn	**Pn**	**08 03 10.8**	**+0.7**
LZH					*e*	Sn	**Sn**	**08 04 38.6**	**+0.9**
LZH						LR	LR		
	comp=N,2μm,7.2s								
LZH						LR	LR		
	comp=E,3μm,9.8s								
LZH						LR	LR		
	comp=Z,3μm,8.9s								
GZH	**Guangzhou**	**8.18**	**163**			P	**Pn**	**08 03 10.3**	**-6.0**
GZH						S	**Sn**	**08 04 35.6**	**-13**
GZH						smax			
	comp=N,230nm,0.8s								
GZH						smax			
	comp=E,250nm,0.9s								
KMI	**Kunming**	**9.21**	**233**			P	**Pn**	**08 03 28.6**	**-1.9**
KMI						S	**Sn**	**08 05 11.1**	**-3.2**
KMI						pmax	pmax		
	comp=Z,73nm,0.7s								
KMI						pmax	pmax		
	comp=Z,77nm,3.1s								
KMI						LR	LR		
	comp=N,1μm,8.6s								
KMI						LR	LR		
	comp=E,1μm,7.9s								
KMI						LR	LR		
	comp=Z,580nm,8.4s								
HHC	**Hu-ho-hao-te**	**9.87**	**3**		*e*	P	**Pn**	**08 03 36.1**	**-3.3**
HHC						S	**Sn**	**08 05 24.1**	**-6.1**
HHC						pmax	pmax		
	comp=Z,16nm,1.3s								
HHC						pmax	pmax		
	comp=Z,130nm,3.0s								
HHC						LR	LR		
	comp=N,550nm,8.3s								
HHC						LR	LR		
	comp=E,150nm,7.1s								
HHC						LR	LR		
	comp=Z,190nm,8.3s								
BJI	**Beijing**	**10.04**	**24**			P	**Pn**	**08 03 41.3**	**-0.4**
BJI						pmax	pmax		
	comp=Z,9.0nm,0.5s								
BJI						pmax	pmax		
	comp=Z,150nm,4.6s								
QIZ	**Qiongzhong**	**11.93**	**184**			P	**Pn**	**08 04 11.8**	**+4.0**
QIZ						S	**Sn**	**08 06 27.6**	**+6.6**
QIZ						LR	LR		
	comp=N,1μm,7.4s								
QIZ						LR	LR		
	comp=Z,1μm,8.1s								
QIZ	**Qiongzhong**	**11.93**	**184**		*e*	Pn	**Pn**	**08 04 08.3**	**+0.6**
	comp=Z,151nm,1.8s								
YULB	**Yu-li**	**12.00**	**127**		*e*	Pn	**Pn**	**08 04 08.6**	**-0.2**
GTA	**Gaotai**	**12.31**	**316**		*e*	P	**Pn**	**08 04 11.0**	**-1.8**
GTA						pP		08 04 15.6	
GTA						sP		08 04 18.3	
GTA						S	**Sn**	**08 06 27.8**	**-2.2**
GTA						pmax	pmax		
	comp=Z,13nm,0.8s								
GTA						LR	LR		
	comp=N,730nm,8.8s								
GTA						LR	LR		
	comp=E,680nm,10.4s								
GTA						LR	LR		
	comp=Z,920nm,10.9s								
KSAR	**Wonju Array Be**	**15.51**	**61**			Pn	**Pn**	**08 04 58.4**	**+2.1**
KSAR						Lg		08 09 33.9	
KSAR	**Wonju Array Be**	**15.51**	**61**			P	**Pn**	**08 04 58.4**	**+2.1**
KSRS	**Korea Array**	**15.55**	**61**			P	**Pn**	**08 04 58.4**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=241,slow=11,SNR=4.3								
KSRS						Lg		08 09 33.9	
	comp=Z,0.3nm,0.3s,baz=257,slow=31,SNR=3.1								
KSRS						LR	LR	08 10 22.0	
	comp=Z,25nm,18.8s,baz=185,slow=35								
KSRS	**Korea Array**	**15.55**	**61**			P	**Pn**	**08 04 58.4**	**+1.6**
CHTO	**Chiang Mai**	**16.19**	**224**		*e*	Pn	**Pn**	**08 05 07.4**	**+2.1**
	comp=Z,7.1nm,0.8s								
CHTO	**Chiang Mai**	**16.19**	**224**		*e*	P	**Pn**	**08 05 07.4**	**+2.1**
CHTO						pmax	pmax		
	comp=Z,7.0nm,0.8s								
CHTO	**Chiang Mai**	**16.19**	**224**			P	**Pn**	**08 05 09.7**	**+4.4**
	comp=Z,12nm,0.7s								
CM31	**Chiang Mai Arr**	**16.47**	**224**		*e*	P	**Pn**	**08 05 12.4**	**+3.6**
	comp=Z,7.3nm,0.6s								
CMAR	**Chiang Mai Arr**	**16.47**	**224**			Pn	**Pn**	**08 05 09.7**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=32,slow=10,SNR=9.1								
CMAR	**Chiang Mai Arr**	**16.47**	**224**			Pn	**Pn**	**08 05 09.7**	**+0.9**
CMAR	**Chiang Mai Arr**	**16.47**	**224**			P	**Pn**	**08 05 09.7**	**+0.9**
CMAR						pmax	pmax		
	comp=Z,1.0nm,0.3s								
LSA	**Lhasa**	**17.03**	**271**		*e*	P	**Pn**	**08 05 16.0**	**+0.2**
	comp=Z,5.8nm,0.4s								
LSA	**Lhasa**	**17.03**	**271**		*e*	P	**Pn**	**08 05 16.0**	**+0.2**
LSA						pmax	pmax		
	comp=Z,6.0nm,0.4s								
ULN	**Ulaanbaatar**	**17.11**	**351**		*e*	P	**Pn**	**08 05 16.8**	**+0.2**
	comp=Z,17nm,1.2s								
ULN	**Ulaanbaatar**	**17.11**	**351**		*e*	P	**Pn**	**08 05 16.8**	**+0.2**
ULN						pmax	pmax		
	comp=Z,17nm,1.2s								
ULN	**Ulaanbaatar**	**17.11**	**351**			P	**Pn**	**08 05 19.9**	**+3.3**
	comp=Z,28nm,0.9s								
SONM	**Songino Array**	**17.17**	**350**			P	**Pn**	**08 05 17.0**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=169,slow=11,SNR=22								
SONM						Lg		08 10 19.7	
	baz=169,slow=33,SNR=5.2								
SONM						LR	LR	08 13 01.2	
	comp=Z,80nm,19.4s,baz=185,slow=41								
SONM	**Songino Array**	**17.17**	**350**			P	**Pn**	**08 05 17.0**	**-0.4**
SONM						Lg		08 10 19.7	
SONM	**Songino Array**	**17.17**	**350**			P	**Pn**	**08 05 17.0**	**-0.4**
CN2	**Changchun**	**17.26**	**38**		*e*	P	**Pn**	**08 05 21.3**	**+2.8**
CN2					*e*	sP	sP	08 05 26.0	+1.7
CN2					*e*	S	**Sn**	**08 08 31.3**	**+0.8**
CN2						pmax	pmax		
	comp=Z,100nm,0.5s								
CN2						pmax	pmax		
	comp=Z,200nm,3.0s								
CN2						LR	LR		
	comp=N,300nm,10.0s								
CN2						LR	LR		
	comp=E,300nm,10.0s								
CN2						LR	LR		
	comp=Z,200nm,11.0s								
MDJ	**Mudanjiang**	**20.07**	**42**			P	**P**	**08 05 50.5**	**-0.5**
MDJ						pP		08 05 53.3	
MDJ						S	**S**	**08 09 38.6**	**+2.2**
MDJ						sS	sS	08 09 41.9	+0.9
MDJ						pmax	pmax		
	comp=Z,7.0nm,1.5s								
MDJ						pmax	pmax		
	comp=Z,110nm,4.8s								
ZAK	**Zakamensk**	**20.18**	**346**		*e*	P	**P**	**08 05 53.2**	**+1.1**
ZAK						pmax	pmax		
	comp=Z,7.0nm,1.1s								
VLA	**Vladivostok**	**20.67**	**48**	⇓	*i*	P	**P**	**08 05 56.3**	**-1.1**
VLA					*e*			08 06 14.2	
VLA					*e*	S	**S**	**08 09 44.8**	**-3.5**
VLA								08 10 06.5	
VLA						pmax	pmax		
	comp=Z,13nm,0.8s								
VLA						smax			
	comp=N,2μm,0.6s								
TLY	**Talaya**	**21.35**	**348**		*e*	P	**P**	**08 06 04.6**	**-0.1**
	comp=N,13nm,1.1s,mb4.2								
TLY	**Talaya**	**21.35**	**348**		*e*	P	**P**	**08 06 05.3**	**+0.6**
TLY					*e*	S	**S**	**08 10 04.4**	**+2.8**
TLY						pmax	pmax		
	comp=Z,12nm,1.1s,mb4.1								
TLY						MLR	MLR		
	comp=Z,133nm,16.0s,MS3.4								
IRK	**Irkutsk**	**21.78**	**349**		*e*	P	**P**	**08 06 10.7**	**+1.3**
IRK						pmax	pmax		
	comp=Z,55nm,1.7s,mb4.7								
MOY	**Mondy**	**21.91**	**343**		*e*	P	**P**	**08 06 12.1**	**+1.4**
WMQ	**Urumqi**	**22.31**	**312**			P	**P**	**08 06 16.1**	**+1.0**
WMQ						pP		08 06 20.3	
WMQ						sP	sP	08 06 23.1	+3.7
WMQ						PP		08 06 43.1	
WMQ						S	**S**	**08 10 15.9**	**-4.6**
WMQ						pmax	pmax		
	comp=Z,35nm,0.9s,mb4.8								
WMQ						pmax	pmax		
	comp=Z,250nm,4.8s								
WMQ						LR	LR		
	comp=N,590nm,7.0s								
WMQ						LR	LR		
	comp=E,710nm,9.4s								
WMQ						LR	LR		
	comp=Z,410nm,10.4s,MS4.1								
MJAR	**Matsushiro Arr**	**23.40**	**69**		P		**P**	**08 06 27.5**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=273,slow=10,SNR=4.0								
MJAR						LR	LR	08 16 12.7	
	comp=Z,69nm,20.6s,MS3.1,baz=290,slow=38								
MJAR	**Matsushiro Arr**	**23.40**	**69**		P		**P**	**08 06 27.5**	**+0.8**
MJAR	**Matsushiro Arr**	**23.40**	**69**		P		**P**	**08 06 27.5**	**+0.8**
HABR	**Khabarovsk**	**25.38**	**40**		*e*	P	**P**	**08 06 43.5**	**-1.3**
HABR						*SP	sP	08 06 56.3	+7.1
HABR					*e*	PPP		08 07 26.1	
HABR					*e*			08 10 15.1	
HABR					*e*	S	**S**	**08 11 07.5**	**-3.6**
HABR					*e*			08 17 40.2	
HABR						pmax	pmax		
	comp=N,28nm,1.9s								
HABR						pmax	pmax		
	comp=Z,193nm,3.5s								
HABR						pmax	pmax		
	comp=E,86nm,2.1s								
MK31	**Makanchi Array**	**27.05**	**314**		*e*	P	**P**	**08 06 59.7**	**-0.2**
MK31	**Makanchi Array**	**27.05**	**314**		*e*	P	**P**	**08 06 59.7**	**-0.2**
MK31						pmax	pmax		
	comp=Z,17nm,0.9s,mb4.6								
MKAR	**Makanchi Array**	**27.05**	**314**			P	**P**	**08 06 59.9**	**0.0**
	comp=Z,7.0nm,0.6s,mb4.3,baz=110,slow=11,SNR=49								
MKAR	**Makanchi Array**	**27.05**	**314**		*e*	P	**P**	**08 07 00.0**	**+0.1**
MKAR	**Makanchi Array**	**27.05**	**314**		*e*	P	**P**	**08 07 00.0**	**+0.1**
DAV	**Davao City (W)**	**27.51**	**147**			LR	LR	08 19 36.5	
	comp=Z,138nm,21.4s,MS3.5,baz=3.9,slow=40								
KSH	**Kashi**	**29.56**	**296**		*e*	P	**P**	**08 07 26.0**	**+3.6**
KSH						sP	sP	08 07 33.0	+6.2
KSH						PP	PP	08 08 23.1	-5.9
KSH						PcP	PcP	08 10 29.5	+2.2
KSH						S	**S**	**08 12 20.3**	**+3.1**
KSH						sS	sS	08 12 28.3	+5.9
KSH						SS	SS	08 13 55.9	-27
KSH						ScP	ScP	08 14 09.8	+0.6
KSH						PcS	PcS	08 14 11.5	+1.2
KSH						ScS	ScS	08 18 03.5	-0.4
KSH						pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6								
KSH						pmax	pmax		
	comp=Z,200nm,5.8s								
KSH						LR	LR		
	comp=N,260nm,6.7s								
KSH						LR	LR		
	comp=E,130nm,8.7s								
KSH						LR	LR		
	comp=Z,230nm,5.6s								
ZAA0	**Zalesovo Array**	**29.60**	**328**		*e*	P	**P**	**08 07 21.4**	**-1.3**
ZALV	**Zalesovo Beam**	**29.60**	**328**		P		**P**	**08 07 22.2**	**-0.4**
	comp=Z,6.6nm,0.7s,mb4.5,baz=121,slow=9.0,SNR=37								
ZALV	**Zalesovo Beam**	**29.60**	**328**		P		**P**	**08 07 22.2**	**-0.4**
ZALV	**Zalesovo Beam**	**29.60**	**328**		P		**P**	**08 07 22.2**	**-0.4**
ZALV						pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.5								
ULHL	**Ulahol**	**29.75**	**302**		P		**P**	**08 07 25.2**	**+1.1**
	SNR=5.4								
TKM2	**Tokmak 2**	**30.35**	**303**		P		**P**	**08 07 30.2**	**+0.9**
	SNR=10								
TKM2	**Tokmak 2**	**30.35**	**303**		*e*	P	**P**	**08 07 30.4**	**+1.1**
	comp=Z,7.9nm,0.8s,mb4.5								
TKM2	**Tokmak 2**	**30.35**	**303**		*i*	P	**P**	**08 07 30.2**	**+0.8**
KBK	**Karagaybulak**	**30.77**	**302**		P		**P**	**08 07 34.1**	**+1.1**
	SNR=5.5								
KURK	**Kurchatov**	**30.97**	**319**		P		**P**	**08 07 34.7**	**-0.1**
	comp=Z,2.7nm,0.5s,mb4.3,baz=116,slow=9.4,SNR=27								
KURK						LR	LR	08 20 58.0	
	comp=Z,53nm,21.4s,MS3.2,baz=135,slow=38								
KURK	**Kurchatov**	**30.97**	**319**		*e*	P	**P**	**08 07 34.6**	**-0.1**
	comp=Z,3.0nm,0.8s,mb4.2								
KURK	**Kurchatov**	**30.97**	**319**		*e*	P	**P**	**08 07 36.4**	**+1.6**
AAK	**Ala-Archa**	**31.09**	**302**		*e*	P	**P**	**08 07 36.3**	**+0.4**
	comp=Z,16nm,0.7s,mb5.0								
AAK	**Ala-Archa**	**31.09**	**302**		*e*	P	**P**	**08 07 36.3**	**+0.4**
AAK						pmax	pmax		
	comp=Z,16nm,0.7s,mb5.0								
AAK	**Ala-Archa**	**31.09**	**302**			P	**P**	**08 07 36.9**	**+1.0**
	comp=Z,56nm,1.0s,mb5.4								
USP	**Ospenovka**	**31.20**	**303**			P	**P**	**08 07 37.1**	**+0.2**
	SNR=8.2								
AML	**Almayashu**	**31.60**	**301**			P	**P**	**08 07 41.7**	**+1.3**
	SNR=17								
EKS2	**Erkin-Say**	**31.62**	**302**			P	**P**	**08 07 41.2**	**+0.6**
	SNR=8.8								
EKS2	**Erkin-Say**	**31.62**	**302**		*e*	P	**P**	**08 07 41.1**	**+0.6**
	comp=Z,7.3nm,0.8s,mb4.6								
EKS2	**Erkin-Say**	**31.62**	**302**		*e*	P	**P**	**08 07 41.1**	**+0.5**
EKS2						pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5								
KKAR	**Karatay Array**	**34.06**	**302**		*e*	P	**P**	**08 08 02.1**	**+0.2**
	comp=Z,3.1nm,0.6s,mb4.4								
KKAR	**Karatay Array**	**34.06**	**302**		*e*	P	**P**	**08 08 02.1**	**+0.2**
KKAR						pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4								
KBL	**Kabul**	**35.13**	**287**		*e*	P	**P**	**08 08 12.9**	**+1.6**
	comp=Z,6.4nm,0.6s,mb4.7								
KBL	**Kabul**	**35.13**	**287**		*e*	P	**P**	**08 08 12.9**	**+1.6**
KBL						pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7								
GUMO	**Guam**	**35.76

KIV MLR MLR
comp=Z,100nm,14.0s,MS4.0
RDF Al-Radifah 54.19 285 *eP* **P 08 10 42.7 -0.7**
RDF AMb AMB 08 10 43.5
comp=Z,86nm,0.6s
NAY Al-Naaiem 54.34 286 *eP* **P 08 10 43.4 -1.0**
NAY AMb AMB 08 10 44.5
comp=Z,46nm,0.8s,mb5.5
KLMR Klimovskoe 54.45 325 *eP* **P 08 10 41.9 -2.8**
KLMR pmax pmax
comp=Z,28nm,1.3s,mb5.0
VSR Storozhevoye 55.37 313 *eP* **P 08 10 51.1 -0.5**
VSR pmax pmax
comp=Z,20nm,1.1s,mb5.1
VSR pmax pmax
comp=N,9.0nm,0.9s
VSR pmax pmax
comp=E,6.0nm,0.6s
WRAB Tennant Creek 55.44 153 *eP* **P 08 10 54.6 +2.2**
comp=E,7.4nm,0.9s,mb4.7
WRAB Tennant Creek 55.44 153 *eP* **P 08 10 54.6 +2.2**
WRAB pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
WRA Warramunga Arr 55.45 153 P **P 08 10 51.9 -0.5**
comp=Z,3.5nm,0.7s,mb4.5,baz=342,slow=7.6,SNR=14
WRA Warramunga Arr 55.45 153 P **P 08 10 51.9 -0.5**
WRA Warramunga Arr 55.45 153 P **P 08 10 51.9 -0.5**
WRA pmax pmax
comp=Z,4.0nm,0.7s
WB2 Warramunga Arr 55.45 153 *eP* **P 08 10 52.8 +0.4**
OBN Obninsk 56.41 318⇓ *eP* **P 08 10 58.5 -0.5**
OBN pmax pmax
comp=Z,57nm,2.2s,mb5.2
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.0
JOF Joensuu 58.20 328 *eP* **P 08 11 10.3 -1.1**
JOF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
ASAR Alice Springs 58.67 155 P **P 08 11 15.0 -0.2**
comp=Z,1.5nm,0.5s,mb4.3,baz=331,slow=6.4,SNR=16
ASAR Alice Springs 58.67 155 P **P 08 11 15.0 -0.2**
ASAR Alice Springs 58.67 155 P **P 08 11 15.0 -0.2**
ASAR pmax pmax
comp=Z,2.0nm,0.5s
ARCES ARCESS Array B 59.72 336 P **P 08 11 22.0 +0.1**
comp=Z,3.3nm,0.8s,mb4.4,baz=84,slow=9.2,SNR=17
ARCES ARCESS Array B 59.72 336 P **P 08 11 22.0 +0.1**
ARCES ARCESS Array B 59.72 336 P **P 08 11 22.0 0.0**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
KAF Kangasniemi 60.61 328 *eP* **P 08 11 24.8 -3.4**
KAF pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
FINES FINESS Array B 60.85 327 P **P 08 11 29.2 -0.7**
comp=Z,5.8nm,1.1s,mb4.6,baz=105,slow=10,SNR=4.9
FINES FINESS Array B 60.85 327 P **P 08 11 29.1 -0.7**
FINES FINESS Array B 60.85 327 P **P 08 11 29.2 -0.6**
FINES pmax pmax
comp=Z,6.0nm,1.1s
AKASG Malin Array Be 61.63 314 P **P 08 11 33.9 -1.3**
comp=Z,4.2nm,0.6s,mb4.8,baz=64,slow=6.7,SNR=10
AKASG Malin Array Be 61.63 314 P **P 08 11 33.9 -1.3**
AKASG Malin Array Be 61.63 314 P **P 08 11 33.9 -1.4**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
ASF Jabal al Asfar 61.76 292 P **P 08 11 36.2 -0.2**
comp=Z,6.7nm,0.8s,mb4.8,baz=90,slow=5.1,SNR=9.2
ASF Jabal al Asfar 61.76 292 P **P 08 11 36.2 -0.2**
ASF Jabal al Asfar 61.76 292 P **P 08 11 36.2 -0.3**
ASF pmax pmax
comp=Z,7.0nm,0.8s
BR131 Keskin Array S 61.77 301 *eP* **P 08 11 36.3 -0.1**
comp=Z,6.0nm,0.9s,mb4.7
BRTR Keskin Array B 61.77 301 P **P 08 11 35.5 -0.9**
comp=Z,5.7nm,0.8s,mb4.8,baz=78,slow=7.7,SNR=23
BRTR Keskin Array B 61.77 301 P **P 08 11 35.5 -0.8**
BRTR Keskin Array B 61.77 301 P **P 08 11 35.5 -0.9**
BRTR pmax pmax
comp=Z,6.0nm,0.8s
MMAI Mount Meron Ar 62.65 294 P **P 08 11 43.0 +0.6**
comp=Z,1.6nm,0.6s,mb4.3,baz=28,slow=6.5,SNR=3.8
MMAI Mount Meron Ar 62.65 294 P **P 08 11 43.0 +0.6**
EIL Elat 64.23 290 P **P 08 11 52.3 -0.6**
comp=Z,4.5nm,0.7s,mb4.6,baz=90,slow=9.0,SNR=4.1
EIL Elat 64.23 290 P **P 08 11 52.3 -0.6**
VRI Vrincioaia 64.64 310⇓ *P* **P 08 11 55.7 +0.3**
BURAR Bucovina Array 65.05 312⇑ *P* **P 08 11 57.8 -0.2**
BURAR Bucovina Array 65.05 312⇑ *iP* **P 08 11 57.8 -0.2**
BUR08 Bucovina Ar. S 65.06 312 *eP* **P 08 11 57.8 -0.2**
MLR Muntele Rosu 65.29 310 P **P 08 11 59.7 +0.2**
comp=Z,1.2nm,0.6s,mb4.1,baz=332,slow=4.9,SNR=7.8
MLR Muntele Rosu 65.29 310 P **P 08 11 59.7 +0.2**
MLR Muntele Rosu 65.29 310⇓ *P* **P 08 12 00.7 +1.2**
MLR Muntele Rosu 65.29 310⇓ *iP* **P 08 12 00.7 +1.2**
KWP Kalwaria Pacla 65.95 315 *eP* **P 08 12 04.0 +0.2**
comp=Z,17nm,0.7s,mb5.2
KWP Kalwaria Pacla 65.95 315 *eP* **P 08 12 04.0 +0.3**
BMR Baia Mare 66.13 312⇑ *P* **P 08 12 10.0 +5.1**
BMR Baia Mare 66.13 312⇑ *iP* **P 08 12 10.0 +5.1**
TRPA Tarpa 66.57 313⇓ *iP* **P 08 12 09.7 +1.9**
COLA College 66.98 27 *eP* **P 08 12 10.1 0.0**
comp=Z,7.9nm,1.0s,mb4.7
COLA College 66.98 27 *eP* **P 08 12 10.1 +0.1**
COLA pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
HFS Hagfors 67.04 327 P **P 08 12 09.3 -1.2**
comp=Z,3.3nm,0.6s,mb4.6,baz=66,slow=3.6,SNR=10
HFS Hagfors 67.04 327 P **P 08 12 09.3 -1.2**
HFS Hagfors 67.04 327 P **P 08 12 09.3 -1.2**
HFS pmax pmax
comp=Z,3.0nm,0.6s
ILAR Eielson Array 67.39 27 P **P 08 12 11.6 -1.1**
comp=Z,1.0nm,0.8s,mb3.9,baz=289,slow=4.9,SNR=9.7
ILAR Eielson Array 67.39 27 P **P 08 12 11.6 -1.1**
ILAR Eielson Array 67.39 27 P **P 08 12 11.6 -1.1**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
GZR Gura Zlata 67.41 310⇑ *P* **P 08 12 13.8 +0.7**
GZR Gura Zlata 67.41 310⇑ *iP* **P 08 12 13.8 +0.7**
OJC Ojcow 67.50 316 *eP* **P 08 12 13.5 -0.1**
OJC Ojcow 67.50 316 *eP* **P 08 12 13.5 -0.1**
NB2 NORSAR Subarra 67.81 329 P **P 08 12 13.9 -1.5**
comp=Z,5.5nm,1.1s,mb4.5,baz=81,slow=6.9
NOA NORSAR Array B 67.81 329 P **P 08 12 14.1 -1.3**
comp=Z,1.8nm,0.6s,mb4.3,baz=66,slow=6.1,SNR=6.7
NOA NORSAR Array B 67.81 329 P **P 08 12 14.1 -1.3**
NOA NORSAR Array B 67.81 329 P **P 08 12 14.1 -1.3**
NOA pmax pmax
comp=Z,2.0nm,0.6s
STKA Stephens Creek 68.99 152 P **P 08 12 21.8 -1.2**
comp=Z,3.0nm,0.8s,mb4.2,baz=332,slow=5.0,SNR=5.0
STKA Stephens Creek 68.99 152 P **P 08 12 21.8 -1.2**
STKA Stephens Creek 68.99 152 P **P 08 12 21.8 -1.2**
STKA pmax pmax
comp=Z,3.0nm,0.8s
MORC Moravsky Berou 69.01 316⇓ *P* **P 08 12 23.4 +0.3**
MORC Moravsky Berou 69.01 316⇓ *iP* **P 08 12 23.4 +0.3**
INK Inuvik 70.29 21 P **P 08 12 29.9 -0.8**
comp=Z,3.7nm,0.8s,mb4.4,baz=316,slow=5.9,SNR=16
INK Inuvik 70.29 21 *eP* **P 08 12 29.4 -1.3**
comp=Z,4.0nm,0.8s,mb4.4
INK Inuvik 70.29 21 P **P 08 12 29.9 -0.8**
INK pmax pmax
comp=Z,4.0nm,0.8s
GERES GERESS Array B 71.68 316 P **P 08 12 39.0 -0.5**
comp=Z,1.5nm,0.9s,mb3.9,baz=92,slow=4.0,SNR=4.4
GERES GERESS Array B 71.68 316 P **P 08 12 39.0 -0.5**
GERES GERESS Array B 71.68 316 P **P 08 12 39.0 -0.5**
GERES pmax pmax
comp=Z,2.0nm,0.9s
SUMG Summit 74.57 351 *i P* **P 08 12 56.4 +0.2**
comp=Z,5.7nm,0.8s,mb4.5
CDF Champ du Feu 75.64 318 *eP* **P 08 13 04.3 +1.6**
LPG La Plagne 77.45 316 *eP* **P 08 13 13.2 +0.2**
comp=Z,15nm,0.9s,mb4.6
YKA Yellowknife Ar 79.99 20 P **P 08 13 25.8 -0.9**
comp=Z,1.7nm,0.8s,mb4.0,baz=326,slow=5.5,SNR=3.1
YKA Yellowknife Ar 79.99 20 P **P 08 13 25.8 -0.9**
YKA Yellowknife Ar 79.99 20 P **P 08 13 25.8 -0.9**
YKA pmax pmax
comp=Z,2.0nm,0.8s
FFC Flin Flon 90.09 18 *i P* **P 08 14 23.5 +6.0**
ROSC EI Rosal 144.03 9 PKP PKPdf 08 20 52.7 -1.5
comp=Z,4.3nm,0.7s,baz=288,slow=3.2,SNR=4.8
ROSC EI Rosal 144.03 9 PKP PKPdf 08 20 52.7 -1.5

OTAV Otavalo 147.73 18 *e*PKPdf PKPdf 08 21 02.6 +2.2

*ISCJB **22** 08:04:03.4±1.9,24.9°N±0.2°×95.0°E±0.2°,h111km±22km, mb3.8/7, Error ellipse: s-maj=41.9km s-min=13.4km az=44.3*
*IDC **22** 08:04:07.0±3.6,24.8°N×95.3°E,h133km±36km, mb3.6/7, mb1 3.6/8, mb1mx3.3/28, mbtmp3.5/8, Error ellipse: s-maj=60.6km s-min=17.2km az=63.0*
ISC 22 08:04:05.1±1.7,24.8°N±0.2°×94.9°E±0.2°,h111km±20km, n9, σ0s 69/10, mb3.8/7,1D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
SHL	**Shillong**	**2.86**	**286**	⇓ *i*PN	**Pn**	**08 04 49.0**	**-0.2**
SHL				*e*SN	**Sn**	**08 05 23.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**7.34**	**149**	P	**Pn**	**08 05 50.3**	**+0.7**
	0.8nm,0.3s,baz=326,slow=13,SNR=6.8						
MKAR	**Makanchi Array**	**24.16**	**338**	P	**P**	**08 09 11.2**	**+0.6**
	2.5nm,0.4s,mb3.9,baz=158,slow=8.3,SNR=21						
KURK	**Kurchatov**	**28.77**	**338**	P	**P**	**08 09 51.7**	**-0.4**
	0.7nm,0.4s,mb3.6,baz=156,slow=7.4,SNR=4.4						
ZALV	**Zalesovo Beam**	**30.08**	**348**	P	**P**	**08 10 03.4**	**-0.1**
	0.5nm,0.4s,mb3.5,baz=152,slow=6.5,SNR=2.6						
WRA	**Warramunga Arr**	**58.73**	**136**	P	**P**	**08 13 49.7**	**-1.7**
	0.3nm,0.5s,mb3.6,baz=322,slow=7.5,SNR=5.6						
ARCES	**ARCESS Array B**	**59.81**	**338**	P	**P**	**08 13 58.2**	**0.0**
	5.7nm,1.0s,mb4.5,baz=105,slow=6.6,SNR=4.3						
HFS	**Hagfors**	**64.50**	**327**	P	**P**	**08 14 29.9**	**+0.3**
	2.4nm,0.7s,mb4.1,baz=64,slow=3.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**87.45**	**283**	P	**P**	**08 16 41.6**	**+1.0**
	0.2nm,0.5s,mb3.3,baz=62,slow=4.9,SNR=2.5						

*IPEC **22** 08:07:46.3±0.3,51.61°N×16.19°E,h0km, ML2.1/3, Error ellipse: s-maj=2.0km s-min=1.6km az=37.0*
*ISCJB **22** 08:07:46.9±0.8,51.46°N±0.04°×16.08°E±0.04, h0km, Error ellipse: s-maj=6.3km s-min=3.3km az=18.5*
*CSEM **22** 08:07:48.2±0.5,51.47°N×16.09°E, h2km, ML3.4/8, Error ellipse: s-maj=7.6km s-min=4.4km az=18.0*
*WAR **22** 08:07:48.6,51.52°N×16.12°E, ML2.5, Mining Induced*
*PRU **22** 08:07:49.0,51.47°N×16.10°E, h0km*
*VIE **22** 08:07:50.4±0.5,51.24°N×16.12°E, h0km, mb2.1/2, ML2.6/3, Error ellipse: s-maj=3.2km s-min=2.5km az=5.0 64 km WNW of Wroclaw Suspected Mining induced.*
ISC 22 08:07:48.0±0.8,51.49°N±0.04°×16.09°E±0.04, h0km, n25, σ0s 71/46, 2C, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
KSP	**Ksiaz**	**0.66**	**168**	*e*Pg	**Pg**	**08 08 01.1**	**+0.5**
KSP				*e*Sg	**Sg**	**08 08 11.3**	**+2.1**
KSP	**Ksiaz**	**0.66**	**168**	*i* Pg	**Pg**	**08 08 01.1**	**+0.5**
KSP				*e*Sg	**Sg**	**08 08 10.2**	**+1.0**
KSP	**Ksiaz**	**0.66**	**168**	*e*Pg	**Pg**	**08 08 01.0**	**+0.4**
	baz=355						
KSP				*e*Sg	**Sg**	**08 08 10.2**	**+1.0**
UPC	**Upice**	**0.98**	**183**	*e*PG	**Pg**	**08 08 07.0**	**+0.2**
UPC	**Upice**	**0.98**	**183**	Pg	**Pg**	**08 08 07.0**	**+0.2**
DPC	**Dobruska-Polom**	**1.15**	**172**	*e*PG	**Pg**	**08 08 09.9**	**-0.1**
DPC				*e*SG	**Sg**	**08 08 25.0**	**+0.1**
	comp=Z,31nm,0.3s						
DPC	**Dobruska-Polom**	**1.15**	**172**	*e*Pg	**Pg**	**08 08 09.9**	**-0.1**
	baz=356						
DPC				Sg	**Sg**	**08 08 25.0**	**+0.1**
	comp=Z,31nm,0.3s						
PVCC	**Panska Ves**	**1.36**	**225**	*e*PG	**Pg**	**08 08 14.4**	**+0.4**
PVCC				*e*SG	**Sg**	**08 08 32.7**	**+1.1**
	comp=Z,101nm,0.2s						
PVCC	**Panska Ves**	**1.36**	**225**	Pg	**Pg**	**08 08 14.4**	**+0.4**
PVCC				Sg	**Sg**	**08 08 32.7**	**+1.1**
	comp=Z,101nm,0.2s						
BRG	**Berggiesshubel**	**1.48**	**246**	PG	**Pg**	**08 08 16.2**	**-0.2**
BRG				SG	**Sg**	**08 08 36.5**	**+0.9**
	comp=Z,60nm,0.4s						
CLL	**Collm**	**1.94**	**266**	*e*Pn	**Pn**	**08 08 22.0**	**-0.2**
CLL				*e*Pg	**Pg**	**08 08 25.0**	**-0.1**
CLL				*e*Sg	**Sg**	**08 08 50.0**	**-0.3**
	comp=Z,27nm,0.5s						
MORC	**Moravsky Berou**	**1.95**	**151**	*e*Pn	**Pn**	**08 08 21.6**	**-0.7**
	baz=335						
MORC				*e*Sg	**Sg**	**08 08 50.5**	**-0.1**
	comp=Z,13nm,0.2s,baz=335						
OKC	**Ostrava-Krasne**	**2.11**	**141**	*e*PG	**Pg**	**08 08 27.5**	**-0.9**
OKC	**Ostrava-Krasne**	**2.11**	**141**	Pg	**Pg**	**08 08 27.5**	**-0.9**
VRAC	**Vranov**	**2.21**	**171**	*e*Pn	**Pn**	**08 08 25.8**	**0.0**
	baz=354						
VRAC				*e*Sg	**Sg**	**08 08 58.4**	**-0.5**
	comp=Z,9.9nm,0.2s,baz=354						
KRUC	**Moravsky**	**2.44**	**175**	*e*Pn	**Pn**	**08 08 29.4**	**+0.4**
	baz=357						
KRUC				*e*Sg	**Sg**	**08 09 06.5**	**+0.2**
	comp=Z,7.8nm,0.2s,baz=357						
NKC	**Novy Kostel**	**2.63**	**243**	*e*PN	**Pn**	**08 08 32.5**	**+0.9**
NKC				*e*PG	**Pg**	**08 08 37.8**	**-0.5**
NKC				*e*SG	**Sg**	**08 09 12.5**	**+0.2**
	comp=Z,53nm,0.3s						
NKC	**Novy Kostel**	**2.63**	**243**	Pn	**Pn**	**08 08 32.5**	**+0.9**
NKC	**Novy Kostel**	**2.63**	**243**	Pg	**Pg**	**08 08 37.8**	**-0.5**
NKC				Sg	**Sg**	**08 09 12.5**	**+0.2**
	comp=Z,53nm,0.3s						
OJC	**Ojcow**	**2.67**	**117**	*e*Pg	**Pg**	**08 08 39.2**	**0.0**
OJC				*e*Sg	**Sg**	**08 09 14.5**	**+0.6**
KHC	**Kasperske Hory**	**2.86**	**215**	*e*PN	**Pn**	**08 08 35.6**	**+0.9**
KHC				*e*PG	**Pg**	**08 08 40.7**	**-2.0**
KHC				*e*SG	**Sg**	**08 09 19.0**	**-0.7**
	comp=Z,11nm,0.3s						
KHC	**Kasperske Hory**	**2.86**	**215**	Pn	**Pn**	**08 08 35.6**	**+0.9**
MOA	**Molln**	**3.83**	**199**	⇑ *i*Pn	**Pn**	**08 08 47.7**	**-0.4**
MOA				⇑ *i*Sg	**Sg**	**08 09 49.6**	**-1.3**
	comp=Z,15nm,0.6s						
MOA	**Molln**	**3.83**	**199**	Pn	**Pn**	**08 08 47.7**	**-0.4**
MOA				Sg	**Sg**	**08 09 49.6**	**-1.4**
	comp=Z,15nm,0.6s						
LLD	**Lille Linde**	**4.49**	**331**	*i* P	**Pn**	**08 08 44.2**	**-13**
LLD				*i* S	Sn	08 09 24.5	-26

IDC 22 08:28:25.7±65.0,19.44°S×177.82°E,h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/17, mbtmp3.9/3, Error ellipse: s-maj=1152.0km s-min=149.6km az=80.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
STKA	**Stephens Creek**	**34.76**	**242**	P	P	08 35 18.5	+0.6
	2.9nm,0.9s,baz=75,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**40.86**	**262**	P	P	08 36 09.6	0.0
	0.4nm,0.3s,baz=97,slow=7.8,SNR=13						
ASAR	**Alice Springs**	**40.95**	**256**	P	P	08 36 09.9	-0.4
	1.3nm,0.8s,baz=96,slow=7.6,SNR=13						

PGC 22 08:40:12.2±0.2,48.99°N×129.14°W,h10km, ML2.9/7, Mw3.5,6D,226km southwest of Pt. Hardy, Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
BPBC	**Brooks Peninsu**	**1.47**	**37**	⇓ *i*Pn	**Pn**	08 40 36.0	-2.7
BPBC				⇓ *i*Sn	Sn	08 40 54.0	-3.9
HOLB	**Holberg**	**1.77**	**21**	⇑ *i*Pn	Pn	08 40 41.8	-1.1
HOLB				⇑ *i*Sn	Sn	08 41 01.6	-3.9
MAYB	**Maynard**	**1.90**	**41**	⇓ *i*Pn	Pn	08 40 42.3	-2.4
MAYB				⇑ *i*Sn	Sn	08 41 04.2	-4.4
WOSB	**Woss**	**2.04**	**54**	⇑ *i*Sn	Sn	08 41 08.0	-4.0
PHC	**Port Hardy**	**2.04**	**32**	⇓ *i*Pn	Pn	08 40 44.7	-1.9
PHC				⇑ *i*Sn	Sn	08 41 08.3	-3.7
NCRB	**Newcastle Ridg**	**2.45**	**54**	⇑ *i*Pn	Pn	08 40 49.9	-2.3
NCRB				⇑ *i*Sn	Sn	08 41 20.1	-2.0
CBB	**Campbell River**	**2.67**	**66**	⇓ *i*Sn	Sn	08 41 24.2	-3.4
BBB	**Bella Bella**	**3.26**	**11**	⇑ *i*Pn	Pn	08 41 01.6	-1.7
BBB				⇓ *i*Sn	Sn	08 41 37.9	-4.2

DJA 22 08:41:45,1.40°N×121.87°E, h10km, MLv4.0/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
MRSI	**Marisa**	**0.92**	**176**	P	Pg	08 42 02.8	+0.1
MRSI				S	Sg	08 42 12.3	-2.4
KMSI	**Cibinong**	**2.26**	**111**	P	Pn	08 42 20.9	-1.6
LUWI	**Luwuk**	**2.59**	**160**	P	Pn	08 42 29.8	+2.8
LUWI				S	Sn	08 43 03.5	+5.0

IDC 22 08:55:12.7±29.0,27.07°N×140.30°E, h478km±360km, mb2.9/4, mb1 3.2/4, mb1mx2.7/22, mbtmp2.9/4, Error ellipse: s-maj=93.4km s-min=31.4km az=125.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
WRA	**Warramunga Arr**	**47.09**	**188**	P	P	09 03 00.4	-0.1
	0.7nm,0.5s,baz=6.3,slow=8.2,SNR=9.4						
ILAR	**Eielson Array**	**58.54**	**29**	P	P	09 04 21.9	-0.1
	0.1nm,0.3s,baz=247,slow=5.6,SNR=4.6						
YKA	**Yellowknife Ar**	**72.96**	**28**	P	P	09 05 52.7	+0.3
	0.8nm,0.6s,baz=298,slow=5.9,SNR=4.0						
FINES	**FINESS Array B**	**77.23**	**333**	P	P	09 06 16.3	0.0
	0.6nm,0.3s,baz=64,slow=4.9,SNR=7.5						

*IDC **22** 08:58:05.1±7.7,31.00°S×179.10°W,h132km±61km, mb3.8/3, mb1 3.9/4, mb1mx3.5/18, mbtmp3.7/4, Error ellipse: s-maj=58.7km s-min=30.6km az=44.0*
ISC 22 08:58:16.3±1.8,31.85°S±0.1°×179.5°W±0.2°,h228km±17km, n24, σ1s 31/28, mb3.8/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
PUZ	**Puketiti**	**6.56**	**196**	SN	**S**	**09 01 09.7**	**+2.9**
CNGZ	**Carnagh Statio**	**6.97**	**195**	*e*PN	**Pn**	**08 59 55.0**	**-1.3**
URZ	**Urewera**	**7.05**	**202**	P	**Pn**	**08 59 58.5**	**+1.2**
	0.8nm,0.3s,baz=137,slow=22,SNR=12						
URZ				S	**S**	**09 01 21.9**	**+3.8**
	1.7nm,0.3s,baz=129,slow=22,SNR=10						
URZ	**Urewera**	**7.05**	**202**	*e*PN	**Pn**	**08 59 57.1**	**-0.3**
URZ				SN	**S**	**09 01 22.0**	**+3.8**
KNZ	**Kokohu**	**7.60**	**197**	SN	**S**	**09 01 31.4**	**+0.4**
CKHZ	**Cape Kidnapper**	**8.36**	**198**	SN	**S**	**09 01 50.7**	**+2.1**
PXZ	**Pawanui**	**8.77**	**199**	PN	**Pn**	**09 00 17.3**	**-2.0**
PXZ				SN	**S**	**09 01 58.3**	**+0.2**
PRHZ	**Porangahau**	**9.05**	**199**	PN	**Pn**	**09 00 22.3**	**-0.5**
DVHZ	**Dannevirke**	**9.21**	**201**	SN	**S**	**09 02 10.7**	**+2.0**
PRWZ	**Pori Road**	**9.51**	**201**	SN	**S**	**09 02 17.4**	**+1.8**
BFZ	**Birch Farm**	**9.54**	**200**	SN	**S**	**09 02 15.1**	**-1.3**
MRZ	**Mangatainoka R**	**9.73**	**203**	SN	**S**	**09 02 19.6**	**-1.3**
TUWZ	**Tuamarina**	**10.99**	**207**	SN	**S**	**09 02 49.3**	**-1.1**
NNZ	**Nelson**	**11.04**	**209**	SN	**S**	**09 02 50.6**	**-0.9**
THZ	**Tophouse**	**11.69**	**209**	PN	**Pn**	**09 00 55.2**	**-1.1**
THZ				SN	**S**	**09 03 06.5**	**-0.2**
KHZ	**Kahutara**	**11.99**	**206**	*e*PN	**Pn**	**09 00 57.9**	**-2.2**
KHZ				SN	**S**	**09 03 13.1**	**-0.8**
LTZ	**Lake Taylor**	**12.80**	**208**	*e*PN	**Pn**	**09 01 11.8**	**+1.7**
MQZ	**McQueen's Vall**	**13.44**	**205**	SN	**S**	**09 03 42.7**	**-4.6**
ASAR	**Alice Springs**	**41.76**	**269**	P	**P**	**09 05 44.6**	**+1.2**
	1.5nm,0.6s,mb3.6,baz=105,slow=7.4,SNR=19						
WRA	**Warramunga Arr**	**42.88**	**274**	P	**P**	**09 05 53.0**	**+0.6**
	2.2nm,0.3s,mb4.1,baz=111,slow=8.1,SNR=60						
QSPA	**South Pole Qui**	**58.36**	**180**	P	**P**	**09 07 52.1**	**+5.1**
	0.5nm,0.3s,mb3.6,baz=62,slow=2.5,SNR=3.7						
VNA3	**Neumayer Olymp**	**77.04**	**177**	*e*	**P**	**09 09 43.6**	**+0.1**
VNA2	**Neumayer--Watz**	**77.46**	**177**	*e*	**P**	**09 09 46.3**	**+0.4**
	baz=181,slow=4.6						
FINES	**FINESS Array B**	**145.94**	**338**	PKPbc	PKPbc	09 17 24.7	-3.5
	1.5nm,0.5s,baz=45,slow=2.2,SNR=7.3						

*PGC **22** 09:07:35.5±2.0,48.83°N×129.13°W,h10km, ML3.2/13, Mw3.9, 237km west of Tofino, Bc Vancouver Island Region*
*ISCJB **22** 09:07:36.9±0.8,49.04°N±0.04°×128.88°W±0.07°, h10km, mb3.5/2, Error ellipse: s-maj=7.0km s-min=4.9km az=154.1*
*IDC **22** 09:07:38.0±2.5,49.08°N×128.97°W, h0km, mb3.5/2, mb1 3.8/8, mb1mx3.6/28, mbtmp3.6/8, ML3.3/5, MS3.4/1, Ms1 3.4/1, ms1mx2.6/29, Error ellipse: s-maj=43.1km s-min=14.0km az=69.0*
*NEIC **22** 09:07:40.8±1.1,49.28°N×128.60W, h10km, mb3.9/3, MW3.9(PGC), Error ellipse: s-maj=16.9km s-min=7.1km az=64.0*
ISC 22 09:07:38.3±0.8,49.08°N±0.04°×128.85°W±0.07°, h10km, n41, σ1s 23/60, mb3.5/2, 2C-14D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
BPBC	**Brooks Peninsu**	**1.29**	**32**	Pn	**Pn**	**09 08 01.7**	**-0.6**
BPBC				⇑ *i*Sn	**Sn**	**09 08 20.3**	**+0.7**
BPBC	**Brooks Peninsu**	**1.29**	**32**	⇓ *i*Pn	**Pn**	**09 08 01.7**	**-0.6**
BPBC				⇑ *i*Sn	**Sn**	**09 08 20.3**	**+0.7**
EDB	**Eliza Dome**	**1.38**	**54**	Pn	**Pn**	**09 08 02.7**	**-0.9**
EDB				Sn	**Sn**	**09 08 21.9**	**+0.1**
EDB	**Eliza Dome**	**1.38**	**54**	⇓ *i*Pn	**Pn**	**09 08 02.7**	**-0.9**
EDB				⇑ *i*Sn	**Sn**	**09 08 21.9**	**+0.1**
ETB	**Estevan Point**	**1.54**	**78**	⇑ *i*Pn	**Pn**	**09 08 04.7**	**-1.1**
ETB	**Estevan Point**	**1.54**	**78**	⇑ *i*Pn	**Pn**	**09 08 04.7**	**-1.1**
HOLB	**Holberg**	**1.63**	**16**	⇑ *i*Pn	**Pn**	**09 08 05.8**	**-1.2**
HOLB				Sn	**Sn**	**09 08 27.8**	**-0.3**
HOLB	**Holberg**	**1.63**	**16**	⇑ *i*Pn	**Pn**	**09 08 05.8**	**-1.2**
HOLB				⇓ *i*Sn	**Sn**	**09 08 27.8**	**-0.3**
MAYB	**Maynard**	**1.72**	**39**	⇓ *i*Pn	**Pn**	**09 08 07.7**	**-0.5**
MAYB				Sn	**Sn**	**09 08 30.4**	**+0.3**
MAYB	**Maynard**	**1.72**	**39**	⇓ *i*Pn	**Pn**	**09 08 07.7**	**-0.5**
MAYB				⇓ *i*Sn	**Sn**	**09 08 30.4**	**+0.3**
WOSB	**Woss**	**1.84**	**53**	⇓ *i*Pn	**Pn**	**09 08 09.9**	**+0.1**
WOSB				⇓ *i*Sn	**Sn**	**09 08 34.8**	**+1.7**
PHC	**Port Hardy**	**1.87**	**29**	⇓ *i*Pn	**Pn**	**09 08 10.5**	**+0.2**
PHC				⇑ *i*Sn	**Sn**	**09 08 34.4**	**+0.5**
GDR	**Gold River**	**1.97**	**68**	⇓ *i*Pn	**Pn**	**09 08 10.9**	**-0.7**
OZB	**Mount Ozzard**	**2.21**	**92**	⇑ *i*Pn	**Pn**	**09 08 12.7**	**-2.2**
OZB				⇑ *i*Sn	**Sn**	**09 08 40.6**	**-1.7**
NCRB	**Newcastle Ridg**	**2.25**	**53**	⇑ *i*Pn	**Pn**	**09 08 16.1**	**+0.6**
NCRB				⇑ *i*Sn	**Sn**	**09 08 46.2**	**+3.0**
BMSB	**Bamfield Mari**	**2.46**	**94**	⇑ *i*Pn	**Pn**	**09 08 16.3**	**-2.1**
BMSB				⇓ *i*Sn	**Sn**	**09 08 46.6**	**-1.8**
CBB	**Campbell River**	**2.46**	**66**	⇓ *i*Pn	**Pn**	**09 08 18.2**	**-0.2**
CBB				⇑ *i*Sn	**Sn**	**09 08 50.6**	**+2.1**
ALB	**Alberni**	**2.64**	**84**	⇑ *i*Pn	**Pn**	**09 08 19.8**	**-1.1**
ALB				⇓ *i*Sn	**Sn**	**09 08 52.5**	**-0.4**
**P

Mw3.6, 240km west of Tofino, Bc Vancouver Island Region
*ISCJB **22** 09:10:27.1±1.2, 48°.96N±0°.06×128°.92W±0°.09, h10km, Error ellipse: s-maj=9.8km s-min=6.7km az=139.8*
*IDC **22** 09:10:28.7±2.8, 49°.02N× 129°.07W, h0km, mb3.8/1, mb1 3.7/6, mb1mx3.5/26, mbtmp3.5/6, ML3.4/5, MS3.2/3, Ms1 3.2/3, ms1mx2.9/39, Error ellipse: s-maj=46.6km s-min=15.1km az=70.0*

ISC 22 09:10:28.2±1.2, 48°.98N±0°.06×128°.88W±0°.10, h10km, n21, σ0§92/27, 12D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.38**	**31**	⇓Sn	**Sn**	**09 11 11.3**	**-0.5**
EDB	**Eliza Dome**	**1.46**	**51**	⇓Pn	**Pn**	**09 10 54.0**	**-0.5**
EDB				⇓Sn	**Sn**	**09 11 13.6**	**-0.1**
HOLB	**Holberg**	**1.73**	**16**	⇑Pn	**Pn**	**09 10 57.3**	**-1.0**
HOLB				⇓Sn	**Sn**	**09 11 19.6**	**-0.8**
MAYB	**Maynard**	**1.81**	**37**	⇓Sn	**Sn**	**09 11 22.1**	**-0.1**
WOSB	**Woss**	**1.91**	**51**	⇑Pn	**Pn**	**09 11 01.4**	**+0.7**
PHC	**Port Hardy**	**1.97**	**28**	⇓Pn	**Pn**	**09 11 02.7**	**+1.2**
PHC				⇓Sn	**Sn**	**09 11 26.1**	**-0.1**
GDR	**Gold River**	**2.03**	**66**	⇓Pn	**Pn**	**09 11 02.4**	**0.0**
OZB	**Mount Ozzard**	**2.23**	**89**	⇓Pn	**Pn**	**09 11 04.3**	**-0.9**
OZB				⇑Sn	**Sn**	**09 11 31.7**	**-1.1**
NCRB	**Newcastle Ridg**	**2.32**	**51**	⇑Sn	**Sn**	**09 11 37.9**	**+2.9**
BMSB	**Bamfield Mari**	**2.48**	**92**	⇑Pn	**Pn**	**09 11 07.8**	**-0.7**
BMSB				⇑Sn	**Sn**	**09 11 38.2**	**-0.5**
CBB	**Campbell River**	**2.52**	**64**	⇓Pn	**Pn**	**09 11 09.9**	**+0.8**
CBB				⇓Sn	**Sn**	**09 11 41.9**	**+2.0**
ALB	**Alberni**	**2.68**	**82**	⇓Pn	**Pn**	**09 11 11.8**	**+0.6**
BBB	**Bella Bella**	**3.25**	**8**	Pn	**Pn**	**09 11 19.1**	**0.0**
	19nm,0.3s,baz=206,slow=10,SNR=18						
BBB				Sn	**Sn**	**09 11 57.9**	**+0.1**
	9.9nm,0.3s,baz=267,slow=23,SNR=7.4						
BBB	**Bella Bella**	**3.25**	**8**	⇑Pn	**Pn**	**09 11 19.1**	**0.0**
BBB				⇑Sn	**Sn**	**09 11 55.2**	**-2.6**
DLBC	**Dease Lake**	**9.50**	**356**	LR	LR	09 15 45.1	
	comp=Z,74nm,20.6s,baz=268,slow=34						
NVAR	**Mina Array Bea**	**13.01**	**140**	Pn	**Pn**	**09 13 39.7**	**+6.7**
	0.0nm,0.3s,baz=329,slow=12,SNR=3.0						
NVAR				LR	LR	09 18 35.0	
	comp=Z,90nm,19.5s,baz=200,slow=37						
PDAR	**Pinedale Array**	**14.81**	**108**	Pn	**Pn**	**09 14 02.8**	**+5.4**
	0.0nm,0.3s,baz=304,slow=12,SNR=3.8						
YKA	**Yellowknife Ar**	**15.69**	**25**	Pn	**Pn**	**09 14 09.2**	**+0.2**
	0.1nm,0.3s,baz=218,slow=13,SNR=3.6						
ILAR	**Eielson Array**	**18.52**	**335**	P	**Pn**	**09 14 45.4**	**+0.9**
	0.0nm,0.3s,baz=147,slow=11,SNR=8.5						
ULM	**Lac du Bonnet**	**21.33**	**74**	P	**P**	**09 15 20.1**	**+5.1**
	6.9nm,1.1s,baz=294,slow=14,SNR=3.5						
SONM	**Songino Array**	**72.36**	**324**	LR	LR	09 53 03.4	
	comp=Z,31nm,18.3s,baz=316,slow=35						

*IDC **22** 09:35:54.6±1.6, 4°.28S×145°.41E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.7/18, mbtmp3.8/6, ML3.5/2, MS3.1/3, Ms1 3.1/3, ms1mx2.8/31, Error ellipse: s-maj=41.5km s-min=25.2km az=105.0*
*ISCJB **22** 09:36:04.4±3.0, 4°.8S±0°.2×145°.7E±0°.2, h84km±28km, mb3.8/5, Error ellipse: s-maj=27.3km s-min=23.6km az=141.2*
*NEIC **22** 09:36:05.6±2.7, 4°.72S×145°.72E, h82km±26km, mb4.2/4, Error ellipse: s-maj=26.1km s-min=22.2km az=135.0*

ISC 22 09:36:05.2±2.8, 4.7S±0°.2×145.7E±0°.2, h80km±26km, n18, σ1§29/19, mb3.8/5, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.89**	**163**	Pn	**Pn**	**09 37 16.6**	**+0.2**
	6.2nm,0.3s,baz=34,slow=8.9,SNR=16						
PMG				Sn	**Sn**	**09 38 17.2**	**+5.4**
	3.2nm,0.3s,baz=328,slow=22,SNR=2.8						
PMG	**Port Moresby**	**4.89**	**163**	Pn	**Pn**	**09 37 16.6**	**+0.2**
PMG				Sn	**Sn**	**09 38 17.2**	**+5.4**
COEN	**Coen**	**9.52**	**195**	*eP*n	**Pn**	**09 38 19.2**	**-0.3**
	106nm,0.7s						
KAKA	**Kakadu**	**15.32**	**238**	Pn	**Pn**	**09 39 38.0**	**+1.0**
	29nm,0.8s						
GUMO	**Guam**	**18.19**	**357**	LR	LR	09 44 55.1	
	comp=Z,44nm,21.9s,baz=98,slow=30						
WRAB	**Tennant Creek**	**18.74**	**215**	*eP*	**Pn**	**09 40 17.8**	**-1.3**
	2.5nm,0.6s						
WRA	**Warramunga Arr**	**18.75**	**215**	P	**Pn**	**09 40 18.0**	**-1.3**
	0.2nm,0.3s,baz=29,slow=10,SNR=13						
WRA	**Warramunga Arr**	**18.75**	**215**	P	**Pn**	**09 40 18.0**	**-1.2**
AS31	**Alice Springs**	**22.01**	**210**	*eP*	**P**	**09 40 53.7**	**+0.6**
ASAR	**Alice Springs**	**22.02**	**210**	P	**P**	**09 40 54.4**	**+1.2**
	1.0nm,0.7s,mb3.3,baz=36,slow=9.7,SNR=10						
ASAR				LR	LR	09 49 18.2	
	comp=Z,50nm,19.9s,baz=268,slow=36						
ASAR	**Alice Springs**	**22.02**	**210**	P	**P**	**09 40 54.4**	**+1.2**
FITZ	**Fitzroy Crossi**	**23.70**	**234**	P	**P**	**09 41 07.7**	**-2.3**
	1.2nm,0.5s,mb3.5,baz=45,slow=11,SNR=5.1						
FITZ	**Fitzroy Crossi**	**23.70**	**234**	P	**P**	**09 41 07.7**	**-2.3**
	2.6nm,0.9s,mb3.6						
STKA	**Stephens Creek**	**27.30**	**188**	P	**P**	**09 41 43.9**	**+1.5**
	2.1nm,0.7s,mb3.8,baz=344,slow=7.4,SNR=2.4						
STKA				LR	LR	09 52 28.7	
	comp=Z,62nm,18.3s,baz=25,slow=36						
STKA	**Stephens Creek**	**27.30**	**188**	P	**P**	**09 41 43.9**	**+1.5**
QIZ	**Qiongzhong**	**42.45**	**305**	*eP*	**P**	**09 43 54.8**	**+2.2**
	9.5nm,0.4s,mb4.9						
ILAR	**Eielson Array**	**84.81**	**23**	P	**P**	**09 48 29.5**	**-1.1**
	0.3nm,0.6s,mb3.4,baz=259,slow=5.5,SNR=6.3						
ILAR	**Eielson Array**	**84.81**	**23**	P	**P**	**09 48 29.5**	**-1.1**

*TRN **22** 09:53:44.8, 19°.02N×64°.80W, h26km, M2.9(RSPR)*

RSPR 22 09:53:45.8, 19°.19N×64°.78W, h18km±25km, 6C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.78**	**169**	⇑*eP*	Pb	09 53 58.4	-2.4
TBVI				*eS*	Sb	09 54 09.1	-2.0
TBVI	**Tortola**	**0.78**	**169**	⇑*eP*	Pb	09 53 58.4	-2.4
TBVI				*eS*	Sb	09 54 09.9	-1.2
STVI	**Saint Thomas**	**0.85**	**191**	⇑*eP*	Pb	09 54 00.0	-1.9
STVI	**Saint Thomas**	**0.85**	**191**	⇑*eP*	Pb	09 54 00.2	-1.8
STVI				*eS*	Sb	09 54 11.2	-1.7
MTP	**Monte Pirata**	**1.31**	**214**	⇑*eP*	Pn	09 54 07.0	-2.1
MTP	**Monte Pirata**	**1.31**	**214**	⇑*eP*	Pn	09 54 07.4	-1.8
MTP				*eS*	Sn	09 54 22.7	-3.4
HUMP	**Col San Antoni**	**1.45**	**225**	*eS*	Sn	09 54 25.4	-4.3
HUMP	**Col San Antoni**	**1.45**	**225**	*eS*	Sn	09 54 25.4	-4.3

*ISCJB **22** 10:01:30.6±2.5, 10°.87S±0°.09×166°.0E±0°.1, h102km±20km, mb4.2/9, Error ellipse: s-maj=23.8km s-min=10.2km az=149.0*
*NEIC **22** 10:01:31.3±1.5, 10°.86S×166°.08E, h97km±12km, mb4.6/1, Error ellipse: s-maj=15.6km s-min=13.2km az=73.0*
*IDC **22** 10:01:31.0±6.5, 10°.84S×166°.05E, h92km±48km, mb4.0/8, mb1 4.1/9, mb1mx3.8/20, mbtmp4.0/9, MS3.4/4, Ms1 3.4/4, ms1mx3.0/28, Error ellipse: s-maj=48.4km s-min=25.1km az=119.0*

ISC 22 10:01:31.4±2.0, 10°.84S±0°.09×166°.1E±0°.1, h96km±15km, n24, σ0§53/25, mb4.2/9, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.17**	**283**	P	**Pn**	**10 03 00.1**	**+0.1**
	17nm,0.3s,baz=330,slow=1.9,SNR=7.1						
HNR				S	**Sn**	**10 04 09.0**	**-0.1**
	6.6nm,0.3s,baz=238,slow=22,SNR=3.7						
HNR	**Honiara**	**6.17**	**283**	P	**Pn**	**10 03 00.1**	**+0.2**
HNR				S	**Sn**	**10 04 09.0**	**-0.1**
DZM	**Mont Dzumac**	**11.18**	**178**	*eP*n	**Pn**	**10 04 07.8**	**-0.3**
	17nm,0.6s						
DZM				Sn	**Sn**	**10 06 11.4**	**+0.2**
CTA	**Charters Tower**	**21.16**	**242**	P	**P**	**10 06 09.8**	**+0.9**
	5.5nm,0.6s,mb4.1,baz=79,slow=8.5,SNR=5.1						
CTA				LR	LR	10 12 44.6	
	comp=Z,71nm,18.6s,baz=57,slow=32						
CTA	**Charters Tower**	**21.16**	**242**	P	**P**	**10 06 09.8**	**+0.9**
STKA	**Stephens Creek**	**30.80**	**223**	LR	LR	10 18 09.3	
	comp=Z,45nm,19.8s,baz=27,slow=32						
WRAB	**Tennant Creek**	**31.82**	**250**	*eP*	**P**	**10 07 47.2**	**0.0**
	16nm,1.2s,mb4.6						
WB2	**Warramunga Arr**	**31.82**	**250**	*eP*	**P**	**10 07 47.0**	**-0.3**
WRA	**Warramunga Arr**	**31.83**	**250**	P	**P**	**10 07 47.3**	**-0.1**
	12nm,1.1s,mb4.5,baz=78,slow=9.3,SNR=28						
WRA	**Warramunga Arr**	**31.83**	**250**	P	**P**	**10 07 47.3**	**-0.1**
AS31	**Alice Springs**	**33.15**	**243**	*eP*	**P**	**10 07 58.4**	**-0.4**
ASAR	**Alice Springs**	**33.15**	**243**	P	**P**	**10 07 58.3**	**-0.5**
	7.1nm,0.8s,mb4.5,baz=65,slow=10,SNR=65						
ASAR				PcP	PcP	10 10 40.2	+0.3
	0.7nm,0.8s,baz=87,slow=2.8,SNR=5.0						
ASAR				LR	LR	10 20 10.0	
	comp=Z,50nm,19.6s,baz=356,slow=34						
ASAR	**Alice Springs**	**33.15**	**243**	P	**P**	**10 07 58.3**	**-0.5**
ASAR				PcP	PcP	10 10 40.2	+0.3
CMAR	**Chiang Mai Arr**	**72.30**	**293**	P	**P**	**10 12 48.0**	**+0.9**
	0.9nm,0.4s,mb3.9,baz=115,slow=4.8,SNR=6.8						
CMAR	**Chiang Mai Arr**	**72.30**	**293**	P	**P**	**10 12 48.0**	**+0.9**
KDAK	**Kodiak Island**	**76.28**	**21**	LR	LR	10 40 41.4	
	comp=Z,82nm,19.8s,baz=110,slow=31						
SONM	**Songino Array**	**78.68**	**324**	P	**P**	**10 13 23.4**	**+0.5**
	1.0nm,0.9s,mb3.6,baz=139,slow=5.2,SNR=5.8						
SONM	**Songino Array**	**78.68**	**324**	P	**P**	**10 13 23.4**	**+0.5**
ILAR	**Eielson Array**	**83.22**	**18**	P	**P**	**10 13 46.8**	**+0.1**
	0.7nm,0.8s,mb3.6,baz=235,slow=5.3,SNR=17						
ILAR	**Eielson Array**	**83.22**	**18**	P	**P**	**10 13 46.8**	**+0.1**
ZALV	**Zalesovo Beam**	**93.56**	**324**	P	**P**	**10 14 35.2**	**-1.3**
	1.0nm,0.7s,mb4.2,baz=76,slow=6.3,SNR=4.2						
ZALV	**Zalesovo Beam**	**93.56**	**324**	P	**P**	**10 14 35.2**	**-1.3**
MKAR	**Makanchi Array**	**93.58**	**317**	P	**P**	**10 14 37.1**	**+0.4**
	2.0nm,0.7s,mb4.5,baz=101,slow=6.0,SNR=14						
MKAR	**Makanchi Array**	**93.58**	**317**	P	**P**	**10 14 37.1**	**+0.4**

*IDC **22** 10:19:24.1±2.0, 39°.34N×73°.30E, h0km, mb4.0/2, mb1 3.7/6, mb1mx3.4/29, mbtmp3.7/6, ML3.3/4, Error ellipse: s-maj=29.7km s-min=20.7km az=155.0*
*NNC **22** 10:19:26.2±1.6, 39°.70N×73°.28E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=15.4km s-min=6.8km az=13.0*
*ISCJB **22** 10:19:27.1±0.8, 39°.68N±0°.05×72°.96E±0°.06, h10km, mb4.0/2, Error ellipse: s-maj=7.6km s-min=6.2km az=9.4*
*NEIC **22** 10:19:31.2±1.1, 39°.65N×73°.16E, h37km±16km, Error ellipse: s-maj=19.6km s-min=10.7km az=124.0*

ISC 22 10:19:29.4±0.8, 39°.77N±0°.06×73°.05E±0°.06, h10km, n34, σ1§36/43, mb4.0/2, 6C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.41**	**12**	P	**Pn**	**10 20 08.9**	**0.0**
	SNR=68						
UCH	**Uchtor**	**2.70**	**24**	P	**Pn**	**10 20 13.0**	**+0.2**
	SNR=17						
KZA	**Kyzart**	**2.85**	**35**	P	**Pn**	**10 20 13.2**	**-1.6**
	SNR=28						
EKS2	**Erkin-Say**	**2.94**	**11**	P	**Pn**	**10 20 16.7**	**+0.5**
	SNR=34						
EKS2	**Erkin-Say**	**2.94**	**11**	*eP*n	**Pn**	**10 20 16.8**	**+0.6**
EKS2				*eS*n	**Sn**	**10 20 56.2**	**+4.6**
AAK	**Ala-Archa**	**3.07**	**20**	P	**Pn**	**10 20 18.0**	**+0.1**
	SNR=73						
AAK	**Ala-Archa**	**3.07**	**20**	*eP*n	**Pn**	**10 20 17.9**	**+0.1**
AAK				*eS*n	**Sn**	**10 21 00.4**	**+5.8**
KBK	**Karagaybulak**	**3.23**	**26**	P	**Pn**	**10 20 23.6**	**+3.5**
	SNR=19						
ULHL	**Ulahol**	**3.46**	**43**	P	**Pn**	**10 20 25.9**	**+2.6**
	SNR=25						
CHMS	**Chumysh**	**3.48**	**21**	P	**Pn**	**10 20 23.4**	**-0.1**
	SNR=6.3						
USP	**Ospenovka**	**3.67**	**17**	P	**Pn**	**10 20 25.8**	**-0.3**
	SNR=14						
TKM2	**Tokmak 2**	**3.69**	**31**	P	**Pn**	**10 20 25.3**	**-1.1**
TKM2	**Tokmak 2**	**3.69**	**31**	⇑Pg	**Pb**	**10 20 33.2**	**-1.4**
	17nm,0.6s						
TKM2				⇓Lg		10 21 21.8	
	109nm,0.6s						
TKM2	**Tokmak 2**	**3.69**	**31**	*e*Pn	**Pn**	**10 20 26.1**	**-0.4**
TKM2				*e*Sn	**Sn**	**10 21 13.9**	**+3.9**
KK31	**Karatay Array**	**3.84**	**331**	Pn	**Pn**	**10 20 31.2**	**+2.7**
	3.8nm,0.6s,baz=140,slow=11,SNR=134						
KK31				⇑Pg	**Pg**	**10 20 40.4**	**-2.6**
	6.5nm,0.5s,baz=135,slow=14,SNR=24						
KK31				⇑Sn	**Sb**	**10 21 22.5**	**-1.2**
	25nm,0.5s,baz=258,slow=76,SNR=6.3						
KK31				⇓Lg		10 21 33.4	
	24nm,0.3s,baz=183,slow=35,SNR=3.8						
KKAR	**Karatay Array**	**3.84**	**331**	*e*Pn	**Pn**	**10 20 30.4**	**+1.9**
KKAR				Sn	**Sb**	**10 21 21.5**	**-2.3**
KNDC	**Almaty**	**4.53**	**39**	⇓Pg	**Pb**	**10 20 49.7**	**+0.7**
	26nm,0.6s						
KNDC				⇑Lg		10 21 48.4	
	380nm,1.0s						
KBL	**Kabul**	**6.12**	**213**	Pn	**Pn**	**10 20 59.1**	**-0.7**
	8.0nm,0.5s						
MK31	**Makanchi Array**	**9.73**	**41**	⇓Pn	**Pn**	**10 21 48.8**	**-0.6**
	5.4nm,1.3s						
MK31				⇑Lg		10 24 29.1	
	4.1nm,0.7s						
MKAR	**Makanchi Array**	**9.73**	**41**	Pn	**Pn**	**10 21 49.6**	**+0.3**
	0.0nm,0.3s,baz=210,slow=22,SNR=2.4						
MKAR				Lg		10 24 30.9	
	0.1nm,0.3s,baz=232,slow=24,SNR=3.8						
MKAR	**Makanchi Array**	**9.73**	**41**	Pn	**Pn**	**10 21 49.6**	**+0.3**
MKAR				Lg		10 24 30.9	
KURK	**Kurchatov**	**11.63**	**18**	Pn	**Pn**	**10 22 10.9**	**-4.4**
	0.6nm,0.3s,baz=34,slow=48,SNR=3.9						
KURK				Lg		10 25 32.1	
	0.1nm,0.3s,baz=206,slow=30,SNR=14						
KURK	**Kurchatov**	**11.63**	**18**	Pn	**Pn**	**10 22 10.9**	**-4.4**
KURK				Lg		10 25 32.1	
AB31	**Akbulak array**	**13.30**	**320**	Pn	**Pn**	**10 22 39.7**	**+1.6**
	2.0nm,0.8s,baz=130,slow=13,SNR=12						
AB31				⇑Sn	**Sn**	**10 25 07.2**	**+1.2**
	2.1nm,0.8s,baz=133,slow=23,SNR=3.6						
BVAR	**Borovoye Array**	**13.39**	**353**	Pn	**Pn**	**10 22 36.9**	**-2.3**
	0.4nm,0.3s,baz=158,slow=12,SNR=4.6						
BVAR				Lg		10 26 33.7	
	0.2nm,0.3s,baz=164,slow=27,SNR=2.2						
BVAR	**Borovoye Array**	**13.39**	**353**	Pn	**Pn**	**10 22 36.9**	**-2.3**
BVAR				Lg		10 26 33.7	
AKTO	**Aktyubinsk**	**15.02**	**320**	Pn	**Pn**	**10 23 01.9**	**+0.4**
	0.2nm,0.3s,baz=132,slow=14,SNR=4.5						
AKTO				Sn	**Sn**	**10 25 48.4**	**+0.7**
	0.2nm,0.3s,baz=14,slow=18,SNR=3.6						
AKTO	**Aktyubinsk**	**15.02**	**320**	Pn	**Pn**	**10 23 01.9**	**+0.4**
AKTO				Sn	**Sn**	**10 25 48.4**	**+0.7**
ZALV	**Zalesovo Beam**	**16.28**	**25**	Pn	**Pn**	**10 23 17.8**	**-0.1**
	0.1nm,0.3s,baz=218,slow=16,SNR=3.4						
ZALV	**Zalesovo Beam**	**16.28**	**25**	Pn	**Pn**	**10 23 17.8**	**-0.1**
ARCES	**ARCESS Array B**	**38.79**	**336**	P	**P**	**10 26 54.9**	**+1.2**
	3.9nm,1.0s,mb4.1,baz=106,slow=9.8,SNR=3.6						
ARCES	**ARCESS Array B**	**38.79**	**336**	P	**P**	**10 26 54.9**	**+1.2**
TORD	**Torodi Ar. Bea**	**67.41**	**268**	P	**P**	**10 30 22.5**	**-2.8**
	0.6nm,0.5s,mb3.9,baz=53,slow=4.7,SNR=6.4						
TORD	**Torodi Ar. Bea**	**67.41**	**268**	P	**P**	**10 30 22.5**	**-2.8**

*ISCJB **22** 10:43:52.0±0.9, 56°.65S±0°.2×144°.1W±0°.2, h10km, mb4.3/9, MS4.0/13, Error ellipse: s-maj=26.3km s-min=15.4km az=22.8*
*IDC **22** 10:43:52.5±0.7, 56°.29S×144°.21W, h0km, mb4.2/8, mb1 4.4/8, mb1mx4.2/15, mbtmp4.2/8, MS4.0/13, Ms1 4.0/13, ms1mx3.9/23, Error ellipse: s-maj=28.6km s-min=20.2km az=20.0*
*NEIC **22** 10:43:54.1±0.6, 56°.27S×144°.25W, h10km, mb4.6/3, Error ellipse: s-maj=23.4km s-min=15.0km az=4.0*
*GCMT **22** 10:43:56.2, 56°.40S×143°.36W, h19km, MW5.0, Moment Tensor Solution. s22,c25; s60,c81; Moment tensor: Scale 10^{16}Nm; M_{rr}=0.58±.20; $M_{\theta\theta}$3.06±.19; $M_{\phi\phi}$-2.49±.15; $M_{r\theta}$0.25±.33; $M_{r\phi}$2.25±.12; $M_{\theta\phi}$0.64±.32; Best double couple: M_{0}3.60000×10^{16} NP1:ϕ_s115.00000°, δ78.00000°, λ-3.00000°. NP2:ϕ_s206.00000°, δ87.00000°, λ-168.00000°. Principal axes: T 3.9000, Plg6.0000°, Azm340.0000°; N -0.5200, Plg78.0000°, Azm222.0000°; P -3.3800, Plg11.0000°, Azm71.0000°; Data Used: II IC IU G.*

ISC 22 10:43:54.0±0.9, 56°.5S±0°.2×144°.1W±0°.2, h10km, n46, σ1§38/25, mb4.3/9, MS4.0/13, 1C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**27.96**	**202**	LR	LR	10 57 28.7	
	comp=Z,229nm,21.3s,MS3.7,baz=77,slow=29						
RPZ	**Rata Peaks**	**30.88**	**275**	LR	LR	10 59 06.4	
	comp=Z,469nm,20.5s,MS4.1,baz=337,slow=30						
URZ	**Urewera**	**31.41**	**289**	LR	LR	10 59 57.7	
	comp=Z,285nm,19.6s,MS4.0,baz=142,slow=31						
TBI	**Tubuai**	**33.37**	**351**	*eS*	**S**	**10 55 42.6**	**-10**
	96nm,27.8s						
TBI				*e*LR	LR	10 58 57.0	
	764nm,29.0s,baz=178						
TBI				*eT*		11 24 54.2	
	261nm,0.3s						
QSPA	**South Pole Qui**	**33.63**	**180**	P	**P**	**10 50 37.4**	**+3.4**
	4.0nm,0.7s,mb4.5,baz=78,slow=3.6,SNR=34						
QSPA				LR	LR	11 01 22.3	
	comp=Z,368nm,20.7s,MS4.1,baz=66,slow=31						
QSPA	**South Pole Qui**	**33.63**	**180**	*eP*	**P**	**10 50 36.3**	**+2.2**
	5.5nm,0.8s,mb4.5						
RKT	**Rikitea**	**34.03**	**15**	*e*LR	LR	10 59 18.2	
	797nm,34.0s						
RKT				*eT*		11 25 36.6	
	33nm,0.3s						
PPT	**Papeete**	**39.11**	**352**	*eS*	**S**	**10 57 10.2**	**-11**
	112nm,25.0s						
PPT				*e*LR	LR	11 01 32.9	
	800nm,28.2s,baz=182						
PPT				*eT*		11 31 56.8	
	21nm,0.3s						
PPT	**Papeete**	**39.11**	**352**	LR	LR	11 02 58.5	
	comp=Z,194nm,19.7s,MS3.9,baz=319,slow=30						
PMOR	**Pomariorio Ree**	**41.54**	**354**	*eT*		11 35 05.6	
	15nm,0.3s						
AFI	**Afiamalu**	**47.51**	**322**	LR	LR	11 06 46.5	
	comp=Z,148nm,19.6s,MS4.0,baz=118,slow=29						
TAOE	**Nuku Hiva Isla**	**47.65**	**5**	*e*LR	LR	11 05 36.2	
	553nm,28.9s						
VNA3	**Neumayer Olymp**	**48.54**	**162**	*e*	**P**	**10 52 33.8**	**-2.8**
VNA2	**Neumayer--Watz**	**49.20**	**163**	*e*	**P**	**10 52 39.1**	**-2.5**
	baz=209,slow=7.5						
SNAA	**Sanae**	**49.24**	**165**	*e*	**P**	**10 52 38.0**	**-4.0**
SNAA	**Sanae**	**49.24**	**165**	P	**P**	**10 52 42.0**	**0.0**
	2.3nm,0.6s,mb4.4,baz=221,slow=5.8,SNR=59						
SNAA	**Sanae**	**49.24**	**165**	*eP*	**P**	**10 52 37.2**	**-4.8**
	6.8nm,0.9s,mb4.7						
SNAA				*e*PcP	PcP	10 54 11.7	+7.0
VNA1	**Neumayer--Stat**	**49.29**	**162**	*e*	**P**	**10 52 40.2**	**-2.1**
DZM	**Mont Dzumac**	**49.82**	**293**	*e*LR	LR	11 06 57.5	
	289nm,24.1s						
MAW	**Mawson**	**54.58**	**192**	P	**P**	**10 53 24.4**	**+2.7**
	2.7nm,1.0s,mb4.2,baz=195,slow=11,SNR=4.0						
MAW				LR	LR	11 13 38.2	
	comp=Z,177nm,21.8s,MS4.1,baz=51,slow=33						
MAW	**Mawson**	**54.58**	**192**	P	**P**	**10 53 24.4**	**+2.7**
SYO	**Syowa Base**	**54.75**	**182**	⇑*eP*	**P**	**10 53 22.8**	**-0.1**
STKA	**Stephens Creek**	**55.59**	**263**	P	**P**	**10 53 29.9**	**+0.4**
	4.8nm,0.9s,mb4.5,baz=156,slow=12,SNR=4.4						
STKA				LR	LR	11 13 05.3	
	comp=Z,176nm,18.3s,MS4.2,baz=206,slow=32						
STKA	**Stephens Creek**	**55.59**	**263**	P	**P**	**10 53 29.9**	**+0.4**
CTA	**Charters Tower**	**62.26**	**275**	LR	LR	11 18 38.1	
	comp=Z,79nm,18.2s,MS3.9,baz=185,slow=34						
ASAR	**Alice Springs**	**66.22**	**263**	P	**P**	**10 54 42.0**	**0.0**
	4.2nm,0.9s,mb4.5,baz=140,slow=6.5,SNR=27						
ASAR				LR	LR	11 19 25.1	
	comp=Z,187nm,19.7s,MS4.3,baz=272,slow=32						
ASAR	**Alice Springs**	**66.22**	**263**	P	**P**	**10 54 42.0**	**0.0**
AS31	**Alice Springs**	**66.22**	**263**	*eP*	**P**	**10 54 41.6**	**-0.3**
CPUP	**Villa Florida**	**66.73**	**103**	P	**P**	**10 54 46.0**	**+0.9**
	0.4nm,0.4s,mb3.8,baz=192,slow=9.3,SNR=3.6						
CPUP	**Villa Florida**	**66.73**	**103**	P	**P**	**10 54 46.0**	**+0.9**
LPAZ	**La Paz**	**68.85**	**88**	P	**P**	**10 54 58.9**	**+0.3**
	2.2nm,1.2s,mb4.0,baz=214,slow=9.7,SNR=3.5						
LPAZ	**La Paz**	**68.85**	**88**	P	**P**	**10 54 58.9**	**+0.3**
WRA	**Warramunga Arr**	**68.97**	**266**	P	**P**	**10 54 59.2**	**-0.1**
	2.4nm,0.8s,mb4.2,baz=144,slow=5.7,SNR=26						
WRA				LR	LR	11 20 16.1	
	comp=Z,86nm,18.3s,MS4.0,baz=120,slow=32						
WRA	**Warramunga Arr**	**68.97**	**266**	P	**P**	**10 54 59.2**	**-0.1**
WRAB	**Tennant Creek**	**68.97**	**266**	*eP*	**P**	**10 54 58.5**	**-0.8**
	2.5nm,0.6s,mb4.3						
ROSC	**El Rosal**	**83.06**	**70**	LR	LR	11 26 40.4	
	comp=Z,56nm,20.5s,MS3.9,baz=12,slow=31						
BOSA	**Boshof**	**94.72**	**171**	LR	LR	11 34 09.7	
	comp=Z,145nm,19.3s,MS4.5,baz=171,slow=32						
ILAR	**Eielson Array**	**120.99**	**359**	PKP	PKPdf	11 02 46.4	+1.4
	1.6nm,1.0s,baz=206,

0.3nm,0.6s,mb3.1,baz=208,slow=5.1,SNR=2.6
PDAR Pinedale Array 87.47 43 P **P** **11 01 04.5 +1.5**
SNAA Sanae 90.00 178 *e* **P** **11 01 11.5 -2.8**
SNAA Sanae 90.00 178 P **P** **11 01 15.4 +1.1**
0.3nm,0.7s,mb3.2,baz=183,slow=6.6,SNR=13
SNAA Sanae 90.00 178 P **P** **11 01 15.4 +1.1**
VNA3 Neumayer Olymp 90.13 176 *e* **P** **11 01 13.8 -1.1**
VNA2 Neumayer--Watz 90.57 177 *e* **P** **11 01 16.1 -0.9**
baz=196,slow=4.4
CLL Collm 146.13 348 *e*PKPbc PKPbc 11 07 53.0 +0.4
GERES GERESS Array B 148.29 345 PKPbc PKPbc 11 07 59.0 +0.6
0.9nm,0.7s,baz=19,slow=4.5,SNR=4.5
GERES GERESS Array B 148.29 345 PKPbc PKPbc 11 07 59.0 +0.6

PGC 22 11:20:34.0±4.0, 48.99N×128.67W, h10km, ML2.9/5, Mw3.5,10D, 201km Wsw of Gold R., Bc Vancouver Island Region, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.31**	**26**	⇓Pn		Pn	11 20 55.9	-2.4
BPBC				⇓Sn		Sn	11 21 12.3	-3.4
EDB	**Eliza Dome**	**1.34**	**48**	⇑Pn		Pn	11 20 56.3	-2.4
EDB				⇓Sn		Sn	11 21 12.3	-4.4
MAYB	**Maynard**	**1.72**	**34**	⇑Pn		Pn	11 21 02.4	-1.5
MAYB				⇓Sn		Sn	11 21 22.3	-3.5
PHC	**Port Hardy**	**1.90**	**24**	⇓Pn		Pn	11 21 05.0	-1.3
PHC				⇓Sn		Sn	11 21 26.6	-3.8
CBB	**Campbell River**	**2.39**	**63**	⇓Pn		Pn	11 21 11.0	-2.2
CBB				⇓Sn		Sn	11 21 41.0	-1.5
BBB	**Bella Bella**	**3.22**	**6**	⇓Pn		Pn	11 21 23.9	-0.6
BBB				⇓Sn		Sn	11 21 59.4	-3.5

IDC 22 11:46:42.9±9.1, 5.11S×152.96E, h128km±62km, mb3.0/2, mb1 3.2/3, mb1mx3.0/18, mbtmp3.1/3, MS2.6/1, Ms1 2.6/1, ms1mx2.2/11, Error ellipse: s-maj=102.4km s-min=52.5km az=115.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.17**	**233**	P		Pn	11 48 24.2	-0.9
	1.0nm,0.3s,baz=40,slow=13,SNR=4.2							
PMG				S		Sn	11 49 47.1	+2.0
	1.7nm,0.3s,baz=249,slow=22,SNR=6.8							
HNR	**Honiara**	**8.15**	**122**	LR		LR	11 51 35.9	
	comp=Z,38nm,19.2s,baz=322,slow=36							
WRA	**Warramunga Arr**	**23.36**	**229**	P		P	11 51 40.2	+0.2
	0.7nm,0.5s,baz=55,slow=10,SNR=11							
ASAR	**Alice Springs**	**26.03**	**223**	P		P	11 52 04.2	0.0
	0.4nm,0.8s,baz=58,slow=9.1,SNR=5.4							
TORD	**Torodi Ar. Bea**	**150.56**	**288**	PKPbc		PKPbc	12 06 20.7	0.0
	0.2nm,0.4s,baz=63,slow=1.4,SNR=5.6							
TORD				PKPab		PKPab	12 06 26.9	-0.8
	0.2nm,0.4s,baz=63,slow=2.2,SNR=3.3							

MOS ***22*** *12:06:19.1±1.7, 55.71N×162.25E, h19km, mb4.5/1, Error ellipse: s-maj=16.4km s-min=9.2km az=76.1*
KRSC ***22*** *12:06:21.7±0.7, 55.68N×162.03E, h22km±21km, ML4.3*
IDC ***22*** *12:06:22.0±3.5, 55.73N×162.11E, h36km±30km, mb3.4/6, mb1 3.8/8, mb1mx3.4/27, mbtmp3.5/8, ML3.9/2, Error ellipse: s-maj=28.6km s-min=17.2km az=172.0*
NEIC ***22*** *12:06:22.1±1.8, 55.83N×162.09E, h35km±21km, Error ellipse: s-maj=29.2km s-min=11.7km az=162.0*

ISC 22 12:06:21.5±0.6, 55.70N±0.02×162.14E±0.04, h24km±5km, n63, σ0°93/101, mb3.6/6, 1C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.64**	**37**	*i* P		**Pb**	**12 06 34.3**	**+0.3**
KBTR				*e*S		**Sb**	**12 06 44.1**	**+1.6**
KBTR	**Krutoberegovo**	**0.64**	**37**	PN		**Pb**	**12 06 34.3**	**+0.3**
KBTR				S		**Sb**	**12 06 44.1**	**+1.6**
ZLN	**Zelenaya**	**0.81**	**293**	P		**Pb**	**12 06 36.9**	**-0.1**
ZLN				*i* S		**Sb**	**12 06 48.5**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**0.85**	**287**	*e*P		**Pb**	**12 06 37.1**	**-0.4**
BZGR				*i* S		**Sb**	**12 06 48.7**	**+0.3**
BZMR	**Bezymyannaya**	**0.96**	**285**	*e*P		**Pb**	**12 06 38.5**	**-0.9**
BZMR				*i* S		**Sb**	**12 06 51.2**	**-0.4**
SMKR	**Semkarok**	**0.96**	**337**	*i* P		**Pb**	**12 06 39.0**	**-0.4**
SMKR				*i* S		**Sb**	**12 06 52.2**	**+0.5**
BZWR	**Bezymyannyi-We**	**0.96**	**287**	*e*P		**Pb**	**12 06 38.5**	**-1.0**
BZWR				*i* S		**Sb**	**12 06 51.5**	**-0.2**
BDR	**Baidarnaya**	**1.01**	**330**	*i* P		**Pn**	**12 06 39.9**	**-0.2**
BDR				*i* S		**Sb**	**12 06 53.6**	**+0.4**
KRSR	**Krestovskiy**	**1.02**	**301**	*e*P		**Pn**	**12 06 39.6**	**-0.7**
KRSR				*i* S		**Sb**	**12 06 52.0**	**-1.5**
KLY	**Klyuchi**	**1.03**	**307**	*i* P		**Pn**	**12 06 38.5**	**-1.9**
KLY				*i* S		**Sb**	**12 06 51.3**	**-2.5**
KLY	**Klyuchi**	**1.03**	**307**	PN		**Pn**	**12 06 38.5**	**-1.9**
KLY				S		**Sb**	**12 06 51.3**	**-2.5**
KMNR	**Kamenistaya**	**1.07**	**274**	*i* P		**Pn**	**12 06 41.3**	**+0.3**
KMNR				*i* S		**Sb**	**12 06 55.8**	**+0.8**
SRKR	**Sorokina**	**1.10**	**331**	*i* P		**Pn**	**12 06 41.0**	**-0.3**
KPT	**Kopyto**	**1.11**	**285**	*i* P		**Pn**	**12 06 41.3**	**-0.2**
KPT				*i* S		**Sb**	**12 06 55.6**	**-0.4**
MKZ	**Mys Kozlova**	**1.17**	**192**	*i* P		**Pn**	**12 06 41.8**	**-0.5**
MKZ				*i* S		**Sb**	**12 06 56.7**	**-1.0**
MKZ	**Mys Kozlova**	**1.17**	**192**	PN		**Pn**	**12 06 41.8**	**-0.5**
MKZ				S		**Sb**	**12 06 56.7**	**-1.0**
TUMR	**Tumrok**	**1.21**	**251**	*i* P		**Pn**	**12 06 43.4**	**+0.6**
TUMR				*i* S		**Sn**	**12 06 58.5**	**+0.2**
KOZR	**Kozyr**	**1.31**	**287**	PN		**Pn**	**12 06 45.1**	**+0.8**
KOZR				S		**Sn**	**12 07 02.4**	**+1.4**
KOZ	**Kozyrevsk**	**1.32**	**287**	*i* P		**Pn**	**12 06 45.1**	**+0.7**
KOZ				*i* S		**Sn**	**12 07 02.4**	**+1.2**
SRDR	**Sredinnyy**	**1.49**	**295**	*i* P		**Pn**	**12 06 47.0**	**+0.3**
SRDR				*i* S		**Sn**	**12 07 05.7**	**+0.3**
ESO	**Esso**	**1.95**	**278**	*e*P		**Pn**	**12 06 52.9**	**-0.1**
ESO				*e*S		**Sn**	**12 07 16.0**	**-0.7**
ESO	**Esso**	**1.95**	**278**	PN		**Pn**	**12 06 52.9**	**-0.1**
ESO				S		**Sn**	**12 07 16.0**	**-0.7**
BKI	**Bering**	**2.24**	**101**	*e*P		**Pn**	**12 06 57.4**	**+0.4**
BKI				*i* S		**Sn**	**12 07 23.7**	**-0.2**
BKI	**Bering**	**2.24**	**101**	PN		**Pn**	**12 06 57.4**	**+0.4**
BKI				S		**Sn**	**12 07 23.7**	**-0.2**
KII	**Karymskiy**	**2.28**	**224**	*e*P		**Pn**	**12 06 58.3**	**+0.8**
KII				*e*S		**Sn**	**12 07 25.2**	**+0.4**
SPN	**Mys Shipunski**	**2.89**	**206**	*i* P		**Pn**	**12 07 05.3**	**-0.6**
SPN				*i* S		**Sn**	**12 07 37.8**	**-1.9**
SPN	**Mys Shipunski**	**2.89**	**206**	PN		**Pn**	**12 07 05.3**	**-0.6**
NLC	**Nalytchevo**	**3.01**	**214**	*i* P		**Pn**	**12 07 08.0**	**+0.4**
NLC				*i* S		**Sn**	**12 07 42.3**	**-0.6**
NLC	**Nalytchevo**	**3.01**	**214**	PN		**Pn**	**12 07 08.0**	**+0.4**
NLC				S		**Sn**	**12 07 42.3**	**-0.6**
SDLR	**Sedlovina**	**3.08**	**219**	*i* P		**Pn**	**12 07 09.4**	**+0.9**
SDLR				*i* S		**Sn**	**12 07 44.3**	**-0.2**
SMAR	**Somma**	**3.12**	**220**	*e*P		**Pn**	**12 07 10.1**	**+1.0**
SMAR				*e*S		**Sn**	**12 07 45.4**	**-0.2**
AVH	**Avacha**	**3.14**	**220**	*e*P		**Pn**	**12 07 10.7**	**+1.3**
AVH				*i* S		**Sn**	**12 07 46.3**	**+0.2**
GNL	**Ganaly**	**3.16**	**232**	*e*P		**Pn**	**12 07 10.9**	**+1.3**
UGLR	**Uglovaya**	**3.16**	**219**	*i* P		**Pn**	**12 07 10.7**	**+1.1**
UGLR				*e*S		**Sn**	**12 07 46.1**	**-0.3**
KOK	**Koryaka**	**3.16**	**222**	*e*P		**Pn**	**12 07 10.8**	**+1.2**
PET	**Petropavlovsk**	**3.37**	**219**	*e*P		**Pn**	**12 07 13.3**	**+0.8**
PET				*i* S		**Sn**	**12 07 51.1**	**-0.5**
PET	**Petropavlovsk**	**3.37**	**219**	*e*Pn		**Pn**	**12 07 13.2**	**+0.7**
PET				*e*Sn		**Sn**	**12 07 52.8**	**+1.1**
PET	**Petropavlovsk**	**3.37**	**219**	⇑ *i* PN		**Pn**	**12 07 13.4**	**+0.9**
PET				pmax	pmax			
	comp=Z,50nm,0.4s							
PET				MLR	MLR			
	comp=Z,100nm,19.0s							
PEA0B	**Petropavlovsk-**	**3.67**	**227**	*e*Pn		**Pn**	**12 07 17.7**	**+1.0**
PETK	**Petropavlovsk-**	**3.67**	**227**	Pn		**Pn**	**12 07 17.8**	**+1.2**
	comp=Z,3.9nm,0.3s,baz=65,slow=18,SNR=74							
PETK				Sn		**Sn**	**12 08 04.3**	**+5.2**
	comp=Z,2.3nm,0.3s,baz=69,slow=18,SNR=3.2							
PETK	**Petropavlovsk-**	**3.67**	**227**	Pn		**Pn**	**12 07 17.8**	**+1.2**
PETK				Sn		**Sn**	**12 08 04.3**	**+5.2**
PETK	**Petropavlovsk-**	**3.67**	**227**	PN		**Pn**	**12 07 17.8**	**+1.2**
PETK							12 08 04.3	
PETK				pmax	pmax			
	comp=Z,4.0nm,0.3s							
PETK				smax				
	comp=N,2.0nm,0.3s							
RUS	**Russkaya**	**3.91**	**215**	*i* P		**Pn**	**12 07 20.1**	**+0.2**
RUS				*i* S		**Sn**	**12 08 03.3**	**-1.6**
RUS	**Russkaya**	**3.91**	**215**	PN		**Pn**	**12 07 20.1**	**+0.2**
FX1	**Attu Island--F**	**7.05**	**109**	Pn		**Pn**	**12 08 02.7**	**-0.3**
	comp=N,10nm,0.3s,baz=42,slow=3.8,SNR=18							
FX1				Sn		**Sn**	**12 09 18.4**	**-3.8**
	comp=N,5.7nm,0.3s,baz=312,slow=24,SNR=6.7							
FX1	**Attu Island--F**	**7.05**	**109**	Pn		**Pn**	**12 08 02.7**	**-0.2**
FX1				Sn		**Sn**	**12 09 18.4**	**-3.8**
FX1	**Attu Island--F**	**7.05**	**109**	PN		**Pn**	**12 08 02.7**	**-0.3**
FX1				pmax	pmax			
	comp=Z,11nm,0.3s							
ILAR	**Eielson Array**	**26.16**	**49**	P		**P**	**12 11 51.2**	**-2.3**
	comp=Z,0.2nm,0.6s,mb2.8,baz=262,slow=7.9,SNR=5.9							
ILAR	**Eielson Array**	**26.16**	**49**	P		**P**	**12 11 51.2**	**-2.3**
ILAR	**Eielson Array**	**26.16**	**49**	P		**P**	**12 11 51.2**	**-2.2**
NVAR	**Mina Array Bea**	**53.79**	**73**	P		**P**	**12 15 42.4**	**+0.7**
	comp=Z,0.8nm,0.7s,mb3.8,baz=301,slow=8.3,SNR=5.9							
NVAR	**Mina Array Bea**	**53.79**	**73**	P		**P**	**12 15 42.4**	**+0.7**
PDAR	**Pinedale Array**	**55.25**	**64**	P		**P**	**12 15 52.2**	**0.0**
	comp=Z,0.6nm,0.8s,mb3.7,baz=35,slow=3.6,SNR=5.4							
PDAR	**Pinedale Array**	**55.25**	**64**	P		**P**	**12 15 52.2**	**0.0**
FINES	**FINESS Array B**	**58.19**	**337**	P		**P**	**12 16 10.3**	**-2.5**
	comp=Z,5.3nm,1.1s,mb4.5,baz=27,slow=6.8,SNR=4.0							
FINES	**FINESS Array B**	**58.19**	**337**	P		**P**	**12 16 10.3**	**-2.5**
FINES				pmax	pmax			
	comp=Z,5.0nm,1.1s							
TXAR	**Lajitas Array**	**68.56**	**69**	P		**P**	**12 17 21.5**	**-0.4**
	comp=Z,0.3nm,0.5s,mb3.4,baz=298,slow=4.8,SNR=7.0							
TXAR	**Lajitas Array**	**68.56**	**69**	P		**P**	**12 17 21.5**	**-0.4**
TXAR	**Lajitas Array**	**68.56**	**69**	P		**P**	**12 17 21.5**	**-0.4**
WRA	**Warramunga Arr**	**78.95**	**207**	P		**P**	**12 18 21.1**	**-1.6**
	comp=Z,0.3nm,0.8s,mb3.3,baz=23,slow=6.2,SNR=3.4							
WRA	**Warramunga Arr**	**78.95**	**207**	P		**P**	**12 18 21.1**	**-1.6**
WRA	**Warramunga Arr**	**78.95**	**207**	P		**P**	**12 18 21.1**	**-1.6**

DJA 22 12:12:39, 2.27S×99.68E, h10km, MLv3.5/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**1.11**	**328**	P		Pb	12 12 59.7	-0.6
SISI				S		Sg	12 13 22.2	+7.5
PDSI	**Padang**	**1.56**	**30**	P		Pn	12 13 06.8	0.0
PDSI				S		Sn	12 13 27.7	+0.6
KRJI	**Kerinci**	**1.79**	**84**	S		Sn	12 13 33.9	+1.1
PPI	**Padang Panjang**	**1.94**	**22**	P		Pn	12 13 12.6	+0.6
MNSI	**Mandailing Nat**	**3.05**	**358**	P		Pn	12 13 27.8	+0.5

NIED ***22*** *12:13:00, 36.00N×140.30E, h53km, Mw4.2 Best double couple: M₀2.45000×10¹⁵ NP1:φ₅229.00000°, δ74.00000°, λ-67.00000°. NP2:φ₅352.00000°, δ27.00000°, λ-144.00000°.*
BJI ***22*** *12:13:26.7, 35.74N×140.64E, h34km, mB5.0/18, mb4.5/28, Ms4.2/17, Ms7 4.3/14*
MOS ***22*** *12:13:30.3±1.6, 35.92N×140.28E, h33km, mb4.6/23, Error ellipse: s-maj=9.9km s-min=7.8km az=117.8*
ISCJB ***22*** *12:13:31.8±0.4, 35.96N±0.03×140.23E±0.03, h44km±3km, mb4.5/44, MS3.6/11, Error ellipse: s-maj=4.4km s-min=4.4km az=163.2*
NEIC ***22*** *12:13:32.3, 35.98N×140.23E, h41km, mb4.8/17, MW4.2(NIED), After JMA.*
NEIC Felt at Motegi, Narashino and Yokosuka. Recorded [3 JMA] in Ibaraki; [2 JMA] in Chiba, Gumma, Saitama and Tochigi; [1 JMA] in Fukushima, Kanagawa and Tokyo.
JMA ***22*** *12:13:32.3±0.1, 35.98N×140.23E, h41km±1km, M4.4*
JMA Felt III J1.
IDC ***22*** *12:13:32.4±2.4, 35.91N×140.16E, h37km±20km, mb4.1/21, mb1 4.3/24, mb1mx4.2/32, mbtmp4.2/24, ML4.4/3, MS3.4/11, Ms1 3.5/11, ms1mx3.2/35, Error ellipse: s-maj=13.9km s-min=11.7km az=87.0*

ISC 22 12:13:32.8±0.4, 35.96N±0.03×140.18E±0.03, h37km±3km, h36km±.8km; pP-P, n153, σ0°99/167, mb4.5/44, MS3.6/11, 3C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.27**	**2**	⇓P		**Pn**	**12 13 40.2**	**-0.3**
JYT				S		**Sn**	**12 13 45.6**	**-0.1**
JHO	**Hitachi**	**0.72**	**26**	⇓P		**Pn**	**12 13 45.1**	**-1.4**
JHO				S		**Sn**	**12 13 54.2**	**-2.1**
JAG	**Ashikaga**	**0.75**	**308**	⇓P		**Pn**	**12 13 46.5**	**-0.4**
JAG				S		**Sn**	**12 13 56.7**	**-0.3**
JRY	**Ryogami san**	**1.04**	**273**	⇑P		**Pn**	**12 13 50.9**	**0.0**
JRY				S		**Sn**	**12 14 03.9**	**-0.3**
JKT	**Katashina**	**1.10**	**317**	⇑P		**Pn**	**12 13 51.7**	**0.0**
JKT				S		**Sn**	**12 14 06.0**	**+0.3**
JOD2	**Odawara 2**	**1.13**	**232**	⇓P		**Pn**	**12 13 53.0**	**+0.8**
JOD2				S		**Sn**	**12 14 08.2**	**+1.7**
BSO3	**Boso 3**	**1.19**	**167**	P		**Pn**	**12 13 53.7**	**+0.8**
BSO3				S		**Sn**	**12 14 07.1**	**-0.7**
MJAR	**Matsushiro Arr**	**1.70**	**291**	Pn		**Pn**	**12 13 59.2**	**-0.7**
	71nm,0.3s,baz=92,slow=8.8,SNR=520							
MJAR				Sn		**Sn**	**12 14 20.3**	**-0.1**
	93nm,0.3s,baz=140,slow=15,SNR=18							
MJAR	**Matsushiro Arr**	**1.70**	**291**	Pn		**Pn**	**12 13 59.2**	**-0.8**
MJAR				Sn		**Sn**	**12 14 20.3**	**-0.1**
MJAR	**Matsushiro Arr**	**1.70**	**291**	P		**Pn**	**12 13 59.2**	**-0.7**
MJAR							12 14 20.3	
MJAR				pmax	pmax			
	comp=Z,71nm,0.3s							
MJAR				smax				
	comp=N,93nm,0.3s							
MAJO	**Matsushiro**	**1.70**	**291**	*e*Pn		**Pn**	**12 14 01.0**	**+1.1**
MAJO	**Matsushiro**	**1.70**	**291**	*e*P		**Pn**	**12 14 01.0**	**+1.1**
MAT	**Matsushiro**	**1.70**	**291**	P		**Pn**	**12 13 59.8**	**-0.1**
MAT				S		**Sn**	**12 14 22.2**	**+1.8**
JHJ	**Hachijo jima 2**	**2.85**	**187**	Pn		**Pn**	**12 14 15.7**	**-0.1**
	comp=N,166nm,0.3s,baz=319,slow=2.7,SNR=45							
JHJ				Sn		**Sn**	**12 14 48.9**	**-0.1**
	comp=N,123nm,0.3s,baz=91,slow=21,SNR=4.3							
ERM	**Erimo**	**6.47**	**20**	*e*Pn		**Pn**	**12 15 07.0**	**+1.5**
ERM	**Erimo**	**6.47**	**20**	⇑ *e*P		**Pn**	**12 15 05.8**	**+0.3**
JNU	**Nakatsue**	**8.18**	**252**	*e*Pn		**Pn**	**12 15 34.0**	**+4.9**
ASAJ	**Asahikawa**	**8.35**	**12**	Pn		**Pn**	**12 15 30.5**	**-0.8**
	comp=N,3.2nm,0.3s,baz=212,slow=8.6,SNR=22							
ASAJ				Sn		**Sn**	**12 17 03.5**	**-0.8**
	comp=N,0.6nm,0.3s,baz=240,slow=34,SNR=1.9							
ASAJ				LR	LR		12 18 53.8	
	comp=N,92nm,18.7s,baz=4.3,slow=38							
ASAJ	**Asahikawa**	**8.35**	**12**	Pn		**Pn**	**12 15 30.5**	**-0.8**
ASAJ				Sn		**Sn**	**12 17 03.5**	**-0.8**
ASAJ	**Asahikawa**	**8.35**	**12**	P		**Pn**	**12 15 30.5**	**-0.8**
ASAJ							12 17 03.5	
ASAJ				pmax	pmax			
	comp=Z,3.0nm,0.3s							
ASAJ				smax				
	comp=N,1.0nm,0.3s							
CBIJ	**Chichi jima**	**9.00**	**169**	Pn		**Pn**	**12 15 37.1**	**-3.2**
	comp=N,22nm,0.3s,baz=297,slow=13,SNR=10							
CBIJ				Sn		**Sn**	**12 17 15.2**	**-5.2**
	comp=N,6.9nm,0.3s,baz=266,slow=22,SNR=2.4							
CBIJ	**Chichi jima**	**9.00**	**169**	Pn		**Pn**	**12 15 37.1**	**-3.2**
CBIJ				Sn		**Sn**	**12 17 15.2**	**-5.2**
KSRS	**Korea Array**	**9.96**	**282**	Pn		**Pn**	**12 15 58.9**	**+5.6**
	comp=N,0.5nm,0.3s,baz=93,slow=14,SNR=16							
KSRS				LR	LR		12 19 43.7	
	comp=N,144nm,19.8s,baz=167,slow=37							
KSRS	**Korea Array**	**9.96**	**282**	P		**Pn**	**12 15 58.9**	**+5.6**
KSRS				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KSAR	**Wonju Array Be**	**9.99**	**282**	Pn		**Pn**	**12 15 58.9**	**+5.2**
KSAR	**Wonju Array Be**	**9.99**	**282**	P		**Pn**	**12 15 58.9**	**+5.2**
MDJ	**Mudanjiang**	**11.83**	**320**	P		**Pn**	**12 16 20.1**	**+1.2**
MDJ				S		**Sn**	**12 18 33.8**	**+4.3**
MDJ				pmax	pmax			
	comp=Z,9.0nm,1.3s							
MDJ				pmax	pmax			
	comp=Z,88nm,4.5s							
CN2	**Changchun**	**13.75**	**309**	*e*P		**Pn**	**12 16 48.5**	**+3.4**
CN2				*es*P			12 17 01.8	
CN2				*e*S		**Sn**	**12 19 21.5**	**+5.2**
CN2				pmax	pmax			
	comp=Z,10.0nm,1.0s							
CN2				pmax	pmax			
	comp=Z,200nm,4.0s							
CN2				LR	LR			
	comp=N,200nm,11.0s							
CN2				LR	LR			
	comp=E,200nm,11.0s							
CN2				LR	LR			
	comp=Z,200nm,12.0s							
NJ2	**Nanjing**	**18.10**	**264**	*e*P		**Pn**	**12 17 42.3**	**+0.9**
NJ2				pmax	pmax			
	comp=Z,20nm,0.6s							
BJI	**Beijing**	**19.34**	**289**	P		**Pn**	**12 17 55.1**	**-1.1**
BJI				S		**S**	**12 21 30.8**	**-0.9**
BJI				pmax	pmax			
	comp=Z,6.0nm,0.7s							
BJI				pmax	pmax			
	comp=Z,120nm,5.8s							
BJI				LR	LR			
	comp=N,150nm,15.9s							
BJI				LR	LR			
	comp=E,180nm,15.4s							
PETK	**Petropavlovsk-**	**21.11**	**30**	P		**P**	**12 18 14.7**	**+0.6**
	comp=E,4.4nm,0.7s,mb3.9,baz=202,slow=13,SNR=5.5							
PETK				LR	LR		12 25 19.5	
	comp=E,55nm,20.8s,MS2.9,baz=114,slow=33							
PETK	**Petropavlovsk-**	**21.11**	**30**	P		**P**	**12 18 14.7**	**+0.6**
PETK	**Petropavlovsk-**	**21.11**	**30**	P		**P**	**12 18 14.7**	**+0.7**
PETK				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb3.9							
WHN	**Wuhan**	**22.24**	**263**	P		**P**	**12 18 24.6**	**-1.7**
HHC	**Hu-ho-hao-te**	**22.90**	**291**	*e*P		**P**	**12 18 32.1**	**-1.2**
HHC				PP			12 19 02.1	
HHC				PcP	PcP		12 22 24.3	+1.4
HHC				S		**S**	**12 22 35.0**	**-5.5**
HHC				pmax	pmax			
	comp=Z,13nm,1.0s,mb4.3							
HHC				pmax	pmax			
	comp=Z,44nm,5.9s							
HHC				LR	LR			
	comp=N,150nm,14.3s,MS3.8							
HHC				LR	LR			
	comp=E,230nm,14.3s,MS3.8							
HHC				LR	LR			
	comp=E,120nm,14.3s,MS3.5							
ENH	**Enshi**	**26.26**	**266**	*e*P		**P**	**12 19 03.5**	**-1.2**
	comp=Z,11nm,0.8s,mb4.5							
SONM	**Songino Array**	**27.59**	**306**	P		**P**	**12 19 16.0**	**-0.4**
	comp=Z,2.3nm,0.7s,mb3.9,baz=115,slow=9.0,SNR=8.0							
SONM				LR	LR		12 29 14.7	
	comp=Z,84nm,20.3s,MS3.3,baz=53,slow=34							
SONM	**Songino Array**	**27.59**	**306**	P		**P**	**12 19 15.9**	**-0.4**
SONM	**Songino Array**	**27.59**	**306**	P		**P**	**12 19 16.0**	**-0.3**
SONM				pmax	pmax			
	comp=Z,2.0nm,0.7s							
GYA	**Guiyang**	**30.07**	**261**	P		**P**	**12 19 40.0**	**+1.4**
GYA				pP	pP		12 19 49.8	+0.8
GYA				sP	sP		12 19 56.3	+2.9
GYA				PP	PP		12 20 38.4	-8.4
GYA				S		**S**	**12 24 33.3**	**-1.4**
GYA				pmax	pmax			
	comp=Z,20nm,0.8s,mb4.9							
GYA				pmax	pmax			
	comp=Z,110nm,4.6s							
GYA				LR	LR			
	comp=N,580nm,16.5s,MS4.4							
GYA				LR	LR			
	comp=E,470nm,17.7s,MS4.4							
GYA				LR	LR			
	comp=Z,540nm,16.9s,MS4.3							
ZAK	**Zakamensk**	**30.18**	**310**	*e*P		**P**	**12 19 39.4**	**+0.1**
CD2	**Chengdu**	**30.69**	**271**	P		**P**	**12 19 45.0**	**+0.9**
CD2				pP	pP		12 19 54.5	0.0
CD2				PP	PP		12 20 45.8	-7.9
CD2				S		**S**	**12 24 43.6**	**-0.8**
CD2				SS	SS		12 26 26.0	-30
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s,mb4.9							
CD2				pmax	pmax			
	comp=Z,160nm,5.7s							
CD2				LR	LR			
	comp=N,360nm,5.4s							
CD2				LR	LR			
	comp=Z,230nm,5.9s							
QIZ	**Qiongzhong**	**31.59**	**246**	P		**P**	**12 19 48.9**	**-3.1**
QIZ				S		**S**	**12 24 56.3**	**-2.2**
QIZ				LR	LR			
	comp=Z,470nm,4.7s							
GTA	**Gaotai**	**31.95**	**288**	*e*P		**P**	**12 19 56.3**	**+1.2**
GTA				pP	pP		12 20 06.4	+0.9
GTA				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.2							
KMI	**Kunming**	**33.82**	**262**	P		**P**	**12 20 13.1**	**+1.5**
KMI				S		**S**	**12 25 32.8**	**-0.4**
KMI				pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.5							
CMAR	**Chiang Mai Arr**	**40.27**	**255**	P		**P**	**12 21 06.6**	**+0.2**
	comp=Z,0.5nm,0.5s,mb3.5,baz=43,slow=7.0,SNR=5.1							
CMAR				LR	LR		12 39 09.3	
	comp=Z,27nm,18.1s,MS3.1,baz=90,slow=38							
CMAR	**Chiang Mai Arr**	**40.27**	**255**	P		**P**	**12 21 06.6**	**+0.2**
CMAR	**Chiang Mai Arr**	**40.27**	**255**	P		**P**	**12 21 06.6**	**+0.2**
WMQ	**Urumqi**	**40.45**	**298

comp=Z,9.2nm,0.7s,mb4.8,baz=268,slow=5.9,SNR=136
ILAR Eielson Array 50.93 32 P **P** 12 22 30.2 +0.2
ILAR Eielson Array 50.93 32 P **P** 12 22 30.3 +0.3
ILAR pmax pmax
comp=Z,9.0nm,0.7s
KKAR Karatay Array 52.81 300 *e*P **P** 12 22 44.7 +0.3
KKAR Karatay Array 52.81 300 *e*P **P** 12 22 44.7 +0.3
EGAK Eagle 53.37 32 *e*P **P** 12 22 48.6 +0.4
comp=Z,118nm,2.6s,mb5.4
SVE Sverdlovsk 55.30 319 *e*P **P** 12 23 06.8 +4.5
SVE pmax pmax
comp=Z,11nm,1.2s,mb4.8
WRAB Tennant Creek 55.86 187 *e*P **P** 12 23 05.7 -1.0
comp=Z,12nm,1.0s,mb4.9
WRAB Tennant Creek 55.86 187 *e*P **P** 12 23 05.7 -1.0
WRAB pmax pmax
comp=Z,12nm,1.0s,mb4.9
WB2 Warramunga Arr 55.87 187 *e*P **P** 12 23 06.1 -0.6
WRA Warramunga Arr 55.87 187 P **P** 12 23 05.3 -1.5
comp=Z,5.8nm,0.7s,mb4.7,baz=2.5,slow=7.6,SNR=71
WRA Warramunga Arr 55.87 187 P **P** 12 23 05.3 -1.5
WRA Warramunga Arr 55.87 187 P **P** 12 23 05.3 -1.5
WRA pmax pmax
comp=Z,6.0nm,0.7s
AB31 Akbulak array 57.87 310 *i* P **P** 12 23 20.2 -0.5
AB31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
ABKAR Akbulak array 57.87 310 *e*P **P** 12 23 20.1 -0.6
AKTO Aktyubinsk 58.66 312 P **P** 12 23 26.2 0.0
comp=Z,1.6nm,0.3s,mb4.5,baz=86,slow=8.5,SNR=9.2
AKTO Aktyubinsk 58.66 312 P **P** 12 23 26.2 0.0
AKTO Aktyubinsk 58.66 312 P **P** 12 23 26.2 0.0
AKTO pmax pmax
comp=Z,2.0nm,0.3s,mb4.6
ASAR Alice Springs 59.60 187 P **P** 12 23 32.0 -0.8
comp=Z,1.6nm,0.7s,mb4.2,baz=15,slow=11,SNR=17
ASAR LR LR 12 46 01.0
comp=Z,42nm,19.1s,MS3.6,baz=357,slow=33
ASAR Alice Springs 59.60 187 P **P** 12 23 32.0 -0.8
ASAR Alice Springs 59.60 187 P **P** 12 23 32.1 -0.8
ASAR pmax pmax
comp=Z,2.0nm,0.7s
RES Resolute Bay 63.88 14 P **P** 12 23 59.3 -1.9
comp=Z,2.2nm,0.7s,mb4.3,baz=313,slow=3.6,SNR=4.3
RES Resolute Bay 63.88 14 P **P** 12 23 59.3 -1.8
RES Resolute Bay 63.88 14 P **P** 12 23 59.3 -1.9
RES pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
YKA Yellowknife Ar 65.23 30 P **P** 12 24 09.6 -0.5
comp=Z,3.7nm,0.9s,mb4.4,baz=308,slow=7.5,SNR=4.6
YKA Yellowknife Ar 65.23 30 P **P** 12 24 09.6 -0.5
YKA Yellowknife Ar 65.23 30 P **P** 12 24 09.6 -0.5
YKA pmax pmax
comp=Z,4.0nm,0.9s
STKA Stephens Creek 67.50 179 P **P** 12 24 23.9 -1.0
comp=Z,2.2nm,0.7s,mb4.3,baz=352,slow=12,SNR=3.7
STKA Stephens Creek 67.50 179 P **P** 12 24 23.9 -1.0
STKA Stephens Creek 67.50 179 P **P** 12 24 23.9 -1.0
STKA pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 69.30 332 P **P** 12 24 34.8 -1.1
comp=Z,2.7nm,0.9s,mb4.2,baz=46,slow=5.5,SNR=4.8
FINES FINESS Array B 69.30 332 P **P** 12 24 34.8 -1.1
FINES FINESS Array B 69.30 332 P **P** 12 24 34.8 -1.1
FINES pmax pmax
comp=Z,3.0nm,0.9s
SLMT Seeley Lake 74.18 43 *e*P **P** 12 25 06.1 +0.6
comp=Z,4.8nm,0.9s,mb4.4
AKASG Malin Array Be 74.53 322 P **P** 12 25 06.3 -1.2
comp=Z,1.3nm,0.6s,mb4.1,baz=49,slow=6.0,SNR=6.1
AKASG Malin Array Be 74.53 322 P **P** 12 25 06.3 -1.2
AKASG Malin Array Be 74.53 322 P **P** 12 25 06.3 -1.2
AKASG pmax pmax
comp=Z,1.0nm,0.6s
NB2 NORSAR Subarra 74.79 337 P **P** 12 25 08.3 -0.5
comp=Z,18nm,1.7s,mb4.7,baz=39,slow=6.2
NOA NORSAR Array B 74.79 337 P **P** 12 25 08.6 -0.2
comp=Z,1.9nm,0.7s,mb4.1,baz=39,slow=5.8,SNR=6.1
NOA LR LR 13 03 51.6
comp=Z,46nm,19.5s,MS3.8,baz=275,slow=40
NOA NORSAR Array B 74.79 337 P **P** 12 25 08.6 -0.2
NOA NORSAR Array B 74.79 337 P **P** 12 25 08.6 -0.2
NOA pmax pmax
comp=Z,2.0nm,0.7s
LRM Limekiln Ridge 75.61 44 *e*P **P** 12 25 14.3 +0.5
DLMT Dillon 75.80 44 *e*P **P** 12 25 15.5 +0.6
comp=Z,90nm,2.6s,mb5.2
NVAR Mina Array Bea 76.43 52 P **P** 12 25 19.7 +1.1
comp=Z,2.6nm,0.7s,mb4.3,baz=291,slow=5.8,SNR=21
NVAR Mina Array Bea 76.43 52 P **P** 12 25 19.7 +1.1
IMW Indian Meadow 77.63 44 *e*P **P** 12 25 27.4 +2.2
comp=Z,24nm,2.0s,mb4.8
HWUT Hardware Ranch 78.69 47 *e*P **P** 12 25 31.4 +0.2
comp=Z,27nm,2.1s,mb4.8
DUG Dugway 78.81 48 *e*P **P** 12 25 32.8 +0.9
comp=Z,4.0nm,0.8s,mb4.4
DUG Dugway 78.81 48 *e*P **P** 12 25 32.8 +1.0
DUG pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
PDAR Pinedale Array 79.12 45 P **P** 12 25 33.9 +0.3
comp=Z,1.5nm,0.6s,mb4.1,baz=272,slow=2.3,SNR=14
PDAR Pinedale Array 79.12 45 P **P** 12 25 33.9 +0.3
MPU Maple Canyon 79.63 48 *e*P **P** 12 25 37.6 +1.3
comp=Z,14nm,1.5s,mb4.7
SRU San Rafael 80.86 48 *e*P **P** 12 25 43.6 +0.6
comp=Z,4.9nm,0.7s,mb4.5
SRU San Rafael 80.86 48 *e*P **P** 12 25 43.6 +0.6
SRU pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
CLL Collm 81.53 330 *e*P **P** 12 25 51.0 +4.7
CLL Collm 81.53 330 *e*P **P** 12 25 45.0 -1.3
CLL *e*PcP PcP 12 25 51.0 -1.2
PV04 Paradox Valley 82.30 48 *e*P **P** 12 25 51.7 +1.1
GERES GERESS Array B 83.09 328 LR LR 13 08 25.1
comp=Z,72nm,18.8s,MS4.1,baz=277,slow=40
PMOR Pomariorio Ree 84.67 113 *e*T 13 59 28.7
comp=Z,1.7nm,0.2s
TUC Tucson 85.01 53 *e*P **P** 12 26 05.0 +0.4
TUC Tucson 85.01 53 *e*P **P** 12 26 05.0 +0.4
PPT Papeete 85.05 116 *e*LR LR 12 53 00.9
comp=Z,94nm,29.5s
PPT Papeete 85.05 116 LR LR 12 59 33.1
comp=Z,71nm,20.4s,MS4.0,baz=7.5,slow=32
ANMO Albuquerque 86.03 49 P **P** 12 26 10.8 +1.1
comp=Z,1.7nm,0.6s,mb4.5,baz=308,slow=5.0,SNR=8.9
ANMO Albuquerque 86.03 49 *e*P **P** 12 26 10.7 +1.1
comp=Z,61nm,3.0s
ANMO Albuquerque 86.03 49 *e*P **P** 12 26 10.7 +1.1
ANMO pmax pmax
comp=Z,61nm,3.0s
TBI Tubuai 88.84 120 *e*LR LR 12 54 46.5
comp=Z,42nm,26.2s
TBI *e*T 14 04 40.7
comp=Z,1.7nm,0.3s
TXAR Lajitas Array 91.56 52 P **P** 12 26 36.4 +0.4
comp=Z,1.4nm,0.6s,mb4.5,baz=299,slow=3.0,SNR=22
TXAR Lajitas Array 91.56 52 P **P** 12 26 36.4 +0.4
TXAR Lajitas Array 91.56 52 P **P** 12 26 36.4 +0.4
TXAR pmax pmax
comp=Z,1.0nm,0.6s
VNA2 Neumayer--Watz 141.01 196 *e* PKPdf 12 32 53.1 -4.8
baz=47,slow=1.3
VNA3 Neumayer Olymp 141.28 195 *e* PKPdf 12 32 57.6 -0.8
LPAZ La Paz 148.09 60 PKPbc PKPbc 12 33 13.4 -1.6
comp=Z,2.3nm,0.9s,baz=23,slow=10,SNR=8.3
LPAZ La Paz 148.09 60 PKPbc PKPbc 12 33 13.4 -1.6

JMA 22 12:14:44.3±0.2, 35.98N×140.23E, h39km±2km, M2.3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.25**	**353**	P	Pn	12 14 51.9	-0.1
JYT				*e*S	Sn	12 14 57.2	0.0

MAN 22 12:15:30, 16.16N×119.64E, h22km, mb4.3, ML3.2, MS3.0, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.34**	**50**	*e*P	Pb	12 15 40.4	+2.8
SCZP	**Santa Cruz**	**0.46**	**146**	*e*P	Pb	12 15 41.5	+2.1
BCPH	**Baguio City Da**	**0.93**	**76**	*i*P	Pb	12 15 47.6	+0.2
BALP	**Baler**	**1.91**	**102**	*e*P	Pn	12 16 02.5	+1.3
CAUP	**Cauayan**	**2.23**	**69**	*e*P	Pn	12 16 08.9	+3.2
APYP	**Conner**	**2.29**	**42**	*e*P	Pn	12 16 07.1	+0.7

DJA 22 12:54:03, 1.09N×124.07E, h10km, MLv3.7/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.52**	**190**	P	Pg	12 54 14.4	+1.3
KMSI				S	Sg	12 54 19.9	-0.1
MRSI	**Marisa**	**2.21**	**254**	P	Pn	12 54 38.6	-1.2
LUWI	**Luwuk**	**2.48**	**212**	P	Pn	12 54 45.5	+2.0
LUWI				S	Sn	12 55 17.3	+3.4

IDC 22 12:58:13.8±1.9, 1.43N×127.26E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/20, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=111.7km s-min=22.7km az=69.0
DJA 22 12:58:34, 0.81N×126.79E, h10km, MLv3.5/3
ISC 22 12:58:26.4±2.2, 1.4N±0.2×127.5E±0.5, h118km±14km, n8, σ1s42/8, mb3.6/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.63**	**194**	P	**Pn**	**12 58 44.5**	**-0.5**
LBMI	**Labuha**	**2.01**	**180**	P	**Pn**	**12 59 00.3**	**+0.4**
LBMI				S	**Sn**	**12 59 26.3**	**+0.8**
SGSI	**Sangihe**	**3.03**	**319**	P	Px	12 59 25.3	
NLAI	**Namlea**	**4.61**	**185**	P	**Pn**	**12 59 33.7**	**-0.4**
FITZ	**Fitzroy Crossi**	**19.45**	**185**	P	**P**	**13 02 42.8**	**-1.1**
	0.2nm,0.3s,baz=14,slow=11,SNR=4.6						
WRA	**Warramunga Arr**	**22.23**	**163**	P	**P**	**13 03 12.2**	**-1.4**
	1.2nm,0.3s,mb3.7,baz=340,slow=11,SNR=26						
ASAR	**Alice Springs**	**25.66**	**166**	P	**P**	**13 03 47.4**	**+2.0**
	0.6nm,0.4s,mb3.4,baz=347,slow=12,SNR=16						
MKAR	**Makanchi Array**	**59.92**	**326**	P	**P**	**13 08 20.4**	**+0.5**
	0.5nm,0.5s,mb3.8,baz=109,slow=7.8,SNR=10						

ISCJB 22 13:00:22.7±0.5, 67.06N±0.02×21.07E±0.08, h0km, Error ellipse: s-maj=4.7km s-min=3.2km az=161.6
UPP 22 13:00:23.3, 67.09N×20.89E, h0km, ML2.1, Mining explosion.
CSEM 22 13:00:23.5±0.3, 67.09N×20.95E, h2km, ML1.8, Error ellipse: s-maj=6.5km s-min=5.5km az=65.0, Mining explosion.
IDC 22 13:00:24.4±0.9, 67.17N×21.41E, h0km, mb1 3.1/4, mb1mx3.0/26, mbtmp3.1/4, ML2.4/4, Error ellipse: s-maj=16.7km s-min=6.8km az=111.0
HEL 22 13:00:24.1±0.2, 67.10N×20.77E, h0km, ML1.8, ML2.1(UPP), Explosion
ISC 22 13:00:24.0±0.5, 67.10N±0.02×21.02E±0.08, h0km, n31, σ1s09/45, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.90**	**343**	*i* P	**Pg**	**13 00 39.9**	**-1.3**
KUA				*i* S	**Sg**	**13 00 55.8**	**+3.0**
SALU	**Saltoluokta**	**1.02**	**287**	*e*P	**Pg**	**13 00 41.4**	**-2.1**
SALU	**Saltoluokta**	**1.02**	**287**	P	**Pg**	**13 00 41.4**	**-2.0**
LANU	**Lannavaara**	**1.02**	**21**	*e*P	**Pg**	**13 00 42.1**	**-1.5**
LANU				*e*SB	**Sb**	**13 00 58.5**	**-0.1**
LANU	**Lannavaara**	**1.02**	**21**	P	**Pg**	**13 00 42.5**	**-1.1**
LANU				Sb	**Sb**	**13 00 58.5**	**-0.1**
KALU	**Kalix**	**1.56**	**142**	*e*P	**Pn**	**13 00 52.7**	**-0.2**
KALU	**Kalix**	**1.56**	**142**	P	**Pn**	**13 00 52.6**	**-0.3**
HEF	**Hetta**	**1.66**	**36**	*e*P	**Pn**	**13 00 53.3**	**-0.9**
HEF				*e*SN	**Sn**	**13 01 18.3**	**+2.1**
HEF				MSG		13 01 18.3	
	comp=Z,5.6nm,0.2s						
HEF	**Hetta**	**1.66**	**36**	P	**Pn**	**13 00 53.3**	**-0.9**
KIF	**Kilpisjarvi**	**1.92**	**358**	*e*P	**Pn**	**13 00 58.3**	**+0.4**
KIF				*e*SG	**Sg**	**13 01 26.3**	**+0.8**
KIF				MSG		13 01 26.3	
	comp=Z,13nm,0.4s						
KIF	**Kilpisjarvi**	**1.92**	**358**	P	**Pn**	**13 00 58.2**	**+0.4**
KIF				Sg	**Sg**	**13 01 26.3**	**+0.8**
	comp=Z,13nm,0.4s						
RNF	**Rovaniemi**	**2.04**	**102**	*e*P	**Pn**	**13 00 59.9**	**+0.5**
	baz=280						
RNF				MSG		13 01 29.5	
	comp=Z,8.4nm,0.2s						
RNF				*e*SG	**Sg**	**13 01 29.5**	**+0.2**
RNF	**Rovaniemi**	**2.04**	**102**	P	**Pn**	**13 00 59.9**	**+0.5**
RNF				Sg	**Sg**	**13 01 29.5**	**+0.2**
BURU	**Burvik**	**2.53**	**176**	*e*P	**Pn**	**13 01 05.8**	**-0.5**
BURU	**Burvik**	**2.53**	**176**	P	**Pn**	**13 01 05.7**	**-0.6**
SVAU	**Svanoeiden**	**2.68**	**193**	*e*P	**Pn**	**13 01 07.9**	**-0.4**
SVAU	**Svanoeiden**	**2.68**	**193**	P	**Pn**	**13 01 07.9**	**-0.4**
OUL	**Oulu**	**2.83**	**133**	*e*PB	**Pb**	**13 01 15.1**	**-0.3**
OUL				MSG		13 01 53.9	
	comp=Z,1.9nm,0.2s						
OUL				*e*SG	**Sg**	**13 01 53.9**	**-1.1**
ARA0	**ARCESS Array S**	**2.96**	**32**	*e*P	**Pn**	**13 01 11.6**	**-0.6**
	baz=210						
ARA0				*e*SG	**Sb**	**13 01 53.5**	**-0.7**
ARA0				MSG		13 01 53.5	
	comp=Z,2.2nm,0.2s						
ARA0				*e*SB	**Sb**	**13 01 53.5**	**-0.7**
ARA0				MSG		13 01 53.5	
	comp=Z,2.2nm,0.2s						
ARA0	**ARCESS Array S**	**2.96**	**32**	P	**Pn**	**13 01 11.6**	**-0.6**
ARCES	**ARCESS Array B**	**2.96**	**32**	Pn	**Pn**	**13 01 11.9**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=212,slow=14,SNR=1.6						
ARCES				Pg	**Pg**	**13 01 14.5**	**-6.2**
	comp=Z,0.5nm,0.3s,baz=211,slow=14,SNR=51						
ARCES				Lg		13 01 51.6	
	comp=Z,0.9nm,0.3s,baz=210,slow=24,SNR=9.3						
VRF	**Varrio**	**3.38**	**75**	*e*P	**Pn**	**13 01 20.9**	**+3.0**
VRF				MSG		13 02 10.9	
	comp=Z,1.7nm,0.4s						
VRF				*e*SG	**Sg**	**13 02 10.9**	**-1.5**
MSF	**Maaselka**	**3.43**	**107**	*e*SG	**Sg**	**13 02 13.3**	**-0.7**
MSF				MSG		13 02 13.3	
	comp=Z,0.8nm,0.4s						
MSF	**Maaselka**	**3.43**	**107**	Sg	**Sg**	**13 02 13.3**	**-0.7**
	comp=Z,0.8nm,0.4s						
KEV	**Kevo**	**3.47**	**37**	*e*P	**Pn**	**13 01 20.4**	**+1.3**
KEV	**Kevo**	**3.47**	**37**	P	**Pn**	**13 01 20.4**	**+1.3**
KU6	**Riekki**	**3.71**	**103**	*e*SG	**Sg**	**13 02 23.7**	**+0.8**
KU6				MSG		13 02 23.7	
	comp=Z,1.4nm,0.4s						
KU6	**Riekki**	**3.71**	**103**	Sg	**Sg**	**13 02 23.7**	**+0.8**
	comp=Z,1.4nm,0.4s						
FINES	**FINESS Array B**	**6.09**	**156**	Pn	**Pn**	**13 01 56.0**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=343,slow=12,SNR=4.2						
FINES				Sn	**Sn**	**13 03 07.0**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=350,slow=24,SNR=6.0						
FINES				Lg		13 03 34.7	
	comp=Z,0.2nm,0.3s,baz=334,slow=22,SNR=2.6						
NOA	**NORSAR Array B**	**7.44**	**220**	Pn	**Pn**	**13 02 14.2**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=94,slow=6.2,SNR=2.5						
HFS	**Hagfors**	**7.71**	**208**	Pn	**Pn**	**13 02 17.7**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=24,slow=13,SNR=11						

IDC 22 13:26:25.1±2.5, 22.04N×92.26E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.2/25, mbtmp3.2/4, ML3.3/1, MS2.6/1, Ms1 2.6/1, ms1mx2.2/27, Error ellipse: s-maj=133.1km s-min=26.9km az=57.0, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.53**	**354**	*e*PN	Pn	13 27 27.5	+6.2
SHL				*e*SN	Sn	13 28 00.5	-3.2
CMAR	**Chiang Mai Arr**	**7.21**	**118**	Pn	Pn	13 28 11.4	-0.4
	0.1nm,0.3s,baz=310,slow=13,SNR=3.6						
MKAR	**Makanchi Array**	**25.99**	**344**	P	P	13 31 59.6	+0.1
	0.3nm,0.6s,baz=150,slow=8.6,SNR=5.2						
KSRS	**Korea Array**	**34.33**	**55**	LR	LR	13 46 51.4	
	comp=Z,9.6nm,21.1s,baz=60,slow=36						
WRA	**Warramunga Arr**	**58.57**	**132**	P	P	13 36 23.1	-0.9
	0.4nm,0.3s,baz=306,slow=5.2,SNR=5.7						
ASAR	**Alice Springs**	**60.86**	**136**	P	P	13 36 40.7	+1.1
	0.2nm,0.6s,baz=320,slow=6.5,SNR=5.3						

IDC 22 13:38:59.5±2.0, 2.79S×100.81E, h0km, mb3.7/10, mb1 3.8/10, mb1mx3.7/25, mbtmp3.7/10, MS3.6/7, Ms1 3.6/7, ms1mx3.2/30, Error ellipse: s-maj=97.0km s-min=14.8km az=56.0

ISCJB 22 13:39:03.9±0.8, 2.88S±0.05×100.42E±0.06, h48km±8km, mb4.2/19, MS3.6/7, Error ellipse: s-maj=11.9km s-min=4.6km az=140.2
DJA 22 13:39:03, 2.82S×100.43E, h14km, MLv4.3/12
NEIC 22 13:39:09.0±5.2, 2.76S×100.83E, h80km±39km, mb4.5/7, Error ellipse: s-maj=81.6km s-min=11.3km az=54.0
ISC 22 13:39:05.3±0.8, 2.87S±0.05×100.41E±0.06, h40km±7km, n53, σ1s23/57, mb4.2/19, MS3.6/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRJI	**Kerinci**	**1.30**	**54**	P	**Pn**	**13 39 24.2**	**-2.9**
KRJI				S	**Sn**	**13 39 42.4**	**-0.9**
PDSI	**Padang**	**1.94**	**2**	P	**Pn**	**13 39 33.2**	**-2.7**
PDSI				S	**Sn**	**13 40 00.7**	**+1.7**
SISI	**Saibi**	**2.02**	**319**	P	**Pn**	**13 39 36.4**	**-0.5**
SISI				S	**Sn**	**13 40 02.2**	**+1.3**
SDSI	**Sungai Dareh**	**2.17**	**28**	S	**Sn**	**13 40 04.9**	**+0.1**
KSI	**Kapahiang**	**2.32**	**110**	P	**Pn**	**13 39 42.9**	**+1.9**
KSI				S	**Sn**	**13 40 11.2**	**+2.9**
PPI	**Padang Panjang**	**2.39**	**360**	P	**Pn**	**13 39 41.0**	**-1.1**
MNAI	**Manna**	**2.94**	**120**	P	**Pn**	**13 39 50.2**	**+0.6**
MNAI				S	**Sn**	**13 40 24.1**	**+0.3**
BKNI	**Bangkinang**	**3.23**	**11**	P	Px	13 40 06.8	
BKNI				S	**Sn**	**13 40 42.1**	**+11**
MNSI	**Mandailing Nat**	**3.73**	**347**	P	**Pn**	**13 39 59.3**	**-1.2**
MDSI	**Maura Dua**	**4.09**	**113**	P	**Pn**	**13 40 05.3**	**-0.1**
MDSI				S	**Sn**	**13 40 53.7**	**+1.6**
LWLI	**Liwa**	**4.22**	**121**	P	**Pn**	**13 40 07.0**	**-0.2**
LWLI				S	**Sn**	**13 40 55.3**	**0.0**
MYKOM	**Kota Tinggi**	**5.76**	**37**	P	**Pn**	**13 40 29.1**	**+0.7**
PPBI	**Pangkal Pinang**	**5.77**	**83**	P	**Pn**	**13 40 27.4**	**-1.0**
	0.2nm1μm9.9nm,1.2s						
PSI	**Prapat**	**5.82**	**345**	P	**Pn**	**13 40 27.1**	**-2.1**
	0.1nm22nm,1.0s						
RBSI	**Rajabasa**	**6.08**	**119**	P	**Pn**	**13 40 32.9**	**+0.1**
CGJI	**Cibinong**	**6.45**	**125**	P	**Pn**	**13 40 34.6**	**-3.2**
IPM	**Ipoh**	**7.32**	**5**	*e*Pn	**Pn**	**13 40 57.3**	**+7.5**
	9.0nm,0.6s						
KULM	**Kulim**	**8.11**	**2**	Pn	**Pn**	**13 41 02.9**	**+2.3**
CMAR	**Chiang Mai Arr**	**21.24**	**356**	P	**P**	**13 43 47.1**	**-1.0**
	0.6nm,0.6s,mb3.1,baz=185,slow=9.5,SNR=5.0						
CMAR				LR	LR	13 52 58.3	
	comp=Z,98nm,18.3s,MS3.2,baz=185,slow=40						
CMAR	**Chiang Mai Arr**	**21.24**	**356**	P	**P**	**13 43 47.1**	**-1.0**
FITZ	**Fitzroy Crossi**	**29.00**	**123**	P	**P**	**13 44 56.7**	**-4.9**
	1.3nm,0.7s,mb3.7,baz=257,slow=6.3,SNR=2.4						
FITZ				LR	LR	13 55 58.8	
	comp=Z,87nm,19.2s,MS3.4,baz=310,slow=36						
FITZ	**Fitzroy Crossi**	**29.00**	**123**	P	**P**	**13 44 56.7**	**-4.9**
RAMN	**Ramite**	**32.50**	**337**	*e*P	**P**	**13 45 34.3**	**+1.9**
JIRN	**Jiri**	**33.30**	**337**	*e*P	**P**	**13 45 40.8**	**+1.5**
	6.3nm,0.6s,mb4.7						
LSA	**Lhasa**	**33.57**	**345**	P	**P**	**13 45 41.9**	**+0.2**
	5.9nm,1.0s,mb4.5						
GUN	**Gumba**	**33.64**	**336**	*e*P	**P**	**13 45 43.5**	**+1.1**
	10nm,0.6s,mb4.9						
DANN	**Dangsing**	**34.92**	**334**	*e*P	**P**	**13 45 57.6**	**+4.2**
	15nm,0.9s,mb4.9						
WRA	**Warramunga Arr**	**37.21**	**120**	P	**P**	**13 46 08.2**	**-4.9**
	1.3nm,0.6s,mb3.9,baz=298,slow=9.2,SNR=4.8						
WRA	**Warramunga Arr**	**37.21**	**120**	P	**P**	**13 46 08.2**	**-4.9**
WRAB	**Tennant Creek**	**37.21**	**120**	*e*P	**P**	**13 46 10.8**	**-2.4**
	5.2nm,1.0s,mb4.3						
ASAR	**Alice Springs**	**38.42**	**125**	P	**P**	**13 46 22.5**	**-0.8**
	0.6nm,0.6s,mb3.5,baz=298,slow=8.3,SNR=12						
ASAR				LR	LR	14 02 04.5	
	comp=Z,106nm,18.0s,MS3.7,baz=334,slow=36						
ASAR	**Alice Springs**	**38.42**	**125**	P	**P**	**13 46 22.5**	**-0.8**
STKA	**Stephens Creek**	**48.27**	**131**	P	**P**	**13 47 42.1**	**-0.6**
	2.2nm,0.7s,mb4.3,baz=318,slow=12,SNR=2.6						
STKA				LR	LR	14 08 33.0	
	comp=Z,84nm,19.5s,MS3.7,baz=3.7,slow=37						
STKA	**Stephens Creek**	**48.27**	**131**	P	**P**	**13 47 42.1**	**-0.6**
SONM	**Songino Array**	**50.76**	**5**	P	**P**	**13 48 01.7**	**+0.3**
	1.0nm,0.7s,mb3.9,baz=183,slow=8.3,SNR=8.2						
SONM				LR	LR	14 10 27.8	
	comp=Z,84nm,18.5s,MS3.8,baz=180,slow=37						
SONM	**Songino Array**	**50.76**	**5**	P	**P**	**13 48 01.7**	**+0.3**
TKM2	**Tokmak 2**	**50.78**	**337**	*e*P	**P**	**13 48 02.3**	**+0.7**
	4.1nm,0.7s,mb4.5						
AAK	**Ala-Archa**	**50.99**	**335**	*e*P	**P**	**13 48 04.2**	**+1.0**
	11nm,1.0s,mb4.7						
EKS2	**Erkin-Say**	**51.31**	**335**	*e*P	**P**	**13 48 05.9**	**+0.3**
	3.8nm,0.7s,mb4.4						
MK31	**Makanchi Array**	**51.97**	**344**	P	**P**	**13 48 08.6**	**-1.8**
MKAR	**Makanchi Array**	**51.97**	**344**	P	**P**	**13 48 10.9**	**+0.5**
	0.6nm,0.7s,mb3.7,baz=163,slow=8.9,SNR=6.8						
MKAR	**Makanchi Array**	**51.97**	**344**	P	**P**	**13 48 10.9**	**+0.5**
KURK	**Kurchatov**	**56.55**	**344**	P	**P**	**13 48 43.0**	**-0.6**
	0.3nm,0.6s,mb3.5,baz=160,slow=7.2,SNR=3.0						
KURK	**Kurchatov**	**56.55**	**344**	P	**P**	**13 48 40.4**	**-3.3**
	3.5nm,0.9s,mb4.4						
ZAA0	**Zalesovo Array**	**58.09**	**349**	*e*P	**P**	**13 48 54.3**	**-0.2**
ZALV	**Zalesovo Beam**	**58.09**	**349**	P	**P**	**13 48 54.3**	**-0.2**
	1.1nm,0.9s,mb3.9,baz=193,slow=5.9,SNR=3.6						
ZALV				LR	LR	14 18 37.2	
	comp=Z,34nm,18.5s,MS3.5,baz=53,slow=41						
ZALV	**Zalesovo Beam**	**58.09**	**349**	P	**P**	**13 48 54.3**	**-0.2**
BVAR	**Borovoye Array**	**61.13**	**340**	P	**P**	**13 49 15.3**	**-0.2**
	0.5nm,0.5s,mb3.9,baz=152,slow=9.4,SNR=3.2						
BVAR	**Borovoye Array**	**61.13**	**340**	P	**P**	**13 49 15.3**	**-0.2**
ABKAR	**Akbulak array**	**62.59**	**331**	*e*P	**P**	**13 49 25.1**	**-0.2**
	1.6nm,0.6s,mb4.3						
RPZ	**Rata Peaks**	**74.08**	**135**	LR	LR	14 23 10.0	
	comp=Z,60nm,21.2s,MS3.9,baz=50,slow=36						
TXAR	**Lajitas Array**	**145.13**	**39**	PKP	PKPdf	13 58 39.0	-0.3
	0.4nm,0.5s,baz=214,slow=1.1,SNR=18						
TXAR	**Lajitas Array**	**145.13**	**39**	PKP	PKPdf	13 58 39.0	-0.3

IDC 22 13:47:04.2±1.2, 30.41N×67.29E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.5/28, mbtmp3.7/7, MS3.1/1, Ms1 3.1/1, ms1mx2.4/36, Error ellipse: s-maj=28.6km s-min=26.3km az=57.0
ISCJB 22 13:47:06.9±1.4, 30.6N±0.1×68.0E±0.1, h10km, mb3.7/7, Error ellipse: s-maj=22.5km s-min=7.3km az=142.8
NEIC 22 13:47:06.0±1.0, 30.48N×67.40E, h10km, mb3.7/2, Error ellipse: s-maj=18.0km s-min=12.8km az=77.0
ISC 22 13:47:09.0±1.4, 30.59N±0.10×68.0E±0.1, h10km, n39, σ1s16/38, mb3.7/7, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**4.04**	**12**	*e*Pn	**Pn**	**13 48 13.4**	**+2

KURK	**Kurchatov**	**21.61**	**19**	P	**P**	**13 51 58.6**	**-0.3**
BVAR	**Borovoye Array**	**22.49**	**4**	P	**P**	**13 52 10.5**	**+2.2**
	1.1nm,0.5s,mb3.5,baz=189,slow=8.8,SNR=5.5						
BVAR	**Borovoye Array**	**22.49**	**4**	P	**P**	**13 52 10.5**	**+2.2**
ZAA0	**Zalesovo Array**	**26.31**	**23**	P	**P**	**13 52 46.1**	**+1.5**
ZALV	**Zalesovo Beam**	**26.31**	**23**	P	**P**	**13 52 46.0**	**+1.4**
	1.2nm,0.5s,mb3.6,baz=224,slow=12,SNR=5.1						
ZALV	**Zalesovo Beam**	**26.31**	**23**	P	**P**	**13 52 46.0**	**+1.4**
MMAI	**Mount Meron Ar**	**27.77**	**284**	LR	LR	14 04 44.3	
	comp=Z,39nm,20.1s,baz=110,slow=39						
CHTO	**Chiang Mai**	**30.34**	**106**	P	**P**	**13 53 22.2**	**+1.3**
CMAR	**Chiang Mai Arr**	**30.51**	**106**	P	**P**	**13 53 22.9**	**+0.5**
	0.2nm,0.3s,mb3.4,baz=316,slow=6.2,SNR=3.8						
CMAR	**Chiang Mai Arr**	**30.51**	**106**	P	**P**	**13 53 22.9**	**+0.5**
ARCES	**ARCESS Array B**	**45.77**	**341**	P	**P**	**13 55 26.9**	**-3.4**
	1.9nm,0.8s,mb4.1,baz=119,slow=9.9,SNR=5.5						
ARCES	**ARCESS Array B**	**45.77**	**341**	P	**P**	**13 55 26.9**	**-3.4**
TORD	**Torodi Ar. Bea**	**63.15**	**270**	P	**P**	**13 57 29.3**	**-8.1**
	0.7nm,0.8s,mb3.9,baz=64,slow=3.5,SNR=4.4						
TORD	**Torodi Ar. Bea**	**63.15**	**270**	P	**P**	**13 57 29.3**	**-8.1**
ASAR	**Alice Springs**	**83.05**	**123**	P	**P**	**13 59 35.7**	**+0.9**
	0.3nm,0.5s,mb3.6,baz=309,slow=5.0,SNR=6.0						
ASAR	**Alice Springs**	**83.05**	**123**	P	**P**	**13 59 35.7**	**+0.9**

ISCJB ***22*** *14:11:19.6±2.3,21°.3S×0°.1×173°.33W±0°.07, h93km±27km, mb4.4/5, Error ellipse: s-maj=19.3km s-min=10.5km az=8.4*

NEIC ***22*** *14:11:21.5±1.8,21°.27S×173°.41W, h91km±22km, mb4.7/2, Error ellipse: s-maj=28.5km s-min=11.6km az=187.0*

IDC ***22*** *14:11:22.4±8.4,21°.27S×173°.29W, h106km±115km, mb4.0/4, mb1 4.1/6, mb1mx3.7/22, mbtmp4.1/6, ML4.7/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/25, Error ellipse: s-maj=72.7km s-min=28.1km az=44.0*

ISC 22 14:11:20.4±1.7, 21°.4S±0°.1×173°.33W±0°.08, h82km±22km, n21, σ0°85/21, mb4.4/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.59**	**12**	P	**Pn**	**14 13 08.1**	**-0.2**
	1.5nm,0.3s,baz=340,slow=22,SNR=5.9						
AFI				S	**Sn**	**14 14 33.0**	**+0.2**
	1.8nm,0.3s,baz=41,slow=20,SNR=2.7						
AFI	**Afiamalu**	**7.59**	**12**	P	**Pn**	**14 13 08.1**	**-0.2**
AFI				S	**Sn**	**14 14 33.0**	**+0.2**
MSVF	**Nonsavu**	**8.90**	**293**	*e*Pn	**Pn**	**14 13 26.0**	**-0.2**
	18nm,0.9s						
RAR	**Rarotonga**	**12.64**	**92**	P	**Pn**	**14 14 19.2**	**+2.1**
	4.6nm,0.3s,baz=254,slow=10,SNR=21						
RAR				S	**Sn**	**14 16 34.7**	**-1.3**
	0.5nm,0.3s,baz=108,slow=16,SNR=2.5						
RAR	**Rarotonga**	**12.64**	**92**	*e*Pn	**Pn**	**14 14 18.9**	**+1.8**
RAR				P		14 14 19.2	
RAR				S	**Sn**	**14 16 34.7**	**-1.3**
DZM	**Mont Dzumac**	**18.80**	**264**	*e*LR	LR	14 20 32.8	
	106nm,23.6s						
TBI	**Tubuai**	**22.16**	**100**	*e*LR	LR	14 21 18.8	
	94nm,29.2s						
PPT	**Papeete**	**22.71**	**84**	*e*LR	LR	14 21 46.9	
	75nm,24.0s						
PPT	**Papeete**	**22.71**	**84**	LR	LR	14 22 49.9	
	comp=Z,77nm,19.3s,baz=191,slow=30						
CTA	**Charters Tower**	**37.75**	**264**	P	**P**	**14 18 28.9**	**+0.3**
	4.6nm,0.8s,mb4.4,baz=91,slow=13,SNR=5.1						
CTA	**Charters Tower**	**37.75**	**264**	P	**P**	**14 18 28.9**	**+0.3**
CTAO	**Charters Tower**	**37.75**	**264**	*e*P	**P**	**14 18 27.2**	**-1.4**
	20nm,1.4s,mb4.8						
STKA	**Stephens Creek**	**41.37**	**246**	P	**P**	**14 18 58.8**	**+0.2**
	3.4nm,1.1s,mb4.1,baz=90,slow=9.5,SNR=3.5						
STKA	**Stephens Creek**	**41.37**	**246**	P	**P**	**14 18 58.8**	**+0.2**
AS31	**Alice Springs**	**48.56**	**257**	*e*P	**P**	**14 19 55.7**	**-0.1**
ASAR	**Alice Springs**	**48.56**	**257**	P	**P**	**14 19 55.7**	**-0.1**
	4.6nm,0.9s,mb4.4,baz=92,slow=8.0,SNR=28						
ASAR	**Alice Springs**	**48.56**	**257**	P	**P**	**14 19 55.7**	**-0.1**
WRAB	**Tennant Creek**	**48.79**	**262**	*e*P	**P**	**14 19 56.6**	**-0.9**
WRA	**Warramunga Arr**	**48.80**	**262**	P	**P**	**14 19 57.1**	**-0.5**
	6.6nm,1.0s,mb4.5,baz=99,slow=7.6,SNR=18						
WRA	**Warramunga Arr**	**48.80**	**262**	P	**P**	**14 19 57.1**	**-0.5**
MBWA	**Marble Bar**	**61.91**	**257**	*e*P	**P**	**14 21 33.1**	**+1.3**
	3.7nm,0.7s,mb4.5						

DJA 22 14:24:01, 1°.27S×101°.49E, h170km, MLv3.7/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**1.09**	**289**	P	Pn	14 24 29.8	+1.4
PDSI				S	Sn	14 24 50.8	+1.4
PPI	**Padang Panjang**	**1.36**	**306**	P	Pn	14 24 32.5	+1.7
PPI				S	Sn	14 24 54.6	+0.9
BKNI	**Bangkinang**	**1.65**	**344**	P	Pn	14 24 35.1	+1.4
BKNI				S	Sn	14 25 00.2	+1.3
SISI	**Saibi**	**2.40**	**269**	P	Pn	14 24 43.6	+1.6
SISI				S	Sn	14 25 14.7	+1.1
KSI	**Kapahiang**	**2.61**	**155**	P	Pn	14 24 44.9	+0.4
KSI				S	Sn	14 25 22.1	+3.9
MNSI	**Mandailing Nat**	**2.80**	**317**	P	Pn	14 24 47.9	+1.1
MNAI	**Manna**	**3.40**	**155**	P	Pn	14 24 52.9	-1.3
MNAI				S	Sn	14 25 35.6	-0.1
MYKOM	**Kota Tinggi**	**3.85**	**38**	P	Pn	14 24 59.8	-0.1
PSI	**Prapat**	**4.79**	**328**	P	Pn	14 25 11.0	-1.0

IDC 22 14:38:09.1±1.7, 28°.94N×83°.76E, h0km, mb3.4/4, mb1 3.5/6, mb1mx3.3/27, mbtmp3.5/6, ML3.0/2, Error ellipse: s-maj=34.9km s-min=31.9km az=111.0, Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**17.36**	**124**	P	Pn	14 42 11.5	-1.4
	0.0nm,0.3s,baz=304,slow=13,SNR=3.3						
MKAR	**Makanchi Array**	**17.87**	**357**	P	Pn	14 42 20.6	+1.6
	0.1nm,0.3s,baz=187,slow=12,SNR=9.5						
KURK	**Kurchatov**	**22.10**	**351**	P	P	14 43 04.3	-1.4
	1.7nm,0.8s,baz=172,slow=10,SNR=17						
ZALV	**Zalesovo Beam**	**25.00**	**1**	P	P	14 43 32.5	-1.8
	0.6nm,0.4s,baz=187,slow=10,SNR=4.7						
SONM	**Songino Array**	**25.74**	**37**	P	P	14 43 42.7	+1.6
	0.1nm,0.3s,baz=219,slow=11,SNR=3.0						
TORD	**Torodi Ar. Bea**	**76.90**	**278**	P	P	14 50 04.2	+0.5
	0.4nm,0.7s,baz=65,slow=3.8,SNR=3.5						

IDC 22 15:13:24.5±1.5, 3°.23S×139°.44E, h0km, mb3.5/3, mb1 3.9/4, mb1mx3.6/14, mbtmp3.6/4, Error ellipse: s-maj=71.8km s-min=27.5km az=97.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.34**	**196**	P	Pn	15 17 28.0	-0.1
	0.3nm,0.3s,baz=18,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**21.01**	**194**	P	P	15 18 09.9	+0.1
	1.1nm,0.7s,baz=19,slow=10,SNR=19						
MKAR	**Makanchi Array**	**70.64**	**322**	P	P	15 24 42.1	+0.2
	0.3nm,0.6s,baz=122,slow=5.4,SNR=3.0						
ILAR	**Eielson Array**	**86.00**	**24**	P	P	15 26 06.5	0.0
	0.3nm,0.7s,baz=274,slow=4.4,SNR=3.3						

DHMR 22 15:23:33.5±0.9, 12°.22N×44°.12E, h11km±57km, ML3.0, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADEN	**Aden**	**1.01**	**57**	*i* P	Pg	15 23 51.9	-1.1
ADEN				*i* S	Sg	15 24 06.6	+0.4
ADEN				AML	AML	15 24 13.1	
	comp=E,428nm,0.3s						
ADEN	**Aden**	**1.01**	**57**	*i* P	Pg	15 23 53.9	+0.9
ADEN				*i* S	Sg	15 24 06.4	+0.2
LBOS		**1.98**	**34**	*i* P	Pn	15 24 08.1	+1.2
LBOS				*i* S	Sn	15 24 35.9	+4.3
LBOS		**1.98**	**34**	*i* P	Pn	15 24 10.5	+3.6
LBOS				*i* S	Sn	15 24 35.4	+3.7
BDHA	**Al Bayda'**	**2.25**	**39**	*i* P	Pn	15 24 13.1	+2.6
BDHA				*i* S	Sn	15 24 42.9	+4.6
BDHA				AML	AML	15 24 50.4	
	comp=N,87nm,0.5s						
BDHA	**Al Bayda'**	**2.25**	**39**	*i* P	Pn	15 24 14.0	+3.5
BDHA				*i* S	Sn	15 24 43.5	+5.2
BDHA				AML	AML	15 24 50.4	
	comp=N,87nm,0.5s						

BJI ***22*** *16:00:51.7, 5°.12S×101°.24E, h10km, mB6.6/53, mb5.7/65, Ms6.7/78, Ms7 6.6/72*

IDC ***22*** *16:00:58.4±0.3, 4°.25S×101°.28E, h0km, mb5.5/44, mb1 5.5/45, mb1mx5.5/46, mbtmp5.5/45, ML4.7/1, MS6.4/16, Ms1 6.5/16, ms1mx6.1/44, Error ellipse: s-maj=11.8km s-min=7.8km az=48.0*

ISCJB ***22*** *16:00:59.3±0.6, 4°.38S±0°.02×101°.22E±0°.02, h16km±4km, mb5.8/199, MS6.5/75, Error ellipse: s-maj=3.9km s-min=2.5km az=30.4*

NEIC ***22*** *16:01:01.7±0.2, 4°.35S×101°.26E, h24km, mb5.9/65, ME6.1, MW6.3, MW6.3, MW6.3(USGS), Error ellipse: s-maj=6.4km s-min=5.3km az=53.0 Broadband fault plane solution: P waves. NP1:φs120.00000°, δ80.00000°, λ90.00000°. NP2:φs300.00000°, δ10.00000°, λ90.00000°. Principal axes: T Plg55.0000°, Azm30.0000°; N Plg0.0000°, Azm0.0000°; P Plg35.0000°, Azm210.00000°; Moment Tensor Solution. s82 Moment tensor: Scale 10¹⁸ Nm; Mrr2.63; Mθθ-1.23; Mφφ-1.40; Mrθ2.97; Mθφ0.75; Mφr-1.54; Best double couple: M₀4.10000×10¹⁸ NP1:φs323.00000°, δ18.00000°, λ110.00000°. NP2:φs122.00000°, δ73.00000°, λ83.00000°. Principal axes: T 4.4200, Plg61.0000°, Azm21.0000°; N -0.6900, Plg6.0000°, Azm123.0000°; P -3.7300, Plg27.0000°, Azm217.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [IV] at Bengkulu, Ketahun and Mukomuko; [III] at Kapahiang.

TEH ***22*** *16:01:01.0, 4°.19S×101°.01E, h5km*

DJA ***22*** *16:01:01.6±0.6, 5°.2±2×10°1E±°, h18km±5km, M6.4/8, mB6.6/84, mb6.0/88, MLv6.6/29, Mw(mB)6.4/84, Mwp6.1/3*

MOS ***22*** *16:01:02.3±1.4, 4°.17S×101°.40E, h33km, mb6.1/63, MS6.4/26, Error ellipse: s-maj=8.2km s-min=4.5km az=115.7*

GCMT ***22*** *16:01:06.7±0.1, 4°.73S×101°.07E, h20km, MW6.3, Moment Tensor Solution. s64,c100; s90,c135; Moment tensor: Scale 10¹⁸Nm; Mrr2.07±.03; Mθθ-1.06±.02; Mφφ-1.01±.02; Mrθ2.92±.07; Mθφ1.32±.02; Mφr-1.41±.06; Best double couple: M₀3.90000×10¹⁸ NP1:φs331.00000°, δ19.00000°, λ121.00000°. NP2:φs119.00000°, δ73.00000°, λ80.00000°. Principal axes: T 3.8800, Plg60.0000°, Azm14.0000°; N 0.1000, Plg10.0000°, Azm122.0000°; P -3.9800, Plg28.0000°, Azm217.0000°; Data Used: II IU IC CN G. Surface waves: sta= 75, comp=119, per= 50.*

ISC 22 16:01:02.7±0.6, 4°.38S±0°.02×101°.23E±0°.02, h26km±4km, h30km±.7km; pP-P, n1362, σ1s20/773, mb5.8/199, MS6.5/75, 355C-231D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSI	**Kapahiang**	**1.54**	**62**	P	**Pn**	**16 01 29.0**	**+0.5**
KSI				S	**Sn**	**16 01 53.3**	**+5.7**
MNAI	**Manna**	**1.72**	**90**	P	**Pn**	**16 01 31.4**	**+0.4**
MNAI				S	**Sn**	**16 02 01.3**	**+9.1**
KRJI	**Kerinci**	**2.28**	**6**	P	**Pn**	**16 01 41.0**	**+2.3**
LWLI	**Liwa**	**2.89**	**103**	P	**Pn**	**16 01 47.1**	**0.0**
MDSI	**Maura Dua**	**2.94**	**92**	P	**Pn**	**16 01 48.2**	**+0.4**
SDSI	**Sungai Dareh**	**3.43**	**3**	P	**Pn**	**16 01 54.7**	**+0.3**
PDSI	**Padang**	**3.52**	**347**	P	**Pn**	**16 01 54.8**	**-1.0**
KLI	**Kotabumi**	**3.65**	**98**	P	**Pn**	**16 01 58.6**	**+1.1**
SISI	**Saibi**	**3.71**	**325**	P	**Pn**	**16 01 58.2**	**-0.1**
PPI	**Padang Panjang**	**3.98**	**348**	P	**Pn**	**16 02 01.7**	**-0.3**
BLSI	**Bandar Lampung**	**4.12**	**104**	P	**Pn**	**16 02 05.0**	**+1.0**
RGRI	**Rengat**	**4.15**	**15**	P	**Pn**	**16 02 03.0**	**-1.4**
BKNI	**Bangkinang**	**4.67**	**358**	P	**Pn**	**16 02 11.7**	**+0.1**
RBSI	**Rajabasa**	**4.73**	**108**	P	**Pn**	**16 02 13.4**	**+1.1**
CGJI	**Cibinong**	**4.97**	**117**	P	**Pn**	**16 02 14.1**	**-1.6**
SBJI	**Serang**	**5.18**	**110**	P	**Pn**	**16 02 19.4**	**+0.8**
	44nm3μm,1.2s						
PPBI	**Pangkal Pinang**	**5.37**	**66**	P	**Pn**	**16 02 22.5**	**+1.3**
	36nm1μm,1.0s						
MNSI	**Mandailing Nat**	**5.39**	**342**	P	**Pn**	**16 02 21.0**	**-0.5**
	13nm1μm,0.9s						
MNSI				S	**Sn**	**16 03 27.8**	**+5.0**
	13nm1μm,0.9s						
TNG	**Tangerang**	**5.68**	**109**	P	**Pn**	**16 02 26.7**	**+1.2**
DBJI	**Dramaga**	**5.91**	**112**	P	**Pn**	**16 02 28.4**	**-0.2**
	62nm6μm,1.2s						
SKJI	**Sukabumi**	**5.91**	**116**	P	**Pn**	**16 02 27.7**	**-0.9**
	61nm4μm,1.1s						
TPI	**Tanjungpandan**	**6.61**	**76**	P	**Pn**	**16 02 40.8**	**+2.6**
	11nm220nm,1.1s						
MYKOM	**Kota Tinggi**	**6.66**	**23**	P	**Pn**	**16 02 43.2**	**+4.3**
MYKOM	**Kota Tinggi**	**6.66**	**23**	P	**Pn**	**16 02 40.6**	**+1.7**
	22nm1μm,0.9s						
LEM	**Lembang**	**6.81**	**111**	P	**Pn**	**16 02 42.3**	**+1.3**
	54nm5μm,1.1s						
CISI	**Cisompet, Garu**	**7.27**	**116**	P	**Pn**	**16 02 45.3**	**-2.0**
	19nm4μm,0.7s						
CISI				S	**Sn**	**16 04 09.6**	**+0.5**
	19nm4μm,0.7s						
JCJI	**Jatiwangi**	**7.32**	**107**	P	**Pn**	**16 02 49.6**	**+1.6**
	44nm3μm,1.8s						
XMIS	**Christmas Isla**	**7.49**	**144**	P	**Pn**	**16 02 47.4**	**-2.8**
	35nm498nm,1.0s						
PSI	**Prapat**	**7.49**	**342**	P	**Pn**	**16 02 48.6**	**-1.7**
	9.3nm725nm,1.1s						
TSI	**Tuntungan**	**8.26**	**341**	P	**Pn**	**16 03 01.8**	**+0.9**
	1μm,1.2s						
CLJI	**Cilicap**	**8.43**	**114**	P	**Pn**	**16 03 04.0**	**+0.8**
	3μm,1.2s						
IPM	**Ipoh**	**8.80**	**359**	⇑*i* Pn	**Pn**	**16 03 08.9**	**+0.6**
	360nm,0.8s						
IPM	**Ipoh**	**8.80**	**359**	P	**Pn**	**16 03 09.5**	**+1.2**
	497nm,1.1s						
COCO	**West Island**	**8.90**	**209**	⇓*e*Pn	**Pn**	**16 03 03.6**	**-6.0**
	5μm,0.9s						
COCO	**West Island**	**8.90**	**209**	Pn	**Pn**	**16 03 04.7**	**-4.9**
	32μm,0.6s,SNR=38						
COCO	**West Island**	**8.90**	**209**	⇓*e*P	**Pn**	**16 03 03.6**	**-6.0**
COCO				pmax	pmax		
	comp=Z,5μm,0.9s						
COCO	**West Island**	**8.90**	**209**	P	**Pn**	**16 03 04.7**	**-4.9**
	comp=Z,6μm,1.0s						
BJII	**Banjamegara**	**8.94**	**110**	P	**Pn**	**16 03 10.2**	**+0.1**
	comp=Z,832nm,1.3s						
SMRI	**Semarang**	**9.54**	**107**	P	**Pn**	**16 03 19.7**	**+1.2**
	comp=Z,2μm,1.1s						
KULM	**Kulim**	**9.62**	**357**	⇑*e*Pn	**Pn**	**16 03 18.9**	**-0.6**
	comp=Z,420nm,1.0s						
KULM	**Kulim**	**9.62**	**357**	P	**Pn**	**16 03 20.2**	**+0.7**
	comp=Z,425nm,1.8s						
UGM	**Wanagama**	**9.89**	**111**	P	**Pn**	**16 03 23.0**	**-0.2**
	comp=Z,2μm,1.0s						
LHMI	**Lhok Sumawe**	**10.45**	**336**	P	**Pn**	**16 03 32.5**	**+1.5**
	comp=Z,1μm,0.8s						
PBKI	**Pangkalan Bun**	**10.55**	**81**	P	**Pn**	**16 03 35.9**	**+3.5**
	comp=Z,2μm,1.1s						
PCJI	**Pacitan**	**10.59**	**111**	P	**Pn**	**16 03 31.4**	**-1.5**
	comp=Z,1μm,1.2s						
NGJI	**Ngawi**	**10.61**	**107**	P	**Pn**	**16 03 34.5**	**+1.5**
	comp=Z,1μm,1.0s						
KSM	**Kuching**	**10.78**	**58**	P	**Pn**	**16 03 38.8**	**+3.4**
KSM	**Kuching**	**10.78**	**58**	P	**Pn**	**16 03 39.6**	**+4.2**
KSM	**Kuching**	**10.78**	**58**	⇑*e*Pn	**Pn**	**16 03 36.3**	**+0.9**
	comp=Z,206nm,1.0s						
KSM	**Kuching**	**10.78**	**58**	P	**Pn**	**16 03 39.6**	**+4.2**
	comp=Z,238nm,1.7s						
SJI	**Sawahan**	**11.00**	**108**	P	**Pn**	**16 03 38.6**	**+0.2**
	comp=Z,782nm,1.0s						
PWJI	**Pagerwojo**	**11.12**	**110**	P	**Pn**	**16 03 38.8**	**-1.3**
	comp=Z,936nm,0.9s						
STKI	**Sintang**	**11.15**	**67**	P	**Pn**	**16 03 46.0**	**+5.5**
	comp=Z,392nm,1.5s						
BSI	**Banda Aceh**	**11.46**	**329**	P	**Pn**	**16 03 43.2**	**-1.5**
	comp=Z,1μm,1.0s						
BSI				S	**Sn**	**16 05 45.3**	**-6.6**
	comp=Z,1μm,1.0s						
KRKI	**Karangkates**	**11.77**	**109**	P	**Pn**	**16 03 48.2**	**-0.8**
	comp=Z,2μm,0.9s						
KRKI				S	**Sn**	**16 06 00.5**	**+0.8**
	comp=Z,2μm,0.9s						
GMJI	**Gumukmas**	**12.74**	**108**	P	**Pn**	**16 04 04.2**	**+1.9**
	comp=Z,360nm,1.1s						
BLJI	**Banyuglugur**	**12.74**	**106**	P	**Pn**	**16 04 02.4**	**+0.1**
	comp=Z,464nm,0.6s						
SBUM	**Sibu**	**12.91**	**59**	P	**Pn**	**16 04 08.8**	**+4.2**
SBUM	**Sibu**	**12.91**	**59**	P	**Pn**	**16 04 09.1**	**+4.5**
	comp=E,611nm,1.5s						
KMMI	**Kalianget**	**12.95**	**102**	P	**Pn**	**16 04 06.4**	**+1.2**
	comp=Z,858nm,1.2s						
JAGI	**Jajag, Banyuwa**	**13.47**	**108**	P	**Pn**	**16 04 11.2**	**-1.1**
	comp=Z,1μm,0.9s						
JAGI				S	**Sn**	**16 06 37.0**	**-4.2**
	comp=Z,1μm,0.9s						
BYJI	**Banyuwangi**	**13.59**	**107**	P	**Pn**	**16 04 14.7**	**+0.8**
	comp=Z,1μm,0.9s						
BBKI	**Banjar Baru**	**13.61**	**87**	P	**Pn**	**16 04 15.9**	**+1.7**
	comp=Z,980nm,1.3s						
NBBI	**Negara**	**13.89**	**107**	P	**Pn**	**16 04 21.8**	**+3.9**
	comp=Z,931nm,0.9s						
BTM	**Bintulu**	**14.04**	**58**	P	**Pn**	**16 04 24.0**	**+4.0**
SRBI	**Singaraja**	**14.38**	**106**	P	**Pn**	**16 04 25.2**	**+0.5**
	comp=Z,796nm,0.8s						
KHKI	**Kahang-Kahang**	**14.83**	**106**	P	**Pn**	**16 04 28.3**	**-2.5**
	comp=Z,403nm,0.8s						
KBKI	**Kotabaru**	**14.95**	**86**	P	**Pn**	**16 04 33.6**	**+1.2**
	comp=Z,466nm,1.6s						
MTNI	**Mataram**	**15.44**	**107**	P	**Pn**	**16 04 34.9**	**-3.9**
	comp=Z,9μmcomp=Z,734nm,0.8s						
SMKI	**Samarinda**	**16.43**	**77**	P	**Pn**	**16 04 54.8**	**+3.1**
MJSI	**Majene**	**17.73**	**88**	P	**Pn**	**16 05 08.9**	**+1.0**
	comp=Z,2μm,0.8s						
KKM	**Kota Kinabalu**	**18.20**	**55**	P	**Pn**	**16 05 15.6**	**+2.0**
KKM	**Kota Kinabalu**	**18.20**	**55**	⇑*e*Pn	**Pn**	**16 05 12.9**	**-0.7**
	comp=Z,2μm,1.5s						
KKM	**Kota Kinabalu**	**18.20**	**55**	P	**Pn**	**16 05 14.0**	**+0.4**
	comp=Z,639nm,1.6s						
KAPI	**Kappang**	**18.47**	**93**	P	**Pn**	**16 05 13.8**	**-3.3**
	comp=Z,2.2nm,0.3s,baz=278,slow=12,SNR=5.4						
KAPI				S	**Sn**	**16 08 49.4**	**+6.5**
	comp=Z,1.8nm,0.3s,baz=156,slow=20,SNR=1.8						
KAPI				LR	LR	16 13 07.1	
	comp=Z,136μm,20.7s,baz=279,slow=40						
KAPI	**Kappang**	**18.47**	**93**	⇑*e*Pn	**Pn**	**16 05 13.2**	**-3.8**
	comp=Z,922nm,1.3s						
KAPI				S	**Sn**	**16 08 49.4**	**+6.5**
KAPI	**Kappang**	**18.47**	**93**	P	**Pn**	**16 05 17.5**	**+0.5**
	comp=Z,578nm,1.1s						
KAPI	**Kappang**	**18.47**	**93**	P	**Pn**	**16 05 17.5**	**+0.4**
	SNR=16						
SPSI	**Sidrap Palu**	**18.50**	**89**	P	**Pn**	**16 05 17.2**	**-0.1**
	comp=Z,886nm,1.3s						
TTSI	**Tana Toraja**	**18.60**	**87**	P	**Pn**	**16 05 19.1**	**+0.5**
	comp=Z,1μm,1.3s						
TSM	**Tawau**	**18.73**	**63**	P	**Pn**	**16 05 20.6**	**+0.5**
SDKM	**Sandakan**	**18.80**	**58**	P	**Pn**	**16 05 21.6**	**+0.6**
BKSI	**Bulukumba**	**18.85**	**94**	P	**Pn**	**16 05 20.0**	**-1.6**
	comp=Z,651nm,1.1s						
MSSI	**Masamba**	**19.15**	**85**	P	**Pn**	**16 05 24.8**	**-0.4**
	comp=Z,1μm,1.4s						
WSI	**Waingapu**	**19.64**	**107**	P	**Pn**	**16 05 29.0**	**-2.1**
	comp=Z,2μm,0.7s						
MYLDM	**Lahad Datu**	**19.69**	**61**	P	**Pn**	**16 05 32.2**	**+0.5**
MYLDM	**Lahad Datu**	**19.69**	**61**	P	**Pn**	**16 05 31.2**	**-0.5**
	comp=Z,1μm,1.2s						
UBT	**Ubonrachathani**	**19.85**	**11**	⇑P	**Pn**	**16 05 31.5**	**-2.0**
	comp=Z,347nm,0.5s						
KKTK	**Khon Kaen**	**20.64**	**4**	P	**P**	**16 05 39.6**	**-0.8**
	comp=Z,556nm,0.9s						
BATP	**Bataraza**	**21.08**	**52**	*e*P	**P**	**16 05 47.7**	**+2.5**
MRSI	**Marisa**	**21.25**	**77**	P	**P**	**16 05 46.5**	**-0.6**
	comp=Z,2μm,1.2s,mb6.2						
BBSI	**Bau Bau**	**21.29**	**94**	P	**P**	**16 05 46.4**	**-1.1**
	comp=Z,865nm,1.1s,mb6.0						
MMRI	**Maumere**	**21.30**	**103**	P	**P**	**16 05 44.8**	**-2.8**
	comp=Z,702nm,1.1s,mb5.9						
KDI	**Kendari**	**21.34**	**90**	P	**P**	**16 05 47.9**	**-0.1**
	comp=Z,1μm,1.3s,mb6.1						
BDT	**Bhumibol Dam**	**21.59**	**354**	P	**P**	**16 05 50.0**	**-0.7**
	comp=Z,107nm,0.9s,mb5.3						
LUWI	**Luwuk**	**21.77**	**82**	P	**P**	**16 05 52.0**	**-0.7**
	comp=Z,3μm,1.1s,mb6.6						
CMAR	**Chiang Mai Arr**	**22.80**	**354**	⇑*e*P	**P**	**16 06 00.4**	**-3.1**
	comp=Z,207nm,0.6s,mb5.7						
CMAR	**Chiang Mai Arr**	**22.80**	**354**	P	**P**	**16 06 00.3**	**-3.2**
	comp=Z,666nm,0.7s,mb5.2,baz=184,slow=8.7,SNR=113						
CMAR				PcP	PcP	16 09 56.1	+1.4
	comp=Z,14nm,0.9s,baz=202,slow=3.7,SNR=5.2						
CMAR				LR	LR	16 16 13.1	
	comp=Z,99μm,18.4s,MS6.3,baz=183,slow=40						
CMAR				P3KP		16 40 33.0	
	comp=Z,2.2nm,1.1s,baz=277,slow=3.1,SNR=4.2						
CMAR	**Chiang Mai Arr**	**22.80**	**354**	P	**P**	**16 06 00.3**	**-3.2**
CMAR				PcP	PcP	16 09 56.1	+1.4
CMAR				PKKKP		16 40 33.0	
CMAR	**Chiang Mai Arr**	**22.80**	**354**	P	**P**	**16 06 00.4**	**-3.1**
CMAR						16 09 56.2	
CHG	**Chiang Mai**	**23.15**	**354**	⇑P	**P**	**16 06 06.2**	**-1.0**
	comp=Z,162nm,1.0s,mb5.4						
CHTO	**Chiang Mai**	**23.15**	**354**	⇑*i* Pn	**P**	**16 06 03.7**	**-3.

comp=Z,165nm,0.9s,mb5.6
LLP Lapu-Lapu 26.94 57 *e*P **P 16 06 41.8 -0.5**
LLP *e*S **S 16 11 16.4 -1.6**
BOAC Boac 27.07 49 *e*P **P 16 06 43.7 +0.4**
MDRS Chennai 27.10 310⇑ *i* x x 16 07 36.2
MDRS *e*x x 16 12 14.5
SCZP Santa Cruz 27.26 42 *e*P **P 16 06 48.2 +3.3**
TRD Trivandrum 27.38 298 *e*PKP **P 16 06 45.1 -1.0**
TRD *e*x x 16 11 59.0
MATI Mati 27.40 66 *e*P **P 16 06 46.7 +0.4**
FITZ Fitzroy Crossi 27.50 122 P **P 16 06 45.9 -1.3**
comp=Z,180nm,1.1s,mb5.6,baz=289,slow=5.2,SNR=66
FITZ S **S 16 11 24.5 -2.2**
comp=Z,61nm,1.1s,baz=147,slow=11,SNR=1.2
FITZ Fitzroy Crossi 27.50 122 *e*P **P 16 06 45.3 -1.9**
comp=Z,339nm,1.0s,mb5.9
FITZ Fitzroy Crossi 27.50 122 *e*Pn **P 16 06 45.6 -1.6**
comp=Z,2.6nm,0.5s
FITZ S **S 16 11 24.5 -2.2**
FITZ Fitzroy Crossi 27.50 122 P **P 16 06 46.7 -0.5**
comp=Z,5μmcomp=Z,233nm,1.2s,mb5.7
MSLP Maasin 27.60 58 *e*P **P 16 06 49.1 +0.9**
AUQP San Andres 27.62 50 *e*P pP 16 07 00.3 +4.4
MSAI Masohi 27.66 89 P **P 16 06 46.9 -1.8**
comp=Z,2μmcomp=Z,39nm,0.7s,mb5.2
OCLP Ormoc 27.86 56 *e*P **P 16 06 55.7 +5.2**
POLP Polillo Island 27.96 47 *e*P **P 16 06 54.2 +2.9**
BCPH Baguio City Da 28.14 42⇓ *e*P **P 16 06 50.4 -2.4**
PLP Palo 28.23 57 *i* P **P 16 06 54.1 +0.4**
BALP Baler 28.38 45 *e*P **P 16 06 59.0 +4.0**
BWNR Bhubaneshwar 28.82 329 *e*x x 16 07 52.0
PVCP Virac 28.93 52 *e*P **P 16 06 56.4 -3.6**
ABRA Dolores 29.13 41 *e*P sP 16 07 12.8 +0.1
KMI Kunming 29.36 3 P **P 16 07 05.0 +1.4**
KMI PP PP 16 08 02.8 -7.4
KMI S **S 16 11 59.1 +3.3**
KMI pmax pmax
comp=Z,140nm,0.9s,mb5.7
KMI pmax pmax
comp=Z,6μm,6.6s
KMI LR LR
comp=N,142μm,16.9s,MS6.8
KMI LR LR
comp=E,147μm,18.2s,MS6.8
KMI LR LR
comp=Z,147μm,16.7s,MS6.7
CAUP Cauayan 29.38 43 *e*P **P 16 07 03.7 -0.2**
HKC Hong Kong Obse 29.38 25⇑ *i*P **P 16 07 04.0 +0.1**
PIP Pasuquin 29.57 40⇑ *e*P **P 16 07 02.7 -2.8**
CAL Calcutta 29.57 335 *e*PKP **P 16 07 05.5 -0.1**
CAL *e*x x 16 12 07.9
APYP Conner 29.64 41 *e*P **P 16 07 06.6 +0.4**
AGT Agartala 29.72 341 *e*PKP **P 16 07 07.0 +0.1**
AGT *e*x x 16 08 22.0
GZH Guangzhou 29.75 23 P **P 16 07 13.1 +6.0**
GZH S **S 16 12 13.8 +12**
GZH LR LR
comp=N,108μm,18.1s,MS6.7
GZH LR LR
comp=E,88μm,16.6s,MS6.7
GZH LR LR
comp=Z,158μm,19.0s,MS6.7
PALP Palanan 29.87 44 *e*P **P 16 07 11.8 +3.5**
GYA Guiyang 31.10 9⇑ *i*P **P 16 07 18.3 -0.7**
GYA PP PP 16 08 23.9 -5.7
GYA S **S 16 12 22.0 -1.1**
GYA pmax pmax
comp=Z,160nm,0.8s,mb5.9
GYA pmax pmax
comp=Z,10μm,15.0s
GYA LR LR
comp=N,54μm,20.5s,MS6.5
GYA LR LR
comp=E,97μm,19.6s,MS6.5
GYA LR LR
comp=Z,63μm,21.7s,MS6.2
SHL Shillong 31.11 344⇓ *i*P **P 16 07 18.2 -1.0**
SHL *i* x x 16 12 19.0
HYB Hyderabad 31.14 315 *i* P **P 16 07 20.5 +1.0**
HYB *e* pP 16 07 28.0 +0.7
HYB *e*S **S 16 12 24.0 0.0**
HYB LR LR 16 22 48.0
comp=Z,46nm,18.0s
KLBR Kellerberrin 31.21 152 *e*P **P 16 07 20.5 +0.5**
comp=Z,86nm,1.1s,mb5.5
TLE Tual 31.41 94 P **P 16 07 20.2 -1.8**
comp=Z,9μmcomp=Z,670nm,0.8s,mb6.5
KAKA Kakadu 31.93 107 *e*P **P 16 07 23.4 -3.1**
comp=Z,104nm,0.7s,mb5.8
KAKA Kakadu 31.93 107 *e*P **P 16 07 23.1 -3.4**
comp=Z,304nm,0.7s,mb6.2
NWAO Narrogin (SRO) 32.10 154 P **P 16 07 28.0 +0.2**
comp=Z,58nm,0.8s,mb5.4,baz=324,slow=11,SNR=13
NWAO S **S 16 12 24.8 -14**
comp=Z,17nm,0.9s,baz=294,slow=20,SNR=1.2
NWAO LR LR 16 20 02.2
comp=Z,105μm,19.3s,MS6.5,baz=161,slow=36
NWAO Narrogin (SRO) 32.10 154 *e*P **P 16 07 26.0 -1.8**
comp=Z,166nm,1.1s,mb5.8
NWAO S **S 16 12 24.8 -14**
NWAO Narrogin (SRO) 32.10 154 *e*P **P 16 07 26.0 -1.8**
LATR Latur 33.23 314 *e*PKP **P 16 07 37.5 -0.3**
TWG Pinlang 33.27 35 *e*P **P 16 07 38.4 +0.3**
comp=Z,237nm,1.4s,mb5.9
TPUB Ta-pu 33.40 34 *e*P **P 16 07 39.3 +0.1**
comp=Z,332nm,1.2s,mb6.1
QZH Quanzhou 33.68 29⇑ *i*P **P 16 07 39.1 -2.6**
QZH PP PP 16 08 52.1 -6.1
QZH S **S 16 13 08.0 +4.7**
QZH pmax pmax
comp=Z,780nm,2.1s,mb6.3
QZH pmax pmax
comp=Z,9μm,8.0s
QZH LR LR
comp=N,113μm,14.0s,MS6.8
QZH LR LR
comp=E,74μm,15.4s,MS6.8
QZH LR LR
comp=Z,95μm,20.5s
ODAN Odare 33.81 337 *e*P **P 16 07 43.7 +0.9**
comp=Z,994nm,0.9s,mb6.8
YULB Yu-li 33.84 34⇑ *e*P **P 16 07 41.9 -1.2**
comp=Z,38nm,0.6s,mb5.5
SSLB Suanglung 33.96 34⇑ *i*P **P 16 07 44.4 +0.3**
comp=Z,151nm,1.3s,mb5.8
TAPN Taplejung 34.13 338 *e*P **P 16 07 46.4 +0.8**
comp=Z,731nm,0.8s,mb6.7
RAMN Ramite 34.20 336 *e*P **P 16 07 47.6 +1.4**
comp=Z,539nm,0.8s,mb6.5
KAD Karad 34.31 310 *e*PKP **P 16 07 46.4 -0.9**
AKL Akola 34.44 317 *e*PKP **P 16 07 46.6 -1.7**
AKL *i* x x 16 13 13.8
NACB Ninganchiao 34.62 34⇑ *e*P **P 16 07 49.7 -0.2**
comp=Z,80nm,0.9s,mb5.7
YHNB Yeheng 34.90 33⇑ *i*P **P 16 07 52.5 +0.3**
comp=Z,277nm,1.4s,mb6.0
BAKI Biak 34.98 86 P **P 16 07 50.9 -2.2**
comp=Z,10μmcomp=Z,281nm,1.1s,mb6.1
JIRN Jiri 35.00 336 *e*P **P 16 07 53.8 +0.7**
comp=Z,1μm,0.8s,mb6.8
CD2 Chengdu 35.17 4 P **P 16 07 54.1 -0.4**
CD2 PP PP 16 09 19.4 +4.8
CD2 pmax pmax
comp=Z,380nm,0.8s,mb6.4
CD2 pmax pmax
comp=Z,9μm,11.1s
CD2 LR LR
comp=N,170μm,17.8s
CD2 LR LR
comp=Z,178μm,20.2s,MS6.8
TATO Taipei 35.20 33 *e*P **P 16 07 55.7 +0.8**
LSA Lhasa 35.23 345 P **P 16 07 55.9 +0.9**
LSA S **S 16 13 27.3 +0.1**
LSA LR LR
comp=N,39μm,28.6s,MS6.2
LSA LR LR
comp=E,48μm,28.6s,MS6.2
LSA LR LR
comp=Z,55μm,28.6s,MS6.2
LSA Lhasa 35.23 345⇑ *e*P **P 16 07 55.3 +0.3**
comp=Z,137nm,0.9s,mb5.9
LSA Lhasa 35.23 345⇑ *e*P **P 16 07 55.3 +0.3**
LSA pmax pmax
comp=Z,137nm,0.9s,mb5.9
PKI Pulchoki 35.24 335 *e*P **P 16 07 55.8 +0.7**
comp=Z,258nm,0.8s,mb6.2
POO Poona 35.30 311 *e*PKP **P 16 07 55.7 0.0**
GUN Gumba 35.35 336 *e*P **P 16 07 56.9 +0.8**
comp=Z,998nm,0.7s,mb6.9
ENH Enshi 35.35 12⇑ *i*P **P 16 07 54.9 -1.1**
comp=Z,196nm,0.6s,mb6.2
DMN Daman 35.40 335 *e*P **P 16 07 57.1 +0.6**
comp=Z,312nm,0.8s,mb6.3
KKN Kakani 35.49 335 *e*P **P 16 07 57.3 0.0**
comp=Z,497nm,0.9s,mb6.4
WRA Warramunga Arr 35.77 118 P **P 16 07 58.9 -0.9**
comp=Z,106nm,0.9s,mb5.8,baz=293,slow=9.4,SNR=86
WRA S **S 16 13 33.3 -2.4**
comp=Z,6.1nm,0.9s,baz=308,slow=23,SNR=2.9
WRA Warramunga Arr 35.77 118 P **P 16 07 58.9 -0.9**
WRA S **S 16 13 33.3 -2.4**
WRA Warramunga Arr 35.77 118 P **P 16 07 58.9 -0.9**
WRA S **S 16 13 33.3 -2.4**
WRAB Tennant Creek 35.77 118⇑ *i*P **P 16 07 58.3 -1.6**
WRAB Tennant Creek 35.77 118⇑ *i*P **P 16 07 58.3 -1.6**
WRAB Tennant Creek 35.77 118 P **P 16 07 59.0 -0.9**
comp=Z,1μm,0.6s,mb7.0,SNR=51
WRAB Tennant Creek 35.77 118 P **P 16 07 59.4 -0.5**
comp=Z,384nm,1.0s,mb6.3
WB2 Warramunga Arr 35.78 118 *e*P **P 16 07 58.2 -1.7**
GKN Gorkha 35.94 335 *e*P **P 16 08 01.4 +0.2**
comp=Z,630nm,1.0s,mb6.5
BHPL Bhopal 35.96 321 *e*PKP **P 16 08 01.0 -0.4**
KOLN Koldanda 36.20 333 *e*P **P 16 08 03.6 +0.2**
comp=Z,234nm,0.6s,mb6.3
FORT Forrest 36.45 139 *e*P **P 16 08 06.0 +0.5**
comp=Z,76nm,0.7s,mb5.7
FORT Forrest 36.45 139 *e*P **P 16 08 05.9 +0.3**
comp=Z,343nm,0.9s,mb6.3
DANN Dangsing 36.63 334 *e*P **P 16 08 07.1 +0.1**
comp=Z,371nm,0.5s,mb6.5
AS31 Alice Springs 36.89 124 *e*P **P 16 08 08.2 -1.1**
ASAR Alice Springs 36.89 124 P **P 16 08 08.6 -0.8**
comp=Z,38nm,0.8s,mb5.2,baz=294,slow=7.3,SNR=80
ASAR S **S 16 13 55.4 +2.6**
comp=Z,15nm,1.0s,baz=296,slow=15,SNR=5.5
ASAR LR LR 16 23 06.5
comp=Z,40μm,21.9s,MS6.2,baz=293,slow=36
ASAR Alice Springs 36.89 124 P **P 16 08 08.6 -0.8**
ASAR S **S 16 13 55.4 +2.6**
ASAR Alice Springs 36.89 124 P **P 16 08 08.6 -0.8**
ASAR S **S 16 13 55.4 +2.6**
WHN Wuhan 36.92 19⇑ P **P 16 08 09.4 -0.1**
WHN S **S 16 13 56.8 +3.8**
WHN LR LR
comp=N,87μm,16.5s,MS7.0
WHN LR LR
comp=E,221μm,17.8s,MS7.0
WHN LR LR
comp=Z,177μm,17.8s,MS6.9
SMPI Sarmi 37.50 88 P **P 16 08 12.9 -1.8**
comp=Z,243nm,1.4s,mb5.8
AGRA Agra 38.64 326 *e*PKP **P 16 08 23.4 -0.7**
AGRA AMb AMB 16 08 25.8
comp=Z,74nm,0.2s,mb6.0
XAN Xi'an 38.89 10 P **P 16 08 24.8 -1.3**
XAN PP PP 16 09 57.5 +1.9
XAN S **S 16 14 20.9 -1.9**
XAN pmax pmax
comp=Z,14nm,0.7s,mb4.8
XAN pmax pmax
comp=Z,2μm,15.0s
XAN LR LR
comp=N,50μm,20.1s,MS6.4
XAN LR LR
comp=E,28μm,19.4s,MS6.4
XAN LR LR
comp=Z,26μm,13.6s
JAY Jayapura 39.45 89 P **P 16 08 29.0 -2.1**
comp=Z,529nm,0.7s,mb6.4
SONA Sohna 39.91 326 *e*PKP **P 16 08 34.6 -0.1**
SONA *ex* x 16 14 34.0
NJ2 Nanjing 39.92 24 *e*P **P 16 08 34.8 +0.1**
NJ2 PP PP 16 10 09.9 +3.1
NJ2 S **S 16 14 34.5 -3.8**
NJ2 pmax pmax
comp=Z,6μm,7.4s
NJ2 LR LR
comp=N,90μm,16.5s,MS6.8
NJ2 LR LR
comp=E,59μm,15.9s,MS6.8
NJ2 LR LR
comp=Z,99μm,17.0s,MS6.7
AJM Ajmer 40.04 321 *e*PKP **P 16 08 36.0 +0.2**
AYAN Aya Nagar 40.07 326 *e*PKP **P 16 08 35.3 -0.6**
SSE Sheshan 40.09 27⇑⇑ P **P 16 08 36.6 +0.5**
SSE pmax pmax
comp=Z,49nm,1.0s,mb5.2
SSE pmax pmax
comp=Z,6μm,8.6s
SSE LR LR
comp=N,48μm,18.3s,MS6.5
SSE LR LR
comp=E,34μm,18.3s,MS6.5
SSE LR LR
comp=Z,34μm,20.7s,MS6.2
NDI New Delhi 40.17 326 *e*PKP **P 16 08 35.2 -1.7**
NDI *ex* x 16 14 16.0
LZH Lanzhou 40.32 3⇑⇑ P **P 16 08 37.5 -0.5**
LZH S **S 16 14 44.3 +0.1**
LZH SS SS 16 17 45.3 +1.7
LZH pmax pmax
comp=Z,2μm,1.5s,mb6.5
LZH pmax pmax
comp=Z,6μm,5.4s
LZH LR LR
comp=N,140μm,19.4s,MS7.0
LZH LR LR
comp=E,133μm,17.5s,MS7.0
LZH LR LR
comp=Z,181μm,18.8s,MS7.0
KHET Khetri 40.51 324 *e*PKP **P 16 08 39.5 -0.2**
KHET *ex* x 16 08 39.5
KHET *ex* x 16 14 44.3
JOW Kunigami 40.58 39 P **P 16 08 39.9 -0.4**
comp=Z,38nm,0.6s,mb5.2,baz=266,slow=9.6,SNR=5.5
JOW S **S 16 14 47.1 -1.2**
comp=Z,19nm,1.1s,baz=90,slow=15,SNR=1.8
JOW Kunigami 40.58 39⇑ *i*P **P 16 08 39.6 -0.6**
comp=Z,60nm,1.1s,mb5.1
JOW S **S 16 14 47.1 -1.2**
DDI Dehra Dun 41.01 329 *ex* **P 16 08 41.0 -2.8**
DDI *ex* x 16 15 00.0
SMLA Simla 42.12 329 *i* P **P 16 08 52.2 -0.6**
SMLA *i* x x 16 14 38.4
BHK Bhakra 42.73 328 *e*PKP **P 16 08 58.7 +0.9**
TIA Tai'an 43.03 19⇑⇑ P **P 16 08 59.6 -0.6**
TIA pP pP 16 09 08.8 +0.7
TIA sP sP 16 09 13.1 +1.9
TIA PP PP 16 10 41.4 +1.0
TIA S **S 16 15 29.8 +5.5**
TIA LR LR
comp=N,88μm,20.8s,MS6.9
TIA LR LR
comp=E,117μm,20.0s,MS6.9
TIA LR LR
comp=Z,42μm,24.9s,MS6.2
TIY Taiyuan 43.15 13 *e*P **P 16 09 00.4 -0.7**
TIY S **S 16 15 26.3 +0.3**
TIY pmax pmax
comp=Z,5μm,6.7s
TIY LR LR
comp=N,46μm,13.7s,MS6.6
TIY LR LR
comp=E,5μm,11.7s,MS6.6
TIY LR LR
comp=Z,68μm,20.2s
GTA Gaotai 43.59 358 *e*P **P 16 09 04.8 +0.2**
GTA PP PP 16 10 48.1 +1.7
GTA S **S 16 15 32.3 -0.1**
GTA pmax pmax
comp=Z,120nm,0.7s,mb5.7
GTA pmax pmax
comp=Z,9μm,7.6s
GTA LR LR
comp=N,41μm,17.5s,MS6.8
GTA LR LR
comp=E,116μm,19.4s,MS6.8
GTA LR LR
comp=Z,92μm,22.3s,MS6.6
MRIV Mauritius Mete 45.38 246 *e*P **P 16 09 17.5 -1.8**
BTO Baotou 45.48 9 *e*P **P 16 09 19.5 -0.2**
PMG Port Moresby 45.84 99 P **P 16 09 22.2 -0.9**
comp=Z,212nm,1.0s,mb6.0,baz=279,slow=1.9,SNR=6.2
PMG Port Moresby 45.84 99 *e*P **P 16 09 19.9 -3.2**
PMG Port Moresby 45.84 99*c i*P **P 16 09 23.2 +0.1**
PMG pmax pmax
comp=Z,452nm,1.2s
PMG Port Moresby 45.84 99 P **P 16 09 23.5 +0.4**
comp=Z,334nm,1.4s,mb6.1
HHC Hu-ho-hao-te 45.99 11⇑ P **P 16 09 24.8 +1.1**
HHC PP PP 16 11 13.5 +1.6
HHC S **S 16 16 09.8 +2.6**
HHC SS SS 16 19 27.1 -5.4
HHC pmax pmax
comp=Z,140nm,1.2s,mb5.8
HHC pmax pmax
comp=Z,9μm,7.1s
HHC LR LR
comp=N,45μm,19.0s,MS6.7
HHC LR LR
comp=E,60μm,16.7s,MS6.7
HHC LR LR
comp=Z,57μm,19.0s,MS6.5
BJT Baijiatuao 46.27 16⇑ *i*P **P 16 09 26.0 +0.1**
comp=Z,381nm,0.5s,mb6.6
BJT Baijiatuao 46.27 16⇑ *i*P **P 16 09 26.0 +0.1**
BJT pmax pmax
comp=Z,381nm,0.5s
BJI Beijing 46.29 16 P **P 16 09 26.3 +0.2**
BJI pmax pmax
comp=Z,500nm,0.6s,mb6.6
BJI pmax pmax
comp=Z,10μm,5.1s
CTA Charters Tower 46.51 114 P **P 16 09 28.9 +0.7**
comp=Z,295nm,1.1s,mb6.1,baz=287,slow=11,SNR=5.3
CTA LR LR 16 27 60.0
comp=Z,46μm,21.6s,MS6.4,baz=286,slow=35
CTA Charters Tower 46.51 114 *e*P **P 16 09 29.0 +0.8**
comp=Z,199nm,1.0s,mb6.0
CTA *e*S **S 16 16 16.7 +1.4**
CTA Charters Tower 46.51 114 P **P 16 09 28.9 +0.7**
CTA Charters Tower 46.51 114 P **P 16 09 28.9 +0.7**
CTAO Charters Tower 46.51 114 *e*P **P 16 09 28.6 +0.4**
CTAO Charters Tower 46.51 114 *e*P **P 16 09 28.6 +0.4**
CTAO Charters Tower 46.51 114 P **P 16 09 29.2 +1.0**
comp=Z,419nm,1.4s,mb6.2
STKA Stephens Creek 46.67 131 P **P 16 09 31.0 +1.7**
comp=Z,87nm,1.0s,mb5.6,baz=302,slow=8.5,SNR=4.3
STKA LR LR 16 30 33.3
comp=Z,91μm,21.3s,MS6.7,baz=298,slow=38
STKA Stephens Creek 46.67 131 *e*P **P 16 09 28.9 -0.4**
STKA Stephens Creek 46.67 131 *e*P **P 16 09 28.9 -0.4**
JNU Nakatsue 46.69 35⇑ *e*P **P 16 09 27.7 -1.7**
comp=Z,145nm,1.3s,mb5.8
GUMO Guam 46.85 67 P **P 16 09 28.0 -2.9**
comp=Z,42nm,0.3s,mb5.8,baz=197,slow=6.4,SNR=10
GUMO Guam 46.85 67 *e*P **P 16 09 26.5 -4.4**
comp=Z,650nm,1.4s,mb6.4
GUMO Guam 46.85 67 *e*P **P 16 09 26.5 -4.4**
GUMO pmax pmax
comp=Z,650nm,1.4s,mb6.4
DL2 Dalian 47.02 22⇑ *i*P **P 16 09 31.3 -0.5**
DL2 PP PP 16 11 22.5 -0.3
DL2 S **S 16 16 24.6 +2.6**
DL2 pmax pmax
comp=Z,50nm,1.4s,mb5.2
DL2 pmax pmax
comp=Z,4μm,13.3s
DL2 LR LR
comp=N,31μm,18.6s,MS6.3
DL2 LR LR
comp=E,18μm,19.8s,MS6.3
DL2 LR LR
comp=Z,42μm,18.9s,MS6.4
INCN Inchon 47.89 27⇑ *i*P **P 16 09 37.2 -1.4**
comp=Z,162nm,1.4s,mb5.9
INCN Inchon 47.89 27 P **P 16 09 39.3 +0.7**
SNR=7.5
KSAR Wonju Array Be 48.44 29 P **P 16 09 41.8 -1.1**
KSAR Wonju Array Be 48.44 29 P **P 16 09 41.8 -1.1**
KSRS Korea Array 48.47 29 P **P 16 09 41.8 -1.3**
comp=Z,92nm,0.9s,mb5.8,baz=216,slow=7.5,SNR=76
KBL Kabul 49.17 324⇑ *e*P **P 16 09 46.6 -2.0**
comp=Z,45nm,0.7s,mb5.6
KBL Kabul 49.17 324⇑ *e*P **P 16 09 46.6 -1.9**
KBL pmax pmax
comp=Z,45nm,0.7s,mb5.6
WBK Wadi Bani Khal 49.23 305 P **P 16 09 50.7 +1.4**
SNR=19
KSH Kashi 49.49 334⇑ *i*P **P 16 09 49.3 -1.6**
KSH PcP PcP 16 11 12.6 -0.1
KSH PP PP 16 11 43.3 -2.1
KSH PcS PcS 16 15 07.6 -1.7
KSH S **S 16 16 52.6 -4.3**
KSH ScS ScS 16 19 37.9 -3.2
KSH pmax pmax
comp=Z,66nm,0.9s,mb5.7
KSH pmax pmax
comp=Z,940nm,5.5s
KSH LR LR
comp=N,7μm,16.7s,MS6.2
KSH LR LR
comp=E,21μm,19.1s,MS6.2
KSH LR LR
comp=Z,16μm,16.8s,MS6.1
WMQ Urumqi 49.50 347 P **P 16 09 51.5 +0.6**
WMQ PP PP 16 11 45.9 +0.5
WMQ S **S 16 16 57.8 +0.9**
WMQ pmax pmax
comp=Z,330nm,0.9s,mb6.4
WMQ pmax pmax
comp=Z,9μm,7.6s
WMQ LR LR
comp=N,37μm,19.6s,MS6.5
WMQ LR LR
comp=E,34μm,18.7s,MS6.5
WMQ LR LR
comp=Z,45μm,21.0s,MS6.4
JMDO Jabal Madar 49.84 304 P **P 16 09 56.0 +2.2**
SNR=15
SMDO Samad 50.19 305 P **P 16 09 58.5 +1.9**
SNR=36
SNY Shenyang 50.29 22⇑⇑ P **P 16 09 54.9 -2.1**
SNY pP pP 16 10 03.3 -1.7
SNY sP sP 16 10 08.5 +0.4
SNY PP PP 16 11 54.8 +2.2
SNY pmax pmax
comp=Z,110nm,2.0s,mb5.5
SNY pmax pmax
comp=Z,7μm,6.9s
SNY LR LR
comp=N,45μm,16.8s,MS6.6
SNY LR LR
comp=E,37μm,18.6s,MS6.6
SNY LR LR
comp=Z,69μm,18.1s,MS6.7
BSY Bisya 50.75 304 P **P 16 10 02.3 +1.6**
SNR=33
HOQ Hoqain 51.03 305 P **P 16 10 05.5 +2.5**
SNR=31
ARQ Araqi 51.57 304 P **P 16 10 09.7 +2.7**
SNR=13
ULHL Ulahol 51.66 336 P **P 16 10 07.8 +0.6**
SNR=38
KZA Kyzart 51.92 336 P **P 16 10 11.0 +1.8**
SNR=24
SONM Songino Array 52.19 4 P **P 16 10 11.4 +0.3**
comp=Z,231nm,0.8s,mb6.2,baz=185,slow=9.2,SNR=337
SONM PcP PcP 16 11 24.1 +1.6
comp=Z,42nm,0.7s,baz=192,slow=3.6,SNR=6.2
SONM Songino Array 52.19 4 P **P 16 10 11.4 +0.3**
SONM PcP PcP 16 11 24.1 +1.6
SONM Songino Array 52.19 4 P **P 16 10 11.4 +0.3**
SONM 16 11 24.1
AAA Alma-Ata 52.26 338 *i* P **P 16 10 12.4 +0.7**
AAA *i* S **S 16 17 35.1 0.0**
AAA smax
comp=N,23μm,11.5s
AAA MLR MLR
comp=Z,20μm,23.0s,MS6.1
ULN Ulaanbaatar 52.27 5⇑ *i*P **P 16 10 11.9 +0.2**
comp=Z,275nm,1.2s,mb6.1
ULN Ulaanbaatar 52.27 5⇑ *i*P **P 16 10 11.9 +0.2**
ULN pmax pmax
comp=Z,275nm,1.2s,mb6.1

ULN Ulaanbaatar 52.27 5 P **P** **16 10 12.2 +0.5**
comp=Z,7μmcomp=Z,242nm,1.4s,mb6.0
ULN Ulaanbaatar 52.27 5 P **P** **16 10 12.3 +0.7**
SNR=99
UCH Uchtor 52.35 335 P **P** **16 10 14.3 +1.9**
SNR=13
TKM2 Tokmak 2 52.48 336 P **P** **16 10 13.2 -0.2**
SNR=65
TKM2 Tokmak 2 52.48 336⇑*e*P **P** **16 10 12.5 -0.9**
TKM2 Tokmak 2 52.48 336 *i* P **P** **16 10 13.1 -0.3**
KBK Karagaybulak 52.53 336 P **P** **16 10 14.2 +0.5**
SNR=36
ASHO Ashiyiah 52.55 306 P **P** **16 10 16.1 +1.9**
SNR=13
AML Almayashu 52.62 334 P **P** **16 10 15.1 +0.7**
SNR=37
CN2 Changchun 52.69 22 ⇑P **P** **16 10 13.6 -1.3**
CN2 PP PP 16 12 16.8 +2.5
CN2 pmax pmax
comp=Z,20nm,0.7s,mb5.2
CN2 LR LR
comp=N,60μm,19.0s,MS6.7
CN2 LR LR
comp=E,35μm,19.0s,MS6.7
CN2 LR LR
comp=Z,36μm,21.0s,MS6.4
AAK Ala-Archa 52.70 335 P **P** **16 10 15.7 +0.7**
SNR=22
AAK Ala-Archa 52.70 335⇑*i*P **P** **16 10 15.3 +0.4**
AAK Ala-Archa 52.70 335 *i* P **P** **16 10 15.6 +0.7**
AAK Ala-Archa 52.70 335 P **P** **16 10 15.6 +0.7**
comp=Z,525nm,2.1s,mb6.1
AAK Ala-Archa 52.70 335 P **P** **16 10 15.5 +0.6**
comp=Z,306nm,1.3s,mb6.1,SNR=17
AAK Ala-Archa 52.70 335 P **P** **16 10 16.1 +1.1**
SNR=26
FRU Bishkek 52.81 336 *e*P **P** **16 10 15.8 0.0**
FRU *e* 16 17 40.0
CHMS Chumysh 52.89 336 P **P** **16 10 17.9 +1.5**
SNR=25
NAZ Nazwa, Dubai 53.01 306 P **P** **16 10 19.8 +2.1**
SNR=31
EKS2 Erkin-Say 53.02 335 P **P** **16 10 17.8 +0.5**
SNR=95
EKS2 Erkin-Say 53.02 335 *e*P **P** **16 10 17.7 +0.4**
EKS2 Erkin-Say 53.02 335 *e*P **P** **16 10 17.7 +0.4**
ASUD Al Ashush, Dub 53.12 305 P **P** **16 10 21.0 +2.6**
SNR=19
USP Ospenovka 53.22 336 P **P** **16 10 18.5 -0.3**
SNR=51
MAJO Matsushiro 53.38 37⇑*i*P **P** **16 10 18.3 -1.8**
comp=Z,244nm,1.3s,mb6.0
MAJO Matsushiro 53.38 37⇑*i*P **P** **16 10 18.3 -1.8**
MAJO pmax pmax
comp=Z,244nm,1.3s,mb6.0
MAT Matsushiro 53.38 37 P **P** **16 10 17.7 -2.4**
MAT S **S** **16 17 50.0 -0.7**
MJAR Matsushiro Arr 53.38 37 P **P** **16 10 18.0 -2.1**
comp=Z,68nm,0.7s,mb5.7,baz=218,slow=7.4,SNR=75
MJAR PKP2bc 16 40 52.4
comp=Z,1.3nm,0.8s,baz=0.3,slow=1.9,SNR=4.0
MJAR Matsushiro Arr 53.38 37 P **P** **16 10 18.0 -2.1**
MJAR ⇑*e* 16 40 52.4
MJAR Matsushiro Arr 53.38 37 P **P** **16 10 18.0 -2.1**
MK31 Makanchi Array 53.63 344 *e*P **P** **16 10 20.8 -1.0**
MK31 Makanchi Array 53.63 344 *i* P **P** **16 10 20.9 -0.9**
MK31 pmax pmax
comp=Z,182nm,0.8s,mb6.1
MKAR Makanchi Array 53.63 344 P **P** **16 10 21.1 -0.7**
comp=Z,137nm,0.8s,mb6.0,baz=147,slow=8.2,SNR=142
MKAR S **S** **16 17 55.1 +1.4**
comp=Z,1.8nm,0.9s,baz=142,slow=7.3,SNR=2.1
MKAR LR LR 16 38 02.5
comp=Z,19μm,20.4s,MS6.1,baz=157,slow=42
MKAR P3KP 16 39 28.3
comp=Z,1.1nm,0.7s,baz=297,slow=3.1,SNR=6.0
MKAR Makanchi Array 53.63 344 P **P** **16 10 21.1 -0.7**
MKAR S **S** **16 17 55.1 +1.4**
MKAR PKKKP 16 39 28.3
MKAR Makanchi Array 53.63 344 P **P** **16 10 21.1 -0.7**
MKAR S **S** **16 17 55.2 +1.4**
CAN Canberra 53.73 131 *e*P **P** **16 10 26.0 +3.3**
CAN Canberra 53.73 131 *e*P **P** **16 10 26.0 +3.3**
ARMA Armidale 54.04 125 *e*P **P** **16 10 27.4 +2.3**
ZAK Zakamensk 54.57 2 *e*P **P** **16 10 28.6 +0.1**
ZAK pmax pmax
comp=Z,45nm,0.9s,mb5.5
ABPO Ambohimpanom 54.62 250 *e*P **P** **16 10 30.3 +0.8**
comp=Z,34nm,0.9s,mb5.4
ABPO Ambohimpanom 54.62 250 *e*P **P** **16 10 30.3 +0.8**
ABPO pmax pmax
comp=Z,34nm,0.9s,mb5.4
VLA Vladivostok 54.80 27⇓*i*P **P** **16 10 27.3 -3.1**
VLA *i* 16 11 29.8
VLA *e* 16 12 29.4
VLA *e*S **S** **16 18 04.7 -5.0**
VLA pmax pmax
comp=Z,264nm,1.9s,mb5.9
VLA smax
comp=N,1μm,1.3s
KK31 Karatay Array 54.81 333 *i* P **P** **16 10 29.6 -0.8**
KK31 pmax pmax
comp=Z,15nm,0.5s,mb5.3
KKAR Karatay Array 54.81 333 *e*P **P** **16 10 28.4 -2.0**
KKAR Karatay Array 54.81 333 *e*P **P** **16 10 28.4 -2.0**
MDJ Mudanjiang 55.00 24 P **S** **16 10 31.3 -0.5**
MDJ PP PP 16 12 35.3 +0.1
MDJ S **S** **16 18 14.8 +2.5**
MDJ SS SS 16 22 00.3 +3.9
MDJ pmax pmax
comp=Z,110nm,1.6s,mb5.6
MDJ pmax pmax
comp=Z,7μm,16.1s
MDJ LR LR
comp=N,30μm,18.8s,MS6.6
MDJ LR LR
comp=E,38μm,18.8s,MS6.6
MDJ LR LR
comp=Z,42μm,21.3s,MS6.5
MDJ Mudanjiang 55.00 24⇑*e*P **P** **16 10 31.0 -0.8**
comp=Z,100nm,1.1s,mb5.8
HIA Hailar 55.80 15⇑*i*P **P** **16 10 36.3 -1.1**
comp=Z,65nm,0.8s,mb5.7
HIA Hailar 55.80 15⇑*i*P **P** **16 10 36.3 -1.1**
HIA pmax pmax
comp=Z,65nm,0.8s
IMYA Miami 55.83 320 *e*P **P** **16 10 35.5 -2.4**
MOY Mondy 55.83 360 *e*P **P** **16 10 38.0 +0.4**
MOY pmax pmax
comp=Z,295nm,2.2s,mb5.9
TLY Talaya 55.88 2⇑*i*P **P** **16 10 38.6 +0.6**
comp=Z,167nm,1.1s,mb6.0
TLY Talaya 55.88 2 *e*P **P** **16 10 38.6 +0.7**
TLY *e* 16 12 47.5
TLY *e*S **S** **16 18 24.3 +0.5**
TLY *e*PS 16 18 34.9
TLY *e* 16 20 24.0
TLY pmax pmax
comp=Z,128nm,1.1s,mb5.9
TLY MLR MLR
comp=Z,43μm,17.0s,MS6.6
TLY Talaya 55.88 2 P **P** **16 10 38.3 +0.4**
comp=Z,690nm,1.1s,mb6.6,SNR=22
TLY Talaya 55.88 2 P **P** **16 10 39.4 +1.5**
SNR=56
TAU Tasmania Unive 55.98 140 *e*P **P** **16 10 41.1 +2.1**
comp=Z,280nm,1.3s,mb6.1
TAU Tasmania Unive 55.98 140 *e*P **P** **16 10 41.1 +2.2**
TAU pmax pmax
comp=Z,280nm,1.3s,mb6.1
IMOG Moghan 56.17 319 *e*P **P** **16 10 36.2 -4.2**
ISRO Mashad 56.21 320 *e*P **P** **16 10 37.3 -3.3**
IRK Irkutsk 56.46 2 *e*P **P** **16 10 43.1 +1.0**
IRK *e*S **S** **16 18 32.2 +0.7**
IRK pmax pmax
comp=Z,475nm,1.7s,mb6.2
IPAY Payeh 56.60 320 *e*P **P** **16 10 41.8 -1.6**
IMEH Mehriz 56.88 312 *e*P **P** **16 10 44.3 -1.2**
ISRV Sarvestan 57.04 309 *e*P **P** **16 10 47.0 +0.3**
IKRD Kardeh 57.11 320 *e*P **P** **16 10 41.5 -5.5**
IPAR Pars 57.30 310 *e*P **P** **16 10 49.0 +0.5**
IEMG Emamgholi 57.40 320 *e*P **P** **16 10 48.3 -0.8**
ICHK Chekchek 57.45 313 *e*P **P** **16 10 49.3 -0.3**
ABKT Ailbek 58.05 320 P **P** **16 10 53.0 -0.6**
comp=Z,535nm,0.9s,mb6.6,SNR=8.4

VAN Vannovskaya 58.06 320 *e*P **P** **16 10 53.2 -0.5**
KURK Kurchatov 58.22 343 P **P** **16 10 53.1 -1.4**
comp=Z,121nm,1.0s,mb5.9,baz=162,slow=6.4,SNR=113
KURK S **S** **16 18 54.1 -0.5**
comp=Z,0.9nm,0.7s,baz=91,slow=8.6,SNR=4.6
KURK P3KP 16 39 19.2
comp=Z,1.1nm,0.8s,baz=281,slow=4.1,SNR=8.8
KURK LR LR 16 40 26.3
comp=Z,46μm,19.4s,MS6.6,baz=150,slow=41
KURK PKP2bc 16 40 45.1
comp=Z,1.7nm,1.0s,baz=336,slow=2.3,SNR=4.1
KURK P4KPbc 16 48 05.3
comp=Z,0.9nm,0.9s,baz=164,slow=3.5,SNR=6.9
KURK Kurchatov 58.22 343 P **P** **16 10 53.1 -1.4**
KURK S **S** **16 18 54.1 -0.5**
KURK PKKKP 16 39 19.2
KURK ⇑*e* 16 40 45.1
KURK *e* 16 48 05.3
KURK Kurchatov 58.22 343 P **P** **16 10 53.2 -1.3**
KURK S **S** **16 18 54.2 -0.5**
KURK Kurchatov 58.22 343 P **P** **16 10 53.7 -0.8**
comp=Z,1μm,1.0s,mb6.8,SNR=49
KURK Kurchatov 58.22 343 P **P** **16 10 54.0 -0.6**
SNR=119
LBOS 58.41 289 *e*P **P** **16 10 58.4 +1.8**
HNR Honiara 58.46 98 P **P** **16 10 56.4 -0.6**
comp=Z,764nm,1.1s,mb6.7,baz=173,slow=5.6,SNR=8.1
HNR Honiara 58.46 98 *e*P **P** **16 10 54.6 -2.3**
HNR Honiara 58.46 98 *e*P **P** **16 10 54.6 -2.3**
IZEF Zefreh 59.30 312 *e*P **P** **16 11 00.7 -1.7**
KLR Kul'dur 59.61 23 *e*P **P** **16 11 00.0 -4.2**
KLR *e*S **S** **16 19 06.0 -6.8**
KLR *e* 16 19 24.0
KLR pmax pmax
comp=E,200nm,1.8s
KLR pmax pmax
comp=Z,800nm,1.8s,mb6.5
KLR pmax pmax
comp=N,3μm,14.5s
KLR pmax pmax
comp=E,2μm,14.5s
KLR pmax pmax
comp=Z,8μm,14.5s
ZAA0 Zalesovo Array 59.72 349⇑*i*P **P** **16 11 04.0 -0.8**
ZALV Zalesovo Beam 59.72 349 P **P** **16 11 03.8 -1.1**
comp=Z,280nm,0.9s,mb6.3,baz=183,slow=4.8,SNR=123
ZALV S **S** **16 19 15.8 +1.8**
comp=Z,5.7nm,0.9s,baz=160,slow=14,SNR=7.8
ZALV PKP2bc 16 40 38.1
comp=Z,2.6nm,1.1s,baz=302,slow=3.3,SNR=6.0
ZALV LR LR 16 40 52.4
comp=Z,28μm,19.0s,MS6.4,baz=38,slow=40
ZALV Zalesovo Beam 59.72 349 P **P** **16 11 03.8 -1.1**
ZALV S **S** **16 19 15.8 +1.8**
ZALV ⇑*e* 16 40 38.1
ZALV Zalesovo Beam 59.72 349 P **P** **16 11 03.8 -1.1**
ZALV S **S** **16 19 15.8 +1.8**
ERM Erimo 59.85 35 *e*P **P** **16 11 05.1 -0.9**
comp=Z,270nm,1.3s,mb6.1
ERM Erimo 59.85 35 P **P** **16 11 05.9 -0.1**
comp=Z,595nm,0.6s,mb6.8,SNR=7.4
ERM Erimo 59.85 35*c* *i*P **P** **16 11 05.1 -0.9**
ERM pmax pmax
comp=Z,195nm,1.7s,mb5.9
ERM MLR MLR
comp=Z,86μm,23.0s,MS6.8
IKIA Kiasar 60.01 316 *e*P **P** **16 11 07.1 -0.2**
IKLH Kolahrood 60.06 313 *e*P **P** **16 11 08.0 +0.4**
ISHM Shahmirzad 60.07 316 *e*P **P** **16 11 07.3 -0.4**
ILAS Lasjerd 60.09 315 *e*P **P** **16 11 07.1 -0.7**
IPIR Pirpir 60.26 312 *e*P **P** **16 11 11.5 +2.4**
HABR Khabarovsk 60.35 25*c* *i*P **P** **16 11 06.7 -2.6**
HABR *e**PP pP 16 11 18.4 +0.9
HABR *e**SP sP 16 11 24.0 +3.4
HABR 16 11 52.4
HABR *e* 16 13 19.9
HABR *e*S **S** **16 19 18.0 -4.4**
HABR *e* 16 19 32.6
HABR *e**SS sS 16 19 38.5 +2.7
HABR *e* 16 20 54.7
HABR pmax pmax
comp=Z,3μm,4.8s
HABR pmax pmax
comp=E,141nm,1.9s
HABR pmax pmax
comp=Z,293nm,1.9s,mb6.0
HABR pmax pmax
comp=N,93nm,2.1s
HABR smax
comp=Z,812nm,9.3s
HABR smax
comp=N,1μm,9.5s
HABR smax
comp=E,913nm,11.9s
HABR MLR MLR
comp=E,65μm,20.0s,MS6.9
HABR MLR MLR
comp=Z,63μm,20.0s,MS6.8
HABR MLR MLR
comp=N,58μm,21.0s,MS6.9
IFIR Firoozkooh 60.36 315 *e*P **P** **16 11 10.2 +0.5**
IVRN Varamin 60.76 314 *e*P **P** **16 11 11.7 -0.7**
IDMV Damavand 60.84 315 *e*P **P** **16 11 12.6 -0.3**
QRN Al-Qurain 60.86 306 *e*P **P** **16 11 12.9 -0.3**
QRN AMb AMB 16 11 23.8
comp=Z,254nm,1.6s,mb6.1
NVS Novosibirsk 60.87 348⇑*i*P **P** **16 11 10.9 -1.9**
NVS *e* 16 13 34.9
NVS *e*S **S** **16 19 30.6 +1.8**
NVS pmax pmax
comp=N,119nm,1.6s
NVS pmax pmax
comp=E,85nm,1.6s
NVS pmax pmax
comp=Z,196nm,1.6s,mb6.0
NVS smax
comp=N,92nm,2.2s
NVS smax
comp=E,45nm,1.8s
ASAJ Asahikawa 60.90 33 P **P** **16 11 12.8 -0.3**
comp=E,65nm,0.8s,mb5.8,baz=242,slow=8.0,SNR=57
ASAJ Asahikawa 60.90 33 *e*P **P** **16 11 12.0 -1.2**
comp=E,33nm,0.8s,mb5.5
IPRN Peran 60.96 316 *e*P **P** **16 11 14.4 +0.6**
RDF Al-Radifah 61.23 306 *e*P **P** **16 11 14.7 -1.0**
RDF AMb AMB 16 11 26.7
comp=Z,317nm,1.2s,mb6.3
UMR Umm Al-Rimmam 61.35 307 *e*P **P** **16 11 16.3 -0.3**
UMR AMb AMB 16 11 19.3
comp=Z,211nm,0.8s,mb6.3
IR3 Iran Long-Peri 61.50 314 *e*P **P** **16 11 18.8 +1.4**
NAY Al-Naaiem 61.61 307 *e*P **P** **16 11 17.6 -0.7**
NAY AMb AMB 16 11 28.8
comp=Z,127nm,1.0s,mb6.0
MIB Mutribah 61.75 307 *e*P **P** **16 11 18.5 -0.8**
MIB AMb AMB 16 11 30.1
comp=Z,365nm,0.9s,mb6.5
IMHD Mahdasht 61.86 315 *e*P **P** **16 11 21.4 +1.6**
CASY Casey 62.13 176 *e*P **P** **16 11 22.4 +1.3**
CASY Casey 62.13 176 *e*P **P** **16 11 21.8 +0.7**
comp=Z,96nm,1.2s,mb5.8
IRAZ Razeghan 62.25 314 *e*P **P** **16 11 22.4 -0.1**
MIR Mirnyy 62.33 184⇑*i*P PcS 16 16 12.0 +7.3
YUK Yuzh-Kuril'sk 62.66 35*d* *i*P **P** **16 11 27.7 +2.7**
YUK *i* S **S** **16 19 44.6 -7.2**
YUK pmax pmax
comp=E,423nm,1.6s
YUK pmax pmax
comp=Z,1μm,1.6s,mb6.8
YUK pmax pmax
comp=N,603nm,1.6s
YUK smax
comp=E,2μm,2.3s
YUK smax
comp=N,4μm,2.3s
YUK MLR MLR
comp=N,17μm,22.0s,MS6.2
YUK MLR MLR
comp=E,8μm,22.0s,MS6.2
YUK MLR MLR
comp=Z,29μm,22.0s,MS6.4
BVA0 Borovoye Array 62.82 340 *i* P **P** **16 11 24.4 -1.5**
BVA0 pmax pmax
comp=Z,21nm,1.0s,mb5.2
BVAR Borovoye Array 62.82 340 P **P** **16 11 24.5 -1.4**

comp=Z,59nm,0.6s,mb5.9,baz=144,slow=8.7,SNR=96
BVAR PKP2bc 16 40 36.9
comp=Z,1.3nm,1.0s,baz=112,slow=1.6,SNR=5.1
BVAR Borovoye Array 62.82 340 P **P** **16 11 24.5 -1.5**
BVAR ⇑*e* 16 40 36.9
BVAR Borovoye Array 62.82 340 P **P** **16 11 24.5 -1.4**
YSS Yuzh-Sakhalins 62.86 31 *e*P **P** **16 11 25.1 -1.2**
comp=Z,299nm,1.0s,mb6.4
YSS Yuzh-Sakhalins 62.86 31*c**e*P **P** **16 11 24.9 -1.4**
YSS *e**PP pP 16 11 34.0 -0.5
YSS *e* 16 13 43.0
YSS *e*PPP 16 15 18.0
YSS *e*S **S** **16 19 54.0 -0.2**
YSS *e*PS 16 20 06.0
YSS pmax pmax
comp=N,90nm,1.0s
YSS pmax pmax
comp=Z,250nm,1.0s,mb6.3
YSS pmax pmax
comp=E,80nm,0.9s
YSS MLR MLR
comp=Z,39μm,20.0s,MS6.6
YSS MLR MLR
comp=N,25μm,21.0s,MS6.5
YSS MLR MLR
comp=E,12μm,17.0s,MS6.5
BRVK Borovoye 62.89 340 *e*P **P** **16 11 24.8 -1.5**
comp=E,118nm,1.0s,mb6.0
BRVK *e*PP PP 16 13 34.2 -11
BRVK Borovoye 62.89 340 P **P** **16 11 24.2 -2.1**
comp=E,610nm,1.3s,mb6.6,SNR=58
BRVK Borovoye 62.89 340*c* *i*P **P** **16 11 24.9 -1.4**
BRVK pmax pmax
comp=Z,170nm,1.2s,mb6.0
BRVK MLR MLR
comp=Z,32μm,20.0s,MS6.5
BRVK Borovoye 62.89 340 P **P** **16 11 25.7 -0.7**
SNR=47
KMBO Kilima Mbogo 63.97 271 *e*P **P** **16 11 35.4 +1.1**
comp=Z,139nm,0.1s,mb6.9
KMBO Kilima Mbogo 63.97 271 *e*P **P** **16 11 35.4 +1.1**
KMBO Kilima Mbogo 63.97 271 P **P** **16 11 36.5 +2.1**
SNR=22
CLNS Chul'man 63.98 14 *e*P **P** **16 11 32.2 -1.3**
CLNS *e**PP pP 16 11 39.5 -2.3
CLNS *e* 16 12 07.0
CLNS *e* 16 13 50.6
CLNS *e*PPP 16 15 22.1
CLNS *e*S **S** **16 20 06.7 -1.2**
CLNS *e*SS SS 16 24 10.3 -6.7
CLNS pmax pmax
comp=Z,52nm,1.0s,mb5.5
CLNS pmax pmax
comp=N,32nm,1.1s
CLNS pmax pmax
comp=E,30nm,0.9s
CLNS pmax pmax
comp=Z,27nm,1.4s,mb5.1
CLNS pmax pmax
comp=N,29nm,1.1s
CLNS pmax pmax
comp=E,20nm,1.0s
CLNS smax
comp=N,4μm,14.4s
CLNS smax
comp=E,2μm,13.0s
CLNS MLR MLR
comp=N,50μm,16.0s,MS6.9
CLNS MLR MLR
comp=E,31μm,14.0s,MS6.9
CLNS MLR MLR
comp=Z,48μm,15.0s,MS6.8
AB31 Akbulak array 64.30 331 *i* P **P** **16 11 34.4 -1.4**
AB31 pmax pmax
comp=Z,325nm,1.1s,mb6.3
ABKAR Akbulak array 64.30 331⇑*e*P **P** **16 11 33.9 -1.8**
comp=Z,240nm,0.9s,mb6.2
IDHR Dehrash 64.52 312 *e*P **P** **16 11 35.4 -2.1**
ISRB Sarab 64.99 315 *e*P **P** **16 11 39.6 -0.9**
DZM Mont Dzumac 65.42 112 *e*P **P** **16 11 45.7 +2.1**
comp=Z,1μm,0.7s,mb7.1
DZM *e*LR LR 16 31 29.8
comp=Z,90μm,24.9s
BHD Baghdad 65.45 310 *i* x x 16 11 41.0
BHD *e* x 16 20 23.0
IHRS Heris 65.66 316 *e*P **P** **16 11 45.5 +0.7**
AKTO Aktyubinsk 66.02 331 P **P** **16 11 46.0 -0.8**
comp=Z,79nm,1.1s,mb5.6,baz=136,slow=6.2,SNR=30
AKTO Aktyubinsk 66.02 331 P **P** **16 11 46.0 -0.8**
AKTO Aktyubinsk 66.02 331 P **P** **16 11 46.0 -0.9**
ISHB Shabestar 66.64 315 *e*P **P** **16 11 51.4 +0.2**
IMRD Marand 66.77 315 *e*P **P** **16 11 52.4 +0.4**
MAK Makhachkala 67.56 320*c* *i*P **P** **16 11 57.8 +0.9**
MAK *e* 16 12 25.6
MAK *e* 16 14 24.6
MAK *i* S S 16 20 51.1 -1.0
MAK *e* 16 21 52.5
MAK pmax pmax
comp=N,34nm,0.7s
MAK pmax pmax
comp=E,57nm,0.6s
MAK pmax pmax
comp=Z,104nm,0.7s,mb6.0
MAK pmax pmax
comp=Z,5μm,8.6s
MAK smax
comp=Z,4μm,9.6s
MAK smax
comp=N,15μm,8.9s
MAK smax
comp=E,12μm,8.8s
GNI Garni 68.08 316⇑*e*P **P** **16 12 00.5 +0.3**
comp=E,79nm,0.9s,mb5.7
GNI Garni 68.08 316*c* *i*P **P** **16 12 00.2 0.0**
GNI pmax pmax
comp=Z,66nm,1.6s
GNI MLR MLR
comp=Z,12μm,23.0s
DGRG David-gareji 68.24 318 P **P** **16 12 01.9 +0.7**
DGRG S S 16 21 01.9 +1.6
MAW Mawson 68.31 195 P **P** **16 12 01.1 -0.1**
comp=Z,52nm,1.1s,mb5.5,baz=47,slow=8.6,SNR=22
MAW PKP2ab 16 40 19.6
comp=Z,5.6nm,0.8s,baz=219,slow=6.3,SNR=5.6
MAW Mawson 68.31 195 *e*P **P** **16 12 01.0 -0.1**
comp=Z,25nm,0.8s,mb5.3
MAW Mawson 68.31 195 *e*P **P** **16 12 01.1 -0.1**
comp=Z,20nm,1.3s,mb5.0
MAW P'P'ab 16 40 19.6
MAW Mawson 68.31 195 *e*P **P** **16 12 01.1 0.0**
MAW pmax pmax
comp=Z,20nm,1.3s
MTA Mtatsminda 68.74 318 P **P** **16 12 04.7 +0.4**
MTA S S 16 21 07.0 +0.8
TBLG Delisi 68.79 318 P **P** **16 12 06.3 +1.7**
TBLG Delisi 68.79 318 P **P** **16 12 06.3 +1.6**
TBLG S S 16 20 48.0 -19
SVE Sverdlovsk 69.33 338*d* *i*P **P** **16 12 07.7 0.0**
SVE *e* 16 14 37.5
SVE *e*PPP 16 16 24.4
SVE *e*S S 16 21 12.0 -0.6
SVE *e* 16 22 07.1
SVE *e*SS SS 16 25 37.5 -2.5
SVE pmax pmax
comp=Z,342nm,1.1s,mb6.2
SVE pmax pmax
comp=Z,5μm,16.8s
SVE MLR MLR
comp=N,20μm,22.0s,MS6.6
SVE MLR MLR
comp=E,48μm,22.0s,MS6.7
SVE MLR MLR
comp=E,29μm,21.0s,MS6.6
AKH Akhalkalaki 69.48 317 P **P** **16 12 09.1 +0.1**
AKH S S 16 21 17.1 +2.1
YAK Yakutsk 69.73 14⇑*e*P **P** **16 12 07.8 -2.2**
comp=E,319nm,0.8s,mb6.3
YAK Yakutsk 69.73 14*c* *i*P **P** **16 12 08.6 -1.4**
YAK *e**PP pP 16 12 17.7 -0.6
YAK *e* 16 12 26.6
YAK *e* 16 14 40.1
YAK *e*S S 16 21 11.8 -5.3
YAK *e*SS SS 16 25 39.8 -6.1
YAK pmax pmax
comp=Z,195nm,0.9s,mb6.0

YAK pmax pmax
comp=N,84nm,1.1s
YAK pmax pmax
comp=E,37nm,1.0s
YAK pmax pmax
comp=Z,47nm,0.8s,mb5.5
YAK pmax pmax
comp=E,170nm,1.5s
YAK pmax pmax
comp=N,229nm,1.9s
YAK smax
comp=E,1μm,11.9s
YAK smax
comp=N,5μm,16.1s
YAK MLR MLR
comp=E,44μm,17.0s,MS7.0
YAK MLR MLR
comp=N,51μm,16.0s,MS7.0
YAK MLR MLR
comp=Z,75μm,16.0s,MS7.0
ZEI Tsey 69.81 319 *e*P **P 16 12 09.8 -1.2**
ZEI *e*S S 16 21 18.5 -0.3
ZEI pmax pmax
comp=Z,69nm,0.9s,mb5.6
ARU Arti 69.86 336⇑ *e*P **P 16 12 08.8 -2.2**
comp=Z,153nm,1.0s,mb5.9
ARU Arti 69.86 336 *c i*P **P 16 12 09.8 -1.1**
ARU *e* 16 12 32.2
ARU *e* 16 14 41.9
ARU *e*PPP 16 16 21.5
ARU S S 16 21 17.8 -1.0
ARU 16 22 09.9
ARU SS SS 16 25 51.2 +3.0
ARU pmax pmax
comp=Z,185nm,1.2s,mb5.9
ARU smax
comp=N,5μm,18.7s
ARU MLR MLR
comp=Z,31μm,23.0s,MS6.5
ARU Arti 69.86 336 P **P 16 12 10.9 0.0**
comp=Z,876nm,1.2s,mb6.6,SNR=18
POGA Pongola 69.91 243 *e*P **P 16 12 10.3 -1.6**
POGA AMS AMS 16 38 42.6
comp=Z,31μm,17.8s,MS6.6
ONI Oni 70.03 318 P **P 16 12 11.6 -0.7**
ONI S S 16 21 21.8 +0.4
MBAR Mbarara 70.50 271 *e*P **P 16 12 15.7 -0.1**
ASF Jabal al Asfar 70.96 306 P **P 16 12 19.0 +0.7**
comp=Z,45nm,1.0s,mb5.4,baz=1.0,slow=2.1,SNR=34
ASF LR LR 16 44 32.5
comp=Z,35μm,19.1s,MS6.6,baz=335,slow=37
ASF Jabal al Asfar 70.96 306 P **P 16 12 19.0 +0.7**
ASF Jabal al Asfar 70.96 306 P **P 16 12 19.0 +0.8**
KIV Kislovodsk 71.13 319⇑ *e*P **P 16 12 17.9 -1.0**
comp=Z,108nm,1.1s,mb5.7
KIV Kislovodsk 71.13 319 *α i*P **P 16 12 18.8 -0.2**
KIV *e* 16 12 29.6
KIV *i* 16 12 44.5
KIV *i* 16 14 59.7
KIV *i* S S 16 21 34.0 -0.2
KIV *e*SS SS 16 26 06.0 -2.2
KIV pmax pmax
comp=Z,66nm,1.0s,mb5.5
KIV MLR MLR
comp=Z,13μm,22.0s,MS6.1
KIV Kislovodsk 71.13 319 P **P 16 12 19.8 +0.8**
comp=Z,374nm,1.0s,mb6.3,SNR=7.2
KIV Kislovodsk 71.13 319 P **P 16 12 19.9 +0.9**
SNR=10.0
EIL Elat 71.83 303 P **P 16 12 23.7 +0.2**
comp=Z,46nm,0.8s,mb5.5,baz=127,slow=3.1,SNR=35
EIL LR LR 16 44 26.9
comp=Z,33μm,18.8s,MS6.6,baz=106,slow=36
EIL Elat 71.83 303 P **P 16 12 23.7 +0.2**
SKR Severo-Kuril's 72.16 33 *e*P **P 16 12 26.0 +1.0**
SKR *e* pP 16 12 33.9 +0.5
SKR *e*PS 16 22 28.0
SKR *e* 16 22 30.0
SKR pmax pmax
comp=N,220nm,1.0s
SKR pmax pmax
comp=E,220nm,1.0s
SKR pmax pmax
comp=Z,270nm,1.0s,mb6.1
HWQ Hawqa 72.37 308 *e*P **P 16 12 28.7 +2.0**
MMAI Mount Meron Ar 72.42 306 P **P 16 12 27.6 +0.7**
comp=Z,27nm,0.8s,mb5.2,baz=102,slow=7.8,SNR=24
MMAI Mount Meron Ar 72.42 306 P **P 16 12 27.6 +0.7**
RPZ Rata Peaks 72.45 134 P **P 16 12 28.1 +1.1**
comp=Z,39nm,0.9s,mb5.3,baz=252,slow=4.3,SNR=5.7
RPZ LR LR 16 43 17.1
comp=Z,60μm,21.7s,MS6.8,baz=278,slow=35
RPZ Rata Peaks 72.45 134 P **P 16 12 28.1 +1.1**
BHL Bhannes 72.49 307 *e*P **P 16 12 28.1 +0.7**
LSZ Lusaka 72.51 255 *e*P **P 16 12 26.6 -1.2**
LSZ Lusaka 72.51 255⇓ *e*P **P 16 12 27.5 -0.3**
comp=Z,39nm,1.0s,mb5.3
LSZ Lusaka 72.51 255⇓ *e*P **P 16 12 27.5 -0.3**
LSZ pmax pmax
comp=Z,39nm,1.0s,mb5.3
LSZ Lusaka 72.51 255 P **P 16 12 29.6 +1.8**
SNR=14
LSZ Lusaka 72.51 255 mb 16 12 41.8
SNR=21
SOKR Solikamsk 72.71 338 *c i*P **P 16 12 28.1 0.0**
SOKR 16 12 39.6
SOKR 16 15 14.3
SOKR S S 16 21 49.9 -1.8
SOKR SS SS 16 26 29.8 -2.0
SOKR pmax pmax
comp=Z,310nm,1.1s,mb6.2
SOKR MLR MLR
comp=Z,47μm,24.0s,MS6.7
SLR Silverton 72.75 245 *e*P **P 16 12 27.4 -1.8**
SLR AMS AMS 16 37 23.2
comp=Z,30μm,22.6s,MS6.5
ERPM east rand prop 72.83 244 *e*P **P 16 12 30.4 +0.9**
ERPM AMS AMS 16 38 58.0
comp=Z,28μm,17.4s,MS6.6
SOC Sochi 72.93 318 *c i*P **P 16 12 28.4 -1.4**
SOC *i* *PP pP 16 12 38.8 +0.7
SOC *i* 16 12 44.8
SOC *e* 16 15 08.6
SOC *e*PPP 16 16 55.7
SOC *i* S S 16 21 52.2 -2.6
SOC *i* 16 22 31.8
SOC *e*SS SS 16 26 29.4 -6.4
SOC pmax pmax
comp=Z,81nm,0.9s,mb5.7
SOC pmax pmax
comp=Z,1μm,3.9s
SOC MLR MLR
comp=Z,11nm,17.0s,MS6.2
SEK Senekal 73.50 242 *e*P **P 16 12 32.9 -0.7**
SEK AMS AMS 16 39 46.3
comp=Z,30μm,18.4s,MS6.6
PEA0B Petropavlovsk- 74.24 31 *e*P **P 16 12 36.7 -0.5**
PETK Petropavlovsk- 74.24 31 P **P 16 12 35.9 -1.4**
comp=Z,23nm,0.6s,mb5.3,baz=221,slow=2.0,SNR=30
PETK Petropavlovsk- 74.24 31 P **P 16 12 35.9 -1.4**
PETK Petropavlovsk- 74.24 31 P **P 16 12 35.9 -1.4**
CSS Prodhromos 74.64 308⇑ *e*P **P 16 12 40.9 +0.9**
comp=Z,110nm,1.0s,mb5.7
PET Petropavlovsk 74.70 32 *e*P **P 16 12 39.0 -0.9**
comp=Z,90nm,0.6s,mb5.9
PET Petropavlovsk 74.70 32 *α i*P **P 16 12 39.1 -0.8**
PET *e* 16 15 25.6
PET *e*PPP 16 17 07.1
PET *e*S S 16 22 11.2 -3.2
PET *e*PPS 16 22 57.2
PET *e*SS SS 16 27 01.7 -0.7
PET pmax pmax
comp=Z,7μm,19.0s
PET pmax pmax
comp=Z,159nm,0.5s,mb6.2
PET pmax pmax
comp=Z,6μm,18.2s
PET pmax pmax
comp=Z,4μm,18.9s
PET pmax pmax
comp=Z,4μm,19.9s
PET MLR MLR
comp=Z,29μm,20.0s,MS6.6
SNZO South Karori 74.72 132 P **P 16 12 39.6 -0.8**
ANN Anapa 74.91 319 *e*P **P 16 12 33.3 -8.1**
ANN *e* 16 15 28.2
ANN pmax pmax
comp=Z,257nm,1.6s,mb5.9
LBTB Lobatse 75.14 245 *e*P **P 16 12 42.8 -0.4**
LBTB AMS AMS 16 39 12.5
comp=Z,30μm,21.9s,MS6.5
LBTB Lobatse 75.14 245 P **P 16 12 42.4 -0.8**
comp=Z,8.4nm,0.7s,mb4.8,baz=102,slow=6.8,SNR=9.2
LBTB LR LR 16 39 41.2
comp=Z,41μm,21.6s,MS6.7,baz=100,slow=31
LBTB Lobatse 75.14 245 P **P 16 12 42.4 -0.8**
LBTB Lobatse 75.14 245 P **P 16 12 42.4 -0.8**
HVD Gariep Dam 75.50 240 *e*P **P 16 12 38.8 -6.3**
HVD AMS AMS 16 40 23.3
comp=Z,32μm,19.4s,MS6.6
BOSA Boshof 75.60 242 *e*P **P 16 12 45.6 -0.1**
BOSA AMS AMS 16 41 09.0
comp=Z,30μm,19.1s,MS6.6
BOSA Boshof 75.60 242 P **P 16 12 46.1 +0.4**
comp=Z,24nm,1.1s,mb5.0,baz=89,slow=4.8,SNR=10
BOSA Boshof 75.60 242 *e*P **P 16 12 45.4 -0.4**
comp=Z,45nm,1.1s,mb5.3
BOSA Boshof 75.60 242 *e*P **P 16 12 45.4 -0.3**
BOSA pmax pmax
comp=Z,45nm,1.1s,mb5.3
BR131 Keskin Array S 75.82 313 *e*P **P 16 12 45.2 -1.5**
comp=Z,18nm,0.6s,mb5.2
BRTR Keskin Array B 75.82 313 P **P 16 12 45.2 -1.5**
comp=Z,28nm,0.9s,mb5.2,baz=142,slow=5.4,SNR=53
BRTR LR LR 16 49 42.2
comp=Z,15μm,19.8s,MS6.3,baz=6.5,slow=39
BRTR Keskin Array B 75.82 313 P **P 16 12 45.2 -1.5**
BRTR Keskin Array B 75.82 313 P **P 16 12 45.2 -1.5**
SYO Syowa Base 76.03 199⇑ *e*P **P 16 12 45.5 -1.8**
SYO Syowa Base 76.03 199 ⇓ *i*sP sP 16 12 53.4 -5.4
URZ Urewera 76.22 128 P **P 16 12 50.3 +1.2**
comp=Z,13nm,0.7s,mb5.0,baz=333,slow=4.3,SNR=3.4
URZ LR LR 16 49 20.2
comp=Z,22μm,18.4s,MS6.5,baz=97,slow=38
URZ Urewera 76.22 128 *e*P **P 16 12 49.5 +0.4**
comp=Z,40nm,1.3s,mb5.2
VSR Storozhevoye 76.41 325 *e*P **P 16 12 48.9 -0.9**
VSR *e*S S 16 22 27.9 -5.6
VSR pmax pmax
comp=N,20nm,0.9s
VSR pmax pmax
comp=E,50nm,0.9s
VSR pmax pmax
comp=Z,70nm,0.9s,mb5.6
VSR smax
comp=N,4μm,6.8s
VSR smax
comp=E,3μm,6.8s
VSR smax
comp=Z,1μm,6.8s
VSR MLR MLR
comp=N,7μm,22.0s,MS6.3
VSR MLR MLR
comp=E,16μm,22.0s,MS6.3
VSR MLR MLR
comp=Z,18μm,22.0s,MS6.3
SIM Simferopol' 77.17 318 *de*P **P 16 12 52.9 -1.3**
SIM *e*PPP 16 17 38.0
SIM *e*S S 16 22 39.0 -3.0
SIM *e*PS 16 23 19.0
SIM pmax pmax
comp=Z,3μm,17.0s
SIM pmax pmax
comp=Z,54nm,0.8s,mb5.5
SEY Seymchan 77.37 21 *c i*P **P 16 12 55.3 +0.4**
PKA Prieska 77.83 241 *e*P **P 16 12 56.6 -1.7**
PKA AMS AMS 16 42 23.7
comp=Z,12μm,18.8s,MS6.2
MOS Moscow 79.15 329 *e*P **P 16 13 04.8 -0.1**
MOS *e* pP 16 13 13.2 -0.2
MOS *e* 16 16 04.6
MOS *e*S S 16 23 00.3 -2.6
MOS *e*SS SS 16 28 09.4 -0.1
MOS pmax pmax
comp=Z,239nm,1.6s,mb5.9
MOS smax
comp=N,10μm,12.5s
OBN Obninsk 79.44 328 *e*P **P 16 13 05.1 -1.5**
comp=N,186nm,1.0s,mb6.0
OBN Obninsk 79.44 328⇑ *e*P **P 16 13 06.4 -0.2**
OBN *i* 16 13 11.8
OBN *i* 16 13 16.3
OBN *e* 16 16 05.7
OBN *i* 16 23 01.8
OBN *i* 16 23 16.1
OBN *i* 16 23 57.3
OBN pmax pmax
comp=Z,176nm,1.3s,mb5.8
OBN MLR MLR
comp=Z,28μm,27.0s,MS6.5
OBN Obninsk 79.44 328 P **P 16 13 06.1 -0.5**
comp=Z,810nm,1.0s,mb6.0,SNR=8.3
SUR Sutherland 79.58 238 *e*P **P 16 13 04.3 -3.5**
SUR AMS AMS 16 48 28.1
comp=Z,11μm,17.4s,MS6.3
SUR Sutherland 79.58 238 *e*P **P 16 13 08.2 +0.3**
comp=Z,101nm,1.4s,mb5.6
VNDA Vanda 79.61 169 P **P 16 13 08.7 +1.6**
comp=Z,16nm,0.8s,mb5.0,baz=292,slow=6.3,SNR=2.2
VNDA Vanda 79.61 169 *e*P **P 16 13 08.7 +1.6**
VNDA Vanda 79.61 169 *e*P **P 16 13 08.7 +1.6**
CVNA Calvinia 80.45 239 *e*P **P 16 13 10.3 -2.4**
CVNA AMS AMS 16 43 27.9
comp=Z,20μm,19.1s,MS6.5
KLMR Klimovskoe 80.49 334 *c i*P **P 16 13 10.8 -1.3**
KLMR 16 16 14.2
KLMR *i* S S 16 23 14.4 -2.4
KLMR SS SS 16 28 31.1 +1.8
KLMR pmax pmax
comp=Z,323nm,1.4s,mb6.1
KLMR pmax pmax
comp=Z,2μm,9.3s
KLMR MLR MLR
comp=Z,19μm,21.0s,MS6.4
SBA Scott Base 80.70 169 *e*P **P 16 13 15.8 +2.7**
comp=Z,94nm,1.2s,mb5.6
SBA Scott Base 80.70 169 *e*P **P 16 13 15.8 +2.8**
SBA pmax pmax
comp=Z,94nm,1.2s,mb5.6
TIRR Tirgusor 80.90 316⇑ P **P 16 13 13.9 -0.8**
TIRR Tirgusor 80.90 316⇑ *i*P **P 16 13 13.9 -0.8**
KIS Kishinev 81.31 319 ⇓ *i*P **P 16 13 18.0 +1.2**
comp=Z,3μm,12.0s
KIS Kishinev 81.31 319 *e*PP PP 16 16 20.0 -2.8
KIS Kishinev 81.31 319 *d i*P **P 16 13 18.0 +1.2**
KIS *e* 16 16 20.0
KIS *e*S S 16 23 23.0 -3.0
KIS pmax pmax
comp=Z,3μm,12.0s
KIS MLR MLR
comp=Z,9μm,20.0s,MS6.1
KIS MLR MLR
comp=E,12μm,22.0s
VAM Vamos 82.00 306 *e*P **P 16 13 20.5 -0.3**
AKASG Malin Array Be 82.10 322 P **P 16 13 19.1 -1.8**
comp=E,20nm,0.9s,mb5.0,baz=90,slow=4.4,SNR=32
AKASG PP PP 16 16 28.1 -1.0
comp=E,5.9nm,0.9s,baz=97,slow=7.1,SNR=4.6
AKASG Malin Array Be 82.10 322 P **P 16 13 19.1 -1.8**
AKASG PP PP 16 16 28.1 -1.0
AKASG Malin Array Be 82.10 322 P **P 16 13 19.1 -1.8**
AKASG 16 16 28.1
AKBB Malin Array Si 82.10 322 *e*P **P 16 13 19.8 -1.1**
AKBB Malin Array Si 82.10 322 *e*P **P 16 13 19.8 -1.1**
KIEV Kiev 82.11 322⇑ *e*P **P 16 13 18.9 -2.0**
comp=E,43nm,0.9s,mb5.4
KIEV Kiev 82.11 322⇑ *e*P **P 16 13 18.9 -2.0**
KIEV pmax pmax
comp=Z,43nm,0.9s,mb5.4
RDO Rodhopi 82.16 312 *e*P **P 16 13 20.2 -1.2**
VRI Vrincioaia 82.42 317⇑ P **P 16 13 25.0 +2.4**
VRI Vrincioaia 82.42 317⇑ *i*P **P 16 13 25.0 +2.4**
KOMG Komaggas 82.42 241 *e*P **P 16 13 22.6 -0.5**
KOMG AMS AMS 16 45 03.0
comp=Z,34μm,19.2s,MS6.7
SULR 82.45 316 ⇓ *i*P **P 16 13 23.3 +0.4**
PLOR Plostina 82.47 317 ⇓ P **P 16 13 24.2 +1.3**
PLOR Plostina 82.47 317 ⇓ *i*P **P 16 13 24.2 +1.3**
TSUM Tsumeb 82.58 251 *e*P **P 16 13 23.2 -0.9**
TSUM Tsumeb 82.58 251 *e*P **P 16 13 23.7 -0.4**
comp=Z,24nm,1.0s,mb5.2
TESR 82.63 318⇑ *i*P **P 16 13 23.7 0.0**
PTL Penteli 82.78 309 *e*P **P 16 13 23.8 -0.9**
MLR Muntele Rosu 82.86 317 P **P 16 13 24.5 -0.5**
comp=Z,13nm,1.0s,mb4.9,baz=75,slow=4.3,SNR=12
MLR Muntele Rosu 82.86 317 P **P 16 13 24.5 -0.5**
MLR Muntele Rosu 82.86 317 P **P 16 13 24.5 -0.5**
MLR Muntele Rosu 82.86 317 ⇓ *i*P **P 16 13 25.4 +0.4**
VLI Veliai 83.25 308 *e*P **P 16 13 28.0 +0.8**
NVR Nevrokopi 83.44 312 *e*P **P 16 13 27.0 -1.1**
VOIR 83.46 317⇑ P **P 16 13 29.1 +1.0**
VOIR 83.46 317⇑ *i*P **P 16 13 29.1 +1.0**
PLG Polygyros 83.55 311 *e*P **P 16 13 28.7 +0.1**
LKR Lokris 83.56 310 *e*P **P 16 13 27.9 -0.9**
BURAR Bucovina Array 83.84 319 ⇓ P **P 16 13 31.0 +1.0**
BURAR Bucovina Array 83.84 319 ⇓ *i*P **P 16 13 31.0 +1.0**
BUR08 Bucovina Ar. S 83.86 319⇑ *e*P **P 16 13 30.2 +0.1**
MICGM Minsk 83.97 326⇑ *e*P **P 16 13 28.0 -2.4**
MNK Minsk 83.99 326⇑ *e*P **P 16 13 28.0 -2.6**
MNK *e*S S 16 23 48.0 -5.0
MNK pmax pmax
comp=Z,190nm,1.2s,mb6.1
MNK pmax pmax
comp=Z,6μm,8.0s
MNK smax
comp=N,30μm,20.0s
VTS Vitosha 84.16 313 ⇓ P **P 16 13 31.7 0.0**
VTS Vitosha 84.16 313 ⇓ *i*P **P 16 13 31.7 0.0**
PUL Pulkovo 84.28 331⇑ *i*P **P 16 13 33.5 +1.6**
PUL pmax pmax
comp=Z,439nm,1.7s,mb6.3
PUL MLR MLR
comp=Z,5μm,18.0s,MS6.0
THL Klokotos Trika 84.48 310 *e*P **P 16 13 33.0 -0.4**
NACGM Naroch 84.69 326 *e*P **P 16 13 30.0 -4.1**
JOF Joensuu 84.87 334 *e*P **P 16 13 35.1 +0.2**
JOF pmax pmax
comp=Z,30nm,0.6s,mb5.6
JOF Joensuu 84.87 334 *ep* **P 16 13 35.1 +0.2**
comp=Z,30nm,0.6s,mb5.6
BILL Bilibino 84.95 20⇑ *e*P **P 16 13 32.8 -2.3**
comp=Z,186nm,1.4s,mb6.0
BILL Bilibino 84.95 20 *c i*P **P 16 13 34.6 -0.5**
BILL *i* 16 13 48.5
BILL *i* 16 16 53.2
BILL *i* S S 16 23 54.8 -7.3
BILL pmax pmax
comp=Z,40nm,1.0s,mb5.5
BMR Baia Mare 84.99 318 P **P 16 13 37.0 +1.2**
GZR Gura Zlata 85.02 316⇑ P **P 16 13 37.7 +1.7**
GZR Gura Zlata 85.02 316⇑ *i*P **P 16 13 37.7 +1.7**
LVV L'vov 85.10 321 *e*P **P 16 13 36.0 -0.3**
LVV *e* 16 16 50.2
LVV *e*S S 16 24 00.0 -4.3
LVV *e*PS 16 25 05.2
IIGN Ignalina 85.12 326 *e*P **P 16 13 36.4 +0.2**
IIGN AMB AMB 16 13 41.8
comp=Z,38nm,1.1s,mb5.4
IZAR Zarasai 85.20 327 *e*P **P 16 13 36.8 +0.1**
IZAR AMB AMB 16 13 42.1
comp=Z,24nm,1.1s,mb5.2
ISAL Salakas 85.23 327 *e*P **P 16 13 36.9 +0.2**
ISAL AMB AMB 16 13 42.3
comp=Z,32nm,1.2s,mb5.3
DRGR 85.33 318⇑ P **P 16 13 38.4 +0.9**
DRGR 85.33 318⇑ *i*P **P 16 13 38.4 +0.9**
KRUS Krusevo 85.37 312 *i* P **P 16 13 37.5 -0.4**
JAN Janina 85.38 310 *e*P **P 16 13 38.7 +0.7**
LVZ Lovozero 85.42 340⇑ *e*P **P 16 13 36.8 -0.7**
comp=Z,74nm,0.8s,mb5.9
LVZ Lovozero 85.42 340 *e*P **P 16 13 38.1 +0.6**
LVZ pmax pmax
comp=Z,154nm,1.7s,mb5.9
LVZ MLR MLR
comp=Z,32μm,22.0s,MS6.7
LVZ Lovozero 85.42 340 P **P 16 13 38.7 +1.2**
comp=Z,534nm,0.8s,mb6.7,SNR=10
VSU Vasula 85.66 329 *c i*P **P 16 13 38.9 0.0**
VSU pmax pmax
comp=Z,98nm,1.1s,mb6.0
NVL N'lazarevskaya 85.70 199 *c i*P **P 16 13 40.9 +2.0**
NVL *e* 16 17 05.5
NVL pmax pmax
comp=Z,97nm,1.3s,mb5.9
TRPA Tarpa 85.71 319⇑ *i*P **P 16 13 39.5 +0.1**
APA Apatity 85.73 339⇑ *i*P **P 16 13 39.8 +0.8**
APA *i* 16 17 05.0
APA *i* S S 16 24 10.0 +0.2
APA *i* SS SS 16 29 44.0 -2.6
APA pmax pmax
comp=Z,110nm,1.0s,mb6.0
APA pmax pmax
comp=Z,6μm,18.0s
APA MLR MLR
comp=Z,34μm,22.0s,MS6.7
MAIT Maitri 85.73 199 *e*P **P 16 13 40.1 +1.0**
MAIT *e* 16 14 12.2
BZS Buzias 85.86 316 ⇓ P **P 16 13 39.7 -0.5**
BZS Buzias 85.86 316 ⇓ *i*P **P 16 13 39.7 -0.5**
KWP Kalwaria Pacla 85.90 320 *e*P **P 16 13 41.9 +1.6**
KWP Kalwaria Pacla 85.90 320 *e*P **P 16 13 40.2 -0.1**
comp=Z,158nm,1.3s,mb6.1
KWP Kalwaria Pacla 85.90 320 *e*P **P 16 13 40.2 -0.1**
KWP pmax pmax
comp=Z,158nm,1.3s,mb6.1
KWP Kalwaria Pacla 85.90 320⇑ *i*P **P 16 13 42.3 +2.0**
UZH Uzhgorod 85.97 319 *e*P **P 16 13 41.4 +0.7**
UZH *i* pP 16 13 49.6 +0.5
UZH *e* 16 17 02.8
UZH *e* 16 18 56.5
UZH *i* S S 16 24 11.0 -1.9
UZH *e* 16 25 10.2
UZH *e* 16 29 51.8
UZH MLR MLR
comp=N,6μm,19.0s,MS6.2
UZH MLR MLR
comp=E,8μm,19.0s,MS6.2
UZH MLR MLR
comp=Z,4μm,19.0s,MS5.9
AFI Afiamalu 86.05 104 P **P 16 13 43.0 +1.2**
comp=Z,95nm,1.1s,mb5.9,baz=234,slow=16,SNR=5.0
AFI Afiamalu 86.05 104 P **P 16 13 43.0 +1.2**
AFI Afiamalu 86.05 104 P **P 16 13 43.0 +1.2**
KEK Kerkira 86.19 310 *e*P **P 16 13 45.6 +3.6**
SUW Suwalki 86.52 325 *e*P **P 16 13 43.6 +0.3**
SUW *e*S S 16 24 17.4 -0.6
SUW Suwalki 86.52 325 *e*P **P 16 13 41.7 -1.6**
comp=Z,227nm,0.9s,mb6.4
SUW Suwalki 86.52 325 *e*P **P 16 13 41.7 -1.5**
CRVS Cervenica-Dubn 86.56 319 *e*P **P 16 13 45.1 +1.5**
CRVS Cervenica-Dubn 86.56 319 *e*P **P 16 13 45.1 +1.5**
FINES FINESS Array B 86.77 332 P **P 16 13 43.8 -0.5**
comp=Z,28nm,0.8s,mb5.5,baz=118,slow=2.9,SNR=41
FINES FINESS Array B 86.77 332 P **P 16 13 43.8 -0.5**
FINES FINESS Array B 86.77 332 P **P 16 13 43.8 -0.5**
STHS Stebnicka Huta 86.80 320 *e*P **P 16 13 46.7 +2.0**
STHS Stebnicka Huta 86.80 320 *e*P **P 16 13 46.7 +2.0**
KAF Kangasniemi 86.84 333 *e*P **P 16 13 43.4 -1.2**
KAF pmax pmax
comp=Z,39nm,0.6s,mb5.8
KAF Kangasniemi 86.84 333 *ep* **P 16 13 43.4 -1.2**
comp=Z,39nm,0.6s,mb5.8
KECS Kecovo 87.12 319 *e*P **P 16 13 47.6 +1.3**
KECS pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
KECS Kecovo 87.12 319 *e*P **P 16 13 47.6 +1.3**
NIE Niedzica 87.40 320 *e*P **P 16 13 49.0 +1.4**
NIE Niedzica 87.40 320 *e*P **P 16 13 49.0 +1.4**
PSZ Piszkesteto 87.42 318 *e*P **P 16 13 47.8 0.0**
comp=Z,188nm,1.8s,mb6.0
PSZ Piszkesteto 87.42 318 *e*P **P 16 13 47.8 0.0**
PSZ pmax pmax
comp=Z,188nm,1.8s,mb6.0
PSZ Piszkesteto 87.42 318⇑ *e*PcP **P 16 13 48.2 +0.4**
PSZ Piszkesteto 87.42 318 ⇓ *i*P **P 16 13 48.7 +0.9**
MSKU Masuku 87.50 269 P **P 16 13 48.6 -0.4**
comp=Z,13nm,0.6s,mb5.3,baz=158,slow=19,SNR=2.0
MSKU Masuku 87.50 269 P **P 16 13 48.6 -0.4**
BEL Belsk 87.51 322 *e*P **P 16 13 50.0 +1.9**
BEL Belsk 87.51 322 *e*P **P 16 13 50.0 +1.9**
OJC Ojcow 87.86 321 *e*P **P 16 13 49.9 +0.1**
OJC *e*pP pP 16 13 51.3 -7.0
OJC *e*PP PP 16 17 15.3 -0.7

OJC eS S 16 24 32.9 +1.8
OJC eSS SS 16 30 20.2 +1.6
OJC L 16 57 35.3
comp=Z,8.0nm,22.6s
OJC Ojcow 87.86 321 eP **P** **16 13 49.9 +0.1**
OJC e 16 17 15.3
OJC eS S 16 24 32.9 +1.8
OJC eSS SS 16 30 20.2 +1.6
OJC MLR MLR
comp=Z,8µm,22.6s,MS6.1
BUD Budapest 87.93 318⇑ePcP **P** **16 13 50.8 +0.6**
PKSM Moragy 88.00 316⇑iP **P** **16 13 52.4 +1.8**
PKSM Moragy 88.00 316⇑iP **P** **16 13 52.4 +1.8**
KEV Kevo 88.66 340 eP **P** **16 13 52.5 -0.7**
comp=Z,109nm,1.1s,mb6.1
KEV Kevo 88.66 340 eP **P** **16 13 52.5 -0.7**
KEV pmax pmax
comp=Z,109nm,1.1s,mb6.1
KEV Kevo 88.66 340 ep **P** **16 13 51.9 -1.3**
comp=Z,32nm,0.8s,mb5.7
OKC Ostrava-Krasne 88.85 320 eP **P** **16 13 55.1 +0.6**
OKC e*PP pP 16 14 04.3 +1.3
OKC e 16 24 37.0
OKC Ostrava-Krasne 88.85 320 eP **P** **16 13 55.1 +0.6**
OKC epP pP 16 14 04.3 +1.3
OKC eS S 16 24 36.6 -3.9
RAC Raciborz 88.86 320 eP **P** **16 13 54.3 -0.2**
RAC eS S 16 24 38.0 -2.5
RAC MLR MLR
comp=Z,8µm,19.0s,MS6.2
ARCES ARCESS Array B 89.11 340 P **P** **16 13 55.0 -0.3**
comp=Z,65nm,0.8s,mb6.0,baz=92,slow=3.8,SNR=42
ARCES ARCESS Array B 89.11 340 P **P** **16 13 55.0 -0.3**
ARCES ARCESS Array B 89.11 340 P **P** **16 13 55.0 -0.3**
ARE0 ARCESS Array S 89.11 340 eP **P** **16 13 55.4 +0.1**
ARE0 ARCESS Array S 89.11 340 eP **P** **16 13 55.3 0.0**
MORC Moravsky Berou 89.23 320 eP **P** **16 13 55.9 -0.4**
comp=Z,42nm,1.1s,mb5.7
MORC Moravsky Berou 89.23 320 eP **P** **16 13 55.9 -0.4**
MORC pmax pmax
comp=Z,42nm,1.1s,mb5.7
MORC Moravsky Berou 89.23 320⇑iP **P** **16 13 56.8 +0.5**
ZST Bratislava 89.31 318 eP **P** **16 13 58.5 +1.8**
ZST pmax pmax
comp=Z,19nm,0.8s,mb5.5
ZST Bratislava 89.31 318 eP **P** **16 13 58.5 +1.8**
SOP Sopron 89.61 318⇑ePcP **P** **16 13 59.1 +1.0**
KTK1 Kautokeino 89.77 339 eP **P** **16 13 58.1 -0.3**
KTK1 AMB AMB 16 14 04.6
comp=Z,205nm,3.4s
VRAC Vranov 89.79 319⇑iP **P** **16 14 00.7 +1.8**
VRAC Vranov 89.79 319⇑iP **P** **16 14 00.7 +1.8**
GKP Gorka Klasztor 89.88 323 eP **P** **16 14 00.9 +1.7**
GKP Gorka Klasztor 89.88 323 eP **P** **16 14 00.9 +1.7**
DPC Dobruska-Polom 90.08 320 eP **P** **16 14 01.9 +1.6**
DPC e*PP pP 16 14 10.8 +2.0
DPC e 16 17 36.8
DPC e 16 24 47.9
DPC Dobruska-Polom 90.08 320 eP **P** **16 14 01.9 +1.6**
DPC epP pP 16 14 10.8 +2.0
DPC ePP PP 16 17 36.8 +3.0
DPC eS S 16 24 47.9 -4.1
KSP Ksiaz 90.16 321 eP **P** **16 14 01.4 +0.7**
ARSA Arzberg 90.26 317⇑iPcP **P** **16 14 01.4 +0.2**
comp=Z,35nm,1.0s,mb5.6,SNR=10
BOJS Bojanci 90.27 315 iP **P** **16 14 01.6 +0.4**
BOJS iPcP PcP 16 14 03.1 +0.7
BOJS iPP PP 16 17 35.0 -0.4
BOJS eS S 16 24 51.7 -2.1
SNAA Sanae 90.27 198 e **P** **16 13 56.7 -4.1**
SNAA Sanae 90.27 198 e **P** **16 13 56.7 -4.1**
SNAA Sanae 90.27 198 eP **P** **16 14 06.8 +6.0**
SNAA AMS AMS 16 48 06.9
comp=Z,35µm,22.3s,MS6.7
SNAA Sanae 90.27 198 PKKP PKKPbc 16 31 28.6 -4.2
comp=Z,1.8nm,1.1s,baz=122,slow=3.7,SNR=7.8
SNAA Sanae 90.27 198 eP **P** **16 13 56.5 -4.3**
comp=Z,627nm,1.4s,mb6.8
SNAA PKKP PKKPbc 16 31 28.6 -4.2
SNAA Sanae 90.27 198 eP **P** **16 13 56.5 -4.3**
UPC Upice 90.30 320 eP **P** **16 14 01.7 +0.4**
UPC e*PP pP 16 14 11.4 +1.6
UPC Upice 90.30 320 eP **P** **16 14 01.7 +0.4**
UPC epP pP 16 14 11.4 +1.6
PERS Pernice 90.48 317 iP **P** **16 14 03.0 +0.8**
TREC Trest 90.50 319 eP **P** **16 14 03.2 +0.9**
TREC e*PP pP 16 14 12.5 +1.7
TREC e 16 24 46.7
TREC Trest 90.50 319 eP **P** **16 14 03.2 +0.9**
TREC epP pP 16 14 12.5 +1.7
TREC eSKKS SKKSac 16 24 46.7 +0.5
SOKA Soboth 90.54 317⇑iPcP **P** **16 14 02.8 +0.3**
comp=Z,45nm,1.0s,mb5.7
LJU Ljubljana 90.83 316 iP **P** **16 14 05.2 +1.4**
LJU iPcP PcP 16 14 06.3 +1.5
LJU iPP pP 16 14 14.6 +2.3
LJU iPP PP 16 17 40.8 +1.0
LJU eS S 16 24 55.9 -3.0
LJU eSS SS 16 30 55.9 -6.0
LJU eSKKSac SKKSdf 16 38 13.8 -23
JAVS Javornik 91.13 316 iP **P** **16 14 06.0 +0.7**
JAVS ePP PP 16 17 49.3 +7.1
JAVS eS S 16 25 01.5 -0.3
JAVS eSS SS 16 30 55.6 -11
MOA Molln 91.17 318⇓iPcP **P** **16 14 05.2 -0.2**
comp=Z,17nm,1.2s,mb5.3
PRU Pruhonice 91.18 320 eP **P** **16 14 06.7 +1.3**
PRU e*PP pP 16 14 15.4 +1.5
PRU e 16 24 38.5
PRU Pruhonice 91.18 320 eP **P** **16 14 06.7 +1.3**
PRU epP pP 16 14 15.4 +1.5
PRU ePP PP 16 17 35.5 -7.0
PRU eSKS 16 24 38.5
PVCC Panska Ves 91.22 320 eP **P** **16 14 06.6 +1.1**
PVCC e*PP pP 16 14 16.3 +2.2
PVCC e 16 17 43.8
PVCC Panska Ves 91.22 320 eP **P** **16 14 06.6 +1.1**
PVCC epP pP 16 14 16.3 +2.2
PVCC ePP PP 16 17 43.8 +1.0
PRA Prague 91.26 320 P **P** **16 14 08.0 +2.2**
PRA PP PP 16 17 40.0 -3.1
PRA ex x 16 21 19.0
PRA S S 16 25 04.0 +1.2
PRA AMS AMS 17 22 00.0
VOY Vojsko 91.26 316 eP **P** **16 14 04.3 -1.6**
VOY ePcP PcP 16 14 07.7 +0.9
VOY e 16 14 18.5
TRO Tromso 91.39 340 eP **P** **16 14 07.1 +1.2**
TRO AMB AMB 16 14 21.1
comp=Z,120nm,1.8s,mb5.9
GERES GERESS Array B 91.63 319 P **P** **16 14 07.5 0.0**
comp=Z,9.7nm,0.8s,mb5.2,baz=106,slow=4.3,SNR=38
GERES GERESS Array B 91.63 319 P **P** **16 14 07.5 0.0**
GERES GERESS Array B 91.63 319 P **P** **16 14 07.5 0.0**
BRG Berggiesshubel 91.64 321 eP **P** **16 14 08.8 +1.3**
comp=Z,21nm,1.1s,mb5.4
BRG e pP 16 14 17.9 +1.9
comp=Z,66nm,1.5s
BRG PP PP 16 17 43.0 -3.1
BRG S S 16 25 08.0 +1.8
BRG SS SS 16 31 12.0 -1.4
BRG
comp=N,8µm,23.6s
BRG
comp=E,14µm,20.3s
BRG
comp=Z,14µm,22.5s
BRG Berggiesshubel 91.64 321 eP **P** **16 14 08.8 +1.3**
BRG e pP 16 14 17.9 +1.9
BRG 16 17 43.0
BRG S S 16 25 08.0 +1.8
BRG SS SS 16 31 12.0 -1.4
BRG pmax pmax
comp=Z,21nm,1.1s,mb5.4
BRG MLR MLR
comp=N,8µm,23.6s,MS6.4
BRG MLR MLR
comp=E,14µm,20.3s,MS6.4
BRG MLR MLR
comp=Z,14µm,22.5s,MS6.3
KHC Kasperske Hory 91.73 319 eP **P** **16 14 06.9 -1.1**
comp=Z,15nm,1.0s,mb5.3
KHC Kasperske Hory 91.73 319 eP **P** **16 14 08.8 +0.8**
KHC e*PP pP 16 14 17.7 +1.2
KHC e 16 17 49.4
KHC Kasperske Hory 91.73 319 eP **P** **16 14 08.8 +0.8**
KHC epP pP 16 14 17.7 +1.2
KHC ePP PP 16 17 49.4 +2.5
KHC eSKKS SKKSac 16 24 51.1 -4.3
RUE Ruedersdorf 91.88 322 eP **P** **16 14 08.3 -0.3**
comp=Z,67nm,1.0s,mb5.9
VNA2 Neumayer--Watz 91.90 198 e **P** **16 14 05.8 -2.5**
baz=99,slow=4.4
VNA2 Neumayer--Watz 91.90 198 e **P** **16 14 05.8 -2.5**
VNA1 Neumayer--Stat 92.26 198 e **P** **16 14 07.6 -2.4**
VNA1 Neumayer--Stat 92.26 198 e **P** **16 14 07.6 -2.4**
CLL Collm 92.27 321 iP **P** **16 14 11.8 +1.4**
CLL e pP 16 14 20.0 +1.1
CLL eS S 16 25 08.0 -3.8
CLL pmax pmax
comp=Z,21nm,1.3s,mb5.3
CLL MLR MLR
comp=Z,11µm,24.5s,MS6.2
CLL Collm 92.27 321 iP **P** **16 14 11.8 +1.4**
comp=Z,21nm,1.3s,mb5.3
CLL eSP sP 16 14 20.0 -2.0
CLL ePP PP 16 17 54.0 +3.0
CLL eSKKSac SKKSac 16 24 52.0 -7.2
CLL eS S 16 25 08.0 -3.8
CLL ePS PS 16 26 30.0 +4.3
CLL eSS SS 16 31 30.0 +7.6
CLL eSSS 16 35 12.0
CLL eSSSS 16 38 12.0
VNA3 Neumayer Olymp 92.48 198 e **P** **16 14 08.3 -2.7**
VNA3 Neumayer Olymp 92.48 198 e **P** **16 14 08.3 -2.7**
VNA3 Neumayer Olymp 92.48 198 e **P** **16 14 11.5 +0.5**
VNA3 Neumayer Olymp 92.48 198 e **P** **16 14 11.5 +0.5**
VNA3 e 16 14 32.0
STEI Steigen 92.51 338 eP **P** **16 14 12.9 +1.8**
HFS Hagfors 92.53 330 P **P** **16 14 11.6 +0.2**
comp=Z,24nm,0.9s,mb5.6,baz=90,slow=2.9,SNR=11
HFS PP PP 16 17 38.1 -15
comp=Z,5.6nm,0.8s,baz=104,slow=11,SNR=2.7
HFS Hagfors 92.53 330 P **P** **16 14 11.6 +0.2**
HFS PP PP 16 17 38.1 -15
HFS Hagfors 92.53 330 P **P** **16 14 11.6 +0.2**
NKC Novy Kostel 92.55 320 eP **P** **16 14 12.3 +0.6**
NKC e*PP pP 16 14 21.9 +1.7
NKC e 16 17 52.0
NKC Novy Kostel 92.55 320 eP **P** **16 14 12.3 +0.6**
NKC epP pP 16 14 21.9 +1.7
NKC ePP PP 16 17 52.0 -1.3
NKC eSKKS SKKSac 16 24 56.1 -5.3
MOR8 Moi Rana 92.67 336 eP **P** **16 14 13.2 +1.2**
MOR8 AMB AMB 16 14 17.8
comp=Z,111nm,3.4s
SPA0 Spitsbergen Ar 93.19 348 eP **P** **16 14 15.0 +0.8**
SPITS Spitsbergen Ar 93.19 348 P **P** **16 14 13.8 -0.4**
comp=Z,31nm,0.9s,mb5.7,baz=46,slow=11,SNR=15
SPITS Spitsbergen Ar 93.19 348 P **P** **16 14 13.8 -0.4**
SPITS Spitsbergen Ar 93.19 348 P **P** **16 14 13.8 -0.4**
SPB4 Spitsbergen Ar 93.20 348 eP **P** **16 14 12.8 -1.4**
STOK Stokkvaagen 93.25 336 eP **P** **16 14 17.7 +3.1**
MOTA Moosalm 93.27 317⇑iPcP **P** **16 14 16.3 +1.2**
comp=Z,15nm,1.1s,mb5.3
GRFO Grafenberg 93.31 319 eP **P** **16 14 13.2 -2.1**
comp=Z,54nm,1.3s,mb5.8
GRFO Grafenberg 93.31 319 eP **P** **16 14 13.2 -2.0**
GRFO pmax pmax
comp=Z,54nm,1.3s,mb5.8
NB2 NORSAR Subarra 93.80 331 P **P** **16 14 17.4 +0.2**
comp=Z,29nm,1.1s,mb5.6,baz=93,slow=5.3
NOA NORSAR Array B 93.80 331 P **P** **16 14 17.5 +0.2**
comp=Z,15nm,1.0s,mb5.4,baz=93,slow=4.6,SNR=9.8
NOA PP PP 16 18 02.9 +0.2
comp=Z,4.8nm,0.8s,baz=91,slow=7.4,SNR=5.7
NOA LR LR 17 04 19.3
comp=Z,9µm,18.8s,MS6.2,baz=20,slow=41
NOA NORSAR Array B 93.80 331 P **P** **16 14 17.5 +0.2**
NOA PP PP 16 18 02.9 +0.2
NOA NORSAR Array B 93.80 331 P **P** **16 14 17.5 +0.3**
NOA 16 18 02.9
KEST Kesra 94.05 305 P **P** **16 14 19.0 0.0**
comp=Z,3.9nm,0.9s,mb4.8,baz=175,slow=8.8,SNR=3.7
KEST Kesra 94.05 305 P **P** **16 14 19.0 0.0**
DAVOX Davos/Dischmat 94.08 316 P **P** **16 14 20.7 +1.8**
comp=Z,5.6nm,0.8s,mb5.1,baz=162,slow=4.2,SNR=5.0
DAVOX Davos/Dischmat 94.08 316 P **P** **16 14 20.7 +1.8**
DAVOX Davos/Dischmat 94.08 316 P **P** **16 14 20.7 +1.8**
KBS Kingsbay 94.13 349 eP **P** **16 14 18.9 +0.5**
KBS pmax pmax
comp=Z,23nm,1.0s,mb5.6
CDF Champ du Feu 95.87 318 eP **P** **16 14 26.1 -0.9**
comp=Z,67nm,1.9s,mb5.5
LPG La Plagne 96.23 315 eP **P** **16 14 28.8 +0.1**
comp=Z,20nm,0.9s,mb5.2
LPL La Plagne 96.25 315 eP **P** **16 14 29.1 +0.3**
comp=Z,63nm,1.4s,mb5.5
SFTF Sexfontaines 97.37 318 eP **P** **16 14 33.7 -0.1**
BAIF Baives 97.84 320 eP **P** **16 14 36.2 +0.3**
comp=Z,45nm,1.3s,mb5.5
LOR Lormes 98.20 317 eP **P** **16 14 36.7 -0.9**
TORD Torodi Ar. Bea 100.25 283 P Pdif 16 14 48.8 +2.2
comp=Z,0.7nm,0.8s,baz=72,slow=6.7,SNR=4.6
TORD PP PP 16 19 01.1 +7.3
comp=Z,3.9nm,1.2s,baz=91,slow=6.8,SNR=4.1
TORD Torodi Ar. Bea 100.25 283 P Pdif 16 14 48.8 +2.2
TORD PP PP 16 19 01.1 +7.3
DAG Danmarks Havn 100.85 348 iP Pdif 16 14 47.4 -1.8
DAG pmax pmax
comp=Z,11nm,1.0s
DAG Danmarks Havn 100.85 348 iP Pdif 16 14 47.4 -1.8
comp=Z,11nm,1.0s
BPAW Bear Paw Mtn. 101.65 25 P Pdif 16 14 53.2 +0.4
comp=Z,22nm,1.3s
ILAR Eielson Array 103.17 24 PP PP 16 19 16.4 +2.2
comp=Z,7.0nm,1.1s,baz=282,slow=6.0,SNR=4.6
ILAR Eielson Array 103.17 24 PP PP 16 19 16.4 +2.2
ESDC Sonseca Array 104.47 310 PP PP 16 19 25.1 +0.4
comp=Z,0.4nm,0.4s,baz=76,slow=11,SNR=4.1
ESDC Sonseca Array 104.47 310 PP PP 16 19 25.1 +0.4
TBI Tubuai 105.86 116 eSdif Sdif 16 27 07.1 -0.2
comp=Z,12µm,28.0s
TBI eSS SS 16 34 38.5 +4.6
comp=Z,19µm,28.2s
TBI eLR LR 16 50 13.5
comp=Z,40µm,22.8s
PPT Papeete 106.86 110 eSdif Sdif 16 27 15.6 0.0
comp=Z,18µm,25.8s
PPT eLR LR 16 50 37.7
comp=Z,22µm,22.0s
SUMG Summit 107.54 348 iP Pdif 16 15 32.5 +14
comp=Z,5.7nm,0.9s
LIS Lisbon 108.59 309 eP Pdif 16 15 21.5 -2.1
LIS eS SKSac 16 26 02.7 +0.2
YKA Yellowknife Ar 116.26 18 PKP PKPdf 16 19 44.0 +0.6
comp=Z,3.0nm,0.8s,baz=340,slow=1.6,SNR=4.2
YKA Yellowknife Ar 116.26 18 PKP PKPdf 16 19 44.0 +0.6
YKA Yellowknife Ar 116.26 18 PKIKP PKPdf 16 19 44.1 +0.7
TAOE Nuku Hiva Isla 117.42 102 eSS SS 16 37 07.8 -0.9
comp=Z,13µm,25.9s
TAOE eLR LR 16 55 38.1
comp=Z,24µm,23.4s
RKT Rikitea 118.76 119 eSS SS 16 37 25.5 +0.3
comp=Z,16µm,27.8s
RKT eLR LR 16 56 11.5
comp=Z,28µm,22.0s
A05A Maple Falls 122.33 32⇑PKiKP PKiKP 16 19 54.7 -1.0
baz=122
GNW Green Mountain 122.76 34 ePKPdf PKPdf 16 19 56.6 +0.2
JCW Jim Creek 122.89 33 P PKPdf 16 19 58.8 +2.2
E03A Lebam 122.91 35⇓PKiKP PKiKP 16 19 56.9 0.0
baz=123
D05A Enumclaw 123.44 34⇑PKiKP PKiKP 16 19 58.0 +0.1
baz=123
TDL Tradedollar La 123.79 35 P PKPdf 16 19 59.6 +1.2
LON Longmire 123.79 34 ePKPdf PKPdf 16 19 57.5 -0.9
LON Longmire 123.79 34 ePKIKP PKPdf 16 19 57.5 -0.9
ETW Entiat 124.11 33 P PKPdf 16 19 60.0 +1.0
HOOD Mount Hood Mea 124.70 36 ePKPdf PKPdf 16 20 00.4 +0.2
H04A Detroit Lake 124.74 37⇓PKiKP PKiKP 16 19 60.0 -0.6
baz=125
E07A Sunnyside 125.00 34⇑PKiKP PKiKP 16 20 00.3 -0.7
baz=125
C09A Chrisman Ranch 125.08 32⇑PKiKP PKiKP 16 20 00.7 -0.4
baz=125
OD2 Odessa Site #2 125.11 32 ePKPdf PKPdf 16 20 01.1 +0.2
HAWA Hanford 125.27 34 ePKPdf PKPdf 16 20 01.4 +0.1
G06A Carlson Farm, 125.33 35⇑PKiKP PKiKP 16 20 01.2 -0.5
baz=125
F07A Phinny Hill Vi 125.35 34⇓PKiKP PKiKP 16 20 01.3 -0.5
baz=125
NEW Newport 125.37 31⇓PKiKP PKiKP 16 20 01.4 -0.3
baz=125
NEW Newport 125.37 31 ePKPdf PKPdf 16 20 01.0 -0.4
NEW Newport 125.37 31 ePKIKP PKPdf 16 20 01.0 -0.4
REDWA Red Mountain 125.38 34 P PKPdf 16 20 02.5 +1.0
HUMO Hull Mountain 125.38 39 ePKPdf PKPdf 16 20 01.1 -0.5
E08A Dider Farm, El 125.47 33⇑PKiKP PKiKP 16 20 01.5 -0.5
baz=125
A12A Yaak River Ran 125.66 29⇑PKiKP PKiKP 16 20 02.0 -0.3
baz=126
VIPM Ingram Point 125.76 36 P PKPdf 16 20 03.4 +1.1
VIPM Ingram Point 125.76 36 PKIKP PKPdf 16 20 03.4 +1.2
KHMM Horse Mountain 125.77 41 ePKPdf PKPdf 16 20 03.1 +0.7
E09A Wood Farm, Sta 125.95 33⇑PKiKP PKiKP 16 20 02.3 -0.7
baz=126
B12A Libby 126.00 30⇓PKiKP PKiKP 16 20 02.6 -0.4
baz=126
C11A Tepee Creek (N 126.09 30⇑PKiKP PKiKP 16 20 02.7 -0.5
baz=126
A13A Flathead Natio 126.25 28⇓PKiKP PKiKP 16 20 02.8 -0.6
baz=126
G08A Pilot Rock 126.26 34⇑PKiKP PKiKP 16 20 02.6 -1.0
baz=126
LNOR Lincton Mounta 126.28 33 ePKPdf PKPdf 16 20 03.1 0.0
LNOR Lincton Mounta 126.28 33 ePKIKP PKPdf 16 20 03.1 -0.1
KIPM Iron Peak 126.46 42 ePKPdf PKPdf 16 20 03.9 +0.2
KIPM e 16 20 16.7
C12B Naegeli Ranch, 126.57 30⇑PKiKP PKiKP 16 20 03.6 -0.6
baz=126
K05A Summer Lake 126.60 38⇓PKiKP PKiKP 16 20 03.4 -1.0
baz=126
B13A Whitefish 126.61 29⇓PKiKP PKiKP 16 20 03.6 -0.6
baz=126
I07A Izee 126.66 36⇑PKiKP PKiKP 16 20 04.1 -0.3
baz=126
A14A Double T Ranch 126.69 28⇓PKiKP PKiKP 16 20 03.7 -0.7
baz=126
WDC Whiskeytown Da 126.69 41 ePKPdf PKPdf 16 20 03.9 -0.3
WDC Whiskeytown Da 126.69 41 ePKIKP PKPdf 16 20 03.9 -0.3
BSMT Bassoo Peak 126.82 30 ePKPdf PKPdf 16 20 03.9 -0.2
A15A Johnson Ranch, 127.01 27⇑PKiKP PKiKP 16 20 04.8 -0.2
baz=127
C13A Hot Springs 127.04 30⇑PKiKP PKiKP 16 20 04.3 -0.8
baz=127
LTIM Timbered Crate 127.07 40 P PKPdf 16 20 05.8 +1.0
D12A Red Ives Fores 127.07 31⇓PKiKP PKiKP 16 20 04.6 -0.5
baz=127
B14A Marquette Ranc 127.19 28⇓PKiKP PKiKP 16 20 05.2 -0.1
baz=127
LBCM Butte Creek Ri 127.34 40 P PKPdf 16 20 05.6 +0.2
C14A Swan Lake 127.38 29⇑PKiKP PKiKP 16 20 05.2 -0.5
baz=127
E12A Beaver Dam Sad 127.38 31⇑PKiKP PKiKP 16 20 05.2 -0.6
baz=127
MOD Modoc 127.42 39 ePKPdf PKPdf 16 20 06.1 +0.6
SWMT Swartz Lake 127.44 30 ePKPdf PKPdf 16 20 04.3 -1.1
BMO Blue Mountains 127.45 34 ePKPdf PKPdf 16 20 05.5 +0.1
BMO Blue Mountains 127.45 34 ePKIKP PKPdf 16 20 05.6 +0.1
D13A Huson 127.50 30⇓PKiKP PKiKP 16 20 05.3 -0.7
baz=127
A16A West Butte Ran 127.55 27⇓PKiKP PKiKP 16 20 05.6 -0.4
baz=127
B15A Bradely Ranch, 127.56 28⇑PKiKP PKiKP 16 20 05.7 -0.4
baz=127
J08A Circle Bar Ran 127.69 36⇓PKiKP PKiKP 16 20 06.3 -0.2
baz=128
SLMT Seeley Lake 127.87 29 ePKPdf PKPdf 16 20 07.3 +1.1
B16A M & M Farms, S 127.89 27⇓PKiKP PKiKP 16 20 07.0 +0.3
baz=128
C15A Salmond Ranch, 127.93 28⇓PKiKP PKiKP 16 20 06.6 -0.2
baz=128
MSO Missoula 127.94 30⇑PKiKP PKiKP 16 20 06.5 -0.4
baz=128
MSO Missoula 127.94 30 ePKPdf PKPdf 16 20 06.6 +0.3
A17A Triple J Farms 127.95 26⇑PKiKP PKiKP 16 20 07.1 +0.3
baz=128
D14A Greenough 127.98 30⇓PKiKP PKiKP 16 20 06.8 -0.1
baz=128
F12A Elk City 127.98 32⇓PKiKP PKiKP 16 20 07.1 +0.1
baz=128
E13A Victor 128.08 31⇑PKiKP PKiKP 16 20 06.9 -0.3
baz=128
WVOR Wild Horse Val 128.14 37 ePKPdf PKPdf 16 20 08.3 +1.5
WVOR Wild Horse Val 128.14 37 ePKIKP PKPdf 16 20 08.3 +1.4
CHMT Chamberlain Mo 128.22 30 ePKPdf PKPdf 16 20 07.8 +0.9
C16A Fuhringer Ranc 128.31 28⇑PKiKP PKiKP 16 20 06.7 -0.9
baz=128
A18A Metzger Ranch, 128.34 26⇓PKiKP PKiKP 16 20 06.9 -0.8
baz=128
G12A Big Creek, Yel 128.36 33⇑PKiKP PKiKP 16 20 06.7 -1.1
baz=128
B17A L&G Farms, Che 128.39 27⇑PKiKP PKiKP 16 20 07.1 -0.7
baz=128
F13A Darby 128.44 31⇓PKiKP PKiKP 16 20 07.0 -1.0
baz=128
E14A Clinton 128.44 30⇑PKiKP PKiKP 16 20 06.9 -1.1
baz=128
D15A Lincoln 128.49 29⇑PKiKP PKiKP 16 20 07.1 -0.9
baz=128
B18A Beardsley Farm 128.77 26⇑PKiKP PKiKP 16 20 07.6 -0.9
baz=129
SCHQ Schefferville 128.77 351 PKP PKPdf 16 20 08.1 +0.4
comp=Z,6.7nm,0.7s,baz=306,slow=3.0,SNR=7.4
SCHQ Schefferville 128.77 351 PKP PKPdf 16 20 08.1 +0.4
A19A Klindworth Far 128.80 25⇑PKiKP PKiKP 16 20 07.8 -0.8
baz=129
E15A Deer Lodge 128.86 30⇑PKiKP PKiKP 16 20 08.1 -0.6
baz=129
C17A Wharram Farm, 128.89 27⇑PKiKP PKiKP 16 20 08.2 -0.6
baz=129
F14A Wisdom 128.92 31⇑PKiKP PKiKP 16 20 08.4 -0.5
baz=129
D16A Dana Ranch, Ca 128.96 28⇑PKiKP PKiKP 16 20 08.3 -0.6
baz=129
G13A Cobalt 128.96 32⇑PKiKP PKiKP 16 20 08.2 -0.8
baz=129
H12A Diamond D Ranc 128.99 33⇓PKiKP PKiKP 16 20 08.8 -0.3
baz=129
EGMT Eagleton 129.05 26⇓PKiKP PKiKP 16 20 08.6 -0.5
baz=129
EGMT Eagleton 129.05 26 ePKPdf PKPdf 16 20 08.9 +0.5
HRY Holter Researc 129.06 29 ePKPdf PKPdf 16 20 10.2 +1.8
B19A Brinkman Farms 129.08 26⇑PKiKP PKiKP 16 20 08.7 -0.5
baz=129
MFID Camas Ranch 129.18 35⇓PKiKP PKiKP 16 20 08.8 -0.7
baz=129
MFID Camas Ranch 129.18 35 ePKPdf PKPdf 16 20 09.9 +1.1
A20A Cobblestone Ra 129.18 25⇓PKiKP PKiKP 16 20 09.0 -0.4
baz=129
WCN Washoe City 129.19 41⇑PKiKP PKiKP 16 20 09.2 -0.5
baz=129
WCN Washoe City 129.19 41 ePKPdf PKPdf 16 20 09.4 +0.4
WCN Washoe City 129.19 41 ePKIKP PKPdf 16 20 09.4 +0.4
E16A East Helena 129.26 29⇑PKiKP PKiKP 16 20 09.3 -0.3
baz=129
G14A Jackson 129.26 31⇓PKiKP PKiKP 16 20 08.7 -1.0
baz=129
D17A Six Diamond Ra 129.28 28⇓PKiKP PKiKP 16 20 09.5 0.0
baz=129
H13A Challis 129.30 32⇓PKiKP PKiKP 16 20 09.6 -0.1
baz=129
I12A Atlanta 129.33 34⇑PKiKP PKiKP 16 20 09.4 -0.4
baz=129
F15A Butte 129.34 30⇓PKiKP PKiKP 16 20 09.9 +0.2
baz=129
LRM Limekiln Ridge 129.38 30 ePKPdf PKPdf 16 20 10.0 +0.9
B20A Solberg Farm, 129.49 25⇑PKiKP PKiKP 16 20 10.0 +0.1
baz=129
A21A Bergtoll Ranch 129.50 24⇓PKiKP PKiKP 16 20 10.1 +0.1
baz=129
C19A Slack Wire Ran 129.59 26⇑PKiKP PKiKP 16 20 10.5 +0.3
baz=129
DLMT Dillon 129.62 31 ePKPdf PKPdf 16 20 10.4 +0.8
D18A Linhart Farms, 129.65 27⇑PKiKP PKiKP 16 20 10.2 -0.1
baz=130
E17A Martinsdale 129.70 29⇓PKiKP PKiKP 16 20 10.5 0.0
baz=130
H14A Leadore 129.74 32⇓PKiKP PKiKP 16 20 10.9 +0.3
baz=130
I13A Wildhorse Cree 129.81 33⇑PKiKP PKiKP 16 20 11.1 +0.3

		baz=130							
F16A	Kennard Place,	129.81	30	⇑PKiKP	PKiKP	16 20 10.6	-0.1		
	baz=130								
G15A	Dillon	129.82	31	⇓PKiKP	PKiKP	16 20 10.8	+0.1		
	baz=130								
MCMT	McKenzie Canyo	129.86	31	*e*PKPdf	PKPdf	16 20 11.1	+1.0		
HLID	Hailey	129.88	34	⇓PKiKP	PKiKP	16 20 10.9	0.0		
	baz=130								
HLID	Hailey	129.88	34	*e*PKPdf	PKPdf	16 20 09.7	-0.4		
A22A	Carney Farms,	129.90	23	⇓PKiKP	PKiKP	16 20 10.6	-0.2		
	baz=130								
BOZ	Bozeman (W)	129.91	30	⇓PKiKP	PKiKP	16 20 10.4	-0.5		
	baz=130								
C20A	Veseth Ranch,	130.06	26	⇑PKiKP	PKiKP	16 20 10.5	-0.6		
	baz=130								
E18A	Harlowton	130.07	28	⇑PKiKP	PKiKP	16 20 10.5	-0.7		
	baz=130								
D19A	Cripps Ranch,	130.09	27	⇓PKiKP	PKiKP	16 20 10.6	-0.7		
	baz=130								
H15A	Lima	130.12	31	⇓PKiKP	PKiKP	16 20 10.5	-0.8		
	baz=130								
J13A	Cove Ranch, Pi	130.12	34	⇓PKiKP	PKiKP	16 20 10.5	-0.9		
	baz=130								
G16A	Moss Hill, Enn	130.12	30	⇓PKiKP	PKiKP	16 20 10.5	-0.8		
	baz=130								
I14A	Mackay	130.16	33	⇓PKiKP	PKiKP	16 20 10.5	-1.0		
	baz=130								
F17A	Fitzpatrick Pl	130.20	29	⇓PKiKP	PKiKP	16 20 10.3	-1.2		
	baz=130								
A23A	Redstone	130.33	22	⇓PKiKP	PKiKP	16 20 09.6	-2.0		
	baz=130								
C21A	Desert Coulee	130.35	25	⇑PKiKP	PKiKP	16 20 10.7	-1.0		
	baz=130								
B22A	Reddig Ranch S	130.43	24	⇑PKiKP	PKiKP	16 20 10.8	-1.0		
	baz=130								
D20A	Manuel Ranch,	130.48	26	⇑PKiKP	PKiKP	16 20 10.9	-1.1		
	baz=130								
J14A	Carey	130.52	33	⇑PKiKP	PKiKP	16 20 10.8	-1.4		
	baz=130								
G17A	Pierce Place,	130.58	29	⇓PKiKP	PKiKP	16 20 11.4	-0.9		
	baz=130								
QLMT	Earthquake Lak	130.59	30	*e*PKPdf	PKPdf	16 20 13.2	+1.8		
NVAR	Mina Array Bea	130.61	41	PKhKP	PKPpre	16 20 09.4			
	comp=Z,4.5nm,0.8s,baz=270,slow=2.7,SNR=4.4								
NVAR				PKP	PKPdf	16 20 13.1	+1.4		
	comp=Z,4.3nm,0.7s,baz=278,slow=1.6,SNR=11								
NVAR				SKPbc	SKPbc	16 23 35.7	+1.9		
	comp=Z,16nm,1.1s,baz=306,slow=2.1,SNR=6.0								
NVAR	Mina Array Bea	130.61	41	PKPpre	PKPpre	16 20 09.4			
NVAR				PKP	PKPdf	16 20 13.1	+1.4		
NVAR				SKPbc	SKPbc	16 23 35.7	+1.9		
I15A	Monteview	130.62	32	⇓PKiKP	PKiKP	16 20 11.1	-1.3		
	baz=130								
F18A	Big Timber	130.65	28	⇓PKiKP	PKiKP	16 20 11.5	-0.9		
	baz=130								
E19A	Rath Farm, Rou	130.66	27	⇓PKiKP	PKiKP	16 20 11.5	-0.9		
	baz=130								
A24A	Westby	130.69	22	⇑PKiKP	PKiKP	16 20 11.4	-0.9		
	baz=130								
MLAC	Mammoth Lakes	130.69	42	⇑PKiKP	PKiKP	16 20 10.9	-1.8		
	baz=131								
GCMT	Greycliff	130.76	28	*e*PKPdf	PKPdf	16 20 13.2	+1.5		
H16A	Russell Place,	130.77	30	⇑PKiKP	PKiKP	16 20 11.4	-1.3		
	baz=131								
C22A	Vida	130.92	24	⇑PKiKP	PKiKP	16 20 11.6	-1.3		
	baz=131								
E20A	Meyer Farm, Mu	130.93	27	⇑PKiKP	PKiKP	16 20 11.8	-1.2		
	baz=131								
YMR	Madison River	130.94	30	*e*PKPdf	PKPdf	16 20 13.2	+1.1		
DGMT	Dagmar	130.99	22	⇑PKiKP	PKiKP	16 20 11.7	-1.2		
	baz=131								
D21A	La Casta Ranch	130.99	25	⇓PKiKP	PKiKP	16 20 11.9	-1.2		
	baz=131								
YNR	Norris Junctio	131.05	30	*e*PKPdf	PKPdf	16 20 10.2	-2.1		
F19A	Roth Farm, Mol	131.05	28	⇑PKiKP	PKiKP	16 20 12.4	-0.8		
	baz=131								
J15A	Blackfoot	131.06	32	⇓PKiKP	PKiKP	16 20 12.3	-1.0		
	baz=131								
SMMC	Simmler	131.07	46	⇑PKiKP	PKiKP	16 20 12.2	-1.3		
	baz=131								
RCTC	Rector, Farmer	131.10	44	⇓PKiKP	PKiKP	16 20 12.2	-1.4		
	baz=131								
C23A	Lambert	131.15	23	⇑PKiKP	PKiKP	16 20 11.8	-1.5		
	baz=131								
G18A	Lazy EL Ranch,	131.15	29	⇑PKiKP	PKiKP	16 20 12.2	-1.2		
	baz=131								
YFT	Old Faithful	131.16	30	*e*PKPdf	PKPdf	16 20 15.3	+2.8		
I16A	Newdale	131.23	31	⇓PKiKP	PKiKP	16 20 12.7	-0.9		
	baz=131								
K14A	Jones Ranch, D	131.23	34	⇓PKiKP	PKiKP	16 20 12.7	-0.9		
	baz=131								
D22A	Cohagen	131.27	25	⇓PKiKP	PKiKP	16 20 12.9	-0.7		
	baz=131								
LKWY	Lake	131.29	30	*e*PKPdf	PKPdf	16 20 15.5	+2.8		
LKWY	Lake	131.29	30	*e*PKIKP	PKPdf	16 20 15.5	+2.7		
H17A	Grant Village	131.33	30	⇓PKiKP	PKiKP	16 20 13.2	-0.6		
	baz=131								
E21A	Keefer Ranch,	131.37	26	⇑PKiKP	PKiKP	16 20 13.2	-0.6		
	baz=131								
PKM	Peak Mountain	131.40	46	⇓PKiKP	PKiKP	16 20 12.3	-2.0		
	baz=131								
TIN	Tinemaha	131.41	43	⇓PKiKP	PKiKP	16 20 12.9	-1.3		
	baz=131								
RLMT	Red Lodge	131.44	29	⇓PKiKP	PKiKP	16 20 13.1	-0.9		
	baz=131								
RLMT	Red Lodge	131.44	29	*e*PKPdf	PKPdf	16 20 13.3	+0.2		
F20A	Billings	131.45	27	⇓PKiKP	PKiKP	16 20 13.3	-0.8		
	baz=131								
K15A	Arbon	131.49	33	⇓PKiKP	PKiKP	16 20 12.5	-1.7		
	baz=131								
L14A	Malta	131.53	34	⇑PKiKP	PKiKP	16 20 12.8	-1.5		
	baz=131								
H18A	Shoshone NF, C	131.57	29	⇓PKiKP	PKiKP	16 20 12.9	-1.4		
	baz=131								
J16A	Bone	131.58	32	⇓PKiKP	PKiKP	16 20 13.4	-1.0		
	baz=131								
DCID1	Drake Creek	131.58	31	*e*PKPdf	PKPdf	16 20 14.3	+1.0		
LAO	LASA Array	131.62	25	⇑PKiKP	PKiKP	16 20 13.2	-1.1		
	baz=132								
LAO	LASA Array	131.62	25	*e*PKPdf	PKPdf	16 20 11.7	-1.7		
D23A	Lindsay	131.65	24	⇓PKiKP	PKiKP	16 20 13.2	-1.1		
	baz=132								
I17A	Pilgrim Ck.	131.66	31	⇓PKiKP	PKiKP	16 20 12.4	-2.1		
	baz=132								
C24A	Savage	131.67	23	⇑PKiKP	PKiKP	16 20 13.3	-1.1		
	baz=132								
RRI2	Red Ridge	131.68	32	*e*PKPdf	PKPdf	16 20 14.3	+0.7		
SBC	Santa Barbara	131.70	46	⇑PKiKP	PKiKP	16 20 12.6	-2.3		
	baz=132								
TPAW	Teton Pass	131.78	31	*e*PKPdf	PKPdf	16 20 15.0	+1.3		
CWC	Cottonwood Cre	131.83	43	⇑PKiKP	PKiKP	16 20 13.8	-1.3		
	baz=132								
G20A	Bridger	131.86	28	⇓PKiKP	PKiKP	16 20 13.5	-1.3		
	baz=132								
LOHW	Long Hollow	131.87	31	*e*PKPpre	PKPpre	16 20 08.8			
LOHW				*e*PKPdf	PKPdf	16 20 15.1	+1.2		
SNOW	Snow King Moun	131.90	31	*e*PKPdf	PKPdf	16 20 15.0	+1.0		
K16A	Soda Springs	131.90	32	⇓PKiKP	PKiKP	16 20 13.6	-1.4		
	baz=132								
F21A	Absaloka Mine,	131.90	26	⇓PKiKP	PKiKP	16 20 12.7	-2.2		
	baz=132								
H19A	Powell	131.91	29	⇑PKiKP	PKiKP	16 20 14.0	-1.0		
	baz=132								
REDW	Red Top Meadow	131.92	31	*e*PKPdf	PKPdf	16 20 14.4	+0.4		
E22A	Miles City	131.93	25	⇓PKiKP	PKiKP	16 20 13.8	-1.2		
	baz=132								
HVU	Hansel Valley	131.96	34	*e*PKPdf	PKPdf	16 20 14.4	+0.3		
HVU	Hansel Valley	131.96	34	*e*PKIKP	PKPdf	16 20 14.4	+0.3		
ISA	Isabella	131.97	44	⇓PKiKP	PKiKP	16 20 13.8	-1.6		
	baz=132								
ISA	Isabella	131.97	44	*e*PKPdf	PKPdf	16 20 15.7	+1.3		
ISA	Isabella	131.97	44	*e*PKIKP	PKPdf	16 20 15.7	+1.4		
BSC	Santa Cruz Isl	131.97	47	⇑PKiKP	PKiKP	16 20 13.8	-1.6		
	baz=132								
J17A	Brown Place, J	131.99	31	⇓PKiKP	PKiKP	16 20 14.0	-1.1		
	baz=132								
ARVC	Arvin	131.99	45	⇓PKiKP	PKiKP	16 20 14.1	-1.3		
	baz=132								
GRAC	Grapevine Rang	132.01	42	⇑PKiKP	PKiKP	16 20 13.6	-1.8		
	baz=132								
L15A	Malad City	132.03	34	⇑PKiKP	PKiKP	16 20 14.1	-1.2		
	baz=132								
D24A	Glendive	132.05	23	⇓PKiKP	PKiKP	16 20 14.2	-0.9		
	baz=132								
ULM	Lac du Bonnet	132.06	15	PKP	PKPdf	16 20 13.4	-0.6		
	comp=Z,12nm,0.7s,baz=302,slow=3.5,SNR=7.9								
ULM	Lac du Bonnet	132.06	15	*e*PKPdf	PKPdf	16 20 12.7	-1.4		
				PKP	PKPdf	16 20 13.4	-0.6		
ULM	Lac du Bonnet	132.06	15	*e*PKIKP	PKPdf	16 20 12.7	-1.4		
E23A	Ismay	132.15	25	⇑PKiKP	PKiKP	16 20 14.5	-0.8		
	baz=132								
I18A	Diamond G Ranc	132.21	30	⇓PKiKP	PKiKP	16 20 14.1	-1.5		
	baz=132								
K17A	Gardner Place,	132.31	32	⇑PKiKP	PKiKP	16 20 14.9	-1.0		
	baz=132								
F22A	Rosebud	132.31	26	⇓PKiKP	PKiKP	16 20 14.9	-0.9		
	baz=132								
G21A	Lodge Grass	132.32	27	⇓PKiKP	PKiKP	16 20 15.3	-0.5		
	baz=132								
OSI	Osito Adit	132.32	46	⇓PKiKP	PKiKP	16 20 14.0	-2.1		
	baz=132								
BLG	Laguna Peak	132.33	47	⇑PKiKP	PKiKP	16 20 14.0	-2.2		
	baz=132								
M15A	Larsen Ranch,	132.35	34	⇓PKiKP	PKiKP	16 20 15.5	-0.5		
	baz=132								
I19A	Meeteetse	132.37	29	⇑PKiKP	PKiKP	16 20 15.5	-0.4		
	baz=132								
R11A	Troy Canyon, C	132.42	40	⇓PKiKP	PKiKP	16 20 15.1	-1.1		
	baz=132								
MPMC	Manual Prospec	132.44	43	⇑PKiKP	PKiKP	16 20 14.8	-1.5		
	baz=132								
J18A	Kendall Valley	132.45	31	⇓PKiKP	PKiKP	16 20 15.0	-1.1		
	baz=132								
E24A	Baker	132.51	24	⇑PKiKP	PKiKP	16 20 15.2	-0.9		
	baz=132								
H20A	Greybull	132.51	28	⇑PKiKP	PKiKP	16 20 15.6	-0.6		
	baz=132								
L16A	Fish Haven	132.54	33	⇑PKiKP	PKiKP	16 20 15.6	-0.8		
	baz=132								
LRMC	Laurel Mountai	132.61	44	⇑PKiKP	PKiKP	16 20 16.0	-0.7		
	baz=132								
FURC	Furnace Creek,	132.65	43	⇓PKiKP	PKiKP	16 20 14.8	-1.9		
	baz=132								
N15A	Stansbury Isla	132.69	35	⇑PKiKP	PKiKP	16 20 14.6	-2.1		
	baz=133								
EDW2	Edwards Air Fo	132.71	45	⇓PKiKP	PKiKP	16 20 15.3	-1.6		
	baz=133								
F23A	Volborg	132.73	25	⇑PKiKP	PKiKP	16 20 14.8	-1.8		
	baz=133								
HWUT	Hardware Ranch	132.75	34	*e*PKPdf	PKPdf	16 20 15.8	+0.1		
L17A	Cokeville	132.79	33	⇑PKiKP	PKiKP	16 20 15.3	-1.6		
	baz=133								
DECC	Green Verdugo	132.79	46	⇑PKiKP	PKiKP	16 20 14.3	-2.7		
	baz=133								
K18A	Toltan Ranch,	132.85	31	⇓PKiKP	PKiKP	16 20 15.1	-1.8		
	baz=133								
H21A	Big Horn, Sher	132.85	27	⇓PKiKP	PKiKP	16 20 14.9	-2.0		
	baz=133								
I20A	Worland	132.85	29	⇑PKiKP	PKiKP	16 20 15.1	-1.8		
	baz=133								
J19A	Crowheart	132.91	30	⇑PKiKP	PKiKP	16 20 15.1	-1.9		
	baz=133								
M16A	Huntsville	132.91	34	⇑PKiKP	PKiKP	16 20 15.0	-2.1		
	baz=133								
DUG	Dugway	132.97	36	⇑PKiKP	PKiKP	16 20 15.1	-2.1		
	baz=133								
DUG	Dugway	132.97	36	*e*PKPdf	PKPdf	16 20 15.9	-0.2		
DUG	Dugway	132.97	36	*e*PKIKP	PKPdf	16 20 15.9	-0.2		
PD01	Pinedale Array	132.99	31	*e*PKPdf	PKPdf	16 20 14.9	-1.2		
MWC	Mount Wilson	133.00	46	*e*PKPdf	PKPdf	16 20 16.4	0.0		
MWC	Mount Wilson	133.00	46	*e*PKIKP	PKPdf	16 20 16.4	+0.1		
PD02	Pinedale Array	133.00	31	*e*PKPdf	PKPdf	16 20 16.9	+0.9		
BW06	Boulder Array	133.01	31	⇓PKiKP	PKiKP	16 20 15.3	-1.9		
	baz=133								
PDAR	Pinedale Array	133.01	31	PKP	PKPdf	16 20 16.9	+0.8		
	comp=Z,4.9nm,0.7s,baz=75,slow=2.0,SNR=15								
PDAR				PP	PP	16 22 37.1	-4.2		
	comp=Z,3.5nm,1.1s,baz=355,slow=9.1,SNR=2.4								
PDAR				SKPab		16 23 48.5			
	comp=Z,8.2nm,1.1s,baz=264,slow=1.5,SNR=4.6								
PDAR	Pinedale Array	133.01	31	PKP	PKPdf	16 20 16.9	+0.8		
PDAR				PP	PP	16 22 37.1	-4.2		
PDAR				SKPab		16 23 48.5			
F24A	Ekalaka	133.03	24	⇓PKiKP	PKiKP	16 20 15.6	-1.6		
	baz=133								
NOQ	North Oquirrh	133.07	35	*e*PKPdf	PKPdf	16 20 17.9	+1.6		
FMP	Fort Macarthur	133.08	47	⇓PKiKP	PKiKP	16 20 15.0	-2.7		
	baz=133								
O15A	The Old Anders	133.12	36	⇓PKiKP	PKiKP	16 20 15.7	-1.9		
	baz=133								
MDND	Maddock	133.14	19	⇑PKiKP	PKiKP	16 20 15.9	-1.5		
	baz=133								
CIS	Catalina Islan	133.15	47	⇑PKiKP	PKiKP	16 20 15.9	-1.9		
	baz=133								
H22A	Pleasanton	133.19	27	⇑PKiKP	PKiKP	16 20 15.9	-1.7		
	baz=133								
SCI	San Clemente I	133.25	48	⇓PKiKP	PKiKP	16 20 15.7	-2.3		
	baz=133								
BFSC	Mount Baldy Ra	133.27	46	⇓PKiKP	PKiKP	16 20 15.9	-2.2		
	baz=133								
N16A	Rees Ranch, Co	133.30	34	⇓PKiKP	PKiKP	16 20 15.9	-2.0		
	baz=133								
GSC	Goldstone	133.32	44	⇓PKiKP	PKiKP	16 20 16.4	-1.7		
	baz=133								
GSC	Goldstone	133.32	44	*e*PKPdf	PKPdf	16 20 15.4	-1.5		
GSC	Goldstone	133.32	44	*e*PKIKP	PKPdf	16 20 15.4	-1.5		
J20A	Shoshoni	133.32	29	⇓PKiKP	PKiKP	16 20 16.1	-1.7		
	baz=133								
K19A	Absolon Red Bu	133.33	30	⇓PKiKP	PKiKP	16 20 16.4	-1.5		
	baz=133								
M17A	Scullys Gap (B	133.33	33	⇑PKiKP	PKiKP	16 20 16.7	-1.3		
	baz=133								
SHOC	Shoshone	133.35	43	⇓PKiKP	PKiKP	16 20 16.9	-1.3		
	baz=133								
L18A	Fontenelle, Gr	133.35	32	⇑PKiKP	PKiKP	16 20 16.7	-1.3		
	baz=133								
I21A	Big Trails, Te	133.36	28	⇑PKiKP	PKiKP	16 20 16.6	-1.4		
	baz=133								
RRX	Edison Barstow	133.40	44	⇓PKiKP	PKiKP	16 20 16.2	-2.1		
	baz=133								
JLU	Jordanelle	133.49	35	*e*PKPdf	PKPdf	16 20 17.1	0.0		
R13A	O'Grain Ranch,	133.54	39	⇓PKiKP	PKiKP	16 20 16.9	-1.5		
	baz=133								
L19A	Farson	133.59	32	⇑PKiKP	PKiKP	16 20 16.9	-1.6		
	baz=133								
N17A	Moffit Pass	133.60	34	⇓PKiKP	PKiKP	16 20 16.9	-1.6		
	baz=134								
J21A	Lysite	133.63	29	⇑PKiKP	PKiKP	16 20 16.8	-1.7		
	baz=134								
H23A	Clabaugh Cattl	133.65	26	⇑PKiKP	PKiKP	16 20 16.8	-1.6		
	baz=134								
I22A	9 Mile Ranch,	133.68	28	⇓PKiKP	PKiKP	16 20 17.4	-1.2		
	baz=134								
M18A	Lyman	133.69	33	⇑PKiKP	PKiKP	16 20 17.8	-0.8		
	baz=134								
P15A	Leamington	133.69	36	⇑PKiKP	PKiKP	16 20 17.7	-1.0		
	baz=134								
K20A	Yellowstone Ra	133.70	30	⇑PKiKP	PKiKP	16 20 18.0	-0.7		
	baz=134								
O16A	Springville	133.72	35	⇓PKiKP	PKiKP	16 20 16.7	-2.1		
	baz=134								
DAU	Daniels Canyon	133.72	35	*e*PKPdf	PKPdf	16 20 19.1	+1.6		
DAU	Daniels Canyon	133.72	35	*e*PKIKP	PKPdf	16 20 19.2	+1.7		
BBRC	Big Bear Solar	133.78	45	⇑PKiKP	PKiKP	16 20 16.4	-2.6		
	baz=134								
TUQ	Turquoise Moun	133.85	43	⇑PKiKP	PKiKP	16 20 17.2	-2.0		
	baz=134								
H24A	Dirks Ranch, A	133.87	25	⇑PKiKP	PKiKP	16 20 16.6	-2.3		
	baz=134								
HEC	Hector,Ludlow	133.90	44	⇓PKiKP	PKiKP	16 20 16.3	-3.0		
	baz=134								
MURC	Murrieta	133.93	46	⇓PKiKP	PKiKP	16 20 16.7	-2.7		
	baz=134								
P16A	Fountain Green	134.03	36	⇑PKiKP	PKiKP	16 20 17.6	-1.8		
	baz=134								
J22A	Midwest	134.04	28	⇑PKiKP	PKiKP	16 20 17.3	-2.0		
	baz=134								
I23A	Meade Ranch, G	134.09	27	⇓PKiKP	PKiKP	16 20 17.8	-1.6		
	baz=134								
ARUT	Antelope Range	134.11	39	*e*PKPdf	PKPdf	16 20 18.8	+0.5		
ARUT				*e*		16 20 33.4			
ARUT	Antelope Range	134.11	39	*e*PKIKP	PKPdf	16 20 18.8	+0.5		
ARUT				*e*		16 20 33.4			
M19A	Rock Springs	134.12	32	⇑PKiKP	PKiKP	16 20 17.7	-1.8		
	baz=134								
O17A	Robinson Place	134.16	34	⇓PKiKP	PKiKP	16 20 18.0	-1.7		
	baz=134								
L20A	Wamsutter	134.18	31	⇑PKiKP	PKiKP	16 20 18.0	-1.7		
	baz=134								
N18A	Larsen Ranch,	134.21	33	⇓PKiKP	PKiKP	16 20 17.8	-1.9		
	baz=134								
K21A	Alcova	134.26	29	⇑PKiKP	PKiKP	16 20 18.0	-1.8		
	baz=134								
CCUT	Cedar City	134.30	39	*e*PKPdf	PKPdf	16 20 17.2	-1.5		
109C	Camp Elliot, M	134.35	47	⇑PKiKP	PKiKP	16 20 18.3	-2.0		
	baz=134								
GMRC	Granite Mounta	134.39	44	⇓PKiKP	PKiKP	16 20 18.2	-2.1		
	baz=134								
MSU	Marysvale	134.43	37	*e*PKPdf	PKPdf	16 20 18.5	-0.4		
MSU	Marysvale	134.43	37	*e*PKIKP	PKPdf	16 20 18.5	-0.4		
PFO	Pinyon Flat Ob	134.45	46	⇓PKiKP	PKiKP	16 20 18.1	-2.4		
	baz=134								
PFO	Pinyon Flat Ob	134.45	46	*e*PKPdf	PKPdf	16 20 19.0	-0.1		
PFO	Pinyon Flat Ob	134.45	46	*e*PKIKP	PKPdf	16 20 19.0	-0.1		
J23A	Dilts Ranch, B	134.48	27	⇓PKiKP	PKiKP	16 20 17.7	-2.6		
	baz=134								
TMUT	Trail Mountain	134.49	36	*e*PKPdf	PKPdf	16 20 17.2	-1.8		
O18A	Roosevelt	134.52	34	⇑PKiKP	PKiKP	16 20 18.4	-2.0		
	baz=134								
N19A	John Jarvie Ra	134.54	33	⇑PKiKP	PKiKP	16 20 18.4	-2.0		
	baz=134								
I24A	Kuemmerle Ranc	134.54	26	⇑PKiKP	PKiKP	16 20 18.5	-1.8		
	baz=134								
R15A	Junction	134.56	38	⇓PKiKP	PKiKP	16 20 18.5	-2.1		
	baz=134								
BELC	Belle Mtn. Jos	134.57	45	⇓PKiKP	PKiKP	16 20 19.0	-1.7		
	baz=134								
RSSD	Black Hills	134.59	26	*e*PKPdf	PKPdf	16 20 18.4	-0.6		
RSSD	Black Hills	134.59	26	*e*PKIKP	PKPdf	16 20 18.4	-0.6		
LDFC	Landfair	134.60	43	*e*PKPdf	PKPdf	16 20 20.2	+0.9		
K22A	Casper	134.60	29	⇑PKiKP	PKiKP	16 20 18.8	-1.7		
	baz=134								
M20A	Sweetwater, Wa	134.63	31	⇑PKiKP	PKiKP	16 20 18.8	-1.8		
	baz=134								
P17A	Butcher Ranch,	134.65	35	⇓PKiKP	PKiKP	16 20 18.9	-1.8		
	baz=134								
L21A	Rawlins	134.70	30	⇓PKiKP	PKiKP	16 20 18.7	-2.0		
	baz=135								
Q16A	Castle Valley	134.76	36	⇑PKiKP	PKiKP	16 20 19.5	-1.5		
	baz=135								
BAR	Barrett	134.77	47	PKPdf	PKPdf	16 20 16.4	-3.3		
P18A	Preston Nutter	134.82	35	⇑PKiKP	PKiKP	16 20 19.4	-1.6		
	baz=135								
MONP	Monument Peak	134.85	46	⇑PKiKP	PKiKP	16 20 19.3	-2.0		
	baz=135								
J24A	Dixon Ranch, L	134.94	27	⇑PKiKP	PKiKP	16 20 19.6	-1.5		
	baz=135								
K23A	Bowen Ranch, D	134.95	28	⇓PKiKP	PKiKP	16 20 19.5	-1.7		
	baz=135								
M21A	Separation Pea	134.97	30	⇓PKiKP	PKiKP	16 20 19.7	-1.6		
	baz=135								
RWWY	Rawlins	134.99	30	*e*PKPdf	PKPdf	16 20 19.7	-0.2		
O19A	Miners Draw (B	134.99	33	⇓PKiKP	PKiKP	16 20 20.0	-1.4		
	baz=135								
R16A	Teasdale	134.99	37	⇑PKiKP	PKiKP	16 20 19.5	-1.9		
	baz=135								
SRU	San Rafael	135.01	35	⇑PKiKP	PKiKP	16 20 19.8	-1.6		
	baz=135								
SRU	San Rafael	135.01	35	*e*PKPdf	PKPdf	16 20 18.8	-1.2		
SRU	San Rafael	135.01	35	*e*PKIKP	PKPdf	16 20 18.8	-1.2		
N20A	Spence Gulch,	135.07	32	⇑PKiKP	PKiKP	16 20 20.4	-1.1		
	baz=135								
IRM	Iron Mountain	135.08	44	⇑PKiKP	PKiKP	16 20 19.6	-2.1		
	baz=135								
NEE2	Needles Airpor	135.11	43	⇑PKiKP	PKiKP	16 20 19.8	-2.0		
	baz=135								
L22A	Ellis Ranch, M	135.12	29	⇓PKiKP	PKi

	baz=137							
Z14A	Wintersburg	137.05	44	⇑PKiKP	PKiKP	16 20 24.0	-1.8	
	baz=137							
V17A	Tonalea, Kykot	137.12	39	⇑PKiKP	PKiKP	16 20 23.9	-1.9	
	baz=137							
Y15A	Casa Rosa Ranc	137.12	42	⇓PKiKP	PKiKP	16 20 24.1	-1.8	
	baz=137							
S20A	Disappointment	137.13	35	⇓PKiKP	PKiKP	16 20 23.8	-2.0	
	baz=137							
N25A	Grover	137.18	29	⇑PKiKP	PKiKP	16 20 23.9	-1.9	
	baz=137							
U18A	Rough Rock, Ch	137.18	38	⇓PKiKP	PKiKP	16 20 24.2	-1.8	
	baz=137							
ISCO	Idaho Springs	137.20	31	⇑PKiKP	PKiKP	16 20 24.1	-1.8	
	baz=137							
Q22A	Crested Butte,	137.21	33	⇓PKiKP	PKiKP	16 20 24.3	-1.6	
	baz=137							
R21A	Cimarron	137.21	34	⇓PKiKP	PKiKP	16 20 24.3	-1.6	
	baz=137							
O24A	Longmont	137.23	30	⇓PKiKP	PKiKP	16 20 24.4	-1.6	
	baz=137							
P23A	Jefferson	137.40	31	⇑PKiKP	PKiKP	16 20 25.2	-1.1	
	baz=137							
T19A	Beclabito	137.42	37	⇓PKiKP	PKiKP	16 20 24.5	-1.9	
	baz=137							
114A	Black Gap (USA	137.44	44	⇓PKiKP	PKiKP	16 20 24.4	-2.1	
	baz=137							
X16A	Lo Mia Camp, P	137.44	41	⇑PKiKP	PKiKP	16 20 24.7	-1.9	
	baz=137							
COWI	Conover	137.47	11	PKPpre	PKPpre	16 20 21.8		
MVCO	Mesa Verde	137.47	36	⇓PKiKP	PKiKP	16 20 25.1	-1.4	
	baz=137							
MVCO	Mesa Verde	137.47	36	*e*PKPdf	PKPdf	16 20 24.6	0.0	
SPMN	St. Paul	137.50	15	⇓PKiKP	PKiKP	16 20 25.0	-1.3	
	baz=137							
W17A	Winslow	137.51	40	⇓PKiKP	PKiKP	16 20 24.7	-2.0	
	baz=137							
S21A	Coal Bank Pass	137.57	35	⇑PKiKP	PKiKP	16 20 25.4	-1.3	
	baz=137							
V18A	Ganado	137.60	39	⇓PKiKP	PKiKP	16 20 24.9	-1.9	
	baz=138							
U19A	Dine' College,	137.67	37	⇓PKiKP	PKiKP	16 20 24.8	-2.1	
	baz=138							
O25A	Wiggins	137.71	29	⇑PKiKP	PKiKP	16 20 24.8	-2.0	
	baz=138							
Y16A	Circle Bar Ran	137.74	42	⇑PKiKP	PKiKP	16 20 25.7	-1.4	
	baz=138							
R22A	Saguache, Gunn	137.75	33	⇓PKiKP	PKiKP	16 20 24.9	-2.1	
	baz=138							
Q23A	Hartsel	137.75	32	⇓PKiKP	PKiKP	16 20 25.1	-2.0	
	baz=138							
ECSD	EROS Data Cent	137.75	19	*e*PKPpre	PKPpre	16 20 16.3		
ECSD				*e*PKPdf	PKPdf	16 20 25.0	+0.1	
ECSD				*e*PP	PP	16 23 07.3	-3.5	
P24A	Kohler Place,	137.78	30	⇑PKiKP	PKiKP	16 20 25.5	-1.6	
	baz=138							
X17A	Forest Lakes	137.91	41	⇑PKiKP	PKiKP	16 20 25.8	-1.7	
	baz=138							
115A	Sonoran Desert	137.92	44	⇑PKiKP	PKiKP	16 20 26.2	-1.4	
	baz=138							
214A	Organ Pipe Nat	137.93	45	⇑PKiKP	PKiKP	16 20 26.2	-1.4	
	baz=138							
OGNE	Ogallala	138.02	27	⇓PKiKP	PKiKP	16 20 26.2	-1.3	
	baz=138							
U20A	Newcomb	138.03	37	⇑PKiKP	PKiKP	16 20 26.2	-1.4	
	baz=138							
S22A	4UR Ranch, Cre	138.05	34	⇑PKiKP	PKiKP	16 20 26.5	-1.2	
	baz=138							
Q24A	Divide	138.06	31	⇑PKiKP	PKiKP	16 20 26.3	-1.4	
	baz=138							
W18A	Petrified Fore	138.10	39	⇓PKiKP	PKiKP	16 20 26.2	-1.6	
	baz=138							
V19A	Window Rock	138.15	38	⇑PKiKP	PKiKP	16 20 26.2	-1.7	
	baz=138							
P25A	Willow Gulch B	138.15	30	⇑PKiKP	PKiKP	16 20 26.1	-1.7	
	baz=138							
T21A	Navajo Lake	138.18	35	⇑PKiKP	PKiKP	16 20 26.2	-1.7	
	baz=138							
Y17A	Roosevelt	138.27	42	⇑PKiKP	PKiKP	16 20 26.6	-1.7	
	baz=138							
R23A	Moffat	138.28	33	⇑PKiKP	PKiKP	16 20 26.5	-1.6	
	baz=138							
W19A	Sanders	138.33	39	⇑PKiKP	PKiKP	16 20 27.0	-1.3	
	baz=138							
X18A	Snowflake	138.34	40	⇑PKiKP	PKiKP	16 20 26.7	-1.7	
	baz=138							
116A	Eloy	138.36	44	⇓PKiKP	PKiKP	16 20 26.8	-1.6	
	baz=138							
V20A	Brimhall	138.44	37	⇑PKiKP	PKiKP	16 20 26.5	-2.0	
	baz=138							
U21A	Nageezi	138.50	36	⇑PKiKP	PKiKP	16 20 26.9	-1.7	
	baz=138							
T22A	Edith	138.53	35	⇑PKiKP	PKiKP	16 20 27.0	-1.7	
	baz=138							
S23A	Nye Farm, Mont	138.54	33	⇑PKiKP	PKiKP	16 20 27.0	-1.7	
	baz=138							
Q25A	Bedland, Calha	138.56	30	⇑PKiKP	PKiKP	16 20 27.0	-1.6	
	baz=138							
R24A	Sanders Place,	138.63	32	⇑PKiKP	PKiKP	16 20 27.3	-1.5	
	baz=138							
Y18A	Canyon Day Jun	138.75	41	⇓PKiKP	PKiKP	16 20 28.0	-1.2	
	baz=139							
Z17A	San Carlos Hig	138.76	42	⇓PKiKP	PKiKP	16 20 27.9	-1.3	
	baz=139							
SDCO	Great Sand Dun	138.78	33	⇑PKiKP	PKiKP	16 20 27.8	-1.3	
	baz=139							
X19A	St. Johns	138.83	40	⇑PKiKP	PKiKP	16 20 27.7	-1.7	
	baz=139							
216A	Three Points,	138.85	44	⇓PKiKP	PKiKP	16 20 27.2	-2.2	
	baz=139							
W20A	Ramah	138.87	38	⇓PKiKP	PKiKP	16 20 27.9	-1.5	
	baz=139							
V21A	Milan	138.94	37	⇑PKiKP	PKiKP	16 20 28.0	-1.5	
	baz=139							
T23A	Casias Ranch,	139.00	34	⇓PKiKP	PKiKP	16 20 28.1	-1.5	
	baz=139							
U22A	Llaves	139.00	35	⇓PKiKP	PKiKP	16 20 28.0	-1.7	
	baz=139							
S24A	Houchin Ranch,	139.01	33	⇓PKiKP	PKiKP	16 20 28.2	-1.4	
	baz=139							
117A	Oracle	139.01	43	⇑PKiKP	PKiKP	16 20 28.4	-1.4	
	baz=139							
R25A	Fountain Ranch	139.13	31	⇑PKiKP	PKiKP	16 20 28.2	-1.7	
	baz=139							
TUC	Tucson	139.14	43	*e*PKPpre	PKPpre	16 20 22.8		
TUC	Tucson	139.14	43	*e*PKIKP	PKPpre	16 20 22.8		
Y19A	Nutrioso	139.15	40	⇑PKiKP	PKiKP	16 20 28.1	-1.9	
	baz=139							
Z18A	Geronimo	139.18	42	⇓PKiKP	PKiKP	16 20 28.7	-1.4	
	baz=139							
BGNE	Belgrade	139.25	22	⇑PKiKP	PKiKP	16 20 28.6	-1.4	
	baz=139							
X20A	Quemado	139.25	39	⇓PKiKP	PKiKP	16 20 29.4	-0.8	
	baz=139							
V22A	San Miguel Ran	139.29	36	⇑PKiKP	PKiKP	16 20 29.2	-1.0	
	baz=139							
W21A	San Fidel	139.40	37	⇑PKiKP	PKiKP	16 20 29.4	-1.1	
	baz=139							
S25A	Roberts Cordova	139.41	32	⇑PKiKP	PKiKP	16 20 29.2	-1.2	
	baz=139							
U23A	El Rito	139.42	35	⇑PKiKP	PKiKP	16 20 29.1	-1.4	
	baz=139							
217A	Green Valley	139.43	44	⇑PKiKP	PKiKP	16 20 29.2	-1.5	
	baz=139							
118A	Homack Ranch,	139.49	42	⇑PKiKP	PKiKP	16 20 29.5	-1.2	
	baz=139							
T24A	Torres, Weston	139.51	33	⇓PKiKP	PKiKP	16 20 29.6	-1.0	
	baz=139							
Z19A	T-Link Ranch,	139.56	41	⇑PKiKP	PKiKP	16 20 30.1	-0.8	
	baz=139							
Y20A	Horse Springs,	139.74	39	⇑PKiKP	PKiKP	16 20 30.2	-1.0	
	baz=140							
X21A	Alamocita Cree	139.76	38	⇑PKiKP	PKiKP	16 20 30.0	-1.3	
	baz=140							
T25A	Trinidad	139.81	32	⇓PKiKP	PKiKP	16 20 30.0	-1.2	
	baz=140							
V23A	Ortiz Mt. (NFS	139.83	35	⇑PKiKP	PKiKP	16 20 30.3	-1.0	
	baz=140							
218A	Dragoon	139.84	43	⇓PKiKP	PKiKP	16 20 30.4	-1.1	
	baz=140							
119A	Ashpeak Ranch,	139.86	42	⇓PKiKP	PKiKP	16 20 30.5	-1.0	
	baz=140							
U24A	Moreno Valley	139.87	34	⇑PKiKP	PKiKP	16 20 29.9	-1.5	
	baz=140							
W22A	Albuquerque	139.90	37	⇑PKiKP	PKiKP	16 20 30.6	-0.9	
	baz=140							
Z20A	Nine Sixteen R	140.11	41	⇑PKiKP	PKiKP	16 20 31.1	-0.9	
	baz=140							
Y21A	Point of Rocks	140.12	39	⇑PKiKP	PKiKP	16 20 31.1	-0.9	
	baz=140							
LAZ	Ladron	140.19	38	*e*PKPpre	PKPpre	16 20 22.3		
X22A	Bernardo	140.19	38	⇓PKiKP	PKiKP	16 20 31.1	-1.0	
	baz=140							
318A	Bisbee	140.19	44	⇑PKiKP	PKiKP	16 20 31.2	-1.1	
	baz=140							
ANMO	Albuquerque	140.22	37	*e*PKPpre	PKPpre	16 20 24.0		
ANMO	Albuquerque	140.22	37	*e*PKIKP	PKPpre	16 20 24.0		
W23A	Werner Place,	140.26	36	⇓PKiKP	PKiKP	16 20 31.0	-1.3	
	baz=140							
JFWS	Jewell Farm	140.29	13	*e*PKPdf	PKPdf	16 20 27.8	-1.8	
JFWS	Jewell Farm	140.29	13	*e*PKIKP	PKPdf	16 20 27.8	-1.8	
219A	White Tail Can	140.36	43	⇓PKiKP	PKiKP	16 20 31.7	-0.9	
	baz=140							
U25A	Circle Dot Ran	140.36	33	⇓PKiKP	PKiKP	16 20 30.9	-1.5	
	baz=140							
V24A	Rampart Ranch,	140.37	35	⇓PKiKP	PKiKP	16 20 31.5	-0.9	
	baz=140							
120A	U Bar Ranch, L	140.44	41	⇑PKiKP	PKiKP	16 20 31.5	-1.2	
	baz=140							
LENM	Lemitar	140.44	38	*e*PKPdf	PKPdf	16 20 30.8	+0.7	
Y22D	IRIS PASSCAL I	140.54	38	⇓PKiKP	PKiKP	16 20 31.5	-1.4	
	baz=140							
LPM	Los Pinos Moun	140.56	38	*e*PKPdf	PKPdf	16 20 30.1	-0.2	
Z21A	St. Cloud Mine	140.57	40	⇑PKiKP	PKiKP	16 20 31.9	-1.0	
	baz=140							
Y22A	Socorro	140.60	38	⇑PKiKP	PKiKP	16 20 32.0	-1.0	
	baz=140							
X23A	Hourglass Bar	140.64	37	⇓PKiKP	PKiKP	16 20 32.0	-1.0	
	baz=140							
V25A	Rancho No Teng	140.66	34	⇓PKiKP	PKiKP	16 20 31.8	-1.2	
	baz=140							
W24A	Lazy 6 Ranch,	140.66	35	⇑PKiKP	PKiKP	16 20 31.8	-1.2	
	baz=140							
BNM	Barren Site	140.67	38	*e*PKPdf	PKPdf	16 20 28.3	-2.3	
319A	Douglas	140.72	43	⇓PKiKP	PKiKP	16 20 32.0	-1.3	
	baz=141							
U26A	Atchley Ranch,	140.72	33	⇑PKiKP	PKiKP	16 20 31.7	-1.5	
	baz=141							
CBKS	Cedar Bluff	140.78	26	⇑PKiKP	PKiKP	16 20 31.8	-1.5	
	baz=141							
CBKS	Cedar Bluff	140.78	26	*e*PKPpre	PKPpre	16 20 22.6		
CBKS	Cedar Bluff	140.78	26	*e*PKHKP	PKPpre	16 20 22.6		
220A	Playas Peak, P	140.91	42	⇑PKiKP	PKiKP	16 20 32.2	-1.5	
	baz=141							
121A	Cookes Peak, D	141.00	41	⇓PKiKP	PKiKP	16 20 32.6	-1.3	
	baz=141							
Z22A	Elephant Butte	141.06	39	⇑PKiKP	PKiKP	16 20 32.4	-1.5	
	baz=141							
X24A	Lazy VL Ranch,	141.10	36	⇓PKiKP	PKiKP	16 20 31.9	-2.1	
	baz=141							
V26A	Tequesquite Ra	141.15	33	⇑PKiKP	PKiKP	16 20 32.2	-1.9	
	baz=141							
Y23A	Lovelace Mesa,	141.16	37	⇑PKiKP	PKiKP	16 20 32.5	-1.7	
	baz=141							
W25A	X Bar L Ranch,	141.19	34	⇑PKiKP	PKiKP	16 20 32.3	-1.9	
	baz=141							
320A	Kipp Ranch, An	141.25	43	⇑PKiKP	PKiKP	16 20 33.0	-1.4	
	baz=141							
221A	Mesquite Ranch	141.34	41	⇓PKiKP	PKiKP	16 20 33.1	-1.5	
	baz=141							
122A	Conniff Cattle	141.40	40	⇑PKiKP	PKiKP	16 20 33.3	-1.4	
	baz=141							
Z23A	Rita Site, Whi	141.51	38	⇓PKiKP	PKiKP	16 20 33.2	-1.6	
	baz=141							
Y24A	Capitan	141.54	37	⇑PKiKP	PKiKP	16 20 33.6	-1.3	
	baz=141							
X25A	Clemmons Ranch	141.57	35	⇑PKiKP	PKiKP	16 20 33.3	-1.6	
	baz=141							
W26A	Owens Ranch, T	141.68	34	⇓PKiKP	PKiKP	16 20 34.1	-1.0	
	baz=142							
222A	Williams Famil	141.72	41	⇓PKiKP	PKiKP	16 20 34.1	-1.2	
	baz=142							
KSU1	Kansas State U	141.83	23	*e*PKPdf	PKPdf	16 20 33.5	+1.0	
123A	Bell Site, Whi	141.91	39	⇓PKiKP	PKiKP	16 20 34.7	-1.0	
	baz=142							
Y25A	Mesa, Roswell	141.98	36	⇑PKiKP	PKiKP	16 20 34.4	-1.4	
	baz=142							
Z24A	Sheeppen Canyo	141.99	37	⇑PKiKP	PKiKP	16 20 34.8	-1.0	
	baz=142							
X26A	CR and CF Fran	142.04	35	⇓PKiKP	PKiKP	16 20 34.3	-1.7	
	baz=142							
W27A	Bowe Ranch, En	142.08	33	⇓PKiKP	PKiKP	16 20 34.7	-1.3	
	baz=142							
223A	Chaparral, Ant	142.22	40	⇓PKiKP	PKiKP	16 20 35.4	-1.0	
	baz=142							
124A	Stringfield Ra	142.37	38	⇑PKiKP	PKiKP	16 20 34.9	-1.8	
	baz=142							
X27A	F and S Farms,	142.37	34	⇑PKiKP	PKiKP	16 20 35.4	-1.2	
	baz=142							
Z25A	Roswell	142.42	37	⇑PKiKP	PKiKP	16 20 34.7	-2.0	
	baz=142							
Y26A	Elida	142.49	35	⇑PKiKP	PKiKP	16 20 35.2	-1.7	
	baz=142							
224A	Cornudas Mount	142.75	39	⇓PKiKP	PKiKP	16 20 36.3	-1.2	
	baz=143							
HDIL	Hopedale	142.75	13	*e*PKPdf	PKPdf	16 20 30.6	-3.5	
Z26A	Caprock	142.86	36	⇓PKiKP	PKiKP	16 20 36.1	-1.6	
	baz=143							
125A	Gardner Draw,	142.89	38	⇓PKiKP	PKiKP	16 20 36.1	-1.6	
	baz=143							
Y27A	Causey	142.90	35	⇓PKiKP	PKiKP	16 20 36.3	-1.4	
	baz=143							
AMTX	Amarillo	142.96	32	⇑PKiKP	PKiKP	16 20 36.0	-1.8	
	baz=143							
AMTX	Amarillo	142.96	32	*e*PKPdf	PKPdf	16 20 31.7	-2.9	
MSTX	Muleshoe	143.05	34	⇓PKiKP	PKiKP	16 20 36.5	-1.5	
	baz=143							
CPUP	Villa Florida	143.08	213	PKP	PKPdf	16 20 34.5	-0.6	
	comp=Z,4.0nm,0.8s,baz=95,slow=1.9,SNR=6.0							
CPUP	Villa Florida	143.08	213	PKP	PKPdf	16 20 34.5	-0.6	
CPUP	Villa Florida	143.08	213	PKIKP	PKPdf	16 20 34.5	-0.6	
MNTX	Cornudas Mount	143.09	39	⇑PKiKP	PKiKP	16 20 36.3	-1.9	
	baz=143							
MNTX	Cornudas Mount	143.09	39	*e*PKPdf	PKPdf	16 20 33.7	-1.3	
CPRX	Cap Rock	143.10	36	*e*PKPdf	PKPdf	16 20 30.4	-4.6	
225A	Deer Hill, Car	143.16	38	⇓PKiKP	PKiKP	16 20 36.3	-2.0	
	baz=143							
324A	Moseley Ranch,	143.19	40	⇓PKiKP	PKiKP	16 20 36.3	-2.1	
	baz=143							
Z27A	Tatum	143.28	35	⇓PKiKP	PKiKP	16 20 36.8	-1.7	
	baz=143							
126A	Clayton Basin,	143.28	37	⇓PKiKP	PKiKP	16 20 36.7	-1.8	
	baz=143							
SFIN	Scholer Farm	143.38	11	⇓PKiKP	PKiKP	16 20 36.8	-1.7	
	baz=143							
325A	Bean Ranch, Si	143.57	39	⇑PKiKP	PKiKP	16 20 37.2	-1.9	
	baz=143							
CLNB	Carlsbad	143.63	37	*e*PKPdf	PKPdf	16 20 33.8	-2.1	
226A	Malaga, Loving	143.64	38	⇑PKiKP	PKiKP	16 20 37.5	-1.8	
	baz=144							
127A	Arkansas Junct	143.65	36	⇓PKiKP	PKiKP	16 20 37.2	-2.1	
	baz=144							
425A	Indio Mountain	143.95	40	⇑PKiKP	PKiKP	16 20 36.9	-3.1	
	baz=144							
ACSO	Alum Creek Sta	144.10	5	*e*PKPdf	PKPdf	16 20 33.7	-2.8	
227A	Bennet, Jal	144.16	37	⇑PKiKP	PKiKP	16 20 37.4	-3.0	
	baz=144							
326A	Caldwell Ranch	144.23	39	⇑PKiKP	PKiKP	16 20 37.2	-3.3	
	baz=144							
SLM	Saint Louis	144.34	15	*e*PKPdf	PKPdf	16 20 34.8	-2.1	
SLM	Saint Louis	144.34	15	*e*PKIKP	PKPdf	16 20 34.8	-2.1	
327A	Balmorhea Ranc	144.49	38	⇓PKiKP	PKiKP	16 20 38.2	-2.9	
	baz=144							
WMOK	Wichita Mounta	144.55	29	*e*PKPdf	PKPdf	16 20 34.7	-2.7	
WMOK	Wichita Mounta	144.55	29	*e*PKIKP	PKPdf	16 20 34.7	-2.7	
CCM	Cathedral Cave	144.60	17	*e*PKPdf	PKPdf	16 20 33.9	-3.5	
CCM	Cathedral Cave	144.60	17	*e*PKIKP	PKPdf	16 20 33.9	-3.5	
426A	McDonald Obser	144.64	39	⇓PKiKP	PKiKP	16 20 38.8	-2.6	
	baz=144							
BLO	Bloomington	144.66	10	*e*PKPdf	PKPdf	16 20 34.7	-2.8	
BLO	Bloomington	144.66	10	*e*PKIKP	PKPdf	16 20 34.7	-2.7	
OLIL	Olney	144.76	13	*e*PKPdf	PKPdf	16 20 35.5	-2.2	
TLL	Tololo Astrono	144.82	192	*e*P	PKPdf	16 20 40.6	+2.6	
328A	Wristen Ranch,	144.90	37	⇑PKiKP	PKiKP	16 20 38.6	-3.3	
	baz=145							
427A	Hayter Ranch,	144.91	39	⇓PKiKP	PKiKP	16 20 38.8	-3.1	
	baz=145							
TUL1	Tulsa	144.91	24	⇓PKiKP	PKiKP	16 20 37.7	-4.1	
	baz=145							
526A	Mary Lane Ranc	145.01	40	⇑PKiKP	PKiKP	16 20 39.4	-2.8	
	baz=145							
SDMD	Soldier's Deli	145.08	357	*e*PKPdf	PKPdf	16 20 35.8	-2.4	
527A	Woodward Ranch	145.25	40	⇑PKiKP	PKiKP	16 20 40.1	-2.6	
	baz=145							
626A	Big Bend Ranch	145.31	41	⇑PKiKP	PKiKP	16 20 40.0	-2.8	
	baz=145							
428A	Kincaid Ranch,	145.44	38	⇓PKiKP	PKiKP	16 20 40.6	-2.4	
	baz=145							
SIUC	Southern Illin	145.47	15	*e*PKPdf	PKPdf	16 20 37.6	-1.3	
USIN	University of	145.60	12	*e*PKPdf	PKPdf	16 20 38.3	-0.8	
WCI	Wyandotte Cave	145.61	11	*e*PKPdf	PKPdf	16 20 38.4	-0.7	
WCI	Wyandotte Cave	145.61	11	*e*PKIKP	PKPdf	16 20 38.4	-0.7	
TXAR	Lajitas Array	145.76	41	PKPbc	PKPbc	16 20 40.1	+0.1	
	comp=Z,132nm,1.0s,baz=280,slow=1.4,SNR=108							
TXAR	Lajitas Array	145.76	41	PKPbc	PKPbc	16 20 40.1	+0.1	
TXAR	Lajitas Array	145.76	41	PKIKP	PKPdf	16 20 40.1	+0.5	
528A	Cox Ranch, San	145.76	39	⇑PKiKP	PKiKP	16 20 41.2	-2.5	
	baz=146							
627A	Terlingua Ranc	145.86	40	⇓PKiKP	PKiKP	16 20 41.7	-2.3	
	baz=146							
LCO	Las Campanas	145.91	193	*e*PKPdf	PKPdf	16 20 38.0	-1.9	
628A	Black Gap, Mar	146.16	40	⇑PKiKP	PKiKP	16 20 42.3	-2.3	
	baz=146							
CBN	Corbin	146.31	358	*e*PKPdf	PKPdf	16 20 41.3	+1.0	
PARMO	Parma	146.32	16	*e*PKPdf	PKPdf	16 20 39.9	-0.5	
GLAT	Glass	146.82	16	*e*PKPbc	PKPbc	16 20 42.8	-0.1	
UTMT	University of	146.86	15	*e*PKPdf	PKPdf	16 20 40.4	-0.9	
GNAR	Gosnell	146.90	17	*e*PKPbc	PKPbc	16 20 42.3	-0.9	
RFTA	Plano	146.96	28	*e*PKPbc	PKPbc	16 20 43.3	-0.2	
MIAR	Mount Ida	146.99	23	*e*PKPdf	PKPbc	16 20 42.5	-1.0	
MIAR	Mount Ida	146.99	23	*e*PKP2	PKPbc	16 20 42.5	-1.0	
HBAR	Harrisburg	147.09	18	*e*PKPbc	PKPbc	16 20 45.4	+1.6	
HALT	Halls	147.14	16	*e*PKPdf	PKPdf	16 20 41.6	-0.1	
UALR	University of	147.24	21	*e*PKPdf	PKPdf	16 20 42.4	+0.4	
ELN	Prospectdale	147.25	3	*e*PKPdf	PKPdf	16 20 42.5	+0.6	
BLA	Blacksburg	147.29	2	*e*PKPbc	PKPpre	16 20 38.9		
BLA	Blacksburg	147.29	2	*e*PKHKP	PKPpre	16 20 38.9		
WVT	Waverly	147.32	14	*e*PKPdf	PKPdf	16 20 43.2	+1.1	
WVT	Waverly	147.32	14	*e*PKP2	PKPdf	16 20 43.2	+1.1	
JCT	Junction City	147.32	35	⇑PKiKP	PKPbc	16 20 44.3	-0.3	
	baz=147							
JCT	Junction City	147.32	35	*e*PKPdf	PKPdf	16 20 42.3	+0.1	
JCT	Junction City	147.32	35	*e*PKP2	PKPdf	16 20 42.3	+0.1	
TZTN	Tazewell	147.69	7	*e*PKPbc	PKPbc	16 20 44.1	-1.3	
PLAL	Pickwick Lake	148.35	15	*e*PKPbc	PKPdf	16 20 43.4	-0.4	
OXF	Oxford	148.43	17	*e*PKPbc	PKPbc	16 20 46.1	-1.3	
OXF	Oxford	148.43	17	*e*PKP2	PKPbc	16 20 46.1	-1.3	
TKL	Tuckaleechee C	148.53	8	*e*PKPbc	PKPbc	16 20 46.0	-1.7	
TKL	Tuckaleechee C	148.53	8	*e*PKP2	PKPbc	16 20 46.0	-1.7	
SWET	Sewanee	148.60	11	*e*PKPdf	PKPdf	16 20 44.8	+0.6	
CPCT	Cooper Cave	148.63	9	*e*PKPbc	PKPbc	16 20 45.4	-2.5	
NATX	Nacogdoches	148.94	27	*e*PKPbc	PKPdf	16 20 45.8	+0.9	
CNNC	Cliffs of the	149.28	359	*e*PKPbc	PKPdf	16 20 46.4	+1.0	
KMSC	Kings Mountain	149.29	4	⇑PKiKP	PKPbc	16 20 47.7	-1.9	
	baz=149							
HKT	Hockley	149.88	30	*e*PKPdf	PKPdf	16 20 46.8	+0.4	
HKT				*e*PKPbc	PKPbc	16 20 51.8	+0.6	
HKT	Hockley	149.88	30	*e*PKHKP	PKPdf	16 20 46.8	+0.4	
HKT				e		16 20 51.8		
JSC	Jenkinsville	150.16	4	*e*PKPbc	PKPbc	16 20 50.3	-1.4	
JSC	Jenkinsville	150.16	4	*e*PKP2	PKPbc	16 20 50.3	-1.5	
VBMS	Vicksburg	150.19	20	*e*PKPbc	PKPbc	16 20 48.8	-3.2	
KVTX	Kingsville	150.62	36	*e*PKPbc	PKPbc	16 20 53.4	+0.3	
COW	Cow Castle Cre	151.09	3	*e*PKPdf	PKPdf	16 20 46.5	-1.7	
NHSC	New Hope	151.39	2	*e*PKPbc	PKPbc	16 20 54.5	-0.2	
BRAL	Brewton

az=179.0
MOS ***22*** *16:01:35.4±1.1, 22.°50S×171.°28E, h33km, mb6.0/57, MS6.6/19, Error ellipse: s-maj=8.4km s-min=7.7km az=52.4*
SZGRF ***22*** *16:01:36.4, 21.°45S×170.°58E, h33km, Southeast of Loyalty Islands*
ISCJB ***22*** *16:01:37.7±0.6, 22.°51S±0.°02×171.°16E±0.°02, h46km±5km, mb5.7/164, MS6.6/53, Error ellipse: s-maj=4.1km s-min=3.2km az=34.9*
IDC ***22*** *16:01:37.9±1.7, 22.°49S×171.°32E, h42km±15km, mb5.5/27, mb1 5.5/30, mb1mx5.5/31, mbtmp5.5/30, ML4.6/3, MS6.3/17, Ms1 6.4/17, ms1mx6.2/28, Error ellipse: s-maj=11.7km s-min=8.6km az=164.0*
NOU ***22*** *16:01:37.3±1.3, 20.°78S×171.°16E, h30km, MD3.3, ML5.0*
BJI ***22*** *16:01:39.6, 22.°50S×171.°20E, h59km, mB6.3/28, mb5.6/41, Ms6.8/22, Ms7 6.5/28*
NEIC ***22*** *16:01:39.4±0.8, 22.°52S×171.°20E, h57km±6km, mb5.7/119, MW6.4, Error ellipse: s-maj=5.2km s-min=4.2km az=160.0*
GCMT ***22*** *16:01:43.1±0.1, 22.°52S×171.°11E, h47km, MW6.4, Moment Tensor Solution. s115,c244; s90,c139; Moment tensor: Scale 10^18Nm; Mrr=1.54±.04; Mθθ=1.49±.03; Mϕϕ=0.05±.03; Mrθ=4.73±.08; Mrϕ=0.82±.03; Mθϕ=0.52±.03; Best double couple: Mo=5.10000×10^18 NP1:ϕ=46.00000°, δ=12.00000°, λ=-127.00000°. NP2: ϕ=263.00000°, δ=81.00000°, λ=-83.00000°. Principal axes: T 5.1300, Plg35.0000°, Azm347.0000°; N -0.1300, Plg7.0000°, Azm82.0000°; P -4.9900, Plg54.0000°, Azm181.0000°; Data Used: II IU CN IC G. Surface waves: sta=120, comp=263, per= 50.*
DJA ***22*** *16:01:48, 22.°63S×171.°00E, h117km, Mw6.5/9*
ISC 22 16:01:39.2±0.5, 22.°51S±0.°02×171.°22E±0.°02, h46km±4km, h50km±2.4km: pP-P, n1301, σ 0.°87/749, mb 5.7/164, MS6.6/53, 242C-214D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BAYA	**Yate Dam**	**4.03**	**274**	*e*P		**Pn**	**16 02 38.7**	**+0.3**
BAYA				*e*S		**Sn**	**16 03 23.7**	**-0.7**
BAYA				AMP			16 03 31.1	
	comp=Z,1μm,1.4s							
PLUM	**Mont Dore**	**4.25**	**272**	*e*P		**Pn**	**16 02 41.5**	**+0.1**
PLUM				*e*S		**Sn**	**16 03 30.0**	**+0.3**
PLUM				AMP			16 03 34.3	
	comp=Z,13μm,1.9s							
MVNO	**Noumea**	**4.43**	**272**	*e*P		**Pn**	**16 02 43.7**	**-0.1**
MVNO				*e*S		**Sn**	**16 03 32.6**	**-1.6**
MVNO				AMP			16 03 40.1	
	comp=Z,816nm,1.9s							
DZM	**Mont Dzumac**	**4.45**	**275**	*e*Pn		**Pn**	**16 02 43.4**	**-0.7**
	comp=Z,6μm,0.2s							
DZM				*e*Sn		**Sn**	**16 03 34.8**	**+0.2**
	comp=Z,8μm,0.3s							
DZM				*e*LR		LR	16 03 46.0	
	comp=Z,315μm,25.0s							
DZM	**Mont Dzumac**	**4.45**	**275**	*e*P		**Pn**	**16 02 44.3**	**+0.3**
DZM				AMP			16 05 22.7	
	comp=Z,53μm,1.6s							
DZM	**Mont Dzumac**	**4.45**	**275**	*e*Pn		**Pn**	**16 02 43.9**	**-0.2**
DZM				*e*Sn		**Sn**	**16 03 34.0**	**-0.5**
NOUC	**Port Laguerre**	**4.57**	**274**	*e*P		**Pn**	**16 02 45.8**	**0.0**
NOUC				*e*S		**Sn**	**16 03 37.9**	**+0.2**
NOUC				AMP			16 03 41.3	
	comp=Z,7μm,0.8s							
MSVF	**Nonsavu**	**7.98**	**55**	⇑*e*Pn		**Pn**	**16 03 35.3**	**+2.7**
	comp=Z,6μm,1.4s							
MSVF				*e*Sn		**Sn**	**16 05 10.6**	**+8.9**
MSVF	**Nonsavu**	**7.98**	**55**	⇑*e*P		**Pn**	**16 03 35.3**	**+2.6**
MSVF				*e*			16 05 10.6	
MSVF				pmax	pmax			
	comp=Z,6μm,1.4s							
MSVF	**Nonsavu**	**7.98**	**55**	Pn		**Pn**	**16 03 36.0**	**+3.3**
	comp=Z,16μm,1.3s							
MSVF	**Nonsavu**	**7.98**	**55**	Pn		**Pn**	**16 03 36.6**	**+3.9**
	comp=Z,15μm,1.3s							
RAO	**Raoul Island**	**11.86**	**127**	⇓*e*Pn		**Pn**	**16 04 24.2**	**-1.4**
	comp=Z,2μm,1.4s							
RAO	**Raoul Island**	**11.86**	**127**	⇓*e*P		**Pn**	**16 04 24.2**	**-1.5**
RAO				pmax	pmax			
	comp=Z,2μm,1.4s							
KUZ	**Kuaotunu**	**14.71**	**166**	PN		**Pn**	**16 05 04.3**	**-0.1**
MKAZ	**Moumakai**	**14.95**	**168**	PN		**Pn**	**16 05 07.8**	**+0.3**
TGRZ	**Tauranga**	**15.78**	**165**	PN		**Pn**	**16 05 19.5**	**+1.2**
FUNA	**Funafuti**	**15.88**	**30**	⇑*e*P		**Pn**	**16 05 18.9**	**-0.8**
	comp=Z,793nm,1.2s							
HIZ	**Hauiti**	**16.26**	**170**	*e*PN		**Pn**	**16 05 25.0**	**+0.7**
URZ	**Urewera**	**16.49**	**163**	P		**Pn**	**16 05 26.5**	**-0.8**
	comp=Z,6.5nm,0.3s,baz=357,slow=6.0,SNR=71							
URZ				S		**S**	**16 08 39.6**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=135,slow=2.9,SNR=1.5							
URZ				LR		LR	16 10 26.9	
	comp=Z,249μm,20.6s,baz=172,slow=32							
URZ	**Urewera**	**16.49**	**163**	P		**Pn**	**16 05 26.5**	**-0.8**
URZ				⇓*i*Pn		**Pn**	**16 05 27.9**	**+0.6**
URZ				S		**S**	**16 08 39.6**	**+0.1**
PUZ	**Puketiti**	**16.65**	**160**	PN		**Pn**	**16 05 30.9**	**+1.6**
MWZ	**Matawai**	**16.68**	**162**	PN		**Pn**	**16 05 30.7**	**+1.1**
HNR	**Honiara**	**16.91**	**318**	P		**Pn**	**16 05 31.5**	**-1.2**
	comp=Z,7.4nm,0.3s,baz=173,slow=7.5,SNR=34							
HNR				S		**S**	**16 08 50.2**	**+2.0**
	comp=Z,21nm,0.3s,baz=351,slow=19,SNR=2.9							
HNR	**Honiara**	**16.91**	**318**	⇑*i*Pn		**Pn**	**16 05 31.2**	**-1.5**
	comp=Z,9μm,1.8s							
HNR				P			16 05 31.5	
HNR				*e*Sn		**Sn**	**16 08 41.3**	**+1.6**
HNR				S		**S**	**16 08 50.2**	**+2.0**
HNR	**Honiara**	**16.91**	**318**	⇑*i*P		**Pn**	**16 05 31.2**	**-1.5**
HNR				*e*			16 08 41.3	
HNR				pmax	pmax			
	comp=Z,9μm,1.8s							
CNGZ	**Carnagh Statio**	**17.01**	**161**	*e*PN		**Pn**	**16 05 35.7**	**+1.9**
OTVZ	**Oturere**	**17.03**	**168**	PN		**Pn**	**16 05 36.5**	**+2.5**
FWVZ	**Far West T-bar**	**17.10**	**168**	PN		**Pn**	**16 05 37.0**	**+2.1**
KNZ	**Kokohu**	**17.36**	**163**	PN		**Pn**	**16 05 39.3**	**+1.3**
BHHZ	**Black Hill Sta**	**17.42**	**167**	*e*PN		**Pn**	**16 05 40.3**	**+1.5**
PNHZ	**Pukenui**	**17.86**	**167**	PN		**Pn**	**16 05 45.0**	**+0.8**
KAHZ	**Kahuranaki**	**17.89**	**166**	*e*PN		**Pn**	**16 05 45.1**	**+0.5**
PXZ	**Pawanui**	**18.11**	**166**	*e*PN		**Pn**	**16 05 46.9**	**-0.5**
AFI	**Afiamalu**	**18.26**	**65**	P		**Pn**	**16 05 46.6**	**-2.7**
	comp=Z,14nm,0.3s,baz=249,slow=2.4,SNR=23							
AFI				S		**S**	**16 09 09.9**	**-5.7**
	comp=Z,0.3nm,0.3s,baz=15,slow=20,SNR=2.1							
AFI				LR		LR	16 11 23.3	
	comp=Z,56μm,21.6s,baz=238,slow=32							
AFI	**Afiamalu**	**18.26**	**65**	P		**Pn**	**16 05 46.6**	**-2.7**
AFI				S		**S**	**16 09 09.9**	**-5.8**
AFI	**Afiamalu**	**18.26**	**65**	P		**Pn**	**16 05 46.6**	**-2.7**
AFI				S		**S**	**16 09 09.9**	**-5.8**
PRHZ	**Porangahau**	**18.29**	**167**	*e*PN		**Pn**	**16 05 48.9**	**-0.6**
QRZ	**Quartz Range**	**18.30**	**177**	PN		**Pn**	**16 05 51.1**	**+1.6**
ANWZ	**Angora Road**	**18.44**	**167**	*e*PN		**Pn**	**16 05 50.6**	**-0.7**
MRZ	**Mangatainoka R**	**18.47**	**169**	PN		**Pn**	**16 05 50.9**	**-0.8**
OGWZ	**Otaki Gorge**	**18.56**	**171**	PN		**Pn**	**16 05 52.5**	**-0.2**
BFZ	**Birch Farm**	**18.61**	**168**	PN		**Pn**	**16 05 52.4**	**-0.9**
EIDS	**Eidsvold**	**18.63**	**257**	⇓*e*P		**Pn**	**16 05 55.8**	**+2.1**
	comp=Z,350nm,0.9s							
EIDS				*e*S		**S**	**16 09 24.0**	**+1.7**
HOWZ	**Holdsworth Sta**	**18.69**	**170**	*e*PN		**Pn**	**16 05 53.1**	**-1.2**
NNZ	**Nelson**	**18.74**	**175**	PN		**Pn**	**16 05 56.1**	**+1.2**
TCW	**Tory Channel**	**18.83**	**173**	PN		**Pn**	**16 05 55.9**	**-0.1**
CAW	**Cannon Point**	**18.83**	**171**	*e*PN		**Pn**	**16 05 55.0**	**-0.9**
MTW	**Mount Morrison**	**18.94**	**170**	*e*PN		**Pn**	**16 05 55.4**	**-1.9**
SNZO	**South Karori**	**18.98**	**172**	⇓*i*P		**Pn**	**16 05 56.3**	**-1.4**
	comp=Z,6μm,1.7s							
SNZO				*e*S		**S**	**16 09 28.9**	**-0.8**
TUWZ	**Tuamarina**	**19.01**	**174**	*e*PN		**Pn**	**16 05 57.5**	**-0.6**
MSWZ	**Moikau Station**	**19.15**	**171**	PN		**Pn**	**16 05 57.8**	**-2.0**
ARMA	**Armidale**	**19.21**	**242**	*e*P		**Pn**	**16 06 01.9**	**+1.3**
ARMA				*e*S		**S**	**16 09 42.3**	**+7.7**
ARMA	**Armidale**	**19.21**	**242**	⇓*e*P		**Pn**	**16 06 02.4**	**+1.7**
	comp=Z,992nm,1.4s							
ARMA				*e*S		**S**	**16 09 34.7**	**+0.1**
THZ	**Tophouse**	**19.25**	**176**	*e*PN		**Pn**	**16 06 00.2**	**-0.8**
PLWZ	**Palliser**	**19.31**	**171**	*e*PN		**Pn**	**16 05 59.4**	**-2.3**
LTZ	**Lake Taylor**	**20.24**	**178**	PN		**P**	**16 06 10.8**	**+0.4**
RIV	**Riverview**	**20.94**	**233**	*e*P		**P**	**16 06 20.8**	**+2.7**
RIV				*e*S		**S**	**16 10 25.4**	**+16**
FOZ	**Fox Glacier**	**21.04**	**183**	*e*PN		**P**	**16 06 19.0**	**-0.1**
CRLZ	**Canterbury Las**	**21.04**	**177**	PN		**P**	**16 06 19.2**	**+0.1**
RPZ	**Rata Peaks**	**21.15**	**180**	P		**P**	**16 06 20.4**	**+0.2**
	comp=Z,868nm,0.9s,mb6.1,baz=16,slow=1.8,SNR=180							
RPZ				LR		LR	16 13 22.1	
	comp=Z,125μm,20.6s,MS6.3,baz=3.4,slow=33							
RPZ	**Rata Peaks**	**21.15**	**180**	⇓*i*P		**P**	**16 06 20.4**	**+0.1**
	comp=Z,3μm,1.4s,mb6.5							
RPZ	**Rata Peaks**	**21.15**	**180**	PN		**P**	**16 06 20.8**	**+0.6**
LBZ	**Lake Benmore**	**21.84**	**182**	PN		**P**	**16 06 27.5**	**-0.1**
WKZ	**Wanaka**	**22.34**	**184**	PN		**P**	**16 06 33.1**	**+0.2**
ODZ	**Otahua Downs**	**22.48**	**181**	⇓*e*P		**P**	**16 06 33.5**	**-1.0**
	comp=Z,8μm,1.8s,mb6.8							
ODZ				S		**S**	**16 10 37.3**	**-1.3**
ODZ	**Otahua Downs**	**22.48**	**181**	*e*PN		**P**	**16 06 33.7**	**-0.8**
MLZ	**Mavora Lakes**	**22.92**	**186**	PN		**P**	**16 06 39.7**	**+0.7**
CNB	**Canberra Magne**	**22.94**	**231**	*e*P		**P**	**16 06 40.6**	**+1.2**
	comp=Z,3μm,1.1s,mb6.7							
CAN	**Canberra**	**23.20**	**232**	⇓*i*P		**P**	**16 06 42.7**	**+0.5**
	comp=Z,3μm,1.9s,mb6.3							
CAN	**Canberra**	**23.20**	**232**	⇓*i*P		**P**	**16 06 42.7**	**+0.5**
HHSZ	**Highcliff Hill**	**23.33**	**181**	*e*PN		**P**	**16 06 44.5**	**+1.2**
CTA	**Charters Tower**	**23.38**	**271**	P		**P**	**16 06 44.7**	**+0.6**
	comp=Z,84nm,0.7s,mb5.3,baz=97,slow=12,SNR=33							
CTA				S		**S**	**16 10 54.7**	**+1.0**
	comp=Z,25nm,0.8s,baz=256,slow=17,SNR=3.4							
CTA				LR		LR	16 13 17.2	
	comp=Z,8μm,20.9s,baz=97,slow=30							
CTA				ScP		ScP	16 14 04.2	+0.1
	comp=Z,12nm,0.7s,baz=41,slow=4.5,SNR=5.2							
CTA	**Charters Tower**	**23.38**	**271**	*e*P		**P**	**16 06 44.9**	**+0.8**
	comp=Z,165nm,1.2s,mb5.3							
CTA				*e*S		**S**	**16 10 56.7**	**+3.1**
CTA	**Charters Tower**	**23.38**	**271**	P		**P**	**16 06 44.7**	**+0.6**
CTA				S		**S**	**16 10 54.7**	**+1.0**
CTA				ScP		ScP	16 14 04.2	+0.1
CTA	**Charters Tower**	**23.38**	**271**	P		**P**	**16 06 44.7**	**+0.6**
CTA				S		**S**	**16 10 54.7**	**+1.1**
CTAO	**Charters Tower**	**23.38**	**271**	⇑*e*P		**P**	**16 06 43.7**	**-0.4**
	comp=Z,681nm,1.4s,mb5.9							
CTAO	**Charters Tower**	**23.38**	**271**	⇑*e*P		**P**	**16 06 43.7**	**-0.4**
CTAO				pmax	pmax			
	comp=Z,681nm,1.4s,mb5.9							
CTAO	**Charters Tower**	**23.38**	**271**	P		**P**	**16 06 44.9**	**+0.8**
	comp=Z,399nm,1.8s,mb5.5							
WHZ	**Wether Hill Ro**	**23.48**	**186**	PN		**P**	**16 06 44.7**	**0.0**
PYZ	**Puysegur Point**	**23.89**	**188**	PN		**P**	**16 06 48.8**	**+0.3**
SYZ	**Scrubby Hill**	**24.03**	**184**	*e*PN		**P**	**16 06 50.3**	**+0.5**
APZ	**The Paps**	**24.41**	**185**	*e*PN		**P**	**16 06 53.3**	**+0.1**
PMG	**Port Moresby**	**26.50**	**296**	P		**P**	**16 07 11.7**	**-0.7**
	comp=Z,225nm,0.7s,mb5.8,baz=91,slow=5.4,SNR=80							
PMG				ScP		ScP	16 14 13.7	+0.8
	comp=Z,34nm,1.1s,baz=63,slow=6.8,SNR=6.0							
PMG	**Port Moresby**	**26.50**	**296**	⇑*i*P		**P**	**16 07 11.4**	**-1.1**
	comp=Z,225nm,0.8s,mb5.8							
PMG				P			16 07 11.7	
PMG				*e*ScP		ScP	16 14 13.7	+0.8
PMG	**Port Moresby**	**26.50**	**296**	*c i*P		**P**	**16 07 11.7**	**-0.7**
PMG				pmax	pmax			
	comp=Z,274nm,0.8s							
PMG	**Port Moresby**	**26.50**	**296**	P		**P**	**16 07 12.1**	**-0.3**
	comp=Z,7μmcomp=Z,378nm,0.9s,mb5.9							
TOO	**Toolangi**	**26.74**	**230**	*e*P		**P**	**16 07 14.9**	**+0.4**
	comp=Z,1μm,1.1s,mb6.3							
RAR	**Rarotonga**	**26.94**	**93**	P		**P**	**16 07 14.4**	**-1.9**
	comp=Z,49nm,1.0s,mb5.0,baz=257,slow=8.6,SNR=8.2							
RAR				LR		LR	16 16 12.7	
	comp=Z,11μm,20.5s,baz=261,slow=33							
RAR	**Rarotonga**	**26.94**	**93**	*e*P		**P**	**16 07 14.3**	**-2.0**
	comp=Z,171nm,1.4s,mb5.4							
RAR				P			16 07 14.4	
RAR	**Rarotonga**	**26.94**	**93**	*e*P		**P**	**16 07 14.3**	**-2.1**
RAR				pmax	pmax			
	comp=Z,171nm,1.4s							
STKA	**Stephens Creek**	**27.88**	**244**	P		**P**	**16 07 24.5**	**-0.2**
	comp=Z,126nm,0.8s,mb5.6,baz=89,slow=9.9,SNR=104							
STKA	**Stephens Creek**	**27.88**	**244**	*e*P		**P**	**16 07 24.8**	**+0.1**
	comp=Z,132nm,1.5s,mb5.3							
STKA	**Stephens Creek**	**27.88**	**244**	P		**P**	**16 07 24.5**	**-0.2**
STKA				*e*P			16 07 24.7	
STKA				*e*ScP		ScP	16 14 18.9	+2.1
STKA	**Stephens Creek**	**27.88**	**244**	P		**P**	**16 07 24.5**	**-0.2**
COEN	**Coen**	**27.92**	**283**	⇑*i*P		**P**	**16 07 25.8**	**+0.6**
	comp=Z,66nm,0.5s,mb5.5							
COEN				*e*S		**S**	**16 12 04.5**	**-1.6**
COEN	**Coen**	**27.92**	**283**	P		**P**	**16 07 25.7**	**+0.5**
	comp=Z,8μmcomp=Z,547nm,2.1s,mb5.8							
MOO	**Moorlands**	**28.23**	**220**	*e*P		**P**	**16 07 29.1**	**+1.4**
	comp=Z,1μm,1.1s,mb6.5							
TAU	**Tasmania Unive**	**28.43**	**219**	*e*P		**P**	**16 07 27.5**	**-2.0**
	comp=Z,150nm,1.2s,mb5.5							
TAU	**Tasmania Unive**	**28.43**	**219**	*e*P		**P**	**16 07 27.5**	**-2.0**
TAU				pmax	pmax			
	comp=Z,150nm,1.2s,mb5.5							
KWAJ	**Kwajalein Atol**	**31.32**	**353**	*e*P		**P**	**16 07 53.6**	**-1.7**
	comp=Z,302nm,0.9s,mb6.1							
KWAJ	**Kwajalein Atol**	**31.32**	**353**	*e*P		**P**	**16 07 53.6**	**-1.6**
KWAJ				pmax	pmax			
	comp=Z,302nm,0.9s,mb6.1							
WRA	**Warramunga Arr**	**34.42**	**267**	P		**P**	**16 08 21.0**	**-1.4**
	comp=Z,49nm,0.5s,mb5.7,baz=102,slow=8.1,SNR=22							
WRA	**Warramunga Arr**	**34.42**	**267**	P		**P**	**16 08 21.0**	**-1.4**
WRA	**Warramunga Arr**	**34.42**	**267**	P		**P**	**16 08 21.0**	**-1.4**
TBI	**Tubuai**	**36.15**	**99**	*e*P		**P**	**16 08 36.9**	**-0.4**
	comp=Z,298nm,0.9s,mb6.2							
TBI				*e*S		**S**	**16 14 11.3**	**-2.7**
	comp=Z,22μm,29.8s							
TBI				*e*LQ			16 16 48.4	
	comp=Z,31μm,27.0s							
TBI				*e*LR		LR	16 18 16.1	
	comp=Z,50μm,29.0s,baz=264							
PAE	**Paea**	**37.06**	**90**	*e*P		**P**	**16 08 44.3**	**-0.8**
	comp=Z,22nm,1.2s,mb4.9							
PPT	**Papeete**	**37.08**	**90**	*e*P		**P**	**16 08 44.2**	**-1.1**
	comp=Z,148nm,1.4s,mb5.6							
PPT				*e*S		**S**	**16 14 25.1**	**-3.3**
	comp=Z,30μm,27.8s							
PPT				*e*LQ			16 17 03.5	
	comp=Z,28μm,25.0s							
PPT				*e*LR		LR	16 18 41.1	
	comp=Z,37μm,27.8s,baz=260							
PPT	**Papeete**	**37.08**	**90**	P		**P**	**16 08 43.4**	**-1.9**
	comp=Z,68nm,1.2s,mb5.3,baz=304,slow=3.8,SNR=6.5							
PPT				LR		LR	16 21 28.4	
	comp=Z,1μm,19.5s,baz=255,slow=32							
PPT	**Papeete**	**37.08**	**90**	P		**P**	**16 08 43.4**	**-1.9**
PPT	**Papeete**	**37.08**	**90**	P		**P**	**16 08 43.4**	**-1.9**
TIAR	**Tiarei**	**37.30**	**90**	*e*P		**P**	**16 08 45.0**	**-2.1**
	comp=Z,283nm,1.3s,mb5.9							
KAKA	**Kakadu**	**38.13**	**278**	*e*P		**P**	**16 08 53.4**	**-0.7**
	comp=Z,1μm,1.5s,mb6.4							
MEH	**Mehetia**	**38.41**	**91**	*e*P		**P**	**16 08 55.3**	**-1.2**
	comp=Z,191nm,1.3s,mb5.7							
XMAS	**Kiritimati**	**39.12**	**55**	*e*P		**P**	**16 09 01.8**	**-0.6**
	comp=Z,81nm,0.9s,mb5.5							
FORT	**Forrest**	**39.25**	**249**	*e*P		**P**	**16 09 01.9**	**-1.5**
	comp=Z,323nm,0.8s,mb6.1							
PMOR	**Pomariorio Ree**	**39.33**	**86**	*e*P		**P**	**16 09 03.0**	**-1.2**
	comp=Z,229nm,1.2s,mb5.8							
WAKE	**Wake Island**	**41.77**	**354**	P		**P**	**16 09 23.6**	**-0.6**
	comp=Z,313nm,1.1s,mb5.8							
FITZ	**Fitzroy Crossi**	**42.85**	**267**	P		**P**	**16 09 33.4**	**+0.2**
	comp=Z,135nm,0.5s,mb5.9,baz=124,slow=6.2,SNR=18							
FITZ	**Fitzroy Crossi**	**42.85**	**267**	*e*P		**P**	**16 09 33.2**	**+0.1**
	comp=Z,351nm,0.6s,mb6.3							
FITZ	**Fitzroy Crossi**	**42.85**	**267**	P		**P**	**16 09 33.4**	**+0.2**
MBWA	**Marble Bar**	**47.62**	**261**	*e*P		**P**	**16 10 09.4**	**-1.5**
	comp=Z,336nm,0.9s,mb6.4							
MBWA	**Marble Bar**	**47.62**	**261**	P		**P**	**16 10 10.0**	**-1.0**
	comp=Z,412nm,1.1s,mb6.3							
KLBR	**Kellerberrin**	**48.07**	**247**	*e*P		**P**	**16 10 13.1**	**-1.2**
	comp=Z,3μm,1.8s							
DRV	**Dumont d'Urvil**	**48.38**	**196**	P		**P**	**16 10 19.0**	**+2.9**
DRV				S		**S**	**16 17 14.0**	**+1.0**
DRV				R			16 24 00.0	
DRV	**Dumont d'Urvil**	**48.38**	**196**	P		**P**	**16 10 19.0**	**+2.9**
DRV				S		**S**	**16 17 14.0**	**+1.0**
DRV				R			16 24 00.0	
NWAO	**Narrogin (SRO)**	**48.45**	**245**	P		**P**	**16 10 16.7**	**-0.5**
	comp=Z,210nm,0.9s,mb6.2,baz=98,slow=6.8,SNR=22							
NWAO	**Narrogin (SRO)**	**48.45**	**245**	*e*P		**P**	**16 10 16.6**	**-0.7**
NWAO				P			16 10 16.7	
NWAO	**Narrogin (SRO)**	**48.45**	**245**	*e*P		**P**	**16 10 16.6**	**-0.7**
TAOE	**Nuku Hiva Isla**	**48.53**	**82**	*e*P		**P**	**16 10 17.4**	**-0.7**
	comp=Z,695nm,0.9s,mb6.7							
TAOE				*e*S		**S**	**16 17 12.8**	**-3.8**
	comp=Z,31μm,28.2s							
TAOE				*e*LQ			16 21 36.5	
	comp=Z,48μm,26.2s							
TAOE				*e*LR		LR	16 23 57.6	
	comp=Z,28μm,27.5s,baz=250							
RKT	**Rikitea**	**49.36**	**102**	*e*P		**P**	**16 10 24.0**	**-0.3**
	comp=Z,55nm,0.9s,mb5.6							
RKT				*e*S		**S**	**16 17 27.6**	**-0.4**
	comp=Z,26μm,29.8s							
RKT				*e*LQ			16 21 59.9	
	comp=Z,38μm,27.8s							
RKT				*e*LR		LR	16 24 21.2	
	comp=Z,30μm,32.0s,baz=264							
KAPI	**Kappang**	**52.63**	**281**	P		**P**	**16 10 48.2**	**-0.9**
	comp=Z,95nm,0.9s,mb5.7,baz=133,slow=2.3,SNR=7.8							
KAPI	**Kappang**	**52.63**	**281**	*e*P		**P**	**16 10 46.3**	**-2.7**
KAPI				P			16 10 48.2	
KAPI	**Kappang**	**52.63**	**281**	P		**P**	**16 10 50.0**	**+1.0**
	comp=Z,377nm,1.5s,mb6.1							
KIP	**Kipapa**	**52.98**	**37**	⇑*e*P		**P**	**16 10 53.3**	**+2.0**
KIP				pmax	pmax			
	comp=Z,144nm,1.7s,mb5.6							
DAV	**Davao City (W)**	**53.48**	**298**	P		**P**	**16 10 52.6**	**-2.6**
BUKP	**Musuan**	**54.36**	**298**	*e*P		**P**	**16 11 02.6**	**+1.0**
VNDA	**Vanda**	**55.25**	**182**	P		**P**	**16 11 06.5**	**-0.7**
	comp=Z,52nm,0.9s,mb5.5,baz=359,slow=7.2,SNR=160							
VNDA				LR		LR	16 30 39.0	
	comp=Z,42μm,21.8s,MS6.5,baz=335,slow=32							
VNDA	**Vanda**	**55.25**	**182**	⇓*i*P		**P**	**16 11 05.8**	**-1.4**
	comp=Z,416nm,1.6s,mb6.2							
VNDA				P			16 11 06.5	
VNDA				*e*PP		PP	16 13 16.2	+5.4
VNDA	**Vanda**	**55.25**	**182**	⇓*i*P		**P**	**16 11 05.8**	**-1.4**
VNDA				*e*			16 13 16.2	
VNDA				pmax	pmax			
	comp=Z,416nm,1.6s							
SBA	**Scott Base**	**55.44**	**181**	⇓*i*P		**P**	**16 11 08.7**	**+0.1**
	comp=Z,185nm,1.1s,mb6.0							
SBA	**Scott Base**	**55.44**	**181**	⇓*i*P		**P**	**16 11 08.7**	**+0.1**
SBA				pmax	pmax			
	comp=Z,185nm,1.1s,mb6.0							
PAGZ	**Pagadian**	**55.71**	**297**	*e*P		**P**	**16 11 12.2**	**+0.8**
MSLP	**Maasin**	**55.82**	**301**	*e*P		**P**	**16 11 11.0**	**-1.2**
IPIL	**Ipil**	**56.35**	**297**	*e*P		**P**	**16 11 16.4**	**+0.4**
CBIJ	**Uchi jima**	**56.75**	**329**	LR		LR	16 31 06.0	
	comp=Z,59μm,22.0s,MS6.6,baz=172,slow=31							
CASY	**Casey**	**57.91**	**205**	⇓*i*P		**P**	**16 11 25.2**	**-1.0**
	comp=Z,656nm,1.3s,mb6.5							
GUIM	**Jordan**	**57.92**	**299**	*e*P		**P**	**16 11 25.9**	**-1.1**
RCP	**Roxas**	**58.33**	**300**	⇑*e*P		**P**	**16 11 29.2**	**-0.7**
PVCP	**Virac**	**58.43**	**303**	*e*P		**P**	**16 11 31.4**	**+0.8**
CUYO	**Cuyo Island**	**59.32**	**299**	*e*P		**P**	**16 11 37.1**	**+0.3**
GQP	**Guinayangan**	**59.94**	**302**	⇓*e*P		**P**	**16 11 39.8**	**-1.3**
BOAC	**Boac**	**60.15**	**302**	*e*P		**P**	**16 11 41.5**	**-1.0**
BUSP	**Coron**	**60.63**	**299**	*e*P		**P**	**16 11 44.5**	**-1.3**
KKM	**Kota Kinabalu**	**60.82**	**291**	⇑*e*P		**P**	**16 11 46.5**	**-0.7**
	comp=Z,135nm,0.7s,mb6.2							
KKM	**Kota Kinabalu**	**60.82**	**291**	P		**P**	**16 11 47.0**	**-0.1**
	comp=Z,332nm,2.0s,mb6.1							
BATP	**Bataraza**	**60.87**	**295**	*e*P		**P**	**16 11 48.1**	**+0

MAW **Mawson** 76.11 202 P P 16 13 21.1 -0.7
comp=Z,145nm,1.0s,mb5.9,baz=108,slow=7.4,SNR=17
MAW **Mawson** 76.11 202 *e*P P 16 13 21.6 -0.1
comp=Z,152nm,1.5s,mb5.7
MAW **Mawson** 76.11 202 *e*P P 16 13 21.1 -0.6
comp=Z,98nm,1.3s,mb5.6
MAW **Mawson** 76.11 202 *e*P P 16 13 21.1 -0.7
MAW pmax pmax
comp=Z,98nm,1.3s
PETK **Petropavlovsk-** 76.21 352 P P 16 13 23.1 +0.8
comp=Z,48nm,0.8s,mb5.5,baz=127,slow=5.6,SNR=6.6
PETK LR LR 16 41 22.4
comp=Z,31µm,20.8s,MS6.6,baz=192,slow=31
PETK **Petropavlovsk-** 76.21 352 P P 16 13 23.1 +0.8
PETK **Petropavlovsk-** 76.21 352 P P 16 13 23.1 +0.8
MDJ **Mudanjiang** 76.87 331 P P 16 13 27.0 +0.8
MDJ pP pP 16 13 39.0 -0.7
MDJ PP PP 16 16 20.4 +0.4
MDJ sS sS 16 23 32.5 -0.4
MDJ pmax pmax
comp=Z,64nm,1.1s,mb5.5
MDJ pmax pmax
comp=Z,3µm,10.7s
MDJ LR LR
comp=N,34µm,20.2s,MS6.7
MDJ LR LR
comp=E,18µm,23.3s,MS6.7
MDJ LR LR
comp=Z,55µm,19.1s,MS6.9
MDJ **Mudanjiang** 76.87 331 *e*P P 16 13 24.9 -1.4
comp=Z,73nm,1.1s,mb5.5
SNY **Shenyang** 77.72 326 ⇓P PcP 16 13 41.3 +0.3
SNY pmax pmax
comp=Z,41nm,2.7s,mb4.9
HABR **Khabarovsk** 77.72 336 *ce*P P 16 13 29.9 -1.0
HABR *e* pP 16 13 39.6 -4.8
HABR *e**PP pP 16 13 46.5 +2.1
HABR 16 16 26.3
HABR *e*PPP 16 18 13.4
HABR *e*S S 16 23 17.8 -1.7
HABR *e* 16 23 38.7
HABR *e* 16 23 43.7
HABR *e*SS SS 16 28 19.6 -1.3
HABR *e*SSS 16 31 44.4
HABR pmax pmax
comp=N,217nm,2.6s
HABR pmax pmax
comp=Z,447nm,2.6s,mb5.9
HABR pmax pmax
comp=E,224nm,2.6s
HABR MLR MLR
comp=Z,27µm,19.0s,MS6.6
CN2 **Changchun** 78.20 328 *e*P P 16 13 33.8 +0.1
CN2 *e*pP pP 16 13 46.9 -0.3
CN2 *e*sP sP 16 13 52.1 -0.3
CN2 pmax pmax
comp=Z,110nm,1.0s,mb5.7
CN2 pmax pmax
comp=Z,300nm,6.0s
CN2 LR LR
comp=N,31µm,17.0s,MS6.8
CN2 LR LR
comp=E,30µm,17.0s,MS6.8
CN2 LR LR
comp=Z,41µm,22.0s,MS6.7
ENH **Enshi** 79.17 309 *e*P P 16 13 36.6 -2.7
comp=Z,170nm,1.0s,mb5.9
GYA **Guiyang** 79.19 305 P P 16 13 40.0 +0.4
GYA pP pP 16 13 54.8 +1.7
GYA sP sP 16 14 01.3 +3.0
GYA PP PP 16 16 41.8 +1.9
GYA S S 16 23 35.0 -1.3
GYA SKS 16 23 47.6
GYA pmax pmax
comp=Z,40nm,1.0s,mb5.3
GYA pmax pmax
comp=Z,260nm,6.0s
PAF **Port-aux-Franc** 80.07 221 P P 16 13 43.1 -0.9
PAF **Port-aux-Franc** 80.07 221 P P 16 13 43.1 -0.9
BJT **Baijiatuau** 80.62 320 *e*P P 16 13 46.0 -1.0
comp=Z,68nm,1.0s,mb5.5
BJT **Baijiatuau** 80.62 320 *e*P P 16 13 46.0 -1.0
BJT pmax pmax
comp=Z,68nm,1.0s
BJI **Beijing** 80.63 320 P P 16 13 48.5 +1.5
BJI pmax pmax
comp=Z,53nm,1.0s,mb5.4
BJI pmax pmax
comp=Z,3µm,6.7s
CM31 **Chiang Mai Arr** 81.52 294 *e*P P 16 13 52.6 +0.4
comp=Z,55nm,1.7s,mb5.2
CMAR **Chiang Mai Arr** 81.52 294 P P 16 13 52.5 +0.3
comp=Z,53nm,0.8s,mb5.5,baz=136,slow=4.1,SNR=68
CMAR PKKPbc PKKPbc 16 32 25.1 -0.4
comp=Z,4.3nm,0.8s,baz=291,slow=3.8,SNR=18
CMAR **Chiang Mai Arr** 81.52 294 P P 16 13 52.5 +0.3
CMAR PKKPbc PKKPbc 16 32 25.1 -0.4
CMAR **Chiang Mai Arr** 81.52 294 P P 16 13 52.6 +0.4
KMI **Kunming** 81.56 302 ⇓P P 16 13 53.8 +1.5
KMI pP pP 16 14 09.3 +3.4
KMI sP sP 16 14 15.4 +4.3
KMI S S 16 24 01.1 0.0
KMI pmax pmax
comp=Z,67nm,1.8s,mb5.3
KMI LR LR
comp=N,13µm,15.2s
KMI LR LR
comp=E,17µm,22.4s
KMI LR LR
comp=Z,14µm,15.2s,MS6.5
XAN **Xi'an** 81.67 312 P P 16 13 54.4 +1.7
XAN pP pP 16 14 08.3 +2.0
XAN pmax pmax
comp=Z,27nm,1.0s,mb5.1
XAN pmax pmax
comp=Z,690nm,9.2s
CHTO **Chiang Mai** 81.68 294 *e*P P 16 13 53.5 +0.4
comp=Z,171nm,1.1s,mb5.9
CHTO **Chiang Mai** 81.68 294 *e*P P 16 13 53.5 +0.4
CHTO pmax pmax
comp=Z,171nm,1.1s,mb5.9
CHTO **Chiang Mai** 81.68 294 P P 16 13 54.8 +1.7
comp=Z,174nm,2.7s,mb5.5
SYO **Syowa Base** 82.32 196 ⇓*i*pP pP 16 14 13.5 +4.3
PMSA **Palmer Station** 83.22 159 *e*P P 16 13 58.2 -2.1
comp=Z,270nm,1.0s,mb6.2
CD2 **Chengdu** 83.68 307 P P 16 14 04.9 +1.7
CD2 pP pP 16 14 18.3 +1.5
CD2 sP sP 16 14 23.4 +1.4
CD2 sS sS 16 24 45.8 +0.5
CD2 pmax pmax
comp=Z,60nm,1.4s,mb5.5
CD2 pmax pmax
comp=Z,8µm,8.9s
CD2 LR LR
comp=N,14µm,20.2s
CD2 LR LR
comp=Z,17µm,20.2s,MS6.4
HHC **Hu-ho-hao-te** 83.89 319 ⇑P P 16 14 06.9 +2.8
HHC pP pP 16 14 23.0 +5.3
HHC sP sP 16 14 31.4 +8.6
HHC pmax pmax
comp=Z,70nm,1.1s,mb5.7
HHC pmax pmax
comp=Z,3µm,8.3s
HHC LR LR
comp=N,22µm,15.5s
HHC LR LR
comp=E,19µm,21.4s
HHC LR LR
comp=Z,39µm,20.2s,MS6.8
OHAK **Old Harbor** 84.83 18 *e*P P 16 14 07.2 -1.2
comp=Z,112nm,1.0s,mb6.0
HIA **Hailar** 84.86 329 *e*P P 16 14 05.5 -3.2
comp=Z,38nm,1.0s,mb5.5
HIA **Hailar** 84.86 329 *e*P P 16 14 05.5 -3.2
HIA pmax pmax
comp=Z,38nm,1.0s
KDAK **Kodiak Island** 85.50 19 P P 16 14 10.0 -1.8
comp=Z,21nm,0.9s,mb5.4,baz=186,slow=0.1,SNR=6.6
KDAK LR LR 16 45 41.0
comp=Z,23µm,21.6s,MS6.5,baz=212,slow=31
KDAK **Kodiak Island** 85.50 19 P P 16 14 10.0 -1.8
KDAK **Kodiak Island** 85.50 19 *i*P P 16 14 14.5 +2.7
SNAA **Sanae** 85.98 182 *e* P 16 14 07.9 -6.3
SNAA **Sanae** 85.98 182 ⇓*i*P P 16 14 08.1 -6.1
comp=Z,614nm,1.3s,mb6.7
SNAA *e*PP PP 16 17 27.2 -6.6
SNAA *e*S S 16 24 34.9 -9.3
SNAA **Sanae** 85.98 182 ⇓*i*P P 16 14 08.1 -6.1
SNAA *e*S S 16 24 34.9 -9.3
LZH **Lanzhou** 86.28 311 ⇑P P 16 14 17.6 +1.5
LZH pP pP 16 14 31.6 +1.8
LZH sP sP 16 14 36.4 +1.4
LZH sS sS 16 25 10.5 -0.5
LZH pmax pmax
comp=Z,150nm,1.0s,mb6.2
LZH pmax pmax
comp=Z,2µm,5.6s
LZH LR LR
comp=N,12µm,18.1s,MS6.5
LZH LR LR
comp=E,12µm,16.8s,MS6.5
LZH LR LR
comp=Z,14µm,18.6s,MS6.4
MCCM **Marconi Confer** 86.35 46 *e*P P 16 14 16.3 -0.2
comp=Z,87nm,1.0s,mb5.9
SEY **Seymchan** 86.45 351 *e*P P 16 14 17.8 +1.5
BSC **Santa Cruz Isl** 86.47 51 ⇓P P 16 14 17.5 +0.3
baz=87
SAO **San Andreas Ge** 86.60 48 *e*P P 16 14 17.6 -0.1
comp=Z,63nm,0.9s,mb5.8
SAO **San Andreas Ge** 86.60 48 *e*P P 16 14 17.6 -0.1
SAO pmax pmax
comp=Z,63nm,0.9s,mb5.8
SBC **Santa Barbara** 86.63 51 ⇑P P 16 14 18.1 +0.2
baz=87
HOPS **Hopland** 86.68 45 *e*P P 16 14 17.9 -0.2
comp=Z,68nm,0.9s,mb5.9
KCPM **Cahto Peak** 86.72 45 *e*P P 16 14 17.5 -0.7
comp=Z,50nm,0.8s,mb5.8
SCI **San Clemente I** 86.75 52 ⇑P P 16 14 19.1 +0.5
baz=87
PKM **Peak Mountain** 86.78 50 ⇑P P 16 14 19.5 +0.9
baz=87,SNR=9.8
VNA2 **Neumayer--Watz** 86.82 180 *e* P 16 14 14.1 -4.2
baz=99,slow=4.4
VNA2 **Neumayer--Watz** 86.82 180 *e* P 16 14 14.1 -4.2
VNA2 *e* 16 14 35.8
KIPM **Iron Peak** 86.85 44 *e*P P 16 14 18.1 -0.7
comp=Z,109nm,0.9s,mb6.1
SMMC **Simmler** 86.86 50 ⇓P P 16 14 19.7 +0.7
baz=87,SNR=15
BLG **Laguna Peak** 86.93 51 ⇓P P 16 14 19.2 -0.2
baz=87
CIS **Catalina Islan** 87.07 52 ⇓P P 16 14 20.4 +0.4
baz=87,SNR=5.9
VNA1 **Neumayer--Stat** 87.10 180 *e* P 16 14 15.8 -3.8
VNA1 **Neumayer--Stat** 87.10 180 *e* P 16 14 15.8 -3.8
KHMM **Horse Mountain** 87.27 43 *e*P P 16 14 20.4 -0.5
comp=Z,82nm,0.9s,mb6.0
FMP **Fort Macarthur** 87.29 52 ⇓P P 16 14 21.5 +0.3
baz=88
OSI **Osito Adit** 87.42 51 ⇑P P 16 14 22.1 +0.3
baz=88
OSI **Osito Adit** 87.42 51 ⇑*e*P P 16 14 22.1 +0.4
comp=Z,328nm,1.8s,mb6.3
KRMB **Red Mountain** 87.51 43 *e*P P 16 14 21.6 -0.4
comp=Z,62nm,1.0s,mb5.8
DECC **Green Verdugo** 87.53 51 ⇓P P 16 14 22.6 +0.3
baz=88
PASC **Pasadena Art C** 87.60 52 *e*P P 16 14 20.7 -1.9
comp=Z,38nm,0.8s,mb5.7
ARVC **Arvin** 87.60 50 ⇓P P 16 14 23.1 +0.5
baz=88,SNR=9.7
RSO **Redoubt South** 87.71 17 *e*P P 16 14 21.3 -1.2
comp=Z,24nm,0.2s,mb6.1
MWC **Mount Wilson** 87.71 52 *e*P P 16 14 21.3 -1.9
comp=Z,240nm,1.6s,mb6.2
MWC *e*PP PP 16 17 44.9 -4.6
MWC **Mount Wilson** 87.71 52 *e*P P 16 14 21.3 -1.9
MWC *e* 16 17 44.9
MWC pmax pmax
comp=Z,240nm,1.6s,mb6.2
109C **Camp Elliot, M** 87.77 53 ⇓P P 16 14 23.3 -0.1
baz=88
WDC **Whiskeytown Da** 87.87 44 *e*P P 16 14 21.0 -2.8
comp=Z,71nm,1.2s,mb5.8
WDC **Whiskeytown Da** 87.87 44 *e*P P 16 14 21.0 -2.7
WDC pmax pmax
comp=Z,71nm,1.2s,mb5.8
RCTC **Rector, Farmer** 87.90 49 ⇑P P 16 14 23.8 -0.1
baz=88
CMB **Columbia Colle** 87.97 47 *e*P P 16 14 23.2 -1.1
comp=Z,70nm,1.3s,mb5.7
CMB **Columbia Colle** 87.97 47 *e*P P 16 14 23.2 -1.1
CMB pmax pmax
comp=Z,70nm,1.3s,mb5.7
BAR **Barrett** 87.99 53 *e*P P 16 14 24.5 0.0
comp=Z,78nm,1.5s,mb5.7
BFSC **Mount Baldy Ra** 88.01 52 ⇓P P 16 14 24.2 -0.3
baz=88,SNR=16
MURC **Murrieta** 88.04 52 ⇑P P 16 14 24.7 0.0
baz=88,SNR=8.5
EDW2 **Edwards Air Fo** 88.08 51 ⇑P P 16 14 24.9 0.0
baz=88,SNR=45
CLNS **Chul'man** 88.11 337 *e*P P 16 14 22.6 -1.9
CLNS *e* pP 16 14 31.9 -6.3
CLNS *e**PP pP 16 14 39.0 +0.8
CLNS *e* 16 17 48.4
CLNS *e*PPP 16 19 47.8
CLNS *e*S SKSac 16 24 45.0 -3.9
CLNS *e*SS SS 16 30 58.8 +4.2
CLNS pmax pmax
comp=E,22nm,1.0s
CLNS pmax pmax
comp=Z,41nm,1.0s,mb5.6
CLNS pmax pmax
comp=N,28nm,0.8s
CLNS pmax pmax
comp=N,17nm,1.0s
CLNS pmax pmax
comp=Z,13nm,1.2s,mb5.0
CLNS pmax pmax
comp=E,13nm,1.1s
CLNS smax
comp=N,1µm,10.5s
CLNS smax
comp=E,3µm,14.3s
CLNS MLR MLR
comp=E,6µm,14.0s,MS6.4
CLNS MLR MLR
comp=N,8µm,15.0s,MS6.4
CLNS MLR MLR
comp=Z,9µm,14.0s,MS6.3
ISA **Isabella** 88.12 50 ⇑P P 16 14 25.3 +0.2
baz=88,SNR=86
ISA **Isabella** 88.12 50 *e*P P 16 14 24.2 -0.8
comp=Z,73nm,0.8s,mb6.0
ISA **Isabella** 88.12 50 *e*P P 16 14 24.2 -0.8
ISA pmax pmax
comp=Z,73nm,0.8s,mb6.0
MONP **Monument Peak** 88.28 53 ⇑P P 16 14 25.8 0.0
baz=88,SNR=29
SEW **Seward** 88.34 19 *e*P P 16 14 25.2 -0.3
comp=Z,23nm,1.0s,mb5.4
YBH **Yreka Blue Hor** 88.38 43 *e*P P 16 14 25.5 -0.6
comp=Z,94nm,1.4s,mb5.8
YBH **Yreka Blue Hor** 88.38 43 *e*P P 16 14 25.5 -0.6
YBH pmax pmax
comp=Z,94nm,1.4s
DVTC **Desert V Tower** 88.41 54 ⇓P P 16 14 27.1 +0.6
baz=89,SNR=5.5
DVTC ⇑S S 16 25 09.9 +1.3
baz=89
SLKM **Skilak Lake** 88.45 18 *e*P P 16 14 24.8 -1.1
SLKM **Skilak Lake** 88.45 18 *e*P P 16 14 24.8 -1.2
BBRC **Big Bear Solar** 88.56 52 ⇑P P 16 14 27.7 +0.5
baz=89
BBRC ⇑S S 16 25 10.0 0.0
baz=89
LRMC **Laurel Mountai** 88.59 51 ⇑P P 16 14 27.7 +0.5
baz=89,SNR=33
PFO **Pinyon Flat Ob** 88.59 53 ⇑P P 16 14 27.8 +0.5
baz=89,SNR=7.5
PFO **Pinyon Flat Ob** 88.59 53 *e*P P 16 14 26.8 -0.5
comp=Z,177nm,2.0s,mb6.0
PFO **Pinyon Flat Ob** 88.59 53 *e*P P 16 14 26.8 -0.5
PFO pmax pmax
comp=Z,177nm,2.0s,mb6.0
HUMO **Hull Mountain** 88.69 42 *e*P P 16 14 26.7 -0.9
comp=Z,57nm,1.0s,mb5.8
SWSC **Sam W. Stewart** 88.76 54 ⇑P P 16 14 28.6 +0.4
baz=89,SNR=8.7
CWC **Cottonwood Cre** 88.78 50 ⇓P P 16 14 28.4 +0.2
baz=89,SNR=32
LBCM **Butte Creek Ri** 88.78 44 P P 16 14 27.0 -1.0
RRX **Edison Barstow** 88.80 51 ⇓P P 16 14 28.4 +0.2
baz=89
MLAC **Mammoth Lakes** 88.83 48 ⇓P P 16 14 29.3 +0.9
baz=89
LTIM **Timbered Crate** 88.86 44 P P 16 14 27.6 -0.8
TIN **Tinemaha** 88.97 49 ⇑P P 16 14 29.5 +0.5
baz=89,SNR=18
MPMC **Manual Prospec** 89.01 50 ⇓P P 16 14 29.8 +0.6
baz=89,SNR=41
WCN **Washoe City** 89.04 46 ⇓P P 16 14 30.0 +0.7
baz=89,SNR=30
WCN **Washoe City** 89.04 46 *e*P P 16 14 28.6 -0.8
comp=Z,41nm,1.0s,mb5.7
WCN **Washoe City** 89.04 46 *e*P P 16 14 28.6 -0.7
WCN pmax pmax
comp=Z,41nm,1.0s,mb5.7
BELC **Belle Mtn. Jos** 89.11 53 ⇓P P 16 14 30.0 +0.2
baz=89,SNR=54
GSC **Goldstone** 89.14 51 ⇑P P 16 14 30.3 +0.4
baz=89,SNR=26
GSC **Goldstone** 89.14 51 *e*P P 16 14 29.1 -0.8
comp=Z,95nm,1.5s,mb5.9
GSC **Goldstone** 89.14 51 *e*P P 16 14 29.1 -0.8
GSC pmax pmax
comp=Z,95nm,1.5s,mb5.9
HEC **Hector,Ludlow** 89.26 52 ⇑P P 16 14 30.3 -0.1
baz=89,SNR=11
BC3 **Big Chuckawall** 89.35 53 ⇑P P 16 14 31.4 +0.5
baz=90,SNR=24
GLA **Glamis** 89.54 54 ⇑P P 16 14 32.2 +0.4
baz=90,SNR=16
GLA **Glamis** 89.54 54 ⇓*i*P P 16 14 31.9 +0.1
comp=Z,62nm,0.8s,mb6.0
GLA **Glamis** 89.54 54 ⇓*i*P P 16 14 31.9 +0.1
GLA pmax pmax
comp=Z,62nm,0.8s,mb6.0
COR **Corvallis** 89.54 41 P P 16 14 32.0 +0.5
comp=Z,117nm,1.4s,mb6.0
COR **Corvallis** 89.54 41 P P 16 14 32.1 +0.6
COR pmax pmax
comp=Z,117nm,1.4s,mb6.0
GRAC **Grapevine Rang** 89.55 49 ⇓P P 16 14 31.7 0.0
baz=90,SNR=16
NVAR **Mina Array Bea** 89.59 48 P P 16 14 30.8 -1.1
comp=Z,54nm,0.8s,mb5.9,baz=228,slow=7.5,SNR=179
NVAR PKPPKP 16 40 15.9
comp=Z,1.9nm,0.8s,baz=96,slow=2.6,SNR=8.1
NVAR LR LR 16 47 10.8
comp=Z,28µm,20.6s,MS6.7,baz=120,slow=30
NVAR **Mina Array Bea** 89.59 48 P P 16 14 30.8 -1.1
NVAR P'P' 16 40 15.9
PMR **Palmer** 89.64 18 *e*P P 16 14 30.0 -1.5
comp=Z,24nm,1.0s,mb5.5
PMR **Palmer** 89.64 18 *e*P P 16 14 30.0 -1.6
PMR pmax pmax
comp=Z,24nm,1.0s,mb5.5
FURC **Furnace Creek,** 89.65 50 ⇓P P 16 14 32.5 +0.3
baz=90,SNR=28
GMRC **Granite Mounta** 89.72 52 ⇓P P 16 14 32.6 0.0
baz=90,SNR=28
SHOC **Shoshone** 89.80 51 ⇑P P 16 14 32.9 -0.1
baz=90
IRM **Iron Mountain** 89.81 53 ⇑P P 16 14 33.6 +0.6
baz=90,SNR=43
TUQ **Turquoise Moun** 89.83 51 ⇓P P 16 14 33.3 +0.1
baz=90,SNR=43
MOD **Modoc** 90.00 44 *e*P P 16 14 32.5 -1.3
comp=Z,48nm,0.9s,mb5.8
K05A **Summer Lake** 90.05 43 ⇑P P 16 14 34.7 +0.8
baz=90
FRIS **Frissel Point** 90.07 41 P P 16 14 33.9 -0.1
Y12C **Blythe** 90.08 53 ⇓P P 16 14 34.4 +0.1
baz=90,SNR=14
113A **Mohawk Valley,** 90.20 54 ⇑P P 16 14 34.9 0.0
baz=90
LDFC **Landfair** 90.26 52 *e*P P 16 14 34.0 -1.1
comp=Z,95nm,0.9s,mb6.1
DIV **Divide** 90.26 19 *e*P P 16 14 32.6 -1.9
comp=Z,45nm,1.0s,mb5.8
H04A **Detroit Lake** 90.27 41 ⇑P P 16 14 36.2 +1.3
baz=90
BILL **Bilibino** 90.35 358 *e*P P 16 14 35.9 +1.2
BILL pmax pmax
comp=Z,41nm,1.0s,mb5.7
BKCOR **Black Crater** 90.36 41 P P 16 14 35.7 +0.4
E03A **Lebam** 90.45 39 ⇓P P 16 14 36.8 +1.1
baz=91
NEE2 **Needles Airpor** 90.47 52 ⇑P P 16 14 36.5 +0.3
baz=91,SNR=13
Z13A **Yuma Proving G** 90.48 54 ⇓P P 16 14 36.2 0.0
baz=91,SNR=46
BMRM **Bremner River** 90.50 20 *e*P P 16 14 33.2 -2.4
comp=Z,32nm,0.9s,mb5.7
YAK **Yakutsk** 90.53 342 *e*P P 16 14 34.8 -0.9
comp=Z,56nm,0.9s,mb5.9
YAK **Yakutsk** 90.53 342 *e*P P 16 14 34.8 -0.9
YAK pmax pmax
comp=Z,56nm,0.9s,mb5.9
214A **Organ Pipe Nat** 90.57 56 ⇓P P 16 14 36.9 +0.2
baz=91,SNR=17
ULN **Ulaanbaatar** 90.58 323 P P 16 14 37.4 +1.1
ULN **Ulaanbaatar** 90.58 323 P P 16 14 39.8 +3.6
SNR=7.1
ULN mb 16 14 40.8
SNR=11
PDMCI **Parker Dam,Lak** 90.61 53 ⇑P P 16 14 37.0 +0.2
baz=91,SNR=28
GTA **Gaotai** 90.70 313 ⇑P P 16 14 40.0 +2.9
GTA pP pP 16 14 52.5 +1.7
GTA sP sP 16 14 58.5 +2.6
GTA pmax pmax
comp=Z,43nm,1.1s,mb5.7
GTA pmax pmax
comp=Z,3µm,7.6s
GTA LR LR
comp=N,9µm,19.9s,MS6.3
GTA LR LR
comp=E,9µm,21.8s,MS6.3
GTA LR LR
comp=Z,12µm,25.6s,MS6.2
114A **Black Gap (USA** 90.86 55 ⇑P P 16 14 38.2 +0.3
baz=91,SNR=19
HOOD **Mount Hood Mea** 90.93 41 *e*P P 16 14 37.3 -0.6
comp=Z,122nm,1.4s,mb6.0
SONM **Songino Array** 90.93 322 P P 16 14 37.5 -0.4
comp=Z,80nm,1.1s,mb6.0,baz=131,slow=4.5,SNR=15
SONM PKKPbc PKKPbc 16 32 01.5 -2.6
comp=Z,4.8nm,0.9s,baz=265,slow=2.7,SNR=15
SONM PKPPKP 16 40 08.0
comp=Z,0.9nm,0.9s,baz=304,slow=1.8,SNR=6.1
SONM **Songino Array** 90.93 322 P P 16 14 37.5 -0.4
SONM PKKPbc PKKPbc 16 32 01.5 -2.6
SONM P'P' 16 40 08.0
SONM **Songino Array** 90.93 322 P P 16 14 37.5 -0.4
FL2 **Flat Top 2** 90.97 40 P P 16 14 38.8 +0.7
VLL **Laurance Lake** 90.98 40 P P 16 14 38.7 +0.5
Z14A **Wintersburg** 91.08 54 ⇑P P 16 14 39.4 +0.4
baz=91,SNR=25
VIPM **Ingram Point** 91.13 42 P P 16 14 37.4 -1.6
VIPM **Ingram Point** 91.13 42 P P 16 14 37.4 -1.5
W13A **Hualapai Mount** 91.16 52 ⇑P P 16 14 39.5 +0.2
baz=91,SNR=20
BMN **Battle Mountai** 91.29 46 *e*P P 16 14 39.0 -0.8
comp=Z,124nm,1.4s,mb6.0
BMN **Battle Mountai** 91.29 46 *e*P P 16 14 39.0 -0.8
BMN pmax pmax
comp=Z,124nm,1.4s,mb6.0
Y14A **Wickenburg** 91.30 54 ⇓P P 16 14 39.8 -0.2
baz=92,SNR=21
115A **Sonoran Desert** 91.34 55 ⇑P P 16 14 40.2 0.0
baz=92,SNR=13
WVOR **Wild Horse Val** 91.34 44 *e*P P 16 14 39.5 -0.4
comp=Z,49nm,1.1s,mb5.8
WVOR **Wild Horse Val** 91.34 44 *e*P P 16 14 39.6 -0.3
WVOR pmax pmax
comp=Z,49nm,1.1s,mb5.8
HDW **Hoodsport** 91.34 38 P P 16 14 40.5 +0.7
GNW **Green Mountain** 91.42 38 *e*P P 16 14 38.3 -1.9
comp=Z,14nm,0.9s,mb5.3
MCK **McKinley** 91.43 17 *e*P P 16 14 37.7 -2.1
comp=Z,30nm,1.2s,mb5.5

MCK McKinley 91.43 17 eP P 16 14 37.7 -2.1
MCK pmax pmax
comp=Z,30nm,1.2s,mb5.5
R11A Troy Canyon, C 91.43 49 ⇓P P 16 14 40.8 +0.3
baz=92
G06A Carlson Farm, 91.50 41 ⇓P P 16 14 41.2 +0.6
baz=92
LON Longmire 91.58 39 eP P 16 14 40.2 -0.7
comp=Z,37nm,1.4s,mb5.5
LON Longmire 91.58 39 eP P 16 14 40.2 -0.8
LON pmax pmax
comp=Z,37nm,1.4s,mb5.5
I07A Izee 91.61 42 ⇑P P 16 14 42.1 +0.9
baz=92
216A Three Points, 91.62 56 ⇓P P 16 14 42.2 +0.7
baz=92
Z15A Gila River Ind 91.64 55 ⇑P P 16 14 42.0 +0.4
baz=92
PGC Sidney 91.66 37 eP P 16 14 40.0 -1.2
116A Eloy 91.67 55 ⇓P P 16 14 42.4 +0.6
baz=92,SNR=14
D05A Enumclaw 91.71 39 ⇑P P 16 14 42.2 +0.7
baz=92,SNR=5.1
WPW White Pass 91.71 39 P P 16 14 41.8 +0.2
Y15A Casa Rosa Ranc 91.80 54 ⇑P P 16 14 42.7 +0.4
baz=92,SNR=44
J08A Circle Bar Ran 91.90 43 ⇓P P 16 14 43.3 +0.8
baz=92
217A Green Valley 92.02 56 ⇑P P 16 14 44.2 +0.8
baz=92,SNR=17
JBO Jordan Butte 92.09 41 P P 16 14 43.8 +0.4
F07A Phinny Hill Vi 92.26 41 ⇑P P 16 14 45.0 +0.9
baz=92
TUC Tucson 92.27 56 eP P 16 14 43.6 -1.0
comp=Z,15nm,0.8s,mb5.4
TUC Tucson 92.27 56 eP P 16 14 43.6 -0.9
TUC pmax pmax
comp=Z,15nm,0.8s,mb5.4
JCW Jim Creek 92.27 38 eP P 16 14 43.9 -0.2
MENT Mentasta 92.28 19 eP P 16 14 41.2 -2.6
Y16A Circle Bar Ran 92.41 54 ⇑P P 16 14 45.8 +0.6
baz=93,SNR=18
117A Oracle 92.42 56 ⇑P P 16 14 45.9 +0.7
baz=93,SNR=40
R13A O'Grain Ranch, 92.48 50 ⇓P P 16 14 46.2 +0.8
baz=93
318A Bisbee 92.52 57 ⇓P P 16 14 46.6 +0.9
baz=93,SNR=24
G08A Pilot Rock 92.55 42 ⇓P P 16 14 46.0 +0.6
baz=93,SNR=26
COLA College 92.63 16 eP P 16 14 42.2 -3.1
comp=Z,50nm,0.9s,mb6.0
COLA College 92.63 16 eP P 16 14 42.2 -3.2
COLA pmax pmax
comp=Z,50nm,0.9s,mb5.9
CCUT Cedar City 92.63 50 eP P 16 14 45.9 -0.2
comp=Z,25nm,1.0s,mb5.6
E07A Sunnyside 92.64 40 ⇓P P 16 14 46.7 +0.9
baz=93,SNR=6.0
X16A Lo Mia Camp, P 92.67 54 ⇑P P 16 14 47.1 +0.8
baz=93,SNR=50
ARUT Antelope Range 92.68 50 eP P 16 14 46.2 -0.1
comp=Z,21nm,0.9s,mb5.6
ARUT Antelope Range 92.68 50 eP P 16 14 46.2 -0.1
ARUT pmax pmax
comp=Z,21nm,0.9s,mb5.6
218A Dragoon 92.70 57 ⇑P P 16 14 47.5 +1.0
baz=93,SNR=20
RSW Rattlesnake Hi 92.71 40 eP P 16 14 45.8 -0.4
comp=Z,32nm,0.8s,mb5.8
HAWA Hanford 92.75 40 eP P 16 14 45.4 -0.9
comp=Z,23nm,0.8s,mb5.7
ILAR Eielson Array 92.80 17 P P 16 14 43.5 -2.6
comp=Z,21nm,0.9s,mb5.6,baz=234,slow=4.9,SNR=60
ILAR PKKP PKKPbc 16 31 56.6 -3.4
comp=Z,3.7nm,0.9s,baz=19,slow=4.4,SNR=11
ILAR PKPPKP 16 40 05.0
comp=Z,1.6nm,1.0s,baz=17,slow=3.5,SNR=5.7
ILAR LR LR 16 51 12.7
comp=Z,21μm,20.7s,MS6.6,baz=266,slow=32
ILAR Eielson Array 92.80 17 P P 16 14 43.5 -2.6
ILAR PKKP PKKPbc 16 31 56.6 -3.4
ILAR P'P' 16 40 05.0
ILAR Eielson Array 92.80 17 P P 16 14 43.6 -2.6
ILAR 16 31 56.6
LSA Lhasa 92.80 301 eP P 16 14 46.3 -0.8
comp=Z,41nm,1.1s,mb5.8
LSA Lhasa 92.80 301 eP P 16 14 46.3 -0.7
LSA pmax pmax
comp=Z,41nm,1.1s,mb5.8
Y17A Roosevelt 92.81 55 ⇓P P 16 14 47.3 +0.4
baz=93,SNR=14
ETW Entiat 92.89 39 eP P 16 14 47.6 +0.7
comp=Z,22nm,1.0s,mb5.5
U15A North Rim 92.91 52 ⇓P P 16 14 47.7 +0.3
baz=93,SNR=97
Z17A San Carlos Hig 92.92 55 ⇓P P 16 14 48.1 +0.6
baz=93
118A Homack Ranch, 93.03 56 ⇓P P 16 14 48.3 +0.3
baz=93,SNR=34
319A Douglas 93.04 57 ⇑P P 16 14 49.0 +0.9
baz=93
E08A Dider Farm, El 93.08 40 ⇑P P 16 14 49.0 +1.1
baz=93
X17A Forest Lakes 93.11 54 ⇓P P 16 14 49.1 +0.7
baz=93,SNR=11
Z18A Geronimo 93.17 56 ⇓P P 16 14 48.7 +0.1
baz=93
WUAZ Wupatki 93.19 53 ⇑P P 16 14 49.5 +0.8
baz=93,SNR=26
WUAZ Wupatki 93.19 53 eP P 16 14 47.5 -1.2
comp=Z,36nm,1.0s,mb5.8
LNOR Lincton Mounta 93.24 41 eP P 16 14 47.9 -0.7
comp=Z,8.1nm,0.9s,mb5.2
LNOR Lincton Mounta 93.24 41 eP P 16 14 47.9 -0.8
LNOR pmax pmax
comp=Z,8.0nm,0.9s,mb5.2
219A White Tail Can 93.31 57 ⇓P P 16 14 49.7 +0.4
baz=94,SNR=37
BMO Blue Mountains 93.36 43 eP P 16 14 48.6 -0.6
comp=Z,4.5nm,0.8s,mb5.0
BMO Blue Mountains 93.36 43 eP P 16 14 48.6 -0.6
BMO pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
Y18A Canyon Day Jun 93.46 55 ⇑P P 16 14 50.7 +0.7
baz=94,SNR=42
W17A Winslow 93.49 54 ⇑P P 16 14 50.6 +0.5
baz=94
119A Ashpeak Ranch, 93.60 56 ⇑P P 16 14 51.0 +0.4
baz=94,SNR=8.9
MFID Camas Ranch 93.62 44 ⇓P P 16 14 51.0 +0.6
baz=94,SNR=10
MFID Camas Ranch 93.62 44 eP P 16 14 49.5 -1.0
comp=Z,34nm,1.3s,mb5.6
U16A Tuba City 93.64 52 ⇑P P 16 14 51.3 +0.5
baz=94,SNR=26
E09A Wood Farm, Sta 93.64 41 ⇑P P 16 14 51.2 +0.7
baz=94
V17A Tonalea, Kykot 93.66 53 ⇑P P 16 14 51.0 +0.2
baz=94,SNR=14
R15A Junction 93.69 50 ⇓P P 16 14 51.6 +0.6
baz=94
OD2 Odessa Site #2 93.73 40 eP P 16 14 49.7 -1.2
comp=Z,20nm,1.0s,mb5.5
OD2 e pP 16 15 04.9 +0.3
X18A Snowflake 93.83 54 ⇓P P 16 14 52.0 +0.4
baz=94,SNR=12
Z19A T-Link Ranch, 93.84 56 ⇑P P 16 14 52.4 +0.7
baz=94
220A Playas Peak, P 93.84 57 ⇓P P 16 14 52.2 +0.4
baz=94,SNR=18
MSU Marysvale 93.90 50 eP P 16 14 52.1 +0.2
comp=Z,14nm,0.9s,mb5.4
MSU Marysvale 93.90 50 eP P 16 14 52.1 +0.2
MSU pmax pmax
comp=Z,14nm,0.9s,mb5.4
F10A Beach Ranch, E 93.94 42 ⇑P P 16 14 53.6 +1.8
baz=94,SNR=20
COLD Coldfoot 93.97 14 eP P 16 14 50.3 -1.2
comp=Z,20nm,0.8s,mb5.6
S16A Weppner Ranch, 93.97 51 ⇑P P 16 14 52.4 +0.2
baz=94,SNR=11
ZAK Zakamensk 94.02 324 eP P 16 14 53.2 +1.1
ZAK pmax pmax
comp=Z,23nm,1.3s,mb5.5
120A U Bar Ranch, L 94.02 57 ⇑P P 16 14 52.6 0.0
baz=94,SNR=12

DLBC Dease Lake 94.09 27 eP P 16 14 52.8 +0.5
Y19A Nutrioso 94.12 55 ⇓P P 16 14 53.7 +0.7
baz=94,SNR=30
U17A Shonto 94.17 52 ⇓P P 16 14 53.8 +0.7
baz=94
DUG Dugway 94.18 48 ⇑P P 16 14 53.3 +0.2
baz=94
DUG Dugway 94.18 48 eP P 16 14 52.5 -0.7
comp=Z,55nm,1.8s,mb5.7
DUG Dugway 94.18 48 eP P 16 14 52.5 -0.6
DUG pmax pmax
comp=Z,55nm,1.8s,mb5.7
C09A Chrisman Ranch 94.19 40 ⇑P P 16 14 53.3 +0.3
baz=94
T17A Navajo Res., N 94.23 52 ⇓P P 16 14 53.6 +0.2
baz=94,SNR=34
W18A Petrified Fore 94.24 54 ⇓P P 16 14 53.9 +0.4
baz=94
I12A Atlanta 94.24 44 ⇓P P 16 14 54.1 +0.8
baz=94,SNR=22
P15A Leamington 94.28 49 ⇓P P 16 14 54.4 +0.8
baz=94
Z20A Nine Sixteen R 94.28 56 ⇓P P 16 14 54.4 +0.6
baz=94,SNR=16
X19A St. Johns 94.29 55 ⇑P P 16 14 54.2 +0.5
baz=94
R16A Teasdale 94.29 50 ⇓P P 16 14 54.5 +0.9
baz=94,SNR=16
V18A Ganado 94.34 53 ⇑P P 16 14 54.3 +0.4
baz=94,SNR=9.1
EGAK Eagle 94.41 19 eP P 16 14 51.3 -2.3
comp=Z,39nm,0.9s,mb5.8
DAWY Dawson 94.43 20 eP P 16 14 52.0 -1.6
O15A The Old Anders 94.46 48 ⇓P P 16 14 55.1 +0.7
baz=95
EFI East Falkland 94.46 152 eP P 16 14 53.0 -1.4
comp=Z,57nm,0.8s,mb6.1
EFI East Falkland 94.46 152 eP P 16 14 53.9 -0.5
221A Mesquite Ranch 94.47 57 ⇑P P 16 14 55.1 +0.5
baz=95
TLY Talaya 94.49 325 eP P 16 14 53.3 -1.0
comp=Z,67nm,1.2s,mb6.0
TLY Talaya 94.49 325 eP P 16 14 55.0 +0.8
TLY pmax pmax
comp=Z,37nm,1.0s,mb5.8
W19A Sanders 94.50 54 ⇑P P 16 14 54.8 +0.1
baz=95
S17A Black Ridge (B 94.50 51 ⇓P P 16 14 55.0 +0.3
baz=95,SNR=17
HLID Hailey 94.60 45 ⇑P P 16 14 55.3 +0.3
baz=95,SNR=25
HLID Hailey 94.60 45 eP P 16 14 55.1 +0.1
comp=Z,13nm,0.9s,mb5.4
121A Cookes Peak, D 94.67 57 ⇑P P 16 14 56.1 +0.5
baz=95,SNR=12
U18A Rough Rock, Ch 94.68 53 ⇓P P 16 14 55.6 +0.1
baz=95
J13A Cove Ranch, Pi 94.68 45 ⇓P P 16 14 55.9 +0.5
baz=95,SNR=17
N15A Stansbury Isla 94.69 48 ⇓P P 16 14 55.9 +0.4
baz=95
L14A Malta 94.70 46 ⇑P P 16 14 55.9 +0.5
baz=95
G12A Big Creek, Yel 94.73 43 ⇑P P 16 14 56.3 +0.8
baz=95
P16A Fountain Green 94.73 49 ⇑P P 16 14 56.1 +0.4
baz=95
H12A Diamond D Ranc 94.76 44 ⇑P P 16 14 56.5 +0.8
baz=95,SNR=25
Y20A Horse Springs, 94.77 55 ⇓P P 16 14 56.8 +0.8
baz=95,SNR=10
Q16A Castle Valley 94.78 50 ⇑P P 16 14 56.8 +0.9
baz=95,SNR=10
PLCA Paso Flores 94.88 138 P P 16 14 56.5 0.0
comp=Z,37nm,0.8s,mb5.9,baz=220,slow=4.0,SNR=38
PLCA Paso Flores 94.88 138 eP P 16 14 56.2 -0.2
comp=Z,119nm,1.4s,mb6.1
PLCA P 16 14 56.5
PLCA e pP 16 15 09.3 -1.0
PLCA Paso Flores 94.88 138 eP P 16 14 56.3 -0.2
PLCA e pP 16 15 09.3 -1.0
PLCA pmax pmax
comp=Z,119nm,1.4s
R17A Hanksville Air 94.90 50 ⇑P P 16 14 57.3 +0.8
baz=95,SNR=7.5
HVU Hansel Valley 94.90 47 eP P 16 14 55.8 -0.6
comp=Z,22nm,0.9s,mb5.6
HVU Hansel Valley 94.90 47 eP P 16 14 55.8 -0.6
HVU pmax pmax
comp=Z,22nm,0.9s,mb5.6
TMUT Trail Mountain 94.91 50 eP P 16 14 57.6 +1.1
comp=Z,31nm,0.9s,mb5.7
X20A Quemado 94.93 55 ⇓P P 16 14 57.4 +0.7
baz=95
I13A Withorse Cree 94.95 44 ⇑P P 16 14 57.8 +1.3
baz=95,SNR=10
K14A Jones Ranch, D 94.96 46 ⇓P P 16 14 57.6 +1.0
baz=95
T18A Mexican Hat 94.97 52 ⇑P P 16 14 57.5 +0.7
baz=95,SNR=44
M15A Larsen Ranch, 94.98 47 ⇑P P 16 14 57.7 +0.9
baz=95,SNR=19
V19A Window Rock 95.00 53 ⇓P P 16 14 57.7 +0.7
baz=95
222A Williams Famil 95.03 57 ⇑P P 16 14 57.3 +0.1
baz=95
F12A Elk City 95.06 42 ⇑P P 16 14 56.9 -0.1
baz=95
Z21A St. Cloud Mine 95.07 56 ⇑P P 16 14 57.3 -0.1
baz=95,SNR=18
J14A Carey 95.08 45 ⇓P P 16 14 57.5 +0.4
baz=95,SNR=18
NEW Newport 95.09 40 ⇑P P 16 14 57.2 +0.1
baz=95
NEW Newport 95.09 40 eP P 16 14 56.6 -0.5
NEW Newport 95.09 40 eP P 16 14 56.6 -0.5
O16A Springville 95.09 49 ⇑P P 16 14 57.6 +0.3
baz=95,SNR=5.2
S18A Hurst Farm, Bl 95.11 51 ⇑P P 16 14 57.4 -0.1
baz=95,SNR=5.8
U19A Dine' College, 95.11 53 ⇓P P 16 14 57.4 -0.1
baz=95,SNR=12
H13A Challis 95.15 44 ⇑P P 16 14 57.6 +0.2
baz=95
E12A Beaver Dam Sad 95.16 42 ⇓P P 16 14 58.2 +0.7
baz=95
W20A Ramah 95.17 54 ⇑P P 16 14 57.5 -0.3
baz=95
DGAR Diego Garcia 95.22 260 PFAKE 16 15 10.0 +11
DGAR LR LR
comp=Z,48μm,19.0s,MS7.0
L15A Malad City 95.26 47 ⇓P P 16 14 58.3 +0.3
baz=95,SNR=6.4
P17A Butcher Ranch, 95.32 50 ⇓P P 16 14 58.2 -0.2
baz=96
SRU San Rafael 95.32 50 ⇑P P 16 14 58.8 +0.5
baz=96,SNR=20
SRU San Rafael 95.32 50 eP P 16 14 57.7 -0.6
comp=Z,16nm,0.8s,mb5.5
SRU San Rafael 95.32 50 eP P 16 14 57.7 -0.7
SRU pmax pmax
comp=Z,16nm,0.8s,mb5.5
Y21A Point of Rocks 95.34 56 ⇑P P 16 14 58.8 +0.1
baz=96,SNR=18
122A Conniff Cattle 95.34 57 ⇓P P 16 14 59.0 +0.3
baz=96
I14A Mackay 95.39 45 ⇓P P 16 14 59.2 +0.6
baz=96,SNR=25
G13A Cobalt 95.40 43 ⇓P P 16 14 58.8 +0.2
baz=96,SNR=5.6
C11A Tepee Creek (N 95.41 40 ⇑P P 16 14 58.1 -0.5
baz=96,SNR=13
N16A Rees Ranch, Co 95.43 48 ⇑P P 16 14 58.6 -0.2
baz=96
X21A Alamocita Cree 95.43 55 ⇑P P 16 14 58.5 -0.5
baz=96
K15A Arbon 95.45 46 ⇓P P 16 14 58.9 0.0
baz=96,SNR=5.3
V20A Brimhall 95.46 54 ⇑P P 16 14 58.7 -0.4
baz=96
T19A Beclabito 95.46 52 ⇑P P 16 14 58.8 -0.3
baz=96
R18A Canyonlands Na 95.47 51 ⇑P P 16 14 59.0 -0.1
baz=96,SNR=5.1
M16A Huntsville 95.47 48 ⇓P P 16 14 59.3 +0.3
baz=96
D12A Red Ives Fores 95.59 41 ⇑P P 16 14 59.5 +0.1
baz=96

Q18A Rafter H Ranch 95.59 50 ⇓P P 16 14 59.4 -0.2
baz=96
Z22A Elephant Butte 95.59 56 ⇑P P 16 14 59.1 -0.6
baz=96
O17A Robinson Place 95.62 49 ⇓P P 16 14 59.8 +0.1
baz=96
HWUT Hardware Ranch 95.64 47 eP P 16 14 59.0 -0.8
comp=Z,7.1nm,0.8s,mb5.2
F13A Darby 95.65 43 ⇓P P 16 14 59.2 -0.6
baz=96,SNR=6.5
U20A Newcomb 95.65 53 ⇑P P 16 14 59.2 -0.8
baz=96
P18A Preston Nutter 95.73 50 ⇓P P 16 14 59.9 -0.3
baz=96
H14A Leadore 95.74 44 ⇓P P 16 14 59.8 -0.4
baz=96
S19A Harvey Farm, M 95.75 52 ⇓P P 16 14 59.5 -0.9
baz=96,SNR=7.0
C12B Naegeli Ranch, 95.81 41 ⇓P P 16 15 00.8 +0.4
baz=96
J15A Blackfoot 95.83 45 ⇓P P 16 15 01.4 +0.8
baz=96,SNR=12
Y22A Socorro 95.86 56 ⇑P P 16 15 00.9 0.0
baz=96
N17A Moffit Pass 95.86 48 ⇓P P 16 15 00.8 0.0
baz=96
R19A Curley Farm, L 95.88 51 ⇓P P 16 15 01.4 +0.4
baz=96,SNR=10
L16A Fish Haven 95.91 47 ⇑P P 16 15 01.5 +0.5
baz=96,SNR=5.9
LENM Lemitar 95.94 56 eP P 16 15 01.7 +0.4
comp=Z,6.3nm,0.9s,mb5.0
G14A Jackson 95.96 43 ⇓P P 16 15 01.0 -0.1
baz=96
MVCO Mesa Verde 96.00 52 ⇓P P 16 15 00.9 -0.6
baz=96
E13A Victor 96.03 42 ⇑P P 16 15 01.4 -0.1
baz=96
324A Moseley Ranch, 96.05 59 ⇓P P 16 15 01.1 -0.7
baz=96
I15A Monteview 96.05 45 ⇓P P 16 15 01.8 +0.2
baz=96
PV10 Paradox Valley 96.08 51 eP P 16 15 02.4 +0.5
comp=Z,244nm,0.8s,mb6.7
B12A Libby 96.09 40 ⇑P P 16 15 02.2 +0.5
baz=96
K16A Soda Springs 96.14 46 ⇑P P 16 15 02.6 +0.6
baz=96,SNR=6.4
Q19A Hogan Spring (96.15 50 ⇓P P 16 15 02.1 -0.1
baz=96,SNR=8.1
O18A Roosevelt 96.16 49 ⇑P P 16 15 02.5 +0.3
baz=96
Z23A Rita Site, Whi 96.16 57 ⇑P P 16 15 02.0 -0.3
baz=96
MCMT McKenzie Canyo 96.17 44 eP P 16 15 02.5 +0.4
comp=Z,4.2nm,0.9s,mb4.9
425A Indio Mountain 96.19 59 ⇑P P 16 15 02.4 -0.2
baz=96
BNM Barren Site 96.20 56 eP P 16 15 01.8 -0.8
comp=Z,37nm,1.8s,mb5.5
M17A Scullys Gap (B 96.20 48 ⇓P P 16 15 02.6 +0.3
baz=96
H15A Lima 96.21 44 ⇓P P 16 15 03.3 +1.0
baz=96,SNR=12
MNTX Cornudas Mount 96.22 58 ⇑P P 16 15 02.6 -0.1
baz=96
224A Cornudas Mount 96.26 58 ⇓P P 16 15 02.5 -0.4
baz=96
A12A Yaak River Ran 96.27 39 ⇑P P 16 15 03.1 +0.6
baz=96
BSMT Bassoo Peak 96.29 41 eP P 16 15 01.3 -1.3
comp=Z,3.5nm,0.7s,mb4.9
U21A Nageezi 96.31 53 ⇑P P 16 15 02.8 -0.2
baz=96,SNR=9.6
J16A Bone 96.31 46 ⇓P P 16 15 03.0 +0.2
baz=96
L17A Cokeville 96.32 47 ⇓P P 16 15 03.0 +0.1
baz=96
C13A Hot Springs 96.34 41 ⇑P P 16 15 02.7 -0.2
baz=96
S20A Disappointment 96.35 52 ⇑P P 16 15 02.8 -0.3
baz=96,SNR=7.4
MSO Missoula 96.35 42 ⇑P P 16 15 03.2 +0.3
baz=96
626A Big Bend Ranch 96.41 61 ⇓P P 16 15 02.9 -0.7
baz=96
325A Bean Ranch, Si 96.42 59 ⇑P P 16 15 03.1 -0.5
baz=97
E14A Clinton 96.45 42 ⇓P P 16 15 02.9 -0.5
baz=97,SNR=6.0
R20A Redvale 96.48 51 ⇓P P 16 15 03.0 -0.6
baz=97
RRI2 Red Ridge 96.54 46 eP P 16 15 03.2 -0.6
comp=Z,11nm,0.9s,mb5.3
G15A Dillon 96.55 44 ⇑P P 16 15 03.5 -0.3
baz=97
124A Stringfield Ra 96.55 57 ⇓P P 16 15 02.9 -1.2
baz=97
Y23A Lovelace Mesa, 96.55 56 ⇑P P 16 15 03.7 -0.4
baz=97
K17A Gardner Place, 96.56 46 ⇓P P 16 15 04.1 +0.2
baz=97,SNR=6.0
DLMT Dillon 96.56 44 eP P 16 15 04.4 +0.5
comp=Z,8.3nm,0.9s,mb5.2
M18A Lyman 96.59 48 ⇓P P 16 15 04.2 +0.1
baz=97,SNR=8.7
P19A Cripple Cowboy 96.62 50 ⇓P P 16 15 04.0 -0.3
baz=97
T21A Navajo Lake 96.62 53 ⇑P P 16 15 04.1 -0.3
baz=97
526A Mary Lane Ranc 96.63 60 ⇑P P 16 15 03.9 -0.7
baz=97
ANMO Albuquerque 96.64 55 eP P 16 15 02.7 -1.7
comp=Z,8.6nm,1.1s,mb5.1
ANMO Albuquerque 96.64 55 eP P 16 15 02.7 -1.8
ANMO pmax pmax
comp=Z,9.0nm,1.1s
I16A Newdale 96.65 45 ⇓P P 16 15 05.0 +0.7
baz=97,SNR=6.0
N18A Larsen Ranch, 96.68 48 ⇓P P 16 15 04.2 -0.3
baz=97
S21A Coal Bank Pass 96.70 52 ⇑P P 16 15 05.0 +0.3
baz=97,SNR=11
TXAR Lajitas Array 96.70 61 P P 16 15 04.7 -0.3
comp=Z,4.9nm,0.8s,mb5.0,baz=218,slow=5.1,SNR=22
TXAR LR LR 16 51 30.7
comp=Z,9μm,20.3s,MS6.2,baz=5.0,slow=31
TXAR Lajitas Array 96.70 61 P P 16 15 04.7 -0.3
TXAR Lajitas Array 96.70 61 P P 16 15 04.7 -0.2
B13A Whitefish 96.72 40 ⇓P P 16 15 04.3 -0.2
baz=97
D14A Greenough 96.73 42 ⇓P P 16 15 04.5 -0.1
baz=97
SLMT Seeley Lake 96.81 42 P P 16 15 05.1 +0.1
L18A Fontenelle, Gr 96.81 47 ⇑P P 16 15 05.0 -0.1
baz=97
CHMT Chamberlain Mo 96.82 42 eP P 16 15 04.1 -0.9
comp=Z,24nm,1.8s,mb5.3
225A Deer Hill, Car 96.82 58 ⇓P P 16 15 05.0 -0.4
baz=97
F15A Butte 96.83 43 ⇑P P 16 15 04.8 -0.2
baz=97
Q20A Ridgley Place, 96.84 51 ⇓P P 16 15 04.7 -0.6
baz=97
LRM Limekiln Ridge 96.85 43 eP P 16 15 06.2 +1.0
comp=Z,44nm,1.0s,mb5.8
Z24A Sheeppen Canyo 96.86 57 ⇓P P 16 15 04.8 -0.7
baz=97
C14A Swan Lake 96.88 41 ⇑P P 16 15 05.4 +0.2
baz=97
426A McDonald Obser 96.91 60 ⇑P P 16 15 04.6 -1.2
baz=97
J17A Brown Place, J 96.95 46 ⇑P P 16 15 06.1 +0.4
baz=97,SNR=6.9
SNOW Snow King Moun 96.96 46 eP P 16 15 05.4 -0.3
comp=Z,9.6nm,0.8s,mb5.3
627A Terlingua Ranc 96.97 61 ⇑P P 16 15 05.9 -0.2
baz=97
E15A Deer Lodge 96.98 43 ⇓P P 16 15 06.3 +0.5
baz=97
P20A De Beque 96.99 50 ⇑P P 16 15 06.5 +0.5
baz=97
N19A John Jarvie Ra 96.99 49 ⇑P P 16 15 06.5 +0.6
baz=97
G16A Moss Hill, Enn 97.01 44 ⇑P P 16 15 06.4 +0.5
baz=97
Y24A Capitan 97.03 56 ⇓P P 16 15 05.7 -0.6
baz=97

527A	**Woodward Ranch**	**97.05**	**60**	⇑P		**P**		**16 15 06.4**	**-0.1**
	baz=97								
QLMT	**Earthquake Lak**	**97.08**	**44**	*e*P		**P**		**16 15 07.2**	**+0.9**
	comp=Z,1.9nm,1.1s								
K18A	**Toltan Ranch,**	**97.10**	**47**	⇑P		**P**		**16 15 06.9**	**+0.5**
	baz=97,SNR=12								
V23A	**Ortiz Mt. (NFS**	**97.15**	**54**	⇑P		**P**		**16 15 07.0**	**+0.2**
	baz=97								
R21A	**Cimarron**	**97.15**	**52**	⇑P		**P**		**16 15 07.4**	**+0.7**
	baz=97,SNR=13								
H16A	**Russell Place,**	**97.15**	**45**	⇓P		**P**		**16 15 08.1**	**+1.6**
	baz=97,SNR=9.2								
125A	**Gardner Draw,**	**97.15**	**58**	⇓P		**P**		**16 15 07.0**	**+0.1**
	baz=97								
Q21A	**Lamborn Mesa,**	**97.31**	**51**	⇓P		**P**		**16 15 08.1**	**+0.7**
	baz=98								
D15A	**Lincoln**	**97.32**	**42**	⇑P		**P**		**16 15 07.8**	**+0.5**
	baz=98								
Z25A	**Roswell**	**97.34**	**57**	⇓P		**P**		**16 15 08.0**	**+0.2**
	baz=98								
O20A	**White River Ci**	**97.34**	**50**	⇑P		**P**		**16 15 07.8**	**+0.3**
	baz=98								
J18A	**Kendall Valley**	**97.35**	**46**	⇑P		**P**		**16 15 08.0**	**+0.5**
	baz=98,SNR=26								
L19A	**Farson**	**97.35**	**48**	⇑P		**P**		**16 15 07.5**	**0.0**
	baz=98,SNR=10								
F16A	**Kennard Place,**	**97.36**	**43**	⇓P		**P**		**16 15 08.3**	**+0.8**
	baz=98								
U23A	**El Rito**	**97.36**	**54**	⇓P		**P**		**16 15 08.0**	**+0.2**
	baz=98								
628A	**Black Gap, Mar**	**97.39**	**61**	⇑P		**P**		**16 15 08.1**	**+0.1**
	baz=98								
S22A	**4UR Ranch, Cre**	**97.43**	**52**	⇑P		**P**		**16 15 08.3**	**+0.3**
	baz=98								
H17A	**Grant Village**	**97.46**	**45**	⇑P		**P**		**16 15 09.9**	**+1.9**
	baz=98								
PD01	**Pinedale Array**	**97.47**	**47**	*e*P		**P**		**16 15 07.7**	**-0.3**
427A	**Hayter Ranch,**	**97.48**	**60**	⇓P		**P**		**16 15 08.3**	**-0.1**
	baz=98								
PD02	**Pinedale Array**	**97.48**	**47**	*e*P		**P**		**16 15 08.6**	**+0.6**
BW06	**Boulder Array**	**97.48**	**47**	⇓P		**P**		**16 15 08.2**	**+0.1**
	baz=98,SNR=9.0								
PDAR	**Pinedale Array**	**97.48**	**47**	P		**P**		**16 15 07.5**	**-0.6**
	comp=Z,6.6nm,0.8s,mb5.1,baz=211,slow=3.1,SNR=31								
PDAR				PP		PP		16 18 58.9	-7.2
	comp=Z,0.7nm,0.8s,baz=218,slow=10,SNR=2.6								
PDAR				PKKP		PKKPbc		16 31 45.4	-1.0
	comp=Z,1.9nm,0.6s,baz=103,slow=5.8,SNR=3.8								
PDAR				LR		LR		16 51 20.9	
	comp=Z,14μm,21.7s,MS6.4,baz=299,slow=31								
PDAR	**Pinedale Array**	**97.48**	**47**	P		**P**		**16 15 07.5**	**-0.6**
PDAR				PP		PP		16 18 58.9	-7.2
PDAR				PKKP		PKKPbc		16 31 45.4	-1.0
W24A	**Lazy 6 Ranch,**	**97.53**	**55**	⇑P		**P**		**16 15 08.2**	**-0.3**
	baz=98								
C15A	**Salmond Ranch,**	**97.58**	**41**	⇓P		**P**		**16 15 09.0**	**+0.6**
	baz=98								
Y25A	**Mesa, Roswell**	**97.60**	**57**	⇓P		**P**		**16 15 08.6**	**-0.2**
	baz=98								
N20A	**Spence Gulch,**	**97.60**	**49**	⇓P		**P**		**16 15 09.0**	**+0.3**
	baz=98,SNR=5.7								
HRY	**Holter Researc**	**97.61**	**43**	*e*P		**P**		**16 15 08.0**	**-0.6**
	comp=Z,5.2nm,0.8s,mb5.1								
E16A	**East Helena**	**97.64**	**43**	⇓P		**P**		**16 15 10.0**	**+1.3**
	baz=98								
126A	**Clayton Basin,**	**97.65**	**58**	⇑P		**P**		**16 15 09.6**	**+0.5**
	baz=98								
P21A	**Newcastle**	**97.67**	**50**	⇑P		**P**		**16 15 09.6**	**+0.6**
	baz=98								
R22A	**Saguache, Gunn**	**97.67**	**52**	⇓P		**P**		**16 15 09.9**	**+0.8**
	baz=98								
I18A	**Diamond G Ranc**	**97.68**	**46**	⇓P		**P**		**16 15 09.7**	**+0.7**
	baz=98								
Q22A	**Crested Butte,**	**97.80**	**51**	⇓P		**P**		**16 15 10.3**	**+0.7**
	baz=98								
V24A	**Rampart Ranch,**	**97.83**	**55**	⇑P		**P**		**16 15 10.0**	**+0.2**
	baz=98								
B15A	**Bradely Ranch,**	**97.84**	**41**	⇑P		**P**		**16 15 10.3**	**+0.8**
	baz=98								
CPRX	**Cap Rock**	**97.91**	**58**	*e*P		**P**		**16 15 10.6**	**+0.3**
	comp=Z,8.8nm,0.9s,mb5.3								
Z26A	**Caprock**	**97.91**	**57**	⇑P		**P**		**16 15 10.7**	**+0.5**
	baz=98								
M20A	**Sweetwater, Wa**	**97.91**	**48**	⇑P		**P**		**16 15 10.6**	**+0.5**
	baz=98								
D16A	**Dana Ranch, Ca**	**97.92**	**42**	⇑P		**P**		**16 15 10.6**	**+0.6**
	baz=98								
K19A	**Absolon Red Bu**	**97.98**	**47**	⇓P		**P**		**16 15 11.0**	**+0.7**
	baz=98								
428A	**Kincaid Ranch,**	**98.01**	**60**	⇓P		**P**		**16 15 10.3**	**-0.5**
	baz=98								
L20A	**Wamsutter**	**98.01**	**48**	⇑P		**P**		**16 15 10.9**	**+0.4**
	baz=98								
A15A	**Johnson Ranch,**	**98.01**	**40**	⇓P		**P**		**16 15 10.9**	**+0.5**
	baz=98								
J19A	**Crowheart**	**98.02**	**47**	⇓P		**P**		**16 15 10.6**	**+0.1**
	baz=98								
F17A	**Fitzpatrick Pl**	**98.02**	**44**	⇓P		**P**		**16 15 10.2**	**-0.2**
	baz=98								
N21A	**Black Mountain**	**98.09**	**49**	⇑Pdiff		**P**		**16 15 11.3**	**+0.4**
	baz=98								
C16A	**Fuhringer Ranc**	**98.12**	**42**	⇓Pdiff		**P**		**16 15 11.3**	**+0.5**
	baz=98								
E17A	**Martinsdale**	**98.12**	**43**	⇓Pdiff		**P**		**16 15 10.3**	**-0.6**
	baz=98								
328A	**Wristen Ranch,**	**98.14**	**60**	⇑Pdiff		**P**		**16 15 11.1**	**-0.2**
	baz=98								
H18A	**Shoshone NF, C**	**98.17**	**45**	⇑Pdiff		**P**		**16 15 11.9**	**+0.7**
	baz=98								
127A	**Arkansas Junct**	**98.18**	**58**	⇓Pdiff		**P**		**16 15 11.4**	**-0.1**
	baz=98								
W25A	**X Bar L Ranch,**	**98.25**	**55**	⇓Pdiff		**P**		**16 15 10.3**	**-1.5**
	baz=98								
K20A	**Yellowstone Ra**	**98.26**	**47**	⇑Pdiff		**P**		**16 15 11.6**	**0.0**
	baz=98								
Y26A	**Elida**	**98.27**	**57**	⇓Pdiff		**P**		**16 15 10.7**	**-1.2**
	baz=98								
Y26A				⇑S		S		16 26 37.0	+0.7
	baz=98								
R23A	**Moffat**	**98.33**	**52**	⇓Pdiff		**P**		**16 15 11.7**	**-0.4**
	baz=98								
I19A	**Meeteetse**	**98.36**	**46**	⇑Pdiff		**P**		**16 15 12.0**	**-0.1**
	baz=98								
V25A	**Rancho No Teng**	**98.36**	**55**	⇓Pdiff		**P**		**16 15 12.3**	**0.0**
	baz=98								
B16A	**M & M Farms, S**	**98.40**	**41**	⇑Pdiff		**P**		**16 15 12.4**	**+0.4**
	baz=99								
SDCO	**Great Sand Dun**	**98.41**	**53**	⇑Pdiff		**P**		**16 15 12.4**	**0.0**
	baz=99								
SDCO	**Great Sand Dun**	**98.41**	**53**	*e*P		**P**		**16 15 11.4**	**-1.0**
	comp=Z,3.2nm,1.0s,mb4.8								
G18A	**Lazy EL Ranch,**	**98.49**	**44**	⇓Pdiff		**P**		**16 15 12.7**	**+0.1**
	baz=99								
T24A	**Torres, Weston**	**98.49**	**53**	⇑Pdiff		**P**		**16 15 13.4**	**+0.6**
	baz=99								
X26A	**CR and CF Fran**	**98.51**	**56**	⇑Pdiff		**P**		**16 15 13.5**	**+0.6**
	baz=99								
D17A	**Six Diamond Ra**	**98.51**	**42**	⇑Pdiff		**P**		**16 15 12.8**	**+0.2**
	baz=99								
Z27A	**Tatum**	**98.52**	**58**	⇓Pdiff		**P**		**16 15 12.7**	**-0.3**
	baz=99								
M21A	**Separation Pea**	**98.53**	**49**	⇑Pdiff		**P**		**16 15 12.4**	**-0.4**
	baz=99								
O22A	**Kremmling**	**98.55**	**50**	⇓Pdiff		**P**		**16 15 13.2**	**+0.2**
	baz=99								
S24A	**Houchin Ranch,**	**98.58**	**53**	⇓Pdiff		**P**		**16 15 13.4**	**+0.2**
	baz=99								
RLMT	**Red Lodge**	**98.61**	**45**	⇓Pdiff		**P**		**16 15 13.3**	**+0.2**
	baz=99								
H19A	**Powell**	**98.61**	**45**	⇓Pdiff		**P**		**16 15 13.0**	**-0.2**
	baz=99								
F18A	**Big Timber**	**98.62**	**44**	⇑Pdiff		**P**		**16 15 12.9**	**-0.2**
	baz=99								
C17A	**Wharram Farm,**	**98.66**	**42**	⇑Pdiff		**P**		**16 15 13.3**	**+0.1**
	baz=99								
L21A	**Rawlins**	**98.66**	**48**	⇑Pdiff		**P**		**16 15 12.9**	**-0.5**
	baz=99								
A16A	**West Butte Ran**	**98.68**	**41**	⇑Pdiff		**P**		**16 15 13.4**	**+0.1**
	baz=99								
J20A	**Shoshoni**	**98.70**	**47**	⇓Pdiff		**P**		**16 15 13.4**	**-0.2**
	baz=99								
U25A	**Circle Dot Ran**	**98.73**	**54**	⇑Pdiff		**P**		**16 15 13.4**	**-0.5**
	baz=99								
W26A	**Owens Ranch, T**	**98.74**	**56**	⇑Pdiff		**P**		**16 15 13.7**	**-0.3**
	baz=99								
E18A	**Harlowton**	**98.76**	**43**	⇑Pdiff		**P**		**16 15 14.3**	**+0.5**
	baz=99								
P23A	**Jefferson**	**98.77**	**51**	⇓Pdiff		**P**		**16 15 13.7**	**-0.2**
	baz=99								
Y27A	**Causey**	**98.77**	**57**	⇑Pdiff		**P**		**16 15 13.5**	**-0.6**
	baz=99								
N22A	**Wattenberg Ran**	**98.86**	**50**	⇑Pdiff		**P**		**16 15 13.9**	**-0.4**
	baz=99								
R24A	**Sanders Place,**	**98.88**	**52**	⇑Pdiff		**P**		**16 15 14.6**	**+0.1**
	baz=99								
B17A	**L&G Farms, Che**	**98.90**	**41**	⇑Pdiff		**P**		**16 15 14.6**	**+0.3**
	baz=99								
I20A	**Worland**	**98.90**	**46**	⇑Pdiff		**P**		**16 15 14.9**	**+0.4**
	baz=99								
V26A	**Tequesquite Ra**	**98.98**	**55**	⇑Pdiff		**P**		**16 15 14.5**	**-0.5**
	baz=99								
M22A	**Cedar Creek Ra**	**98.98**	**49**	⇑Pdiff		**P**		**16 15 15.0**	**+0.1**
	baz=99								
T25A	**Trinidad**	**98.99**	**54**	⇑Pdiff		**P**		**16 15 14.7**	**-0.3**
	baz=99								
K21A	**Alcova**	**98.99**	**48**	⇑Pdiff		**P**		**16 15 15.1**	**+0.2**
	baz=99								
O23A	**Lake Granby, G**	**99.02**	**50**	⇓Pdiff		**P**		**16 15 15.5**	**+0.4**
	baz=99								
INK	**Inuvik**	**99.06**	**18**	*e*Pdif		**P**		**16 15 13.5**	**-1.0**
	comp=Z,40nm,1.5s,mb5.7								
ISCO	**Idaho Springs**	**99.08**	**51**	⇑Pdiff		**P**		**16 15 15.4**	**0.0**
	baz=99								
X27A	**F and S Farms,**	**99.09**	**56**	⇓Pdiff		**P**		**16 15 15.9**	**+0.3**
	baz=99								
F19A	**Roth Farm, Mol**	**99.10**	**44**	⇑Pdiff		**P**		**16 15 15.5**	**+0.2**
	baz=99								
MSTX	**Muleshoe**	**99.10**	**57**	⇑Pdiff		**P**		**16 15 15.9**	**+0.3**
	baz=99								
J21A	**Lysite**	**99.13**	**47**	⇑Pdiff		**P**		**16 15 15.1**	**-0.4**
	baz=99								
S25A	**Robets Cordova**	**99.16**	**53**	⇓Pdiff		**P**		**16 15 15.8**	**+0.1**
	baz=99								
H20A	**Greybull**	**99.19**	**46**	⇓Pdiff		**P**		**16 15 15.9**	**+0.2**
	baz=99								
A17A	**Triple J Farms**	**99.22**	**41**	⇑Pdiff		**P**		**16 15 16.4**	**+0.7**
	baz=99								
U26A	**Atchley Ranch,**	**99.22**	**55**	⇑Pdiff		**P**		**16 15 16.0**	**-0.1**
	baz=99								
N23A	**Red Feather La**	**99.25**	**50**	⇓Pdiff		**P**		**16 15 16.1**	**0.0**
	baz=99								
W27A	**Bowe Ranch, En**	**99.27**	**56**	⇓Pdiff		**P**		**16 15 16.0**	**-0.3**
	baz=99								
L22A	**Ellis Ranch, M**	**99.33**	**48**	⇓Pdiff		**P**		**16 15 16.8**	**+0.4**
	baz=100								
I21A	**Big Trails, Te**	**99.41**	**47**	⇓Pdiff		**P**		**16 15 17.0**	**+0.3**
	baz=100								
E19A	**Rath Farm, Rou**	**99.44**	**44**	⇓Pdiff		**P**		**16 15 17.6**	**+0.9**
	baz=100								
K22A	**Casper**	**99.50**	**48**	⇓Pdiff		**P**		**16 15 18.2**	**+1.1**
	baz=100								
B18A	**Beardsley Farm**	**99.57**	**42**	⇑Pdiff		Pdif		16 15 19.0	+1.5
	baz=100								
M23A	**Laramie**	**99.62**	**49**	⇓Pdiff		Pdif		16 15 19.1	+1.5
	baz=100								
D19A	**Cripps Ranch,**	**99.65**	**43**	⇑Pdiff		Pdif		16 15 19.4	+1.6
	baz=100								
C19A	**Slack Wire Ran**	**99.76**	**42**	⇑Pdiff		Pdif		16 15 19.8	+1.5
	baz=100								
J22A	**Midwest**	**99.81**	**47**	⇑Pdiff		Pdif		16 15 19.6	+1.1
	baz=100								
L23A	**Garrett**	**99.87**	**49**	⇓Pdiff		Pdif		16 15 20.0	+1.2
	baz=100								
N24A	**Carr**	**99.98**	**50**	⇑Pdiff		Pdif		16 15 19.4	+0.2
	baz=100								
I22A	**9 Mile Ranch,**	**99.98**	**47**	⇓Pdiff		Pdif		16 15 20.0	+0.7
	baz=100								
P25A	**Willow Gulch B**	**100.02**	**51**	⇓Pdiff		Pdif		16 15 19.6	+0.2
	baz=100								
D20A	**Manuel Ranch,**	**100.09**	**43**	⇑Pdiff		Pdif		16 15 20.1	+0.4
	baz=100								
K23A	**Bowen Ranch, D**	**100.15**	**48**	⇓Pdiff		Pdif		16 15 20.5	+0.5
	baz=100								
AMTX	**Amarillo**	**100.27**	**57**	⇑Pdiff		Pdif		16 15 20.9	+0.3
	baz=100								
WMQ	**Urumqi**	**100.79**	**313**	P		Pdif		16 15 28.3	+5.5
WMQ				pP				16 15 41.3	
WMQ				sP				16 15 46.3	
WMQ				sS				16 27 21.3	
WMQ				pmax		pmax			
	comp=Z,41nm,2.0s								
E22A	**Miles City**	**101.25**	**44**	⇓Pdiff		Pdif		16 15 25.8	+0.9
	baz=101								
F23A	**Volborg**	**101.35**	**45**	⇓Pdiff		Pdif		16 15 26.1	+0.7
	baz=102								
LCO	**Las Campanas**	**101.40**	**128**	*e*Pdif		Pdif		16 15 23.8	-1.8
	comp=Z,15nm,0.8s								
H24A	**Dirks Ranch, A**	**101.58**	**46**	⇑Pdiff		Pdif		16 15 27.3	+1.0
	baz=102								
RSSD	**Black Hills**	**101.72**	**47**	*e*Pdif		Pdif		16 15 26.5	-0.4
RSSD	**Black Hills**	**101.72**	**47**	*e*P		Pdif		16 15 26.5	-0.5
TRQA	**Tornquist**	**101.75**	**140**	*e*Pdif		Pdif		16 15 26.7	-0.5
YKA	**Yellowknife Ar**	**102.71**	**27**	P		Pdif		16 15 30.8	-0.6
	comp=Z,3.5nm,0.8s,baz=270,slow=2.5,SNR=3.5								
YKA	**Yellowknife Ar**	**102.71**	**27**	P		Pdif		16 15 30.8	-0.6
YKA	**Yellowknife Ar**	**102.71**	**27**	P		Pdif		16 15 30.8	-0.6
MK31	**Makanchi Array**	**105.35**	**315**	*e*PKPdf		PKiKP		16 19 55.6	-1.2
MKAR	**Makanchi Array**	**105.35**	**315**	Pdiff		Pdif		16 15 43.7	+0.6
	comp=Z,1.7nm,0.5s,baz=121,slow=5.0,SNR=4.6								
MKAR				PKiKP		PKiKP		16 19 55.8	-1.0
	comp=Z,6.2nm,0.9s,baz=138,slow=1.7,SNR=7.3								
MKAR				PKKPbc		PKKPbc		16 31 17.3	-6.3
	comp=Z,8.3nm,0.8s,baz=289,slow=3.5,SNR=18								
MKAR	**Makanchi Array**	**105.35**	**315**	Pdif		Pdif		16 15 43.7	+0.6
MKAR				PKiKP		PKiKP		16 19 55.8	-1.0
MKAR				PKKPbc		PKKPbc		16 31 17.3	-6.3
MKAR	**Makanchi Array**	**105.35**	**315**	P		Pdif		16 15 43.7	+0.6
ZALV	**Zalesovo Beam**	**105.83**	**322**	PKKPbc		PKKPbc		16 31 19.4	-3.0
	comp=Z,1.4nm,0.5s,baz=287,slow=4.8,SNR=4.4								
ZALV	**Zalesovo Beam**	**105.83**	**322**	PKKPbc		PKKPbc		16 31 19.4	-3.0
FFC	**Flin Flon**	**106.27**	**37**	*e*PKPdf		PKiKP		16 19 57.4	-0.8
KURK	**Kurchatov**	**108.69**	**318**	PKiKP		PKiKP		16 20 01.8	-1.1
	comp=Z,10nm,0.7s,baz=115,slow=1.7,SNR=18								
KURK				PKKPbc		PKKPbc		16 31 11.5	-1.8
	comp=Z,9.5nm,0.9s,baz=279,slow=3.8,SNR=13								
KURK				PKPPKP				16 39 36.9	
	comp=Z,0.6nm,0.7s,baz=294,slow=2.8,SNR=4.9								
KURK	**Kurchatov**	**108.69**	**318**	PKiKP		PKiKP		16 20 01.8	-1.1
KURK				PKKPbc		PKKPbc		16 31 11.5	-1.8
KURK				P'P'				16 39 36.9	
TKM2	**Tokmak 2**	**108.95**	**309**	*e*PKPdf		PKiKP		16 20 02.6	-1.0
LPAZ	**La Paz**	**110.28**	**118**	Pdiff		Pdif		16 16 07.0	+2.0
	comp=Z,2.2nm,0.8s,baz=189,slow=4.4,SNR=9.8								
LPAZ				PKiKP		PKiKP		16 20 06.9	0.0
	comp=Z,4.5nm,1.0s,baz=348,slow=1.9,SNR=6.1								
LPAZ	**La Paz**	**110.28**	**118**	*e*Pdif		Pdif		16 16 06.9	+1.8
LPAZ				Pdif		Pdif		16 16 07.0	+2.0
LPAZ				PKiKP		PKiKP		16 20 06.9	0.0
LPAZ	**La Paz**	**110.28**	**118**	*e*P		Pdif		16 16 06.9	+1.8
LPAZ				*i*				16 20 06.9	
KBL	**Kabul**	**112.08**	**299**	*e*PKPdf		PKiKP		16 20 09.2	-0.6
KBL	**Kabul**	**112.08**	**299**	*e*PKIKP		PKiKP		16 20 09.2	-0.6
CPUP	**Villa Florida**	**112.42**	**133**	PKiKP		PKiKP		16 20 09.6	-1.2
	comp=Z,6.5nm,0.9s,baz=76,slow=0.4,SNR=8.4								
CPUP	**Villa Florida**	**112.42**	**133**	*e*PKPdf		PKiKP		16 20 08.8	-1.9
CPUP				PKiKP		PKiKP		16 20 09.6	-1.2
CPUP	**Villa Florida**	**112.42**	**133**	*e*PKIKP		PKiKP		16 20 08.8	-2.0
RES	**Resolute Bay**	**112.56**	**17**	PKiKP		PKiKP		16 20 08.2	-1.3
	comp=Z,8.5nm,0.7s,baz=260,slow=5.7,SNR=9.7								
RES	**Resolute Bay**	**112.56**	**17**	*e*PKPdf		PKiKP		16 20 05.4	-4.1
RES				PKiKP		PKiKP		16 20 08.2	-1.3
RES	**Resolute Bay**	**112.56**	**17**	*e*PKIKP		PKiKP		16 20 05.4	-4.1
KKAR	**Karatay Array**	**112.64**	**309**	*e*PKPdf		PKiKP		16 20 08.4	-2.2
KKAR	**Karatay Array**	**112.64**	**309**	*e*PKIKP		PKiKP		16 20 08.4	-2.2
BVAR	**Borovoye Array**	**114.10**	**319**	PKP		PKiKP		16 20 11.7	-1.4
	comp=Z,8.8nm,0.6s,baz=102,slow=1.0,SNR=19								
BVAR				PKKPbc		PKKPbc		16 30 50.4	-5.1
	comp=Z,1.4nm,0.6s,baz=215,slow=1.8,SNR=5.5								
BVAR	**Borovoye Array**	**114.10**	**319**	PKP		PKiKP		16 20 11.7	-1.4
BVAR				PKKPbc		PKKPbc		16 30 50.4	-5.1
BVAR	**Borovoye Array**	**114.10**	**319**	PKIKP		PKiKP		16 20 11.7	-1.3
BVAR								16 30 50.4	
BRVK	**Borovoye**	**114.17**	**319**	*e*PKPdf		PKiKP		16 20 10.5	-2.7
BRVK	**Borovoye**	**114.17**	**319***c*	*i*PKIKP		PKiKP		16 20 13.9	+0.8
BRVK				pmax		pmax			
	comp=Z,30nm,1.2s								
JMDO	**Jabal Madar**	**118.69**	**284**	P		PKPdf		16 20 21.6	-1.2
	SNR=6.7								
SMDO	**Samad**	**118.91**	**285**	P		PKPdf		16 20 23.0	-0.2
	SNR=8.0								
SDV	**Santo Domingo**	**119.31**	**92**	*e*PKPdf		PKPdf		16 20 20.9	-3.4
BOSA	**Boshof**	**119.50**	**214**	PKP		PKPdf		16 20 23.3	-1.0
	comp=Z,7.8nm,0.5s,baz=98,slow=2.0,SNR=22								
BOSA	**Boshof**	**119.50**	**214**	*e*PKPdf		PKPdf		16 20 22.7	-1.6
BOSA				PKP		PKPdf		16 20 23.3	-1.0
BOSA	**Boshof**	**119.50**	**214**	*e*PKIKP		PKPdf		16 20 22.7	-1.6
IMYA	**Miami**	**119.58**	**300**	*e*P		PKPdf		16 20 22.1	-2.0
BSY	**Bisya**	**119.59**	**284**	P		PKPdf		16 20 23.1	-1.5
	SNR=10								
SVE	**Sverdlovsk**	**119.78**	**324**	*e*PKIKP		PKPdf		16 20 22.8	-1.0
SVE				pmax		pmax			
	comp=Z,35nm,1.1s								
SSPA	**Standing Stone**	**119.86**	**55**	PKPdf		PKPdf		16 20 25.4	+0.8
ABKAR	**Akbulak array**	**120.49**	**315**	*e*PKPdf		PKPdf		16 20 23.8	-1.7
IAKL	**Akhelmad**	**120.68**	**300**	*e*P		PKPdf		16 20 26.0	-0.2
IEMG	**Emamgholi**	**120.85**	**301**	*e*P		PKPdf		16 20 24.9	-1.6
IKRD	**Kardeh**	**120.90**	**300**	*e*P		PKPdf		16 20 23.9	-2.7
ARU	**Arti**	**120.96**	**323**	*e*PKPdf		PKPdf		16 20 23.8	-2.3
ARU	**Arti**	**120.96**	**323**	*i* PKIKP		PKPdf		16 20 23.6	-2.5
ARU								16 27 14.1	
ARU				PS		PS		16 31 36.7	-11
ASHO	**Ashiyiah**	**121.05**	**286**	P		PKPdf		16 20 26.2	-1.1
	SNR=7.7								
VAN	**Vannovskaya**	**121.33**	**302**	PKIKP		PKPdf		16 20 26.2	-1.2
BINY	**Binghamton**	**121.39**	**53**	*e*PKPdf		PKPdf		16 20 27.3	-0.1
NAZ	**Nazwa, Dubai**	**121.46**	**286**	P		PKPdf		16 20 27.0	-1.1
	SNR=9.4								
SOKR	**Solikamsk**	**121.49**	**327**	⇑*i*PKIKP		PKPdf		16 20 27.2	+0.2
SOKR				pmax		pmax			
	comp=Z,50nm,0.9s								
ASUD	**Al Ashush, Dub**	**121.68**	**286**	P		PKPdf		16 20 28.4	-0.1
	SNR=12								
AKTO	**Aktyubinsk**	**121.71**	**316**	PKP		PKPdf		16 20 25.9	-1.8
AKTO	comp=Z,58nm,1.0s,baz=122,slow=2.4,SNR=55			PKKPbc		PKKPbc		16 30 26.3	-1.6
	comp=Z,8.3nm,0.9s,baz=230,slow=3.5,SNR=7.3								
AKTO	**Aktyubinsk**	**121.71**	**316**	PKP		PKPdf		16 20 25.9	-1.8
AKTO				PKKPbc		PKKPbc		16 30 26.3	-1.6
AKTO	**Aktyubinsk**	**121.71**	**316**	PKIKP		PKPdf		16 20 25.9	-1.9
ABTO	**Aybut**	**121.76**	**277**	P		PKPdf		16 20 28.9	0.0
	SNR=6.2								
LBTB	**Lobatse**	**122.17**	**217**	PKP		PKPdf		16 20 29.0	-0.5
	comp=Z,10.0nm,0.7s,baz=137,slow=3.5,SNR=8.7								
LBTB	**Lobatse**	**122.17**	**217**	*e*PKPdf		PKPdf		16 20 28.6	-0.9
LBTB				PKP		PKPdf		16 20 29.0	-0.5
LBTB	**Lobatse**	**122.17**	**217**	*e*PKIKP		PKPdf		16 20 28.6	-0.9
IBAF	**Bafgh**	**122.69**	**294**	*e*P		PKPdf		16 20 27.7	-2.5
SPITS	**Spitsbergen Ar**	**123.03**	**354**	PKP		PKPdf		16 20 28.1	-1.5
	comp=Z,24nm,0.7s,baz=353,slow=12,SNR=20								
SPITS	**Spitsbergen Ar**	**123.03**	**354**	PKP

IZAR AMB AMB 16 21 03.3
comp=Z,14nm,1.3s
MNK Minsk 137.91 329 *e*PKIKP PKPdf 16 20 55.0 -3.3
MNK MLR MLR
comp=E,19µm,20.0s,MS7.0
MNK MLR MLR
comp=Z,43µm,20.0s,MS7.2
MNK MLR MLR
comp=N,22µm,20.0s,MS7.0
ISAL Salakas 138.07 331 *e*P PKPdf 16 21 00.0 +1.4
ISAL AMB AMB 16 21 03.6
comp=Z,18nm,1.0s
IIGN Ignalina 138.16 331 *e*P PKPdf 16 21 00.2 +1.5
IIGN AMB AMB 16 21 03.9
comp=Z,26nm,1.2s
ASF Jabal al Asfar 138.56 294 PKP PKPdf 16 20 59.6 -0.7
comp=Z,17nm,0.8s,baz=18,slow=3.3,SNR=18
ASF Jabal al Asfar 138.56 294 PKP PKPdf 16 20 59.6 -0.7
ASF Jabal al Asfar 138.56 294 PKIKP PKPdf 16 20 59.6 -0.6
NOA NORSAR Array B 139.06 345 PKhKP PKPpre 16 20 49.5
comp=Z,1.7nm,0.7s,baz=23,slow=3.9,SNR=4.2
NOA PKP PKPdf 16 21 00.1 -0.1
comp=Z,2.1nm,0.7s,baz=343,slow=1.9,SNR=5.3
NOA SKPbc SKPbc 16 24 30.8 -0.8
comp=Z,2.9nm,0.8s,baz=17,slow=4.4,SNR=4.2
NOA NORSAR Array B 139.06 345 PKPpre PKPpre 16 20 49.5
NOA PKP PKPdf 16 21 00.1 -0.1
NOA SKPbc SKPbc 16 24 30.8 -0.8
NOA NORSAR Array B 139.06 345 PKHKP PKPpre 16 20 49.6
NOA 16 21 00.1
AKASG Malin Array Be 139.21 323 PKhKP PKPpre 16 20 49.0
comp=Z,1.4nm,0.4s,baz=45,slow=3.9,SNR=5.4
AKASG Malin Array Be 139.21 323 PKPpre PKPpre 16 20 49.0
AKASG Malin Array Be 139.21 323 PKHKP PKPpre 16 20 49.0
HFS Hagfors 139.22 343 PKhKP PKPpre 16 20 49.4
comp=Z,4.8nm,0.8s,baz=57,slow=5.5,SNR=8.0
HFS Hagfors 139.22 343 PKPpre PKPpre 16 20 49.4
HFS Hagfors 139.22 343 PKHKP PKPpre 16 20 49.4
KIEV Kiev 139.22 323 *e*PKPpre PKPpre 16 20 54.4
KIEV *e*PKPdf PKPdf 16 21 02.4 +1.6
KIEV Kiev 139.22 323 *e*PKIKP PKPpre 16 20 54.4
KIEV *e* 16 21 02.4
MMAI Mount Meron Ar 139.78 295 PKhKP PKPpre 16 20 52.9
comp=Z,3.3nm,0.6s,baz=90,slow=4.3,SNR=7.4
MMAI Mount Meron Ar 139.78 295 PKPpre PKPpre 16 20 52.9
BR131 Keskin Array S 140.25 306 *e*PKPpre PKPpre 16 20 54.1
BRTR Keskin Array B 140.25 306 PKhKP PKPpre 16 20 54.4
comp=Z,2.0nm,0.6s,baz=118,slow=3.6,SNR=7.5
BRTR PKP PKPdf 16 21 04.5 +1.5
comp=Z,19nm,0.9s,baz=126,slow=5.6,SNR=16
BRTR Keskin Array B 140.25 306 PKPpre PKPpre 16 20 54.4
BRTR PKP PKPdf 16 21 04.5 +1.5
BRTR Keskin Array B 140.25 306 PKHKP PKPpre 16 20 54.4
BRTR 16 21 04.6
EIL Elat 140.26 290 PKhKP PKPpre 16 20 55.3
comp=Z,7.7nm,0.7s,baz=352,slow=5.9,SNR=5.7
EIL PKP PKPdf 16 21 04.6 +1.2
comp=Z,48nm,1.0s,baz=344,slow=3.6,SNR=17
EIL Elat 140.26 290 PKPpre PKPpre 16 20 55.3
EIL PKP PKPdf 16 21 04.6 +1.2
SUW Suwalki 140.38 331 *e*PKP PKPdf 16 21 01.1 -1.7
SUW Suwalki 140.38 331 *e*PKIKP PKPdf 16 21 01.1 -1.7
SOFL Sornfelli, Far 140.44 359 AMS AMS 17 11 29.5
comp=Z,17µm,25.0s,MS6.7
CSS Prodhromos 141.31 298 *e*PKPpre PKPpre 16 20 57.5
LRW Lerwick 142.02 354 AMS AMS 17 04 47.8
comp=Z,15µm,22.0s,MS6.7
CFR Carcaliu 142.37 316 ⇓PKIKP PKPdf 16 21 03.6 -3.1
CFR Carcaliu 142.37 316 ⇓*i*P PKPdf 16 21 03.6 -3.1
LVV L'vov 142.50 325 *e*PKIKP PKPdf 16 21 04.0 -2.8
LVV *e* 16 24 14.0
LVV MLR MLR
comp=Z,13µm,21.0s,MS6.7
TESR 142.72 319 ⇑*i*P PKPdf 16 21 02.7 -4.6
BEL Belsk 142.90 329 *e*PKP PKPdf 16 21 05.5 -1.9
BEL Belsk 142.90 329 *e*PKIKP PKPdf 16 21 05.5 -1.9
VRI Vrincioaia 142.97 318 ⇑PKIKP PKPdf 16 21 05.5 -2.2
VRI Vrincioaia 142.97 318 ⇑*i*P PKPdf 16 21 05.4 -2.3
PLOR Plostina 143.02 318 ⇑PKIKP PKPdf 16 21 04.7 -3.1
PLOR Plostina 143.02 318 ⇑*i*P PKPdf 16 21 04.7 -3.1
BUR08 Bucovina Ar. S 143.03 321 *e*PKPpre PKPpre 16 21 04.0
BURAR Bucovina Array 143.03 321 ⇑PKIKP PKPpre 16 21 04.5
BURAR Bucovina Array 143.03 321 ⇑P PKPpre 16 21 04.5
ISR Istrita 143.42 317 ⇑PKIKP PKPdf 16 21 07.6 -1.0
ISR Istrita 143.42 317 ⇑*i*P PKPdf 16 21 07.6 -1.0
GKP Gorka Klasztor 143.46 334 *e*PKP PKPdf 16 21 06.2 -2.1
GKP Gorka Klasztor 143.46 334 *e*PKIKP PKPdf 16 21 06.2 -2.2
MUD Monsted U'grnd 143.61 343 *i*PKIKP PKPdf 16 21 05.4 -3.1
MUD Monsted U'grnd 143.61 343 *i*P PKPdf 16 21 05.4 -3.1
comp=Z,22nm,0.8s
MLR Muntele Rosu 143.63 317 PKP PKPdf 16 21 06.8 -2.1
comp=Z,16nm,0.6s,baz=283,slow=4.7,SNR=26
MLR Muntele Rosu 143.63 317 PKP PKPdf 16 21 06.8 -2.1
MLR Muntele Rosu 143.63 317 PKIKP PKPdf 16 21 09.1 +0.2
MLR Muntele Rosu 143.63 317 ⇑*i*P PKPdf 16 21 07.1 -1.8
DOPR Dopca 143.75 319 ⇓*i*P PKPdf 16 21 06.3 -2.8
SULR 143.76 316 ⇓*i*P PKPdf 16 21 04.7 -4.5
BMR Baia Mare 143.99 322 PKIKP PKPdf 16 21 06.9 -2.6
BMR Baia Mare 143.99 322 ⇓*i*P PKPdf 16 21 07.1 -2.4
BUC1 Bucharest 144.09 316 PKIKP PKPdf 16 21 09.8 0.0
UZH Uzhgorod 144.12 324 *e*PKIKP PKPdf 16 21 07.2 -2.5
UZH *i* 16 21 14.6
STHS Stebnicka Huta 144.21 326 *e*PKIKP PKPdf 16 21 08.3 -1.5
STHS Stebnicka Huta 144.21 326 *e*PKP PKPdf 16 21 08.3 -1.5
STHS *e* 16 29 31.6
VOIR 144.21 318 ⇓⇓PKIKP PKPdf 16 21 07.3 -2.6
VOIR 144.21 318 ⇓⇓*i*P PKPdf 16 21 07.3 -2.6
MDB Medias 144.27 319 ⇑⇑PKIKP PKPdf 16 21 08.4 -1.6
MDB Medias 144.27 319 ⇑⇑*i*P PKPdf 16 21 08.4 -1.6
TRPA Tarpa 144.27 323 ⇓⇓*i*P PKPdf 16 21 07.2 -2.8
CRVS Cervenica-Dubn 144.41 325 *e*PKIKP PKPdf 16 21 09.4 -0.8
CRVS Cervenica-Dubn 144.41 325 *e*PKP PKPdf 16 21 09.4 -0.8
CRVS *e* 16 29 05.5
OJC Ojcow 144.43 328 *e*PKPdf PKPdf 16 21 08.6 -1.6
OJC *e*PP PP 16 24 28.0 +2.1
OJC *e*SKKS 16 36 55.1
OJC L 17 26 00.6
comp=Z,21nm,21.5s
OJC Ojcow 144.43 328 *e*PKIKP PKPdf 16 21 08.6 -1.6
OJC *e* 16 24 28.0
OJC *e* 16 36 55.1
OJC MLR MLR
comp=Z,21µm,21.5s,MS6.9
HUMR Humele 144.68 317 ⇑*i*P PKPdf 16 21 08.2 -2.6
NIE Niedzica 144.68 327 *e*PKP PKPdf 16 21 10.4 -0.2
NIE Niedzica 144.68 327 *e*PKIKP PKPdf 16 21 10.4 -0.2
MCD Coleburn Disti 144.73 355 *e*P PKPdf 16 21 07.1 -3.3
MCD Coleburn Disti 144.73 355 P PKPdf 16 21 07.1 -3.3
DRGR 144.92 321 ⇓⇓PKIKP PKPdf 16 21 09.9 -1.2
DRGR 144.92 321 ⇓⇓*i*P PKPdf 16 21 09.9 -1.2
KAC Achnashellach 144.96 357 *e*P PKPdf 16 21 07.5 -3.4
KAC Achnashellach 144.96 357 P PKPdf 16 21 07.5 -3.4
MDO Dochfour 144.96 356 *e*P PKPdf 16 21 08.3 -2.5
MDO Dochfour 144.96 356 P PKPdf 16 21 08.3 -2.5
LOT Lotru 144.99 319 ⇑⇑*i*P PKPdf 16 21 10.0 -1.3
PVL Pavlikeni 145.03 314 P PKPbc 16 21 12.1 +1.2
KPL Plockton 145.13 357 *e*P PKPbc 16 21 07.8 -2.9
KPL AMB AMB 16 21 12.7
comp=Z,156nm,1.1s
KPL AMS AMS 17 10 23.2
comp=Z,9µm,18.7s,MS6.5
KPL Plockton 145.13 357 P PKPbc 16 21 07.8 -2.9
KPL AMB AMB 16 21 12.7
comp=Z,156nm,1.1s
KPL AMS AMS 17 10 23.2
comp=Z,9µm,18.7s
KECS Kecovo 145.17 325 *e*PKIKP PKPdf 16 21 10.4 -1.1
KECS Kecovo 145.17 325 *e*PKP PKPdf 16 21 10.4 -1.1
KECS *e* 16 29 19.6
KSB Sheil Bridge 145.25 357 *e*P PKPbc 16 21 08.7 -2.4
KSB Sheil Bridge 145.25 357 P PKPbc 16 21 08.7 -2.4
ARG Arkhangelos 145.27 302 *e*P PKPbc 16 21 10.3 -1.6
RAC Raciborz 145.29 329 *e*PKIKP PKPdf 16 21 10.4 -1.3
RAC *e* 16 24 31.5
RAC MLR MLR
comp=Z,18µm,22.0s,MS6.8
RUE Ruedersdorf 145.43 336 *e*PKPdf PKPdf 16 21 11.2 -0.7
BSEG Bad Segeberg 145.45 340 *e*PKPbc PKPbc 16 21 12.0 +0.1
BSEG Bad Segeberg 145.45 340 *e*PKIKP PKPdf 16 21 12.0 +0.2
OKC Ostrava-Krasne 145.48 329 *e*PKP2 PKPdf 16 21 10.3 -1.7
OKC MLR MLR
comp=Z,18µm,22.1s,MS6.8
OKC Ostrava-Krasne 145.48 329 *e*PKP PKPdf 16 21 10.3 -1.7
OKC *ex* x 16 21 12.4
OKC AMS AMS 17 20 10.0
comp=Z,18µm,22.1s
GZR Gura Zlata 145.62 319 ⇑PKIKP PKPdf 16 21 11.3 -1.1
GZR Gura Zlata 145.62 319 ⇑*i*P PKPdf 16 21 11.3 -1.1
KSP Ksiaz 145.63 332 *e*PKP PKPdf 16 21 12.8 +0.6
RDO Rodhopi 145.72 311 *e*P PKPdf 16 21 11.7 -1.0
MORC Moravsky Berou 145.81 329 *e*PKPdf PKPdf 16 21 11.7 -0.9
MORC Moravsky Berou 145.81 329 *e*PKP2 PKPab 16 21 11.7 -1.9
MORC Moravsky Berou 145.81 329 ⇑*i*P PKPdf 16 21 11.8 -0.7
PSZ Piszkesteto 145.83 325 *e*PKPdf PKPdf 16 21 11.2 -1.4
PSZ Piszkesteto 145.83 325 *e*PKP2 PKPdf 16 21 11.3 -1.4
PSZ Piszkesteto 145.83 325 ⇑*e*PKP PKPdf 16 21 12.1 -0.6
PSZ Piszkesteto 145.83 325 ⇓*i*P PKPdf 16 21 12.4 -0.3
PRK Paraskevi 145.86 307 *e*P PKPdf 16 21 09.1 -3.9
SMG Samos 145.90 305 *e*P PKPdf 16 21 12.7 -0.4
DPC Dobruska-Polom 145.97 331 *e*PKP2 PKPdf 16 21 12.5 -0.3
DPC MLR MLR
comp=Z,17µm,23.2s,MS6.8
DPC Dobruska-Polom 145.97 331 *e*PKP PKPdf 16 21 12.5 -0.3
DPC *ex* x 16 21 15.6
DPC AMS AMS 17 17 40.0
comp=Z,17µm,23.2s
UPC Upice 145.99 331 *e*PKP2 PKPdf 16 21 12.4 -0.4
UPC Upice 145.99 331 *e*PKP PKPdf 16 21 12.4 -0.4
UPC *ex* x 16 21 15.5
MPEP Malo Peshtene 146.01 315 P PKPdf 16 21 12.6 -0.5
RZN Rozhen 146.08 312 P PKPdf 16 21 13.6 +0.3
EBH Black Hill 146.08 355 *e*P PKPdf 16 21 13.0 +0.2
EBH Black Hill 146.08 355 P PKPdf 16 21 13.0 +0.2
KARP Karpathos 146.19 301 *e*P PKPdf 16 21 11.2 -2.5
KOLL Kolacno 146.19 327 *e*PKP2 PKPdf 16 21 13.6 +0.4
KOLL Kolacno 146.19 327 *e*PKP PKPdf 16 21 13.6 +0.4
KOLL *e* 16 29 23.1
BZS Buzias 146.20 320 ⇑PKP2 PKPdf 16 21 13.5 +0.2
BZS Buzias 146.20 320 ⇑*i*P PKPdf 16 21 13.4 +0.1
EAB Aberfoyle 146.20 356 *e*P PKPdf 16 21 12.3 -0.7
EAB Aberfoyle 146.20 356 P PKPdf 16 21 12.3 -0.7
ESY Stoneypath 146.32 354 *e*P PKPdf 16 21 11.9 -1.3
ESY Stoneypath 146.32 354 P PKPdf 16 21 11.9 -1.3
LIA Limnos Island 146.43 309 *e*P PKPdf 16 21 13.3 -0.7
EAU Auchinoon 146.47 355 *e*P PKPdf 16 21 12.9 -0.6
EAU Auchinoon 146.47 355 P PKPdf 16 21 12.9 -0.6
EBL Broad Law 146.51 354 *e*P PKPdf 16 21 14.3 +0.7
EBL Broad Law 146.51 354 P PKPdf 16 21 14.3 +0.7
BUD Budapest 146.56 325 ⇓*e*PKP PKPbc 16 21 16.7 +1.2
VRAC Vranov 146.58 329 PKPbc PKPdf 16 21 13.4 -0.5
comp=Z,163nm,0.9s,baz=48,slow=3.2,SNR=54
VRAC Vranov 146.58 329 PKPbc PKPdf 16 21 13.4 -0.5
VRAC Vranov 146.58 329 PKP2 PKPdf 16 21 13.4 -0.5
VRAC Vranov 146.58 329 ⇑*i*P PKPdf 16 21 14.4 +0.5
PGBU Glenifferbraes 146.59 356 *e*P PKPdf 16 21 10.8 -2.9
PGBU AMS AMS 17 13 35.5
comp=Z,13µm,18.5s,MS6.8
PGBU Glenifferbraes 146.59 356 P PKPdf 16 21 10.8 -2.9
PGBU AMS AMS 17 13 35.5
comp=Z,13µm,18.5s
PVCC Panska Ves 146.60 333 *e*PKP2 PKPdf 16 21 14.5 +0.6
PVCC MLR MLR
comp=Z,26µm,25.2s,MS6.9
PVCC Panska Ves 146.60 333 *e*PKP PKPdf 16 21 14.5 +0.6
PVCC *ex* x 16 21 16.0
PVCC AMS AMS 17 21 00.0
comp=Z,26µm,25.2s
BRG Berggiesshubel 146.61 334 *i*PKP PKPdf 16 21 14.5 +0.6
comp=Z,219nm,1.0s
BRG *i* 16 21 29.0
comp=Z,95nm,1.1s
BRG *i* 16 21 37.9
comp=Z,238nm,1.1s
BRG
comp=N,18µm,27.4s
BRG
comp=E,9µm,27.1s
BRG
comp=Z,25µm,28.7s
BRG Berggiesshubel 146.61 334 *e*PKPbc PKPbc 16 21 15.6 +0.1
BRG Berggiesshubel 146.61 334 *i*PKP2 PKPdf 16 21 14.5 +0.6
BRG pmax pmax
comp=Z,219nm,1.0s
CLL Collm 146.65 335 *e*PKPbc PKPbc 16 21 15.5 -0.1
CLL Collm 146.65 335 *i*PKP2 PKPbc 16 21 15.3 -0.3
CLL pmax pmax
comp=Z,172nm,1.0s
CLL MLR MLR
comp=Z,16µm,20.7s,MS6.8
CLL Collm 146.65 335 *i*PKPbc PKPbc 16 21 15.3 -0.3
comp=Z,172nm,1.0s
CLL *i* 16 21 21.3
CLL *i* pPKPdf pPKPdf 16 21 29.4 +1.3
CLL *i* (sPKPdf) 16 21 39.2
CLL *e*SKKSac SKKSac 16 31 32.0 +4.8
CLL *e*PSKS 16 35 01.0
CLL LmV 17 29 00.0
comp=Z,16µm,20.7s
VTS Vitosha 146.70 315 P PKPdf 16 21 13.8 -0.5
VTS Vitosha 146.70 315 ⇑PKP2 PKPbc 16 21 15.7 -0.3
VTS Vitosha 146.70 315 ⇑*i*P PKPbc 16 21 15.7 -0.3
VTS Vitosha 146.70 315 P PKPdf 16 21 14.1 -0.2
SMOL Smolenice 146.72 328 *e*PKP2 PKPbc 16 21 15.5 -0.4
SMOL Smolenice 146.72 328 *e*PKP PKPbc 16 21 15.5 -0.4
NRDL Niedersach Rie 146.74 339 *e*PKPbc PKPbc 16 21 15.6 -0.2
MMB Musomiste 146.79 313 P PKPab 16 21 17.0 -0.6
NVR Nevrokopi 146.80 312 *e*P PKPdf 16 21 14.7 +0.2
FBE Freiberg 146.81 334 *e*PKPbc PKPbc 16 21 16.5 +0.5
ESK Eskdalemuir 146.97 354 *e*P PKPdf 16 21 13.4 -0.9
ESK AMS AMS 17 14 32.0
comp=Z,10µm,41.4s,MS6.3
ESK Eskdalemuir 146.97 354 P PKPdf 16 21 13.4 -0.9
ESK AMS AMS 17 14 32.0
comp=Z,10µm,41.4s
ESK Eskdalemuir 146.97 354 *e*PKPdf PKPdf 16 21 13.9 -0.4
ESK Eskdalemuir 146.97 354 *e*PKP2 PKPdf 16 21 14.0 -0.3
PRU Pruhonice 147.02 332 *e*PKP2 PKPdf 16 21 14.4 -0.2
PRU MLR MLR
comp=Z,22µm,24.0s,MS6.8
PRU Pruhonice 147.02 332 *e*PKP PKPdf 16 21 14.4 -0.2
PRU *ex* x 16 21 15.8
PRU AMS AMS 17 21 50.0
comp=Z,22µm,24.0s
APE Apeiranthos 147.08 304 *e*P PKPpre 16 21 05.5
APE Apeiranthos 147.08 304 ⇓⇓PKIKP PKPdf 16 21 13.1 -2.0
APE Apeiranthos 147.08 304 ⇓⇓*i*P PKPdf 16 21 13.1 -2.0
SRS Serrai 147.08 312 P PKPdf 16 21 15.4 +0.4
ECK Cauldkaine Hil 147.10 354 *e*P PKPdf 16 21 15.1 +0.6
ECK Cauldkaine Hil 147.10 354 P PKPdf 16 21 15.1 +0.6
TREC Trest 147.10 330 *e*PKP2 PKPdf 16 21 14.8 0.0
TREC MLR MLR
comp=Z,19µm,24.3s,MS6.8
TREC Trest 147.10 330 *e*PKP PKPdf 16 21 14.8 0.0
TREC *ex* x 16 21 16.7
TREC AMS AMS 17 21 40.0
comp=Z,19µm,24.3s
KKB Krupnik 147.11 313 P PKPdf 16 21 17.5 +2.5
NEUB Neuenburg 147.20 336 *e*PKPbc PKPbc 16 21 17.4 +0.3
XAL Allendale 147.32 353 *e*P PKPdf 16 21 15.4 +0.5
XAL Allendale 147.32 353 P PKPdf 16 21 15.4 +0.5
NPS Neapolis 147.48 301 *e*P PKPdf 16 21 17.3 +1.5
PLG Polygyros 147.48 311 *e*P PKPdf 16 21 09.9 -5.8
GCD Castle Douglas 147.49 355 *e*P PKPdf 16 21 15.1 -0.1
GCD Castle Douglas 147.49 355 P PKPdf 16 21 15.1 -0.1
KNT Kendrikon 147.54 312 P PKPdf 16 21 16.8 +1.0
GAL1 Galloway 147.54 356 *e*P PKPdf 16 21 15.6 +0.3
GAL1 AMB AMB 16 21 19.8
comp=Z,103nm,0.8s
GAL1 AMS AMS 17 10 45.1
comp=Z,11µm,24.1s,MS6.6
GAL1 Galloway 147.54 356 P PKPdf 16 21 15.6 +0.3
GAL1 AMB AMB 16 21 19.8
comp=Z,103nm,0.8s
GAL1 AMS AMS 17 10 45.1
comp=Z,11µm,24.1s
PKSM Moragy 147.55 323 ⇑PKP2 PKPdf 16 21 16.4 +0.8
PKSM Moragy 147.55 323 ⇑*i*P PKPdf 16 21 16.4 +0.8
TANN Tannenbergstha 147.56 334 *e*PKPbc PKPbc 16 21 16.5 +0.3
WERD Werda 147.60 335 *e*PKPbc PKPbc 16 21 18.5 +0.2
PLN Plauen 147.63 335 *e*PKPbc PKPbc 16 21 18.5 +0.2
IBBN Ibbenburen 147.64 341 *e*PKPbc PKPbc 16 21 18.2 -0.1
GUNZ Gunzen 147.65 334 *e*PKPbc PKPbc 16 21 18.9 +0.5
KESW Keswick, Cumbr 147.68 354 *e*P PKPdf 16 21 16.2 +0.6
KESW AMB AMB 16 21 22.3
comp=Z,168nm,3.4s
KESW Keswick, Cumbr 147.68 354 P PKPdf 16 21 16.2 +0.6
KESW AMB AMB 16 21 22.3
comp=Z,168nm,3.4s
WERN Wernitzgruen 147.69 334 *e*PKPbc PKPbc 16 21 19.1 +0.6
SOP Sopron 147.71 327 ⇓*e*PKP PKPbc 16 21 17.9 -0.7
NKC Novy Kostel 147.71 334 *e*PKPbc PKPbc 16 21 19.1 +0.5
NKC Novy Kostel 147.71 334 *e*PKP2 PKPbc 16 21 17.0 -1.6
NKC MLR MLR
comp=Z,23µm,26.4s,MS6.8
NKC Novy Kostel 147.71 334 *e*PKP PKPbc 16 21 17.0 -1.6
NKC *ex* x 16 21 19.0
NKC AMS AMS 17 19 20.0
comp=Z,23µm,26.4s
MOX Moxa 147.71 335 *e*PKPbc PKPbc 16 21 18.6 0.0
MOX Moxa 147.71 335 *e*PKP2 PKPbc 16 21 18.6 0.0
XDE Dent Fell 147.80 354 *e*P PKPdf 16 21 16.6 +0.9
XDE Dent Fell 147.80 354 P PKPdf 16 21 16.6 +0.9
GRG Griva 147.97 312 P PKPdf 16 21 16.2 -0.3
DIVS Divibare 147.99 319 P PKPdf 16 21 15.5 -0.9
PTL Penteli 148.03 306 *e*P PKPdf 16 21 17.9 +1.2
NEO Neokhori 148.06 309 *e*P PKPdf 16 21 14.3 -2.4
KHC Kasperske Hory 148.08 332 *e*PKPbc PKPdf 16 21 17.6 +1.3
KHC Kasperske Hory 148.08 332 *e*PKP2 PKPdf 16 21 17.9 +1.5
KHC MLR MLR
comp=Z,27µm,25.3s,MS6.9
KHC Kasperske Hory 148.08 332 *e*PKP PKPdf 16 21 17.9 +1.5
KHC *ex* x 16 21 20.0
KHC *e*pPKP pPKPdf 16 21 29.0 -1.6
KHC *ex* x 16 29 27.5
KHC AMS AMS 17 21 50.0
comp=Z,27µm,25.3s
VLY Voula,Athens 148.15 306 *e*P PKPdf 16 21 16.4 -0.4
SKO Skopje 148.15 315 *i*PKP PKPbc 16 21 20.2 +0.2
SKO Skopje 148.15 315 *e*PKP PKPbc 16 21 19.8 -0.2
ATH Athens Observa 148.17 306 *e*P PKPdf 16 21 15.7 -1.2
ROTZ Rotzenmuhle 148.17 334 *e*PKPbc PKPbc 16 21 20.3 +0.5
SIVA Sivas 148.18 301 *e*P PKPdf 16 21 17.8 +0.8
GEC2 GERESS Array S 148.23 331 *e*PKPbc PKPbc 16 21 20.3 +0.3
GEC2 GERESS Array S 148.23 331 *e*PKP2 PKPbc 16 21 20.3 +0.3
GERES GERESS Array B 148.23 331 PKPbc PKPbc 16 21 18.0 -2.0
comp=Z,152nm,0.9s,baz=45,slow=2.2,SNR=73
GERES GERESS Array B 148.23 331 PKPbc PKPbc 16 21 18.0 -2.0
GERES GERESS Array B 148.23 331 PKP2 PKPbc 16 21 18.0 -2.0
GMM Mts of Mourne 148.25 357 *e*P PKPdf 16 21 17.7 +1.2
GMM Mts of Mourne 148.25 357 P PKPdf 16 21 17.7 +1.2
WET Wettzell 148.37 332 *e*PKPbc PKPbc 16 21 20.6 +0.3
WET Wettzell 148.37 332 *e*PKP2 PKPbc 16 21 20.6 +0.3
LKR Lokris 148.46 308 *e*P PKPdf 16 21 19.6 +2.2
ARSA Arzberg 148.52 328 ⇑*i*PKPbc PKPdf 16 21 18.0 +0.9
comp=Z,70nm,1.2s,SNR=9.8
BUG Bochum--Univer 148.55 341 *e*PKPbc PKPbc 16 21 21.5 +0.8
KRUS Krusevo 148.56 314 *e*PKP PKPdf 16 21 11.9 -5.5
KRUS Krusevo 148.56 314 *e*PKP PKPbc 16 21 17.1 -0.4
VAM Vamos 148.56 302 *e*P PKPbc 16 21 20.2 -1.1
GRFO Grafenberg 148.62 335 *e*PKPbc PKPdf 16 21 18.6 +1.4
GRFO Grafenberg 148.62 335 *e*PKP2 PKPdf 16 21 18.6 +1.3
KZN Kozani 148.68 312 *e*P PKPdf 16 21 15.9 -1.7
IVA Berane 148.70 317 ⇓*i*PKP PKPbc 16 21 20.4 -1.0
MOA Molln 148.70 329 ⇑*i*PKPdf PKPdf 16 21 15.9 -1.5
comp=Z,64nm,0.6s,SNR=16
FNA Florina 148.74 313 P PKPdf 16 21 15.0 -2.7
PLE Pljevlja 148.77 318 ⇓⇓*i*PKP PKPbc 16 21 21.3 -0.3
PVY Plav 148.79 317 ⇓⇓*i*PKP PKPbc 16 21 20.2 -1.5
GVD Gavdhos 148.80 300 *e*PKPdf PKPdf 16 21 16.0 -2.1
GVD *e*PKPbc PKPbc 16 21 20.9 -1.0
KBI1 Birley Grange 148.81 352 *e*P PKPdf 16 21 19.0 +1.5
KBI1 Birley Grange 148.81 352 P PKPdf 16 21 19.0 +1.5
THL Klokotos Trika 148.82 310 *e*P PKPdf 16 21 15.2 -2.7
STNC Stoke 149.06 352 *e*P PKPbc 16 21 21.1 -0.9
STNC AMS AMS 17 06 30.7
comp=Z,12µm,24.1s,MS6.6
STNC Stoke 149.06 352 P PKPbc 16 21 21.1 -0.9
STNC AMS AMS 17 06 30.7
comp=Z,12µm,24.1s
KWE Weaver Farm 149.08 352 *e*P PKPbc 16 21 20.0 -2.0
KWE Weaver Farm 149.08 352 P PKPbc 16 21 20.0 -2.0
WLF1 Llynfaes 149.09 355 *e*P PKPbc 16 21 20.6 -1.4
WLF1 AMS AMS 17 08 27.8
comp=Z,10µm,21.6s,MS6.5
WLF1 Llynfaes 149.09 355 P PKPbc 16 21 20.6 -1.4
WLF1 AMS AMS 17 08 27.8
comp=Z,10µm,21.6s
NEST Nestorio 149.13 312 P PKPdf 16 21 18.4 0.0
UPM Unac-Piva 149.14 319 ⇓⇓*i*PKP PKPbc 16 21 22.0 -0.5
PERS Pernice 149.14 327 *i*PKPdf PKPdf 16 21 19.3 +1.1
SOKA Soboth 149.15 327 ⇑*i*PKPbc PKPdf 16 21 19.3 +1.1
comp=Z,141nm,0.9s
VLI Veliai 149.16 304 *e*P PKPdf 16 21 18.0 -0.6
DLF Lyons Farm 149.21 357 *e*P PKPdf 16 21 16.3 -1.8
EVR Evrytania 149.22 309 *e*P PKPbc 16 21 22.5 -0.3
KYTH Kithira 149.22 304 *e*P PKPbc 16 21 21.2 -1.7
DSB Dublin 149.26 357 *e*PKPbc PKPbc 16 21 21.2 -1.3
NKY Niksic 149.29 318 ⇓⇓*i*PKP PKPbc 16 21 21.0 -1.9
TTG Trebgorica 149.33 317 ⇓⇓*i*PKP PKPbc 16 21 21.7 -1.3
FOEL Foel Wylfa 149.37 353 *e*P PKPdf 16 21 20.6 +2.2
FOEL AMB AMB 16 21 24.7
comp=Z,121nm,1.0s
FOEL Foel Wylfa 149.37 353 P PKPdf 16 21 20.6 +2.2
FOEL AMB AMB 16 21 24.7
comp=Z,121nm,1.0s
RJOB Jochberg 149.46 331 *e*PKPbc PKPbc 16 21 23.0 -0.2
BRY Bratogost 149.53 318 ⇓⇓*i*PKP PKPbc 16 21 21.5 -2.0
ULC Ulcinj 149.58 316 ⇓⇓*i*PKP PKPbc 16 21 22.0 -1.7
BEBN Eben Emael 149.59 342 PKPbc PKPbc 16 21 23.8 +0.4
JAN Janina 149.59 311 *e*P PKPdf 16 21 18.8 -0.4
TOD Tromm 149.60 337 PKP PKPdf 16 21 17.8 -1.0
TOD Tromm 149.60 337 PKHKP PKPdf 16 21 17.8 -1.0
BUM Brajici-Budva 149.63 317 ⇓⇓*i*PKP PKPbc 16 21 22.0 -1.8
MEM Membach 149.66 341 PKP PKPdf 16 21 19.1 +0.3
KBA Koelnbreinsper 149.69 329 ⇓⇓*i*PKPbc PKPdf 16 21 20.3 +1.3
comp=Z,168nm,0.7s,SNR=14
ITM Ithomi 149.78 306 *e*P PKPdf 16 21 20.8 +1.3
RLS Riolos of Patr 149.80 308 *e*P PKPdf 16 21 20.7 +1.2
HCY Herceg Novi 149.80 318 ⇓⇓*i*PKP PKPbc 16 21 22.0 -2.2
ABH Alteburg 149.81 339 PKP PKPdf 16 21 18.5 -0.6
BOJS Bojanci 149.83 325 *i*PKPdf PKPbc 16 21 23.7 -0.5
LJU Ljubljana 149.84 327 *i*PKPdf PKPbc 16 21 22.9 -1.3
MYKA Terra Mystica 149.87 328 ⇓⇓*i*PKPbc PKPbc 16 21 20.1 +0.8
comp=Z,128nm,0.9s
UCC Uccle 149.96 343 PKPbc PKPbc 16 21 22.9 -1.4
IGT Igoumenitsa 150.01 311 P PKPbc 16 21 23.3 -1.5
IGT S 16 21 25.3
BCLA Clavier 150.03 342 PKPbc PKPbc 16 21 22.8 -1.7
RUP Ruppelstein 150.12 339 PKP PKPdf 16 21 18.9 -0.8
RUP Ruppelstein 150.12 339 PKIKP PKPdf 16 21 18.9 -0.8
STU Stuttgart 150.15 336 *e*PKPbc PKPbc 16 21 25.0 +0.2
STU Stuttgart 150.15 336 *e*PKPdf PKPdf 16 21 19.4 -0.3
STU Stuttgart 150.15 336 *e*PKIKP PKPdf 16 21 19.4 -0.3
VOY Vojsko 150.17 327 *e*PKPdf PKPdf 16 21 20.8 +1.0
VOY *e* 16 21 22.7
VOY *e* 16 22 21.0
JAVS Javornik 150.18 327 *i*PKPdf PKPbc 16 21 23.8 -1.2
MCH1 Michaelchurch 150.22 353 *e*P PKPbc 16 21 23.0 -1.9
MCH1 AMB AMB 16 21 26.9
comp=Z,147nm,2.8s
MCH1 AMS AMS 17 15 09.4
comp=Z,11µm,26.0s,MS6.5
MCH1 Michaelchurch 150.22 353 P PKPbc 16 21 23.0 -1.9
MCH1 AMB AMB 16 21 26.9
comp=Z,147nm,2.8s
MCH1 AMS AMS 17 15 09.4
comp=Z,11µm,26.0s
SNF Seneffe 150.24 343 PKPbc PKPbc 16 21 23.6 -1.4
KEK Kerkira 150.30 312 *e*P PKPdf 16 21 22.2 +1.9
WATA Walderalm 150.31 331 ⇑*i*PKPbc PKPdf 16 21 21.3 +1.3
comp=Z,220nm,1.2s,SNR=15
ABTA Abfaltersbach 150.32 330 ⇑*i*PKPdf PKPdf 16 21 18.7 -1.4
comp=Z,292nm,1.2s,SNR=42
WTTA Wattenberg 150.34 331 ⇑*i*PKPbc PKPdf 16 21 21.1 +1.1
comp=Z,290nm,0.9s,SNR=21
VLS Valsamata 150.39 309 *e*P PKPdf 16 21 19.1 -1.4
WLF Walferdange 150.45 340 PKPbc PKPbc 16 21 24.9 -0.6
WLF Walferdange 150.45 340 *e*PKPbc PKPbc 16 21 25.1 -0.4
WLF Walferdange 150.45 340 *e*PKIKP PKPbc 16 21 25.1 -0.4
TRI Trieste 150.46 327 *e*PKPdf PKPdf 16 21 19.0 -1.4
TRI *e*PKPbc PKPbc 16 21 23.9 -1.8
TRI Trieste 150.46 327 *e*PKIKP PKPdf 16 21 19.0 -1.3
TRI *e* 16 21 23.9
LANF Langenberg 150.49 338 PKP PKPdf 16 21 20.4 +0.2

MOTA	**Moosalm**	**150.51 332**	⇑*i*PKPdf		PKPdf	16 21 20.7	+0.3
	comp=Z,432nm,1.2s,SNR=60							
DOU	**Dourbes**	**150.53 342**		PKP	PKPdf	16 21 22.6	+2.3
SWN1	**Swindon**	**150.54 351**	*e*P		PKPbc	16 21 24.3	-1.4
SWN1	**Swindon**	**150.54 351**		P	PKPbc	16 21 24.3	-1.4
RETA	**Reutte**	**150.55 333**	⇑*i*PKPdf		PKPdf	16 21 21.2	+0.8
	comp=Z,112nm,1.3s,SNR=13							
HGH	**Gray Hill**	**150.56 352**	*e*P		PKPbc	16 21 23.6	-2.1
HGH	**Gray Hill**	**150.56 352**		P	PKPbc	16 21 23.6	-2.1
WOL	**Wolverton**	**150.65 350**	*e*P		PKPbc	16 21 23.7	-2.2
WOL				AMB	AMB	16 21 25.0		
	comp=Z,171nm,2.0s							
WOL				AMS	AMS	17 15 25.3		
	comp=Z,13µm,23.1s,MS6.7							
WOL	**Wolverton**	**150.65 350**		P	PKPbc	16 21 23.7	-2.2
WOL				AMB	AMB	16 21 25.0		
	comp=Z,171nm,2.0s							
WOL				AMS	AMS	17 15 25.3		
	comp=Z,13µm,23.1s							
BFO	**Black Forest**	**150.84 336**	*e*PKPbc		PKPbc	16 21 26.2	-0.3
BFO	**Black Forest**	**150.84 336**	*e*PKPbc		PKPbc	16 21 24.8	-1.7
BFO	**Black Forest**	**150.84 336**	*e*PKIKP		PKPbc	16 21 24.8	-1.7
SPAK	**Spaichingen-Ko**	**150.86 335**		PKP	PKPdf	16 21 21.3	+0.5
FETA	**Feichten**	**150.92 332**	⇑*i*PKPdf		PKPdf	16 21 21.6	+0.6
	comp=Z,315nm,1.1s,SNR=17							
DAVA	**Damuels**	**151.07 333**	⇑*i*PKPdf		PKPdf	16 21 21.6	+0.3
	comp=Z,79nm,0.8s,SNR=12							
FELD	**Feldberg im Sc**	**151.34 336**		PKP	PKPdf	16 21 18.0	-3.6
ECH	**Echery**	**151.36 337**		PKP	PKPdf	16 21 21.5	-0.1
ECH			*e*PKPbc		PKPbc	16 21 26.9	-0.8
ECH	**Echery**	**151.36 337**		PKIKP	PKPdf	16 21 21.5	-0.1
ECH			*e*			16 21 26.9		
ECH	**Echery**	**151.36 337**		PKP	PKPdf	16 21 21.5	-0.1
HTL	**Hartland**	**151.37 354**		AMS	AMS	17 16 57.4		
	comp=Z,11µm,26.7s,MS6.5							
DAVOX	**Davos/Dischmat**	**151.47 333**		PKP	PKPdf	16 21 21.4	-0.5
	comp=Z,14nm,0.5s,baz=126,slow=1.9,SNR=7.7							
DAVOX				PKPbc	PKPbc	16 21 26.8	-1.1	
	comp=Z,132nm,0.8s,baz=20,slow=1.3,SNR=23							
DAVOX	**Davos/Dischmat**	**151.47 333**		PKP	PKPdf	16 21 21.4	-0.5
DAVOX				PKPbc	PKPbc	16 21 26.8	-1.1	
DAVOX	**Davos/Dischmat**	**151.47 333**		PKIKP	PKPdf	16 21 21.4	-0.4
DAVOX						16 21 26.8		
PAGF	**Fort de Pagny**	**151.56 340**	*e*PKIKP		PKPdf	16 21 21.7	-0.2
MOF	**Molkenrain**	**151.68 337**		PKP	PKPdf	16 21 21.7	-0.4
MOF	**Molkenrain**	**151.68 337**		PKIKP	PKPdf	16 21 21.7	-0.4
MOF	**Molkenrain**	**151.68 337**		PKP	PKPdf	16 21 21.7	-0.4
THEF	**They Montfort**	**151.76 339**		PKP	PKPdf	16 21 22.8	+0.6
THEF	**They Montfort**	**151.76 339**		PKIKP	PKPdf	16 21 22.8	+0.6
THEF	**They Montfort**	**151.76 339**		PKP	PKPdf	16 21 22.8	+0.6
BBS	**Basel-Blauen**	**151.87 336**		PKP	PKPdf	16 21 21.5	-0.9
BBS	**Basel-Blauen**	**151.87 336**		PKIKP	PKPdf	16 21 21.5	-0.9
DYA	**Yadsworthy**	**151.87 353**	*e*P		PKPbc	16 21 25.5	-3.3
DYA				AMB	AMB	16 21 29.5		
	comp=Z,108nm,2.5s							
DYA				AMS	AMS	17 07 07.2		
	comp=Z,12µm,19.7s,MS6.7							
DYA	**Yadsworthy**	**151.87 353**		P	PKPbc	16 21 25.5	-3.3
DYA				AMB	AMB	16 21 29.5		
	comp=Z,108nm,2.5s							
DYA				AMS	AMS	17 07 07.2		
	comp=Z,12µm,19.7s							
TUE	**Stuetta**	**151.94 333**	*e*PKPdf		PKPdf	16 21 22.2	-0.4
TUE			*e*PKPbc		PKPbc	16 21 29.2	+0.1
SFTF	**Sexfontaines**	**152.08 340**	*e*PKIKP		PKPdf	16 21 22.7	0.0
LOMF	**Lomont**	**152.21 337**		PKP	PKPdf	16 21 23.0	+0.1
LOMF	**Lomont**	**152.21 337**		PKIKP	PKPdf	16 21 23.0	+0.1
LOMF	**Lomont**	**152.21 337**		PKP	PKPdf	16 21 23.0	+0.1
JSA	**Saint Aubin**	**152.87 350**	*e*P		PKPbc	16 21 28.1	-2.9
JSA				AMB	AMB	16 21 32.6		
	comp=Z,63nm,1.2s							
JSA				AMS	AMS	17 18 24.0		
	comp=Z,10µm,22.7s,MS6.6							
JSA	**Saint Aubin**	**152.87 350**		P	PKPbc	16 21 28.1	-2.9
JSA				AMB	AMB	16 21 32.6		
	comp=Z,63nm,1.2s							
JSA				AMS	AMS	17 18 24.0		
	comp=Z,10µm,22.7s							
AQU	**L'Aquila**	**152.90 322**	*e*PKPbc		PKPbc	16 21 28.9	-2.5
AQU	**L'Aquila**	**152.90 322**	*e*PKIKP		PKPbc	16 21 28.9	-2.5
FLN	**La Foliniere**	**152.98 348**	*e*PKIKP		PKPdf	16 21 23.9	-0.1
FLN			*e*R					
	comp=Z,14µm,23.0s							
LDF	**La Druitiere**	**153.07 347**	*e*PKIKP		PKPdf	16 21 23.9	-0.2
	comp=Z,9.6nm,0.9s							
CABF	**La Chapelle**	**153.11 337**	*e*PKIKP		PKPdf	16 21 24.0	-0.3
	comp=Z,94nm,1.0s							
LOR	**Lormes**	**153.28 341**	*e*PKIKP		PKPdf	16 21 24.4	-0.1
	comp=Z,28nm,1.1s							
LOR			*e*R					
	comp=Z,24µm,22.5s							
GRR	**Gorron**	**153.41 348**	*e*PKIKP		PKPdf	16 21 24.6	0.0
SSF	**Saint Saulge**	**153.57 341**	*e*PKIKP		PKPdf	16 21 24.7	-0.2
	comp=Z,32nm,1.1s							
LPL	**La Plagne**	**153.79 335**	*e*PKIKP		PKPdf	16 21 25.7	+0.4
LPG	**La Plagne**	**153.79 335**	*e*PKIKP		PKPdf	16 21 25.8	+0.5
	comp=Z,36nm,1.2s							
AVF	**Avril sur Loir**	**153.86 341**	*e*PKIKP		PKPdf	16 21 25.2	-0.1
BNI	**Bardonecchia**	**154.19 334**	*e*PKPdf		PKPdf	16 21 24.9	-1.0
BNI	**Bardonecchia**	**154.19 334**	*e*PKIKP		PKPdf	16 21 24.9	-1.0
BGF	**Bois d'Agland**	**154.22 341**	*e*PKIKP		PKPdf	16 21 26.1	+0.2
MBDF	**Montbardon**	**154.42 334**	*e*PKIKP		PKPdf	16 21 26.2	0.0
	comp=Z,43nm,1.1s							
PLDF	**La Plantade**	**154.51 340**		PKP	PKPdf	16 21 26.4	+0.1
PLDF	**La Plantade**	**154.51 340**		PKIKP	PKPdf	16 21 26.4	+0.1
PLDF	**La Plantade**	**154.51 340**		PKP	PKPdf	16 21 26.4	+0.1
ORIF	**Oris-en-Rattie**	**154.62 335**	*e*PKIKP		PKPdf	16 21 26.3	-0.2
	comp=Z,21nm,1.0s							
ORIF			*e*R					
	comp=Z,25µm,22.2s							
TCF	**Toulx Ste Croi**	**154.66 342**	*e*PKIKP		PKPdf	16 21 26.1	-0.4
	comp=Z,45nm,1.0s							
PYM	**Petit Puy Mans**	**154.90 340**		PKP	PKPdf	16 21 26.9	+0.1
PYM	**Petit Puy Mans**	**154.90 340**		PKIKP	PKPdf	16 21 26.9	+0.1
PYM	**Petit Puy Mans**	**154.90 340**		PKP	PKPdf	16 21 26.9	+0.1
MFF	**Saint Martin d**	**154.97 346**	*e*PKIKP		PKPdf	16 21 25.4	-1.5
VIVF	**Saint-Julien-l**	**155.12 337**	*e*PKIKP		PKPdf	16 21 26.9	-0.3
	comp=Z,32nm,1.1s							
LBL	**Lubilhac**	**155.29 339**		PKP	PKPdf	16 21 28.7	+1.3
LBL	**Lubilhac**	**155.29 339**		PKIKP	PKPdf	16 21 28.7	+1.3
LBL	**Lubilhac**	**155.29 339**		PKP	PKPdf	16 21 28.7	+1.3
FRF	**La Foret Royal**	**155.42 332**	*e*PKIKP		PKPdf	16 21 27.9	+0.3
SMRF	**Simiane la Rot**	**155.53 334**	*e*PKIKP		PKPdf	16 21 27.8	+0.1
LMR	**La Mourre**	**155.66 332**	*e*PKIKP		PKPdf	16 21 28.0	+0.1
RJF	**Les Rejaudoux**	**155.75 342**	*e*PKIKP		PKPdf	16 21 27.5	-0.5
RJF			*e*R					
	comp=Z,30µm,22.2s							
CAF	**Calviac**	**155.93 341**	*e*PKIKP		PKPdf	16 21 28.0	-0.2
	comp=Z,47nm,1.2s							
LFF	**La Frestale**	**156.30 343**	*e*PKIKP		PKPdf	16 21 28.3	-0.4
MTLF	**Montolieu**	**157.31 339**	*e*PKIKP		PKPdf	16 21 30.0	-0.1
EPF	**Esparros**	**158.17 342**	*e*PKIKP		PKPdf	16 21 30.8	-0.4
	comp=Z,20nm,1.0s							
SJPF	**Ste Jean**	**158.51 345**	*e*PKIKP		PKPdf	16 21 31.2	-0.4
	comp=Z,11nm,0.8s							
ETSF	**Etsaut**	**158.54 343**	*e*PKIKP		PKPdf	16 21 32.4	+0.8
	comp=Z,33nm,0.9s							
KEST	**Kesra**	**159.44 314**		PKP	PKPdf	16 21 30.5	-2.4
	comp=Z,5.8nm,1.1s,baz=103,slow=4.0,SNR=3.2							
KEST				PKPab	PKPab	16 22 10.6	-0.3	
	comp=Z,9.6nm,1.0s,baz=349,slow=5.0,SNR=5.6							
KEST	**Kesra**	**159.44 314**		PKP	PKPdf	16 21 30.5	-2.4
KEST				PKPab	PKPab	16 22 10.6	-0.3	
PGAV	**Gavieira, Arco**	**160.59 359**	*e*LQ			17 08 29.5		
PGAV			*e*LR		LR	17 17 28.6		
	comp=Z,9µm,18.0s							
PBRG	**Braganca**	**160.68 355**	*e*PKPab		PKPab	16 22 15.5	-0.4
PBRG	**Braganca**	**160.68 355**	*e*LR		LR	17 17 36.4		
	comp=Z,13µm,20.0s							
POLO	**Lamas de Olo**	**161.17 358**	*e*PKPdf		PKPdf	16 21 34.6	0.0
POLO	**Lamas de Olo**	**161.17 358**	*e*PKPab		PKPab	16 22 18.5	+0.4
POLO	**Lamas de Olo**	**161.17 358**	*e*LQ			17 08 17.0		
POLO			*e*LR		LR	17 17 31.2		
	comp=Z,5µm,20.0s							
PVRL	**Vila Real**	**161.27 358**	*e*PKPab		PKPab	16 22 17.7	-0.8
MVO	**Moncorvo**	**161.34 356**	*e*PKPdf		PKPdf	16 21 34.3	-0.5
MVO	**Moncorvo**	**161.34 356**	*e*PKPab		PKPab	16 22 17.2	-1.6
MVO	**Moncorvo**	**161.34 356**	*e*LQ			17 07 41.8		
MVO	**Moncorvo**	**161.34 356**	*e*LR		LR	17 18 12.0		
	comp=Z,14µm,20.0s							
PVIS	**Viseu**	**161.83 358**	*e*PKPab		PKPab	16 22 19.7	-1.3
MTE	**Manteigas**	**162.13 357**	*e*PKPdf		PKPdf	16 21 35.5	-0.2
MTE	**Manteigas**	**162.13 357**	*e*LR		LR	17 18 24.0		
	comp=Z,10µm,20.0s							

ESDC	**Sonseca Array**	**162.40 348**		PKP	PKPdf	16 21 33.1	-2.8	
	comp=Z,1.7nm,0.8s,baz=293,slow=3.3,SNR=3.4							
ESDC				PKPab	PKPab	16 22 22.6	-1.0	
	comp=Z,3.2nm,0.7s,baz=17,slow=3.6,SNR=5.5							
ESDC	**Sonseca Array**	**162.40 348**		PKP	PKPdf	16 21 33.1	-2.8	
ESDC				PKPab	PKPab	16 22 22.6	-1.0	
PCBR	**Castelo Branco**	**162.69 357**	*e*PKPab		PKPab	16 22 19.4	-5.3	
EMHD	**Djebel Mahouad**	**162.97 326**		P	PKPdf	16 21 38.5	+1.9	
PMRV	**Marv??o**	**163.09 356**	*e*PKPab		PKPab	16 22 27.4	+0.9	
PMRV	**Marv??o**	**163.09 356**	*e*LQ			17 08 44.7		
PMRV	**Marv??o**	**163.09 356**	*e*LR		LR	17 18 49.7		
	comp=Z,6µm,20.0s							
PMTG	**Montargil**	**163.49 358**	*e*LQ			17 10 34.9		
PMTG			*e*LR		LR	17 18 49.9		
	comp=Z,10µm,22.0s							
PMAFR	**Mafra**	**163.60 1**	*e*LQ			17 09 30.8		
PMAFR			*e*LR		LR	17 19 19.4		
	comp=Z,13µm,20.0s							
EBNR	**Beni Rached**	**163.61 329**		P	PKPdf	16 21 43.0	+5.8	
PESTR	**Estremoz**	**163.66 357**	*e*PKPab		PKPab	16 22 28.7	-0.3	
PESTR	**Estremoz**	**163.66 357**	*e*LQ			17 09 59.1		
PESTR			*e*LR		LR	17 18 41.1		
	comp=Z,11µm,20.0s							
DBIC	**Dimbokro**	**163.81 194**		PKP	PKPdf	16 21 36.1	-2.0	
	comp=Z,28nm,0.9s,baz=123,slow=2.2,SNR=15							
DBIC				PKPab	PKPab	16 22 29.8	-0.5	
	comp=Z,34nm,1.2s,baz=152,slow=6.0,SNR=7.9							
DBIC				PP	PP	16 26 15.7	+1.4	
	comp=Z,37nm,1.2s,baz=144,slow=6.0,SNR=9.7							
DBIC	**Dimbokro**	**163.81 194**		PKP	PKPdf	16 21 36.1	-2.0	
DBIC			*e*PKPdf		PKPdf	16 21 37.3	-0.8	
DBIC			*e*PKPab		PKPab	16 22 29.1	-1.1	
DBIC				PKPab	PKPab	16 22 29.8	-0.5	
DBIC				PP	PP	16 26 15.7	+1.4	
DBIC	**Dimbokro**	**163.81 194**		PKIKP	PKPdf	16 21 36.1	-2.0	
DBIC			*e*			16 22 29.2		
DBIC						16 26 15.7		
LIS	**Lisbon**	**163.84 1**	*e*P		PKPdf	16 21 36.7	-0.6	
EVO	**Evora**	**164.01 358**	*e*PKIKP		PKPdf	16 21 39.0	+1.5	
	comp=Z,35nm,1.0s							
EVO			*e*R					
	comp=Z,15µm,19.8s							
EANR	**'Ain N'Sour**	**164.09 329**		P	PKPdf	16 21 50.5	+13	
PBAR	**Barrancos**	**164.31 355**	*e*PKPab		PKPab	16 22 31.2	-0.7	
PBAR	**Barrancos**	**164.31 355**	*e*LR		LR	17 19 28.4		
	comp=Z,14µm,22.0s							
PNCL	**Nicolau / Gran**	**164.45 359**	*e*LQ			17 06 29.1		
PNCL	**Nicolau / Gran**	**164.45 359**	*e*LR		LR	17 19 28.9		
	comp=Z,14µm,20.0s							
PBEJ	**Beja**	**164.51 357**	*e*PKPdf		PKPdf	16 21 37.5	-0.5	
PCVE	**Castro Verde**	**164.91 358**	*e*PKPdf		PKPdf	16 21 38.7	+0.3	
PCVE	**Castro Verde**	**164.91 358**	*e*LR		LR	17 19 30.9		
	comp=Z,18µm,20.0s							
PVAQ	**Vaqueiros**	**165.13 357**	*e*PKPdf		PKPdf	16 21 38.8	+0.2	
PVAQ	**Vaqueiros**	**165.13 357**	*e*PKPab		PKPab	16 22 35.1	-0.4	
PVAQ	**Vaqueiros**	**165.13 357**	*e*LR		LR	17 19 46.0		
	comp=Z,19µm,20.0s							
MORF	**Marmelete**	**165.25 360**	*e*LR		LR	17 19 36.5		
	comp=Z,13µm,20.0s							
PBDV	**Barranco-do-Ve**	**165.30 357**	*e*PKPdf		PKPdf	16 21 36.2	-2.5	
PBDV	**Barranco-do-Ve**	**165.30 357**	*e*LR		LR	17 19 47.9		
	comp=Z,20nm,20.0s							
PFVI	**Vila Bisbo**	**165.43 0**	*e*LQ			17 15 07.8		
PFVI			*e*LR		LR	17 19 48.2		
	comp=Z,11µm,22.0s							
TORD	**Torodi Ar. Bea**	**166.37 229**		PKP	PKPdf	16 21 38.2	-2.0	
	comp=Z,41nm,1.0s,baz=15,slow=0.6,SNR=34							
TORD				PKPab	PKPab	16 22 40.9	-0.8	
	comp=Z,30nm,1.0s,baz=115,slow=4.0,SNR=9.8							
TORD	**Torodi Ar. Bea**	**166.37 229**		PKP	PKPdf	16 21 38.2	-2.0	
TORD				PKPab	PKPab	16 22 40.9	-0.8	
TAM	**Tamanrasset**	**166.79 274**	*e*PKPdf		PKPdf	16 21 39.7	-0.7	
TAM			*e*PKPab		PKPab	16 22 41.5	-2.1	
TAM	**Tamanrasset**	**166.79 274**	*e*PKIKP		PKPdf	16 21 39.7	-0.6	
TAM			*e*			16 22 41.5		

*NNC **22** 16:05:01.2±1.5,37.68N×69.43E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=16.4km s-min=11.7km az=101.0*

ISC 22 16:04:58.5±3.1,37.2N±0.2×69.3E±0.1,h20km±28km,n13, σ0s78/16,4C-5D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.96**	**9**	⇑Pn	**Pn**	**16 06 26.9**	**+1.2**
	1.4nm,0.3s,baz=199,slow=16,SNR=23						
KK31				⇑Pg	**Pb**	**16 06 41.1**	**-0.6**
	1.6nm,0.4s,baz=195,slow=18,SNR=4.4						
KK31				⇑Sn	**Sn**	**16 07 34.4**	**+1.1**
	4.0nm,0.3s,baz=186,slow=21,SNR=6.7						
KK31				⇑Lg		16 07 53.7	
	10nm,0.4s,baz=192,slow=28,SNR=5.8						
AML	**Almayashu**	**5.97**	**33**	P	**Pn**	**16 06 26.1**	**+0.4**
	SNR=26						
EKS2	**Erkin-Say**	**6.44**	**31**	P	**Pn**	**16 06 32.9**	**+0.6**
	SNR=9.0						
KZA	**Kyzart**	**6.69**	**42**	P	**Pn**	**16 06 35.8**	**+0.2**
	SNR=9.0						
AAK	**Ala-Archa**	**6.73**	**35**	P	**Pn**	**16 06 36.3**	**+0.2**
	SNR=39						
KBK	**Karagaybulak**	**6.96**	**37**	P	**Pn**	**16 06 39.4**	**+0.1**
	SNR=12						
CHMS	**Chumysh**	**7.13**	**34**	P	**Pn**	**16 06 41.2**	**-0.5**
	SNR=21						
USP	**Ospenovka**	**7.24**	**32**	P	**Pn**	**16 06 42.5**	**-0.7**
	SNR=13						
ULHL	**Ulahol**	**7.34**	**45**	P	**Pn**	**16 06 43.7**	**-0.9**
	SNR=8.7						
TKM2	**Tokmak 2**	**7.47**	**38**	P	**Pn**	**16 06 45.8**	**-0.5**
	SNR=7.8						
TKM2	**Tokmak 2**	**7.47**	**38**	⇓Pn	**Pn**	**16 06 45.3**	**-1.0**
TKM2	15nm,1.1s			⇓Lg		16 08 45.6	
	5.6nm,0.6s						
AB31	**Akbulak array**	**13.82**	**334**	⇓Pn	**Pn**	**16 08 13.6**	**+0.3**
	0.7nm,0.3s,baz=148,slow=11,SNR=34						
AB31				⇓Sn	**Sn**	**16 10 44.5**	**-1.6**
	1.0nm,0.6s,baz=171,slow=22,SNR=4.4						
AKTO	**Aktyubinsk**	**15.50**	**332**	⇓Pn	**Pn**	**16 08 36.8**	**+0.9**
	1.2nm,0.7s						

NNC 22 16:08:05.3±0.3,46.65N×82.44E,h0km,mpv1.1,17C-3D, Error ellipse: s-maj=7.4km s-min=1.6km az=50.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MK07	**Makanchi Array**	**0.14**	**320**	⇑P	Pg	16 08 08.2	+0.3
	0.5nm,0.2s						
MK07				⇑S	Sg	16 08 10.2	+0.5
	3.1nm,0.4s						
MK02	**Makanchi Array**	**0.15**	**322**	⇑P	Pg	16 08 08.3	+0.1
	0.4nm,0.2s						
MK02				⇑S	Sg	16 08 10.6	+0.4
	1.8nm,0.3s						
MK03	**Makanchi Array**	**0.15**	**320**	⇓P	Pg	16 08 08.4	+0.2
	0.4nm,0.1s						
MK03				⇓S	Sg	16 08 10.6	+0.4
	1.5nm,0.2s						
MK08	**Makanchi Array**	**0.15**	**315**	⇑P	Pg	16 08 08.3	+0.1
	0.3nm,0.1s						
MK08				⇑S	Sg	16 08 10.3	+0.1
	4.7nm,0.3s						
MK06	**Makanchi Array**	**0.16**	**325**	⇑P	Pg	16 08 08.5	+0.2
	0.6nm,0.2s						
MK06				⇑S	Sg	16 08 10.7	+0.5
	1.1nm,0.2s						
MK01	**Makanchi Array**	**0.16**	**321**	⇑P	Pg	16 08 08.4	+0.1
	0.9nm,0.3s						
MK01				⇑S	Sg	16 08 10.7	+0.3
	1.8nm,0.2s						
MK04	**Makanchi Array**	**0.16**	**320**	⇑P	Pg	16 08 08.4	0.0
	0.3nm,0.1s						
MK04				⇑S	Sg	16 08 10.7	+0.3
	2.0nm,0.5s						
MK09	**Makanchi Array**	**0.17**	**318**	⇑P	Pg	16 08 08.5	0.0
	0.5nm,0.2s						
MK09				⇑S	Sg	16 08 10.9	+0.2
	2.7nm,0.3s						
MK05	**Makanchi Array**	**0.18**	**324**	⇓P	Pg	16 08 08.9	+0.1
	0.4nm,0.2s						
MK05				⇑S	Sg	16 08 11.3	+0.2
	1.0nm,0.3s						
MK31	**Makanchi Array**	**0.18**	**324**	⇑P	Pg	16 08 08.8	+0.1
	0.6nm,0.3s,baz=69,slow=11,SNR=141						
MK31				⇑S	Sg	16 08 11.4	+0.4
	2.5nm,0.5s						

*IDC **22** 16:09:40.7±0.8,22.43S×171.43E,h0km,mb4.6/12, mb1 4.8/12,mb1mx4.6/21,mbtmp4.6/12, Error ellipse: s-maj=25.4km s-min=18.1km az=64.0*
*ISCJB **22** 16:09:46.1±2.4,22.48S±0.09×171.2E±0.1,h50km±19km, mb4.8/17, Error ellipse: s-maj=18.6km s-min=13.6km az=145.3*
*NEIC **22** 16:09:46.2±2.6,22.39S×171.33E,h37km±22km,mb5.3/6, Error ellipse: s-maj=15.2km s-min=9.2km az=72.0*

ISC 22 16:09:47.6±2.2,22.43S±0.09×171.2E±0.1,h44km±18km, n64,σ0s85/41,mb4.8/17,12C,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**4.03**	**273**	*e*P	**Pn**	**16 10 47.8**	**+0.9**
BAYA				*e*S	**Sn**	**16 11 32.2**	**-0.7**
NOUC	**Port Laguerre**	**4.57**	**273**	*e*P	**Pn**	**16 10 54.9**	**+0.6**
NOUC				*e*S	**Sn**	**16 11 45.9**	**-0.3**
HNR	**Honiara**	**16.86**	**318**	Pn	**Pn**	**16 13 39.0**	**-1.6**
EIDS	**Eidsvold**	**18.65**	**257**	*e*P	**Pn**	**16 14 02.8**	**+0.3**
RPZ	**Rata Peaks**	**21.23**	**180**	P	**P**	**16 14 30.0**	**+0.3**
	34nm,0.7s,mb4.8,baz=88,slow=0.9,SNR=4.3						
RPZ	**Rata Peaks**	**21.23**	**180**	P	**P**	**16 14 30.0**	**+0.3**
CTA	**Charters Tower**	**23.39**	**271**	P	**P**	**16 14 53.8**	**+1.1**
	6.7nm,0.6s,mb4.2,baz=323,slow=8.5,SNR=4.7						
CTA	**Charters Tower**	**23.39**	**271**	P	**P**	**16 14 53.8**	**+1.1**
CTAO	**Charters Tower**	**23.39**	**271**	*e*P	**P**	**16 14 53.8**	**+1.1**
PMG	**Port Moresby**	**26.47**	**295**	P	**P**	**16 15 21.0**	**+0.2**
	14nm,0.8s,mb4.5,baz=116,slow=20,SNR=6.6						
PMG	**Port Moresby**	**26.47**	**295**	P	**P**	**16 15 21.0**	**+0.2**
ASAR	**Alice Springs**	**34.31**	**261**	P	**P**	**16 16 30.2**	**+0.2**
	9.5nm,0.8s,mb4.8,baz=81,slow=9.7,SNR=12						
ASAR	**Alice Springs**	**34.31**	**261**	P	**P**	**16 16 30.2**	**+0.2**
WRAB	**Tennant Creek**	**34.42**	**267**	P	**P**	**16 16 30.5**	**-0.5**
WRA	**Warramunga Arr**	**34.43**	**267**	P	**P**	**16 16 30.4**	**-0.7**
	3.5nm,0.7s,mb4.4,baz=96,slow=8.5,SNR=6.6						
WRA	**Warramunga Arr**	**34.43**	**267**	P	**P**	**16 16 30.4**	**-0.7**
KAKA	**Kakadu**	**38.12**	**278**	*e*P	**P**	**16 17 02.7**	**0.0**
	12nm,0.6s,mb4.8						
NWAO	**Narrogin (SRO)**	**48.50**	**245**	*e*P	**P**	**16 18 24.7**	**-1.5**
	67nm,1.1s,mb5.6						
VNDA	**Vanda**	**55.33**	**182**	P	**P**	**16 19 16.3**	**-0.1**
	2.0nm,0.6s,mb4.4,baz=358,slow=7.1,SNR=5.1						
VNDA	**Vanda**	**55.33**	**182**	*e*P	**P**	**16 19 16.1**	**-0.3**
	14nm,1.3s,mb4.8						
SBA	**Scott Base**	**55.52**	**181**	*e*P	**P**	**16 19 17.7**	**-0.1**
	41nm,1.3s,mb5.3						
KKM	**Kota Kinabalu**	**60.80**	**291**	*e*P	**P**	**16 19 56.8**	**+1.2**
	39nm,1.0s,mb5.5						
MJAR	**Matsushiro Arr**	**66.43**	**331**	P	**P**	**16 20 32.9**	**+0.7**
	0.5nm,0.4s,mb3.9,baz=155,slow=5.5,SNR=5.4						
MJAR	**Matsushiro Arr**	**66.43**	**331**	P	**P**	**16 20 32.9**	**+0.7**
QSPA	**South Pole Qui**	**67.64**	**180**	P	**P**	**16 20 39.5**	**+0.1**
	24nm,0.7s,mb5.3,baz=32,slow=1.2,SNR=27						
QSPA	**South Pole Qui**	**67.64**	**180**	*e*P	**P**	**16 20 39.1**	**-0.3**
	46nm,1.2s,mb5.4						
YSS	**Yuzh-Sakhalins**	**73.69**	**340**	P	**P**	**16 21 16.3**	**-0.3**
	18nm,0.

KSI	**Kapahiang**	**1.58**	**57**	P		**Pn**	**16 12 16.3**	**-0.1**
KSI				S		**Sn**	**16 12 41.2**	**+5.2**
MNAI	**Manna**	**1.69**	**85**	P		**Pn**	**16 12 18.2**	**+0.3**
MNAI				S		**Sn**	**16 12 41.4**	**+2.7**
KRJI	**Kerinci**	**2.42**	**5**	P		**Pn**	**16 12 30.1**	**+2.1**
LWLI	**Liwa**	**2.82**	**100**	P		**Pn**	**16 12 34.0**	**+0.5**
MDSI	**Maura Dua**	**2.90**	**89**	P		**Pn**	**16 12 35.3**	**+0.8**
SDSI	**Sungai Dareh**	**3.57**	**3**	P		**Pn**	**16 12 44.8**	**+1.0**
KLI	**Kotabumi**	**3.59**	**96**	P		**Pn**	**16 12 45.1**	**+1.0**
PDSI	**Padang**	**3.68**	**347**	P		**Pn**	**16 12 45.2**	**0.0**
SISI	**Saibi**	**3.85**	**326**	P		**Pn**	**16 12 48.2**	**+0.6**
BLSI	**Bandar Lampung**	**4.05**	**102**	P		**Pn**	**16 12 51.8**	**+1.4**
PPI	**Padang Panjang**	**4.13**	**348**	P		**Pn**	**16 12 52.2**	**+0.7**
RGRI	**Rengat**	**4.28**	**14**	P		**Pn**	**16 12 50.4**	**-3.1**
RBSI	**Rajabasa**	**4.64**	**107**	P		**Pn**	**16 12 59.4**	**+0.9**
BKNI	**Bangkinang**	**4.82**	**357**	P		**Pn**	**16 13 00.2**	**-0.8**
CGJI	**Cibinong**	**4.87**	**115**	P		**Pn**	**16 13 00.1**	**-1.5**
SBJI	**Serang**	**5.09**	**108**	P		**Pn**	**16 13 07.3**	**+2.6**
	36nm2µm,1.3s							
PPBI	**Pangkal Pinang**	**5.40**	**64**	P		**Pn**	**16 13 10.4**	**+1.5**
	25nm660nm,1.2s							
MNSI	**Mandailing Nat**	**5.55**	**342**	P		**Pn**	**16 13 05.5**	**-5.5**
	5.4nm718nm,1.0s							
TNG	**Tangerang**	**5.60**	**107**	P		**Pn**	**16 13 12.6**	**+0.9**
	38nm6µm,1.2s							
SKJI	**Sukabumi**	**5.81**	**115**	P		**Pn**	**16 13 14.8**	**+0.2**
	19nm3µm,1.0s							
DBJI	**Dramaga**	**5.82**	**111**	P		**Pn**	**16 13 15.8**	**+1.1**
	28nm4µm,1.6s							
CBJI	**Citeko**	**5.87**	**109**	P		**Pn**	**16 13 19.2**	**+3.9**
TPI	**Tanjungpandan**	**6.61**	**75**	P		**Pn**	**16 13 26.6**	**+1.0**
	8.7nm155nm,0.9s							
LEM	**Lembang**	**6.72**	**110**	P		**Pn**	**16 13 28.9**	**+1.8**
	17nm4µm,1.5s							
MYKOM	**Kota Tinggi**	**6.78**	**22**	P		**Pn**	**16 13 30.0**	**+2.1**
	15nm986nm,0.9s							
CISI	**Cisompet, Garu**	**7.17**	**115**	P		**Pn**	**16 13 31.8**	**-1.5**
	6.4nm2µm,1.2s							
JCJI	**Jatiwangi**	**7.24**	**106**	P		Px	16 13 44.6	
CLJI	**Cilicap**	**8.33**	**113**	P		**Pn**	**16 13 49.4**	**+0.2**
	2µm,1.2s							
BJII	**Banjamegara**	**8.85**	**109**	P		**Pn**	**16 13 57.4**	**+1.1**
	708nm,1.3s							
IPM	**Ipoh**	**8.95**	**358**	P		**Pn**	**16 14 01.9**	**+4.2**
	2.5nm449nm,1.0s							
SMRI	**Semarang**	**9.46**	**106**	P		**Pn**	**16 14 07.1**	**+2.3**
	2µm,1.2s							
KULM	**Kulim**	**9.77**	**356**	*e*Pn		**Pn**	**16 14 07.5**	**-1.4**
	268nm,1.0s							
KULM	**Kulim**	**9.77**	**356**	P		**Pn**	**16 14 09.4**	**+0.5**
	348nm,1.4s							
UGM	**Wanagama**	**9.80**	**111**	P		**Pn**	**16 14 10.5**	**+1.2**
	1µm,1.1s							
PCJI	**Pacitan**	**10.50**	**111**	P		**Pn**	**16 14 19.9**	**+0.9**
	730nm,1.1s							
NGJI	**Ngawi**	**10.52**	**106**	P		**Pn**	**16 14 28.6**	**+9.3**
LHMI	**Lhok Sumawe**	**10.61**	**336**	P		Px	16 14 30.7	
KSM	**Kuching**	**10.82**	**57**	P		**Pn**	**16 14 26.2**	**+2.9**
SJI	**Sawahan**	**10.91**	**108**	P		**Pn**	**16 14 25.0**	**+0.4**
	631nm,1.1s							
PWJI	**Pagerwojo**	**11.03**	**109**	P		**Pn**	**16 14 25.2**	**-1.1**
	579nm,1.0s							
BSI	**Banda Aceh**	**11.60**	**329**	P		**Pn**	**16 14 33.7**	**-0.4**
	616nm,1.0s							
KRKI	**Karangkates**	**11.69**	**109**	P		**Pn**	**16 14 39.5**	**+4.3**
	784nm,1.2s							
GMJI	**Gumukmas**	**12.66**	**108**	P		**Pn**	**16 14 50.0**	**+1.5**
	368nm,1.0s							
KMMI	**Kalianget**	**12.88**	**102**	P		**Pn**	**16 14 52.5**	**+1.0**
	706nm,1.3s							
SBUM	**Sibu**	**12.95**	**58**	P		**Pn**	**16 14 57.5**	**+5.0**
SBUM	**Sibu**	**12.95**	**58**	P		**Pn**	**16 14 53.8**	**+1.3**
	444nm,3.0s							
JAGI	**Jajag, Banyuwa**	**13.39**	**108**	P		**Pn**	**16 14 57.9**	**-0.6**
	681nm,1.2s							
BYJI	**Banyuwangi**	**13.51**	**106**	P		**Pn**	**16 15 04.7**	**+4.5**
	1µm,1.4s							
BBKI	**Banjar Baru**	**13.58**	**86**	P		**Pn**	**16 15 03.6**	**+2.5**
	604nm,4.1s							
NBBI	**Negara**	**13.80**	**107**	P		**Pn**	**16 15 07.4**	**+3.2**
	698nm,1.3s							
BTM	**Bintulu**	**14.08**	**57**	P		**Pn**	**16 15 11.7**	**+3.7**
SRBI	**Singaraja**	**14.30**	**105**	P		**Pn**	**16 15 10.9**	**-0.1**
	411nm,1.0s							
KHKI	**Kahang-Kahang**	**14.75**	**106**	P		**Pn**	**16 15 17.9**	**+0.8**
	270nm,1.1s							
KBKI	**Kotabaru**	**14.91**	**86**	P		**Pn**	**16 15 21.2**	**+1.9**
	321nm,1.9s							
MTNI	**Mataram**	**15.36**	**106**	P		**Pn**	**16 15 25.6**	**+0.5**
	365nm,1.3s							
MJSI	**Majene**	**17.70**	**88**	P		**Pn**	**16 15 55.8**	**+1.0**
	1µm,1.6s							
KKM	**Kota Kinabalu**	**18.25**	**55**	P		**Pn**	**16 16 01.7**	**+0.1**
KKM	**Kota Kinabalu**	**18.25**	**55**	*e*Pn		**Pn**	**16 16 01.3**	**-0.3**
	906nm,1.6s							
KKM	**Kota Kinabalu**	**18.25**	**55**	P		**Pn**	**16 16 02.0**	**+0.4**
	381nm,2.1s							
KAPI	**Kappang**	**18.43**	**92**	Pn		**Pn**	**16 16 00.3**	**-3.5**
	3.1nm,0.3s,baz=286,slow=6.1,SNR=11							
KAPI	**Kappang**	**18.43**	**92**	*e*Pn		**Pn**	**16 15 59.3**	**-4.5**
	599nm,1.3s							
KAPI	**Kappang**	**18.43**	**92**	P		**Pn**	**16 16 07.2**	**+3.4**
	334nm,1.2s							
SPSI	**Sidrap Palu**	**18.46**	**89**	P		**Pn**	**16 16 03.3**	**-0.9**
	358nm,1.3s							
TTSI	**Tana Toraja**	**18.57**	**86**	P		**Pn**	**16 16 05.9**	**+0.3**
	393nm,1.1s							
TSM	**Tawau**	**18.76**	**62**	P		**Pn**	**16 16 07.5**	**-0.4**
BKSI	**Bulukumba**	**18.80**	**93**	P		**Pn**	**16 16 06.2**	**-2.2**
	270nm,1.0s							
SDKM	**Sandakan**	**18.84**	**58**	P		**Pn**	**16 16 08.8**	**-0.1**
MSSI	**Masamba**	**19.12**	**85**	P		**Pn**	**16 16 11.2**	**-1.0**
	600nm,1.1s							
KDM	**Kudat**	**19.25**	**54**	P		**Pn**	**16 16 13.3**	**-0.5**
WSI	**Waingapu**	**19.56**	**106**	P		**Pn**	**16 16 14.8**	**-2.7**
	1µm,0.9s							
MYLDM	**Lahad Datu**	**19.73**	**61**	P		**Pn**	**16 16 19.2**	**-0.3**
MYLDM	**Lahad Datu**	**19.73**	**61**	P		**Pn**	**16 16 19.5**	**0.0**
	744nm,1.6s							
BATP	**Bataraza**	**21.14**	**51**	*e*P		**P**	**16 16 33.1**	**-0.1**
MMRI	**Maumere**	**21.22**	**102**	P		**P**	**16 16 32.8**	**-1.4**
	370nm,1.1s,mb5.6							
MRSI	**Marisa**	**21.24**	**77**	P		**P**	**16 16 33.7**	**-0.7**
	587nm,1.1s,mb5.8							
BBSI	**Bau Bau**	**21.24**	**93**	P		**P**	**16 16 37.1**	**+2.7**
	318nm,1.0s,mb5.6							
KDI	**Kendari**	**21.30**	**89**	P		**P**	**16 16 34.7**	**-0.3**
	518nm,1.6s,mb5.6							
LUWI	**Luwuk**	**21.75**	**81**	P		**P**	**16 16 39.8**	**0.0**
	1µm,1.1s,mb6.2							
CM31	**Chiang Mai Arr**	**22.95**	**354**	*e*P		**P**	**16 16 50.5**	**-1.9**
	225nm,0.8s,mb5.7							
CMAR	**Chiang Mai Arr**	**22.95**	**354**	P		**P**	**16 16 50.9**	**-1.6**
	217nm,0.8s,mb5.6,baz=186,slow=8.7,SNR=67							
CMAR				PcP		PcP	16 20 43.8	+1.4
	1.3nm,0.7s,baz=193,slow=3.1,SNR=4.3							
CMAR	**Chiang Mai Arr**	**22.95**	**354**	P		**P**	**16 16 50.9**	**-1.6**
CMAR				PcP		PcP	16 20 43.8	+1.4
CMAR	**Chiang Mai Arr**	**22.95**	**354**	P		**P**	**16 16 50.9**	**-1.6**
CMAR							16 20 43.8	
KMSI	**Cibinong**	**23.25**	**78**	P		**P**	**16 16 55.5**	**-0.3**
	546nm,1.1s,mb5.9							
CHTO	**Chiang Mai**	**23.30**	**354**	*e*P		**P**	**16 16 55.7**	**-0.5**
	200nm,0.9s,mb5.5							
CHTO	**Chiang Mai**	**23.30**	**354**	*e*P		**P**	**16 16 55.7**	**-0.5**
CHTO				pmax		pmax		
	comp=Z,200nm,0.9s,mb5.5							
CHTO	**Chiang Mai**	**23.30**	**354**	P		**P**	**16 16 56.2**	**0.0**
	comp=Z,296nm,0.9s,mb5.7							
ENPP	**El Nido**	**23.89**	**49**	*e*P		**P**	**16 17 01.2**	**-0.6**
CHRT	**Chiangrai**	**24.29**	**357**	P		**P**	**16 16 53.5**	**-12**
	comp=Z,408nm,1.3s,mb5.7							
CHRT				P			16 17 03.0	
	comp=Z,1µm,1.4s							
MBWA	**Marble Bar**	**24.39**	**134**	*e*P		**P**	**16 17 04.8**	**-1.5**
	comp=Z,114nm,1.7s,mb5.0							
MBWA	**Marble Bar**	**24.39**	**134**	P		**P**	**16 17 05.3**	**-1.1**
	comp=Z,98nm,2.3s,mb4.8							
IPIL	**Ipil**	**24.52**	**60**	*e*P		**P**	**16 17 08.9**	**+1.2**
QIZ	**Qiongzhong**	**24.88**	**20**	P		**P**	**16 17 11.0**	**+0.2**
QIZ				sP		sP	16 17 18.8	-2.7
QIZ				S		**S**	**16 21 34.0**	**+1.4**
QIZ				pmax		pmax		
	comp=Z,120nm,1.7s,mb5.2							
QIZ				LR		LR		
	comp=N,52µm,17.0s							
QIZ				LR		LR		
	comp=Z,60µm,20.0s,MS6.1							
QIZ	**Qiongzhong**	**24.88**	**20**	*e*P		**P**	**16 17 11.1**	**+0.2**
	comp=Z,280nm,1.4s,mb5.6							
CUYO	**Cuyo Island**	**24.90**	**52**	*e*P		**P**	**16 17 11.8**	**+0.8**
BUSP	**Coron**	**24.98**	**49**	*e*P		**P**	**16 17 12.8**	**+1.0**
PAGZ	**Pagadian**	**25.25**	**61**	*e*P		**P**	**16 17 15.6**	**+1.3**
NLAI	**Namlea**	**25.80**	**88**	P		**P**	**16 17 20.5**	**+1.2**
	comp=Z,154nm,1.6s,mb5.3							
GUIM	**Jordan**	**26.02**	**55**	*e*P		**P**	**16 17 20.5**	**-0.8**
LUBP	**Lubang**	**26.15**	**46**	*e*P		**P**	**16 17 21.9**	**-0.5**
TNTI	**Ternate**	**26.60**	**79**	P		**P**	**16 17 24.2**	**-2.4**
	comp=Z,238nm,1.6s,mb5.5							
RCP	**Roxas**	**26.68**	**53**⇑	*e*P		**P**	**16 17 26.5**	**-0.7**
BUKP	**Musuan**	**26.75**	**63**	*e*P		**P**	**16 17 26.8**	**-1.0**
DAV	**Davao City (W)**	**26.86**	**65**	P		**P**	**16 17 28.1**	**-0.7**
	comp=Z,100nm,0.4s,mb5.7,baz=233,slow=1.1,SNR=3.8							
DAV	**Davao City (W)**	**26.86**	**65**	P		**P**	**16 17 28.1**	**-0.7**
DAV	**Davao City (W)**	**26.86**	**65**	P		**P**	**16 17 31.3**	**+2.4**
	comp=Z,408nm,1.6s,mb5.7							
TGY	**Tagaytay City**	**26.89**	**46**	P		**P**	**16 17 28.2**	**-0.9**
	comp=Z,106nm,0.7s,mb5.5,baz=188,slow=7.7,SNR=5.9							
TGY	**Tagaytay City**	**26.89**	**46**	P		**P**	**16 17 28.2**	**-0.9**
TGY	**Tagaytay City**	**26.89**	**46**	P		**P**	**16 17 28.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**27.39**	**121**	P		**P**	**16 17 33.1**	**-0.4**
	comp=Z,19nm,0.6s,mb4.8,baz=322,slow=7.6,SNR=22							
FITZ				pP		pP	16 17 41.2	0.0
	comp=Z,68nm,0.9s,baz=280,slow=4.8,SNR=13							
FITZ	**Fitzroy Crossi**	**27.39**	**121**	*e*P		**P**	**16 17 32.6**	**-0.9**
	comp=Z,170nm,1.0s,mb5.5							
FITZ				pP		pP	16 17 41.2	0.0
FITZ	**Fitzroy Crossi**	**27.39**	**121**	P		**P**	**16 17 33.9**	**+0.3**
	comp=Z,162nm,1.0s,mb5.5							
MSLP	**Maasin**	**27.64**	**58**	*e*P		pP	16 17 46.8	+3.3
VIS	**Vishakhapatnam**	**28.32**	**322**	*ex*		x	16 17 35.5	
BWNR	**Bhubaneshwar**	**28.97**	**329**	*ex*		x	16 17 41.0	
CAUP	**Cauayan**	**29.45**	**43**	*e*P		**P**	**16 17 50.5**	**-1.4**
KMI	**Kunming**	**29.50**	**3**	⇑P		**P**	**16 17 53.4**	**+1.1**
KMI				pP		pP	16 17 58.4	-1.5
KMI				sP		sP	16 17 59.5	-3.5
KMI				PP		PP	16 18 52.1	-7.1
KMI				S		**S**	**16 22 49.1**	**+3.6**
KMI				pmax		pmax		
	comp=Z,140nm,0.9s,mb5.7							
KMI				LR		LR		
	comp=N,38µm,16.4s,MS6.2							
KMI				LR		LR		
	comp=E,36µm,17.7s,MS6.2							
KMI				LR		LR		
	comp=Z,56µm,16.8s,MS6.3							
APYP	**Conner**	**29.72**	**41**	*e*P		**P**	**16 17 55.0**	**+0.7**
GYA	**Guiyang**	**31.24**	**9**⇑	*i*P		**P**	**16 18 07.3**	**-0.3**
GYA				PP		PP	16 19 12.6	-5.9
GYA				PcP		PcP	16 21 02.0	0.0
GYA				S		**S**	**16 23 16.8**	**+4.1**
GYA				pmax		pmax		
	comp=Z,140nm,0.8s,mb5.8							
GYA				pmax		pmax		
	comp=Z,230nm,5.4s							
GYA				LR		LR		
	comp=N,6µm,19.5s,MS5.3							
GYA				LR		LR		
	comp=E,4µm,20.6s,MS5.3							
GYA				LR		LR		
	comp=Z,4µm,18.7s,MS5.2							
HYB	**Hyderabad**	**31.28**	**315**	*i*P		**P**	**16 18 09.0**	**+0.9**
HYB				*es*P		sP	16 18 20.5	+1.7
KAKA	**Kakadu**	**31.84**	**107**	*e*P		**P**	**16 18 09.9**	**-3.2**
	comp=Z,173nm,0.8s,mb5.9							
NWAO	**Narrogin (SRO)**	**31.95**	**154**	P		**P**	**16 18 13.4**	**-0.5**
	comp=Z,20nm,0.8s,mb5.0,baz=342,slow=3.2,SNR=6.7							
NWAO	**Narrogin (SRO)**	**31.95**	**154**	P		**P**	**16 18 13.4**	**-0.5**
NWAO	**Narrogin (SRO)**	**31.95**	**154**	P		**P**	**16 18 13.4**	**-0.5**
TPUB	**Ta-pu**	**33.50**	**34**	*e*P		**P**	**16 18 25.9**	**-1.6**
	comp=Z,107nm,1.0s,mb5.7							
YULB	**Yu-li**	**33.94**	**34**	*e*P		**P**	**16 18 31.6**	**+0.3**
	comp=Z,21nm,0.6s,mb5.2							
ODAN	**Odare**	**33.97**	**337**	*e*P		**P**	**16 18 32.7**	**+1.2**
	comp=Z,329nm,0.9s,mb6.3							
SSLB	**Suanglung**	**34.06**	**33**	*e*P		**P**	**16 18 31.6**	**-0.8**
	comp=Z,30nm,0.8s,mb5.3							
TAPN	**Taplejung**	**34.29**	**338**	*e*P		**P**	**16 18 35.7**	**+1.4**
	comp=Z,631nm,0.9s,mb6.5							
RAMN	**Ramite**	**34.35**	**336**	*e*P		**P**	**16 18 36.5**	**+1.6**
	comp=Z,149nm,0.8s,mb6.0							
KAD	**Karad**	**34.44**	**310**	*e*PKP		**P**	**16 18 35.6**	**-0.1**
AKL	**Akola**	**34.57**	**317**	*e*PKP		**P**	**16 18 34.7**	**-2.1**
BAKI	**Biak**	**34.95**	**86**	P		**P**	**16 18 38.7**	**-1.6**
	comp=Z,129nm,1.2s,mb5.7							
JIRN	**Jiri**	**35.15**	**336**	*e*P		**P**	**16 18 43.3**	**+1.6**
	comp=Z,475nm,0.8s,mb6.5							
CD2	**Chengdu**	**35.31**	**4**	P		**P**	**16 18 42.0**	**-1.1**
CD2				pP		pP	16 18 46.4	-4.4
CD2				sP		sP	16 18 49.0	-4.9
CD2				PP		PP	16 20 01.1	-2.5
CD2				S		**S**	**16 24 16.0**	**+0.2**
CD2				pmax		pmax		
	comp=Z,180nm,0.9s,mb6.0							
CD2				pmax		pmax		
	comp=Z,6µm,11.6s							
CD2				LR		LR		
	comp=E,52µm,15.5s							
CD2				LR		LR		
	comp=Z,46µm,16.0s,MS6.3							
LSA	**Lhasa**	**35.39**	**345**	*e*P		**P**	**16 18 43.5**	**-0.2**
	comp=Z,229nm,1.2s,mb6.0							
LSA	**Lhasa**	**35.39**	**345**	*e*P		**P**	**16 18 43.5**	**-0.2**
LSA				pmax		pmax		
	comp=Z,229nm,1.2s,mb6.0							
PKI	**Pulchoki**	**35.39**	**335**	*e*P		**P**	**16 18 44.9**	**+1.1**
	comp=Z,180nm,1.0s,mb6.0							
POO	**Poona**	**35.42**	**311**	*e*PKP		**P**	**16 18 42.7**	**-1.5**
ENH	**Enshi**	**35.48**	**12**	*e*P		**P**	**16 18 43.0**	**-1.6**
	comp=Z,152nm,0.9s,mb5.9							
GUN	**Gumba**	**35.50**	**336**	*e*P		**P**	**16 18 46.1**	**+1.4**
DMN	**Daman**	**35.55**	**335**	*e*P		**P**	**16 18 46.5**	**+1.3**
	comp=Z,241nm,0.9s,mb6.1							
KKN	**Kakani**	**35.64**	**335**	*e*P		**P**	**16 18 46.8**	**+0.9**
	comp=Z,330nm,1.0s,mb6.2							
WRA	**Warramunga Arr**	**35.66**	**118**	P		**P**	**16 18 45.3**	**-1.0**
	comp=Z,8.6nm,0.4s,mb5.0,baz=305,slow=8.8,SNR=20							
WRA				pP		pP	16 18 53.8	-0.1
	comp=Z,29nm,0.6s,baz=303,slow=9.0,SNR=12							
WRA				S		**S**	**16 24 21.4**	**-0.1**
	comp=Z,7.3nm,1.1s,baz=299,slow=9.7,SNR=6.0							
WRA	**Warramunga Arr**	**35.66**	**118**	P		**P**	**16 18 45.3**	**-1.0**
WRA				pP		pP	16 18 53.9	-0.1
WRA				S		**S**	**16 24 21.4**	**-0.1**
WRA	**Warramunga Arr**	**35.66**	**118**	P		**P**	**16 18 45.3**	**-1.0**
WRA				*PP		pP	16 18 53.9	0.0
WRA				S		**S**	**16 24 21.4**	**-0.1**
WRAB	**Tennant Creek**	**35.66**	**118**	*e*P		**P**	**16 18 45.1**	**-1.2**
	comp=Z,81nm,0.8s,mb5.7							
WRAB	**Tennant Creek**	**35.66**	**118**	*e*P		**P**	**16 18 45.1**	**-1.2**
WRAB				pmax		pmax		
	comp=Z,81nm,0.8s,mb5.7							
WRAB	**Tennant Creek**	**35.66**	**118**	P		**P**	**16 18 46.6**	**+0.3**
	comp=Z,371nm,0.8s,mb6.4,SNR=7.1							
WRAB	**Tennant Creek**	**35.66**	**118**	P		**P**	**16 18 46.8**	**+0.5**
	comp=Z,186nm,0.9s,mb6.0							
WB2	**Warramunga Arr**	**35.67**	**118**	*e*P		**P**	**16 18 44.2**	**-2.1**
GKN	**Gorkha**	**36.09**	**335**	*e*P		**P**	**16 18 50.8**	**+0.9**
	comp=Z,588nm,1.1s,mb6.4							
BHPL	**Bhopal**	**36.10**	**321**	*e*PKP		**P**	**16 18 51.4**	**+1.4**
BHPL				AMb		AMB	16 19 01.3	
	comp=Z,50nm,0.4s,mb5.8							
KOLN	**Koldanda**	**36.35**	**333**	*e*P		**P**	**16 18 53.3**	**+1.3**
	comp=Z,243nm,0.8s,mb6.2							
AS31	**Alice Springs**	**36.77**	**124**	*e*P		**P**	**16 18 54.9**	**-0.9**
ASAR	**Alice Springs**	**36.77**	**124**	P		**P**	**16 18 55.7**	**-0.1**
	comp=Z,11nm,0.7s,mb4.8,baz=298,slow=6.8,SNR=14							
ASAR				S		**S**	**16 24 40.1**	**+1.7**
	comp=Z,4.4nm,1.0s,baz=291,slow=16,SNR=3.6							
ASAR	**Alice Springs**	**36.77**	**124**	P		**P**	**16 18 55.7**	**-0.1**
ASAR				S		**S**	**16 24 40.1**	**+1.7**
ASAR	**Alice Springs**	**36.77**	**124**	P		**P**	**16 18 55.7**	**-0.1**
ASAR				S		**S**	**16 24 40.1**	**+1.7**
DANN	**Dangsing**	**36.78**	**334**	*e*P		**P**	**16 18 56.7**	**+1.0**
WHN	**Wuhan**	**37.05**	**19**	⇓P		**P**	**16 18 58.0**	**+0.1**
SMPI	**Sarmi**	**37.46**	**87**	P		**P**	**16 18 59.5**	**-2.3**
	comp=Z,129nm,1.7s,mb5.5							
XAN	**Xi'an**	**39.03**	**10**	P		**P**	**16 19 13.5**	**-1.1**
XAN				pP		pP	16 19 22.1	-0.2
XAN				pmax		pmax		
	comp=Z,38nm,0.8s,mb5.2							
XAN				pmax		pmax		
	comp=Z,2µm,15.0s							
JAY	**Jayapura**	**39.41**	**88**	P		**P**	**16 19 09.4**	**-8.8**
NJ2	**Nanjing**	**40.04**	**24**	*e*P		**P**	**16 19 23.3**	**+0.2**
NJ2				pP		pP	16 19 26.9	-3.9
NJ2				sP		sP	16 19 32.1	-1.8
NJ2				PP		PP	16 21 00.4	+4.9
NJ2				S		**S**	**16 25 28.5**	**+1.0**
NJ2				pmax		pmax		
	comp=Z,30nm,0.7s,mb5.1							
NJ2				pmax		pmax		
	comp=Z,2µm,8.0s							
NJ2				LR		LR		
	comp=N,17µm,15.0s,MS6.1							
NJ2				LR		LR		
	comp=E,14µm,14.5s,MS6.1							
NJ2				LR		LR		
	comp=Z,27µm,14.9s,MS6.2							
AJM	**Ajmer**	**40.18**	**321**	*e*PKP		**P**	**16 19 24.0**	**-0.3**
SSE	**Sheshan**	**40.20**	**27**	*e*P		**P**	**16 19 22.8**	**-1.6**
SSE				pmax		pmax		
	comp=Z,14nm,0.7s,mb4.8							
SSE				pmax		pmax		
	comp=Z,6µm,12.0s							
NDI	**New Delhi**	**40.32**	**326**	*e*PKP		**P**	**16 19 23.7**	**-1.7**
NDI				AMb		AMB	16 19 41.4	
	comp=Z,156nm,1.2s,mb5.6							
LZH	**Lanzhou**	**40.47**	**3**	⇑P		**P**	**16 19 27.3**	**+0.7**
LZH				pP		pP	16 19 32.8	-1.5
LZH				sP		sP	16 19 35.4	-2.0
LZH				PP		PP	16 21 04.5	+4.4
LZH				*eS*		**S**	**16 25 36.0**	**+2.2**
LZH				pmax		pmax		
	comp=Z,130nm,1.0s,mb5.6							
LZH				pmax		pmax		
	comp=Z,2µm,5.6s							
LZH				LR		LR		
	comp=N,41µm,16.0s,MS6.5							
LZH				LR		LR		
	comp=E,35µm,14.6s,MS6.5							
LZH				LR		LR		
	comp=Z,44µm,16.3s,MS6.4							
JOW	**Kunigami**	**40.67**	**39**	*e*P		**P**	**16 19 27.7**	**-0.7**
	comp=Z,23nm,0.9s,mb4.8							
DDI	**Dehra Dun**	**41.16**	**329**	*ex*		x	16 25 50.0	
BHJ	**Bhuj**	**41.40**	**313**	*e*PKP		**P**	**16 19 32.8**	**-1.7**
SMLA	**Simla**	**42.26**	**329**	*i*P		**P**	**16 19 41.1**	**-0.3**
COEN	**Coen**	**42.34**	**106**	*e*P		**P**	**16 19 39.9**	**-2.4**
	comp=Z,474nm,1.1s,mb6.0							
COEN	**Coen**	**42.34**	**106**	P		**P**	**16 19 40.8**	**-1.5**
	comp=Z,74nm,1.3s,mb5.2							
BHK	**Bhakra**	**42.88**	**328**	*e*PKP		**P**	**16 19 46.3**	**-0.1**
GTA	**Gaotai**	**43.74**	**358**	⇑P		**P**	**16 19 53.6**	**+0.4**
GTA				pP		pP	16 19 57.9	-3.1
GTA				sP		sP	16 20 00.5	-3.6
GTA				S		**S**	**16 26 25.0**	**+3.0**
GTA				pmax		pmax		
	comp=Z,130nm,1.1s,mb5.6							
GTA				LR		LR		
	comp=N,20µm,21.3s,MS6.2							
GTA				LR		LR		
	comp=E,21µm,19.9s,MS6.2							
GTA				LR		LR		
	comp=Z,32µm,21.8s,MS6.2							
PMG	**Port Moresby**	**45.78**	**99**	P		**P**	**16 20 08.8**	**-1.2**
	comp=Z,35nm,0.8s,mb5.4,baz=302,slow=5.4,SNR=22							
PMG	**Port Moresby**	**45.78**	**99**	*e*P		**P**	**16 20 08.1**	**-1.9**
	comp=Z,310nm,1.4s,mb6.0							
PMG	**Port Moresby**	**45.78**	**99**	*d*P		**P**	**16 20 08.0**	**-1.9**
PMG				pmax		pmax		
	comp=Z,244nm,1.7s							
PMG	**Port Moresby**	**45.78**	**99**	P		**P**	**16 20 08.9**	**-1.0**
	comp=Z,164nm,1.5s,mb5.7							
HHC	**Hu-ho

WMQ pmax pmax
comp=Z,2μm,8.2s
WMQ LR LR
comp=N,37μm,20.8s,MS6.5
WMQ LR LR
comp=E,34μm,22.2s,MS6.5
WMQ LR LR
comp=Z,45μm,22.6s,MS6.4
SNY Shenyang 50.41 22 ⇑P **P 16 20 43.4 -1.9**
SNY pmax pmax
comp=Z,80nm,2.7s,mb5.3
ULHL Ulahol 51.81 336 P **P 16 20 57.0 +1.3**
SNR=9.9
KZA Kyzart 52.07 336 P **P 16 20 59.3 +1.6**
SNR=6.9
SONM Songino Array 52.33 4 P **P 16 21 00.2 +0.7**
comp=Z,221nm,0.8s,mb6.1,baz=184,slow=7.4,SNR=189
SONM Songino Array 52.33 4 P **P 16 21 00.2 +0.7**
SONM Songino Array 52.33 4 P **P 16 21 00.2 +0.7**
ULN Ulaanbaatar 52.41 5 *e*P **P 16 21 00.2 0.0**
comp=Z,226nm,1.0s,mb6.0
ULN Ulaanbaatar 52.41 5 *e*P **P 16 21 00.2 +0.1**
ULN pmax pmax
comp=Z,226nm,1.0s,mb6.0
ULN Ulaanbaatar 52.41 5 P **P 16 21 00.9 +0.8**
comp=Z,4μmcomp=Z,181nm,0.9s,mb6.0
TKM2 Tokmak 2 52.64 336 P **P 16 21 03.1 +1.2**
SNR=20
TKM2 Tokmak 2 52.64 336 *e*P **P 16 21 02.7 +0.9**
comp=Z,112nm,1.0s,mb5.8
TKM2 Tokmak 2 52.64 336 P **P 16 21 02.5 +0.6**
TKM2 pmax pmax
comp=Z,117nm,1.0s,mb5.8
KBK Karagaybulak 52.68 336 P **P 16 21 03.9 +1.7**
SNR=7.3
AML Almayashu 52.77 334 P **P 16 21 04.3 +1.4**
SNR=7.7
CN2 Changchun 52.81 22 *e*P **P 16 21 01.9 -1.2**
CN2 *es*P sP 16 21 08.9 -5.2
CN2 *e*S **S 16 28 29.5 -0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,31μm,18.0s,MS6.5
CN2 LR LR
comp=E,29μm,18.0s,MS6.5
CN2 LR LR
comp=Z,41μm,21.0s,MS6.5
AAK Ala-Archa 52.85 335 P **P 16 21 04.9 +1.5**
SNR=6.5
AAK Ala-Archa 52.85 335 *i* P **P 16 21 04.9 +1.5**
AAK Ala-Archa 52.85 335 P **P 16 21 04.1 +0.7**
comp=Z,271nm,1.2s,mb6.1
CHMS Chumysh 53.04 336 P **P 16 21 05.5 +0.7**
SNR=10
EKS2 Erkin-Say 53.17 335 P **P 16 21 07.3 +1.5**
SNR=27
EKS2 Erkin-Say 53.17 335 *e*P **P 16 21 06.6 +0.8**
comp=Z,108nm,0.8s,mb5.8
EKS2 Erkin-Say 53.17 335 *e*P **P 16 21 06.6 +0.8**
EKS2 pmax pmax
comp=Z,108nm,0.8s,mb5.8
USP Ospenovka 53.37 336 P **P 16 21 07.1 -0.1**
SNR=10.0
MAJO Matsushiro 53.47 37 *e*P **P 16 21 05.8 -2.4**
comp=Z,60nm,0.8s,mb5.6
MAJO Matsushiro 53.47 37 *e*P **P 16 21 05.8 -2.4**
MAJO pmax pmax
comp=Z,60nm,0.8s,mb5.6
MAT Matsushiro 53.47 37 P **P 16 21 06.0 -2.2**
MAT S **S 16 28 47.0 +7.6**
MJAR Matsushiro Arr 53.47 37 P **P 16 21 06.0 -2.1**
comp=Z,69nm,0.7s,mb5.7,baz=216,slow=7.9,SNR=132
MJAR Matsushiro Arr 53.47 37 P **P 16 21 06.0 -2.1**
MJAR Matsushiro Arr 53.47 37 P **P 16 21 06.0 -2.2**
CAN Canberra 53.60 131 *e*P **P 16 21 09.7 +0.5**
comp=Z,250nm,1.6s,mb5.9
CAN Canberra 53.60 131 *e*P **P 16 21 09.7 +0.5**
CAN pmax pmax
comp=Z,250nm,1.6s,mb5.9
MK31 Makanchi Array 53.79 344 *e*P **P 16 21 10.1 -0.1**
MK31 Makanchi Array 53.79 344 *e*P **P 16 21 10.1 -0.2**
MKAR Makanchi Array 53.79 344 P **P 16 21 10.2 -0.1**
comp=Z,61nm,0.8s,mb5.6,baz=148,slow=8.3,SNR=46
MKAR Makanchi Array 53.79 344 P **P 16 21 10.2 -0.1**
MKAR Makanchi Array 53.79 344 P **P 16 21 10.2 -0.1**
ZAK Zakamensk 54.71 2 ⇑*i*P **P 16 21 17.2 +0.3**
ZAK pmax pmax
comp=Z,38nm,0.9s,mb5.4
VLA Vladivostok 54.91 27*c i*P **P 16 21 18.0 -0.6**
VLA *e* 16 22 19.3
VLA *e*S **S 16 28 54.0 -4.7**
VLA pmax pmax
comp=Z,72nm,0.9s,mb5.7
VLA MLR MLR
comp=E,294μm,20.0s
KK31 Karatay Array 54.96 333 *i* P **P 16 21 18.5 -0.4**
KK31 pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
KKAR Karatay Array 54.96 333 *e*P **P 16 21 18.2 -0.7**
comp=Z,28nm,0.9s,mb5.3
KKAR Karatay Array 54.96 333 *e*P **P 16 21 18.2 -0.7**
KKAR pmax pmax
comp=Z,28nm,0.9s,mb5.3
MDJ Mudanjiang 55.12 24 P **P 16 21 19.3 -0.7**
MDJ sP sP 16 21 23.3 -7.7
MDJ PcS PcS 16 26 17.9 -3.0
MDJ S **S 16 29 03.9 +2.6**
MDJ pmax pmax
comp=Z,53nm,1.2s,mb5.5
MDJ pmax pmax
comp=Z,960nm,7.8s
MDJ LR LR
comp=N,25μm,20.6s,MS6.4
MDJ LR LR
comp=E,25μm,22.2s,MS6.4
MDJ LR LR
comp=Z,35μm,22.2s,MS6.4
MDJ Mudanjiang 55.12 24 ⇑*i*P **P 16 21 18.0 -2.0**
comp=Z,34nm,0.8s,mb5.4
HIA Hailar 55.93 15 *e*P **P 16 21 24.5 -1.3**
comp=Z,84nm,0.9s,mb5.8
HIA Hailar 55.93 15 *e*P **P 16 21 24.5 -1.2**
HIA pmax pmax
comp=Z,84nm,0.9s
MOY Mondy 55.97 360 *e*P **P 16 21 25.7 -0.3**
TLY Talaya 56.02 2 *e*P **P 16 21 26.9 +0.5**
comp=Z,125nm,0.9s,mb5.9
TLY Talaya 56.02 2 *e*P **P 16 21 25.8 -0.6**
TLY pmax pmax
comp=Z,122nm,0.9s,mb5.9
TLY Talaya 56.02 2 P **P 16 21 27.8 +1.4**
comp=Z,806nm,0.9s,mb6.8,SNR=20
IRK Irkutsk 56.61 2 ⇑*i*P **P 16 21 30.5 0.0**
IRK *e* 16 21 46.1
IRK *e* 16 29 22.4
IRK pmax pmax
comp=Z,204nm,2.3s,mb5.8
KURK Kurchatov 58.37 343 P **P 16 21 41.9 -1.1**
comp=Z,45nm,0.9s,mb5.5,baz=159,slow=6.5,SNR=35
KURK Kurchatov 58.37 343 *e*P **P 16 21 41.8 -1.2**
comp=Z,74nm,0.9s,mb5.7
KURK Kurchatov 58.37 343*c i*P **P 16 21 42.8 -0.2**
KURK pmax pmax
comp=Z,82nm,1.0s,mb5.7
KURK Kurchatov 58.37 343 P **P 16 21 43.1 +0.1**
comp=Z,443nm,1.2s,mb6.4,SNR=8.9
HNR Honiara 58.39 98 P **P 16 21 41.9 -1.9**
comp=Z,149nm,1.1s,mb5.9,baz=202,slow=6.8,SNR=8.2
HNR Honiara 58.39 98 *e*P **P 16 21 41.5 -2.3**
comp=Z,764nm,1.2s,mb6.6
HNR Honiara 58.39 98 *e*P **P 16 21 41.6 -2.3**
HNR pmax pmax
comp=Z,764nm,1.2s,mb6.6
KLR Kul'dur 59.73 23 ⇓*i*P **P 16 21 49.2 -3.3**
KLR pmax pmax
comp=E,74nm,1.6s
KLR pmax pmax
comp=Z,200nm,1.6s,mb5.9
ZAA0 Zalesovo Array 59.87 349 *e*P **P 16 21 52.2 -1.1**
ZALV Zalesovo Beam 59.87 349 P **P 16 21 52.5 -0.7**
comp=Z,122nm,0.8s,mb6.0,baz=169,slow=4.6,SNR=52
ZALV S **S 16 30 03.2 -0.1**
comp=Z,5.4nm,0.9s,baz=166,slow=13,SNR=8.9
ZALV PKP2bc 16 51 29.7
comp=Z,0.7nm,0.8s,baz=306,slow=3.5,SNR=3.6
ZALV Zalesovo Beam 59.87 349 P **P 16 21 52.5 -0.7**
ZALV S **S 16 30 03.2 -0.1**
ZALV ⇑*e* 16 51 29.7
ZALV Zalesovo Beam 59.87 349 P **P 16 21 52.6 -0.7**
ZALV S **S 16 30 03.3 -0.1**
ERM Erimo 59.95 35 *e*P **P 16 21 54.3 +0.2**
ERM pmax pmax
comp=Z,95nm,1.2s,mb5.7
HABR Khabarovsk 60.47 25*c i*P **P 16 21 55.6 -1.9**
HABR *e**PP pP 16 22 04.8 -0.7
HABR *e**SP sP 16 22 09.1 +0.5
HABR S **S 16 30 08.6 -2.7**
HABR *e**SS sS 16 30 24.8 +0.3
HABR *e* 16 31 41.8
HABR *e*SS SS 16 34 06.2 -3.5
HABR pmax pmax
comp=Z,62nm,0.8s,mb5.7
HABR pmax pmax
comp=E,29nm,0.8s
HABR pmax pmax
comp=N,20nm,0.8s
HABR MLR MLR
comp=Z,11μm,16.0s,MS6.1
ASAJ Asahikawa 61.00 33 P **P 16 21 59.9 -1.4**
comp=Z,58nm,0.8s,mb5.8,baz=235,slow=10.0,SNR=34
ASAJ Asahikawa 61.00 33 P **P 16 21 59.9 -1.4**
NVS Novosibirsk 61.02 348 *e*P **P 16 21 59.9 -1.3**
NVS *e*S **S 16 30 15.8 -2.4**
NVS pmax pmax
comp=E,15nm,1.1s
NVS pmax pmax
comp=Z,59nm,1.1s,mb5.6
NVS pmax pmax
comp=N,42nm,1.8s
NVS smax
comp=N,33nm,1.8s
NVS smax
comp=E,65nm,1.8s
RDF Al-Radifah 61.35 306 *e*P **P 16 22 04.3 +0.4**
RDF AMb AMB 16 22 07.6
comp=Z,96nm,0.8s,mb6.0
NAY Al-Naaiem 61.73 307 *e*P **P 16 22 06.5 0.0**
NAY AMb AMB 16 22 09.2
comp=Z,26nm,1.1s,mb5.3
MIB Mutribah 61.87 307 *e*P **P 16 22 07.8 +0.3**
MIB AMb AMB 16 22 19.0
comp=Z,153nm,1.0s,mb6.1
YSS Yuzh-Sakhalins 62.97 31 *e*P **P 16 22 13.1 -1.3**
comp=Z,198nm,0.8s,mb6.3
YSS Yuzh-Sakhalins 62.97 31⇑*e*P **P 16 22 13.4 -1.0**
YSS pmax pmax
comp=N,60nm,0.9s
YSS pmax pmax
comp=E,110nm,0.9s
YSS pmax pmax
comp=Z,220nm,0.9s,mb6.3
BVA0 Borovoye Array 62.97 340 *i* P **P 16 22 13.6 -0.7**
BVA0 pmax pmax
comp=Z,12nm,1.1s,mb4.9
BVAR Borovoye Array 62.97 340 P **P 16 22 13.4 -0.9**
comp=Z,45nm,0.8s,mb5.6,baz=145,slow=8.0,SNR=29
BVAR PKP2ab 16 51 31.4
comp=Z,2.0nm,1.0s,baz=286,slow=2.6,SNR=5.8
BVAR Borovoye Array 62.97 340 P **P 16 22 13.4 -0.9**
BVAR P'P'ab 16 51 31.4
BVAR Borovoye Array 62.97 340 P **P 16 22 13.4 -0.9**
BRVK Borovoye 63.04 340 *e*P **P 16 22 14.3 -0.4**
comp=Z,50nm,1.0s,mb5.6
BRVK Borovoye 63.04 340 P **P 16 22 14.4 -0.3**
comp=Z,256nm,0.7s,mb6.5,SNR=6.7
BRVK Borovoye 63.04 340 *e*P **P 16 22 14.3 -0.4**
BRVK pmax pmax
comp=Z,50nm,1.0s,mb5.6
KMBO Kilima Mbogo 64.01 271 P **P 16 22 21.2 -0.7**
comp=Z,23nm,1.2s,mb5.1
KMBO Kilima Mbogo 64.01 271 P **P 16 22 21.3 -0.7**
KMBO pmax pmax
comp=Z,23nm,1.2s
CLNS Chul'man 64.12 14 *e*P **P 16 22 20.9 -0.9**
CLNS *e**PP pP 16 22 37.1 +7.2
CLNS *e* 16 22 54.4
CLNS *e* 16 24 41.7
CLNS *e*PPP 16 26 12.6
CLNS *e*S **S 16 30 54.2 -2.7**
CLNS *e*SS SS 16 35 08.4 +1.9
CLNS pmax pmax
comp=Z,44nm,0.8s,mb5.5
CLNS pmax pmax
comp=E,16nm,0.7s
CLNS pmax pmax
comp=N,25nm,0.7s
CLNS pmax pmax
comp=N,13nm,1.0s
CLNS pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
CLNS pmax pmax
comp=E,6.0nm,0.8s
CLNS smax
comp=N,2μm,14.1s
CLNS smax
comp=E,3μm,16.7s
CLNS MLR MLR
comp=E,4μm,16.0s,MS6.1
CLNS MLR MLR
comp=N,8μm,15.0s,MS6.1
CLNS MLR MLR
comp=Z,8μm,15.0s,MS6.0
AB31 Akbulak array 64.45 331 P **P 16 22 23.4 -0.7**
AB31 pmax pmax
comp=Z,126nm,0.8s,mb6.0
AKTO Aktyubinsk 66.16 331 P **P 16 22 35.6 +0.4**
comp=Z,19nm,0.9s,mb5.1,baz=170,slow=6.6,SNR=5.8
AKTO Aktyubinsk 66.16 331 P **P 16 22 35.6 +0.4**
AKTO Aktyubinsk 66.16 331 P **P 16 22 35.6 +0.4**
MAK Makhachkala 67.70 320 *e*P **P 16 22 44.2 -1.0**
MAK *e* 16 25 16.8
MAK *e*S S 16 31 41.4 +0.2
MAK *e* 16 32 38.6
MAK pmax pmax
comp=Z,122nm,0.9s,mb5.9
MAW Mawson 68.17 195 P **P 16 22 48.5 +0.8**
comp=Z,4.5nm,0.8s,mb4.6,baz=2.2,slow=11,SNR=4.4
MAW PKPPKP 16 51 03.6
comp=Z,3.2nm,0.8s,baz=272,slow=3.2,SNR=4.9
MAW Mawson 68.17 195 P **P 16 22 48.5 +0.8**
MAW P'P' 16 51 03.6
MAW Mawson 68.17 195 P **P 16 22 48.5 +0.8**
GNI Garni 68.21 316 *e*P **P 16 22 49.4 +0.9**
GNI pmax pmax
comp=Z,25nm,0.9s
SVE Sverdlovsk 69.48 338⇑*i*P **P 16 22 56.3 +0.3**
SVE pmax pmax
comp=Z,189nm,1.1s,mb5.9
YAK Yakutsk 69.86 14 *e*P **P 16 22 56.3 -1.9**
comp=Z,168nm,0.8s,mb6.0
YAK Yakutsk 69.86 14*c i*P **P 16 22 55.6 -2.6**
YAK *e**PP pP 16 23 11.9 +5.5
YAK *e* 16 23 18.0
YAK *e*S S 16 32 01.3 -4.8
YAK pmax pmax
comp=E,13nm,0.9s
YAK pmax pmax
comp=Z,145nm,0.9s,mb5.9
YAK pmax pmax
comp=N,34nm,1.0s
YAK smax
comp=E,2μm,16.7s
YAK smax
comp=N,4μm,15.8s
ZEI Tsey 69.95 319 *e*P **P 16 23 00.8 +1.6**
ZEI *e* pP 16 23 09.8 +2.5
ZEI *e*S S 16 32 09.2 +1.3
ZEI pmax pmax
comp=Z,19nm,0.9s,mb5.0
ARU Arti 70.01 336 *e*P **P 16 22 59.1 -0.2**
ARU Arti 70.01 336*c i*P **P 16 22 58.8 -0.4**
ARU *e* 16 23 20.9
ARU *e* 16 25 36.9
ARU PPP 16 27 18.3
ARU S S 16 32 08.9 +0.8
ARU SS SS 16 36 42.4 +4.5
ARU pmax pmax
comp=Z,84nm,1.0s,mb5.6
ARU Arti 70.01 336 P **P 16 22 59.2 0.0**
comp=Z,511nm,1.1s,mb6.4,SNR=8.2
ASF Jabal al Asfar 71.08 306 P **P 16 23 08.2 +1.9**
comp=Z,10nm,0.8s,mb4.8,baz=341,slow=6.2,SNR=5.8
ASF Jabal al Asfar 71.08 306 P **P 16 23 08.2 +1.9**
ASF Jabal al Asfar 71.08 306 P **P 16 23 08.2 +1.9**
KIV Kislovodsk 71.27 319 *e*P **P 16 23 07.4 +0.2**
comp=Z,70nm,1.0s,mb5.5
KIV Kislovodsk 71.27 319 *e*P **P 16 23 08.2 +1.0**
KIV *e* 16 23 29.9
KIV pmax pmax
comp=Z,50nm,1.0s,mb5.4
EIL Elat 71.94 303 P **P 16 23 12.5 +0.9**
comp=Z,22nm,0.7s,mb5.2,baz=106,slow=5.6,SNR=7.5
EIL Elat 71.94 303 P **P 16 23 12.5 +0.9**
SKR Severo-Kuril's 72.26 33 *e*P **P 16 23 15.0 +2.0**
RPZ Rata Peaks 72.32 134 *e*P **P 16 23 11.1 -2.5**
comp=Z,93nm,1.1s,mb5.6
MMAI Mount Meron Ar 72.54 307 P **P 16 23 16.9 +1.9**
comp=Z,11nm,0.7s,mb4.9,baz=102,slow=7.8,SNR=7.5
MMAI Mount Meron Ar 72.54 307 P **P 16 23 16.9 +1.9**
SOKR Solikamsk 72.86 338*c i*P **P 16 23 16.7 +0.3**
SOKR pmax pmax
comp=Z,110nm,1.0s,mb5.7
PETK Petropavlovsk- 74.35 31 P **P 16 23 24.4 -0.8**
comp=Z,26nm,0.8s,mb5.2,baz=200,slow=5.8,SNR=23
PETK pP pP 16 23 32.7 -0.7
comp=Z,21nm,0.7s,baz=208,slow=5.0,SNR=11
PETK Petropavlovsk- 74.35 31 P **P 16 23 24.4 -0.8**
PETK pP pP 16 23 32.7 -0.7
PETK Petropavlovsk- 74.35 31 P **P 16 23 24.5 -0.8**
PETK *PP pP 16 23 32.7 -0.8
SNZO South Karori 74.60 131 P **P 16 23 25.2 -1.8**
PET Petropavlovsk 74.80 32 *e*P **P 16 23 26.6 -1.3**
comp=Z,54nm,0.6s,mb5.7
PET Petropavlovsk 74.80 32⇑*i*P **P 16 23 26.3 -1.6**
PET *e*S S 16 32 59.2 -3.8
PET pmax pmax
comp=Z,122nm,0.9s,mb5.8
ANN Anapa 75.05 319 *e*P **P 16 23 22.1 -7.4**
ANN pmax pmax
comp=Z,231nm,1.5s,mb5.9
ANN MLR MLR
comp=N,8μm,19.0s,MS6.3
ANN MLR MLR
comp=E,12μm,19.0s,MS6.3
ANN MLR MLR
comp=Z,10μm,19.0s,MS6.1
LBTB Lobatse 75.12 245 P **P 16 23 31.8 +1.4**
comp=Z,5.5nm,0.8s,mb4.5,baz=94,slow=2.6,SNR=3.5
LBTB Lobatse 75.12 245 P **P 16 23 31.8 +1.4**
LBTB Lobatse 75.12 245 P **P 16 23 31.8 +1.4**
BOSA Boshof 75.57 242 P **P 16 23 33.5 +0.6**
comp=Z,3.4nm,0.7s,mb4.4,baz=70,slow=5.6,SNR=3.5
BOSA pP pP 16 23 42.0 +0.8
comp=Z,13nm,0.9s,baz=88,slow=5.9,SNR=6.7
BOSA Boshof 75.57 242 *e*P **P 16 23 30.6 -2.4**
comp=Z,10nm,0.9s,mb4.8
BOSA pP pP 16 23 42.0 +0.8
BOSA *e*PcP PcP 16 23 42.8 -3.0
BOSA Boshof 75.57 242 *e*P **P 16 23 30.6 -2.3**
BOSA *PP pP 16 23 42.0 +0.9
BOSA *e* 16 23 42.8
BOSA pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BR131 Keskin Array S 75.95 313 *e*P **P 16 23 34.3 -0.5**
BRTR Keskin Array B 75.95 313 P **P 16 23 34.7 -0.1**
comp=Z,8.8nm,0.7s,mb4.8,baz=149,slow=5.5,SNR=10
BRTR pP pP 16 23 43.0 0.0
comp=Z,15nm,0.8s,baz=136,slow=6.3,SNR=12
BRTR Keskin Array B 75.95 313 P **P 16 23 34.7 -0.1**
BRTR pP pP 16 23 43.0 0.0
BRTR Keskin Array B 75.95 313 P **P 16 23 34.7 -0.1**
BRTR *PP pP 16 23 43.1 +0.1
MSVF Nonsavu 76.06 107 P **P 16 23 32.9 -3.0**
MSVF Nonsavu 76.06 107 P **P 16 23 32.9 -3.0**
VSR Storozhevoye 76.56 325 *e*P **P 16 23 37.0 -1.0**
VSR *e**PP pP 16 23 45.3 -0.9
VSR pmax pmax
comp=Z,20nm,0.7s,mb5.2
VSR pmax pmax
comp=N,20nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.0s
SIM Simferopol' 77.31 318 P **P 16 23 36.4 -6.0**
SIM pmax pmax
comp=Z,34nm,1.0s,mb5.2
SIM MLR MLR
comp=Z,6μm,18.0s,MS6.0
SEY Seymchan 77.49 21⇓*i*P **P 16 23 43.2 +0.2**
MOS Moscow 79.30 329 *e*P **P 16 23 56.3 +3.2**
MOS *e*S S 16 33 55.3 +3.4
MOS pmax pmax
comp=Z,223nm,1.5s,mb5.9
VNDA Vanda 79.46 169 P **P 16 23 53.6 -0.1**
comp=Z,3.5nm,0.8s,mb4.3,baz=308,slow=4.9,SNR=8.7
VNDA Vanda 79.46 169 *e*P **P 16 23 53.5 -0.1**
comp=Z,32nm,1.2s,mb5.1
VNDA Vanda 79.46 169 *e*P **P 16 23 53.5 -0.2**
VNDA pmax pmax
comp=Z,32nm,1.2s
OBN Obninsk 79.59 328 *e*P **P 16 23 54.2 -0.6**
comp=Z,151nm,1.1s,mb5.8
OBN Obninsk 79.59 328⇓*i*P **P 16 23 54.9 +0.2**
OBN *e* pP 16 24 02.5 -0.5
OBN pmax pmax
comp=Z,78nm,1.2s,mb5.5
SBA Scott Base 80.55 169 *e*P **P 16 24 00.2 +0.6**
comp=Z,19nm,0.9s,mb5.0
SBA Scott Base 80.55 169 *e*P **P 16 24 00.2 +0.6**
SBA pmax pmax
comp=Z,19nm,0.9s,mb5.0
KLMR Klimovskoe 80.64 334 *e*P **P 16 23 59.5 -0.8**
KLMR pmax pmax
comp=Z,111nm,1.0s,mb5.8
LEOM Leova 81.69 318 ⇑P **P 16 24 07.0 +0.8**
LEOM Leova 81.69 318⇑*i*P **P 16 24 07.0 +0.8**
AKASG Malin Array Be 82.24 322 P **P 16 24 08.0 -1.0**
comp=Z,9.1nm,0.8s,mb4.7,baz=85,slow=4.5,SNR=9.0
AKASG PP PP 16 27 15.1 -2.7
comp=Z,3.8nm,1.0s,baz=85,slow=6.3,SNR=3.7
AKASG Malin Array Be 82.24 322 P **P 16 24 08.0 -1.0**
AKASG PP PP 16 27 15.1 -2.7
AKASG Malin Array Be 82.24 322 P **P 16 24 08.0 -1.0**
AKASG 16 27 15.1
VRI Vrincioaia 82.55 317 ⇑P **P 16 24 12.4 +1.7**
VRI Vrincioaia 82.55 317⇑*i*P **P 16 24 12.4 +1.7**
TESR 82.76 318⇓*i*P **P 16 24 13.0 +1.2**
MLR Muntele Rosu 82.99 317 P **P 16 24 14.3 +1.3**
comp=Z,3.2nm,0.7s,mb4.5,baz=149,slow=12,SNR=3.7
MLR Muntele Rosu 82.99 317 P **P 16 24 14.3 +1.3**
MLR Muntele Rosu 82.99 317 ⇑P **P 16 24 14.6 +1.6**
MLR Muntele Rosu 82.99 317⇑*i*P **P 16 24 14.6 +1.6**
BURAR Bucovina Array 83.98 319 ⇑P **P 16 24 20.3 +2.2**
BURAR Bucovina Array 83.98 319⇑*i*P **P 16 24 20.3 +2.2**
BUR08 Bucovina Ar. S 84.00 319 *e*P **P 16 24 19.6 +1.4**
MICGM Minsk 84.11 326 *e*P **P 16 24 16.0 -2.6**
MNK Minsk 84.14 326 *e*P **P 16 24 16.0 -2.7**
MNK *e* pP 16 24 24.0 -3.0
MNK *e*S S 16 34 40.0 -1.9
PUL Pulkovo 84.43 331 *e*P **P 16 24 19.4 -0.7**
PUL pmax pmax
comp=Z,61nm,0.8s,mb5.8
IDID Didziasalis 84.97 326 *e*P **P 16 24 23.9 +1.1**
BILL Bilibino 85.08 20 *e*P **P 16 24 22.3 -0.9**
comp=Z,29nm,1.0s,mb5.4
BILL Bilibino 85.08 20 *e*P **P 16 24 23.1 0.0**
BILL *i* 16 24 40.8
BILL *i* 16 27 42.2
BILL pmax pmax
comp=Z,27nm,1.0s,mb5.3
DEV Deva 85.16 317 ⇑P **P 16 24 22.2 -1.9**
DEV Deva 85.16 317⇑*i*P **P 16 24 22.2 -1.9**
IIGN Ignalina 85.26 326 *e*P **P 16 24 25.3 +0.9**
IIGN AMB AMB 16 24 36.1
comp=Z,44nm,1.1s,mb5.5
IZAR Zarasai 85.35 327 *e*P **P 16 24 25.7 +0.9**
IZAR AMB AMB 16 24 28.9
comp=Z,14nm,1.3s,mb4.9
ISAL Salakas 85.37 327 *e*P **P 16 24 25.8 +0.9**
ISAL AMB AMB 16 24 36.4
comp=Z,25nm,1.2s,mb5.2
QSPA South Pole Qui 85.45 180 P **P 16 24 26.1 +1.2**
comp=Z,2.6nm,0.6s,mb4.5,baz=275,slow=3.6,SNR=7.2

QSPA pP pP 16 24 34.6 +1.3
comp=Z,16nm,1.1s,baz=310,slow=3.7,SNR=7.9
QSPA South Pole Qui 85.45 180 *eP* **P 16 24 25.9 +0.9**
comp=Z,35nm,1.3s,mb5.3
QSPA pP pP 16 24 34.6 +1.3
LVZ Lovozero 85.57 340 *eP* **P 16 24 25.3 -0.3**
comp=Z,58nm,1.0s,mb5.8
LVZ Lovozero 85.57 340 *eP* **P 16 24 25.3 -0.3**
LVZ pmax pmax
comp=Z,30nm,0.8s,mb5.6
LVZ Lovozero 85.57 340 P P **16 24 26.3 +0.7**
comp=Z,315nm,0.8s,mb6.6,SNR=6.8
VSU Vasula 85.81 329 *eP* **P 16 24 25.1 -1.9**
VSU pmax pmax
comp=Z,46nm,1.1s,mb5.6
APA Apatity 85.88 339 ⇑*iP* **P 16 24 27.8 +0.6**
APA *i* 16 24 33.0
APA pmax pmax
comp=Z,23nm,1.0s,mb5.4
APA MLR MLR
comp=Z,18μm,26.0s,MS6.3
KWP Kalwaria Pacla 86.04 320 *eP* **P 16 24 28.1 -0.2**
comp=Z,95nm,1.3s,mb5.9
KWP *e* 16 24 38.8
KWP Kalwaria Pacla 86.04 320 *eP* **P 16 24 28.1 -0.3**
KWP *e* 16 24 38.8
KWP pmax pmax
comp=Z,95nm,1.3s,mb5.9
KWP Kalwaria Pacla 86.04 320 ⇑*iP* **P 16 24 38.8 +10**
UZH Uzhgorod 86.11 319 *eP* **P 16 24 26.2 -2.5**
UZH *i* 16 24 37.8
SUW Suwalki 86.66 325 *eP* **P 16 24 31.5 +0.2**
SUW Suwalki 86.66 325 *eP* **P 16 24 30.8 -0.6**
comp=Z,277nm,1.1s,mb6.4
SUW Suwalki 86.66 325 *eP* **P 16 24 31.5 +0.2**
FINES FINESS Array B 86.92 332 P P **16 24 33.4 +0.9**
comp=Z,12nm,0.8s,mb5.2,baz=83,slow=6.0,SNR=7.4
FINES pP pP 16 24 41.6 +0.9
comp=Z,42nm,0.9s,baz=108,slow=6.2,SNR=11
FINES FINESS Array B 86.92 332 P **P 16 24 33.4 +0.9**
FINES pP pP 16 24 41.6 +0.9
FINES FINESS Array B 86.92 332 P **P 16 24 33.4 +1.0**
FINES *PP pP 16 24 41.6 +0.9
NIE Niedzica 87.53 320 *eP* pP 16 24 46.8 +2.8
NIE Niedzica 87.53 320 *eP* pP 16 24 46.8 +2.8
OJC Ojcow 88.00 321 *eP* **P 16 24 39.2 +1.4**
OJC *eS* S 16 35 16.4 -3.4
OJC L 17 08 23.4
comp=Z,8.1nm,19.4s
OJC Ojcow 88.00 321 *eP* **P 16 24 39.2 +1.4**
OJC *eS* S 16 35 16.4 -3.4
OJC MLR MLR
comp=Z,8μm,19.4s,MS6.2
PKSM Moragy 88.14 316 ⇑⇑P **P 16 24 39.6 +1.0**
PKSM Moragy 88.14 316 ⇑*iP* **P 16 24 39.6 +1.0**
KEV Kevo 88.81 340 *eP* **P 16 24 41.0 -0.3**
comp=Z,52nm,0.9s,mb5.9
KEV Kevo 88.81 340 *eP* **P 16 24 41.0 -0.3**
KEV pmax pmax
comp=Z,52nm,0.9s,mb5.9
ARCES ARCESS Array B 89.26 340 P **P 16 24 44.1 +0.8**
comp=Z,28nm,0.8s,mb5.6,baz=83,slow=3.8,SNR=19
ARCES pP pP 16 24 52.5 +0.7
comp=Z,54nm,0.9s,baz=96,slow=3.8,SNR=15
ARCES ARCESS Array B 89.26 340 P **P 16 24 44.1 +0.8**
ARCES pP pP 16 24 52.5 +0.7
ARCES ARCESS Array B 89.26 340 P **P 16 24 44.2 +0.8**
ARCES *PP pP 16 24 52.5 +0.7
ARE0 ARCESS Array S 89.26 340 *eP* **P 16 24 43.2 -0.2**
MORC Moravsky Berou 89.37 320 ⇓⇓P **P 16 24 44.6 +0.3**
MORC Moravsky Berou 89.37 320 ⇓*iP* **P 16 24 44.6 +0.3**
SNAA Sanae 90.15 198 P **P 16 24 49.2 +1.6**
comp=Z,1.5nm,0.7s,mb4.4,baz=174,slow=10.0,SNR=5.8
SNAA pP pP 16 24 58.2 +2.3
comp=Z,8.8nm,1.0s,baz=103,slow=5.4,SNR=17
SNAA Sanae 90.15 198 P **P 16 24 49.2 +1.6**
SNAA pP pP 16 24 58.2 +2.3
SNAA Sanae 90.15 198 P **P 16 24 49.2 +1.6**
SNAA *PP pP 16 24 58.2 +2.3
GERES GERESS Array B 91.77 319 P **P 16 24 56.5 +1.0**
comp=Z,5.2nm,0.8s,mb4.9,baz=96,slow=3.5,SNR=6.4
GERES pP pP 16 25 05.7 +1.8
comp=Z,11nm,0.8s,baz=94,slow=4.3,SNR=9.1
GERES GERESS Array B 91.77 319 P **P 16 24 56.5 +1.0**
GERES pP pP 16 25 05.7 +1.8
GERES GERESS Array B 91.77 319 P **P 16 24 56.5 +1.0**
GERES *PP pP 16 25 05.7 +1.8
SPITS Spitsbergen Ar 93.35 348 P **P 16 25 01.6 -0.6**
comp=Z,25nm,1.0s,mb5.6,baz=69,slow=11,SNR=6.0
SPITS Spitsbergen Ar 93.35 348 P **P 16 25 01.6 -0.6**
SPITS Spitsbergen Ar 93.35 348 P **P 16 25 01.6 -0.7**
NB2 NORSAR Subarra 93.95 331 P **P 16 25 04.2 -1.1**
comp=Z,14nm,1.1s,mb5.3,baz=88,slow=4.8
NB2 NORSAR Subarra 93.95 331 P **P 16 25 04.2 -1.1**
baz=88,slow=4.8
NOA NORSAR Array B 93.95 331 P **P 16 25 05.7 +0.3**
comp=Z,3.2nm,1.0s,mb4.7,baz=94,slow=4.9,SNR=3.3
NOA NORSAR Array B 93.95 331 P **P 16 25 05.7 +0.3**
NOA NORSAR Array B 93.95 331 P **P 16 25 05.7 +0.4**
ILAR Eielson Array 103.28 24 Pdiff Pdif 16 25 46.2 -1.2
comp=Z,0.5nm,0.8s,baz=289,slow=4.2,SNR=3.6
ILAR PP PP 16 30 00.9 -1.5
comp=Z,1.9nm,0.8s,baz=290,slow=5.3,SNR=8.8
ILAR PKKP PKKPbc 16 41 51.1 +6.5
comp=Z,1.2nm,1.1s,baz=72,slow=1.3,SNR=4.2
ILAR Eielson Array 103.28 24 Pdif Pdif 16 25 46.2 -1.2
ILAR PP PP 16 30 00.9 -1.5
ILAR PKKP PKKPbc 16 41 51.1 +6.5
ILAR Eielson Array 103.28 24 P Pdif 16 25 46.2 -1.2
ILAR 16 30 01.0
JCW Jim Creek 122.99 33 *e*PKPdf PKPdf 16 30 44.8 +0.6
ETW Entiat 124.21 33 *e*PKPdf PKPdf 16 30 46.7 +0.1
RSW Rattlesnake Hi 125.34 34 *e*PKPdf PKPdf 16 30 48.9 +0.1
HUMO Hull Mountain 125.47 39 *e*PKPdf PKPdf 16 30 49.5 +0.4
LNOR Lincton Mounta 126.38 34 *e*PKPdf PKPdf 16 30 49.5 -1.2
LNOR Lincton Mounta 126.38 34 *e*PKIKP PKPdf 16 30 49.5 -1.3
BSMT Bassoo Peak 126.92 30 *e*PKPdf PKPdf 16 30 51.1 -0.6
MOD Modoc 127.51 39 *e*PKPdf PKPdf 16 30 54.0 +1.0
SWMT Swartz Lake 127.55 30 *e*PKPdf PKPdf 16 30 52.4 -0.5
SLMT Seeley Lake 127.98 30 *e*PKPdf PKPdf 16 30 53.5 -0.2
MSO Missoula 128.04 30 *e*PKPdf PKPdf 16 30 52.8 -1.1
CHMT Chamberlain Mo 128.33 30 *e*PKPdf PKPdf 16 30 53.6 -0.9
SCHQ Schefferville 128.93 351 PKP PKPdf 16 30 55.5 +0.2
comp=Z,8.8nm,1.1s,baz=343,slow=2.0,SNR=3.6
SCHQ pPKP pPKPdf 16 31 05.0 +1.0
comp=Z,15nm,1.0s,baz=72,slow=4.8,SNR=4.2
SCHQ Schefferville 128.93 351 PKP PKPdf 16 30 55.5 +0.2
SCHQ pPKP pPKPdf 16 31 05.0 +1.0
EGMT Eagleton 129.17 27 *e*PKPdf PKPdf 16 30 54.2 -1.8
DLMT Dillon 129.73 31 *e*PKPdf PKPdf 16 30 57.6 +0.4
MCMT McKenzie Canyo 129.97 31 *e*PKPdf PKPdf 16 30 58.9 +1.2
QLMT Earthquake Lak 130.69 30 *e*PKPdf PKPdf 16 31 00.4 +1.4
NVAR Mina Array Bea 130.70 41 PKP PKPdf 16 31 00.8 +1.5
comp=Z,3.4nm,0.7s,baz=290,slow=2.7,SNR=12
NVAR pPKP pPKPdf 16 31 10.0 +2.2
comp=Z,6.0nm,0.7s,baz=277,slow=2.3,SNR=14
NVAR SKPbc SKPbc 16 34 22.7 +1.2
comp=Z,5.7nm,0.8s,baz=270,slow=3.6,SNR=8.6
NVAR Mina Array Bea 130.70 41 PKP PKPdf 16 31 00.8 +1.5
NVAR pPKP pPKPdf 16 31 10.0 +2.2
NVAR SKPbc SKPbc 16 34 22.7 +1.2
YMR Madison River 131.04 30 *e*PKPdf PKPdf 16 31 00.4 +0.7
RLMT Red Lodge 131.55 29 *e*PKPdf PKPdf 16 30 58.7 -1.9
LAO LASA Array 131.73 25 *e*PKPdf PKPdf 16 31 01.5 +0.6
RRI2 Red Ridge 131.79 32 *e*PKPdf PKPdf 16 31 01.0 -0.1
SNOW Snow King Moun 132.00 31 *e*PKPdf PKPdf 16 31 02.0 +0.4
REDW Red Top Meadow 132.02 31 *e*PKPdf PKPdf 16 31 02.1 +0.5
ULM Lac du Bonnet 132.19 15 PKP PKPdf 16 31 02.4 +0.7
comp=Z,10nm,0.8s,baz=354,slow=4.3,SNR=11
ULM pPKP pPKPdf 16 31 11.1 +0.8
comp=Z,14nm,0.7s,baz=25,slow=3.7,SNR=10
ULM Lac du Bonnet 132.19 15 *e*PKPdf PKPdf 16 31 01.6 0.0
ULM PKP PKPdf 16 31 02.4 +0.7
ULM pPKP pPKPdf 16 31 11.1 +0.8
ULM Lac du Bonnet 132.19 15 *e*PKIKP PKPdf 16 31 01.7 0.0
ULM 16 31 11.1
HWUT Hardware Ranch 132.85 34 *e*PKPdf PKPdf 16 31 04.3 +1.1
DUG Dugway 133.07 36 *e*PKPdf PKPdf 16 31 05.0 +1.3
DUG Dugway 133.07 36 *e*PKIKP PKPdf 16 31 05.0 +1.3
PDAR Pinedale Array 133.11 31 PKP PKPdf 16 31 03.2 -0.5
comp=Z,2.6nm,0.8s,baz=166,slow=0.8,SNR=9.6
PDAR PP PP 16 33 21.8 -7.5
comp=Z,1.1nm,0.8s,baz=358,slow=2.2,SNR=3.1
PDAR SKP 16 34 40.4
comp=Z,3.0nm,0.9s,baz=318,slow=2.4,SNR=3.9
PDAR Pinedale Array 133.11 31 PKP PKPdf 16 31 03.2 -0.5
PDAR PP PP 16 33 21.8 -7.5
PDAR SKP 16 34 40.4
GSC Goldstone 133.39 44 *e*PKPdf PKPdf 16 31 05.5 +1.1
GSC Goldstone 133.39 44 *e*PKIKP PKPdf 16 31 05.5 +1.1
PLCA Paso Flores 134.34 189 PKP PKPdf 16 31 07.3 +1.2
comp=Z,2.8nm,0.8s,baz=280,slow=5.4,SNR=3.0
PLCA Paso Flores 134.34 189 PKP PKPdf 16 31 07.3 +1.2
PLCA Paso Flores 134.34 189 PKIKP PKPdf 16 31 07.3 +1.2
MSU Marysvale 134.52 37 *e*PKPdf PKPdf 16 31 07.7 +1.3
MSU Marysvale 134.52 37 *e*PKIKP PKPdf 16 31 07.7 +1.3
LDFC Landfair 134.68 43 *e*PKPdf PKPdf 16 31 06.8 -0.1
RSSD Black Hills 134.71 26 *e*PKPbc PKPdf 16 31 02.7 -4.0
RSSD Black Hills 134.71 26 *e*PKIKP PKPdf 16 31 02.7 -3.9
SRU San Rafael 135.11 36 *e*PKPdf PKPdf 16 31 07.3 -0.3
SRU San Rafael 135.11 36 *e*PKIKP PKPdf 16 31 07.3 -0.2
PV01 Paradox Valley 136.90 35 *e*PKPdf PKPdf 16 31 12.8 +2.0
WUAZ Wupatki 136.90 40 *e*PKPdf PKPdf 16 31 10.5 -0.5
BNM Barren Site 140.76 38 *e*PKPdf PKPdf 16 31 17.8 -0.3
KSU1 Kansas State U 141.95 23 *e*PKPdf PKPdf 16 31 16.7 -3.4
CPUP Villa Florida 142.98 213 PKP PKPdf 16 31 20.8 -1.5
comp=Z,1.1nm,0.5s,baz=125,slow=6.2,SNR=4.8
CPUP Villa Florida 142.98 213 PKP PKPdf 16 31 20.8 -1.5
CPUP Villa Florida 142.98 213 PKIKP PKPdf 16 31 20.9 -1.5
MNTX Cornudas Mount 143.18 40 *e*PKPpre PKPpre 16 31 17.9
CPRX Cap Rock 143.19 37 *e*PKPpre PKPpre 16 31 19.5
CLNB Carlsbad 143.72 37 *e*PKPdf PKPdf 16 31 21.1 -2.4
ACSO Alum Creek Sta 144.25 6 *e*PKPdf PKPdf 16 31 20.2 -3.9
WMOK Wichita Mounta 144.66 29 *e*PKPdf PKPdf 16 31 22.9 -2.0
WMOK Wichita Mounta 144.66 29 *e*PKIKP PKPdf 16 31 23.0 -2.0
CCM Cathedral Cave 144.73 17 *e*PKPdf PKPdf 16 31 22.8 -2.2
CCM Cathedral Cave 144.73 17 *e*PKIKP PKPdf 16 31 22.8 -2.2
BLO Bloomington 144.79 11 *e*PKPdf PKPdf 16 31 23.4 -1.7
BLO Bloomington 144.79 11 *e*PKIKP PKPdf 16 31 23.4 -1.7
OLIL Olney 144.90 13 *e*PKPdf PKPdf 16 31 23.7 -1.6
SDMD Soldier's Deli 145.23 357 *e*PKPdf PKPdf 16 31 24.2 -1.6
SIUC Southern Illin 145.60 15 *e*PKPdf PKPdf 16 31 25.9 -0.6
USIN University of 145.73 13 *e*PKPdf PKPdf 16 31 26.1 -0.7
WCI Wyandotte Cave 145.75 11 *e*PKPdf PKPdf 16 31 26.1 -0.7
WCI Wyandotte Cave 145.75 11 *e*PKIKP PKPdf 16 31 26.1 -0.6
LCO Las Campanas 145.78 193 *e*PKPdf PKPdf 16 31 27.8 +0.7
TXAR Lajitas Array 145.85 41 PKPbc PKPbc 16 31 28.3 +0.6
comp=Z,65nm,0.8s,baz=295,slow=1.2,SNR=158
TXAR Lajitas Array 145.85 41 PKPbc PKPbc 16 31 28.3 +0.6
TXAR Lajitas Array 145.85 41 PKP2 PKPab 16 31 28.3 +0.2
PARMO Parma 146.45 16 *e*PKPdf PKPdf 16 31 25.2 -2.8
CBN Corbin 146.45 358 PKPdf PKPdf 16 31 28.9 +1.0
GLAT Glass 146.95 16 *e*PKPbc PKPbc 16 31 30.5 -0.2
UTMT University of 146.99 15 *e*PKPdf PKPdf 16 31 28.8 -0.1
GNAR Gosnell 147.03 17 *e*PKPbc PKPbc 16 31 30.7 -0.3
MIAR Mount Ida 147.11 23 *e*PKPbc PKPbc 16 31 30.8 -0.4
MIAR Mount Ida 147.11 23 *e*PKP2 PKPbc 16 31 30.8 -0.5
HBAR Harrisburg 147.22 18 *e*PKPbc PKPbc 16 31 31.1 -0.4
HALT Halls 147.27 16 *e*PKPbc PKPbc 16 31 30.9 -0.7
UALR University of 147.36 21 *e*PKPdf PKPdf 16 31 31.0 +1.4
ELN Prospectdale 147.40 3 *e*PKPdf PKPdf 16 31 30.6 +1.0
JCT Junction City 147.42 35 *e*PKPdf PKPdf 16 31 30.0 +0.2
JCT *e*PKPbc PKPbc 16 31 32.7 +0.5
JCT Junction City 147.42 35 *e*PKP2 PKPdf 16 31 30.0 +0.2
BLA Blacksburg 147.43 3 *e*PKPdf PKPdf 16 31 30.1 +0.5
BLA Blacksburg 147.43 3 *e*PKP2 PKPdf 16 31 30.1 +0.5
WVT Waverly 147.45 14 *e*PKPdf PKPdf 16 31 29.3 -0.3
WVT *e*PKPbc PKPbc 16 31 31.6 -0.5
WVT Waverly 147.45 14 *e*PKIKP PKPdf 16 31 29.3 -0.4
WVT *e* 16 31 31.6
TZTN Tazewell 147.83 7 *e*PKPbc PKPbc 16 31 32.7 -0.5
PLAL Pickwick Lake 148.48 15 *e*PKPdf PKPdf 16 31 31.0 -0.4
OXF Oxford 148.56 17 *e*PKPbc PKPbc 16 31 33.4 -1.8
OXF Oxford 148.56 17 *e*PKP2 PKPbc 16 31 33.4 -1.8
TKL Tuckaleechee C 148.67 8 *e*PKPbc PKPbc 16 31 34.6 -0.8
TKL Tuckaleechee C 148.67 8 *e*PKP2 PKPbc 16 31 34.6 -0.8
SWET Sewanee 148.74 11 *e*PKPbc PKPbc 16 31 34.3 -1.3
CPCT Cooper Cave 148.76 9 *e*PKPbc PKPbc 16 31 34.1 -1.6
NATX Nacogdoches 149.06 27 *e*PKPbc PKPbc 16 31 36.4 -0.1
CNNC Cliffs of the 149.43 359 *e*PKPbc PKPbc 16 31 37.5 +0.1
HKT Hockley 149.99 31 *e*PKPdf PKPdf 16 31 35.2 +1.2
HKT *e*PKPbc PKPbc 16 31 39.4 +0.6
HKT Hockley 149.99 31 *e*PKHKP PKPdf 16 31 35.2 +1.2
HKT *e* 16 31 39.4
JSC Jenkinsville 150.30 4 *e*PKPbc PKPbc 16 31 39.4 -0.1
JSC Jenkinsville 150.30 4 *e*PKIKP PKPbc 16 31 39.4 -0.1
VBMS Vicksburg 150.32 20 *e*PKPbc PKPbc 16 31 39.3 -0.3
COW Cow Castle Cre 151.23 3 *e*PKPdf PKPdf 16 31 33.2 -2.6
COW *e*PKPbc PKPbc 16 31 40.8 -0.9
COW *e*PKPab PKPab 16 31 50.5 +1.0
NHSC New Hope 151.53 3 *e*PKPbc PKPbc 16 31 41.1 -1.3
NHSC *e*PKPab PKPab 16 31 50.5 -0.3

SKHL 22 16:29:59.0±0.4, 54.04N×134.43E, h13km, mb3.7/2, 1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EKMR	**Ekimchan**	**1.31**	**223**	*i*Pg	Pg	16 30 23.1	-1.1
EKMR				AMB	AMB	16 30 24.5	
	52nm,0.4s						
EKMR				*e*Sg	Sg	16 30 40.5	-0.8
EKMR				A		16 30 43.6	
	360nm,0.4s						
EKMR				A		16 30 43.6	
	310nm,0.4s						
EKMR				A		16 30 43.6	
	230nm,0.4s						
BMKR	**Bomnak**	**3.34**	**284**	*e*Pn	Pn	16 30 51.0	+0.2
BMKR				*e*Pg	Pg	16 30 58.8	-4.1
BMKR				sPg		16 31 03.8	
BMKR				*e*Sn	Sn	16 31 30.3	+0.1
BMKR				*e*Sg	Sg	16 31 41.0	-5.1
BMKR				A		16 31 45.5	
	89nm,0.5s						
NKL	**Nikolayevsk**	**3.83**	**101**	*e*Sg	Sg	16 31 58.0	-3.9
ZEA	**Zeya**	**4.26**	**269**	*e*Pg	Pg	16 31 16.1	-4.4
ZEA				*e*Sg	Sg	16 32 10.3	-5.3
ZEA				A		16 32 17.2	
	40nm,0.6s						
ZEA				A		16 32 17.2	
	30nm,0.6s						
KROS	**Kirovskiy**	**4.39**	**278**	*e*Pg	Pg	16 31 18.5	-4.6
KROS				AMB	AMB	16 31 22.5	
	4.0nm,0.5s						
KROS				*e*Sg	Sg	16 32 15.6	-4.4
KROS				A		16 32 20.1	
	16nm,0.5s						
KROS				A		16 32 20.1	
	8.0nm,0.5s						
IENR	**Iengra**	**5.91**	**296**	*e*Pg	Pg	16 31 47.0	-5.1
IENR				*e*Sg	Sg	16 33 03.8	-4.7
IENR				A		16 33 05.9	
	18nm,0.6s						
CLNS	**Chul'man**	**6.11**	**301**	*e*Sg	Sg	16 33 09.7	-5.1

DJA 22 16:30:52, 3.15S×139.34E, h34km, MLv3.6/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WAMI	**Wamena**	**0.96**	**221**	P	Pn	16 31 10.4	+1.3
WAMI				S	Sn	16 31 23.9	+2.3
SMPI	**Sarmi**	**1.31**	**331**	P	Pn	16 31 14.7	+0.7
JAY	**Jayapura**	**1.50**	**65**	P	Pn	16 31 17.3	+0.8

IDC 22 16:35:18.6±4.2, 17.75S×176.97W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/18, mbtmpb3.9/4, MS4.3/1, Ms1 4.3/1, ms1mx3.7/37, Error ellipse: s-maj=184.6km s-min=33.3km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.29**	**53**	LR	LR	16 38 27.8	
	comp=Z,2μm,18.3s,baz=283,slow=39						
STKA	**Stephens Creek**	**39.91**	**241**	P	P	16 42 55.8	+1.3
	2.2nm,0.9s,baz=59,slow=5.9,SNR=4.7						
WRA	**Warramunga Arr**	**46.01**	**259**	P	P	16 43 43.6	-0.5
	0.8nm,0.4s,baz=97,slow=7.3,SNR=15						
ASAR	**Alice Springs**	**46.15**	**254**	P	P	16 43 44.5	-0.6
	1.4nm,0.4s,baz=91,slow=8.0,SNR=52						
ILAR	**Eielson Array**	**85.43**	**12**	P	P	16 47 57.6	+0.1
	0.2nm,0.4s,baz=217,slow=4.6,SNR=7.2						

IDC 22 16:36:34.9±27.0, 19.46S×175.59W, h0km, mb4.3/4, mb1 4.4/4, mb1mx3.9/19, mbtmp4.3/4, Error ellipse: s-maj=501.0km s-min=143.6km az=75.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**35.86**	**262**	P	P	16 43 38.0	+1.2
	3.8nm,0.5s,baz=104,slow=12,SNR=5.5						
STKA	**Stephens Creek**	**40.28**	**243**	P	P	16 44 14.4	+0.5
	0.9nm,0.4s,baz=71,slow=11,SNR=5.2						
ASAR	**Alice Springs**	**46.97**	**255**	P	P	16 45 07.3	-0.6
	6.6nm,0.7s,baz=95,slow=8.4,SNR=58						
WRA	**Warramunga Arr**	**47.00**	**261**	P	P	16 45 07.3	-0.9
	1.7nm,0.5s,baz=98,slow=8.7,SNR=19						

IDC 22 16:39:06.5±2.2, 21.64S×171.03E, h0km, mb4.2/5, mb1 4.4/5, mb1mx4.0/17, mbtmp4.2/5, Error ellipse: s-maj=84.7km s-min=33.2km az=163.0
NOU 22 16:39:09.5±1.3, 20.38S×171.09E, h30km, MD3.2, ML2.9, MS3.6
ISCJB 22 16:39:13.0±2.0, 21.4S±0.2×171.0E±0.1, h56km±16km, mb4.2/8, Error ellipse: s-maj=36.6km s-min=14.9km az=169.9
NEIC 22 16:39:15.1±3.6, 21.31S×170.93E, h57km±30km, mb4.2/3, Error ellipse: s-maj=32.6km s-min=25.9km az=178.0
ISC 22 16:39:14.1±2.0, 21.4S±0.2×171.0E±0.1, h51km±16km, n22, σ1°9 05/27, mb4.2/8, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.94**	**258**	*e*P	**Pn**	**16 40 11.8**	**-0.2**
BAYA				*e*S	**Sn**	**16 40 57.9**	**+0.9**
BAYA				AMP		16 41 03.1	
	comp=Z,19nm,4.2s						
PLUM	**Mont Dore**	**4.18**	**257**	*e*P	**Pn**	**16 40 14.9**	**-0.5**
PLUM				*e*S	**Sn**	**16 41 03.1**	**+0.1**
LASL	**Noumea**	**4.27**	**257**	*e*P	**Pn**	**16 40 16.2**	**-0.3**
DZM	**Mont Dzumac**	**4.33**	**260**	*e*P	**Pn**	**16 40 17.0**	**-0.3**
DZM				*e*S	**Sn**	**16 41 07.5**	**+1.0**
DZM				AMP		16 41 11.9	
	comp=Z,2μm,10.3s						
DZM	**Mont Dzumac**	**4.33**	**260**	*e*Pn	**Pn**	**16 40 17.1**	**-0.2**
DZM				*e*Sn	**Sn**	**16 41 05.6**	**-0.9**
NOUC	**Port Laguerre**	**4.46**	**260**	*e*P	**Pn**	**16 40 19.0**	**-0.2**
NOUC				*e*S	**Sn**	**16 41 10.5**	**+0.7**
NOUC				AMP		16 41 14.5	
	comp=Z,91nm,0.8s						
PMG	**Port Moresby**	**25.86**	**294**	P	**P**	**16 44 41.5**	**+0.4**
	comp=Z,5.1nm,0.7s,mb4.2,baz=143,slow=9.7,SNR=2.6						
PMG	**Port Moresby**	**25.86**	**294**	P	**P**	**16 44 41.5**	**+0.4**
COEN	**Coen**	**27.52**	**281**	P	**P**	**16 44 58.1**	**+2.1**
ASAR	**Alice Springs**	**34.32**	**259**	P	**P**	**16 45 54.1**	**-1.8**
	comp=Z,3.7nm,0.8s,mb4.4,baz=86,slow=8.8,SNR=15						
ASAR	**Alice Springs**	**34.32**	**259**	P	**P**	**16 45 54.1**	**-1.8**
WRA	**Warramunga Arr**	**34.32**	**266**	P	**P**	**16 45 54.2**	**-1.8**
	comp=Z,0.7nm,0.5s,mb3.9,baz=97,slow=8.4,SNR=9.9						
WRA	**Warramunga Arr**	**34.32**	**266**	P	**P**	**16 45 54.2**	**-1.8**
FITZ	**Fitzroy Crossi**	**42.74**	**266**	P	**P**	**16 47 06.4**	**-0.3**
	comp=Z,7.0nm,0.7s,mb4.5,baz=129,slow=6.9,SNR=16						
FITZ	**Fitzroy Crossi**	**42.74**	**266**	P	**P**	**16 47 06.4**	**-0.3**
MBWA	**Marble Bar**	**47.63**	**260**	*e*P	**P**	**16 47 43.8**	**-1.6**
	comp=Z,4.9nm,0.6s,mb4.7						
QSPA	**South Pole Qui**	**68.71**	**180**	*e*P	**P**	**16 50 13.3**	**+1.5**
	comp=Z,3.0nm,1.0s,mb4.2						
CMAR	**Chiang Mai Arr**	**80.90**	**294**	P	**P**	**16 51 27.0**	**+3.8**
	comp=Z,0.9nm,0.8s,mb3.8,baz=137,slow=4.5,SNR=7.4						
CMAR	**Chiang Mai Arr**	**80.90**	**294**	P	**P**	**16 51 27.0**	**+3.8**
ISA	**Isabella**	**87.51**	**50**	*e*P	**P**	**16 51 56.1**	**-0.4**
NVAR	**Mina Array Bea**	**88.95**	**48**	P	**P**	**16 52 04.3**	**+1.1**
	comp=Z,0.3nm,0.6s,mb3.8,baz=221,slow=7.7,SNR=4.1						
NVAR	**Mina Array Bea**	**88.95**	**48**	P	**P**	**16 52 04.3**	**+1.1**

JMA 22 16:43:58.1±0.6, 44.58N×149.03E, h30km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**2.67**	**244**	P	Pn	16 44 37.6	-1.3
NEM2				*e*S	Sn	16 45 06.8	-3.4
JRA	**Rausu**	**2.88**	**258**	P	Pn	16 44 42.7	+0.8
JRA				*e*S	Sn	16 45 16.7	+1.2
JNK	**Nakash**	**3.26**	**254**	P	Pn	16 44 48.2	+1.1
JNK				*e*S	Sn	16 45 23.5	-1.4
JAK	**Akkeshi**	**3.52**	**245**	P	Pn	16 44 50.1	-0.5
JAK				*e*S	Sn	16 45 28.7	-2.4
JTKR	**Abashiri--Toko**	**3.73**	**262**	P	Pn	16 44 55.9	+2.3
JAR	**Ashorobuto**	**4.01**	**253**	P	Pn	16 44 58.5	+1.1
JAR				*e*S	Sn	16 45 41.3	-2.1
JMP	**Maruseppu**	**4.11**	**264**	P	Pn	16 45 01.5	+2.7
JOB	**Onbets**	**4.12**	**248**	P	Pn	16 44 59.0	+0.1
JOB				*e*S	Sn	16 45 43.2	-2.9
JCH	**Churui**	**4.56**	**246**	P	Pn	16 45 05.5	+0.5
JCH				*e*S	Sn	16 45 54.8	-2.1
JFR	**Furan**	**4.86**	**255**	P	Pn	16 45 12.0	+2.8
JEM	**Erimo**	**4.99**	**241**	P	Pn	16 45 12.1	+1.2
JNBK	**Urakawa-nobuka**	**5.12**	**245**	P	Pn	16 45 12.2	-0.4
JBT2	**Biratori 2**	**5.16**	**252**	P	Pn	16 45 14.0	+0.8
JNB	**Noboribetsu**	**6.18**	**253**	P	Pn	16 45 28.2	+1.0
JKB	**Kayabe**	**6.43**	**248**	P	Pn	16 45 30.5	-0.2
JKB				*e*S	Sn	16 46 37.6	-5.4
JYM2	**Yakumo 2**	**6.78**	**252**	P	Pn	16 45 37.2	+1.8
JANG	**Nango**	**6.96**	**235**	*e*S	Sn	16 46 46.2	-10
JTH	**Tanohata**	**7.05**	**231**	*e*S	Sn	16 46 47.6	-11

IDC 22 16:45:53.6±8.4, 5.65S×150.39E, h75km±61km, mb3.1/2, mb1 3.4/3, mb1mx3.1/17, mbtmpb3.3/3, ML2.8/1, Error ellipse: s-maj=117.7km s-min=54.6km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.92**	**220**	P	Pn	16 47 05.7	+0.5
	2.4nm,0.3s,baz=32,slow=6.2,SNR=19						
PMG				S	Sn	16 48 01.3	+0.5
	3.8nm,0.3s,baz=181,slow=16,SNR=7.3						
WRA	**Warramunga Arr**	**21.11**	**226**	P	P	16 50 32.8	+0.4
	0.7nm,0.5s,baz=52,slow=10,SNR=5.5						
ASAR	**Alice Springs**	**23.94**	**220**	P	P	16 51 00.8	-0.1
	0.9nm,0.6s,baz=52,slow=9.3,SNR=17						
TORD	**Torodi Ar. Bea**	**148.26**	**286**	PKPbc	PKPbc	17 05 31.7

KHKI	**Kahang-Kahang**	**3.00**	**66**	P		**Pn**	16 53 51.0	**-0.3**
KHKI				S		**Sn**	16 54 26.3	**+0.1**
MTNI	**Mataram**	**3.44**	**74**	P		**Pn**	16 53 57.7	**+0.5**
SMRI	**Semarang**	**3.46**	**317**	P		**Pn**	16 53 58.1	**+0.6**
SMRI				S		**Sn**	16 54 42.7	**+5.5**
BJII	**Banjamegara**	**3.81**	**306**	P		**Pn**	16 54 04.1	**+1.7**
BJII				S		**Sn**	16 54 51.0	**+5.0**
CLJI	**Cilicap**	**4.20**	**296**	S		**Sn**	16 54 58.6	**+3.0**
LEM	**Lembang**	**5.84**	**298**	P		**Pn**	16 54 32.5	**+2.3**
	0.7nm91nm,0.8s							
BBKI	**Banjar Baru**	**6.41**	**18**	P		**Pn**	16 54 37.9	**0.0**
	93nm,1.1s							
CBJI	**Citeko**	**6.70**	**298**	P		**Pn**	16 54 40.9	**-1.1**
	1.5nm203nm,0.8s							
DBJI	**Dramaga**	**6.73**	**296**	P		**Pn**	16 54 47.7	**+5.3**
	90nm,1.2s							
PBKI	**Pangkalan Bun**	**6.93**	**350**	P		**Pn**	16 54 47.0	**+1.8**
KAPI	**Kappang**	**8.23**	**57**	Pn		**Pn**	16 55 00.1	**-2.9**
	2.3nm,0.3s,baz=186,slow=10.0,SNR=12							
KAPI				Sn		**Sn**	16 56 30.0	**-4.6**
	0.6nm,0.3s,baz=323,slow=20,SNR=2.9							
KAPI	**Kappang**	**8.23**	**57**	Pn		**Pn**	16 55 00.1	**-2.9**
KAPI				Sn		**Sn**	16 56 30.0	**-4.6**
MBWA	**Marble Bar**	**13.29**	**151**	*e*Pn		**Pn**	16 56 06.4	**-5.5**
	12nm,0.7s							
MBWA				*e*Sn		**Sn**	16 58 23.8	**-14**
FITZ	**Fitzroy Crossi**	**15.04**	**126**	Pn		**Pn**	16 56 32.6	**-2.5**
	0.7nm,0.3s,baz=307,slow=7.9,SNR=27							
FITZ				Sn		**Sn**	16 59 09.5	**-11**
	0.2nm,0.3s,baz=196,slow=19,SNR=3.5							
FITZ	**Fitzroy Crossi**	**15.04**	**126**	Pn		**Pn**	16 56 32.6	**-2.5**
FITZ				Sn		**Sn**	16 59 09.5	**-11**
WRA	**Warramunga Arr**	**23.18**	**119**	P		**P**	16 58 07.5	**-0.3**
	5.3nm,0.9s,mb4.0,baz=292,slow=11,SNR=17							
WRA	**Warramunga Arr**	**23.18**	**119**	P		**P**	16 58 07.5	**-0.3**
WRAB	**Tennant Creek**	**23.19**	**119**	*e*P		**P**	16 58 07.8	**0.0**
	9.0nm,1.1s,mb4.1							
AS31	**Alice Springs**	**24.52**	**127**	*e*P		**P**	16 58 20.9	**+0.9**
ASAR	**Alice Springs**	**24.52**	**127**	P		**P**	16 58 20.9	**+0.9**
	7.8nm,0.7s,mb4.3,baz=305,slow=9.0,SNR=103							
ASAR	**Alice Springs**	**24.52**	**127**	P		**P**	16 58 20.9	**+0.9**
CM31	**Chiang Mai Arr**	**31.05**	**334**	*e*P		**P**	16 59 18.0	**-0.5**
	4.6nm,1.0s,mb4.3							
CMAR	**Chiang Mai Arr**	**31.05**	**334**	P		**P**	16 59 18.9	**+0.4**
	3.2nm,0.8s,mb4.2,baz=168,slow=8.5,SNR=31							
CMAR	**Chiang Mai Arr**	**31.05**	**334**	P		**P**	16 59 18.9	**+0.4**
CHTO	**Chiang Mai**	**31.37**	**334**	*e*P		**P**	16 59 21.0	**-0.1**
STKA	**Stephens Creek**	**34.67**	**134**	P		**P**	16 59 52.1	**+2.2**
	4.0nm,0.7s,mb4.4,baz=286,slow=4.9,SNR=7.7							
STKA	**Stephens Creek**	**34.67**	**134**	*e*P		**P**	16 59 51.2	**+1.2**
	1.2nm,0.8s,mb3.9							
ENH	**Enshi**	**39.76**	**355**	*e*P		**P**	17 00 31.8	**-1.2**
SHL	**Shillong**	**40.46**	**330**	*e*PKP		**P**	17 00 39.0	**+0.2**
ODAN	**Odare**	**43.84**	**326**	*e*P		**P**	17 01 06.0	**-0.4**
	19nm,1.0s,mb4.8							
TAPN	**Taplejung**	**44.06**	**327**	*e*P		**P**	17 01 08.3	**+0.2**
	18nm,0.9s,mb4.8							
LSA	**Lhasa**	**44.29**	**333**	*e*P		**P**	17 01 10.9	**+0.9**
	5.8nm,0.7s,mb4.4							
JIRN	**Jiri**	**45.13**	**326**	*e*P		**P**	17 01 16.5	**-0.1**
	16nm,0.8s,mb4.9							
GUN	**Gumba**	**45.49**	**326**	*e*P		**P**	17 01 19.5	**-0.1**
	12nm,0.7s,mb4.8							
GKN	**Gorkha**	**46.27**	**325**	*e*P		**P**	17 01 24.9	**-0.7**
HNR	**Honiara**	**46.44**	**94**	P		**P**	17 01 30.2	**+2.9**
KOLN	**Koldanda**	**46.69**	**324**	*e*P		**P**	17 01 28.3	**-0.6**
	7.0nm,0.5s,mb4.9							
DANN	**Dangsing**	**47.03**	**324**	*e*P		**P**	17 01 31.2	**-0.4**
	10.0nm,0.7s,mb4.8							
HHC	**Hu-ho-hao-te**	**50.20**	**359**	*e*P		**P**	17 01 59.3	**+3.6**
HHC				pP		pP	17 02 17.5	+5.8
HHC				sP		sP	17 02 26.9	+8.2
HHC				PcP		PcP	17 03 16.8	+2.7
HHC				PP		PP	17 03 56.6	+5.0
HHC				S		**S**	17 **09** 06.4	**+3.2**
HHC				ScS		ScS	17 11 39.3	-1.9
HHC				pmax		pmax		
	comp=Z,32nm,0.7s,mb5.5							
MJAR	**Matsushiro Arr**	**51.72**	**26**	P		**P**	17 02 05.7	**-1.5**
	comp=Z,3.8nm,1.1s,mb4.2,baz=206,slow=8.4,SNR=4.9							
MJAR	**Matsushiro Arr**	**51.72**	**26**	P		**P**	17 02 05.7	**-1.5**
ULN	**Ulaanbaatar**	**57.43**	**355**	*e*P		**P**	17 02 48.0	**-0.4**
	comp=Z,3.0nm,0.9s,mb4.3							
SONM	**Songino Array**	**57.45**	**355**	P		**P**	17 02 48.5	**0.0**
	comp=Z,5.3nm,0.9s,mb4.6,baz=176,slow=8.3,SNR=34							
SONM	**Songino Array**	**57.45**	**355**	P		**P**	17 02 48.5	**0.0**
KBL	**Kabul**	**60.37**	**319**	*e*P		**P**	17 03 08.5	**-0.6**
	comp=Z,7.2nm,1.1s,mb4.6							
KZA	**Kyzart**	**61.87**	**329**	P		**P**	17 03 20.2	**+1.1**
	SNR=6.6							
YSS	**Yuzh-Sakhalins**	**62.29**	**23**	P		**P**	17 03 21.9	**+0.1**
TKM2	**Tokmak 2**	**62.32**	**330**	P		**P**	17 03 22.4	**+0.3**
	SNR=7.4							
TKM2	**Tokmak 2**	**62.32**	**330**	*e*P		**P**	17 03 22.0	**0.0**
MK31	**Makanchi Array**	**62.39**	**337**	*e*P		**P**	17 03 22.0	**-0.4**
MKAR	**Makanchi Array**	**62.39**	**337**	P		**P**	17 03 22.1	**-0.3**
	comp=Z,3.2nm,0.6s,mb4.6,baz=147,slow=7.1,SNR=40							
MKAR	**Makanchi Array**	**62.39**	**337**	P		**P**	17 03 22.1	**-0.3**
KBK	**Karagaybulak**	**62.45**	**329**	P		**P**	17 03 23.7	**+0.8**
	SNR=8.7							
AAK	**Ala-Archa**	**62.66**	**329**	*e*P		**P**	17 03 24.7	**+0.4**
	comp=Z,25nm,1.1s,mb5.3							
AML	**Almayashu**	**62.71**	**328**	P		**P**	17 03 25.4	**+0.8**
	SNR=13							
EKS2	**Erkin-Say**	**63.05**	**329**	P		**P**	17 03 27.6	**+0.7**
	SNR=9.8							
EKS2	**Erkin-Say**	**63.05**	**329**	*e*P		**P**	17 03 27.3	**+0.4**
	comp=Z,6.1nm,0.8s,mb4.8							
KURK	**Kurchatov**	**67.00**	**337**	P		**P**	17 03 51.5	**-0.8**
	comp=Z,1.9nm,0.8s,mb4.2,baz=153,slow=5.1,SNR=19							
KURK	**Kurchatov**	**67.00**	**337**	P		**P**	17 03 51.5	**-0.8**
ZAA0	**Zalesovo Array**	**67.59**	**343**	*e*P		**P**	17 03 54.8	**-1.2**
ZALV	**Zalesovo Beam**	**67.59**	**343**	P		**P**	17 03 55.4	**-0.7**
	comp=Z,4.1nm,0.7s,mb4.6,baz=152,slow=4.4,SNR=23							
ZALV	**Zalesovo Beam**	**67.59**	**343**	P		**P**	17 03 55.4	**-0.6**
VNDA	**Vanda**	**72.41**	**170**	P		**P**	17 04 26.2	**+0.9**
	comp=Z,1.5nm,1.0s,mb3.9,baz=321,slow=2.6,SNR=4.4							
VNDA	**Vanda**	**72.41**	**170**	*e*P		**P**	17 04 25.9	**+0.6**
	comp=Z,4.2nm,1.4s,mb4.2							
ABKAR	**Akbulak array**	**74.64**	**327**	*e*P		**P**	17 04 38.7	**-0.1**
	comp=Z,9.1nm,0.8s,mb4.8							
AKTO	**Aktyubinsk**	**76.33**	**327**	P		**P**	17 04 49.2	**+0.7**
	comp=Z,3.2nm,0.7s,mb4.4,baz=109,slow=6.5,SNR=13							
AKTO	**Aktyubinsk**	**76.33**	**327**	P		**P**	17 04 49.2	**+0.7**
ARU	**Arti**	**79.49**	**333**	*e*P		**P**	17 05 05.2	**-0.7**
	comp=Z,6.8nm,1.1s,mb4.5							
SNAA	**Sanae**	**88.75**	**197**	*e*		**P**	17 05 51.1	**-1.6**
SNAA				*e*		pP	17 06 06.2	-3.9
SNAA	**Sanae**	**88.75**	**197**	P		**P**	17 05 51.1	**-1.5**

*IDC **22** 16:53:18.3±1.2,30°.96N×142°.25E, h0km, mb3.5/5, mb1 3.7/7, mb1mx3.5/25, mbtmp3.5/7, ML3.0/2, MS4.2/1, Ms1 4.2/1, ms1mx3.3/42, Error ellipse: s-maj=38.7km s-min=20.3km az=76.0*

*JMA **22** 16:53:19.5±0.2,31°.17N×142°.59E, h53km, M4.0*

*ISCJB **22** 16:53:20.5±1.6,31°.24N±0°.07×142°.5E±0°.1, h40km±17km, mb3.6/6, Error ellipse: s-maj=18.8km s-min=10.6km az=158.0*

*NEIC **22** 16:53:23.5±0.8,31°.05N×142°.08E, h35km, mb4.2/1, Error ellipse: s-maj=30.6km s-min=10.7km az=76.0*

ISC 22 16:53:22.4±2.3, 31°.18N±0°.06×142°.4E±0°.1, h32km±18km, n26, σ0s94/30, mb3.6/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**2.91**	**312**	P	**Pn**	16 54 06.1	**-0.4**
JHJ2				*e*S	**Sn**	16 54 41.4	**+1.1**
JHJ	**Hachijo jima 2**	**2.93**	**312**	Pn	**Pn**	16 54 06.3	**-0.5**
	3.8nm,0.3s,baz=234,slow=22,SNR=9.1						
JHJ				Sn	**Sn**	16 54 40.7	**-0.2**
	24nm,0.3s,baz=85,slow=22,SNR=7.0						
JHJ				LR	LR	16 55 10.4	
	comp=Z,4μm,19.1s,baz=44,slow=38						
BSO1	**Boso 1**	**3.66**	**342**	*e*S	**Sn**	16 54 58.5	**-0.4**
BSO3	**Boso 3**	**3.94**	**337**	*e*S	**Sn**	16 55 05.8	**0.0**
JOD2	**Odawara 2**	**4.92**	**327**	P	**Pn**	16 54 34.1	**0.0**
JOD2				S	**Sn**	16 55 29.0	**-0.9**
JHU	**Hanno**	**5.33**	**332**	P	**Pn**	16 54 40.5	**+0.7**
JHU				S	**Sn**	16 55 39.5	**-0.5**
JYT	**Yasato**	**5.35**	**341**	P	**Pn**	16 54 41.0	**+0.9**
JYT				*e*S	**Sn**	16 55 40.1	**-0.5**
JHO	**Hitachi**	**5.62**	**345**	P	**Pn**	16 54 42.6	**-1.2**
JHO				*e*S	Sx	16 55 43.1	
JRY	**Ryogami san**	**5.63**	**330**	P	**Pn**	16 54 44.8	**+0.9**
JRY				*e*S	**Sn**	16 55 47.5	**+0.1**
JAG	**Ashikaga**	**5.77**	**336**	*e*S	Sx	16 55 49.1	
JFK	**Kawauchi**	**6.29**	**349**	*e*S	Sx	16 55 56.5	
MJAR	**Matsushiro Arr**	**6.37**	**328**	Pn	**Pn**	16 54 54.8	**+0.7**
	0.5nm,0.3s,baz=156,slow=10,SNR=14						
MJAR	**Matsushiro Arr**	**6.37**	**328**	Pn	**Pn**	16 54 54.8	**+0.7**
MAJO	**Matsushiro**	**6.38**	**328**	*e*P	**Pn**	16 54 54.2	**0.0**
JMK	**Ichinoseki**	**7.81**	**353**	P	**Pn**	16 55 12.5	**-1.3**
JMK				S	Sx	16 56 33.1	
SONM	**Songino Array**	**32.01**	**312**	P	**P**	16 59 48.5	**+2.8**
	0.5nm,0.8s,mb3.4,baz=110,slow=7.6,SNR=4.1						
SONM	**Songino Array**	**32.01**	**312**	P	**P**	16 59 48.5	**+2.8**
KURK	**Kurchatov**	**50.31**	**312**	P	**P**	17 02 16.2	**+0.3**
	0.2nm,0.6s,mb3.4,baz=87,slow=7.1,SNR=3.1						
KURK	**Kurchatov**	**50.31**	**312**	P	**P**	17 02 16.2	**+0.3**
WRAB	**Tennant Creek**	**51.40**	**190**	P	**P**	17 02 24.5	**+0.1**
	2.3nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**51.41**	**190**	P	**P**	17 02 22.8	**-1.6**
	0.8nm,0.4s,mb4.0,baz=11,slow=8.2,SNR=6.2						
WRA	**Warramunga Arr**	**51.41**	**190**	P	**P**	17 02 22.8	**-1.6**
ILAR	**Eielson Array**	**54.08**	**30**	P	**P**	17 02 46.1	**+2.5**
	0.3nm,0.9s,mb3.2,baz=280,slow=6.3,SNR=3.2						
ILAR	**Eielson Array**	**54.08**	**30**	P	**P**	17 02 46.1	**+2.5**
ASAR	**Alice Springs**	**55.14**	**189**	P	**P**	17 02 51.1	**-0.6**
	0.4nm,0.5s,mb3.7,baz=20,slow=13,SNR=7.8						
ASAR	**Alice Springs**	**55.14**	**189**	P	**P**	17 02 51.1	**-0.6**

BJI 22 17:04:23.9, 32°.00N×115°.04E, h7km, ML3.4/6, 1C, Southeaster China

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WHN	**Wuhan**	**1.57**	**202**	⇑Pg	Pg	17 04 53.1	-0.9
WHN				Sg	Sg	17 05 15.3	+1.0
WHN				smax			
	comp=N,1μm,1.1s						
WHN				smax			
	comp=E,710nm,0.4s						

IDC 22 17:04:38.4±2.7, 29°.28S×178°.18W, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.5/17, mbtmp3.5/3, Error ellipse: s-maj=81.3km s-min=39.0km az=39.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.02**	**266**	P	P	17 12 39.4	-0.5
	0.4nm,0.8s,baz=109,slow=7.3,SNR=6.2						
WRA	**Warramunga Arr**	**43.91**	**271**	P	P	17 12 47.5	+0.4
	0.4nm,0.4s,baz=108,slow=8.3,SNR=9.4						
QSPA	**South Pole Qui**	**60.82**	**180**	P	P	17 14 52.2	+0.4
	1.3nm,1.0s,baz=203,slow=7.5,SNR=5.3						
BRTR	**Keskin Array B**	**151.91**	**300**	PKPbc	PKPbc	17 24 35.4	+0.1
	0.4nm,0.5s,baz=320,slow=3.8,SNR=4.2						

*ISCJB **22** 17:06:00.8±0.8,23°.9S±0°.2×180°.0E±0°.1, h500km, mb4.1/13, Error ellipse: s-maj=27.5km s-min=15.2km az=166.2*

*NEIC **22** 17:06:02.6±4.9,23°.90S×179°.97E, h510km±56km, mb4.4/6, Error ellipse: s-maj=24.5km s-min=22.5km az=208.0*

*IDC **22** 17:06:03.1±3.6,23°.79S×179°.93E, h510km±33km, mb3.5/7, mb1 3.7/7, mb1mx3.3/18, mbtmp3.5/7, Error ellipse: s-maj=85.9km s-min=25.5km az=162.0*

ISC 22 17:06:01.9±0.8, 23°.8S±0°.2×180°.0E±0°.1, h500km, n28, σ0s75/28, mb4.1/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARMA	**Armidale**	**26.03**	**249**	*e*P	**P**	17 10 56.7	**+2.2**
EIDS	**Eidsvold**	**26.30**	**261**	*e*P	**P**	17 10 57.3	**+0.3**
	6.2nm,0.5s,mb4.3						
CTA	**Charters Tower**	**31.46**	**270**	P	**P**	17 11 43.1	**+1.2**
	13nm,0.6s,mb4.5,baz=95,slow=10,SNR=21						
CTA	**Charters Tower**	**31.46**	**270**	*e*P	**P**	17 11 43.1	**+1.2**
	9.5nm,0.6s,mb4.4						
CTA	**Charters Tower**	**31.46**	**270**	P	**P**	17 11 43.1	**+1.2**
CTAO	**Charters Tower**	**31.46**	**270**	*e*P	**P**	17 11 42.8	**+0.9**
	12nm,0.5s,mb4.6						
PMG	**Port Moresby**	**34.45**	**289**	*e*P	**P**	17 12 06.8	**-0.6**
	8.9nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**34.73**	**248**	P	**P**	17 12 09.2	**-0.3**
	3.0nm,0.8s,mb3.8,baz=112,slow=8.0,SNR=4.5						
STKA	**Stephens Creek**	**34.73**	**248**	*e*P	**P**	17 12 10.2	**+0.6**
STKA	**Stephens Creek**	**34.73**	**248**	P	**P**	17 12 09.2	**-0.3**
AS31	**Alice Springs**	**42.03**	**261**	*e*P	**P**	17 13 08.9	**-0.2**
ASAR	**Alice Springs**	**42.03**	**261**	P	**P**	17 13 09.1	**0.0**
	4.4nm,0.8s,mb4.0,baz=92,slow=7.7,SNR=43						
ASAR				ScP	ScP	17 17 54.0	-1.4
	0.9nm,0.7s,baz=109,slow=4.6,SNR=9.3						
ASAR	**Alice Springs**	**42.03**	**261**	P	**P**	17 13 09.1	**0.0**
ASAR				ScP	ScP	17 17 54.0	-1.4
WRAB	**Tennant Creek**	**42.38**	**266**	*e*P	**P**	17 13 11.2	**-0.7**
	9.6nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**42.39**	**266**	P	**P**	17 13 11.6	**-0.4**
	4.5nm,0.3s,mb4.3,baz=96,slow=8.4,SNR=87						
WRA	**Warramunga Arr**	**42.39**	**266**	P	**P**	17 13 11.6	**-0.4**
KAKA	**Kakadu**	**46.28**	**275**	*e*P	**P**	17 13 41.2	**-1.0**
	16nm,0.5s,mb4.7						
FORT	**Forrest**	**46.32**	**250**	*e*P	**P**	17 13 41.3	**-1.0**
	18nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**50.81**	**266**	P	**P**	17 14 16.1	**+0.1**
	4.5nm,0.8s,mb3.9,baz=94,slow=7.5,SNR=10.0						
FITZ	**Fitzroy Crossi**	**50.81**	**266**	*e*P	**P**	17 14 16.6	**+0.7**
	8.3nm,0.8s,mb4.1						
FITZ	**Fitzroy Crossi**	**50.81**	**266**	P	**P**	17 14 16.1	**+0.1**
QSPA	**South Pole Qui**	**66.26**	**180**	P	**P**	17 15 58.8	**-0.5**
KKM	**Kota Kinabalu**	**68.86**	**287**	P	**P**	17 16 16.4	**-0.1**
ISA	**Isabella**	**82.98**	**46**	P	**P**	17 17 34.1	**0.0**
	1.1nm,0.7s,mb3.5						
CMAR	**Chiang Mai Arr**	**89.48**	**290**	P	**P**	17 18 06.4	**+0.7**
	0.4nm,0.8s,mb3.3,baz=82,slow=6.5,SNR=4.0						
CMAR	**Chiang Mai Arr**	**89.48**	**290**	P	**P**	17 18 06.3	**+0.7**
TXAR	**Lajitas Array**	**90.41**	**58**	P	**P**	17 18 10.1	**+0.4**
	0.6nm,0.7s,mb3.5,baz=216,slow=6.1,SNR=9.0						
TXAR	**Lajitas Array**	**90.41**	**58**	P	**P**	17 18 10.1	**+0.3**

*ISCJB **22** 17:06:46.7±0.9,26°.9N±0°.1×101°.7E±0°.3, h10km, mb3.1/4, Error ellipse: s-maj=33.7km s-min=15.1km az=176.9*

*IDC **22** 17:06:47.1±1.3,26°.95N×101°.60E, h0km, mb3.1/4, mb1 3.2/5, mb1mx3.1/25, mbtmp3.0/5, ML2.7/1, Error ellipse: s-maj=47.1km s-min=21.5km az=77.0*

ISC 22 17:06:49.3±0.9, 27°.00N±0°.10×101°.5E±0°.2, h10km, n6, σ2s02/6, mb3.1/4, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**2.18**	**149**	P	**Pn**	17 07 27.4	**+1.7**
CMAR	**Chiang Mai Arr**	**8.82**	**196**	Pn	**Pn**	17 08 57.7	**+0.7**
	0.0nm,0.3s,baz=37,slow=14,SNR=2.9						
CMAR				Pg	Pn	17 09 29.3	+32
	0.1nm,0.3s,baz=8.5,slow=17,SNR=6.8						
CMAR				Lg		17 11 22.6	
	0.1nm,0.3s,baz=3.7,slow=29,SNR=6.8						
SONM	**Songino Array**	**21.15**	**9**	P	**P**	17 11 35.8	**+1.4**
	0.3nm,0.6s,mb2.8,baz=194,slow=14,SNR=2.9						
MKAR	**Makanchi Array**	**24.90**	**328**	P	**P**	17 12 11.8	**-0.5**
	0.2nm,0.6s,mb2.9,baz=144,slow=10,SNR=3.0						
WRA	**Warramunga Arr**	**56.49**	**142**	P	**P**	17 16 29.3	**-2.5**
	0.3nm,0.5s,mb3.6,baz=331,slow=7.9,SNR=3.6						
ASAR	**Alice Springs**	**59.31**	**145**	P	**P**	17 16 50.2	**-1.3**
	0.1nm,0.3s,mb3.3,baz=323,slow=6.6,SNR=4.1						

*BJI **22** 17:22:31.1,22°.44S×171°.96E, h56km, mB5.6/14, mb5.0/40, Ms5.6/24, Ms7 5.3/23*

*LDG **22** 17:22:31.2±0.5,21°.10S×171°.28E, h10km, Mb5.3/4, Error ellipse: s-maj=48.9km s-min=8.5km az=157.0*

*NOU **22** 17:22:32.0±1.7,20°.20S×170°.90E, h30km, MD3.4, ML4.2*

*MOS **22** 17:22:32.0±1.7,22°.46S×171°.12E, h33km, mb5.3/26, MS5.1/7, Error ellipse: s-maj=10.1km s-min=9.1km az=11.0*

*IDC **22** 17:22:33.5±1.9,22°.55S×171°.34E, h40km±14km, mb4.9/15, mb1 5.0/16, mb1mx5.0/17, mbtmp4.9/16, ML5.2/1, MS5.1/12, Ms1 5.1/12, ms1mx4.8/29, Error ellipse: s-maj=17.2km s-min=16.5km az=107.0*

*ISCJB **22** 17:22:34.3±0.8,22°.48S±0°.04×171°.09E±0°.03, h55km±6km, mb5.5/111, MS5.3/21, Error ellipse: s-maj=7.2km*

s-min=5.1km az=16.2

*NEIC **22** 17:22:36.3±1.3,22°.44S×171°.24E, h69km±10km, mb5.5/40, Error ellipse: s-maj=7.9km s-min=4.2km az=221.0*

*DJA **22** 17:22:37,22°.58S×171°.32E, h78km, mb5.6/60*

*GCMT **22** 17:22:37.5±0.3,22°.53S×171°.28E, h42km±1km, MW5.7, Moment Tensor Solution. s36,c45; s78,c105; Moment tensor: Scale 10^17 Nm; Mrr-2.46±.24; Mθθ2.12±.17; Mφφ0.34±.18; Mrθ1.93±.14; Mrφ2.30±.08; Mθr-0.55±.12; Best double couple: M0 3.80000×10^17 NP1:φs26.00000°, δ42.00000°,λ-139.00000°. NP2:φs263.00000°, δ64.00000°,λ-55.00000°. Principal axes: T 3.9700, Plg12.0000°, Azm329.0000°; N -0.3000, Plg31.0000°, Azm66.0000°; P -3.6700, Plg57.0000°, Azm220.0000°; Data Used: II IC IU G CN.*

ISC 22 17:22:35.2±0.8, 22°.44S±0°.04×171°.15E±0°.04, h48km±6km, h55km±1.8km: pP-P, n518, σ1s96/279, mb5.5/111, MS5.3/21, 27C-40D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.96**	**273**	*e*P	**Pn**	17 23 33.6	**+0.2**
BAYA				*e*S	**Sn**	17 24 18.0	**-0.6**
BAYA				AMP		17 24 21.7	
	comp=Z,231nm,2.8s						
LASL	**Noumea**	**4.27**	**272**	*e*P	**Pn**	17 23 37.5	**-0.2**
LASL				*e*S	**Sn**	17 24 25.3	**-0.9**
LASL				AMP		17 24 35.8	
	comp=Z,5μm,1.6s						
DZM	**Mont Dzumac**	**4.37**	**274**	*e*Pn	**Pn**	17 23 39.7	**+0.6**
	comp=Z,1μm,0.3s						
DZM				*e*Sn	**Sn**	17 24 28.3	**-0.5**
	comp=Z,2μm,0.3s						
DZM				*e*LR	LR	17 24 35.9	
	comp=Z,17μm,23.6s						
DZM	**Mont Dzumac**	**4.37**	**274**	*e*P	**Pn**	17 23 38.3	**-0.8**
DZM				*e*S	**Sn**	17 24 28.2	**-0.5**
DZM				AMP		17 24 36.0	
	comp=Z,32μm,7.5s						
DZM	**Mont Dzumac**	**4.37**	**274**	*e*Pn	**Pn**	17 23 39.6	**+0.5**
DZM				*e*Sn	**Sn**	17 24 26.8	**-2.0**
NOUC	**Port Laguerre**	**4.50**	**273**	*e*P	**Pn**	17 23 39.8	**-1.0**
NOUC				*e*S	**Sn**	17 24 30.9	**-1.0**
NOUC				AMP		17 24 38.9	
	comp=Z,2μm,5.1s						
MSVF	**Nonsavu**	**8.00**	**55**	*e*Pn	**Pn**	17 24 32.7	**+3.8**
	comp=Z,548nm,1.0s						
MSVF	**Nonsavu**	**8.00**	**55**	*e*P	**Pn**	17 24 32.7	**+3.8**
MSVF				pmax	pmax		
	comp=Z,548nm,1.0s						
MSVF	**Nonsavu**	**8.00**	**55**	Pn	**Pn**	17 24 33.0	**+4.1**
	comp=Z,3μm,0.9s,SNR=68						
URZ	**Urewera**	**16.58**	**163**	Pn	**Pn**	17 26 25.4	**+1.1**
	comp=Z,1.4nm,0.3s,baz=2.6,slow=4.8,SNR=11						
URZ				LR	LR	17 31 20.2	
	comp=Z,8μm,20.9s,baz=70,slow=32						
URZ	**Urewera**	**16.58**	**163**	*e*Pn	**Pn**	17 26 23.9	**-0.4**
	comp=Z,268nm,1.3s						
HNR	**Honiara**	**16.82**	**319**	P	**Pn**	17 26 30.1	**+2.7**
	comp=Z,7.7nm,0.3s,baz=344,slow=2.6,SNR=12						
HNR				LR	LR	17 31 00.1	
	comp=Z,2μm,20.4s,baz=343,slow=30						
HNR	**Honiara**	**16.82**	**319**	⇑*e*Pn	**Pn**	17 26 27.6	**+0.2**
	comp=Z,798nm,1.3s						
HNR	**Honiara**	**16.82**	**319**	⇑*e*P	**Pn**	17 26 27.6	**+0.2**
HNR				pmax	pmax		
	comp=Z,798nm,1.3s						
KNZ	**Kokohu**	**17.45**	**163**	PN	**Pn**	17 26 35.6	**+0.6**
AFI	**Afiamalu**	**18.30**	**65**	P	**Pn**	17 26 45.8	**+0.2**
	comp=Z,2.3nm,0.3s,baz=34,slow=6.8,SNR=8.1						
AFI				LR	LR	17 32 27.7	
	comp=Z,3μm,20.6s,baz=234,slow=33						
AFI	**Afiamalu**	**18.30**	**

WRAB Tennant Creek 34.35 267 ⇓*i*P P **P** 17 29 16.3 -1.3
comp=Z,261nm,1.6s,mb5.9
WRAB Tennant Creek 34.35 267 ⇓*i*P P **P** 17 29 16.3 -1.3
WRAB pmax pmax
comp=Z,261nm,1.6s,mb5.9
WRAB Tennant Creek 34.35 267 P P **P** 17 29 16.0 -1.6
comp=Z,412nm,1.5s,mb6.1,SNR=25
WRAB Tennant Creek 34.35 267 P P **P** 17 29 16.4 -1.2
comp=Z,160nm,1.6s,mb5.7
WRA Warramunga Arr 34.36 267 P P **P** 17 29 16.6 -1.1
comp=Z,34nm,0.9s,mb5.3,baz=105,slow=8.3,SNR=69
WRA ScP ScP 17 35 36.6 +2.4
comp=Z,4.5nm,1.0s,baz=86,slow=4.0,SNR=4.9
WRA PKiKP PKiKP 17 39 14.3 -2.1
comp=Z,0.9nm,0.6s,baz=102,slow=0.5,SNR=5.7
WRA LR LR 17 43 38.6
comp=Z,4µm,18.2s,MS5.2,baz=100,slow=37
WRA Warramunga Arr 34.36 267 P P **P** 17 29 16.6 -1.1
WRA ScP ScP 17 35 36.6 +2.4
WRA PKiKP PKiKP 17 39 14.3 -2.1
WRA Warramunga Arr 34.36 267 P P **P** 17 29 16.6 -1.1
WRA pmax pmax
comp=Z,34nm,0.9s
WRA MLR MLR
comp=Z,4µm,18.2s
TBI Tubuai 36.23 99 *e*P **P** 17 29 36.0 +2.3
comp=Z,170nm,1.3s,mb5.8
PAE Paea 37.12 90 *e*P **P** 17 29 43.5 +2.1
comp=Z,11nm,1.1s,mb6.5
PPT Papeete 37.15 90 *e*P **P** 17 29 44.2 +2.5
comp=Z,59nm,1.3s,mb5.2
TIAR Tiarei 37.37 90 *e*P **P** 17 29 44.6 +1.1
comp=Z,93nm,1.1s,mb5.5
KAKA Kakadu 38.05 278 *e*P **P** 17 29 48.9 -0.4
comp=Z,128nm,1.1s,mb5.6
KAKA Kakadu 38.05 278 *e*P **P** 17 29 48.7 -0.6
comp=Z,414nm,1.0s,mb6.1
KAKA *e* pP 17 30 02.0 -0.1
FORT Forrest 39.22 248 *e*P **P** 17 29 58.4 -0.5
comp=Z,148nm,0.7s,mb5.8
FORT Forrest 39.22 248 ⇓*i*P **P** 17 29 58.0 -0.9
comp=Z,490nm,1.3s,mb6.1
BAKI Biak 40.08 297 P **P** 17 30 07.0 +0.8
comp=Z,139nm,1.2s,mb5.5
TLE Tual 40.66 288 P **P** 17 30 12.5 +1.4
comp=Z,124nm,1.1s,mb5.5
FITZ Fitzroy Crossi 42.79 267 *e*P **P** 17 30 28.9 +0.5
comp=Z,392nm,0.8s,mb6.2
FITZ Fitzroy Crossi 42.79 267 ⇓*i*P **P** 17 30 28.8 +0.4
comp=Z,218nm,0.8s,mb5.9
GUMO Guam 44.11 322 LR LR 17 46 57.9
comp=Z,1µm,19.8s,MS4.9,baz=284,slow=33
NLAI Namlea 46.74 288 P **P** 17 31 00.9 +0.9
comp=Z,0.4nmcomp=Z,88nm,1.3s,mb5.5
NLAI Namlea 46.74 288 P **P** 17 31 00.7 +0.7
comp=Z,88nm,1.3s,mb5.5
MBWA Marble Bar 47.56 261 ⇓*i*P **P** 17 31 06.2 -0.2
comp=Z,272nm,0.8s,mb6.3
MBWA *e* pP 17 31 19.6 +0.2
MBWA Marble Bar 47.56 261 P **P** 17 31 06.2 -0.1
comp=Z,328nm,1.2s,mb6.2
KLBR Kellerberrin 48.04 247 *e*P **P** 17 31 08.9 -1.0
comp=Z,536nm,1.1s,mb6.5
NWAO Narrogin (SRO) 48.42 245 *e*P **P** 17 31 12.1 -0.7
comp=Z,296nm,1.1s,mb6.2
NWAO *e* pP 17 31 25.8 -0.2
NWAO *e*PP PP 17 32 55.9 -10
NWAO Narrogin (SRO) 48.42 245 *e*P **P** 17 31 12.1 -0.7
NWAO *e* pP 17 31 25.8 -0.1
NWAO pmax pmax
comp=Z,296nm,1.1s
BBSI Bau Bau 49.80 282 P **P** 17 31 24.8 +1.2
comp=Z,1µmcomp=Z,73nm,1.2s,mb5.6
WSI Waingapu 50.26 276 P **P** 17 31 28.1 +1.0
comp=Z,6µmcomp=Z,527nm,1.1s,mb6.5
KDI Kendari 50.41 284 P **P** 17 31 28.3 +0.1
comp=Z,52nm,1.3s,mb5.4
KMSI Cibinong 51.30 290 P **P** 17 31 35.4 +0.5
comp=Z,3µmcomp=Z,216nm,1.2s,mb6.0
LUWI Luwuk 51.59 287 P **P** 17 31 38.3 +1.2
comp=Z,2µmcomp=Z,199nm,1.2s,mb5.9
BKSI Bulukumba 52.09 281 P **P** 17 31 40.9 +0.1
comp=Z,85nm,1.1s,mb5.6
KAPI Kappang 52.55 281 *e*P **P** 17 31 44.0 -0.2
comp=Z,160nm,1.4s,mb5.8
KAPI Kappang 52.55 281 P **P** 17 31 44.0 -0.2
comp=Z,114nm,1.5s,mb5.6
SPSI Sidrap Palu 52.97 282 P **P** 17 31 45.3 -2.0
comp=Z,36nm,1.3s,mb5.2
MRSI Marisa 53.04 289 P **P** 17 31 46.9 -0.9
comp=Z,41nm,1.5s,mb5.1
TTSI Tana Toraja 53.32 284 P **P** 17 31 50.1 +0.2
comp=Z,53nm,1.3s,mb5.3
MTNI Mataram 54.43 275 P **P** 17 31 58.1 +0.1
comp=Z,186nm,1.1s,mb5.9
MTNI Mataram 54.43 275 P **P** 17 31 58.4 +0.4
comp=Z,186nm,1.1s,mb5.9
KHKI Kahang-Kahang 55.05 276 P **P** 17 32 02.2 -0.3
comp=Z,102nm,1.3s,mb5.7
KHKI Kahang-Kahang 55.05 276 P **P** 17 32 02.2 -0.3
comp=Z,102nm,1.3s,mb5.7
VNDA Vanda 55.32 182 P **P** 17 32 02.7 -0.8
comp=Z,8.4nm,0.9s,mb4.8,baz=2.1,slow=7.6,SNR=27
VNDA LR LR 17 51 19.9
comp=Z,3µm,19.7s,MS5.3,baz=280,slow=31
VNDA Vanda 55.32 182 *e*P **P** 17 32 02.3 -1.2
comp=Z,82nm,1.7s,mb5.5
VNDA Vanda 55.32 182 P **P** 17 32 02.7 -0.8
VNDA pmax pmax
comp=Z,8.0nm,0.9s
VNDA MLR MLR
comp=Z,3µm,19.7s
SBA Scott Base 55.51 181 *e*P **P** 17 32 04.9 +0.1
comp=Z,223nm,1.4s,mb6.0
SBA Scott Base 55.51 181 *e*P **P** 17 32 04.9 +0.1
SBA pmax pmax
comp=Z,223nm,1.4s,mb6.0
SRBI Singaraja 55.52 276 P **P** 17 32 05.9 0.0
comp=Z,144nm,1.4s,mb5.8
SRBI Singaraja 55.52 276 P **P** 17 32 05.5 -0.4
comp=Z,144nm,1.4s,mb5.8
JAGI Jajag, Banyuwa 56.35 275 P **P** 17 32 11.6 -0.3
comp=Z,86nm,1.4s,mb5.6
JAGI Jajag, Banyuwa 56.35 275 P **P** 17 32 10.9 -1.0
comp=Z,126nm,1.1s,mb5.9
KBKI Kotabaru 56.51 281 P **P** 17 32 13.3 +0.3
comp=Z,41nm,1.5s,mb5.2
KMMI Kalianget 57.05 276 P **P** 17 32 18.0 +1.2
comp=Z,96nm,1.7s,mb5.5
GMJI Gumukmas 57.08 275 P **P** 17 32 18.0 +1.0
comp=Z,79nm,1.2s,mb5.6
GMJI Gumukmas 57.08 275 P **P** 17 32 16.4 -0.6
comp=Z,79nm,1.2s,mb5.6
BBKI Banjar Baru 57.65 281 P **P** 17 32 22.3 +1.3
comp=Z,103nm,1.7s,mb5.6
CASY Casey 57.95 205 *e*P **P** 17 32 21.0 -1.3
CASY Casey 57.95 205 *e*P **P** 17 32 20.6 -1.7
comp=Z,299nm,1.6s,mb6.1
RCP Roxas 58.24 300⇑*e*P **P** 17 32 25.4 +0.4
MYLDM Lahad Datu 58.33 292 P **P** 17 32 25.5 -0.2
MYLDM Lahad Datu 58.33 292 P **P** 17 32 28.0 +2.2
comp=Z,42nm,1.4s,mb5.3
TSM Tawau 58.43 290 P **P** 17 32 27.0 +0.5
PWJI Pagerwojo 58.68 274 P **P** 17 32 28.7 +0.5
comp=Z,60nm,0.9s,mb5.6
PWJI Pagerwojo 58.68 274 P **P** 17 32 28.3 +0.1
comp=Z,59nm,0.9s,mb5.6
SJI Sawahan 58.82 275 P **P** 17 32 29.7 +0.5
comp=Z,84nm,0.9s,mb5.8
SJI Sawahan 58.82 275 P **P** 17 32 30.0 +0.8
comp=Z,84nm,0.9s,mb5.8
PCJI Pacitan 59.20 274 P **P** 17 32 32.4 +0.6
comp=Z,167nm,1.5s,mb5.9
PCJI Pacitan 59.20 274 P **P** 17 32 32.7 +0.9
comp=Z,166nm,1.5s,mb5.8
NGJI Ngawi 59.23 275 P **P** 17 32 41.9 +10
SDKM Sandakan 59.68 291 P **P** 17 32 34.9 -0.2
KDM Kudat 60.63 292 P **P** 17 32 42.5 +0.8
KKM Kota Kinabalu 60.73 291 P **P** 17 32 43.0 +0.7
KKM Kota Kinabalu 60.73 291 *e*P **P** 17 32 42.3 0.0
comp=Z,346nm,1.8s,mb6.2
KKM *e*PP PP 17 34 57.0 +0.4
KKM Kota Kinabalu 60.73 291 P **P** 17 32 43.0 +0.7
comp=Z,76nm,1.5s,mb5.6
PBKI Pangkalan Bun 60.85 280 P **P** 17 32 44.1 +1.0
comp=Z,174nm,1.2s,mb6.1
BJII Banjamegara 60.86 274 P **P** 17 32 51.6 +8.3

BJII Banjamegara 60.86 274 P **P** 17 32 51.6 +8.3
TGJI Tegal 61.58 274 P **P** 17 32 51.4 +3.3
TGJI Tegal 61.58 274 P **P** 17 32 51.4 +3.3
BTM Bintulu 62.12 287 P **P** 17 32 52.4 +0.7
STKI Sintang 62.17 283 P **P** 17 32 53.3 +1.2
comp=Z,87nm,1.5s,mb5.7
CISI Cisompet, Garu 62.53 273 P **P** 17 32 54.5 0.0
CISI Cisompet, Garu 62.53 273 P **P** 17 32 54.5 0.0
CISI Cisompet, Garu 62.53 273 P **P** 17 32 54.0 -0.5
comp=Z,2µmcomp=Z,143nm,1.6s,mb5.9
SBUM Sibu 62.55 285 P **P** 17 32 55.0 +0.3
SBUM Sibu 62.55 285 P **P** 17 32 55.5 +0.9
comp=Z,41nm,1.9s,mb5.2
LEM Lembang 62.98 274 P **P** 17 32 58.2 +0.7
LEM Lembang 62.98 274 P **P** 17 32 58.2 +0.7
comp=Z,210nm,1.6s,mb6.0
LEM Lembang 62.98 274 P **P** 17 32 58.7 +1.2
comp=Z,210nm,1.6s,mb6.0
KSM Kuching 63.83 283 P **P** 17 33 02.3 -0.8
KSM Kuching 63.83 283 *e*P **P** 17 33 02.8 -0.3
comp=Z,44nm,0.8s,mb5.5
KSM Kuching 63.83 283 P **P** 17 33 03.3 +0.2
comp=Z,2µmcomp=Z,98nm,1.1s,mb5.8
CBJI Citeko 63.84 274 P **P** 17 33 02.1 -1.1
comp=Z,320nm,1.1s,mb6.3
DBJI Dramaga 63.88 274 P **P** 17 33 03.4 0.0
DBJI Dramaga 63.88 274 P **P** 17 33 03.4 0.0
comp=Z,3µmcomp=Z,262nm,1.2s,mb6.1
DBJI Dramaga 63.88 274 P **P** 17 33 03.6 +0.2
comp=Z,3µmcomp=Z,262nm,1.2s,mb6.1
SBJI Serang 64.61 274 P **P** 17 33 09.4 +1.2
SBJI Serang 64.61 274 P **P** 17 33 09.4 +1.2
comp=Z,154nm,1.8s,mb5.7
SBJI Serang 64.61 274 P **P** 17 33 08.4 +0.2
comp=Z,153nm,1.8s,mb5.7
CGJI Cibinong 64.83 273 P **P** 17 33 09.2 -0.5
CGJI Cibinong 64.83 273 P **P** 17 33 09.2 -0.5
CGJI Cibinong 64.83 273 P **P** 17 33 09.0 -0.7
comp=Z,2µmcomp=Z,118nm,1.4s,mb5.7
PPBI Pangkal Pinang 66.12 278 P **P** 17 33 18.4 +0.4
comp=Z,43nm,1.7s,mb5.2
MJAR Matsushiro Arr 66.40 331 P **P** 17 33 19.9 +0.6
comp=Z,3.3nm,0.7s,mb4.5,baz=175,slow=9.0,SNR=11
MJAR Matsushiro Arr 66.40 331 P **P** 17 33 19.9 +0.6
MJAR Matsushiro Arr 66.40 331 P **P** 17 33 19.9 +0.7
MAJO Matsushiro 66.40 331 *e*P **P** 17 33 17.5 -1.8
comp=Z,17nm,0.9s,mb5.1
MAJO Matsushiro 66.40 331 *e*P **P** 17 33 17.5 -1.7
MAJO pmax pmax
comp=Z,17nm,0.9s,mb5.1
MAT Matsushiro 66.40 331 P **P** 17 33 18.5 -0.7
LWLI Liwa 66.93 274 P **P** 17 33 22.7 -0.5
comp=Z,150nm,1.1s,mb5.9
LWLI Liwa 66.93 274 P **P** 17 33 22.4 -0.8
comp=Z,150nm,1.1s,mb5.9
MDSI Maura Dua 67.02 275 P **P** 17 33 22.2 -1.6
comp=Z,86nm,1.3s,mb5.6
MDSI Maura Dua 67.02 275 P **P** 17 33 22.5 -1.3
comp=Z,86nm,1.3s,mb5.6
QSPA South Pole Qui 67.63 180 LR LR 17 56 47.6
comp=Z,2µm,21.1s,MS5.3,baz=313,slow=30
QSPA South Pole Qui 67.63 180 *e*P **P** 17 33 25.7 -0.8
comp=Z,196nm,1.3s,mb6.0
QSPA *e* pP 17 33 39.9 -0.3
KSI Kapahiang 68.80 275 P **P** 17 33 34.2 -0.8
comp=Z,138nm,1.2s,mb5.7
MYKOM Kota Tinggi 69.81 281 P **P** 17 33 41.7 +0.5
MYKOM Kota Tinggi 69.81 281 P **P** 17 33 41.6 +0.4
comp=Z,53nm,1.9s,mb5.1
YUK Yuzh-Kuril'sk 70.09 341 *d i*P **P** 17 33 38.7 -3.5
YUK *i* 17 36 12.9
YUK *i* PPP 17 37 55.9
YUK *i* S S 17 42 45.6 -3.9
YUK smax
comp=E,2µm,2.7s
YUK smax
comp=N,4µm,2.9s
YUK MLR MLR
comp=Z,1µm,19.0s,MS5.2
KGM Kluang 70.39 281 P **P** 17 33 45.2 +0.4
BKNI Bangkinang 71.78 278 P **P** 17 33 54.0 +0.8
comp=Z,123nm,1.5s,mb5.6
KSRS Korea Array 72.14 325 P **P** 17 33 56.7 +2.0
comp=Z,1.7nm,0.8s,baz=141,slow=4.7,SNR=4.9
KSRS LR LR 18 03 16.9
comp=Z,1µm,21.4s,MS5.1,baz=340,slow=34
KSRS Korea Array 72.14 325 P **P** 17 33 56.7 +2.0
KSRS MLR MLR
comp=Z,1µm,21.4s,MS5.1
KSAR Wonju Array Be 72.15 325 P **P** 17 33 56.7 +1.9
KSAR Wonju Array Be 72.15 325 P **P** 17 33 56.7 +1.9
MNSI Mandailing Nat 73.31 278 P **P** 17 34 01.3 -0.9
comp=Z,72nm,1.1s,mb5.5
IPM Ipoh 73.49 282 P **P** 17 34 03.3 0.0
IPM Ipoh 73.49 282 *e*P **P** 17 34 02.8 -0.5
comp=Z,70nm,1.1s,mb5.5
IPM Ipoh 73.49 282 P **P** 17 34 03.3 0.0
comp=Z,74nm,1.2s,mb5.5
YSS Yuzh-Sakhalins 73.67 340 *e*P **P** 17 34 00.7 -2.9
comp=Z,22nm,0.8s,mb5.2
YSS Yuzh-Sakhalins 73.67 340 *e*P **P** 17 34 06.0 +2.4
NJ2 Nanjing 73.73 316 *e*P **P** 17 34 05.4 +1.1
NJ2 pP pP 17 34 21.1 +3.0
NJ2 sP sP 17 34 28.8 +5.3
NJ2 PP PP 17 36 50.3 +0.8
NJ2 S S 17 43 32.5 +0.7
NJ2 pmax pmax
comp=Z,20nm,1.2s,mb4.9
NJ2 pmax pmax
comp=Z,570nm,8.3s
NJ2 LR LR
comp=N,1µm,15.3s,MS5.5
NJ2 LR LR
comp=E,1µm,16.0s,MS5.5
NJ2 LR LR
comp=Z,1µm,17.2s,MS5.3
KULM Kulim 74.17 283 P **P** 17 34 06.7 -0.6
KULM Kulim 74.17 283 *e*P **P** 17 34 06.8 -0.5
comp=Z,201nm,1.8s,mb5.8
KULM *e* pP 17 34 18.4 -2.7
KULM Kulim 74.17 283 P **P** 17 34 06.6 -0.7
comp=Z,61nm,1.4s,mb5.3
PSI Prapat 74.71 280 P **P** 17 34 09.6 -0.8
comp=Z,56nm,1.6s,mb5.2
WHN Wuhan 75.81 312 ⇑P **P** 17 34 16.0 -0.3
WHN pmax pmax
comp=Z,280nm,2.2s,mb5.8
PETK Petropavlovsk- 76.13 352 P **P** 17 34 19.4 +1.7
comp=Z,11nm,0.9s,mb4.8,baz=144,slow=6.3,SNR=11
PETK Petropavlovsk- 76.13 352 P **P** 17 34 19.4 +1.7
PETK Petropavlovsk- 76.13 352 P **P** 17 34 19.4 +1.8
PETK pmax pmax
comp=Z,11nm,0.9s,mb4.8
MAW Mawson 76.15 202 P **P** 17 34 17.5 -0.2
comp=Z,34nm,0.8s,mb5.3,baz=112,slow=7.5,SNR=44
MAW Mawson 76.15 202 *e*P **P** 17 34 17.3 -0.5
comp=Z,29nm,0.9s,mb5.2
MAW Mawson 76.15 202 *e*P **P** 17 34 17.1 -0.7
comp=Z,27nm,1.3s,mb5.0
MAW Mawson 76.15 202 P **P** 17 34 17.5 -0.3
MAW pmax pmax
comp=Z,34nm,0.8s
MDJ Mudanjiang 76.77 331 P **P** 17 34 20.9 -0.6
MDJ S S 17 44 08.3 +3.3
MDJ pmax pmax
comp=Z,12nm,1.9s,mb4.5
MDJ pmax pmax
comp=Z,1µm,19.2s
MDJ LR LR
comp=N,2µm,26.4s,MS5.3
MDJ LR LR
comp=E,910nm,26.4s,MS5.3
MDJ LR LR
comp=Z,1µm,28.5s,MS5.0
MDJ Mudanjiang 76.77 331 *e*P **P** 17 34 21.0 -0.4
comp=Z,33nm,1.5s,mb5.0
CN2 Changchun 78.11 328 ⇑P **P** 17 34 28.5 -0.4
CN2 *e*pP pP 17 34 45.1 +2.2
CN2 *e*sP sP 17 34 52.3 +4.1
CN2 *e*S S 17 44 18.1 -1.4
CN2 pmax pmax
comp=Z,20nm,1.0s,mb5.0
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1µm,19.0s,MS5.4
CN2 LR LR
comp=E,1µm,19.0s,MS5.4
CN2 LR LR
comp=Z,2µm,22.0s,MS5.3
NNT Nongplab 78.13 289 P **P** 17 34 31.5 +1.8
ENH Enshi 79.07 309 *e*P **P** 17 34 33.5 -1.1
comp=Z,50nm,1.3s,mb5.3
BSI Banda Aceh 79.11 281 P **P** 17 34 34.6 -0.6
comp=Z,210nm,1.2s,mb5.9
NST Nakhon Sawan 79.16 292 P **P** 17 34 37.0 +1.6
KLR Kul'dur 79.51 335 *e*P **P** 17 34 33.6 -2.9
KLR pmax pmax
comp=Z,100nm,2.0s,mb5.4
BJT Baijiatuau 80.52 320 *e*P **P** 17 34 41.8 -0.4
BJT Baijiatuau 80.52 320 *e*P **P** 17 34 41.8 -0.4
CHRT Chiangrai 81.37 296 ⇓P **P** 17 34 48.0 +0.8
comp=Z,129nm,1.8s,mb5.6
CM31 Chiang Mai Arr 81.43 294 *e*P **P** 17 34 49.0 +1.4
comp=Z,53nm,1.1s,mb5.4
CMAR Chiang Mai Arr 81.43 294 P **P** 17 34 48.9 +1.3
comp=Z,24nm,1.0s,mb5.1,baz=136,slow=4.0,SNR=137
CMAR PKKPbc PKKPbc 17 53 20.6 -0.8
comp=Z,0.8nm,0.6s,baz=283,slow=4.1,SNR=6.4
CMAR Chiang Mai Arr 81.43 294 P **P** 17 34 48.9 +1.3
CMAR PKKPbc PKKPbc 17 53 20.6 -0.8
CMAR Chiang Mai Arr 81.43 294 P **P** 17 34 48.9 +1.3
CMAR pmax pmax
comp=Z,24nm,1.0s
KMI Kunming 81.47 302 P **P** 17 34 48.4 +0.8
KMI pP pP 17 35 02.9 +1.3
KMI sP sP 17 35 11.1 +4.1
KMI PP PP 17 37 58.0 +3.5
KMI S S 17 44 54.6 -1.2
KMI pmax pmax
comp=Z,20nm,1.7s,mb4.8
KMI pmax pmax
comp=Z,1µm,14.5s
KMI LR LR
comp=N,760nm,19.5s,MS5.3
KMI LR LR
comp=E,1µm,16.9s,MS5.3
KMI LR LR
comp=Z,980nm,18.7s,MS5.2
XAN Xi'an 81.57 312 P **P** 17 34 47.8 -0.2
XAN pmax pmax
comp=Z,5.0nm,1.4s
XAN pmax pmax
comp=Z,450nm,14.8s
CHTO Chiang Mai 81.59 294 *e*P **P** 17 34 49.4 +1.0
comp=Z,62nm,1.3s,mb5.4
CHTO *e* pP 17 35 04.8 +2.4
CHTO Chiang Mai 81.59 294 *e*P **P** 17 34 49.4 +1.0
CHTO *e* pP 17 35 04.9 +2.5
CHTO pmax pmax
comp=Z,62nm,1.3s,mb5.4
CHTO Chiang Mai 81.59 294 P **P** 17 34 50.1 +1.7
comp=Z,59nm,1.3s,mb5.4
SYO Syowa Base 82.36 196⇑*e*P **P** 17 34 48.4 -3.2
SYO Syowa Base 82.36 196⇑*e*PcP PcP 17 34 54.6 -2.1
CD2 Chengdu 83.58 307 P **P** 17 34 59.3 +0.8
CD2 PP PP 17 38 15.3 +3.5
CD2 SKS 17 45 11.6
CD2 S S 17 45 14.8 -2.4
CD2 SS SS 17 50 46.3 +1.4
CD2 pmax pmax
comp=Z,10.0nm,0.5s,mb5.2
CD2 pmax pmax
comp=Z,3µm,11.8s
CD2 LR LR
comp=E,2µm,15.5s
CD2 LR LR
comp=Z,1µm,16.7s,MS5.4
HHC Hu-ho-hao-te 83.80 319 ⇓P **P** 17 34 59.4 +0.1
HHC PP PP 17 38 15.8 +2.4
HHC SKS 17 45 15.6
HHC S S 17 45 18.0 -0.9
HHC SS SS 17 50 53.4 +5.8
HHC pmax pmax
comp=Z,21nm,1.2s,mb5.1
HHC pmax pmax
comp=Z,230nm,6.9s
HHC LR LR
comp=N,1µm,20.2s,MS5.3
HHC LR LR
comp=E,960nm,22.6s,MS5.3
HHC LR LR
comp=Z,1µm,25.0s,MS5.3
HIA Hailar 84.76 329 P **P** 17 35 03.4 -0.6
HIA Hailar 84.76 329 P **P** 17 35 03.4 -0.6
MAIT Maitri 85.92 187 *e*P **P** 17 35 07.7 -1.9
SNAA Sanae 86.05 182 *e* P **P** 17 35 03.7 -6.6
SNAA Sanae 86.05 182 *e*P **P** 17 35 03.0 -7.3
comp=Z,97nm,1.4s,mb5.8
SNAA Sanae 86.05 182 *e*P **P** 17 35 03.0 -7.3
SNAA pmax pmax
comp=Z,97nm,1.4s
LZH Lanzhou 86.18 312 *e*P **P** 17 35 12.6 +1.2
LZH pP pP 17 35 29.8 +4.3
LZH sP sP 17 35 36.3 +5.4
LZH PP PP 17 38 31.4 -1.5
LZH pmax pmax
comp=Z,120nm,1.3s,mb6.0
LZH pmax pmax
comp=Z,330nm,6.1s
LZH LR LR
comp=N,1µm,16.2s,MS5.5
LZH LR LR
comp=E,1µm,18.8s,MS5.5
LZH LR LR
comp=Z,1µm,17.3s,MS5.4
SEY Seymchan 86.37 352 *e*P **P** 17 35 08.9 -2.8
VNA3 Neumayer Olymp 86.57 180 *e* **P** 17 35 07.8 -5.0
VNA2 Neumayer--Watz 86.89 180 *e* **P** 17 35 09.5 -4.9
baz=158,slow=4.8
VNA1 Neumayer--Stat 87.17 180 *e* **P** 17 35 11.4 -4.4
CMB Columbia Colle 87.98 47 *e*P **P** 17 35 19.1 -1.0
comp=Z,15nm,1.2s,mb5.1
CMB Columbia Colle 87.98 47 *e*P **P** 17 35 19.1 -1.0
CMB pmax pmax
comp=Z,15nm,1.2s,mb5.1
ISA Isabella 88.12 50 *e*P **P** 17 35 19.8 -1.1
comp=Z,13nm,0.9s,mb5.2
ISA Isabella 88.12 50 *e*P **P** 17 35 19.8 -1.1
ISA pmax pmax
comp=Z,13nm,0.9s,mb5.2
NVAR Mina Array Bea 89.59 48 P **P** 17 35 27.1 -0.6
comp=Z,9.2nm,0.8s,mb5.2,baz=226,slow=8.6,SNR=33
NVAR Mina Array Bea 89.59 48 P **P** 17 35 27.1 -0.6
BILL Bilibino 90.28 358 *e*P **P** 17 35 28.7 -1.5
comp=Z,13nm,1.1s,mb5.2
BILL Bilibino 90.28 358 *e*P **P** 17 35 28.1 -2.1
BILL pmax pmax
comp=Z,5.0nm,1.2s,mb4.7
SHL Shillong 90.41 297 *e*PKP **P** 17 35 32.0 +0.2
ULN Ulaanbaatar 90.48 323 *e*P **P** 17 35 31.2 -0.3
comp=Z,49nm,1.5s,mb5.6
ULN Ulaanbaatar 90.48 323 *e*P **P** 17 35 31.2 -0.4
ULN pmax pmax
comp=Z,49nm,1.5s,mb5.6
ULN Ulaanbaatar 90.48 323 P **P** 17 35 31.7 +0.1
GTA Gaotai 90.61 313 *e*P **P** 17 35 32.5 +0.1
GTA pP pP 17 35 48.8 +2.2
GTA PP PP 17 39 12.8 +4.5
GTA S S 17 46 23.9 -0.5
GTA SS SS 17 52 31.8 +4.5
GTA pmax pmax
comp=Z,9.0nm,1.2s,mb5.0
GTA LR LR
comp=N,1µm,19.9s,MS5.5
GTA LR LR
comp=E,1µm,19.0s,MS5.5
GTA LR LR
comp=Z,1µm,21.3s,MS5.3
SONM Songino Array 90.83 322 P **P** 17 35 33.1 -0.1
comp=Z,10nm,1.0s,mb5.1,baz=137,slow=3.7,SNR=43
SONM Songino Array 90.83 322 P **P** 17 35 33.1 -0.1
SONM Songino Array 90.83 322 P **P** 17 35 33.1 -0.1
SONM pmax pmax
comp=Z,10.0nm,1.0s
MENT Mentasta 92.23 19 P **P** 17 35 37.2 -2.1
COLA College 92.58 16 *e*P **P** 17 35 37.2 -3.7
comp=Z,15nm,1.2s,mb5.3
COLA College 92.58 16 *e*P **P** 17 35 37.2 -3.7
COLA pmax pmax
comp=Z,15nm,1.2s,mb5.3

ILAR	**Eielson Array**	**92.75**	**17**	P		**P**	**17 35 39.1**	**-2.6**	
	comp=Z,1.3nm,0.8s,mb4.4,baz=230,slow=4.8,SNR=11								
ILAR	**Eielson Array**	**92.75**	**17**	P		**P**	**17 35 39.1**	**-2.6**	
ILAR	**Eielson Array**	**92.75**	**17**	P		**P**	**17 35 39.1**	**-2.6**	
ZAK	**Zakamensk**	**93.92**	**324**	*e*P		**P**	**17 35 46.0**	**-1.4**	
ZAK				pmax	pmax				
	comp=Z,6.0nm,1.5s,mb4.8								
TAPN	**Taplejung**	**94.55**	**298**	*e*P		**P**	**17 35 49.9**	**-1.0**	
	comp=Z,9.0nm,0.8s,mb5.2								
ODAN	**Odare**	**94.63**	**297**	*e*P		**P**	**17 35 51.2**	**-0.1**	
	comp=Z,19nm,1.0s,mb5.5								
PLCA	**Paso Flores**	**94.97**	**138**	P		**P**	**17 35 52.2**	**-0.5**	
	comp=Z,3.0nm,0.7s,mb4.8,baz=202,slow=6.4,SNR=5.8								
PLCA	**Paso Flores**	**94.97**	**138**	*e*Pn		**P**	**17 35 51.4**	**-1.3**	
	comp=Z,14nm,1.4s,mb5.2								
PLCA	**Paso Flores**	**94.97**	**138**	P		**P**	**17 35 52.3**	**-0.4**	
PLCA				pmax	pmax				
	comp=Z,3.0nm,0.7s								
JIRN	**Jiri**	**95.92**	**297**	*e*P		**P**	**17 35 57.0**	**-0.2**	
GUN	**Gumba**	**96.27**	**297**	*e*P		**P**	**17 35 57.1**	**-1.6**	
PKI	**Pulchoki**	**96.53**	**297**	*e*P		**P**	**17 35 59.0**	**-0.9**	
KKN	**Kakani**	**96.72**	**297**	*e*P		**P**	**17 36 00.3**	**-0.5**	
TXAR	**Lajitas Array**	**96.73**	**61**	P		**P**	**17 35 59.6**	**-1.2**	
	comp=Z,0.7nm,0.7s,baz=210,slow=5.4,SNR=8.6								
TXAR				PKKPbc	PKKPbc		17 52 44.1	+0.3	
	comp=Z,0.8nm,0.7s,baz=96,slow=3.6,SNR=7.5								
TXAR	**Lajitas Array**	**96.73**	**61**	P		**P**	**17 35 59.6**	**-1.2**	
TXAR				PKKPbc	PKKPbc		17 52 44.1	+0.4	
TXAR	**Lajitas Array**	**96.73**	**61**	P		**P**	**17 35 59.6**	**-1.2**	
DMN	**Daman**	**96.79**	**297**	*e*P		**P**	**17 36 01.0**	**-0.1**	
	comp=Z,22nm,0.9s,mb5.6								
GKN	**Gorkha**	**97.32**	**297**	*e*P		**P**	**17 36 02.6**	**-0.9**	
	comp=Z,15nm,0.9s,mb5.4								
PDAR	**Pinedale Array**	**97.48**	**47**	P		**P**	**17 36 04.0**	**+0.1**	
	comp=Z,0.9nm,0.8s,mb4.3,baz=186,slow=1.5,SNR=6.4								
PDAR				PP	PP		17 40 08.1	+6.2	
	comp=Z,0.8nm,0.9s,baz=202,slow=7.4,SNR=3.5								
PDAR				PKKPbc	PKKPbc		17 52 40.9	-1.3	
	comp=Z,0.5nm,0.8s,baz=90,slow=5.9,SNR=4.0								
PDAR	**Pinedale Array**	**97.48**	**47**	P		**P**	**17 36 04.0**	**+0.1**	
PDAR				PP	PP		17 40 08.1	+6.2	
PDAR				PKKPbc	PKKPbc		17 52 40.9	-1.3	
KOLN	**Koldanda**	**98.09**	**297**	*e*P		**P**	**17 36 07.2**	**+0.2**	
DANN	**Dangsing**	**98.17**	**297**	*e*P		**P**	**17 36 05.8**	**-1.5**	
	comp=Z,17nm,1.0s,mb5.5								
PYUN	**Piuthan**	**98.72**	**297**	*e*P		**P**	**17 36 08.6**	**-1.2**	
	comp=Z,8.7nm,0.9s,mb5.3								
WMQ	**Urumqi**	**100.69**	**313**	P		Pdif	17 36 18.3	+0.1	
WMQ				LR	LR				
	comp=N,2μm,25.6s,MS5.6								
WMQ				LR	LR				
	comp=E,2μm,25.6s,MS5.6								
WMQ				LR	LR				
	comp=Z,2μm,24.6s,MS5.5								
MKAR	**Makanchi Array**	**105.25**	**315**	Pdiff		Pdif	17 36 40.8	+2.3	
	comp=Z,0.8nm,0.8s,baz=101,slow=6.3,SNR=4.9								
MKAR				PKiKP	PKiKP		17 40 50.2	-2.2	
	comp=Z,1.2nm,0.9s,baz=64,slow=3.4,SNR=8.1								
MKAR				PKKPbc	PKKPbc		17 52 16.7	-3.0	
	comp=Z,1.0nm,0.7s,baz=285,slow=2.1,SNR=7.7								
MKAR				PKKP	PKKPbc		17 52 28.3	+8.6	
	comp=Z,1.4nm,0.8s,baz=280,slow=3.6,SNR=5.3								
MKAR	**Makanchi Array**	**105.25**	**315**	Pdif		Pdif	17 36 40.8	+2.3	
MKAR				PKiKP	PKiKP		17 40 50.2	-2.2	
MKAR				PKKPbc	PKKPbc		17 52 16.7	-3.0	
MKAR				PKKP	PKKPbc		17 52 28.3	+8.6	
MKAR	**Makanchi Array**	**105.25**	**315**	P		Pdif	17 36 40.8	+2.3	
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.9s								
ZALV	**Zalesovo Beam**	**105.73**	**322**	Pdiff		Pdif	17 36 41.3	+0.7	
	comp=Z,0.4nm,0.4s,baz=105,slow=5.2,SNR=4.0								
ZALV	**Zalesovo Beam**	**105.73**	**322**	Pdif		Pdif	17 36 41.3	+0.7	
ZALV	**Zalesovo Beam**	**105.73**	**322**	P		Pdif	17 36 41.3	+0.7	
KURK	**Kurchatov**	**108.59**	**318**	PKiKP		PKiKP	17 40 56.8	-1.6	
	comp=Z,2.1nm,0.8s,baz=106,slow=2.2,SNR=18								
KURK				PKKPbc	PKKPbc		17 52 07.8	-1.5	
	comp=Z,0.4nm,0.4s,baz=282,slow=4.0,SNR=6.7								
KURK	**Kurchatov**	**108.59**	**318**	PKiKP		PKiKP	17 40 56.8	-1.6	
KURK				PKKPbc	PKKPbc		17 52 07.8	-1.5	
LPAZ	**La Paz**	**110.37**	**118**	PKiKP		PKiKP	17 41 01.9	-0.9	
	comp=Z,0.7nm,0.5s,baz=260,slow=6.9,SNR=3.9								
LPAZ	**La Paz**	**110.37**	**118**	PKiKP		PKiKP	17 41 01.9	-0.9	
LPAZ	**La Paz**	**110.37**	**118**	*i* PKIKP		PKiKP	17 41 01.9	-1.0	
LPAZ				pmax	pmax				
	comp=Z,1.0nm,0.5s								
KKAR	**Karatay Array**	**112.55**	**309**	*e*P		PKiKP	17 41 04.5	-1.6	
KKAR	**Karatay Array**	**112.55**	**309**	*e*PKiKP		PKiKP	17 41 04.5	-1.6	
BVAR	**Borovoye Array**	**114.00**	**319**	PKP		PKiKP	17 41 07.1	-1.5	
	comp=Z,3.5nm,0.8s,baz=124,slow=1.6,SNR=16								
BVAR	**Borovoye Array**	**114.00**	**319**	PKP		PKiKP	17 41 07.1	-1.5	
BVAR	**Borovoye Array**	**114.00**	**319**	PKIKP		PKiKP	17 41 07.1	-1.5	
BVAR				pmax	pmax				
	comp=Z,4.0nm,0.8s								
BRVK	**Borovoye**	**114.07**	**320***c*	*i* PKIKP		PKiKP	17 41 04.1	-4.6	
BRVK				pmax	pmax				
	comp=Z,13nm,2.5s								
BOSA	**Boshof**	**119.52**	**215**	PKP		PKPdf	17 41 19.4	-0.7	
	comp=Z,2.8nm,0.8s,baz=66,slow=16,SNR=5.7								
BOSA	**Boshof**	**119.52**	**215**	PKP		PKPdf	17 41 19.4	-0.7	
BOSA	**Boshof**	**119.52**	**215**	PKIKP		PKPdf	17 41 19.4	-0.7	
BOSA				pmax	pmax				
	comp=Z,3.0nm,0.8s								
ABKAR	**Akbulak array**	**120.39**	**315**	*e*P		PKPdf	17 41 18.8	-2.2	
ARU	**Arti**	**120.86**	**323**	*e*P		PKPdf	17 41 19.7	-2.0	
ARU				*e*			17 41 31.5		
ARU	**Arti**	**120.86**	**323**	*i* PKIKP		PKPdf	17 41 19.9	-1.8	
ARU							17 42 57.3		
ARU							17 48 12.3		
ARU				SS		SS	17 59 26.2	+7.4	
AKTO	**Aktyubinsk**	**121.61**	**316**	PKP		PKPdf	17 41 22.3	-1.1	
	comp=Z,8.1nm,0.7s,baz=99,slow=2.8,SNR=32								
AKTO	**Aktyubinsk**	**121.61**	**316**	PKP		PKPdf	17 41 22.3	-1.1	
AKTO	**Aktyubinsk**	**121.61**	**316**	PKIKP		PKPdf	17 41 22.3	-1.0	
AKTO				pmax	pmax				
	comp=Z,8.0nm,0.7s								
LBTB	**Lobatse**	**122.18**	**217**	PKP		PKPdf	17 41 22.9	-2.4	
	comp=Z,1.7nm,0.7s,baz=205,slow=5.0,SNR=3.8								
LBTB	**Lobatse**	**122.18**	**217**	PKP		PKPdf	17 41 22.9	-2.4	
LBTB	**Lobatse**	**122.18**	**217**	PKIKP		PKPdf	17 41 22.9	-2.4	
SPITS	**Spitsbergen Ar**	**122.95**	**354**	PKP		PKPdf	17 41 22.8	-2.4	
	comp=Z,16nm,1.0s,baz=24,slow=11,SNR=6.3								
SPITS	**Spitsbergen Ar**	**122.95**	**354**	PKP		PKPdf	17 41 22.8	-2.4	
SPITS	**Spitsbergen Ar**	**122.95**	**354**	PKIKP		PKPdf	17 41 22.8	-2.4	
SPITS				pmax	pmax				
	comp=Z,16nm,1.0s								
APA	**Apatity**	**127.82**	**341**	⇑*i* PKIKP		PKPdf	17 41 40.0	+5.3	
APA				MLR	MLR				
	comp=Z,2μm,18.0s,MS5.8								
ARCES	**ARCESS Array B**	**128.60**	**345**	PKP		PKPdf	17 41 34.8	-1.4	
	comp=Z,2.7nm,0.6s,baz=70,slow=1.6,SNR=16								
ARCES	**ARCESS Array B**	**128.60**	**345**	PKP		PKPdf	17 41 34.8	-1.4	
ARCES	**ARCESS Array B**	**128.60**	**345**	PKIKP		PKPdf	17 41 34.8	-1.4	
ARCES				pmax	pmax				
	comp=Z,3.0nm,0.6s								
RDF	**Al-Radifah**	**129.15**	**290**	*e*P		PKPdf	17 41 37.9	-0.5	
RDF				AMb	AMB		17 41 40.0		
	comp=Z,125nm,1.4s								
KLMR	**Klimovskoe**	**129.18**	**332**	*e*PKIKP		PKPdf	17 41 33.3	-4.2	
KLMR				pmax	pmax				
	comp=Z,37nm,1.5s								
KMBO	**Kilima Mbogo**	**129.34**	**249**	*e*PKPdf		PKPdf	17 41 38.0	-1.4	
KMBO	**Kilima Mbogo**	**129.34**	**249**	*e*PKIKP		PKPdf	17 41 38.0	-1.3	
MIB	**Mutribah**	**129.43**	**291**	*e*P		PKPdf	17 41 38.1	-0.8	
MIB				AMb	AMB		17 41 40.1		
	comp=Z,46nm,1.3s								
NAY	**Al-Naaiem**	**129.46**	**290**	*e*P		PKPdf	17 41 37.9	-1.2	
NAY				AMb	AMB		17 41 40.1		
	comp=Z,19nm,1.2s								
ZEI	**Tsey**	**132.00**	**308**	*e*PKIKP		PKPdf	17 41 43.8	+0.4	
ZEI				pmax	pmax				
	comp=Z,6.0nm,1.0s								
BHD	**Baghdad**	**132.16**	**295**	*ex*		x	17 41 39.0		
KIV	**Kislovodsk**	**132.69**	**310**	PKIKP		PKPdf	17 41 45.0	+0.3	
KIV				pmax	pmax				
	comp=Z,9.0nm,1.0s								
OBN	**Obninsk**	**133.13**	**326**	PKHKP		PKPpre	17 41 20.0		
OBN				*e*			17 41 44.1		
FINES	**FINESS Array B**	**134.21**	**337**	PKhKP		PKPpre	17 41 38.4		
	comp=Z,3.1nm,0.9s,baz=46,slow=5.5,SNR=5.5								
FINES				PKP		PKPdf	17 41 45.5	-1.4	
	comp=Z,3.7nm,0.9s,baz=58,slow=7.2,SNR=6.9								
FINES				SKPbc	SKPbc		17 45 11.1	-1.5	
	comp=Z,3.9nm,0.9s,baz=115,slow=8.6,SNR=5.0								
FINES	**FINESS Array B**	**134.21**	**337**	PKPpre	PKPpre		17 41 38.4		
FINES				PKP	PKPdf		17 41 45.5	-1.4	
FINES				SKPbc	SKPbc		17 45 11.1	-1.5	
FINES	**FINESS Array B**	**134.21**	**337**	PKHKP	PKPpre		17 41 38.4		
FINES							17 41 45.6		
FINES				pmax	pmax				
	comp=Z,3.0nm,0.9s								
FINES				pmax	pmax				
	comp=Z,4.0nm,0.9s								
FINES				pmax	pmax				
	comp=N,4.0nm,0.9s								
IZAR	**Zarasai**	**137.82**	**331**	*e*P		PKPdf	17 41 48.4	-5.5	
ISAL	**Salakas**	**137.98**	**331**	*e*P		PKPdf	17 41 50.1	-4.1	
IIGN	**Ignalina**	**138.07**	**331**	*e*P		PKPdf	17 41 50.7	-3.6	
AKASG	**Malin Array Be**	**139.12**	**323**	PKP		PKPdf	17 41 54.9	-1.5	
	comp=N,1.0nm,0.5s,baz=47,slow=1.8,SNR=12								
AKASG				SKPbc	SKPbc		17 45 26.9	-0.7	
	comp=N,3.4nm,0.9s,baz=43,slow=3.8,SNR=6.6								
AKASG	**Malin Array Be**	**139.12**	**323**	PKP		PKPdf	17 41 54.9	-1.5	
AKASG				SKPbc	SKPbc		17 45 26.9	-0.7	
AKASG	**Malin Array Be**	**139.12**	**323**	PKIKP		PKPdf	17 41 54.9	-1.5	
AKASG				pmax	pmax				
	comp=Z,1.0nm,0.5s								
AKASG				pmax	pmax				
	comp=N,3.0nm,0.9s								
BRTR	**Keskin Array B**	**140.15**	**306**	PKhKP		PKPpre	17 41 50.8		
	comp=N,1.1nm,0.9s,baz=313,slow=14,SNR=3.0								
BRTR				PKP		PKPdf	17 41 58.4	-0.3	
	comp=N,4.0nm,1.0s,baz=104,slow=2.5,SNR=7.5								
BRTR	**Keskin Array B**	**140.15**	**306**	PKPpre	PKPpre		17 41 50.8		
BRTR				PKP	PKPdf		17 41 58.4	-0.3	
BRTR	**Keskin Array B**	**140.15**	**306**	PKHKP	PKPpre		17 41 50.8		
BRTR							17 41 58.4		
BRTR				pmax	pmax				
	comp=Z,1.0nm,0.9s								
BRTR				pmax	pmax				
	comp=Z,4.0nm,1.0s								
TESR		**142.62**	**319**	⇑*i* P		PKPdf	17 42 02.7	-0.2	
BUR08	**Bucovina Ar. S**	**142.93**	**321**	*e*PKPdf		PKPpre	17 41 59.1		
BURAR	**Bucovina Array**	**142.94**	**321**	⇑PKIKP		PKPpre	17 42 00.1		
BURAR	**Bucovina Array**	**142.94**	**321**	⇑*i* P		PKPpre	17 42 00.1		
KWP	**Kalwaria Pacla**	**143.22**	**325**	⇓PKHKP		PKPpre	17 41 59.2		
KWP	**Kalwaria Pacla**	**143.22**	**325**	⇓*i* P		PKPpre	17 41 59.2		
MLR	**Muntele Rosu**	**143.53**	**318**	PKhKP		PKPpre	17 42 00.1		
	comp=Z,1.8nm,0.6s,baz=162,slow=22,SNR=4.4								
MLR	**Muntele Rosu**	**143.53**	**318**	PKPpre		PKPpre	17 42 00.1		
MLR	**Muntele Rosu**	**143.53**	**318**	PKHKP		PKPpre	17 42 00.1		
MLR	**Muntele Rosu**	**143.53**	**318**	⇑*i* P		PKPpre	17 42 00.0		
BMR	**Baia Mare**	**143.90**	**322**	⇑PKIKP		PKPdf	17 42 03.2	-1.9	
BMR	**Baia Mare**	**143.90**	**322**	⇑*i* P		PKPdf	17 42 03.2	-1.9	
UZH	**Uzhgorod**	**144.03**	**324**	⇓*i* PKIKP		PKPdf	17 42 03.0	-2.3	
VOIR		**144.11**	**318**	⇑PKIKP		PKPdf	17 42 03.3	-2.2	
VOIR		**144.11**	**318**	⇑*i* P		PKPdf	17 42 03.3	-2.2	
TRPA	**Tarpa**	**144.18**	**323**	⇑*i* P		PKPdf	17 42 03.7	-1.9	
CRVS	**Cervenica-Dubn**	**144.31**	**325**	*e*PKIKP		PKPdf	17 42 03.4	-2.4	
CRVS	**Cervenica-Dubn**	**144.31**	**325**	*e*PKP		PKPdf	17 42 03.4	-2.4	
OJC	**Ojcow**	**144.33**	**328**	*e*PKP		PKPdf	17 42 03.5	-2.3	
OJC	**Ojcow**	**144.33**	**328**	*e*PKIKP		PKPdf	17 42 03.5	-2.3	
NIE	**Niedzica**	**144.59**	**327**	*e*PKP		PKPdf	17 42 05.5	-0.7	
NIE	**Niedzica**	**144.59**	**327**	*e*PKIKP		PKPdf	17 42 05.5	-0.7	
DRGR		**144.82**	**321**	PKIKP		PKPdf	17 42 05.7	-1.0	
DRGR		**144.82**	**321**	⇑*i* P		PKPdf	17 42 05.8	-0.9	
LOT	**Lotru**	**144.89**	**319**	⇑*i* P		PKPdf	17 42 05.9	-1.0	
KECS	**Kecovo**	**145.08**	**325**	*e*PKIKP		PKPdf	17 42 06.3	-0.8	
KECS	**Kecovo**	**145.08**	**325**	*e*PKP		PKPdf	17 42 06.3	-0.8	
RUE	**Ruedersdorf**	**145.34**	**336**	*e*PKPdf		PKPdf	17 42 06.2	-2.2	
BSEG	**Bad Segeberg**	**145.36**	**340**	*e*PKPbc		PKPbc	17 42 06.8	-0.6	
BSEG	**Bad Segeberg**	**145.36**	**340**	*e*PKIKP		PKPdf	17 42 06.8	-0.6	
OKC	**Ostrava-Krasne**	**145.38**	**329**	*e*PKIKP		PKPdf	17 42 06.4	-1.2	
OKC	**Ostrava-Krasne**	**145.38**	**329**	*e*PKP		PKPdf	17 42 06.4	-1.2	
GZR	**Gura Zlata**	**145.53**	**319**	⇓PKHKP		PKPdf	17 42 07.0	-1.0	
GZR	**Gura Zlata**	**145.53**	**319**	⇓*i* P		PKPdf	17 42 07.0	-1.0	
KSP	**Ksiaz**	**145.53**	**332**	*e*PKP		PKPdf	17 42 07.5	-0.3	
RDO	**Rodhopi**	**145.62**	**311**	*e*P		PKPdf	17 42 07.8	-0.4	
MORC	**Moravsky Berou**	**145.71**	**329**	*e*PKPdf		PKPdf	17 42 07.2	-1.0	
MORC	**Moravsky Berou**	**145.71**	**329**	⇓PKP2		PKPab	17 42 07.8	-1.2	
MORC	**Moravsky Berou**	**145.71**	**329**	⇓*i* P		PKPdf	17 42 07.8	-0.3	
PSZ	**Piszkesteto**	**145.74**	**325**	*e*PKPdf		PKPdf	17 42 07.0	-1.3	
PSZ	**Piszkesteto**	**145.74**	**325**	PKP2		PKPab	17 42 08.5	-0.6	
PSZ	**Piszkesteto**	**145.74**	**325**	⇓*e*PKP		PKPdf	17 42 08.2	-0.1	
PSZ	**Piszkesteto**	**145.74**	**325**	⇓*e*PKP		PKPdf	17 42 08.0	-0.3	
PSZ	**Piszkesteto**	**145.74**	**325**	⇓*i* P		PKPdf	17 42 08.2	-0.1	
DPC	**Dobruska-Polom**	**145.88**	**331**	*e*PKP2		PKPab	17 42 07.8	-1.8	
DPC	**Dobruska-Polom**	**145.88**	**331**	*e*PKP		PKPdf	17 42 07.8	-0.6	
DPC				*ep*PKP		pPKPdf	17 42 28.2	+5.1	
UPC	**Upice**	**145.90**	**331**	*e*PKIKP		PKPdf	17 42 07.6	-0.8	
UPC	**Upice**	**145.90**	**331**	*e*PKP		PKPdf	17 42 07.6	-0.8	
UPC				*ep*PKP		pPKPdf	17 42 24.6	+1.5	
KOLL	**Kolacno**	**146.09**	**327**	*e*PKP2		PKPab	17 42 09.0	-1.4	
KOLL	**Kolacno**	**146.09**	**327**	*e*PKP		PKPdf	17 42 09.0	+0.2	
BZS	**Buzias**	**146.10**	**320**	⇓PKIKP		PKPdf	17 42 08.0	-0.9	
BZS	**Buzias**	**146.10**	**320**	⇓*i* P		PKPdf	17 42 08.0	-0.9	
BUD	**Budapest**	**146.47**	**325**	⇓*e*PKP		PKPdf	17 42 10.3	+0.8	
BUD	**Budapest**	**146.47**	**325**	⇓*e*PKP		PKPdf	17 42 10.2	+0.7	
VRAC	**Vranov**	**146.48**	**329**	⇑PKP2		PKPab	17 42 10.6	-1.3	
VRAC	**Vranov**	**146.48**	**329**	⇑*i* P		PKPdf	17 42 10.6	+1.1	
PVCC	**Panska Ves**	**146.51**	**333**	*e*PKP2		PKPdf	17 42 09.4	-0.1	
PVCC	**Panska Ves**	**146.51**	**333**	*e*PKP		PKPdf	17 42 09.4	-0.1	
BRG	**Berggiesshubel**	**146.51**	**334**	*i* PKP		PKPdf	17 42 10.1	+0.6	
	comp=Z,94nm,1.5s								
BRG				*i* pPKP		pPKPdf	17 42 36.2	+12	
	comp=Z,39nm,1.0s								
BRG				*i* sPKP			17 42 49.0		
	comp=Z,46nm,1.2s								
BRG	**Berggiesshubel**	**146.51**	**334**	*e*PKPbc		PKPbc	17 42 10.4	-0.6	
BRG	**Berggiesshubel**	**146.51**	**334**	*i* PKP2		PKPbc	17 42 10.1	-0.9	
BRG				pmax	pmax				
	comp=Z,94nm,1.5s								
CLL	**Collm**	**146.56**	**335**	*e*PKPbc		PKPbc	17 42 10.3	-0.8	
CLL	**Collm**	**146.56**	**335**	⇓*i* PKP2		PKPdf	17 42 09.6	+0.1	
CLL				pmax	pmax				
	comp=Z,89nm,1.6s								
CLL				MLR	MLR				
	comp=Z,2μm,19.7s,MS5.9								
CLL	**Collm**	**146.56**	**335**	⇓*i* PKPbc		PKPdf	17 42 09.6	+0.1	
	comp=Z,89nm,1.6s								
CLL				*e*PKiKP		PKiKP	17 42 12.0	-1.9	
CLL				*e*			17 42 22.0		
CLL				*ep*PKiKP			17 42 31.0		
CLL				LmV			18 30 00.0		
	comp=Z,2μm,19.7s								
CLL				LmH			18 31 00.0		
	comp=N,800nm,21.5s								
CLL				LmH			18 31 00.0		
	comp=E,2μm,19.9s								
VTS	**Vitosha**	**146.61**	**315**	⇓PKIKP		PKPdf	17 42 08.9	-1.0	
VTS	**Vitosha**	**146.61**	**315**	⇓*i* P		PKPdf	17 42 08.9	-1.0	
NRDL	**Niedersach Rie**	**146.65**	**339**	*e*PKPbc		PKPbc	17 42 10.4	-0.9	
NVR	**Nevrokopi**	**146.70**	**312**	*e*P		PKPdf	17 42 08.4	-1.7	
PRA	**Prague**	**146.91**	**332**	PKP		PKPdf	17 42 12.0	+1.8	
PRU	**Pruhonice**	**146.93**	**332**	*e*PKP2		PKPdf	17 42 11.1	+0.9	
PRU	**Pruhonice**	**146.93**	**332**	*e*PKP		PKPdf	17 42 11.1	+0.9	
PRU				*ep*PKP		pPKPdf	17 42 27.2	+2.3	
ZST	**Bratislava**	**147.00**	**327**	*e*PKP2		PKPbc	17 42 12.1	-0.3	
ZST	**Bratislava**	**147.00**	**327**	*e*PKP		PKPbc	17 42 12.1	-0.3	
CLZ	**Clausthal**	**147.10**	**338**	*e*PKPbc		PKPbc	17 42 12.3	-0.3	
CLZ	**Clausthal**	**147.10**	**338**	*e*PKP2		PKPbc	17 42 12.3	-0.3	
NPS	**Neapolis**	**147.39**	**301**	*e*P		PKPbc	17 42 13.4	-0.6	
PKSM	**Moragy**	**147.46**	**323**	⇓PKP2		PKPbc	17 42 13.2	-0.6	
PKSM	**Moragy**	**147.46**	**323**	⇓*i* P		PKPbc	17 42 13.2	-0.6	
TANN	**Tannenbergstha**	**147.47**	**334**	*e*PKPbc		PKPbc	17 42 13.3	-0.4	
SOP	**Sopron**	**147.61**	**327**	⇓*e*PKP		PKPdf	17 42 09.8	-1.6	
SOP	**Sopron**	**147.61**	**327**	⇓*ep*PKP		PKPbc	17 42 13.4	-0.8	
NKC	**Novy Kostel**	**147.62**	**334**	*e*PKP2		PKPbc	17 42 13.3	-0.8	
NKC	**Novy Kostel**	**147.62**	**334**	*e*PKP		PKPbc	17 42 13.3	-0.8	
MOX	**Moxa**	**147.62**	**335**	*e*PKPbc		PKPbc	17 42 13.4	-0.7	
MOX	**Moxa**	**147.62**	**335**	*e*PKP2		PKPbc	17 42 13.4	-0.7	
CONA	**Conrad Observa**	**147.79**	**328**	*i* PKiKP		PKPbc	17 42 14.6	0.0	
	comp=E,38nm,1.1s,SNR=12								
PTL	**Penteli**		**147.94**	**306**	*e*P		PKPdf	17 42 13.9	+1.6
KHC	**Kasperske Hory**	**147.98**	**332**	*e*PKPdf		PKPbc	17 42 10.5	-1.5	
KHC				*e*PKPbc		PKPbc	17 42 14.3	-0.8	
KHC	**Kasperske Hory**	**147.98**	**332**	*e*PKIKP		PKPdf	17 42 11.0	-1.0	
KHC				*e*			17 42 13.5		
KHC	**Kasperske Hory**	**147.98**	**332**	*e*PKP		PKPdf	17 42 11.0	-1.0	
KHC				*ex*		x	17 42 13.5		
KHC				*ep*PKP		pPKPdf	17 42 30.9	+4.2	
VLY	**Voula,Athens**	**148.06**	**306**	*e*P		PKPdf	17 42 13.7	+1.3	
SKO	**Skopje**	**148.06**	**315**	*e*PKP		PKPbc	17 42 15.2	-0.3	
ROTZ	**Rotzenmuhle**	**148.08**	**334**	*e*PKPbc		PKPbc	17 42 15.0	-0.3	
GEC2	**GERESS Array S**	**148.14**	**331**	*e*PKPbc		PKPbc	17 42 15.1	-0.4	
GEC2	**GERESS Array S**	**148.14**	**331**	*e*PKP2		PKPbc	17 42 15.1	-0.4	
GERES	**GERESS Array B**	**148.14**	**331**	PKP		PKPdf	17 42 10.7	-1.6	
	comp=E,12nm,0.8s,baz=45,slow=2.9,SNR=8.5								
GERES				PKPbc	PKPbc		17 42 14.7	-0.9	
	comp=E,12nm,0.8s,baz=47,slow=2.5,SNR=38								
GERES	**GERESS Array B**	**148.14**	**331**	PKP	PKPdf		17 42 10.7	-1.6	
GERES				PKPbc	PKPbc		17 42 14.7	-0.8	
GERES	**GERESS Array B**	**148.14**	**331**	PKIKP	PKPdf		17 42 10.7	-1.6	
GERES							17 42 14.7		
GERES				pmax	pmax				
	comp=Z,12nm,0.8s								
GERES				pmax	pmax				
	comp=Z,12nm,0.8s								
WET	**Wettzell**	**148.28**	**332**	*e*PKPbc		PKPbc	17 42 15.5	-0.4	
WET	**Wettzell**	**148.28**	**332**	*e*PKP2		PKPbc	17 42 15.5	-0.4	
NAIG	**Nisos Aigina**	**148.31**	**306**	*e*P		PKPdf	17 42 14.5	+1.6	
LKR	**Lokris**	**148.36**	**308**	*e*P		PKPdf	17 42 14.8	+1.8	
BUG	**Bochum--Univer**	**148.46**	**341**	*e*PKPbc

DZM Mont Dzumac 3.54 266 ePn Pn 17 40 40.0 -0.2
DZM eSn Sn 17 41 17.0 -3.8
NOUC Port Laguerre 3.67 265 eP Pn 17 40 41.3 -0.8
NOUC eS Sn 17 41 25.3 +1.2
NOUC AMP 17 41 27.6
comp=Z,43nm,0.6s
FUNA Funafuti 15.80 34 P Pn 17 43 25.9 -1.6
URZ Urewera 17.39 162 P Pn 17 43 48.3 +0.7
comp=Z,0.6nm,0.3s,baz=4.2,slow=6.7,SNR=5.6
URZ Urewera 17.39 162 P Pn 17 43 48.3 +0.7
EIDS Eidsvold 17.91 255 P Pn 17 43 54.8 +0.7
comp=Z,22nm,1.4s
RPZ Rata Peaks 21.82 178 P P 17 44 35.9 -0.9
comp=Z,16nm,0.8s,mb4.5,baz=296,slow=22,SNR=3.5
RPZ Rata Peaks 21.82 178 P P 17 44 35.9 -0.9
CTAO Charters Tower 22.47 270 eP P 17 44 44.3 +0.3
comp=Z,11nm,1.2s,mb4.2
CNB Canberra Magne 22.67 229 eP P 17 44 48.8 +2.9
comp=Z,64nm,0.9s,mb5.0
PMG Port Moresby 25.40 296 P P 17 45 13.4 +1.4
comp=Z,7.0nm,0.7s,mb4.3,baz=97,slow=8.5,SNR=6.2
PMG Port Moresby 25.40 296 P P 17 45 13.4 +1.4
STKA Stephens Creek 27.38 243 P P 17 45 31.1 +1.4
comp=Z,2.7nm,0.7s,mb3.9,baz=37,slow=5.6,SNR=5.4
STKA Stephens Creek 27.38 243 eP P 17 45 31.3 +1.6
comp=Z,4.7nm,1.4s,mb3.8
STKA Stephens Creek 27.38 243 eP P 17 45 31.0 +1.3
comp=Z,4.0nm,1.4s,mb3.8
AS31 Alice Springs 33.51 260 eP P 17 46 22.4 -1.7
ASAR Alice Springs 33.51 260 P P 17 46 24.6 +0.5
comp=Z,1.5nm,0.8s,mb4.0,baz=77,slow=8.7,SNR=19
ASAR PcP PcP 17 49 05.3 +0.8
comp=Z,0.7nm,0.9s,baz=100,slow=3.2,SNR=4.8
ASAR Alice Springs 33.51 260 P P 17 46 24.6 +0.5
ASAR PcP PcP 17 49 05.3 +0.8
WRAB Tennant Creek 33.55 267 eP P 17 46 24.1 -0.3
comp=Z,7.3nm,1.0s,mb4.6
WRA Warramunga Arr 33.56 267 P P 17 46 24.6 +0.1
comp=Z,1.8nm,0.5s,mb4.3,baz=99,slow=8.2,SNR=11
WRA Warramunga Arr 33.56 267 P P 17 46 24.6 +0.1
FITZ Fitzroy Crossi 41.99 267 eP P 17 47 37.2 +1.5
comp=Z,16nm,0.9s,mb4.6
MBWA Marble Bar 46.84 261 eP P 17 48 14.8 +0.3
comp=Z,9.0nm,0.8s,mb4.8
VNDA Vanda 55.87 182 eP P 17 49 21.2 -0.1
comp=Z,1.8nm,0.9s,mb4.1
SBA Scott Base 56.08 181 eP P 17 49 24.3 +1.4
comp=Z,7.0nm,1.0s,mb4.7
SBA e 17 49 31.3
MJAR Matsushiro Arr 65.49 332 P P 17 50 27.5 +0.2
comp=Z,1.7nm,0.9s,mb4.1,baz=131,slow=3.0,SNR=4.7
MJAR Matsushiro Arr 65.49 332 P P 17 50 27.5 +0.2
QSPA South Pole Qui 68.22 180 eP P 17 50 42.9 -1.3
comp=Z,5.8nm,1.0s,mb4.6
KSRS Korea Array 71.18 326 P P 17 51 03.6 +0.7
comp=Z,0.7nm,0.7s,mb3.7,baz=153,slow=6.4,SNR=5.0
KSAR Wonju Array Be 71.19 325 P P 17 51 03.6 +0.7
ENH Enshi 78.05 309 eP P 17 51 43.5 +0.6
comp=Z,6.9nm,0.9s,mb4.6
CMAR Chiang Mai Arr 80.43 294 P P 17 51 55.8 -0.4
comp=Z,2.4nm,0.9s,mb4.1,baz=135,slow=3.8,SNR=17
CMAR Chiang Mai Arr 80.43 294 P P 17 51 55.8 -0.4
CHTO Chiang Mai 80.59 295 eP P 17 51 58.8 +1.7
comp=Z,6.1nm,1.0s,mb4.5
SNAA Sanae 86.61 182 P P 17 52 25.4 -1.7
comp=Z,0.5nm,0.9s,mb3.7,baz=260,slow=7.2,SNR=4.9
SNAA Sanae 86.61 182 P P 17 52 20.9 -6.1
comp=Z,3.9nm,1.1s,mb4.5
HOPS Hopland 86.86 46 eP P 17 52 32.4 +3.7
comp=Z,18nm,0.6s
VNA3 Neumayer Olymp 87.16 180 e P 17 52 26.2 -3.5
VNA3 e pP 17 52 34.1 -6.7
VNA2 Neumayer--Watz 87.47 181 e P 17 52 27.6 -3.6
baz=164,slow=3.9
VNA2 e pP 17 52 35.9 -6.4
NVAR Mina Array Bea 89.81 48 P P 17 52 42.4 -0.4
comp=Z,0.1nm,0.3s,mb3.6,baz=241,slow=9.2,SNR=3.6
NVAR Mina Array Bea 89.81 48 P P 17 52 42.4 -0.4
SONM Songino Array 89.86 323 P P 17 52 43.2 +0.5
comp=Z,1.0nm,0.9s,mb4.2,baz=130,slow=5.0,SNR=6.3
SONM Songino Array 89.86 323 P P 17 52 43.2 +0.5
ILAR Eielson Array 92.43 17 P P 17 52 51.2 -3.0
comp=Z,0.2nm,0.4s,mb3.8,baz=206,slow=7.3,SNR=6.0
ILAR Eielson Array 92.43 17 P P 17 52 51.2 -3.0
BRG Berggiesshubel 145.61 333 eP PKPdf 17 59 23.2 +1.2
comp=Z,19nm,1.1s
CLL Collm 145.67 335 i PKPbc PKPbc 17 59 23.1 +0.6
comp=Z,17nm,1.0s
CLL e(pPKPbc) 17 59 31.0
comp=Z,6.0nm,0.8s
KHC Kasperske Hory 147.07 331 ePKP PKPdf 17 59 27.5 +2.9
GERES GERESS Array B 147.22 331 PKPbc PKPbc 17 59 27.7 +0.6
comp=Z,3.5nm,0.7s,baz=29,slow=3.0,SNR=15
GERES GERESS Array B 147.22 331 PKPbc PKPbc 17 59 27.7 +0.6
GIVF Givet 149.55 341 ePKP1 PKPbc 17 59 32.6 -0.5
CDF Champ du Feu 150.20 337 ePKP1 PKPbc 17 59 35.0 +0.2
comp=Z,19nm,1.1s
HINF Hinteralfeld 150.85 337 ePKP1 PKPbc 17 59 36.2 -0.2
HAU Haudompre 150.88 338 ePKP1 PKPbc 17 59 36.4 0.0
comp=Z,21nm,1.1s
MEZF Maizieres J'vi 150.89 340 ePKP1 PKPbc 17 59 37.0 +0.6
comp=Z,30nm,1.1s

IDC **22** *17:50:45.2±1.7, 32.37N×47.31E, h0km, mb3.8/9, mb1 3.8/12, mb1mx3.7/29, mbtmp3.8/12, ML3.6/2, Error ellipse: s-maj=39.7km s-min=16.5km az=163.0*
ISCJB **22** *17:50:45.1±0.8, 32.28N±0.03×47.38E±0.03, h11km±5km, mb3.7/13, Error ellipse: s-maj=5.4km s-min=3.5km az=143.1*
NEIC **22** *17:50:46.0, 32.19N×47.37E, h3km, mb3.8/6, ML4.2(THR), MN4.2(TEH), After TEH.*
CSEM **22** *17:50:46.9±0.2, 32.16N×47.34E, h20km, mb4.0/4, Error ellipse: s-maj=6.3km s-min=3.6km az=19.0*
THR **22** *17:50:46.5±0.4, 32.06N×47.34E, h39km±5km, ML4.0*
TEH **22** *17:50:46.5, 32.19N×47.37E, h3km*
ISC 22 17:50:47.2±0.8, **32.28N**±0.02×**47.38E**±0.03, **h12**km±5km, **n184**, σ1§**11**/197, **mb3.7**/13, **Iran-Iraq border region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
SHGR Shooshtar-Gavs 1.22 98 Pg Pg 17 51 09.0 -1.6
SHGR Shooshtar-Gavs 1.22 98 ePg Pg 17 51 09.6 -1.0
SHGR eSg Sg 17 51 26.3 -0.2
SHGR Shooshtar-Gavs 1.22 98 ePg Pg 17 51 09.6 -1.0
SHGR eSg Sg 17 51 26.3 -0.2
IKOM Komasi 1.89 3 Pn Pn 17 51 21.2 +1.8
IKOM Komasi 1.89 3 ePn Pn 17 51 21.3 +1.9
IKOM eSg Sg 17 51 48.0 -0.1
IKOM e 17 51 50.9
comp=Z,21μm,0.3s
IKOM Komasi 1.89 3 ePn Pn 17 51 21.3 +1.9
IKOM eSg Sg 17 51 48.0 -0.1
IGHG Ghaleghazi 2.15 342 Pn Pn 17 51 24.2 +1.3
IGHG Ghaleghazi 2.15 342 ePn Pn 17 51 24.2 +1.3
IGHG eSg Sg 17 51 56.8 +0.3
IGHG e 17 52 07.0
comp=Z,27μm,0.4s
IGHG Ghaleghazi 2.15 342 ePn Pn 17 51 24.2 +1.3
IGHG eSg Sg 17 51 56.8 +0.3
IVIS Veis 2.28 349 ePn Pn 17 51 25.6 +0.9
IVIS e 17 52 04.8
comp=Z,10μm,0.4s
IVIS Veis 2.28 349 ePn Pn 17 51 25.6 +0.9
MIB Mutribah 2.47 181 eP Pn 17 51 28.6 +1.4
MIB eS Sn 17 51 59.3 +1.9
MIB AML AML 17 52 07.7
comp=Z,660nm,0.5s
MIB Mutribah 2.47 181 eP Pn 17 51 28.6 +1.3
IDHR Dehrash 2.55 341 Pn Pn 17 51 29.2 +0.8
IDHR Dehrash 2.55 341 ePn Pn 17 51 29.3 +0.9
IDHR eSg Sg 17 52 07.9 -1.3
IDHR e 17 52 11.6
comp=Z,9μm,0.2s
IDHR Dehrash 2.55 341 ePn Pn 17 51 29.3 +0.9
IDHR eSg Sg 17 52 07.9 -1.3
ILIN Lien 2.66 353 ePn Pn 17 51 31.3 +1.5
ILIN e 17 52 20.7
comp=Z,5μm,0.4s
ILIN Lien 2.66 353 ePn Pn 17 51 31.3 +1.5
BHD Baghdad 2.71 292 ex x 17 51 29.0
BHD i x x 17 51 49.0
BHD ex x 17 52 03.0
BHD Baghdad 2.71 292 ePn Pn 17 51 29.0 -1.6
BHD eSn Sn 17 52 03.0 -0.4
UMR Umm Al-Rimmam 2.73 174 eP Pn 17 51 32.3 +1.4
UMR eS Sn 17 52 05.8 +1.9
UMR AML AML 17 52 14.5
comp=Z,321nm,0.4s
UMR Umm Al-Rimmam 2.73 174 eP Pn 17 51 32.3 +1.4
SNGE Sanandaj 2.81 359 Pn Pn 17 51 33.0 +1.1
SNGE Sanandaj 2.81 359 ePn Pn 17 51 33.9 +2.0
SNGE AML AML 17 52 25.4
comp=Z,408nm,0.6s
SNGE Sanandaj 2.81 359 Pn Pn 17 51 33.0 +1.1
IPIR Pirpir 3.00 81 ePn Pn 17 51 35.2 +0.7
IPIR e 17 52 26.9
comp=Z,9μm,0.2s
IPIR Pirpir 3.00 81 ePn Pn 17 51 35.2 +0.7
NAY Al-Naaiem 3.02 182 eP Pn 17 51 36.2 +1.3
NAY Al-Naaiem 3.02 182 eP Pn 17 51 36.2 +1.3
ASAO Ashtian 3.17 44 Pn Pn 17 51 38.0 +1.2
ASAO Ashtian 3.17 44 ePn Pn 17 51 38.6 +1.8
ASAO AML AML 17 52 37.6
comp=N,434nm,0.6s
ASAO Ashtian 3.17 44 Pn Pn 17 51 38.0 +1.2
QRN Al-Qurain 3.55 172 eP Pn 17 51 43.6 +1.4
QRN eS Sn 17 52 26.0 +1.9
QRN AML AML 17 52 28.6
comp=Z,388nm,0.3s
IKLH Kolahrood 3.69 73 ePn Pn 17 51 44.3 +0.3
IKLH e 17 52 54.7
comp=Z,5μm,0.3s
IKLH Kolahrood 3.69 73 ePn Pn 17 51 44.3 +0.3
IRAZ Razeghan 3.77 34 ePn Pn 17 51 46.6 +1.4
IRAZ e 17 52 57.9
comp=Z,4μm,0.3s
IRAZ Razeghan 3.77 34 ePn Pn 17 51 46.6 +1.4
IGAR Gharneh 3.95 87 ePn Pn 17 51 47.7 +0.1
IGAR e 17 52 35.7
comp=Z,4μm,0.1s
IZEF Zefreh 4.22 80 Pn Pn 17 51 51.8 +0.4
IZEF Zefreh 4.22 80 ePn Pn 17 51 51.8 +0.4
IZEF e 17 52 55.0
comp=Z,2μm,0.2s
IZEF Zefreh 4.22 80 ePn Pn 17 51 51.8 +0.4
IMHD Mahdasht 4.36 38 ePn Pn 17 51 54.3 +1.0
IMHD e 17 52 07.7
comp=Z,1μm,0.3s
IMHD Mahdasht 4.36 38 ePn Pn 17 51 54.3 +1.0
IR3 Iran Long-Peri 4.40 43 ePn Pn 17 51 54.4 +0.6
IR3 Iran Long-Peri 4.40 43 ePn Pn 17 51 54.4 +0.6
ZNJK Zanjan 4.51 13 Pn Pn 17 51 57.0 +1.7
ZNJK Zanjan 4.51 13 ePn Pn 17 51 57.5 +2.2
ZNJK Zanjan 4.51 13 Pn Pn 17 51 57.0 +1.7
IVRN Varamin 4.53 52 ePn Pn 17 51 56.3 +0.7
IVRN ePn Pn 17 51 56.3 +0.7
IVRN e 17 53 15.8
comp=Z,1μm,0.2s
IVRN Varamin 4.53 52 ePn Pn 17 51 56.3 +0.7
ISFB Sefidab 4.56 62 ePn Pn 17 51 56.5 +0.4
ISFB e 17 53 17.4
comp=Z,1μm,0.3s
ISFB Sefidab 4.56 62 ePn Pn 17 51 56.5 +0.4
NASN Na'in 4.61 82 Pn Pn 17 51 56.0 -0.8
NASN Na'in 4.61 82 ePn Pn 17 51 56.8 +0.1
NASN AML AML 17 53 25.7
comp=N,124nm,0.6s
NASN AML AML 17 53 31.8
comp=E,102nm,0.7s
NASN Na'in 4.61 82 Pn Pn 17 51 56.8 0.0
THKV Tehran--Karaj 4.65 38 Pn Pn 17 51 58.0 +0.8
THKV Tehran--Karaj 4.65 38 ePn Pn 17 51 59.0 +1.8
THKV Tehran--Karaj 4.65 38 Pn Pn 17 51 58.0 +0.8
IDMV Damavand 5.08 48 Pn Pn 17 52 03.6 +0.5
IDMV Damavand 5.08 48 ePn Pn 17 52 03.6 +0.5
IDMV e 17 53 45.5
comp=Z,2μm,0.8s
IDMV Damavand 5.08 48 ePn Pn 17 52 03.6 +0.5
ISAD Sadrabad 5.36 92 Pn Pn 17 52 06.9 -0.2
ISAD Sadrabad 5.36 92 ePn Pn 17 52 07.0 -0.1
ISAD e 17 53 28.5
comp=Z,1μm,0.2s
ISAD Sadrabad 5.36 92 ePn Pn 17 52 07.0 -0.1
IBST Bostanabad 5.42 356 Pn Pn 17 52 08.7 +0.8
IBST Bostanabad 5.42 356 e Pg 17 52 31.1 0.0
comp=Z,236nm,0.2s
IBST ePn Pn 17 52 08.7 +0.8
IPAR Pars 5.44 115 Pn Pn 17 52 07.6 -0.5
IPAR Pars 5.44 115 ePn Pn 17 52 07.6 -0.5
IPAR e 17 54 00.7
comp=Z,1μm,0.4s
IPAR Pars 5.44 115 ePn Pn 17 52 07.6 -0.5
ISRB Sarab 5.54 2 ePn Pn 17 52 10.6 +1.2
ISRB e 17 52 38.6
comp=Z,625nm,0.4s
ISRB Sarab 5.54 2 ePn Pn 17 52 10.6 +1.2
ILAS Lasjerd 5.58 55 ePn Pn 17 52 10.0 0.0
ILAS e 17 54 03.2
comp=Z,766nm,0.4s
ILAS Lasjerd 5.58 55 ePn Pn 17 52 10.0 0.0
IFIR Firoozkooh 5.58 52 Pn Pn 17 52 10.6 +0.5
IFIR Firoozkooh 5.58 52 ePn Pn 17 52 10.6 +0.5
IFIR e 17 52 34.1
comp=Z,478nm,0.2s
IFIR Firoozkooh 5.58 52 ePn Pn 17 52 10.6 +0.5
IPRN Peran 5.70 45 ePn Pn 17 52 12.9 +1.2
IPRN e 17 53 56.1
comp=Z,1μm,0.4s
ISRV Sarvestan 5.71 119 Pn Pn 17 52 11.3 -0.6
ISRV Sarvestan 5.71 119 ePn Pn 17 52 11.3 -0.6
ISRV Sarvestan 5.71 119 ePn Pn 17 52 11.3 -0.6
ICHK Chekchek 5.95 88 Pn Pn 17 52 14.9 -0.3
ICHK Chekchek 5.95 88 ePn Pn 17 52 15.0 -0.2
ICHK e 17 54 05.7
comp=Z,1μm,0.4s
ICHK Chekchek 5.95 88 ePn Pn 17 52 15.0 -0.2
ITBZ Tabriz 6.03 351 ePn Pn 17 52 16.6 +0.5
ITBZ Tabriz 6.03 351 ePn Pn 17 52 16.6 +0.5
IHRS Heris 6.03 357 Pn Pn 17 52 17.3 +1.1
IHRS Heris 6.03 357 ePn Pn 17 52 17.3 +1.1
IHRS e 17 52 45.9
comp=Z,460nm,0.4s
IHRS Heris 6.03 357 ePn Pn 17 52 17.3 +1.1
ISHM Shahmirzad 6.04 53 ePn Pn 17 52 17.0 +0.7
ISHM e 17 54 04.1
comp=Z,1μm,0.3s
ISHM Shahmirzad 6.04 53 ePn Pn 17 52 17.0 +0.7
ISHB Shabestar 6.16 347 ePn Pn 17 52 18.8 +0.8
ISHB e 17 54 17.5
comp=Z,497nm,0.5s
ISHB Shabestar 6.16 347 ePn Pn 17 52 18.8 +0.8
IMEH Mehriz 6.22 96 ePn Pn 17 52 18.3 -0.5
IMEH e 17 54 23.4
comp=Z,481nm,0.4s
IMEH Mehriz 6.22 96 ePn Pn 17 52 18.3 -0.5
IANJ Anjilo 6.30 58 Pn Pn 17 52 20.1 +0.2
IANJ Anjilo 6.30 58 ePn Pn 17 52 20.2 +0.3
IANJ e 17 54 21.6
comp=Z,471nm,0.4s
IANJ Anjilo 6.30 58 ePn Pn 17 52 20.2 +0.3
IKIA Kiasar 6.53 51 ePn Pn 17 52 23.4 +0.4
IKIA Kiasar 6.53 51 ePn Pn 17 52 23.4 +0.4
IMRD Marand 6.56 348 e Sg 17 54 27.8 +10
comp=Z,348nm,0.4s
IBAF Bafgh 6.99 93 Pn Pn 17 52 28.7 -0.8
IBAF Bafgh 6.99 93 ePn Pn 17 52 28.8 -0.7
IBAF e 17 52 54.9
comp=Z,237nm,0.3s
IBAF Bafgh 6.99 93 ePn Pn 17 52 28.8 -0.7
ASF Jabal al Asfar 8.88 272 Pn Pn 17 52 53.0 -2.4
comp=Z,1.0nm,0.3s,baz=326,slow=8.7,SNR=8.7
ASF Lg 17 55 28.1
comp=Z,1.0nm,0.3s,baz=329,slow=23,SNR=5.8
ASF Jabal al Asfar 8.88 272 Pn Pn 17 52 53.0 -2.4
ASF Lg 17 55 28.1
MMAI Mount Meron Ar 10.12 277 Lg 17 56 17.3
comp=Z,2.7nm,0.3s,baz=116,slow=22,SNR=5.9
ASUD Al Ashush, Dub 10.34 135 P Pn 17 53 13.9 -1.5
SNR=63
ASUD Al Ashush, Dub 10.34 135 P Pn 17 53 13.9 -1.5
SNR=63
ASUD Al Ashush, Dub 10.34 135 P Pn 17 53 13.9 -1.5
SNR=63
ASUD Al Ashush, Dub 10.34 135 P Pn 17 53 13.9 -1.5
SNR=63
ASUD Al Ashush, Dub 10.34 135 P Pn 17 53 13.9 -1.5
SNR=63
ASUD Al Ashush, Dub 10.34 135 P Pn 17 53 13.9 -1.5
SNR=63
HATD Hatta, Dubai 10.69 132 P Pn 17 53 18.6 -1.6
SNR=7.7
HATD Hatta, Dubai 10.69 132 P Pn 17 53 18.6 -1.6
SNR=7.7
HATD Hatta, Dubai 10.69 132 P Pn 17 53 18.6 -1.6
SNR=7.7
ASHO Ashiyiah 10.74 133 P Pn 17 53 19.1 -1.8
SNR=22
ASHO Ashiyiah 10.74 133 P Pn 17 53 19.1 -1.8
SNR=22
ASHO Ashiyiah 10.74 133 P Pn 17 53 19.1 -1.8
SNR=22
ASHO Ashiyiah 10.74 133 P Pn 17 53 19.1 -1.8
SNR=22
ASHO Ashiyiah 10.74 133 P Pn 17 53 19.1 -1.8
SNR=22
ASHO Ashiyiah 10.74 133 P Pn 17 53 19.1 -1.8
SNR=22
EIL Elat 10.98 260 Pn Pn 17 53 23.3 -0.8
comp=Z,0.2nm,0.3s,baz=59,slow=16,SNR=2.2
EIL Lg 17 56 38.8
comp=Z,1.0nm,0.3s,baz=147,slow=23,SNR=3.7
EIL Elat 10.98 260 Pn Pn 17 53 23.3 -0.8
EIL Lg 17 56 38.8
EIL Elat 10.98 260 Pn Pn 17 53 23.3 -0.8
ARQ Araqi 12.03 136 P Pn 17 53 37.9 -0.7
SNR=5.9
ARQ Araqi 12.03 136 P Pn 17 53 37.8 -0.7
SNR=5.9
ARQ Araqi 12.03 136 P Pn 17 53 37.8 -0.7
SNR=5.9
ARQ Araqi 12.03 136 P Pn 17 53 37.8 -0.7
SNR=5.9
ARQ Araqi 12.03 136 P Pn 17 53 37.8 -0.7
SNR=5.9
ARQ Araqi 12.03 136 P Pn 17 53 37.8 -0.7
SNR=5.9
BSY Bisya 12.88 135 P Pn 17 53 49.1 -1.1
SNR=5.9
BSYO Bisya 12.92 135 P Pn 17 53 49.1 -1.6
SNR=5.9
BSYO Bisya 12.92 135 P Pn 17 53 49.1 -1.6
SNR=5.9
BSYO Bisya 12.92 135 P Pn 17 53 49.1 -1.6
SNR=5.9
BSYO Bisya 12.92 135 P Pn 17 53 49.1 -1.6
SNR=5.9
KBL Kabul 18.23 77 eP Pn 17 55 00.1 0.0
comp=Z,2.9nm,0.8s
KBL Kabul 18.23 77 eP Pn 17 55 00.1 +0.1
comp=Z,2.9nm,0.8s
ABKAR Akbulak array 19.40 25 eP Pn 17 55 12.7 -1.4
comp=Z,1.3nm,0.4s
ABKAR Akbulak array 19.40 25 eP Pn 17 55 12.7 -1.4
comp=Z,1.2nm,0.4s
AKTO Aktyubinsk 19.78 20 P Pn 17 55 15.8 -2.8
comp=Z,0.3nm,0.3s,baz=211,slow=11,SNR=9.5
AKTO Aktyubinsk 19.78 20 P Pn 17 55 15.8 -2.8
AKTO Aktyubinsk 19.78 20 P Pn 17 55 15.8 -2.9
KKAR Karatay Array 21.19 53 eP P 17 55 31.3 -1.2
comp=Z,1.2nm,0.5s,mb3.5
KKAR Karatay Array 21.19 53 eP P 17 55 31.3 -1.2
comp=Z,1.2nm,0.5s,mb3.5
AKASG Malin Array Be 22.78 329 P P 17 55 49.0 -0.4
comp=Z,2.7nm,0.7s,mb3.8,baz=135,slow=11,SNR=6.1
AKASG Malin Array Be 22.78 329 P P 17 55 49.0 -0.4
AKASG Malin Array Be 22.78 329 P P 17 55 49.0 -0.4
TKM2 Tokmak 2 24.64 56 eP P 17 56 07.4 -0.1
comp=Z,1.6nm,0.6s,mb3.7
TKM2 Tokmak 2 24.64 56 eP P 17 56 07.4 -0.2
comp=Z,1.6nm,0.6s,mb3.7
ARU Arti 25.37 15 eP P 17 56 12.0 -2.0
comp=Z,4.3nm,0.7s,mb4.1
ARU Arti 25.37 15 eP P 17 56 12.0 -2.0
comp=Z,4.3nm,0.7s,mb4.1
BRVK Borovoye 26.53 32 eP P 17 56 24.2 -0.4
comp=Z,5.9nm,1.1s,mb4.0
BRVK Borovoye 26.53 32 eP P 17 56 24.2 -0.3
comp=Z,5.9nm,1.1s,mb4.0
BVAR Borovoye Array 26.55 32 P P 17 56 24.2 -0.6
comp=Z,2.9nm,1.0s,mb3.8,baz=221,slow=10,SNR=9.3
BVAR Borovoye Array 26.55 32 P P 17 56 24.2 -0.6
BVAR Borovoye Array 26.55 32 P P 17 56 24.2 -0.6
KURK Kurchatov 29.46 42 P P 17 56 50.0 -0.8
comp=Z,2.4nm,1.0s,mb3.9,baz=247,slow=9.4,SNR=6.8
KURK Kurchatov 29.46 42 P P 17 56 50.0 -0.8
KURK Kurchatov 29.46 42 P P 17 56 50.0 -0.8
MK31 Makanchi Array 30.30 51 eP P 17 56 58.1 -0.1
MK31 Makanchi Array 30.30 51 eP P 17 56 58.1 -0.1
MKAR Makanchi Array 30.30 51 P P 17 56 58.0 -0.3
comp=Z,0.6nm,0.5s,mb3.6,baz=247,slow=8.5,SNR=6.0
MKAR Makanchi Array 30.30 51 P P 17 56 58.0 -0.3
MKAR Makanchi Array 30.30 51 P P 17 56 58.0 -0.2
FINES FINESS Array B 32.29 341 P P 17 57 13.8 -1.8
comp=Z,1.1nm,0.6s,mb3.9,baz=138,slow=12,SNR=5.1
FINES FINESS Array B 32.29 341 P P 17 57 13.8 -1.8
FINES FINESS Array B 32.29 341 P P 17 57 13.8 -1.8
ZAA0 Zalesovo Array 34.28 40 eP P 17 57 31.3 -1.8
ZAA0 Zalesovo Array 34.28 40 eP P 17 57 31.3 -1.8
ZALV Zalesovo Beam 34.28 40 P P 17 57 32.4 -0.7
comp=Z,0.7nm,0.3s,mb4.0,baz=260,slow=8.9,SNR=7.3
ZALV Zalesovo Beam 34.28 40 P P 17 57 32.4 -0.7
ZALV Zalesovo Beam 34.28 40 P P 17 57 32.4 -0.7
ARCES ARCESS Array B 39.29 348 P P 17 58 14.0 -1.4
comp=Z,0.7nm,0.4s,mb3.7,baz=156,slow=10.0,SNR=13
ARCES ARCESS Array B 39.29 348 P P 17 58 14.0 -1.4
ARCES ARCESS Array B 39.29 348 P P 17 58 14.0 -1.5
ARE0 ARCESS Array S 39.29 348 P P 17 58 13.2 -2.3
ARE0 ARCESS Array S 39.29 348 P P 17 58 13.2 -2.2
TORD Torodi Ar. Bea 45.85 256 P P 17 59 08.6 -0.8
comp=Z,0.2nm,0.4s,mb3.4,baz=62,slow=7.7,SNR=3.6
TORD Torodi Ar. Bea 45.85 256 P P 17 59 08.6 -0.8
TORD Torodi Ar. Bea 45.85 256 P P 17 59 08.6 -0.9
SONM Songino Array 46.64 53 P P 17 59 15.9 +0.6
comp=Z,0.2nm,0.6s,mb3.2,baz=264,slow=13,SNR=2.6
SONM Songino Array 46.64 53 P P 17 59 15.9 +0.6
SONM Songino Array 46.64 53 P P 17 59 15.9 +0.6
HHC Hu-ho-hao-te 51.24 61 eP P 17 59 50.0 -0.7
HHC sP sP 17 59 59.6 +3.7
HHC PcP PcP 18 01 04.9 -0.9
HHC PP PP 18 01 47.4 0.0
HHC ScP ScP 18 04 59.9 -2.3
HHC S **S** **18 07 06.8 -2.3**
HHC ScS ScS 18 09 37.0 -4.2
HHC SS SS 18 10 39.8 -4.5
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,500nm,8.0s
HHC LR LR
comp=N,760nm,17.7s
HHC LR LR
comp=E,470nm,17.2s
HHC LR LR
comp=Z,1μm,14.2s

IDC **22** *18:13:41.1±3.7, 33.11N×71.84E, h0km, mb3.7/5, mb1 3.9/7, mb1mx3.5/28, mbtmp3.8/7, ML4.2/1, Error ellipse: s-maj=79.8km s-min=29.5km az=129.0*
NDI **22** *18:13:45.0±2.8, 33.59N×71.17E, h33km, ML3.6, mb3.4(NEIC)*
ISCJB **22** *18:13:46.3±0.7, 33.50N±0.03×71.81E±0.05, h27km±5km, mb3.8/4, Error ellipse: s-maj=7.9km s-min=4.2km az=151.2*
NEIC **22** *18:13:46.4±1.9, 33.19N×71.94E, h36km±15km, mb3.4/1, Error ellipse: s-maj=19.4km s-min=11.3km az=154.0*
ISC 22 18:13:47.4±1.0, **33.48N**±0.03×**71.70E**±0.05, **h19**km±6km, **n46**, σ1§**25**/57, **mb3.8**/4, **4D**, **Pakistan**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
CEP Cherat 0.38 27 ⇓P Pg 18 13 52.5 -3.0
CEP S Sg 18 13 57.0 -3.9
THW Thamme Wali 0.69 177 ⇓P Pb 18 14 01.2 +0.5
CHCP Chirah Chowk 1.32 82 P Pn 18 14 14.4 +3.6
SARP Sargodha 1.76 152 P Pb 18 14 19.8 +0.8
SARP S Sg 18 14 45.0 +0.9
KBL Kabul 2.45 296 ePn Pn 18 14 27.6 +1.3
KBL eSn Sn 18 14 56.7 +1.1

SDNR	**Sundarnagar**	**4.87**	**112**	*e*PKP		**Pn**	**18 15 02.0**	**+2.3**
SDNR				*ex*		**Sg**	**18 16 24.2**	**+0.4**
SMLA	**Simla**	**5.19**	**115**	*i* P		**Pn**	**18 15 06.0**	**+1.9**
SMLA				*i* S		**Sn**	**18 16 06.7**	**+3.3**
SMLA				*i* S		**Sn**	**18 16 06.9**	**+3.6**
SMLA				||AML	AML	18 16 08.4		
	comp=N,923nm,0.2s							
SMLA				||AML	AML	18 16 09.8		
	comp=E,1μm,0.3s							
KHET	**Khetri**	**6.44**	**146**	*e*S		**Sn**	**18 16 34.0**	**-0.2**
KHET				AML		AML	18 17 28.4	
	comp=N,16nm,0.4s							
KHET				AML		AML	18 17 31.7	
	comp=E,12nm,0.3s							
NDI	**New Delhi**	**6.73**	**134**	*e*S		**Sn**	**18 16 40.0**	**-1.3**
SONA	**Sohna**	**6.97**	**137**	*e*PKP		**Pn**	**18 15 29.9**	**+1.4**
SONA				*e*S		**Sn**	**18 16 44.3**	**-3.0**
SONA				AML		AML	18 17 29.1	
	comp=N,12nm,0.5s							
SONA				AML		AML	18 17 29.1	
	comp=E,18nm,0.5s							
EKS2	**Erkin-Say**	**9.31**	**10**	*e*Pn		**Pn**	**18 16 01.9**	**+1.3**
EKS2				*e*Sn		**Sn**	**18 17 45.4**	**+0.7**
AAK	**Ala-Archa**	**9.40**	**13**	*e*Pn		**Pn**	**18 16 03.5**	**+1.8**
	comp=E,5.9nm,0.4s							
AAK				*e*Sn		**Sn**	**18 17 50.1**	**+3.3**
KKAR	**Karatay Array**	**9.65**	**355**	*e*Pn		**Pn**	**18 16 05.4**	**+0.2**
	comp=E,1.7nm,0.3s							
TKM2	**Tokmak 2**	**9.91**	**17**	*e*Pn		**Pn**	**18 16 10.2**	**+1.5**
	comp=E,1.1nm,0.5s							
PYUN	**Piuthan**	**11.09**	**116**	*e*P		**Pn**	**18 16 25.1**	**+0.1**
	comp=E,12nm,0.5s							
PYUN				*e*S		**Sn**	**18 18 25.5**	**-2.9**
DANN	**Dangsing**	**11.55**	**113**	*e*P		**Pn**	**18 16 32.1**	**+0.9**
	comp=E,6.0nm,0.2s							
KOLN	**Koldanda**	**11.72**	**116**	*e*P		**Pn**	**18 16 34.3**	**+0.7**
GKN	**Gorkha**	**12.39**	**113**	*e*P		**Pn**	**18 16 42.6**	**-0.2**
	comp=E,9.0nm,0.3s							
DMN	**Daman**	**12.95**	**113**	*e*P		**Pn**	**18 16 49.8**	**-0.6**
	comp=E,5.3nm,0.3s							
KKN	**Kakani**	**12.99**	**112**	*e*P		**Pn**	**18 16 50.8**	**-0.2**
	comp=E,8.9nm,0.5s							
PKI	**Pulchoki**	**13.20**	**113**	*e*P		**Pn**	**18 16 53.3**	**-0.5**
	comp=E,4.9nm,0.2s							
GUN	**Gumba**	**13.40**	**111**	*e*P		**Pn**	**18 16 55.8**	**-0.8**
	comp=E,6.9nm,0.4s							
JIRN	**Jiri**	**13.76**	**111**	*e*P		**Pn**	**18 17 01.0**	**-0.5**
	comp=E,20nm,0.6s							
TAPN	**Taplejung**	**15.10**	**110**	*e*P		**Pn**	**18 17 18.3**	**-1.4**
	comp=E,11nm,0.6s							
MK31	**Makanchi Array**	**15.55**	**28**	*e*Pn		**Pn**	**18 17 26.2**	**+0.7**
MKAR	**Makanchi Array**	**15.55**	**28**	Pn		**Pn**	**18 17 30.2**	**+4.8**
	comp=E,0.1nm,0.3s,baz=202,slow=11,SNR=8.6							
MKAR	**Makanchi Array**	**15.55**	**28**	Pn		**Pn**	**18 17 30.2**	**+4.8**
KURK	**Kurchatov**	**17.96**	**14**	P		**Pn**	**18 17 55.6**	**-0.2**
	comp=E,0.3nm,0.3s,baz=205,slow=11,SNR=4.7							
KURK	**Kurchatov**	**17.96**	**14**	P		**Pn**	**18 17 55.6**	**-0.2**
KURK				*e*Pn		**Pn**	**18 17 56.2**	**+0.3**
ABKAR	**Akbulak array**	**18.03**	**334**	*e*P		**Pn**	**18 17 53.5**	**-3.2**
BVAR	**Borovoye Array**	**19.56**	**358**	P		**Pn**	**18 18 14.7**	**-0.5**
	comp=E,0.3nm,0.3s,baz=160,slow=11,SNR=13							
BVAR	**Borovoye Array**	**19.56**	**358**	P		**Pn**	**18 18 14.7**	**-0.5**
BRVK	**Borovoye**	**19.59**	**357**	*e*P		**Pn**	**18 18 14.2**	**-1.5**
	comp=E,1.8nm,0.8s							
AKTO	**Aktyubinsk**	**19.71**	**333**	P		**Pn**	**18 18 16.7**	**-0.3**
	comp=E,1.0nm,0.6s,baz=140,slow=12,SNR=8.7							
AKTO	**Aktyubinsk**	**19.71**	**333**	P		**Pn**	**18 18 16.7**	**-0.3**
ZAA0	**Zalesovo Array**	**22.48**	**21**	*e*P		**P**	**18 18 44.4**	**-1.0**
ZALV	**Zalesovo Beam**	**22.48**	**21**	P		**P**	**18 18 45.0**	**-0.3**
	comp=E,2.0nm,0.5s,mb3.8,baz=216,slow=11,SNR=12							
ZALV	**Zalesovo Beam**	**22.48**	**21**	P		**P**	**18 18 45.0**	**-0.3**
ENH	**Enshi**	**32.13**	**85**	*e*P		**P**	**18 20 07.3**	**-6.4**
FINES	**FINESS Array B**	**40.32**	**328**	P		**P**	**18 21 22.5**	**-0.8**
	comp=E,3.1nm,1.0s,mb4.0,baz=119,slow=8.1,SNR=2.7							
FINES	**FINESS Array B**	**40.32**	**328**	P		**P**	**18 21 22.5**	**-0.8**
ARCES	**ARCESS Array B**	**44.15**	**339**	P		**P**	**18 21 53.6**	**-0.7**
	comp=E,2.7nm,0.9s,mb4.0,baz=113,slow=9.3,SNR=7.0							
ARCES	**ARCESS Array B**	**44.15**	**339**	P		**P**	**18 21 53.6**	**-0.7**
MBAR	**Mbarara**	**51.29**	**237**	P		**P**	**18 22 49.3**	**-1.1**
TORD	**Torodi Ar. Bea**	**66.27**	**270**	P		**P**	**18 24 32.5**	**-2.2**
	comp=E,0.3nm,0.6s,mb3.5,baz=46,slow=4.2,SNR=2.9							
TORD	**Torodi Ar. Bea**	**66.27**	**270**	P		**P**	**18 24 32.5**	**-2.2**

*IDC **22** 18:20:34.3±1.4, 3.°43S×139.°85E, h0km, mb3.6/5, mb1 4.0/7, mb1mx3.7/17, mbtmp3.8/7, ML3.7/2, Error ellipse: s-maj=38.4km s-min=22.0km az=86.0*
*DJA **22** 18:20:40, 3.°80S×140.°36E, h106km, MLv4.3/3*
*NEIC **22** 18:20:40.0±0.7, 3.°57S×139.°96E, h55km, mb4.5/2, Error ellipse: s-maj=16.6km s-min=9.6km az=88.0*
*ISCJB **22** 18:20:41.1±0.7, 3.°78S±0.°04×140.°15E±0.°07, h93km±10km, mb3.4/3, Error ellipse: s-maj=12.2km s-min=7.1km az=167.6*
ISC 22 18:20:42.1±0.6, 3.°76S±0.°04×140.°13E±0.°08, h86km±9km, n24,σ1s26/37, mb3.4/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.36**	**25**	P	**Pn**	**18 21 04.0**	**-2.0**
JAY				S	**Sn**	**18 21 24.6**	**+0.6**
SMPI	**Sarmi**	**2.26**	**321**	P	**Pn**	**18 21 18.7**	**+1.0**
PMG	**Port Moresby**	**8.95**	**129**	Pn	**Pn**	**18 22 51.1**	**+2.5**
	1.0nm,0.3s,baz=323,slow=8.4,SNR=10.0						
PMG				Sn	**Sn**	**18 24 27.1**	**-0.8**
	0.0nm,0.3s,baz=233,slow=20,SNR=2.3						
PMG	**Port Moresby**	**8.95**	**129**	*e*Pn	**Pn**	**18 22 51.0**	**+2.3**
PMG				Pn	**Pn**	**18 22 51.1**	**+2.5**
PMG				Sn	**Sn**	**18 24 27.1**	**-0.8**
PMG				*e*Sn	**Sn**	**18 24 31.1**	**+3.2**
COEN	**Coen**	**10.56**	**164**	*e*Pn	**Pn**	**18 23 11.4**	**+0.7**
COEN				*e*Sn	**Sn**	**18 25 06.0**	**-1.2**
KAKA	**Kakadu**	**11.70**	**220**	*e*Pn	**Pn**	**18 23 24.6**	**-1.6**
	93nm,0.6s						
KAKA				*e*Sn	**Sn**	**18 25 20.4**	**-15**
WRAB	**Tennant Creek**	**17.03**	**199**	*e*Pn	**Pn**	**18 24 34.9**	**-0.1**
	5.9nm,0.6s						
WB2	**Warramunga Arr**	**17.04**	**199**	*e*Pn	**Pn**	**18 24 34.8**	**-0.2**
WB2				*e*Sn	**Sn**	**18 27 33.2**	**-11**
WRA	**Warramunga Arr**	**17.05**	**199**	P	**Pn**	**18 24 35.5**	**+0.3**
	0.6nm,0.3s,baz=17,slow=13,SNR=11						
WRA				S	**S**	**18 27 34.2**	**-15**
	0.4nm,0.3s,baz=19,slow=22,SNR=4.8						
WRA	**Warramunga Arr**	**17.05**	**199**	P	**Pn**	**18 24 35.5**	**+0.4**
WRA				S	**S**	**18 27 34.2**	**-15**
FITZ	**Fitzroy Crossi**	**20.11**	**224**	P	**P**	**18 25 10.0**	**+0.8**
	1.6nm,0.5s,baz=36,slow=12,SNR=9.8						
FITZ				S	**S**	**18 28 44.4**	**-6.1**
	5.1nm,0.8s,baz=202,slow=13,SNR=5.1						
FITZ	**Fitzroy Crossi**	**20.11**	**224**	P	**P**	**18 25 10.0**	**+0.8**
FITZ				S	**S**	**18 28 44.4**	**-6.1**
AS31	**Alice Springs**	**20.68**	**196**	*e*P	**P**	**18 25 18.4**	**+3.1**
AS31				*e*Sn	**S**	**18 29 00.7**	**-1.0**
ASAR	**Alice Springs**	**20.68**	**196**	P	**P**	**18 25 19.1**	**+3.9**
	1.5nm,0.6s,baz=24,slow=8.7,SNR=24						
ASAR	**Alice Springs**	**20.68**	**196**	P	**P**	**18 25 19.1**	**+3.9**
KKM	**Kota Kinabalu**	**25.80**	**292**	P	**P**	**18 25 59.3**	**-6.1**
MJAR	**Matsushiro Arr**	**40.13**	**358**	P	**P**	**18 28 08.6**	**-1.0**
	0.7nm,0.7s,mb3.6,baz=192,slow=11,SNR=2.9						
MJAR	**Matsushiro Arr**	**40.13**	**358**	P	**P**	**18 28 08.6**	**-1.0**
MAJO	**Matsushiro**	**40.14**	**358**	P	**P**	**18 28 07.2**	**-2.5**
	54nm,1.8s						
CMAR	**Chiang Mai Arr**	**46.19**	**300**	P	**P**	**18 28 59.0**	**+0.3**
	0.4nm,0.9s,mb3.1,baz=113,slow=5.6,SNR=4.9						
CMAR	**Chiang Mai Arr**	**46.19**	**300**	P	**P**	**18 28 59.0**	**+0.3**
MK31	**Makanchi Array**	**71.48**	**322**	*e*P	**P**	**18 31 54.0**	**+0.5**
BVAR	**Borovoye Array**	**80.98**	**325**	P	**P**	**18 32 48.1**	**+0.9**
	0.5nm,0.6s,mb3.5,baz=114,slow=6.5,SNR=3.8						
BVAR	**Borovoye Array**	**80.98**	**325**	P	**P**	**18 32 48.1**	**+0.9**

*ISCJB **22** 18:33:47.7±0.7, 33.°32S±0.°05×68.°8W±0.°1, h33km, Error ellipse: s-maj=12.4km s-min=7.2km az=176.4*
*IDC **22** 18:33:49.6±2.4, 33.°14S×68.°66W, h24km±15km, mb3.4/1, mb1 3.5/3, mb1mx3.4/15, mbtmp3.4/3, ML3.7/2, MS4.0/1, Ms1 4.1/1, ms1mx3.6/16, Error ellipse: s-maj=50.5km s-min=15.2km az=104.0*
*NEIC **22** 18:33:51.1±0.8, 33.°18S×68.°78W, h40km±9km, Error ellipse: s-maj=15.5km s-min=9.3km az=86.0*
ISC 22 18:33:50.0±0.7, 33.°26S±0.°05×68.°8W±0.°1, h35km, (h29km±8km: pP-P), n19, σ1s16, Mendoza Province

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

CFAA	**Coronel Fontan**	**1.72**	**17**	Pg		**Pn**	**18 34 18.2**	**+0.7**
	1.8nm,0.3s,baz=190,slow=16,SNR=20							
CFAA				Lg			18 34 40.0	
	7.3nm,0.3s,baz=151,slow=12,SNR=13							
CFAA	**Coronel Fontan**	**1.72**	**17**	Pg		**Pn**	**18 34 18.2**	**+0.7**
CFAA				Lg			18 34 40.0	
LCO	**Las Campanas**	**4.52**	**339**	*e*Pn		**Pn**	**18 34 56.3**	**+0.3**
LCO				*e*Sn		**Sn**	**18 35 39.7**	**-7.6**
TRQA	**Tornquist**	**7.35**	**133**	*e*Pn		**Pn**	**18 35 36.5**	**+1.7**
TRQA				*e*Sn		**Sn**	**18 36 57.3**	**+0.2**
PLCA	**Paso Flores**	**7.59**	**190**	Pn		**Pn**	**18 35 40.1**	**+2.1**
	0.1nm,0.3s,baz=222,slow=12,SNR=3.4							
PLCA				Pg		Pn	18 36 12.3	+34
	0.2nm,0.3s,baz=88,slow=14,SNR=3.9							
PLCA				Lg			18 37 54.5	
	0.5nm,0.3s,baz=310,slow=22,SNR=4.0							
PLCA	**Paso Flores**	**7.59**	**190**	*e*Pn		**Pn**	**18 35 40.0**	**+1.9**
PLCA				Pg		Pn	18 36 12.3	+34
PLCA				*e*Sn		**Sn**	**18 37 02.3**	**-0.4**
PLCA				Lg			18 37 54.5	
CPUP	**Villa Florida**	**12.14**	**58**	Pn		**Pn**	**18 36 39.6**	**-0.9**
	0.3nm,0.3s,baz=216,slow=13,SNR=2.6							
CPUP				Lg			18 40 16.8	
	0.3nm,0.3s,baz=139,slow=20,SNR=2.2							
CPUP				LR		LR	18 41 19.1	
	comp=Z,737nm,18.5s,baz=317,slow=38							
CPUP	**Villa Florida**	**12.14**	**58**	Pn		**Pn**	**18 36 39.6**	**-0.9**
CPUP				Lg			18 40 16.8	
VNA3	**Neumayer Olymp**	**49.05**	**158**	*e*		**P**	**18 42 32.0**	**-1.1**
VNA3				*e*		pP	18 42 40.7	-2.9
VNA2	**Neumayer--Watz**	**49.67**	**158**	*e*		**P**	**18 42 36.9**	**-1.0**
	baz=285,slow=9.1							
VNA2				*e*		pP	18 42 45.5	-2.8
SNAA	**Sanae**	**51.27**	**158**	*e*		**P**	**18 42 46.9**	**-3.0**
SNAA				*e*		pP	18 42 56.0	-4.4
TORD	**Torodi Ar. Bea**	**81.45**	**68**	P		**P**	**18 46 04.0**	**+0.1**
	0.2nm,0.5s,baz=242,slow=3.1,SNR=2.9							
TORD				pP		pP	18 46 12.8	-2.1
	0.7nm,0.7s,baz=267,slow=4.8,SNR=4.6							
TORD	**Torodi Ar. Bea**	**81.45**	**68**	P		**P**	**18 46 04.0**	**+0.1**
TORD				pP		pP	18 46 12.8	-2.1
BVAR	**Borovoye Array**	**144.91**	**43**	PKP		PKPdf	18 53 22.6	-0.2
	0.2nm,0.4s,baz=311,slow=2.2,SNR=3.0							
BVAR	**Borovoye Array**	**144.91**	**43**	PKP		PKPdf	18 53 22.6	-0.2
KURK	**Kurchatov**	**150.50**	**44**	PKPbc		PKPbc	18 53 38.4	+0.9
	1.3nm,0.4s,baz=286,slow=3.3,SNR=6.5							
KURK	**Kurchatov**	**150.50**	**44**	PKPbc		PKPbc	18 53 38.4	+0.9
ZALV	**Zalesovo Beam**	**152.14**	**34**	PKPbc		PKPbc	18 53 41.8	+0.6
	2.2nm,0.4s,baz=316,slow=3.2,SNR=15							
ZALV				pPKPbc		pPKPbc	18 53 50.4	-2.1
	1.1nm,0.4s,baz=319,slow=2.9,SNR=5.8							
ZALV	**Zalesovo Beam**	**152.14**	**34**	PKPbc		PKPbc	18 53 41.8	+0.6
ZALV				pPKPbc		pPKPbc	18 53 50.4	-2.1

*IDC **22** 18:35:00.3±0.7, 22.°31S×171.°18E, h0km, mb4.4/15, mb1 4.6/15, mb1mx4.5/20, mbtmp4.4/15, Error ellipse: s-maj=21.0km s-min=18.0km az=142.0*
*NOU **22** 18:35:04.9±1.4, 20.°82S×171.°07E, h30km, MD3.0, ML3.9*
*ISCJB **22** 18:35:05.8±1.1, 22.°63S±0.°06×171.°05E±0.°05, h48km±9km, mb4.7/39, MS5.1/2, Error ellipse: s-maj=10.7km s-min=7.6km az=0.2*
*BJI **22** 18:35:06.1, 22.°60S×171.°00E, h35km, mB5.5/6, mb4.8/18, Ms5.3/4, Ms7 5.3/5*
*NEIC **22** 18:35:08.5±1.1, 22.°52S×171.°04E, h61km±9km, mb4.8/23, Error ellipse: s-maj=8.7km s-min=7.4km az=163.0*
ISC 22 18:35:07.8±0.9, 22.°60S±0.°06×171.°05E±0.°05, h49km±8km, h36km±4.4km: pP-P, n119, σ1s17/86, mb4.7/39, MS5.1/2, 9C-2D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.88**	**276**	*e*P	**Pn**	**18 36 05.5**	**+0.6**
BAYA				*e*S	**Sn**	**18 36 48.7**	**-0.5**
BAYA				AMP		18 36 54.7	
	comp=Z,75nm,0.7s						
PLUM	**Mont Dore**	**4.09**	**274**	*e*P	**Pn**	**18 36 07.4**	**-0.4**
PLUM				*e*S	**Sn**	**18 36 54.4**	**-0.1**
PLUM				AMP		18 37 02.2	
	comp=Z,738nm,6.6s						
NORM	**Noumea**	**4.24**	**274**	*e*P	**Pn**	**18 36 09.9**	**0.0**
NORM				*e*S	**Sn**	**18 36 58.7**	**+0.6**
NORM				AMP		18 36 59.3	
	comp=Z,661nm,0.9s						
DZM	**Mont Dzumac**	**4.29**	**276**	*e*P	**Pn**	**18 36 10.5**	**-0.1**
DZM				*e*S	**Sn**	**18 36 58.7**	**-0.7**
DZM				AMP		18 37 04.7	
	comp=Z,4μm,1.7s						
DZM	**Mont Dzumac**	**4.29**	**276**	*e*Pn	**Pn**	**18 36 10.7**	**+0.1**
DZM				*e*Sn	**Sn**	**18 36 59.6**	**+0.2**
NOUC	**Port Laguerre**	**4.42**	**276**	*e*P	**Pn**	**18 36 12.4**	**0.0**
NOUC				*e*S	**Sn**	**18 37 02.5**	**0.0**
NOUC				AMP		18 37 12.3	
	comp=Z,167nm,0.7s						
MSVF	**Nonsavu**	**8.16**	**55**	*e*Pn	**Pn**	**18 37 04.6**	**+0.9**
	comp=Z,234nm,1.3s						
URZ	**Urewera**	**16.46**	**163**	Pn	**Pn**	**18 38 60.0**	**+4.7**
	comp=Z,0.4nm,0.3s,baz=358,slow=11,SNR=4.8						
URZ	**Urewera**	**16.46**	**163**	Pn	**Pn**	**18 38 60.0**	**+4.7**
HNR	**Honiara**	**16.87**	**319**	Pn	**Pn**	**18 38 59.6**	**-1.0**
	comp=Z,113nm,1.0s						
EIDS	**Eidsvold**	**18.45**	**257**	P	**Pn**	**18 39 18.4**	**-1.6**
	comp=Z,12nm,1.0s						
SNZO	**South Karori**	**18.91**	**171**	*e*P	**Pn**	**18 39 25.3**	**0.0**
	comp=Z,85nm,1.3s						
ARMA	**Armidale**	**19.03**	**242**	*e*P	**Pn**	**18 39 30.8**	**+3.9**
RPZ	**Rata Peaks**	**21.06**	**180**	P	**P**	**18 39 50.2**	**+2.5**
	comp=Z,24nm,0.8s,mb4.6,baz=142,slow=1.5,SNR=10						
RPZ	**Rata Peaks**	**21.06**	**180**	*e*P	**P**	**18 39 48.1**	**+0.4**
	comp=Z,20nm,0.7s,mb4.5						
CTA	**Charters Tower**	**23.22**	**272**	P	**P**	**18 40 11.9**	**+1.0**
	comp=Z,6.3nm,0.7s,mb4.2,baz=86,slow=9.0,SNR=6.1						
CTA	**Charters Tower**	**23.22**	**272**	P	**P**	**18 40 11.9**	**+1.0**
CTAO	**Charters Tower**	**23.22**	**272**	*e*P	**P**	**18 40 11.0**	**+0.1**
	comp=Z,40nm,1.5s,mb4.6						
CMSA	**Cobar Meteorol**	**24.23**	**243**	*e*P	**P**	**18 40 21.5**	**+1.5**
	comp=Z,78nm,0.6s,mb5.3						
MTSU	**Mount Surprise**	**25.43**	**275**	*e*P	**P**	**18 40 32.3**	**+1.2**
	comp=Z,49nm,0.6s,mb5.2						
PMG	**Port Moresby**	**26.39**	**296**	P	**P**	**18 40 39.1**	**-0.7**
	comp=Z,12nm,0.8s,mb4.5,baz=108,slow=5.5,SNR=8.1						
PMG	**Port Moresby**	**26.39**	**296**	*e*P	**P**	**18 40 38.8**	**-1.0**
	comp=Z,10nm,0.8s,mb4.4						
PMG				*e*	pP	18 40 53.9	+1.5
STKA	**Stephens Creek**	**27.70**	**244**	P	**P**	**18 40 52.6**	**+1.2**
	comp=Z,5.1nm,0.7s,mb4.2,baz=89,slow=11,SNR=12						
STKA	**Stephens Creek**	**27.70**	**244**	*e*P	**P**	**18 40 52.8**	**+1.4**
	comp=Z,5.2nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**27.70**	**244**	*e*P	**P**	**18 40 52.6**	**+1.1**
	comp=Z,0.6nm,0.6s						
COEN	**Coen**	**27.79**	**283**	*e*P	**P**	**18 40 53.0**	**+0.7**
	comp=Z,82nm,0.9s,mb5.4						
COEN	**Coen**	**27.79**	**283**	*e*P	**P**	**18 40 53.0**	**+0.6**
	comp=Z,67nm,0.9s,mb5.3						
COEN				*e*	pP	18 41 06.9	+1.9
AS31	**Alice Springs**	**34.11**	**261**	*e*P	**P**	**18 41 47.8**	**-0.3**
ASAR	**Alice Springs**	**34.11**	**261**	P	**P**	**18 41 48.2**	**+0.2**
	comp=Z,8.9nm,0.7s,mb4.8,baz=83,slow=9.3,SNR=101						
ASAR	**Alice Springs**	**34.11**	**261**	P	**P**	**18 41 48.2**	**+0.2**
WRAB	**Tennant Creek**	**34.25**	**267**	*e*P	**P**	**18 41 48.2**	**-1.1**
	comp=Z,30nm,1.6s,mb5.0						
WRA	**Warramunga Arr**	**34.26**	**267**	P	**P**	**18 41 48.1**	**-1.2**
	comp=Z,2.2nm,0.6s,mb4.3,baz=96,slow=8.4,SNR=13						
WRA	**Warramunga Arr**	**34.26**	**267**	P	**P**	**18 41 48.1**	**-1.2**
FITZ	**Fitzroy Crossi**	**42.69**	**267**	P	**P**	**18 43 00.7**	**+0.6**
	comp=Z,15nm,0.6s,mb4.9,baz=136,slow=8.1,SNR=43						
FITZ	**Fitzroy Crossi**	**42.69**	**267**	*e*P	**P**	**18 43 00.6**	**+0.5**
	comp=Z,27nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**42.69**	**267**	*e*P	**P**	**18 43 00.5**	**+0.4**
	comp=Z,16nm,0.7s,mb4.8						
MBWA	**Marble Bar**	**47.45**	**262**	*e*P	**P**	**18 43 37.5**	**-0.4**
MBWA	**Marble Bar**	**47.45**	**262**	*e*P	**P**	**18 43 37.1**	**-0.8**
	comp=Z,16nm,0.8s,mb5.0						
MEEK	**Meekatharra**	**47.57**	**254**	*e*P	**P**	**18 43 38.6**	**-0.2**
	comp=Z,74nm,0.7s,mb5.8						
NWAO	**Narrogin (SRO)**	**48.27**	**245**	*e*P	**P**	**18 43 42.3**	**-1.9**
	comp=Z,52nm,1.4s,mb5.4						
VNDA	**Vanda**	**55.16**	**182**	P	**P**	**18 44 35.1**	**+0.3**
	comp=Z,1.4nm,0.9s,mb4.0,baz=5.0,slow=7.1,SNR=9.4						
VNDA	**Vanda**	**55.16**	**182**	*e*P	**P**	**18 44 34.4**	**-0.4**
	comp=Z,3.2nm,1.1s,mb4.3						
SBA	**Scott Base**	**55.35**	**181**	*e*P	**P**	**18 44 35.1**	**-1.0**
	comp=Z,13nm,0.9s,mb5.0						
KKM	**Kota Kinabalu**	**60.70**	**291**	*e*P	**P**	**18 45 13.8**	**-0.8**
	comp=Z,10nm,0.9s,mb5.0						
KSM	**Kuching**	**63.78**	**284**	*e*P	**P**	**18 45 34.0**	**-1.3**
	comp=Z,10nm,0.8s,mb4.9						
MJAR	**Matsushiro Arr**	**66.50**	**332**	P	**P**	**18 45 50.1**	**-2.2**
	comp=Z,0.7nm,0.4s,mb4.0,baz=157,slow=6.0,SNR=10						
MJAR	**Matsushiro Arr**	**66.50**	**332**	P	**P**	**18 45 50.1**	**-2.2**
QSPA	**South Pole Qui**	**67.47**	**180**	*e*P	**P**	**18 45 57.8**	**-0.2**
	comp=Z,14nm,0.9s,mb5.0						
NJ2	**Nanjing**	**73.78**	**316**	*e*P	**P**	**18 46 38.3**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.2						
YSS	**Yuzh-Sakhalins**	**73.79**	**340**	*e*P	**P**	**18 46 36.5**	**-0.2**
	comp=Z,15nm,0.8s,mb5.0						
KULM	**Kulim**	**74.11**	**283**	*e*P	**P**	**18 46 39.5**	**+0.1**
	comp=Z,12nm,1.0s,mb4.8						
MAW	**Mawson**	**75.97**	**202**	P	**P**	**18 46 50.0**	**+0.8**
	comp=Z,2.3nm,1.2s,mb4.0						
PETK	**Petropavlovsk-**	**76.27**	**352**	P	**P**	**18 46 48.4**	**-2.5**
	comp=Z,3.1nm,0.9s,mb4.2,baz=134,slow=8.0,SNR=5.8						
PETK	**Petropavlovsk-**	**76.27**	**352**	P	**P**	**18 46 48.4**	**-2.5**
MDJ	**Mudanjiang**	**76.86**	**331**	P	**P**	**18 46 56.5**	**+2.0**
CN2	**Changchun**	**78.19**	**328**	*e*P	**P**	**18 47 05.0**	**+3.1**
GYA	**Guiyang**	**79.11**	**305**	P	**P**	**18 47 09.8**	**+2.4**
GYA				pP	pP	18 47 19.8	-1.8
GYA				sP	sP	18 47 25.4	-1.7
GYA				PP	PP	18 50 10.3	+2.8
GYA				S	S	18 57 04.3	+0.9
GYA				SKS		18 57 17.0	
GYA				sS	sS	18 57 22.5	-4.7
GYA				SS	SS	19 02 15.8	+5.1
GYA				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
GYA				pmax	pmax		
	comp=Z,110nm,5.4s						
GYA				LR	LR		
	comp=N,580nm,23.5s,MS4.9						
GYA				LR	LR		
	comp=E,450nm,24.6s,MS4.9						
GYA				LR	LR		
	comp=Z,570nm,21.7s,MS4.9						
CMAR	**Chiang Mai Arr**	**81.41**	**294**	P	**P**	**18 47 20.6**	**+0.7**
	comp=Z,0.9nm,0.5s,mb3.9,baz=136,slow=4.4,SNR=23						
CMAR	**Chiang Mai Arr**	**81.41**	**294**	P	**P**	**18 47 20.6**	**+0.7**
KMI	**Kunming**	**81.47**	**302**	P	**P**	**18 47 21.4**	**+1.3**
KMI				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
CHTO	**Chiang Mai**	**81.57**	**294**	P	**P**	**18 47 20.5**	**-0.2**
CD2	**Chengdu**	**83.61**	**307**	P	**P**	**18 47 33.3**	**+2.2**
CD2				pP	pP	18 47 43.8	-1.6
CD2				sP	sP	18 47 47.8	-3.1
CD2				PP	PP	18 50 48.4	+3.9
CD2				SKS		18 57 49.8	
CD2				S	S	18 57 52.6	+2.9
CD2				sS	sS	18 58 10.3	-3.5
CD2				SS	SS	19 03 23.3	+5.7
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.2						
CD2				pmax	pmax		
	comp=Z,700nm,10.9s						
HHC	**Hu-ho-hao-te**	**83.85**	**319**	*e*P	**P**	**18 47 35.0**	**+2.9**
HHC				pP	pP	18 47 45.3	-1.1
HHC				sP	sP	18 47 50.0	-1.9

of Ascension Island

IDC ***22*** *18:49:40.7±0.3,1.″19S×13.″95W,h0km,mb5.2/43, mb1 5.2/43,mb1mx5.2/44,mbtmp5.2/43,MS5.9/35, Ms1 5.9/35,ms1mx5.8/38,Error ellipse: s-maj=11.6km s-min=9.5km az=140.0*

BGS ***22*** *18:49:41.5±2.4,1.″04S×15.″47W,h10km,mb5.5,MS6.0*

MOS ***22*** *18:49:41.6±1.0,1.″04S×14.″01W,h10km,mb5.8/84, MS6.0/81,Error ellipse: s-maj=8.6km s-min=4.3km az=68.3*

ISCJB ***22*** *18:49:41.4±0.1,1.″17S±0.″02×14.″00W±0.″02,h11km, mb5.7/328,MS6.0/246,Error ellipse: s-maj=3.3km s-min=2.8km az=143.3*

NEIC ***22*** *18:49:42.4±0.2,1.″23S×13.″93W,h10km,mb5.9/132, MS6.0/153,MW6.2,MW6.2,Error ellipse: s-maj=5.6km s-min=3.8km az=156.0,Moment Tensor Solution. s100 Moment tensor: Scale 10¹⁸Nm; Mrr=0.19; Mθθ 1.06; Mϕϕ-0.87; Mrθ 0.30; Mϕϕ-1.92; Mϕr 0.74; Best double couple: M₀2.30000×10¹⁸ NP1:ϕs165.00000°,δ78.00000°, λ-17.00000°. NP2:ϕs258.00000°,δ73.00000°, λ-168.00000°. Principal axes: T 2.2500, Plg3.0000°, Azm212.0000°; N 0.0900, Plg69.0000°, Azm311.0000°; P -2.3400, Plg20.0000°, Azm121.0000°;*

BJI ***22*** *18:49:43.5,0.″25S×14.″16W,h10km,mB6.4/28,mb5.7/3, Ms6.3/37,Ms7 6.0/35*

TEH ***22*** *18:49:44.0,1.″14S×13.″90W,h10km*

GCMT ***22*** *18:49:50.3±0.1,0.″77S×13.″80W,h18km,MW6.3,Moment Tensor Solution. s114,c259; s99,c186; Moment tensor: Scale 10¹⁸Nm; Mrr-0.23±.02; Mθθ 1.33±.02; Mϕϕ-1.10±.02; Mrθ-0.47±.05; Mθϕ-2.99±.02; Mϕr 1.12±.06; Best double couple: M₀3.40000×10¹⁸ NP1:ϕs258.00000°,δ70.00000°, λ179.00000°. NP2:ϕs349.00000°,δ89.00000°,λ20.00000°. Principal axes: T 3.6200, Plg15.0000°, Azm215.0000°; N -0.3500, Plg70.0000°, Azm353.0000°; P -3.2700, Plg13.0000°, Azm122.0000°; Data Used: II IU CN IC G. Mantle waves from 109 sta. Surface waves: sta=120, comp=277, per= 50.*

DJA ***22*** *18:49:52,1.″49S×14.″35W,h88km,mb5.8/19*

ISC 22 18:49:42.8±0.8,1.″19S±0.″02×14.″02W±0.″02,h8km±4km, h10km±1.0km:pP-P,n1171,σ1°10/1039,mb5.7/328, MS6.0/246,67C-34D,North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBIC	**Dimbokro**	**12.03**	**49**	Pn	**Pn**	**18 52 28.4**	**-6.2**
	70nm,0.3s,baz=209,slow=14,SNR=300						
DBIC				Sn	**Sn**	**18 55 00.3**	**+11**
	64nm,0.3s,baz=308,slow=20,SNR=3.3						
DBIC				LR	LR	18 56 16.3	
	comp=Z,99μm,19.3s,baz=208,slow=33						
DBIC	**Dimbokro**	**12.03**	**49**	⇑*e*Pn	**Pn**	**18 52 28.3**	**-6.3**
	10nm,1.4s						
DBIC				*e*Sn	**Sn**	**18 54 29.3**	**-20**
DBIC				Sn	**Sn**	**18 55 00.3**	**+11**
DBIC	**Dimbokro**	**12.03**	**49**	P	**Pn**	**18 52 28.4**	**-6.2**
DBIC				pmax	pmax		
	comp=Z,70nm,0.3s						
DBIC				MLR	MLR		
	comp=Z,99μm,19.3s						
BBTS	**Babate**	**15.94**	**351**	Pn	**Pn**	**18 53 23.6**	**-4.1**
	comp=Z,25nm,0.3s,baz=182,slow=1.7,SNR=21						
BBTS				Sn	**Sn**	**18 56 09.7**	**-15**
	comp=Z,17nm,0.3s,baz=5.9,slow=23,SNR=9.0						
BBTS				LR	LR	18 57 48.9	
	comp=Z,37μm,21.8s,baz=171,slow=31						
BBTS	**Babate**	**15.94**	**351**	Pn	**Pn**	**18 53 23.6**	**-4.1**
BBTS				Sn	**Sn**	**18 56 09.7**	**-15**
SHEL	**Horse Pasture**	**16.79**	**151**	⇓*e*Pn	**Pn**	**18 53 39.8**	**+1.3**
	comp=Z,580nm,1.0s						
SHEL	**Horse Pasture**	**16.79**	**151**	⇓*e*P	**Pn**	**18 53 39.8**	**+1.3**
SHEL				pmax	pmax		
	comp=Z,580nm,1.0s						
SHEL	**Horse Pasture**	**16.79**	**151**	P	**Pn**	**18 53 41.2**	**+2.7**
	comp=Z,3μm,0.9s,SNR=14						
TORD	**Torodi Ar. Bea**	**21.11**	**47**	P	**P**	**18 54 24.1**	**-4.1**
	comp=Z,457nm,0.8s,mb5.9,baz=230,slow=9.4,SNR=778						
TORD				S	**S**	**18 58 06.3**	**-17**
	comp=Z,72nm,0.9s,baz=234,slow=23,SNR=3.0						
TORD				LR	LR	19 01 43.5	
	comp=Z,87μm,19.4s,MS6.2,baz=225,slow=34						
TORD				P3KPbc		19 28 31.2	
	comp=Z,1.4nm,1.0s,baz=49,slow=4.5,SNR=6.8						
TORD	**Torodi Ar. Bea**	**21.11**	**47**	P	**P**	**18 54 24.1**	**-4.1**
TORD				S	**S**	**18 58 06.3**	**-17**
TORD				*e*		19 28 31.2	
RCBR	**Riachuelo**	**22.32**	**258**	P	**P**	**18 54 40.0**	**-1.1**
	comp=Z,187nm,1.2s,mb5.4,baz=147,slow=6.0,SNR=19						
RCBR				LR	LR	19 01 11.5	
	comp=Z,28μm,19.3s,MS5.7,baz=336,slow=31						
RCBR	**Riachuelo**	**22.32**	**258**	P	**P**	**18 54 40.0**	**-1.1**
RCBR				⇑*e*P		18 54 41.2	
MSKU	**Masuku**	**27.63**	**91**	P	**P**	**18 55 29.6**	**-1.6**
	comp=Z,316nm,1.0s,mb5.9,baz=270,slow=6.7,SNR=118						
MSKU				LR	LR	19 03 53.8	
	comp=Z,48μm,20.1s,MS6.1,baz=268,slow=31						
MSKU	**Masuku**	**27.63**	**91**	P	**P**	**18 55 29.6**	**-1.6**
TAM	**Tamanrasset**	**30.51**	**37**	⇑*e*P	**P**	**18 55 55.0**	**-1.6**
	comp=Z,112nm,1.0s,mb5.7						
TAM				LR	LR		
	comp=Z,32μm,20.0s,MS6.0						
TAM	**Tamanrasset**	**30.51**	**37**	⇑*e*P	**P**	**18 55 55.0**	**-1.6**
TAM				pmax	pmax		
	comp=Z,112nm,1.0s,mb5.7						
TAM				MLR	MLR		
	comp=Z,32μm,20.0s,MS6.0						
PMOZ	**Porto Moniz, M**	**33.96**	**355**	*e*S	**S**	**19 01 58.9**	**+6.9**
PMOZ				*e*LQ		19 03 40.4	
PMOZ				*e*LR	LR	19 07 28.6	
	comp=Z,10μm,18.0s						
CAM4	**Nova Friburgo**	**34.83**	**231**	⇓*i*P	**P**	**18 56 41.1**	**+6.6**
CAM4				*i*		18 56 52.0	
CAM4				*i*		18 56 55.9	
CAM4				*i*		18 56 56.1	
CAM4				*i*		18 57 54.8	
CAM4				*i*		18 57 59.4	
CAM4				*i*		18 58 07.1	
CAM4				*i*		18 58 15.1	
CAM4				*i*		18 58 22.3	
CAM4				*i*		18 58 30.2	
CAM4				*i*		18 58 54.6	
TRIS	**Tristan da Cun**	**35.74**	**178**	PFAKE		18 56 50.0	+7.9
TRIS				LR	LR		
	comp=Z,23μm,22.0s,MS5.9						
TSUM	**Tsumeb**	**35.76**	**122**	⇑*i*P	**P**	**18 56 43.2**	**+0.6**
TSUM				AMB	AMB	18 56 45.2	
	comp=Z,8μm,3.8s						
TSUM	**Tsumeb**	**35.76**	**122**	⇓*i*P	**P**	**18 56 42.2**	**-0.4**
	comp=Z,212nm,1.3s,mb5.9						
TSUM				*e*PP	PP	18 57 54.2	-10
TSUM				*e*S	**S**	**19 02 15.1**	**-5.0**
TSUM				LR	LR		
	comp=Z,27μm,19.0s,MS6.0						
SFS	**San Fernando**	**38.16**	**10**	PFAKE		18 57 10.0	+7.3
SFS				LR	LR		
	comp=Z,76μm,19.0s,MS6.5						
ODZI	**Dziouia**	**38.21**	**17**	P	**P**	**18 57 07.0**	**+3.8**
PFVI	**Vila Bisbo**	**38.43**	**7**	*e*P	**P**	**18 57 04.3**	**-0.7**
	comp=Z,208nm,1.3s,mb5.7						
PFVI	**Vila Bisbo**	**38.43**	**7**	*e*PP	PP	18 58 27.2	-5.8
PFVI				*e*S	**S**	**19 03 00.0**	**-0.3**
PFVI				*e*LQ		19 05 22.2	
PFVI				*e*LR	LR	19 07 21.1	
	comp=Z,17μm,20.0s						
MORF	**Marmelete**	**38.62**	**7**	*e*P	**P**	**18 57 08.5**	**+1.9**
MORF				*e*S	**S**	**19 03 03.6**	**+0.4**
MORF	**Marmelete**	**38.62**	**7**	*e*P	**P**	**18 57 07.1**	**+0.5**
	comp=Z,146nm,1.3s,mb5.5						
MORF	**Marmelete**	**38.62**	**7**	*e*PP	PP	18 58 31.4	-3.7
MORF				*e*S	**S**	**19 03 02.4**	**-0.8**
MORF				*e*LQ		19 05 24.1	
MORF				*e*LR	LR	19 08 42.0	
	comp=Z,18μm,20.0s						
PBDV	**Barranco-do-Ve**	**38.65**	**8**	*e*P	**P**	**18 57 06.5**	**-0.3**
	comp=Z,206nm,1.4s,mb5.7						
PBDV	**Barranco-do-Ve**	**38.65**	**8**	*e*PP	PP	18 58 30.7	-4.7
PBDV				*e*S	**S**	**19 03 03.9**	**+0.2**
PBDV				*e*LQ		19 05 38.8	
PBDV				*e*LR	LR	19 07 59.5	
	comp=Z,14μm,20.0s						
USTO	**Oran**	**38.82**	**18**	P	**P**	**18 57 15.0**	**+6.7**
PVAQ	**Vaqueiros**	**38.84**	**8**	*e*P	**P**	**18 57 09.9**	**+1.5**
	comp=Z,132nm,2.3s,mb5.3						
PVAQ	**Vaqueiros**	**38.84**	**8**	*e*PP	PP	18 58 33.1	-4.4
PVAQ				*e*S	**S**	**19 03 06.5**	**0.0**
PVAQ				*e*LQ		19 05 46.1	
PVAQ				*e*LR	LR	19 09 31.0	
	comp=Z,20μm,20.0s						
PTEO	**Sao Teotonio**	**38.85**	**7**	*e*P	**P**	**18 57 09.3**	**+0.8**
	comp=Z,239nm,1.4s,mb5.7						
PTEO	**Sao Teotonio**	**38.85**	**7**	*e*PP	PP	18 58 35.1	-2.5
OJBR	**Djebel Berber**	**38.97**	**19**	P	**P**	**18 57 14.0**	**+4.5**
PCVE	**Castro Verde**	**39.02**	**8**	*e*P	**P**	**18 57 10.5**	**+0.6**
	comp=Z,131nm,1.9s,mb5.3						
PCVE	**Castro Verde**	**39.02**	**8**	*e*PP	PP	18 58 36.5	-3.0
PCVE				*e*S	**S**	**19 03 09.2**	**0.0**
PCVE				*e*LQ		19 05 36.7	
PCVE				*e*LR	LR	19 07 57.0	
	comp=Z,17μm,18.0s						
OJGS	**Djebel Guires**	**39.02**	**19**	P	**P**	**18 57 19.0**	**+9.0**
ETRT	**Tiaret**	**39.11**	**20**	P	**P**	**18 57 11.7**	**+1.0**
PBEJ	**Beja**	**39.43**	**8**	*e*P	**P**	**18 57 14.6**	**+1.2**
	comp=Z,107nm,1.2s,mb5.5						
PBEJ	**Beja**	**39.43**	**8**	*e*PP	PP	18 58 42.3	-1.6
PNCL	**Nicolau / Gran**	**39.43**	**7**	*e*P	**P**	**18 57 14.4**	**+1.0**
	comp=Z,152nm,2.1s,mb5.4						
PNCL	**Nicolau / Gran**	**39.43**	**7**	*e*PP	PP	18 58 38.9	-5.1
PNCL				*e*S	**S**	**19 03 13.4**	**-2.0**
PNCL				*e*LQ		19 05 47.5	
PNCL				*e*LR	LR	19 08 51.8	
	comp=Z,23μm,20.0s						
OKGL	**Djebel Kef Gue**	**39.48**	**19**	P	**P**	**18 57 16.0**	**+2.2**
EANR	**'Ain N'Sour**	**39.55**	**19**	P	**P**	**18 57 15.3**	**+0.9**
PBAR	**Barrancos**	**39.70**	**9**	*e*P	**P**	**18 57 17.8**	**+2.2**
	comp=Z,82nm,1.3s,mb5.3						
PBAR	**Barrancos**	**39.70**	**9**	*e*PP	PP	18 58 46.0	-0.8
PBAR				*e*S	**S**	**19 03 19.0**	**-0.3**
PBAR				*e*LQ		19 06 01.9	
PBAR				*e*LR	LR	19 08 10.2	
	comp=Z,21μm,20.0s						
ECHA	**Ech Chlef**	**39.82**	**20**	P	**P**	**18 57 18.0**	**+1.4**
EVO	**Evora**	**39.91**	**7**	*e*P	**P**	**18 57 17.0**	**-0.3**
	comp=Z,283nm,1.2s,mb5.6						
EVO				*e*R			
	comp=Z,24μm,18.8s						
EVO	**Evora**	**39.91**	**7**	*e*P	**P**	**18 57 18.0**	**+0.7**
	comp=Z,144nm,1.5s,mb5.5						
EVO	**Evora**	**39.91**	**7**	*e*PP	PP	18 58 47.0	-2.2
LIS	**Lisbon**	**39.96**	**6**	*e*P	**P**	**18 57 20.4**	**+2.7**
LIS				*e*S	**S**	**19 03 23.3**	**-0.1**
LIS				AMS	AMS	19 13 25.1	
	comp=N,34μm,21.0s						
LIS	**Lisbon**	**39.96**	**6**	*e*P	**P**	**18 57 20.4**	**+2.6**
LIS				*e*S	**S**	**19 03 23.2**	**-0.1**
EBNR	**Beni Rached**	**40.00**	**20**	P	**P**	**18 57 17.4**	**-0.7**
BART	**Pico Bartolome**	**40.12**	**346**	*e*P	**P**	**18 57 18.4**	**-0.7**
	comp=N,249nm,1.2s,mb5.8						
PMAFR	**Mafra**	**40.19**	**6**	*e*P	**P**	**18 57 17.5**	**-2.1**
	comp=N,304nm,1.6s,mb5.8						
PMAFR	**Mafra**	**40.19**	**6**	*e*PP	PP	18 58 56.1	+4.0
PMAFR				*e*S	**S**	**19 03 29.4**	**+2.8**
PMAFR				*e*LQ		19 06 03.2	
PMAFR				*e*LR	LR	19 09 05.4	
	comp=N,27μm,18.0s						
PESTR	**Estremoz**	**40.30**	**8**	*e*P	**P**	**18 57 20.1**	**-0.4**
	comp=N,77nm,1.5s,mb5.2						
PESTR	**Estremoz**	**40.30**	**8**	*e*PP	PP	18 58 52.6	-0.8
PESTR				*e*S	**S**	**19 03 30.2**	**+1.9**
PESTR				*e*LQ		19 06 11.2	
PESTR				*e*LR	LR	19 09 48.5	
	comp=N,28μm,20.0s						
PMTG	**Montargil**	**40.41**	**7**	*e*P	**P**	**18 57 22.8**	**+1.3**
	comp=N,141nm,2.1s,mb5.3						
PMTG	**Montargil**	**40.41**	**7**	*e*PP	PP	18 58 53.6	-1.0
PMTG				*e*S	**S**	**19 03 29.9**	**-0.2**
PMTG				*e*LQ		19 06 04.8	
PMTG				*e*LR	LR	19 08 27.0	
	comp=N,19μm,18.0s						
EMHD	**Djebel Mahouad**	**40.42**	**21**	P	**P**	**18 57 24.6**	**+3.0**
CART	**Cartagena**	**40.42**	**16**	*e*P	**P**	**18 57 22.6**	**+1.0**
	comp=N,85nm,0.9s,mb5.5						
ALMR	**Almeirim**	**40.46**	**7**	*e*P	**P**	**18 57 23.1**	**+1.2**
ALMR	**Almeirim**	**40.46**	**7**	*e*P	**P**	**18 57 23.1**	**+1.2**
PMRV	**Marv??o**	**40.88**	**8**	*e*P	**P**	**18 57 26.7**	**+1.4**
	comp=N,133nm,1.6s,mb5.3						
PMRV	**Marv??o**	**40.88**	**8**	*e*PP	PP	18 58 56.7	-3.0
PMRV				*e*S	**S**	**19 03 38.4**	**+1.5**
PMRV				*e*LQ		19 06 24.0	
PMRV				*e*LR	LR	19 10 34.1	
	comp=N,23μm,22.0s						
PTOM	**Tomar**	**40.93**	**7**	*e*P	**P**	**18 57 29.0**	**+3.2**
	comp=N,177nm,1.0s,mb5.7						
PTOM	**Tomar**	**40.93**	**7**	*e*PP	PP	18 58 57.1	-3.2
ABA	**Alger-Bouzarea**	**40.98**	**21**	P	**P**	**18 57 29.1**	**+2.8**
CKHR	**Kef el Ahmar**	**41.25**	**24**	P	**P**	**18 57 29.4**	**+0.9**
PCBR	**Castelo Branco**	**41.27**	**8**	*e*P	**P**	**18 57 30.3**	**+1.7**
	comp=N,76nm,1.8s,mb5.0						
KOMG	**Komaggas**	**41.31**	**137**	⇑*i*P	**P**	**18 57 29.9**	**+0.8**
KOMG				AMB	AMB	18 57 31.8	
	comp=Z,186nm,4.5s						
SET	**Setif**	**41.36**	**24**	P	**P**	**18 57 31.0**	**+1.6**
PAB	**San Pablo**	**41.50**	**11**	*e*P	**P**	**18 57 29.4**	**-1.0**
	comp=Z,113nm,1.4s,mb5.3						
PAB				LR	LR		
	comp=Z,16μm,21.0s,MS5.9						
PAB	**San Pablo**	**41.50**	**11**	*e*P	**P**	**18 57 29.5**	**-0.9**
PAB				pmax	pmax		
	comp=Z,113nm,1.4s,mb5.3						
PAB				MLR	MLR		
	comp=Z,16μm,21.0s,MS5.9						
CTEI	**Djebel Teioual**	**41.66**	**25**	P	**P**	**18 57 32.2**	**+0.3**
ESDC	**Sonseca Array**	**41.70**	**12**	P	**P**	**18 57 31.0**	**-1.1**
	comp=Z,16nm,1.0s,mb4.6,baz=190,slow=9.2,SNR=21						
ESDC				PP	PP	18 59 08.2	-0.4
	comp=Z,90nm,1.1s,baz=193,slow=10,SNR=10						
ESDC				LR	LR	19 15 10.4	
	comp=Z,11μm,18.1s,MS5.8,baz=180,slow=37						
ESDC	**Sonseca Array**	**41.70**	**12**	P	**P**	**18 57 31.0**	**-1.1**
ESDC				PP	PP	18 59 08.2	-0.4
ESLA	**Sonseca Array**	**41.70**	**12**	*e*P	**P**	**18 57 31.9**	**-0.1**
	comp=Z,11nm,1.1s,mb4.4						
ESLA				LR	LR		
	comp=Z,88μm,21.0s,MS6.6						
MTE	**Manteigas**	**41.81**	**7**	*e*P	**P**	**18 57 33.1**	**+0.1**
	comp=Z,195nm,0.9s,mb5.7						
MTE				LR	LR		
	comp=Z,23μm,20.0s,MS6.1						
MTE	**Manteigas**	**41.81**	**7**	*e*P	**P**	**18 57 33.7**	**+0.7**
	comp=Z,228nm,1.3s,mb5.6						
MTE	**Manteigas**	**41.81**	**7**	*e*PP	PP	18 59 08.8	-1.0
MTE				*e*S	**S**	**19 03 52.0**	**+1.2**
MTE				*e*LQ		19 06 32.0	
MTE				*e*LR	LR	19 08 12.8	
	comp=Z,22μm,20.0s						
CASM	**Ain Smara**	**41.87**	**25**	P	**P**	**18 57 33.9**	**+0.4**
PVIS	**Viseu**	**42.08**	**7**	*e*P	**P**	**18 57 37.9**	**+2.7**
	comp=Z,112nm,2.2s,mb5.1						
PVIS	**Viseu**	**42.08**	**7**	*e*PP	PP	18 59 10.9	-1.8
CKFL	**Kef-Lekhel**	**42.08**	**25**	P	**P**	**18 57 35.3**	**0.0**
ABSA	**Djebel Ababsia**	**42.30**	**26**	P	**P**	**18 57 40.0**	**+2.9**
CAEH	**'Ain El Ouahch**	**42.46**	**25**	P	**P**	**18 57 36.4**	**-2.0**
CMAH	**Djebel Manchou**	**42.57**	**26**	P	**P**	**18 57 39.4**	**+0.1**
MVO	**Moncorvo**	**42.63**	**8**	*e*P	**P**	**18 57 39.9**	**+0.2**
	comp=Z,176nm,1.5s,mb5.6						
MVO	**Moncorvo**	**42.63**	**8**	*e*PP	PP	18 59 17.6	-1.0
MVO				*e*S	**S**	**19 04 01.9**	**-1.0**
MVO				*e*LQ		19 06 46.4	
MVO				*e*LR	LR	19 07 20.0	
	comp=Z,16μm,22.0s						
PVRL	**Vila Real**	**42.65**	**7**	*e*P	**P**	**18 57 42.7**	**+2.9**
	comp=Z,197nm,1.8s,mb5.5						
PVRL	**Vila Real**	**42.65**	**7**	*e*PP	PP	18 59 17.4	-1.5
KEST	**Kesra**	**42.71**	**28**	P	**P**	**18 57 39.9**	**-0.5**
	comp=Z,76nm,1.0s,mb5.4,baz=192,slow=7.0,SNR=19						
KEST				PP	PP	18 59 21.0	+1.4
	comp=Z,34nm,1.0s,baz=153,slow=8.5,SNR=5.0						
KEST				LR	LR	19 16 33.0	
	comp=Z,21μm,18.1s,MS6.1,baz=329,slow=38						
KEST	**Kesra**	**42.71**	**28**	P	**P**	**18 57 39.9**	**-0.5**
KEST				*e*PP	PP	18 59 09.6	-10
KEST				PP	PP	18 59 21.0	+1.4
POLO	**Lamas de Olo**	**42.74**	**7**	*e*P	**P**	**18 57 41.0**	**+0.5**
	comp=Z,74nm,1.3s,mb5.3						
POLO	**Lamas de Olo**	**42.74**	**7**	*e*PP	PP	18 59 17.3	-2.5
POLO				*e*S	**S**	**19 04 04.1**	**-0.4**
POLO				*e*LQ		19 06 52.9	
POLO				*e*LR	LR	19 07 20.5	
	comp=Z,12μm,18.0s						
PCAB	**Cabril**	**43.04**	**7**	*e*P	**P**	**18 57 46.8**	**+3.8**
	comp=Z,141nm,1.4s,mb5.5						
PCAB	**Cabril**	**43.04**	**7**	*e*PP	PP	18 59 25.8	+2.7
PGAV	**Gavieira, Arco**	**43.27**	**6**	*e*P	**P**	**18 57 47.8**	**+3.0**
	comp=Z,152nm,2.4s,mb5.3						
PGAV	**Gavieira, Arco**	**43.27**	**6**	*e*PP	PP	18 59 24.4	-1.1
PGAV				*e*S	**S**	**19 04 12.3**	**+0.1**
PGAV				*e*LQ		19 06 59.3	
PGAV				*e*LR	LR	19 07 33.0	
	comp=Z,24μm,18.0s						
PBRG	**Braganca**	**43.30**	**8**	*e*P	**P**	**18 57 46.5**	**+1.4**
	comp=Z,116nm,1.1s,mb5.5						
PBRG	**Braganca**	**43.30**	**8**	*e*PP	PP	18 59 23.6	-2.2
PBRG				*e*LQ		19 06 59.3	
PBRG				*e*LR	LR	19 07 35.2	
	comp=Z,17μm,18.0s						
CVNA	**Calvinia**	**43.89**	**137**	⇑*i*P	**P**	**18 57 50.7**	**+0.7**
CVNA				AMB	AMB	18 57 52.7	
	comp=Z,178nm,1.6s,mb5.5						
LSZ	**Lusaka**	**43.94**	**111**	*e*P	**P**	**18 57 50.8**	**+0.2**
LSZ	**Lusaka**	**43.94**	**111**	⇓*i*P	**P**	**18 57 50.5**	**-0.2**
	comp=Z,304nm,1.3s,mb5.9						
LSZ				*e*PP	PP	18 59 28.3	-4.7
LSZ				LR	LR		
	comp=Z,22μm,21.0s,MS6.0						
LSZ	**Lusaka**	**43.94**	**111**	⇓*i*P	**P**	**18 57 50.5**	**-0.1**
LSZ				*e*		18 59 28.3	
LSZ				pmax	pmax		
	comp=Z,304nm,1.3s,mb5.9						
LSZ				MLR	MLR		
	comp=Z,22μm,21.0s,MS6.0						
LSZ	**Lusaka**	**43.94**	**111**	P	**P**	**18 57 50.8**	**+0.2**
	SNR=56						
LSZ				mb		18 58 02.6	
	SNR=82						
CER	**Ceres**	**44.72**	**139**	*e*P	**P**	**18 57 57.0**	**+0.3**
CER				AMB	AMB	18 58 04.8	
	comp=Z,69nm,1.4s,mb5.3						
MBAR	**Mbarara**	**44.76**	**90**	⇑*i*P	**P**	**18 57 57.8**	**+0.5**
MBAR	**Mbarara**	**44.76**	**90**	PFAKE		18 58 10.0	+13
MBAR				LR	LR		
	comp=Z,659nm,20.0s,MS4.6						
MBAR	**Mbarara**	**44.76**	**90**	P	**P**	**18 57 58.1**	**+0.8**
	comp=Z,819nm,1.1s,mb6.5,SNR=37						
LBTB	**Lobatse**	**44.97**	**125**	⇑*i*P	**P**	**18 57 59.2**	**+0.3**
LBTB				AMB	AMB	18 58 00.9	
	comp=Z,277nm,4.0s						
LBTB	**Lobatse**	**44.97**	**125**	P	**P**	**18 57 57.3**	**-1.5**
	comp=Z,135nm,1.0s,mb5.7,baz=301,slow=8.0,SNR=89						
LBTB				LR	LR	19 14 08.9	
	comp=Z,16μm,19.2s,MS6.0,baz=300,slow=33						
LBTB	**Lobatse**	**44.97**	**125**	P	**P**	**18 57 57.3**	**-1.5**
LBTB				⇓*e*P	pP	18 57 58.0	-3.4
LBTB				*e*S	**S**	**19 04 35.1**	**-2.6**
LBTB	**Lobatse**	**44.97**	**125**	P	**P**	**18 57 57.3**	**-1.5**
LBTB				pmax	pmax		
	comp=Z,135nm,1.0s,mb5.7						
LBTB				MLR	MLR		
	comp=Z,16μm,19.2s,MS6.0						
PKA	**Prieska**	**45.00**	**133**	⇑*i*P	**P**	**18 57 59.0**	**0.0**
PKA				AMB	AMB	18 58 02.0	
	comp=Z,57nm,4.3s						
SUR	**Sutherland**	**45.14**	**137**	⇑*i*P	**P**	**18 58 00.8**	**+0.8**
SUR				AMB	AMB	18 58 24.9	
	comp=Z,150nm,1.9s,mb5.5						
SUR	**Sutherland**	**45.14**	**137**	P	**P**	**18 57 59.7**	**-0.3**
	comp=Z,83nm,0.9s,mb5.6,baz=293,slow=4.3,SNR=20						
SUR				LR	LR	19 13 09.3	
	comp=Z,8μm,18.8s,MS5.7,baz=296,slow=31						
SUR	**Sutherland**	**45.14**	**137**	P	**P**	**18 57 59.7**	**-0.3**
SUR	**Sutherland**	**45.14**	**137**	P	**P**	**18 58 00.7**	**+0.7**
	comp=Z,788nm,1.2s,mb6.4,SNR=16						
SUR	**Sutherland**	**45.14**	**137**	P	**P**	**18 58 01.5**	**+1.4**
	SNR=8.1						
SUR				mb	pP	18 58 03.6	+1.0
	SNR=14						
ETSF	**Etsaut**	**45.53**	**14**	*e*P	**P**	**18 58 02.6**	**-0.3**
	comp=Z,248nm,1.0s,mb5.8						
SJPF	**Ste Jean**	**45.58**	**13**	*e*P	**P**	**18 58 03.0**	**-0.3**
	comp=Z,251nm,0.8s,mb5.9						
VIEF	**Viey**	**45.66**	**14**	*e*P	**P**	**18 58 04.4**	**+0.5**
VIEF	**Viey**	**45.66**	**14**	*e*P	**P**	**18 58 04.4**	**+0.5**
RESF	**Ens**	**45.67**	**15**	*e*P	**P**	**18 58 03.7**	**-0.3**
RESF	**Ens**	**45.67**	**15**	*e*P	**P**	**18 58 03.7**	**-0.3**
ATE	**Arette**	**45.67**	**14**	*e*P	**P**	**18 58 04.2**	**+0.1**
ATE	**Arette**	**45.67**	**14**	*e*P	**P**	**18 58 04.2**	**+0.1**
OSSF	**Osses**	**45.71**	**13**	*e*P	**P**	**18 58 03.2**	**-1.1**
OSSF	**Osses**	**45.71**	**13**	*e*P	**P**	**18 58 03.2**	**-1.1**
REYF	**Montagne du Re**	**45.73**	**14**	*e*P	**P**	**18 58 04.7**	**+0.2**
REYF	**Montagne du Re**	**45.73**	**14**	*e*P	**P**	**18 58 04.7**	**+0.2**
VALF	**Valcebollere**	**45.74**	**17**	*e*P	**P**	**18 58 04.5**	**-0.1**
VALF	**Valcebollere**	**45.74**	**17**	*e*P	**P**	**18 58 04.5**	**-0.1**
ELIM	**Elim**	**45.79**	**140**	*e*P	**P**	**18 58 02.1**	**-3.0**
ELIM				AMB	AMB	18 58 07.4	
	comp=Z,9μm,11.8s						
LABF

comp=Z,127nm,1.0s,mb5.6
RJF eR
comp=Z,37µm,22.0s
CPUP Villa Florida 48.55 235 P **P 18 58 26.2 -0.6**
comp=Z,49nm,0.8s,mb5.6,baz=55,slow=7.6,SNR=49
CPUP LR LR 19 16 27.1
comp=Z,15µm,20.9s,MS6.0,baz=55,slow=33
CPUP Villa Florida 48.55 235 P **P 18 58 26.2 -0.6**
CPUP ePcP PcP 18 59 45.5 -7.2
CPUP Villa Florida 48.55 235 P **P 18 58 26.3 -0.5**
CPUP pmax pmax
comp=Z,49nm,0.9s
CPUP MLR MLR
comp=Z,15µm,20.9s
LBL Lubilhac 48.70 16 *e*P **P 18 58 30.5 +2.9**
LBL Lubilhac 48.70 16 *e*P **P 18 58 30.5 +2.9**
LBL Lubilhac 48.70 16 *e*P **P 18 58 30.5 +2.9**
MVIF Mont Vial 48.72 20 *e*P **P 18 58 31.3 +3.5**
MVIF Mont Vial 48.72 20 *e*P **P 18 58 31.3 +3.5**
MVIF Mont Vial 48.72 20 *e*P **P 18 58 31.3 +3.5**
VIVF Saint-Julien-l 48.77 18 *e*P **P 18 58 27.7 -0.5**
comp=Z,167nm,1.1s,mb5.7
LUCF Luceram 48.78 20 *e*P **P 18 58 29.8 +1.5**
LUCF Luceram 48.78 20 *e*P **P 18 58 29.8 +1.5**
SBF Sospel 48.79 21 *e*P **P 18 58 27.8 -0.5**
comp=Z,486nm,1.1s,mb6.2
BUFB Buffelsbos 48.85 136 *e*P **P 18 58 29.1 +0.1**
TOUF Mont Tournerai 48.86 20 *e*P **P 18 58 31.6 +2.7**
TOUF Mont Tournerai 48.86 20 *e*P **P 18 58 31.6 +2.7**
TOUF Mont Tournerai 48.86 20 *e*P **P 18 58 31.6 +2.7**
AUTN L'Aution 48.90 20 *e*P **P 18 58 32.3 +3.1**
AUTN L'Aution 48.90 20 *e*P **P 18 58 32.3 +3.1**
AUTN L'Aution 48.90 20 *e*P **P 18 58 32.3 +3.1**
SAOF Saorge 48.94 21 *e*P **P 18 58 32.6 +3.1**
SAOF Saorge 48.94 21 *e*P **P 18 58 32.6 +3.1**
SAOF Saorge 48.94 21 *e*P **P 18 58 32.6 +3.1**
PYM Petit Puy Mans 49.11 16 *e*P **P 18 58 34.3 +3.5**
PYM Petit Puy Mans 49.11 16 *e*P **P 18 58 34.3 +3.5**
PYM Petit Puy Mans 49.11 16 *e*P **P 18 58 34.3 +3.5**
BIM Bigot 49.11 290 *e*P **P 18 58 33.3 +2.0**
SSB Saint Sauveur 49.11 17 *e*P **P 18 58 31.2 +0.4**
comp=Z,42nm,0.8s,mb5.5
SSB ePP PP 19 00 17.8 -6.8
SSB LR LR
comp=Z,21µm,19.0s,MS6.2
SSB Saint Sauveur 49.11 17 *e*P **P 18 58 31.2 +0.4**
SSB *e* 19 00 17.8
SSB pmax pmax
comp=Z,42nm,0.8s,mb5.5
SSB MLR MLR
comp=Z,21µm,19.0s,MS6.2
GRGR Grenville 49.11 287 *e*P **P 18 58 31.5 +0.2**
comp=Z,645nm,1.5s,mb6.4
GRGR LR LR
comp=Z,3µm,20.0s,MS5.3
SURF Saint Ours 49.12 20 *e*P **P 18 58 34.7 +3.8**
SURF Saint Ours 49.12 20 *e*P **P 18 58 34.7 +3.8**
MFF Saint Martin d 49.13 13 *e*P **P 18 58 30.1 -0.8**
comp=Z,162nm,1.0s,mb5.7
ORIF Oris-en-Rattie 49.20 19 *e*P **P 18 58 31.8 +0.3**
comp=Z,365nm,1.4s,mb5.9
ORIF eR
comp=Z,42µm,18.5s
CUC Castrocucco 49.23 30 *e*P **P 18 58 27.2 -4.5**
comp=Z,55nm,0.9s,mb5.6
CUC LR LR
comp=Z,17µm,22.0s,MS6.0
FDF Fort de France 49.24 291 *e*P **P 18 58 33.5 +1.2**
comp=Z,2µm,1.4s,mb6.8
FDF LR LR
comp=Z,5µm,19.0s,MS5.5
FDF Fort de France 49.24 291 *e*P **P 18 58 33.5 +1.2**
FDF MLR MLR
comp=Z,5µm,19.0s,MS5.5
FDF Fort de France 49.24 291 *e*P **P 18 58 34.6 +2.3**
MBDF Montbardon 49.32 19 *e*P **P 18 58 32.7 +0.3**
comp=Z,310nm,1.1s,mb6.0
TCF Toulx Ste Croi 49.40 15 *e*P **P 18 58 32.7 -0.2**
comp=Z,186nm,1.0s,mb5.8
AGO Saint Agoulin 49.42 16 *e*P **P 18 58 36.3 +3.2**
AGO Saint Agoulin 49.42 16 *e*P **P 18 58 36.3 +3.2**
GRN Grenoble 49.45 18 *e*P **P 18 58 36.3 +2.9**
GRN Grenoble 49.45 18 *e*P **P 18 58 36.3 +2.9**
GRN Grenoble 49.45 18 *e*P **P 18 58 36.3 +2.9**
PLDF La Plantade 49.48 16 *e*P **P 18 58 36.5 +2.9**
PLDF La Plantade 49.48 16 *e*P **P 18 58 36.5 +2.9**
PLDF La Plantade 49.48 16 *e*P **P 18 58 36.5 +2.9**
GDM Grand'Maison 49.53 19 *e*P **P 18 58 36.6 +2.6**
GDM Grand'Maison 49.53 19 *e*P **P 18 58 36.6 +2.6**
BNI Bardonecchia 49.58 19 *e*P **P 18 58 35.2 +0.9**
comp=Z,70nm,0.8s,mb5.7
BNI LR LR
comp=Z,28µm,19.0s,MS6.3
BNI Bardonecchia 49.58 19 *e*P **P 18 58 35.2 +0.8**
BNI pmax pmax
comp=Z,70nm,0.8s,mb5.7
BNI MLR MLR
comp=Z,28µm,19.0s,MS6.3
BGF Bois d'Agland 49.81 15 *e*P **P 18 58 35.8 -0.3**
comp=Z,168nm,1.1s,mb5.7
AQU L'Aquila 49.91 27 *e*P **P 18 58 37.1 +0.1**
comp=Z,335nm,1.0s,mb6.3
AQU LR LR
comp=Z,50µm,22.0s,MS6.5
AQU L'Aquila 49.91 27 *e*P **P 18 58 37.1 +0.2**
AQU pmax pmax
comp=Z,335nm,1.0s,mb6.3
AQU MLR MLR
comp=Z,50µm,22.0s,MS6.5
TBG Guadaloupe-3 49.99 292 *e*P **P 18 58 40.0 +2.0**
LPG La Plagne 50.00 19 *e*P **P 18 58 38.0 +0.5**
comp=Z,228nm,1.0s,mb5.9
LPL La Plagne 50.01 19 *e*P **P 18 58 38.0 +0.4**
comp=Z,278nm,1.0s,mb5.9
RSL Roselend 50.12 19 *e*P **P 18 58 40.6 +2.1**
RSL Roselend 50.12 19 *e*P **P 18 58 40.6 +2.1**
RSL Roselend 50.12 19 *e*P **P 18 58 40.6 +2.1**
VLC Villacollemand 50.13 23 *e*P **P 18 58 39.0 +0.4**
comp=Z,179nm,1.4s,mb5.9
VLC ePP PP 19 00 46.3 +12
VLC LR LR
comp=Z,14µm,20.0s,MS6.0
SMF Signal de Mont 50.16 16 *e*P **P 18 58 38.1 -0.6**
comp=Z,92nm,1.0s,mb5.5
AVF Avril sur Loir 50.16 15 *e*P **P 18 58 38.2 -0.6**
comp=Z,122nm,1.1s,mb5.5
LZG Guadaloupe-1 50.19 292 *e*P **P 18 58 41.6 +2.1**
ROSF Rostrenen 50.20 9 *e*P **P 18 58 38.2 -0.9**
comp=Z,137nm,1.1s,mb5.6
HYF Humbligny 50.42 15 *e*P **P 18 58 40.3 -0.4**
SSF Saint Saulge 50.45 15 *e*P **P 18 58 40.4 -0.5**
comp=Z,172nm,1.1s,mb5.7
VLS Valsamata 50.52 35 *e*P **P 18 58 41.4 -0.3**
ANWB Willy Bob 50.62 294 *e*P **P 18 58 42.8 0.0**
comp=Z,543nm,1.1s,mb6.4
ANWB LR LR
comp=Z,6µm,21.0s,MS5.6
ITM Ithomi 50.65 37 *e*P **P 18 58 42.7 +0.1**
GRR Gorron 50.69 11 *e*P **P 18 58 42.0 -0.7**
comp=Z,421nm,1.2s,mb6.0
LOR Lormes 50.73 16 *e*P **P 18 58 42.4 -0.7**
comp=Z,180nm,1.0s,mb5.7
LOR eR
comp=Z,15µm,18.5s
CABF La Chapelle 50.78 18 *e*P **P 18 58 42.7 -0.8**
comp=Z,426nm,1.5s,mb5.9
POGA Pongola 50.86 125⇑ *i*P **P 18 58 44.4 0.0**
POGA AMB AMB 18 58 45.6
comp=Z,193nm,1.3s,mb5.9
RLS Riolos of Patr 50.95 36 *e*P **P 18 58 43.1 -1.8**
VAM Vamos 50.97 41 *e*P **P 18 58 45.6 +0.5**
VLI Veliai 50.97 38 *e*P **P 18 58 45.6 +0.5**
LDF La Druitiere 51.03 12 *e*P **P 18 58 44.5 -0.8**
comp=Z,42nm,0.9s,mb5.1
FLN La Foliniere 51.12 11 *e*P **P 18 58 45.0 -1.0**
comp=Z,192nm,1.1s,mb5.6
FLN eR
comp=Z,32µm,22.2s
JSA Saint Aubin 51.21 10 AMS AMS 19 19 45.0
comp=Z,17µm,19.4s,MS6.1
KMBO Kilima Mbogo 51.26 90⇑ *i*P **P 18 58 49.6 +1.9**
KMBO Kilima Mbogo 51.26 90 *e*P **P 18 58 49.8 +2.1**
comp=Z,219nm,1.1s,mb6.0
KMBO LR LR
comp=Z,70µm,19.0s,MS6.7
KMBO Kilima Mbogo 51.26 90 *e*P **P 18 58 49.8 +2.1**
KMBO pmax pmax
comp=Z,219nm,1.1s
KMBO MLR MLR
comp=Z,70µm,19.0s
KMBO Kilima Mbogo 51.26 90 P **P 18 58 49.5 +1.8**
comp=Z,177nm,1.2s,mb5.6
KMBO mb pP 18 58 51.6 +1.3
SNR=158
LOMF Lomont 51.67 18 *e*P **P 18 58 49.7 -0.4**
LOMF Lomont 51.67 18 *e*P **P 18 58 49.7 -0.4**
LOMF Lomont 51.67 18 *e*P **P 18 58 49.7 -0.4**
JAN Janina 51.67 34 *e*P **P 18 58 51.4 +1.1**
EVR Evrytania 51.72 36 *e*P **P 18 58 53.2 +2.5**
TUE Stuetta 51.73 20 *e*P **P 18 58 49.3 -1.3**
comp=Z,143nm,1.3s,mb5.7
TUE ePP PP 19 00 49.0 +0.7
TUE LR LR
comp=Z,20µm,20.0s,MS6.2
NPS Neapolis 51.81 42 *e*P **P 18 58 50.2 -1.2**
SFTF Sexfontaines 51.91 16 *e*P **P 18 58 51.1 -0.8**
comp=Z,177nm,1.2s,mb5.6
NAIG Nisos Aigina 51.97 38 *e*P **P 18 58 50.8 -1.8**
BBS Basel-Blauen 51.98 18 *e*P **P 18 58 52.4 -0.1**
BBS Basel-Blauen 51.98 18 *e*P **P 18 58 52.4 -0.1**
HINF Hinteralfeld 52.09 18 *e*P **P 18 58 52.0 -1.3**
comp=Z,131nm,1.1s,mb5.5
AGG Agios Georgios 52.10 36 *e*P **P 18 58 51.8 -1.7**
HAU Haudompre 52.11 17 *e*P **P 18 58 52.4 -1.0**
comp=Z,319nm,1.3s,mb5.8
HAU *e*R
comp=Z,11µm,21.8s
DYA Yadsworthy 52.15 8 *e*P **P 18 58 53.1 -0.5**
DYA AMB AMB 18 58 57.8
comp=Z,116nm,1.1s,mb5.7
DYA AMS AMS 19 22 07.0
comp=Z,11µm,16.0s,MS6.0
DYA Yadsworthy 52.15 8 P **P 18 58 53.1 -0.5**
DYA AMB AMB 18 58 57.8
comp=Z,116nm,1.1s,mb5.7
DYA AMS AMS 19 22 07.0
comp=Z,11µm,16.0s
DAVOX Davos/Dischmat 52.18 21 P **P 18 58 52.3 -1.6**
comp=Z,196nm,0.9s,mb6.0,baz=211,slow=5.3,SNR=50
DAVOX LR LR 19 21 20.1
comp=Z,21µm,18.2s,MS6.2,baz=232,slow=36
DAVOX Davos/Dischmat 52.18 21 P **P 18 58 52.3 -1.6**
DAVOX Davos/Dischmat 52.18 21 P **P 18 58 52.3 -1.6**
MEZF Maizieres J'vi 52.19 16 *e*P **P 18 58 53.4 -0.6**
comp=Z,444nm,1.5s,mb5.9
THEF They Montfort 52.20 17 *e*P **P 18 58 54.1 0.0**
THEF They Montfort 52.20 17 *e*P **P 18 58 54.1 0.0**
THEF They Montfort 52.20 17 *e*P **P 18 58 54.1 0.0**
VLY Voula,Athens 52.22 38 *e*P **P 18 58 50.4 -4.0**
ATH Athens Observa 52.25 38 *e*P **P 18 58 54.5 -0.1**
LKR Lokris 52.25 37 *e*P **P 18 58 54.3 -0.4**
THL Klokotos Trika 52.27 35 *e*P **P 18 58 55.3 +0.5**
NEST Nestorio 52.30 34 P **P 18 58 56.9 +1.9**
TIR Tirane 52.31 32 *e*P **P 18 58 59.0 +4.0**
TIR Tirane 52.31 32 PFAKE 18 59 10.0 +15
TIR LR LR
comp=Z,26µm,20.0s,MS6.3
PTL Penteli 52.39 38 *e*P **P 18 58 55.4 -0.3**
HCY Herceg Novi 52.40 30⇑ *i*P **P 18 58 56.9 +1.2**
PAGF Fort de Pagny 52.42 16 *e*P **P 18 58 55.2 -0.5**
comp=Z,197nm,1.6s,mb5.5
ULC Ulcinj 52.43 31⇑ *i*P **P 18 58 55.9 0.0**
BUM Brajin-Budva 52.49 31⇑ *i*P **P 18 58 56.7 +0.3**
FELD Feldberg im Sc 52.50 19 *e*P **P 18 58 56.0 -0.3**
ECH Echery 52.54 18 *e*P **P 18 58 55.5 -1.1**
comp=Z,142nm,1.4s,mb5.7
ECH LR LR
comp=Z,11µm,20.0s,MS5.9
ECH Echery 52.54 18 *e*P **P 18 58 55.5 -1.1**
ECH pmax pmax
comp=Z,142nm,1.4s,mb5.7
ECH MLR MLR
comp=Z,11µm,20.0s,MS5.9
ECH Echery 52.54 18 *e*P **P 18 58 56.3 -0.3**
DAVA Damuels 52.61 20 *i*P **P 18 58 56.1 -1.1**
comp=Z,234nm,0.8s,mb6.2,SNR=82
HTL Hartland 52.62 8 *e*P **P 18 58 56.3 -0.8**
HTL AMB AMB 18 59 01.2
comp=Z,130nm,2.9s,mb5.4
HTL AMS AMS 19 22 11.8
comp=Z,8µm,16.7s,MS5.9
HTL Hartland 52.62 8 P **P 18 58 56.3 -0.8**
HTL AMB AMB 18 59 01.2
comp=Z,130nm,2.9s,mb5.4
HTL AMS AMS 19 22 11.8
comp=Z,8µm,16.7s
LIBD Limburg 52.62 18 *e*P **P 18 58 57.5 +0.3**
LIBD Limburg 52.62 18 *e*P **P 18 58 57.5 +0.3**
KZN Kozani 52.63 34 *e*P **P 18 58 57.8 +0.3**
FETA Feichten 52.69 21⇓ *i*P **P 18 58 56.6 -1.1**
comp=Z,103nm,0.9s,mb5.8,SNR=91
FNA Florina 52.74 34 P **P 18 58 58.5 +0.3**
CDF Champ du Feu 52.75 18 *e*P **P 18 58 57.0 -1.1**
comp=Z,130nm,0.9s,mb5.6
BRY Bratogost 52.76 30⇑ *i*P **P 18 58 58.8 +0.5**
TRI Trieste 52.76 24 *e*P **P 18 58 57.8 -0.5**
comp=Z,629nm,1.6s,mb6.3
TRI LR LR
comp=Z,16µm,20.0s,MS6.1
TRI Trieste 52.76 24 *e*P **P 18 58 57.8 -0.5**
TRI pmax pmax
comp=Z,629nm,1.6s,mb6.3
TRI MLR MLR
comp=Z,16µm,20.0s,MS6.1
TTG Podgorica 52.77 31⇑ *i*P **P 18 58 58.4 0.0**
HEX Exmoor 52.78 8 *e*P **P 18 58 58.4 +0.1**
HEX Exmoor 52.78 8 P **P 18 58 58.4 +0.1**
PUK Puka 52.82 31 *e*P **P 18 59 02.0 +3.2**
APE Apeiranthos 52.83 40 *e*P **P 18 58 57.4 -1.5**
LIT Litokhoron 52.90 35 P **P 18 59 02.4 +3.0**
NKY Niksic 52.92 30⇑ *i*P **P 18 58 59.0 -0.5**
SPAK Spaichingen-Ko 52.95 19 *e*P **P 18 58 59.4 -0.2**
BFO Black Forest 53.01 19 *e*P **P 18 58 59.2 -0.8**
comp=Z,76nm,1.2s,mb5.5
BFO Black Forest 53.01 19 *e*P **P 18 58 58.0 -2.1**
comp=Z,244nm,1.5s,mb5.9
BFO LR LR
comp=Z,19µm,20.0s,MS6.1
BFO Black Forest 53.01 19 P **P 18 58 59.2 -0.8**
comp=Z,384nm,1.6s,mb6.1,SNR=8.9
BFO Black Forest 53.01 19 *e*P **P 18 58 59.2 -0.8**
BFO pmax pmax
comp=Z,76nm,1.2s,mb5.5
KARP Karpathos 53.01 42 *e*P **P 18 58 58.6 -1.7**
JAVS Javornik 53.04 24 *i*P **P 18 59 00.5 +0.2**
JAVS *i* pP 18 59 03.3 +0.4
JAVS *e*S **S 19 06 30.9 +0.5**
VOY Vojsko 53.08 24 *e*P **P 18 59 00.7 +0.1**
VOY *e* 18 59 18.2
VOY *e* 19 00 03.6
VOY *e* 19 00 54.8
VOY *e* 19 01 06.5
VOY *e* 19 01 36.7
VOY *e* 19 02 04.2
RETA Reutte 53.09 21⇑ *i*P **P 18 58 59.0 -1.7**
comp=Z,70nm,0.8s,mb5.6,SNR=49
MOTA Moosalm 53.10 21 *i*P **P 18 58 59.6 -1.2**
comp=Z,66nm,0.8s,mb5.6,SNR=34
ABTA Abfaltersbach 53.12 23 *i*P **P 18 59 01.1 +0.2**
comp=Z,64nm,1.0s,mb5.5,SNR=39
BCI Bajram Curri 53.14 31 *e*P **P 18 59 03.0 +1.8**
UPM Unac-Piva 53.16 30⇑ *i*P **P 18 59 01.0 -0.3**
WTTA Wattenberg 53.22 22 *i*P **P 18 59 00.9 -0.7**
comp=Z,144nm,0.9s,mb5.9,SNR=46
BOJS Bojanci 53.23 25 *i*P **P 18 59 02.3 +0.6**
BOJS *i* pP 18 59 05.1 +0.8
BOJS *e*PP 19 02 13.1
BOJS *e*S **S 19 06 32.7 -0.3**
PVY Plav 53.25 31⇑ *i*P **P 18 59 03.6 +1.6**
WATA Walderalm 53.26 22 *i*P **P 18 59 01.2 -0.7**
comp=Z,59nm,0.8s,mb5.6,SNR=31
LJU Ljubljana 53.35 25 *i*P **P 18 59 02.7 +0.1**
LJU *i* pP 18 59 05.9 +0.7
LJU *e*PP PP 19 02 10.8 +68
LJU *e*S **S 19 06 34.5 -0.2**
BAIF Baives 53.39 15 *e*P **P 18 59 01.7 -1.2**
comp=Z,252nm,0.9s,mb5.8
LANF Langenberg 53.42 18 *e*P **P 18 59 02.6 -0.5**
LANF Langenberg 53.42 18 *e*P **P 18 59 02.6 -0.5**
LANF Langenberg 53.42 18 *e*P **P 18 59 02.6 -0.5**
IVA Berane 53.42 31⇑ *i*P **P 18 59 05.1 +1.9**
WOL Wolverton 53.42 10 *e*P **P 18 59 02.6 -0.4**
WOL AMB AMB 18 59 06.7
comp=Z,260nm,3.1s
WOL AMS AMS 19 21 04.8
comp=Z,12µm,19.8s,MS5.9
WOL Wolverton 53.42 10 P **P 18 59 02.6 -0.4**
WOL AMB AMB 18 59 06.7
comp=Z,260nm,3.1s
WOL AMS AMS 19 21 04.8
comp=Z,12µm,19.8s
GRG Griva 53.43 34 P **P 18 59 04.2 +0.9**
MYKA Terra Mystica 53.46 23⇑ *i*P **P 18 59 04.5 +1.0**
comp=Z,54nm,0.9s,mb5.5
PLE Pljevlja 53.49 30⇑ *i*P **P 18 59 05.7 +2.0**
DOU Dourbes 53.53 15 P **P 18 59 03.3 -0.5**
comp=Z,56nm,1.7s,mb5.2
WLF Walferdange 53.55 16 P **P 18 59 03.0 -1.0**
comp=Z,46nm,1.6s,mb5.2
WLF Walferdange 53.55 16 *e*P **P 18 59 03.7 -0.3**
comp=Z,82nm,1.2s,mb5.5
WLF Walferdange 53.55 16 *e*P **P 18 59 03.4 -0.6**
comp=Z,66nm,1.0s,mb5.5
WLF Walferdange 53.55 16 *e*P **P 18 59 03.4 -0.6**
WLF pmax pmax
comp=Z,66nm,1.0s,mb5.5
GIVF Givet 53.59 15 *e*P **P 18 59 03.1 -1.2**
comp=Z,266nm,1.0s,mb5.8
SKO Skopje 53.59 33 *e*P **P 18 59 03.5 -0.9**
PLG Polygyros 53.63 35 *e*P **P 18 59 06.1 +1.3**
STU Stuttgart 53.67 19 *e*P **P 18 59 03.9 -1.0**
comp=Z,46nm,1.1s,mb5.3
STU Stuttgart 53.67 19 *e*P **P 18 59 04.1 -0.8**
comp=Z,77nm,0.9s,mb5.6
STU Stuttgart 53.67 19 *e*P **P 18 59 04.1 -0.8**
STU pmax pmax
comp=Z,77nm,0.9s,mb5.6
STVI Saint Thomas 53.70 294 *e*P **P 18 59 05.8 +0.1**
comp=Z,311nm,1.3s,mb6.1
OBKA Obir 53.73 24⇓ *i*P **P 18 59 06.6 +1.1**
comp=Z,81nm,1.1s,mb5.5,SNR=16
MCH1 Michaelchurch 53.80 8⇑ *e*P **P 18 59 04.7 -1.1**
MCH1 AMB AMB 18 59 12.0
comp=Z,152nm,3.3s
MCH1 AMS AMS 19 22 53.3
comp=Z,10µm,16.1s,MS6.0
MCH1 Michaelchurch 53.80 8 P **P 18 59 04.7 -1.1**
MCH1 AMB AMB 18 59 12.0
comp=Z,152nm,3.3s
MCH1 AMS AMS 19 22 53.3
comp=Z,10µm,16.1s
SNF Seneffe 53.83 14 P **P 18 59 05.9 -0.1**
RUP Ruppelstein 53.84 17 *e*P **P 18 59 05.8 -0.3**
RUP Ruppelstein 53.84 17 *e*P **P 18 59 05.8 -0.3**
FUR Furstenfeldbru 53.85 21 *e*P **P 18 59 05.4 -0.9**
comp=Z,155nm,0.9s,mb5.9
FUR Furstenfeldbru 53.85 21 P **P 18 59 05.4 -0.9**
FUR pmax pmax
comp=Z,155nm,0.9s,mb5.9
SOH Sokhos 53.87 35 *e*P **P 18 59 05.6 -0.9**
BCLA Clavier 54.01 15 P **P 18 59 06.8 -0.5**
comp=Z,43nm,1.2s,mb5.3
ARG Arkhangelos 54.03 42 *e*P **P 18 59 07.5 -0.3**
SMG Samos 54.04 40 *e*P **P 18 59 07.9 0.0**
RJOB Jochberg 54.05 22 *e*P **P 18 59 06.2 -1.5**
comp=Z,73nm,1.1s,mb5.5
RJOB ePP PP 19 01 04.9 -4.4
SOKA Soboth 54.07 24⇑ *i*P **P 18 59 08.2 +0.4**
comp=Z,62nm,1.0s,mb5.5
PERS Pernice 54.07 24 *i*P **P 18 59 07.9 0.0**
PERS *i* pP 18 59 10.8 +0.4
PERS *e*S **S 19 06 44.4 0.0**
UCC Uccle 54.11 14 P **P 18 59 09.5 +1.3**
ABH Alteburg 54.14 17 *e*P **P 18 59 09.9 +1.6**
MTP Monte Pirata 54.18 293 *e*P **P 18 59 09.9 +0.7**
comp=Z,678nm,1.5s,mb6.4
SRS Serrai 54.20 35 P **P 18 59 09.4 +0.4**
TOD Tromm 54.28 18 *e*P **P 18 59 08.7 -0.6**
TOD Tromm 54.28 18 *e*P **P 18 59 08.7 -0.6**
HLM1 Long Mynd 54.33 8 *e*P **P 18 59 07.8 -1.8**
HLM1 AMB AMB 18 59 23.2
comp=Z,122nm,1.5s,mb5.6
HLM1 Long Mynd 54.33 8 P **P 18 59 07.8 -1.8**
HLM1 AMB AMB 18 59 23.2
comp=Z,122nm,1.5s,mb5.6
DIVS Divibare 54.35 30 P **P 18 59 11.1 +1.1**
MEM Membach 54.37 16 P **P 18 59 08.8 -1.1**
KKB Krupnik 54.42 34 *i*P **P 18 59 13.0 +2.5**
BEBN Eben Emael 54.45 15 P **P 18 59 10.8 +0.2**
CBYP Canovanas 54.51 293 *e*P **P 18 59 12.4 +0.8**
comp=Z,293nm,1.4s,mb6.1
NVR Nevrokopi 54.51 35 *e*P **P 18 59 10.8 -0.4**
MMB Musomiste 54.59 34 *i*P **P 18 59 15.2 +3.4**
PRK Paraskevi 54.61 38 *e*P **P 18 59 07.1 -4.8**
DSB Dublin 54.62 6 *e*P **P 18 59 11.1 -0.7**
FOEL Foel Wylfa 54.65 8 *e*P **P 18 59 09.7 -2.3**
FOEL AMB AMB 18 59 12.4
comp=Z,115nm,3.6s
FOEL Foel Wylfa 54.65 8 P **P 18 59 09.7 -2.3**
FOEL AMB AMB 18 59 12.4
comp=Z,115nm,3.6s
DLF Lyons Farm 54.65 6 *e*P **P 18 59 10.6 -1.4**
MOA Molln 54.71 23 *i*P **P 18 59 11.4 -1.1**
comp=Z,94nm,1.1s,mb5.8,SNR=28
TNS Taunus Mts 54.71 18 *e*P **P 18 59 11.9 -0.6**
comp=Z,70nm,1.0s,mb5.7
TNS Taunus Mts 54.71 18 *e*P **P 18 59 11.9 -0.6**
TNS pmax pmax
comp=Z,70nm,1.0s,mb5.7
ARSA Arzberg 54.73 24⇓ *i*P **P 18 59 13.0 +0.3**
comp=Z,40nm,1.0s,mb5.4,SNR=26
SJG San Juan 54.74 293 P **P 18 59 13.2 0.0**
comp=Z,45nm,0.7s,mb5.6,baz=41,slow=14,SNR=5.2
SJG LR LR 19 17 12.1
comp=Z,8µm,21.4s,MS5.8,baz=112,slow=30
SJG San Juan 54.74 293 *e*P **P 18 59 12.6 -0.7**
comp=Z,474nm,1.6s,mb6.3
SJG San Juan 54.74 293 P **P 18 59 13.2 -0.1**
SJG pmax pmax
comp=Z,45nm,0.7s
SJG MLR MLR
comp=Z,8µm,21.4s
WLF1 Llynfaes 54.88 7 *e*P **P 18 59 13.2 -0.4**
WLF1 AMB AMB 18 59 17.0
comp=Z,185nm,3.0s
WLF1 AMS AMS 19 25 08.5
comp=Z,8µm,12.9s,MS6.0
WLF1 Llynfaes 54.88 7 P **P 18 59 13.2 -0.4**
WLF1 AMB AMB 18 59 17.0
comp=Z,185nm,3.0s
WLF1 AMS AMS 19 25 08.5
comp=Z,8µm,12.9s
VTS Vitosha 54.97 33 P **P 18 59 15.4 +0.9**
VTS Vitosha 54.97 33⇓ *i*P **P 18 59 15.9 +1.4**
VTS Vitosha 54.97 33⇓ *i*P **P 18 59 15.9 +1.4**
VTS Vitosha 54.97 33 *i*P **P 18 59 18.2 +3.7**
STNC Stoke 54.98 9 *e*P **P 18 59 13.9 -0.5**
STNC AMB AMB 18 59 16.8
comp=Z,196nm,2.2s,mb5.8
STNC AMS AMS 19 24 05.3
comp=Z,13µm,16.0s,MS6.1
STNC Stoke 54.98 9 P **P 18 59 13.9 -0.5**
STNC AMB AMB 18 59 16.8
comp=Z,196nm,2.2s,mb5.8
STNC AMS AMS 19 24 05.3
comp=Z,13µm,16.0s
ICM Isla Caja Muer 55.02 293 *e*P **P 18 59 15.8 +0.5**
CELP Cerrillos 55.12 293 *e*P **P 18 59 16.5 +0.4**
GRFO Grafenberg 55.13 20 *e*P **P 18 59 13.6 -1.9**
comp=Z,604nm,2.3s,mb6.2
GRFO Grafenberg 55.13 20 P **P 18 59 13.6 -2.0**
GRFO pmax pmax
comp=Z,604nm,2.3s,mb6.2
GRF Grafenberg Arr 55.14 20 *e*P **P 18 59 14.6 -1.0**
comp=Z,69nm,1.1s,mb5.6
GRF *e*L 19 21 59.0
comp=Z,22µm,20.7s
GRF Grafenberg Arr 55.14 20 *e*P **P 18 59 14.6 -1.0**
GRF pmax pmax
comp=Z,69nm,1.1s,mb5.6
GRF MLR MLR
comp=Z,22µm,20.7s,MS6.2
OBIP Obispado Ponce 55.14 293 *e*P **P 18 59 16.5 +0.3**
comp=Z,210nm,1.1s,mb6.1

KBI1	Birley Grange	55.25	9	*e*P		P		18 59 16.0	-0.3
KBI1	Birley Grange	55.25	9	P		P		18 59 16.0	-0.3
WET	Wettzell	55.25	21	*e*P		P		18 59 15.6	-0.8
	comp=Z,101nm,1.1s,mb5.8								
WET	Wettzell	55.25	21	*e*P		P		18 59 15.6	-0.8
WET				pmax	pmax				
	comp=Z,101nm,1.1s,mb5.8								
PKSM	Moragy	55.27	27	⇑P		P		18 59 17.7	+1.1
PKSM	Moragy	55.27	27	⇑*i*P		P		18 59 17.7	+1.1
GEC2	GERESS Array S	55.31	22	*e*P		P		18 59 16.2	-0.6
	comp=Z,123nm,1.2s,mb5.8								
GEC2				*e*PP	PP			19 01 17.9	-2.7
GEC2	GERESS Array S	55.31	22	*e*P		P		18 59 16.2	-0.6
GEC2				*e*				19 01 17.9	
GEC2				pmax	pmax				
	comp=Z,123nm,1.2s,mb5.8								
GERES	GERESS Array B	55.31	22	P		P		18 59 15.9	-0.9
	comp=Z,95nm,1.0s,mb5.8,baz=205,slow=5.4,SNR=71								
GERES				PP	PP			19 01 19.5	-1.1
	comp=Z,30nm,0.8s,baz=203,slow=9.7,SNR=4.8								
GERES				LR	LR			19 23 32.5	
	comp=Z,20μm,19.0s,MS6.2,baz=229,slow=37								
GERES	GERESS Array B	55.31	22	P		P		18 59 15.9	-0.9
GERES				PP	PP			19 01 19.5	-1.1
GERES	GERESS Array B	55.31	22	P		P		18 59 16.0	-0.8
GERES								19 01 19.5	
GERES				pmax	pmax				
	comp=Z,95nm,1.0s								
GERES				pmax	pmax				
	comp=Z,30nm,0.8s								
GERES				MLR	MLR				
	comp=Z,20μm,19.0s								
RDO	Rodhopi	55.34	36	*e*P		P		18 59 17.5	+0.2
LPAZ	La Paz	55.35	251	P		P		18 59 17.1	-0.7
	comp=Z,13nm,0.8s,mb5.0,baz=70,slow=7.3,SNR=36								
LPAZ				LR	LR			19 21 15.9	
	comp=Z,19μm,20.9s,MS6.2,baz=276,slow=34								
LPAZ	La Paz	55.35	251	*e*P		P		18 59 16.9	-0.8
	comp=Z,182nm,1.8s,mb5.8								
LPAZ	La Paz	55.35	251	P		P		18 59 17.1	-0.6
LPAZ				pmax	pmax				
	comp=Z,13nm,0.8s								
LPAZ				MLR	MLR				
	comp=Z,19μm,20.9s								
CONA	Conrad Observa	55.41	24	*i* P		P		18 59 17.0	-0.6
	comp=Z,62nm,1.0s,mb5.6,SNR=27								
LRS	Lares	55.42	293	*e*P		P		18 59 17.9	-0.4
BUG	Bochum--Univer	55.46	16	*e*P		P		18 59 17.5	-0.4
	comp=Z,45nm,1.2s,mb5.4								
PGB	Panagyurishte	55.47	34	*i* P		P		18 59 21.2	+3.1
KHC	Kasperske Hory	55.50	22	*e*P		P		18 59 16.7	-1.5
	comp=Z,74nm,1.0s,mb5.7								
KHC	Kasperske Hory	55.50	22	*e*P		P		18 59 17.0	-1.2
KHC				*e*		pP		18 59 20.7	0.0
KHC				*e*				19 01 19.3	
KHC				*e*S		S		19 07 00.5	-3.0
KHC				MLR	MLR				
	comp=Z,19μm,20.5s,MS6.2								
KHC	Kasperske Hory	55.50	22	*e*P		P		18 59 17.0	-1.2
KHC				*e*pP		pP		18 59 20.7	0.0
KHC				*e*x		x		18 59 27.0	
KHC				*e*PP		PP		19 01 19.3	-3.0
KHC				*e*S		S		19 07 00.5	-3.0
KHC				AMS	AMS			19 23 10.0	
	comp=Z,19μm,20.5s								
SOP	Sopron	55.50	25	⇑*e*P		P		18 59 21.4	+3.2
ROTZ	Rotzenmuhle	55.54	20	*e*P		P		18 59 17.6	-0.9
	comp=Z,38nm,1.2s,mb5.3								
CRPR	Cabo Rojo, PR	55.59	293	*e*P		P		18 59 19.6	+0.1
	comp=Z,94nm,0.8s,mb5.9								
LSP	Las Mesas	55.61	293	*e*P		P		18 59 17.8	-1.8
GMM	Mts of Mourne	55.64	6	*e*P		P		18 59 17.9	-1.2
GMM	Mts of Mourne	55.64	6	P		P		18 59 17.9	-1.2
AGPR	Aguadilla, PR	55.71	293	*e*P		P		18 59 21.0	+0.7
	comp=Z,911nm,1.4s,mb6.6								
UBBA	Unterbreizbach	55.71	18	*e*P		P		18 59 19.3	-0.4
	comp=Z,28nm,1.3s,mb5.1								
MPEP	Malo Peshtene	55.77	33	*i* P		P		18 59 20.2	-0.1
NKC	Novy Kostel	56.02	20	*e*P		P		18 59 20.8	-1.1
NKC				*e*		pP		18 59 23.1	-1.3
NKC				*e*				19 01 23.9	
NKC				*e*S		S		19 07 12.0	+1.6
NKC				MLR	MLR				
	comp=Z,13μm,16.4s,MS6.1								
NKC	Novy Kostel	56.02	20	*e*P		P		18 59 20.8	-1.1
NKC				*e*pP		pP		18 59 23.1	-1.3
NKC				*e*PP		PP		19 01 23.9	-3.0
NKC				*e*S		S		19 07 12.0	+1.6
NKC				AMS	AMS			19 22 50.0	
	comp=Z,13μm,16.4s								
MOX	Moxa	56.08	19	*e*P		P		18 59 21.5	-0.9
	comp=Z,46nm,1.1s,mb5.4								
MOX	Moxa	56.08	19	*e*P		P		18 59 21.5	-0.9
MOX				pmax	pmax				
	comp=Z,46nm,1.1s,mb5.4								
ZST	Bratislava	56.13	25	*e*P		P		18 59 22.2	-0.5
ZST				pmax	pmax				
	comp=Z,22nm,0.8s,mb5.2								
ZST	Bratislava	56.13	25	*e*P		P		18 59 22.2	-0.5
ZST				*e*PP		PP		19 01 27.3	-0.6
ZST				*e*S		S		19 07 11.7	-0.3
TANN	Tannenbergstha	56.17	20	*e*P		P		18 59 22.2	-0.8
	comp=Z,64nm,1.1s,mb5.6								
BZS	Buzias	56.25	29	⇑P		P		18 59 24.7	+1.1
BZS	Buzias	56.25	29	⇑*i*P		P		18 59 24.6	+1.0
KESW	Keswick, Cumbr	56.31	8	*e*P		P		18 59 22.8	-1.1
KESW				AMB	AMB			18 59 29.0	
	comp=Z,182nm,3.1s								
KESW	Keswick, Cumbr	56.31	8	P		P		18 59 22.8	-1.1
KESW				AMB	AMB			18 59 29.0	
	comp=Z,182nm,3.1s								
TREC	Trest	56.35	23	*e*P		P		18 59 23.5	-0.8
TREC				*e*S		S		19 07 13.6	-1.3
TREC				MLR	MLR				
	comp=Z,20μm,15.2s,MS6.3								
TREC	Trest	56.35	23	*e*P		P		18 59 23.5	-0.8
TREC				*e*S		S		19 07 13.6	-1.3
TREC				AMS	AMS			19 24 30.0	
	comp=Z,20μm,15.2s								
IBBN	Ibbenburen	56.37	16	*e*P		P		18 59 24.0	-0.4
	comp=Z,57nm,1.1s,mb5.5								
GAL1	Galloway	56.39	6	*e*P		P		18 59 23.9	-0.5
GAL1				AMB	AMB			18 59 28.8	
	comp=Z,102nm,1.1s,mb5.8								
GAL1				AMS	AMS			19 23 27.1	
	comp=Z,9μm,15.5s,MS6.0								
GAL1	Galloway	56.39	6	P		P		18 59 23.9	-0.5
GAL1				AMB	AMB			18 59 28.8	
	comp=Z,102nm,1.1s,mb5.8								
GAL1				AMS	AMS			19 23 27.1	
	comp=Z,9μm,15.5s								
BUD	Budapest	56.41	26	⇑*e*P		P		18 59 27.8	+3.1
ISP	Isparta	56.52	42	PFAKE				18 59 40.0	+14
ISP				LR	LR				
	comp=Z,9μm,22.0s,MS5.8								
PRU	Pruhonice	56.56	22	*e*P		P		18 59 24.3	-1.5
PRU				*e*		pP		18 59 27.7	-0.6
PRU				*e*				19 01 25.6	
PRU				*e*S		S		19 07 16.1	-1.5
PRU				MLR	MLR				
	comp=Z,20μm,18.0s,MS6.3								
PRU	Pruhonice	56.56	22	*e*P		P		18 59 24.3	-1.5
PRU				*e*pP		pP		18 59 27.7	-0.6
PRU				*e*PP		PP		19 01 25.6	-6.1
PRU				*e*S		S		19 07 16.1	-1.5
PRU				AMS	AMS			19 24 20.0	
	comp=Z,20μm,18.0s								
PRA	Prague	56.59	22	P		P		18 59 27.0	+1.0
PRA				*e*x		x		19 02 47.0	
PRA				S		S		19 07 17.0	-1.0
PRA				AMS	AMS			19 24 00.0	
GZR	Gura Zlata	56.67	30	P		P		18 59 29.7	+3.1
XAL	Allendale	56.70	8	*e*P		P		18 59 25.8	-0.9
XAL	Allendale	56.70	8	P		P		18 59 25.8	-0.9
CLZ	Clausthal	56.72	18	*e*P		P		18 59 26.3	-0.6
	comp=Z,34nm,1.4s,mb5.2								
CLZ	Clausthal	56.72	18	*e*P		P		18 59 26.3	-0.6
CLZ				pmax	pmax				
	comp=Z,34nm,1.4s,mb5.2								
VRAC	Vranov	56.80	23	P		P		18 59 27.5	0.0
VRAC	Vranov	56.80	23	⇓*i*P		P		18 59 27.3	-0.2
ECK	Cauldkaine Hil	56.89	7	*e*P		P		18 59 27.6	-0.4
ECK	Cauldkaine Hil	56.89	7	P		P		18 59 27.6	-0.4
CSS	Prodhromos	57.00	46	*e*P		P		18 59 28.6	-0.7
	comp=Z,46nm,0.9s,mb5.5								
CSS				LR	LR				
	comp=Z,14μm,20.0s,MS6.1								
ESK	Eskdalemuir	57.01	7	*e*P		P		18 59 26.5	-2.4
ESK				AMB	AMB			18 59 32.1	
	comp=Z,91nm,1.0s,mb5.8								
ESK				AMS	AMS			19 23 50.1	
	comp=Z,9μm,16.3s,MS6.0								
ESK	Eskdalemuir	57.01	7	P		P		18 59 26.5	-2.4
ESK				AMB	AMB			18 59 32.1	
	comp=Z,91nm,1.0s,mb5.8								
ESK				AMS	AMS			19 23 50.1	
	comp=Z,9μm,16.3s								
ESK	Eskdalemuir	57.01	7	*e*P		P		18 59 27.6	-1.2
	comp=Z,75nm,0.8s,mb5.8								
ESK				LR	LR				
	comp=Z,9μm,19.0s,MS5.9								
ESK	Eskdalemuir	57.01	7	P		P		18 59 29.1	+0.2
	comp=Z,576nm,0.7s,mb6.7,SNR=8.6								
ESK	Eskdalemuir	57.01	7	*i* P		P		18 59 32.2	+3.3
PVCC	Panska Ves	57.01	21	*e*P		P		18 59 28.1	-0.9
PVCC				*e*				19 01 38.2	
PVCC				*e*S		S		19 07 27.0	+3.4
PVCC				MLR	MLR				
	comp=Z,19μm,18.2s,MS6.2								
PVCC	Panska Ves	57.01	21	*e*P		P		18 59 28.1	-0.9
PVCC				*e*PP		PP		19 01 38.2	+2.4
PVCC				*e*S		S		19 07 27.0	+3.4
PVCC				AMS	AMS			19 24 20.0	
	comp=Z,19μm,18.2s								
EKA	Eskdalemuir Ar	57.03	7	P		P		18 59 27.6	-1.4
	comp=Z,66nm,1.0s,mb5.6,baz=195,slow=6.6,SNR=25								
EKA	Eskdalemuir Ar	57.03	7	P		P		18 59 27.6	-1.4
EKA	Eskdalemuir Ar	57.03	7	P		P		18 59 27.7	-1.3
EKA				pmax	pmax				
	comp=Z,66nm,1.0s								
BRG	Berggiesshubel	57.07	21	*e*P		P		18 59 29.2	-0.2
	comp=Z,86nm,1.3s,mb5.6								
BRG				*i*				18 59 37.8	
	comp=Z,35nm,0.9s								
BRG				PP	PP			19 01 35.4	-0.9
	comp=Z,157nm,1.6s								
BRG				S		S		19 07 29.0	+4.6
BRG				SS	SS			19 11 13.0	-0.3
BRG				*e*PKPPKP				19 29 32.6	
	comp=Z,30nm,1.8s								
BRG									
	comp=N,17μm,16.4s								
BRG									
	comp=E,18μm,15.5s								
BRG									
	comp=Z,14μm,20.4s								
BRG	Berggiesshubel	57.07	21	*e*P		P		18 59 28.6	-0.8
	comp=Z,30nm,1.0s,mb5.3								
BRG	Berggiesshubel	57.07	21	*e*P		P		18 59 29.2	-0.2
BRG				*i*				18 59 37.8	
BRG								19 01 35.4	
BRG				S		S		19 07 29.0	+4.6
BRG				SS	SS			19 11 13.0	-0.3
BRG				pmax	pmax				
	comp=Z,86nm,1.3s,mb5.6								
BRG				MLR	MLR				
	comp=N,17μm,16.4s,MS6.4								
BRG				MLR	MLR				
	comp=E,18μm,15.5s,MS6.4								
BRG				MLR	MLR				
	comp=Z,14μm,20.4s,MS6.0								
CLL	Collm	57.11	20	*e*P		P		18 59 28.8	-0.9
	comp=Z,21nm,1.1s,mb5.1								
CLL	Collm	57.11	20	*i* P		P		18 59 31.4	+1.7
CLL				*i*				18 59 37.9	
CLL				*e*S		S		19 07 27.0	+2.1
CLL				pmax	pmax				
	comp=Z,54nm,1.2s,mb5.5								
CLL				MLR	MLR				
	comp=Z,13μm,20.2s,MS6.0								
CLL	Collm	57.11	20	*e*P		P		18 59 29.0	-0.7
CLL				*i* P(2)		pP		18 59 31.4	-0.8
	comp=Z,54nm,1.2s								
CLL				*i*				18 59 37.9	
CLL				*i*				18 59 46.1	
CLL				*e*PP		PP		19 01 36.0	-0.6
CLL				*e*PPPP				19 03 06.0	
CLL				*e*S		S		19 07 27.0	+2.1
	comp=N,11μm,25.9s								
CLL				*e*S		S		19 07 27.0	+2.1
	comp=E,5μm,23.8s								
CLL				Lm				19 22 00.0	
	comp=N,16μm,19.3s								
CLL				Lm				19 22 00.0	
	comp=E,12μm,19.5s								
CLL				Lm				19 22 00.0	
	comp=Z,13μm,20.2s								
CLL				*e*PKPPKPbc				19 29 28.0	
PSZ	Piszkesteto	57.12	27	*e*P		P		18 59 28.4	-1.4
	comp=Z,239nm,1.4s,mb6.0								
PSZ				LR	LR				
	comp=Z,22μm,22.0s,MS6.2								
PSZ	Piszkesteto	57.12	27	P		P		18 59 30.7	+0.9
PSZ	Piszkesteto	57.12	27	⇑*e*P		P		18 59 32.9	+3.1
PSZ	Piszkesteto	57.12	27	⇓*i*P		P		18 59 30.2	+0.4
NRDL	Niedersach Rie	57.21	17	*e*P		P		18 59 30.1	-0.2
	comp=Z,40nm,1.4s,mb5.3								
LOT	Lotru	57.21	31	⇑*i*P		P		18 59 30.8	+0.3
HUMR	Humele	57.23	32	⇓*i*P		P		18 59 31.1	+0.5
TRQA	Tornquist	57.24	224	*e*P		P		18 59 31.2	+0.3
	comp=Z,234nm,1.4s,mb6.0								
TRQA				*e*PP		PP		19 01 39.4	+1.4
TRQA				LR	LR				
	comp=Z,15μm,22.0s,MS6.1								
SDV	Santo Domingo	57.28	281	*e*P		P		18 59 32.4	+0.8
	comp=Z,48nm,0.9s,mb5.5								
PGBU	Glenifferbraes	57.34	6	*e*P		P		18 59 28.4	-2.8
PGBU				AMB	AMB			18 59 36.1	
	comp=Z,127nm,1.2s,mb5.8								
PGBU				AMS	AMS			19 24 54.5	
	comp=Z,8μm,15.7s,MS5.9								
PGBU	Glenifferbraes	57.34	6	P		P		18 59 28.4	-2.8
PGBU				AMB	AMB			18 59 36.1	
	comp=Z,127nm,1.2s,mb5.8								
PGBU				AMS	AMS			19 24 54.5	
	comp=Z,8μm,15.7s								
EBL	Broad Law	57.48	7	*e*P		P		18 59 32.6	+0.5
EBL	Broad Law	57.48	7	P		P		18 59 32.6	+0.5
EAU	Auchinoon	57.50	7	*e*P		P		18 59 31.8	-0.5
EAU	Auchinoon	57.50	7	P		P		18 59 31.8	-0.5
DPC	Dobruska-Polom	57.52	23	*e*P		P		18 59 31.7	-0.9
DPC				*e*		pP		18 59 34.7	-0.5
DPC				*e*				19 01 38.8	
DPC				*e*S		S		19 07 29.3	-1.0
DPC				MLR	MLR				
	comp=Z,11μm,20.7s,MS5.9								
DPC	Dobruska-Polom	57.52	23	*e*P		P		18 59 31.7	-0.9
DPC				*e*pP		pP		18 59 34.7	-0.5
DPC				*e*PP		PP		19 01 38.8	-1.5
DPC				*e*S		S		19 07 29.3	-1.0
DPC				AMS	AMS			19 21 30.0	
	comp=Z,11μm,20.7s								
UPC	Upice	57.53	22	*e*P		P		18 59 31.1	-1.6
UPC				*e*		pP		18 59 34.9	-0.3
UPC	Upice	57.53	22	*e*P		P		18 59 31.1	-1.6
UPC				*e*pP		pP		18 59 34.9	-0.3
MORC	Moravsky Berou	57.55	24	*e*P		P		18 59 32.2	-0.6
	comp=Z,178nm,1.6s,mb5.8								
MORC	Moravsky Berou	57.55	24	⇑P		P		18 59 33.2	+0.4
MORC	Moravsky Berou	57.55	24	⇑*i*P		P		18 59 33.2	+0.4
EDI	Edinburgh	57.61	7	AMS	AMS			19 26 47.7	
	comp=Z,7μm,15.8s,MS5.9								
DRGR		57.62	29	P		P		18 59 34.5	+1.2
DRGR		57.62	29	⇑*i*P		P		18 59 33.4	+0.1
MMAI	Mount Meron Ar	57.64	49	P		P		18 59 32.5	-1.3
	comp=Z,8.9nm,0.9s,mb4.8,baz=258,slow=3.9,SNR=6.2								
MMAI				PP	PP			19 01 51.9	+10
	comp=Z,33nm,1.2s,baz=271,slow=6.6,SNR=3.9								
MMAI	Mount Meron Ar	57.64	49	P		P		18 59 32.5	-1.2
MMAI				PP	PP			19 01 51.9	+10
EAB	Aberfoyle	57.73	6	*e*P		P		18 59 32.7	-1.2
EAB	Aberfoyle	57.73	6	P		P		18 59 32.7	-1.2
KECS	Kecovo	57.81	26	*e*P		P		18 59 35.2	+0.6
KECS				pmax	pmax				
	comp=Z,15nm,1.0s,mb5.0								
KECS	Kecovo	57.81	26	*e*P		P		18 59 35.2	+0.6
OKC	Ostrava-Krasne	57.84	24	*e*P		P		18 59 34.8	0.0
OKC				*e*				19 01 43.0	
OKC				*e*S		S		19 07 35.5	+1.0
OKC				MLR	MLR				
	comp=Z,10μm,15.2s,MS6.0								
OKC	Ostrava-Krasne	57.84	24	*e*P		P		18 59 34.8	0.0
OKC				*e*PP		PP		19 01 43.0	-0.1
OKC				*e*S		S		19 07 35.5	+1.0
OKC				AMS	AMS			19 24 10.0	
	comp=Z,10μm,15.2s								
VOIR		57.87	32	P		P		18 59 37.6	+2.5
VOIR		57.87	32	⇑*i*P		P		18 59 34.9	-0.2
EBH	Black Hill	57.89	7	*e*P		P		18 59 35.5	+0.5
EBH	Black Hill	57.89	7	P		P		18 59 35.5	+0.5
ATD	Arta Tunnel	57.89	76	LR	LR			19 22 01.8	
	comp=Z,8μm,19.6s,MS5.8,baz=75,slow=34								
KSP	Ksiaz	57.91	22	*e*P		P		18 59 34.6	-0.7
KSP				*e*S		S		19 07 39.4	+4.1
KSP				LMZ				19 25 25.6	
	comp=Z,20μm,19.7s								
RAC	Raciborz	58.05	24	*e*P		P		18 59 35.4	-0.9
RAC				*e*S		S		19 07 39.2	+1.9
RAC				MLR	MLR				
	comp=Z,9μm,22.0s,MS5.8								
RAC				MLR	MLR				
	comp=N,9μm,20.0s,MS6.0								
RAC				MLR	MLR				
	comp=E,8μm,18.0s,MS6.0								
BHL	Bhannes	58.22	48	*e*P		P		18 59 38.7	+0.9
BBSR	BB Station	58.32	310	PFAKE				18 59 50.0	+11
BBSR				LR	LR				
	comp=Z,5μm,19.0s,MS5.7								
RUE	Ruedersdorf	58.36	20	*e*P		P		18 59 37.4	-1.0
	comp=Z,98nm,0.9s,mb5.8								
MLR	Muntele Rosu	58.37	32	⇓P		P		18 59 39.1	+0.4
MLR	Muntele Rosu	58.37	32	⇓*i*P		P		18 59 39.0	+0.3
DOPR	Dopca	58.40	31	⇑*i*P		P		18 59 39.3	+0.5
ASF	Jabal al Asfar	58.42	51	P		P		18 59 38.5	-0.8
	comp=Z,40nm,1.0s,mb5.4,baz=118,slow=2.9,SNR=24								
ASF	Jabal al Asfar	58.42	51	P		P		18 59 38.5	-0.8
ASF	Jabal al Asfar	58.42	51	P		P		18 59 38.5	-0.8
ASF				pmax	pmax				
	comp=Z,40nm,1.0s								
NIE	Niedzica	58.43	26	*e*P		P		18 59 40.0	+1.0
NIE	Niedzica	58.43	26	*e*P		P		18 59 40.0	+1.0
ISR	Istrita	58.45	33	⇑P		P		18 59 39.8	+0.6
ISR	Istrita	58.45	33	⇑*i*P		P		18 59 39.8	+0.6
TRPA	Tarpa	58.49	28	⇓*i*P		P		18 59 39.1	-0.3
BSEG	Bad Segeberg	58.53	17	*e*P		P		18 59 38.8	-0.8
	comp=Z,214nm,1.1s,mb6.1								
BSEG	Bad Segeberg	58.53	17	*e*P		P		18 59 38.8	-0.8
BSEG				pmax	pmax				
	comp=Z,214nm,1.1s,mb6.1								
CRVS	Cervenica-Dubn	58.55	27	*e*P		P		18 59 40.2	+0.4
CRVS				*e*S		S		19 07 45.8	+1.9
CRVS	Cervenica-Dubn	58.55	27	*e*P		P		18 59 40.2	+0.4
CRVS				*e*S		S		19 07 45.8	+1.9
HWQ	Hawqa	58.60	48	*e*P		P		18 59 41.5	+1.0
BMR	Baia Mare	58.62	29	P		P		18 59 40.8	+0.5
BMR	Baia Mare	58.62	29	⇑*i*P		P		18 59 37.4	-2.9
KPL	Plockton	58.73	5	*e*P		P		18 59 39.1	-1.8
KPL				AMB	AMB			18 59 42.7	
	comp=Z,110nm,2.8s,mb5.4								
KPL				AMS	AMS			19 21 29.2	
	comp=Z,12μm,20.2s,MS6.0								
KPL	Plockton	58.73	5	P		P		18 59 39.1	-1.8
KPL				AMB	AMB			18 59 42.7	
	comp=Z,110nm,2.8s,mb5.4								
KPL				AMS	AMS			19 21 29.2	
	comp=Z,12μm,20.2s								
UZH	Uzhgorod	58.73	27	*e*P		P		18 59 41.8	+0.7
UZH				*e*				19 00 32.0	
UZH				*e*				19 01 50.0	
UZH				*i*				19 03 12.0	
UZH				*i* S		S		19 07 44.0	-2.2
UZH				*e*				19 08 03.0	
UZH				MLR	MLR				
	comp=N,9μm,16.0s,MS6.2								
UZH				MLR	MLR				
	comp=E,11μm,16.0s,MS6.2								
UZH				MLR	MLR				
	comp=Z,8μm,16.0s,MS6.0								
OJC	Ojcow	58.81	25	*e*P		P		18 59 41.3	-0.3
OJC				*e*pP		pP		18 59 44.3	+0.1
OJC				*e*PcP		PcP		19 00 31.7	+0.5
OJC				*e*PP		PP		19 01 51.5	-0.3
OJC				*e*S		S		19 07 49.9	+2.7
OJC				L				19 23 23.9	
	comp=Z,11nm,23.0s								
OJC	Ojcow	58.81	25	*e*P		P		18 59 41.3	-0.3
OJC				*e**PP		pP		18 59 44.3	+0.1
OJC				*e*				19 00 31.7	
OJC				*e*				19 01 51.5	
OJC				*e*S		S		19 07 49.9	+2.7
OJC				MLR	MLR				
	comp=Z,11μm,23.0s,MS5.9								
KAC	Achnashellach	58.92	5	*e*P		P		18 59 41.4	-0.9
KAC	Achnashellach	58.92	5	P		P		18 59 41.4	-0.9
PLOR	Plostina	58.98	32	⇑P		P		18 59 42.4	-0.5
PLOR	Plostina	58.98	32	⇑*i*P		P		18 59 42.4	-0.5
VRI	Vrincioaia	59.03	32	P		P		18 59 44.9	+1.6
VRI	Vrincioaia	59.03	32	⇑*i*P		P		18 59 42.7	-0.6
TIRR	Tirgusor	59.07	34	⇑P		P		18 59 39.3	-4.2
TIRR	Tirgusor	59.07	34	⇑*i*P		P		18 59 39.3	-4.2
CFAA	Coronel Fontan	59.37	234	P		P		18 59 43.9	-2.0
	comp=Z,3.2nm,1.0s,mb4.3,baz=58,slow=7.7,SNR=3.2								
CFAA	Coronel Fontan	59.37	234	P		P		18 59 43.9	-2.0
TES

comp=Z,37nm,0.7s,mb5.6,baz=124,slow=4.6,SNR=30
ROSC LR LR 19 21 50.8
comp=Z,10µm,22.0s,MS5.9,baz=280,slow=32
ROSC El Rosal 60.55 276 P **P** **18 59 54.4 +0.1**
LBOS 60.58 73 *e*P **P** **18 59 51.1 -3.3**
LCO Las Campanas 60.60 237 *e*P **P** **18 59 55.1 +0.7**
comp=Z,192nm,1.6s,mb6.0
KIS Kishinev 60.87 32⇑ *i*P **P** **18 59 56.0 +0.1**
comp=Z,3µm,8.0s
KIS *i* S **S** **19 08 12.0 -1.8**
KIS LRM 19 29 36.0
comp=Z,5µm,15.0s
KIS Kishinev 60.87 32*c i*P **P** **18 59 56.0 +0.1**
KIS *e* 19 02 08.0
KIS *i* 19 03 40.0
KIS *i* S **S** **19 08 12.0 -1.8**
KIS *e* 19 09 38.0
KIS pmax pmax
comp=Z,3µm,8.0s
KIS MLR MLR
comp=Z,10µm,16.0s,MS6.1
KIS MLR MLR
comp=N,7µm,15.0s,MS6.0
KIS MLR MLR
comp=E,5µm,15.0s,MS6.0
TLL Tololo Astrono 61.01 236 *e*P **P** **18 59 57.6 +0.4**
CMCH Combarbala 61.47 235 *e*P **P** **18 59 59.8 -0.5**
FCH Farellones 61.57 232 *e*P **P** **19 00 01.0 +0.1**
SNART Snartemo 61.70 13 *e*P **P** **19 00 04.2 +2.9**
SNART *e*S **S** **19 08 26.7 +2.7**
LRW Lerwick 61.97 7 AMS AMS 19 23 44.3
comp=Z,11µm,19.9s,MS6.0
MALT Malatya 62.18 45 PFAKE 19 00 20.0 +15
MALT LR LR
comp=Z,7µm,19.0s,MS5.8
MALT Malatya 62.18 45 P **P** **19 00 08.8 +3.9**
comp=Z,8µmcomp=Z,234nm,1.4s,mb6.1
EFI East Falkland 62.38 209 P **P** **19 00 03.7 -2.3**
EFI LR LR
comp=Z,14µm,21.0s,MS6.1
EFI East Falkland 62.38 209 P **P** **19 00 03.7 -2.3**
EFI MLR MLR
comp=Z,14µm,21.0s,MS6.1
ABPO Ambohimpanom 62.50 111 *e*P **P** **19 00 08.6 +1.2**
comp=Z,102nm,1.4s,mb5.8
ABPO LR LR
comp=Z,6µm,19.0s,MS5.8
ABPO Ambohimpanom 62.50 111 *e*P **P** **19 00 08.6 +1.2**
ABPO pmax pmax
comp=Z,102nm,1.4s,mb5.8
ABPO MLR MLR
comp=Z,6µm,19.0s,MS5.8
SIM Simferopol' 62.66 37*ce*P **P** **19 00 05.6 -2.4**
SIM *e*S **S** **19 08 36.0 -0.6**
SIM pmax pmax
comp=Z,1µm,11.2s
SIM MLR MLR
comp=Z,6µm,17.7s,MS5.8
ODD1 Odda 63.03 11 *e*P **P** **19 00 10.4 +0.3**
ODD1 *e*P 19 00 10.4
SUW Suwalki 63.04 24 *e*P **P** **19 00 09.9 -0.4**
SUW LMZ 19 24 22.8
comp=Z,11µm,25.8s
SUW Suwalki 63.04 24 *e*P **P** **19 00 08.3 -2.0**
comp=Z,386nm,1.0s,mb6.5
SUW *e*PP PP 19 02 17.1 -12
SUW Suwalki 63.04 24 *e*P **P** **19 00 09.9 -0.4**
SUW MLR MLR
comp=Z,11µm,25.8s,MS5.9
NNA Nana 63.19 257 *e*P **P** **19 00 09.4 -2.7**
NNA LR LR
comp=Z,10µm,19.0s,MS6.0
NNA Nana 63.19 257 *e*P **P** **19 00 09.4 -2.7**
NNA MLR MLR
comp=Z,10µm,19.0s
BER Bergen 63.22 11 AMS AMS 19 28 00.7
comp=Z,14µm,14.4s,MS6.3
RUND Rundenannen 63.25 11 *e*P **P** **19 00 14.7 +3.1**
GTBY Guantanamo Bay 63.40 293 *e*P **P** **19 00 13.3 -0.1**
comp=Z,370nm,1.5s,mb6.3
GTBY LR LR
comp=Z,3µm,21.0s,MS5.5
KONO Kongsberg 63.42 13 *e*P **P** **19 00 16.6 +3.9**
KONO AMB AMB 19 00 29.7
comp=Z,170nm,1.4s,mb6.0
KONO AMS AMS 19 23 20.3
comp=Z,9µm,32.1s,MS5.7
KONO Kongsberg 63.42 13 *e*P **P** **19 00 12.3 -0.4**
comp=Z,116nm,1.0s,mb6.0
KONO LR LR
comp=Z,9µm,19.0s,MS6.0
KONO Kongsberg 63.42 13 *e*P **P** **19 00 12.3 -0.4**
KONO pmax pmax
comp=Z,116nm,1.0s,mb6.0
KONO MLR MLR
comp=Z,9µm,19.0s,MS6.0
KIEV Kiev 63.42 29 *e*P **P** **19 00 10.9 -2.0**
comp=Z,449nm,1.8s,mb6.3
KIEV LR LR
comp=Z,10µm,22.0s,MS6.0
KIEV Kiev 63.42 29 *e*P **P** **19 00 10.9 -2.0**
KIEV pmax pmax
comp=Z,449nm,1.8s,mb6.3
KIEV MLR MLR
comp=Z,10µm,22.0s,MS6.0
AKASG Malin Array Be 63.43 29 P **P** **19 00 11.2 -1.8**
comp=Z,11nm,0.7s,mb5.1,baz=226,slow=6.1,SNR=26
AKASG LR LR 19 28 50.3
comp=Z,11µm,18.5s,MS6.0,baz=255,slow=37
AKASG Malin Array Be 63.43 29 P **P** **19 00 11.2 -1.8**
AKASG Malin Array Be 63.43 29 P **P** **19 00 11.2 -1.8**
AKASG pmax pmax
comp=Z,11nm,0.7s
AKASG MLR MLR
comp=Z,11µm,18.5s
AKBB Malin Array Si 63.43 29 *e*P **P** **19 00 10.1 -2.9**
AKBB Malin Array Si 63.43 29 *e*P **P** **19 00 10.1 -2.9**
OSL Oslo 63.94 14 *e*P **P** **19 00 18.0 +1.9**
FOO Floro 64.30 10 AMS AMS 19 29 20.5
comp=Z,18µm,19.4s,MS6.3
PLCA Paso Flores 64.38 225 P **P** **19 00 18.6 -0.8**
comp=Z,14nm,1.0s,mb5.0,baz=81,slow=7.3,SNR=10.0
PLCA LR LR 19 23 54.6
comp=Z,10µm,21.7s,MS6.0,baz=70,slow=32
PLCA Paso Flores 64.38 225 P **P** **19 00 18.6 -0.8**
PLCA *e*PP PP 19 02 43.1 +2.0
PLCA Paso Flores 64.38 225 P **P** **19 00 18.7 -0.8**
PLCA pmax pmax
comp=Z,14nm,1.0s
PLCA MLR MLR
comp=Z,10µm,21.7s
ATAH Atahualpa 64.43 263 P **P** **19 00 20.3 0.0**
comp=Z,27nm,0.9s,mb5.3,baz=79,slow=6.4,SNR=14
ATAH Atahualpa 64.43 263 P **P** **19 00 20.3 0.0**
OTAV Otavalo 64.44 271 *e*P **P** **19 00 21.3 +0.9**
GWJ Greenwich 64.55 291 *i* P **P** **19 00 22.3 +1.4**
HOJ Hope 64.56 290⇓ *i*P **P** **19 00 23.7 +2.7**
ANN Anapa 64.59 38 *e*P **P** **19 00 14.7 -6.0**
ANN *e*S **S** **19 08 48.7 -12**
ANN pmax pmax
comp=Z,238nm,1.5s,mb6.0
ANN MLR MLR
comp=N,6µm,19.0s,MS5.9
ANN MLR MLR
comp=E,5µm,19.0s,MS5.9
ANN MLR MLR
comp=Z,6µm,19.0s,MS5.8
STH Stony Hill 64.63 291 *i* P **P** **19 00 23.7 +2.2**
BHD Baghdad 64.68 52 *ex* x 19 00 21.0
BHD *ex* x 19 00 52.0
BHD *ex* x 19 09 01.0
NAO01 NORSAR Array S 64.78 13 *e*P **P** **19 00 22.2 +0.6**
comp=Z,26nm,1.0s,mb5.2
NAO01 LR LR
comp=Z,9µm,19.0s,MS6.0
NC602 NORSAR Array S 64.83 14 *e*P **P** **19 00 26.6 +4.6**
NB2 NORSAR Subarra 65.03 13 P **P** **19 00 22.2 -1.0**
comp=Z,45nm,0.9s,mb5.5,baz=206,slow=6.9
NOA NORSAR Array B 65.03 13 P **P** **19 00 22.0 -1.3**
comp=Z,36nm,0.9s,mb5.4,baz=207,slow=6.8,SNR=16
NOA LR LR 19 28 36.7
comp=Z,7µm,18.7s,MS5.8,baz=210,slow=36
NOA NORSAR Array B 65.03 13 P **P** **19 00 22.0 -1.3**
NOA NORSAR Array B 65.03 13 P **P** **19 00 22.0 -1.2**
NOA pmax pmax
comp=Z,37nm,0.9s
NOA MLR MLR
comp=Z,7µm,18.7s
NACGM Naroch 65.14 25 *e*P **P** **19 00 20.0 -4.1**
IIGN Ignalina 65.23 24 *e*P **P** **19 00 24.0 -0.7**
IIGN AMB AMB 19 00 45.3
comp=Z,66nm,1.5s,mb5.5
MNK Minsk 65.31 25⇓ *e*P **P** **19 00 22.0 -3.2**
MNK *e*S S 19 09 04.0 -5.2
MNK *e*SS SS 19 13 16.0 -6.3
MNK pmax pmax
comp=Z,110nm,1.0s,mb5.8
MNK smax
comp=N,9µm,10.0s
MNK MLR MLR
comp=Z,28µm,16.0s,MS6.5
MNK MLR MLR
comp=E,21µm,20.0s,MS6.5
MNK MLR MLR
comp=N,20µm,20.0s,MS6.5
MTDJ Mount Denham 65.33 291 *e*P **P** **19 00 27.2 +1.2**
comp=N,650nm,1.7s,mb6.4
MTDJ LR LR
comp=Z,3µm,22.0s,MS5.4
MICGM Minsk 65.33 25⇓ *e*P **P** **19 00 22.0 -3.4**
ISAL Salakas 65.35 24 *e*P **P** **19 00 24.7 -0.7**
ISAL AMB AMB 19 00 29.8
comp=Z,38nm,1.3s,mb5.3
SOC Sochi 65.44 40*d i*P **P** **19 00 27.1 +0.8**
SOC *e*PPP 19 04 27.3
SOC *e*S S 19 09 14.3 +3.1
SOC *e* 19 10 17.6
SOC *e*SS SS 19 13 17.4 -7.4
SOC pmax pmax
comp=Z,62nm,0.8s,mb5.7
SOC MLR MLR
comp=Z,5µm,16.0s,MS5.8
IZAR Zarasai 65.52 24 *e*P **P** **19 00 25.9 -0.7**
IZAR AMB AMB 19 00 39.0
comp=Z,38nm,1.6s,mb5.2
MOL Molde 65.65 11 AMS AMS 19 19 36.5
comp=Z,13µm,16.9s,MS6.2
NAY Al-Naaiem 65.79 57 *e*P **P** **19 00 29.4 +0.6**
NAY AMb AMB 19 00 36.4
comp=Z,175nm,1.2s,mb6.0
RDF Al-Radifah 65.96 58 *e*P **P** **19 00 30.8 +0.9**
RDF AMb AMB 19 00 44.6
comp=Z,496nm,1.7s,mb6.2
BORG Borgarnes 66.00 357 P **P** **19 00 30.4 +1.0**
comp=Z,54nm,0.9s,mb5.6,baz=144,slow=6.7,SNR=6.6
BORG Borgarnes 66.00 357 P **P** **19 00 30.4 +1.0**
BORG LR LR
comp=Z,8µm,22.0s,MS5.9
BORG Borgarnes 66.00 357 P **P** **19 00 30.4 +1.0**
BORG pmax pmax
comp=Z,54nm,0.9s
MIB Mutribah 66.03 57 *e*P **P** **19 00 30.8 +0.5**
MIB AMb AMB 19 00 37.6
comp=Z,156nm,1.5s,mb5.8
KBD Kabd 66.15 57 *e*P **P** **19 00 31.7 +0.5**
KBD AMb AMB 19 00 45.7
comp=Z,306nm,1.6s,mb6.1
QRN Al-Qurain 66.22 58 *e*P **P** **19 00 32.3 +0.7**
QRN AMb AMB 19 00 37.2
comp=Z,340nm,1.1s,mb6.3
UMR Umm Al-Rimmam 66.27 57 *e*P **P** **19 00 32.5 +0.6**
UMR AMb AMB 19 00 46.0
comp=Z,542nm,1.9s,mb6.3
BCIP Isla Barro Col 66.35 280 *e*P **P** **19 00 33.9 +1.2**
comp=Z,654nm,1.5s,mb6.4
BCIP LR LR
comp=Z,4µm,20.0s,MS5.7
NRS Narsarsuaq 66.69 344 *i* P PcP 19 01 08.3 +5.3
comp=Z,35nm,1.0s
IDHR Dehrash 66.73 51 *e*P **P** **19 00 35.0 +0.2**
IGHG Ghaleghazi 66.75 52 *e*P **P** **19 00 36.0 +1.1**
AKH Akhalkalaki 67.02 44 P **P** **19 00 39.6 +3.1**
AKH S S 19 09 38.3 +7.8
IVIS Veis 67.03 52 *e*P **P** **19 00 37.2 +0.5**
PKME Peaks-Kenny Pk 67.19 321 PFAKE 19 00 50.0 +13
PKME LR LR
comp=Z,8µm,22.0s,MS5.9
ILIN Lien 67.24 51 *e*P **P** **19 00 39.1 +1.0**
ISHB Shabestar 67.36 47 *e*P **P** **19 00 38.1 -0.6**
GNI Garni 67.41 45 *e*P **P** **19 00 39.0 0.0**
GNI LR LR
comp=Z,5µm,19.0s,MS5.8
GNI Garni 67.41 45*d i*P **P** **19 00 39.1 +0.1**
GNI pmax pmax
comp=Z,65nm,1.2s
GNI Garni 67.41 45 P **P** **19 00 40.6 +1.6**
SNR=13
IKOM Komasi 67.44 52 *e*P **P** **19 00 40.0 +0.7**
ONI Oni 67.47 42 P **P** **19 00 41.8 +2.5**
ONI S S 19 09 41.7 +5.8
HRV Adam Dziewonsk 67.48 318 *e*P **P** **19 00 41.4 +2.0**
comp=Z,323nm,1.7s,mb6.1
HRV Adam Dziewonsk 67.48 318 *e*P **P** **19 00 41.4 +2.0**
HRV pmax pmax
comp=Z,323nm,1.7s,mb6.1
KIV Kislovodsk 67.54 41 *e*P **P** **19 00 39.5 -0.1**
comp=Z,82nm,1.0s,mb5.7
KIV LR LR
comp=Z,3µm,21.0s,MS5.5
KIV Kislovodsk 67.54 41K *i*P **P** **19 00 39.9 +0.2**
KIV *i* pP 19 00 42.5 +0.2
KIV *e* 19 01 00.6
KIV *e*PPP 19 04 50.4
KIV *i* S S 19 09 39.3 +2.7
KIV *e* 19 10 13.1
KIV pmax pmax
comp=Z,111nm,1.2s,mb5.8
KIV MLR MLR
comp=Z,2µm,19.0s,MS5.5
KIV Kislovodsk 67.54 41 P **P** **19 00 40.2 +0.5**
comp=Z,431nm,1.2s,mb6.3,SNR=12
KIV Kislovodsk 67.54 41 P **P** **19 00 40.5 +0.8**
SNR=12
IMRD Marand 67.57 47 *e*P **P** **19 00 39.6 -0.4**
VSU Vasula 67.63 22 *e*P **P** **19 00 39.0 -1.0**
VSU pmax pmax
comp=Z,114nm,1.2s,mb5.8
ITBZ Tabriz 67.73 48 *e*P **P** **19 00 40.0 -1.0**
ZEI Tsey 67.85 42 *e*P **P** **19 00 41.2 -0.5**
ZEI *e* 19 03 13.4
ZEI *e*PPP 19 04 48.4
ZEI *e*S S 19 09 44.4 +4.0
ZEI pmax pmax
comp=Z,80nm,1.8s,mb5.5
QUA2 Belchertown 67.93 317 *e*P **P** **19 00 40.3 -1.9**
comp=Z,500nm,1.5s,mb6.3
TBLG Delisi 68.01 44 P **P** **19 00 43.0 +0.3**
TBLG Delisi 68.01 44 P **P** **19 00 43.0 +0.2**
MTA Mtatsminda 68.03 44 P **P** **19 00 46.0 +3.1**
MTA S S 19 09 37.4 -5.2
IBST Bostanabad 68.10 48 *e*P **P** **19 00 43.1 -0.3**
NSS Namsos 68.28 12 *e*P **P** **19 00 50.0 +6.0**
NSS AMS AMS 19 30 09.9
comp=Z,11µm,17.8s,MS6.1
DGRG David-gareji 68.34 44 P **P** **19 00 47.5 +2.7**
DGRG S S 19 09 51.6 +5.3
IHRS Heris 68.42 48 *e*P **P** **19 00 44.8 -0.6**
LBNH Lisbon 68.44 319 P **P** **19 00 45.0 -0.4**
comp=Z,102nm,1.3s,mb5.7
LBNH LR LR
comp=Z,7µm,22.0s,MS5.9
LBNH Lisbon 68.44 319 P **P** **19 00 45.0 -0.4**
LBNH pmax pmax
comp=Z,102nm,1.3s,mb5.7
LBNH MLR MLR
comp=Z,7µm,22.0s,MS5.9
HNH Hanover 68.46 318 *e*P **P** **19 00 49.9 +4.3**
comp=Z,670nm,1.5s,mb6.5
PAL Palisades 68.52 315 P **P** **19 00 45.6 -0.3**
comp=Z,236nm,1.8s,mb5.8
PAL Palisades 68.52 315 P **P** **19 00 45.6 -0.4**
PAL pmax pmax
comp=Z,236nm,1.8s,mb5.8
ISRB Sarab 68.72 48 *e*P **P** **19 00 47.4 +0.1**
ABTO Aybut 68.77 71 P **P** **19 00 48.9 +0.9**
SNR=12
VSR Storozhevoye 68.85 33 *e*P **P** **19 00 48.9 +1.1**
VSR *e* 19 03 19.3
VSR *e*S S 19 09 52.8 +0.8
VSR *e*SS SS 19 14 09.2 -8.1
VSR pmax pmax
comp=Z,460nm,2.0s,mb6.1
VSR pmax pmax
comp=N,110nm,1.3s
VSR pmax pmax
comp=E,100nm,1.1s
VSR pmax pmax
comp=Z,1µm,3.7s
VSR pmax pmax
comp=N,280nm,2.6s
VSR pmax pmax
comp=E,220nm,2.6s
VSR smax
comp=N,750nm,3.6s
VSR smax
comp=Z,170nm,2.2s
VSR smax
comp=E,380nm,4.3s
VSR MLR MLR
comp=Z,8µm,16.0s,MS6.1
VSR MLR MLR
comp=N,3µm,14.0s,MS5.9
VSR MLR MLR
comp=E,5µm,18.0s,MS5.9
MDV Middlebury 69.17 318 *e*P **P** **19 00 51.4 +1.5**
comp=E,25µm,1.3s
ACCN Adirondack Com 69.25 318 *e*P **P** **19 00 50.8 +0.3**
comp=E,130nm,1.5s,mb5.6
USHA Ushuaia 69.30 210 P **P** **19 00 51.0 +0.5**
comp=E,23nm,0.9s,mb5.1,baz=7.6,slow=4.3,SNR=6.6
USHA Ushuaia 69.30 210 P **P** **19 00 51.0 +0.5**
VNA1 Neumayer--Stat 69.45 178 *e* **P** **19 00 50.4 -0.8**
VNA1 *e* pP 19 00 53.2 -0.6
MSEY Mahe Island 69.47 95 *e*P **P** **19 00 52.9 +0.5**
MSEY LR LR
comp=Z,7µm,19.0s,MS5.9
MSEY Mahe Island 69.47 95 *e*P **P** **19 00 52.9 +0.5**
MSEY MLR MLR
comp=Z,7µm,19.0s,MS5.9
FINES FINESS Array B 69.55 19 P **P** **19 00 50.3 -1.6**
comp=Z,36nm,0.9s,mb5.3,baz=218,slow=4.2,SNR=37
FINES LR LR 19 33 22.4
comp=Z,12µm,19.2s,MS6.2,baz=234,slow=38
FINES FINESS Array B 69.55 19 P **P** **19 00 50.3 -1.6**
FINES FINESS Array B 69.55 19 P **P** **19 00 50.3 -1.6**
FINES pmax pmax
comp=Z,36nm,0.9s
FINES MLR MLR
comp=Z,12µm,19.2s
CNNC Cliffs of the 69.60 308 P **P** **19 00 52.7 -0.1**
comp=Z,40nm,0.7s,mb5.5
CNNC LR LR
comp=Z,4µm,19.0s,MS5.7
OBN Obninsk 69.65 28 *e*P **P** **19 00 50.2 -2.4**
comp=Z,93nm,1.3s,mb5.5
OBN LR LR
comp=Z,15µm,22.0s,MS6.2
OBN Obninsk 69.65 28⇓ *e*P **P** **19 00 51.4 -1.2**
OBN *i* 19 00 57.2
OBN *i* 19 01 10.7
OBN *e*S S 19 10 01.8 +0.6
OBN *i* 19 10 24.7
OBN *i* SS SS 19 14 33.9 +4.5
OBN pmax pmax
comp=Z,63nm,1.2s,mb5.4
OBN MLR MLR
comp=Z,8µm,17.0s,MS6.0
RBK Rabkut 69.65 71 P **P** **19 00 54.5 +1.1**
SNR=17
IRAZ Razeghan 69.71 51 *e*P **P** **19 00 53.7 +0.2**
IPIR Pirpir 69.73 55 *e*P **P** **19 00 56.3 +2.6**
VNA2 Neumayer--Watz 69.76 178 *e* **P** **19 00 49.8 -3.3**
baz=346,slow=2.5
VNA2 *e* pP 19 00 52.0 -3.7
NCB Newcomb 69.85 318 PFAKE 19 01 10.0 +16
NCB LR LR
comp=Z,6µm,22.0s,MS5.8
PUL Pulkovo 69.87 22 *e*P **P** **19 00 54.5 +0.6**
PUL pmax pmax
comp=Z,84nm,1.3s,mb5.5
VNA3 Neumayer Olymp 70.00 179 *e* **P** **19 00 52.5 -2.0**
SDMD Soldier's Deli 70.08 313 *e*P **P** **19 00 52.6 -3.0**
comp=Z,338nm,1.9s,mb6.0
STOK Stokkvaagen 70.08 11 *e*P **P** **19 00 55.8 +0.6**
CBN Corbin 70.09 312 PFAKE 19 01 10.0 +14
CBN LR LR
comp=Z,6µm,22.0s,MS5.8
KAF Kangasniemi 70.11 19 *e*P **P** **19 00 53.3 -2.1**
KAF pmax pmax
comp=Z,20nm,0.7s,mb5.2
KAF Kangasniemi 70.11 19 *ep* **P** **19 00 53.3 -2.1**
comp=Z,20nm,0.7s,mb5.2
LONY Lake Ozonia 70.34 319 *e*P **P** **19 00 54.9 -2.2**
comp=Z,129nm,1.4s,mb5.7
LONY LR LR
comp=Z,6µm,21.0s,MS5.8
IMHD Mahdasht 70.36 51 *e*P **P** **19 00 57.8 +0.3**
MAK Makhachkala 70.37 43 *e*P **P** **19 00 58.4 +1.0**
MAK *e* 19 01 20.1
MAK *e* 19 03 32.7
MAK *e*PPP 19 05 17.0
MAK *e*S S 19 10 10.8 +0.6
MAK *e* 19 10 50.8
MAK *e*SS SS 19 14 33.0 -8.1
MAK pmax pmax
comp=N,112nm,0.8s
MAK pmax pmax
comp=E,87nm,0.7s
MAK pmax pmax
comp=Z,250nm,1.7s,mb5.9
BINY Binghamton 70.41 316 *e*P **P** **19 00 57.8 +0.2**
comp=Z,839nm,2.0s,mb6.3
BINY LR LR
comp=Z,6µm,21.0s,MS5.8
IKLH Kolahrood 70.45 54 *e*P **P** **19 00 57.1 -1.0**
MOS Moscow 70.50 28 *e*P **P** **19 00 57.3 -0.5**
MOS *e* 19 01 15.9
MOS *e* 19 03 35.5
MOS *e*S S 19 10 06.3 -4.9
MOS pmax pmax
comp=Z,85nm,0.8s,mb5.7
MOS pmax pmax
comp=Z,3µm,4.5s
MOS MLR MLR
comp=Z,12µm,19.0s,MS6.2
MOS MLR MLR
comp=E,8µm,17.0s
SCHQ Schefferville 70.56 331 P **P** **19 00 58.9 +0.6**
comp=E,16nm,0.9s,mb5.0,baz=99,slow=7.0,SNR=9.3
SCHQ LR LR 19 24 06.7
comp=E,6µm,21.8s,MS5.8,baz=124,slow=29
SCHQ Schefferville 70.56 331 *e*P **P** **19 00 58.9 +0.7**
IR3 Iran Long-Peri 70.58 52 *e*P **P** **19 00 59.3 +0.5**
IGAR Gharneh 70.60 55 *e*P **P** **19 01 00.4 +1.4**
RER Riviere de l'E 70.72 112 PFAKE 19 01 10.0 +10
RER LR LR
comp=Z,8µm,20.0s,MS6.0
SNAA Sanae 70.74 176 *e* **P** **19 00 55.7 -3.4**
SNAA Sanae 70.74 176 P **P** **19 00 58.8 -0.2**
comp=Z,8.6nm,1.0s,mb4.7,baz=344,slow=6.8,SNR=62
SNAA Sanae 70.74 176 *e*P **P** **19 00 55.0 -4.1**
comp=Z,56nm,0.9s,mb5.5
SNAA Sanae 70.74 176 P **P** **19 00 58.8 -0.3**
SNAA pmax pmax
comp=Z,9.0nm,1.0s
DWPF Disney 70.76 300 *e*P **P** **19 01 00.0 0.0**
comp=Z,677nm,1.8s,mb6.3
ISRV Sarvestan 70.79 58 *e*P **P** **19 01 00.9 +0.7**
IPAR Pars 70.84 58 *e*P **P** **19 01 01.2 +0.7**
NHSC New Hope 70.85 306 *e*P **P** **19 01 01.1 +0.6**
comp=Z,408nm,1.4s,mb6.2
NHSC LR LR
comp=Z,7µm,21.0s,MS5.9
IZEF Zefreh 70.96 55 *e*P **P** **19 01 00.9 -0.3**
IVRN Varamin 71.01 52 *e*P **P** **19 01 01.8 +0.4**
SSPA Standing Stone 71.23 314 *e*P **P** **19 01 02.5 -0.2**
comp=Z,418nm,1.9s,mb6.0
ISFB Sefidab 71.25 53 *e*P **P** **19 01 02.3 -0.6**
COW Cow Castle Cre 71.34 306 P **P** **19 01 04.9 +1.4**
IDMV Damavand 71.41 52 *e*P **P** **19 01 03.8 0.0**
JTS JuntasAbangare 71.47 281 P **P** **19 01 04.6 0.0**
comp=Z,12nm,0.8s,mb4.9,baz=41,slow=10,SNR=4.1
JTS JuntasAbangare 71.47 281 *e*P **P** **19 01 03.2 -1.4**
comp=Z,74nm,1.1s,mb5.5
JTS LR LR
comp=Z,2µm,22.0s,MS5.4
JTS JuntasAbangare 71.47 281 P **P** **19 01 04.6 0.0**

JTS pmax pmax
comp=Z,12nm,0.8s
MAIT Maitri 71.47 171 *e*P **P** **19 01 05.2 +1.6**
NVL N'lazarevskaya 71.48 171 *e*P **P** **19 01 06.3 +2.7**
NVL *e**PP pP 19 01 13.7 +7.5
NVL *e* 19 01 30.1
NVL *e* 19 03 50.1
NVL pmax pmax
comp=Z,42nm,1.0s,mb5.3
SCO Scoresbysund 71.74 357 *i*P **P** **19 01 08.3 +3.2**
SCO pmax pmax
comp=Z,35nm,1.0s,mb5.2
ASUD Al Ashush, Dub 71.80 64 P **P** **19 01 07.4 +1.0**
SNR=22
IPRN Peran 71.82 51 *e*P **P** **19 01 07.9 +1.6**
ISAD Sadrabad 71.84 56 *e*P **P** **19 01 08.2 +1.7**
JSC Jenkinsville 72.02 307 *e*P **P** **19 01 07.7 +0.1**
JSC Jenkinsville 72.02 307 *e*P **P** **19 01 07.7 +0.2**
ILAS Lasjerd 72.08 52 *e*P **P** **19 01 08.4 +0.5**
BLA Blacksburg 72.11 310 *e*P **P** **19 01 08.3 +0.2**
comp=Z,168nm,1.5s,mb5.8
BLA Blacksburg 72.11 310 *e*P **P** **19 01 08.3 +0.2**
BLA pmax pmax
comp=Z,168nm,1.5s,mb5.8
JMIC Jan Mayen 72.14 2 *e*P Px 19 01 18.2
JMIC AMS AMS 19 29 23.7
comp=Z,5µm,23.5s,MS5.7
JMIC Jan Mayen 72.14 2 P **P** **19 01 10.3 +2.8**
comp=Z,114nm,0.8s,mb5.9,baz=138,slow=6.7,SNR=6.7
JMIC Jan Mayen 72.14 2 P **P** **19 01 10.3 +2.8**
NAZ Nazwa, Dubai 72.16 63 P **P** **19 01 09.0 +0.4**
SNR=41
MRIV Mauritius Mete 72.26 111 *e*P **P** **19 01 08.1 -1.2**
JOF Joensuu 72.34 20 *e*P **P** **19 01 07.2 -1.6**
JOF pmax pmax
comp=Z,21nm,0.6s,mb5.2
JOF Joensuu 72.34 20 *e*p **P** **19 01 07.2 -1.6**
comp=Z,21nm,0.6s,mb5.2
ELN Prospectdale 72.37 310 *e*P **P** **19 01 06.1 -3.5**
ELN *e*P 19 01 10.6
ASHO Ashiyiah 72.46 64 P **P** **19 01 10.2 -0.2**
SNR=29
IMEH Mehriz 72.49 57 *e*P **P** **19 01 11.2 +0.8**
ICHK Chekchek 72.51 56 *e*P **P** **19 01 10.6 +0.1**
HATD Hatta, Dubai 72.55 64 P **P** **19 01 11.3 +0.4**
SNR=30
ARQ Araqi 72.66 65 P **P** **19 01 11.6 0.0**
SNR=119
SFJD Kangerlussuaq 72.75 346 *e*P **P** **19 01 10.6 -0.6**
SFJD LR LR
comp=Z,6µm,19.0s,MS5.9
SFJD Kangerlussuaq 72.75 346 *i*P **P** **19 01 11.8 +0.6**
SFJD pmax pmax
comp=Z,51nm,0.7s,mb5.6
SFJD Kangerlussuaq 72.75 346 *i*P **P** **19 01 11.8 +0.6**
comp=Z,51nm,0.7s,mb5.6
IANJ Anjilo 72.86 52 *e*P **P** **19 01 11.3 -1.2**
IKIA Kiasar 72.86 52 *e*P **P** **19 01 14.3 +1.8**
BANOM Banah 72.89 63 P **P** **19 01 13.0 +0.1**
SNR=21
PMSA Palmer Station 72.91 200 PFAKE 19 01 20.0 +7.8
PMSA LR LR
comp=Z,13µm,22.0s,MS6.2
ALLY Alegheny Colle 73.17 314 *e*P **P** **19 01 11.8 -2.4**
comp=Z,260nm,1.4s,mb6.0
BSY Bisya 73.19 66 P **P** **19 01 14.9 +0.2**
SNR=52
ERPA Erie 73.19 315 *e*P **P** **19 01 16.1 +1.7**
comp=Z,938nm,1.9s,mb6.4
ERPA LR LR
comp=Z,6µm,20.0s,MS5.9
IBAF Bafgh 73.33 57 *e*P **P** **19 01 15.3 -0.1**
IBND Bandar-abas 73.36 61 *e*P **P** **19 01 16.3 +0.6**
HOQ Hoqain 73.42 65 P **P** **19 01 16.1 0.0**
SNR=45
SADO Sadowa 73.43 318 P **P** **19 01 16.6 +0.8**
comp=Z,24nm,0.8s,mb5.2,baz=124,slow=5.7,SNR=12
SADO LR LR 19 26 52.8
comp=Z,6µm,20.4s,MS5.8,baz=121,slow=30
SADO Sadowa 73.43 318 P **P** **19 01 16.6 +0.8**
JMDO Jabal Madar 73.96 66 P **P** **19 01 19.1 -0.2**
SNR=25
SMDO Samad 74.01 66 P **P** **19 01 19.9 +0.4**
SNR=90
TGUH Tegucigalpa,Un 74.06 285 *e*P **P** **19 01 19.9 -0.1**
comp=Z,510nm,1.2s,mb6.3
TGUH LR LR
comp=Z,3µm,20.0s,MS5.5
TRO Tromso 74.07 11 *e*P **P** **19 01 19.1 +0.1**
TRO *e*S S 19 10 52.6 +0.9
TRO *e*SS SS 19 15 40.2 +3.6
TRO AMS AMS 19 34 33.8
comp=Z,12µm,21.4s,MS6.2
KLMR Klimovskoe 74.16 24 *e*P **P** **19 01 17.7 -2.0**
KLMR *e* 19 04 07.7
KLMR S S 19 10 59.9 +6.9
KLMR pmax pmax
comp=Z,799nm,8.2s
KLMR pmax pmax
comp=Z,125nm,1.3s,mb5.7
KLMR MLR MLR
comp=Z,16µm,21.0s,MS6.3
TKL Tuckaleechee C 74.35 307 P **P** **19 01 21.3 0.0**
comp=Z,8.1nm,0.8s,mb4.7,baz=120,slow=8.9,SNR=4.5
TKL Tuckaleechee C 74.35 307 P **P** **19 01 21.3 0.0**
TKL Tuckaleechee C 74.35 307 P **P** **19 01 21.3 0.0**
TKL pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KTK1 Kautokeino 74.49 13 *e*P **P** **19 01 21.0 -0.4**
KTK1 *e*S S 19 10 55.8 -0.5
KTK1 *e*SS SS 19 15 40.8 -2.1
KTK1 AMS AMS 19 33 53.3
comp=Z,16µm,17.8s,MS6.4
WBK Wadi Bani Khal 74.79 66 P **P** **19 01 24.5 +0.4**
SNR=21
ACSO Alum Creek Sta 74.84 312 *e*P **P** **19 01 24.8 +0.8**
ACSO LR LR
comp=Z,3µm,20.0s,MS5.6
CPCT Cooper Cave 74.90 307 *e*P **P** **19 01 24.0 -0.5**
SUMG Summit 75.25 353 *e*P **P** **19 01 27.8 +2.0**
comp=Z,140nm,1.0s,mb5.8
SUMG Summit 75.25 353 *e*P **P** **19 01 27.8 +2.0**
SUMG pmax pmax
comp=Z,139nm,1.0s
SUMG Summit 75.25 353 *i*P **P** **19 01 29.3 +3.5**
comp=Z,95nm,1.0s,mb5.7
ARCES ARCESS Array B 75.41 13 P **P** **19 01 25.7 -1.0**
comp=Z,18nm,0.8s,mb5.0,baz=238,slow=4.1,SNR=18
ARCES LR LR 19 35 16.2
comp=Z,9µm,20.8s,MS6.0,baz=225,slow=36
ARCES ARCESS Array B 75.41 13 P **P** **19 01 25.7 -1.0**
ARCES ARCESS Array B 75.41 13 P **P** **19 01 25.7 -1.0**
ARCES pmax pmax
comp=Z,19nm,0.8s
ARCES MLR MLR
comp=Z,9µm,20.8s
ARE0 ARCESS Array S 75.41 13 *e*P **P** **19 01 25.9 -0.8**
ARE0 *e*P 19 01 26.0
ARE0 *e*S S 19 11 08.5 +1.8
ARE0 ARCESS Array S 75.41 13 *e*P **P** **19 01 25.3 -1.4**
TEIG Tepich 75.66 291 P **P** **19 01 28.6 -0.6**
comp=Z,53nm,0.9s,mb5.5,baz=25,slow=7.1,SNR=9.0
TEIG LR LR 19 28 36.9
comp=Z,3µm,20.6s,MS5.6,baz=95,slow=31
TEIG Tepich 75.66 291 P **P** **19 01 28.6 -0.6**
AAM Ann Arbor 75.86 314 *e*P **P** **19 01 30.1 +0.2**
comp=Z,251nm,1.5s,mb5.9
AAM LR LR
comp=Z,6µm,21.0s,MS5.9
AAM Ann Arbor 75.86 314 *e*P **P** **19 01 30.1 +0.2**
AAM pmax pmax
comp=Z,251nm,1.5s,mb5.9
AAM MLR MLR
comp=Z,6µm,21.0s,MS5.9
KEV Kevo 75.92 14 *e*P **P** **19 01 29.1 -0.5**
comp=Z,60nm,1.0s,mb5.5
KEV LR LR
comp=Z,9µm,19.0s,MS6.1
KEV Kevo 75.92 14 *e*P **P** **19 01 29.1 -0.6**
KEV pmax pmax
comp=Z,60nm,1.0s,mb5.5
KEV MLR MLR
comp=Z,9µm,19.0s,MS6.1
KEV Kevo 75.92 14 *e*p **P** **19 01 27.9 -1.8**
comp=Z,26nm,0.9s,mb5.2

SWET Sewanee 75.98 307 *e*P **P** **19 01 29.6 -1.1**
APA Apatity 76.08 17⇑ *i*P **P** **19 01 40.5 +10**
APA *i*S S 19 11 14.0 -0.1
APA *i*SS SS 19 16 02.0 -5.2
APA pmax pmax
comp=Z,83nm,1.5s,mb5.4
APA MLR MLR
comp=Z,10µm,17.0s,MS6.2
BRAL Brewton 76.12 302 *e*P **P** **19 01 32.6 +1.0**
comp=Z,404nm,1.5s,mb6.1
BRAL LR LR
comp=Z,8µm,21.0s,MS6.0
FRB Frobisher Bay 76.14 338 P **P** **19 01 31.4 +0.4**
comp=Z,36nm,0.8s,mb5.4,baz=110,slow=5.7,SNR=9.9
FRB Frobisher Bay 76.14 338 P **P** **19 01 31.4 +0.4**
FRB Frobisher Bay 76.14 338 P **P** **19 01 31.4 +0.4**
FRB pmax pmax
comp=Z,36nm,0.8s
PAYG Puerto Ayora 76.26 270 PFAKE 19 01 40.0 +7.3
PAYG LR LR
comp=Z,5µm,22.0s,MS5.8
ISFR Sfrayin 76.44 52 *e*P **P** **19 01 34.6 +1.3**
SYO Syowa Base 76.53 163⇑ *e*P **P** **19 01 33.2 +0.1**
SYO Syowa Base 76.53 163⇑ *e*sP sP 19 01 37.4 +0.7
LVZ Lovozero 76.66 17 PFAKE 19 01 50.0 +16
LVZ LR LR
comp=Z,9µm,19.0s,MS6.1
LVZ Lovozero 76.66 17*d* *i*P **P** **19 01 34.9 +1.0**
LVZ pmax pmax
comp=Z,41nm,1.0s,mb5.3
ABKT Ailbek 76.71 51 P **P** **19 01 34.9 +0.1**
comp=Z,350nm,1.1s,mb6.2,SNR=21
IKRD Kardeh 76.78 52 *e*P **P** **19 01 39.7 +4.5**
WCI Wyandotte Cave 76.88 310 *e*P **P** **19 01 34.5 -1.3**
comp=Z,98nm,1.4s,mb5.5
WCI Wyandotte Cave 76.88 310 *e*P **P** **19 01 34.5 -1.2**
WCI pmax pmax
comp=Z,99nm,1.4s,mb5.5
IAKL Akhelmad 76.94 52 *e*P **P** **19 01 36.7 +0.6**
IPAY Payeh 77.10 52 *e*P **P** **19 01 38.0 +1.0**
GLMI Grayling 77.18 316 *e*P **P** **19 01 38.4 +1.1**
comp=Z,185nm,1.2s,mb5.9
GLMI LR LR
comp=Z,7µm,22.0s,MS5.9
BLO Bloomington 77.25 311 P **P** **19 01 35.6 -2.2**
comp=Z,143nm,1.5s,mb5.7
BLO Bloomington 77.25 311 P **P** **19 01 35.6 -2.2**
BLO pmax pmax
comp=Z,143nm,1.5s,mb5.7
ISRO Mashad 77.45 53 *e*P **P** **19 01 39.0 0.0**
PLAL Pickwick Lake 77.66 306 *e*P **P** **19 01 39.6 -0.6**
comp=Z,423nm,2.1s,mb6.0
PLAL LR LR
comp=Z,4µm,20.0s,MS5.8
WVT Waverly 77.67 307 *e*P **P** **19 01 39.3 -0.9**
WVT Waverly 77.67 307 *e*P **P** **19 01 39.3 -0.9**
USIN University of 77.89 309 *e*P **P** **19 01 41.1 -0.3**
comp=Z,167nm,1.7s,mb5.7
DAG Danmarks Havn 77.91 359 *i*P **P** **19 01 40.8 0.0**
DAG pmax pmax
comp=Z,66nm,1.0s,mb5.5
DAG Danmarks Havn 77.91 359 *i*P **P** **19 01 40.8 0.0**
comp=Z,66nm,1.0s,mb5.5
IMYA Miami 77.95 53 *e*P **P** **19 01 40.9 -0.9**
BJO Bjornoya 78.17 9 *e*S S 19 11 37.5 +0.8
OLIL Olney 78.37 310 *e*P **P** **19 01 43.3 -0.8**
comp=Z,123nm,1.1s,mb5.8
OXF Oxford 78.66 305 *e*P **P** **19 01 44.4 -1.4**
OXF LR LR
comp=Z,3µm,20.0s,MS5.6
OXF Oxford 78.66 305 *e*P **P** **19 01 44.4 -1.4**
OXF MLR MLR
comp=Z,3µm,20.0s,MS5.6
SIUC Southern Illin 79.05 309 *e*P **P** **19 01 46.1 -1.7**
comp=Z,31nm,1.0s,mb5.2
VBMS Vicksburg 79.23 303 *e*P **P** **19 01 48.8 -0.1**
comp=Z,70nm,0.3s,mb6.1
VBMS LR LR
comp=Z,6µm,21.0s,MS5.9
GNAR Gosnell 79.39 307 *e*P **P** **19 01 49.2 -0.5**
AKTO Aktyubinsk 79.55 38 P **P** **19 01 49.3 -1.0**
comp=Z,24nm,1.1s,mb5.0,baz=242,slow=3.5,SNR=50
AKTO Aktyubinsk 79.55 38 P **P** **19 01 49.3 -1.0**
AKTO Aktyubinsk 79.55 38 P **P** **19 01 49.3 -1.0**
AKTO pmax pmax
comp=Z,24nm,1.1s,mb5.0
HDIL Hopedale 79.61 311 PFAKE 19 02 00.0 +9.1
HDIL LR LR
comp=Z,6µm,21.0s,MS5.9
SLM Saint Louis 80.00 309 *e*P **P** **19 01 51.8 -1.1**
SLM Saint Louis 80.00 309 *e*P **P** **19 01 51.8 -1.2**
ABKAR Akbulak array 80.48 40 *e*P **P** **19 01 53.5 -1.9**
comp=Z,22nm,0.8s,mb5.1
COWI Conover 80.57 317 *e*P **P** **19 01 54.6 -1.2**
comp=Z,115nm,1.3s,mb5.7
CCM Cathedral Cave 80.69 309 *e*P **P** **19 01 55.2 -1.4**
comp=Z,86nm,1.1s,mb5.6
CCM Cathedral Cave 80.69 309 *e*P **P** **19 01 55.3 -1.4**
CCM pmax pmax
comp=Z,85nm,1.1s,mb5.6
JFWS Jewell Farm 80.74 314 *e*P **P** **19 01 56.4 -0.5**
comp=Z,82nm,1.0s,mb5.6
JFWS LR LR
comp=Z,5µm,21.0s,MS5.9
JFWS Jewell Farm 80.74 314 *e*P **P** **19 01 56.4 -0.5**
JFWS pmax pmax
comp=Z,82nm,1.0s,mb5.6
JFWS MLR MLR
comp=Z,5µm,21.0s,MS5.9
SPB4 Spitsbergen Ar 80.93 6 *e*P **P** **19 01 59.8 +2.6**
SPA0 Spitsbergen Ar 80.93 6 *e*P **P** **19 02 06.3 +9.1**
UALR University of 81.09 305 *e*P **P** **19 01 57.8 -1.1**
comp=Z,122nm,1.4s,mb5.6
KBS Kingsbay 81.17 5 *e*P **P** **19 02 04.5 +6.1**
KBS AMB AMB 19 02 24.3
comp=Z,87nm,2.3s,mb5.3
KBS *e*S S 19 12 09.2 +0.9
KBS *e*SS SS 19 17 21.8 -1.5
KBS AMS AMS 19 37 51.4
comp=Z,5µm,17.4s,MS5.9
KBS Kingsbay 81.17 5 *e*P **P** **19 01 57.2 -1.2**
comp=Z,54nm,1.0s,mb5.4
KBS LR LR
comp=Z,6µm,19.0s,MS5.9
KBS Kingsbay 81.17 5 *e*P **P** **19 02 00.4 +1.9**
SOKR Solikamsk 81.40 29⇑ *i*P **P** **19 02 00.4 +0.4**
SOKR 19 05 04.0
SOKR S S 19 12 13.9 +2.6
SOKR SS SS 19 17 21.7 -5.7
SOKR pmax pmax
comp=Z,40nm,1.0s,mb5.3
SOKR MLR MLR
comp=Z,7µm,19.0s,MS6.0
ARU Arti 81.42 32 *e*P **P** **19 01 58.9 -1.3**
comp=Z,91nm,1.2s,mb5.6
ARU *e*PP PP 19 05 04.6 -1.6
ARU LR LR
comp=Z,10µm,19.0s,MS6.2
ARU Arti 81.42 32*d* *i*P **P** **19 01 59.3 -0.9**
ARU 19 05 05.1
ARU S S 19 12 11.4 -0.3
ARU pmax pmax
comp=Z,58nm,1.5s,mb5.3
ARU MLR MLR
comp=Z,10µm,17.0s,MS6.2
ARU Arti 81.42 32 P **P** **19 01 59.3 -0.9**
comp=Z,318nm,0.7s,mb6.4,SNR=9.4
CMIG Matias Romero 81.62 287 P **P** **19 02 01.4 -0.7**
comp=Z,8.2nm,0.9s,mb4.7,baz=17,slow=5.2,SNR=6.3
CMIG Matias Romero 81.62 287 P **P** **19 02 01.4 -0.7**
MIAR Mount Ida 82.07 305 *e*P **P** **19 02 03.9 -0.2**
MIAR LR LR
comp=Z,5µm,21.0s,MS5.9
MIAR Mount Ida 82.07 305 *e*P **P** **19 02 03.9 -0.2**
MIAR MLR MLR
comp=Z,5µm,21.0s,MS5.9
EYMN Ely 82.50 319 *e*P **P** **19 02 05.6 -0.5**
comp=Z,98nm,1.3s,mb5.7
EYMN LR LR
comp=Z,6µm,21.0s,MS6.0
SVE Sverdlovsk 82.63 32⇑ *e*P **P** **19 02 06.7 +0.1**
SVE *e* 19 05 12.0
SVE *e*PPP 19 07 15.9
SVE *e*S S 19 12 25.6 +1.5
SVE *e*SS SS 19 17 47.1 +1.2

SVE pmax pmax
comp=Z,93nm,2.1s,mb5.5
SVE MLR MLR
comp=N,2µm,16.0s,MS6.2
SVE MLR MLR
comp=E,8µm,18.0s,MS6.2
SVE MLR MLR
comp=Z,10µm,17.0s,MS6.2
NATX Nacogdoches 82.66 302 *e*P **P** **19 02 07.7 +0.4**
comp=Z,157nm,1.2s,mb5.9
NATX LR LR
comp=Z,4µm,20.0s,MS5.8
SCIA State Center 82.75 312 *e*P **P** **19 02 07.1 -0.5**
comp=Z,189nm,1.5s,mb5.9
SCIA LR LR
comp=Z,7µm,22.0s,MS6.0
HKT Hockley 83.49 300 *e*P **P** **19 02 11.7 0.0**
comp=Z,25nm,1.1s,mb5.2
HKT *e*PP PP 19 05 17.8 -6.1
HKT Hockley 83.49 300 *e*P **P** **19 02 11.7 +0.1**
HKT *e* 19 05 17.8
HKT pmax pmax
comp=Z,25nm,1.1s,mb5.2
MAW Mawson 83.92 158 P **P** **19 02 13.5 +0.5**
comp=Z,14nm,0.9s,mb5.1,baz=294,slow=9.8,SNR=15
MAW LR LR 19 31 39.9
comp=Z,5µm,20.9s,MS5.9,baz=288,slow=30
MAW Mawson 83.92 158 *e*P **P** **19 02 15.4 +2.4**
comp=Z,30nm,0.8s,mb5.5
MAW *e* 19 12 40.1
MAW Mawson 83.92 158 P **P** **19 02 13.5 +0.5**
MAW Mawson 83.92 158 P **P** **19 02 13.5 +0.5**
MAW pmax pmax
comp=Z,14nm,0.9s
MAW MLR MLR
comp=Z,5µm,20.9s
RFTA Plano 84.49 303 *e*P **P** **19 02 16.1 -0.6**
KBL Kabul 84.95 55 *e*P **P** **19 02 18.4 -0.5**
KBL Kabul 84.95 55 *e*P **P** **19 02 18.5 -0.4**
KSU1 Kansas State U 84.99 309 *e*P **P** **19 02 17.7 -1.3**
comp=Z,34nm,0.8s,mb5.5
KSU1 LR LR
comp=Z,7µm,22.0s,MS6.0
KVTX Kingsville 85.11 298 PFAKE 19 02 30.0 +10
KVTX LR LR
comp=Z,4µm,21.0s,MS5.8
PAF Port-aux-Franc 85.34 139 PFAKE 19 02 30.0 +9.5
PAF LR LR
comp=Z,10µm,20.0s,MS6.2
AGMN Agassiz Nation 85.45 318 *e*P **P** **19 02 20.6 -0.5**
comp=Z,129nm,1.0s,mb6.0
AGMN LR LR
comp=Z,6µm,20.0s,MS6.0
ECSD EROS Data Cent 85.46 314 *e*P **P** **19 02 20.1 -1.1**
comp=Z,114nm,1.2s,mb5.9
ECSD LR LR
comp=Z,3µm,22.0s,MS5.7
ULM Lac du Bonnet 85.69 320 P **P** **19 02 20.8 -1.5**
comp=Z,15nm,0.9s,mb5.2,baz=104,slow=5.6,SNR=13
ULM LR LR 19 34 52.8
comp=Z,5µm,21.1s,MS5.8,baz=94,slow=32
ULM Lac du Bonnet 85.69 320 P **P** **19 02 20.8 -1.5**
ULM Lac du Bonnet 85.69 320 P **P** **19 02 20.8 -1.5**
ULM pmax pmax
comp=Z,15nm,1.0s
ULM MLR MLR
comp=Z,5µm,21.1s
ALE Alert 86.17 354 P **P** **19 02 27.0 +2.9**
comp=Z,207nm,1.0s,mb6.3,SNR=10.0
DGAR Diego Garcia 86.35 97 *e*P **P** **19 02 22.6 -3.7**
comp=Z,487nm,1.5s,mb6.5
DGAR LR LR
comp=Z,13µm,20.0s,MS6.3
DGAR Diego Garcia 86.35 97 *e*P **P** **19 02 22.7 -3.6**
DGAR MLR MLR
comp=Z,13µm,20.0s,MS6.3
WMOK Wichita Mounta 86.36 305 *e*P **P** **19 02 25.7 -0.3**
WMOK Wichita Mounta 86.36 305 *e*P **P** **19 02 25.7 -0.3**
KKAR Karatay Array 86.80 47 *e*P **P** **19 02 26.9 -1.0**
comp=Z,25nm,0.9s,mb5.5
KKAR Karatay Array 86.80 47 *e*P **P** **19 02 26.9 -1.0**
KKAR pmax pmax
comp=Z,25nm,0.9s,mb5.4
JCT Junction City 86.96 300 *e*P **P** **19 02 28.9 0.0**
comp=Z,106nm,1.1s,mb6.0
JCT Junction City 86.96 300 *e*P **P** **19 02 28.9 -0.1**
JCT pmax pmax
comp=Z,106nm,1.1s,mb6.0
HMDM Hanimaadhoo 87.36 83 P **P** **19 02 33.1 +1.8**
comp=Z,262nm,1.6s,mb6.2
CBKS Cedar Bluff 87.39 309 *e*P **P** **19 02 31.2 +0.3**
comp=Z,205nm,1.2s,mb6.2
CBKS LR LR
comp=Z,5µm,21.0s,MS5.9
CBKS Cedar Bluff 87.39 309 *e*P **P** **19 02 31.2 +0.3**
CBKS pmax pmax
comp=Z,205nm,1.2s,mb6.2
CBKS MLR MLR
comp=Z,5µm,21.0s,MS5.9
BRVK Borovoye 87.51 37 *e*P **P** **19 02 30.8 -0.3**
comp=Z,48nm,1.3s,mb5.6
BRVK LR LR
comp=Z,9µm,21.0s,MS6.2
BRVK Borovoye 87.51 37 P **P** **19 02 31.4 +0.3**
comp=Z,136nm,1.0s,mb6.1,SNR=14
BRVK Borovoye 87.51 37*d* *i*P **P** **19 02 31.3 +0.2**
BRVK pmax pmax
comp=Z,28nm,1.2s,mb5.4
BRVK Borovoye 87.51 37 P **P** **19 02 31.3 +0.2**
SNR=20
BVAR Borovoye Array 87.57 37 P **P** **19 02 29.4 -2.0**
comp=Z,10nm,0.9s,mb5.0,baz=264,slow=4.5,SNR=12
BVAR PKKPbc PKKPbc 19 20 21.8 -0.4
comp=Z,0.8nm,0.7s,baz=64,slow=3.8,SNR=4.3
BVAR LR LR 19 46 18.8
comp=Z,9µm,18.1s,MS6.2,baz=254,slow=39
BVAR Borovoye Array 87.57 37 P **P** **19 02 29.4 -2.0**
BVAR PKKPbc PKKPbc 19 20 21.8 -0.4
BVAR Borovoye Array 87.57 37 P **P** **19 02 29.4 -2.0**
BVAR pmax pmax
comp=Z,10.0nm,0.9s
BVAR MLR MLR
comp=Z,9µm,18.1s
GOA Goa 88.24 75⇑ *e*PKP **P** **19 02 34.3 -1.1**
GOA *e*S SKSac 19 13 02.8 -2.4
POO Poona 88.35 72⇑ *i*P **P** **19 02 34.0 -1.9**
comp=Z,60nm,1.0s,mb5.8
RES Resolute Bay 88.73 345 P **P** **19 02 38.1 +1.7**
comp=Z,8.0nm,0.8s,mb5.1,baz=89,slow=5.7,SNR=1.7
RES Resolute Bay 88.73 345 *e*P **P** **19 02 37.9 +1.5**
RES Resolute Bay 88.73 345 *e*P **P** **19 02 37.9 +1.4**
AMTX Amarillo 88.75 305 PFAKE 19 02 50.0 +13
AMTX LR LR
comp=Z,7µm,22.0s,MS6.0
QSPA South Pole Qui 88.89 180 *e*P **P** **19 02 38.4 +1.2**
AML Almayashu 89.09 48 P **P** **19 02 39.7 +0.8**
SNR=37
EKS2 Erkin-Say 89.17 47 P **P** **19 02 39.8 +0.6**
SNR=50
EKS2 Erkin-Say 89.17 47 *e*P **P** **19 02 39.6 +0.3**
EKS2 LR LR
comp=Z,5µm,19.0s,MS6.0
EKS2 Erkin-Say 89.17 47 *e*P **P** **19 02 39.6 +0.3**
EKS2 MLR MLR
comp=Z,5µm,19.0s,MS6.0
OGNE Ogallala 89.27 311 *e*P **P** **19 02 40.5 +0.8**
comp=Z,378nm,1.4s,mb6.5
OGNE LR LR
comp=Z,5µm,20.0s,MS5.9
AJM Ajmer 89.33 64 *e*PKP **P** **19 02 39.0 -1.3**
AAK Ala-Archa 89.70 48 P **P** **19 02 42.5 +0.8**
SNR=51
AAK Ala-Archa 89.70 48 *e*P **P** **19 02 41.7 0.0**
AAK LR LR
comp=Z,6µm,22.0s,MS6.0
AAK Ala-Archa 89.70 48 *i*P **P** **19 02 42.5 +0.8**
AAK Ala-Archa 89.70 48 P **P** **19 02 42.1 +0.4**
AAK Ala-Archa 89.70 48 P **P** **19 02 42.0 +0.3**
comp=Z,266nm,1.0s,mb6.5,SNR=37
AAK Ala-Archa 89.70 48 P **P** **19 02 42.9 +1.1**
SNR=33
USP Ospenovka 89.72 47 P **P** **19 02 41.6 -0.2**
SNR=20
FFC Flin Flon 89.78 325 *e*P **P** **19 02 41.0 -0.8**
comp=Z,55nm,1.1s,mb5.8
FFC LR LR

comp=Z,5µm,21.0s,MS5.9
FFC Flin Flon 89.78 325 *i* P **P 19 02 42.1 +0.3**
FFC Flin Flon 89.78 325 P **P 19 02 41.1 -0.7**
comp=Z,248nm,1.1s,mb6.5,SNR=7.1
FRU Bishkek 89.80 47 *i* P **P 19 02 43.0 +0.8**
FRU *i* 19 02 51.0
FRU *e* 19 13 36.0
FRU pmax pmax
comp=Z,180nm,2.2s,mb6.0
CHMS Chumysh 89.90 47 P **P 19 02 42.9 +0.2**
SNR=11
KBK Karagaybulak 90.04 48 P **P 19 02 44.0 +0.7**
SNR=16
KZA Kyzart 90.24 48 P **P 19 02 45.4 +1.1**
SNR=22
TXAR Lajitas Array 90.27 299 P **P 19 02 44.5 -0.2**
comp=Z,4.9nm,0.9s,mb4.8,baz=116,slow=5.8,SNR=16
TXAR PKKPbc PKKPbc 19 20 26.8 +12
comp=Z,0.5nm,0.8s,baz=253,slow=1.3,SNR=4.0
TXAR LR LR 19 39 32.3
comp=Z,3µm,20.6s,MS5.8,baz=10.0,slow=33
TXAR Lajitas Array 90.27 299 P **P 19 02 44.5 -0.2**
TXAR PKKPbc PKKPbc 19 20 26.8 +12
TXAR Lajitas Array 90.27 299 P **P 19 02 44.5 -0.2**
TXAR pmax pmax
comp=Z,5.0nm,0.9s
TXAR MLR MLR
comp=Z,3µm,20.6s
CLNB Carlsbad 90.51 302 *e*P **P 19 02 46.5 +0.7**
comp=Z,1.4nm,0.6s,mb4.5
TKM2 Tokmak 2 90.52 47 P **P 19 02 45.8 +0.2**
SNR=20
TKM2 Tokmak 2 90.52 47 *e*P **P 19 02 45.1 -0.4**
comp=Z,56nm,1.4s,mb5.7
TKM2 LR LR
comp=Z,7µm,19.0s,MS6.1
TKM2 Tokmak 2 90.52 47 *i* P **P 19 02 45.8 +0.2**
KSH Kashi 90.74 51 P **P 19 02 45.3 -1.4**
KSH pP pP 19 02 50.1 +0.7
KSH sP sP 19 02 52.3 +2.0
KSH PP PP 19 06 21.4 -0.7
KSH SKS 19 13 13.9
KSH S S 19 13 35.5 -8.0
KSH SS SS 19 19 39.3 -6.3
KSH pmax pmax
comp=Z,67nm,1.0s,mb5.9
KSH LR LR
comp=N,4µm,14.8s,MS6.1
KSH LR LR
comp=E,4µm,18.6s,MS6.1
KSH LR LR
comp=Z,8µm,23.8s
RSSD Black Hills 90.83 314 *e*P **P 19 02 46.8 -0.2**
comp=Z,45nm,1.4s,mb5.6
RSSD Black Hills 90.83 314 *e*P **P 19 02 46.8 -0.2**
RSSD pmax pmax
comp=Z,45nm,1.4s,mb5.6
ULHL Ulahol 90.98 48 P **P 19 02 48.5 +0.8**
SNR=6.9
DGMT Dagmar 91.00 318 *e*P **P 19 02 48.3 +0.6**
comp=Z,130nm,1.3s,mb6.1
DGMT LR LR
comp=Z,9µm,22.0s,MS6.2
AKL Akola 91.38 69 *e*PKP **P 19 02 49.0 -1.0**
AKL *i* x x 19 13 10.0
NDI New Delhi 91.65 61 *e*PKP **P 19 02 48.0 -3.1**
NDI *ex* x 19 06 30.0
MNTX Cornudas Mount 91.78 302 PFAKE 19 03 00.0 +8.3
MNTX LR LR
comp=Z,4µm,21.0s,MS5.8
SDCO Great Sand Dun 91.89 308 *e*P **P 19 02 53.2 +1.1**
SDCO LR LR
comp=Z,4µm,20.0s,MS5.9
ISCO Idaho Springs 91.98 310 *e*P **P 19 02 54.8 +2.4**
comp=Z,190nm,2.1s,mb6.1
ISCO LR LR
comp=Z,6µm,21.0s,MS6.0
ISCO Idaho Springs 91.98 310 *e*P **P 19 02 54.8 +2.4**
ISCO pmax pmax
comp=Z,190nm,2.1s,mb6.1
ISCO MLR MLR
comp=Z,6µm,21.0s,MS6.0
LAO LASA Array 92.37 316 *e*P **P 19 02 54.1 0.0**
comp=Z,55nm,1.2s,mb5.8
LAO LR LR
comp=Z,5µm,20.0s,MS6.0
DDI Dehra Dun 92.39 60 *e*PKP **P 19 02 55.0 +0.5**
KURK Kurchatov 92.59 39 P **P 19 02 54.3 -0.7**
comp=Z,9.4nm,1.0s,mb5.2,baz=276,slow=5.1,SNR=38
KURK PP PP 19 06 37.9 +1.5
comp=Z,7.5nm,1.1s,baz=283,slow=7.9,SNR=5.1
KURK PKKPbc PKKPbc 19 20 08.8 -0.7
comp=Z,1.4nm,1.0s,baz=93,slow=2.6,SNR=8.2
KURK LR LR 19 49 18.2
comp=Z,6µm,18.3s,MS6.1,baz=265,slow=39
KURK Kurchatov 92.59 39 *e*P **P 19 02 54.2 -0.8**
comp=Z,34nm,1.4s,mb5.6
KURK PP PP 19 06 37.9 +1.5
KURK PKKPbc PKKPbc 19 20 08.8 -0.7
KURK Kurchatov 92.59 39 *d* P **P 19 02 54.5 -0.5**
KURK pmax pmax
comp=Z,10.0nm,1.3s,mb5.1
KURK Kurchatov 92.59 39 P **P 19 02 55.8 +0.8**
comp=Z,80nm,2.0s,mb5.8,SNR=7.3
ANMO Albuquerque 92.68 305 P **P 19 02 56.1 +0.3**
comp=Z,5.2nm,0.8s,mb5.0,baz=126,slow=6.2,SNR=12
ANMO LR LR 19 38 11.9
comp=Z,6µm,21.6s,MS6.0,baz=290,slow=31
ANMO Albuquerque 92.68 305 *e*P **P 19 02 55.8 +0.1**
ANMO Albuquerque 92.68 305 P **P 19 02 56.1 +0.3**
ANMO pmax pmax
comp=Z,5.0nm,0.8s
ANMO MLR MLR
comp=Z,6µm,21.6s
HYB Hyderabad 92.81 73 *i* P **P 19 02 56.0 -0.7**
HYB *e*PP PP 19 06 38.0 -1.0
HYB *e*SKS 19 13 28.0
HYB *e* 19 14 00.0
BNM Barren Site 92.82 304 *e*P **P 19 02 57.5 +1.1**
comp=Z,46nm,1.5s,mb5.7
LPM Los Pinos Moun 92.83 304 *e*P **P 19 02 57.8 +1.4**
comp=Z,31nm,1.3s,mb5.6
SMCO Snowmass 93.04 309 *e*P **P 19 02 57.6 +0.3**
comp=Z,50nm,1.6s,mb5.7
LENM Lemitar 93.11 304 *e*P **P 19 02 58.5 +0.7**
comp=Z,38nm,1.3s,mb5.7
LAZ Ladron 93.24 304 *e*P **P 19 02 59.4 +1.0**
comp=Z,21nm,1.4s,mb5.4
RPN Rapa Nui 94.20 243 PFAKE 19 03 10.0 +7.1
RPN LR LR
comp=Z,7µm,20.0s,MS6.1
MVCO Mesa Verde 94.29 307 *e*P **P 19 03 04.0 +0.9**
comp=Z,118nm,2.0s,mb6.0
MVCO LR LR
comp=Z,4µm,22.0s,MS5.8
PV01 Paradox Valley 94.31 308 *e*P **P 19 03 03.8 +0.6**
PV01 *e* 19 03 12.2
MDRS Chennai 94.42 77 *ex* PP 19 07 09.2 +17
MDRS *ex* SKSac 19 13 45.2 +4.7
RLMT Red Lodge 94.55 315 *e*P **P 19 03 04.3 +0.2**
comp=Z,58nm,1.7s,mb5.7
RLMT LR LR
comp=Z,5µm,20.0s,MS5.9
PV10 Paradox Valley 94.67 308 *e*P **P 19 03 05.9 +1.0**
comp=Z,178nm,0.9s,mb6.5
EGMT Eagleton 94.72 318 PFAKE 19 03 20.0 +15
EGMT LR LR
comp=Z,8µm,22.0s,MS6.1
GCMT Greycliff 94.79 316 *e*P **P 19 03 04.4 -0.8**
comp=Z,25nm,1.5s,mb5.4
PDAR Pinedale Array 94.88 313 P **P 19 03 04.8 -0.9**
comp=Z,1.5nm,1.0s,mb4.4,baz=93,slow=5.2,SNR=8.0
PDAR PP PP 19 07 04.9 +10
comp=Z,1.7nm,1.0s,baz=97,slow=7.4,SNR=3.7
PDAR LR LR 19 43 04.7
comp=Z,5µm,18.8s,MS6.0,baz=96,slow=34
PDAR Pinedale Array 94.88 313 P **P 19 03 04.8 -0.9**
PDAR PP PP 19 07 04.9 +10
BW06 Boulder Array 94.88 313 PFAKE 19 03 20.0 +14
BW06 LR LR
comp=Z,5µm,19.0s,MS6.0
PD02 Pinedale Array 94.88 313 *e*P **P 19 03 07.6 +1.9**
PD01 Pinedale Array 94.89 313 *e*P **P 19 03 04.7 -1.1**
NVS Novosibirsk 95.15 35 *e*P **P 19 03 05.4 -1.3**
NVS pmax pmax
comp=Z,62nm,2.3s,mb5.6
NVS pmax pmax
comp=N,5.0nm,1.8s
NVS pmax pmax
comp=E,7.0nm,1.8s
MK31 Makanchi Array 95.19 43 *e*P **P 19 03 05.5 -1.5**
MK31 Makanchi Array 95.19 43 *e*P **P 19 03 05.5 -1.5**
MKAR Makanchi Array 95.19 43 P **P 19 03 06.2 -0.8**
comp=E,8.4nm,0.8s,mb5.2,baz=268,slow=4.3,SNR=42
MKAR PP PP 19 07 02.9 +6.1
comp=E,6.2nm,0.9s,baz=290,slow=5.0,SNR=4.2
MKAR PKKPbc PKKPbc 19 20 02.0 -0.5
comp=E,0.5nm,0.7s,baz=90,slow=0.4,SNR=3.6
MKAR LR LR 19 52 11.0
comp=E,5µm,18.5s,MS6.0,baz=265,slow=39
MKAR Makanchi Array 95.19 43 P **P 19 03 06.2 -0.8**
MKAR PP PP 19 07 02.9 +6.1
MKAR PKKPbc PKKPbc 19 20 02.0 -0.5
MKAR Makanchi Array 95.19 43 P **P 19 03 06.2 -0.8**
MKAR 19 07 02.9
MKAR pmax pmax
comp=Z,8.0nm,0.8s
MKAR pmax pmax
comp=Z,6.0nm,1.0s
MKAR MLR MLR
comp=Z,5µm,18.5s
LKWY Lake 95.38 314 PFAKE 19 03 20.0 +12
LKWY LR LR
comp=Z,7µm,20.0s,MS6.1
FLWY Flagg Ranch 95.63 314 *e*P **P 19 03 08.4 -0.7**
comp=Z,13nm,1.2s,mb5.2
YKA Yellowknife Ar 95.94 333 P **P 19 03 10.5 +0.5**
comp=Z,16nm,0.9s,mb5.4,baz=80,slow=5.3,SNR=7.3
YKA LR LR 19 45 45.8
comp=Z,223nm,18.9s,MS4.7,baz=25,slow=35
YKA Yellowknife Ar 95.94 333 P **P 19 03 10.6 +0.5**
YKA Yellowknife Ar 95.94 333 P **P 19 03 10.6 +0.5**
AHID Auburn Hatcher 96.01 313 PFAKE 19 03 20.0 +9.1
AHID LR LR
comp=Z,3µm,20.0s,MS5.8
QLMT Earthquake Lak 96.10 315 *e*P **P 19 03 11.9 +0.7**
comp=Z,3.0nm,1.2s,mb4.6
RRI2 Red Ridge 96.13 313 *e*P **P 19 03 11.4 0.0**
comp=Z,44nm,1.7s,mb5.6
ZAA0 Zalesovo Array 96.17 36 *e*P **P 19 03 10.2 -1.1**
ZALV Zalesovo Beam 96.17 36 P **P 19 03 10.2 -1.1**
comp=Z,0.9nm,0.6s,mb4.3,baz=275,slow=5.5,SNR=7.5
ZALV PKKPbc PKKPbc 19 19 56.5 -3.7
comp=Z,0.3nm,0.3s,baz=162,slow=0.9,SNR=4.8
ZALV LR LR 19 50 16.1
comp=Z,5µm,20.6s,MS6.0,baz=291,slow=38
ZALV Zalesovo Beam 96.17 36 P **P 19 03 10.2 -1.1**
ZALV PKKPbc PKKPbc 19 19 56.5 -3.7
ZALV Zalesovo Beam 96.17 36 P **P 19 03 10.2 -1.1**
ZALV MLR MLR
comp=Z,5µm,20.6s,MS6.0
BOZ Bozeman (W) 96.17 316 PFAKE 19 03 20.0 +8.5
BOZ LR LR
comp=Z,6µm,19.0s,MS6.1
HRY Holter Researc 96.23 317 P **P 19 03 09.0 -2.8**
comp=Z,5.8nm,0.7s,mb5.1
DAU Daniels Canyon 96.28 310 *e*P **P 19 03 12.7 +0.5**
comp=Z,21nm,1.3s,mb5.4
DAU Daniels Canyon 96.28 310 *e*P **P 19 03 12.7 +0.5**
DAU pmax pmax
comp=Z,21nm,1.3s,mb5.4
TMUT Trail Mountain 96.32 309 *e*P **P 19 03 08.2 -4.2**
comp=Z,25nm,1.3s,mb5.5
TUC Tucson 96.36 302 PFAKE 19 03 20.0 +7.3
TUC LR LR
comp=Z,3µm,21.0s,MS5.8
HWUT Hardware Ranch 96.44 312 *e*P **P 19 03 13.6 +0.7**
HWUT LR LR
comp=Z,6µm,22.0s,MS6.0
LRM Limekiln Ridge 96.73 316 *e*P **P 19 03 14.4 +0.3**
comp=Z,106nm,1.2s,mb6.1
PYUN Piuthan 96.75 62 *e*P **P 19 03 14.5 0.0**
comp=Z,49nm,1.1s,mb5.8
MSU Marysvale 97.13 308 *e*P **P 19 03 15.7 -0.4**
comp=Z,12nm,1.4s,mb5.1
MSU Marysvale 97.13 308 *e*P **P 19 03 15.7 -0.3**
MSU pmax pmax
comp=Z,12nm,1.4s,mb5.1
MVU Marysvale 97.16 308 PFAKE 19 03 30.0 +14
MVU LR LR
comp=Z,4µm,20.0s,MS5.9
KOLN Koldanda 97.30 62 *e*P **P 19 03 16.5 -0.5**
comp=Z,6.8nm,0.7s,mb5.2
DANN Dangsing 97.41 62 *e*P **P 19 03 16.9 -0.7**
SWMT Swartz Lake 97.62 318 *e*P **P 19 03 21.2 +3.1**
comp=Z,12nm,1.0s,mb5.4
MSO Missoula 97.66 317 PFAKE 19 03 30.0 +12
MSO LR LR
comp=Z,5µm,20.0s,MS6.0
BSMT Bassoo Peak 98.11 318 P **P 19 03 20.5 +0.3**
comp=Z,9.1nm,1.2s,mb5.2
GKN Gorkha 98.20 62 *e*P **P 19 03 20.5 -0.6**
comp=Z,68nm,1.5s,mb5.9
HLID Hailey 98.35 314 *e*P **P 19 03 21.2 -0.2**
comp=Z,12nm,1.4s,mb5.2
DMN Daman 98.64 62 *e*P **P 19 03 23.0 -0.1**
KKN Kakani 98.78 62 *e*P **P 19 03 23.4 -0.3**
WMQ Urumqi 99.27 46 P **P 19 03 25.5 0.0**
WMQ pP pP 19 03 30.3 +2.1
WMQ sP sP 19 03 32.5 +3.3
WMQ PP PP 19 07 30.5 +2.2
WMQ S S 19 14 52.8 -5.0
WMQ pmax pmax
comp=Z,11nm,1.3s,mb5.2
WMQ pmax pmax
comp=Z,570nm,8.5s
WMQ LR LR
comp=N,6µm,17.1s,MS6.3
WMQ LR LR
comp=E,6µm,17.0s,MS6.3
WMQ LR LR
comp=Z,4µm,34.4s
NEW Newport 99.60 319 Pdif **P 19 03 25.9 -1.0**
NEW LR LR
comp=Z,9µm,22.0s,MS6.2
NEW Newport 99.60 319 P **P 19 03 25.9 -1.0**
NEW MLR MLR
comp=Z,9µm,22.0s
BMO Blue Mountains 100.25 315 PFAKE 19 03 40.0 +10
BMO LR LR
comp=Z,4µm,19.0s,MS5.9
OD2 Odessa Site #2 100.80 318 *e*Pdif Pdif 19 03 32.1 0.0
comp=Z,14nm,1.2s
BMN Battle Mountai 100.81 311 PFAKE 19 03 40.0 +7.9
BMN LR LR
comp=Z,6µm,20.0s,MS6.1
PFO Pinyon Flat Ob 101.01 304 PFAKE 19 03 40.0 +7.0
PFO LR LR
comp=Z,3µm,22.0s,MS5.8
SBA Scott Base 101.05 180 *e*Pdif Pdif 19 03 34.6 +1.5
SBA LR LR
comp=Z,2µm,21.0s,MS5.6
SBA Scott Base 101.05 180 *e*P Pdif 19 03 34.6 +1.5
SBA MLR MLR
comp=Z,2µm,21.0s,MS5.6
TPH Tonopah 101.12 308 PFAKE 19 03 50.0 +17
TPH LR LR
comp=Z,6µm,22.0s,MS6.0
VNDA Vanda 101.35 179 P Pdif 19 03 33.6 -0.8
comp=Z,1.5nm,1.1s,baz=237,slow=2.4,SNR=4.1
VNDA Vanda 101.35 179 *e*Pdif Pdif 19 03 31.6 -2.9
VNDA LR LR
comp=Z,8µm,22.0s,MS6.2
VNDA Vanda 101.35 179 P Pdif 19 03 33.7 -0.8
VNDA pmax pmax
comp=Z,2.0nm,1.1s
HAWA Hanford 101.53 317 PFAKE 19 03 50.0 +15
HAWA LR LR
comp=Z,5µm,20.0s,MS6.1
DAC Darwin (Calif) 101.64 307 PFAKE 19 03 50.0 +14
DAC LR LR
comp=Z,3µm,22.0s,MS5.8
INK Inuvik 101.66 341 P Pdif 19 03 36.2 +0.3
comp=Z,1.6nm,0.8s,baz=62,slow=6.7,SNR=3.4
INK Inuvik 101.66 341 P Pdif 19 03 36.2 +0.3
INK Inuvik 101.66 341 P Pdif 19 03 36.2 +0.3
INK pmax pmax
comp=Z,2.0nm,0.8s
CAL Calcutta 101.86 67 *ex* x 19 03 25.1
CAL AMb AMB 19 03 25.6
comp=Z,3µm,0.3s
CAL *ex* x 19 22 32.9
NVAR Mina Array Bea 101.92 309 P Pdif 19 03 37.3 +0.3
comp=Z,0.1nm,0.3s,baz=57,slow=3.3,SNR=3.2
NVAR PKKPbc PKKPbc 19 19 55.1 +12
comp=Z,1.1nm,0.8s,baz=251,slow=4.3,SNR=5.0
NVAR Mina Array Bea 101.92 309 P Pdif 19 03 37.3 +0.3
NVAR PKKPbc PKKPbc 19 19 55.1 +12
CASY Casey 102.16 160 PFAKE 19 03 50.0 +12
CASY LR LR
comp=Z,4µm,20.0s,MS6.0
NLWA Neilton Lookou 104.23 319 PFAKE 19 04 00.0 +13
NLWA LR LR
comp=Z,10µm,21.0s,MS6.3
TLY Talaya 107.77 35 PFAKE 19 08 20.0 +9.2
TLY LR LR
comp=Z,8µm,19.0s,MS6.3
ILAR Eielson Array 108.07 341 Pdiff Pdif 19 04 10.9 +6.5
comp=Z,1.0nm,0.9s,baz=40,slow=4.6,SNR=6.2
ILAR PP PP 19 08 41.0 +8.0
comp=Z,2.6nm,1.2s,baz=32,slow=6.1,SNR=5.1
ILAR PKKP PKKPbc 19 19 35.5 +10
comp=Z,0.8nm,0.9s,baz=255,slow=3.8,SNR=5.1
ILAR Eielson Array 108.07 341 Pdif Pdif 19 04 10.8 +6.5
ILAR PP PP 19 08 41.0 +8.0
ILAR PKKP PKKPbc 19 19 35.5 +10
ILAR Eielson Array 108.07 341 P Pdif 19 04 10.9 +6.5
ILAR 19 08 41.1
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ILAR pmax pmax
comp=Z,3.0nm,1.2s
COLA College 108.32 341 PFAKE 19 08 20.0 +8.6
COLA LR LR
comp=Z,2µm,19.0s,MS5.7
DRV Dumont d'Urvil 109.83 169 SS SS 19 24 12.0 +2.8
DRV R 19 43 00.0
COCO West Island 110.10 103 PFAKE 19 08 30.0 +14
COCO LR LR
comp=Z,6µm,20.0s,MS6.2
SONM Songino Array 110.87 38 Pdiff Pdif 19 04 17.2 +0.4
comp=Z,1.3nm,0.9s,baz=42,slow=2.3,SNR=8.3
SONM PKiKP PKiKP 19 08 17.6 +0.9
comp=Z,3.3nm,0.9s,baz=227,slow=1.5,SNR=7.6
SONM PP PP 19 08 59.4 +5.4
comp=Z,4.4nm,1.1s,baz=270,slow=5.5,SNR=4.2
SONM PKKPbc PKKPbc 19 19 25.7 +10
comp=Z,1.1nm,1.1s,baz=104,slow=6.1,SNR=4.0
SONM Songino Array 110.87 38 Pdif Pdif 19 04 17.2 +0.4
SONM PKiKP PKiKP 19 08 17.6 +0.9
SONM PP PP 19 08 59.4 +5.4
SONM PKKPbc PKKPbc 19 19 25.7 +10
SONM Songino Array 110.87 38 P Pdif 19 04 17.2 +0.4
SONM 19 08 59.4
SONM 19 19 25.7
SONM pmax pmax
comp=Z,1.0nm,0.9s
SONM pmax pmax
comp=Z,4.0nm,1.1s
ULN Ulaanbaatar 111.27 38 PFAKE 19 08 30.0 +13
ULN LR LR
comp=Z,8µm,19.0s,MS6.3
CHTO Chiang Mai 112.09 70 *e*PKPdf PKiKP 19 08 18.1 -1.7
CHTO LR LR
comp=Z,4µm,21.0s,MS5.9
CHTO Chiang Mai 112.09 70 *e*PKIKP PKiKP 19 08 18.2 -1.6
CHTO MLR MLR
comp=Z,4µm,21.0s,MS5.9
CM31 Chiang Mai Arr 112.13 71 *e*PKPdf PKiKP 19 08 20.0 +0.1
CM31 LR LR
comp=Z,2µm,20.0s,MS5.7
CMAR Chiang Mai Arr 112.13 71 Pdiff Pdif 19 04 23.9 +1.5
comp=Z,0.3nm,0.8s,baz=280,slow=7.5,SNR=4.3
CMAR PKiKP PKiKP 19 08 20.1 +0.1
comp=Z,2.8nm,0.9s,baz=259,slow=2.2,SNR=9.5
CMAR PP PP 19 09 07.2 +3.1
comp=Z,2.9nm,0.9s,baz=270,slow=6.4,SNR=5.3
CMAR PKKPbc PKKPbc 19 19 11.0 -0.2
comp=Z,0.3nm,0.6s,baz=66,slow=1.1,SNR=4.5
CMAR Chiang Mai Arr 112.13 71 Pdif Pdif 19 04 23.9 +1.5
CMAR PKiKP PKiKP 19 08 20.1 +0.1
CMAR PP PP 19 09 07.2 +3.1
CMAR PKKPbc PKKPbc 19 19 11.0 -0.2
CMAR Chiang Mai Arr 112.13 71 P Pdif 19 04 23.9 +1.5
CMAR *i* 19 08 20.1
CMAR 19 09 07.3
CMAR pmax pmax
comp=Z,3.0nm,0.9s
CMAR pmax pmax
comp=Z,3.0nm,0.9s
LZH Lanzhou 112.99 51 *e*PKP PKiKP 19 08 22.0 +0.9
LZH PP PP 19 09 09.3 -0.4
LZH AMB AMB
comp=Z,850nm,6.7s
LZH LR LR
comp=N,2µm,18.9s,MS5.9
LZH LR LR
comp=E,2µm,17.0s,MS5.9
LZH LR LR
comp=Z,6µm,20.2s,MS6.2
BILL Bilibino 113.28 360 PFAKE 19 08 30.0 +9.3
BILL LR LR
comp=Z,3µm,20.0s,MS5.9
BILL Bilibino 113.28 360 *i* PKIKP PKiKP 19 08 19.0 -1.7
BILL *i* PS PS 19 18 49.0 +2.7
BILL *i* SS SS 19 25 00.3 +5.2
BILL pmax pmax
comp=Z,4.0nm,1.6s
CD2 Chengdu 114.27 57 PKP PKiKP 19 08 24.3 +0.6
CD2 PP PP 19 09 23.6 +4.7
CD2 PKS 19 11 59.6
CD2 SKS SKSdf 19 15 35.3 -1.2
CD2 SKKS SKKSac 19 16 17.3 -4.3
CD2 SS SS 19 25 10.5 -0.6
CD2 AMB AMB
comp=Z,830nm,11.6s
CD2 LR LR
comp=E,3µm,21.4s
CD2 LR LR
comp=Z,4µm,26.2s,MS5.9
KMI Kunming 114.63 63 PKP PKiKP 19 08 24.6 0.0
KMI PP PP 19 09 25.4 +3.7
KMI PKS 19 12 00.3
KMI SKKS SKKSac 19 16 19.3 -5.0
KMI SS SS 19 25 13.3 -3.0
KMI AMB AMB
comp=Z,880nm,11.3s
KMI LR LR
comp=N,2µm,21.1s,MS6.0
KMI LR LR
comp=E,3µm,18.9s,MS6.0
KMI LR LR
comp=Z,4µm,18.9s,MS6.0
KULM Kulim 114.67 85 PFAKE 19 08 40.0 +15
KULM LR LR
comp=Z,5µm,20.0s,MS6.1
KDAK Kodiak Island 114.77 337 PFAKE 19 08 30.0 +6.2
KDAK LR LR
comp=Z,4µm,21.0s,MS6.0
HHC Hu-ho-hao-te 117.05 44 *e*PKP PKPdf 19 08 29.3 +0.5
HHC PP PP 19 09 42.8 +4.8
HHC SKKS SKKSac 19 16 35.5 -4.3
HHC AMB AMB
comp=Z,1µm,9.5s
HHC LR LR
comp=N,3µm,20.2s,MS6.1
HHC LR LR
comp=E,3µm,17.8s,MS6.1
HHC LR LR
comp=Z,3µm,30.9s
XAN Xi'an 117.58 52 PKP PKPdf 19 08 33.3 +3.3
RKT Rikitea 117.73 243 *e*SS SS 19 25 58.7 +1.8
comp=Z,6µm,32.2s
RKT *e*LR LR 19 44 14.3
comp=Z,5µm,38.8s
GYA Guiyang 117.81 61 Pdif Pdif 19 04 47.1 -0.6
GYA PP PP 19 09 46.9 +3.0
GYA PKS 19 12 05.8
GYA SKKS SKKSac 19 16 38.5 -7.0
GYA SS SS 19 25 55.4 -2.3
GYA AMB AMB
comp=Z,380nm,8.2s
GYA LR LR
comp=N,2µm,24.5s,MS5.8
GYA LR LR
comp=E,1µm,25.6s,MS5.8
GYA LR LR

comp=Z,4μm,24.7s,MS5.9
ENH Enshi 119.20 56 *e*PKPdf PKPdf 19 08 32.4 -0.9
BJI Beijing 120.57 43 PKP PKPdf 19 08 35.3 -0.3
BJI SS SS 19 26 30.9 -1.2
BJI LR LR
comp=N,2μm,26.1s
BJI LR LR
comp=E,2μm,32.2s
BJI LR LR
comp=Z,3μm,38.6s
NWAO Narrogin (SRO) 122.91 131 PFAKE 19 08 50.0 +10
NWAO LR LR
comp=Z,5μm,21.0s,MS6.2
WHN Wuhan 123.08 54 PKP PKPdf 19 08 40.6 -0.1
WHN PP PP 19 10 24.3 +4.5
WHN LR LR
comp=N,7μm,16.9s,MS6.5
WHN LR LR
comp=E,4μm,16.8s,MS6.5
WHN LR LR
comp=Z,12μm,20.1s,MS6.5
KLR Kul'dur 123.88 26 *e*PKIKP PKPdf 19 08 39.7 -1.9
KLR MLR MLR
comp=Z,10μm,13.0s,MS6.7
KSM Kuching 124.34 89 PFAKE 19 08 50.0 +6.4
KSM LR LR
comp=Z,3μm,20.0s,MS6.0
CN2 Changchun 124.36 35 *e*PKP PKPdf 19 08 42.6 -0.1
CN2 PP PP 19 10 29.8 +2.1
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,4μm,19.0s,MS6.2
CN2 LR LR
comp=E,4μm,19.0s,MS6.2
CN2 LR LR
comp=Z,6μm,20.0s,MS6.2
SNY Shenyang 124.44 38 ⇓PKP PKPdf 19 08 43.0 +0.1
SNY PP PP 19 10 34.9 +6.6
SNY SKS SKSdf 19 15 53.6 -1.8
SNY LR LR
comp=N,2μm,27.0s
SNY LR LR
comp=E,2μm,21.6s
SNY LR LR
comp=Z,3μm,33.6s
TAOE Nuku Hiva Isla 125.41 258 *e*LR LR 19 48 09.4
comp=Z,5μm,21.7s
HABR Khabarovsk 125.88 25 *i* PKIKP PKPdf 19 08 44.4 -1.1
HABR *e* 19 10 36.2
HABR PPP 19 13 18.9
HABR *e*PS PS 19 20 39.1 -1.0
HABR *e*SS SS 19 27 40.1 +1.9
HABR *e*SSS 19 32 19.0
MDJ Mudanjiang 126.10 32 PKP PKPdf 19 08 46.6 +0.6
MDJ PP PP 19 10 40.5 +1.3
MDJ SS SS 19 27 41.3 -0.1
MDJ AMB AMB
comp=Z,1μm,16.0s
MDJ LR LR
comp=E,5μm,36.5s
MDJ LR LR
comp=Z,4μm,35.4s,MS5.9
GSTR Great Sitkin T 127.08 346 *e*PKPdf PKPdf 19 08 42.6 -5.1
PETK Petropavlovsk- 127.80 6 PKP PKPdf 19 08 49.2 +0.2
comp=Z,2.4nm,0.7s,baz=188,slow=2.9,SNR=2.9
PETK Petropavlovsk- 127.80 6 PKP PKPdf 19 08 49.2 +0.2
PETK Petropavlovsk- 127.80 6 PKIKP PKPdf 19 08 49.2 +0.2
PET Petropavlovsk 127.98 6 PFAKE 19 09 00.0 +11
PET LR LR
comp=Z,3μm,20.0s,MS5.9
PET Petropavlovsk 127.98 6 *e*PKIKP PKPdf 19 08 56.3 +6.9
PET *e*PS PS 19 21 01.9 +3.8
PET *e*SS SS 19 28 07.9 +4.2
PET *e*SSS 19 32 54.2
PET MLR MLR
comp=Z,3μm,23.0s,MS5.9
SSE Sheshan 128.26 50 *e*PKP PKPdf 19 08 52.0 +1.4
SSE PP PP 19 10 55.0 +0.8
SSE SS SS 19 28 05.1 -4.6
SSE AMB AMB
comp=Z,2μm,9.0s
SSE LR LR
comp=N,2μm,21.5s,MS6.1
SSE LR LR
comp=E,4μm,21.5s,MS6.1
SSE LR LR
comp=Z,5μm,17.7s,MS6.3
INCN Inchon 128.87 40 PFAKE 19 09 00.0 +8.5
INCN LR LR
comp=Z,6μm,22.0s,MS6.2
MBWA Marble Bar 129.64 119 *e*PKPdf PKPdf 19 08 50.5 -2.9
MBWA LR LR
comp=Z,6μm,20.0s,MS6.3
KSAR Wonju Array Be 129.70 40 PKP PKPdf 19 08 50.5 -2.7
KSAR Wonju Array Be 129.70 40 PKIKP PKPdf 19 08 50.5 -2.6
KSRS Korea Array 129.72 40 PKP PKPdf 19 08 50.5 -2.7
comp=Z,2.6nm,0.8s,baz=297,slow=3.0,SNR=6.5
KSRS Korea Array 129.72 40 PKIKP PKPdf 19 08 50.5 -2.7
KSRS pmax pmax
comp=Z,3.0nm,0.8s
KKM Kota Kinabalu 130.12 83 PFAKE 19 09 10.0 +15
KKM LR LR
comp=Z,4μm,20.0s,MS6.1
TBI Tubuai 130.29 238 *e*SS SS 19 28 38.1 +2.8
comp=Z,3μm,27.0s
TBI *e*LR LR 19 50 10.2
comp=Z,6μm,31.5s
TATO Taipei 130.99 57 PFAKE 19 09 10.0 +14
TATO LR LR
comp=Z,3μm,19.0s,MS6.0
YHNB Yeheng 131.01 58 PFAKE 19 09 10.0 +14
YHNB LR LR
comp=Z,4μm,22.0s,MS6.0
FORT Forrest 131.94 135 *e*PKP PKPdf 19 09 00.6 +3.0
comp=Z,17nm,0.8s
PPT Papeete 132.43 245 *e*SS SS 19 29 04.9 +2.9
comp=Z,6μm,30.0s
PPT *e*LR LR 19 51 09.8
comp=Z,7μm,23.5s
TAU Tasmania Unive 133.00 161 PFAKE 19 09 10.0 +11
TAU LR LR
comp=Z,5μm,19.0s,MS6.2
KAPI Kappang 133.41 98 PFAKE 19 09 10.0 +9.2
KAPI LR LR
comp=Z,4μm,21.0s,MS6.1
JNU Nakatsue 134.24 42 *e*PKPdf PKPdf 19 09 00.6 -1.3
ERM Erimo 134.46 24 PFAKE 19 09 10.0 +8.0
ERM LR LR
comp=Z,4μm,20.0s,MS6.1
FITZ Fitzroy Crossi 135.92 118 PKP PKPdf 19 09 04.0 -1.4
comp=Z,6.3nm,0.8s,baz=227,slow=4.1,SNR=9.2
FITZ Fitzroy Crossi 135.92 118 *e*PKP PKPpre 19 08 57.0
comp=Z,23nm,1.2s
FITZ Fitzroy Crossi 135.92 118 *e*PKPpre PKPpre 19 08 50.1
FITZ PKP PKPdf 19 09 04.0 -1.4
MAJO Matsushiro 136.44 33 *e*PKPdf PKPdf 19 09 06.1 +0.2
MAJO LR LR
comp=Z,4μm,19.0s,MS6.2
MAJO Matsushiro 136.44 33 *e*PKIKP PKPdf 19 09 06.1 +0.3
MAJO MLR MLR
comp=Z,4μm,19.0s,MS6.2
MAT Matsushiro 136.44 33 PKP PKPdf 19 09 12.4 +6.6
MJAR Matsushiro Arr 136.44 33 PKP PKPdf 19 09 06.4 +0.6
comp=Z,5.2nm,1.0s,baz=279,slow=1.2,SNR=6.6
MJAR Matsushiro Arr 136.44 33 PKP PKPdf 19 09 06.4 +0.6
MJAR Matsushiro Arr 136.44 33 PKIKP PKPdf 19 09 06.4 +0.6
MJAR pmax pmax
comp=Z,5.0nm,1.0s
SNZO South Karori 136.96 190 PFAKE 19 09 20.0 +13
SNZO LR LR
comp=Z,5μm,21.0s,MS6.2
DAV Davao City (W) 139.30 81 PFAKE 19 09 20.0 +8.3
DAV LR LR
comp=Z,4μm,21.0s,MS6.1
RAR Rarotonga 139.79 234 PFAKE 19 09 20.0 +7.6
RAR LR LR
comp=Z,3μm,21.0s,MS6.0
STKA Stephens Creek 139.81 147 PKP PKPdf 19 09 09.2 -2.9
comp=Z,3.7nm,0.6s,baz=228,slow=2.8,SNR=8.7
STKA Stephens Creek 139.81 147 *e*PKP PKPpre 19 09 05.9
comp=Z,5.8nm,0.6s
STKA Stephens Creek 139.81 147 *e*PKPpre PKPpre 19 09 05.9
STKA PKP PKPdf 19 09 09.2 -2.9
STKA Stephens Creek 139.81 147 PKIKP PKPdf 19 09 09.3 -2.9
STKA pmax pmax
comp=Z,4.0nm,0.6s
ASAR Alice Springs 140.22 130 PKhKP PKPpre 19 09 05.0
comp=Z,2.9nm,0.5s,baz=224,slow=2.7,SNR=38
ASAR PKP PKPdf 19 09 10.3 -2.8
comp=Z,9.1nm,0.8s,baz=222,slow=2.9,SNR=27
ASAR Alice Springs 140.22 130 PKPpre PKPpre 19 09 05.0
ASAR PKP PKPdf 19 09 10.3 -2.8
ASAR Alice Springs 140.22 130 PKHKP PKPpre 19 09 05.0
ASAR 19 09 10.4
AS31 Alice Springs 140.22 130 *e*PKPpre PKPpre 19 09 04.5
CAN Canberra 140.36 158 PFAKE 19 09 20.0 +6.9
CAN LR LR
comp=Z,4μm,22.0s,MS6.2
CNB Canberra Magne 140.50 158 *e*PKP PKPdf 19 09 19.3 +6.0
comp=Z,117nm,1.4s
WRA Warramunga Arr 142.54 126 PKhKP PKPpre 19 09 13.0
comp=Z,6.8nm,0.6s,baz=243,slow=2.2,SNR=26
WRA Warramunga Arr 142.54 126 PKPpre PKPpre 19 09 13.0
WRA Warramunga Arr 142.54 126 PKIKP PKPpre 19 09 13.0
WRA pmax pmax
comp=Z,7.0nm,0.6s
WB2 Warramunga Arr 142.55 126 *e*PKPpre PKPpre 19 09 12.3
WRAB Tennant Creek 142.55 126 *e*PKPpre PKPpre 19 09 12.0
WRAB LR LR
comp=Z,10μm,19.0s,MS6.6
WRAB Tennant Creek 142.55 126 *e*PKHKP PKPpre 19 09 12.0
WRAB MLR MLR
comp=Z,10μm,19.0s,MS6.6
KAKA Kakadu 143.96 114 *e*PKP PKPdf 19 09 17.7 -2.3
comp=Z,60nm,0.6s
KAKA Kakadu 143.96 114 *e*PKPdf PKPdf 19 09 17.6 -2.4
QLP Quilpie 145.33 144 *e*PKP PKPdf 19 09 21.8 -0.3
ARMA Armidale 145.72 158 *e*PKP PKPdf 19 09 25.0 +2.3
ARMA Armidale 145.72 158 *e*PKPdf PKPdf 19 09 23.3 +0.6
RAO Raoul Island 146.04 206 PFAKE 19 09 30.0 +6.7
RAO LR LR
comp=Z,3μm,20.0s,MS6.0
MIDW Midway 148.76 331 PFAKE 19 09 40.0 +12
MIDW LR LR
comp=Z,3μm,20.0s,MS6.1
EIDS Eidsvold 149.92 152 *e*PKPbc PKPbc 19 09 34.8 +0.2
CTA Charters Tower 151.34 139 *e*PKP PKPdf 19 09 38.1 +6.0
comp=Z,54nm,0.9s
CTAO Charters Tower 151.34 139 *e*PKPdf PKPdf 19 09 33.2 +1.1
CTAO *e*PKPbc PKPbc 19 09 38.0 -0.1
CTAO LR LR
comp=Z,6μm,19.0s,MS6.4
CTAO Charters Tower 151.34 139 *e*PKIKP PKPdf 19 09 33.2 +1.1
CTAO *e* 19 09 38.0
CTAO MLR MLR
comp=Z,6μm,19.0s,MS6.4
JOHN Johnston Islan 151.37 304 PFAKE 19 09 40.0 +7.8
JOHN LR LR
comp=Z,15μm,22.0s,MS6.8
COEN Coen 152.85 124 *e*PKPbc PKPbc 19 09 40.0 -1.6
GUMO Guam 155.74 58 PFAKE 19 09 50.0 +11
GUMO LR LR
comp=Z,3μm,20.0s,MS6.0
DZM Mont Dzumac 156.88 181 *e*SS SS 19 33 39.1 +0.8
comp=Z,3μm,28.9s
DZM *e*LR LR 20 02 25.0
comp=Z,8μm,27.9s
DZM Mont Dzumac 156.88 181 *e*P PKPdf 19 09 46.1 +6.3
DZM *e*S 19 10 36.3
MSVF Nonsavu 157.75 212 *e*PKPbc PKPdf 19 09 40.3 -0.7
MSVF LR LR
comp=Z,2μm,19.0s,MS6.0
MSVF Nonsavu 157.75 212 *e*PKIKP PKPdf 19 09 40.3 -0.7
MSVF MLR MLR
comp=Z,2μm,19.0s,MS6.0
PMG Port Moresby 158.50 120 *e*PKPbc PKPdf 19 09 40.8 -1.3
PMG Port Moresby 158.50 120 *e*PKIKP PKPdf 19 09 40.8 -1.3
WAKE Wake Island 162.01 358 PFAKE 19 10 00.0 +14
WAKE LR LR
comp=Z,3μm,22.0s
FUNA Funafuti 163.67 234 PFAKE 19 10 00.0 +12
FUNA LR LR
comp=Z,5μm,21.0s
HNR Honiara 167.86 150 PFAKE 19 10 00.0 +9.0
HNR LR LR
comp=Z,3μm,20.0s
TARA Tarawa 173.06 271 PFAKE 19 10 00.0 +6.1
TARA LR LR
comp=Z,2μm,22.0s

*IDC **22** 18:56:02.5±2.0, 4.°34S×101.°32E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.7/22, mbtmp3.8/8, Error ellipse: s-maj=75.9km s-min=20.9km az=55.0*
*NEIC **22** 18:56:09.1±1.4, 4.°23S×101.°46E, h45km, mb4.0/4, Error ellipse: s-maj=50.7km s-min=10.0km az=58.0*
*ISCJB **22** 18:56:12.7±2.9, 4.°1S±0.°2×101.°7E±0.°3, h89km±19km, mb3.9/12, Error ellipse: s-maj=47.5km s-min=12.1km az=150.0*
*DJA **22** 18:56:18, 4.°36S×102.°11E, h10km, MLv3.6/3*
ISC 22 18:56:13.1±2.8, 4.°1S±0.°1×101.°6E±0.°2, h77km±20km, n26, σ0.°87/25, mb3.9/12, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSI	**Kapahiang**	**1.04**	**65**	P	**Pn**	**18 56 33.7**	**+1.2**
KSI				S	**Sn**	**18 56 45.9**	**-1.1**
MDSI	**Maura Dua**	**2.56**	**99**	P	**Pn**	**18 56 53.3**	**+0.9**
LWLI	**Liwa**	**2.58**	**111**	P	**Pn**	**18 56 52.3**	**-0.4**
CM31	**Chiang Mai Arr**	**22.56**	**353**	*e*P	**P**	**19 01 06.8**	**-0.1**
	2.4nm,0.8s,mb3.6						
CMAR	**Chiang Mai Arr**	**22.56**	**353**	P	**P**	**19 01 06.3**	**-0.7**
	1.0nm,0.6s,mb3.4,baz=182,slow=8.7,SNR=13						
CMAR	**Chiang Mai Arr**	**22.56**	**353**	P	**P**	**19 01 06.3**	**-0.7**
CHTO	**Chiang Mai**	**22.91**	**353**	P	**P**	**19 01 10.2**	**-0.5**
	2.5nm,1.0s,mb3.5						
WRA	**Warramunga Arr**	**35.54**	**119**	P	**P**	**19 03 02.6**	**-0.4**
	0.6nm,0.8s,mb3.6,baz=303,slow=9.2,SNR=2.9						
WRA	**Warramunga Arr**	**35.54**	**119**	P	**P**	**19 03 02.6**	**-0.4**
WRAB	**Tennant Creek**	**35.55**	**119**	P	**P**	**19 03 02.2**	**-0.8**
	7.1nm,1.1s,mb4.5						
AS31	**Alice Springs**	**36.71**	**125**	P	**P**	**19 03 13.7**	**+0.7**
ASAR	**Alice Springs**	**36.71**	**125**	P	**P**	**19 03 12.3**	**-0.7**
	0.2nm,0.6s,mb3.2,baz=298,slow=7.3,SNR=5.5						
ASAR	**Alice Springs**	**36.71**	**125**	P	**P**	**19 03 12.3**	**-0.7**
SONM	**Songino Array**	**51.87**	**4**	P	**P**	**19 05 16.0**	**+2.6**
	1.6nm,0.7s,mb4.2,baz=189,slow=10,SNR=9.9						
SONM				PcP	PcP	19 06 26.6	+1.2
	0.6nm,0.5s,baz=187,slow=4.3,SNR=6.9						
SONM	**Songino Array**	**51.87**	**4**	P	**P**	**19 05 16.0**	**+2.6**
SONM				PcP	PcP	19 06 26.6	+1.2
ULN	**Ulaanbaatar**	**51.95**	**5**	P	**P**	**19 05 13.6**	**-0.5**
	4.2nm,1.2s,mb4.3						
MJAR	**Matsushiro Arr**	**52.90**	**37**	P	**P**	**19 05 22.5**	**+1.2**
	0.7nm,0.6s,mb3.9,baz=222,slow=8.1,SNR=3.6						
MJAR	**Matsushiro Arr**	**52.90**	**37**	P	**P**	**19 05 22.5**	**+1.2**
MKAR	**Makanchi Array**	**53.48**	**344**	P	**P**	**19 05 25.4**	**0.0**
	1.4nm,0.7s,mb4.1,baz=164,slow=8.5,SNR=6.5						
MKAR	**Makanchi Array**	**53.48**	**344**	P	**P**	**19 05 25.4**	**0.0**
ZALV	**Zalesovo Beam**	**59.52**	**349**	P	**P**	**19 06 08.3**	**+0.2**
	1.1nm,0.7s,mb4.0,baz=156,slow=6.7,SNR=3.3						
ZALV	**Zalesovo Beam**	**59.52**	**349**	P	**P**	**19 06 08.3**	**+0.2**
BVAR	**Borovoye Array**	**62.70**	**339**	P	**P**	**19 06 28.8**	**-0.8**
	2.0nm,0.8s,mb4.1,baz=141,slow=9.0,SNR=3.7						
BVAR	**Borovoye Array**	**62.70**	**339**	P	**P**	**19 06 28.8**	**-0.8**
TXAR	**Lajitas Array**	**145.28**	**41**	PKPbc	PKPbc	19 15 45.0	+2.5
	0.5nm,0.4s,baz=270,slow=1.5,SNR=7.3						
TXAR	**Lajitas Array**	**145.28**	**41**	PKPbc	PKPbc	19 15 45.0	+2.5

MAN 22 18:57:46, 9.°89N×124.°75E, h10km, mb4.6, ML3.5, MS3.5, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LLP	**Lapu-Lapu**	**0.89**	**299**	⇓*i*P	Pg	18 58 01.6	-1.5
LLP				*i* S	Sg	18 58 12.2	-2.4
TBP	**Tagbilaran**	**0.90**	**257**	*e*P	Pg	18 58 03.0	-0.3
TBP				*e*S	Sg	18 58 15.9	+0.8
CGP	**Cagayan de Oro**	**1.43**	**182**	⇓*i*P	Pn	18 58 10.6	-1.3
CGP				*i* S	Sn	18 58 31.1	+0.3
SNPH	**Sibulan**	**1.59**	**250**	*e*P	Pn	18 58 14.4	+0.2
SNPH				*e*S	Sn	18 58 38.8	+3.9
BUKP	**Musuan**	**2.02**	**171**	*e*P	Pn	18 58 22.2	+2.0
PAGZ	**Pagadian**	**2.44**	**214**	*e*P	Pn	18 58 27.7	+1.8
PAGZ				*e*S	Px	18 58 34.9	
RCP	**Roxas**	**2.58**	**310**	⇑*e*P	Pn	18 58 28.2	+0.4
IPIL	**Ipil**	**3.00**	**226**	*e*P	Pn	18 58 36.0	+2.3

*CSEM **22** 19:25:35.8±0.3, 39.°17N×40.°40E, h2km, MD2.9, Error ellipse: s-maj=8.9km s-min=6.3km az=140.0*
*ISK **22** 19:25:35.6, 39.°10N×40.°41E, h7km, MD2.9*
*ISCJB **22** 19:25:36.3±0.4, 39.°12N±0.°03×40.°41E±0.°03, h10km, Error ellipse: s-maj=4.9km s-min=3.5km az=25.5*
*DDA **22** 19:25:37.0, 39.°18N×40.°49E, h7km±4km, Md3.1*
ISC 22 19:25:36.5±0.5, 39.°13N±0.°03×40.°40E±0.°04, h4km±6km, n28, σ1.°04/40, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNGB	**Bing¯¶l**	**0.26**	**122**	*e*PG	**Pg**	**19 25 40.7**	**-0.8**
BNGB				*e*SG	**Sg**	**19 25 44.8**	**-0.2**
BINT	**Bingol**	**0.27**	**164**	*e*Pg	**Pg**	**19 25 40.7**	**-0.9**
BINT				*e*Sg	**Sg**	**19 25 44.8**	**-0.3**
BNGL	**BINGOL**	**0.61**	**107**	*e*P	**Pg**	**19 25 47.3**	**-1.0**
BNGL				*i* S	**Sg**	**19 25 57.2**	**+0.9**
ERZN	**Erzincan**	**0.69**	**311**	*e*PG	**Pg**	**19 25 49.7**	**0.0**
ERZN				*e*SG	**Sg**	**19 26 00.9**	**+2.2**
PTK	**Pertek**	**0.82**	**253**	*e*PG	**Pg**	**19 25 51.5**	**-0.7**
PTK	**Pertek**	**0.82**	**253**	*e*Pg	**Pg**	**19 25 51.5**	**-0.6**
VRTB	**Varto-Mus**	**0.83**	**88**	*e*PG	**Pg**	**19 25 51.4**	**-1.0**
VRTB				*e*SG	**Sg**	**19 26 03.6**	**+0.6**
VRTB	**Varto-Mus**	**0.83**	**88**	*e*Pg	**Pg**	**19 25 51.4**	**-0.9**
VRTB				*e*Sg	**Sg**	**19 26 03.6**	**+0.6**
EZC	**Erzincan**	**1.02**	**308**	*e*PG	**Pg**	**19 25 56.1**	**+0.1**
EZC	**Erzincan**	**1.02**	**308**	*e*Pg	**Pg**	**19 25 49.7**	**-6.3**
EZC				*e*Sg	**Sg**	**19 26 00.9**	**-8.3**
EZM	**Erzurum**	**1.08**	**44**	*e*PN	**Pn**	**19 25 56.5**	**-1.7**
ERZM	**Erzurum**	**1.08**	**44**	*e*P	**Pg**	**19 25 56.2**	**-1.0**
ERZM				*i* S	**Sg**	**19 26 13.5**	**+2.4**
ERZM	**Erzurum**	**1.08**	**44**	*e*P	**Pg**	**19 25 56.2**	**-1.0**
ERZM				*i* S	**Sg**	**19 26 13.5**	**+2.4**
SVRC	**Sivrice-ELAZID**	**1.14**	**229**	*e*PN	**Pn**	**19 25 58.2**	**-0.9**
SVRC	**Sivrice-ELAZID**	**1.14**	**229**	*e*Pn	**Pn**	**19 25 58.2**	**-0.9**
DIYA	**Diyarbakir**	**1.23**	**190**	*e*P	**Pg**	**19 26 01.5**	**+1.6**
DIYA				*i* S	**Sg**	**19 26 20.1**	**+4.2**
DIYA	**Diyarbakir**	**1.23**	**190**	*e*P	**Pg**	**19 26 01.5**	**+1.5**
DIYA				*i* S	**Sg**	**19 26 20.1**	**+4.3**
BAYT	**Ayd¯–ntepe-Bay**	**1.28**	**351**	*e*PN	**Pn**	**19 26 00.7**	**-0.3**
BAYT	**Ayd¯–ntepe-Bay**	**1.28**	**351**	*e*Pn	**Pn**	**19 26 00.7**	**-0.3**
BEST	**Besiri**	**1.42**	**151**	*e*P	**Pn**	**19 26 03.7**	**+0.8**
BEST				*i* S	**Sb**	**19 26 23.6**	**+1.9**
GUMT	**Gumushane**	**1.50**	**332**	*e*PN	**Pn**	**19 26 04.6**	**+0.4**
GUMT	**Gumushane**	**1.50**	**332**	*e*Pn	**Pn**	**19 26 04.6**	**+0.5**
MYA	**Malataya**	**1.74**	**243**	*e*PN	**Pn**	**19 26 07.5**	**+0.1**
MYA	**Malataya**	**1.74**	**243**	*e*Pn	**Pn**	**19 26 07.5**	**+0.1**
MALT	**Malatya**	**1.74**	**243**	*e*PN	**Pn**	**19 26 06.9**	**-0.5**
MALT	**Malatya**	**1.74**	**243**	*e*Pn	**Pn**	**19 26 06.9**	**-0.5**
AGRB	**Hanur-Agry**	**2.06**	**77**	*e*PN	**Pn**	**19 26 11.7**	**-0.1**
AGRB	**Hanur-Agry**	**2.06**	**77**	*e*Pn	**Pn**	**19 26 11.7**	**-0.1**

MAN 22 19:26:11, 14.°96N×119.°85E, h35km, mb4.6, ML3.5, MS3.4, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCZP	**Santa Cruz**	**0.81**	**4**	*e*P	Pn	19 26 27.4	+1.4
LUBP	**Lubang**	**1.28**	**162**	*e*P	Pn	19 26 33.0	+0.6
TGY	**Tagaytay City**	**1.36**	**129**	⇑*i*P	Pn	19 26 35.6	+2.2
BOLP	**Bolinao**	**1.41**	**3**	*e*P	Pn	19 26 35.6	+1.4
BCPH	**Baguio City Da**	**1.58**	**27**	⇑*i*P	Pn	19 26 38.0	+1.5
BALP	**Baler**	**1.84**	**65**	*e*P	Pn	19 26 40.3	+0.2
POLP	**Polilio Island**	**2.04**	**96**	*e*P	Pn	19 26 44.4	+1.6
BOAC	**Boac**	**2.45**	**127**	*e*P	Pn	19 26 50.1	+1.6
CAUP	**Cauayan**	**2.74**	**44**	*e*P	Pn	19 26 53.9	+1.4
ABRA	**Dolores**	**2.80**	**17**	*e*P	Pn	19 26 56.4	+3.1
BUSP	**Coron**	**2.96**	**173**	*e*P	Pn	19 26 57.5	+2.0
APYP	**Conner**	**3.18**	**25**	*e*P	Pn	19 26 60.0	+1.4
ENPP	**El Nido**	**3.76**	**186**	*e*P	Pn	19 27 07.7	+1.2

IDC 22 19:30:11.9±4.2, 29.°17N×141.°27E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/24, mbtmp3.3/4, ML3.2/1, Error ellipse: s-maj=158.8km s-min=27.3km az=74.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**7.79**	**341**	Pn	Pn	19 32 05.7	-0.7
	0.3nm,0.3s,baz=158,slow=11,SNR=6.2						
MKAR	**Makanchi Array**	**48.55**	**308**	P	P	19 38 55.7	-1.0
	0.9nm,0.8s,baz=87,slow=7.4,SNR=2.4						
WRA	**Warramunga Arr**	**49.28**	**189**	P	P	19 39 02.5	-0.1
	0.7nm,0.9s,baz=9.6,slow=8.2,SNR=3.3						
KURK	**Kurchatov**	**50.97**	**313**	P	P	19 39 16.6	+1.5
	0.3nm,0.5s,baz=90,slow=6.8,SNR=6.9						

IDC 22 19:34:22.9±1.2, 56.°12S×26.°18W, h0km, mb4.1/2, mb1 4.1/2, mb1mx3.6/16, mbtmp4.1/2, Error ellipse: s-maj=89.6km s-min=29.9km az=100.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QSPA	**South Pole Qui**	**34.13**	**180**	P	P	19 41 09.4	+0.6
	1.4nm,0.6s,baz=266,slow=1.9,SNR=14						
TORD	**Torodi Ar. Bea**	**72.84**	**28**	P	P	19 45 53.6	+0.4
	1.3nm,0.6s,baz=199,slow=6.4,SNR=18						
SONM	**Songino Array**	**150.17**	**86**	PKPbc	PKPbc	19 54 13.6	-0.9
	0.3nm,0.7s,baz=255,slow=3.2,SNR=3.7						
ILAR	**Eielson Array**	**150.59**	**311**	PKPbc	PKPbc	19 54 14.7	-0.4
	0.8nm,0.8s,baz=134,slow=2.6,SNR=8.4						

*MDD **22** 19:36:38.4±1.2, 35.°71N×8.°83W, h48km±49km, mb4.2/28, Error ellipse: s-maj=13.0km s-min=6.8km az=42.0, PRIMO*
*NEIC **22** 19:36:38.6, 35.°90N×8.°61W, h0km, MN2.7(MDD), After MDD.*
*CNRM **22** 19:36:38.3, 35.°20N×9.°22W, h30km, MD3.1*
*ISCJB **22** 19:36:38.4±0.6, 35.°95N±0.°03×8.°46W±0.°04, h10km, Error ellipse: s-maj=5.5km s-min=2.7km az=41.5*
*INMG **22** 19:36:39.2±1.0, 35.°70N×8.°83W, h31km, ML2.4, Error ellipse: s-maj=3.9km s-min=2.2km az=54.0*
*CSEM **22** 19:36:39.5±0.3, 35.°97N×8.°52W, h10km, ML3.3/22, Error ellipse: s-maj=6.0km s-min=3.0km az=43.0*
ISC 22 19:36:39.5±0.6, 35.°97N±0.°03×8.°51W±0.°04, h10km, n135, σ1.°00/253, 6C, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.19**	**348**	P	**Pb**	**19 37 01.3**	**-0.8**
PFVI				S	**Sb**	**19 37 17.8**	**+0.3**
PFVI	**Vila Bisbo**	**1.19**	**348**	P	**Pb**	**19 37 01.3**	**-0.8**
	3.9nm,0.0s,SNR=20						
PFVI				S	**Sb**	**19 37 17.8**	**+0.3**
	37nm,0.1s,SNR=17						
PFVI	**Vila Bisbo**	**1.19**	**348**	P	**Pb**	**19 37 01.3**	**-0.8**
	3.9nm,0.0s,SNR=20						
PFVI				S	**Sb**	**19 37 17.8**	**+0.2**
	37nm,0.1s,SNR=17						
PFVI				*e*Sn	**Sn**	**19 37 18.1**	**-0.3**
	23nm,0.2s						
PFVI	**Vila Bisbo**	**1.19**	**348**	*e*Pn	**Pb**	**19 37 01.3**	**-0.8**
PFVI				*e*Sn	**Sn**	**19 37 18.1**	**-0.3**
PFVI				A		19 37 19.1	
	23nm,0.2s						
MORF	**Marmelete**	**1.34**	**355**	P	**Pn**	**19 37 03.9**	**-0.3**
	SNR=7.9						
MORF				S	**Sb**	**19 37 21.4**	**-0.5**
	SNR=7.9						
MORF	**Marmelete**	**1.34**	**355**	⇑*e*Pn	**Pn**	**19 37 03.7**	**-0.5**
MORF				*e*Sn	**Sn**	**19 37 22.9**	**+0.8**
MORF				A		19 37 23.3	
	65nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.36**	**20**	*e*Pn	**Pn**	**19 37 05.3**	**+0.9**
PBDV				*e*Sn	**Sn**	**19 37 24.8**	**+2.3**
	7.8nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.36**	**20**	*e*Pn	**Pn**	**19 37 05.3**	**+0.9**
PBDV				*e*Sn	**Sn**	**19 37 24.8**	**+2.3**
PBDV				A		19 37 30.5	
	7.8nm,0.2s						
PVAQ	**Vaqueiros**	**1.57**	**24**	⇑*e*Pn	**Pn**	**19 37 08.1**	**+0.7**
PVAQ				*e*Sn	**Sn**	**19 37 30.0**	**+2.3**
PVAQ				A		19 37 36.6	
	13nm,0.1s						
PTEO	**Sao Teotonio**	**1.58**	**354**	*e*Pn	**Pn**	**19 37 07.0**	**-0.6**
PTEO				*e*Sn	**Sn**	**19 37 28.2**	**+0.1**
	30nm,0.2s						

PTEO	**Sao Teotonio**	**1.58**	**354**	*e*Pn	**Pn**	**19 37 07.0**	**-0.6**
PTEO				*e*Sn	**Sn**	**19 37 28.2**	**+0.1**
PTEO				A		19 37 31.3	
	30nm,0.2s						
PCVE	**Castro Verde**	**1.70**	**13**	*e*Pn	**Pn**	**19 37 10.0**	**+0.8**
PCVE				*e*Sn	**Sn**	**19 37 32.8**	**+1.7**
	11nm,0.4s						
PCVE	**Castro Verde**	**1.70**	**13**	*e*Pn	**Pn**	**19 37 10.0**	**+0.8**
PCVE				*e*Sn	**Sn**	**19 37 32.8**	**+1.7**
PCVE				A		19 37 34.6	
	11nm,0.4s						
EGRO	**El Granado**	**1.77**	**28**	⇑P	**Pn**	**19 37 11.2**	**+1.1**
EGRO				S	**Sn**	**19 37 34.6**	**+1.9**
EGRO	**El Granado**	**1.77**	**28**	⇑P	**Pn**	**19 37 11.2**	**+1.1**
	5.1nm,0.1s,SNR=18						
EGRO				S	**Sn**	**19 37 34.6**	**+1.9**
	19nm,0.1s,SNR=15						
EGRO	**El Granado**	**1.77**	**28**	P	**Pn**	**19 37 11.2**	**+1.1**
	5.1nm,0.1s,SNR=18						
EGRO				S	**Sn**	**19 37 34.6**	**+2.0**
	19nm,0.1s,SNR=15						
PBEJ	**Beja**	**2.12**	**14**	*e*Pn	**Pn**	**19 37 15.3**	**+0.4**
PBEJ				*e*Sn	**Sn**	**19 37 42.7**	**+1.4**
	7.9nm,0.2s						
PBEJ	**Beja**	**2.12**	**14**	*e*Pn	**Pn**	**19 37 15.3**	**+0.4**
PBEJ				*e*Sn	**Sn**	**19 37 42.7**	**+1.4**
PBEJ				A		19 37 45.1	
	7.9nm,0.2s						
PNCL	**Nicolau / Gran**	**2.14**	**360**	*e*Pn	**Pn**	**19 37 14.9**	**-0.3**
PNCL				*e*Sn	**Sn**	**19 37 41.7**	**-0.1**
	18nm,0.2s						
PNCL	**Nicolau / Gran**	**2.14**	**360**	*e*Pn	**Pn**	**19 37 14.9**	**-0.3**
PNCL				*e*Sn	**Sn**	**19 37 41.7**	**-0.1**
PNCL				A		19 37 44.5	
	18nm,0.2s						
ESPR	**Espera**	**2.32**	**66**	P	**Pn**	**19 37 18.2**	**+0.5**
ESPR				S	**Sn**	**19 37 47.5**	**+1.2**
ESPR	**Espera**	**2.32**	**66**	P	**Pn**	**19 37 18.2**	**+0.5**
	3.2nm,0.1s,SNR=79						
ESPR				S	**Sn**	**19 37 47.5**	**+1.2**
	9.4nm,0.2s						
ESPR	**Espera**	**2.32**	**66**	P	**Pn**	**19 37 18.2**	**+0.5**
	3.2nm,0.1s,SNR=79						
ESPR				S	**Sn**	**19 37 47.5**	**+1.2**
	9.4nm,0.2s						
EMIN	**Mina Concepcio**	**2.32**	**39**	⇑P	**Pn**	**19 37 18.5**	**+0.8**
EMIN				S	**Sn**	**19 37 47.3**	**+0.9**
EMIN	**Mina Concepcio**	**2.32**	**39**	⇑P	**Pn**	**19 37 18.5**	**+0.8**
	3.3nm,0.1s,SNR=18						
EMIN				S	**Sn**	**19 37 47.3**	**+0.9**
	6.4nm,0.1s,SNR=88						
EMIN	**Mina Concepcio**	**2.32**	**39**	P	**Pn**	**19 37 18.5**	**+0.8**
	3.3nm,0.1s,SNR=18						
EMIN				S	**Sn**	**19 37 47.3**	**+1.0**
	6.4nm,0.1s,SNR=88						
PBAR	**Barrancos**	**2.50**	**28**	*e*Pn	**Pn**	**19 37 20.9**	**+0.8**
PBAR				*e*Sn	**Sn**	**19 37 52.3**	**+1.7**
	4.6nm,0.3s						
PBAR	**Barrancos**	**2.50**	**28**	*e*Pn	**Pn**	**19 37 20.9**	**+0.8**
PBAR				*e*Sn	**Sn**	**19 37 52.3**	**+1.7**
PBAR				A		19 37 55.6	
	4.6nm,0.3s						
EJIF	**Jimena Fronter**	**2.51**	**78**	P	**Pn**	**19 37 21.1**	**+0.9**
EJIF				S	**Sn**	**19 37 50.7**	**-0.1**
EJIF	**Jimena Fronter**	**2.51**	**78**	P	**Pn**	**19 37 21.1**	**+0.9**
	6.4nm,0.1s,SNR=7.9						
EJIF				S	**Sn**	**19 37 50.7**	**-0.1**
	1.1nm,0.1s,SNR=7.9						
EJIF	**Jimena Fronter**	**2.51**	**78**	P	**Pn**	**19 37 21.1**	**+0.9**
	6.4nm,0.1s,SNR=7.9						
EJIF				S	**Sn**	**19 37 50.7**	**-0.2**
	1.1nm,0.1s,SNR=7.9						
MOE	**Montemor**	**2.55**	**3**	*e*Pn	**Pn**	**19 37 21.6**	**+0.7**
MOE				*e*Sn	**Sn**	**19 37 52.5**	**+0.5**
MOE	**Montemor**	**2.55**	**3**	*e*Pn	**Pn**	**19 37 21.6**	**+0.7**
MOE				*e*Sn	**Sn**	**19 37 52.5**	**+0.5**
EVO	**Evora**	**2.59**	**9**	*e*Pn	**Pn**	**19 37 21.4**	**0.0**
EVO				*e*Sn	**Sn**	**19 37 53.3**	**+0.4**
	27nm,0.1s						
EVO	**Evora**	**2.59**	**9**	*e*Pn	**Pn**	**19 37 21.4**	**0.0**
EVO				*e*Sn	**Sn**	**19 37 53.3**	**+0.4**
EVO				A		19 37 53.8	
	27nm,0.1s						
PESTR	**Estremoz**	**2.99**	**14**	*e*Pn	**Pn**	**19 37 27.5**	**+0.7**
PESTR				*e*Sn	**Sn**	**19 38 03.3**	**+0.6**
	3.7nm,0.6s						
PESTR	**Estremoz**	**2.99**	**14**	*e*Pn	**Pn**	**19 37 27.5**	**+0.7**
PESTR				*e*Sn	**Sn**	**19 38 03.3**	**+0.6**
PESTR				A		19 38 04.4	
	3.7nm,0.6s						
EBAD	**Badajoz**	**3.03**	**23**	P	**Pn**	**19 37 27.7**	**+0.3**
EBAD				S	**Sn**	**19 38 04.8**	**+1.1**
EBAD	**Badajoz**	**3.03**	**23**	P	**Pn**	**19 37 27.7**	**+0.3**
	2.3nm,0.1s,SNR=33						
EBAD				S	**Sn**	**19 38 04.8**	**+1.1**
	3.5nm,0.1s,SNR=4.7						
EBAD	**Badajoz**	**3.03**	**23**	P	**Pn**	**19 37 27.7**	**+0.3**
	2.3nm,0.1s,SNR=33						
EBAD				S	**Sn**	**19 38 04.8**	**+1.1**
	3.5nm,0.1s,SNR=4.7						
PMAFR	**Mafra**	**3.04**	**349**	P	**Pn**	**19 37 27.4**	**-0.3**
	5.3nm,0.3s,SNR=7.9						
PMAFR				S	**Sn**	**19 38 02.2**	**-1.9**
	16nm,0.1s,SNR=7.9						
PMAFR	**Mafra**	**3.04**	**349**	*e*Pn	**Pn**	**19 37 27.0**	**-0.6**
PMAFR	**Mafra**	**3.04**	**349**	P	**Pn**	**19 37 27.4**	**-0.2**
	5.3nm,0.3s,SNR=7.9						
PMAFR				S	**Sn**	**19 38 02.2**	**-1.9**
	16nm,0.1s,SNR=7.9						
PMAFR				*e*Sn	**Sn**	**19 38 02.5**	**-1.6**
	21nm,0.3s						
PMAFR	**Mafra**	**3.04**	**349**	*e*Pn	**Pn**	**19 37 27.0**	**-0.6**
PMAFR				*e*Sn	**Sn**	**19 38 02.5**	**-1.6**
PMAFR				A		19 38 06.6	
	21nm,0.3s						
EMIJ	**Mijas**	**3.08**	**78**	P	**Pn**	**19 37 27.5**	**-0.6**
EMIJ				S	**Sn**	**19 38 04.6**	**-0.4**
EMIJ	**Mijas**	**3.08**	**78**	P	**Pn**	**19 37 27.5**	**-0.6**
	1.1nm,0.1s,SNR=8.3						
EMIJ				S	**Sn**	**19 38 04.6**	**-0.4**
	1.0nm,0.1s						
EMIJ	**Mijas**	**3.08**	**78**	P	**Pn**	**19 37 27.5**	**-0.6**
	1.1nm,0.1s,SNR=8.3						
EMIJ				S	**Sn**	**19 38 04.6**	**-0.4**
	1.0nm,0.1s						
PMTG	**Montargil**	**3.10**	**4**	*e*Pn	**Pn**	**19 37 28.4**	**-0.1**
PMTG				*e*Sn	**Sn**	**19 38 04.6**	**-1.0**
	7.0nm,0.4s						
PMTG	**Montargil**	**3.10**	**4**	*e*Pn	**Pn**	**19 37 28.4**	**-0.1**
PMTG				*e*Sn	**Sn**	**19 38 04.6**	**-1.0**
PMTG				A		19 38 07.8	
	7.0nm,0.4s						
PMRV	**Marv??o**	**3.57**	**14**	*e*Pn	**Pn**	**19 37 35.2**	**+0.4**
PMRV				*e*Sn	**Sn**	**19 38 17.1**	**+0.1**
	5.4nm,0.2s						
PMRV	**Marv??o**	**3.57**	**14**	*e*Pn	**Pn**	**19 37 35.2**	**+0.4**
PMRV				*e*Sn	**Sn**	**19 38 17.1**	**+0.1**
PMRV				A		19 38 19.0	
	5.4nm,0.2s						
PTOM	**Tomar**	**3.65**	**1**	*e*Pn	**Pn**	**19 37 36.0**	**+0.1**
PTOM				*e*Sn	**Sn**	**19 38 17.6**	**-1.3**
	9.8nm,0.1s						
PTOM	**Tomar**	**3.65**	**1**	*e*Pn	**Pn**	**19 37 36.0**	**+0.1**
PTOM				*e*Sn	**Sn**	**19 38 17.6**	**-1.3**
PTOM				A		19 38 19.4	
	9.8nm,0.1s						
ELOJ	**Sierra Loja**	**3.70**	**70**	P	**Pn**	**19 37 37.5**	**+0.9**
ELOJ				S	**Sn**	**19 38 21.6**	**+1.3**
ELOJ	**Sierra Loja**	**3.70**	**70**	P	**Pn**	**19 37 37.5**	**+0.9**
	0.9nm,0.2s,SNR=7.9						
ELOJ				S	**Sn**	**19 38 21.6**	**+1.3**
	2.7nm,0.2s,SNR=4.0						
ELOJ	**Sierra Loja**	**3.70**	**70**	P	**Pn**	**19 37 37.5**	**+0.8**
	0.9nm,0.2s,SNR=7.9						
ELOJ				S	**Sn**	**19 38 21.6**	**+1.3**
	2.7nm,0.2s,SNR=4.0						
ELUQ	**Luque**	**3.76**	**64**	P	**Pn**	**19 37 38.2**	**+0.7**
ELUQ				S	**Sn**	**19 38 22.4**	**+0.7**
ELUQ	**Luque**	**3.76**	**64**	P	**Pn**	**19 37 38.2**	**+0.7**
	1.4nm,0.1s,SNR=7.9						
ELUQ				S	**Sn**	**19 38 22.4**	**+0.7**
	1.8nm,0.2s,SNR=4.0						
ELUQ	**Luque**	**3.76**	**64**	P	**Pn**	**19 37 38.2**	**+0.7**
	1.4nm,0.1s,SNR=7.9						
ELUQ				S	**Sn**	**19 38 22.4**	**+0.6**
	1.8nm,0.2s,SNR=4.0						
EADA	**Adamuz**	**3.84**	**54**	P	**Pn**	**19 37 39.3**	**+0.7**
EADA				S	**Sn**	**19 38 24.5**	**+0.9**
EADA	**Adamuz**	**3.84**	**54**	P	**Pn**	**19 37 39.3**	**+0.7**
	2.0nm,0.1s,SNR=73						
EADA				S	**Sn**	**19 38 24.5**	**+0.9**
	2.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.84**	**54**	P	**Pn**	**19 37 39.3**	**+0.8**
	2.0nm,0.1s,SNR=73						
EADA				S	**Sn**	**19 38 24.5**	**+0.8**
	2.2nm,0.1s,SNR=7.9						
ERON	**Agron**	**3.93**	**73**	P	**Pn**	**19 37 41.3**	**+1.4**
ERON				S	**Sn**	**19 38 26.6**	**+0.5**
ERON	**Agron**	**3.93**	**73**	P	**Pn**	**19 37 41.3**	**+1.4**
	0.4nm,0.1s,SNR=7.9						
ERON				S	**Sn**	**19 38 26.6**	**+0.5**
	0.3nm,0.1s,SNR=4.0						
ERON	**Agron**	**3.93**	**73**	P	**Pn**	**19 37 41.3**	**+1.4**
	0.4nm,0.1s,SNR=7.9						
ERON				S	**Sn**	**19 38 26.6**	**+0.5**
	0.3nm,0.1s,SNR=4.0						
PCBR	**Castelo Branco**	**3.95**	**12**	*e*Pn	**Pn**	**19 37 40.4**	**+0.3**
PCBR				*e*Sn	**Sn**	**19 38 25.8**	**-0.7**
	10nm,0.2s						
PCBR	**Castelo Branco**	**3.95**	**12**	*e*Pn	**Pn**	**19 37 40.4**	**+0.3**
PCBR				*e*Sn	**Sn**	**19 38 25.8**	**-0.7**
PCBR				A		19 38 27.8	
	10nm,0.2s						
KIB	**El Ksiba**	**3.95**	**148**	P	**Pn**	**19 37 34.0**	**-6.1**
KIB				S	**Sn**	**19 38 14.0**	**-13**
KIB	**El Ksiba**	**3.95**	**148**	*i* P	**Pn**	**19 37 34.0**	**-6.1**
TZK	**Tazeka**	**4.01**	**117**	P	**Pn**	**19 37 40.0**	**-1.0**
TZK				S	**Sn**	**19 38 26.5**	**-1.6**
TZK	**Tazeka**	**4.01**	**117**	*e*P	**Pn**	**19 37 40.0**	**-1.0**
TZK				*i* S	**Sn**	**19 38 26.5**	**-1.6**
EGUA	**Guajares**	**4.08**	**76**	P	**Pn**	**19 37 42.9**	**+1.0**
EGUA				S	**Sn**	**19 38 28.3**	**-1.5**
EGUA	**Guajares**	**4.08**	**76**	P	**Pn**	**19 37 42.9**	**+1.0**
	1.1nm,0.1s,SNR=7.9						
EGUA				S	**Sn**	**19 38 28.3**	**-1.5**
	1.1nm,0.1s,SNR=4.0						
EGUA	**Guajares**	**4.08**	**76**	P	**Pn**	**19 37 42.9**	**+1.0**
	1.1nm,0.1s,SNR=7.9						
EGUA				S	**Sn**	**19 38 28.3**	**-1.4**
	1.1nm,0.1s,SNR=4.0						
CZD	**Col de Zad**	**4.09**	**135**	P	**Pn**	**19 37 38.0**	**-4.1**
CZD	**Col de Zad**	**4.09**	**135**	*i* P	**Pn**	**19 37 38.0**	**-4.1**
ECOG	**Cogollos-Vega**	**4.19**	**70**	P	**Pn**	**19 37 44.5**	**+1.1**
ECOG				S	**Sn**	**19 38 30.8**	**-1.5**
ECOG	**Cogollos-Vega**	**4.19**	**70**	P	**Pn**	**19 37 44.5**	**+1.1**
	2.4nm,0.1s,SNR=7.9						
ECOG				S	**Sn**	**19 38 30.8**	**-1.5**
	3.4nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**4.19**	**70**	P	**Pn**	**19 37 44.5**	**+1.2**
	2.4nm,0.1s,SNR=7.9						
ECOG				S	**Sn**	**19 38 30.8**	**-1.5**
	3.4nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**4.26**	**72**	P	**Pn**	**19 37 45.6**	**+1.2**
	0.6nm,0.1s,SNR=7.1						
EQUE				S	**Sn**	**19 38 34.4**	**+0.3**
	0.5nm,0.1s,SNR=4.5						
EQUE	**Quentar**	**4.26**	**72**	P	**Pn**	**19 37 45.6**	**+1.2**
	0.6nm,0.1s,SNR=7.1						
EQUE				S	**Sn**	**19 38 34.4**	**+0.2**
	0.5nm,0.1s,SNR=4.5						
MTE	**Manteigas**	**4.49**	**9**	*e*Sn	**Sn**	**19 38 38.9**	**-0.9**
	5.3nm,0.2s						
MTE	**Manteigas**	**4.49**	**9**	*e*Sn	**Sn**	**19 38 38.9**	**-0.9**
MTE				A		19 38 42.2	
	5.3nm,0.2s						
EPLA	**Plasencia**	**4.52**	**24**	P	**Pn**	**19 37 47.8**	**0.0**
EPLA				S	**Sn**	**19 38 40.0**	**-0.5**
EPLA	**Plasencia**	**4.52**	**24**	P	**Pn**	**19 37 47.8**	**-0.1**
	1.7nm,0.0s,SNR=7.9						
EPLA				S	**Sn**	**19 38 40.0**	**-0.5**
	2.0nm,0.1s,SNR=7.9						
EPLA	**Plasencia**	**4.52**	**24**	P	**Pn**	**19 37 47.8**	**-0.1**
	1.7nm,0.0s,SNR=7.9						
EPLA				S	**Sn**	**19 38 40.0**	**-0.4**
	2.0nm,0.1s,SNR=7.9						
EBER	**Berja**	**4.63**	**77**	P	**Pn**	**19 37 49.6**	**+0.3**
EBER				S	**Sn**	**19 38 42.2**	**-0.9**
EBER	**Berja**	**4.63**	**77**	P	**Pn**	**19 37 49.6**	**+0.3**
	0.3nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**19 38 42.2**	**-0.9**
	0.9nm,0.3s,SNR=4.0						
EBER	**Berja**	**4.63**	**77**	P	**Pn**	**19 37 49.7**	**+0.3**
EBER				S	**Sn**	**19 38 42.2**	**-0.9**
	0.9nm,0.3s,SNR=4.0						
EQES	**Quesada**	**4.73**	**66**	P	**Pn**	**19 37 51.1**	**+0.3**
EQES				S	**Sn**	**19 38 44.3**	**-1.4**
EQES	**Quesada**	**4.73**	**66**	P	**Pn**	**19 37 51.1**	**+0.3**
	1.5nm,0.1s,SNR=21						
EQES				S	**Sn**	**19 38 44.3**	**-1.4**
	1.4nm,0.1s,SNR=7.9						
EQES	**Quesada**	**4.73**	**66**	P	**Pn**	**19 37 51.1**	**+0.3**
	1.5nm,0.1s,SNR=21						
EQES				S	**Sn**	**19 38 44.3**	**-1.4**
	1.4nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**4.76**	**6**	*e*Pn	**Pn**	**19 37 51.5**	**+0.2**
PVIS				*e*Sn	**Sn**	**19 38 45.9**	**-0.6**
	3.6nm,0.1s						
PVIS	**Viseu**	**4.76**	**6**	*e*Pn	**Pn**	**19 37 51.5**	**+0.2**
PVIS				*e*Sn	**Sn**	**19 38 45.9**	**-0.6**
PVIS				A		19 38 48.6	
	3.6nm,0.1s						
EHUE	**Huescar**	**5.09**	**67**	P	**Pn**	**19 37 55.7**	**0.0**
EHUE				S	**Sn**	**19 38 53.2**	**-1.3**
EHUE	**Huescar**	**5.09**	**67**	P	**Pn**	**19 37 55.7**	**0.0**
	2.7nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**19 38 53.2**	**-1.3**
	0.9nm,0.1s,SNR=7.9						
EHUE	**Huescar**	**5.09**	**67**	P	**Pn**	**19 37 55.7**	**0.0**
	2.7nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**19 38 53.2**	**-1.3**
	0.9nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**5.16**	**43**	P	**Pn**	**19 37 57.0**	**+0.3**
ESDC				S	**Sn**	**19 38 54.7**	**-1.6**
ESDC	**Sonseca Array**	**5.16**	**43**	P	**Pn**	**19 37 57.0**	**+0.3**
	2.6nm,0.1s,baz=231,slow=12,SNR=5.9						
ESDC				S	**Sn**	**19 38 54.7**	**-1.6**
	0.9nm,0.1s,baz=228,slow=22,SNR=4.4						
ESDC	**Sonseca Array**	**5.16**	**43**	P	**Pn**	**19 37 57.0**	**+0.3**
	2.6nm,0.1s,slow=12,SNR=5.9						
ESDC				S	**Sn**	**19 38 54.7**	**-1.6**
	0.9nm,0.1s,slow=22,SNR=4.4						
ZFT	**Errachidia**	**5.23**	**137**	P	**Pn**	**19 37 54.0**	**-3.6**
ZFT	**Errachidia**	**5.23**	**137**	*e*P	**Pn**	**19 37 54.0**	**-3.6**
MVO	**Moncorvo**	**5.32**	**12**	P	**Pn**	**19 37 59.0**	**+0.2**
MVO				S	**Sn**	**19 38 58.3**	**-1.9**
MVO	**Moncorvo**	**5.32**	**12**	P	**Pn**	**19 37 59.0**	**+0.2**
	0.8nm,0.1s,SNR=6.2						
MVO				S	**Sn**	**19 38 58.3**	**-1.9**
	2.1nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.32**	**12**	P	**Pn**	**19 37 59.0**	**+0.1**
	0.8nm,0.1s,SNR=6.2						
MVO				*e*Sn	**Sn**	**19 38 58.4**	**-1.7**
	3.2nm,0.6s						
MVO	**Moncorvo**	**5.32**	**12**	*e*Pn	**Pn**	**19 37 59.2**	**+0.3**
MVO				*e*Sn	**Sn**	**19 38 58.4**	**-1.7**
MVO				A		19 39 01.1	
	3.2nm,0.6s						
PVRL	**Vila Real**	**5.34**	**6**	*e*Sn	**Sn**	**19 38 58.9**	**-1.7**
	6.6nm,0.1s						
PVRL	**Vila Real**	**5.34**	**6**	*e*Sn	**Sn**	**19 38 58.9**	**-1.7**
PVRL				A		19 39 01.5	
	6.6nm,0.1s						
POLO	**Lamas de Olo**	**5.43**	**6**	*e*Pn	**Pn**	**19 38 00.2**	**-0.2**
POLO				*e*Sn	**Sn**	**19 39 00.3**	**-2.6**
	1.5nm,0.4s						
POLO	**Lamas de Olo**	**5.43**	**6**	*e*Pn	**Pn**	**19 38 00.2**	**-0.2**
POLO				*e*Sn	**Sn**	**19 39 00.3**	**-2.6**
POLO				A		19 39 03.6	
	1.5nm,0.4s						
EVIA	**Vianos**	**5.48**	**59**	P	**Pn**	**19 38 00.5**	**-0.6**
EVIA	**Vianos**	**5.48**	**59**	P	**Pn**	**19 38 00.5**	**-0.6**
	1.5nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**5.48**	**59**	P	**Pn**	**19 38 00.5**	**-0.6**
	1.5nm,0.1s,SNR=7.9						
GUD	**Guadarrama**	**5.79**	**35**	P	**Pn**	**19 38 05.5**	**+0.2**
GUD				S	**Sn**	**19 39 06.9**	**-4.9**
GUD	**Guadarrama**	**5.79**	**35**	P	**Pn**	**19 38 05.5**	**+0.2**
	0.8nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**19 39 06.9**	**-4.9**
	0.3nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**5.79**	**35**	P	**Pn**	**19 38 05.5**	**+0.1**
	0.8nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**5.90**	**3**	P	**Pn**	**19 38 06.7**	**-0.2**
ELOB				S	**Sn**	**19 39 12.6**	**-1.9**
ELOB	**Lobios**	**5.90**	**3**	P	**Pn**	**19 38 06.7**	**-0.2**
	0.5nm,0.0s,SNR=4.0						
ELOB				S	**Sn**	**19 39 12.6**	**-1.9**
	1.8nm,0.1s,SNR=4.0						
ELOB	**Lobios**	**5.90**	**3**	P	**Pn**	**19 38 06.7**	**-0.2**
	0.5nm,0.0s,SNR=4.0						
ELOB				S	**Sn**	**19 39 12.6**	**-1.9**
	1.8nm,0.1s,SNR=4.0						
PBRG	**Braganca**	**5.99**	**13**	*e*Pn	**Pn**	**19 38 08.5**	**+0.4**
PBRG				*e*Sn	**Sn**	**19 39 15.6**	**-1.1**
	2.5nm,0.4s						
PBRG	**Braganca**	**5.99**	**13**	*e*Pn	**Pn**	**19 38 08.5**	**+0.4**
PBRG				*e*Sn	**Sn**	**19 39 15.6**	**-1.1**
PBRG				A		19 39 17.3	
	2.5nm,0.4s						
EMUR	**La Murta**	**6.12**	**70**	S	**Sn**	**19 39 17.8**	**-2.1**
	1.8nm,0.4s,SNR=4.0						
EMUR	**La Murta**	**6.12**	**70**	S	**Sn**	**19 39 17.8**	**-2.1**
	1.8nm,0.4s,SNR=4.0						
ECAL	**Calabor**	**6.12**	**13**	P	**Pn**	**19 38 10.4**	**+0.5**
ECAL				S	**Sn**	**19 39 18.8**	**-1.2**
ECAL	**Calabor**	**6.12**	**13**	P	**Pn**	**19 38 10.4**	**+0.5**
	0.5nm,0.1s,SNR=6.1						
ECAL				S	**Sn**	**19 39 18.8**	**-1.2**
	0.5nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**6.12**	**13**	P	**Pn**	**19 38 10.4**	**+0.5**
	0.5nm,0.1s,SNR=6.1						
ECAL				S	**Sn**	**19 39 18.8**	**-1.2**
	0.5nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**6.16**	**62**	P	**Pn**	**19 38 09.9**	**-0.6**
ETOB				S	**Sn**	**19 39 18.8**	**-2.2**
ETOB	**Tobarra**	**6.16**	**62**	P	**Pn**	**19 38 09.9**	**-0.6**
	1.6nm,0.1s,SNR=14						
ETOB				S	**Sn**	**19 39 18.8**	**-2.2**
	0.7nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**6.16**	**62**	P	**Pn**	**19 38 09.9**	**-0.5**
	1.6nm,0.1s,SNR=14						
ETOB				S	**Sn**	**19 39 18.8**	**-2.1**
	0.7nm,0.1s,SNR=7.9						
ERUA	**La Rua**	**6.50**	**9**	P	**Pn**	**19 38 13.7**	**-1.5**
ERUA	**La Rua**	**6.50**	**9**	P	**Pn**	**19 38 13.7**	**-1.5**
	2.6nm,0.2s,SNR=7.9						
ERUA	**La Rua**	**6.50**	**9**	P	**Pn**	**19 38 13.7**	**-1.4**
	2.6nm,0.2s,SNR=7.9						
ETOR	**Torete**	**7.01**	**44**	P	**Pn**	**19 38 22.2**	**+0.1**
ETOR				S	**Sn**	**19 39 41.5**	**-0.3**
ETOR	**Torete**	**7.01**	**44**	P	**Pn**	**19 38 22.2**	**+0.1**
	6.9nm,0.1s,SNR=7.9						
ETOR				S	**Sn**	**19 39 41.5**	**-0.3**
	1.0nm,0.1s,SNR=4.0						
ETOR	**Torete**	**7.01**	**44**	P	**Pn**	**19 38 22.2**	**+0.1**
	6.9nm,0.1s,SNR=7.9						
ETOR				S	**Sn**	**19 39 41.5**	**-0.4**
	1.0nm,0.1s,SNR=4.0						

BJI ***22*** *19:41:28.4, 42°.19N×81°.38E, h14km, ML3.0/7*
NEIC ***22*** *19:41:29.7±1.6, 42°.28N×81°.46E, h10km, Error ellipse: s-maj=24.1km s-min=10.1km az=152.0*
IDC ***22*** *19:41:33.5±3.4, 42°.62N×82°.00E, h0km, mb1 3.1/5, mb1mx3.0/30, mbtmp3.1/5, ML3.1/5, Error ellipse: s-maj=36.3km s-min=30.1km az=58.0*
NNC ***22*** *19:41:39.4±8.5, 42°.97N×82°.67E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=84.1km s-min=36.2km az=143.0*

ISC 22 19:41:28.3±2.1, 42°.21N±0°.10×81°.40E±0°.06, h1km±20km, n21, σ1°.24/29, 5C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**4.35**	**281**	*e*Pn	**Pn**	**19 42 36.7**	**+1.2**
TKM2				*e*Sn	**Sb**	**19 43 37.4**	**-1.0**
MK31	**Makanchi Array**	**4.63**	**8**	⇑Pn	**Pn**	**19 42 39.3**	**-0.1**
	0.4nm,0.2s,baz=189,slow=14						
MK31				⇑Lg		19 43 41.2	
	11nm,0.6s,baz=186,slow=29						
MK31	**Makanchi Array**	**4.63**	**8**	*e*Pn	**Pn**	**19 42 38.4**	**-1.0**
MK31				*e*Sn	**Sn**	**19 43 23.6**	**-10**
MKAR	**Makanchi Array**	**4.63**	**8**	Pn	**Pn**	**19 42 39.2**	**-0.2**
	1.2nm,0.3s,baz=182,slow=13,SNR=54						
MKAR				Sn	**Sn**	**19 43 32.3**	**-1.5**
	2.0nm,0.3s,baz=180,slow=26,SNR=7.8						
MKAR				Lg		19 43 48.0	
	5.0nm,0.3s,baz=186,slow=29,SNR=8.9						
MKAR	**Makanchi Array**	**4.63**	**8**	Pn	**Pn**	**19 42 39.2**	**-0.2**
MKAR				Sn	**Sn**	**19 43 32.3**	**-1.5**
MKAR				Lg		19 43 48

BAYA				AMP		19 45 24.0	
	comp=Z,55nm,5.8s						
PLUM	**Mont Dore**	**3.23 249**	*e*P		**Pn**	**19 44 48.0**	**+0.2**
PLUM			*e*S		**Sn**	**19 45 25.5**	**0.0**
PLUM			AMP			19 45 29.4	
	comp=Z,565nm,0.8s						
DZM	**Mont Dzumac**	**3.35 253**	*e*P		**Pn**	**19 44 49.9**	**+0.7**
DZM			*e*S		**Sn**	**19 45 28.1**	**-0.2**
DZM			AMP			19 45 32.2	
	comp=Z,3µm,3.7s						
DZM	**Mont Dzumac**	**3.35 253**	*e*Pn		**Pn**	**19 44 49.6**	**+0.4**
DZM			*e*Sn		**Sn**	**19 45 26.1**	**-2.2**
NORM	**Noumea**	**3.36 250**	*e*P		**Pn**	**19 44 49.6**	**+0.3**
NORM			*e*S		**Sn**	**19 45 28.0**	**-0.5**
NORM			AMP			19 45 30.3	
	comp=Z,894nm,0.5s						
NOUC	**Port Laguerre**	**3.48 253**	*e*P		**Pn**	**19 44 51.2**	**+0.2**
NOUC			*e*S		**Sn**	**19 45 30.6**	**-0.8**
NOUC			AMP			19 45 34.0	
	comp=Z,174nm,3.1s						
ARMA	**Armidale**	**18.85 237**	*e*P		**P**	**19 48 15.0**	**+4.4**
CTA	**Charters Tower**	**22.15 268**	P		**P**	**19 48 46.8**	**+0.6**
	comp=Z,1.5nm,0.4s,mb3.6,baz=124,slow=7.3,SNR=2.8						
CTA	**Charters Tower**	**22.15 268**	P		**P**	**19 48 46.8**	**+0.6**
CMSA	**Cobar Meteorol**	**23.99 239**	*e*P		**P**	**19 49 05.7**	**+2.0**
	comp=Z,32nm,0.4s,mb5.0						
QLP	**Quilpie**	**24.07 252**	*e*P		**P**	**19 49 05.6**	**+1.2**
MTSU	**Mount Surprise**	**24.27 273**	*e*P		**P**	**19 49 07.6**	**+1.3**
	comp=Z,39nm,1.4s,mb4.5						
STKA	**Stephens Creek**	**27.42 241**	P		**P**	**19 49 35.3**	**+0.7**
	comp=Z,3.5nm,0.6s,mb4.1,baz=97,slow=9.6,SNR=7.6						
STKA	**Stephens Creek**	**27.42 241**	*e*P		**P**	**19 49 36.5**	**+1.9**
	comp=Z,2.7nm,0.7s,mb3.9						
STKA	**Stephens Creek**	**27.42 241**	P		**P**	**19 49 35.3**	**+0.7**
WB2	**Warramunga Arr**	**33.27 266**	*e*P		**P**	**19 50 25.3**	**-1.0**
WRAB	**Tennant Creek**	**33.27 266**	P		**P**	**19 50 25.5**	**-0.9**
	comp=Z,5.8nm,1.1s,mb4.3						
WRA	**Warramunga Arr**	**33.28 266**	P		**P**	**19 50 25.8**	**-0.6**
	comp=Z,0.7nm,0.4s,mb3.9,baz=97,slow=8.1,SNR=10						
WRA	**Warramunga Arr**	**33.28 266**	P		**P**	**19 50 25.8**	**-0.6**
ASAR	**Alice Springs**	**33.32 259**	P		**P**	**19 50 26.9**	**+0.2**
	comp=Z,2.7nm,0.5s,mb4.3,baz=93,slow=9.0,SNR=68						
ASAR	**Alice Springs**	**33.32 259**	P		**P**	**19 50 26.9**	**+0.2**
FITZ	**Fitzroy Crossi**	**41.70 266**	P		**P**	**19 51 37.9**	**+0.4**
	comp=Z,4.1nm,0.7s,mb4.3,baz=137,slow=5.9,SNR=8.1						
FITZ	**Fitzroy Crossi**	**41.70 266**	P		**P**	**19 51 37.9**	**+0.4**
MBWA	**Marble Bar**	**46.62 260**	P		**P**	**19 52 16.6**	**-0.1**
	comp=Z,6.1nm,0.9s,mb4.3						
VNDA	**Vanda**	**56.57 182**	P		**P**	**19 53 29.1**	**-0.8**
	comp=Z,6.9nm,1.6s,mb4.4						
SBA	**Scott Base**	**56.79 181**	*e*P		**P**	**19 53 33.9**	**+2.4**
	comp=Z,4.3nm,0.8s,mb4.5						
QSPA	**South Pole Qui**	**68.93 180**	P		**P**	**19 54 53.5**	**+1.6**
	comp=Z,5.1nm,0.8s,mb4.4,baz=354,slow=2.0,SNR=22						
QSPA	**South Pole Qui**	**68.93 180**	*e*P		**P**	**19 54 53.1**	**+1.2**
	comp=Z,6.0nm,0.9s,mb4.4						
CMAR	**Chiang Mai Arr**	**79.84 294**	P		**P**	**19 55 56.1**	**0.0**
	comp=Z,0.7nm,0.6s,mb3.6,baz=132,slow=4.3,SNR=7.2						
CMAR	**Chiang Mai Arr**	**79.84 294**	P		**P**	**19 55 56.1**	**0.0**
SNAA	**Sanae**	**87.31 182**	*e*		**P**	**19 56 29.1**	**-4.2**
VNA3	**Neumayer Olymp**	**87.87 180**	*e*		**P**	**19 56 33.1**	**-2.9**
VNA2	**Neumayer--Watz**	**88.17 181**	*e*		**P**	**19 56 35.1**	**-2.4**
	baz=185,slow=5.0						
VNA1	**Neumayer--Stat**	**88.46 181**	*e*		**P**	**19 56 36.5**	**-2.3**
SONM	**Songino Array**	**89.10 323**	P		**P**	**19 56 41.4**	**-0.6**
	comp=Z,0.5nm,0.8s,mb3.6,baz=166,slow=7.6,SNR=3.7						
SONM	**Songino Array**	**89.10 323**	P		**P**	**19 56 41.4**	**-0.6**
NVAR	**Mina Array Bea**	**89.59 48**	P		**P**	**19 56 44.6**	**0.0**
	comp=Z,1.4nm,0.7s,mb4.2,baz=228,slow=8.6,SNR=11						
NVAR	**Mina Array Bea**	**89.59 48**	P		**P**	**19 56 44.6**	**0.0**
CLL	**Collm**	**144.89 335**	*e*PKPdf	PKPdf		20 03 21.0	-2.2
GERES	**GERESS Array B**	**146.44 331**	PKPbc	PKPbc		20 03 26.5	-1.0
	comp=Z,0.8nm,0.7s,baz=46,slow=2.8,SNR=5.6						
GERES	**GERESS Array B**	**146.44 331**	PKPbc	PKPbc		20 03 26.5	-1.0
DBIC	**Dimbokro**	**164.75 200**	PKPab	PKPab		20 04 48.0	+0.9
	comp=Z,2.4nm,0.9s,baz=144,slow=4.2,SNR=3.9						
DBIC	**Dimbokro**	**164.75 200**	PKPab	PKPab		20 04 48.0	+0.9

JMA 22 20:02:55.8±0.1, 38°30N×141°87E, h47km±1km, M3.5, 8C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.80**	**349**	⇑P	Pn	20 03 10.6	-0.1
OFUJ				*e*S	Sn	20 03 21.6	+0.1
JMK	**Ichinoseki**	**0.83**	**322**	⇑P	Pn	20 03 11.4	+0.3
JMK				S	Sn	20 03 22.5	+0.3
JOU	**Okura**	**0.95**	**274**	⇑P	Pn	20 03 13.0	+0.2
JOU				*e*S	Sn	20 03 25.7	+0.5
JMM	**Marumori**	**0.95**	**243**	⇑P	Pn	20 03 12.3	-0.5
JMM				S	Sn	20 03 24.2	-1.1
JFK	**Kawauchi**	**1.22**	**221**	P	Pn	20 03 16.0	-0.4
JFK				S	Sn	20 03 30.8	-1.0
JOM	**Ohasama**	**1.25**	**339**	⇑P	Pn	20 03 17.3	+0.4
JOM				*e*S	Sn	20 03 33.9	+1.3
JYK	**Kaneyama**	**1.33**	**298**	⇑P	Pn	20 03 18.4	+0.4
JYS	**Shirataka**	**1.42**	**267**	P	Pn	20 03 19.6	+0.4
JFT	**Otama**	**1.44**	**238**	⇑P	Pn	20 03 19.7	+0.3
JFT				*e*S	Sn	20 03 37.0	-0.2
JYA	**Atsumi**	**1.72**	**280**	⇑P	Pn	20 03 23.8	+0.6
MAT	**Matsushiro**	**3.40**	**240**	P	Pn	20 03 49.9	+3.6
MAT				*e*S	Sn	20 04 26.8	+1.4

*ISCJB **22** 20:21:41.3±0.5, 7°.88S×0°.10×115°.67E±0°.05, h222km±4km, mb3.5/6, Error ellipse: s-maj=16.6km s-min=6.0km az=19.4*
*NEIC **22** 20:21:42.5±3.5, 7°.99S×115°.53E, h230km±42km, Error ellipse: s-maj=56.5km s-min=16.8km az=51.0*
*IDC **22** 20:21:42.7±9.3, 7°.68S×115°.90E, h220km±94km, mb3.1/6, mb1 3.2/7, mb1mx3.1/21, mbtmp3.1/7, Error ellipse: s-maj=123.6km s-min=23.6km az=56.0*
*DJA **22** 20:21:46, 8°.19S×115°.60E, h194km, MLv3.3/9*
ISC 22 20:21:42.4±0.5, 8°.03S±0°.09×115°.66E±0°.05, h220km±4km, n28, σ1§29/40, mb3.5/6, Bali region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHKI	**Kahang-Kahang**	**0.34**	**189**	P	**Pn**	**20 22 12.5**	**+1.1**
KHKI				S	**S**	**20 22 32.8**	**-1.2**
SRBI	**Singaraja**	**0.45**	**262**	P	**Pn**	**20 22 13.3**	**+1.7**
SRBI				S	**S**	**20 22 33.1**	**-1.2**
MTNI	**Mataram**	**0.79**	**140**	P	**Pn**	**20 22 13.2**	**+0.2**
MTNI				S	**S**	**20 22 36.9**	**-0.1**
JAGI	**Jajag, Banyuwa**	**1.56**	**253**	P	**Pn**	**20 22 18.6**	**+0.2**
JAGI				S	**S**	**20 22 44.5**	**-1.9**
KMMI	**Kalianget**	**1.94**	**300**	P	**Pn**	**20 22 24.2**	**+2.3**
GMJI	**Gumukmas**	**2.21**	**263**	P	**Pn**	**20 22 25.9**	**+1.4**
GMJI				S	**S**	**20 22 57.0**	**-0.4**
KRKI	**Karangkates**	**3.18**	**267**	S	**S**	**20 23 16.5**	**-0.1**
PWJI	**Pagerwojo**	**3.82**	**270**	P	**Pn**	**20 22 44.3**	**+1.5**
PWJI				S	**S**	**20 23 27.5**	**-2.8**
SJI	**Sawahan**	**3.87**	**274**	P	**Pn**	**20 22 44.7**	**+1.3**
SJI				S	**S**	**20 23 33.7**	**+2.3**
PCJI	**Pacitan**	**4.44**	**268**	P	**Pn**	**20 22 50.7**	**+0.3**
PCJI				S	**S**	**20 23 39.7**	**-4.4**
WSI	**Waingapu**	**4.87**	**110**	P	**Pn**	**20 22 54.7**	**-1.0**
UGM	**Wanagama**	**5.09**	**271**	P	**Pn**	**20 22 59.0**	**+0.5**
UGM				S	**S**	**20 23 56.8**	**-1.9**
MBWA	**Marble Bar**	**13.64**	**164**	*e*Pn	**Pn**	**20 24 47.5**	**+0.3**
MBWA				*e*S	**S**	**20 27 10.7**	**-8.2**
FITZ	**Fitzroy Crossi**	**13.95**	**137**	P	**Pn**	**20 24 52.7**	**+1.6**
	0.1nm,0.3s,baz=322,slow=11,SNR=3.8						
FITZ				S	**S**	**20 27 24.6**	**-1.6**
	0.2nm,0.3s,baz=193,slow=19,SNR=5.4						
FITZ	**Fitzroy Crossi**	**13.95**	**137**	P	**Pn**	**20 24 52.7**	**+1.6**
FITZ				S	**S**	**20 27 24.6**	**-1.6**
WRA	**Warramunga Arr**	**21.62**	**125**	P	**P**	**20 26 15.4**	**-0.3**
	0.6nm,0.3s,mb3.6,baz=301,slow=11,SNR=7.3						
WRA	**Warramunga Arr**	**21.62**	**125**	P	**P**	**20 26 15.4**	**-0.3**
AS31	**Alice Springs**	**23.40**	**134**	*e*P	**P**	**20 26 31.0**	**-0.9**
ASAR	**Alice Springs**	**23.40**	**134**	P	**P**	**20 26 33.2**	**+1.4**
	0.9nm,0.6s,mb3.5,baz=304,slow=8.9,SNR=30						
ASAR	**Alice Springs**	**23.40**	**134**	P	**P**	**20 26 33.2**	**+1.4**
STKA	**Stephens Creek**	**33.84**	**138**	P	**P**	**20 28 05.3**	**+1.1**
	4.7nm,1.1s,mb4.0,baz=342,slow=9.0,SNR=2.9						
STKA	**Stephens Creek**	**33.84**	**138**	P	**P**	**20 28 05.3**	**+1.1**
SONM	**Songino Array**	**56.22**	**353**	P	**P**	**20 30 58.5**	**-1.1**
	0.3nm,0.6s,mb3.0,baz=155,slow=8.2,SNR=4.2						
SONM	**Songino Array**	**56.22**	**353**	P	**P**	**20 30 58.5**	**-1.1**
MKAR	**Makanchi Array**	**62.13**	**335**	P	**P**	**20 31 39.1**	**-1.0**
	0.3nm,0.4s,mb3.3,baz=149,slow=6.8,SNR=5.4						
MKAR	**Makanchi Array**	**62.13**	**335**	P	**P**	**20 31 39.1**	**-1.0**
ZALV	**Zalesovo Beam**	**67.00**	**341**	P	**P**	**20 32 09.5**	**-2.0**
	0.5nm,0.4s,mb3.5,baz=145,slow=4.3,SNR=3.0						
ZALV	**Zalesovo Beam**	**67.00**	**341**	P	**P**	**20 32 09.5**	**-2.0**

*ISCJB **22** 20:25:49.9±0.3, 9°.13S±0°.05×75°.96W±0°.06, h33km, mb4.9/97, MS5.1/3, Error ellipse: s-maj=9.6km s-min=5.5km az=146.7*
*IDC **22** 20:25:49.3±3.2, 9°.10S×75°.61W, h16km±20km, mb4.6/18, mb1 4.7/22, mb1mx4.6/28, mbtmp4.5/22, ML4.3/3, MS3.5/2, Ms1 3.5/2, ms1mx3.3/40, Error ellipse: s-maj=18.0km s-min=9.7km az=67.0*
*BJI **22** 20:25:52.3, 9°.10S×75°.60W, h43km, mB5.3/9, Ms5.5/13, Ms7 5.1/15*
*NEIC **22** 20:25:52.0±0.8, 9°.07S×75°.66W, h38km±7km, mb5.1/65, Error ellipse: s-maj=9.8km s-min=5.4km az=66.0*
NEIC Felt [III] at Pucallpa and [II] at Lima. Also felt at Cerro de Pasco and Trujillo.
ISC 22 20:25:52.1±1.0, 9°.14S±0°.05×75°.82W±0°.06, h36km±8km, n205, σ1§04/158, mb4.9/97, MS5.1/3, 16C, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**3.01**	**199**	Pn	**Pn**	**20 26 40.2**	**+2.9**
	33nm,0.3s,baz=9.0,slow=13,SNR=54						
NNA				Lg		20 27 25.9	
	91nm,0.3s,baz=180,slow=18,SNR=7.6						
NNA				LR	LR	20 28 03.7	
	comp=Z,968nm,20.6s,baz=4.2,slow=43						
NNA	**Nana**	**3.01**	**199**	*e*Pn	**Pn**	**20 26 39.8**	**+2.5**
NNA				Pn	**Pn**	**20 26 40.2**	**+2.9**
NNA				*e*Sn	**Sn**	**20 27 24.6**	**+12**
NNA				Lg		20 27 25.9	
NNA	**Nana**	**3.01**	**199**	Pn	**Pn**	**20 26 41.9**	**+4.6**
	5µm,0.6s,SNR=12						
ATAH	**Atahualpa**	**3.23**	**308**	Pn	**Pn**	**20 26 43.6**	**+3.2**
	40nm,0.3s,baz=130,slow=3.1,SNR=42						
ATAH				Lg		20 27 37.8	
	33nm,0.3s,baz=334,slow=16,SNR=16						
ATAH				LR	LR	20 28 21.5	
	comp=Z,639nm,19.3s,baz=310,slow=45						
ATAH	**Atahualpa**	**3.23**	**308**	Pn	**Pn**	**20 26 43.6**	**+3.2**
ATAH				Lg		20 27 37.8	
OTAV	**Otavalo**	**9.67**	**344**	*e*Pn	**Pn**	**20 28 09.1**	**+0.2**
	53nm,1.1s						
LPAZ	**La Paz**	**10.33**	**134**	Pn	**Pn**	**20 28 16.8**	**-1.1**
	0.8nm,0.3s,baz=324,slow=12,SNR=43						
LPAZ				Lg		20 31 14.6	
	0.6nm,0.3s,baz=192,slow=21,SNR=4.3						
LPAZ	**La Paz**	**10.33**	**134**	Pn	**Pn**	**20 28 16.8**	**-1.1**
LPAZ				Lg		20 31 14.6	
ROSC	**El Rosal**	**13.98**	**6**	Pn	**Pn**	**20 29 07.9**	**+0.1**
	0.7nm,0.3s,baz=107,slow=19,SNR=3.1						
ROSC				Lg		20 33 11.8	
	2.1nm,0.3s,baz=72,slow=20,SNR=3.5						
ROSC	**El Rosal**	**13.98**	**6**	Pn	**Pn**	**20 29 07.9**	**+0.1**
ROSC				Lg		20 33 11.8	
SDV	**Santo Domingo**	**18.63**	**16**	*e*P	**Pn**	**20 30 06.2**	**-1.2**
	22nm,0.6s						
LCO	**Las Campanas**	**20.35**	**167**	*e*P	**P**	**20 30 25.3**	**-0.2**
	46nm,1.1s						
JTS	**JuntasAbangare**	**21.33**	**335**	P	**P**	**20 30 36.9**	**+0.7**
	18nm,0.9s,mb4.4,baz=172,slow=8.7,SNR=4.8						
JTS	**JuntasAbangare**	**21.33**	**335**	P	**P**	**20 30 36.9**	**+0.7**
CFAA	**Coronel Fontan**	**23.44**	**164**	P	**P**	**20 30 58.6**	**+0.2**
	1.3nm,0.8s,baz=333,slow=8.9,SNR=16						
CFAA	**Coronel Fontan**	**23.44**	**164**	P	**P**	**20 30 58.6**	**+0.2**
CPUP	**Villa Florida**	**24.49**	**137**	P	**P**	**20 31 05.8**	**-2.3**
	3.1nm,0.6s,mb3.9,baz=299,slow=9.9,SNR=9.5						
CPUP	**Villa Florida**	**24.49**	**137**	*e*P	**P**	**20 31 04.6**	**-3.4**
	41nm,1.0s,mb4.8						
TGUH	**Tegucigalpa,Un**	**25.69**	**334**	*e*P	**P**	**20 31 18.0**	**-1.0**
MTDJ	**Mount Denham**	**27.24**	**356**	P	**P**	**20 31 33.7**	**+0.7**
FDF	**Fort de France**	**27.82**	**32**	*e*P	**P**	**20 31 34.0**	**-4.2**
	66nm,1.0s,mb5.2						
LRS	**Lares**	**28.66**	**18**	P	**P**	**20 31 41.6**	**-4.0**
SJG	**San Juan**	**28.71**	**19**	P	**P**	**20 31 44.9**	**-1.2**
	19nm,0.6s,mb5.0,baz=131,slow=3.7,SNR=3.7						
SJG	**San Juan**	**28.71**	**19**	*e*P	**P**	**20 31 43.9**	**-2.2**
TEIG	**Tepich**	**31.65**	**337**	P	**P**	**20 32 12.9**	**+0.8**
	48nm,0.9s,mb5.3,baz=183,slow=3.4,SNR=11						
TEIG	**Tepich**	**31.65**	**337**	*e*P	**P**	**20 32 12.2**	**+0.1**
	74nm,1.3s,mb5.4						
PLCA	**Paso Flores**	**31.81**	**172**	P	**P**	**20 32 13.0**	**-0.3**
	5.1nm,0.9s,mb4.4,baz=351,slow=11,SNR=5.1						
PLCA	**Paso Flores**	**31.81**	**172**	P	**P**	**20 32 13.0**	**-0.3**
CMIG	**Matias Romero**	**32.16**	**324**	P	**P**	**20 32 17.9**	**+1.3**
	13nm,1.1s,mb4.7,baz=38,slow=2.0,SNR=5.0						
CMIG	**Matias Romero**	**32.16**	**324**	P	**P**	**20 32 17.9**	**+1.3**
NHSC	**New Hope**	**42.21**	**355**	*e*P	**P**	**20 33 42.0**	**+0.3**
	82nm,1.0s,mb5.3						
HKT	**Hockley**	**43.37**	**334**	*e*P	**P**	**20 33 51.2**	**0.0**
	28nm,1.4s,mb4.8						
NATX	**Nacogdoches**	**44.48**	**337**	*e*P	**P**	**20 34 00.4**	**+0.4**
	135nm,1.1s,mb5.6						
SWET	**Sewanee**	**45.13**	**348**	*e*P	**P**	**20 34 03.0**	**-2.1**
	12nm,1.0s,mb4.7						
OXF	**Oxford**	**45.28**	**344**	*e*P	**P**	**20 34 05.1**	**-1.2**
	61nm,1.3s,mb5.3						
PLAL	**Pickwick Lake**	**45.38**	**346**	*e*P	**P**	**20 34 05.3**	**-1.8**
	28nm,1.1s,mb5.0						
UALR	**University of**	**46.39**	**341**	*e*P	**P**	**20 34 14.2**	**-0.9**
	34nm,0.9s,mb5.3						
WVT	**Waverly**	**46.42**	**347**	*e*P	**P**	**20 34 12.8**	**-2.5**
	36nm,1.6s,mb5.1						
MIAR	**Mount Ida**	**46.59**	**340**	*e*P	**P**	**20 34 15.8**	**-0.8**
	68nm,1.9s,mb5.2						
TXAR	**Lajitas Array**	**46.72**	**326**	P	**P**	**20 34 18.7**	**+0.9**
	2.5nm,0.6s,mb4.3,baz=151,slow=9.3,SNR=18						
TXAR				PcP	PcP	20 35 51.0	0.0
	2.0nm,0.9s,baz=138,slow=6.9,SNR=4.8						
TXAR	**Lajitas Array**	**46.72**	**326**	P	**P**	**20 34 18.7**	**+0.9**
TXAR				PcP	PcP	20 35 51.0	0.0
SIUC	**Southern Illin**	**48.26**	**346**	*e*P	**P**	**20 34 28.2**	**-1.4**
	29nm,0.9s,mb5.3						
WMOK	**Wichita Mounta**	**48.75**	**335**	*e*P	**P**	**20 34 32.9**	**-0.5**
	8.3nm,1.1s,mb4.7						
CCM	**Cathedral Cave**	**49.11**	**344**	*e*P	**P**	**20 34 34.1**	**-2.0**
	15nm,0.8s,mb5.1						
CCM				*e*PcP	PcP	20 35 59.0	-0.3
ACSO	**Alum Creek Sta**	**49.56**	**353**	*e*P	**P**	**20 34 38.3**	**-1.2**
	43nm,1.1s,mb5.4						
HDIL	**Hopedale**	**50.98**	**347**	*e*P	**P**	**20 34 47.6**	**-2.7**
	92nm,0.8s,mb5.8						
KSU1	**Kansas State U**	**51.74**	**339**	*e*P	**P**	**20 34 56.1**	**+0.2**
	20nm,0.9s,mb5.0						
BNM	**Barren Site**	**52.03**	**327**	*e*P	**P**	**20 34 58.4**	**+0.1**
	7.0nm,1.2s,mb4.5						
LAZ	**Ladron**	**52.50**	**327**	*e*P	**P**	**20 35 03.4**	**+1.6**
	5.1nm,1.2s,mb4.3						
ANMO	**Albuquerque**	**52.56**	**328**	*e*P	**P**	**20 35 02.4**	**+0.3**
	10nm,1.2s,mb4.6						
MDV	**Middlebury**	**52.94**	**2**	*e*P	**P**	**20 35 04.5**	**-0.3**
TUC	**Tucson**	**53.03**	**323**	*e*P	**P**	**20 35 05.9**	**+0.2**
	4.7nm,0.8s,mb4.5						
FRNY	**Flat Rock**	**53.76**	**2**	*e*P	**P**	**20 35 10.8**	**0.0**
	82nm,1.1s,mb5.6						
SDCO	**Great Sand Dun**	**54.27**	**331**	*e*P	**P**	**20 35 15.2**	**+0.5**
	22nm,0.9s,mb5.1						
ECSD	**EROS Data Cent**	**55.91**	**342**	*e*P	**P**	**20 35 24.4**	**-2.0**
	35nm,1.2s,mb5.3						
PV01	**Paradox Valley**	**56.09**	**329**	*e*P	**P**	**20 35 28.3**	**+0.5**
	1µm,0.8s						
PV10	**Paradox Valley**	**56.51**	**329**	*e*P	**P**	**20 35 30.5**	**-0.3**
MSU	**Marysvale**	**58.26**	**327**	*e*P	**P**	**20 35 44.2**	**+1.0**
	12nm,1.2s,mb4.8						
ARUT	**Antelope Range**	**58.44**	**325**	*e*P	**P**	**20 35 45.7**	**+1.3**
	15nm,1.0s,mb5.0						
DAU	**Daniels Canyon**	**59.17**	**329**	*e*P	**P**	**20 35 50.2**	**+0.8**
	9.3nm,0.8s,mb4.9						
DUG	**Dugway**	**59.82**	**328**	*e*P	**P**	**20 35 54.2**	**+0.2**
	17nm,0.8s,mb5.1						
AGMN	**Agassiz Nation**	**59.86**	**345**	*e*P	**P**	**20 35 53.1**	**-1.0**
	18nm,0.8s,mb5.2						
ISA	**Isabella**	**60.01**	**320**	*e*P	**P**	**20 35 55.6**	**+0.3**
	4.4nm,0.8s,mb4.5						
PDAR	**Pinedale Array**	**60.13**	**332**	P	**P**	**20 35 55.9**	**-0.1**
	4.9nm,1.1s,mb4.5,baz=134,slow=8.5,SNR=14						
PDAR	**Pinedale Array**	**60.13**	**332**	P	**P**	**20 35 55.9**	**-0.1**
PD02	**Pinedale Array**	**60.15**	**332**	*e*P	**P**	**20 35 55.3**	**-0.8**
HWUT	**Hardware Ranch**	**60.22**	**330**	*e*P	**P**	**20 35 56.5**	**-0.1**
	17nm,0.8s,mb5.1						
RRI2	**Red Ridge**	**61.41**	**331**	*e*P	**P**	**20 36 04.5**	**-0.2**
	11nm,0.8s,mb5.0						
ULM	**Lac du Bonnet**	**61.67**	**346**	P	**P**	**20 36 05.5**	**-0.8**
	19nm,0.6s,mb5.4,baz=160,slow=6.9,SNR=27						
ULM	**Lac du Bonnet**	**61.67**	**346**	*e*P	**P**	**20 36 04.7**	**-1.6**
	23nm,0.8s,mb5.3						
NVAR	**Mina Array Bea**	**61.69**	**323**	P	**P**	**20 36 08.0**	**+1.3**
	3.4nm,0.7s,mb4.6,baz=142,slow=6.5,SNR=25						
NVAR	**Mina Array Bea**	**61.69**	**323**	P	**P**	**20 36 08.0**	**+1.3**
GCMT	**Greycliff**	**62.54**	**334**	*e*P	**P**	**20 36 12.5**	**+0.3**
	27nm,1.4s,mb5.2						
CMB	**Columbia Colle**	**62.69**	**321**	*e*P	**P**	**20 36 14.3**	**+0.9**
	2.5nm,0.8s,mb4.4						
HLID	**Hailey**	**63.08**	**329**	*e*P	**P**	**20 36 16.2**	**+0.3**
	4.2nm,0.8s,mb4.6						
MCMT	**McKenzie Canyo**	**63.25**	**331**	*e*P	**P**	**20 36 17.7**	**+0.8**
	4.5nm,1.2s,mb4.5						
MFID	**Camas Ranch**	**63.70**	**328**	*e*P	**P**	**20 36 20.1**	**+0.1**
	25nm,1.0s,mb5.2						
SCHQ	**Schefferville**	**64.17**	**6**	P	**P**	**20 36 22.5**	**-0.3**
	3.9nm,0.7s,mb4.6,baz=51,slow=3.3,SNR=4.7						
SCHQ	**Schefferville**	**64.17**	**6**	*e*P	**P**	**20 36 21.1**	**-1.8**
MOD	**Modoc**	**65.10**	**325**	*e*P	**P**	**20 36 29.7**	**+0.5**
	16nm,1.1s,mb5.0						
BSMT	**Bassoo Peak**	**66.39**	**332**	*e*P	**P**	**20 36 37.9**	**+0.6**
	5.7nm,0.9s,mb4.6						
WALA	**Waterton Lakes**	**66.89**	**334**	*e*P	**P**	**20 36 40.2**	**-0.4**
	0.2nm,0.8s						
NEW	**Newport**	**67.77**	**332**	*e*P	**P**	**20 36 44.8**	**-1.4**
OD2	**Odessa Site #2**	**67.92**	**330**	*e*P	**P**	**20 36 47.5**	**+0.4**
	25nm,1.5s,mb5.0						
DBIC	**Dimbokro**	**72.44**	**80**	P	**P**	**20 37 14.8**	**-0.7**
	15nm,1.1s,mb4.9,baz=249,slow=8.6,SNR=7.6						
DBIC	**Dimbokro**	**72.44**	**80**	*e*P	**P**	**20 37 14.3**	**-1.2**
VNA3	**Neumayer Olymp**	**73.83**	**162**	*e*	**P**	**20 37 20.8**	**-1.9**
VNA1	**Neumayer--Stat**	**74.08**	**161**	*e*	**P**	**20 37 22.9**	**-1.2**
VNA2	**Neumayer--Watz**	**74.43**	**161**	*e*	**P**	**20 37 24.3**	**-1.9**
SNAA	**Sanae**	**76.05**	**162**	*e*	**P**	**20 37 31.5**	**-4.0**
SNAA	**Sanae**	**76.05**	**162**	*e*P	**P**	**20 37 31.5**	**-3.9**
	24nm,1.3s,mb5.0						
YKA	**Yellowknife Ar**	**77.43**	**343**	P	**P**	**20 37 42.8**	**-0.5**
	3.0nm,0.8s,mb4.3,baz=137,slow=5.6,SNR=4.6						
YKA	**Yellowknife Ar**	**77.43**	**343**	P	**P**	**20 37 42.8**	**-0.5**
EVO	**Evora**	**78.77**	**48**	*e*P	**P**	**20 37 50.1**	**-1.2**
	32nm,1.2s,mb4.8						
TORD	**Torodi Ar. Bea**	**80.08**	**75**	P	**P**	**20 37 57.8**	**-1.1**
	12nm,0.8s,mb4.9,baz=280,slow=5.2,SNR=66						
TORD	**Torodi Ar. Bea**	**80.08**	**75**	P	**P**	**20 37 57.8**	**-1.1**
DLBC	**Dease Lake**	**80.23**	**334**	*e*P	**P**	**20 37 59.1**	**+0.3**
EMIJ	**Mijas**	**80.52**	**51**	P	**P**	**20 38 02.2**	**+1.3**
	11nm,0.9s,mb4.8						
MAIT	**Maitri**	**80.63**	**160**	*e*P	**P**	**20 38 01.6**	**+0.8**
QSPA	**South Pole Qui**	**80.98**	**180**	P	**P**	**20 38 04.2**	**+1.7**
	3.1nm,0.6s,mb4.4,baz=168,slow

ASAR					PKP	PKPdf	20 45 11.1	+0.3	
	4.8nm,0.9s,baz=139,slow=2.3,SNR=27								
ASAR	**Alice Springs**	**136.33**	**221**		PKPpre	PKPpre	20 45 05.3		
ASAR					PKP	PKPdf	20 45 11.1	+0.3	
AAK	**Ala-Archa**	**137.69**	**33**	*e*	PKPdf	PKPdf	20 45 14.3	+1.6	
MK31	**Makanchi Array**	**138.09**	**23**	*e*	PKPdf	PKPpre	20 45 09.9		
MKAR	**Makanchi Array**	**138.09**	**23**		PKP	PKPdf	20 45 13.7	+0.3	
	2.2nm,0.8s,baz=5.4,slow=2.0,SNR=12								
MKAR	**Makanchi Array**	**138.09**	**23**		PKP	PKPdf	20 45 13.7	+0.3	
MDJ	**Mudanjiang**	**138.37**	**333**		PKP	PKPdf	20 45 13.0	-0.9	
WRAB	**Tennant Creek**	**138.57**	**226**	*e*	PKPdf	PKPdf	20 45 14.5	-0.6	
WRA	**Warramunga Arr**	**138.57**	**226**		PKP	PKPdf	20 45 15.7	+0.7	
	4.2nm,0.7s,baz=128,slow=1.9,SNR=18								
WRA	**Warramunga Arr**	**138.57**	**226**		PKP	PKPdf	20 45 15.7	+0.7	
MJAR	**Matsushiro Arr**	**138.81**	**317**		PKhKP	PKPpre	20 45 09.5		
	1.5nm,0.7s,baz=78,slow=1.3,SNR=4.3								
MJAR					PKP	PKPdf	20 45 16.0	+1.0	
	1.3nm,0.7s,baz=104,slow=1.6,SNR=6.1								
MJAR	**Matsushiro Arr**	**138.81**	**317**		PKPpre	PKPpre	20 45 09.5		
MJAR					PKP	PKPdf	20 45 16.0	+1.0	
KSH	**Kashi**	**140.63**	**35**	*e*	PKP	PKPdf	20 45 20.6	+2.4	
KSH					sPKP		20 45 34.9		
KSH					PP	PP	20 48 16.3	-0.9	
KSH					PKS		20 48 55.3		
KSH					SKS	SKSdf	20 52 25.8	-0.1	
KSH					SKKS	SKKSac	20 55 02.4	-6.4	
KSH					AMB	AMB			
	comp=Z,160nm,8.3s								
KSH					LR	LR			
	comp=N,37nm,3.5s								
KSH					LR	LR			
	comp=E,56nm,4.5s								
KSH					LR	LR			
	comp=Z,93nm,5.5s								
CN2	**Changchun**	**140.81**	**335**	*e*	PKP	PKPdf	20 45 18.3	-0.1	
CN2					PP	PP	20 48 21.6	+3.6	
SONM	**Songino Array**	**141.39**	**358**		PKhKP	PKPpre	20 45 12.8		
	comp=Z,1.2nm,0.6s,baz=339,slow=2.8,SNR=12								
SONM					PP	PP	20 48 20.1	-0.9	
	comp=Z,2.4nm,1.3s,baz=0.0,slow=5.9,SNR=5.4								
SONM	**Songino Array**	**141.39**	**358**		PKPpre	PKPpre	20 45 12.8		
SONM					PP	PP	20 48 20.1	-0.9	
WMQ	**Urumqi**	**142.58**	**20**		PKP	PKPdf	20 45 21.3	-0.3	
KSRS	**Korea Array**	**144.57**	**326**		PKP	PKPdf	20 45 24.2	-1.1	
	comp=Z,9.1nm,0.8s,baz=58,slow=3.2,SNR=19								
KSAR	**Wonju Array Be**	**144.60**	**326**		PKP	PKPdf	20 45 24.2	-1.1	
FITZ	**Fitzroy Crossi**	**145.63**	**218**	*e*	PKPdf	PKPdf	20 45 27.4	-0.2	
JNU	**Nakatsue**	**145.70**	**318**	*e*	PKPdf	PKPdf	20 45 26.0	-1.4	
HHC	**Hu-ho-hao-te**	**147.74**	**349**	*e*	PKPbc	PKPbc	20 45 33.3	-0.1	
HHC					PP	PP	20 49 05.3	+6.2	
HHC					AMB	AMB			
	comp=Z,220nm,11.9s								
HHC					LR	LR			
	comp=N,250nm,16.6s,MS5.3								
HHC					LR	LR			
	comp=E,250nm,13.1s,MS5.3								
HHC					LR	LR			
	comp=Z,190nm,16.7s,MS5.0								
BTO	**Baotou**	**148.23**	**352**	*e*	PKPbc	PKPbc	20 45 34.4	-0.3	
GTA	**Gaotai**	**149.60**	**7**		PKPbc	PKPbc	20 45 35.0	-3.2	
GTA					SKKS	SKKSac	20 56 00.9	+1.3	
GTA					AMB	AMB			
	comp=Z,460nm,12.0s								
GTA					LR	LR			
	comp=N,130nm,17.5s,MS4.9								
GTA					LR	LR			
	comp=E,130nm,19.0s,MS4.9								
GTA					LR	LR			
	comp=Z,130nm,18.0s,MS4.8								
PYUN	**Piuthan**	**152.53**	**44**	*e*	P	PKPdf	20 45 39.1	+0.6	
DANN	**Dangsing**	**152.89**	**42**	*e*	P	PKPdf	20 45 40.4	+1.4	
	comp=Z,56nm,1.0s								
KOLN	**Koldanda**	**153.16**	**44**	*e*	P	PKPdf	20 45 39.8	+0.4	
	comp=Z,7.9nm,0.6s								
LZH	**Lanzhou**	**153.17**	**1**	*e*	PKPbc	PKPbc	20 45 48.5	+1.9	
LZH					pPKP	pPKPdf	20 45 59.5	+8.7	
LZH					sPKP		20 46 03.6		
LZH					PKPbc	PKPbc	20 46 08.8	+22	
LZH					PP	PP	20 49 42.3	+12	
LZH					SKKS	SKKSac	20 56 30.1	+11	
LZH					AMB	AMB			
	comp=Z,170nm,6.6s								
LZH					LR	LR			
	comp=N,500nm,17.2s,MS5.5								
LZH					LR	LR			
	comp=E,420nm,18.8s,MS5.5								
LZH					LR	LR			
	comp=Z,290nm,20.5s,MS5.1								
NJ2	**Nanjing**	**153.44**	**331**	*e*	PKPbc	PKPdf	20 45 39.3	-0.4	
GKN	**Gorkha**	**153.70**	**42**	*e*	P	PKPdf	20 45 40.8	+0.6	
	comp=Z,32nm,1.2s								
KKN	**Kakani**	**154.27**	**41**	*e*	P	PKPdf	20 45 41.6	+0.6	
PKI	**Pulchoki**	**154.50**	**42**	*e*	P	PKPdf	20 45 41.7	+0.4	
GUN	**Gumba**	**154.57**	**40**	*e*	P	PKPdf	20 45 42.3	+0.9	
XAN	**Xi'an**	**154.83**	**351**		PKPbc	PKPdf	20 45 42.8	+1.2	
XAN					pPKP	pPKPdf	20 45 50.5	-2.8	
TAPN	**Taplejung**	**156.12**	**39**	*e*	P	PKPdf	20 45 42.4	-1.1	
CD2	**Chengdu**	**158.33**	**1**		PKP	PKPdf	20 45 45.3	-0.9	
CD2					pPKP	pPKPdf	20 45 56.0	-1.9	
CD2					sPKP		20 45 59.5		
CD2					PKPab	PKPab	20 46 21.3	+1.0	
CD2					PKS		20 49 17.5		
CD2					PP	PP	20 50 02.9	+4.0	
CD2					SKS	SKSdf	20 52 45.6	-3.9	
CD2					SKKS	SKKSac	20 56 45.8	-1.1	
CD2					SS	SS	21 09 57.1	+0.9	
CD2					AMB	AMB			
	comp=Z,550nm,17.8s								
CD2					LR	LR			
	comp=N,290nm,6.5s								
CD2					LR	LR			
	comp=Z,200nm,5.9s								
GYA	**Guiyang**	**162.61**	**353**		PKP	PKPdf	20 45 48.0	-3.0	
GYA					sPKP		20 46 01.8		
GYA					PKPab	PKPab	20 46 38.5	-0.6	
GYA					PKS		20 49 20.0		
GYA					PP	PP	20 50 23.4	+1.4	
GYA					SKKS	SKKSac	20 57 04.6	-4.5	
GYA					SS	SS	21 10 40.3	-0.9	
GYA					AMB	AMB			
	comp=Z,120nm,8.2s								
GYA					LR	LR			
	comp=N,180nm,25.5s								
GYA					LR	LR			
	comp=E,150nm,26.6s								
GYA					LR	LR			
	comp=Z,170nm,25.7s								
KMI	**Kunming**	**164.04**	**5**		PKP	PKPdf	20 45 52.8	+0.4	
CMAR	**Chiang Mai Arr**	**169.43**	**28**		PKP	PKPdf	20 45 57.0	+0.4	
	comp=Z,1.1nm,0.9s,baz=276,slow=1.2,SNR=7.4								
CMAR					PKPab	PKPab	20 47 10.1	+0.8	
	comp=Z,0.8nm,0.8s,baz=306,slow=5.9,SNR=6.0								
CMAR	**Chiang Mai Arr**	**169.43**	**28**		PKP	PKPdf	20 45 57.0	+0.4	
CMAR					PKPab	PKPab	20 47 10.1	+0.8	

*ISCJB **22** 20:49:17.6±0.6,50°24N±0°04×18°88E±0°03,h0km, Error ellipse: s-maj=5.8km s-min=2.8km az=7.2*
*WAR **22** 20:49:18.9,50°24N×18°97E*
*IPEC **22** 20:49:18.9±0.2,50°24N×18°95E,h2km±2km,ML1.7/3, Error ellipse: s-maj=2.6km s-min=1.1km az=168.0*
*PRU **22** 20:49:18.8,50°28N×18°88E,h0km*
*CSEM **22** 20:49:18.2±0.3,50°29N×18°89E,h2km,ML2.6/4, Error ellipse: s-maj=6.7km s-min=2.7km az=1.0*

ISC 22 20:49:18.6±0.6,**50°26N**±0°04×**18°89E**±0°03,**h0**km,**n22,**
σ0s97/40,Poland

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.59**	**93**	*e*	Pg	**Pg**	**20 49 29.5**	**-0.3**
OJC					eSg	**Sg**	**20 49 37.3**	**-0.1**
OJC	**Ojcow**	**0.59**	**93**	*e*	Pg	**Pg**	**20 49 29.4**	**-0.4**
	baz=272							
OJC					eSg	**Sg**	**20 49 37.3**	**-0.1**
OKC	**Ostrava-Krasne**	**0.63**	**229**	*e*	PG	**Pg**	**20 49 30.6**	**-0.1**
OKC					eSG	**Sg**	**20 49 40.8**	**+1.9**
	comp=Z,8.5nm,0.2s							
OKC	**Ostrava-Krasne**	**0.63**	**229**		Pg	**Pg**	**20 49 30.6**	**-0.1**
OKC					Sg	**Sg**	**20 49 40.8**	**+1.9**
	comp=Z,8.5nm,0.2s							
MORC	**Moravsky Berou**	**0.99**	**242**	*e*	Pg	**Pg**	**20 49 38.2**	**+0.7**
	baz=62							
MORC					eSg	**Sg**	**20 49 51.6**	**+1.3**
	comp=Z,13nm,0.2s,baz=62							
NIE	**Niedzica**	**1.25**	**132**	*e*	Pg	**Pg**	**20 49 42.4**	**-0.1**
NIE					eSg	**Sg**	**20 49 59.5**	**+0.9**
NIE	**Niedzica**	**1.25**	**132**	*e*	Pg	**Pg**	**20 49 42.4**	**-0.1**
NIE					eSg	**Sg**	**20 49 59.5**	**+0.9**
DPC	**Dobruska-Polom**	**1.65**	**274**	*e*	PG	**Pg**	**20 49 48.8**	**-1.3**
DPC					eSG	**Sg**	**20 50 10.6**	**-0.8**
	comp=Z,4.2nm,0.2s							
DPC	**Dobruska-Polom**	**1.65**	**274**		Pg	**Pg**	**20 49 48.8**	**-1.3**
DPC					eSg	**Sg**	**20 50 11.9**	**+0.5**
	baz=93							
KOLL	**Kolacno**	**1.71**	**191**	*e*	PG	**Pg**	**20 49 51.4**	**+0.1**
KOLL					eSG	**Sg**	**20 50 13.3**	**-0.1**
KOLL	**Kolacno**	**1.71**	**191**	*e*	Pg	**Pg**	**20 49 51.4**	**+0.1**
KOLL					eSg	**Sg**	**20 50 13.3**	**-0.1**
STHS	**Stebnicka Huta**	**1.74**	**118**	*e*	PG	**Pg**	**20 49 51.3**	**-0.7**
STHS					eSG	**Sg**	**20 50 15.1**	**+0.6**
STHS	**Stebnicka Huta**	**1.74**	**118**	*e*	Pg	**Pg**	**20 49 51.3**	**-0.7**
STHS					eSg	**Sg**	**20 50 15.1**	**+0.6**
KSP	**Ksiaz**	**1.75**	**291**	*e*	Pg	**Pg**	**20 49 52.3**	**+0.1**
KSP					eSg	**Sg**	**20 50 16.5**	**+1.6**
VRAC	**Vranov**	**1.76**	**238**	*e*	Pn	**Pn**	**20 49 51.2**	**+0.9**
	baz=58							
VRAC					eSg	**Sg**	**20 50 14.5**	**-0.6**
	comp=Z,6.4nm,0.2s,baz=58							
KRUC	**Moravsky**	**2.01**	**235**	*e*	Pn	**Pn**	**20 49 54.6**	**+0.9**
	baz=54							
KRUC					eSg	**Sg**	**20 50 21.9**	**-1.2**
	comp=Z,3.1nm,0.2s,baz=54							
KECS	**Kecovo**	**2.06**	**149**	*e*	PN	**Pn**	**20 49 54.8**	**+0.4**
KECS					eSN	**Sn**	**20 50 18.6**	**-2.1**
KECS	**Kecovo**	**2.06**	**149**	*e*	Pn	**Pn**	**20 49 54.8**	**+0.4**
KECS					eSn	**Sn**	**20 50 18.6**	**-2.1**
PRU	**Pruhonice**	**2.81**	**266**	*e*	SG	**Sg**	**20 50 47.1**	**-1.6**
PRU	**Pruhonice**	**2.81**	**266**		Sg	**Sg**	**20 50 47.1**	**-1.6**
KHC	**Kasperske Hory**	**3.62**	**254**	*e*	SG	**Sg**	**20 51 14.0**	**-1.0**
KHC	**Kasperske Hory**	**3.62**	**254**		Sg	**Sg**	**20 51 14.0**	**-1.0**

*ISCJB **22** 20:55:42.7±0.7,37°4S±0°1×95°1W±0°2,h10km,mb4.0/5, Error ellipse: s-maj=19.8km s-min=15.4km az=41.7*
*IDC **22** 20:55:42.8±1.0,37°21S×95°09W,h0km,mb3.9/4, mb1 4.3/4,mb1mx4.0/15,mbtmp3.9/4,MS4.0/1,Ms1 3.9/1, ms1mx3.3/26, Error ellipse: s-maj=30.3km s-min=26.4km az=110.0*
*NEIC **22** 20:55:44.3±0.8,37°36S×95°14W,h10km,mb4.5/3, Error ellipse: s-maj=24.4km s-min=18.6km az=138.0*

ISC 22 20:55:44.9±0.7,**37°4S**±0°1×**95°1W**±0°2,**h10**km,**n23,**
σ1s53/18,mb4.0/5,Southeast of Easter Island

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**19.34**	**108**		LR	LR	21 05 28.5	
	comp=Z,405nm,19.3s,baz=47,slow=30							
LCO	**Las Campanas**	**22.02**	**75**		P	**P**	**21 00 39.4**	**+0.1**
	13nm,1.0s,mb4.3							
CFAA	**Coronel Fontan**	**22.84**	**83**		P	**P**	**21 00 45.7**	**-2.4**
	0.4nm,0.9s,baz=266,slow=9.9,SNR=4.5							
CFAA	**Coronel Fontan**	**22.84**	**83**		P	**P**	**21 00 45.7**	**-2.4**
EFI	**East Falkland**	**29.66**	**131**		P	**P**	**21 01 46.0**	**-4.5**
NNA	**Nana**	**30.13**	**38**		P	**P**	**21 01 56.4**	**+1.5**
LPAZ	**La Paz**	**31.76**	**56**		P	**P**	**21 02 09.5**	**+0.3**
	3.0nm,0.9s,mb4.1,baz=195,slow=7.3,SNR=11							
LPAZ	**La Paz**	**31.76**	**56**		P	**P**	**21 02 09.5**	**+0.3**
QSPA	**South Pole Qui**	**52.84**	**180**		P	**P**	**21 05 01.6**	**+1.7**
	1.1nm,0.6s,mb3.9,baz=277,slow=1.4,SNR=7.4							
QSPA	**South Pole Qui**	**52.84**	**180**		eP	**P**	**21 05 01.6**	**+1.6**
	3.2nm,1.1s,mb4.2							
SBA	**Scott Base**	**55.46**	**195**		eP	**P**	**21 05 19.5**	**+0.4**
URZ	**Urewera**	**66.61**	**239**		eP	**P**	**21 06 32.7**	**-2.7**
	36nm,1.4s							
TXAR	**Lajitas Array**	**66.85**	**352**		P	**P**	**21 06 35.6**	**-1.1**
	0.7nm,0.9s,mb3.7,baz=177,slow=10.0,SNR=5.5							
TXAR	**Lajitas Array**	**66.85**	**352**		P	**P**	**21 06 35.6**	**-1.1**
PV01	**Paradox Valley**	**76.17**	**349**		P	**P**	**21 07 30.6**	**-2.2**
NVAR	**Mina Array Bea**	**78.42**	**342**		P	**P**	**21 07 45.0**	**-0.4**
	1.0nm,0.8s,mb3.8,baz=185,slow=5.4,SNR=8.7							
NVAR	**Mina Array Bea**	**78.42**	**342**		P	**P**	**21 07 45.0**	**-0.4**
PD02	**Pinedale Array**	**80.86**	**349**		eP	**P**	**21 08 00.3**	**+1.7**
PD01	**Pinedale Array**	**80.87**	**349**		eP	**P**	**21 08 00.7**	**+2.0**
CMAR	**Chiang Mai Arr**	**157.48**	**217**		PKPab	PKPab	21 16 13.2	0.0
	0.1nm,0.3s,baz=157,slow=4.9,SNR=4.2							
CMAR	**Chiang Mai Arr**	**157.48**	**217**		PKPab	PKPab	21 16 13.2	0.0
SONM	**Songino Array**	**161.10**	**310**		PKPab	PKPab	21 16 25.6	-2.7
	0.5nm,0.9s,baz=46,slow=4.2,SNR=4.7							
SONM	**Songino Array**	**161.10**	**310**		PKPab	PKPab	21 16 25.6	-2.7

*ISK **22** 21:23:15.7,38°17N×26°62E,h2km,MD2.9*
*ISCJB **22** 21:23:16.7±0.5,38°22N±0°03×26°58E±0°04,h9km±4km, Error ellipse: s-maj=5.1km s-min=4.4km az=139.5*
*CSEM **22** 21:23:16.3±0.3,38°21N×26°57E,h5km,MD3.1,Error ellipse: s-maj=5.8km s-min=5.4km az=33.0*
*ATH **22** 21:23:16.6,38°23N×26°54E,h27km±1km,MD2.9/6*
*DDA **22** 21:23:18.0,38°35N×26°68E,h5km±6km,Md3.1*

ISC 22 21:23:17.1±0.5,**38°22N**±0°03×**26°59E**±0°04,**h10**km±4km,
n39,σ1s01/53,Aegean Sea

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.14**	**2**	*i*	P	**Pg**	**21 23 18.8**	**-1.5**
URLA				*i*	S	**Sg**	**21 23 22.3**	**-0.3**
URLA	**Izmir**	**0.14**	**2**	*i*	P	**Pg**	**21 23 18.8**	**-1.5**
URLA				*i*	S	**Sg**	**21 23 22.3**	**-0.3**
BLCB	**Balcova**	**0.39**	**65**	*e*	PG	**Pg**	**21 23 24.4**	**-0.4**
BLCB				*e*	SG	**Sg**	**21 23 30.6**	**+0.6**
BLCB	**Balcova**	**0.39**	**65**	*e*	Pg	**Pg**	**21 23 24.5**	**-0.3**
BLCB				*e*	Sg	**Sg**	**21 23 30.6**	**+0.5**
CHOS	**Chios island**	**0.45**	**292**	*e*	PB	**Pg**	**21 23 25.4**	**-0.5**
CHOS				*e*	SB	**Sg**	**21 23 32.3**	**+0.4**
CHOS	**Chios island**	**0.45**	**292**	*e*	Pb	**Pg**	**21 23 25.4**	**-0.5**
CHOS				*e*	Sb	**Sg**	**21 23 32.3**	**+0.4**
SMG	**Samos**	**0.55**	**159**	*e*	PN	**Pg**	**21 23 27.5**	**-0.2**
SMG				*e*	SN	**Sg**	**21 23 37.1**	**+2.2**
SMG	**Samos**	**0.55**	**159**	*e*	Pn	**Pg**	**21 23 27.5**	**-0.2**
IZM	**Izmir**	**0.56**	**71**	*e*	PG	**Pg**	**21 23 27.3**	**-0.6**
IZM				*e*	SG	**Sg**	**21 23 35.9**	**+0.6**
IZM	**Izmir**	**0.56**	**71**	*e*	Pg	**Pg**	**21 23 27.3**	**-0.7**
IZM				*e*	Sg	**Sg**	**21 23 35.9**	**+0.6**
PRK	**Paraskevi**	**1.05**	**346**	*e*	PN	**Pg**	**21 23 36.9**	**-0.5**
PRK				*e*	SN	**Sg**	**21 23 51.6**	**+0.5**
PRK	**Paraskevi**	**1.05**	**346**	*e*	Pn	**Pg**	**21 23 36.9**	**-0.5**
PRK				*e*	Sn	**Sg**	**21 23 51.6**	**+0.5**
AYVA	**Ayvalik**	**1.09**	**4**	*i*	P	**Pg**	**21 23 37.2**	**-0.8**
AYVA				*i*	S	**Sg**	**21 23 54.6**	**+2.3**
AYVA	**Ayvalik**	**1.09**	**4**	*i*	P	**Pg**	**21 23 37.2**	**-0.9**
AKHS	**Akhisar**	**1.16**	**55**	*e*	P	**Pb**	**21 23 37.4**	**-1.9**
AKHS				*i*	S	**Sb**	**21 23 53.4**	**-1.0**
AKHS	**Akhisar**	**1.16**	**55**	*e*	P	**Pb**	**21 23 37.4**	**-1.9**
AKHS				*i*	S	**Sb**	**21 23 53.4**	**-1.0**
AKS	**Akhisar**	**1.16**	**55**	*e*	PN	**Pn**	**21 23 38.5**	**-0.9**
AKS	**Akhisar**	**1.16**	**55**	*e*	Pn	**Pn**	**21 23 38.5**	**-0.9**
MLSB	**Milas**	**1.32**	**134**	*e*	PN	**Pn**	**21 23 40.6**	**-1.0**
MLSB	**Milas**	**1.32**	**134**	*e*	Pn	**Pn**	**21 23 40.6**	**-0.9**
APE	**Apeiranthos**	**1.42**	**216**	*e*	PN	**Pn**	**21 23 43.1**	**+0.1**
APE	**Apeiranthos**	**1.42**	**216**	*e*	PN	**Pn**	**21 23 42.8**	**-0.2**
APE	**Apeiranthos**	**1.42**	**216**	*e*	Pn	**Pn**	**21 23 42.8**	**-0.2**
EZN	**Ezine**	**1.62**	**353**	*e*	PN	**Pn**	**21 23 46.8**	**+1.1**
EZN	**Ezine**	**1.62**	**353**	*e*	Pn	**Pn**	**21 23 46.8**	**+1.2**
YER	**Yerkesik**	**1.73**	**128**	*e*	PN	**Pn**	**21 23 46.8**	**-0.4**
YER	**Yerkesik**	**1.73**	**128**	*e*	Pn	**Pn**	**21 23 46.8**	**-0.3**
BALB	**Balikesir**	**1.74**	**35**	*e*	PN	**Pn**	**21 23 48.2**	**+0.9**
BALB	**Balikesir**	**1.74**	**35**	*e*	Pn	**Pn**	**21 23 48.3**	**+1.0**
LIA	**Limnos Island**	**2.00**	**327**	*e*	PN	**Pn**	**21 23 50.2**	**-0.7**
LIA	**Limnos Island**	**2.00**	**327**	*e*	Pn	**Pn**	**21 23 50.2**	**-0.7**
GONE	**Gonen-Balikesi**	**2.01**	**25**	*e*	PN	**Pn**	**21 23 52.3**	**+1.2**
GONE	**Gonen-Balikesi**	**2.01**	**25**	*e*	Pn	**Pn**	**21 23 52.3**	**+1.2**
DST	**Dursunbey**	**2.10**	**48**	*e*	PN	**Pn**	**21 23 53.5**	**+1.2**
DST	**Dursunbey**	**2.10**	**48**	*e*	Pn	**Pn**	**21 23 53.5**	**+1.2**
KRBG	**Karabiga-Canak**	**2.24**	**14**	*e*	PN	**Pn**	**21 23 55.5**	**+1.3**
KRBG	**Karabiga-Canak**	**2.24**	**14**	*e*	Pn	**Pn**	**21 23 55.5**	**+1.3**
RDO	**Rodhopi**	**3.03**	**345**	*e*	PN	**Pn**	**21 24 04.3**	**-0.8**
RDO	**Rodhopi**	**3.03**	**345**	*e*	Pn	**Pn**	**21 24 04.3**	**-0.8**

*IDC **22** 21:30:13.9±1.0,1°98N×126°01E,h0km,mb4.1/10, mb1 4.2/10,mb1mx4.0/21,mbtmp4.1/10,MS3.0/1, Ms1 3.0/1,ms1mx2.6/41,Error ellipse: s-maj=111.3km s-min=13.8km az=69.0*
*ISCJB **22** 21:30:21.0±0.7,1°96N±0°04×126°20E±0°06,h73km±8km, mb4.0/10,Error ellipse: s-maj=10.1km s-min=7.1km az=171.0*
*DJA **22** 21:30:21,1°99N×126°18E,h30km,MLv4.2/8*

ISC 22 21:30:22.0±0.7,**1°98N**±0°04×**126°22E**±0°06,**h64**km±8km,
n21,σ0s96/24,mb4.1/10,Northern Molucca Sea

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.66**	**136**		P	**Pn**	**21 30 48.5**	**-0.5**
TNTI					S	**Sn**	**21 31 01.6**	**-7.7**
SGSI	**Sangihe**	**1.83**	**338**		P	**Pn**	**21 30 50.5**	**-0.8**
SGSI					S	**Sn**	**21 31 13.5**	**0.0**
KMSI	**Cibinong**	**2.64**	**238**		P	**Pn**	**21 31 03.6**	**+1.3**
KMSI					S	**Sn**	**21 31 33.5**	**+0.3**
MRSI	**Marisa**	**4.53**	**251**		P	**Pn**	**21 31 26.6**	**-1.5**
LUWI	**Luwuk**	**4.57**	**229**		P	**Pn**	**21 31 29.7**	**+1.0**
LUWI					S	**Sn**	**21 32 19.8**	**-0.8**
NLAI	**Namlea**	**5.26**	**170**		P	**Pn**	**21 31 37.8**	**-0.3**
	0.1nm561nm19nm,0.7s							
MSAI	**Masohi**	**5.94**	**153**		P	**Pn**	**21 31 48.8**	**+1.3**
	0.1nm1μm9.6nm,0.5s							
MSAI					S	Px	21 32 07.1	
	9.6nm,0.5s,1μm0.1nm							
KDI	**Kendari**	**6.91**	**211**		P	**Pn**	**21 31 59.4**	**-1.3**
MYLDM	**Lahad Datu**	**8.33**	**293**		P	**Pn**	**21 32 22.3**	**+2.1**
KAPI	**Kappang**	**9.49**	**223**		LR	LR	21 37 02.3	
	comp=Z,80nm,18.5s,baz=243,slow=44							
FITZ	**Fitzroy Crossi**	**19.96**	**182**		P	**Pn**	**21 34 48.0**	**-3.3**
	baz=16,slow=9.8							
WRA	**Warramunga Arr**	**23.20**	**160**		P	**P**	**21 35 22.8**	**-0.7**
	8.8nm,0.9s,mb4.2,baz=340,slow=9.7,SNR=18							
ASAR	**Alice Springs**	**26.57**	**164**		P	**P**	**21 35 54.5**	**+0.4**
	1.6nm,0.5s,mb3.8,baz=342,slow=7.5,SNR=42							
STKA	**Stephens Creek**	**36.70**	**158**		P	**P**	**21 37 23.4**	**+0.5**
	3.6nm,0.6s,mb4.4,baz=336,slow=11,SNR=9.1							
SONM	**Songino Array**	**48.79**	**342**		P	**P**	**21 39 00.9**	**+0.3**
	0.6nm,0.9s,mb3.6,baz=155,slow=7.8,SNR=4.2							
MKAR	**Makanchi Array**	**58.70**	**326**		P	**P**	**21 40 12.6**	**-0.4**
	1.7nm,0.5s,mb4.3,baz=120,slow=8.2,SNR=30							
ZALV	**Zalesovo Beam**	**61.91**	**334**		P	**P**	**21 40 34.0**	**-0.9**
	0.3nm,0.3s,mb3.9,baz=142,slow=5.4,SNR=3.3							
KURK	**Kurchatov**	**62.94**	**328**		P	**P**	**21 40 41.5**	**-0.2**
	2.2nm,0.5s,mb4.5,baz=130,slow=6.1,SNR=31							
BVAR	**Borovoye Array**	**68.51**	**328**		P	**P**	**21 41 17.0**	**-0.5**
	0.4nm,0.5s,mb3.6,baz=125,slow=9.2,SNR=4.1							
VNDA	**Vanda**	**81.77**	**173**		P	**P**	**21 42 34.5**	**+1.1**
	0.8nm,0.6s,mb3.9,baz=320,slow=7.1,SNR=5.5							
FINES	**FINESS Array B**	**93.12**	**332**		P	**P**	**21 43 29.5**	**+0.7**
	3.0nm,1.0s,mb4.7,baz=88,slow=5.0,SNR=3.8							

*ISCJB **22** 21:30:37.1±0.4,44°23N±0°05×11°99E±0°05,h25km±7km, Error ellipse: s-maj=8.1km s-min=5.7km az=14.6*
*CSEM **22** 21:30:37.0±0.1,44°18N×11°94E,h30km,ML2.8/8, Error ellipse: s-maj=2.4km s-min=1.8km az=138.0*
*ROM **22** 21:30:37.4±0.2,44°19N×11°94E,h26km±3km,Md2.3/13, Ml2.0/5, Error ellipse: s-maj=2.9km s-min=2.7km az=91.0*

ISC 22 21:30:37.5±0.4,**44°20N**±0°04×**11°97E**±0°05,**h27**km±5km,
n34,σ0s58/53,2C-6D,Northern Italy

Code	Station Name	Δ°	AZ°		Phase ID Op	ISC	Time h m s	Res ISC
FAEN	**Faenza**	**0.11**	**324**	⇓*i*	Pg	**Pb**	**21 30 41.9**	**-0.6**
FAEN					Sg	**Sb**	**21 30 46.5**	**+0.7**
FAEN	**Faenza**	**0.11**	**324**	⇓*i*	Pg	**Pb**	**21 30 41.9**	**-0.6**
FAEN					Sg	**Sb**	**21 30 46.5**	**+0.7**
SFI	**Santa Sofia**	**0.31**	**197**	⇓*i*	Pg	**Pb**	**21 30

ISC 22 22:05:55.9±1.0,**4.66S**±0.03×**101.17E**±0.03,**h10**km±6km, **n257**,σ1**18**/232,**mb4.9**/67,**MS4.3**/21,**11C-1D**,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KSI	**Kapahiang**	**1.74**	**55**	P	**Pn**		**22 06 25.0**	**-1.1**
KSI				S	**Sn**		**22 06 49.5**	**+1.2**
MNAI	**Manna**	**1.80**	**80**	P	**Pn**		**22 06 26.3**	**-0.7**
MNAI				S	**Sn**		**22 06 51.5**	**+1.5**
KRJI	**Kerinci**	**2.57**	**6**	P	**Pg**		**22 06 50.8**	**+5.6**
LWLI	**Liwa**	**2.90**	**97**	P	**Pn**		**22 06 42.3**	**+0.2**
LWLI				S	**Sn**		**22 07 17.7**	**+0.7**
MDSI	**Maura Dua**	**3.00**	**87**	P	**Pn**		**22 06 43.1**	**-0.4**
MDSI				S	**Sn**		**22 07 22.1**	**+2.5**
KLI	**Kotabumi**	**3.68**	**93**	P	**Pn**		**22 06 53.4**	**+0.6**
SDSI	**Sungai Dareh**	**3.71**	**4**	P	**Pn**		**22 06 53.8**	**+0.5**
PDSI	**Padang**	**3.79**	**349**	P	**Pn**		**22 06 54.2**	**-0.2**
SISI	**Saibi**	**3.91**	**328**	P	**Pn**		**22 06 55.8**	**-0.3**
SISI				S	**Sn**		**22 07 42.2**	**+0.1**
BLSI	**Bandar Lampung**	**4.12**	**100**	P	**Pn**		**22 07 01.6**	**+2.7**
PPI	**Padang Panjang**	**4.25**	**349**	P	**Pn**		**22 07 01.6**	**+0.9**
RGRI	**Rengat**	**4.44**	**15**	P	**Pn**		**22 07 03.7**	**+0.4**
RBSI	**Rajabasa**	**4.70**	**105**	P	**Pn**		**22 07 06.5**	**-0.4**
CGJI	**Cibinong**	**4.90**	**114**	P	**Pn**		**22 07 08.3**	**-1.3**
BKNI	**Bangkinang** 2.7nm3µm221nm,1.1s	**4.96**	**358**	P	**Pn**		**22 07 11.0**	**+0.5**
SBJI	**Serang** 1.1nm4µm177nm,1.0s	**5.14**	**107**	P	**Pn**		**22 07 10.5**	**-2.5**
PPBI	**Pangkal Pinang** 0.6nm1µm58nm,0.9s	**5.54**	**64**	P	**Pn**		**22 07 18.2**	**-0.3**
MNSI	**Mandailing Nat** 0.5nm2µm75nm,0.8s	**5.65**	**344**	P	**Pn**		**22 07 19.9**	**-0.1**
DBJI	**Dramaga** 0.8nm3µm210nm,1.5s	**5.86**	**109**	P	**Pn**		**22 07 22.4**	**-0.4**
CBJI	**Citeko** 3.0nm957nm,1.1s	**5.91**	**107**	P	**Pn**		**22 07 25.3**	**+1.7**
LEM	**Lembang** 1.0nm3µm312nm,1.1s	**6.76**	**109**	P	**Pn**		**22 07 35.9**	**+0.6**
MYKOM	**Kota Tinggi** 0.4nm60nm,1.4s	**6.95**	**23**	P	**Pn**		**22 07 38.8**	**+1.0**
KGM	**Kluang**	**6.97**	**18**	P	**Pn**		**22 07 38.4**	**+0.2**
CISI	**Cisompet, Garu** 0.6nm2µm156nm,0.8s	**7.20**	**114**	P	**Pn**		**22 07 39.8**	**-1.5**
PSI	**Prapat** 0.1nm31nm,1.3s	**7.75**	**343**	P	**Pn**		**22 07 46.7**	**-2.1**
COCO	**West Island**	**8.62**	**210**	*e*Pn	**Pn**		**22 08 00.3**	**-0.4**
COCO	**West Island**	**8.62**	**210**	*e*P	**Pn**		**22 08 00.3**	**-0.5**
BJII	**Banjamegara**	**8.89**	**108**	P	**Pn**		**22 08 05.8**	**+1.3**
IPM	**Ipoh**	**9.08**	**359**	P	**Pn**		**22 08 06.4**	**-0.7**
IPM	**Ipoh**	**9.08**	**359**	*e*Pn	**Pn**		**22 08 08.8**	**+1.7**
IPM	**Ipoh** 32nm,1.0s	**9.08**	**359**	P	**Pn**		**22 08 08.1**	**+1.0**
KULM	**Kulim**	**9.90**	**357**	P	**Pn**		**22 08 18.3**	**0.0**
KULM	**Kulim**	**9.90**	**357**	*e*Pn	**Pn**		**22 08 17.7**	**-0.6**
PBKI	**Pangkalan Bun**	**10.65**	**80**	P	**Pn**		**22 08 31.8**	**+3.1**
SJI	**Sawahan** 4µm60nm,0.9s	**10.96**	**107**	P	**Pn**		**22 08 33.1**	**+0.2**
KSM	**Kuching**	**10.98**	**56**	*e*Pn	**Pn**		**22 08 35.8**	**+2.7**
PWJI	**Pagerwojo** 58nm,0.9s	**11.08**	**108**	P	**Pn**		**22 08 33.1**	**-1.4**
BSI	**Banda Aceh** 88nm,0.9s	**11.67**	**330**	P	**Pn**		**22 08 41.7**	**-1.0**
SBUM	**Sibu**	**13.11**	**58**	P	**Pn**		**22 09 02.5**	**+0.2**
SMKI	**Samarinda**	**16.55**	**76**	P	**Pn**		**22 09 50.6**	**+2.3**
KKM	**Kota Kinabalu**	**18.40**	**55**	P	**Pn**		**22 10 11.0**	**-0.3**
KKM	**Kota Kinabalu** 2µm,1.3s	**18.40**	**55**	*e*Pn	**Pn**		**22 10 10.2**	**-1.2**
KKM	**Kota Kinabalu**	**18.40**	**55**	P	**Pn**		**22 10 11.5**	**+0.1**
SPSI	**Sidrap Palu**	**18.56**	**89**	P	Px		22 10 26.3	
TTSI	**Tana Toraja**	**18.67**	**86**	P	**Pn**		**22 10 16.0**	**+1.3**
BKSI	**Bulukumba**	**18.89**	**93**	P	**Pn**		**22 10 19.5**	**+2.2**
TSM	**Tawau**	**18.91**	**62**	P	**Pn**		**22 10 17.0**	**-0.5**
SDKM	**Sandakan**	**18.99**	**58**	P	**Pn**		**22 10 17.0**	**-1.5**
KDM	**Kudat**	**19.41**	**54**	P	**Pn**		**22 10 22.4**	**-1.1**
MYLDM	**Lahad Datu**	**19.88**	**61**	P	**Pn**		**22 10 27.7**	**-1.4**
MYLDM	**Lahad Datu**	**19.88**	**61**	P	**Pn**		**22 10 31.3**	**+2.2**
MRSI	**Marisa**	**21.37**	**77**	P	**P**		**22 10 43.6**	**-0.1**
KDI	**Kendari**	**21.40**	**89**	P	**P**		**22 10 43.9**	**-0.1**
LUWI	**Luwuk**	**21.87**	**81**	P	**P**		**22 10 52.7**	**+3.6**
CM31	**Chiang Mai Arr** 15nm,0.6s,mb4.6	**23.08**	**355**	*e*P	**P**		**22 11 01.7**	**-0.2**
CMAR	**Chiang Mai Arr** 24nm,0.8s,mb4.7,baz=186,slow=8.3,SNR=88	**23.08**	**355**	P	**P**		**22 10 59.9**	**-2.0**
CMAR	0.7nm,0.7s,baz=218,slow=4.8,SNR=3.4			PcP	PcP		22 14 52.0	+0.9
CMAR	comp=Z,318nm,20.1s,MS3.8,baz=186,slow=40			LR	LR		22 21 11.3	
CMAR	**Chiang Mai Arr**	**23.08**	**355**	P	**P**		**22 10 59.9**	**-2.0**
CMAR				PcP	PcP		22 14 52.0	+0.9
CMAR	**Chiang Mai Arr**	**23.08**	**355**	P	**P**		**22 10 59.9**	**-1.9**
CMAR							22 14 52.0	
CHTO	**Chiang Mai** 19nm,0.9s,mb4.5	**23.43**	**355**	*e*P	**P**		**22 11 04.3**	**-1.2**
CHTO	**Chiang Mai**	**23.43**	**355**	*e*P	**P**		**22 11 04.3**	**-1.3**
CHTO	comp=Z,19nm,0.9s,mb4.5			pmax	pmax			
CHTO	**Chiang Mai**	**23.43**	**355**	P	**P**		**22 11 04.5**	**-1.1**
LBMI	**Labuha**	**26.60**	**82**	P	**P**		**22 11 38.8**	**+4.1**
KMI	**Kunming**	**29.65**	**3**	⇑P	**P**		**22 12 02.3**	**+0.6**
KMI				pP	pP		22 12 08.3	+3.5
KMI				PP	PP		22 13 02.5	-6.3
KMI				S	**S**		**22 16 59.8**	**+2.5**
KMI	comp=Z,17nm,1.0s,mb4.7			pmax	pmax			
KMI	comp=Z,58nm,3.1s			pmax	pmax			
KMI	comp=N,420nm,12.8s,MS4.3			LR	LR			
KMI	comp=E,370nm,14.6s,MS4.3			LR	LR			
KMI	comp=Z,370nm,15.7s,MS4.1			LR	LR			
SHL	**Shillong**	**31.37**	**344**	*e*PKP	**P**		**22 12 17.0**	**0.0**
NWAO	**Narrogin (SRO)** comp=Z,271nm,20.2s,MS3.9,baz=57,slow=32	**31.87**	**154**	LR	LR		22 22 59.1	
ODAN	**Odare** comp=Z,51nm,0.8s,mb5.5	**34.06**	**338**	*e*P	**P**		**22 12 41.7**	**+1.2**
TAPN	**Taplejung** comp=Z,75nm,0.9s,mb5.6	**34.38**	**338**	*e*P	**P**		**22 12 44.8**	**+1.5**
RAMN	**Ramite**	**34.44**	**337**	*e*P	**P**		**22 12 44.2**	**+0.4**
JIRN	**Jiri** comp=Z,76nm,0.8s,mb5.7	**35.24**	**337**	*e*P	**P**		**22 12 52.4**	**+1.7**
CD2	**Chengdu**	**35.46**	**4**	P	**P**		**22 12 51.3**	**-1.2**
CD2				PP	PP		22 14 12.3	-0.9
CD2				S	**S**		**22 18 27.3**	**-0.4**
CD2	comp=Z,30nm,0.9s,mb5.2			pmax	pmax			
CD2	comp=Z,240nm,5.7s			pmax	pmax			
CD2	comp=N,660nm,15.5s			LR	LR			
CD2	comp=Z,630nm,20.2s,MS4.4			LR	LR			
PKI	**Pulchoki**	**35.48**	**335**	*e*P	**P**		**22 12 53.8**	**+1.1**
LSA	**Lhasa**	**35.49**	**345**	P	**P**		**22 12 53.9**	**+1.1**
GUN	**Gumba** comp=Z,127nm,1.2s,mb5.7	**35.59**	**336**	*e*P	**P**		**22 12 55.3**	**+1.6**
DMN	**Daman** comp=Z,30nm,1.0s,mb5.2	**35.64**	**335**	*e*P	**P**		**22 12 55.3**	**+1.2**
WRA	**Warramunga Arr** comp=Z,7.6nm,0.8s,mb4.7,baz=293,slow=9.6,SNR=24	**35.68**	**118**	P	**P**		**22 12 53.9**	**-0.7**
WRA	comp=Z,0.5nm,0.5s,baz=309,slow=2.1,SNR=2.7			PcP	PcP		22 15 23.4	+0.3
WRA	**Warramunga Arr**	**35.68**	**118**	P	**P**		**22 12 53.9**	**-0.8**
WRA				PcP	PcP		22 15 23.4	+0.3
WRA	**Warramunga Arr**	**35.68**	**118**	P	**P**		**22 12 53.9**	**-0.7**
WRA							22 15 23.4	
WRAB	**Tennant Creek** comp=Z,375nm,2.7s,mb5.8	**35.68**	**118**	*e*P	**P**		**22 12 53.8**	**-0.9**
WRAB	**Tennant Creek** comp=Z,375nm,2.7s,mb5.8	**35.68**	**118**	*e*P	**P**		**22 12 53.8**	**-0.9**
WRAB				pmax	pmax			
WB2	**Warramunga Arr**	**35.69**	**118**	*e*P	**P**		**22 12 54.0**	**-0.7**
KKN	**Kakani** comp=Z,51nm,1.0s,mb5.4	**35.72**	**335**	*e*P	**P**		**22 12 56.0**	**+1.2**
GKN	**Gorkha** comp=Z,82nm,1.1s,mb5.6	**36.18**	**335**	*e*P	**P**		**22 12 59.8**	**+1.0**
KOLN	**Koldanda** comp=Z,38nm,0.8s,mb5.4	**36.43**	**333**	*e*P	**P**		**22 13 02.2**	**+1.3**
AS31	**Alice Springs**	**36.77**	**124**	*e*P	**P**		**22 13 06.3**	**+2.4**
ASAR	**Alice Springs** comp=Z,2.2nm,0.7s,mb4.1,baz=295,slow=8.2,SNR=18	**36.77**	**124**	P	**P**		**22 13 03.7**	**-0.3**
ASAR	comp=Z,1.1nm,0.8s,baz=316,slow=2.6,SNR=4.6			PcP	PcP		22 15 26.6	+0.3
ASAR				S	**S**		**22 18 47.5**	**-0.6**
ASAR	**Alice Springs** comp=Z,0.4nm,0.7s,baz=291,slow=17,SNR=4.1	**36.77**	**124**	P	**P**		**22 13 03.6**	**-0.3**
ASAR				PcP	PcP		22 15 26.6	+0.3
ASAR				S	**S**		**22 18 47.5**	**-0.6**
ASAR	**Alice Springs**	**36.77**	**124**	P	**P**		**22 13 03.7**	**-0.2**
ASAR							22 15 26.6	
ASAR				S	**S**		**22 18 47.5**	**-0.6**
DANN	**Dangsing** comp=Z,84nm,0.9s,mb5.5	**36.86**	**334**	*e*P	**P**		**22 13 05.8**	**+1.2**
PYUN	**Piuthan** comp=Z,28nm,0.8s,mb5.1	**36.99**	**333**	*e*P	**P**		**22 13 06.5**	**+0.8**
WHN	**Wuhan**	**37.21**	**19**	P	**P**		**22 13 05.5**	**-2.0**
WHN				*e*S	**S**		**22 18 54.5**	**0.0**
WHN	comp=Z,670nm,16.6s,MS4.5			LR	LR			
NJ2	**Nanjing**	**40.20**	**24**	*e*P	**P**		**22 13 33.3**	**+0.7**
NJ2	comp=Z,20nm,0.6s,mb5.0			pmax	pmax			
LZH	**Lanzhou**	**40.61**	**3**	*e*P	**P**		**22 13 35.9**	**0.0**
LZH				PP	PP		22 15 14.0	+4.4
LZH				*e*S	**S**		**22 19 44.8**	**-0.8**
LZH	comp=Z,32nm,1.0s,mb4.9			pmax	pmax			
LZH	comp=Z,140nm,5.0s			pmax	pmax			
LZH	comp=N,590nm,17.0s,MS4.7			LR	LR			
LZH	comp=E,730nm,18.1s,MS4.7			LR	LR			
LZH	comp=Z,850nm,18.5s,MS4.6			LR	LR			
COEN	**Coen** comp=Z,22nm,0.8s,mb4.8	**42.40**	**106**	*e*P	**P**		**22 13 50.1**	**-0.9**
GTA	**Gaotai**	**43.87**	**358**	⇑*i*P	**P**		**22 14 02.6**	**+0.1**
GTA				PcP	PcP		22 15 49.4	+0.7
GTA				S	**S**		**22 20 33.3**	**-0.3**
GTA	comp=Z,16nm,0.8s,mb4.8			pmax	pmax			
GTA	comp=Z,150nm,6.6s			pmax	pmax			
GTA	comp=N,250nm,18.0s,MS4.3			LR	LR			
GTA	comp=E,250nm,15.6s,MS4.3			LR	LR			
GTA	comp=Z,370nm,22.3s			LR	LR			
PMG	**Port Moresby** comp=Z,8.1nm,0.6s,mb4.8,baz=279,slow=9.3,SNR=3.3	**45.85**	**99**	P	**P**		**22 14 17.8**	**-1.0**
PMG	**Port Moresby**	**45.85**	**99**	P	**P**		**22 14 17.8**	**-1.0**
PMG	**Port Moresby**	**45.85**	**99**	⇓*e*P	**P**		**22 14 17.3**	**-1.4**
PMG	comp=Z,28nm,1.6s			pmax	pmax			
HHC	**Hu-ho-hao-te**	**46.28**	**11**	⇑P	**P**		**22 14 21.6**	**0.0**
HHC				PcP	PcP		22 15 56.5	-0.5
HHC				PP	PP		22 16 12.0	+1.6
HHC				ScP	ScP		22 19 47.3	-3.3
HHC				S	**S**		**22 21 09.3**	**+0.8**
HHC				ScS	ScS		22 24 13.6	-3.7
HHC				SS	SS		22 24 30.3	-4.0
HHC	comp=Z,25nm,1.3s,mb5.0			pmax	pmax			
HHC	comp=Z,120nm,5.6s			pmax	pmax			
HHC	comp=N,260nm,15.5s,MS4.5			LR	LR			
HHC	comp=E,380nm,16.7s,MS4.5			LR	LR			
HHC	comp=Z,240nm,16.7s,MS4.2			LR	LR			
CTA	**Charters Tower** comp=Z,9.0nm,0.9s,mb4.7,baz=287,slow=9.7,SNR=6.8	**46.44**	**113**	P	**P**		**22 14 22.5**	**-0.8**
CTA	**Charters Tower** comp=Z,7.2nm,0.9s,mb4.6	**46.44**	**113**	*e*P	**P**		**22 14 22.7**	**-0.6**
CTA	**Charters Tower**	**46.44**	**113**	P	**P**		**22 14 22.5**	**-0.8**
CTA	**Charters Tower**	**46.44**	**113**	P	**P**		**22 14 22.5**	**-0.8**
CTAO	**Charters Tower** comp=Z,15nm,1.1s,mb4.8	**46.44**	**113**	*e*P	**P**		**22 14 23.5**	**+0.2**
CTAO	**Charters Tower**	**46.44**	**113**	*e*P	**P**		**22 14 23.5**	**+0.2**
CTAO	comp=Z,15nm,1.1s,mb4.8			pmax	pmax			
STKA	**Stephens Creek** comp=Z,3.8nm,0.8s,mb4.4,baz=305,slow=6.3,SNR=5.5	**46.53**	**131**	P	**P**		**22 14 24.3**	**+0.5**
STKA	**Stephens Creek** comp=Z,5.6nm,0.8s,mb4.5	**46.53**	**131**	*e*P	**P**		**22 14 24.3**	**+0.5**
STKA	**Stephens Creek**	**46.53**	**131**	*e*P	**P**		**22 14 24.4**	**+0.7**
STKA	**Stephens Creek**	**46.53**	**131**	*e*P	**P**		**22 14 24.4**	**+0.6**
BJI	**Beijing**	**46.58**	**16**	P	**P**		**22 14 23.1**	**-0.9**
BJI				S	**S**		**22 21 16.1**	**+3.3**
BJI	comp=Z,49nm,0.7s,mb5.5			pmax	pmax			
BJI	comp=Z,82nm,4.1s			pmax	pmax			
BJI	comp=N,180nm,16.8s,MS4.2			LR	LR			
BJI	comp=E,120nm,17.1s,MS4.2			LR	LR			
KSAR	**Wonju Array Be**	**48.72**	**28**	P	**P**		**22 14 39.1**	**-1.5**
KSAR	**Wonju Array Be**	**48.72**	**28**	P	**P**		**22 14 39.1**	**-1.5**
KSRS	**Korea Array** comp=E,11nm,0.9s,mb4.9,baz=215,slow=7.9,SNR=24	**48.74**	**28**	P	**P**		**22 14 39.1**	**-1.7**
CMSA	**Cobar Meteorol** comp=E,75nm,0.9s,mb5.7	**49.54**	**128**	*e*P	**P**		**22 14 47.8**	**+0.7**
KSH	**Kashi**	**49.73**	**334**	P	**P**		**22 14 47.8**	**-0.5**
KSH				PcP	PcP		22 16 10.3	+0.9
KSH				PP	PP		22 16 42.3	-0.7
KSH				PcS	PcS		22 20 05.3	-0.8
KSH				S	**S**		**22 21 53.0**	**-4.4**
KSH				ScS	ScS		22 24 36.1	-4.2
KSH	comp=Z,9.0nm,1.1s,mb4.7			pmax	pmax			
KSH	comp=Z,120nm,4.9s			pmax	pmax			
KSH	comp=N,160nm,6.3s			LR	LR			
KSH	comp=E,150nm,5.9s			LR	LR			
KSH	comp=Z,150nm,4.9s			LR	LR			
WMQ	**Urumqi**	**49.77**	**347**	P	**P**		**22 14 49.5**	**+0.9**
WMQ				PP	PP		22 16 45.0	+1.6
WMQ				S	**S**		**22 21 57.3**	**-0.5**
WMQ	comp=Z,29nm,0.9s,mb5.3			pmax	pmax			
WMQ	comp=Z,230nm,4.6s			pmax	pmax			
WMQ	comp=N,110nm,20.7s,MS4.0			LR	LR			
WMQ	comp=E,100nm,20.7s,MS4.0			LR	LR			
WMQ	comp=Z,110nm,21.7s,MS3.8			LR	LR			
KZA	**Kyzart** SNR=7.1	**52.16**	**336**	P	**P**		**22 15 07.8**	**+1.2**
SONM	**Songino Array** comp=Z,29nm,0.8s,mb5.2,baz=184,slow=9.5,SNR=215	**52.48**	**4**	P	**P**		**22 15 08.9**	**0.0**
SONM	**Songino Array**	**52.48**	**4**	P	**P**		**22 15 08.9**	**0.0**
SONM	**Songino Array**	**52.48**	**4**	P	**P**		**22 15 08.9**	**+0.1**
ULN	**Ulaanbaatar** comp=Z,26nm,1.0s,mb5.1	**52.56**	**5**	*e*P	**P**		**22 15 09.4**	**-0.1**
ULN	**Ulaanbaatar** comp=Z,26nm,1.0s,mb5.1	**52.56**	**5**	*e*P	**P**		**22 15 09.4**	**-0.1**
ULN				pmax	pmax			
ULN	**Ulaanbaatar**	**52.56**	**5**	P	**P**		**22 15 09.5**	**0.0**
TKM2	**Tokmak 2** SNR=18	**52.73**	**337**	P	**P**		**22 15 11.3**	**+0.6**
TKM2	**Tokmak 2** comp=Z,17nm,0.8s,mb5.0	**52.73**	**337**	*e*P	**P**		**22 15 11.3**	**+0.5**
TKM2	**Tokmak 2**	**52.73**	**337**	*i* P	**P**		**22 15 11.3**	**+0.5**
KBK	**Karagaybulak** SNR=7.7	**52.77**	**336**	P	**P**		**22 15 12.3**	**+1.2**
AML	**Almayashu** SNR=11	**52.86**	**334**	P	**P**		**22 15 12.8**	**+1.0**
AAK	**Ala-Archa** comp=Z,28nm,1.0s,mb5.2	**52.93**	**335**	*e*P	**P**		**22 15 13.4**	**+1.1**
AAK	**Ala-Archa** comp=Z,28nm,1.0s,mb5.2	**52.93**	**335**	*e*P	**P**		**22 15 13.4**	**+1.1**
AAK				pmax	pmax			
AAK	**Ala-Archa**	**52.93**	**335**	P	**P**		**22 15 13.4**	**+1.1**
CN2	**Changchun**	**52.97**	**22**	⇑P	**P**		**22 15 10.4**	**-2.2**
CN2				*e*S	**S**		**22 22 39.3**	**-2.8**
CN2	comp=Z,30nm,0.9s,mb5.2			pmax	pmax			
CN2	comp=Z,200nm,5.0s			pmax	pmax			
CN2				LR	LR			
CN2	comp=N,200nm,13.0s,MS4.5			LR	LR			
CN2	comp=E,200nm,13.0s,MS4.5			LR	LR			
CN2	comp=Z,200nm,13.0s,MS4.3			LR	LR			
EKS2	**Erkin-Say** SNR=24	**53.26**	**335**	P	**P**		**22 15 15.8**	**+1.0**
EKS2	**Erkin-Say** comp=Z,16nm,0.8s,mb5.0	**53.26**	**335**	*e*P	**P**		**22 15 15.2**	**+0.5**
EKS2	**Erkin-Say**	**53.26**	**335**	*e*P	**P**		**22 15 15.2**	**+0.5**
EKS2	comp=Z,16nm,0.8s,mb5.0			pmax	pmax			
USP	**Ospenovka** SNR=8.9	**53.45**	**336**	P	**P**		**22 15 16.5**	**+0.4**
MAJO	**Matsushiro** comp=Z,69nm,1.7s,mb5.3	**53.64**	**37**	*e*P	**P**		**22 15 15.1**	**-2.5**
MAJO	**Matsushiro** comp=Z,69nm,1.7s,mb5.3	**53.64**	**37**	*e*P	**P**		**22 15 15.1**	**-2.5**
MAJO				pmax	pmax			
MAT	**Matsushiro**	**53.64**	**37**	P	**P**		**22 15 15.0**	**-2.6**
MJAR	**Matsushiro Arr** comp=Z,12nm,0.8s,mb4.9,baz=220,slow=7.9,SNR=27	**53.64**	**37**	P	**P**		**22 15 14.9**	**-2.7**
MJAR	**Matsushiro Arr**	**53.64**	**37**	P	**P**		**22 15 14.9**	**-2.7**
MJAR	**Matsushiro Arr**	**53.64**	**37**	P	**P**		**22 15 15.0**	**-2.7**
MK31	**Makanchi Array**	**53.89**	**344**	*e*P	**P**		**22 15 19.1**	**-0.2**
MK31	**Makanchi Array**	**53.89**	**344**	*e*P	**P**		**22 15 19.1**	**-0.2**
MKAR	**Makanchi Array** comp=Z,9.4nm,0.7s,mb4.8,baz=146,slow=7.9,SNR=76	**53.89**	**344**	P	**P**		**22 15 19.0**	**-0.3**
MKAR	**Makanchi Array**	**53.89**	**344**	*e*P	**P**		**22 15 19.5**	**+0.2**
MKAR	**Makanchi Array**	**53.89**	**344**	*e*P	**P**		**22 15 19.5**	**+0.2**
ZAK	**Zakamensk**	**54.85**	**2**	*e*P	**P**		**22 15 25.5**	**-0.7**
ZAK	comp=Z,5.0nm,0.8s,mb4.6			pmax	pmax			
KKAR	**Karatay Array** comp=Z,1.7nm,0.8s,mb4.1	**55.04**	**333**	*e*P	**P**		**22 15 27.6**	**-0.1**
KKAR	**Karatay Array** comp=Z,2.0nm,0.8s,mb4.2	**55.04**	**333**	*e*P	**P**		**22 15 27.6**	**-0.1**
KKAR				pmax	pmax			
MDJ	**Mudanjiang**	**55.28**	**24**	P	**P**		**22 15 28.4**	**-1.0**
MDJ	comp=Z,12nm,1.6s,mb4.7			pmax	pmax			
MDJ	comp=Z,120nm,6.2s			pmax	pmax			
MDJ	comp=N,88nm,20.6s,MS3.9			LR	LR			
MDJ	comp=E,72nm,23.1s,MS3.9			LR	LR			
MDJ	comp=Z,90nm,23.9s,MS3.8			LR	LR			
TLY	**Talaya** comp=Z,8.9nm,0.8s,mb4.8	**56.16**	**2**	*e*P	**P**		**22 15 36.4**	**+0.8**
TLY	**Talaya**	**56.16**	**2**	*e*P	**P**		**22 15 35.1**	**-0.5**
TLY	comp=Z,13nm,0.8s,mb5.0			pmax	pmax			
TLY	comp=Z,169nm,17.0s,MS4.2			MLR	MLR			
KURK	**Kurchatov** comp=Z,6.4nm,0.8s,mb4.7,baz=162,slow=6.6,SNR=59	**58.48**	**343**	P	**P**		**22 15 51.0**	**-1.0**
KURK	**Kurchatov**	**58.48**	**343**	*e*P	**P**		**22 15 51.5**	**-0.5**
KURK	**Kurchatov**	**58.48**	**343**	*c i*P	**P**		**22 15 51.7**	**-0.3**
KURK	comp=Z,15nm,1.0s,mb5.0			pmax	pmax			
KURK	**Kurchatov** comp=Z,84nm,0.8s,mb5.8,SNR=7.5	**58.48**	**343**	P	**P**		**22 15 51.4**	**-0.6**
ZAA0	**Zalesovo Array**	**59.99**	**349**	*e*P	**P**		**22 16 01.7**	**-0.7**
ZALV	**Zalesovo Beam** comp=Z,18nm,0.9s,mb5.1,baz=177,slow=4.8,SNR=66	**59.99**	**349**	P	**P**		**22 16 01.7**	**-0.7**
ZALV	**Zalesovo Beam**	**59.99**	**349**	P	**P**		**22 16 01.7**	**-0.7**
ERM	**Erimo**	**60.11**	**35**	⇑*e*P	**P**		**22 16 01.5**	**-2.0**
NVS	**Novosibirsk**	**61.14**	**348**	*e*P	**P**		**22 16 07.5**	**-2.7**
NVS	comp=Z,5.0nm,0.7s,mb4.8			pmax	pmax			
NVS	comp=N,4.0nm,1.0s			pmax	pmax			
NVS	comp=E,2.0nm,1.0s			pmax	pmax			
BVAR	**Borovoye Array** comp=E,6.8nm,0.7s,mb4.9,baz=142,slow=8.6,SNR=50	**63.07**	**340**	P	**P**		**22 16 22.3**	**-1.0**
BVAR	comp=E,104nm,20.4s,MS4.0,baz=21,slow=42			LR	LR		22 49 59.5	
BVAR	**Borovoye Array**	**63.07**	**340**	P	**P**		**22 16 22.3**	**-1.0**
BVAR	**Borovoye Array**	**63.07**	**340**	P	**P**		**22 16 22.3**	**-0.9**
YSS	**Yuzh-Sakhalins** comp=E,31nm,0.9s,mb5.4	**63.13**	**31**	*e*P	**P**		**22 16 22.1**	**-1.7**
YSS	**Yuzh-Sakhalins**	**63.13**	**31**	*e*P	**P**		**22 16 22.0**	**-1.8**
BRVK	**Borovoye** comp=E,8.5nm,0.9s,mb4.9	**63.13**	**340**	*e*P	**P**		**22 16 22.9**	**-0.7**
BRVK	**Borovoye**	**63.13**	**340**	⇓*i*P	**P**		**22 16 22.6**	**-1.1**
BRVK	comp=Z,16nm,1.6s,mb4.9			pmax	pmax			
ABKAR	**Akbulak array** comp=Z,25nm,1.1s,mb5.2	**64.52**	**331**	*e*P	**P**		**22 16 32.6**	**-0.3**
ABKAR				*e*			22 16 41.5	
AKTO	**Aktyubinsk** comp=Z,108nm,18.5s,MS4.1,baz=140,slow=38	**66.24**	**331**	LR	LR		22 47 46.8	
MAW	**Mawson** comp=Z,201nm,20.3s,MS4.3,baz=319,slow=30	**68.02**	**195**	LR	LR		22 40 08.1	
SVE	**Sverdlovsk** comp=Z,32nm,1.1s,mb5.2	**69.58**	**338**	⇑*i*P	**P**		**22 17 05.4**	**+0.5**
SVE				pmax	pmax			
ZEI	**Tsey** comp=Z,8.0nm,1.0s,mb4.6	**69.99**	**319**	*e*P	**P**		**22 17 07.6**	**-0.2**
ZEI				pmax	pmax			
YAK	**Yakutsk** comp=Z,17nm,0.9s,mb5.0	**70.02**	**14**	*e*P	**P**		**22 17 04.5**	**-3.0**
YAK				pmax	pmax			
YAK	comp=N,7.0nm,1.4s			pmax	pmax			
YAK	comp=E,5.0nm,1.0s			pmax	pmax			
ARU	**Arti** comp=E,20nm,1.1s,mb5.0	**70.10**	**336**	*e*P	**P**		**22 17 07.3**	**-0.8**
ARU	**Arti**	**70.10**	**336**	*c i*P	**P**		**22 17 06.7**	**-1.4**
ARU							22 17 27.1	
ARU							22 19 40.7	
ARU				S	S		22 26 17.7	-1.3
ARU				SS	SS		22 30 46.6	-2.3
ARU	comp=Z,27nm,1.7s,mb4.9			pmax	pmax			
ASF	**Jabal al Asfar** comp=Z,2.6nm,0.9s,mb4.2,baz=153,slow=4.5,SNR=3.1	**71.09**	**306**	P	**P**		**22 17 16.0**	**+1.3**
ASF	comp=Z,144nm,18.1s,MS4.3,baz=154,slow=37			LR	LR		22 49 38.1	
ASF	**Jabal al Asfar**	**71.09**	**306**	P	**P**		**22 17 16.0**	**+1.3**
ASF	**Jabal al Asfar**

MLR	**Muntele Rosu**	**83.03**	**317**	P		**P**		**22 18 21.8**	**+0.3**
	comp=Z,0.7nm,0.6s,mb3.9,baz=150,slow=15,SNR=3.7								
MLR	**Muntele Rosu**	**83.03**	**317**	P		**P**		**22 18 21.8**	**+0.3**
MLR	**Muntele Rosu**	**83.03**	**317**	P		**P**		**22 18 21.8**	**+0.2**
BUR08	**Bucovina Ar. S**	**84.04**	**319**	*e*P		**P**		**22 18 28.2**	**+1.5**
BILL	**Bilibino**	**85.24**	**20**	*e*P		**P**		**22 18 31.3**	**-1.0**
BILL					pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.5								
APA	**Apatity**	**85.98**	**339**⇑	*e*P		**P**		**22 18 34.6**	**-1.4**
APA					pmax	pmax			
	comp=Z,22nm,1.2s,mb5.3								
APA					MLR	MLR			
	comp=Z,1μm,22.0s,MS5.2								
SUW	**Suwalki**	**86.72**	**325**	*ep*P		sP		22 18 49.4	+4.8
SUW	**Suwalki**	**86.72**	**325**	*e*P		sP		22 18 49.4	+4.8
FINES	**FINESS Array B**	**87.00**	**332**	P		**P**		**22 18 41.5**	**+0.3**
	comp=Z,4.1nm,0.9s,mb4.7,baz=98,slow=7.2,SNR=5.1								
FINES	**FINESS Array B**	**87.00**	**332**	P		**P**		**22 18 41.5**	**+0.3**
FINES	**FINESS Array B**	**87.00**	**332**	P		**P**		**22 18 41.5**	**+0.3**
KECS	**Kecovo**	**87.30**	**319**	*e*P		sP		22 18 51.1	+3.5
KECS	**Kecovo**	**87.30**	**319**	*ep*P		sP		22 18 51.1	+3.5
KOLL	**Kolacno**	**88.69**	**319**	*e*P		**P**		**22 18 50.1**	**+0.6**
KOLL	**Kolacno**	**88.69**	**319**	*e*P		**P**		**22 18 50.1**	**+0.5**
OKC	**Ostrava-Krasne**	**89.04**	**320**	*e*P		sP		22 19 00.9	+5.1
OKC	**Ostrava-Krasne**	**89.04**	**320**	*ep*P		sP		22 19 00.9	+5.1
ARCES	**ARCESS Array B**	**89.36**	**340**	P		**P**		**22 18 52.5**	**+0.2**
	comp=Z,4.9nm,0.9s,mb4.8,baz=82,slow=6.7,SNR=6.8								
ARCES	**ARCESS Array B**	**89.36**	**340**	P		**P**		**22 18 52.5**	**+0.2**
ARCES	**ARCESS Array B**	**89.36**	**340**	P		**P**		**22 18 52.5**	**+0.3**
SNAA	**Sanae**	**89.98**	**198**	*e*		**P**		**22 18 53.3**	**-1.9**
SNAA				*e*				22 19 02.7	
SNAA	**Sanae**	**89.98**	**198**	*e*P		**P**		**22 18 53.7**	**-1.5**
	comp=Z,80nm,3.0s								
SNAA	**Sanae**	**89.98**	**198**	*e*P		**P**		**22 18 53.7**	**-1.5**
SNAA					pmax	pmax			
	comp=Z,80nm,3.0s								
DPC	**Dobruska-Polom**	**90.27**	**320**	*ep*P		sP		22 19 07.3	+5.8
DPC	**Dobruska-Polom**	**90.27**	**320**	*e*P		sP		22 19 05.8	+4.3
DPC	**Dobruska-Polom**	**90.27**	**320**	*e*P		sP		22 19 07.3	+5.8
DPC	**Dobruska-Polom**	**90.27**	**320**	*ep*P		sP		22 19 05.8	+4.3
UPC	**Upice**	**90.48**	**320**	*e*P		sP		22 19 08.0	+5.5
UPC	**Upice**	**90.48**	**320**	*ep*P		sP		22 19 08.0	+5.5
PRU	**Pruhonice**	**91.37**	**320**	*e*P		sP		22 19 11.8	+5.2
PRU	**Pruhonice**	**91.37**	**320**	*ep*P		sP		22 19 11.8	+5.2
VNA2	**Neumayer--Watz**	**91.61**	**198**	*e*		**P**		**22 19 03.1**	**+0.3**
VNA2				*e*				22 19 11.9	
GERES	**GERESS Array B**	**91.81**	**319**	P		**P**		**22 19 05.2**	**+1.1**
	comp=Z,0.6nm,0.9s,mb3.9,baz=104,slow=7.2,SNR=5.2								
GERES	**GERESS Array B**	**91.81**	**319**	P		**P**		**22 19 05.2**	**+1.1**
GERES	**GERESS Array B**	**91.81**	**319**	P		**P**		**22 19 05.2**	**+1.1**
VNA1	**Neumayer--Stat**	**91.97**	**198**	*e*		**P**		**22 19 05.9**	**+1.4**
VNA1				*e*				22 19 14.5	
ILAR	**Eielson Array**	**103.45**	**24**	PP		PP		22 24 15.7	+3.8
	comp=Z,0.5nm,0.9s,baz=266,slow=6.4,SNR=4.5								
ILAR	**Eielson Array**	**103.45**	**24**	PP		PP		22 24 15.7	+3.8
TRIS	**Tristan da Cun**	**105.62**	**230**	*e*Pdif		Pdif		22 20 09.4	+3.2
NVAR	**Mina Array Bea**	**130.86**	**41**	PKP		PKPdf		22 25 10.0	+2.0
	comp=Z,0.6nm,0.6s,baz=299,slow=1.9,SNR=4.9								
NVAR				SKPbc		SKPbc		22 28 31.1	-1.3
	comp=Z,1.0nm,0.8s,baz=275,slow=4.4,SNR=5.5								
NVAR	**Mina Array Bea**	**130.86**	**41**	PKP		PKPdf		22 25 10.0	+2.0
NVAR				SKPbc		SKPbc		22 28 31.1	-1.3
PDAR	**Pinedale Array**	**133.28**	**31**	PKP		PKPdf		22 25 13.8	+1.3
	comp=Z,0.3nm,0.5s,baz=60,slow=2.2,SNR=3.0								
PDAR	**Pinedale Array**	**133.28**	**31**	PKP		PKPdf		22 25 13.8	+1.3
MSU	**Marysvale**	**134.69**	**37**	PKPdf		PKPdf		22 25 18.6	+3.4
MSU	**Marysvale**	**134.69**	**37**	PKIKP		PKPdf		22 25 18.7	+3.5
WMOK	**Wichita Mounta**	**144.83**	**29**	*e*PKPdf		PKPdf		22 25 31.8	-1.9
WMOK	**Wichita Mounta**	**144.83**	**29**	*e*PKIKP		PKPdf		22 25 31.8	-1.9
CCM	**Cathedral Cave**	**144.89**	**17**	*e*PKPdf		PKPdf		22 25 32.0	-1.7
CCM	**Cathedral Cave**	**144.89**	**17**	*e*PKIKP		PKPdf		22 25 32.0	-1.7
SIUC	**Southern Illin**	**145.76**	**15**	*e*PKPdf		PKPdf		22 25 35.3	0.0
TXAR	**Lajitas Array**	**146.01**	**41**	PKPbc		PKPbc		22 25 37.0	+0.3
	comp=Z,13nm,0.8s,baz=308,slow=0.9,SNR=105								
TXAR	**Lajitas Array**	**146.01**	**41**	PKPbc		PKPbc		22 25 37.0	+0.3
MIAR	**Mount Ida**	**147.27**	**23**	*e*PKPbc		PKPbc		22 25 40.0	-0.2
JCT	**Junction City**	**147.59**	**35**	*e*PKPdf		PKPdf		22 25 39.4	+0.9
JCT				*e*PKPbc		PKPbc		22 25 41.5	+0.3
PLAL	**Pickwick Lake**	**148.64**	**15**	*e*PKPbc		PKPbc		22 25 42.6	-1.2
TKL	**Tuckaleechee C**	**148.82**	**8**	PKPbc		PKPbc		22 25 43.6	-0.6
	comp=Z,10nm,0.7s,baz=111,slow=4.3,SNR=8.4								
TKL	**Tuckaleechee C**	**148.82**	**8**	*e*PKPbc		PKPbc		22 25 44.0	-0.3
SWET	**Sewanee**	**148.90**	**11**	*e*PKPbc		PKPbc		22 25 43.4	-1.1
HKT	**Hockley**	**150.15**	**31**	*e*PKPbc		PKPbc		22 25 48.5	+0.7

DJA 22 22:15:31,0.52N×98.31E,h15km,MLv3.6/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**1.30**	**78**	P		Pn	22 15 51.2	-3.4
MNSI				S		Sb	22 16 11.3	-0.3
PPI	**Padang Panjang**	**2.30**	**115**	P		Pn	22 16 06.3	-2.1
PPI				S		Sn	22 16 36.6	+0.1
PSI	**Prapat**	**2.35**	**15**	P		Pn	22 16 06.7	-2.4
PDSI	**Padang**	**2.58**	**123**	P		Pn	22 16 15.4	+3.2
PDSI				S		Sn	22 16 55.3	+12
TSI	**Tuntungan**	**2.97**	**5**	P		Pn	22 16 17.4	-0.3

ISCJB ***22*** *22:27:52.3±0.2, 49.95N±0.02×18.29E±0.01, h0km, mb4.0/13, Error ellipse: s-maj=2.4km s-min=1.3km az=8.2*

MOS ***22*** *22:27:53.7±1.6, 49.89N×18.30E, h10km, mb4.3/9, Error ellipse: s-maj=4.8km s-min=4.3km az=150.8*

CSEM ***22*** *22:27:54.5±0.1, 49.86N×18.35E, h0km, mb4.3, Ms3.9, Error ellipse: s-maj=3.7km s-min=2.2km az=12.0, Mining induced.*

LDG ***22*** *22:27:54.2±0.1, 49.84N×18.50E, h1km, Ml4.2/24, Error ellipse: s-maj=2.8km s-min=1.6km az=10.0, Suspected Mining induced.*

IPEC ***22*** *22:27:55.0±0.2, 49.83N×18.49E, h3km≤3km, ML3.6/3, Error ellipse: s-maj=2.2km s-min=1.1km az=161.0, Mining induced.*

IDC ***22*** *22:27:55.6±0.6, 49.69N×18.53E, h0km, mb3.7/7, mb1 3.8/13, mb1mx3.7/26, mbtmp3.7/13, ML3.6/6, Error ellipse: s-maj=11.8km s-min=6.4km az=153.0*

NEIC ***22*** *22:27:55.1, 49.91N×18.46E, h2km, ML4.1(SZGRF), ML3.7(CSEM), After CSEM.*

NEIC Two miners killed and 3 injured due to a mine collapse near Karvina. Felt at Orlova and Ostrava.

VIE ***22*** *22:27:56.2±0.9, 49.65N×18.41E, h0km≤4km, mb3.0/7, ML3.3/6, Ms3.9/1, Error ellipse: s-maj=5.1km s-min=2.9km az=96.0 23 km SSE of Ostrava Suspected Mining induced.*

STR ***22*** *22:27:56.5±0.8, 49.94N×18.29E, h5km, Ml4.2, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

PRU ***22*** *22:27:56.1, 49.88N×18.40E, h0km, Rockburst In Region Felt, 2 Miners Died, 3 Wounded Mining induced.*

BGR ***22*** *22:27:56.6±0.4, 49.90N×18.34E, h1km, ML4.1/4, Error ellipse: s-maj=10.0km s-min=5.6km az=7.0*

ISC 22 22:27:54.4±0.2,49.91N±0.02×18.38E±0.01,h0km,n386, σ1s27/551,mb3.9/12,26C-19D,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.17**	**246**	P		**Pg**	**22 27 59.4**	**+1.8**
OKC	**Ostrava-Krasne**	**0.17**	**246**	P		**Pg**	**22 27 59.4**	**+1.8**
OKC	**Ostrava-Krasne**	**0.17**	**246**	*e*PG		**Pg**	**22 28 00.4**	**+2.8**
OKC				*e*SG		**Sg**	**22 28 02.9**	**+3.2**
	comp=Z,8μm,0.8s							
OKC				AMS		AMS	22 28 10.0	
	comp=Z,18μm,2.5s							
OKC	**Ostrava-Krasne**	**0.17**	**246**	*e*Pg		**Pg**	**22 27 59.7**	**+2.1**
	baz=92							
OKC				Sg		**Sg**	**22 28 02.9**	**+3.2**
	comp=Z,8μm,0.8s							
RAC	**Raciborz**	**0.21**	**326**	*e*P		**Pg**	**22 28 02.0**	**+3.5**
RAC				*e*			22 28 06.0	
RAC	**Raciborz**	**0.21**	**326**	*e*Pg		**Pg**	**22 28 02.0**	**+3.5**
RAC				*e*Sg		**Sg**	**22 28 06.0**	**+4.7**
MORC	**Moravsky Berou**	**0.56**	**257**	*e*Pg		**Pg**	**22 28 07.0**	**+1.9**
MORC				*e*S		**Sg**	**22 28 16.1**	**+3.8**
MORC	**Moravsky Berou**	**0.56**	**257**	⇓P		**Pg**	**22 28 07.0**	**+1.9**
MORC	**Moravsky Berou**	**0.56**	**257**	⇓*i*P		**Pg**	**22 28 07.0**	**+1.9**
MORC	**Moravsky Berou**	**0.56**	**257**	*e*Pg		**Pg**	**22 28 07.0**	**+1.9**
MORC				*e*Sg		**Sg**	**22 28 15.8**	**+3.5**
MORC				*e*S		**Sg**	**22 28 16.1**	**+3.8**

OJC	**Ojcow**	**0.96**	**70**	*e*Pg		**Pg**		**22 28 12.9**	**0.0**
OJC				*e*Sg		**Sg**		**22 28 26.0**	**+0.6**
OJC	**Ojcow**	**0.96**	**70**	P		**Pg**		**22 28 12.6**	**-0.3**
OJC	**Ojcow**	**0.96**	**70**	P		**Pg**		**22 28 12.6**	**-0.3**
OJC	**Ojcow**	**0.96**	**70**	P		**Pg**		**22 28 12.6**	**-0.3**
OJC	**Ojcow**	**0.96**	**70**	*e*Pg		**Pg**		**22 28 12.9**	**0.0**
LIKS	**Likavka**	**0.98**	**151**	*e*P		**Pg**		**22 28 14.4**	**+1.3**
LIKS				*e*				22 28 28.4	
LIKS	**Likavka**	**0.98**	**151**	*e*PG		**Pg**		**22 28 14.4**	**+1.3**
LIKS				*e*SG		**Sg**		**22 28 28.4**	**+2.6**
LIKS	**Likavka**	**0.98**	**151**	*e*Pg		**Pg**		**22 28 14.4**	**+1.3**
LIKS				*e*Sg		**Sg**		**22 28 28.4**	**+2.6**
VRAC	**Vranov**	**1.31**	**243**	Pg		**Pn**		**22 28 20.4**	**+0.6**
	comp=Z,199nm,0.3s,baz=68,slow=17,SNR=1247								
VRAC				Lg				22 28 39.1	
	comp=Z,128nm,0.3s,baz=11,slow=18,SNR=13								
VRAC	**Vranov**	**1.31**	**243**	Pg		**Pn**		**22 28 20.4**	**+0.6**
VRAC				Lg				22 28 39.1	
VRAC	**Vranov**	**1.31**	**243**	P		**Pn**		**22 28 20.4**	**+0.5**
VRAC								22 28 39.1	
VRAC					pmax	pmax			
	comp=Z,199nm,0.3s								
VRAC	**Vranov**	**1.31**	**243**	⇑*i*P		**Pg**		**22 28 20.8**	**+1.4**
VRAC	**Vranov**	**1.31**	**243**	*e*Pg		**Pn**		**22 28 20.1**	**+0.2**
VRAC	**Vranov**	**1.31**	**243**	P		**Pn**		**22 28 20.4**	**+0.5**
	comp=Z,199nm,0.3s								
VRAC				*e*Sg		**Sg**		**22 28 38.8**	**+2.4**
VRAC				S		**Sg**		**22 28 39.1**	**+2.7**
VRAC				Lg				22 28 39.1	
KOLL	**Kolacno**	**1.33**	**179**	*e*P		**Pn**		**22 28 19.8**	**-0.4**
KOLL				*e*				22 28 37.4	
KOLL	**Kolacno**	**1.33**	**179**	*e*PG		**Pn**		**22 28 19.8**	**-0.4**
KOLL				*e*SG		**Sg**		**22 28 37.4**	**+0.4**
KOLL	**Kolacno**	**1.33**	**179**	*e*P		**Pn**		**22 28 19.8**	**-0.4**
KOLL				*e*S		**Sg**		**22 28 37.4**	**+0.4**
NIE	**Niedzica**	**1.35**	**111**	*e*Pg		**Pn**		**22 28 19.8**	**-0.6**
NIE				*e*Sg		**Sg**		**22 28 38.6**	**+1.0**
NIE	**Niedzica**	**1.35**	**111**	*e*P		**Pn**		**22 28 19.8**	**-0.6**
NIE				*e*				22 28 38.6	
NIE	**Niedzica**	**1.35**	**111**	*e*P		**Pn**		**22 28 19.8**	**-0.6**
NIE				*e*S		**Sg**		**22 28 38.6**	**+1.0**
DPC	**Dobruska-Polom**	**1.40**	**289**	*e*PG		**Pn**		**22 28 22.3**	**+1.2**
DPC				*e*SG		**Sg**		**22 28 41.2**	**+1.9**
	comp=Z,248nm,0.5s								
DPC	**Dobruska-Polom**	**1.40**	**289**	Pg		**Pn**		**22 28 22.3**	**+1.2**
DPC				Sg		**Sg**		**22 28 41.2**	**+1.9**
	comp=Z,248nm,0.5s								
SMOL	**Smolenice**	**1.53**	**205**	*e*P		**Pn**		**22 28 23.0**	**+0.1**
SMOL				*e*				22 28 42.3	
SMOL	**Smolenice**	**1.53**	**205**	*e*PG		**Pn**		**22 28 23.0**	**+0.1**
SMOL				*e*SG		**Sn**		**22 28 42.3**	**-1.1**
SMOL	**Smolenice**	**1.53**	**205**	*e*Pg		**Pn**		**22 28 23.0**	**-0.1**
SMOL				*e*Sg		**Sn**		**22 28 42.3**	**-1.1**
KRUC	**Moravsky**	**1.55**	**238**	*e*Pg		**Pn**		**22 28 23.1**	**-0.1**
	baz=60								
KRUC				*e*Sg		**Sn**		**22 28 44.2**	**+0.3**
	comp=Z,469nm,0.7s,baz=60								
KSP	**Ksiaz**	**1.63**	**306**	*e*Pn		**Pn**		**22 28 25.7**	**+1.4**
KSP				*e*Pg		**Pg**		**22 28 29.6**	**+4.0**
KSP				*e*Sn		**Sn**		**22 28 50.5**	**+4.5**
KSP				*e*Sg		**Sg**		**22 28 57.0**	**+10**
KSP	**Ksiaz**	**1.63**	**306**	*e*Pn		**Pn**		**22 28 25.5**	**+1.1**
KSP				*e*Pg		**Pg**		**22 28 28.3**	**+2.6**
KSP				*e*Sg		**Sg**		**22 28 50.5**	**+3.7**
KSP	**Ksiaz**	**1.63**	**306**	*e*Pn		**Pn**		**22 28 25.5**	**+1.1**
ZST	**Bratislava**	**1.91**	**207**	*e*P		**Pn**		**22 28 28.6**	**+0.5**
ZST				*e*				22 28 52.9	
ZST	**Bratislava**	**1.91**	**207**	*e*PN		**Pn**		**22 28 28.6**	**+0.5**
ZST				*e*SN		**Sn**		**22 28 52.9**	**+0.1**
ZST	**Bratislava**	**1.91**	**207**	*e*P		**Pn**		**22 28 28.6**	**+0.5**
ZST				*e*S		**Sn**		**22 28 52.9**	**+0.1**
STHS	**Stebnicka Huta**	**1.92**	**104**	*e*P		**Pn**		**22 28 28.6**	**+0.3**
STHS				*e*				22 28 58.5	
STHS	**Stebnicka Huta**	**1.92**	**104**	*e*PN		**Pn**		**22 28 28.6**	**+0.3**
STHS				*e*PG		**Pg**		**22 28 31.1**	**-0.1**
STHS				*e*SG		**Sg**		**22 28 58.4**	**+2.3**
STHS	**Stebnicka Huta**	**1.92**	**104**	*e*P		**Pn**		**22 28 28.6**	**+0.3**
TREC	**Trest**	**1.98**	**253**	*e*P		**Pg**		**22 28 31.6**	**-0.7**
TREC				*e*				22 28 58.8	
TREC					smax				
	comp=N,504nm,0.9s								
TREC	**Trest**	**1.98**	**253**	*e*PG		**Pg**		**22 28 31.6**	**-0.7**
TREC				*e*SG		**Sg**		**22 28 58.8**	**+0.8**
	comp=Z,504nm,0.9s								
TREC	**Trest**	**1.98**	**253**	Pg		**Pg**		**22 28 31.6**	**-0.7**
TREC				Sg		**Sg**		**22 28 58.8**	**+0.8**
	comp=Z,504nm,0.9s								
KECS	**Kecovo**	**1.98**	**135**	*e*P		**Pn**		**22 28 28.6**	**-0.6**
KECS				*e*				22 28 54.9	
KECS	**Kecovo**	**1.98**	**135**	*e*PN		**Pn**		**22 28 28.6**	**-0.6**
KECS				*e*SN		**Sn**		**22 28 54.9**	**+0.2**
KECS	**Kecovo**	**1.98**	**135**	*e*P		**Pn**		**22 28 28.6**	**-0.6**
KECS				*e*S		**Sn**		**22 28 54.9**	**+0.2**
PSZ	**Piszkesteto**	**2.23**	**153**	*e*Pn		**Pn**		**22 28 32.2**	**-0.3**
PSZ	**Piszkesteto**	**2.23**	**153**	⇑P		**Pn**		**22 28 32.7**	**+0.2**
PSZ	**Piszkesteto**	**2.23**	**153**	⇓*e*Pn		**Pn**		**22 28 32.4**	**-0.1**
PSZ	**Piszkesteto**	**2.23**	**153**	⇑*i*P		**Pn**		**22 28 32.7**	**+0.2**
PSZ	**Piszkesteto**	**2.23**	**153**	*e*Pn		**Pn**		**22 28 32.2**	**-0.3**
PSZ	**Piszkesteto**	**2.23**	**153**	P		**Pn**		**22 28 32.7**	**+0.2**
CRVS	**Cervenica-Dubn**	**2.25**	**115**	P		**Pn**		**22 28 32.9**	**+0.1**
CRVS	**Cervenica-Dubn**	**2.25**	**115**	*e*PN		**Pn**		**22 28 32.9**	**+0.1**
CRVS	**Cervenica-Dubn**	**2.25**	**115**	*e*P		**Pn**		**22 28 32.9**	**+0.1**
BUD	**Budapest**	**2.46**	**170**⇑	*e*Pn		**Pn**		**22 28 35.9**	**+0.2**
BUD	**Budapest**	**2.46**	**170**⇑	*e*P		**Pn**		**22 28 35.9**	**+0.2**
BEL	**Belsk**	**2.46**	**37**	*e*Pn		**Pn**		**22 28 37.8**	**+2.0**
BEL				*e*Pg		**Pg**		**22 28 45.7**	**+4.1**
BEL				*e*Sg		**Sg**		**22 29 25.9**	**+12**
BEL	**Belsk**	**2.46**	**37**	*e*P		**Pn**		**22 28 37.8**	**+2.0**
BEL	**Belsk**	**2.46**	**37**	*e*P		**Pn**		**22 28 37.6**	**+1.8**
BEL	**Belsk**	**2.46**	**37**	*e*Pn		**Pn**		**22 28 37.8**	**+2.0**
PRU	**Pruhonice**	**2.48**	**273**	*e*P		**Pn**		**22 28 36.2**	**+0.2**
PRU				*e*				22 29 13.4	
PRU					smax				
	comp=N,350nm,1.0s								
PRU	**Pruhonice**	**2.48**	**273**	*e*PN		**Pn**		**22 28 36.2**	**+0.2**
PRU				*e*PG		**Pg**		**22 28 40.6**	**-1.3**
PRU				*e*SG		**Sg**		**22 29 13.4**	**-0.7**
	comp=Z,350nm,1.0s								
PRU	**Pruhonice**	**2.48**	**273**	Pn		**Pn**		**22 28 36.2**	**+0.2**
PRU	**Pruhonice**	**2.48**	**273**	Pg		**Pg**		**22 28 40.6**	**-1.3**
PRU				Sg		**Sg**		**22 29 13.4**	**-0.7**
	comp=Z,350nm,1.0s								
PKSG		**2.52**	**180**⇑	*e*P		**Pn**		**22 28 36.2**	**-0.3**
PVCC	**Panska Ves**	**2.53**	**286**	*e*P		**Pn**		**22 28 37.2**	**+0.6**
PVCC	**Panska Ves**	**2.53**	**286**	*e*PN		**Pn**		**22 28 37.2**	**+0.6**
PVCC				*e*SG		**Sg**		**22 29 18.3**	**+2.8**
PVCC	**Panska Ves**	**2.53**	**286**	Pn		**Pn**		**22 28 37.2**	**+0.6**
PVCC				Sg		**Sg**		**22 29 18.3**	**+2.8**
SOP	**Sopron**	**2.53**	**209**⇑	*e*Pn		**Pn**		**22 28 37.3**	**+0.6**
SOP	**Sopron**	**2.53**	**209**⇑	*e*P		**Pn**		**22 28 37.3**	**+0.6**
CONA	**Conrad Observa**	**2.58**	**221**⇑	*e*Pn		**Pn**		**22 28 37.5**	**+0.1**
	SNR=13								
CONA	**Conrad Observa**	**2.58**	**221**	Pn		**Pn**		**22 28 37.5**	**+0.1**
	SNR=13								
KWP	**Kalwaria Pacla**	**2.82**	**94**	*e*Pn		**Pn**		**22 28 40.4**	**-0.3**
KWP				*e*Pg		**Pg**		**22 28 45.8**	**-2.5**
KWP				*e*Sg		**Sg**		**22 29 25.2**	**+0.3**
KWP	**Kalwaria Pacla**	**2.82**	**94**	*e*Pn		**Pn**		**22 28 41.2**	**+0.6**
KWP	**Kalwaria Pacla**	**2.82**	**94**	*e*P		**Pn**		**22 28 41.2**	**+0.6**
KWP	**Kalwaria Pacla**	**2.82**	**94**	⇓*i*P		**Pn**		**22 28 40.5**	**-0.1**
KWP	**Kalwaria Pacla**	**2.82**	**94**	*e*Pn		**Pn**		**22 28 40.4**	**-0.2**
KWP	**Kalwaria Pacla**	**2.82**	**94**	*e*P		**Pn**		**22 28 41.2**	**+0.6**
UZH	**Uzhgorod**	**2.86**	**115**	*e*P		**Pn**		**22 28 40.2**	**-1.0**
UZH				*e*S		**Sn**		**22 29 15.0**	**-1.3**
UZH					smax				
	comp=N,320nm,0.9s								
UZH					smax				
	comp=E,410nm,0.9s								
UZH	**Uzhgorod**	**2.86**	**115**	*e*P		**Pn**		**22 28 40.2**	**-1.0**
UZH				*e*S		**Sn**		**22 29 15.0**	**-1.3**
BRG	**Berggiesshubel**	**3.00**	**291**	*e*Pn		**Pn**		**22 28 43.8**	**+0.7**
	SNR=20								
BRG				*e*Pg		**Pg**		**22 28 51.3**	**-0.6**
	SNR=13								
BRG				*e*Sg		**Sg**		**22 29 32.9**	**+2.1**
	SNR=2.8								
BRG	**Berggiesshubel**	**3.00**	**291**	Pn		**Pn**		**22 28 43.8**	**+0.7**
	SNR=20								
PKSN	**Nyarlorinc**	**3.17**	**161**⇑	*e*P		**Pn**		**22 28 46.0**	**+0.5**
KHC	**Kasperske Hory**	**3.23**	**258**	*e*Pn		**Pn**		**22 28 47.0**	**+0.8**
KHC				*e*S		**Sg**		**22 29 37.4**	**-0.5**
KHC	**Kasperske Hory**	**3.23**	**258**	*e*P		**Pn**		**22 28 47.0**	**+0.8**

KHC	**Kasperske Hory**	**3.23**	**258**	*e*PN		**Pn**		**22 28 47.0**	**+0.8**
KHC				*e*PG		**Pg**		**22 28 54.1**	**-2.1**
KHC				*e*SG		**Sg**		**22 29 38.1**	**+0.2**
	comp=Z,85nm,0.4s								
KHC	**Kasperske Hory**	**3.23**	**258**	Pn		**Pn**		**22 28 47.0**	**+0.8**
KHC	**Kasperske Hory**	**3.23**	**258**	Pg		**Pg**		**22 28 54.1**	**-2.1**
KHC				Sg		**Sg**		**22 29 38.1**	**+0.2**
	comp=Z,85nm,0.4s								
GEC2	**GERESS Array S**	**3.24**	**253**	*e*P		**Pn**		**22 28 47.1**	**+0.7**
GEC2	**GERESS Array S**	**3.24**	**253**	*e*Pn		**Pn**		**22 28 47.1**	**+0.7**
	SNR=16								
GEC2				*e*Pg		**Pg**		**22 28 56.0**	**-0.4**
	SNR=8.7								
GEC2				*e*Sg		**Sg**		**22 29 39.3**	**+0.9**
	SNR=4.3								
GEC2	**GERESS Array S**	**3.24**	**253**	Pn		**Pn**		**22 28 47.1**	**+0.7**
	SNR=16								
GERES	**GERESS Array B**	**3.24**	**253**	Pn		**Pn**		**22 28 47.1**	**+0.7**
	comp=Z,2.4nm,0.3s,baz=64,slow=14,SNR=53								
GERES				Pg		**Pg**		**22 28 55.9**	**-0.5**
	comp=Z,14nm,0.3s,baz=70,slow=17,SNR=81								
GERES				Lg				22 29 39.1	
	comp=Z,14nm,0.3s,baz=74,slow=30,SNR=5.6								
GERES	**GERESS Array B**	**3.24**	**253**	Pn		**Pn**		**22 28 47.1**	**+0.7**
GERES				Pg		**Pg**		**22 28 55.9**	**-0.5**
GERES				Lg				22 29 39.1	
GERES	**GERESS Array B**	**3.24**	**253**	P		**Pn**		**22 28 47.1**	**+0.7**
GERES					pmax	pmax			
	comp=Z,2.0nm,0.3s								
GERES	**GERESS Array B**	**3.24**	**253**	Pn		**Pn**		**22 28 47.1**	**+0.7**
GERES	**GERESS Array B**	**3.24**	**253**	Pg		**Pg**		**22 28 55.9**	**-0.5**
TRPA	**Tarpa**	**3.26**	**121**⇓	*i*P		**Pn**		**22 28 45.9**	**-0.8**
TRPA	**Tarpa**	**3.26**	**121**⇓	*i*P		**Pn**		**22 28 45.9**	**-0.8**
ARSA	**Arzberg**	**3.27**	**217**	*i* Pn		**Pn**		**22 28 47.6**	**+0.8**
	SNR=24								
ARSA				⇓*i*Sg		**Sg**		**22 29 37.2**	**-2.0**
	comp=Z,55nm,1.1s								
ARSA	**Arzberg**	**3.27**	**217**	Pn		**Pn**		**22 28 47.6**	**+0.8**
	SNR=24								
AR

WERD SNR=10 Sg Sg 22 30 01.0 0.0
ROTZ SNR=2.3 Rotzenmuhle 4.00 270 ePn Pn 22 28 57.6 +0.7
ROTZ SNR=8.7 ePg Pg 22 29 09.6 -1.4
ROTZ SNR=2.4 eSg Sg 22 30 02.1 -0.7
ROTZ SNR=2.1 Rotzenmuhle 4.00 270 Pn Pn 22 28 57.6 +0.7
RHK3 SNR=8.7 Tenkes 4.02 181⇑ eP Pn 22 28 57.3 +0.1
HKWD Heukewalde 4.02 286 ePn Pn 22 28 58.9 +1.7
HKWD SNR=2.4 ePg Pg 22 29 10.9 -0.5
HKWD SNR=5.1 Heukewalde 4.02 286 Pn Pn 22 28 58.9 +1.7
PLN SNR=2.4 Plauen 4.04 281 ePg Pg 22 29 11.0 -0.8
PLN SNR=5.5 Plauen 4.04 281 Pg Pg 22 29 11.0 -0.8
TRIB SNR=5.5 Obertriebel 4.04 279 ePg Pg 22 29 11.4 -0.4
TRIB SNR=6.5 Obertriebel 4.04 279 Pg Pg 22 29 11.4 -0.4
BMR SNR=6.5 Baia Mare 4.05 122 ⇑P Pn 22 28 56.9 -0.7
BMR Baia Mare 4.05 122⇑ iP Pn 22 28 56.9 -0.7
BMR Baia Mare 4.05 122 P Pn 22 28 56.9 -0.7
DOBS Dobrina 4.24 209 i Pn Pn 22 29 01.0 +0.9
DOBS Dobrina 4.24 209 i Pn Pn 22 29 01.0 +0.9
DRGR 4.25 136 ⇑P Pn 22 29 00.2 -0.1
DRGR 4.25 136⇑ iP Pn 22 29 00.2 -0.1
DRGR 4.25 136 P Pn 22 29 00.2 -0.1
OBKA SNR=13 Obir 4.26 218⇑ iPn Pn 22 29 01.4 +1.0
OBKA SNR=13 Obir 4.26 218 Pn Pn 22 29 01.4 +1.0
TAUT SNR=5.3 Tautenburg 4.40 287 ePg Pg 22 29 18.5 -0.1
TAUT SNR=3.2 eSg Sg 22 30 16.2 +0.6
TAUT SNR=5.3 Tautenburg 4.40 287 Pg Pg 22 29 18.5 -0.1
TAUT SNR=3.2 Sg Sg 22 30 16.2 +0.6
MOX SNR=6.1 Moxa 4.40 282 eP Pn 22 29 03.4 +1.0
MOX SNR=6.1 Moxa 4.40 282 ePn Pn 22 29 03.4 +1.0
MOX SNR=6.1 ePg Pg 22 29 19.4 +0.7
MOX SNR=6.1 Moxa 4.40 282 Pn Pn 22 29 03.4 +1.0
GRA1 SNR=2.4 Grafenberg Arr 4.64 270 Pn Pn 22 29 06.9 +1.2
GRA1 SNR=2.5 Grafenberg Arr 4.64 270 Pg Pg 22 29 21.6 -1.7
GRA1 SNR=2.5 Sg Sg 22 30 25.9 +2.4
GRF SNR=2.5 Grafenberg Arr 4.64 270 eP Pn 22 29 06.9 +1.2
GRF SNR=2.4 Grafenberg Arr 4.64 270 ePn Pn 22 29 06.9 +1.2
GRF SNR=2.5 ePg Pg 22 29 21.6 -1.7
GRF SNR=2.5 eSg Sg 22 30 25.9 +2.4
GRFO SNR=2.5 Grafenberg 4.64 270 ePn Pn 22 29 06.8 +1.1
GRFO eS Sg 22 30 29.4 +5.9
GRFO Grafenberg 4.64 270 eP Pn 22 29 06.8 +1.1
GRFO Grafenberg 4.64 270 ePn Pn 22 29 06.8 +1.1
SCHD SNR=4.2 Schmiedefeld 4.65 281 ePn Pn 22 29 06.9 +1.2
SCHD SNR=3.4 ePg Pg 22 29 23.8 +0.4
SCHD SNR=4.2 Schmiedefeld 4.65 281 Pn Pn 22 29 06.9 +1.2
BZS Buzias 4.81 152 ⇓P Pn 22 29 07.9 -0.2
BZS Buzias 4.81 152⇓ iP Pn 22 29 07.9 -0.2
BZS Buzias 4.81 152 P Pn 22 29 07.9 -0.2
FGSL Fruska Gora 4.85 168 ePn Pn 22 29 07.7 -0.8
BUR08 Bucovina Ar. S 5.04 114 ePn Pn 22 29 11.4 +0.2
BUR08 Bucovina Ar. S 5.04 114 ePn Pn 22 29 11.4 +0.2
BURAR Bucovina Array 5.07 114 ⇑P Pn 22 29 11.8 +0.3
BURAR Bucovina Array 5.07 114⇑ iP Pn 22 29 11.8 +0.3
BURAR Bucovina Array 5.07 114⇑ iP Pn 22 29 11.8 +0.3
SUW comp=Z,14nm,0.4s Suwalki 5.07 34 ePn Pn 22 29 12.3 +0.7
SUW comp=Z,14nm,0.4s eS Sg 22 30 41.8 +4.6
SUW Suwalki 5.07 34 eP Pn 22 29 12.3 +0.7
SUW comp=Z,14nm,0.4s pmax pmax
SUW comp=Z,14nm,0.4s Suwalki 5.07 34 ePn Pn 22 29 12.3 +0.7
GZR comp=Z,14nm,0.4s Gura Zlata 5.40 145 ⇓P Pn 22 29 16.5 +0.3
GZR Gura Zlata 5.40 145⇓ iP Pn 22 29 16.5 +0.3
GZR Gura Zlata 5.40 145 P Pn 22 29 16.5 +0.3
TRUS Trudelj 5.85 166 ePn Pn 22 29 21.0 -1.3
DIVS Divibare 5.91 169 ePn Pn 22 29 22.4 -0.8
STU Stuttgart 6.11 263 ePn Pn 22 29 27.7 +1.8
STU comp=Z,7.9nm,0.4s ePg Pg 22 29 51.9 +0.4
STU eS Sg 22 31 11.9 +1.4
STU Stuttgart 6.11 263 eP Pn 22 29 27.7 +1.8
STU comp=Z,8.0nm,0.4s pmax pmax
STU comp=Z,8.0nm,0.4s Stuttgart 6.11 263 eP Pn 22 29 27.7 +1.8
TOD SNR=2.4 Tromm 6.21 271 P Pn 22 29 27.4 +0.1
TOD S Sn 22 30 43.5 +4.5
TOD Tromm 6.21 271 P Pn 22 29 27.4 +0.1
TOD S Sn 22 30 43.5 +4.5
TOD Tromm 6.21 271 P Pn 22 29 27.4 +0.1
TOD S Sn 22 30 43.5 +4.5
DAVA SNR=5.1 Damuels 6.22 248⇓ iPn Pn 22 29 28.0 +0.7
DAVA ⇓ iPg Pg 22 29 54.1 +0.6
DAVA ⇓ iSg Sg 22 31 19.6 +5.6
GRUS comp=Z,98nm,0.9s Gruza 6.23 164 ePn Pn 22 29 27.5 0.0
VOIR 6.34 132 ⇓P Pn 22 29 28.9 -0.2
VOIR 6.34 132⇓ iP Pn 22 29 28.9 -0.2
VOIR 6.34 132 P Pn 22 29 28.9 -0.2
DAVOX comp=Z,1.3nm,0.3s,baz=29,slow=19,SNR=15 Davos/Dischmat 6.47 244 Pn Pn 22 29 32.9 +2.1
DAVOX Lg 22 31 24.4
DAVOX comp=Z,2.2nm,0.3s,baz=204,slow=20,SNR=11 Davos/Dischmat 6.47 244 Pn Pn 22 29 32.9 +2.1
DAVOX Lg 22 31 24.4
DAVOX Davos/Dischmat 6.47 244 P Pn 22 29 32.9 +2.1
DAVOX Davos/Dischmat 6.47 244 P Pn 22 29 32.9 +2.1
SPAK Spaichingen-Ko 6.57 258 P Pn 22 29 32.5 +0.4
SPAK Spaichingen-Ko 6.57 258 P Pn 22 29 32.5 +0.4
BFO Black Forest 6.79 260 ePn Pn 22 29 35.3 +0.2
BFO comp=Z,32nm,1.1s ePg Pg 22 30 03.6 -0.7
BFO eS Sg 22 31 35.8 +3.7
BFO Black Forest 6.79 260 eP Pn 22 29 35.3 +0.2
BFO comp=Z,32nm,1.1s pmax pmax
BFO comp=Z,32nm,1.1s Black Forest 6.79 260 eP Pn 22 29 35.3 +0.2
VRI comp=Z,32nm,1.1s Vrincioaia 6.91 123⇑ iP Pn 22 29 44.7 +7.8
TUE Stuetta 6.95 244 ePn Pn 22 29 39.5 +2.2
TUE comp=Z,25nm,1.5s eS Sn 22 31 00.6 +3.5
KIEV Kiev 6.98 79 ePn Pn 22 29 36.1 -1.7
KIEV eS Sn 22 30 53.0 -4.8
KIEV Kiev 6.98 79 eP Pn 22 29 36.1 -1.7
KIEV eS Sn 22 30 53.0 -4.8
KIEV Kiev 6.98 79 eP Pn 22 29 36.1 -1.7
AKASG Malin Array Be 6.99 79 Pn Pn 22 29 35.9 -2.1
AKASG comp=Z,1.9nm,0.3s,baz=260,slow=14,SNR=10 Lg 22 31 35.3
AKASG comp=Z,1.9nm,0.3s,baz=262,slow=28,SNR=4.7 Malin Array Be 6.99 79 Pn Pn 22 29 35.9 -2.1
AKASG Lg 22 31 35.3
AKASG Malin Array Be 6.99 79 P Pn 22 29 35.9 -2.0
AKASG comp=Z,2.0nm,0.3s pmax pmax
AKASG comp=Z,2.0nm,0.3s Malin Array Be 6.99 79 P Pn 22 29 35.9 -2.0
FELD Feldberg im Sc 7.14 257 P Pn 22 29 40.7 +0.8
FELD Feldberg im Sc 7.14 257 P Pn 22 29 40.7 +0.8
NACGM Naroch 7.17 43 e Pb 22 29 55.0 -4.6
IIGN Ignalina 7.24 38 eP Pg 22 30 11.1 -2.0

IIGN Ignalina 7.24 38 eP Pg 22 30 11.1 -1.9
RUP Ruppelstein 7.33 273 P Pn 22 29 43.2 +0.6
RUP Ruppelstein 7.33 273 P Pn 22 29 43.2 +0.6
RUP Ruppelstein 7.33 273 P Pn 22 29 43.2 +0.6
ISAL Salakas 7.37 37 eP Pg 22 30 13.8 -1.6
ISAL Salakas 7.37 37 eP Pg 22 30 13.8 -1.6
IDID Didziasalis 7.43 40 eP Pg 22 30 14.8 -1.8
CDF Champ du Feu 7.43 263 ePn Pn 22 29 43.6 -0.4
CDF comp=Z,84nm,1.0s eSg Sg 22 31 48.9 -4.1
CDF Champ du Feu 7.43 263 ePn Pn 22 29 43.6 -0.4
CDF eSg Sg 22 31 48.9 -4.1
CDF Champ du Feu 7.43 263 eP Pn 22 29 43.6 -0.4
CDF Champ du Feu 7.43 263 ePn Pn 22 29 43.6 -0.4
CDF comp=Z,42nm,1.0s eSg Sg 22 31 48.9 -4.1
BARS Barje 7.48 160 ePn Pn 22 29 44.6 0.0
IZAR Zarasai 7.54 36 eP Pg 22 30 18.4 -0.4
IZAR Zarasai 7.54 36 eP Pg 22 30 18.4 -0.4
HINF Hinteralfeld 7.89 259 ePn Pn 22 29 48.2 -2.0
HINF comp=Z,82nm,1.0s eSg Sg 22 32 02.7 -4.8
HINF Hinteralfeld 7.89 259 ePn Pn 22 29 48.2 -2.0
HINF eSg Sg 22 32 02.7 -4.8
HINF Hinteralfeld 7.89 259 eP Pn 22 29 48.2 -2.0
HINF Hinteralfeld 7.89 259 ePn Pn 22 29 48.2 -2.0
HINF comp=Z,41nm,1.0s eSg Sg 22 32 02.7 -4.8
HAU Haudompre 8.15 261 ePn Pn 22 29 51.7 -2.1
HAU comp=Z,87nm,1.0s eSg Sg 22 32 11.1 -4.7
HAU Haudompre 8.15 261 ePn Pn 22 29 51.7 -2.1
HAU eSg Sg 22 32 11.1 -4.7
HAU Haudompre 8.15 261 eP Pn 22 29 51.7 -2.1
HAU Haudompre 8.15 261 ePn Pn 22 29 51.7 -2.1
HAU comp=Z,44nm,1.0s eSg Sg 22 32 11.1 -4.7
PAGF comp=Z,27nm,1.3s Fort de Pagny 8.40 266 ePn Pn 22 29 54.7 -2.5
PAGF baz=80 eSg Sg 22 32 18.7 -5.1
PAGF Fort de Pagny 8.40 266 ePn Pn 22 29 54.7 -2.5
GIVF comp=Z,4.5nm,0.3s Givet 8.74 276 ePn Pn 22 32 29.3 -5.5
GIVF eSg Sg 22 32 29.3 -5.5
GIVF Givet 8.74 276 ePn Pn 22 30 00.1 -1.8
GIVF Givet 8.74 276 eP Pn 22 30 00.1 -1.8
GIVF Givet 8.74 276 ePn Pn 22 30 00.1 -1.8
GIVF comp=Z,2.2nm,0.3s eSg Sg 22 32 29.3 -5.5
CABF La Chapelle 8.84 253 ePn Pn 22 30 01.1 -2.2
CABF comp=Z,249nm,1.3s eSg Sg 22 32 32.6 -5.4
CABF La Chapelle 8.84 253 ePn Pn 22 30 01.1 -2.2
CABF eSg Sg 22 32 32.6 -5.4
CABF La Chapelle 8.84 253 eP Pn 22 30 01.1 -2.2
CABF La Chapelle 8.84 253 ePn Pn 22 30 01.1 -2.2
CABF comp=Z,125nm,1.3s eSg Sg 22 32 32.6 -5.4
MEZF baz=79 Maizieres J'vi 8.84 266 ePn Pn 22 30 01.0 -2.3
MEZF comp=Z,60nm,1.1s eSg Sg 22 32 32.6 -5.5
MEZF Maizieres J'vi 8.84 266 ePn Pn 22 30 01.0 -2.3
MEZF eSg Sg 22 32 32.6 -5.5
MEZF Maizieres J'vi 8.84 266 ePn Pn 22 30 01.0 -2.3
MEZF comp=Z,30nm,1.1s eSg Sg 22 32 32.6 -5.5
SFTF Sexfontaines 8.93 264 ePn Pn 22 30 02.3 -2.2
SFTF comp=Z,142nm,1.4s eSg Sg 22 32 35.3 -5.6
SFTF Sexfontaines 8.93 264 ePn Pn 22 30 02.3 -2.2
SFTF eSg Sg 22 32 35.3 -5.6
SFTF Sexfontaines 8.93 264 ePn Pn 22 30 02.3 -2.2
SFTF comp=Z,71nm,1.4s eSg Sg 22 32 35.3 -5.6
LPG La Plagne 8.99 245 ePn Pn 22 30 03.6 -1.8
LPG eSn Sn 22 31 39.9 -7.5
LPG comp=Z,165nm,1.6s eSg Sg 22 32 37.5 -5.5
LPG La Plagne 8.99 245 ePn Pn 22 30 03.6 -1.8
LPG eSn Sn 22 31 39.9 -7.5
LPG eSg Sg 22 32 37.5 -5.5
LPG La Plagne 8.99 245 eP Pn 22 30 03.6 -1.8
LPG e 22 31 39.9
LPG La Plagne 8.99 245 ePn Pn 22 30 03.2 -2.2
LPG eSn Sn 22 31 39.9 -7.5
LPG comp=Z,82nm,1.6s eSg Sg 22 32 37.5 -5.5
LPL La Plagne 9.00 245 ePn Pn 22 30 03.2 -2.2
LPL eSn Sn 22 31 39.9 -7.5
LPL comp=Z,101nm,1.5s eSg Sg 22 32 35.9 -7.1
LPL La Plagne 9.00 245 ePn Pn 22 30 03.2 -2.2
LPL eSn Sn 22 31 39.9 -7.5
LPL eSg Sg 22 32 35.9 -7.1
LPL La Plagne 9.00 245 eP Pn 22 30 03.2 -2.2
LPL e 22 31 39.9
LPL La Plagne 9.00 245 ePn Pn 22 30 03.2 -2.2
LPL eSn Sn 22 31 39.9 -7.5
LPL comp=Z,51nm,1.5s eSg Sg 22 32 35.9 -7.1
BAIF Baives 9.14 276 ePn Pn 22 30 05.2 -2.2
BAIF eSg Sn 22 32 42.0 +51
BAIF comp=Z,102nm,1.4s Baives 9.14 276 ePn Pn 22 30 05.2 -2.2
BAIF eSg Sn 22 32 42.0 +51
BAIF Baives 9.14 276 eP Pn 22 30 05.2 -2.2
BAIF Baives 9.14 276 ePn Pn 22 30 05.2 -2.2
MBDF Montbardon 9.43 241 ePn Pn 22 30 08.8 -2.6
MBDF comp=Z,2.9nm,0.7s eSn Sn 22 31 50.1 -8.0
MBDF Montbardon 9.43 241 ePn Pn 22 30 08.8 -2.6
MBDF eSn Sn 22 31 50.1 -8.0
MBDF Montbardon 9.43 241 eP Pn 22 30 08.8 -2.6
MBDF e 22 31 50.1
MBDF Montbardon 9.43 241 ePn Pn 22 30 08.8 -2.6
MBDF comp=Z,1.5nm,0.7s eSn Sn 22 31 50.1 -8.0
SBF Sospel 9.62 235 ePn Pn 22 30 11.7 -2.3
SBF eSn Sn 22 31 54.5 -8.3
SBF comp=Z,3.7nm,0.3s Sospel 9.62 235 ePn Pn 22 30 11.7 -2.3
SBF eSn Sn 22 31 54.5 -8.3
SBF Sospel 9.62 235 eP Pn 22 30 11.7 -2.3
SBF e 22 31 54.5
SBF Sospel 9.62 235 ePn Pn 22 30 11.7 -2.3
SBF eSn Sn 22 31 54.5 -8.3
ORIF comp=Z,1.9nm,0.3s Oris-en-Rattie 9.83 244 ePn Pn 22 30 15.0 -1.9
ORIF eSn Sn 22 31 59.6 -8.3
ORIF eSg Sn 22 33 04.0 +56
ORIF comp=Z,190nm,1.7s Oris-en-Rattie 9.83 244 ePn Pn 22 30 15.0 -1.9
ORIF eSn Sn 22 31 59.6 -8.3
ORIF eSg Sn 22 33 04.0 +56
ORIF Oris-en-Rattie 9.83 244 eP Pn 22 30 15.0 -1.9
ORIF e 22 31 59.6
ORIF Oris-en-Rattie 9.83 244 ePn Pn 22 30 15.0 -1.9
ORIF eSn Sn 22 31 59.6 -8.3
ORIF eSg Sn 22 33 04.0 +56
VSU comp=Z,95nm,1.7s Vasula 9.86 26⇓ iP Pn 22 30 18.5 +1.2
VSU comp=Z,51nm,0.9s pmax pmax
VSU comp=Z,51nm,0.9s Vasula 9.86 26 i P Pn 22 30 18.5 +1.2
LOR baz=86 Lormes 9.98 260 ePn Pn 22 30 17.0 -1.9
LOR eSg Sn 22 33 08.4 +57
LOR comp=Z,92nm,1.4s Lormes 9.98 260 ePn Pn 22 30 17.0 -1.9
LOR eSg Sn 22 33 08.4 +57
LOR Lormes 9.98 260 eP Pn 22 30 17.0 -1.9
LOR Lormes 9.98 260 ePn Pn 22 30 17.0 -1.9
SMF Signal de Mont 10.23 257 ePn Pn 22 30 20.0 -2.3
SMF eSg Sn 22 33 15.9 +58
SMF comp=Z,119nm,1.6s Signal de Mont 10.23 257 ePn Pn 22 30 20.0 -2.3
SMF eSg Sn 22 33 15.9 +58
SMF Signal de Mont 10.23 257 eP Pn 22 30 20.0 -2.3
SMF Signal de Mont 10.23 257 ePn Pn 22 30 20.0 -2.3

SMF comp=Z,59nm,1.6s eSg Sn 22 33 15.9 +58
SSF Saint Saulge 10.28 260 ePn Pn 22 30 21.0 -2.0
SSF comp=Z,3.5nm,0.7s eSg Sn 22 33 17.4 +59
SSF Saint Saulge 10.28 260 ePn Pn 22 30 21.0 -2.0
SSF eSg Sn 22 33 17.4 +59
SSF Saint Saulge 10.28 260 eP Pn 22 30 21.0 -2.0
SSF Saint Saulge 10.28 260 ePn Pn 22 30 21.0 -2.0
SSF comp=Z,1.8nm,0.7s eSg Sn 22 33 17.4 +59
AVF comp=Z,38nm,1.2s Avril sur Loir 10.48 258 ePn Pn 22 30 23.6 -2.1
AVF eSg Sn 22 33 23.8 +60
AVF Avril sur Loir 10.48 258 ePn Pn 22 30 23.6 -2.1
AVF eSg Sn 22 33 23.8 +60
AVF Avril sur Loir 10.48 258 eP Pn 22 30 23.6 -2.1
AVF Avril sur Loir 10.48 258 ePn Pn 22 30 23.6 -2.1
AVF comp=Z,19nm,1.2s eSg Sn 22 33 23.8 +60
VIVF comp=Z,1.3nm,0.5s Saint-Julien-l 10.58 247 ePn Pn 22 30 24.8 -2.3
VIVF eSn Sn 22 32 17.6 -8.5
VIVF Saint-Julien-l 10.58 247 ePn Pn 22 30 24.8 -2.3
VIVF eSn Sn 22 32 17.6 -8.5
VIVF Saint-Julien-l 10.58 247 eP Pn 22 30 24.8 -2.3
VIVF e 22 32 17.6
VIVF Saint-Julien-l 10.58 247 ePn Pn 22 30 24.8 -2.3
VIVF eSn Sn 22 32 17.6 -8.5
HFS comp=Z,0.6nm,0.5s Hagfors 10.59 347 Pn Pn 22 30 26.3 -1.0
HFS comp=Z,0.5nm,0.3s,baz=172,slow=14,SNR=12 Sn Sn 22 32 23.8 -2.6
HFS comp=Z,0.2nm,0.3s,baz=156,slow=32,SNR=2.4 Hagfors 10.59 347 Pn Pn 22 30 26.3 -1.0
HFS Sn Sn 22 32 23.8 -2.6
HFS Hagfors 10.59 347 P Pn 22 30 26.3 -0.9
HFS 22 32 23.8
HFS comp=Z,1.0nm,0.3s pmax pmax
HYF comp=Z,1.2nm,0.3s Humbligny 10.76 262 ePn Pn 22 30 27.2 -2.4
HYF eSg Sn 22 33 32.3 +62
HYF Humbligny 10.76 262 ePn Pn 22 30 27.2 -2.4
HYF eSg Sn 22 33 32.3 +62
HYF Humbligny 10.76 262 ePn Pn 22 30 27.2 -2.4
BGF comp=Z,54nm,1.2s Bois d'Agland 10.89 258 ePn Pn 22 30 28.6 -2.8
BGF eSg Sn 22 33 36.8 +63
BGF comp=Z,54nm,1.2s Bois d'Agland 10.89 258 ePn Pn 22 30 28.6 -2.8
BGF eSg Sn 22 33 36.8 +63
BGF Bois d'Agland 10.89 258 eP Pn 22 30 28.6 -2.8
BGF Bois d'Agland 10.89 258 ePn Pn 22 30 28.6 -2.8
BGF comp=Z,27nm,1.2s eSg Sn 22 33 36.8 +63
TCF comp=Z,3.7nm,0.7s Toulx Ste Croi 11.40 258 ePn Pn 22 30 36.2 -2.2
TCF eSn Sn 22 32 37.3 -9.1
TCF Toulx Ste Croi 11.40 258 ePn Pn 22 30 36.2 -2.2
TCF eSn Sn 22 32 37.3 -9.1
TCF Toulx Ste Croi 11.40 258 eP Pn 22 30 36.2 -2.2
TCF e 22 32 37.3
TCF Toulx Ste Croi 11.40 258 ePn Pn 22 30 36.2 -2.2
NB2 comp=Z,6.6nm,1.0s,baz=162,slow=12 NORSAR Subarra 11.87 343 P Pn 22 30 43.7 -0.9
NOA comp=Z,0.5nm,0.3s,baz=154,slow=12,SNR=9.1 NORSAR Array B 11.87 343 Pn Pn 22 30 43.2 -1.4
NOA NORSAR Array B 11.87 343 Pn Pn 22 30 43.2 -1.4
NOA NORSAR Array B 11.87 343 P Pn 22 30 43.2 -1.4
NOA comp=Z,1.0nm,0.3s pmax pmax
OBN comp=Z,37nm,1.3s Obninsk 12.23 58⇑ eP Pn 22 30 46.8 -2.9
OBN eS Sn 22 33 02.3 -4.3
OBN pmax pmax
OBN smax
FINES comp=N,42nm,0.9s FINESS Array B 12.34 18 Pn Pn 22 30 48.4 -2.7
FINES comp=N,1.2nm,0.3s,baz=193,slow=11,SNR=30 Sn Sn 22 33 01.4 -7.7
FINES comp=N,0.5nm,0.3s,baz=191,slow=20,SNR=4.8 FINESS Array B 12.34 18 Pn Pn 22 30 48.4 -2.7
FINES Sn Sn 22 33 01.4 -7.7
FINES FINESS Array B 12.34 18 P Pn 22 30 48.4 -2.7
FINES comp=Z,1.0nm,0.3s pmax pmax
EKA comp=Z,0.1nm,0.3s,baz=103,slow=14,SNR=2.9 Eskdalemuir Ar 14.14 301 Pn Pn 22 31 15.4 -0.3
EKA Eskdalemuir Ar 14.14 301 Pn Pn 22 31 15.4 -0.3
EKA Eskdalemuir Ar 14.14 301 P Pn 22 31 15.4 -0.3
KLMR Klimovskoe 16.17 39 eP Pn 22 31 35.1 -7.7
KLMR comp=Z,43nm,1.2s pmax pmax
KIV comp=Z,9.0nm,1.1s Kislovodsk 17.59 100 P Pn 22 32 03.0 +2.2
KIV pmax pmax
KIV comp=Z,9.0nm,1.1s Kislovodsk 17.59 100 P Pn 22 32 03.0 +2.2
ARCES comp=Z,3.6nm,0.8s,baz=193,slow=12,SNR=8.6 ARCESS Array B 19.99 7 P Pn 22 32 26.2 -3.4
ARCES ARCESS Array B 19.99 7 P Pn 22 32 26.2 -3.4
ARCES comp=Z,4.0nm,0.8s pmax pmax
GNI comp=Z,24nm,1.3s Garni 20.93 108 i P P 22 32 39.7 +1.2
GNI pmax pmax
GNI comp=Z,24nm,1.3s Garni 20.93 108 i P P 22 32 39.7 +1.2
ARU comp=Z,11nm,1.7s,mb4.3 Arti 24.67 59 i P P 22 33 16.4 -0.1
ARU comp=Z,11nm,1.7s,mb4.3 e 22 33 46.3
ARU S S 22 37 40.5 +1.7
ARU SS 22 38 26.8
ARU pmax pmax
AKTO comp=Z,3.0nm,0.9s,mb4.0 Aktyubinsk 25.19 73 P P 22 33 20.8 -0.5
AKTO pmax pmax
AKTO comp=Z,3.0nm,0.9s,mb4.0 Aktyubinsk 25.19 73 P P 22 33 20.8 -0.5
SVE comp=Z,7.6nm,0.9s,mb4.0,baz=281,slow=10,SNR=7.6 Sverdlovsk 25.80 58 eP P 22 33 27.4 +0.6
SVE pmax pmax
BRVK comp=Z,13nm,1.4s,mb4.4 Borovoye 31.89 64 eP P 22 34 22.7 +1.6
BRVK pmax pmax
BVAR comp=Z,4.0nm,1.2s,mb4.2 Borovoye Array 31.97 64 P P 22 34 23.9 +2.2
BVAR comp=Z,1.4nm,0.9s,mb3.9,baz=299,slow=6.5,SNR=6.4 Borovoye Array 31.97 64 P P 22 34 23.9 +2.2
BVAR Borovoye Array 31.97 64 P P 22 34 23.9 +2.2
BVAR comp=Z,1.0nm,0.9s pmax pmax
BVAR comp=Z,1.0nm,0.9s Borovoye Array 31.97 64 P P 22 34 23.9 +2.2
KURK comp=Z,5.0nm,1.6s,mb4.0 Kurchatov 37.54 65 eP P 22 35 10.3 +0.4
KURK pmax pmax
TORD comp=Z,1.5nm,1.0s,mb3.6,baz=15,slow=7.5,SNR=7.7 Torodi Ar. Bea 39.13 206 P P 22 35 23.8 +0.3
TORD Torodi Ar. Bea 39.13 206 P P 22 35 23.8 +0.3
TORD Torodi Ar. Bea 39.13 206 P P 22 35 23.8 +0.3
MKAR comp=Z,0.3nm,0.8s,mb3.1,baz=302,slow=8.4,SNR=3.3 Makanchi Array 41.44 69 P P 22 35 43.4 +1.0
MKAR Makanchi Array 41.44 69 P P 22 35 43.5 +1.0
MKAR Makanchi Array 41.44 69 P P 22 35 43.4 +1.0
MKAR Makanchi Array 41.44 69 P P 22 35 43.5 +1.1
SONM comp=Z,0.4nm,0.9s,mb3.5,baz=302,slow=8.3,SNR=4.0 Songino Array 54.63 56 P P 22 37 26.4 +1.9
SONM Songino Array 54.63 56 P P 22 37 26.4 +1.9
SONM Songino Array 54.63 56 P P 22 37 26.4 +1.9
SONM Songino Array 54.63 56 P P 22 37 26.4 +1.9
YKA comp=Z,2.0nm,0.8s,mb4.4,baz=38,slow=7.8,SNR=3.4 Yellowknife Ar 61.91 337 P P 22 38 19.0 +3.9
YKA Yellowknife Ar 61.91 337 P P 22 38 19.0 +3.9
YKA Yellowknife Ar 61.91 337 P P 22 38 19.0 +3.9
YKA comp=Z,2.0nm,0.8s pmax pmax
YKA comp=Z,2.0nm,0.8s Yellowknife Ar 61.91 337 P P 22 38 19.0 +3.9
ILAR comp=Z,0.3nm,0.8s,mb3.5,baz=19,slow=5.9,SNR=3.3 Eielson Array 65.09 353 P P 22 38 40.4 +4.3
ILAR Eielson Array 65.09 353 P P 22 38 40.4 +4.3

ILAR	**Eielson Array**	**65.09**	**353**	P		**P**		**22 38 40.4**	**+4.3**
CMAR	**Chiang Mai Arr**	**70.08**	**85**	P		**P**		**22 39 09.8**	**+1.5**
	comp=Z,0.6nm,0.3s,mb4.1,baz=308,slow=7.6,SNR=5.8								
CMAR	**Chiang Mai Arr**	**70.08**	**85**	P		**P**		**22 39 09.8**	**+1.5**
CMAR	**Chiang Mai Arr**	**70.08**	**85**	P		**P**		**22 39 09.8**	**+1.5**
CMAR					pmax	pmax			
	comp=Z,1.0nm,0.4s								
CMAR	**Chiang Mai Arr**	**70.08**	**85**	P		**P**		**22 39 09.8**	**+1.5**

IDC 22 23:06:46.5±2.9, 11°.40N×91°.63E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/25, mbtmp3.5/6, Error ellipse: s-maj=119.3km s-min=22.0km az=63.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**36.16**	**349**	P	P	23 13 50.8	+0.3
	0.4nm,0.5s,baz=166,slow=8.7,SNR=10.0						
SONM	**Songino Array**	**38.38**	**16**	P	P	23 14 09.4	-0.1
	0.7nm,0.9s,baz=201,slow=7.7,SNR=4.9						
KURK	**Kurchatov**	**40.63**	**347**	P	P	23 14 27.7	-0.5
	0.2nm,0.5s,baz=171,slow=7.1,SNR=4.4						
ZALV	**Zalesovo Beam**	**42.79**	**354**	P	P	23 14 45.3	-0.5
	0.5nm,0.5s,baz=175,slow=7.2,SNR=3.7						
WRA	**Warramunga Arr**	**52.32**	**126**	P	P	23 16 00.4	0.0
	0.3nm,0.4s,baz=305,slow=8.6,SNR=4.2						
ASAR	**Alice Springs**	**54.06**	**130**	P	P	23 16 13.3	+0.1
	0.4nm,0.8s,baz=302,slow=7.4,SNR=4.3						

*IDC **22** 23:06:46.0±0.4, 37°.11S×95°.30W, h0km, mb5.0/19, mb1 5.1/20, mb1mx5.1/23, mbtmp5.0/20, ML4.8/1, MS5.2/25, Ms1 5.2/25, ms1mx5.2/27, Error ellipse: s-maj=16.1km s-min=11.8km az=94.0*

*MOS **22** 23:06:46.9±1.0, 37°.10S×95°.17W, h10km, mb5.7/43, MS5.2/30, Error ellipse: s-maj=16.5km s-min=7.1km az=92.8*

*ISCJB **22** 23:06:46.6±0.2, 37°.19S±0°.04×95°.15W±0°.06, h10km, mb5.5/124, MS5.3/187, Error ellipse: s-maj=6.6km s-min=5.4km az=151.8*

*BJI **22** 23:06:47.9, 37°.20S×94°.90W, h10km, mB5.6/27, Ms5.6/32, Ms7 5.5/33*

*NEIC **22** 23:06:47.8±0.2, 37°.24S×95°.07W, h10km, mb5.6/102, MS5.3/154, MW5.7, Error ellipse: s-maj=7.7km s-min=5.7km az=79.0*

*GCMT **22** 23:06:49.8±0.1, 37°.15S×95°.29W, h12km, MW5.7, Moment Tensor Solution. s92,c178; s57,c65; Moment tensor: Scale 10^{17}Nm; M_{rr}-3.87±.04; M_{tt}-0.10±.04; M_{pp}3.97±.04; M_{rt}0.42±.11; M_{rp}-1.22±.04; M_{tr}-0.49±.11; Best double couple: M_o4.10000×10^{17} NP1:ϕ_s169.00000°, δ41.00000°, λ-83.00000°. NP2:ϕ_s340.00000°, δ49.00000°, λ-96.00000°. Principal axes: T 4.3500, Plg4.0000°, Azm74.0000°; N -0.4200, Plg5.0000°, Azm344.0000°; P -3.9300, Plg84.0000°, Azm206.0000°; Data Used: II IU IC G CN. Surface waves: sta=106, comp=231, per= 50.*

ISC 22 23:06:48.4±0.2, 37°.20S±0°.04×95°.16W±0°.06, h10km, n684, σ0s99/266, mb5.5/124, MS5.3/187, 10C-6D, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**15.63**	**306**	Pn	**Pn**	**23 10 31.0**	**+2.2**
	2.0nm,0.3s,baz=113,slow=7.7,SNR=3.0						
RPN				LR	LR	23 14 36.5	
	comp=Z,18μm,20.5s,baz=130,slow=30						
RPN	**Rapa Nui**	**15.63**	**306**	*e*Pn	**Pn**	**23 10 32.3**	**+3.6**
RPN	**Rapa Nui**	**15.63**	**306**	*e*P	**Pn**	**23 10 32.3**	**+3.5**
CCHI	**Chillan**	**18.46**	**95**	*e*P	**Pn**	**23 11 03.9**	**-0.5**
COYC	**Coyhaique**	**19.18**	**123**	*e*P	**Pn**	**23 11 15.6**	**+2.6**
PLCA	**Paso Flores**	**19.44**	**108**	P	**Pn**	**23 11 15.4**	**-0.6**
	0.6nm,0.3s,baz=275,slow=13,SNR=31						
PLCA				LR	LR	23 16 55.4	
	comp=Z,15μm,20.7s,baz=274,slow=31						
PLCA	**Paso Flores**	**19.44**	**108**	*e*P	**Pn**	**23 11 16.7**	**+0.6**
PLCA	**Paso Flores**	**19.44**	**108**	*e*P	**Pn**	**23 11 16.7**	**+0.6**
PEL	**Peldehue**	**20.39**	**86**	*e*P	**P**	**23 11 29.6**	**+4.2**
CLCH	**Cerro Calan**	**20.43**	**87**	*e*P	**P**	**23 11 27.5**	**+1.7**
FCH	**Farellones**	**20.65**	**87**	*e*P	**P**	**23 11 33.4**	**+5.2**
LCO	**Las Campanas**	**22.01**	**75**	*e*P	**P**	**23 11 43.0**	**+0.1**
	242nm,1.3s,mb5.5						
LCO				LR	LR		
	comp=Z,22μm,21.0s,MS5.5						
CFAA	**Coronel Fontan**	**22.86**	**84**	P	**P**	**23 11 52.6**	**+0.7**
	comp=Z,5.5nm,1.1s,baz=254,slow=9.8,SNR=29						
CFAA				LR	LR	23 18 44.7	
	comp=Z,3μm,20.1s,MS4.7,baz=163,slow=31						
CFAA	**Coronel Fontan**	**22.86**	**84**	P	**P**	**23 11 52.6**	**+0.7**
USHA	**Ushuaia**	**25.36**	**143**	P	**P**	**23 12 16.9**	**+1.5**
	comp=Z,17nm,0.8s,mb4.6,baz=314,slow=6.7,SNR=5.5						
USHA				LR	LR	23 20 00.6	
	comp=Z,4μm,21.2s,MS4.9,baz=279,slow=31						
USHA	**Ushuaia**	**25.36**	**143**	P	**P**	**23 12 16.9**	**+1.5**
TRQA	**Tornquist**	**26.22**	**102**	*e*P	**P**	**23 12 24.2**	**+0.8**
	comp=Z,176nm,1.6s,mb5.3						
TRQA				LR	LR		
	comp=Z,20μm,20.0s,MS5.7						
EFI	**East Falkland**	**29.82**	**131**	PFAKE		23 13 10.0	+15
EFI				LR	LR		
	comp=Z,10μm,21.0s,MS5.4						
NNA	**Nana**	**30.00**	**38**	LR	LR	23 22 05.9	
	comp=Z,10μm,18.4s,MS5.5,baz=236,slow=31						
LPAZ	**La Paz**	**31.69**	**56**	P	**P**	**23 13 13.0**	**+0.8**
	comp=Z,40nm,0.9s,mb5.2,baz=219,slow=6.9,SNR=64						
LPAZ				LR	LR	23 23 10.9	
	comp=Z,3μm,19.3s,MS5.0,baz=267,slow=31						
LPAZ	**La Paz**	**31.69**	**56**	*e*P	**P**	**23 13 13.1**	**+0.9**
	comp=Z,108nm,1.3s,mb5.5						
LPAZ				*e*PcP	PcP	23 16 04.9	+0.9
LPAZ	**La Paz**	**31.69**	**56**	*e*P	**P**	**23 13 13.1**	**+0.9**
LPAZ				*e*		23 16 04.9	
LPAZ				pmax	pmax		
	comp=Z,107nm,1.3s						
PMSA	**Palmer Station**	**33.19**	**156**	P	**P**	**23 13 26.5**	**+1.7**
	comp=Z,45nm,1.0s,mb5.4,baz=174,slow=8.0,SNR=2.7						
PMSA				LR	LR	23 23 11.7	
	comp=Z,2μm,21.6s,MS4.7,baz=299,slow=30						
PMSA	**Palmer Station**	**33.19**	**156**	P	**P**	**23 13 26.5**	**+1.7**
ATAH	**Atahualpa**	**33.59**	**31**	P	**P**	**23 13 28.9**	**0.0**
	comp=Z,23nm,0.9s,mb5.1,baz=210,slow=8.1,SNR=18						
ATAH				LR	LR	23 23 48.9	
	comp=Z,9μm,20.9s,MS5.5,baz=214,slow=30						
ATAH	**Atahualpa**	**33.59**	**31**	P	**P**	**23 13 28.9**	**0.0**
CPUP	**Villa Florida**	**33.74**	**82**	P	**P**	**23 13 29.0**	**-1.1**
	comp=Z,5.9nm,0.7s,mb4.6,baz=246,slow=11,SNR=9.0						
CPUP				PcP	PcP	23 16 09.3	-0.3
	comp=Z,4.6nm,0.9s,baz=235,slow=5.5,SNR=3.1						
CPUP				LR	LR	23 25 35.5	
	comp=Z,9μm,18.4s,MS5.5,baz=244,slow=33						
CPUP	**Villa Florida**	**33.74**	**82**	*e*P	**P**	**23 13 29.6**	**-0.5**
CPUP				PcP	PcP	23 16 09.3	-0.3
CPUP	**Villa Florida**	**33.74**	**82**	*e*P	**P**	**23 13 29.6**	**-0.5**
CPUP						23 16 09.3	
PAYG	**Puerto Ayora**	**36.62**	**8**	PFAKE		23 14 10.0	+15
PAYG				LR	LR		
	comp=Z,5μm,20.0s,MS5.2						
RKT	**Rikitea**	**36.90**	**281**	*e*S	**S**	**23 19 35.5**	**-6.7**
	comp=Z,2μm,28.4s						
RKT				*e*LQ		23 22 13.4	
	comp=Z,5μm,29.0s						
RKT				*e*LR	LR	23 23 42.9	
	comp=Z,19μm,27.8s,baz=124						
OTAV	**Otavalo**	**40.33**	**26**	*e*P	**P**	**23 14 26.4**	**+0.2**
	comp=Z,52nm,1.5s,mb5.0						
OTAV				LR	LR		
	comp=Z,4μm,22.0s,MS5.2						
ROSC	**El Rosal**	**46.12**	**29**	P	**P**	**23 15 13.3**	**+0.3**
	comp=Z,17nm,0.8s,mb5.0,baz=177,slow=4.5,SNR=13						
ROSC				LR	LR	23 32 25.3	
	comp=Z,4μm,18.3s,MS5.4,baz=198,slow=33						
ROSC	**El Rosal**	**46.12**	**29**	*e*P	**P**	**23 15 15.2**	**+2.2**
JTS	**JuntasAbangare**	**48.20**	**14**	P	**P**	**23 15 29.3**	**+0.2**
	comp=Z,7.7nm,0.9s,mb4.7,baz=167,slow=18,SNR=2.7						
JTS	**JuntasAbangare**	**48.20**	**14**	P	**P**	**23 15 29.3**	**+0.2**
JTS				LR	LR		
	comp=Z,5μm,22.0s,MS5.4						
JTS	**JuntasAbangare**	**48.20**	**14**	P	**P**	**23 15 29.3**	**+0.2**
JTS				MLR	MLR		
	comp=Z,5μm,22.0s						
TBI	**Tubuai**	**48.28**	**271**	*e*P	**P**	**23 15 28.7**	**-1.2**
	comp=Z,159nm,1.1s,mb6.0						
TBI				*e*S	**S**	**23 22 26.7**	**-3.1**
	comp=Z,3μm,26.8s						
TBI				*e*LR	LR	23 29 01.0	
	comp=Z,13μm,30.8s,baz=118						
BCIP	**Isla Barro Col**	**48.30**	**20**	PFAKE		23 15 40.0	+10
BCIP				LR	LR		
	comp=Z,3μm,21.0s,MS5.2						
TAOE	**Nuku Hiva Isla**	**49.45**	**293**	*e*S	**S**	**23 22 40.1**	**-6.2**
	comp=Z,2μm,25.6s						
TAOE				*e*LR	LR	23 29 35.5	
	comp=Z,8μm,28.7s						
TIAR	**Tiarei**	**51.23**	**277**	*e*P	**P**	**23 15 51.5**	**-0.8**
	comp=Z,52nm,0.9s,mb5.5						
SDV	**Santo Domingo**	**51.28**	**32**	*e*P	**P**	**23 15 50.6**	**-2.1**
	comp=Z,35nm,1.3s,mb5.1						
SDV				LR	LR		
	comp=Z,1μm,22.0s,MS4.9						
PAE	**Paea**	**51.36**	**277**	*e*P	**P**	**23 15 52.2**	**-1.1**
	comp=Z,9.5nm,1.0s,mb4.7						
PPT	**Papeete**	**51.41**	**277**	*e*P	**P**	**23 15 52.8**	**-0.9**
	comp=Z,70nm,1.3s,mb5.4						
PPT				*e*S	**S**	**23 23 09.9**	**-3.6**
	comp=Z,3μm,24.8s						
PPT				*e*LR	LR	23 30 26.7	
	comp=Z,16μm,25.5s,baz=121						
PPT	**Papeete**	**51.41**	**277**	LR	LR	23 31 47.1	
	comp=Z,6μm,19.1s,MS5.6,baz=166,slow=29						
TGUH	**Tegucigalpa,Un**	**51.51**	**10**	*e*P	**P**	**23 15 54.2**	**-0.1**
	comp=Z,36nm,0.8s,mb5.3						
TGUH				LR	LR		
	comp=Z,1μm,21.0s,MS5.0						
QSPA	**South Pole Qui**	**53.03**	**180**	P	**P**	**23 16 05.6**	**+0.7**
	comp=Z,17nm,0.6s,mb5.2,baz=137,slow=7.4,SNR=82						
QSPA	**South Pole Qui**	**53.03**	**180**	*e*P	**P**	**23 16 05.7**	**+0.8**
	comp=Z,14nm,0.6s,mb5.1						
QSPA				LR	LR		
	comp=Z,1μm,21.0s,MS4.9						
VNA3	**Neumayer Olymp**	**53.85**	**156**	*e*	**P**	**23 16 03.7**	**-7.3**
VNA3				*e*		23 16 08.6	
VNA1	**Neumayer--Stat**	**54.41**	**156**	*e*	**P**	**23 16 13.4**	**-1.7**
VNA2	**Neumayer--Watz**	**54.64**	**156**	*e*	**P**	**23 16 11.5**	**-5.3**
	baz=267,slow=7.8						
VNA2				*e*	pP	23 16 14.6	-5.4
SBA	**Scott Base**	**55.63**	**195**	*e*P	**P**	**23 16 25.3**	**+1.4**
	comp=Z,62nm,1.2s,mb5.5						
SBA				LR	LR		
	comp=Z,1μm,20.0s,MS5.0						
SBA	**Scott Base**	**55.63**	**195**	*e*P	**P**	**23 16 25.3**	**+1.4**
SBA				pmax	pmax		
	comp=Z,62nm,1.2s,mb5.5						
SBA				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.0						
SNAA	**Sanae**	**55.89**	**158**	*e*	**P**	**23 16 21.5**	**-4.3**
SNAA	**Sanae**	**55.89**	**158**	P	**P**	**23 16 25.7**	**-0.1**
	comp=Z,11nm,1.1s,mb4.8,baz=243,slow=8.1,SNR=41						
SNAA	**Sanae**	**55.89**	**158**	*e*P	**P**	**23 16 21.3**	**-4.4**
	comp=Z,59nm,1.3s,mb5.5						
SNAA	**Sanae**	**55.89**	**158**	*e*P	**P**	**23 16 21.3**	**-4.5**
SNAA				pmax	pmax		
	comp=Z,59nm,1.3s						
VNDA	**Vanda**	**56.74**	**195**	P	**P**	**23 16 32.5**	**+0.7**
	comp=Z,18nm,1.1s,mb5.0,baz=113,slow=8.8,SNR=26						
VNDA				LR	LR	23 35 53.7	
	comp=Z,2μm,19.5s,MS5.2,baz=110,slow=31						
VNDA	**Vanda**	**56.74**	**195**	*e*P	**P**	**23 16 32.2**	**+0.4**
	comp=Z,110nm,1.9s,mb5.6						
VNDA	**Vanda**	**56.74**	**195**	*e*P	**P**	**23 16 32.2**	**+0.4**
VNDA				pmax	pmax		
	comp=Z,111nm,1.9s						
TEIG	**Tepich**	**57.48**	**8**	PFAKE		23 16 50.0	+12
TEIG				LR	LR		
	comp=Z,1μm,19.0s,MS5.1						
MTDJ	**Mount Denham**	**57.57**	**20**	PFAKE		23 16 50.0	+12
MTDJ				LR	LR		
	comp=Z,2μm,22.0s,MS5.2						
RAR	**Rarotonga**	**57.59**	**267**	P	**P**	**23 16 36.4**	**-2.2**
	comp=Z,39nm,1.1s,mb5.3,baz=128,slow=12,SNR=1.6						
RAR				LR	LR	23 34 20.4	
	comp=Z,3μm,20.6s,MS5.3,baz=134,slow=29						
RAR	**Rarotonga**	**57.59**	**267**	P	**P**	**23 16 36.4**	**-2.2**
RAR	**Rarotonga**	**57.59**	**267**	P	**P**	**23 16 36.4**	**-2.2**
GRGR	**Grenville**	**58.30**	**39**	PFAKE		23 17 00.0	+17
GRGR				LR	LR		
	comp=Z,3μm,20.0s,MS5.4						
GTBY	**Guantanamo Bay**	**59.88**	**22**	PFAKE		23 17 10.0	+16
GTBY				LR	LR		
	comp=Z,841nm,19.0s,MS4.9						
BBGH	**Gun Hill**	**60.23**	**41**	PFAKE		23 17 10.0	+13
BBGH				LR	LR		
	comp=Z,4μm,20.0s,MS5.5						
SDDR	**Presa de Saban**	**60.24**	**26**	PFAKE		23 17 10.0	+13
SDDR				LR	LR		
	comp=Z,2μm,21.0s,MS5.3						
MAIT	**Maitri**	**60.59**	**159**	*e*P	**P**	**23 16 59.0**	**+0.4**
NVL	**N'lazarevskaya**	**60.62**	**159**	*e*P	**P**	**23 16 59.1**	**+0.2**
NVL				pmax	pmax		
	comp=Z,63nm,1.2s,mb5.6						
FDF	**Fort de France**	**60.77**	**38**	PFAKE		23 17 10.0	+9.5
FDF				LR	LR		
	comp=Z,4μm,21.0s,MS5.5						
OBIP	**Obispado Ponce**	**61.18**	**31**	*e*P	**P**	**23 17 03.8**	**+0.6**
	comp=Z,123nm,1.3s,mb5.9						
CELP	**Cerrillos**	**61.22**	**31**	*e*P	**P**	**23 17 01.7**	**-1.8**
SJG	**San Juan**	**61.43**	**32**	P	**P**	**23 17 02.6**	**-2.4**
	comp=Z,60nm,0.9s,mb5.7,baz=261,slow=3.4,SNR=8.6						
SJG	**San Juan**	**61.43**	**32**	*e*P	**P**	**23 17 02.7**	**-2.2**
SJG				LR	LR		
	comp=Z,2μm,19.0s,MS5.2						
SJG	**San Juan**	**61.43**	**32**	*e*P	**P**	**23 17 02.7**	**-2.3**
SJG				MLR	MLR		
	comp=Z,2μm,19.0s						
CBYP	**Canovanas**	**61.70**	**32**	*e*P	**P**	**23 17 04.8**	**-1.9**
	comp=Z,202nm,1.5s,mb6.0						
RCBR	**Riachuelo**	**62.17**	**75**	PFAKE		23 17 20.0	+10
RCBR				LR	LR		
	comp=Z,7μm,20.0s,MS5.8						
ANWB	**Willy Bob**	**62.98**	**36**	PFAKE		23 17 30.0	+15
ANWB				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
KVTX	**Kingsville**	**64.45**	**357**	PFAKE		23 17 40.0	+15
KVTX				LR	LR		
	comp=Z,735nm,19.0s,MS4.9						
TXAR	**Lajitas Array**	**66.66**	**352**	P	**P**	**23 17 38.2**	**-0.9**
	comp=Z,34nm,1.1s,mb5.3,baz=178,slow=8.7,SNR=66						
TXAR				LR	LR	23 41 36.2	
	comp=Z,854nm,19.9s,MS5.0,baz=175,slow=31						
TXAR				PKPPKP		23 46 15.8	
	comp=Z,0.6nm,0.9s,baz=2.7,slow=1.9,SNR=3.4						
TXAR	**Lajitas Array**	**66.66**	**352**	P	**P**	**23 17 38.2**	**-0.9**
TXAR				P'P'		23 46 15.8	
TXAR	**Lajitas Array**	**66.66**	**352**	P	**P**	**23 17 38.2**	**-0.9**
URZ	**Urewera**	**66.67**	**239**	LR	LR	23 41 37.0	
	comp=Z,4μm,18.5s,MS5.6,baz=86,slow=31						
SNZO	**South Karori**	**66.77**	**235**	PFAKE		23 17 50.0	+10
SNZO				LR	LR		
	comp=Z,4μm,20.0s,MS5.6						
HKT	**Hockley**	**66.80**	**359**	*e*P	**P**	**23 17 39.1**	**-0.9**
	comp=Z,209nm,2.1s,mb5.8						
HKT	**Hockley**	**66.80**	**359**	*e*P	**P**	**23 17 39.1**	**-0.9**
HKT				pmax	pmax		
	comp=Z,209nm,2.1s,mb5.8						
JCT	**Junction City**	**67.46**	**356**	*e*P	**P**	**23 17 43.9**	**-0.3**
	comp=Z,152nm,1.5s,mb5.8						
JCT				LR	LR		
	comp=Z,303nm,19.0s,MS4.5						
JCT	**Junction City**	**67.46**	**356**	*e*P	**P**	**23 17 43.9**	**-0.3**
JCT				pmax	pmax		
	comp=Z,152nm,1.5s,mb5.8						
JCT				MLR	MLR		
	comp=Z,303nm,19.0s,MS4.5						
RAO	**Raoul Island**	**67.63**	**250**	PFAKE		23 18 00.0	+14
RAO				LR	LR		
	comp=Z,3μm,22.0s,MS5.4						
RPZ	**Rata Peaks**	**67.90**	**231**	LR	LR	23 42 22.4	
	comp=Z,3μm,18.1s,MS5.6,baz=64,slow=32						
DRV	**Dumont d'Urvil**	**68.26**	**201**	P	**P**	**23 17 48.0**	**-0.9**
DRV				S	S	23 26 40.0	-9.1
DRV				R		23 39 00.0	
BRAL	**Brewton**	**68.27**	**7**	PFAKE		23 18 00.0	+11
BRAL				LR	LR		
	comp=Z,951nm,21.0s,MS5.0						
NATX	**Nacogdoches**	**68.60**	**0**	*e*P	**P**	**23 17 51.5**	**+0.2**
	comp=Z,412nm,1.8s,mb6.1						
NATX				LR	LR		
	comp=Z,624nm,20.0s,MS4.8						
SYO	**Syowa Base**	**68.97**	**164**	*e*P	**P**	**23 17 51.2**	**-2.1**
SYO	**Syowa Base**	**68.97**	**164**	*e*P	Px	23 18 07.6	
VBMS	**Vicksburg**	**69.19**	**4**	PFAKE		23 18 10.0	+15
VBMS				LR	LR		
	comp=Z,642nm,19.0s,MS4.9						
MNTX	**Cornudas Mount**	**69.20**	**351**	*e*P	**P**	**23 17 53.7**	**-1.4**
	comp=Z,21nm,1.1s,mb5.0						
MNTX				LR	LR		
	comp=Z,636nm,19.0s,MS4.9						
XMAS	**Kiritimati**	**69.53**	**289**	PFAKE		23 18 10.0	+12
XMAS				LR	LR		
	comp=Z,5μm,20.0s,MS5.7						
TUC	**Tucson**	**70.67**	**346**	*e*P	**P**	**23 18 04.0**	**0.0**
	comp=Z,75nm,1.5s,mb5.4						
TUC				LR	LR		
	comp=Z,522nm,19.0s,MS4.8						
TUC	**Tucson**	**70.67**	**346**	*e*P	**P**	**23 18 04.0**	**-0.1**
TUC				pmax	pmax		
	comp=Z,75nm,1.5s,mb5.4						
TUC				MLR	MLR		
	comp=Z,522nm,19.0s,MS4.8						
AFI	**Afiamalu**	**71.14**	**267**	LR	LR	23 41 16.4	
	comp=Z,1μm,18.3s,MS5.3,baz=150,slow=29						
NHSC	**New Hope**	**71.32**	**13**	*e*P	**P**	**23 18 07.3**	**-0.7**
	comp=Z,214nm,1.3s,mb5.9						
NHSC				LR	LR		
	comp=Z,2μm,21.0s,MS5.4						
MIAR	**Mount Ida**	**71.39**	**1**	*e*P	**P**	**23 18 07.7**	**-0.7**
	comp=Z,354nm,2.7s,mb5.8						
MIAR				LR	LR		
	comp=Z,907nm,22.0s,MS5.0						
MIAR	**Mount Ida**	**71.39**	**1**	*e*P	**P**	**23 18 07.7**	**-0.7**
MIAR				pmax	pmax		
	comp=Z,354nm,2.7s,mb5.8						
MIAR				MLR	MLR		
	comp=Z,907nm,22.0s,MS5.0						
OXF	**Oxford**	**71.54**	**5**	PFAKE		23 18 20.0	+11
OXF				LR	LR		
	comp=Z,2μm,21.0s,MS5.3						
WMOK	**Wichita Mounta**	**71.65**	**357**	*e*P	**P**	**23 18 08.1**	**-1.8**
	comp=Z,138nm,2.4s,mb5.5						
WMOK	**Wichita Mounta**	**71.65**	**357**	*e*P	**P**	**23 18 08.1**	**-1.8**
WMOK				pmax	pmax		
	comp=Z,138nm,2.4s,mb5.5						
UALR	**University of**	**71.65**	**2**	*e*P	**P**	**23 18 09.9**	**-0.1**
	comp=Z,144nm,1.8s,mb5.6						
BNM	**Barren Site**	**71.78**	**350**	*e*P	**P**	**23 18 10.8**	**0.0**
	comp=Z,39nm,1.7s,mb5.1						
LENM	**Lemitar**	**71.84**	**350**	*e*P	**P**	**23 18 11.6**	**+0.4**
LPM	**Los Pinos Moun**	**71.94**	**350**	*e*P	**P**	**23 18 11.8**	**+0.1**
AMTX	**Amarillo**	**71.97**	**354**	*e*P	**P**	**23 18 11.7**	**-0.2**
	comp=Z,105nm,1.4s,mb5.6						
AMTX				LR	LR		
	comp=Z,383nm,20.0s,MS4.7						
LAZ	**Ladron**	**72.10**	**350**	*e*P	**P**	**23 18 13.2**	**+0.5**
	comp=Z,32nm,1.5s,mb5.0						
PLAL	**Pickwick Lake**	**72.11**	**6**	*e*P	**P**	**23 18 10.9**	**-1.9**
	comp=Z,6.5nm,0.6s,mb4.7						
PLAL				LR	LR		
	comp=Z,1μm,19.0s,MS5.3						
GLA	**Glamis**	**72.25**	**343**	*e*P	**P**	**23 18 14.1**	**+0.4**
	comp=Z,74nm,1.5s,mb5.4						
GLA	**Glamis**	**72.25**	**343**	*e*P	**P**	**23 18 14.1**	**+0.5**
GLA				pmax	pmax		
	comp=Z,74nm,1.5s,mb5.4						
BAR	**Barrett**	**72.36**	**341**	*e*P	**P**	**23 18 14.2**	**0.0**
	comp=Z,82nm,1.9s,mb5.3						
ANMO	**Albuquerque**	**72.54**	**350**	*e*P	**P**	**23 18 15.3**	**-0.1**
ANMO				LR	LR		
	comp=Z,1μm,19.0s,MS5.2						
ANMO	**Albuquerque**	**72.54**	**350**	*e*P	**P**	**23 18 15.3**	**0.0**
ANMO				MLR	MLR		
	comp=Z,1μm,19.0s						
SWET	**Sewanee**	**72.55**	**8**	*e*P	**P**	**23 18 14.3**	**-1.1**
	comp=Z,14nm,0.7s,mb5.0						
CPCT	**Cooper Cave**	**72.95**	**9**	*e*P	**P**	**23 18 15.6**	**-2.1**
PFO	**Pinyon Flat Ob**	**73.19**	**342**	*e*P	**P**	**23 18 19.6**	**+0.4**
	comp=Z,38nm,1.5s,mb5.1						
PFO	**Pinyon Flat Ob**	**73.19**	**342**	*e*P	**P**	**23 18 19.6**	**+0.4**
PFO				pmax	pmax		
	comp=Z,38nm,1.5s,mb5.1						
TKL	**Tuckaleechee C**	**73.25**	**10**	*e*P	**P**	**23 18 18.2**	**-1.3**
TKL	**Tuckaleechee C**	**73.25**	**10**	*e*P	**P**	**23 18 18.2**	**-1.3**
WVT	**Waverly**	**73.27**	**6**	*e*P	**P**	**23 18 17.6**	**-2.1**
	comp=Z,36nm,1.3s,mb5.1						
WVT	**Waverly**	**73.27**	**6**	*e*P	**P**	**23 18 17.6**	**-2.0**
WVT				pmax	pmax		
	comp=Z,36nm,1.3s,mb5.1						
CNNC	**Cliffs of the**	**73.83**	**15**	*e*P	**P**	**23 18 22.4**	**-0.5**
	comp=Z,91nm,1.3s,mb5.5						
CNNC				LR	LR		
	comp=Z,2μm,22.0s,MS5.4						
WUAZ	**Wupatki**	**73.90**	**346**	*e*P	**P**	**23 18 23.9**	**+0.6**
	comp=Z,133nm,1.9s,mb5.5						
WUAZ				LR	LR		
	comp=Z,644nm,19.0s,MS4.9						
TZTN	**Tazewell**	**74.15**	**10**	*e*P	**P**	**23 18 23.9**	**-0.8**
	comp=Z,222nm,1.8s,mb5.8						
PASC	**Pasadena Art C**	**74.17**	**340**	*e*P	**P**	**23 18 25.8**	**+0.9**
	comp=Z,68nm,0.5s,mb5.8						
MWC	**Mount Wilson**	**74.19**	**340**	*e*P	**P**	**23 18 25.2**	**+0.1**
	comp=Z,91nm,1.8s,mb5.4						
MWC	**Mount Wilson**	**74.19**	**340**	*e*P	**P**	**23 18 25.2**	**+0.2**
MWC				pmax	pm

KSU1 LR LR
comp=Z,734nm,19.0s,MS5.0
PV01 Paradox Valley 75.97 349 *eP* **P 23 18 35.7 +0.4**
comp=Z,3µm,1.0s
DAC Darwin (Calif) 76.01 341 PFAKE 23 18 50.0 +15
DAC LR LR
comp=Z,568nm,21.0s,MS4.8
CCUT Cedar City 76.25 345 *eP* **P 23 18 37.4 +0.5**
comp=Z,114nm,1.8s,mb5.5
PV04 Paradox Valley 76.28 349 *eP* **P 23 18 37.5 +0.5**
BLO Bloomington 76.41 7 *eP* **P 23 18 36.2 -1.5**
BLO Bloomington 76.41 7 *eP* **P 23 18 36.2 -1.5**
ARUT Antelope Range 76.50 345 *eP* **P 23 18 39.1 +0.9**
comp=Z,70nm,1.7s,mb5.3
ARUT Antelope Range 76.50 345 *eP* **P 23 18 39.1 +0.8**
ARUT pmax pmax
comp=Z,70nm,1.7s,mb5.3
SMCO Snowmass 76.77 351 *eP* **P 23 18 40.8 +1.0**
comp=Z,50nm,1.4s,mb5.2
CBN Corbin 76.80 14 PFAKE 23 18 50.0 +10
CBN LR LR
comp=Z,2µm,21.0s,MS5.5
MVU Marysvale 76.95 346 PFAKE 23 18 50.0 +9.2
MVU LR LR
comp=Z,696nm,21.0s,MS5.0
MSU Marysvale 76.95 346 *eP* **P 23 18 41.6 +0.8**
comp=Z,76nm,1.7s,mb5.3
MSU Marysvale 76.95 346 *eP* **P 23 18 41.6 +0.8**
MSU pmax pmax
comp=Z,76nm,1.7s,mb5.3
MSVF Nonsavu 77.01 258 *eP* **P 23 18 42.4 +0.6**
comp=Z,43nm,1.1s,mb5.3
MSVF LR LR
comp=Z,2µm,19.0s,MS5.5
MSVF Nonsavu 77.01 258 *eP* **P 23 18 42.4 +0.6**
MSVF pmax pmax
comp=Z,43nm,1.1s,mb5.3
MSVF MLR MLR
comp=Z,2µm,19.0s,MS5.5
ISCO Idaho Springs 77.22 352 *eP* **P 23 18 43.0 +0.8**
comp=Z,168nm,2.5s,mb5.5
ISCO LR LR
comp=Z,413nm,19.0s,MS4.8
ISCO Idaho Springs 77.22 352 *eP* **P 23 18 43.0 +0.7**
ISCO pmax pmax
comp=Z,168nm,2.5s,mb5.5
ISCO MLR MLR
comp=Z,413nm,19.0s,MS4.8
SRU San Rafael 77.24 348 *eP* **P 23 18 42.3 -0.1**
comp=Z,91nm,1.6s,mb5.5
SRU San Rafael 77.24 348 *eP* **P 23 18 42.3 -0.1**
SRU pmax pmax
comp=Z,91nm,1.6s,mb5.5
MTUM Tungsten Hills 77.27 341 *eP* **P 23 18 43.1 +0.5**
TMUT Trail Mountain 77.54 347 *eP* **P 23 18 44.8 +0.7**
comp=Z,298nm,2.3s,mb5.8
HDIL Hopedale 77.56 5 PFAKE 23 19 00.0 +16
HDIL LR LR
comp=Z,1µm,20.0s,MS5.2
TPH Tonopah 77.62 342 PFAKE 23 19 00.0 +15
TPH LR LR
comp=Z,317nm,19.0s,MS4.7
ACSO Alum Creek Sta 77.86 10 *eP* **P 23 18 43.8 -2.0**
comp=Z,102nm,1.4s,mb5.6
ACSO LR LR
comp=Z,822nm,19.0s,MS5.1
OGNE Ogallala 78.02 355 *eP* **P 23 18 47.2 +0.5**
comp=Z,190nm,1.5s,mb5.8
SDMD Soldier's Deli 78.07 14 *eP* **P 23 18 45.4 -1.6**
comp=Z,6.2nm,0.5s,mb4.8
NVAR Mina Array Bea 78.22 342 P **P 23 18 48.0 +0.2**
comp=Z,6.2nm,0.7s,mb4.7,baz=178,slow=5.4,SNR=65
NVAR Mina Array Bea 78.22 342 P **P 23 18 48.0 +0.2**
MPU Maple Canyon 78.31 347 *eP* **P 23 18 49.3 +1.0**
comp=Z,160nm,2.1s,mb5.6
CMB Columbia Colle 78.40 340 *eP* **P 23 18 49.2 +0.3**
comp=Z,104nm,2.0s,mb5.4
CMB Columbia Colle 78.40 340 *eP* **P 23 18 49.2 +0.3**
CMB pmax pmax
comp=Z,104nm,2.0s,mb5.4
DAU Daniels Canyon 78.63 348 *eP* **P 23 18 51.0 +0.9**
DAU Daniels Canyon 78.63 348 *eP* **P 23 18 51.0 +0.9**
DUG Dugway 78.70 346 *eP* **P 23 18 51.1 +0.7**
comp=Z,81nm,1.5s,mb5.4
DUG LR LR
comp=Z,697nm,19.0s,MS5.0
DUG Dugway 78.70 346 *eP* **P 23 18 51.2 +0.7**
DUG pmax pmax
comp=Z,81nm,1.5s,mb5.4
DUG MLR MLR
comp=Z,697nm,19.0s,MS5.0
SCIA State Center 78.74 1 *eP* **P 23 18 50.0 -0.6**
comp=Z,387nm,1.9s,mb6.0
JLU Jordanelle 78.85 347 *eP* **P 23 18 51.6 +0.3**
comp=Z,106nm,1.9s,mb5.5
NOQ North Oquirrh 79.02 347 *eP* **P 23 18 52.9 +0.7**
comp=Z,177nm,2.0s,mb5.7
SSPA Standing Stone 79.06 13 *eP* **P 23 18 51.8 -0.6**
comp=Z,79nm,1.6s,mb5.4
RWWY Rawlins 79.28 351 *eP* **P 23 18 54.0 +0.4**
comp=Z,62nm,1.4s,mb5.3
WCN Washoe City 79.42 341 *eP* **P 23 18 54.6 +0.1**
comp=Z,43nm,1.6s,mb5.1
WCN Washoe City 79.42 341 *eP* **P 23 18 54.6 +0.2**
WCN pmax pmax
comp=Z,43nm,1.6s,mb5.1
ALLY Alegheny Colle 79.66 11 *eP* **P 23 18 54.1 -1.6**
comp=Z,457nm,2.0s,mb6.1
AAM Ann Arbor 79.81 9 *eP* **P 23 18 55.9 -0.6**
comp=Z,347nm,1.8s,mb6.0
AAM LR LR
comp=Z,813nm,21.0s,MS5.0
AAM Ann Arbor 79.81 9 *eP* **P 23 18 55.9 -0.6**
AAM pmax pmax
comp=Z,347nm,1.8s,mb6.0
AAM MLR MLR
comp=Z,813nm,21.0s,MS5.0
HWUT Hardware Ranch 79.85 348 PFAKE 23 19 10.0 +13
HWUT LR LR
comp=Z,868nm,20.0s,MS5.1
JFWS Jewell Farm 79.86 4 *eP* **P 23 18 54.8 -1.9**
comp=Z,102nm,1.7s,mb5.5
JFWS LR LR
comp=Z,2µm,21.0s,MS5.3
JFWS Jewell Farm 79.86 4 *eP* **P 23 18 54.8 -1.9**
JFWS pmax pmax
comp=Z,102nm,1.7s,mb5.5
JFWS MLR MLR
comp=Z,2µm,21.0s,MS5.3
BMN Battle Mountai 79.86 343 *eP* **P 23 18 57.2 +0.4**
comp=Z,25nm,1.1s,mb5.1
BMN LR LR
comp=Z,273nm,20.0s,MS4.6
BMN Battle Mountai 79.86 343 *eP* **P 23 18 57.2 +0.4**
BMN pmax pmax
comp=Z,25nm,1.1s,mb5.1
BMN MLR MLR
comp=Z,273nm,20.0s,MS4.6
OHCM Honcut 79.92 340 *eP* **P 23 18 57.6 +0.4**
HOPS Hopland 80.06 338 *eP* **P 23 18 59.3 +1.4**
SHEL Horse Pasture 80.07 102 PFAKE 23 19 10.0 +11
SHEL LR LR
comp=Z,1µm,19.0s,MS5.3
ERPA Erie 80.14 11 PFAKE 23 19 10.0 +12
ERPA LR LR
comp=Z,970nm,20.0s,MS5.2
HVU Hansel Valley 80.23 347 *eP* **P 23 18 59.0 +0.3**
comp=Z,144nm,2.3s,mb5.5
HVU Hansel Valley 80.23 347 *eP* **P 23 18 59.0 +0.2**
HVU pmax pmax
comp=Z,144nm,2.3s,mb5.5
ECSD EROS Data Cent 80.56 359 PFAKE 23 19 10.0 +9.5
ECSD LR LR
comp=Z,803nm,19.0s,MS5.1
BW06 Boulder Array 80.66 349 *eP* **P 23 19 00.0 -1.0**
BW06 LR LR
comp=Z,542nm,20.0s,MS4.9
PDAR Pinedale Array 80.66 349 P **P 23 19 00.1 -1.0**
comp=Z,10nm,0.7s,mb4.9,baz=158,slow=5.8,SNR=52
PDAR PKKP PKKPbc 23 37 38.4 -4.2
comp=Z,1.0nm,0.8s,baz=72,slow=3.1,SNR=6.4
PDAR Pinedale Array 80.66 349 P **P 23 19 00.1 -1.0**
PDAR PKKP PKKPbc 23 37 38.4 -4.2
PD01 Pinedale Array 80.67 349 *eP* **P 23 19 00.4 -0.7**
KCPM Cahto Peak 80.85 338 *eP* **P 23 19 04.7 +2.5**
comp=Z,76nm,1.3s,mb5.5

AHID Auburn Hatcher 80.90 348 PFAKE 23 19 10.0 +7.7
AHID LR LR
comp=Z,517nm,21.0s,MS4.9
KIPM Iron Peak 80.93 338 *eP* **P 23 19 04.2 +1.6**
comp=Z,244nm,1.7s,mb5.9
RSSD Black Hills 81.34 354 *eP* **P 23 19 05.2 +0.5**
RSSD Black Hills 81.34 354 *eP* **P 23 19 05.2 +0.6**
WDC Whiskeytown Da 81.37 339 *eP* **P 23 19 03.7 -1.3**
comp=Z,62nm,1.4s,mb5.3
WDC Whiskeytown Da 81.37 339 *eP* **P 23 19 03.7 -1.2**
WDC pmax pmax
comp=Z,62nm,1.4s,mb5.3
REDW Red Top Meadow 81.44 348 *eP* **P 23 19 05.4 +0.2**
comp=Z,52nm,1.2s,mb5.3
FUNA Funafuti 81.45 266 PFAKE 23 19 20.0 +14
FUNA LR LR
comp=Z,5µm,19.0s,MS5.9
RRI2 Red Ridge 81.50 348 *eP* **P 23 19 05.9 +0.4**
SNOW Snow King Moun 81.52 349 *eP* **P 23 19 06.2 +0.5**
LOHW Long Hollow 81.64 349 *eP* **P 23 19 05.8 -0.5**
comp=Z,224nm,2.5s,mb5.7
MOOW Moose Ponds 81.80 349 *eP* **P 23 19 06.9 -0.2**
comp=Z,14nm,1.1s,mb4.8
KHMM Horse Mountain 81.99 339 *eP* **P 23 19 09.8 +1.7**
comp=Z,138nm,1.5s,mb5.7
MOD Modoc 82.00 341 *eP* **P 23 19 08.9 +0.7**
comp=Z,149nm,1.9s,mb5.6
WVOR Wild Horse Val 82.09 343 *eP* **P 23 19 09.2 +0.5**
comp=Z,166nm,1.8s,mb5.7
WVOR LR LR
comp=Z,447nm,19.0s,MS4.8
WVOR Wild Horse Val 82.09 343 *eP* **P 23 19 09.2 +0.5**
WVOR pmax pmax
comp=Z,166nm,1.8s,mb5.7
WVOR MLR MLR
comp=Z,447nm,19.0s,MS4.8
TAU Tasmania Unive 82.11 221 PFAKE 23 19 20.0 +11
TAU LR LR
comp=Z,2µm,21.0s,MS5.4
FLWY Flagg Ranch 82.12 349 *eP* **P 23 19 08.8 0.0**
comp=Z,24nm,0.9s,mb5.1
HLID Hailey 82.26 346 *eP* **P 23 19 09.3 -0.2**
comp=Z,37nm,1.0s,mb5.3
HLID LR LR
comp=Z,216nm,19.0s,MS4.5
MFID Camas Ranch 82.40 345 *eP* **P 23 19 10.4 +0.1**
comp=Z,73nm,1.7s,mb5.3
YBH Yreka Blue Hor 82.49 340 *eP* **P 23 19 10.6 -0.2**
YBH Yreka Blue Hor 82.49 340 *eP* **P 23 19 10.6 -0.2**
YFT Old Faithful 82.50 349 *eP* **P 23 19 12.3 +1.5**
comp=Z,195nm,2.3s,mb5.6
LKWY Lake 82.54 349 PFAKE 23 19 20.0 +9.0
LKWY LR LR
comp=Z,960nm,21.0s,MS5.1
YMR Madison River 82.73 349 *eP* **P 23 19 13.1 +1.1**
comp=Z,292nm,2.0s,mb6.0
YNR Norris Junctio 82.73 349 *eP* **P 23 19 13.8 +1.8**
RLMT Red Lodge 82.92 350 PFAKE 23 19 20.0 +7.1
RLMT LR LR
comp=Z,641nm,19.0s,MS5.0
QLMT Earthquake Lak 82.96 348 *eP* **P 23 19 14.2 +1.1**
NCB Newcomb 82.99 15 PFAKE 23 19 20.0 +6.7
NCB LR LR
comp=Z,1µm,20.0s,MS5.3
COWI Conover 83.09 4 PFAKE 23 19 20.0 +6.2
COWI LR LR
comp=Z,1µm,19.0s,MS5.3
MCMT McKenzie Canyo 83.20 347 *eP* **P 23 19 15.0 +0.7**
comp=Z,18nm,1.5s,mb4.9
DZM Mont Dzumac 83.30 248 *eS* S 23 29 33.6 -3.0
comp=Z,532nm,26.9s
DZM *eSS* SS 23 34 55.4 -5.6
comp=Z,534nm,23.8s
DZM *eLR* LR 23 45 27.4
comp=Z,6µm,23.8s
HUMO Hull Mountain 83.37 340 *eP* **P 23 19 16.1 +0.8**
comp=Z,65nm,1.5s,mb5.4
LONY Lake Ozonia 83.54 15 *eP* **P 23 19 15.1 -1.0**
comp=Z,336nm,2.5s,mb6.0
LONY LR LR
comp=Z,2µm,20.0s,MS5.4
DLMT Dillon 83.67 348 *eP* **P 23 19 17.4 +0.6**
LBNH Lisbon 83.75 17 PFAKE 23 19 30.0 +13
LBNH LR LR
comp=Z,877nm,19.0s,MS5.2
BOZ Bozeman (W) 83.79 348 *eP* **P 23 19 17.4 0.0**
comp=Z,94nm,2.0s,mb5.6
BOZ LR LR
comp=Z,421nm,20.0s,MS4.8
BOZ Bozeman (W) 83.79 348 *eP* **P 23 19 17.4 0.0**
BOZ pmax pmax
comp=Z,95nm,2.0s,mb5.6
BOZ MLR MLR
comp=Z,421nm,20.0s,MS4.8
BMO Blue Mountains 84.09 344 *eP* **P 23 19 18.8 -0.1**
comp=Z,51nm,1.6s,mb5.4
BMO LR LR
comp=Z,337nm,20.0s,MS4.7
LAO LASA Array 84.09 352 *eP* **P 23 19 19.1 +0.2**
comp=Z,62nm,1.2s,mb5.6
LAO LR LR
comp=Z,594nm,19.0s,MS5.0
LRM Limekiln Ridge 84.09 348 *eP* **P 23 19 19.7 +0.7**
comp=Z,379nm,1.5s,mb6.3
VIPM Ingram Point 84.53 342 P **P 23 19 22.0 +0.8**
VIPM Ingram Point 84.53 342 P **P 23 19 22.0 +0.8**
BKCOR Black Crater 84.61 341 P **P 23 19 22.5 +0.9**
EYMN Ely 84.83 2 PFAKE 23 19 30.0 +7.4
EYMN LR LR
comp=Z,1µm,22.0s,MS5.3
HRY Holter Researc 84.86 349 *eP* **P 23 19 23.7 +0.9**
comp=Z,75nm,1.8s,mb5.5
AGMN Agassiz Nation 85.12 360 *eP* **P 23 19 23.2 -0.8**
comp=Z,341nm,2.5s,mb6.0
AGMN LR LR
comp=Z,644nm,19.0s,MS5.0
LNOR Lincton Mounta 85.27 344 *eP* **P 23 19 26.2 +1.4**
LNOR Lincton Mounta 85.27 344 *eP* **P 23 19 26.2 +1.3**
CHMT Chamberlain Mo 85.29 348 *eP* **P 23 19 26.0 +1.0**
MSO Missoula 85.33 347 *eP* **P 23 19 25.8 +0.6**
comp=Z,36nm,1.5s,mb5.3
MSO LR LR
comp=Z,405nm,19.0s,MS4.8
SLMT Seeley Lake 85.65 348 *eP* **P 23 19 27.6 +0.9**
DGMT Dagmar 85.67 354 PFAKE 23 19 40.0 +13
DGMT LR LR
comp=Z,529nm,19.0s,MS5.0
EGMT Eagleton 85.84 350 *eP* **P 23 19 28.2 +0.6**
comp=Z,382nm,2.6s,mb6.2
EGMT LR LR
comp=Z,639nm,19.0s,MS5.0
REDWA Red Mountain 85.93 343 P **P 23 19 28.8 +0.6**
SWMT Swartz Lake 85.99 347 *eP* **P 23 19 29.2 +0.7**
HAWA Hanford 86.04 343 *eP* **P 23 19 29.4 +0.7**
comp=Z,65nm,1.1s,mb5.8
RSW Rattlesnake Hi 86.06 343 *eP* **P 23 19 29.9 +1.1**
CNB Canberra Magne 86.25 228 *eP* **P 23 19 29.4 -0.9**
comp=Z,198nm,0.9s,mb6.3
JTMT Jette 86.27 347 *eP* **P 23 19 31.0 +1.2**
CAN Canberra 86.46 228 *eP* **P 23 19 31.8 +0.4**
comp=Z,449nm,2.3s,mb6.3
CAN LR LR
comp=Z,4µm,22.0s,MS5.7
CAN Canberra 86.46 228 *eP* **P 23 19 31.8 +0.4**
CAN pmax pmax
comp=Z,449nm,2.3s,mb6.3
CAN MLR MLR
comp=Z,4µm,22.0s,MS5.7
BSMT Bassoo Peak 86.47 347 *eP* **P 23 19 31.0 +0.3**
BLMT Blacktail Moun 86.54 347 *eP* **P 23 19 32.0 +0.8**
OD2 Odessa Site #2 86.81 344 *eP* **P 23 19 32.7 +0.3**
ULM Lac du Bonnet 87.07 360 P **P 23 19 31.6 -2.0**
comp=Z,13nm,0.9s,mb5.2,baz=187,slow=6.8,SNR=13
ULM LR LR 23 56 33.5
comp=Z,442nm,18.9s,MS4.9,baz=112,slow=34
ULM Lac du Bonnet 87.07 360 P **P 23 19 31.6 -2.0**
ULM Lac du Bonnet 87.07 360 P **P 23 19 31.7 -1.9**
NEW Newport 87.31 346 *eP* **P 23 19 34.2 -0.7**
comp=Z,115nm,1.9s,mb5.8
NEW Newport 87.31 346 *eP* **P 23 19 34.2 -0.6**
NEW pmax pmax
comp=Z,115nm,1.9s
ETW Entiat 87.37 343 *eP* **P 23 19 35.6 +0.4**
WTV Waterville 87.37 344 P **P 23 19 35.7 +0.5**
CBSW Chelan Butte S 87.49 344 P **P 23 19 36.5 +0.7**
JCW Jim Creek 88.30 342 *eP* **P 23 19 40.6 +1.0**

SUR Sutherland 88.57 130 LR LR 23 53 41.7
comp=Z,1µm,20.8s,MS5.3,baz=216,slow=32
FFC Flin Flon 91.74 356 *eP* **P 23 19 54.5 -1.0**
comp=Z,64nm,1.7s,mb5.7
FFC LR LR
comp=Z,681nm,20.0s,MS5.1
FFC Flin Flon 91.74 356 *i* P **P 23 19 55.0 -0.5**
TARA Tarawa 92.34 270 PFAKE 23 20 10.0 +11
TARA LR LR
comp=Z,1µm,21.0s,MS5.4
RMQ Roma 92.73 234 *eP* **P 23 20 00.5 -0.6**
comp=Z,82nm,1.2s,mb6.0
STKA Stephens Creek 93.22 225 P **P 23 20 02.0 -1.2**
comp=Z,12nm,1.1s,mb5.2,baz=137,slow=6.0,SNR=8.1
STKA LR LR 23 55 08.2
comp=Z,946nm,20.1s,MS5.2,baz=79,slow=31
STKA Stephens Creek 93.22 225 *eP* **P 23 20 02.4 -0.8**
comp=Z,7.7nm,1.0s,mb5.1
STKA Stephens Creek 93.22 225 P **P 23 20 02.0 -1.2**
STKA Stephens Creek 93.22 225 P **P 23 20 02.0 -1.2**
BOSA Boshof 93.94 131 P **P 23 20 05.1 -1.5**
comp=Z,9.6nm,1.1s,mb5.2,baz=218,slow=8.8,SNR=5.7
BOSA LR LR 23 56 34.2
comp=Z,1µm,20.6s,MS5.3,baz=227,slow=32
BOSA Boshof 93.94 131 P **P 23 20 05.1 -1.5**
BOSA Boshof 93.94 131 P **P 23 20 05.1 -1.5**
DBIC Dimbokro 94.22 85 LR LR 23 56 58.8
comp=Z,3µm,21.8s,MS5.7,baz=210,slow=32
SCHQ Schefferville 94.83 16 LR LR 23 59 15.5
comp=Z,841nm,19.7s,MS5.2,baz=160,slow=33
TSUM Tsumeb 95.45 119 PFAKE 23 20 20.0 +6.4
TSUM LR LR
comp=Z,1µm,19.0s,MS5.4
QLP Quilpie 95.52 231 *eP* **P 23 20 13.0 -0.9**
HNR Honiara 96.00 253 LR LR 23 54 57.9
comp=Z,2µm,21.6s,MS5.5,baz=141,slow=30
LBTB Lobatse 96.74 128 *eP* **P 23 20 18.6 -0.9**
comp=Z,43nm,1.4s,mb5.7
LBTB LR LR
comp=Z,975nm,19.0s,MS5.3
LBTB Lobatse 96.74 128 *eP* **P 23 20 18.6 -0.8**
LBTB pmax pmax
comp=Z,43nm,1.4s,mb5.7
LBTB MLR MLR
comp=Z,975nm,19.0s,MS5.3
WRAK Wrangell Islan 98.45 340 PFAKE 23 20 40.0 +14
WRAK LR LR
comp=Z,380nm,19.0s,MS4.9
CTAO Charters Tower 98.84 237 PFAKE 23 20 40.0 +11
CTAO LR LR
comp=Z,2µm,22.0s,MS5.5
YKA Yellowknife Ar 100.57 351 P Pdif 23 20 34.6 -1.8
comp=Z,2.0nm,0.8s,baz=215,slow=44,SNR=3.6
YKA Yellowknife Ar 100.57 351 P Pdif 23 20 34.6 -1.8
YKA Yellowknife Ar 100.57 351 P Pdif 23 20 34.6 -1.7
MIDW Midway 100.81 297 PFAKE 23 20 50.0 +13
MIDW LR LR
comp=Z,2µm,21.0s,MS5.7
TORD Torodi Ar. Bea 103.23 83 Pdiff Pdif 23 20 43.3 -4.8
comp=Z,0.7nm,1.1s,baz=242,slow=3.1,SNR=2.7
TORD PKiKP PKiKP 23 25 04.4 -3.5
comp=Z,3.0nm,1.2s,baz=215,slow=1.5,SNR=5.4
TORD Torodi Ar. Bea 103.23 83 Pdif Pdif 23 20 43.3 -4.8
TORD PKiKP PKiKP 23 25 04.4 -3.5
ASAR Alice Springs 103.86 226 Pdiff Pdif 23 20 50.0 -0.9
comp=Z,0.8nm,0.9s,baz=146,slow=4.0,SNR=4.2
ASAR PP PP 23 25 11.1 +3.6
comp=Z,1.9nm,1.1s,baz=167,slow=3.4,SNR=3.3
ASAR PKKP PKKPbc 23 36 39.4 -1.2
comp=Z,1.1nm,0.7s,baz=333,slow=3.0,SNR=8.6
ASAR Alice Springs 103.86 226 Pdif Pdif 23 20 50.0 -0.9
ASAR PP PP 23 25 11.1 +3.6
ASAR PKKP PKKPbc 23 36 39.4 -1.2
ASAR Alice Springs 103.86 226 P Pdif 23 20 50.0 -0.9
ASAR 23 25 11.1
NWAO Narrogin (SRO) 103.97 208 PFAKE 23 21 00.0 +8.6
NWAO LR LR
comp=Z,744nm,19.0s,MS5.2
LSZ Lusaka 105.43 123 PFAKE 23 25 20.0 +7.9
LSZ LR LR
comp=Z,1µm,21.0s,MS5.5
PMG Port Moresby 105.57 245 PFAKE 23 25 20.0 +7.6
PMG LR LR
comp=Z,1µm,20.0s,MS5.4
KDAK Kodiak Island 106.14 332 PFAKE 23 25 20.0 +8.0
KDAK LR LR
comp=Z,375nm,19.0s,MS5.0
WRA Warramunga Arr 106.49 228 Pdiff Pdif 23 21 00.8 -1.8
comp=Z,1.6nm,1.0s,baz=128,slow=4.1,SNR=3.5
WRA PKiKP PKiKP 23 25 13.8 -0.1
comp=Z,0.5nm,0.3s,baz=141,slow=1.5,SNR=5.3
WRA PKKP PKKPbc 23 36 29.9 -2.6
comp=Z,0.5nm,0.4s,baz=323,slow=2.5,SNR=5.2
WRA Warramunga Arr 106.49 228 Pdif Pdif 23 21 00.8 -1.8
WRA PKiKP PKiKP 23 25 13.8 -0.1
WRA PKKP PKKPbc 23 36 29.9 -2.6
WRA Warramunga Arr 106.49 228 P Pdif 23 21 00.8 -1.8
WRAB Tennant Creek 106.49 228 PFAKE 23 25 20.0 +6.0
WRAB LR LR
comp=Z,3µm,19.0s,MS5.8
EGAK Eagle 107.83 341 PFAKE 23 25 30.0 +15
EGAK LR LR
comp=Z,466nm,19.0s,MS5.1
PFVI Vila Bisbo 108.72 57 *i* P PP 23 25 52.9 +8.7
PFVI Vila Bisbo 108.72 57 *e*LR LR 23 58 30.0
comp=Z,2µm,20.0s
MORF Marmelete 108.93 57 *i* P PP 23 26 22.1 +36
MORF Marmelete 108.93 57 *e*LR LR 23 59 18.2
comp=Z,2µm,20.0s
ILAR Eielson Array 109.38 339 PKiKP PKiKP 23 25 17.4 -0.4
comp=Z,2.1nm,1.0s,baz=166,slow=2.3,SNR=13
ILAR PKKP PKKPdf 23 36 47.0 +5.8
comp=Z,0.5nm,0.9s,baz=225,slow=3.7,SNR=4.2
ILAR Eielson Array 109.38 339 PKiKP PKiKP 23 25 17.4 -0.4
ILAR PKKP PKKPdf 23 36 47.0 +5.8
PBDV Barranco-do-Ve 109.38 58 *i* P PP 23 25 54.1 +5.1
PBDV Barranco-do-Ve 109.38 58 *e*LR LR 23 58 52.4
comp=Z,2µm,20.0s
PMAFR Mafra 109.40 56 *eP* Pdif 23 21 24.3 +8.8
PMAFR *i* P 23 26 19.6
PMAFR Mafra 109.40 56 *e*LR LR 23 59 13.2
comp=Z,2µm,20.0s
PNCL Nicolau / Gran 109.44 57 *e*LR LR 23 59 03.5
comp=Z,2µm,20.0s
PCVE Castro Verde 109.52 57 *e*LR LR 23 58 51.9
comp=Z,2µm,20.0s
PVAQ Vaqueiros 109.61 58 *i* P PP 23 25 56.9 +6.2
PVAQ Vaqueiros 109.61 58 *e*LR LR 23 59 01.1
comp=Z,2µm,20.0s
SFS San Fernando 110.14 59 PFAKE 23 25 30.0 +10
SFS LR LR
comp=Z,2µm,22.0s,MS5.6
PMTG Montargil 110.15 56 *i* P PP 23 26 09.4 +15
PMTG Montargil 110.15 56 *e*LR LR 23 59 25.4
comp=Z,1µm,20.0s
PESTR Estremoz 110.47 56 *i* P PP 23 26 16.2 +19
PESTR Estremoz 110.47 56 *e*LR LR 23 59 22.6
comp=Z,2µm,18.0s
PBAR Barrancos 110.47 57 *i* P PP 23 25 56.1 -0.8
PBAR Barrancos 110.47 57 *e*LR LR 23 59 41.6
comp=Z,2µm,20.0s
PMRV Marv??o 110.89 56 *i* P PP 23 26 21.0 +21
PMRV Marv??o 110.89 56 *e*LR LR 23 59 32.5
comp=Z,1µm,20.0s
MTE Manteigas 111.30 55 PFAKE 23 25 30.0 +7.8
MTE LR LR
comp=Z,2µm,20.0s,MS5.8
MTE Manteigas 111.30 55 *i* P PP 23 26 04.2 +1.4
MTE Manteigas 111.30 55 *e*LR LR 00 01 39.8
comp=Z,2µm,20.0s
TAM Tamanrasset 111.62 77 PFAKE 23 25 30.0 +6.6
TAM LR LR
comp=Z,3µm,21.0s,MS5.8
PGAV Gavieira, Arco 111.63 53 *i* P PKiKP 23 25 27.9 +5.1
PGAV Gavieira, Arco 111.63 53 *e*LR LR 00 01 05.7
comp=Z,2µm,20.0s
POLO Lamas de Olo 111.64 54 *e*LR LR 00 01 27.8
comp=Z,1µm,20.0s
MVO Moncorvo 112.02 54 *i* P PP 23 26 09.3 +1.3
MVO Moncorvo 112.02 54 *e*LR LR 00 01 55.2
comp=Z,2µm,20.0s
PBRG Braganca 112.53 54 *e*LR LR 00 02 04.7
comp=Z,2µm,20.0s
PAB San Pablo 112.98 57 PFAKE 23 25 40.0 +15
PAB LR LR
comp=Z,2µm,20.0s,MS5.8

MBWA Marble Bar 113.29 216 PFAKE 23 25 40.0 +13
MBWA LR LR
comp=Z,944nm,21.0s,MS5.4
ESDC Sonseca Array 113.30 57 PKiKP PKiKP 23 25 23.9 -2.2
comp=Z,0.6nm,0.7s,baz=294,slow=4.7,SNR=4.7
ESDC Sonseca Array 113.30 57 PKiKP PKiKP 23 25 23.9 -2.2
ESLA Sonseca Array 113.30 57 PFAKE 23 25 40.0 +14
ESLA LR LR
comp=Z,10μm,20.0s,MS6.4
ABPO Ambohimpanom 113.80 141 PFAKE 23 25 40.0 +12
ABPO LR LR
comp=Z,1μm,21.0s,MS5.4
MBAR Mbarara 117.51 114 PFAKE 23 25 50.0 +15
MBAR LR LR
comp=Z,856nm,21.0s,MS5.3
ESK Eskdalemuir 120.63 42 PFAKE 23 25 50.0 +10
ESK LR LR
comp=Z,1μm,19.0s,MS5.5
EKA Eskdalemuir Ar 120.66 42 PKP PKPdf 23 25 38.9 -0.8
comp=Z,3.3nm,0.9s,baz=243,slow=3.1,SNR=5.0
EKA Eskdalemuir Ar 120.66 42 PKP PKPdf 23 25 38.9 -0.8
EKA Eskdalemuir Ar 120.66 42 PKiKP PKPdf 23 25 38.9 -0.8
BGF Bois d'Agland 120.82 53 *e*PKiKP PKPdf 23 25 39.4 -0.9
KEST Kesra 120.84 67 PKP PKPdf 23 25 39.8 -0.9
comp=Z,5.4nm,1.0s,baz=230,slow=13,SNR=4.0
KEST Kesra 120.84 67 PKP PKPdf 23 25 39.8 -0.9
AVF Avril sur Loir 121.23 53 *e*PKiKP PKPdf 23 25 40.7 -0.4
comp=Z,500nm,1.4s
SSB Saint Sauveur 121.42 55 PFAKE 23 25 50.0 +8.5
SSB LR LR
comp=Z,2μm,21.0s,MS5.7
SSF Saint Saulge 121.43 52 *e*PKIKP PKPdf 23 25 40.3 -1.2
comp=Z,14nm,1.1s
SMF Signal de Mont 121.49 53 *e*PKiKP PKPdf 23 25 40.5 -1.1
comp=Z,33nm,1.1s
SMRF Simiane la Rot 121.59 56 *e*PKiKP PKPdf 23 25 40.5 -1.4
comp=Z,217nm,1.7s
LOR Lormes 121.73 52 *e*PKiKP PKPdf 23 25 41.1 -0.9
comp=Z,45nm,1.5s
KMBO Kilima Mbogo 121.78 120 PFAKE 23 25 50.0 +6.7
KMBO LR LR
comp=Z,1μm,20.0s,MS5.5
GUMO Guam 121.90 263 PFAKE 23 25 50.0 +6.7
GUMO LR LR
comp=Z,1μm,22.0s,MS5.5
FRF La Foret Royal 122.15 57 *e*PKIKP PKPdf 23 25 42.1 -0.8
comp=Z,115nm,1.4s
ORIF Oris-en-Rattie 122.15 55 *e*PKIKP PKPdf 23 25 41.4 -1.5
comp=Z,28nm,1.1s
BNI Bardonecchia 122.73 56 PFAKE 23 26 00.0 +16
BNI LR LR
comp=Z,3μm,21.0s,MS5.9
SFTF Sexfontaines 122.82 52 *e*PKiKP PKPdf 23 25 43.3 -0.8
comp=Z,29nm,0.8s
MEZF Maizieres J'vi 122.93 51 *e*PKiKP PKPdf 23 25 43.8 -0.5
comp=Z,97nm,1.3s
LPL La Plagne 122.94 55 *e*PKIKP PKPdf 23 25 44.7 +0.3
comp=Z,64nm,1.3s
LPG La Plagne 122.94 55 *e*PKiKP PKPdf 23 25 44.8 +0.4
comp=Z,39nm,1.2s
PAGF Fort de Pagny 123.37 51 *e*PKiKP PKPdf 23 25 44.5 -0.6
comp=Z,11nm,1.3s
HINF Hinteralfeld 123.83 53 *e*PKiKP PKPdf 23 25 45.1 -0.9
comp=Z,9.3nm,0.9s
WLF Walferdange 124.01 50 PFAKE 23 26 00.0 +14
WLF LR LR
comp=Z,2μm,22.0s,MS5.7
ECH Echery 124.15 52 PFAKE 23 26 00.0 +13
ECH LR LR
comp=Z,1μm,20.0s,MS5.5
CDF Champ du Feu 124.29 52 *e*PKIKP PKPdf 23 25 46.0 -0.9
comp=Z,9.6nm,1.1s
WDD Wield Dalam 124.72 69 PFAKE 23 26 00.0 +12
WDD LR LR
comp=Z,3μm,19.0s,MS6.0
VLC Villacollemand 124.88 58 PFAKE 23 26 00.0 +12
VLC LR LR
comp=Z,1μm,20.0s,MS5.5
BFO Black Forest 124.93 52 PKPdf PKPdf 23 25 47.9 -0.3
BFO LR LR
comp=Z,1μm,22.0s,MS5.5
BFO Black Forest 124.93 52 PKIKP PKPdf 23 25 47.9 -0.2
BFO MLR MLR
comp=Z,1μm,22.0s,MS5.5
TUE Stuetta 124.98 55 PFAKE 23 26 00.0 +12
TUE LR LR
comp=Z,2μm,22.0s,MS5.7
DAVOX Davos/Dischmat 125.42 55 PKP PKPdf 23 25 48.6 -0.5
comp=Z,4.5nm,0.9s,baz=216,slow=18,SNR=4.9
DAVOX Davos/Dischmat 125.42 55 PKP PKPdf 23 25 48.6 -0.5
DAVOX Davos/Dischmat 125.42 55 PKiKP PKPdf 23 25 48.6 -0.5
DAVA Damuels 125.59 54⇑ *i*PKPdf PKPdf 23 25 48.8 -0.6
comp=Z,22nm,1.3s
STU Stuttgart 125.61 52 *e*PKPdf PKPdf 23 25 49.0 -0.4
STU Stuttgart 125.61 52 *e*PKiKP PKPdf 23 25 49.0 -0.4
FETA Feichten 126.05 54⇑ *i*PKPdf PKPdf 23 25 50.0 -0.3
comp=Z,25nm,1.1s
RETA Reutte 126.22 54⇑ *i*PKPdf PKPdf 23 25 50.6 -0.1
comp=Z,24nm,1.2s
AQU L'Aquila 126.33 61 PFAKE 23 26 00.0 +9.0
AQU LR LR
comp=Z,2μm,19.0s,MS5.7
MOTA Moosalm 126.40 54⇑ *i*PKPdf PKPdf 23 25 50.4 -0.6
comp=Z,33nm,1.1s
CEL Celeste 126.65 66 PFAKE 23 26 00.0 +8.2
CEL LR LR
comp=Z,3μm,19.0s,MS6.0
WTTA Wattenberg 126.72 54⇓ *i*PKiKP PKPdf 23 25 52.1 +0.5
comp=Z,57nm,1.5s
KAPI Kappang 126.88 225 PFAKE 23 26 00.0 +7.0
KAPI LR LR
comp=Z,1μm,20.0s,MS5.6
BILL Bilibino 127.05 332 PFAKE 23 26 00.0 +8.4
BILL LR LR
comp=Z,571nm,21.0s,MS5.2
BILL Bilibino 127.05 332⇓ *i*PKIKP PKPdf 23 25 51.1 -0.5
BILL *i* 23 27 54.9
BILL pmax pmax
comp=Z,12nm,1.4s
GRF Grafenberg Arr 127.15 51 *e*PKPdf PKPdf 23 25 52.4 +0.1
GRF Grafenberg Arr 127.15 51 *e*L 00 19 25.6
comp=Z,1μm,19.9s
GRF Grafenberg Arr 127.15 51 *e*PKIKP PKPdf 23 25 52.4 +0.1
CLZ Clausthal 127.21 49 *e*PKPdf PKPdf 23 25 52.0 -0.4
CLZ Clausthal 127.21 49 *e*PKiKP PKPdf 23 25 52.0 -0.4
CUC Castrocucco 127.22 64 PFAKE 23 26 00.0 +7.2
CUC LR LR
comp=Z,985nm,21.0s,MS5.5
MOX Moxa 127.65 50 *e*PKPdf PKPdf 23 25 53.0 -0.3
MOX Moxa 127.65 50 *e*PKiKP PKPdf 23 25 53.0 -0.3
TRI Trieste 127.65 57 PFAKE 23 26 00.0 +6.6
TRI LR LR
comp=Z,1μm,20.0s,MS5.6
PET Petropavlovsk 127.89 313 PFAKE 23 26 00.0 +6.4
PET LR LR
comp=Z,973nm,19.0s,MS5.5
WET Wettzell 128.05 52 *e*PKPdf PKPdf 23 25 53.6 -0.5
WET Wettzell 128.05 52 *e*PKiKP PKPdf 23 25 53.6 -0.5
NKC Novy Kostel 128.06 51 *e*PKIKP PKPdf 23 25 54.6 +0.6
NKC *e* 23 26 00.0
NKC Novy Kostel 128.06 51 *e*PKPdf PKPdf 23 25 54.6 +0.6
NKC *ep*PKP pPKPdf 23 26 00.0 +2.5
TANN Tannenbergstha 128.12 51 *e*PKPdf PKPdf 23 25 54.1 0.0
KONO Kongsberg 128.45 39 PFAKE 23 26 10.0 +16
KONO LR LR
comp=Z,1μm,22.0s,MS5.6
PETK Petropavlovsk- 128.47 313 PKP PKPdf 23 25 53.3 -1.4
comp=Z,26nm,1.0s,baz=127,slow=4.8,SNR=16
PETK Petropavlovsk- 128.47 313 PKP PKPdf 23 25 53.3 -1.4
PETK Petropavlovsk- 128.47 313 PKiKP PKPdf 23 25 53.3 -1.4
KHC Kasperske Hory 128.49 53 *e*PKPdf PKPdf 23 25 54.9 0.0
KHC Kasperske Hory 128.49 53 *e*PKiKP PKPdf 23 25 54.9 0.0
KHC Kasperske Hory 128.49 53 *e*PKPdf PKPdf 23 25 54.6 -0.3
KHC *ep*PKP pPKPdf 23 26 00.9 +2.6
GEC2 GERESS Array S 128.49 53 *e*PKPdf PKPdf 23 25 54.2 -0.7
GEC2 GERESS Array S 128.49 53 *e*PKiKP PKPdf 23 25 54.2 -0.7
GERES GERESS Array B 128.49 53 PKP PKPdf 23 25 53.1 -1.8
comp=Z,7.0nm,1.1s,baz=212,slow=0.9,SNR=13
GERES GERESS Array B 128.49 53 PKP PKPdf 23 25 53.1 -1.8
GERES GERESS Array B 128.49 53 PKiKP PKPdf 23 25 53.1 -1.8
CLL Collm 128.67 50 *e*PKPdf PKPdf 23 25 54.8 -0.4
CLL Collm 128.67 50 *i* PKIKP PKPdf 23 25 54.8 -0.4
CLL *i* 23 25 57.5
CLL *i* 23 26 02.4
CLL pmax pmax
comp=Z,26nm,1.3s
CLL MLR MLR
comp=Z,800nm,17.3s,MS5.5
CLL Collm 128.67 50 *i* PKPdf PKPdf 23 25 54.8 -0.4
comp=Z,26nm,1.3s
CLL *i* pPKPdf pPKPdf 23 25 57.5 -1.1
comp=Z,70nm,1.9s
CLL *i* (sPKPdf) 23 26 02.4
CLL *e*PP PP 23 28 00.0 -1.9
CLL *e* 23 28 16.0
CLL *e*(PKSdf) 23 29 24.0
CLL *e*SKKSac SKKSac 23 35 06.0 +7.7
CLL *e*PPS 23 39 40.0
CLL *e*SS SS 23 45 24.0 +4.7
CLL *e*SSS 23 49 48.0
CLL *e*SSSS 23 53 48.0
CLL LmH 00 22 00.0
comp=N,500nm,20.5s
CLL LmH 00 22 00.0
comp=E,500nm,21.5s
PRU Pruhonice 129.31 52 *e*PKIKP PKPdf 23 25 54.3 -2.1
PRU Pruhonice 129.31 52 *e*PKPdf PKPdf 23 25 54.3 -2.1
NB2 NORSAR Subarra 129.45 37 PKPdf PKPdf 23 25 56.0 -0.3
comp=Z,15nm,1.2s,baz=270,slow=1.9
NB2 NORSAR Subarra 129.45 37 PKPdf PKPdf 23 25 56.0 -0.3
baz=270,slow=1.9
NOA NORSAR Array B 129.45 37 PKP PKPdf 23 25 55.2 -1.1
comp=Z,6.0nm,1.0s,baz=271,slow=1.8,SNR=4.9
NOA NORSAR Array B 129.45 37 PKP PKPdf 23 25 55.2 -1.1
NOA NORSAR Array B 129.45 37 PKIKP PKPdf 23 25 55.2 -1.1
PVCC Panska Ves 129.45 51 *e*PKIKP PKPdf 23 25 56.6 -0.1
PVCC *e* 23 26 04.1
PVCC Panska Ves 129.45 51 *e*PKPdf PKPdf 23 25 56.6 -0.1
PVCC *ex* x 23 26 04.1
KBS Kingsbay 129.49 14 PFAKE 23 26 10.0 +14
KBS LR LR
comp=Z,357nm,20.0s,MS5.1
MSEY Mahe Island 130.16 140 PFAKE 23 26 10.0 +11
MSEY LR LR
comp=Z,1μm,20.0s,MS5.5
UPC Upice 130.34 51 *e*PKIKP PKPdf 23 26 00.0 +1.6
UPC Upice 130.34 51 *e*PKPdf PKPdf 23 26 00.0 +1.6
VRAC Vranov 130.45 53 PKP PKPdf 23 25 56.3 -2.3
comp=Z,3.3nm,0.9s,baz=283,slow=1.3,SNR=4.5
VRAC Vranov 130.45 53 PKP PKPdf 23 25 56.3 -2.3
VRAC Vranov 130.45 53 PKiKP PKPdf 23 25 56.3 -2.3
SPITS Spitsbergen Ar 130.50 15 PKP PKPdf 23 25 57.0 -1.0
comp=Z,17nm,1.0s,baz=127,slow=14,SNR=4.4
SPITS Spitsbergen Ar 130.50 15 PKP PKPdf 23 25 57.0 -1.0
SPITS Spitsbergen Ar 130.50 15 PKiKP PKPdf 23 25 57.0 -1.0
DPC Dobruska-Polom 130.50 52 *e*PKIKP PKPdf 23 25 57.9 -0.8
DPC *e* 23 26 06.2
DPC Dobruska-Polom 130.50 52 *e*PKPdf PKPdf 23 25 57.9 -0.8
DPC *ex* x 23 26 06.2
HFS Hagfors 130.56 39 PKP PKPdf 23 25 57.0 -1.5
comp=Z,6.3nm,1.0s,baz=72,slow=4.7,SNR=2.9
HFS Hagfors 130.56 39 PKP PKPdf 23 25 57.0 -1.5
HFS Hagfors 130.56 39 PKiKP PKPdf 23 25 57.0 -1.5
TIR Tirane 130.57 64 PFAKE 23 26 10.0 +11
TIR LR LR
comp=Z,3μm,20.0s,MS6.0
MORC Moravsky Berou 131.15 53 *e*PKPdf PKPdf 23 25 59.8 -0.2
MORC Moravsky Berou 131.15 53 *e*PKIKP PKPdf 23 25 59.8 -0.1
OKC Ostrava-Krasne 131.55 53 *e*PKIKP PKPdf 23 26 00.6 -0.1
OKC *e* 23 26 08.4
OKC Ostrava-Krasne 131.55 53 *e*PKPdf PKPdf 23 26 00.6 -0.1
OKC *ex* x 23 26 08.4
PSZ Piszkesteto 132.29 55 PFAKE 23 26 10.0 +7.9
PSZ LR LR
comp=Z,1μm,22.0s,MS5.6
DAV Davao City (W) 132.39 241 PFAKE 23 26 10.0 +6.6
DAV LR LR
comp=Z,725nm,19.0s,MS5.4
SEY Seymchan 132.44 325*c* *i*PKIKP PKPdf 23 25 59.8 -2.2
KECS Kecovo 132.79 55 *e*PKHKP PKPpre 23 25 51.2
KECS Kecovo 132.79 55 *e*PKP PKPpre 23 25 51.2
YUK Yuzh-Kuril'sk 134.11 299 PKIKP PKPdf 23 26 02.8 -2.9
YUK *i* 23 33 15.5
YUK *e*SSS 23 51 22.5
KWP Kalwaria Pacla 134.43 54 PFAKE 23 26 20.0 +14
KWP LR LR
comp=Z,1μm,21.0s,MS5.6
ARCES ARCESS Array B 134.97 25 PKP PKPdf 23 26 06.4 -0.2
comp=Z,12nm,1.0s,baz=276,slow=3.3,SNR=7.3
ARCES ARCESS Array B 134.97 25 PKP PKPdf 23 26 06.4 -0.2
ARCES ARCESS Array B 134.97 25 PKiKP PKPdf 23 26 06.4 -0.1
SUW Suwalki 135.20 48 *e*P PKPdf 23 26 07.5 +0.1
SUW Suwalki 135.20 48 *e*PKPdf PKPdf 23 26 07.3 -0.1
SUW Suwalki 135.20 48 *e*PKIKP PKPdf 23 26 07.4 0.0
LVV L'vov 135.30 54 *e*PKIKP PKPdf 23 26 10.5 +2.8
KEV Kevo 135.42 25 PFAKE 23 26 20.0 +13
KEV LR LR
comp=Z,422nm,21.0s,MS5.1
ERM Erimo 135.56 295 PFAKE 23 26 20.0 +12
ERM LR LR
comp=Z,2μm,19.0s,MS5.7
BUR08 Bucovina Ar. S 135.75 57 *e*PKPdf PKPdf 23 26 10.2 +1.5
MLR Muntele Rosu 135.89 60 PKP PKPdf 23 26 08.8 -0.2
comp=Z,1.1nm,0.9s,baz=342,slow=3.2,SNR=3.2
MLR Muntele Rosu 135.89 60 PKP PKPdf 23 26 08.8 -0.2
MLR Muntele Rosu 135.89 60 PKIKP PKPdf 23 26 08.8 -0.2
ASAJ Asahikawa 136.42 298 PKhKP PKPpre 23 26 05.0
comp=Z,19nm,1.0s,baz=279,slow=14,SNR=3.6
ASAJ Asahikawa 136.42 298 PKPpre PKPpre 23 26 05.0
FINES FINESS Array B 136.62 37 PKhKP PKPpre 23 26 04.7
comp=Z,12nm,1.1s,baz=82,slow=3.1,SNR=6.9
FINES FINESS Array B 136.62 37 PKPpre PKPpre 23 26 04.7
FINES FINESS Array B 136.62 37 PKIKP PKPpre 23 26 04.7
YSS Yuzh-Sakhalins 136.81 302 PFAKE 23 26 20.0 +9.3
YSS LR LR
comp=Z,578nm,19.0s,MS5.3
ISAL Salakas 136.96 45 *e*P PKPdf 23 26 10.9 +0.3
ISAL AMB AMB 23 26 11.9
comp=Z,11nm,1.3s
IIGN Ignalina 137.02 46 *e*P PKPdf 23 26 11.1 +0.3
IIGN AMB AMB 23 26 12.0
comp=Z,11nm,1.3s
IZAR Zarasai 137.03 45 *e*P PKPdf 23 26 11.2 +0.5
IZAR AMB AMB 23 26 12.0
comp=Z,6.9nm,1.0s
KSM Kuching 137.40 219 PFAKE 23 26 20.0 +7.1
KSM LR LR
comp=Z,486nm,20.0s,MS5.2
ISP Isparta 137.42 72 PFAKE 23 26 20.0 +7.9
ISP LR LR
comp=Z,2μm,21.0s,MS5.8
MJAR Matsushiro Arr 137.78 286 PKhKP PKPpre 23 26 04.6
comp=Z,2.9nm,1.0s,baz=117,slow=4.3,SNR=3.8
MJAR Matsushiro Arr 137.78 286 PKPpre PKPpre 23 26 04.6
MJAR Matsushiro Arr 137.78 286 PKHKP PKPpre 23 26 04.6
MAJO Matsushiro 137.78 286 PFAKE 23 26 20.0 +7.2
MAJO LR LR
comp=Z,1μm,22.0s,MS5.6
KKM Kota Kinabalu 137.82 230 PFAKE 23 26 20.0 +6.4
KKM LR LR
comp=Z,573nm,22.0s,MS5.3
LVZ Lovozero 138.65 26 PFAKE 23 26 20.0 +6.6
LVZ LR LR
comp=Z,979nm,19.0s,MS5.6
LVZ Lovozero 138.65 26*c* *i*PKIKP PKPdf 23 26 14.7 +1.3
LVZ pmax pmax
comp=Z,20nm,1.0s
KIEV Kiev 138.69 53 *e*PKPdf PKPdf 23 26 13.1 -0.9
KIEV LR LR
comp=Z,1μm,20.0s,MS5.6
KIEV Kiev 138.69 53 *e*PKIKP PKPdf 23 26 13.1 -0.9
KIEV MLR MLR
comp=Z,1μm,20.0s,MS5.6
AKASG Malin Array Be 138.70 53 PKhKP PKPpre 23 26 05.6
comp=Z,0.8nm,0.6s,baz=279,slow=3.0,SNR=4.9
AKASG PKP PKPdf 23 26 13.5 -0.5
comp=Z,4.3nm,0.7s,baz=268,slow=2.7,SNR=8.7
AKASG Malin Array Be 138.70 53 PKPpre PKPpre 23 26 05.6
AKASG PKP PKPdf 23 26 13.5 -0.5
AKASG Malin Array Be 138.70 53 PKHKP PKPpre 23 26 05.6
AKASG 23 26 13.5
AKBB Malin Array Si 138.70 53 *e*PKPdf PKPdf 23 26 11.6 -2.4
AKBB Malin Array Si 138.70 53 *e*PKIKP PKPdf 23 26 11.6 -2.4
CSS Prodhromos 138.72 77 PFAKE 23 26 30.0 +15
CSS LR LR
comp=Z,594nm,19.0s,MS5.3
BR131 Keskin Array S 140.27 70 *e*PKPdf PKPdf 23 26 15.7 -1.6
BR131 LR LR
comp=Z,1μm,20.0s,MS5.6
BRTR Keskin Array B 140.27 70 PKhKP PKPpre 23 26 12.1
comp=Z,2.7nm,1.1s,baz=253,slow=4.1,SNR=3.9
BRTR PKP PKPdf 23 26 17.4 +0.1
comp=Z,9.9nm,1.0s,baz=208,slow=2.3,SNR=14
BRTR Keskin Array B 140.27 70 PKPpre PKPpre 23 26 12.1
BRTR PKP PKPdf 23 26 17.4 +0.1
BRTR Keskin Array B 140.27 70 PKIKP PKPdf 23 26 12.1 -5.1
BRTR 23 26 17.4
HABR Khabarovsk 142.13 304*de* PKIKP PKPdf 23 26 17.7 -2.6
HABR *i* 23 26 20.7
HABR *e* 23 29 25.6
HABR *e* 23 33 24.3
YAK Yakutsk 142.92 327 *e*PKPdf PKPdf 23 26 21.4 +0.1
YAK LR LR
comp=Z,690nm,21.0s,MS5.4
YAK Yakutsk 142.92 327 *e*PKHKP PKPpre 23 26 15.3
YAK pmax pmax
comp=Z,86nm,1.0s
YAK pmax pmax
comp=E,16nm,1.2s
YAK pmax pmax
comp=N,8.0nm,1.1s
OBN Obninsk 142.94 45 *e*PKPdf PKPdf 23 26 17.5 -4.0
OBN LR LR
comp=Z,866nm,19.0s,MS5.5
OBN Obninsk 142.94 45⇓ *i*PKIKP PKPdf 23 26 16.9 -4.6
OBN *i* 23 26 25.1
OBN pmax pmax
comp=Z,83nm,1.7s
OBN MLR MLR
comp=Z,500nm,19.0s,MS5.3
KLMR Klimovskoe 143.10 35 *e*PKHKP PKPpre 23 26 15.9
KLMR pmax pmax
comp=Z,127nm,1.5s
MOS Moscow 143.43 44 *e*PKIKP PKPdf 23 26 17.9 -4.5
MOS pmax pmax
comp=Z,60nm,1.1s
MALT Malatya 143.58 74 PFAKE 23 26 30.0 +6.8
MALT LR LR
comp=Z,4μm,21.0s,MS6.1
SUSE Susehri 143.80 71 *i* P PKPdf 23 26 19.0 -4.5
IPOH Ipoh 144.22 208 *e*PKPdf PKPdf 23 26 21.7 -3.5
KLR Kul'dur 144.31 305 *e*PKHKP PKPpre 23 26 17.2
KLR pmax pmax
comp=Z,200nm,2.2s
KLR pmax pmax
comp=Z,2μm,11.0s
VSR Storozhevoye 144.97 52 *e*PKIKP PKPdf 23 26 22.7 -2.5
VSR pmax pmax
comp=N,30nm,1.2s
VSR pmax pmax
comp=Z,120nm,1.2s
VSR pmax pmax
comp=E,60nm,1.1s
KULM Kulim 145.11 208 *e*PKPdf PKPdf 23 26 24.9 -1.8
KULM LR LR
comp=Z,557nm,20.0s,MS5.3
MARD Mardin 145.17 76 *i* P PKPbc 23 26 22.2 -3.4
SOC Sochi 145.38 65 *e*PKIKP PKPdf 23 26 25.2 -1.0
SOC *i* 23 26 28.1
SOC *e* 23 29 44.4
SOC pmax pmax
comp=Z,112nm,1.2s
MDJ Mudanjiang 145.73 297 PKPbc PKPbc 23 26 25.8 -1.4
MDJ pPKP pPKPdf 23 26 31.4 +1.2
MDJ PP PP 23 29 50.0 +1.4
MDJ SS SS 23 48 48.8 +6.2
MDJ LR LR
comp=N,460nm,24.4s,MS5.5
MDJ LR LR
comp=E,850nm,23.6s,MS5.5
MDJ LR LR
comp=Z,1μm,23.6s,MS5.6
MDJ Mudanjiang 145.73 297 *e*PKPdf PKPdf 23 26 25.7 -1.0
MDJ LR LR
comp=Z,1μm,22.0s,MS5.7
BNGL BINGOL 145.80 73 *i* P PKPdf 23 26 28.6 +1.6
YULB Yu-li 145.87 257 *e*PKPdf PKPdf 23 26 26.3 -1.3
ABTO Aybut 145.93 117 P PKPdf 23 26 32.8 +4.9
SNR=9.6
KSRS Korea Array 145.96 284 PKPbc PKPbc 23 26 26.1 -2.0
comp=Z,20nm,1.0s,baz=103,slow=2.6,SNR=28
KSAR Wonju Array Be 145.99 284 PKPbc PKPbc 23 26 26.1 -2.1
KSAR Wonju Array Be 145.99 284 PKIKP PKPdf 23 26 26.1 -1.3
NACB Ninganchiao 146.05 258 *e*PKPbc PKPbc 23 26 29.2 +0.4
SSLB Suanglung 146.34 257 *e*PKPdf PKPdf 23 26 27.6 -0.8
SSLB *e*PKPbc PKPbc 23 26 29.9 +0.2
YHNB Yeheng 146.47 259 PFAKE 23 26 40.0 +11
YHNB LR LR
comp=Z,605nm,19.0s,MS5.4
TATO Taipei 146.54 259 PFAKE 23 26 40.0 +11
TATO LR LR
comp=Z,512nm,19.0s,MS5.3
DAGI Agillar 146.72 70 *i* P PKPdf 23 26 29.7 +1.1
ARTV Artvin 146.75 70 *i* P PKPdf 23 26 27.5 -1.0
BHD Baghdad 146.89 85 *ex* x 23 26 27.5
INCN Inchon 146.97 283 *e*PKPbc PKPbc 23 26 29.9 -1.2
INCN LR LR
comp=Z,841nm,21.0s,MS5.5
TUTA Tutak 147.15 73 *i* P PKPdf 23 26 29.7 +0.4
HAKT HAKKARI 147.49 77 *i* P PKPdf 23 26 27.5 -2.4
KIV Kislovodsk 147.55 65 *e*PKPbc PKPbc 23 26 32.3 -0.2
KIV LR LR
comp=Z,556nm,21.0s,MS5.3
KIV Kislovodsk 147.55 65*d* *i*PKP2 PKPbc 23 26 31.9 -0.6
KIV *e*SSS 23 54 37.8
KIV pmax pmax
comp=Z,75nm,1.0s
KIV MLR MLR
comp=Z,300nm,19.0s,MS5.1
KIV Kislovodsk 147.55 65 P PKPdf 23 26 32.0 +2.2
SNR=15
NAY Al-Naaiem 147.72 93 *e*P PKPdf 23 26 30.9 +0.4
NAY AMb AMB 23 26 41.6
comp=Z,82nm,1.1s
DIGO Kars 147.73 71 *i* P PKPdf 23 26 30.8 +0.5
DYDN Diyadin 147.84 73 *i* P PKPbc 23 26 32.9 -0.5
AKH Akhalkalaki 147.94 69 P PKPbc 23 26 34.8 +1.2
MIB Mutribah 148.02 92 *e*P PKPdf 23 26 31.8 +0.8
MIB AMb AMB 23 26 41.1
comp=Z,123nm,1.3s
ONI Oni 148.03 67 P PKPbc 23 26 34.3 +0.5
UMR Umm Al-Rimmam 148.22 93 *e*P PKPdf 23 26 31.8 +0.4
UMR AMb AMB 23 26 37.1
comp=Z,151nm,1.1s
ZEI Tsey 148.37 67 *i* PKP2 PKPab 23 26 34.4 -3.5
ZEI pmax pmax
comp=Z,181nm,1.8s
CN2 Changchun 148.67 295 *e*PKPbc PKPbc 23 26 33.3 -2.1
CN2 LR LR
comp=N,400nm,18.0s,MS5.5
CN2 LR LR
comp=E,600nm,18.0s,MS5.5
CN2 LR LR
comp=Z,700nm,21.0s,MS5.4
GNI Garni 148.73 72 *e*PKPbc PKPbc 23 26 36.3 +0.5
GNI LR LR
comp=Z,627nm,22.0s,MS5.4
GNI Garni 148.73 72*c* *i*PKP2 PKPbc 23 26 34.3 -1.4
GNI pmax pmax
comp=Z,137nm,1.7s
TBLG Delisi 148.91 69 PKP2 PKPbc 23 26 35.8 -0.3
TBLG Delisi 148.91 69 P PKPbc 23 26 35.8 -0.3
MTA Mtatsminda 148.94 69 P PKPbc 23 26 36.2 0.0
DGRG David-gareji 149.36 70 P PKPbc 23 26 37.1 -0.2
SSE Sheshan 149.44 269 *e*PKPbc PKPbc 23 26 35.8 -2.0
SSE SS SS 23 49 29.3 +4.3
SSE AMB AMB
comp=Z,72nm,12.0s
SSE LR LR
comp=N,160nm,26.3s,MS5.3
SSE LR LR
comp=E,580nm,26.3s,MS5.3
SSE LR LR
comp=Z,840nm,27.1s,MS5.4
SNY Shenyang 149.94 291⇑ PKPbc PKPbc 23 26 37.1 -1.6
SNY LR LR
comp=N,180nm,13.1s,MS5.1
SNY LR LR
comp=E,190nm,18.0s,MS5.1
SNY LR LR
comp=Z,190nm,10.2s
MAK Makhachkala 151.02 67 *e*PKIKP PKPbc 23 26 39.6 -1.6
MAK *i* 23 26 43.4

MAK					*e*			23 30 24.6		
MAK					*e*			23 33 38.6		
MAK					*e*PPP			23 33 45.5		
DL2	**Dalian**	**151.10**	**285**		PKPbc	PKPbc	23 26 39.9	-1.6		
SOKR	**Solikamsk**	**151.26**	**30**	*d i*	PKIKP	PKPdf	23 26 34.9	-0.3		
SOKR					pmax	pmax				
	comp=Z,200nm,1.5s									
QIZ	**Qiongzhong**	**151.61**	**237**		PFAKE		23 26 50.0	+13		
QIZ					LR	LR				
	comp=Z,566nm,19.0s,MS5.4									
NJ2	**Nanjing**	**151.64**	**270**	*e*	PKPbc	PKPbc	23 26 41.6	-1.4		
NJ2					PKPab	PKPab	23 26 58.9	+7.2		
NJ2					PP	PP	23 30 31.5	+8.1		
NJ2					LR	LR				
	comp=N,170nm,21.4s									
NJ2					LR	LR				
	comp=E,510nm,27.9s									
NJ2					LR	LR				
	comp=Z,270nm,25.1s,MS5.0									
ARQ	**Araqi**	**152.03**	**112**		P	PKPdf	23 26 43.8	+6.2		
	SNR=14									
HIA	**Hailar**	**152.11**	**307**	*e*	PKPbc	PKPbc	23 26 42.3	-1.2		
HIA					LR	LR				
	comp=Z,1μm,20.0s,MS5.8									
HIA	**Hailar**	**152.11**	**307**	*e*	PKIKP	PKPdf	23 26 42.3	+5.5		
HIA					MLR	MLR				
	comp=Z,1μm,20.0s									
BSY	**Bisya**	**152.18**	**113**		P	PKPdf	23 26 44.0	+6.2		
	SNR=14									
NAZ	**Nazwa, Dubai**	**152.32**	**108**		P	PKPdf	23 26 44.1	+6.2		
	SNR=14									
ARU	**Arti**	**153.93**	**34**	*e*	PKPdf	PKPdf	23 26 38.7	-0.6		
ARU				*e*	PKPbc	PKPbc	23 26 46.7	-0.6		
ARU					LR	LR				
	comp=Z,1μm,20.0s,MS5.7									
ARU	**Arti**	**153.93**	**34**	*i*	PKIKP	PKPdf	23 26 38.5	-0.8		
SVE	**Sverdlovsk**	**154.58**	**32**	*i*	PKIKP	PKPdf	23 26 39.9	-0.3		
SVE					pmax	pmax				
	comp=Z,57nm,2.0s									
WHN	**Wuhan**	**154.68**	**264**		PKPbc	PKPbc	23 26 48.1	-1.6		
WHN					PP	PP	23 30 47.3	+6.7		
WHN					SKKS		23 41 06.8			
WHN					LR	LR				
	comp=Z,940nm,18.8s,MS5.6									
CIT	**Chita**	**154.97**	**315**	*e*	PKP2	PKPab	23 27 03.4	-1.7		
BJI	**Beijing**	**155.42**	**286**		PKP	PKPdf	23 26 41.4	-0.5		
BJI					SS	SS	23 50 34.0	+3.5		
BJI					LR	LR				
	comp=N,160nm,10.9s,MS5.4									
BJI					LR	LR				
	comp=E,290nm,12.3s,MS5.4									
BJI					LR	LR				
	comp=Z,150nm,14.4s,MS5.0									
BJT	**Baijiatuau**	**155.42**	**286**		PFAKE		23 26 50.0	+8.1		
BJT					LR	LR				
	comp=Z,756nm,22.0s,MS5.5									
AKTO	**Aktyubinsk**	**156.70**	**47**		PKP	PKPdf	23 26 42.8	-0.4		
	comp=Z,3.5nm,1.0s,baz=140,slow=1.5,SNR=6.9									
AKTO					PKPab	PKPab	23 27 12.2	-0.4		
	comp=Z,6.8nm,1.1s,baz=335,slow=3.8,SNR=5.2									
AKTO	**Aktyubinsk**	**156.70**	**47**		PKP	PKPdf	23 26 42.8	-0.4		
AKTO					PKPab	PKPab	23 27 12.2	-0.4		
AKTO	**Aktyubinsk**	**156.70**	**47**		PKIKP	PKPdf	23 26 42.8	-0.4		
CM31	**Chiang Mai Arr**	**157.60**	**217**		PFAKE		23 27 00.0	+15		
CM31					LR	LR				
	comp=Z,491nm,19.0s,MS5.4									
CMAR	**Chiang Mai Arr**	**157.60**	**217**		PKP	PKPdf	23 26 43.6	-1.8		
	comp=Z,3.4nm,0.9s,baz=247,slow=2.0,SNR=23									
CMAR					PKPab	PKPab	23 27 16.5	-0.8		
	comp=Z,14nm,1.1s,baz=175,slow=3.0,SNR=16									
CMAR	**Chiang Mai Arr**	**157.60**	**217**		PKP	PKPdf	23 26 43.6	-1.8		
CMAR					PKPab	PKPab	23 27 16.5	-0.8		
CMAR	**Chiang Mai Arr**	**157.60**	**217**		PKIKP	PKPdf	23 26 43.6	-1.8		
CMAR							23 27 16.5			
CHTO	**Chiang Mai**	**157.91**	**218**	*e*	PKPdf	PKPdf	23 26 44.9	-0.8		
CHTO					PKPab	PKPab	23 27 18.7	+0.1		
CHTO					LR	LR				
	comp=Z,465nm,19.0s,MS5.3									
CHTO	**Chiang Mai**	**157.91**	**218**	*e*	PKIKP	PKPdf	23 26 44.9	-0.8		
CHTO							23 27 18.7			
CHTO					MLR	MLR				
	comp=Z,465nm,19.0s,MS5.3									
ABKAR	**Akbulak array**	**158.33**	**48**	*e*	PKPdf	PKPdf	23 26 44.7	-0.6		
ENH	**Enshi**	**158.41**	**259**		PFAKE		23 27 00.0	+14		
ENH					LR	LR				
	comp=Z,720nm,22.0s,MS5.5									
GYA	**Guiyang**	**158.64**	**246**		PKP	PKPdf	23 26 45.0	-1.4		
GYA					PKPab	PKPab	23 27 23.8	+2.1		
GYA					PKS		23 30 17.6			
GYA					PP	PP	23 31 05.9	+3.6		
GYA					SKKS	SKKSac	23 37 52.1	+0.7		
GYA					SS	SS	23 51 06.8	+2.0		
GYA					AMB	AMB				
	comp=Z,180nm,7.8s									
GYA					LR	LR				
	comp=N,240nm,24.4s,MS5.0									
GYA					LR	LR				
	comp=E,150nm,25.0s,MS5.0									
GYA					LR	LR				
	comp=Z,210nm,23.7s,MS4.9									
HHC	**Hu-ho-hao-te**	**158.95**	**288**	*e*	PKP	PKPdf	23 26 46.3	0.0		
HHC					PP	PP	23 31 03.3	-0.8		
HHC					SS	SS	23 51 10.3	+2.0		
HHC					AMB	AMB				
	comp=Z,180nm,8.3s									
HHC					LR	LR				
	comp=N,400nm,22.6s,MS5.4									
HHC					LR	LR				
	comp=E,560nm,26.2s,MS5.4									
HHC					LR	LR				
	comp=Z,1μm,28.5s,MS5.5									
POO	**Poona**	**159.05**	**150**	*e*	PKP	PKPdf	23 26 40.0	-7.1		
HYB	**Hyderabad**	**159.53**	**163**	*i*	PKP	PKPdf	23 26 47.0	-0.7		
IRK	**Irkutsk**	**159.68**	**324**	*e*	PKIKP	PKPdf	23 26 45.0	-1.8		
IRK					pmax	pmax				
	comp=Z,50nm,2.6s									
TLY	**Talaya**	**160.34**	**323**		PFAKE		23 27 00.0	+12		
TLY					LR	LR				
	comp=Z,755nm,21.0s									
ULN	**Ulaanbaatar**	**160.53**	**310**	*e*	PKPdf	PKPdf	23 26 45.4	-2.5		
ULN					LR	LR				
	comp=Z,842nm,21.0s									
ULN	**Ulaanbaatar**	**160.53**	**310**	*e*	PKIKP	PKPdf	23 26 45.4	-2.5		
ULN					MLR	MLR				
	comp=Z,842nm,21.0s									
KMI	**Kunming**	**160.56**	**237**		PKP	PKPdf	23 26 48.3	-0.4		
KMI					pPKP	pPKPdf	23 26 51.5	-0.6		
KMI					sPKP		23 26 52.6			
SONM	**Songino Array**	**160.95**	**311**		PKP	PKPdf	23 26 45.5	-2.8		
	comp=Z,6.3nm,1.0s,baz=164,slow=1.1,SNR=22									
SONM					PKPab	PKPab	23 27 29.9	-1.2		
	comp=Z,15nm,1.1s,baz=69,slow=3.2,SNR=14									
SONM					PP	PP	23 31 16.7	+2.4		
	comp=Z,4.0nm,1.3s,baz=97,slow=3.9,SNR=5.1									
SONM	**Songino Array**	**160.95**	**311**		PKP	PKPdf	23 26 45.5	-2.8		
SONM					PKPab	PKPab	23 27 29.9	-1.2		
SONM					PP	PP	23 31 16.7	+2.4		
SONM	**Songino Array**	**160.95**	**311**		PKIKP	PKPdf	23 26 45.5	-2.8		
SONM							23 27 29.9			
SONM							23 31 16.7			
BRVK	**Borovoye**	**161.16**	**28**	*e*	PKPdf	PKPdf	23 26 47.8	-0.6		
BRVK				*e*	PKPab	PKPab	23 27 32.5	+0.6		
BRVK					LR	LR				
	comp=Z,1μm,22.0s									
BRVK	**Borovoye**	**161.16**	**28**	*e*	PKIKP	PKPdf	23 26 47.8	-0.6		
BRVK					MLR	MLR				
	comp=Z,1μm,22.0s									
BRVK	**Borovoye**	**161.16**	**28**		P	PKPdf	23 26 48.3	-0.1		
	SNR=12									
BVAR	**Borovoye Array**	**161.23**	**28**		PKP	PKPdf	23 26 47.3	-1.1		
	comp=Z,10nm,1.1s,baz=333,slow=1.6,SNR=5.9									
BVAR					PKPab	PKPab	23 27 31.7	-0.5		
	comp=Z,3.2nm,0.6s,baz=326,slow=3.0,SNR=10									
BVAR	**Borovoye Array**	**161.23**	**28**		PKP	PKPdf	23 26 47.3	-1.1		
BVAR					PKPab	PKPab	23 27 31.7	-0.5		
BVAR	**Borovoye Array**	**161.23**	**28**		PKIKP	PKPdf	23 26 47.3	-1.1		
BVAR							23 27 31.7			
ZAK	**Zakamensk**	**161.34**	**321**	*e*	PKIKP	PKPdf	23 26 46.0	-2.6		
ZAK				*e*			23 27 31.8			
ZAK					pmax	pmax				
	comp=Z,3.0nm,1.4s									
NVS	**Novosibirsk**	**162.32**	**3**	*e*	PKIKP	PKPdf	23 26 45.6	-3.9		
NVS					pmax	pmax				
	comp=Z,17nm,1.6s									
NVS					pmax	pmax				
	comp=N,6.0nm,1.8s									
NVS					pmax	pmax				
	comp=E,5.0nm,1.8s									
CD2	**Chengdu**	**163.13**	**254**		PKP	PKPdf	23 26 52.3	+1.2		
CD2					PKPab	PKPab	23 27 38.3	-2.9		
CD2					PKS		23 30 24.3			
CD2					PP	PP	23 31 31.4	+4.9		
CD2					SKS	SKSdf	23 33 55.4	-0.4		
CD2					SKKS	SKKSac	23 38 19.0	+4.5		
CD2					SS	SS	23 51 56.3	+4.2		
CD2					AMB	AMB				
	comp=Z,390nm,11.3s									
CD2					LR	LR				
	comp=E,740nm,19.0s									
CD2					LR	LR				
	comp=Z,860nm,23.8s									
ZAA0	**Zalesovo Array**	**163.25**	**0**	*e*	PKPdf	PKPdf	23 26 47.5	-2.9		
ZAA0				*e*	PKPab	PKPab	23 27 39.9	-0.9		
ZALV	**Zalesovo Beam**	**163.25**	**0**		PKP	PKPdf	23 26 47.3	-3.2		
	comp=Z,16nm,1.0s,baz=339,slow=2.1,SNR=54									
ZALV					PKPab	PKPab	23 27 38.7	-2.2		
	comp=Z,5.3nm,1.0s,baz=357,slow=2.9,SNR=3.9									
ZALV					PP	PP	23 31 27.1	+1.5		
	comp=Z,0.8nm,0.7s,baz=17,slow=5.4,SNR=3.6									
ZALV	**Zalesovo Beam**	**163.25**	**0**		PKP	PKPdf	23 26 47.2	-3.2		
ZALV					PKPab	PKPab	23 27 38.7	-2.2		
ZALV					PP	PP	23 31 27.1	+1.5		
ZALV	**Zalesovo Beam**	**163.25**	**0**		PKIKP	PKPdf	23 26 47.3	-3.1		
ZALV							23 27 38.7			
ZALV							23 31 27.1			
LZH	**Lanzhou**	**164.70**	**272**	*e*	PKP	PKPdf	23 26 51.1	-1.3		
LZH					pPKP	pPKPdf	23 26 59.3	+3.5		
LZH					SKKS	SKKSac	23 38 18.0	-4.3		
LZH					AMB	AMB				
	comp=Z,400nm,4.6s									
LZH					LR	LR				
	comp=Z,740nm,17.2s									
LZH					LR	LR				
	comp=Z,1μm,18.7s									
KURK	**Kurchatov**	**165.77**	**16**		PKP	PKPdf	23 26 50.8	-1.9		
	comp=Z,11nm,1.0s,baz=326,slow=1.1,SNR=18									
KURK					PKPab	PKPab	23 27 50.4	-1.7		
	comp=Z,4.8nm,1.0s,baz=334,slow=4.7,SNR=8.9									
KURK	**Kurchatov**	**165.77**	**16**		PKP	PKPdf	23 26 50.9	-1.9		
KURK				*e*	PKPdf	PKPdf	23 26 51.2	-1.6		
KURK				*e*	PKPab	PKPab	23 27 50.2	-1.9		
KURK					PKPab	PKPab	23 27 50.4	-1.7		
KURK					LR	LR				
	comp=Z,1μm,22.0s									
KURK	**Kurchatov**	**165.77**	**16**		PKIKP	PKPdf	23 26 50.9	-1.9		
KURK				*e*			23 26 51.2			
KURK				*e*			23 27 50.2			
KURK					MLR	MLR				
	comp=Z,1μm,22.0s									
KURK	**Kurchatov**	**165.77**	**16**		P	PKPdf	23 26 51.6	-1.2		
	SNR=9.1									
KBL	**Kabul**	**166.91**	**97**	*e*	PKPdf	PKPdf	23 26 53.8	-0.4		
KBL	**Kabul**	**166.91**	**97**	*e*	PKIKP	PKPdf	23 26 53.8	-0.4		
KKAR	**Karatay Array**	**167.55**	**57**	*e*	PKPdf	PKPdf	23 26 54.0	-0.5		
KKAR	**Karatay Array**	**167.55**	**57**	*e*	PKIKP	PKPdf	23 26 54.0	-0.4		
GTA	**Gaotai**	**168.03**	**285**		PKP	PKPdf	23 26 53.6	-1.3		
GTA					pPKP	pPKPdf	23 26 58.1	-0.2		
GTA					sPKP		23 27 00.8			
GTA					PKPab	PKPab	23 28 00.8	-1.9		
GTA					PP	PP	23 31 59.1	+7.1		
GTA					SKKS	SKKSac	23 38 40.3	+1.5		
GTA					AMB	AMB				
	comp=Z,550nm,7.6s									
GTA					LR	LR				
	comp=N,470nm,19.4s									
GTA					LR	LR				
	comp=E,520nm,19.4s									
GTA					LR	LR				
	comp=Z,580nm,20.4s									
ODAN	**Odare**	**169.47**	**193**	*e*	P	PKPdf	23 26 55.0	-1.2		
	comp=Z,67nm,1.2s									
RAMN	**Ramite**	**169.68**	**189**	*e*	P	PKPdf	23 26 55.1	-1.2		
TAPN	**Taplejung**	**169.89**	**195**	*e*	P	PKPdf	23 26 55.4	-1.0		
	comp=Z,60nm,1.3s									
EKS2	**Erkin-Say**	**169.90**	**54**		P	PKPdf	23 26 56.8	+0.9		
	SNR=31									
EKS2	**Erkin-Say**	**169.90**	**54**	*e*	PKPdf	PKPdf	23 26 55.8	-0.2		
EKS2				*e*	PKPab	PKPab	23 28 11.9	+1.2		
EKS2					LR	LR				
	comp=Z,1μm,21.0s									
EKS2	**Erkin-Say**	**169.90**	**54**	*e*	PKIKP	PKPdf	23 26 55.8	-0.1		
EKS2					MLR	MLR				
	comp=Z,1μm,21.0s									
USP	**Ospenovka**	**170.04**	**49**		P	PKPdf	23 26 56.4	+0.4		
	SNR=7.2									
AML	**Almayashu**	**170.09**	**57**		P	PKPdf	23 26 56.0	0.0		
	SNR=16									
MK31	**Makanchi Array**	**170.22**	**10**	*e*	PKPdf	PKPdf	23 26 53.8	-2.2		
MK31				*e*	PKPab	PKPab	23 28 11.1	-0.8		
MK31	**Makanchi Array**	**170.22**	**10**	*e*	PKIKP	PKPdf	23 26 53.8	-2.2		
MK31				*e*			23 28 11.1			
MKAR	**Makanchi Array**	**170.22**	**10**		PKP	PKPdf	23 26 53.9	-2.1		
	comp=Z,10nm,1.0s,baz=3.0,slow=1.3,SNR=28									
MKAR					PKPab	PKPab	23 28 11.7	-0.2		
	comp=Z,2.3nm,0.8s,baz=12,slow=3.0,SNR=7.1									
MKAR					PP	PP	23 32 00.1	-1.4		
	comp=Z,0.8nm,0.8s,baz=327,slow=8.7,SNR=3.6									
MKAR	**Makanchi Array**	**170.22**	**10**		PKP	PKPdf	23 26 53.9	-2.1		
MKAR					PKPab	PKPab	23 28 11.7	-0.2		
MKAR					PP	PP	23 32 00.1	-1.4		
MKAR	**Makanchi Array**	**170.22**	**10**		PKIKP	PKPdf	23 26 53.9	-2.1		
MKAR							23 32 00.2			
FRU	**Bishkek**	**170.35**	**51**	*e*	PKIKP	PKPdf	23 26 55.0	-1.2		
FRU					pmax	pmax				
	comp=Z,67nm,2.0s									
AAK	**Ala-Archa**	**170.37**	**52**		P	PKPdf	23 26 56.4	+0.2		
	SNR=14									
AAK	**Ala-Archa**	**170.37**	**52**	*e*	PKPdf	PKPdf	23 26 55.9	-0.3		
AAK				*e*	PKPab	PKPab	23 28 13.9	+1.1		
AAK					LR	LR				
	comp=Z,1μm,20.0s									
AAK	**Ala-Archa**	**170.37**	**52**	*e*	PKIKP	PKPdf	23 26 55.9	-0.3		
AAK					MLR	MLR				
	comp=Z,1μm,20.0s									
AAK	**Ala-Archa**	**170.37**	**52**		P	PKPdf	23 26 56.8	+0.6		
	SNR=9.5									
PKI	**Pulchoki**	**170.39**	**183**	*e*	P	PKPdf	23 26 55.2	-1.5		
	comp=Z,87nm,1.4s									
JIRN	**Jiri**	**170.43**	**187**	*e*	P	PKPdf	23 26 55.2	-1.5		
	comp=Z,41nm,1.2s									
DMN	**Daman**	**170.44**	**181**	*e*	P	PKPdf	23 26 55.5	-1.2		
KOLN	**Koldanda**	**170.54**	**173**	*e*	P	PKPdf	23 26 55.1	-1.7		
	comp=Z,35nm,1.2s									
KKN	**Kakani**	**170.62**	**182**	*e*	P	PKPdf	23 26 55.2	-1.6		
KBK	**Karagaybulak**	**170.65**	**51**		P	PKPdf	23 26 56.5	+0.1		
	SNR=10									
GUN	**Gumba**	**170.70**	**186**	*e*	P	PKPdf	23 26 55.3	-1.6		
	comp=Z,88nm,1.3s									
PYUN	**Piuthan**	**170.80**	**170**	*e*	P	PKPdf	23 26 55.5	-1.4		
	comp=Z,54nm,1.1s									
GKN	**Gorkha**	**170.83**	**179**	*e*	P	PKPdf	23 26 55.0	-1.9		
	comp=Z,89nm,1.2s									
LSA	**Lhasa**	**170.86**	**217**	*e*	PKPdf	PKPdf	23 26 56.2	-0.7		
LSA					LR	LR				
	comp=Z,696nm,20.0s									
LSA	**Lhasa**	**170.86**	**217**	*e*	PKIKP	PKPdf	23 26 56.2	-0.7		
LSA					MLR	MLR				
	comp=Z,696nm,20.0s									
TKM2	**Tokmak 2**	**170.90**	**48**		P	PKPdf	23 26 55.9	-0.6		
	SNR=18									
TKM2	**Tokmak 2**	**170.90**	**48**	*e*	PKPdf	PKPdf	23 26 55.7	-0.8		
TKM2				*e*	PKPab	PKPab	23 28 14.5	-0.7		
TKM2					LR	LR				
	comp=Z,811nm,20.0s									
TKM2	**Tokmak 2**	**170.90**	**48**	*e*	PKIKP	PKPdf	23 26 55.7	-0.8		
TKM2				*e*			23 28 14.5			
TKM2					MLR	MLR				
	comp=Z,811nm,20.0s									
DDI	**Dehra Dun**	**171.12**	**139**	*ex*		PKPdf	23 26 56.0	-1.0		
DDI				*ex*		x	23 28 15.0			
DANN	**Dangsing**	**171.13**	**174**	*e*	P	PKPdf	23 26 55.7	-1.4		
	comp=Z,103nm,1.2s									
KSH	**Kashi**	**172.65**	**69**		PKP	PKPdf	23 26 57.5	+0.1		
KSH					PKS		23 30 28.6			
KSH					SKS	SKSdf	23 33 59.8	-0.8		
KSH					SKKS	SKKSac	23 38 53.9	-7.4		
KSH					AMB	AMB				
	comp=Z,370nm,5.1s									
KSH					LR	LR				
	comp=N,160nm,6.4s									
KSH					LR	LR				
	comp=E,190nm,8.2s									
KSH					LR	LR				
	comp=Z,170nm,8.7s									
WMQ	**Urumqi**	**173.03**	**343**		PKP	PKPdf	23 26 56.9	-0.5		
WMQ					pPKP	pPKPdf	23 27 02.5	+1.6		
WMQ					sPKP		23 27 04.1			
WMQ					PP	PP	23 32 18.9	+3.3		
WMQ					LR	LR				
	comp=N,280nm,24.1s									
WMQ					LR	LR				
	comp=E,320nm,33.0s									
WMQ					LR	LR				
	comp=Z,250nm,32.1s									

ISCJB ***22*** *23:21:04.8±2.0, 5°.92S±0°.09×154°.84E±0°.10, h218km±19km, mb4.1/15, Error ellipse: s-maj=15.6km s-min=14.4km az=7.1*

IDC ***22*** *23:21:06.6±2.2, 5°.93S×154°.73E, h218km±20km, mb3.8/15, mb1 3.9/16, mb1mx3.8/23, mbtmp3.8/16, MS4.3/1, Ms1 4.2/1, ms1mx3.2/25, Error ellipse: s-maj=15.0km s-min=11.0km az=105.0*

ISC 22 23:21:06.4±1.8, 5°.94S±0°.09×154°.80E±0°.09, h218km±16km, n18, σ0ᵗ72/19, mb4.0/15, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.32**	**245**	P	**Pn**	**23 23 03.2**	**-0.6**
	baz=60,slow=8.1,SNR=1.9						
PMG				S	**S**	**23 24 38.9**	**+1.0**
	0.8nm,0.3s,baz=33,slow=12,SNR=7.8						
DZM	**Mont Dzumac**	**19.60**	**146**	*e*P	**P**	**23 25 17.9**	**-0.5**
WRA	**Warramunga Arr**	**24.27**	**233**	P	**P**	**23 26 03.3**	**-0.6**
	3.0nm,0.3s,mb4.4,baz=57,slow=9.9,SNR=14						
WRA				PcP	PcP	23 29 38.4	+0.4
	0.4nm,0.6s,baz=67,slow=2.2,SNR=2.5						
ASAR	**Alice Springs**	**26.74**	**227**	P	**P**	**23 26 24.9**	**-1.1**
	0.9nm,0.4s,mb3.8,baz=57,slow=9.0,SNR=12						
ASAR				PcP	PcP	23 29 44.1	+0.6
	0.6nm,0.6s,baz=59,slow=2.9,SNR=5.6						
ASAR				S	**S**	**23 30 46.5**	**+1.0**
	0.3nm,0.5s,baz=58,slow=15,SNR=3.7						
STKA	**Stephens Creek**	**28.61**	**204**	P	**P**	**23 26 42.0**	**-0.6**
	1.2nm,0.7s,mb3.6,baz=8.1,slow=7.1,SNR=2.2						
STKA				LR		23 38 08.4	
	comp=Z,499nm,18.1s,baz=33,slow=36						
URZ	**Urewera**	**38.02**	**151**	P	**P**	**23 28 04.4**	**+0.7**
	10nm,0.9s,mb4.4,baz=302,slow=6.6,SNR=6.1						
RPZ	**Rata Peaks**	**40.26**	**162**	P	**P**	**23 28 22.8**	**+0.7**
	14nm,0.6s,mb4.6,baz=8.1,slow=7.5,SNR=11						
PETK	**Petropavlovsk-**	**58.87**	**2**	P	**P**	**23 30 42.6**	**+0.5**
	3.1nm,0.6s,mb4.1,baz=176,slow=9.5,SNR=5.0						
CMAR	**Chiang Mai Arr**	**60.16**	**295**	P	**P**	**23 30 52.3**	**+0.7**
	3.4nm,0.9s,mb4.0,baz=116,slow=4.7,SNR=14						
FX1	**Attu Island--F**	**60.63**	**13**	P	**P**	**23 30 54.4**	**+0.3**
	16nm,0.8s,mb4.7,baz=258,slow=9.3,SNR=4.7						
SONM	**Songino Array**	**68.34**	**327**	P	**P**	**23 31 44.8**	**+0.7**
	1.2nm,0.4s,mb3.9,baz=130,slow=5.2,SNR=18						
ILAR	**Eielson Array**	**82.47**	**22**	P	**P**	**23 33 04.2**	**+0.1**
	0.3nm,0.3s,mb3.3,baz=242,slow=4.8,SNR=11						
MKAR	**Makanchi Array**	**82.48**	**319**	P	**P**	**23 33 04.8**	**+0.3**
	3.2nm,0.6s,mb4.1,baz=102,slow=5.3,SNR=18						
ZALV	**Zalesovo Beam**	**83.20**	**326**	P	**P**	**23 33 06.9**	**-1.1**
	3.0nm,0.7s,mb4.1,baz=112,slow=5.2,SNR=12						
KURK	**Kurchatov**	**85.88**	**322**	P	**P**	**23 33 21.0**	**-0.6**
	1.2nm,0.6s,mb3.8,baz=101,slow=4.5,SNR=16						
NVAR	**Mina Array Bea**	**91.22**	**52**	P	**P**	**23 33 47.7**	**+0.6**
	0.4nm,0.3s,mb3.8,baz=247,slow=3.5,SNR=6.8						
BVAR	**Borovoye Array**	**91.34**	**323**	P	**P**	**23 33 46.3**	**-1.0**
	2.1nm,0.7s,mb4.2,baz=101,slow=5.7,SNR=11						
TORD	**Torodi Ar. Bea**	**152.54**	**287**	PKPbc	PKPbc	23 40 37.2	-0.7
	0.5nm,0.3s,baz=86,slow=1.7,SNR=15						

WEL 22 23:41:09.0±0.1, 41°.01S×174°.88E, h31km, ML3.6/25, 1C, Error ellipse: s-maj=0.8km s-min=0.6km az=90.0, intensity MM 5., Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIW	**Kapiti Island**	**0.15**	**7**	P*	Pb	23 41 14.9	0.0
CAW	**Cannon Point**	**0.17**	**125**	P*	Pb	23 41 15.1	0.0
OGWZ	**Otaki Gorge**	**0.29**	**49**	P*	Pb	23 41 16.3	-0.1
WEL	**Wellington**	**0.29**	**198**	P*	Pb	23 41 16.2	-0.2
SNZO	**South Karori**	**0.33**	**204**	P*	Pb	23 41 16.6	-0.3
BHW	**Baring Head**	**0.40

76nm,0.6s
QLP Quilpie 35.75 249 *e*P **P 23 49 08.2 -0.3**
COEN Coen 37.27 270 *e*P **P 23 49 21.5 +0.3**
31nm,0.6s,mb5.0
TOO Toolangi 37.40 231 *e*P **P 23 49 22.9 +1.0**
146nm,0.8s
STKA Stephens Creek 38.86 241 P **P 23 49 34.1 +0.3**
18nm,0.7s,mb4.7,baz=95,slow=9.7,SNR=21
STKA Stephens Creek 38.86 241 *e*P **P 23 49 34.4 +0.6**
9.9nm,0.6s,mb4.5
STKA Stephens Creek 38.86 241 *e*P **P 23 49 34.4 +0.6**
WB2 Warramunga Arr 44.82 259 *e*P **P 23 50 20.0 -0.7**
WRAB Tennant Creek 44.82 259 *e*P **P 23 50 20.0 -0.8**
6.1nm,0.7s,mb4.2
WRA Warramunga Arr 44.83 259 P **P 23 50 19.9 -0.9**
6.2nm,0.5s,mb4.4,baz=93,slow=7.0,SNR=49
WRA PcP PcP 23 51 50.5 +0.4
3.5nm,0.8s,baz=90,slow=3.6,SNR=8.1
WRA S **S 23 56 13.3 -3.7**
0.3nm,0.5s,baz=92,slow=13,SNR=3.5
WRA Warramunga Arr 44.83 259 P **P 23 50 19.9 -0.9**
WRA PcP PcP 23 51 50.5 +0.4
WRA S **S 23 56 13.3 -3.7**
AS31 Alice Springs 45.00 254 *e*P **P 23 50 21.8 -0.2**
AS31 *e*PcP PcP 23 51 50.8 +0.2
ASAR Alice Springs 45.00 254 P **P 23 50 22.2 +0.1**
63nm,0.6s,baz=88,slow=8.3,SNR=868
ASAR PcP PcP 23 51 51.1 +0.5
4.2nm,0.7s,baz=102,slow=3.7,SNR=9.0
ASAR S **S 23 56 16.5 -2.8**
1.8nm,1.0s,baz=88,slow=16,SNR=8.7
ASAR Alice Springs 45.00 254 P **P 23 50 22.2 +0.1**
ASAR PcP PcP 23 51 51.1 +0.5
ASAR S **S 23 56 16.5 -2.8**
KAKA Kakadu 47.76 269 *e*P **P 23 50 42.5 -0.5**
14nm,0.4s,mb4.8
MBWA Marble Bar 58.28 256 *e*P **P 23 51 57.2 -0.4**
MBWA Marble Bar 58.28 256 *e*P **P 23 51 57.5 -0.1**
10nm,0.7s,mb4.1
MEEK Meekatharra 58.65 249 *e*P **P 23 51 59.5 -0.5**
79nm,1.1s,mb4.8
KLBR Kellerberrin 59.05 243 *e*P **P 23 52 02.3 -0.3**
22nm,0.8s,mb4.3
NWAO Narrogin (SRO) 59.44 242 *e*P **P 23 52 05.4 +0.3**
11nm,0.8s,mb4.0
VNDA Vanda 60.62 185 P **P 23 52 14.3 +2.1**
1.8nm,0.8s,mb3.4,baz=15,slow=8.6,SNR=11
VNDA Vanda 60.62 185 P **P 23 52 14.3 +2.1**
MJAR Matsushiro Arr 67.88 323 P **P 23 52 58.1 -0.6**
1.5nm,0.5s,mb3.6,baz=143,slow=6.1,SNR=6.1
MJAR Matsushiro Arr 67.88 323 P **P 23 52 58.0 -0.6**
QSPA South Pole Qui 72.31 180 P **P 23 53 26.6 +2.4**
12nm,0.8s,mb4.5,baz=31,slow=3.0,SNR=46
QSPA South Pole Qui 72.31 180 *e*P **P 23 53 26.1 +1.9**
20nm,1.2s,mb4.5
KSM Kuching 72.83 277 *e*P **P 23 53 28.9 +0.4**
24nm,1.0s,mb4.7
PETK Petropavlovsk- 73.57 345 P **P 23 53 31.5 -0.1**
3.6nm,0.7s,mb4.0,baz=148,slow=8.4,SNR=6.5
PETK Petropavlovsk- 73.57 345 P **P 23 53 31.5 -0.1**
KSRS Korea Array 74.69 318 P **P 23 53 37.6 -0.8**
1.1nm,0.7s,mb3.5,baz=134,slow=3.5,SNR=3.4
KSAR Wonju Array Be 74.71 318 P **P 23 53 37.6 -0.9**
NVAR Mina Array Bea 79.19 44 P **P 23 54 04.6 +1.8**
1.5nm,0.6s,mb3.5,baz=224,slow=7.5,SNR=12
NVAR Mina Array Bea 79.19 44 P **P 23 54 04.6 +1.8**
MAW Mawson 84.07 200 P **P 23 54 28.8 +1.6**
2.3nm,0.3s,mb4.1,baz=124,slow=9.4,SNR=7.4
MAW Mawson 84.07 200 P **P 23 54 28.8 +1.6**
ILAR Eielson Array 85.69 13 P **P 23 54 34.6 -0.2**
1.2nm,0.4s,mb3.9,baz=224,slow=5.3,SNR=44
ILAR Eielson Array 85.69 13 P **P 23 54 34.6 -0.2**
TXAR Lajitas Array 85.77 58 P **P 23 54 39.1 +3.0**
2.0nm,0.8s,mb3.8,baz=210,slow=7.1,SNR=15
TXAR Lajitas Array 85.77 58 P **P 23 54 39.1 +3.0**
PDAR Pinedale Array 87.12 43 P **P 23 54 43.9 +1.7**
1.0nm,0.5s,mb3.8,baz=223,slow=3.7,SNR=5.4
PDAR Pinedale Array 87.12 43 P **P 23 54 43.9 +1.7**
CMAR Chiang Mai Arr 88.99 290 P **P 23 54 53.0 +1.5**
1.9nm,0.6s,mb4.1,baz=113,slow=2.7,SNR=13
CMAR Chiang Mai Arr 88.99 290 P **P 23 54 53.0 +1.5**
SYO Syowa Base 89.30 193|| *e*P **P 23 54 51.4 -0.8**
SNAA Sanae 90.75 179 *e*P **P 23 54 55.2 -3.4**
SNAA Sanae 90.75 179 P **P 23 54 59.5 +0.9**
1.2nm,0.6s,mb4.0,baz=162,slow=3.4,SNR=45
SNAA Sanae 90.75 179 *e*P **P 23 54 55.0 -3.6**
6.5nm,1.1s,mb4.5
VNA3 Neumayer Olymp 90.89 176 *e* **P 23 54 57.4 -1.8**
VNA3 *e* 23 54 58.1
VNA2 Neumayer--Watz 91.33 177 *e* **P 23 54 59.8 -1.5**
VNA2 *e* 23 55 00.7
VNA1 Neumayer--Stat 91.56 177 *e* **P 23 55 02.0 -0.3**
SONM Songino Array 93.54 319 P **P 23 55 12.7 +1.0**
0.3nm,0.5s,mb3.7,baz=126,slow=5.6,SNR=3.8
SONM Songino Array 93.54 319 P **P 23 55 12.7 +1.0**
ZALV Zalesovo Beam 108.21 322 PKiKP PKiKP 00 00 19.3 -0.4
0.2nm,0.3s,baz=13,slow=2.0,SNR=3.5
ZALV Zalesovo Beam 108.21 322 PKiKP PKiKP 00 00 19.3 -0.4
MKAR Makanchi Array 109.14 314 PKiKP PKiKP 00 00 21.4 -0.3
0.7nm,0.5s,baz=196,slow=0.6,SNR=12
MKAR Makanchi Array 109.14 314 PKiKP PKiKP 00 00 21.4 -0.3
ARCES ARCESS Array B 126.19 350 PKP PKPdf 00 00 53.8 +0.1
4.1nm,0.8s,baz=29,slow=2.1,SNR=12
ARCES ARCESS Array B 126.19 350 PKP PKPdf 00 00 53.8 +0.1
FINES FINESS Array B 133.08 344 PKP PKPdf 00 01 05.9 -1.1
2.0nm,0.8s,baz=344,slow=2.0,SNR=5.2
FINES FINESS Array B 133.08 344 PKP PKPdf 00 01 05.9 -1.1
NOA NORSAR Array B 136.24 353 PKP PKPdf 00 01 14.8 +2.0
1.4nm,0.9s,baz=28,slow=2.0,SNR=3.3
NOA NORSAR Array B 136.24 353 PKP PKPdf 00 01 14.8 +2.0
AKASG Malin Array Be 140.50 333 PKhKP PKPpre 00 01 14.9
0.3nm,0.3s,baz=42,slow=3.9,SNR=4.1
AKASG Malin Array Be 140.50 333 PKPpre PKPpre 00 01 14.9
MALT Malatya 142.04 310|| *i*P PKPdf 00 01 32.1 +8.0
EKA Eskdalemuir Ar 142.29 5 PKhKP PKPpre 00 01 21.1
2.2nm,1.0s,baz=310,slow=4.5,SNR=3.9
EKA Eskdalemuir Ar 142.29 5 PKPpre PKPpre 00 01 21.1
KWP Kalwaria Pacla 143.99 337⇑ *i*P PKPdf 00 01 27.8 +0.6
BURAR Bucovina Array 144.55 332|| *i*P PKPdf 00 01 30.3 +2.1
BRTR Keskin Array B 144.79 315 PKP PKPdf 00 01 30.3 +1.4
5.1nm,0.8s,baz=126,slow=3.7,SNR=17
BRTR Keskin Array B 144.79 315 PKP PKPdf 00 01 30.3 +1.4
CRVS Cervenica-Dubn 145.06 337 *e*PKP PKPdf 00 01 30.4 +1.4
TRPA Tarpa 145.27 335⇑ *i*P PKPdf 00 01 31.7 +2.3
CLL Collm 145.34 348|| *i*PKPbc PKPbc 00 01 31.3 +0.6
comp=Z,12nm,0.7s
BRG Berggiesshubel 145.55 346 *e*P PKPbc 00 01 33.0 +1.6
comp=Z,11nm,1.1s
BRG
comp=N,598nm,18.5s
BRG
comp=E,417nm,17.7s
BRG
comp=Z,1μm,17.5s
KECS Kecovo 145.76 338 *e*PKP PKPbc 00 01 33.0 +1.0
DRGR 146.27 334⇑ *i*P PKPbc 00 01 34.5 +1.0
VRAC Vranov 146.31 342 PKPbc PKPbc 00 01 34.4 +0.9
comp=Z,2.7nm,1.0s,baz=153,slow=2.3,SNR=4.9
VRAC Vranov 146.31 342 PKPbc PKPbc 00 01 34.4 +0.9
KOLL Kolacno 146.40 340 *e*PKP PKPbc 00 01 35.3 +1.5
PSZ Piszkesteto 146.45 338|| *i*P PKPbc 00 01 34.9 +1.0
KHC Kasperske Hory 147.26 346⇑ *e*PKP PKPbc 00 01 37.0 +1.0
GZR Gura Zlata 147.34 332⇑ *i*P PKPbc 00 01 37.0 +0.6
GERES GERESS Array B 147.50 345 PKPbc PKPbc 00 01 37.5 +0.9
comp=Z,3.9nm,0.5s,baz=20,slow=3.1,SNR=35
GERES GERESS Array B 147.50 345 PKPbc PKPbc 00 01 37.5 +0.9
GIVF Givet 147.63 356 *e*PKP1 PKPbc 00 01 37.6 +0.7
comp=Z,21nm,0.7s
BZS Buzias 147.66 334|| *i*P PKPbc 00 01 38.0 +0.8
BAIF Baives 147.71 357 *e*PKP1 PKPbc 00 01 38.0 +0.9
comp=Z,13nm,0.7s
FLN La Foliniere 149.01 3 *e*PKP1 PKPbc 00 01 40.9 +0.5
comp=Z,27nm,0.8s
CDF Champ du Feu 149.09 353 *e*PKP1 PKPbc 00 01 41.3 +0.7
comp=Z,19nm,0.8s
PAGF Fort de Pagny 149.10 355 *e*PKP1 PKPbc 00 01 41.7 +1.1
comp=Z,2.9nm,0.5s
LDF La Druitiere 149.19 2 *e*PKP1 PKPbc 00 01 41.1 +0.2
comp=Z,4.5nm,0.4s
MEZF Maizieres J'vi 149.21 356 *e*PKP1 PKPbc 00 01 41.8 +0.9
comp=Z,15nm,0.8s
GRR Gorron 149.36 3 *e*PKP1 PKPbc 00 01 41.9 +0.6
comp=Z,4.3nm,0.4s
SFTF Sexfontaines 149.50 356 *e*PKP1 PKPbc 00 01 42.5 +0.9
comp=Z,42nm,0.9s
HAU Haudompre 149.59 354 *e*PKP1 PKPbc 00 01 42.4 +0.6
comp=Z,9.9nm,0.6s
HINF Hinteralfeld 149.72 353 *e*PKP1 PKPbc 00 01 42.5 +0.4
comp=Z,6.3nm,0.6s
CRES Cresnjev 149.77 341 *i* PKP PKPbc 00 01 43.1 +0.8
DAVOX Davos/Dischmat 150.28 349 PKPbc PKPbc 00 01 44.7 +1.2
comp=Z,16nm,0.7s,baz=270,slow=2.0,SNR=30
DAVOX Davos/Dischmat 150.28 349 PKPbc PKPbc 00 01 44.7 +1.2
LOR Lormes 150.51 357 *e*PKP1 PKPbc 00 01 44.7 +0.7
comp=Z,12nm,0.5s
SSF Saint Saulge 150.73 358 *e*PKP1 PKPbc 00 01 45.2 +0.7
comp=Z,10nm,0.6s
CABF La Chapelle 151.00 354 *e*PKP1 PKPbc 00 01 46.4 +1.3
comp=Z,5.0nm,0.6s
AVF Avril sur Loir 151.01 358 *e*PKP1 PKPbc 00 01 45.5 +0.4
MFF Saint Martin d 151.18 3 *e*PKP1 PKPbc 00 01 46.0 +0.5
comp=Z,3.1nm,0.4s
BGF Bois d'Agland 151.25 358 *e*PKP1 PKPbc 00 01 46.3 +0.6
comp=Z,11nm,0.7s
TCF Toulx Ste Croi 151.54 359 *e*PKP1 PKPbc 00 01 46.8 +0.4
comp=Z,4.6nm,0.6s
LPL La Plagne 152.00 353 *e*PKP1 PKPbc 00 01 48.9 +1.5
LPG La Plagne 152.02 353 *e*PKP1 PKPbc 00 01 48.9 +1.4
RJF Les Rejaudoux 152.52 0 *e*PKP1 PKPbc 00 01 49.5 +0.9
comp=Z,18nm,1.0s
ORIF Oris-en-Rattie 152.69 354 *e*PKP1 PKPbc 00 01 49.8 +0.9
MBDF Montbardon 152.78 352 *e*PKP1 PKPbc 00 01 49.9 +0.8
comp=Z,14nm,0.8s
CAF Calviac 152.90 360 *e*PKP1 PKPbc 00 01 50.2 +0.8
ESDC Sonseca Array 157.59 12 PKPab PKPab 00 02 23.9 +0.1
comp=Z,0.7nm,0.7s,baz=316,slow=3.5,SNR=3.8
ESDC Sonseca Array 157.59 12 PKPab PKPab 00 02 23.9 +0.1
TORD Torodi Ar. Bea 175.43 179 PKP PKPdf 00 02 01.8 -0.3
comp=Z,1.4nm,1.0s,baz=119,slow=0.1,SNR=6.7
TORD PKPab PKPab 00 03 43.8 +0.8
comp=Z,0.2nm,0.5s,baz=186,slow=3.2,SNR=5.9
TORD Torodi Ar. Bea 175.43 179 PKP PKPdf 00 02 01.8 -0.3
TORD PKPab PKPab 00 03 43.8 +0.8

IDC 22 23:43:12.0±1.3, 20°.26S×124°.05W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.9/19, mbtmp3.8/5, Error ellipse: s-maj=56.7km s-min=30.0km az=77.0, South Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**10.55**	**252**	*e*Pn		Pn		23 45 45.1	+0.6
	2.1nm,0.2s								
RKT				*e*Sn		Sn		23 47 37.4	-6.1
	1.7nm,0.3s								
RKT				*e*T				23 56 17.9	
	9.3nm,0.2s								
LPAZ	**La Paz**	**53.04**	**95**	P		P		23 52 32.1	+0.9
	1.8nm,0.9s,baz=264,slow=6.9,SNR=4.9								
NVAR	**Mina Array Bea**	**58.62**	**5**	P		P		23 53 12.1	+1.3
	0.5nm,0.7s,baz=189,slow=8.8,SNR=4.4								
PDAR	**Pinedale Array**	**64.12**	**12**	P		P		23 53 48.4	+0.5
	0.4nm,0.9s,baz=155,slow=8.8,SNR=3.0								
ULM	**Lac du Bonnet**	**74.49**	**18**	P		P		23 54 51.4	-0.6
	3.1nm,1.1s,baz=174,slow=12,SNR=3.5								
SNAA	**Sanae**		**80.06 164**	P		P		23 55 23.7	+0.6
	1.1nm,0.9s,baz=241,slow=5.7,SNR=5.4								
MLR	**Muntele Rosu**	**144.74**	**38**	PKP		PKPdf		00 02 48.2	-2.6
	1.0nm,0.7s,baz=141,slow=12,SNR=4.2								
MKAR	**Makanchi Array**	**145.92**	**327**	PKPbc		PKPbc		00 02 52.9	-0.5
	0.9nm,0.7s,baz=52,slow=3.5,SNR=6.3								
BRTR	**Keskin Array B**	**152.75**	**40**	PKPbc		PKPbc		00 03 10.8	-0.2
	3.0nm,0.8s,baz=191,slow=1.3,SNR=8.1								

IDC 22 23:52:44.6±1.2, 37°.18S×95°.13W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.9/15, mbtmp3.7/5, Error ellipse: s-maj=51.1km s-min=29.4km az=89.0, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**31.66**	**56**	P		P		23 59 10.4	+0.8
	1.1nm,0.8s,baz=189,slow=8.4,SNR=4.1								
QSPA	**South Pole Qui**	**53.05**	**180**	P		P		00 02 03.2	+0.4
	0.9nm,0.6s,baz=249,slow=3.5,SNR=5.8								
TXAR	**Lajitas Array**	**66.64**	**352**	P		P		00 03 37.2	+0.4
	0.5nm,0.8s,baz=166,slow=11,SNR=6.4								
NVAR	**Mina Array Bea**	**78.21**	**342**	P		P		00 04 46.6	+0.9
	0.2nm,0.4s,baz=183,slow=6.3,SNR=4.9								
PDAR	**Pinedale Array**	**80.64**	**349**	P		P		00 04 58.5	-0.3
	0.5nm,0.6s,baz=161,slow=5.7,SNR=3.5								

GUC 22 23:56:24.8±0.7, 31°.28S×69°.02W, h140km, ML3.7, 2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.70**	**273**|| *i*P		Pn		23 56 56.5	+0.7
CMCH				*e*S		Sn		23 57 20.5	+1.0
CMCH				AML		AML		23 57 22.3	
	comp=N,3μm,0.6s								
TLL	**Tololo Astrono**	**1.89**	**305**	*e*P		Pn		23 56 59.4	+1.3
TLL				*e*S		Sn		23 57 25.3	+1.8
TLL				AML		AML		23 57 28.2	
	comp=N,278nm,0.3s								
OVCH	**Ovalle**	**1.99**	**289**	*e*P		Pn		23 56 59.4	+0.3
PEL	**Peldehue**	**2.34**	**217**	*e*P		Pn		23 57 04.5	+1.1
PEL				*i* S		Sn		23 57 33.8	+0.7
PEL				AML		AML		23 57 35.5	
	comp=N,312nm,0.3s								
LSCH	**La Serena**	**2.35**	**305**	*e*P		Pn		23 57 04.1	+0.5
LSCH				*i* S		Sn		23 57 33.2	-0.2
ROCH	**El Roble**	**2.39**	**224**	*e*P		Pn		23 57 04.8	+0.8
ROCH				*e*S		Sn		23 57 35.8	+1.5
ROCH				AML		AML		23 57 39.9	
	comp=N,164nm,0.4s								
CLCH	**Cerro Calan**	**2.47**	**211**	*e*P		Pn		23 57 05.7	+0.6
CLCH				*e*S		Sn		23 57 37.5	+1.4
CLCH				AML		AML		23 57 39.4	
	comp=E,241nm,0.2s								
PCH	**Pirque**	**2.66**	**208**	*e*P		Pn		23 57 09.4	+2.0
CHCH	**Chadas Angostu**	**2.99**	**207**	*e*P		Pn		23 57 12.3	+0.7
VACH	**Vallenar**	**3.08**	**330**|| *e*P		Pn		23 57 13.4	+0.5
VACH				*e*S		Sn		23 57 50.3	+0.3
CACH	**El Canelo**	**3.13**	**205**	*e*P		Pn		23 57 14.2	+0.8
LNV	**Longovilo**	**3.35**	**216**	*e*P		Pn		23 57 15.2	-1.1

MAN 23 00:14:51, 18°.26N×120°.59E, h34km, mb4.1, ML2.9, MS2.6, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.07**	**26**⇑ *i*P			Pb		00 14 58.5	+1.7
SIPP	**Brgy, Tapao**	**0.36**	**200**⇑ *i*P			Pb		00 15 06.5	+6.8
ABRA	**Dolores**	**0.62**	**169**	*e*P		Pn		00 15 08.0	+4.5
ABRA				*e*S		Sb		00 15 14.1	+1.9
APYP	**Conner**	**0.74**	**123**	*e*P		Pn		00 15 06.7	+1.7
APYP				*e*S		Sn		00 15 11.9	-3.2

IDC 23 00:16:46.8±1.0, 24°.57N×143°.66E, h46km±8km, mb3.5/10, mb1 3.7/12, mb1mx3.6/26, mbtmp3.5/12, ML3.4/2, Error ellipse: s-maj=29.2km s-min=12.6km az=67.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.85**	**332**	P		Pn		00 17 28.2	-1.5
	7.4nm,0.3s,baz=112,slow=5.4,SNR=4.8								
CBIJ				S		Sn		00 18 03.2	+0.4
	26nm,0.3s,baz=293,slow=22,SNR=7.7								
KSRS	**Korea Array**	**18.59**	**317**	P		Pn		00 21 01.1	+0.3
	0.1nm,0.3s,baz=126,slow=12,SNR=4.6								
SONM	**Songino Array**	**37.46**	**318**	P		P		00 23 55.9	+0.2
	0.3nm,0.6s,baz=125,slow=8.2,SNR=3.0								
CMAR	**Chiang Mai Arr**	**41.91**	**271**	P		P		00 24 32.5	-0.5
	0.6nm,0.4s,baz=64,slow=8.9,SNR=4.3								
WRA	**Warramunga Arr**	**45.16**	**192**	P		P		00 24 58.5	-0.6
	1.8nm,0.8s,baz=15,slow=9.1,SNR=5.3								
ASAR	**Alice Springs**	**48.87**	**192**	P		P		00 25 27.6	-0.4
	0.2nm,0.4s,baz=11,slow=9.3,SNR=4.2								
ZALV	**Zalesovo Beam**	**52.27**	**320**	P		P		00 25 53.1	-0.3
	0.5nm,0.6s,baz=99,slow=8.9,SNR=3.7								
MKAR	**Makanchi Array**	**53.12**	**311**	P		P		00 25 59.8	+0.1
	0.2nm,0.5s,baz=91,slow=10,SNR=6.3								
KURK	**Kurchatov**	**55.71**	**316**	P		P		00 26 18.8	+0.3
	1.9nm,0.7s,baz=92,slow=8.1,SNR=22								
ILAR	**Eielson Array**	**59.30**	**28**	P		P		00 26 43.2	-0.3
	0.5nm,1.0s,baz=251,slow=5.6,SNR=4.3								
ILAR				pP		pP		00 26 56.4	-0.2
	0.5nm,0.8s,baz=241,slow=5.1,SNR=3.4								
BVAR	**Borovoye Array**	**60.80**	**318**	P		P		00 26 54.6	+0.6
	1.9nm,0.5s,baz=90,slow=8.9,SNR=12								
BVAR				pP		pP		00 27 08.1	+0.9
	0.7nm,0.5s,baz=260,slow=41,SNR=3.2								
FINES	**FINESS Array B**	**80.79**	**334**	P		P		00 28 55.7	+0.5
	1.9nm,0.8s,baz=72,slow=4.5,SNR=5.1								
FINES				pP		pP		00 29 09.1	+0.3
	1.9nm,0.8s,baz=70,slow=6.3,SNR=1.5								

ISCJB ***23*** *00:32:36.6±0.6, 51°.98N±0°.09×179°.19E±0°.09, h105km±6km, mb3.6/16, Error ellipse: s-maj=15.9km s-min=8.7km az=12.7*
IDC ***23*** *00:32:38.2±2.2, 51°.98N×179°.15E, h104km±18km, mb3.5/15, mb1 3.7/17, mb1mx3.6/30, mbtmp3.5/17, Error ellipse: s-maj=20.2km s-min=11.5km az=172.0*
NEIC ***23*** *00:32:40.1, 51°.84N×179°.27E, h92km, MG3.5(AEIC), After AEIC.*

ISC 23 00:32:37.8±0.6, 51°.94N±0°.09×179°.20E±0°.09, h100km±6km, n44, σ0s70/42, mb3.6/16, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.57**	**174**	*e*Pg		Pn		**00 32 54.2**	**+0.1**
AMKA				*e*S		Sn		**00 33 06.0**	**-0.3**
SMY	**Shemya**	**3.23**	**286**	*e*P		Pn		**00 33 27.1**	**+0.6**
FX1	**Attu Island--F**	**3.81**	**287**	P		Pn		**00 33 34.5**	**+0.1**
	7.1nm,0.3s,baz=260,slow=2.5,SNR=20								
FX1				S		Sn		**00 34 17.9**	**-0.3**
	16nm,0.3s,baz=265,slow=22,SNR=10								
FX1	**Attu Island--F**	**3.81**	**287**	P		Pn		**00 33 34.7**	**+0.3**
FX1				S		Sn		**00 34 17.9**	**-0.3**
FX1				S		Sn		**00 34 18.5**	**+0.2**
KDAK	**Kodiak Island**	**17.18**	**59**	P		Pn		**00 36 30.3**	**-1.0**
	0.8nm,0.3s,baz=150,slow=9.1,SNR=20								
KDAK	**Kodiak Island**	**17.18**	**59**	P		Pn		**00 36 30.3**	**-1.0**
ILAR	**Eielson Array**	**21.61**	**40**	P		P		**00 37 19.2**	**+0.1**
	0.2nm,0.5s,mb2.7,baz=241,slow=7.8,SNR=6.1								
ILAR	**Eielson Array**	**21.61**	**40**	P		P		**00 37 19.2**	**+0.1**
INK	**Inuvik**	**27.72**	**36**	P		P		**00 38 16.9**	**+0.6**
	0.4nm,0.5s,mb3.2,baz=267,slow=4.5,SNR=3.3								
INK	**Inuvik**	**27.72**	**36**	P		P		**00 38 16.9**	**+0.6**
NVAR	**Mina Array Bea**	**44.71**	**82**	P		P		**00 40 42.2**	**+1.6**
	0.3nm,0.6s,mb3.2,baz=289,slow=5.6,SNR=5.7								
NVAR	**Mina Array Bea**	**44.71**	**82**	P		P		**00 40 42.2**	**+1.6**
SONM	**Songino Array**	**45.28**	**295**	P		P		**00 40 46.1**	**+1.1**
	0.6nm,0.5s,mb3.6,baz=61,slow=7.0,SNR=7.7								
SONM				PcP		PcP		00 42 23.3	+0.3
	0.6nm,0.6s,baz=76,slow=2.6,SNR=5.5								
SONM	**Songino Array**	**45.28**	**295**	P		P		**00 40 46.1**	**+1.1**
SONM				PcP		PcP		00 42 23.3	+0.3
PDAR	**Pinedale Array**	**47.32**	**72**	P		P		**00 41 01.0**	**-0.1**
	0.3nm,0.6s,mb3.2,baz=302,slow=2.0,SNR=3.0								
PDAR	**Pinedale Array**	**47.32**	**72**	P		P		**00 41 01.0**	**-0.1**
ZALV	**Zalesovo Beam**	**52.73**	**312**	P		P		**00 41 40.9**	**-0.9**
	0.4nm,0.4s,mb3.8,baz=42,slow=5.7,SNR=3.4								
ZALV	**Zalesovo Beam**	**52.73**	**312**	P		P		**00 41 40.9**	**-0.9**
ARCES	**ARCESS Array B**	**57.32**	**349**	P		P		**00 42 13.6**	**-0.9**
	2.3nm,0.9s,mb4.2,baz=33,slow=5.4,SNR=2.2								
ARCES	**ARCESS Array B**	**57.32**	**349**	P		P		**00 42 13.6**	**-0.9**
KURK	**Kurchatov**	**57.73**	**312**	P		P		**00 42 18.6**	**+1.0**
	1.3nm,0.4s,mb4.3,baz=43,slow=6.5,SNR=37								
KURK				pP		pP		00 42 43.3	+1.1
	0.2nm,0.5s,baz=43,slow=6.1,SNR=2.7								
KURK	**Kurchatov**	**57.73**	**312**	P		P		**00 42 18.6**	**+1.0**
KURK				pP		pP		00 42 43.3	+1.2
MKAR	**Makanchi Array**	**58.70**	**307**	P		P		**00 42 24.1**	**-0.4**
	0.6nm,0.4s,mb4.0,baz=51,slow=6.0,SNR=26								
MKAR	**Makanchi Array**	**58.70**	**307**	P		P		**00 42 24.1**	**-0.4**
BVAR	**Borovoye Array**	**59.65**	**319**	P		P		**00 42 31.0**	**0.0**
	0.5nm,0.3s,mb4.0,baz=43,slow=6.9,SNR=5.5								
BVAR	**Borovoye Array**	**59.65**	**319**	P		P		**00 42 31.0**	**+0.1**
TXAR	**Lajitas Array**	**59.79**	**80**	P		P		**00 42 32.7**	**+0.4**
	0.1nm,0.3s,mb3.3,baz=307,slow=5.7,SNR=4.0								
TXAR	**Lajitas Array**	**59.79**	**80**	P		P		**00 42 32.7**	**+0.4**
CMAR	**Chiang Mai Arr**	**69.72**	**274**	P		P		**00 43 37.2**	**+0.4**
	0.7nm,0.5s,mb3.8,baz=13,slow=7.2,SNR=5.8								
CMAR	**Chiang Mai Arr**	**69.72**	**274**	P		P		**00 43 37.2**	**+0.4**
AKASG	**Malin Array Be**	**74.62**	**341**	P		P		**00 44 04.4**	**-1.2**
	0.4nm,0.4s,mb3.5,baz=221,slow=6.3,SNR=2.9								
AKASG	**Malin Array Be**	**74.62**	**341**	P		P		**00 44 04.4**	**-1.2**
WRA	**Warramunga Arr**	**81.57**	**222**	P		P		**00 44 43.3**	**-0.9**
	0.6nm,0.5s,mb3.7,baz=33,slow=5.9,SNR=3.6								
WRA	**Warramunga Arr**	**81.57**	**222**	P		P		**00 44 43.3**	**-0.9**
ASAR	**Alice Springs**	**85.08**	**221**	P		P		**00 45 02.3**	**+0.2**
	0.3nm,0.4s,mb3.5,baz=23,slow=5.8,SNR=5.2								
ASAR	**Alice Springs**	**85.08**	**221**	P		P		**00 45 02.3**	**+0.2**
STKA	**Stephens Creek**	**89.74**	**211**	P		P		**00 45 24.0**	**-0.3**
	0.9nm,0.6s,mb4.1,baz=22,slow=5.4,SNR=3.5								
STKA	**Stephens Creek**	**89.74**	**211**	P		P		**00 45 24.0**	**-0.3**
TORD	**Torodi Ar. Bea**	**115.15**	**357**	PKP		PKiKP		00 51 05.5	-1.9
	0.7nm,1.2s,baz=354,slow=1.4,SNR=3.2								
TORD	**Torodi Ar. Bea**	**115.15**	**357**	PKP		PKiKP		00 51 05.5	-1.9
MAW	**Mawson**	**146.16**	**218**	PKPbc		PKPbc		00 52 04.5	-0.3
	1.3nm,0.6s,baz=166,slow=4.2,SNR=3.2								
MAW	**Mawson**	**146.16**	**218**	PKPbc		PKPbc		00 52 04.5	-0.3
BOSA	**Boshof**	**149.67**	**310**	PKPbc		PKPbc		00 52 14.8	-0.6
	2.0nm,0.7s,ba

BUJR				*i* Sg		**Sg**	**00 44 05.2**	**+0.6**
SNJR	**Sundja**	**0.97**	**263**	*e*PG		**Pg**	**00 43 55.9**	**-0.9**
SNJR				*e*S		**Sg**	**00 44 10.8**	**+1.4**
SNJR	**Sundja**	**0.97**	**263**	*e*Pg		**Pg**	**00 43 55.9**	**-0.9**
SNJR				*e*Sg		**Sg**	**00 44 10.8**	**+1.4**
MAK	**Makhachkala**	**1.04**	**103**	*e*PG		**Pg**	**00 43 58.0**	**-0.2**
MAK				*e*			00 44 13.5	
MAK				pmax	pmax			
	comp=Z,58nm,0.5s							
MAK	**Makhachkala**	**1.04**	**103**	*e*Pg		**Pg**	**00 43 58.0**	**-0.2**
	comp=Z,58nm,0.5s							
MAK				*e*Sg		**Sg**	**00 44 13.5**	**+1.7**
VLKR	**Vladikavkaz**	**1.07**	**262**	*e*PG		**Pg**	**00 43 58.5**	**-0.2**
VLKR				*e*S		**Sg**	**00 44 14.6**	**+1.9**
VLKR	**Vladikavkaz**	**1.07**	**262**	*e*Pg		**Pg**	**00 43 58.5**	**-0.2**
VLKR				*e*Sg		**Sg**	**00 44 14.6**	**+1.9**
TRKR	**Terskaya**	**1.14**	**298**	⇑*i*PG		**Pg**	**00 43 59.0**	**-1.1**
TRKR				*i* S		**Sg**	**00 44 15.8**	**+0.9**
TRKR	**Terskaya**	**1.14**	**298**	*i* Pg		**Pg**	**00 43 59.0**	**-1.1**
TRKR				*i* Sg		**Sg**	**00 44 15.8**	**+0.9**
BTKR	**Batakoyurt**	**1.17**	**279**	⇑*i*PG		**Pg**	**00 43 59.8**	**-0.8**
BTKR				*e*S		**Sg**	**00 44 17.4**	**+1.6**
BTKR	**Batakoyurt**	**1.17**	**279**	*i* Pg		**Pg**	**00 43 59.8**	**-0.8**
BTKR				*e*Sg		**Sg**	**00 44 17.4**	**+1.6**
KMKR	**Kumukh**	**1.29**	**146**	PG		**Pn**	**00 44 01.0**	**-1.0**
KMKR				*e*S		**Sg**	**00 44 19.5**	**-0.1**
KMKR				pmax	pmax			
	comp=Z,70nm,0.2s							
KMKR	**Kumukh**	**1.29**	**146**	Pg		**Pn**	**00 44 01.0**	**-1.0**
	comp=Z,70nm,0.2s							
KMKR				*e*Sg		**Sg**	**00 44 19.5**	**-0.1**
ARNR	**Ardon**	**1.35**	**270**	*e*PG		**Pn**	**00 44 02.6**	**-0.2**
ARNR				*e*S		**Sg**	**00 44 22.2**	**+0.6**
ARNR	**Ardon**	**1.35**	**270**	*e*Pg		**Pn**	**00 44 02.6**	**-0.2**
ARNR				*e*Sg		**Sg**	**00 44 22.2**	**+0.6**
KMSR	**Komsomolskaya**	**1.35**	**278**	⇑*i*PG		**Pn**	**00 44 02.9**	**+0.1**
KMSR				*e*S		**Sg**	**00 44 22.6**	**+1.1**
KMSR	**Komsomolskaya**	**1.35**	**278**	*i* Pg		**Pn**	**00 44 02.9**	**+0.1**
KMSR				*e*Sg		**Sg**	**00 44 22.6**	**+1.1**
LACR	**Lac**	**1.39**	**255**	*e*PG		**Pn**	**00 44 02.0**	**-1.4**
LACR				*i* S		**Sn**	**00 44 21.2**	**-0.4**
LACR	**Lac**	**1.39**	**255**	*e*Pg		**Pn**	**00 44 02.0**	**-1.4**
LACR				*i* Sg		**Sn**	**00 44 21.2**	**-0.4**
PRTR	**Priterechnaya**	**1.45**	**293**	⇑*i*PG		**Pn**	**00 44 03.9**	**-0.3**
PRTR				*e*S		**Sg**	**00 44 25.0**	**+0.2**
PRTR	**Priterechnaya**	**1.45**	**293**	*i* Pg		**Pn**	**00 44 03.9**	**-0.3**
PRTR				*e*Sg		**Sg**	**00 44 25.0**	**+0.2**
KORR	**Kora**	**1.51**	**266**	*e*PG		**Pn**	**00 44 04.8**	**-0.2**
KORR				*e*S		**Sg**	**00 44 26.0**	**-0.7**
KORR	**Kora**	**1.51**	**266**	*e*Pg		**Pn**	**00 44 04.8**	**-0.2**
KORR				*e*Sg		**Sg**	**00 44 26.0**	**-0.7**
URKR	**Urkarakh**	**1.52**	**132**	*e*PG		**Pn**	**00 44 05.5**	**+0.4**
URKR				*i* S		**Sg**	**00 44 27.5**	**+0.4**
URKR	**Urkarakh**	**1.52**	**132**	*e*Pg		**Pn**	**00 44 05.5**	**+0.4**
URKR				*i* Sg		**Sg**	**00 44 27.5**	**+0.4**
LSNR	**Lesken**	**1.69**	**273**	*e*PN		**Pn**	**00 44 07.7**	**+0.3**
LSNR				*e*S		**Sg**	**00 44 31.2**	**-1.2**
LSNR	**Lesken**	**1.69**	**273**	*e*Pn		**Pn**	**00 44 07.7**	**+0.3**
LSNR				*e*Sg		**Sg**	**00 44 31.2**	**-1.2**
ZEI	**Tsey**	**1.69**	**256**	*e*PN		**Pn**	**00 44 06.2**	**-1.2**
ZEI	**Tsey**	**1.69**	**256**	*e*Pn		**Pn**	**00 44 06.2**	**-1.2**
TBLG	**Delisi**	**1.79**	**215**	*e*PN		**Pn**	**00 44 10.5**	**+1.7**
TBLG				*e*S		**Sg**	**00 44 34.8**	**-0.9**
TBLG	**Delisi**	**1.79**	**215**	P		**Pn**	**00 44 10.5**	**+1.6**
TBLG				S		**Sg**	**00 44 34.8**	**-0.9**
TBLG	**Delisi**	**1.79**	**215**	P		**Pn**	**00 44 10.1**	**+1.2**
TBLG				S		**Sg**	**00 44 34.4**	**-1.2**
TBLG	**Delisi**	**1.79**	**215**	*e*Pn		**Pn**	**00 44 10.5**	**+1.7**
TBLG				*e*Sg		**Sg**	**00 44 34.8**	**-0.9**
MTA	**Mtatsminda**	**1.80**	**214**	P		**Pn**	**00 44 10.5**	**+1.5**
MTA				S		**Sg**	**00 44 35.3**	**-0.7**
MTA	**Mtatsminda**	**1.80**	**214**	P		**Pn**	**00 44 09.9**	**+1.0**
MTA				S		**Sg**	**00 44 35.3**	**-0.7**
DGRG	**David-gareji**	**1.83**	**198**	P		**Pn**	**00 44 10.7**	**+1.3**
DGRG				S		**Sg**	**00 44 37.7**	**+0.6**
DIGR	**Digorskoe uzhe**	**1.89**	**262**	*e*PN		**Pn**	**00 44 09.9**	**-0.3**
DIGR	**Digorskoe uzhe**	**1.89**	**262**	*e*Pn		**Pn**	**00 44 09.9**	**-0.3**
ONI	**Oni**	**2.05**	**254**	P		**Pn**	**00 44 12.9**	**+0.4**
ONI				S		**Sn**	**00 44 41.9**	**+3.9**
GNI	**Garni**	**3.22**	**199**	*e*PN		**Pn**	**00 44 23.8**	**-4.7**
GNI	**Garni**	**3.22**	**199**	*e*Pn		**Pn**	**00 44 23.8**	**-4.7**

*IDC **23** 01:22:35.3±7.3,36°.23N×70°.86E,h152km±66km, mb3.3/7, mb1 3.4/10,mb1mx3.1/28,mbtmp3.2/10,Error ellipse: s-maj=36.6km s-min=21.5km az=25.0*
*ISCJB **23** 01:22:40.5±0.4,36°.58N±0°.03×70°.90E±0°.06, h204km±6km, mb3.5/7,Error ellipse: s-maj=8.5km s-min=4.8km az=0.2*
*NEIC **23** 01:22:41.2±0.7,36°.49N×71°.01E,h204km±7km, mb3.6/3, Error ellipse: s-maj=11.4km s-min=8.0km az=122.0*
ISC 23 01:22:41.5±0.4,36°.58N±0°.03×70°.92E±0°.06,h197km±5km, n47,σ1°.09/54,mb3.5/7,2C,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
KBL	**Kabul**	**2.55**	**218**	*e*Pn		**Pn**	**01 23 26.5**	**+0.9**
KBL				*e*Sn		**Sn**	**01 23 59.9**	**-0.2**
CEP	**Cherat**	**2.87**	**163**	⇑P		**Pn**	**01 23 27.3**	**-2.1**
CEP				S		**Sn**	**01 24 02.0**	**-4.7**
CHCP	**Chirah Chowk**	**3.49**	**146**	P		**Pn**	**01 23 38.4**	**+1.6**
THW	**Thamme Wali**	**3.84**	**170**	⇑P		**Pn**	**01 23 41.8**	**+0.7**
SARP	**Sargodha**	**4.87**	**162**	P		**Pn**	**01 23 54.1**	**0.0**
SARP				S		**Sn**	**01 24 49.0**	**-2.2**
AML	**Almayashu**	**5.94**	**20**	P		**Pn**	**01 24 08.5**	**+0.7**
	SNR=33							
UCH	**Uchtor**	**6.29**	**25**	P		**Sn**	**01 25 22.6**	**-1.6**
	SNR=10							
EKS2	**Erkin-Say**	**6.46**	**19**	P		**Pn**	**01 24 15.4**	**+0.9**
	SNR=16							
EKS2	**Erkin-Say**	**6.46**	**19**	*e*Pn		**Pn**	**01 24 14.9**	**+0.4**
	4.8nm,0.4s							
EKS2				*e*Sn		**Sn**	**01 25 25.6**	**-2.7**
KKAR	**Karatay Array**	**6.52**	**357**	*e*Pn		**Pn**	**01 24 15.7**	**+0.3**
	3.1nm,0.3s							
KKAR				*e*Sn		**Sn**	**01 25 25.8**	**-4.0**
AAK	**Ala-Archa**	**6.64**	**23**	P		**Pn**	**01 24 17.7**	**+0.8**
	SNR=8.7							
AAK	**Ala-Archa**	**6.64**	**23**	*e*Pn		**Pn**	**01 24 17.7**	**+0.8**
	24nm,0.3s							
AAK				*e*Sn		**Sn**	**01 25 31.4**	**-1.2**
KBK	**Karagaybulak**	**6.82**	**26**	P		**Pn**	**01 24 20.1**	**+1.0**
	SNR=7.8							
ULHL	**Ulahol**	**7.00**	**34**	P		**Pn**	**01 24 22.3**	**+0.8**
	SNR=6.7							
TKM2	**Tokmak 2**	**7.28**	**28**	P		**Pn**	**01 24 25.9**	**+0.7**
	SNR=7.0							
TKM2	**Tokmak 2**	**7.28**	**28**	*e*Pn		**Pn**	**01 24 25.4**	**+0.2**
	12nm,0.6s							
PYUN	**Piuthan**	**13.24**	**126**	*e*P		**Pn**	**01 25 41.2**	**-0.9**
	5.8nm,0.4s							
MK31	**Makanchi Array**	**13.26**	**36**	*e*Pn		**Pn**	**01 25 42.4**	**+0.2**
MKAR	**Makanchi Array**	**13.26**	**36**	P		**Pn**	**01 25 42.1**	**0.0**
	0.1nm,0.3s,baz=218,slow=14,SNR=7.8							
MKAR	**Makanchi Array**	**13.26**	**36**	P		**Pn**	**01 25 42.1**	**0.0**
DANN	**Dangsing**	**13.58**	**124**	*e*P		**Pn**	**01 25 46.0**	**-0.3**
	8.0nm,0.5s							
DANN				*e*S		**Sn**	**01 28 01.4**	**-17**
GKN	**Gorkha**	**14.40**	**123**	*e*P		**Pn**	**01 25 57.6**	**+1.2**
	6.4nm,0.3s							
KKN	**Kakani**	**14.97**	**122**	*e*P		**Pn**	**01 26 03.9**	**+0.4**
	8.9nm,0.5s							
ABKAR	**Akbulak array**	**14.98**	**331**	*e*P		**Pn**	**01 26 04.6**	**+1.2**
	0.5nm,0.4s							
PKI	**Pulchoki**	**15.20**	**122**	*e*P		**Pn**	**01 26 08.2**	**+2.0**
GUN	**Gumba**	**15.31**	**120**	*e*P		**Pn**	**01 26 08.7**	**+1.1**
	5.4nm,0.3s							
JIRN	**Jiri**	**15.68**	**120**	*e*P		**Pn**	**01 26 12.1**	**0.0**
	8.2nm,0.4s							
BVAR	**Borovoye Array**	**16.45**	**359**	P		**Pn**	**01 26 21.2**	**+0.1**
	0.3nm,0.3s,baz=151,slow=9.0,SNR=9.0							
BVAR	**Borovoye Array**	**16.45**	**359**	P		**Pn**	**01 26 21.2**	**+0.1**
BRVK	**Borovoye**	**16.48**	**359**	*e*P		**Pn**	**01 26 20.8**	**-0.7**
	1.5nm,0.6s							
AKTO	**Aktyubinsk**	**16.68**	**330**	P		**Pn**	**01 26 24.1**	**+0.2**
	0.3nm,0.3s,baz=150,slow=9.7,SNR=7.3							
AKTO	**Aktyubinsk**	**16.68**	**330**	P		**Pn**	**01 26 24.1**	**+0.2**
ZALV	**Zalesovo Beam**	**19.87**	**25**	P		**P**	**01 26 56.9**	**-0.4**
	0.5nm,0.3s,baz=210,slow=11,SNR=3.6							
ZALV	**Zalesovo Beam**	**19.87**	**25**	P		**P**	**01 26 56.9**	**-0.4**
BR131	**Keskin Array S**	**29.35**	**288**	*e*P		**P**	**01 28 25.1**	**-0.7**
	2.8nm,0.9s,mb3.9							
FINES	**FINESS Array B**	**37.38**	**326**	P		**P**	**01 29 35.5**	**+0.6**
	1.9nm,0.8s,mb3.7,baz=125,slow=9.7,SNR=5.1							
FINES	**FINESS Array B**	**37.38**	**326**	P		**P**	**01 29 35.5**	**+0.6**
ARCES	**ARCESS Array B**	**41.05**	**338**	P		**P**	**01 30 06.1**	**+0.9**
	1.3nm,0.6s,mb3.5,baz=114,slow=7.3,SNR=8.7							
ARCES	**ARCESS Array B**	**41.05**	**338**	P		**P**	**01 30 06.1**	**+1.0**
TORD	**Torodi Ar. Bea**	**65.66**	**269**	P		**P**	**01 33 02.7**	**-2.2**
	0.2nm,0.5s,mb3.0,baz=51,slow=5.8,SNR=8.1							
TORD	**Torodi Ar. Bea**	**65.66**	**269**	P		**P**	**01 33 02.7**	**-2.2**
YKA	**Yellowknife Ar**	**81.17**	**3**	P		**P**	**01 34 35.2**	**+0.6**
	0.5nm,0.5s,mb3.4,baz=350,slow=5.3,SNR=4.9							
YKA	**Yellowknife Ar**	**81.17**	**3**	P		**P**	**01 34 35.2**	**+0.6**
WRA	**Warramunga Arr**	**82.08**	**122**	P		**P**	**01 34 38.1**	**-1.9**
	0.4nm,0.3s,mb3.5,baz=322,slow=5.0,SNR=4.5							
WRA	**Warramunga Arr**	**82.08**	**122**	P		**P**	**01 34 38.1**	**-1.9**
ASAR	**Alice Springs**	**84.35**	**125**	P		**P**	**01 34 50.3**	**-1.2**
	0.3nm,0.4s,mb3.4,baz=315,slow=5.3,SNR=6.4							
ASAR	**Alice Springs**	**84.35**	**125**	P		**P**	**01 34 50.4**	**-1.2**

*ISK **23** 01:25:04.2,39°.69N×24°.88E,h8km, MD3.5*
*ATH **23** 01:25:07.2,39°.73N×25°.10E,h26km±1km, MD3.3/15, ML3.1*
*THE **23** 01:25:07.4,39°.73N×25°.11E,h3km±1km,ML2.7/8,Error ellipse: s-maj=1.6km s-min=0.5km az=202.0*
*ISCJB **23** 01:25:07.2±0.3,39°.69N±0°.02×25°.09E±0°.02,h12km±3km, Error ellipse: s-maj=3.2km s-min=2.5km az=5.9*
*CSEM **23** 01:25:08.5±0.1,39°.70N×25°.10E,h19km,MD3.3*
*DDA **23** 01:25:09.6,39°.76N×25°.31E,h8km±5km,Md3.6*
ISC 23 01:25:08.1±0.3,39°.70N±0°.02×25°.09E±0°.02,h14km±2km, n120,σ0°.69/153,1D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
					Op		h m s	ISC
LIA	**Limnos Island**	**0.21**	**19**	*e*PB		**Pg**	**01 25 13.0**	**+0.3**
LIA				*e*SB		**Sg**	**01 25 16.5**	**+0.5**
LIA	**Limnos Island**	**0.21**	**19**	*e*Pb		**Pg**	**01 25 13.0**	**+0.3**
LIA				*e*Sb		**Sg**	**01 25 16.5**	**+0.5**
BOZC	**Bozcaada**	**0.75**	**79**	⇓*i*P		**Pg**	**01 25 22.4**	**-0.2**
BOZC				*i* S		**Sg**	**01 25 32.8**	**+0.2**
SIGR	**SIGRI**	**0.77**	**129**	P		**Pg**	**01 25 22.6**	**-0.3**
SIGR				S		**Sg**	**01 25 33.4**	**+0.4**
SIGR	**SIGRI**	**0.77**	**129**	P		**Pg**	**01 25 22.6**	**-0.3**
SIGR				S		**Sg**	**01 25 33.4**	**+0.4**
GADA	**Gvkgeada**	**0.79**	**51**	*e*PG		**Pg**	**01 25 22.5**	**-0.9**
GADA				*e*SG		**Sg**	**01 25 35.8**	**+2.0**
GADA	**Gvkgeada**	**0.79**	**51**	*e*Pg		**Pg**	**01 25 22.5**	**-0.9**
GADA				*e*Sg		**Sg**	**01 25 35.8**	**+2.1**
EZN	**Ezine**	**0.96**	**82**	*e*PN		**Pg**	**01 25 25.9**	**-0.6**
EZN	**Ezine**	**0.96**	**82**	*e*Pn		**Pg**	**01 25 25.9**	**-0.7**
PRK	**Paraskevi**	**1.02**	**116**	*e*PN		**Pg**	**01 25 27.4**	**-0.3**
PRK				*e*SN		**Sg**	**01 25 41.9**	**+0.9**
PRK	**Paraskevi**	**1.02**	**116**	*e*Pn		**Pg**	**01 25 27.4**	**-0.3**
PRK				*e*Sn		**Sg**	**01 25 41.9**	**+0.9**
OUR	**Ouranopolis**	**1.06**	**307**	P		**Pg**	**01 25 27.6**	**-1.0**
OUR				S		**Sg**	**01 25 42.3**	**-0.2**
OUR	**Ouranopolis**	**1.06**	**307**	P		**Pg**	**01 25 27.6**	**-1.0**
OUR				S		**Sg**	**01 25 42.3**	**-0.2**
AOS	**Alonnisos**	**1.08**	**241**	P		**Pg**	**01 25 27.8**	**-1.1**
AOS				S		**Sg**	**01 25 44.2**	**+1.2**
AOS	**Alonnisos**	**1.08**	**241**	P		**Pg**	**01 25 27.8**	**-1.1**
AOS				S		**Sg**	**01 25 44.2**	**+1.2**
PAIG	**Paliouri**	**1.11**	**282**	P		**Pg**	**01 25 28.1**	**-1.4**
PAIG				S		**Sg**	**01 25 44.8**	**+0.8**
PAIG	**Paliouri**	**1.11**	**282**	P		**Pg**	**01 25 28.1**	**-1.4**
PAIG				S		**Sg**	**01 25 44.8**	**+0.8**
GELI	**Tayfur-Gelibol**	**1.27**	**56**	*e*PN		**Pn**	**01 25 31.5**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.27**	**56**	*e*Pn		**Pn**	**01 25 31.5**	**+0.1**
AYVA	**Ayvalik**	**1.29**	**107**	*e*P		**Pn**	**01 25 32.0**	**+0.2**
AYVA				*i* S		**Sb**	**01 25 48.1**	**-0.6**
AYVA	**Ayvalik**	**1.29**	**107**	*e*P		**Pn**	**01 25 32.0**	**+0.3**
AYVA				*i* S		**Sb**	**01 25 48.1**	**-0.6**
ENEZ	**Enez**	**1.31**	**38**	*e*PN		**Pn**	**01 25 31.0**	**-1.0**
ENEZ	**Enez**	**1.31**	**38**	*e*Pn		**Pn**	**01 25 31.0**	**-1.0**
KAVA	**Kavala**	**1.37**	**341**	P		**Pn**	**01 25 32.0**	**-0.7**
KAVA				S		**Sn**	**01 25 51.6**	**+0.9**
KAVA	**Kavala**	**1.37**	**341**	P		**Pn**	**01 25 32.0**	**-0.7**
KAVA				S		**Sn**	**01 25 51.6**	**+0.9**
ALN	**Alexandroupoli**	**1.40**	**31**	*e*PN		**Pn**	**01 25 32.5**	**-0.7**
ALN				*e*SN		**Sn**	**01 25 51.0**	**-0.4**
ALN	**Alexandroupoli**	**1.40**	**31**	P		**Pn**	**01 25 32.4**	**-0.8**
ALN				S		**Sn**	**01 25 51.4**	**0.0**
ALN	**Alexandroupoli**	**1.40**	**31**	*e*Pn		**Pn**	**01 25 32.5**	**-0.7**
ALN				*e*Sn		**Sn**	**01 25 51.0**	**-0.4**
ALN				S		**Sn**	**01 25 51.4**	**0.0**
PLG	**Polygyros**	**1.43**	**298**	*e*PN		**Pn**	**01 25 33.4**	**-0.2**
PLG				*e*SN		**Sn**	**01 25 52.3**	**0.0**
PLG	**Polygyros**	**1.43**	**298**	*e*Pn		**Pn**	**01 25 33.4**	**-0.2**
PLG				*e*Sn		**Sn**	**01 25 52.3**	**0.0**
LPK	**Lapseki**	**1.44**	**62**	*e*PN		**Pn**	**01 25 32.6**	**-1.2**
LPK	**Lapseki**	**1.44**	**62**	*e*Pn		**Pn**	**01 25 32.6**	**-1.2**
ERIK	**Erikli-Kesan**	**1.46**	**48**	*e*PN		**Pn**	**01 25 33.2**	**-0.8**
ERIK	**Erikli-Kesan**	**1.46**	**48**	*e*Pn		**Pn**	**01 25 33.2**	**-0.7**
RDO	**Rodhopi**	**1.48**	**13**	*e*PN		**Pn**	**01 25 33.9**	**-0.4**
RDO				*e*SN		**Sn**	**01 25 52.6**	**-0.9**
RDO	**Rodhopi**	**1.48**	**13**	*e*Pn		**Pn**	**01 25 33.9**	**-0.4**
RDO				*e*Sn		**Sn**	**01 25 52.6**	**-0.9**
NEO	**Neokhori**	**1.50**	**255**	*e*PN		**Pn**	**01 25 35.0**	**+0.5**
NEO	**Neokhori**	**1.50**	**255**	*e*Pn		**Pn**	**01 25 35.0**	**+0.5**
CHOS	**Chios island**	**1.51**	**150**	*e*PN		**Pn**	**01 25 34.5**	**-0.2**
CHOS	**Chios island**	**1.51**	**150**	P		**Pn**	**01 25 34.5**	**-0.2**
CHOS	**Chios island**	**1.51**	**150**	P		**Pn**	**01 25 34.5**	**-0.2**
SOH	**Sokhos**	**1.74**	**311**	*e*PN		**Pn**	**01 25 37.6**	**-0.2**
SOH				*e*SN		**Sn**	**01 26 00.1**	**+0.3**
SOH	**Sokhos**	**1.74**	**311**	P		**Pn**	**01 25 37.5**	**-0.3**
SOH	**Sokhos**	**1.74**	**311**	*e*Pn		**Pn**	**01 25 37.6**	**-0.2**
SOH				*e*Sn		**Sn**	**01 26 00.1**	**+0.3**
HORT	**Hortiatis**	**1.77**	**301**	P		**Pn**	**01 25 38.0**	**-0.3**
HORT				S		**Sn**	**01 26 02.3**	**+1.7**
HORT	**Hortiatis**	**1.77**	**301**	P		**Pn**	**01 25 38.0**	**-0.3**
HORT				S		**Sn**	**01 26 02.3**	**+1.7**
SRS	**Serrai**	**1.82**	**321**	P		**Pn**	**01 25 38.3**	**-0.7**
SRS				S		**Sn**	**01 26 02.8**	**+1.0**
SRS	**Serrai**	**1.82**	**321**	P		**Pn**	**01 25 38.3**	**-0.7**
SRS				S		**Sn**	**01 26 02.8**	**+1.0**
KRBG	**Karabiga-Canak**	**1.83**	**67**	*e*PN		**Pn**	**01 25 39.1**	**0.0**
KRBG	**Karabiga-Canak**	**1.83**	**67**	*e*Pn		**Pn**	**01 25 39.1**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.88**	**58**	*e*PN		**Pn**	**01 25 39.5**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.88**	**58**	*e*Pn		**Pn**	**01 25 39.6**	**-0.1**
NVR	**Nevrokopi**	**1.90**	**331**	*e*PN		**Pn**	**01 25 39.8**	**-0.2**
NVR	**Nevrokopi**	**1.90**	**331**	*e*Pn		**Pn**	**01 25 39.8**	**-0.2**
PTL	**Penteli**	**1.91**	**211**	*e*PN		**Pn**	**01 25 39.8**	**-0.4**
PTL	**Penteli**	**1.91**	**211**	*e*Pn		**Pn**	**01 25 39.8**	**-0.4**
LKR	**Lokris**	**1.94**	**238**	*e*PB		**Pb**	**01 25 39.5**	**-3.6**
BLCB	**Balcova**	**2.01**	**130**	*e*PN		**Pn**	**01 25 41.2**	**-0.3**
BLCB	**Balcova**	**2.01**	**130**	*e*Pn		**Pn**	**01 25 41.2**	**-0.3**
GONE	**Gonen-Balikesi**	**2.02**	**79**	*e*PN		**Pn**	**01 25 42.0**	**+0.3**
GONE	**Gonen-Balikesi**	**2.02**	**79**	*e*Pn		**Pn**	**01 25 42.0**	**+0.2**
ATH	**Athens Observa**	**2.03**	**212**	*e*PN		**Pn**	**01 25 41.2**	**-0.7**
ATH	**Athens Observa**	**2.03**	**212**	*e*Pn		**Pn**	**01 25 41.2**	**-0.7**
VLY	**Voula,Athens**	**2.11**	**209**	*e*PN		**Pn**	**01 25 43.2**	**+0.3**
VLY	**Voula,Athens**	**2.11**	**209**	*e*Pn		**Pn**	**01 25 43.2**	**+0.3**
IZM	**Izmir**	**2.13**	**127**	*e*PN		**Pn**	**01 25 43.0**	**-0.2**
IZM	**Izmir**	**2.13**	**127**	*e*Pn		**Pn**	**01 25 43.0**	**-0.2**
BALB	**Balikesir**	**2.15**	**91**	*e*PN		**Pn**	**01 25 43.7**	**+0.2**
BALB	**Balikesir**	**2.15**	**91**	*e*Pn		**Pn**	**01 25 43.7**	**+0.2**
KNT	**Kendrikon**	**2.22**	**312**	P		**Pn**	**01 25 44.6**	**+0.1**
KNT	**Kendrikon**	**2.22**	**312**	P		**Pn**	**01 25 44.6**	**+0.1**
AGG	**Agios Georgios**	**2.25**	**253**	*e*PN		**Pn**	**01 25 44.2**	**-0.6**
AGG	**Agios Georgios**	**2.25**	**253**	*e*Pn		**Pn**	**01 25 44.2**	**-0.6**
BNT	**Bandirma**	**2.27**	**72**	*e*PN		**Pn**	**01 25 45.2**	**+0.1**
BNT	**Bandirma**	**2.27**	**72**	*e*Pn		**Pn**	**01 25 45.2**	**+0.1**
TKR	**Tekirdag**	**2.27**	**55**	*e*PN		**Pn**	**01 25 45.1**	**0.0**
TKR	**Tekirdag**	**2.27**	**55**	*e*Pn		**Pn**	**01 25 45.1**	**0.0**
NAIG	**Nisos Aigina**	**2.31**	**213**	*e*PN		**Pn**	**01 25 46.1**	**+0.4**
NAIG	**Nisos Aigina**	**2.31**	**213**	*e*Pn		**Pn**	**01 25 46.1**	**+0.4**
THL	**Klokotos Trika**	**2.38**	**268**	*e*PN		**Pn**	**01 25 46.0**	**-0.7**
THL	**Klokotos Trika**	**2.38**	**268**	*e*Pn		**Pn**	**01 25 46.0**	**-0.7**
GRG	**Griva**	**2.41**	**302**	P		**Pn**	**01 25 47.1**	**0.0**
GRG	**Griva**	**2.41**	**302**	P		**Pn**	**01 25 47.1**	**0.0**
SMG	**Samos**	**2.41**	**145**	*e*PN		**Pn**	**01 25 47.0**	**-0.1**
SMG	**Samos**	**2.41**	**145**	*e*Pn		**Pn**	**01 25 47.0**	**-0.1**
CRLT	**Corlu**	**2.47**	**54**	*e*PN		**Pn**	**01 25 48.1**	**+0.3**
CRLT	**Corlu**	**2.47**	**54**	*e*Pn		**Pn**	**01 25 48.1**	**+0.2**
EDRB	**Edirne**	**2.48**	**30**	*e*PN		**Pn**	**01 25 47.5**	**-0.6**
EDRB	**Edirne**	**2.48**	**30**	*e*Pn		**Pn**	**01 25 47.5**	**-0.6**
APE	**Apeiranthos**	**2.65**	**172**	*e*PN		**Pn**	**01 25 50.6**	**+0.2**
APE	**Apeiranthos**	**2.65**	**172**	*e*Pn		**Pn**	**01 25 50.6**	**+0.2**
EVR	**Evrytania**	**2.67**	**254**	*e*PN		**Pn**	**01 25 50.9**	**+0.3**
EVR	**Evrytania**	**2.67**	**254**	*e*Pn		**Pn**	**01 25 50.9**	**+0.3**
DST	**Dursunbey**	**2.72**	**91**	*e*PN		**Pn**	**01 25 52.0**	**+0.6**
DST	**Dursunbey**	**2.72**	**91**	*e*Pn		**Pn**	**01 25 52.0**	**+0.6**
SLVT	**Silivri**	**2.83**	**56**	*e*PN		**Pn**	**01 25 53.4**	**+0.6**
SLVT	**Silivri**	**2.83**	**56**	*e*Pn		**Pn**	**01 25 53.4**	**+0.6**
MDNY	**Mudanya-Bursa**	**2.98**	**76**	*e*PN		**Pn**	**01 25 55.6**	**+0.6**
MDNY	**Mudanya-Bursa**	**2.98**	**76**	*e*Pn		**Pn**	**01 25 55.6**	**+0.6**
CTYL	**Yal??k??y-??at**	**3.01**	**53**	*e*PN		**Pn**	**01 25 55.5**	**+0.2**
CTYL	**Yal??k??y-??at**	**3.01**	**53**	*e*Pn		**Pn**	**01 25 55.5**	**+0.2**
CTKS	**Kestanelik-??a**	**3.02**	**58**	*e*PN		**Pn**	**01 25 55.1**	**-0.4**
CTKS	**Kestanelik-??a**	**3.02**	**58**	*e*Pn		**Pn**	**01 25 55.1**	**-0.4**
BODT	**Bodrum**	**3.16**	**146**	*e*PN		**Pn**	**01 25 56.1**	**-1.3**
BODT	**Bodrum**	**3.16**	**146**	*e*Pn		**Pn**	**01 25 56.1**	**-1.2**
BGKT	**Bogazkoy**	**3.17**	**61**	*e*PN		**Pn**	**01 25 57.4**	**-0.2**
BGKT	**Bogazkoy**	**3.17**	**61**	*e*Pn		**Pn**	**01 25 57.4**	**-0.1**
MLSB	**Milas**	**3.19**	**138**	*e*PN		**Pn**	**01 25 57.8**	**0.0**
GEMT	**Gemlik**	**3.23**	**76**	*e*PN		**Pn**	**01 25 59.1**	**+0.9**
GEMT	**Gemlik**	**3.23**	**76**	*e*Pn		**Pn**	**01 25 59.1**	**+0.8**
RLS	**Ri

STKA	**Stephens Creek**	**38.47**	**241**	P		**P**	**01 40 21.2**	**+0.4**
	5.9nm,0.5s,mb4.4,baz=91,slow=9.7,SNR=17							
STKA	**Stephens Creek**	**38.47**	**241**	*eP*		**P**	**01 40 21.1**	**+0.3**
	5.3nm,0.6s,mb4.2							
STKA	**Stephens Creek**	**38.47**	**241**	P		**P**	**01 40 21.2**	**+0.4**
WRA	**Warramunga Arr**	**44.44**	**260**	P		**P**	**01 41 07.0**	**-0.9**
	5.1nm,0.4s,mb4.4,baz=92,slow=7.9,SNR=30							
WRA	**Warramunga Arr**	**44.44**	**260**	P		**P**	**01 41 07.0**	**-0.9**
AS31	**Alice Springs**	**44.60**	**254**	*eP*		**P**	**01 41 09.1**	**-0.1**
ASAR	**Alice Springs**	**44.61**	**254**	P		**P**	**01 41 09.2**	**+0.1**
	47nm,0.6s,mb5.2,baz=88,slow=8.4,SNR=561							
ASAR	**Alice Springs**	**44.61**	**254**	P		**P**	**01 41 09.2**	**+0.1**
KAKA	**Kakadu**	**47.38**	**269**	⇑ *i* P		**P**	**01 41 30.2**	**-0.1**
	14nm,0.4s,mb4.8							
FITZ	**Fitzroy Crossi**	**52.83**	**261**	P		**P**	**01 42 10.3**	**+0.3**
	1.3nm,0.3s,mb3.8,baz=180,slow=9.8,SNR=18							
FITZ	**Fitzroy Crossi**	**52.83**	**261**	P		**P**	**01 42 10.3**	**+0.3**
MBWA	**Marble Bar**	**57.89**	**256**	*eP*		**P**	**01 42 44.3**	**-0.7**
	4.6nm,0.7s,mb3.7							
PETK	**Petropavlovsk-**	**73.58**	**345**	P		**P**	**01 44 22.1**	**+0.4**
	2.2nm,0.7s,mb3.8,baz=163,slow=6.9,SNR=2.8							
PETK	**Petropavlovsk-**	**73.58**	**345**	P		**P**	**01 44 22.1**	**+0.4**
NVAR	**Mina Array Bea**	**79.53**	**44**	P		**P**	**01 44 54.9**	**+0.3**
	1.6nm,0.8s,mb3.4,baz=220,slow=8.9,SNR=12							
NVAR	**Mina Array Bea**	**79.53**	**44**	P		**P**	**01 44 54.9**	**+0.4**
WVOR	**Wild Horse Val**	**81.50**	**40**	*eP*		**P**	**01 45 04.4**	**-0.3**
	2.3nm,0.8s,mb3.8							
TUC	**Tucson**	**81.83**	**52**	*eP*		**P**	**01 45 06.7**	**+0.1**
	1.9nm,0.8s,mb3.7							
HLID	**Hailey**	**84.73**	**41**	*eP*		**P**	**01 45 21.1**	**+0.4**
	0.8nm,0.7s,mb3.5							
NEW	**Newport**	**85.59**	**36**	*eP*		**P**	**01 45 24.6**	**-0.1**
	1.7nm,0.7s,mb3.8							
ILAR	**Eielson Array**	**85.89**	**13**	P		**P**	**01 45 24.5**	**-1.3**
	0.9nm,0.4s,mb3.7,baz=223,slow=5.1,SNR=37							
ILAR	**Eielson Array**	**85.89**	**13**	P		**P**	**01 45 24.5**	**-1.3**
TXAR	**Lajitas Array**	**86.14**	**58**	P		**P**	**01 45 28.6**	**+0.8**
	1.7nm,0.8s,mb3.7,baz=218,slow=5.7,SNR=19							
TXAR	**Lajitas Array**	**86.14**	**58**	P		**P**	**01 45 28.6**	**+0.8**
BW06	**Boulder Array**	**87.46**	**44**	*eP*		**P**	**01 45 33.4**	**-0.3**
	1.3nm,0.6s,mb3.8							
PDAR	**Pinedale Array**	**87.46**	**44**	P		**P**	**01 45 33.6**	**-0.1**
	1.2nm,0.6s,mb3.8,baz=208,slow=3.0,SNR=11							
PDAR	**Pinedale Array**	**87.46**	**44**	P		**P**	**01 45 33.6**	**-0.1**
GERES	**GERESS Array B**	**147.51**	**345**	PKPbc		PKPbc	01 52 26.9	+0.3
	0.9nm,0.6s,baz=17,slow=4.1,SNR=8.5							
GERES	**GERESS Array B**	**147.51**	**345**	PKPbc		PKPbc	01 52 26.9	+0.3

JMA ***23*** *01:36:20.5±0.5,23°.93N×122°.31E,h18km,M2.5*
ISCJB ***23*** *01:36:21.4±0.7,23°.91N±0°.02×122°.47E±0°.02,h3km±5km, Error ellipse: s-maj=4.1km s-min=2.6km az=171.3*
TAP ***23*** *01:36:22.5,23°.96N×122°.50E,h27km,ML3.2,D*
ISC 23 01:36:22.1±0.6,23°.93N±0°.03×122°.47E±0°.02,h11km±4km, n30,σ0°62/59,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.72**	**43**	P	**Pg**	**01 36 36.0**	**-0.1**
YOJ				*e*S	**Sg**	**01 36 47.5**	**+1.9**
TWD	**Chiawan**	**0.82**	**281**	*e*P	**Pg**	**01 36 37.7**	**-0.2**
	baz=278						
TWD				*i* S	**Sg**	**01 36 49.4**	**+0.8**
	baz=278						
ENA	**Nanau**	**0.83**	**307**	P	**Pg**	**01 36 38.1**	**-0.2**
	baz=313						
ENA				*e*S	**Sg**	**01 36 49.6**	**+0.5**
	baz=313						
TWC	**Suao**	**0.89**	**320**	*i* P	**Pg**	**01 36 38.6**	**-0.7**
	baz=318						
TWC				*e*S	**Sg**	**01 36 49.6**	**-1.2**
	baz=318						
ESL	**Shilin**	**0.96**	**263**	*e*P	**Pg**	**01 36 40.3**	**-0.3**
	baz=261						
ESL				*e*S	**Sg**	**01 36 53.6**	**+0.4**
	baz=261						
ILA	**Ilan**	**1.06**	**322**	*e*P	**Pb**	**01 36 42.1**	**-0.4**
	baz=311						
ILA				*e*S	**Sg**	**01 36 56.7**	**+0.2**
	baz=311						
TWE	**Neicheng**	**1.08**	**317**	P	**Pb**	**01 36 42.3**	**-0.5**
	baz=316						
TWE				S	**Sb**	**01 36 57.3**	**+0.4**
	baz=316						
ENTT	**Nioudou**	**1.09**	**311**	P	**Pb**	**01 36 42.7**	**-0.3**
	baz=309						
ENTT				*e*S	**Sb**	**01 36 57.7**	**+0.4**
	baz=309						
WHF	**Hehuan Shan**	**1.13**	**281**	*e*P	**Pb**	**01 36 43.4**	**-0.2**
	baz=279						
WHF				*e*S	**Sb**	**01 36 58.4**	**+0.1**
	baz=279						
NNS	**Nan Shan**	**1.13**	**297**	*e*P	**Pb**	**01 36 43.6**	**0.0**
	baz=295						
NNS				*e*S	**Sb**	**01 36 58.7**	**+0.4**
	baz=295						
EHY	**Hungye**	**1.14**	**249**	*e*P	**Pb**	**01 36 43.5**	**-0.3**
	baz=247						
EHY				*e*S	**Sb**	**01 36 58.6**	**+0.1**
	baz=247						
IRIF	**Iriomote-Funau**	**1.22**	**70**	P	**Pn**	**01 36 45.0**	**-0.1**
IRIF				*e*S	**Sb**	**01 37 01.2**	**+0.3**
TWF1	**Yuli**	**1.22**	**242**	*e*P	**Pn**	**01 36 44.7**	**-0.4**
	baz=241						
TWF1				*e*S	**Sb**	**01 37 01.5**	**+0.5**
	baz=241						
HATJ	**Hateruma jima**	**1.22**	**84**	P	**Pn**	**01 36 44.9**	**-0.3**
HATJ				*e*S	**Sb**	**01 37 01.4**	**+0.3**
TWT	**Tachien**	**1.23**	**286**	*e*P	**Pn**	**01 36 45.3**	**+0.1**
	baz=271						
TWT				*e*S	**Sb**	**01 37 02.0**	**+0.7**
	baz=271						
NSK	**Sanguang**	**1.26**	**306**	*e*P	**Pn**	**01 36 45.3**	**-0.4**
	baz=292						
NSK				*e*S	**Sb**	**01 37 02.3**	**+0.1**
	baz=292						
NWF	**Wu-fen Shan**	**1.30**	**331**	*e*P	**Pn**	**01 36 45.6**	**-0.6**
	baz=330						
NWF				S	**Sb**	**01 37 02.9**	**-0.4**
	baz=330						
CHKT	**Chengkung**	**1.31**	**231**	*e*P	**Pn**	**01 36 46.8**	**+0.4**
	baz=218						
CHKT				*e*S	**Sb**	**01 37 02.3**	**-1.3**
	baz=218						
TWA	**Mucha**	**1.32**	**322**	*e*P	**Pn**	**01 36 46.5**	**-0.1**
	baz=321						
TWA				*e*S	**Sb**	**01 37 03.9**	**-0.1**
	baz=321						
JKRS	**Kuro-shima**	**1.44**	**77**	P	**Pn**	**01 36 48.8**	**+0.7**
JKRS				*e*S	**Sn**	**01 37 07.7**	**+0.7**
SMLT	**Sun Moon Lake**	**1.44**	**269**	*e*P	**Pn**	**01 36 48.0**	**-0.2**
	baz=267						
SMLT				*e*S	**Sn**	**01 37 07.2**	**+0.1**
	baz=267						
YUS	**Yu-Shan**	**1.46**	**253**	*e*P	**Pn**	**01 36 49.2**	**+0.8**
	baz=252						
YUS				*e*S	**Sn**	**01 37 07.5**	**-0.1**
	baz=252						
TYC	**Yuchr**	**1.48**	**269**	*e*P	**Pn**	**01 36 47.9**	**-0.8**
	baz=268						
TYC				*e*S	**Sn**	**01 37 08.0**	**0.0**
	baz=268						
NSTT	**Nanjuang**	**1.52**	**298**	*e*P	**Pn**	**01 36 49.0**	**-0.2**
	baz=284						
NSTT				*e*S	**Sn**	**01 37 08.8**	**-0.2**
	baz=284						
ELDTW	**Lidau**	**1.53**	**241**	*e*P	**Pn**	**01 36 49.1**	**-0.3**
	baz=240						
ELDTW				*e*S	**Sn**	**01 37 07.7**	**-1.5**
	baz=240						
JIJ	**Ishigaki jima**	**1.58**	**74**	P	**Pn**	**01 36 49.5**	**-0.7**
JIJ				*e*S	**Sn**	**01 37 09.6**	**-1.1**
CHN5	**Tsauling**	**1.68**	**259**	*e*P	**Pn**	**01 36 51.0**	**-0.4**
	baz=247						
CHN5				*e*S	**Sn**	**01 37 13.6**	**+0.6**
	baz=247						
WTP	**Ta-pu**	**1.84**	**249**	*e*P	**Pn**	**01 36 54.0**	**+0.4**
	baz=238						
WTP				*e*S	**Sn**	**01 37 17.9**	**+1.0**
	baz=238						
CHN1	**Nanshi**	**1.93**	**248**	*e*P	**Pn**	**01 36 54.5**	**-0.4**
	baz=238						
CHN1				*e*S	**Sn**	**01 37 21.4**	**+2.1**
	baz=238						
LAY	**Lan-yu**	**2.06**	**205**	*e*P	**Pn**	**01 36 57.2**	**+0.4**
	baz=204						

CASC 23 01:51:43.2±3.5,10°.97N×86°.61W,h29km±41km,MD3.6, ML2.9,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TISN	**Laguna Tiscapa**	**1.21**	**16**	*e*P	Pn	01 52 03.3	-0.9
MGAN	**Managua**	**1.22**	**17**	*e*P	Pn	01 52 03.9	-0.5
MGAN				*e*S	Sn	01 52 21.9	+1.9
MGAN				AML	AML	01 52 32.5	
	comp=E,199nm,0.4s						
CNGN	**Cerro Negro**	**1.52**	**357**	*e*P	Pn	01 52 07.2	-1.3
CNGN				*e*S	Sn	01 52 28.6	+1.2
BOAB	**BOACO BROADBAN**	**1.74**	**32**	*e*P	Pn	01 52 11.0	-0.4
BOAB				*e*S	Sn	01 52 33.9	+1.3
JTS	**JuntasAbangare**	**1.76**	**112**	*e*P	Pn	01 52 10.2	-1.5
JTS				*e*S	Sn	01 52 33.3	+0.1
JCR	**Jicaral**	**1.84**	**127**	*e*P	Pn	01 52 15.9	+3.0
JCR				*e*S	Sn	01 52 35.6	+0.4
CGA2	**Cerro Gallo 2**	**2.31**	**114**	*e*P	Pn	01 52 22.5	+3.2
CGA2				*e*S	Sn	01 52 47.4	+0.7
PRS1	**Puriscal**	**2.46**	**113**	*e*P	Pn	01 52 21.8	+0.4
PRS1				*e*S	Sn	01 52 47.3	-3.2
LAJ	**Bijagual**	**2.68**	**114**	*e*P	Pn	01 52 19.1	-5.2
LAJ				*e*S	Sn	01 52 38.7	-17

IDC 23 01:52:20.4±3.9,3°.82S×152°.12E,h0km,mb3.4/2, mb1 3.7/2,mb1mx3.4/17,mbtmp3.4/2,Error ellipse: s-maj=192.7km s-min=43.9km az=119.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.61**	**226**	P	P	01 57 34.2	+0.9
	0.5nm,0.4s,baz=54,slow=10,SNR=3.8						
ASAR	**Alice Springs**	**26.44**	**220**	P	P	01 57 58.9	-0.2
	0.6nm,0.9s,baz=51,slow=8.8,SNR=3.4						
TORD	**Torodi Ar. Bea**	**149.35**	**289**	PKPbc	PKPbc	02 12 11.4	-0.9
	0.9nm,0.7s,baz=56,slow=2.0,SNR=12						

ISCJB ***23*** *01:52:42.6±0.6,26°.93S±0°.03×26°.69E±0°.04,h7km±4km, mb4.2/18, Error ellipse: s-maj=6.2km s-min=4.1km az=41.8*
PRE ***23*** *01:52:43.1±1.1,26°.97S×26°.81E,h2km,ML4.4*
IDC ***23*** *01:52:44.1±0.6,26°.90S×26°.73E,h0km,mb4.1/14, mb1 4.3/17,mb1mx4.1/28,mbtmp4.2/17,ML4.3/3,Error ellipse: s-maj=17.6km s-min=9.6km az=92.0*
NEIC ***23*** *01:52:44.7±0.4,26°.86S×26°.72E,h5km,mb4.5/6,Error ellipse: s-maj=13.2km s-min=7.6km az=94.0*
ISC 23 01:52:43.7±0.7,26°.94S±0°.03×26°.75E±0°.03,h2km±5km, n67,σ1°13/76,mb4.2/18,South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFSD	**Buffelsfontein**	**0.08**	**21**	*e*P	**Pg**	**01 52 46.0**	**+0.7**
BFSD				*e*S	**Sg**	**01 52 46.6**	**+0.2**
BFSD				AML	AML	01 52 47.4	
	comp=Z,71μm,0.5s						
KLOF	**Kloof**	**0.97**	**53**	*e*P	**Pg**	**01 53 01.8**	**-0.4**
KLOF				*e*S	**Sg**	**01 53 14.1**	**-0.7**
KLOF				AML	AML	01 53 18.9	
	comp=Z,3μm,0.2s						
SEK	**Senekal**	**1.58**	**151**	*e*P	**Pn**	**01 53 12.6**	**0.0**
SEK				*e*S	**Sn**	**01 53 33.6**	**0.0**
SEK				AML	AML	01 53 41.8	
	comp=Z,1μm,0.4s						
SLR	**Silverton**	**1.82**	**49**	*e*P	**Pn**	**01 53 16.2**	**+0.2**
SLR				*e*S	**Sn**	**01 53 39.0**	**-0.7**
SLR				AML	AML	01 53 41.5	
	comp=Z,3μm,0.4s						
BOSA	**Boshof**	**2.13**	**218**	Pn	**Pn**	**01 53 21.7**	**+1.6**
	comp=Z,54nm,0.3s,baz=42,slow=16,SNR=1479						
BOSA				Pg	**Pg**	**01 53 24.0**	**-0.5**
	comp=Z,85nm,0.3s,baz=43,slow=17,SNR=147						
BOSA				Lg		01 53 51.8	
	comp=Z,370nm,0.3s,baz=313,slow=16,SNR=30						
BOSA				Rg		01 54 04.2	
	comp=Z,326nm,0.3s,baz=312,slow=18,SNR=4.5						
BOSA	**Boshof**	**2.13**	**218**	Pn	**Pn**	**01 53 21.7**	**+1.6**
BOSA				Pg	**Pg**	**01 53 24.0**	**-0.5**
BOSA				Lg		01 53 51.8	
BOSA				Rg		01 54 04.2	
LBTB	**Lobatse**	**2.19**	**331**	Pn	**Pn**	**01 53 22.2**	**+1.2**
	comp=Z,91nm,0.3s,baz=165,slow=14,SNR=475						
LBTB				Pg	**Pg**	**01 53 23.6**	**-2.0**
	comp=Z,91nm,0.3s,baz=164,slow=18,SNR=476						
LBTB				Lg		01 53 51.5	
	comp=Z,357nm,0.3s,baz=60,slow=20,SNR=58						
LBTB				Rg		01 53 58.2	
	comp=Z,906nm,0.6s,baz=88,slow=5.6,SNR=30						
LBTB	**Lobatse**	**2.19**	**331**	Pn	**Pn**	**01 53 22.2**	**+1.2**
LBTB				Pg	**Pg**	**01 53 23.6**	**-2.0**
LBTB				Lg		01 53 51.5	
LBTB				Rg		01 53 58.2	
HVD	**Gariep Dam**	**3.81**	**197**	*e*P	**Pn**	**01 53 44.4**	**+1.1**
HVD				*e*S	**Sn**	**01 54 27.6**	**-1.1**
HVD				AML	AML	01 55 00.9	
	comp=Z,429nm,0.4s						
KSD	**Kokstad**	**4.28**	**147**	*e*P	**Pn**	**01 53 49.2**	**-0.6**
KSD				*e*S	**Sn**	**01 54 37.1**	**-3.2**
KSD				AML	AML	01 54 58.7	
	comp=Z,713nm,0.6s						
POGA	**Pongola**	**4.35**	**97**	*e*P	**Pn**	**01 53 51.5**	**+0.7**
POGA				*e*S	**Sn**	**01 54 40.9**	**-1.1**
POGA				AML	AML	01 55 02.8	
	comp=Z,463nm,0.6s						
PKA	**Prieska**	**4.45**	**231**	*e*P	**Pn**	**01 53 52.2**	**+0.1**
PKA				*e*S	**Sn**	**01 54 43.6**	**-0.8**
PKA				AML	AML	01 55 05.5	
	comp=Z,846nm,0.8s						
SUR	**Sutherland**	**7.49**	**222**	Pn	**Pn**	**01 54 35.1**	**+1.3**
	comp=Z,7.4nm,0.3s,baz=63,slow=13,SNR=40						
SUR				Sn	**Sn**	**01 55 54.0**	**-5.3**
	comp=Z,8.7nm,0.3s,baz=18,slow=19,SNR=6.7						
SUR				Lg		01 56 35.1	
	comp=Z,28nm,0.3s,baz=322,slow=22,SNR=7.6						
SUR	**Sutherland**	**7.49**	**222**	Pn	**Pn**	**01 54 35.1**	**+1.3**
SUR				Sn	**Sn**	**01 55 54.0**	**-5.3**
SUR				Lg		01 56 35.1	
CVNA	**Calvinia**	**7.60**	**232**	*e*P	**Pn**	**01 54 35.6**	**+0.2**
CVNA				*e*S	**Sn**	**01 55 59.3**	**-2.8**
CVNA				AML	AML	01 56 46.8	
	comp=Z,301nm,0.9s						
KOMG	**Komaggas**	**8.64**	**249**	*e*P	**Pn**	**01 54 50.7**	**+0.9**
KOMG				*e*S	**Sn**	**01 56 24.0**	**-3.9**
KOMG				AML	AML	01 57 23.2	
	comp=Z,113nm,0.6s						
CER	**Ceres**	**9.09**	**223**	*e*P	**Pn**	**01 54 56.5**	**+0.7**
CER				*e*S	**Sn**	**01 56 33.7**	**-5.0**
CER				AML	AML	01 57 40.4	
	comp=Z,72nm,0.5s						
ELIM	**Elim**	**9.72**	**217**	*e*P	**Pn**	**01 55 05.0**	**+0.6**
ELIM				*e*S	**Sn**	**01 56 49.2**	**-5.0**
ELIM				AML	AML	01 57 54.0	
	comp=Z,77nm,0.5s						
TSUM	**Tsumeb**	**11.42**	**311**	*e*Pn	**Pn**	**01 55 26.5**	**-1.4**
	comp=Z,6.2nm,0.6s						
TSUM				*e*Sn	**Sn**	**01 57 32.8**	**-3.3**
TSUM				*e*Lg		01 58 35.2	
LSZ	**Lusaka**	**11.69**	**7**	*e*Pn	**Pn**	**01 55 29.1**	**-2.3**
	comp=Z,25nm,0.8s						
LSZ				*e*Sn	**Sn**	**01 57 31.4**	**-11**
LSZ				*e*Lg		01 58 46.7	
DBIC	**Dimbokro**	**45.32**	**313**	P	**P**	**02 01 03.5**	**+0.2**
	comp=Z,5.9nm,1.0s,mb4.4,baz=153,slow=9.0,SNR=3.0						
DBIC	**Dimbokro**	**45.32**	**313**	P	**P**	**02 01 03.5**	**+0.2**
MAW	**Mawson**	**46.16**	**162**	P	**P**	**02 01 10.6**	**+1.3**
	comp=Z,2.2nm,0.8s,mb4.1,baz=307,slow=10,SNR=3.1						
MAW	**Mawson**	**46.16**	**162**	P	**P**	**02 01 10.6**	**+1.3**
TORD	**Torodi Ar. Bea**	**46.70**	**325**	P	**P**	**02 01 13.8**	**-0.3**
	comp=Z,4.0nm,0.7s,mb4.5,baz=142,slow=7.0,SNR=27						
TORD	**Torodi Ar. Bea**	**46.70**	**325**	P	**P**	**02 01 13.8**	**-0.3**
SNAA	**Sanae**	**47.69**	**192**	*e*	**P**	**02 01 18.5**	**-2.7**
SNAA	**Sanae**	**47.69**	**192**	*e*P	**P**	**02 01 18.1**	**-3.0**
	comp=Z,7.3nm,0.8s,mb4.8						
VNA1	**Neumayer--Stat**	**48.04**	**195**	*e*	**P**	**02 01 23.2**	**-0.7**
VNA2	**Neumayer--Watz**	**48.05**	**194**	*e*	**P**	**02 01 22.5**	**-1.4**
VNA3	**Neumayer Olymp**	**48.79**	**195**	*e*	**P**	**02 01 27.7**	**-1.9**
TAM	**Tamanrasset**	**53.54**	**335**	*e*P	**P**	**02 02 06.2**	**+0.3**
	comp=Z,2.2nm,1.0s,mb4.0						
MMAI	**Mount Meron Ar**	**60.19**	**8**	P	**P**	**02 02 54.7**	**+1.8**
	comp=Z,1.3nm,0.6s,mb4.2,baz=195,slow=9.0,SNR=4.9						
MMAI	**Mount Meron Ar**	**60.19**	**8**	P	**P**	**02 02 54.7**	**+1.8**
QSPA	**South Pole Qui**	**63.25**	**180**	P	**P**	**02 03 14.1**	**+1.1**
	comp=Z,2.2nm,0.6s,mb4.5,baz=228,slow=6.4,SNR=8.0						
QSPA	**South Pole Qui**	**63.25**	**180**	P	**P**	**02 03 14.1**	**+1.1**
BRTR	**Keskin Array B**	**66.63**	**6**	P	**P**	**02 03 36.8**	**+1.3**
	comp=Z,0.9nm,0.8s,mb3.9,baz=182,slow=7.2,SNR=3.2						
BRTR	**Keskin Array B**	**66.63**	**6**	P	**P**	**02 03 36.8**	**+1.3**
MLR	**Muntele Rosu**	**72.09**	**359**	P	**P**	**02 04 08.2**	**-0.9**
	comp=Z,1.1nm,1.0s,mb3.8,baz=151,slow=10,SNR=4.4						
MLR	**Muntele Rosu**	**72.09**	**359**	P	**P**	**02 04 08.2**	**-0.9**
ESDC	**Sonseca Array**	**72.20**	**336**	P	**P**	**02 04 10.5**	**+0.6**
	comp=Z,1.0nm,0.5s,mb4.0,baz=153,slow=5.9,SNR=7.7						
ESDC	**Sonseca Array**	**72.20**	**336**	P	**P**	**02 04 10.5**	**+0.6**
VNDA	**Vanda**	**72.40**	**171**	P	**P**	**02 04 11.8**	**+1.0**
	comp=Z,1.1nm,0.7s,mb3.9,baz=270,slow=4.7,SNR=5.5						
VNDA	**Vanda**	**72.40**	**171**	*e*P	**P**	**02 04 12.0**	**+1.2**
	comp=Z,2.0nm,0.9s,mb4.0						
TRQA	**Tornquist**	**73.01**	**236**	*e*P	**P**	**02 04 15.9**	**+0.8**
	comp=Z,8.9nm,1.2s,mb4.6						
GERES	**GERESS Array B**	**76.34**	**351**	P	**P**	**02 04 34.8**	**+0.9**
	comp=Z,0.5nm,0.7s,mb3.5,baz=188,slow=6.0,SNR=3.5						
GERES	**GERESS Array B**	**76.34**	**351**	P	**P**	**02 04 34.8**	**+0.9**
AKASG	**Malin Array Be**	**77.33**	**2**	P	**P**	**02 04 38.7**	**-0.7**
	comp=Z,0.2nm,0.4s,mb3.4,baz=198,slow=5.9,SNR=5.0						
AKASG	**Malin Array Be**	**77.33**	**2**	P	**P**	**02 04 38.7**	**-0.7**
KKAR	**Karatay Array**	**80.48**	**31**	*e*P	**P**	**02 04 57.5**	**+0.7**
	comp=Z,3.7nm,0.9s,mb4.3						
LPAZ	**La Paz**	**86.98**	**253**	P	**P**	**02 05 32.1**	**+1.2**
	comp=Z,2.4nm,0.7s,mb4.5,baz=94,slow=7.4,SNR=11						
LPAZ	**La Paz**	**86.98**	**253**	*e*P	**P**	**02 05 31.8**	**+0.8**
	comp=Z,8.9nm,1.4s,mb4.8						
FINES	**FINESS Array B**	**88.07**	**360**	P	**P**	**02 05 35.9**	**+0.9**
	comp=Z,2.6nm,0.9s,mb4.5,baz=182,slow=7.0,SNR=5.6						
FINES	**FINESS Array B**	**88.07**	**360**	P	**P**	**02 05 35.9**	**+0.9**
ASAR	**Alice Springs**	**93.52**	**119**	P	**P**	**02 06 02.5**	**+1.0**
	comp=Z,0.3nm,0.6s,mb3.9,baz=228,slow=5.2,SNR=4.1						
ASAR	**Alice Springs**	**93.52**	**119**	P	**P**	**02 06 02.5**	**+1.0**
TXAR	**Lajitas Array**	**136.47**	**285**	PKhKP	PKPpre	02 12 02.4	
	comp=Z,0.3nm,0.9s,baz=90,slow=3.6,SNR=2.9						
TXAR				PKP	PKPdf	02 12 09.4	+1.9
	comp=Z,0.7nm,0.9s,baz=94,slow=5.4,SNR=4.8						
TXAR	**Lajitas Array**	**136.47**	**285**	PKPpre	PKPpre	02 12 02.4	
TXAR				PKP	PKPdf	02 12 09.4	+1.9
ILAR	**Eielson Array**	**141.95**	**356**	PKhKP	PKPpre	02 12 11.7	
	comp=Z,0.4nm,0.7s,baz=335,slow=3.0,SNR=5.0						
ILAR	**Eielson Array**	**141.95**	**356**	PKPpre	PKPpre	02 12 11.7	
DUG	**Dugway**	**144.12**	**302**	*e*PKPdf	PKPdf	02 12 19.9	-1.1
HLID	**Hailey**	**144.59**	**308**	*e*PKPdf	PKPdf	02 12 22.1	+0.5
BMO	**Blue Mountains**	**146.19**	**311**	*e*PKPbc	PKPbc	02 12 26.3	+0.9
LDFC	**Landfair**	**146.48**	**293**	*e*PKPbc	PKPbc	02 12 28.6	+2.0
WVOR	**Wild Horse Val**	**147.88**	**308**	*e*PKPbc	PKPbc	02 12 30.5	+0.2
NVAR	**Mina Array Bea**	**148.62**	**300**	PKPbc	PKPbc	02 12 34.9	+2.6
	2.3nm,0.7s,baz=82,slow=3.9,SNR=24						
NVAR	**Mina Array Bea**	**148.62**	**300**	PKPbc	PKPbc	02 12 34.9	+2.6

IDC ***23*** *01:53:30.2±0.6,4°.13N×126°.58E,h0km,mb4.1/16, mb1 4.2/17,mb1mx4.1/25,mbtmp4.1/17,ML4.2/1,MS3.5/4, Ms1 3.6/4,ms1mx2.9/35,Error ellipse: s-maj=33.3km s-min=13.1km az=73.0*
NEIC ***23*** *01:53:34.5±3.0,4°.17N×126°.63E,h28km±22km,mb4.4/9, Error ellipse: s-maj=17.1km s-min=5.6km az=72.0*
ISCJB ***23*** *01:53:35.9±0.7,4°.18N±0°.03×126°.66E±0°.06,h56km±6km, mb4.4/31,MS3.5/4,Error ellipse: s-maj=10.0km s-min=5.1km az=167.2*
DJA ***23*** *01:53:44,3°.64N×126°.46E,h17km,mb4.8/6*
MAN ***23*** *01:54:07,6°.15N×125°.49E,h24km,mb4.8,ML3.7,MS3.7*
ISC 23 01:53:37.5±0.7,4°.17N±0°.03×126°.64E±0°.06,h54km±6km, n77,σ1°03/85,mb4.4/31,MS3.5/4,1C,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.21**	**247**	P	**Pn**	**01 53 56.8**	**-1.3**
SGSI				S	**Sn**	**01 54 13.1**	**-0.4**
GSPH	**General Santos**	**2.54**	**319**	*e*P	**Pn**	**01 54 14.9**	**-1.4**
DAV	**Davao City (W)**	**3.07**	**340**	Pn	**Pn**	**01 54 20.7**	**-2.9**
	32nm,0.3s,baz=130,slow=8.6,SNR=1.8						
DAV				Sn	**Sn**	**01 55 02.7**	**+3.6**
	43nm,0.3s,baz=18,slow=17,SNR=3.8						
DAV				Lg		01 55 16.3	
	86nm,0.3s,baz=17,slow=13,SNR=4.7						
DAV	**Davao City (W)**	**3.07**	**340**	Pn	**Pn**	**01 54 20.7**	**-2.9**
DAV				Sn	**Sn**	**01 55 02.8**	**+3.6**
DAV				Lg		01 55 16.4	
DMPH	**Davao City--Mi**	**3.11**	**339**	*e*P	**Pn**	**01 54 23.

	10nm,0.6s,mb5.0							
DANN	**Dangsing**	**47.29**	**305**	*e*P		**P**	02 02 05.0	**-0.9**
	14nm,0.7s,mb5.0							
PYUN	**Piuthan**	**47.83**	**305**	*e*P		**P**	02 02 09.6	**-0.5**
	16nm,0.9s,mb5.0							
PETK	**Petropavlovsk-**	**55.06**	**22**	P		**P**	02 03 04.5	**+0.8**
	2.2nm,0.8s,mb4.2,baz=196,slow=9.9,SNR=2.9							
PETK				LR		LR	02 28 31.1	
	comp=Z,40nm,19.0s,MS3.5,baz=305,slow=38							
PETK	**Petropavlovsk-**	**55.06**	**22**	P		**P**	02 03 04.5	**+0.8**
MK31	**Makanchi Array**	**57.15**	**325**	*e*P		**P**	02 03 17.7	**-1.0**
MKAR	**Makanchi Array**	**57.15**	**325**	P		**P**	02 03 18.5	**-0.3**
	1.3nm,0.5s,mb4.2,baz=131,slow=8.2,SNR=14							
MKAR				ScP		ScP	02 08 15.2	+6.9
	0.6nm,0.8s,baz=139,slow=4.1,SNR=3.1							
MKAR	**Makanchi Array**	**57.15**	**325**	P		**P**	02 03 18.5	**-0.3**
MKAR				ScP		ScP	02 08 15.2	+6.9
ZALV	**Zalesovo Beam**	**60.16**	**333**	P		**P**	02 03 39.1	**-0.4**
	0.7nm,0.5s,mb3.9,baz=115,slow=5.2,SNR=5.6							
ZALV				LR		LR	02 31 42.3	
	comp=Z,27nm,18.0s,MS3.4,baz=180,slow=38							
ZALV	**Zalesovo Beam**	**60.16**	**333**	P		**P**	02 03 39.1	**-0.4**
KURK	**Kurchatov**	**61.33**	**327**	*e*P		**P**	02 03 46.6	**-1.0**
	5.1nm,0.7s,mb4.8							
BVAR	**Borovoye Array**	**66.91**	**327**	P		**P**	02 04 23.0	**-1.1**
	2.3nm,0.8s,mb4.2,baz=132,slow=8.6,SNR=7.2							
BVAR	**Borovoye Array**	**66.91**	**327**	P		**P**	02 04 23.0	**-1.1**
BRVK	**Borovoye**	**66.98**	**327**	*e*P		**P**	02 04 24.4	**-0.2**
	5.1nm,0.9s,mb4.5							
ABKAR	**Akbulak array**	**71.76**	**321**	*e*P		**P**	02 04 53.9	**-0.3**
	1.7nm,0.8s,mb4.0							
AKTO	**Aktyubinsk**	**73.26**	**322**	P		**P**	02 05 02.6	**-0.5**
	1.9nm,0.8s,mb4.1,baz=103,slow=6.7,SNR=7.7							
AKTO	**Aktyubinsk**	**73.26**	**322**	P		**P**	02 05 02.6	**-0.5**
ILAR	**Eielson Array**	**84.75**	**25**	P		**P**	02 06 06.0	**+0.4**
	0.4nm,0.6s,mb3.8,baz=246,slow=5.8,SNR=6.4							
ILAR	**Eielson Array**	**84.75**	**25**	P		**P**	02 06 06.0	**+0.4**
JOF	**Joensuu**	**88.75**	**333**	*e*p		**P**	02 06 24.9	**-0.3**
	2.1nm,0.7s,mb4.6							
ARCES	**ARCESS Array B**	**90.01**	**340**	P		**P**	02 06 32.4	**+1.4**
	3.8nm,1.1s,mb4.7,baz=68,slow=5.0,SNR=3.1							
ARCES	**ARCESS Array B**	**90.01**	**340**	P		**P**	02 06 32.4	**+1.4**
KAF	**Kangasniemi**	**91.17**	**332**	*e*p		**P**	02 06 36.5	**0.0**
	2.5nm,0.7s,mb4.7							
FINES	**FINESS Array B**	**91.41**	**332**	P		**P**	02 06 37.7	**+0.1**
	1.9nm,0.8s,mb4.5,baz=90,slow=5.7,SNR=3.1							
FINES	**FINESS Array B**	**91.41**	**332**	P		**P**	02 06 37.7	**+0.1**
HFS	**Hagfors**	**97.59**	**332**	P		**P**	02 07 05.7	**-0.2**
	9.8nm,1.1s,mb5.2,baz=45,slow=2.2,SNR=3.8							
HFS	**Hagfors**	**97.59**	**332**	P		**P**	02 07 05.7	**-0.2**
NOA	**NORSAR Array B**	**98.36**	**334**	P		**P**	02 07 11.0	**+1.6**
	1.2nm,0.8s,mb4.5,baz=72,slow=6.1,SNR=3.3							
NOA				LR		LR	02 55 43.6	
	comp=Z,54nm,19.3s,MS4.0,baz=0.0,slow=38							
NOA	**NORSAR Array B**	**98.36**	**334**	P		**P**	02 07 11.0	**+1.6**

*ISCJB **23** 02:44:45.6±1.0, 10°.35N±0°.05×62°.33W±0°.03, h10km±9km, Error ellipse: s-maj=9.3km s-min=5.7km az=1.4*
*FUNV **23** 02:44:45.9, 10°.34N×62°.30W, h2km, MW2.8*
*TRN **23** 02:44:57.2, 10°.76N×61°.74W, h14km, MD3.1*

ISC 23 02:44:46.0±0.8, 10°.34N±0°.05×62°.36W±0°.03, h4km±7km, n16, σ0s91/25, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.33**	**23**	*e*P		**Pg**	**02 44 52.0**	**-0.5**
GUIV				*e*S		**Sg**	**02 44 56.7**	**-0.2**
GUNV	**Guanoco**	**0.60**	**253**	*e*P		**Pg**	**02 44 58.2**	**+0.5**
GUNV				*e*S		**Sg**	**02 45 09.4**	**+4.0**
CRUV	**Carupano**	**0.93**	**291**	*e*P		**Pg**	**02 45 02.8**	**-1.0**
CRUV				*e*S		**Sg**	**02 45 15.9**	**0.0**
TRN	**Trinidad (W)**	**0.99**	**72**	*e*P		**Pg**	**02 45 04.2**	**-0.7**
TRN				*e*S		**Sg**	**02 45 09.5**	**-8.2**
TBH	**Brigand Hill**	**1.28**	**83**	*e*P		**Pn**	**02 45 11.9**	**+1.2**
TBH				*e*S		**Sb**	**02 45 21.5**	**-5.9**
ORIV	**Oritupano**	**1.63**	**220**	*e*P		**Pn**	**02 45 16.1**	**+0.5**
ORIV				*e*S		**Sn**	**02 45 38.1**	**+1.1**
TPR	**Prospect**	**1.77**	**61**	*e*P		**Pn**	**02 45 17.8**	**+0.5**
GRW	**Mount Saint Ca**	**1.94**	**21**	*e*P		**Pn**	**02 45 21.9**	**+2.2**
TOSP	**Speyside**	**2.03**	**62**	*e*P		**Pn**	**02 45 21.4**	**+0.4**
TOSP				*e*S		**Sn**	**02 45 38.6**	**-8.2**
PCRV	**Puerto La Cruz**	**2.25**	**266**	*e*P		**Pn**	**02 45 24.3**	**+0.3**
PCRV				*e*S		**Sn**	**02 45 52.3**	**0.0**
RIOV	**Rio Grande**	**2.32**	**167**	*e*P		**Pn**	**02 45 23.6**	**-1.4**
GURV	**El Guri**	**2.66**	**196**	*e*P		**Pn**	**02 45 29.3**	**-0.4**
CUPV	**Cœpira**	**3.39**	**266**	*e*P		**Pn**	**02 45 40.1**	**+0.4**
CUPV				*e*S		**Sn**	**02 46 18.7**	**-1.7**
BIRV	**Birongo**	**3.85**	**272**	*e*P		**Pn**	**02 45 46.1**	**0.0**
LUEV	**Luepa**	**4.55**	**169**	*e*P		**Pn**	**02 45 54.9**	**-0.9**
BAUV	**El Baul**	**5.78**	**257**	*e*P		**Pn**	**02 46 11.5**	**-1.0**

CASC 23 03:30:01.2±1.6, 12°.19N×87°.08W, h75km±11km, MD3.7, ML3.5, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**0.51**	**3**	*e*P		Pn	03 30 14.9	+0.3
CRIN				*e*S		Sn	03 30 25.6	+1.1
CRIN				AML		AML	03 30 26.7	
	comp=E,1μm,0.2s							
TISN	**Laguna Tiscapa**	**0.79**	**93**	*e*P		Pn	03 30 17.3	-0.2
MGAN	**Managua**	**0.81**	**93**	*e*P		Pn	03 30 17.6	-0.2
MGAN				*e*S		Sn	03 30 30.5	+0.4
MGAN				AML		AML	03 30 31.6	
	comp=N,1μm,0.2s							
CNCH	**Conchagua**	**1.31**	**326**	*e*P		Pn	03 30 23.9	0.0
CNCH				*e*S		Sn	03 30 42.0	+1.0
CONN	**Concepcion**	**1.55**	**113**	*e*P		Pn	03 30 28.5	+1.5
CONN				*e*S		Sn	03 30 47.9	+1.4
BLLM	**Bellamira**	**1.68**	**318**	*e*P		Pn	03 30 29.3	+0.6
VSM	**San Miguel**	**1.70**	**317**	*e*P		Pn	03 30 29.8	+0.8
TGUH	**Tegucigalpa,Un**	**1.87**	**354**	*e*P		Pn	03 30 32.1	+0.9
TGUH				*e*S		Sn	03 30 54.9	+0.9
CAHU	**Cacacuatique**	**1.92**	**325**	*e*P		Pn	03 30 32.6	+0.6
JTS	**JuntasAbangare**	**2.81**	**132**	*e*P		Pn	03 30 43.2	-0.7

*ISCJB **23** 03:44:53.6±1.1, 37°.6N±0°.1×96°.06E±0°.08, h10km, mb3.3/3, Error ellipse: s-maj=16.9km s-min=8.9km az=165.3*
*IDC **23** 03:44:53.8±1.4, 37°.55N×95°.97E, h0km, mb3.4/3, mb1 3.4/7, mb1mx3.3/29, mbtmp3.4/7, ML3.4/4, Error ellipse: s-maj=42.8km s-min=21.3km az=45.0*
*BJI **23** 03:44:57.4, 37°.58N×96°.11E, h19km, ML3.4/6*

ISC 23 03:44:55.3±1.1, 37°.6N±0°.1×95°.93E±0°.08, h10km, n8, σ1s30/11, mb3.3/3, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
GTA	**Gaotai**	**3.57**	**58**	Pn		**Pn**	**03 45 52.8**	**+2.2**
GTA				Pg		**Pg**	**03 46 00.5**	**-3.1**
GTA				Sn		**Sn**	**03 46 38.5**	**+5.7**
GTA				Sg		**Sg**	**03 46 49.4**	**-0.4**
GTA				smax				
	comp=N,17nm,1.2s							
GTA				smax				
	comp=E,13nm,1.0s							
SONM	**Songino Array**	**12.82**	**33**	Pn		**Pn**	**03 47 58.4**	**+0.9**
	comp=E,0.4nm,0.3s,baz=217,slow=15,SNR=10							
MKAR	**Makanchi Array**	**13.67**	**317**	Pn		**Pn**	**03 48 05.4**	**-3.7**
	comp=E,0.2nm,0.3s,baz=131,slow=13,SNR=8.6							
KURK	**Kurchatov**	**18.03**	**322**	P		**Pn**	**03 49 05.0**	**-0.7**
	comp=E,0.0nm,0.3s,baz=129,slow=12,SNR=4.0							
ZALV	**Zalesovo Beam**	**18.09**	**338**	P		**Pn**	**03 49 07.7**	**+1.2**
	comp=E,0.1nm,0.3s,baz=168,slow=7.4,SNR=2.5							
BVAR	**Borovoye Array**	**23.52**	**319**	P		**P**	**03 50 05.1**	**-0.5**
	comp=E,0.4nm,0.5s,mb3.1,baz=102,slow=6.1,SNR=3.0							
KSRS	**Korea Array**	**25.32**	**80**	P		**P**	**03 50 20.8**	**-1.4**
	comp=E,1.0nm,0.5s,mb3.6,baz=281,slow=10,SNR=4.2							
ASAR	**Alice Springs**	**70.61**	**143**	P		**P**	**03 56 11.3**	**+0.5**
	comp=E,0.2nm,0.6s,mb3.2,baz=316,slow=6.5,SNR=3.2							

IDC 23 04:16:06.6±2.8, 13°.67S×166°.79E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.8/3, MS3.5/3, Ms1 3.5/3, ms1mx2.8/27, Error ellipse: s-maj=118.3km s-min=45.8km az=139.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**29.34**	**228**	P		P	04 22 10.8	-0.3
	1.7nm,0.4s,baz=58,slow=9.3,SNR=9.0							
WRA	**Warramunga Arr**	**31.65**	**254**	P		P	04 22 30.2	-1.6
	0.7nm,1.2s,baz=83,slow=7.0,SNR=2.6							
ASAR	**Alice Springs**	**32.63**	**247**	P		P	04 22 42.1	+1.8
	0.4nm,0.4s,baz=75,slow=9.4,SNR=12							
CBIJ	**Chichi jima**	**47.04**	**330**	LR		LR	04 41 05.0	
	comp=Z,50nm,20.4s,baz=308,slow=32							
TGY	**Tagaytay City**	**53.12**	**300**	LR		LR	04 44 30.5	
	comp=Z,6.3nm,19.2s,baz=12,slow=32							
RPN	**Rapa Nui**	**78.53**	**115**	LR		LR	04 53 46.2	
	comp=Z,159nm,18.9s,baz=270,slow=29							
ARCES	**ARCESS Array B**	**119.11**	**345**	PKP		PKPdf	04 34 56.8	-0.1
	2.1nm,1.0s,baz=45,slow=2.8,SNR=5.9							

ATH 23 04:19:22.7, 36°.35N×21°.70E, h10km, MD3.0/3, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ITM	**Ithomi**	**0.85**	**12**	*e*PB		Pb	04 19 38.7	-0.8
VLI	**Veliai**	**1.06**	**69**	*e*PN		Pn	04 19 43.2	-0.4
KYTH	**Kithira**	**1.08**	**93**	*e*PG		Pg	04 19 42.9	-0.6

*NEIC **23** 04:33:04.3, 19°.55N×66°.23W, h35km, MD3.5(RSPR), After RSPR.*

RSPR 23 04:33:04.3, 19°.55N×66°.23W, h35km±23km, MD3.5/8, 13C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AOPR	**Arecibo Observ**	**1.30**	**203**	⇑*e*P		Pn	04 33 23.8	-2.1
AOPR	**Arecibo Observ**	**1.30**	**203**	⇑*e*P		Pn	04 33 23.8	-2.1
CBYP	**Canovanas**	**1.32**	**164**	⇑*e*P		Pn	04 33 25.1	-1.2
CBYP	**Canovanas**	**1.32**	**164**	⇑*e*P		Pn	04 33 25.1	-1.2
LRS	**Lares**	**1.38**	**205**	*e*Pn		Pn	04 33 26.2	-0.8
SJG	**San Juan**	**1.44**	**177**	⇑*e*P		Pn	04 33 26.2	-1.6
SJG	**San Juan**	**1.44**	**177**	⇑*e*P		Pn	04 33 26.6	-1.2
SJG				*e*S		Sn	04 33 44.3	-1.2
SJG	**San Juan**	**1.44**	**177**	⇑*e*P		Pn	04 33 26.2	-1.6
SJG				*e*S		Sn	04 33 44.1	-1.4
HUMP	**Col San Antoni**	**1.45**	**166**	⇑*e*P		Pn	04 33 26.8	-1.2
HUMP	**Col San Antoni**	**1.45**	**166**	⇑*e*P		Pn	04 33 26.8	-1.2
HUMP				*e*S		Sn	04 33 44.9	-0.8
CELP	**Cerrillos**	**1.51**	**193**	⇓*e*P		Pn	04 33 28.1	-0.7
CELP	**Cerrillos**	**1.51**	**193**	⇓*e*P		Pn	04 33 28.1	-0.7
OBIP	**Obispado Ponce**	**1.54**	**193**	*e*Pn		Pn	04 33 28.1	-1.2
OBIP				*e*Sn		Sn	04 33 46.2	-2.0
MTP	**Monte Pirata**	**1.58**	**156**	⇑*e*P		Pn	04 33 29.1	-0.8
MTP	**Monte Pirata**	**1.58**	**156**	⇑*e*P		Pn	04 33 29.1	-0.8
MTP				*e*S		Sn	04 33 47.5	-1.5
LSP	**Las Mesas**	**1.59**	**211**	*e*Pn		Pn	04 33 28.9	-1.1
STVI	**Saint Thomas**	**1.70**	**135**	*e*Pn		Pn	04 33 33.5	+2.0
CRPR	**Cabo Rojo, PR**	**1.75**	**209**	⇑*e*P		Pn	04 33 31.3	-0.8
CRPR	**Cabo Rojo, PR**	**1.75**	**209**	⇑*e*P		Pn	04 33 31.3	-0.8
CRPR				*e*S		Sn	04 33 51.9	-1.3

*IDC **23** 04:40:23.2±0.9, 8°.98S×127°.03E, h0km, mb4.0/6, mb1 4.2/9, mb1mx4.0/18, mbtmp4.1/9, ML4.2/3, Error ellipse: s-maj=47.9km s-min=18.8km az=69.0*
*ISCJB **23** 04:40:28.5±1.7, 9°.20S±0°.06×126°.96E±0°.07, h62km±19km, mb4.0/8, Error ellipse: s-maj=13.2km s-min=9.7km az=148.1*
*NEIC **23** 04:40:31.2±1.3, 9°.15S×126°.96E, h67km±15km, mb3.9/3, Error ellipse: s-maj=11.8km s-min=9.3km az=213.0*

ISC 23 04:40:30.3±1.4, 9°.20S±0°.07×126°.97E±0°.07, h60km±17km, n28, σ1s05/35, mb4.0/8, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.41**	**123**	*e*Pn		**Pn**	**04 42 03.6**	**+1.5**
	39nm,0.4s							
KAKA				*e*Sn		**Sn**	**04 43 14.8**	**+0.9**
FITZ	**Fitzroy Crossi**	**8.94**	**188**	Pn		**Pn**	**04 42 38.3**	**+1.5**
	1.6nm,0.3s,baz=26,slow=12,SNR=46							
FITZ				Sn		**Sn**	**04 44 15.5**	**-0.6**
	5.0nm,0.3s,baz=81,slow=22,SNR=9.7							
FITZ	**Fitzroy Crossi**	**8.94**	**188**	Pn		**Pn**	**04 42 38.3**	**+1.5**
FITZ				Sn		**Sn**	**04 44 15.5**	**-0.6**
WRAB	**Tennant Creek**	**12.84**	**147**	*e*Pn		**Pn**	**04 43 28.7**	**-1.3**
	7.0nm,0.7s							
WRA	**Warramunga Arr**	**12.84**	**147**	Pn		**Pn**	**04 43 28.9**	**-1.1**
	1.4nm,0.3s,baz=319,slow=13,SNR=97							
WRA				Sn		**Sn**	**04 45 49.0**	**-2.3**
	3.5nm,0.3s,baz=322,slow=26,SNR=11							
WRA	**Warramunga Arr**	**12.84**	**147**	Pn		**Pn**	**04 43 28.9**	**-1.1**
WRA				Sn		**Sn**	**04 45 49.0**	**-2.3**
WB2	**Warramunga Arr**	**12.84**	**147**	*e*Pn		**Pn**	**04 43 28.7**	**-1.4**
MBWA	**Marble Bar**	**13.78**	**210**	*e*Pn		**Pn**	**04 43 44.7**	**+1.8**
AS31	**Alice Springs**	**15.84**	**156**	*e*Pn		**Pn**	**04 44 10.7**	**+1.2**
ASAR	**Alice Springs**	**15.84**	**156**	Pn		**Pn**	**04 44 09.7**	**+0.1**
	0.6nm,0.3s,baz=323,slow=9.7,SNR=28							
ASAR				Sn		**Sn**	**04 47 03.7**	**-0.6**
	0.9nm,0.3s,baz=326,slow=21,SNR=8.9							
ASAR	**Alice Springs**	**15.84**	**156**	Pn		**Pn**	**04 44 09.7**	**+0.1**
ASAR				Sn		**Sn**	**04 47 03.7**	**-0.6**
COEN	**Coen**	**16.56**	**108**	*e*Pn		**Pn**	**04 44 19.4**	**+0.6**
KKM	**Kota Kinabalu**	**18.55**	**324**	*e*P		**Pn**	**04 44 41.8**	**-1.3**
	7.8nm,0.9s							
STKA	**Stephens Creek**	**26.33**	**151**	P		**P**	**04 46 02.1**	**+1.4**
	0.8nm,0.4s,mb3.6,baz=340,slow=12,SNR=3.0							
STKA	**Stephens Creek**	**26.33**	**151**	P		**P**	**04 46 02.1**	**+1.4**
CMAR	**Chiang Mai Arr**	**38.99**	**315**	P		**P**	**04 47 51.6**	**+0.5**
	0.6nm,0.3s,mb3.8,baz=147,slow=6.8,SNR=4.9							
CMAR	**Chiang Mai Arr**	**38.99**	**315**	P		**P**	**04 47 51.6**	**+0.5**
SONM	**Songino Array**	**59.64**	**344**	P		**P**	**04 50 27.8**	**-0.3**
	0.4nm,0.5s,mb3.7,baz=150,slow=6.1,SNR=3.4							
SONM	**Songino Array**	**59.64**	**344**	P		**P**	**04 50 27.8**	**-0.3**
PETK	**Petropavlovsk-**	**67.36**	**20**	P		**P**	**04 51 19.6**	**+0.7**
	1.8nm,0.5s,mb4.3,baz=171,slow=4.5,SNR=3.6							
PETK	**Petropavlovsk-**	**67.36**	**20**	P		**P**	**04 51 19.6**	**+0.7**
MK31	**Makanchi Array**	**68.47**	**329**	*e*P		**P**	**04 51 25.6**	**-0.4**
MKAR	**Makanchi Array**	**68.47**	**329**	P		**P**	**04 51 25.9**	**-0.2**
	1.6nm,0.5s,mb4.3,baz=125,slow=7.8,SNR=27							
MKAR	**Makanchi Array**	**68.47**	**329**	P		**P**	**04 51 25.9**	**-0.2**
ZALV	**Zalesovo Beam**	**72.27**	**335**	P		**P**	**04 51 48.4**	**-0.7**
	1.8nm,0.5s,mb4.3,baz=130,slow=5.8,SNR=9.5							
ZALV	**Zalesovo Beam**	**72.27**	**335**	P		**P**	**04 51 48.4**	**-0.7**
KURK	**Kurchatov**	**72.87**	**330**	*e*P		**P**	**04 51 52.5**	**-0.2**
	1.2nm,0.4s,mb4.2							
ABKAR	**Akbulak array**	**82.39**	**323**	*e*P		**P**	**04 52 45.8**	**0.0**
	0.5nm,0.5s,mb3.7							

*ISCJB **23** 04:43:44.9±0.5, 38°.40N±0°.05×27°.13E±0°.04, h11km±4km, Error ellipse: s-maj=8.5km s-min=5.4km az=258.7*
*CSEM **23** 04:43:44.8±0.1, 38°.39N×27°.15E, h10km, MD2.7, Error ellipse: s-maj=3.3km s-min=2.4km az=157.0*
*DDA **23** 04:43:44.5, 38°.40N×27°.15E, h7km±1km, Md2.8*
*ISK **23** 04:43:44.5, 38°.38N×27°.17E, h11km, MD2.7*

ISC 23 04:43:44.9±0.6, 38°.36N±0°.05×27°.15E±0°.04, h10km±4km, n26, σ0s71/38, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BLCB	**Balcova**	**0.09**	**284**	*e*PG		**Pg**	**04 43 47.8**	**+0.4**
BLCB				*e*SG		**Sg**	**04 43 49.5**	**+0.4**
BLCB	**Balcova**	**0.09**	**284**	*e*Pg		**Pg**	**04 43 47.8**	**+0.4**
BLCB				*e*Sg		**Sg**	**04 43 49.5**	**+0.4**
IZM	**Izmir**	**0.09**	**69**	*e*PG		**Pg**	**04 43 46.9**	**-0.5**
IZM	**Izmir**	**0.09**	**69**	*e*Pg		**Pg**	**04 43 46.9**	**-0.5**
URLA	**Izmir**	**0.44**	**270**	*i*P		**Pg**	**04 43 53.3**	**-0.1**
URLA				*i*S		**Sg**	**04 43 58.8**	**-0.4**
URLA	**Izmir**	**0.44**	**270**	*i*P		**Pg**	**04 43 53.3**	**-0.1**
URLA				*i*S		**Sg**	**04 43 58.8**	**-0.4**
AKHS	**Akhisar**	**0.73**	**45**	*i*P		**Pg**	**04 43 58.2**	**-0.8**
AKHS				*e*S		**Sg**	**04 44 08.5**	**-0.1**
AKHS	**Akhisar**	**0.73**	**45**	*i*P		**Pg**	**04 43 58.2**	**-0.8**
AKHS				*e*S		**Sg**	**04 44 08.5**	**-0.1**
AKS	**Akhisar**	**0.73**	**45**	*e*PG		**Pg**	**04 43 58.6**	**-0.4**
AKS				*e*SG		**Sg**	**04 44 09.3**	**+0.7**
AKS	**Akhisar**	**0.73**	**45**	*e*Pg		**Pg**	**04 43 58.7**	**-0.3**
AKS				*e*Sg		**Sg**	**04 44 09.3**	**+0.7**
AYVA	**Ayvalik**	**1.01**	**339**	*i*P		**Pg**	**04 44 03.1**	**-1.2**
AYVA				*i*S		**Sg**	**04 44 20.0**	**+2.6**
AYVA	**Ayvalik**	**1.01**	**339**	*i*P		**Pg**	**04 44 03.2**	**-1.1**
AYVA				*i*S		**Sg**	**04 44 20.0**	**+2.5**
MANT	**Manisa**	**1.11**	**83**	*i*P		**Pb**	**04 44 05.9**	**-0.3**
MANT				*i*S		**Sb**	**04 44 21.5**	**+0.8**
MANT	**Manisa**	**1.11**	**83**	*i*P		**Pb**	**04 44 05.9**	**-0.3**
MANT				*i*S		**Sb**	**04 44 21.5**	**+0.8**
MLSB	**Milas**	**1.18**	**155**	*e*PN		**Pn**	**04 44 07.7**	**+0.3**
MLSB	**Milas**	**1.18**	**155**	*e*Pn		**Pn**	**04 44 07.7**	**+0.4**
BODT	**Bodrum**	**1.30**	**174**	*e*PN		**Pn**	**04 44 09.8**	**+0.7**
BODT	**Bodrum**	**1.30**	**174**	*e*Pn		**Pn**	**04 44 09.8**	**+0.7**
BALB	**Balikesir**	**1.40**	**24**	*e*PN		**Pn**	**04 44 09.8**	**-0.5**
BALB	**Balikesir**	**1.40**	**24**	*e*Pn		**Pn**	**04 44 09.8**	**-0.6**
EZN	**Ezine**	**1.59**	**337**	*e*PN		**Pn**	**04 44 13.2**	**0.0**
EZN	**Ezine**	**1.59**	**337**	*e*Pn		**Pn**	**04 44 13.2**	**+0.1**
DST	**Dursunbey**	**1.69**	**42**	*e*PN		**Pn**	**04 44 14.0**	**-0.4**
DST	**Dursunbey**	**1.69**	**42**	*e*Pn		**Pn**	**04 44 14.0**	**-0.4**
GONE	**Gonen-Balikesi**	**1.73**	**14**	*e*PN		**Pn**	**04 44 14.8**	**-0.2**
GONE	**Gonen-Balikesi**	**1.73**	**14**	*e*Pn		**Pn**	**04 44 14.8**	**-0.2**

*NNC **23** 05:13:58.6±4.4, 39°.36N×73°.68E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=33.8km s-min=17.6km az=170.0*

ISC 23 05:13:57.1±2.4, 39°.1N±0°.2×73°.6E±0°.1, h10km, n11, σ1s06/14, 4C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AML	**Almayashu**	**3.01**	**1**	P		**Pn**	**05 14 44.9**	**0.0**
	SNR=42							
KZA	**Kyzart**	**3.20**	**22**	P		**Pn**	**05 14 47.0**	**-0.5**
	SNR=10							
EKS2	**Erkin-Say**	**3.54**	**2**	P		**Pn**	**05 14 52.5**	**+0.3**
	SNR=9.9							
AAK	**Ala-Archa**	**3.57**	**10**	P		**Pn**	**05 14 52.4**	**-0.2**
	SNR=20							
KBK	**Karagaybulak**	**3.67**	**15**	P		**Pn**	**05 14 56.2**	**+2.3**
	SNR=7.2							
ULHL	**Ulahol**	**3.70**	**31**	P		**Pn**	**05 14 54.6**	**+0.3**
	SNR=5.4							
TKM2	**Tokmak 2**	**4.08**	**21**	P		**Pn**	**05 14 58.9**	**-0.6**
	SNR=12							
TKM2	**Tokmak 2**	**4.08**	**21**	⇑Pn		**Pn**	**05 14 59.1**	**-0.4**
	5.5nm,0.6s							
TKM2				⇓Sn		**Sn**	**05 15 46.3**	**-0.9**
	14nm,0.5s							
USP	**Ospenovka**	**4.20**	**9**	P		**Pn**	**05 15 05.1**	**+3.9**
	SNR=9.7							
KK31	**Karatay Array**	**4.63**	**330**	⇑Pn		**Pn**	**05 15 08.3**	**+1.2**
	0.7nm,0.3s,baz=130,slow=13,SNR=29							
KK31				⇑Pg		**Pb**	**05 15 17.3**	**-1.1**
	1.3nm,0.3s,baz=156,slow=17,SNR=5.4							
KK31				⇓Sn		**Sn**	**05 16 01.9**	**+1.0**
	4.4nm,0.5s,baz=145,slow=25,SNR=4.2							
KK31				⇑Lg			05 16 15.4	
	9.6nm,0.5s,baz=145,slow=29,SNR=4.0							
AB31	**Akbulak array**	**14.09**	**320**	P		**Pn**	**05 17 14.8**	**-1.9**
	0.7nm,0.7s,baz=134,slow=12,SNR=6.7							

*IDC **23** 05:18:41.5±1.5, 5°.51N×94°.73E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.8/27, mbtmp3.9/10, ML4.0/1, Error ellipse: s-maj=62.8km s-min=19.6km az=58.0*
*NEIC **23** 05:18:47.3±0.8, 5°.65N×95°.02E, h35km, mb4.0/1, Error ellipse: s-maj=20.6km s-min=9.2km az=46.0*
NEIC Felt [II] at Banda Aceh.
*ISCJB **23** 05:18:49.5±0.9, 5°.7N±0°.1×94°.96E±0°.08, h74km±6km, mb3.8/10, Error

NEIC 23 05:40:57.6±3.3, 6°91S×129°14E, h134km±35km, mb4.4/1, Error ellipse: s-maj=28.4km s-min=21.9km az=172.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.62**	**151**	*e*Pn	Pn	05 42 31.6	-0.9
KAKA				*e*Sn	Sn	05 43 39.0	-7.7
FITZ	**Fitzroy Crossi**	**11.63**	**197**	P	Pn	05 43 40.2	+0.6
	0.3nm,0.3s,baz=124,slow=17,SNR=8.3						
FITZ				S	Sn	05 45 43.3	-4.7
	0.4nm,0.3s,baz=188,slow=4.9,SNR=3.0						
FITZ	**Fitzroy Crossi**	**11.63**	**197**	P	Pn	05 43 40.2	+0.6
FITZ				S	Sn	05 45 43.3	-4.7
WRA	**Warramunga Arr**	**13.90**	**159**	P	Pn	05 44 08.7	-0.3
	0.4nm,0.3s,baz=336,slow=12,SNR=11						
WRA				S	Sn	05 46 31.3	-11
	0.5nm,0.3s,baz=333,slow=23,SNR=9.4						
WRA	**Warramunga Arr**	**13.90**	**159**	P	Pn	05 44 08.7	-0.3
WRA				S	Sn	05 46 31.3	-11
COEN	**Coen**	**15.47**	**118**	*e*P	Pn	05 44 29.4	+0.7
	15nm,0.7s						
ASAR	**Alice Springs**	**17.27**	**165**	P	Pn	05 44 50.0	-0.7
	0.3nm,0.3s,baz=343,slow=9.7,SNR=20						
ASAR				S	S	05 47 55.9	-7.1
	0.2nm,0.3s,baz=348,slow=27,SNR=4.3						
ASAR	**Alice Springs**	**17.27**	**165**	P	Pn	05 44 50.0	-0.7
ASAR				S	S	05 47 55.9	-7.1
MKAR	**Makanchi Array**	**67.69**	**327**	P	P	05 51 40.2	-0.1
	0.7nm,0.8s,baz=118,slow=8.2,SNR=6.6						
MKAR	**Makanchi Array**	**67.69**	**327**	P	P	05 51 40.2	-0.1

GUC 23 05:48:21.7±0.6, 33°50S×70°47W, h96km±2km, MD3.2, ML3.6, 9C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FSR	**Penalolen**	**0.05**	**293**	⇑*i*P	Pn	05 48 35.5	+0.5
FSR				*i* S	Sn	05 48 45.8	+0.8
FSR				AML	AML	05 48 47.0	
	comp=N,1μm,0.3s						
LACH	**Col Las Americ**	**0.07**	**313**	⇑*i*P	Pn	05 48 35.3	+0.2
LACH				*i* S	Sn	05 48 45.8	+0.8
LACH				AML	AML	05 48 46.8	
	comp=E,2μm,0.3s						
CLCH	**Cerro Calan**	**0.12**	**332**	⇓*i*P	Pn	05 48 35.3	+0.1
CLCH				*i* S	Sn	05 48 46.1	+0.9
CLCH				AML	AML	05 48 48.7	
	comp=E,4μm,0.6s						
CLCH				AML	AML	05 48 49.2	
	comp=E,5μm,0.6s						
PCH	**Pirque**	**0.13**	**196**	⇑*i*P	Pn	05 48 35.4	+0.2
PCH				*i* S	Sn	05 48 45.6	+0.4
ANTU	**Antumapu**	**0.15**	**243**	⇑*i*P	Pn	05 48 35.4	+0.2
ANTU				*i* S	Sn	05 48 46.0	+0.6
ANTU				AML	AML	05 48 46.8	
	comp=E,4μm,0.3s						
SAN	**Santiago**	**0.17**	**286**	⇑*i*P	Pn	05 48 35.4	+0.2
SAN				*i* S	Sn	05 48 45.9	+0.5
FCH	**Farellones**	**0.23**	**41**	⇓*i*P	Pn	05 48 32.1	-3.3
FCH				*i* S	Sn	05 48 43.1	-2.6
FCH				AML	AML	05 48 46.0	
	comp=E,3μm,0.2s						
RCDM	**Rinconada Maip**	**0.28**	**272**	*e*P	Pn	05 48 35.9	+0.2
RCDM				*i* S	Sn	05 48 46.9	+0.7
RCDM				AML	AML	05 48 47.4	
	comp=E,5μm,0.1s						
PEL	**Peldehue**	**0.40**	**333**	⇑*i*P	Pn	05 48 36.7	+0.4
PEL				*i* S	Sn	05 48 48.0	+0.7
PEL				AML	AML	05 48 49.3	
	comp=N,6μm,0.3s						
LMEL	**Las Melosas**	**0.41**	**147**	⇓*i*P	Pn	05 48 36.6	+0.1
LMEL				*i* S	Sn	05 48 49.0	+1.6
LMEL				AML	AML	05 48 49.4	
	comp=N,2μm,0.2s						
TACH	**Talagante**	**0.42**	**248**	⇓*i*P	Pn	05 48 36.8	+0.3
TACH				*i* S	Sn	05 48 48.4	+0.9
CACH	**El Canelo**	**0.63**	**190**	*e*P	Pn	05 48 38.8	+0.7
CACH				*i* S	Sn	05 48 52.2	+1.9
ROCH	**El Roble**	**0.69**	**319**	⇑*i*P	Pn	05 48 39.4	+0.8
ROCH				*i* S	Sn	05 48 52.7	+1.3
JACH	**Jahuel**	**0.82**	**353**	⇑*i*P	Pn	05 48 40.3	+0.4
JACH				*i* S	Sn	05 48 54.4	+0.9
LNV	**Longovilo**	**0.91**	**240**	⇑*i*P	Pn	05 48 40.9	+0.1
LNV				*i* S	Sn	05 48 55.4	+0.3
IHA	**Instituto Hidr**	**1.09**	**295**	*e*P	Pn	05 48 43.4	+0.6
IHA				*i* S	Sn	05 49 00.3	+1.6
NICH	**Los Niches**	**1.63**	**203**	*e*P	Pn	05 48 50.0	+0.8
NICH				*i* S	Sn	05 49 12.1	+1.9
TALC	**Talca**	**2.12**	**207**	⇓*i*P	Pn	05 48 56.1	+0.4
TALC				*i* S	Sn	05 49 21.7	0.0
TALC				AML	AML	05 49 24.3	
	comp=N,1μm,0.1s						

IDC 23 06:08:09.1±1.3, 8°84S×158°69E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/18, mbtmp3.9/4, Error ellipse: s-maj=36.5km s-min=18.5km az=13.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.38**	**115**	Pn	Pn	06 08 36.5	+0.9
	39nm,0.3s,baz=174,slow=3.7,SNR=9.2						
HNR				Sn	Sn	06 08 55.4	+0.8
	77nm,0.3s,baz=218,slow=23,SNR=31						
WRA	**Warramunga Arr**	**26.00**	**242**	P	P	06 13 44.4	+0.5
	2.2nm,0.8s,baz=75,slow=9.2,SNR=12						
ASAR	**Alice Springs**	**27.92**	**235**	P	P	06 13 59.3	-1.9
	0.6nm,0.8s,baz=62,slow=12,SNR=6.0						
FITZ	**Fitzroy Crossi**	**33.38**	**251**	P	P	06 14 51.4	+1.9
	0.8nm,0.3s,baz=83,slow=8.1,SNR=7.4						
SONM	**Songino Array**	**72.87**	**326**	P	P	06 19 39.4	-0.5
	1.3nm,0.6s,baz=137,slow=5.1,SNR=6.6						

IDC 23 06:24:09.2±1.4, 10°17S×124°93E, h0km, mb3.9/2, mb1 3.9/5, mb1mx3.7/18, mbtmp3.8/5, ML3.7/3, Error ellipse: s-maj=89.0km s-min=24.5km az=67.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**7.92**	**175**	Pn	Pn	06 26 07.0	+1.4
	1.1nm,0.3s,baz=5.7,slow=13,SNR=25						
WRA	**Warramunga Arr**	**13.30**	**138**	Pn	Pn	06 27 18.3	-1.1
	0.4nm,0.3s,baz=314,slow=11,SNR=17						
WRA				Sn	Sn	06 29 55.2	+7.2
	0.5nm,0.3s,baz=315,slow=24,SNR=5.1						
ASAR	**Alice Springs**	**15.92**	**149**	Pn	Pn	06 27 54.1	-0.6
	0.3nm,0.3s,baz=319,slow=12,SNR=26						
ASAR				Sn	Sn	06 30 45.0	-7.1
	0.2nm,0.3s,baz=320,slow=23,SNR=4.2						
SONM	**Songino Array**	**60.05**	**346**	P	P	06 34 18.2	+0.4
	0.3nm,0.5s,baz=148,slow=8.5,SNR=4.0						
MKAR	**Makanchi Array**	**68.28**	**330**	P	P	06 35 11.9	-0.1
	1.8nm,1.0s,baz=148,slow=7.1,SNR=7.4						

IDC 23 06:58:38.6±0.9, 3°45S×145°72E, h0km, mb4.0/10, mb1 4.3/14, mb1mx4.2/21, mbtmp4.2/14, ML4.2/3, MS3.7/12, Ms1 3.7/12, ms1mx3.4/32, Error ellipse: s-maj=30.1km s-min=15.9km az=91.0

NEIC 23 06:58:40.4±0.6, 3°42S×145°72E, h10km, mb4.7/4, Error ellipse: s-maj=15.4km s-min=9.5km az=87.0

ISCJB 23 06:58:41.8±0.5, 3°43S±0°05×145°68E±0°09, h33km, mb4.0/11, MS3.7/10, Error ellipse: s-maj=13.0km s-min=7.1km az=172.6

ISC 23 06:58:43.9±0.5, 3°43S±0°05×145°63E±0°09, h35km, n40, σ1°27/38, mb4.0/11, MS3.7/10, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.13**	**166**	Pn	**Pn**	**07 00 08.0**	**-4.0**
	1.5nm,0.3s,baz=273,slow=3.7,SNR=5.6						
PMG				Sn	**Sn**	**07 01 22.3**	**+1.4**
	baz=32,slow=23,SNR=2.9						
PMG	**Port Moresby**	**6.13**	**166**	Pn	**Pn**	**07 00 08.0**	**-4.0**
PMG				Sn	**Sn**	**07 01 22.3**	**+1.4**
COEN	**Coen**	**10.73**	**193**	*e*Pn	**Pn**	**07 01 15.8**	**+0.6**
	110nm,0.9s						
HNR	**Honiara**	**15.42**	**113**	Pn	**Pn**	**07 02 17.1**	**-1.8**
	2.5nm,0.3s,baz=304,slow=2.4,SNR=5.1						
HNR				LR	LR	07 07 21.8	
	comp=Z,178nm,18.2s,baz=57,slow=34						
HNR	**Honiara**	**15.42**	**113**	Pn	**Pn**	**07 02 17.1**	**-1.8**
KAKA	**Kakadu**	**15.97**	**234**	*e*Pn	**Pn**	**07 02 27.1**	**+1.0**
	30nm,0.6s						
CTA	**Charters Tower**	**16.57**	**178**	Pn	**Pn**	**07 02 34.2**	**+0.6**
	0.5nm,0.3s,baz=328,slow=12,SNR=5.1						
CTA	**Charters Tower**	**16.57**	**178**	Pn	**Pn**	**07 02 34.2**	**+0.6**
CTAO	**Charters Tower**	**16.57**	**178**	*e*P	**Pn**	**07 02 34.7**	**+1.1**
	6.2nm,0.8s						
WRAB	**Tennant Creek**	**19.75**	**213**	*e*P	**Pn**	**07 03 11.1**	**-1.4**
	61nm,1.0s						
WB2	**Warramunga Arr**	**19.76**	**213**	*e*P	**Pn**	**07 03 11.2**	**-1.4**
WRA	**Warramunga Arr**	**19.76**	**213**	P	**Pn**	**07 03 11.0**	**-1.7**
	0.8nm,0.3s,baz=38,slow=12,SNR=54						
WRA				LR	LR	07 11 03.8	
	comp=Z,184nm,18.6s,baz=50,slow=38						
WRA	**Warramunga Arr**	**19.76**	**213**	P	**Pn**	**07 03 11.0**	**-1.7**
AS31	**Alice Springs**	**23.09**	**208**	*e*P	**P**	**07 03 45.9**	**-0.7**
ASAR	**Alice Springs**	**23.09**	**208**	P	**P**	**07 03 46.0**	**-0.7**
	14nm,0.9s,mb4.4,baz=42,slow=9.0,SNR=69						
ASAR	**Alice Springs**	**23.09**	**208**	P	**P**	**07 03 46.0**	**-0.7**
FITZ	**Fitzroy Crossi**	**24.41**	**232**	P	**P**	**07 03 59.1**	**-0.2**
	21nm,0.9s,mb4.6,baz=60,slow=8.6,SNR=22						
FITZ				LR	LR	07 14 24.6	
	comp=Z,209nm,18.5s,MS3.7,baz=56,slow=39						
FITZ	**Fitzroy Crossi**	**24.41**	**232**	P	**P**	**07 03 59.1**	**-0.2**
	15nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**28.55**	**187**	P	**P**	**07 04 39.1**	**+2.7**
	6.7nm,0.9s,mb4.4,baz=16,slow=11,SNR=8.8						
STKA				LR	LR	07 15 39.5	
	comp=Z,120nm,18.0s,MS3.5,baz=17,slow=36						
STKA	**Stephens Creek**	**28.55**	**187**	P	**P**	**07 04 39.1**	**+2.7**
NWAO	**Narrogin (SRO)**	**39.58**	**219**	LR	LR	07 23 57.1	
	comp=Z,194nm,18.3s,MS4.0,baz=343,slow=38						
KSRS	**Korea Array**	**43.88**	**340**	P	**P**	**07 06 46.1**	**-0.9**
	1.2nm,0.7s,mb3.7,baz=157,slow=9.0,SNR=4.8						
KSRS				LR	LR	07 22 15.2	
	comp=Z,46nm,18.1s,MS3.4,baz=328,slow=32						
KSAR	**Wonju Array Be**	**43.88**	**340**	P	**P**	**07 06 46.1**	**-0.9**
URZ	**Urewera**	**45.02**	**144**	LR	LR	07 22 50.3	
	comp=Z,98nm,18.5s,MS3.8,baz=321,slow=32						
CMAR	**Chiang Mai Arr**	**50.85**	**297**	P	**P**	**07 07 44.0**	**+2.4**
	0.7nm,0.3s,mb4.0,baz=124,slow=5.4,SNR=6.4						
CMAR				LR	LR	07 27 51.5	
	comp=Z,30nm,18.7s,MS3.3,baz=211,slow=34						
CMAR	**Chiang Mai Arr**	**50.85**	**297**	P	**P**	**07 07 44.0**	**+2.4**
PETK	**Petropavlovsk-**	**57.24**	**9**	LR	LR	07 31 01.8	
	comp=Z,46nm,21.3s,MS3.5,baz=3.8,slow=34						
SONM	**Songino Array**	**61.51**	**331**	P	**P**	**07 08 56.7**	**-0.5**
	0.5nm,0.7s,mb3.7,baz=125,slow=7.6,SNR=3.2						
SONM	**Songino Array**	**61.51**	**331**	P	**P**	**07 08 56.7**	**-0.5**
MKAR	**Makanchi Array**	**74.66**	**320**	P	**P**	**07 10 19.4**	**-0.4**
	1.1nm,0.9s,mb3.8,baz=112,slow=5.4,SNR=3.6						
MKAR				LR	LR	07 40 53.2	
	comp=Z,35nm,20.8s,MS3.6,baz=256,slow=34						
MKAR	**Makanchi Array**	**74.66**	**320**	P	**P**	**07 10 19.4**	**-0.4**
ZALV	**Zalesovo Beam**	**76.12**	**328**	P	**P**	**07 10 29.0**	**+1.0**
	1.0nm,0.7s,mb3.9,baz=79,slow=3.1,SNR=5.7						
ZALV				LR	LR	07 42 44.4	
	comp=Z,44nm,19.3s,MS3.8,baz=88,slow=35						
ZALV	**Zalesovo Beam**	**76.12**	**328**	P	**P**	**07 10 29.0**	**+1.0**
KURK	**Kurchatov**	**78.35**	**323**	P	**P**	**07 10 43.1**	**+2.6**
	0.9nm,0.9s,mb3.7,baz=105,slow=5.5,SNR=4.8						
KURK	**Kurchatov**	**78.35**	**323**	P	**P**		
ILAR	**Eielson Array**	**83.68**	**23**	P	**P**	**07 11 09.5**	**+0.8**
	0.5nm,0.7s,mb3.8,baz=255,slow=5.3,SNR=19						
ILAR	**Eielson Array**	**83.68**	**23**	P	**P**	**07 11 09.5**	**+0.8**
BVAR	**Borovoye Array**	**83.90**	**324**	P	**P**	**07 11 09.9**	**-0.1**
	0.7nm,0.6s,mb4.0,baz=116,slow=9.8,SNR=2.8						
BVAR	**Borovoye Array**	**83.90**	**324**	P	**P**	**07 11 09.9**	**-0.1**
INK	**Inuvik**	**89.78**	**22**	LR	LR	07 50 04.2	
	comp=Z,58nm,18.2s,MS4.0,baz=20,slow=34						

IDC 23 06:59:47.9±2.0, 33°20N×47°88E, h0km, mb3.9/8, mb1 4.0/9, mb1mx3.7/28, mbtmp3.9/9, ML3.4/1, MS2.5/1, Ms1 2.5/1, ms1mx1.9/50, Error ellipse: s-maj=45.6km s-min=24.1km az=156.0

ISCJB 23 06:59:49.7±0.7, 33°33N±0°03×47°95E±0°03, h9km±5km, mb3.8/8, Error ellipse: s-maj=5.3km s-min=4.3km az=26.0

CSEM 23 06:59:50.8±0.2, 33°32N×47°94E, h10km, ML3.4, Error ellipse: s-maj=5.1km s-min=4.1km az=22.0

NEIC 23 06:59:51.2, 33°31N×47°95E, h7km, mb3.2/1, ML3.5(ISN), MN3.6(TEH), After TEH.

TEH 23 06:59:52.9, 33°37N×47°96E, h20km

ISC 23 06:59:50.7±0.8, 33°33N±0°03×47°96E±0°03, h7km±5km, n91, σ1°07/108, mb3.8/8, 7C-3D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.41**	**149**	*e*Pg	**Pg**	**07 00 17.0**	**-0.7**
SHGR	**Shooshtar-Gavs**	**1.41**	**149**	*e*Pg	**Pg**	**07 00 17.6**	**-0.1**
IVIS	**Veis**	**1.51**	**323**	Pg	**Pg**	**07 00 18.3**	**-1.4**
IVIS				Sg	**Sg**	**07 00 38.8**	**-0.4**
IVIS	**Veis**	**1.51**	**323**	⇑*e*Pn	**Pn**	**07 00 18.5**	**+0.3**
IVIS				*e*Sg	**Sg**	**07 00 39.0**	**-0.2**
IVIS				*e*		07 00 51.0	
	comp=Z,10μm,0.2s						
IVIS	**Veis**	**1.51**	**323**	⇑*e*Pn	**Pn**	**07 00 18.5**	**+0.3**
IVIS				*e*Sg	**Sg**	**07 00 39.0**	**-0.2**
IGHG	**Ghaleghazi**	**1.53**	**311**	*e*Pn	**Pn**	**07 00 19.3**	**+0.9**
IGHG				*e*Sg	**Sg**	**07 00 42.0**	**+2.2**
IGHG				*e*		07 00 50.0	
	comp=Z,17μm,0.4s						
IGHG	**Ghaleghazi**	**1.53**	**311**	*e*Pn	**Pn**	**07 00 19.3**	**+0.9**
IGHG				*e*Sg	**Sg**	**07 00 42.0**	**+2.2**
ILIN	**Lien**	**1.79**	**333**	⇓*e*Pn	**Pn**	**07 00 22.9**	**+0.9**
ILIN				*e*Sg	**Sg**	**07 00 48.1**	**-0.1**
ILIN				*e*		07 00 55.8	
	comp=Z,12μm,0.3s						
ILIN	**Lien**	**1.79**	**333**	⇓*e*Pn	**Pn**	**07 00 22.9**	**+0.9**
ILIN				*e*Sg	**Sg**	**07 00 48.1**	**-0.1**
SNGE	**Sanandaj**	**1.83**	**344**	*e*Pn	**Pn**	**07 00 23.0**	**+0.4**
SNGE				*e*Sg	**Sg**	**07 00 50.0**	**+0.4**
SNGE	**Sanandaj**	**1.83**	**344**	*e*Pn	**Pn**	**07 00 23.0**	**+0.4**
SNGE				*e*Sg	**Sg**	**07 00 50.0**	**+0.4**
IDHR	**Dehrash**	**1.89**	**317**	Pn	**Pn**	**07 00 23.6**	**+0.2**
IDHR				Sn	**Sg**	**07 00 49.9**	**-1.6**
IDHR	**Dehrash**	**1.89**	**317**	⇑*e*Pn	**Pn**	**07 00 23.6**	**+0.2**
IDHR				*e*Sg	**Sg**	**07 00 49.9**	**-1.6**
IDHR				*e*		07 00 57.1	
	comp=Z,14μm,0.2s						
IDHR	**Dehrash**	**1.89**	**317**	Pn	**Pn**	**07 00 23.6**	**+0.2**
IDHR				*e*Sg	**Sg**	**07 00 49.9**	**-1.6**
ASAO	**Ashtian**	**2.11**	**54**	*e*Pn	**Pn**	**07 00 28.0**	**+1.6**
ASAO	**Ashtian**	**2.11**	**54**	*e*Pn	**Pn**	**07 00 28.0**	**+1.6**
IPIR	**Pirpir**	**2.55**	**104**	*e*Pn	**Pn**	**07 00 33.5**	**+1.0**
IPIR				*e*		07 01 21.9	
	comp=E,2μm,0.2s						
IPIR	**Pirpir**	**2.55**	**104**	*e*Pn	**Pn**	**07 00 33.5**	**+1.0**
IRAZ	**Razeghan**	**2.64**	**38**	*e*Pn	**Pn**	**07 00 34.5**	**+0.8**
IRAZ				*e*		07 01 30.2	
	comp=Z,3μm,0.4s						
IRAZ	**Razeghan**	**2.64**	**38**	*e*Pn	**Pn**	**07 00 34.5**	**+0.8**
BHD	**Baghdad**	**3.00**	**270**	*ex*	x	07 00 36.0	
BHD				*ex*	x	07 00 49.0	
BHD				*ex*	x	07 01 14.0	
BHD				*ex*	x	07 01 25.0	
BHD				*ex*	x	07 01 31.0	
BHD	**Baghdad**	**3.00**	**270**	P	**Pn**	**07 00 40.0**	**+1.4**
BHD				S	**Sn**	**07 01 16.0**	**+1.2**
BHD	**Baghdad**	**3.00**	**270**	*e*Pn	**Pn**	**07 00 36.0**	**-2.6**
BHD	**Baghdad**	**3.00**	**270**	P	**Pn**	**07 00 40.0**	**+1.4**
BHD	**Baghdad**	**3.00**	**270**	*e*Pg	**Pg**	**07 00 49.0**	**+0.9**
BHD				*e*Sn	**Sn**	**07 01 14.0**	**-0.8**
BHD				S	**Sn**	**07 01 16.0**	**+1.2**
BHD				*e*Sg	**Sg**	**07 01 31.0**	**+4.0**
GHVR	**GHOM**	**3.00**	**67**	*e*Pn	**Pn**	**07 00 40.0**	**+1.3**
GHVR	**GHOM**	**3.00**	**67**	*e*Pn	**Pn**	**07 00 40.0**	**+1.3**
IKLH	**Kolahrood**	**3.03**	**89**	*e*Pn	**Pn**	**07 00 39.8**	**+0.7**
IKLH				*e*		07 01 34.3	
	comp=Z,1μm,0.4s						
IKLH	**Kolahrood**	**3.03**	**89**	*e*Pn	**Pn**	**07 00 39.8**	**+0.7**
IMHD	**Mahdasht**	**3.25**	**43**	*e*Pn	**Pn**	**07 00 42.2**	**+0.1**
IMHD				*e*		07 01 50.0	
	comp=Z,1μm,0.4s						
IMHD	**Mahdasht**	**3.25**	**43**	*e*Pn	**Pn**	**07 00 42.2**	**+0.1**
IR3	**Iran Long-Peri**	**3.32**	**49**	*e*Pn	**Pn**	**07 00 43.3**	**+0.2**
IR3				*e*Sg	**Sg**	**07 01 35.0**	**-2.3**
IR3	**Iran Long-Peri**	**3.32**	**49**	*e*Pn	**Pn**	**07 00 43.3**	**+0.2**
IR3				*e*Sg	**Sg**	**07 01 35.0**	**-2.3**
IVRN	**Varamin**	**3.54**	**61**	*e*Pn	**Pn**	**07 00 46.5**	**+0.4**
MIB	**Mutribah**	**3.55**	**189**	*e*P	**Pn**	**07 00 46.1**	**-0.2**
MIB				AML	AML	07 01 45.6	
	comp=Z,66nm,0.6s						
MIB	**Mutribah**	**3.55**	**189**	*e*P	**Pn**	**07 00 46.1**	**-0.2**
CHTH	**Charan**	**3.67**	**45**	*e*Pn	**Pn**	**07 00 49.0**	**+1.1**
CHTH	**Charan**	**3.67**	**45**	*e*Pn	**Pn**	**07 00 49.0**	**+1.1**
IZEF	**Zefreh**	**3.69**	**96**	*e*Pn	**Pn**	**07 00 48.6**	**+0.4**
IZEF				*e*		07 02 09.7	
	comp=Z,340nm,0.4s						
IZEF	**Zefreh**	**3.69**	**96**	*e*Pn	**Pn**	**07 00 48.6**	**+0.4**
ISFB	**Sefidab**	**3.71**	**73**	*e*Pn	**Pn**	**07 00 48.5**	**+0.1**
ISFB				*e*		07 01 55.9	
	comp=Z,507nm,0.4s						
ISFB	**Sefidab**	**3.71**	**73**	*e*Pn	**Pn**	**07 00 48.5**	**+0.1**
NAY	**Al-Naaiem**	**4.11**	**189**	*e*P	**Pn**	**07 00 53.4**	**-0.6**
NAY				AML	AML	07 01 47.8	
	comp=Z,17nm,0.5s						
NAY	**Al-Naaiem**	**4.11**	**189**	*e*P	**Pn**	**07 00 53.4**	**-0.6**
RDF	**Al-Radifah**	**4.40**	**185**	*e*P	**Pn**	**07 00 57.8**	**-0.2**
RDF				AML	AML	07 01 52.9	
	comp=Z,36nm,0.8s						
RDF	**Al-Radifah**	**4.40**	**185**	*e*P	**Pn**	**07 00 57.8**	**-0.2**
IBST	**Bostanabad**	**4.45**	**349**	*e*Pn	**Pn**	**07 00 59.1**	**+0.5**
IBST				*e*		07 01 19.8	
	comp=Z,208nm,0.2s						
IBST	**Bostanabad**	**4.45**	**349**	*e*Pn	**Pn**	**07 00 59.1**	**+0.5**
ISRB	**Sarab**	**4.49**	**357**	*e*Pn	**Pn**	**07 00 59.3**	**+0.1**
ISRB				*e*		07 02 28.1	
	comp=Z,492nm,0.4s						
ISRB	**Sarab**	**4.49**	**357**	*e*Pn	**Pn**	**07 00 59.3**	**+0.1**
ISHM	**Shahmirzad**	**5.05**	**59**	*e*	**Pg**	**07 01 39.6**	**+12**
	comp=Z,660nm,0.3s						
ISHM				*e*Pn	**Pn**	**07 01 07.4**	**+0.6**
ISHB	**Shabestar**	**5.30**	**340**	*e*Pn	**Pn**	**07 01 10.3**	**0.0**
ISHB				*e*		07 01 55.9	
	comp=Z,323nm,0.4s						
ISHB	**Shabestar**	**5.30**	**340**	*e*Pn	**Pn**	**07 01 10.3**	**0.0**
IANJ	**Anjilo**	**5.37**	**65**	*e*Pn	**Pn**	**07 01 10.9**	**-0.3**
IANJ				*e*		07 03 09.0	
	comp=Z,249nm,0.4s						
IANJ	**Anjilo**	**5.37**	**65**	*e*Pn	**Pn**	**07 01 10.9**	**-0.3**
ASF	**Jabal al Asfar**	**9.39**	**266**	LR	LR	07 05 38.3	
	comp=Z,27nm,20.7s,baz=329,slow=38						
ABKAR	**Akbulak array**	**18.25**	**26**	*e*P	**Pn**	**07 04 02.3**	**-2.1**
	comp=Z,1.0nm,0.6s						
ABKAR	**Akbulak array**	**18.25**	**26**	*e*P	**Pn**	**07 04 02.3**	**-2.0**
	comp=Z,1.0nm,0.6s						
AKTO	**Aktyubinsk**	**18.63**	**20**	P	**Pn**	**07 04 09.2**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=213,slow=13,SNR=5.9						
AKTO	**Aktyubinsk**	**18.63**	**20**	P	**Pn**	**07 04 09.1**	**+0.1**
AKTO	**Aktyubinsk**	**18.63**	**20**	P	**Pn**	**07 04 09.1**	**+0.1**
MLR	**Muntele Rosu**	**20.82**	**312**	⇓*i*P	**P**	**07 04 35.5**	**+2.8**
VOIR		**21.36**	**311**	⇑*i*P	**P**	**07 04 37.7**	**-0.8**
VOIR		**21.36**	**311**	⇑*i*P	**P**	**07 04 37.7**	**-0.8**
AKASG	**Malin Array Be**	**22.14**	**327**	P	**P**	**07 04 46.4**	**-0.5**
	comp=Z,1.8nm,0.7s,mb3.6,baz=134,slow=9.0,SNR=5.6						
AKASG	**Malin Array Be**	**22.14**	**327**	P	**P**	**07 04 46.4**	**-0.5**
AKASG	**Malin Array Be**	**22.14**	**327**	P	**P**	**07 04 46.4**	**-0.5**
BURAR	**Bucovina Array**	**22.32**	**316**	⇑*i*P	**P**	**07 04 48.7**	**0.0**
BURAR	**Bucovina Array**	**22.32**	**316**	⇑*i*P	**P**	**07 04 48.7**	**0.0**
BUR08	**Bucovina Ar. S**	**22.34**	**317**	*e*P	**P**	**07 04 48.3**	**-0.7**
BUR08	**Bucovina Ar. S**	**22.34**	**317**	*e*P	**P**	**07 04 48.3**	**-0.7**
BVAR	**Borovoye Array**	**25.41**	**32**	P	**P**	**07 05 17.5**	**-1.2**
	comp=Z,1.2nm,0.5s,mb3.7,baz=224,slow=8.3,SNR=7.2						
BVAR	**Borovoye Array**	**25.41**	**32**	P	**P**	**07 05 17.5**	**-1.2**
BVAR	**Borovoye Array**	**25.41**	**32**	P	**P**	**07 05 17.5**	**-1.2**
KURK	**Kurchatov**	**28.36**	**43**	P	**P**	**07 05 43.4**	**-1.9**
	comp=Z,2.2nm,1.0s,mb3.8,baz=249,slow=9.4,SNR=6.5						
KURK	**Kurchatov**	**28.36**	**43**	P	**P**	**07 05 43.4**	**-1.9**
KURK	**Kurchatov**	**28.36**	**43**	P	**P**	**07 05 43.4**	**-1.9**
FINES	**FINESS Array B**	**31.47**	**340**	P	**P**	**07 06 12.9**	**+0.2**
	comp=Z,3.3nm,0.9s,mb4.1,baz=130,slow=13,SNR=3.3						
FINES	**FINESS Array B**

DPC					Sg	Sg	07 06 04.8	-0.8
	comp=Z,2.8nm,0.3s							
KRUC	**Moravsky**	**1.56**	**241**	*e*Pn	Pn	Pn	07 05 46.2	-0.7
	baz=60							
KRUC				*e*Sg	Sg	Sg	07 06 07.0	-1.1
	comp=Z,2.9nm,0.2s,baz=60							
KHC	**Kasperske Hory**	**3.27**	**260**	*e*SG	Sg	Sg	07 07 01.9	-1.1
KHC	**Kasperske Hory**	**3.27**	**260**	Sg	Sg	Sg	07 07 01.9	-1.1

*ISCJB **23** 07:06:46.0±0.4, 22°.40N±0'.02×121°.55E±0'.02, h18km±3km,*
Error ellipse: s-maj=3.8km s-min=3.5km az=162.5
*TAP **23** 07:06:47.0, 22°.42N×121°.48E, h22km, ML3.6, C*
*NEIC **23** 07:06:47.9±5.2, 22°.57N×121°.53E, h10km, MG3.1(JMA),*
Error ellipse: s-maj=51.5km s-min=16.7km az=166.0
*JMA **23** 07:06:49.7±0.3, 22°.41N×121°.73E, h83km, M3.1*
ISC 23 07:06:46.5±0.4, 22°.40N±0'.02×121°.50E±0'.02, h18km±3km, n61, σ0.97/110, 2C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.36**	**173**	*i* P	**Pg**	**07 06 55.0**	**+0.8**
	baz=169						
LAY				*i* S	**Sg**	**07 07 00.5**	**+1.2**
	baz=169						
TTN	**Taitung**	**0.48**	**317**	*e*P	**Pg**	**07 06 56.7**	**+0.4**
	baz=324						
TTN				*e*S	**Sg**	**07 07 04.1**	**+1.3**
	baz=324						
ECL	**Taimali**	**0.54**	**291**	*i* P	**Pg**	**07 06 57.1**	**-0.3**
	baz=282						
ECL				*e*S	**Sg**	**07 07 04.7**	**0.0**
	baz=282						
TAW	**Tawu**	**0.56**	**266**	P	**Pg**	**07 06 57.4**	**-0.4**
	baz=262						
TAW				*e*S	**Sg**	**07 07 04.3**	**-1.0**
	baz=262						
TWG	**Pinlang**	**0.58**	**317**	*e*Pg	**Pg**	**07 06 57.7**	**-0.3**
TWG				*e*Sg	**Sg**	**07 07 04.9**	**-0.9**
TWG	**Pinlang**	**0.58**	**317**	P	**Pg**	**07 06 58.1**	**+0.1**
	baz=301						
TWG				*e*S	**Sg**	**07 07 06.2**	**+0.4**
	baz=301						
EAST	**Anshuo**	**0.60**	**268**	*i* P	**Pg**	**07 06 58.1**	**-0.4**
	baz=266						
EAST				*e*S	**Sg**	**07 07 05.3**	**-1.4**
	baz=266						
CHKT	**Chengkung**	**0.71**	**350**	P	**Pb**	**07 06 59.9**	**-0.5**
	baz=358						
CHKT				S	**Sb**	**07 07 09.2**	**-0.5**
	baz=358						
TWK1	**Hengchun**	**0.79**	**235**	P	**Pb**	**07 07 01.1**	**-0.6**
	baz=232						
TWK1				*e*S	**Sb**	**07 07 10.8**	**-1.3**
	baz=232						
HEN	**Hengchun**	**0.81**	**241**	*e*P	**Pb**	**07 07 01.6**	**-0.4**
	baz=229						
HEN				*e*S	**Sb**	**07 07 12.2**	**-0.4**
	baz=229						
SCZT	**Fangliau**	**0.82**	**268**	P	**Pb**	**07 07 01.6**	**-0.6**
	baz=266						
SCZT				*e*S	**Sb**	**07 07 11.2**	**-1.7**
	baz=266						
SSD	**Sandimen**	**0.87**	**293**	*e*P	**Pb**	**07 07 02.2**	**-0.9**
	baz=296						
SSD				*e*S	**Sb**	**07 07 14.0**	**-0.5**
	baz=296						
ELDTW	**Lidau**	**0.90**	**330**	*e*P	**Pb**	**07 07 02.7**	**-0.9**
	baz=321						
ELDTW				*e*S	**Sb**	**07 07 13.4**	**-1.9**
	baz=321						
TWF1	**Yuli**	**0.97**	**349**	P	**Pb**	**07 07 04.1**	**-0.7**
	baz=336						
TWF1				*e*S	**Sb**	**07 07 16.7**	**-0.5**
	baz=336						
SGLT	**Jiouru**	**0.99**	**289**	*e*P	**Pb**	**07 07 04.5**	**-0.7**
	baz=288						
SGLT				*e*S	**Sb**	**07 07 17.8**	**0.0**
	baz=288						
YULB	**Yu-li**	**1.00**	**349**	*e*Pg	**Pg**	**07 07 04.4**	**-1.7**
STYT	**Tauyuan**	**1.02**	**318**	*e*P	**Pb**	**07 07 05.0**	**-0.8**
	baz=318						
STYT				*e*S	**Sb**	**07 07 18.8**	**0.0**
	baz=318						
TWP	**Hsiaoliuchiu**	**1.06**	**267**	*e*P	**Pb**	**07 07 06.3**	**0.0**
	baz=265						
TWM1	**Shoushan**	**1.08**	**293**	*e*P	**Pb**	**07 07 08.2**	**+1.5**
	baz=295						
EHY	**Hungye**	**1.11**	**351**	P	**Pn**	**07 07 06.2**	**-1.0**
	baz=338						
EHY				*e*S	**Sb**	**07 07 20.7**	**-0.7**
	baz=338						
WTP	**Ta-pu**	**1.17**	**316**	⇑P	**Pn**	**07 07 08.4**	**+0.4**
	baz=316						
WTP				*e*S	**Sb**	**07 07 24.4**	**+1.3**
	baz=316						
CHN1	**Nanshi**	**1.19**	**311**	⇑P	**Pn**	**07 07 09.2**	**+0.9**
	baz=311						
CHN1				*e*S	**Sb**	**07 07 25.0**	**+1.4**
	baz=311						
YUS	**Yu-Shan**	**1.20**	**335**	*e*P	**Pn**	**07 07 08.1**	**-0.2**
	baz=336						
YUS				*e*S	**Sb**	**07 07 23.9**	**+0.1**
	baz=336						
TPUB	**Ta-pu**	**1.20**	**318**	*e*Pg	**Pg**	**07 07 08.8**	**-1.1**
CHN3	**Shinhua**	**1.25**	**303**	*e*P	**Pn**	**07 07 12.0**	**+2.9**
	baz=302						
ALS	**Alishan**	**1.28**	**330**	*e*P	**Pn**	**07 07 09.7**	**+0.2**
	baz=331						
ALS				*e*S	**Sb**	**07 07 25.7**	**-0.4**
	baz=331						
ESL	**Shilin**	**1.41**	**357**	*e*P	**Pn**	**07 07 11.0**	**-0.3**
	baz=7.0						
ESL				*e*S	**Sn**	**07 07 28.9**	**-0.5**
	baz=7.0						
CHN5	**Tsauling**	**1.41**	**328**	*e*P	**Pn**	**07 07 11.4**	**+0.1**
	baz=329						
CHN5				*e*S	**Sn**	**07 07 32.0**	**+2.5**
	baz=329						
SSLB	**Suanglung**	**1.47**	**340**	*e*Pn	**Pn**	**07 07 12.2**	**+0.1**
SSLB				*e*S	**Sn**	**07 07 30.1**	**-0.8**
CHN2	**Minshiung**	**1.47**	**320**	*e*P	**Pn**	**07 07 12.2**	**0.0**
	baz=320						
CHY	**Chiayi**	**1.48**	**318**	*e*P	**Pn**	**07 07 12.0**	**-0.2**
	baz=300						
WGK	**Gukeng**	**1.54**	**326**	*e*P	**Pn**	**07 07 14.1**	**+0.9**
	baz=326						
HWA	**Hwalien**	**1.57**	**3**	*e*P	**Pn**	**07 07 13.6**	**+0.1**
	baz=16						
HWA				*e*S	**Sn**	**07 07 33.5**	**0.0**
	baz=16						
SMLT	**Sun Moon Lake**	**1.58**	**340**	*e*P	**Pn**	**07 07 14.9**	**+1.3**
	baz=350						
SMLT				*e*S	**Sn**	**07 07 34.7**	**+1.2**
	baz=350						
TYC	**Yuchr**	**1.61**	**338**	*e*P	**Pn**	**07 07 15.7**	**+1.6**
	baz=354						
TYC				*e*S	**Sn**	**07 07 35.2**	**+0.8**
	baz=354						
WNT	**Mingjian**	**1.65**	**333**	*e*P	**Pn**	**07 07 15.7**	**+1.0**
	baz=316						
TWD	**Chiawan**	**1.67**	**3**	P	**Pn**	**07 07 14.5**	**-0.4**
	baz=15						
TWD				*e*S	**Sn**	**07 07 34.3**	**-1.6**
	baz=15						
WHF	**Hehuan Shan**	**1.75**	**353**	*e*P	**Pn**	**07 07 16.4**	**+0.4**
	baz=355						
WHF				*e*S	**Sn**	**07 07 37.8**	**-0.1**
	baz=355						
NACB	**Ninganchiao**	**1.77**	**3**	*e*Pn	**Pn**	**07 07 15.3**	**-0.9**
NACB				*e*Sn	**Sn**	**07 07 36.5**	**-1.7**
TWT	**Tachien**	**1.87**	**351**	*e*P	**Pn**	**07 07 18.7**	**+1.1**
	baz=3.0						
TWT				*e*S	**Sn**	**07 07 40.3**	**-0.4**
	baz=3.0						
TCU	**Taichung**	**1.90**	**337**	*e*P	**Pn**	**07 07 19.2**	**+1.1**
	baz=337						
ENA	**Nanau**	**2.03**	**6**	P	**Pn**	**07 07 19.8**	**-0.1**
	baz=355						
ENA				*e*S	**Sn**	**07 07 44.5**	**-0.2**
	baz=355						
NNS	**Nan Shan**	**2.03**	**357**	*e*P	**Pn**	**07 07 20.4**	**+0.5**
	baz=359						
NNS				*e*S	**Sn**	**07 07 44.4**	**-0.5**
	baz=359						
TWQ1	**Liyutan**	**2.05**	**341**	*e*P	**Pn**	**07 07 21.8**	**+1.7**
	baz=343						
TWQ1				*e*S	**Sn**	**07 07 47.9**	**+2.6**
	baz=343						
NSY	**Sanyi**	**2.12**	**341**	*e*P	**Pn**	**07 07 22.1**	**+1.1**
	baz=343						
NSY				*e*S	**Sn**	**07 07 50.3**	**+3.4**
	baz=343						
PNG	**Penghu**	**2.14**	**303**	*e*P	**Pn**	**07 07 22.0**	**+0.7**
	baz=303						
PNG				*e*S	**Sn**	**07 07 45.8**	**-1.6**
	baz=303						
TWC	**Suao**	**2.22**	**8**	*e*P	**Pn**	**07 07 22.7**	**+0.3**
	baz=21						
TWC				*e*S	**Sn**	**07 07 48.9**	**-0.6**
	baz=21						
ENTT	**Nioudou**	**2.23**	**2**	*e*P	**Pn**	**07 07 22.8**	**+0.2**
	baz=4.0						
ENTT				*e*S	**Sn**	**07 07 49.7**	**0.0**
	baz=4.0						
YHNB	**Yeheng**	**2.26**	**357**	*e*Pn	**Pn**	**07 07 24.4**	**+1.4**
YHNB				*e*Sn	**Sn**	**07 07 50.7**	**+0.3**
NSTT	**Nanjuang**	**2.27**	**348**	*e*P	**Pn**	**07 07 24.2**	**+1.1**
	baz=334						
NSTT				*e*S	**Sn**	**07 07 52.3**	**+1.7**
	baz=334						
NSK	**Sanguang**	**2.27**	**357**	*e*P	**Pn**	**07 07 24.1**	**+1.0**
	baz=359						
NSK				*e*S	**Sn**	**07 07 50.6**	**0.0**
	baz=359						
TWE	**Neicheng**	**2.31**	**4**	*e*P	**Pn**	**07 07 23.4**	**-0.3**
	baz=355						
ILA	**Ilan**	**2.37**	**5**	*e*P	**Pn**	**07 07 24.2**	**-0.2**
	baz=356						
YOJ	**Yonaguni jima**	**2.48**	**34**	P	**Pn**	**07 07 27.2**	**+1.2**
YOJ				*e*S	**Sn**	**07 07 54.4**	**-1.3**
TWB1	**Santiao Chiao**	**2.63**	**10**	*e*P	**Pn**	**07 07 28.4**	**+0.3**
	baz=24						
TWB1				*e*S	**Sn**	**07 07 59.2**	**-0.4**
	baz=24						
NWF	**Wu-fen Shan**	**2.67**	**5**	*e*P	**Pn**	**07 07 29.7**	**+1.1**
	baz=359						
NWF				*e*S	**Sn**	**07 08 01.3**	**+0.8**
	baz=359						
HATJ	**Hateruma jima**	**2.68**	**52**	P	**Pn**	**07 07 29.2**	**+0.4**
HATJ				S	**Sn**	**07 07 59.4**	**-1.5**
IRIF	**Iriomote-Funau**	**2.81**	**46**	P	**Pn**	**07 07 31.2**	**+0.6**
IRIF				*e*S	**Sn**	**07 08 03.9**	**-0.1**
JKRS	**Kuro-shima**	**2.94**	**51**	P	**Pn**	**07 07 32.8**	**+0.4**
JKRS				*e*S	**Sn**	**07 08 05.6**	**-1.6**
JIJ	**Ishigaki jima**	**3.12**	**51**	P	**Pn**	**07 07 35.0**	**+0.2**
JIJ				S	**Sn**	**07 08 09.0**	**-2.5**
JTJ	**Tarama**	**3.69**	**52**	P	**Pn**	**07 07 43.2**	**+0.6**
JTJ				S	**Sn**	**07 08 23.8**	**-1.9**

*NEIC **23** 07:19:18.4±0.6, 6°.76S×129°.96E, h35km, Error ellipse:*
s-maj=19.5km s-min=6.9km az=71.0
*IDC **23** 07:19:27.1±3.3, 7°.22S×129°.62E, h122km±28km, mb3.8/7,*
mb1 4.0/10, mb1mx3.8/20, mbtmp3.9/10, Error ellipse:
s-maj=60.6km s-min=16.9km az=66.0
ISC 23 07:19:31.7±1.3, 7.72S±0°.06×129°.35E±0°.08, h179km±14km, n30, σ1.913/45, mb3.9/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**5.82**	**149**	*e*P	**Pn**	**07 20 56.8**	**+0.5**
	73nm,0.5s						
KAKA				*e*S	**Sn**	**07 22 01.5**	**-1.4**
KAKA	**Kakadu**	**5.82**	**149**	Pn	**Pn**	**07 20 56.9**	**+0.5**
	260nm,0.6s						
KAKA				*e*Sn	**Sn**	**07 22 01.8**	**-1.1**
FITZ	**Fitzroy Crossi**	**10.94**	**199**	P	**Pn**	**07 22 07.3**	**+3.8**
	2.1nm,0.3s,baz=35,slow=8.0,SNR=39						
FITZ				S	**Sn**	**07 24 05.9**	**+0.9**
	5.4nm,0.3s,baz=52,slow=17,SNR=12						
FITZ	**Fitzroy Crossi**	**10.94**	**199**	*e*P	**Pn**	**07 22 07.1**	**+3.6**
	16nm,0.4s						
FITZ				*e*S	**Sn**	**07 24 03.7**	**-1.3**
FITZ	**Fitzroy Crossi**	**10.94**	**199**	P	**Pn**	**07 22 07.3**	**+3.8**
FITZ				S	**Sn**	**07 24 05.9**	**+0.9**
WRAB	**Tennant Creek**	**13.07**	**159**	*e*Pn	**Pn**	**07 22 32.0**	**+1.1**
	11nm,0.4s						
WRAB				*e*Sn	**Sn**	**07 24 46.3**	**-10**
WRA	**Warramunga Arr**	**13.08**	**159**	P	**Pn**	**07 22 31.3**	**+0.3**
	4.4nm,0.3s,baz=342,slow=13,SNR=116						
WRA				S	**Sn**	**07 24 52.3**	**-4.0**
	4.4nm,0.3s,baz=333,slow=22,SNR=14						
WRA	**Warramunga Arr**	**13.08**	**159**	P	**Pn**	**07 22 31.3**	**+0.3**
WRA				S	**Sn**	**07 24 52.3**	**-4.0**
WB2	**Warramunga Arr**	**13.08**	**159**	*e*Pn	**Pn**	**07 22 31.9**	**+0.9**
WB2				*e*Sn	**Sn**	**07 24 50.0**	**-6.5**
COEN	**Coen**	**14.92**	**116**	*e*P	**Pn**	**07 22 52.5**	**-1.5**
	11nm,0.3s						
COEN				*e*S	**Sn**	**07 25 23.8**	**-17**
MBWA	**Marble Bar**	**16.28**	**214**	*e*P	**Pn**	**07 23 18.1**	**+7.6**
MBWA				*e*S	**S**	**07 26 11.0**	**-0.2**
MBWA	**Marble Bar**	**16.28**	**214**	*e*Pn	**Pn**	**07 23 18.1**	**+7.7**
MBWA				*e*Sn	**Sn**	**07 26 10.8**	**-2.0**
AS31	**Alice Springs**	**16.45**	**165**	*e*Pn	**Pn**	**07 23 16.2**	**+3.7**
AS31				*e*Sn	**Sn**	**07 26 11.6**	**-5.2**
ASAR	**Alice Springs**	**16.45**	**165**	P	**Pn**	**07 23 17.1**	**+4.6**
	1.3nm,0.3s,baz=338,slow=9.2,SNR=43						
ASAR				S	**S**	**07 26 15.0**	**0.0**
	0.9nm,0.3s,baz=333,slow=16,SNR=8.7						
ASAR				ScP	ScP	07 31 19.4	+8.2
	0.2nm,0.3s,baz=359,slow=2.2,SNR=7.6						
ASAR	**Alice Springs**	**16.45**	**165**	P	**Pn**	**07 23 17.1**	**+4.6**
ASAR				S	**S**	**07 26 15.0**	**0.0**
ASAR				ScP	ScP	07 31 19.4	+8.2
MTSU	**Mount Surprise**	**17.87**	**127**	*e*P	**Pn**	**07 23 32.2**	**+2.7**
	4.7nm,0.3s						
STKA	**Stephens Creek**	**26.61**	**156**	P	**P**	**07 24 57.8**	**+4.3**
	2.5nm,0.9s,mb3.9,baz=316,slow=16,SNR=4.6						
STKA	**Stephens Creek**	**26.61**	**156**	P	**P**	**07 24 57.8**	**+4.3**
CMAR	**Chiang Mai Arr**	**39.71**	**311**	P	**P**	**07 26 47.1**	**+0.2**
	1.6nm,0.5s,mb3.9,baz=138,slow=7.4,SNR=10						
CMAR	**Chiang Mai Arr**	**39.71**	**311**	P	**P**	**07 26 47.1**	**+0.2**
SONM	**Songino Array**	**58.92**	**342**	P	**P**	**07 29 12.1**	**+0.2**
	0.5nm,0.5s,mb3.6,baz=149,slow=6.1,SNR=4.6						
SONM	**Songino Array**	**58.92**	**342**	P	**P**	**07 29 12.1**	**+0.2**
MKAR	**Makanchi Array**	**68.47**	**327**	P	**P**	**07 30 14.8**	**+0.4**
	3.2nm,0.5s,mb4.3,baz=116,slow=8.4,SNR=20						
MKAR	**Makanchi Array**	**68.47**	**327**	P	**P**	**07 30 14.8**	**+0.4**
ZALV	**Zalesovo Beam**	**71.94**	**334**	P	**P**	**07 30 33.9**	**-1.5**
	0.7nm,0.4s,mb3.8,baz=122,slow=4.2,SNR=5.2						
ZALV	**Zalesovo Beam**	**71.94**	**334**	P	**P**	**07 30 33.9**	**-1.5**
KURK	**Kurchatov**	**72.79**	**329**	P	**P**	**07 30 40.2**	**-0.3**
	1.6nm,0.5s,mb4.0,baz=129,slow=4.9,SNR=11						
KURK	**Kurchatov**	**72.79**	**329**	P	**P**	**07 30 40.2**	**-0.3**
BVAR	**Borovoye Array**	**78.33**	**328**	P	**P**	**07 31 12.0**	**+0.1**
	1.0nm,0.8s,mb3.5,baz=118,slow=8.6,SNR=5.0						
BVAR	**Borovoye Array**	**78.33**	**328**	P	**P**	**07 31 12.0**	**+0.1**

*ISCJB **23** 07:46:41.4±0.4, 40°.46N±0°.02×26°.15E±0°.03, h9km±4km,*
Error ellipse: s-maj=3.9km s-min=3.4km az=135.8
*CSEM **23** 07:46:41.4±0.1, 40°.46N×26°.13E, h12km, ML2.4, Error*
ellipse: s-maj=2.8km s-min=2.6km az=148.0
*ATH **23** 07:46:41.3, 40°.46N×26°.13E, h26km±4km, MD3.3/4*
*DDA **23** 07:46:41.4, 40°.44N×26°.19E, h7km±1km, Md2.9*
*ISK **23** 07:46:41.1, 40°.45N×26°.17E, h10km, ML2.4*
ISC 23 07:46:41.8±0.4, 40°.46N±0°.02×26°.15E±0°.03, h11km±4km, n35, σ0.941/64, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GELI	**Tayfur-Gelibol**	**0.26**	**103**	*e*PG	**Pg**	**07 46 46.8**	**-0.3**
GELI				*e*SG	**Sg**	**07 46 50.7**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.26**	**103**	*e*Pg	**Pg**	**07 46 46.8**	**-0.3**
GELI				*e*Sg	**Sg**	**07 46 50.7**	**+0.1**
ENEZ	**Enez**	**0.28**	**1**	*e*PG	**Pg**	**07 46 47.7**	**+0.1**
ENEZ				*e*SG	**Sg**	**07 46 52.0**	**+0.6**
ENEZ	**Enez**	**0.28**	**1**	*e*Pg	**Pg**	**07 46 47.7**	**+0.1**
ENEZ				*e*Sg	**Sg**	**07 46 52.0**	**+0.6**
GADA	**Gvkgeada**	**0.33**	**216**	*e*PG	**Pg**	**07 46 48.4**	**+0.1**
GADA				*e*SG	**Sg**	**07 46 53.1**	**+0.4**
GADA	**Gvkgeada**	**0.33**	**216**	*e*Pg	**Pg**	**07 46 48.4**	**+0.1**
GADA				*e*Sg	**Sg**	**07 46 53.1**	**+0.4**
ERIK	**Erikli-Kesan**	**0.35**	**52**	*e*PG	**Pg**	**07 46 48.4**	**-0.4**
ERIK				*e*SG	**Sg**	**07 46 53.7**	**+0.1**
ERIK	**Erikli-Kesan**	**0.35**	**52**	*e*Pg	**Pg**	**07 46 48.4**	**-0.4**
ERIK				*e*Sg	**Sg**	**07 46 53.7**	**+0.1**
ALN	**Alexandroupoli**	**0.45**	**350**	*e*PB	**Pg**	**07 46 50.6**	**-0.1**
ALN				*e*SB	**Sg**	**07 46 56.8**	**+0.2**
ALN	**Alexandroupoli**	**0.45**	**350**	*e*Pb	**Pg**	**07 46 50.6**	**-0.1**
ALN				*e*Sb	**Sg**	**07 46 56.8**	**+0.2**
LPK	**Lapseki**	**0.47**	**100**	*e*PG	**Pg**	**07 46 50.0**	**-1.1**
LPK				*e*SG	**Sg**	**07 46 57.3**	**-0.1**
LPK	**Lapseki**	**0.47**	**100**	*e*Pg	**Pg**	**07 46 50.0**	**-1.1**
LPK				*e*Sg	**Sg**	**07 46 57.3**	**-0.1**
BOZC	**Bozcaada**	**0.62**	**187**	*i* P	**Pg**	**07 46 53.3**	**-0.5**
BOZC				*i* S	**Sg**	**07 47 02.4**	**+0.6**
RDO	**Rodhopi**	**0.83**	**326**	*e*PN	**Pg**	**07 46 58.2**	**+0.3**
RDO				*e*SN	**Sg**	**07 47 08.6**	**-0.2**
RDO	**Rodhopi**	**0.83**	**326**	*e*Pn	**Pg**	**07 46 58.2**	**+0.3**
RDO				*e*Sn	**Sg**	**07 47 08.6**	**-0.2**
KRBG	**Karabiga-Canak**	**0.88**	**94**	*e*PG	**Pg**	**07 46 58.0**	**-0.8**
KRBG				*e*SG	**Sg**	**07 47 10.6**	**+0.3**
KRBG	**Karabiga-Canak**	**0.88**	**94**	*e*Pg	**Pg**	**07 46 58.0**	**-0.8**
KRBG				*e*Sg	**Sg**	**07 47 10.6**	**+0.3**
MFT	**Murefte**	**0.92**	**69**	*e*PG	**Pg**	**07 46 59.4**	**-0.2**
MFT				*e*SG	**Sg**	**07 47 12.5**	**+0.8**
MFT	**Murefte**	**0.92**	**69**	*e*Pg	**Pg**	**07 46 59.4**	**-0.2**
MFT				*e*Sg	**Sg**	**07 47 12.5**	**+0.8**
LIA	**Limnos Island**	**0.93**	**233**	*e*PN	**Pg**	**07 46 59.1**	**-0.6**
LIA				*e*SN	**Sg**	**07 47 11.9**	**+0.2**
LIA	**Limnos Island**	**0.93**	**233**	*e*Pn	**Pg**	**07 46 59.1**	**-0.6**
LIA				*e*Sn	**Sg**	**07 47 11.9**	**+0.2**
PRK	**Paraskevi**	**1.21**	**175**	*e*PN	**Pn**	**07 47 04.7**	**0.0**
PRK				*e*SN	**Sn**	**07 47 21.0**	**-0.1**
PRK	**Paraskevi**	**1.21**	**175**	*e*Pn	**Pn**	**07 47 04.7**	**0.0**
PRK				*e*Sn	**Sn**	**07 47 21.0**	**-0.1**
GONE	**Gonen-Balikesi**	**1.25**	**109**	*e*PN	**Pn**	**07 47 05.4**	**+0.2**
GONE				*e*SN	**Sn**	**07 47 22.0**	**+0.1**
GONE	**Gonen-Balikesi**	**1.25**	**109**	*e*Pn	**Pn**	**07 47 05.4**	**+0.2**
GONE				*e*Sn	**Sn**	**07 47 22.0**	**0.0**
BALY	**Balya**	**1.33**	**122**	*i* P	**Pn**	**07 47 06.9**	**+0.5**
BALY				*i* S	**Sb**	**07 47 24.6**	**+0.6**
BALY	**Balya**	**1.33**	**122**	*i* P	**Pn**	**07 47 06.9**	**+0.5**
BALY				*i* S	**Sb**	**07 47 24.6**	**+0.6**
EDRB	**Edirne**	**1.46**	**18**	*e*PN	**Pn**	**07 47 07.6**	**-0.6**
EDRB	**Edirne**	**1.46**	**18**	*e*Pn	**Pn**	**07 47 07.6**	**-0.6**
BALB	**Balikesir**	**1.56**	**121**	*e*PN	**Pn**	**07 47 09.4**	**-0.1**
BALB	**Balikesir**	**1.56**	**121**	*e*Pn	**Pn**	**07 47 09.4**	**-0.1**
CTKS	**Kestanelik-??a**	**1.95**	**66**	*e*PN	**Pn**	**07 47 15.0**	**+0.1**
CTKS	**Kestanelik-??a**	**1.95**	**66**	*e*Pn	**Pn**	**07 47 15.0**	**+0.1**
DURS	**Dursunbey**	**1.98**	**115**	*i* P	**Pn**	**07 47 15.1**	**-0.2**
DURS				*i* S	**Sn**	**07 47 40.1**	**+0.1**
DURS	**Dursunbey**	**1.98**	**115**	*i* P	**Pn**	**07 47 15.1**	**-0.2**
DURS				*i* S	**Sn**	**07 47 40.1**	**0.0**

*MOS **23** 07:53:41.8±0.8, 20°.08S×175°.65W, h143km, mb5.2/21,*
Error ellipse: s-maj=9.7km s-min=8.1km az=136.8
*BJI **23** 07:53:44.5, 19°.93S×175°.48W, h170km, mB5.2/28,*
mb5.1/36
*ISCJB **23** 07:53:44.4±0.1, 20°.26S±0°.03×175°.63W±0°.03, h172km,*
mb5.1/145, Error ellipse: s-maj=4.5km s-min=3.1km
az=34.1
*BGS **23** 07:53:45.6±5.1, 20°.26S×175°.57W, h170km, mb5.1(NEIC)*
*NEIC **23** 07:53:45.4±0.1, 20°.26S×175°.57W, mb5.1/79, Error*
ellipse: s-maj=6.2km s-min=3.9km az=144.0
*IDC **23** 07:53:46.1±0.6, 20°.13S×175°.63W, h173km±4km, mb4.7/21,*
mb1 4.9/22, mb1mx4.9/23, mbtmp4.8/22, MS4.2/6,
Ms1 4.1/6, ms1mx3.6/27, Error ellipse: s-maj=10.5km
s-min=8.2km az=146.0
*GCMT **23** 07:53:48.9±0.1, 20°.23S×175°.12W, h184km, MW5.5,*
Moment Tensor Solution. s91,c158; s99,c208; Moment
tensor: Scale 10^{17}Nm; M_{rr}-1.17±.02; $M_{\theta\theta}$1.38±.03;
$M_{\phi\phi}$-0.20±.03; $M_{r\theta}$1.07±.02; $M_{\theta\phi}$0.67±.03; $M_{\phi r}$-0.92±.02;
Best double couple: $M_0$2.00000×10^{17} NP1:ϕ_s42.00000°,
δ40.00000°, λ-145.00000°. NP2:ϕ_p283.00000°,
δ68.00000°, λ-56.00000°. Principal axes: T 1.8300,
Plg16.0000°, Azm349.0000°; N 0.3500, Plg31.0000°,
Azm89.0000°; P -2.1700, Plg54.0000°, Azm236.0000°;
Data Used: II IU IC G CN. Surface waves from 111 sta.
*DJA **23** 07:54:04, 20°.58S×176°.54W, h293km, mb5.7/18*
ISC 23 07:53:46.0±0.1, 20°.30S±0°.03×175°.57W±0°.03, h174km, h174km±.7km:pP-P, n673, σ0.998/365, mb5.1/145, 35C-70D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.55**	**292**	*e*Pn	**Pn**	**07 55 24.8**	**+4.7**
MSVF	**Nonsavu**	**6.55**	**292**	Pn	**Pn**	**07 55 25.0**	**+4.8**
	2μm,0.6s,SNR=69						
AFI	**Afiamalu**	**7.32**	**30**	P	**Pn**	**07 55 20.4**	**-10**
	160nm,0.3s,baz=141,slow=3.1,SNR=111						
AFI				S	Sn	07 56 31.6	-21
	435nm,0.3s,baz=42,slow=22,SNR=9.3						
AFI	**Afiamalu**	**7.32**	**30**	P	**Pn**	**07 55 20.4**	**-10**
AFI				S	Sn	07 56 31.6	-21
AFI	**Afiamalu**	**7.32**	**30**	P	**Pn**	**07 55 20.4**	**-10**
RAO	**Raoul Island**	**9.16**	**193**	*e*Pn	**Pn**	**07 55 54.3**	**-0.3**
RAO	**Raoul Island**	**9.16**	**193**	*e*P	**Pn**	**07 55 54.3**	**-0.3**
FUNA	**Funafuti**	**12.75**	**336**	*e*Pn	**Pn**	**07 56 40.9**	**-0.4**
RAR	**Rarotonga**	**14.81**	**96**	P	**Pn**	**07 57 04.9**	**-2.1**
	13nm,0.3s,baz=243,slow=8.2,SNR=28						
RAR				S	**Sn**	**07 59 37.9**	**-14**
	3.3nm,0.3s,baz=156,slow=21,SNR=2.5	

DSZ **Denniston Nort** 23.91 204 PN P 07 58 45.9 +2.2
TBI **Tubuai** 24.42 102 *e*P pP 07 59 14.3 -8.7
232nm,1.5s
PAE **Paea** 24.71 88 *e*P P 07 58 52.0 +0.7
16nm,1.4s,mb4.4
PAE *e*pP 07 59 22.4
38nm,1.3s
PPT **Papeete** 24.73 88 *e*P P 07 58 52.5 +1.0
117nm,1.4s,mb5.2
PPT *e*pP 07 59 21.6
156nm,1.4s
PPT **Papeete** 24.73 88 P P 07 58 50.9 -0.6
40nm,0.7s,mb5.0,baz=12,slow=3.6,SNR=6.9
PPT **Papeete** 24.73 88 P P 07 58 50.9 -0.6
PPT **Papeete** 24.73 88 P P 07 58 50.9 -0.6
TIAR **Tiarei** 24.95 88 *e*P P 07 58 54.7 +1.2
138nm,1.0s,mb5.4
TIAR *e*pP 07 59 24.1
118nm,1.1s
RPZ **Rata Peaks** 25.89 203 P P 07 59 02.7 +1.1
224nm,0.6s,mb6.0,baz=268,slow=0.9,SNR=30
RPZ S S 08 03 23.7 +5.2
7.7nm,0.8s,baz=341,slow=3.6,SNR=2.4
RPZ **Rata Peaks** 25.89 203 *e*P P 07 59 02.1 +0.4
258nm,0.9s,mb5.9
RPZ S S 08 03 23.7 +5.2
HNR **Honiara** 25.97 291 *e*P P 07 59 02.4 -0.3
89nm,0.7s,mb5.5
HNR **Honiara** 25.97 291 *e*P P 07 59 02.4 -0.3
HNR pmax pmax
comp=Z,89nm,0.7s,mb5.5
ODZ **Otahua Downs** 27.19 202 *e*P P 07 59 13.8 +0.5
WHZ **Wether Hill Ro** 28.90 204 *e*P P 07 59 28.8 +0.4
EIDS **Eidsvold** 31.09 254 *e*P P 07 59 48.3 +0.2
ARMA **Armidale** 31.20 245 *e*P P 07 59 49.7 +0.7
ARMA **Armidale** 31.20 245 *e*P P 07 59 50.3 +1.3
MGCD **Mangrove Creek** 32.27 240 *e*P P 07 59 58.8 +0.6
comp=Z,89nm,0.6s,mb5.7
CNB **Canberra Magne** 34.23 237 *e*P P 08 00 15.7 +0.5
comp=Z,839nm,0.7s
CAN **Canberra** 34.52 237 *e*P P 08 00 18.2 +0.5
comp=Z,104nm,0.7s,mb5.6
CAN *e*PP PP 08 01 38.5 -1.0
CAN **Canberra** 34.52 237 *e*P P 08 00 18.2 +0.5
CAN *e* 08 01 38.5
CAN pmax pmax
comp=Z,104nm,0.7s,mb5.6
YNG **Young** 34.73 239 *e*P P 08 00 19.9 +0.4
comp=Z,38nm,0.8s,mb5.1
CTA **Charters Tower** 35.77 264 P P 08 00 29.0 +0.4
comp=Z,114nm,0.5s,mb5.8,baz=94,slow=10,SNR=322
CTA S S 08 05 53.4 +0.4
comp=Z,4.2nm,0.7s,baz=226,slow=19,SNR=3.2
CTA **Charters Tower** 35.77 264 *e*P P 08 00 28.8 +0.2
comp=Z,125nm,0.5s,mb5.8
CTA *e*S S 08 05 50.1 -2.9
CTA **Charters Tower** 35.77 264 P P 08 00 29.0 +0.4
CTA S S 08 05 53.4 +0.4
CTA **Charters Tower** 35.77 264 P P 08 00 29.0 +0.4
CTA S S 08 05 53.4 +0.4
CTAO **Charters Tower** 35.77 264 *e*P P 08 00 28.9 +0.3
comp=Z,156nm,0.6s,mb5.8
CTAO *e*PcP PcP 08 02 53.4 +0.7
CTAO **Charters Tower** 35.77 264 *e*P P 08 00 28.9 +0.3
CTAO *e* 08 02 53.4
CTAO pmax pmax
comp=Z,156nm,0.6s,mb5.8
CTAO **Charters Tower** 35.77 264 P P 08 00 28.8 +0.2
comp=Z,3μmcomp=Z,271nm,0.7s,mb6.0
PMG **Port Moresby** 37.53 281 P P 08 00 43.6 +0.1
comp=Z,119nm,0.7s,mb5.6,baz=87,slow=5.8,SNR=63
PMG PcP PcP 08 02 58.8 +0.7
comp=Z,14nm,0.7s,baz=71,slow=8.3,SNR=3.3
PMG **Port Moresby** 37.53 281 *e*P P 08 00 43.5 0.0
comp=Z,179nm,0.9s,mb5.7
PMG *e*PcP PcP 08 02 58.7 +0.6
PMG **Port Moresby** 37.53 281 *d*↓*i*P P 08 00 43.4 -0.1
PMG pmax pmax
comp=Z,327nm,1.5s
PMG **Port Moresby** 37.53 281 P P 08 00 43.5 0.0
comp=Z,2μmcomp=Z,256nm,1.3s,mb5.7
TOO **Toolangi** 37.86 234 ↓*i*P P 08 00 46.2 +0.2
comp=Z,415nm,0.8s,mb6.1
TAU **Tasmania Unive** 38.38 226 P P 08 00 50.2 0.0
comp=Z,347nm,0.8s,mb6.0,SNR=8.9
COEN **Coen** 39.84 272 *e*P P 08 01 02.7 -0.1
comp=Z,415nm,0.7s,mb6.2
STKA **Stephens Creek** 39.92 244 P P 08 01 03.5 +0.3
comp=Z,66nm,0.9s,mb5.3,baz=90,slow=9.3,SNR=86
STKA **Stephens Creek** 39.92 244 ↓*i*P P 08 01 03.4 +0.1
comp=Z,42nm,0.8s,mb5.1
STKA *e*S S 08 06 54.7 -0.7
STKA **Stephens Creek** 39.92 244 *e*P P 08 01 03.4 +0.2
comp=Z,25nm,1.1s,mb4.8
STKA **Stephens Creek** 39.92 244 *e*P P 08 01 03.4 +0.1
STKA pmax pmax
comp=Z,25nm,1.1s
ARPS **Mount Arapiles** 40.50 237 *e*P P 08 01 07.2 -0.7
comp=Z,78nm,0.7s,mb5.5
KIP **Kipapa** 44.88 23 *i*P P 08 01 42.1 -1.1
JAY **Jayapura** 46.15 287 P P 08 01 53.9 +0.4
comp=Z,565nm,0.9s,mb6.2
ASAR **Alice Springs** 46.78 256 P P 08 01 57.8 -0.5
comp=Z,129nm,0.7s,mb5.7,baz=91,slow=8.2,SNR=435
ASAR PcP PcP 08 03 29.0 +0.3
comp=Z,33nm,0.6s,baz=104,slow=3.9,SNR=15
ASAR ScP ScP 08 07 07.5 +1.6
comp=Z,3.5nm,0.9s,baz=100,slow=3.7,SNR=6.4
ASAR S S 08 08 34.2 -1.0
comp=Z,4.7nm,1.0s,baz=95,slow=17,SNR=10
ASAR PKiKP PKiKP 08 10 21.1 -1.3
comp=Z,0.5nm,0.5s,baz=124,slow=1.4,SNR=5.7
ASAR **Alice Springs** 46.78 256 P P 08 01 57.8 -0.5
ASAR PcP PcP 08 03 29.0 +0.3
ASAR ScP ScP 08 07 07.5 +1.6
ASAR S S 08 08 34.2 -1.0
ASAR PKiKP PKiKP 08 10 21.1 -1.3
ASAR **Alice Springs** 46.78 256 P P 08 01 57.8 -0.4
ASAR 08 03 29.0
ASAR S S 08 08 34.2 -1.0
WB2 **Warramunga Arr** 46.87 261 *e*P P 08 01 57.8 -1.2
WB2 *e*PcP PcP 08 03 29.4 +0.4
WRAB **Tennant Creek** 46.87 261 *e*P P 08 01 57.8 -1.2
comp=Z,139nm,0.8s,mb5.6
WRAB *e*PcP PcP 08 03 28.7 -0.3
WRAB **Tennant Creek** 46.87 261 *e*P P 08 01 57.8 -1.2
WRAB *e* 08 03 28.7
WRAB pmax pmax
comp=Z,139nm,0.8s,mb5.6
WRAB **Tennant Creek** 46.87 261 P P 08 01 58.0 -1.0
comp=Z,1μm,0.7s
WRAB **Tennant Creek** 46.87 261 P P 08 01 57.9 -1.1
comp=Z,3μmcomp=Z,331nm,0.9s,mb6.0
WRA **Warramunga Arr** 46.88 261 P P 08 01 57.9 -1.2
comp=Z,37nm,0.3s,mb5.5,baz=95,slow=7.6,SNR=495
WRA PcP PcP 08 03 29.4 +0.4
comp=Z,19nm,0.6s,baz=92,slow=3.7,SNR=7.1
WRA S S 08 08 34.4 -2.4
comp=Z,4.0nm,0.8s,baz=99,slow=14,SNR=7.0
WRA PKiKP PKiKP 08 10 20.9 -1.8
comp=Z,0.6nm,0.5s,baz=82,slow=0.7,SNR=6.4
WRA **Warramunga Arr** 46.88 261 P P 08 01 57.9 -1.2
WRA PcP PcP 08 03 29.4 +0.4
WRA S S 08 08 34.4 -2.4
WRA PKiKP PKiKP 08 10 20.9 -1.8
WRA **Warramunga Arr** 46.88 261 P P 08 01 57.9 -1.2
WRA 08 03 29.5
WRA S S 08 08 34.4 -2.4
SMPI **Sarmi** 48.17 286 P P 08 02 09.1 0.0
comp=Z,3μmcomp=Z,347nm,1.1s,mb5.9
KAKA **Kakadu** 50.25 270 ↓*i*P P 08 02 23.9 -0.9
comp=Z,59nm,0.4s,mb5.6
KAKA **Kakadu** 50.25 270 *e*P P 08 02 23.8 -1.1
comp=Z,238nm,0.6s,mb6.0
KAKA *e*PP PP 08 04 26.4 +4.5
BAKI **Biak** 50.86 286 P P 08 02 30.1 +0.6
comp=Z,5μmcomp=Z,354nm,1.4s,mb5.8
GUMO **Guam** 51.45 308 P P 08 02 33.5 -0.2
comp=Z,95nm,0.8s,mb5.5,baz=194,slow=6.6,SNR=4.8
GUMO **Guam** 51.45 308 P P 08 02 33.5 -0.2
GUMO **Guam** 51.45 308 P P 08 02 33.6 -0.1
FORT **Forrest** 51.46 246 *e*P P 08 02 32.6 -1.1
comp=Z,67nm,0.7s,mb5.4
FORT **Forrest** 51.46 246 *e*P P 08 02 32.7 -1.0
comp=Z,70nm,0.7s,mb5.4
FITZ **Fitzroy Crossi** 55.31 262 LR LR 08 23 45.8
comp=Z,300nm,21.1s,baz=100,slow=33
FITZ **Fitzroy Crossi** 55.31 262 ↓*i*P P 08 03 01.5 -0.4
comp=Z,115nm,1.5s,mb5.4
FITZ *e*S S 08 10 31.3 -1.3
FITZ **Fitzroy Crossi** 55.31 262 *e*P P 08 03 01.4 -0.5
comp=Z,156nm,1.3s,mb5.6
FITZ **Fitzroy Crossi** 55.31 262 P P 08 03 01.6 -0.3
comp=Z,2μmcomp=Z,94nm,1.3s,mb5.3
SBA **Scott Base** 58.23 184 *e*P P 08 03 25.0 +3.5
comp=Z,165nm,1.4s,mb5.7
SBA *e*PP PP 08 05 32.6 +0.4
SBA **Scott Base** 58.23 184 *e*P P 08 03 25.0 +3.5
SBA *e* 08 05 32.6
SBA pmax pmax
comp=Z,165nm,1.4s,mb5.7
VNDA **Vanda** 58.32 186 P P 08 03 24.8 +2.7
comp=Z,18nm,0.8s,mb4.9,baz=4.9,slow=7.5,SNR=65
VNDA PcP PcP 08 04 12.2 +1.0
comp=Z,4.6nm,0.8s,baz=56,slow=3.6,SNR=3.6
VNDA **Vanda** 58.32 186 *e*P P 08 03 24.6 +2.5
comp=Z,69nm,1.4s,mb5.3
VNDA PcP PcP 08 04 12.2 +1.0
VNDA **Vanda** 58.32 186 *e*P P 08 03 24.6 +2.4
VNDA 08 04 12.2
VNDA pmax pmax
comp=Z,69nm,1.4s
LBMI **Labuha** 58.93 282 P P 08 03 28.7 +1.3
comp=Z,2μmcomp=Z,130nm,1.2s,mb5.6
TNTI **Ternate** 59.62 283 P P 08 03 32.4 +0.3
comp=Z,2μmcomp=Z,252nm,1.1s,mb6.0
MBWA **Marble Bar** 60.12 257 *e*P P 08 03 34.5 -0.9
comp=Z,82nm,0.6s,mb5.7
MBWA **Marble Bar** 60.12 257 P P 08 03 34.4 -1.0
comp=Z,138nm,1.2s,mb5.7
KLBR **Kellerberrin** 60.20 245 *e*P P 08 03 35.1 -0.7
comp=Z,53nm,0.8s,mb5.4
MMRI **Maumere** 61.02 271 P P 08 03 41.0 -0.6
comp=Z,204nm,1.0s,mb5.9
MORW **Morawa** 62.01 247 *e*P P 08 03 47.2 -0.8
comp=Z,128nm,0.6s,mb5.9
KDI **Kendari** 62.22 276 P P 08 03 48.4 -1.3
comp=Z,599nm,0.8s
WSI **Waingapu** 62.52 269 P P 08 03 51.9 +0.2
comp=Z,686nm,0.7s
LUWI **Luwuk** 63.14 279 P P 08 03 55.9 +0.1
comp=Z,2μmcomp=Z,148nm,1.4s,mb5.6
BKSI **Bulukumba** 64.08 274 P P 08 04 03.9 +1.9
BMNI **Bima** 64.38 270 P P 08 04 02.7 -1.2
comp=Z,637nm,0.8s,comp=Z,5μm
KAPI **Kappang** 64.54 274 *e*P P 08 04 03.7 -1.1
comp=Z,46nm,1.0s,mb5.3
KAPI **Kappang** 64.54 274 P P 08 04 06.2 +1.3
comp=Z,740nmcomp=Z,49nm,1.1s,mb5.3
CASY **Casey** 65.12 205 *e*P P 08 04 09.1 +1.4
CASY **Casey** 65.12 205 *e*P P 08 04 09.1 +1.4
comp=Z,141nm,1.3s,mb5.6
TTSI **Tana Toraja** 65.16 276 P P 08 04 08.6 -0.3
MTNI **Mataram** 66.72 269 P P 08 04 18.0 -0.8
KMMI **Kalianget** 69.29 270 P P 08 04 35.4 +0.5
comp=Z,0.5nmcomp=Z,2μmcomp=Z,180nm,1.0s,mb5.8
GMJI **Gumukmas** 69.39 269 P P 08 04 35.2 -0.3
comp=Z,0.4nmcomp=Z,127nm,1.0s,mb5.6
BLJI **Banyuglugur** 69.42 269 P P 08 04 35.2 -0.5
comp=Z,0.5nmcomp=Z,3μmcomp=Z,182nm,0.8s,mb5.9
MYLDM **Lahad Datu** 69.49 284 P P 08 04 37.4 +1.3
MYLDM **Lahad Datu** 69.49 284 P P 08 04 37.8 +1.7
comp=Z,0.3nmcomp=Z,1μmcomp=Z,66nm,1.2s,mb5.2
TSM **Tawau** 69.71 283 P P 08 04 38.5 +1.1
KRKI **Karangkates** 70.36 268 P P 08 04 42.7 +1.3
comp=Z,1.5nmcomp=Z,232nm,0.8s,mb6.0
SDKM **Sandakan** 70.86 284 P P 08 04 45.4 +1.0
PWJI **Pagerwojo** 71.01 268 P P 08 04 44.7 -0.7
comp=Z,0.6nmcomp=Z,159nm,0.8s,mb5.8
SJI **Sawahan** 71.13 269 P P 08 04 45.9 -0.2
comp=Z,0.4nmcomp=Z,2μmcomp=Z,138nm,1.5s,mb5.5
MJAR **Matsushiro Arr** 71.42 322 P P 08 04 46.6 -0.7
comp=Z,3.3nm,0.6s,mb4.3,baz=161,slow=6.7,SNR=6.8
MJAR **Matsushiro Arr** 71.42 322 P P 08 04 46.6 -0.7
MJAR **Matsushiro Arr** 71.42 322 P P 08 04 46.6 -0.7
MAT **Matsushiro** 71.42 322 P P 08 04 46.4 -0.9
MAT S S 08 13 49.0 -2.5
NGJI **Ngawi** 71.54 269 P P 08 04 50.3 +1.7
PCJI **Pacitan** 71.54 268 P P 08 04 48.3 -0.3
comp=Z,1.8nmcomp=Z,5μmcomp=Z,511nm,0.9s,mb6.3
KDM **Kudat** 71.70 285 P P 08 04 50.7 +1.2
KKM **Kota Kinabalu** 71.92 284 P P 08 04 51.4 +0.7
KKM **Kota Kinabalu** 71.92 284 *e*P P 08 04 50.6 -0.1
comp=Z,34nm,0.7s,mb5.2
KKM **Kota Kinabalu** 71.92 284 P P 08 04 50.6 -0.2
SMRI **Semarang** 72.60 269 P P 08 04 55.2 +0.3
BTM **Bintulu** 73.70 280 P P 08 05 02.4 +1.1
SBUM **Sibu** 74.22 279 P P 08 05 05.1 +0.8
CISI **Cicompet, Garu** 74.90 267 P P 08 05 07.4 -0.8
comp=Z,2μmcomp=Z,172nm,1.2s,mb5.6
YULB **Yu-li** 75.31 302 *e*P P 08 05 08.4 -2.0
comp=Z,12nm,0.7s,mb4.6
LEM **Lembang** 75.32 268 P P 08 05 10.8 +0.1
comp=Z,4μmcomp=Z,382nm,1.1s,mb5.9
NACB **Ninganchiao** 75.46 303 *e*P P 08 05 09.9 -1.3
comp=Z,71nm,1.2s,mb5.2
KSM **Kuching** 75.64 277 P P 08 05 13.2 +0.7
KSM **Kuching** 75.64 277 *e*P P 08 05 12.5 0.0
comp=Z,170nm,1.3s,mb5.5
KSM *e*PcP PcP 08 05 25.1 +0.6
KSM *e*PP PP 08 08 06.4 +1.8
SSLB **Suanglung** 75.78 302 *e*P P 08 05 11.3 -1.7
comp=Z,13nm,0.6s,mb4.7
TPUB **Ta-pu** 75.79 302 *e*P P 08 05 11.3 -1.8
comp=Z,55nm,0.6s,mb5.4
CBJI **Citeko** 76.17 268 P P 08 05 14.4 -1.1
comp=Z,468nm,1.1s,mb6.0
DBJI **Dramaga** 76.22 268 P P 08 05 15.3 -0.5
comp=Z,291nm,1.2s,mb5.8
PETK **Petropavlovsk-** 76.68 344 P P 08 05 17.1 -0.3
comp=Z,5.5nm,0.7s,mb4.3,baz=121,slow=7.7,SNR=8.1
PETK pP pP 08 06 00.2 +0.6
comp=Z,11nm,0.8s,baz=141,slow=9.6,SNR=4.6
PETK **Petropavlovsk-** 76.68 344 P P 08 05 17.1 -0.3
PETK pP pP 08 06 00.2 +0.6
PETK **Petropavlovsk-** 76.68 344 P P 08 05 17.1 -0.3
YSS **Yuzh-Sakhalins** 76.76 332 *e*P P 08 05 19.0 +1.1
comp=Z,38nm,1.1s,mb4.9
YSS *e*pP pP 08 06 00.8 +0.5
YSS **Yuzh-Sakhalins** 76.76 332 ‖*e*P P 08 05 18.2 +0.2
YSS *e* 08 14 50.0
SBJI **Serang** 76.95 268 P P 08 05 20.1 +0.2
comp=Z,4μmcomp=Z,278nm,1.1s,mb5.8
MWC **Mount Wilson** 77.02 46 *e*P P 08 05 19.9 +0.2
comp=Z,11nm,1.1s,mb4.4
MWC **Mount Wilson** 77.02 46 *e*P P 08 05 19.9 +0.2
MWC pmax pmax
comp=Z,11nm,1.1s,mb4.4
RBSI **Rajabasa** 77.40 268 P P 08 05 21.6 -0.8
comp=Z,1μmcomp=Z,120nm,1.2s,mb5.4
ISA **Isabella** 77.58 44 *e*P P 08 05 23.3 +0.5
comp=Z,22nm,1.3s,mb4.6
ISA *e*pP pP 08 06 04.0 -1.2
ISA **Isabella** 77.58 44 *e*P P 08 05 23.3 +0.4
ISA pmax pmax
comp=Z,22nm,1.3s,mb4.6
PFO **Pinyon Flat Ob** 77.76 47 *e*P P 08 05 23.7 -0.2
comp=Z,14nm,1.4s,mb4.4
PFO **Pinyon Flat Ob** 77.76 47 *e*P P 08 05 23.7 -0.2
PFO pmax pmax
comp=Z,14nm,1.4s,mb4.4
CMB **Columbia Colle** 77.79 42 *e*P P 08 05 24.2 +0.3
comp=Z,25nm,1.5s,mb4.6
CMB *e*pP pP 08 06 04.8 -1.4
CMB *e*PP PP 08 08 19.5 -2.7
CMB **Columbia Colle** 77.79 42 *e*P P 08 05 24.2 +0.3
CMB *e**PP pP 08 06 04.8 -1.5
CMB *e* 08 08 19.5
CMB pmax pmax
comp=Z,25nm,1.5s,mb4.6
KSRS **Korea Array** 78.26 317 P P 08 05 27.1 +0.5
comp=Z,9.9nm,0.7s,mb4.0,baz=135,slow=6.0,SNR=12
KSAR **Wonju Array Be** 78.28 317 P P 08 05 27.1 +0.4
KSAR **Wonju Array Be** 78.28 317 P P 08 05 27.1 +0.4
GSC **Goldstone** 78.48 46 *e*P P 08 05 28.1 +0.3
comp=Z,14nm,1.2s,mb4.5
GSC **Goldstone** 78.48 46 *e*P P 08 05 28.1 +0.3
GSC pmax pmax
comp=Z,14nm,1.2s,mb4.5
KLI **Kotabumi** 78.56 269 P P 08 05 31.4 +2.6
GLA **Glamis** 78.58 48 *e*P P 08 05 29.3 +0.9
comp=Z,25nm,1.3s,mb4.7
GLA *e*PcP PcP 08 05 36.8 0.0
GLA *e*pP pP 08 06 10.4 -0.4
GLA **Glamis** 78.58 48 *e*P P 08 05 29.3 +0.9
GLA *e* 08 05 36.8
GLA pmax pmax
comp=Z,25nm,1.3s,mb4.7
KASI **Kota Agung** 78.68 268 P P 08 05 28.4 -1.0
comp=Z,242nm,1.1s,mb5.8
WCN **Washoe City** 78.95 41 *e*P P 08 05 30.9 +0.6
comp=Z,6.8nm,1.0s,mb4.2
WCN *e*pP pP 08 06 11.8 -0.9
WCN **Washoe City** 78.95 41 *e*P P 08 05 30.9 +0.6
WCN pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
LWLI **Liwa** 79.25 269 P P 08 05 32.7 +0.1
comp=Z,6μmcomp=Z,196nm,1.2s,mb5.6
LASM **Arnica Sink** 79.30 38 P P 08 05 33.1 +1.0
SSE **Sheshan** 79.32 309 P P 08 05 32.0 -0.5
SSE S S 08 15 18.4 -0.3
SSE pmax pmax
comp=Z,44nm,0.6s,mb5.3
SSE pmax pmax
comp=Z,130nm,4.4s
SSE LR LR
comp=N,300nm,35.1s
SSE LR LR
comp=E,220nm,35.1s
SSE LR LR
comp=Z,170nm,25.8s
MDSI **Maura Dua** 79.32 269 P P 08 05 31.3 -1.6
comp=Z,1μmcomp=Z,105nm,1.2s,mb5.3
NVAR **Mina Array Bea** 79.33 42 P P 08 05 32.6 +0.3
comp=Z,10nm,0.7s,mb4.5,baz=223,slow=8.6,SNR=79
NVAR pP pP 08 06 13.8 -1.1
comp=Z,6.9nm,0.8s,baz=223,slow=8.1,SNR=4.5
NVAR PKPPKP 08 32 31.9
comp=Z,0.8nm,0.8s,baz=109,slow=2.8,SNR=5.9
NVAR **Mina Array Bea** 79.33 42 P P 08 05 32.6 +0.3
NVAR pP pP 08 06 13.8 -1.1
NVAR PKPab 08 32 31.9
LDFC **Landfair** 79.50 47 *e*P P 08 05 34.3 +1.0
comp=Z,52nm,1.3s,mb5.0
LDFC *e*pP pP 08 06 15.8 0.0
LDFC *e*sP sP 08 06 30.9 -3.3
KDAK **Kodiak Island** 80.11 12 *ce*P P 08 05 36.2 +0.1
MOD **Modoc** 80.23 39 *e*P P 08 05 37.3 +0.2
comp=Z,27nm,1.4s,mb4.7
MOD *e*pP pP 08 06 19.1 -0.6
MOD *e*PP PP 08 08 40.3 -2.1
TUC **Tucson** 81.08 51 *e*P P 08 05 42.6 +0.8
comp=Z,27nm,1.3s,mb4.7
TUC *e*pP pP 08 06 23.6 -0.9
TUC *e*sP sP 08 06 38.6 -4.3
TUC **Tucson** 81.08 51 *e*P P 08 05 42.6 +0.7
TUC *e**PP pP 08 06 23.6 -0.9
TUC *e**SP sP 08 06 38.6 -4.3
TUC pmax pmax
comp=Z,27nm,1.3s,mb4.7
KSI **Kapahiang** 81.09 269 P P 08 05 41.7 -0.7
comp=Z,8μmcomp=Z,196nm,1.3s,mb5.6
HABR **Khabarovsk** 81.41 329 *ce*P P 08 05 41.9 -1.3
HABR *e*S S 08 15 37.9 -1.8
HABR *e*SS SS 08 21 00.8 +0.2
HABR *e*SSS 08 24 27.8
HABR pmax pmax
comp=Z,213nm,2.4s,mb5.3
HABR pmax pmax
comp=N,91nm,2.7s
HABR pmax pmax
comp=E,130nm,3.0s
HABR MLR MLR
comp=Z,72nm,19.0s
NJ2 **Nanjing** 81.52 309 *e*P P 08 05 45.0 +0.8
NJ2 pP pP 08 06 29.6 +2.7
NJ2 S S 08 15 44.0 +2.5
NJ2 pmax pmax
comp=Z,20nm,0.8s,mb4.8
NJ2 pmax pmax
comp=Z,130nm,7.4s
NJ2 LR LR
comp=N,560nm,25.0s
NJ2 LR LR
comp=E,260nm,26.6s
NJ2 LR LR
comp=Z,170nm,20.9s
WVOR **Wild Horse Val** 81.53 39 *e*P P 08 05 44.1 +0.1
comp=Z,11nm,1.0s,mb4.4
WVOR *e*pP pP 08 06 25.5 -1.2
WVOR **Wild Horse Val** 81.53 39 *e*P P 08 05 44.1 +0.1
WVOR pmax pmax
comp=Z,11nm,1.0s,mb4.4
VIPM **Ingram Point** 81.68 36 P P 08 05 45.0 +0.3
VIPM **Ingram Point** 81.68 36 P P 08 05 45.0 +0.3
MDJ **Mudanjiang** 81.68 324 P P 08 05 45.3 +0.6
MDJ pP pP 08 06 27.1 -0.3
MDJ sP sP 08 06 45.3 -0.5
MDJ PP PP 08 08 54.6 +0.3
MDJ S S 08 15 44.8 +2.2
MDJ SS SS 08 21 07.8 +3.1
MDJ pmax pmax
comp=Z,40nm,1.3s,mb4.9
MDJ pmax pmax
comp=Z,230nm,5.2s
MDJ LR LR
comp=N,190nm,35.3s
MDJ LR LR
comp=E,190nm,25.8s
MDJ LR LR
comp=Z,170nm,26.7s
MYKOM **Kota Tinggi** 81.78 275 P P 08 05 46.6 +0.6
MYKOM **Kota Tinggi** 81.78 275 P P 08 05 46.5 +0.5
TDL **Tradedollar La** 81.99 34 P P 08 05 47.4 +1.1
ARUT **Antelope Range** 82.11 45 *e*P P 08 05 47.6 +0.5
comp=Z,9.7nm,1.1s,mb4.3
ARUT *e*pP pP 08 06 28.8 -1.2
ARUT **Antelope Range** 82.11 45 *e*P P 08 05 47.6 +0.4
ARUT pmax pmax
comp=Z,10.0nm,1.1s,mb4.4
WUAZ **Wupatki** 82.31 48 *e*P P 08 05 48.8 +0.5
comp=Z,22nm,1.2s,mb4.7
WUAZ *e*pP pP 08 06 31.2 +0.2
KGM **Kluang** 82.36 275 P P 08 05 50.0 +0.9
MAW **Mawson** 82.51 199 P P 08 05 50.2 +1.4
comp=Z,21nm,0.8s,mb4.9,baz=132,slow=7.0,SNR=25
MAW LR LR 08 41 29.6
comp=Z,112nm,18.6s,baz=346,slow=35
MAW **Mawson** 82.51 199 ↓*i*P P 08 05 50.0 +1.2
comp=Z,30nm,1.3s,mb4.9
MAW **Mawson** 82.51 199 *e*P P 08 05 49.5 +0.7
comp=Z,24nm,1.4s,mb4.7
MAW **Mawson** 82.51 199 *e*P P 08 05 49.5 +0.7
MAW pmax pmax
comp=Z,24nm,1.4s
RMW **Rattlesnake Mo** 82.92 33 P P 08 05 51.5 +0.4
RMW **Rattlesnake Mo** 82.92 33 P P 08 05 51.5 +0.4
MSU **Marysvale** 83.34 45 *e*P P 08 05 54.8 +1.3
comp=Z,25nm,1.3s,mb4.8
MSU *e*pP pP 08 06 37.0 +0.6
MSU **Marysvale** 83.34 45 *e*P P 08 05 54.8 +1.3
MSU pmax pmax
comp=Z,25nm,1.3s,mb4.8
RSW **Rattlesnake Hi** 83.42 35 *e*P P 08 05 54.2 +0.5
comp=Z,20nm,0.8s,mb4.9
RSW *e*pP pP 08 06 36.9 +0.3
HAWA **Hanford** 83.45 35 *e*P P 08 05 54.1 +0.2
comp=Z,23nm,1.1s,mb4.8
HAWA *e*pP pP 08 06 35.9 -0.8
H2OWA **Water** 83.52 35 P P 08 05 54.5 +0.4
KLR **Kul'dur** 83.53 328 *e*P P 08 05 52.2 -2.0
KLR pmax pmax
comp=Z,56nm,1.8s,mb5.0
SNY **Shenyang** 83.53 319 ‖P P 08 05 52.9 -1.5
SNY S S 08 16 03.0 +1.5
SNY SS SS 08 21 31.3 -1.0
SNY pmax pmax
comp=Z,160nm,8.5s
CN2 **Changchun** 83.55 321 *e*P P 08 05 54.8 +0.4
CN2 *e*sP sP 08 06 54.0 -1.6
CN2 *e*S S 08 16 00.8 -0.8
CN2 pmax pmax
comp=Z,50nm,1.3s,mb5.1
CN2 pmax pmax
comp=Z,300nm,6.0s
CN2 LR LR
comp=N,400nm,10.0s

CN2 LR LR
comp=E,600nm,10.0s
CN2 LR LR
comp=Z,300nm,10.0s
WRW Wenatchee Ridg 83.66 34 P **P 08 05 55.0 +0.2**
MFID Camas Ranch 83.77 39 *e*P **P 08 05 55.2 -0.3**
comp=Z,14nm,1.1s,mb4.6
MFID *e*pP pP 08 06 37.3 -1.2
MFID *e*PP PP 08 09 08.6 -2.9
ETW Entiat 83.79 34 P **P 08 05 55.8 +0.3**
LNOR Lincton Mounta 83.82 36 *e*P **P 08 05 55.5 -0.2**
comp=Z,1.9nm,0.5s,mb4.1
LNOR *e*pP pP 08 06 38.0 -0.6
LNOR Lincton Mounta 83.82 36 *e*P **P 08 05 55.5 -0.2**
LNOR pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
DUG Dugway 83.83 43 *e*P **P 08 05 55.4 -0.6**
comp=Z,2.2nm,0.7s,mb4.0
DUG *e*pP pP 08 06 36.7 -2.1
DUG *e*PP PP 08 09 09.0 -3.1
DUG Dugway 83.83 43 *e*P **P 08 05 55.4 -0.5**
DUG *e* 08 09 09.0
DUG pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
TMUT Trail Mountain 84.40 45 *e*P **P 08 06 00.1 +1.3**
comp=Z,24nm,0.7s,mb5.0
TMUT *e*PcP PcP 08 06 03.3 +1.2
TMUT *e*pP pP 08 06 42.1 +0.3
OD2 Odessa Site #2 84.51 35 *e*P **P 08 05 59.3 +0.1**
comp=Z,12nm,0.9s,mb4.6
OD2 *e*pP pP 08 06 41.6 -0.5
HLID Hailey 84.70 40 *e*P **P 08 06 00.8 +0.6**
comp=Z,15nm,1.0s,mb4.7
HLID *e*pP pP 08 06 42.4 -0.9
HLID *e*PP PP 08 09 16.4 -2.6
BMRM Bremner River 84.75 15 *e*P **P 08 05 59.7 -0.3**
comp=Z,69nm,1.6s,mb5.1
SRU San Rafael 84.76 45 *e*P **P 08 06 01.0 +0.4**
comp=Z,17nm,0.7s,mb4.9
SRU *e*pP pP 08 06 43.4 -0.2
SRU *es*P sP 08 06 59.0 -2.9
SRU San Rafael 84.76 45 *e*P **P 08 06 01.0 +0.4**
SRU pmax pmax
comp=Z,17nm,0.7s,mb4.9
LAZ Ladron 84.76 51 *e*P **P 08 06 01.6 +0.9**
comp=Z,10nm,1.4s,mb4.4
LAZ *e*pP pP 08 06 44.3 +0.6
LENM Lemitar 84.77 51 *e*P **P 08 06 01.3 +0.5**
comp=Z,14nm,1.2s,mb4.6
LENM *e*pP pP 08 06 44.3 +0.5
MNTX Cornudas Mount 84.79 54 *e*P **P 08 06 00.9 -0.1**
comp=Z,22nm,1.3s,mb4.7
MNTX *e*pP pP 08 06 43.1 -0.9
BNM Barren Site 85.01 51 *e*P **P 08 06 02.7 +0.7**
comp=Z,25nm,1.7s,mb4.7
BNM *e*pP pP 08 06 44.9 -0.2
TXAR Lajitas Array 85.04 56 P **P 08 06 02.5 +0.3**
comp=Z,5.6nm,0.9s,mb4.3,baz=218,slow=8.3,SNR=43
TXAR pP pP 08 06 44.8 -0.5
comp=Z,5.3nm,1.0s,baz=213,slow=6.7,SNR=4.1
TXAR PKKPbc PKKPbc 08 24 09.7 +0.7
comp=Z,0.3nm,0.6s,baz=98,slow=2.7,SNR=4.9
TXAR LR LR 08 37 32.8
comp=Z,79nm,18.2s,baz=180,slow=31
TXAR Lajitas Array 85.04 56 P **P 08 06 02.5 +0.3**
TXAR pP pP 08 06 44.8 -0.5
TXAR PKKPbc PKKPbc 08 24 09.7 +0.7
TXAR Lajitas Array 85.04 56 P **P 08 06 02.5 +0.2**
LPM Los Pinos Moun 85.08 51 *e*P **P 08 06 03.1 +0.7**
comp=Z,21nm,1.4s,mb4.7
LPM *e*pP pP 08 06 45.8 +0.4
IPM Ipoh 85.37 276 P **P 08 06 04.9 +0.6**
IPM Ipoh 85.37 276 *e*P **P 08 06 04.3 0.0**
comp=Z,42nm,0.8s,mb5.2
IPM Ipoh 85.37 276 P **P 08 06 04.4 +0.1**
comp=Z,1μmcomp=Z,67nm,1.3s,mb5.3
MNSI Mandailing Nat 85.44 273 P **P 08 06 07.4 +2.8**
comp=Z,1μmcomp=Z,37nm,0.9s,mb5.1
ANMO Albuquerque 85.51 50 *e*P **P 08 06 04.8 +0.3**
comp=Z,20nm,1.3s,mb4.7
ANMO *e*pP pP 08 06 47.1 -0.5
ANMO Albuquerque 85.51 50 *e*P **P 08 06 04.8 +0.3**
ANMO pmax pmax
comp=Z,20nm,1.3s
PV01 Paradox Valley 85.58 47 *e*P **P 08 06 04.7 0.0**
comp=Z,4μm,1.7s
PV01 *e*pP pP 08 06 47.3 -0.5
PV01 *es*P sP 08 07 03.8 -2.3
PV01 *e*PP PP 08 09 22.1 -4.2
TRF Thorofare Moun 85.80 11 *e*P **P 08 06 04.3 -0.8**
comp=Z,13nm,0.7s,mb4.8
TRF *e*pP pP 08 06 47.5 -0.8
KULM Kulim 86.00 277 P **P 08 06 08.0 +0.6**
KULM Kulim 86.00 277 *e*P **P 08 06 07.7 +0.3**
comp=Z,66nm,1.3s,mb5.2
KULM *e*pP pP 08 06 49.0 -1.5
KULM Kulim 86.00 277 P **P 08 06 08.7 +1.3**
MCK McKinley 86.30 12 *e*P **P 08 06 06.7 -0.9**
comp=Z,47nm,1.2s,mb5.1
MCK *e*pP pP 08 06 49.5 -1.3
MCK McKinley 86.30 12 *e*P **P 08 06 06.7 -0.9**
MCK pmax pmax
comp=Z,47nm,1.2s,mb5.1
MCMT McKenzie Canyo 86.34 39 *e*P **P 08 06 08.4 +0.1**
comp=Z,1.4nm,0.6s,mb3.9
MCMT *e*pP pP 08 06 51.0 -0.4
RRI2 Red Ridge 86.47 41 *e*P **P 08 06 08.1 -0.9**
comp=Z,30nm,1.4s,mb4.8
RRI2 *e*pP pP 08 06 51.6 -0.5
CPRX Cap Rock 86.54 53 *e*P **P 08 06 10.1 +0.6**
comp=Z,14nm,0.8s,mb4.8
CPRX *e*pP pP 08 06 52.1 -0.6
MENT Mentasta 86.67 14 *e*P **P 08 06 09.0 -0.5**
MENT *e*pP pP 08 06 51.8 -0.9
SEY Seymchan 86.71 346⇑ *e*P **P 08 06 09.3 -0.4**
REDW Red Top Meadow 86.77 41 *e*P **P 08 06 09.8 -0.6**
comp=Z,25nm,1.4s,mb4.9
SNOW Snow King Moun 86.88 41 *e*P **P 08 06 10.3 -0.7**
comp=Z,21nm,1.3s,mb4.8
SNOW *e*pP pP 08 06 53.5 -0.7
BSMT Bassoo Peak 86.92 36 *e*P **P 08 06 10.8 -0.2**
comp=Z,19nm,1.5s,mb4.7
BSMT *e*pP pP 08 06 53.6 -0.7
LRM Limekiln Ridge 87.12 39 *e*P **P 08 06 10.4 -1.7**
comp=Z,398nm,2.2s,mb5.9
LRM *e*pP pP 08 06 55.9 +0.6
LRM *e*PP PP 08 09 35.8 -2.7
SMCO Snowmass 87.18 46 *e*P **P 08 06 12.6 +0.1**
comp=Z,3.6nm,0.6s,mb4.4
SMCO *e*pP pP 08 06 55.4 -0.3
QLMT Earthquake Lak 87.19 40 *e*P **P 08 06 13.2 +0.8**
comp=Z,0.2nm,0.4s
PD01 Pinedale Array 87.26 42 *e*P **P 08 06 12.3 -0.5**
PD01 *e*pP pP 08 06 56.1 +0.1
PD01 *es*P sP 08 07 14.4 +0.2
CHMT Chamberlain Mo 87.26 37 *e*P **P 08 06 12.3 -0.4**
comp=Z,12nm,1.7s,mb4.5
CHMT *e*pP pP 08 06 56.2 +0.3
PD02 Pinedale Array 87.27 42 *e*P **P 08 06 12.3 -0.5**
PD02 *e*pP pP 08 06 55.9 -0.2
PD02 *es*P sP 08 07 14.3 0.0
PDAR Pinedale Array 87.27 42 P **P 08 06 12.4 -0.4**
comp=Z,2.2nm,0.7s,mb4.1,baz=214,slow=3.2,SNR=19
PDAR pP pP 08 06 55.4 -0.7
comp=Z,2.4nm,0.8s,baz=223,slow=5.7,SNR=4.7
PDAR PKKP PKKPbc 08 24 03.5 -0.9
comp=Z,1.3nm,1.0s,baz=126,slow=3.8,SNR=5.2
PDAR LR LR 08 39 14.1
comp=Z,76nm,18.1s,baz=142,slow=31
PDAR Pinedale Array 87.27 42 P **P 08 06 12.4 -0.4**
PDAR pP pP 08 06 55.4 -0.7
PDAR PKKP PKKPbc 08 24 03.5 -0.9
BJI Beijing 87.36 314 P **P 08 06 13.6 +0.3**
BJI pP pP 08 07 00.1 +3.5
BJI sP sP 08 07 14.4 -0.4
BJI S S 08 16 39.8 +0.7
BJI SS SS 08 22 27.6 -0.9
BJI pmax pmax
comp=Z,35nm,1.8s,mb4.9
BJI pmax pmax
comp=Z,340nm,4.5s
SYO Syowa Base 87.41 192⇑ *i*P **P 08 06 11.6 -1.6**
SYO Syowa Base 87.41 192⇓ *e*PcP PcP 08 06 14.8 -0.2
COLA College 87.54 11 *e*P **P 08 06 12.0 -1.5**
comp=Z,6.6nm,0.8s,mb4.5
COLA *e*pP pP 08 06 55.5 -1.3
COLA College 87.54 11 *e*P **P 08 06 12.0 -1.6**
COLA pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
ILAR Eielson Array 87.63 12 P **P 08 06 13.0 -1.0**
comp=Z,1.9nm,0.3s,mb4.3,baz=214,slow=5.0,SNR=156
ILAR pP pP 08 06 56.7 -0.6
comp=Z,17nm,1.2s,baz=224,slow=5.6,SNR=7.8
ILAR Eielson Array 87.63 12 P **P 08 06 13.0 -1.0**
ILAR pP pP 08 06 56.7 -0.6
ILAR Eielson Array 87.63 12 P **P 08 06 13.0 -1.0**
PLCA Paso Flores 87.75 133 P **P 08 06 15.9 +0.6**
comp=Z,7.2nm,0.7s,mb4.6,baz=244,slow=6.4,SNR=14
PLCA LR LR 08 41 26.2
comp=Z,159nm,18.8s,baz=52,slow=32
PLCA Paso Flores 87.75 133 P **P 08 06 15.9 +0.6**
PLCA Paso Flores 87.75 133 P **P 08 06 15.9 +0.5**
SNAA Sanae 88.14 178 *e* **P 08 06 12.8 -3.8**
SNAA *e* 08 11 48.8
SNAA Sanae 88.14 178 *e*P **P 08 06 12.4 -4.2**
comp=Z,22nm,0.8s,mb5.0
SNAA Sanae 88.14 178 *e*P **P 08 06 12.4 -4.2**
SNAA pmax pmax
comp=Z,22nm,0.8s
VNA3 Neumayer Olymp 88.18 175 *e* **P 08 06 14.6 -2.2**
GYA Guiyang 88.54 299 P **P 08 06 19.3 +0.1**
GYA pP pP 08 07 03.0 +0.4
GYA sP sP 08 07 20.6 -0.2
GYA PP PP 08 09 52.4 +2.1
GYA SKS 08 16 30.8
GYA S S 08 16 48.8 -2.0
GYA sS sS 08 18 03.3 -2.8
GYA SS SS 08 22 48.0 +1.9
GYA pmax pmax
comp=Z,20nm,1.0s,mb5.0
GYA pmax pmax
comp=Z,130nm,5.2s
GYA LR LR
comp=N,540nm,19.4s
GYA LR LR
comp=E,450nm,20.0s
GYA LR LR
comp=Z,510nm,18.7s
VNA2 Neumayer--Watz 88.65 176 *e* **P 08 06 17.2 -1.8**
baz=194,slow=3.3
DAWY Dawson 88.66 15 *e*P **P 08 06 18.6 -0.2**
EGAK Eagle 88.84 14 *e*P **P 08 06 19.0 -0.7**
comp=Z,42nm,1.6s,mb5.1
EGAK *e*pP pP 08 07 02.4 -0.7
VNA1 Neumayer--Stat 88.86 176 *e* **P 08 06 18.4 -1.6**
MAIT Maitri 89.03 182 *e*P **P 08 06 20.7 0.0**
MAIT *e* 08 06 25.6
BILL Bilibino 89.08 353⇑ *e*P **P 08 06 19.8 -1.0**
BILL *e* 08 16 32.7
BILL pmax pmax
comp=Z,12nm,1.8s,mb4.5
COLD Coldfoot 89.28 10 *e*P **P 08 06 21.4 -0.3**
comp=Z,3.6nm,0.7s,mb4.4
COLD *e*pP pP 08 07 06.8 +1.7
XAN Xi'an 89.83 306 P **P 08 06 25.8 +0.7**
XAN pP pP 08 07 11.4 +2.9
XAN PP PP 08 09 58.3 -2.1
XAN SKS 08 16 37.8
XAN S S 08 17 02.1 -0.4
XAN SS SS 08 23 01.3 -3.3
XAN pmax pmax
comp=Z,14nm,1.4s,mb4.7
XAN pmax pmax
comp=Z,30nm,6.9s
HHC Hu-ho-hao-te 90.85 314 *e*P **P 08 06 30.0 +0.3**
HHC pP pP 08 07 14.3 +1.2
HHC sP sP 08 07 32.3 +1.0
HHC PP PP 08 10 11.1 +2.8
HHC SKS 08 16 41.8
HHC S S 08 17 10.0 -1.5
HHC sS sS 08 18 23.8 -3.5
HHC SS SS 08 23 20.5 +1.4
HHC pmax pmax
comp=Z,35nm,1.2s,mb5.3
HHC pmax pmax
comp=Z,110nm,6.3s
KMI Kunming 91.29 296 P **P 08 06 32.3 +0.2**
KMI pP pP 08 07 17.9 +2.3
KMI sP sP 08 07 36.3 +2.6
KMI PP PP 08 10 14.4 +2.2
KMI S S 08 17 14.3 -1.9
KMI sS sS 08 18 29.9 -2.1
KMI SS SS 08 23 26.3 +0.3
KMI pmax pmax
comp=Z,34nm,1.3s,mb5.2
KMI pmax pmax
comp=Z,130nm,3.1s
KMI LR LR
comp=N,200nm,23.7s
KMI LR LR
comp=E,130nm,25.6s
KMI LR LR
comp=Z,140nm,23.7s
RSSD Black Hills 91.44 43 *e*P **P 08 06 32.0 -0.3**
comp=Z,13nm,1.1s,mb4.9
RSSD Black Hills 91.44 43 *e*P **P 08 06 32.0 -0.3**
RSSD pmax pmax
comp=Z,13nm,1.1s,mb4.9
BDT Bhumibol Dam 91.72 288⇑ P **P 08 06 35.0 +0.8**
comp=Z,24nm,1.0s,mb5.2
CHRT Chiangrai 91.95 290 P **P 08 06 37.7 +2.4**
CM31 Chiang Mai Arr 92.20 289 *e*P **P 08 06 37.5 +1.1**
comp=Z,5.0nm,0.6s,mb4.7
CMAR Chiang Mai Arr 92.20 289 P **P 08 06 37.5 +1.1**
comp=Z,14nm,0.9s,mb5.0,baz=117,slow=2.9,SNR=63
CMAR Chiang Mai Arr 92.20 289 P **P 08 06 37.5 +1.1**
CMAR Chiang Mai Arr 92.20 289 P **P 08 06 37.6 +1.2**
CHTO Chiang Mai 92.32 289 *e*P **P 08 06 37.8 +0.8**
comp=Z,20nm,0.8s,mb5.2
CHTO *e*PP PP 08 10 17.2 -3.1
CHTO Chiang Mai 92.32 289 *e*P **P 08 06 37.8 +0.8**
CHTO *e* 08 10 17.2
CHTO pmax pmax
comp=Z,20nm,0.8s,mb5.2
CD2 Chengdu 92.61 302 P **P 08 06 38.3 +0.2**
CD2 pP pP 08 07 22.3 +0.8
CD2 sP sP 08 07 40.8 +1.1
CD2 PP PP 08 10 25.4 +3.0
CD2 SKS 08 16 53.5
CD2 S S 08 17 24.8 -2.9
CD2 sS sS 08 18 42.4 -1.3
CD2 SS SS 08 23 46.6 +2.0
CD2 pmax pmax
comp=Z,20nm,0.5s,mb5.5
CD2 pmax pmax
comp=Z,170nm,5.9s
INK Inuvik 93.50 14 *e*P **P 08 06 40.4 -0.9**
comp=Z,4.1nm,1.0s,mb4.5
INK Inuvik 93.50 14 *e*P **P 08 06 40.4 -0.9**
INK pmax pmax
comp=Z,4.0nm,1.0s
LZH Lanzhou 94.46 307 *e*P **P 08 06 47.5 +1.0**
LZH pP pP 08 07 23.8 -6.2
LZH pmax pmax
comp=Z,67nm,1.4s,mb5.6
LZH pmax pmax
comp=Z,180nm,4.4s
YKA Yellowknife Ar 95.39 24 P **P 08 06 49.2 -0.8**
comp=Z,2.0nm,0.8s,mb4.4,baz=228,slow=4.7,SNR=7.5
YKA Yellowknife Ar 95.39 24 P **P 08 06 49.2 -0.8**
YKA Yellowknife Ar 95.39 24 P **P 08 06 49.2 -0.8**
ECSD EROS Data Cent 96.16 46 *e*P **P 08 06 53.1 -0.9**
comp=Z,8.6nm,0.9s,mb5.1
ULN Ulaanbaatar 96.71 319 *e*P **P 08 06 56.1 -0.3**
comp=Z,17nm,1.2s,mb5.3
ULN *e*pP pP 08 07 42.8 +2.9
ULN *es*P sP 08 08 03.0 +4.9
ULN Ulaanbaatar 96.71 319 *e*P **P 08 06 56.1 -0.3**
ULN pmax pmax
comp=Z,17nm,1.2s,mb5.2
SONM Songino Array 97.10 318 P **P 08 06 58.2 0.0**
comp=Z,3.1nm,0.9s,mb4.6,baz=135,slow=4.1,SNR=14
SONM Songino Array 97.10 318 P **P 08 06 58.2 0.0**
SONM Songino Array 97.10 318 P **P 08 06 58.2 0.0**
GTA Gaotai 98.61 309 *e*P **P 08 07 05.1 -0.1**
GTA pP pP 08 07 49.5 +0.7
GTA sP sP 08 08 07.8 +0.9
GTA pmax pmax
comp=Z,5.0nm,1.1s,mb4.9
ULM Lac du Bonnet 99.01 40 LR LR 08 51 11.0
comp=Z,99nm,18.3s,baz=358,slow=35
ZAK Zakamensk 99.93 320 *e*P Pdif 08 07 07.9 -3.0
LPAZ La Paz 100.03 112 P Pdif 08 07 13.9 +2.6
comp=Z,1.2nm,0.8s,baz=271,slow=2.6,SNR=4.5
LPAZ La Paz 100.03 112 P Pdif 08 07 13.9 +2.6
LPAZ La Paz 100.03 112 P Pdif 08 07 13.9 +2.6
TLY Talaya 100.15 321 *e*P Pdif 08 07 21.4 +10
TLY *e* 08 18 27.3
TLY *e*PPS 08 20 03.4
TLY pmax pmax
comp=Z,4.0nm,0.9s
TLY MLR MLR
comp=Z,43nm,17.0s
SHL Shillong 100.70 293 *e*PKP PP 08 11 29.8 +5.1
SHL *ex* x 08 15 34.0
WMQ Urumqi 108.52 311 Pdif Pdif 08 07 50.6 +1.5
WMQ PP PP 08 12 26.1 +4.0
WMQ LR LR
comp=N,150nm,22.8s
WMQ LR LR
comp=E,79nm,22.8s
WMQ LR LR
comp=Z,78nm,26.9s
ZALV Zalesovo Beam 111.76 321 PKiKP PKiKP 08 11 58.2 -1.4
comp=Z,2.5nm,0.5s,baz=165,slow=1.3,SNR=15
ZALV PKKPbc PKKPbc 08 22 53.7 -1.4
comp=Z,1.0nm,0.5s,baz=243,slow=2.7,SNR=5.0
ZALV Zalesovo Beam 111.76 321 PKiKP PKiKP 08 11 58.2 -1.4
ZALV PKKPbc PKKPbc 08 22 53.7 -1.4
ZALV Zalesovo Beam 111.76 321 PKiKP PKiKP 08 11 58.3 -1.4
MK31 Makanchi Array 112.72 313 *e*PKPdf PKiKP 08 12 00.5 -1.3
MK31 Makanchi Array 112.72 313 *i* PKiKP PKiKP 08 12 00.4 -1.3
MK31 pmax pmax
comp=Z,3.0nm,0.4s
MKAR Makanchi Array 112.72 313 Pdiff Pdif 08 08 08.1 +0.4
comp=Z,0.4nm,0.5s,baz=94,slow=5.1,SNR=4.5
MKAR PKiKP PKiKP 08 12 00.8 -1.0
comp=Z,3.4nm,0.5s,baz=182,slow=0.7,SNR=71
MKAR PKKPbc PKKPbc 08 22 50.6 -1.0
comp=Z,1.2nm,0.6s,baz=278,slow=3.7,SNR=11
MKAR Makanchi Array 112.72 313 Pdif Pdif 08 08 08.1 +0.4
MKAR PKiKP PKiKP 08 12 00.8 -1.0
MKAR PKKPbc PKKPbc 08 22 50.6 -1.0
MKAR Makanchi Array 112.72 313 P Pdif 08 08 08.1 +0.4
MKAR *i* 08 12 00.8
KURK Kurchatov 115.39 317 *e*PKPdf PKPdf 08 12 04.2 -2.6
KURK Kurchatov 115.39 317 *d* iPKIKP PKPdf 08 12 05.3 -1.4
KURK pmax pmax
comp=Z,7.0nm,1.2s
KSH Kashi 116.64 305 *e*PKP PKPdf 08 12 10.1 +0.6
KSH sPKP 08 13 09.3
KSH PKS 08 15 45.6
KSH SKS SKSdf 08 19 05.3 0.0
KSH AMB AMB
comp=Z,110nm,5.3s
KSH LR LR
comp=N,60nm,6.3s
KSH LR LR
comp=E,53nm,4.4s
KSH LR LR
comp=Z,78nm,6.4s
ULHL Ulahol 116.65 308 P PKPdf 08 12 09.3 -0.1
SNR=10
TKM2 Tokmak 2 117.16 309 P PKPdf 08 12 09.7 -0.7
SNR=19
TKM2 Tokmak 2 117.16 309 *e*PKPdf PKPdf 08 12 09.5 -0.9
TKM2 *ep*PKPdf pPKPdf 08 12 57.9 +2.0
TKM2 Tokmak 2 117.16 309 PKIKP PKPdf 08 12 09.5 -0.9
TKM2 pmax pmax
comp=Z,8.0nm,0.8s
KZA Kyzart 117.37 308 P PKPdf 08 12 11.2 +0.3
SNR=6.6
KBK Karagaybulak 117.63 308 P PKPdf 08 12 10.7 -0.6
SNR=5.5
CHMS Chumysh 117.79 309 P PKPdf 08 12 10.7 -1.0
SNR=6.2
AAK Ala-Archa 117.96 308 *e*PKPdf PKPdf 08 12 11.2 -0.7
AAK Ala-Archa 117.96 308 *e*PKIKP PKPdf 08 12 11.2 -0.8
USP Ospenovka 117.98 309 P PKPdf 08 12 11.2 -0.8
SNR=14
EKS2 Erkin-Say 118.49 308 P PKPdf 08 12 12.7 -0.3
SNR=6.2
EKS2 Erkin-Say 118.49 308 *e*PKPdf PKPdf 08 12 12.6 -0.4
EKS2 Erkin-Say 118.49 308 *e*PKIKP PKPdf 08 12 12.6 -0.4
AML Almayashu 118.53 308 P PKPdf 08 12 13.1 +0.1
SNR=12
BVA0 Borovoye Array 120.38 320 PKIKP PKPdf 08 12 15.3 -1.0
BVA0 pmax pmax
comp=Z,3.0nm,1.1s
BRVK Borovoye 120.44 320 *e*PKPdf PKPdf 08 12 14.8 -1.6
BRVK Borovoye 120.44 320 *d* iPKIKP PKPdf 08 12 15.4 -1.0
BRVK pmax pmax
comp=Z,22nm,1.2s
KK31 Karatay Array 120.90 309 *i* PKIKP PKPdf 08 12 16.3 -1.3
KK31 pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 120.90 309 *e*PKPdf PKPdf 08 12 16.6 -1.0
KKAR Karatay Array 120.90 309 *e*PKIKP PKPdf 08 12 16.6 -1.0
KBL Kabul 121.79 299 *e*PKPdf PKPdf 08 12 19.5 -0.1
KBL Kabul 121.79 299 *e*PKIKP PKPdf 08 12 19.5 -0.1
SPA0 Spitsbergen Ar 121.79 357 *e*P PKPdf 08 12 17.6 -0.8
SPB4 Spitsbergen Ar 121.79 357 *e*PKPdf PKPdf 08 12 17.7 -0.6
SVE Sverdlovsk 125.10 326⇓ *i* PKIKP PKPdf 08 12 25.0 -0.2
SVE pmax pmax
comp=Z,30nm,1.4s
ARU Arti 126.32 326 *e*PKPdf PKPdf 08 12 26.6 -0.9
ARU Arti 126.32 326 *i* PKIKP PKPdf 08 12 26.8 -0.8
ARU 08 14 24.3
ARU 08 19 13.0
BOSA Boshof 127.38 203 PKP PKPdf 08 12 31.4 +0.8
comp=Z,6.8nm,0.6s,baz=163,slow=3.6,SNR=22
BOSA Boshof 127.38 203 *e*PKPdf PKPdf 08 12 31.3 +0.7
BOSA Boshof 127.38 203 *e*PKIKP PKPdf 08 12 31.3 +0.7
AB31 Akbulak array 127.50 317 *i* PKIKP PKPdf 08 12 29.4 -0.6
AB31 pmax pmax
comp=Z,10.0nm,1.0s
ABKAR Akbulak array 127.50 317 *e*PKPdf PKPdf 08 12 29.5 -0.5
KEV Kevo 128.68 350 *e*PKIKP PKPdf 08 12 29.8 -1.9
KEV Kevo 128.68 350 *e*pkp PKPdf 08 12 29.8 -1.9
ARCES ARCESS Array B 129.11 351 PKhKP PKPpre 08 12 19.2
comp=Z,7.1nm,1.1s,baz=317,slow=5.1,SNR=4.5
ARCES PKP PKPdf 08 12 31.5 -1.1
comp=Z,12nm,0.6s,baz=38,slow=1.0,SNR=61
ARCES ARCESS Array B 129.11 351 PKP PKPdf 08 12 31.5 -1.1
ARCES ARCESS Array B 129.11 351 PKIKP PKPdf 08 12 31.5 -1.0
ARE0 ARCESS Array S 129.11 351 *e*P PKPdf 08 12 32.1 -0.4
TRO Tromso 129.88 353 *e*P PKPdf 08 12 33.2 -0.8
TRO AMB AMB 08 12 38.1
comp=Z,85nm,2.7s
STEI Steigen 131.89 355 *e*P PKPdf 08 12 38.0 +0.2
JOF Joensuu 133.61 343 *e*PKIKP PKPdf 08 12 39.4 -1.8
JOF Joensuu 133.61 343 *e*pkp PKPdf 08 12 39.4 -1.8
STOK Stokkvaagen 133.64 355 *e*P PKPdf 08 12 41.8 +0.6
KAF Kangasniemi 135.55 346 *e*PKIKP PKPdf 08 12 41.7 -3.2
KAF Kangasniemi 135.55 346 *e*pkp PKPdf 08 12 41.7 -3.2
FINES FINESS Array B 136.19 345 PKhKP PKPpre 08 12 35.5
comp=Z,5.9nm,0.9s,baz=0.0,slow=1.9,SNR=9.9
FINES PKP PKPdf 08 12 46.5 +0.4
comp=Z,5.3nm,0.6s,baz=31,slow=2.3,SNR=12
FINES FINESS Array B 136.19 345 PKP PKPdf 08 12 46.5 +0.4
FINES FINESS Array B 136.19 345 PKIKP PKPdf 08 12 46.5 +0.4
LSZ Lusaka 137.63 215 *e*PKPdf PKPdf 08 12 50.7 +0.5
LSZ Lusaka 137.63 215 *e*PKIKP PKPdf 08 12 50.7 +0.5
OBN Obninsk 137.64 333 *i* PKIKP PKPdf 08 12 48.8 -0.1
OBN *e*PS PS 08 26 07.9 +0.7
OBN pmax pmax
comp=Z,15nm,1.3s
OBN MLR MLR
comp=Z,200nm,24.0s
TSUM Tsumeb 138.68 199 *e*PKPdf PKPdf 08 12 50.1 -1.9
NB2 NORSAR Subarra139.02 355 PKP PKPpre 08 12 43.6
comp=Z,3.4nm,0.6s,baz=17,slow=2.6
NB2 NORSAR Subarra139.02 355 PKP PKPpre 08 12 43.6
baz=17,slow=2.6
NOA NORSAR Array B139.02 355 PKhKP PKPpre 08 12 42.3
comp=Z,0.9nm,0.5s,baz=227,slow=26,SNR=7.7
NOA PKP PKPdf 08 12 50.9 -0.4
comp=Z,3.7nm,0.5s,baz=14,slow=4.0,SNR=13
NOA NORSAR Array B139.02 355 PKPpre PKPpre 08 12 42.3
NOA PKP PKPdf 08 12 50.9 -0.4
NOA NORSAR Array B139.02 355 PKHKP PKPpre 08 12 42.3
NOA 08 12 50.9
HFS Hagfors 139.66 353 PKhKP PKPpre 08 12 42.7

comp=Z,2.5nm,0.4s,baz=75,slow=1.7,SNR=20
HFS PKP PKPdf 08 12 52.0 -0.5
comp=Z,6.0nm,0.6s,baz=64,slow=3.4,SNR=8.3
HFS Hagfors 139.66 353 PKP PKPdf 08 12 52.0 -0.5
HFS Hagfors 139.66 353 PKIKP PKPdf 08 12 52.0 -0.5
KMBO Kilima Mbogo 141.43 240 *e*PKPdf PKPdf 08 12 57.7 +0.5
KMBO Kilima Mbogo 141.43 240 *e*PKIKP PKPdf 08 12 57.7 +0.5
SUW Suwalki 143.41 341 *e*PKP PKPdf 08 12 56.1 -3.3
SUW Suwalki 143.41 341 *e*PKIKP PKPdf 08 12 56.1 -3.3
EBH Black Hill 143.62 7 *e*P PKPdf 08 12 56.6 -3.1
AKASG Malin Array Be 143.90 333 PKP PKPdf 08 12 57.5 -2.9
comp=Z,5.5nm,0.3s,baz=39,slow=4.2,SNR=40
AKASG pPKP pPKPdf 08 13 45.1 -0.9
comp=Z,0.9nm,0.4s,baz=39,slow=3.7,SNR=1.0
AKASG Malin Array Be 143.90 333 PKP PKPdf 08 12 57.5 -2.9
AKASG pPKP pPKPdf 08 13 45.1 -0.9
AKASG Malin Array Be 143.90 333 PKIKP PKPdf 08 12 57.5 -2.9
AKASG 08 13 45.1
AKBB Malin Array Si 143.90 333 *e*PKPdf PKPdf 08 12 57.1 -3.3
AKBB Malin Array Si 143.90 333 *e*PKIKP PKPdf 08 12 57.1 -3.3
KIEV Kiev 143.91 333 *e*PKPdf PKPdf 08 12 57.1 -3.2
KIEV Kiev 143.91 333 *e*PKIKP PKPdf 08 12 57.1 -3.3
EAU Auchinoon 144.02 8 *e*P PKPdf 08 12 57.6 -2.8
ESY Stoneypath 144.04 7 *e*P PKPdf 08 12 58.3 -2.2
EBL Broad Law 144.14 7 *e*P PKPdf 08 12 57.1 -3.5
EKA Eskdalemuir Ar 144.55 7 PKP PKPdf 08 12 59.5 -1.9
comp=Z,13nm,0.7s,baz=322,slow=2.7,SNR=75
EKA Eskdalemuir Ar 144.55 7 PKP PKPdf 08 12 59.5 -1.9
EKA Eskdalemuir Ar 144.55 7 PKIKP PKPdf 08 12 59.5 -1.9
ESK Eskdalemuir 144.56 8 *e*P PKPdf 08 12 58.3 -3.0
ESK Eskdalemuir 144.56 8 *i* PKIKP PKPdf 08 13 06.0 +4.6
ECK Cauldkaine Hil 144.71 7 *e*P PKPdf 08 12 58.1 -3.5
GAL1 Galloway 144.80 9 *e*P PKPdf 08 12 59.9 -1.8
FURI Furi 145.05 256 *i* P PKPbc 08 13 05.3 +2.1
XAL Allendale 145.13 7 *e*P PKPbc 08 13 00.8 -1.4
SIM Simferopol' 145.27 322 *e*PKHKP PKPpre 08 12 59.0
SIM pmax pmax
comp=Z,49nm,0.8s
KESW Keswick, Cumbr 145.29 8 *e*P PKPdf 08 13 01.8 -0.8
MALT Malatya 145.59 309 PKP2 PKPab 08 13 10.2 +5.4
GKP Gorka Klasztor 145.64 346 *e*PKP PKPdf 08 13 03.5 +0.3
GKP Gorka Klasztor 145.64 346 *e*PKP2 PKPab 08 13 03.6 -0.8
BEL Belsk 146.02 342 *e*PKP PKPdf 08 13 05.4 +1.4
BEL Belsk 146.02 342 *e*PKP2 PKPab 08 13 05.4 -0.5
BSEG Bad Segeberg 146.12 354 *e*PKP PKPdf 08 13 05.3 +1.2
BSEG Bad Segeberg 146.12 354 *e*PKP2 PKPab 08 13 05.3 -0.9
WLF1 Llynfaes 146.37 10 *e*P PKPdf 08 13 05.0 +0.4
LVV L'vov 146.67 337 *e*PKP2 PKPab 08 13 06.1 -2.4
KIS Kishinev 146.78 329 *e*PKP PKPdf 08 13 06.0 +0.6
KIS Kishinev 146.78 329 *e*PKIKP PKPdf 08 13 06.0 +0.6
KBI1 Birley Grange 146.78 7 *e*P PKPdf 08 13 06.8 +1.6
STNC Stoke 146.87 7 *e*P PKPdf 08 13 06.9 +1.6
FOEL Foel Wylfa 146.94 8 *e*P PKPdf 08 13 05.4 -0.1
IAS Iasi 147.23 330 PKP2 PKPbc 08 13 09.0 +0.3
KWP Kalwaria Pacla 147.30 338 *e*PKP PKPbc 08 13 08.9 +0.1
KWP Kalwaria Pacla 147.30 338 *e*PKPdf PKPdf 08 13 06.1 -0.1
KWP *e*PKPbc PKPbc 08 13 08.9 +0.1
KWP *e*PKPab PKPab 08 13 11.5 +0.5
KWP *ep*PKPdf pPKPdf 08 13 55.0 +3.2
KWP Kalwaria Pacla 147.30 338 ⇑PKP2 PKPbc 08 13 09.2 +0.4
KWP Kalwaria Pacla 147.30 338 ⇑*i*P PKPbc 08 13 09.2 +0.4
HLM1 Long Mynd 147.34 8 *e*P PKPdf 08 13 06.8 +0.7
LEOM Leova 147.43 329 ⇑PKP2 PKPbc 08 13 09.4 +0.1
LEOM Leova 147.43 329 ⇑*i*P PKPbc 08 13 09.4 +0.1
NRDL Niedersach Rie 147.56 354 *e*PKP PKPbc 08 13 09.0 -0.4
OJC Ojcow 147.75 341 *e*PKP PKPbc 08 13 09.6 -0.4
OJC Ojcow 147.75 341 *e*PKP2 PKPbc 08 13 09.6 -0.4
MCH1 Michaelchurch 147.84 9 *e*P PKPdf 08 13 08.4 +1.4
BUR08 Bucovina Ar. S 147.94 333 *e*PKPdf PKPdf 08 13 08.4 +1.1
BUR08 *e*PKPbc PKPbc 08 13 11.5 +0.9
IBBN Ibbenburen 147.95 356 *e*PKP PKPbc 08 13 10.4 0.0
BURAR Bucovina Array 147.96 333 ⇑PKP2 PKPbc 08 13 11.3 +0.7
BURAR Bucovina Array 147.96 333 ⇑*i*P PKPbc 08 13 11.3 +0.7
STHS Stebnicka Huta 147.99 339 *e*PKP2 PKPbc 08 13 10.8 +0.1
STHS Stebnicka Huta 147.99 339 *e*PKP PKPbc 08 13 10.8 +0.1
TLCR 148.04 327 ⇑PKP2 PKPbc 08 13 11.1 +0.2
TLCR 148.04 327 ⇑*i*P PKPbc 08 13 11.1 +0.2
KSP Ksiaz 148.11 346 *e*PKP PKPbc 08 13 11.3 +0.4
GHRR 148.13 329 ⇓*i*P PKPbc 08 13 11.9 +0.8
TESR 148.16 330 ⇓*i*P PKPbc 08 13 11.2 0.0
CLZ Clausthal 148.18 353 *e*PKP PKPbc 08 13 11.2 +0.1
CLZ Clausthal 148.18 353 *e*PKP2 PKPbc 08 13 11.2 +0.1
HGH Gray Hill 148.21 9 *e*P PKPdf 08 13 07.2 -0.4
UZH Uzhgorod 148.29 337 *e*PKP2 PKPbc 08 13 10.5 -1.0
NIE Niedzica 148.29 340 *e*PKP PKPbc 08 13 11.8 +0.4
NIE Niedzica 148.29 340 *e*PKP2 PKPbc 08 13 11.8 +0.4
CLL Collm 148.33 350 *e*PKP PKPbc 08 13 11.4 -0.1
CLL Collm 148.33 350 ⇓*e*PKIKP PKPdf 08 13 08.0 +0.2
CLL *i* 08 13 14.4
CLL *e* 08 13 57.0
CLL pmax pmax
comp=Z,18nm,1.2s
CLL Collm 148.33 350 *e*PKPdf PKPdf 08 13 08.0 +0.2
comp=Z,18nm,1.2s
CLL ⇓*i*PKPbc PKPbc 08 13 11.3 -0.2
comp=Z,98nm,1.3s
CLL *i* PKPab PKPab 08 13 14.4 -0.7
comp=Z,29nm,0.7s
CLL *ep*PKPbc pPKPbc 08 13 57.0 +0.4
CLL *ep*PKPab pPKPab 08 14 00.0 +0.8
BR131 Keskin Array S 148.36 314 *e*PKPbc PKPbc 08 13 11.6 -0.3
BR131 *e*PKPab PKPab 08 13 16.4 +0.8
BRTR Keskin Array B 148.36 314 PKPbc PKPbc 08 13 11.7 -0.3
comp=Z,13nm,0.6s,baz=156,slow=4.2,SNR=26
BRTR Keskin Array B 148.36 314 PKPbc PKPbc 08 13 11.7 -0.3
BRTR Keskin Array B 148.36 314 PKP2 PKPbc 08 13 11.7 -0.2
CFR Carcaliu 148.39 327 ⇑PKP2 PKPbc 08 13 11.9 +0.1
CFR Carcaliu 148.39 327 ⇑*i*P PKPbc 08 13 11.9 +0.1
PETR 148.46 329 ⇓*i*P PKPbc 08 13 12.7 +0.7
UPC Upice 148.49 346 *e*PKIKP PKPdf 08 13 08.0 -0.1
UPC *i* 08 13 12.0
UPC Upice 148.49 346 *e*PKPDF PKPdf 08 13 08.0 -0.1
UPC ⇑*i*PKP PKPbc 08 13 12.0 +0.1
DPC Dobruska-Polom 148.56 345 *e*PKHKP PKPdf 08 13 06.8 -1.5
DPC *e* 08 13 12.4
DPC Dobruska-Polom 148.56 345 *e*PKPDF PKPdf 08 13 06.8 -1.5
DPC ⇑*e*PKP PKPbc 08 13 12.4 +0.3
OKC Ostrava-Krasne 148.56 343 *e*PKIKP PKPdf 08 13 08.1 -0.2
OKC *i* 08 13 12.0
OKC Ostrava-Krasne 148.56 343 *e*PKPDF PKPdf 08 13 08.1 -0.2
OKC ⇑*i*PKP PKPbc 08 13 12.0 -0.1
BRG Berggiesshubel 148.58 348 *e*PKP PKPdf 08 13 08.3 0.0
comp=Z,31nm,1.5s
BRG *i* 08 13 12.0
comp=Z,33nm,0.7s
BRG pPKP pPKPdf 08 13 57.0 +3.1
BRG
comp=N,354nm,17.1s
BRG
comp=E,549nm,20.9s
BRG
comp=Z,570nm,17.3s
BRG Berggiesshubel 148.58 348 *e*PKP PKPbc 08 13 12.2 +0.1
BRG Berggiesshubel 148.58 348 *e*PKIKP PKPdf 08 13 08.3 0.0
BRG *i* 08 13 12.0
BRG 08 13 57.0
BRG pmax pmax
comp=Z,31nm,1.5s
BRG MLR MLR
comp=N,354nm,17.1s
BRG MLR MLR
comp=E,549nm,20.9s
BRG MLR MLR
comp=Z,570nm,17.3s
VRI Vrincioaia 148.60 329 ⇑PKP2 PKPbc 08 13 12.3 0.0
VRI Vrincioaia 148.60 329 ⇑*i*P PKPbc 08 13 12.3 0.0
TRPA Tarpa 148.62 336 ⇓*i*P PKPbc 08 13 12.3 0.0
BMR Baia Mare 148.62 335 PKP2 PKPbc 08 13 12.8 +0.5
BMR Baia Mare 148.62 335 ⇑*i*P PKPbc 08 13 12.3 0.0
PLOR Plostina 148.65 329 ⇓PKP2 PKPbc 08 13 12.2 -0.3
PLOR Plostina 148.65 329 ⇓*i*P PKPbc 08 13 12.2 -0.3
WOL Wolverton 148.73 7 *e*P PKPbc 08 13 11.2 -1.3
PVCC Panska Ves 148.78 347 *e*PKP2 PKPbc 08 13 12.7 0.0
PVCC Panska Ves 148.78 347 ⇑*e*PKP PKPbc 08 13 12.7 0.0
MORC Moravsky Berou 148.78 344 *e*PKPdf PKPdf 08 13 08.7 +0.1
MORC *e*PKPbc PKPbc 08 13 12.6 0.0
MORC *e*PKPab PKPab 08 13 17.4 +0.4
MORC Moravsky Berou 148.78 344 ⇑PKP2 PKPbc 08 13 13.3 +0.6
MORC Moravsky Berou 148.78 344 ⇑*i*P PKPbc 08 13 13.3 +0.6
GRER 148.83 329 ⇑*i*P PKPbc 08 13 14.1 +1.2
KECS Kecovo 149.05 339 *e*PKP2 PKPbc 08 13 13.3 -0.1
KECS Kecovo 149.05 339 *e*PKP PKPbc 08 13 13.3 -0.1
DOPR Dopca 149.15 331 ⇑*i*P PKPbc 08 13 14.4 +0.7
PGOR Pogoanele 149.16 328 ⇓*i*P PKPbc 08 13 14.5 +0.7
MOX Moxa 149.19 351 *e*PKP PKPbc 08 13 13.6 -0.1
MOX Moxa 149.19 351 *e*PKP2 PKPbc 08 13 13.6 -0.1
MLR Muntele Rosu 149.25 330 PKPbc PKPbc 08 13 14.0 0.0
comp=Z,3.6nm,0.5s,baz=9.6,slow=4.3,SNR=29
MLR Muntele Rosu 149.25 330 PKPbc PKPbc 08 13 14.0 0.0
MLR Muntele Rosu 149.25 330 PKP2 PKPbc 08 13 14.4 +0.4
MLR Muntele Rosu 149.25 330 ⇓*i*P PKPbc 08 13 13.9 -0.1
TANN Tannenbergstha 149.28 350 *e*PKP PKPbc 08 13 14.0 +0.1
PRU Pruhonice 149.30 347 *e*PKHKP PKPdf 08 13 08.9 -0.6
PRU Pruhonice 149.30 347 *e*PKPDF PKPdf 08 13 08.9 -0.6
PRU ⇑*i*PKP PKPbc 08 13 13.9 -0.1
PRU *e*PKPAB PKPab 08 13 19.4 +0.3
NKC Novy Kostel 149.46 350 *e*PKHKP PKPdf 08 13 09.9 +0.2
NKC Novy Kostel 149.46 350 *e*PKPDF PKPdf 08 13 09.9 +0.2
NKC ⇑*i*PKP PKPbc 08 13 14.4 +0.1
VRAC Vranov 149.46 344 PKPbc PKPbc 08 13 14.0 -0.4
comp=Z,11nm,0.7s,baz=23,slow=5.5,SNR=18
VRAC Vranov 149.46 344 PKPbc PKPbc 08 13 14.0 -0.4
VRAC Vranov 149.46 344 ⇑PKP2 PKPbc 08 13 14.9 +0.5
VRAC Vranov 149.46 344 ⇑*i*P PKPbc 08 13 14.9 +0.5
MDB Medias 149.47 332 ⇓PKP2 PKPbc 08 13 15.2 +0.7
MDB Medias 149.47 332 ⇓*i*P PKPbc 08 13 15.2 +0.7
BEBN Eben Emael 149.55 358 PKPbc PKPbc 08 13 14.7 +0.1
BEBN PKPab PKPab 08 13 17.7 -2.3
KOLL Kolacno 149.62 342 *e*PKP2 PKPbc 08 13 15.3 +0.5
KOLL Kolacno 149.62 342 *e*PKP PKPbc 08 13 15.3 +0.5
VOIR 149.70 331 PKP2 PKPbc 08 13 16.1 +1.0
VOIR 149.70 331 ⇓*i*P PKPbc 08 13 15.5 +0.4
MEM Membach 149.73 358 PKPbc PKPbc 08 13 14.7 -0.2
PSZ Piszkesteto 149.74 339 *e*PKPdf PKPdf 08 13 10.7 +0.5
PSZ *e*PKPbc PKPbc 08 13 15.0 -0.1
PSZ *e*PKPab PKPab 08 13 21.8 +0.9
PSZ Piszkesteto 149.74 339 *e*PKHKP PKPdf 08 13 10.7 +0.5
PSZ Piszkesteto 149.74 339 ⇓*e*PKP PKPbc 08 13 15.0 -0.1
PSZ Piszkesteto 149.74 339 ⇑*i*P PKPbc 08 13 15.4 +0.3
TREC Trest 149.75 346 *e*PKP2 PKPbc 08 13 15.1 0.0
TREC Trest 149.75 346 ⇑*e*PKP PKPbc 08 13 15.1 0.0
SNF Seneffe 149.85 0 PKPbc PKPbc 08 13 14.4 -0.9
SNF PKPab PKPab 08 13 20.3 -1.0
BCLA Clavier 149.94 359 PKPbc PKPbc 08 13 14.9 -0.6
ROTZ Rotzenmuhle 149.95 350 *e*PKP PKPbc 08 13 15.8 +0.3
TNS Taunus Mts 149.97 355 *e*PKP PKPbc 08 13 15.6 0.0
TNS Taunus Mts 149.97 355 *e*PKP2 PKPbc 08 13 15.6 0.0
GRF Grafenberg Arr 150.17 351 *e*PKP PKPbc 08 13 16.3 +0.2
GRF Grafenberg Arr 150.17 351 *e*PKP2 PKPbc 08 13 16.3 +0.2
GRFO Grafenberg 150.18 351 *e*PKPbc PKPbc 08 13 16.2 +0.1
GRFO Grafenberg 150.18 351 *e*PKP2 PKPbc 08 13 16.2 +0.1
GIVF Givet 150.26 359 ⇓*i*PKP1 PKPbc 08 13 15.9 -0.4
comp=Z,129nm,0.9s
DOU Dourbes 150.27 360 PKPbc PKPbc 08 13 16.1 -0.2
BAIF Baives 150.30 0 ⇓*i*PKP1 PKPbc 08 13 16.2 -0.2
comp=Z,89nm,0.8s
KHC Kasperske Hory 150.31 348 *e*PKPdf PKPdf 08 13 10.4 -0.7
KHC *e*PKPbc PKPbc 08 13 16.4 0.0
KHC Kasperske Hory 150.31 348 *e*PKIKP PKPdf 08 13 10.4 -0.7
KHC *e* 08 13 23.1
KHC Kasperske Hory 150.31 348 *e*PKPDF PKPdf 08 13 10.4 -0.7
KHC ⇑*e*PKP PKPbc 08 13 16.4 0.0
KHC *e*PKPAB PKPab 08 13 23.1 -0.1
KHC *ep*PKP pPKPab 08 14 09.0 +1.7
ZST Bratislava 150.34 343 *e*PKIKP PKPbc 08 13 17.1 +0.6
ZST Bratislava 150.34 343 *e*PKP PKPbc 08 13 17.1 +0.6
ZST Bratislava 150.34 343 *e*PKIKP PKPbc 08 13 17.1 +0.6
ABH Alteburg 150.38 356 PKP PKPbc 08 13 15.4 -1.2
BUD Budapest 150.40 340 ⇓*e*PKP PKPbc 08 13 16.3 -0.4
TOD Tromm 150.55 354 PKP PKPbc 08 13 15.9 -1.1
TOD Tromm 150.55 354 PKIKP PKPbc 08 13 15.9 -1.1
GEC2 GERESS Array S 150.56 347 *e*PKP PKPbc 08 13 17.1 +0.1
GEC2 GERESS Array S 150.56 347 *e*PKIKP PKPbc 08 13 17.1 +0.1
GERES GERESS Array B 150.56 347 PKP PKPdf 08 13 11.3 -0.1
comp=Z,1.0nm,0.6s,baz=72,slow=4.3,SNR=7.6
GERES PKPbc PKPbc 08 13 16.9 -0.1
comp=Z,26nm,0.7s,baz=27,slow=2.7,SNR=113
GERES GERESS Array B 150.56 347 PKP PKPdf 08 13 11.3 -0.1
GERES PKPbc PKPbc 08 13 16.9 -0.1
GERES GERESS Array B 150.56 347 PKIKP PKPdf 08 13 11.4 -0.1
RUP Ruppelstein 150.59 357 PKP PKPbc 08 13 16.1 -1.0
RUP Ruppelstein 150.59 357 PKIKP PKPbc 08 13 16.1 -1.0
CSS Prodhromos 150.65 306 *e*PKPdf PKPdf 08 13 11.1 -0.9
CSS *e*PKPbc PKPbc 08 13 17.0 -0.7
WLF Walferdange 150.67 358 PKPbc PKPbc 08 13 17.6 +0.3
WLF Walferdange 150.67 358 *e*PKP PKPbc 08 13 17.8 +0.5
JSA Saint Aubin 150.69 9 *e*P PKPbc 08 13 15.9 -1.5
GZR Gura Zlata 150.75 333 ⇓PKIKP PKPbc 08 13 17.2 -0.4
GZR Gura Zlata 150.75 333 ⇓*i*P PKPbc 08 13 17.2 -0.4
CONA Conrad Observa 150.92 344 *i* PKiKP PKiKP 08 13 18.1 -0.4
comp=Z,75nm,1.1s,SNR=18
SOP Sopron 150.96 343 ⇓*e*PKP PKPbc 08 13 18.0 0.0
BZS Buzias 151.05 335 ⇓PKIKP PKPbc 08 13 18.1 -0.2
BZS Buzias 151.05 335 ⇓*i*P PKPbc 08 13 18.1 -0.2
LANF Langenberg 151.25 355 PKP PKPbc 08 13 18.5 -0.1
FLN La Foliniere 151.33 7 ⇓*i*PKP1 PKPbc 08 13 18.1 -0.7
comp=Z,146nm,0.9s
STU Stuttgart 151.34 353 *e*PKP PKPbc 08 13 18.8 0.0
STU Stuttgart 151.34 353 *e*PKPdf PKPdf 08 13 12.4 -0.3
STU *e*PKPbc PKPbc 08 13 18.7 -0.1
STU *e*PKPab PKPab 08 13 27.3 -0.2
STU Stuttgart 151.34 353 *e*PKIKP PKPdf 08 13 12.4 -0.3
STU *e* 08 13 27.3
ROSF Rostrenen 151.35 11 ⇓*i*PKP1 PKPbc 08 13 17.8 -1.1
comp=Z,58nm,0.9s
MOA Molln 151.38 346 *i* PKPbc PKPbc 08 13 18.6 -0.4
comp=Z,22nm,0.6s,SNR=9.5
ISP Isparta 151.42 313 ⇓PKIKP PKPbc 08 13 19.2 -0.2
ISP Isparta 151.42 313 ⇓*i*P PKPbc 08 13 19.2 -0.2
PKS9 Tamasi 151.43 340 ⇓*e*P PKPbc 08 13 18.0 -1.1
LDF La Druitiere 151.53 6 ⇓*i*PKP1 PKPbc 08 13 18.4 -0.9
comp=Z,36nm,0.4s
PKSM Moragy 151.64 339 ⇓PKIKP PKPbc 08 13 19.4 -0.2
PKSM Moragy 151.64 339 ⇓*i*P PKPbc 08 13 19.4 -0.2
PKSM Moragy 151.64 339 ⇓*e*P PKPbc 08 13 19.0 -0.6
GRR Gorron 151.65 7 ⇓*i*PKP1 PKPbc 08 13 18.9 -0.7
comp=Z,93nm,0.5s
QUIF Quistinic 151.77 11 ⇓*i*PKP1 PKPbc 08 13 18.8 -1.1
comp=Z,48nm,0.9s
PAGF Fort de Pagny 151.79 358 ⇓*i*PKP1 PKPbc 08 13 19.8 -0.1
comp=Z,29nm,0.7s
RJOB Jochberg 151.80 348 *e*PKP PKPbc 08 13 19.6 -0.3
BFO Black Forest 151.86 354 *e*PKP PKPbc 08 13 19.9 -0.1
BFO Black Forest 151.86 354 *e*PKPdf PKPdf 08 13 13.2 -0.2
BFO *e*PKPbc PKPbc 08 13 19.7 -0.4
BFO Black Forest 151.86 354 *e*PKIKP PKPdf 08 13 13.3 -0.2
CDF Champ du Feu 151.86 356 *e*PKP1 PKPbc 08 13 19.8 -0.2
comp=Z,89nm,0.8s
MEZF Maizieres J'vi 151.86 359 ⇓*i*PKP1 PKPbc 08 13 19.9 -0.1
comp=Z,58nm,0.5s
ECH Echery 152.06 356 *e*PKPbc PKPbc 08 13 20.1 -0.4
ECH Echery 152.06 356 *e*PKIKP PKPbc 08 13 20.1 -0.4
ECH Echery 152.06 356 PKP PKPbc 08 13 19.8 -0.7
THEF They Montfort 152.11 358 PKP PKPbc 08 13 20.5 -0.1
SFTF Sexfontaines 152.16 359 ⇓*i*PKP1 PKPbc 08 13 20.5 -0.2
comp=Z,151nm,0.5s
KOGS Kog 152.18 342 *i* PKPbc PKPbc 08 13 20.3 -0.6
SOKA Soboth 152.29 344 ⇓*i*PKPbc PKPbc 08 13 20.2 -0.9
comp=Z,32nm,1.1s
PERS Pernice 152.31 344 *i* PKPbc PKPbc 08 13 20.5 -0.6
HAU Haudompre 152.32 357 ⇓*i*PKP1 PKPbc 08 13 20.6 -0.5
comp=Z,72nm,0.5s
WATA Walderalm 152.41 349 ⇓*i*PKPbc PKPbc 08 13 20.7 -0.6
comp=Z,31nm,0.5s,SNR=11
MOF Molkenrain 152.43 356 PKP PKPbc 08 13 20.5 -0.8
WTTA Wattenberg 152.47 349 *i* PKiKP PKiKP 08 13 21.4 -0.3
comp=Z,81nm,0.6s,SNR=17
HINF Hinteralfeld 152.48 356 ⇓*i*PKP1 PKPbc 08 13 20.8 -0.6
comp=Z,35nm,0.5s
MOTA Moosalm 152.48 350 ⇓*i*PKPbc PKPbc 08 13 21.1 -0.4
comp=Z,23nm,0.8s
DAVA Damuels 152.72 352 ⇓*i*PKiKP PKiKP 08 13 21.7 -0.5
comp=Z,55nm,1.0s
VTS Vitosha 152.72 329 ⇓PKIKP PKPdf 08 13 15.3 +0.4
VTS Vitosha 152.72 329 ⇓*i*P PKPdf 08 13 15.3 +0.4
FETA Feichten 152.85 351 ⇓*i*PKiKP PKiKP 08 13 22.0 -0.5
comp=Z,26nm,0.6s,SNR=5.5
LOMF Lomont 152.94 356 PKP PKPbc 08 13 21.7 -0.8
LJU Ljubljana 153.01 344 *i* PKPbc PKPbc 08 13 22.5 -0.2
HYF Humbligny 153.06 3 ⇓*i*PKP1 PKPbc 08 13 22.6 -0.1
LOR Lormes 153.09 1 ⇓*i*PKP1 PKPbc 08 13 22.4 -0.4
comp=Z,61nm,0.8s
DAVOX Davos/Dischmat 153.21 352 PKPbc PKPbc 08 13 23.1 0.0
comp=Z,32nm,0.5s,baz=237,slow=4.7,SNR=34
DAVOX Davos/Dischmat 153.21 352 PKPbc PKPbc 08 13 23.1 0.0
DAVOX Davos/Dischmat 153.21 352 PKIKP PKPbc 08 13 23.1 0.0
SSF Saint Saulge 153.29 1 ⇓*i*PKP1 PKPbc 08 13 22.9 -0.4
comp=Z,67nm,0.9s
BOJS Bojanci 153.32 343 *i* PKPbc PKPbc 08 13 23.4 +0.1
BBLS Lazići 153.38 335 ⇓*i*P PKPdf 08 13 15.8 0.0
MFF Saint Martin d 153.50 7 ⇓*i*PKP1 PKPbc 08 13 23.0 -0.7
comp=Z,28nm,0.7s
AVF Avril-sur Loir 153.56 2 ⇓*i*PKP1 PKPbc 08 13 23.0 -0.9
comp=Z,20nm,0.9s
TUE Stuetta 153.58 352 *e*PKPdf PKPdf 08 13 16.2 +0.1
TUE *e*PKPbc PKPbc 08 13 24.2 +0.3
TUE *e*PKPab PKPab 08 13 36.4 -0.6
SMF Signal de Mont 153.72 1 *e*PKP1 PKPbc 08 13 23.4 -0.8
CABF La Chapelle 153.72 357 ⇓*i*PKP1 PKPbc 08 13 24.3 +0.1
comp=Z,38nm,0.7s
BGF Bois d'Agland 153.78 2 ⇓*i*PKP1 PKPbc 08 13 23.8 -0.5
comp=Z,31nm,0.5s
TCF Toulx Ste Croi 154.01 4 ⇓*i*PKP1 PKPbc 08 13 24.1 -0.7
comp=Z,44nm,0.9s
LPL La Plagne 154.78 356 *e*PKP1 PKPbc 08 13 26.4 -0.1
comp=Z,8.5nm,0.5s
LPG La Plagne 154.79 356 ⇓*i*PKP1 PKPbc 08 13 27.0 +0.5
comp=Z,14nm,0.8s
RJF Les Rejaudoux 154.95 5 ⇓*i*PKP1 PKPbc 08 13 25.9 -0.9
VIVF Saint-Julien-l 155.51 360 ⇓*i*PKP1 PKPdf 08 13 27.9 +9.1
MBDF Montbardon 155.56 356 ⇓*i*PKP1 PKPdf 08 13 28.0 +9.2
comp=Z,18nm,0.8s
LASF Ste Croix 156.28 1 ⇓*i*PKP1 PKPdf 08 13 29.7 +10
comp=Z,17nm,0.7s
SMRF Simiane la Rot 156.37 358 *e*PKP1 PKPdf 08 13 30.0 +10
ESDC Sonseca Array 159.39 19 PKP PKPdf 08 13 24.1 +0.3
comp=Z,1.5nm,0.8s,baz=351,slow=2.4,SNR=7.2
ESDC PKPab PKPab 08 14 01.5 -0.7
comp=Z,2.6nm,0.7s,baz=326,slow=3.7,SNR=9.8
ESDC Sonseca Array 159.39 19 PKP PKPdf 08 13 24.1 +0.3
ESDC PKPab PKPab 08 14 01.5 -0.7
DBIC Dimbokro 163.73 145 PKP PKPdf 08 13 28.1 -0.9
comp=Z,5.9nm,0.7s,baz=189,slow=0.7,SNR=11
DBIC PKPab PKPab 08 14 22.2 +0.3
comp=Z,6.6nm,0.8s,baz=196,slow=4.9,SNR=5.4
DBIC Dimbokro 163.73 145 *e*PKPdf PKPdf 08 13 28.1 -1.0
DBIC PKPab PKPab 08 14 22.2 +0.3
DBIC Dimbokro 163.73 145 *e*PKIKP PKPdf 08 13 28.1 -1.0
DBIC 08 14 22.2
TORD Torodi Ar. Bea 172.42 159 PKP PKPdf 08 13 33.5 -1.4
comp=Z,17nm,1.3s,baz=316,slow=0.7,SNR=32
TORD PKPab PKPab 08 15 00.7 +0.6
comp=Z,6.0nm,0.6s,baz=192,slow=3.6,SNR=16
TORD PP PP 08 18 48.0 -2.4
comp=Z,1.9nm,1.0s,baz=187,slow=3.2,SNR=4.8
TORD Torodi Ar. Bea 172.42 159 PKP PKPdf 08 13 33.5 -1.4
TORD PKPab PKPab 08 15 00.7 +0.6
TORD PP PP 08 18 48.0 -2.4
TAM Tamanrasset 177.32 338 *e*PKPdf PKPdf 08 13 36.4 +0.2
TAM Tamanrasset 177.32 338 *e*PKIKP PKPdf 08 13 36.4 +0.3

GEN ***23*** *08:11:58.2,44.2°20N×12.2°15E,h2km,ML2.5*
LDG ***23*** *08:11:58.6±0.1,44.2°27N×12.2°07E,h10km,Ml2.7/17,Error ellipse: s-maj=2.6km s-min=2.5km az=144.0*
NEIC ***23*** *08:11:58.6,44.2°27N×12.2°07E,h10km,ML2.7(LDG), ML2.5(ROM),After LDG.*
CSEM ***23*** *08:11:59.5±0.1,44.1°17N×11.2°95E,h30km,ML2.6/17,Error ellipse: s-maj=1.9km s-min=1.9km az=137.0*
ISCJB ***23*** *08:11:59.6±0.2,44.2°23N±0.02×11.2°84E±0.02,h36km±5km, Error ellipse: s-maj=3.2km s-min=2.4km az=140.8*
ROM ***23*** *08:12:00.0±0.2,44.2°20N×11.2°94E,h24km±3km, Md2.6/28, Ml2.5/17,Error ellipse: s-maj=2.9km s-min=2.5km az=66.0*
ISC 23 08:12:00.1±0.3,44.2°22N±0.02×11.2°89E±0.02,h30km±2km,
n138,σ1§04/223,9C-13D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
FAEN	**Faenza**	**0.07**	**351**	Pg	**Pb**	**08 12 04.4**	**-0.8**
FAEN				Sg	**Sb**	**08 12 08.9**	**+0.2**
FAEN	**Faenza**	**0.07**	**351**	Pg	**Pb**	**08 12 04.4**	**-0.8**
FAEN				Sg	**Sb**	**08 12 08.9**	**+0.2**
SFI	**Santa Sofia**	**0.32**	**186**	⇓*i*Pg	**Pb**	**08 12 06.6**	**-1.1**
SFI				Sg	**Sb**	**08 12 11.7**	**-1.2**
	1μm,0.3s						
SFI	**Santa Sofia**	**0.32**	**186**	⇓*i*Pg	**Pb**	**08 12 06.6**	**-1.1**
SFI				Sg	**Sb**	**08 12 11.7**	**-1.2**
	1μm,0.3s						
MTRZ	**Monterenzio**	**0.34**	**297**	Pg	**Pb**	**08 12 09.1**	**+1.1**
	452nm,0.4s						
MTRZ	**Monterenzio**	**0.34**	**297**	Pg	**Pb**	**08 12 09.1**	**+1.1**
	452nm,0.4s						
VMG	**Vicchio**	**0.36**	**224**	⇑*i*Pg	**Pb**	**08 12 07.9**	**-0.4**
VMG				Sg	**Sb**	**08 12 13.9**	**0.0**
	185nm,0.3s						
VMG	**Vicchio**	**0.36**	**224**	⇑*i*Pg	**Pb**	**08 12 07.9**	**-0.4**
VMG				Sg	**Sb**	**08 12 13.9**	**0.0**
	185nm,0.3s						
CMPO	**Campotto Po**	**0.37**	**350**	Pg	**Pb**	**08 12 08.6**	**+0.2**
	487nm,0.9s						
CMPO	**Campotto Po**	**0.37**	**350**	Pg	**Pb**	**08 12 08.6**	**+0.2**
	487nm,0.9s						
SEI	**Scarperia**	**0.42**	**247**	Pg	**Pb**	**08 12 09.0**	**-0.2**
	721nm,0.4s						
SEI	**Scarperia**	**0.42**	**247**	Pg	**Pb**	**08 12 09.0**	**-0.2**
	721nm,0.4s						
ASQU	**Asqua**	**0.43**	**190**	⇓*i*Pg	**Pb**	**08 12 08.4**	**-0.9**
ASQU				Sg	**Sb**	**08 12 15.6**	**-0.1**
	469nm,0.3s						
ASQU	**Asqua**	**0.43**	**190**	⇓*i*Pg	**Pb**	**08 12 08.4**	**-0.9**
ASQU				Sg	**Sb**	**08 12 15.6**	**-0.1**
	469nm,0.3s						
RSM	**Repubblica di**	**0.49**	**126**	Pg	**Pb**	**08 12 09.3**	**-1.1**
	44nm,1.0s						
RSM	**Repubblica di**	**0.49**	**126**	Pg	**Pb**	**08 12 09.3**	**-1.1**
	44nm,1.0s						
FIU	**Minerbio Fiu**	**0.51**	**326**	Pg	**Pb**	**08 12 13.4**	**+2.8**
FIU	**Minerbio Fiu**	**0.51**	**326**	Pg	**Pb**	**08 12 13.4**	**+2.8**
CRE	**Caprese Mich

	50nm,0.5s								
ARVD	**Arcevia**	**1.05**	**133**		Pg		**Pn**	**08 12 19.1**	**+0.4**
	50nm,0.5s								
MAIM	**Mastiano**	**1.05**	**254**		Pg		**Pn**	**08 12 20.6**	**+1.8**
MAIM	**Mastiano**	**1.05**	**254**		Pg		**Pn**	**08 12 20.6**	**+1.8**
MAIM					S		**Sn**	**08 12 36.0**	**+3.5**
MURB	**Monte Urbino**	**1.06**	**154**		Pg		**Pn**	**08 12 20.8**	**+1.9**
	191nm,0.3s								
MURB	**Monte Urbino**	**1.06**	**154**		Pg		**Pn**	**08 12 20.8**	**+1.9**
	191nm,0.3s								
PII	**Pisa**	**1.11**	**244**		Pg		**Pn**	**08 12 21.5**	**+2.0**
	61nm,0.3s								
PII	**Pisa**	**1.11**	**244**		Pg		**Pn**	**08 12 21.5**	**+2.0**
	61nm,0.3s								
TEOL	**Teolo**	**1.15**	**352**	⇓	*i* Pg		**Pn**	**08 12 20.5**	**+0.3**
TEOL					*i* Sg		**Sn**	**08 12 35.8**	**+0.9**
TEOL	**Teolo**	**1.15**	**352**		*i* Pg		**Pn**	**08 12 20.5**	**+0.3**
TEOL					*i* Sg		**Sn**	**08 12 35.8**	**+0.9**
SNTG	**Esanatoglia**	**1.23**	**141**		Pg		**Pn**	**08 12 22.6**	**+1.4**
	46nm,0.6s								
SNTG	**Esanatoglia**	**1.23**	**141**		Pg		**Pn**	**08 12 22.6**	**+1.4**
	46nm,0.6s								
CING	**Cingoli**	**1.27**	**131**		Pg		**Pn**	**08 12 23.6**	**+1.9**
CING	**Cingoli**	**1.27**	**131**		Pg		**Pn**	**08 12 23.6**	**+1.9**
SACS	**San Casciano d**	**1.37**	**179**		Pg		**Pn**	**08 12 24.6**	**+1.4**
NRCA	**Norcia**	**1.65**	**147**		Pg		**Pn**	**08 12 29.2**	**+2.2**
	20nm,0.7s								
NRCA	**Norcia**	**1.65**	**147**		Pg		**Pn**	**08 12 29.2**	**+2.2**
	20nm,0.7s								
CGRP	**Cima Grappa**	**1.66**	**358**	⇓	*e*Pg		**Pn**	**08 12 28.0**	**+0.8**
CGRP					*e*Sg		**Sn**	**08 12 48.7**	**+1.3**
CGRP	**Cima Grappa**	**1.66**	**358**		Pg		**Pn**	**08 12 27.4**	**+0.2**
	123nm,0.6s								
CGRP	**Cima Grappa**	**1.66**	**358**		*e*Pg		**Pn**	**08 12 28.0**	**+0.8**
VARN	**Col Varnada, M**	**1.78**	**5**	⇓	*e*Pg		**Pn**	**08 12 28.6**	**-0.2**
VARN					*e*Sg		**Sn**	**08 12 50.9**	**+0.5**
CAE	**Caneva**	**1.83**	**12**	⇓	*e*Pg		**Pn**	**08 12 29.3**	**-0.2**
CAE					*e*Sg		**Sn**	**08 12 51.6**	**0.0**
CTI	**Castel Tesino**	**1.84**	**355**		Pg		**Pn**	**08 12 30.1**	**+0.5**
MLNI	**Malnisio**	**2.00**	**14**	⇑	*i* Pn		**Pn**	**08 12 31.6**	**-0.2**
MLNI					*i* Sn		**Sn**	**08 12 56.4**	**+0.6**
MLNI	**Malnisio**	**2.00**	**14**		*i* Pn		**Pn**	**08 12 31.6**	**-0.2**
MLNI					*i* Sn		**Sn**	**08 12 56.3**	**+0.6**
TRI	**Trieste**	**2.00**	**41**	⇑	*e*Pn		**Pn**	**08 12 30.8**	**-1.0**
TRI					*e*Sn		**Sn**	**08 12 54.7**	**-1.0**
TRI	**Trieste**	**2.00**	**41**		*e*Pn		**Pn**	**08 12 30.8**	**-1.0**
TRI					*e*Sn		**Sn**	**08 12 54.7**	**-1.0**
SKDS	**Skadanscina**	**2.01**	**48**		*i* Pn		**Pn**	**08 12 31.0**	**-0.9**
SKDS					*i* Sn		**Sn**	**08 12 54.8**	**-1.2**
SKDS									
	comp=Z,31nm,0.2s								
SKDS	**Skadanscina**	**2.01**	**48**		*i* Pn		**Pn**	**08 12 31.0**	**-0.9**
SKDS					*i* Sn		**Sn**	**08 12 54.8**	**-1.2**
	comp=Z,31nm,0.2s								
CIMO	**Cimolais**	**2.12**	**10**	⇓	*e*Pn		**Pn**	**08 12 33.3**	**-0.3**
CIMO					*e*Sn		**Sn**	**08 12 59.0**	**+0.1**
CIMO	**Cimolais**	**2.12**	**10**		*e*Pn		**Pn**	**08 12 33.3**	**-0.2**
CIMO					*e*Sn		**Sn**	**08 12 59.0**	**+0.1**
SABO	**M.te Sabotino**	**2.13**	**34**	⇓	*e*Pn		**Pn**	**08 12 33.5**	**-0.2**
SABO					*e*Sn		**Sn**	**08 12 59.5**	**+0.4**
SABO	**M.te Sabotino**	**2.13**	**34**		*e*Pn		**Pn**	**08 12 33.5**	**-0.2**
SABO					*e*Sn		**Sn**	**08 12 59.5**	**+0.3**
NVLJ	**Novalja**	**2.16**	**80**		*i* Pn		**Pn**	**08 12 33.8**	**-0.2**
NVLJ					Sn		**Sn**	**08 12 59.0**	**-0.9**
NVLJ	**Novalja**	**2.16**	**80**		*i* Pn		**Pn**	**08 12 33.8**	**-0.3**
NVLJ					Sn		**Sn**	**08 12 58.9**	**-0.9**
MPRI	**Monte Prat**	**2.16**	**21**	⇑	*i* Pn		**Pn**	**08 12 34.3**	**+0.2**
MPRI					*i* Sn		**Sn**	**08 13 00.1**	**+0.2**
MPRI	**Monte Prat**	**2.16**	**21**		*i* Pn		**Pn**	**08 12 34.3**	**+0.2**
MPRI					*i* Sn		**Sn**	**08 13 00.1**	**+0.2**
COLI	**Coloredo**	**2.18**	**28**	⇑	*e*Pn		**Pn**	**08 12 35.0**	**+0.6**
COLI					*e*Sn		**Sn**	**08 13 01.3**	**+0.9**
COLI	**Coloredo**	**2.18**	**28**		*e*Pn		**Pn**	**08 12 35.0**	**+0.7**
COLI					*e*Sn		**Sn**	**08 13 01.3**	**+1.0**
BAD	**Bernadia**	**2.23**	**25**	⇑	*e*Pn		**Pn**	**08 12 34.5**	**-0.5**
BAD					*e*Sn		**Sn**	**08 13 01.2**	**-0.3**
BAD	**Bernadia**	**2.23**	**25**		*e*Pn		**Pn**	**08 12 34.5**	**-0.5**
BAD					*e*Sn		**Sn**	**08 13 01.2**	**-0.3**
VINO	**Villanova**	**2.26**	**25**		Pn		**Pn**	**08 12 35.3**	**-0.1**
VINO	**Villanova**	**2.26**	**25**		Pn		**Pn**	**08 12 35.3**	**-0.1**
VOY	**Vojsko**	**2.30**	**37**		*e*Pn		**Pn**	**08 12 35.7**	**-0.2**
VOY					*e*Sn		**Sn**	**08 13 02.6**	**-0.6**
VOY	**Vojsko**	**2.30**	**37**		*e*Pn		**Pn**	**08 12 35.7**	**-0.2**
VOY					*e*Sn		**Sn**	**08 13 02.6**	**-0.6**
DRE	**Drenchia**	**2.31**	**32**	⇑	*e*Pn		**Pn**	**08 12 35.8**	**-0.3**
DRE					*e*Sn		**Sn**	**08 13 03.3**	**-0.2**
DRE	**Drenchia**	**2.31**	**32**		*e*Pn		**Pn**	**08 12 35.8**	**-0.3**
DRE					*e*Sn		**Sn**	**08 13 07.6**	**+4.1**
PTCC	**Patocco-Chiusa**	**2.42**	**25**		Pg		**Pn**	**08 12 37.5**	**0.0**
ZOU	**Zoufplan**	**2.46**	**18**		*e*Pn		**Pn**	**08 12 38.4**	**+0.3**
ZOU					*e*Sn		**Sn**	**08 13 07.6**	**+0.5**
ACOM	**Acomizza, Ital**	**2.59**	**26**	⇓	*e*Pn		**Pn**	**08 12 40.9**	**+0.9**
ACOM	**Acomizza, Ital**	**2.59**	**26**		*e*Pn		**Pn**	**08 12 40.9**	**+0.9**
VISS	**Visnje**	**2.62**	**52**		*i* Pn		**Pn**	**08 12 40.2**	**-0.2**
VISS					*i* Sn		**Sn**	**08 13 11.0**	**-0.2**
VISS									
	comp=Z,8.0nm,0.2s								
VISS	**Visnje**	**2.62**	**52**		*i* Pn		**Pn**	**08 12 40.2**	**-0.2**
VISS					*i* Sn		**Sn**	**08 13 11.0**	**-0.2**
	comp=Z,8.0nm,0.2s								
RORO	**Rocca Rossa**	**2.76**	**269**		P		**Pn**	**08 12 44.1**	**+1.9**
SBF	**Sospel**	**3.23**	**265**		*e*Pn		**Pn**	**08 12 49.2**	**+0.4**
SBF					*e*Sn		**Sn**	**08 13 26.8**	**+0.5**
	comp=Z,7.8nm,0.4s								
SBF	**Sospel**	**3.23**	**265**		*e*Pn		**Pn**	**08 12 49.2**	**+0.4**
SBF					*e*Sn		**Sn**	**08 13 26.8**	**+0.5**
SBF	**Sospel**	**3.23**	**265**		*e*Pn		**Pn**	**08 12 49.2**	**+0.4**
SBF					*e*Sn		**Sn**	**08 13 26.8**	**+0.5**
	comp=Z,3.9nm,0.4s								
MBDF	**Montbardon**	**3.70**	**280**		*e*Pn		**Pn**	**08 12 55.7**	**+0.5**
MBDF					*e*Sn		**Sn**	**08 13 37.7**	**-0.1**
	comp=Z,2.2nm,0.4s								
MBDF	**Montbardon**	**3.70**	**280**		*e*Pn		**Pn**	**08 12 55.7**	**+0.5**
MBDF					*e*Sn		**Sn**	**08 13 37.7**	**-0.1**
MBDF	**Montbardon**	**3.70**	**280**		*e*Pn		**Pn**	**08 12 55.7**	**+0.5**
MBDF					*e*Sn		**Sn**	**08 13 37.7**	**-0.1**
	comp=Z,1.1nm,0.4s								
FRF	**La Foret Royal**	**3.85**	**262**		*e*Pn		**Pn**	**08 12 58.0**	**+0.8**
FRF					*e*Sn		**Sn**	**08 13 41.4**	**0.0**
	comp=Z,2.5nm,0.2s								
FRF	**La Foret Royal**	**3.85**	**262**		*e*Pn		**Pn**	**08 12 58.0**	**+0.8**
FRF					*e*Sn		**Sn**	**08 13 41.4**	**0.0**
FRF	**La Foret Royal**	**3.85**	**262**		*e*Pn		**Pn**	**08 12 58.0**	**+0.8**
FRF					*e*Sn		**Sn**	**08 13 41.4**	**0.0**
	comp=Z,1.2nm,0.2s								
LPG	**La Plagne**	**3.87**	**291**		*e*Pn		**Pn**	**08 12 58.1**	**+0.6**
LPG					*e*Sn		**Sn**	**08 13 41.6**	**-0.4**
	comp=Z,1.2nm,0.3s								
LPG	**La Plagne**	**3.87**	**291**		*e*Pn		**Pn**	**08 12 58.1**	**+0.6**
LPG					*e*Sn		**Sn**	**08 13 41.6**	**-0.4**
LPG	**La Plagne**	**3.87**	**291**		*e*Pn		**Pn**	**08 12 58.1**	**+0.6**
LPG					*e*Sn		**Sn**	**08 13 41.6**	**-0.4**
	comp=Z,0.6nm,0.3s								
LPL	**La Plagne**	**3.89**	**291**		*e*Pn		**Pn**	**08 12 58.4**	**+0.6**
LPL					*e*Sn		**Sn**	**08 13 42.0**	**-0.5**
	comp=Z,4.7nm,0.5s								
LPL	**La Plagne**	**3.89**	**291**		*e*Pn		**Pn**	**08 12 58.4**	**+0.6**
LPL					*e*Sn		**Sn**	**08 13 42.0**	**-0.5**
LPL	**La Plagne**	**3.89**	**291**		*e*Pn		**Pn**	**08 12 58.4**	**+0.6**
LPL					*e*Sn		**Sn**	**08 13 42.0**	**-0.5**
	comp=Z,2.3nm,0.5s								
LMR	**La Mourre**	**4.00**	**259**		*e*Pn		**Pn**	**08 12 59.9**	**+0.6**
LMR					*e*Sn		**Sn**	**08 13 44.9**	**-0.2**
	comp=Z,4.2nm,0.3s								
LMR	**La Mourre**	**4.00**	**259**		*e*Pn		**Pn**	**08 12 59.9**	**+0.6**
LMR					*e*Sn		**Sn**	**08 13 44.9**	**-0.2**
LMR	**La Mourre**	**4.00**	**259**		*e*Pn		**Pn**	**08 12 59.9**	**+0.6**
LMR					*e*Sn		**Sn**	**08 13 44.9**	**-0.2**
	comp=Z,2.1nm,0.3s								
ORIF	**Oris-en-Rattie**	**4.35**	**281**		*e*Pn		**Pn**	**08 13 04.5**	**+0.3**
ORIF					*e*Sn		**Sn**	**08 13 53.2**	**-0.6**
	comp=Z,3.3nm,0.5s								
ORIF	**Oris-en-Rattie**	**4.35**	**281**		*e*Pn		**Pn**	**08 13 04.5**	**+0.3**
ORIF					*e*Sn		**Sn**	**08 13 53.2**	**-0.6**
ORIF	**Oris-en-Rattie**	**4.35**	**281**		*e*Pn		**Pn**	**08 13 04.5**	**+0.3**
ORIF					*e*Sn		**Sn**	**08 13 53.2**	**-0.6**
	comp=Z,1.6nm,0.5s								
STON	**Ston**	**4.43**	**106**		*e*Pn		**Pn**	**08 13 04.1**	**-1.1**
STON					Sn		**Sn**	**08 13 53.2**	**-2.6**
STON	**Ston**	**4.43**	**106**		*e*Pn		**Pn**	**08 13 04.1**	**-1.1**
STON					Sn		**Sn**	**08 13 53.2**	**-2.6**
SMRF	**Simiane la Rot**	**4.56**	**269**		*e*Pn		**Pn**	**08 13 07.0**	**0.0**
SMRF					*e*Sn		**Sn**	**08 13 57.8**	**-1.1**
	comp=Z,1.0nm,0.3s								
SMRF	**Simiane la Rot**	**4.56**	**269**		*e*Pn		**Pn**	**08 13 07.0**	**0.0**
SMRF					*e*Sn		**Sn**	**08 13 57.8**	**-1.1**
SMRF	**Simiane la Rot**	**4.56**	**269**		*e*Pn		**Pn**	**08 13 07.0**	**0.0**
SMRF					*e*Sn		**Sn**	**08 13 57.8**	**-1.1**
	comp=Z,0.5nm,0.3s								
CABF	**La Chapelle**	**4.74**	**302**		*e*Pn		**Pn**	**08 13 09.6**	**+0.2**
CABF					*e*Sn		**Sn**	**08 14 02.1**	**-1.1**
	comp=Z,1.3nm,0.3s								
CABF	**La Chapelle**	**4.74**	**302**		*e*Pn		**Pn**	**08 13 09.6**	**+0.2**
CABF					*e*Sn		**Sn**	**08 14 02.1**	**-1.1**
CABF	**La Chapelle**	**4.74**	**302**		*e*Pn		**Pn**	**08 13 09.6**	**+0.2**
CABF					*e*Sn		**Sn**	**08 14 02.1**	**-1.1**
	comp=Z,0.6nm,0.3s								
HINF	**Hinteralfeld**	**5.03**	**317**		*e*Pn		**Pn**	**08 13 14.3**	**+0.9**
HINF					*e*Sn		**Sn**	**08 14 08.1**	**-2.3**
	comp=Z,6.7nm,0.4s								
HINF	**Hinteralfeld**	**5.03**	**317**		*e*Pn		**Pn**	**08 13 14.3**	**+0.9**
HINF					*e*Sn		**Sn**	**08 14 08.1**	**-2.3**
HINF	**Hinteralfeld**	**5.03**	**317**		*e*Pn		**Pn**	**08 13 14.3**	**+0.9**
HINF					*e*Sn		**Sn**	**08 14 08.1**	**-2.3**
	comp=Z,3.3nm,0.4s								
VIVF	**Saint-Julien-l**	**5.20**	**280**		*e*Pn		**Pn**	**08 13 16.0**	**+0.2**
VIVF					*e*Sn		**Sn**	**08 14 13.4**	**-1.3**
	comp=Z,1.6nm,0.5s								
VIVF	**Saint-Julien-l**	**5.20**	**280**		*e*Pn		**Pn**	**08 13 16.0**	**+0.2**
VIVF					*e*Sn		**Sn**	**08 14 13.4**	**-1.3**
VIVF	**Saint-Julien-l**	**5.20**	**280**		*e*Pn		**Pn**	**08 13 16.0**	**+0.2**
VIVF					*e*Sn		**Sn**	**08 14 13.4**	**-1.3**
	comp=Z,0.8nm,0.5s								
CDF	**Champ du Feu**	**5.27**	**324**		*e*Pn		**Pn**	**08 13 17.5**	**+0.7**
CDF					*e*Sn		**Sn**	**08 14 13.7**	**-2.8**
	comp=Z,3.8nm,0.4s								
CDF	**Champ du Feu**	**5.27**	**324**		*e*Pn		**Pn**	**08 13 17.5**	**+0.7**
CDF					*e*Sn		**Sn**	**08 14 13.7**	**-2.8**
CDF	**Champ du Feu**	**5.27**	**324**		*e*Pn		**Pn**	**08 13 17.5**	**+0.7**
CDF					*e*Sn		**Sn**	**08 14 13.7**	**-2.8**
HAU	**Haudompre**	**5.40**	**316**		*e*Sn		**Sn**	**08 14 17.1**	**-2.6**
	comp=Z,9.7nm,0.4s								
LASF	**Ste Croix**	**5.78**	**271**		*e*Pn		**Pn**	**08 13 23.8**	**0.0**
LASF					*e*Sn		**Sn**	**08 14 27.5**	**-1.6**
	comp=Z,0.7nm,0.5s								
LASF	**Ste Croix**	**5.78**	**271**		*e*Pn		**Pn**	**08 13 23.8**	**0.0**
LASF					*e*Sn		**Sn**	**08 14 27.5**	**-1.6**
	comp=Z,0.3nm,0.5s								
SMF	**Signal de Mont**	**6.16**	**296**		*e*Sn		**Sn**	**08 14 35.9**	**-2.5**
	comp=Z,2.3nm,0.3s								
LOR	**Lormes**	**6.39**	**301**		*e*Sn		**Sn**	**08 14 41.3**	**-2.8**
	comp=Z,2.3nm,0.3s								
SSF	**Saint Saulge**	**6.53**	**299**		*e*Sn		**Sn**	**08 14 44.6**	**-2.8**
	comp=Z,0.8nm,0.3s								

IDC 23 08:26:47.3±1.0, 28°27S×62°53E, h0km, mb3.7/8, mb1 3.9/8, mb1mx3.7/24, mbtmpg3.7/8, Error ellipse: s-maj=37.3km s-min=25.1km az=72.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**58.29**	**41**	P	P	08 36 44.0	-0.1
	0.5nm,0.4s,baz=236,slow=7.5,SNR=4.0						
ASAR	**Alice Springs**	**63.49**	**104**	P	P	08 37 19.3	-0.3
	0.5nm,0.7s,baz=247,slow=6.0,SNR=6.5						
VNDA	**Vanda**	**64.61**	**166**	P	P	08 37 26.4	+0.4
	0.8nm,0.5s,baz=270,slow=17,SNR=12						
WRA	**Warramunga Arr**	**65.24**	**100**	P	P	08 37 31.3	+0.2
	0.4nm,0.9s,baz=250,slow=5.8,SNR=5.3						
MKAR	**Makanchi Array**	**76.82**	**14**	P	P	08 38 41.0	+0.4
	0.4nm,0.7s,baz=190,slow=7.2,SNR=2.8						
KURK	**Kurchatov**	**79.91**	**10**	P	P	08 38 55.9	-1.7
	0.4nm,0.7s,baz=212,slow=5.6,SNR=3.9						
AKASG	**Malin Array Be**	**83.96**	**339**	P	P	08 39 20.9	+2.0
	0.1nm,0.2s,baz=132,slow=3.6,SNR=2.6						
ZALV	**Zalesovo Beam**	**84.12**	**13**	P	P	08 39 20.2	+0.5
	0.9nm,0.6s,baz=194,slow=5.4,SNR=5.6						
TXAR	**Lajitas Array**	**167.85**	**278**	PKPab	PKPab	08 48 01.2	-1.8
	0.5nm,1.0s,baz=96,slow=3.6,SNR=3.4						

*TIR **23** 08:26:50.9±5.7, 42°.51N×19°.34E, h0km±961km, ML2.5*
*ISCJB **23** 08:26:52.8±0.3, 42°.43N±0°.02×19°.21E±0°.02, h15km±2km, Error ellipse: s-maj=3.2km s-min=2.8km az=38.4*
*PDG **23** 08:26:52.7±0.1, 42°.43N×19°.21E, h19km, MD2.5/7, ML2.5/10, Error ellipse: s-maj=0.2km s-min=0.2km az=0.0*
*CSEM **23** 08:26:53.0±0.2, 42°.44N×19°.22E, h10km, ML2.5/10, Error ellipse: s-maj=3.4km s-min=3.1km az=59.0*
*BEO **23** 08:26:54.0±0.3, 42°.47N×19°.41E, h4km±3km, ML2.3/1*
ISC 23 08:26:53.5±0.3, 42°44N±0°02×19°23E±0°02, h12km±2km, n63, σ1s20/115, 17C-16D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDG	**Podgorica**	**0.02**	**106**	*i* Pg	Pg	08 26 56.0	+0.4
PDG				*i* Sg	Sg	08 26 58.9	+1.8
PDG	**Podgorica**	**0.02**	**106**	⇑ *i* Pg	Pg	08 26 56.0	+0.4
PDG				*i* Sg	Sg	08 26 58.6	+1.5
PDG	**Podgorica**	**0.02**	**106**	⇑ *i* Pg	Pg	08 26 56.0	+0.4
PDG				*i* Sg	Sg	08 26 58.6	+1.5
TTG	**Podgorica**	**0.02**	**106**	⇑ *i* Pg	Pg	08 26 56.0	+0.4
TTG				*e*Sg	Sg	08 26 58.9	+1.8
BUM	**Brajici-Budva**	**0.28**	**241**	⇓ *i* Pg	Pg	08 26 58.7	-0.5
BUM				*e*Sg	Sg	08 27 03.6	+0.5
BUM	**Brajici-Budva**	**0.28**	**241**	*i* PG	Pg	08 26 58.7	-0.5
BUM				*i* SG	Sg	08 27 03.6	+0.5
BUM	**Brajici-Budva**	**0.28**	**241**	⇓ *i* Pg	Pg	08 26 58.7	-0.5
BUM				*e*Sg	Sg	08 27 03.6	+0.5
NKY	**Niksic**	**0.41**	**336**	⇑ *i* Pg	Pg	08 27 01.0	-0.7
NKY				*e*Sg	Sg	08 27 07.9	+0.7
NKY	**Niksic**	**0.41**	**336**	*i* PG	Pg	08 27 01.0	-0.7
NKY				*i* SG	Sg	08 27 07.9	+0.7
NKY	**Niksic**	**0.41**	**336**	⇑ *i* Pg	Pg	08 27 01.0	-0.7
NKY				*e*Sg	Sg	08 27 07.9	+0.7
ULC	**Ulcinj**	**0.47**	**178**	⇓ *i* Pg	Pg	08 27 01.9	-0.8
ULC				*e*Sg	Sg	08 27 09.5	+0.5
ULC	**Ulcinj**	**0.47**	**178**	⇓ *i* Pg	Pg	08 27 01.9	-0.8
ULC				*e*Sg	Sg	08 27 09.5	+0.5
HCY	**Herceg Novi**	**0.54**	**271**	⇓ *i* Pg	Pg	08 27 02.7	-1.3
HCY				*e*Sg	Sg	08 27 11.5	+0.3
HCY	**Herceg Novi**	**0.54**	**271**	⇓ *i* Pg	Pg	08 27 02.7	-1.3
HCY				*e*Sg	Sg	08 27 11.5	+0.3
PVY	**Plav**	**0.57**	**74**	⇓ *i* Pg	Pg	08 27 04.0	-0.6
PVY				*e*Sg	Sg	08 27 13.4	+1.2
PVY	**Plav**	**0.57**	**74**	⇓ *i* Pg	Pg	08 27 04.0	-0.6
PVY				*e*Sg	Sg	08 27 13.4	+1.2
BCI	**Bajram Curri**	**0.62**	**96**	*i* PG	Pg	08 27 04.5	-1.1
BCI				*i* SG	Sg	08 27 16.2	+2.4
BCI	**Bajram Curri**	**0.62**	**96**	*i* Pg	Pg	08 27 04.5	-1.1
BCI				*i* Sg	Sg	08 27 16.2	+2.4
PUK	**Puka**	**0.63**	**128**	*i* PG	Pg	08 27 04.6	-1.1
PUK				*i* SG	Sg	08 27 15.5	+1.5
PUK	**Puka**	**0.63**	**128**	*i* Pg	Pg	08 27 04.6	-1.1
PUK				*i* Sg	Sg	08 27 15.5	+1.5
BEY	**Berane**	**0.66**	**48**	⇓ *i* Pg	Pg	08 27 05.6	-0.7
BEY				*e*Sg	Sg	08 27 16.4	+1.5
IVA	**Berane**	**0.66**	**48**	⇓ *i* Pg	Pg	08 27 05.6	-0.7
IVA				*e*Sg	Sg	08 27 16.4	+1.5
BRY	**Bratogost**	**0.69**	**313**	⇓ *i* Pg	Pg	08 27 05.4	-1.4
BRY				*e*Sg	Sg	08 27 16.8	+1.0
BRY	**Bratogost**	**0.69**	**313**	⇓ *i* Pg	Pg	08 27 05.4	-1.4
BRY				*e*Sg	Sg	08 27 16.8	+1.0
UPM	**Unac-Piva**	**0.80**	**343**	⇑ *i* Pg	Pg	08 27 07.7	-1.3
UPM				*e*Sg	Sg	08 27 20.6	+1.1
UPM	**Unac-Piva**	**0.80**	**343**	⇑ *i* Pg	Pg	08 27 07.7	-1.3
UPM				*e*Sg	Sg	08 27 20.6	+1.1
PLE	**Pljevlja**	**0.90**	**8**	⇑ *i* Pg	Pg	08 27 09.9	-1.0
PLE				*e*Sg	Sg	08 27 24.3	+1.7
PLE	**Pljevlja**	**0.90**	**8**	⇑ *i* Pg	Pg	08 27 09.9	-1.0
PLE				*e*Sg	Sg	08 27 24.3	+1.7
SJES	**Sjenica**	**0.99**	**33**	*e*Pg	Pg	08 27 11.7	-0.8
SJES				*i* Sg	Sg	08 27 23.0	-2.4
SJES	**Sjenica**	**0.99**	**33**	*e*Pg	Pg	08 27 11.7	-0.8
SJES				*i* Sg	Sg	08 27 23.0	-2.4
TIR	**Tirane**	**1.19**	**156**	*e*Pg	Pg	08 27 16.0	-0.3
TIR				*e*Sg	Sg	08 27 32.1	+0.4
TIR	**Tirane**	**1.19**	**156**	*e*Pg	Pg	08 27 16.0	-0.3
TIR				*e*Sg	Sg	08 27 32.1	+0.4
STON	**Ston**	**1.21**	**292**	*e*Pn	Pn	08 27 13.1	-3.1
STON				Sn	Sn	08 27 31.9	-0.6
STON	**Ston**	**1.21**	**292**	*e*Pn	Pn	08 27 13.1	-3.1
STON				Sn	Sn	08 27 31.8	-0.7
IVAS	**Ivanjica**	**1.32**	**30**	⇓ *i* Pg	Pn	08 27 17.8	0.0
IVAS				*e*Sg	Sg	08 27 33.9	-2.3
IVAS	**Ivanjica**	**1.32**	**30**	⇓ *i* Pg	Pn	08 27 17.8	0.0
BBLS	**Lazići**	**1.44**	**5**	⇑ *i* Pg	Pn	08 27 20.0	+0.7
BBLS				*i* Sg	Sg	08 27 39.0	-0.7
BBLS	**Lazići**	**1.44**	**5**	⇑ *i* Pg	Pn	08 27 20.0	+0.7
BBLS				*i* Sg	Sg	08 27 39.0	-0.7
SKO	**Skopje**	**1.71**	**105**	*e*Pn	Pn	08 27 24.4	+1.4
SKO				*e*Sn	Sn	08 27 49.1	+4.3
SKO	**Skopje**	**1.71**	**105**	*e*Pn	Pn	08 27 24.4	+1.4
SKO				*e*Sn	Sn	08 27 49.0	+4.3
DIVS	**Divibare**	**1.75**	**18**	⇓ *i* Pg	Pn	08 27 23.7	+0.1
DIVS				*i* Sg	Sg	08 27 47.6	-2.2
DIVS	**Divibare**	**1.75**	**18**	⇓ *i* Pg	Pn	08 27 23.7	+0.1
DIVS				*i* Sg	Sg	08 27 47.6	-2.2
GRUS	**Gruza**	**1.81**	**36**	⇑ *i* Pg	Pn	08 27 24.1	-0.4
GRUS	**Gruza**	**1.81**	**36**	⇑ *i* Pg	Pn	08 27 24.1	-0.4
KRUS	**Krusevo**	**1.85**	**125**	*e*Pn	Pn	08 27 25.6	+0.7
KRUS	**Krusevo**	**1.85**	**125**	*e*Pn	Pn	08 27 25.6	+0.7
BARS	**Barje**	**1.95**	**78**	⇑ *i* Pg	Pn	08 27 26.4	+0.1
BARS				*i* Sg	Sg	08 27 51.0	-5.0
BARS	**Barje**	**1.95**	**78**	⇑ *i* Pg	Pn	08 27 26.4	+0.1
BARS				*i* Sg	Sg	08 27 51.0	-5.0
PE1	**Pezze di Greco**	**2.12**	**220**	*e*Pn	Pn	08 27 27.3	-1.4
PE1				*e*Sn	Sn	08 27 52.2	-2.7
BAI	**Bari**	**2.20**	**234**	*e*Pn	Pn	08 27 27.9	-1.9
ZAPS	**Zavoj**	**2.64**	**70**	⇑ *i* Pn	Pn	08 27 35.1	-0.7
ZAPS				*e*Sn	Sn	08 28 07.0	-0.8
ZAPS	**Zavoj**	**2.64**	**70**	⇑ *i* Pn	Pn	08 27 35.1	-0.7
VTS	**Vitosha**	**2.95**	**86**	*e*Pn	Pn	08

EPON	**Pontenova**	**1.51**	**39**	Pn		**Pn**	**08 37 17.1**	**-1.4**
	1.0nm,0.1s,SNR=6.3							
EPON				Sn		**Sn**	**08 37 38.8**	**+1.0**
	2.5nm,0.2s,SNR=14							
MTE	**Manteigas**	**1.88**	**158**	*e*Pg		**Pg**	**08 37 27.8**	**-0.5**
MTE				*e*Sg		**Sg**	**08 37 52.8**	**+0.1**
	6.9nm,0.6s							
MTE	**Manteigas**	**1.88**	**158**	*e*Pg		**Pg**	**08 37 27.8**	**-0.5**
MTE				*e*Sg		**Sg**	**08 37 52.8**	**+0.1**
MTE				A			08 37 53.4	
	6.9nm,0.6s							
PCBR	**Castelo Branco**	**2.43**	**162**	*e*Pg		**Pg**	**08 37 38.0**	**-0.7**
PCBR				Sg		**Sg**	**08 38 09.3**	**-0.9**
	2.2nm,0.6s							
PCBR	**Castelo Branco**	**2.43**	**162**	*e*Pg		**Pg**	**08 37 38.0**	**-0.7**
PCBR				Sg		**Sg**	**08 38 09.3**	**-0.9**
PCBR				A			08 38 15.8	
	2.2nm,0.6s							
PTOM	**Tomar**	**2.54**	**179**	*e*Sg		**Sg**	**08 38 12.3**	**-1.3**
PTOM	**Tomar**	**2.54**	**179**	*e*Sg		**Sg**	**08 38 12.3**	**-1.3**
EARI	**Arriondas**	**2.65**	**63**	Pn		**Pn**	**08 37 34.1**	**0.0**
	0.4nm,0.1s,SNR=6.1							
EARI				Sn		**Sn**	**08 38 04.7**	**-1.2**
	0.2nm,0.2s,SNR=7.9							
EARI				Lg			08 38 15.1	
	0.3nm,0.2s							
EARI	**Arriondas**	**2.65**	**63**	Pn		**Pn**	**08 37 35.2**	**+1.1**
	0.4nm,0.1s,SNR=6.1							
EARI				Sn		**Sn**	**08 38 06.0**	**+0.2**
	SNR=7.9							
EARI				Lg			08 38 15.7	
	0.3nm,0.2s							
EPLA	**Plasencia**	**2.75**	**139**	Pn		**Pn**	**08 37 35.9**	**+0.4**
	0.1nm,0.0s,SNR=7.9							
EPLA				Sn		**Sn**	**08 38 06.5**	**-1.9**
	0.6nm,0.1s,SNR=7.9							
EPLA				Lg			08 38 17.3	
	1.2nm,0.1s,SNR=7.9							
EPLA	**Plasencia**	**2.75**	**139**	Pn		**Pn**	**08 37 35.9**	**+0.4**
	0.1nm,0.0s,SNR=7.9							
EPLA				Sn		**Sn**	**08 38 06.5**	**-1.9**
	0.6nm,0.1s,SNR=7.9							
EPLA				Lg			08 38 17.3	
	1.2nm,0.1s,SNR=7.9							
PMRV	**Marv??o**	**2.84**	**163**	*e*Pg		**Pg**	**08 37 42.7**	**-3.9**
PMRV				*e*Sg		**Sg**	**08 38 23.8**	**+0.4**
PMTG	**Montargil**	**3.09**	**177**	*e*Pn		**Pn**	**08 37 40.4**	**+0.2**
PMTG				*e*Sg		**Sg**	**08 38 31.9**	**+0.6**
PMTG	**Montargil**	**3.09**	**177**	*e*Pn		**Pn**	**08 37 40.4**	**+0.2**
PMTG				*e*Sg		**Sg**	**08 38 31.9**	**+0.6**
PESTR	**Estremoz**	**3.35**	**168**	*e*Pn		**Pn**	**08 37 43.9**	**+0.1**
PESTR				*e*Sn		**Sn**	**08 38 21.7**	**-1.5**
	1.0nm,0.3s							
PESTR	**Estremoz**	**3.35**	**168**	*e*Pn		**Pn**	**08 37 43.9**	**+0.1**
PESTR				*e*Sn		**Sn**	**08 38 21.7**	**-1.5**
PESTR				A			08 38 35.3	
	1.0nm,0.3s							
GUD	**Guadarrama**	**3.57**	**114**	Lg			08 38 43.1	
	0.3nm,0.2s,SNR=7.9							
GUD	**Guadarrama**	**3.57**	**114**	Lg			08 38 43.1	
	0.3nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**3.57**	**162**	Pn		**Pn**	**08 37 46.8**	**0.0**
	0.5nm,0.1s,SNR=7.9							
EBAD				Pg		**Pg**	**08 37 55.7**	**-4.8**
	0.1nm,0.1s,SNR=7.9							
EBAD				Sn		**Sn**	**08 38 26.3**	**-2.2**
	0.1nm,0.0s,SNR=7.9							
EBAD				Lg			08 38 43.5	
	0.5nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**3.57**	**162**	Pn		**Pn**	**08 37 46.8**	**0.0**
	0.5nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**3.57**	**162**	Pg		**Pg**	**08 37 57.9**	**-2.6**
	0.1nm,0.1s,SNR=7.9							
EBAD				Sn		**Sn**	**08 38 26.3**	**-2.3**
	0.1nm,0.0s,SNR=7.9							
EBAD				Lg			08 38 45.6	
	0.5nm,0.1s,SNR=7.9							
PBAR	**Barrancos**	**4.12**	**164**	*e*Pn		**Pn**	**08 37 54.5**	**+0.2**
PBAR				*e*Sg		**Sg**	**08 39 05.3**	**+0.9**
	1.4nm,1.4s							
PBAR	**Barrancos**	**4.12**	**164**	*e*Pn		**Pn**	**08 37 54.5**	**+0.2**
PBAR				*e*Sg		**Sg**	**08 39 05.3**	**+0.9**
PBAR				A			08 39 11.9	
	1.4nm,1.4s							

*ISCJB **23** 08:57:58.8±0.6,43˚.40N±0˚.04×46˚.28E±0˚.03, h8km±4km, Error ellipse: s-maj=7.5km s-min=4.0km az=6.1*
*CSEM **23** 08:58:00.0±0.2,43˚.27N×46˚.21E, h10km, mb4.1, Error ellipse: s-maj=8.2km s-min=3.8km az=178.0*
*MOS **23** 08:58:00.7±1.5,43˚.17N×46˚.19E, h11km, mb4.1/1, Error ellipse: s-maj=17.5km s-min=7.5km az=5.5*

ISC 23 08:58:00.3±0.6,43˚.36N±0˚.04×46˚.25E±0˚.03, h10km±4km, n41, σ1§02/71, 6C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
GRO	**Groznyy**	**0.37**	**263**	*e*PG		**Pg**	**08 58 07.0**		**-0.5**
GRO	**Groznyy**	**0.37**	**263**	*e*Pg		**Pg**	**08 58 07.0**		**-0.5**
MAK	**Makhachkala**	**1.00**	**113**	*c i*PG		**Pg**	**08 58 19.3**		**-0.3**
MAK				*i*			08 58 34.2		
MAK				pmax		pmax			
	comp=Z,173nm,0.3s								
MAK				smax					
	comp=E,1.0nm,0.4s								
MAK				smax					
	comp=N,1.0nm,0.6s								
MAK	**Makhachkala**	**1.00**	**113**	*i* Pg		**Pg**	**08 58 19.3**		**-0.3**
	comp=N,173nm,0.3s								
MAK				*i* Sg		**Sg**	**08 58 34.2**		**+1.6**
	comp=N,1.0nm,0.6s								
SNJR	**Sundja**	**1.09**	**255**	*e*PG		**Pg**	**08 58 20.9**		**-0.4**
SNJR				*e*S		**Sg**	**08 58 35.8**		**+0.3**
SNJR	**Sundja**	**1.09**	**255**	*e*Pg		**Pg**	**08 58 20.9**		**-0.4**
SNJR				*e*Sg		**Sg**	**08 58 35.8**		**+0.3**
TRKR	**Terskaya**	**1.16**	**289**	*e*PG		**Pg**	**08 58 22.7**		**+0.1**
TRKR				*e*S		**Sg**	**08 58 39.7**		**+2.0**
TRKR	**Terskaya**	**1.16**	**289**	*e*Pg		**Pg**	**08 58 22.7**		**+0.1**
TRKR				*e*Sg		**Sg**	**08 58 39.7**		**+2.0**
VLKR	**Vladikavkaz**	**1.19**	**255**	*e*PG		**Pg**	**08 58 22.1**		**-1.1**
VLKR				*e*S		**Sb**	**08 58 38.5**		**0.0**
VLKR	**Vladikavkaz**	**1.19**	**255**	*e*Pg		**Pg**	**08 58 22.1**		**-1.1**
VLKR				*e*Sg		**Sb**	**08 58 38.5**		**0.0**
BTKR	**Batakoyurt**	**1.25**	**271**	⇑*i*PG		**Pg**	**08 58 23.5**		**-0.7**
BTKR				*e*S		**Sg**	**08 58 41.1**		**+0.7**
BTKR	**Batakoyurt**	**1.25**	**271**	*i* Pg		**Pg**	**08 58 23.5**		**-0.7**
BTKR				*e*Sg		**Sg**	**08 58 41.1**		**+0.7**
KMSR	**Komsomolskaya**	**1.43**	**271**	⇑*i*PG		**Pn**	**08 58 26.4**		**+0.1**
KMSR				*e*S		**Sg**	**08 58 46.3**		**+0.1**
KMSR	**Komsomolskaya**	**1.43**	**271**	*i* Pg		**Pn**	**08 58 26.4**		**+0.1**
KMSR				*e*Sg		**Sg**	**08 58 46.3**		**+0.1**
ARNR	**Ardon**	**1.45**	**264**	*e*PG		**Pn**	**08 58 26.1**		**-0.5**
ARNR				*e*S		**Sn**	**08 58 46.2**		**+0.5**
ARNR	**Ardon**	**1.45**	**264**	*e*Pg		**Pn**	**08 58 26.1**		**-0.5**
ARNR				*e*Sg		**Sn**	**08 58 46.2**		**+0.5**
PRTR	**Priterechnaya**	**1.48**	**286**	*e*PG		**Pg**	**08 58 28.1**		**-0.7**
PRTR				*e*S		**Sg**	**08 58 49.2**		**+1.2**
PRTR	**Priterechnaya**	**1.48**	**286**	*e*Pg		**Pg**	**08 58 28.1**		**-0.7**
PRTR				*e*Sg		**Sg**	**08 58 49.2**		**+1.2**
LACR	**Lac**	**1.53**	**250**	*e*PG		**Pn**	**08 58 25.2**		**-2.5**
LACR				*e*S		**Sn**	**08 58 45.4**		**-2.2**
LACR	**Lac**	**1.53**	**250**	*e*Sg		**Sn**	**08 58 45.4**		**-2.2**
KORR	**Kora**	**1.62**	**261**	*e*PG		**Pn**	**08 58 28.4**		**-0.5**
KORR				*e*S		**Sn**	**08 58 50.0**		**+0.2**
KORR	**Kora**	**1.62**	**261**	*e*Pg		**Pn**	**08 58 28.4**		**-0.5**
KORR				*e*Sg		**Sn**	**08 58 50.0**		**+0.2**
LSNR	**Lesken**	**1.78**	**268**	*e*PN		**Pn**	**08 58 31.4**		**+0.3**
LSNR				*e*S		**Sn**	**08 58 55.3**		**+1.5**
LSNR	**Lesken**	**1.78**	**268**	*e*Pn		**Pn**	**08 58 31.4**		**+0.3**
LSNR				*e*Sg		**Sn**	**08 58 55.3**		**+1.5**
ZEI	**Tsey**	**1.82**	**252**	*e*PN		**Pn**	**08 58 30.6**		**-1.1**
ZEI				*e*S		**Sn**	**08 58 53.3**		**-1.6**
ZEI	**Tsey**	**1.82**	**252**	*e*Pn		**Pn**	**08 58 30.6**		**-1.1**
TBLG	**Delisi**	**1.98**	**215**	*e*PN		**Pn**	**08 58 33.2**		**-0.6**
TBLG				*e*S		**Sn**	**08 58 58.7**		**0.0**
TBLG	**Delisi**	**1.98**	**215**	P		**Pn**	**08 58 33.2**		**-0.6**
TBLG				S		**Sn**	**08 58 58.7**		**0.0**
TBLG	**Delisi**	**1.98**	**215**	*e*Pn		**Pn**	**08 58 33.2**		**-0.6**
TBLG				*e*Sg		**Sn**	**08 58 58.7**		**0.0**
MTA	**Mtatsminda**	**1.99**	**213**	P		**Pn**	**08 58 32.7**		**-1.3**
MTA				S		**Sn**	**08 58 59.5**		**+0.6**
DIGR	**Digorskoe uzhe**	**2.01**	**258**	*e*PN		**Pn**	**08 58 33.8**		**-0.5**
DIGR	**Digorskoe uzhe**	**2.01**	**258**	*e*Pn		**Pn**	**08 58 33.8**		**-0.5**
DGRG	**David-gareji**	**2.02**	**199**	P		**Pn**	**08 58 33.3**		**-1.1**
DGRG				S		**Sn**	**08 59 01.7**		**+2.0**
GOR	**Gori**	**2.10**	**230**	P		**Pn**	**08 58 35.5**		**0.0**
GOR				S		**Sn**	**08 59 02.7**		**+1.1**
ONI	**Oni**	**2.19**	**250**	P		**Pn**	**08 58 30.0**		**-6.8**
ONI				S		**Sn**	**08 59 04.5**		**+0.4**
BEYR	**Belyy Ugol+**	**2.57**	**286**	*i* PN		**Pn**	**08 58 48.1**		**+6.1**
AKH	**Akhalkalaki**	**2.83**	**227**	P		**Sn**	**08 59 22.7**		**+3.1**
AKTO	**Aktyubinsk**	**10.71**	**45**	⇑Pn		**Pn**	**09 00 34.4**		**+0.7**
	comp=N,0.2nm,0.8s								
AKTO				⇑Sn		**Sn**	**09 02 24.2**		**-9.3**
	comp=N,0.2nm,0.7s								
AKTO	**Aktyubinsk**	**10.71**	**45**	Pn		**Pn**	**09 00 34.4**		**+0.8**
	comp=N,0.2nm,0.8s								
AB31	**Akbulak array**	**11.15**	**53**	⇓Pn		**Pn**	**09 00 39.8**		**+0.2**
	comp=N,0.3nm,0.3s,baz=245,slow=12,SNR=4.6								
AB31				⇑Sn		**Sn**	**09 02 38.4**		**-5.8**
	comp=N,0.5nm,0.3s,baz=254,slow=24,SNR=6.2								
AB31	**Akbulak array**	**11.15**	**53**	Pn		**Pn**	**09 00 39.8**		**+0.1**
	comp=N,0.3nm,0.3s,baz=245,SNR=4.6								

*BJI **23** 08:58:16.5,22˚.31S×171˚.82E, h49km, mB5.2/31, mb5.1/37, Ms5.3/33, Ms7 5.1/36*
*IDC **23** 08:58:17.0±2.0,22˚.42S×171˚.39E, h34km±13km, mb4.9/21, mb1 5.0/23, mb1mx5.0/24, mbtmp4.9/23, ML3.3/2, MS5.0/27, Ms1 4.9/27, ms1mx4.7/35, Error ellipse: s-maj=15.1km s-min=13.2km az=109.0*
*MOS **23** 08:58:16.3±1.1,22˚.42S×171˚.23E, h33km, mb5.4/29, MS5.1/25, Error ellipse: s-maj=10.1km s-min=9.1km az=136.5*
*ISCJB **23** 08:58:17.6±0.7,22˚.48S±0˚.03×171˚.26E±0˚.03, h46km±6km, mb5.3/100, MS5.2/194, Error ellipse: s-maj=5.5km s-min=4.4km az=36.1*
*LDG **23** 08:58:17.6±0.4,20˚.45S×171˚.05E, h10km, Mb5.5/3, Ms5.0/9, Error ellipse: s-maj=44.4km s-min=4.1km az=150.0*
*NOU **23** 08:58:17.1±0.8, 19˚.61S×170˚.61E, h30km, MD3.6, ML4.2*
*NEIC **23** 08:58:18.1±0.2,22˚.43S×171˚.32E, mb5.3/56, MS5.3/152, MW5.5, Error ellipse: s-maj=5.9km s-min=5.0km az=134.0, Moment Tensor Solution. s45 Moment tensor: Scale 10^17Nm; Mrr=0.19; Mθθ=0.36; Mφφ=0.55; Mrθ=1.76; Mθφ 1.77; Mrφ=0.29; Best double couple: M0 2.60000×10^17 NP1: φs261.00000°, δ87.00000°, λ-45.00000°. NP2: φs353.00000°, δ46.00000°, λ-176.00000°. Principal axes: T 2.6200, Plg27.0000°, Azm316.0000°; N -0.1200, Plg45.0000°, Azm78.0000°; P -2.5000, Plg31.0000°, Azm207.0000°;*
*DJA **23** 08:58:19,22˚.55S×171˚.41E, h48km, mb5.5/23*
*GCMT **23** 08:58:21.8±0.1,22˚.51S×171˚.24E, h47km±1km, MW5.6, Moment Tensor Solution. s81,c156; s23,c24; Moment tensor: Scale 10^17Nm; Mrr=0.31±.04; Mθθ=0.50±.04; Mφφ=0.81±.04; Mrθ=2.43±.06; Mθφ 1.57±.03; Mrφ=0.33±.04; Best double couple: M0 3.00000×10^17 NP1: φs353.00000°, δ35.00000°, λ-174.00000°. NP2: φs257.00000°, δ86.00000°, λ-55.00000°. Principal axes: T 2.9200, Plg32.0000°, Azm319.0000°; N 0.1500, Plg35.0000°, Azm75.0000°; P -3.0700, Plg39.0000°, Azm198.0000°; Data Used: ll IU IC G CN. Surface waves: sta= 99, comp=192, per= 50.*

ISC 23 08:58:19.1±0.6,22˚.45S±0˚.03×171˚.30E±0˚.03, h44km±5km, h39km±1.5km: pP-P, n600, σ1§00/267, mb5.3/100, MS5.2/194, 32C-20D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
BAYA	**Yate Dam**	**4.10**	**273**	*e*P		**Pn**	**08 59 19.8**		**+0.7**
BAYA				*e*S		**Sn**	**09 00 05.8**		**-0.1**
BAYA				AMP			09 00 13.7		
	comp=Z,184nm,5.5s								
PLUM	**Mont Dore**	**4.31**	**271**	*e*P		**Pn**	**08 59 22.3**		**+0.2**
PLUM				*e*S		**Sn**	**09 00 11.8**		**+0.6**
PLUM				AMP			09 00 18.7		
	comp=Z,2μm,4.8s								
NORM	**Noumea**	**4.46**	**272**	*e*P		**Pn**	**08 59 23.8**		**-0.3**
NORM				*e*S		**Sn**	**09 00 13.7**		**-1.2**
NORM				AMP			09 00 16.9		
	comp=Z,2μm,3.5s								
MVNO	**Noumea**	**4.50**	**271**	*e*P		**Pn**	**08 59 24.8**		**+0.1**
MVNO				*e*S		**Sn**	**09 00 14.9**		**-0.8**
MVNO				AMP			09 00 28.2		
	comp=Z,132nm,3.5s								
DZM	**Mont Dzumac**	**4.51**	**274**	*e*Pn		**Pn**	**08 59 24.9**		**0.0**
	comp=Z,787nm,0.2s								
DZM				*e*Sn		**Sn**	**09 00 11.9**		**-4.2**
	comp=Z,2μm,0.2s								
DZM				*e*LR		LR	09 00 27.5		
	comp=Z,13μm,24.6s								
NOUC	**Port Laguerre**	**4.64**	**273**	*e*P		**Pn**	**08 59 26.9**		**+0.3**
NOUC				*e*S		**Sn**	**09 00 17.3**		**-1.9**
NOUC				AMP			09 00 27.7		
	comp=Z,938nm,4.2s								
MSVF	**Nonsavu**	**7.89**	**55**	*e*Pn		**Pn**	**09 00 14.5**		**+3.2**
MSVF				*e*Sn		**Sn**	**09 01 54.3**		**+15**
MSVF	**Nonsavu**	**7.89**	**55**	*e*P		**Pn**	**09 00 14.5**		**+3.2**
MSVF	**Nonsavu**	**7.89**	**55**	Pn		**Pn**	**09 00 16.0**		**+4.7**
	comp=Z,5μm,1.3s,SNR=76								
OUZ	**Omahuta**	**12.88**	**172**	*e*Pn		**Pn**	**09 01 20.5**		**+1.0**
OUZ				*e*Sn		**Sn**	**09 03 31.9**		**-10**
FUNA	**Funafuti**	**15.79**	**30**	*e*Pn		**Pn**	**09 01 59.0**		**+0.6**
	comp=Z,171nm,1.2s								
HIZ	**Hauiti**	**16.30**	**170**	PN		**Pn**	**09 02 09.9**		**+5.1**
URZ	**Urewera**	**16.53**	**164**	Pn		**Pn**	**09 02 05.8**		**-1.9**
	comp=Z,0.2nm,0.3s,baz=342,slow=9.6,SNR=3.4								
URZ				LR		LR	09 07 05.4		
	comp=Z,13μm,20.5s,baz=336,slow=32								
URZ	**Urewera**	**16.53**	**164**	*e*Pn		**Pn**	**09 02 06.9**		**-0.8**
	comp=Z,157nm,0.9s								
URZ				*e*ScP		ScP	09 10 30.1		+2.1
PUZ	**Puketiti**	**16.68**	**161**	PN		**Pn**	**09 02 12.5**		**+2.9**
HNR	**Honiara**	**16.91**	**318**	*e*Pn		**Pn**	**09 02 12.2**		**-0.4**
	comp=Z,338nm,1.2s								
HNR				*e*S		**S**	**09 05 28.1**		**-0.3**
HNR	**Honiara**	**16.91**	**318**	*e*P		**Pn**	**09 02 12.2**		**-0.5**
HNR				pmax		pmax			
	comp=Z,339nm,1.2s								
RAHZ	**Arahi**	**17.15**	**165**	PN		**Pn**	**09 02 18.5**		**+3.2**
PXZ	**Pawanui**	**18.16**	**166**	PN		**Pn**	**09 02 28.0**		**+0.2**
AFI	**Afiamalu**	**18.17**	**65**	P		**Pn**	**09 02 24.8**		**-3.4**
	comp=Z,4.1nm,0.3s,baz=180,slow=4.0,SNR=7.1								
AFI				LR		LR	09 07 58.8		
	comp=Z,2μm,21.8s,baz=77,slow=32								
AFI	**Afiamalu**	**18.17**	**65**	P		**Pn**	**09 02 24.8**		**-3.4**
AFI	**Afiamalu**	**18.17**	**65**	P		**Pn**	**09 02 24.8**		**-3.4**
BFZ	**Birch Farm**	**18.65**	**168**	PN		**Pn**	**09 02 33.0**		**-0.8**
EIDS	**Eidsvold**	**18.71**	**257**	*e*P		**Pn**	**09 02 36.0**		**+1.4**
	comp=Z,133nm,1.1s								
NNZ	**Nelson**	**18.80**	**175**	PN		**Pn**	**09 02 36.1**		**+0.5**
SNZO	**South Karori**	**19.02**	**172**	*e*P		**Pn**	**09 02 36.9**		**-1.4**
	comp=Z,462nm,1.4s								
SNZO				*e*Sn		**Sn**	**09 06 03.5**		**-6.8**
ARMA	**Armidale**	**19.30**	**242**	*e*P		**Pn**	**09 02 42.8**		**+1.1**
ARMA				*e*S		**S**	**09 06 22.5**		**+6.0**
ARMA	**Armidale**	**19.30**	**242**	*e*Pn		**Pn**	**09 02 43.0**		**+1.3**
	comp=Z,692nm,2.2s								
THZ	**Tophouse**	**19.31**	**176**	PN		**Pn**	**09 02 41.3**		**-0.4**
KHZ	**Kahutara**	**20.00**	**175**	*e*P		**Pn**	**09 02 47.2**		**-2.6**
	comp=Z,537nm,1.1s								
KHZ	**Kahutara**	**20.00**	**175**	PN		**Pn**	**09 02 47.5**		**-2.4**
LTZ	**Lake Taylor**	**20.29**	**178**	PN		**P**	**09 02 51.7**		**+0.6**
RIV	**Riverview**	**21.03**	**233**	*e*P		**P**	**09 03 01.6**		**+2.5**
FOZ	**Fox Glacier**	**21.10**	**183**	PN		**P**	**09 02 60.0**		**+0.2**
RPZ	**Rata Peaks**	**21.21**	**180**	P		**P**	**09 03 00.5**		**-0.4**
	comp=Z,161nm,0.7s,mb5.5,baz=14,slow=4.8,SNR=51								
RPZ				LR		LR	09 10 02.9		
	comp=Z,7μm,21.4s,MS5.0,baz=356,slow=33								
RPZ	**Rata Peaks**	**21.21**	**180**	P		**P**	**09 03 00.5**		**-0.4**
RPZ	**Rata Peaks**	**21.21**	**180**	PN		**P**	**09 03 01.4**		**+0.4**
ODZ	**Otahua Downs**	**22.55**	**181**	*e*P		**P**	**09 03 14.0**		**-1.1**
	comp=Z,490nm,1.2s,mb5.8								
ODZ	**Otahua Downs**	**22.55**	**181**	PN		**P**	**09 03 14.5**		**-0.7**
CNB	**Canberra Magne**	**23.03**	**231**	*e*P		**P**	**09 03 21.5**		**+1.1**
	comp=Z,1μm,1.4s,mb6.1								
CAN	**Canberra**	**23.30**	**232**	*e*P		**P**	**09 03 23.7**		**+0.5**
	comp=Z,325nm,1.5s,mb5.5								
CAN				LR		LR			
	comp=Z,4μm,20.0s,MS4.8								
CAN	**Canberra**	**23.30**	**232**	*e*P		**P**	**09 03 23.7**		**+0.5**
CAN				pmax		pmax			
	comp=Z,325nm,1.5s,mb5.5								
CAN				MLR		MLR			
	comp=Z,4μm,20.0s,MS4.8								
CTA	**Charters Tower**	**23.45**	**271**	P		**P**	**09 03 24.1**		**-0.6**
	comp=Z,34nm,0.6s,mb5.0,baz=93,slow=11,SNR=37								
CTA				ScP		ScP	09 10 45.1		+0.6
	comp=Z,5.5nm,0.9s,baz=28,slow=4.1,SNR=3.8								
CTA				LR		LR	09 11 36.4		
	comp=Z,2μm,20.8s,MS4.6,baz=95,slow=34								
CTA	**Charters Tower**	**23.45**	**271**	*e*P		**P**	**09 03 26.1**		**+1.4**
	comp=Z,24nm,0.6s,mb4.8								
CTA				*e*S		**S**	**09 07 36.1**		**+1.1**
CTA				*e*ScP		ScP	09 10 45.4		+0.9
CTA	**Charters Tower**	**23.45**	**271**	P		**P**	**09 03 24.1**		**-0.6**
CTA				ScP		ScP	09 10 45.1		+0.6
CTA	**Charters Tower**	**23.45**	**271**	P		**P**	**09 03 24.1**		**-0.6**
CTAO	**Charters Tower**	**23.45**	**271**	*e*P		**P**	**09 03 26.2**		**+1.4**
	comp=Z,32nm,0.7s,mb4.9								
CTAO				LR		LR			
	comp=Z,2μm,21.0s,MS4.5								
CTAO	**Charters Tower**	**23.45**	**271**	*e*P		**P**	**09 03 26.2**		**+1.5**
CTAO				pmax		pmax			
	comp=Z,32nm,0.7s,mb4.9								
CTAO				MLR		MLR			
	comp=Z,2μm,21.0s,MS4.5								
CTAO	**Charters Tower**	**23.45**	**271**	P		**P**	**09 03 25.9**		**+1.2**
	comp=Z,2μmcomp=Z,78nm,1.6s,mb4.9								
WHZ	**Wether Hill Ro**	**23.55**	**186**	*e*P		**P**	**09 03 25.5**		**+0.1**
TARA	**Tarawa**	**23.71**	**4**	PFAKE			09 03 40.0		+13
TARA				LR		LR			
	comp=Z,3μm,19.0s,MS4.8								
PMG	**Port Moresby**	**26.53**	**295**	P		**P**	**09 03 52.7**		**-0.2**
	comp=Z,61nm,0.7s,mb5.2,baz=106,slow=5.8,SNR=34								
PMG				ScP		ScP	09 10 53.2		-0.1
	comp=Z,3.3nm,0.5s,baz=71,slow=2.8,SNR=7.0								
PMG	**Port Moresby**	**26.53**	**295**	*e*P		**P**	**09 03 52.6**		**-0.2**
PMG				ScP		ScP	09 10 53.2		-0.1
PMG				LR		LR			
	comp=Z,4μm,20.0s,MS4.9								
PMG	**Port Moresby**	**26.53**	**295**	*c i*P		**P**	**09 03 52.5**		**-0.3**
PMG				pmax		pmax			
	comp=Z,64nm,0.7s								
PMG	**Port Moresby**	**26.53**	**295**	P		**P**	**09 03 52.6**		**-0.2**
	comp=Z,931nmcomp=Z,101nm,0.9s,mb5.4								
TOO	**Toolangi**	**26.84**	**230**	*e*P		**P**	**09 03 56.0**		**+0.7**
	comp=Z,473nm,1.4s,mb5.8								
RAR	**Rarotonga**	**26.87**	**93**	LR		LR	09 12 37.3		
	comp=Z,894nm,20.3s,MS4.3,baz=260,slow=32								
STKA	**Stephens Creek**	**27.97**	**244**	P		**P**	**09 04 05.7**		**+0.1**
	comp=Z,27nm,0.6s,mb5.0,baz=83,slow=10.0,SNR=54								
STKA				PcP		PcP	09 07 21.4		+1.4
	comp=Z,4.2nm,0.7s,baz=90,slow=2.0,SNR=3.2								
STKA				ScP		ScP	09 10 56.6		-0.8
	comp=Z,5.9nm,1.0s,baz=101,slow=5.2,SNR=4.1								
STKA				LR		LR	09 14 05.2		
	comp=Z,2μm,21.5s,MS4.7,baz=71,slow=34								
STKA				PKiKP		PKiKP	09 14 52.6		-3.5
	comp=Z,0.9nm,0.5s,baz=26,slow=18,SNR=4.5								
STKA	**Stephens Creek**	**27.97**	**244**	*e*P		**P**	**09 04 05.8**		**+0.2**
	comp=Z,30nm,0.8s,mb5.0								
STKA				*e*PCP		PcP	09 07 22.1		+2.1
STKA				*e*S		**S**	**09 08 47.5**		**+0.8**
STKA				*e*SCP		ScP	09 10 56.6		-0.8
STKA	**Stephens Creek**	**27.97**	**244**	P		**P**	**09 04 05.7**		**+0.1**
STKA				PcP		PcP	09 07 21.4		+1.4
STKA				ScP		ScP	09 10 56.6		-0.8
STKA				PKiKP		PKiKP	09 14 52.6		-3.5
STKA	**Stephens Creek**	**27.97**	**244**	P		**P**	**09 04 05.7**		**+0.1**
STKA							09 07 21.4		
STKA				*i*			09 14 52.6		
COEN	**Coen**	**27.98**	**283**	*e*P		**P**	**09 04 06.8**		**+1.0**
COEN

MBWA Marble Bar 47.70 261 *e*P **P** **09 06 51.2 -0.4**
comp=Z,71nm,0.8s,mb5.8
MBWA LR LR
comp=Z,1μm,19.0s,MS5.0
MBWA Marble Bar 47.70 261 P **P** **09 06 51.4 -0.2**
comp=Z,126nm,1.0s,mb5.9
KLBR Kellerberrin 48.16 247 ||*i*P **P** **09 06 54.2 -0.9**
comp=Z,190nm,1.2s,mb6.0
TAOE Nuku Hiva Isla 48.46 82 *e*LQ 09 18 12.0
TAOE *e*LR LR 09 20 55.0
comp=Z,2μm,24.2s,baz=247
NWAO Narrogin (SRO) 48.55 245 P **P** **09 06 57.3 -0.7**
comp=Z,77nm,0.8s,mb5.8,baz=102,slow=6.4,SNR=44
NWAO LR LR 09 26 41.7
comp=Z,2μm,19.4s,MS5.2,baz=91,slow=35
NWAO Narrogin (SRO) 48.55 245 P **P** **09 06 57.3 -0.7**
comp=Z,6.7nm,0.9s,mb4.7
NWAO Narrogin (SRO) 48.55 245 P **P** **09 06 57.3 -0.7**
NWAO pmax pmax
comp=Z,7.0nm,0.9s
RKT Rikitea 49.30 102 *e*S **S** **09 14 10.8 +3.4**
comp=Z,978nm,28.2s
RKT *e*LQ 09 18 37.7
comp=Z,2μm,28.2s
RKT *e*LR LR 09 21 00.7
comp=Z,2μm,28.5s,baz=262
MIDW Midway 51.54 13 PFAKE 09 07 30.0 +9.4
MIDW LR LR
comp=Z,2μm,19.0s,MS5.1
KAPI Kappang 52.69 281 LR LR 09 30 32.9
comp=Z,959nm,19.2s,MS4.9,baz=118,slow=37
KAPI Kappang 52.69 281 P **P** **09 07 29.8 +0.3**
comp=Z,941nmcomp=Z,70nm,1.1s,mb5.5
KIP Kipapa 52.89 37 PFAKE 09 07 40.0 +9.3
KIP LR LR
comp=Z,3μm,19.0s,MS5.4
DAV Davao City (W) 53.51 298 PFAKE 09 07 50.0 +14
DAV LR LR
comp=Z,492nm,20.0s,MS4.6
VNDA Vanda 55.31 182 P **P** **09 07 47.1 -0.6**
comp=Z,9.9nm,0.6s,mb5.0,baz=1.6,slow=7.5,SNR=36
VNDA LR LR 09 27 20.1
comp=Z,2μm,21.9s,MS5.1,baz=11,slow=32
VNDA Vanda 55.31 182 *e*P **P** **09 07 47.1 -0.6**
comp=Z,9.8nm,0.8s,mb4.9
VNDA *ep*P pP 09 07 57.7 -2.5
VNDA Vanda 55.31 182 *e*P **P** **09 07 47.2 -0.5**
VNDA *e**PP pP 09 07 57.7 -2.5
VNDA pmax pmax
comp=Z,10.0nm,0.8s
SBA Scott Base 55.50 181 *e*P **P** **09 07 49.6 +0.6**
comp=Z,201nm,1.1s,mb6.1
SBA *ep*P pP 09 08 00.4 -1.2
SBA LR LR
comp=Z,2μm,20.0s,MS5.2
SBA Scott Base 55.50 181 *e*P **P** **09 07 49.7 +0.6**
SBA *e**PP pP 09 08 00.4 -1.2
SBA MLR MLR
comp=Z,2μm,20.0s,MS5.2
CBIJ Chichi jima 56.73 329 P **P** **09 07 57.6 -0.9**
comp=Z,55nm,0.7s,mb5.7,baz=296,slow=20,SNR=5.3
CBIJ LR LR 09 30 15.2
comp=Z,1μm,20.6s,MS5.0,baz=133,slow=34
CBIJ Chichi jima 56.73 329 P **P** **09 07 57.6 -0.9**
CASY Casey 57.99 205 *e*P **P** **09 08 05.7 -1.2**
CASY Casey 57.99 205 *e*P **P** **09 08 05.6 -1.2**
comp=Z,205nm,1.1s,mb6.1
CASY LR LR
comp=Z,2μm,22.0s,MS5.3
TSM Tawau 58.57 290 P **P** **09 08 12.8 +1.1**
SDKM Sandakan 59.82 291 P **P** **09 08 20.4 +0.1**
KKM Kota Kinabalu 60.86 291 P **P** **09 08 28.8 +1.3**
KKM Kota Kinabalu 60.86 291 *e*P **P** **09 08 27.8 +0.3**
comp=Z,40nm,0.7s,mb5.7
KKM LR LR
comp=Z,445nm,20.0s,MS4.6
KKM Kota Kinabalu 60.86 291 P **P** **09 08 28.2 +0.7**
comp=Z,959nmcomp=Z,72nm,0.8s,mb5.8
BTM Bintulu 62.26 286 P **P** **09 08 38.0 +1.1**
SBUM Sibu 62.69 285 P **P** **09 08 41.7 +2.0**
SBUM Sibu 62.69 285 P **P** **09 08 41.1 +1.3**
comp=Z,558nmcomp=Z,20nm,1.2s,mb5.1
KSM Kuching 63.97 283 P **P** **09 08 49.2 +0.9**
KSM Kuching 63.97 283 *e*P **P** **09 08 48.4 +0.1**
comp=Z,66nm,0.7s,mb5.8
KSM LR LR
comp=Z,491nm,20.0s,MS4.7
KSM Kuching 63.97 283 P **P** **09 08 48.4 +0.1**
comp=Z,740nmcomp=Z,94nm,0.8s,mb5.9
MJAR Matsushiro Arr 66.47 331 P **P** **09 09 02.8 -1.2**
comp=Z,8.8nm,0.7s,mb4.9,baz=173,slow=8.0,SNR=26
MJAR LR LR 09 35 19.9
comp=Z,603nm,21.9s,MS4.8,baz=125,slow=33
MJAR Matsushiro Arr 66.47 331 P **P** **09 09 02.8 -1.2**
MJAR Matsushiro Arr 66.47 331 P **P** **09 09 02.8 -1.2**
MAJO Matsushiro 66.48 331 *e*P **P** **09 09 03.6 -0.4**
comp=Z,9.3nm,0.6s,mb5.0
MAJO LR LR
comp=Z,729nm,20.0s,MS4.9
MAJO Matsushiro 66.48 331 *e*P **P** **09 09 03.6 -0.4**
MAJO pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
MAJO MLR MLR
comp=Z,729nm,20.0s,MS4.9
MAT Matsushiro 66.48 331 P **P** **09 09 03.5 -0.5**
MAT S S 09 17 48.0 -3.3
SSLB Suanglung 67.14 310 *e*P **P** **09 09 06.8 -1.7**
comp=Z,12nm,0.7s,mb5.0
YHNB Yeheng 67.40 311 *e*P **P** **09 09 09.3 -0.8**
comp=Z,22nm,0.8s,mb5.2
YHNB LR LR
comp=Z,860nm,20.0s,MS5.0
TATO Taipei 67.52 311 PFAKE 09 09 20.0 +9.1
TATO LR LR
comp=Z,697nm,22.0s,MS4.8
QSPA South Pole Qui 67.62 180 LR LR 09 36 42.9
comp=Z,1μm,19.3s,MS5.2,baz=37,slow=34
ERM Erimo 69.22 338 PFAKE 09 09 30.0 +8.9
ERM LR LR
comp=Z,1μm,21.0s,MS5.2
MYKOM Kota Tinggi 69.95 281 P **P** **09 09 27.3 +1.0**
MYKOM Kota Tinggi 69.95 281 P **P** **09 09 26.9 +0.6**
comp=Z,50nm,0.9s,mb5.5
YUK Yuzh-Kuril'sk 70.15 341 *c* *i*P **P** **09 09 21.0 -5.8**
YUK MLR MLR
comp=N,554nm,20.0s,MS4.8
YUK MLR MLR
comp=Z,829nm,20.0s,MS5.0
YUK MLR MLR
comp=E,187nm,20.0s,MS4.8
KGM Kluang 70.52 281 P **P** **09 09 30.9 +1.1**
COCO West Island 71.22 264 PFAKE 09 09 50.0 +16
COCO LR LR
comp=Z,1μm,19.0s,MS5.2
ASAJ Asahikawa 71.27 339 P **P** **09 09 34.2 +0.6**
comp=Z,10nm,0.6s,mb4.9,baz=200,slow=24,SNR=11
ASAJ Asahikawa 71.27 339 P **P** **09 09 34.2 +0.6**
SSE Sheshan 71.71 316 P **P** **09 09 38.4 +1.8**
SSE PcP PcP 09 09 57.0 +1.5
SSE S S 09 18 58.3 +4.9
SSE ScS ScS 09 19 39.4 +0.8
SSE pmax pmax
comp=Z,37nm,0.7s,mb5.4
SSE pmax pmax
comp=Z,120nm,5.0s
SSE LR LR
comp=N,270nm,21.0s,MS4.7
SSE LR LR
comp=E,400nm,21.0s,MS4.7
SSE LR LR
comp=Z,680nm,23.4s,MS4.8
KSRS Korea Array 72.23 325 P **P** **09 09 39.1 -0.4**
comp=Z,5.6nm,1.0s,mb4.5,baz=136,slow=6.5,SNR=10
KSRS LR LR 09 39 33.7
comp=Z,777nm,21.1s,MS5.0,baz=132,slow=34
KSAR Wonju Array Be 72.24 325 P **P** **09 09 39.1 -0.5**
KSAR Wonju Array Be 72.24 325 P **P** **09 09 39.2 -0.4**
QIZ Qiongzhong 72.83 300 P **P** **09 09 43.8 +0.3**
QIZ S S 09 19 09.4 +2.7
QIZ LR LR
comp=Z,670nm,37.3s,MS4.7
QIZ Qiongzhong 72.83 300 PFAKE 09 10 00.0 +16
QIZ LR LR
comp=Z,623nm,19.0s,MS4.9
INCN Inchon 72.94 324 PFAKE 09 10 00.0 +16
INCN LR LR
comp=Z,703nm,21.0s,MS4.9
IPM Ipoh 73.63 282 P **P** **09 09 49.2 +0.8**
IPM Ipoh 73.63 282 *e*P **P** **09 09 48.4 -0.1**
comp=Z,43nm,0.7s,mb5.5
IPM *ep*P pP 09 10 00.8 -0.6
IPM Ipoh 73.63 282 P **P** **09 09 48.4 0.0**
comp=Z,602nmcomp=Z,77nm,0.9s,mb5.6
YSS Yuzh-Sakhalins 73.73 340 *e*P **P** **09 09 48.8 +0.6**
comp=Z,53nm,0.7s,mb5.6
YSS *ep*P pP 09 10 00.9 -0.3
YSS LR LR
comp=Z,609nm,21.0s,MS4.9
YSS Yuzh-Sakhalins 73.73 340 ||*i*P **P** **09 09 48.8 +0.6**
YSS *e**PP pP 09 10 02.0 +0.8
YSS *e*S S 09 19 16.0 +0.2
YSS pmax pmax
comp=Z,50nm,0.7s,mb5.5
YSS MLR MLR
comp=N,600nm,20.0s
YSS MLR MLR
comp=Z,600nm,20.0s,MS4.9
NJ2 Nanjing 73.84 316 *e*P **P** **09 09 50.8 +1.6**
NJ2 pP pP 09 10 00.9 -1.3
NJ2 sP sP 09 10 04.3 -2.9
NJ2 S S 09 19 16.0 -1.6
NJ2 sS sS 09 19 38.5 -0.8
NJ2 pmax pmax
comp=Z,30nm,0.9s,mb5.2
NJ2 pmax pmax
comp=Z,190nm,4.6s
NJ2 LR LR
comp=N,650nm,26.4s,MS4.9
NJ2 LR LR
comp=E,530nm,23.2s,MS4.9
NJ2 LR LR
comp=Z,530nm,18.0s
KULM Kulim 74.31 283 P **P** **09 09 53.3 +1.0**
KULM Kulim 74.31 283 *e*P **P** **09 09 52.3 -0.1**
comp=Z,30nm,0.6s,mb5.4
KULM *ep*P pP 09 10 04.2 -1.1
KULM *e*PP PP 09 12 36.9 -2.0
KULM LR LR
comp=Z,552nm,20.0s,MS4.8
KULM Kulim 74.31 283 P **P** **09 09 52.5 +0.1**
comp=Z,49nm,0.8s,mb5.5
ADK Adak 74.76 8 PFAKE 09 10 10.0 +16
ADK LR LR
comp=Z,2μm,19.0s,MS5.5
PSI Prapat 74.85 280 P **P** **09 09 54.7 -0.8**
comp=Z,39nm,1.2s,mb5.2
FX1 Attu Island--F 75.03 1 LR LR 09 37 26.1
comp=Z,2μm,19.7s,MS5.3,baz=196,slow=31
WHN Wuhan 75.92 312 P **P** **09 10 00.4 -0.9**
WHN pP pP 09 10 10.8 -3.5
WHN LR LR
comp=Z,2μm,25.5s,MS5.3
PET Petropavlovsk 75.95 352 PFAKE 09 10 10.0 +9.1
PET LR LR
comp=Z,2μm,20.0s,MS5.3
PET Petropavlovsk 75.95 352 *e*P **P** **09 09 53.3 -7.6**
PET *e*S S 09 19 31.6 -8.6
PET *e*SS SS 09 24 30.8 -3.4
PETK Petropavlovsk- 76.16 352 P **P** **09 10 01.1 -1.0**
comp=Z,5.1nm,0.6s,mb4.7,baz=136,slow=8.0,SNR=6.4
PETK LR LR 09 38 01.9
comp=Z,2μm,21.3s,MS5.3,baz=166,slow=31
PETK Petropavlovsk- 76.16 352 P **P** **09 10 01.1 -0.9**
PETK Petropavlovsk- 76.16 352 P **P** **09 10 01.1 -1.0**
MAW Mawson 76.19 202 P **P** **09 10 02.2 -0.1**
comp=Z,56nm,1.1s,mb5.4,baz=107,slow=7.6,SNR=28
MAW LR LR 09 41 46.5
comp=Z,1μm,18.8s,MS5.2,baz=93,slow=34
MAW Mawson 76.19 202 *e*P **P** **09 10 01.9 -0.4**
comp=Z,41nm,1.1s,mb5.3
MAW Mawson 76.19 202 *e*P **P** **09 10 01.8 -0.5**
comp=Z,19nm,1.2s,mb4.9
MAW *e* pP 09 10 13.9 -1.4
MAW Mawson 76.19 202 *e*P **P** **09 10 01.8 -0.5**
MAW *e* pP 09 10 13.9 -1.4
MAW pmax pmax
comp=Z,19nm,1.2s
MDJ Mudanjiang 76.85 331 P **P** **09 10 06.3 +0.1**
MDJ pP pP 09 10 15.6 -3.6
MDJ S S 09 19 49.3 -1.1
MDJ sS sS 09 20 07.8 -4.4
MDJ SS SS 09 24 45.3 -2.8
MDJ pmax pmax
comp=Z,18nm,1.2s,mb4.9
MDJ pmax pmax
comp=Z,120nm,4.2s
MDJ LR LR
comp=N,1μm,27.5s,MS5.1
MDJ LR LR
comp=E,760nm,28.8s,MS5.1
MDJ LR LR
comp=Z,2μm,29.5s,MS5.2
MDJ Mudanjiang 76.85 331 PFAKE 09 10 20.0 +14
MDJ LR LR
comp=Z,237nm,21.0s,MS4.5
HABR Khabarovsk 77.69 336 *e*P **P** **09 10 09.4 -1.4**
HABR *e* pP 09 10 18.6 -5.3
HABR 09 13 05.6
HABR *e*S S 09 19 57.2 -2.3
HABR *e* 09 20 18.7
HABR *e* 09 20 23.7
HABR *e*SSS 09 28 23.7
HABR pmax pmax
comp=Z,141nm,2.8s,mb5.4
HABR pmax pmax
comp=N,65nm,2.8s
HABR pmax pmax
comp=E,48nm,2.1s
HABR MLR MLR
comp=Z,479nm,20.0s,MS4.8
CN2 Changchun 78.19 328 *e*P **P** **09 10 14.5 +0.8**
CN2 *e*sP sP 09 10 30.6 -1.1
CN2 *e*S S 09 20 05.6 +0.6
CN2 pmax pmax
comp=Z,20nm,1.0s,mb5.0
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1μm,25.0s,MS5.2
CN2 LR LR
comp=E,1μm,25.0s,MS5.2
CN2 LR LR
comp=Z,2μm,25.0s,MS5.3
ENH Enshi 79.18 309 PFAKE 09 10 30.0 +10
ENH LR LR
comp=Z,561nm,20.0s,MS4.9
GYA Guiyang 79.22 304 ||*i*P **P** **09 10 20.8 +1.0**
GYA pP pP 09 10 32.0 -0.9
GYA sP sP 09 10 39.8 +1.9
GYA PP PP 09 13 22.4 +2.3
GYA S S 09 20 17.3 +0.5
GYA SKS 09 20 28.8
GYA SS SS 09 25 28.4 +3.9
GYA pmax pmax
comp=Z,30nm,1.0s,mb5.2
GYA pmax pmax
comp=Z,150nm,5.2s
GYA LR LR
comp=N,740nm,20.4s,MS5.1
GYA LR LR
comp=E,650nm,22.0s,MS5.1
GYA LR LR
comp=Z,810nm,21.3s,MS5.0
KLR Kul'dur 79.58 335 *e*P **P** **09 10 16.1 -5.1**
KLR pmax pmax
comp=Z,50nm,1.8s,mb5.1
BJT Baijiatuau 80.62 320 PFAKE 09 10 40.0 +13
BJT LR LR
comp=Z,342nm,19.0s,MS4.7
BJI Beijing 80.63 320 P **P** **09 10 28.8 +1.7**
BJI PP PP 09 13 33.4 +1.9
BJI S S 09 20 29.3 -1.7
BJI pmax pmax
comp=Z,11nm,1.1s,mb4.7
BJI pmax pmax
comp=Z,130nm,3.2s
BJI LR LR
comp=N,1μm,24.6s,MS5.2
BJI LR LR
comp=E,870nm,25.2s,MS5.2
BJI LR LR
comp=Z,2μm,25.2s,MS5.3
CMAR Chiang Mai Arr 81.56 294 P **P** **09 10 33.6 +1.0**
comp=Z,11nm,0.8s,mb4.9,baz=135,slow=4.2,SNR=46
CMAR Chiang Mai Arr 81.56 294 P **P** **09 10 33.6 +1.0**
CMAR Chiang Mai Arr 81.56 294 P **P** **09 10 33.6 +1.1**
CM31 Chiang Mai Arr 81.56 294 *e*P **P** **09 10 34.7 +2.2**
comp=Z,5.2nm,0.4s,mb4.8
CM31 LR LR
comp=Z,367nm,20.0s,MS4.7
KMI Kunming 81.59 301 P **P** **09 10 32.6 +0.1**
KMI pP pP 09 10 44.5 -1.2
KMI sP sP 09 10 49.8 -0.8
KMI PP PP 09 13 40.3 +0.5
KMI S S 09 20 42.5 +0.8
KMI sS sS 09 21 01.6 -2.0
KMI SS SS 09 26 02.3 +2.3
KMI pmax pmax
comp=Z,17nm,0.8s,mb5.0
KMI pmax pmax
comp=Z,210nm,6.3s
KMI LR LR
comp=N,130nm,23.5s,MS4.8
KMI LR LR
comp=E,440nm,22.1s,MS4.8
KMI LR LR
comp=Z,460nm,22.1s,MS4.8
XAN Xi'an 81.68 312 P **P** **09 10 32.3 -0.5**
XAN pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
XAN pmax pmax
comp=Z,48nm,9.8s
CHTO Chiang Mai 81.72 294 *e*P **P** **09 10 33.9 +0.5**
comp=Z,18nm,1.0s,mb5.0
CHTO LR LR
comp=Z,466nm,21.0s,MS4.8
CHTO Chiang Mai 81.72 294 *e*P **P** **09 10 33.9 +0.5**
CHTO pmax pmax
comp=Z,18nm,1.0s,mb5.0
CHTO MLR MLR
comp=Z,466nm,21.0s,MS4.8
CHTO Chiang Mai 81.72 294 P **P** **09 10 34.8 +1.4**
comp=Z,452nmcomp=Z,25nm,1.4s,mb5.0
SYO Syowa Base 82.39 196 ||*e*P **P** **09 10 32.8 -3.3**
SYO Syowa Base 82.39 196 ||*e*PcP PcP 09 10 38.2 -3.0
PMSA Palmer Station 83.25 159 LR LR 09 40 15.5
comp=Z,857nm,21.5s,MS5.1,baz=127,slow=30
PMSA Palmer Station 83.25 159 *e*P **P** **09 10 39.5 -1.0**
comp=Z,103nm,1.1s,mb5.8
CD2 Chengdu 83.70 307 P **P** **09 10 46.3 +2.9**
CD2 pP pP 09 10 56.8 +0.2
CD2 sP sP 09 11 00.8 -0.7
CD2 PP PP 09 14 01.4 +4.4
CD2 SKS 09 21 02.8
CD2 S S 09 21 05.6 +2.6
CD2 sS sS 09 21 23.3 -1.7
CD2 SS SS 09 26 36.3 +5.2
CD2 pmax pmax
comp=Z,10.0nm,0.5s,mb5.2
CD2 pmax pmax
comp=Z,190nm,4.8s
CD2 LR LR
comp=N,520nm,17.2s
CD2 LR LR
comp=Z,560nm,25.0s
HHC Hu-ho-hao-te 83.89 319 *e*P **P** **09 10 45.1 +1.0**
HHC pP pP 09 10 55.5 -1.8
HHC sP sP 09 10 59.8 -2.5
HHC PP PP 09 14 00.1 +1.7
HHC S S 09 21 02.6 -1.9
HHC sS sS 09 21 22.8 -3.7
HHC SS SS 09 26 35.6 +2.0
HHC pmax pmax
comp=Z,15nm,1.0s,mb5.1
HHC pmax pmax
comp=Z,130nm,7.1s
HHC LR LR
comp=N,370nm,14.1s
HHC LR LR
comp=E,800nm,19.4s
HHC LR LR
comp=Z,1μm,22.6s
HIA Hailar 84.84 329 PFAKE 09 11 00.0 +11
HIA LR LR
comp=Z,356nm,19.0s,MS4.8
KDAK Kodiak Island 85.43 18 PFAKE 09 11 00.0 +8.6
KDAK LR LR
comp=Z,1μm,22.0s,MS5.3
NVL N'lazarevskaya 85.92 187 *e*P **P** **09 10 53.4 -0.6**
NVL *e*S SKSac 09 21 09.4 -6.5
NVL pmax pmax
comp=Z,95nm,1.4s,mb5.8
NVL MLR MLR
comp=Z,1μm,18.0s,MS5.3
MAIT Maitri 85.92 187 *e*P **P** **09 10 52.1 -1.8**
MAIT *e* pP 09 11 05.7 -1.5
SNAA Sanae 86.04 182 *e* **P** **09 10 48.6 -6.0**
SNAA Sanae 86.04 182 *e*P **P** **09 10 48.2 -6.3**
comp=Z,83nm,1.1s,mb5.9
SNAA Sanae 86.04 182 *e*P **P** **09 10 48.2 -6.3**
SNAA pmax pmax
comp=Z,83nm,1.1s
LZH Lanzhou 86.29 311 *e*P **P** **09 10 57.8 +1.5**
LZH pP pP 09 11 11.1 +1.6
LZH sP sP 09 11 16.3 +1.8
LZH SKS 09 21 17.1
LZH *e*S S 09 21 32.0 +3.6
LZH pmax pmax
comp=Z,21nm,1.2s,mb5.2
LZH pmax pmax
comp=Z,110nm,6.3s
LZH LR LR
comp=N,350nm,16.7s,MS5.0
LZH LR LR
comp=E,320nm,14.8s,MS5.0
LZH LR LR
comp=Z,610nm,19.9s
SEY Seymchan 86.40 351 *i*P **P** **09 10 55.7 -0.5**
SAO San Andreas Ge 86.50 48 *e*P **P** **09 10 57.4 +0.1**
comp=Z,15nm,0.9s,mb5.2
SAO San Andreas Ge 86.50 48 *e*P **P** **09 10 57.4 +0.1**
SAO pmax pmax
comp=Z,15nm,0.9s,mb5.2
VNA3 Neumayer Olymp 86.56 180 *e* **P** **09 10 52.2 -4.9**
VNA2 Neumayer--Watz 86.88 180 *e* **P** **09 10 54.3 -4.3**
baz=151,slow=4.9
VNA1 Neumayer--Stat 87.16 180 *e* **P** **09 10 55.9 -4.1**
PASC Pasadena Art C 87.50 51 *e*P **P** **09 11 01.1 -1.1**
comp=Z,7.9nm,0.8s,mb5.0
MWC Mount Wilson 87.62 51 *e*P **P** **09 11 02.3 -0.5**
comp=Z,6.2nm,0.5s,mb5.1
MWC Mount Wilson 87.62 51 *e*P **P** **09 11 02.3 -0.5**
MWC pmax pmax
comp=Z,6.0nm,0.5s,mb5.1
USHA Ushuaia 87.72 150 LR LR 09 41 44.5
comp=Z,1μm,19.5s,MS5.3,baz=247,slow=30
WDC Whiskeytown Da 87.78 44 *e*P **P** **09 11 03.6 +0.2**
comp=Z,9.3nm,1.0s,mb5.0
WDC Whiskeytown Da 87.78 44 *e*P **P** **09 11 03.6 +0.2**
WDC pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
CMB Columbia Colle 87.88 47 *e*P **P** **09 11 03.1 -0.8**
comp=Z,10nm,1.0s,mb5.0
CMB *ep*P pP 09 11 16.2 -1.0
CMB Columbia Colle 87.88 47 *e*P **P** **09 11 03.1 -0.8**
CMB *e**PP pP 09 11 16.2 -1.0
CMB pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
ISA Isabella 88.03 50 *e*P **P** **09 11 04.3 -0.4**
comp=Z,18nm,0.9s,mb5.3
ISA Isabella 88.03 50 *e*P **P** **09 11 04.3 -0.4**
ISA pmax pmax
comp=Z,17nm,0.9s,mb5.3
CLNS Chul'man 88.08 337 *e*P **P** **09 11 03.6 -0.8**
CLNS pmax pmax
comp=Z,11nm,0.9s,mb5.1
CLNS pmax pmax
comp=N,1.0nm,0.6s
YBH Yreka Blue Hor 88.28 43 *e*P **P** **09 11 06.1 +0.4**
comp=N,9.2nm,1.0s,mb5.0
YBH *e*PP PP 09 14 30.1 -3.9
YBH Yreka Blue Hor 88.28 43 *e*P **P** **09 11 06.1 +0.3**
YBH *e* 09 14 30.1
YBH pmax pmax
comp=Z,9.0nm,1.0s

PFO Pinyon Flat Ob 88.50 53 PFAKE 09 11 20.0 +13
PFO LR LR
comp=Z,1µm,20.0s,MS5.3
HUMO Hull Mountain 88.60 42 *e*P **P** **09 11 07.5 +0.3**
comp=Z,17nm,1.1s,mb5.3
HUMO *e*PP PP 09 14 31.8 -4.7
DAC Darwin (Calif) 88.95 50 PFAKE 09 11 20.0 +11
DAC LR LR
comp=Z,1µm,21.0s,MS5.2
WCN Washoe City 88.95 46 *e*P **P** **09 11 09.1 +0.1**
comp=Z,9.2nm,1.0s,mb5.1
WCN Washoe City 88.95 46 *e*P **P** **09 11 09.1 +0.1**
WCN pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
GSC Goldstone 89.04 51 *e*P **P** **09 11 09.4 -0.1**
comp=Z,13nm,1.1s,mb5.2
GSC Goldstone 89.04 51 *e*P **P** **09 11 09.4 -0.1**
GSC pmax pmax
comp=Z,13nm,1.1s,mb5.2
GLA Glamis 89.44 54 *e*P **P** **09 11 11.6 +0.2**
comp=Z,23nm,0.9s,mb5.5
GLA Glamis 89.44 54 *e*P **P** **09 11 11.6 +0.2**
GLA pmax pmax
comp=Z,23nm,0.9s,mb5.5
NVAR Mina Array Bea 89.50 48 P **P** **09 11 11.0 -0.5**
comp=Z,13nm,0.8s,mb5.3,baz=227,slow=7.9,SNR=58
NVAR PKPPKP 09 36 55.2
comp=Z,0.5nm,0.7s,baz=89,slow=6.2,SNR=4.7
NVAR LR LR 09 42 44.2
comp=Z,1µm,20.2s,MS5.3,baz=156,slow=30
NVAR Mina Array Bea 89.50 48 P **P** **09 11 11.0 -0.5**
NVAR PKPab 09 36 55.2
MOD Modoc 89.91 44 *e*P **P** **09 11 13.1 -0.3**
comp=Z,14nm,1.0s,mb5.3
TPH Tonopah 90.07 48 PFAKE 09 11 30.0 +16
TPH LR LR
comp=Z,1µm,20.0s,MS5.3
LDFC Landfair 90.17 52 *e*P **P** **09 11 15.2 +0.5**
comp=Z,30nm,0.9s,mb5.6
BILL Bilibino 90.29 358 PFAKE 09 11 30.0 +15
BILL LR LR
comp=Z,933nm,22.0s,MS5.2
BILL Bilibino 90.29 358↑ *e*P **P** **09 11 14.8 +0.2**
BILL *e* 09 14 50.7
BILL pmax pmax
comp=Z,9.0nm,1.4s,mb4.9
YAK Yakutsk 90.50 342 PFAKE 09 11 30.0 +14
YAK LR LR
comp=Z,903nm,20.0s,MS5.2
SHL Shillong 90.54 297 *e*PKP **P** **09 11 17.0 +0.3**
SHL *e*S SKSac 09 21 42.0 -2.9
ULN Ulaanbaatar 90.57 323 *e*P **P** **09 11 16.7 +0.4**
comp=Z,21nm,1.0s,mb5.4
ULN LR LR
comp=Z,464nm,22.0s,MS4.9
ULN Ulaanbaatar 90.57 323 *e*P **P** **09 11 16.7 +0.4**
ULN pmax pmax
comp=Z,21nm,1.0s,mb5.4
ULN MLR MLR
comp=Z,464nm,22.0s,MS4.9
ULN Ulaanbaatar 90.57 323 P **P** **09 11 16.7 +0.4**
NLWA Neilton Lookou 90.65 38 PFAKE 09 11 30.0 +13
NLWA LR LR
comp=Z,2µm,21.0s,MS5.6
GTA Gaotai 90.71 313 *e*P **P** **09 11 18.0 +0.8**
GTA pP pP 09 11 28.1 -2.4
GTA sP sP 09 11 32.6 -2.8
GTA S S 09 22 08.8 -1.3
GTA SS SS 09 28 16.0 +2.6
GTA pmax pmax
comp=Z,5.0nm,1.0s,mb4.8
GTA pmax pmax
comp=Z,110nm,5.5s
GTA LR LR
comp=N,280nm,15.6s
GTA LR LR
comp=E,290nm,24.9s
GTA LR LR
comp=Z,560nm,26.6s
SONM Songino Array 90.93 322 P **P** **09 11 17.7 -0.3**
comp=Z,19nm,1.1s,mb5.4,baz=138,slow=4.1,SNR=41
SONM PKKPbc PKKPbc 09 28 41.2 -3.0
comp=Z,1.1nm,0.7s,baz=251,slow=2.3,SNR=4.7
SONM LR LR 09 52 59.6
comp=Z,364nm,18.2s,MS4.8,baz=34,slow=36
SONM Songino Array 90.93 322 P **P** **09 11 17.7 -0.3**
SONM PKKPbc PKKPbc 09 28 41.2 -3.0
SONM Songino Array 90.93 322 P **P** **09 11 17.7 -0.3**
BMN Battle Mountai 91.20 46 *e*P **P** **09 11 19.9 +0.5**
comp=Z,13nm,1.0s,mb5.2
BMN LR LR
comp=Z,1µm,21.0s,MS5.3
BMN Battle Mountai 91.20 46 *e*P **P** **09 11 20.0 +0.6**
BMN pmax pmax
comp=Z,13nm,1.0s,mb5.2
BMN MLR MLR
comp=Z,1µm,21.0s,MS5.3
WVOR Wild Horse Val 91.25 44 *e*P **P** **09 11 17.9 -1.7**
comp=Z,7.4nm,0.9s,mb5.0
WVOR LR LR
comp=Z,875nm,20.0s,MS5.2
WVOR Wild Horse Val 91.25 44 *e*P **P** **09 11 17.9 -1.7**
WVOR pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
WVOR MLR MLR
comp=Z,875nm,20.0s,MS5.2
WRAK Wrangell Islan 91.77 28 PFAKE 09 11 30.0 +8.4
WRAK LR LR
comp=Z,2µm,21.0s,MS5.6
TUC Tucson 92.18 56 *e*P **P** **09 11 24.1 -0.1**
comp=Z,7.0nm,1.0s,mb5.0
TUC LR LR
comp=Z,1µm,21.0s,MS5.3
TUC Tucson 92.18 56 *e*P **P** **09 11 24.1 -0.1**
TUC pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
TUC MLR MLR
comp=Z,1µm,21.0s,MS5.3
COLA College 92.55 16 PFAKE 09 11 40.0 +15
COLA LR LR
comp=Z,1µm,21.0s,MS5.4
ARUT Antelope Range 92.59 50 *e*P **P** **09 11 26.0 +0.1**
comp=Z,7.3nm,1.2s,mb5.0
ARUT Antelope Range 92.59 50 *e*P **P** **09 11 26.0 +0.1**
ARUT pmax pmax
comp=Z,7.0nm,1.2s,mb5.0
HAWA Hanford 92.66 40 PFAKE 09 11 40.0 +14
HAWA LR LR
comp=Z,1µm,20.0s,MS5.4
ILAR Eielson Array 92.72 17 P **P** **09 11 23.6 -2.3**
comp=Z,3.0nm,0.9s,mb4.7,baz=229,slow=4.2,SNR=21
ILAR PKKPbc PKKPbc 09 28 36.6 -3.6
comp=Z,0.8nm,0.9s,baz=350,slow=1.1,SNR=6.3
ILAR Eielson Array 92.72 17 P **P** **09 11 23.6 -2.3**
ILAR PKKPbc PKKPbc 09 28 36.6 -3.6
ILAR Eielson Array 92.72 17 P **P** **09 11 23.6 -2.3**
ILAR 09 28 36.7
LSA Lhasa 92.83 301 PFAKE 09 11 40.0 +13
LSA LR LR
comp=Z,362nm,22.0s,MS4.8
WUAZ Wupatki 93.10 53 *e*P **P** **09 11 28.2 -0.1**
comp=Z,9.3nm,0.9s,mb5.2
WUAZ LR LR
comp=Z,956nm,19.0s,MS5.3
BMO Blue Mountains 93.26 42 PFAKE 09 11 40.0 +11
BMO LR LR
comp=Z,870nm,20.0s,MS5.2
MVU Marysvale 93.77 50 PFAKE 09 11 40.0 +8.6
MVU LR LR
comp=Z,1µm,21.0s,MS5.3
ZAK Zakamensk 94.01 323 *e*P **P** **09 11 31.6 -0.6**
ZAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.7
DUG Dugway 94.09 48 PFAKE 09 11 40.0 +7.2
DUG LR LR
comp=Z,1µm,20.0s,MS5.4
EGAK Eagle 94.33 18 *e*P **P** **09 11 32.0 -1.3**
comp=Z,5.5nm,0.8s,mb5.0
EGAK LR LR
comp=Z,2µm,21.0s,MS5.4
TLY Talaya 94.48 325 PFAKE 09 11 50.0 +16
TLY LR LR
comp=Z,768nm,22.0s,MS5.1
TLY Talaya 94.48 325 *e*P **P** **09 11 33.2 -1.1**
TLY *e*PPS 09 23 58.4
TLY pmax pmax
comp=Z,6.0nm,0.8s,mb5.1
TLY MLR MLR
comp=Z,355nm,21.0s,MS4.8
EFI East Falkland 94.48 152 PFAKE 09 11 50.0 +15
EFI LR LR
comp=Z,2µm,21.0s,MS5.6
HLID Hailey 94.51 45 PFAKE 09 11 50.0 +15
HLID LR LR
comp=Z,1µm,21.0s,MS5.3
TAPN Taplejung 94.68 298 *e*P **P** **09 11 35.8 0.0**
ODAN Odare 94.75 297 *e*P **P** **09 11 35.4 -0.8**
TMUT Trail Mountain 94.82 49 *e*P **P** **09 11 37.6 +1.4**
comp=Z,6.5nm,1.0s,mb5.0
PLCA Paso Flores 94.87 138 P **P** **09 11 36.0 -0.5**
comp=Z,11nm,0.9s,mb5.3,baz=172,slow=6.5,SNR=13
PLCA LR LR 09 44 28.5
comp=Z,703nm,21.6s,MS5.1,baz=248,slow=29
PLCA Paso Flores 94.87 138 *e*P **P** **09 11 36.3 -0.3**
comp=Z,13nm,0.9s,mb5.3
PLCA Paso Flores 94.87 138 *e*P **P** **09 11 36.3 -0.3**
PLCA pmax pmax
comp=Z,13nm,0.9s
NEW Newport 95.00 40 PFAKE 09 11 50.0 +13
NEW LR LR
comp=Z,1µm,21.0s,MS5.3
DGAR Diego Garcia 95.30 260 PFAKE 09 11 50.0 +11
DGAR LR LR
comp=Z,1µm,19.0s,MS5.5
HWUT Hardware Ranch 95.55 47 PFAKE 09 11 50.0 +11
HWUT LR LR
comp=Z,1µm,20.0s,MS5.4
MVCO Mesa Verde 95.91 52 PFAKE 09 11 50.0 +8.8
MVCO LR LR
comp=Z,1µm,20.0s,MS5.3
JIRN Jiri 96.05 297 *e*P **P** **09 11 41.7 -0.4**
comp=Z,7.0nm,0.5s,mb5.3
MNTX Cornudas Mount 96.13 58 PFAKE 09 11 50.0 +7.7
MNTX LR LR
comp=Z,601nm,21.0s,MS5.0
MSO Missoula 96.26 42 PFAKE 09 11 50.0 +7.5
MSO LR LR
comp=Z,640nm,20.0s,MS5.1
AHID Auburn Hatcher 96.35 46 PFAKE 09 11 50.0 +6.9
AHID LR LR
comp=Z,1µm,20.0s,MS5.3
RRI2 Red Ridge 96.45 46 *e*P **P** **09 11 43.6 +0.1**
comp=Z,3.4nm,0.8s,mb4.8
ANMO Albuquerque 96.54 55 PFAKE 09 12 00.0 +16
ANMO LR LR
comp=Z,1µm,21.0s,MS5.3
TXAR Lajitas Array 96.61 61 P **P** **09 11 44.2 -0.4**
comp=Z,1.3nm,0.8s,mb4.4,baz=249,slow=4.1,SNR=12
TXAR PKKPbc PKKPbc 09 28 28.5 +0.1
comp=Z,0.6nm,0.6s,baz=99,slow=3.7,SNR=11
TXAR LR LR 09 47 56.5
comp=Z,509nm,18.1s,MS5.0,baz=355,slow=31
TXAR Lajitas Array 96.61 61 P **P** **09 11 44.2 -0.4**
TXAR PKKPbc PKKPbc 09 28 28.5 +0.1
TXAR Lajitas Array 96.61 61 P **P** **09 11 44.2 -0.4**
PKI Pulchoki 96.66 297 *e*P **P** **09 11 45.0 +0.2**
REDW Red Top Meadow 96.76 46 *e*P **P** **09 11 40.6 -4.3**
comp=Z,24nm,0.7s,mb5.7
DMN Daman 96.92 297 *e*P **P** **09 11 46.1 +0.1**
comp=Z,23nm,0.8s,mb5.7
BOZ Bozeman (W) 97.20 44 PFAKE 09 12 00.0 +13
BOZ LR LR
comp=Z,1µm,22.0s,MS5.3
BW06 Boulder Array 97.39 47 PFAKE 09 12 00.0 +12
BW06 LR LR
comp=Z,1µm,22.0s,MS5.3
PDAR Pinedale Array 97.39 47 P **P** **09 11 47.3 -0.4**
comp=Z,1.2nm,0.9s,mb4.3,baz=252,slow=3.0,SNR=7.4
PDAR LR LR 09 47 23.5
comp=Z,783nm,21.2s,MS5.2,baz=247,slow=30
PDAR Pinedale Array 97.39 47 P **P** **09 11 47.3 -0.4**
GKN Gorkha 97.45 297 *e*P **P** **09 11 47.8 -0.6**
LKWY Lake 97.55 45 PFAKE 09 12 00.0 +12
LKWY LR LR
comp=Z,1µm,21.0s,MS5.5
KOLN Koldanda 98.22 297 *e*P **P** **09 11 53.6 +1.7**
DANN Dangsing 98.30 297 *e*P **P** **09 11 53.4 +1.2**
comp=Z,15nm,0.9s,mb5.5
SDCO Great Sand Dun 98.31 53 PFAKE 09 12 00.0 +7.9
SDCO LR LR
comp=Z,1µm,20.0s,MS5.3
RLMT Red Lodge 98.51 45 PFAKE 09 12 00.0 +7.2
RLMT LR LR
comp=Z,1µm,20.0s,MS5.5
ISCO Idaho Springs 98.99 51 PFAKE 09 12 10.0 +15
ISCO LR LR
comp=Z,875nm,20.0s,MS5.2
EGMT Eagleton 99.34 42 PFAKE 09 12 10.0 +14
EGMT LR LR
comp=Z,1µm,21.0s,MS5.4
JCT Junction City 100.15 61 PFAKE 09 12 10.0 +10
JCT LR LR
comp=Z,763nm,22.0s,MS5.2
AMTX Amarillo 100.17 57 PFAKE 09 12 10.0 +10
AMTX LR LR
comp=Z,879nm,20.0s,MS5.3
WMQ Urumqi 100.80 313 P Pdif 09 12 05.8 +2.8
WMQ LR LR
comp=N,470nm,17.8s
WMQ LR LR
comp=E,750nm,24.7s
WMQ LR LR
comp=Z,950nm,26.4s
LAO LASA Array 101.07 44 PFAKE 09 12 20.0 +16
LAO LR LR
comp=Z,2µm,20.0s,MS5.6
LCO Las Campanas 101.38 128 PFAKE 09 12 20.0 +14
LCO LR LR
comp=Z,1µm,19.0s,MS5.5
TRQA Tornquist 101.75 140 PFAKE 09 12 20.0 +13
TRQA LR LR
comp=Z,1µm,22.0s,MS5.4
OGNE Ogallala 101.95 51 PFAKE 09 12 20.0 +12
OGNE LR LR
comp=Z,871nm,21.0s,MS5.2
WMOK Wichita Mounta 102.38 57 PFAKE 09 12 20.0 +10
WMOK LR LR
comp=Z,1µm,19.0s,MS5.4
CBKS Cedar Bluff 102.94 53 PFAKE 09 12 20.0 +7.5
CBKS LR LR
comp=Z,1µm,21.0s,MS5.4
DGMT Dagmar 102.97 43 PFAKE 09 12 20.0 +7.4
DGMT LR LR
comp=Z,961nm,20.0s,MS5.3
NATX Nacogdoches 104.74 61 PFAKE 09 12 30.0 +9.5
NATX LR LR
comp=Z,585nm,19.0s,MS5.1
NNA Nana 104.99 110 PFAKE 09 12 30.0 +8.4
NNA LR LR
comp=Z,492nm,19.0s,MS5.1
KSU1 Kansas State U 105.35 54 PFAKE 09 16 50.0 +13
KSU1 LR LR
comp=Z,1µm,20.0s,MS5.4
MK31 Makanchi Array 105.36 315 *e*PKPdf PKiKP 09 16 35.9 -0.9
MKAR Makanchi Array 105.36 315 Pdiff Pdif 09 12 23.9 +0.6
comp=Z,1.8nm,1.0s,baz=86,slow=6.9,SNR=7.0
MKAR PKiKP PKiKP 09 16 35.1 -1.8
comp=Z,0.4nm,0.5s,baz=93,slow=2.9,SNR=5.3
MKAR PKKPbc PKKPbc 09 28 00.4 -3.3
comp=Z,2.3nm,0.8s,baz=298,slow=2.6,SNR=15
MKAR PKKP PKKPbc 09 28 13.1 +9.4
comp=Z,2.0nm,0.9s,baz=302,slow=2.7,SNR=7.3
MKAR Makanchi Array 105.36 315 Pdif Pdif 09 12 23.9 +0.6
MKAR PKiKP PKiKP 09 16 35.1 -1.8
MKAR PKKPbc PKKPbc 09 28 00.4 -3.3
MKAR PKKP PKKPbc 09 28 13.1 +9.4
MKAR Makanchi Array 105.36 315 P Pdif 09 12 23.9 +0.6
TGUH Tegucigalpa,Un 105.64 81 PFAKE 09 16 50.0 +12
TGUH LR LR
comp=Z,354nm,20.0s,MS4.9
ZALV Zalesovo Beam 105.82 322 Pdiff Pdif 09 12 24.2 -1.1
comp=Z,0.6nm,0.4s,baz=85,slow=3.1,SNR=4.5
ZALV PKiKP PKiKP 09 16 35.5 -2.0
comp=Z,0.5nm,0.3s,baz=132,slow=4.1,SNR=3.1
ZALV PKKPbc PKKPbc 09 27 55.4 -7.1
comp=Z,0.6nm,0.4s,baz=305,slow=5.1,SNR=5.4
ZALV Zalesovo Beam 105.82 322 Pdif Pdif 09 12 24.2 -1.1
ZALV PKiKP PKiKP 09 16 35.5 -2.0
ZALV PKKPbc PKKPbc 09 27 55.4 -7.1
ZALV Zalesovo Beam 105.82 322 P Pdif 09 12 24.3 -1.0
FFC Flin Flon 106.18 37 PFAKE 09 16 50.0 +12
FFC LR LR
comp=Z,2µm,22.0s,MS5.5
MIAR Mount Ida 106.42 59 PFAKE 09 16 50.0 +11
MIAR LR LR
comp=Z,1µm,19.0s,MS5.4
JTS JuntasAbangare 106.49 85 PFAKE 09 16 50.0 +10
JTS LR LR
comp=Z,335nm,20.0s,MS4.9
ECSD EROS Data Cent 106.62 49 PFAKE 09 16 50.0 +11
ECSD LR LR
comp=Z,1µm,21.0s,MS5.5
VBMS Vicksburg 108.25 62 PFAKE 09 16 50.0 +7.3
VBMS LR LR
comp=Z,1µm,22.0s,MS5.3
AGMN Agassiz Nation 108.25 45 PFAKE 09 16 50.0 +7.8
AGMN LR LR
comp=Z,2µm,22.0s,MS5.6
NIL Nilore 108.51 299 PFAKE 09 16 50.0 +6.8
NIL LR LR
comp=Z,41nm,19.0s,MS4.0
SCIA State Center 108.58 52 PFAKE 09 16 50.0 +7.0
SCIA LR LR
comp=Z,1µm,21.0s,MS5.5
ULM Lac du Bonnet 108.69 43 PFAKE 09 16 50.0 +7.1
ULM LR LR
comp=Z,1µm,19.0s,MS5.5
KURK Kurchatov 108.69 318 PKiKP PKiKP 09 16 40.9 -2.0
comp=Z,1.2nm,0.4s,baz=112,slow=1.6,SNR=10
KURK PKKPbc PKKPbc 09 27 49.3 -4.1
comp=Z,1.9nm,0.3s,baz=275,slow=3.7,SNR=6.3
KURK PKKP PKKPbc 09 28 03.0 +10
comp=Z,0.7nm,0.3s,baz=292,slow=5.3,SNR=5.3
KURK Kurchatov 108.69 318 PKiKP PKiKP 09 16 40.9 -2.0
KURK PKKPbc PKKPbc 09 27 49.3 -4.1
KURK PKKP PKKPbc 09 28 03.0 +10
KURK LR LR
comp=Z,513nm,21.0s,MS5.1
OTAV Otavalo 108.77 98 PFAKE 09 17 00.0 +16
OTAV LR LR
comp=Z,65nm,21.0s,MS4.2
TKM2 Tokmak 2 108.97 309 PFAKE 09 17 00.0 +16
TKM2 LR LR
comp=Z,472nm,20.0s,MS5.0
AAK Ala-Archa 109.70 309 PFAKE 09 17 00.0 +15
AAK LR LR
comp=Z,512nm,20.0s,MS5.1
OXF Oxford 109.72 60 PFAKE 09 17 00.0 +15
OXF LR LR
comp=Z,616nm,20.0s,MS5.2
EKS2 Erkin-Say 110.22 309 PFAKE 09 17 00.0 +14
EKS2 LR LR
comp=Z,512nm,21.0s,MS5.1
LPAZ La Paz 110.25 118 PFAKE 09 17 00.0 +13
LPAZ LR LR
comp=Z,497nm,22.0s,MS5.0
PLAL Pickwick Lake 110.90 60 PFAKE 09 17 00.0 +12
PLAL LR LR
comp=Z,703nm,19.0s,MS5.3
JFWS Jewell Farm 110.95 51 PFAKE 09 17 00.0 +13
JFWS LR LR
comp=Z,1µm,19.0s,MS5.5
EYMN Ely 111.04 46 PFAKE 09 17 00.0 +13
EYMN LR LR
comp=Z,1µm,20.0s,MS5.5
ABPO Ambohimpanom 111.55 237 PFAKE 09 17 00.0 +11
ABPO LR LR
comp=Z,752nm,20.0s,MS5.3
MSEY Mahe Island 111.77 255 PFAKE 09 17 00.0 +10
MSEY LR LR
comp=Z,877nm,22.0s,MS5.3
KKAR Karatay Array 112.66 309 *e*PKPdf PKiKP 09 16 49.4 -1.3
KKAR Karatay Array 112.66 309 *e*PKIKP PKiKP 09 16 49.4 -1.3
BVAR Borovoye Array 114.10 319 PKP PKiKP 09 16 51.0 -2.1
comp=Z,2.1nm,0.6s,baz=96,slow=3.0,SNR=11
BVAR PKKPbc PKKPbc 09 27 31.3 -4.3
comp=Z,0.4nm,0.5s,baz=276,slow=5.5,SNR=4.9
BVAR Borovoye Array 114.10 319 PKP PKiKP 09 16 51.0 -2.1
BVAR PKKPbc PKKPbc 09 27 31.3 -4.3
BVAR Borovoye Array 114.10 319 PKIKP PKiKP 09 16 51.0 -2.1
BRVK Borovoye 114.17 320 PFAKE 09 17 00.0 +6.8
BRVK LR LR
comp=Z,764nm,22.0s,MS5.3
BRVK Borovoye 114.17 320↓ *i* PKIKP PKiKP 09 16 52.1 -1.1
BRVK pmax pmax
comp=Z,4.0nm,1.0s
GLMI Grayling 115.28 50 PFAKE 09 17 10.0 +14
GLMI LR LR
comp=Z,2µm,22.0s,MS5.6
ACSO Alum Creek Sta 115.86 55 PFAKE 09 17 10.0 +13
ACSO LR LR
comp=Z,908nm,19.0s,MS5.4
NHSC New Hope 116.94 63 PFAKE 09 17 10.0 +11
NHSC LR LR
comp=Z,501nm,20.0s,MS5.1
BLA Blacksburg 117.41 59 PFAKE 09 17 10.0 +10
BLA LR LR
comp=Z,779nm,22.0s,MS5.3
ERPA Erie 118.33 53 PFAKE 09 17 10.0 +8.4
ERPA LR LR
comp=Z,648nm,20.0s,MS5.2
SUR Sutherland 118.61 208 PFAKE 09 17 10.0 +7.4
SUR LR LR
comp=Z,1µm,19.0s,MS5.5
CNNC Cliffs of the 119.15 61 PFAKE 09 17 10.0 +6.6
CNNC LR LR
comp=Z,573nm,22.0s,MS5.2
SDV Santo Domingo 119.24 92 PFAKE 09 17 20.0 +16
SDV LR LR
comp=Z,116nm,21.0s,MS4.5
BOSA Boshof 119.59 214 PKP PKPdf 09 17 03.6 -1.0
comp=Z,3.8nm,0.6s,baz=146,slow=0.5,SNR=15
BOSA Boshof 119.59 214 PKP PKPdf 09 17 03.6 -1.0
BOSA *e*PKPdf PKPdf 09 17 04.0 -0.6
BOSA LR LR
comp=Z,681nm,21.0s,MS5.3
BOSA Boshof 119.59 214 PKIKP PKPdf 09 17 03.6 -1.0
BOSA MLR MLR
comp=Z,681nm,21.0s,MS5.3
CBN Corbin 119.93 58 PFAKE 09 17 20.0 +15
CBN LR LR
comp=Z,1µm,19.0s,MS5.5
ABKAR Akbulak array 120.50 315 *e*PKPdf PKPdf 09 17 03.3 -2.2
ARU Arti 120.95 323 *e*PKPdf PKPdf 09 17 04.6 -1.6
ARU LR LR
comp=Z,793nm,22.0s,MS5.3
ARU Arti 120.95 323 *i* PKIKP PKPdf 09 17 04.8 -1.4
ARU 09 18 35.9
ARU 09 23 57.4
ARU SP SP 09 28 20.9 -1.0
BINY Binghamton 121.30 53 PFAKE 09 17 20.0 +13
BINY LR LR
comp=Z,647nm,20.0s,MS5.3
AKTO Aktyubinsk 121.72 316 PKP PKPdf 09 17 06.8 -1.0
comp=Z,4.8nm,0.5s,baz=93,slow=4.5,SNR=18
AKTO PKKPbc PKKPbc 09 27 03.5 -4.5
comp=Z,1.0nm,0.5s,baz=304,slow=6.9,SNR=5.9
AKTO Aktyubinsk 121.72 316 PKP PKPdf 09 17 06.8 -1.0
AKTO PKKPbc PKKPbc 09 27 03.5 -4.5
AKTO Aktyubinsk 121.72 316 PKIKP PKPdf 09 17 06.8 -1.1
SDDR Presa de Saban 121.72 81 PFAKE 09 17 20.0 +11
SDDR LR LR
comp=Z,433nm,20.0s,MS5.1
LONY Lake Ozonia 122.39 51 PFAKE 09 17 20.0 +11
LONY LR LR
comp=Z,2µm,22.0s,MS5.7
NCB Newcomb 122.65 51 PFAKE 09 17 20.0 +10
NCB LR LR
comp=Z,1µm,20.0s,MS5.5
KBS Kingsbay 122.67 355 PFAKE 09 17 20.0 +11
KBS LR LR
comp=Z,681nm,21.0s,MS5.3
LBNH Lisbon 124.30 51 PFAKE 09 17 20.0 +7.0
LBNH LR LR
comp=Z,727nm,22.0s,MS5.3
SCHQ Schefferville 126.32 38 PFAKE 09 17 30.0 +13
SCHQ LR LR
comp=Z,3µm,20.0s,MS5.9
LVZ Lovozero 127.30 341 PFAKE 09 17 30.0 +12
LVZ LR LR
comp=Z,1µm,22.0s,MS5.6
LSZ Lusaka 127.93 227 *e*PKPdf PKPdf 09 17 20.3 -0.5
LSZ LR LR
comp=Z,579nm,21.0s,MS5.2
LSZ Lusaka 127.93 227 *e*PKIKP PKPdf 09 17 20.3 -0.6
LSZ MLR MLR

comp=Z,579nm,21.0s,MS5.2
KEV **Kevo** **128.13 345** PFAKE 09 17 30.0 +10
KEV LR LR
comp=Z,1μm,21.0s,MS5.6
SFJD **Kangerlussuaq** **128.29 20** PFAKE 09 17 30.0 +10
SFJD LR LR
comp=Z,2μm,21.0s,MS5.7
GRGR **Grenville** **128.64 92** PFAKE 09 17 30.0 +7.8
GRGR LR LR
comp=Z,330nm,19.0s,MS5.0
ARCES **ARCESS Array B** **128.65 345** PKP PKPdf 09 17 19.2 -1.4
comp=Z,3.8nm,0.9s,baz=72,slow=1.9,SNR=5.9
ARCES **ARCESS Array B** **128.65 345** PKP PKPdf 09 17 19.2 -1.4
ARCES **ARCESS Array B** **128.65 345** PKIKP PKPdf 09 17 19.2 -1.4
KMBO **Kilima Mbogo** **129.47 249** PFAKE 09 17 40.0 +16
KMBO LR LR
comp=Z,349nm,19.0s,MS5.1
TSUM **Tsumeb** **131.28 214** *e*PKPdf PKPdf 09 17 27.5 +0.3
TSUM *e*PP PP 09 19 49.2 +5.0
TSUM LR LR
comp=Z,871nm,20.0s,MS5.5
GNI **Garni** **131.77 304** PFAKE 09 17 40.0 +13
GNI LR LR
comp=Z,348nm,20.0s,MS5.1
GNI **Garni** **131.77 304** *i* PKIKP PKPdf 09 17 22.4 -5.0
KIV **Kislovodsk** **132.81 310** PFAKE 09 17 40.0 +11
KIV LR LR
comp=Z,556nm,21.0s,MS5.2
OBN **Obninsk** **133.22 326** PFAKE 09 17 40.0 +10
OBN LR LR
comp=Z,769nm,20.0s,MS5.4
OBN **Obninsk** **133.22 326** *i* PKIKP PKPdf 09 17 36.4 +6.8
OBN pmax pmax
comp=Z,61nm,2.5s
OBN pmax pmax
comp=Z,14nm,1.0s
FINES **FINESS Array B** **134.27 337** SKPbc SKPbc 09 20 55.5 -1.9
comp=Z,6.6nm,0.9s,baz=222,slow=2.6,SNR=4.7
FINES **FINESS Array B** **134.27 337** SKPbc SKPbc 09 20 55.5 -1.9
MBAR **Mbarara** **135.27 245** PFAKE 09 17 50.0 +15
MBAR LR LR
comp=Z,1μm,22.0s,MS5.5
HFS **Hagfors** **139.18 343** PKhKP PKPpre 09 17 31.4
comp=Z,2.5nm,0.8s,baz=42,slow=4.5,SNR=3.4
HFS **Hagfors** **139.18 343** PKPpre PKPpre 09 17 31.4
HFS **Hagfors** **139.18 343** PKHKP PKPpre 09 17 31.4
AKASG **Malin Array Be** **139.21 323** SKPbc SKPbc 09 21 09.9 -2.7
comp=Z,6.1nm,0.9s,baz=41,slow=3.1,SNR=11
AKASG **Malin Array Be** **139.21 323** SKPbc SKPbc 09 21 09.9 -2.7
KIEV **Kiev** **139.22 323** PFAKE 09 17 50.0 +9.1
KIEV LR LR
comp=Z,952nm,22.0s,MS5.5
BRTR **Keskin Array B** **140.27 306** PKhKP PKPpre 09 17 37.3
comp=Z,2.2nm,0.7s,baz=46,slow=4.6,SNR=4.5
BRTR **Keskin Array B** **140.27 306** PKPpre PKPpre 09 17 37.3
BRTR **Keskin Array B** **140.27 306** PKHKP PKPpre 09 17 37.3
KONO **Kongsberg** **140.63 345** PFAKE 09 17 50.0 +6.8
KONO LR LR
comp=Z,1μm,22.0s,MS5.6
RCBR **Riachuelo** **141.29 133** PFAKE 09 18 00.0 +14
RCBR LR LR
comp=Z,909nm,22.0s,MS5.5
CSS **Prodhromos** **141.35 298** PFAKE 09 18 00.0 +15
CSS LR LR
comp=Z,528nm,21.0s,MS5.3
TIRR **Tirgusor** **142.49 315** ⇓PKIKP PKPdf 09 17 49.2 +2.2
TIRR **Tirgusor** **142.49 315** ⇓*i*P PKPdf 09 17 49.2 +2.2
VRI **Vrincioaia** **142.97 318** ⇓PKIKP PKPdf 09 17 46.6 -1.2
VRI **Vrincioaia** **142.97 318** ⇓*i*P PKPdf 09 17 46.6 -1.2
PLOR **Plostina** **143.03 318** ⇑PKIKP PKPdf 09 17 45.6 -2.3
PLOR **Plostina** **143.03 318** ⇑*i*P PKPdf 09 17 45.6 -2.3
BURAR **Bucovina Array** **143.03 321** ⇓PKIKP PKPdf 09 17 46.4 -1.5
BURAR **Bucovina Array** **143.03 321** ⇓*i*P PKPdf 09 17 46.4 -1.5
ISP **Isparta** **143.07 304** PFAKE 09 18 00.0 +12
ISP LR LR
comp=Z,682nm,20.0s,MS5.4
KWP **Kalwaria Pacla** **143.31 325** PFAKE 09 18 00.0 +12
KWP LR LR
comp=Z,784nm,21.0s,MS5.5
MLR **Muntele Rosu** **143.63 318** ⇑PKIKP PKPdf 09 17 47.1 -1.9
MLR **Muntele Rosu** **143.63 318** ⇑*i*P PKPdf 09 17 47.1 -1.9
DOPR **Dopca** **143.75 319** ⇑*i*P PKPdf 09 17 47.5 -1.7
BMR **Baia Mare** **143.99 322** ⇓PKIKP PKPdf 09 17 48.1 -1.5
BMR **Baia Mare** **143.99 322** ⇓*i*P PKPdf 09 17 48.1 -1.5
UZH **Uzhgorod** **144.11 324** *e*PKIKP PKPdf 09 17 48.2 -1.6
UZH *e* 09 18 02.0
STHS **Stebnicka Huta** **144.20 326** *e*PKHKP PKPpre 09 17 37.1
STHS **Stebnicka Huta** **144.20 326** *e*PKP PKPpre 09 17 37.1
VOIR **144.21 318** ⇑PKIKP PKPdf 09 17 47.6 -2.4
VOIR **144.21 318** ⇑*i*P PKPdf 09 17 47.6 -2.4
TRPA **Tarpa** **144.27 323** ⇑*i*P PKPdf 09 17 48.5 -1.5
MDB **Medias** **144.28 319** ⇑PKIKP PKPdf 09 17 47.1 -3.0
MDB **Medias** **144.28 319** ⇑*i*P PKPdf 09 17 47.1 -3.0
OJC **Ojcow** **144.41 328** *e*PKPdf PKPdf 09 17 52.9 +2.7
OJC **Ojcow** **144.41 328** *e*PKIKP PKPdf 09 17 52.9 +2.7
JMB **Yambol** **144.50 313** P PKPdf 09 17 51.0 +0.4
JMB **Yambol** **144.50 313** P PKPdf 09 17 51.0 +0.4
SZH **Strazhica** **144.62 314** P PKPdf 09 17 50.5 -0.3
SZH **Strazhica** **144.62 314** P PKPdf 09 17 50.5 -0.3
HUMR **Humele** **144.68 317** ⇑*i*P PKPdf 09 17 49.2 -1.7
KECS **Kecovo** **145.16 325** *e*PKIKP PKPdf 09 17 50.9 -0.7
KECS **Kecovo** **145.16 325** *e*PKP PKPdf 09 17 50.9 -0.7
DEV **Deva** **145.29 320** ⇓PKIKP PKPdf 09 17 52.4 +0.5
DEV **Deva** **145.29 320** ⇓*i*P PKPbc 09 17 52.4 +0.7
OKC **Ostrava-Krasne** **145.46 329** *e*PKIKP PKPdf 09 17 51.5 -0.6
OKC **Ostrava-Krasne** **145.46 329** *e*PKP PKPdf 09 17 51.5 -0.6
KSP **Ksiaz** **145.61 332** *e*PKP PKPdf 09 17 52.5 +0.2
GZR **Gura Zlata** **145.62 319** ⇑PKIKP PKPdf 09 17 52.3 -0.2
GZR **Gura Zlata** **145.62 319** ⇑*i*P PKPdf 09 17 52.3 -0.2
MORC **Moravsky Berou** **145.79 329** *e*PKPdf PKPdf 09 17 52.1 -0.5
MORC *e*PKPbc PKPbc 09 17 53.0 -0.2
MORC **Moravsky Berou** **145.79 329** ⇑PKP2 PKPab 09 17 52.9 -0.7
MORC **Moravsky Berou** **145.79 329** ⇑*i*P PKPdf 09 17 52.9 +0.3
PSZ **Piszkesteto** **145.82 325** *e*PKPbc PKPbc 09 17 53.3 0.0
PSZ LR LR
comp=Z,640nm,20.0s,MS5.4
PSZ **Piszkesteto** **145.82 325** ⇑PKP2 PKPab 09 17 54.0 +0.2
PSZ **Piszkesteto** **145.82 325** ⇓*e*PKP PKPdf 09 17 53.6 +0.9
PSZ **Piszkesteto** **145.82 325** ⇑*i*P PKPdf 09 17 54.0 +1.3
DPC **Dobruska-Polom** **145.95 331** *e*PKP2 PKPab 09 17 53.4 -0.8
DPC MLR MLR
comp=Z,1μm,35.5s,MS5.4
DPC **Dobruska-Polom** **145.95 331** *e*PKP PKPdf 09 17 53.4 +0.5
DPC *e*pPKP pPKPdf 09 18 06.6 0.0
DPC AMS AMS 10 12 40.0
comp=Z,1μm,35.5s
UPC **Upice** **145.98 332** *e*PKP2 PKPab 09 17 53.3 -1.0
UPC **Upice** **145.98 332** *e*PKP PKPdf 09 17 53.3 +0.4
UPC *e*pPKP pPKPdf 09 18 06.6 0.0
MPEP **Malo Peshtene** **146.02 316** *i* P PKPdf 09 17 54.0 +0.8
MPEP **Malo Peshtene** **146.02 316** *i* P PKPdf 09 17 54.0 +0.8
BZS **Buzias** **146.19 320** ⇓PKP2 PKPdf 09 17 53.5 +0.1
BZS **Buzias** **146.19 320** ⇓*i*P PKPdf 09 17 53.5 +0.1
KARP **Karpathos** **146.22 301** *e*P PKPdf 09 17 54.4 +0.6
BUD **Budapest** **146.56 325** ⇑*e*PKP PKPdf 09 17 55.1 +1.1
VRAC **Vranov** **146.56 329** PKPbc PKPbc 09 17 55.2 -0.3
comp=Z,18nm,1.0s,baz=68,slow=3.4,SNR=11
VRAC **Vranov** **146.56 329** PKPbc PKPbc 09 17 55.2 -0.3
VRAC **Vranov** **146.56 329** ⇓PKP2 PKPbc 09 17 55.8 +0.3
VRAC **Vranov** **146.56 329** ⇓*i*P PKPbc 09 17 55.8 +0.3
BRG **Berggiesshubel** **146.58 334** *e*PKP PKPdf 09 17 54.3 +0.3
comp=Z,14nm,1.2s
BRG *e* 09 17 56.6
comp=Z,17nm,0.9s
BRG
comp=N,756nm,17.9s
BRG
comp=E,544nm,23.3s
BRG
comp=Z,1μm,21.8s
BRG **Berggiesshubel** **146.58 334** *e*PKPbc PKPbc 09 17 54.7 -0.8
BRG **Berggiesshubel** **146.58 334** *e*PKP2 PKPbc 09 17 54.3 -1.2
BRG pmax pmax
comp=Z,14nm,1.2s
BRG MLR MLR
comp=N,756nm,17.9s
BRG MLR MLR
comp=E,544nm,23.3s
BRG MLR MLR
comp=Z,1μm,21.8s,MS5.6
PVCC **Panska Ves** **146.59 333** *e*PKP2 PKPbc 09 17 55.4 -0.1
PVCC MLR MLR
comp=Z,1μm,26.0s,MS5.6
PVCC **Panska Ves** **146.59 333** *e*PKP PKPbc 09 17 55.4 -0.1
PVCC AMS AMS 10 17 20.0
comp=Z,1μm,26.0s
CLL **Collm** **146.62 335** *e*PKPbc PKPbc 09 17 54.6 -1.0
CLL **Collm** **146.62 335** *e*PKP2 PKPab 09 17 57.0 +0.3
CLL pmax pmax
comp=Z,12nm,0.8s
CLL MLR MLR
comp=Z,800nm,21.5s,MS5.5
CLL **Collm** **146.62 335** *e*PKPbc PKPbc 09 17 55.0 -0.6
CLL *e*PKiKP PKiKP 09 17 57.0 -1.4
comp=Z,12nm,0.8s
CLL *i* pPKiKP 09 18 11.6
CLL *e* 09 18 19.0
CLL *e* 09 21 58.0
CLL *e*SKSP 09 31 32.0
CLL LmV 10 25 00.0
comp=N,500nm,21.4s
CLL LmV 10 25 00.0
comp=E,200nm,22.0s
CLL LmV 10 25 00.0
comp=Z,800nm,21.5s
VTS **Vitosha** **146.71 315** ⇑PKP2 PKPdf 09 17 54.3 -0.1
VTS **Vitosha** **146.71 315** ⇑*i*P PKPdf 09 17 54.3 -0.1
VTS **Vitosha** **146.71 315** P PKPdf 09 17 56.8 +2.4
VTS **Vitosha** **146.71 315** P PKPdf 09 17 56.8 +2.4
MMB **Musomiste** **146.80 313** P PKPdf 09 17 55.4 +0.8
MMB **Musomiste** **146.80 313** P PKPdf 09 17 55.4 +0.8
NVR **Nevrokopi** **146.81 312** *e*P PKPdf 09 17 55.5 +0.9
EKA **Eskdalemuir Ar** **146.90 354** PKPbc PKPdf 09 17 54.0 -0.3
comp=Z,7.1nm,0.7s,baz=356,slow=2.3,SNR=21
EKA **Eskdalemuir Ar** **146.90 354** PKPbc PKPdf 09 17 54.0 -0.3
EKA **Eskdalemuir Ar** **146.90 354** PKIKP PKPdf 09 17 54.1 -0.2
PRA **Prague** **146.99 332** PKP PKPbc 09 17 57.0 +0.3
PRU **Pruhonice** **147.00 332** *e*PKP2 PKPbc 09 17 56.0 -0.7
PRU MLR MLR
comp=Z,1μm,25.2s,MS5.6
PRU **Pruhonice** **147.00 332** *e*PKP PKPbc 09 17 56.0 -0.7
PRU *e*pPKP pPKPdf 09 18 08.5 +0.1
PRU AMS AMS 10 18 00.0
comp=Z,1μm,25.2s
ZST **Bratislava** **147.08 328** *e*PKP2 PKPbc 09 17 56.5 -0.5
ZST **Bratislava** **147.08 328** *e*PKP PKPbc 09 17 56.5 -0.5
TREC **Trest** **147.09 330** AMS AMS 10 14 50.0
comp=Z,1μm,28.8s
APE **Apeiranthos** **147.10 304** *e*P PKPdf 09 17 55.4 +0.1
CLZ **Clausthal** **147.16 338** *e*PKPbc PKPbc 09 17 57.0 -0.1
CLZ **Clausthal** **147.16 338** *e*PKP2 PKPbc 09 17 57.0 -0.1
NPS **Neapolis** **147.51 301** *e*P PKPbc 09 17 58.0 -0.6
TANN **Tannenbergstha** **147.54 335** *e*PKPbc PKPbc 09 17 57.3 -0.9
PKSM **Moragy** **147.55 324** ⇑PKP2 PKPbc 09 17 57.9 -0.5
PKSM **Moragy** **147.55 324** ⇑*i*P PKPbc 09 17 57.9 -0.5
IBBN **Ibbenburen** **147.61 341** *e*PKPbc PKPbc 09 17 57.4 -0.9
NKC **Novy Kostel** **147.69 334** *e*PKP2 PKPbc 09 17 58.6 0.0
NKC **Novy Kostel** **147.69 334** *e*PKP PKPbc 09 17 58.6 0.0
MOX **Moxa** **147.69 336** *e*PKPbc PKPbc 09 17 57.4 -1.2
MOX **Moxa** **147.69 336** *e*PKP2 PKPbc 09 17 57.4 -1.2
SOP **Sopron** **147.69 327** ⇑*e*PKP PKPbc 09 17 58.2 -0.5
PTL **Penteli** **148.06 307** *e*P PKPdf 09 17 58.7 +1.9
KHC **Kasperske Hory** **148.06 332** *e*PKPbc PKPbc 09 17 59.3 -0.3
KHC **Kasperske Hory** **148.06 332** *e*PKP2 PKPbc 09 17 59.3 -0.3
KHC **Kasperske Hory** **148.06 332** *e*PKP PKPbc 09 17 58.8 -0.8
KHC *e*pPKP pPKPdf 09 18 12.9 +2.7
KHC *ex* x 09 18 51.5
KHC *ex* x 09 19 14.0
KHC AMS AMS 10 18 10.0
comp=Z,2μm,26.1s
ROTZ **Rotzenmuhle** **148.15 334** *e*PKPbc PKPbc 09 18 00.0 +0.2
SKO **Skopje** **148.16 315** *e*PKP PKPdf 09 17 54.2 -2.6
VLY **Voula,Athens** **148.17 306** *e*P PKPdf 09 17 58.8 +1.8
GEC2 **GERESS Array S** **148.22 331** *e*PKPbc PKPbc 09 17 59.1 -1.0
GEC2 **GERESS Array S** **148.22 331** *e*PKP2 PKPbc 09 17 59.1 -1.0
GERES **GERESS Array B** **148.22 331** PKPbc PKPbc 09 17 59.4 -0.7
comp=Z,19nm,1.0s,baz=37,slow=2.5,SNR=30
GERES **GERESS Array B** **148.22 331** PKPbc PKPbc 09 17 59.4 -0.7
GERES **GERESS Array B** **148.22 331** PKP2 PKPbc 09 17 59.4 -0.7
WET **Wettzell** **148.35 333** *e*PKPbc PKPbc 09 17 59.8 -0.6
WET **Wettzell** **148.35 333** *e*PKP2 PKPbc 09 17 59.8 -0.6
LKR **Lokris** **148.48 308** *e*P PKPbc 09 17 59.7 -1.4
KRUS **Krusevo** **148.57 314** *e*PKP PKPdf 09 17 58.5 +1.0
VAM **Vamos** **148.59 302** *e*P PKPbc 09 18 01.5 0.0
GRF **Grafenberg Arr** **148.60 335** *e*PKPbc PKPdf 09 17 57.7 +0.4
GRF *e*L 10 27 43.9
comp=Z,937nm,21.0s
GRF **Grafenberg Arr** **148.60 335** *e*PKIKP PKPdf 09 17 57.7 +0.4
KOGS **Kog** **148.68 326** *i* PKPbc PKPbc 09 18 01.7 +0.3
PERS **Pernice** **149.13 327** *i* PKPbc PKPbc 09 18 01.4 -1.1
SOKA **Soboth** **149.14 327** ⇑*i* PKPbc PKPbc 09 18 01.5 -1.0
comp=Z,13nm,0.8s
VLI **Veliai** **149.19 305** *e*P PKPbc 09 18 01.3 -1.7
EVR **Evrytania** **149.24 309** *e*P PKPbc 09 18 02.8 -0.2
RJOB **Jochberg** **149.44 331** *e*PKPbc PKPbc 09 18 02.4 -0.8
LEGS **Legarje** **149.49 326** *i* PKPbc PKPbc 09 18 02.5 -0.9
TIR **Tirane** **149.50 315** *e*PKPbc PKPbc 09 18 04.1 +0.5
TIR LR LR
comp=Z,1μm,21.0s,MS5.7
TIR **Tirane** **149.50 315** *e*PKP2 PKPbc 09 18 04.1 +0.5
TIR MLR MLR
comp=Z,1μm,21.0s,MS5.7
JAN **Janina** **149.61 311** *e*P PKPbc 09 18 03.6 -0.3
ITM **Ithomi** **149.80 306** *e*P PKPbc 09 18 03.2 -1.2
BOJS **Bojanci** **149.82 325** *i* PKPbc PKPbc 09 18 03.8 -0.4
LJU **Ljubljana** **149.83 327** *i* PKPbc PKPbc 09 18 03.5 -0.7
MYKA **Terra Mystica** **149.86 329** ⇑*i* PKPbc PKPbc 09 18 02.7 -1.5
comp=Z,16nm,0.7s
STU **Stuttgart** **150.13 336** *e*PKPbc PKPbc 09 18 04.5 -0.3
STU **Stuttgart** **150.13 336** *e*PKPbc PKPbc 09 18 04.6 -0.2
STU **Stuttgart** **150.13 336** *e*PKIKP PKPbc 09 18 04.6 -0.2
VOY **Vojsko** **150.16 327** *e*PKPbc PKPbc 09 18 03.8 -1.2
VOY *e* 09 18 24.8
VOY *e* 09 18 29.9
WATA **Walderalm** **150.29 332** ⇑*i* PKPbc PKPbc 09 18 04.4 -0.9
comp=Z,19nm,0.9s,SNR=7.0
WTTA **Wattenberg** **150.32 331** ⇑*i* PKPbc PKPbc 09 18 04.7 -0.6
comp=Z,28nm,0.8s,SNR=6.2
WLF **Walferdange** **150.42 340** *e*PKPbc PKPbc 09 18 05.3 -0.2
WLF **Walferdange** **150.42 340** PFAKE 09 18 10.0 +10
WLF LR LR
comp=Z,933nm,22.0s,MS5.5
GIVF **Givet** **150.42 342** *e*PKP1 PKPbc 09 18 04.6 -0.9
comp=Z,28nm,0.8s
TRI **Trieste** **150.45 327** PFAKE 09 18 10.0 +10
TRI LR LR
comp=Z,834nm,22.0s,MS5.5
MOTA **Moosalm** **150.49 332** ⇓*i* PKPbc PKPbc 09 18 05.0 -0.8
comp=Z,21nm,0.8s,SNR=14
BFO **Black Forest** **150.81 336** *e*PKPbc PKPbc 09 18 05.6 -0.9
BFO **Black Forest** **150.81 336** *e*PKP2 PKPbc 09 18 05.8 -0.7
BFO LR LR
comp=Z,744nm,20.0s,MS5.5
BFO **Black Forest** **150.81 336** *e*PKIKP PKPbc 09 18 05.6 -0.9
BFO **Black Forest** **150.81 336** *e*PKIKP PKPbc 09 18 05.8 -0.7
BFO MLR MLR
comp=Z,744nm,20.0s,MS5.5
CDF **Champ du Feu** **151.13 338** *e*PKP1 PKPbc 09 18 06.1 -1.1
comp=Z,23nm,0.8s
ECH **Echery** **151.34 338** PFAKE 09 18 10.0 +8.3
ECH LR LR
comp=Z,840nm,21.0s,MS5.5
DAVOX **Davos/Dischmat** **151.46 333** PKPbc PKPbc 09 18 07.1 -1.0
comp=Z,18nm,0.7s,baz=215,slow=4.8,SNR=19
DAVOX **Davos/Dischmat** **151.46 333** PKPbc PKPbc 09 18 07.1 -1.0
DAVOX **Davos/Dischmat** **151.46 333** PKIKP PKPbc 09 18 07.1 -0.9
PAGF **Fort de Pagny** **151.53 340** *e*PKP1 PKPbc 09 18 07.3 -0.8
HINF **Hinteralfeld** **151.78 338** *e*PKP1 PKPbc 09 18 07.4 -1.3
comp=Z,16nm,0.8s
MEZF **Maizieres J'vi** **151.78 340** *e*PKP1 PKPbc 09 18 07.9 -0.8
comp=Z,31nm,0.8s
HAU **Haudompre** **151.80 338** *e*PKP1 PKPbc 09 18 07.6 -1.2
comp=Z,34nm,1.0s
HAU *e*R
comp=Z,806nm,22.2s
TUE **Stuetta** **151.92 333** *e*PKPbc PKPbc 09 18 08.6 -0.5
TUE LR LR
comp=Z,788nm,20.0s,MS5.5
SFTF **Sexfontaines** **152.05 340** *e*PKP1 PKPbc 09 18 08.2 -1.1
CUC **Castrocucco** **152.83 316** PFAKE 09 18 20.0 +16
CUC LR LR
comp=Z,681nm,22.0s,MS5.4
AQU **L'Aquila** **152.90 322** *e*PKPbc PKPbc 09 18 11.4 0.0
AQU *e*PKPab PKPab 09 18 23.7 +1.0
AQU LR LR
comp=Z,669nm,22.0s,MS5.4
AQU **L'Aquila** **152.90 322** *e*PKIKP PKPdf 09 18 11.5 +7.3
AQU *e* 09 18 23.7
AQU MLR MLR
comp=Z,669nm,22.0s,MS5.4
FLN **La Foliniere** **152.94 348** *e*PKP1 PKPbc 09 18 09.8 -1.5
FLN *e*R
comp=Z,418nm,21.5s
LDF **La Druitiere** **153.03 347** *e*PKP1 PKPbc 09 18 09.8 -1.7
comp=Z,6.5nm,0.7s
CABF **La Chapelle** **153.08 337** *e*PKP1 PKPbc 09 18 11.0 -0.7
comp=Z,40nm,1.2s
VLC **Villacollemand** **153.23 328** PFAKE 09 18 20.0 +15
VLC LR LR
comp=Z,1μm,22.0s,MS5.6
LOR **Lormes** **153.25 341** *e*PKP1 PKPbc 09 18 11.1 -0.9
LOR *e*R
comp=Z,927nm,22.2s
GRR **Gorron** **153.37 348** *e*PKP1 PKPbc 09 18 10.9 -1.4
SSF **Saint Saulge** **153.54 341** *e*PKP1 PKPbc 09 18 11.9 -0.8
comp=Z,16nm,0.9s
CEL **Celeste** **153.68 312** PFAKE 09 18 20.0 +15
CEL LR LR
comp=Z,662nm,20.0s,MS5.5
BNI **Bardonecchia** **154.17 334** PFAKE 09 18 20.0 +14
BNI LR LR
comp=Z,964nm,22.0s,MS5.6
BGF **Bois d'Agland** **154.19 341** *e*PKP1 PKPbc 09 18 14.0 -0.1
ORIF **Oris-en-Rattie** **154.59 335** *e*PKP1 PKPbc 09 18 15.1 +0.1
ORIF *e*R
comp=Z,1μm,23.0s
TCF **Toulx Ste Croi** **154.62 342** *e*PKP1 PKPbc 09 18 14.7 -0.3
SSB **Saint Sauveur** **154.78 338** PFAKE 09 18 20.0 +13
SSB LR LR
comp=Z,680nm,20.0s,MS5.5
RJF **Les Rejaudoux** **155.72 342** *e*PKP1 PKPdf 09 18 17.0 +9.0
RJF *e*R
comp=Z,542nm,21.0s
MTE **Manteigas** **162.08 357** PFAKE 09 18 30.0 +14
MTE LR LR
comp=Z,615nm,20.0s
ESDC **Sonseca Array** **162.36 348** PKPab PKPab 09 19 02.4 -1.1
comp=Z,0.8nm,0.7s,baz=22,slow=4.1,SNR=4.4
ESDC **Sonseca Array** **162.36 348** PKPab PKPab 09 19 02.4 -1.1
ESLA **Sonseca Array** **162.36 348** PFAKE 09 18 30.0 +14
ESLA LR LR
comp=Z,5μm,21.0s
PAB **San Pablo** **162.56 349** PFAKE 09 18 30.0 +14
PAB LR LR
comp=Z,831nm,22.0s
DBIC **Dimbokro** **163.88 194** PKP PKPdf 09 18 16.6 -1.7
comp=Z,5.4nm,0.8s,baz=98,slow=3.9,SNR=4.5
DBIC **Dimbokro** **163.88 194** PKP PKPdf 09 18 16.6 -1.7
DBIC LR LR
comp=Z,792nm,22.0s
DBIC **Dimbokro** **163.88 194** PKIKP PKPdf 09 18 16.6 -1.7
DBIC MLR MLR
comp=Z,792nm,22.0s
SFS **San Fernando** **165.87 352** PFAKE 09 18 30.0 +11
SFS LR LR
comp=Z,2μm,21.0s
TORD **Torodi Ar. Bea** **166.46 229** PKP PKPdf 09 18 18.8 -1.6
comp=Z,11nm,0.9s,baz=89,slow=0.2,SNR=23
TORD PKPab PKPab 09 19 21.5 -0.7
comp=Z,25nm,1.0s,baz=129,slow=4.2,SNR=25
TORD **Torodi Ar. Bea** **166.46 229** PKP PKPdf 09 18 18.8 -1.6
TORD PKPab PKPab 09 19 21.5 -0.7
TAM **Tamanrasset** **166.86 274** PFAKE 09 18 30.0 +10
TAM LR LR
comp=Z,723nm,22.0s

IDC ***23*** *09:05:15.9±0.5, 19°.35N×66°.31W, h0km, mb4.4/22, mb1 4.5/23, mb1mx4.5/30, mbtmp4.4/23, ML2.7/1, MS4.3/8, Ms1 4.3/8, ms1mx4.0/34, Error ellipse: s-maj=13.8km s-min=11.1km az=81.0*

ISCJB ***23*** *09:05:18.8±1.2, 19°.43N±0°.02×66°.32W±0°.03, h25km±9km, mb4.8/95, MS4.5/9, Error ellipse: s-maj=4.6km s-min=3.0km az=163.9*

GCMT ***23*** *09:05:19.4±0.3, 19°.35N×66°.24W, h13km±1km, MW5.0, Moment Tensor Solution. s18,c20; s50,c73; Moment tensor: Scale 10^16 Nm; Mrr2.74±.26; Mθθ-0.09±.15; Mφφ-2.65±.17; Mrθ3.51±.65; Mθφ1.41±.10; Mφr0.91±.35; Best double couple: M0:4.40000×10^16 NP1:φs0.00000°, δ45.00000°, λ142.00000°. NP2:φs119.00000°, δ65.00000°, λ52.00000°. Principal axes: T 5.4100, Plg54.0000°, Azm341.0000°; N -2.0200, Plg34.0000°, Azm138.0000°; P -3.3900, Plg11.0000°, Azm236.0000°; Data Used: II IU G IC.*

RSPR ***23*** *09:05:20.3, 19°.49N×66°.33W, h48km±13km, MD4.9/27*

BJI ***23*** *09:05:20.2, 19°.50N×66°.30W, h47km, mB5.3/5, Ms5.6/3, Ms7 5.3/3*

NEIC ***23*** *09:05:20.3, 19°.49N×66°.33W, h48km, mb4.9/81, MD4.8(RSPR), After RSPR.*

NEIC Felt [V] at Caguas, Comerio and Toa Alta. Also felt at Naranjito.

ISC 23 09:05:18.2±0.8, 19°.39N±0°.02×66°.32W±0°.03, h10km±5km, n225, σ0°.82/232, mb4.8/95, MS4.5/9, 26C-13D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**			**1.12 202**	⇓*e*P	**Pg**	**09 05 39.2**	**-0.5**
AOPR	**Arecibo Observ**			**1.12 202**	⇓*e*P	**Pg**	**09 05 39.6**	**-0.1**
AOPR					*e*S	**Sg**	**09 05 54.8**	**+0.6**
AOPR	**Arecibo Observ**			**1.12 202**	*e*S	**Sg**	**09 05 54.7**	**+0.5**
AOPR					*e*S	**Sg**	**09 05 56.1**	**+1.9**
AOPR	**Arecibo Observ**			**1.12 202**	⇓*e*P	**Pg**	**09 05 39.2**	**-0.5**
AOPR					*e*S	**Sg**	**09 05 54.7**	**+0.5**
AGPR	**Aguadilla, PR**			**1.19 220**	⇓*e*P	**Pb**	**09 05 40.3**	**-0.5**
AGPR	**Aguadilla, PR**			**1.19 220**	⇓*e*P	**Pb**	**09 05 40.3**	**-0.5**
AGPR					*e*S	**Sg**	**09 05 57.0**	**+0.5**
CBYP	**Canovanas**			**1.19 159**	⇓*i*P	**Pb**	**09 05 40.4**	**-0.6**
CBYP	**Canovanas**			**1.19 159**	⇓*e*P	**Pb**	**09 05 40.7**	**-0.2**
CBYP					*e*S	**Sg**	**09 05 56.8**	**+0.2**
CBYP	**Canovanas**			**1.19 159**	*e*S	**Sg**	**09 05 57.1**	**+0.5**
CBYP					*e*S	**Sg**	**09 05 59.1**	**+2.4**
CBYP	**Canovanas**			**1.19 159**	⇓*i*P	**Pb**	**09 05 40.4**	**-0.6**
CBYP					*e*S	**Sg**	**09 05 57.1**	**+0.5**
LRS	**Lares**			**1.20 205**	⇓*e*P	**Pb**	**09 05 40.2**	**-0.9**
LRS	**Lares**			**1.20 205**	⇓*e*P	**Pb**	**09 05 40.2**	**-0.9**
AGP	**Aguadilla**			**1.25 219**	*e*Pg	**Pg**	**09 05 40.5**	**-1.8**
SJG	**San Juan**			**1.28 173**	⇑*e*P	**Pn**	**09 05 41.8**	**-0.4**
SJG	**San Juan**			**1.28 173**	⇑*i*P	**Pn**	**09 05 41.6**	**-0.5**
SJG	**San Juan**			**1.28 173**	Pn	**Pn**	**09 05 41.8**	**-0.3**
SJG				803nm,0.3s,baz=13,slow=8.7,SNR=860	Sn	**Sn**	**09 05 57.4**	**-1.9**
SJG	**San Juan**			**1.28 173**	⇑*e*P	**Pn**	**09 05 41.8**	**-0.4**
SJG				1μm,0.3s,baz=328,slow=19,SNR=14	Sn	**Sn**	**09 05 57.4**	**-1.9**
SJG					*e*S	**Sb**	**09 05 59.6**	**+0.8**
HUMP	**Col San Antoni**			**1.31 160**	⇑*e*P	**Pn**	**09 05 42.2**	**-0.4**
HUMP	**Col San Antoni**			**1.31 160**	⇑*e*P	**Pn**	**09 05 42.2**	**-0.4**
HUMP					*e*S	**Sb**	**09 06 00.6**	**+0.7**
CELP	**Cerrillos**			**1.33 191**	⇑*i*P	**Pn**	**09 05 42.6**	**-0.2**
CELP	**Cerrillos**			**1.33 191**	⇑*i*P	**Pn**	**09 05 42.6**	**-0.2**
OBIP	**Obispado Ponce**			**1.37 192**	⇑*e*P	**Pn**	**09 05 43.1**	**-0.2**
OBIP	**Obispado Ponce**			**1.37 192**	*e*S	**Sb**	**09 06 01.4**	**0.0**
OBIP					*e*S	**Sb**	**09 06 01.6**	**+0.2**
OBIP	**Obispado Ponce**			**1.37 192**	⇑*e*P	**Pn**	**09 05 43.1**	**-0.2**
OBIP					*e*S	**Sb**	**09 06 01.4**	**0.0**
CPD	**Cerro la Pandu**			**1.40 164**	⇑*e*P	**Pn**	**09 05 43.4**	**-0.3**
CPD	**Cerro la Pandu**			**1.40 164**	⇑*e*P	**Pn**	**09 05 43.4**	**-0.3**
CPD					*e*S	**Sb**	**09 06 02.7**	**+0.4**
MPR	**Mayaguez**			**1.41 214**	⇓*e*P	**Pn**	**09 05 43.9**	**0.0**
MPR	**Mayaguez**			**1.41 214**	⇓*e*P	**Pn**	**09 05 43.9**	**0.0**
MPR	**Mayaguez**			**1.41 214**	⇓*e*P	**Pn**	**09 05 43.9**	**0.0**
MPR					*e*S	**Sb**	**09 06 01.8**	**-0.8**
LSP	**Las Mesas**			**1.41 211**	⇓*e*P	**Pn**	**09 05 43.8**	**-0.2**
LSP	**Las Mesas**			**1.41 211**	⇓*e*P	**Pn**	**09 05 43.8**	**-0.2**
MTP	**Monte Pirata**			**1.47 151**	⇑*e*P	**Pn**	**09 05 44.4**	**-0.4**
MTP	**Monte Pirata**			**1.47 151**	⇑*e*P	**Pn**	**09 05 44.4**	**-0.4**
MTP					*e*S	**Sn**	**09 06 03.5**	**-0.6**
ICM	**Isla Caja Muer**			**1.50 188**	⇑*e*P	**Pn**	**09 05 45.3**	**+0.1**
ICM	**Isla Caja Muer**			**1.50 188**	⇑*e*P	**Pn**	**09 05 45.3**	**+0.1**
ICM					*e*S	**Sn**	**09 06 05.0**	**+0.2**
GBPR	**Guanica, Bosqu**			**1.50 201**	⇑*e*P	**Pn**	**09 05 45.7**	**+0.4**
CRPR	**Cabo Rojo

STVI	Saint Thomas	1.65	128	⇑	eP		Pn	09 05 47.3	0.0
STVI					eS		Sn	09 06 08.6	+0.1
TBVI	Tortola	1.88	121	⇑	iP		Pn	09 05 50.7	+0.3
TBVI	Tortola	1.88	121	⇑	iP		Pn	09 05 50.7	+0.3
SMN1	Samana, DR	2.80	266	⇑	eP		Pn	09 06 01.6	-1.5
SABA	Saba	3.40	121	⇑	eP		Pn	09 06 12.6	+1.2
SABA	Saba	3.40	121	⇑	eP		Pn	09 06 12.6	+1.2
ANWB	Willy Bob	4.62	111		ePn		Pn	09 06 29.5	+1.3
SDDR	Presa de Saban	4.72	266	⇑	eP		Pn	09 06 30.0	+0.6
SDDR	Presa de Saban	4.72	266	⇑	eP		Pn	09 06 30.0	+0.6
SDDR					eS		Sn	09 07 23.8	-0.4
GTBY	Guantanamo Bay	8.31	275		ePn		Pn	09 07 16.3	-2.4
GRGR	Grenville	8.49	147		ePn		Pn	09 07 21.2	-0.1
BBGH	Gun Hill	8.98	133		ePn		Pn	09 07 33.6	+5.6
SDV	Santo Domingo	11.25	202		ePn		Pn	09 08 01.0	+1.9
BBSR	BB Station	13.01	6		ePn		Pn	09 08 20.7	-2.5
DWPF	Disney	16.33	305		eP		Pn	09 09 07.3	-0.4
	59nm,0.8s								
ROSC	El Rosal	16.42	209		Pn		Pn	09 09 08.7	-0.2
	0.5nm,0.3s,baz=56,slow=5.2,SNR=1.9								
ROSC					Sn		Sn	09 12 11.8	+0.4
	0.5nm,0.3s,baz=82,slow=19,SNR=5.7								
ROSC					LR		LR	09 14 41.6	
	comp=Z,565nm,20.1s,baz=8.1,slow=34								
ROSC	El Rosal	16.42	209		eP		Pn	09 09 12.8	+3.9
NHSC	New Hope	18.45	321		eP		Pn	09 09 34.6	+0.5
	177nm,0.7s								
CNNC	Cliffs of the	18.82	329		eP		Pn	09 09 42.1	+3.6
	84nm,1.1s								
COW	Cow Castle Cre	18.95	320		eP		Pn	09 09 40.1	-0.1
LHS	Liberty Hill	19.78	322		ePn		Pn	09 09 55.8	+5.6
JSC	Jenkinsville	19.91	321		eP		Pn	09 09 50.1	-1.6
JTS	JuntasAbangare	20.14	246		P		P	09 09 52.6	-0.1
	6.0nm,0.5s,baz=60,slow=14,SNR=4.4								
JTS					LR		LR	09 17 03.6	
	comp=Z,671nm,21.4s,MS4.0,baz=268,slow=35								
JTS	JuntasAbangare	20.14	246		eP		P	09 09 54.4	+1.7
	63nm,1.1s								
TEIG	Tepich	20.68	276		P		P	09 09 58.6	+0.1
	12nm,0.6s,baz=126,slow=12,SNR=3.9								
TEIG					LR		LR	09 18 34.9	
	comp=Z,2µm,18.7s,MS4.5,baz=98,slow=39								
TEIG	Tepich	20.68	276		P		P	09 09 58.6	+0.1
TGUH	Tegucigalpa,Un	20.75	258		eP		P	09 09 59.7	+0.4
	82nm,1.0s								
CBN	Corbin	21.07	335		eP		P	09 10 02.6	0.0
	75nm,0.7s,mb5.1								
BLA	Blacksburg	21.62	328		eP		P	09 10 08.6	+0.1
	122nm,0.8s,mb5.4								
BLA					e			09 10 22.6	
ELN	Prospectdale	21.80	328		eP		P	09 10 10.7	+0.3
ELN					e			09 10 24.2	
SDMD	Soldier's Deli	21.93	338		eP		P	09 10 12.4	+0.6
	85nm,1.2s,mb5.0								
SDMD					e			09 10 24.9	
BRAL	Brewton	22.01	306		eP		P	09 10 13.9	+1.2
	56nm,0.9s,mb5.0								
MVL	Millersville	22.28	339		eP		P	09 10 16.4	+0.8
	241nm,2.1s,mb5.3								
TKL	Tuckaleechee C	22.36	320		P		P	09 10 17.2	+0.8
	9.7nm,1.0s,mb4.2,baz=133,slow=10,SNR=7.1								
TKL					S		S	09 14 13.2	-9.1
	5.3nm,0.4s,baz=99,slow=12,SNR=4.8								
TKL					LR		LR	09 18 30.1	
	comp=Z,1µm,20.4s,MS4.2,baz=141,slow=36								
TKL	Tuckaleechee C	22.36	320		eP		P	09 10 17.1	+0.7
TKL					e			09 10 30.7	
BRNJ	Basking Ridge	22.37	343		eP		P	09 10 18.7	+2.2
	12µm,0.5s								
BRNJ					e			09 10 30.3	
OTAV	Otavalo	22.45	213		eP		P	09 10 18.3	+0.8
	125nm,1.2s,mb5.2								
OTAV					e			09 10 33.3	
CPCT	Cooper Cave	22.68	319		eP		P	09 10 19.1	-0.7
CPCT					e			09 10 33.1	
TZTN	Tazewell	22.82	322		eP		P	09 10 21.4	0.0
	41nm,0.8s,mb4.9								
TZTN					e			09 10 37.2	
SSPA	Standing Stone	23.39	337		eP		P	09 10 28.3	+1.1
	24nm,0.9s,mb4.6								
SWET	Sewanee	23.44	316		eP		P	09 10 27.3	-0.5
	31nm,1.3s,mb4.6								
BINY	Binghamton	24.18	342		eP		P	09 10 34.6	0.0
	382nm,2.6s,mb5.4								
PLAL	Pickwick Lake	24.74	313		eP		P	09 10 39.8	-0.1
	17nm,0.9s,mb4.6								
ALLY	Alegheny Colle	25.12	335		eP		P	09 10 43.8	+0.5
	67nm,0.9s,mb5.2								
WVT	Waverly	25.22	316		eP		P	09 10 43.6	-0.7
	8.2nm,0.6s,mb4.4								
ACSO	Alum Creek Sta	25.23	329		eP		P	09 10 44.6	+0.4
	62nm,0.9s,mb5.1								
OXF	Oxford	25.42	311		eP		P	09 10 45.7	-0.4
	53nm,1.0s,mb5.0								
OXF					e			09 10 58.2	
WCI	Wyandotte Cave	25.57	321		eP		P	09 10 47.8	+0.4
	29nm,0.8s,mb4.9								
USIN	University of	26.23	319		eP		P	09 10 53.5	+0.2
	61nm,1.0s,mb5.1								
BLO	Bloomington	26.34	323		eP		P	09 10 54.7	+0.4
OLIL	Olney	26.98	320		eP		P	09 11 00.3	+0.2
	237nm,1.8s,mb5.4								
SIUC	Southern Illin	27.05	317		eP		P	09 11 00.7	-0.1
	29nm,0.9s,mb4.8								
AAM	Ann Arbor	27.16	331		eP		P	09 11 02.3	+0.6
	43nm,0.6s,mb5.2								
CCM	Cathedral Cave	28.56	316		eP		P	09 11 13.3	-1.0
	5.9nm,0.7s,mb4.4								
JFWS	Jewell Farm	30.94	325		eP		P	09 11 35.3	+0.1
	50nm,1.1s,mb5.2								
SCIA	State Center	32.01	320		eP		P	09 11 44.7	0.0
	8.0nm,0.4s,mb4.9								
JCT	Junction City	32.20	297		eP		P	09 11 45.8	-0.8
	25nm,1.0s,mb5.0								
WMOK	Wichita Mounta	32.53	305		eP		P	09 11 47.9	-1.5
	6.6nm,1.1s,mb4.5								
KSU1	Kansas State U	32.70	313		eP		P	09 11 49.3	-1.5
	15nm,0.8s,mb5.0								
CBKS	Cedar Bluff	34.76	311		eP		P	09 12 08.7	-0.1
	35nm,1.0s,mb5.2								
AMTX	Amarillo	34.84	304		eP		P	09 12 08.9	-0.6
	7.8nm,0.8s,mb4.7								
ECSD	EROS Data Cent	35.10	321		eP		P	09 12 11.2	-0.5
	87nm,1.4s,mb5.5								
TXAR	Lajitas Array	35.31	294		P		P	09 12 13.3	-0.3
	5.0nm,0.6s,mb4.6,baz=110,slow=8.2,SNR=51								
TXAR					PcP		PcP	09 14 43.3	-0.8
	0.8nm,0.7s,baz=104,slow=3.8,SNR=2.5								
TXAR	Lajitas Array	35.31	294		P		P	09 12 13.3	-0.3
TXAR					PcP		PcP	09 14 43.3	-0.8
LPAZ	La Paz	35.50	183		P		P	09 12 14.3	-0.9
	4.6nm,0.8s,mb4.5,baz=7.0,slow=7.9,SNR=12								
LPAZ	La Paz	35.50	183		eP		P	09 12 13.7	-1.6
	18nm,0.9s,mb5.0								
MNTX	Cornudas Mount	37.13	297		eP		P	09 12 28.8	-0.4
	11nm,1.1s,mb4.6								
AGMN	Agassiz Nation	37.44	327		eP		P	09 12 31.0	-0.6
	13nm,0.7s,mb4.9								
BNM	Barren Site	38.62	301		eP		P	09 12 42.7	+1.0
	7.8nm,1.0s,mb4.4								
SDCO	Great Sand Dun	38.63	307		eP		P	09 12 41.9	+0.1
	13nm,0.9s,mb4.7								
ULM	Lac du Bonnet	38.73	330		P		P	09 12 43.2	+0.8
	2.0nm,0.5s,mb4.1,baz=126,slow=11,SNR=3.0								
ULM	Lac du Bonnet	38.73	330		P		P	09 12 43.2	+0.8
ISCO	Idaho Springs	39.36	310		eP		P	09 12 48.1	+0.3
	12nm,0.9s,mb4.6								
RSSD	Black Hills	39.94	317		eP		P	09 12 52.8	+0.2
	4.3nm,1.0s,mb4.1								
SMCO	Snowmass	40.16	308		eP		P	09 12 54.4	-0.1
	8.5nm,1.1s,mb4.4								
SMCO					e			09 13 11.8	
PV01	Paradox Valley	41.07	306		eP		P	09 13 04.3	+2.2
	1µm,1.2s								
RWWY	Rawlins	41.14	312		eP		P	09 13 02.9	+0.3
	11nm,0.8s,mb4.5								
PV04	Paradox Valley	41.39	306		eP		P	09 13 04.5	-0.2
PV10	Paradox Valley	41.49	306		eP		P	09 13 05.7	+0.1
	227nm,0.9s,mb5.8								
WUAZ	Wupatki	42.71	302		eP		P	09 13 15.8	+0.3
	18nm,1.0s,mb4.8								
BW06	Boulder Array	43.15	312		eP		P	09 13 18.4	-0.5
	11nm,1.1s,mb4.5								
PDAR	Pinedale Array	43.15	312		P		P	09 13 18.9	-0.1
	3.9nm,1.0s,mb4.1,baz=117,slow=8.5,SNR=16								
PDAR					PcP		PcP	09 15 07.3	-1.2
	1.0nm,0.5s,baz=121,slow=6.6,SNR=6.1								
PDAR	Pinedale Array	43.15	312		P		P	09 13 18.9	-0.1
PDAR					PcP		PcP	09 15 07.3	-1.2
PD02	Pinedale Array	43.16	312		eP		P	09 13 18.3	-0.7
PD01	Pinedale Array	43.17	312		eP		P	09 13 19.8	+0.7
TMUT	Trail Mountain	43.36	307		eP		P	09 13 21.2	+0.4
	15nm,1.0s,mb4.7								
DAU	Daniels Canyon	43.67	309		eP		P	09 13 23.6	+0.4
RLMT	Red Lodge	43.76	316		eP		P	09 13 24.3	+0.4
	102nm,1.8s,mb5.3								
RLMT					e			09 13 38.2	
MPU	Maple Canyon	43.85	308		eP		P	09 13 25.0	+0.3
	11nm,1.0s,mb4.5								
JLU	Jordanelle	43.87	309		eP		P	09 13 24.0	-0.8
	6.4nm,0.8s,mb4.4								
LOHW	Long Hollow	44.14	313		eP		P	09 13 27.0	0.0
	30nm,1.0s,mb5.0								
SNOW	Snow King Moun	44.20	313		eP		P	09 13 28.1	+0.7
	30nm,1.1s,mb4.9								
HWUT	Hardware Ranch	44.22	310		eP		P	09 13 27.4	-0.3
	12nm,0.9s,mb4.6								
REDW	Red Top Meadow	44.23	313		eP		P	09 13 28.1	+0.4
	125nm,1.8s,mb5.3								
GCMT	Greycliff	44.27	317		eP		P	09 13 29.0	+1.0
	9.2nm,1.1s,mb4.4								
MOOW	Moose Ponds	44.28	313		eP		P	09 13 28.2	+0.2
	13nm,0.8s,mb4.7								
MOOW					e			09 13 43.2	
TPAW	Teton Pass	44.34	313		eP		P	09 13 29.2	+0.7
	22nm,1.0s,mb4.8								
FRB	Frobisher Bay	44.35	359		P		P	09 13 26.6	-1.7
	14nm,1.1s,mb4.6,baz=106,slow=7.2,SNR=6.3								
FRB	Frobisher Bay	44.35	359		P		P	09 13 26.6	-1.7
FLWY	Flagg Ranch	44.36	314		eP		P	09 13 29.3	+0.6
NOQ	North Oquirrh	44.37	309		eP		P	09 13 29.4	+0.6
	26nm,1.0s,mb4.9								
IMW	Indian Meadow	44.46	314		eP		P	09 13 29.8	+0.2
	5.9nm,0.6s,mb4.5								
RRI2	Red Ridge	44.55	313		eP		P	09 13 30.8	+0.5
	16nm,1.0s,mb4.8								
DUG	Dugway	44.77	308		eP		P	09 13 32.1	0.0
	6.7nm,0.8s,mb4.5								
QLMT	Earthquake Lak	45.10	315		eP		P	09 13 37.0	+2.4
EGMT	Eagleton	45.20	319		eP		P	09 13 36.0	+0.7
	35nm,1.4s,mb5.0								
BOZ	Bozeman (W)	45.51	316		eP		P	09 13 38.2	+0.4
	25nm,1.4s,mb5.0								
LDFC	Landfair	45.67	300		eP		P	09 13 40.6	+1.4
	19nm,0.9s,mb5.0								
HRY	Holter Researc	46.01	317		eP		P	09 13 42.2	+0.5
DLMT	Dillon	46.05	315		eP		P	09 13 42.8	+0.6
	31nm,1.1s,mb5.1								
MCMT	McKenzie Canyo	46.06	314		eP		P	09 13 43.4	+1.2
	6.7nm,0.9s,mb4.6								
LRM	Limekiln Ridge	46.11	316		eP		P	09 13 43.5	+0.9
CPUP	Villa Florida	46.27	169		P		P	09 13 39.9	-4.1
	4.0nm,0.6s,mb4.5,baz=330,slow=6.7,SNR=14								
CPUP	Villa Florida	46.27	169		eP		P	09 13 40.0	-4.0
	49nm,0.9s,mb5.4								
BAR	Barrett	46.75	297		eP		P	09 13 48.2	+0.4
HLID	Hailey	46.77	312		eP		P	09 13 48.4	+0.6
	15nm,1.0s,mb4.9								
CHMT	Chamberlain Mo	46.99	317		eP		P	09 13 50.0	+0.5
GSC	Goldstone	47.07	300		eP		P	09 13 51.4	+1.1
SLMT	Seeley Lake	47.26	317		eP		P	09 13 52.4	+0.9
SWMT	Swartz Lake	47.67	317		eP		P	09 13 55.1	+0.4
MFID	Camas Ranch	47.73	312		eP		P	09 13 54.9	-0.4
	22nm,1.0s,mb5.1								
MFID					e			09 14 09.0	
JTMT	Jette	47.93	318		eP		P	09 13 57.3	+0.6
WALA	Waterton Lakes	48.14	319		eP		P	09 13 57.8	-0.6
	0.3nm,1.1s								
BSMT	Bassoo Peak	48.28	318		eP		P	09 14 00.1	+0.6
NVAR	Mina Array Bea	48.64	304		P		P	09 14 02.7	+0.3
	4.6nm,0.9s,mb4.5,baz=103,slow=6.6,SNR=12								
NVAR	Mina Array Bea	48.64	304		P		P	09 14 02.7	+0.3
BMO	Blue Mountains	49.11	313		eP		P	09 14 05.0	-0.9
	6.1nm,0.9s,mb4.6								
WVOR	Wild Horse Val	49.54	310		eP		P	09 14 09.1	-0.1
WVOR					e			09 14 25.8	
NEW	Newport	49.90	317		eP		P	09 14 11.3	-0.6
	29nm,0.8s,mb5.4								
NEW					e			09 14 25.4	
LNOR	Lincton Mounta	50.03	314		eP		P	09 14 13.0	+0.1
OD2	Odessa Site #2	50.69	316		eP		P	09 14 17.9	0.0
HAWA	Hanford	50.99	314		eP		P	09 14 19.5	-0.7
	7.5nm,0.9s,mb4.6								
ETW	Entiat	51.81	316		eP		P	09 14 25.8	-0.5
PGC	Sidney	54.08	317		eP		P	09 14 41.7	-1.3
	0.8nm,0.8s,mb3.7								
YKA	Yellowknife Ar	54.28	335		P		P	09 14 42.0	-2.2
	1.9nm,0.4s,mb4.4,baz=108,slow=7.1,SNR=22								
YKA	Yellowknife Ar	54.28	335		P		P	09 14 42.0	-2.2
SUMG	Summit	55.52	10		eP		P	09 14 54.2	+1.1
	36nm,1.4s,mb5.2								
ESDC	Sonseca Array	56.78	55		P		P	09 15 02.2	-0.4
	1.9nm,0.7s,mb4.3,baz=275,slow=6.9,SNR=15								
ESDC					LR		LR	09 34 25.9	
	comp=Z,239nm,18.7s,MS4.3,baz=270,slow=31								
ESDC	Sonseca Array	56.78	55		P		P	09 15 02.2	-0.4
RES	Resolute Bay	57.43	351		P		P	09 15 06.1	-0.6
	2.2nm,0.8s,mb4.2,baz=122,slow=5.8,SNR=4.1								
RES	Resolute Bay	57.43	351		P		P	09 15 06.1	-0.6
EKA	Eskdalemuir Ar	59.05	36		P		P	09 15 18.8	+0.5
	1.1nm,0.7s,mb4.0,baz=284,slow=6.5,SNR=3.7								
EKA	Eskdalemuir Ar	59.05	36		P		P	09 15 18.8	+0.5
PLCA	Paso Flores	59.94	184		P		P	09 15 22.6	-1.9
	1.5nm,0.5s,mb4.3,baz=15,slow=6.3,SNR=8.5								
PLCA	Paso Flores	59.94	184		P		P	09 15 22.6	-1.9
DLBC	Dease Lake	59.96	327		LR		LR	09 39 03.3	
	comp=Z,125nm,21.2s,MS4.0,baz=120,slow=34								
DBIC	Dimbokro	60.92	93		P		P	09 15 31.8	0.0
	14nm,0.7s,mb5.2,baz=275,slow=8.0,SNR=25								
DBIC	Dimbokro	60.92	93		eP		P	09 15 31.5	-0.3
	15nm,0.7s,mb5.2								
DAG	Danmarks Havn	62.13	11		iP		P	09 15 37.6	-1.4
	5.4nm,0.9s,mb4.7								
INK	Inuvik	63.75	338		P		P	09 15 48.5	-1.4
	7.8nm,0.9s,mb4.7,baz=108,slow=7.1,SNR=21								
INK	Inuvik	63.75	338		eP		P	09 15 48.0	-1.8
	27nm,1.4s,mb5.1								
TORD	Torodi Ar. Bea	65.23	84		P		P	09 15 59.9	-0.6
	2.6nm,0.7s,mb4.4,baz=290,slow=6.5,SNR=19								
TORD					LR		LR	09 42 23.7	
	comp=Z,685nm,19.6s,MS4.8,baz=290,slow=34								
TORD	Torodi Ar. Bea	65.23	84		P		P	09 15 59.9	-0.6
DAWY	Dawson	65.34	332		eP		P	09 16 00.4	+0.1
TAM	Tamanrasset	66.51	73		eP		P	09 16 09.8	+1.2
	3.1nm,0.6s,mb4.5								
MENT	Mentasta	67.20	331		eP		P	09 16 12.9	+0.6
KEST	Kesra	67.54	59		LR		LR	09 39 56.5	
	comp=Z,97nm,18.3s,MS4.1,baz=344,slow=31								
ILAR	Eielson Array	68.63	333		P		P	09 16 20.6	-0.7
	3.6nm,0.5s,mb4.6,baz=104,slow=4.2,SNR=82								
ILAR	Eielson Array	68.63	333		P		P	09 16 20.6	-0.7
KHC	Kasperske Hory	69.05	44		eP		P	09 16 22.0	-2.1
KHC					esP		PcP	09 16 42.0	-6.2
MCK	McKinley	69.55	332		eP		P	09 16 26.0	-0.9
	16nm,1.2s,mb4.8								
SPITS	Spitsbergen Ar	69.66	13		P		P	09 16 27.4	-0.1
	5.1nm,0.9s,mb4.5,baz=323,slow=8.1,SNR=3.7								
SPITS	Spitsbergen Ar	69.66	13		P		P	09 16 27.4	-0.1
COLD	Coldfoot	69.94	336		eP		P	09 16 28.5	-0.8
	6.6nm,1.1s,mb4.5								
TRF	Thorofare Moun	70.17	332		eP		P	09 16 30.6	-0.1
	20nm,0.9s,mb5.0								
BPAW	Bear Paw Mtn.	70.43	332		eP		P	09 16 31.2	-1.2
	13nm,0.7s,mb5.0								
ARCES	ARCESS Array B	72.64	22		P		P	09 16 45.3	-0.4
	4.2nm,0.8s,mb4.4,baz=270,slow=2.4,SNR=9.6								
ARCES	ARCESS Array B	72.64	22		P		P	09 16 45.3	-0.3
FINES	FINESS Array B	74.31	30		P		P	09 16 55.9	+0.3
	1.9nm,0.7s,mb4.1,baz=272,slow=5.5,SNR=3.6								
FINES	FINESS Array B	74.31	30		P		P	09 16 55.9	+0.3
AKASG	Malin Array Be	78.66	40		P		P	09 17 19.3	-1.1
	1.9nm,0.8s,mb4.1,baz=277,slow=4.5,SNR=6.5								
AKASG	Malin Array Be	78.66	40		P		P	09 17 19.3	-1.1
BILL	Bilibino	84.84	343		eP		P	09 17 52.6	-0.1
	20nm,1.4s,mb5.1								
WMQ	Urumqi	112.74	20		PKP		PKiKP	09 23 54.1	-1.2
WMQ					PKS			09 27 29.6	
WMQ					AMB		AMB		
	comp=Z,43nm,10.6s								
WMQ					LR		LR		
	comp=N,470nm,17.8s								
WMQ					LR		LR		
	comp=E,750nm,24.1s								
WMQ					LR		LR		
	comp=Z,950nm,21.8s,MS5.3								
HHC	Hu-ho-hao-te	120.04	2		ePKP		PKPdf	09 24 03.0	-6.5
HHC					PKS			09 27 38.6	
HHC					AMB		AMB		
	comp=Z,100nm,4.8s								
HHC					LR		LR		
	comp=N,200nm,20.2s,MS4.9								
HHC					LR		LR		
	comp=E,150nm,17.8s,MS4.9								
HHC					LR		LR		
	comp=Z,270nm,17.8s,MS4.9								
BJI	Beijing	120.84	358		PKP		PKPdf	09 24 05.0	-6.0
LZH	Lanzhou	124.05	10		ePKP		PKPdf	09 24 12.3	-5.0
CD2	Chengdu	129.09	11		PKP		PKPdf	09 24 26.8	-0.3
CD2					PKS			09 28 01.8	
CD2					AMB		AMB		
	comp=Z,130nm,6.5s								
CD2					LR		LR		
	comp=N,980nm,6.0s								
CD2					LR		LR		
	comp=Z,330nm,8.9s								
GYA	Guiyang	133.92	9		ePdif		Pdif	09 21 28.8	-5.6
GYA					PKP		PKPdf	09 24 30.6	-5.7
GYA					sPKP			09 24 50.0	
GYA					PP		PP	09 27 02.6	-1.8
GYA					AMB		AMB		
	comp=Z,90nm,7.8s								
CTA	Charters Tower	149.36	263		PKPbc		PKPbc	09 25 08.2	0.0
	comp=Z,8.2nm,1.1s,baz=333,slow=2.3,SNR=3.0								
CTA	Charters Tower	149.36	263		PKPbc		PKPbc	09 25 08.2	0.0
COEN	Coen	151.26	276		ePKPbc		PKPbc	09 25 12.9	0.0
STKA	Stephens Creek	152.02	238		PKPbc		PKPbc	09 25 12.2	-2.0
	comp=Z,3.1nm,0.5s,baz=81,slow=2.5,SNR=13								
STKA	Stephens Creek	152.02	238		PKPbc		PKPbc	09 25 12.2	-2.0
ASAR	Alice Springs	160.72	254		PKP		PKPdf	09 25 18.9	-0.2
	comp=Z,1.2nm,1.0s,baz=84,slow=1.3,SNR=4.1								
ASAR					PKPab		PKPab	09 26 00.2	-0.9
	comp=Z,1.2nm,0.6s,baz=105,slow=4.5,SNR=15								
ASAR	Alice Springs	160.72	254		PKP		PKPdf	09 25 18.9	-0.2
ASAR					PKPab		PKPab	09 26 00.2	-0.9

NOU ***23*** *09:12:02.6±0.6, 19.°19S×170.°27E, h30km, MD3.5, ML3.7, MS2.1*

ISCJB ***23*** *09:12:04.2±1.1, 22.°62S±0.°06×171.°22E±0.°06, h60km±9km, mb4.7/31, Error ellipse: s-maj=11.0km s-min=7.9km az=24.4*

NEIC ***23*** *09:12:06.3±0.4, 22.°53S×171.°26E, mb4.8/16, Error ellipse: s-maj=10.0km s-min=8.2km az=54.0*

BJI ***23*** *09:12:08.9, 22.°50S×171.°30E, h89km, mB5.0/12, mb4.7/19, Ms5.1/9, Ms7 4.7/9*

IDC ***23*** *09:12:09.2±5.7, 22.°58S×171.°27E, h91km±48km, mb4.2/16, mb1 4.4/17, mb1mx4.2/23, mbtmp4.2/17, MS4.2/4, Ms1 4.2/4, ms1mx3.6/32, Error ellipse: s-maj=24.1km s-min=14.4km az=55.0*

ISC 23 09:12:06.1±1.0, 22.°60S±0.°06×171.°23E±0.°05, h60km±8km, h77km±7.0km; pP-P, n86, σ1°23/74, mb4.7/31, 2C-1D,
Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BAYA	Yate Dam	4.04	275	eP		Pn	09 13 05.0	-0.4
BAYA				eS		Sn	09 13 51.8	+0.3
BAYA				AMP			09 13 57.3	
	comp=Z,101nm,3.5s							
NORM	Noumea	4.40	274	eP		Pn	09 13 10.0	-0.4
NORM				eS		Sn	09 13 59.0	-1.4
NORM				AMP			09 14 03.8	
	comp=Z,1µm,1.5s							
MVNO	Noumea	4.44	273	eP		Pn	09 13 10.5	-0.3
MVNO				eS		Sn	09 14 01.1	-0.1
MVNO				AMP			09 14 05.0	
	comp=Z,57nm,10.7s							
MSVF	Nonsavu	8.03	54	eP	n	Pn	09 14 01.0	+0.9
URZ	Urewera	16.41	163	P	

QSPA	**South Pole Qui**	**67.47**	**180**	P		**P**	**09 22 55.4**	**+0.4**
	comp=Z,15nm,0.7s,mb5.2,baz=18,slow=1.9,SNR=40							
QSPA	**South Pole Qui**	**67.47**	**180**	P		**P**	**09 22 55.4**	**+0.4**
MAW	**Mawson**	**76.03**	**202**	P		**P**	**09 23 45.6**	**-0.9**
	comp=Z,6.5nm,0.8s,mb4.6,baz=146,slow=11,SNR=7.5							
MAW	**Mawson**	**76.03**	**202**	P		**P**	**09 23 45.6**	**-0.9**
CN2	**Changchun**	**78.28**	**328**	*e*P		**P**	**09 24 03.8**	**+4.5**
CN2				*e*sP		sP	09 24 37.5	+15
CN2				*e*S		S	09 33 55.1	+5.4
CN2				pmax		pmax		
	comp=Z,10.0nm,0.8s,mb4.8							
CN2				pmax		pmax		
	comp=Z,200nm,3.0s							
CN2				LR		LR		
	comp=N,300nm,13.0s							
CN2				LR		LR		
	comp=E,200nm,13.0s							
CN2				LR		LR		
	comp=Z,300nm,17.0s							
GYA	**Guiyang**	**79.25**	**305**	P		**P**	**09 24 05.9**	**+0.8**
GYA				pP		pP	09 24 29.8	+7.9
GYA				sP		sP	09 24 41.0	+12
GYA				PP		PP	09 27 08.6	+2.9
GYA				S		S	09 33 58.3	-2.5
GYA				SKS			09 34 08.5	
GYA				SS		SS	09 39 09.8	+0.8
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.7							
GYA				pmax		pmax		
	comp=Z,110nm,5.5s							
GYA				LR		LR		
	comp=N,440nm,19.4s							
GYA				LR		LR		
	comp=E,350nm,20.0s							
GYA				LR		LR		
	comp=Z,410nm,18.3s							
CMAR	**Chiang Mai Arr**	**81.56**	**294**	P		**P**	**09 24 18.9**	**+1.2**
	comp=Z,1.3nm,0.4s,mb4.2,baz=132,slow=3.5,SNR=12							
CMAR	**Chiang Mai Arr**	**81.56**	**294**	P		**P**	**09 24 18.9**	**+1.2**
KMI	**Kunming**	**81.61**	**302**	P		**P**	**09 24 21.1**	**+3.3**
KMI				pP		pP	09 24 42.8	+8.1
KMI				sP		sP	09 24 52.1	+11
KMI				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.8							
SYO	**Syowa Base**	**82.23**	**196**⇓	*e*P		**P**	**09 24 18.4**	**-1.9**
CD2	**Chengdu**	**83.74**	**307**	P		**P**	**09 24 28.3**	**-0.4**
CD2				pP		pP	09 24 53.8	+8.1
CD2				sP		sP	09 25 04.5	+12
CD2				PP		PP	09 27 44.6	+1.9
CD2				SKS			09 34 38.5	
CD2				S		S	09 34 42.4	-4.6
CD2				sS		sS	09 35 26.3	+11
CD2				SS		SS	09 40 13.8	-2.0
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s,mb5.2							
CD2				pmax		pmax		
	comp=Z,100nm,5.3s							
CD2				LR		LR		
	comp=N,550nm,20.2s							
CD2				LR		LR		
	comp=Z,640nm,21.6s							
HHC	**Hu-ho-hao-te**	**83.96**	**319**	*e*P		**P**	**09 24 28.0**	**-1.6**
HHC				PP		PP	09 27 42.9	-1.4
HHC				S		S	09 34 48.0	-0.8
HHC				SS		SS	09 40 19.4	+0.7
HHC				pmax		pmax		
	comp=Z,13nm,1.0s,mb5.0							
HHC				pmax		pmax		
	comp=Z,120nm,6.4s							
HHC				LR		LR		
	comp=N,280nm,16.3s							
HHC				LR		LR		
	comp=E,340nm,16.7s							
HHC				LR		LR		
	comp=Z,260nm,14.6s							
SNAA	**Sanae**	**85.89**	**182**	*e*		**P**	**09 24 33.7**	**-5.2**
SNAA	**Sanae**	**85.89**	**182**	P		**P**	**09 24 37.7**	**-1.2**
	comp=Z,2.4nm,0.8s,mb4.5,baz=198,slow=4.5,SNR=23							
SNAA	**Sanae**	**85.89**	**182**	P		**P**	**09 24 37.7**	**-1.2**
LZH	**Lanzhou**	**86.34**	**311**	*e*P		**P**	**09 24 42.5**	**+0.9**
LZH				pP		pP	09 25 08.3	+10
LZH				sP		sP	09 25 17.8	+13
LZH				pmax		pmax		
	comp=Z,19nm,1.2s,mb5.2							
VNA3	**Neumayer Olymp**	**86.41**	**180**	*e*		**P**	**09 24 37.6**	**-3.9**
VNA2	**Neumayer--Watz**	**86.73**	**180**	*e*		**P**	**09 24 39.6**	**-3.4**
	baz=201,slow=2.7							
VNA1	**Neumayer--Stat**	**87.01**	**180**	*e*		**P**	**09 24 40.6**	**-3.8**
NVAR	**Mina Array Bea**	**89.65**	**48**	P		**P**	**09 24 56.7**	**-0.7**
	comp=Z,1.9nm,0.7s,mb4.5,baz=226,slow=8.2,SNR=16							
NVAR	**Mina Array Bea**	**89.65**	**48**	P		**P**	**09 24 56.7**	**-0.7**
SONM	**Songino Array**	**91.00**	**322**	P		**P**	**09 25 02.5**	**-0.9**
	comp=Z,1.0nm,1.0s,mb4.1,baz=83,slow=4.6,SNR=4.8							
SONM	**Songino Array**	**91.00**	**322**	P		**P**	**09 25 02.5**	**-0.9**
ILAR	**Eielson Array**	**92.89**	**17**	P		**P**	**09 25 12.6**	**+0.8**
	comp=Z,0.4nm,0.7s,mb4.0,baz=230,slow=4.8,SNR=6.0							
ILAR				pP		pP	09 25 30.4	+1.6
	comp=Z,0.7nm,0.9s,baz=241,slow=4.7,SNR=2.9							
ILAR	**Eielson Array**	**92.89**	**17**	P		**P**	**09 25 12.6**	**+0.8**
ILAR				pP		pP	09 25 30.4	+1.6
WMQ	**Urumqi**	**100.85**	**313**	P		Pdif	09 25 47.9	-0.4
WMQ				pmax		pmax		
	comp=Z,52nm,10.6s							
WMQ				LR		LR		
	comp=N,410nm,24.1s							
WMQ				LR		LR		
	comp=E,840nm,24.1s							
WMQ				LR		LR		
	comp=Z,970nm,22.8s							
ARCES	**ARCESS Array B**	**128.77**	**345**	PKP		PKPdf	09 31 05.5	-0.3
	comp=Z,1.9nm,0.7s,baz=46,slow=3.5,SNR=4.2							
ARCES	**ARCESS Array B**	**128.77**	**345**	PKP		PKPdf	09 31 05.5	-0.3
KSP	**Ksiaz**	**145.71**	**332**	*e*PKP		PKPdf	09 31 37.6	+0.2
BRG	**Berggiesshubel**	**146.69**	**334**	*e*PKP		PKPab	09 31 44.7	+2.6
	comp=Z,6.8nm,1.2s							
CLL	**Collm**	**146.73**	**335**	*e*PKPbc		PKPbc	09 31 40.0	-0.9
CLL				*ep*PKPbc		pPKPbc	09 31 59.0	+0.5
CLL				*es*PKiKP			09 32 08.0	
KHC	**Kasperske Hory**	**148.16**	**332**⇑	*e*PKP		PKPbc	09 31 44.0	-0.9
GERES	**GERESS Array B**	**148.31**	**331**	PKPbc		PKPbc	09 31 44.0	-1.3
	comp=Z,1.4nm,0.7s,baz=36,slow=2.5,SNR=6.6							
GERES	**GERESS Array B**	**148.31**	**331**	PKPbc		PKPbc	09 31 44.0	-1.3
LPL	**La Plagne**	**153.87**	**335**	*e*PKP1		PKPab	09 32 07.2	-4.5
LPG	**La Plagne**	**153.88**	**335**	*e*PKP1		PKPab	09 32 07.6	-4.1
	comp=Z,12nm,1.0s							
TORD	**Torodi Ar. Bea**	**166.31**	**228**	PKP		PKPdf	09 32 04.5	-0.7
	comp=Z,1.9nm,0.9s,baz=292,slow=0.6,SNR=10							
TORD				PKPab		PKPab	09 33 06.8	+0.2
	comp=Z,3.0nm,0.8s,baz=108,slow=5.1,SNR=13							
TORD	**Torodi Ar. Bea**	**166.31**	**228**	PKP		PKPdf	09 32 04.5	-0.7
TORD				PKPab		PKPab	09 33 06.8	+0.2

IDC ***23*** *09:12:37.1±2.4, 39˚.45N×141˚.37E, h0km, mb3.9/3, mb1 3.8/4, mb1mx3.5/25, mbtmp3.7/4, ML2.9/1, Error ellipse: s-maj=55.0km s-min=32.7km az=138.0*
ISCJB ***23*** *09:12:41.6±0.7, 38˚.81N±0˚.04×141˚.63E±0˚.09, h75km±5km, mb3.6/3, Error ellipse: s-maj=12.2km s-min=5.7km az=23.5*
JMA ***23*** *09:12:42.8, 38˚.81N×141˚.57E, h70km±1km, M3.4*
JMA Felt II J1.

ISC 23 09:12:42.5±0.7, 38˚.81N±0˚.04×141˚.63E±0˚.09, h70km±5km, n15, σ 56/25, mb3.6/3, 9C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.28**	**7**	**⇑P**		**Pn**		**09 12 53.8**	**+0.3**
OFUJ				S		**Sn**		**09 13 01.7**	**+0.1**
JMK	**Ichinoseki**	**0.35**	**295**	**⇑P**		**Pn**		**09 12 53.8**	**-0.2**
JMK				S		**Sn**		**09 13 01.9**	**-0.6**
JOM	**Ohasama**	**0.71**	**339**	**⇑P**		**Pn**		**09 12 57.6**	**0.0**
JOM				S		**Sn**		**09 13 08.5**	**-0.2**
JOU	**Okura**	**0.88**	**240**	**⇑P**		**Pn**		**09 12 59.4**	**0.0**
JOU				S		**Sn**		**09 13 12.2**	**+0.2**
JYK	**Kaneyama**	**1.00**	**277**	**⇑P**		**Pn**		**09 13 00.8**	**-0.1**
JYK				S		**Sn**		**09 13 14.4**	**-0.3**
JMM	**Marumori**	**1.15**	**215**	**⇑P**		**Pn**		**09 13 02.4**	**-0.4**
JMM				S		**Sn**		**09 13 17.0**	**-1.0**
JYS	**Shirataka**	**1.36**	**245**	**⇑P**		**Pn**		**09 13 05.8**	**+0.2**
JYS				S		**Sn**		**09 13 23.0**	**+0.1**
JYA	**Atsumi**	**1.51**	**263**	**⇑P**		**Pn**		**09 13 07.6**	**0.0**
JYA				S		**Sn**		**09 13 27.0**	**+0.4**
JFK	**Kawauchi**	**1.56**	**203**	P		**Pn**		**09 13 08.5**	**+0.3**
JFK				S		**Sn**		**09 13 27.4**	**-0.2**
JANG	**Nango**	**1.57**	**357**	**⇑P**		**Pn**		**09 13 08.3**	**0.0**
JANG				S		**Sn**		**09 13 27.9**	**+0.1**
JAH	**Hinai**	**1.58**	**331**	P		**Pn**		**09 13 09.2**	**+0.7**
MJAR	**Matsushiro Arr**	**3.53**	**231**	Pn		**Pn**		**09 13 37.3**	**+2.4**
	0.9nm,0.3s,baz=40,slow=11,SNR=22								
MKAR	**Makanchi Array**	**43.34**	**301**	P		**P**		**09 20 36.9**	**-0.6**
	0.9nm,0.7s,mb3.6,baz=82,slow=9.9,SNR=6.4								
KURK	**Kurchatov**	**44.99**	**307**	P		**P**		**09 20 49.8**	**-0.7**
	1.4nm,0.5s,mb4.0,baz=84,slow=8.4,SNR=8.4								
ILAR	**Eielson Array**	**47.91**	**33**	P		**P**		**09 21 13.4**	**+0.1**
	0.5nm,1.0s,mb3.3,baz=272,slow=6.8,SNR=3.6								

IDC ***23*** *09:16:49.0±2.1, 28˚.10N×140˚.47E, h87km±20km, mb3.6/6, mb1 3.7/8, mb1mx3.4/25, mbtmp3.5/8, Error ellipse: s-maj=36.7km s-min=14.2km az=58.0*
NEIC ***23*** *09:16:50.7±1.1, 28˚.33N×140˚.78E, h94km±10km, mb4.4/2, Error ellipse: s-maj=31.4km s-min=9.9km az=69.0*
ISCJB ***23*** *09:16:51.1±0.5, 28˚.48N±0˚.05×141˚.3E±0˚.2, h119km±7km, mb4.0/8, Error ellipse: s-maj=32.4km s-min=4.5km az=166.1*
JMA ***23*** *09:16:51.9, 28˚.49N×141˚.46E, h119km, M3.8*

ISC 23 09:16:52.1±0.5, 28˚.42N±0˚.06×141˚.2E±0˚.2, h111km±7km, n36, σ 16/49, mb4.0/8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.60**	**146**	P		**Pn**		**09 17 19.9**	**-0.3**
	131nm,0.3s,baz=310,slow=3.5,SNR=70								
CBIJ				S		**Sn**		**09 17 41.5**	**0.0**
	82nm,0.3s,baz=292,slow=19,SNR=13								
CBIJ	**Chichi jima**	**1.60**	**146**	P		**Pn**		**09 17 19.9**	**-0.3**
CBIJ				S		**Sn**		**09 17 41.5**	**0.0**
CBIJ	**Chichi jima**	**1.60**	**146**	P		**Pn**		**09 17 19.9**	**-0.3**
CBIJ				S		**Sn**		**09 17 41.3**	**-0.2**
JHHJ	**Haha-jima-NKT**	**2.00**	**153**	P		**Pn**		**09 17 25.1**	**-0.1**
JHHJ				S		**Sn**		**09 17 50.1**	**-0.3**
JHJ2	**Mitsune**	**4.82**	**346**	P		**Pn**		**09 18 04.1**	**+1.6**
JHJ2				*e*S		**Sn**		**09 18 57.9**	**+0.7**
JHJ	**Hachijo jima 2**	**4.83**	**346**	P		**Pn**		**09 18 01.6**	**-1.0**
	4.2nm,0.3s,baz=105,slow=19,SNR=8.6								
BSO1	**Boso 1**	**6.21**	**359**	P		**Pn**		**09 18 22.0**	**+0.6**
BSO1				*e*S		**Sn**		**09 19 29.2**	**-1.8**
JIM2	**Oshima 3**	**6.45**	**347**	P		**Pn**		**09 18 26.7**	**+2.2**
JIM2				*e*S		**Sn**		**09 19 37.9**	**+1.2**
BSO4	**Boso 4**	**6.59**	**354**	P		**Pn**		**09 18 27.4**	**+1.0**
BSO4				*e*S		**Sn**		**09 19 39.4**	**-0.6**
JYO	**Yokosk**	**6.90**	**350**	P		**Pn**		**09 18 31.5**	**+0.8**
JYO				*e*S		**Sn**		**09 19 48.3**	**+0.7**
JOD2	**Odawara 2**	**7.05**	**346**	P		**Pn**		**09 18 33.6**	**+1.0**
JOD2				*e*S		**Sn**		**09 19 52.2**	**+1.0**
JHU	**Hanno**	**7.58**	**348**	P		**Pn**		**09 18 39.2**	**-0.6**
JHU				*e*S		**Sn**		**09 20 00.7**	**-3.4**
JRY	**Ryogami san**	**7.81**	**346**	P		**Pn**		**09 18 42.9**	**-0.1**
JRY				*e*S		**Sn**		**09 20 08.0**	**-1.8**
JAG	**Ashikaga**	**8.11**	**350**	P		**Pn**		**09 18 48.1**	**+1.0**
JAG				*e*S		**Sn**		**09 20 15.9**	**-1.1**
JHO	**Hitachi**	**8.18**	**357**	P		**Pn**		**09 18 46.0**	**-2.0**
JHO				*e*S		**Sn**		**09 20 12.0**	**-6.7**
MJAR	**Matsushiro Arr**	**8.47**	**344**	P		**Pn**		**09 18 49.8**	**-2.2**
	0.2nm,0.3s,baz=139,slow=12,SNR=3.3								
MJAR	**Matsushiro Arr**	**8.47**	**344**	P		**Pn**		**09 18 49.8**	**-2.2**
MAJO	**Matsushiro**	**8.47**	**344**	*e*Pn		**Pn**		**09 18 51.4**	**-0.6**
JFK	**Kawauchi**	**8.92**	**358**	*e*S		**Sn**		**09 20 31.1**	**-5.6**
JMK	**Ichinoseki**	**10.50**	**0**	P		**Pn**		**09 19 20.9**	**+1.4**
JMK				*e*S		**Sn**		**09 21 10.8**	**-4.3**
CTAO	**Charters Tower**	**48.47**	**174**	*e*P		**P**		**09 25 21.9**	**-1.7**
	7.7nm,0.8s,mb4.6								
WRAB	**Tennant Creek**	**48.52**	**189**	*e*P		**P**		**09 25 24.4**	**+0.5**
	2.2nm,0.8s,mb4.1								
WRA	**Warramunga Arr**	**48.53**	**189**	P		**P**		**09 25 18.8**	**-5.2**
	0.5nm,1.0s,mb3.4,baz=12,slow=8.6,SNR=5.0								
WRA	**Warramunga Arr**	**48.53**	**189**	P		**P**		**09 25 18.8**	**-5.2**
BVAR	**Borovoye Array**	**56.46**	**317**	P		**P**		**09 26 20.9**	**-1.3**
	0.6nm,0.4s,mb3.9,baz=92,slow=7.4,SNR=4.0								
BVAR	**Borovoye Array**	**56.46**	**317**	P		**P**		**09 26 20.9**	**-1.3**
ILAR	**Eielson Array**	**56.99**	**29**	P		**P**		**09 26 27.4**	**+1.6**
	0.9nm,1.1s,mb3.7,baz=261,slow=6.4,SNR=2.9								
ILAR	**Eielson Array**	**56.99**	**29**	P		**P**		**09 26 27.4**	**+1.6**
ARCES	**ARCESS Array B**	**72.00**	**341**	P		**P**		**09 28 03.9**	**+0.6**
	2.9nm,0.9s,mb4.1,baz=40,slow=9.6,SNR=8.3								
ARCES	**ARCESS Array B**	**72.00**	**341**	P		**P**		**09 28 03.9**	**+0.6**
FINES	**FINESS Array B**	**76.36**	**333**	P		**P**		**09 28 28.8**	**0.0**
	2.7nm,0.9s,mb4.0,baz=52,slow=5.4,SNR=5.8								
FINES	**FINESS Array B**	**76.36**	**333**	P		**P**		**09 28 28.8**	**0.0**
NOA	**NORSAR Array B**	**82.05**	**338**	P		**P**		**09 29 00.1**	**+0.3**
	1.1nm,0.8s,mb3.8,baz=54,slow=6.6,SNR=3.3								
NOA	**NORSAR Array B**	**82.05**	**338**	P		**P**		**09 29 00.1**	**+0.3**
LPAZ	**La Paz**	**150.42**	**72**	PKPbc		PKPbc		**09 36 34.4**	**+3.1**
	0.4nm,0.3s,baz=270,slow=3.0,SNR=4.9								
LPAZ	**La Paz**	**150.42**	**72**	PKPbc		PKPbc		09 36 34.4	+3.1

IDC 23 09:24:48.9±12.0, 6˚.24N×93˚.59E, h0km, mb3.3/2, mb1 3.8/3, mb1mx3.3/25, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=298.4km s-min=47.4km az=87.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.22**	**23**	Pn		Pn		09 27 58.2	+0.1
	0.2nm,0.3s,baz=214,slow=14,SNR=7.0								
WRA	**Warramunga Arr**	**47.78**	**124**	P		P		09 33 28.2	-0.2
	0.5nm,0.8s,baz=304,slow=8.7,SNR=3.4								
ASAR	**Alice Springs**	**49.31**	**129**	P		P		09 33 40.2	+0.1
	0.2nm,0.7s,baz=305,slow=8.0,SNR=4.4								

IDC ***23*** *09:34:22.4±1.9, 18˚.31N×106˚.53W, h0km, mb3.6/4, mb1 4.0/8, mb1mx3.9/24, mbtmp3.7/8, ML3.6/4, MS3.8/3, Ms1 3.8/3, ms1mx3.5/28, Error ellipse: s-maj=49.0km s-min=21.2km az=50.0*
ISCJB ***23*** *09:34:28.3±1.6, 18˚.50N±0˚.05×105˚.94W±0˚.04, h18km±13km, mb4.3/25, MS4.2/2, Error ellipse: s-maj=9.7km s-min=4.0km az=27.8*
MEX ***23*** *09:34:31.8±1.2, 18˚.60N×106˚.01W, h39km±507km, MD4.5*
NEIC ***23*** *09:34:31.3±0.9, 18˚.37N×106˚.13W, h35km, mb4.3/39, Error ellipse: s-maj=14.7km s-min=8.3km az=29.0*
BJI ***23*** *09:34:31.3, 18˚.50N×106˚.20W, h35km, Ms7 4.6/1*

ISC 23 09:34:31.7±1.6, 18˚.56N±0˚.05×105˚.92W±0˚.04, h27km±13km, n93, σ 1˚.28/99, mb4.3/25, MS4.2/2, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
R15V		**1.93**	**71**	*e*P		**Pn**		**09 35 01.2**	**-1.6**
R15V				*i* S		**Sn**		**09 35 25.6**	**-0.6**
EZ5V		**2.37**	**67**	*e*P		**Pn**		**09 35 08.8**	**-0.1**
EZ5V				*i* S		**Sn**		**09 35 35.8**	**-1.4**
MMIG	**Aquila**	**2.46**	**96**	*i* P		**Pn**		**09 35 09.6**	**-0.5**
MMIG				*i* S		**Sn**		**09 35 37.7**	**-1.5**
ANIG	**Ahuacatlan**	**2.81**	**28**	*i* P		**Pn**		**09 35 13.1**	**-1.8**
ANIG				*i* S		**Sn**		**09 35 46.0**	**-2.0**
SFJM	**Santa Fe**	**3.32**	**54**	*i* P		**Pn**		**09 35 22.0**	**0.0**
ZIIG	**Zihuatanejo**	**4.34**	**102**	*i* P		**Pn**		**09 35 35.7**	**-0.2**
ZIIG				*i* S		**Sn**		**09 36 25.5**	**-0.1**
MOIG	**Morelia**	**4.61**	**75**	*i* P		**Pn**		**09 35 36.7**	**-3.0**
MOIG				*i* S		**Sn**		**09 36 27.9**	**-4.4**
MAIG	**Mazatlaan**	**4.63**	**354**	*i* P		**Pn**		**09 35 35.7**	**-4.3**
MAIG				*i* S		**Sn**		**09 36 25.5**	**-7.4**
CAIG	**El Cayaco**	**5.59**	**105**	*i* P		**Pn**		**09 35 52.5**	**-0.6**
CAIG				*i* S		**Sn**		**09 36 56.2**	**-0.2**
MEIG	**Mezcala**	**6.02**	**95**	*i* P		**Pn**		**09 35 59.3**	**+0.3**
MEIG				*i* S		**Sn**		**09 37 07.4**	**+0.4**
MZVM		**6.36**	**83**	*e*P		**Pn**		**09 36 03.6**	**-0.2**
PTVM	**Pico Tres Padr**	**6.52**	**80**	*e*P		**Pn**		**09 36 06.7**	**+0.8**
LPIG	**La Paz**	**6.87**	**324**	*i* P		**Pn**		**09 36 08.9**	**-1.9**
LPIG				*i* S		**Sn**		**09 37 24.2**	**-3.9**
PNIG	**Pinotepa**	**7.74**	**105**	*e*P		**Pn**		**09 36 22.9**	**+0.2**
UTMO	**Huajuapan**	**7.75**	**94**	*i* P		**Pn**		**09 36 23.6**	**+0.9**
TPIG	**Tehuac#an**	**8.12**	**90**	*i* P		**Pn**		**09 36 28.8**	**+0.9**
LNIG	**Linares**	**8.70**	**42**	*i* P		**Pn**		**09 36 37.0**	**+1.1**
LNIG				*i* S		**Sn**		**09 38 19.2**	**+6.0**
VHO	**Vista Hermosa**	**8.87**	**98**	*e*P		**Pn**		**09 36 38.9**	**+0.7**
HUIG	**Huatulco**	**9.78**	**105**	*e*P		**Pn**		**09 36 55.1**	**+4.5**
SRIG	**Santa Rosalia**	**10.49**	**327**	*i* P		**Pn**		**09 36 57.6**	**-2.7**
CMIG	**Matias Romero**	**10.61**	**96**	Pn		**Pn**		**09 37 04.4**	**+2.3**
	1.5nm,0.3s,baz=276,slow=9.2,SNR=25								
CMIG				LR		LR		09 41 18.3	
	comp=Z,318nm,21.8s,baz=67,slow=37								
CMIG	**Matias Romero**	**10.61**	**96**	Pn		**Pn**		**09 37 04.4**	**+2.3**
CMIG	**Matias Romero**	**10.61**	**96**	*i* P		**Pn**		**09 37 05.0**	**+2.9**
TXAR	**Lajitas Array**	**10.93**	**10**	Pn		**Pn**		**09 37 05.7**	**-0.6**
	0.1nm,0.3s,baz=190,slow=17,SNR=6.8								
TXAR	**Lajitas Array**	**10.93**	**10**	Pn		**Pn**		**09 37 05.7**	**-0.6**
HSIG		**11.39**	**337**	*e*P		**Pn**		**09 37 10.5**	**-2.1**
CGIG		**11.91**	**351**	*e*P		**Pn**		**09 37 18.4**	**-1.3**
TGIG		**12.32**	**96**	*e*P		**Pn**		**09 37 29.1**	**+3.6**
PCIG		**12.46**	**101**	*e*P		**Pn**		**09 37 26.1**	**-1.3**
MNTX	**Cornudas Mount**	**13.10**	**2**	*e*Pn		**Pn**		**09 37 32.7**	**+1.2**
	4.4nm,1.1s								
JCT	**Junction City**	**13.11**	**24**	*e*Pn		**Pn**		**09 37 38.5**	**+2.4**
TUC	**Tucson**	**14.38**	**343**	*e*Pn		**Pn**		**09 37 52.0**	**-1.6**
BNM	**Barren Site**	**15.54**	**358**	*e*P		**Pn**		**09 38 11.0**	**+2.0**
	3.1nm,1.4s								
LAZ	**Ladron**	**15.82**	**356**	*e*P		**Pn**		**09 38 14.7**	**+2.1**
	3.7nm,1.1s								
ANMO	**Albuquerque**	**16.34**	**358**	Pn		**Pn**		**09 38 17.6**	**-1.7**
	0.1nm,0.3s,baz=180,slow=20,SNR=2.2								
ANMO	**Albuquerque**	**16.34**	**358**	*e*P		**Pn**		**09 38 20.3**	**+1.0**
	10nm,1.5s								
NATX	**Nacogdoches**	**16.62**	**36**	*e*P		**Pn**		**09 38 26.6**	**+3.8**
	83nm,1.1s								
AMTX	**Amarillo**	**16.69**	**12**	*e*P		**Pn**		**09 38 23.4**	**-0.4**
TEIG	**Tepich**	**16.73**	**81**	P		**Pn**		**09 38 24.6**	**+0.4**
	0.6nm,0.3s,baz=275,slow=12,SNR=4.2								
TEIG				LR		LR		09 44 33.4	
	comp=Z,353nm,18.8s,baz=160,slow=35								
TEIG	**Tepich**	**16.73**	**81**	P		**Pn**		**09 38 24.6**	**+0.4**
WMOK	**Wichita Mounta**	**17.32**	**20**	*e*P		**Pn**		**09 38 34.3**	**+2.7**
	40nm,1.7s								
WUAZ	**Wupatki**	**17.57**	**345**	*e*P		**Pn**		**09 38 36.0**	**+1.2**
	59nm,1.9s								
LDFC	**Landfair**	**18.37**	**335**	*e*P		**Pn**		**09 38 44.3**	**-0.3**
	28nm,1.2s								
MVCO	**Mesa Verde**	**18.72**	**354**	*e*P		**Pn**		**09 38 48.7**	**-0.1**
	14nm,1.3s								
SDCO	**Great Sand Dun**	**19.12**	**1**	*e*P		**Pn**		**09 38 55.7**	**+2.1**
	4.0nm,1.0s								
GSC	**Goldstone**	**19.27**	**332**	*e*P		**Pn**		**09 38 52.8**	**-2.7**
	6.6nm,1.2s								
MIAR	**Mount Ida**	**19.35**	**32**	*e*P		**Pn**		**09 38 55.7**	**-0.7**
	17nm,1.4s								
PV04	**Paradox Valley**	**19.94**	**353**	*e*P		**Pn**		**09 39 02.9**	**-0.4**
CCUT	**Cedar City**	**20.02**	**342**	*e*P		**P**		**09 39 02.2**	**-0.2**
	6.0nm,1.1s								
ARUT	**Antelope Range**	**20.26**	**343**	*e*P		**P**		**09 39 04.6**	**-0.5**
	7.4nm,0.9s								
ISA	**Isabella**	**20.35**	**329**	*e*P		**P**		**09 39 06.1**	**+0.1**
	52nm,2.3s								
SMCO	**Snowmass**	**20.57**	**358**	*e*P		**P**		**09 39 09.4**	**+1.0**
	8.3nm,1.3s								
MSU	**Marysvale**	**20.62**	**346**	*e*P		**P**		**09 39 09.1**	**+0.2**
SRU	**San Rafael**	**20.87**	**350**	*e*P		**P**		**09 39 10.5**	**-1.2**
	8.3nm,1.1s								
CBKS	**Cedar Bluff**	**20.89**	**14**	*e*P		**P**		**09 39 12.1**	**+0.2**
	43nm,1.3s								
TMUT	**Trail Mountain**	**21.17**	**349**	*e*P		**P**		**09 39 15.1**	**+0.1**
	14nm,1.0s,mb4.3								
ISCO	**Idaho Springs**	**21.17**	**1**	*e*P		**P**		**09 39 16.5**	**+1.6**
	25nm,1.8s,mb4.2								
MTUM	**Tungsten Hills**	**21.77**	**332**	*e*P		**P**		**09 39 19.9**	**-1.5**
MPU	**Maple Canyon**	**21.95**	**348**	*e*P		**P**		**09 39 24.2**	**+0.9**
	18nm,1.4s,mb4.3								
KSU1	**Kansas State U**	**22.01**	**

MEX 23 10:03:59.4±0.9, 14°35N×94°25W, h16km±20km, MD4.1, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.68**	**36**	*i* P	Pn	10 04 24.4	-3.8
PCIG				*i* S	Sn	10 04 44.9	-4.5
THIG		**2.00**	**74**	*i* P	Pn	10 04 29.0	-3.5
THIG				*i* S	Sn	10 04 52.5	-4.8
HUIG	**Huatulco**	**2.29**	**308**	*i* P	Pn	10 04 34.6	-1.9
HUIG				*i* S	Sn	10 04 58.8	-5.5
TGIG		**2.65**	**24**	*i* P	Pn	10 04 38.6	-2.9
TGIG				*i* S	Sn	10 05 10.5	-2.9
CMIG	**Matias Romero**	**2.80**	**347**	*i* P	Pn	10 04 40.3	-3.2
CMIG				*i* S	Sn	10 05 13.1	-3.9
VHO	**Vista Hermosa**	**3.62**	**319**	*e*P	Pn	10 04 52.7	-2.1
VHO				*i* S	Sn	10 05 33.5	-3.7
PNIG	**Pinotepa**	**4.26**	**299**	*e*P	Pn	10 05 02.1	-1.5
PNIG				*i* S	Sn	10 05 48.8	-4.3
UTMO	**Huajuapan**	**4.87**	**316**	*e*P	Pn	10 05 10.5	-1.5
UTMO				*i* S	Sn	10 06 05.3	-2.8
CAIG	**El Cayaco**	**6.39**	**296**	*e*P	Pn	10 05 37.0	+4.1

*ISCJB **23** 10:19:00.6±0.2, 31°.14N±0°.02×103°.69E±0°.03, h10km, mb4.6/67, MS4.1/23, Error ellipse: s-maj=3.3km s-min=2.9km az=165.6*
*BJI **23** 10:19:01.4, 31°.21N×103°.77E, h10km, mB4.7/16, mb4.7/29, ML4.9/23, Ms4.7/43, Ms7 4.5/41*
*IDC **23** 10:19:01.1±0.5, 31°.27N×104°.02E, h0km, mb4.4/23, mb1 4.6/25, mb1mx4.5/31, mbtmp4.4/25, ML4.1/2, MS4.0/16, Ms1 4.0/16, ms1mx3.6/46, Error ellipse: s-maj=19.3km s-min=11.2km az=55.0*
*NEIC **23** 10:19:03.1±0.3, 31°.18N×103°.83E, h10km, mb4.8/25, Error ellipse: s-maj=6.5km s-min=5.8km az=74.0*
*DJA **23** 10:19:03, 31°.09N×104°.08E, h10km, mb5.3/7*
*MOS **23** 10:19:04.1±1.1, 31°.14N×103°.86E, h33km, mb4.8/36, MS4.0/13, Error ellipse: s-maj=8.8km s-min=5.7km az=96.9*

ISC 23 10:19:02.8±0.2, 31°.17N±0°.02×103°.67E±0°.03, h10km, n210, σ1§38/222, mb4.6/67, MS4.1/23, 4C-4D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.27**	**163**	Pg	**Pg**	**10 19 10.3**	**+2.1**
CD2				Sg	**Sg**	**10 19 16.3**	**+4.4**
CD2				smax			
	comp=N,105μm,0.5s						
CD2				smax			
	comp=E,141μm,0.7s						
LZH	**Lanzhou**	**4.91**	**2**	Pn	**Pn**	**10 20 18.3**	**+1.6**
LZH				Sg	**Sg**	**10 21 39.6**	**-0.9**
LZH				smax			
	comp=N,1μm,1.1s						
LZH				smax			
	comp=E,1μm,1.3s						
LZH				LR	LR		
	comp=N,9μm,7.7s						
LZH				LR	LR		
	comp=E,7μm,5.4s						
LZH				LR	LR		
	comp=Z,10μm,8.7s						
ENH	**Enshi**	**5.09**	**99**	*e*Pn	**Pn**	**10 20 20.9**	**+1.6**
XAN	**Xi'an**	**5.28**	**56**	Pn	**Pn**	**10 20 21.3**	**-0.5**
XAN				Sn	**Sn**	**10 21 15.0**	**-7.7**
XAN				Sg	**Sb**	**10 21 40.9**	**+2.2**
XAN				smax			
	comp=N,1μm,1.0s						
XAN				smax			
	comp=E,580nm,0.8s						
XAN				LR	LR		
	comp=N,4μm,12.4s						
XAN				LR	LR		
	comp=E,860nm,14.6s						
XAN				LR	LR		
	comp=Z,1μm,9.2s						
GYA	**Guiyang**	**5.38**	**150**	*i* Pn	**Pn**	**10 20 23.8**	**+0.7**
GYA				Sn	**Sn**	**10 21 29.9**	**+4.8**
GYA				Sg	**Sg**	**10 21 59.3**	**+3.8**
GYA				smax			
	comp=N,1μm,0.9s						
GYA				smax			
	comp=E,2μm,1.0s						
GYA				LR	LR		
	comp=N,4μm,6.2s						
GYA				LR	LR		
	comp=E,4μm,6.5s						
GYA				LR	LR		
	comp=Z,5μm,6.2s						
KMI	**Kunming**	**6.08**	**188**	Pn	**Pn**	**10 20 33.8**	**+1.1**
KMI				Sn	**Sn**	**10 21 43.8**	**+1.5**
KMI				smax			
	comp=N,450nm,1.3s						
KMI				smax			
	comp=E,540nm,1.3s						
KMI				LR	LR		
	comp=N,6μm,8.9s						
KMI				LR	LR		
	comp=E,14μm,9.3s						
KMI				LR	LR		
	comp=Z,4μm,12.0s						
GTA	**Gaotai**	**8.81**	**340**	*e*P	**Pn**	**10 21 12.1**	**+1.9**
GTA				pP		10 21 16.8	
GTA				sP		10 21 19.6	
GTA				S	**Sn**	**10 22 52.6**	**+3.1**
GTA				sS		10 22 59.0	
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,130nm,5.2s						
GTA				LR	LR		
	comp=N,2μm,10.9s						
GTA				LR	LR		
	comp=E,1μm,10.0s						
GTA				LR	LR		
	comp=Z,2μm,14.0s						
WHN	**Wuhan**	**9.21**	**91**	⇑P	**Pn**	**10 21 15.1**	**-0.6**
WHN				S	**Sn**	**10 22 54.3**	**-5.1**
WHN				LR	LR		
	comp=N,7μm,3.6s						
WHN				LR	LR		
	comp=E,4μm,4.9s						
WHN				LR	LR		
	comp=Z,6μm,6.6s						
LSA	**Lhasa**	**10.90**	**265**	P	**Pn**	**10 21 40.6**	**+1.7**
LSA	**Lhasa**	**10.90**	**265**	*e*Pn	**Pn**	**10 21 43.1**	**+4.2**
	comp=Z,14nm,0.6s						
LSA	**Lhasa**	**10.90**	**265**	*e*P	**Pn**	**10 21 43.1**	**+4.2**
LSA				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC	**Hu-ho-hao-te**	**11.58**	**31**	*e*P	**Pn**	**10 21 49.0**	**+0.8**
HHC				pP		10 21 52.3	
HHC				sP		10 21 55.3	
HHC				S	**Sn**	**10 23 58.3**	**+0.8**
HHC				sS		10 24 04.3	
HHC				SS		10 24 13.4	
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,86nm,4.3s						
HHC				LR	LR		
	comp=N,2μm,5.3s						
HHC				LR	LR		
	comp=E,5μm,4.1s						
HHC				LR	LR		
	comp=Z,650nm,6.6s						
SHL	**Shillong**	**11.78**	**245**	*e*PKP	**Pn**	**10 21 52.0**	**+1.1**
GZH	**Guangzhou**	**11.79**	**131**	P	**Pn**	**10 21 49.9**	**-1.2**
NJ2	**Nanjing**	**12.98**	**82**	*e*P	**Pn**	**10 22 09.0**	**+1.7**
NJ2				S	**Sn**	**10 24 35.5**	**+3.7**
NJ2				sS		10 24 45.0	
NJ2				pmax	pmax		
	comp=Z,30nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,130nm,7.1s						
NJ2				LR	LR		
	comp=N,2μm,5.7s						
NJ2				LR	LR		
	comp=E,3μm,10.8s						
NJ2				LR	LR		
	comp=Z,4μm,10.4s						
CHG	**Chiang Mai**	**13.02**	**200**	⇑P	**Pn**	**10 22 09.1**	**+1.2**
CHTO	**Chiang Mai**	**13.02**	**200**	*e*Pn	**Pn**	**10 22 09.2**	**+1.2**
CHTO	**Chiang Mai**	**13.02**	**200**	*e*P	**Pn**	**10 22 09.2**	**+1.3**
CHTO	**Chiang Mai**	**13.02**	**200**	P	**Pn**	**10 22 09.2**	**+1.3**
	comp=Z,50nm,0.8s						
QIZ	**Qiongzhong**	**13.31**	**154**	P	**Pn**	**10 22 11.9**	**0.0**
QIZ				S	**Sn**	**10 24 40.9**	**+0.8**
QIZ				LR	LR		
	comp=N,2μm,7.5s						
QIZ				LR	LR		
	comp=E,690nm,7.6s						
QIZ				LR	LR		
	comp=Z,2μm,11.0s						
CM31	**Chiang Mai Arr**	**13.36**	**200**	*e*Pn	**Pn**	**10 22 13.9**	**+1.3**
	comp=Z,35nm,0.6s						
CMAR	**Chiang Mai Arr**	**13.36**	**200**	Pn	**Pn**	**10 22 13.8**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=11,slow=12,SNR=51						
CMAR				Lg		10 26 14.1	
	baz=15,slow=28,SNR=4.2						
CMAR				LR	LR	10 27 55.7	
	comp=Z,476nm,19.1s,baz=204,slow=39						
CMAR	**Chiang Mai Arr**	**13.36**	**200**	Pn	**Pn**	**10 22 13.8**	**+1.3**
CMAR				Lg		10 26 14.1	
CMAR	**Chiang Mai Arr**	**13.36**	**200**	P	**Pn**	**10 22 13.9**	**+1.4**
CMAR				MLR	MLR		
	comp=Z,476nm,19.1s						
BJT	**Baijiatuau**	**13.46**	**46**	*e*Pn	**Pn**	**10 22 13.5**	**-0.4**
	comp=Z,27nm,0.8s						
BJT	**Baijiatuau**	**13.46**	**46**	*e*P	**Pn**	**10 22 13.5**	**-0.4**
BJT				pmax	pmax		
	comp=Z,27nm,0.8s						
BJI	**Beijing**	**13.48**	**46**	P	**Pn**	**10 22 13.3**	**-0.8**
BJI				S	**Sn**	**10 24 42.8**	**-1.1**
BJI				pmax	pmax		
	comp=Z,13nm,1.1s						
BJI				pmax	pmax		
	comp=Z,140nm,3.4s						
ODAN	**Odare**	**14.87**	**257**	*e*P	**Pn**	**10 22 31.5**	**-1.7**
	comp=Z,79nm,1.0s						
RAMN	**Ramite**	**15.50**	**259**	*e*P	**Pn**	**10 22 41.2**	**-0.3**
	comp=Z,38nm,0.8s						
JIRN	**Jiri**	**15.62**	**261**	*e*P	**Pn**	**10 22 40.8**	**-2.3**
	comp=Z,58nm,0.8s						
NST	**Nakhon Sawan**	**15.76**	**193**	P	**Pn**	**10 22 40.2**	**-4.7**
GUN	**Gumba**	**15.82**	**263**	*e*P	**Pn**	**10 22 43.9**	**-1.7**
	comp=Z,98nm,0.9s						
PKI	**Pulchoki**	**16.31**	**262**	*e*P	**Pn**	**10 22 49.8**	**-2.2**
	comp=Z,101nm,1.0s						
KKN	**Kakani**	**16.36**	**263**	*e*P	**Pn**	**10 22 50.6**	**-2.0**
	comp=Z,174nm,1.1s						
DMN	**Daman**	**16.56**	**262**	*e*P	**Pn**	**10 22 54.0**	**-1.2**
	comp=Z,128nm,0.9s						
DL2	**Dalian**	**16.60**	**57**	P	**Pn**	**10 22 56.5**	**+0.9**
DL2				S	**Sn**	**10 26 02.6**	**+2.7**
DL2				pmax	pmax		
	comp=Z,20nm,1.1s						
DL2				pmax	pmax		
	comp=Z,130nm,2.8s						
DL2				LR	LR		
	comp=N,420nm,17.0s						
DL2				LR	LR		
	comp=E,400nm,16.0s						
DL2				LR	LR		
	comp=Z,400nm,11.8s						
SONM	**Songino Array**	**16.78**	**6**	Pn	**Pn**	**10 22 57.3**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=186,slow=13,SNR=30						
SONM				LR	LR	10 30 01.6	
	comp=Z,632nm,21.9s,baz=4.7,slow=40						
SONM	**Songino Array**	**16.78**	**6**	Pn	**Pn**	**10 22 57.3**	**-0.5**
SONM	**Songino Array**	**16.78**	**6**	P	**Pn**	**10 22 57.3**	**-0.5**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM				MLR	MLR		
	comp=Z,632nm,21.9s						
GKN	**Gorkha**	**16.85**	**264**	*e*P	**Pn**	**10 22 56.7**	**-2.2**
	comp=Z,157nm,0.8s						
ULN	**Ulaanbaatar**	**16.88**	**8**	*e*P	**Pn**	**10 22 58.9**	**-0.2**
	comp=Z,26nm,1.1s						
ULN	**Ulaanbaatar**	**16.88**	**8**	*e*P	**Pn**	**10 22 58.9**	**-0.2**
ULN				pmax	pmax		
	comp=Z,26nm,1.1s						
ULN	**Ulaanbaatar**	**16.88**	**8**	P	**Pn**	**10 22 58.9**	**-0.2**
	comp=Z,26nm,1.1s						
DANN	**Dangsing**	**17.51**	**266**	*e*P	**Pn**	**10 23 04.9**	**-2.2**
	comp=Z,66nm,0.8s						
KOLN	**Koldanda**	**17.80**	**264**	*e*P	**Pn**	**10 23 09.8**	**-0.9**
	comp=Z,47nm,0.8s						
WMQ	**Urumqi**	**17.85**	**319**	P	**Pn**	**10 23 11.8**	**+0.5**
WMQ				pP	pP	10 23 15.4	+0.6
WMQ				sP	sP	10 23 18.8	+2.7
WMQ				PP		10 23 26.6	
WMQ				S	**Sn**	**10 26 28.8**	**-1.4**
WMQ				ScS	ScS	10 35 01.1	-2.2
WMQ				pmax	pmax		
	comp=Z,16nm,0.9s						
WMQ				LR	LR		
	comp=N,1μm,12.6s						
WMQ				LR	LR		
	comp=E,2μm,11.9s						
WMQ				LR	LR		
	comp=Z,630nm,24.5s						
PYUN	**Piuthan**	**18.23**	**266**	*e*P	**Pn**	**10 23 15.2**	**-0.8**
SNY	**Shenyang**	**19.18**	**51**	⇓P	**Pn**	**10 23 26.5**	**-0.9**
SNY				S	**Sn**	**10 27 05.8**	**+3.5**
SNY				pmax	pmax		
	comp=Z,23nm,1.5s						
SNY				pmax	pmax		
	comp=Z,210nm,5.3s						
SNY				LR	LR		
	comp=N,920nm,18.8s						
SNY				LR	LR		
	comp=E,470nm,17.5s						
SNY				LR	LR		
	comp=Z,550nm,12.9s						
ZAK	**Zakamensk**	**19.20**	**359**	*e*P	**Pn**	**10 23 27.6**	**0.0**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.0s						
INCN	**Inchon**	**19.97**	**65**	*e*P	**Pn**	**10 23 36.1**	**-0.8**
	comp=Z,27nm,0.8s						
TLY	**Talaya**	**20.50**	**360**	*e*P	**P**	**10 23 42.5**	**+1.7**
TLY				*e*		10 24 01.6	
TLY				pmax	pmax		
	comp=Z,15nm,1.3s						
TLY				MLR	MLR		
	comp=Z,466nm,11.0s,MS4.1						
MOY	**Mondy**	**20.58**	**355**	*e*P	**P**	**10 23 43.6**	**+1.9**
MOY				pmax	pmax		
	comp=Z,79nm,2.2s						
KSAR	**Wonju Array Be**	**20.94**	**66**	P	**P**	**10 23 45.5**	**-0.2**
KSAR	**Wonju Array Be**	**20.94**	**66**	P	**P**	**10 23 45.5**	**-0.2**
KSRS	**Korea Array**	**20.97**	**66**	P	**P**	**10 23 45.5**	**-0.6**
	comp=Z,33nm,0.7s,baz=261,slow=10,SNR=180						
KSRS				LR	LR	10 32 51.3	
	comp=Z,20nm,20.5s,baz=70,slow=40						
KSRS	**Korea Array**	**20.97**	**66**	P	**P**	**10 23 45.5**	**-0.6**
KSRS				pmax	pmax		
	comp=Z,33nm,0.7s						
IRK	**Irkutsk**	**21.07**	**1**	*e*P	**P**	**10 23 48.2**	**+1.2**
IRK				pmax	pmax		
	comp=Z,150nm,1.2s,mb5.2						
CN2	**Changchun**	**21.32**	**48**	*e*P	**P**	**10 23 50.4**	**+0.6**
CN2				*e*pP		10 23 54.6	
CN2				*e*sP	sP	10 23 57.0	+3.0
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.2						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,400nm,10.0s,MS4.4						
CN2				LR	LR		
	comp=E,600nm,10.0s,MS4.4						
CN2				LR	LR		
	comp=Z,500nm,12.0s,MS4.1						
HIA	**Hailar**	**21.77**	**29**	*e*P	**P**	**10 23 55.0**	**+0.4**
	comp=Z,32nm,0.8s,mb4.8						
HIA	**Hailar**	**21.77**	**29**	*e*P	**P**	**10 23 55.0**	**+0.4**
HIA				pmax	pmax		
	comp=Z,32nm,0.8s						
MK31	**Makanchi Array**	**22.69**	**320**	*e*P	**P**	**10 24 05.2**	**+0.8**
MK31	**Makanchi Array**	**22.69**	**320**	*i* P	**P**	**10 24 04.8**	**+0.4**
MK31				pmax	pmax		
	comp=Z,53nm,1.2s,mb4.8						
MKAR	**Makanchi Array**	**22.69**	**320**	P	**P**	**10 24 05.0**	**+0.6**
	comp=Z,28nm,1.0s,mb4.7,baz=126,slow=11,SNR=34						
MKAR				LR	LR	10 33 11.0	
	comp=Z,280nm,18.4s,MS3.7,baz=124,slow=37						
MKAR	**Makanchi Array**	**22.69**	**320**	*e*P	**P**	**10 24 05.2**	**+0.8**
MKAR	**Makanchi Array**	**22.69**	**320**	*e*P	**P**	**10 24 05.2**	**+0.8**
JNU	**Nakatsue**	**23.10**	**78**	*e*P	**P**	**10 24 08.9**	**0.0**
	comp=Z,11nm,1.0s,mb4.3						
KSH	**Kashi**	**24.01**	**298**	*e*P	**P**	**10 24 23.0**	**+5.3**
KSH				pP		10 24 27.3	
KSH				sP	sP	10 24 30.0	+8.0
KSH				PP		10 24 59.3	
KSH				PcP	PcP	10 28 01.9	+2.4
KSH				S	**S**	**10 28 39.8**	**+5.2**
KSH				sS	sS	10 28 47.8	+8.2
KSH				ScP	ScP	10 31 38.8	+0.7
KSH				PcS	PcS	10 31 40.5	+1.4
KSH				ScS	ScS	10 35 25.3	+0.3
KSH				pmax	pmax		
	comp=Z,32nm,2.0s,mb4.4						
KSH				LR	LR		
	comp=N,310nm,7.3s						
KSH				LR	LR		
	comp=E,380nm,8.4s						
KSH				LR	LR		
	comp=Z,390nm,10.7s,MS4.2						
MDJ	**Mudanjiang**	**24.35**	**49**	P	**P**	**10 24 21.5**	**+0.7**
MDJ				pP		10 24 24.5	
MDJ				sP	sP	10 24 25.8	+0.7
MDJ				S	**S**	**10 28 42.5**	**+2.4**
MDJ				PcS	PcS	10 31 40.1	+0.2
MDJ				pmax	pmax		
	comp=Z,27nm,1.3s,mb4.5						
MDJ				pmax	pmax		
	comp=Z,62nm,4.1s						
MDJ				LR	LR		
	comp=N,230nm,15.4s,MS4.2						
MDJ				LR	LR		
	comp=E,430nm,11.2s,MS4.2						
MDJ				LR	LR		
	comp=Z,410nm,11.8s,MS4.1						
MDJ	**Mudanjiang**	**24.35**	**49**	*e*P	**P**	**10 24 21.5**	**+0.7**
	comp=Z,38nm,1.3s,mb4.7						
TKM2	**Tokmak 2**	**25.17**	**306**	*e*P	**P**	**10 24 31.0**	**+2.7**
	comp=Z,14nm,1.1s,mb4.4						
TKM2	**Tokmak 2**	**25.17**	**306**	*e*P	**P**	**10 24 31.0**	**+2.7**
TKM2				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.4						
FRU	**Bishkek**	**25.83**	**305**	*e*P	**P**	**10 24 39.0**	**+4.7**
FRU				pmax	pmax		
	comp=Z,40nm,2.0s,mb4.6						
AAK	**Ala-Archa**	**25.86**	**304**	*e*P	**P**	**10 24 38.0**	**+3.5**
	comp=Z,173nm,1.5s,mb5.4						
AAK	**Ala-Archa**	**25.86**	**304**	*e*P	**P**	**10 24 38.1**	**+3.6**
AAK	**Ala-Archa**	**25.86**	**304**	P	**P**	**10 24 37.9**	**+3.4**
	comp=Z,73nm,1.4s,mb5.0						
EKS2	**Erkin-Say**	**26.37**	**304**	*e*P	**P**	**10 24 42.4**	**+3.2**
	comp=Z,13nm,1.1s,mb4.4						
EKS2	**Erkin-Say**	**26.37**	**304**	*e*P	**P**	**10 24 42.4**	**+3.2**
EKS2				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.4						
ZAA0	**Zalesovo Array**	**26.50**	**335**	*e*P	**P**	**10 24 39.4**	**-0.8**
ZALV	**Zalesovo Beam**	**26.50**	**335**	P	**P**	**10 24 39.4**	**-0.8**
	comp=Z,13nm,1.0s,mb4.4,baz=134,slow=8.4,SNR=16						
ZALV				LR	LR	10 35 43.9	
	comp=Z,282nm,21.0s,MS3.8,baz=147,slow=38						
ZALV	**Zalesovo Beam**	**26.50**	**335**	P	**P**	**10 24 39.4**	**-0.8**
ZALV	**Zalesovo Beam**	**26.50**	**335**	P	**P**	**10 24 39.4**	**-0.8**
ZALV				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.4						
ZALV				MLR	MLR		
	comp=Z,282nm,21.0s,MS3.8						
HYB	**Hyderabad**	**26.59**	**245**	*i* P	**P**	**10 24 46.0**	**+4.7**
IPM	**Ipoh**	**26.66**	**186**	*e*P	**P**	**10 24 40.3**	**-1.7**
	comp=Z,34nm,1.0s,mb4.8						
IPM	**Ipoh**	**26.66**	**186**	P	**P**	**10 24 40.7**	**-1.3**
	comp=Z,37nm,1.0s,mb4.9						
KURK	**Kurchatov**	**26.97**	**324**	P	**P**	**10 24 44.2**	**-0.3**
	comp=Z,7.3nm,0.8s,mb4.2,baz=193,slow=3.9,SNR=27						
KURK				LR	LR	10 36 35.4	
	comp=Z,454nm,18.4s,MS4.1,baz=115,slow=39						
KURK	**Kurchatov**	**26.97**	**324**	*e*P	**P**	**10 24 45.8**	**+1.3**
	comp=Z,22nm,1.0s,mb4.6						
KURK	**Kurchatov**	**26.97**	**324**	⇑*e*P	**P**	**10 24 45.7**	**+1.2**
KURK				pmax	pmax		
	comp=Z,30nm,1.2s,mb4.7						
KURK				MLR	MLR		
	comp=Z,467nm,18.0s,MS4.1						
KLR	**Kul'dur**	**27.79**	**41**	*e*P	**P**	**10 24 48.2**	**-3.7**
KLR				MLR	MLR		
	comp=N,2μm,13.0s,MS4.8						
KLR				MLR	MLR		
	comp=E,1μm,13.0s,MS4.8						
KLR				MLR	MLR		
	comp=Z,3μm,12.0s,MS5.0						
KK31	**Karatay Array**	**28.81**	**304**	*i* P	**P**	**10 25 03.0**	**+2.0**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
KKAR	**Karatay Array**	**28.81**	**304**	*e*P	**P**	**10 25 03.4**	**+2.4**
	comp=Z,1.4nm,0.6s,mb3.9						
KKAR	**Karatay Array**	**28.81**	**304**	*e*P	**P**	**10 25 03.4**	**+2.4**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
MJAR	**Matsushiro Arr**	**29.08**	**70**	P	**P**	**10 25 01.9**	**-1.7**
	comp=Z,2.2nm,0.9s,mb3.9,baz=269,slow=11,SNR=5.5						
MJAR				LR	LR	10 36 45.9	
	comp=Z,98nm,20.9s,MS3.4,baz=295,slow=37						
MJAR	**Matsushiro Arr**	**29.08**	**70**	P	**P**	**10 25 01.9**	**-1.7**
MJAR	**Matsushiro Arr**	**29.08**	**70**	P	**P**	**10 25 01.9**	**-1.6**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MJAR				MLR	MLR		
	comp=Z,98nm,20.9s						
MYLDM	**Lahad Datu**	**29.37**	**149**	P	**P**	**10 25 08.7**	**+2.5**
HABR	**Khabarovsk**	**29.38**	**45**	*e*P	**P**	**10 25 07.6**	**+1.6**
HABR						10 28 09.9	
HABR				*e*S	**S**	**10 29 57.2**	**-2.4**
HABR				*e*SS	SS	10 31 24.2	-40
HABR				*e*		10 31 52.3	
HABR				*e*		10 35 45.4	
HABR				pmax	pmax		
	comp=N,10.0nm,1.0s						
HABR				pmax	pmax		
	comp=E,40nm,1.6s						
HABR				pmax	pmax		
	comp=Z,21nm,1.6s,mb4.6						
HABR				pmax	pmax		
	comp=N,10.0nm,1.0s						
HABR				MLR	MLR		
	comp=Z,261nm,15.0s,MS4.0						
SBUM	**Sibu**	**29.68**	**163**	P	**P**	**10 25 09.0**	**0.0**
	comp=Z,28nm,1.2s,mb4.9						
KSM	**Kuching**	**30.19**	**167**	*e*P	**P**	**10 25 13.2**	**-0.3**
	comp=Z,6.5nm,0.6s,mb4.5						
JHJ	**Hachijo jima 2**	**30.55**	**77**	LR	LR	10 39 15.3	
	comp=Z,347nm,18.6s,MS4.0,baz=156,slow=40						
DAV	**Davao City (W)**	**31.54**	**135**	LR	LR	10 38 52.9	
	comp=Z,266nm,19.8s,MS3.9,baz=8.3,slow=38						
BVAR	**Borovoye Array**	**32.51**	**322**	P	**P**	**10 25 33.4**	**-0.2**
	comp=Z,1.4nm,0.6s,mb4.1,baz=113,slow=11,SNR=8.4						
BVAR				LR	LR	10 39 01.5	
	comp=Z,282nm,19.1s,MS4.0,baz=0.6,slow=37						
BVAR	**Borovoye Array**	**32.51**	**322**	P	**P**	**10 25 33.4**	**-0.2**
BVAR	**Borovoye Array**	**32.51**	**322**	P	**P**	**10 25 33.4**	**-0.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR				MLR	MLR		
	comp=Z,282nm,19.1s						
BRVK	**Borovoye**	**32.58**	**322**	*i* P	**P**	**10 25 37.0**	**+2.8**
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.5						
BRVK				MLR	MLR		
	comp=Z,478nm,22.0s,MS4.2						
CBIJ	**Chichi jima**	**33.78**	**87**	LR	LR	10 38 31.7	
	comp=Z,136nm,18.2s,MS3.7,baz=43,slow=35						
YAK	**Yakutsk**	**35.18**	**21**	*e*P	**P**	**10 25 54.4**	**-2.3**
YAK				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
YAK				pmax	pmax		
	comp=N,8.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,12nm,1.5s						
AB31	**Akbulak array**	**37.35**	**312**	*i* P	**P**	**10 26 15.1**	**-0.3**
ABKAR	**Akbulak array**	**37.35**	**312**	*e*P	**P**	**10 26 15.4**	**0.0**
	comp=E,1.0nm,0.6s,mb3.8						
AKTO	**Aktyubinsk**	**38.82**	**313**	P	**P**	**10 26 29.6**	**+1.8**
	comp=E,1.0nm,0.4s,mb3.9,baz=86,slow=12,SNR=5.5						
AKTO	**Aktyubinsk**	**38.82**	**313**	P	**P**	**10 26 29.6**	**+1.8**
AKTO	**Aktyubinsk**	**38.82**	**313**	P	**P**	**10 26 29.5**

KAPI	**Kappang**	**39.12**	**154**	P		**P**		**10 26 28.7**	**-1.9**
SVE	**Sverdlovsk**	**39.23**	**324**	*e*P		**P**		**10 26 33.5**	**+2.4**
SVE					pmax	pmax			
	comp=Z,14nm,1.2s,mb4.6								
ARU	**Arti**	**40.15**	**322**	*e*P		**P**		**10 26 39.5**	**+0.7**
	comp=Z,11nm,0.9s,mb4.6								
ARU	**Arti**	**40.15**	**322**	*d* P		**P**		**10 26 37.9**	**-0.9**
ARU				*e*				10 28 09.6	
ARU					S	**S**		**10 32 46.6**	**+1.5**
ARU					SS	SS		10 35 44.7	+2.1
ARU					pmax	pmax			
	comp=Z,9.0nm,1.2s,mb4.4								
SEY	**Seymchan**	**44.22**	**30**	*c*eP		**P**		**10 27 12.4**	**+0.5**
PETK	**Petropavlovsk-**	**44.41**	**44**	P		**P**		**10 27 12.6**	**-0.9**
	comp=Z,4.9nm,0.8s,mb4.3,baz=234,slow=9.9,SNR=5.6								
PETK	**Petropavlovsk-**	**44.41**	**44**	P		**P**		**10 27 12.6**	**-0.9**
PETK	**Petropavlovsk-**	**44.41**	**44**	P		**P**		**10 27 12.6**	**-0.9**
PETK					pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.3								
KIV	**Kislovodsk**	**48.96**	**303**	*e*P		**P**		**10 27 49.9**	**+0.5**
KIV					pmax	pmax			
	comp=Z,15nm,1.0s,mb5.0								
KLMR	**Klimovskoe**	**50.80**	**325**	*e*P		**P**		**10 28 02.6**	**-0.4**
KLMR					pmax	pmax			
	comp=Z,25nm,1.5s,mb4.9								
BILL	**Bilibino**	**51.28**	**25**	*e*P		**P**		**10 28 05.6**	**-1.0**
	comp=Z,5.9nm,0.8s,mb4.6								
BILL	**Bilibino**	**51.28**	**25**	*e*P		**P**		**10 28 05.6**	**-1.0**
BILL					pmax	pmax			
	comp=Z,11nm,1.0s,mb4.7								
BILL					MLR	MLR			
	comp=Z,300nm,17.0s,MS4.4								
OBN	**Obninsk**	**52.18**	**318**	*i* P		**P**		**10 28 15.0**	**+1.5**
OBN				*e*	SS	SS		10 39 19.7	+4.9
OBN					pmax	pmax			
	comp=Z,5.0nm,0.5s,mb4.7								
OBN					MLR	MLR			
	comp=Z,300nm,21.0s,MS4.3								
ANN	**Anapa**	**52.58**	**305**	*e*P		Px		10 28 26.9	
MALT	**Malatya**	**53.10**	**297**	P		**P**		**10 28 25.2**	**+4.6**
FITZ	**Fitzroy Crossi**	**53.34**	**154**	*e*P		**P**		**10 28 21.5**	**-0.9**
	comp=Z,9.6nm,1.0s,mb4.7								
MBWA	**Marble Bar**	**54.26**	**161**	*e*P		**P**		**10 28 27.1**	**-1.9**
	comp=Z,90nm,2.2s,mb5.3								
BRTR	**Keskin Array B**	**56.38**	**299**	P		**P**		**10 28 46.0**	**+1.7**
	comp=Z,0.5nm,0.6s,mb3.8,baz=90,slow=7.2,SNR=2.3								
BRTR	**Keskin Array B**	**56.38**	**299**	P		**P**		**10 28 46.0**	**+1.7**
BRTR	**Keskin Array B**	**56.38**	**299**	P		**P**		**10 28 46.0**	**+1.7**
ARCES	**ARCESS Array B**	**57.05**	**336**	P		**P**		**10 28 47.3**	**-1.3**
	comp=Z,3.4nm,0.9s,mb4.4,baz=80,slow=7.4,SNR=6.7								
ARCES					LR	LR		10 55 09.4	
	comp=Z,267nm,18.9s,MS4.4,baz=214,slow=38								
ARCES	**ARCESS Array B**	**57.05**	**336**	P		**P**		**10 28 47.3**	**-1.3**
ARCES	**ARCESS Array B**	**57.05**	**336**	P		**P**		**10 28 47.3**	**-1.3**
ARCES					pmax	pmax			
	comp=Z,3.0nm,0.9s								
ARCES					MLR	MLR			
	comp=Z,267nm,19.0s								
AKASG	**Malin Array Be**	**57.07**	**313**	P		**P**		**10 28 51.9**	**+2.9**
	comp=Z,2.8nm,0.7s,mb4.4,baz=69,slow=6.5,SNR=6.0								
AKASG	**Malin Array Be**	**57.07**	**313**	P		**P**		**10 28 51.9**	**+2.9**
AKASG	**Malin Array Be**	**57.07**	**313**	P		**P**		**10 28 51.9**	**+2.9**
AKASG					pmax	pmax			
	comp=Z,3.0nm,0.7s								
FINES	**FINESS Array B**	**57.31**	**326**	P		**P**		**10 28 51.5**	**+1.0**
	comp=Z,8.1nm,0.9s,mb4.8,baz=98,slow=4.2,SNR=5.3								
FINES	**FINESS Array B**	**57.31**	**326**	P		**P**		**10 28 51.5**	**+1.0**
FINES	**FINESS Array B**	**57.31**	**326**	P		**P**		**10 28 51.5**	**+1.0**
FINES					pmax	pmax			
	comp=Z,8.0nm,0.9s								
WRAB	**Tennant Creek**	**58.73**	**146**	*e*P		**P**		**10 29 00.8**	**-0.1**
	comp=Z,53nm,0.8s,mb5.6								
WRAB	**Tennant Creek**	**58.73**	**146**	*e*P		**P**		**10 29 00.9**	**-0.1**
WRAB	**Tennant Creek**	**58.73**	**146**	P		**P**		**10 29 00.3**	**-0.7**
WRA	**Warramunga Arr**	**58.73**	**146**	P		**P**		**10 29 00.4**	**-0.6**
	comp=Z,24nm,0.8s,mb5.2,baz=338,slow=7.6,SNR=119								
WRA	**Warramunga Arr**	**58.73**	**146**	P		**P**		**10 29 00.4**	**-0.6**
WRA	**Warramunga Arr**	**58.73**	**146**	P		**P**		**10 29 00.4**	**-0.6**
WRA					pmax	pmax			
	comp=Z,24nm,0.9s								
WB2	**Warramunga Arr**	**58.74**	**146**	*e*P		**P**		**10 29 00.7**	**-0.4**
COEN	**Coen**	**58.76**	**134**	*e*P		**P**		**10 29 01.0**	**-0.3**
	comp=Z,129nm,1.3s								
MLR	**Muntele Rosu**	**60.38**	**308**	P		**P**		**10 29 13.8**	**+1.6**
	comp=Z,0.8nm,0.7s,mb3.8,baz=190,slow=4.4,SNR=4.1								
MLR	**Muntele Rosu**	**60.38**	**308**	P		**P**		**10 29 13.8**	**+1.6**
MLR	**Muntele Rosu**	**60.38**	**308**	P		**P**		**10 29 13.8**	**+1.7**
ASAR	**Alice Springs**	**61.74**	**148**	P		**P**		**10 29 21.1**	**-0.4**
	comp=Z,5.6nm,0.8s,mb4.8,baz=338,slow=6.4,SNR=49								
ASAR	**Alice Springs**	**61.74**	**148**	P		**P**		**10 29 21.1**	**-0.4**
ASAR	**Alice Springs**	**61.74**	**148**	P		**P**		**10 29 21.1**	**-0.4**
ASAR					pmax	pmax			
	comp=Z,6.0nm,0.8s								
NB2	**NORSAR Subarra**	**64.40**	**327**	P		**P**		**10 29 38.6**	**-0.2**
	comp=Z,1.4nm,0.8s,mb4.0,baz=73,slow=6.9								
NOA	**NORSAR Array B**	**64.40**	**327**	P		**P**		**10 29 38.8**	**0.0**
	comp=Z,2.9nm,1.0s,mb4.3,baz=73,slow=6.1,SNR=4.8								
NOA					LR	LR		10 58 15.7	
	comp=Z,106nm,18.2s,MS4.1,baz=185,slow=36								
NOA	**NORSAR Array B**	**64.40**	**327**	P		**P**		**10 29 38.8**	**0.0**
NOA	**NORSAR Array B**	**64.40**	**327**	P		**P**		**10 29 38.8**	**0.0**
NOA					pmax	pmax			
	comp=Z,3.0nm,1.0s								
NOA					MLR	MLR			
	comp=Z,106nm,18.2s								
NWAO	**Narrogin (SRO)**	**65.03**	**167**		LR	LR		10 57 02.3	
	comp=Z,115nm,20.0s,MS4.1,baz=266,slow=35								
CTA	**Charters Tower**	**65.33**	**136**	P		**P**		**10 29 44.6**	**-0.7**
	comp=Z,11nm,1.2s,mb4.8,baz=320,slow=7.9,SNR=4.2								
CTA	**Charters Tower**	**65.33**	**136**	*e*P		**P**		**10 29 45.3**	**-0.1**
	comp=Z,5.5nm,1.0s,mb4.5								
CTA	**Charters Tower**	**65.33**	**136**	P		**P**		**10 29 44.6**	**-0.7**
CTA	**Charters Tower**	**65.33**	**136**	P		**P**		**10 29 44.6**	**-0.8**
CTA					pmax	pmax			
	comp=Z,11nm,1.2s								
BRG	**Berggiesshubel**	**66.36**	**316**	*e*P		**P**		**10 29 58.1**	**+6.5**
	comp=Z,5.3nm,1.1s,mb4.5								
BRG	**Berggiesshubel**	**66.36**	**316**	*e*P		**P**		**10 29 58.1**	**+6.5**
BRG					pmax	pmax			
	comp=Z,5.0nm,1.1s,mb4.5								
CLL	**Collm**	**66.76**	**317**	*e*P		**P**		**10 29 57.0**	**+2.8**
GERES	**GERESS Array B**	**67.23**	**314**	P		**P**		**10 29 59.7**	**+2.4**
	comp=Z,2.1nm,0.9s,mb4.2,baz=64,slow=6.7,SNR=3.4								
GERES	**GERESS Array B**	**67.23**	**314**	P		**P**		**10 29 59.7**	**+2.4**
GERES	**GERESS Array B**	**67.23**	**314**	P		**P**		**10 29 59.7**	**+2.4**
GERES					pmax	pmax			
	comp=Z,2.0nm,0.9s								
COLD	**Coldfoot**	**67.57**	**24**	*e*P		**P**		**10 29 58.4**	**-0.6**
	comp=Z,9.0nm,0.8s,mb4.8								
JMIC	**Jan Mayen**	**67.64**	**341**		LR	LR		11 01 11.3	
	comp=Z,274nm,18.6s,MS4.5,baz=98,slow=37								
BPAW	**Bear Paw Mtn.**	**68.72**	**27**	*e*P		**P**		**10 30 05.8**	**-0.5**
	comp=Z,38nm,1.8s,mb5.0								
PPLA	**Purkeypile**	**68.79**	**28**	*e*P		**P**		**10 30 07.0**	**+0.3**
	comp=Z,18nm,1.1s,mb4.9								
COLA	**College**	**69.54**	**26**	*e*P		**P**		**10 30 10.3**	**-1.1**
	comp=Z,15nm,0.8s,mb5.0								
COLA	**College**	**69.54**	**26**	*e*P		**P**		**10 30 10.3**	**-1.1**
COLA					pmax	pmax			
	comp=Z,15nm,0.8s,mb5.0								
MCK	**McKinley**	**69.69**	**27**	*e*P		**P**		**10 30 12.2**	**-0.2**
	comp=Z,117nm,2.4s,mb5.4								
MCK	**McKinley**	**69.69**	**27**	*e*P		**P**		**10 30 12.2**	**-0.2**
MCK					pmax	pmax			
	comp=Z,117nm,2.4s,mb5.4								
ILAR	**Eielson Array**	**69.94**	**25**	P		**P**		**10 30 11.9**	**-2.0**
	comp=Z,2.1nm,0.8s,mb4.1,baz=289,slow=5.4,SNR=23								
ILAR	**Eielson Array**	**69.94**	**25**	P		**P**		**10 30 11.9**	**-2.0**
ILAR	**Eielson Array**	**69.94**	**25**	P		**P**		**10 30 11.9**	**-2.0**
ILAR					pmax	pmax			
	comp=Z,2.0nm,0.8s								
PMR	**Palmer**	**70.67**	**29**	*e*P		**P**		**10 30 17.0**	**-1.4**
	comp=Z,13nm,0.8s,mb4.9								
PMR	**Palmer**	**70.67**	**29**	*e*P		**P**		**10 30 17.0**	**-1.4**
PMR					pmax	pmax			
	comp=Z,13nm,0.8s,mb4.9								
SML	**Sawmill**	**70.89**	**29**	*e*P		**P**		**10 30 19.4**	**-0.3**
	comp=Z,7.4nm,1.0s,mb4.6								
SML	**Sawmill**	**70.89**	**29**	*e*P		**P**		**10 30 19.4**	**-0.3**
SML					pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.5								
KDAK	**Kodiak Island**	**70.99**	**33**	P		**P**		**10 30 19.0**	**-1.5**
	comp=Z,6.7nm,0.7s,mb4.7,baz=278,slow=1.4,SNR=4.9								
KDAK	**Kodiak Island**	**70.99**	**33**	P		**P**		**10 30 19.0**	**-1.5**
KDAK	**Kodiak Island**	**70.99**	**33**	P		**P**		**10 30 19.0**	**-1.4**
KDAK					pmax	pmax			
	comp=Z,7.0nm,0.7s,mb4.7								
HINF	**Hinteralfeld**	**71.83**	**315**	*e*P		**P**		**10 30 23.1**	**-2.6**
	comp=Z,12nm,1.1s,mb4.4								
INK	**Inuvik**	**72.22**	**19**	*e*P		**P**		**10 30 26.5**	**-1.2**
	comp=Z,9.0nm,0.9s,mb4.7								
INK	**Inuvik**	**72.22**	**19**	*e*P		**P**		**10 30 26.5**	**-1.2**
INK					pmax	pmax			
	comp=Z,9.0nm,0.9s								
STKA	**Stephens Creek**	**72.27**	**147**	P		**P**		**10 30 27.4**	**-0.9**
	comp=Z,4.4nm,0.7s,mb4.5,baz=325,slow=8.5,SNR=5.7								
STKA	**Stephens Creek**	**72.27**	**147**	*e*P		**P**		**10 30 28.0**	**-0.4**
	comp=Z,1.0nm,0.9s,mb3.8								
STKA	**Stephens Creek**	**72.27**	**147**	P		**P**		**10 30 27.5**	**-0.8**
STKA					pmax	pmax			
	comp=Z,4.0nm,0.7s								
SFTF	**Sexfontaines**	**72.74**	**316**	*e*P		**P**		**10 30 29.6**	**-1.5**
LPG	**La Plagne**	**72.93**	**313**	*e*P		**P**		**10 30 30.9**	**-1.4**
	comp=Z,20nm,0.9s,mb4.7								
LPL	**La Plagne**	**72.94**	**313**	*e*P		**P**		**10 30 30.0**	**-2.3**
	comp=Z,31nm,1.1s,mb4.8								
DAWY	**Dawson**	**73.04**	**24**	*e*P		**P**		**10 30 31.6**	**-1.0**
RES	**Resolute Bay**	**73.71**	**5**	LR		LR		11 03 22.8	
	comp=Z,238nm,20.1s,MS4.5,baz=71,slow=36								
CMSA	**Cobar Meteorol**	**74.00**	**144**	*e*P		**P**		**10 30 39.0**	**+0.4**
	comp=Z,48nm,0.9s,mb5.4								
SMF	**Signal de Mont**	**74.19**	**315**	*e*P		**P**		**10 30 38.0**	**-1.7**
	comp=Z,35nm,1.3s,mb4.8								
SSF	**Saint Saulge**	**74.19**	**316**	*e*P		**P**		**10 30 37.9**	**-1.8**
AVF	**Avril sur Loir**	**74.41**	**315**	*e*P		**P**		**10 30 39.4**	**-1.6**
TCF	**Toulx Ste Croi**	**75.35**	**315**	*e*P		**P**		**10 30 45.1**	**-1.3**
	comp=Z,22nm,1.2s,mb4.7								
YKA	**Yellowknife Ar**	**81.74**	**17**	P		**P**		**10 31 19.3**	**-2.1**
	comp=Z,2.3nm,0.7s,mb4.2,baz=329,slow=5.2,SNR=5.0								
YKA					LR	LR		11 12 12.5	
	comp=Z,22nm,18.5s,MS3.5,baz=125,slow=39								
YKA	**Yellowknife Ar**	**81.74**	**17**	P		**P**		**10 31 19.3**	**-2.1**
YKA	**Yellowknife Ar**	**81.74**	**17**	P		**P**		**10 31 19.3**	**-2.1**
YKA					pmax	pmax			
	comp=Z,2.0nm,0.7s								
YKA					MLR	MLR			
	comp=Z,22nm,18.5s								
TORD	**Torodi Ar. Bea**	**93.26**	**287**	P		**P**		**10 32 20.5**	**+2.3**
	comp=Z,1.8nm,1.0s,mb4.5,baz=64,slow=3.4,SNR=7.3								
TORD	**Torodi Ar. Bea**	**93.26**	**287**	P		**P**		**10 32 20.5**	**+2.3**
OTAV	**Otavalo**	**148.71**	**4**	*e*PKPdf		PKPdf		10 38 50.0	+2.6

BJI 23 10:22:12.4, 31.20N×103.65E, h11km, ML4.1/5, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.30**	**162**	Pg	Pg	10 22 18.9	+0.4
CD2				Sg	Sg	10 22 25.3	+2.7
CD2				smax			
	comp=N,12μm,0.7s						
CD2				smax			
	comp=E,24μm,0.6s						
HHC	**Hu-ho-hao-te**	**11.56**	**31**	*e*P	Pn	10 24 59.5	+2.2
HHC				sP		10 25 05.8	
HHC				PP		10 25 08.9	
HHC				S	Sn	10 27 10.1	+3.8

*IDC **23** 10:24:47.1±1.6, 13.40N×125.41E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.7/24, mbtmp3.9/7, Error ellipse: s-maj=60.2km s-min=19.1km az=54.0*
*ISCJB **23** 10:24:48.5±2.7, 13.22N±0.05×124.86E±0.08, h14km±17km, mb3.8/6, Error ellipse: s-maj=14.4km s-min=6.4km az=149.1*
*MAN **23** 10:24:49, 13.20N×124.79E, h15km, mb4.6, ML3.4, MS3.3*

ISC 23 10:24:49.5±1.6, 13.18N±0.06×124.79E±0.10, h9km±7km, n12, σ0.95/16, mb3.8/6, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**0.68**	**190**	*e*P	**Pg**	**10 25 03.6**	**+1.1**
CNP				*e*S	**Sg**	**10 25 11.4**	**+0.1**
PVCP	**Virac**	**0.74**	**304**	*e*P	**Pg**	**10 25 03.2**	**-0.6**
PVCP				*e*S	**Sg**	**10 25 13.3**	**-0.2**
PLP	**Palo**	**2.01**	**175**	*e*P	**Pn**	**10 25 24.4**	**+0.8**
PLP				*e*S	**Sn**	**10 25 49.0**	**+0.1**
GQP	**Guinayangan**	**2.39**	**288**	*e*P	**Pn**	**10 25 28.6**	**-0.2**
GQP				*i* S	**Sn**	**10 25 58.8**	**+0.6**
RCP	**Roxas**	**2.56**	**231**	*e*P	**Pn**	**10 25 29.1**	**-2.1**
TGY	**Tagaytay City**	**3.85**	**284**	Pn	**Pn**	**10 25 56.6**	**+7.6**
	24nm,0.3s,baz=100,slow=6.1,SNR=2.1						
CMAR	**Chiang Mai Arr**	**25.40**	**285**	P	**P**	**10 30 20.7**	**+3.2**
	0.3nm,0.3s,mb3.3,baz=83,slow=7.6,SNR=3.2						
WRA	**Warramunga Arr**	**34.23**	**164**	P	**P**	**10 31 34.8**	**-1.0**
	0.7nm,0.7s,mb3.7,baz=347,slow=8.4,SNR=6.3						
ASAR	**Alice Springs**	**37.69**	**166**	P	**P**	**10 32 05.4**	**+0.1**
	1.0nm,0.4s,mb3.9,baz=344,slow=7.6,SNR=8.5						
STKA	**Stephens Creek**	**47.61**	**161**	P	**P**	**10 33 24.7**	**-1.1**
	3.5nm,0.8s,mb4.5,baz=336,slow=6.0,SNR=3.4						
MKAR	**Makanchi Array**	**48.85**	**322**	P	**P**	**10 33 35.4**	**0.0**
	0.3nm,0.6s,mb3.5,baz=109,slow=8.3,SNR=3.7						
KURK	**Kurchatov**	**52.86**	**325**	P	**P**	**10 34 06.7**	**+1.2**
	0.4nm,0.2s,mb3.9,baz=131,slow=9.4,SNR=2.8						

*JMA **23** 10:26:25.6±0.4, 25.13N×121.96E, h6km, M3.4*
*TAP **23** 10:26:27.9, 24.83N×121.89E, h9km, ML3.8, B*
*ISCJB **23** 10:26:28.2±0.3, 24.85N±0.02×121.94E±0.02, h10km, Error ellipse: s-maj=2.6km s-min=2.2km az=11.4*
*NEIC **23** 10:26:29.9±2.7, 24.79N×121.78E, h10km, MG3.4(JMA), Error ellipse: s-maj=31.8km s-min=10.3km az=64.0*

ISC 23 10:26:28.6±0.3, 24.83N±0.02×121.93E±0.02, h10km, n60, σ1.9/19/96, 3C-5D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILA	**Ilan**	**0.18**	**247**	P	**Pg**	**10 26 31.6**	**-0.7**
	baz=241						
ILA				*i* S	**Sg**	**10 26 34.5**	**-0.5**
	baz=241						
TWB1	**Santiao Chiao**	**0.18**	**17**	*i* P	**Pg**	**10 26 32.4**	**-0.1**
	baz=28						
TWB1				*i* S	**Sg**	**10 26 35.0**	**-0.1**
	baz=28						
TWC	**Suao**	**0.24**	**198**	*i* P	**Pg**	**10 26 32.8**	**-0.6**
	baz=177						
TWC				*i* S	**Sg**	**10 26 35.7**	**-0.9**
	baz=177						
TWE	**Neicheng**	**0.26**	**245**	*i* P	**Pg**	**10 26 33.0**	**-0.9**
	baz=238						
TWE				*i* S	**Sg**	**10 26 36.1**	**-1.3**
	baz=238						
NWF	**Wu-fen Shan**	**0.27**	**330**	*i* P	**Pg**	**10 26 34.0**	**0.0**
	baz=332						
NWF				*i* S	**Sg**	**10 26 38.0**	**+0.2**
	baz=332						
TWA	**Mucha**	**0.35**	**295**	*i* P	**Pg**	**10 26 35.0**	**-0.4**
	baz=299						
TWA				*i* S	**Sg**	**10 26 39.3**	**-0.7**
	baz=299						
ENTT	**Nioudou**	**0.38**	**240**	*i* P	**Pg**	**10 26 35.1**	**-1.0**
	baz=235						
ENTT				*e*S	**Sg**	**10 26 39.8**	**-1.4**
	baz=235						
TAP1	**Taipei**	**0.42**	**299**	P	**Pg**	**10 26 36.8**	**0.0**
	baz=302						
TAP1				S	**Sg**	**10 26 42.5**	**0.0**
	baz=302						
TATO	**Taipei**	**0.42**	**289**	*e*Pg	**Pg**	**10 26 36.1**	**-0.8**
TATO				*e*Sg	**Sg**	**10 26 41.5**	**-1.0**
ENA	**Nanau**	**0.44**	**203**	*e*P	**Pg**	**10 26 36.2**	**-0.9**
	baz=204						
ENA				*e*S	**Sg**	**10 26 41.5**	**-1.4**
	baz=204						
YHNB	**Yeheng**	**0.53**	**252**	*e*Pg	**Pg**	**10 26 37.5**	**-1.4**
YHNB				*e*Sg	**Sg**	**10 26 46.1**	**+0.3**
TWY	**Chenhua**	**0.53**	**326**	*i* P	**Pg**	**10 26 39.0**	**+0.1**
	baz=330						
TWS1	**Kuangyinshan**	**0.54**	**300**	*i* P	**Pg**	**10 26 39.4**	**+0.4**
	baz=302						
TWS1				*e*S	**Sg**	**10 26 46.5**	**+0.5**
	baz=302						
NSK	**Sanguang**	**0.54**	**253**	*i* P	**Pg**	**10 26 37.9**	**-1.2**
	baz=260						
NNS	**Nan Shan**	**0.64**	**232**	*e*P	**Pg**	**10 26 39.4**	**-1.5**
	baz=229						
NCU	**National Centr**	**0.69**	**282**	*e*P	**Pg**	**10 26 42.2**	**+0.3**
	baz=282						
NCU				*e*S	**Sg**	**10 26 51.9**	**+1.0**
	baz=282						

NACB	**Ninganchiao**	**0.72**	**205**	*e*Pn		**Pn**		**10 26 41.5**	**-3.4**
NACB				*e*Sn		**Sg**		**10 26 51.1**	**-0.9**
TWD	**Chiawan**	**0.81**	**202**	P		**Pg**		**10 26 43.1**	**-1.1**
	baz=199								
TWD				S		**Sg**		**10 26 53.1**	**-1.6**
	baz=199								
NSTT	**Nanjuang**	**0.87**	**257**	*e*P		**Pg**		**10 26 44.3**	**-1.0**
	baz=255								
NSTT				*e*S		**Sg**		**10 26 56.6**	**0.0**
	baz=255								
HSN	**Hsinchu**	**0.87**	**268**	*e*P		**Pg**		**10 26 45.1**	**-0.3**
	baz=287								
HSN				*e*S		**Sg**		**10 26 57.9**	**+1.1**
	baz=287								
TWT	**Tachien**	**0.90**	**230**	*e*P		**Pg**		**10 26 44.1**	**-1.7**
	baz=220								
WHF	**Hehuan Shan**	**0.92**	**222**	*e*P		**Pg**		**10 26 44.6**	**-1.6**
	baz=211								
YOJ	**Yonaguni jima**	**1.05**	**110**	P		**Pg**		**10 26 47.7**	**-1.1**
	baz=110								
YOJ				*e*S		**Sg**		**10 27 01.6**	**-0.9**
	baz=110								
YOJ	**Yonaguni jima**	**1.05**	**110**	P		**Pg**		**10 26 47.6**	**-1.2**
YOJ				S		**Sg**		**10 27 02.6**	**+0.1**
ESL	**Shilin**	**1.11**	**204**	*e*P		**Pb**		**10 26 48.3**	**-1.6**
	baz=202								
NSY	**Sanyi**	**1.14**	**249**	*e*P		**Pb**		**10 26 50.0**	**-0.4**
	baz=246								
NSY				*e*S		**Sb**		**10 27 06.6**	**+1.4**
	baz=246								
TWQ1	**Liyutan**	**1.16**	**246**	P		**Pb**		**10 26 50.7**	**0.0**
	baz=265								
TCU	**Taichung**	**1.33**	**239**	*e*P		**Pn**		**10 26 55.6**	**+2.4**
	baz=260								
SMLT	**Sun Moon Lake**	**1.33**	**225**	*e*P		**Pn**		**10 26 52.4**	**-0.9**
	baz=212								
TYC	**Yuchr**	**1.35**	**227**	*e*P		**Pn**		**10 26 52.7**	**-0.7**
	baz=233								
SSLB	**Suanglung**	**1.37**	**221**	*e*Pn		**Pn**		**10 26 52.7**	**-1.1**
SSLB				*e*Sn		**Sn**		**10 27 15.6**	**+3.7**
EHY	**Hungye**	**1.43**	**203**	*e*P		**Pn**		**10 26 53.9**	**-0.7**
	baz=201								
EHY				*e*S		**Sn**		**10 27 13.8**	**+0.3**
	baz=201								
WNT	**Mingjian**	**1.48**	**230**	*e*P		**Pn**		**10 26 56.3**	**+1.1**
	baz=249								
YULB	**Yu-li**	**1.55**	**202**	*e*Pn		**Pn**		**10 26 56.0**	**-0.1**
YULB				*e*Sn		**Sn**		**10 27 17.6**	**+1.3**
TWF1	**Yuli**	**1.58**	**202**	*e*P		**Pn**		**10 26 56.1**	**-0.6**
	baz=208								
TWF1				*e*S		**Sn**		**10 27 17.3**	**0.0**
	baz=208								
YUS	**Yu-Shan**	**1.61**	**214**	*e*P		**Pn**		**10 26 58.0**	**+1.0**
	baz=211								
YUS				*e*S		**Sn**		**10 27 20.5**	**+2.7**
	baz=211								
ALS	**Alishan**	**1.67**	**218**	*e*P		**Pn**		**10 26 58.6**	**+0.7**
	baz=209								
CHN5	**Tsauling**	**1.68**	**223**	*e*P		**Pn**		**10 26 59.9**	**+2.0**
	baz=220								
CHN5				*e*S		**Sn**		**10 27 22.8**	**+3.2**
	baz=220								
WGK	**Gukeng**	**1.69**	**228**	*e*P		**Pn**		**10 26 59.1**	**+0.9**
	baz=250								
IRIF	**Iriomote-Funau**	**1.71**	**106**	P		**Pn**		**10 26 56.9**	**-1.6**
IRIF				*e*S		**Sn**		**10 27 21.5**	**+1.1**
ELDTW	**Lidau**	**1.84**	**207**	*e*P		**Pn**		**10 27 00.9**	**+0.8**
	baz=190								
CHN2	**Minshiung**	**1.86**	**226**	*e*P		**Pn**		**10 27 01.1**	**+0.7**
	baz=246								
HATJ	**Hateruma jima**	**1.88**	**114**	P		**Pn**		**10 27 00.5**	**-0.2**
HATJ				*e*S		**Sn**		**10 27 26.9**	**+2.5**
CHY	**Chiayi**	**1.91**	**226**	*e*P		**Pn**		**10 26 59.5**	**-1.7**
	baz=247								
CHN4	**Tsaushan**	**1.92**	**220**	*e*P		**Pn**		**10 27 03.5**	**+2.2**
	baz=217								
CHN4				*e*S		**Sn**		**10 27 30.0**	**+4.6**
	baz=217								
TPUB

baz=192,slow=3.6
FINES **FINESS Array B** **144.63 340** PKP PKPdf 11 20 07.2 -1.7
5.3nm,0.9s,baz=41,slow=2.6,SNR=8.8

IDC 23 11:04:07.0±6.1, 27°25S×178°33W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.7/17, mbtmp3.8/3, ML3.5/1, Error ellipse: s-maj=116.9km s-min=56.1km az=77.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**11.63**	**198**	Pn	Pn	11 06 54.2	0.0
	0.3nm,0.3s,baz=308,slow=23,SNR=5.8						
ASAR	**Alice Springs**	**43.08**	**264**	P	P	11 12 08.2	-0.7
	0.8nm,0.7s,baz=104,slow=8.8,SNR=5.9						
WRA	**Warramunga Arr**	**43.78**	**269**	P	P	11 12 15.3	+0.6
	0.5nm,0.5s,baz=109,slow=7.9,SNR=5.5						
FINES	**FINESS Array B**	**142.09**	**341**	PKP	PKPdf	11 23 39.9	-0.5
	4.7nm,0.8s,baz=23,slow=4.5,SNR=5.8						

IDC 23 11:07:27.0±8.3, 10°99S×124°02E, h145km±98km, mb3.6/1, mb1 3.1/4, mb1mx3.0/18, mbtmp3.0/4, Error ellipse: s-maj=80.8km s-min=42.6km az=29.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**7.25**	**168**	P	Pn	11 09 10.2	-0.2
	0.2nm,0.3s,baz=71,slow=12,SNR=7.9						
FITZ				S	Sn	11 10 32.7	+1.4
	0.6nm,0.3s,baz=77,slow=19,SNR=7.9						
WRA	**Warramunga Arr**	**13.34**	**133**	P	Pn	11 10 29.3	-1.5
	0.1nm,0.3s,baz=304,slow=12,SNR=5.2						
WRA				S	Sn	11 12 57.0	-1.4
	0.2nm,0.3s,baz=295,slow=23,SNR=9.4						
ASAR	**Alice Springs**	**15.74**	**145**	P	Pn	11 11 01.9	+1.1
	0.2nm,0.3s,baz=317,slow=12,SNR=15						
ASAR				S	S	11 13 58.5	+2.1
	0.1nm,0.3s,baz=317,slow=24,SNR=5.8						
MKAR	**Makanchi Array**	**68.53**	**331**	P	P	11 18 13.9	+0.2
	1.1nm,0.6s,baz=138,slow=7.4,SNR=11						

WEL 23 11:23:59.0±0.3, 40°36S×173°41E, h206km±2km, ML4.0/19, Error ellipse: s-maj=2.0km s-min=1.4km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**0.59**	**139**	PN	Pn	11 24 27.3	+0.2
DUWZ				SN	Sn	11 24 48.6	-0.4
QRZ	**Quartz Range**	**0.82**	**235**	PN	Pn	11 24 27.9	-0.3
QRZ				SN	Sn	11 24 49.6	-1.4
NNZ	**Nelson**	**0.86**	**182**	PN	Pn	11 24 28.3	-0.1
NNZ				SN	Sn	11 24 50.2	-1.3
TCW	**Tory Channel**	**1.08**	**143**	PN	Pn	11 24 30.3	+0.5
TCW				SN	Sn	11 24 53.3	-0.6
TUWZ	**Tuamarina**	**1.15**	**160**	PN	Pn	11 24 30.4	+0.1
TUWZ				SN	Sn	11 24 53.7	-1.1
KIW	**Kapiti Island**	**1.25**	**114**	PN	Pn	11 24 31.3	+0.2
KIW				SN	Sn	11 24 54.6	-1.4
DREZ	**Durham Road**	**1.31**	**28**	PN	Pn	11 24 31.5	-0.1
WAZ	**Wanganui**	**1.35**	**64**	PN	Pn	11 24 32.4	+0.5
SNZO	**South Karori**	**1.37**	**135**	PN	Pn	11 24 32.0	0.0
WEL	**Wellington**	**1.39**	**132**	PN	Pn	11 24 32.3	+0.1
WEL				SN	Sn	11 24 56.8	-1.3
BSWZ	**Blackbirch Sta**	**1.40**	**166**	PN	Pn	11 24 32.4	+0.1
BSWZ				SN	Sn	11 24 58.1	-0.3
OGWZ	**Otaki Gorge**	**1.42**	**110**	PN	Pn	11 24 32.7	+0.3
OGWZ				SN	Sn	11 24 58.0	-0.4
THZ	**Tophouse**	**1.46**	**195**	PN	Pn	11 24 32.5	-0.2
MHEZ	**Mangahewa**	**1.46**	**29**	PN	Pn	11 24 33.2	+0.4
CAW	**Cannon Point**	**1.47**	**121**	PN	Pn	11 24 33.0	+0.1
BHW	**Baring Head**	**1.53**	**134**	PN	Pn	11 24 33.1	-0.2
VRZ	**Vera Road**	**1.61**	**41**	PN	Pn	11 24 33.6	-0.6
MRZ	**Mangatainoka R**	**1.68**	**101**	PN	Pn	11 24 34.0	-0.8
HOWZ	**Holdsworth Sta**	**1.69**	**109**	PN	Pn	11 24 34.8	-0.1
MSWZ	**Moikau Station**	**1.75**	**128**	PN	Pn	11 24 35.2	-0.2
MTW	**Mount Morrison**	**1.78**	**117**	PN	Pn	11 24 35.5	-0.2
POWZ	**Post Office Ro**	**1.80**	**92**	PN	Pn	11 24 35.9	-0.1
PAWZ	**Paruwai Farm**	**1.84**	**124**	PN	Pn	11 24 36.1	-0.2
DSZ	**Dennistoun Nort**	**1.85**	**221**	PN	Pn	11 24 35.6	-0.7
PLWZ	**Palliser**	**1.85**	**132**	PN	Pn	11 24 36.1	-0.2
TIWZ	**Tintock**	**1.93**	**103**	PN	Pn	11 24 37.3	+0.1
WNVZ	**Wahianoa**	**1.97**	**59**	PN	Pn	11 24 37.3	-0.4
FWVZ	**Far West T-bar**	**1.98**	**57**	PN	Pn	11 24 37.0	-0.7
WPVZ	**Whakapapa**	**2.01**	**56**	PN	Pn	11 24 37.3	-0.7
TRWZ	**Traveller**	**2.02**	**122**	PN	Pn	11 24 38.0	-0.1
TMWZ	**Te Maipa**	**2.03**	**113**	PN	Pn	11 24 38.1	-0.1
TUVZ	**Tukino**	**2.04**	**59**	PN	Pn	11 24 37.8	-0.5
KHZ	**Kahutara**	**2.06**	**177**	PN	Pn	11 24 37.6	-0.9
DVHZ	**Dannevirke**	**2.11**	**80**	PN	Pn	11 24 38.7	-0.3
OTVZ	**Oturere**	**2.11**	**56**	PN	Pn	11 24 38.4	-0.6
HIZ	**Hauiti**	**2.15**	**32**	PN	Pn	11 24 38.2	-1.4
PNHZ	**Pukenui**	**2.18**	**79**	PN	Pn	11 24 39.4	-0.4
BFZ	**Birch Farm**	**2.19**	**99**	PN	Pn	11 24 39.7	-0.1
BHHZ	**Black Hill Sta**	**2.21**	**68**	PN	Pn	11 24 39.0	-1.2
WPHZ	**Waipukurau**	**2.34**	**84**	PN	Pn	11 24 41.2	-0.2
PRHZ	**Porangahau**	**2.47**	**89**	PN	Pn	11 24 42.7	-0.1
LTZ	**Lake Taylor**	**2.57**	**199**	PN	Pn	11 24 42.8	-1.1
BKZ	**Black Stump Fm**	**2.66**	**64**	PN	Pn	11 24 43.7	-1.3
PXZ	**Pawanui**	**2.66**	**84**	PN	Pn	11 24 44.7	-0.3
MCHZ	**McNeill Hill**	**2.69**	**71**	PN	Pn	11 24 45.1	-0.3
KAHZ	**Kahuranaki**	**2.72**	**79**	PN	Pn	11 24 45.7	+0.1
CKHZ	**Cape Kidnapper**	**2.90**	**77**	PN	Pn	11 24 47.8	+0.1
RAHZ	**Arahi**	**3.18**	**64**	PN	Pn	11 24 50.1	-1.0
WVZ	**Waitaha Valley**	**3.38**	**216**	PN	Pn	11 24 51.7	-1.6
MQZ	**McQueen's Vall**	**3.40**	**189**	PN	Pn	11 24 51.1	-2.4
KNZ	**Kokohu**	**3.55**	**69**	PN	Pn	11 24 54.0	-1.5
URZ	**Urewera**	**3.55**	**55**	PN	Pn	11 24 53.2	-2.3
MHGZ	**Mahia Peninsul**	**3.67**	**72**	PN	Pn	11 24 56.3	-0.6
PRGZ	**Paritu Road**	**3.74**	**69**	PN	Pn	11 24 56.6	-1.1
MWZ	**Matawai**	**3.78**	**59**	PN	Pn	11 24 56.0	-2.2
RPZ	**Rata Peaks**	**3.79**	**207**	PN	Pn	11 24 56.4	-1.9
CNGZ	**Carnagh Statio**	**4.16**	**65**	PN	Pn	11 25 01.5	-1.5
FOZ	**Fox Glacier**	**4.24**	**220**	PN	Pn	11 25 00.2	-3.6
LBZ	**Lake Benmore**	**4.68**	**210**	PN	Pn	11 25 06.9	-2.6
MXZ	**Matakaoa Point**	**4.73**	**55**	PN	Pn	11 25 07.8	-2.2
ODZ	**Otahua Downs**	**5.11**	**203**	PN	Pn	11 25 12.8	-2.0
WKZ	**Wanaka**	**5.52**	**215**	PN	Pn	11 25 16.6	-3.5
TUZ	**Tuapeka**	**6.24**	**205**	PN	Pn	11 25 26.7	-2.6
WHZ	**Wether Hill Ro**	**6.83**	**214**	PN	Pn	11 25 32.9	-4.0

MOS ***23*** *11:57:43.6±1.1, 4.48S×152.96E, h46km, mb5.5/29, Error ellipse: s-maj=9.6km s-min=6.3km az=98.9*
ISCJB ***23*** *11:57:44.5±0.8, 4.62S±0.03×153.11E±0.03, h53km±6km, mb5.3/138, MS4.5/43, Error ellipse: s-maj=5.4km s-min=5.1km az=26.4*
IDC ***23*** *11:57:46.1±1.7, 4.67S×152.96E, h52km±14km, mb4.8/23, mb1 4.8/24, mb1mx4.8/25, mbtmp4.8/24, ML4.5/1, MS4.4/25, Ms1 4.4/25, ms1mx4.3/30, Error ellipse: s-maj=14.7km s-min=9.2km az=102.0*
BJI ***23*** *11:57:46.4, 4.43S×153.36E, h74km, mB5.3/38, mb5.3/56, Ms4.8/44, Ms7 4.7/47*
NEIC ***23*** *11:57:48.4±0.9, 4.64S×153.05E, h74km±8km, mb5.2/57, Error ellipse: s-maj=6.3km s-min=4.9km az=83.0*
GCMT ***23*** *11:57:49.4±0.1, 4.88S×153.00E, h56km, MW5.3, Moment Tensor Solution. s90,c154; s89,c166; Moment tensor: Scale 10^17^Nm; Mrr1.11±.02; Mθθ-1.17±.02; Mφφ0.06±.02; Mrθ0.46±.02; Mθφ-0.01±.02; Mφr0.01±.01; Best double couple: Mo1.20000×10^17^ NP1:φs270.00000°, δ34.00000°, λ90.00000°. NP2:φs89.00000°, δ56.00000°, λ90.00000°. Principal axes: T 1.2000, Plg79.0000°, Azm358.0000°; N 0.0600, Plg0.0000°, Azm89.0000°; P -1.2600, Plg11.0000°, Azm179.0000°; Data Used: II IU IC G CN.*
DJA ***23*** *11:57:51, 4.82S×153.17E, h97km, mb5.4/40*
ISC 23 11:57:48.6±0.7, 4.70S±0.03×153.10E±0.03, h76km±6km, h69km±2.1km: pP-P, n533, σ1.906/328, mb5.2/138, 23C-19D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.52**	**231**	P	Pn	11 59 35.3	-0.4
	18nm,0.3s,baz=40,slow=6.9,SNR=87						
PMG				S	Sn	12 00 58.3	-1.1
	67nm,0.3s,baz=343,slow=19,SNR=9.5						
PMG	**Port Moresby**	**7.52**	**231**	*e*Pn	Pn	11 59 35.0	-0.6
PMG				*e*Sn	Sn	12 00 58.2	-1.3
PMG	**Port Moresby**	**7.52**	**231**	*d*P	Pn	11 59 34.2	-1.4
PMG				pmax	pmax		
	comp=Z,130nm,0.6s						
PMG	**Port Moresby**	**7.52**	**231**	P	Pn	11 59 35.1	-0.5
	comp=Z,2.2nmcomp=Z,3μmcomp=Z,212nm,0.7s						
HNR	**Honiara**	**8.26**	**125**	*e*Pn	Pn	11 59 46.8	+1.2
HNR				*e*Sn	Sn	12 01 20.4	+3.0
HNR	**Honiara**	**8.26**	**125**	*e*P	Pn	11 59 46.8	+1.1
HNR				*e*		12 01 20.4	
JAY	**Jayapura**	**12.56**	**280**	P	Pn	12 00 54.6	+10
COEN	**Coen**	**13.43**	**226**	*e*Pn	Pn	12 00 56.4	+0.5
COEN	**Coen**	**13.43**	**226**	P	Pn	12 00 56.7	+0.7
	comp=Z,1μmcomp=Z,96nm,1.2s						
SMPI	**Sarmi**	**14.62**	**280**	P	Pn	12 01 16.1	+4.5
	comp=Z,187nm,0.7s						
CTA	**Charters Tower**	**16.68**	**203**	P	Pn	12 01 37.9	+0.2
	comp=Z,1.1nm,0.3s,baz=26,slow=14,SNR=30						
CTA	**Charters Tower**	**16.68**	**203**	*e*P	Pn	12 01 38.2	+0.6
	comp=Z,44nm,0.9s						
CTA				*e*S	S	12 04 46.8	-2.4
CTA				*e*S	S	12 05 11.8	+23
CTA	**Charters Tower**	**16.68**	**203**	P	Pn	12 01 37.9	+0.2
CTA	**Charters Tower**	**16.68**	**203**	P	Pn	12 01 37.9	+0.3
CTAO	**Charters Tower**	**16.68**	**203**	*e*P	Pn	12 01 38.0	+0.4
	comp=Z,114nm,1.1s						
CTAO	**Charters Tower**	**16.68**	**203**	*e*P	Pn	12 01 38.1	+0.5
CTAO				pmax	pmax		
	comp=Z,114nm,1.1s						
CTAO	**Charters Tower**	**16.68**	**203**	P	Pn	12 01 38.4	+0.8
	comp=Z,2μmcomp=Z,108nm,1.3s						
GUMO	**Guam**	**19.93**	**336**	P	Pn	12 02 15.3	-1.4
	comp=Z,5.6nm,0.3s,baz=157,slow=10.0,SNR=8.7						
GUMO				LR	LR	12 08 57.8	
	comp=Z,780nm,19.1s,baz=153,slow=34						
GUMO	**Guam**	**19.93**	**336**	*e*P	Pn	12 02 16.4	-0.3
	comp=Z,618nm,1.2s						
GUMO	**Guam**	**19.93**	**336**	*e*P	Pn	12 02 16.4	-0.3
GUMO				pmax	pmax		
	comp=Z,618nm,1.2s						
GUMO	**Guam**	**19.93**	**336**	P	Pn	12 02 20.1	+3.4
	comp=Z,427nm,1.1s						
TLE	**Tual**	**20.30**	**266**	P	P	12 02 24.8	+6.2
EIDS	**Eidsvold**	**20.64**	**185**	*e*P	P	12 02 23.0	+1.0
	comp=Z,141nm,1.3s						
NOUC	**Port Laguerre**	**21.51**	**145**	*e*P	P	12 02 29.6	-1.9
DZM	**Mont Dzumac**	**21.57**	**144**	*e*P	P	12 02 32.5	+0.5
	comp=Z,505nm,1.1s,mb5.7						
DZM				*e*LR	LR	12 07 59.1	
	comp=Z,5μm,26.8s						
DZM	**Mont Dzumac**	**21.57**	**144**	*e*P	P	12 02 28.9	-3.2
KAKA	**Kakadu**	**21.90**	**247**	*e*P	P	12 02 34.0	-1.7
	comp=Z,180nm,0.4s,mb5.8						
KAKA	**Kakadu**	**21.90**	**247**	*e*P	P	12 02 33.9	-1.8
	comp=Z,736nm,0.6s,mb6.2						
WRAB	**Tennant Creek**	**23.72**	**229**	*e*P	P	12 02 53.7	-0.1
	comp=Z,153nm,0.8s,mb5.4						
WRAB				*e*S	S	12 07 04.5	+0.9
WRAB	**Tennant Creek**	**23.72**	**229**	*e*P	P	12 02 53.7	-0.1
WRAB				*e*S	S	12 07 04.5	+0.9
WRAB				pmax	pmax		
	comp=Z,153nm,0.8s,mb5.4						
WRAB	**Tennant Creek**	**23.72**	**229**	P	P	12 02 53.7	-0.1
	comp=Z,622nm,0.5s,mb6.2,SNR=40						
WRAB	**Tennant Creek**	**23.72**	**229**	P	P	12 02 53.9	+0.1
	comp=Z,3μmcomp=Z,187nm,0.8s,mb5.5						
WB2	**Warramunga Arr**	**23.73**	**229**	*e*P	P	12 02 53.8	0.0
WB2				*e*S	S	12 07 02.5	-1.1
WRA	**Warramunga Arr**	**23.73**	**229**	P	P	12 02 53.6	-0.3
	comp=Z,50nm,0.5s,mb5.1,baz=51,slow=9.9,SNR=351						
WRA				S	S	12 07 03.6	-0.2
	comp=Z,3.6nm,1.0s,baz=52,slow=15,SNR=7.5						
WRA				ScP	ScP	12 10 10.6	+2.6
	comp=Z,5.4nm,1.1s,baz=52,slow=3.2,SNR=4.9						
WRA				LR	LR	12 12 20.3	
	comp=Z,867nm,21.6s,baz=55,slow=37						
WRA				PKiKP	PKiKP	12 14 19.1	-0.6
	comp=Z,0.5nm,0.5s,baz=310,slow=1.1,SNR=7.4						
WRA				SKKS		12 36 26.8	
	comp=Z,0.2nm,0.2s,baz=230,slow=2.1,SNR=8.1						
WRA	**Warramunga Arr**	**23.73**	**229**	P	P	12 02 53.6	-0.3
WRA				S	S	12 07 03.6	-0.2
WRA				ScP	ScP	12 10 10.6	+2.6
WRA				PKiKP	PKiKP	12 14 19.1	-0.6
WRA				SKKS		12 36 26.8	
WRA	**Warramunga Arr**	**23.73**	**229**	P	P	12 02 53.6	-0.3
WRA				S	S	12 07 03.7	-0.1
AAI	**Ambon**	**24.86**	**271**	P	P	12 03 05.0	+0.7
	comp=Z,2μmcomp=Z,100nm,0.7s,mb5.3						
ARMA	**Armidale**	**25.62**	**183**	*e*P	P	12 03 12.4	+1.5
ARMA				*e*S	S	12 07 37.9	+4.2
ARMA	**Armidale**	**25.62**	**183**	*e*P	P	12 03 12.9	+1.9
	comp=Z,52nm,0.9s,mb5.0						
LBMI	**Labuha**	**25.89**	**278**	P	P	12 03 14.3	+0.7
	comp=Z,2μmcomp=Z,185nm,1.5s,mb5.3						
NLAI	**Namlea**	**25.98**	**272**	P	P	12 03 15.2	+0.7
	comp=Z,766nmcomp=Z,511nm,0.9s,mb4.9						
TNTI	**Ternate**	**26.28**	**281**	P	P	12 03 17.7	+0.5
	comp=Z,124nm,1.2s,mb5.2						
ASAR	**Alice Springs**	**26.42**	**223**	P	P	12 03 17.9	-0.4
	comp=Z,5.0nm,0.6s,mb4.1,baz=57,slow=8.8,SNR=67						
ASAR				S	S	12 07 46.9	+0.3
	comp=Z,1.8nm,0.8s,baz=50,slow=14,SNR=2.4						
ASAR				ScP	ScP	12 10 19.1	+3.6
	comp=Z,1.4nm,0.8s,baz=63,slow=2.6,SNR=3.3						
ASAR				PKiKP	PKiKP	12 14 20.6	-0.6
	comp=Z,0.3nm,0.8s,baz=352,slow=1.7,SNR=4.1						
ASAR	**Alice Springs**	**26.42**	**223**	P	P	12 03 17.9	-0.4
ASAR				S	S	12 07 46.9	+0.3
ASAR				ScP	ScP	12 10 19.1	+3.6
ASAR				PKiKP	PKiKP	12 14 20.6	-0.6
ASAR	**Alice Springs**	**26.42**	**223**	P	P	12 03 18.0	-0.3
ASAR				S	S	12 07 46.9	+0.3
STKA	**Stephens Creek**	**29.11**	**200**	P	P	12 03 41.4	-0.8
	comp=Z,9.7nm,0.6s,mb4.6,baz=20,slow=12,SNR=13						
STKA				LR	LR	12 14 58.7	
	comp=Z,2μm,21.8s,baz=18,slow=36						
STKA	**Stephens Creek**	**29.11**	**200**	*e*P	P	12 03 41.6	-0.6
	comp=Z,12nm,0.8s,mb4.6						
STKA				*e*S	S	12 08 27.8	-0.9
STKA	**Stephens Creek**	**29.11**	**200**	*e*P	P	12 03 42.2	0.0
	comp=Z,3.7nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**29.11**	**200**	*e*P	P	12 03 42.2	0.0
STKA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KMSI	**Cibinong**	**29.56**	**279**	P	P	12 03 49.1	+2.6
	comp=Z,226nm,0.7s,mb5.9						
DAV	**Davao City (W)**	**29.86**	**293**	LR	LR	12 13 36.2	
	comp=Z,684nm,20.4s,baz=102,slow=32						
FITZ	**Fitzroy Crossi**	**29.97**	**241**	*e*P	P	12 03 49.0	-1.0
	comp=Z,138nm,0.6s,mb5.8						
FITZ				*e*S	S	12 08 38.8	-3.8
FITZ	**Fitzroy Crossi**	**29.97**	**241**	*e*P	P	12 03 49.0	-1.1
	comp=Z,68nm,0.6s,mb5.5						
FITZ	**Fitzroy Crossi**	**29.97**	**241**	P	P	12 03 49.0	-1.0
	comp=Z,804nmcomp=Z,102nm,0.7s,mb5.6						
LUWI	**Luwuk**	**30.50**	**276**	P	P	12 03 55.8	+1.0
	comp=Z,2μmcomp=Z,99nm,1.5s,mb5.3						
KAPI	**Kappang**	**33.23**	**268**	*e*P	P	12 04 16.5	-2.2
	comp=Z,18nm,0.7s,mb5.0						
SPSI	**Sidrap Palu**	**33.24**	**270**	P	P	12 04 20.0	+1.1
	comp=Z,31nm,0.8s,mb5.2						
FORT	**Forrest**	**35.05**	**219**	*e*P	P	12 04 34.5	+0.2
	comp=Z,55nm,0.7s,mb5.5						
FORT	**Forrest**	**35.05**	**219**	*e*P	P	12 04 34.6	+0.3
	comp=Z,109nm,0.9s,mb5.7						
AFI	**Afiamalu**	**35.80**	**107**	LR	LR	12 17 20.3	
	comp=Z,592nm,20.2s,baz=113,slow=33						
MYLDM	**Lahad Datu**	**35.93**	**285**	P	P	12 04 43.1	+1.1
	comp=Z,967nmcomp=Z,91nm,1.1s,mb5.6						
MBWA	**Marble Bar**	**36.28**	**240**	*e*P	P	12 04 43.6	-1.3
MBWA	**Marble Bar**	**36.28**	**240**	*e*P	P	12 04 43.9	-1.1
	comp=Z,55nm,0.6s,mb5.7						
MBWA	**Marble Bar**	**36.28**	**240**	P	P	12 04 44.1	-0.8
	comp=Z,97nm,0.7s,mb5.8						
TSM	**Tawau**	**36.31**	**284**	P	P	12 04 45.2	-0.1
KKM	**Kota Kinabalu**	**38.35**	**286**	P	P	12 05 02.8	+0.2
KKM	**Kota Kinabalu**	**38.35**	**286**	*e*P	P	12 05 01.9	-0.7
	comp=Z,32nm,0.9s,mb5.2						
KKM	**Kota Kinabalu**	**38.35**	**286**	P	P	12 05 03.1	+0.6
	comp=Z,704nmcomp=Z,52nm,1.2s,mb5.2						
PLKI	**Palangkaraya**	**39.16**	**272**	P	P	12 05 09.2	-0.1
	comp=Z,4μm,0.3s						
JOW	**Kunigami**	**39.49**	**324**	P	P	12 05 11.8	-0.1
	comp=Z,137nm,0.9s,mb5.8,baz=148,slow=7.4,SNR=16						
JOW				LR	LR	12 19 02.0	
	comp=Z,279nm,20.6s,baz=146,slow=32						
JOW	**Kunigami**	**39.49**	**324**	*e*P	P	12 05 12.8	+0.9
	comp=Z,50nm,0.8s,mb5.4						
JOW				*e*	pP	12 05 28.4	-1.8
URZ	**Urewera**	**39.92**	**150**	P	P	12 05 15.7	+0.4
	comp=Z,14nm,0.8s,mb4.9,baz=109,slow=2.2,SNR=3.9						
URZ				LR	LR	12 19 42.4	
	comp=Z,314nm,20.8s,baz=322,slow=33						
URZ	**Urewera**	**39.92**	**150**	*e*P	P	12 05 17.6	+2.3
	comp=Z,58nm,0.8s,mb5.5						
URZ				*e*	pP	12 05 36.4	+2.8
PWJI	**Pagerwojo**	**41.16**	**263**	P	P	12 05 24.9	-1.0
	comp=Z,48nm,1.1s,mb5.2						
SJI	**Sawahan**	**41.19**	**264**	P	P	12 05 26.1	-0.1
	comp=Z,39nm,0.6s,mb5.4						
PBKI	**Pangkalan Bun**	**41.39**	**271**	P	P	12 05 28.8	+1.0
	comp=Z,2μmcomp=Z,174nm,1.0s,mb5.8						
SBUM	**Sibu**	**41.46**	**279**	P	P	12 05 29.0	+0.6
SBUM	**Sibu**	**41.46**	**279**	P	P	12 05 28.5	+0.1
	comp=Z,769nmcomp=Z,41nm,1.5s,mb5.0						
YULB	**Yu-li**	**41.75**	**313**	*e*P	P	12 05 30.2	-0.3
	comp=Z,44nm,0.8s,mb5.2						
PCJI	**Pacitan**	**41.79**	**263**	P	P	12 05 29.3	-1.8
	comp=Z,143nm,0.7s,mb5.8						
STKI	**Sintang**	**41.85**	**275**	P	P	12 05 33.1	+1.6
	comp=Z,44nm,1.2s,mb5.0						
RPZ	**Rata Peaks**	**41.96**	**160**	P	P	12 05 32.2	+0.2
	comp=Z,20nm,0.7s,mb5.0,baz=48,slow=2.3,SNR=14						
RPZ	**Rata Peaks**	**41.96**	**160**	*e*P	P	12 05 33.4	+1.4
	comp=Z,68nm,0.8s,mb5.4						
RPZ				*e*	pP	12 05 47.4	-3.1
NACB	**Ninganchiao**	**42.02**	**315**	*e*P	P	12 05 32.8	+0.1
	comp=Z,82nm,0.9s,mb5.5						
TPUB	**Ta-pu**	**42.18**	**313**	*e*P	P	12 05 33.0	-1.0
	comp=Z,34nm,0.7s,mb5.2						
SSLB	**Suanglung**	**42.24**	**314**	*e*P	P	12 05 33.6	-0.9
	comp=Z,22nm,0.6s,mb5.1						
YHNB	**Yeheng**	**42.48**	**315**	*e*P	P	12 05 36.9	+0.3
	comp=Z,68nm,0.9s,mb5.4						
KLBR	**Kellerberrin**	**42.59**	**227**	*e*P	P	12 05 36.4	-0.9
	comp=Z,21nm,0.6s,mb5.0						
ODZ	**Otahua Downs**	**43.02**	**162**	*e*P	P	12 05 38.3	-2.3
	comp=Z,234nm,1.2s,mb5.8						
JNU	**Nakatsue**	**43.12**	**332**	*e*P	P	12 05 40.4	-1.0
	comp=Z,37nm,0.9s,mb5.1						
KSM	**Kuching**	**43.19**	**277**	P	P	12 05 42.8	+0.3
KSM	**Kuching**	**43.19**	**277**	*e*P	P	12 05 42.1	-0.4
	comp=Z,24nm,0.8s,mb5.0						
KSM				*e*	pP	12 05 56.9	-4.2
KSM	**Kuching**	**43.19**	**277**	P	P	12 05 42.7	+0.2
	comp=Z,723nmcomp=Z,54nm,1.5s,mb5.0						
BJII	**Banjamegara**	**43.22**	**264**	P	P	12 05 45.6	+2.9
	comp=Z,66nm,0.7s,mb5.5						
MJAR	**Matsushiro Arr**	**43.33**	**342**	P	P	12 05 40.6	-2.6
	comp=Z,4.4nm,0.7s,mb4.3,baz=168,slow=8.4,SNR=14						
MJAR				PcP	PcP	12 07 31.2	+0.4
	comp=Z,15nm,1.0s,baz=174,slow=4.4,SNR=11						
MJAR				LR	LR	12 22 00.6	
	comp=Z,476nm,21.1s,baz=185,slow=34						
MJAR	**Matsushiro Arr**	**43.33**	**342**	P	P	12 05 40.5	-2.6
MJAR				PcP	PcP	12 07 31.2	+0.4
MJAR	**Matsushiro Arr**	**43.33**	**342**	P	P	12 05 40.6	-2.5
MJAR						12 07 31.2	
MAJO	**Matsushiro**	**43.33**	**342**	*e*P	P	12 05 41.5	-1.7
	comp=Z,8.6nm,0.6s,mb4.7						
MAJO	**Matsushiro**	**43.33**	**342**	*e*P	P	12 05 41.5	-1.7
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.7						
NWAO	**Narrogin (SRO)**	**43.67**	**226**	LR	LR	12 24 08.6	
	comp=Z,651nm,19.7s,baz=63,slow=36						
QZH	**Quanzhou**	**44.65**	**313**	P	P	12 05 52.1	-1.8
QZH				pmax	pmax		
	comp=Z,350nm,0.9s,mb6.1						
QZH				LR	LR		
	comp=Z,2μm,30.2s						
CISI	**Cisompet,

MDJ				sP	sP	12 07 26.6	-1.8		
MDJ				PcP	PcP	12 08 07.1	+0.1		
MDJ				PP	PP	12 09 00.6	-1.4		
MDJ				S	**S**	**12 14 26.1**	**-1.3**		
MDJ				sS	sS	12 14 56.5	-3.5		
MDJ				SS	SS	12 18 05.3	-3.4		
MDJ				pmax	pmax				
	comp=Z,33nm,1.0s,mb5.3								
MDJ				pmax	pmax				
	comp=Z,160nm,7.7s								
MDJ				LR	LR				
	comp=N,380nm,26.8s								
MDJ				LR	LR				
	comp=E,240nm,31.0s								
MDJ				LR	LR				
	comp=Z,500nm,27.9s								
MDJ	**Mudanjiang**	**53.44**	**339**	*e*P	**P**	**12 07 00.5**	**-0.2**		
	comp=Z,12nm,0.6s,mb5.1								
SNY	**Shenyang**	**53.55**	**333**	⇑P	**P**	**12 07 18.9**	**+17**		
SNY				PP	PP	12 09 19.5	+16		
SNY				S	**S**	**12 14 40.4**	**+11**		
SNY				SS	SS	12 19 01.9	+51		
SNY				pmax	pmax				
	comp=Z,11nm,0.6s,mb5.1								
SNY				pmax	pmax				
	comp=Z,210nm,4.0s								
SNY				LR	LR				
	comp=E,390nm,21.6s								
SNY				LR	LR				
	comp=Z,550nm,27.8s								
ENH	**Enshi**	**54.31**	**313**	*e*P	**P**	**12 07 07.5**	**+0.1**		
	comp=Z,90nm,1.2s,mb5.7								
CN2	**Changchun**	**54.33**	**336**	*e*P	**P**	**12 07 09.5**	**+2.2**		
CN2				*es*P	sP	12 07 36.5	+1.5		
CN2				*e*S	**S**	**12 14 40.5**	**+0.9**		
CN2				pmax	pmax				
	comp=Z,30nm,1.2s,mb5.2								
CN2				pmax	pmax				
	comp=Z,200nm,4.0s								
CN2				LR	LR				
	comp=N,200nm,10.0s								
CN2				LR	LR				
	comp=E,200nm,10.0s								
CN2				LR	LR				
	comp=Z,200nm,10.0s								
GYA	**Guiyang**	**54.58**	**307**	⇓*i*P	**P**	**12 07 11.9**	**+2.5**		
GYA				pP	pP	12 07 30.8	+2.2		
GYA				sP	sP	12 07 40.0	+2.9		
GYA				PP	PP	12 09 15.6	+3.0		
GYA				ScP	ScP	12 12 03.4	-0.2		
GYA				S	**S**	**12 14 44.0**	**+0.6**		
GYA				sS	sS	12 15 16.9	+0.7		
GYA				SS	SS	12 18 27.3	0.0		
GYA				pmax	pmax				
	comp=Z,20nm,1.0s,mb5.1								
GYA				pmax	pmax				
	comp=Z,130nm,5.0s								
GYA				LR	LR				
	comp=N,640nm,18.8s								
GYA				LR	LR				
	comp=E,550nm,19.0s								
GYA				LR	LR				
	comp=Z,710nm,19.0s								
HABR	**Khabarovsk**	**55.26**	**345**	*ce*P	**P**	**12 07 12.1**	**-1.8**		
HABR				*e**PP	pP	12 07 27.9	-5.3		
HABR				*e*		12 08 13.0			
HABR				*e*S	**S**	**12 14 50.5**	**-1.3**		
HABR				*e*		12 16 55.6			
HABR				*e*SS	SS	12 18 36.2	-1.2		
HABR				pmax	pmax				
	comp=Z,163nm,1.9s,mb5.7								
HABR				pmax	pmax				
	comp=N,96nm,2.8s								
HABR				pmax	pmax				
	comp=E,163nm,2.8s								
HABR				MLR	MLR				
	comp=Z,156nm,15.0s								
BJT	**Baijiatuau**	**55.97**	**326**	*e*P	**P**	**12 07 18.7**	**-0.4**		
	comp=Z,8.9nm,0.4s,mb5.2								
BJT				*e*	pP	12 07 35.2	-3.3		
BJT	**Baijiatuau**	**55.97**	**326**	*e*P	**P**	**12 07 18.7**	**-0.4**		
BJT				*e*	pP	12 07 35.2	-3.2		
BJT				pmax	pmax				
	comp=Z,9.0nm,0.4s								
BJI	**Beijing**	**55.98**	**326**	P	**P**	**12 07 19.3**	**+0.1**		
BJI				pP	pP	12 07 39.4	+0.9		
BJI				S	**S**	**12 15 05.0**	**+3.3**		
BJI				sS	sS	12 15 36.3	+1.7		
BJI				SS	SS	12 18 48.4	-0.6		
BJI				pmax	pmax				
	comp=Z,15nm,1.3s,mb4.9								
BJI				LR	LR				
	comp=N,390nm,19.1s								
BJI				LR	LR				
	comp=E,470nm,28.7s								
BJI				LR	LR				
	comp=Z,690nm,28.7s								
XAN	**Xi'an**	**56.76**	**316**	P	**P**	**12 07 24.0**	**-0.9**		
XAN				pP	pP	12 07 43.8	-0.4		
XAN				sP	sP	12 07 51.9	-0.8		
XAN				PP	PP	12 09 29.4	-2.6		
XAN				pmax	pmax				
	comp=Z,8.0nm,1.2s,mb4.6								
XAN				pmax	pmax				
	comp=Z,45nm,9.8s								
XAN				LR	LR				
	comp=N,210nm,21.7s								
XAN				LR	LR				
	comp=E,110nm,21.7s								
XAN				LR	LR				
	comp=Z,160nm,20.7s								
KLR	**Kul'dur**	**56.84**	**343**	⇓*i*P	**P**	**12 07 21.7**	**-3.4**		
KLR				*e*	pP	12 07 36.2	-8.3		
KLR				*e*S	**S**	**12 15 11.0**	**-1.7**		
KLR				pmax	pmax				
	comp=E,50nm,1.6s								
KLR				pmax	pmax				
	comp=Z,170nm,1.6s,mb5.8								
KMI	**Kunming**	**57.18**	**304**	P	**P**	**12 07 29.4**	**+1.4**		
KMI				pP	pP	12 07 47.8	+0.4		
KMI				PP	PP	12 09 39.4	+3.5		
KMI				S	**S**	**12 15 20.3**	**+2.2**		
KMI				sS	sS	12 15 52.0	+0.9		
KMI				SS	SS	12 19 12.1	+3.6		
KMI				pmax	pmax				
	comp=Z,20nm,1.2s,mb5.0								
KMI				pmax	pmax				
	comp=Z,220nm,4.2s								
KMI				LR	LR				
	comp=N,180nm,20.3s								
KMI				LR	LR				
	comp=E,430nm,24.0s								
KMI				LR	LR				
	comp=Z,700nm,24.9s								
PPT	**Papeete**	**57.47**	**108**	*e*S	**S**	**12 15 23.2**	**+1.1**		
	comp=Z,244nm,26.5s								
PPT				*e*LQ		12 22 00.8			
	comp=Z,534nm,31.2s								
PPT				*e*LR	LR	12 24 26.3			
	comp=Z,304nm,24.2s								
TIAR	**Tiarei**	**57.69**	**108**	*e*P	**P**	**12 07 32.3**	**+0.6**		
	comp=Z,66nm,0.8s,mb5.7								
PET	**Petropavlovsk**	**57.70**	**4**	*e*P	**P**	**12 07 31.0**	**-0.1**		
PEA0B	**Petropavlovsk-**	**57.73**	**3**	*e*P	**P**	**12 07 31.1**	**-0.2**		
PETK	**Petropavlovsk-**	**57.73**	**3**	P	**P**	**12 07 31.4**	**+0.1**		
	comp=Z,26nm,0.8s,mb5.3,baz=167,slow=7.4,SNR=57								
PETK				PcP	PcP	12 08 24.4	+1.1		
	comp=Z,22nm,0.9s,baz=160,slow=4.6,SNR=5.4								
PETK				LR	LR	12 27 49.5			
	comp=Z,449nm,22.0s,baz=217,slow=31								
PETK	**Petropavlovsk-**	**57.73**	**3**	P	**P**	**12 07 31.4**	**+0.1**		
PETK				PcP	PcP	12 08 24.4	+1.1		
PETK	**Petropavlovsk-**	**57.73**	**3**	P	**P**	**12 07 31.4**	**+0.1**		
PETK						12 08 24.4			
CHRT	**Chiangrai**	**57.80**	**297**	P	**P**	**12 07 32.0**	**-0.5**		
CM31	**Chiang Mai Arr**	**58.11**	**295**	*e*P	**P**	**12 07 35.8**	**+1.2**		
	comp=Z,13nm,0.6s,mb5.1								
CMAR	**Chiang Mai Arr**	**58.11**	**295**	P	**P**	**12 07 35.3**	**+0.6**		
	comp=Z,18nm,0.7s,mb5.2,baz=124,slow=6.0,SNR=124								
CMAR				LR	LR	12 31 02.0			
	comp=Z,298nm,21.4s,baz=288,slow=34								
CMAR				PKP2bc		12 37 27.9			
	comp=Z,0.8nm,0.8s,baz=256,slow=3.6,SNR=4.6								
CMAR	**Chiang Mai Arr**	**58.11**	**295**	P	**P**	**12 07 35.3**	**+0.6**		
CMAR				*e*		12 37 27.9			
CMAR	**Chiang Mai Arr**	**58.11**	**295**	P	**P**	**12 07 35.3**	**+0.6**		
CHG	**Chiang Mai**	**58.22**	**295**	P	**P**	**12 07 35.8**	**+0.4**		
CHTO	**Chiang Mai**	**58.22**	**295**	*e*P	**P**	**12 07 35.7**	**+0.3**		
	comp=Z,18nm,1.1s,mb5.0								
CHTO				*e*	pP	12 07 51.0	-3.8		
CHTO	**Chiang Mai**	**58.22**	**295**	*e*P	**P**	**12 07 35.7**	**+0.3**		
CHTO				*e*	pP	12 07 51.0	-3.8		
CHTO				pmax	pmax				
	comp=Z,18nm,1.1s,mb5.0								
CHTO	**Chiang Mai**	**58.22**	**295**	P	**P**	**12 07 35.9**	**+0.5**		
	comp=Z,563nmcomp=Z,24nm,1.4s,mb5.0								
CHTO	**Chiang Mai**	**58.22**	**295**	P	**P**	**12 07 36.0**	**+0.6**		
	SNR=8.3								
TBI	**Tubuai**	**58.32**	**114**	*e*S	**S**	**12 15 34.3**	**+1.1**		
	comp=Z,254nm,27.2s								
TBI				*e*LQ		12 22 24.4			
	comp=Z,1μm,31.0s								
TBI				*e*LR	LR	12 24 54.9			
	comp=Z,1μm,33.0s								
CD2	**Chengdu**	**58.90**	**310**	P	**P**	**12 07 40.3**	**+0.3**		
CD2				pP	pP	12 07 58.0	-1.4		
CD2				PP	PP	12 09 52.6	+1.5		
CD2				S	**S**	**12 15 41.3**	**+0.9**		
CD2				SS	SS	12 19 37.3	+2.0		
CD2				pmax	pmax				
	comp=Z,90nm,0.8s,mb5.8								
CD2				pmax	pmax				
	comp=Z,280nm,6.5s								
CD2				LR	LR				
	comp=N,630nm,22.0s								
CD2				LR	LR				
	comp=Z,870nm,24.4s								
HHC	**Hu-ho-hao-te**	**59.14**	**324**	*e*P	**P**	**12 07 42.1**	**+0.7**		
HHC				pP	pP	12 08 02.6	+1.7		
HHC				PP	PP	12 09 55.4	+2.4		
HHC				S	**S**	**12 15 43.3**	**+0.1**		
HHC				ScS	ScS	12 17 22.8	-1.8		
HHC				SS	SS	12 19 40.6	+1.8		
HHC				pmax	pmax				
	comp=Z,32nm,0.9s,mb5.3								
HHC				pmax	pmax				
	comp=Z,180nm,6.1s								
HHC				LR	LR				
	comp=N,310nm,16.5s								
HHC				LR	LR				
	comp=E,250nm,17.3s								
HHC				LR	LR				
	comp=Z,620nm,24.8s								
FX1	**Attu Island--F**	**59.83**	**14**	P	**P**	**12 07 46.3**	**+0.4**		
	comp=Z,19nm,0.6s,mb5.3,baz=225,slow=1.4,SNR=5.9								
FX1	**Attu Island--F**	**59.83**	**14**	P	**P**	**12 07 46.3**	**+0.4**		
FX1	**Attu Island--F**	**59.83**	**14**	P	**P**	**12 07 46.3**	**+0.4**		
HIA	**Hailar**	**61.07**	**336**	*e*P	**P**	**12 07 54.2**	**-0.2**		
	comp=Z,15nm,1.0s,mb5.0								
HIA				*e*	pP	12 08 14.0	0.0		
HIA	**Hailar**	**61.07**	**336**	*e*P	**P**	**12 07 54.2**	**-0.2**		
HIA				*e*	pP	12 08 14.0	0.0		
HIA				pmax	pmax				
	comp=Z,15nm,1.0s								
LZH	**Lanzhou**	**61.37**	**316**	⇑P	**P**	**12 07 58.3**	**+1.5**		
LZH				pP	pP	12 08 18.0	+1.7		
LZH				sP	sP	12 08 27.8	+3.0		
LZH				pmax	pmax				
	comp=Z,65nm,1.5s,mb5.4								
LZH				pmax	pmax				
	comp=Z,260nm,7.2s								
LZH				LR	LR				
	comp=N,510nm,17.3s								
LZH				LR	LR				
	comp=E,490nm,18.6s								
LZH				LR	LR				
	comp=Z,820nm,19.4s								
DRV	**Dumont d'Urvil**	**62.52**	**186**	S	**S**	**12 16 44.0**	**+19**		
DRV				R		12 27 00.0			
CLNS	**Chul'man**	**65.50**	**343**	*e*P	**P**	**12 08 22.7**	**-0.9**		
CLNS				*e**PP	pP	12 08 37.7	-5.6		
CLNS				*e*		12 08 51.9			
CLNS				*e*		12 17 21.5			
CLNS				*e*SSS		12 24 14.7			
CLNS				pmax	pmax				
	comp=Z,33nm,1.1s,mb5.1								
CLNS				pmax	pmax				
	comp=E,9.0nm,1.9s								
CLNS				pmax	pmax				
	comp=N,37nm,1.7s								
GTA	**Gaotai**	**65.79**	**317**	*e*P	**P**	**12 08 27.0**	**+1.2**		
GTA				pP	pP	12 08 46.1	+0.5		
GTA				sP	sP	12 08 55.1	+1.1		
GTA				S	S	12 17 06.8	+0.1		
GTA				sS	sS	12 17 39.1	-1.2		
GTA				SS	SS	12 21 23.5	+0.8		
GTA				pmax	pmax				
	comp=Z,35nm,1.3s,mb5.0								
GTA				pmax	pmax				
	comp=Z,310nm,6.9s								
GTA				LR	LR				
	comp=N,170nm,18.7s								
GTA				LR	LR				
	comp=E,310nm,20.9s								
GTA				LR	LR				
	comp=Z,460nm,21.8s								
ULN	**Ulaanbaatar**	**66.07**	**328**	*e*P	**P**	**12 08 27.5**	**+0.1**		
	comp=Z,36nm,1.3s,mb5.0								
ULN				*e*	pP	12 08 48.7	+1.5		
ULN	**Ulaanbaatar**	**66.07**	**328**	*e*P	**P**	**12 08 27.5**	**+0.1**		
ULN				pmax	pmax				
	comp=Z,36nm,1.3s,mb5.0								
ULN	**Ulaanbaatar**	**66.07**	**328**	P	**P**	**12 08 28.3**	**+0.9**		
	comp=Z,27nm,1.2s,mb4.9								
ULN	**Ulaanbaatar**	**66.07**	**328**	P	**P**	**12 08 28.4**	**+1.0**		
	SNR=6.2								
SONM	**Songino Array**	**66.40**	**328**	P	**P**	**12 08 29.8**	**+0.3**		
	comp=Z,8.6nm,0.7s,mb4.7,baz=147,slow=5.9,SNR=32								
SONM				LR	LR	12 35 49.1			
	comp=Z,330nm,21.4s,baz=289,slow=34								
SONM				PKP2ab		12 37 04.7			
	comp=Z,2.8nm,1.1s,baz=338,slow=3.4,SNR=6.8								
SONM	**Songino Array**	**66.40**	**328**	P	**P**	**12 08 29.8**	**+0.3**		
SONM				*e*		12 37 04.7			
SONM	**Songino Array**	**66.40**	**328**	P	**P**	**12 08 29.8**	**+0.3**		
SHL	**Shillong**	**66.52**	**300**	⇑*i*P	**P**	**12 08 31.5**	**+0.7**		
SEY	**Seymchan**	**67.45**	**360**	⇑*e*P	**P**	**12 08 35.9**	**0.0**		
LSA	**Lhasa**	**68.43**	**304**	*e*P	**P**	**12 08 43.8**	**+1.1**		
	comp=Z,19nm,0.8s,mb5.0								
LSA	**Lhasa**	**68.43**	**304**	*e*P	**P**	**12 08 43.8**	**+1.0**		
LSA				pmax	pmax				
	comp=Z,19nm,0.8s,mb5.0								
YAK	**Yakutsk**	**68.94**	**348**	*e*P	**P**	**12 08 45.5**	**+0.3**		
	comp=Z,48nm,1.1s,mb5.2								
YAK	**Yakutsk**	**68.94**	**348**	*e*P	**P**	**12 08 43.8**	**-1.4**		
YAK				*e*	pP	12 09 05.3	+0.2		
YAK				pmax	pmax				
	comp=Z,53nm,1.5s,mb5.2								
YAK				pmax	pmax				
	comp=E,12nm,1.5s								
YAK				pmax	pmax				
	comp=N,19nm,1.1s								
ZAK	**Zakamensk**	**69.57**	**329**	⇑*i*P	**P**	**12 08 49.5**	**+0.2**		
ZAK				*e*	pP	12 09 07.1	-2.2		
ZAK				pmax	pmax				
	comp=Z,10.0nm,0.9s,mb4.7								
TLY	**Talaya**	**70.15**	**330**	*e*P	**P**	**12 08 53.3**	**+0.5**		
	comp=Z,6.6nm,1.0s,mb4.4								
TLY	**Talaya**	**70.15**	**330**	*e*P	**P**	**12 08 53.1**	**+0.2**		
TLY				*e*S	S	12 18 00.5	+2.4		
TLY				*e*		12 18 46.3			
TLY				pmax	pmax				
	comp=Z,6.0nm,1.0s,mb4.4								
TAPN	**Taplejung**	**70.61**	**301**	*e*P	**P**	**12 08 56.6**	**+0.3**		
	comp=Z,57nm,0.7s,mb5.5								
ODAN	**Odare**	**70.75**	**300**	*e*P	**P**	**12 08 57.6**	**+0.5**		
	comp=Z,72nm,0.6s,mb5.7								
RAMN	**Ramite**	**71.46**	**300**	*e*P	**P**	**12 09 01.6**	**+0.2**		
	comp=Z,18nm,0.5s,mb5.2								
MOY	**Mondy**	**71.49**	**329**	*e*P	**P**	**12 09 02.0**	**+1.0**		
RKT	**Rikitea**	**71.55**	**113**	*e*LR	LR	12 31 07.0			
	comp=Z,1μm,27.5s								
JIRN	**Jiri**	**72.00**	**301**	*e*P	**P**	**12 09 04.6**	**0.0**		
	comp=Z,42nm,0.7s,mb5.4								
VIS	**Vishakhapatnam**	**72.31**	**290**	*e*PKP	**P**	**12 09 05.7**	**-1.0**		
VIS				AMb	AMB	12 09 10.1			
	comp=Z,26nm,1.0s,mb5.0								
GUN	**Gumba**	**72.33**	**301**	*e*P	**P**	**12 09 07.0**	**+0.4**		
	comp=Z,64nm,0.6s,mb5.6								
PKI	**Pulchoki**	**72.64**	**301**	*e*P	**P**	**12 09 08.4**	**0.0**		
KKN	**Kakani**	**72.81**	**301**	*e*P	**P**	**12 09 09.5**	**+0.1**		
	comp=Z,42nm,0.5s,mb5.5								
DMN	**Daman**	**72.91**	**301**	*e*P	**P**	**12 09 10.3**	**+0.3**		
	comp=Z,81nm,0.8s,mb5.6								
VNDA	**Vanda**	**72.92**	**178**	P	**P**	**12 09 10.4**	**+1.3**		
	comp=Z,9.9nm,0.7s,mb4.8,baz=345,slow=6.8,SNR=39								
VNDA				LR	LR	12 37 16.1			
	comp=Z,279nm,20.9s,baz=343,slow=32								
VNDA	**Vanda**	**72.92**	**178**	*e*P	**P**	**12 09 10.2**	**+1.1**		
	comp=Z,11nm,0.8s,mb4.8								
VNDA	**Vanda**	**72.92**	**178**	*e*P	**P**	**12 09 10.2**	**+1.1**		
VNDA				pmax	pmax				
	comp=Z,11nm,0.8s								
BILL	**Bilibino**	**73.17**	**5**	*e*P	**P**	**12 09 10.8**	**+0.2**		
	comp=Z,29nm,0.8s,mb5.2								
BILL	**Bilibino**	**73.17**	**5**	*c i*P	**P**	**12 09 11.0**	**+0.3**		
BILL				*e*	pP	12 09 26.5	-4.3		
BILL				*e*		12 11 54.8			
BILL				pmax	pmax				
	comp=Z,32nm,0.7s,mb5.3								
GKN	**Gorkha**	**73.41**	**301**	*e*P	**P**	**12 09 12.8**	**-0.2**		
	comp=Z,77nm,0.8s,mb5.6								
SBA	**Scott Base**	**73.46**	**177**	*e*P	**P**	**12 09 14.3**	**+2.0**		
	comp=Z,17nm,0.9s,mb4.9								
SBA				*e*	pP	12 09 30.3	-2.1		
SBA	**Scott Base**	**73.46**	**177**	*e*P	**P**	**12 09 14.4**	**+2.1**		
SBA				*e*	pP	12 09 30.3	-2.1		
SBA				pmax	pmax				
	comp=Z,17nm,0.9s,mb4.9								
KOLN	**Koldanda**	**74.25**	**300**	*e*P	**P**	**12 09 17.7**	**-0.2**		
	comp=Z,54nm,0.7s,mb5.4								
DANN	**Dangsing**	**74.25**	**301**	*e*P	**P**	**12 09 17.7**	**-0.2**		
	comp=Z,45nm,0.7s,mb5.3								
MDRS	**Chennai**	**74.45**	**285**	*ex*	x	12 09 22.2			
WMQ	**Urumqi**	**75.88**	**317**	P	**P**	**12 09 28.6**	**+1.7**		
WMQ				pP	pP	12 09 45.3	-1.8		
WMQ				PP	PP	12 12 20.9	+2.8		
WMQ				S	S	12 19 04.0	+0.5		
WMQ				pmax	pmax				
	comp=Z,13nm,0.7s,mb4.8								
WMQ				pmax	pmax				
	comp=Z,240nm,6.2s								
WMQ				LR	LR				
	comp=N,180nm,24.8s								
WMQ				LR	LR				
	comp=E,280nm,25.8s								
WMQ				LR	LR				
	comp=Z,350nm,30.2s								
KDAK	**Kodiak Island**	**75.95**	**27**	*i* P	**P**	**12 09 28.6**	**+1.6**		
HYB	**Hyderabad**	**76.75**	**289**	*i* P	**P**	**12 09 32.5**	**+0.1**		
TRD	**Trivandrum**	**77.05**	**280**	*e*PKP	**P**	**12 09 32.1**	**-2.0**		
BHPL	**Bhopal**	**78.77**	**295**	*e*PKP	**P**	**12 09 43.3**	**-0.2**		
BHPL				AMb	AMB	12 09 46.0			
	comp=Z,42nm,1.4s,mb5.1								
RC01	**Rabbit Creek A**	**78.96**	**25**	*e*P	**P**	**12 09 43.1**	**-0.6**		
	comp=Z,68nm,1.2s,mb5.3								
PMR	**Palmer**	**79.47**	**24**	*e*P	**P**	**12 09 45.4**	**-1.1**		
	comp=Z,17nm,1.0s,mb4.8								
PMR	**Palmer**	**79.47**	**24**	*e*P	**P**	**12 09 45.4**	**-1.1**		
PMR				pmax	pmax				
	comp=Z,17nm,1.0s,mb4.8								
SML	**Sawmill**	**79.91**	**24**	*e*P	**P**	**12 09 48.5**	**-0.4**		
	comp=Z,19nm,1.1s,mb4.8								
SML	**Sawmill**	**79.91**	**24**	*e*P	**P**	**12 09 48.5**	**-0.4**		
SML				pmax	pmax				
	comp=Z,19nm,1.1s,mb4.8								
TRF	**Thorofare Moun**	**80.00**	**22**	*e*P	**P**	**12 09 47.9**	**-1.4**		
	comp=Z,27nm,1.1s,mb5.0								
BPAW	**Bear Paw Mtn.**	**80.09**	**22**	*e*P	**P**	**12 09 48.6**	**-1.1**		
	comp=Z,22nm,1.2s,mb4.8								
MK31	**Makanchi Array**	**80.45**	**319**	*e*P	**P**	**12 09 52.2**	**+0.1**		
MK31	**Makanchi Array**	**80.45**	**319**	*e*P	**P**	**12 09 52.2**	**+0.1**		
MKAR	**Makanchi Array**	**80.45**	**319**	P	**P**	**12 09 52.1**	**0.0**		
	comp=Z,25nm,0.8s,mb5.1,baz=103,slow=6.5,SNR=143								
MKAR				PKKPbc	PKKPbc	12 28 34.0	-1.3		
	comp=Z,0.7nm,0.7s,baz=248,slow=1.6,SNR=4.8								
MKAR				PKPPKP		12 36 40.9			
	comp=Z,0.9nm,1.0s,baz=275,slow=3.6,SNR=3.6								
MKAR				LR	LR	12 44 45.9			
	comp=Z,183nm,20.0s,baz=112,slow=35								
MKAR	**Makanchi Array**	**80.45**	**319**	P	**P**	**12 09 52.1**	**0.0**		
MKAR				PKKPbc	PKKPbc	12 28 34.0	-1.3		
MKAR				PKPab		12 36 40.9			
MKAR	**Makanchi Array**	**80.45**	**319**	P	**P**	**12 09 52.2**	**+0.1**		
MKAR						12 28 34.0			
DIV	**Divide**	**80.66**	**26**	*e*P	**P**	**12 09 51.9**	**-1.0**		
	comp=Z,36nm,1.2s,mb5.1								
MCK	**McKinley**	**80.66**	**22**	*e*P	**P**	**12 09 51.6**	**-1.3**		
	comp=Z,87nm,1.2s,mb5.5								
MCK	**McKinley**	**80.66**	**22**	*e*P	**P**	**12 09 51.6**	**-1.2**		
MCK				pmax	pmax				
	comp=Z,87nm,1.2s,mb5.5								
KAD	**Karad**	**80.86**	**288**	*e*PKP	**P**	**12 09 54.7**	**-0.2**		
KAD				AMb	AMB	12 09 57.1			
	comp=Z,44nm,0.9s,mb5.3								
ZAA0	**Zalesovo Array**	**81.24**	**326**	*e*P	**P**	**12 09 55.3**	**-0.8**		
ZALV	**Zalesovo Beam**	**81.24**	**326**	P	**P**	**12 09 55.0**	**-1.1**		
	comp=Z,9.7nm,0.5s,mb4.9,baz=111,slow=5.7,SNR=37								
ZALV				PKKPbc	PKKPbc	12 28 31.8	-2.1		
	comp=Z,1.0nm,0.6s,baz=288,slow=1.4,SNR=4.3								
ZALV				PKPPKP		12 36 39.6			
	comp=Z,0.5nm,0.5s,baz=280,slow=4.2,SNR=4.5								
ZALV				LR	LR	12 43 23.7			
	comp=Z,191nm,21.7s,baz=110,slow=34								
ZALV	**Zalesovo Beam**	**81.24**	**326**	P	**P**	**12 09 55.0**	**-1.1**		
ZALV				PKKPbc	PKKPbc	12 28 31.8	-2.1		
ZALV				PKPab		12 36 39.6			
ZALV	**Zalesovo Beam**	**81.24**	**326**	P	**P**	**12 09 55.1**	**-1.0**		
POO	**Poona**	**81.34**	**289**	*e*PKP	**P**	**12 09 56.9**	**-0.6**		
POO				AMb	AMB	12 09 58.2			
	comp=Z,60nm,0.8s,mb5.5								
COLA	**College**	**81.65**	**22**	*e*P	**P**	**12 09 56.9**	**-1.2**		
	comp=Z,35nm,1.1s,mb5.1								
COLA	**College**	**81.65**	**22**	*e*P	**P**	**12 09 56.9**	**-1.2**		
COLA				pmax	pmax				
	comp=Z,35nm,1.1s,mb5.1								
ILAR	**Eielson Array**	**81.96**	**22**	P	**P**	**12 09 58.7**	**-1.0**		
	comp=Z,15nm,1.0s,mb4.8,baz=246,slow=5.3,SNR=69								
ILAR				PKKPbc	PKKPbc	12 28 28.5	-4.2		
	comp=Z,1.0nm,0.8s,baz=322,slow=0.5,

comp=Z,79nm,1.2s,mb5.4
KURK Kurchatov 83.88 322 P **P** 12 10 09.7 -0.2
comp=Z,290nm,0.8s,mb6.2,SNR=12
KURK Kurchatov 83.88 322 P **P** 12 10 10.1 +0.2
SNR=26
TKM2 Tokmak 2 84.08 314 P **P** 12 10 12.2 +1.1
SNR=55
TKM2 Tokmak 2 84.08 314 *e*P **P** 12 10 12.1 +1.0
comp=Z,43nm,0.9s,mb5.3
TKM2 Tokmak 2 84.08 314 *i* P **P** 12 10 12.2 +1.0
EGAK Eagle 84.15 23 *e*P **P** 12 10 11.1 0.0
comp=Z,13nm,0.9s,mb4.8
KZA Kyzart 84.16 313 P **P** 12 10 13.6 +2.0
SNR=60
DIB Dawson Inlet, 84.49 36 T 13 43 29.4
SNR=9.3
KBK Karagaybulak 84.49 314 P **P** 12 10 14.4 +1.1
SNR=33
DAWY Dawson 84.58 24 *e*P **P** 12 10 14.0 +0.8
CHMS Chumysh 84.70 314 P **P** 12 10 15.0 +0.7
SNR=46
UCH Uchtor 84.73 313 P **P** 12 10 16.6 +2.1
SNR=9.0
FRU Bishkek 84.77 314 *i* P **P** 12 10 14.0 -0.6
FRU *e* pP 12 10 30.0 -5.2
FRU pmax pmax
comp=Z,200nm,1.6s,mb5.8
AAK Ala-Archa 84.82 313 P **P** 12 10 16.1 +1.2
SNR=66
AAK Ala-Archa 84.82 313 *e*P **P** 12 10 15.8 +0.9
comp=Z,233nm,0.6s,mb6.3
AAK Ala-Archa 84.82 313 *i* P **P** 12 10 16.1 +1.2
AAK Ala-Archa 84.82 313 P **P** 12 10 15.6 +0.7
comp=Z,4µmcomp=Z,352nm,0.9s,mb6.3
AAK Ala-Archa 84.82 313 P **P** 12 10 16.0 +1.1
comp=Z,482nm,0.6s,SNR=40
AAK Ala-Archa 84.82 313 P **P** 12 10 16.2 +1.3
SNR=27
USP Ospenovka 84.94 314 P **P** 12 10 16.2 +0.7
SNR=92
AML Almayashu 85.31 313 P **P** 12 10 19.9 +2.6
SNR=6.6
EKS2 Erkin-Say 85.34 313 P **P** 12 10 19.5 +2.0
SNR=5.7
MAW Mawson 85.78 203 P **P** 12 10 19.3 +0.1
comp=Z,12nm,0.7s,mb5.0,baz=86,slow=7.5,SNR=32
MAW LR LR 12 45 15.3
comp=Z,333nm,20.2s,baz=98,slow=33
MAW Mawson 85.78 203 *e*P **P** 12 10 19.4 +0.2
comp=Z,10nm,0.6s,mb4.9
MAW *e*pP pP 12 10 35.5 -4.3
MAW Mawson 85.78 203 *e*P **P** 12 10 19.7 +0.5
comp=Z,7.6nm,1.0s,mb4.6
MAW *e* pP 12 10 35.4 -4.3
MAW Mawson 85.78 203 *e*P **P** 12 10 19.7 +0.5
MAW *e* pP 12 10 35.4 -4.4
MAW pmax pmax
comp=Z,8.0nm,1.0s
BHJ Bhuj 85.84 294 *e*PKP **P** 12 10 20.6 +0.2
BHJ AMb AMB 12 10 22.6
comp=Z,40nm,1.2s,mb5.2
KBL Kabul 87.75 305 *e*P **P** 12 10 29.3 -0.2
comp=Z,9.6nm,0.6s,mb5.0
KBL Kabul 87.75 305 *e*P **P** 12 10 29.3 -0.2
KBL pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
KK31 Karatay Array 87.78 313 P **P** 12 10 29.6 +0.2
KK31 pmax pmax
comp=Z,15nm,0.7s,mb5.1
KKAR Karatay Array 87.78 313 *e*P **P** 12 10 29.5 +0.1
comp=Z,16nm,0.6s,mb5.2
KKAR Karatay Array 87.78 313 *e*P **P** 12 10 29.5 +0.1
KKAR pmax pmax
comp=Z,16nm,0.6s,mb5.2
INK Inuvik 88.26 21 *e*P **P** 12 10 30.1 -1.1
comp=Z,20nm,1.1s,mb5.1
INK Inuvik 88.26 21 *e*P **P** 12 10 30.1 -1.0
INK pmax pmax
comp=Z,20nm,1.1s
BVA0 Borovoye Array 89.34 323 P **P** 12 10 35.6 -0.9
BVA0 pmax pmax
comp=Z,11nm,0.6s,mb5.1
BVAR Borovoye Array 89.34 323 P **P** 12 10 35.7 -0.8
comp=Z,91nm,0.7s,mb5.9,baz=104,slow=5.5,SNR=370
BVAR LR LR 12 49 11.6
comp=Z,247nm,21.9s,baz=96,slow=35
BVAR Borovoye Array 89.34 323 P **P** 12 10 35.7 -0.8
BVAR Borovoye Array 89.34 323 P **P** 12 10 35.7 -0.8
BRVK Borovoye 89.41 323 *e*P **P** 12 10 36.2 -0.6
comp=Z,69nm,0.8s,mb5.7
BRVK Borovoye 89.41 323 P **P** 12 10 36.7 -0.2
comp=Z,523nm,0.7s,SNR=42
BRVK Borovoye 89.41 323 *c i*P **P** 12 10 36.1 -0.8
BRVK pmax pmax
comp=Z,79nm,0.8s,mb5.8
BRVK Borovoye 89.41 323 P **P** 12 10 36.5 -0.4
SNR=26
NVAR Mina Array Bea 91.79 52 P **P** 12 10 48.2 -0.1
comp=Z,1.8nm,1.0s,mb4.3,baz=249,slow=6.6,SNR=9.7
NVAR LR LR 12 44 49.4
comp=Z,391nm,20.4s,baz=255,slow=31
NVAR Mina Array Bea 91.79 52 P **P** 12 10 48.2 -0.1
SYO Syowa Base 93.86 199 ‖ *e*P **P** 12 10 55.4 -1.8
YKA Yellowknife Ar 95.20 28 P **P** 12 11 02.7 -0.7
comp=Z,3.9nm,1.0s,mb4.8,baz=271,slow=4.4,SNR=7.0
YKA LR LR 12 47 56.3
comp=Z,39nm,21.6s,baz=195,slow=32
YKA Yellowknife Ar 95.20 28 P **P** 12 11 02.7 -0.7
YKA Yellowknife Ar 95.20 28 P **P** 12 11 02.7 -0.7
SVE Sverdlovsk 95.26 327 ⇑ *i*P **P** 12 11 02.8 -1.0
SVE pmax pmax
comp=Z,30nm,1.5s,mb5.5
SVE MLR MLR
comp=Z,494nm,19.0s
AB31 Akbulak array 95.60 319 *i* P **P** 12 11 03.7 -1.8
AB31 pmax pmax
comp=Z,19nm,1.0s,mb5.5
ABKAR Akbulak array 95.60 319 *e*P **P** 12 11 04.2 -1.3
comp=Z,15nm,0.9s,mb5.4
ARU Arti 96.40 326 *e*P **P** 12 11 07.6 -1.4
comp=Z,23nm,0.9s,mb5.6
ARU Arti 96.40 326 *c i*P **P** 12 11 07.2 -1.8
ARU 12 15 01.5
ARU S SKSac 12 21 38.2 -0.6
ARU pmax pmax
comp=Z,27nm,1.0s,mb5.6
ARU Arti 96.40 326 P **P** 12 11 07.8 -1.2
comp=Z,172nm,0.6s,SNR=6.8
AKTO Aktyubinsk 96.84 320 P **P** 12 11 09.4 -1.7
comp=Z,12nm,1.0s,mb5.3,baz=86,slow=6.4,SNR=28
AKTO Aktyubinsk 96.84 320 P **P** 12 11 09.4 -1.7
AKTO Aktyubinsk 96.84 320 P **P** 12 11 09.4 -1.7
PDAR Pinedale Array 98.56 48 P **P** 12 11 18.4 -0.7
comp=Z,0.7nm,0.8s,mb4.2,baz=252,slow=2.6,SNR=4.1
PDAR PP PP 12 15 26.3 +5.7
comp=Z,1.6nm,1.0s,baz=264,slow=4.5,SNR=6.0
PDAR LR LR 12 47 52.0
comp=Z,303nm,21.8s,baz=280,slow=30
PDAR Pinedale Array 98.56 48 P **P** 12 11 18.4 -0.7
PDAR PP PP 12 15 26.3 +5.7
SPITS Spitsbergen Ar 103.26 352 Pdiff Pdif 12 11 36.6 -3.1
comp=Z,7.0nm,0.8s,baz=66,slow=2.1,SNR=5.5
SPITS Spitsbergen Ar 103.26 352 Pdif Pdif 12 11 36.6 -3.1
SPITS Spitsbergen Ar 103.26 352 P Pdif 12 11 36.6 -3.1
TXAR Lajitas Array 103.82 61 PP PP 12 16 04.4 +3.7
comp=Z,1.0nm,1.0s,baz=270,slow=5.4,SNR=6.0
TXAR PKKPbc PKKPbc 12 27 32.8 -1.3
comp=Z,0.7nm,0.7s,baz=130,slow=3.6,SNR=9.1
TXAR Lajitas Array 103.82 61 PP PP 12 16 04.3 +3.7
TXAR PKKPbc PKKPbc 12 27 32.8 -1.3
ARCES ARCESS Array B 106.86 343 Pdiff Pdif 12 11 53.7 -2.0
comp=Z,2.2nm,0.7s,baz=52,slow=3.5,SNR=3.9
ARCES PKiKP PKiKP 12 16 05.5 +0.6
comp=Z,1.4nm,0.7s,baz=90,slow=2.7,SNR=10
ARCES PKKPbc PKKPbc 12 27 22.5 -3.7
comp=Z,3.3nm,0.9s,baz=252,slow=2.4,SNR=6.0
ARCES ARCESS Array B 106.86 343 Pdif Pdif 12 11 53.8 -2.0
ARCES PKiKP PKiKP 12 16 05.5 +0.6
ARCES PKKPbc PKKPbc 12 27 22.5 -3.7
ARCES ARCESS Array B 106.86 343 P Pdif 12 11 53.8 -1.9
OBN Obninsk 108.81 327 *e*P Pdif 12 12 02.7 -1.7
OBN *e* 12 16 37.6
OBN pmax pmax
comp=Z,7.0nm,0.9s
OBN MLR MLR
comp=Z,200nm,19.0s

KAF Kangasniemi 110.64 336 *e*PKiKP PKiKP 12 16 12.3 +0.1
KAF Kangasniemi 110.64 336 *ep* PKiKP 12 16 12.3 +0.1
FINES FINESS Array B 111.09 336 Pdiff Pdif 12 12 13.2 -1.3
comp=Z,6.0nm,1.1s,baz=83,slow=4.3,SNR=6.1
FINES PKiKP PKiKP 12 16 13.5 +0.4
comp=Z,6.4nm,0.8s,baz=107,slow=1.5,SNR=5.9
FINES FINESS Array B 111.09 336 Pdif Pdif 12 12 13.2 -1.3
FINES PKiKP PKiKP 12 16 13.5 +0.4
FINES FINESS Array B 111.09 336 P Pdif 12 12 13.2 -1.3
FINES *i* 12 16 13.5
AKASG Malin Array Be 114.59 325 PKP PKiKP 12 16 19.5 -0.5
comp=Z,3.4nm,0.5s,baz=56,slow=2.1,SNR=19
AKASG Malin Array Be 114.59 325 PKP PKiKP 12 16 19.5 -0.5
AKASG Malin Array Be 114.59 325 PKiKP PKiKP 12 16 19.5 -0.6
KIEV Kiev 114.60 325 *e*PKPdf PKiKP 12 16 19.8 -0.3
KIEV Kiev 114.60 325 *e*PKiKP PKiKP 12 16 19.8 -0.3
BRTR Keskin Array B 115.46 312 PKP PKPdf 12 16 22.4 +0.4
comp=Z,2.7nm,0.8s,baz=45,slow=2.2,SNR=7.7
BRTR Keskin Array B 115.46 312 PKP PKPdf 12 16 22.4 +0.4
BRTR Keskin Array B 115.46 312 PKiKP PKPdf 12 16 22.5 +0.4
HFS Hagfors 116.70 339 PKP PKPdf 12 16 23.3 -0.5
comp=Z,2.1nm,0.6s,baz=325,slow=2.3,SNR=7.1
HFS Hagfors 116.70 339 PKP PKPdf 12 16 23.3 -0.5
HFS Hagfors 116.70 339 PKiKP PKPdf 12 16 23.3 -0.5
NB2 NORSAR Subarra 116.92 340 PKPdf PKPdf 12 16 24.5 +0.3
comp=Z,2.2nm,0.6s,baz=41,slow=1.8
NOA NORSAR Array B 116.92 340 PKP PKPdf 12 16 24.2 -0.1
comp=Z,2.6nm,0.7s,baz=43,slow=1.9,SNR=12
NOA NORSAR Array B 116.92 340 PKP PKPdf 12 16 24.2 -0.1
NOA NORSAR Array B 116.92 340 PKiKP PKPdf 12 16 24.2 0.0
MANR Mangalia 117.71 318 ⇑ *i*P PKPdf 12 16 28.2 +1.9
PLOR Plostina 118.17 320 ⇑ *i*P PKPdf 12 16 51.9 +25
BUR08 Bucovina Ar. S 118.30 323 *e*PKPdf PKPdf 12 16 27.4 +0.1
BURAR Bucovina Array 118.30 323 ‖ PKiKP PKPdf 12 16 29.0 +1.7
BURAR Bucovina Array 118.30 323 ‖ *i*P PKPdf 12 16 29.0 +1.7
MLR Muntele Rosu 118.77 320 PKP PKPdf 12 16 28.0 -0.3
comp=Z,0.9nm,0.7s,baz=213,slow=4.0,SNR=6.6
MLR Muntele Rosu 118.77 320 PKP PKPdf 12 16 28.0 -0.3
MLR Muntele Rosu 118.77 320 PKiKP PKPdf 12 16 28.0 -0.3
MLR Muntele Rosu 118.77 320 ‖ *i*P PKPdf 12 16 28.5 +0.2
KWP Kalwaria Pacla 118.81 326 ‖ PKiKP PKPdf 12 16 29.3 +1.1
KWP Kalwaria Pacla 118.81 326 ‖ *i*P PKPdf 12 16 29.3 +1.1
DOPR Dopca 118.92 321 ‖ *i*P PKPdf 12 16 30.2 +1.6
TRPA Tarpa 119.65 324 ‖ *i*P PKPdf 12 16 28.5 -1.4
PLCA Paso Flores 119.67 143 PKP PKPdf 12 16 31.0 +0.8
comp=Z,6.7nm,0.7s,baz=227,slow=1.5,SNR=16
PLCA PKKPbc PKKPbc 12 26 41.1 -1.0
comp=Z,3.6nm,0.8s,baz=4.9,slow=1.6,SNR=7.9
PLCA Paso Flores 119.67 143 PKP PKPdf 12 16 31.0 +0.8
PLCA PKKPbc PKKPbc 12 26 41.1 -1.0
PLCA Paso Flores 119.67 143 PKiKP PKPdf 12 16 31.0 +0.8
STHS Stebnicka Huta 119.74 326 *e*PKiKP PKPdf 12 16 31.1 +1.1
STHS Stebnicka Huta 119.74 326 *e*PKP PKPdf 12 16 31.1 +1.1
CRVS Cervenica-Dubn 119.88 325 *e*PKiKP PKPdf 12 16 30.2 -0.1
CRVS Cervenica-Dubn 119.88 325 *e*PKP PKPdf 12 16 30.2 -0.1
BOSA Boshof 119.92 233 PKP PKPdf 12 16 30.8 -0.3
comp=Z,4.0nm,0.8s,baz=122,slow=1.1,SNR=7.7
BOSA Boshof 119.92 233 PKP PKPdf 12 16 30.8 -0.3
BOSA Boshof 119.92 233 PKiKP PKPdf 12 16 30.8 -0.2
OJC Ojcow 120.10 327 *e*PKPdf PKPdf 12 16 29.6 -1.1
OJC Ojcow 120.10 327 *e*PKiKP PKPdf 12 16 29.6 -1.1
DRGR 120.19 323 ⇑ PKiKP PKPdf 12 16 31.8 +0.8
DRGR 120.19 323 ⇑ *i*P PKPdf 12 16 31.8 +0.8
NIE Niedzica 120.25 326 *e*PKP PKPdf 12 16 31.8 +0.8
NIE Niedzica 120.25 326 *e*PKiKP PKPdf 12 16 31.8 +0.8
GZR Gura Zlata 120.81 321 ⇑ PKiKP PKPdf 12 16 32.2 0.0
GZR Gura Zlata 120.81 321 ⇑ *i*P PKPdf 12 16 32.2 0.0
OKC Ostrava-Krasne 121.20 328 *e*PKiKP PKPdf 12 16 33.5 +0.7
OKC Ostrava-Krasne 121.20 328 *e*PKPdf PKPdf 12 16 33.5 +0.7
PSZ Piszkesteto 121.28 325 ‖ *e*PKP PKPdf 12 16 33.5 +0.5
BZS Buzias 121.43 322 ‖ PKiKP PKPdf 12 16 33.9 +0.5
BZS Buzias 121.43 322 ‖ *i*P PKPdf 12 16 33.9 +0.5
MORC Moravsky Berou 121.56 328 *e*PKPdf PKPdf 12 16 34.0 +0.5
MORC Moravsky Berou 121.56 328 *e*PKiKP PKPdf 12 16 34.0 +0.5
MORC Moravsky Berou 121.56 328 ‖ *i*P PKPdf 12 16 34.8 +1.3
VTS Vitosha 121.80 318 ⇑ PKiKP PKPdf 12 16 35.4 +1.2
VTS Vitosha 121.80 318 ⇑ *i*P PKPdf 12 16 35.4 +1.2
DPC Dobruska-Polom 121.86 329 *e*PKiKP PKPdf 12 16 35.4 +1.3
DPC *e* 12 16 51.7
DPC Dobruska-Polom 121.86 329 *e*PKPdf PKPdf 12 16 35.4 +1.3
DPC *ep*PKP pPKPdf 12 16 51.7 -3.9
UPC Upice 121.92 329 *e*PKiKP PKPdf 12 16 34.9 +0.7
UPC Upice 121.92 329 *e*PKPdf PKPdf 12 16 34.9 +0.7
LSZ Lusaka 121.95 249 *e*PKPdf PKPdf 12 16 36.0 +0.8
LSZ Lusaka 121.95 249 *e*PKiKP PKPdf 12 16 36.0 +0.8
BUD Budapest 122.01 325 ‖ *e*PKP PKPdf 12 16 35.2 +0.8
BSEG Bad Segeberg 122.34 335 *e*PKPbc PKPdf 12 16 36.4 +1.5
BSEG Bad Segeberg 122.34 335 *e*PKiKP PKPdf 12 16 36.4 +1.5
PVCC Panska Ves 122.64 330 *e*PKiKP PKPdf 12 16 36.5 +0.9
PVCC *e* 12 16 52.9
PVCC Panska Ves 122.64 330 *e*PKPdf PKPdf 12 16 36.5 +0.9
PVCC *ep*PKP pPKPdf 12 16 52.9 -4.2
BRG Berggiesshubel 122.73 330 *e*PDIF Pdif 12 13 02.4 -3.9
comp=Z,14nm,1.5s
BRG Berggiesshubel 122.73 330 *e*PKP PKPdf 12 16 36.4 +0.7
comp=Z,16nm,0.7s
BRG Berggiesshubel 122.73 330 *e*PKiKP PKPdf 12 16 36.4 +0.7
BRG pmax pmax
comp=Z,16nm,0.7s
CLL Collm 122.91 331 *e*PKPbc PKPdf 12 16 36.6 +0.5
CLL Collm 122.91 331 *i* PKiKP PKPdf 12 16 36.8 +0.7
CLL *e* 12 16 53.0
CLL pmax pmax
comp=Z,19nm,0.7s
CLL MLR MLR
comp=Z,200nm,20.4s
CLL Collm 122.91 331 *i* PKPdf PKPdf 12 16 36.8 +0.7
comp=Z,19nm,0.7s
CLL *ep*PKPdf pPKPdf 12 16 53.0 -4.6
CLL *ep*PP 12 18 36.0
CLL Lm 13 12 00.0
comp=Z,200nm,20.4s
PKSM Moragy 122.91 324 ‖ PKiKP PKPdf 12 16 36.9 +0.7
PKSM Moragy 122.91 324 ‖ *i*P PKPdf 12 16 36.8 +0.6
PRU Pruhonice 122.99 329 *e*PKiKP PKPdf 12 16 36.6 +0.4
PRU Pruhonice 122.99 329 *e*PKPdf PKPdf 12 16 36.6 +0.4
SKO Skopje 123.25 318 *e*PKP PKPdf 12 16 32.7 -4.3
CONA Conrad Observa 123.53 327 ⇑ *i*PKiKP PKiKP 12 16 37.7 +0.1
comp=Z,5.9nm,0.6s,baz=76,slow=1.7,SNR=7.6
KRUS Krusevo 123.65 318 *e*PKP PKPdf 12 16 36.8 -1.0
TANN Tannenbergstha 123.75 331 *e*PKPdf PKPdf 12 16 38.8 +1.1
CLZ Clausthal 123.78 333 *e*PKPbc PKPdf 12 16 38.9 +1.2
CLZ Clausthal 123.78 333 *e*PKiKP PKPdf 12 16 38.9 +1.2
NKC Novy Kostel 123.88 331 *e*PKiKP PKPdf 12 16 39.1 +1.2
NKC *e* 12 16 55.4
NKC Novy Kostel 123.88 331 *e*PKPdf PKPdf 12 16 39.1 +1.2
NKC *ep*PKP pPKPdf 12 16 55.4 -4.1
MOX Moxa 124.01 331 *e*PKPbc PKPdf 12 16 39.6 +1.4
MOX Moxa 124.01 331 *e*PKiKP PKPdf 12 16 39.6 +1.4
KHC Kasperske Hory 124.02 329 *e*PKPdf PKPdf 12 16 39.0 +0.8
KHC Kasperske Hory 124.02 329 *e*PKiKP PKPdf 12 16 39.0 +0.8
KHC Kasperske Hory 124.02 329 *e*PKPdf PKPdf 12 16 39.1 +0.9
KHC *ex* x 12 16 52.0
GEC2 GERESS Array S 124.13 329 *e*PKPbc PKPdf 12 16 39.2 +0.7
GEC2 GERESS Array S 124.13 329 *e*PKiKP PKPdf 12 16 39.2 +0.7
GERES GERESS Array B 124.13 329 PKP PKPdf 12 16 39.4 +0.9
comp=Z,8.1nm,0.7s,baz=67,slow=1.5,SNR=25
GERES GERESS Array B 124.13 329 PKP PKPdf 12 16 39.4 +0.9
GERES GERESS Array B 124.13 329 PKiKP PKPdf 12 16 39.4 +0.9
WET Wettzell 124.36 329 *e*PKPbc PKPdf 12 16 39.7 +0.8
WET Wettzell 124.36 329 *e*PKiKP PKPdf 12 16 39.7 +0.8
MOA Molln 124.44 327 *i* PKiKP PKiKP 12 16 39.9 +0.4
comp=Z,4.0nm,0.6s,SNR=5.4
PERS Pernice 124.70 326 *e*PKPdf PKPdf 12 16 40.2 +0.5
BOJS Bojanci 125.28 325 *i* PKPdf PKPdf 12 16 41.9 +1.1
LJU Ljubljana 125.38 326 *i* PKPdf PKPdf 12 16 42.0 +1.1
CRNS Crni Vrh 125.51 326 *i* PKPdf PKPdf 12 16 41.8 +0.6
TNS Taunus Mts 125.78 333 *e*PKPbc PKPdf 12 16 43.2 +1.6
TNS Taunus Mts 125.78 333 *e*PKiKP PKPdf 12 16 43.2 +1.6
EKA Eskdalemuir Ar 126.03 343 PKP PKPdf 12 16 42.9 +1.0
comp=Z,5.8nm,0.7s,baz=11,slow=2.4,SNR=14
EKA Eskdalemuir Ar 126.03 343 PKP PKPdf 12 16 42.9 +1.0
EKA Eskdalemuir Ar 126.03 343 PKiKP PKPdf 12 16 42.9 +1.0
ABTA Abfaltersbach 126.06 327 *i* PKiKP PKiKP 12 16 42.2 -0.4
comp=Z,11nm,0.7s,SNR=9.8
WTTA Wattenberg 126.20 328 ⇑ *i*PKiKP PKiKP 12 16 43.2 +0.3
comp=Z,34nm,1.0s
MOTA Moosalm 126.43 329 ‖ *i*PKiKP PKiKP 12 16 43.7 +0.3
comp=Z,19nm,0.9s,SNR=12
STU Stuttgart 126.43 331 *e*PKPdf PKPdf 12 16 43.4 +0.5
STU Stuttgart 126.43 331 *e*PKPdf PKPdf 12 16 43.3 +0.4
STU Stuttgart 126.43 331 *e*PKiKP PKPdf 12 16 43.3 +0.4

MEM Membach 126.58 334 PKP PKPdf 12 16 44.3 +1.2
CFAA Coronel Fontan 126.59 135 PKP PKPdf 12 16 44.5 +0.8
comp=Z,2.3nm,0.8s,baz=250,slow=3.4,SNR=34
CFAA Coronel Fontan 126.59 135 PKP PKPdf 12 16 44.5 +0.8
BCLA Clavier 127.02 335 PKP PKPdf 12 16 45.9 +1.9
DAVA Damuels 127.09 329 ⇑ *i*PKiKP PKiKP 12 16 44.8 +0.1
comp=Z,17nm,0.7s
WLF Walferdange 127.21 334 PKP PKPdf 12 16 45.2 +0.9
ATAH Atahualpa 127.28 103 PKP PKPdf 12 16 46.8 +1.3
comp=Z,9.1nm,0.9s,baz=140,slow=6.8,SNR=5.4
ATAH Atahualpa 127.28 103 PKP PKPdf 12 16 46.8 +1.3
SNF Seneffe 127.38 335 PKP PKPdf 12 16 46.9 +2.2
DAVOX Davos/Dischmat 127.43 329 PKP PKPdf 12 16 45.6 +0.7
comp=Z,11nm,0.7s,baz=68,slow=4.9,SNR=17
DAVOX Davos/Dischmat 127.43 329 PKP PKPdf 12 16 45.6 +0.7
DAVOX Davos/Dischmat 127.43 329 PKiKP PKPdf 12 16 45.6 +0.7
GIVF Givet 127.46 335 *e*PKiKP PKPdf 12 16 45.4 +0.6
comp=Z,117nm,1.3s
DOU Dourbes 127.56 335 PKP PKPdf 12 16 46.5 +1.5
CDF Champ du Feu 127.60 332 *e*PKiKP PKPdf 12 16 45.2 +0.1
comp=Z,9.3nm,0.8s
NNA Nana 127.65 109 PKP PKPdf 12 16 47.3 +1.1
comp=Z,3.5nm,0.5s,baz=252,slow=3.2,SNR=3.5
NNA Nana 127.65 109 PKP PKPdf 12 16 47.3 +1.1
NNA Nana 127.65 109 PKiKP PKPdf 12 16 47.3 +1.1
BAIF Baives 127.76 335 *e*PKiKP PKPdf 12 16 46.1 +0.7
comp=Z,45nm,1.1s
TUE Stuetta 127.91 329 *e*PKPdf PKPdf 12 16 46.8 +1.1
PAGF Fort de Pagny 128.21 333 *e*PKiKP PKPdf 12 16 47.6 +1.3
comp=Z,2.2nm,0.7s
HINF Hinteralfeld 128.22 332 *e*PKiKP PKPdf 12 16 46.6 +0.3
comp=Z,24nm,0.8s
HAU Haudompre 128.32 332 *e*PKiKP PKPdf 12 16 46.8 +0.3
comp=Z,29nm,0.8s
HAU *e*R
comp=Z,360nm,21.2s
MEZF Maizieres J'vi 128.56 333 *e*PKiKP PKPdf 12 16 47.8 +0.9
comp=Z,31nm,0.8s
SFTF Sexfontaines 128.78 333 *e*PKiKP PKPdf 12 16 47.9 +0.5
comp=Z,10nm,0.7s
LPL La Plagne 129.90 329 *e*PKiKP PKPdf 12 16 50.7 +1.1
comp=Z,6.3nm,0.5s
LPG La Plagne 129.90 329 *e*PKiKP PKPdf 12 16 50.8 +1.2
comp=Z,13nm,0.7s
LOR Lormes 130.01 333 *e*PKiKP PKPdf 12 16 50.5 +0.7
comp=Z,24nm,0.8s
LOR *e*R
comp=Z,193nm,20.2s
TSUM Tsumeb 130.20 240 *e*PKPdf PKPdf 12 16 52.2 +1.3
SSF Saint Saulge 130.33 333 *e*PKiKP PKPdf 12 16 51.2 +0.8
comp=Z,25nm,1.1s
MBDF Montbadon 130.42 329 *e*PKiKP PKPdf 12 16 50.5 -0.1
comp=Z,15nm,0.9s
SMF Signal de Mont 130.48 332 *e*PKiKP PKPdf 12 16 51.4 +0.7
comp=Z,15nm,0.7s
HYF Humbligny 130.56 334 *e*PKiKP PKPdf 12 16 52.0 +1.2
AVF Avril sur Loir 130.60 333 *e*PKiKP PKPdf 12 16 51.9 +1.0
LDF La Druitiere 130.67 337 *e*PKiKP PKPdf 12 16 51.3 +0.3
comp=Z,6.2nm,0.7s
FLN La Foliniere 130.67 337 *e*PKiKP PKPdf 12 16 51.5 +0.5
FLN *e*R
comp=Z,194nm,21.2s
ORIF Oris-en-Rattie 130.75 329 *e*PKiKP PKPdf 12 16 51.4 +0.2
comp=Z,22nm,0.7s
ORIF *e*R
comp=Z,268nm,20.8s
BGF Bois d'Agland 131.00 333 *e*PKiKP PKPdf 12 16 52.4 +0.7
comp=Z,21nm,0.7s
GRR Gorron 131.12 337 *e*PKiKP PKPdf 12 16 52.5 +0.7
comp=Z,34nm,0.8s
FRF La Foret Royal 131.28 328 *e*PKiKP PKPdf 12 16 52.2 -0.1
VIVF Saint-Julien-l 131.39 330 *e*PKiKP PKPdf 12 16 52.7 +0.2
comp=Z,9.5nm,0.8s
TCF Toulx Ste Croi 131.50 333 *e*PKiKP PKPdf 12 16 53.5 +0.9
comp=Z,54nm,1.2s
LMR La Mourre 131.51 328 *e*PKiKP PKPdf 12 16 53.3 +0.6
comp=Z,32nm,1.0s
SMRF Simiane la Rot 131.56 329 *e*PKiKP PKPdf 12 16 52.4 -0.4
comp=Z,93nm,1.2s
ROSF Rostrenen 132.06 339 *e*PKiKP PKPdf 12 16 54.2 +0.6
MFF Saint Martin d 132.27 335 *e*PKiKP PKPdf 12 16 54.8 +0.7
comp=Z,20nm,1.0s
LASF Ste Croix 132.36 330 *e*PKiKP PKPdf 12 16 54.5 +0.2
comp=Z,38nm,0.9s
QUIF Quistinic 132.38 338 *e*PKiKP PKPdf 12 16 54.6 +0.4
RJF Les Rejaudoux 132.56 333 *e*PKiKP PKPdf 12 16 55.7 +1.1
RJF *e*R
comp=Z,206nm,18.5s
LFF La Frestale 133.19 333 *e*PKiKP PKPdf 12 16 55.5 -0.3
LPAZ La Paz 134.20 118 PKP PKPdf 12 17 00.9 +2.4
comp=Z,5.2nm,0.7s,baz=268,slow=0.9,SNR=5.8
LPAZ SKPbc SKPbc 12 20 25.7 +4.2
comp=Z,6.2nm,1.1s,baz=279,slow=3.0,SNR=6.6
LPAZ La Paz 134.20 118 PKP PKPdf 12 17 00.9 +2.4
LPAZ *e*PKPdf PKPdf 12 17 01.2 +2.7
LPAZ SKPbc SKPbc 12 20 25.7 +4.2
LPAZ La Paz 134.20 118 PKiKP PKPdf 12 17 00.9 +2.4
KEST Kesra 134.54 318 PKP PKPdf 12 17 00.5 +1.8
comp=Z,3.8nm,0.9s,baz=18,slow=3.2,SNR=5.5
KEST Kesra 134.54 318 PKP PKPdf 12 17 00.5 +1.8
EPF Esparros 134.84 332 *e*PKiKP PKPdf 12 16 58.9 -0.1
ETSF Etsaut 135.37 332 *e*PKiKP PKPdf 12 17 01.1 +1.1
comp=Z,19nm,0.7s
SJPF Ste Jean 135.50 333 *e*PKiKP PKPdf 12 16 59.8 -0.4
comp=Z,17nm,0.8s
SDV Santo Domingo 136.40 82 *e*PKPdf PKPdf 12 17 04.6 +1.8
CPUP Villa Florida 137.33 138 PKP PKPdf 12 17 04.7 +0.5
comp=Z,8.9nm,0.9s,baz=291,slow=1.7,SNR=7.8
CPUP Villa Florida 137.33 138 PKP PKPdf 12 17 04.7 +0.5
CPUP Villa Florida 137.33 138 PKiKP PKPdf 12 17 04.7 +0.5
PBRG Braganca 138.90 337 *e*LR LR 13 07 40.5
comp=Z,66nm,18.0s
PGAV Gavieira, Arco 139.34 339 *e*LR LR 13 06 29.4
comp=Z,40nm,20.0s
ESDC Sonseca Array 139.48 332 PKhKP PKPpre 12 17 00.1
comp=Z,0.8nm,0.6s,baz=50,slow=3.5,SNR=5.7
ESDC PKP PKPdf 12 17 09.6 +1.9
comp=Z,2.2nm,0.7s,baz=14,slow=3.5,SNR=10.0
ESDC Sonseca Array 139.48 332 PKPpre PKPpre 12 17 00.1
ESDC PKP PKPdf 12 17 09.6 +1.9
ESLA Sonseca Array 139.48 332 *e*PKPdf PKPdf 12 17 07.7 0.0
MVO Moncorvo 139.56 337 *e*PKPdf PKPdf 12 17 11.9 +4.1
MVO Moncorvo 139.56 337 *e*LR LR 13 07 54.3
comp=Z,99nm,20.0s
POLO Lamas de Olo 139.68 338 *e*PKPdf PKPdf 12 17 06.1 -1.9
POLO Lamas de Olo 139.68 338 *e*LR LR 13 07 33.5
comp=Z,55nm,22.0s
PVRL Vila Real 139.73 337 *e*PKPdf PKPdf 12 17 12.4 +4.3
MTE Manteigas 140.42 337 *e*PKPdf PKPdf 12 17 13.4 +4.0
MTE Manteigas 140.42 337 *e*LR LR 13 08 26.9
comp=Z,59nm,20.0s
PCBR Castelo Branco 140.87 336 *e*PKPdf PKPdf 12 17 14.4 +4.2
PMRV Marv??o 141.18 336 *e*LR LR 13 09 08.5
comp=Z,139nm,22.0s
PTOM Tomar 141.43 337 *e*PKPdf PKPdf 12 17 11.6 +0.4
PESTR Estremoz 141.74 335 *e*LR LR 13 09 17.9
comp=Z,76nm,20.0s
PMTG Montargil 141.83 336 *e*PKPdf PKPdf 12 17 12.3 +0.4
PMTG Montargil 141.83 336 *e*LR LR 13 08 21.2
comp=Z,70nm,22.0s
PBAR Barrancos 142.09 334 *e*LR LR 13 13 15.6
comp=Z,127nm,22.0s
EVO Evora 142.20 336 *e*PKiKP PKPdf 12 17 11.4 -1.2
comp=Z,20nm,1.0s
EVO *e*R
comp=Z,113nm,19.5s
EVO Evora 142.20 336 *e*PKPdf PKPdf 12 17 11.3 -1.3
PMAFR Mafra 142.34 337 *e*LR LR 13 09 33.6
comp=Z,89nm,20.0s
PBEJ Beja 142.57 335 *e*PKPdf PKPdf 12 17 10.5 -2.8
PNCL Nicolau / Gran 142.77 336 *e*LR LR 13 09 09.5
comp=Z,156nm,22.0s
PCVE Castro Verde 142.97 335 *e*PKPdf PKPdf 12 17 16.9 +2.9
PCVE Castro Verde 142.97 335 *e*LR LR 13 09 51.8
comp=Z,145nm,20.0s
PVAQ Vaqueiros 143.03 334 *e*LR LR 13 11 15.3
comp=Z,125nm,24.0s
PBDV Barranco-do-Ve 143.25 334 *e*LR LR 13 10 42.8
comp=Z,113nm,24.0s
MORF Marmelete 143.50 335 *e*PKPdf PKPdf 12 17 16.0 +1.0
MORF Marmelete 143.50 335 *e*LR LR 13 08 36.5
comp=Z,147nm,20.0s
PFVI Vila Bisbo 143.73 335 *e*LR LR 13 09 14.9
comp=Z,88nm,20.0s
TAM Tamanrasset 143.88 303 *e

TORD Torodi Ar. Bea 150.56 288 PKP PKPdf 12 17 25.6 -1.7
comp=Z,43nm,1.1s,baz=60,slow=3.5,SNR=9.5
TORD PKPbc PKPbc 12 17 32.6 -0.1
comp=Z,89nm,0.7s,baz=72,slow=2.3,SNR=368
TORD Torodi Ar. Bea 150.56 288 PKP PKPdf 12 17 25.6 -1.7
TORD PKPbc PKPbc 12 17 32.6 -0.1
PMOZ Porto Moniz, M 150.59 343 *e*LR LR 13 09 38.3
comp=Z,324nm,18.0s
DBIC Dimbokro 157.98 276 PKP PKPdf 12 17 38.6 +0.8
comp=Z,5.0nm,1.1s,baz=0.0,slow=2.0,SNR=3.9
DBIC Dimbokro 157.98 276 *e*PKPdf PKPdf 12 17 38.4 +0.7
DBIC PKP PKPdf 12 17 38.6 +0.8
DBIC *e*PKPab PKPab 12 18 11.2 -0.1
DBIC Dimbokro 157.98 276 *e*PKIKP PKPdf 12 17 38.4 +0.6
DBIC *e* 12 18 11.2

IDC 23 12:15:44.1±5.5, 19°55S×175°33W, h0km, mb4.1/5, mb1 4.2/6, mb1mx3.9/21, mbtmp4.1/6, ML2.2/1, Error ellipse: s-maj=157.8km s-min=28.4km az=133.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.56**	**32**	Pn	Pn	12 17 23.0	+1.1
	3.2nm,0.3s,baz=120,slow=11,SNR=10						
AFI				Sn	Sn	12 18 31.9	-5.6
	4.4nm,0.3s,baz=270,slow=20,SNR=3.1						
CTA	**Charters Tower**	**36.09**	**262**	P	P	12 22 49.0	+1.1
	2.6nm,0.5s,baz=96,slow=11,SNR=6.0						
ASAR	**Alice Springs**	**47.18**	**256**	P	P	12 24 19.0	+0.2
	1.1nm,0.6s,baz=96,slow=8.2,SNR=28						
WRA	**Warramunga Arr**	**47.23**	**261**	P	P	12 24 18.3	-0.9
	0.7nm,0.4s,baz=95,slow=6.1,SNR=12						
FITZ	**Fitzroy Crossi**	**55.65**	**261**	P	P	12 25 22.4	+0.1
	1.0nm,0.5s,baz=98,slow=7.1,SNR=5.9						
MJAR	**Matsushiro Arr**	**70.98**	**322**	P	P	12 27 03.1	-0.5
	1.3nm,0.6s,baz=146,slow=5.8,SNR=10						

IDC 23 12:16:09.5±1.9, 2°04N×96°98E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.8/26, mbtmp4.0/9, ML4.1/1, MS4.4/3, Ms1 4.4/3, ms1mx3.2/52, Error ellipse: s-maj=59.2km s-min=25.4km az=53.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.43**	**7**	Pn	Pn	12 20 03.6	+2.0
	0.2nm,0.3s,baz=198,slow=12,SNR=8.4						
WRA	**Warramunga Arr**	**42.66**	**123**	P	P	12 24 08.9	+0.7
	0.7nm,0.8s,baz=304,slow=9.0,SNR=6.7						
KSRS	**Korea Array**	**45.28**	**35**	P	P	12 24 27.4	-1.7
	1.7nm,1.0s,baz=232,slow=8.8,SNR=5.9						
SONM	**Songino Array**	**46.34**	**9**	P	P	12 24 37.4	+0.3
	2.7nm,0.9s,baz=184,slow=5.6,SNR=8.0						
MKAR	**Makanchi Array**	**46.38**	**346**	P	P	12 24 38.6	+1.1
	1.8nm,0.5s,baz=161,slow=8.8,SNR=32						
KURK	**Kurchatov**	**50.93**	**345**	P	P	12 25 12.4	-0.1
	0.9nm,0.5s,baz=161,slow=6.8,SNR=12						
ZALV	**Zalesovo Beam**	**52.70**	**351**	P	P	12 25 25.8	+0.2
	2.1nm,0.4s,baz=176,slow=7.4,SNR=10						
BVAR	**Borovoye Array**	**55.39**	**341**	P	P	12 25 45.1	-0.2
	0.4nm,0.4s,baz=146,slow=10,SNR=3.3						
AKTO	**Aktyubinsk**	**58.39**	**332**	LR	LR	12 54 03.4	
	comp=Z,154nm,20.6s,baz=86,slow=39						
ARCES	**ARCESS Array B**	**81.67**	**340**	P	P	12 28 27.8	-1.5
	3.4nm,0.9s,baz=90,slow=7.2,SNR=3.2						
VRAC	**Vranov**		**82.19**	**319**	LR	LR	13 05 17.6
	comp=Z,256nm,20.5s,baz=3.2,slow=36						
GERES	**GERESS Array B**	**84.04**	**319**	LR	LR	13 10 08.7	
	comp=Z,303nm,21.9s,baz=288,slow=38						

*ISCJB **23** 12:18:52.0±1.1, 21°63S×0°04×177°08W±0°06, h269km±10km, mb4.6/59, Error ellipse: s-maj=8.8km s-min=6.3km az=21.7*
*BJI **23** 12:18:53.6, 21°50S×177°10W, h271km, mB5.0/12, mb4.6/21*
*NEIC **23** 12:18:54.2±1.2, 21°53S×177°11W, h279km±11km, mb4.7/34, Error ellipse: s-maj=10.7km s-min=7.2km az=147.0*
*IDC **23** 12:18:55.4±1.9, 21°54S×177°15W, h290km±18km, mb4.2/21, mb1 4.3/23, mb1mx4.2/28, mbtmp4.2/23, Error ellipse: s-maj=12.4km s-min=9.1km az=143.0*
*BGS **23** 12:18:56.4±5.0, 21°53S×177°11W, h279km, mb4.7(NEIC)*
ISC 23 12:18:53.5±1.1, 21°64S±0°04×177°09W±0°05, h271km±10km, h263km±3.9km: pP-P, n227, σ1s16/126, mb4.6/59, 12C-8D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**		**6.01**	**309**	*e*Pn	**Pn**	12 20 21.1	**-1.1**
AFI	**Afiamalu**		**9.20**	**34**	P	**Pn**	12 20 53.6	**-8.3**
	14nm,0.3s,baz=45,slow=3.3,SNR=12							
AFI					S	**S**	12 22 26.6	**-19**
	22nm,0.3s,baz=53,slow=20,SNR=7.7							
AFI	**Afiamalu**		**9.20**	**34**	P	**Pn**	12 20 53.6	**-8.3**
AFI					S	**S**	12 22 26.6	**-19**
DZM	**Mont Dzumac**		**15.30**	**265**	*e*P	**Pn**	12 22 18.1	**+1.6**
RAR	**Rarotonga**		**16.13**	**92**	P	**P**	12 22 24.2	**-0.3**
	1.4nm,0.3s,baz=256,slow=7.6,SNR=9.0							
RAR					S	**S**	12 25 22.6	**+2.7**
	1.6nm,0.3s,baz=308,slow=17,SNR=3.2							
RAR	**Rarotonga**		**16.13**	**92**	*e*P	**P**	12 22 23.7	**-0.8**
	643nm,2.3s							
PUZ	**Puketiti**		**16.87**	**193**	*e*PN	**Pn**	12 22 31.0	**-3.7**
PUZ					SN	**S**	12 25 27.3	**-7.0**
URZ	**Urewera**		**17.31**	**196**	P	**P**	12 22 37.2	**0.0**
	7.2nm,0.3s,baz=355,slow=5.3,SNR=41							
URZ					S	**S**	12 25 44.7	**+1.7**
	13nm,0.3s,baz=78,slow=22,SNR=20							
URZ	**Urewera**		**17.31**	**196**	*e*P	**P**	12 22 37.5	**+0.4**
	32nm,0.8s							
URZ					*e*S	**S**	12 25 41.1	**-2.0**
URZ	**Urewera**		**17.31**	**196**	PN		12 22 35.9	
URZ					SN	**S**	12 25 39.3	**-3.8**
BKZ	**Black Stump Fm**		**18.32**	**196**	PN	**P**	12 22 46.9	**-1.3**
PXZ	**Pawanui**		**19.05**	**194**	PN	**P**	12 22 53.9	**-2.1**
PXZ					SN	**S**	12 26 13.7	**-3.5**
NNZ	**Nelson**		**21.12**	**200**	PN	**P**	12 23 16.5	**-1.0**
THZ	**Tophouse**		**21.77**	**201**	PN	**P**	12 23 23.9	**+0.4**
KHZ	**Kahutara**		**22.16**	**199**	PN	**P**	12 23 27.8	**+0.7**
LTZ	**Lake Taylor**		**22.89**	**200**	*e*PN	**P**	12 23 34.6	**+0.9**
RPZ	**Rata Peaks**		**24.12**	**201**	P	**P**	12 23 45.7	**+0.8**
	15nm,0.5s,mb4.5,baz=45,slow=3.1,SNR=8.7							
RPZ	**Rata Peaks**		**24.12**	**201**	*e*P	**P**	12 23 46.3	**+1.4**
	20nm,0.6s,mb4.6							
HNR	**Honiara**		**25.19**	**295**	*e*P	**P**	12 23 57.0	**+2.1**
	120nm,0.9s,mb5.3							
ARMA	**Armidale**		**29.36**	**246**	*e*P	**P**	12 24 34.3	**+2.5**
ARMA	**Armidale**		**29.36**	**246**	*e*P	**P**	12 24 34.1	**+2.3**
	179nm,2.3s,mb5.1							
EIDS	**Eidsvold**		**29.39**	**256**	*e*P	**P**	12 24 33.2	**+1.1**
	5.4nm,0.6s,mb4.2							
CTA	**Charters Tower**		**34.24**	**266**	P	**P**	12 25 14.8	**+0.5**
	11nm,0.5s,mb4.6,baz=97,slow=11,SNR=23							
CTA	**Charters Tower**		**34.24**	**266**	*e*P	**P**	12 25 15.1	**+0.8**
	8.8nm,0.5s,mb4.5							
CTA	**Charters Tower**		**34.24**	**266**	P	**P**	12 25 14.8	**+0.5**
CTAO	**Charters Tower**		**34.24**	**266**	*e*P	**P**	12 25 15.1	**+0.8**
	13nm,0.7s,mb4.6							
CMSA	**Cobar Meteorol**		**34.57**	**246**	*e*P	**P**	12 25 18.0	**+1.0**
	115nm,0.9s,mb5.4							
TOO	**Toolangi**		**35.94**	**235**	*e*P	**P**	12 25 29.5	**+1.0**
	64nm,0.6s,mb5.3							
PMG	**Port Moresby**		**36.44**	**284**	P	**P**	12 25 32.6	**-0.5**
	51nm,0.8s,mb5.1,baz=117,slow=6.7,SNR=28							
PMG	**Port Moresby**		**36.44**	**284**	*e*P	**P**	12 25 33.0	**0.0**
	59nm,0.9s,mb5.1							
STKA	**Stephens Creek**		**38.08**	**246**	P	**P**	12 25 46.8	**+0.2**
	8.3nm,0.5s,mb4.4,baz=89,slow=9.7,SNR=19							
STKA	**Stephens Creek**		**38.08**	**246**	*e*P	**P**	12 25 47.3	**+0.7**
	7.2nm,0.6s,mb4.3							
STKA	**Stephens Creek**		**38.08**	**246**	*e*P	**P**	12 25 47.5	**+0.9**
	20nm,2.0s,mb4.2							
COEN	**Coen**		**38.52**	**275**	*e*P	**P**	12 25 51.4	**+1.1**
	339nm,1.5s,mb5.5							
ARPS	**Mount Arapiles**		**38.59**	**238**	*e*P	**P**	12 25 51.4	**+0.7**
	38nm,0.9s,mb4.8							
ASAR	**Alice Springs**		**45.10**	**258**	P	**P**	12 26 43.5	**+0.1**
	20nm,0.9s,mb4.4,baz=98,slow=8.1,SNR=68							
ASAR					PcP	PcP	12 28 18.8	-0.3
	3.2nm,0.6s,baz=110,slow=3.9,SNR=6.8							
ASAR					S	**S**	12 32 59.4	**-2.4**
	0.7nm,0.8s,baz=100,slow=16,SNR=4.5							
ASAR					PKiKP	PKiKP	12 35 15.4	-1.3
	0.2nm,0.4s,baz=98,slow=1.5,SNR=7.6							
ASAR	**Alice Springs**		**45.10**	**258**	P	**P**	12 26 43.5	**+0.1**
ASAR					PcP	PcP	12 28 18.8	-0.3
ASAR					S	**S**	12 32 59.4	**-2.4**
ASAR					PKiKP	PKiKP	12 35 15.4	-1.3
WB2	**Warramunga Arr**		**45.29**	**263**	*e*P	**P**	12 26 44.0	**-0.9**
WRAB	**Tennant Creek**		**45.29**	**263**	*e*P	**P**	12 26 44.1	**-0.8**
	33nm,0.9s,mb4.6							
WRA	**Warramunga Arr**		**45.30**	**263**	P	**P**	12 26 44.8	**-0.2**
	8.5nm,0.4s,mb4.4,baz=96,slow=7.9,SNR=94							
WRA					S	**S**	12 33 04.0	**-0.7**
	0.4nm,0.7s,baz=102,slow=13,SNR=2.7							
WRA					PKiKP	PKiKP	12 35 14.9	-2.0
	0.5nm,0.6s,baz=87,slow=0.6,SNR=6.5							
WRA	**Warramunga Arr**		**45.30**	**263**	P	**P**	12 26 44.8	**-0.2**
WRA					S	**S**	12 33 04.0	**-0.7**
WRA					PKiKP	PKiKP	12 35 14.9	-2.0
KAKA	**Kakadu**		**48.86**	**272**	*e*P	**P**	12 27 12.3	**-0.1**
FORT	**Forrest**		**49.64**	**247**	*e*P	**P**	12 27 18.0	**-0.1**
	49nm,0.6s,mb5.0							
FORT	**Forrest**		**49.64**	**247**	*e*P	**P**	12 27 17.7	**-0.4**
	51nm,0.6s,mb5.0							
GUMO	**Guam**		**51.18**	**310**	P	**P**	12 27 28.9	**-0.8**
	68nm,0.6s,mb5.2,baz=188,slow=13,SNR=6.1							
GUMO	**Guam**		**51.18**	**310**	P	**P**	12 27 28.9	**-0.8**
FITZ	**Fitzroy Crossi**		**53.73**	**263**	P	**P**	12 27 48.5	**+0.1**
	5.1nm,0.3s,mb4.3,baz=76,slow=9.0,SNR=28							
FITZ	**Fitzroy Crossi**		**53.73**	**263**	*e*P	**P**	12 27 48.4	**0.0**
	7.8nm,0.3s,mb4.5							
FITZ	**Fitzroy Crossi**		**53.73**	**263**	*e*P	**P**	12 27 48.4	**0.0**
	32nm,1.3s,mb4.5							
FITZ	**Fitzroy Crossi**		**53.73**	**263**	P	**P**	12 27 48.6	**+0.2**
	20nm,1.3s,mb4.3							
SBA	**Scott Base**		**56.80**	**184**	*e*P	**P**	12 28 13.8	**+4.6**
	8.2nm,1.1s,mb4.1							
MBWA	**Marble Bar**		**58.45**	**258**	*e*P	**P**	12 28 21.3	**-0.3**
MBWA	**Marble Bar**		**58.45**	**258**	*e*P	**P**	12 28 21.4	**-0.2**
	29nm,0.8s,mb4.8							
MBWA	**Marble Bar**		**58.45**	**258**	P	**P**	12 28 21.3	**-0.3**
	51nm,0.7s,mb5.1							
NWAO	**Narrogin (SRO)**		**58.63**	**244**	P	**P**	12 28 22.6	**-0.1**
	6.1nm,0.5s,mb4.2,baz=110,slow=8.0,SNR=10							
NWAO	**Narrogin (SRO)**		**58.63**	**244**	P	**P**	12 28 22.6	**-0.1**
MORW	**Morawa**		**60.19**	**248**	*e*P	**P**	12 28 33.1	**-0.3**
	39nm,0.5s,mb5.2							
CASY	**Casey**		**63.31**	**206**	*e*P	**P**	12 28 55.6	**+2.2**
	25nm,0.6s,mb5.0							
JHJ	**Hachijo jima 2**		**68.26**	**322**	P	**P**	12 29 23.7	**-1.7**
	60nm,0.6s,mb5.5,baz=206,slow=17,SNR=6.8							
MJAR	**Matsushiro Arr**		**71.63**	**323**	P	**P**	12 29 44.4	**-1.3**
	7.5nm,0.6s,mb4.5,baz=155,slow=5.8,SNR=31							
MJAR	**Matsushiro Arr**		**71.63**	**323**	P	**P**	12 29 44.4	**-1.3**
MAJO	**Matsushiro**		**71.63**	**323**	*e*P	**P**	12 29 44.5	**-1.2**
	7.1nm,0.6s,mb4.5							
MAT	**Matsushiro**		**71.63**	**323**	P	**P**	12 29 44.4	**-1.3**
JNU	**Nakatsue**		**73.68**	**316**	*e*P	**P**	12 29 57.5	**-0.4**
	3.8nm,0.9s,mb4.0							
ASAJ	**Asahikawa**		**75.13**	**331**	P	**P**	12 30 05.9	**0.0**
	13nm,0.7s,mb4.7,baz=182,slow=2.9,SNR=7.4							
ASAJ	**Asahikawa**		**75.13**	**331**	P	**P**	12 30 05.9	**0.0**
PETK	**Petropavlovsk-**		**77.58**	**345**	P	**P**	12 30 17.7	**-1.7**
	3.4nm,0.7s,mb4.2,baz=150,slow=8.6,SNR=6.2							
PETK	**Petropavlovsk-**		**77.58**	**345**	P	**P**	12 30 17.7	**-1.7**
KSRS	**Korea Array**		**78.30**	**318**	P	**P**	12 30 23.8	**+0.1**
	3.1nm,0.6s,mb4.2,baz=130,slow=6.1,SNR=17							
KSAR	**Wonju Array Be**		**78.32**	**318**	P	**P**	12 30 23.8	**0.0**
YBH	**Yreka Blue Hor**		**80.65**	**38**	*e*P	**P**	12 30 37.7	**+1.4**
	3.3nm,0.6s,mb4.2							
MAW	**Mawson**		**80.79**	**200**	P	**P**	12 30 37.3	**+0.7**
	7.4nm,0.7s,mb4.5,baz=136,slow=7.7,SNR=13							
MAW	**Mawson**		**80.79**	**200**	P	**P**	12 30 37.3	**+0.7**
NVAR	**Mina Array Bea**		**81.27**	**43**	P	**P**	12 30 40.9	**+1.3**
	0.9nm,0.6s,mb3.7,baz=226,slow=7.4,SNR=8.1							
NVAR					PKKPbc	PKKPbc	12 49 14.3	-0.3
	0.3nm,0.6s,baz=64,slow=2.1,SNR=4.0							
NVAR	**Mina Array Bea**		**81.27**	**43**	P	**P**	12 30 40.9	**+1.3**
NVAR					PKKPbc	PKKPbc	12 49 14.3	-0.3
LDFC	**Landfair**		**81.44**	**47**	*e*P	**P**	12 30 42.6	**+2.0**
	7.5nm,0.8s,mb4.5							
KDAK	**Kodiak Island**		**81.72**	**13**	P	**P**	12 30 40.8	**-0.7**
	14nm,0.9s,mb4.7,baz=238,slow=4.1,SNR=5.7							
KDAK	**Kodiak Island**		**81.72**	**13**	P	**P**	12 30 40.8	**-0.7**
MDJ	**Mudanjiang**		**81.94**	**325**	P	**P**	12 30 43.5	**+0.6**
MDJ					pmax	pmax		
	comp=Z,14nm,0.8s,mb4.7							
MDJ					pmax	pmax		
	comp=Z,77nm,4.2s							
CN2	**Changchun**		**83.72**	**322**	*e*P	**P**	12 30 51.9	**-0.1**
CN2					*es*P	sP	12 32 21.9	-2.8
CN2					*e*S	S	12 40 48.5	-2.9
CN2					pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.6							
CN2					pmax	pmax		
	comp=Z,200nm,3.0s							
IPM	**Ipoh**		**84.12**	**277**	*e*P	**P**	12 30 54.6	**-0.2**
	comp=Z,15nm,0.7s,mb4.9							
RSO	**Redoubt South**		**84.17**	**12**	*e*P	**P**	12 30 54.0	**+0.1**
SPU	**Mount Spurr**		**84.96**	**12**	*e*P	**P**	12 30 56.5	**-1.4**
SYO	**Syowa Base**		**85.81**	**192**	*e*P	**P**	12 31 01.6	**-0.5**
PMR	**Palmer**		**85.92**	**13**	*e*P	**P**	12 31 01.4	**-1.2**
	comp=Z,6.8nm,0.7s,mb4.6							
TMUT	**Trail Mountain**		**86.34**	**45**	*e*P	**P**	12 31 06.0	**+0.8**
	comp=Z,5.5nm,0.6s,mb4.2							
PNL	**Peninsula**		**86.69**	**18**	*e*P	**P**	12 31 06.0	**-0.4**
	comp=Z,28nm,0.7s,mb5.2							
SRU	**San Rafael**		**86.70**	**46**	*e*P	**P**	12 31 07.6	**+0.7**
	comp=Z,1.9nm,0.5s,mb4.2							
SNAA	**Sanae**		**86.85**	**178**	*e*	**P**	12 31 03.9	**-3.3**
SNAA	**Sanae**		**86.85**	**178**	*e*P	**P**	12 31 03.7	**-3.5**
	comp=Z,1.2nm,0.5s,mb4.0							
TXAR	**Lajitas Array**		**86.95**	**57**	P	**P**	12 31 09.8	**+1.4**
	comp=Z,1.0nm,0.7s,mb3.8,baz=215,slow=7.7,SNR=13							
TXAR					PKKPbc	PKKPbc	12 49 00.6	0.0
	comp=Z,0.4nm,0.9s,baz=48,slow=1.3,SNR=4.1							
TXAR	**Lajitas Array**		**86.95**	**57**	P	**P**	12 31 09.8	**+1.4**
TXAR					PKKPbc	PKKPbc	12 49 00.6	0.0
VNA3	**Neumayer Olymp**		**86.95**	**176**	*e*	**P**	12 31 06.2	**-1.4**
VNA3					*e*	pP	12 32 09.7	-2.6
BJI	**Beijing**		**87.30**	**315**	P	**P**	12 31 11.3	**+1.6**
BJI					pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8							
TRF	**Thorofare Moun**		**87.38**	**12**	*e*P	**P**	12 31 08.5	**-1.0**
	comp=Z,17nm,0.8s,mb4.9							
VNA2	**Neumayer--Watz**		**87.41**	**177**	*e*	**P**	12 31 08.6	**-1.2**
	baz=201,slow=3.5							
VNA2					*e*	pP	12 32 12.1	-2.4
VNA1	**Neumayer--Stat**		**87.63**	**176**	*e*	**P**	12 31 09.7	**-1.1**
MCK	**McKinley**		**87.89**	**12**	*e*P	**P**	12 31 11.3	**-0.6**
	comp=Z,17nm,0.9s,mb4.9							
GYA	**Guiyang**		**87.95**	**299**	*e*P	**P**	12 31 14.3	**+1.2**
GYA					pP	pP	12 32 20.5	+2.5
GYA					sP	sP	12 32 48.0	+1.7
GYA					PP	PP	12 34 45.5	+1.5
GYA					SKS		12 41 13.4	
GYA					sS	sS	12 43 27.8	+0.4
GYA					pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6							
DLMT	**Dillon**		**88.71**	**40**	*e*P	**P**	12 31 17.0	**+0.8**
	comp=Z,2.8nm,0.6s,mb4.3							
IMW	**Indian Meadow**		**88.93**	**41**	*e*P	**P**	12 31 18.9	**+1.7**
	comp=Z,2.2nm,0.6s,mb4.2							
COLA	**College**		**89.13**	**12**	*e*P	**P**	12 31 16.4	**-1.3**
	comp=Z,14nm,0.8s,mb4.8							
PDAR	**Pinedale Array**		**89.20**	**43**	P	**P**	12 31 19.4	**+0.8**
	comp=Z,2.2nm,0.6s,mb4.2,baz=198,slow=2.6,SNR=4.7							
PDAR	**Pinedale Array**		**89.20**	**43**	P	**P**	12 31 19.4	**+0.8**
ILAR	**Eielson Array**		**89.23**	**12**	P	**P**	12 31 16.9	**-1.2**
	comp=Z,3.3nm,0.7s,mb4.3,baz=218,slow=5.8,SNR=59							
ILAR	**Eielson Array**		**89.23**	**12**	P	**P**	12 31 16.9	**-1.2**
DAWY	**Dawson**		**90.32**	**16**	*e*P	**P**	12 31 23.1	**-0.2**
EGAK	**Eagle**		**90.48**	**15**	*e*P	**P**	12 31 24.1	**+0.1**
	comp=Z,12nm,0.8s,mb4.8							
KMI	**Kunming**		**90.62**	**297**	P	**P**	12 31 23.0	**-2.6**
KMI					pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.2							
HHC	**Hu-ho-hao-te**		**90.75**	**314**	*e*P	**P**	12 31 28.3	**+2.4**
HHC					pP	pP	12 32 29.6	-1.4
HHC					sP	sP	12 32 56.5	-2.7
HHC					PP	PP	12 35 09.9	+4.0
HHC					S	S	12 42 00.0	+1.6
HHC					sS	sS	12 43 48.5	-4.9
HHC					SS	SS	12 48 10.3	+2.0
HHC					pmax	pmax		
	comp=Z,15nm,1.0s,mb4.8							
HHC					pmax	pmax		
	comp=Z,220nm,6.9s							
COLD	**Coldfoot**		**90.84**	**10**	*e*P	**P**	12 31 24.8	**-0.8**
	comp=Z,6.6nm,1.1s,mb4.4							
CMAR	**Chiang Mai Arr**		**91.30**	**289**	P	**P**	12 31 30.1	**+1.3**
	comp=Z,3.0nm,0.9s,mb4.1,baz=118,slow=2.8,SNR=15							
CMAR	**Chiang Mai Arr**		**91.30**	**289**	P	**P**	12 31 30.1	**+1.3**
CD2	**Chengdu**		**92.12**	**302**	P	**P**	12 31 34.5	**+2.1**
CD2					pP	pP	12 32 36.4	-1.2
CD2					sP	sP	12 33 02.8	-3.0
CD2					PP	PP	12 35 21.6	+4.8
CD2					SKS		12 41 41.3	
CD2					S	S	12 42 11.5	+0.4
CD2					sS	sS	12 44 01.0	-5.4
CD2					SS	SS	12 48 30.6	+2.4
CD2					pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.0							
CD2					pmax	pmax		
	comp=Z,260nm,7.1s							
INK	**Inuvik**		**95.14**	**15**	*e*P	**P**	12 31 44.4	**-1.0**
	comp=Z,3.1nm,0.7s,mb4.5							
ZALV	**Zalesovo Beam**		**111.91**	**321**	PKiKP	PKiKP	12 36 53.9	-2.0
	comp=Z,0.6nm,0.4s,baz=161,slow=1.7,SNR=4.5							
ZALV	**Zalesovo Beam**		**111.91**	**321**	PKiKP	PKiKP	12 36 53.9	-2.0
MKAR	**Makanchi Array**		**112.59**	**313**	PKiKP	PKiKP	12 36 55.7	-1.8
	comp=Z,0.8nm,0.6s,baz=93,slow=1.0,SNR=12							
MKAR	**Makanchi Array**		**112.59**	**313**	PKiKP	PKiKP	12 36 55.7	-1.8
KURK	**Kurchatov**		**115.41**	**317**	PKP	PKPdf	12 37 01.3	-1.5
	comp=Z,1.4nm,0.7s,baz=98,slow=1.8,SNR=7.9							
KURK					PP	PP	12 37 59.4	-9.3
	comp=Z,0.8nm,0.9s,baz=90,slow=5.6,SNR=3.6							
KURK	**Kurchatov**		**115.41**	**317**	*e*PKPdf	PKPdf	12 37 01.1	-1.7
KURK					PKP	PKPdf	12 37 01.3	-1.5
KURK					PP	PP	12 37 59.4	-9.3
BVAR	**Borovoye Array**		**120.50**	**320**	PKP	PKPdf	12 37 11.6	-0.9
	comp=Z,2.8nm,0.5s,baz=96,slow=2.9,SNR=21							
BVAR					PP	PP	12 38 43.1	-0.6
	comp=Z,0.8nm,0.7s,baz=84,slow=4.5,SNR=4.1							
BVAR	**Borovoye Array**		**120.50**	**320**	PKP	PKPdf	12 37 11.6	-0.9
BVAR					PP	PP	12 38 43.1	-0.6
ARU	**Arti**		**126.62**	**325**	*e*PKPdf	PKPdf	12 37 23.8	-0.3
AKTO	**Aktyubinsk**		**128.48**	**318**	PKP	PKPdf	12 37 27.7	-0.2
	comp=Z,2.1nm,0.6s,baz=27,slow=4.5,SNR=9.1							
AKTO	**Aktyubinsk**		**128.48**	**318**	PKP	PKPdf	12 37 27.7	-0.2
ARCES	**ARCESS Array B**		**130.19**	**350**	PKP	PKPdf	12 37 30.0	-0.6
	comp=Z,3.5nm,0.6s,baz=61,slow=0.9,SNR=24							
ARCES	**ARCESS Array B**		**130.19**	**350**	PKP	PKPdf	12 37 29.9	-0.6
FINES	**FINESS Array B**		**137.10**	**344**	PKhKP	PKPpre	12 37 36.3	
	comp=Z,6.9nm,1.0s,baz=46,slow=4.0,SNR=5.1							
FINES					PKP	PKPdf	12 37 44.3	+0.6
	comp=Z,12nm,1.1s,baz=73,slow=1.9,SNR=7.4							
FINES	**FINESS Array B**		**137.10**	**344**	PKPpre	PKPpre	12 37 36.3	
FINES					PKP	PKPdf	12 37 44.3	+0.6
NOA	**NORSAR Array B**		**140.20**	**354**	PKhKP	PKPpre	12 37 41.9	
	comp=Z,1.2nm,0.9s,baz=1.8,slow=2.2,SNR=5.0							
NOA	**NORSAR Array B**		**140.20**	**354**	PKPpre	PKPpre	12 37 41.9	
AKASG	**Malin Array Be**		**144.42**	**331**	PKP	PKPdf	12 37 54.5	-2.7
	comp=Z,7.0nm,0.5s,baz=42,slow=4.1,SNR=40							
**

MFF	**Saint Martin d**	**154.97**	**5**	*e*PKP1	PKPbc	12 38 22.4	-0.5
	comp=Z,13nm,0.8s							
BGF	**Bois d'Agland**	**155.14**	**0**	*e*PKP1	PKPdf	12 38 22.8	+8.7
	comp=Z,6.0nm,0.5s							
TCF	**Toulx Ste Croi**	**155.40**	**1**	*e*PKP1	PKPdf	12 38 23.4	+8.9
ESDC	**Sonseca Array**	**161.09**	**17**	PKPab	PKPab	12 39 05.1	-1.1
	comp=Z,0.6nm,0.5s,baz=331,slow=4.9,SNR=5.1							
ESDC	**Sonseca Array**	**161.09**	**17**	PKPab	PKPab	12 39 05.1	-1.1
TORD	**Torodi Ar. Bea**	**171.48**	**172**	PKP	PKPdf	12 38 29.1	-1.2
	comp=Z,1.1nm,0.9s,baz=116,slow=0.6,SNR=6.0							
TORD				PKPab	PKPab	12 39 54.1	+1.7	
	comp=Z,1.7nm,0.7s,baz=190,slow=3.1,SNR=8.8							
TORD	**Torodi Ar. Bea**	**171.48**	**172**	PKP	PKPdf	12 38 29.1	-1.2
TORD				PKPab	PKPab	12 39 54.1	+1.7	

ISCJB ***23*** *12:19:49.4±0.6,24.°83N±0.°03×121.°92E±0.°03, h108km±4km, Error ellipse: s-maj=5.8km s-min=3.6km az=152.7*
TAP ***23*** *12:19:49.2,24.°86N×121.°89E,h109km,ML3.3,C*
JMA ***23*** *12:19:49.7±0.3,24.°93N×121.°96E,h106km,M2.5*

ISC 23 12:19:49.8±0.7,**24.°84N**±0.°03×**121.°92E**±0.°03,**h107**km±4km, **n42,** σ**0s59**/81,**1D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILA	**Ilan**	**0.17**	**244**	*e*P	**Pn**	**12 20 04.6**	**-0.1**
	baz=221						
ILA				*e*S	**Sn**	**12 20 16.3**	**+0.5**
	baz=221						
TWB1	**Santiao Chiao**	**0.18**	**21**	*e*P	**Pn**	**12 20 04.3**	**-0.4**
	baz=33						
TWC	**Suao**	**0.24**	**195**	P	**Pn**	**12 20 05.1**	**+0.2**
	baz=182						
TWC				*e*S	**Sn**	**12 20 16.0**	**-0.2**
	baz=182						
TWE	**Neicheng**	**0.26**	**243**	*e*P	**Pn**	**12 20 05.3**	**+0.3**
	baz=226						
TWE				*e*S	**Sn**	**12 20 17.1**	**+0.7**
	baz=226						
NWF	**Wu-fen Shan**	**0.26**	**332**	*e*P	**Pn**	**12 20 05.1**	**+0.1**
	baz=339						
NWF				*e*S	**Sn**	**12 20 16.1**	**-0.3**
	baz=339						
TWA	**Mucha**	**0.33**	**295**	P	**Pn**	**12 20 05.4**	**+0.1**
	baz=294						
TWA				S	**Sn**	**12 20 17.0**	**0.0**
	baz=294						
ENTT	**Nioudou**	**0.38**	**238**	⇓*i*P	**Pn**	**12 20 05.8**	**+0.2**
	baz=242						
ENTT				*e*S	**Sn**	**12 20 18.1**	**+0.8**
	baz=242						
TAP1	**Taipei**	**0.41**	**299**	P	**Pn**	**12 20 05.5**	**-0.2**
	baz=302						
TAP1				*e*S	**Sn**	**12 20 17.4**	**-0.2**
	baz=302						
ENA	**Nanau**	**0.44**	**201**	P	**Pn**	**12 20 06.4**	**+0.5**
	baz=188						
ENA				*e*S	**Sn**	**12 20 18.9**	**+1.0**
	baz=188						
TWY	**Chenhua**	**0.52**	**326**	*e*P	**Pn**	**12 20 06.2**	**-0.2**
	baz=336						
TWY				*e*S	**Sn**	**12 20 18.7**	**-0.3**
	baz=336						
TWS1	**Kuangyinshan**	**0.52**	**300**	P	**Pn**	**12 20 06.1**	**-0.3**
	baz=290						
TWS1				S	**Sn**	**12 20 18.8**	**-0.1**
	baz=290						
NSK	**Sanguang**	**0.54**	**252**	P	**Pn**	**12 20 06.2**	**-0.4**
	baz=238						
NSK				*e*S	**Sn**	**12 20 17.9**	**-1.2**
	baz=238						
NNS	**Nan Shan**	**0.64**	**231**	P	**Pn**	**12 20 07.5**	**+0.2**
	baz=225						
NNS				*e*S	**Sn**	**12 20 20.8**	**+0.3**
	baz=225						
NCU	**National Centr**	**0.68**	**281**	*e*P	**Pn**	**12 20 07.2**	**-0.5**
	baz=279						
NCU				*e*S	**Sn**	**12 20 21.0**	**-0.1**
	baz=279						
TWD	**Chiawan**	**0.81**	**201**	*e*P	**Pn**	**12 20 08.1**	**-0.7**
	baz=205						
TWD				*e*S	**Sn**	**12 20 22.2**	**-1.0**
	baz=205						
NSTT	**Nanjuang**	**0.86**	**256**	P	**Pn**	**12 20 09.0**	**-0.3**
	baz=247						
NSTT				S	**Sn**	**12 20 23.1**	**-0.8**
	baz=247						
TWT	**Tachien**	**0.89**	**229**	P	**Pn**	**12 20 10.5**	**+0.9**
	baz=220						
TWT				*e*S	**Sn**	**12 20 25.6**	**+1.0**
	baz=220						
WHF	**Hehuan Shan**	**0.91**	**221**	P	**Pn**	**12 20 10.4**	**+0.6**
	baz=210						
WHF				*e*S	**Sn**	**12 20 25.9**	**+0.9**
	baz=210						
YOJ	**Yonaguni jima**	**1.06**	**111**	P	**Pn**	**12 20 11.3**	**-0.1**
YOJ				*e*S	**Sn**	**12 20 27.7**	**0.0**
ESL	**Shilin**	**1.11**	**204**	*e*P	**Pn**	**12 20 10.7**	**-1.2**
	baz=195						
ESL				*e*S	**Sn**	**12 20 27.6**	**-1.0**
	baz=195						
NSY	**Sanyi**	**1.14**	**248**	*e*P	**Pn**	**12 20 12.3**	**+0.1**
	baz=244						
NSY				*e*S	**Sn**	**12 20 29.3**	**+0.2**
	baz=244						
TWQ1	**Liyutan**	**1.15**	**245**	*e*P	**Pn**	**12 20 11.7**	**-0.6**
	baz=233						
TWQ1				*e*S	**Sn**	**12 20 28.6**	**-0.8**
	baz=233						
SMLT	**Sun Moon Lake**	**1.33**	**224**	P	**Pn**	**12 20 14.8**	**+0.4**
	baz=227						
SMLT				*e*S	**Sn**	**12 20 33.3**	**+0.3**
	baz=227						
TYC	**Yuchr**	**1.34**	**226**	P	**Pn**	**12 20 14.7**	**+0.1**
	baz=229						
TYC				S	**Sn**	**12 20 33.3**	**0.0**
	baz=229						
EHY	**Hungye**	**1.44**	**202**	*e*P	**Pn**	**12 20 15.3**	**-0.4**
	baz=191						
EHY				*e*S	**Sn**	**12 20 34.6**	**-0.7**
	baz=191						
TWF1	**Yuli**	**1.59**	**201**	*e*P	**Pn**	**12 20 16.7**	**-0.8**
	baz=196						
TWF1				*e*S	**Sn**	**12 20 36.8**	**-1.7**
	baz=196						
YUS	**Yu-Shan**	**1.61**	**213**	*e*P	**Pn**	**12 20 18.3**	**+0.6**
	baz=201						
YUS				*e*S	**Sn**	**12 20 39.8**	**+0.8**
	baz=201						
ALS	**Alishan**	**1.67**	**218**	*e*P	**Pn**	**12 20 19.3**	**+0.8**
	baz=212						
ALS				*e*S	**Sn**	**12 20 40.9**	**+0.6**
	baz=212						
CHN5	**Tsauling**	**1.68**	**223**	*i*P	**Pn**	**12 20 18.9**	**+0.3**
	baz=217						
CHN5				S	**Sn**	**12 20 41.1**	**+0.6**
	baz=217						
WGK	**Gukeng**	**1.69**	**227**	*e*P	**Pn**	**12 20 18.2**	**-0.5**
	baz=231						
WGK				*e*S	**Sn**	**12 20 41.3**	**+0.6**
	baz=231						
IRIF	**Iriomote-Funau**	**1.73**	**107**	P	**Pn**	**12 20 19.1**	**0.0**
IRIF				*e*S	**Sn**	**12 20 41.5**	**0.0**
CHKT	**Chengkung**	**1.81**	**196**	*e*P	**Pn**	**12 20 21.1**	**+0.9**
	baz=193						
CHKT				*e*S	**Sn**	**12 20 43.2**	**-0.2**
	baz=193						
ELDTW	**Lidau**	**1.84**	**207**	*e*P	**Pn**	**12 20 20.8**	**+0.2**
	baz=193						
ELDTW				*e*S	**Sn**	**12 20 44.7**	**+0.6**
	baz=193						
CHN4	**Tsaushan**	**1.91**	**220**	*e*P	**Pn**	**12 20 21.8**	**+0.3**
	baz=214						
CHN4				*e*S	**Sn**	**12 20 46.5**	**+0.7**
	baz=214						
STYT	**Tauyuan**	**1.98**	**213**	*e*P	**Pn**	**12 20 22.7**	**+0.4**
	baz=210						
JKRS	**Kuro-shima**	**2.00**	**107**	P	**Pn**	**12 20 23.0**	**+0.4**
JKRS				*e*S	**Sn**	**12 20 47.7**	**+0.1**
JIJ	**Ishigaki jima**	**2.08**	**103**	P	**Pn**	**12 20 23.2**	**-0.4**
JIJ				*e*S	**Sn**	**12 20 49.0**	**-0.5**
CHN1	**Nanshi**	**2.08**	**218**	*e*P	**Pn**	**12 20 23.1**	**-0.5**
	baz=212						
CHN1				*e*S	**Sn**	**12 20 49.9**	**+0.3**
	baz=212						
TWG	**Pinlang**	**2.15**	**201**	*e*P	**Pn**	**12 20 24.2**	**-0.4**
	baz=193						
SSD	**Sandimen**	**2.40**	**210**	*e*P	**Pn**	**12 20 28.5**	**+0.8**
	baz=203						
SSD				*e*S	**Sn**	**12 20 55.6**	**-1.3**
	baz=203						
ECL	**Taimali**	**2.40**	**202**	*e*P	**Pn**	**12 20 27.8**	**0.0**
	baz=193						
ECL				*e*S	**Sn**	**12 20 55.8**	**-1.2**
	baz=193						
JTJ	**Tarama**	**2.54**	**94**	P	**Pn**	**12 20 29.9**	**+0.3**
JTJ				*e*S	**Sn**	**12 21 00.8**	**+0.6**

IDC ***23*** *12:22:30.3±1.3,4.°03N×128.°03E,h0km,mb4.0/7, mb1 4.2/7,mb1mx3.9/21,mbtmp4.0/7,Error ellipse: s-maj=36.9km s-min=26.5km az=75.0*
ISCJB ***23*** *12:22:43.9±2.4,3.°8N±0.°1×128.°1E±0.°2,h153km±18km, mb4.3/13,Error ellipse: s-maj=25.7km s-min=21.6km az=170.1*
DJA ***23*** *12:23:18,2.°55N×124.°76E,h117km,mb5.3/4*

ISC 23 12:22:45.8±2.3,**3.°8N**±0.°1×**128.°1E**±0.°2,**h152**km±18km,**n20,** σ**0s65**/20,**mb4.3**/13,**North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.57**	**268**	P	**Px**	12 23 50.9	
SGSI				S	**Sn**	**12 24 00.3**	**+0.2**
WSI	**Waingapu**	**15.44**	**210**	P	**Pn**	**12 26 14.7**	**-0.9**
	481nm,0.4s						
WRA	**Warramunga Arr**	**24.34**	**166**	P	**P**	**12 27 52.8**	**+3.1**
	1.9nm,0.5s,mb3.9,baz=345,slow=10,SNR=4.9						
CMAR	**Chiang Mai Arr**	**32.04**	**299**	P	**P**	**12 28 58.1**	**-0.2**
	1.1nm,0.7s,mb3.7,baz=114,slow=6.9,SNR=11						
MJAR	**Matsushiro Arr**	**33.93**	**15**	P	**P**	**12 29 14.3**	**-0.1**
	2.9nm,0.8s,mb4.1,baz=189,slow=9.5,SNR=9.2						
SHL	**Shillong**	**40.97**	**306**	*e*PKP	**P**	**12 30 15.0**	**+1.1**
TAPN	**Taplejung**	**45.11**	**306**	*e*P	**P**	**12 30 47.6**	**+0.5**
ODAN	**Odare**	**45.17**	**305**	*e*P	**P**	**12 30 47.9**	**+0.3**
	11nm,0.7s,mb4.6						
RAMN	**Ramite**	**45.85**	**304**	*e*P	**P**	**12 30 53.4**	**+0.4**
	16nm,0.7s,mb4.8						
JIRN	**Jiri**	**46.47**	**305**	*e*P	**P**	**12 30 57.5**	**-0.3**
	12nm,0.5s,mb4.8						
GUN	**Gumba**	**46.82**	**305**	*e*P	**P**	**12 31 00.8**	**+0.3**
	17nm,0.5s,mb4.9						
PKI	**Pulchoki**	**47.07**	**305**	*e*P	**P**	**12 31 02.2**	**-0.3**
DMN	**Daman**	**47.33**	**305**	*e*P	**P**	**12 31 04.6**	**+0.1**
SONM	**Songino Array**	**47.72**	**340**	P	**P**	**12 31 07.7**	**+0.6**
	1.0nm,0.6s,mb3.6,baz=147,slow=8.6,SNR=3.6						
GKN	**Gorkha**	**47.87**	**305**	*e*P	**P**	**12 31 07.8**	**-0.8**
KOLN	**Koldanda**	**48.63**	**304**	*e*P	**P**	**12 31 14.5**	**0.0**
	18nm,0.5s,mb4.9						
DANN	**Dangsing**	**48.71**	**305**	*e*P	**P**	**12 31 15.0**	**-0.1**
	28nm,0.6s,mb5.1						
PETK	**Petropavlovsk-**	**54.90**	**21**	P	**P**	**12 32 00.1**	**-0.4**
	4.1nm,0.8s,mb4.2,baz=189,slow=8.6,SNR=6.0						
MKAR	**Makanchi Array**	**59.32**	**325**	P	**P**	**12 32 24.4**	**-0.3**
	1.2nm,0.3s,mb4.2,baz=115,slow=8.1,SNR=38						
ZALV	**Zalesovo Beam**	**61.19**	**332**	P	**P**	**12 32 43.4**	**-0.8**
	0.4nm,0.3s,mb3.7,baz=122,slow=7.0,SNR=2.7						

CSEM ***23*** *12:28:25.6±0.2,38.°04N×9.°09W,h20km,ML3.5/10,Error ellipse: s-maj=5.3km s-min=2.7km az=72.0*
IGIL ***23*** *12:28:26.3,37.°96N×9.°21W,h24km,ML2.2*
MDD ***23*** *12:28:26.0±1.1,37.°97N×9.°24W,h30km±18km,mbLg2.5/18, Error ellipse: s-maj=10.0km s-min=4.1km az=77.0,PRIMO*

INMG 23 12:28:26.3±1.2,**37.°97N×9.°22W,h25**km±4km,**ML2.5, 2C-3D,Error ellipse: s-maj=3.8km s-min=2.4km az=68.0, Portugal**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PNCL	**Nicolau / Gran**	**0.56**	**75**	⇑*i*P	Pb	12 28 37.1	-0.5
PNCL				*e*S	Sb	12 28 45.0	-0.2
PNCL				A		12 28 46.1	
	181nm,0.5s						
PTEO	**Sao Teotonio**	**0.57**	**137**	*e*P	Pb	12 28 37.1	-0.6
PTEO				*e*S	Sb	12 28 45.1	-0.4
	198nm,0.3s						
PTEO	**Sao Teotonio**	**0.57**	**137**	*e*P	Pb	12 28 37.1	-0.6
PTEO				*e*S	Sb	12 28 45.1	-0.4
PTEO				A		12 28 46.2	
	198nm,0.3s						
PLML	**Palmela**	**0.64**	**23**	*e*P	Pb	12 28 38.6	-0.2
PLML	**Palmela**	**0.64**	**23**	*e*P	Pb	12 28 38.6	-0.2
MORF	**Marmelete**	**0.80**	**145**	P	Pb	12 28 40.4	-1.1
	SNR=7.9						
MORF				S	Sb	12 28 50.7	-1.2
	SNR=7.9						
MORF	**Marmelete**	**0.80**	**145**	*e*P	Pb	12 28 40.4	-1.1
MORF				*e*S	Sb	12 28 50.4	-1.5
	112nm,0.2s						
MORF	**Marmelete**	**0.80**	**145**	*e*P	Pb	12 28 40.4	-1.1
MORF				*e*S	Sb	12 28 50.4	-1.5
MORF				A		12 28 52.0	
	112nm,0.2s						
MOE	**Montemor**	**0.88**	**51**	*e*P	Pb	12 28 41.9	-1.0
MOE				*e*S	Sb	12 28 52.8	-1.5
MOE	**Montemor**	**0.88**	**51**	*e*P	Pb	12 28 41.9	-1.0
MOE				*e*S	Sb	12 28 52.8	-1.5
PFVI	**Vila Bisbo**	**0.89**	**159**	P	Pb	12 28 41.4	-1.6
	4.3nm,0.0s,SNR=11						
PFVI				S	Sb	12 28 52.3	-2.2
	15nm,0.1s,SNR=15						
PFVI	**Vila Bisbo**	**0.89**	**159**	P	Pb	12 28 41.4	-1.6
	4.3nm,0.0s,SNR=11						
PFVI				S	Sb	12 28 52.0	-2.5
	15nm,0.1s,SNR=15						
PFVI	**Vila Bisbo**	**0.89**	**159**	⇓*i*P	Pb	12 28 41.4	-1.6
PFVI				*e*S	Sb	12 28 52.3	-2.2
PFVI				A		12 28 53.7	
	58nm,0.1s						
PMAFR	**Mafra**	**0.99**	**357**	P	Pn	12 28 43.5	-1.0
	25nm,0.1s,SNR=65						
PMAFR				S	Sb	12 28 56.0	-1.4
	41nm,0.1s,SNR=25						
PMAFR	**Mafra**	**0.99**	**357**	P	Pn	12 28 43.5	-1.1
	25nm,0.1s,SNR=65						
PMAFR				S	Sb	12 28 56.0	-1.4
	41nm,0.1s,SNR=25						
PMAFR	**Mafra**	**0.99**	**357**	*e*P	Pn	12 28 43.5	-1.1
PMAFR				*e*S	Sb	12 28 56.0	-1.4
PMAFR				A		12 28 58.8	
	115nm,0.2s						
PCVE	**Castro Verde**	**0.99**	**109**	⇓*i*P	Pn	12 28 43.4	-1.2
PCVE				*e*S	Sb	12 28 55.6	-1.9
PCVE				A		12 28 58.0	
	155nm,0.1s						
PBEJ	**Beja**	**1.07**	**86**	*e*P	Pn	12 28 44.2	-1.5
PBEJ				*e*S	Sb	12 28 57.8	-1.9
	67nm,0.2s						
PBEJ	**Beja**	**1.07**	**86**	*e*P	Pn	12 28 44.2	-1.5
PBEJ				*e*S	Sb	12 28 57.8	-1.9
PBEJ				A		12 29 00.9	
	67nm,0.2s						
EVO	**Evora**	**1.10**	**59**	*e*P	Pn	12 28 44.6	-1.6
EVO				*e*S	Sn	12 28 58.0	-2.6
	79nm,0.1s						
EVO	**Evora**	**1.10**	**59**	*e*P	Pn	12 28 44.6	-1.6
EVO				*e*S	Sn	12 28 58.0	-2.6
EVO				A		12 29 02.2	
	79nm,0.1s						
PBDV	**Barranco-do-Ve**	**1.25**	**125**	*e*P	Pn	12 28 47.2	-1.0
PBDV				*e*S	Sn	12 29 02.5	-1.7
	34nm,0.5s						
PBDV	**Barranco-do-Ve**	**1.25**	**125**	*e*P	Pn	12 28 47.2	-1.0
PBDV				*e*S	Sn	12 29 02.5	-1.7
PBDV				A		12 29 11.1	
	34nm,0.5s						
ALMR	**Almeirim**	**1.29**	**23**	*e*P	Pn	12 28 47.3	-1.4
ALMR				*e*S	Sn	12 29 02.7	-2.4
ALMR				AML	AML	12 29 03.9	
	comp=E,22nm,0.2s						
ALMR	**Almeirim**	**1.29**	**23**	P	Pn	12 28 47.4	-1.3
	SNR=7.9						
ALMR				S	Sn	12 29 03.0	-2.2
	SNR=7.9						
PVAQ	**Vaqueiros**	**1.32**	**115**	*e*P	Pn	12 28 47.8	-1.3
PVAQ				*e*S	Sn	12 29 03.2	-2.6
	comp=E,68nm,0.2s						
PVAQ	**Vaqueiros**	**1.32**	**115**	*e*P	Pn	12 28 47.8	-1.3
PVAQ				*e*S	Sn	12 29 03.2	-2.6
PVAQ				A		12 29 12.5	
	comp=E,68nm,0.2s						
PMTG	**Montargil**	**1.35**	**35**	⇑*i*P	Pn	12 28 47.8	-1.7
PMTG				*e*S	Sn	12 29 03.4	-3.2
PMTG				A		12 29 09.9	
	comp=E,28nm,0.5s						
EGRO	**El Granado**	**1.44**	**107**	⇓P	Pn	12 28 49.5	-1.3
	comp=E,14nm,0.1s,SNR=18						
EGRO				S	Sn	12 29 07.1	-1.8
	comp=E,11nm,0.1s,SNR=8.2						
EGRO	**El Granado**	**1.44**	**107**	P	Pn	12 28 49.5	-1.3
	comp=E,14nm,0.1s,SNR=18						
PESTR	**Estremoz**	**1.56**	**54**	*e*P	Pn	12 28 50.5	-2.0
PESTR				*e*S	Sn	12 29 09.3	-2.6
	comp=E,16nm,0.5s						
PESTR	**Estremoz**	**1.56**	**54**	*e*P	Pn	12 28 50.5	-2.0
PESTR				*e*S	Sn	12 29 09.3	-2.6
PESTR				A		12 29 24.2	
	comp=E,16nm,0.5s						
PBAR	**Barrancos**	**1.73**	**82**	*e*Pn	Pn	12 28 53.1	-1.7
PBAR				*e*Sn	Sn	12 29 13.6	-2.5
	comp=E,28nm,0.3s						
PBAR	**Barrancos**	**1.73**	**82**	*e*Pn	Pn	12 28 53.1	-1.7
PBAR				*e*Sn	Sn	12 29 13.6	-2.5
PBAR				A		12 29 29.5	
	comp=E,28nm,0.3s						
PTOM	**Tomar**	**1.77**	**21**	*e*Pn	Pn	12 28 53.7	-1.6
PTOM				*e*Sn	Sn	12 29 14.2	-2.7
	comp=E,26nm,0.3s						
PTOM	**Tomar**	**1.77**	**21**	*e*Pn	Pn	12 28 53.7	-1.6
PTOM				*e*Sn	Sn	12 29 14.2	-2.7
PTOM				A		12 29 31.4	
	comp=E,26nm,0.3s						
EBAD	**Badajoz**	**1.91**	**65**	P	Pn	12 28 55.1	-2.0
	comp=E,0.5nm,0.1s,SNR=44						
EBAD				S	Sn	12 29 18.9	-1.5
	comp=E,4.7nm,0.0s,SNR=8.3						
EBAD	**Badajoz**	**1.91**	**65**	P	Pn	12 28 55.1	-2.0
	comp=E,0.5nm,0.1s,SNR=44						
EBAD				S	Sn	12 29 18.9	-1.4
	comp=E,4.7nm,0.0s,SNR=8.3						
EMIN	**Mina Concepcio**	**2.02**	**95**	P	Pn	12 28 57.7	-1.1
	comp=E,0.4nm,0.1s,SNR=34						
EMIN				S	Sn	12 29 21.4	-1.9
	comp=E,3.8nm,0.1s,SNR=9.4						
EMIN	**Mina Concepcio**	**2.02**	**95**	P	Pn	12 28 57.7	-1.1
	comp=E,0.4nm,0.1s,SNR=34						
EMIN				S	Sn	12 29 21.4	-1.9
	comp=E,3.8nm,0.1s,SNR=9.4						
PMRV	**Marv??o**	**2.04**	**44**	*e*Pn	Pn	12 28 57.3	-1.8
PMRV				*e*Sn	Sn	12 29 21.2	-2.5
	comp=E,14nm,0.2s						
PMRV	**Marv??o**	**2.04**	**44**	*e*Pn	Pn	12 28 57.3	-1.8
PMRV				*e*Sn	Sn	12 29 21.2	-2.5
PMRV				A		12 29 22.4	
	comp=E,14nm,0.2s						
PCBR	**Castelo Branco**	**2.31**	**35**	*e*Pn	Pn	12 29 01.1	-1.7
PCBR				*e*Sn	Sn	12 29 27.0	-3.4
	comp=E,12nm,0.3s						
PCBR	**Castelo Branco**	**2.31**	**35**	*e*Pn	Pn	12 29 01.1	-1.7
PCBR				*e*Sn	Sn	12 29 27.0	-3.4
PCBR				A		12 29 29.2	
	comp=E,12nm,0.3s						
MTE	**Manteigas**	**2.76**	**28**	*e*Pn	Pn	12 29 07.4	-1.5
MTE				*e*Sn	Sn	12 29 38.1	-3.2
	comp=E,26nm,0.2s						
MTE	**Manteigas**	**2.76**	**28**	*e*Pn	Pn	12 29 07.4	-1.5
MTE				*e*Sn	Sn	12 29 38.1	-3.2
MTE				A		12 29 54.2	
	comp=E,26nm,0.2s						
ESPR	**Espera**	**2.89**	**111**	P	Pn	12 29 09.7	-1.0
	comp=E,0.4nm,0.0s,SNR=7.9						
ESPR				S	Sn	12 29 41.6	-3.1
	comp=E,0.7nm,0.1s,SNR=7.9						
ESPR	**Espera**	**2.89**	**111**	P	Pn	12 29 09.7	-1.0
	comp=E,0.4nm,0.0s,SNR=7.9						
ESPR				S	Sn	12 29 41.6	-3.1
	comp=E,0.7nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**2.93**	**20**	*e*Pn	Pn	12 29 09.5	-1.8
PVIS				*e*Sn	Sn	12 29 42.0	-3.6
	comp=E,14nm,0.1s						
PVIS	**Viseu**	**2.93**	**20**	*e*Pn	Pn	12 29 09.5	-1.8
PVIS				*e*Sn	Sn	12 29 42.0	-3.6
PVIS				A		12 29 44.3	
	comp=E,14nm,0.1s						
PTO	**Porto**	**3.20**	**8**	*e*Sn	Sn	12 29 48.2	-4.2
PTO	**Porto**	**3.20**	**8**	*e*Sn	Sn	12 29 48.2	-4.2
EPLA	**Plasencia**	**3.22**	**48**	P	Pn	12 29 13.0	-2.2
	comp=E,0.7nm,0.1s,SNR=15						
EPLA				S	Sn	12 29 48.8	-3.9
	comp=E,1.5nm,0.1s,SNR=8.5						
EPLA	**Plasencia**	**3.22**	**48**	P	Pn	12 29 13.0	-2.2
	comp=E,0.7nm,0.1s,SNR=15						
EPLA				S	Sn	12 29 48.8	-4.0
	comp=E,1.5nm,0.1s,SNR=8.5						
PVRL	**Vila Real**	**3.50**	**19**	*e*Sn	Sn	12 29 55.7	-4.0
PVRL	**Vila Real**	**3.50**	**19**	*e*Sn	Sn	12 29 55.7	-4.0
POLO	**Lamas de Olo**	**3.58**	**17**	*e*Pn	Pn	12 29 18.7	-1.4
POLO				*e*Sn	Sn	12 29 57.2	-4.3
	comp=E,2.8nm,0.1s						
POLO	**Lamas de Olo**	**3.58**	**17**	*e*Pn	Pn	12 29 18.7	-1.4
POLO				*e*Sn	Sn	12 29 57.2	-4.3
POLO				A		12 29 59.6	
	comp=E,2.8nm,0.1s						
MVO	**Moncorvo**	**3.62**	**27**	P	Pn	12 29 19.0	-1.7
	comp=E,0.7nm,0.1s,SNR=57						
MVO				S	Sn	12 29 58.8	-3.7
	comp=E,1.8nm,0.1s,SNR=12						
MVO	**Moncorvo**	**3.62**	**27**	*e*Pn	Pn	12 29 18.9	-1.8
MVO				*e*Sn	Sn	12 29 58.0	-4.5
	comp=E,12nm,0.6s						
MVO				S	Sn	12 29 58.8	-3.7
	comp=E,1.8nm,0.1s,SNR=12						
MVO	**Moncorvo**	**3.62**	**27**	*e*Pn	Pn	12 29 18.9	-1.8
MVO				*e*Sn	Sn	12 29 58.0	-4.5
MVO				A		12 30 00.6	
	comp=E,12nm,0.6s						
EADA	**Adamuz**	**3.67**	**85**	P	Pn	12 29 20.2	-1.2
	comp=E,0.3nm,0.1s,SNR=19						
EADA				S	Sn	12 30 00.8	-3.1
	comp=E,1.1nm,0.1s						
EADA	**Adamuz**	**3.67**	**85**	P	Pn	12 29 20.2	-1.2
	comp=E,0.3nm,0.1s,SNR=19						
EADA				S	Sn	12 30 00.8	-3.0
	comp=E,1.1nm,0.1s						
EMIJ	**Mijas**	**3.81**	**110**	P	Pn	12 29 22.2	-1.2
	comp=E,0.1nm,0.1s,SNR=6.8						
EMIJ				S	Sn	12 30 03.5	-3.9
	comp=E,0.2nm,0.1s,SNR

	comp=E,0.5nm,0.1s,SNR=8.1								
ECAL	**Calabor**	**4.41**	**25**	P		Pn	12 29 30.0	-1.5	
	comp=E,2.1nm,0.1s,SNR=28								
ECAL				S		Sn	12 30 18.0	-4.0	
	comp=E,0.5nm,0.1s,SNR=8.1								
ERON	**Agron**	**4.41**	**101**	P		Pn	12 29 31.1	-0.4	
	comp=E,0.1nm,0.1s,SNR=7.9								
ERON				S		Sn	12 30 17.3	-4.8	
	comp=E,0.4nm,0.2s,SNR=7.9								
ERON	**Agron**	**4.41**	**101**	P		Pn	12 29 31.1	-0.5	
	comp=E,0.1nm,0.1s,SNR=7.9								
ERON				S		Sn	12 30 19.1	-3.0	
	SNR=7.9								
ESDC	**Sonseca Array**	**4.45**	**66**	P		Pn	12 29 30.7	-1.3	
	comp=E,0.6nm,0.2s,baz=252,slow=13,SNR=11								
ESDC				S		Sn	12 30 18.2	-4.7	
	comp=E,1.6nm,0.2s,baz=252,slow=23,SNR=15								
ESDC	**Sonseca Array**	**4.45**	**66**	P		Pn	12 29 30.7	-1.4	
	comp=E,0.6nm,0.2s,baz=252,slow=13,SNR=11								
ESDC				S		Sn	12 30 18.2	-4.8	
	comp=E,1.6nm,0.2s,baz=252,slow=23,SNR=15								
EGUA	**Guajares**	**4.64**	**102**	P		Pn	12 29 34.4	-0.4	
	comp=E,1.3nm,0.2s,SNR=7.9								
EGUA				S		Sn	12 30 22.9	-4.9	
	comp=E,0.2nm,0.1s,SNR=7.9								
EGUA	**Guajares**	**4.64**	**102**	P		Pn	12 29 34.4	-0.4	
	SNR=7.9								
EGUA				S		Sn	12 30 22.9	-4.9	
	comp=E,0.2nm,0.1s,SNR=7.9								
EQUE	**Quentar**	**4.65**	**98**	P		Pn	12 29 33.4	-1.5	
	comp=E,0.2nm,0.1s,SNR=6.1								
EQUE				S		Sn	12 30 24.2	-3.9	
	comp=E,0.1nm,0.0s,SNR=7.9								
EQUE	**Quentar**	**4.65**	**98**	P		Pn	12 29 33.4	-1.5	
	comp=E,0.2nm,0.1s,SNR=6.1								
EQUE				S		Sn	12 30 24.2	-3.9	
	comp=E,0.1nm,0.0s,SNR=7.9								
ERUA	**La Rua**	**4.70**	**19**	P		Pn	12 29 33.9	-1.7	
	comp=E,2.4nm,0.2s,SNR=7.9								
ERUA				S		Sn	12 30 22.9	-6.3	
	comp=E,0.7nm,0.1s,SNR=7.9								
ERUA	**La Rua**	**4.70**	**19**	P		Pn	12 29 32.8	-2.7	
	comp=E,2.4nm,0.2s,SNR=7.9								
ERUA				S		Sn	12 30 22.3	-6.9	
	comp=E,0.7nm,0.1s,SNR=7.9								
GUD	**Guadarrama**	**4.75**	**54**	P		Pn	12 29 34.7	-1.6	
	comp=E,0.1nm,0.1s,SNR=7.9								
GUD				S		Sn	12 30 25.8	-4.7	
	comp=E,0.1nm,0.1s,SNR=7.9								
GUD	**Guadarrama**	**4.75**	**54**	P		Pn	12 29 34.7	-1.6	
	comp=E,0.1nm,0.1s,SNR=7.9								
GUD				S		Sn	12 30 25.8	-4.7	
	comp=E,0.1nm,0.1s,SNR=7.9								
EQES	**Quesada**	**4.87**	**90**	P		Pn	12 29 36.9	-0.9	
	comp=E,0.6nm,0.1s,SNR=9.2								
EQES				S		Sn	12 30 29.4	-3.9	
	comp=E,0.1nm,0.1s,SNR=7.9								
EQES	**Quesada**	**4.87**	**90**	P		Pn	12 29 36.9	-1.0	
	comp=E,0.6nm,0.1s,SNR=9.2								
EQES				S		Sn	12 30 29.5	-3.9	
	comp=E,0.1nm,0.1s,SNR=7.9								
EMAZ	**Mazaricos**	**4.98**	**2**	P		Pn	12 29 37.8	-1.6	
	comp=E,1.6nm,0.1s,SNR=6.7								
EMAZ				S		Sn	12 30 29.7	-6.5	
	comp=E,1.6nm,0.1s,SNR=7.8								
EMAZ	**Mazaricos**	**4.98**	**2**	P		Pn	12 29 37.8	-1.6	
	comp=E,1.6nm,0.1s,SNR=6.7								
EMAZ				S		Sn	12 30 29.5	-6.7	
	comp=E,1.6nm,0.1s,SNR=7.8								
EBER	**Berja**	**5.15**	**100**	P		Pn	12 29 41.6	-0.1	
	comp=E,0.3nm,0.1s,SNR=7.9								
EBER				S		Sn	12 30 37.6	-2.8	
	comp=E,0.3nm,0.2s,SNR=7.9								
EBER	**Berja**	**5.15**	**100**	P		Pn	12 29 41.6	-0.1	
	SNR=7.9								
EBER				S		Sn	12 30 37.6	-2.7	
	SNR=7.9								
EPON	**Pontenova**	**5.58**	**16**	P		Pn	12 29 45.3	-2.4	
	comp=E,0.2nm,0.2s,SNR=7.9								
EPON				S		Sn	12 30 44.2	-6.8	
	comp=E,0.6nm,0.0s,SNR=34								
ETOB	**Tobarra**	**6.07**	**81**	P		Pn	12 29 51.9	-2.5	
	comp=E,0.3nm,0.2s,SNR=7.9								
ETOB				S		Sn	12 30 57.7	-5.4	
	comp=E,0.2nm,0.1s,SNR=7.9								
EARI	**Arriondas**	**6.14**	**29**	P		Pn	12 29 54.8	-0.6	
	comp=E,5.9nm,0.8s,SNR=6.6								
EARI				S		Sn	12 30 58.8	-5.9	
	comp=E,0.3nm,0.2s,SNR=7.9								
EARI	**Arriondas**	**6.14**	**29**	P		Pn	12 29 54.8	-0.5	
	comp=E,5.9nm,0.8s,SNR=6.6								
EARI				S		Sn	12 30 58.8	-5.9	
	SNR=7.9								
ETOR	**Torete**	**6.24**	**61**	P		Pn	12 29 54.2	-2.5	
	comp=E,11nm,0.3s,SNR=30								
ETOR				S		Sn	12 30 59.8	-7.3	
	comp=E,2.6nm,0.1s,SNR=7.9								
ETOR	**Torete**	**6.24**	**61**	P		Pn	12 29 54.2	-2.5	
	comp=E,11nm,0.3s,SNR=30								
EMOS	**Mosqueruela**	**7.21**	**68**	S		Sn	12 31 23.3	-7.7	
	comp=E,0.2nm,0.0s,SNR=7.9								
IEPA	**Eparoz**	**7.74**	**49**	P		Pn	12 30 16.8	-0.5	
	comp=E,0.8nm,0.2s,SNR=7.9								
IEPA				S		Sn	12 31 36.0	-8.1	
	comp=E,0.3nm,0.2s,SNR=7.9								
IEPA	**Eparoz**	**7.74**	**49**	P		Pn	12 30 16.8	-0.5	
	SNR=7.9								
IEPA				S		Sn	12 31 37.9	-6.2	
	SNR=7.9								
IELO	**Elcoad**	**7.80**	**49**	P		Pn	12 30 17.0	-1.1	
	comp=E,0.1nm,0.1s,SNR=7.9								
IELO				S		Sn	12 31 37.0	-8.5	
	comp=E,0.5nm,0.1s,SNR=7.9								
IELO	**Elcoad**	**7.80**	**49**	P		Pn	12 30 17.0	-1.1	
	comp=E,0.1nm,0.1s,SNR=7.9								
EBIE	**Bielsa**	**8.56**	**54**	P		Pn	12 30 26.4	-2.2	
	comp=E,0.1nm,0.1s,SNR=7.9								
EBIE				S		Sn	12 31 57.7	-6.6	
	comp=E,0.2nm,0.1s,SNR=7.9								
EBIE	**Bielsa**	**8.56**	**54**	P		Pn	12 30 26.4	-2.2	
	comp=E,0.1nm,0.1s,SNR=7.9								

*IDC **23** 13:02:50.4±2.1, 32.°98N×141.°05E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.5/25, mbtmp3.8/4, ML3.4/1, Error ellipse: s-maj=52.8km s-min=21.3km az=55.0*
*ISCJB **23** 13:02:52.6±0.6, 33.°13N±0.°03×141.°04E±0.°06, h33km, mb4.0/4, Error ellipse: s-maj=7.6km s-min=4.6km az=162.6*
*JMA **23** 13:02:54.7±0.2, 33.°27N×140.°97E, h53km, M3.4*
*NEIC **23** 13:02:55.6±1.4, 33.°08N×140.°97E, h39km±13km, mb4.3/1, Error ellipse: s-maj=30.4km s-min=10.5km az=67.0*

ISC 23 13:02:54.6±0.6, 33.°16N±0.°03×140.°99E±0.°06, h35km, n24, σ1≋04/35, mb4.0/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**0.98**	**268**	P	**Pn**	**13 03 12.6**	**+0.7**
JHJ2				*e*S	**Sn**	**13 03 24.9**	**+0.3**
JHJ	**Hachijo jima 2**	**1.01**	**268**	Pn	**Pn**	**13 03 12.7**	**+0.4**
	119nm,0.3s,baz=269,slow=24,SNR=195						
JHJ				Sn	**Sn**	**13 03 23.9**	**-1.4**
	430nm,0.3s,baz=232,slow=19,SNR=24						
BSO1	**Boso 1**	**1.49**	**360**	P	**Pn**	**13 03 18.0**	**-0.9**
BSO1				S	**Sn**	**13 03 36.4**	**-0.8**
JMY	**Miyakejima3**	**1.53**	**307**	P	**Pn**	**13 03 19.4**	**0.0**
JMY				*e*S	**Sn**	**13 03 37.0**	**-1.1**
BSO3	**Boso 3**	**1.69**	**347**	S	**Sn**	**13 03 41.0**	**-1.0**
JKO	**Kozu shima**	**1.85**	**304**	P	**Pn**	**13 03 24.3**	**+0.4**
JIM2	**Oshima 2**	**2.02**	**321**	P	**Pn**	**13 03 25.6**	**-0.6**
JIZS	**Izushimoda**	**2.34**	**312**	P	**Pn**	**13 03 31.1**	**+0.5**
JIZS				*e*S	**Sn**	**13 03 57.3**	**-0.9**
JOD2	**Odawara 2**	**2.62**	**324**	P	**Pn**	**13 03 34.1**	**-0.4**
JOD2				S	**Sn**	**13 04 02.0**	**-3.1**
MJAR	**Matsushiro Arr**	**4.08**	**327**	Pn	**Pn**	**13 03 55.7**	**+1.2**
	2.2nm,0.3s,baz=156,slow=12,SNR=39						
MJAR				Sn	**Sn**	**13 04 41.8**	**+0.9**
	1.2nm,0.3s,baz=167,slow=17,SNR=5.1						
MJAR	**Matsushiro Arr**	**4.08**	**327**	Pn	**Pn**	**13 03 55.7**	**+1.2**
MJAR				Sn	**Sn**	**13 04 41.8**	**+0.9**
MAJO	**Matsushiro**	**4.08**	**327**	*e*P	**Pn**	**13 03 56.0**	**+1.6**
MAT	**Matsushiro**	**4.08**	**327**	P	**Pn**	**13 03 56.1**	**+1.6**
MAT				S	**Sn**	**13 04 40.9**	**0.0**
CBIJ	**Chichi jima**	**6.13**	**170**	Pn	**Pn**	**13 04 23.6**	**+0.9**
	4.4nm,0.3s,baz=294,slow=20,SNR=4.6						
CBIJ				Sn	**Sn**	**13 05 29.5**	**-2.1**
	2.3nm,0.3s,baz=72,slow=14,SNR=2.0						
CBIJ	**Chichi jima**	**6.13**	**170**	Pn	**Pn**	**13 04 23.6**	**+0.9**
CBIJ				Sn	**Sn**	**13 05 29.5**	**-2.1**
JNU	**Nakatsue**	**8.48**	**273**	P	**Pn**	**13 04 55.8**	**+0.9**
KURK	**Kurchatov**	**48.12**	**311**	P	**P**	**13 11 33.6**	**+2.7**
	0.2nm,0.5s,mb3.4,baz=85,slow=7.3,SNR=5.5						
KURK	**Kurchatov**	**48.12**	**311**	P	**P**	**13 11 33.6**	**+2.7**
WRAB	**Tennant Creek**	**53.17**	**188**	*e*P	**P**	**13 12 09.1**	**-0.1**
	1.7nm,0.5s,mb4.2						
WB2	**Warramunga Arr**	**53.18**	**188**	*e*P	**P**	**13 12 08.8**	**-0.5**
WRA	**Warramunga Arr**	**53.18**	**188**	P	**P**	**13 12 08.8**	**-0.5**
	2.0nm,0.5s,mb4.3,baz=3.9,slow=7.6,SNR=64						
WRA	**Warramunga Arr**	**53.18**	**188**	P	**P**	**13 12 08.8**	**-0.5**
ASAR	**Alice Springs**	**56.91**	**188**	P	**P**	**13 12 36.1**	**0.0**
	0.5nm,0.4s,mb3.9,baz=2.1,slow=6.1,SNR=27						
ASAR	**Alice Springs**	**56.91**	**188**	P	**P**	**13 12 36.1**	**0.0**

*IDC **23** 13:21:56.8±2.0, 2.°10S×67.°79E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.5/25, mbtmp3.6/7, MS3.3/2, Ms1 3.4/2, ms1mx2.7/36, Error ellipse: s-maj=57.7km s-min=26.5km az=66.0*
*ISCJB **23** 13:21:57.6±0.8, 2.°05S±0.°1×68.°1E±0.°2, h10km, mb3.8/10, MS3.3/2, Error ellipse: s-maj=22.3km s-min=17.6km az=163.8*
*NEIC **23** 13:21:59.2±0.8, 2.°09S×68.°05E, h10km, mb4.3/3, Error ellipse: s-maj=22.7km s-min=18.7km az=73.0*

ISC 23 13:21:59.5±0.8, 2.°1S±0.°1×68.°1E±0.°1, h10km, n21, σ1≋17/19, mb3.8/10, MS3.3/2, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**36.61**	**55**	P	**P**	**13 29 08.4**	**+2.2**
	0.2nm,0.4s,mb3.3,baz=241,slow=11,SNR=4.1						
CMAR				LR	LR	13 41 48.2	
	comp=Z,32nm,20.9s,MS3.1,baz=215,slow=32						
CMAR	**Chiang Mai Arr**	**36.61**	**55**	P	**P**	**13 29 08.4**	**+2.2**
LSZ	**Lusaka**	**41.44**	**249**	*e*P	**P**	**13 29 47.2**	**+0.5**
	2.4nm,0.9s,mb3.8						
TKM2	**Tokmak 2**	**45.31**	**8**	*e*P	**P**	**13 30 19.1**	**+1.6**
	9.3nm,1.4s,mb4.4						
MK31	**Makanchi Array**	**50.26**	**13**	*e*P	**P**	**13 30 56.3**	**+0.5**
MKAR	**Makanchi Array**	**50.26**	**13**	P	**P**	**13 30 55.6**	**-0.3**
	0.7nm,0.8s,mb3.7,baz=202,slow=9.2,SNR=4.1						
MKAR	**Makanchi Array**	**50.26**	**13**	P	**P**	**13 30 55.6**	**-0.3**
KURK	**Kurchatov**	**53.36**	**8**	P	**P**	**13 31 17.5**	**-1.5**
	0.5nm,0.4s,mb3.8,baz=203,slow=7.9,SNR=5.1						
KURK	**Kurchatov**	**53.36**	**8**	P	**P**	**13 31 17.5**	**-1.5**
ZALV	**Zalesovo Beam**	**57.55**	**12**	P	**P**	**13 31 48.6**	**-0.5**
	0.3nm,0.3s,mb3.8,baz=207,slow=6.0,SNR=3.8						
ZALV	**Zalesovo Beam**	**57.55**	**12**	P	**P**	**13 31 48.6**	**-0.4**
SONM	**Songino Array**	**59.90**	**29**	P	**P**	**13 32 04.1**	**-1.5**
	0.8nm,0.8s,mb3.8,baz=251,slow=9.0,SNR=3.2						
SONM				LR	LR	13 57 35.6	
	comp=Z,39nm,21.0s,MS3.5,baz=166,slow=36						
SONM	**Songino Array**	**59.90**	**29**	P	**P**	**13 32 04.1**	**-1.5**
WRA	**Warramunga Arr**	**67.02**	**111**	P	**P**	**13 32 53.7**	**+0.4**
	0.5nm,0.5s,mb3.8,baz=286,slow=5.8,SNR=7.3						
WRA	**Warramunga Arr**	**67.02**	**111**	P	**P**	**13 32 53.7**	**+0.4**
WRAB	**Tennant Creek**	**67.03**	**111**	*e*P	**P**	**13 32 53.7**	**+0.4**
	1.4nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**67.03**	**111**	P	**P**	**13 32 51.0**	**-2.3**
ASAR	**Alice Springs**	**67.08**	**115**	P	**P**	**13 32 54.0**	**+0.3**
	0.4nm,0.6s,mb3.6,baz=283,slow=5.8,SNR=9.3						
ASAR	**Alice Springs**	**67.08**	**115**	P	**P**	**13 32 54.0**	**+0.3**
TXAR	**Lajitas Array**	**151.78**	**345**	PKPbc	PKPbc	13 41 54.9	-0.3
	0.7nm,0.9s,baz=52,slow=2.1,SNR=5.9						
TXAR	**Lajitas Array**	**151.78**	**345**	PKPbc	PKPbc	13 41 54.9	-0.3

*ISCJB **23** 13:22:56.6±0.5, 29.°79N±0.°05×90.°41E±0.°07, h10km, mb3.7/10, Error ellipse: s-maj=10.0km s-min=5.4km az=141.0*
*IDC **23** 13:22:57.2±0.9, 29.°76N×90.°29E, h0km, mb3.7/9, mb1 3.8/11, mb1mx3.7/29, mbtmp3.7/11, ML3.5/2, Error ellipse: s-maj=38.8km s-min=15.7km az=58.0*
*NEIC **23** 13:22:58.6±0.5, 29.°84N×90.°45E, h10km, mb4.4/1, Error ellipse: s-maj=15.7km s-min=6.6km az=48.0*

ISC 23 13:22:58.5±0.4, 29.81N±0.°05×90.°46E±0.°06, h10km, n29, σ0≋95/33, mb3.7/10, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**0.61**	**100**	*e*P	**Pg**	**13 23 09.1**	**-1.2**
LSA				*e*S	**Sg**	**13 23 17.7**	**-0.5**
SHL	**Shillong**	**4.41**	**163**	*e*PN	**Pn**	**13 24 10.0**	**+4.5**
SHL				*e*PG	**Pg**	**13 24 24.0**	**+1.0**
SHL				*e*SN	**Sn**	**13 24 57.0**	**+0.1**
SHL				*e*SG	**Sg**	**13 25 18.0**	**-2.2**
CMAR	**Chiang Mai Arr**	**13.69**	**144**	Pn	**Pn**	**13 26 13.4**	**+0.7**
	0.1nm,0.3s,baz=318,slow=14,SNR=4.7						
CMAR	**Chiang Mai Arr**	**13.69**	**144**	Pn	**Pn**	**13 26 13.4**	**+0.7**
MK31	**Makanchi Array**	**18.11**	**342**	*e*P	**Pn**	**13 27 08.6**	**-1.4**
MKAR	**Makanchi Array**	**18.11**	**342**	P	**Pn**	**13 27 09.8**	**-0.2**
	0.1nm,0.3s,baz=138,slow=11,SNR=4.1						
MKAR	**Makanchi Array**	**18.11**	**342**	P	**Pn**	**13 27 09.8**	**-0.2**
EKS2	**Erkin-Say**	**18.55**	**318**	*e*P	**Pn**	**13 27 14.0**	**-1.4**
SONM	**Songino Array**	**21.79**	**30**	P	**P**	**13 27 52.2**	**+1.8**
	1.3nm,0.5s,mb3.6,baz=222,slow=12,SNR=8.6						
SONM	**Songino Array**	**21.79**	**30**	P	**P**	**13 27 52.2**	**+1.8**
KURK	**Kurchatov**	**22.70**	**340**	P	**P**	**13 27 59.6**	**-0.5**
	2.1nm,0.8s,mb3.6,baz=154,slow=10,SNR=9.3						
KURK	**Kurchatov**	**22.70**	**340**	P	**P**	**13 27 59.6**	**-0.5**
ZALV	**Zalesovo Beam**	**24.47**	**352**	P	**P**	**13 28 17.9**	**+0.5**
	0.4nm,0.3s,mb3.3,baz=169,slow=12,SNR=4.7						
ZALV	**Zalesovo Beam**	**24.47**	**352**	P	**P**	**13 28 17.9**	**+0.5**
BVAR	**Borovoye Array**	**27.47**	**333**	P	**P**	**13 28 45.1**	**+0.5**
	0.4nm,0.6s,mb3.1,baz=123,slow=5.3,SNR=3.8						
BVAR	**Borovoye Array**	**27.47**	**333**	P	**P**	**13 28 45.1**	**+0.5**
ABKAR	**Akbulak array**	**30.21**	**319**	P	**P**	**13 29 08.7**	**-0.3**
AKTO	**Aktyubinsk**	**31.86**	**319**	P	**P**	**13 29 24.4**	**+0.8**
	0.5nm,0.3s,mb3.8,baz=238,slow=17,SNR=4.0						
AKTO	**Aktyubinsk**	**31.86**	**319**	P	**P**	**13 29 24.4**	**+0.8**
NOA	**NORSAR Array B**	**59.27**	**326**	P	**P**	**13 32 59.2**	**-0.7**
	0.6nm,0.7s,mb3.7,baz=86,slow=5.8,SNR=2.5						
NOA	**NORSAR Array B**	**59.27**	**326**	P	**P**	**13 32 59.2**	**-0.7**
WRA	**Warramunga Arr**	**65.06**	**134**	P	**P**	**13 33 40.0**	**+0.7**
	1.7nm,0.7s,mb4.2,baz=326,slow=6.5,SNR=11						
WRA	**Warramunga Arr**	**65.06**	**134**	P	**P**	**13 33 40.0**	**+0.7**
WRAB	**Tennant Creek**	**65.06**	**134**	*e*P	**P**	**13 33 39.9**	**+0.6**
	2.2nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**65.07**	**134**	*e*P	**P**	**13 33 40.0**	**+0.7**
ASAR	**Alice Springs**	**67.59**	**137**	P	**P**	**13 33 56.5**	**+1.0**
	1.6nm,0.8s,mb4.1,baz=326,slow=6.8,SNR=15						
ASAR	**Alice Springs**	**67.59**	**137**	P	**P**	**13 33 56.5**	**+1.0**
TORD	**Torodi Ar. Bea**	**82.53**	**281**	P	**P**	**13 35 21.6**	**-0.4**
	0.4nm,0.8s,mb3.5,baz=70,slow=3.2,SNR=3.5						
TORD	**Torodi Ar. Bea**	**82.53**	**281**	P	**P**	**13 35 21.6**	**-0.4**

*IDC **23** 13:28:54.2±1.8, 40.°64S×174.°64E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.4/14, mbtmp3.2/2, Error ellipse: s-maj=99.8km s-min=43.5km az=24.0*
*ISCJB **23** 13:29:02.8±0.3, 40.°83S±0.°03×174.°43E±0.°04, h68km±5km, mb3.1/2, Error ellipse: s-maj=5.5km s-min=4.0km az=40.2*
*WEL **23** 13:29:04.7±0.1, 40.°80S×174.°47E, h53km±2km, ML3.8/18, Error ellipse: s-maj=1.4km s-min=1.0km az=90.0*

ISC 23 13:29:03.7±0.3, 40.°83S±0.°03×174.°44E±0.°04, h63km±5km, n68, σ0≋85/78, mb3.0/2, 4C-2D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIW	**Kapiti Island**	**0.36**	**95**	⇑P	**Pn**	**13 29 13.8**	**-0.7**
KIW				SN	**Sn**	**13 29 20.6**	**-1.8**
DUWZ	**D'Urville Isla**	**0.40**	**274**	⇓P	**Pn**	**13 29 13.6**	**-1.3**
DUWZ				SN	**Sn**	**13 29 20.8**	**-2.2**
TCW	**Tory Channel**	**0.40**	**198**	⇑P	**Pn**	**13 29 14.8**	**-0.2**
TCW				SN	**Sn**	**13 29 22.1**	**-1.0**
WEL	**Wellington**	**0.52**	**152**	⇑P	**Pn**	**13 29 16.3**	**+0.2**
WEL				SN	**Sn**	**13 29 25.6**	**+0.4**
SNZO	**South Karori**	**0.52**	**158**	PN	**Pn**	**13 29 16.2**	**+0.1**
SNZO				SN	**Sn**	**13 29 25.3**	**+0.2**
CAW	**Cannon Point**	**0.55**	**121**	⇓P	**Pn**	**13 29 16.4**	**0.0**
CAW				SN	**Sn**	**13 29 25.8**	**+0.1**
OGWZ	**Otaki Gorge**	**0.55**	**89**	⇑P	**Pn**	**13 29 16.3**	**-0.1**
OGWZ				SN	**Sn**	**13 29 25.2**	**-0.6**
BHW	**Baring Head**	**0.66**	**151**	PN	**Pn**	**13 29 17.7**	**0.0**
BHW				SN	**Sn**	**13 29 28.8**	**+0.9**
TUWZ	**Tuamarina**	**0.71**	**212**	PN	**Pn**	**13 29 18.5**	**+0.3**
TUWZ				SN	**Sn**	**13 29 29.6**	**+0.7**
HOWZ	**Holdsworth Sta**	**0.82**	**95**	PN	**Pn**	**13 29 19.2**	**-0.3**
HOWZ				SN	**Sn**	**13 29 32.3**	**+1.1**
MSWZ	**Moikau Station**	**0.85**	**134**	PN	**Pn**	**13 29 19.7**	**-0.1**
MSWZ				SN	**Sn**	**13 29 34.5**	**+2.7**
MTW	**Mount Morrison**	**0.87**	**113**	PN	**Pn**	**13 29 19.8**	**-0.3**
MTW				SN	**Sn**	**13 29 34.6**	**+2.3**
MRZ	**Mangatainoka R**	**0.88**	**79**	PN	**Pn**	**13 29 19.8**	**-0.4**
NNZ	**Nelson**	**0.89**	**244**	PN	**Pn**	**13 29 20.5**	**+0.1**
PAWZ	**Paruwai Farm**	**0.93**	**127**	PN	**Pn**	**13 29 20.7**	**-0.2**
CMWZ	**Cape Campbell**	**0.94**	**190**	PN	**Pn**	**13 29 22.9**	**+1.9**
PLWZ	**Palliser**	**0.96**	**141**	PN	**Pn**	**13 29 21.1**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.98**	**206**	PN	**Pn**	**13 29 22.5**	**+1.0**
TIWZ	**Tintock**	**1.10**	**88**	PN	**Pn**	**13 29 22.5**	**-0.6**
POWZ	**Post Office Ro**	**1.10**	**67**	PN	**Pn**	**13 29 22.5**	**-0.6**
TRWZ	**Traveller**	**1.10**	**122**	PN	**Pn**	**13 29 22.7**	**-0.4**
TMWZ	**Te Maipa**	**1.13**	**105**	PN	**Pn**	**13 29 23.1**	**-0.4**
WAZ	**Wanganui**	**1.15**	**21**	PN	**Pn**	**13 29 24.0**	**+0.2**
BFZ	**Birch Farm**	**1.38**	**84**	PN	**Pn**	**13 29 25.8**	**-1.0**
TSZ	**Takapari Road**	**1.39**	**57**	PN	**Pn**	**13 29 28.4**	**+1.5**
DVHZ	**Dannevirke**	**1.42**	**69**	PN	**Pn**	**13 29 26.5**	**-0.8**
QRZ	**Quartz Range**	**1.45**	**269**	PN	**Pn**	**13 29 28.0**	**+0.3**
THZ	**Tophouse**	**1.49**	**231**	PN	**Pn**	**13 29 29.2**	**+0.9**
RAEZ	**Rainy Point**	**1.54**	**359**	PN	**Pn**	**13 29 29.6**	**+0.7**
NEZ	**North Egmont**	**1.58**	**350**	PN	**Pn**	**13 29 29.9**	**+0.5**
PNHZ	**Pukenui**	**1.62**	**56**	PN	**Pn**	**13 29 29.0**	**-1.0**
MTVZ	**Mangateitei**	**1.64**	**29**	PN	**Pn**	**13 29 30.9**	**+0.6**
DREZ	**Durham Road**	**1.65**	**353**	PN	**Pn**	**13 29 31.1**	**+0.7**
PKE	**Pukeiti**	**1.67**	**348**	PN	**Pn**	**13 29 31.0**	**+0.4**
PKVZ	**Pokaka**	**1.69**	**25**	PN	**Pn**	**13 29 31.9**	**+1.0**
WPHZ	**Waipukurau**	**1.71**	**64**	PN	**Pn**	**13 29 30.2**	**-0.9**
VRZ	**Vera Road**	**1.72**	**8**	PN	**Pn**	**13 29 31.6**	**+0.2**
KHZ	**Kahutara**	**1.73**	**203**	PN	**Pn**	**13 29 31.9**	**+0.5**
MOVZ	**Moawhango**	**1.74**	**36**	PN	**Pn**	**13 29 31.4**	**-0.2**
WNVZ	**Wahianoa**	**1.74**	**31**	PN	**Pn**	**13 29 32.2**	**+0.6**
TRVZ	**Turoa**	**1.75**	**29**	PN	**Pn**	**13 29 32.4**	**+0.6**
MHEZ	**Mangahewa**	**1.75**	**357**	PN	**Pn**	**13 29 32.8**	**+1.0**
PRHZ	**Porangahau**	**1.76**	**72**	PN	**Pn**	**13 29 30.8**	**-1.1**
DRZ	**Dome Shelter**	**1.77**	**29**	PN	**Pn**	**13 29 32.8**	**+0.7**
FWVZ	**Far West T-bar**	**1.79**	**29**	PN	**Pn**	**13 29 32.6**	**+0.3**
TUVZ	**Tukino**	**1.81**	**31**	PN	**Pn**	**13 29 33.2**	**+0.6**
BHHZ	**Black Hill Sta**	**1.83**	**43**	PN	**Pn**	**13 29 32.5**	**-0.3**
WPVZ	**Whakapapa**	**1.83**	**28**	PN	**Pn**	**13 29 33.4**	**+0.6**
OTVZ	**Oturere**	**1.91**	**30**	PN	**Pn**	**13 29 34.4**	**+0.5**
KRVZ	**Karewarewa**	**1.96**	**28**	PN	**Pn**	**13 29 35.1**	**+0.5**
PXZ	**Pawanui**	**2.01**	**67**	PN	**Pn**	**13 29 34.0**	**-1.3**
KATZ	**Kakaramea**	**2.09**	**28**	PN	**Pn**	**13 29 37.2**	**+0.8**
KAHZ	**Kahuranaki**	**2.13**	**62**	PN	**Pn**	**13 29 35.8**	**-1.1**
BKZ	**Black Stump Fm**	**2.29**	**44**	PN	**Pn**	**13 29 38.1**	**-1.0**
HIZ	**Hauiti**	**2.33**	**8**	PN	**Pn**	**13 29 39.8**	**+0.1**
**LTZ

JAK	**Akkeshi**	**2.90**	**242**	P		**Pn**	**13 59 21.8**	**-0.7**
JAK				*e*S		**Sn**	**13 59 54.3**	**-1.8**
JTKR	**Abashiri--Toko**	**3.11**	**263**	P		**Pn**	**13 59 26.0**	**+0.7**
JAR	**Ashorobuto**	**3.38**	**252**	P		**Pn**	**13 59 30.0**	**+0.9**
JCH	**Churui**	**3.94**	**245**	P		**Pn**	**13 59 36.4**	**-0.3**
JCH				*e*S		**Sn**	**14 00 20.9**	**-0.8**
ASAJ	**Asahikawa**	**4.03**	**268**	P		**Pn**	**13 59 39.6**	**+1.8**
	comp=E,2.6nm,0.3s,baz=96,slow=16,SNR=20							
ASAJ				S		**Sn**	**14 00 37.6**	**+14**
	comp=E,1.9nm,0.3s,baz=135,slow=19,SNR=2.5							
ASAJ	**Asahikawa**	**4.03**	**268**	P		**Pn**	**13 59 39.6**	**+1.8**
ASAJ				S		**Sn**	**14 00 37.6**	**+14**
ASAJ	**Asahikawa**	**4.03**	**268**	PN		**Pn**	**13 59 39.7**	**+1.8**
ASAJ				pmax	pmax			
	comp=Z,3.0nm,0.3s							
JSE	**Soyaes**	**4.03**	**280**	P		**Pn**	**13 59 39.0**	**+1.0**
JFR	**Furan**	**4.24**	**255**	P		**Pn**	**13 59 42.8**	**+2.0**
ERM	**Erimo**	**4.39**	**239**	*e*Pn		**Pn**	**13 59 44.9**	**+2.1**
ERM	**Erimo**	**4.39**	**239**	⇓*e*PN		**Pn**	**13 59 44.9**	**+2.1**
ERM	**Erimo**	**4.39**	**239**	*e*P		**Pn**	**13 59 44.9**	**+2.1**
JNBK	**Urakawa-nobuka**	**4.50**	**244**	P		**Pn**	**13 59 45.2**	**+0.8**
JWK2	**Keihoku**	**4.56**	**284**	P		**Pn**	**13 59 47.6**	**+2.4**
YSS	**Yuzh-Sakhalins**	**4.58**	**306**	*e*Pn		**Pn**	**13 59 46.0**	**+0.6**
YSS	**Yuzh-Sakhalins**	**4.58**	**306**	⇑*i*PN		**Pn**	**13 59 45.8**	**+0.4**
YSS				*e*S		**Sn**	**14 00 37.1**	**-0.1**
YSS				pmax	pmax			
	comp=Z,20nm,0.3s							
YSS				smax				
	comp=N,30nm,0.4s							
YSS	**Yuzh-Sakhalins**	**4.58**	**306**	⇑*i*P		**Pn**	**13 59 45.8**	**+0.4**
YSS				AMB	AMB		13 59 46.2	
	comp=N,20nm,0.3s							
YSS				*e*S		**Sn**	**14 00 37.1**	**-0.1**
YSS				A			14 00 40.1	
	comp=N,30nm,0.4s							
JKB	**Kayabe**	**5.81**	**247**	P		**Pn**	**14 00 03.1**	**+0.8**
JKB				*e*S		**Sn**	**14 01 07.0**	**-0.5**
JOT	**Ohata**	**6.05**	**242**	P		**Pn**	**14 00 05.6**	**0.0**
JOT				*e*S		**Sn**	**14 01 11.2**	**-2.3**
PETK	**Petropavlovsk-**	**10.72**	**32**	P		**Pn**	**14 01 10.0**	**+0.6**
	comp=N,0.1nm,0.3s,baz=197,slow=11,SNR=5.4							
PETK	**Petropavlovsk-**	**10.72**	**32**	P		**Pn**	**14 01 10.0**	**+0.6**
PETK	**Petropavlovsk-**	**10.72**	**32**	*e*PN		**Pn**	**14 01 13.4**	**+4.0**
MAJO	**Matsushiro**	**10.93**	**227**	Pn		**Pn**	**14 01 12.5**	**+0.2**
MAJO	**Matsushiro**	**10.93**	**227**	PN		**Pn**	**14 01 12.5**	**+0.2**
MJAR	**Matsushiro Arr**	**10.93**	**227**	P		**Pn**	**14 01 11.4**	**-0.9**
	comp=N,0.2nm,0.3s,baz=21,slow=14,SNR=4.0							
MJAR	**Matsushiro Arr**	**10.93**	**227**	P		**Pn**	**14 01 11.4**	**-0.9**
MJAR	**Matsushiro Arr**	**10.93**	**227**	PN		**Pn**	**14 01 11.4**	**-0.9**
KSRS	**Korea Array**	**16.79**	**253**	P		**Pn**	**14 02 28.2**	**-1.7**
	comp=N,0.2nm,0.3s,baz=66,slow=12,SNR=3.4							
KSRS				LR		LR	14 08 43.6	
	comp=N,11nm,20.2s,baz=50,slow=36							
KSRS	**Korea Array**	**16.79**	**253**	P		**Pn**	**14 02 28.2**	**-1.7**
KSAR	**Wonju Array Be**	**16.83**	**253**	P		**Pn**	**14 02 28.2**	**-2.1**
KSAR	**Wonju Array Be**	**16.83**	**253**	P		**Pn**	**14 02 28.2**	**-2.1**
SONM	**Songino Array**	**28.91**	**292**	P		**P**	**14 04 32.8**	**+0.8**
	comp=N,0.2nm,0.3s,mb3.3,baz=76,slow=7.8,SNR=3.0							
SONM	**Songino Array**	**28.91**	**292**	P		**P**	**14 04 32.8**	**+0.8**
SONM	**Songino Array**	**28.91**	**292**	P		**P**	**14 04 32.8**	**+0.9**
COLA	**College**	**40.10**	**37**	P		**P**	**14 06 08.1**	**0.0**
	comp=N,1.4nm,0.8s,mb3.7							
COLA	**College**	**40.10**	**37**	P		**P**	**14 06 08.1**	**0.0**
COLA				pmax	pmax			
	comp=Z,1.0nm,0.8s,mb3.6							
ILAR	**Eielson Array**	**40.51**	**37**	P		**P**	**14 06 11.3**	**-0.2**
	comp=Z,0.3nm,0.9s,mb2.9,baz=264,slow=8.4,SNR=4.1							
ILAR	**Eielson Array**	**40.51**	**37**	P		**P**	**14 06 11.3**	**-0.2**
ILAR	**Eielson Array**	**40.51**	**37**	P		**P**	**14 06 11.3**	**-0.2**
ZALV	**Zalesovo Beam**	**41.20**	**307**	PcP	PcP		14 08 15.2	-0.1
	comp=Z,0.7nm,0.3s,baz=62,slow=3.9,SNR=3.7							
ZALV	**Zalesovo Beam**	**41.20**	**307**	PcP	PcP		14 08 15.2	-0.1
MKAR	**Makanchi Array**	**44.94**	**297**	P		**P**	**14 06 47.6**	**0.0**
	comp=Z,0.5nm,0.8s,mb3.4,baz=79,slow=8.5,SNR=4.2							
MKAR				PcP	PcP		14 08 28.0	0.0
	comp=Z,0.3nm,0.5s,baz=69,slow=4.8,SNR=5.8							
MKAR	**Makanchi Array**	**44.94**	**297**	P		**P**	**14 06 47.6**	**0.0**
MKAR				PcP	PcP		14 08 28.0	0.0
MKAR	**Makanchi Array**	**44.94**	**297**	P		**P**	**14 06 47.6**	**0.0**
MKAR							14 08 28.0	
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**44.94**	**297**	*e*P		**P**	**14 06 47.9**	**+0.3**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
INK	**Inuvik**	**45.45**	**31**	P		**P**	**14 06 51.4**	**0.0**
	comp=Z,0.9nm,0.7s,mb3.7,baz=295,slow=6.9,SNR=8.0							
INK	**Inuvik**	**45.45**	**31**	*e*P		**P**	**14 06 51.5**	**+0.1**
INK	**Inuvik**	**45.45**	**31**	*e*P		**P**	**14 06 51.5**	**+0.1**
BVAR	**Borovoye Array**	**49.66**	**309**	PcP	PcP		14 08 43.6	-1.1
	comp=Z,0.3nm,0.4s,baz=103,slow=3.7,SNR=4.3							
BVAR	**Borovoye Array**	**49.66**	**309**	PcP	PcP		14 08 43.6	-1.1
FINES	**FINESS Array B**	**64.62**	**333**	P		**P**	**14 09 09.1**	**-0.5**
	comp=Z,5.5nm,1.1s,mb4.5,baz=39,slow=9.0,SNR=2.9							
FINES	**FINESS Array B**	**64.62**	**333**	P		**P**	**14 09 09.1**	**-0.5**
FINES	**FINESS Array B**	**64.62**	**333**	P		**P**	**14 09 09.1**	**-0.5**
FINES				pmax	pmax			
	comp=Z,6.0nm,1.1s							
WRA	**Warramunga Arr**	**65.28**	**194**	P		**P**	**14 09 14.7**	**+0.4**
	comp=Z,0.4nm,0.8s,mb3.5,baz=15,slow=7.0,SNR=3.6							
WRA	**Warramunga Arr**	**65.28**	**194**	P		**P**	**14 09 14.7**	**+0.4**
WRA	**Warramunga Arr**	**65.28**	**194**	P		**P**	**14 09 14.7**	**+0.4**
ASAR	**Alice Springs**	**69.00**	**194**	P		**P**	**14 09 38.6**	**+0.9**
	comp=Z,0.3nm,0.6s,mb3.4,baz=14,slow=7.1,SNR=7.4							
ASAR	**Alice Springs**	**69.00**	**194**	P		**P**	**14 09 38.6**	**+0.9**
ASAR	**Alice Springs**	**69.00**	**194**	P		**P**	**14 09 38.7**	**+0.9**
NOA	**NORSAR Array B**	**69.25**	**339**	P		**P**	**14 09 38.1**	**-1.0**
	comp=Z,0.7nm,0.6s,mb3.8,baz=30,slow=6.3,SNR=3.2							
NOA	**NORSAR Array B**	**69.25**	**339**	P		**P**	**14 09 38.1**	**-1.0**
NOA	**NORSAR Array B**	**69.25**	**339**	P		**P**	**14 09 38.1**	**-0.9**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.6s							
HFS	**Hagfors**	**69.37**	**338**	P		**P**	**14 09 38.9**	**-0.9**
	comp=Z,3.9nm,1.0s,mb4.3,baz=64,slow=6.6,SNR=3.5							
HFS	**Hagfors**	**69.37**	**338**	P		**P**	**14 09 38.9**	**-0.9**
HFS	**Hagfors**	**69.37**	**338**	P		**P**	**14 09 38.9**	**-0.8**
HFS				pmax	pmax			
	comp=Z,4.0nm,1.0s							
TXAR	**Lajitas Array**	**81.66**	**57**	P		**P**	**14 10 51.1**	**+0.4**
	comp=Z,0.4nm,0.5s,mb3.6,baz=292,slow=4.7,SNR=10							
TXAR				pP	pP		14 11 06.1	-1.1
	comp=Z,0.1nm,0.5s,baz=288,slow=3.1,SNR=2.4							
TXAR	**Lajitas Array**	**81.66**	**57**	P		**P**	**14 10 51.1**	**+0.4**
TXAR				pP	pP		14 11 06.1	-1.0
TXAR	**Lajitas Array**	**81.66**	**57**	P		**P**	**14 10 51.1**	**+0.4**
TXAR				*PP	pP		14 11 06.1	-1.1

*NEIC **23** 14:17:09.9±0.4, 29.˙56S×71.˚26W, h35km, mb4.2/3, Error ellipse: s-maj=11.5km s-min=10.4km az=103.0*
*ISCJB **23** 14:17:11.2±0.5, 29.˙29S±0.˙02×71.˚30W±0.˚08, h56km±5km, mb3.9/10, Error ellipse: s-maj=12.1km s-min=4.0km az=5.6*
*GUC **23** 14:17:11.4±0.9, 29.˙32S×71.˚27W, h55km±10km, ML4.3*
*IDC **23** 14:17:14.8±2.9, 29.˙35S×71.˚26W, h73km±24km, mb3.6/7, mb1 3.8/9, mb1mx3.8/17, mbtmp3.7/9, MS3.3/1, Ms1 3.3/1, ms1mx2.6/24, Error ellipse: s-maj=32.5km s-min=17.3km az=58.0*

ISC 23 14:17:12.1±0.6, 29.˙29S±0.˙03×71.˚30W±0.˚08, h47km±6km, n48, σ0§98/48, mb3.9/10, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LCO	**Las Campanas**	**0.59**	**62**	*e*P		**Pn**	**14 17 24.1**	**-0.2**
LCO				*e*S		**Sn**	**14 17 33.1**	**0.0**
LSCH	**La Serena**	**0.62**	**176**	⇑*i*P		**Pn**	**14 17 24.4**	**-0.3**
LSCH				*i* S		**Sn**	**14 17 33.7**	**0.0**
LSCH				AML	AML		14 17 34.1	
	comp=E,6μm,0.4s							
VACH	**Vallenar**	**0.85**	**34**	⇑*i*P		**Pn**	**14 17 27.9**	**+0.1**
VACH				*i* S		**Sn**	**14 17 40.2**	**+0.9**
VACH				AML	AML		14 17 43.5	
	comp=E,56μm,0.2s							
TLL	**Tololo Astrono**	**0.98**	**154**	⇑*i*P		**Pn**	**14 17 29.8**	**+0.4**
TLL				*i* S		**Sn**	**14 17 42.9**	**+0.7**
TLL				AML	AML		14 17 43.7	
	comp=N,14μm,0.4s							
OVCH	**Ovalle**	**1.32**	**176**	*i* P		**Pn**	**14 17 33.7**	**-0.4**
OVCH				*i* S		**Sn**	**14 17 50.4**	**-0.2**
OVCH				AML	AML		14 17 58.0	
	comp=N,5μm,0.3s							
CMCH	**Combarbala**	**1.90**	**172**	⇓*i*P		**Pn**	**14 17 41.3**	**-0.7**
CMCH				*i* S		**Sn**	**14 18 04.0**	**-0.7**
CMCH				AML	AML		14 18 19.1	
	comp=E,13μm,0.6s							
CPCH	**Copiapo**	**2.10**	**24**	⇓*i*P		**Pn**	**14 17 43.4**	**-1.4**
CPCH				*i* S		**Sn**	**14 18 09.7**	**+0.1**
CDCH	**Caldera**	**2.25**	**11**	⇓*i*P		**Pn**	**14 17 46.0**	**-0.9**
CDCH				*i* S		**Sn**	**14 18 12.9**	**-0.6**
CDCH				AML	AML		14 18 25.6	
	comp=N,2μm,0.7s							
JACH	**Jahuel**	**3.44**	**170**	*e*P		**Pn**	**14 18 03.9**	**+0.7**
JACH				*e*S		**Sn**	**14 18 43.3**	**+0.7**
CFAA	**Coronel Fontan**	**3.51**	**132**	P		**Pn**	**14 18 05.8**	**+1.7**
	comp=N,5.7nm,0.3s,baz=314,slow=12,SNR=284							
CFAA				S		**Sn**	**14 18 46.6**	**+2.2**
	comp=N,6.4nm,0.3s,baz=39,slow=17,SNR=3.1							
CFAA	**Coronel Fontan**	**3.51**	**132**	P		**Pn**	**14 18 05.8**	**+1.7**
CFAA				S		**Sn**	**14 18 46.6**	**+2.2**
ROCH	**El Roble**	**3.68**	**176**	*e*P		**Pn**	**14 18 06.5**	**0.0**
TACH	**Talagante**	**4.36**	**176**	⇑*i*P		**Pn**	**14 18 15.4**	**-0.5**
TRQA	**Tornquist**	**11.69**	**141**	*e*P		**Pn**	**14 19 55.1**	**-1.1**
	comp=N,11nm,0.6s							
CPUP	**Villa Florida**	**12.71**	**80**	P		**Pn**	**14 20 08.2**	**-2.0**
	comp=N,1.6nm,0.3s,baz=244,slow=14,SNR=9.7							
CPUP				LR		LR	14 25 31.7	
	comp=N,133nm,18.8s,baz=180,slow=39							
CPUP	**Villa Florida**	**12.71**	**80**	*e*P		**Pn**	**14 20 08.0**	**-2.2**
	comp=N,45nm,0.8s							
LPAZ	**La Paz**	**13.26**	**13**	P		**Pn**	**14 20 20.1**	**+2.4**
	comp=N,0.3nm,0.3s,baz=194,slow=7.1,SNR=8.1							
LPAZ	**La Paz**	**13.26**	**13**	P		**Pn**	**14 20 19.8**	**+2.0**
VNA3	**Neumayer Olymp**	**53.50**	**159**	*e*		pP	14 26 41.8	+1.4
	baz=282,slow=9.4							
VNA2	**Neumayer--Watz**	**54.13**	**159**	*e*		**P**	**14 26 29.3**	**-2.6**
	baz=282,slow=9.4							
VNA2				*e*		pP	14 26 41.3	-3.7
VNA2				*e*		pP	14 26 47.0	+2.0
SNAA	**Sanae**	**55.73**	**159**	*e*		**P**	**14 26 38.8**	**-4.6**
SNAA				*e*			14 26 56.7	
SNAA	**Sanae**	**55.73**	**159**	*e*P		**P**	**14 26 38.9**	**-4.5**
	comp=N,3.1nm,0.6s,mb4.5							
TXAR	**Lajitas Array**	**65.98**	**329**	P		**P**	**14 27 54.3**	**+0.8**
	comp=N,0.4nm,0.6s,mb3.7,baz=151,slow=8.4,SNR=8.3							
TXAR				pP		pP	14 28 08.1	+1.1
	comp=N,0.4nm,0.7s,baz=147,slow=7.3,SNR=4.1							
TXAR	**Lajitas Array**	**65.98**	**329**	P		**P**	**14 27 54.3**	**+0.8**
TXAR				pP		pP	14 28 08.1	+1.1
DBIC	**Dimbokro**	**73.11**	**72**	P		**P**	**14 28 37.3**	**-0.6**
	comp=N,1.4nm,0.6s,mb4.1,baz=220,slow=7.9,SNR=4.0							
DBIC	**Dimbokro**	**73.11**	**72**	P		**P**	**14 28 37.3**	**-0.6**
SMCO	**Snowmass**	**75.80**	**332**	*e*P		**P**	**14 28 54.5**	**+1.6**
	comp=N,2.3nm,0.9s,mb4.1							
MAW	**Mawson**	**77.51**	**164**	P		**P**	**14 29 01.9**	**-0.4**
	comp=N,2.0nm,0.8s,mb4.1,baz=225,slow=4.3,SNR=2.7							
MAW	**Mawson**	**77.51**	**164**	P		**P**	**14 29 01.9**	**-0.4**
JLU	**Jordanelle**	**78.88**	**330**	*e*P		**P**	**14 29 11.2**	**+1.1**
	comp=N,2.0nm,0.7s,mb4.2							
PDAR	**Pinedale Array**	**79.87**	**332**	P		**P**	**14 29 15.9**	**+0.4**
	comp=N,0.7nm,0.6s,mb3.8,baz=130,slow=7.5,SNR=5.6							
PDAR	**Pinedale Array**	**79.87**	**332**	P		**P**	**14 29 15.9**	**+0.4**
NVAR	**Mina Array Bea**	**80.41**	**324**	P		**P**	**14 29 18.9**	**+0.5**
	comp=N,0.2nm,0.6s,mb3.2,baz=121,slow=6.5,SNR=3.9							
NVAR	**Mina Array Bea**	**80.41**	**324**	P		**P**	**14 29 18.9**	**+0.5**
BOSA	**Boshof**	**81.71**	**118**	P		**P**	**14 29 25.2**	**-0.7**
	comp=N,1.9nm,1.0s,mb4.0,baz=245,slow=7.4,SNR=4.2							
BOSA	**Boshof**	**81.71**	**118**	P		**P**	**14 29 25.2**	**-0.7**
TORD	**Torodi Ar. Bea**	**82.02**	**70**	P		**P**	**14 29 26.9**	**-0.6**
	comp=N,0.7nm,0.5s,mb3.9,baz=269,slow=4.9,SNR=8.6							
TORD	**Torodi Ar. Bea**	**82.02**	**70**	P		**P**	**14 29 26.9**	**-0.7**
ASAR	**Alice Springs**	**122.04**	**207**	PKP	PKPdf		14 36 00.5	-1.4
	comp=N,0.3nm,0.8s,baz=123,slow=2.0,SNR=4.4							
ASAR	**Alice Springs**	**122.04**	**207**	PKP	PKPdf		14 36 00.5	-1.4
WRA	**Warramunga Arr**	**125.16**	**210**	PKP	PKPdf		14 36 06.6	-1.4
	comp=N,0.7nm,0.7s,baz=157,slow=1.7,SNR=15							
WRA				pPKP	pPKPdf		14 36 22.0	-0.5
	comp=N,0.3nm,0.7s,baz=148,slow=1.6,SNR=1.6							
WRA	**Warramunga Arr**	**125.16**	**210**	PKP	PKPdf		14 36 06.6	-1.4
WRA				pPKP	pPKPdf		14 36 22.0	-0.5
AAK	**Ala-Archa**	**149.50**	**55**	*e*PKPbc	PKPbc		14 36 56.3	+0.3
ZAA0	**Zalesovo Array**	**149.85**	**28**	*e*PKPbc	PKPbc		14 36 56.5	0.0
ZALV	**Zalesovo Beam**	**149.85**	**28**	PKPbc	PKPbc		14 36 56.6	+0.1
	comp=N,3.1nm,0.5s,baz=296,slow=3.6,SNR=16							
ZALV				pPKPbc	pPKPbc		14 37 10.8	-0.2
	comp=N,1.6nm,0.6s,baz=305,slow=4.0,SNR=3.7							
ZALV	**Zalesovo Beam**	**149.85**	**28**	PKPbc	PKPbc		14 36 56.6	+0.1
ZALV				pPKPbc	pPKPbc		14 37 10.8	-0.2
MKAR	**Makanchi Array**	**153.02**	**42**	PKPbc	PKPbc		14 37 03.9	-0.1
	comp=N,0.3nm,0.7s,baz=285,slow=1.3,SNR=3.4							
MKAR				PKPab	PKPab		14 37 15.3	-0.3
	comp=N,0.5nm,0.7s,baz=259,slow=1.5,SNR=6.4							
MKAR	**Makanchi Array**	**153.02**	**42**	PKPbc	PKPbc		14 37 03.9	-0.1
MKAR				PKPab	PKPab		14 37 15.3	-0.3

*ISCJB **23** 14:40:13.3±0.3, 37.˚16N±0.˚02×5.˚44W±0.˚01, h6km±2km, Error ellipse: s-maj=2.7km s-min=1.8km az=22.2*
*CSEM **23** 14:40:14.4±0.1, 37.˚07N×5.˚44W, h10km, ML3.9/36, Error ellipse: s-maj=2.3km s-min=1.6km az=22.0*
*MDD **23** 14:40:16.0±0.2, 37.˚05N×5.˚43W, h11km, mbLg3.2/26, Error ellipse: s-maj=2.9km s-min=2.0km az=174.0, PRIMO*
*LDG **23** 14:40:15.7±0.2, 36.˚96N×5.˚46W, h20km, Ml3.3/4, Error ellipse: s-maj=5.1km s-min=3.0km az=5.0*
*CNRM **23** 14:40:16.2, 36.˚85N×6.˚54W, h30km, MD3.5*
*NEIC **23** 14:40:16.1, 37.˚05N×5.˚43W, h11km, ML3.3(LDG), MN3.3(MDD), After MDD.*
*IGIL **23** 14:40:16.4, 37.˚05N×5.˚43W, h11km, ML3.4*
*INMG **23** 14:40:16.0±1.4, 37.˚02N×5.˚41W, h16km±3km, ML3.4, Error ellipse: s-maj=1.8km s-min=1.5km az=17.0*
*SFS **23** 14:40:16.0, 37.˚00N×5.˚40W, h0km, ML3.3*

ISC 23 14:40:14.6±0.3, 37.˚09N±0.˚01×5.˚44W±0.˚01, h12km±2km, n201, σ1§07/366, 3C-3D, Spain

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LIJA	**Lijar**	**0.19**	**172**	*i* P		**Pg**	**14 40 17.5**	**-1.3**
ESPR	**Espera**	**0.40**	**236**	Pg		**Pg**	**14 40 23.6**	**+0.9**
ESPR				Lg			14 40 30.4	
ESPR	**Espera**	**0.40**	**236**	⇑Pg		**Pg**	**14 40 23.6**	**+0.9**
	139nm,0.1s,SNR=18							
ESPR				Lg			14 40 28.8	
	1μm,0.3s,SNR=17							
ESPR	**Espera**	**0.40**	**236**	Pg		**Pg**	**14 40 23.6**	**+1.0**
	139nm,0.1s,SNR=18							
ESPR				Lg			14 40 28.8	
	1μm,0.3s,SNR=17							
GIBL	**Gibalbin**	**0.50**	**238**	⇑Pg		**Pg**	**14 40 25.0**	**+0.6**
GIBL				Lg			14 40 35.0	
GIBL	**Gibalbin**	**0.50**	**238**	*i* P		**Pg**	**14 40 25.0**	**+0.6**
GIBL				*e*S		**Sg**	**14 40 35.0**	**+3.9**
EJIF	**Jimena Fronter**	**0.64**	**182**	Pg		**Pg**	**14 40 26.9**	**-0.2**
EJIF				Lg			14 40 35.6	
EJIF	**Jimena Fronter**	**0.64**	**182**	Pg		**Pg**	**14 40 26.7**	**-0.4**
	115nm,0.2s,SNR=7.9							
EJIF				Lg			14 40 35.6	
	763nm,0.4s,SNR=7.9							
EJIF	**Jimena Fronter**	**0.64**	**182**	Pg		**Pg**	**14 40 26.7**	**-0.4**
	115nm,0.2s,SNR=7.9							
EJIF				Lg			14 40 35.6	
	763nm,0.4s,SNR=7.9							
EMIJ	**Mijas**	**0.75**	**135**	Pg		**Pg**	**14 40 27.7**	**-1.4**
EMIJ				Lg			14 40 39.3	
EMIJ	**Mijas**	**0.75**	**135**	⇓Pg		**Pg**	**14 40 28.2**	**-1.0**
	140nm,0.4s,SNR=18							
EMIJ				Lg			14 40 39.3	
	780nm,0.7s,SNR=16							
EMIJ	**Mijas**	**0.75**	**135**	Pg		**Pg**	**14 40 27.7**	**-1.5**
	140nm,0.4s,SNR=18							
EMIJ				Lg			14 40 39.3	
	780nm,0.7s,SNR=16							
EMAL	**Malaga-Limoner**	**0.87**	**112**	Pg		**Pg**	**14 40 30.8**	**-0.7**
EMAL	**Malaga-Limoner**	**0.87**	**112**	*e*P		**Pg**	**14 40 30.8**	**-0.7**
CNIL	**Conil**	**0.88**	**215**	Pg		**Pg**	**14 40 32.5**	**+1.0**
CNIL				Lg			14 40 51.0	
CNIL	**Conil**	**0.88**	**215**	*e*P		**Pg**	**14 40 32.5**	**+1.0**
CNIL				*e*S		**Sg**	**14 40 51.0**	**+8.0**
SFS	**San Fernando**	**0.88**	**225**	*e*P		**Pg**	**14 40 32.7**	**+1.1**
SFS	**San Fernando**	**0.88**	**225**	Pg		**Pg**	**14 40 34.0**	**+2.3**
SFS				Lg			14 40 54.8	
SFS	**San Fernando**	**0.88**	**225**	*e*P		**Pg**	**14 40 34.0**	**+2.4**
ELOJ	**Sierra Loja**	**1.03**	**87**	Pg		**Pg**	**14 40 35.2**	**+0.8**
ELOJ				Lg			14 40 48.5	
ELOJ	**Sierra Loja**	**1.03**	**87**	Pg		**Pg**	**14 40 35.2**	**+0.8**
	34nm,0.2s,SNR=44							
ELOJ				Lg			14 40 48.5	
	214nm,0.6s,SNR=14							
ELOJ	**Sierra Loja**	**1.03**	**87**	Pg		**Pg**	**14 40 35.2**	**+0.8**
	34nm,0.2s,SNR=44							
ELOJ				Lg			14 40 48.5	
	214nm,0.6s,SNR=14							
ELUQ	**Luque**	**1.04**	**63**	Pg		**Pg**	**14 40 35.8**	**+1.0**
ELUQ				Lg			14 40 51.6	
ELUQ	**Luque**	**1.04**	**63**	⇑Pg		**Pg**	**14 40 35.6**	**+0.9**
	76nm,0.2s,SNR=18							
ELUQ				Lg			14 40 50.8	
	171nm,0.2s,SNR=7.9							
ELUQ	**Luque**	**1.04**	**63**	Pg		**Pg**	**14 40 35.8**	**+1.1**
ELUQ				Lg			14 40 50.8	
	171nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**1.19**	**305**	Pg		**Pg**	**14 40 37.4**	**-0.2**
EMIN				Lg			14 40 54.0	
EMIN	**Mina Concepcio**	**1.19**	**305**	⇓Pg		**Pg**	**14 40 37.4**	**-0.2**
	138nm,0.3s,SNR=18							
EMIN				Lg			14 40 53.8	
	238nm,0.2s,SNR=5.0							
EMIN	**Mina Concepcio**	**1.19**	**305**	Pg		**Pg**	**14 40 37.4**	**-0.2**
	138nm,0.3s,SNR=18							
EMIN				Lg			14 40 54.0	
EADA	**Adamuz**	**1.27**	**32**	Pg		**Pg**	**14 40 38.6**	**-0.4**
EADA				Lg			14 40 57.4	
EADA	**Adamuz**	**1.27**	**32**	Pg		**Pg**	**14 40 38.6**	**-0.5**
	14nm,0.1s,SNR=112							
EADA				Lg			14 40 57.4	
	82nm,0.1s,SNR=5.0							
EADA	**Adamuz**	**1.27**	**32**	Pg		**Pg**	**14 40 38.6**	**-0.5**
	14nm,0.1s,SNR=112							
EADA				Lg			14 40 57.4	
	82nm,0.1s,SNR=5.0							
ERON	**Agron**	**1.31**	**93**	Pg		**Pg**	**14 40 40.4**	**+0.7**
ERON	**Agron**	**1.31**	**93**	Pg		**Pg**	**14 40 39.2**	**-0.5**
	33nm,0.3s,SNR=7.9							
ERON				Lg			14 40 56.5	
	170nm,0.5s,SNR=7.9							
ERON	**Agron**	**1.31**	**93**	Pg		**Pg**	**14 40 40.4**	**+0.6**
ERON				Lg			14 40 56.5	
	170nm,0.5s,SNR=7.9							
CPS	**Cap Spartel**	**1.35**	**196**	Pn		**Pn**	**14 40 36.0**	**-3.3**
CPS				Sn		**Sb**	**14 40 50.0**	**-7.2**
CPS	**Cap Spartel**	**1.35**	**196**	*i* P		**Pn**	**14 40 36.0**	**-3.3**
CPS				*i* S		**Sb**	**14 40 50.0**	**-7.2**
ECOG	**Cogollos-Vega**	**1.50**	**82**	Pg		**Pg**	**14 40 43.4**	**-0.1**
ECOG				Lg			14 41 04.8	
ECOG	**Cogollos-Vega**	**1.50**	**82**	Pg		**Pg**	**14 40 43.4**	**-0.1**
	20nm,0.2s,SNR=30							
ECOG				Lg			14 41 03.8	
	166nm,0.4s,SNR=6.9							
ECOG	**Cogollos-Vega**	**1.50**	**82**	Pg		**

	118nm,0.4s								
RSA	**Sarsar**	**2.23**	**188**	Pn	**Pn**	**14 40 48.0**	**-3.4**		
RSA				Sn	**Sn**	**14 41 10.0**	**-8.9**		
RSA	**Sarsar**	**2.23**	**188**	*i* P	**Pn**	**14 40 48.0**	**-3.4**		
RSA				*i* S	**Sn**	**14 41 10.0**	**-8.9**		
EALB	**Alboran**	**2.25**	**120**	Pn	**Pn**	**14 40 51.8**	**+0.1**		
EALB	**Alboran**	**2.25**	**120**	Pn	**Pn**	**14 40 51.8**	**+0.1**		
	2.4nm,0.1s,SNR=7.9								
EALB				Sn	**Sn**	**14 41 17.9**	**-1.4**		
	8.9nm,0.2s,SNR=7.9								
EALB	**Alboran**	**2.25**	**120**	Pn	**Pn**	**14 40 51.8**	**+0.1**		
	SNR=7.9								
EALB				Sn	**Sn**	**14 41 18.7**	**-0.7**		
	8.9nm,0.2s,SNR=7.9								
EHUE	**Huescar**	**2.38**	**71**	Pn	**Pn**	**14 40 53.8**	**+0.4**		
EHUE				Pg	**Pg**	**14 40 59.4**	**-0.8**		
EHUE	**Huescar**	**2.38**	**71**	Pn	**Pn**	**14 40 53.5**	**+0.1**		
	2.5nm,0.2s,SNR=7.9								
EHUE				Pg	**Pg**	**14 40 59.4**	**-0.8**		
	4.8nm,0.2s,SNR=7.9								
EHUE				Lg		14 41 31.5			
	27nm,0.2s,SNR=7.9								
EHUE	**Huescar**	**2.38**	**71**	Pn	**Pn**	**14 40 53.8**	**+0.4**		
PESTR	**Estremoz**	**2.46**	**317**	*e*Pn	**Pn**	**14 40 55.2**	**+0.7**		
PESTR				*e*Sn	**Sn**	**14 41 25.7**	**+1.3**		
PESTR				*e*Sg	**Sg**	**14 41 33.3**	**-0.3**		
	151nm,0.8s								
PESTR	**Estremoz**	**2.46**	**317**	*e*Pn	**Pn**	**14 40 55.2**	**+0.7**		
PESTR				*e*Sn	**Sn**	**14 41 25.7**	**+1.3**		
PESTR				*e*Sg	**Sg**	**14 41 33.3**	**-0.3**		
PESTR				A		14 41 39.3			
	151nm,0.8s								
EVO	**Evora**	**2.50**	**306**	*e*Pn	**Pn**	**14 40 56.5**	**+1.5**		
EVO	**Evora**	**2.50**	**306**	*e*Pg	**Pg**	**14 41 02.8**	**+0.3**		
EVO				*e*Sn	**Sn**	**14 41 25.4**	**0.0**		
EVO				*e*Sg	**Sg**	**14 41 35.4**	**+0.6**		
	382nm,0.5s								
EVO	**Evora**	**2.50**	**306**	*e*Pn	**Pn**	**14 40 55.6**	**+0.6**		
EVO				*e*Sn	**Sn**	**14 41 24.6**	**-0.8**		
EVO				*e*Sg	**Sg**	**14 41 35.8**	**+1.0**		
	163nm,0.3s								
EVO	**Evora**	**2.50**	**306**	*e*Pn	**Pn**	**14 40 55.6**	**+0.6**		
EVO				*e*Sn	**Sn**	**14 41 24.6**	**-0.8**		
EVO				*e*Sg	**Sg**	**14 41 35.8**	**+1.0**		
EVO				A		14 41 40.6			
	163nm,0.3s								
TOU	**Touzarine**	**2.53**	**147**	Pn	**Pn**	**14 40 59.0**	**+3.5**		
TOU				Sn	**Sn**	**14 41 32.0**	**+5.8**		
TOU	**Touzarine**	**2.53**	**147**	*i* P	**Pn**	**14 40 59.0**	**+3.5**		
TOU				*i* S	**Sn**	**14 41 32.0**	**+5.8**		
EVOP	**Sao Brissos**	**2.56**	**305**	*e*Pn	**Pn**	**14 40 56.5**	**+0.5**		
EVOP				*e*Pg	**Pg**	**14 41 02.8**	**-1.0**		
EVOP				*e*Sn	**Sn**	**14 41 25.4**	**-1.7**		
EVOP				*e*Sg	**Sg**	**14 41 35.4**	**-1.7**		
EVOP	**Sao Brissos**	**2.56**	**305**	*e*Pn	**Pn**	**14 40 56.5**	**+0.5**		
EVOP	**Sao Brissos**	**2.56**	**305**	*e*Pg	**Pg**	**14 41 02.8**	**-1.0**		
EVOP				*e*Sn	**Sn**	**14 41 25.4**	**-1.7**		
EVOP				*e*Sg	**Sg**	**14 41 35.4**	**-1.7**		
	191nm,0.5s								
MORF	**Marmelete**	**2.58**	**276**	Pn	**Pn**	**14 40 56.5**	**+0.4**		
	SNR=7.9								
MORF				Sn	**Sn**	**14 41 25.8**	**-1.6**		
	SNR=7.9								
MORF	**Marmelete**	**2.58**	**276**	*e*Pn	**Pn**	**14 40 56.2**	**+0.1**		
MORF	**Marmelete**	**2.58**	**276**	*e*Pg	**Pg**	**14 41 02.7**	**-1.3**		
MORF				*e*Sn	**Sn**	**14 41 27.1**	**-0.3**		
MORF				*e*Sg	**Sg**	**14 41 39.2**	**+1.8**		
	99nm,0.2s								
MORF	**Marmelete**	**2.58**	**276**	*e*Pn	**Pn**	**14 40 56.2**	**+0.1**		
MORF	**Marmelete**	**2.58**	**276**	*e*Pg	**Pg**	**14 41 02.7**	**-1.3**		
MORF				*e*Sn	**Sn**	**14 41 27.1**	**-0.3**		
MORF				*e*Sg	**Sg**	**14 41 39.2**	**+1.8**		
MORF				A		14 41 41.5			
	99nm,0.2s								
ENIJ	**Nijar**	**2.59**	**92**	Pg	**Pg**	**14 41 05.3**	**+1.1**		
ENIJ	**Nijar**	**2.59**	**92**	Pg	**Pg**	**14 41 02.8**	**-1.4**		
	28nm,0.6s,SNR=7.9								
ENIJ				Lg		14 41 37.3			
	12nm,0.3s,SNR=7.9								
ENIJ	**Nijar**	**2.59**	**92**	Pg	**Pg**	**14 41 02.8**	**-1.4**		
	28nm,0.6s,SNR=7.9								
ENIJ				Lg		14 41 37.3			
	12nm,0.3s,SNR=7.9								
PAB	**San Pablo**	**2.59**	**19**	*e*P	**Pn**	**14 40 58.8**	**+2.4**		
PAB	**San Pablo**	**2.59**	**19**	*e*P	**Pn**	**14 40 58.8**	**+2.4**		
PNCL	**Nicolau / Gran**	**2.66**	**293**	*e*Pn	**Pn**	**14 40 57.7**	**+0.4**		
PNCL	**Nicolau / Gran**	**2.66**	**293**	*e*Pg	**Pg**	**14 41 03.7**	**-1.9**		
PNCL				*e*Sn	**Sn**	**14 41 29.8**	**+0.4**		
	120nm,0.5s								
PNCL	**Nicolau / Gran**	**2.66**	**293**	*e*Pn	**Pn**	**14 40 57.7**	**+0.4**		
PNCL	**Nicolau / Gran**	**2.66**	**293**	*e*Pg	**Pg**	**14 41 03.7**	**-1.9**		
PNCL				*e*Sn	**Sn**	**14 41 29.8**	**+0.4**		
PNCL				A		14 41 42.5			
	120nm,0.5s								
PTEO	**Sao Teotonio**	**2.66**	**281**	*e*Pn	**Pn**	**14 40 57.6**	**+0.3**		
PTEO				*e*Sn	**Sn**	**14 41 28.8**	**-0.6**		
PTEO				*e*Sg	**Sg**	**14 41 38.9**	**-1.2**		
	180nm,0.6s								
PTEO	**Sao Teotonio**	**2.66**	**281**	*e*Pn	**Pn**	**14 40 57.6**	**+0.3**		
PTEO				*e*Sn	**Sn**	**14 41 28.8**	**-0.6**		
PTEO				*e*Sg	**Sg**	**14 41 38.9**	**-1.2**		
PTEO				A		14 41 50.7			
	180nm,0.6s								
PFVI	**Vila Bisbo**	**2.71**	**272**	Pn	**Pn**	**14 40 57.8**	**-0.2**		
PFVI				Sn	**Sn**	**14 41 29.0**	**-1.7**		
PFVI				Lg		14 41 42.7			
PFVI	**Vila Bisbo**	**2.71**	**272**	Pn	**Pn**	**14 40 57.8**	**-0.2**		
	18nm,0.1s,SNR=47								
PFVI				Sn	**Sn**	**14 41 29.0**	**-1.7**		
	180nm,0.2s,SNR=20								
PFVI				Lg		14 41 41.5			
	108nm,0.2s,SNR=5.6								
PFVI	**Vila Bisbo**	**2.71**	**272**	Pn	**Pn**	**14 40 57.8**	**-0.2**		
	18nm,0.1s,SNR=47								
PFVI				*e*Sn	**Sn**	**14 41 29.6**	**-1.1**		
	99nm,0.2s								
PFVI				Lg		14 41 42.7			
	108nm,0.2s,SNR=5.6								
PFVI	**Vila Bisbo**	**2.71**	**272**	*e*Pn	**Pn**	**14 40 57.8**	**-0.2**		
PFVI				*e*Sn	**Sn**	**14 41 29.6**	**-1.1**		
PFVI				A		14 41 31.5			
	99nm,0.2s								
MOE	**Montemor**	**2.71**	**303**	*e*Sn	**Sn**	**14 41 31.8**	**+1.0**		
MOE				*e*Sg	**Sg**	**14 41 42.2**	**+0.4**		
MOE	**Montemor**	**2.71**	**303**	*e*Sn	**Sn**	**14 41 31.8**	**+1.0**		
MOE				*e*Sg	**Sg**	**14 41 42.2**	**+0.4**		
EVIA	**Vianos**	**2.79**	**56**	Pn	**Pn**	**14 40 59.3**	**+0.2**		
EVIA	**Vianos**	**2.79**	**56**	Pn	**Pn**	**14 40 59.3**	**+0.2**		
	2.1nm,0.1s,SNR=16								
EVIA	**Vianos**	**2.79**	**56**	Pn	**Pn**	**14 40 59.3**	**+0.2**		
	2.1nm,0.1s,SNR=16								
PMRV	**Marv??o**	**2.79**	**327**	*e*Pn	**Pn**	**14 40 59.9**	**+0.8**		
PMRV				*e*Sn	**Sn**	**14 41 33.6**	**+0.9**		
PMRV				*e*Sg	**Sg**	**14 41 43.2**	**-1.2**		
	118nm,0.3s								
PMRV	**Marv??o**	**2.79**	**327**	*e*Pn	**Pn**	**14 40 59.9**	**+0.8**		
PMRV				*e*Sn	**Sn**	**14 41 33.6**	**+0.9**		
PMRV				*e*Sg	**Sg**	**14 41 43.2**	**-1.2**		
PMRV				A		14 41 49.5			
	118nm,0.3s								
ESDC	**Sonseca Array**	**2.83**	**24**	Pn	**Pn**	**14 41 01.4**	**+1.8**		
ESDC				Pg	**Pg**	**14 41 11.5**	**+2.7**		
ESDC	**Sonseca Array**	**2.83**	**24**	Pn	**Pn**	**14 41 01.4**	**+1.8**		
	0.4nm,0.2s,baz=204,slow=12,SNR=10								
ESDC				Pg	**Pg**	**14 41 09.4**	**+0.6**		
	11nm,0.5s,baz=204,slow=16,SNR=68								
ESDC				Sn	**Sn**	**14 41 34.8**	**+1.2**		
	3.7nm,0.1s,baz=199,slow=16,SNR=9.1								
ESDC				Lg		14 41 45.2			
	34nm,0.5s,baz=218,slow=28,SNR=9.1								
ESDC	**Sonseca Array**	**2.83**	**24**	Pn	**Pn**	**14 41 01.4**	**+1.8**		
	0.4nm,0.2s,SNR=10								
ESDC	**Sonseca Array**	**2.83**	**24**	Pg	**Pg**	**14 41 11.5**	**+2.7**		
ESDC				Sn	**Sn**	**14 41 34.8**	**+1.3**		
	3.7nm,0.1s,SNR=9.1								
ESDC				Lg		14 41 44.4			
	34nm,0.5s,SNR=9.1								
ESLA	**Sonseca Array**	**2.83**	**24**	*e*P	**Pn**	**14 41 00.2**	**+0.6**		
ESLA	**Sonseca Array**	**2.83**	**24**	*e*P	**Pn**	**14 41 00.2**	**+0.6**		
PMTG	**Montargil**	**2.96**	**313**	*e*Pn	**Pn**	**14 41 02.1**	**+0.7**		
PMTG				*e*Sn	**Sn**	**14 41 37.1**	**+0.4**		
PMTG				*e*Sg	**Sg**	**14 41 47.3**	**-2.3**		
	127nm,0.5s								
PMTG	**Montargil**	**2.96**	**313**	*e*Pn	**Pn**	**14 41 02.1**	**+0.7**		
PMTG				*e*Sn	**Sn**	**14 41 37.1**	**+0.4**		
PMTG				*e*Sg	**Sg**	**14 41 47.3**	**-2.3**		
PMTG				A		14 41 57.5			
	127nm,0.5s								
EPLA	**Plasencia**	**3.01**	**351**	Pn	**Pn**	**14 41 03.2**	**+1.1**		
EPLA				Sn	**Sn**	**14 41 37.4**	**-0.7**		
EPLA				Lg		14 41 50.0			
EPLA	**Plasencia**	**3.01**	**351**	Pn	**Pn**	**14 41 03.2**	**+1.1**		
	1.5nm,0.1s,SNR=9.5								
EPLA				Sn	**Sn**	**14 41 37.4**	**-0.7**		
	7.8nm,0.1s,SNR=6.7								
EPLA				Lg		14 41 51.5			
	58nm,0.3s,SNR=5.0								
EPLA	**Plasencia**	**3.01**	**351**	Pn	**Pn**	**14 41 03.2**	**+1.1**		
	1.5nm,0.1s,SNR=9.5								
EPLA				Sn	**Sn**	**14 41 37.4**	**-0.7**		
	7.8nm,0.1s,SNR=6.7								
EPLA				Lg		14 41 50.0			
	58nm,0.3s,SNR=5.0								
TGT	**Taghat**	**3.03**	**174**	Pn	**Pn**	**14 41 02.0**	**-0.4**		
TGT				Sn	**Sn**	**14 41 36.0**	**-2.7**		
TGT	**Taghat**	**3.03**	**174**	*e*P	**Pn**	**14 41 02.0**	**-0.4**		
TGT				*i* S	**Sn**	**14 41 36.0**	**-2.7**		
TZK	**Tazeka**	**3.17**	**161**	Pn	**Pn**	**14 41 06.0**	**+1.7**		
TZK				Sn	**Sn**	**14 41 42.0**	**0.0**		
TZK	**Tazeka**	**3.17**	**161**	*i* P	**Pn**	**14 41 06.0**	**+1.7**		
TZK				*i* S	**Sn**	**14 41 42.0**	**0.0**		
PCBR	**Castelo Branco**	**3.18**	**330**	*e*Pn	**Pn**	**14 41 05.4**	**+1.0**		
PCBR				*e*Sn	**Sn**	**14 41 41.6**	**-0.6**		
PCBR				*e*Sg	**Sg**	**14 41 55.9**	**-0.8**		
	59nm,0.5s								
PCBR	**Castelo Branco**	**3.18**	**330**	*e*Pn	**Pn**	**14 41 05.4**	**+1.0**		
PCBR				*e*Sn	**Sn**	**14 41 41.6**	**-0.6**		
PCBR				*e*Sg	**Sg**	**14 41 55.9**	**-0.8**		
PCBR				A		14 42 00.4			
	59nm,0.5s								
ALMR	**Almeirim**	**3.22**	**311**	*e*P	**Pn**	**14 41 06.0**	**+1.0**		
ALMR				*e*S	**Sn**	**14 41 41.8**	**-1.5**		
ALMR				AML	AML	14 41 44.2			
	comp=E,63nm,0.3s								
ALMR	**Almeirim**	**3.22**	**311**	Pn	**Pn**	**14 41 05.2**	**+0.2**		
	SNR=7.9								
ALMR				Sn	**Sn**	**14 41 41.2**	**-2.0**		
	SNR=7.9								
EMUR	**La Murta**	**3.42**	**76**	Pn	**Pn**	**14 41 09.0**	**+1.3**		
EMUR				Lg		14 42 03.3			
EMUR	**La Murta**	**3.42**	**76**	Pn	**Pn**	**14 41 09.0**	**+1.3**		
	comp=E,0.6nm,0.2s,SNR=4.7								
EMUR				Sn	**Sn**	**14 41 46.4**	**-1.8**		
	comp=E,1.0nm,0.2s,SNR=7.9								
EMUR				Lg		14 42 03.3			
	comp=E,11nm,0.4s,SNR=5.0								
EMUR	**La Murta**	**3.42**	**76**	Pn	**Pn**	**14 41 09.0**	**+1.2**		
	comp=E,0.6nm,0.2s,SNR=4.7								
EMUR				Lg		14 42 03.3			
	comp=E,11nm,0.4s,SNR=5.0								
PTOM	**Tomar**	**3.44**	**318**	*e*Pn	**Pn**	**14 41 08.7**	**+0.7**		
PTOM				*e*Sn	**Sn**	**14 41 48.6**	**0.0**		
PTOM				*e*Sg	**Sg**	**14 42 04.2**	**-0.8**		
	comp=E,86nm,0.6s								
PTOM	**Tomar**	**3.44**	**318**	*e*Pn	**Pn**	**14 41 08.7**	**+0.7**		
PTOM				*e*Sn	**Sn**	**14 41 48.6**	**0.0**		
PTOM				*e*Sg	**Sg**	**14 42 04.2**	**-0.8**		
PTOM				A		14 42 21.3			
	comp=E,86nm,0.6s								
ETOB	**Tobarra**	**3.44**	**62**	Pn	**Pn**	**14 41 08.1**	**0.0**		
ETOB				Sn	**Sn**	**14 41 48.6**	**-0.3**		
ETOB				Lg		14 42 07.3			
ETOB	**Tobarra**	**3.44**	**62**	Pn	**Pn**	**14 41 08.1**	**0.0**		
	comp=E,0.7nm,0.1s,SNR=9.2								
ETOB				Sn	**Sn**	**14 41 48.6**	**-0.2**		
	comp=E,2.6nm,0.1s,SNR=5.0								
ETOB				Lg		14 42 07.3			
	comp=E,12nm,0.3s,SNR=6.6								
ETOB	**Tobarra**	**3.44**	**62**	Pn	**Pn**	**14 41 08.1**	**0.0**		
	comp=E,0.7nm,0.1s,SNR=9.2								
ETOB				Sn	**Sn**	**14 41 48.6**	**-0.2**		
	comp=E,2.6nm,0.1s,SNR=5.0								
ETOB				Lg		14 42 07.3			
	comp=E,12nm,0.3s,SNR=6.6								
PMAFR	**Mafra**	**3.56**	**303**	Pn	**Pn**	**14 41 10.4**	**+0.8**		
	comp=E,6.8nm,0.1s,SNR=13								
PMAFR				Sn	**Sn**	**14 41 49.8**	**-1.9**		
	comp=E,237nm,0.3s,SNR=13								
PMAFR				Lg		14 42 08.8			
	comp=E,322nm,0.6s,SNR=5.0								
PMAFR	**Mafra**	**3.56**	**303**	*e*Pn	**Pn**	**14 41 10.3**	**+0.6**		
PMAFR				Sn	**Sn**	**14 41 51.5**	**-0.2**		
	comp=E,237nm,0.3s,SNR=13								
PMAFR				Lg		14 42 10.8			
	comp=E,322nm,0.6s,SNR=5.0								
PMAFR				*e*Sg	**Sg**	**14 42 10.8**	**+1.8**		
PMAFR	**Mafra**	**3.56**	**303**	*e*Pn	**Pn**	**14 41 10.3**	**+0.6**		
PMAFR				*e*Sn	**Sn**	**14 41 51.4**	**-0.3**		
PMAFR				A		14 41 54.5			
	comp=E,115nm,0.3s								
PMAFR				*e*Sg	**Sg**	**14 42 10.8**	**+1.8**		
GUD	**Guadarrama**	**3.68**	**15**	Pn	**Pn**	**14 41 13.1**	**+1.7**		
GUD	**Guadarrama**	**3.68**	**15**	Pn	**Pn**	**14 41 13.1**	**+1.7**		
	comp=E,1.7nm,0.2s,SNR=7.9								
GUD				Sn	**Sn**	**14 41 55.4**	**+0.7**		
	comp=E,13nm,0.4s,SNR=7.9								
GUD				Lg		14 42 12.5			
	comp=E,68nm,0.5s,SNR=7.9								
GUD	**Guadarrama**	**3.68**	**15**	Pn	**Pn**	**14 41 13.1**	**+1.7**		
	comp=E,1.7nm,0.2s,SNR=7.9								
GUD				Sn	**Sn**	**14 41 55.4**	**+0.7**		
	comp=E,13nm,0.4s,SNR=7.9								
GUD				Lg		14 42 11.2			
	comp=E,68nm,0.5s,SNR=7.9								
MTE	**Manteigas**	**3.69**	**334**	*e*Pn	**Pn**	**14 41 13.2**	**+1.7**		
MTE				*e*Sn	**Sn**	**14 41 55.4**	**+0.5**		
MTE				*e*Sg	**Sg**	**14 42 12.5**	**-0.6**		
	comp=E,109nm,0.7s								
MTE	**Manteigas**	**3.69**	**334**	*e*Pn	**Pn**	**14 41 13.2**	**+1.7**		
MTE				*e*Sn	**Sn**	**14 41 55.4**	**+0.5**		
MTE				*e*Sg	**Sg**	**14 42 12.5**	**-0.6**		
MTE				A		14 42 16.0			
	comp=E,109nm,0.7s								
CZD	**Col de Zad**	**4.06**	**175**	Pn	**Pn**	**14 41 14.0**	**-2.6**		
CZD				Sn	**Sn**	**14 42 00.0**	**-4.1**		
CZD	**Col de Zad**	**4.06**	**175**	*i* P	**Pn**	**14 41 14.0**	**-2.6**		
CZD				*i* S	**Sn**	**14 42 00.0**	**-4.1**		
PVIS	**Viseu**	**4.09**	**333**	*e*Pn	**Pn**	**14 41 18.3**	**+1.3**		
PVIS				*e*Sn	**Sn**	**14 42 04.3**	**-0.5**		
PVIS				*e*Sg	**Sg**	**14 42 25.1**	**-1.0**		
	comp=E,35nm,0.5s								
PVIS	**Viseu**	**4.09**	**333**	*e*Pn	**Pn**	**14 41 18.3**	**+1.3**		
PVIS				*e*Sn	**Sn**	**14 42 04.3**	**-0.5**		
PVIS				*e*Sg	**Sg**	**14 42 25.1**	**-1.0**		
PVIS				A		14 42 29.7			
	comp=E,35nm,0.5s								
MVO	**Moncorvo**	**4.25**	**344**	Pn	**Pn**	**14 41 20.6**	**+1.5**		
MVO				Sn	**Sn**	**14 42 08.3**	**-0.3**		
MVO				Lg		14 42 30.7			
MVO	**Moncorvo**	**4.25**	**344**	Pn	**Pn**	**14 41 20.6**	**+1.5**		
	comp=E,1.3nm,0.2s,SNR=9.0								
MVO				Sn	**Sn**	**14 42 07.2**	**-1.4**		
	comp=E,14nm,0.3s,SNR=6.8								
MVO				Lg		14 42 30.7			
	comp=E,38nm,0.5s,SNR=11								
MVO	**Moncorvo**	**4.25**	**344**	*e*Pn	**Pn**	**14 41 19.9**	**+0.8**		
MVO				*e*Sn	**Sn**	**14 42 08.5**	**-0.2**		
MVO				Lg		14 42 30.7			
	comp=E,38nm,0.5s,SNR=11								
MVO				*e*Sg	**Sg**	**14 42 30.7**	**-0.4**		
	comp=E,31nm,0.5s								
MVO	**Moncorvo**	**4.25**	**344**	*e*Pn	**Pn**	**14 41 19.9**	**+0.8**		
MVO				*e*Sn	**Sn**	**14 42 08.5**	**-0.2**		
MVO				*e*Sg	**Sg**	**14 42 30.7**	**-0.4**		
MVO				A		14 42 33.1			
	comp=E,31nm,0.5s								
EBEN	**Beniarda**	**4.42**	**67**	Pn	**Pn**	**14 41 21.4**	**-0.2**		
	comp=E,0.2nm,0.2s,SNR=7.9								
EBEN				Sn	**Sn**	**14 42 11.7**	**-1.3**		
	comp=E,1.9nm,0.3s,SNR=7.9								
EBEN				Lg		14 42 35.4			
	comp=E,26nm,0.8s,SNR=7.9								
PVRL	**Vila Real**	**4.54**	**338**	*e*Pn	**Pn**	**14 41 24.1**	**+1.0**		
PVRL				*e*Sn	**Sn**	**14 42 15.2**	**-0.5**		
	comp=E,29nm,0.1s								
PVRL	**Vila Real**	**4.54**	**338**	*e*Pn	**Pn**	**14 41 24.1**	**+1.0**		
PVRL				*e*Sn	**Sn**	**14 42 15.2**	**-0.5**		
PVRL				A		14 42 18.4			
	comp=E,29nm,0.1s								
ETOR	**Torete**	**4.56**	**34**	Pn	**Pn**	**14 41 23.5**	**+0.1**		
ETOR	**Torete**	**4.56**	**34**	Pn	**Pn**	**14 41 23.5**	**+0.1**		
	comp=E,1.5nm,0.2s,SNR=10								
ETOR				Sn	**Sn**	**14 42 15.2**	**-1.1**		
	comp=E,3.4nm,0.2s,SNR=7.9								
ETOR				Lg		14 42 39.4			
	comp=E,33nm,0.4s,SNR=8.0								
ETOR	**Torete**	**4.56**	**34**	Pn	**Pn**	**14 41 23.5**	**+0.1**		
	comp=E,1.5nm,0.2s,SNR=10								
ETOR				Sn	**Sn**	**14 42 15.2**	**-1.1**		
	comp=E,3.4nm,0.2s,SNR=7.9								
ETOR				Lg		14 42 39.4			
	comp=E,33nm,0.4s,SNR=8.0								
POLO	**Lamas de Olo**	**4.65**	**338**	*e*Pn	**Pn**	**14 41 26.1**	**+1.5**		
POLO				*e*Sn	**Sn**	**14 42 17.6**	**-0.9**		
POLO				*e*Sg	**Sg**	**14 42 43.0**	**-0.9**		
	comp=E,24nm,0.5s								
POLO	**Lamas de Olo**	**4.65**	**338**	*e*Pn	**Pn**	**14 41 26.1**	**+1.5**		
POLO				*e*Sn	**Sn**	**14 42 17.6**	**-0.9**		
POLO				*e*Sg	**Sg**	**14 42 43.0**	**-0.9**		
POLO				A		14 42 51.4			
	comp=E,24nm,0.5s								
PTO	**Porto**	**4.73**	**330**	*e*Sn	**Sn**	**14 42 20.6**	**+0.1**		
PTO				*e*Sg	**Sg**	**14 42 47.3**	**+0.8**		
	comp=E,42nm,0.2s								
PTO	**Porto**	**4.73**	**330**	*e*Sn	**Sn**	**14 42 20.6**	**+0.1**		
PTO				*e*Sg	**Sg**	**14 42 47.3**	**+0.8**		
PTO				A		14 42 51.5			
	comp=E,42nm,0.2s								
PBRG	**Braganca**	**4.81**	**348**	*e*Pn	**Pn**	**14 41 28.4**	**+1.5**		
PBRG				*e*Sn	**Sn**	**14 42 22.3**	**-0.2**		
PBRG				*e*Sg	**Sg**	**14 42 46.0**	**-3.1**		
PBRG	**Braganca**	**4.81**	**348**	*e*Pn	**Pn**	**14 41 28.4**	**+1.5**		
PBRG				*e*Sn	**Sn**	**14 42 22.3**	**-0.2**		
PBRG				*e*Sg	**Sg**	**14 42 46.0**	**-3.1**		
ECAL	**Calabor**	**4.95**	**349**	Pn	**Pn**	**14 41 29.2**	**+0.5**		
	comp=E,1.2nm,0.3s,SNR=4.9								
ECAL				Sn	**Sn**	**14 42 24.5**	**-1.3**		
	comp=E,11nm,0.4s,SNR=7.9								
ECAL				Lg		14 42 52.5			
	comp=E,62nm,0.5s,SNR=7.9								
ECAL	**Calabor**	**4.95**	**349**	Pn	**Pn**	**14 41 29.2**	**+0.5**		
	comp=E,1.2nm,0.3s,SNR=4.9								
ECAL				Sn	**Sn**	**14 42 25.9**	**+0.1**		
	comp=E,11nm,0.4s,SNR=7.9								
ECAL				Lg		14 42 52.5			
	comp=E,62nm,0.5s,SNR=7.9								
TZC	**Tazercounte**	**5.01**	**190**	Pn	**Pn**	**14 41 23.0**	**-6.6**		
TZC				Sn	**Sn**	**14 42 13.0**	**-14**		
TZC	**Tazercounte**	**5.01**	**190**	*e*P	**Pn**	**14 41 23.0**	**-6.6**		
TZC				*i* S	**Sn**	**14 42 13.0**	**-14**		
PCAB	**Cabril**	**5.03**	**337**	*e*Pn	**Pn**	**14 41 30.7**	**+0.9**		
PCAB				*e*Sn	**Sn**	**14 42 26.5**	**-1.3**		
	comp=E,42nm,0.6s								
PCAB	**Cabril**	**5.03**	**337**	*e*Pn	**Pn**	**14 41 30.7**	**+0.9**		
PCAB				*e*Sn	**Sn**	**14 42 26.5**	**-1.3**		
PCAB				A		14 43 08.1			
	comp=E,42nm,0.6s								
EMOS	**Mosqueruela**	**5.07**	**48**	Pn	**Pn**	**14 41 30.8**	**+0.4**		
	comp=E,0.4nm,0.3s,SNR=7.9								
EMOS				Sn	**Sn**	**14 42 26.4**	**-2.6**		
	comp=E,0.1nm,0.3s,SNR=7.9								
EMOS				Lg		14 42 55.9			
	comp=E,15nm,0.6s,SNR=7.9								
EMOS	**Mosqueruela**	**5.07**	**48**	Pn	**Pn**	**14 41 30.8**	**+0.3**		
	SNR=7.9								
EMOS				Sn	**Sn**	**14 42 26.4**	**-2.5**		
	comp=E,0.1nm,0.3s,SNR=7.9	

NEIC 23 14:44:05.1, 35°83N×120°38W, h7km, ML3.5(NCEDC),
After NCEDC., Central California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
SAO	**San Andreas Ge**	**1.27**	**318**	*eP*		Pn	14 44 27.9	-1.4
SAO				*eS*		Sb	14 44 44.9	-1.1
ISA	**Isabella**	**1.56**	**96**	*ePn*		Pn	14 44 31.8	-1.4
ISA				*eSn*		Sn	14 44 53.1	-0.6
OSI	**Osito Adit**	**1.82**	**131**	*ePn*		Pn	14 44 37.8	+1.0
CMB	**Columbia Colle**	**2.20**	**360**	*ePn*		Pn	14 44 41.6	-0.5
PASC	**Pasadena Art C**	**2.44**	**132**	*ePn*		Pn	14 44 44.2	-1.2
MWC	**Mount Wilson**	**2.49**	**129**	*ePn*		Pn	14 44 45.2	-0.8
GSC	**Goldstone**	**2.96**	**99**	*ePn*		Pn	14 44 51.0	-1.5
MCCM	**Marconi Confer**	**3.06**	**320**	*ePn*		Pn	14 44 53.3	-0.5
WCN	**Washoe City**	**3.50**	**8**	*ePg*		Pg	14 45 08.7	-3.5
PFO	**Pinyon Flat Ob**	**3.92**	**123**	*ePn*		Pn	14 45 05.2	-0.4
LDFC	**Landfair**	**4.37**	**98**	*ePn*		Pn	14 45 10.7	-1.1
BAR	**Barrett**	**4.39**	**135**	*ePn*		Pn	14 45 10.9	-1.3

*ISCJB **23** 14:47:15.5±1.5, 21°.2S±0°.2×178°.2W±0°.2, h556km±18km, mb3.5/7, Error ellipse: s-maj=38.5km s-min=16.9km az=154.2*
*NEIC **23** 14:47:16.8±1.1, 21°.07S×178°.17W, h559km±11km, mb3.3/2, Error ellipse: s-maj=27.6km s-min=12.2km az=152.0*
*IDC **23** 14:47:19.3±3.5, 20°.59S×178°.43W, h570km±27km, mb3.0/5, mb1 3.3/6, mb1mx3.0/19, mbtmp3.1/6, Error ellipse: s-maj=117.5km s-min=15.9km az=152.0*

ISC 23 14:47:16.7±1.4, 21°.1S±0°.2×178°.2W±0°.2, h555km±17km, n24, σ0°79/19, mb3.5/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MSVF	**Nonsavu**	**4.90**	**313**	*eP*		**P**	**14 48 45.7**	**-0.3**
AFI	**Afiamalu**	**9.42**	**41**	P		**P**	**14 49 29.2**	**+0.3**
	0.6nm,0.3s,baz=210,slow=20,SNR=2.8							
AFI				S		**S**	**14 51 08.5**	**-8.9**
	0.6nm,0.3s,baz=180,slow=20,SNR=2.5							
AFI	**Afiamalu**	**9.42**	**41**	P		**P**	**14 49 29.2**	**+0.3**
AFI				S		**S**	**14 51 08.5**	**-8.9**
CTA	**Charters Tower**	**33.26**	**265**	P		**P**	**14 53 09.6**	**+0.8**
	2.5nm,0.5s,mb4.0,baz=94,slow=8.5,SNR=5.8							
CTA	**Charters Tower**	**33.26**	**265**	P		**P**	**14 53 09.6**	**+0.8**
CTAO	**Charters Tower**	**33.26**	**265**	*eP*		**P**	**14 53 09.9**	**+1.1**
ASAR	**Alice Springs**	**44.21**	**257**	P		**P**	**14 54 38.1**	**+0.9**
	3.2nm,0.8s,mb3.9,baz=90,slow=7.7,SNR=46							
ASAR				PcP		PcP	14 56 10.1	+0.4
	0.6nm,0.8s,baz=108,slow=3.9,SNR=6.7							
ASAR	**Alice Springs**	**44.21**	**257**	P		**P**	**14 54 38.1**	**+0.9**
ASAR				PcP		PcP	14 56 10.1	+0.4
WB2	**Warramunga Arr**	**44.34**	**263**	*eP*		**P**	**14 54 37.6**	**-0.6**
WRAB	**Tennant Creek**	**44.34**	**263**	*eP*		**P**	**14 54 38.1**	**-0.1**
	1.1nm,0.7s,mb3.5							
WRA	**Warramunga Arr**	**44.35**	**263**	P		**P**	**14 54 38.0**	**-0.3**
	1.8nm,0.8s,mb3.7,baz=96,slow=7.5,SNR=52							
WRA	**Warramunga Arr**	**44.35**	**263**	P		**P**	**14 54 38.0**	**-0.3**
VNDA	**Vanda**	**57.28**	**185**	*eP*		**P**	**14 56 10.7**	**-0.5**
	0.5nm,0.4s,mb3.1							
NVAR	**Mina Array Bea**	**81.59**	**43**	P		**P**	**14 58 38.2**	**+1.2**
	0.3nm,0.6s,mb2.9,baz=226,slow=7.5,SNR=3.3							
NVAR	**Mina Array Bea**	**81.59**	**43**	P		**P**	**14 58 38.1**	**+1.2**
ILAR	**Eielson Array**	**88.95**	**13**	P		**P**	**14 59 10.3**	**-1.5**
	0.4nm,0.6s,mb3.4,baz=206,slow=6.3,SNR=6.7							
ILAR	**Eielson Array**	**88.95**	**13**	P		**P**	**14 59 10.3**	**-1.5**
AKASG	**Malin Array Be**	**143.47**	**331**	PKP		PKPdf	15 05 45.4	-2.8
	1.4nm,0.5s,baz=41,slow=3.9,SNR=8.6							
AKASG	**Malin Array Be**	**143.47**	**331**	PKP		PKPdf	15 05 45.4	-2.8
BRTR	**Keskin Array B**	**147.12**	**311**	PKPbc		PKPbc	15 05 57.7	-0.2
	1.3nm,0.9s,baz=45,slow=2.2,SNR=3.3							
BRTR	**Keskin Array B**	**147.12**	**311**	PKPbc		PKPbc	15 05 57.7	-0.2
CLL	**Collm**	**148.62**	**346**	*ePKPbc*		PKPbc	15 06 01.0	-0.3
GERES	**GERESS Array B**	**150.75**	**344**	PKPbc		PKPbc	15 06 06.4	0.0
	0.7nm,0.7s,baz=27,slow=4.5,SNR=3.0							
GERES	**GERESS Array B**	**150.75**	**344**	PKPbc		PKPbc	15 06 06.4	0.0

IDC 23 14:54:48.9±2.2, 20°.44S×175°.03W, h0km, mb3.4/3, mb1 3.9/4, mb1mx3.6/20, mbtmp3.6/4, ML1.9/1, Error ellipse: s-maj=91.7km s-min=23.1km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
AFI	**Afiamalu**	**7.20**	**26**	Pn		Pn	14 56 37.3	+1.8
	1.2nm,0.3s,baz=246,slow=19,SNR=3.7							
AFI				Sn		Sn	14 57 57.3	-0.7
	1.4nm,0.3s,baz=0.0,slow=20,SNR=3.3							
ASAR	**Alice Springs**	**47.24**	**256**	P		P	15 03 24.0	-0.1
	0.6nm,0.8s,baz=99,slow=7.7,SNR=6.4							
WRA	**Warramunga Arr**	**47.37**	**261**	P		P	15 03 25.1	0.0
	0.2nm,0.3s,baz=96,slow=8.1,SNR=13							
NVAR	**Mina Array Bea**	**79.09**	**42**	P		P	15 06 55.4	+0.1
	0.2nm,0.5s,baz=230,slow=6.9,SNR=3.4							

IDC 23 14:59:28.7±3.4, 5°.89S×151°.58E, h0km, mb2.8/2, mb1 3.2/3, mb1mx3.1/17, mbtmp3.0/3, ML2.2/1, Error ellipse: s-maj=153.8km s-min=43.5km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PMG	**Port Moresby**	**5.61**	**231**	Pn		Pn	15 00 55.5	+2.1
	0.5nm,0.3s,baz=32,slow=9.5,SNR=4.0							
PMG				Sn		Sn	15 01 55.6	-3.0
	1.2nm,0.3s,baz=146,slow=18,SNR=4.6							
WRA	**Warramunga Arr**	**21.82**	**229**	P		P	15 04 21.8	-1.0
	0.3nm,0.8s,baz=52,slow=10,SNR=2.9							
ASAR	**Alice Springs**	**24.54**	**222**	P		P	15 04 49.9	-0.3
	0.2nm,0.5s,baz=61,slow=8.8,SNR=5.6							
TORD	**Torodi Ar. Bea**	**149.47**	**286**	PKPbc		PKPbc	15 19 20.9	-0.1
	0.4nm,0.6s,baz=66,slow=2.0,SNR=2.7							

*NEIC **23** 15:39:20.8, 19°.54N×66°.27W, h75km, MD3.2(RSPR), After RSPR.*

RSPR 23 15:39:21.2, 19°.57N×66°.13W, h73km±12km, MD3.3/6, 11C-6D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
CBYP	**Canovanas**	**1.31**	**169**	*eP*		Pn	15 39 42.9	-1.1
CBYP	**Canovanas**	**1.31**	**169**	*eP*		Pn	15 39 42.7	-1.2
CBYP	**Canovanas**	**1.31**	**169**	*eS*		Sn	15 40 00.3	-0.6
CBYP	**Canovanas**	**1.31**	**169**	*eP*		Pn	15 39 43.2	-0.7
CBYP				*eS*		Sn	15 40 00.1	-0.8
CBYP				*eS*		Sn	15 40 00.3	-0.6
LRS	**Lares**	**1.44**	**208**	*eP*		Pn	15 39 42.9	-2.6
HUMP	**Col San Antoni**	**1.44**	**169**	*eP*		Pn	15 39 44.4	-1.2
HUMP	**Col San Antoni**	**1.44**	**169**	*eP*		Pn	15 39 44.4	-1.2
HUMP	**Col San Antoni**	**1.44**	**169**	*eS*		Sn	15 40 03.4	-0.5
HUMP	**Col San Antoni**	**1.44**	**169**	*eP*		Pn	15 39 44.4	-1.2
HUMP				*eS*		Sn	15 40 03.2	-0.7
HUMP				*eS*		Sn	15 40 03.4	-0.5
SJG	**San Juan**	**1.45**	**181**	*eP*		Pn	15 39 44.2	-1.4
SJG	**San Juan**	**1.45**	**181**	*eP*		Pn	15 39 45.1	-0.6
SJG	**San Juan**	**1.45**	**181**	*eS*		Sn	15 40 03.9	-0.1
SJG	**San Juan**	**1.45**	**181**	*eP*		Pn	15 39 45.1	-0.6
SJG	**San Juan**	**1.45**	**181**	*eP*		Pn	15 39 45.1	-0.6
SJG				*eS*		Sn	15 40 03.9	-0.1
CELP	**Cerrillos**	**1.54**	**196**	*eP*		Pn	15 39 45.4	-1.5
MTP	**Monte Pirata**	**1.56**	**159**	*eP*		Pn	15 39 46.7	-0.5
MTP	**Monte Pirata**	**1.56**	**159**	*eP*		Pn	15 39 47.2	0.0
MTP	**Monte Pirata**	**1.56**	**159**	*eS*		Sn	15 40 06.0	-0.7
MTP	**Monte Pirata**	**1.56**	**159**	*eP*		Pn	15 39 47.2	0.0
MTP				*eS*		Sn	15 40 06.0	-0.7
MTP				*eS*		Sn	15 40 06.3	-0.3
OBIP	**Obispado Ponce**	**1.58**	**197**	*eP*		Pn	15 39 47.3	-0.2
LSP	**Las Mesas**	**1.65**	**213**	*eP*		Pn	15 39 46.1	-2.3
LSP	**Las Mesas**	**1.65**	**213**	*eP*		Pn	15 39 46.1	-2.3
CRPR	**Cabo Rojo, PR**	**1.81**	**211**	*eP*		Pn	15 39 48.4	-2.0
CRPR	**Cabo Rojo, PR**	**1.81**	**211**	*eP*		Pn	15 39 49.1	-1.3
CRPR	**Cabo Rojo, PR**	**1.81**	**211**	*eS*		Sn	15 40 11.8	-0.7
CRPR	**Cabo Rojo, PR**	**1.81**	**211**	*eP*		Pn	15 39 49.1	-1.3
CRPR				*eS*		Sn	15 40 11.8	-0.7

*BJI **23** 15:45:27.8, 43°.97N×83°.72E, h23km, mB4.4/2, mb4.2/2, ML3.5/7, Ms3.9/2, Ms7 3.5/2*
*IDC **23** 15:45:27.1±0.8, 44°.06N×83°.31E, h0km, mb3.6/8, mb1 3.7/11, mb1mx3.6/28, mbtmp3.6/11, ML3.0/4, Error ellipse: s-maj=25.7km s-min=10.0km az=67.0*
*ISCJB **23** 15:45:28.0±0.5, 44°.30N±0°.04×83°.48E±0°.06, h10km, mb3.5/8, Error ellipse: s-maj=7.2km s-min=5.2km az=39.1*
*NNC **23** 15:45:30.1±3.2, 44°.02N×83°.13E, h0km, mb3.4, mpv3.1, Error ellipse: s-maj=30.2km s-min=17.7km az=137.0*
*NEIC **23** 15:45:33.3±1.3, 44°.20N×83°.56E, h44km±13km, Error ellipse: s-maj=14.2km s-min=11.6km az=151.0*

ISC 23 15:45:29.8±0.5, 44°.22N±0°.04×83°.52E±0°.06, h10km, n40, σ1°39/50, mb3.5/8, 7C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MK31	**Makanchi Array**	**2.71**	**342**	⇑Pn		**Pn**	**15 46 16.2**	**+2.8**
	0.9nm,0.3s,baz=171,slow=16,SNR=565							
MK31				⇑Pg		**Pg**	**15 46 22.7**	**+0.9**
	9.5nm,0.3s,baz=150,slow=16,SNR=6.3							
MK31				⇑Lg			15 47 01.5	
	14nm,0.2s,baz=168,slow=27,SNR=7.5							
MK31	**Makanchi Array**	**2.71**	**342**	*ePn*		**Pn**	**15 46 15.8**	**+2.4**
MK31				Pg		**Pg**	**15 46 21.4**	**-0.4**
MK31				*eS*		**Sg**	**15 46 58.5**	**+1.5**
MKAR	**Makanchi Array**	**2.71**	**342**	Pn		**Pn**	**15 46 16.0**	**+2.6**
	0.9nm,0.3s,baz=160,slow=14,SNR=56							
MKAR				Pg		**Pg**	**15 46 20.6**	**-1.2**
	13nm,0.3s,baz=152,slow=18,SNR=126							
MKAR				Lg			15 46 59.3	
	40nm,0.3s,baz=160,slow=28,SNR=13							
MKAR	**Makanchi Array**	**2.71**	**342**	Pn		**Pn**	**15 46 16.0**	**+2.6**
MKAR				Pg		**Pg**	**15 46 20.6**	**-1.2**
MKAR				Lg			15 46 59.3	
WMQ	**Urumqi**	**3.04**	**96**	*ePn*		**Pn**	**15 46 19.0**	**+1.1**
WMQ				Sg		**Sn**	**15 46 55.5**	**+1.2**
WMQ				smax				
	comp=N,130nm,0.3s							
WMQ				smax				
	comp=E,170nm,0.3s							
TKM2	**Tokmak 2**	**5.90**	**260**	⇑Pn		**Pn**	**15 46 57.2**	**0.0**
	comp=E,3.8nm,0.6s							
TKM2				⇓Lg			15 48 29.3	
	comp=E,18nm,0.6s							
TKM2	**Tokmak 2**	**5.90**	**260**	*eP*		**Pn**	**15 46 58.7**	**+1.5**
	comp=E,4.9nm,0.4s							
AAK	**Ala-Archa**	**6.76**	**260**	*eP*		**Pn**	**15 47 10.7**	**+1.8**
	comp=E,24nm,0.7s							
KURBB	**Kurchatov Arra**	**7.24**	**334**	⇓Pn		**Pn**	**15 47 17.4**	**+1.9**
	comp=E,0.1nm,0.3s							
KURBB				⇑Lg			15 49 24.8	
	comp=E,2.1nm,0.6s							
KURK	**Kurchatov**	**7.30**	**335**	⇑Pn		**Pn**	**15 47 14.9**	**-1.5**
	comp=E,0.8nm,0.7s							
KURK				⇑Lg			15 49 28.4	
	comp=E,16nm,0.6s							
KURK	**Kurchatov**	**7.30**	**335**	Pn		**Pn**	**15 47 16.4**	**+0.1**
	comp=E,0.1nm,0.3s,baz=143,slow=13,SNR=7.1							
KURK				Sn		**Sn**	**15 48 37.9**	**-1.2**
	comp=E,0.2nm,0.3s,baz=152,slow=16,SNR=4.7							
KURK				Lg			15 49 24.2	
	comp=E,0.6nm,0.3s,baz=145,slow=30,SNR=9.6							
KURK	**Kurchatov**	**7.30**	**335**	*ePn*		**Pn**	**15 47 14.0**	**-2.3**
KURK				Sn		**Sn**	**15 48 37.9**	**-1.2**
KURK				Lg			15 49 24.2	
KK31	**Karatay Array**	**9.49**	**268**	⇓Lg			15 50 19.1	
	comp=E,2.8nm,0.6s							
ZAA0	**Zalesovo Array**	**9.78**	**5**	*ePn*		**Pn**	**15 47 50.2**	**0.0**
ZALV	**Zalesovo Beam**	**9.78**	**5**	Pn		**Pn**	**15 47 49.7**	**-0.6**
	comp=E,0.9nm,0.3s,baz=185,slow=13,SNR=9.0							
ZALV				Sn		**Sn**	**15 49 38.9**	**-1.1**
	comp=E,0.9nm,0.3s,baz=172,slow=27,SNR=7.4							
ZALV				Lg			15 50 45.2	
	comp=E,0.2nm,0.3s,baz=190,slow=25,SNR=5.8							
ZALV	**Zalesovo Beam**	**9.78**	**5**	Pn		**Pn**	**15 47 49.7**	**-0.6**
ZALV				Sn		**Sn**	**15 49 38.9**	**-1.1**
ZALV				Lg			15 50 45.1	
BVAR	**Borovoye Array**	**12.36**	**320**	Pn		**Pn**	**15 48 27.9**	**+2.3**
	comp=E,0.1nm,0.3s,baz=126,slow=14,SNR=2.5							
BVAR				Lg			15 52 08.7	
	comp=E,0.2nm,0.3s,baz=136,slow=25,SNR=3.6							
BVAR	**Borovoye Array**	**12.36**	**320**	Pn		**Pn**	**15 48 27.9**	**+2.3**
BVAR				Lg			15 52 08.7	
SONM	**Songino Array**	**16.28**	**69**	Pn		**Pn**	**15 49 18.5**	**+0.2**
	comp=E,0.0nm,0.3s,baz=279,slow=10,SNR=2.2							
SONM				Lg			15 54 03.9	
	comp=E,0.0nm,0.3s,baz=264,slow=28,SNR=2.8							
SONM	**Songino Array**	**16.28**	**69**	Pn		**Pn**	**15 49 18.5**	**+0.2**
SONM				Lg			15 54 03.9	
AB31	**Akbulak array**	**16.90**	**296**	⇓Pn		**Pn**	**15 49 24.8**	**-1.4**
	comp=E,0.7nm,0.6s							
ABKAR	**Akbulak array**	**16.90**	**296**	*eP*		**Pn**	**15 49 26.0**	**-0.2**
	comp=E,0.6nm,0.5s							
AKTO	**Aktyubinsk**	**18.32**	**299**	S		**Sn**	**15 53 01.1**	**-7.1**
	comp=E,0.1nm,0.3s,baz=311,slow=19,SNR=2.8							
HHC	**Hu-ho-hao-te**	**20.90**	**89**	*eP*		**P**	**15 50 10.0**	**-2.1**
HHC				PP			15 50 31.3	
HHC				S		**S**	**15 53 56.9**	**-8.1**
HHC				PcP		PcP	15 54 19.9	0.0
HHC				SS			15 54 27.1	
HHC				ScP		ScP	15 57 56.3	-0.2
HHC				pmax		pmax		
	comp=Z,7.0nm,0.7s							
HHC				pmax		pmax		
	comp=Z,68nm,5.2s							
HHC				LR		LR		
	comp=N,130nm,5.0s							
HHC				LR		LR		
	comp=E,120nm,4.4s							
HHC				LR		LR		
	comp=Z,88nm,4.7s							
CMAR	**Chiang Mai Arr**	**28.76**	**148**	P		**P**	**15 51 24.4**	**-3.2**
	comp=Z,0.1nm,0.3s,mb3.0,baz=334,slow=9.4,SNR=2.9							
CMAR	**Chiang Mai Arr**	**28.76**	**148**	P		**P**	**15 51 24.4**	**-3.2**
ARCES	**ARCESS Array B**	**38.32**	**331**	P		**P**	**15 52 50.3**	**+0.2**
	comp=Z,1.6nm,0.8s,mb3.8,baz=83,slow=7.4,SNR=3.7							
ARCES	**ARCESS Array B**	**38.32**	**331**	P		**P**	**15 52 50.3**	**+0.2**
NOA	**NORSAR Array B**	**44.48**	**319**	P		**P**	**15 53 40.3**	**-0.4**
	comp=Z,0.6nm,0.5s,mb3.6,baz=79,slow=8.0,SNR=2.7							
NOA	**NORSAR Array B**	**44.48**	**319**	P		**P**	**15 53 40.4**	**-0.4**
ESDC	**Sonseca Array**	**62.20**	**299**	P		**P**	**15 55 49.9**	**-1.5**
	comp=Z,0.3nm,0.5s,mb3.7,baz=56,slow=5.4,SNR=2.7							
ESDC	**Sonseca Array**	**62.20**	**299**	P		**P**	**15 55 49.9**	**-1.5**
ILAR	**Eielson Array**	**64.44**	**21**	P		**P**	**15 56 04.3**	**-1.4**
	comp=Z,0.2nm,0.8s,mb3.2,baz=316,slow=5.0,SNR=2.8							
ILAR	**Eielson Array**	**64.44**	**21**	P		**P**	**15 56 04.3**	**-1.4**
TORD	**Torodi Ar. Bea**	**75.13**	**274**	P		**P**	**15 57 09.9**	**-2.4**
	comp=Z,1.4nm,0.4s,mb4.2,baz=44,slow=5.3,SNR=23							
TORD	**Torodi Ar. Bea**	**75.13**	**274**	P		**P**	**15 57 09.9**	**-2.4**
WRA	**Warramunga Arr**	**78.95**	**132**	P		**P**	**15 57 34.2**	**+0.6**
	comp=Z,0.3nm,0.6s,mb3.4,baz=333,slow=5.2,SNR=3.4							
WRA	**Warramunga Arr**	**78.95**	**132**	P		**P**	**15 57 34.2**	**+0.6**
ASAR	**Alice Springs**	**81.78**	**134**	P		**P**	**15 57 49.2**	**+0.5**
	comp=Z,0.5nm,1.0s,mb3.4,baz=323,slow=5.6,SNR=3.7							
ASAR	**Alice Springs**	**81.78**	**134**	P		**P**	**15 57 49.2**	**+0.5**

NNC 23 16:42:22.6±9.3, 37°.91N×71°.45E, h0km, mb3.8, mpv3.7, 2C-2D, Error ellipse: s-maj=75.0km s-min=54.5km az=177.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KK31	**Karatay Array**	**5.24**	**352**	⇑P		Pn	16 43 44.4	+2.3
	13nm,0.5s,baz=164,slow=12,SNR=142							
KK31				⇓S		Sn	16 44 43.3	0.0
	0.4nm,0.2s,baz=170,slow=22,SNR=4.5							
TKM2	**Tokmak 2**	**5.92**	**31**	⇑P		Pn	16 43 49.2	-2.4
	1.2nm,0.5s							
TKM2				⇓S		Sn	16 45 03.4	+3.3
	1.4nm,0.8s							
AB31	**Akbulak array**	**14.06**	**327**	P		Pn	16 45 42.4	-0.5
	0.3nm,0.5s,baz=135,slow=13,SNR=9.7							

*NEIC **23** 17:09:12.8, 19°.42N×66°.40W, h77km, MD3.4(RSPR), After RSPR.*

RSPR 23 17:09:12.8, 19°.42N×66°.40W, h77km±5km, MD3.4/5, 28C-10D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
AGPR	**Aguadilla, PR**	**1.16**	**216**	*eP*		Pn	17 09 33.0	-0.6
AGPR	**Aguadilla, PR**	**1.16**	**216**	*eP*		Pn	17 09 33.0	-0.6
AGPR				*eS*		Sn	17 09 48.9	-0.3
LRS	**Lares**	**1.20**	**201**	⇑*eP*		Pn	17 09 33.1	-1.0
LRS	**Lares**	**1.20**	**201**	⇑*eP*		Pn	17 09 33.1	-1.0
CBYP	**Canovanas**	**1.25**	**156**	⇑*eP*		Pn	17 09 34.9	+0.1
CBYP	**Canovanas**	**1.25**	**156**	*eS*		Sn	17 09 53.3	+2.1
CBYP	**Canovanas**	**1.25**	**156**	⇑*eP*		Pn	17 09 34.5	-0.2
CBYP	**Canovanas**	**1.25**	**156**	⇑*eP*		Pn	17 09 50.6	-0.6
CBYP	**Canovanas**	**1.25**	**156**	⇑*eP*		Pn	17 09 34.9	+0.1
CBYP				*eS*		Sn	17 09 50.6	-0.6
CBYP				*eS*		Sn	17 09 53.3	+2.1
SJG	**San Juan**	**1.32**	**170**	⇓*eP*		Pn	17 09 35.4	-0.2
SJG	**San Juan**	**1.32**	**170**	⇑*eP*		Pn	17 09 35.6	0.0
SJG	**San Juan**	**1.32**	**170**	⇑*eP*		Pn	17 09 35.2	-0.5
SJG	**San Juan**	**1.32**	**170**	⇑*eP*		Pn	17 09 35.1	-0.5
SJG	**San Juan**	**1.32**	**170**	⇓*eP*		Pn	17 09 35.4	-0.2
SJG				*eS*		Sn	17 09 52.2	-0.6
CELP	**Cerrillos**	**1.34**	**187**	⇑*eP*		Pn	17 09 35.9	-0.1
CELP	**Cerrillos**	**1.34**	**187**	⇑*eP*		Pn	17 09 35.6	-0.4
CELP	**Cerrillos**	**1.34**	**187**	⇑*eP*		Pn	17 09 35.9	-0.1
HUMP	**Col San Antoni**	**1.37**	**158**	⇑*eP*		Pn	17 09 35.8	-0.5
HUMP	**Col San Antoni**	**1.37**	**158**	*eS*		Sn	17 09 56.1	+2.1
HUMP	**Col San Antoni**	**1.37**	**158**	⇑*eP*		Pn	17 09 35.6	-0.7
HUMP	**Col San Antoni**	**1.37**	**158**	*eS*		Sn	17 09 53.6	-0.3
HUMP	**Col San Antoni**	**1.37**	**158**	⇑*eP*		Pn	17 09 35.8	-0.5
HUMP				*eS*		Sn	17 09 53.6	-0.3
HUMP				*eS*		Sn	17 09 56.1	+2.1
OBIP	**Obispado Ponce**	**1.38**	**188**	⇑*eP*		Pn	17 09 36.6	+0.1
OBIP	**Obispado Ponce**	**1.38**	**188**	⇑*eP*		Pn	17 09 35.8	-0.7
OBIP	**Obispado Ponce**	**1.38**	**188**	⇑*eP*		Pn	17 09 36.6	+0.1
OBIP				*eS*		Sn	17 09 53.6	-0.7
LSP	**Las Mesas**	**1.40**	**208**	⇑*eP*		Pn	17 09 37.1	+0.4
LSP	**Las Mesas**	**1.40**	**208**	⇑*eP*		Pn	17 09 36.0	-0.7
LSP	**Las Mesas**	**1.40**	**208**	⇑*eP*		Pn	17 09 37.1	+0.4
CPD	**Cerro la Pandu**	**1.45**	**162**	⇓*eP*		Pn	17 09 37.4	+0.1
CPD	**Cerro la Pandu**	**1.45**	**162**	*eS*		Sn	17 09 57.3	+1.6
CPD	**Cerro la Pandu**	**1.45**	**162**	⇑*eP*		Pn	17 09 36.6	-0.6
CPD	**Cerro la Pandu**	**1.45**	**162**	*eS*		Sn	17 09 55.2	-0.5
CPD	**Cerro la Pandu**	**1.45**	**162**	⇓*eP*		Pn	17 09 37.4	+0.1
CPD				*eS*		Sn	17 09 55.2	-0.5
CPD				*eS*		Sn	17 09 57.3	+1.6
ICM	**Isla Caja Muer**	**1.52**	**184**	⇓*eP*		Pn	17 09 39.2	+0.9
ICM	**Isla Caja Muer**	**1.52**	**184**	*eS*		Sn	17 09 59.3	+1.8
ICM	**Isla Caja Muer**	**1.52**	**184**	⇓*eP*		Pn	17 09 39.2	+0.9
ICM				*eS*		Sn	17 09 59.3	+1.8
MTP	**Monte Pirata**	**1.54**	**148**	⇓*eP*		Pn	17 09 37.9	-0.6
MTP	**Monte Pirata**	**1.54**	**148**	*eS*		Sn	17 09 58.8	+1.0
MTP	**Monte Pirata**	**1.54**	**148**	⇑*eP*		Pn	17 09 37.6	-0.8
MTP	**Monte Pirata**	**1.54**	**148**	*eS*		Sn	17 09 57.7	-0.2
MTP	**Monte Pirata**	**1.54**	**148**	⇓*eP*		Pn	17 09 37.9	-0.6
MTP				*eS*		Sn	17 09 57.7	-0.2
MTP				*eS*		Sn	17 09 58.8	+1.0
CRPR	**Cabo Rojo, PR**	**1.56**	**206**	⇑*eP*		Pn	17 09 39.5	+0.8
CRPR	**Cabo Rojo, PR**	**1.56**	**206**	*eS*		Sn	17 10 00.3	+2.0
CRPR	**Cabo Rojo, PR**	**1.56**	**206**	⇑*eP*		Pn	17 09 38.2	-0.5
CRPR	**Cabo Rojo, PR**	**1.56**	**206**	*eS*		Sn	17 09 57.9	-0.4
CRPR	**Cabo Rojo, PR**	**1.56**	**206**	⇑*eP*		Pn	17 09 38.2	-0.5
CRPR				*eS*		Sn	17 09 57.9	-0.4
CRPR				*eS*		Sn	17 10 00.3	+2.0
STVI	**Saint Thomas**	**1.73**	**128**	*eS*		Sn	17 10 02.8	+0.4
STVI	**Saint Thomas**	**1.73**	**128**	⇓*e

s-min=8.5km az=72.0
*MEX **23** 18:06:39.1±1.6, 17°.14N×94°.09W,h170^{km}±12^{km},MD4.8*
*GCMT **23** 18:06:40.9±0.4, 17°.38N×94°.02W,h167^{km}±3^{km}, MW5.0, Moment Tensor Solution. s22,c22; s66,c86; Moment tensor: Scale 10^{16}Nm; Mr~1.86±.13; Mθθ~0.01±.15; Mφφ 1.87±.18; Mθφ 1.85±.10; Mθθ~1.16±.17; Mθr~2.11±.12; Best double couple: M0 3.60000×10^{16} NP1:φs173.00000°, δ21.00000°,λ-59.00000°. NP2:φs321.00000°,δ72.00000°, λ-101.00000°. Principal axes: T 3.7600, Plg26.0000°, Azm60.0000°; N -0.4200, Plg11.0000°, Azm324.0000°; P -3.3400, Plg61.0000°, Azm214.0000°; Data Used: II IU IC G CN.*
*NEIC **23** 18:06:41.5±0.8, 17°.39N×93°.69W,h189^{km}±7^{km}, mb4.8/79 Error ellipse: s-maj=7.2km s-min=4.1km az=49.0*
*BJI **23** 18:06:41.7, 17°.40N×93°.70W,h193^{km}, mB4.8/4*
*BGS **23** 18:06:41.3±2.8, 17°.39N×93°.69W,h189^{km}, mb4.9*
ISC 23 18:06:37.2±0.3,17°.21N±0°.03×93°.92W±0°.03,h154^{km}±3^{km}, n302,σ1°17/298,mb4.5/107,18D,Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TGIG		**0.88**	**119**	*i* P			**Pn**	**18 07 03.9**	**+2.5**
TGIG				*i* S			**Sn**	**18 07 23.4**	**+3.6**
CMIG	**Matias Romero** 1µm,0.3s,baz=94,slow=4.7	**0.93**	**263**	P			**Pn**	**18 07 02.7**	**+0.9**
CMIG				LR			LR	18 07 11.4	
	comp=Z,2µm,20.6s,baz=141,slow=31								
CMIG				S			**Sn**	**18 07 21.4**	**+12**
	2µm,0.3s,baz=359,slow=20,SNR=105								
CMIG	**Matias Romero**	**0.93**	**263**	P			**Pn**	**18 07 02.7**	**+0.9**
CMIG				S			**Sn**	**18 07 21.4**	**+12**
CMIG	**Matias Romero**	**0.93**	**263**	*i* P			**Pn**	**18 07 03.1**	**+1.3**
CMIG				*i* S			**Sn**	**18 07 21.3**	**+12**
SCX	**San Cristobal**	**1.32**	**111**	*i* P			**Pn**	**18 07 09.0**	**+3.7**
PCIG		**1.64**	**156**	*i* P			**Pn**	**18 07 11.1**	**+2.5**
PCIG				*i* S			**Sn**	**18 07 35.4**	**+8.7**
CCIG	**Comitan**	**1.94**	**118**	*i* P			**Pn**	**18 07 15.4**	**+3.5**
CCIG				*i* S			**Sn**	**18 07 42.6**	**+8.7**
HUIG	**Huatulco**	**2.54**	**236**	*e*P			**Pn**	**18 07 16.9**	**-2.1**
HUIG				*i* S			**Sn**	**18 07 49.1**	**+0.9**
VHO	**Vista Hermosa**	**2.69**	**267**	*i* P			**Pn**	**18 07 21.2**	**+0.4**
VHO				*i* S			**Sn**	**18 07 53.2**	**+1.4**
THIG		**2.79**	**145**	*e*P			**Pn**	**18 07 26.6**	**-1.6**
THIG				*i* S			**Sn**	**18 07 55.2**	**+0.8**
TPIG	**Tehuac#an**	**3.49**	**291**	*i* P			**Pn**	**18 07 31.3**	**+0.4**
TPIG				*i* S			**Sn**	**18 08 10.7**	**-0.4**
UTMO	**Huajuapan**	**3.75**	**280**	*i* P			**Pn**	**18 07 34.1**	**-0.2**
UTMO				*i* S			**Sn**	**18 08 16.9**	**-0.6**
PNIG	**Pinotepa**	**4.11**	**259**	*i* P			**Pn**	**18 07 37.0**	**-2.0**
PNIG				*i* S			**Sn**	**18 08 24.4**	**-1.6**
IIO	**Organos**	**5.13**	**298**	*i* P			**Pn**	**18 07 52.4**	**-0.1**
IIO				*i* S			**Sn**	**18 08 49.6**	**-1.1**
MZVM		**5.41**	**292**	*i* P			**Pn**	**18 07 55.6**	**-0.6**
MZVM				*i* S			**Sn**	**18 08 55.9**	**-1.6**
UNM	**Universidad Na**	**5.42**	**294**	*i* P			**Pn**	**18 07 58.3**	**+2.1**
UNM				*i* S			**Sn**	**18 09 01.4**	**+3.8**
PLIG	**Platanillo**	**5.44**	**283**	*i* P			**Pn**	**18 07 57.8**	**+1.2**
PLIG				*i* S			**Sn**	**18 08 58.2**	**0.0**
PTVM	**Pico Tres Padr**	**5.47**	**296**	*i* P			**Pn**	**18 07 56.6**	**-0.3**
PTVM				*i* S			**Sn**	**18 08 57.4**	**-1.4**
MEIG	**Mezcala**	**5.48**	**278**	*i* P			**Pn**	**18 07 56.9**	**-0.1**
MEIG				*i* S			**Sn**	**18 08 55.6**	**-3.5**
SZVM	**Salazar**	**5.59**	**293**	*i* P			**Pn**	**18 07 58.5**	**-0.1**
SZVM				*i* S			**Sn**	**18 09 00.7**	**-1.1**
DEIG	**Demacu**	**5.74**	**303**	*e*P			**Pn**	**18 08 01.8**	**+1.4**
DEIG				*i* S			**Sn**	**18 09 06.9**	**+1.6**
CAIG	**El Cayaco**	**6.07**	**269**	*i* P			**Pn**	**18 08 04.3**	**-0.5**
CAIG				*i* S			**Sn**	**18 09 10.5**	**-2.7**
TEIG	**Tepich** 20nm,0.3s,baz=244,slow=8.5,SNR=85	**6.13**	**60**	P			**Pn**	**18 08 06.4**	**+0.7**
TEIG				S			**Sn**	**18 09 11.2**	**-3.7**
	14nm,0.3s,baz=244,slow=6.9,SNR=1.8								
TEIG	**Tepich** 230nm,0.7s	**6.13**	**60**	*e*P			**Pn**	**18 08 06.4**	**+0.6**
TEIG				*e*				18 08 16.1	
TEIG				S			**Sn**	**18 09 11.2**	**-3.7**
TGUH	**Tegucigalpa,Un** 458nm,1.5s	**7.13**	**115**	*e*P			**Pn**	**18 08 23.3**	**+4.2**
ZIIG	**Zihuatanejo**	**7.21**	**274**	*i* P			**Pn**	**18 08 18.3**	**-1.7**
ZIIG				*i* S			**Sn**	**18 09 37.1**	**-3.7**
MOIG	**Morelia**	**7.32**	**291**	*i* P			**Pn**	**18 08 23.1**	**+1.6**
MOIG				*i* S			**Sn**	**18 09 40.8**	**-2.6**
MMIG	**Aquila**	**9.04**	**278**	*i* P			**Pn**	**18 08 45.5**	**+1.0**
MMIG				*i* S			**Sn**	**18 10 23.7**	**-1.2**
LNIG	**Linares**	**9.23**	**327**	*i* P			**Pn**	**18 08 48.8**	**+1.8**
EZ5V		**9.46**	**285**	*i* P			**Pn**	**18 08 50.1**	**0.0**
EZ5V				*i* S			**Sn**	**18 10 32.8**	**-2.3**
R15V		**9.76**	**283**	*i* P			**Pn**	**18 08 53.3**	**-0.6**
R15V				*i* S			**Sn**	**18 10 38.0**	**-4.2**
ZAIG	**Zacatecas**	**9.83**	**306**	*i* P			**Pn**	**18 08 57.0**	**+2.1**
ANIG	**Ahuacatlan**	**10.72**	**293**	*i* P			**Pn**	**18 09 08.6**	**+2.0**
JTS	**JuntasAbangare** 4.2nm,0.3s,baz=346,slow=13,SNR=15	**11.10**	**127**	P			**Pn**	**18 09 13.6**	**+1.9**
JTS				LR			LR	18 13 32.3	
	comp=Z,62nm,19.3s,baz=311,slow=38								
JTS	**JuntasAbangare** 20nm,0.6s	**11.10**	**127**	*e*P			**Pn**	**18 09 13.3**	**+1.6**
HKT	**Hockley** 6.7nm,1.1s	**12.80**	**353**	P			**Pn**	**18 09 33.0**	**-0.7**
JCT	**Junction City** 66nm,1.0s	**14.26**	**339**	*e*P			**Pn**	**18 09 52.7**	**+0.6**
NATX	**Nacogdoches** 70nm,0.7s	**14.50**	**357**	*e*P			**Pn**	**18 09 55.3**	**+0.1**
TXAR	**Lajitas Array** 0.3nm,0.3s,baz=149,slow=14,SNR=65	**15.01**	**325**	P			**Pn**	**18 10 03.5**	**+1.9**
TXAR	**Lajitas Array**	**15.01**	**325**	P			**Pn**	**18 10 03.5**	**+1.9**
BRAL	**Brewton** 620nm,1.4s	**15.10**	**23**	P			**Pn**	**18 10 04.7**	**+2.1**
VBMS	**Vicksburg** 151nm,1.0s	**15.26**	**11**	*e*P			**Pn**	**18 10 04.9**	**+0.3**
MIAR	**Mount Ida** 92nm,0.6s	**17.27**	**1**	*e*P			**Pn**	**18 10 28.6**	**-0.5**
CLNB	**Carlsbad** 7.5nm,0.5s	**17.49**	**331**	*e*P			**Pn**	**18 10 32.7**	**+1.0**
UALR	**University of** 102nm,1.1s	**17.55**	**4**	*e*P			**Pn**	**18 10 32.1**	**-0.3**
OXF	**Oxford** 30nm,0.4s	**17.70**	**12**	P			**Pn**	**18 10 31.2**	**-2.9**
MNTX	**Cornudas Mount** 18nm,1.6s	**17.78**	**326**	*e*P			**Pn**	**18 10 34.9**	**-0.2**
WMOK	**Wichita Mounta** 79nm,1.6s	**17.99**	**347**	*e*P			**Pn**	**18 10 35.6**	**-1.9**
CPRX	**Cap Rock** 40nm,0.8s	**18.12**	**332**	*e*P			**P**	**18 10 39.1**	**+1.5**
CGIG		**18.33**	**318**	*e*P			**P**	**18 10 42.0**	**+2.2**
PLAL	**Pickwick Lake** 16nm,0.6s	**18.45**	**15**	*e*P			**P**	**18 10 40.8**	**-0.3**
HBAR	**Harrisburg**	**18.50**	**8**	P			**P**	**18 10 42.1**	**+0.5**
AMTX	**Amarillo** 132nm,0.5s	**18.92**	**340**	*e*P			**P**	**18 10 46.8**	**+0.7**
GNAR	**Gosnell** 1µm,1.2s	**19.00**	**10**	*e*P			**P**	**18 10 46.3**	**-0.8**
HALT	**Halls**	**19.07**	**11**	P			**P**	**18 10 45.5**	**-2.2**
SWET	**Sewanee** 16nm,0.5s	**19.30**	**20**	*e*P			**P**	**18 10 50.1**	**-0.1**
HSIG		**19.55**	**310**	*e*P			**P**	**18 10 54.9**	**+1.8**
WVT	**Waverly** 44nm,0.9s	**19.61**	**15**	*e*P			**P**	**18 10 52.1**	**-1.5**
SRIG	**Santa Rosalia**	**19.69**	**304**	*e*P			**P**	**18 10 55.9**	**+1.4**
CPCT	**Cooper Cave**	**20.00**	**23**	*e*P			**P**	**18 10 55.9**	**-1.9**
NHSC	**New Hope** 368nm,1.2s	**20.10**	**35**	*e*P			**P**	**18 11 00.6**	**+1.7**
BNM	**Barren Site** 47nm,1.3s	**20.35**	**328**	*e*P			**P**	**18 11 04.6**	**+3.0**
JSC	**Jenkinsville**	**20.44**	**31**	*e*P			**P**	**18 11 01.8**	**-0.7**
TKL	**Tuckaleechee C** 6.4nm,0.4s,baz=203,slow=9.6,SNR=20	**20.47**	**24**	P			**P**	**18 11 02.2**	**-0.7**
TKL	**Tuckaleechee C**	**20.47**	**24**	*e*P			**P**	**18 11 02.5**	**-0.4**
LPM	**Los Pinos Moun** 52nm,1.4s	**20.48**	**329**	*e*P			**P**	**18 11 05.6**	**+2.5**
LENM	**Lemitar** 32nm,1.5s	**20.54**	**328**	*e*P			**P**	**18 11 06.8**	**+3.1**
LAZ	**Ladron** 21nm,1.2s	**20.81**	**328**	*e*P			**P**	**18 11 09.5**	**+3.0**
SIUC	**Southern Illin** 45nm,0.8s	**20.84**	**11**	*e*P			**P**	**18 11 06.9**	**+0.1**
ANMO	**Albuquerque** 4.4nm,0.6s,baz=155,slow=11,SNR=17	**20.91**	**330**	P			**P**	**18 11 09.6**	**+1.9**
ANMO	**Albuquerque** 7.1nm,0.9s	**20.91**	**330**	P			**P**	**18 11 07.6**	**0.0**
TZTN	**Tazewell** 22nm,0.6s,mb4.7	**21.34**	**23**	*e*P			**P**	**18 11 11.4**	**-0.6**
USIN	**University of** 26nm,0.6s,mb4.7	**21.39**	**14**	*e*P			**P**	**18 11 11.8**	**-0.9**
TUC	**Tucson** 38nm,1.4s,mb4.5	**21.41**	**318**	*e*P			**P**	**18 11 14.1**	**+1.2**
KSU1	**Kansas State U** 33nm,0.9s,mb4.8	**21.94**	**354**	*e*P			**P**	**18 11 17.3**	**-1.1**
WCI	**Wyandotte Cave** 30nm,0.7s,mb4.8	**21.98**	**16**	*e*P			**P**	**18 11 16.9**	**-2.0**
OLIL	**Olney** 28nm,0.6s,mb4.9	**22.04**	**12**	*e*P			**P**	**18 11 18.0**	**-1.4**
CBKS	**Cedar Bluff** 92nm,1.1s,mb5.1	**22.12**	**348**	P			**P**	**18 11 18.5**	**-1.7**
OTAV	**Otavalo** 49nm,1.9s,mb4.6	**22.73**	**136**	P			**P**	**18 11 26.9**	**+0.6**
BLO	**Bloomington** 70nm,0.6s,mb5.3	**22.82**	**15**	*e*P			**P**	**18 11 25.1**	**-1.7**
SDCO	**Great Sand Dun** 24nm,1.1s,mb4.5	**22.85**	**336**	*e*P			**P**	**18 11 28.4**	**+1.3**
ELN	**Prospectdale**	**23.08**	**28**	*e*P			**P**	**18 11 27.9**	**-1.4**
BLA	**Blacksburg** 31nm,0.9s,mb4.7	**23.21**	**28**	*e*P			**P**	**18 11 29.7**	**-0.7**
HDIL	**Hopedale** 18nm,0.4s,mb5.0	**23.61**	**9**	*e*P			**P**	**18 11 33.7**	**-0.4**
MVCO	**Mesa Verde** 10.0nm,0.7s,mb4.5	**23.71**	**330**	*e*P			**P**	**18 11 36.9**	**+1.9**
WUAZ	**Wupatki** 8.9nm,0.9s,mb4.3	**23.95**	**323**	P			**P**	**18 11 37.5**	**+0.3**
SDV	**Santo Domingo** 16nm,0.8s,mb4.6	**24.13**	**107**	*e*P			**P**	**18 11 38.4**	**-0.7**
PV01	**Paradox Valley** 922nm,0.9s	**24.49**	**331**	*e*P			**P**	**18 11 44.5**	**+2.4**
SCIA	**State Center** 47nm,0.4s,mb5.4	**24.62**	**1**	*e*P			**P**	**18 11 42.0**	**-1.2**
OGNE	**Ogallala** 86nm,1.0s,mb5.2	**24.67**	**345**	*e*P			**P**	**18 11 43.7**	**+0.1**
SMCO	**Snowmass** 23nm,1.3s,mb4.5	**24.67**	**335**	*e*P			**P**	**18 11 45.6**	**+1.9**
ISCO	**Idaho Springs** 13nm,1.1s,mb4.4	**24.69**	**338**	*e*P			**P**	**18 11 45.3**	**+1.4**
ACSO	**Alum Creek Sta** 19nm,1.0s,mb4.6	**24.82**	**20**	*e*P			**P**	**18 11 43.2**	**-1.9**
PV04	**Paradox Valley**	**24.85**	**331**	*e*P			**P**	**18 11 47.1**	**+1.8**
JFWS	**Jewell Farm** 35nm,0.8s,mb5.0	**25.81**	**6**	*e*P			**P**	**18 11 52.4**	**-1.6**
LDFC	**Landfair** 10nm,0.8s,mb4.5	**25.95**	**317**	*e*P			**P**	**18 11 57.1**	**+1.8**
ECSD	**EROS Data Cent** 19nm,1.1s,mb4.6	**26.54**	**356**	*e*P			**P**	**18 11 58.5**	**-2.0**
RSSD	**Black Hills** 3.9nm,0.6s,mb4.3	**28.15**	**344**	*e*P			**P**	**18 12 15.4**	**+0.5**
HWUT	**Hardware Ranch** 4.0nm,1.0s,mb4.1	**28.65**	**332**	*e*P			**P**	**18 12 19.5**	**+0.2**
ATAH	**Atahualpa** 6.8nm,0.8s,mb4.5,baz=336,slow=6.5,SNR=7.9	**28.65**	**146**	P			**P**	**18 12 22.4**	**+2.8**
ATAH	**Atahualpa**	**28.65**	**146**	P			**P**	**18 12 22.4**	**+2.8**
PDAR	**Pinedale Array** 1.2nm,0.6s,mb3.8,baz=128,slow=8.5,SNR=10	**28.75**	**336**	P			**P**	**18 12 20.9**	**+0.7**
PDAR						ScP	ScP	18 18 52.8	-0.8
	2.5nm,1.2s,baz=132,slow=2.2,SNR=4.5								
PDAR	**Pinedale Array**	**28.75**	**336**	P			**P**	**18 12 20.9**	**+0.7**
PDAR						ScP	ScP	18 18 52.8	-0.8
REDW	**Red Top Meadow** 13nm,0.8s,mb4.7	**29.77**	**335**	*e*P			**P**	**18 12 30.2**	**+1.1**
SNOW	**Snow King Moun** 29nm,0.6s,mb5.2	**29.81**	**335**	*e*P			**P**	**18 12 31.1**	**+1.5**
LOHW	**Lodgepole** 4.1nm,0.6s,mb4.3	**29.87**	**335**	*e*P			**P**	**18 12 31.3**	**+1.2**
TPAW	**Teton Pass** 24nm,1.4s,mb4.7	**29.91**	**335**	*e*P			**P**	**18 12 32.1**	**+1.6**
RRI2	**Red Ridge** 8.7nm,0.6s,mb4.7	**29.95**	**334**	*e*P			**P**	**18 12 32.0**	**+1.2**
NVAR	**Mina Array Bea** 8.5nm,0.8s,mb4.5,baz=136,slow=8.8,SNR=59	**30.03**	**320**	P			**P**	**18 12 34.3**	**+2.7**
NVAR						PcP	PcP	18 15 31.0	+1.1
	1.9nm,0.9s,baz=147,slow=1.8,SNR=4.9								
NVAR						ScP	ScP	18 18 57.5	-0.2
	0.9nm,0.8s,baz=135,slow=4.5,SNR=6.7								
NVAR	**Mina Array Bea**	**30.03**	**320**	P			**P**	**18 12 34.3**	**+2.7**
NVAR						PcP	PcP	18 15 31.0	+1.1
NVAR						ScP	ScP	18 18 57.5	-0.2
MOOW	**Moose Ponds** 5.6nm,0.8s,mb4.3	**30.04**	**335**	*e*P			**P**	**18 12 32.8**	**+1.1**
SADO	**Sadowa** 4.9nm,0.6s,mb4.4,baz=261,slow=9.9,SNR=6.3	**30.15**	**21**	P			**P**	**18 12 30.4**	**-2.2**
SADO	**Sadowa**	**30.15**	**21**	P			**P**	**18 12 30.4**	**-2.2**
IMW	**Indian Meadow** 7.2nm,0.6s,mb4.6	**30.24**	**335**	*e*P			**P**	**18 12 34.3**	**+0.9**
FLWY	**Flagg Ranch** 4.9nm,0.6s,mb4.4	**30.30**	**336**	*e*P			**P**	**18 12 35.2**	**+1.3**
RLMT	**Red Lodge** 7.2nm,0.6s,mb4.6	**30.66**	**338**	*e*P			**P**	**18 12 37.6**	**+0.6**
AGMN	**Agassiz Nation** 24nm,0.6s,mb5.1	**31.05**	**357**	*e*P			**P**	**18 12 38.8**	**-1.6**
QLMT	**Earthquake Lak** 0.2nm,0.3s,mb3.3	**31.22**	**336**	*e*P			**P**	**18 12 44.1**	**+2.2**
HLID	**Hailey** 3.2nm,0.8s,mb4.1	**31.48**	**331**	*e*P			**P**	**18 12 45.5**	**+1.1**
MCMT	**McKenzie Canyo** 6.4nm,0.9s,mb4.3	**31.79**	**334**	*e*P			**P**	**18 12 49.4**	**+2.5**
DLMT	**Dillon** 17nm,1.2s,mb4.6	**32.12**	**335**	*e*P			**P**	**18 12 51.6**	**+1.7**
LRM	**Limekiln Ridge** 136nm,1.0s,mb5.6	**32.44**	**336**	*e*P			**P**	**18 12 54.1**	**+1.4**
ULM	**Lac du Bonnet**	**33.00**	**358**	P			**P**	**18 12 55.5**	**-1.9**
ULM						LR	LR	18 28 44.0	
	comp=Z,46nm,18.4s,baz=343,slow=40								
ULM	**Lac du Bonnet**	**33.00**	**358**	P			**P**	**18 12 55.5**	**-1.9**
EGMT	**Eagleton** 11nm,0.5s,mb4.8	**33.36**	**341**	*e*P			**P**	**18 13 01.3**	**+0.8**
SLMT	**Seeley Lake** 4.6nm,0.6s,mb4.4	**34.02**	**336**	*e*P			**P**	**18 13 06.9**	**+0.6**
SWMT	**Swartz Lake**	**34.44**	**336**	*e*P			**P**	**18 13 09.9**	**0.0**
HOOD	**Mount Hood Mea** 18nm,0.9s,mb4.7	**36.36**	**326**	*e*P			**P**	**18 13 28.2**	**+1.9**
ETW	**Entiat** 8.4nm,1.0s,mb4.3	**37.27**	**330**	*e*P			**P**	**18 13 35.6**	**+1.6**
LPAZ	**La Paz** 3.2nm,0.6s,mb4.1,baz=339,slow=4.4,SNR=18	**41.88**	**141**	P			**P**	**18 14 13.4**	**+0.9**
LPAZ	**La Paz**	**41.88**	**141**	P			**P**	**18 14 13.4**	**+0.9**
SCHQ	**Schefferville** 4.0nm,0.6s,mb4.2,baz=228,slow=14,SNR=4.7	**42.93**	**23**	P			**P**	**18 14 18.3**	**-2.2**
SCHQ						PcP	PcP	18 16 07.7	-0.6
	3.8nm,0.5s,baz=229,slow=5.1,SNR=5.5								
SCHQ	**Schefferville**	**42.93**	**23**	P			**P**	**18 14 18.3**	**-2.2**
SCHQ						PcP	PcP	18 16 07.7	-0.6
YKA	**Yellowknife Ar** 17nm,0.6s,mb4.9,baz=154,slow=7.4,SNR=105	**47.50**	**347**	P			**P**	**18 14 55.7**	**-0.6**
YKA	**Yellowknife Ar**	**47.50**	**347**	P			**P**	**18 14 55.8**	**-0.6**
DLBC	**Dease Lake** 11nm,0.8s,mb4.5,baz=139,slow=5.5,SNR=13	**48.98**	**336**	P			**P**	**18 15 09.8**	**+1.9**
DLBC	**Dease Lake**	**48.98**	**336**	P			**P**	**18 15 09.8**	**+1.9**
CFAA	**Coronel Fontan** 0.9nm,0.9s,mb3.5,baz=321,slow=5.6,SNR=9.9	**54.44**	**153**	P			**P**	**18 15 50.1**	**+1.5**
CFAA	**Coronel Fontan**	**54.44**	**153**	P			**P**	**18 15 50.1**	**+1.5**
CPUP	**Villa Florida** 1.8nm,0.7s,mb4.0,baz=299,slow=4.7,SNR=4.8	**56.02**	**140**	P			**P**	**18 15 59.5**	**-0.5**
CPUP	**Villa Florida**	**56.02**	**140**	P			**P**	**18 15 59.5**	**-0.5**
INK	**Inuvik** 36nm,0.5s,mb5.4,baz=133,slow=6.6,SNR=271	**56.85**	**344**	P			**P**	**18 16 05.4**	**+0.1**
INK	**Inuvik** 33nm,0.6s,mb5.3	**56.85**	**344**	*e*P			**P**	**18 16 04.8**	**-0.6**
EGAK	**Eagle**	**57.06**	**338**	*e*P			**P**	**18 16 06.8**	**0.0**
SFJD	**Kangerlussuaq** 8.0nm,0.9s,mb4.5	**57.06**	**19**	*i* P			**P**	**18 16 02.7**	**-4.1**
SFJD	**Kangerlussuaq** 8.0nm,0.9s,mb4.5	**57.06**	**19**	*i* P			**P**	**18 16 03.3**	**-3.5**
RES	**Resolute Bay** 3.3nm,0.5s,mb4.5,baz=177,slow=11,SNR=29	**57.49**	**360**	P			**P**	**18 16 08.3**	**-1.4**
RES	**Resolute Bay** 4.0nm,0.6s,mb4.4	**57.49**	**360**	*e*P			**P**	**18 16 07.7**	**-2.0**
RC01	**Rabbit Creek A**	**58.80**	**332**	P			**P**	**18 16 19.4**	**+0.3**
ILAR	**Eielson Array** 1.4nm,0.3s,mb4.2,baz=126,slow=5.3,SNR=48	**59.17**	**337**	P			**P**	**18 16 21.4**	**-0.1**
ILAR	**Eielson Array**	**59.17**	**337**	P			**P**	**18 16 21.4**	**-0.1**
MCK	**McKinley** 14nm,1.2s,mb4.7	**59.52**	**335**	*e*P			**P**	**18 16 24.2**	**+0.3**
COLA	**College** 6.5nm,0.9s,mb4.5	**59.59**	**336**	*e*P			**P**	**18 16 24.2**	**-0.2**
TRF	**Thorofare Moun** 19nm,0.6s,mb5.1	**59.96**	**334**	*e*P			**P**	**18 16 28.1**	**+1.1**
RSO	**Redoubt South** 17nm,0.6s,mb5.0	**59.96**	**331**	*e*P			**P**	**18 16 28.2**	**+1.2**
BPAW	**Bear Paw Mtn.** 11nm,0.8s,mb4.8	**60.50**	**335**	*e*P			**P**	**18 16 30.7**	**+0.1**
PPLA	**Purkeypile** 11nm,0.5s,mb5.0	**60.55**	**333**	*e*P			**P**	**18 16 31.3**	**+0.3**
PLCA	**Paso Flores** 16nm,0.9s,mb4.8,baz=340,slow=7.9,SNR=18	**61.60**	**160**	P			**P**	**18 16 39.7**	**+1.4**
PLCA	**Paso Flores**	**61.60**	**160**	P			**P**	**18 16 39.7**	**+1.4**
SUMG	**Summit** 11nm,0.6s,mb4.8	**63.66**	**16**	*e*P			**P**	**18 16 51.1**	**-0.5**
SUMG	**Summit** 12nm,0.8s,mb4.8	**63.66**	**16**	*i* P			**P**	**18 16 50.2**	**-1.4**
DAG	**Danmarks Havn** 11nm,0.8s,mb4.6	**69.99**	**14**	*i* P			**P**	**18 17 29.7**	**-1.9**
DAG	**Danmarks Havn** 11nm,0.8s,mb4.6	**69.99**	**14**	*i* P			**P**	**18 17 29.8**	**-1.8**
ESK	**Eskdalemuir**	**76.44**	**36**	*e*P			**P**	**18 18 07.6**	**-2.2**
ESK						AMB	AMB	18 18 11.4	
	comp=Z,126nm,3.3s								
EKA	**Eskdalemuir Ar** comp=Z,5.9nm,0.5s,mb4.4,baz=278,slow=5.9,SNR=30	**76.47**	**36**	P			**P**	**18 18 09.1**	**-0.8**
EKA	**Eskdalemuir Ar**	**76.47**	**36**	P			**P**	**18 18 09.1**	**-0.8**
ECK	**Cauldkaine Hil**	**76.51**	**36**	*e*P			**P**	**18 18 09.1**	**-1.0**
ESY	**Stoneypath**	**76.66**	**35**	*e*P			**P**	**18 18 10.0**	**-0.9**
XAL	**Allendale**	**77.09**	**36**	*e*P			**P**	**18 18 12.8**	**-0.6**
HLM1	**Long Mynd**	**77.17**	**39**	*e*P			**P**	**18 18 11.2**	**-2.7**
HLM1						AMB	AMB	18 18 18.9	
	comp=Z,60nm,3.6s								
SPITS	**Spitsbergen Ar** comp=Z,4.3nm,0.6s,mb4.3,baz=356,slow=11,SNR=14	**77.33**	**11**	P			**P**	**18 18 14.0**	**-0.3**
SPITS	**Spitsbergen Ar**	**77.33**	**11**	P			**P**	**18 18 14.0**	**-0.3**
BILL	**Bilibino** comp=Z,6.7nm,0.8s,mb4.3	**77.81**	**338**	*e*P			**P**	**18 18 16.9**	**-0.1**
SSW	**Stow on the Wo**	**77.90**	**39**	*e*P			**P**	**18 18 17.9**	**0.0**
WOL	**Wolverton**	**78.42**	**40**	*e*P			**P**	**18 18 19.8**	**-1.0**
WOL						AMB	AMB	18 18 27.5	
	comp=Z,175nm,3.1s								
SKP1	**Kophill**	**78.58**	**39**	*e*P			**P**	**18 18 21.0**	**-0.7**
ESDC	**Sonseca Array** comp=Z,1.0nm,0.8s,mb3.5,baz=293,slow=4.9,SNR=5.4	**79.19**	**52**	P			**P**	**18 18 24.4**	**-0.9**
ESDC	**Sonseca Array**	**79.19**	**52**	P			**P**	**18 18 24.4**	**-0.9**
GRR	**Gorron** comp=Z,11nm,0.5s,mb4.5	**79.33**	**43**	*i*P			**P**	**18 18 25.4**	**-0.4**
FLN	**La Foliniere**	**79.48**	**42**	*i*P			**P**	**18 18 26.3**	**-0.3**
LDF	**La Druitiere** comp=Z,6.0nm,0.4s,mb4.2	**79.76**	**42**	*i*P			**P**	**18 18 27.6**	**-0.5**
MFF	**Saint Martin d**	**80.24**	**44**	*e*P			**P**	**18 18 30.2**	**-0.6**
LFF	**La Frestale** comp=Z,41nm,0.9s,mb4.8	**81.27**	**46**	*i*P			**P**	**18 18 35.9**	**-0.4**
EPF	**Esparros** comp=Z,54nm,1.4s,mb4.7	**81.50**	**48**	*e*P			**P**	**18 18 36.0**	**-1.5**
RJF	**Les Rejaudoux** comp=Z,16nm,0.8s,mb4.4	**81.70**	**45**	*e*P			**P**	**18 18 38.0**	**-0.5**
TCF	**Toulx Ste Croi** comp=Z,50nm,1.3s,mb4.7	**81.89**	**44**	*i*P			**P**	**18 18 38.8**	**-0.7**
BAIF	**Baives**	**82.09**	**40**	*e*P			**P**	**18 18 40.0**	**-0.4**
CAF	**Calviac**	**82.18**	**45**	*e*P			**P**	**18 18 40.4**	**-0.6**
NB2	**NORSAR Subarra** comp=Z,3.5nm,0.8s,mb4.0,baz=291,slow=5.3	**82.22**	**28**	P			**P**	**18 18 40.8**	**-0.1**
NOA	**NORSAR Array B** comp=Z,5.5nm,0.8s,mb4.2,baz=291,slow=5.2,SNR=17	**82.22**	**28**	P			**P**	**18 18 41.4**	**+0.5**
NOA						LR	LR	19 00 01.1	
	comp=Z,41nm,18.1s,baz=270,slow=39								
NOA	**NORSAR Array B**	**82.22**	**28**	P			**P**	**18 18 41.4**	**+0.5**
BGF	**Bois d'Agland** 6.2nm,0.5s,mb4.5	**82.24**	**44**	*e*P			**P**	**18 18 40.7**	**-0.6**
DOU	**Dourbes** comp=Z,43nm,3.8s	**82.31**	**40**	P			**P**	**18 18 41.4**	**-0.2**
GIVF	**Givet**	**82.45**	**40**	*e*P			**P**	**18 18 42.0**	**-0.3**
AVF	**Avril sur Loir** comp=Z,13nm,0.9s,mb4.4	**82.50**	**43**	*i*P			**P**	**18 18 41.7**	**-1.0**
SSF	**Saint Saulge** comp=Z,12nm,0.8

GZR	**Gura Zlata**	**95.39**	**39**	⇓*i*P		**P**	**18 19 44.4**	**+0.2**
MLR	**Muntele Rosu**	**97.23**	**38**	P		**P**	**18 19 52.6**	**+0.1**
	comp=Z,1.7nm,0.9s,mb4.4,baz=178,slow=2.9,SNR=6.2							
MLR	**Muntele Rosu**	**97.23**	**38**	P		**P**	**18 19 52.6**	**+0.1**
MLR	**Muntele Rosu**	**97.23**	**38**	⇓*i*P		**P**	**18 19 52.8**	**+0.3**
ZALV	**Zalesovo Beam**	**109.13**	**1**	PP		PP	18 25 15.6	-2.6
	comp=Z,0.8nm,0.6s,baz=356,slow=7.6,SNR=4.4							
ZALV	**Zalesovo Beam**	**109.13**	**1**	PP		PP	18 25 15.6	-2.5
BJI	**Beijing**	**116.51**	**335**	PKP		PKPdf	18 25 00.0	-3.1
HHC	**Hu-ho-hao-te**	**117.58**	**338**	*e*PKP		PKPdf	18 25 07.3	+2.2
HHC				PP		PP	18 26 23.8	+5.5
HHC				PKS			18 28 42.8	
HHC				SS		SS	18 42 14.3	-2.7
HHC				AMB		AMB		
	comp=Z,48nm,4.7s							
WMQ	**Urumqi**	**119.25**	**359**	PKP		PKPdf	18 25 06.8	-1.5
CTA	**Charters Tower**	**123.17**	**257**	PKP		PKPdf	18 25 15.8	-0.5
	comp=Z,5.2nm,0.9s,baz=44,slow=4.4,SNR=4.6							
CTA	**Charters Tower**	**123.17**	**257**	PKP		PKPdf	18 25 15.8	-0.5
BOSA	**Boshof**	**123.35**	**113**	PKP		PKPdf	18 25 16.8	+0.3
	comp=Z,2.8nm,0.9s,baz=255,slow=2.5,SNR=4.3							
BOSA	**Boshof**	**123.35**	**113**	PKP		PKPdf	18 25 16.8	+0.3
LZH	**Lanzhou**	**124.39**	**343**	*e*PKP		PKPdf	18 25 15.3	-3.1
STKA	**Stephens Creek**	**127.94**	**243**	PKP		PKPdf	18 25 25.1	-0.1
	comp=Z,6.2nm,1.0s,baz=205,slow=1.8,SNR=5.5							
STKA	**Stephens Creek**	**127.94**	**243**	PKP		PKPdf	18 25 25.1	-0.1
CD2	**Chengdu**	**129.23**	**340**	PKP		PKPdf	18 25 22.1	-5.7
GYA	**Guiyang**	**132.21**	**335**	*e*Pdif		Pdif	18 22 24.8	-3.1
GYA				PKP		PKPdf	18 25 32.0	-1.5
GYA				sPKP			18 26 42.8	
GYA				PP		PP	18 27 58.9	+2.9
GYA				AMB		AMB		
	comp=Z,90nm,8.0s							
WRA	**Warramunga Arr**	**134.29**	**259**	PKP		PKPdf	18 25 37.4	-0.1
	comp=Z,3.0nm,0.6s,baz=82,slow=2.3,SNR=50							
WRA	**Warramunga Arr**	**134.29**	**259**	PKP		PKPdf	18 25 37.4	-0.1
ASAR	**Alice Springs**	**134.89**	**254**	PKP		PKPdf	18 25 38.3	-0.2
	comp=Z,2.0nm,0.8s,baz=95,slow=1.9,SNR=16							
ASAR				SKPbc		SKPbc	18 28 53.7	-1.1
	comp=Z,1.4nm,1.0s,baz=95,slow=5.7,SNR=6.5							
ASAR	**Alice Springs**	**134.89**	**254**	PKP		PKPdf	18 25 38.3	-0.2
ASAR				SKPbc		SKPbc	18 28 53.7	-1.1
KMI	**Kunming**	**134.90**	**338**	PKP		PKPdf	18 25 38.6	0.0
FITZ	**Fitzroy Crossi**	**142.34**	**263**	PKhKP		PKPpre	18 25 48.7	
	comp=Z,2.4nm,0.5s,baz=294,slow=1.0,SNR=20							
FITZ	**Fitzroy Crossi**	**142.34**	**263**	*e*P		PKPpre	18 25 48.2	
	comp=Z,6.1nm,0.6s							
FITZ	**Fitzroy Crossi**	**142.34**	**263**	PKPpre		PKPpre	18 25 48.7	
CMAR	**Chiang Mai Arr**	**142.37**	**340**	PKhKP		PKPpre	18 25 48.6	
	comp=Z,0.9nm,0.8s,baz=328,slow=3.5,SNR=6.6							
CMAR				SKPbc		SKPbc	18 29 15.1	-0.9
	comp=Z,1.0nm,0.9s,baz=340,slow=3.3,SNR=5.4							
CMAR	**Chiang Mai Arr**	**142.37**	**340**	PKPpre		PKPpre	18 25 48.6	
CMAR				SKPbc		SKPbc	18 29 15.1	-0.9
KMBL	**Kambalda**	**144.62**	**240**	*e*P		PKPdf	18 25 54.6	-1.4
	comp=Z,194nm,0.7s							
KAPI	**Kappang**	**144.88**	**286**	PKPbc		PKPdf	18 25 55.4	-1.5
	comp=Z,27nm,1.0s,baz=109,slow=3.3,SNR=9.3							
KAPI	**Kappang**	**144.88**	**286**	*e*PKP		PKPdf	18 25 55.2	-1.8
MBWA	**Marble Bar**	**148.01**	**258**	*e*P		PKPbc	18 26 04.4	-0.9
MBWA	**Marble Bar**	**148.01**	**258**	*e*PKPbc		PKPbc	18 26 04.9	-0.4
MEEK	**Meekatharra**	**148.47**	**247**	*e*P		PKPbc	18 26 05.9	-0.4
	comp=Z,90nm,0.8s							
KSM	**Kuching**	**149.74**	**305**	*e*PKPbc		PKPbc	18 26 09.7	-0.2
KSM				*e*PKPab		PKPab	18 26 16.1	+0.5
MORW	**Morawa**	**150.11**	**241**	*e*P		PKPbc	18 26 09.6	-0.7
	comp=Z,58nm,1.0s							

MEX 23 18:25:22.4±1.5, 17°.01N×94°.20W, h152km±12km, MD4.0, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.66**	**277**	*i* P	Pn	18 25 43.7	-1.1
CMIG				*i* S	Sn	18 25 59.6	-2.2
TGIG		**1.06**	**102**	*e*P	Pn	18 25 46.6	-1.2
TGIG				*i* S	Sn	18 26 04.8	-2.3
PCIG		**1.60**	**144**	*i* P	Pn	18 25 52.7	-0.5
PCIG				*i* S	Sn	18 26 15.6	-1.1
CCIG	**Comitan**	**2.10**	**110**	*i* P	Pn	18 25 57.6	-1.3
CCIG				*i* S	Sn	18 26 24.5	-2.4
HUIG	**Huatulco**	**2.21**	**236**	*i* P	Pn	18 25 57.4	-2.7
HUIG				*i* S	Sn	18 26 27.2	-1.8
VHO	**Vista Hermosa**	**2.42**	**272**	*i* P	Pn	18 26 02.7	0.0
VHO				*i* S	Sn	18 26 33.4	-0.3
TPIG	**Tehuac#an**	**3.32**	**295**	*i* P	Pn	18 26 14.3	+0.4
TPIG				*i* S	Sn	18 26 52.8	-1.1
LVIG	**Laguna Verde**	**3.42**	**322**	*i* P	Pn	18 26 15.1	-0.1
LVIG				*i* S	Sn	18 26 51.1	-5.1
UTMO	**Huajuapan**	**3.54**	**284**	*i* P	Pn	18 26 16.4	-0.2
UTMO				*i* S	Sn	18 26 58.1	-0.6
PNIG	**Pinotepa**	**3.81**	**261**	*i* P	Pn	18 26 18.3	-2.0
PNIG				*i* S	Sn	18 27 02.7	-2.5

*LDG **23** 18:44:17.6±0.1,50°.27N×12°.42E, h2km, Ml2.6/11, Error ellipse: s-maj=2.3km s-min=1.2km az=146.0*
*CSEM **23** 18:44:17.6±0.1,50°.21N×12°.46E, h12km, ML3.4/4, Error ellipse: s-maj=2.3km s-min=2.0km az=157.0*

WBNET 23 18:44:17.6, 50°.24N×12°.45E, h7km, Ml0.0, 3C-8D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**196**	P	Pg	18 44 18.7	-0.1
NKC	**Novy Kostel**	**0.01**	**196**	*e*PG	Pg	18 44 20.0	+1.2
NKC				*e*SG	Sg	18 44 20.7	+1.0
	comp=Z,3μm,0.2s						
NKC	**Novy Kostel**	**0.01**	**196**	*i* Pg	Pg	18 44 19.9	+1.1
NKC				*i* Sg	Sg	18 44 20.8	+1.2
NKC	**Novy Kostel**	**0.01**	**196**	P	Pg	18 44 18.7	-0.1
NKC	**Novy Kostel**	**0.01**	**196**	*e*Pg	Pg	18 44 19.8	+1.0
	baz=88						
NKC				Sg	Sg	18 44 20.7	+1.0
	comp=Z,3μm,0.2s						
NKC	**Novy Kostel**	**0.01**	**196**	⇓P	Pg	18 44 18.9	0.0
NKC	**Novy Kostel**	**0.01**	**196**	⇓P	Pg	18 44 20.1	+1.2
NKC				S	Sg	18 44 20.9	+1.3
LBCW	**Luby**	**0.04**	**316**	⇓P	Pg	18 44 19.1	+0.1
STCW	**Studenec**	**0.05**	**67**	⇓P	Pg	18 44 19.1	-0.1
VAC	**Vackov**	**0.05**	**264**	⇓P	Pg	18 44 19.2	0.0
VAC				S	Sg	18 44 20.2	0.0
VAC	**Vackov**	**0.05**	**264**	⇓P	Pg	18 44 20.4	+1.2
VAC				S	Sg	18 44 21.4	+1.2
POCW	**Po¯¡tky**	**0.08**	**349**	⇓P	Pg	18 44 19.7	+0.1
SKC	**Skalna**	**0.09**	**219**	⇑P	Pg	18 44 19.7	0.0
KACW	**Kace¯ov**	**0.10**	**156**	⇓P	Pg	18 44 20.0	0.0
KRCW	**Kraslice**	**0.10**	**29**	⇑P	Pg	18 44 20.0	0.0
ZHC	**Zelena Hora**	**0.19**	**208**	⇑P	Pg	18 44 21.5	0.0

*IPEC **23** 18:44:18.1±0.1,50°.24N×12°.54E, h0km±1km, ML2.1/2, Error ellipse: s-maj=1.6km s-min=0.6km az=34.0*
*PRU **23** 18:44:18.9,50°.23N×12°.51E, h0km, West Bohemia Swarm-felt*
*BGR **23** 18:44:18.4±0.2,50°.24N×12°.45E, h10km±2km, ML2.5/6, Error ellipse: s-maj=2.2km s-min=1.1km az=110.0*
*NEIC **23** 18:44:18.9,50°.23N×12°.51E, h0km, ML2.9(PRU), ML2.6(LDG), After PRU.*
*CLL **23** 18:44:19.1±0.4,50°.N±1°.×1°.2E±°, h5km±1km, ml2.4*

WBNET 23 18:44:18.8, 50°.24N×12°.45E, h7km, Ml2.0, 3C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.04**	**315**	⇓P	Pg	18 44 20.3	+0.1
LBCW				S	Sg	18 44 21.4	+0.2
STCW	**Studenec**	**0.05**	**68**	⇓P	Pg	18 44 20.3	0.0
STCW				S	Sg	18 44 21.3	-0.2
WERN	**Wernitzgruen**	**0.07**	**314**	*e*Pg	Pg	18 44 20.7	+0.1
WERN				*e*Sg	Sg	18 44 22.0	+0.2
WERN	**Wernitzgruen**	**0.07**	**314**	*i* Pg	Pg	18 44 20.7	+0.1
WERN				*i* Sg	Sg	18 44 22.0	+0.1
WERN				AML	AML	18 44 22.2	
	comp=N,1μm,0.1s						
WERN	**Wernitzgruen**	**0.07**	**314**	Pg	Pg	18 44 20.7	+0.1
WERN				Sg	Sg	18 44 22.0	+0.1
POCW	**Po¯¡tky**	**0.08**	**349**	⇓P	Pg	18 44 20.9	+0.1
POCW				S	Sg	18 44 22.3	+0.1
ROHR	**Rohrbach**	**0.09**	**266**	*e*Pg	Pg	18 44 20.9	0.0
ROHR				*e*Sg	Sg	18 44 22.3	0.0
ROHR	**Rohrbach**	**0.09**	**266**	*i* Pg	Pg	18 44 20.8	0.0
ROHR				*i* Sg	Sg	18 44 22.3	0.0
ROHR				AML	AML	18 44 22.4	
	comp=N,5μm,0.1s						
ROHR	**Rohrbach**	**0.09**	**266**	Pg	Pg	18 44 20.9	0.0
ROHR				Sg	Sg	18 44 22.3	0.0
SKC	**Skalna**	**0.09**	**219**	⇑P	Pg	18 44 20.9	0.0
SKC				S	Sg	18 44 22.4	0.0
KRCW	**Kraslice**	**0.10**	**29**	⇑P	Pg	18 44 21.2	0.0
KRCW				S	Sg	18 44 22.7	-0.1
KACW	**Kace¯ov**	**0.11**	**156**	⇓P	Pg	18 44 21.2	0.0
KACW				S	Sg	18 44 22.8	+0.1
GUNZ	**Gunzen**	**0.14**	**328**	*e*Pg	Pg	18 44 21.9	+0.1
GUNZ				*e*Sg	Sg	18 44 23.9	0.0
GUNZ	**Gunzen**	**0.14**	**328**	*i* Pg	Pg	18 44 21.9	+0.1
GUNZ				*i* Sg	Sg	18 44 23.9	0.0
GUNZ				AML	AML	18 44 24.1	
	comp=E,372nm,0.3s						
GUNZ	**Gunzen**	**0.14**	**328**	*e*Pg	Pg	18 44 21.5	-0.3
	baz=134						
GUNZ				Sg	Sg	18 44 23.9	0.0
MULD	**Muldenberg**	**0.17**	**350**	*e*Pg	Pg	18 44 22.4	0.0
MULD				*e*Sg	Sg	18 44 24.6	-0.1
MULD	**Muldenberg**	**0.17**	**350**	*i* Pg	Pg	18 44 22.3	0.0
MULD				*i* Sg	Sg	18 44 24.6	-0.1
MULD				AML	AML	18 44 25.2	
	comp=N,730nm,0.1s						
MULD	**Muldenberg**	**0.17**	**350**	Pg	Pg	18 44 22.4	0.0
MULD				Sg	Sg	18 44 24.6	-0.1
TANN	**Tannenbergstha**	**0.17**	**2**	*e*Pg	Pg	18 44 22.2	-0.1
TANN				*e*Sg	Sg	18 44 24.6	-0.2
TANN	**Tannenbergstha**	**0.17**	**2**	*i* Pg	Pg	18 44 22.3	-0.1
TANN				*i* Sg	Sg	18 44 24.6	-0.2
TANN				AML	AML	18 44 25.1	
	comp=E,724nm,0.3s						
TANN	**Tannenbergstha**	**0.17**	**2**	Pg	Pg	18 44 22.2	-0.2
TANN				Sg	Sg	18 44 24.6	-0.2
ZHC	**Zelena Hora**	**0.19**	**208**	⇑P	Pg	18 44 22.7	0.0
ZHC				S	Sg	18 44 25.3	0.0
WERD	**Werda**	**0.23**	**336**	*e*Pg	Pg	18 44 23.3	0.0
WERD				*e*Sg	Sg	18 44 26.1	-0.3
WERD	**Werda**	**0.23**	**336**	*i* Pg	Pg	18 44 23.3	0.0
WERD				*i* Sg	Sg	18 44 26.1	-0.3
WERD				AML	AML	18 44 26.6	
	comp=E,226nm,0.1s						
WERD	**Werda**	**0.23**	**336**	Pg	Pg	18 44 23.3	0.0
WERD				Sg	Sg	18 44 26.1	-0.3
TRIB	**Obertriebel**	**0.23**	**299**	*e*Pg	Pg	18 44 23.3	0.0
TRIB				*e*Sg	Sg	18 44 26.5	0.0
TRIB	**Obertriebel**	**0.23**	**299**	*i* Pg	Pg	18 44 23.3	-0.1
TRIB				*i* Sg	Sg	18 44 26.6	+0.1
TRIB				AML	AML	18 44 26.8	
	comp=E,469nm,0.1s						
TRIB	**Obertriebel**	**0.23**	**299**	Pg	Pg	18 44 23.3	-0.1
TRIB				Sg	Sg	18 44 26.5	0.0
VIEL	**Selb-Vielitz**	**0.23**	**256**	*i* Pg	Pg	18 44 23.4	+0.1
VIEL				*i* Sg	Sg	18 44 26.5	0.0
PLN	**Plauen**	**0.31**	**323**	*e*Pg	Pg	18 44 24.8	0.0
PLN				*e*Sg	Sg	18 44 28.7	-0.2
PLN	**Plauen**	**0.31**	**323**	*i* Pg	Pg	18 44 24.8	0.0
PLN				*i* Sg	Sg	18 44 28.8	-0.1
PLN				AML	AML	18 44 29.4	
	comp=E,141nm,0.1s						
PLN	**Plauen**	**0.31**	**323**	Pg	Pg	18 44 24.8	0.0
PLN				Sg	Sg	18 44 28.7	-0.2
SCHF	**Schoenfels**	**0.44**	**356**	*e*Pg	Pg	18 44 27.2	-0.1
SCHF				*e*Sg	Sg	18 44 33.0	0.0
SCHF	**Schoenfels**	**0.44**	**356**	*i* Pg	Pg	18 44 27.2	-0.1
SCHF				*i* Sg	Sg	18 44 33.0	-0.1
SCHF				AML	AML	18 44 33.2	
	comp=E,836nm,0.2s						
SCHF	**Schoenfels**	**0.44**	**356**	Pg	Pg	18 44 27.2	-0.1
SCHF				Sg	Sg	18 44 33.0	0.0
ROTZ	**Rotzenmuhle**	**0.50**	**198**	*e*Pg	Pg	18 44 28.3	-0.2
ROTZ				*e*Sg	Sg	18 44 34.9	-0.1
ROTZ	**Rotzenmuhle**	**0.50**	**198**	Pg	Pg	18 44 28.3	-0.1
ROTZ				Sg	Sg	18 44 34.9	-0.1
MOX	**Moxa**	**0.67**	**307**	P	Pg	18 44 31.0	-0.7
MOX	**Moxa**	**0.67**	**307**	*e*Pg	Pg	18 44 31.5	-0.2
MOX				*e*Sg	Sg	18 44 40.5	+0.1
MOX	**Moxa**	**0.67**	**307**	*e*Pg	Pg	18 44 31.2	-0.5
	baz=124						
MOX				*e*Sg	Sg	18 44 40.2	-0.2
	baz=124						
FBE	**Freiberg**	**0.89**	**40**	*e*Pg	Pg	18 44 35.7	-0.2
FBE				*e*Sg	Sg	18 44 47.0	-0.5
FBE	**Freiberg**	**0.89**	**40**	Pg	Pg	18 44 35.7	-0.2
FBE				Sg	Sg	18 44 47.0	-0.5
GRA1	**Grafenberg Arr**	**0.97**	**236**	Pg	Pg	18 44 37.1	-0.2
GRA1				Sg	Sg	18 44 49.5	-0.3
GRF	**Grafenberg Arr**	**0.97**	**236**	*e*Pg	Pg	18 44 37.1	-0.2
GRF				*e*Sg	Sg	18 44 49.5	-0.3
GRFO	**Grafenberg**	**0.97**	**236**	*e*P	Pg	18 44 36.9	-0.5
GRFO	**Grafenberg**	**0.97**	**236**	*e*P	Pg	18 44 36.9	-0.4
NEUB	**Neuenburg**	**1.06**	**336**	*e*Pg	Pg	18 44 38.8	-0.3
	baz=153						
NEUB				*e*Sg	Sg	18 44 52.5	-0.4
	baz=153						
CLL	**Collm**	**1.12**	**18**	*e*Pg	Pg	18 44 39.9	-0.5
CLL				*e*Sg	Sg	18 44 54.5	-0.4
CLL	**Collm**	**1.12**	**18**	*i* Pg	Pg	18 44 39.9	-0.5
CLL				*i*		18 44 42.5	
CLL				*i*		18 44 43.4	
CLL				*i* Sg	Sg	18 44 54.5	-0.4
	comp=Z,32nm,0.4s						
CLL				*i*		18 44 58.3	
CLL	**Collm**	**1.12**	**18**	Pg	Pg	18 44 39.9	-0.5
CLL				Sg	Sg	18 44 54.5	-0.4
WET	**Wettzell**	**1.13**	**166**	*e*Pg	Pg	18 44 39.8	-0.8
WET				*e*Sg	Sg	18 44 54.2	-1.0
WET	**Wettzell**	**1.13**	**166**	Pg	Pg	18 44 39.8	-0.7
WET				Sg	Sg	18 44 54.2	-1.0
BRG	**Berggiesshubel**	**1.14**	**56**	PG	Pg	18 44 40.0	-0.7
BRG				SG	Sg	18 44 54.8	-0.7
	comp=Z,40nm,0.2s						
BRG	**Berggiesshubel**	**1.14**	**56**	*e*Pg	Pg	18 44 40.2	-0.5
BRG				*e*Sg	Sg	18 44 55.2	-0.3
BRG	**Berggiesshubel**	**1.14**	**56**	Pg	Pg	18 44 40.2	-0.5
BRG				Sg	Sg	18 44 55.2	-0.3
KHC	**Kasperske Hory**	**1.33**	**146**	*e*P	Pn	18 44 42.6	-1.1
KHC	**Kasperske Hory**	**1.33**	**146**	*e*PG	Pg	18 44 42.8	-1.5
KHC				*e*SG	Sg	18 45 00.3	-1.2
	comp=Z,16nm,0.2s						
KHC	**Kasperske Hory**	**1.33**	**146**	Pg	Pg	18 44 42.8	-1.5
KHC				Sg	Sg	18 45 00.3	-1.2
	comp=Z,16nm,0.2s						
PRU	**Pruhonice**	**1.37**	**100**	*e*PG	Pg	18 44 43.7	-1.3
PRU				*e*SG	Sg	18 45 01.6	-1.2
	comp=Z,34nm,0.2s						
PRU	**Pruhonice**	**1.37**	**100**	Pg	Pg	18 44 43.7	-1.3
PRU				Sg	Sg	18 45 01.6	-1.2
	comp=Z,34nm,0.2s						
PVCC	**Panska Ves**	**1.39**	**77**	*e*PG	Pg	18 44 44.4	-1.0
PVCC				*e*SG	Sg	18 45 02.7	-0.6
	comp=Z,92nm,0.2s						
PVCC	**Panska Ves**	**1.39**	**77**	Pg	Pg	18 44 44.4	-1.0
PVCC				Sg	Sg	18 45 02.7	-0.6
	comp=Z,92nm,0.2s						
TREC	**Trest**	**2.18**	**115**	*e*SG	Sg	18 45 26.1	-2.8
TREC	**Trest**	**2.18**	**115**	Sg	Sg	18 45 26.1	-2.8
DPC	**Dobruska-Polom**	**2.48**	**86**	*e*SG	Sg	18 45 35.4	-3.2
DPC	**Dobruska-Polom**	**2.48**	**86**	Sg	Sg	18 45 35.4	-3.2
KSP	**Ksiaz**	**2.52**	**75**	*e*Pn	Pg	18 45 05.8	-1.3
KSP				*e*Sn	Sg	18 45 38.0	-1.8
KSP	**Ksiaz**	**2.52**	**75**	*e*Pg	Pg	18 45 05.6	-1.5
KSP				*e*Sg	Sg	18 45 37.6	-2.2
KSP	**Ksiaz**	**2.52**	**75**	*e*Pg	Pg	18 45 05.6	-1.5
KSP				*e*Sg	Sg	18 45 37.6	-2.2
KRUC	**Moravsky**	**2.82**	**113**	*e*Pn	Pn	18 45 03.4	-0.8
	baz=296						
KRUC	**Moravsky**	**2.82**	**113**	*e*Pg	Pg	18 45 09.9	-2.9
	baz=296						
KRUC				*e*Sg	Sg	18 45 43.6	-5.8
	comp=Z,7.5nm,0.3s,baz=296						
VRAC	**Vranov**	**2.84**	**108**	*e*Pn	Pn	18 45 03.8	-0.7
VRAC				*e*Sg	Sg	18 45 45.0	-5.1
BFO	**Black Forest**	**3.31**	**236**	*e*Pg	Pg	18 45 20.2	-1.9
BFO	**Black Forest**	**3.31**	**236**	*e*Pg	Pg	18 45 20.2	-1.9
MORC	**Moravsky Berou**	**3.32**	**96**	*e*Pn	Pn	18 45 11.1	0.0
MORC	**Moravsky Berou**	**3.32**	**96**	*e*Pn	Pn	18 45 11.1	+0.1
CDF	**Champ du Feu**	**3.85**	**244**	*e*Pn	Pn	18 45 16.3	-2.0
CDF				*e*Sg	Sg	18 46 17.6	-4.7
	comp=Z,1.7nm,0.2s						
CDF	**Champ du Feu**	**3.85**	**244**	*e*Pn	Pn	18 45 16.3	-2.0
CDF				*e*Sg	Sg	18 46 17.6	-4.7
	comp=Z,0.9nm,0.2s						
HINF	**Hinteralfeld**	**4.41**	**239**	*e*Pn	Pn	18 45 23.4	-2.6
HINF	**Hinteralfeld**	**4.41**	**239**	*e*Pg	Pg	18 45 39.4	-3.8
HINF				*e*Sn	Sn	18 46 12.1	-5.5
HINF				*e*Sg	Sg	18 46 35.7	-4.6
	comp=Z,4.1nm,0.3s						
HINF	**Hinteralfeld**	**4.41**	**239**	*e*Pn	Pn	18 45 23.4	-2.6
HINF				*e*Pg	Pg	18 45 39.4	-3.8
HINF				*e*Sn	Sn	18 46 12.1	-5.5
HINF				*e*Sg	Sg	18 46 35.7	-4.6
HINF	**Hinteralfeld**	**4.41**	**239**	*e*Pn	Pn	18 45 23.4	-2.6
HINF	**Hinteralfeld**	**4.41**	**239**	*e*Pg	Pg	18 45 39.4	-3.8
HINF				*e*Sn	Sn	18 46 12.1	-5.5
HINF				*e*Sg	Sg	18 46 35.7	-4.6
	comp=Z,2.0nm,0.3s						
HAU	**Haudompre**	**4.59**	**243**	*e*Pn	Pn	18 45 26.2	-2.3
HAU	**Haudompre**	**4.59**	**243**	*e*Pg	Pg	18 45 42.6	-4.1
HAU				*e*Sn	Sn	18 46 16.6	-5.4
HAU				*e*Sg	Sg	18 46 40.6	-5.5
	comp=Z,3.9nm,0.3s						
HAU	**Haudompre**	**4.59**	**243**	*e*Pn	Pn	18 45 26.2	-2.3
HAU				*e*Pg	Pg	18 45 42.6	-4.1
HAU				*e*Sn	Sn	18 46 16.6	-5.4
HAU				*e*Sg	Sg	18 46 40.6	-5.5
HAU	**Haudompre**	**4.59**	**243**	*e*Pn	Pn	18 45 26.2	-2.3
HAU	**Haudompre**	**4.59**	**243**	*e*Pg	Pg	18 45 42.6	-4.1
HAU				*e*Sn	Sn	18 46 16.6	-5.4
HAU				*e*Sg	Sg	18 46 40.6	-5.5
	comp=Z,2.0nm,0.3s						
SFTF	**Sexfontaines**	**5.27**	**250**	*e*Sg	Sg	18 47 02.1	-5.7
	comp=Z,1.6nm,0.3s						
SFTF	**Sexfontaines**	**5.27**	**250**	*e*Sg	Sg	18 47 02.1	-5.7
	comp=Z,0.8nm,0.3s						
CABF	**La Chapelle**	**5.58**	**232**	*e*Pn	Pn	18 45 40.0	-2.1
CABF	**La Chapelle**	**5.58**	**232**	*e*Pg	Pg	18 46 01.0	-4.6
CABF				*e*Sg	Sg	18 47 11.7	-6.1
	comp=Z,0.5nm,0.3s						
CABF	**La Chapelle**	**5.58**	**232**	*e*Pn	Pn	18 45 40.0	-2.1
CABF				*e*Pg	Pg	18 46 01.0	-4.6
CABF				*e*Sg	Sg	18 47 11.7	-6.1
CABF	**La Chapelle**	**5.58**	**232**	*e*Pn	Pn	18 45 40.0	-2.1
LPL	**La Plagne**	**6.09**	**221**	*e*Pn	Pn	18 45 46.7	-2.5
LPL				*e*Sn	Sn	18 46 52.9	-6.2
	comp=Z,0.5nm,0.3s						
LPL	**La Plagne**	**6.09**	**221**	*e*Pn	Pn	18 45 46.7	-2.5
LPL				*e*Sn	Sn	18 46 52.9	-6.2
LPL	**La Plagne**	**6.09**	**221**	*e*Pn	Pn	18 45 46.7	-2.5
LPG	**La Plagne**	**6.10**	**221**	*e*Pn	Pn	18 45 47.0	-2.3
LPG				*e*Sn	Sn	18 46 53.0	-6.2
	comp=Z,0.8nm,0.3s						
LPG	**La Plagne**	**6.10**	**221**	*e*Pn	Pn	18 45 47.0	-2.3
LPG				*e*Sn	Sn	18 46 53.0	-6.2
LPG	**La Plagne**	**6.10**	**221**	*e*Pn	Pn	18 45 47.0	-2.3
LOR	**Lormes**	**6.41**	**246**	*e*Pn	Pn	18 45 51.0	-2.5
LOR				*e*Sg	Sg	18 47 37.9	-6.6
	comp=Z,0.7nm,0.3s						
LOR	**Lormes**	**6.41**	**246**	*e*Pn	Pn	18 45 51.0	-2.5
LOR				*e*Sg	Sg	18 47 37.9	-6.6
LOR	**Lormes**	**6.41**	**246**	*e*Pn	Pn	18 45 51.0	-2.5
SSF	**Saint Saulge**	**6.72**	**245**	*e*Pn	Pn	18 45 55.5	-2.3
SSF				*e*Sg	Sg	18 47 47.1	-7.5
	comp=Z,0.5nm,0.2s						
SSF	**Saint Saulge**	**6.72**	**245**	*e*Pn	Pn	18 45 55.5	-2.3
SSF				*e*Sg	Sg	18 47 47.1	-7.5
SSF	**Saint Saulge**	**6.72**	**245**	*e*

0.2nm,0.5s,mb3.2,baz=166,slow=7.4,SNR=4.1

SONM	**Songino Array**	**58.58**	**342**	P		**P**	**19**	**59**	**20.8 +0.1**
MK31	**Makanchi Array**	**68.17**	**327**	*eP*		**P**	**20**	**00**	**23.6 -0.2**
MKAR	**Makanchi Array**	**68.17**	**327**	P		**P**	**20**	**00**	**23.4 -0.3**
	0.9nm,0.3s,mb3.9,baz=114,slow=8.6,SNR=27								
MKAR	**Makanchi Array**	**68.17**	**327**	P		**P**	**20**	**00**	**23.4 -0.3**
ZALV	**Zalesovo Beam**	**71.62**	**334**	P		**P**	**20**	**00**	**43.7 -0.9**
	0.3nm,0.3s,mb3.5,baz=116,slow=6.6,SNR=2.9								
ZALV	**Zalesovo Beam**	**71.62**	**334**	P		**P**	**20**	**00**	**43.7 -0.9**

NEIC ***23*** *19:58:05.4, 19°.09N×64°.39W, h44km, MD3.3(RSPR), After RSPR.*

RSPR 23 19:58:05.4, 19°.09N×64°.39W, h44km±5km**, 23C-3D, Virgin Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
ABV	**Anegada**	**0.36**	**172**	⇑*eP*		Pn	19	58	13.9	-0.7
ABV	**Anegada**	**0.36**	**172**	⇑*eP*		Pn	19	58	13.9	-0.7
TBVI	**Tortola**	**0.70**	**198**	⇓*eP*		Pn	19	58	17.9	-1.1
TBVI	**Tortola**	**0.70**	**198**	⇓*eP*		Pn	19	58	17.9	-1.1
TBVI	**Tortola**	**0.70**	**198**	⇓*eP*		Pn	19	58	17.9	-1.1
STVI	**Saint Thomas**	**0.91**	**216**	⇑*eP*		Pn	19	58	20.8	-1.0
STVI	**Saint Thomas**	**0.91**	**216**	⇑*eP*		Pn	19	58	20.8	-1.0
STVI					*eS*	Sn	19	58	32.5	-1.2
STVI	**Saint Thomas**	**0.91**	**216**	⇑*eP*		Pn	19	58	20.8	-1.0
STVI					*eS*	Sn	19	58	32.5	-1.2
MTP	**Monte Pirata**	**1.48**	**229**	⇑*eP*		Pn	19	58	28.9	-0.7
MTP	**Monte Pirata**	**1.48**	**229**	⇑*eP*		Pn	19	58	28.9	-0.7
MTP					*eS*	Sn	19	58	46.8	-1.0
MTP	**Monte Pirata**	**1.48**	**229**	⇑*eP*		Pn	19	58	28.9	-0.7
MTP					*eS*	Sn	19	58	46.8	-1.0
CBYP	**Canovanas**	**1.61**	**240**	⇑*eP*		Pn	19	58	30.7	-0.7
CBYP	**Canovanas**	**1.61**	**240**	*ePn*		Pn	19	58	31.1	-0.3
CBYP	**Canovanas**	**1.61**	**240**	⇑*eP*		Pn	19	58	30.7	-0.7
CBYP					*eS*	Sn	19	58	49.9	-1.2
HUMP	**Col San Antoni**	**1.68**	**236**	⇑*eP*		Pn	19	58	31.2	-1.0
HUMP	**Col San Antoni**	**1.68**	**236**	⇑*eP*		Pn	19	58	31.2	-1.0
HUMP					*eS*	Sn	19	58	51.5	-1.0
HUMP	**Col San Antoni**	**1.68**	**236**	⇑*eP*		Pn	19	58	31.2	-1.0
HUMP					*eS*	Sn	19	58	51.5	-1.0
CPD	**Cerro la Pandu**	**1.79**	**235**	⇑*eP*		Pn	19	58	33.0	-0.8
CPD	**Cerro la Pandu**	**1.79**	**235**	⇑*eP*		Pn	19	58	33.0	-0.8
CPD					*eS*	Sn	19	58	54.5	-0.8
CPD	**Cerro la Pandu**	**1.79**	**235**	⇑*eP*		Pn	19	58	33.0	-0.8
CPD					*eS*	Sn	19	58	54.5	-0.8
SJG	**San Juan**	**1.94**	**240**	⇑*eP*		Pn	19	58	34.5	-1.3
SJG	**San Juan**	**1.94**	**240**	⇑*eP*		Pn	19	58	34.6	-1.2
SJG	**San Juan**	**1.94**	**240**	*ePn*		Pn	19	58	34.4	-1.4
SJG					*eS*	Sn	19	58	58.1	-0.9
SJG	**San Juan**	**1.94**	**240**	⇑*eP*		Pn	19	58	34.5	-1.3
SJG	**San Juan**	**1.94**	**240**	⇑*eP*		Pn	19	58	34.6	-1.2
SJG					*eS*	Sn	19	58	58.8	-0.1
CELP	**Cerrillos**	**2.31**	**245**	*eP*		Pn	19	58	40.2	-0.8
OBIP	**Obispado Ponce**	**2.35**	**244**	⇑*eP*		Pn	19	58	40.9	-0.6
OBIP	**Obispado Ponce**	**2.35**	**244**	⇑*eP*		Pn	19	58	40.9	-0.6
OBIP					*eS*	Sn	19	59	08.2	-1.0
OBIP	**Obispado Ponce**	**2.35**	**244**	⇑*eP*		Pn	19	58	40.9	-0.6
OBIP					*eS*	Sn	19	59	08.2	-1.0

IDC 23 20:29:30.6±1.3, 7°.09S×128°.21E, h0km, mb3.9/3, mb1 4.0/6, mb1mx3.7/18, mbtmp3.8/6, ML3.7/3, Error ellipse: s-maj=83.7km s-min=21.6km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
FITZ	**Fitzroy Crossi**	**11.23**	**193**	Pn		Pn	20	32	10.8	-1.7
	0.5nm,0.3s,baz=38,slow=13,SNR=12									
FITZ					Sn	Sn	20	34	01.1	-18
	1.4nm,0.3s,baz=296,slow=20,SNR=7.0									
WRA	**Warramunga Arr**	**14.09**	**156**	Pn		Pn	20	32	52.3	+0.7
	0.3nm,0.3s,baz=333,slow=15,SNR=15									
WRA					Sn	Sn	20	35	16.1	-13
	0.8nm,0.3s,baz=332,slow=22,SNR=13									
ASAR	**Alice Springs**	**17.37**	**162**	P		Pn	20	33	36.5	+2.0
	0.5nm,0.3s,baz=340,slow=11,SNR=46									
ASAR					S	Sn	20	36	41.0	-7.4
	0.2nm,0.3s,baz=318,slow=21,SNR=6.5									
STKA	**Stephens Creek**	**27.64**	**155**	P		P	20	35	19.8	-0.3
	1.2nm,0.5s,baz=336,slow=7.1,SNR=5.6									
MKAR	**Makanchi Array**	**67.34**	**328**	P		P	20	40	27.6	+0.2
	0.5nm,0.6s,baz=121,slow=8.5,SNR=5.5									
ZALV	**Zalesovo Beam**	**70.89**	**335**	P		P	20	40	49.4	+0.1
	0.6nm,0.6s,baz=126,slow=7.5,SNR=3.9									

IDC ***23*** *20:40:48.3±3.5, 37°.67S×177°.98E, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.7/15, mbtmp3.8/2, Error ellipse: s-maj=73.9km s-min=25.8km az=121.0*

ISCJB ***23*** *20:40:49.6±0.8, 38°.89S±0°.04×178°.22E±0°.09, h44km±6km, mb3.7/2, Error ellipse: s-maj=12.2km s-min=5.5km az=14.7*

WEL ***23*** *20:40:51.1±0.2, 38°.85S×178°.17E, h32km±1km, ML3.9/18, Error ellipse: s-maj=3.2km s-min=1.2km az=90.0*

WEL Felt in the Gisborne region, maximum reported intensity MM 4.

ISC 23 20:40:50.2±0.8, 38°.88S±0°.04×178°.22E±0°.09, h36km±9km**, n27, σ0°.72/33, mb3.7/2, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
PRGZ	**Paritu Road**	**0.27**	**261**	P*		**Pn**	**20**	**40**	**56.9**	**-0.8**
PRGZ				S*		**Sn**	**20**	**41**	**02.6**	**-0.4**
MHGZ	**Mahia Peninsul**	**0.37**	**222**	P*		**Pn**	**20**	**40**	**59.8**	**+0.8**
MHGZ				S*		**Sn**	**20**	**41**	**06.8**	**+1.7**
CNGZ	**Carnagh Statio**	**0.40**	**358**	P*		**Pn**	**20**	**40**	**59.9**	**+0.5**
CNGZ				S*		**Sn**	**20**	**41**	**04.6**	**-1.2**
KNZ	**Kokohu**	**0.45**	**252**	P*		**Pn**	**20**	**40**	**59.6**	**-0.6**
KNZ				S*		**Sn**	**20**	**41**	**06.9**	**-0.1**
MWZ	**Matawai**	**0.77**	**315**	PN		**Pn**	**20**	**41**	**04.3**	**-0.3**
MWZ				SN		**Sn**	**20**	**41**	**14.4**	**-0.5**
PUZ	**Puketiti**	**0.81**	**2**	PN		**Pn**	**20**	**41**	**05.3**	**+0.3**
PUZ				SN		**Sn**	**20**	**41**	**16.6**	**+0.8**
RAHZ	**Arahi**	**0.89**	**267**	PN		**Pn**	**20**	**41**	**06.3**	**+0.2**
URZ	**Urewera**	**1.07**	**305**	PN		**Pn**	**20**	**41**	**08.5**	**-0.2**
URZ	**Urewera**	**1.07**	**305**	Pn		**Pn**	**20**	**41**	**08.5**	**-0.2**
	237nm,0.3s,baz=159,slow=4.0,SNR=412									
URZ					Sn	**Sn**	**20**	**41**	**22.3**	**0.0**
	311nm,0.3s,baz=195,slow=22,SNR=30									
NMHZ	**Naumai**	**1.13**	**259**	PN		**Pn**	**20**	**41**	**10.7**	**+1.3**
CKHZ	**Cape Kidnapper**	**1.18**	**229**	PN		**Pn**	**20**	**41**	**10.5**	**+0.3**
MCHZ	**McNeill Hill**	**1.31**	**244**	PN		**Pn**	**20**	**41**	**12.9**	**+1.0**
MXZ	**Matakaoa Point**	**1.32**	**3**	PN		**Pn**	**20**	**41**	**12.7**	**+0.6**
BKZ	**Black Stump Fm**	**1.38**	**258**	PN		**Pn**	**20**	**41**	**13.3**	**+0.4**
KAHZ	**Kahuranaki**	**1.39**	**228**	PN		**Pn**	**20**	**41**	**13.3**	**+0.3**
TARZ	**Mount Tarawera**	**1.49**	**295**	PN		**Pn**	**20**	**41**	**15.1**	**+0.7**
PXZ	**Pawanui**	**1.56**	**222**	PN		**Pn**	**20**	**41**	**14.8**	**-0.6**
OPRZ	**Ohinepanea**	**1.67**	**308**	PN		**Pn**	**20**	**41**	**16.8**	**-0.1**
BHHZ	**Black Hill Sta**	**1.79**	**250**	PN		**Pn**	**20**	**41**	**18.8**	**+0.4**
WPHZ	**Waipukurau**	**1.82**	**229**	PN		**Pn**	**20**	**41**	**19.1**	**+0.2**
PRHZ	**Porangahau**	**1.85**	**221**	PN		**Pn**	**20**	**41**	**18.4**	**-0.9**
BFZ	**Birch Farm**	**2.36**	**220**	PN		**Pn**	**20**	**41**	**25.1**	**-1.2**
TIWZ	**Tintock**	**2.61**	**223**	PN		**Pn**	**20**	**41**	**28.7**	**-1.1**
MRZ	**Mangatainoka R**	**2.70**	**228**	PN		**Pn**	**20**	**41**	**29.9**	**-1.2**
ASAR	**Alice Springs**	**40.40**	**279**	P		**P**	**20**	**48**	**25.1**	**+0.3**
	2.2nm,0.7s,mb4.0,baz=127,slow=8.6,SNR=28									
WRA	**Warramunga Arr**	**42.17**	**284**	P		**P**	**20**	**48**	**38.8**	**-0.5**
	0.6nm,0.6s,mb3.4,baz=124,slow=7.1,SNR=15									
ARCES	**ARCESS Array B**	**146.02**	**343**	PKP		PKPdf	21	00	25.7	+1.6
	1.9nm,0.7s,baz=56,slow=3.4,SNR=4.9									

IDC 23 20:44:03.3±5.6, 39°.38N×110°.57E, h0km, mb3.0/2, mb1 3.3/3, mb1mx3.1/25, mbtmp3.1/3, ML2.4/1, Error ellipse: s-maj=117.3km s-min=25.6km az=85.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
SONM	**Songino Array**	**8.98**	**342**	Pn		Pn	20	46	14.0	-0.1
	0.0nm,0.3s,baz=156,slow=14,SNR=8.3									
SONM					Lg		20	48	48.6	
	0.1nm,0.3s,baz=164,slow=22,SNR=3.8									
MKAR	**Makanchi Array**	**21.86**	**299**	P		P	20	48	57.7	+0.3
	0.4nm,0.7s,baz=96,slow=13,SNR=4.5									
CMAR	**Chiang Mai Arr**	**23.16**	**209**	P		P	20	49	11.3	-0.1
	0.5nm,0.6s,baz=14,slow=9.6,SNR=5.6									

ISCJB ***23*** *21:01:56.6±1.7, 32°.3N±0°.1×72°.0E±0°.2, h10km, mb3.3/2, Error ellipse: s-maj=24.9km s-min=16.5km az=178.9*

IDC ***23*** *21:01:59.0±6.0, 32°.09N×72°.20E, h0km, mb3.5/2, mb1 3.5/4, mb1mx3.2/28, mbtmp3.3/4, ML2.7/1, Error ellipse: s-maj=126.1km s-min=32.0km az=75.0*

NNC ***23*** *21:03:03.3±9.8, 37°.70N×71°.38E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=79.8km s-min=56.9km az=174.0*

ISC 23 21:01:58.8±1.6, 32°.3N±0°.1×72°.0E±0°.2, h10km**, n7, σ0°.73/8, mb3.3/2, 2C-2D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
KK31	**Karatay Array**	**10.81**	**354**	⇓P		**Pn**	**21**	**04**	**27.6**	**-6.1**
	0.9nm,0.2s,baz=176,slow=13									
KK31				⇑Sn		Px	21	05	30.7	
	1.6nm,0.3s,baz=177,slow=22									
TKM2	**Tokmak 2**	**10.94**	**14**	⇓P		**Pn**	**21**	**04**	**35.1**	**-0.3**
	1.6nm,0.5s									
TKM2				⇑Sn		Px	21	05	45.5	
	1.7nm,0.8s									
MKAR	**Makanchi Array**	**16.45**	**26**	Pn		**Pn**	**21**	**05**	**50.8**	**+1.2**
	0.0nm,0.3s,baz=225,slow=16,SNR=2.8									
MKAR				Sn		**Sn**	**21**	**08**	**51.4**	**-0.7**
	0.0nm,0.3s,baz=238,slow=27,SNR=2.2									
KURK	**Kurchatov**	**19.00**	**13**	P		**Pn**	**21**	**06**	**21.9**	**+0.7**
	0.0nm,0.3s,baz=205,slow=10,SNR=5.6									
AB31	**Akbulak array**	**19.17**	**335**	P		**Pn**	**21**	**06**	**22.7**	**-0.6**
	0.2nm,0.3s,baz=145,slow=13,SNR=12									
ZALV	**Zalesovo Beam**	**23.46**	**19**	P		**P**	**21**	**07**	**13.0**	**+4.5**
	0.6nm,0.4s,mb3.4,baz=219,slow=8.9,SNR=3.0									
CMAR	**Chiang Mai Arr**	**27.88**	**113**	P		**P**	**21**	**07**	**48.4**	**-0.5**
	0.2nm,0.3s,mb3.2,baz=282,slow=8.4,SNR=4.1									

IDC ***23*** *21:08:08.8±3.9, 18°.88S×177°.01W, h261km±27km, mb3.3/5, mb1 3.6/6, mb1mx3.3/20, mbtmp3.4/6, Error ellipse: s-maj=112.1km s-min=15.4km az=151.0*

ISCJB ***23*** *21:08:09.1±3.2, 18°.75S±0°.6×177°.2W±0°.4, h267km±25km, mb3.5/7, Error ellipse: s-maj=115.6km s-min=18.1km az=151.5*

NEIC ***23*** *21:08:09.9±2.9, 19°.03S×176°.93W, h275km±19km, mb4.0/3, Error ellipse: s-maj=101.1km s-min=12.9km az=153.0*

ISC 23 21:08:10.2±3.1, 18°.5S±0°.6×177°.2W±0°.4, h263km±24km**, n19, σ1°.00/17, mb3.5/7, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
AFI	**Afiamalu**	**6.95**	**49**	P		**Pn**	**21**	**09**	**52.0**	**+1.6**
	3.1nm,0.3s,baz=29,slow=8.2,SNR=4.7									
AFI				S		**S**	**21**	**11**	**09.7**	**-1.3**
	1.6nm,0.3s,baz=81,slow=23,SNR=1.8									
AFI	**Afiamalu**	**6.95**	**49**	P		**Pn**	**21**	**09**	**52.0**	**+1.6**
AFI				S		**S**	**21**	**11**	**09.7**	**-1.3**
CTA	**Charters Tower**	**34.48**	**261**	P		**P**	**21**	**14**	**35.2**	**+1.4**
	2.1nm,0.4s,mb4.0,baz=101,slow=9.1,SNR=5.9									
CTA	**Charters Tower**	**34.48**	**261**	P		**P**	**21**	**14**	**35.2**	**+1.4**
CTAO	**Charters Tower**	**34.48**	**261**	*eP*		**P**	**21**	**14**	**34.7**	**+0.9**
	2.2nm,0.4s,mb4.0									
WRAB	**Tennant Creek**	**45.64**	**260**	*eP*		**P**	**21**	**16**	**04.5**	**-0.6**
	0.8nm,0.4s,mb3.4									
WRA	**Warramunga Arr**	**45.65**	**260**	P		**P**	**21**	**16**	**04.3**	**-0.8**
	0.9nm,0.5s,mb3.4,baz=98,slow=5.7,SNR=38									
WRA	**Warramunga Arr**	**45.65**	**260**	P		**P**	**21**	**16**	**04.3**	**-0.9**
ASAR	**Alice Springs**	**45.73**	**255**	P		**P**	**21**	**16**	**04.6**	**-1.2**
	1.1nm,0.5s,mb3.5,baz=89,slow=8.6,SNR=20									
ASAR	**Alice Springs**	**45.73**	**255**	P		**P**	**21**	**16**	**04.6**	**-1.2**
FITZ	**Fitzroy Crossi**	**54.06**	**261**	*eP*		**P**	**21**	**17**	**08.7**	**+0.4**
	12nm,1.6s,mb4.0									
TXAR	**Lajitas Array**	**85.36**	**57**	P		**P**	**21**	**20**	**18.1**	**-0.2**
	0.3nm,0.8s,mb3.2,baz=202,slow=9.5,SNR=3.9									
TXAR	**Lajitas Array**	**85.36**	**57**	P		**P**	**21**	**20**	**18.1**	**-0.2**
ILAR	**Eielson Array**	**86.23**	**13**	P		**P**	**21**	**20**	**22.5**	**+0.8**
	0.6nm,1.0s,mb3.4,baz=231,slow=5.7,SNR=3.6									
ILAR	**Eielson Array**	**86.23**	**13**	P		**P**	**21**	**20**	**22.5**	**+0.8**
ARCES	**ARCESS Array B**	**127.12**	**350**	PKP		PKPdf	21	26	40.9	-1.5
	3.9nm,1.0s,baz=25,slow=9.3,SNR=3.9									
ARCES	**ARCESS Array B**	**127.12**	**350**	PKP		PKPdf	21	26	40.9	-1.5
GERES	**GERESS Array B**	**148.50**	**346**	PKPbc		PKPbc	21	27	25.2	-0.6
	0.4nm,0.5s,baz=8.1,slow=2.8,SNR=4.6									
GERES	**GERESS Array B**	**148.50**	**346**	PKPbc		PKPbc	21	27	25.2	-0.6

NIED ***23*** *21:15:00, 35°.30N×137°.50E, h11km, Mw3.6 Best double couple: M0 3.27000×10^14 NP1:ϕs167.00000°, δ47.00000°, λ81.00000°. NP2:ϕs1.00000°, δ44.00000°, λ100.00000°.*

IDC ***23*** *21:15:29.8±0.9, 35°.22N×137°.70E, h0km, mb3.5/5, mb1 3.7/6, mb1mx3.5/26, mbtmp3.4/6, ML3.1/1, Error ellipse: s-maj=30.6km s-min=16.6km az=102.0*

ISCJB ***23*** *21:15:31.5±0.5, 35°.28N±0°.03×137°.46E±0°.04, h14km±3km, mb3.4/5, Error ellipse: s-maj=6.1km s-min=5.1km az=149.5*

JMA ***23*** *21:15:31.7, 35°.30N×137°.47E, h11km, M3.9 Broadband fault plane solution: P waves. NP1:ϕs203.00000°, δ46.00000°, λ137.00000°. NP2:ϕs327.00000°, δ60.00000°, λ53.00000°. Principal axes: T Plg57.0000°, Azm185.0000°; N Plg32.0000°, Azm347.0000°; P Plg8.0000°, Azm82.0000°;*

JMA Felt IV J1.

NEIC ***23*** *21:15:31.8, 35°.30N×137°.47E, h11km, MG3.9(JMA), After JMA.*

ISC 23 21:15:31.9±0.5, 35°.30N±0°.04×137°.46E±0°.04, h13km±3km**, n26, σ0°.62/35, mb3.4/5, 1C-5D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
JAO	**Obara**	**0.17**	**257**	⇓P		**Pg**	**21**	**15**	**35.7**	**-0.1**
JAO				S		**Sg**	**21**	**15**	**38.6**	**+0.1**
JGF	**Kuroka**	**0.31**	**344**	⇑P		**Pg**	**21**	**15**	**38.2**	**0.0**
JGF				S		**Sg**	**21**	**15**	**42.6**	**+0.2**
JNY	**Yasuok**	**0.33**	**81**	⇓P		**Pg**	**21**	**15**	**38.4**	**-0.2**
JNY				S		**Sg**	**21**	**15**	**43.3**	**+0.2**
SHZ3	**Shizuoka 3**	**0.66**	**111**	⇓P		**Pg**	**21**	**15**	**44.2**	**-0.4**
JGM	**Miyama**	**0.72**	**303**	⇓P		**Pg**	**21**	**15**	**45.8**	**-0.1**
JYN	**Shimob**	**0.91**	**77**	⇓P		**Pg**	**21**	**15**	**48.8**	**-0.5**
TK04	**Tokai 4**	**0.98**	**160**	P		**Pb**	**21**	**15**	**51.2**	**+0.5**
MAJO	**Matsushiro**	**1.38**	**26**	*ePn*		**Pn**	**21**	**15**	**56.9**	**+0.1**
MAJO				*eS*		**Sn**	**21**	**16**	**14.9**	**0.0**
MAT	**Matsushiro**	**1.38**	**26**	P		**Pn**	**21**	**15**	**56.9**	**+0.1**
MAT				S		**Sn**	**21**	**16**	**15.1**	**+0.2**
MJAR	**Matsushiro Arr**	**1.38**	**26**	Pn		**Pn**	**21**	**15**	**56.6**	**-0.2**
	72nm,0.3s,baz=219,slow=14,SNR=306									
MJAR				Sn		**Sn**	**21**	**16**	**15.1**	**+0.2**
	170nm,0.3s,baz=213,slow=29,SNR=33									
MJAR	**Matsushiro Arr**	**1.38**	**26**	Pn		**Pn**	**21**	**15**	**56.6**	**-0.2**
MJAR				Sn		**Sn**	**21**	**16**	**15.1**	**+0.2**
JHJ	**Hachijo jima 2**	**2.91**	**138**	Pn		**Pn**	**21**	**16**	**19.4**	**+1.5**
	6.2nm,0.3s,baz=41,slow=20,SNR=2.5									
JHJ					Sn	**Sn**	**21**	**16**	**47.5**	**-5.2**
	8.6nm,0.3s,baz=58,slow=23,SNR=1.3									
JNU	**Nakatsue**	**5.87**	**250**	*ePn*		**Pn**	**21**	**16**	**59.2**	**+0.6**
	8.2nm,0.9s									
JNU					*eSn*	**Sn**	**21**	**18**	**13.7**	**+7.8**
KSRS	**Korea Array**	**7.99**	**288**	Pn		**Pn**	**21**	**17**	**32.5**	**+4.8**
	0.2nm,0.3s,baz=110,slow=13,SNR=4.0									
KSAR	**Wonju Array Be**	**8.02**	**288**	Pn		**Pn**	**21**	**17**	**32.5**	**+4.5**
SONM	**Songino Array**	**26.21**	**308**	P		**P**	**21**	**21**	**07.3**	**+1.0**
	0.1nm,0.5s,mb2.6,baz=106,slow=11,SNR=2.2									
SONM	**Songino Array**	**26.21**	**308**	P		**P**	**21**	**21**	**07.3**	**+1.0**
ILAR	**Eielson Array**	**52.65**	**31**	P		**P**	**21**	**24**	**45.7**	**+0.3**
	0.4nm,0.9s,mb3.3,baz=263,slow=4.5,SNR=4.5									
ILAR	**Eielson Array**	**52.65**	**31**	P		**P**	**21**	**24**	**45.7**	**+0.3**
WRA	**Warramunga Arr**	**55.02**	**184**	P		**P**	**21**	**25**	**02.2**	**-1.0**
	0.8nm,0.7s,mb3.9,baz=0.1,slow=7.7,SNR=13									
WRA	**Warramunga Arr**	**55.02**	**184**	P		**P**	**21**	**25**	**02.2**	**-1.0**
ASAR	**Alice Springs**	**58.74**	**184**	P		**P**	**21**	**25**	**29.1**	**-0.4**
	0.6nm,0.6s,mb3.8,baz=12,slow=13,SNR=12									
ASAR	**Alice Springs**	**58.74**	**184**	P		**P**	**21**	**25**	**29.1**	**-0.4**
ONI	**Oni**	**69.78**	**308**	P		**P**	**21**	**26**	**39.9**	**-1.9**
TXAR	**Lajitas Array**	**93.69**	**50**	P		**P**	**21**	**28**	**48.2**	**-0.3**
	0.1nm,0.5s,mb3.5,baz=278,slow=2.6,SNR=3.0									
TXAR	**Lajitas Array**	**93.69**	**50**	P		**P**	**21**	**28**	**48.2**	**-0.3**

IDC ***23*** *21:19:36.0±0.4, 36°.31S×72°.92W, h0km, mb5.0/25, mb1 5.0/28, mb1mx5.0/30, mbtmp5.0/28, ML4.4/3, MS4.8/17, Ms1 4.8/17, ms1mx4.7/25, Error ellipse: s-maj=14.9km s-min=10.6km az=76.0*

BJI ***23*** *21:19:39.0, 35°.46S×73°.81W, h32km, mB5.3/19, Ms5.4/17, Ms7 5.1/17*

ISCJB ***23*** *21:19:40.3±0.5, 36°.32S±0°.02×72°.96W±0°.06, h37km±4km, mb5.4/111, MS4.9/18, Error ellipse: s-maj=7.7km s-min=4.2km az=179.9*

NEIC ***23*** *21:19:40.0, 36°.32S×73°.01W, h33km, mb5.6/96, MW5.3, Moment Tensor Solution. s46 Moment tensor: Scale 10^17Nm; Mrr0.00; Mθθ0.00; Mϕϕ0.00; Mrθ0.00; Mrϕ0.00; Mθϕ0.00; Best double couple: M0 1.10000×10^17 NP1: ϕs326.00000°, δ27.00000°, λ67.00000°. NP2: ϕs171.00000°, δ65.00000°, λ101.00000°. Principal axes: T 1.0000, Plg68.0000°, Azm103.0000°; N 0.2500, Plg10.0000°, Azm346.0000°; P -1.2400, Plg19.0000°, Azm252.0000°; After GUC.*

NEIC Felt [V] at Concepcion, [IV] at Chillan, [III] at Cauquenes and [II] at Constitucion, Los Angeles and Talca. Also felt at Chiguayante and Talcahuano.

GUC ***23*** *21:19:40.1±0.8, 36°.32S×73°.01W, h33km±2km, ML5.5*

MOS ***23*** *21:19:40.4±1.1, 36°.17S×72°.77W, h33km, mb5.7/38, MS4.8/6, Error ellipse: s-maj=18.1km s-min=7.4km az=102.2*

GCMT ***23*** *21:19:44.3±0.2, 36°.38S×73°.36W, h38km±1km, MW5.3, Moment Tensor Solution. s60,c93; s9,c9; Moment tensor: Scale 10^17Nm; Mrr0.00; Mθθ0.00; Mϕϕ0.00; Mrθ0.00; Mrϕ0.00; Mθϕ0.00; Best double couple: M0 1.10000×10^17 NP1:ϕs11.00000°, δ22.00000°, λ111.00000°. NP2:ϕs169.00000°, δ69.00000°, λ82.00000°. Principal axes: T 1.0200, Plg65.0000°, Azm65.0000°; N 0.1100, Plg8.0000°, Azm172.0000°; P -1.1300, Plg24.0000°, Azm265.0000°; Data Used: II IU IC G CN. Surface waves: sta= 70, comp=105, per= 50.*

DJA ***23*** *21:20:25, 37°.93S×71°.53W, h358km, mb4.9/8*

ISC 23 21:19:40.7±0.6, 36°.32S±0°.02×72°.99W±0°.05, h27km±4km**, h26**km±1.3km**:pP-P, n439, σ0°.98/270, mb5.4/111, MS4.9/18, 14C-16D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
COCH	**Cobquecura**	**0.24**	**41**	⇑*eP*		**Pb**	**21**	**19**	**47.0**	**-0.2**
COCH				*i* S		**Sb**	**21**	**19**	**52.2**	**+0.7**
COCH				AML		AML	21	19	52.6	
	comp=N,450μm,0.3s									
CNCO	**Chanco**	**0.69**	**33**	⇓*iP*		**Pb**	**21**	**19**	**53.6**	**-0.5**
CNCO				*i* S		**Sb**	**21**	**20**	**03.2**	**0.0**
CCHI	**Chillan**	**0.79**	**112**	⇓*iP*		**Pb**	**21**	**19**	**55.3**	**-0.5**
CCHI				*i* S		**Sb**	**21**	**20**	**05.8**	**-0.3**
TALC	**Talca**	**1.43**	**51**	*eP*		**Pn**	**21**	**20**	**04.9**	**+0.1**
TALC				*i* S		**Sn**	**21**	**20**	**24.2**	**+1.5**
TALC				AML		AML	21	20	31.6	
	comp=E,121μm,0.4s									
NICH	**Los Niches**	**1.94**	**48**	⇑*iP*		**Pn**	**21**	**20**	**12.4**	**+0.5**
NICH				*eS*		**Sn**	**21**	**20**	**36.7**	**+1.4**
NICH				AML		AML	21	20	57.6

SNAA pmax pmax
comp=Z,72nm,1.1s
TGUH Tegucigalpa,Un 51.88 342 *eP* **P 21 28 47.2 +0.3**
comp=Z,172nm,1.4s,mb5.8
QSPA South Pole Qui 53.93 180 P **P 21 29 01.8 +0.6**
comp=Z,43nm,1.0s,mb5.3,baz=144,slow=3.8,SNR=64
QSPA South Pole Qui 53.93 180 *eP* **P 21 29 01.1 -0.2**
ICM Isla Caja Muer 54.26 8 *eP* **P 21 29 03.3 -1.0**
CRPR Cabo Rojo, PR 54.31 7 *eP* **P 21 29 03.0 -1.6**
comp=Z,46nm,0.9s,mb5.4
OBIP Obispado Ponce 54.40 7 *eP* **P 21 29 04.0 -1.3**
comp=Z,115nm,0.9s,mb5.8
CELP Cerrillos 54.43 7 *eP* **P 21 29 03.8 -1.7**
MAIT Maitri 54.48 156 *eP* **P 21 29 04.9 -0.5**
MAIT *e* 21 29 17.7
MPR Mayaguez 54.51 7 *eP* **P 21 29 15.5 +9.3**
MPR *epP* pP 21 29 16.1 +1.6
SJG San Juan 54.51 8 P **P 21 29 04.1 -2.0**
comp=Z,33nm,0.7s,mb5.5,baz=101,slow=2.3,SNR=8.8
SJG San Juan 54.51 8 *eP* **P 21 29 04.1 -2.0**
comp=Z,76nm,1.0s,mb5.7
SJG San Juan 54.51 8 *eP* **P 21 29 04.1 -2.0**
SJG pmax pmax
comp=Z,78nm,1.0s
NVL N'lazarevskaya 54.52 156 *l iP* **P 21 29 06.2 +0.6**
NVL *eS* **S 21 36 41.7 -0.9**
NVL pmax pmax
comp=Z,49nm,0.8s,mb5.6
NVL MLR MLR
comp=Z,342nm,17.0s,MS4.5
RKT Rikitea 54.59 266 *eS* **S 21 36 50.9 +6.1**
comp=Z,1µm,31.5s
RKT *eLR* LR 21 45 05.6
comp=Z,1µm,27.0s
LRS Lares 54.62 7 *eP* **P 21 29 05.1 -1.8**
LRS *epP* pP 21 29 13.7 -1.6
CMIG Matias Romero 57.01 335 P **P 21 29 23.9 -0.1**
comp=Z,4.6nm,0.9s,mb4.5,baz=117,slow=5.0,SNR=3.9
CMIG Matias Romero 57.01 335 P **P 21 29 23.9 -0.1**
TEIG Tepich 58.06 343 P **P 21 29 30.7 -0.7**
comp=Z,50nm,0.8s,mb5.6,baz=165,slow=4.6,SNR=20
TEIG Tepich 58.06 343 *eP* **P 21 29 30.8 -0.6**
comp=Z,59nm,0.8s,mb5.7
SBA Scott Base 60.66 192 *eP* **P 21 29 50.3 +1.5**
comp=Z,48nm,1.8s,mb5.3
SBA Scott Base 60.66 192 *eP* **P 21 29 50.3 +1.6**
SBA pmax pmax
comp=Z,48nm,1.8s,mb5.3
VNDA Vanda 61.69 192 P **P 21 29 56.5 +0.8**
comp=Z,3.1nm,1.0s,mb4.4,baz=140,slow=6.8,SNR=12
VNDA Vanda 61.69 192 *eP* **P 21 29 56.5 +0.8**
VNDA Vanda 61.69 192 *eP* **P 21 29 56.5 +0.8**
SYO Syowa Base 64.01 158 *l iP* **P 21 30 08.6 -2.6**
TBI Tubuai 66.05 258 *eS* S 21 39 16.2 +4.5
comp=Z,480nm,27.8s
TBI *eLR* LR 21 50 23.6
comp=Z,2µm,26.0s,baz=128
TAOE Nuku Hiva Isla 66.42 276 *eLR* LR 21 50 42.6
comp=Z,1µm,26.9s
PPT Papeete 69.17 263 *eS* S 21 39 53.5 +4.2
comp=Z,486nm,23.8s
PPT *eLR* LR 21 51 55.1
comp=Z,2µm,24.2s,baz=123
PPT Papeete 69.17 263 LR LR 21 52 55.3
comp=Z,1µm,18.6s,MS5.1,baz=165,slow=29
HKT Hockley 69.32 339 *eP* **P 21 30 46.0 +0.4**
comp=Z,60nm,1.5s,mb5.3
HKT Hockley 69.32 339 *eP* **P 21 30 46.0 +0.5**
HKT pmax pmax
comp=Z,60nm,1.5s,mb5.3
NHSC New Hope 69.39 354 *eP* **P 21 30 45.6 -0.3**
comp=Z,194nm,1.2s,mb5.9
VBMS Vicksburg 70.12 344 *eP* **P 21 30 51.0 +0.5**
comp=Z,112nm,1.0s,mb5.8
NATX Nacogdoches 70.70 341 *eP* **P 21 30 54.6 +0.7**
comp=Z,108nm,0.9s,mb5.8
JCT Junction City 71.05 336 *eP* **P 21 30 56.0 -0.1**
comp=Z,65nm,0.8s,mb5.6
JCT Junction City 71.05 336 *eP* **P 21 30 56.0 -0.1**
JCT pmax pmax
comp=Z,65nm,0.8s,mb5.6
MAW Mawson 71.19 164 P **P 21 30 56.6 0.0**
comp=Z,26nm,1.0s,mb5.1,baz=230,slow=6.2,SNR=19
MAW LR LR 22 01 39.2
comp=Z,1µm,21.7s,MS5.1,baz=227,slow=36
MAW Mawson 71.19 164 *eP* **P 21 30 56.2 -0.4**
comp=Z,18nm,0.8s,mb5.1
MAW Mawson 71.19 164 *eP* **P 21 30 56.7 +0.1**
MAW Mawson 71.19 164 *eP* **P 21 30 56.7 +0.1**
CNNC Cliffs of the 71.33 356 *eP* **P 21 30 57.6 -0.1**
comp=Z,85nm,1.1s,mb5.6
CNNC *epP* pP 21 31 05.4 -1.0
TXAR Lajitas Array 71.39 332 P **P 21 30 58.1 0.0**
comp=Z,12nm,0.9s,mb4.8,baz=151,slow=8.8,SNR=90
TXAR LR LR 21 57 33.3
comp=Z,646nm,18.6s,MS4.9,baz=80,slow=32
TXAR Lajitas Array 71.39 332 P **P 21 30 58.1 0.0**
TXAR Lajitas Array 71.39 332 P **P 21 30 58.2 0.0**
SWET Sewanee 72.18 349 *eP* **P 21 31 02.2 -0.6**
CPCT Cooper Cave 72.20 350 *eP* **P 21 31 00.7 -2.2**
TKL Tuckaleechee C 72.31 351 P **P 21 31 02.2 -1.4**
comp=Z,14nm,0.9s,mb4.9,baz=166,slow=5.9,SNR=13
TKL Tuckaleechee C 72.31 351 *eP* **P 21 31 02.2 -1.3**
TKL Tuckaleechee C 72.31 351 *eP* **P 21 31 02.3 -1.3**
PLAL Pickwick Lake 72.31 347 *eP* **P 21 31 02.0 -1.6**
comp=Z,41nm,0.9s,mb5.4
UALR University of 72.99 343 *eP* **P 21 31 07.2 -0.4**
comp=Z,41nm,1.2s,mb5.2
UALR *epP* pP 21 31 14.8 -1.5
MIAR Mount Ida 73.06 342 *eP* **P 21 31 07.6 -0.5**
comp=Z,50nm,1.3s,mb5.3
MIAR Mount Ida 73.06 342 *eP* **P 21 31 07.6 -0.5**
MIAR pmax pmax
comp=Z,50nm,1.3s,mb5.3
TZTN Tazewell 73.15 351 *eP* **P 21 31 07.4 -1.2**
comp=Z,161nm,1.5s,mb5.7
WVT Waverly 73.39 348 *eP* **P 21 31 08.8 -1.1**
comp=Z,162nm,1.2s,mb5.8
WVT Waverly 73.39 348 *eP* **P 21 31 08.8 -1.1**
WVT pmax pmax
comp=Z,162nm,1.2s,mb5.8
VWCC Virginia Weste 73.48 354 *eP* **P 21 31 10.1 -0.4**
VWCC *epP* pP 21 31 18.8 -0.4
BBTS Babate 73.52 57 P **P 21 31 11.4 +0.2**
comp=Z,46nm,1.1s,mb5.3,baz=101,slow=2.7,SNR=5.1
BBTS Babate 73.52 57 P **P 21 31 11.4 +0.2**
GNAR Gosnell 73.64 346 *eP* **P 21 31 09.3 -2.1**
UTMT University of 73.78 347 *eP* **P 21 31 11.9 -0.3**
comp=Z,140nm,0.9s,mb5.9
MNTX Cornudas Mount 74.16 332 *eP* **P 21 31 13.4 -1.2**
PARMO Parma 74.26 346 *eP* **P 21 31 14.0 -1.0**
SUR Sutherland 74.40 119 *eP* **P 21 31 17.1 +0.9**
comp=Z,126nm,1.4s,mb5.7
WMOK Wichita Mounta 74.67 338 *eP* **P 21 31 16.8 -0.7**
comp=Z,56nm,1.2s,mb5.4
WMOK Wichita Mounta 74.67 338 *eP* **P 21 31 16.8 -0.7**
WMOK pmax pmax
comp=Z,56nm,1.2s,mb5.4
USIN University of 75.15 348 *eP* **P 21 31 18.8 -1.3**
comp=Z,113nm,1.0s,mb5.8
SIUC Southern Illin 75.18 347 *eP* **P 21 31 19.5 -0.9**
comp=Z,40nm,0.8s,mb5.4
WCI Wyandotte Cave 75.19 349 *eP* **P 21 31 18.4 -2.0**
comp=Z,20nm,1.0s,mb5.0
WCI *epP* pP 21 31 26.0 -3.1
WCI Wyandotte Cave 75.19 349 *eP* **P 21 31 18.4 -2.0**
WCI *e*PP* pP 21 31 26.0 -3.1
WCI pmax pmax
comp=Z,21nm,1.0s,mb5.0
SDMD Soldier's Deli 75.44 357 *eP* **P 21 31 21.5 -0.3**
AMTX Amarillo 75.71 336 *eP* **P 21 31 23.3 -0.2**
comp=Z,87nm,1.0s,mb5.6
OLIL Olney 75.97 348 *eP* **P 21 31 23.6 -1.3**
comp=Z,53nm,1.1s,mb5.4
MVL Millersville 76.00 357 *eP* **P 21 31 24.4 -0.6**
BLO Bloomington 76.14 349 *eP* **P 21 31 24.2 -1.6**
comp=Z,71nm,1.2s,mb5.5
BLO Bloomington 76.14 349 *eP* **P 21 31 24.2 -1.7**
BLO pmax pmax
comp=Z,71nm,1.2s,mb5.5
SLM Saint Louis 76.26 346 *eP* **P 21 31 26.0 -0.6**
comp=Z,96nm,0.9s,mb5.7
SLM Saint Louis 76.26 346 *eP* **P 21 31 26.0 -0.5**
SLM pmax pmax
comp=Z,96nm,0.9s,mb5.7
DBIC Dimbokro 76.66 71 P **P 21 31 28.9 -0.4**
comp=Z,20nm,0.7s,mb5.1,baz=201,slow=6.3,SNR=35
DBIC LR LR 22 01 22.1
comp=Z,890nm,21.3s,MS5.0,baz=203,slow=33
DBIC Dimbokro 76.66 71 *eP* **P 21 31 29.1 -0.3**
comp=Z,125nm,1.6s,mb5.6
DBIC Dimbokro 76.66 71 *eP* **P 21 31 29.1 -0.3**
DBIC pmax pmax
comp=Z,125nm,1.6s
SSPA Standing Stone 76.71 356 *eP* **P 21 31 27.5 -1.5**
ACSO Alum Creek Sta 76.72 352 *eP* **P 21 31 28.0 -1.1**
comp=Z,99nm,1.0s,mb5.7
TUC Tucson 76.89 328 *eP* **P 21 31 30.8 +0.6**
comp=Z,28nm,1.0s,mb5.2
TUC Tucson 76.89 328 *eP* **P 21 31 30.8 +0.5**
TUC pmax pmax
comp=Z,28nm,1.0s,mb5.2
LPM Los Pinos Moun 76.95 332 *eP* **P 21 31 31.2 +0.6**
LENM Lemitar 76.96 332 *eP* **P 21 31 31.9 +1.4**
ANMO Albuquerque 77.46 332 P **P 21 31 33.9 +0.5**
comp=Z,15nm,1.1s,mb4.8,baz=158,slow=7.8,SNR=17
ANMO Albuquerque 77.46 332 *eP* **P 21 31 34.0 +0.6**
ANMO Albuquerque 77.46 332 *eP* **P 21 31 34.0 +0.6**
HDIL Hopedale 77.95 347 *eP* **P 21 31 35.2 -0.8**
comp=Z,314nm,1.8s,mb5.9
KSU1 Kansas State U 78.14 341 *eP* **P 21 31 36.5 -0.6**
comp=Z,32nm,0.8s,mb5.3
KSU1 *epP* pP 21 31 43.4 -2.4
CBKS Cedar Bluff 78.73 339 *eP* **P 21 31 40.3 -0.1**
comp=Z,58nm,1.0s,mb5.5
CBKS Cedar Bluff 78.73 339 *eP* **P 21 31 40.3 0.0**
CBKS pmax pmax
comp=Z,58nm,1.0s,mb5.5
AAM Ann Arbor 78.84 352 *eP* **P 21 31 39.8 -1.1**
comp=Z,79nm,1.3s,mb5.5
AAM *epP* pP 21 31 51.5 +1.9
AAM Ann Arbor 78.84 352 *eP* **P 21 31 39.8 -1.1**
AAM *e*PP* pP 21 31 51.5 +1.9
AAM pmax pmax
comp=Z,79nm,1.3s,mb5.5
GLA Glamis 79.32 325 *eP* **P 21 31 45.0 +1.3**
comp=Z,34nm,1.0s,mb5.2
GLA Glamis 79.32 325 *eP* **P 21 31 45.0 +1.3**
GLA pmax pmax
comp=Z,35nm,1.0s,mb5.2
ACCN Adirondack Com 79.32 359 *eP* **P 21 31 43.5 +0.1**
comp=Z,90nm,1.4s,mb5.5
ACCN *epP* pP 21 31 48.4 -3.9
TSUM Tsumeb 79.33 106 *eP* **P 21 31 44.3 0.0**
comp=Z,179nm,1.3s,mb5.8
SDCO Great Sand Dun 79.60 334 *eP* **P 21 31 45.6 +0.5**
comp=Z,14nm,0.9s,mb4.9
BOSA Boshof 79.68 118 P **P 21 31 45.6 -0.5**
comp=Z,62nm,1.0s,mb5.5,baz=233,slow=5.4,SNR=55
BOSA LR LR 22 05 24.8
comp=Z,600nm,18.4s,MS5.0,baz=233,slow=34
BOSA Boshof 79.68 118 *eP* **P 21 31 45.6 -0.5**
comp=Z,99nm,1.2s,mb5.6
BOSA Boshof 79.68 118 *eP* **P 21 31 45.6 -0.5**
BOSA pmax pmax
comp=Z,99nm,1.2s,mb5.6
BAR Barrett 79.88 324 *eP* **P 21 31 47.8 +1.1**
comp=Z,28nm,0.9s,mb5.2
WUAZ Wupatki 79.89 329 *eP* **P 21 31 47.8 +1.0**
comp=Z,55nm,1.0s,mb5.4
SCIA State Center 80.02 345 *eP* **P 21 31 46.9 -0.4**
comp=Z,149nm,1.4s,mb5.7
MVCO Mesa Verde 80.22 332 *eP* **P 21 31 49.4 +0.9**
comp=Z,55nm,1.1s,mb5.4
JFWS Jewell Farm 80.41 347 *eP* **P 21 31 48.6 -0.8**
comp=Z,84nm,1.2s,mb5.5
JFWS Jewell Farm 80.41 347 *eP* **P 21 31 48.6 -0.8**
JFWS pmax pmax
comp=Z,84nm,1.2s,mb5.5
PFO Pinyon Flat Ob 80.54 324 *eP* **P 21 31 51.5 +1.1**
comp=Z,46nm,0.9s,mb5.4
PFO Pinyon Flat Ob 80.54 324 *eP* **P 21 31 51.5 +1.2**
PFO pmax pmax
comp=Z,47nm,0.9s,mb5.4
LONY Lake Ozonia 80.57 359 *eP* **P 21 31 50.1 -0.1**
comp=Z,44nm,1.1s,mb5.3
LONY *epP* pP 21 31 57.5 -1.5
FRNY Flat Rock 80.77 360 *eP* **P 21 31 51.0 -0.3**
comp=Z,114nm,1.6s,mb5.5
FRNY *epP* pP 21 31 56.0 -4.1
SADO Sadowa 80.90 356 P **P 21 31 50.9 -1.0**
comp=Z,11nm,0.9s,mb4.8,baz=274,slow=3.2,SNR=4.3
SADO Sadowa 80.90 356 P **P 21 31 50.9 -1.0**
LDFC Landfair 81.14 326 *eP* **P 21 31 55.3 +1.8**
comp=Z,70nm,1.1s,mb5.5
SMCO Snowmass 81.40 334 *eP* **P 21 31 55.7 +0.9**
comp=Z,56nm,1.2s,mb5.4
PV04 Paradox Valley 81.41 332 *eP* **P 21 31 55.7 +0.8**
ISCO Idaho Springs 81.48 335 *eP* **P 21 31 55.7 +0.5**
comp=Z,18nm,1.0s,mb5.0
ISCO Idaho Springs 81.48 335 *eP* **P 21 31 55.7 +0.5**
ISCO pmax pmax
comp=Z,18nm,1.0s,mb5.0
MWC Mount Wilson 81.81 324 *eP* **P 21 31 58.3 +1.3**
comp=Z,29nm,0.9s,mb5.2
MWC Mount Wilson 81.81 324 *eP* **P 21 31 58.3 +1.3**
MWC pmax pmax
comp=Z,29nm,0.9s,mb5.2
PASC Pasadena Art C 81.82 324 *eP* **P 21 31 55.3 -1.8**
LBTB Lobatse 82.03 115 *eP* **P 21 31 58.1 -0.6**
comp=Z,172nm,1.5s,mb5.8
LBTB Lobatse 82.03 115 *eP* **P 21 31 58.1 -0.6**
LBTB pmax pmax
comp=Z,172nm,1.5s,mb5.8
GSC Goldstone 82.10 325 *eP* **P 21 31 59.4 +0.8**
comp=Z,37nm,0.9s,mb5.3
GSC Goldstone 82.10 325 *eP* **P 21 31 59.4 +0.9**
GSC pmax pmax
comp=Z,37nm,0.9s,mb5.3
OSI Osito Adit 82.44 323 *eP* **P 21 32 01.7 +1.3**
comp=Z,54nm,0.9s,mb5.5
CCUT Cedar City 82.46 329 *eP* **P 21 32 01.8 +1.4**
comp=Z,62nm,0.9s,mb5.5
SRU San Rafael 82.66 331 *eP* **P 21 32 01.9 +0.6**
comp=Z,36nm,0.9s,mb5.4
SRU San Rafael 82.66 331 *eP* **P 21 32 01.9 +0.6**
SRU pmax pmax
comp=Z,36nm,0.9s,mb5.4
MSU Marysvale 82.79 330 *eP* **P 21 32 03.0 +1.0**
MSU Marysvale 82.79 330 *eP* **P 21 32 03.0 +0.9**
TMUT Trail Mountain 83.08 331 *eP* **P 21 32 04.6 +1.1**
comp=Z,43nm,0.9s,mb5.5
ISA Isabella 83.17 324 *eP* **P 21 32 05.2 +1.0**
comp=Z,39nm,0.9s,mb5.4
ISA Isabella 83.17 324 *eP* **P 21 32 05.2 +1.1**
ISA pmax pmax
comp=Z,39nm,0.9s,mb5.4
RWWY Rawlins 83.71 335 *eP* **P 21 32 07.2 +0.5**
comp=Z,56nm,1.3s,mb5.5
MPU Maple Canyon 83.87 331 *eP* **P 21 32 08.4 +0.8**
comp=Z,64nm,1.0s,mb5.7
DAU Daniels Canyon 84.06 332 *eP* **P 21 32 09.6 +1.0**
DAU Daniels Canyon 84.06 332 *eP* **P 21 32 09.6 +1.0**
JLU Jordanelle 84.30 332 *eP* **P 21 32 10.5 +0.7**
comp=Z,28nm,0.9s,mb5.4
DUG Dugway 84.49 330 *eP* **P 21 32 11.2 +0.5**
comp=Z,84nm,1.2s,mb5.8
DUG Dugway 84.49 330 *eP* **P 21 32 11.2 +0.5**
DUG pmax pmax
comp=Z,84nm,1.2s,mb5.8
MTUM Tungsten Hills 84.59 325 *eP* **P 21 32 12.5 +1.2**
NOQ North Oquirrh 84.60 331 *eP* **P 21 32 10.0 -1.3**
RSSD Black Hills 84.88 338 *eP* **P 21 32 11.9 -0.7**
comp=Z,24nm,1.0s,mb5.3
RSSD Black Hills 84.88 338 *eP* **P 21 32 11.9 -0.7**
RSSD pmax pmax
comp=Z,24nm,1.0s,mb5.3
HWUT Hardware Ranch 85.21 332 *eP* **P 21 32 14.2 -0.1**
comp=Z,87nm,1.0s,mb5.8
NVAR Mina Array Bea 85.35 326 P **P 21 32 15.8 +0.8**
comp=Z,6.9nm,0.9s,mb4.8,baz=152,slow=5.7,SNR=37
NVAR PKKPbc PKKPbc 21 50 20.5 -0.2
comp=Z,0.2nm,0.3s,baz=267,slow=3.0,SNR=4.0
NVAR LR LR 22 02 56.6
comp=Z,215nm,20.1s,MS4.5,baz=207,slow=30
NVAR Mina Array Bea 85.35 326 P **P 21 32 15.8 +0.8**
NVAR PKKPbc PKKPbc 21 50 20.5 -0.2
BW06 Boulder Array 85.48 334 *eP* **P 21 32 15.5 -0.1**
PDAR Pinedale Array 85.48 334 P **P 21 32 15.4 -0.2**
comp=Z,9.6nm,1.2s,mb4.8,baz=142,slow=5.6,SNR=24
PDAR Pinedale Array 85.48 334 P **P 21 32 15.4 -0.2**
EYMN Ely 85.50 348 *eP* **P 21 32 14.7 -0.9**
TORD Torodi Ar. Bea 85.72 70 P **P 21 32 16.4 -1.1**
comp=Z,23nm,1.1s,mb5.3,baz=247,slow=2.8,SNR=71
TORD LR LR 22 10 06.2
comp=Z,644nm,18.8s,MS5.0,baz=245,slow=35
TORD Torodi Ar. Bea 85.72 70 P **P 21 32 16.4 -1.1**
HVU Hansel Valley 85.82 331 *eP* **P 21 32 17.6 +0.2**
comp=Z,36nm,0.9s,mb5.6
HVU Hansel Valley 85.82 331 *eP* **P 21 32 17.6 +0.2**
HVU pmax pmax
comp=Z,35nm,0.9s,mb5.6
CMB Columbia Colle 85.99 324 *eP* **P 21 32 19.1 +0.8**
comp=Z,22nm,0.9s,mb5.4
CMB Columbia Colle 85.99 324 *eP* **P 21 32 19.1 +0.8**
CMB pmax pmax
comp=Z,22nm,0.9s,mb5.4
AHID Auburn Hatcher 86.04 333 *eP* **P 21 32 18.6 +0.2**
comp=Z,45nm,1.3s,mb5.5
REDW Red Top Meadow 86.47 333 *eP* **P 21 32 20.7 +0.2**
comp=Z,33nm,1.0s,mb5.5
SNOW Snow King Moun 86.52 333 *eP* **P 21 32 21.2 +0.4**
comp=Z,38nm,1.1s,mb5.5
LOHW Long Hollow 86.59 334 *eP* **P 21 32 17.1 -4.0**
comp=Z,110nm,1.9s,mb5.8
TPAW Teton Pass 86.61 333 *eP* **P 21 32 21.6 +0.4**
comp=Z,36nm,1.0s,mb5.6
RRI2 Red Ridge 86.62 333 *eP* **P 21 32 21.2 0.0**
comp=Z,46nm,1.3s,mb5.5
AGMN Agassiz Nation 86.67 345 *eP* **P 21 32 20.8 -0.6**
comp=Z,58nm,1.3s,mb5.7
MOOW Moose Ponds 86.76 334 *eP* **P 21 32 21.8 -0.1**
comp=Z,81nm,2.5s,mb5.5
DCID1 Drake Creek 86.79 333 *eP* **P 21 32 23.2 +1.1**
comp=Z,81nm,1.3s,mb5.8
IMW Indian Meadow 86.96 334 *eP* **P 21 32 22.8 -0.1**
comp=Z,48nm,1.2s,mb5.6
FLWY Flagg Ranch 87.04 334 *eP* **P 21 32 23.9 +0.6**
comp=Z,67nm,1.2s,mb5.8
YFT Old Faithful 87.41 334 *eP* **P 21 32 27.3 +2.2**
comp=Z,53nm,1.2s,mb5.6
YFT *epP* pP 21 32 36.3 +2.4
RLMT Red Lodge 87.45 335 *eP* **P 21 32 25.2 0.0**
comp=Z,19nm,1.0s,mb5.3
OHCM Honcut 87.55 324 *eP* **P 21 32 26.8 +0.9**
QLMT Earthquake Lak 87.95 334 *eP* **P 21 32 28.7 +1.1**
HLID Hailey 87.97 331 *eP* **P 21 32 28.2 +0.4**
comp=Z,40nm,1.4s,mb5.5
MCMT McKenzie Canyo 88.46 333 P **P 21 32 31.0 +0.9**
ULM Lac du Bonnet 88.53 346 P **P 21 32 29.2 -1.1**
comp=Z,12nm,0.9s,mb5.2,baz=176,slow=0.7,SNR=10
ULM Lac du Bonnet 88.53 346 *eP* **P 21 32 29.0 -1.2**
comp=Z,72nm,1.3s,mb5.8
ULM *epP* pP 21 32 36.9 -2.2
ULM Lac du Bonnet 88.53 346 *eP* **P 21 32 29.0 -1.2**
ULM *e*PP* pP 21 32 36.9 -2.2
ULM pmax pmax
comp=Z,72nm,1.3s
BOZ Bozeman (W) 88.72 334 *eP* **P 21 32 31.7 +0.4**
comp=Z,66nm,2.5s,mb5.5
BOZ Bozeman (W) 88.72 334 *eP* **P 21 32 31.7 +0.4**
BOZ pmax pmax
comp=Z,66nm,2.5s,mb5.5
DLMT Dillon 88.82 333 *eP* **P 21 32 31.9 +0.2**
comp=Z,37nm,1.3s,mb5.5
DGMT Dagmar 88.88 340 *eP* **P 21 32 31.9 0.0**
comp=Z,51nm,0.9s,mb5.9
WDC Whiskeytown Da 89.03 325 *eP* **P 21 32 33.2 +0.4**
comp=Z,17nm,1.0s,mb5.3
WDC Whiskeytown Da 89.03 325 *eP* **P 21 32 33.2 +0.4**
WDC pmax pmax
comp=Z,17nm,1.0s,mb5.3
MOD Modoc 89.06 327 *eP* **P 21 32 33.7 +0.7**
comp=Z,76nm,0.9s,mb6.0
LRM Limekiln Ridge 89.17 334 *eP* **P 21 32 34.0 +0.6**
LSZ Lusaka 89.81 109 *eP* **P 21 32 38.1 +0.9**
comp=Z,155nm,1.3s,mb6.2
LSZ Lusaka 89.81 109 *eP* **P 21 32 38.1 +0.9**
KHMM Horse Mountain 89.82 324 *epP* pP 21 32 47.9 +2.4
YBH Yreka Blue Hor 90.01 325 *eP* **P 21 32 36.3 -1.1**
YBH Yreka Blue Hor 90.01 325 *eP* **P 21 32 36.3 -1.1**
BMO Blue Mountains 90.20 330 *eP* **P 21 32 36.8 -1.4**
CHMT Chamberlain Mo 90.39 334 *eP* **P 21 32 38.2 -0.9**
MSO Missoula 90.56 333 *eP* **P 21 32 41.2 +1.3**
VIPM Ingram Point 91.29 328 P **P 21 32 44.2 +1.0**
VIPM Ingram Point 91.29 328 P **P 21 32 44.2 +0.9**
REDWA Red Mountain 92.24 330 P **P 21 32 48.7 +1.1**
HAWA Hanford 92.35 330 *eP* **P 21 32 48.8 +0.6**
comp=Z,36nm,1.3s,mb5.5
RSW Rattlesnake Hi 92.38 330 *eP* **P 21 32 49.8 +1.5**
OD2 Odessa Site #2 92.84 331 *eP* **P 21 32 50.6 +0.3**
OD2 *epP* pP 21 32 58.1 -1.1
NEW Newport 92.94 332 *eP* **P 21 32 50.2 -0.6**
NEW *epP* pP 21 32 59.8 0.0
NEW Newport 92.94 332 *eP* **P 21 32 50.2 -0.6**
NEW *e*PP* pP 21 32 59.8 +0.1
EBG Ellensburg 93.19 330 P **P 21 32 52.8 +0.7**
LON Longmire 93.58 329 *eP* **P 21 32 54.1 +0.3**
comp=Z,14nm,1.1s,mb5.3
LON Longmire 93.58 329 *eP* **P 21 32 54.1 +0.3**
LON pmax pmax
comp=Z,14nm,1.1s,mb5.3
ETW Entiat 93.66 330 *eP* **P 21 32 55.0 +0.8**
ETW *epP* pP 21 33 03.6 +0.5
KIP Kipapa 98.56 290 *eP* **P 21 33 08.9 -8.2**
KIP Kipapa 98.56 290 *eP* **P 21 33 08.9 -8.2**
ESDC Sonseca Array 98.73 47 P **P 21 33 16.9 -0.5**
comp=Z,0.7nm,0.7s,mb4.3,baz=234,slow=4.8,SNR=4.1
ESDC LR LR 22 20 01.2
comp=Z,444nm,18.1s,MS5.0,baz=235,slow=37
ESDC Sonseca Array 98.73 47 P **P 21 33 16.9 -0.5**
DZM Mont Dzumac 99.25 234 *eSP* SP 21 46 10.2 -6.2
comp=Z,177nm,26.6s
DZM *eSS* SS 21 51 48.6 +10
comp=Z,216nm,24.5s
DZM *eLR* LR 22 05 47.8
comp=Z,1µm,24.9s
BBB Bella Bella 100.39 329 PP PP 21 37 24.2 -7.4
comp=Z,150nm,1.4s,baz=216,slow=4.8,SNR=3.2
BBB Bella Bella 100.39 329 PP PP 21 37 24.2 -7.4
TARA Tarawa 110.09 256 *e*Pdif Pdif 21 34 09.3 +1.1
NWAO Narrogin (SRO) 110.46 189 *e*PKKPab PKKPab 21 49 15.4 -9.1
GRFO Grafenberg 113.29 45 *e*PKKPab PKKPab 21 49 11.8 +6.1
INK Inuvik 113.56 339 PP PP 21 39 04.1 -3.9
comp=Z,0.8nm,0.5s,baz=135,slow=2.9,SNR=3.4
INK Inuvik 113.56 339 PP PP 21 39 04.1 -3.9
DOT Dot Lake 114.25 332 *e*PKKPab PKKPab 21 49 02.7 +1.9
GERES GERESS Array B 114.32 46 PKP PKiKP 21 38 16.1 -1.1
comp=Z,1.6nm,0.9s,baz=250,slow=3.8,SNR=9.5
GERES GERESS Array B 114.32 46 PKP PKiKP 21 38 16.1 -1.1
GERES GERESS Array B 114.32 46 PKiKP PKiKP 21 38 16.2 -1.0
ASAR Alice Springs 115.16 207 PKP PKiKP 21 38 17.9 -1.9
comp=Z,0.8nm,0.9s,baz=141,slow=3.1,SNR=5.5
ASAR PKKPbc PKKPbc 21 48 53.6 -0.6
comp=Z,0.6nm,0.6s,baz=342,slow=2.9,SNR=7.4
ASAR PKKPab PKKPab 21 48 59.8 -3.5
comp=Z,0.9nm,0.9s,baz=345,slow=1.7,SNR=4.6
ASAR Alice Springs 115.16 207 PKP PKiKP 21 38 17.9 -1.9
ASAR PKKPbc PKKPbc 21 48 53.6 -0.6
ASAR PKKPab PKKPab 21 48 59.8 -3.5
ASAR Alice Springs 115.16 207 PKIKP PKiKP 21 38 17.9 -1.9
ASAR 21 48 53.6
ASAR 21 48 59.8
ILAR Eielson Array 115.90 333 PKP PKPdf 21 38 18.4 -1.4
comp=Z,1.5nm,1.2s,baz=231,slow=2.6,SNR=4.7
ILAR PP PP 21 39 25.4 +0.9
comp=Z,1.1nm,0.9s,baz=108,slow=5.3,SNR=4.8
ILAR Eielson Array 115.90 333 PKP PKPdf 21 38 18.4 -1.4
ILAR PP PP 21 39 25.4 +0.9
ILAR Eielson Array 115.90 333 PKIKP PKPdf 21 38 18.4 -1.4
ILAR 21 39 25.4
PKSM Moragy 116.12 51 *l iP* PKPdf 21 38 16.6 -4.2
MORC Moravsky Berou 116.98 47 *l* PKIKP PKPdf 21 38 21.9 -0.4
MORC Moravsky Berou 116.98 47 *l iP* PKPdf 21 38 21.9 -0.4
BZS Buzias 117.74 52 *l* PKIKP PKPdf 21 38 23.3 -0.6
BZS Buzias 117.74 52 *l iP* PKPdf 21 38 23.3 -0.6
WRA Warramunga Arr 118.37 209 PKP PKPdf 21 38 24.2 -1.8
comp=Z,1.6nm,0.9s,baz=165,slow=1.5,SNR=14
WRA Warramunga Arr 118.37 209 PKP PKPdf 21 38 24.2 -1.8
WRA Warramunga Arr 118.37 209 PKIKP PKPdf 21 38 24.3 -1.8
HFS Hagfors 119.15 35 PKP PKPdf 21 38 24.7 -1.5
comp=Z,5.9nm,1.1s,baz=157,slow=7.7,SNR=2.9
HFS Hagfors 119.15 35 PKP PKPdf 21 38 24.7 -1.5
HFS Hagfors 119.15 35 PKIKP PKPdf 21 38 24.7 -1.5
TRPA Tarpa 119.33 50 *l iP* PKPdf 21 38 26.5 -0.4
MLR Muntele Rosu 120.48 54 *l* PKIKP PKPdf 21 38 28.9 -0.3
MLR Muntele Rosu 120.48 54 *l iP* PKPdf 21 38 28.9 -0.3

BURAR	**Bucovina Array**	**120.81**	**51**	⇑PKIKP	PKPdf	21 38 29.8	0.0		
BURAR	**Bucovina Array**	**120.81**	**51**	⇑*i*P	PKPdf	21 38 29.8	0.0		
TESR		**121.32**	**53**	⇑*i*P	PKPdf	21 38 29.9	-0.9		
TIRR	**Tirgusor**	**121.73**	**56**	⇓PKIKP	PKPdf	21 38 30.8	-0.8		
TIRR	**Tirgusor**	**121.73**	**56**	⇓*i*P	PKPdf	21 38 30.8	-0.8		
CFR	**Carcaliu**	**121.80**	**55**	⇓PKIKP	PKPdf	21 38 30.9	-0.9		
CFR	**Carcaliu**	**121.80**	**55**	⇓*i*P	PKPdf	21 38 30.9	-0.9		
BRTR	**Keskin Array B**	**123.61**	**63**	PKP	PKPdf	21 38 34.5	-1.0		
	comp=Z,3.0nm,0.8s,baz=193,slow=3.2,SNR=12								
BRTR	**Keskin Array B**	**123.61**	**63**	PKP	PKPdf	21 38 34.5	-1.0		
BRTR	**Keskin Array B**	**123.61**	**63**	PKIKP	PKPdf	21 38 34.5	-0.9		
KIEV	**Kiev**	**124.30**	**49**	*e*PKPdf	PKPdf	21 38 34.7	-1.6		
KIEV	**Kiev**	**124.30**	**49**	*e*PKIKP	PKPdf	21 38 34.7	-1.7		
AKASG	**Malin Array Be**	**124.31**	**49**	PKP	PKPdf	21 38 34.7	-1.7		
	comp=Z,3.0nm,0.7s,baz=258,slow=2.8,SNR=12								
AKASG				PP	PP	21 40 17.3	-5.4		
	comp=Z,3.6nm,1.1s,baz=253,slow=7.8,SNR=9.6								
AKASG	**Malin Array Be**	**124.31**	**49**	PKP	PKPdf	21 38 34.7	-1.7		
AKASG				PP	PP	21 40 17.3	-5.4		
AKASG	**Malin Array Be**	**124.31**	**49**	PKIKP	PKPdf	21 38 34.7	-1.7		
ARCES	**ARCESS Array B**	**126.43**	**26**	PKP	PKPdf	21 38 40.7	+0.8		
	comp=Z,2.6nm,0.9s,baz=204,slow=2.0,SNR=3.4								
ARCES	**ARCESS Array B**	**126.43**	**26**	PKP	PKPdf	21 38 40.7	+0.8		
ARCES	**ARCESS Array B**	**126.43**	**26**	PKIKP	PKPdf	21 38 40.7	+0.8		
MALT	**Malatya**	**126.58**	**66**	*e*PKPdf	PKPdf	21 38 37.6	-3.5		
MALT	**Malatya**	**126.58**	**66**	*e*PKIKP	PKPdf	21 38 37.6	-3.6		
ANN	**Anapa**	**127.93**	**58**	*i* PKIKP	PKPdf	21 38 48.1	+4.6		
ANN				*e*		21 45 53.1			
ANN				pmax	pmax				
	comp=Z,148nm,1.1s								
OBN	**Obninsk**	**129.64**	**45**	⇑*i*PKIKP	PKPdf	21 38 44.4	-2.0		
OBN				*e*		21 38 58.1			
OBN				*e*		21 40 55.8			
OBN				pmax	pmax				
	comp=Z,31nm,1.7s								
OBN				MLR	MLR				
	comp=Z,400nm,22.0s,MS5.1								
KIV	**Kislovodsk**	**131.34**	**60**	*i* PKIKP	PKPdf	21 38 49.9	-0.1		
KIV				pmax	pmax				
	comp=Z,11nm,1.1s								
KIV				MLR	MLR				
	comp=Z,213nm,20.0s,MS4.8								
GNI	**Garni**	**131.81**	**66**	⇑*i*PKIKP	PKPdf	21 38 51.3	+0.2		
GNI				pmax	pmax				
	comp=Z,18nm,1.7s								
GNI				MLR	MLR				
	comp=Z,301nm,20.0s								
ZEI	**Tsey**	**131.90**	**62**	*i* PKIKP	PKPdf	21 38 50.7	-0.4		
ZEI				pmax	pmax				
	comp=Z,11nm,1.3s								
BILL	**Bilibino**	**134.56**	**333**	⇑*i*PKIKP	PKPdf	21 38 55.8	+0.5		
BILL				*e*		21 39 08.1			
BILL				*e*		21 41 26.7			
BILL				*e*PS	PS	21 51 53.4	+3.6		
BILL				pmax	pmax				
	comp=Z,6.0nm,1.2s								
BILL				MLR	MLR				
	comp=Z,200nm,21.0s,MS4.8								
PETK	**Petropavlovsk-**	**141.16**	**312**	PKP	PKPdf	21 39 08.0	0.0		
	comp=Z,4.3nm,0.8s,baz=92,slow=7.5,SNR=3.8								
PETK	**Petropavlovsk-**	**141.16**	**312**	PKP	PKPdf	21 39 08.0	0.0		
PETK	**Petropavlovsk-**	**141.16**	**312**	PKIKP	PKPdf	21 39 08.0	+0.1		
SEY	**Seymchan**	**141.62**	**328**	⇑*i*PKIKP	PKPdf	21 39 09.3	+0.8		
ARU	**Arti**	**141.99**	**42**	*e*PKPdf	PKPdf	21 39 04.2	-5.1		
ARU	**Arti**	**141.99**	**42**	*i* PKHKP	PKPpre	21 38 59.9			
ARU				MLR	MLR				
	comp=Z,496nm,21.0s,MS5.2								
SVE	**Sverdlovsk**	**143.02**	**41**	*e*PKIKP	PKPdf	21 39 06.5	-4.6		
SVE				pmax	pmax				
	comp=Z,12nm,2.0s								
SGSI	**Sangihe**	**143.32**	**212**	P	PKPdf	21 39 20.9	+7.8		
ABKAR	**Akbulak array**	**143.69**	**54**	*e*PKPdf	PKPdf	21 39 08.7	-3.8		
STKI	**Sintang**	**143.70**	**188**	P	PKPdf	21 39 19.4	+5.6		
BKNI	**Bangkinang**	**143.77**	**170**	P	PKPdf	21 39 18.0	+4.1		
SBSI	**Sibolga**	**144.60**	**166**	P	PKPdf	21 39 12.6	-2.7		
TPRI	**Tanjung Pinang**	**144.71**	**176**	P	PKPdf	21 39 21.3	+5.8		
KSM	**Kuching**	**145.20**	**186**	*e*PKPdf	PKPdf	21 39 15.1	-1.3		
KSM	**Kuching**	**145.20**	**186**	P	PKPbc	21 39 15.2	-0.7		
BHJ	**Bhuj**	**145.28**	**102**	*e*PKP	PKPbc	21 39 14.4	-1.5		
MYKOM	**Kota Tinggi**	**145.52**	**174**	P	PKPdf	21 39 15.9	-1.0		
PSI	**Prapat**	**145.82**	**166**	P	PKPdf	21 39 16.7	-0.7		
POO	**Poona**	**145.87**	**112**	*e*PKP	PKPdf	21 39 16.2	-1.1		
SBUM	**Sibu**	**145.96**	**189**	P	PKPdf	21 39 17.1	-0.6		
TSI	**Tuntungan**	**146.43**	**165**	P	PKPdf	21 39 19.0	+0.5		
MDRS	**Chennai**	**146.63**	**127**	*e*PKP	PKPdf	21 39 15.3	-3.4		
MYLDM	**Lahad Datu**	**147.27**	**202**	P	PKPdf	21 39 23.4	+3.5		
BSI	**Banda Aceh**	**147.50**	**158**	P	PKPdf	21 39 17.9	-2.3		
LHMI	**Lhok Sumawe**	**147.71**	**161**	P	PKPdf	21 39 22.2	+1.6		
IPM	**Ipoh**	**147.84**	**169**	*e*PKPab	PKPab	21 39 22.6	-3.5		
IPM	**Ipoh**	**147.84**	**169**	P	PKPdf	21 39 22.8	+2.0		
HYB	**Hyderabad**	**148.57**	**119**	*i* PKP	PKPdf	21 39 25.0	+3.2		
HYB				*e*		21 39 33.0			
KULM	**Kulim**	**148.57**	**168**	*e*PKPab	PKPab	21 39 24.2	-4.8		
KULM	**Kulim**	**148.57**	**168**	P	PKPdf	21 39 24.4	+2.4		
KKM	**Kota Kinabalu**	**148.71**	**198**	P	PKPdf	21 39 24.9	+2.7		
KBL	**Kabul**	**149.14**	**82**	*e*PKPdf	PKPdf	21 39 22.2	0.0		
KBL	**Kabul**	**149.14**	**82**	*e*PKIKP	PKPdf	21 39 22.3	0.0		
BRVK	**Borovoye**	**149.41**	**45**	*e*PKPdf	PKPdf	21 39 21.7	-0.3		
BRVK	**Borovoye**	**149.41**	**45**	*e*PKHKP	PKPdf	21 39 21.7	-0.4		
BVAR	**Borovoye Array**	**149.48**	**45**	PKP	PKPdf	21 39 22.2	0.0		
	comp=Z,9.0nm,0.7s,baz=288,slow=1.4,SNR=39								
BVAR				PKPbc	PKPbc	21 39 26.6	0.0		
	comp=Z,9.1nm,0.7s,baz=304,slow=3.0,SNR=48								
BVAR				PP	PP	21 42 53.3	-6.5		
	comp=Z,0.8nm,0.9s,baz=281,slow=0.7,SNR=2.0								
BVAR	**Borovoye Array**	**149.48**	**45**	PKP	PKPdf	21 39 22.2	0.0		
BVAR				PKPbc	PKPbc	21 39 26.6	0.0		
BVAR				PP	PP	21 42 53.3	-6.5		
BVAR	**Borovoye Array**	**149.48**	**45**	PKHKP	PKPdf	21 39 22.2	0.0		
BVAR						21 39 26.7			
YAK	**Yakutsk**	**150.62**	**338**	*e*PKPdf	PKPdf	21 39 28.1	+4.5		
YAK	**Yakutsk**	**150.62**	**338**	*e*PKIKP	PKPdf	21 39 27.0	+3.3		
YAK				*e*		21 39 35.9			
YAK				pmax	pmax				
	comp=Z,85nm,1.0s								
YAK				pmax	pmax				
	comp=E,8.0nm,0.9s								
YAK				pmax	pmax				
	comp=N,6.0nm,1.0s								
KKAR	**Karatay Array**	**151.28**	**65**	*e*PKPdf	PKPdf	21 39 25.0	-0.3		
KKAR	**Karatay Array**	**151.28**	**65**	*e*PKIKP	PKPdf	21 39 25.0	-0.3		
BHPL	**Bhopal**	**151.33**	**109**	*e*PKP	PKPdf	21 39 25.0	-1.0		
YSS	**Yuzh-Sakhalins**	**151.48**	**303**	*e*PKP2	PKPab	21 39 48.0	+7.8		
EKS2	**Erkin-Say**	**153.69**	**66**	*e*PKPdf	PKPdf	21 39 29.3	+0.3		
EKS2	**Erkin-Say**	**153.69**	**66**	*e*PKIKP	PKPdf	21 39 29.3	+0.4		
AAK	**Ala-Archa**	**154.22**	**66**	*e*PKPdf	PKPdf	21 39 29.3	-0.4		
AAK	**Ala-Archa**	**154.22**	**66**	*e*PKIKP	PKPdf	21 39 29.3	-0.4		
FRU	**Bishkek**	**154.30**	**65**	*e*PKIKP	PKPbc	21 39 38.0	0.0		
FRU				*e*		21 39 50.0			
MJAR	**Matsushiro Arr**	**154.95**	**280**	PKPab	PKPab	21 39 50.2	-5.0		
	comp=N,1.7nm,0.8s,baz=142,slow=2.0,SNR=4.3								
MJAR	**Matsushiro Arr**	**154.95**	**280**	PKPab	PKPab	21 39 50.2	-5.0		
MJAR	**Matsushiro Arr**	**154.95**	**280**	PKP2	PKPab	21 39 50.2	-5.0		
MAT	**Matsushiro**	**154.95**	**280**	APKP	PKPab	21 40 02.5	+7.3		
TKM2	**Tokmak 2**	**155.01**	**65**	*e*PKPdf	PKPdf	21 39 30.8	0.0		
TKM2	**Tokmak 2**	**155.01**	**65**	*e*PKIKP	PKPdf	21 39 30.8	+0.1		
KURK	**Kurchatov**	**155.07**	**46**	*e*PKPdf	PKPdf	21 39 29.8	-0.8		
KURK	**Kurchatov**	**155.07**	**46**	*i* PKIKP	PKPdf	21 39 29.8	-0.8		
DDI	**Dehra Dun**	**155.13**	**96**	*ex*	PKPdf	21 39 31.5	+0.2		
NVS	**Novosibirsk**	**155.30**	**34**	*i* PKIKP	PKPdf	21 39 27.8	-2.9		
KSH	**Kashi**	**155.36**	**73**	PKP	PKPdf	21 39 31.1	-0.2		
KSH				pPKP	pPKPdf	21 39 42.0	+1.5		
KSH				sPKP		21 39 45.5			
KSH				PKS		21 43 04.5			
KSH				SKS	SKSdf	21 46 33.6	-2.2		
KSH				AMB	AMB				
	comp=Z,200nm,4.3s								
KSH				LR	LR				
	comp=N,67nm,4.0s								
KSH				LR	LR				
	comp=E,93nm,6.4s								
KSH				LR	LR				
	comp=Z,99nm,7.3s								
HABR	**Khabarovsk**	**156.14**	**309**	⇑*e*PKIKP	pPKPdf	21 39 41.9	+0.7		
HABR				*e*		21 43 36.8			
HABR				*e*		21 46 34.9			
HABR				PPP		21 47 10.4			
HABR				*e*SSS		22 09 23.2			
HABR				pmax	pmax				
	comp=Z,172nm,3.4s								
HABR				pmax	pmax				
	comp=E,226nm,3.4s								
HABR				pmax	pmax				
	comp=N,134nm,3.1s								
ZALV	**Zalesovo Beam**	**156.58**	**34**	PKP	PKPdf	21 39 30.9	-1.6		
	comp=N,15nm,1.0s,baz=286,slow=2.6,SNR=44								
ZALV				PKPab	PKPab	21 39 59.5	-2.1		
	comp=N,4.4nm,0.6s,baz=303,slow=3.5,SNR=4.7								
ZALV	**Zalesovo Beam**	**156.58**	**34**	PKP	PKPdf	21 39 30.9	-1.6		
ZALV				PKPab	PKPab	21 39 59.5	-2.0		
ZALV	**Zalesovo Beam**	**156.58**	**34**	PKIKP	PKPdf	21 39 30.9	-1.6		
ZALV						21 39 59.5			
PYUN	**Piuthan**	**158.12**	**105**	*e*P	PKPdf	21 39 33.5	-1.8		
	comp=N,18nm,1.0s								
PYUN	**Piuthan**	**158.12**	**105**	*e*P	PKPab	21 40 08.5	-0.6		
	comp=N,72nm,1.3s								
KOLN	**Koldanda**	**158.44**	**107**	*e*P	PKPdf	21 39 34.4	-1.3		
	comp=N,16nm,1.1s								
KOLN	**Koldanda**	**158.44**	**107**	*e*P	PKPab	21 40 09.6	-0.8		
	comp=N,57nm,1.1s								
MKAR	**Makanchi Array**	**158.82**	**53**	PKP	PKPdf	21 39 34.3	-1.2		
	comp=N,7.2nm,0.9s,baz=298,slow=2.6,SNR=37								
MKAR				PKPab	PKPab	21 40 09.7	-1.8		
	comp=N,5.3nm,0.9s,baz=281,slow=3.4,SNR=8.1								
MKAR				PP	PP	21 43 51.4	-1.2		
	comp=N,2.6nm,0.9s,baz=275,slow=2.9,SNR=7.0								
MKAR	**Makanchi Array**	**158.82**	**53**	PKP	PKPdf	21 39 34.3	-1.2		
MKAR				*e*PKPdf	PKPdf	21 39 34.9	-0.6		
MKAR				PKPab	PKPab	21 40 09.7	-1.9		
MKAR				PP	PP	21 43 51.4	-1.2		
MKAR	**Makanchi Array**	**158.82**	**53**	PKIKP	PKPdf	21 39 34.3	-1.2		
MKAR						21 40 09.7			
MKAR						21 43 51.4			
DANN	**Dangsing**	**158.84**	**105**	*e*P	PKPdf	21 39 35.1	-1.0		
	comp=N,66nm,1.2s								
DANN	**Dangsing**	**158.84**	**105**	*e*P	PKPab	21 40 11.3	-0.9		
	comp=N,99nm,1.1s								
GKN	**Gorkha**	**159.35**	**107**	*e*P	PKPdf	21 39 35.4	-1.3		
	comp=N,31nm,1.3s								
GKN	**Gorkha**	**159.35**	**107**	*e*P	PKPab	21 40 13.5	-0.9		
	comp=N,156nm,1.2s								
DMN	**Daman**	**159.52**	**109**	*e*P	PKPdf	21 39 35.9	-1.0		
DMN	**Daman**	**159.52**	**109**	*e*P	PKPab	21 40 14.5	-0.6		
	comp=N,110nm,1.2s								
PKI	**Pulchoki**	**159.73**	**109**	*e*P	PKPdf	21 39 36.0	-1.2		
PKI	**Pulchoki**	**159.73**	**109**	*e*P	PKPab	21 40 14.8	-1.2		
	comp=N,128nm,1.5s								
KKN	**Kakani**	**159.74**	**109**	*e*P	PKPdf	21 39 35.9	-1.3		
KKN	**Kakani**	**159.74**	**109**	*e*P	PKPab	21 40 15.5	-0.6		
	comp=N,125nm,1.3s								
GUN	**Gumba**	**160.26**	**109**	*e*P	PKPdf	21 39 37.0	-0.8		
GUN	**Gumba**	**160.26**	**109**	*e*P	PKPab	21 40 18.0	-0.4		
	comp=N,101nm,1.4s								
RAMN	**Ramite**	**160.30**	**113**	*e*P	PKPdf	21 39 37.3	-0.5		
RAMN	**Ramite**	**160.30**	**113**	*e*P	PKPab	21 40 18.1	-0.4		
JIRN	**Jiri**	**160.37**	**110**	*e*P	PKPdf	21 39 36.9	-1.0		
JIRN	**Jiri**	**160.37**	**110**	*e*P	PKPab	21 40 18.5	-0.3		
ODAN	**Odare**	**160.84**	**114**	*e*P	PKPab	21 40 20.3	-0.6		
CMAR	**Chiang Mai Arr**	**160.84**	**156**	PKP	PKPdf	21 39 37.5	-1.1		
	comp=N,3.1nm,1.0s,baz=254,slow=2.6,SNR=18								
CMAR				PKPab	PKPab	21 40 19.4	-1.5		
	comp=N,4.9nm,1.0s,baz=224,slow=4.4,SNR=9.6								
CMAR				PP	PP	21 44 06.6	+3.9		
	comp=N,0.4nm,0.8s,baz=213,slow=4.3,SNR=3.9								
CMAR	**Chiang Mai Arr**	**160.84**	**156**	PKP	PKPdf	21 39 37.5	-1.1		
CMAR				PKPab	PKPab	21 40 19.4	-1.5		
CMAR				PP	PP	21 44 06.6	+3.9		
CMAR	**Chiang Mai Arr**	**160.84**	**156**	PKIKP	PKPdf	21 39 37.6	-1.0		
CMAR						21 40 19.4			
CMAR						21 44 06.6			
MDJ	**Mudanjiang**	**160.97**	**303**	PKP	PKPdf	21 39 28.8	-9.2		
MDJ				AMB	AMB				
	comp=Z,150nm,5.9s								
MDJ				LR	LR				
	comp=N,130nm,12.4s								
MDJ				LR	LR				
	comp=E,180nm,16.8s								
MDJ				LR	LR				
	comp=Z,270nm,18.7s								
CHTO	**Chiang Mai**	**161.17**	**156**	*e*PKPdf	PKPdf	21 39 37.9	-1.1		
CHTO				*e*PKPab	PKPab	21 40 19.7	-2.6		
CHTO	**Chiang Mai**	**161.17**	**156**	*e*PKIKP	PKPdf	21 39 37.9	-1.1		
CHTO				*e*		21 40 19.7			
TAPN	**Taplejung**	**161.35**	**113**	*e*P	PKPdf	21 39 38.3	-0.7		
	comp=Z,39nm,1.5s								
SHL	**Shillong**	**163.19**	**125**	*e*PKP	PKPdf	21 39 40.5	-0.4		
SHL				*ex*	x	21 40 31.5			
KSRS	**Korea Array**	**163.23**	**280**	PKP	PKPdf	21 39 39.2	-1.3		
	comp=Z,1.0nm,0.8s,baz=180,slow=1.0,SNR=6.0								
KSRS				PKPab	PKPab	21 40 32.9	+1.8		
	comp=Z,1.3nm,0.8s,baz=107,slow=3.7,SNR=2.6								
KSAR	**Wonju Array Be**	**163.26**	**280**	PKP	PKPdf	21 39 39.2	-1.3		
KSAR				PKPab	PKPab	21 40 32.9	+1.7		
KSAR	**Wonju Array Be**	**163.26**	**280**	PKIKP	PKPdf	21 39 39.2	-1.4		
WMQ	**Urumqi**	**163.44**	**57**	PKP	PKPdf	21 39 38.6	-1.9		
WMQ				PP	PP	21 44 17.3	-0.2		
WMQ				AMB	AMB				
	comp=Z,38nm,10.9s								
WMQ				LR	LR				
	comp=N,240nm,30.0s								
WMQ				LR	LR				
	comp=E,170nm,27.0s								
WMQ				LR	LR				
	comp=Z,300nm,30.0s								
CN2	**Changchun**	**164.05**	**304**	*e*PKP	PKPdf	21 39 41.3	+0.2		
CN2				*ep*PKP	pPKPdf	21 39 51.0	+0.8		
CN2				AMB	AMB				
	comp=Z,200nm,8.0s								
CN2				LR	LR				
	comp=N,600nm,22.0s								
CN2				LR	LR				
	comp=E,500nm,22.0s								
CN2				LR	LR				
	comp=Z,800nm,24.0s								
LSA	**Lhasa**	**165.15**	**112**	PKP	PKPdf	21 39 37.3	-5.2		
ZAK	**Zakamensk**	**165.68**	**10**	⇑*i*PKP2	PKPab	21 40 41.1	-0.2		
ZAK				*e*		21 44 23.3			
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.3s								
KMI	**Kunming**	**168.26**	**161**	PKP	PKPdf	21 39 44.4	-0.6		
KMI				pPKP	pPKPdf	21 39 52.4	-1.8		
KMI				sPKP		21 39 57.3			
ULN	**Ulaanbaatar**	**168.46**	**360**	*e*PKPab	PKPab	21 40 53.9	+0.3		
ULN	**Ulaanbaatar**	**168.46**	**360**	*e*PKP2	PKPab	21 40 53.9	+0.3		
SONM	**Songino Array**	**168.48**	**2**	PKP	PKPdf	21 39 42.7	-1.7		
	comp=Z,0.8nm,0.9s,baz=226,slow=1.2,SNR=5.9								
SONM				PKPab	PKPab	21 40 53.4	-0.3		
	comp=Z,3.1nm,0.9s,baz=337,slow=4.7,SNR=12								
SONM				PP	PP	21 44 42.2	-0.1		
	comp=Z,1.7nm,1.1s,baz=14,slow=1.5,SNR=3.6								
SONM	**Songino Array**	**168.48**	**2**	PKP	PKPdf	21 39 42.7	-1.7		
SONM				PKPab	PKPab	21 40 53.4	-0.3		
SONM				PP	PP	21 44 42.2	-0.1		
SONM	**Songino Array**	**168.48**	**2**	PKIKP	PKPdf	21 39 42.7	-1.7		
SONM						21 40 53.4			
SONM						21 44 42.2			
GYA	**Guiyang**	**170.17**	**178**	PKP	PKPdf	21 39 46.3	+0.2		
GYA				sPKP		21 40 01.8			
GYA				PKPab	PKPab	21 41 04.4	+2.7		
GYA				PKS		21 43 17.6			
GYA				PP	PP	21 44 55.0	+4.2		
GYA				SKKS	SKKSac	21 51 37.5	+0.7		
GYA				SS	SS	22 05 51.4	+3.0		
GYA				AMB	AMB				
	comp=Z,150nm,8.2s								
GYA				LR	LR				
	comp=N,170nm,24.8s								
GYA				LR	LR				
	comp=E,150nm,25.0s								
GYA				LR	LR				
	comp=Z,110nm,24.0s								
BJI	**Beijing**	**171.88**	**300**	PKP	PKPdf	21 39 48.0	+1.4		
GTA	**Gaotai**	**173.52**	**59**	*e*PKP	PKPdf	21 39 46.5	-0.8		
GTA				pPKP	pPKPdf	21 39 57.0	+0.5		
GTA				sPKP		21 40 00.5			
GTA				PP	PP	21 45 07.9	-0.8		
GTA				SKS	SKSdf	21 46 44.3	-4.2		
GTA				SKKS	SKKSac	21 51 51.9	-1.1		
GTA				AMB	AMB				
	comp=Z,270nm,5.2s								
GTA				LR	LR				
	comp=N,140nm,13.5s								
GTA				LR	LR				
	comp=E,180nm,18.5s								
GTA				LR	LR				
	comp=Z,270nm,24.2s								
CD2	**Chengdu**	**173.97**	**152**	PKP	PKPdf	21 39 45.8	-1.9		
CD2				pPKP	pPKPdf	21 39 56.6	-0.3		
CD2				sPKP		21 40 00.3			
CD2				PKS		21 43 16.5			
CD2				PP	PP	21 45 12.0	+2.0		
CD2				SKS	SKSdf	21 46 43.8	-5.2		
CD2				SKKS	SKKSac	21 51 52.9	-2.2		
CD2				AMB	AMB				
	comp=Z,200nm,6.5s								
CD2				LR	LR				
	comp=N,350nm,5.6s								
CD2				LR	LR				
	comp=Z,320nm,12.5s								
HHC	**Hu-ho-hao-te**	**174.24**	**323**	*e*PKP	PKPdf	21 39 46.9	-0.6		
HHC				pPKP	pPKPdf	21 39 57.3	+0.6		
HHC				sPKP		21 40 02.3			
HHC				PKS		21 43 17.3			
HHC				SKS	SKSdf	21 46 44.0	-4.6		
HHC				AMB	AMB				
	comp=Z,65nm,9.0s								
HHC				LR	LR				
	comp=N,160nm,19.6s								
HHC				LR	LR				
	comp=E,190nm,18.1s								
HHC				LR	LR				
	comp=Z,280nm,19.4s								
LZH	**Lanzhou**	**177.43**	**94**	*e*PKP	PKPdf	21 39 48.8	+0.4		
LZH				pPKP	pPKPdf	21 39 59.0	+1.4		
LZH				sPKP		21 40 03.5			
LZH				PP	PP	21 45 28.3	+0.4		
LZH				SKKS	SKKSac	21 52 11.3	-0.4		
LZH				AMB	AMB				
	comp=Z,400nm,5.9s								
LZH				LR	LR				
	comp=E,440nm,19.6s								
LZH				LR	LR				
	comp=Z,570nm,20.2s								

ISCJB ***23*** *21:24:49.4±1.5,21°.0S±0°.2×178°.3W±0°.2,h565km±16km, mb3.7/8, Error ellipse: s-maj=29.5km s-min=23.0km az=174.1*

NEIC ***23*** *21:24:49.8±1.2,20°.99S×178°.21W,h561km±11km, mb3.7/4, Error ellipse: s-maj=20.9km s-min=15.6km az=113.0*

IDC ***23*** *21:24:50.2±10.0, 20°.85S×178°.25W, h558km±102km, mb3.2/5, mb1 3.5/5, mb1mx3.1/17, mbtmp3.2/5, Error ellipse: s-maj=113.0km s-min=51.9km az=141.0*

ISC 23 21:24:49.9±1.6, 21°.0S±0°.2×178°.2W±0°.2, h558km±16km, n29, σ0°.64/16, mb3.7/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.79**	**312**	*e*P	**P**	**21 26 18.6**	**0.0**
URZ	**Urewera**	**17.66**	**192**	*e*P	**P**	**21 28 24.7**	**+0.5**
CTAO	**Charters Tower**	**33.24**	**265**	*e*P	**P**	**21 30 41.8**	**+0.2**
	1.9nm,0.4s,mb4.0						
STKA	**Stephens Creek**	**37.38**	**245**	P	**P**	**21 31 17.5**	**+1.6**
	1.5nm,0.5s,mb3.8,baz=90,slow=6.1,SNR=3.9						
STKA	**Stephens Creek**	**37.38**	**245**	*e*P	**P**	**21 31 15.4**	**-0.5**
	0.3nm,0.7s,mb2.9						
ASAR	**Alice Springs**	**44.20**	**257**	P	**P**	**21 32 10.3**	**+0.2**
	3.4nm,0.6s,mb4.1,baz=95,slow=7.4,SNR=58						
ASAR	**Alice Springs**	**44.20**	**257**	P	**P**	**21 32 10.3**	**+0.2**
WB2	**Warramunga Arr**	**44.32**	**263**	*e*P	**P**	**21 32 10.6**	**-0.5**
WRAB	**Tennant Creek**	**44.32**	**263**	*e*P	**P**	**21 32 10.5**	**-0.6**
	2.1nm,0.4s,mb4.0						
WRA	**Warramunga Arr**	**44.33**	**263**	P	**P**	**21 32 10.6**	**-0.5**
	2.0nm,0.3s,mb4.1,baz=97,slow=7.6,SNR=118						
WRA	**Warramunga Arr**	**44.33**	**263**	P	**P**	**21 32 10.6**	**-0.5**
VNDA	**Vanda**	**57.39**	**185**	*e*P	**P**	**21 33 44.3**	**-0.7**
	1.5nm,0.8s,mb3.3						
ILAR	**Eielson Array**	**88.85**	**13**	P	**P**	**21 36 44.1**	**-0.2**
	0.3nm,0.5s,mb3.4,baz=216,slow=5.3,SNR=7.5						
ILAR	**Eielson Array**	**88.85**	**13**	P	**P**	**21 36 44.1**	**-0.2**
CMAR	**Chiang Mai Arr**	**90.09**	**290**	P	**P**	**21 36 52.4**	**+1.2**
	0.7nm,0.8s,mb3.5,baz=125,slow=2.7,SNR=5.8						
CMAR	**Chiang Mai Arr**	**90.09**	**290**	P	**P

KUGN			Sn	Sn	21 34 38.6	-6.4
KUGN	**Kugaaruk Camp,**	**5.54 341**	PN	Pn	**21 33 41.9**	**+0.5**
KUGN			SN	Sn	**21 34 38.6**	**-6.4**
INUQ	**Inukjuak**	**5.69 139**	PN	Pn	**21 33 45.8**	**+2.4**
INUQ			SN	Sn	**21 34 46.0**	**-2.7**
INUQ			LG		21 35 13.4	
INUQ			Trac		21 35 24.4	
	comp=Z,40nm,0.2s					
SNQN	**Sanikiluaq**	**7.09 152**	PN	Pn	**21 34 04.5**	**+1.8**
SNQN			SN	Sn	**21 35 22.0**	**-1.3**
SNQN			LG		21 35 56.8	
FRB	**Frobisher Bay**	**7.51 77**	PN	Pn	**21 34 07.0**	**-1.5**
	0.3nm,0.3s,baz=279,slow=17,SNR=3.7					
FRB			Pg	Pg	21 34 21.0	-22
	1.4nm,0.3s,baz=266,slow=17,SNR=8.0					
FRB			Sn	Sn	**21 35 24.2**	**-9.4**
	2.1nm,0.3s,baz=359,slow=22,SNR=5.7					
FRB			Lg		21 36 04.6	
	5.8nm,0.3s,baz=193,slow=21,SNR=5.8					
FRB	**Frobisher Bay**	**7.51 77**	Pn	Pn	**21 34 07.4**	**-1.1**
FRB			Pg	Pg	21 34 21.0	-22
FRB			Sn	Sn	**21 35 24.2**	**-9.4**
FRB			Lg		21 36 05.4	
FRB	**Frobisher Bay**	**7.51 77**	PN	Pn	**21 34 07.4**	**-1.1**
FRB			SN	Sn	**21 35 23.5**	**-10**
FRB			LG		21 36 05.4	
FRB			Trac		21 36 12.8	
	comp=Z,122nm,0.8s					
SILO	**Sutton Inlier**	**8.50 179**	Pn	Pn	**21 34 25.1**	**+3.1**
SILO			Sn	Sn	**21 35 58.4**	**+0.4**
SILO			Lg		21 36 48.7	
SILO	**Sutton Inlier**	**8.50 179**	PN	Pn	**21 34 25.1**	**+3.1**
SILO			SN	Sn	**21 35 58.4**	**+0.4**
SILO			LG		21 36 48.7	
SILO			Trac		21 37 01.8	
	comp=Z,16nm,0.4s					
GDLN	**Gardenia Lake,**	**9.68 274**	Sn	Sn	**21 36 23.9**	**-2.7**
GDLN	**Gardenia Lake,**	**9.68 274**	SN	Sn	**21 36 23.9**	**-2.7**
WHFN	**White Fish Lak**	**10.05 278**	PN	Pn	**21 34 43.5**	**+0.4**
WHFN			SN	Sn	**21 36 33.0**	**-2.8**
CB31	**Cambridge Bay**	**10.16 316**	PN	Pn	**21 34 44.4**	**-0.3**
CB31			SN	Sn	**21 36 29.1**	**-9.3**
CB31			LG		21 37 29.6	
CB31			Trac		21 37 45.4	
	comp=Z,22nm,0.4s					
VIMO	**Victor Mine**	**10.20 175**	Pn	Pn	**21 34 47.2**	**+2.0**
VIMO			Sn	Sn	**21 36 35.1**	**-4.3**
VIMO	**Victor Mine**	**10.20 175**	PN	Pn	**21 34 47.2**	**+2.0**
VIMO			SN	Sn	**21 36 35.1**	**-4.3**
WEMQ	**Wemindji, Queb**	**10.63 156**	Pn	Pn	**21 34 52.1**	**+1.0**
WEMQ			Sn	Sn	**21 36 43.6**	**-6.4**
WEMQ	**Wemindji, Queb**	**10.63 156**	PN	Pn	**21 34 52.1**	**+1.0**
WEMQ			SN	Sn	**21 36 43.6**	**-6.4**
COKN	**Cook Lake**	**10.67 282**	PN	Pn	**21 34 53.4**	**+1.7**
COKN			SN	Sn	**21 36 45.0**	**-6.1**
LG4Q	**La Grande 4**	**11.00 143**	Pn	Pn	**21 34 55.7**	**-0.5**
LG4Q			Sn	Sn	**21 36 51.5**	**-7.6**
LG4Q			Lg		21 37 55.8	
LG4Q	**La Grande 4**	**11.00 143**	PN	Pn	**21 34 55.7**	**-0.5**
LG4Q			SN	Sn	**21 36 51.5**	**-7.6**
LG4Q			LG		21 37 55.8	
LG4Q			Trac		21 38 06.4	
	comp=Z,13nm,0.4s					
JERN	**Jeri Cho Mine,**	**11.70 297**	PN	Pn	**21 35 07.0**	**+1.3**
JERN			SN	Sn	**21 37 08.4**	**-7.8**
FFC	**Flin Flon**	**11.96 234**	Pn	Pn	**21 35 09.3**	**+0.1**
FFC			Sn	Sn	**21 37 21.3**	**-1.2**
FFC			Lg		21 38 31.9	
FFC	**Flin Flon**	**11.96 234**	PN	Pn	**21 35 09.3**	**+0.1**
FFC			SN	Sn	**21 37 21.3**	**-1.2**
FFC			LG		21 38 31.9	
FFC			Trac		21 38 37.2	
	comp=Z,24nm,0.7s					
YOSQ	**Ashton Mining**	**12.21 140**	Pn	Pn	**21 35 12.4**	**-0.3**
YOSQ			Sn	Sn	**21 37 18.6**	**-10**
YOSQ			Lg		21 38 28.5	
YOSQ	**Ashton Mining**	**12.21 140**	PN	Pn	**21 35 12.4**	**-0.3**
YOSQ			SN	Sn	**21 37 18.6**	**-10**
YOSQ			LG		21 38 28.5	
RES	**Resolute Bay**	**12.27 348**	Pn	Pn	**21 35 11.8**	**-1.6**
	0.2nm,0.3s,baz=167,slow=12,SNR=4.1					
RES			Sn	Sn	**21 37 17.0**	**-13**
	0.2nm,0.3s,baz=263,slow=24,SNR=1.8					
RES			Lg		21 38 37.2	
	0.5nm,0.3s,baz=102,slow=20,SNR=6.5					
RES	**Resolute Bay**	**12.27 348**	Pn	Pn	**21 35 11.8**	**-1.6**
RES			Sn	Sn	**21 37 17.0**	**-13**
RES			Lg		21 38 37.2	
RES	**Resolute Bay**	**12.27 348**	PN	Pn	**21 35 11.6**	**-1.9**
RES			SN	Sn	**21 37 18.8**	**-11**
SCHQ	**Schefferville**	**12.45 122**	Pn	Pn	**21 35 15.1**	**-0.9**
	0.9nm,0.3s,baz=57,slow=1.0,SNR=10					
SCHQ			Sn	Sn	**21 37 25.1**	**-9.4**
	0.5nm,0.3s,baz=20,slow=17,SNR=2.0					
SCHQ			Lg		21 38 42.6	
	1.2nm,0.3s,baz=210,slow=14,SNR=3.8					
SCHQ	**Schefferville**	**12.45 122**	Pn	Pn	**21 35 15.1**	**-0.9**
SCHQ			Sn	Sn	**21 37 25.1**	**-9.4**
SCHQ			Lg		21 38 42.6	
SCHQ	**Schefferville**	**12.45 122**	PN	Pn	**21 35 14.4**	**-1.6**
SCHQ			SN	Sn	**21 37 25.8**	**-8.8**
NANO	**Nakina Ontario**	**12.67 185**	Pn	Pn	**21 35 20.0**	**+0.9**
NANO			Sn	Sn	**21 37 33.0**	**-7.0**
NANO	**Nakina Ontario**	**12.67 185**	PN	Pn	**21 35 20.0**	**+0.9**
NANO			SN	Sn	**21 37 33.0**	**-7.0**
MALO	**McAlpine Lake**	**13.29 165**	Pn	Pn	**21 35 26.6**	**-1.0**
MALO			Sn	Sn	**21 37 47.5**	**-7.8**
MALO	**McAlpine Lake**	**13.29 165**	PN	Pn	**21 35 26.6**	**-1.0**
MALO			SN	Sn	**21 37 47.5**	**-7.8**
YKW3	**Yellowknife Ar**	**13.44 281**	Pn	Pn	**21 35 28.8**	**-0.7**
YKW3			Sn	Sn	**21 37 50.5**	**-8.1**
YKW3			Lg		21 39 17.7	
YKW3	**Yellowknife Ar**	**13.44 281**	PN	Pn	**21 35 28.8**	**-0.7**
YKW3			SN	Sn	**21 37 50.5**	**-8.1**
YKW3			LG		21 39 17.7	
YKW3			Trac		21 39 23.9	
	comp=Z,11nm,0.5s					
YKA	**Yellowknife Ar**	**13.45 281**	Pn	Pn	**21 35 29.1**	**-0.6**
	0.3nm,0.3s,baz=71,slow=12,SNR=15					
YKA			Sn	Sn	**21 37 51.2**	**-7.8**
	0.3nm,0.3s,baz=39,slow=10,SNR=3.2					
YKA			Lg		21 39 20.1	
	0.7nm,0.3s,baz=74,slow=29,SNR=7.3					
YKA	**Yellowknife Ar**	**13.45 281**	Pn	Pn	**21 35 29.1**	**-0.6**
YKA			Sn	Sn	**21 37 51.2**	**-7.8**
YKA			Lg		21 39 20.1	
CTLN	**Castor Lake**	**13.69 290**	Pn	Pn	**21 35 31.9**	**-0.9**
CTLN			Sn	Sn	**21 37 55.1**	**-10**
CTLN	**Castor Lake**	**13.69 290**	PN	Pn	**21 35 31.9**	**-0.9**
CTLN			SN	Sn	**21 37 55.1**	**-10**
ULM	**Lac du Bonnet**	**14.01 210**	Pn	Pn	**21 35 42.2**	**+5.0**
	0.3nm,0.3s,baz=45,slow=10.0,SNR=2.7					
ULM			Sn	Sn	**21 38 06.5**	**-6.1**
	0.5nm,0.3s,baz=264,slow=14,SNR=2.1					
ULM			Lg		21 39 38.5	
	0.8nm,0.3s,baz=303,slow=18,SNR=4.1					
ULM	**Lac du Bonnet**	**14.01 210**	Pn	Pn	**21 35 42.2**	**+5.0**
ULM			Sn	Sn	**21 38 05.8**	**-6.8**
ULM			Sn	Sn	**21 38 06.5**	**-6.1**
ULM			Lg		21 39 38.5	
GALN	**Gameti Lake**	**14.30 289**	Pn	Pn	**21 35 40.3**	**-0.8**
GALN			Sn	Sn	**21 38 07.8**	**-12**
GALN	**Gameti Lake**	**14.30 289**	PN	Pn	**21 35 40.3**	**-0.8**
GALN			SN	Sn	**21 38 07.8**	**-12**
BELQ	**Belleterre**	**16.01 164**	PN	Pn	**21 36 04.8**	**+0.8**
BELQ			SN	Sn	**21 38 48.9**	**-12**
INK	**Inuvik**	**20.18 306**	P	P	**21 36 58.8**	**+5.5**
	0.5nm,0.6s,baz=70,slow=12,SNR=3.5					
INK			S	S	**21 40 27.6**	**-12**
	1.0nm,0.8s,baz=303,slow=18,SNR=1.9					
INK	**Inuvik**	**20.18 306**	P	P	**21 36 58.8**	**+5.5**
INK			S	S	**21 40 27.6**	**-12**
PDAR	**Pinedale Array**	**24.73 227**	P	P	**21 37 49.9**	**+10**
	0.6nm,0.6s,mb3.3,baz=20,slow=8.8,SNR=4.5					
PDAR	**Pinedale Array**	**24.73 227**	P	P	**21 37 49.9**	**+10**
PETK	**Petropavlovsk-**	**54.28 319**	LR	LR	22 08 22.6	
	comp=Z,50nm,18.1s,baz=81,slow=40					
MKAR	**Makanchi Array**	**70.14 9**	P	P	**21 43 33.2**	**+2.1**
	0.2nm,0.5s,mb3.3,baz=20,slow=4.6,SNR=3.0					
MKAR	**Makanchi Array**	**70.14 9**	P	P	**21 43 33.2**	**+2.1**
TORD	**Torodi Ar. Bea**	**76.97 87**	P	P	**21 44 13.0**	**+1.4**
	0.3nm,0.7s,mb3.3,baz=316,slow=6.3,SNR=3.6					
TORD	**Torodi Ar. Bea**	**76.97 87**	P	P	**21 44 13.0**	**+1.4**

*IDC **23** 22:25:33.6±3.1,24.4°49S×179.7°97E,h478km±31km,mb3.4/6, mb1 3.7/6,mb1mx3.4/16,mbtmp3.4/6,Error ellipse: s-maj=45.6km s-min=20.5km az=159.0*
*NEIC **23** 22:25:33.7±2.6,24.4°48S×179.9°96E,h480km±28km,mb4.2/6, Error ellipse: s-maj=22.9km s-min=14.2km az=200.0*
*ISCJB **23** 22:25:37.4±3.1,24.8°S±0.2°×179.9°E±0.1,h540km±36km, mb4.0/11,Error ellipse: s-maj=27.6km s-min=17.8km az=30.3*

ISC 23 22:25:37.0±3.0,24.7°S±0.2°×180.0°E±0.1,h523km±34km, n35,σ1°915/25,mb4.0/11,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.72**	**190**	P		P		**22 28 32.8**	**-0.5**
ARMA	**Armidale**	**25.71**	**251**	*e*P		P		**22 30 26.9**	**+1.4**
	6.4nm,0.8s,mb4.3								
CAN	**Canberra**	**28.71**	**241**	*e*P		P		**22 30 53.0**	**+1.3**
	9.4nm,0.9s,mb4.4								
CTAO	**Charters Tower**	**31.45**	**272**	*e*P		P		**22 31 15.6**	**0.0**
	18nm,0.7s,mb4.7								
TAU	**Tasmania Unive**	**32.36**	**228**	*e*P		P		**22 31 23.9**	**+0.9**
STKA	**Stephens Creek**	**34.40**	**249**	P		P		**22 31 41.3**	**+0.9**
	2.9nm,0.5s,mb4.1,baz=94,slow=9.8,SNR=18								
STKA	**Stephens Creek**	**34.40**	**249**	*e*P		P		**22 31 40.5**	**+0.1**
	0.5nm,0.4s,mb3.4								
COEN	**Coen**	**36.22**	**280**	*e*P		P		**22 31 55.0**	**-0.7**
ASAR	**Alice Springs**	**41.87**	**262**	P		P		**22 32 41.0**	**-0.4**
	1.6nm,0.5s,mb3.8,baz=97,slow=7.8,SNR=23								
ASAR	**Alice Springs**	**41.87**	**262**	P		P		**22 32 41.0**	**-0.4**
WB2	**Warramunga Arr**	**42.31**	**267**	*e*P		P		**22 32 43.7**	**-1.2**
WRAB	**Tennant Creek**	**42.32**	**267**	*e*P		P		**22 32 43.9**	**-1.0**
	3.8nm,0.4s,mb4.3								
WRA	**Warramunga Arr**	**42.32**	**267**	P		P		**22 32 43.9**	**-1.0**
	5.2nm,0.5s,mb4.3,baz=101,slow=8.4,SNR=120								
WRA				ScP		ScP		22 37 31.9	+4.5
	1.8nm,0.8s,baz=101,slow=3.8,SNR=13								
WRA	**Warramunga Arr**	**42.32**	**267**	P		P		**22 32 43.9**	**-1.0**
WRA				ScP		ScP		22 37 31.9	+4.5
MBWA	**Marble Bar**	**55.20**	**261**	*e*P		P		**22 34 20.4**	**-0.1**
QSPA	**South Pole Qui**	**65.37**	**180**	*e*P		P		**22 35 29.6**	**+2.7**
	2.5nm,0.8s,mb3.7								
SNAA	**Sanae**	**83.86**	**179**	*e*		P		**22 37 07.7**	**-3.2**
VNA3	**Neumayer Olymp**	**84.07**	**177**	*e*		P		**22 37 10.5**	**-1.5**
VNA2	**Neumayer--Watz**	**84.48**	**178**	*e*		P		**22 37 12.8**	**-1.2**
	baz=193,slow=4.8								
NVAR	**Mina Array Bea**	**85.36**	**44**	P		P		**22 37 18.8**	**+0.1**
	0.4nm,0.7s,mb3.1,baz=220,slow=9.2,SNR=4.3								
NVAR	**Mina Array Bea**	**85.36**	**44**	P		P		**22 37 18.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**89.78**	**290**	P		P		**22 37 41.8**	**+1.9**
	0.5nm,0.3s,mb3.8,baz=128,slow=3.7,SNR=3.8								
CMAR	**Chiang Mai Arr**	**89.78**	**290**	P		P		**22 37 41.8**	**+1.9**
TXAR	**Lajitas Array**	**90.89**	**58**	P		P		**22 37 45.5**	**+0.7**
	1.0nm,0.8s,mb3.8,baz=212,slow=5.4,SNR=13								
TXAR	**Lajitas Array**	**90.89**	**58**	P		P		**22 37 45.5**	**+0.7**
KURK	**Kurchatov**	**115.76**	**316**	PKP		PKPdf		22 43 18.5	-1.0
	0.1nm,0.5s,baz=46,slow=2.7,SNR=3.3								
KURK	**Kurchatov**	**115.76**	**316**	*e*PKP	df	PKPdf		22 43 20.2	+0.7
BVAR	**Borovoye Array**	**121.02**	**318**	PKP		PKPdf		22 43 28.6	-1.0
	0.2nm,0.3s,baz=118,slow=3.3,SNR=4.2								
BVAR	**Borovoye Array**	**121.02**	**318**	PKP		PKPdf		22 43 28.6	-1.0
ARCES	**ARCESS Array B**	**132.67**	**348**	PKP		PKPdf		22 43 51.2	-0.2
	2.6nm,0.8s,baz=83,slow=2.8,SNR=3.0								
ARCES	**ARCESS Array B**	**132.67**	**348**	PKP		PKPdf		22 43 51.2	-0.2
BRTR	**Keskin Array B**	**148.03**	**306**	PKPbc		PKPbc		22 44 26.0	+2.4
	0.7nm,0.7s,baz=160,slow=4.1,SNR=3.2								
BRTR	**Keskin Array B**	**148.03**	**306**	PKPbc		PKPbc		22 44 26.0	+2.4
TORD	**Torodi Ar. Bea**	**168.38**	**188**	PKPab		PKPab		22 45 58.0	+1.3
	0.2nm,0.5s,baz=195,slow=4.4,SNR=6.4								
TORD	**Torodi Ar. Bea**	**168.38**	**188**	PKPab		PKPab		22 45 58.0	+1.3

KRSC 23 22:53:00.6±0.3,55.29°N×162.36°E,h27km±16km,ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.82**	**207**	*e*P		P	Pb	22 53 15.8	-0.4
MKZ				*i* S		S	Sb	22 53 27.5	+0.7
KBTR	**Krutoberegovo**	**0.96**	**16**	*e*P		P	Pn	22 53 17.3	-0.9
KBTR				*i* S		S	Sb	22 53 30.5	-0.2
TUMR	**Tumrok**	**1.27**	**271**	*e*P		P	Pn	22 53 23.6	+1.1
TUMR				*i* S		S	Sn	22 53 40.6	+2.0
KMNR	**Kamenistaya**	**1.29**	**292**	*e*P		P	Pn	22 53 23.8	+0.9
KMNR				*i* S		S	Sn	22 53 40.6	+1.4
SMKR	**Semkarok**	**1.39**	**339**	*e*P		P	Pn	22 53 24.2	0.0
SMKR				*i* S		S	Sn	22 53 41.9	+0.3
KLY	**Klyuchi**	**1.41**	**317**	*e*P		P	Pn	22 53 24.0	-0.4
KLY				*i* S		S	Sn	22 53 40.9	-1.1
BDR	**Baidarnaya**	**1.44**	**334**	*e*P		P	Pn	22 53 25.3	+0.5
BDR				*i* S		S	Sn	22 53 43.5	+0.8
SRKR	**Sorokina**	**1.52**	**334**	*e*P		P	Pn	22 53 26.3	+0.3
KOZ	**Kozyrevsk**	**1.60**	**300**	*e*P		P	Pn	22 53 29.1	+2.0
KOZ				*i* S		S	Sn	22 53 49.8	+2.9
SRDR	**Sredinnyy**	**1.81**	**306**	*e*P		P	Pn	22 53 31.5	+1.5
SRDR				*i* S		S	Sn	22 53 53.3	+1.3
BKI	**Bering**	**2.07**	**91**	*e*P		P	Pn	22 53 35.1	+1.6
BKI				*i* S		S	Sn	22 53 59.8	+1.4
KII	**Karymskiy**	**2.11**	**235**	*e*P		P	Pn	22 53 35.5	+1.5
ESO	**Esso**	**2.17**	**289**	*e*P		P	Pn	22 53 37.3	+2.4
SPN	**Mys Shipunski**	**2.59**	**213**	*e*P		P	Pn	22 53 41.1	+0.4
SPN				*i* S		S	Sn	22 54 10.5	-0.7
NLC	**Nalytchevo**	**2.76**	**221**	*e*P		P	Pn	22 53 44.3	+1.3
NLC				*i* S		S	Sn	22 54 16.6	+1.1
SDLR	**Sedlovina**	**2.87**	**227**	*e*P		P	Pn	22 53 46.2	+1.8
SMAR	**Somma**	**2.91**	**227**	*e*P		P	Pn	22 53 46.7	+1.6
AVH	**Avacha**	**2.94**	**228**	*e*P		P	Pn	22 53 47.5	+2.1
AVH				*i* S		S	Sn	22 54 22.3	+2.6
UGLR	**Uglovaya**	**2.94**	**226**	*e*P		P	Pn	22 53 47.3	+1.8
KOK	**Koryaka**	**2.96**	**229**	*e*P		P	Pn	22 53 47.5	+1.7
GNL	**Ganaly**	**3.03**	**240**	*e*P		P	Pn	22 53 48.6	+1.9
PET	**Petropavlovsk**	**3.15**	**225**	*e*P		P	Pn	22 53 49.8	+1.5
PET				*i* S		S	Sn	22 54 27.0	+2.1
RUS	**Russkaya**	**3.66**	**220**	*e*P		P	Pn	22 53 57.0	+1.7
RUS				*i* S		S	Sn	22 54 38.0	+0.5

*IDC **23** 23:12:55.6±2.2,2.°40N×96.°24E,h0km,mb3.9/7,mb1 3.9/8, mb1mx3.7/26,mbtmp3.8/8,ML4.3/1,MS2.7/1,Ms1 2.9/1, ms1mx2.4/40,Error ellipse: s-maj=81.5km s-min=18.0km az=56.0*
*ISCJB **23** 23:13:02.1±0.7,2.°95N±0.°08×96.°95E±0.°05,h33km, mb4.0/14,Error ellipse: s-maj=12.4km s-min=5.9km az=28.6*
*NEIC **23** 23:13:03.8±0.8,3.°04N×97.°03E,h35km,mb4.1/5,Error ellipse: s-maj=18.7km s-min=10.1km az=222.0*
*DJA **23** 23:13:03,3.°23N×97.°03E,h13km,MLv4.4/7*

ISC 23 23:13:04.3±0.7,2.°99N±0.°08×97.°01E±0.°06,h35km,n35, σ1°929/38,mb4.0/14,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**1.64**	**72**	P		P	**Pn**	**23 13 29.9**	**-0.7**
TSI				S		S	**Sn**	**23 13 50.8**	**+0.4**
PSI	**Prapat**	**1.92**	**95**	P		P	**Pn**	**23 13 34.8**	**+0.3**
LHMI	**Lhok Sumawe**	**2.23**	**358**	P		P	**Pn**	**23 13 38.3**	**-0.4**
BSI	**Banda Aceh**	**3.02**	**326**	P		P	**Pn**	**23 13 47.5**	**-2.1**
BSI				S		S	**Sn**	**23 14 23.7**	**-0.9**
MNSI	**Mandailing Nat**	**3.37**	**130**	P		P	**Pn**	**23 14 00.8**	**+6.4**
IPM	**Ipoh**	**4.28**	**70**	*e*Pn		P	**Pn**	**23 14 07.4**	**+0.5**
IPM	**Ipoh**	**4.28**	**70**	P		P	**Pn**	**23 14 08.8**	**+1.1**
KULM	**Kulim**	**4.29**	**58**	*e*Pn		P	**Pn**	**23 14 04.8**	**-2.4**
KULM				*e*Sn		S	**Sn**	**23 14 50.8**	**-5.3**
KULM	**Kulim**	**4.29**	**58**	P		P	**Pn**	**23 14 04.7**	**-2.5**
CMAR	**Chiang Mai Arr**	**15.49**	**7**	Pn		P	**Pn**	**23 16 45.3**	**+5.1**
	0.4nm,0.3s,baz=200,slow=11,SNR=8.6								
CMAR				LR		LR		23 22 37.8	
	comp=Z,24nm,19.1s,baz=355,slow=36								
CMAR	**Chiang Mai Arr**	**15.49**	**7**	Pn		P	**Pn**	**23 16 45.3**	**+5.1**
KAPI	**Kappang**	**24.07**	**109**	P		P	**P**	**23 18 16.5**	**-0.1**
	6.5nm,0.6s,mb4.3,baz=274,slow=14,SNR=6.4								
KAPI	**Kappang**	**24.07**	**109**	*e*P		P	**P**	**23 18 16.5**	**-0.1**
	4.7nm,0.5s,mb4.2								
ODAN	**Odare**	**25.46**	**340**	*e*P		P	**P**	**23 18 31.2**	**+2.1**
	12nm,0.6s,mb4.6								
TAPN	**Taplejung**	**25.81**	**341**	*e*P		P	**P**	**23 18 34.3**	**+2.1**
	11nm,0.9s,mb4.4								
RAMN	**Ramite**	**25.83**	**338**	*e*P		P	**P**	**23 18 34.7**	**+2.3**
	12nm,0.6s,mb4.6								
JIRN	**Jiri**	**26.62**	**338**	*e*P		P	**P**	**23 18 41.5**	**+1.9**
GUN	**Gumba**	**26.97**	**338**	*e*P		P	**P**	**23 18 43.5**	**+0.8**
LSA	**Lhasa**	**27.14**	**349**	*e*P		P	**P**	**23 18 44.2**	**-0.1**
	3.7nm,0.8s,mb4.0								
WRA	**Warramunga Arr**	**43.16**	**123**	P		P	**P**	**23 21 01.4**	**-0.4**
	1.3nm,0.7s,mb3.8,baz=302,slow=9.1,SNR=7.9								
WRA	**Warramunga Arr**	**43.16**	**123**	P		P	**P**	**23 21 01.4**	**-0.4**
WRAB	**Tennant Creek**	**43.16**	**123**	*e*P		P	**P**	**23 21 02.2**	**+0.3**
	1.3nm,0.6s,mb3.8								
ASAR	**Alice Springs**	**44.63**	**128**	P		P	**P**	**23 21 12.8**	**-0.9**
	0.2nm,0.4s,mb3.3,baz=300,slow=7.4,SNR=3.0								
ASAR	**Alice Springs**	**44.63**	**128**	P		P	**P**	**23 21 12.8**	**-0.9**
SONM	**Songino Array**	**45.41**	**9**	P		P	**P**	**23 21 22.0**	**+2.6**
	1.2nm,0.7s,mb3.8,baz=188,slow=8.9,SNR=10								
SONM	**Songino Array**	**45.41**	**9**	P		P	**P**	**23 21 22.0**	**+2.6**
MK31	**Makanchi Array**	**45.47**	**346**	*e*P		P	**P**	**23 21 19.5**	**-0.4**
MKAR	**Makanchi Array**	**45.47**	**346**	P		P	**P**	**23 21 19.5**	**-0.5**
	1.6nm,0.8s,mb3.9,baz=162,slow=8.0,SNR=14								
MKAR	**Makanchi Array**	**45.47**	**346**	P		P	**P**	**23 21 19.4**	**-0.5**
KURK	**Kurchatov**	**50.03**	**345**	*e*P		P	**P**	**23 21 54.7**	**-0.5**
	2.8nm,1.3s,mb4.1								
ZALV	**Zalesovo Beam**	**51.77**	**351**	P		P	**P**	**23 22 09.0**	**+0.7**
	1.4nm,0.4s,mb4.2,baz=177,slow=6.1,SNR=8.7								
ZALV	**Zalesovo Beam**	**51.77**	**351**	P		P	**P**	**23 22 09.0**	**+0.7**
BVAR	**Borovoye Array**	**54.51**	**341**	P		P	**P**	**23 22 26.3**	**-2.2**
	0.6nm,0.6s,mb3.8,baz=134,slow=9.8,SNR=7.4								
BVAR	**Borovoye Array**	**54.51**	**341**	P		P	**P**	**23 22 26.3**	**-2.2**
BRVK	**Borovoye**	**54.57**	**341**	*e*P		P	**P**	**23 22 27.2**	**-1.7**
	1.9nm,1.0s,mb4.1								

*DDA **23** 23:17:31.8,37.°32N×36.°46E,h7km±4km,Md3.1,Ml3.2*
*ISCJB **23** 23:17:32.2±0.5,37.°33N±0.°04×36.°48E±0.°03,h8km±6km, Error ellipse: s-maj=6.3km s-min=3.9km az=13.9*
*CSEM **23** 23:17:32.5±0.2,37.°34N×36.°47E,h10km,ML3.2,Error ellipse: s-maj=4.8km s-min=3.1km az=179.0*
*ISK **23** 23:17:32.0,37.°37N×36.°47E,h7km,MD3.0*

ISC 23 23:17:32.7±0.5,37.°33N±0.°04×36.°47E±0.°03,h10km±5km, n31,σ0°972/42,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.27**	**337**	*i* P		P	**Pg**	**23 17 37.7**	**-0.3**
ANDN				*i* S		S	**Sg**	**23 17 42.6**	**+0.9**
ANDN	**Andirin**	**0.27**	**337**	*i* P		P	**Pg**	**23 17 37.7**	**-0.4**
ANDN				*i* S		S	**Sg**	**23 17 42.6**	**+0.9**
KMRS	**Kahramanmaras**	**0.38**	**63**	PG		P	**Pg**	**23 17 39.8**	**-0.4**
KMRS				*e*SG		S	**Sg**	**23 17 44.9**	**-0.3**
KMRS	**Kahramanmaras**	**0.38**	**63**	*i* Pg		P	**Pg**	**23 17 39.8**	**-0.4**
KMRS				*e*Sg		S	**Sg**	**23 17 44.9**	**-0.3**
KOZT	**Kozan**	**0.54**	**286**	*e*PG		P	**Pg**	**23 17 42.9**	**-0.2**
KOZT				*e*SG		S	**Sg**	**23 17 50.6**	**+0.4**
KOZT	**Kozan**	**0.54**	**286**	*e*Pg		P	**Pg**	**23 17 42.9**	**-0.2**
KOZT				*e*Sg		S	**Sg**	**23 17 50.6**	**+0.5**
GAZ	**Gaziantep**	**0.61**	**105**	*e*PG		P	**Pg**	**23 17 44.1**	**-0.4**
GAZ				*e*SG		S	**Sg**	**23 17 54.3**	**+1.8**
GAZ	**Gaziantep**	**0.61**	**105**	*e*Pg		P	**Pg**	**23 17 44.1**	**-0.4**
GAZ				*e*Sg		S	**Sg**	**23 17 54.3**	**+1.8**
CEYT	**Ceyhan**	**0.66**	**241**	*e*PG		P	**Pg**	**23 17 45.3**	**-0.2**
CEYT	**Ceyhan**	**0.66**	**241**	*e*Pg		P	**Pg**	**23 17 45.3**	**-0.2**
KUZU	**Kuzuini**	**0.74**	**139**	*i* P		P	**Pg**	**23 17 46.6**	**-0.4**
KUZU				*i* S		S	**Sg**	**23 17 57.2**	**+0.7**
KUZU	**Kuzuini**	**0.74**	**139**	*i* P	

PDAR	**Pinedale Array**	**73.56**	**328**	P	**P**	**00 14 58.6**	**+0.5**
	0.3nm,0.5s,mb3.1,baz=134,slow=7.8,SNR=3.6						
PDAR	**Pinedale Array**	**73.56**	**328**	P	**P**	**00 14 58.6**	**+0.5**
ULM	**Lac du Bonnet**	**74.15**	**341**	P	**P**	**00 15 00.5**	**-0.8**
	2.0nm,0.4s,mb4.1,baz=156,slow=8.1,SNR=5.1						
ULM	**Lac du Bonnet**	**74.15**	**341**	P	**P**	**00 15 00.5**	**-0.8**
TORD	**Torodi Ar. Bea**	**74.59**	**70**	P	**P**	**00 15 03.7**	**-1.0**
	0.9nm,0.4s,mb3.8,baz=253,slow=5.4,SNR=26						
TORD	**Torodi Ar. Bea**	**74.59**	**70**	P	**P**	**00 15 03.7**	**-1.0**
BOSA	**Boshof**	**82.39**	**118**	P	**P**	**00 15 48.0**	**+0.9**
	1.5nm,0.9s,mb3.6,baz=221,slow=2.8,SNR=5.3						
BOSA	**Boshof**	**82.39**	**118**	P	**P**	**00 15 48.0**	**+0.9**
YKA	**Yellowknife Ar**	**90.09**	**340**	P	**P**	**00 16 23.8**	**+0.2**
	0.3nm,0.4s,mb3.4,baz=129,slow=4.8,SNR=3.7						
YKA	**Yellowknife Ar**	**90.09**	**340**	P	**P**	**00 16 23.8**	**+0.2**
WRA	**Warramunga Arr**	**135.76**	**209**	PKP	PKPdf	00 22 44.0	-0.1
	0.3nm,0.4s,baz=151,slow=1.6,SNR=9.5						
WRA	**Warramunga Arr**	**135.76**	**209**	PKP	PKPdf	00 22 44.0	-0.1
ZALV	**Zalesovo Beam**	**139.22**	**26**	PKP	PKPdf	00 22 50.2	+0.9
	0.5nm,0.4s,baz=304,slow=1.1,SNR=3.3						
ZALV	**Zalesovo Beam**	**139.22**	**26**	PKP	PKPdf	00 22 50.2	+0.9
SONM	**Songino Array**	**151.18**	**10**	PKPbc	PKPbc	00 23 17.1	+1.1
	1.8nm,0.6s,baz=302,slow=1.9,SNR=4.4						
SONM	**Songino Array**	**151.18**	**10**	PKPbc	PKPbc	00 23 17.1	+1.1

IDC 24 00:23:31.5±67.0, 12.96S×167.46E, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/18, mbtmp4.1/3, Error ellipse: s-maj=1134.0km s-min=119.3km az=63.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.29**	**227**	P	P	00 29 45.0	+0.4
	1.3nm,0.5s,baz=55,slow=10.0,SNR=5.8						
WRA	**Warramunga Arr**	**32.47**	**253**	P	P	00 30 04.1	+0.2
	0.4nm,1.0s,baz=86,slow=8.7,SNR=4.9						
ASAR	**Alice Springs**	**33.50**	**247**	P	P	00 30 12.3	-0.5
	0.4nm,0.3s,baz=74,slow=9.1,SNR=6.8						

*IDC **24** 00:25:14.7±4.3, 10.46S×75.36W, h15km±27km, mb3.9/5, mb1 4.1/6, mb1mx3.9/21, mbtmp3.9/6, ML4.1/1, MS3.0/3, Ms1 3.1/3, ms1mx2.7/36, Error ellipse: s-maj=23.5km s-min=20.0km az=76.0*

*NEIC **24** 00:25:19.0±0.7, 10.55S×75.50W, h50km±8km, mb4.0/2, Error ellipse: s-maj=12.6km s-min=6.5km az=69.0*

NEIC Felt [II] at Huancabamba.

ISC 24 00:25:14.0±1.9, 10.56S±0.05×75.29W±0.07, h8km±12km, n35, σ1s23/31, mb4.0/5, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.08**	**227**	Pn	**Pn**	**00 25 49.1**	**-0.1**
	67nm,0.3s,baz=34,slow=19,SNR=92						
NNA				Pg	**Pg**	**00 25 52.8**	**-1.1**
	164nm,0.3s,baz=29,slow=14,SNR=88						
NNA				Sn	**Sn**	**00 26 15.4**	**+0.1**
	82nm,0.3s,baz=308,slow=13,SNR=6.6						
NNA				Lg		00 26 21.6	
	335nm,0.3s,baz=144,slow=6.6,SNR=20						
NNA				LR	LR	00 26 43.7	
	comp=Z,740nm,19.6s,baz=45,slow=42						
NNA	**Nana**	**2.08**	**227**	Pn	**Pn**	**00 25 49.1**	**-0.1**
NNA				Pg	**Pg**	**00 25 52.8**	**-1.1**
NNA				Sn	**Sn**	**00 26 15.4**	**+0.1**
NNA				Lg		00 26 21.6	
ATAH	**Atahualpa**	**4.58**	**318**	Pn	**Pn**	**00 26 25.4**	**+1.7**
	7.4nm,0.3s,baz=124,slow=5.8,SNR=27						
ATAH				Sn	**Sn**	**00 27 17.9**	**+0.6**
	1.6nm,0.3s,baz=125,slow=22,SNR=3.5						
ATAH				LR	LR	00 28 27.2	
	comp=Z,102nm,18.8s,baz=38,slow=43						
ATAH	**Atahualpa**	**4.58**	**318**	Pn	**Pn**	**00 26 25.4**	**+1.7**
ATAH				Sn	**Sn**	**00 27 17.9**	**+0.6**
LPAZ	**La Paz**	**8.99**	**130**	Pn	**Pn**	**00 27 29.8**	**+5.6**
	0.2nm,0.3s,baz=341,slow=14,SNR=6.6						
LPAZ				Lg		00 30 01.4	
	0.4nm,0.3s,baz=191,slow=20,SNR=5.2						
LPAZ				LR	LR	00 31 53.6	
	comp=Z,88nm,18.8s,baz=7.0,slow=44						
LPAZ	**La Paz**	**8.99**	**130**	Pn	**Pn**	**00 27 29.8**	**+5.6**
LPAZ				Lg		00 30 01.4	
OTAV	**Otavalo**	**11.18**	**343**	*e*Pn	**Pn**	**00 27 55.8**	**+1.5**
LCO	**Las Campanas**	**18.85**	**167**	*e*P	**Pn**	**00 29 36.0**	**+1.0**
	9.3nm,0.9s						
SDV	**Santo Domingo**	**19.87**	**14**	*e*P	**Pn**	**00 29 46.8**	**-0.6**
	3.5nm,0.5s						
CFAA	**Coronel Fontan**	**21.93**	**164**	P	**P**	**00 30 10.1**	**+2.0**
	0.3nm,0.7s,baz=332,slow=12,SNR=5.1						
CFAA	**Coronel Fontan**	**21.93**	**164**	P	**P**	**00 30 10.1**	**+2.0**
CPUP	**Villa Florida**	**23.11**	**135**	P	**P**	**00 30 21.6**	**+1.0**
	1.9nm,0.6s,mb3.7,baz=286,slow=10.0,SNR=5.4						
CPUP	**Villa Florida**	**23.11**	**135**	P	**P**	**00 30 21.6**	**+1.0**
TEIG	**Tepich**	**33.16**	**337**	P	**P**	**00 31 51.1**	**0.0**
	46nm,0.7s,baz=49,slow=20,SNR=3.0						
TEIG	**Tepich**	**33.16**	**337**	P	**P**	**00 31 51.1**	**0.0**
PDAR	**Pinedale Array**	**61.63**	**332**	P	**P**	**00 35 31.4**	**-0.8**
	0.7nm,0.9s,mb3.8,baz=144,slow=6.3,SNR=3.4						
PDAR	**Pinedale Array**	**61.63**	**332**	P	**P**	**00 35 31.4**	**-0.8**
VNA2	**Neumayer--Watz**	**72.92**	**161**	*e*	**P**	**00 36 40.0**	**-3.5**
	baz=280,slow=5.7						
SNAA	**Sanae**	**74.54**	**162**	*e*	**P**	**00 36 48.5**	**-4.5**
YKA	**Yellowknife Ar**	**78.94**	**343**	P	**P**	**00 37 15.7**	**-2.1**
	0.4nm,0.5s,mb3.6,baz=141,slow=6.0,SNR=4.5						
YKA	**Yellowknife Ar**	**78.94**	**343**	P	**P**	**00 37 15.7**	**-2.1**
TORD	**Torodi Ar. Bea**	**79.95**	**75**	P	**P**	**00 37 23.5**	**-0.8**
	2.5nm,0.8s,mb4.2,baz=275,slow=5.6,SNR=14						
TORD	**Torodi Ar. Bea**	**79.95**	**75**	P	**P**	**00 37 23.5**	**-0.8**
INK	**Inuvik**	**88.66**	**342**	P	**P**	**00 38 05.8**	**-1.6**
	1.8nm,0.7s,mb4.5,baz=77,slow=8.7,SNR=11						
INK	**Inuvik**	**88.66**	**342**	P	**P**	**00 38 05.8**	**-1.6**
ZALV	**Zalesovo Beam**	**133.90**	**16**	PKP	PKPdf	00 44 31.2	-0.4
	1.3nm,0.6s,baz=266,slow=2.0,SNR=8.7						
ZALV	**Zalesovo Beam**	**133.90**	**16**	PKP	PKPdf	00 44 31.2	-0.4
ASAR	**Alice Springs**	**135.59**	**220**	PKP	PKPdf	00 44 34.5	-1.3
	0.4nm,0.8s,baz=126,slow=2.5,SNR=4.6						
ASAR	**Alice Springs**	**135.59**	**220**	PKP	PKPdf	00 44 34.5	-1.3
WRA	**Warramunga Arr**	**137.93**	**224**	PKP	PKPdf	00 44 39.6	-0.6
	0.5nm,0.6s,baz=129,slow=2.0,SNR=6.0						
WRA	**Warramunga Arr**	**137.93**	**224**	PKP	PKPdf	00 44 39.6	-0.6
SONM	**Songino Array**	**142.82**	**358**	PKhKP	PKPpre	00 44 43.5	
	0.4nm,0.6s,baz=343,slow=4.5,SNR=3.7						
SONM				PKP	PKPdf	00 44 46.8	-1.4
	0.4nm,0.6s,baz=341,slow=3.1,SNR=3.8						
SONM	**Songino Array**	**142.82**	**358**	PKPpre	PKPpre	00 44 43.5	
SONM				PKP	PKPdf	00 44 46.8	-1.4
KSRS	**Korea Array**	**146.04**	**326**	PKPbc	PKPbc	00 44 53.5	-1.4
	0.9nm,0.3s,baz=50,slow=2.1,SNR=5.9						
KSAR	**Wonju Array Be**	**146.07**	**326**	PKPbc	PKPbc	00 44 53.5	-1.5

*CASC **24** 00:28:53.5±2.5, 13.94N×92.02W, h60km±50km, MD4.0, ML4.7, mb3.5(NEIC)*

*ISCJB **24** 00:28:54.5±0.6, 14.14N±0.06×91.91W±0.04, h76km±5km, mb3.6/10, Error ellipse: s-maj=11.7km s-min=3.9km az=30.6*

*IDC **24** 00:28:56.0±1.0, 14.38N×91.53W, h63km±6km, mb3.4/9, mb1 3.7/11, mb1mx3.6/27, mbtmp3.5/11, Error ellipse: s-maj=32.4km s-min=13.6km az=42.0*

*MEX **24** 00:28:57.2±0.5, 14.02N×92.17W, h45km±22km, MD4.1*

*NEIC **24** 00:29:01.0±1.3, 14.40N×91.40W, h112km±11km, mb3.5/2, Error ellipse: s-maj=19.7km s-min=8.2km az=57.0*

ISC 24 00:28:55.6±0.5, 14.15N±0.06×91.90W±0.04, h67km±5km, h62km±3.0km:pP-P, n56, σ1s21/64, mb3.6/10, 3C-3D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.31**	**57**	⇓*i*P	**Pn**	**00 29 06.5**	**0.0**
THIG		**0.83**	**335**	*i* S	**Sn**	**00 29 22.9**	**-1.0**
FG6		**1.07**	**67**	⇑*i*P	**Pn**	**00 29 14.9**	**0.0**
FUG	**Fuego 3**	**1.07**	**74**	⇑*i*P	**Pn**	**00 29 14.4**	**-0.5**
PSG	**Pto de San Jos**	**1.10**	**100**	*e*P	**Pn**	**00 29 14.8**	**-0.4**
PCG	**Pacaya**	**1.28**	**79**	⇑*e*P	**Pn**	**00 29 17.8**	**+0.2**
IXG	**Ixpaco**	**1.41**	**89**	*e*P	**Pn**	**00 29 19.0**	**-0.2**
NBG	**Las Nubes**	**1.57**	**74**	*e*P	**Pn**	**00 29 22.9**	**+1.4**
NBG				*e*S	**Sn**	**00 29 46.9**	**+6.0**
PCIG		**2.00**	**321**	*i* P	**Pn**	**00 29 26.6**	**-0.7**
PCIG				*i* S	**Sn**	**00 29 49.3**	**-2.0**
CCIG	**Comitan**	**2.13**	**354**	*i* P	**Pn**	**00 29 30.8**	**+1.8**
CCIG				*i* S	**Sn**	**00 29 55.7**	**+1.3**
RBDL	**Robledal**	**2.15**	**91**	⇓*i*P	**Pn**	**00 29 29.5**	**+0.3**
RTR	**El Retiro**	**2.21**	**96**	⇓*i*P	**Pn**	**00 29 30.3**	**+0.3**
SBLS	**San Blas**	**2.23**	**98**	*i* P	**Pn**	**00 29 30.4**	**0.0**
SNJE	**San Jose**	**2.25**	**97**	*e*P	**Pn**	**00 29 31.0**	**+0.4**
MTO2	**Montecristo 2**	**2.48**	**84**	*e*P	**Pn**	**00 29 33.4**	**-0.3**
BOQS	**Boqueron**	**2.58**	**99**	*i* P	**Pn**	**00 29 35.4**	**+0.3**
SNET	**Serv Nac Est T**	**2.63**	**100**	*e*S	**Sn**	**00 30 06.0**	**-0.7**
SNET				AML	AML	00 30 10.2	
	comp=N,6μm,0.2s						
TGIG		**2.87**	**336**	*i* P	**Pn**	**00 29 39.3**	**+0.3**
TGIG				*i* S	**Sn**	**00 30 12.3**	**0.0**
CMIG	**Matias Romero**	**4.10**	**316**	P	**Pn**	**00 29 55.8**	**0.0**
	comp=N,8.1nm,0.3s,baz=134,slow=12,SNR=39						
CMIG				S	**Sn**	**00 30 44.0**	**+1.4**
	comp=N,44nm,0.3s,baz=36,slow=23,SNR=8.8						
CMIG	**Matias Romero**	**4.10**	**316**	P	**Pn**	**00 29 55.8**	**0.0**
CMIG				S	**Sn**	**00 30 44.0**	**+1.4**
CMIG	**Matias Romero**	**4.10**	**316**	*i* P	**Pn**	**00 29 55.6**	**-0.2**
CMIG				*i* S	**Sn**	**00 30 39.9**	**-2.6**
HUIG	**Huatulco**	**4.37**	**292**	*i* P	**Pn**	**00 29 56.8**	**-2.8**
HUIG				*i* S	**Sn**	**00 30 45.7**	**-3.5**
TGUH	**Tegucigalpa,Un**	**4.49**	**91**	*e*Pn	**Pn**	**00 30 00.6**	**-0.7**
TGUH				*e*Sn	**Sn**	**00 30 41.7**	**-11**
VHO	**Vista Hermosa**	**5.49**	**303**	*i* P	**Pn**	**00 30 15.2**	**+0.4**
VHO				*i* S	**Sn**	**00 31 14.4**	**-2.1**
PNIG	**Pinotepa**	**6.41**	**291**	*i* P	**Pn**	**00 30 25.5**	**-1.9**
PNIG				*i* S	**Sn**	**00 31 42.9**	**+3.7**
TPIG	**Tehuac#an**	**6.74**	**310**	*i* S	**Sn**	**00 31 49.8**	**+2.4**
TEIG	**Tepich**	**6.96**	**29**	P	**Pn**	**00 30 34.7**	**-0.3**
	comp=N,16nm,0.3s,baz=4.0,slow=1.1,SNR=75						
TEIG	**Tepich**	**6.96**	**29**	*e*Pn	**Pn**	**00 30 35.1**	**0.0**
TEIG				*e*Sn	**Sn**	**00 31 43.9**	**-9.0**
JTS	**JuntasAbangare**	**7.80**	**119**	P	**Pn**	**00 30 47.7**	**+1.2**
	comp=N,4.6nm,0.3s,baz=316,slow=21,SNR=17						
JTS	**JuntasAbangare**	**7.80**	**119**	P	**Pn**	**00 30 47.7**	**+1.2**
CAIG	**El Cayaco**	**8.56**	**291**	*i* P	**Pn**	**00 30 57.8**	**+1.0**
TXAR	**Lajitas Array**	**18.62**	**326**	P	**Pn**	**00 33 10.7**	**+1.9**
	comp=N,0.1nm,0.3s,baz=156,slow=13,SNR=11						
TXAR	**Lajitas Array**	**18.62**	**326**	P	**Pn**	**00 33 10.7**	**+1.9**
WMOK	**Wichita Mounta**	**21.42**	**344**	*e*Pn	**P**	**00 33 37.6**	**-0.5**
	comp=N,1.7nm,0.8s,mb3.4						
TKL	**Tuckaleechee C**	**22.63**	**17**	P	**P**	**00 33 49.2**	**-1.8**
	comp=N,0.7nm,0.4s,mb3.4,baz=74,slow=18,SNR=2.4						
TKL	**Tuckaleechee C**	**22.63**	**17**	P	**P**	**00 33 49.2**	**-1.8**
ANMO	**Albuquerque**	**24.52**	**330**	P	**P**	**00 34 10.9**	**+1.2**
	comp=N,1.1nm,0.5s,mb3.5,baz=142,slow=9.9,SNR=6.5						
ANMO	**Albuquerque**	**24.52**	**330**	*e*P	**P**	**00 34 10.1**	**+1.2**
	comp=N,0.9nm,0.4s,mb3.5						
NVAR	**Mina Array Bea**	**33.61**	**321**	P	**P**	**00 35 33.1**	**+3.4**
	comp=N,1.1nm,0.6s,mb3.8,baz=131,slow=8.2,SNR=10.0						
NVAR				pP	pP	00 35 48.4	+2.4
	comp=N,3.3nm,0.7s,baz=135,slow=8.5,SNR=14						
NVAR	**Mina Array Bea**	**33.61**	**321**	P	**P**	**00 35 33.1**	**+3.4**
NVAR				pP	pP	00 35 48.4	+2.4
CFAA	**Coronel Fontan**	**50.85**	**154**	P	**P**	**00 37 50.9**	**+1.2**
	comp=N,0.2nm,0.5s,mb3.4,baz=325,slow=5.3,SNR=6.1						
CFAA	**Coronel Fontan**	**50.85**	**154**	P	**P**	**00 37 50.9**	**+1.2**
YKA	**Yellowknife Ar**	**50.90**	**347**	P	**P**	**00 37 49.8**	**+0.1**
	comp=N,0.3nm,0.6s,mb3.5,baz=150,slow=7.0,SNR=3.4						
YKA				pP	pP	00 38 04.4	-2.4
	comp=N,0.8nm,0.7s,baz=146,slow=7.7,SNR=3.7						
YKA	**Yellowknife Ar**	**50.90**	**347**	P	**P**	**00 37 49.8**	**+0.1**
YKA				pP	pP	00 38 04.4	-2.4
INK	**Inuvik**	**60.32**	**343**	P	**P**	**00 38 56.1**	**-1.0**
	comp=N,0.6nm,0.6s,mb3.8,baz=112,slow=6.9,SNR=3.5						
INK	**Inuvik**	**60.32**	**343**	P	**P**	**00 38 56.1**	**-1.0**
ILAR	**Eielson Array**	**62.74**	**337**	P	**P**	**00 39 14.0**	**+0.6**
	comp=N,1.2nm,0.9s,mb3.8,baz=139,slow=3.4,SNR=9.8						
ILAR				pP	pP	00 39 30.9	-0.3
	comp=N,1.0nm,0.7s,baz=170,slow=4.0,SNR=5.4						
ILAR	**Eielson Array**	**62.74**	**337**	P	**P**	**00 39 14.0**	**+0.6**
ILAR				pP	pP	00 39 30.9	-0.3
EKA	**Eskdalemuir Ar**	**77.79**	**36**	P	**P**	**00 40 42.7**	**-2.8**
	comp=N,3.5nm,1.0s,mb4.0,baz=268,slow=6.7,SNR=3.7						
EKA	**Eskdalemuir Ar**	**77.79**	**36**	P	**P**	**00 40 42.7**	**-2.8**
TORD	**Torodi Ar. Bea**	**90.25**	**76**	P	**P**	**00 41 47.5**	**-2.2**
	comp=N,0.3nm,0.7s,mb3.5,baz=295,slow=5.2,SNR=3.5						
TORD	**Torodi Ar. Bea**	**90.25**	**76**	P	**P**	**00 41 47.5**	**-2.2**
MKAR	**Makanchi Array**	**119.12**	**5**	PKP	PKPdf	00 47 36.8	-0.2
	comp=N,0.3nm,0.8s,baz=0.2,slow=1.3,SNR=3.4						
MKAR	**Makanchi Array**	**119.12**	**5**	PKP	PKPdf	00 47 36.8	-0.2
CMAR	**Chiang Mai Arr**	**145.88**	**341**	PKPbc	PKPbc	00 48 28.1	-0.2
	comp=N,3.1nm,0.7s,baz=340,slow=3.8,SNR=18						
CMAR				pPKPbc	pPKPbc	00 48 45.9	-1.6
	comp=N,2.3nm,0.6s,baz=339,slow=3.4,SNR=5.2						
CMAR	**Chiang Mai Arr**	**145.88**	**341**	PKPbc	PKPbc	00 48 28.1	-0.2
CMAR				pPKPbc	pPKPbc	00 48 45.9	-1.6

*NIED **24** 00:41:00, 33.60N×134.50E, h20km, Mw3.5 Best double couple: M◎2.37000×10^14 NP1:φs145.00000°, δ87.00000°, λ172.00000°. NP2:φs235.00000°, δ82.00000°, λ3.00000°.*

JMA 24 00:41:02.8, 33.62N×134.46E, h34km, M3.9, 5C-4D Broadband fault plane solution: P waves. NP1: φs144.00000°, δ71.00000°, λ-175.00000°. **NP2:** φs53.00000°, δ85.00000°, λ-19.00000°. **Principal axes:** T Plg10.0000°, Azm100.0000°; N Plg70.0000°, Azm219.0000°; P Plg17.0000°, Azm7.0000°; **Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAI	**Aioi**	**0.17**	**358**	⇓P	Pb	00 41 09.1	-0.1
JAI				S	Sb	00 41 13.4	-0.2
MRT2	**Murotomisaki 2**	**0.35**	**229**	⇓P	Pb	00 41 10.8	-0.5
MRT2				S	Sb	00 41 16.4	-0.7
JMN	**Monobe**	**0.50**	**283**	⇑P	Pb	00 41 13.1	-0.3
JWM	**Minabe**	**0.78**	**73**	⇑P	Pn	00 41 17.0	-0.4
JWM				S	Sn	00 41 27.1	-0.8
JJS	**Sakaide**	**0.87**	**330**	⇓P	Pn	00 41 18.5	-0.1
JJS				S	Sn	00 41 29.5	-0.6
JAJ2	**Tsuna**	**0.87**	**24**	⇓P	Pn	00 41 18.8	+0.1
JAJ2				S	Sn	00 41 30.4	+0.2
JWY	**Kouya**	**1.11**	**57**	⇑P	Pn	00 41 21.8	-0.2
JWY				S	Sn	00 41 35.6	-0.6
JET	**Tanbara**	**1.19**	**278**	⇑P	Pn	00 41 22.6	-0.4
JET				S	Sn	00 41 37.1	-0.8
JKU	**Kubokawa**	**1.21**	**256**	⇑P	Pn	00 41 22.6	-0.7
MAT	**Matsushiro**	**4.24**	**45**	P	Pn	00 42 06.1	+1.2
MAT				S	Sn	00 42 52.5	-0.6

*ISCJB **24** 00:43:55.7±0.5, 10.69N±0.04×62.61W±0.03, h102km±6km Error ellipse: s-maj=6.6km s-min=3.9km az=153.6*

*FUNV **24** 00:43:57.3, 10.66N×62.53W, h98km, MW3.2*

*TRN **24** 00:44:02.0, 10.85N×62.24W, h102km, MD3.1*

ISC 24 00:43:56.6±0.5, 10.70N±0.04×62.60W±0.03, h99km±6km, n25, σ1s30/42, 5C-2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.38**	**98**	⇑*i*P	**Pn**	**00 44 11.8**	**+0.4**
GUIV				*e*S	**Sn**	**00 44 21.2**	**-1.3**
CRUV	**Carupano**	**0.62**	**268**	*e*P	**Pn**	**00 44 13.8**	**+0.6**
CRUV				*e*S	**Sn**	**00 44 26.1**	**+0.5**
GUNV	**Guanoco**	**0.63**	**212**	⇑*i*P	**Pn**	**00 44 14.3**	**+1.0**
GUNV				*e*S	**Sn**	**00 44 26.1**	**+0.4**
ITEV	**Isla Los Testi**	**0.83**	**321**	⇓*e*P	**Pn**	**00 44 16.5**	**+1.4**
ITEV				*e*S	**Sn**	**00 44 30.1**	**+1.1**
TRN	**Trinidad (W)**	**1.18**	**92**	⇑*i*P	**Pn**	**00 44 20.5**	**+1.6**
TRN				*e*S	**Sn**	**00 44 35.4**	**-0.4**
TBH	**Brigand Hill**	**1.52**	**98**	*e*P	**Pn**	**00 44 24.8**	**+1.7**
TBH				*e*S	**Sn**	**00 44 42.5**	**-0.7**
GRW	**Mount Saint Ca**	**1.72**	**32**	*e*P	**Pn**	**00 44 27.9**	**+2.4**
GRW				*e*S	**Sn**	**00 44 45.7**	**-1.8**
GRHS	**Sauteurs**	**1.78**	**32**	*e*P	**Pn**	**00 44 28.5**	**+2.1**
GRHS				*e*S	**Sn**	**00 44 47.1**	**-1.9**
ORIV	**Oritupano**	**1.81**	**206**	⇑*i*P	**Pn**	**00 44 27.1**	**+0.5**
TPR	**Prospect**	**1.86**	**75**	*e*P	**Pn**	**00 44 28.9**	**+1.6**
TPR				*e*S	**Sn**	**00 44 46.9**	**-3.8**
GRSS	**Sisters**	**1.86**	**31**	*e*P	**Pn**	**00 44 29.4**	**+2.1**
GRSS				*e*S	**Sn**	**00 44 49.1**	**-1.6**
GRIC	**Isle de Caille**	**1.86**	**32**	*e*P	**Pn**	**00 44 29.5**	**+2.1**
GRIC				*e*S	**Sn**	**00 44 49.7**	**-1.2**
PCRV	**Puerto La Cruz**	**2.07**	**256**	*e*P	**Pn**	**00 44 30.9**	**+0.9**
PCRV				*e*S	**Sn**	**00 44 54.5**	**-1.0**
TOSP	**Speyside**	**2.12**	**74**	*e*P	**Pn**	**00 44 30.6**	**0.0**
TOSP				*e*S	**Sn**	**00 44 53.1**	**-3.5**
RIOV	**Rio Grande**	**2.73**	**163**	*e*P	**Pn**	**00 44 38.3**	**-0.4**
SVB	**Belmont**	**2.88**	**27**	*e*P	**Pn**	**00 44 42.4**	**+1.7**
SVB				*e*S	**Sn**	**00 45 12.8**	**-1.8**
GURV	**El Guri**	**2.96**	**189**	⇓*e*P	**Pn**	**00 44 41.2**	**-0.6**
CUPV	**Cœpira**	**3.20**	**259**	*e*P	**Pn**	**00 44 46.0**	**+1.0**
CUPV				*e*S	**Sn**	**00 45 21.6**	**-0.7**
BIRV	**Birongo**	**3.61**	**267**	*e*P	**Pn**	**00 44 51.5**	**+1.0**
BIRV				*e*S	**Sn**	**00 45 30.2**	**-2.1**
MERV	**Las Mercedes**	**3.91**	**249**	*e*P	**Pn**	**00 44 54.4**	**-0.2**
MERV				*e*S	**Sn**	**00 45 37.8**	**-1.8**
LUEV	**Luepa**	**4.96**	**167**	*e*P	**Pn**	**00 45 06.8**	**-1.9**
TURV	**Turiamo**	**5.16**	**268**	⇑*e*P	**Pn**	**00 45 11.5**	**+0.1**
BAUV	**El Baul**	**5.64**	**252**	*e*P	**Pn**	**00 45 17.4**	**-0.6**
MAPV	**Macapo**	**5.83**	**262**	*e*P	**Pn**	**00 45 20.4**	**-0.2**
TEPV	**Terepaima**	**6.53**	**264**	*e*P	**Pn**	**00 45 29.1**	**-1.0**

WBNET 24 01:01:21.2, 50.24N×12.45E, h7km, MI0.0, 3C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**205**	⇓P	Pg	01 01 22.4	+0.1
NKC				S	Sg	01 01 23.3	+0.1
LBCW	**Luby**	**0.04**	**314**	⇓P	Pg	01 01 22.7	+0.1
LBCW				S	Sg	01 01 23.8	+0.2
STCW	**Studenec**	**0.05**	**66**	⇓P	Pg	01 01 22.7	0.0
STCW				S	Sg	01 01 23.7	-0.1
VAC	**Vackov**	**0.05**	**265**	⇓P	Pg	01 01 22.7	0.0
VAC				S	Sg	01 01 23.8	0.0
POCW	**Po¯ˇitky**	**0.08**	**348**	⇓P	Pg	01 01 23.3	+0.1
POCW				S	Sg	01 01 24.7	+0.2
SKC	**Skalna**	**0.09**	**220**	⇑P	Pg	01 01 23.3	0.0
SKC				S	Sg	01 01 24.7	0.0
KRCW	**Kraslice**	**0.10**	**28**	⇑P	Pg	01 01 23.5	0.0
KRCW				S	Sg	01 01 25.1	0.0
KACW	**Kace¯ov**	**0.10**	**157**	⇓P	Pg	01 01 23.5	0.0
KACW				S	Sg	01 01 25.2	+0.1
ZHC	**Zelena Hora**	**0.19**	**209**	⇑P	Pg	01 01 25.0	0.0
ZHC				S	Sg	01 01 27.6	0.0

WEL 24 01:01:53.5±0.3, 37.28S×176.58E, h169km±4km, ML3.6/5, Error ellipse: s-maj=4.9km s-min=3.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.07**	**157**	PN	Pn	01 02 20.9	+0.3
URZ				SN	Sn	01 02 41.8	+0.2
MWZ	**Matawai**	**1.29**	**145**	PN	Pn	01 02 22.8	+0.2
MWZ				SN	Sn	01 02 44.6	-0.4
MXZ	**Matakaoa Point**	**1.41**	**102**	PN	Pn	01 02 23.8	+0.2
MXZ				SN	Sn	01 02 46.9	+0.2
PUZ	**Puketiti**	**1.55**	**121**	PN	Pn	01 02 24.9	-0.1
PUZ				SN	Sn	01 02 48.7	-0.6
RAHZ	**Arahi**	**1.69**	**166**	PN	Pn	01 02 26.6	+0.2
RAHZ				SN	Sn	01 02 51.3	-0.5
CNGZ	**Carnagh Statio**	**1.76**	**134**	PN	Pn	01 02 27.8	+0.5
BKZ	**Black Stump Fm**	**1.89**	**182**	PN	Pn	01 02 27.8	-0.7
PRGZ	**Paritu Road**	**1.94**	**148**	PN	Pn	01 02 28.8	-0.3
KNZ	**Kokohu**	**1.94**	**154**	PN	Pn	01 02 28.6	-0.5
OTVZ	**Oturere**	**2.02**	**201**

PTOM	**Tomar**	**3.40**	**85**	*e*Pn	**Pn**	**01 23 18.1**	**+0.4**
PTOM				*e*Sn	**Sn**	**01 23 59.0**	**+0.9**
	3.1nm,0.6s						
PTOM	**Tomar**	**3.40**	**85**	*e*Pn	**Pn**	**01 23 18.1**	**+0.4**
PTOM				*e*Sn	**Sn**	**01 23 59.0**	**+0.9**
PTOM				A		01 24 08.9	
	3.1nm,0.6s						
PMTG	**Montargil**	**3.57**	**94**	*e*Pn	**Pn**	**01 23 20.8**	**+0.8**
PMTG				*e*Sn	**Sn**	**01 24 03.2**	**+1.0**
	0.6nm,0.1s						
PMTG	**Montargil**	**3.57**	**94**	*e*Pn	**Pn**	**01 23 20.8**	**+0.8**
PMTG				*e*Sn	**Sn**	**01 24 03.2**	**+1.0**
PMTG				A		01 24 06.1	
	0.6nm,0.1s						
PNCL	**Nicolau / Gran**	**3.58**	**110**	*e*Pn	**Pn**	**01 23 19.9**	**-0.3**
PNCL				*e*Sn	**Sn**	**01 24 01.8**	**-0.8**
	0.7nm,0.1s						
PNCL	**Nicolau / Gran**	**3.58**	**110**	*e*Pn	**Pn**	**01 23 19.9**	**-0.3**
PNCL				*e*Sn	**Sn**	**01 24 01.8**	**-0.8**
PNCL				A		01 24 05.5	
	0.7nm,0.1s						
PFVI	**Vila Bisbo**	**3.87**	**125**	P	**Pn**	**01 23 22.5**	**-1.6**
	1.0nm,0.1s,SNR=7.9						
PFVI				S	**Sn**	**01 24 05.7**	**-4.0**
	0.3nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.87**	**125**	P	**Pn**	**01 23 22.5**	**-1.7**
	1.0nm,0.1s,SNR=7.9						
PVIS	**Viseu**	**3.98**	**69**	*e*Sn	**Sn**	**01 24 12.3**	**-0.1**
	1.6nm,0.1s						
PVIS	**Viseu**	**3.98**	**69**	*e*Sn	**Sn**	**01 24 12.3**	**-0.1**
PVIS				A		01 24 13.5	
	1.6nm,0.1s						
PESTR	**Estremoz**	**4.09**	**96**	*e*Sn	**Sn**	**01 24 16.0**	**+1.0**
PESTR	**Estremoz**	**4.09**	**96**	*e*Sn	**Sn**	**01 24 16.0**	**+1.0**
PCBR	**Castelo Branco**	**4.13**	**82**	*e*Pn	**Pn**	**01 23 27.9**	**+0.1**
PCBR				*e*Sn	**Sn**	**01 24 15.8**	**-0.3**
PCBR	**Castelo Branco**	**4.13**	**82**	*e*Pn	**Pn**	**01 23 27.9**	**+0.1**
PCBR				*e*Sn	**Sn**	**01 24 15.8**	**-0.3**
PMRV	**Marv??o**	**4.19**	**88**	*e*Pn	**Pn**	**01 23 28.8**	**+0.2**
PMRV				*e*Sn	**Sn**	**01 24 17.5**	**0.0**
	1.4nm,0.5s						
PMRV	**Marv??o**	**4.19**	**88**	*e*Pn	**Pn**	**01 23 28.8**	**+0.2**
PMRV				*e*Sn	**Sn**	**01 24 17.5**	**0.0**
PMRV				A		01 24 22.8	
	1.4nm,0.5s						
ELOB	**Lobios**	**4.36**	**54**	P	**Pn**	**01 23 30.3**	**-0.6**
	0.1nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**01 24 20.2**	**-1.5**
	0.2nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**4.36**	**54**	P	**Pn**	**01 23 30.3**	**-0.6**
	0.1nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**01 24 21.5**	**-0.2**
	0.2nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**4.55**	**96**	P	**Pn**	**01 23 34.3**	**+0.8**
	0.1nm,0.1s,SNR=4.0						
EBAD				S	**Sn**	**01 24 26.1**	**-0.4**
	0.1nm,0.0s,SNR=7.9						
EBAD	**Badajoz**	**4.55**	**96**	P	**Pn**	**01 23 34.3**	**+0.8**
	0.1nm,0.1s,SNR=4.0						
EBAD				S	**Sn**	**01 24 26.4**	**-0.1**
	0.1nm,0.0s,SNR=7.9						
EGRO	**El Granado**	**4.58**	**113**	S	**Sn**	**01 24 25.8**	**-1.3**
	0.1nm,0.0s,SNR=7.9						
EGRO	**El Granado**	**4.58**	**113**	S	**Sn**	**01 24 25.8**	**-1.3**
	0.1nm,0.0s,SNR=7.9						
MVO	**Moncorvo**	**4.75**	**67**	P	**Pn**	**01 23 36.6**	**+0.4**
	0.3nm,0.0s,SNR=7.9						
MVO				S	**Sn**	**01 24 29.8**	**-1.5**
	0.2nm,0.0s,SNR=7.9						
MVO	**Moncorvo**	**4.75**	**67**	P	**Pn**	**01 23 36.6**	**+0.4**
	0.3nm,0.0s,SNR=7.9						
MVO				S	**Sn**	**01 24 30.2**	**-1.1**
	0.2nm,0.0s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.07**	**107**	P	**Pn**	**01 23 41.0**	**+0.2**
	0.1nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**01 24 38.0**	**-1.4**
	0.0nm,0.0s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.07**	**107**	P	**Pn**	**01 23 41.0**	**+0.3**
	0.1nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**01 24 39.4**	**0.0**
	SNR=7.9						

ISCJB ***24*** *01:24:53.8±0.8, 33°.48N±0'.04×0°.39W±0'.05, h10km, Error ellipse: s-maj=6.3km s-min=6.1km az=32.7*
MDD ***24*** *01:24:55.7±1.8, 33°.51N×0'.13W, h0km, mb3.8/17, Error ellipse: s-maj=16.7km s-min=14.7km az=131.0, PRIMO*
CSEM ***24*** *01:24:56.0±0.6, 33°.34N×0°.27W, h30km, MD3.8, Error ellipse: s-maj=12.9km s-min=8.8km az=122.0*
CNRM ***24*** *01:25:03.1, 32°.70N×0°.82W, h30km, MD3.8*

ISC 24 01:24:55.4±0.8, 33°.44N±0'.04×0°.41W±0'.05, h10km, n56, σ1°27/100, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAI	**Zaio**	**2.47**	**309**	P	**Pg**	**01 25 43.0**	**+0.3**
ZAI				S	**Sg**	**01 26 15.0**	**+0.3**
ZAI	**Zaio**	**2.47**	**309**	*i* P	**Pg**	**01 25 43.0**	**+0.3**
ZAI				*i* S	**Sg**	**01 26 15.0**	**+0.3**
TOU	**Touzarine**	**3.16**	**300**	P	**Pb**	**01 25 52.0**	**+0.3**
TOU				S	**Sb**	**01 26 30.0**	**-0.3**
TOU	**Touzarine**	**3.16**	**300**	*i* P	**Pb**	**01 25 52.0**	**+0.3**
TOU				*i* S	**Sb**	**01 26 30.0**	**-0.3**
TZK	**Tazeka**	**3.21**	**283**	P	**Pn**	**01 25 50.0**	**+4.1**
TZK				S	**Sn**	**01 26 23.0**	**-1.2**
TZK	**Tazeka**	**3.21**	**283**	*i* P	**Pn**	**01 25 50.0**	**+4.1**
TZK				*i* S	**Sn**	**01 26 23.0**	**-1.2**
EALB	**Alboran**	**3.30**	**320**	S	**Sn**	**01 26 28.2**	**+1.7**
	12nm,0.3s,SNR=4.0						
EALB	**Alboran**	**3.30**	**320**	S	**Sn**	**01 26 28.2**	**+1.7**
	12nm,0.3s,SNR=4.0						
ZFT	**Errachidia**	**3.60**	**248**	P	**Pn**	**01 25 49.0**	**-2.4**
ZFT				S	**Sn**	**01 26 21.0**	**-13**
ZFT	**Errachidia**	**3.60**	**248**	*i* P	**Pn**	**01 25 49.0**	**-2.4**
ZFT				*i* S	**Sn**	**01 26 21.0**	**-13**
ENIJ	**Nijar**	**3.82**	**338**	P	**Pn**	**01 25 53.2**	**-1.1**
	3.0nm,0.1s,SNR=7.9						
ENIJ				S	**Sn**	**01 26 38.2**	**-1.0**
	8.9nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**3.82**	**338**	P	**Pn**	**01 25 53.2**	**-1.1**
	3.0nm,0.1s,SNR=7.9						
ENIJ				S	**Sn**	**01 26 38.1**	**-1.2**
	8.9nm,0.3s,SNR=7.9						
TGT	**Taghat**	**3.92**	**281**	P	**Pn**	**01 25 58.0**	**+2.3**
TGT				S	**Sn**	**01 26 39.0**	**-2.8**
TGT	**Taghat**	**3.92**	**281**	*e*P	**Pn**	**01 25 58.0**	**+2.3**
TGT				*i* S	**Sn**	**01 26 39.0**	**-2.8**
EBER	**Berja**	**4.01**	**330**	P	**Pn**	**01 25 57.7**	**+0.9**
	1.6nm,0.2s,SNR=8.4						
EBER				S	**Sn**	**01 26 44.6**	**+0.8**
	11nm,0.5s,SNR=6.5						
EBER	**Berja**	**4.01**	**330**	P	**Pn**	**01 25 57.7**	**+0.9**
	1.6nm,0.2s,SNR=8.4						
EBER				S	**Sn**	**01 26 44.6**	**+0.8**
	11nm,0.5s,SNR=6.5						
EGUA	**Guajares**	**4.26**	**324**	P	**Pn**	**01 25 59.5**	**-0.9**
	4.0nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**01 26 50.5**	**+0.3**
	26nm,0.6s,SNR=7.9						
EGUA	**Guajares**	**4.26**	**324**	P	**Pn**	**01 25 59.5**	**-0.9**
	4.0nm,0.2s,SNR=7.9						
EGUA				S	**Sn**	**01 26 50.5**	**+0.3**
	26nm,0.6s,SNR=7.9						
EMUR	**La Murta**	**4.45**	**351**	P	**Pn**	**01 26 02.9**	**0.0**
	1.7nm,0.2s,SNR=41						
EMUR				S	**Sn**	**01 26 51.5**	**-3.2**
	1.0nm,0.2s						
EMUR	**La Murta**	**4.45**	**351**	P	**Pn**	**01 26 02.9**	**0.0**
	1.7nm,0.2s,SNR=41						
EMUR				S	**Sn**	**01 26 50.2**	**-4.5**
	1.0nm,0.2s						
EQUE	**Quentar**	**4.50**	**327**	P	**Pn**	**01 26 05.3**	**+1.7**
	2.3nm,0.3s,SNR=7.9						
EQUE				S	**Sn**	**01 26 56.4**	**+0.3**
	2.0nm,0.3s,SNR=7.9						
EQUE	**Quentar**	**4.50**	**327**	P	**Pn**	**01 26 05.3**	**+1.6**
	2.3nm,0.3s,SNR=7.9						
EQUE				S	**Sn**	**01 26 57.9**	**+1.8**
	2.0nm,0.3s,SNR=7.9						
ERON	**Agron**	**4.53**	**323**	P	**Pn**	**01 26 03.6**	**-0.4**
	1.6nm,0.2s,SNR=7.9						
ERON				S	**Sn**	**01 26 57.6**	**+0.9**
	4.0nm,0.4s,SNR=7.9						
ERON	**Agron**	**4.53**	**323**	P	**Pn**	**01 26 03.6**	**-0.4**
	1.6nm,0.2s,SNR=7.9						
ERON				S	**Sn**	**01 26 58.3**	**+1.6**
	4.0nm,0.4s,SNR=7.9						
ECOG	**Cogollos-Vega**	**4.62**	**327**	S	**Sn**	**01 26 58.4**	**-0.6**
	3.8nm,0.2s,SNR=4.0						
ECOG	**Cogollos-Vega**	**4.62**	**327**	S	**Sn**	**01 27 00.5**	**+1.6**
	3.8nm,0.2s,SNR=4.0						
EHUE	**Huescar**	**4.71**	**338**	P	**Pn**	**01 26 07.6**	**+1.0**
	1.0nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**01 26 59.9**	**-1.4**
	1.0nm,0.2s,SNR=7.9						
EHUE	**Huescar**	**4.71**	**338**	P	**Pn**	**01 26 07.6**	**+1.0**
	1.0nm,0.2s,SNR=7.9						
EHUE				S	**Sn**	**01 26 58.8**	**-2.5**
	1.0nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**4.75**	**312**	P	**Pn**	**01 26 08.3**	**+1.3**
	0.7nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**01 27 02.7**	**+0.6**
	4.3nm,0.5s,SNR=7.9						
EMIJ	**Mijas**	**4.75**	**312**	P	**Pn**	**01 26 08.0**	**+0.9**
	0.7nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**01 27 02.7**	**+0.5**
	4.3nm,0.5s,SNR=7.9						
KIB	**El Ksiba**	**4.81**	**261**	P	**Pn**	**01 26 08.0**	**+0.1**
KIB				S	**Sn**	**01 26 55.0**	**-8.6**
KIB	**El Ksiba**	**4.81**	**261**	*e*P	**Pn**	**01 26 08.0**	**+0.1**
KIB				*i* S	**Sn**	**01 26 55.0**	**-8.6**
EQES	**Quesada**	**4.87**	**334**	P	**Pn**	**01 26 10.0**	**+1.3**
	2.4nm,0.2s,SNR=22						
EQES				S	**Sn**	**01 27 03.7**	**-1.3**
	3.7nm,0.4s						
EQES	**Quesada**	**4.87**	**334**	P	**Pn**	**01 26 10.0**	**+1.3**
	2.4nm,0.2s,SNR=22						
EQES				S	**Sn**	**01 27 03.7**	**-1.3**
	3.7nm,0.4s						
ELUQ	**Luque**	**5.18**	**324**	P	**Pn**	**01 26 16.2**	**+3.2**
	1.3nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**01 27 12.8**	**+0.1**
	1.2nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**5.18**	**324**	P	**Pn**	**01 26 16.2**	**+3.2**
	1.3nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**01 27 12.8**	**0.0**
	1.2nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**5.26**	**2**	P	**Pn**	**01 26 13.0**	**-1.0**
	0.4nm,0.3s,SNR=7.9						
EBEN				S	**Sn**	**01 27 09.9**	**-4.8**
	0.9nm,0.4s,SNR=4.0						
EBEN	**Beniarda**	**5.26**	**2**	P	**Pn**	**01 26 13.0**	**-1.0**
	0.4nm,0.3s,SNR=7.9						
EBEN				S	**Sn**	**01 27 09.9**	**-4.8**
	0.9nm,0.4s,SNR=4.0						
ETOB	**Tobarra**	**5.28**	**350**	P	**Pn**	**01 26 14.3**	**0.0**
	2.9nm,0.2s,SNR=8.5						
ETOB				S	**Sn**	**01 27 11.6**	**-3.6**
	1.2nm,0.2s,SNR=8.8						
ETOB	**Tobarra**	**5.28**	**350**	P	**Pn**	**01 26 14.3**	**0.0**
	2.9nm,0.2s,SNR=8.5						
ETOB				S	**Sn**	**01 27 11.6**	**-3.6**
	1.2nm,0.2s,SNR=8.8						
TZC	**Tazercounte**	**5.28**	**258**	P	**Pn**	**01 26 13.0**	**-1.4**
TZC				S	**Sn**	**01 27 04.0**	**-11**
TZC	**Tazercounte**	**5.28**	**258**	*e*P	**Pn**	**01 26 13.0**	**-1.4**
TZC				*i* S	**Sn**	**01 27 04.0**	**-11**
EVIA	**Vianos**	**5.46**	**343**	P	**Pn**	**01 26 17.9**	**+1.1**
	4.1nm,0.3s,SNR=7.9						
EVIA				S	**Sn**	**01 27 18.4**	**-1.3**
	3.6nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**5.46**	**343**	P	**Pn**	**01 26 17.9**	**+1.1**
	4.1nm,0.3s,SNR=7.9						
EVIA				S	**Sn**	**01 27 18.4**	**-1.3**
	3.6nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**5.75**	**14**	P	**Pn**	**01 26 19.9**	**-1.0**
	3.7nm,0.3s,SNR=4.0						
EIBI	**Ibiza**	**5.75**	**14**	P	**Pn**	**01 26 19.9**	**-1.0**
	3.7nm,0.3s,SNR=4.0						
EADA	**Adamuz**	**5.81**	**326**	P	**Pn**	**01 26 23.4**	**+1.8**
	0.7nm,0.2s,SNR=4.0						
EADA				S	**Sn**	**01 27 27.1**	**-1.2**
	0.3nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**5.81**	**326**	P	**Pn**	**01 26 23.4**	**+1.8**
	0.7nm,0.2s,SNR=4.0						
EADA				S	**Sn**	**01 27 27.1**	**-1.2**
	0.3nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**6.91**	**360**	P	**Pn**	**01 26 36.4**	**-0.4**
	0.3nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**6.91**	**360**	P	**Pn**	**01 26 36.4**	**-0.4**
	0.3nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**7.07**	**307**	P	**Pn**	**01 26 41.0**	**+2.1**
	0.3nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**7.07**	**307**	P	**Pn**	**01 26 40.1**	**+1.2**
	0.3nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**7.53**	**317**	P	**Pn**	**01 26 47.5**	**+2.2**
	0.3nm,0.2s,SNR=7.9						
EBAD				S	**Sn**	**01 28 09.1**	**-1.6**
	0.4nm,0.2s,SNR=4.0						
EBAD	**Badajoz**	**7.53**	**317**	P	**Pn**	**01 26 47.5**	**+2.2**
	0.3nm,0.2s,SNR=7.9						
EBAD				S	**Sn**	**01 28 09.1**	**-1.6**
	0.4nm,0.2s,SNR=4.0						
EPOB	**Poblet**	**7.99**	**8**	P	**Pn**	**01 26 50.5**	**-1.0**
	0.6nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**7.99**	**8**	P	**Pn**	**01 26 50.5**	**-1.0**
	0.6nm,0.2s,SNR=7.9						

IDC 24 01:24:56.1±2.3, 18°.18S×174°.57W, h0km, mb3.7/5, mb1 4.1/6, mb1mx3.9/20, mbtmp3.7/6, ML1.6/1, Error ellipse: s-maj=120.0km s-min=22.6km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.03**	**33**	Pn	Pn	01 26 13.5	+0.6
	1.2nm,0.3s,baz=12,slow=18,SNR=5.0						
AFI				Sn	Sn	01 27 05.7	-6.1
	6.6nm,0.3s,baz=37,slow=20,SNR=5.6						
WRA	**Warramunga Arr**	**48.17**	**259**	P	P	01 33 38.4	-0.1
	0.4nm,0.3s,baz=96,slow=7.6,SNR=8.7						
ASAR	**Alice Springs**	**48.23**	**254**	P	P	01 33 39.2	+0.2
	1.1nm,0.5s,baz=91,slow=8.4,SNR=10						
NVAR	**Mina Array Bea**	**77.14**	**42**	P	P	01 36 52.2	+0.5
	0.4nm,0.6s,baz=228,slow=8.2,SNR=4.0						
PDAR	**Pinedale Array**	**85.08**	**42**	P	P	01 37 34.1	+0.2
	0.4nm,0.8s,baz=220,slow=6.9,SNR=3.2						
ILAR	**Eielson Array**	**85.38**	**12**	P	P	01 37 34.6	-0.2
	0.3nm,0.9s,baz=220,slow=4.1,SNR=3.4						

ISCJB ***24*** *01:46:50.8±0.7, 23°.38S±0°.05×67°.67W±0°.09, h138km±9km, mb4.2/11, Error ellipse: s-maj=13.5km s-min=7.7km az=170.5*
IDC ***24*** *01:46:51.9±2.0, 23°.35S×67°.59W, h134km±18km, mb4.2/5, mb1 4.1/10, mb1mx3.8/20, mbtmp4.0/10, Error ellipse: s-maj=24.7km s-min=19.0km az=81.0*
NEIC ***24*** *01:46:51.3±0.7, 23°.38S×67°.66W, h128km±7km, mb4.4/9, Error ellipse: s-maj=11.2km s-min=7.2km az=82.0*
GUC ***24*** *01:46:53.6±0.7, 23°.10S×68°.12W, h188km±14km, ML4.6*

ISC 24 01:46:51.7±0.6, 23°.39S±0°.04×67°.68W±0°.09, h135km±8km, n54, σ1°08/52, mb4.2/11, 7C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB04	**Plate Boundary**	**2.01**	**304**	⇑*i* P	**Pn**	**01 47 32.9**	**+6.8**
PB04				*i* S	**Sn**	**01 48 02.8**	**+10**
PB04				AML	AML	01 48 04.7	
	comp=N,4μm,0.6s						
PB09	**Plate Boundary**	**2.15**	**317**	⇑*i* P	**Pn**	**01 47 29.2**	**+1.4**
PB09				*i* S	**Sn**	**01 47 56.1**	**+0.7**
PB09				AML	AML	01 47 57.9	
	comp=N,12μm,0.5s						
MACH	**Maria Elena**	**2.26**	**301**	⇑*i* P	**Pn**	**01 47 30.1**	**+0.9**
MACH				*i* S	**Sn**	**01 47 57.9**	**+0.1**
MACH				AML	AML	01 47 58.9	
	comp=E,43nm,0.1s						
ANCH	**Antofagasta**	**2.52**	**263**	⇑*i* P	**Pn**	**01 47 33.6**	**+1.2**
MECH	**Mejillones**	**2.56**	**276**	*e*P	**Pn**	**01 47 33.9**	**+1.0**
MECH				*i* S	**Sn**	**01 48 04.8**	**+0.2**
MECH				AML	AML	01 48 16.3	
	comp=N,2μm,0.3s						
PB07	**Plate Boundary**	**2.63**	**309**	⇑*i* P	**Pn**	**01 47 34.3**	**+0.5**
PB07				*i* S	**Sn**	**01 48 04.8**	**-1.3**
PB07				AML	AML	01 48 06.4	
	comp=E,6μm,0.4s						
PB01	**Plate Boundary**	**2.88**	**324**	⇑*i* P	**Pn**	**01 47 37.1**	**+0.2**
PB01				*i* S	**Sn**	**01 48 10.1**	**-1.7**
PB01				AML	AML	01 48 11.2	
	comp=E,3μm,0.2s						
HMBC	**Humberston**	**3.72**	**326**	⇑*i* P	**Pn**	**01 47 46.5**	**-1.4**
HMBC				*e*S	**Sn**	**01 48 27.2**	**-4.2**
HMBC				AML	AML	01 48 34.1	
	comp=E,2μm,0.5s						
PSGC	**Pisagua**	**4.41**	**328**	*e*P	**Pn**	**01 47 54.5**	**-2.5**
PSGC				*i* S	**Sn**	**01 48 42.4**	**-5.4**
PSGC				AML	AML	01 48 46.9	
	comp=N,730nm,0.3s						
LCO	**Las Campanas**	**6.22**	**205**	*e*Pn	**Pn**	**01 48 20.1**	**-1.1**
	comp=N,55nm,0.6s						
LCO				*e*S	**Sn**	**01 49 27.0**	**-4.1**
LPAZ	**La Paz**	**7.08**	**356**	P	**Pn**	**01 48 33.6**	**+0.7**
	comp=N,23nm,0.3s,baz=160,slow=6.9,SNR=404						
LPAZ	**La Paz**	**7.08**	**356**	P	**Pn**	**01 48 33.6**	**+0.7**
CFAA	**Coronel Fontan**	**8.20**	**183**	P	**Pn**	**01 48 47.7**	**0.0**
	comp=N,0.5nm,0.3s,baz=354,slow=13,SNR=50						
CFAA	**Coronel Fontan**	**8.20**	**183**	P	**Pn**	**01 48 47.7**	**0.0**
CPUP	**Villa Florida**	**9.84**	**109**	P	**Pn**	**01 49 10.1**	**+0.2**
	comp=N,0.7nm,0.3s,baz=273,slow=12,SNR=22						
CPUP	**Villa Florida**	**9.84**	**109**	*e*Pn	**Pn**	**01 49 09.7**	**-0.1**
NNA	**Nana**	**14.30**	**321**	P	**Pn**	**01 50 08.1**	**-0.1**
	comp=N,0.5nm,0.3s,baz=126,slow=18,SNR=1.8						
NNA	**Nana**	**14.30**	**321**	P	**Pn**	**01 50 08.1**	**-0.1**
TRQA	**Tornquist**	**15.41**	**163**	*e*Pn	**Pn**	**01 50 21.6**	**-0.2**
TRQA				*e*S	**S**	**01 53 17.9**	**-1.0**
PLCA	**Paso Flores**	**17.46**	**187**	P	**Pn**	**01 50 47.8**	**+1.0**
	comp=N,0.3nm,0.3s,baz=350,slow=12,SNR=8.1						
PLCA	**Paso Flores**	**17.46**	**187**	*e*P	**Pn**	**01 50 47.5**	**+0.7**
	comp=N,3.6nm,0.7s						
VNA3	**Neumayer Olymp**	**57.93**	**161**	*e*	**P**	**01 56 27.8**	**-1.5**
VNA1	**Neumayer--Stat**	**58.13**	**160**	*e*	**P**	**01 56 34.6**	**+3.9**
VNA2	**Neumayer--Watz**	**58.50**	**160**	*e*	**P**	**01 56 32.1**	**-1.2**
SNAA	**Sanae**	**60.13**	**161**	*e*	**P**	**01 56 41.3**	**-3.2**
SNAA	**Sanae**	**60.13**	**161**	*e*P	**P**	**01 56 41.3**	**-3.2**
	comp=N,1.8nm,0.6s,mb4.1						
QSPA	**South Pole Qui**	**66.81**	**180**	P	**P**	**01 57 30.5**	**+2.2**
	comp=N,1.8nm,0.5s,mb4.2						
DBIC	**Dimbokro**	**68.20**	**72**	P	**P**	**01 57 37.5**	**-0.6**
	comp=N,8.8nm,0.6s,mb4.7,baz=238,slow=8.4,SNR=19						
DBIC	**Dimbokro**	**68.20**	**72**	*e*P	**P**	**01 57 37.3**	**-0.8**
	comp=N,8.1nm,0.7s,mb4.6						
SYO	**Syowa Base**	**74.34**	**159**	‖*e*P	**P**	**01 58 13.6**	**-0.4**
TORD	**Torodi Ar. Bea**	**76.94**	**69**	P	**P**	**01 58 29.2**	**-0.6**
	comp=N,18nm,0.6s,mb4.8,baz=260,slow=6.2,SNR=190						
TORD	**Torodi Ar. Bea**	**76.94**	**69**	P	**P**	**01 58 29.2**	**-0.6**
TSUM	**Tsumeb**	**78.42**	**106**	*e*P	**P**	**01 58 38.8**	**+0.8**
	comp=N,9.1nm,0.8s,mb4.5						
BOSA	**Boshof**	**81.56**	**117**	P	**P**	**01 58 55.2**	**+0.5**
	comp=N,2.9nm,0.4s,mb4.3,baz=291,slow=3.8,SNR=18						
BOSA	**Boshof**	**81.56**	**117**	P	**P**	**01 58 55.2**	**+0.5**
LBTB	**Lobatse**	**83.20**	**114**	*e*P	**P**	**01 59 03.9**	**+0.6**
	comp=N,6.2nm,0.7s,mb4.5						
TAM	**Tamanrasset**	**84.67**	**63**	*e*P	**P**	**01 59 11.1**	**+0.4**
	comp=N,2.7nm,1.0s,mb3.9						
ESDC	**Sonseca Array**	**86.39**	**44**	P	**P**	**01 59 19.4**	**+0.6**
	comp=N,1.3nm,0.9s,mb3.7,baz=232,slow=6.4,SNR=4.9						
ESDC	**Sonseca Array**	**86.39**	**44**	P	**P**	**01 59 19.4**	**+0.6**
LSZ	**Lusaka**	**89.27**	**106**	*e*P	**P**	**01 59 35.0**	**+1.8**
	comp=N,2.8nm,0.9s,mb4.2						
YKA	**Yellowknife Ar**	**93.34**	**340**	P	**P**	**01 59 50.7**	**-0.1**
	comp=N,1.6nm,0.6s,mb3.8,baz=139,slow=4.3,SNR=4.2						
YKA	**Yellowknife Ar**	**93.34**	**340**	P	**P**	**01 59 50.7**	**-0.1**
ASAR	**Alice Springs**	**128.74**	**206**	PKP	PKPdf	02 05 43.9	+0.1
	comp=N,0.7nm,0.6s,baz=124,slow=1.2,SNR=8.0						
ASAR	**Alice Springs**	**128.74**	**206**	PKP	PKPdf	02 05 43.9	+0.1
WRA	**Warramunga Arr**	**131.87**	**208**	PKP	PKPdf	02 05 49.9	+0.2
	comp=N,0.6nm,0.4s,baz=162,slow=1.5,SNR=16						
WRA	**Warramunga Arr**	**131.87**	**208**	PKP	PKPdf	02 05 49.9	+0.2
KURK	**Kurchatov**	**142.25**	**35**	PKP	PKPdf	02 06 08.9	+1.0
	comp=N,0.6nm,0.5s,baz=309,slow=2.6,SNR=5.2						
KURK	**Kurchatov**	**142.25**	**35**	PKP	PKPdf	02 06 08.9	+1.0
ZALV	**Zalesovo Beam**	**143.15**	**27**	PKhKP	PKPpre	02 06 05.8	
	comp=N,1.4nm,0.5s,baz=301,slow=4.4,SNR=3.9						
ZALV	**Zalesovo Beam**	**143.15**	**27**	PKPpre	PKPpre	02 06 05.8	
SONM	**Songino Array**	**155.16**	**10**	PKP	PKPdf	02 06 29.5	+0.9
	comp=N,0.5nm,0.8s,baz=350,slow=1.6,SNR=3.4						
SONM	**Songino Array**	**155.16**	**10**	PKP	PKPdf	02 06 29.5	+0.9
CMAR	**Chiang Mai

OBIP				*e*S		**Sn**	**02 01 18.7**	**-0.3**
LSP	**Las Mesas**	**1.43 210**	⇑	*e*P		**Pn**	**02 01 01.3**	**-0.1**
LSP	**Las Mesas**	**1.43 210**		*e*Pn		**Pn**	**02 01 01.3**	**-0.2**
MTP	**Monte Pirata**	**1.50 151**	⇑	*e*P		**Pn**	**02 01 02.2**	**-0.2**
MTP	**Monte Pirata**	**1.50 151**		*e*Pn		**Pn**	**02 01 02.4**	**0.0**
MTP				*e*S		**Sn**	**02 01 21.9**	**+0.3**
ICM	**Isla Caja Muer**	**1.53 187**	⇑	*e*P		**Pn**	**02 01 03.1**	**+0.3**
ICM	**Isla Caja Muer**	**1.53 187**	⇑	*e*P		**Pn**	**02 01 03.1**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.59 208**	⇑	*e*P		**Pn**	**02 01 03.8**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.59 208**		*e*Pn		**Pn**	**02 01 03.5**	**-0.1**
STVI	**Saint Thomas**	**1.68 129**	⇓	*e*P		**Pn**	**02 01 04.9**	**+0.1**
STVI	**Saint Thomas**	**1.68 129**	⇓	*e*P		**Pn**	**02 01 04.9**	**+0.1**
STVI				*e*S		**Sn**	**02 01 25.8**	**-0.1**
TBVI	**Tortola**	**1.90 121**	⇑	*e*P		**Pn**	**02 01 08.1**	**+0.2**
TBVI	**Tortola**	**1.90 121**	⇑	*e*P		**Pn**	**02 01 08.1**	**+0.2**
SDDR	**Presa de Saban**	**4.71 266**		*e*Pn		**Pn**	**02 01 47.7**	**+1.2**
TXAR	**Lajitas Array**	**35.29 294**		P		**P**	**02 07 31.1**	**+0.6**
	0.3nm,0.5s,mb3.5,baz=106,slow=9.5,SNR=16							
TXAR	**Lajitas Array**	**35.29 294**		P		**P**	**02 07 31.1**	**+0.6**
NVAR	**Mina Array Bea**	**48.61 304**		P		**P**	**02 09 18.8**	**-0.4**
	0.1nm,0.3s,mb3.3,baz=93,slow=9.0,SNR=3.9							
NVAR	**Mina Array Bea**	**48.61 304**		P		**P**	**02 09 18.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**65.24 84**		P		**P**	**02 11 17.5**	**0.0**
	0.1nm,0.5s,mb3.1,baz=291,slow=7.5,SNR=4.5							
TORD	**Torodi Ar. Bea**	**65.24 84**		P		**P**	**02 11 17.5**	**0.0**

NNC ***24*** *02:01:47.8±5.8, 39°.53N×77°.52E, h0km, mb4.0, mpv3.6, Error ellipse: s-maj=58.6km s-min=35.2km az=31.0*
BJI ***24*** *02:01:48.9, 39°.87N×76°.89E, h17km, ML3.6/8*
ISCJB ***24*** *02:01:49.9±1.3, 39°.43N±0°.09×77°.50E±0°.08, h33km, Error ellipse: s-maj=13.5km s-min=9.0km az=166.2*

ISC 24 02:01:48.8±2.3, 39°.4N±0°.1×77°.4E±0°.1, h14km**±20**km**, n17, σ1$40/18, 5C-5D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.12**	**279**	⇑*i*Pg	**Pg**	**02 02 09.5**	**-0.9**
KSH				Sg	**Sg**	**02 02 25.8**	**+0.7**
KSH	comp=N,1μm,0.8s			smax			
KSH	comp=E,960nm,0.8s			smax			
ULHL	**Ulahol**	**3.03**	**343**	P	**Pn**	**02 02 34.8**	**-1.4**
	SNR=23						
KZA	**Kyzart**	**3.18**	**330**	P	**Pn**	**02 02 36.3**	**-2.1**
	SNR=61						
KBK	**Karagaybulak**	**3.79**	**331**	P	**Pn**	**02 02 46.2**	**-0.5**
	SNR=22						
TKM2	**Tokmak 2**	**3.82**	**340**	P	**Pn**	**02 02 46.1**	**-1.0**
	SNR=8.9						
TKM2	**Tokmak 2**	**3.82**	**340**	⇑Pn	**Pn**	**02 02 45.4**	**-1.7**
	comp=E,41nm,1.1s						
TKM2				⇓Sn	**Sn**	**02 03 31.8**	**-0.1**
	comp=E,48nm,0.7s						
KNDC	**Almaty**	**3.88**	**355**	⇓Pn	**Pn**	**02 02 50.0**	**+2.0**
	comp=E,54nm,0.8s						
KNDC				⇑Lg		02 03 42.0	
	comp=E,140nm,0.6s						
AAK	**Ala-Archa**	**3.96**	**327**	P	**Pn**	**02 02 52.5**	**+3.5**
	SNR=14						
AML	**Almayashu**	**3.96**	**316**	P	**Pn**	**02 02 46.2**	**-2.8**
	SNR=16						
CHMS	**Chumysh**	**4.16**	**332**	P	**Pn**	**02 02 54.2**	**+2.4**
	SNR=8.2						
EKS2	**Erkin-Say**	**4.30**	**321**	P	**Pn**	**02 02 57.9**	**+4.2**
	SNR=15						
USP	**Ospenovka**	**4.49**	**332**	P	**Pn**	**02 02 57.8**	**+1.5**
	SNR=7.6						
KK31	**Karatay Array**	**6.41**	**308**	⇓Pg	**Pb**	**02 03 40.6**	**+0.6**
	comp=E,1.4nm,0.6s,baz=129,slow=16,SNR=10						
KK31				⇑Lg		02 04 54.6	
	comp=E,7.6nm,0.5s,baz=122,slow=29,SNR=7.9						
MK31	**Makanchi Array**	**8.25**	**24**	Pn	**Pn**	**02 03 47.6**	**-0.3**
	comp=E,0.7nm,0.7s,baz=320,slow=17,SNR=4.2						
MK31				⇑Lg		02 06 04.2	
	comp=E,5.4nm,0.8s,baz=203,slow=28,SNR=5.3						
KURBB	**Kurchatov Arra**	**11.30**	**4**	⇓Lg		02 07 41.8	
	comp=E,3.0nm,1.3s						
KURK	**Kurchatov**	**11.40**	**4**	⇓Lg		02 07 44.4	
	comp=E,22nm,1.8s						
HHC	**Hu-ho-hao-te**	**26.08**	**76**	*e*P	**P**	**02 07 22.3**	**+0.5**
HHC				sP	sP	02 07 29.5	+1.7
HHC				PP		02 08 03.9	
HHC				PcP	PcP	02 10 49.3	+0.1
HHC				S	**S**	**02 11 52.3**	**-0.2**
HHC				SS		02 12 59.4	
HHC				ScP	ScP	02 14 27.6	-0.7
HHC				PcS	PcS	02 14 29.4	-0.6
HHC	comp=Z,8.0nm,0.7s			pmax	pmax		
HHC	comp=Z,150nm,5.3s			pmax	pmax		
HHC	comp=N,160nm,5.3s			LR	LR		
HHC	comp=E,170nm,6.1s			LR	LR		
HHC	comp=Z,130nm,5.1s			LR	LR		

MAN 24 02:08:52, 8°.13N×124°.17E, h41km**, mb4.4, ML3.3, MS3.1, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**0.61**	**59**	*e*P	Pn	02 09 05.5	+1.2
CGP				*i* S	Sn	02 09 16.2	+3.1
PAGZ	**Pagadian**	**0.83**	**250**	*e*P	Pn	02 09 08.1	+0.9
PAGZ				*e*S	Sn	02 09 20.3	+2.1
BUKP	**Musuan**	**0.92**	**106**	*e*P	Pn	02 09 10.9	+2.4
BUKP				*e*S	Sn	02 09 22.1	+1.4

IDC 24 02:55:14.2±3.2, 2°.53N×95°.88E, h0km**, mb3.8/6, mb1 3.8/6, mb1mx3.5/25, mbtmp3.8/6, Error ellipse: s-maj=131.1km s-min=25.9km az=54.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.86**	**122**	P	P	03 03 22.6	0.0
	0.2nm,0.5s,baz=299,slow=9.4,SNR=2.8						
MKAR	**Makanchi Array**	**45.65**	**347**	P	P	03 03 37.1	+0.6
	0.6nm,0.5s,baz=163,slow=9.0,SNR=7.9						
SONM	**Songino Array**	**46.04**	**10**	P	P	03 03 39.4	-0.2
	0.9nm,0.6s,baz=182,slow=11,SNR=3.8						
KURK	**Kurchatov**	**50.18**	**346**	P	P	03 04 11.6	+0.1
	0.3nm,0.3s,baz=169,slow=7.2,SNR=3.6						
ZALV	**Zalesovo Beam**	**52.05**	**352**	P	P	03 04 25.4	-0.2
	0.7nm,0.5s,baz=175,slow=7.1,SNR=5.0						
BVAR	**Borovoye Array**	**54.58**	**341**	P	P	03 04 43.2	-0.9
	0.9nm,0.7s,baz=149,slow=9.6,SNR=3.4						

ISCJB ***24*** *02:55:18.3±0.7, 58°.75S±0°.1×25°.0W±0°.3, h10km, mb4.0/7, Error ellipse: s-maj=21.3km s-min=10.5km az=147.1*
IDC ***24*** *02:55:19.2±0.7, 58°.61S×25°.10W, h0km, mb4.2/6, mb1 4.2/7, mb1mx4.0/17, mbtmp4.1/7, ML3.7/1, Error ellipse: s-maj=25.9km s-min=21.0km az=29.0*
NEIC ***24*** *02:55:24.6±0.5, 58°.57S×25°.08W, h35km, mb3.9/2, Error ellipse: s-maj=21.6km s-min=16.4km az=20.0*

ISC 24 02:55:20.3±0.7, 58°.72S±0°.1×25°.0W±0°.3, h10km**, n29, σ1$05/20, mb4.0/7, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.87**	**156**	*e*P	**Pn**	**02 58 36.7**	**+0.2**
VNA3	**Neumayer Olymp**	**14.07**	**159**	*e*P	**Pn**	**02 58 38.4**	**-0.9**
VNA2	**Neumayer--Watz**	**14.26**	**156**	*e*P	**Pn**	**02 58 41.7**	**-0.2**
	baz=321,slow=14						
SNAA	**Sanae**	**15.81**	**154**	*e*P	**Pn**	**02 59 00.7**	**-1.9**
SNAA	**Sanae**	**15.81**	**154**	Pn	**Pn**	**02 59 04.9**	**+2.4**
	0.3nm,0.3s,baz=319,slow=15,SNR=72						
SNAA	**Sanae**	**15.81**	**154**	*e*Pn	**Pn**	**02 59 00.5**	**-2.1**
PLCA	**Paso Flores**	**33.68**	**282**	P	**P**	**03 02 01.2**	**+0.2**
	2.2nm,0.8s,mb4.1,baz=146,slow=7.3,SNR=4.2						
PLCA	**Paso Flores**	**33.68**	**282**	P	**P**	**03 02 01.2**	**+0.2**
CFAA	**Coronel Fontan**	**39.72**	**294**	P	**P**	**03 02 50.9**	**-1.7**
	0.2nm,0.8s,mb2.9,baz=153,slow=5.7,SNR=2.9						
CFAA	**Coronel Fontan**	**39.72**	**294**	P	**P**	**03 02 50.9**	**-1.7**
VNDA	**Vanda**	**43.95**	**182**	P	**P**	**03 03 27.5**	**+0.9**
	1.1nm,0.7s,mb3.7,baz=202,slow=5.1,SNR=8.9						
VNDA	**Vanda**	**43.95**	**182**	*e*P	**P**	**03 03 28.1**	**+1.5**
	1.4nm,0.8s,mb3.7						
BOSA	**Boshof**	**45.59**	**71**	P	**P**	**03 03 39.5**	**-0.7**
	0.9nm,0.7s,mb3.8,baz=218,slow=7.4,SNR=3.0						
BOSA	**Boshof**	**45.59**	**71**	P	**P**	**03 03 39.5**	**-0.7**
LPAZ	**La Paz**	**52.88**	**305**	P	**P**	**03 04 36.1**	**0.0**
	1.0nm,0.4s,mb4.1,baz=127,slow=6.5,SNR=12						
LPAZ	**La Paz**	**52.88**	**305**	*e*P	**P**	**03 04 36.3**	**+0.2**
	0.8nm,0.4s,mb4.0						
TORD	**Torodi Ar. Bea**	**74.85**	**27**	P	**P**	**03 07 01.5**	**+0.8**
	2.9nm,0.5s,mb4.5,baz=201,slow=6.4,SNR=98						
TORD	**Torodi Ar. Bea**	**74.85**	**27**	P	**P**	**03 07 01.5**	**+0.9**
STKA	**Stephens Creek**	**89.06**	**169**	P	**P**	**03 08 16.7**	**+1.4**
	2.6nm,0.8s,mb4.6,baz=135,slow=7.1,SNR=4.0						
STKA	**Stephens Creek**	**89.06**	**169**	P	**P**	**03 08 16.7**	**+1.5**
YKA	**Yellowknife Ar**	**138.93**	**315**	PKP	PKPdf	03 14 46.2	+1.0
	0.9nm,0.7s,baz=140,slow=2.1,SNR=4.4						
YKA	**Yellowknife Ar**	**138.93**	**315**	PKP	PKPdf	03 14 46.2	+1.0
INK	**Inuvik**	**148.60**	**317**	PKPbc	PKPbc	03 15 06.3	+0.6
	4.6nm,0.7s,baz=94,slow=3.2,SNR=24						
INK	**Inuvik**	**148.60**	**317**	PKPbc	PKPbc	03 15 06.3	+0.6
DAWY	**Dawson**	**149.42**	**308**	*e*PKPbc	PKPbc	03 15 08.5	+0.7
SONM	**Songino Array**	**149.63**	**89**	PKPbc	PKPbc	03 15 09.6	+0.7
	1.2nm,0.5s,baz=177,slow=3.4,SNR=10						
SONM	**Songino Array**	**149.63**	**89**	PKPbc	PKPbc	03 15 09.6	+0.7
ILAR	**Eielson Array**	**152.74**	**307**	PKPbc	PKPbc	03 15 16.8	+1.2
	3.0nm,0.6s,baz=144,slow=3.3,SNR=29						
ILAR	**Eielson Array**	**152.74**	**307**	PKPbc	PKPbc	03 15 16.8	+1.2

ISCJB ***24*** *02:58:40.5±0.5, 58°.49S±0°.08×25°.0W±0°.2, h10km, mb4.4/16, MS3.9/7, Error ellipse: s-maj=13.1km s-min=10.8km az=137.3*
IDC ***24*** *02:58:40.6±0.5, 58°.49S×25°.02W, h0km, mb4.5/13, mb1 4.5/14, mb1mx4.4/19, mbtmp4.4/14, ML4.1/1, MS3.8/8, Ms1 3.7/8, ms1mx3.4/25, Error ellipse: s-maj=17.3km s-min=14.8km az=35.0*
NEIC ***24*** *02:58:46.0±0.2, 58°.49S×25°.07W, h35km, mb4.4/9, Error ellipse: s-maj=9.5km s-min=8.2km az=210.0*

ISC 24 02:58:42.0±0.4, 58°.64S±0°.07×25°.0W±0°.2, h10km**, n73, σ1$26/37, mb4.4/16, MS3.9/7, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.93**	**157**	*e*P	**Pn**	**03 01 57.6**	**-1.5**
VNA3	**Neumayer Olymp**	**14.14**	**160**	*e*P	**Pn**	**03 01 59.4**	**-2.5**
VNA2	**Neumayer--Watz**	**14.33**	**156**	*e*P	**Pn**	**03 02 02.7**	**-1.8**
	baz=313,slow=16						
SNAA	**Sanae**	**15.88**	**154**	*e*P	**Pn**	**03 02 23.0**	**-2.1**
SNAA	**Sanae**	**15.88**	**154**	Pn	**Pn**	**03 02 26.0**	**+0.9**
	0.8nm,0.3s,baz=323,slow=14,SNR=20						
SNAA				LR	LR	03 07 10.0	
	comp=Z,71nm,20.4s,baz=338,slow=32						
SNAA	**Sanae**	**15.88**	**154**	*e*Pn	**Pn**	**03 02 21.8**	**-3.4**
USHA	**Ushuaia**	**23.82**	**260**	P	**P**	**03 03 55.7**	**+0.9**
	13nm,1.1s,mb4.3,baz=92,slow=14,SNR=3.2						
USHA	**Ushuaia**	**23.82**	**260**	P	**P**	**03 03 55.7**	**+0.9**
QSPA	**South Pole Qui**	**31.60**	**180**	P	**P**	**03 05 05.8**	**+1.6**
	4.8nm,0.8s,mb4.4,baz=198,slow=4.4,SNR=7.8						
QSPA	**South Pole Qui**	**31.60**	**180**	P	**P**	**03 05 05.8**	**+1.6**
PLCA	**Paso Flores**	**33.68**	**282**	P	**P**	**03 05 23.1**	**+0.3**
	5.9nm,0.8s,mb4.5,baz=143,slow=9.0,SNR=11						
PLCA	**Paso Flores**	**33.68**	**282**	*e*P	**P**	**03 05 22.3**	**-0.5**
	4.2nm,0.6s,mb4.5						
MAW	**Mawson**	**37.36**	**141**	P	**P**	**03 05 55.0**	**+0.9**
	2.4nm,0.9s,mb4.0,baz=262,slow=12,SNR=4.2						
MAW	**Mawson**	**37.36**	**141**	P	**P**	**03 05 55.0**	**+0.9**
CPUP	**Villa Florida**	**39.43**	**311**	P	**P**	**03 06 10.4**	**-1.5**
	1.4nm,0.5s,mb3.9,baz=178,slow=7.0,SNR=5.7						
CPUP				PcP	PcP	03 08 19.9	+0.1
	1.9nm,0.7s,baz=182,slow=14,SNR=3.8						
CPUP				LR	LR	03 21 20.8	
	comp=Z,76nm,20.8s,MS3.5,baz=344,slow=35						
CPUP	**Villa Florida**	**39.43**	**311**	P	**P**	**03 06 10.4**	**-1.5**
CPUP				PcP	PcP	03 08 19.9	+0.1
CFAA	**Coronel Fontan**	**39.70**	**294**	P	**P**	**03 06 12.6**	**-1.6**
	0.3nm,0.6s,baz=160,slow=10,SNR=6.7						
CFAA				PcP	PcP	03 08 20.4	-0.2
	0.3nm,0.5s,baz=147,slow=3.5,SNR=5.4						
CFAA	**Coronel Fontan**	**39.70**	**294**	P	**P**	**03 06 12.6**	**-1.6**
CFAA				PcP	PcP	03 08 20.4	-0.2
SBA	**Scott Base**	**43.57**	**184**	*e*P	**P**	**03 06 47.9**	**+2.6**
	6.1nm,0.9s,mb4.3						
VNDA	**Vanda**	**44.03**	**182**	P	**P**	**03 06 51.4**	**+2.4**
	4.8nm,0.9s,mb4.2,baz=192,slow=6.3,SNR=20						
VNDA				LR	LR	03 23 41.2	
	comp=Z,93nm,18.9s,MS3.7,baz=132,slow=34						
VNDA	**Vanda**	**44.03**	**182**	*e*P	**P**	**03 06 51.3**	**+2.3**
	5.5nm,0.9s,mb4.3						
BOSA	**Boshof**	**45.55**	**71**	P	**P**	**03 07 01.5**	**-0.2**
	1.9nm,0.5s,mb4.3,baz=185,slow=6.3,SNR=7.5						
BOSA				LR	LR	03 21 48.5	
	comp=Z,76nm,19.8s,MS3.6,baz=170,slow=30						
BOSA	**Boshof**	**45.55**	**71**	*e*P	**P**	**03 07 02.1**	**+0.4**
	2.6nm,0.7s,mb4.3						
LBTB	**Lobatse**	**48.71**	**69**	P	**P**	**03 07 26.9**	**+0.5**
	2.7nm,0.6s,mb4.4,baz=228,slow=7.6,SNR=5.4						
LBTB	**Lobatse**	**48.71**	**69**	*e*P	**P**	**03 07 27.1**	**+0.7**
	3.1nm,0.7s,mb4.5						
LPAZ	**La Paz**	**52.85**	**304**	P	**P**	**03 07 57.6**	**-0.1**
	2.3nm,0.4s,mb4.4,baz=98,slow=7.2,SNR=18						
LPAZ				PcP	PcP	03 09 07.2	+0.4
	1.1nm,0.5s,baz=132,slow=2.7,SNR=2.9						
LPAZ	**La Paz**	**52.85**	**304**	*e*P	**P**	**03 07 57.2**	**-0.5**
	2.5nm,0.5s,mb4.4						
LPAZ				PcP	PcP	03 09 07.2	+0.4
LSZ	**Lusaka**	**58.27**	**65**	*e*P	**P**	**03 08 36.6**	**0.0**
	2.6nm,0.8s,mb4.3						
DBIC	**Dimbokro**	**67.08**	**22**	P	**P**	**03 09 34.8**	**-0.6**
	5.5nm,0.5s,mb4.8,baz=176,slow=8.7,SNR=15						
DBIC				LR	LR	03 33 06.4	
	comp=Z,49nm,18.5s,MS3.8,baz=90,slow=31						
DBIC	**Dimbokro**	**67.08**	**22**	*e*P	**P**	**03 09 35.6**	**+0.3**
	5.4nm,0.5s,mb4.8						
TORD	**Torodi Ar. Bea**	**74.78**	**27**	P	**P**	**03 10 22.6**	**+0.6**
	8.8nm,0.5s,mb4.9,baz=201,slow=6.4,SNR=130						
TORD	**Torodi Ar. Bea**	**74.78**	**27**	P	**P**	**03 10 22.6**	**+0.6**
SDV	**Santo Domingo**	**76.69**	**313**	*e*P	**P**	**03 10 32.6**	**-0.4**
	3.7nm,0.7s,mb4.4						
RPZ	**Rata Peaks**	**77.14**	**192**	LR	LR	03 39 14.8	
	comp=Z,188nm,21.6s,MS4.4,baz=278,slow=32						
STKA	**Stephens Creek**	**89.11**	**169**	P	**P**	**03 11 38.0**	**+0.7**
	2.1nm,0.8s,mb4.5,baz=49,slow=18,SNR=4.0						
STKA				LR	LR	03 53 15.6	
	comp=Z,116nm,18.2s,MS4.3,baz=206,slow=37						
STKA	**Stephens Creek**	**89.13**	**169**	P	**P**	**03 11 38.0**	**+0.7**
ASAR	**Alice Springs**	**96.14**	**161**	P	**P**	**03 12 09.9**	**+0.1**
	1.4nm,0.8s,mb4.5,baz=182,slow=3.4,SNR=12						
ASAR	**Alice Springs**	**96.14**	**161**	P	**P**	**03 12 09.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**99.79**	**152**	LR	LR	03 51 58.6	
	comp=Z,42nm,18.1s,MS4.0,baz=207,slow=32						
PDAR	**Pinedale Array**	**122.71**	**299**	PKP	PKPdf	03 17 36.4	-0.5
	0.4nm,0.5s,baz=126,slow=5.9,SNR=5.2						
PDAR	**Pinedale Array**	**122.71**	**299**	PKP	PKPdf	03 17 36.4	-0.5
CMAR	**Chiang Mai Arr**	**123.03**	**110**	PKP	PKPdf	03 17 38.5	+0.2
	1.3nm,0.7s,baz=228,slow=4.1,SNR=5.1						
CMAR	**Chiang Mai Arr**	**123.03**	**110**	PKP	PKPdf	03 17 38.5	+0.2
NVAR	**Mina Array Bea**	**123.47**	**290**	PKP	PKPdf	03 17 39.4	+0.8
	1.0nm,0.7s,baz=140,slow=3.1,SNR=7.6						
NVAR	**Mina Array Bea**	**123.47**	**290**	PKP	PKPdf	03 17 39.4	+0.8
FINES	**FINESS Array B**	**126.12**	**28**	PKP	PKPdf	03 17 42.5	-0.4
	6.5nm,0.8s,baz=222,slow=2.6,SNR=10.0						
FINES	**FINESS Array B**	**126.12**	**28**	PKP	PKPdf	03 17 42.5	-0.4
ABKAR	**Akbulak array**	**127.84**	**56**	*e*PKPdf	PKPdf	03 17 46.3	-0.2
AKTO	**Aktyubinsk**	**127.91**	**54**	PKP	PKPdf	03 17 44.6	-2.0
	0.5nm,0.3s,baz=249,slow=8.6,SNR=4.3						
AKTO	**Aktyubinsk**	**127.91**	**54**	PKP	PKPdf	03 17 44.6	-2.0
ARCES	**ARCESS Array B**	**132.91**	**22**	PKP	PKPdf	03 17 55.1	-0.5
	4.2nm,0.8s,baz=192,slow=0.8,SNR=4.6						
ARCES	**ARCESS Array B**	**132.91**	**22**	PKP	PKPdf	03 17 55.1	-0.5
BVAR	**Borovoye Array**	**135.13**	**58**	PKP	PKPdf	03 18 00.2	0.0
	1.1nm,0.5s,baz=229,slow=3.9,SNR=6.0						
BVAR	**Borovoye Array**	**135.13**	**58**	PKP	PKPdf	03 18 00.2	0.0
MKAR	**Makanchi Array**	**136.54**	**73**	PKP	PKPdf	03 18 04.3	+1.3
	0.4nm,0.6s,baz=231,slow=5.2,SNR=3.3						
MKAR	**Makanchi Array**	**136.54**	**73**	PKP	PKPdf	03 18 04.3	+1.3
KURK	**Kurchatov**	**137.39**	**66**	PKhKP	PKPpre	03 17 58.0	
	0.2nm,0.3s,baz=224,slow=3.0,SNR=2.8						
KURK				PKP	PKPdf	03 18 06.4	+1.9
	0.3nm,0.3s,baz=228,slow=2.6,SNR=4.1						
KURK	**Kurchatov**	**137.39**	**66**	PKPpre	PKPpre	03 17 58.0	
KURK				PKP	PKPdf	03 18 06.4	+1.9
YKA	**Yellowknife Ar**	**138.89**	**315**	PKhKP	PKPpre	03 17 58.9	
	0.8nm,0.6s,baz=129,slow=1.9,SNR=5.1						
YKA				PKP	PKPdf	03 18 08.8	+2.0
	0.6nm,0.4s,baz=142,slow=1.9,SNR=7.9						
YKA	**Yellowknife Ar**	**138.89**	**315**	PKPpre	PKPpre	03 17 58.9	
YKA				PKP	PKPdf	03 18 08.8	+2.0
ZALV	**Zalesovo Beam**	**142.38**	**66**	PKhKP	PKPpre	03 18 09.0	
	0.9nm,0.5s,baz=275,slow=3.0,SNR=4.4						
ZALV	**Zalesovo Beam**	**142.38**	**66**	PKPpre	PKPpre	03 18 09.0	
SKAG	**Skagway**	**145.67**	**302**	*e*PKPdf	PKPdf	03 18 20.0	+1.0
INK	**Inuvik**	**148.56**	**317**	PKPbc	PKPbc	03 18 27.2	-0.1
	12nm,0.7s,baz=61,slow=3.0,SNR=42						
INK	**Inuvik**	**148.56**	**317**	*e*PKPbc	PKPbc	03 18 26.9	-0.4
DAWY	**Dawson**	**149.39**	**308**	*e*PKPbc	PKPbc	03 18 29.5	0.0
SONM	**Songino Array**	**149.62**	**89**	PKPbc	PKPbc	03 18 30.7	+0.2
	3.7nm,0.6s,baz=224,slow=3.5,SNR=27						
SONM	**Songino Array**	**149.62**	**89**	PKPbc	PKPbc	03 18 30.7	+0.2
MENT	**Mentasta**	**150.82**	**305**	*e*PKPbc	PKPbc	03 18 33.7	+0.8
ILAR	**Eielson Array**	**152.70**	**308**	PKPbc	PKPbc	03 18 37.1	0.0
	8.4nm,0.7s,baz=148,slow=2.9,SNR=57						
ILAR	**Eielson Array**	**152.70**	**308**	PKPbc	PKPbc	03 18 37.1	0.0
RC01	**Rabbit Creek A**	**152.86**	**299**	*e*PKPbc	PKPbc	03 18 37.7	+0.1
COLA	**College**	**153.13**	**308**	*e*PKPbc	PKPbc	03 18 38.7	+0.6

NEIC ***24*** *03:26:37.4, 18°.63N×65°.43W, h93km, MD3.0(RSPR), After RSPR.*

RSPR 24 03:26:37.4, 18°.63N×65°.43W, h93km**±4**km**, MD3.0/4, 6C-3D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**0.53**	**122**	⇓*i*P	Pn	03 26 52.5	-0.2
STVI	**Saint Thomas**	**0.53**	**122**	⇓*i*P	Pn	03 26 52.5	-0.2
STVI				*e*S	Sn	03 27 03.4	-0.6
STVI	**Saint Thomas**	**0.53**	**122**	⇓*i*P	Pn	03 26 52.5	-0.2
STVI				*e*S	Sn	03 27 03.4	-0.6
CBYP	**Canovanas**	**0.54**	**228**	⇑*i*P	Pn	03 26 52.0	-0.7
CBYP	**Canovanas**	**0.54**	**228**	*e*Pg	Pn	03 26 51.8	-0.9
CBYP				*e*S	Sn	03 27 03.2	-1.0
CBYP	**Canovanas**	**0.54**	**228**	⇑*i*P	Pn	03 26 52.0	-0.7
CBYP				*e*S	Sn	03 27 04.1	-0.1
MTP	**Monte Pirata**	**0.55**	**192**	⇑*e*P	Pn	03 26 52.0	-0.8
MTP	**Monte Pirata**	**0.55**	**192**	*e*Pn	Pn	03 26 52.2	-0.6
MTP				*e*S	Sn	03 27 03.7	-0.5
MTP	**Monte Pirata**	**0.55**	**192**	⇑*e*P	Pn	03 26 52.1	-0.7
MTP				*e*S	Sn	03 27 03.6	-0.6
HUMP	**Col San Antoni**	**0.63**	**219**	⇑*e*P	Pn	03 26 53.2	-0.3
HUMP	**Col San Antoni**	**0.63**	**219**	⇑*e*P	Pn	03 26 53.2	-0.3
HUMP				*e*S	Sn	03 27 05.8	+0.3
HUMP	**Col San Antoni**	**0.63**	**219**	⇑*e*P	Pn	03 26 53.2	-0.3
HUMP				*e*S	Sn	03 27 05.8	+0.3
SJG	**San Juan**	**0.86**	**233**	*e*S	Sn	03 27 09.4	0.0
SJG	**San Juan**	**0.86**	**233**	*e*S	Sn	03 27 09.4	0.0

IDC 24 03:32:52.7±2.7, 22°.26S×147°.94E, h0km**, mb1 3.4/3, mb1mx3.3/14, mbtmp3.1/3, ML3.0/3, Error ellipse: s-maj=33.6km s-min=22.7km az=65.0, Queensland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**2.67**	**324**	Pn	Pn	03 33 36.8	-0.1
	2.0nm,0.3s,baz=130,slow=16,

DVHZ	Dannevirke	3.25	186	PN	P	03 36 31.8	+0.2
POWZ	Post Office Ro	3.39	191	PN	P	03 36 32.6	-0.2
BFZ	Birch Farm	3.62	185	PN	P	03 36 35.2	+0.4
MRZ	Mangatainoka R	3.69	193	PN	P	03 36 34.9	-0.4
TIWZ	Tintock	3.75	189	PN	P	03 36 36.2	+0.2
OGWZ	Otaki Gorge	3.92	197	PN	P	03 36 37.1	-0.3
HOWZ	Holdsworth Sta	3.93	193	PN	P	03 36 37.6	+0.1
KIW	Kapiti Island	4.02	199	PN	P	03 36 37.9	-0.5
TMWZ	Te Maipa	4.08	188	PN	P	03 36 39.3	+0.4
MTW	Mount Morrison	4.18	192	PN	P	03 36 39.7	-0.2
CAW	Cannon Point	4.22	196	PN	P	03 36 39.9	-0.3
DUWZ	D'Urville Isla	4.29	209	PN	P	03 36 40.1	-0.8
TRWZ	Traveller	4.39	189	PN	P	03 36 42.3	+0.4
PAWZ	Paruwai Farm	4.41	192	PN	P	03 36 42.2	0.0
WEL	Wellington	4.46	199	ePN	P	03 36 42.7	+0.1
MSWZ	Moikau Station	4.48	194	PN	P	03 36 42.7	0.0
SNZO	South Karori	4.50	199	PN	P	03 36 42.3	-0.7
SNZO	South Karori	4.50	199	ePn	P	03 36 42.2	-0.8
SNZO				eS	S	03 37 45.5	-0.5
TCW	Tory Channel	4.53	203	PN	P	03 36 42.6	-0.7
BHW	Baring Head	4.55	197	PN	P	03 36 43.0	-0.5
PLWZ	Palliser	4.62	193	PN	P	03 36 44.3	+0.1
TUWZ	Tuamarina	4.84	205	PN	P	03 36 45.9	-0.4
NNZ	Nelson	4.86	210	PN	P	03 36 45.6	-0.9
QRZ	Quartz Range	4.94	219	PN	P	03 36 46.2	-1.2
CMWZ	Cape Campbell	5.04	201	SN	S	03 37 55.6	-0.2
BSWZ	Blackbirch Sta	5.11	204	PN	P	03 36 49.0	-0.1
THZ	Tophouse	5.51	211	PN	P	03 36 52.7	-0.6
KHZ	Kahutara	5.86	203	PN	P	03 36 56.6	-0.3
KHZ	Kahutara	5.86	203	ePn	P	03 36 56.9	0.0
KHZ				eS	S	03 38 06.3	-5.1
LTZ	Lake Taylor	6.62	209	PN	P	03 37 04.2	-1.0
MQZ	McQueen's Vall	7.30	203	PN	P	03 37 11.2	-1.4
RPZ	Rata Peaks	7.89	211	PN	P	03 37 18.8	-0.4
RPZ	Rata Peaks	7.89	211	P	P	03 37 19.4	+0.1
	30nm,0.3s,baz=321,slow=1.3,SNR=50						
RPZ				S	S	03 38 49.5	-3.1
	16nm,0.3s,baz=317,slow=23,SNR=7.0						
RPZ	Rata Peaks	7.89	211	ePn	P	03 37 19.1	-0.1
RPZ				eS	S	03 38 46.0	-6.5
FOZ	Fox Glacier	8.38	217	PN	P	03 37 22.8	-1.9
LBZ	Lake Benmore	8.80	212	PN	P	03 37 28.6	-0.8
ODZ	Otahua Downs	9.17	208	PN	P	03 37 34.6	+1.3
ODZ	Otahua Downs	9.17	208	ePn	P	03 37 34.8	+1.4
ODZ				eS	S	03 39 15.5	-3.0
WKZ	Wanaka	9.66	214	PN	P	03 37 38.2	-0.7
EAZ	Earnscleugh	9.85	212	PN	P	03 37 40.2	-0.7
TUZ	Tuapeka	10.32	208	PN	P	03 37 47.4	+1.3
MLZ	Mavora Lakes	10.44	215	PN	P	03 37 47.8	+0.3
WHZ	Wether Hill Ro	10.96	214	PN	P	03 37 52.9	-0.3
WHZ	Wether Hill Ro	10.96	214	ePn	P	03 37 52.8	-0.5
SYZ	Scrubby Hill	10.99	208	PN	P	03 37 55.4	+1.8
APZ	The Paps	11.69	211	PN	P	03 38 01.8	+0.6
PYZ	Puysegur Point	11.75	216	PN	P	03 38 01.1	-0.8
DZM	Mont Dzumac	17.36	327	eP	P	03 39 00.6	-2.4
DZM				eS	Px	03 39 04.7	
DZM	Mont Dzumac	17.36	327	eP	P	03 39 04.9	+1.9
	80nm,1.2s						
MSVF	Nonsavu	19.30	4	eP	P	03 39 19.8	-3.1
	47nm,0.8s						
ARMA	Armidale	21.80	280	eP	P	03 39 48.3	+2.7
ARMA	Armidale	21.80	280	P	P	03 39 47.8	+2.1
	6.2nm,0.6s,mb4.2						
CNB	Canberra Magne	22.06	266	eP	P	03 39 50.9	+2.9
	84nm,0.9s,mb5.2						
TAU	Tasmania Unive	23.15	246	eP	P	03 40 00.0	+2.4
	20nm,0.7s,mb4.7						
MOO	Moorlands	23.21	247	eP	P	03 40 00.7	+2.5
	202nm,1.1s,mb5.5						
EIDS	Eidsvold	24.70	291	eP	P	03 40 12.6	+0.8
	48nm,1.9s,mb4.6						
TOO	Toolangi	24.73	259	eP	P	03 40 14.3	+2.4
	44nm,0.6s,mb5.1						
STKA	Stephens Creek	29.25	270	P	P	03 40 53.1	+1.2
	11nm,0.4s,mb4.5,baz=102,slow=10,SNR=25						
STKA	Stephens Creek	29.25	270	eP	P	03 40 53.3	+1.4
	13nm,0.8s,mb4.3						
STKA	Stephens Creek	29.25	270	eP	P	03 40 52.9	+1.0
	3.1nm,0.8s,mb3.7						
CTA	Charters Tower	31.41	294	P	P	03 41 11.2	+0.4
	5.7nm,0.5s,mb4.2,baz=119,slow=9.2,SNR=5.7						
CTA	Charters Tower	31.41	294	P	P	03 41 11.2	+0.4
CTAO	Charters Tower	31.41	294	eP	P	03 41 11.3	+0.5
	7.9nm,0.9s,mb4.0						
BBOO	Buckleboo	33.36	265	eP	P	03 41 27.9	+0.4
	86nm,0.5s,mb5.3						
COEN	Coen	37.66	299	eP	P	03 42 03.4	-0.3
	117nm,1.0s,mb5.2						
PMG	Port Moresby	38.33	308	P	P	03 42 07.8	-1.4
	16nm,0.7s,mb4.5,baz=106,slow=3.9,SNR=4.8						
PMG	Port Moresby	38.33	308	eP	P	03 42 09.1	-0.1
	12nm,0.8s,mb4.3						
ASAR	Alice Springs	38.91	278	P	P	03 42 13.8	-0.1
	21nm,0.5s,mb4.7,baz=121,slow=8.0,SNR=170						
ASAR				ScP	ScP	03 47 19.8	-3.4
	2.1nm,0.7s,baz=119,slow=4.0,SNR=9.9						
ASAR				S	S	03 47 41.0	-0.3
	8.8nm,0.7s,baz=122,slow=14,SNR=37						
ASAR	Alice Springs	38.91	278	P	P	03 42 13.8	-0.1
ASAR				ScP	ScP	03 47 19.8	-3.4
ASAR				S	S	03 47 41.0	-0.3
FORT	Forrest	40.45	264	eP	P	03 42 26.4	+0.1
	25nm,0.4s,mb4.9						
FORT	Forrest	40.45	264	eP	P	03 42 26.5	+0.2
	15nm,0.4s,mb4.7						
WB2	Warramunga Arr	40.53	283	eP	P	03 42 26.4	-0.6
WRAB	Tennant Creek	40.53	283	eP	P	03 42 26.6	-0.6
	11nm,0.7s,mb4.3						
WRA	Warramunga Arr	40.54	283	P	P	03 42 26.5	-0.6
	4.0nm,0.3s,mb4.2,baz=120,slow=7.7,SNR=85						
WRA				ScP	ScP	03 47 26.4	-3.2
	2.6nm,0.9s,baz=127,slow=4.0,SNR=10						
WRA				S	S	03 48 03.5	-1.8
	2.5nm,1.0s,baz=122,slow=14,SNR=7.1						
WRA	Warramunga Arr	40.54	283	P	P	03 42 26.5	-0.6
WRA				ScP	ScP	03 47 26.4	-3.2
WRA				S	S	03 48 03.5	-1.8
VNDA	Vanda	41.06	185	P	P	03 42 32.0	+1.5
	1.0nm,0.7s,baz=359,slow=7.4,SNR=8.8						
VNDA				PcP	PcP	03 44 20.9	-0.1
	1.2nm,0.7s,baz=342,slow=2.9,SNR=3.9						
VNDA				ScP	ScP	03 47 28.8	-1.9
	1.1nm,1.0s,baz=358,slow=5.9,SNR=4.0						
VNDA	Vanda	41.06	185	P	P	03 42 32.0	+1.5
VNDA				PcP	PcP	03 44 20.9	-0.1
VNDA				ScP	ScP	03 47 28.8	-1.9
SBA	Scott Base	41.11	183	eP	P	03 42 34.4	+3.4
	9.4nm,1.4s,mb3.9						
NWAO	Narrogin (SRO)	48.16	256	P	P	03 43 26.4	-0.1
	18nm,1.1s,mb4.3,baz=92,slow=12,SNR=5.4						
NWAO	Narrogin (SRO)	48.16	256	P	P	03 43 26.4	-0.1
KLBR	Kellerberrin	48.28	258	eP	P	03 43 27.1	-0.3
	5.9nm,0.4s,mb4.3						
FITZ	Fitzroy Crossi	48.39	279	P	P	03 43 28.3	0.0
	3.7nm,0.4s,mb4.1,baz=142,slow=6.4,SNR=17						
FITZ				S	S	03 49 57.5	+0.3
	2.9nm,1.0s,baz=270,slow=20,SNR=5.3						
FITZ	Fitzroy Crossi	48.39	279	eP	P	03 43 28.3	-0.1
	5.8nm,0.3s,mb4.4						
FITZ				eS	S	03 49 57.8	+0.6
FITZ	Fitzroy Crossi	48.39	279	eP	P	03 43 28.1	-0.3
	3.6nm,0.5s,mb4.0						
FITZ				S	S	03 49 57.5	+0.3
QSPA	South Pole Qui	53.06	180	P	P	03 44 04.5	+2.8
	9.5nm,0.8s,mb4.1,baz=26,slow=4.5,SNR=22						
QSPA	South Pole Qui	53.06	180	P	P	03 44 04.5	+2.8
MAW	Mawson	64.48	203	P	P	03 45 20.0	+0.5
	1.6nm,0.4s,mb3.9,baz=95,slow=4.9,SNR=6.7						
MAW	Mawson	64.48	203	eP	P	03 45 19.9	+0.4
	4.8nm,1.7s,mb3.8						
SNAA	Sanae	71.56	180	e	P	03 45 58.6	-4.3
SNAA				e		03 46 06.6	
SNAA	Sanae	71.56	180	eP	P	03 45 58.6	-4.3
	3.4nm,1.0s,mb3.8						
VNA3	Neumayer Olymp	71.90	178	e	P	03 46 02.3	-2.6
VNA3				e		03 46 17.4	
VNA2	Neumayer--Watz	72.27	179	e	P	03 46 04.6	-2.5
	baz=181,slow=3.7						
VNA2				e		03 46 11.3	
VNA1	Neumayer--Stat	72.53	178	e	P	03 46 06.7	-1.9
TGY	Tagaytay City	73.03	303	P	P	03 46 12.5	+0.3
	185nm,0.3s,baz=218,slow=5.3,SNR=3.0						
TGY	Tagaytay City	73.03	303	P	P	03 46 12.5	+0.3
PLCA	Paso Flores	81.11	135	P	P	03 46 57.4	+1.0
	5.1nm,0.7s,mb4.4,baz=248,slow=5.4,SNR=9.9						
PLCA	Paso Flores	81.11	135	P	P	03 46 57.4	+1.0
MJAR	Matsushiro Arr	81.44	330	P	P	03 46 56.4	-1.5
	6.4nm,0.8s,mb4.4,baz=169,slow=5.9,SNR=19						
MJAR	Matsushiro Arr	81.44	330	P	P	03 46 56.4	-1.5
MAT	Matsushiro	81.44	330	P	P	03 46 56.0	-1.9
KSRS	Korea Array	86.76	323	P	P	03 47 24.9	+0.6
	13nm,0.8s,mb4.7,baz=146,slow=5.7,SNR=28						
KSAR	Wonju Array Be	86.77	323	P	P	03 47 24.9	+0.5
CFAA	Coronel Fontan	88.67	129	P	P	03 47 33.5	-0.1
	0.5nm,0.6s,mb3.4,baz=202,slow=4.4,SNR=15						
CFAA	Coronel Fontan	88.67	129	P	P	03 47 33.5	-0.1
PETK	Petropavlovsk-	91.30	349	P	P	03 47 43.5	-1.5
	5.7nm,0.7s,mb4.5,baz=139,slow=7.2,SNR=6.5						
PETK	Petropavlovsk-	91.30	349	P	P	03 47 43.5	-1.5
CMAR	Chiang Mai Arr	91.56	292	P	P	03 47 47.0	-0.1
	6.5nm,0.7s,mb4.6,baz=149,slow=3.6,SNR=21						
CMAR	Chiang Mai Arr	91.56	292	P	P	03 47 47.0	-0.1
NVAR	Mina Array Bea	96.11	46	P	P	03 48 08.0	+0.5
	0.2nm,0.5s,mb3.5,baz=220,slow=5.3,SNR=3.0						
NVAR	Mina Array Bea	96.11	46	P	P	03 48 08.0	+0.5
LPAZ	La Paz	99.21	118	P	Pdif	03 48 23.7	+2.2
	0.4nm,0.4s,baz=150,slow=3.6,SNR=4.1						
LPAZ	La Paz	99.21	118	P	Pdif	03 48 23.7	+2.2
SONM	Songino Array	105.15	319	PKKPbc	PKKPbc	04 04 26.9	-0.3
	0.5nm,0.6s,baz=311,slow=4.0,SNR=4.6						
SONM	Songino Array	105.15	319	PKKPbc	PKKPbc	04 04 26.9	-0.3
MK31	Makanchi Array	118.54	309	ePKPdf	PKPdf	03 53 22.9	-1.9
MKAR	Makanchi Array	118.54	309	PKP	PKPdf	03 53 22.5	-2.3
	2.0nm,0.7s,baz=359,slow=0.1,SNR=6.0						
MKAR				PKKPab	PKKPab	04 03 45.9	+1.4
	0.9nm,0.7s,baz=305,slow=4.3,SNR=5.9						
MKAR	Makanchi Array	118.54	309	PKP	PKPdf	03 53 22.5	-2.3
MKAR				PKKPab	PKKPab	04 03 45.9	+1.4
ZALV	Zalesovo Beam	119.94	317	PKP	PKPdf	03 53 24.2	-3.0
	1.1nm,0.5s,baz=184,slow=3.2,SNR=7.0						
ZALV	Zalesovo Beam	119.94	317	PKP	PKPdf	03 53 24.2	-3.0
KURK	Kurchatov	122.29	312	PKKPab	PKKPab	04 03 29.4	+1.3
	1.3nm,0.7s,baz=293,slow=4.4,SNR=9.4						
KURK	Kurchatov	122.29	312	ePKPdf	PKPdf	03 53 29.5	-2.4
KURK				PKKPab	PKKPab	04 03 29.4	+1.3
AKTO	Aktyubinsk	134.95	308	PKP	PKPdf	03 53 55.5	-0.5
SPITS	Spitsbergen Ar	137.95	354	PKP	PKPdf	03 54 00.5	-0.3
	8.2nm,0.9s,baz=57,slow=5.1,SNR=6.6						
SPITS	Spitsbergen Ar	137.95	354	PKP	PKPdf	03 54 00.5	-0.3
DGRG	David-gareji	142.41	292	P	PKPdf	03 54 04.9	-5.0
MTA	Mtatsminda	142.88	292	P	PKPdf	03 54 06.9	-3.8
TBLG	Delisi	142.93	292	P	PKPdf	03 54 07.0	-3.7
KEV	Kevo	143.41	343	epkp	PKPdf	03 54 05.6	-5.2
GOR	Gori	143.43	293	P	PKPdf	03 54 08.8	-2.8
AKH	Akhalkalaki	143.80	292	P	PKPdf	03 54 10.5	-1.8
ARCES	ARCESS Array B	143.92	343	PKP	PKPdf	03 54 08.9	-2.8
	34nm,0.5s,baz=64,slow=2.8,SNR=182						
ARCES	ARCESS Array B	143.92	343	PKP	PKPdf	03 54 08.9	-2.8
ONI	Oni	144.00	294	P	PKPdf	03 54 10.3	-2.3
KTK1	Kautokeino	144.84	344	eP	PKPdf	03 54 11.4	-1.9
TRO	Tromso	145.22	347	eP	PKPdf	03 54 12.4	-1.5
JOF	Joensuu	146.59	332	epkp	PKPdf	03 54 15.7	-0.7
STEI	Steigen	147.37	347	eP	PKPdf	03 54 18.6	+1.1
MMAI	Mount Meron Ar	148.16	274	PKPbc	PKPbc	03 54 23.9	+0.1
	4.7nm,0.5s,baz=87,slow=6.9,SNR=12						
MMAI	Mount Meron Ar	148.16	274	PKPbc	PKPbc	03 54 23.9	+0.1
KAF	Kangasniemi	148.93	333	epkp	PKPdf	03 54 21.1	+0.9
MOR8	Moi Rana	149.07	346	eP	PKPdf	03 54 22.2	+1.8
STOK	Stokkvaagen	149.19	347	eP	PKPdf	03 54 23.1	+2.5
FINES	FINESS Array B	149.44	332	PKPbc	PKPbc	03 54 23.9	-2.1
	20nm,0.8s,baz=34,slow=3.9,SNR=49						
FINES	FINESS Array B	149.44	332	PKPbc	PKPbc	03 54 23.9	-2.2
DBIC	Dimbokro	149.71	177	PKPbc	PKPbc	03 54 27.1	-1.1
	8.4nm,0.7s,baz=142,slow=3.5,SNR=12						
DBIC				PKPab	PKPab	03 54 34.2	-0.7
	4.1nm,0.4s,baz=169,slow=5.6,SNR=11						
DBIC	Dimbokro	149.71	177	PKPbc	PKPbc	03 54 27.1	-1.1
DBIC				PKPab	PKPab	03 54 34.2	-0.7
NSS	Namsos	151.01	346	eP	PKPdf	03 54 26.4	+3.0
BRTR	Keskin Array B	151.01	287	PKPbc	PKPbc	03 54 28.9	-1.5
	11nm,0.9s,baz=154,slow=4.2,SNR=33						
BRTR				PKPab	PKPab	03 54 38.6	-1.2
	4.2nm,0.8s,baz=152,slow=5.6,SNR=9.8						
BRTR	Keskin Array B	151.01	287	PKPbc	PKPbc	03 54 28.9	-1.5
BRTR				PKPab	PKPab	03 54 38.6	-1.2
AKASG	Malin Array Be	153.10	311	PKPbc	PKPbc	03 54 32.8	-2.0
	4.0nm,0.6s,baz=54,slow=2.0,SNR=10						
AKASG				PKPab	PKPab	03 54 46.5	-1.8
	4.5nm,0.6s,baz=58,slow=4.3,SNR=8.2						
AKASG	Malin Array Be	153.10	311	PKPbc	PKPbc	03 54 32.8	-2.0
AKASG				PKPab	PKPab	03 54 46.5	-1.8
NB2	NORSAR Subarra	154.30	344	PKPdf	PKPbc	03 54 33.9	-3.0
	comp=Z,4.9nm,1.0s,baz=39,slow=1.9						
NB2	NORSAR Subarra	154.30	344	PKPdf	PKPbc	03 54 33.9	-3.0
	baz=39,slow=1.9						
NOA	NORSAR Array B	154.30	344	PKPbc	PKPbc	03 54 34.3	-2.6
	comp=Z,1.2nm,0.9s,baz=59,slow=2.6,SNR=6.1						
NOA				PKPab	PKPab	03 54 51.0	-2.0
	comp=Z,3.9nm,0.7s,baz=27,slow=3.4,SNR=10.0						
NOA	NORSAR Array B	154.30	344	PKPbc	PKPbc	03 54 34.3	-2.6
NOA				PKPab	PKPab	03 54 51.0	-2.0
TLCR		154.57	299	↓iP	PKPab	03 54 53.6	-1.2
TORD	Torodi Ar. Bea	155.76	192	PKP	PKPdf	03 54 30.5	-1.2
	comp=Z,0.7nm,0.8s,baz=189,slow=1.4,SNR=6.0						
TORD				PKPab	PKPab	03 54 59.6	-0.8
	comp=Z,2.1nm,0.5s,baz=175,slow=4.0,SNR=21						
TORD	Torodi Ar. Bea	155.76	192	PKP	PKPdf	03 54 30.5	-1.2
TORD				PKPab	PKPab	03 54 59.6	-0.8
TESR		155.84	302	↓iP	PKPab	03 54 59.3	-0.9
VRI	Vrincioaia	155.92	301	↓iP	PKPab	03 55 00.8	+0.2
PLOR	Plostina	155.97	301	↑iP	PKPab	03 54 59.9	-0.9
SULR		156.45	298	↑iP	PKPab	03 54 58.8	-4.1
BURAR	Bucovina Array	156.52	306	↓iP	PKPab	03 55 02.7	-0.4
MLR	Muntele Rosu	156.53	300	PKPab	PKPab	03 55 02.4	-0.8
	comp=Z,1.3nm,0.7s,baz=90,slow=4.0,SNR=12						
MLR	Muntele Rosu	156.53	300	PKPab	PKPab	03 55 02.4	-0.8
MLR	Muntele Rosu	156.53	300	↓iP	PKPab	03 55 02.7	-0.5
DOPR	Dopca	156.81	302	↓iP	PKPab	03 55 03.6	-0.8
KWP	Kalwaria Pacla	157.40	312	↑iP	PKPab	03 55 06.7	-0.1
BMR	Baia Mare	157.62	307	↑iP	PKPab	03 55 03.2	-4.6
TRPA	Tarpa	158.07	308	↓iP	PKPab	03 55 09.3	-0.5
CRVS	Cervenica-Dubn	158.44	311	ePKP	PKPab	03 55 10.9	-0.5
VTS	Vitosha	158.91	293	↑iP	PKPab	03 55 13.4	-0.3
KECS	Kecovo	159.20	311	ePKP	PKPab	03 55 14.1	-0.6
OKC	Ostrava-Krasne	159.92	316	ePKPAB	PKPab	03 55 17.3	-0.5
DPC	Dobruska-Polom	160.62	319	ePKPAB	PKPab	03 55 20.7	-0.1
UPC	Upice	160.69	320	ePKPAB	PKPab	03 55 20.7	-0.4
VRAC	Vranov	161.06	317	PKPab	PKPab	03 55 22.7	-0.1
	comp=Z,3.4nm,0.8s,baz=90,slow=3.4,SNR=4.7						
VRAC	Vranov	161.06	317	PKPab	PKPab	03 55 22.7	-0.1
VRAC	Vranov	161.06	317	↑iP	PKPdf	03 54 45.1	+8.2
VRAC	Vranov	161.06	317	↑iP	PKPab	03 55 22.8	0.0
BRG	Berggiesshubel	161.48	324	eP	PKPab	03 55 23.4	-1.1
	comp=Z,14nm,1.4s						
CLL	Collm	161.62	326	↓iPKPab	PKPab	03 55 23.8	-1.3
	comp=Z,10.0nm,0.7s						
EKA	Eskdalemuir Ar	161.73	360	PKPab	PKPab	03 55 22.9	-2.6
	comp=Z,2.3nm,0.6s,baz=335,slow=2.5,SNR=8.7						
EKA	Eskdalemuir Ar	161.73	360	PKPab	PKPab	03 55 22.9	-2.6
CONA	Conrad Observa	162.20	314	↑iPKPab	PKPab	03 55 27.5	-0.3
	comp=Z,4.3nm,0.9s						
NKC	Novy Kostel	162.62	324	ePKPAB	PKPab	03 55 28.5	-1.1
GERES	GERESS Array B	162.89	319	PKPab	PKPab	03 55 29.3	-1.5
	comp=Z,0.8nm,0.7s,baz=48,slow=6.0,SNR=5.6						
GERES	GERESS Array B	162.89	319	PKPab	PKPab	03 55 29.3	-1.5
CDF	Champ du Feu	166.25	329	ePKP2	PKPab	03 55 44.1	-1.5
	comp=Z,25nm,1.0s						
PAGF	Fort de Pagny	166.74	333	ePKP2	PKPab	03 55 46.5	-1.2
	comp=Z,12nm,0.9s						
HINF	Hinteralfeld	166.89	328	ePKP2	PKPab	03 55 46.6	-1.9
HAU	Haudompre	166.95	330	ePKP2	PKPab	03 55 47.0	-1.7
SFTF	Sexfontaines	167.28	334	ePKP2	PKPab	03 55 48.5	-1.7
SMF	Signal de Mont	169.03	333	ePKP2	PKPab	03 55 56.3	-1.7
	comp=Z,28nm,1.0s						
AVF	Avril sur Loir	169.08	335	ePKP2	PKPab	03 55 56.3	-1.9
	comp=Z,17nm,0.9s						
ESDC	Sonseca Array	177.35	10	PKPab	pPKPdf	03 56 32.0	+3.8
	comp=Z,1.2nm,0.7s,baz=334,slow=3.4,SNR=5.2						

IDC 24 03:36:06.5±1.1, 7.68S×155.13E, h0km, mb4.3/11, mb1 4.5/12, mb1mx4.3/19, mbtmp4.3/12, ML3.3/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/23, Error ellipse: s-maj=38.0km s-min=18.3km az=136.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	8.07	257	Pn	Pn	03 38 07.1	+2.1
	2.1nm,0.3s,baz=56,slow=10,SNR=8.3						
PMG				Sn	Sn	03 39 43.7	+6.7
	1.3nm,0.3s,baz=330,slow=16,SNR=3.2						
WRA	Warramunga Arr	23.55	237	P	P	03 41 18.1	-0.7
	5.7nm,0.8s,baz=59,slow=9.9,SNR=10						
ASAR	Alice Springs	25.83	230	P	P	03 41 39.2	-0.4
	1.3nm,0.5s,baz=63,slow=9.1,SNR=12						
FITZ	Fitzroy Crossi	30.51	247	P	P	03 42 21.2	-0.4
	2.2nm,0.5s,baz=60,slow=8.1,SNR=7.4						
AFI	Afiamalu	33.06	104	LR	LR	03 53 30.2	
	comp=Z,45nm,20.7s,baz=235,slow=32						
KSRS	Korea Array	51.60	332	P	P	03 45 14.1	-0.7
	1.9nm,0.8s,baz=141,slow=8.1,SNR=4.5						
PETK	Petropavlovsk-	60.59	2	P	P	03 46 17.6	-1.1
	2.7nm,0.7s,baz=183,slow=8.6,SNR=3.9						
CMAR	Chiang Mai Arr	61.20	296	P	P	03 46 24.4	+0.9
	0.8nm,0.3s,baz=108,slow=6.0,SNR=2.9						
SONM	Songino Array	69.98	327	P	P	03 47 20.5	+0.8
	0.7nm,0.4s,baz=147,slow=6.2,SNR=10						
ILAR	Eielson Array	83.96	21	P	P	03 48 37.1	-1.1
	3.5nm,0.9s,baz=244,slow=5.1,SNR=41						
MKAR	Makanchi Array	84.00	319	P	P	03 48 38.9	+0.1
	1.9nm,0.8s,baz=104,slow=5.1,SNR=11						
NVAR	Mina Array Bea	92.04	52	P	P	03 49 19.7	+2.0
	3.7nm,1.0s,baz=254,slow=6.1,SNR=15						
PDAR	Pinedale Array	99.06	48	P	P	03 49 49.9	+0.4
	1.1nm,0.8s,baz=256,slow=3.6,SNR=6.8						
TORD	Torodi Ar. Bea	153.33	284	PKPbc	PKPbc	03 56 07.7	0.0
	0.6nm,0.7s,baz=88,slow=2.3,SNR=4.4						

DJA 24 03:36:39.0±85S×121.85E, h147km, MLv3.7/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	Luwuk	0.94	102	P	Pn	03 37 04.4	+1.4
LUWI				S	Sn	03 37 23.4	+2.2
MRSI	Marisa	1.32	4	P	Pn	03 37 07.9	+1.4
MRSI				S	Sn	03 37 29.8	+2.2
KMSI	Cibinong	2.56	56	P	Pn	03 37 22.0	+1.3

NNC 24 03:51:45.8±5.6, 39.72N×73.27E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=44.9km s-min=22.3km az=178.0

ISC 24 03:51:37.7±2.4, 39.1N±0.2×73.5E±0.1, h10km, n10, σ0=64/13, 3C-2D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu	3.04	3	P	Pn	03 52 25.4	-0.3
	SNR=12						
UCH	Uchtor	3.23	14	P	Pn	03 52 27.4	-1.0
	SNR=6.2						
KZA	Kyzart	3.27	24	P	Pn	03 52 28.4	-0.6
	SNR=11						
EKS2	Erkin-Say	3.57	4	P	Pn

WRA				PcP		PcP	04 28 29.0	-0.3
	0.4nm,0.8s,baz=317,slow=2.8,SNR=4.6							
WRA				pPcP			04 28 40.1	
	0.2nm,0.3s,baz=311,slow=2.8,SNR=5.9							
WRA	**Warramunga Arr**	**42.19 121**		P		**P**	**04 26 34.8**	**-0.1**
WRA				PcP		PcP	04 28 29.0	-0.3
WRA				pPcP			04 28 40.1	
WRAB	**Tennant Creek**	**42.19 121**		*e*P		**P**	**04 26 34.0**	**-1.0**
	2.0nm,0.7s,mb3.9							
WB2	**Warramunga Arr**	**42.20 121**		*e*P		**P**	**04 26 34.7**	**-0.4**
ASAR	**Alice Springs**	**43.47 126**		P		**P**	**04 26 45.4**	**0.0**
	1.0nm,0.6s,mb3.7,baz=301,slow=8.1,SNR=10							
ASAR				PcP		PcP	04 28 33.4	-0.2
	0.2nm,0.3s,baz=298,slow=2.7,SNR=4.4							
ASAR	**Alice Springs**	**43.47 126**		P		**P**	**04 26 45.4**	**0.0**
ASAR				PcP		PcP	04 28 33.4	-0.2
KSRS	**Korea Array**	**46.69 35**		LR		LR	04 46 37.4	
	comp=Z,21nm,20.7s,baz=170,slow=36							
MK31	**Makanchi Array**	**47.73 347**		*e*P		**P**	**04 27 19.5**	**+0.8**
MKAR	**Makanchi Array**	**47.73 347**		P		**P**	**04 27 19.4**	**+0.7**
	1.4nm,0.5s,mb4.2,baz=164,slow=8.3,SNR=12							
MKAR				pP		pP	04 27 29.9	+7.3
	4.2nm,0.5s,baz=162,slow=7.3,SNR=22							
MKAR	**Makanchi Array**	**47.73 347**		P		**P**	**04 27 19.4**	**+0.7**
MKAR				pP		pP	04 27 29.9	+7.3
SONM	**Songino Array**	**47.84 9**		P		**P**	**04 27 20.5**	**+1.0**
	0.7nm,0.4s,mb4.1,baz=189,slow=9.6,SNR=9.8							
SONM				pP		pP	04 27 31.0	+7.5
	2.2nm,0.7s,baz=192,slow=9.2,SNR=12							
SONM				PcP		PcP	04 28 48.6	+0.4
	0.6nm,0.8s,baz=222,slow=3.0,SNR=3.1							
SONM				pPcP			04 28 59.8	
	0.9nm,0.6s,baz=184,slow=4.2,SNR=4.7							
SONM	**Songino Array**	**47.84 9**		P		**P**	**04 27 20.5**	**+1.0**
SONM				pP		pP	04 27 31.0	+7.5
SONM				PcP		PcP	04 28 48.6	+0.4
SONM				pPcP			04 28 59.8	
STKA	**Stephens Creek**	**53.35 131**		P		**P**	**04 27 59.9**	**-1.6**
	2.4nm,1.0s,mb4.1,baz=318,slow=8.7,SNR=3.6							
STKA	**Stephens Creek**	**53.35 131**		P		**P**	**04 27 59.9**	**-1.6**
ZAA0	**Zalesovo Array**	**54.10 351**		*e*P		**P**	**04 28 09.5**	**+3.0**
ZALV	**Zalesovo Beam**	**54.10 351**		P		**P**	**04 28 06.6**	**+0.1**
	3.5nm,0.5s,mb4.6,baz=168,slow=7.7,SNR=15							
ZALV				pP		pP	04 28 17.5	+7.0
	9.8nm,0.6s,baz=181,slow=6.8,SNR=19							
ZALV	**Zalesovo Beam**	**54.10 351**		P		**P**	**04 28 06.6**	**+0.1**
ZALV				pP		pP	04 28 17.5	+7.0
ABKAR	**Akbulak array**	**57.81 332**		*e*P		**P**	**04 28 32.5**	**-0.7**
	1.7nm,0.6s,mb4.2							
ABKAR				*e*			04 28 43.8	
BRTR	**Keskin Array B**	**69.12 313**		P		**P**	**04 29 47.5**	**-0.9**
	0.5nm,0.8s,mb3.5,baz=151,slow=5.5,SNR=3.8							
BRTR				pP		pP	04 29 58.8	+6.4
	0.5nm,0.6s,baz=158,slow=9.7,SNR=2.0							
BRTR	**Keskin Array B**	**69.12 313**		P		**P**	**04 29 47.5**	**-0.9**
BRTR				pP		pP	04 29 58.8	+6.4
AKASG	**Malin Array Be**	**75.42 323**		P		**P**	**04 30 24.8**	**-0.9**
	1.2nm,0.6s,mb4.0,baz=92,slow=4.6,SNR=5.5							
AKASG				pP		pP	04 30 35.9	+6.1
	1.1nm,0.6s,baz=99,slow=4.0,SNR=2.6							
AKASG	**Malin Array Be**	**75.42 323**		P		**P**	**04 30 24.8**	**-0.9**
AKASG				pP		pP	04 30 35.9	+6.1
FINES	**FINESS Array B**	**80.30 333**		P		**P**	**04 30 52.0**	**-0.7**
	3.2nm,0.9s,mb4.3,baz=141,slow=4.6,SNR=3.5							
FINES				pP		pP	04 31 03.4	+6.6
	5.2nm,1.0s,baz=40,slow=7.2,SNR=1.1							
FINES	**FINESS Array B**	**80.30 333**		P		**P**	**04 30 52.0**	**-0.7**
FINES				pP		pP	04 31 03.4	+6.6
ARCES	**ARCESS Array B**	**82.94 340**		P		**P**	**04 31 06.7**	**+0.2**
	5.8nm,0.9s,mb4.6,baz=98,slow=6.2,SNR=7.4							
ARCES	**ARCESS Array B**	**82.94 340**		P		**P**	**04 31 06.7**	**+0.2**
GERES	**GERESS Array B**	**84.92 319**		P		**P**	**04 31 17.3**	**+0.3**
	0.7nm,0.7s,mb3.9,baz=109,slow=8.4,SNR=4.7							
GERES	**GERESS Array B**	**84.92 319**		P		**P**	**04 31 17.3**	**+0.3**
KEST	**Kesra**	**87.47 306**		P		**P**	**04 31 31.0**	**+1.1**
	0.8nm,0.9s,mb3.9,baz=22,slow=5.4,SNR=4.4							
KEST	**Kesra**	**87.47 306**		P		**P**	**04 31 31.0**	**+1.1**
TORD	**Torodi Ar. Bea**	**94.68 283**		P		**P**	**04 32 04.1**	**+0.1**
	0.1nm,0.5s,mb3.5,baz=81,slow=5.6,SNR=3.1							
TORD	**Torodi Ar. Bea**	**94.68 283**		P		**P**	**04 32 04.1**	**+0.1**
CPUP	**Villa Florida**	**144.15 222**		PKP		PKPdf	04 38 16.8	-1.8
	3.2nm,0.6s,baz=56,slow=3.3,SNR=9.3							
CPUP				pPKP		pPKPdf	04 38 27.8	+4.9
	0.7nm,0.5s,baz=156,slow=4.8,SNR=2.3							
CPUP	**Villa Florida**	**144.15 222**		PKP		PKPdf	04 38 16.8	-1.8
CPUP				pPKP		pPKPdf	04 38 27.8	+4.9
TXAR	**Lajitas Array**	**144.51 31**		PKP		PKPdf	04 38 17.8	-1.4
	0.4nm,0.5s,baz=219,slow=2.1,SNR=14							
TXAR				pPKP		pPKPdf	04 38 28.9	+5.5
	0.6nm,0.6s,baz=232,slow=4.7,SNR=6.8							
TXAR	**Lajitas Array**	**144.51 31**		PKP		PKPdf	04 38 17.8	-1.4
TXAR				pPKP		pPKPdf	04 38 28.9	+5.5

WEL 24 04:23:40.2±0.2, 39.38S×177.79E, h60km±2km, ML4.1/18, Error ellipse: s-maj=2.3km s-min=1.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**0.24**	**23**	PN	Pn	04 23 50.3	+0.4
KNZ	**Kokohu**	**0.37**	**346**	PN	Pn	04 23 50.3	-0.6
KNZ				SN	Sn	04 23 57.9	-0.7
PRGZ	**Paritu Road**	**0.46**	**9**	PN	Pn	04 23 51.6	-0.1
PRGZ				SN	Sn	04 24 00.2	+0.2
CKHZ	**Cape Kidnapper**	**0.62**	**243**	PN	Pn	04 23 53.5	+0.1
RAHZ	**Arahi**	**0.71**	**310**	PN	Pn	04 23 54.4	-0.2
NMHZ	**Naumai**	**0.81**	**290**	PN	Pn	04 23 55.8	0.0
KAHZ	**Kahuranaki**	**0.82**	**239**	PN	Pn	04 23 56.0	+0.1
MCHZ	**McNeill Hill**	**0.85**	**265**	PN	Pn	04 23 56.5	+0.2
CNGZ	**Carnagh Statio**	**0.95**	**20**	PN	Pn	04 23 58.0	+0.5
PXZ	**Pawanui**	**0.97**	**227**	PN	Pn	04 23 57.5	-0.3
PXZ				SN	Sn	04 24 11.1	+0.3
BKZ	**Black Stump Fm**	**1.03**	**281**	PN	Pn	04 23 58.3	-0.2
MWZ	**Matawai**	**1.06**	**349**	PN	Pn	04 23 58.6	-0.4
URZ	**Urewera**	**1.23**	**334**	PN	Pn	04 24 00.9	-0.4
URZ				SN	Sn	04 24 15.4	-1.7
WPHZ	**Waipukurau**	**1.25**	**236**	PN	Pn	04 24 01.3	-0.1
PRHZ	**Porangahau**	**1.26**	**225**	PN	Pn	04 24 01.1	-0.4
PNHZ	**Pukenui**	**1.34**	**246**	PN	Pn	04 24 02.4	-0.3
BHHZ	**Black Hill Sta**	**1.34**	**265**	PN	Pn	04 24 02.7	0.0
PUZ	**Puketiti**	**1.35**	**16**	PN	Pn	04 24 02.5	-0.4
ALRZ	**Allen Road**	**1.39**	**305**	PN	Pn	04 24 03.1	-0.3
PRRZ	**Plateau Road**	**1.40**	**308**	PN	Pn	04 24 03.0	-0.4
HATZ	**Hinemaiaia**	**1.41**	**290**	PN	Pn	04 24 03.6	+0.1
RRRZ	**Republican Roa**	**1.44**	**316**	PN	Pn	04 24 03.7	-0.3
TARZ	**Mount Tarawera**	**1.52**	**318**	PN	Pn	04 24 05.2	+0.1
DVHZ	**Dannevirke**	**1.55**	**203**	PN	Pn	04 24 05.1	-0.4
TSZ	**Takapari Road**	**1.56**	**244**	PN	Pn	04 24 05.3	-0.4
MOVZ	**Moawhango**	**1.58**	**268**	PN	Pn	04 24 06.5	+0.6
TUVZ	**Tukino**	**1.66**	**273**	SN	Sn	04 24 25.6	-1.6
OTVZ	**Oturere**	**1.66**	**277**	*e*PN	Pn	04 24 03.5	-3.5
KRVZ	**Karewarewa**	**1.69**	**279**	PN	Pn	04 24 07.6	+0.2
WATZ	**Wairara**	**1.73**	**292**	PN	Pn	04 24 07.3	-0.7
FWVZ	**Far West T-bar**	**1.74**	**273**	PN	Pn	04 24 08.4	+0.4
WPVZ	**Whakapapa**	**1.75**	**275**	PN	Pn	04 24 08.5	+0.3
BFZ	**Birch Farm**	**1.76**	**222**	PN	Pn	04 24 07.4	-1.0
MTVZ	**Mangateitei**	**1.79**	**269**	PN	Pn	04 24 09.0	+0.1
MTVZ				SN	Sn	04 24 29.0	-1.6
OPRZ	**Ohinepanea**	**1.81**	**327**	PN	Pn	04 24 08.1	-0.9
POWZ	**Post Office Ro**	**1.85**	**236**	PN	Pn	04 24 09.3	-0.3
MXZ	**Matakaoa Point**	**1.86**	**13**	PN	Pn	04 24 09.5	-0.2
TIWZ	**Tintock**	**2.02**	**226**	PN	Pn	04 24 11.1	-0.8
MRZ	**Mangatainoka R**	**2.13**	**232**	PN	Pn	04 24 12.5	-0.8
TMWZ	**Te Maipa**	**2.26**	**219**	PN	Pn	04 24 13.6	-1.6
HOWZ	**Holdsworth Sta**	**2.31**	**228**	PN	Pn	04 24 14.5	-1.3
VRZ	**Vera Road**	**2.37**	**275**	PN	Pn	04 24 16.8	+0.2
HIZ	**Hauiti**	**2.44**	**290**	PN	Pn	04 24 17.6	-0.1
OGWZ	**Otaki Gorge**	**2.47**	**234**	PN	Pn	04 24 16.9	-1.1
MTW	**Mount Morrison**	**2.50**	**224**	PN	Pn	04 24 16.4	-1.9
TRWZ	**Traveller**	**2.58**	**218**	PN	Pn	04 24 17.5	-2.0
KIW	**Kapiti Island**	**2.66**	**235**	PN	Pn	04 24 19.6	-1.0
PAWZ	**Paruwai Farm**	**2.69**	**221**	PN	Pn	04 24 19.1	-2.0
CAW	**Cannon Point**	**2.71**	**229**	PN	Pn	04 24 19.6	-1.6
MSWZ	**Moikau Station**	**2.81**	**223**	PN	Pn	04 24 20.5	-2.1
PLWZ	**Palliser**	**2.92**	**221**	PN	Pn	04 24 21.7	-2.4
BHW	**Baring Head**	**3.01**	**227**	PN	Pn	04 24 23.1	-2.3
TCW	**Tory Channel**	**3.25**	**235**	PN	Pn	04 24 26.8	-1.9
DUWZ	**D'Urville Isla**	**3.29**	**243**	PN	Pn	04 24 27.7	-1.5
BSWZ	**Blackbirch Sta**	**3.79**	**231**	PN	Pn	04 24 33.7	-2.2
NNZ	**Nelson**	**3.84**	**240**	PN	Pn	04 24 35.0	-1.7
THZ	**Tophouse**	**4.42**	**236**	PN	Pn	04 24 42.2	-2.4
MQZ	**McQueen's Vall**	**5.79**	**220**	PN	Pn	04 25 00.0	-3.4
CTZ	**Chatham Island**	**6.05**	**138**	*e*PN	Pn	04 25 08.7	+1.8
RPZ	**Rata Peaks**	**6.65**	**227**	SN	Sn	04 26 21.6	-8.0
EAZ	**Earnscleugh**	**8.58**	**224**	SN	Sn	04 27 08.8	-8.0

*ISCJB **24** 05:05:10.5±0.5, 40.00N±0.02×28.16E±0.03, h1km±4km, Error ellipse: s-maj=3.8km s-min=3.5km az=43.8*
*CSEM **24** 05:05:10.9±0.1, 40.00N×28.16E, h5km, MD3.2, Error ellipse: s-maj=2.4km s-min=2.3km az=55.0*
*ISK **24** 05:05:10.6, 40.00N×28.15E, h6km, MD3.2*
*DDA **24** 05:05:10.8, 39.96N×28.20E, h4km±4km, Md3.4, Ml3.5*
ISC 24 05:05:11.1±0.4, 40.00N±0.02×28.16E±0.03, h4km±4km, n108, σ0.70/115, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTX	**Karacabey (Bur**	**0.30**	**30**	PG	Pg	**05 05 17.0**	**0.0**
KCTX	**Karacabey (Bur**	**0.30**	**30**	*i* Pg	Pg	**05 05 17.0**	**0.0**
BNT	**Bandirma**	**0.40**	**333**	*e*PG	Pg	**05 05 19.1**	**+0.3**
BNT	**Bandirma**	**0.40**	**333**	*e*Pg	Pg	**05 05 19.1**	**+0.3**
BALB	**Balikesir**	**0.42**	**211**	PG	Pg	**05 05 19.5**	**+0.3**
BALB				*e*SG	Sg	**05 05 25.4**	**+0.8**
BALB	**Balikesir**	**0.42**	**211**	*i* Pg	Pg	**05 05 19.5**	**+0.3**
BALB				*e*Sg	Sg	**05 05 25.4**	**+0.8**
DURS	**Dursunbey**	**0.47**	**149**	*i* P	Pg	**05 05 19.9**	**-0.2**
DURS	**Dursunbey**	**0.47**	**149**	*i* P	Pg	**05 05 19.9**	**-0.2**
DST	**Dursunbey**	**0.53**	**138**	*e*PG	Pg	**05 05 21.1**	**-0.2**
DST	**Dursunbey**	**0.53**	**138**	*e*Pg	Pg	**05 05 21.1**	**-0.2**
MDNY	**Mudanya-Bursa**	**0.67**	**56**	*e*PG	Pg	**05 05 24.0**	**+0.1**
MDNY				*e*SG	Sg	**05 05 33.9**	**+1.3**
MDNY	**Mudanya-Bursa**	**0.67**	**56**	*e*Pg	Pg	**05 05 24.0**	**+0.1**
MDNY				*e*Sg	Sg	**05 05 33.9**	**+1.4**
ULDT	**Uludag**	**0.76**	**79**	*i* P	Pg	**05 05 24.6**	**-1.1**
ULDT	**Uludag**	**0.76**	**79**	*i* P	Pg	**05 05 24.6**	**-1.1**
KRBG	**Karabiga-Canak**	**0.77**	**301**	*e*PG	Pg	**05 05 25.7**	**-0.1**
KRBG	**Karabiga-Canak**	**0.77**	**301**	*e*Pg	Pg	**05 05 25.7**	**-0.1**
ARMT	**Armutlu**	**0.78**	**44**	*e*PG	Pg	**05 05 26.2**	**+0.1**
ARMT	**Armutlu**	**0.78**	**44**	*e*Pg	Pg	**05 05 26.2**	**+0.2**
GEMT	**Gemlik**	**0.90**	**61**	*e*PG	Pg	**05 05 28.5**	**+0.2**
GEMT	**Gemlik**	**0.90**	**61**	*e*Pg	Pg	**05 05 28.5**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.01**	**313**	*e*PG	Pg	**05 05 30.3**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.01**	**313**	*e*Pg	Pg	**05 05 30.3**	**-0.2**
SART	**Tekirdag**	**1.01**	**313**	*i* P	Pg	**05 05 30.3**	**-0.2**
SART	**Tekirdag**	**1.01**	**313**	*i* P	Pg	**05 05 30.3**	**-0.2**
MFT	**Murefte**	**1.03**	**320**	*e*PG	Pg	**05 05 30.9**	**0.0**
MFT	**Murefte**	**1.03**	**320**	*e*Pg	Pg	**05 05 30.9**	**0.0**
YLV	**Yalova**	**1.09**	**58**	*e*PN	Pg	**05 05 31.5**	**-0.5**
YLV	**Yalova**	**1.09**	**58**	*e*Pn	Pg	**05 05 31.5**	**-0.4**
TKR	**Tekirdag**	**1.09**	**335**	*e*PN	Pg	**05 05 32.2**	**+0.2**
TKR	**Tekirdag**	**1.09**	**335**	*e*Pn	Pg	**05 05 32.2**	**+0.1**
BUY	**Buyukada**	**1.12**	**41**	*i* P	Pg	**05 05 33.1**	**+0.5**
BUY	**Buyukada**	**1.12**	**41**	*i* P	Pg	**05 05 33.1**	**+0.5**
LPK	**Lapseki**	**1.13**	**290**	*e*PN	Pg	**05 05 32.1**	**-0.7**
LPK	**Lapseki**	**1.13**	**290**	*e*Pn	Pg	**05 05 32.1**	**-0.7**
AKHS	**Akhisar**	**1.15**	**193**	*i* P	Pg	**05 05 32.6**	**-0.6**
AKHS				*i* S	Sg	**05 05 48.9**	**+0.8**
AKHS	**Akhisar**	**1.15**	**193**	*i* P	Pg	**05 05 32.6**	**-0.6**
AKHS				*i* S	Sg	**05 05 48.9**	**+0.8**
AKS	**Akhisar**	**1.15**	**193**	*e*PN	Pn	**05 05 32.5**	**-1.4**
AKS	**Akhisar**	**1.15**	**193**	*e*Pn	Pn	**05 05 32.5**	**-1.4**
ELBA	**Catalca**	**1.16**	**10**	*i* P	Pg	**05 05 32.9**	**-0.5**
ELBA	**Catalca**	**1.16**	**10**	*i* P	Pg	**05 05 32.9**	**-0.5**
CRLT	**Corlu**	**1.17**	**344**	*e*PN	Pn	**05 05 33.6**	**-0.6**
CRLT	**Corlu**	**1.17**	**344**	*e*Pn	Pn	**05 05 33.6**	**-0.6**
SLVT	**Silivri**	**1.23**	**2**	*e*PN	Pn	**05 05 34.8**	**-0.2**
SLVT	**Silivri**	**1.23**	**2**	*e*Pn	Pn	**05 05 34.8**	**-0.1**
CTKS	**Kestanelik-??a**	**1.26**	**12**	*e*PN	Pn	**05 05 35.1**	**-0.3**
CTKS	**Kestanelik-??a**	**1.26**	**12**	*e*Pn	Pn	**05 05 35.2**	**-0.2**
BGKT	**Bogazkoy**	**1.27**	**22**	*e*PN	Pn	**05 05 34.9**	**-0.6**
BGKT	**Bogazkoy**	**1.27**	**22**	*e*Pn	Pn	**05 05 34.9**	**-0.6**
ADVT	**Abdulvahap**	**1.28**	**70**	*e*PN	Pn	**05 05 35.7**	**-0.1**
ADVT	**Abdulvahap**	**1.28**	**70**	*e*Pn	Pn	**05 05 35.7**	**0.0**
CAVI	**Cavuskoy**	**1.31**	**81**	*e*PN	Pn	**05 05 36.1**	**0.0**
CAVI	**Cavuskoy**	**1.31**	**81**	*e*Pn	Pn	**05 05 36.1**	**0.0**
AYVA	**Ayvalik**	**1.33**	**239**	*i* P	Pn	**05 05 37.4**	**+1.1**
AYVA	**Ayvalik**	**1.33**	**239**	*i* P	Pn	**05 05 37.4**	**+1.1**
GELI	**Tayfur-Gelibol**	**1.35**	**288**	*e*PN	Pn	**05 05 36.1**	**-0.5**
GELI	**Tayfur-Gelibol**	**1.35**	**288**	*e*Pn	Pn	**05 05 36.1**	**-0.5**
GDZ	**Gediz**	**1.37**	**131**	*i* P	Pn	**05 05 35.3**	**-1.6**
GDZ	**Gediz**	**1.37**	**131**	*i* P	Pn	**05 05 35.3**	**-1.6**
HRT	**Hereke**	**1.41**	**54**	*e*PN	Pn	**05 05 37.3**	**-0.2**
HRT	**Hereke**	**1.41**	**54**	*e*Pn	Pn	**05 05 37.3**	**-0.2**
KLYT	**Kilyos**	**1.42**	**28**	*e*PN	Pn	**05 05 37.5**	**-0.1**
KLYT	**Kilyos**	**1.42**	**28**	*e*Pn	Pn	**05 05 37.5**	**-0.1**
EZN	**Ezine**	**1.42**	**263**	*e*PN	Pn	**05 05 36.9**	**-0.7**
EZN	**Ezine**	**1.42**	**263**	*e*Pn	Pn	**05 05 36.9**	**-0.7**
ERIK	**Erikli-Kesan**	**1.42**	**299**	*e*PN	Pn	**05 05 37.8**	**+0.1**
ERIK	**Erikli-Kesan**	**1.42**	**299**	*e*Pn	Pn	**05 05 37.8**	**+0.2**
CTYL	**Yal??k??y-??at**	**1.47**	**4**	*e*PN	Pn	**05 05 39.0**	**+0.7**
CTYL	**Yal??k??y-??at**	**1.47**	**4**	*e*Pn	Pn	**05 05 39.0**	**+0.6**
KULA	**Kula-Manisa**	**1.54**	**165**	*e*PN	Pn	**05 05 39.2**	**0.0**
KULA	**Kula-Manisa**	**1.54**	**165**	*e*Pn	Pn	**05 05 39.2**	**0.0**
MANT	**Manisa**	**1.54**	**168**	*i* P	Pn	**05 05 38.3**	**-1.0**
MANT	**Manisa**	**1.54**	**168**	*i* P	Pn	**05 05 38.3**	**-1.0**
BOZC	**Bozcaada**	**1.63**	**265**	*i* P	Pn	**05 05 41.9**	**+1.4**
GPA	**Golpazari**	**1.67**	**79**	*e*PN	Pn	**05 05 41.5**	**+0.4**
GPA	**Golpazari**	**1.67**	**79**	*e*Pn	Pn	**05 05 41.5**	**+0.4**
ENEZ	**Enez**	**1.70**	**296**	*e*PN	Pn	**05 05 41.4**	**0.0**
ENEZ	**Enez**	**1.70**	**296**	*e*Pn	Pn	**05 05 41.4**	**0.0**
GADA	**Gvkgeada**	**1.74**	**277**	*e*PN	Pn	**05 05 42.0**	**0.0**
GADA	**Gvkgeada**	**1.74**	**277**	*e*Pn	Pn	**05 05 42.1**	**+0.1**
IZM	**Izmir**	**1.75**	**204**	*e*PN	Pn	**05 05 41.9**	**-0.2**
IZM	**Izmir**	**1.75**	**204**	*e*Pn	Pn	**05 05 41.9**	**-0.2**
BORA	**Eskisehir**	**1.77**	**93**	*i* P	Pn	**05 05 41.4**	**-1.0**
BORA	**Eskisehir**	**1.77**	**93**	*i* P	Pn	**05 05 41.4**	**-1.0**
ALT	**Altintas**	**1.78**	**121**	*e*PN	Pn	**05 05 42.5**	**-0.1**
ALT	**Altintas**	**1.78**	**121**	*i* P	Pn	**05 05 33.9**	**-8.6**
ALT				*i* S	Sn	**05 05 49.2**	**-16**
ALT	**Altintas**	**1.78**	**121**	*e*Pn	Pn	**05 05 42.5**	**-0.1**
BLCB	**Balcova**	**1.83**	**209**	*e*PN	Pn	**05 05 43.2**	**0.0**
BLCB	**Balcova**	**1.83**	**209**	*e*Pn	Pn	**05 05 43.2**	**-0.1**
GULT	**Gulveren**	**1.86**	**76**	*e*PN	Pn	**05 05 43.9**	**+0.3**
GULT	**Gulveren**	**1.86**	**76**	*e*Pn	Pn	**05 05 43.9**	**+0.3**
KHAL	**Karahalli**	**1.93**	**147**	*i* P	Pn	**05 05 44.0**	**-0.7**
KHAL	**Karahalli**	**1.93**	**147**	*i* P	Pn	**05 05 44.0**	**-0.6**
EDRB	**Edirne**	**2.13**	**330**	*e*PN	Pn	**05 05 48.1**	**+0.7**
EDRB	**Edirne**	**2.13**	**330**	*e*Pn	Pn	**05 05 48.1**	**+0.7**
ESKT	**Eskisehir**	**2.13**	**102**	*e*PN	Pn	**05 05 47.7**	**+0.3**
ESKT	**Eskisehir**	**2.13**	**102**	*i* P	Pn	**05 05 50.4**	**+3.1**
ESKT	**Eskisehir**	**2.13**	**102**	*e*Pn	Pn	**05 05 47.7**	**+0.3**
SEYT	**Eskypehyr**	**2.13**	**102**	*i* P	Pn	**05 05 50.4**	**+3.0**
SHUT	**Suhut-Afyon**	**2.35**	**127**	*e*PN	Pn	**05 05 50.8**	**+0.4**
SHUT	**Suhut-Afyon**	**2.35**	**127**	*e*Pn	Pn	**05 05 50.8**	**+0.4**
MDU	**Mudurnu**	**2.38**	**78**	*e*PN	Pn	**05 05 51.5**	**+0.7**
MDU	**Mudurnu**	**2.38**	**78**	*e*Pn	Pn	**05 05 51.6**	**+0.7**
SVRH	**Sivrihisar-ESK**	**2.65**	**101**	*e*PN	Pn	**05 05 55.1**	**+0.5**
SVRH	**Sivrihisar-ESK**	**2.65**	**101**	*e*Pn	Pn	**05 05 55.1**	**+0.5**
KIZT	**Kizilcal**	**3.09**	**110**	*e*PN	Pn	**05 06 01.6**	**+1.0**
KIZT	**Kizilcal**	**3.09**	**110**	*e*Pn	Pn	**05 06 01.6**	**+1.0**
KDHN	**Kadinhani**	**3.41**	**114**	*e*P	Pg	**05 06 15.2**	**-1.2**
KORT	**Korkueli**	**3.46**	**149**	*i* P	Pb	**05 06 14.8**	**+2.0**

*IDC **24** 05:23:50.0±0.5, 0.57S×133.26E, h0km, mb4.2/12, mb1 4.3/14, mb1mx4.2/23, mbtmp4.2/14, ML4.1/2, MS3.7/5, Ms1 3.7/5, ms1mx3.0/32, Error ellipse: s-maj=32.6km s-min=10.9km az=80.0*
*DJA **24** 05:23:52.0±0.6, 1.7S×13.7E±°, h10km, M4.9/1, mb5.1/11, mB5.4/8, MLv4.8/9, Mw(mB)4.8/8*
*ISCJB **24** 05:23:54.6±0.8, 0.62S±0.04×133.36E±0.05, h50km±8km, mb4.1/14, MS3.8/4, Error ellipse: s-maj=8.9km s-min=6.6km az=160.2*
*NEIC **24** 05:23:55.2±0.3, 0.53S×133.46E, h35km, mb4.2/5, Error ellipse: s-maj=11.4km s-min=5.7km az=79.0*
ISC 24 05:23:55.7±0.8, 0.57S±0.06×133.38E±0.05, h40km±9km, n58, σ0.99/59, mb4.1/14, MS3.8/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**2.14**	**262**	P	**Pn**	**05 24 27.7**	**-1.3**
BAKI	**Biak**	**2.79**	**103**	P	**Pn**	**05 24 38.2**	**+0.3**
TLE	**Tual**	**5.08**	**187**	P	**Pn**	**05 25 11.1**	**+1.8**
	1.5nm5µm414nm,0.7s						
MSAI	**Masohi**	**5.24**	**238**	P	**Pn**	**05 25 13.8**	**+2.2**
	0.4nm2µm120nm,0.6s						
BNDI	**Bandanaira**	**5.25**	**221**	P	**Pn**	**05 25 10.9**	**-0.7**
	3.5nm615nm,0.9s						
SMPI	**Sarmi**	**5.51**	**105**	P	**Pn**	**05 25 15.3**	**0.0**
	0.3nm5µm63nm,1.4s						
LBMI	**Labuha**	**5.88**	**269**	P	**Pn**	**05 25 20.3**	**-0.1**
	0.4nm1µm110nm,0.9s						
AAI	**Ambon**	**6.04**	**239**	P	**Pn**	**05 25 22.4**	**-0.2**
	1.1nm4µm370nm,0.7s						
NLAI	**Namlea**	**6.82**	**247**	P	**Pn**	**05 25 34.2**	**+0.9**
	0.5nm1µm145nm,0.7s						
LUWI	**Luwuk**	**10.62**	**267**	P	**Pn**	**05 26 24.3**	**-1.1**
	46nm,1.0s						
KAKA	**Kakadu**	**12.10**	**184**	*e*P	**Pn**	**05 26 44.5**	**-1.2**
	35nm,0.6s						
KAKA	**Kakadu**	**12.10**	**184**	*e*Pn	**Pn**	**05 26 44.4**	**-1.3**
	100nm,0.6s						
KAKA				*e*Sn	**Sn**	**05 28 53.4**	**-6.0**
KAPI	**Kappang**	**14.31**	**252**	*e*P	**Pn**	**05 27 18.2**	**+2.4**
	10.0nm,0.8s						
COEN	**Coen**	**16.46**	**144**	*e*Pn	**Pn**	**05 27 43.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**19.02**	**203**	P	**Pn**	**05 28 13.3**	**-2.0**
	0.5nm,0.3s,baz=73,slow=12,SNR=14						
FITZ				S	**S**	**05 31 34.2**	**-14**
	0.3nm,0.3s,baz=160,slow=12,SNR=4.9						
FITZ				LR	LR	05 35 46.9	
	comp=Z,85nm,19.9s,baz=218,slow=38						
FITZ	**Fitzroy Crossi**	**19.02**	**203**	*e*P	**Pn**	**05 28 14.1**	**-1.1**
	8.7nm,0.7s						
FITZ				S	**S**	**05 31 34.2**	**-14**
FITZ	**

STKA	**Stephens Creek**	**32.09**	**167**	P	**P**	**05 36 22.5**	**+0.5**
STKA				P		05 36 23.1	
SONM	**Songino Array**	**53.62**	**338**	P	**P**	**05 39 15.0**	**-0.9**
	0.5nm,0.8s,mb3.5,baz=96,slow=1.5,SNR=4.2						
SONM	**Songino Array**	**53.62**	**338**	P	**P**	**05 39 15.0**	**-0.9**
MKAR	**Makanchi Array**	**64.88**	**324**	P	**P**	**05 40 34.2**	**+0.4**
	1.0nm,0.7s,mb3.9,baz=117,slow=7.1,SNR=9.0						
MKAR	**Makanchi Array**	**64.88**	**324**	P	**P**	**05 40 34.2**	**+0.4**
KURK	**Kurchatov**	**68.94**	**326**	P	**P**	**05 40 59.7**	**+0.2**
	2.1nm,0.9s,mb4.1,baz=117,slow=6.0,SNR=14						
KURK	**Kurchatov**	**68.94**	**326**	P	**P**	**05 40 59.7**	**+0.2**
BVAR	**Borovoye Array**	**74.54**	**326**	P	**P**	**05 41 33.4**	**+0.3**
	1.2nm,0.9s,mb3.8,baz=134,slow=6.4,SNR=4.7						
BVAR	**Borovoye Array**	**74.54**	**326**	P	**P**	**05 41 33.4**	**+0.3**
VNDA	**Vanda**	**78.41**	**174**	P	**P**	**05 41 55.4**	**+0.8**
	0.7nm,0.9s,mb3.6,baz=331,slow=5.9,SNR=3.7						
VNDA	**Vanda**	**78.41**	**174**	P	**P**	**05 41 55.4**	**+0.8**
ILAR	**Eielson Array**	**86.15**	**25**	P	**P**	**05 42 35.0**	**-0.3**
	0.6nm,0.8s,mb3.9,baz=247,slow=4.8,SNR=6.3						
ILAR	**Eielson Array**	**86.15**	**25**	P	**P**	**05 42 35.0**	**-0.3**

*IDC **24** 05:38:41.0±0.7, 0.˚60S×133.˚14E, h0km, mb4.1/9, mb1 4.3/11,mb1mx4.1/21,mbtmp4.2/11,ML4.3/2,MS3.5/6, Ms1 3.5/6,ms1mx3.2/27, Error ellipse: s-maj=38.7km s-min=12.3km az=82.0*

*ISCJB **24** 05:38:46.0±1.0, 0.˚66S±0.˚05×133.˚35E±0.˚06, h53km±9km, mb4.1/11,MS3.5/4, Error ellipse: s-maj=10.4km s-min=8.4km az=158.6*

*DJA **24** 05:38:46.2±0.8, 0.˚5S±10.˚×13.˚3E±.˚, h65km±23km, M5.0/4, mb5.5/4,mB5.5/3,MLv4.7/2,Mw(mB)4.9/3*

*NEIC **24** 05:38:46.4±0.4, 0.˚59S×133.˚19E, h35km, mb4.1/4, Error ellipse: s-maj=17.3km s-min=6.6km az=84.0*

ISC 24 05:38:46.9±1.1, 0.˚60S±0.˚07×133.˚38E±0.˚06, h42km±11km, n43, σ1s01/43, mb4.1/11, MS3.5/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SWI	**Sorong**	**2.14**	**263**	P		**Pn**	**05 39 18.6**	**-1.4**
SWI				S		**Sn**	**05 39 46.7**	**+1.4**
BAKI	**Biak**	**2.79**	**102**	P		**Pn**	**05 39 29.1**	**+0.1**
TLE	**Tual**	**5.04**	**187**	P		**Pn**	**05 40 01.6**	**+1.6**
	6µm338nm,0.8s							
BNDI	**Bandanaira**	**5.22**	**222**	P		**Pn**	**05 40 02.9**	**+0.5**
MSAI	**Masohi**	**5.22**	**238**	P		**Pn**	**05 40 03.8**	**+1.4**
LBMI	**Labuha**	**5.88**	**270**	P		**Pn**	**05 40 10.7**	**-0.8**
AAI	**Ambon**	**6.02**	**239**	P		**Pn**	**05 40 13.3**	**-0.1**
	462nm,0.6s							
NLAI	**Namlea**	**6.80**	**247**	P		**Pn**	**05 40 24.1**	**-0.1**
	3µm244nm,0.6s							
KAKA	**Kakadu**	**12.07**	**184**	*e*Pn		**Pn**	**05 41 34.7**	**-1.6**
	99nm,0.5s							
KAKA				*e*Sn		**Sn**	**05 43 41.2**	**-8.4**
GUMO	**Guam**	**18.12**	**39**	LR		LR	05 49 07.9	
	comp=Z,103nm,21.0s,baz=224,slow=34							
FITZ	**Fitzroy Crossi**	**18.98**	**203**	P		**Pn**	**05 43 03.2**	**-2.7**
	1.0nm,0.3s,baz=54,slow=11,SNR=20							
FITZ				S		**S**	**05 46 25.0**	**-13**
	0.4nm,0.3s,baz=138,slow=14,SNR=4.5							
FITZ				LR		LR	05 50 35.5	
	comp=Z,68nm,19.4s,baz=208,slow=38							
FITZ	**Fitzroy Crossi**	**18.98**	**203**	*e*P		**Pn**	**05 43 03.5**	**-2.4**
	7.0nm,0.6s							
FITZ				*e*S		**S**	**05 46 29.0**	**-9.3**
WRAB	**Tennant Creek**	**19.23**	**177**	*e*P		**Pn**	**05 43 08.6**	**-0.3**
	10nm,0.6s							
WRA	**Warramunga Arr**	**19.24**	**177**	P		**Pn**	**05 43 08.2**	**-0.8**
	0.8nm,0.3s,baz=356,slow=12,SNR=34							
WRA				S		**S**	**05 46 35.4**	**-8.3**
	0.4nm,0.3s,baz=351,slow=22,SNR=5.5							
WRA	**Warramunga Arr**	**19.24**	**177**	P		**Pn**	**05 43 08.2**	**-0.8**
WRA				S		**S**	**05 46 35.4**	**-8.3**
WB2	**Warramunga Arr**	**19.25**	**177**	*e*P		**Pn**	**05 43 08.2**	**-0.9**
ASAR	**Alice Springs**	**22.93**	**179**	P		**P**	**05 43 47.7**	**+0.3**
	20nm,1.1s,mb4.5,baz=359,slow=6.8,SNR=34							
ASAR				S		**S**	**05 47 58.1**	**+3.5**
	5.0nm,1.1s,baz=0.3,slow=22,SNR=4.3							
ASAR	**Alice Springs**	**22.93**	**179**	P		**P**	**05 43 47.7**	**+0.3**
ASAR				S		**S**	**05 47 58.1**	**+3.5**
CTA	**Charters Tower**	**23.10**	**148**	P		**P**	**05 43 51.4**	**+2.1**
	4.2nm,0.8s,mb4.0,baz=328,slow=10,SNR=5.2							
CTA	**Charters Tower**	**23.10**	**148**	P		**P**	**05 43 51.4**	**+2.1**
MBWA	**Marble Bar**	**24.39**	**212**	P		**P**	**05 44 01.8**	**+0.5**
	34nm,1.3s,mb4.6							
STKA	**Stephens Creek**	**32.06**	**167**	P		**P**	**05 45 10.5**	**+0.7**
	4.3nm,0.8s,mb4.4,baz=339,slow=12,SNR=7.0							
STKA				LR		LR	06 00 12.1	
	comp=Z,171nm,18.1s,MS3.8,baz=24,slow=40							
STKA	**Stephens Creek**	**32.06**	**167**	P		**P**	**05 45 10.5**	**+0.7**
MJAR	**Matsushiro Arr**	**37.23**	**6**	LR		LR	05 58 33.5	
	comp=Z,101nm,18.9s,MS3.6,baz=200,slow=32							
KSRS	**Korea Array**	**38.20**	**353**	LR		LR	06 00 18.7	
	comp=Z,59nm,18.4s,MS3.4,baz=160,slow=34							
ASAJ	**Asahikawa**	**45.28**	**9**	LR		LR	06 02 31.5	
	comp=Z,41nm,21.2s,MS3.3,baz=72,slow=32							
SONM	**Songino Array**	**53.65**	**338**	P		**P**	**05 48 04.6**	**+0.5**
	0.6nm,0.7s,mb3.6,baz=142,slow=5.6,SNR=4.5							
SONM				PcP		PcP	05 49 10.4	+0.4
	0.3nm,0.6s,baz=140,slow=2.1,SNR=3.5							
SONM	**Songino Array**	**53.65**	**338**	P		**P**	**05 48 04.6**	**+0.5**
SONM				PcP		PcP	05 49 10.4	+0.4
PETK	**Petropavlovsk-**	**57.24**	**17**	P		**P**	**05 48 30.9**	**+1.1**
	5.6nm,0.9s,mb4.6,baz=206,slow=9.9,SNR=3.7							
PETK	**Petropavlovsk-**	**57.24**	**17**	P		**P**	**05 48 30.9**	**+1.1**
MKAR	**Makanchi Array**	**64.92**	**324**	P		**P**	**05 49 21.6**	**-0.4**
	1.4nm,0.6s,mb4.2,baz=112,slow=8.1,SNR=15							
MKAR	**Makanchi Array**	**64.92**	**324**	P		**P**	**05 49 21.6**	**-0.4**
ZALV	**Zalesovo Beam**	**67.50**	**331**	P		**P**	**05 49 37.6**	**-0.8**
	0.3nm,0.3s,mb3.8,baz=101,slow=4.7,SNR=4.0							
ZALV	**Zalesovo Beam**	**67.50**	**331**	P		**P**	**05 49 37.6**	**-0.8**
VNDA	**Vanda**	**78.38**	**174**	P		**P**	**05 50 42.5**	**0.0**
	0.8nm,0.9s,mb3.6,baz=333,slow=4.0,SNR=4.1							
VNDA	**Vanda**	**78.38**	**174**	P		**P**	**05 50 42.5**	**0.0**
ABKAR	**Akbulak array**	**79.69**	**320**	*e*P		**P**	**05 50 50.0**	**-0.2**
	0.3nm,0.4s,mb3.6							
ILAR	**Eielson Array**	**86.16**	**25**	P		**P**	**05 51 22.8**	**-0.5**
	1.0nm,0.9s,mb4.0,baz=251,slow=4.9,SNR=11							
ILAR	**Eielson Array**	**86.16**	**25**	P		**P**	**05 51 22.8**	**-0.5**
CPUP	**Villa Florida**	**151.30**	**160**	PKPbc		PKPbc	05 58 37.6	+0.9
	1.5nm,0.7s,baz=180,slow=5.1,SNR=4.3							
CPUP	**Villa Florida**	**151.30**	**160**	PKPbc		PKPbc	05 58 37.6	+0.9
LPAZ	**La Paz**	**152.94**	**129**	PKPab		PKPab	05 58 53.5	+1.7
	1.2nm,1.1s,baz=243,slow=4.5,SNR=4.8							
LPAZ	**La Paz**	**152.94**	**129**	PKPab		PKPab	05 58 53.5	+1.7

IDC 24 05:45:12.4±7.2, 8.˚62S×119.˚79E, h161km±103km, mb3.6/2, mb1 3.5/3, mb1mx3.0/20, mbtmp3.3/3, Error ellipse: s-maj=233.7km s-min=61.0km az=28.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**18.02**	**130**	P		P	05 49 10.7	-0.4
	0.2nm,0.3s,baz=304,slow=13,SNR=3.9							
WRA				S		S	05 52 30.3	+0.7
	0.1nm,0.3s,baz=292,slow=22,SNR=3.9							
ASAR	**Alice Springs**	**20.16**	**140**	P		P	05 49 34.6	+0.3
	1.7nm,0.5s,baz=316,slow=8.9,SNR=9.0							
STKA	**Stephens Creek**	**30.75**	**142**	P		P	05 51 12.6	0.0
	1.9nm,0.3s,baz=320,slow=9.2,SNR=8.6							

MEX 24 05:48:58.9±0.4, 15.˚56N×93.˚61W, h85km±4km, MD4.0, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PCIG		**0.40**	**69**	*i* P		Pn	05 49 11.0	-1.4
PCIG				*i* S		Sn	05 49 20.6	-1.7
TGIG		**1.29**	**21**	*i* P		Pn	05 49 20.8	-1.0
TGIG				*i* S		Sn	05 49 37.2	-1.9
THIG		**1.45**	**117**	*i* P		Pn	05 49 22.3	-1.5
THIG				*i* S		Sn	05 49 41.3	-1.3
CCIG	**Comitan**	**1.58**	**63**	*e*P		Pn	05 49 24.9	-0.7
CCIG				*i* S		Sn	05 49 44.1	-1.5
CMIG	**Matias Romero**	**1.95**	**321**	*i* P		Pn	05 49 29.4	-0.9
CMIG				*e*S		Sn	05 49 53.3	-0.9
HUIG	**Huatulco**	**2.42**	**275**	*i* P		Pn	05 49 34.9	-1.6
HUIG				*i* S		Sn	05 50 03.5	-1.8
VHO	**Vista Hermosa**	**3.35**	**297**	*e*P		Pn	05 49 48.3	-0.8
VHO				*i* S		Sn	05 50 26.8	-1.2
PNIG	**Pinotepa**	**4.42**	**281**	*e*P		Pn	05 50 03.2	-0.5
PNIG				*i* S		Sn	05 50 52.9	-1.0
UTMO	**Huajuapan**	**4.61**	**300**	*i* P		Pn	05 50 05.8	-0.3
UTMO				*i* S		Sn	05 50 57.5	-0.9

MEX 24 06:05:03.0±0.7, 18.˚08N×97.˚35W, h71km±7km, MD3.7, Central Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TPIG	**Tehuac#an**	**0.34**	**358**	*i* P		Pn	06 05 13.4	-1.1
TPIG				*i* S		Sn	06 05 21.5	-1.5
UTMO	**Huajuapan**	**0.50**	**240**	*i* P		Pn	06 05 15.2	-0.7
UTMO				*i* S		Sn	06 05 24.1	-1.3
VHO	**Vista Hermosa**	**1.16**	**149**	*i* P		Pn	06 05 22.7	-0.9
VHO				*i* S		Sn	06 05 37.4	-1.5
PNIG	**Pinotepa**	**1.83**	**204**	*i* P		Pn	06 05 30.5	-2.0
PNIG				*i* S		Sn	06 05 53.6	-1.2
MZVM		**2.10**	**302**	*i* P		Pn	06 05 35.0	-0.9
MZVM				*i* S		Sn	06 06 00.3	-0.8
CMIG	**Matias Romero**	**2.55**	**112**	*i* P		Pn	06 05 41.0	-1.1
CMIG				*i* S		Sn	06 06 09.8	-2.3
HUIG	**Huatulco**	**2.59**	**152**	*i* P		Pn	06 05 42.0	-0.6
HUIG				*i* S		Sn	06 06 10.7	-2.2
CAIG	**El Cayaco**	**2.97**	**250**	*i* P		Pn	06 05 45.8	-2.0
CAIG				*i* S		Sn	06 06 19.9	-2.4

IDC 24 06:12:47.9±4.8, 29.˚37S×177.˚47W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/16, mbtmp3.8/3, Error ellipse: s-maj=201.5km s-min=73.8km az=159.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**35.17**	**255**	P		P	06 19 43.6	+0.1
	1.1nm,0.8s,baz=113,slow=13,SNR=3.1							
ASAR	**Alice Springs**	**43.64**	**266**	P		P	06 20 54.5	+0.2
	0.2nm,0.3s,baz=102,slow=7.6,SNR=2.8							
WRA	**Warramunga Arr**	**44.53**	**271**	P		P	06 21 01.2	-0.3
	1.1nm,0.3s,baz=110,slow=8.2,SNR=33							
FINES	**FINESS Array B**	**144.34**	**341**	PKP		PKPdf	06 32 24.6	-0.6
	4.5nm,0.8s,baz=66,slow=3.4,SNR=5.7							

*NIED **24** 06:28:00, 29.˚30N×130.˚50E, h17km, Mw4.5 Best double couple: M0=6.46000×10^15 NP1:φs=24.00000°, δ=77.00000°, λ=80.00000°. NP2:φs=244.00000°, δ=16.00000°, λ=129.00000°.*

*IDC **24** 06:28:18.3±0.6, 29.˚36N×130.˚49E, h0km, mb4.4/19, mb1 4.5/22, mb1mx4.4/30, mbtmp4.4/22, ML4.0/3, MS3.7/13, Ms1 3.7/13, ms1mx3.4/42, Error ellipse: s-maj=19.1km s-min=14.1km az=68.0*

*BJI **24** 06:28:18.3, 28.˚85N×130.˚98E, h46km, mB4.8/25, mb4.6/32, Ms4.3/31, Ms7 4.2/29*

*MOS **24** 06:28:21.0±1.1, 29.˚23N×130.˚52E, h33km, mb4.7/24, Error ellipse: s-maj=10.9km s-min=6.5km az=108.3*

*ISCJB **24** 06:28:22.9±0.4, 29.˚23N±0.˚02×130.˚54E±0.˚04, h49km±3km, mb4.6/59, MS3.9/12, Error ellipse: s-maj=5.5km s-min=3.5km az=25.2*

*JMA **24** 06:28:23.1, 29.˚27N×130.˚47E, h65km±3km, M4.4*

JMA Felt II J1.

*NEIC **24** 06:28:24.9±0.8, 29.˚25N×130.˚50E, h50km±7km, mb4.6/22, MW4.5(NIED), Error ellipse: s-maj=7.2km s-min=6.9km az=118.0*

NEIC Recorded [2 JMA] on Akuseki-jima and Suwanose-jima.

ISC 24 06:28:24.3±0.4, 29.˚25N±0.˚03×130.˚50E±0.˚04, h43km±3km, n174, σ0s97/187, mb4.6/59, MS3.9/12, 4C-4D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JNN	**Nakanoshima**	**0.81**	**317**	P		**Pn**	**06 28 38.4**	**-0.9**
JNN				*e*S		**Sn**	**06 28 50.4**	**+0.3**
JZK	**Kikaishima**	**1.04**	**207**	P		**Pn**	**06 28 42.2**	**-0.2**
JAM	**Amami Oshima**	**1.15**	**224**	P		**Pn**	**06 28 43.3**	**-0.6**
JAM				*e*S		**Sn**	**06 28 58.8**	**+0.4**
JKC	**Kuchinoerabu**	**1.24**	**348**	P		**Pn**	**06 28 44.6**	**-0.6**
JKC				*e*S		**Sn**	**06 29 00.2**	**-0.5**
JTN	**Tanegashima 3**	**1.46**	**16**	P		**Pn**	**06 28 47.5**	**-0.7**
JTN				*e*S		**Sn**	**06 29 06.3**	**+0.1**
JTSR	**Tashiro 2**	**1.95**	**11**	P		**Pn**	**06 28 54.8**	**-0.1**
JTSR				*e*S		**Sn**	**06 29 18.2**	**+0.1**
JTK	**Tokunoshima**	**2.00**	**224**	P		**Pn**	**06 28 55.2**	**-0.4**
JTK				*e*S		**Sn**	**06 29 18.3**	**-1.0**
JSU	**Suzuyama**	**2.25**	**359**	P		**Pn**	**06 28 58.5**	**-0.6**
JSU				*e*S		**Sn**	**06 29 24.9**	**-0.7**
JNAR	**Kushima--Naru**	**2.37**	**16**	P		**Pn**	**06 29 00.4**	**-0.2**
JSJ	**Shimokoshiki**	**2.52**	**345**	P		**Pn**	**06 29 02.4**	**-0.3**
JTZ	**Takazaki**	**2.69**	**11**	P		**Pn**	**06 29 05.6**	**+0.5**
JOW	**Kunigami**	**3.11**	**220**	Pn		**Pn**	**06 29 10.6**	**-0.2**
	18nm,0.3s,baz=55,slow=9.9,SNR=17							
JOW				Sn		**Sn**	**06 29 46.7**	**0.0**
	55nm,0.3s,baz=76,slow=26,SNR=7.3							
JOW				LR		LR	06 30 43.6	
	comp=Z,1µm,18.9s,baz=350,slow=46							
JOW	**Kunigami**	**3.11**	**220**	*e*Pn		**Pn**	**06 29 10.4**	**-0.4**
JOW				*e*Sn		**Sn**	**06 29 46.5**	**-0.2**
JNU	**Nakatsue**	**3.88**	**5**	*e*Pn		**Pn**	**06 29 22.0**	**+0.7**
JNU				*e*Sn		**Sn**	**06 30 04.6**	**-1.0**
KSAR	**Wonju Array Be**	**8.46**	**346**	Pn		**Pn**	**06 30 27.1**	**+2.9**
KSAR	**Wonju Array Be**	**8.46**	**346**	P		**Pn**	**06 30 27.2**	**+2.9**
KSRS	**Korea Array**	**8.46**	**346**	Pn		**Pn**	**06 30 27.1**	**+2.8**
	0.7nm,0.3s,baz=164,slow=14,SNR=24							
KSRS				LR		LR	06 33 55.4	
	comp=Z,395nm,20.0s,baz=165,slow=40							
KSRS	**Korea Array**	**8.46**	**346**	P		**Pn**	**06 30 27.2**	**+2.9**
KSRS				pmax		pmax		
	comp=Z,1.0nm,0.3s							
KSRS				MLR		MLR		
	comp=Z,395nm,20.0s							
JHJ	**Hachijo jima 2**	**8.84**	**62**	LR		LR	06 33 24.9	
	comp=Z,234nm,19.8s,baz=124,slow=35							
MAJO	**Matsushiro**	**9.74**	**40**	*e*Pn		**Pn**	**06 30 42.7**	**+0.9**
MAJO	**Matsushiro**	**9.74**	**40**	*e*P		**Pn**	**06 30 42.7**	**+1.0**
MJAR	**Matsushiro Arr**	**9.74**	**40**	Pn		**Pn**	**06 30 43.2**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=255,slow=12,SNR=4.4							
MJAR	**Matsushiro Arr**	**9.74**	**40**	Pn		**Pn**	**06 30 43.2**	**+1.4**
MJAR	**Matsushiro Arr**	**9.74**	**40**	P		**Pn**	**06 30 43.2**	**+1.4**
MJAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
NJ2	**Nanjing**	**10.41**	**288**	*e*P		**Pn**	**06 30 53.1**	**+2.0**
NJ2				PP			06 31 02.3	
NJ2				sP			06 31 07.8	
NJ2				S		**Sn**	**06 32 49.0**	**+2.6**
NJ2				pmax		pmax		
	comp=Z,40nm,0.7s							
NJ2				pmax		pmax		
	comp=Z,230nm,3.7s							
NJ2				LR		LR		
	comp=N,350nm,19.9s							
NJ2				LR		LR		
	comp=E,1µm,13.8s							
NJ2				LR		LR		
	comp=Z,890nm,14.0s							
CBIJ	**Chichi jima**	**10.53**	**99**	Pn		**Pn**	**06 30 51.5**	**-1.2**
	comp=Z,10nm,0.3s,baz=274,slow=16,SNR=6.8							
CBIJ				LR		LR	06 34 20.1	
	comp=Z,214nm,22.0s,baz=323,slow=34							
CBIJ	**Chichi jima**	**10.53**	**99**	Pn		**Pn**	**06 30 51.5**	**-1.2**
MDJ	**Mudanjiang**	**15.36**	**358**	P		**Pn**	**06 31 58.8**	**+0.8**
MDJ				S		**S**	**06 34 48.6**	**-13**
MDJ				PcP		PcP	06 37 01.1	+0.7
MDJ				ScP		ScP	06 40 30.3	-0.8
MDJ				ScS		ScS	06 44 04.3	-4.9
MDJ				pmax		pmax		
	comp=Z,10.0nm,2.2s							
MDJ				pmax		pmax		
	comp=Z,120nm,4.1s							
MDJ				LR		LR		
	comp=N,120nm,16.0s							
MDJ				LR		LR		
	comp=E,58nm,26.1s							
MDJ				LR		LR		
	comp=Z,170nm,20.2s							
BJT	**Baijiatuan**	**15.94**	**316**	Pn		**Pn**	**06 32 05.8**	**+0.4**
	comp=Z,24nm,0.9s							
BJT	**Baijiatuan**	**15.94**	**316**	P		**Pn**	**06 32 05.9**	**+0.4**
BJT				pmax		pmax		
	comp=Z,24nm,0.9s							
BJI	**Beijing**	**15.95**	**316**	P		**Pn**	**06 32 06.6**	**+1.0**
BJI				S		**S**	**06 35 02.3**	**-11**
BJI				pmax		pmax		
	comp=Z,12nm,0.8s							
BJI				pmax		pmax		
	comp=Z,140nm,4.1s							
BJI				LR		LR		
	comp=N,780nm,15.8s							
BJI				LR		LR		
	comp=E,400nm,15.1s							
BJI				LR		LR		
	comp=Z,340nm,16.6s							
ASAJ	**Asahikawa**	**17.70**	**30**	P		**Pn**	**06 32 25.2**	**-2.3**
	comp=Z,0.6nm,0.3s,baz=225,slow=8.6,SNR=4.3							
ASAJ				LR		LR	06 39 26.3	
	comp=Z,162nm,21.2s,baz=187,slow=38							
ASAJ	**Asahikawa**	**17.70**	**30**	*e*Pn		**Pn**	**06 32 26.7**	**-0.7**
ASAJ	**Asahikawa**	**17.70**	**30**	P		**Pn**	**06 32 25.2**	**-2.3**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ASAJ				MLR		MLR		
	comp=Z,162nm,21.2s							
ENH	**Enshi**	**18.28**	**278**	*e*P		**Pn**	**06 32 35.4**	**+0.7**
	comp=Z,24nm,0.8s							
XAN	**Xi'an**	**18.98**	**290**	P		**Pn**	**06 32 41.8**	**-1.3**
XAN				pmax		pmax		
	comp=Z,7.0nm,0.6s							
XAN				LR		LR		
	comp=N,110nm,8.2s							
XAN				LR		LR		
	comp=E,120nm,10.7s							
XAN				LR		LR		
	comp=Z,98nm,10.4s							
HHC	**Hu-ho-hao-te**	**19.30**	**312**	*e*P		**Pn**	**06 32 47.5**	**+0.5**
HHC				pP		pP	06 32 57.6	+1.6
HHC				sP		sP	06 33 03.8	+2.4
HHC				PP			06 33 06.1	
HHC				S		**S**	**06 36 17.6**	**-4.2**
HHC				PcP		PcP	06 37 08.6	+1.8
HHC				PcS		PcS	06 40 43.8	0.0
HHC				pmax		pmax		
	comp=Z,8.0nm,0.8s							
HHC				pmax		pmax		
	comp=Z,78nm,3.8s							
HHC				LR		LR		
	comp=N,350nm,11.2s							
HHC				LR		LR		
	comp=E,500nm,15.9s							
HHC				LR		LR		
	comp=Z,500nm,17.1s							
KLR	**Kul'dur**	**19.98**	**2**	*e*P		**Pn**	**06 32 47.8**	**-7.1**
GUMO	**Guam**	**20.50**	**136**	LR		LR	06 39 39.6	
	comp=Z,97nm,21.5s,MS3.1,baz=53,slow=33							
GYA	**Guiyang**	**21.25**	**268**	P		**P**	**06 33 07.0**	**+0.1**
GYA				pP			06 33 18.8	
GYA				sP		sP	06 33 24.3	+1.5
GYA				PP			06 33 33.4	
GYA				S		**S**	**06 36 55.0**	**-5.8**
GYA				SS			06 37 31.0	
GYA				pmax		pmax		
	comp=Z,10.0nm,0.8s,mb4.2							
GYA				LR		LR		
	comp=N,490nm,16.5s,MS4.1							
GYA				LR		LR		
	comp=E,420nm,17.8s,MS4.1							
GYA				LR		LR		
	comp=Z,450nm,15.1s,MS4.0							
CD2	**Chengdu**	**23.19**	**281**	P		**P**	**06 33 27.6**	**+0.2**
CD2				pP			06 33 39.0	
CD2				sP		sP	06 33 44.6	+1.2
CD2				PP			06 33 59.5	
CD2				S		**S**	**06 37 32.3**	**-3.7**
CD2				sS		sS	06 37 51.3	-3.7
CD2				pmax		pmax		
	comp=Z,40nm,0.5s,mb5.1							
CD2				pmax		pmax		
	comp=Z,160nm,4.7s							
CD2				LR		LR		
	comp=E,570nm,11.3s							
CD2				LR		LR		
	comp=Z,470nm,14.9s,MS4.1							
LZH	**Lanzhou**	**23.41**	**294**	*e*P		**P**	**06 33 29.5**	**-0.1**
LZH				pP			06 33 42.0	
LZH				sP		sP	06 33 46.5	+0.8
LZH				PP			06 33 59.5	
LZH				*e*S		**S**	**06 37 35.4**	**-4.1**
LZH				pmax		pmax		
	comp=Z,23nm,1.0s,mb4.6							
LZH				pmax		pmax		
	comp=Z,160nm,7.6s							
LZH				LR		LR		
	comp=N,250nm,13.5s,MS4.2							
LZH				LR		LR		
	comp=E,550nm,14.3s,MS4.2							
LZH				LR		LR		
	comp=Z,600nm,14.6s,MS4.2							
ULN	**Ulaanbaatar**	**25.94**	**322**	*e*P		**P**	**06 33 51.4**	**-1.1**
	comp=Z,18nm,1.6s,mb4.4							
ULN	**Ulaanbaatar**	**25.94**	**322**	*e*P		**P**	**06 33 51.4**	**-1.1**
ULN				pmax		pmax		
	comp=Z,18nm,1.6s,mb4.3							
SONM	**Songino Array**	**26.28**	**322**	P		**P**	**06 33 54.2**	**-1.3**
	comp=Z,2.2nm,0.6s,mb3.9,baz=140,slow=10,SNR=21							
SONM				PcP		PcP	06 37 21.5	+0.5
	comp=Z,0.3nm,0.6s,baz=151,slow=3.3,SNR=2.4							
SONM				LR		LR	06 45 39.8	
	comp=Z,425nm,18.3s,MS4.0,baz=14,slow=40							
SONM	**Songino Array**	**26.28**	**322**	P		**P**	**06 33 54.2**	**-1.3**
SONM				PcP		PcP	06 37 21.5	+0.5
SONM	**Songino Array**	**26.28**	**322**	P		**P**	**06 33 54.2**	**-1.4**
S

comp=Z,14nm,0.6s,mb4.9
JIRN Jiri 38.82 279 *e*P P 06 35 45.5 +0.3
comp=Z,17nm,0.5s,mb5.0
GUN Gumba 39.03 279 *e*P P 06 35 47.5 +0.5
comp=Z,49nm,0.4s,mb5.5
PKI Pulchoki 39.52 279 *e*P P 06 35 51.1 +0.1
comp=Z,47nm,0.8s,mb5.3
KKN Kakani 39.58 279 *e*P P 06 35 51.7 +0.2
comp=Z,38nm,0.6s,mb5.3
DMN Daman 39.77 279 *e*P P 06 35 52.8 -0.3
comp=Z,21nm,0.5s,mb5.1
GKN Gorkha 40.08 280 *e*P P 06 35 55.4 -0.3
comp=Z,30nm,0.6s,mb5.2
DANN Dangsing 40.76 281 *e*P P 06 36 01.6 +0.3
comp=Z,75nm,0.7s,mb5.4
KOLN Koldanda 41.03 280 *e*P P 06 36 03.4 -0.2
comp=Z,22nm,0.7s,mb4.9
MK31 Makanchi Array 41.12 309 *e*P P 06 36 03.6 -0.4
MK31 Makanchi Array 41.12 309 *e*P P 06 36 03.7 -0.4
MKAR Makanchi Array 41.12 309 P P 06 36 03.7 -0.4
comp=Z,2.9nm,0.5s,mb4.1,baz=90,slow=10,SNR=18
MKAR PcP PcP 06 38 03.0 +0.1
comp=Z,1.1nm,0.7s,baz=92,slow=2.9,SNR=4.3
MKAR Makanchi Array 41.12 309 *e*P P **06 36 04.0 0.0**
MKAR PcP PcP 06 38 03.0 +0.1
MKAR Makanchi Array 41.12 309 *e*P P **06 36 04.1 0.0**
MKAR 06 38 03.0
ZAA0 Zalesovo Array 41.15 320 *e*P P **06 36 03.2 -1.0**
ZALV Zalesovo Beam 41.15 320 P P **06 36 03.4 -0.8**
comp=Z,4.1nm,0.6s,mb4.3,baz=110,slow=8.9,SNR=17
ZALV PcP PcP 06 38 02.9 +0.1
comp=Z,0.8nm,0.5s,baz=134,slow=4.3,SNR=3.9
ZALV LR LR 06 55 00.9
comp=Z,214nm,18.1s,MS4.0,baz=82,slow=39
ZALV Zalesovo Beam 41.15 320 P P **06 36 03.4 -0.8**
ZALV PcP PcP 06 38 02.9 +0.1
ZALV Zalesovo Beam 41.15 320 P P **06 36 03.4 -0.8**
ZALV 06 38 02.9
ZALV pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
ZALV MLR MLR
comp=Z,214nm,18.1s,MS4.0
PYUN Piuthan 41.48 280 *e*P P **06 36 07.2 0.0**
comp=Z,33nm,0.5s,mb5.2
KAKA Kakadu 41.75 177 *e*P P **06 36 03.4 -6.0**
KURK Kurchatov 44.10 314 P P **06 36 28.1 -0.1**
comp=Z,22nm,0.6s,mb5.1,baz=101,slow=8.9,SNR=90
KURK LR LR 06 56 30.7
comp=Z,245nm,20.6s,MS4.1,baz=100,slow=38
KURK Kurchatov 44.10 314 *e*P P **06 36 28.2 0.0**
comp=Z,25nm,0.6s,mb5.1
KURK Kurchatov 44.10 314 P P **06 36 28.1 -0.1**
KURK pmax pmax
comp=Z,22nm,0.6s,mb5.1
KURK MLR MLR
comp=Z,245nm,20.8s,MS4.1
BILL Bilibino 44.18 18 *e*P P **06 36 29.1 +0.5**
comp=Z,3.6nm,0.5s,mb4.4
BILL Bilibino 44.18 18 *e*P P **06 36 29.1 +0.5**
BILL pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
TKM2 Tokmak 2 45.66 303 *e*P P **06 36 41.5 +0.8**
comp=Z,4.3nm,0.8s,mb4.4
TKM2 Tokmak 2 45.66 303 *e*P P **06 36 41.5 +0.8**
TKM2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
AAK Ala-Archa 46.48 302 *e*P P **06 36 47.3 +0.1**
comp=Z,4.3nm,0.5s,mb4.6
AAK Ala-Archa 46.48 302 *e*P P **06 36 47.3 +0.1**
AAK pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
FITZ Fitzroy Crossi 47.30 186 *e*P P **06 36 54.4 +0.7**
comp=Z,3.0nm,0.8s,mb4.3
WRAB Tennant Creek 49.03 175 P P **06 37 06.6 -0.4**
comp=Z,3.5nm,0.7s,mb4.5
WRAB Tennant Creek 49.03 175 P P **06 37 06.6 -0.5**
WRAB pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
WRA Warramunga Arr 49.04 175 P P **06 37 07.0 -0.2**
comp=Z,1.8nm,0.7s,mb4.2,baz=352,slow=8.1,SNR=18
WRA Warramunga Arr 49.04 175 P P **06 37 07.0 -0.2**
WRA Warramunga Arr 49.04 175 P P **06 37 07.0 -0.1**
WRA pmax pmax
comp=Z,2.0nm,0.7s
KKAR Karatay Array 49.38 303 *e*P P **06 37 09.8 +0.3**
comp=Z,4.2nm,0.5s,mb4.7
KKAR Karatay Array 49.38 303 *e*P P **06 37 09.8 +0.2**
KKAR pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
BVAR Borovoye Array 49.43 316 P P **06 37 09.0 -0.8**
comp=Z,14nm,0.6s,mb5.2,baz=94,slow=9.7,SNR=69
BVAR PcP PcP 06 38 31.7 +0.2
comp=Z,2.1nm,0.5s,baz=112,slow=1.6,SNR=3.7
BVAR Borovoye Array 49.43 316 P P **06 37 09.0 -0.8**
BVAR PcP PcP 06 38 31.7 +0.2
BVAR Borovoye Array 49.43 316 P P **06 37 09.0 -0.8**
BVAR 06 38 31.7
BVAR pmax pmax
comp=Z,15nm,0.6s
KBL Kabul 51.76 293 *e*P P **06 37 28.7 +1.0**
comp=Z,7.3nm,0.8s,mb4.7
KBL Kabul 51.76 293 *e*P P **06 37 28.7 +1.0**
KBL pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
ASAR Alice Springs 52.71 176 P P **06 37 36.3 +1.6**
comp=Z,0.9nm,0.5s,mb4.0,baz=8.1,slow=12,SNR=8.0
ASAR Alice Springs 52.71 176 P P **06 37 36.3 +1.6**
ASAR Alice Springs 52.71 176 P P **06 37 36.3 +1.6**
ASAR pmax pmax
comp=Z,1.0nm,0.5s
ABKAR Akbulak array 56.10 312 *e*P P **06 37 58.9 -0.2**
comp=Z,23nm,0.6s,mb5.4
ARU Arti 56.31 321 *e*P P **06 37 59.9 -0.6**
comp=Z,16nm,0.9s,mb5.0
ARU Arti 56.31 321 P P **06 37 59.6 -0.9**
SOKR Solikamsk 57.10 324⇑ *i*P P **06 38 06.1 0.0**
SOKR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
AKTO Aktyubinsk 57.19 313 P P **06 38 06.4 -0.4**
comp=Z,8.4nm,0.8s,mb4.8,baz=66,slow=12,SNR=15
AKTO Aktyubinsk 57.19 313 P P **06 38 06.4 -0.4**
AKTO Aktyubinsk 57.19 313 P P **06 38 06.4 -0.4**
AKTO pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
MCK McKinley 60.06 30 *e*P P **06 38 27.1 +0.5**
MCK McKinley 60.06 30 *e*P P **06 38 27.1 +0.5**
PMR Palmer 60.21 33 *e*P P **06 38 26.0 -1.7**
comp=Z,9.5nm,1.2s,mb4.7
PMR Palmer 60.21 33 *e*P P **06 38 26.0 -1.6**
PMR pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
ILAR Eielson Array 60.83 29 P P **06 38 31.3 -0.5**
comp=Z,1.3nm,0.7s,mb4.2,baz=277,slow=5.3,SNR=21
ILAR Eielson Array 60.83 29 P P **06 38 31.3 -0.5**
ILAR Eielson Array 60.83 29 P P **06 38 31.3 -0.5**
ILAR pmax pmax
comp=Z,1.0nm,0.7s
STKA Stephens Creek 61.69 169 P P **06 38 38.5 +0.5**
comp=Z,1.5nm,0.7s,mb4.2,baz=346,slow=8.3,SNR=3.2
STKA Stephens Creek 61.69 169 P P **06 38 38.5 +0.5**
STKA Stephens Creek 61.69 169 P P **06 38 38.5 +0.5**
STKA pmax pmax
comp=Z,2.0nm,0.7s
INK Inuvik 65.33 24 *e*P P **06 39 02.3 +0.7**
comp=Z,2.1nm,0.6s,mb4.3
INK Inuvik 65.33 24 *e*P P **06 39 02.3 +0.7**
INK pmax pmax
comp=Z,2.0nm,0.6s
ARCES ARCESS Array B 67.95 338 P P **06 39 19.1 +0.8**
comp=Z,2.8nm,0.8s,mb4.3,baz=60,slow=5.4,SNR=4.5
ARCES ARCESS Array B 67.95 338 P P **06 39 19.1 +0.8**
ARCES ARCESS Array B 67.95 338 P P **06 39 19.1 +0.8**
ARCES pmax pmax
comp=Z,3.0nm,0.9s
JOF Joensuu 68.39 331 *e*P P **06 39 19.8 -1.4**
JOF pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
JOF Joensuu 68.39 331 *ep* P **06 39 19.8 -1.4**
comp=Z,7.4nm,0.6s,mb4.9
ZEI Tsey 68.47 308 *e*P P **06 39 19.9 -2.1**
ZEI pmax pmax
comp=Z,11nm,0.9s,mb4.9
KAF Kangasniemi 70.84 331 *e*P P **06 39 39.1 +2.8**
KAF Kangasniemi 70.84 331 *ep* P **06 39 39.1 +2.8**
FINES FINESS Array B 71.24 331 P P **06 39 37.3 -1.4**
comp=Z,3.1nm,0.4s,mb4.5,baz=80,slow=5.9,SNR=15
FINES FINESS Array B 71.24 331 P P **06 39 37.3 -1.4**
FINES pmax pmax
comp=Z,3.0nm,0.4s
RES Resolute Bay 72.21 11 *e*P P **06 39 45.0 +0.7**
comp=Z,8.8nm,0.7s,mb4.8
RES Resolute Bay 72.21 11 *e*P P **06 39 45.0 +0.7**
RES pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
AKASG Malin Array Be 74.55 320 P P **06 39 58.1 -0.4**
comp=Z,8.0nm,0.5s,mb4.9,baz=58,slow=6.1,SNR=30
AKASG Malin Array Be 74.55 320 P P **06 39 58.1 -0.4**
AKASG Malin Array Be 74.55 320 P P **06 39 58.1 -0.4**
AKASG pmax pmax
comp=Z,8.0nm,0.5s
AKBB Malin Array Si 74.55 320 *e*P P **06 39 58.1 -0.4**
AKBB Malin Array Si 74.55 320 *e*P P **06 39 58.1 -0.4**
KIEV Kiev 74.56 320 *e*P P **06 39 58.0 -0.5**
comp=Z,11nm,0.5s,mb5.0
KIEV Kiev 74.56 320 *e*P P **06 39 58.1 -0.5**
KIEV pmax pmax
comp=Z,11nm,0.5s,mb5.0
BR131 Keskin Array S 76.77 308 *e*P P **06 40 12.2 +0.8**
comp=Z,5.2nm,0.6s,mb4.6
BRTR Keskin Array B 76.77 308 P P **06 40 11.9 +0.5**
comp=Z,6.4nm,0.6s,mb4.7,baz=111,slow=4.5,SNR=24
BRTR LR LR 07 21 15.2
comp=Z,38nm,18.6s,MS3.7,baz=278,slow=41
BRTR Keskin Array B 76.77 308 P P **06 40 11.9 +0.5**
BRTR Keskin Array B 76.77 308 P P **06 40 12.0 +0.6**
BRTR pmax pmax
comp=Z,6.0nm,0.6s
NB2 NORSAR Subarra 77.49 334 P P **06 40 13.5 -1.6**
comp=Z,1.4nm,0.6s,mb4.1,baz=47,slow=5.6
NOA NORSAR Array B 77.49 334 P P **06 40 13.9 -1.2**
comp=Z,1.4nm,0.6s,mb4.1,baz=50,slow=5.6,SNR=5.7
NOA LR LR 07 20 15.9
comp=Z,89nm,19.7s,MS4.1,baz=160,slow=40
NOA NORSAR Array B 77.49 334 P P **06 40 13.9 -1.2**
NOA NORSAR Array B 77.49 334 P P **06 40 13.9 -1.2**
NOA pmax pmax
comp=Z,1.0nm,0.6s
CFR Carcaliu 77.81 315⇑ *i*P P **06 40 17.5 +0.4**
TIRR Tirgusor 77.98 314⇓ *i*P P **06 40 18.0 -0.1**
VRI Vrincioaia 78.33 316⇓ *i*P P **06 40 20.1 +0.1**
BURAR Bucovina Array 78.34 318⇓ *i*P P **06 40 21.0 +0.9**
MLR Muntele Rosu 78.99 316⇓ *i*P P **06 40 26.3 +2.6**
OJC Ojcow 79.98 322 *e*P P **06 40 30.0 +1.1**
comp=Z,10nm,0.6s,mb4.9
OJC Ojcow 79.98 322 *e*P P **06 40 30.0 +1.1**
OJC pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
LOT Lotru 80.32 317⇑ *i*P P **06 40 32.0 +1.1**
GZR Gura Zlata 80.94 317⇓ *i*P P **06 40 35.7 +1.5**
MORC Moravsky Berou 81.43 323 P P **06 40 33.8 -2.9**
MORC Moravsky Berou 81.43 323 P P **06 40 33.8 -2.9**
GERES GERESS Array B 84.00 324 P P **06 40 49.9 -0.2**
comp=Z,0.6nm,0.5s,mb4.0,baz=36,slow=5.4,SNR=5.0
GERES GERESS Array B 84.00 324 P P **06 40 49.9 -0.2**
GERES GERESS Array B 84.00 324 P P **06 40 49.9 -0.2**
GERES pmax pmax
comp=Z,1.0nm,0.5s
CMB Columbia Colle 85.85 48 *e*P P **06 40 57.2 -2.4**
comp=Z,0.3nm,0.4s,mb3.9
CMB Columbia Colle 85.85 48 *e*P P **06 40 57.2 -2.4**
HLID Hailey 86.30 41 *e*P P **06 41 03.9 +2.2**
comp=Z,3.3nm,1.1s,mb4.5
NVAR Mina Array Bea 86.98 47 P P **06 41 06.5 +1.4**
comp=Z,0.6nm,0.7s,mb3.9,baz=304,slow=4.6,SNR=4.6
NVAR Mina Array Bea 86.98 47 P P **06 41 06.5 +1.4**
PDAR Pinedale Array 89.56 40 P P **06 41 18.2 +0.9**
comp=Z,0.5nm,0.7s,mb4.0,baz=315,slow=1.8,SNR=4.8
PDAR Pinedale Array 89.56 40 P P **06 41 18.2 +0.9**
TORD Torodi Ar. Bea 115.07 303 PKP PKiKP 06 47 01.5 0.0
comp=Z,0.4nm,0.7s,baz=345,slow=2.6,SNR=3.4
TORD Torodi Ar. Bea 115.07 303 PKP PKiKP 06 47 01.5 0.0

DDA ***24*** *06:33:37.0,40.˚73N×31.˚48E,h12km±2km, Md2.9*
ISK ***24*** *06:33:37.6,40.˚71N×31.˚47E,h5km, MD3.0*
ISCJB ***24*** *06:33:38.5±0.3,40.˚71N±0.˚02×31.˚45E±0.˚02,h10km, Error ellipse: s-maj=3.2km s-min=2.5km az=5.1*
CSEM ***24*** *06:33:38.1±0.1,40.˚68N×31.˚48E,h2km, MD3.0, Error ellipse: s-maj=2.7km s-min=2.3km az=9.0*
ISC 24 06:33:38.4±0.5, 40.˚71N±0.˚02×31.˚47E±0.˚02, h1km±3km, n72, σ0.˚78/107, 4C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDU	**Mudurnu**	**0.31**	**218**	*e*PG	**Pg**	**06 33 43.0**	**-1.5**
MDU				*e*SG	**Sg**	**06 33 48.6**	**+0.1**
MDU	**Mudurnu**	**0.31**	**218**	*e*Pg	**Pg**	**06 33 43.0**	**-1.4**
MDU				*e*Sg	**Sg**	**06 33 48.6**	**+0.2**
HENT	**Hendek**	**0.44**	**285**	*i* P	**Pg**	**06 33 46.1**	**-0.8**
HENT				*i* S	**Sg**	**06 33 52.7**	**0.0**
HENT	**Hendek**	**0.44**	**285**	*i* P	**Pg**	**06 33 46.1**	**-0.8**
HENT				*i* S	**Sg**	**06 33 52.7**	**0.0**
SGKT	**Sivrigoynuk**	**0.47**	**107**	*i* P	**Pg**	**06 33 46.5**	**-0.9**
SGKT				*i* S	**Sg**	**06 33 54.0**	**+0.5**
SGKT	**Sivrigoynuk**	**0.47**	**107**	*i* P	**Pg**	**06 33 46.5**	**-0.9**
SGKT				*i* S	**Sg**	**06 33 54.0**	**+0.5**
KDZE	**Karadeniz Ereo**	**0.60**	**358**	*e*PG	**Pg**	**06 33 49.8**	**-0.2**
KDZE				*e*SG	**Sg**	**06 33 58.2**	**+0.4**
KDZE	**Karadeniz Ereo**	**0.60**	**358**	*e*Pg	**Pg**	**06 33 49.8**	**-0.1**
KDZE				*e*Sg	**Sg**	**06 33 58.2**	**+0.5**
GULT	**Gulveren**	**0.78**	**249**	*e*PG	**Pg**	**06 33 53.1**	**-0.2**
GULT				*e*SG	**Sg**	**06 34 04.9**	**+1.6**
GULT	**Gulveren**	**0.78**	**249**	*e*Pg	**Pg**	**06 33 53.1**	**-0.2**
GULT				*e*Sg	**Sg**	**06 34 04.9**	**+1.5**
SPNC	**Sapanca-Adapaz**	**0.88**	**269**	*e*PG	**Pg**	**06 33 55.4**	**+0.1**
SPNC				*e*SG	**Sg**	**06 34 07.4**	**+0.7**
SPNC	**Sapanca-Adapaz**	**0.88**	**269**	*e*Pg	**Pg**	**06 33 55.4**	**+0.1**
SPNC				*e*Sg	**Sg**	**06 34 07.4**	**+0.7**
GPA	**Golpazari**	**0.98**	**245**	*e*PG	**Pg**	**06 33 56.6**	**-0.6**
GPA				*e*SG	**Sg**	**06 34 10.6**	**+0.7**
GPA	**Golpazari**	**0.98**	**245**	*e*Pg	**Pg**	**06 33 56.6**	**-0.6**
GPA				*e*Sg	**Sg**	**06 34 10.6**	**+0.8**
BORA	**Eskisehir**	**1.14**	**223**	*i* P	**Pg**	**06 33 59.5**	**-0.7**
BORA				*i* S	**Sg**	**06 34 16.2**	**+1.3**
BORA	**Eskisehir**	**1.14**	**223**	*i* P	**Pg**	**06 33 59.4**	**-0.8**
BORA				*i* S	**Sg**	**06 34 17.1**	**+2.2**
BORA	**Eskisehir**	**1.14**	**223**	*i* P	**Pg**	**06 33 59.5**	**-0.7**
BORA				*i* S	**Sg**	**06 34 16.2**	**+1.3**
SVRH	**Sivrihisar-ESK**	**1.27**	**178**	*e*PN	**Pn**	**06 34 02.3**	**-0.9**
SVRH	**Sivrihisar-ESK**	**1.27**	**178**	*e*Pn	**Pn**	**06 34 02.3**	**-0.9**
ESKT	**Eskisehir**	**1.28**	**202**	*e*PN	**Pn**	**06 34 02.3**	**-1.1**
ESKT	**Eskisehir**	**1.28**	**202**	*i* P	**Pg**	**06 34 01.1**	**-1.9**
ESKT				*i* S	**Sg**	**06 34 19.8**	**+0.2**
ESKT	**Eskisehir**	**1.28**	**202**	*e*Pn	**Pn**	**06 34 02.3**	**-1.1**
SEYT	**Eskypehyr**	**1.28**	**202**	*i* P	**Pg**	**06 34 01.1**	**-1.9**
SEYT				*i* S	**Sg**	**06 34 19.8**	**+0.2**
LOD	**Lodumlu**	**1.29**	**129**	*e*PN	**Pn**	**06 34 02.6**	**-0.9**
LOD	**Lodumlu**	**1.29**	**129**	*e*Pn	**Pn**	**06 34 02.6**	**-0.9**
CAVI	**Cavuskoy**	**1.34**	**248**	*e*PN	**Pn**	**06 34 03.5**	**-0.7**
CAVI	**Cavuskoy**	**1.34**	**248**	*e*Pn	**Pn**	**06 34 03.5**	**-0.7**
ADVT	**Abdulvahap**	**1.34**	**259**	*e*PN	**Pn**	**06 34 03.5**	**-0.8**
ADVT				*e*SN	**Sn**	**06 34 22.9**	**+0.1**
ADVT	**Abdulvahap**	**1.34**	**259**	*e*Pn	**Pn**	**06 34 03.5**	**-0.8**
ADVT				*e*Sn	**Sn**	**06 34 22.9**	**+0.1**
HRT	**Hereke**	**1.37**	**275**	*e*PN	**Pn**	**06 34 03.9**	**-0.8**
HRT	**Hereke**	**1.37**	**275**	*e*Pn	**Pn**	**06 34 03.9**	**-0.7**
SILT	**Sile**	**1.45**	**288**	*e*PN	**Pn**	**06 34 05.1**	**-0.6**
SILT	**Sile**	**1.45**	**288**	*e*Pn	**Pn**	**06 34 05.1**	**-0.6**
ELDT	**Eldivan**	**1.51**	**98**	*i* P	**Pn**	**06 34 07.0**	**+0.4**
ELDT				*i* S	**Sb**	**06 34 27.5**	**+0.7**
YLV	**Yalova**	**1.60**	**265**	*e*PN	**Pn**	**06 34 07.7**	**0.0**
YLV				*e*SN	**Sn**	**06 34 29.6**	**+0.6**
YLV	**Yalova**	**1.60**	**265**	*e*Pn	**Pn**	**06 34 07.7**	**-0.1**
YLV				*e*Sn	**Sn**	**06 34 29.6**	**+0.6**
CANT	**Cankiri**	**1.64**	**93**	*e*PN	**Pn**	**06 34 08.6**	**+0.2**
BBAL	**Bala**	**1.73**	**132**	*e*P	**Pn**	**06 34 10.8**	**+1.3**
BBAL				*i* S	**Sg**	**06 34 34.8**	**+0.9**
GEMT	**Gemlik**	**1.76**	**262**	*e*PN	**Pn**	**06 34 09.5**	**-0.4**
GEMT	**Gemlik**	**1.76**	**262**	*e*Pn	**Pn**	**06 34 09.5**	**-0.4**
BUY	**Buyukada**	**1.79**	**275**	*i* P	**Pn**	**06 34 10.1**	**-0.3**
BUY				*i* S	**Sn**	**06 34 34.5**	**+0.8**
BUY	**Buyukada**	**1.79**	**275**	*i* P	**Pn**	**06 34 10.4**	**0.0**
BUY				*i* S	**Sg**	**06 34 35.8**	**-0.1**
BUY	**Buyukada**	**1.79**	**275**	*i* P	**Pn**	**06 34 10.1**	**-0.3**
BUY				*i* S	**Sn**	**06 34 34.5**	**+0.8**
ISK	**Istanbul-Kandi**	**1.86**	**282**	*e*PN	**Pn**	**06 34 11.1**	**-0.2**
ISK	**Istanbul-Kandi**	**1.86**	**282**	*e*Pn	**Pn**	**06 34 11.1**	**-0.2**
KIZT	**Kizilcal**	**1.86**	**170**	*e*PN	**Pn**	**06 34 11.0**	**-0.3**
KIZT	**Kizilcal**	**1.86**	**170**	*e*Pn	**Pn**	**06 34 11.0**	**-0.3**
KLYT	**Kilyos**	**1.91**	**287**	*e*PN	**Pn**	**06 34 11.8**	**-0.2**
KLYT	**Kilyos**	**1.91**	**287**	*e*Pn	**Pn**	**06 34 11.9**	**-0.2**
ALT	**Altintas**	**1.96**	**213**	*e*PN	**Pn**	**06 34 12.2**	**-0.4**
ALT				*e*SN	**Sn**	**06 34 37.6**	**-0.2**
ALT	**Altintas**	**1.96**	**213**	*e*P	**Pg**	**06 34 16.7**	**+0.8**
ALT				*i* S	**Sg**	**06 34 42.6**	**+1.3**
ALT	**Altintas**	**1.96**	**213**	*e*Pn	**Pn**	**06 34 12.2**	**-0.5**
ALT				*e*Sn	**Sn**	**06 34 37.6**	**-0.2**
ARMT	**Armutlu**	**1.99**	**267**	*e*PN	**Pn**	**06 34 13.4**	**+0.3**
ARMT	**Armutlu**	**1.99**	**267**	*e*Pn	**Pn**	**06 34 13.4**	**+0.3**
CTKS	**Kestanelik-??a**	**2.30**	**284**	*e*PN	**Pn**	**06 34 17.2**	**-0.2**
CTKS	**Kestanelik-??a**	**2.30**	**284**	*e*Pn	**Pn**	**06 34 17.2**	**-0.2**
ELBA	**Catalca**	**2.34**	**282**	*i* P	**Pn**	**06 34 17.4**	**-0.5**
ELBA				*i* S	**Sn**	**06 34 47.3**	**0.0**
ELBA	**Catalca**	**2.34**	**282**	*i* P	**Pn**	**06 34 19.3**	**+1.4**
ELBA				*i* S	**Sn**	**06 34 47.2**	**-0.1**
ELBA	**Catalca**	**2.34**	**282**	*i* P	**Pn**	**06 34 17.5**	**-0.5**
ELBA				*i* S	**Sn**	**06 34 47.3**	**0.0**
CORM	**Corum**	**2.47**	**101**	*e*PN	**Pn**	**06 34 20.5**	**+0.7**
CORM	**Corum**	**2.47**	**101**	*e*Pn	**Pn**	**06 34 20.5**	**+0.7**
SLVT	**Silivri**	**2.52**	**283**	*e*PN	**Pn**	**06 34 20.2**	**-0.2**
SLVT	**Silivri**	**2.52**	**283**	*e*Pn	**Pn**	**06 34 20.2**	**-0.2**
BALY	**Balya**	**3.10**	**253**	*i* P	**Pg**	**06 34 34.9**	**-2.9**
BALY				*i* S	**Sg**	**06 35 18.2**	**+0.2**
TIRR	**Tirgusor**	**4.37**	**330**⇓	*i*P	**Pn**	**06 34 46.5**	**+0.7**
TIRR	**Tirgusor**	**4.37**	**330**⇓	*i*P	**Pn**	**06 34 46.5**	**+0.7**
ISR	**Istrita**	**5.70**	**322**⇑	*i*P	**Pn**	**06 35 05.5**	**+1.4**
ISR	**Istrita**	**5.70**	**322**⇑	*i*P	**Pn**	**06 35 05.5**	**+1.4**
VRI	**Vrincioaia**	**6.20**	**328**⇓	*i*P	**Pn**	**06 35 11.4**	**+0.4**
VRI	**Vrincioaia**	**6.20**	**328**⇓	*i*P	**Pn**	**06 35 11.4**	**+0.4**
MLR	**Muntele Rosu**	**6.25**	**322**⇑	*i*P	**Pn**	**06 35 11.6**	**-0.1**
MLR	**Muntele Rosu**	**6.25**	**322**⇑	*i*P	**Pn**	**06 35 11.6**	**-0.1**

IDC ***24*** *06:48:25.5±1.0,0.˚91S×133.˚65E,h0km,mb3.7/7, mb1 3.9/9,mb1mx3.8/21,mbtmp3.7/9,ML3.5/2,MS3.9/1, Ms1 3.9/1,ms1mx2.5/35,Error ellipse: s-maj=59.5km s-min=17.2km az=81.0*
NEIC ***24*** *06:48:31.1±0.7,0.˚85S×133.˚63E,h35km,mb3.6/1,Error ellipse: s-maj=40.6km s-min=9.5km az=84.0*
ISC 24 06:48:36.8±1.8, 1.09S±0.˚06×133.˚3E±0.˚2, h88km±17km, n23, σ0.˚80/26, mb3.6/7, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**11.58**	**184**	*e*Pn	**Pn**	**06 51 19.6**	**+0.5**
	63nm,0.4s						
FITZ	**Fitzroy Crossi**	**18.50**	**203**	P	**Pn**	**06 52 47.4**	**+0.2**
	0.2nm,0.3s,baz=24,slow=10.0,SNR=3.6						
FITZ				S	**S**	**06 56 12.0**	**-0.7**
	0.2nm,0.3s,baz=81,slow=17,SNR=3.1						
FITZ	**Fitzroy Crossi**	**18.50**	**203**	P	**Pn**	**06 52 47.4**	**+0.2**
FITZ				S	**S**	**06 56 12.0**	**-0.7**
WRAB	**Tennant Creek**	**18.76**	**177**	*e*P	**Pn**	**06 52 49.5**	**-0.9**
	4.2nm,1.1s						
WRA	**Warramunga Arr**	**18.77**	**177**	P	**Pn**	**06 52 49.3**	**-1.1**
	0.1nm,0.3s,baz=356,slow=13,SNR=5.2						
WRA				S	**S**	**06 56 18.7**	**+0.7**
	0.0nm,0.3s,baz=352,slow=22,SNR=3.9						
WRA	**Warramunga Arr**	**18.77**	**177**	P	**Pn**	**06 52 49.3**	**-1.1**
WRA				S	**S**	**06 56 18.8**	**+0.7**
WB2	**Warramunga Arr**	**18.77**	**177**	P	**Pn**	**06 52 50.2**	**-0.2**
AS31	**Alice Springs**	**22.45**	**178**	*e*P	**P**	**06 53 30.9**	**+2.3**
ASAR	**Alice Springs**	**22.45**	**178**	P	**P**	**06 53 28.3**	**-0.3**
	0.7nm,0.5s,mb3.2,baz=358,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**22.45**	**178**	P	**P**	**06 53 28.3**	**-0.3**
JHJ	**Hachijo jima 2**	**34.57**	**10**	LR	LR	07 07 03.7	
	comp=Z,175nm,20.0s,baz=55,slow=33						
SONM	**Songino Array**	**54.06**	**338**	P	**P**	**06 57 52.2**	**+0.1**
	0.3nm,0.5s,mb3.5,baz=140,slow=4.9,SNR=3.1						
SONM				PcP	PcP	06 58 58.2	+2.2
	0.3nm,0.6s,baz=155,slow=4.8,SNR=2.9						
SONM	**Songino Array**	**54.06**	**338**	P	**P**	**06 57 52.2**	**0.0**
SONM				PcP	PcP	06 58 58.2	+2.2
MKAR	**Makanchi Array**	**65.24**	**324**	P	**P**	**06 59 09.6**	**+0.6**
	0.6nm,0.6s,mb3.6,baz=118,slow=8.0,SNR=6.7						
MKAR	**Makanchi Array**	**65.24**	**324**	P	**P**	**06 59 09.6**	**+0.6**
ZALV	**Zalesovo Beam**	**67.87**	**331**	P	**P**	**06 59 24.7**	**-0.8**
	0.3nm,0.4s,mb3.5,baz=104,slow=6.1,SNR=2.9						
ZALV	**Zalesovo Beam**	**67.87**	**331**	P	**P**	**06 59 24.7**	**-0.8**
KURK	**Kurchatov**	**69.32**	**326**	P	**P**	**06 59 35.4**	**+0.8**
	0.9nm,0.3s,mb4.1,baz=115,slow=6.0,SNR=2.4						
KURK	**Kurchatov**	**69.32**	**326**	P	**P**	**06 59 35.4**	**+0.8**
VNDA	**Vanda**	**77.91**	**174**	P	**P**	**07 00 24.6**	**0.0**
	0.6nm,0.4s,mb3.7,baz=293,slow=11,SNR=6.9						
VNDA	**Vanda**	**77.91**	**174**	P	**P**	**07 00 24.6**	**0.0**
ILAR	**Eielson Array**	**86.64**	**25**	P	**P**	**07 01 09.6**	**-0.6**
	0.3nm,0.9s,mb3.2,baz=272,slow=4.2,SNR=4.8						
ILAR	**Eielson Array**	**86.64**	**25**	P	**P**	**07 01 09.6**	**-0.6**

NIED ***24*** *07:01:00,33.˚50N×137.˚50E,h380km,Mw3.9 Best double couple: M0 9.39000×10^14 NP1:φ=319.00000°, δ=57.00000°, λ=-87.00000°. NP2:φ=133.00000°, δ=34.00000°, λ=-95.00000°.*
ISCJB ***24*** *07:01:54.6±0.4,33.˚44N±0.˚06×137.˚46E±0.˚07, h364km±3km, mb3.3/11, Error ellipse: s-maj=9.6km s-min=7.8km az=136.2*
JMA ***24*** *07:01:54.4±0.1,33.˚48N×137.˚49E, h372km, M3.6*
NEIC ***24*** *07:01:55.0±0.6,33.˚36N×137.˚39E,h352km±8km, MG3.6(JMA),Error ellipse: s-maj=17.8km s-min=8.8km az=75.0*
IDC ***24*** *07:01:56.7±0.7,33.˚41N×137.˚39E,h369km±10km, mb3.2/11,mb1 3.3/13,mb1mx3.2/29,mbtmp3.2/13,Error ellipse: s-maj=23.0km s-min=11.0km az=73.0*
ISC 24 07:01:55.8±0.4, 33.˚47N±0.˚06×137.˚43E±0.˚07, h357km±3km, n50, σ0.˚88/64, mb3.3/11, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TTO3	**TONANKAI O.B.S**	**0.39**	**357**	P	**Pn**	**07 02 41.7**	**+1.2**
TTO2	**TONANKAI O.B.S**	**0.42**	**308**	P	**Pn**	**07 02 41.4**	**+0.8**
TTO4	**TONANK

1.6nm,0.3s,baz=234,slow=14,SNR=4.1
ASAJ Asahikawa 11.37 19 P Pn 07 04 31.1 +1.5
CMAR Chiang Mai Arr 37.46 256 P P 07 08 36.6 +0.2
0.7nm,0.3s,mb3.3,baz=45,slow=7.7,SNR=4.4
CMAR Chiang Mai Arr 37.46 256 P P 07 08 36.6 +0.2
ZALV Zalesovo Beam 42.03 315 P P 07 09 12.6 -0.6
0.4nm,0.3s,mb3.0,baz=88,slow=8.9,SNR=3.1
ZALV Zalesovo Beam 42.03 315 P P 07 09 12.6 -0.6
MKAR Makanchi Array 43.35 305 P P 07 09 24.2 +0.3
0.4nm,0.4s,mb2.9,baz=93,slow=10,SNR=3.3
MKAR Makanchi Array 43.35 305 P P 07 09 24.2 +0.3
KURK Kurchatov 45.66 311 P P 07 09 41.2 -0.6
0.9nm,0.3s,mb3.4,baz=91,slow=6.5,SNR=5.4
KURK Kurchatov 45.66 311 P P 07 09 41.2 -0.6
BVAR Borovoye Array 50.62 314 P P 07 10 20.1 +0.8
0.4nm,0.5s,mb3.0,baz=76,slow=6.1,SNR=3.8
BVAR Borovoye Array 50.62 314 P P 07 10 20.1 +0.8
WRA Warramunga Arr 53.19 184 P P 07 10 38.0 -0.4
1.8nm,0.4s,mb3.7,baz=0.0,slow=7.7,SNR=25
WRA Warramunga Arr 53.19 184 P P 07 10 38.0 -0.4
ILAR Eielson Array 54.23 31 P P 07 10 46.4 +1.0
0.3nm,0.7s,mb2.8,baz=266,slow=6.2,SNR=4.4
ILAR Eielson Array 54.23 31 P P 07 10 46.4 +1.0
ASAR Alice Springs 56.92 184 P P 07 11 04.8 0.0
1.2nm,0.5s,mb3.5,baz=15,slow=12,SNR=14
ASAR Alice Springs 56.92 184 P P 07 11 04.8 0.0
STKA Stephens Creek 65.12 176 P P 07 11 57.4 -1.8
0.8nm,0.4s,mb3.7,baz=9.5,slow=6.1,SNR=3.0
STKA Stephens Creek 65.12 176 P P 07 11 57.4 -1.8
FINES FINESS Array B 70.42 332 P P 07 12 31.6 -0.1
1.7nm,0.5s,mb4.0,baz=38,slow=9.6,SNR=6.1
FINES FINESS Array B 70.42 332 P P 07 12 31.6 -0.1
AKASG Malin Array Be 75.07 321 P P 07 12 58.5 -0.4
0.3nm,0.3s,mb3.5,baz=51,slow=5.8,SNR=3.0
AKASG Malin Array Be 75.07 321 P P 07 12 58.5 -0.4

*ISCJB **24** 07:02:15.5±2.1, 17°.9S±0°.5×176°.3W±0°.3, h365km±16km, mb3.6/6, Error ellipse: s-maj=96.4km s-min=14.2km az=152.4*
*IDC **24** 07:02:15.8±1.9, 17°.16S×176°.97W, h314km±38km, mb3.5/5, mb1 3.7/6, mb1mx3.4/20, mbtmp3.6/6, Error ellipse: s-maj=126.4km s-min=20.1km az=144.0*
*NEIC **24** 07:02:16.3±1.9, 17°.98S×176°.30W, h358km±14km, mb4.1/2, Error ellipse: s-maj=72.4km s-min=14.0km az=153.0*
ISC 24 07:02:16.2±2.1, 17°.8S±0°.5×176°.3W±0°.3, h358km±16km, n15, σ0°97/17, mb3.6/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.40**	**270**	*e*Pn	**Pn**	**07 03 41.2**	**+0.7**
	92nm,0.9s						
AFI	**Afiamalu**	**5.83**	**49**	P	**Pn**	**07 03 46.4**	**+1.1**
	18nm,0.3s,baz=192,slow=9.3,SNR=42						
AFI				S	**S**	**07 04 56.4**	**-1.3**
	baz=3.9,slow=20,SNR=2.2						
AFI	**Afiamalu**	**5.83**	**49**	P	**Pn**	**07 03 46.4**	**+1.1**
AFI				S	**S**	**07 04 56.4**	**-1.3**
CTA	**Charters Tower**	**35.46**	**260**	P	**P**	**07 08 39.6**	**-0.6**
	2.0nm,0.4s,mb3.7,baz=93,slow=9.4,SNR=4.1						
CTA	**Charters Tower**	**35.46**	**260**	P	**P**	**07 08 39.6**	**-0.6**
STKA	**Stephens Creek**	**40.45**	**242**	P	**P**	**07 09 22.0**	**+0.7**
	2.2nm,0.7s,mb3.5,baz=90,slow=12,SNR=3.2						
STKA	**Stephens Creek**	**40.45**	**242**	P	**P**	**07 09 22.0**	**+0.7**
WRAB	**Tennant Creek**	**46.63**	**259**	*e*P	**P**	**07 10 09.5**	**-0.8**
	1.6nm,0.6s,mb3.4						
WRA	**Warramunga Arr**	**46.64**	**259**	P	**P**	**07 10 09.2**	**-1.1**
	0.5nm,0.3s,mb3.2,baz=91,slow=7.8,SNR=10						
WRA	**Warramunga Arr**	**46.64**	**259**	P	**P**	**07 10 09.2**	**-1.1**
AS31	**Alice Springs**	**46.76**	**254**	*e*P	**P**	**07 10 11.0**	**-0.2**
ASAR	**Alice Springs**	**46.76**	**254**	P	**P**	**07 10 11.0**	**-0.2**
	5.8nm,0.4s,mb4.1,baz=91,slow=8.1,SNR=93						
ASAR	**Alice Springs**	**46.76**	**254**	P	**P**	**07 10 11.0**	**-0.2**
ILAR	**Eielson Array**	**85.36**	**12**	P	**P**	**07 14 15.2**	**+1.9**
	0.5nm,0.6s,mb3.5,baz=215,slow=6.2,SNR=14						
ILAR	**Eielson Array**	**85.36**	**12**	P	**P**	**07 14 15.2**	**+1.9**

*IDC **24** 07:04:32.6±0.8, 13°.71N×93°.19W, h0km, mb4.1/15, mb1 4.3/17, mb1mx4.3/25, mbtmp4.1/17, ML3.9/2, MS3.7/13, Ms1 3.7/13, ms1mx3.4/35, Error ellipse: s-maj=32.3km s-min=14.2km az=60.0*
*BJI **24** 07:04:35.3, 13°.80N×93°.00W, h29km, mB5.1/3, Ms4.8/2, Ms7 4.5/2*
*NEIC **24** 07:04:36.0, 13°.72N×93°.37W, h16km, mb4.5/36, MD4.5(MEX), After MEX.*
*ISCJB **24** 07:04:36.1±1.4, 13°.85N±0°.04×93°.17W±0°.03, h23km±10km, mb4.4/50, MS4.0/14, Error ellipse: s-maj=6.7km s-min=4.5km az=19.2*
*MEX **24** 07:04:36.2±0.9, 13°.72N×93°.38W, h16km±35km, MD4.5*
*CASC **24** 07:04:40.2±1.5, 13°.71N×92°.88W, h90km±64km, MD4.1, mb4.5(NEIC)*
ISC 24 07:04:37.1±1.5, 13°.88N±0°.04×93°.13W±0°.03, h16km±9km, n406, σ0°64/396, mb4.4/49, MS4.0/14, 148C-129D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**1.33**	**39**	*i* P	**Pn**	**07 05 00.0**	**-0.9**
THIG				*e*S	**Sn**	**07 05 19.7**	**+1.3**
JAT	**Jato**	**1.52**	**73**	*e*P	**Pn**	**07 05 04.5**	**+0.9**
JAT				*e*S	**Sn**	**07 05 22.8**	**-0.2**
PCIG		**1.82**	**357**	*i* P	**Pn**	**07 05 05.3**	**-2.4**
PCIG				*e*S	**Sn**	**07 05 28.2**	**-2.3**
TP2	**Tecpan 2**	**2.24**	**66**	*e*P	**Pn**	**07 05 14.4**	**+0.9**
FG6		**2.29**	**72**	*e*P	**Pn**	**07 05 14.4**	**+0.2**
FUG	**Fuego 3**	**2.29**	**75**	*e*P	**Pn**	**07 05 13.8**	**-0.5**
PCG	**Pacaya**	**2.50**	**78**	*e*P	**Pn**	**07 05 16.8**	**-0.4**
CCIG	**Comitan**	**2.58**	**22**	*i* P	**Pn**	**07 05 17.2**	**-1.0**
CCIG				*e*S	**Sn**	**07 05 50.6**	**+1.4**
NBG	**Las Nubes**	**2.79**	**75**	*e*P	**Pn**	**07 05 22.7**	**+1.6**
TGIG		**2.88**	**0**	*i* P	**Pn**	**07 05 22.3**	**-0.1**
TGIG				*e*S	**Sn**	**07 05 56.6**	**-0.2**
HUIG	**Huatulco**	**3.44**	**304**	*i* P	**Pn**	**07 05 24.8**	**-5.2**
HUIG				*e*S	**Sn**	**07 05 58.5**	**-12**
CMIG	**Matias Romero**	**3.61**	**332**	Pn	**Pn**	**07 05 29.9**	**-2.5**
	11nm,0.3s,baz=154,slow=8.8,SNR=312						
CMIG				Sn	**Sn**	**07 06 08.2**	**-6.5**
	39nm,0.3s,baz=298,slow=19,SNR=10						
CMIG	**Matias Romero**	**3.61**	**332**	Pn	**Pn**	**07 05 29.9**	**-2.5**
CMIG				Sn	**Sn**	**07 06 08.2**	**-6.5**
CMIG	**Matias Romero**	**3.61**	**332**	*i* P	**Pn**	**07 05 29.8**	**-2.6**
CMIG				*e*S	**Sn**	**07 06 10.3**	**-4.5**
VHO	**Vista Hermosa**	**4.70**	**313**	*i* P	**Pn**	**07 05 45.5**	**-1.9**
VHO				*e*S	**Sn**	**07 06 34.6**	**-7.1**
UTMO	**Huajupan**	**5.97**	**312**	*i* P	**Pn**	**07 06 01.0**	**-3.9**
UTMO				*e*S	**Sn**	**07 07 08.0**	**-4.9**
TEIG	**Tepich**	**7.84**	**36**	Pn	**Pn**	**07 06 29.5**	**-1.0**
	48nm,0.3s,baz=243,slow=1.7,SNR=148						
TEIG				Sn	**Sn**	**07 07 57.0**	**-1.9**
	4.4nm,0.3s,baz=317,slow=23,SNR=3.4						
TEIG	**Tepich**	**7.84**	**36**	*e*Pn	**Pn**	**07 06 29.5**	**-1.0**
TEIG				Sn	**Sn**	**07 07 57.0**	**-1.9**
TEIG				*e*Sn	**Sn**	**07 08 01.7**	**+2.8**
JTS	**JuntasAbangare**	**8.76**	**113**	Pn	**Pn**	**07 06 44.7**	**+1.5**
	2.3nm,0.3s,baz=320,slow=16,SNR=11						
JTS				Sn	**Sn**	**07 08 17.2**	**-4.4**
	0.8nm,0.3s,baz=263,slow=21,SNR=2.2						
JTS				LR	LR	07 09 17.1	
	comp=Z,117nm,21.2s,baz=291,slow=32						
JTS	**JuntasAbangare**	**8.76**	**113**	Pn	**Pn**	**07 06 44.7**	**+1.5**
JTS				Sn	**Sn**	**07 08 17.2**	**-4.4**
JCT	**Junction City**	**17.63**	**341**	⇓P	**Pn**	**07 08 43.1**	**+1.0**
	baz=18						
JCT	**Junction City**	**17.63**	**341**	*e*Pn	**Pn**	**07 08 43.7**	**+1.6**
	14nm,0.8s						
628A	**Black Gap, Mar**	**17.97**	**331**	⇑P	**Pn**	**07 08 47.6**	**+1.3**
	baz=18,SNR=9.6						
627A	**Terlingua Ranc**	**18.18**	**330**	⇓P	**Pn**	**07 08 49.8**	**+0.9**
	baz=18,SNR=10						
TXAR	**Lajitas Array**	**18.21**	**329**	P	**Pn**	**07 08 50.1**	**+0.8**
	0.1nm,0.3s,baz=155,slow=12,SNR=14						
TXAR	**Lajitas Array**	**18.21**	**329**	P	**Pn**	**07 08 50.1**	**+0.8**
528A	**Cox Ranch, San**	**18.50**	**333**	⇓P	**Pn**	**07 08 53.2**	**+0.4**
	baz=19						
626A	**Big Bend Ranch**	**18.63**	**329**	⇑P	**Pn**	**07 08 55.0**	**+0.7**
	baz=19,SNR=8.4						
527A	**Woodward Ranch**	**18.86**	**331**	⇓P	**Pn**	**07 08 57.5**	**+0.3**
	baz=19						
428A	**Kincaid Ranch,**	**18.94**	**334**	⇑P	**Pn**	**07 08 58.0**	**-0.1**
	baz=19						
526A	**Mary Lane Ranc**	**19.02**	**330**	⇓P	**Pn**	**07 08 59.3**	**+0.2**
	baz=19,SNR=9.9						
RFTA	**Plano**	**19.32**	**351**	*e*P	**Pn**	**07 09 02.3**	**-0.4**
427A	**Hayter Ranch,**	**19.36**	**332**	⇓P	**Pn**	**07 09 02.7**	**-0.5**
	baz=20						
426A	**McDonald Obser**	**19.49**	**331**	⇑P	**Pn**	**07 09 04.2**	**-0.6**
	baz=20,SNR=6.0						
328A	**Wristen Ranch,**	**19.56**	**335**	⇑P	**Pn**	**07 09 04.7**	**-0.9**
	baz=20,SNR=6.1						
326A	**Caldwell Ranch**	**20.01**	**332**	⇑P	**P**	**07 09 09.5**	**+0.3**
	baz=20,SNR=8.2						
425A	**Indio Mountain**	**20.06**	**329**	⇓P	**P**	**07 09 09.1**	**-0.6**
	baz=20,SNR=9.7						
227A	**Bennet, Jal**	**20.31**	**334**	⇑P	**P**	**07 09 12.3**	**-0.1**
	baz=20,SNR=6.6						
325A	**Bean Ranch, Si**	**20.53**	**330**	⇑P	**P**	**07 09 15.0**	**+0.2**
	baz=21						
ROSC	**El Rosal**	**20.59**	**114**	P	**P**	**07 09 17.4**	**+1.8**
	10.0nm,0.9s,baz=269,slow=15,SNR=13						
ROSC	**El Rosal**	**20.59**	**114**	*e*P	**P**	**07 09 13.8**	**-1.8**
ROSC				*e*P		07 09 13.8	
ROSC				P		07 09 17.4	
226A	**Malaga, Loving**	**20.70**	**333**	⇓P	**P**	**07 09 17.1**	**+0.5**
	baz=21						
CLNB	**Carlsbad**	**20.77**	**334**	*e*P	**P**	**07 09 17.6**	**+0.2**
	5.0nm,0.9s						
UALR	**University of**	**20.82**	**2**	*e*P	**P**	**07 09 17.7**	**-0.2**
	12nm,0.9s						
324A	**Moseley Ranch,**	**20.84**	**329**	⇓P	**P**	**07 09 17.8**	**-0.3**
	baz=21,SNR=10.0						
127A	**Arkansas Junct**	**20.91**	**335**	⇓P	**P**	**07 09 17.7**	**-1.3**
	baz=21,SNR=7.9						
MNTX	**Cornudas Mount**	**21.00**	**330**	⇓P	**P**	**07 09 19.4**	**-0.5**
	baz=21,SNR=9.1						
MNTX	**Cornudas Mount**	**21.00**	**330**	*e*P	**P**	**07 09 19.4**	**-0.5**
	4.4nm,0.8s						
225A	**Deer Hill, Car**	**21.07**	**331**	⇓P	**P**	**07 09 20.0**	**-0.7**
	baz=21,SNR=6.8						
126A	**Clayton Basin,**	**21.16**	**334**	⇑P	**P**	**07 09 21.2**	**-0.5**
	baz=21,SNR=9.2						
224A	**Cornudas Mount**	**21.37**	**330**	⇑P	**P**	**07 09 23.5**	**-0.4**
	baz=22,SNR=13						
WMOK	**Wichita Mounta**	**21.39**	**347**	*e*P	**P**	**07 09 24.5**	**+0.5**
	26nm,1.5s,mb4.3						
Z27A	**Tatum**	**21.42**	**336**	⇓P	**P**	**07 09 23.9**	**-0.5**
	baz=22,SNR=19						
CPRX	**Cap Rock**	**21.43**	**335**	*e*P	**P**	**07 09 24.6**	**+0.1**
	8.4nm,0.7s,mb4.2						
125A	**Gardner Draw,**	**21.45**	**333**	⇑P	**P**	**07 09 24.5**	**-0.3**
	baz=22,SNR=16						
Z26A	**Caprock**	**21.68**	**335**	⇑P	**P**	**07 09 27.0**	**-0.3**
	baz=22,SNR=11						
MSTX	**Muleshoe**	**21.83**	**338**	⇑P	**P**	**07 09 29.2**	**+0.3**
	baz=22						
124A	**Stringfield Ra**	**21.85**	**331**	⇓P	**P**	**07 09 29.5**	**+0.4**
	baz=22,SNR=12						
Y27A	**Causey**	**21.90**	**337**	⇑P	**P**	**07 09 29.1**	**-0.4**
	baz=22						
Z25A	**Roswell**	**22.01**	**333**	⇓P	**P**	**07 09 30.7**	**0.0**
	baz=22						
TUL1	**Tulsa**	**22.07**	**354**	⇑P	**P**	**07 09 31.7**	**+0.4**
	baz=22,SNR=6.6						
123A	**Bell Site, Whi**	**22.19**	**330**	⇓P	**P**	**07 09 32.6**	**-0.1**
	baz=22						
222A	**Williams Famil**	**22.19**	**327**	⇑P	**P**	**07 09 32.3**	**-0.4**
	baz=22,SNR=5.3						
SWET	**Sewanee**	**22.22**	**16**	*e*P	**P**	**07 09 31.9**	**-1.0**
AMTX	**Amarillo**	**22.30**	**341**	⇑P	**P**	**07 09 33.8**	**0.0**
	baz=22,SNR=12						
AMTX	**Amarillo**	**22.30**	**341**	*e*P	**P**	**07 09 34.1**	**+0.3**
	33nm,0.6s,mb4.9						
320A	**Kipp Ranch, An**	**22.40**	**323**	⇓P	**P**	**07 09 35.1**	**+0.1**
	baz=23						
COW	**Cow Castle Cre**	**22.47**	**28**	*e*P	**P**	**07 09 36.0**	**+0.3**
NHSC	**New Hope**	**22.49**	**29**	*e*P	**P**	**07 09 36.4**	**+0.6**
	56nm,0.9s,mb5.0						
Y25A	**Mesa, Roswell**	**22.55**	**334**	⇓P	**P**	**07 09 36.3**	**-0.1**
	baz=23,SNR=8.2						
X27A	**F and S Farms,**	**22.56**	**338**	⇑P	**P**	**07 09 36.0**	**-0.5**
	baz=23						
SDV	**Santo Domingo**	**22.60**	**100**	*e*P	**P**	**07 09 37.0**	**-0.2**
	28nm,0.7s,mb4.8						
Z23A	**Rita Site, Whi**	**22.68**	**331**	⇑P	**P**	**07 09 37.5**	**-0.4**
	baz=23,SNR=6.4						
X26A	**CR and CF Fran**	**22.74**	**337**	⇓P	**P**	**07 09 37.5**	**-0.9**
	baz=23,SNR=6.6						
220A	**Playas Peak, P**	**22.82**	**324**	⇑P	**P**	**07 09 38.9**	**-0.5**
	baz=23,SNR=9.0						
Y24A	**Capitan**	**22.87**	**333**	⇓P	**P**	**07 09 39.6**	**-0.3**
	baz=23						
319A	**Douglas**	**22.87**	**322**	⇑P	**P**	**07 09 39.5**	**-0.4**
	baz=23						
121A	**Cookes Peak, D**	**22.89**	**327**	⇑P	**P**	**07 09 40.3**	**+0.2**
	baz=23,SNR=11						
W27A	**Bows Ranch, En**	**22.92**	**339**	⇑P	**P**	**07 09 39.2**	**-1.1**
	baz=23,SNR=9.1						
Z22A	**Elephant Butte**	**23.04**	**329**	⇓P	**P**	**07 09 41.1**	**-0.6**
	baz=23,SNR=7.2						
Y23A	**Lovelace Mesa,**	**23.15**	**332**	⇑P	**P**	**07 09 42.8**	**-0.1**
	baz=23						
W26A	**Owens Ranch, T**	**23.20**	**337**	⇓P	**P**	**07 09 43.1**	**-0.2**
	baz=23						
TKL	**Tuckaleechee C**	**23.27**	**20**	P	**P**	**07 09 40.6**	**-3.5**
	5.8nm,0.7s,mb4.1,baz=193,slow=11,SNR=9.1						
TKL				LR	LR	07 19 52.0	
	comp=Z,83nm,18.0s,MS3.2,baz=327,slow=39						
TKL	**Tuckaleechee C**	**23.27**	**20**	P	**P**	**07 09 40.6**	**-3.5**
TKL				*e*P		07 09 42.0	
219A	**White Tail Can**	**23.31**	**323**	⇓P	**P**	**07 09 44.4**	**-0.2**
	baz=24,SNR=14						
318A	**Bisbee**	**23.34**	**321**	⇓P	**P**	**07 09 44.5**	**-0.4**
	baz=24,SNR=5.9						
120A	**U Bar Ranch, L**	**23.36**	**325**	⇓P	**P**	**07 09 45.3**	**+0.2**
	baz=24,SNR=9.3						
Z21A	**St. Cloud Mine**	**23.43**	**328**	⇑P	**P**	**07 09 45.5**	**-0.3**
	baz=24						
W25A	**X Bar L Ranch,**	**23.58**	**336**	⇑P	**P**	**07 09 46.8**	**-0.4**
	baz=24						
Y22A	**Socorro**	**23.59**	**330**	⇓P	**P**	**07 09 47.0**	**-0.3**
	baz=24						
BNM	**Barren Site**	**23.60**	**331**	*e*P	**P**	**07 09 48.0**	**+0.6**
	6.3nm,1.1s,mb4.0						
KMSC	**Kings Mountain**	**23.70**	**25**	⇑P	**P**	**07 09 46.2**	**-2.1**
	baz=24,SNR=9.3						
LPM	**Los Pinos Moun**	**23.73**	**331**	*e*P	**P**	**07 09 49.2**	**+0.5**
218A	**Dragoon**	**23.75**	**322**	⇑P	**P**	**07 09 48.5**	**-0.4**
	baz=24						
X23A	**Hourglass Bar**	**23.76**	**332**	⇑P	**P**	**07 09 48.6**	**-0.3**
	baz=24						
Z20A	**Nine Sixteen R**	**23.77**	**326**	⇓P	**P**	**07 09 49.1**	**+0.1**
	baz=24,SNR=10.0						
V26A	**Tequesquite Ra**	**23.84**	**338**	⇑P	**P**	**07 09 49.2**	**-0.4**
	baz=24						
119A	**Ashpeak Ranch,**	**23.90**	**325**	⇑P	**P**	**07 09 50.1**	**-0.1**
	baz=24,SNR=5.5						
W24A	**Lazy 6 Ranch,**	**23.95**	**335**	⇑P	**P**	**07 09 50.5**	**-0.1**
	baz=24						
Y21A	**Point of Rocks**	**23.99**	**329**	⇓P	**P**	**07 09 51.7**	**+0.7**
	baz=24,SNR=8.6						
LAZ	**Ladron**	**24.05**	**331**	*e*P	**P**	**07 09 52.5**	**+0.9**
	3.5nm,1.2s,mb3.7						
217A	**Green Valley**	**24.08**	**321**	⇑P	**P**	**07 09 51.4**	**-0.5**
	baz=24,SNR=6.3						
V25A	**Rancho No Teng**	**24.18**	**337**	⇑P	**P**	**07 09 52.4**	**-0.3**
	baz=24,SNR=9.1						
ANMO	**Albuquerque**	**24.19**	**332**	P	**P**	**07 09 52.7**	**-0.1**
	1.3nm,0.7s,mb3.4,baz=158,slow=8.1,SNR=5.6						
ANMO	**Albuquerque**	**24.19**	**332**	P	**P**	**07 09 52.7**	**-0.1**
ANMO				*e*P		07 09 54.1	
W23A	**Werner Place,**	**24.23**	**333**	⇓P	**P**	**07 09 53.5**	**+0.4**
	baz=24						
Y20A	**Hot Springs,**	**24.27**	**328**	⇓P	**P**	**07 09 53.8**	**+0.2**
	baz=24,SNR=5.7						
V24A	**Rampart Ranch,**	**24.34**	**335**	⇑P	**P**	**07 09 54.3**	**+0.1**
	baz=24						
U26A	**Atchley Ranch,**	**24.36**	**339**	⇑P	**P**	**07 09 54.3**	**0.0**
	baz=24						
X21A	**Alamocita Cree**	**24.40**	**330**	⇓P	**P**	**07 09 55.4**	**+0.7**
	baz=25,SNR=8.8						
TUC	**Tucson**	**24.43**	**322**	*e*P	**P**	**07 09 54.8**	**-0.3**
	7.3nm,1.1s,mb4.0						
Z18A	**Geronimo**	**24.55**	**324**	⇓P	**P**	**07 09 56.0**	**-0.1**
	baz=25						
117A	**Oracle**	**24.59**	**322**	⇑P	**P**	**07 09 55.5**	**-1.1**
	baz=25,SNR=6.8						
U25A	**Circle Dot Ran**	**24.60**	**338**	⇑P	**P**	**07 09 56.2**	**-0.4**
	baz=25						
V23A	**Ortiz Mt. (NFS**	**24.74**	**334**	⇑P	**P**	**07 09 57.7**	**-0.1**
	baz=25						
Y19A	**Nutrioso**	**24.77**	**327**	⇑P	**P**	**07 09 57.8**	**-0.3**
	baz=25						
X20A	**Quemado**	**24.83**	**329**	⇑P	**P**	**07 09 58.6**	**-0.1**
	baz=25,SNR=5.5						
U24A	**Moreno Valley**	**24.94**	**336**	⇑P	**P**	**07 09 59.7**	**+0.1**
	baz=25						
Z17A	**San Carlos Hig**	**24.95**	**324**	⇑P	**P**	**07 09 59.3**	**-0.5**
	baz=25						
WCI	**Wyandotte Cave**	**25.00**	**13**	*e*P	**P**	**07 09 59.7**	**-0.5**
	16nm,1.1s,mb4.5						
Y18A	**Canyon Day Jun**	**25.06**	**325**	⇑P	**P**	**07 10 00.4**	**-0.4**
	baz=25,SNR=5.8						
X19A	**St. Johns**	**25.15**	**327**	⇑P	**P**	**07 10 01.3**	**-0.3**
	baz=25						
116A	**Eloy**	**25.17**	**321**	⇑P	**P**	**07 10 01.3**	**-0.5**
	baz=25						
V22A	**San Miguel Ran**	**25.19**	**333**	⇓P	**P**	**07 10 01.7**	**-0.3**
	baz=25						
U23A	**El Rito**	**25.24**	**335**	⇓P	**P**	**07 10 02.5**	**+0.1**
	baz=25						
T25A	**Trinidad**	**25.26**	**339**	⇓P	**P**	**07 10 02.9**	**+0.4**
	baz=25,SNR=6.4						
W20A	**Ramah**	**25.29**	**329**	⇓P	**P**	**07 10 03.4**	**+0.6**
	baz=26,SNR=8.3						
T24A	**Torres, Weston**	**25.43**	**337**	⇓P	**P**	**07 10 04.4**	**+0.2**
	baz=26						
Y17A	**Roosevelt**	**25.45**	**324**	⇓P	**P**	**07 10 04.3**	**-0.1**
	baz=26						
214A	**Organ Pipe Nat**	**25.46**	**318**	⇓P	**P**	**07 10 04.2**	**-0.3**
	baz=26						
ATAH	**Atahualpa**	**25.49**	**144**	P	**P**	**07 10 05.6**	**+0.8**
	5.2nm,0.6s,mb4.2,baz=311,slow=10,SNR=5.0						
ATAH	**Atahualpa**	**25.49**	**144**	P	**P**	**07 10 05.6**	**+0.8**
CBKS	**Cedar Bluff**	**25.52**	**348**	⇑P	**P**	**07 10 04.8**	**0.0**
	baz=26						
X18A	**Snowflake**	**25.58**	**326**	⇑P	**P**	**07 10 05.5**	**+0.1**
	baz=26						
115A	**Sonoran Desert**	**25.58**	**320**	⇑P	**P**	**07 10 05.6**	**0.0**
	baz=26						
S25A	**Robets Cordova**	**25.73**	**339**	⇑P	**P**	**07 10 07.6**	**+0.7**
	baz=26						
T23A	**Casias Ranch,**	**25.78**	**336**	⇓P	**P**	**07 10 07.4**	**+0.1**
	baz=26						
V20A	**Brimhall**	**25.82**	**330**	⇑P	**P**	**07 10 08.0**	**+0.3**
	baz=26						
X17A	**Forest Lakes**	**25.90**	**325**	⇓P	**P**	**07 10 08.5**	**+0.1**
	baz=26						
U21A	**Nageezi**	**25.95**	**332**	⇑P	**P**	**07 10 09.1**	**+0.2**
	baz=26						
Y16A	**Circle Bar Ran**	**25.95**	**323**	⇑P	**P**	**07 10 08.9**	**0.0**
	baz=26						
S24A	**Houchin Ranch,**	**26.00**	**338**	⇓P	**P**	**07 10 09.6**	**+0.4**
	baz=26						
114A	**Black Gap (USA**	**26.03**	**320**	⇑P	**P**	**07 10 09.8**	**+0.2**
	baz=26						
V19A	**Window Rock**	**26.03**	**329**	⇓P	**P**	**07 10 09.8**	**+0.2**
	baz=26						
VWCC	**Virginia Weste**	**26.07**	**24**	*e*P	**P**	**07 10 08.6**	**-1.3**
T22A	**Edith**	**26.12**	**334**	⇓P	**P**	**07 10 11.8**	**+1.5**
	baz=26						
R25A	**Fountain Ranch**	**26.12**	**340**	⇑P	**P**	**07 10 11.0**	**+0.6**
	baz=26						
SDCO	**Great Sand Dun**	**26.20**	**337**	⇑P	**P**	**07 10 11.6**	**+0.6**
	baz=26						
SDCO	**Great Sand Dun**	**26.20**	**337**	*e*P	**P**	**07 10 11.8**	**+0.8**
	14nm,1.6s,mb4.2						
U20A	**Newcomb**	**26.31**	**331**	⇑P	**P**	**07 10 12.5**	**+0.5**
	baz=26						
X16A	**Lo Mia Camp, P**	**26.32**	**324**	⇑P	**P**	**07 10 12.2**	**0.0**
	baz=26,SNR=5.8						
S23A	**Nye Farm, Mont**	**26.35**	**337**	⇓P	**P**	**07 10 13.1**	**+0.6**
	baz=26						
T21A	**Navajo Lake**	**26.37**	**333**	⇓P	**P**	**07 10 12.8**	**+0.2**
	baz=26						
V18A	**Ganado**	**26.47**	**328**	⇓P	**P**	**07 10 13.9**	**+0.3**
	baz=27						
Z14A	**Wintersburg**	**26.48**	**320**	⇓P	**P**	**07 10 14.0**	**+0.4**
	baz=27						
R24A	**Sanders Place,**	**26.48**	**339**	⇑P	**P**	**07 10 14.1**	**+0.5**
	baz=27						
Y15A	**Casa Rosa Ranc**	**26.51**	**322**	⇑P	**P**	**07 10 14.4**	**+0.5**
	baz=27						
U19A	**Dine' College,**	**26.57**	**330**	⇓P	**P**	**07 10 14.2**	**-0.3**
	baz=27,SNR=5.5						
113A	**Mohawk Valley,**	**26.60**	**318**	⇑P	**P**	**07 10 14.1**	**-0.7**
	baz=27						
R23A	**Moffat**	**26.71**	**337**	⇑P	**P**	**07 10 15.8**	**+0.1**
	baz=27						
Z13A	**Yuma Proving G**	**26.81**	**319**	⇓P	**P**	**07 10

	4.1nm,1.0s,mb4.1								
P18A	**Preston Nutter**	29.74	333	⇓	P		P	07 10 42.7	0.0
	baz=30								
P17A	**Butcher Ranch,**	29.84	332	⇓	P		P	07 10 44.2	+0.6
	baz=30								
ARUT	**Antelope Range**	29.88	327	*e*	P		P	07 10 44.8	+0.8
	11nm,1.0s,mb4.5								
O18A	**Roosevelt**	30.16	334	⇑	P		P	07 10 46.5	+0.1
	baz=30								
L23A	**Garrett**	30.17	341	⇑	P		P	07 10 46.7	+0.2
	baz=30								
M21A	**Separation Pea**	30.27	339	⇓	P		P	07 10 48.5	+1.1
	baz=30								
O17A	**Robinson Place**	30.43	333	⇑	P		P	07 10 49.2	+0.5
	baz=31								
R13A	**O'Grain Ranch,**	30.45	326	⇓	P		P	07 10 50.2	+1.1
	baz=31								
L21A	**Rawlins**	30.59	339	⇑	P		P	07 10 50.7	+0.5
	baz=31								
N18A	**Larsen Ranch,**	30.62	335	⇑	P		P	07 10 50.9	+0.5
	baz=31								
MPU	**Maple Canyon**	30.69	331	*e*	P		P	07 10 53.6	+2.5
	93nm,2.9s,mb5.1								
K23A	**Bowen Ranch, D**	30.73	342	⇓	P		P	07 10 52.0	+0.6
	baz=31								
O16A	**Springville**	30.78	332	⇑	P		P	07 10 52.5	+0.6
	baz=31								
DAU	**Daniels Canyon**	30.83	332	*e*	P		P	07 10 53.4	+1.0
	3.7nm,0.8s,mb4.3								
FURC	**Furnace Creek,**	30.94	321	⇑	P		P	07 10 53.4	+0.1
	baz=31								
MPMC	**Manual Prospec**	31.07	320	⇑	P		P	07 10 54.3	-0.1
	baz=31								
K21A	**Alcova**	31.14	340	⇑	P		P	07 10 55.2	+0.1
	baz=31								
DUG	**Dugway**	31.39	330	⇑	P		P	07 10 57.8	+0.5
	baz=32								
ISA	**Isabella**	31.45	318	⇑	P		P	07 10 58.0	+0.1
	baz=32								
R11A	**Troy Canyon, C**	31.46	325	⇓	P		P	07 10 58.2	+0.2
	baz=32								
L18A	**Fontenelle, Gr**	31.56	336	⇓	P		P	07 10 58.8	+0.1
	baz=32								
J22A	**Midwest**	31.59	341	⇓	P		P	07 10 59.8	+0.8
	baz=32								
GRAC	**Grapevine Rang**	31.59	321	⇑	P		P	07 10 59.2	+0.1
	baz=32								
N15A	**Stansbury Isla**	31.79	331	⇓	P		P	07 11 01.1	+0.3
	baz=32								
J21A	**Lysite**	31.84	340	⇓	P		P	07 11 01.7	+0.5
	baz=32								
K19A	**Absolon Red Bu**	31.87	338	⇓	P		P	07 11 01.3	-0.2
	baz=32								
BW06	**Boulder Array**	32.09	337	⇓	P		P	07 11 03.5	+0.1
	baz=32								
PDAR	**Pinedale Array**	32.09	337	P			P	07 11 03.0	-0.4
	0.9nm,0.8s,mb3.6,baz=148,slow=8.7,SNR=6.9								
PDAR	**Pinedale Array**	32.09	337	P			P	07 11 03.0	-0.4
I21A	**Big Trails, Te**	32.21	341	⇑	P		P	07 11 04.4	0.0
	baz=32								
L16A	**Fish Haven**	32.21	334	⇑	P		P	07 11 05.1	+0.6
	baz=32								
M15A	**Larsen Ranch,**	32.21	332	⇑	P		P	07 11 04.8	+0.3
	baz=32								
H24A	**Dirks Ranch, A**	32.27	345	⇓	P		P	07 11 04.9	0.0
	baz=32								
J19A	**Crowheart**	32.33	338	⇓	P		P	07 11 05.7	+0.2
	baz=32								
RCTC	**Rector, Farmer**	32.34	318	⇑	P		P	07 11 05.8	+0.1
	baz=32								
I20A	**Worland**	32.60	340	⇑	P		P	07 11 08.2	+0.3
	baz=33								
K17A	**Gardner Place,**	32.61	335	⇑	P		P	07 11 08.1	+0.2
	baz=33								
HVU	**Hansel Valley**	32.61	332	*e*	P		P	07 11 08.7	+0.7
	8.6nm,1.1s,mb4.6								
L15A	**Malad City**	32.62	333	⇑	P		P	07 11 08.2	+0.2
	baz=33								
H22A	**Clearmont**	32.62	342	⇓	P		P	07 11 08.1	+0.1
	baz=33								
J18A	**Kendall Valley**	32.64	337	⇑	P		P	07 11 08.2	-0.1
	baz=33								
I19A	**Meeteetse**	32.98	339	⇑	P		P	07 11 11.5	+0.3
	baz=33								
SADO	**Sadowa**	33.02	18	LR			LR	07 26 13.5	
	comp=Z,108nm,18.2s,MS3.6,baz=242,slow=39								
L14A	**Malta**	33.03	332	⇑	P		P	07 11 11.4	-0.2
	baz=33,SNR=11								
H20A	**Greybull**	33.04	340	⇑	P		P	07 11 11.4	-0.3
	baz=33								
J17A	**Brown Place, J**	33.04	336	⇑	P		P	07 11 11.9	+0.2
	baz=33,SNR=5.8								
NVAR	**Mina Array Bea**	33.08	322	P			P	07 11 12.9	+0.7
	6.2nm,0.8s,mb4.6,baz=141,slow=8.7,SNR=45								
NVAR					PcP		PcP	07 13 54.3	-1.2
	0.8nm,0.8s,baz=139,slow=4.3,SNR=4.1								
NVAR	**Mina Array Bea**	33.08	322	P			P	07 11 12.9	+0.7
NVAR					PcP		PcP	07 13 54.3	-1.2
REDW	**Red Top Meadow**	33.09	336	*e*	P		P	07 11 12.2	+0.1
	24nm,1.6s,mb4.9								
SNOW	**Snow King Moun**	33.14	336	*e*	P		P	07 11 13.3	+0.7
	10.0nm,0.8s,mb4.8								
LOHW	**Long Hollow**	33.21	337	*e*	P		P	07 11 13.6	+0.4
	4.5nm,0.9s,mb4.4								
K15A	**Arbon**	33.23	333	⇓	P		P	07 11 13.4	0.0
	baz=33								
TPAW	**Teton Pass**	33.24	336	*e*	P		P	07 11 14.7	+1.3
	23nm,1.4s,mb4.9								
RRI2	**Red Ridge**	33.27	335	*e*	P		P	07 11 14.9	+1.2
	14nm,1.4s,mb4.7								
J16A	**Bone**	33.33	335	⇑	P		P	07 11 14.4	+0.2
	baz=34								
F23A	**Volborg**	33.40	344	⇑	P		P	07 11 14.6	-0.2
	baz=34								
K14A	**Jones Ranch, D**	33.40	333	⇑	P		P	07 11 14.8	-0.1
	baz=34								
G21A	**Lodge Grass**	33.45	342	⇑	P		P	07 11 15.3	+0.1
	baz=34								
I17A	**Pilgrim Ck.**	33.46	337	⇓	P		P	07 11 15.7	+0.3
	baz=34								
H19A	**Powell**	33.53	339	⇑	P		P	07 11 16.4	+0.4
	baz=34								
J15A	**Blackfoot**	33.77	334	⇑	P		P	07 11 17.7	-0.4
	baz=34								
H18A	**Shoshone NF, C**	33.77	339	⇑	P		P	07 11 17.9	-0.2
	baz=34,SNR=9.7								
I16A	**Newdale**	33.78	336	⇓	P		P	07 11 18.3	+0.1
	baz=34								
E24A	**Baker**	33.91	346	⇑	P		P	07 11 19.3	0.0
	baz=34								
RLMT	**Red Lodge**	34.02	339	⇑	P		P	07 11 20.4	+0.2
	baz=34								
J14A	**Carey**	34.18	333	⇓	P		P	07 11 21.6	0.0
	baz=34								
E22A	**Miles City**	34.20	344	⇑	P		P	07 11 21.5	-0.3
	baz=34								
G18A	**Lazy EL Ranch,**	34.30	339	⇑	P		P	07 11 22.9	+0.3
	baz=34								
H16A	**Russell Place,**	34.38	337	⇓	P		P	07 11 23.9	+0.5
	baz=34								
AGMN	**Agassiz Nation**	34.39	357	*e*	P		P	07 11 22.8	-0.7
	216nm,2.9s								
D24A	**Glendive**	34.44	346	⇑	P		P	07 11 23.8	0.0
	baz=35								
LAO	**LASA Array**	34.51	344	⇓	P		P	07 11 24.2	-0.2
	baz=35								
WCN	**Washoe City**	34.51	322	⇓	P		P	07 11 24.4	-0.2
	baz=35								
J13A	**Cove Ranch, Pi**	34.53	333	⇓	P		P	07 11 24.1	-0.5
	baz=35								
F19A	**Roth Farm, Mol**	34.56	340	⇓	P		P	07 11 24.5	-0.4
	baz=35								
I14A	**Mackay**	34.63	334	⇑	P		P	07 11 26.1	+0.6
	baz=35,SNR=5.1								
D23A	**Lindsay**	34.70	345	⇑	P		P	07 11 26.2	+0.1
	baz=35								
G17A	**Pierce Place,**	34.72	338	⇓	P		P	07 11 26.1	-0.1
	baz=35								
HLID	**Hailey**	34.76	332	⇑	P		P	07 11 26.9	+0.2
	baz=35,SNR=8.2								
HLID	**Hailey**	34.76	332	*e*	P		P	07 11 27.0	+0.3
	4.6nm,0.9s,mb4.4								
H15A	**Lima**	34.86	335	⇓	P		P	07 11 28.0	+0.5
	baz=35								
F18A	**Big Timber**	34.86	340	⇑	P		P	07 11 27.6	+0.1
	baz=35								
E20A	**Meyer Farm, Mu**	34.88	342	⇑	P		P	07 11 27.3	-0.4
	baz=35								
I13A	**Wildhorse Cree**	34.91	333	⇓	P		P	07 11 27.8	-0.2
	baz=35								
D22A	**Cohagen**	34.92	344	⇓	P		P	07 11 28.0	0.0
	baz=35,SNR=6.6								
G16A	**Moss Hill, Enn**	35.03	337	⇑	P		P	07 11 29.6	+0.6
	baz=35								
E19A	**Rath Farm, Rou**	35.05	341	⇑	P		P	07 11 29.2	+0.1
	baz=35								
D21A	**La Casta Ranch**	35.06	343	⇓	P		P	07 11 29.4	+0.1
	baz=35								
MCMT	**McKenzie Canyo**	35.11	335	*e*	P		P	07 11 31.1	+1.4
	8.7nm,1.2s,mb4.6								
H14A	**Leadore**	35.15	335	⇑	P		P	07 11 30.4	+0.3
	baz=35								
F17A	**Fitzpatrick Pl**	35.19	339	⇓	P		P	07 11 30.8	+0.5
	baz=35,SNR=6.5								
G15A	**Dillon**	35.25	336	⇓	P		P	07 11 31.5	+0.7
	baz=35,SNR=8.0								
I12A	**Atlanta**	35.27	332	⇑	P		P	07 11 31.2	+0.1
	baz=35,SNR=8.9								
C23A	**Lambert**	35.28	346	⇑	P		P	07 11 31.5	+0.4
	baz=35								
BOZ	**Bozeman (W)**	35.32	337	⇓	P		P	07 11 32.0	+0.5
	baz=36								
C22A	**Vida**	35.40	345	⇓	P		P	07 11 32.6	+0.5
	baz=36								
D20A	**Manuel Ranch,**	35.41	342	⇑	P		P	07 11 32.2	0.0
	baz=36								
F16A	**Kennard Place,**	35.44	337	⇓	P		P	07 11 32.9	+0.5
	baz=36								
DLMT	**Dillon**	35.45	336	*e*	P		P	07 11 33.4	+0.8
	14nm,1.3s,mb4.7								
H13A	**Challis**	35.49	334	⇓	P		P	07 11 33.2	+0.3
	baz=36,SNR=9.0								
E18A	**Harlowton**	35.51	340	⇓	P		P	07 11 33.3	+0.2
	baz=36								
DGMT	**Dagmar**	35.69	347	⇑	P		P	07 11 35.1	+0.5
	baz=36								
G14A	**Jackson**	35.70	335	⇓	P		P	07 11 35.1	+0.3
	baz=36								
D19A	**Cripps Ranch,**	35.70	342	⇑	P		P	07 11 34.9	+0.1
	baz=36								
H12A	**Diamond D Ranc**	35.74	333	⇑	P		P	07 11 35.6	+0.5
	baz=36,SNR=13								
E17A	**Martinsdale**	35.74	339	⇓	P		P	07 11 35.0	0.0
	baz=36								
C21A	**Desert Coulee**	35.79	344	⇓	P		P	07 11 35.6	+0.1
	baz=36								
F15A	**Butte**	35.81	337	⇓	P		P	07 11 35.7	0.0
	baz=36								
G13A	**Cobalt**	35.90	334	⇑	P		P	07 11 36.9	+0.5
	baz=36								
B22A	**Reddig Ranch S**	35.94	345	⇓	P		P	07 11 37.0	+0.2
	baz=36								
D18A	**Linhart Farms,**	36.02	341	⇑	P		P	07 11 37.6	+0.1
	baz=36								
E16A	**East Helena**	36.09	338	⇑	P		P	07 11 38.4	+0.3
	baz=36								
F14A	**Wisdom**	36.13	336	⇓	P		P	07 11 38.3	-0.2
	baz=36								
D17A	**Six Diamond Ra**	36.28	340	⇓	P		P	07 11 39.6	0.0
	baz=36								
ULM	**Lac du Bonnet**	36.34	357	P			P	07 11 37.9	-2.2
	4.3nm,0.6s,mb4.5,baz=168,slow=10,SNR=6.4								
ULM					LR		LR	07 28 53.7	
	comp=Z,4.2nm,19.3s,baz=270,slow=40								
ULM	**Lac du Bonnet**	36.34	357	P			P	07 11 37.9	-2.2
E15A	**Deer Lodge**	36.36	337	⇑	P		P	07 11 40.0	-0.3
	baz=36								
G12A	**Big Creek, Yel**	36.40	333	⇑	P		P	07 11 40.5	-0.2
	baz=37								
F13A	**Darby**	36.50	335	⇑	P		P	07 11 41.2	-0.4
	baz=37								
MOD	**Modoc**	36.53	325	*e*	P		P	07 11 41.7	-0.2
	20nm,1.4s,mb4.8								
J08A	**Circle Bar Ran**	36.56	328	⇓	P		P	07 11 41.7	-0.4
	baz=37,SNR=6.6								
E14A	**Clinton**	36.68	336	⇑	P		P	07 11 43.1	+0.1
	baz=37								
C17A	**Wharram Farm,**	36.72	340	⇓	P		P	07 11 43.5	+0.1
	baz=37								
D15A	**Lincoln**	36.83	338	⇑	P		P	07 11 44.1	-0.3
	baz=37								
F12A	**Elk City**	36.86	334	⇑	P		P	07 11 44.1	-0.5
	baz=37,SNR=7.2								
E13A	**Victor**	36.97	336	⇑	P		P	07 11 45.5	-0.1
	baz=37								
A20A	**Cobblestone Ra**	36.98	344	⇑	P		P	07 11 45.4	-0.2
	baz=37								
B18A	**Beardsley Farm**	37.08	342	⇓	P		P	07 11 46.4	0.0
	baz=37								
MSO	**Missoula**	37.19	336	⇓	P		P	07 11 47.0	-0.4
	baz=37								
MSO	**Missoula**	37.19	336	*e*	P		P	07 11 46.9	-0.6
	6.2nm,1.2s,mb4.3								
C16A	**Fuhringer Ranc**	37.20	339	⇑	P		P	07 11 47.3	-0.2
	baz=37								
D14A	**Greenough**	37.23	337	⇑	P		P	07 11 47.5	-0.3
	baz=37								
K05A	**Summer Lake**	37.40	326	⇓	P		P	07 11 49.1	-0.2
	baz=38								
C15A	**Salmond Ranch,**	37.48	338	⇓	P		P	07 11 50.0	+0.1
	baz=38								
E12A	**Beaver Dam Sad**	37.52	334	⇓	P		P	07 11 49.7	-0.6
	baz=38								
A18A	**Metzger Ranch,**	37.56	342	⇓	P		P	07 11 50.1	-0.4
	baz=38								
I07A	**Izee**	37.60	328	⇓	P		P	07 11 50.3	-0.7
	baz=38								
SWMT	**Swartz Lake**	37.77	337	*e*	P		P	07 11 52.4	0.0
A17A	**Triple J Farms**	37.85	341	⇑	P		P	07 11 52.9	-0.1
	baz=38								
F10A	**Beach Ranch, E**	37.90	332	⇑	P		P	07 11 52.8	-0.7
	baz=38,SNR=7.0								
D12A	**Red Ives Fores**	37.94	335	⇑	P		P	07 11 53.1	-0.7
	baz=38								
C13A	**Hot Springs**	38.14	336	⇑	P		P	07 11 55.1	-0.3
	baz=38								
G08A	**Pilot Rock**	38.20	330	⇓	P		P	07 11 55.5	-0.5
	baz=38								
A15A	**Johnson Ranch,**	38.55	339	⇑	P		P	07 11 58.8	-0.1
	baz=39								
B13A	**Whitefish**	38.67	337	⇓	P		P	07 11 59.5	-0.3
	baz=39								
E09A	**Wood Farm, Sta**	38.72	332	⇑	P		P	07 11 59.5	-0.9
	baz=39								
A14A	**Double T Ranch**	38.78	339	⇑	P		P	07 12 00.4	-0.4
	baz=39								
LPAZ	**La Paz**	38.84	140	P			P	07 11 59.8	-1.9
	2.1nm,0.8s,mb3.9,baz=345,slow=6.3,SNR=3.5								
LPAZ	**La Paz**	38.84	140	P			P	07 11 59.8	-1.9
C11A	**Tepee Creek (N**	38.94	335	⇓	P		P	07 12 01.5	-0.6
	baz=39								
H04A	**Detroit Lake**	39.41	327	⇓	P		P	07 12 05.3	-0.8
	baz=40								
E07A	**Sunnyside**	39.55	331	⇓	P		P	07 12 07.2	-0.1
	baz=40								
HOOD	**Mount Hood Mea**	39.56	328	*e*	P		P	07 12 07.9	+0.5
	23nm,1.0s,mb4.9								
C09A	**Chrisman Ranch**	39.76	333	⇓	P		P	07 12 08.5	-0.5
	baz=40								
LON	**Longmire**	40.63	330	*e*	P		P	07 12 15.9	-0.4
	5.5nm,0.9s,mb4.2								
SCHQ	**Schefferville**	45.72	21	LR			LR	07 32 52.0	
	comp=Z,185nm,18.6s,MS4.0,baz=139,slow=37								
YKA	**Yellowknife Ar**	50.90	347	P			P	07 13 35.6	-1.5
	1.9nm,0.5s,mb4.3,baz=135,slow=9.0,SNR=7.9								
YKA	**Yellowknife Ar**	50.90	347	P			P	07 13 35.6	-1.5
CFAA	**Coronel Fontan**	51.14	153	P			P	07 13 37.4	-2.0
	0.3nm,0.6s,mb3.4,baz=1.5,slow=9.7,SNR=8.7								
CFAA	**Coronel Fontan**	51.14	153	P			P	07 13 37.4	-2.0
CPUP	**Villa Florida**	53.01	139	P			P	07 13 49.3	-4.1
	1.4nm,0.6s,mb4.1,baz=311,slow=9.8,SNR=5.6								
CPUP	**Villa Florida**	53.01	139	P			P	07 13 49.3	-4.1
RKT	**Rikitea**	55.03	229	*e*	LR		LR	07 30 05.3	
	125nm,26.8s								
RCBR	**Riachuelo**	60.07	105	LR			LR	07 42 29.2	
	comp=Z,40nm,19.6s,MS3.6,baz=228,slow=38								
INK	**Inuvik**	60.25	344	*e*	P		P	07 14 43.1	-1.2
	12nm,1.1s,mb4.8								
RES	**Resolute Bay**	60.81	359	P			P	07 14 46.6	-1.4
	1.3nm,0.7s,mb4.2,baz=176,slow=5.4,SNR=3.7								
RES	**Resolute Bay**	60.81	359	P			P	07 14 46.6	-1.4
DOT	**Dot Lake**	60.89	337	*e*	P		P	07 14 48.3	-0.4
	10.0nm,1.6s,mb4.7								
ILAR	**Eielson Array**	62.52	337	P			P	07 14 58.1	-1.6
	2.2nm,0.8s,mb4.3,baz=153,slow=4.5,SNR=21								
ILAR	**Eielson Array**	62.52	337	P			P	07 14 58.1	-1.6
PPT	**Papeete**	63.86	242	*e*	S		S	07 23 43.2	-1.3
	42nm,26.0s								
PPT				*e*	LR		LR	07 33 41.3	
	125nm,31.0s								
PPT	**Papeete**	63.86	242		LR		LR	07 36 39.3	
	comp=Z,13nm,21.0s,MS3.1,baz=27,slow=30								
TBI	**Tubuai**	66.36	237	*e*	LR		LR	07 35 05.1	
	96nm,27.5s								
BBTS	**Babate**	73.87	79		LR		LR	07 44 51.1	
	comp=Z,68nm,18.5s,MS4.0,baz=262,slow=33								
ESDC	**Sonseca Array**	80.66	51		P		P	07 16 50.2	+0.7
	0.6nm,0.5s,mb3.8,baz=298,slow=2.7,SNR=3.6								
ESDC	**Sonseca Array**	80.66	51		P		P	07 16 50.2	+0.7
BILL	**Bilibino**	81.16	338	*e*	P		P	07 16 50.5	-1.1
	6.3nm,0.8s,mb4.6								
NB2	**NORSAR Subarra**	84.78	28		P		P	07 17 10.8	+0.4
	comp=Z,1.5nm,0.7s,mb4.2,baz=288,slow=5.1								
NOA	**NORSAR Array B**	84.78	28		P		P	07 17 10.8	+0.4
	comp=Z,3.3nm,0.9s,mb4.5,baz=289,slow=4.9,SNR=5.1								
NOA					LR		LR	07 56 22.1	
	comp=Z,38nm,18.7s,MS3.8,baz=210,slow=37								
NOA	**NORSAR Array B**	84.78	28		P		P	07 17 10.8	+0.4
HFS	**Hagfors**	86.24	29		LR		LR	07 58 57.6	
	comp=Z,89nm,18.4s,MS4.2,baz=307,slow=38								
ARCES	**ARCESS Array B**	86.60	18		P		P	07 17 19.9	+0.6
	comp=Z,4.3nm,0.9s,mb4.7,baz=305,slow=7.2,SNR=3.6								
ARCES	**ARCESS Array B**	86.60	18		P		P	07 17 19.9	+0.6
DAVOX	**Davos/Dischmat**	88.69	42		LR		LR	07 56 40.4	
	comp=Z,105nm,18.2s,MS4.3,baz=107,slow=35								
GERES	**GERESS Array B**	90.40	39		P		P	07 17 37.8	0.0
	comp=Z,1.4nm,0.9s,mb4.3,baz=276,slow=1.2,SNR=4.3								
GERES	**GERESS Array B**	90.40	39		P		P	07 17 37.8	0.0
FINES	**FINESS Array B**	91.07	25		LR		LR	08 02 10.6	
	comp=Z,78nm,18.7s,MS4.2,baz=0.0,slow=38								
TORD	**Torodi Ar. Bea**	91.48	76		P		P	07 17 41.1	-2.4
	comp=Z,0.2nm,0.6s,mb3.6,baz=288,slow=5.9,SNR=2.2								
TORD					LR		LR	07 55 40.7	
	comp=Z,47nm,18.4s,MS4.0,baz=355,slow=34								
TORD	**Torodi Ar. Bea**	91.48	76		P		P	07 17 41.1	-2.4
VRAC	**Vranov**	91.97	38		LR		LR	07 57 18.4	
	comp=Z,92nm,19.4s,MS4.2,baz=46,slow=34								
MKAR	**Makanchi Array**	119.47	4		PKP		PKPdf	07 23 23.0	-3.1
	comp=Z,0.4nm,0.7s,baz=333,slow=4.2,SNR=3.8								
MKAR	**Makanchi Array**	119.47	4		PKP		PKPdf	07 23 23.0	-3.1
HHC	**Hu-ho-hao-te**	120.94	338	*e*	PKP		PKPdf	07 23 26.0	-3.1
HHC					sPKP			07 23 40.3	
HHC					PP		PP	07 24 59.5	+2.6
HHC					SKS		SKSdf	07 30 34.3	-6.5
HHC					SKKS		SKKSac	07 31 45.8	-11
HHC					AMB		AMB		
	comp=Z,78nm,5.9s								
HHC					LR		LR		
	comp=N,110nm,15.5s								
HHC					LR		LR		
	comp=E,200nm,21.4s								
HHC					LR		LR		
	comp=Z,130nm,17.6s,MS4.6								
WMQ	**Urumqi**	122.58	359		PKP		PKPdf	07 23 30.4	-1.8
LZH	**Lanzhou**	127.78	343	*e*	PKP		PKPdf	07 23 33.4	-9.0
LZH					pPKP		pPKPdf	07 23 59.5	+12
LZH					sPKP			07 24 11.0	
LZH					LR		LR		
	comp=E,130nm,17.9s								
LZH					LR		LR		
	comp=Z,170nm,20.1s,MS4.7								
CD2	**Chengdu**	132.60	340		PKP		PKPdf	07 23 49.3	-2.4
WRA	**Warramunga Arr**	134.30	256		PKP		PKPdf	07 23 52.2	-2.8
	comp=Z,0.9nm,0.7s,baz=87,slow=2.2,SNR=6.7								
WRA	**Warramunga Arr**	134.30	256		PKP		PKPdf	07 23 52.2	-2.8
ASAR	**Alice Springs**	134.59	250		PKP		PKPdf	07 23 52.8	-2.7
	comp=Z,0.4nm,0.8s,baz=44,slow=2.2,SNR=4.1								
ASAR	**Alice Springs**	134.59	250		PKP		PKPdf	07 23 52.8	-2.7
GYA	**Guiyang**	135.52	334	*e*	Pdif		Pdif	07 20 56.8	-2.6
GYA					PKP		PKPdf	07 23 55.0	-2.3
GYA					sPKP			07 24 06.8	
GYA					PP		PP	07 26 34.3	+1.4
GYA					AMB		AMB		
	comp=Z,80nm,7.8s								
KMI	**Kunming**	138.26	338		PKP		PKPdf	07 23 56.3	-6.1
CHTO	**Chiang Mai**	145.41	340	*e*	PKPbc		PKPbc	07 24 12.4	-2.7
CMAR	**Chiang Mai Arr**	145.74	339		PKPbc		PKPbc	07 24 13.8	-2.4
	comp=Z,5.8nm,0.8s,baz=344,slow=4.3,SNR=33								
CMAR	**Chiang Mai Arr**	145.74	339		PKPbc		PKPbc	07 24 13.8	-2.4

ISCJB ***24*** *07:23:42.1±1.1,36°30N

BJI				LR	LR			
	comp=N,340nm,9.2s							
BJI				LR	LR			
	comp=E,560nm,9.6s							
BJI				LR	LR			
	comp=Z,100nm,15.4s							
WHN	**Wuhan**	**8.96**	**127**	P	Px	07 26 30.8		
WHN				*eS*	**Sn**	**07 27 43.3**	**+8.3**	
GYA	**Guiyang**	**9.79**	**177**	P	**Pn**	**07 26 05.3**	**-0.2**	
GYA				S	**Sn**	**07 27 50.5**	**-4.8**	
GYA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
GYA				pmax	pmax			
	comp=Z,10.0nm,3.2s							
GYA				LR	LR			
	comp=N,110nm,4.5s							
GYA				LR	LR			
	comp=E,190nm,4.8s							
GYA				LR	LR			
	comp=Z,150nm,4.1s							
NJ2	**Nanjing**	**11.39**	**108**	*eP*	**Pn**	**07 26 27.9**	**+0.5**	
NJ2				pP		07 26 33.3		
NJ2				sP		07 26 37.3		
NJ2				S	**Sn**	**07 28 33.0**	**-1.5**	
NJ2				sS		07 28 40.0		
NJ2				pmax	pmax			
	comp=Z,20nm,0.5s							
NJ2				pmax	pmax			
	comp=Z,220nm,3.6s							
NJ2				LR	LR			
	comp=N,530nm,12.2s							
NJ2				LR	LR			
	comp=E,320nm,12.9s							
NJ2				LR	LR			
	comp=Z,600nm,14.2s							
SONM	**Songino Array**	**11.56**	**1**	Pn	**Pn**	**07 26 29.3**	**-0.4**	
	comp=Z,0.4nm,0.3s,baz=187,slow=14,SNR=22							
SONM				Lg		07 29 52.9		
	comp=Z,0.6nm,0.3s,baz=171,slow=30,SNR=5.9							
SONM				LR	LR	07 31 26.0		
	comp=Z,108nm,20.7s,baz=206,slow=40							
SONM	**Songino Array**	**11.56**	**1**	Pn	**Pn**	**07 26 29.3**	**-0.4**	
SONM				Lg		07 29 52.9		
ULN	**Ulaanbaatar**	**11.61**	**3**	*e*Pn	**Pn**	**07 26 29.9**	**-0.5**	
	comp=Z,7.4nm,0.6s							
ULN				*e*Sn	**Sn**	**07 28 34.7**	**-5.1**	
KSAR	**Wonju Array Be**	**17.49**	**80**	P	**Pn**	**07 27 48.5**	**-0.1**	
KSRS	**Korea Array**	**17.52**	**80**	P	**Pn**	**07 27 48.5**	**-0.4**	
	comp=Z,0.3nm,0.3s,baz=275,slow=9.3,SNR=3.4							
KSRS				LR	LR	07 35 15.4		
	comp=Z,47nm,18.4s,baz=154,slow=40							
CMAR	**Chiang Mai Arr**	**18.82**	**201**	P	**Pn**	**07 28 06.5**	**+1.4**	
	comp=Z,0.6nm,0.3s,baz=9.0,slow=9.9,SNR=5.9							
CMAR	**Chiang Mai Arr**	**18.82**	**201**	P	**Pn**	**07 28 06.5**	**+1.4**	
JIRN	**Jiri**	**18.90**	**249**	*eP*	**Pn**	**07 28 06.9**	**+0.9**	
	comp=Z,11nm,0.6s							
GUN	**Gumba**	**19.01**	**250**	*eP*	**Pn**	**07 28 07.7**	**+0.5**	
	comp=Z,29nm,0.6s							
KKN	**Kakani**	**19.52**	**250**	*eP*	**Pn**	**07 28 13.7**	**+0.3**	
PKI	**Pulchoki**	**19.54**	**250**	*eP*	**Pn**	**07 28 12.7**	**-0.9**	
DMN	**Daman**	**19.75**	**250**	*eP*	**Pn**	**07 28 15.8**	**-0.3**	
	comp=Z,12nm,0.4s							
GKN	**Gorkha**	**19.91**	**252**	*eP*	**Pn**	**07 28 16.8**	**-1.2**	
	comp=Z,10nm,0.5s							
DANN	**Dangsing**	**20.42**	**254**	*eP*	**P**	**07 28 23.2**	**+1.3**	
	comp=Z,19nm,0.6s							
MK31	**Makanchi Array**	**20.60**	**308**	*eP*	**P**	**07 28 23.8**	**+0.1**	
MKAR	**Makanchi Array**	**20.60**	**308**	P	**P**	**07 28 23.6**	**-0.1**	
	comp=Z,1.7nm,0.6s,baz=104,slow=12,SNR=9.5							
MKAR	**Makanchi Array**	**20.60**	**308**	P	**P**	**07 28 23.6**	**-0.1**	
KOLN	**Koldanda**	**20.82**	**252**	*eP*	**P**	**07 28 26.6**	**+0.3**	
	comp=Z,11nm,0.7s							
PYUN	**Piuthan**	**21.13**	**254**	*eP*	**P**	**07 28 30.0**	**+0.4**	
	comp=Z,11nm,0.5s,mb4.4							
ZAA0	**Zalesovo Array**	**23.04**	**327**	*eP*	**P**	**07 28 53.0**	**+3.3**	
ZALV	**Zalesovo Beam**	**23.04**	**327**	P	**P**	**07 28 48.9**	**-0.8**	
	comp=Z,5.2nm,0.7s,mb4.0,baz=133,slow=8.5,SNR=22							
ZALV	**Zalesovo Beam**	**23.04**	**327**	P	**P**	**07 28 48.9**	**-0.8**	
KURK	**Kurchatov**	**24.42**	**315**	P	**P**	**07 29 03.4**	**+0.4**	
	comp=Z,1.9nm,0.8s,mb3.6,baz=125,slow=7.8,SNR=9.3							
KURK				LR	LR	07 38 45.0		
	comp=Z,41nm,18.9s,MS2.9,baz=295,slow=37							
KURK	**Kurchatov**	**24.42**	**315**	P	**P**	**07 29 03.5**	**+0.4**	
ASAJ	**Asahikawa**	**28.80**	**63**	LR	LR	07 41 42.4		
	comp=Z,50nm,19.4s,MS3.1,baz=353,slow=38							
BVAR	**Borovoye Array**	**30.02**	**315**	P	**P**	**07 29 53.6**	**+0.3**	
	comp=Z,0.3nm,0.4s,mb3.3,baz=108,slow=9.7,SNR=3.8							
BVAR	**Borovoye Array**	**30.02**	**315**	P	**P**	**07 29 53.6**	**+0.3**	
AKTO	**Aktyubinsk**	**37.04**	**308**	LR	LR	07 49 20.6		
	comp=Z,34nm,18.6s,MS3.2,baz=23,slow=42							
WRAB	**Tennant Creek**	**61.96**	**150**	*eP*	**P**	**07 34 03.6**	**-1.1**	
	comp=Z,1.0nm,0.6s,mb4.1							
WRA	**Warramunga Arr**	**61.97**	**150**	P	**P**	**07 34 05.1**	**+0.4**	
	comp=Z,1.2nm,0.7s,mb4.2,baz=344,slow=7.2,SNR=8.9							
WRA	**Warramunga Arr**	**61.97**	**150**	P	**P**	**07 34 05.1**	**+0.4**	
ASAR	**Alice Springs**	**65.15**	**152**	P	**P**	**07 34 26.9**	**+1.1**	
	comp=Z,0.7nm,0.5s,mb3.9,baz=334,slow=6.4,SNR=10							
ASAR	**Alice Springs**	**65.15**	**152**	P	**P**	**07 34 26.9**	**+1.1**	

*IDC **24** 07:23:43.9±1.6, 1°.94N×127°.34E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.6/21, mbtmp3.9/5, Error ellipse: s-maj=114.2km s-min=18.9km az=70.0*

NEIC 24 07:23:48.8±1.0, 1°.98N×127°.52E, h35km, mb4.1/1, Error ellipse: s-maj=64.1km s-min=11.4km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.04**	**185**	P	P	07 28 19.0	0.0
	0.3nm,0.3s,baz=9.5,slow=12,SNR=7.1						
FITZ	**Fitzroy Crossi**	**20.04**	**185**	P	P	07 28 19.0	0.0
WRAB	**Tennant Creek**	**22.78**	**163**	*eP*	P	07 28 48.7	+0.3
	2.0nm,0.3s						
WRA	**Warramunga Arr**	**22.79**	**163**	P	P	07 28 48.6	+0.1
	1.8nm,0.4s,baz=340,slow=11,SNR=13						
WRA	**Warramunga Arr**	**22.79**	**163**	P	P	07 28 48.6	+0.1
WB2	**Warramunga Arr**	**22.79**	**163**	*eP*	P	07 28 48.7	+0.2
ASAR	**Alice Springs**	**26.24**	**167**	P	P	07 29 20.3	-0.4
	0.4nm,0.3s,baz=344,slow=11,SNR=12						
ASAR	**Alice Springs**	**26.24**	**167**	P	P	07 29 20.3	-0.4
MKAR	**Makanchi Array**	**59.43**	**325**	P	P	07 33 48.6	+0.7
	0.9nm,0.4s,baz=115,slow=7.7,SNR=16						
MKAR	**Makanchi Array**	**59.43**	**325**	P	P	07 33 48.6	+0.7
KURK	**Kurchatov**	**63.63**	**328**	P	P	07 34 15.8	-0.5
	0.9nm,0.5s,baz=127,slow=6.3,SNR=7.1						
KURK	**Kurchatov**	**63.63**	**328**	P	P	07 34 15.8	-0.5

*IDC **24** 07:34:38.6±1.1, 12°.31N×125°.68E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/24, mbtmp3.8/7, MS3.7/2, Ms1 3.8/2, ms1mx2.7/40, Error ellipse: s-maj=62.3km s-min=17.4km az=63.0*

*ISCJB **24** 07:34:41.2±0.8, 12°.42N±0°.06×125°.8E±0°.1, h33km, mb3.7/7, MS3.7/2, Error ellipse: s-maj=14.7km s-min=8.6km az=6.3*

*NEIC **24** 07:34:43.6±0.8, 12°.32N×125°.71E, h35km, Error ellipse: s-maj=42.1km s-min=12.2km az=65.0*

ISC 24 07:34:43.8±0.9, 12°.39N±0°.06×125°.7E±0°.1, h35km, n21, σ0°.93/22, mb3.7/7, MS3.7/2, 1C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**0.99**	**277**	*eP*	**Pn**	**07 34 59.7**	**-1.5**
CNP				*eS*	**Sn**	**07 35 07.2**	**-6.8**
PLP	**Palo**	**1.39**	**209**	↑*eP*	**Pn**	**07 35 06.1**	**-0.7**
PLP				*eS*	**Sn**	**07 35 24.9**	**+1.0**
PVCP	**Virac**	**1.91**	**309**	*eP*	**Pn**	**07 35 12.2**	**-1.6**
PVCP				*eS*	**Sn**	**07 35 23.9**	**-13**
RCP	**Roxas**	**2.98**	**254**	↓*eP*	**Pn**	**07 35 29.3**	**+0.7**
CMAR	**Chiang Mai Arr**	**26.45**	**287**	P	**P**	**07 40 17.6**	**0.0**
	1.2nm,0.3s,mb3.9,baz=97,slow=7.9,SNR=7.2						
CMAR	**Chiang Mai Arr**	**26.45**	**287**	P	**P**	**07 40 17.6**	**0.0**
MJAR	**Matsushiro Arr**	**26.56**	**23**	LR	LR	07 49 15.7	
	comp=Z,30nm,21.0s,MS2.8,baz=240,slow=33						
WRA	**Warramunga Arr**	**33.24**	**165**	P	**P**	**07 41 17.2**	**-0.6**
	0.2nm,0.6s,mb3.3,baz=345,slow=8.7,SNR=2.7						
WRA				PcP	PcP	07 43 59.9	+0.1
	0.2nm,0.6s,baz=343,slow=2.8,SNR=4.8						
WRA	**Warramunga Arr**	**33.24**	**165**	P	**P**	**07 41 17.2**	**-0.6**
WRA				PcP	PcP	07 43 59.9	+0.1
ASAR	**Alice Springs**	**36.73**	**167**	P	**P**	**07 41 46.9**	**-0.9**
	0.3nm,0.4s,mb3.5,baz=344,slow=7.0,SNR=7.5						
ASAR				PcP	PcP	07 44 10.0	0.0
	0.4nm,0.7s,baz=343,slow=3.5,SNR=4.3						
ASAR	**Alice Springs**	**36.73**	**167**	P	**P**	**07 41 46.9**	**-0.9**
ASAR				PcP	PcP	07 44 10.0	0.0
SONM	**Songino Array**	**38.84**	**339**	P	**P**	**07 42 05.0**	**-0.4**
	0.6nm,0.7s,mb3.4,baz=133,slow=6.6,SNR=3.9						
SONM	**Songino Array**	**38.84**	**339**	P	**P**	**07 42 05.0**	**-0.4**
MK31	**Makanchi Array**	**50.00**	**322**	*eP*	**P**	**07 43 35.6**	**+1.0**
MKAR	**Makanchi Array**	**50.00**	**322**	P	**P**	**07 43 35.8**	**+1.2**
	1.3nm,0.8s,mb4.0,baz=118,slow=8.4,SNR=9.9						
MKAR	**Makanchi Array**	**50.00**	**322**	P	**P**	**07 43 35.8**	**+1.2**
KURK	**Kurchatov**	**54.00**	**325**	P	**P**	**07 44 05.3**	**+1.0**
	2.8nm,0.9s,mb4.2,baz=121,slow=7.5,SNR=17						
KURK	**Kurchatov**	**54.00**	**325**	P	**P**	**07 44 05.3**	**+1.0**
BVAR	**Borovoye Array**	**59.60**	**325**	P	**P**	**07 44 44.5**	**+0.5**
	1.0nm,0.8s,mb3.9,baz=113,slow=9.6,SNR=3.7						
BVAR	**Borovoye Array**	**59.60**	**325**	P	**P**	**07 44 44.5**	**+0.5**
VNDA	**Vanda**	**92.09**	**173**	LR	LR	08 25 17.1	
	comp=Z,189nm,20.1s,MS4.5,baz=91,slow=33						

*NEIC **24** 07:43:01.4±0.7, 19°.45S×177°.52W, h566km±8km, mb3.8/3, Error ellipse: s-maj=15.7km s-min=9.2km az=153.0*

*ISCJB **24** 07:43:02.2±0.7, 19°.6S±0°.1×177°.58W±0°.08, h587km±8km, mb4.1/18, Error ellipse: s-maj=16.7km s-min=10.6km az=164.8*

*IDC **24** 07:43:03.6±2.1, 19°.47S×177°.65W, h585km±24km, mb3.4/11, mb1 3.7/12, mb1mx3.5/21, mbtmp3.5/12, Error ellipse: s-maj=22.4km s-min=10.7km az=156.0*

ISC 24 07:43:02.6±0.8, 19°.6S±0°.1×177°.54W±0°.08, h577km±8km, n75, σ0°.94/52, mb4.1/18, 2C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.58**	**293**	*eP*	**P**	**07 44 30.0**	**-0.8**
MSVF				*eS*	**S**	**07 45 43.0**	**+0.4**
AFI	**Afiamalu**	**7.91**	**45**	P	**P**	**07 44 56.0**	**-4.4**
	6.9nm,0.3s,baz=214,slow=7.3,SNR=19						
AFI	**Afiamalu**	**7.91**	**45**	P	**P**	**07 44 56.0**	**-4.4**
RAR	**Rarotonga**	**16.73**	**99**	P	**P**	**07 46 26.6**	**-1.0**
	0.9nm,0.3s,baz=231,slow=6.5,SNR=2.7						
RAR	**Rarotonga**	**16.73**	**99**	P	**P**	**07 46 26.6**	**-1.0**
URZ	**Urewera**	**19.15**	**193**	P	**P**	**07 46 49.7**	**+0.2**
	1.1nm,0.3s,baz=340,slow=14,SNR=5.0						
URZ	**Urewera**	**19.15**	**193**	P	**P**	**07 46 49.7**	**+0.2**
CTA	**Charters Tower**	**34.02**	**263**	P	**P**	**07 49 00.0**	**+0.3**
	4.8nm,0.5s,mb4.4,baz=87,slow=9.5,SNR=11						
CTA	**Charters Tower**	**34.02**	**263**	*eP*	**P**	**07 48 59.8**	**+0.1**
	4.4nm,0.5s,mb4.3						
CTA	**Charters Tower**	**34.02**	**263**	P	**P**	**07 49 00.0**	**+0.3**
CMSA	**Cobar Meteorol**	**35.07**	**243**	*eP*	**P**	**07 49 09.0**	**+0.7**
	24nm,0.6s,mb5.0						
QLP	**Quilpie**	**35.74**	**252**	*eP*	**P**	**07 49 14.1**	**+0.1**
TOO	**Toolangi**	**36.77**	**233**	*eP*	**P**	**07 49 23.3**	**+1.0**
	56nm,0.6s						
STKA	**Stephens Creek**	**38.57**	**243**	P	**P**	**07 49 38.0**	**+1.0**
	8.0nm,0.9s,mb4.3,baz=89,slow=10.0,SNR=12						
STKA	**Stephens Creek**	**38.57**	**243**	*eP*	**P**	**07 49 38.0**	**+1.0**
	4.6nm,0.7s,mb4.1						
STKA	**Stephens Creek**	**38.57**	**243**	*eP*	**P**	**07 49 37.9**	**+1.0**
	0.5nm,0.5s,mb3.3						
BBOO	**Buckleboo**	**43.33**	**243**	*eP*	**P**	**07 50 15.2**	**+0.5**
	56nm,0.4s						
WB2	**Warramunga Arr**	**45.15**	**261**	*eP*	**P**	**07 50 28.3**	**-0.6**
ASAR	**Alice Springs**	**45.15**	**256**	P	**P**	**07 50 28.7**	**-0.1**
	4.5nm,0.5s,mb4.2,baz=87,slow=8.0,SNR=69						
ASAR				PcP	PcP	07 51 57.0	+0.2
	2.5nm,0.8s,baz=103,slow=4.0,SNR=11						
ASAR				PP	PP	07 52 24.9	+0.5
	0.6nm,0.7s,baz=87,slow=8.6,SNR=4.1						
ASAR				S	**S**	**07 56 26.1**	**-1.0**
	2.6nm,0.8s,baz=94,slow=15,SNR=22						
ASAR	**Alice Springs**	**45.15**	**256**	P	**P**	**07 50 28.7**	**-0.1**
ASAR				PcP	PcP	07 51 57.0	+0.2
ASAR				PP	PP	07 52 24.9	+0.5
ASAR				S	**S**	**07 56 26.1**	**-1.0**
WRAB	**Tennant Creek**	**45.15**	**261**	*eP*	**P**	**07 50 28.2**	**-0.6**
	1.7nm,0.5s,mb3.8						
WRA	**Warramunga Arr**	**45.16**	**261**	P	**P**	**07 50 28.3**	**-0.6**
	1.5nm,0.3s,mb3.9,baz=98,slow=7.7,SNR=43						
WRA				PcP	PcP	07 51 57.1	+0.3
	1.7nm,0.8s,baz=93,slow=3.4,SNR=8.8						
WRA				S	**S**	**07 56 26.4**	**-0.9**
	0.8nm,1.0s,baz=92,slow=15,SNR=5.1						
WRA	**Warramunga Arr**	**45.16**	**261**	P	**P**	**07 50 28.3**	**-0.6**
WRA				PcP	PcP	07 51 57.1	+0.3
WRA				S	**S**	**07 56 26.4**	**-0.9**
FORT	**Forrest**	**50.05**	**246**	*eP*	**P**	**07 51 04.8**	**-0.4**
	14nm,0.5s,mb4.7						
FITZ	**Fitzroy Crossi**	**53.58**	**262**	*eP*	**P**	**07 51 30.9**	**+0.1**
MEEK	**Meekatharra**	**58.62**	**250**	*eP*	**P**	**07 52 04.7**	**-0.7**
	22nm,0.4s,mb4.6						
KLBR	**Kellerberrin**	**58.83**	**244**	*eP*	**P**	**07 52 06.5**	**-0.2**
	13nm,0.7s,mb4.2						
NWAO	**Narrogin (SRO)**	**59.16**	**243**	P	**P**	**07 52 08.9**	**0.0**
	6.1nm,0.7s,mb3.9,baz=113,slow=7.7,SNR=3.1						
NWAO	**Narrogin (SRO)**	**59.16**	**243**	P	**P**	**07 52 08.9**	**0.0**
QSPA	**South Pole Qui**	**70.45**	**180**	*eP*	**P**	**07 53 21.6**	**+2.7**
	10nm,1.1s,mb4.2						
NVAR	**Mina Array Bea**	**80.08**	**43**	P	**P**	**07 54 13.8**	**+0.6**
	1.1nm,0.7s,mb3.3,baz=217,slow=8.2,SNR=8.2						
NVAR	**Mina Array Bea**	**80.08**	**43**	P	**P**	**07 54 13.8**	**+0.6**
RSO	**Redoubt South**	**82.28**	**12**	*eP*	**P**	**07 54 24.6**	**+0.8**
	40nm,0.6s,mb5.1						
MAW	**Mawson**	**82.54**	**200**	P	**P**	**07 54 26.7**	**+1.5**
	2.0nm,0.6s,mb3.8,baz=149,slow=4.2,SNR=7.3						
MAW	**Mawson**	**82.54**	**200**	P	**P**	**07 54 26.7**	**+1.5**
TXAR	**Lajitas Array**	**86.21**	**57**	P	**P**	**07 54 45.3**	**+1.5**
	1.6nm,0.7s,mb3.8,baz=214,slow=6.6,SNR=20						
TXAR	**Lajitas Array**	**86.21**	**57**	P	**P**	**07 54 45.3**	**+1.5**
ILAR	**Eielson Array**	**87.36**	**13**	P	**P**	**07 54 46.7**	**-1.6**
	0.8nm,0.6s,mb3.6,baz=229,slow=5.1,SNR=22						
ILAR	**Eielson Array**	**87.36**	**13**	P	**P**	**07 54 46.7**	**-1.6**
PDAR	**Pinedale Array**	**88.02**	**43**	P	**P**	**07 54 52.2**	**+0.3**
	0.4nm,0.8s,mb3.2,baz=262,slow=3.3,SNR=7.2						
PDAR	**Pinedale Array**	**88.02**	**43**	P	**P**	**07 54 52.2**	**+0.2**
SNAA	**Sanae**	**88.88**	**178**	*e*	**P**	**07 54 52.2**	**-3.3**
VNA3	**Neumayer Olymp**	**88.99**	**176**	*e*	**P**	**07 54 54.5**	**-1.6**
VNA2	**Neumayer--Watz**	**89.44**	**177**	*e*	**P**	**07 54 56.9**	**-1.2**
	baz=180,slow=3.4						
VNA1	**Neumayer--Stat**	**89.66**	**176**	*e*	**P**	**07 54 58.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**90.23**	**289**	P	**P**	**07 55 03.8**	**+1.0**
	0.9nm,0.5s,mb3.9,baz=134,slow=3.2,SNR=7.2						
CMAR	**Chiang Mai Arr**	**90.23**	**289**	P	**P**	**07 55 03.8**	**+1.0**
MKAR	**Makanchi Array**	**110.91**	**314**	PKiKP	PKiKP	08 00 29.3	-1.4
	0.5nm,0.5s,baz=243,slow=4.9,SNR=4.6						
MKAR	**Makanchi Array**	**110.91**	**314**	PKiKP	PKiKP	08 00 29.3	-1.4
KURK	**Kurchatov**	**113.64**	**318**	PKiKP	PKiKP	08 00 34.6	-1.1
	0.3nm,0.6s,baz=99,slow=1.9,SNR=7.4						
KURK	**Kurchatov**	**113.64**	**318**	PKiKP	PKiKP	08 00 34.6	-1.1
BVAR	**Borovoye Array**	**118.68**	**320**	PKP	PKPdf	08 00 44.4	-1.0
	1.1nm,0.4s,baz=185,slow=1.8,SNR=7.0						
BVAR	**Borovoye Array**	**118.68**	**320**	PKP	PKPdf	08 00 44.4	-1.0
ARCES	**ARCESS Array B**	**128.13**	**350**	PKP	PKPdf	08 01 02.8	-0.2
	4.0nm,0.8s,baz=56,slow=3.1,SNR=6.7						
ARCES	**ARCESS Array B**	**128.13**	**350**	PKP	PKPdf	08 01 02.8	-0.2
AKASG	**Malin Array Be**	**142.45**	**332**	PKhKP	PKPpre	08 01 25.3	
	0.8nm,0.4s,baz=40,slow=4.2,SNR=5.6						
AKASG	**Malin Array Be**	**142.45**	**332**	PKPpre	PKPpre	08 01 25.3	
BRTR	**Keskin Array B**	**146.56**	**314**	PKPbc	PKPbc	08 01 39.4	-0.7
	2.3nm,0.6s,baz=146,slow=5.3,SNR=7.0						
BRTR	**Keskin Array B**	**146.56**	**314**	PKPbc	PKPbc	08 01 39.4	-0.7
ASF	**Jabal al Asfar**	**146.74**	**299**	PKPbc	PKPbc	08 01 40.4	-0.5
	3.6nm,1.0s,baz=49,slow=3.0,SNR=2.8						
ASF	**Jabal al Asfar**	**146.74**	**299**	PKPbc	PKPbc	08 01 40.4	-0.5
CLL	**Collm**	**147.30**	**348**	↓*i*PKPbc	PKPbc	08 01 41.2	-0.5
	comp=Z,9.0nm,0.9s						
CLL				*i* PKPab	PKPab	08 01 43.8	-1.7
	comp=Z,5.0nm,0.8s						
MLR	**Muntele Rosu**	**147.71**	**328**	PKPbc	PKPbc	08 01 42.7	-0.2
	comp=Z,0.8nm,0.6s,baz=19,slow=8.8,SNR=4.6						
MLR	**Muntele Rosu**	**147.71**	**328**	PKPbc	PKPbc	08 01 42.7	-0.2
MMAI	**Mount Meron Ar**	**147.74**	**301**	PKPbc	PKPbc	08 01 43.7	+0.3
	comp=Z,3.4nm,0.5s,baz=67,slow=4.6,SNR=5.7						
MMAI	**Mount Meron Ar**	**147.74**	**301**	PKPbc	PKPbc	08 01 43.7	+0.3
KHC	**Kasperske Hory**	**149.23**	**346**	↑*e*PKP	PKPbc	08 01 46.0	-0.5
GERES	**GERESS Array B**	**149.47**	**345**	PKPbc	PKPbc	08 01 47.0	-0.1
CONA	**Conrad Observa**	**149.73**	**342**	↑*i*PKiKP	PKPbc	08 01 47.9	+0.1
	comp=Z,4.5nm,0.7s						
FETA	**Feichten**	**151.84**	**348**	↓*i*PKiKP	PKPbc	08 01 52.6	-0.1
	comp=Z,3.6nm,0.7s						
DAVOX	**Davos/Dischmat**	**152.23**	**349**	PKPbc	PKPbc	08 01 53.4	-0.1
	comp=Z,5.1nm,0.5s,baz=262,slow=5.4,SNR=6.6						
DAVOX	**Davos/Dischmat**	**152.23**	**349**	PKPbc	PKPbc	08 01 53.4	-0.1
TORD	**Torodi Ar. Bea**	**173.53**	**173**	PKP	PKPdf	08 02 06.2	-0.9
	comp=Z,1.0nm,0.9s,baz=194,slow=1.9,SNR=5.3						
TORD				PKPab	PKPab	08 03 41.5	+1.3
	comp=Z,0.5nm,0.9s,baz=184,slow=3.4,SNR=2.5						
TORD	**Torodi Ar. Bea**	**173.53**	**173**	PKP	PKPdf	08 02 06.2	-0.9
TORD				PKPab	PKPab	08 03 41.5	+1.3

IDC 24 07:49:38.0±7.9, 15°.46S×172°.86W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.6/20, mbtmp3.5/3, Error ellipse: s-maj=335.0km s-min=20.9km az=137.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.86**	**34**	Pn	Pn	07 50 09.9	-1.2
	7.2nm,0.3s,baz=51,slow=5.0,SNR=12						
AFI				Sn	Sn	07 50 35.4	0.0
	6.2nm,0.3s,baz=4.4,slow=7.1,SNR=7.0						
WRA	**Warramunga Arr**	**50.34**	**257**	P	P	07 58 36.6	-0.4
	0.2nm,0.5s,baz=90,slow=6.6,SNR=3.9						
ASAR	**Alice Springs**	**50.59**	**252**	P	P	07 58 38.3	-0.6
	1.0nm,0.8s,baz=87,slow=8.0,SNR=4.5						
ILAR	**Eielson Array**	**82.40**	**11**	P	P	08 02 02.9	+1.4
	0.6nm,1.1s,baz=202,slow=6.8,SNR=3.5						

MEX 24 07:53:56.3±0.9, 16°.85N×100°.17W, h6km±7km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAIG	**El Cayaco**	**0.22**	**335**	*i* P	Pg	07 54 00.2	-0.4
CAIG				*i* S	Sg	07 54 04.0	+0.4
MEIG	**Mezcala**	**1.19**	**26**	*i* P	Pg	07 54 15.3	-3.9
MEIG				*i* S	Sg	07 54 31.4	-3.3
ZIIG	**Zihuatanejo**	**1.45**	**302**	*i* P	Pn	07 54 19.9	-3.3
ZIIG				*i* S	Sb	07 54 37.6	-4.9
PNIG	**Pinotepa**	**2.01**	**103**	*i* P	Pn	07 54 28.5	-2.3
PNIG				*i* S	Sn	07 54 52.7	-3.6
UTMO	**Huajuapan**	**2.46**	**66**	*i* P	Pn	07 54 34.9	-2.1
UTMO				*i* S	Sn	07 55 04.1	-3.4
MZVM		**2.50**	**21**	*i* P	Pn	07 54 32.0	-5.5
MZVM				*i* S	Sn	07 55 03.6	-4.7
IIO	**Organos**	**3.06**	**26**	*e*P	Pn	07 54 40.7	-4.6
IIO				*i* S	Sn	07 55 20.6	-1.6

*SOF **24** 07:56:15.4, 41°.95N×23°.33E, h0km, MD2.7*

*CSEM **24** 07:56:16.1±0.1, 41°.92N×23°.21E, h2km, ML1.8, Error ellipse: s-maj=2.8km s-min=1.6km az=76.0*

*THE **24** 07:56:16.3, 41°.91N×23°.20E, h2km±2km, ML2.3/5, Error ellipse: s-maj=3.3km s-min=1.2km az=276.0*

*BEO **24** 07:56:18.0±0.8, 41°.97N×23°.21E, h0km, ML1.8/4*

ISC 24 07:56:16.4±0.4, 41°.92N±0°.02×23°.21E±0°.04, h1km±8km, n30, σ0°.56/49, 1C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKB	**Krupnik**	**0.11**	**240**	*i* P	**Pg**	**07 56 19.2**	**+0.8**
KKB	**Krupnik**	**0.11**	**240**	*i* P	**Pg**	**07 56 19.2**	**+0.8**
MMB	**Musomiste**	**0.51**	**130**	*i* P	**Pg**	**07 56 25.5**	**-0.6**
MMB	**Musomiste**	**0.51**	**130**	*i* P	**Pg**	**07 56 25.5**	**-0.6**
VTS	**Vitosha**	**0.67**	**0**	*e*Pg	**Pg**	**07 56 29.2**	**0.0**

comp=Z,214nm,20.7s,MS4.0,baz=135,slow=30
PPT Papeete 42.90 323 *e*S **S 08 23 46.2 -8.4**
136nm,26.8s
PPT *e*LQ 08 27 09.9
342nm,28.0s
PPT *e*LR LR 08 29 06.6
619nm,26.2s
PPT Papeete 42.90 323 LR LR 08 30 21.9
comp=Z,182nm,19.6s,MS4.0,baz=158,slow=29
CFAA Coronel Fontan 45.68 82 LR LR 08 32 06.7
comp=Z,16nm,20.2s,MS3.0,baz=232,slow=30
SNAA Sanae 46.18 158 P **P 08 17 54.6 -1.0**
0.8nm,0.9s,mb3.6,baz=247,slow=11,SNR=6.3
SNAA Sanae 46.18 158 P **P 08 17 54.6 -1.0**
TAOE Nuku Hiva Isla 48.69 339 *e*LR LR 08 31 45.3
421nm,26.8s
CPUP Villa Florida 55.82 87 LR LR 08 38 30.4
comp=Z,68nm,21.8s,MS3.7,baz=35,slow=31
MAW Mawson 56.55 183 LR LR 08 41 21.1
comp=Z,294nm,18.1s,MS4.4,baz=166,slow=34
NNA Nana 57.20 59 LR LR 08 39 31.5
comp=Z,68nm,18.7s,MS3.8,baz=40,slow=32
LPAZ La Paz 57.97 70 P **P 08 19 24.2 +0.2**
3.9nm,1.1s,mb4.4,baz=234,slow=5.6,SNR=7.6
LPAZ LR LR 08 38 35.8
comp=Z,50nm,18.0s,MS3.7,baz=356,slow=30
LPAZ La Paz 57.97 70 P **P 08 19 24.2 +0.2**
DZM Mont Dzumac 60.40 274 *e*S **S 08 27 57.4 +1.9**
52nm,24.7s
DZM *e*LR LR 08 37 35.5
178nm,26.2s
STKA Stephens Creek 66.34 248 LR LR 08 42 35.9
comp=Z,160nm,19.1s,MS4.2,baz=206,slow=30
JTS JuntasAbangare 73.75 41 LR LR 08 44 33.6
comp=Z,93nm,18.9s,MS4.1,baz=147,slow=28
ASAR Alice Springs 76.96 247 P **P 08 21 23.0 -1.1**
0.9nm,1.0s,mb3.6,baz=134,slow=6.6,SNR=5.5
ASAR Alice Springs 76.96 247 P **P 08 21 23.0 -1.1**
WRA Warramunga Arr 79.80 250 P **P 08 21 39.8 0.0**
2.2nm,1.0s,mb4.0,baz=144,slow=4.7,SNR=9.7
WRA Warramunga Arr 79.80 250 P **P 08 21 39.8 0.0**
WRAB Tennant Creek 79.80 250 *e*P **P 08 21 38.8 -1.0**
3.5nm,0.9s,mb4.3
TXAR Lajitas Array 86.85 18 P **P 08 22 16.0 +0.4**
0.2nm,0.9s,mb3.4,baz=183,slow=4.5,SNR=2.9
TXAR Lajitas Array 86.85 18 P **P 08 22 16.0 +0.4**
ILAR Eielson Array 121.72 349 PKP PKPdf 08 28 21.5 -2.3
0.2nm,0.8s,baz=151,slow=2.1,SNR=2.4
ILAR Eielson Array 121.72 349 PKP PKPdf 08 28 21.5 -2.3
SONM Songino Array 148.31 277 PKPab PKPab 08 29 16.6 -3.3
0.2nm,0.4s,baz=108,slow=4.7,SNR=2.6
SONM Songino Array 148.31 277 PKPab PKPab 08 29 16.6 -3.3

MEX 24 08:09:58.8±0.4, 16°.83N×100°.22W, h10km±7km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.22**	**347**	*i* P	Pg	08 10 03.2	-0.1
CAIG				*i* S	Sg	08 10 06.0	-0.3
MEIG	**Mezcala**	**1.23**	**28**	*i* P	Pn	08 10 18.3	-3.8
MEIG				*i* S	Sb	08 10 34.0	-4.0
PLIG	**Platanillo**	**1.69**	**24**	*i* P	Pn	08 10 25.7	-2.8
PLIG				*i* S	Sn	08 10 45.6	-4.6
PNIG	**Pinotepa**	**2.05**	**102**	*i* P	Pn	08 10 30.2	-3.1
PNIG				*i* S	Sn	08 10 55.2	-3.9
UTMO	**Huajuapan**	**2.51**	**66**	*i* P	Pn	08 10 36.5	-3.2
UTMO				*i* S	Sn	08 11 06.7	-3.7
MZVM		**2.52**	**22**	*i* P	Pn	08 10 36.3	-3.6
MZVM				*i* S	Sn	08 11 06.4	-4.4
SZVM	**Salazar**	**2.60**	**18**	*i* P	Pn	08 10 38.1	-2.8
SZVM				*i* S	Sn	08 11 09.3	-3.4
PTVM	**Pico Tres Padr**	**2.94**	**21**	*e*P	Pn	08 10 42.6	-3.0
PTVM				*i* S	Sn	08 11 17.4	-3.5
IIO	**Organos**	**3.09**	**27**	*i* P	Pn	08 10 45.5	-2.1
IIO				*i* S	Sn	08 11 21.2	-3.5
TPIG	**Tehuac#an**	**3.15**	**59**	*i* S	Sn	08 11 28.1	+2.0
VHO	**Vista Hermosa**	**3.34**	**85**	*i* P	Pn	08 10 48.7	-2.5
VHO				*i* S	Sn	08 11 27.4	-3.5

*ISCJB **24** 08:22:10.7±0.9, 18°.02N±0°.07×103°.07W±0°.05, h32km±6km, mb4.1/9, Error ellipse: s-maj=13.0km s-min=5.0km az=27.2*
*MEX **24** 08:22:12.0±0.9, 18°.00N×103°.08W, h10km±23km, MD4.5*
*NEIC **24** 08:22:17.7±1.9, 18°.12N×102°.43W, h100km±16km, mb4.2/7, MD4.5(MEX), Error ellipse: s-maj=21.4km s-min=11.9km az=218.0*
*IDC **24** 08:22:18.4±4.3, 18°.31N×102°.33W, h95km±35km, mb3.6/5, mb1 3.9/7, mb1mx3.6/24, mbtmp3.5/7, MS3.3/3, Ms1 3.3/3, ms1mx2.8/35, Error ellipse: s-maj=47.1km s-min=26.7km az=44.0*

ISC 24 08:22:11.2±1.1, 18°.00N±0°.07×103°.06W±0°.05, h22km±8km, n35, σ1s37/40, mb4.1/9, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.39**	**316**	*i* P	**Pb**	**08 22 18.5**	**-1.0**
MMIG				*e*S	**Sb**	**08 22 25.4**	**+0.2**
ZIIG	**Zihuatanejo**	**1.57**	**104**	*i* P	**Pn**	**08 22 35.0**	**-2.7**
ZIIG				*i* S	**Sn**	**08 22 55.2**	**-2.2**
MOIG	**Morelia**	**2.43**	**47**	*i* P	**Pn**	**08 22 48.4**	**-1.2**
MOIG				*i* S	**Sn**	**08 23 17.9**	**-0.8**
CAIG	**El Cayaco**	**2.83**	**109**	*i* P	**Pn**	**08 22 55.8**	**+0.8**
CAIG				*e*S	**Sn**	**08 23 29.2**	**+0.7**
MEIG	**Mezcala**	**3.28**	**91**	*i* P	**Pn**	**08 23 01.4**	**+0.2**
MEIG				*e*S	**Sn**	**08 23 40.5**	**+1.0**
ANIG	**Ahuacatlan**	**3.33**	**336**	*i* P	**Pn**	**08 23 01.4**	**-0.5**
ANIG				*e*S	**Sn**	**08 23 39.0**	**-1.9**
PLIG	**Platanillo**	**3.41**	**83**	*i* P	**Pn**	**08 23 04.3**	**+1.4**
PLIG				*i* S	**Sn**	**08 23 41.9**	**-0.8**
UNM	**Universidad Na**	**3.91**	**70**	*i* P	**Pn**	**08 23 11.1**	**+1.2**
UNM				*e*S	**Sn**	**08 23 56.8**	**+1.6**
CMIG	**Matias Romero**	**7.85**	**95**	P	**Pn**	**08 24 01.1**	**-3.0**
	0.5nm,0.3s,baz=271,slow=8.8,SNR=26						
CMIG				LR	LR	08 27 23.8	
	comp=Z,367nm,18.7s,baz=86,slow=42						
CMIG	**Matias Romero**	**7.85**	**95**	P	**Pn**	**08 24 01.1**	**-3.0**
TXAR	**Lajitas Array**	**11.29**	**357**	P	**Pn**	**08 24 53.9**	**+2.7**
	0.1nm,0.3s,baz=176,slow=16,SNR=21						
TXAR				LR	LR	08 29 58.0	
	comp=Z,142nm,20.5s,baz=185,slow=42						
TXAR	**Lajitas Array**	**11.29**	**357**	P	**Pn**	**08 24 53.9**	**+2.7**
JCT	**Junction City**	**12.77**	**13**	*e*Pn	**Pn**	**08 25 13.8**	**+2.3**
ANMO	**Albuquerque**	**17.15**	**350**	LR	LR	08 34 20.9	
	comp=Z,79nm,18.0s,baz=159,slow=43						
WUAZ	**Wupatki**	**18.94**	**339**	*e*P	**Pn**	**08 26 32.5**	**+1.1**
	9.1nm,1.4s						
MVCO	**Mesa Verde**	**19.72**	**347**	*e*P	**Pn**	**08 26 41.5**	**+0.7**
	5.7nm,0.8s						
OXF	**Oxford**	**20.46**	**34**	*e*P	**P**	**08 26 43.0**	**-4.3**
	11nm,0.8s						
PV01	**Paradox Valley**	**20.63**	**348**	*e*P	**P**	**08 26 49.5**	**+0.5**
KSU1	**Kansas State U**	**21.76**	**14**	*e*P	**P**	**08 26 58.3**	**-2.9**
	9.3nm,0.7s,mb4.3						
ISA	**Isabella**	**22.27**	**325**	*e*P	**P**	**08 27 08.2**	**+1.5**
	6.3nm,0.9s,mb4.0						
NVAR	**Mina Array Bea**	**24.32**	**330**	P	**P**	**08 27 28.4**	**+1.2**
	2.5nm,0.8s,mb3.7,baz=154,slow=9.8,SNR=16						
NVAR	**Mina Array Bea**	**24.32**	**330**	P	**P**	**08 27 28.4**	**+1.2**
TKL	**Tuckaleechee C**	**24.53**	**40**	P	**P**	**08 27 23.5**	**-5.6**
	2.3nm,0.7s,mb3.8,baz=270,slow=20,SNR=7.1						
TKL	**Tuckaleechee C**	**24.53**	**40**	P	**P**	**08 27 23.5**	**-5.6**
WCI	**Wyandotte Cave**	**24.92**	**33**	*e*P	**P**	**08 27 27.7**	**-4.9**
	21nm,1.0s,mb4.6						
PDAR	**Pinedale Array**	**25.29**	**349**	P	**P**	**08 27 34.1**	**-1.9**
	0.3nm,0.5s,mb3.1,baz=169,slow=12,SNR=5.6						
PDAR	**Pinedale Array**	**25.29**	**349**	P	**P**	**08 27 34.1**	**-1.9**
LRM	**Limekiln Ridge**	**28.82**	**346**	*e*P	**P**	**08 28 07.0**	**-0.6**
HOOD	**Mount Hood Mea**	**31.34**	**334**	*e*P	**P**	**08 28 30.8**	**+0.8**
	14nm,0.8s,mb4.8						
ULM	**Lac du Bonnet**	**32.68**	**9**	P	**P**	**08 28 36.7**	**-4.9**
	2.2nm,0.7s,mb4.2,baz=192,slow=9.2,SNR=3.5						
ULM	**Lac du Bonnet**	**32.68**	**9**	P	**P**	**08 28 36.7**	**-4.9**
ILAR	**Eielson Array**	**55.12**	**339**	P	**P**	**08 31 40.8**	**-0.6**
	3.1nm,0.9s,mb4.3,baz=149,slow=5.7,SNR=29						
ILAR				PcP	PcP	08 32 41.3	-1.2
	0.5nm,0.6s,baz=156,slow=2.9,SNR=7.4						
ILAR	**Eielson Array**	**55.12**	**339**	P	**P**	**08 31 40.8**	**-0.6**
ILAR				PcP	PcP	08 32 41.3	-1.2
WRA	**Warramunga Arr**	**125.91**	**258**	PKP	PKPdf	08 41 10.3	-1.9
	0.5nm,0.9s,baz=80,slow=2.6,SNR=3.7						
WRA	**Warramunga Arr**	**125.91**	**258**	PKP	PKPdf	08 41 10.3	-1.9

*ISCJB **24** 08:33:40.7±0.5, 17°.76N±0°.05×103°.00W±0°.03, h10km, mb4.5/24, Error ellipse: s-maj=6.9km s-min=3.5km az=18.0*
*BJI **24** 08:33:44.7, 17°.70N×102°.60W, h35km*
*MEX **24** 08:33:45.1±0.3, 17°.88N×103°.09W, h6km±8km, MD4.6*
*NEIC **24** 08:33:46.3±1.1, 17°.94N×102°.60W, h35km, mb4.5/32, MD4.6(MEX), Error ellipse: s-maj=18.4km s-min=9.3km az=194.0*

ISC 24 08:33:42.7±0.5, 17°.78N±0°.04×103°.00W±0°.03, h10km, n282, σ1s09/282, mb4.5/24, 118C-112D, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.61**	**327**	*i* P	**Pg**	**08 33 53.8**	**-0.7**
MMIG				*e*S	**Sg**	**08 34 01.3**	**-1.2**
ZIIG	**Zihuatanejo**	**1.47**	**96**	*i* P	**Pn**	**08 34 09.9**	**+0.6**
ZIIG				*e*S	**Sn**	**08 34 29.4**	**+0.8**
MOIG	**Morelia**	**2.55**	**42**	*e*P	**Pn**	**08 34 24.4**	**+0.1**
MOIG				*i* S	**Sn**	**08 34 54.2**	**-1.1**
CAIG	**El Cayaco**	**2.71**	**105**	*i* P	**Pn**	**08 34 27.4**	**+1.1**
CAIG				*e*S	**Sn**	**08 35 00.8**	**+1.7**
MEIG	**Mezcala**	**3.22**	**87**	*i* P	**Pn**	**08 34 35.7**	**+2.3**
MEIG				*e*S	**Sn**	**08 35 14.1**	**+2.3**
PLIG	**Platanillo**	**3.38**	**79**	*i* P	**Pn**	**08 34 36.1**	**+0.5**
PLIG				*e*S	**Sn**	**08 35 17.2**	**+1.4**
ANIG	**Ahuacatlan**	**3.56**	**336**	*i* P	**Pn**	**08 34 36.9**	**-1.2**
ANIG				*e*S	**Sn**	**08 35 16.4**	**-3.9**
UNM	**Universidad Na**	**3.94**	**66**	*i* P	**Pn**	**08 34 44.2**	**+0.9**
UNM				*e*S	**Sn**	**08 35 29.8**	**+0.2**
627A	**Terlingua Ranc**	**11.63**	**358**	⇑P	**Pn**	**08 36 29.2**	**+0.4**
	baz=12,SNR=5.9						
628A	**Black Gap, Mar**	**11.66**	**0**	⇓P	**Pn**	**08 36 28.3**	**-0.9**
	baz=14						
626A	**Big Bend Ranch**	**11.77**	**355**	⇓P	**Pn**	**08 36 31.6**	**+0.9**
	baz=12,SNR=8.1						
526A	**Mary Lane Ranc**	**12.27**	**356**	⇓P	**Pn**	**08 36 38.0**	**+0.5**
	baz=12,SNR=6.8						
527A	**Woodward Ranch**	**12.33**	**358**	⇓P	**Pn**	**08 36 39.9**	**+1.5**
	baz=12						
426A	**McDonald Obser**	**12.87**	**356**	⇓P	**Pn**	**08 36 45.7**	**-0.1**
	baz=13						
428A	**Kincaid Ranch,**	**12.89**	**1**	⇓P	**Pn**	**08 36 46.7**	**+0.6**
	baz=13						
JCT	**Junction City**	**12.98**	**12**	⇑P	**Pn**	**08 36 46.7**	**-0.5**
	baz=13						
JCT	**Junction City**	**12.98**	**12**	*e*Pn	**Pn**	**08 36 45.8**	**-1.4**
427A	**Hayter Ranch,**	**13.02**	**358**	⇓P	**Pn**	**08 36 47.4**	**-0.4**
	baz=13						
425A	**Indio Mountain**	**13.08**	**352**	⇓P	**Pn**	**08 36 48.3**	**-0.4**
	baz=13						
326A	**Caldwell Ranch**	**13.51**	**356**	⇓P	**Pn**	**08 36 55.3**	**+0.8**
	baz=14						
325A	**Bean Ranch, Si**	**13.65**	**353**	⇑P	**Pn**	**08 36 56.9**	**+0.4**
	baz=14						
324A	**Moseley Ranch,**	**13.79**	**351**	⇓P	**Pn**	**08 36 60.0**	**+1.6**
	baz=14						
MNTX	**Cornudas Mount**	**14.03**	**352**	⇑P	**Pn**	**08 37 02.5**	**+0.9**
	baz=14						
226A	**Malaga, Loving**	**14.26**	**356**	⇓P	**Pn**	**08 37 06.6**	**+1.9**
	baz=14						
225A	**Deer Hill, Car**	**14.37**	**354**	⇑P	**Pn**	**08 37 08.3**	**+2.1**
	baz=14						
320A	**Kipp Ranch, An**	**14.40**	**341**	⇑P	**Pn**	**08 37 08.5**	**+1.8**
	baz=15						
224A	**Cornudas Mount**	**14.42**	**351**	⇓P	**Pn**	**08 37 07.2**	**+0.2**
	baz=15,SNR=6.8						
319A	**Douglas**	**14.69**	**338**	⇓P	**Pn**	**08 37 12.2**	**+1.5**
	baz=15,SNR=5.5						
222A	**Williams Famil**	**14.74**	**346**	⇓P	**Pn**	**08 37 11.9**	**+0.6**
	baz=15						
221A	**Mesquite Ranch**	**14.81**	**344**	⇓P	**Pn**	**08 37 14.5**	**+2.1**
	baz=15						
126A	**Clayton Basin,**	**14.83**	**357**	⇓P	**Pn**	**08 37 13.7**	**+1.1**
	baz=15						
127A	**Arkansas Junct**	**14.84**	**359**	⇑P	**Pn**	**08 37 12.5**	**-0.1**
	baz=15						
125A	**Gardner Draw,**	**14.89**	**355**	⇑P	**Pn**	**08 37 14.7**	**+1.3**
	baz=15						
220A	**Playas Peak, P**	**14.93**	**341**	⇓P	**Pn**	**08 37 14.2**	**+0.3**
	baz=15,SNR=9.3						
124A	**Stringfield Ra**	**15.02**	**352**	⇓P	**Pn**	**08 37 15.5**	**+0.4**
	baz=15						
219A	**White Tail Can**	**15.25**	**339**	⇑P	**Pn**	**08 37 18.4**	**+0.2**
	baz=16,SNR=5.8						
121A	**Cookes Peak, D**	**15.31**	**345**	⇓P	**Pn**	**08 37 18.5**	**-0.5**
	baz=16,SNR=7.5						
Z26A	**Caprock**	**15.46**	**357**	⇓P	**Pn**	**08 37 19.7**	**-1.1**
	baz=16						
Z27A	**Tatum**	**15.47**	**359**	⇓P	**Pn**	**08 37 20.8**	**-0.3**
	baz=16,SNR=9.3						
218A	**Dragoon**	**15.51**	**337**	⇓P	**Pn**	**08 37 22.9**	**+1.4**
	baz=16						
Z25A	**Roswell**	**15.52**	**355**	⇓P	**Pn**	**08 37 21.0**	**-0.6**
	baz=16						
120A	**U Bar Ranch, L**	**15.56**	**342**	⇑P	**Pn**	**08 37 24.3**	**+2.1**
	baz=16						
TGUH	**Tegucigalpa,Un**	**15.57**	**101**	*e*P	**Pn**	**08 37 20.1**	**-2.4**
217A	**Green Valley**	**15.63**	**335**	⇓P	**Pn**	**08 37 23.6**	**+0.5**
	baz=16						
Z23A	**Rita Site, Whi**	**15.69**	**350**	⇓P	**Pn**	**08 37 25.8**	**+1.8**
	baz=16						
Z22A	**Elephant Butte**	**15.82**	**348**	⇓P	**Pn**	**08 37 25.9**	**+0.3**
	baz=16						
119A	**Ashpeak Ranch,**	**15.97**	**340**	⇑P	**Pn**	**08 37 28.7**	**+1.1**
	baz=16						
Z21A	**St. Cloud Mine**	**16.03**	**346**	⇓P	**Pn**	**08 37 29.4**	**+1.1**
	baz=16						
Y27A	**Causey**	**16.04**	**360**	⇑P	**Pn**	**08 37 28.1**	**-0.4**
	baz=16,SNR=8.5						
Z20A	**Nine Sixteen R**	**16.08**	**343**	⇓P	**Pn**	**08 37 28.8**	**-0.1**
	baz=16						
TUC	**Tucson**	**16.09**	**336**	*e*Pn	**Pn**	**08 37 28.5**	**-0.6**
	45nm,2.4s						
Y26A	**Elida**	**16.10**	**358**	⇑P	**Pn**	**08 37 30.4**	**+1.2**
	baz=16						
216A	**Three Points,**	**16.10**	**333**	⇓P	**Pn**	**08 37 30.7**	**+1.5**
	baz=16						
MSTX	**Muleshoe**	**16.13**	**1**	⇑P	**Pn**	**08 37 29.4**	**-0.1**
	baz=16,SNR=5.7						
Y25A	**Mesa, Roswell**	**16.15**	**355**	⇓P	**Pn**	**08 37 30.2**	**+0.3**
	baz=16						
Y24A	**Capitan**	**16.23**	**353**	⇓P	**Pn**	**08 37 30.7**	**-0.2**
	baz=16						
117A	**Oracle**	**16.30**	**336**	⇑P	**Pn**	**08 37 32.5**	**+0.6**
	baz=16,SNR=5.8						
Y23A	**Lovelace Mesa,**	**16.32**	**351**	⇑P	**Pn**	**08 37 30.9**	**-1.1**
	baz=16,SNR=7.1						
Y22A	**Socorro**	**16.48**	**348**	⇑P	**Pn**	**08 37 34.9**	**+0.8**
	baz=17						
214A	**Organ Pipe Nat**	**16.68**	**330**	⇑P	**Pn**	**08 37 37.9**	**+1.3**
	baz=17						
116A	**Eloy**	**16.68**	**334**	⇑P	**Pn**	**08 37 38.5**	**+1.8**
	baz=17						
Y21A	**Point of Rocks**	**16.70**	**346**	⇓P	**Pn**	**08 37 37.8**	**+0.9**
	baz=17						
X26A	**CR and CF Fran**	**16.72**	**358**	⇓P	**Pn**	**08 37 37.2**	**+0.1**
	baz=17						
X25A	**Clemmons Ranch**	**16.75**	**355**	⇑P	**Pn**	**08 37 37.7**	**+0.3**
	baz=17						
Y20A	**Horse Springs,**	**16.77**	**344**	⇑P	**Pn**	**08 37 39.2**	**+1.4**
	baz=17						
X27A	**F and S Farms,**	**16.80**	**360**	⇓P	**Pn**	**08 37 37.7**	**-0.5**
	baz=17						
Z17A	**San Carlos Hig**	**16.85**	**338**	⇑P	**Pn**	**08 37 40.6**	**+1.8**
	baz=17						
Y19A	**Nutrioso**	**17.06**	**342**	⇑P	**Pn**	**08 37 42.3**	**+0.9**
	baz=17,SNR=14						
AMTX	**Amarillo**	**17.08**	**4**	⇑P	**Pn**	**08 37 42.2**	**+0.6**
	baz=17						
Y18A	**Canyon Day Jun**	**17.14**	**340**	⇓P	**Pn**	**08 37 44.1**	**+1.7**
	baz=17						
W27A	**Bowe Ranch, En**	**17.22**	**360**	⇓P	**Pn**	**08 37 43.6**	**+0.2**
	baz=17						
W26A	**Owens Ranch, T**	**17.26**	**358**	⇓P	**Pn**	**08 37 44.9**	**+1.1**
	baz=17						
Y17A	**Roosevelt**	**17.34**	**338**	⇓P	**Pn**	**08 37 45.4**	**+0.4**
	baz=18						
114A	**Black Gap (USA**	**17.37**	**331**	⇑P	**Pn**	**08 37 47.5**	**+2.2**
	baz=18						
ANMO	**Albuquerque**	**17.38**	**350**	*e*Pn	**Pn**	**08 37 44.7**	**-0.7**
	78nm,2.8s						
X20A	**Quemado**	**17.40**	**345**	⇑P	**Pn**	**08 37 46.7**	**+1.0**
	baz=18						
W25A	**X Bar L Ranch,**	**17.42**	**356**	⇓P	**Pn**	**08 37 42.9**	**-3.0**
	baz=18						
W24A	**Lazy 6 Ranch,**	**17.50**	**353**	⇓P	**Pn**	**08 37 47.5**	**+0.7**
	baz=18,SNR=10						
X19A	**St. Johns**	**17.51**	**342**	⇑P	**Pn**	**08 37 48.2**	**+1.1**
	baz=18						
W23A	**Werner Place,**	**17.54**	**351**	⇓P	**Pn**	**08 37 48.3**	**+0.9**
	baz=18						
Y16A	**Circle Bar Ran**	**17.75**	**336**	⇓P	**Pn**	**08 37 49.4**	**-0.6**
	baz=18						
W21A	**San Fidel**	**17.76**	**347**	⇑P	**Pn**	**08 37 50.9**	**+0.8**
	baz=18						
X18A	**Snowflake**	**17.80**	**341**	⇑P	**Pn**	**08 37 50.8**	**+0.2**
	baz=18						
113A	**Mohawk Valley,**	**17.80**	**329**	⇑P	**Pn**	**08 37 50.8**	**+0.2**
	baz=18						
X17A	**Forest Lakes**	**17.91**	**339**	⇑P	**Pn**	**08 37 51.9**	**0.0**
	baz=18,SNR=5.9						
Z14A	**Wintersburg**	**17.91**	**332**	⇓P	**Pn**	**08 37 53.4**	**+1.4**
	baz=18						
W20A	**Ramah**	**17.96**	**345**	⇑P	**Pn**	**08 37 52.1**	**-0.5**
	baz=18						
V26A	**Tequesquite Ra**	**17.96**	**358**	⇓P	**Pn**	**08 37 50.8**	**-1.8**
	baz=18						
V24A	**Rampart Ranch,**	**17.99**	**354**	⇑P	**Pn**	**08 37 52.2**	**-0.8**
	baz=18,SNR=9.9						
V25A	**Rancho No Teng**	**18.05**	**356**	⇑P	**Pn**	**08 37 53.1**	**-0.5**
	baz=18						
Z13A	**Yuma Proving G**	**18.10**	**330**	⇑P	**Pn**	**08 37 56.7**	**+2.3**
	baz=18						
V23A	**Ortiz Mt. (NFS**	**18.12**	**352**	⇑P	**Pn**	**08 37 54.9**	**+0.4**
	baz=18,SNR=5.8						
Y15A	**Casa Rosa Ranc**	**18.15**	**334**	⇓P	**Pn**	**08 37 56.6**	**+1.7**
	baz=18						
W19A	**Sanders**	**18.18**	**343**	⇓P	**Pn**	**08 37 55.8**	**+0.5**
	baz=18						
X16A	**Lo Mia Camp, P**	**18.21**	**337**	⇓P	**Pn**	**08 37 55.7**	**+0.1**
	baz=18						
V22A	**San Miguel Ran**	**18.39**	**350**	⇓P	**Pn**	**08 37 58.1**	**+0.1**
	baz=19,SNR=6.0						
Y14A	**Wickenburg**	**18.42**	**333**	⇓P	**Pn**	**08 37 59.3**	**+1.1**
	baz=19						
V21A	**Milan**	**18.42**	**348**	⇑P	**Pn**	**08 37 58.5**	**+0.2**
	baz=19						
U25A	**Circle Dot Ran**	**18.59**	**356**	⇑P	**Pn**	**08 38 01.2**	**+0.9**
	baz=19						
V20A	**Brimhall**	**18.59**	**346**	⇑P	**Pn**	**08 38 01.6**	**+1.2**
	baz=19						
U24A	**Moreno Valley**	**18.67**	**354**	⇑P	**Pn**	**08 38 02.2**	**+0.9**
	baz=19						
U23A	**El Rito**	**18.69**	**352**	⇓P	**Pn**	**08 38 01.2**	**-0.3**
	baz=19,SNR=7.2						
V18A	**Ganado**	**18.89**	**342**	⇓P	**Pn**	**08 38 03.7**	**-0.3**
	baz=19,SNR=6.9						
Y12C	**Blythe**	**18.97**	**329**	⇑P	**Pn**	**08 38 04.1**	**-0.8**
	baz=19						
SWSC	**Sam W. Stewart**	**18.99**	**325**	⇓P	**Pn**	**08 38 05.6**	**+0.4**
	baz=19						
U21A	**Nageezi**	**19.03**	**348**	⇓P	**Pn**	**08 38 05.8**	**+0.2**
	baz=19,SNR=16						
V17A	**Tonalea, Kykot**	**19.07**	**340**	⇓P	**Pn**	**08 38 06.8**	**+0.6**
	baz=19						
TUL1	**Tulsa**	**19.16**	**18**	⇓P	**Pn**	**08 38 01.9**	**-5.3**
	baz=19						
WUAZ	**Wupatki**	**19.17**	**339**	⇓P	**Pn**	**08 38 07.6**	**+0.3**
	baz=19,SNR=6.4						
PDMCI	**Parker Dam,Lak**	**19.23**	**331**	⇑P	**Pn**	**08 38 07.0**	**-1.1**
	baz=20						
U19A	**Dine' College,**	**19.24**	**345**	⇓P	**Pn**	**08 38 07.7**	**-0.5**
	baz=19						
BAR	**Barrett**	**19.29**	**323**	*e*P	**Pn**	**08 38 08.9**	**+0.1**
	12nm,1.4s						
MONP	**Monument Peak**	**19.30**	**324**	⇓P	**Pn**	**08 38 09.4**	**+0.5**
	baz=20						
T24A	**Torres, Weston**	**19.31**	**355**	⇑P	**Pn**	**08 38 08.1**	**-0.9**
	baz=19						
T25A	**Trinidad**	**19.33**	**357**	⇑P	**Pn**	**08 38 08.2**	**-1.0**
	baz=20						
BC3	**Big Chuckawall**	**19.36**	**327**	⇑P	**Pn**	**08 38 09.9**	**+0.3**
	baz=20						
T23A	**Casias Ranch,**	**19.37**	**353**	⇓P	**Pn**	**08 38 08.6**	**-1.1**
	baz=20						
UALR	**University of**	**19.41**	**27**	*e*Pn	**Pn**	**08 38 09.3**	**-0.9**
	15nm,1.1s						
T22A	**Edith**	**19.47**	**351**	⇑P	**Pn**	**08 38 09.5**	**-1.5**
	baz=20						
U18A	**Rough Rock, Ch**	**19.54**	**343**	⇑P	**Pn**	**08 38 12.1**	**+0.3**
	baz=20						
T21A	**Navajo Lake**	**19.55**	**349**	⇓P	**Pn**	**08 38 10.8**	**-1.1**
	baz=20						
IRM	**Iron Mountain**	**19.61**	**329**	⇓P	**Pn**	**08 38 12.4**	**-0.1**
	baz=20						
U16A	**Tuba City**	**19.66**	**340**	⇓P	**Pn**	**08 38 11.8**	**-1.4**
	baz=20						
T19A	**Beclabito**	**19.71**	**346**	⇑P	**Pn**	**08 38 12.1**	**-1.7**
	baz=20,SNR=5.5						
S25A	**Robets Cordova**	**19.85**	**357**	⇑P	**Pn**	**08 38 13.5**	**-1.9**
	baz=20						
PFO	**Pinyon Flat Ob**	**19.86**	**325**	⇓P	**Pn**	**08 38 14.7**	**-0.8**
	baz=20						
S24A	**Houchin Ranch,**	**19.88**	**355**	⇑P	**Pn**

GSC	Goldstone 12nm,1.0s,mb4.2	21.34	328	*e*P	P	08 38 31.1	+1.1
R18A	Canyonlands Na baz=22,SNR=6.5	21.40	345	⇓P	P	08 38 29.0	-1.7
SHOC	Shoshone baz=22	21.55	329	⇑P	P	08 38 32.4	+0.1
Q20A	Ridgley Place, baz=22	21.60	349	⇓P	P	08 38 31.6	-1.2
SMCO	Snowmass 9.3nm,1.2s,mb4.1	21.60	352	*e*P	P	08 38 33.9	+1.1
R17A	Hanksville Air baz=22,SNR=7.5	21.64	343	⇑P	P	08 38 32.4	-0.9
EDW2	Edwards Air Fo baz=22,SNR=8.3	21.65	325	⇓P	P	08 38 32.6	-0.7
P23A	Jefferson baz=22	21.66	354	⇑P	P	08 38 35.0	+1.6
PLAL	Pickwick Lake 19nm,1.0s,mb4.5	21.69	35	*e*P	P	08 38 29.5	-4.3
CCUT	Cedar City 5.1nm,1.1s,mb3.9	21.70	337	*e*P	P	08 38 37.0	+3.1
BLG	Laguna Peak baz=22	21.70	322	⇓P	P	08 38 34.7	+0.7
R16A	Teasdale baz=22	21.74	342	⇑P	P	08 38 34.2	-0.1
R15A	Junction baz=22,SNR=6.2	21.92	340	⇓P	P	08 38 35.8	-0.4
LRMC	Laurel Mountai baz=22	21.93	326	⇑P	P	08 38 37.0	+0.6
ARUT	Antelope Range 22nm,1.0s,mb4.5	21.94	337	*e*P	P	08 38 38.2	+1.7
KSU1	Kansas State U 29nm,1.1s,mb4.6	21.96	13	*e*P	P	08 38 35.2	-1.5
P22A	Eagle baz=22	21.98	352	⇓P	P	08 38 35.8	-1.1
P21A	Newcastle baz=22	22.01	351	⇑P	P	08 38 38.3	+1.1
ISCO	Idaho Springs baz=22	22.06	355	⇑P	P	08 38 36.5	-1.2
Q18A	Rafter H Ranch baz=22	22.14	345	⇑P	P	08 38 37.6	-1.0
MSU	Marysvale	22.16	341	*e*P	P	08 38 39.7	+0.9
Q16A	Castle Valley baz=22,SNR=5.2	22.24	343	⇓P	P	08 38 39.1	-0.5
MPMC	Manual Prospec baz=23,SNR=10	22.28	328	⇓P	P	08 38 39.5	-0.6
O25A	Wiggins baz=22	22.28	358	⇓P	P	08 38 38.6	-1.5
ARVC	Arvin baz=23	22.30	324	⇓P	P	08 38 39.2	-1.1
P19A	Cripple Cowboy baz=23	22.39	348	⇓P	P	08 38 38.3	-2.9
R13A	O'Grain Ranch, baz=23,SNR=6.9	22.48	337	⇑P	P	08 38 43.7	+1.5
ISA	Isabella baz=23,SNR=16	22.49	325	⇑P	P	08 38 43.0	+0.6
ISA	Isabella 18nm,1.1s,mb4.4	22.49	325	*e*P	P	08 38 43.5	+1.1
O22A	Kremmling baz=23	22.52	353	⇑P	P	08 38 40.7	-1.8
TMUT	Trail Mountain 95nm,2.5s,mb4.8	22.60	343	*e*P	P	08 38 43.6	+0.1
P17A	Butcher Ranch, baz=23	22.64	344	⇑P	P	08 38 42.6	-1.3
O19A	Miners Draw (B baz=23	23.06	348	⇓P	P	08 38 47.5	-0.9
SMMC	Simmler baz=23	23.09	322	⇓P	P	08 38 49.7	+1.0
O18A	Roosevelt baz=23	23.21	346	⇑P	P	08 38 49.2	-0.8
SIUC	Southern Illin 74nm,1.8s,mb4.8	23.25	29	*e*P	P	08 38 47.4	-3.0
R11A	Troy Canyon, C baz=24,SNR=7.2	23.27	334	⇓P	P	08 38 51.2	+0.7
O17A	Robinson Place baz=24	23.32	345	⇑P	P	08 38 51.3	+0.2
RCTC	Rector, Farmer baz=24	23.39	325	⇑P	P	08 38 52.7	+0.8
N20A	Spence Gulch, baz=24	23.42	350	⇓P	P	08 38 51.6	-0.6
O16A	Springville baz=24	23.53	344	⇑P	P	08 38 52.2	-1.1
DUG	Dugway baz=24	23.90	341	⇓P	P	08 38 55.7	-1.0
DUG	Dugway 55nm,2.5s,mb4.5	23.90	341	*e*P	P	08 38 56.6	-0.1
BGNE	Belgrade baz=24	23.92	9	⇓P	P	08 38 54.6	-2.2
M17A	Scullys Gap (B baz=25	24.52	346	⇓P	P	08 39 01.8	-0.5
OLIL	Olney 21nm,1.0s,mb4.6	24.59	29	*e*P	P	08 38 59.2	-3.9
K26A	Motz Farm, Whi baz=25	24.84	360	⇓P	P	08 39 05.0	-0.2
K27A	Flueckinger Fa baz=25	24.85	1	⇑P	P	08 39 04.0	-1.4
M15A	Larsen Ranch, baz=25	24.96	343	⇑P	P	08 39 06.0	-0.4
K22A	Casper baz=25	24.97	354	⇑P	P	08 39 05.2	-1.3
K23A	Bowen Ranch, D baz=25	25.00	355	⇓P	P	08 39 06.0	-0.7
K21A	Alcova baz=25	25.04	353	⇓P	P	08 39 06.2	-0.9
WCI	Wyandotte Cave 22nm,1.0s,mb4.6	25.07	32	*e*P	P	08 39 03.9	-3.5
L16A	Fish Haven baz=25	25.21	345	⇑P	P	08 39 08.5	-0.1
K20A	Yellowstone Ra baz=25	25.21	351	⇑P	P	08 39 07.2	-1.5
CMB	Columbia Colle 101nm,3.0s	25.28	326	*e*P	P	08 39 09.6	+0.3
L15A	Malad City baz=26,SNR=5.8	25.45	344	⇓P	P	08 39 10.0	-0.8
BW06	Boulder Array baz=26	25.53	349	⇑P	P	08 39 10.5	-1.0
HDIL	Hopedale 33nm,1.0s,mb4.8	25.59	25	*e*P	P	08 39 07.9	-4.2
BMN	Battle Mountai 13nm,1.0s,mb4.4	25.70	334	*e*P	P	08 39 13.6	+0.5
L14A	Malta baz=26	25.71	342	⇑P	P	08 39 14.6	+1.4
J21A	Lysite baz=26	25.77	353	⇑P	P	08 39 12.1	-1.6
KMSC	Kings Mountain baz=26	25.89	44	⇑P	P	08 39 11.1	-3.7
WCN	Washoe City baz=26,SNR=7.5	25.93	329	⇓P	P	08 39 15.3	+0.1
WCN	Washoe City 15nm,1.2s,mb4.4	25.93	329	*e*P	P	08 39 16.6	+1.4
J18A	Kendall Valley baz=26	26.04	348	⇑P	P	08 39 15.5	-0.6
K15A	Arbon baz=26	26.12	344	⇓P	P	08 39 15.7	-1.1
K14A	Jones Ranch, D baz=26	26.17	343	⇑P	P	08 39 16.9	-0.4
I21A	Big Trails, Te baz=26	26.21	353	⇑P	P	08 39 17.1	-0.5
J17A	Brown Place, J baz=26	26.33	347	⇓P	P	08 39 16.8	-2.0
SFIN	Scholer Farm baz=26	26.38	28	⇑P	P	08 39 16.6	-2.6
I20A	Worland baz=27,SNR=5.8	26.45	352	⇑P	P	08 39 18.3	-1.5
J15A	Blackfoot baz=27	26.76	345	⇑P	P	08 39 22.2	-0.5
I17A	Pilgrim Ck. baz=27	26.84	348	⇑P	P	08 39 24.1	+0.8
J14A	Carey baz=27	26.98	343	⇑P	P	08 39 24.6	0.0
I13A	Wildhorse Cree baz=28	27.70	343	⇑P	P	08 39 30.6	-0.4
MFID	Camas Ranch baz=28	27.77	340	⇑P	P	08 39 31.4	-0.3
I12A	Atlanta baz=28	27.89	341	⇓P	P	08 39 32.8	0.0
WVOR	Wild Horse Val 8.3nm,1.0s,mb4.3	27.96	335	*e*P	P	08 39 33.4	0.0
MOD	Modoc 14nm,1.0s,mb4.5	28.23	332	*e*P	P	08 39 36.5	+0.7
F18A	Big Timber baz=29	28.60	350	⇑P	P	08 39 38.3	-0.8
J08A	Circle Bar Ran baz=29,SNR=14	28.67	336	⇑P	P	08 39 39.6	-0.1
F17A	Fitzpatrick Pl baz=29	28.76	349	⇑P	P	08 39 40.5	0.0
F16A	Kennard Place, baz=29	28.84	347	⇑P	P	08 39 41.2	+0.1
E20A	Meyer Farm, Mu	28.96	353	⇓P	P	08 39 40.0	-2.3
F15A	Butte baz=29	29.08	346	⇑P	P	08 39 43.1	-0.2
K05A	Summer Lake baz=29	29.16	332	⇑P	P	08 39 44.0	0.0
D22A	Cohagen baz=30	29.41	356	⇓P	P	08 39 44.5	-1.7
F13A	Derby baz=30	29.48	344	⇑P	P	08 39 46.4	-0.5
D20A	Manuel Ranch, baz=30	29.54	353	⇓P	P	08 39 46.1	-1.3
E16A	East Helena baz=30	29.56	348	⇑P	P	08 39 46.6	-1.0
I07A	Izee baz=30	29.68	336	⇑P	P	08 39 48.6	-0.1
D19A	Cripps Ranch, baz=30	29.70	352	⇓P	P	08 39 47.3	-1.6
F12A	Elk City baz=30	29.71	343	⇓P	P	08 39 47.8	-1.1
D18A	Linhart Farms, baz=30,SNR=5.2	29.87	351	⇑P	P	08 39 49.5	-0.8
D17A	Six Diamond Ra baz=30	29.97	349	⇑P	P	08 39 49.4	-1.8
C23A	Lambert baz=30	30.00	357	⇑P	P	08 39 49.3	-2.2
E13A	Victor baz=30	30.05	344	⇑P	P	08 39 51.4	-0.5
C20A	Veseth Ranch, baz=30	30.14	353	⇓P	P	08 39 51.0	-1.6
C19A	Slack Wire Ran baz=30	30.29	352	⇑P	P	08 39 53.1	-0.9
E12A	Beaver Dam Sad baz=31	30.40	343	⇓P	P	08 39 54.2	-0.8
G08A	Pilot Rock baz=31,SNR=6.3	30.50	338	⇑P	P	08 39 55.3	-0.6
F10A	Beach Ranch, E baz=31	30.50	340	⇑P	P	08 39 55.9	0.0
D13A	Huson baz=31	30.73	345	⇓P	P	08 39 56.3	-1.6
AGMN	Agassiz Nation 16nm,0.9s,mb4.9	30.99	9	*e*P	P	08 39 57.1	-3.1
H04A	Detroit Lake baz=32	31.28	333	⇑P	P	08 40 00.3	-2.5
HOOD	Mount Hood Mea 28nm,0.9s,mb5.1	31.57	334	*e*P	P	08 40 05.8	+0.4
E07A	Sunnyside baz=32	31.91	338	⇑P	P	08 40 08.7	+0.4
LON	Longmire 11nm,1.1s,mb4.7	32.80	336	*e*P	P	08 40 16.7	+0.5
EGAK	Eagle	53.47	341	*e*P	P	08 43 02.5	-0.3
DOT	Dot Lake 59nm,2.6s,mb5.0	53.69	339	*e*P	P	08 43 05.6	+1.1
INK	Inuvik 6.7nm,1.1s,mb4.5	54.06	347	*e*P	P	08 43 06.0	-1.2
COLA	College 7.2nm,1.0s,mb4.7	55.75	339	*e*P	P	08 43 18.0	-1.4
PPT	Papeete 149nm,26.8s	57.74	235	*e*LR	LR	09 00 33.3	
TBI	Tubuai 150nm,26.5s	61.08	230	*e*LR	LR	09 02 17.1	
HHC	Hu-ho-hao-te	113.42	332	*e*PKP	PKiKP	08 52 18.4	-2.9
HHC				PP	PP	08 53 17.1	+5.8
NJ2	Nanjing	116.26	321	*e*PKP	PKPdf	08 52 25.4	-1.6
WMQ	Urumqi	117.93	351	PKP	PKPdf	08 52 27.5	-2.4
LZH	Lanzhou	120.71	335	*e*PKP	PKPdf	08 52 26.0	-9.5
LZH				pPKP	pPKPdf	08 52 36.8	-2.1
LZH				sPKP		08 52 40.5	
LZH	comp=N,120nm,18.2s			LR	LR		
LZH	comp=Z,170nm,20.0s			LR	LR		
CD2	Chengdu	125.18	332	PKP	PKPdf	08 52 41.4	-2.8
KMI	Kunming	130.54	329	PKP	PKPdf	08 52 55.6	+1.0

*IDC **24** 08:44:54.5±1.3, 0.°45S×133.°47E, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.7/20, mbtmp3.8/6, ML4.0/2, Error ellipse: s-maj=62.8km s-min=21.9km az=85.0*
*NEIC **24** 08:44:59.9±0.7, 0.°51S×133.°41E, h35km, mb3.4/1, Error ellipse: s-maj=36.9km s-min=11.3km az=85.0*

ISC 24 08:45:00.2±0.9, 0.°58S±0.°09×133.°3E±0.°3, h35km, n17, σ0s94/20, mb3.8/4, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu 30nm,0.5s	12.09	184	*e*Pn	Pn	08 47 49.1	-0.9
FITZ	Fitzroy Crossi 0.4nm,0.3s,baz=44,slow=12,SNR=9.2	18.97	203	P	Pn	08 49 18.7	-0.9
FITZ				S	S	08 52 39.9	-12
	0.1nm,0.3s,baz=124,slow=18,SNR=3.8						
FITZ	Fitzroy Crossi	18.97	203	*e*P	Pn	08 49 18.8	-0.7
FITZ				S	S	08 52 39.9	-12
WRAB	Tennant Creek 1.1nm,0.5s	19.26	177	*e*P	Pn	08 49 22.7	-0.4
WRA	Warramunga Arr 0.4nm,0.3s,baz=357,slow=12,SNR=18	19.27	177	P	Pn	08 49 22.8	-0.3
WRA				S	S	08 52 48.8	-10
	0.2nm,0.3s,baz=360,slow=22,SNR=2.2						
WRA	Warramunga Arr	19.27	177	P	Pn	08 49 22.8	-0.3
WRA				S	S	08 52 48.8	-10
AS31	Alice Springs	22.96	179	*e*P	P	08 50 03.9	+2.2
ASAR	Alice Springs 1.5nm,0.4s,mb3.8,baz=356,slow=12,SNR=35	22.96	179	P	P	08 50 02.1	+0.5
ASAR	Alice Springs	22.96	179	P	P	08 50 02.1	+0.5
STKA	Stephens Creek 1.2nm,0.5s,mb4.0,baz=350,slow=8.1,SNR=5.5	32.10	167	P	P	08 51 24.4	+0.2
STKA	Stephens Creek	32.10	167	*e*P	P	08 51 24.9	+0.7
MK31	Makanchi Array	64.84	324	*e*P	P	08 55 36.4	+0.7
MKAR	Makanchi Array 0.4nm,0.6s,mb3.6,baz=121,slow=7.1,SNR=4.5	64.84	324	P	P	08 55 35.9	+0.2
MKAR	Makanchi Array	64.84	324	P	P	08 55 35.9	+0.2
ILAR	Eielson Array	86.18	25	P	P	08 57 36.1	-1.5
	0.4nm,0.8s,mb3.7,baz=247,slow=5.0,SNR=4.4						
ILAR	Eielson Array	86.18	25	P	P	08 57 36.1	-1.5
LPAZ	La Paz	153.02	129	*e*PKPdf	PKPdf	09 04 47.0	-0.8
LPAZ				*e*PKPbc	PKPbc	09 04 53.1	-2.0
LPAZ				*e*PKPab	PKPab	09 05 06.1	-0.2

NNC 24 08:47:26.5±2.8, 37.°26N×70.°66E, h0km, mb3.5, mpv3.3, 3C-1D, Error ellipse: s-maj=33.8km s-min=22.6km az=83.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	Karatay Array 1.2nm,0.4s,baz=179,slow=13,SNR=33	5.84	359	Pn	Pn	08 48 57.3	+3.0
KK31				⇑Sn	Sn	08 50 08.5	+6.6
	1.2nm,0.4s,baz=181,slow=22						
TKM2	Tokmak 2 1.4nm,0.5s	6.80	32	⇑Pn	Pn	08 49 06.6	-0.9
AB31	Akbulak array 0.2nm,0.4s,baz=149,slow=14,SNR=6.0	14.29	330	⇓Pn	Pn	08 50 49.4	-0.6
AKTO	Aktyubinsk 0.8nm,1.1s	15.99	329	⇑Pn	Pn	08 51 14.0	+1.4

*BGS **24** 09:02:51.4±1.4, 53.°47N×157.°72E, h490km, mb6.2*
*KRSC **24** 09:02:53.7±0.8, 53.°83N×155.°26E, h567km±56km, ML6.3*
*IDC **24** 09:02:56.0±0.4, 54.°21N×154.°38E, h456km±4km, mb5.7/49, mb1 5.7/51, mb1mx5.7/51, mbtmp5.7/51, Error ellipse: s-maj=5.5km s-min=4.2km az=127.0*
*SZGRF **24** 09:02:56.7, 53.°20N×154.°03E, h531km, mb6.7, Sea of Okhotsk*
*NEIC **24** 09:02:58.8±0.3, 54.°20N×154.°32E, h492km±3km, mb6.5/267, ME7.0, MW7.3, MW7.3, MW7.3(USGS), Error ellipse: s-maj=2.6km s-min=1.8km az=160.0 Broadband fault plane solution: P waves. NP1:φs35.00000°, δ80.00000°, λ-105.00000°. NP2:φs272.00000°, δ18.00000°, λ-34.00000°. Principal axes: T Plg33.0000°, Azm138.0000°; N Plg0.0000°, Azm0.0000°; P Plg53.0000°, Azm287.0000°; Moment Tensor Solution. s174 Moment tensor: Scale 10^20 Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mrφ0.00; Mθφ0.00; Best double couple: M0 1.10000×10^20 NP1:φs271.00000°, δ17.00000°, λ-34.00000°. NP2:φs34.00000°, δ81.00000°, λ-104.00000°. Principal axes: T 1.0200, Plg34.0000°, Azm135.0000°; N 0.1100, Plg13.0000°, Azm36.0000°; P -1.1300, Plg52.0000°, Azm287.0000°; Complex earthquake observed on broadband displacement seismograms. A small event is followed by at least two larger events about 6 and 10 seconds later. Focal mechanism and depth from synthetics of broadband displacement seismograms based on first event. Energy computed from BB mechanism.*
NEIC Felt at Petropavlovsk-Kamchatskiy. Recorded [1 JMA] in eastern and southwestern Hokkaido. Also recorded [1 JMA] in Aomori, Iwate and Miyagi, Honshu.
*MOS **24** 09:02:58.2±1.0, 54.°11N×154.°53E, h508km, mb6.5/120, MS6.2/12 Error ellipse: s-maj=7.5km s-min=5.3km az=78.7 Broadband fault plane solution: P waves. NP1: φs242.00000°, δ7.00000°, λ-61.00000°. NP2:φs33.00000°, δ84.00000°, λ-94.00000°. Principal axes: T Plg38.0000°, Azm126.0000°; N Plg4.0000°, Azm34.0000°; P Plg51.0000°, Azm299.0000°;*
MOS Fault plane solution: P-wave C81, D897 . Felt (IV) at Petropavlovsk-Kamchatskiy, Magadan; (II-III) at Severo-Kuril'sk.
*ISCJB **24** 09:02:58.7±0.1, 54.°20N±0.°01×154.°36E±0.°02, h503km, mb6.5/636 Error ellipse: s-maj=1.9km s-min=1.2km az=168.3*
*TEH **24** 09:02:58.0, 54.°18N×154.°31E, h488km*
*BJI **24** 09:02:58.0, 54.°03N×154.°54E, h509km, mB7.1/59, mb6.6/68*
*DJA **24** 09:03:04, 54.°20N×154.°31E, h562km, Mw6.8/98*
*GCMT **24** 09:03:09.5±0.1, 54.°27N×154.°71E, h502km±1km, MW7.3, Moment Tensor Solution. s122,c344; s99,c295; Moment tensor: Scale 10^20Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mrφ0.00; Mθφ0.00; Best double couple: M0 1.10000×10^20 NP1:φs276.00000°, δ19.00000°, λ-29.00000°. NP2:φs34.00000°, δ81.00000°, λ-106.00000°. Principal axes: T 1.0400, Plg34.0000°, Azm138.0000°; N 0.1600, Plg16.0000°, Azm36.0000°; P -1.1900, Plg51.0000°, Azm285.0000°; Data Used: II IU CN IC G. LP body wave period 50 sec. Mantle wave period 150 sec. Mantle waves from 120 sta.*

ISC 24 09:03:00.0±0.1, 54.°22N±0.°01×154.°29E±0.°02, h505km, h505km±1.4km: pP-P, n2497, σ0s87/2432, mb6.5/632, 256C-473D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GNL	Ganaly	2.22	102	*i* P	P	09 04 03.9	-2.7
PEA0B	Petropavlovsk-	2.31	117	⇓*i* Pn	P	09 04 03.8	-3.3
PETK	Petropavlovsk- 4μm,0.3s,baz=12,slow=2.4	2.31	117	P	P	09 04 03.8	-3.4
PETK				ScP	ScP	09 13 20.3	+6.6
	1.5nm,0.3s,baz=92,slow=4.5,SNR=4.5			P3KPbc			
PETK						09 41 41.6	
	0.5nm,0.3s,baz=127,slow=3.7,SNR=4.7						
PETK	Petropavlovsk-	2.31	117	P	P	09 04 03.8	-3.4
PETK				ScP	ScP	09 13 20.3	+6.6
PETK				*e*		09 41 41.6	
PETK	Petropavlovsk-	2.31	117	P	P	09 04 03.8	-3.3
PETK	comp=N,2.0nm,0.3s			pmax	pmax		
PETK	comp=Z,1.0nm,0.3s			pmax	pmax		
MIPR	Malaya Ipel'ka	2.45	142	*i* P	P	09 04 04.7	-3.2
AVH	Avacha	2.81	108	*i* P	P	09 04 06.9	-3.1
GRL	Gorelyy	2.81	125	*i* P	P	09 04 06.8	-3.3
INSR	Institute	2.81	113	*i* P	P	09 04 07.4	-2.7
INSR				*i* S	S	09 04 59.6	-7.7
PET	Petropavlovsk	2.86	113	*i* P	P	09 04 06.5	-3.9
PET	Petropavlovsk	2.86	113	⇓*i* Pn	P	09 04 06.5	-3.8
PET				*e*S	S	09 05 04.9	-2.9
PET	Petropavlovsk	2.86	113	*i* P	P	09 04 05.9	-4.5
PET				*e*S	S	09 05 00.3	-7.5
PET	comp=Z,511μm,3.2s			pmax	pmax		
PET	comp=Z,116μm,0.8s			pmax	pmax		
PET	comp=Z,250μm,8.8s			pmax	pmax		
PET	comp=N,448μm,3.9s			smax			
PET	comp=N,138μm,3.8s			smax			
PET	comp=N,104μm,1.9s			smax			
PET	comp=Z,360μm,16.0s			MLR	MLR		
PET	comp=Z,373μm,8.0s			MLR	MLR		
KII	Karymskiy	3.04	91	*i* P	P	09 04 08.1	-3.4
ESO	Esso	3.06	54	*i* P	P	09 04 10.0	-1.5
ESO				*i* S	S	09 05 07.3	-2.8
ESO	Esso	3.06	54	P	P	09 04 10.0	-1.5
ESO				S	S	09 05 07.3	-2.8
RUS	Russkaya	3.10	124	*i* P	P	09 04 07.1	-4.9
RUS	Russkaya	3.10	124	P	P	09 04 07.1	-4.9
NLC	Nalytchevo	3.18	107	*i* P	P	09 04 08.0	-4.5
NLC	Nalytchevo	3.18	107	P	P	09 04 08.0	-4.5
TUMR	Tumrok	3.56	70	*e*P	P	09 04 13.3	-1.8
SPN	Mys Shipunski	3.59	106	*i* P	P	09 04 10.2	-5.3
SPN	Mys Shipunski	3.59	106	P	P	09 04 10.2	-5.3
KOZ	Kozyrevsk	3.69	58	*i* P	P	09 04 14.1	-2.0
KOZR	Kozyr	3.71	58	P	P	09 04 14.1	-2.2
SKR	Severo-Kuril's	3.71	162	⇓*i* P	P	09 04 12.0	-4.5
SKR				*i* S	S	09 05 12.0	-6.9
SKR	comp=N,12μm,1.0s			pmax	pmax		
SKR	comp=Z,15μm,1.0s			pmax	pmax		
SKR	comp=E,25μm,0.5s			pmax	pmax		
SKR	comp=N,327μm,14.0s			pmax	pmax		
SKR	comp=Z,375μm,14.0s			pmax	pmax		
SKR	comp=E,170μm,6.0s			smax			
SKR	comp=N,1964μm,14.0s			smax			
SKR	comp=E,1719μm,14.0s			MLR	MLR		
SKR	comp=Z,282μm,10.0s			MLR	MLR		
SKR	comp=N,364μm,12.0s			MLR	MLR		
SKR	comp=E,324μm,12.0s			MLR	MLR		
SRDR	Sredinnyy	3.75	54	*e*P	P	09 04 14.5	-2.0
KMNR	Kamenistaya	3.75	63	*i* P	P	09 04 14.0	-2.6
KPT	Kopyto	3.83	60	*i* P	P	09 04 14.6	-2.6
KIRR	Kirishev	3.88	61	*e*P	P	09 04 14.9	-2.7
BZMR	Bezymyannaya	3.95	62	*i* P	P	09 04 15.6	-2.6
KRSR	Krestovskiy	4.11	58	*e*P	P	09 04 16.5	-2.9
LGNR	Loginova	4.12	60	*e*P	P	09 04 17.3	-2.2
ZLN	Zelenaya	4.15	62	*e*P	P	09 04 17.5	-2.3
CIRR	Tsirk	4.16	60	*e*P	P	09 04 17.2	-2.6
KLY	Klyuchi	4.20	57	*e*P	P	09 04 18.0	-2.1
KLY	Klyuchi	4.20	57	P	P	09 04 18.0	-2.1
MKZ	Mys Kozlova	4.36	83	*e*P	P	09 04 15.3	-6.3
MKZ	Mys Kozlova	4.36	83	P	P	09 04 15.3	-6.3
BDR	Baidarnaya	4.59	56	*i* P	P	09 04 20.6	-2.8
SRKR	Sorokina	4.61	55	*e*P	P	09 04 20.7	-2.9
SMKR	Semkarok	4.72	57	*e*P	P	09 04 21.4	-3.2
KBTR	Krutoberegovo	5.27	64	*e*P	P	09 04 24.3	-5.2
KBTR	Krutoberegovo	5.27	64	P	P	09 04 24.3	-5.2
OKH	Okha	6.75	269	⇑*i* P	P	09 04 45.6	+1.9
OKH				*i* S	S	09 06 11.6	+2.8
OKH	comp=Z,365μm,8.0s			pmax	pmax		
OKH	comp=Z,318μm,9.0s			smax			
BKI	Bering	6.84	77	P	P	09 04 41.2	-3.4
BKI				S	S	09 06 03.2	-7.1
TLAR	Talaya	7.00	352	⇓*i* P	P	09 04 47.3	+1.3
SEY	Seymchan	8.80	354	*c* P	P	09 05 05.5	+1.1
SUUS	Susuman	9.16	342	⇑*i* P	P	09 05 09.5	+1.3
SUUS				*e*S	S	09 06 55.7	+2.0
SUUS	comp=Z,25μm,0.8s			pmax	pmax		
UGL	Uglegorsk	9.18	241	⇑*i* P	P	09 05 10.1	+1.5
UGL				S	S	09 06 57.0	+2.6
UGL	comp=Z,2μm,0.7s			pmax	pmax		
UGL	comp=N,960nm,0.6s			pmax	pmax		

UGL pmax pmax
comp=E,950nm,0.6s
UGL pmax pmax
comp=Z,11µm,2.5s
UGL pmax pmax
comp=N,2µm,2.0s
UGL pmax pmax
comp=E,4µm,2.0s
UGL smax
comp=N,167µm,8.0s
UGL smax
comp=E,215µm,8.0s
UGL smax
comp=N,3µm,1.3s
UGL smax
comp=E,8µm,1.8s
UGL smax
comp=Z,6µm,2.0s
KUR Kuril'sk 9.91 207 *e*P **P 09 05 14.2 -2.2**
KUR *e*S **S 09 07 10.0 +1.5**
KUR pmax pmax
comp=Z,20µm,1.0s
KUR pmax pmax
comp=N,1µm,0.7s
KUR pmax pmax
comp=E,2µm,0.9s
KUR pmax pmax
comp=N,62µm,1.0s
KUR pmax pmax
comp=E,38µm,1.0s
KUR pmax pmax
comp=Z,95µm,1.0s
KUR smax
comp=E,287µm,10.0s
KUR smax
comp=N,55µm,4.0s
YSS Yuzh-Sakhalins 10.32 230⇓ *i*Pn **P 09 05 21.6 +0.8**
YSS *e*S **S 09 07 30.9 +14**
YSS Yuzh-Sakhalins 10.32 230⇓ *i*P **P 09 05 21.3 +0.6**
YSS *i* S **S 09 07 17.0 +0.5**
YSS pmax pmax
comp=Z,2µm,0.6s
YSS smax
comp=N,1208µm,7.0s
YSS MLR MLR
comp=Z,186µm,12.0s
YSS MLR MLR
comp=N,131µm,10.0s
FX1 Attu Island--F 11.30 89 P **P 09 05 27.9 -3.1**
comp=N,2µm,0.3s,baz=319,slow=4.0,SNR=397
FX1 S **S 09 07 29.6 -5.8**
comp=N,402nm,0.3s,baz=134,slow=18,SNR=5.2
FX1 ScP ScP 09 13 28.3 +6.8
comp=N,197nm,0.3s,baz=281,slow=1.7,SNR=16
FX1 Attu Island--F 11.30 89 *e*P **P 09 05 28.6 -2.4**
FX1 S **S 09 07 29.6 -5.8**
FX1 ScP ScP 09 13 28.3 +6.8
FX1 Attu Island--F 11.30 89 P **P 09 05 27.9 -3.1**
FX1 S **S 09 07 29.6 -5.8**
FX1 smax
comp=N,402nm,0.3s
YUK Yuzh-Kuril'sk 11.58 212 *d i*P **P 09 05 31.5 -2.6**
YUK *i* S **S 09 07 40.0 -1.0**
YUK pmax pmax
comp=Z,13µm,0.8s
YUK pmax pmax
comp=E,2µm,0.4s
YUK pmax pmax
comp=Z,8µm,0.8s
YUK pmax pmax
comp=N,4µm,0.4s
YUK smax
comp=N,36µm,0.7s
YUK smax
comp=E,12µm,0.7s
YUK smax
comp=E,159µm,1.6s
YUK smax
comp=N,266µm,1.7s
YUK MLR MLR
comp=N,95µm,14.0s
YUK MLR MLR
comp=E,54µm,14.0s
YUK MLR MLR
comp=Z,96µm,14.0s
SMY Shemya 11.89 89 *e*P **P 09 05 35.0 -2.2**
comp=Z,5µm,0.9s
SMY Shemya 11.89 89 *e*P **P 09 05 35.0 -2.2**
SMY pmax pmax
comp=Z,5µm,0.9s
ASAJ Asahikawa 12.66 222 P **P 09 05 43.4 -2.1**
comp=Z,69nm,0.3s,baz=10,slow=3.5,SNR=277
ASAJ S **S 09 08 00.8 -1.0**
comp=Z,32nm,0.3s,baz=9.0,slow=19,SNR=3.4
ASAJ Asahikawa 12.66 222 P **P 09 05 43.4 -2.1**
ASAJ ⇓*e*Pn **P 09 05 43.5 -2.0**
ASAJ S **S 09 08 00.8 -1.0**
ASAJ *e*S **S 09 08 04.2 +2.4**
ASAJ Asahikawa 12.66 222 P **P 09 05 43.4 -2.1**
ASAJ S **S 09 08 00.9 -1.0**
ASAJ pmax pmax
comp=Z,69nm,0.3s
ASAJ smax
comp=N,32nm,0.3s
HABR Khabarovsk 13.31 252 *d i*P **P 09 05 53.7 +1.4**
HABR *e*S **S 09 08 18.5 +4.2**
HABR pmax pmax
comp=E,4µm,1.3s
HABR pmax pmax
comp=N,3µm,1.8s
HABR pmax pmax
comp=Z,5µm,1.1s
ERM Erimo 14.28 216 *e*Pn **P 09 05 59.3 -3.2**
ERM *e*S **S 09 08 30.7 -2.2**
ERM Erimo 14.28 216 P **P 09 05 59.5 -3.0**
comp=Z,32µm,0.5s
ERM Erimo 14.28 216 *ce*P **P 09 05 59.3 -3.2**
ERM pmax pmax
comp=Z,1µm,0.6s
KLR Kul'dur 14.81 260⇑ *i*P **P 09 06 05.2 -2.7**
KLR *e*S **S 09 08 45.6 +2.7**
BILL Bilibino 14.97 18 *e*Pn **P 09 06 08.4 -0.9**
comp=Z,1µm,1.2s
BILL Bilibino 14.97 18⇓ *e*P **P 09 06 08.0 -1.4**
BILL *e*S **S 09 08 48.4 +2.9**
BILL pmax pmax
comp=Z,2µm,1.2s
BILL MLR MLR
comp=Z,46µm,18.0s
YAK Yakutsk 15.09 311 *e*Pn **P 09 06 10.1 -0.6**
comp=Z,21µm,0.7s
YAK *e*S **S 09 08 48.9 +1.0**
YAK Yakutsk 15.09 311 *d i*P **P 09 06 09.9 -0.8**
YAK *e*S **S 09 08 47.2 -0.7**
YAK pmax pmax
comp=E,5µm,1.0s
YAK pmax pmax
comp=N,2µm,1.1s
YAK smax
comp=E,163µm,3.1s
YAK smax
comp=N,110µm,2.8s
CLNS Chul'man 16.79 291 *e*P **P 09 06 28.6 +0.3**
CLNS *e*S **S 09 09 24.2 +5.1**
CLNS pmax pmax
comp=N,6µm,1.0s
CLNS pmax pmax
comp=E,9µm,1.0s
CLNS MLR MLR
comp=N,52µm,13.0s
CLNS MLR MLR
comp=E,98µm,12.0s
CLNS MLR MLR
comp=Z,118µm,12.0s
ADK Adak 17.55 86⇑ *e*Pn **P 09 06 31.5 -4.2**
comp=Z,4µm,0.9s
ADK Adak 17.55 86⇑ *e*P **P 09 06 31.5 -4.2**
ADK pmax pmax
comp=Z,4µm,0.9s
GSTR Great Sitkin T 17.85 85 *e*Pn **P 09 06 37.3 -1.1**
VLA Vladivostok 18.41 242 *d i*P **P 09 06 41.8 -1.9**
VLA *i* S **S 09 09 45.3 -0.8**
VLA pmax pmax
comp=Z,3µm,1.2s
MDJ Mudanjiang 18.63 249 P **P 09 06 45.1 -0.6**
MDJ sP sP 09 08 52.0 -2.8
MDJ S **S 09 09 50.0 +0.4**
MDJ PcP PcP 09 10 47.3 -0.4
MDJ ScP ScP 09 13 36.8 +1.7
MDJ PcS PcS 09 14 26.0 +1.3
MDJ pmax pmax
comp=Z,3µm,1.0s
MDJ pmax pmax
comp=Z,117µm,11.4s
MDJ Mudanjiang 18.63 249 *e*Pn **P 09 06 45.2 -0.5**
comp=Z,6µm,1.1s
GAMB Gambell 19.71 47 *e*P **P 09 06 54.7 -0.5**
comp=Z,7.8nm,0.2s
MAJO Matsushiro 20.89 219 *e*P **P 09 07 06.0 -0.4**
comp=Z,4µm,0.6s
MAJO Matsushiro 20.89 219 *e*P **P 09 07 06.0 -0.3**
MAJO pmax pmax
comp=Z,4µm,0.6s
MAT Matsushiro 20.89 219 P **P 09 07 05.6 -0.8**
MAT S **S 09 10 34.0 +7.9**
MJAR Matsushiro Arr 20.89 219 P **P 09 07 05.2 -1.2**
comp=Z,464nm,0.4s,baz=298,slow=12,SNR=938
MJAR S **S 09 10 35.8 +10**
comp=Z,304nm,1.1s,baz=18,slow=19,SNR=5.9
MJAR ScP ScP 09 13 46.8 +6.3
comp=Z,642nm,1.0s,baz=352,slow=0.9,SNR=18
MJAR P3KPbc 09 40 46.8
comp=Z,4.7nm,1.0s,baz=229,slow=3.3,SNR=5.3
MJAR Matsushiro Arr 20.89 219 P **P 09 07 05.2 -1.2**
MJAR S **S 09 10 35.8 +10**
MJAR ScP ScP 09 13 46.8 +6.3
MJAR *e* 09 40 46.8
MJAR Matsushiro Arr 20.89 219 P **P 09 07 05.2 -1.2**
MJAR pmax pmax
comp=Z,464nm,0.4s
NIKO Nikolski 21.75 78 *e*P **P 09 07 12.3 -1.5**
HIA Hailar 21.81 271 *e*P **P 09 07 14.7 +0.2**
comp=Z,11µm,0.9s,mb7.4
HIA Hailar 21.81 271 *e*P **P 09 07 14.7 +0.2**
HIA pmax pmax
comp=Z,10µm,0.9s
UNV Unalaska Valle 22.83 75 *e*P **P 09 07 21.5 -2.1**
comp=Z,4µm,1.4s,mb6.7
AKUT Akutan 23.16 74 *e*P **P 09 07 25.1 -1.4**
comp=Z,1µm,0.8s,mb6.4
JHJ Hachijo jima 2 23.47 212 P **P 09 07 29.3 -0.2**
comp=Z,441nm,0.5s,mb6.2,baz=13,slow=5.0,SNR=33
JHJ ScP ScP 09 13 53.8 +6.4
comp=Z,2µm,1.2s,baz=233,slow=20,SNR=6.1
SNY Shenyang 23.78 251⇓ P **P 09 07 32.3 +0.1**
SNY sP sP 09 09 47.8 -3.5
SNY S **S 09 11 19.6 +8.1**
SNY pmax pmax
comp=Z,5µm,1.6s,mb6.7
SNY pmax pmax
comp=Z,83µm,9.7s
FALS False Pass 24.28 71 *e*P **P 09 07 35.0 -1.4**
comp=Z,3µm,1.0s,mb6.6
KSRS Korea Array 24.65 238 P **P 09 07 41.0 +1.0**
comp=Z,1µm,0.6s,mb6.6,baz=33,slow=9.1,SNR=1002
KSRS PcP PcP 09 10 59.6 -0.5
comp=Z,105nm,0.8s,baz=19,slow=1.6,SNR=4.0
KSRS S **S 09 11 32.8 +7.4**
comp=Z,120nm,1.0s,baz=41,slow=9.5,SNR=2.1
KSRS ScP ScP 09 13 54.8 +4.2
comp=Z,108nm,1.0s,baz=54,slow=3.7,SNR=4.1
KSRS P3KPbc 09 40 34.9
comp=Z,2.3nm,0.8s,baz=233,slow=3.9,SNR=5.5
KSRS Korea Array 24.65 238 P **P 09 07 41.0 +1.0**
KSRS 09 10 59.6
KSRS S **S 09 11 32.8 +7.5**
KSRS smax
comp=N,120nm,1.0s
KSAR Wonju Array Be 24.68 238 P **P 09 07 41.0 +0.7**
KSAR PcP PcP 09 10 59.6 -0.5
KSAR S **S 09 11 32.8 +7.0**
KSAR ScP ScP 09 13 54.8 +4.2
KSAR *e* 09 40 34.9
KSAR Wonju Array Be 24.68 238 P **P 09 07 41.0 +0.8**
KSAR 09 10 59.6
KSAR S **S 09 11 32.8 +7.0**
INCN Inchon 25.28 240 *e*P **P 09 07 45.9 +0.4**
comp=N,3µm,1.1s,mb6.6
INCN Inchon 25.28 240 P **P 09 07 46.1 +0.5**
SNR=92
SDPT Sand Point 25.76 69 *e*P **P 09 07 47.8 -1.7**
comp=N,2µm,1.0s,mb6.4
CHGN Chignik 26.62 66 *e*P **P 09 07 55.0 -2.1**
CHGN *ep*P 09 09 18.6
TTA Tatalina 26.68 51 *e*P **P 09 07 56.8 -0.7**
TTA Tatalina 26.68 51 *e*P **P 09 07 56.8 -0.7**
JNU Nakatsue 26.82 228 *e*P **P 09 07 59.1 0.0**
comp=N,661nm,1.1s,mb6.0
DL2 Dalian 26.88 249 P **P 09 07 59.6 0.0**
DL2 sP sP 09 10 25.8 +3.1
DL2 S **S 09 12 04.0 +3.9**
DL2 pmax pmax
comp=Z,1µm,0.8s,mb6.5
DL2 pmax pmax
comp=Z,33µm,10.8s
SVW2 Sparrevohn 27.08 55 *e*P **P 09 08 00.4 -0.7**
comp=Z,568nm,1.3s,mb5.8
IMA2 Indian Mountai 27.57 44 *e*P **P 09 08 06.0 +0.7**
PPLA Purkeypile 28.43 51 *e*P **P 09 08 13.2 +0.4**
comp=Z,8µm,1.5s,mb6.9
CBIJ Chichi jima 28.53 203 P **P 09 08 13.8 -0.3**
comp=Z,810nm,0.6s,mb6.3,baz=341,slow=4.1,SNR=57
CBIJ PP PP 09 09 47.2 +11
comp=Z,951nm,0.8s,baz=288,slow=19,SNR=2.3
CBIJ S **S 09 12 32.0 +5.9**
comp=Z,180nm,0.8s,baz=100,slow=23,SNR=2.0
CBIJ Chichi jima 28.53 203 P **P 09 08 13.8 -0.3**
CBIJ PP PP 09 09 47.2 +11
CBIJ S **S 09 12 32.0 +5.9**
RSO Redoubt South 28.55 56 *e*P **P 09 08 13.8 -0.2**
BPAW Bear Paw Mtn. 28.82 48 *e*P **P 09 08 16.0 -0.2**
comp=Z,3µm,1.2s,mb6.6
COLD Coldfoot 28.95 42 *e*P **P 09 08 17.6 +0.2**
comp=Z,5µm,1.3s,mb6.8
OHAK Old Harbor 29.07 63 *e*P **P 09 08 17.1 -1.4**
comp=Z,568nm,0.3s,mb6.5
BJI Beijing 29.15 257 P **P 09 08 18.8 -0.6**
BJI sP sP 09 10 39.5 -3.8
BJI S **S 09 12 35.3 -0.2**
BJI pmax pmax
comp=Z,1µm,0.9s,mb6.4
BJI pmax pmax
comp=Z,56µm,10.0s
BJT Baijiatuan 29.17 257 *e*P **P 09 08 19.5 -0.1**
comp=Z,2µm,0.6s,mb6.8
BJT Baijiatuan 29.17 257 *e*P **P 09 08 19.5 -0.1**
BJT pmax pmax
comp=Z,2µm,0.6s
TRF Thorofare Moun 29.21 49 *e*P **P 09 08 19.4 -0.2**
comp=Z,23µm,2.1s,mb7.2
KDAK Kodiak Island 29.28 61 P **P 09 08 18.2 -2.1**
comp=Z,657nm,0.5s,mb6.3,baz=293,slow=4.3,SNR=777
KDAK S **S 09 12 37.4 +0.4**
comp=Z,313nm,1.0s,baz=110,slow=23,SNR=7.3
KDAK Kodiak Island 29.28 61 *e*P **P 09 08 18.7 -1.6**
KDAK S **S 09 12 37.4 +0.4**
KDAK Kodiak Island 29.28 61 *i*P **P 09 08 18.1 -2.2**
KDAK Kodiak Island 29.28 61 P **P 09 08 18.0 -2.3**
comp=Z,11µm,0.8s,mb7.3
IRK Irkutsk 29.51 287 *e*P **P 09 08 23.2 +0.8**
IRK pmax pmax
comp=Z,7µm,1.7s,mb6.8
MCK McKinley 29.77 49 *e*P **P 09 08 24.4 -0.1**
comp=Z,20µm,2.2s,mb7.2
MCK McKinley 29.77 49 *e*P **P 09 08 24.4 -0.1**
MCK pmax pmax
comp=Z,10µm,2.2s,mb6.9
SLKM Skilak Lake 29.77 55 *e*P **P 09 08 23.4 -1.2**
SLKM Skilak Lake 29.77 55 *e*P **P 09 08 23.4 -1.1**
ULN Ulaanbaatar 29.90 277 *e*P **P 09 08 27.0 +1.1**
comp=Z,2µm,1.0s,mb6.5
ULN Ulaanbaatar 29.90 277 *e*P **P 09 08 27.0 +1.1**
ULN pmax pmax
comp=Z,2µm,1.0s,mb6.5
ULN Ulaanbaatar 29.90 277 P **P 09 08 26.5 +0.6**
comp=Z,2µm,1.0s,mb6.6
PMR Palmer 30.06 53 *e*P **P 09 08 24.2 -2.8**
comp=Z,106nm,2.3s
PMR Palmer 30.06 53 *e*P **P 09 08 24.2 -2.8**
COLA College 30.08 46 *e*P **P 09 08 27.0 -0.2**
comp=Z,6µm,0.8s,mb7.1
COLA College 30.08 46 *e*P **P 09 08 27.0 -0.2**
COLA pmax pmax
comp=Z,6µm,0.8s,mb7.1
TLY Talaya 30.09 286 *e*P **P 09 08 29.3 +1.9**
comp=Z,6µm,1.2s,mb6.9
TLY Talaya 30.09 286 *d i*P **P 09 08 29.1 +1.6**
TLY *e* 09 09 56.4
TLY *e* 09 10 51.2
TLY *eS* **S 09 13 00.3 +11**
TLY pmax pmax
comp=Z,4µm,1.0s,mb6.8
TLY MLR MLR
comp=Z,56µm,19.0s
TLY Talaya 30.09 286 P **P 09 08 29.8 +2.3**
comp=Z,22µm,0.8s,mb7.6
TLY Talaya 30.09 286 P **P 09 08 29.4 +2.0**
SNR=1214
SEW Seward 30.24 56 *e*P **P 09 08 27.6 -1.0**
comp=Z,3µm,0.8s,mb6.8
SONM Songino Array 30.30 278 P **P 09 08 30.6 +1.3**
comp=Z,369nm,0.7s,mb5.9,baz=62,slow=7.8,SNR=882
SONM PP PP 09 10 08.1 +13
comp=Z,502nm,1.0s,baz=72,slow=6.7,SNR=3.0
SONM PcP PcP 09 11 14.3 +0.4
comp=Z,175nm,0.6s,baz=34,slow=1.7,SNR=3.1
SONM ScP ScP 09 14 12.4 +4.5
comp=Z,861nm,1.0s,baz=89,slow=2.6,SNR=12
SONM P3KPbc 09 40 08.8
comp=Z,1.9nm,0.8s,baz=229,slow=4.1,SNR=5.0
SONM Songino Array 30.30 278 P **P 09 08 30.6 +1.3**
SONM PP PP 09 10 08.1 +13
SONM PcP PcP 09 11 14.3 +0.4
SONM ScP ScP 09 14 12.4 +4.5
SONM *e* 09 40 08.8
SONM Songino Array 30.30 278 P **P 09 08 30.6 +1.3**
SONM 09 11 14.3
SONM pmax pmax
comp=Z,369nm,0.7s
SML Sawmill 30.38 52 *e*P **P 09 08 29.2 -0.6**
comp=Z,1µm,0.7s,mb6.4
SML Sawmill 30.38 52 *e*P **P 09 08 29.2 -0.6**
SML pmax pmax
comp=Z,1µm,0.7s,mb6.4
ILAR Eielson Array 30.50 46 P **P 09 08 30.0 -0.8**
comp=Z,714nm,0.8s,mb6.2,baz=272,slow=7.0,SNR=2159
ILAR PP PP 09 10 05.1 +8.5
comp=Z,171nm,0.9s,baz=264,slow=8.1,SNR=1.3
ILAR S **S 09 12 58.2 +2.4**
comp=Z,134nm,1.0s,baz=257,slow=13,SNR=4.3
ILAR ScP ScP 09 14 13.4 +5.2
comp=Z,487nm,0.9s,baz=285,slow=4.2,SNR=17
ILAR P3KPbc 09 40 09.0
comp=Z,2.8nm,0.7s,baz=121,slow=3.8,SNR=12
ILAR PKP2ab 09 43 53.0
comp=Z,3.5nm,0.4s,baz=226,slow=12,SNR=11
ILAR Eielson Array 30.50 46 P **P 09 08 30.0 -0.8**
ILAR PP PP 09 10 05.1 +8.5
ILAR S **S 09 12 58.2 +2.4**
ILAR ScP ScP 09 14 13.4 +5.2
ILAR *e* 09 40 09.0
ILAR *e* 09 43 53.0
ILAR Eielson Array 30.50 46 P **P 09 08 30.0 -0.8**
ILAR 09 10 05.1
ILAR S **S 09 12 58.2 +2.4**
ILAR pmax pmax
comp=Z,714nm,0.8s
ILAR smax
comp=N,135nm,1.0s
ZAK Zakamensk 30.87 284 *e*P **P 09 08 35.8 +1.6**
ZAK *e* 09 10 05.0
ZAK *e* 09 11 22.7
ZAK pmax pmax
comp=Z,1µm,1.1s,mb6.3
HHC Hu-ho-hao-te 31.28 262 *e*P **P 09 08 38.5 +0.6**
HHC pP 09 10 10.0
HHC S **S 09 13 18.0 +10**
HHC SS SS 09 15 55.5 -20
HHC ScS ScS 09 18 11.8 +1.8
HHC pmax pmax
comp=Z,1µm,0.8s,mb6.4
HHC pmax pmax
comp=Z,50µm,7.5s
TIA Tai'an 31.29 250⇓ P **P 09 08 38.0 0.0**
TIA pP 09 10 11.0
TIA sP sP 09 10 59.8 -2.6
TIA S **S 09 13 13.8 +5.2**
TIA pmax pmax
comp=Z,2µm,1.3s,mb6.4
TIA pmax pmax
comp=Z,61µm,11.0s
PAX Paxson 31.44 49 *e*P **P 09 08 38.0 -0.9**
comp=Z,767nm,0.9s,mb6.1
PAX Paxson 31.44 49 *e*P **P 09 08 38.0 -0.9**
PAX pmax pmax
comp=Z,767nm,0.9s,mb6.1
MOY Mondy 31.59 288 *e*P **P 09 08 42.2 +1.9**
MOY *e* 09 10 14.0
MOY *e* 09 13 20.7
MOY *e* 09 15 59.8
MOY *e* 09 18 04.8
MOY pmax pmax
comp=Z,3µm,1.3s,mb6.6
DIV Divide 31.74 53 *e*P **P 09 08 41.2 -0.3**
comp=Z,2µm,1.0s,mb6.5
DOT Dot Lake 31.92 48 *e*P **P 09 08 41.9 -1.1**
comp=Z,691nm,0.6s,mb6.3
MID Middleton Isla 31.94 56 *e*P **P 09 08 43.1 -0.1**
comp=Z,2µm,0.9s,mb6.6
MID Middleton Isla 31.94 56 *e*P **P 09 08 43.1 -0.1**
MID pmax pmax
comp=Z,2µm,0.9s,mb6.6
MENT Mentasta 32.23 49 *e*P **P 09 08 45.4 -0.2**
BMRM Bremner River 32.33 53 *e*P **P 09 08 46.1 -0.4**
comp=Z,2µm,0.8s,mb6.7
BTO Baotou 32.34 264 *e*P **P 09 08 48.3 +1.4**
RAGM Ragged Mountai 32.46 54 *e*P **P 09 08 48.1 +0.5**
TIY Taiyuan 32.87 257 *e*P **P 09 08 52.0 +0.6**
TIY pP 09 10 20.8
TIY sP sP 09 11 18.1 +1.7
TIY S **S 09 13 36.0 +3.3**
TIY sS sS 09 16 15.9 +2.4
TIY pmax pmax
comp=Z,37µm,6.0s
EGAK Eagle 32.92 45 *e*P **P 09 08 50.7 -0.7**
comp=Z,7µm,1.3s,mb6.9
SSE Sheshan 33.08 239 P **P 09 08 53.3 +0.1**
SSE pP 09 10 18.3
SSE PP PP 09 10 28.8 +4.5
SSE sP sP 09 11 16.6 -1.6
SSE S **S 09 13 37.1 +1.2**
SSE sS sS 09 16 15.1 -1.9
SSE pmax pmax
comp=Z,440nm,1.2s,mb5.8
SSE pmax pmax
comp=Z,45µm,10.1s
MIDW Midway 33.19 130 *e*P **P 09 08 52.6 -1.7**
comp=Z,15µm,1.7s,mb7.1
JOW Kunigami 33.39 225 P **P 09 08 55.7 -0.3**
comp=Z,708nm,0.5s,mb6.3,baz=8.5,slow=8.9,SNR=92
JOW Kunigami 33.39 225 *e*P **P 09 08 55.2 -0.7**
comp=Z,844nm,1.0s,mb6.1
NJ2 Nanjing 33.51 243 *e*P **P 09 08 56.8 -0.1**
NJ2 pP 09 10 22.1
NJ2 PP PP 09 10 29.1 +0.2
NJ2 pmax pmax
comp=Z,280nm,0.7s,mb5.8
NJ2 pmax pmax
comp=Z,32µm,4.4s
DAWY Dawson 33.83 46 *e*P **P 09 08 58.4 -0.8**
INK Inuvik 35.10 38 P **P 09 09 09.8 0.0**
comp=Z,700nm,0.4s,mb6.5,baz=296,slow=6.8,SNR=6967
INK PP PP 09 10 48.7 +3.8
comp=Z,1µm,1.1s,baz=318,slow=6.3,SNR=7.8
INK ScP ScP 09 14 29.2 +5.0
comp=Z,1µm,1.1s,baz=294,slow=6.2,SNR=9.2
INK Inuvik 35.10 38 *e*P **P 09 09 09.7 0.0**
comp=Z,7.1nm,0.7s
INK PP PP 09 10 48.7 +3.8
INK ScP ScP 09 14 29.2 +5.0
INK Inuvik 35.10 38 *e*P **P 09 09 09.7 0.0**
INK 09 10 48.7
PNL Peninsula 35.20 54 *e*P **P 09 09 10.3 -0.4**
comp=Z,1µm,0.8s,mb6.5
WAKE Wake Island 36.14 160 *e*P **P 09 09 17.7 -1.4**
comp=Z,3µm,0.9s,mb6.7

WHN Wuhan 37.09 247 ⇓P P **09 09 26.4 -0.3**
WHN sP sP 09 11 58.6 +5.3
WHN S **S** **09 14 37.2 +1.0**
SKAG Skagway 37.19 53 *e*P P **09 09 27.6 +0.4**
comp=Z,1μm,1.5s,mb6.1
XAN Xi'an 37.48 256 P P **09 09 29.8 -0.1**
XAN S **S** **09 14 41.1 -0.9**
XAN pmax pmax
comp=Z,15μm,14.2s
TATO Taipei 38.02 233 *e*P P **09 09 35.8 +1.4**
comp=Z,1μm,0.8s,mb6.4
SIT Sitka 38.22 56 *e*P P **09 09 36.6 +1.0**
comp=Z,3μm,1.4s,mb6.5
SIT Sitka 38.22 56 *e*P P **09 09 36.6 +1.0**
SIT pmax pmax
comp=Z,3μm,1.4s,mb6.5
YHNB Yeheng 38.33 233 *e*P P **09 09 36.4 -0.5**
comp=Z,486nm,0.9s,mb5.9
NACB Ninganchiao 38.65 232 *e*P P **09 09 39.3 -0.3**
comp=Z,778nm,1.2s,mb6.0
LZH Lanzhou 38.96 263 ⇓*i*P P **09 09 43.8 +1.8**
LZH pP pP 09 11 14.0 +2.0
LZH PP PP 09 11 28.0 +1.9
LZH PcP PcP 09 11 40.8 +1.2
LZH S **S** **09 15 08.0 +4.2**
LZH sS sS 09 17 49.0 +0.3
LZH pmax pmax
comp=Z,2μm,1.1s,mb6.3
LZH pmax pmax
comp=Z,63μm,6.3s
GTA Gaotai 39.09 271 ⇓P P **09 09 44.8 +1.8**
GTA pP pP 09 11 13.0 -0.1
GTA S **S** **09 15 11.5 +5.9**
GTA sS sS 09 17 49.1 -1.5
GTA SS SS 09 18 19.1 -6.4
GTA pmax pmax
comp=Z,3μm,1.1s,mb6.6
GTA pmax pmax
comp=Z,39μm,6.6s
ZAA0 Zalesovo Array 39.23 299 *e*P P **09 09 43.6 -0.3**
ZALV Zalesovo Beam 39.23 299 P P **09 09 43.7 -0.2**
comp=Z,652nm,0.7s,mb6.2,baz=58,slow=6.9,SNR=573
ZALV ScP ScP 09 14 46.0 +5.9
comp=Z,448nm,1.1s,baz=59,slow=5.7,SNR=4.0
ZALV S **S** **09 15 13.3 +6.0**
comp=Z,116nm,0.8s,baz=318,slow=4.0,SNR=3.0
ZALV ScS ScS 09 18 56.9 +3.3
comp=Z,59nm,0.8s,baz=201,slow=0.7,SNR=4.2
ZALV P3KPbc 09 39 37.3
comp=Z,2.4nm,0.5s,baz=217,slow=4.5,SNR=5.6
ZALV P3KP 09 41 27.9
comp=Z,5.5nm,0.9s,baz=259,slow=3.1,SNR=3.7
ZALV PKP2ab 09 43 48.6
comp=Z,12nm,1.1s,baz=270,slow=1.5,SNR=3.6
ZALV Zalesovo Beam 39.23 299 P P **09 09 43.7 -0.1**
ZALV ScP ScP 09 14 46.0 +5.9
ZALV S **S** **09 15 13.3 +6.0**
ZALV ScS ScS 09 18 56.9 +3.3
ZALV *e* 09 39 37.3
ZALV PKKKP 09 41 27.9
ZALV *e* 09 43 48.6
ZALV Zalesovo Beam 39.23 299 P P **09 09 43.7 -0.2**
ZALV S **S** **09 15 13.3 +6.0**
ZALV 09 18 56.9
ZALV pmax pmax
comp=Z,652nm,0.7s,mb6.2
ZALV smax
comp=N,116nm,0.8s
SSLB Suanglung 39.28 233 *e*P P **09 09 44.2 -0.4**
comp=N,1μm,1.0s,mb6.3
QZH Quanzhou 39.43 237 ⇓*i*P P **09 09 43.5 -2.4**
QZH sP sP 09 12 15.0 +1.7
QZH S **S** **09 15 09.0 -1.9**
QZH sS sS 09 17 54.0 -2.2
QZH ScS ScS 09 18 50.0 -5.7
QZH pmax pmax
comp=Z,3μm,1.1s,mb6.6
QZH pmax pmax
comp=Z,52μm,9.0s
YULB Yu-li 39.46 232 *e*P P **09 09 45.2 -0.9**
NVS Novosibirsk 39.60 301 *i* P P **09 09 47.8 +1.0**
NVS *i* *P PP 09 11 28.4 +11
NVS *i* S **S** **09 15 13.9 +1.3**
NVS *i* SS SS 09 18 23.8 -9.4
TPUB Ta-pu 39.85 233 *e*P P **09 09 48.9 -0.4**
comp=Z,2μm,1.0s,mb6.6
ENH Enshi 39.97 252 *e*P P **09 09 50.0 -0.2**
comp=Z,597nm,0.3s,mb6.5
WRAK Wrangell Islan 39.97 56 *e*P P **09 09 50.9 +1.1**
comp=Z,1μm,0.8s,mb6.4
CRAG Craig 40.05 58 *e*P P **09 09 51.4 +0.9**
TWG Pinlang 40.06 232 *e*P P **09 09 50.4 -0.6**
comp=Z,2μm,0.8s,mb6.5
DLBC Dease Lake 40.11 52 P P **09 09 51.1 +0.3**
comp=Z,356nm,0.8s,mb5.8,baz=295,slow=8.7,SNR=302
DLBC PP PP 09 11 35.4 -2.2
comp=Z,316nm,1.1s,baz=292,slow=5.9,SNR=3.6
DLBC ScP ScP 09 14 49.3 +5.8
comp=Z,802nm,1.1s,baz=279,slow=3.7,SNR=10
DLBC Dease Lake 40.11 52 P P **09 09 51.1 +0.3**
DLBC PP PP 09 11 35.4 -2.2
DLBC ScP ScP 09 14 49.3 +5.8
GUMO Guam 41.21 194 P P **09 09 59.2 -0.9**
comp=Z,150nm,0.5s,mb5.7,baz=338,slow=5.6,SNR=10
GUMO ScP ScP 09 14 52.3 +3.8
comp=Z,2μm,1.1s,baz=187,slow=6.2,SNR=12
GUMO Guam 41.21 194 *e*P P **09 09 59.1 -1.1**
comp=Z,787nm,1.1s,mb6.0
GUMO ScP ScP 09 14 52.3 +3.8
GUMO Guam 41.21 194 *e*P P **09 09 59.1 -1.1**
GUMO pmax pmax
comp=Z,787nm,1.1s,mb6.0
GUMO Guam 41.21 194 P P **09 09 59.1 -1.1**
comp=Z,802nm,1.2s,mb6.0
DIB Dawson Inlet, 41.54 60 P P **09 10 01.5 -0.8**
SNR=1043
ALE Alert 42.23 7 P P **09 10 07.0 -0.4**
comp=Z,18μm,0.9s,mb7.5
CD2 Chengdu 42.73 258 P P **09 10 13.0 +0.9**
CD2 pP pP 09 11 50.4 +6.1
CD2 PP PP 09 12 04.6 +1.8
CD2 sP sP 09 12 40.3 -0.6
CD2 S **S** **09 16 01.6 +3.0**
CD2 SS SS 09 19 22.0 -3.2
CD2 pmax pmax
comp=Z,3μm,1.4s,mb6.5
CD2 pmax pmax
comp=Z,79μm,10.1s
WMQ Urumqi 43.34 285 P P **09 10 18.5 +1.9**
WMQ pP pP 09 11 48.6 -0.6
WMQ PP PP 09 12 09.9 +1.8
WMQ S **S** **09 16 11.6 +4.7**
WMQ ScS ScS 09 19 23.3 +4.0
WMQ pmax pmax
comp=Z,11μm,0.8s,mb7.3
WMQ pmax pmax
comp=Z,64μm,6.0s
RES Resolute Bay 43.54 21 P P **09 10 17.8 0.0**
comp=Z,300nm,0.5s,mb6.0,baz=321,slow=6.5,SNR=956
RES ScP ScP 09 15 01.7 +4.6
comp=Z,586nm,0.8s,baz=308,slow=4.3,SNR=9.1
RES S **S** **09 16 13.1 +4.0**
comp=Z,98nm,1.0s,baz=90,slow=19,SNR=8.7
RES Resolute Bay 43.54 21 *e*P P **09 10 17.6 -0.2**
comp=Z,24nm,1.1s
RES ScP ScP 09 15 01.7 +4.6
RES S **S** **09 16 13.1 +4.0**
RES Resolute Bay 43.54 21 *e*P P **09 10 17.6 -0.2**
RES S **S** **09 16 13.1 +4.0**
HKC Hong Kong Obse 43.84 239 ⇓*i*P P **09 10 18.0 -2.8**
PIP Pasuquin 44.18 229 ⇑*e*P P **09 10 21.4 -2.1**
KURK Kurchatov 44.18 298 P P **09 10 24.3 +1.3**
comp=Z,4μm,0.7s,mb6.9,baz=60,slow=7.4,SNR=3670
KURK PP PP 09 12 04.4 -11
comp=Z,680nm,0.7s,baz=62,slow=8.2,SNR=3.9
KURK ScP ScP 09 15 07.2 +7.2
comp=Z,467nm,1.0s,baz=47,slow=3.5,SNR=6.4
KURK S **S** **09 16 20.9 +2.3**
comp=Z,274nm,1.0s,baz=57,slow=13,SNR=4.4
KURK PKP2ab 09 43 06.9
comp=Z,5.1nm,1.0s,baz=247,slow=4.7,SNR=4.2
KURK P4KPbc 09 48 07.1
comp=Z,5.5nm,0.6s,baz=57,slow=4.2,SNR=21
KURK Kurchatov 44.18 298 *e*P P **09 10 23.6 +0.6**
comp=Z,12μm,0.7s,mb7.4
KURK PP PP 09 12 04.4 -11
KURK ScP ScP 09 15 07.2 +7.2
KURK S **S** **09 16 20.9 +2.3**
KURK *e* 09 43 06.9
KURK *e* 09 48 07.1
KURK Kurchatov 44.18 298 P P **09 10 24.3 +1.3**
KURK 09 12 04.4
KURK S **S** **09 16 21.0 +2.3**
KURK smax
comp=N,274nm,1.0s
KURK Kurchatov 44.18 298 P P **09 10 23.5 +0.5**
comp=N,106μm,0.9s
KURK Kurchatov 44.18 298 P P **09 10 23.8 +0.8**
SNR=6549
BBB Bella Bella 44.32 59 P P **09 10 23.4 -0.7**
comp=N,307nm,0.9s,mb5.7,baz=294,slow=7.5,SNR=23
BBB ScP ScP 09 15 05.7 +5.1
comp=N,367nm,1.4s,baz=206,slow=3.0,SNR=4.1
BBB Bella Bella 44.32 59 P P **09 10 23.4 -0.7**
BBB ScP ScP 09 15 05.7 +5.1
GYA Guiyang 44.48 251 ⇓*i*P P **09 10 26.0 +0.3**
GYA pP pP 09 11 58.9 -0.1
GYA PP PP 09 12 19.5 +0.6
GYA sP sP 09 12 58.9 +3.6
GYA PcS PcS 09 15 52.0 -0.7
GYA S **S** **09 16 24.3 +0.7**
GYA sS sS 09 19 14.3 +1.5
GYA ScS ScS 09 19 26.1 -1.0
GYA SS SS 09 19 51.0 -2.6
GYA pmax pmax
comp=Z,3μm,0.7s,mb6.8
GYA pmax pmax
comp=Z,23μm,6.0s
PALP Palanan 44.51 226 ⇑*e*P P **09 10 25.3 -0.8**
MK31 Makanchi Array 44.54 291 *e*P P **09 10 26.4 +0.5**
MK31 Makanchi Array 44.54 291 *i* P P **09 10 26.4 +0.5**
MK31 pmax pmax
comp=Z,4μm,0.6s,mb7.1
MKAR Makanchi Array 44.54 291 P P **09 10 26.4 +0.5**
comp=Z,563nm,0.5s,mb6.3,baz=55,slow=7.3,SNR=2049
MKAR ScP ScP 09 15 07.6 +6.0
comp=Z,412nm,1.1s,baz=54,slow=2.1,SNR=4.0
MKAR S **S** **09 16 29.6 +5.7**
comp=Z,49nm,0.7s,baz=32,slow=20,SNR=2.1
MKAR P3KP 09 41 05.0
comp=Z,3.6nm,1.0s,baz=194,slow=2.5,SNR=3.7
MKAR P4KPbc 09 48 09.1
comp=Z,3.4nm,0.9s,baz=54,slow=4.5,SNR=9.2
MKAR Makanchi Array 44.54 291 *e*P P **09 10 25.9 0.0**
MKAR ScP ScP 09 15 07.6 +6.0
MKAR S **S** **09 16 29.6 +5.7**
MKAR PKKKP 09 41 05.0
MKAR *e* 09 48 09.1
MKAR Makanchi Array 44.54 291 *e*P P **09 10 25.9 0.0**
MKAR S **S** **09 16 29.6 +5.7**
YKA Yellowknife Ar 44.63 41 P P **09 10 26.4 0.0**
comp=Z,191nm,0.4s,mb5.9,baz=304,slow=8.9,SNR=845
YKA PP PP 09 12 11.2 -8.2
comp=Z,102nm,0.6s,baz=316,slow=3.6,SNR=4.1
YKA ScP ScP 09 15 07.9 +6.2
comp=Z,201nm,0.9s,baz=305,slow=4.0,SNR=8.8
YKA S **S** **09 16 29.9 +5.1**
comp=Z,57nm,0.8s,baz=306,slow=13,SNR=4.2
YKA Yellowknife Ar 44.63 41 P P **09 10 26.4 0.0**
YKA PP PP 09 12 11.2 -8.2
YKA ScP ScP 09 15 08.0 +6.2
YKA S **S** **09 16 29.9 +5.1**
YKA Yellowknife Ar 44.63 41 P P **09 10 26.4 0.0**
YKA S **S** **09 16 29.9 +5.1**
YKA pmax pmax
comp=Z,191nm,0.4s
YKA smax
comp=N,57nm,0.8s
KBS Kingsbay 45.23 350 ⇓*i*P P **09 10 30.8 0.0**
KBS AMB AMB 09 10 47.1
comp=Z,4μm,1.1s,mb6.8
KBS *e*S **S** **09 16 37.0 +4.1**
KBS Kingsbay 45.23 350 *e*P P **09 10 31.1 +0.4**
comp=Z,4μm,0.9s,mb6.9
KBS Kingsbay 45.23 350 *de*P P **09 10 31.2 +0.4**
KBS pmax pmax
comp=Z,757nm,0.7s,mb6.2
SPA0 Spitsbergen Ar 45.40 349 ⇓*i*P P **09 10 30.9 -1.2**
SPA0 *e*P 09 10 31.8
SPITS Spitsbergen Ar 45.40 349 P P **09 10 32.5 +0.4**
comp=Z,477nm,0.5s,mb6.2,baz=66,slow=16,SNR=1459
SPITS ScP ScP 09 15 10.8 +6.1
comp=Z,136nm,0.7s,baz=358,slow=5.8,SNR=3.5
SPITS S **S** **09 16 38.3 +3.0**
comp=Z,63nm,0.9s,baz=56,slow=19,SNR=1.8
SPITS Spitsbergen Ar 45.40 349 P P **09 10 32.5 +0.4**
SPITS ScP ScP 09 15 10.8 +6.1
SPITS S **S** **09 16 38.3 +3.0**
SPITS Spitsbergen Ar 45.40 349 P P **09 10 32.5 +0.4**
SPITS S **S** **09 16 38.3 +3.0**
SPITS pmax pmax
comp=Z,477nm,0.5s
SPB4 Spitsbergen Ar 45.41 349 *e*P P **09 10 32.1 0.0**
KWAJ Kwajalein Atol 46.54 162 *e*P P **09 10 42.0 +0.4**
comp=Z,3μm,1.0s,mb6.6
KWAJ Kwajalein Atol 46.54 162 *e*P P **09 10 42.0 +0.4**
KWAJ pmax pmax
comp=Z,3μm,1.0s,mb6.6
JOHN Johnston Islan 46.70 129 *e*P P **09 10 41.7 -1.0**
comp=Z,51μm,2.7s,mb7.5
BVA0 Borovoye Array 46.95 305 *i* P P **09 10 44.3 +0.2**
BVA0 pmax pmax
comp=Z,704nm,0.6s,mb6.3
BVAR Borovoye Array 46.95 305 P P **09 10 44.6 +0.4**
comp=Z,2μm,0.5s,mb6.8,baz=59,slow=7.5,SNR=4142
BVAR pP pP 09 12 13.2 -5.5
comp=Z,822nm,0.6s,baz=57,slow=3.6,SNR=3.6
BVAR ScP ScP 09 15 18.0 +6.4
comp=Z,213nm,0.7s,baz=59,slow=4.4,SNR=4.2
BVAR S **S** **09 16 58.5 +1.1**
comp=Z,129nm,0.8s,baz=89,slow=16,SNR=3.7
BVAR P3KP 09 40 48.6
comp=Z,3.5nm,0.9s,baz=222,slow=2.0,SNR=3.9
BVAR P4KPbc 09 48 18.8
comp=Z,12nm,0.8s,baz=67,slow=3.7,SNR=17
BVAR Borovoye Array 46.95 305 P P **09 10 44.6 +0.4**
BVAR pP pP 09 12 13.2 -5.5
BVAR ScP ScP 09 15 18.0 +6.4
BVAR S **S** **09 16 58.5 +1.1**
BVAR PKKKP 09 40 48.6
BVAR *e* 09 48 18.8
BVAR Borovoye Array 46.95 305 P P **09 10 44.6 +0.5**
BVAR *PP pP 09 12 13.2 -5.5
BVAR S **S** **09 16 58.5 +1.1**
BVAR smax
comp=N,129nm,0.8s
GQP Guinayangan 47.34 224 ⇓*e*P P **09 10 47.7 +0.1**
OZB Mount Ozzard 47.59 62 P P **09 10 49.1 +0.1**
KMI Kunming 47.72 254 P P **09 10 51.0 +0.6**
KMI PP PP 09 12 48.9 +0.7
KMI S **S** **09 17 10.4 +1.5**
KMI SS SS 09 20 41.3 -3.8
KMI pmax pmax
comp=Z,1μm,1.5s,mb6.0
KMI pmax pmax
comp=Z,48μm,10.3s
TGY Tagaytay City 47.79 226 P P **09 10 50.7 -0.3**
comp=Z,391nm,0.5s,mb6.0,baz=242,slow=4.8,SNR=30
TGY pP pP 09 12 18.2 -7.9
comp=Z,2μm,0.8s,baz=157,slow=7.6,SNR=3.0
TGY ScP ScP 09 15 22.1 +6.4
comp=Z,2μm,1.0s,baz=342,slow=3.8,SNR=8.0
TGY Tagaytay City 47.79 226 P P **09 10 50.7 -0.3**
TGY pP pP 09 12 18.2 -7.9
TGY ScP ScP 09 15 22.1 +6.4
TGY Tagaytay City 47.79 226 P P **09 10 50.7 -0.3**
TGY pmax pmax
comp=Z,391nm,0.5s
TGY Tagaytay City 47.79 226 ⇓*e*P P **09 10 59.5 +8.5**
BJO Bjornoya 48.11 345 ⇓*i*P P **09 10 51.0 -1.6**
PFB Port Renfrew 48.37 61 P P **09 10 54.9 -0.1**
KIP Kipapa 48.53 113 *e*P P **09 10 55.4 -1.1**
comp=Z,2μm,0.9s,mb6.5
KIP Kipapa 48.53 113 *ce*P P **09 10 55.5 -1.0**
KIP pmax pmax
comp=Z,1μm,0.8s,mb6.3
HON Honolulu 48.62 113 *e*P P **09 10 56.4 -0.8**
HON Honolulu 48.62 113 *e*P P **09 10 56.4 -0.7**
OTR Olympics--Tyee 48.73 62 P P **09 10 58.0 +0.4**
QIZ Qiongzhong 48.78 242 P P **09 10 59.5 +1.1**
QIZ sP sP 09 13 31.5 +1.9
QIZ S **S** **09 17 26.3 +2.7**
QIZ pmax pmax
comp=Z,2μm,1.1s,mb6.5
QIZ pmax pmax
comp=Z,49μm,13.0s
QIZ Qiongzhong 48.78 242 *e*P P **09 10 59.6 +1.3**
comp=Z,3μm,1.0s,mb6.5
PGC Sidney 48.83 61 *e*P P **09 10 58.0 -0.3**
comp=Z,49nm,1.7s
PLP Palo 48.84 220 ⇓*e*P P **09 10 58.4 -0.4**
SOKR Solikamsk 48.88 318 *d*↓P P **09 10 58.5 0.0**
SOKR *SP sP 09 13 30.7 +0.7
SOKR S **S** **09 17 29.8 +6.0**
SOKR SS SS 09 21 09.0 +7.0
SOKR pmax pmax
comp=Z,4μm,1.3s,mb6.6
STW Striped Peak 49.04 61 P P **09 10 59.9 0.0**
SVE Sverdlovsk 49.04 313 *c*↓P P **09 11 00.5 +0.7**
SVE *i* S **S** **09 17 32.4 +6.3**
SVE *e* 09 20 30.3
SVE pmax pmax
comp=Z,6μm,0.9s,mb6.9
SVE pmax pmax
comp=N,2μm,0.9s
SVE pmax pmax
comp=E,3μm,1.0s
SVE smax
comp=N,27μm,10.0s
SVE smax
comp=E,13μm,8.9s
MCW Mount Constitu 49.13 60 P P **09 11 00.6 +0.1**
MCW Mount Constitu 49.13 60 P P **09 11 00.6 +0.1**
DAG Danmarks Havn 49.20 358 ⇓*i*P P **09 11 00.1 -0.6**
DAG *PP pP 09 12 36.8 +0.4
DAG *i* S **S** **09 17 32.8 +4.9**
DAG pmax pmax
comp=Z,1μm,0.9s,mb6.3
DAG Danmarks Havn 49.20 358 ⇓*i*P P **09 11 00.1 -0.6**
comp=Z,2μm,0.9s,mb6.3
DAG *i* pP pP 09 12 36.8 +0.4
DAG *i* S **S** **09 17 32.8 +4.9**
A05A Maple Falls 49.30 60 ⇓P P **09 11 01.2 -0.6**
baz=49,SNR=140
A05A ⇑S **S** **09 17 30.8 +0.8**
baz=49
A05A Maple Falls 49.30 60 P P **09 11 01.4 -0.5**
RCP Roxas 49.34 223 ⇓*e*P P **09 11 02.8 +0.3**
NLWA Neilton Lookou 49.42 62 *e*P P **09 11 03.1 +0.4**
comp=Z,1μm,0.8s,mb6.2
MBW Mount Baker 49.54 60 P P **09 11 03.5 0.0**
CMW Cultus Mountai 49.66 60 P P **09 11 04.8 +0.3**
HDW Hoodsport 49.68 62 P P **09 11 04.9 +0.3**
AAA Alma-Ata 49.70 291 *i* P P **09 11 06.8 +1.9**
AAA *i* S **S** **09 17 42.3 +6.8**
AAA pmax pmax
comp=Z,62μm,4.8s
AAA smax
comp=E,44μm,15.1s
GNW Green Mountain 49.85 62 *e*P P **09 11 05.8 -0.1**
comp=E,333nm,1.0s,mb5.6
JCW Jim Creek 49.90 60 P P **09 11 06.3 0.0**
RPW Rockport 49.95 60 *e*P P **09 11 05.7 -0.9**
LLP Lapu-Lapu 50.00 220 *e*P P **09 11 07.3 0.0**
E03A Lebam 50.13 63 ⇑P P **09 11 07.8 -0.1**
baz=50,SNR=83
E03A ⇓S **S** **09 17 43.5 +2.3**
baz=50
ARU Arti 50.18 314 *e*P P **09 11 08.4 +0.3**
comp=E,4μm,0.6s,mb7.0
ARU Arti 50.18 314 *d*↓P P **09 11 08.3 +0.2**
ARU *e* 09 12 20.9
ARU *PP pP 09 12 43.2 -1.2
ARU *e* 09 13 07.5
ARU *SP sP 09 13 36.2 -3.9
ARU *eS **S** **09 17 44.8 +3.2**
ARU *e* 09 20 06.7
ARU *eSS SS 09 21 24.9 +2.4
ARU pmax pmax
comp=Z,6μm,1.2s,mb6.8
ARU Arti 50.18 314 P P **09 11 08.6 +0.5**
comp=Z,35μm,0.8s,mb7.7
LVZ Lovozero 50.26 335 *e*P P **09 11 08.2 -0.4**
comp=Z,2μm,0.9s,mb6.5
LVZ Lovozero 50.26 335 *de*P P **09 11 08.3 -0.3**
LVZ pmax pmax
comp=Z,1μm,0.9s,mb6.2
LVZ Lovozero 50.26 335 P P **09 11 08.1 -0.5**
comp=Z,14μm,1.0s,mb7.3
D05A Enumclaw 50.52 61 ⇑P P **09 11 11.2 +0.4**
baz=50,SNR=81
D05A ⇑S **S** **09 17 48.0 +1.4**
baz=50
KEV Kevo 50.59 339 *e*P P **09 11 10.2 -0.7**
comp=Z,5μm,0.7s,mb6.9
KEV Kevo 50.59 339 *e*P P **09 11 10.2 -0.7**
KEV pmax pmax
comp=Z,1μm,0.7s,mb6.3
KEV Kevo 50.59 339 *ep* P **09 11 10.2 -0.7**
comp=Z,1μm,0.7s,mb6.3
TBP Tagbilaran 50.61 220 *e*P P **09 11 10.7 -1.2**
WRW Wenatchee Ridg 50.66 60 P P **09 11 11.8 0.0**
TKM2 Tokmak 2 50.67 291 P P **09 11 13.2 +1.2**
SNR=75
TKM2 Tokmak 2 50.67 291 *e*P P **09 11 13.2 +1.2**
comp=Z,5μm,0.8s,mb6.9
TKM2 Tokmak 2 50.67 291 *i* P P **09 11 13.1 +1.1**
ULHL Ulahol 50.77 290 P P **09 11 14.0 +1.3**
SNR=431
APA Apatity 50.82 335 ⇑*i*P P **09 11 12.0 -0.7**
APA *i* 09 12 22.0
APA *i* *PP pP 09 12 48.0 -1.3
APA *i* S **S** **09 17 54.0 +4.0**
APA pmax pmax
comp=Z,650nm,0.7s,mb6.1
HEBO Mount Hebo 50.90 64 *e*P P **09 11 14.0 +0.4**
comp=Z,1μm,0.8s,mb6.3
LON Longmire 50.91 62 *e*P P **09 11 13.3 -0.3**
comp=Z,2μm,1.6s,mb6.1
LON Longmire 50.91 62 *e*P P **09 11 13.3 -0.3**
LON pmax pmax
comp=Z,2μm,1.6s,mb6.1
TDL Tradedollar La 50.96 62 P P **09 11 14.2 +0.1**
LSA Lhasa 50.96 268 P P **09 11 15.9 +1.6**
LSA S **S** **09 17 58.4 +5.4**
LSA Lhasa 50.96 268 *e*P P **09 11 16.4 +2.0**
comp=Z,10μm,0.9s,mb7.2
LSA Lhasa 50.96 268 *e*P P **09 11 16.4 +2.1**
LSA pmax pmax
comp=Z,10μm,0.9s,mb7.2
USP Ospenovka 51.04 292 P P **09 11 15.9 +1.3**
SNR=82
ARCES ARCESS Array B 51.08 339 P P **09 11 14.0 -0.5**
comp=Z,531nm,0.8s,mb5.9,baz=52,slow=7.9,SNR=466
ARCES ScP ScP 09 15 35.0 +6.0
comp=Z,218nm,0.7s,baz=37,slow=4.6,SNR=5.2
ARCES S **S** **09 17 54.0 +0.6**
comp=Z,173nm,1.1s,baz=35,slow=15,SNR=5.9
ARCES ARCESS Array B 51.08 339 P P **09 11 14.0 -0.5**
ARCES ScP ScP 09 15 35.0 +6.0
ARCES S **S** **09 17 54.0 +0.6**
ARCES ARCESS Array B 51.08 339 P P **09 11 14.0 -0.5**
ARCES S **S** **09 17 54.1 +0.7**
ARCES pmax pmax
comp=Z,531nm,0.8s
ARCES smax
comp=N,173nm,1.1s
ARE0 ARCESS Array S 51.08 339 *e*P P **09 11 14.2 -0.3**
CHMS Chumysh 51.08 292 P P **09 11 16.0 +1.1**
SNR=885
ETW Entiat 51.10 60 *e*P P **09 11 14.9 -0.1**
SNPH Sibulan 51.17 221 ⇓*e*P P **09 11 18.1 +2.2**
KBK Karagaybulak 51.20 292 P P **09 11 17.1 +1.3**
SNR=48
POHA Pohakuloa 51.23 112 *e*P P **09 11 15.4 -0.9**
comp=N,5μm,0.9s,mb6.8
WTV Waterville 51.23 60 P P **09 11 15.5 -0.5**
FRU Bishkek 51.27 292 ⇓*i*P P **09 11 17.6 +1.3**
FRU *i* *PP pP 09 12 57.0 +3.8
FRU *e* 09 13 51.0
FRU *i* S **S** **09 17 59.5 +2.8**
FRU *i* *SS sS 09 20 58.0 +6.8
FRU pmax pmax
comp=Z,54μm,7.5s

FRU smax
comp=E,37µm,7.8s
KZA Kyzart 51.43 291 P **P** 09 11 19.4 +1.9
SNR=91
AAK Ala-Archa 51.47 292 P **P** 09 11 19.1 +1.3
SNR=456
AAK Ala-Archa 51.47 292 *e*P **P** 09 11 19.0 +1.2
comp=E,48µm,1.0s,mb7.8
AAK Ala-Archa 51.47 292 *i* P **P** 09 11 19.0 +1.2
AAK Ala-Archa 51.47 292 P **P** 09 11 18.9 +1.1
AAK Ala-Archa 51.47 292 P **P** 09 11 19.3 +1.5
comp=E,62µm,1.0s,mb7.9
AAK Ala-Archa 51.47 292 P **P** 09 11 19.2 +1.4
SNR=4696
COR Corvallis 51.56 65 *e*P **P** 09 11 18.9 +0.5
comp=E,4µm,1.5s,mb6.5
COR Corvallis 51.56 65 *e*P **P** 09 11 18.9 +0.5
COR pmax pmax
comp=Z,4µm,1.5s,mb6.5
VLMM Larch Mountain 51.59 63 P **P** 09 11 18.8 +0.1
KHU Kahuku 51.59 112 *e*P **P** 09 11 18.2 -0.8
KHU Kahuku 51.59 112 *e*P **P** 09 11 18.2 -0.8
PUH Pauahi 51.71 112 *e*P **P** 09 11 18.9 -0.9
UCH Uchtor 51.73 291 P **P** 09 11 21.2 +1.5
SNR=151
STCH Steam Cracks 51.75 112 *e*P **P** 09 11 19.1 -1.0
DCPH Dipolog City 51.82 220⇑*e*P **P** 09 11 23.2 +2.6
EKS2 Erkin-Say 51.84 292 P **P** 09 11 21.9 +1.4
SNR=586
EKS2 Erkin-Say 51.84 292 *e*P **P** 09 11 21.9 +1.4
comp=Z,8µm,0.8s,mb7.1
EKS2 Erkin-Say 51.84 292 *e*P **P** 09 11 21.9 +1.4
EKS2 pmax pmax
comp=Z,8µm,0.8s,mb7.1
HOOD Mount Hood Mea 51.94 63 *e*P **P** 09 11 21.5 +0.4
comp=Z,4µm,1.1s,mb6.7
KTK1 Kautokeino 51.97 340⇓*i*P **P** 09 11 20.3 -0.7
KTK1 *e*S **S** 09 18 07.1 +1.7
C09A Chrisman Ranch 52.01 59⇑P **P** 09 11 21.3 -0.4
baz=52,SNR=161
C09A ⇓S **S** 09 18 05.4 -1.2
baz=52
E07A Sunnyside 52.04 61⇑P **P** 09 11 21.7 -0.1
baz=52,SNR=202
OD2 Odessa Site #2 52.06 59 *e*P **P** 09 11 21.4 -0.6
H04A Detroit Lake 52.09 64⇑P **P** 09 11 22.1 -0.1
baz=52,SNR=97
KEBM Edson Butte 52.16 67 *e*P **P** 09 11 23.5 +0.7
comp=Z,2µm,1.0s,mb6.3
AML Almayashu 52.24 292 P **P** 09 11 25.1 +1.7
SNR=99
NEW Newport 52.27 58⇓P **P** 09 11 23.2 -0.3
baz=52,SNR=193
NEW Newport 52.27 58 *e*P **P** 09 11 23.1 -0.4
comp=Z,891nm,1.0s,mb6.0
NEW Newport 52.27 58 *e*P **P** 09 11 23.1 -0.4
NEW pmax pmax
comp=Z,891nm,1.0s
TRO Tromso 52.28 342⇓*i*P **P** 09 11 22.3 -0.9
TRO AMB AMB 09 11 38.6
comp=Z,3µm,0.8s,mb6.7
RSW Rattlesnake Hi 52.28 61 *e*P **P** 09 11 23.6 0.0
HAWA Hanford 52.32 61 *e*P **P** 09 11 23.5 -0.3
comp=Z,3µm,1.8s,mb6.3
DAV Davao City (W) 52.40 217 P **P** 09 11 26.2 +1.4
comp=Z,208nm,0.5s,mb5.8,baz=348,slow=13,SNR=18
DAV ScP ScP 09 15 41.1 +5.6
comp=Z,3µm,0.9s,baz=54,slow=6.0,SNR=18
DAV Davao City (W) 52.40 217 *e*P **P** 09 11 26.0 +1.2
comp=Z,1µm,1.1s,mb6.1
DAV ScP ScP 09 15 41.1 +5.6
DAV Davao City (W) 52.40 217 P **P** 09 11 27.5 +2.7
comp=Z,1µm,1.3s,mb6.1
DAV Davao City (W) 52.40 217⇓*e*P **P** 09 11 25.4 +0.5
DAV Davao City (W) 52.40 217 P **P** 09 11 26.2 +1.4
SNR=23
F07A Phinny Hill Vi 52.45 61⇑P **P** 09 11 24.9 +0.2
baz=52,SNR=271
E08A Dider Farm, El 52.49 60⇓P **P** 09 11 24.6 -0.5
baz=52,SNR=248
G06A Carlson Farm, 52.53 63⇑P **P** 09 11 25.3 -0.1
baz=52,SNR=114
A12A Yaak River Ran 52.55 56⇓P **P** 09 11 25.5 0.0
baz=52,SNR=137
KBO Bosley Butte 52.67 68 *e*P **P** 09 11 27.4 +1.0
comp=Z,5µm,1.2s,mb6.7
KSH Kashi 52.78 288⇓*i*P **P** 09 11 32.0 +4.7
KSH PcP PcP 09 12 33.0 +4.5
KSH pP pP 09 13 06.6 +1.7
KSH PP PP 09 13 40.4 +7.2
KSH PcS PcS 09 16 31.1 +3.2
KSH S **S** **09 18 22.3 +5.3**
KSH ScS ScS 09 20 28.6 +5.4
KSH SS SS 09 22 13.8 +10
KSH pmax pmax
comp=Z,7µm,1.2s,mb6.9
KSH pmax pmax
comp=Z,35µm,4.8s
B12A Libby 52.89 57⇓P **P** 09 11 27.7 -0.2
baz=53,SNR=36
E09A Wood Farm, Sta 52.94 60⇑P **P** 09 11 28.1 -0.2
baz=53,SNR=509
C11A Tepee Creek (N 52.99 58⇓P **P** 09 11 28.6 -0.1
baz=53
VIPM Ingram Point 53.03 63 P **P** 09 11 29.2 +0.2
VIPM Ingram Point 53.03 63 P **P** 09 11 29.2 +0.2
IMP Imphal 53.03 261 *e*PKP **P** 09 11 29.0 -0.3
IMP *e*S **S** **09 18 21.0 +0.3**
HUMO Hull Mountain 53.08 66 *e*P **P** 09 11 30.0 +0.6
comp=Z,852nm,0.9s,mb6.1
A13A Flathead Natio 53.15 55⇑P **P** 09 11 29.4 -0.3
baz=53
SUMG Summit 53.19 5 *e*P **P** 09 11 30.3 +0.6
SUMG Summit 53.19 5 *e*P **P** 09 11 30.3 +0.6
SUMG Summit 53.19 5⇓*i*P **P** 09 11 30.4 +0.7
comp=Z,4µm,1.0s,mb6.7
SUMG *i* pP pP 09 13 09.1 +1.6
SUMG *i* S **S** **09 18 25.5 +4.0**
SUMG
comp=Z,20µm,20.0s
KK31 Karatay Array 53.30 295 P **P** 09 11 31.3 +0.4
KK31 pmax pmax
comp=Z,4µm,0.8s,mb6.8
KKAR Karatay Array 53.30 295 *e*P **P** 09 11 31.3 +0.4
KKAR Karatay Array 53.30 295 *e*P **P** 09 11 31.3 +0.4
WALA Waterton Lakes 53.31 55 *e*P **P** 09 11 30.9 +0.1
comp=Z,4.9nm,0.4s
LNOR Lincton Mounta 53.31 61 *e*P **P** 09 11 30.9 0.0
LNOR Lincton Mounta 53.31 61 *e*P **P** 09 11 30.9 0.0
KRMB Red Mountain 53.31 68 *e*P **P** 09 11 32.0 +1.0
comp=Z,2µm,1.1s,mb6.5
G08A Pilot Rock 53.36 61⇑P **P** 09 11 31.2 -0.1
baz=53,SNR=192
C12B Naegeli Ranch, 53.47 57⇓P **P** 09 11 32.0 0.0
baz=53,SNR=613
B13A Whitefish 53.51 56⇑P **P** 09 11 32.3 0.0
baz=53,SNR=104
CHRT Chiangrai 53.53 252⇓P **P** 09 11 33.0 +0.1
comp=Z,4µm,0.8s,mb6.8
A14A Double T Ranch 53.60 55⇓P **P** 09 11 32.9 -0.1
baz=53,SNR=226
SHL Shillong 53.63 264⇓*i*P **P** 09 11 33.0 -0.5
SHL *i* S **S** **09 18 30.0 +1.4**
BSMT Bassoo Peak 53.71 57 *e*P **P** 09 11 34.3 +0.6
F10A Beach Ranch, E 53.78 60⇓P **P** 09 11 34.0 -0.2
baz=54,SNR=354
BLMT Blacktail Moun 53.80 56 *e*P **P** 09 11 34.7 +0.3
YBH Yreka Blue Hor 53.82 67 *e*P **P** 09 11 35.6 +1.0
comp=Z,2µm,1.0s,mb6.3
YBH Yreka Blue Hor 53.82 67 *e*P **P** 09 11 35.6 +1.0
YBH pmax pmax
comp=Z,2µm,1.0s
KHMM Horse Mountain 53.86 68 *e*P **P** 09 11 36.2 +1.3
comp=Z,10µm,1.2s,mb7.0
I07A Izee 53.90 63⇑P **P** 09 11 35.5 +0.3
baz=54,SNR=194
A15A Johnson Ranch, 53.93 54⇓P **P** 09 11 34.5 -0.7
baz=54,SNR=300
C13A Hot Springs 53.93 57⇑P **P** 09 11 35.2 -0.1
baz=54
D12A Red Ives Fores 53.98 58⇓P **P** 09 11 34.8 -0.8
baz=54
JTMT Jette 54.03 56 *e*P **P** 09 11 36.4 +0.4
YBMT Yellow Bay 54.08 56 *e*P **P** 09 11 36.2 -0.1
B14A Marquette Ranc 54.09 55⇑P **P** 09 11 36.2 -0.2
baz=54,SNR=80

K05A Summer Lake 54.11 65⇓P **P** 09 11 37.8 +1.2
baz=54,SNR=520
KLMR Klimovskoe 54.18 327*d* iP **P** 09 11 37.2 +0.4
KLMR *i* *PP pP 09 13 19.2 +4.0
KLMR *i* 09 14 11.5
KLMR *e*S **S** **09 18 33.7 -1.1**
KLMR *i* 09 20 35.0
KLMR pmax pmax
comp=E,11µm,6.2s
KLMR pmax pmax
comp=Z,7µm,1.3s,mb6.8
GTK Gangtok 54.21 268 *ex* x 09 11 34.5
C14A Swan Lake 54.27 56⇓P **P** 09 11 37.9 +0.2
baz=54
E12A Beaver Dam Sad 54.31 58⇓P **P** 09 11 37.8 -0.2
baz=54
SWMT Swartz Lake 54.33 57 *e*P **P** 09 11 38.3 +0.1
AB31 Akbulak array 54.39 307 *i* P **P** 09 11 38.7 +0.2
AB31 pmax pmax
comp=Z,877nm,0.4s,mb6.4
ABKAR Akbulak array 54.39 307 *e*P **P** 09 11 38.7 +0.2
D13A Huson 54.39 57⇑P **P** 09 11 38.5 -0.1
baz=54,SNR=132
STEI Steigen 54.43 342 *e*P **P** 09 11 37.7 -0.8
STEI AMB AMB 09 11 52.5
comp=Z,1µm,1.4s,mb6.1
STEI *e*S **S** **09 18 41.9 +4.0**
UBT Ubonrachathani 54.45 244 P **P** 09 11 41.8 +2.4
comp=Z,465nm,1.0s,mb5.8
AKTO Aktyubinsk 54.47 309 P **P** 09 11 39.1 0.0
comp=Z,792nm,0.7s,mb6.1,baz=68,slow=9.1,SNR=694
AKTO S **S** **09 18 42.4 +3.4**
comp=Z,44nm,0.9s,baz=284,slow=22,SNR=2.3
AKTO Aktyubinsk 54.47 309 P **P** 09 11 39.1 0.0
AKTO S **S** **09 18 42.4 +3.4**
AKTO Aktyubinsk 54.47 309 P **P** 09 11 39.1 +0.1
AKTO S **S** **09 18 42.4 +3.5**
AKTO pmax pmax
comp=Z,792nm,0.7s,mb6.2
AKTO smax
comp=N,44nm,0.9s
B15A Bradely Ranch, 54.47 55⇓P **P** 09 11 38.8 -0.3
baz=54,SNR=323
A16A West Butte Ran 54.49 54⇑P **P** 09 11 38.7 -0.6
baz=54
JMIC Jan Mayen 54.49 353⇓*i*P **P** 09 11 38.5 -0.4
JMIC AMB AMB 09 11 54.2
comp=Z,3µm,1.9s,mb6.4
JMIC Jan Mayen 54.49 353 P **P** 09 11 40.4 +1.4
comp=Z,602nm,0.7s,mb6.0,baz=349,slow=3.4,SNR=28
JMIC ScP ScP 09 15 50.7 +6.8
comp=Z,179nm,1.0s,baz=128,slow=4.7,SNR=3.4
JMIC Jan Mayen 54.49 353 P **P** 09 11 40.4 +1.4
JMIC ScP ScP 09 15 50.7 +6.8
BMO Blue Mountains 54.51 61 *e*P **P** 09 11 39.5 +0.1
comp=Z,641nm,0.9s,mb6.0
FFC Flin Flon 54.66 44 *e*P **P** 09 11 40.7 +0.4
comp=Z,2µm,0.7s,mb6.5
FFC Flin Flon 54.66 44 *i* P **P** 09 11 40.7 +0.4
FFC Flin Flon 54.66 44 P **P** 09 11 40.8 +0.5
comp=Z,15µm,0.5s,mb7.6
WDC Whiskeytown Da 54.71 68 *e*P **P** 09 11 41.3 +0.4
WDC Whiskeytown Da 54.71 68 *e*P **P** 09 11 41.3 +0.4
KKTK Khon Kaen 54.73 247⇓P **P** 09 11 42.5 +1.2
comp=Z,5µm,0.5s,mb7.1
TAPN Taplejung 54.73 269 *e*P **P** 09 11 42.3 +1.1
comp=Z,27µm,0.8s,mb7.6
KIPM Iron Peak 54.74 69 *e*P **P** 09 11 41.7 +0.6
comp=Z,1µm,1.3s,mb6.1
SLMT Seeley Lake 54.76 56 *e*P **P** 09 11 41.3 +0.1
KCPM Cahto Peak 54.77 69 *e*P **P** 09 11 42.3 +0.9
comp=Z,1µm,1.2s,mb6.0
B16A M & M Farms, S 54.81 54⇑P **P** 09 11 41.0 -0.5
baz=55,SNR=72
C15A Salmond Ranch, 54.82 55⇑P **P** 09 11 41.7 +0.2
baz=55,SNR=481
MSO Missoula 54.83 57⇑P **P** 09 11 41.9 +0.3
baz=55,SNR=360
MSO Missoula 54.83 57 *e*P **P** 09 11 41.8 +0.1
comp=Z,722nm,0.7s,mb6.1
CHG Chiang Mai 54.85 252⇓P **P** 09 11 43.0 +0.8
comp=Z,478nm,0.8s,mb5.9
CHTO Chiang Mai 54.85 252 *e*P **P** 09 11 43.1 +0.9
comp=Z,4µm,1.0s,mb6.7
CHTO Chiang Mai 54.85 252 *e*P **P** 09 11 43.1 +0.9
CHTO pmax pmax
comp=Z,4µm,1.0s,mb6.7
CHTO Chiang Mai 54.85 252 P **P** 09 11 42.5 +0.3
comp=Z,6µm,1.1s,mb6.8
D14A Greenough 54.87 57⇓P **P** 09 11 41.9 0.0
baz=55,SNR=476
A17A Triple J Farms 54.92 53⇓P **P** 09 11 41.7 -0.5
baz=55,SNR=461
F12A Elk City 54.92 59⇓P **P** 09 11 42.7 +0.4
baz=55,SNR=613
J08A Circle Bar Ran 54.94 63⇓P **P** 09 11 43.2 +0.7
baz=55,SNR=502
E13A Victor 54.98 58⇑P **P** 09 11 42.7 0.0
baz=55,SNR=316
MOD Modoc 54.99 65 *e*P **P** 09 11 43.6 +0.7
comp=Z,3µm,0.8s,mb6.7
JOF Joensuu 55.02 332 *e*P **P** 09 11 43.3 +0.6
JOF pmax pmax
comp=Z,1µm,0.4s,mb6.6
JOF Joensuu 55.02 332 *ep* **P** 09 11 43.3 +0.6
comp=Z,1µm,0.4s,mb6.6
CHMT Chamberlain Mo 55.11 57 *e*P **P** 09 11 43.5 -0.1
CM31 Chiang Mai Arr 55.14 252 *e*P **P** 09 11 45.2 +1.1
comp=Z,3µm,0.8s,mb6.7
CMAR Chiang Mai Arr 55.14 252 P **P** 09 11 45.3 +1.1
comp=Z,592nm,0.7s,mb6.1,baz=22,slow=6.6,SNR=876
CMAR ScP ScP 09 15 53.0 +5.5
comp=Z,177nm,0.8s,baz=8.4,slow=3.4,SNR=5.6
CMAR S **S** **09 18 51.4 +2.9**
comp=Z,3.2nm,0.6s,baz=5.8,slow=24,SNR=4.1
CMAR SKKS 09 39 33.0
comp=Z,0.9nm,0.3s,baz=186,slow=1.4,SNR=4.5
CMAR P3KP 09 40 41.0
comp=Z,2.0nm,0.3s,baz=257,slow=3.3,SNR=4.3
CMAR PKPPKP 09 41 43.2
comp=Z,6.7nm,0.4s,baz=230,slow=4.5,SNR=7.6
CMAR PKP2ab 09 42 18.3
comp=Z,12nm,1.0s,baz=226,slow=5.6,SNR=4.1
CMAR P4KPbc 09 48 57.5
comp=Z,4.6nm,0.7s,baz=13,slow=4.0,SNR=14
CMAR P4KP 09 51 02.6
comp=Z,1.8nm,0.5s,baz=23,slow=3.8,SNR=4.1
CMAR Chiang Mai Arr 55.14 252 P **P** **09 11 45.3 +1.1**
CMAR ScP ScP 09 15 53.0 +5.5
CMAR S **S** **09 18 51.4 +2.9**
CMAR SKKS 09 39 33.0
CMAR PKKKP 09 40 41.0
CMAR PKPab 09 41 43.2
CMAR *e* 09 42 18.3
CMAR *e* 09 48 57.5
CMAR P4KP 09 51 02.6
CMAR Chiang Mai Arr 55.14 252 P **P** **09 11 45.3 +1.1**
CMAR S **S** **09 18 51.4 +2.9**
CMAR pmax pmax
comp=Z,592nm,0.7s
CMAR smax
comp=N,3.0nm,0.6s
C16A Fuhringer Ranc 55.22 55⇓P **P** 09 11 44.4 0.0
baz=55,SNR=282
AGT Agartala 55.28 263 *e*PKP **P** 09 11 45.0 -0.2
AGT *ex* PcP 09 12 31.0 -7.4
ODAN Odare 55.28 269 *e*P **P** 09 11 46.0 +0.9
comp=N,11µm,0.6s,mb7.4
G12A Big Creek, Yel 55.33 59⇓P **P** 09 11 45.4 +0.3
baz=55,SNR=329
B17A L&G Farms, Che 55.33 54⇑P **P** 09 11 45.0 -0.1
baz=55,SNR=107
A18A Metzger Ranch, 55.34 53⇑P **P** 09 11 44.8 -0.4
baz=55,SNR=236
E14A Clinton 55.34 57⇓P **P** 09 11 45.5 +0.3
baz=55,SNR=474
F13A Darby 55.36 58⇑P **P** 09 11 45.1 -0.3
baz=55,SNR=185
D15A Lincoln 55.38 56⇑P **P** 09 11 45.8 +0.3
baz=55,SNR=212
GUN Gumba 55.38 271 *e*P **P** 09 11 46.8 +1.0
comp=N,9µm,0.5s,mb7.3
JIRN Jiri 55.39 270 *e*P **P** 09 11 47.2 +1.3
comp=N,6µm,0.6s,mb7.1
WVOR Wild Horse Val 55.50 64 *e*P **P** 09 11 47.2 +0.8
comp=N,1µm,0.8s,mb6.3

WVOR Wild Horse Val 55.50 64 *e*P **P** 09 11 47.2 +0.8
WVOR pmax pmax
comp=Z,1µm,0.8s,mb6.3
HOPS Hopland 55.54 70 *e*P **P** 09 11 47.0 +0.3
comp=Z,1µm,1.1s,mb6.2
SGSI Sangihe 55.57 216 P **P** 09 11 49.1 +1.9
comp=Z,2µm,0.9s,mb6.5
SCO Scoresbysund 55.57 358⇓*i*P **P** 09 11 46.7 +0.2
SCO *i* *PP pP 09 13 27.1 +1.6
SCO *i* S **S** **09 19 02.9 +10**
SCO pmax pmax
comp=Z,640nm,1.0s,mb5.9
RAMN Ramite 55.68 269 *e*P **P** 09 11 48.8 +0.9
comp=Z,21µm,0.5s,mb7.7
B18A Beardsley Farm 55.74 53⇓P **P** 09 11 48.1 +0.1
baz=56,SNR=333
E15A Deer Lodge 55.75 57⇑P **P** 09 11 48.4 +0.3
baz=56,SNR=264
C17A Wharram Farm, 55.81 55⇓P **P** 09 11 48.1 -0.3
baz=56,SNR=284
F14A Wisdom 55.83 58⇓P **P** 09 11 48.7 0.0
baz=56,SNR=86
KKN Kakani 55.83 271 *e*P **P** 09 11 49.9 +1.0
comp=Z,10µm,0.5s,mb7.4
A19A Klindworth Far 55.84 52⇓P **P** 09 11 48.5 -0.2
baz=56,SNR=97
D16A Dana Ranch, Ca 55.86 56⇑P **P** 09 11 49.1 +0.3
baz=56,SNR=158
G13A Cobalt 55.90 59⇑P **P** 09 11 48.7 -0.4
baz=56,SNR=295
PKI Pulchoki 55.91 271 *e*P **P** 09 11 50.5 +1.0
comp=Z,17µm,0.7s,mb7.5
HRY Holter Researc 55.95 56 *e*P **P** 09 11 50.0 +0.6
H12A Diamond D Ranc 55.97 60⇑P **P** 09 11 49.6 -0.1
baz=56,SNR=502
KDM Kudat 55.97 227 P **P** 09 11 51.3 +1.3
EGMT Eagleton 56.01 54⇓P **P** 09 11 49.9 0.0
baz=56,SNR=189
EGMT Eagleton 56.01 54 *e*P **P** 09 11 49.8 -0.1
comp=Z,1µm,0.8s,mb6.3
GKN Gorkha 56.04 272 *e*P **P** 09 11 51.3 +0.9
comp=Z,30µm,1.0s,mb7.6
DMN Daman 56.06 271 *e*P **P** 09 11 51.8 +1.3
comp=Z,34µm,1.0s,mb7.6
BDT Bhumibol Dam 56.08 251⇑P **P** 09 11 51.5 +0.7
comp=Z,253nm,0.9s,mb5.5
B19A Brinkman Farms 56.09 53⇓P **P** 09 11 50.4 0.0
baz=56,SNR=130
MOR8 Moi Rana 56.14 342 *e*P **P** 09 11 48.4 -2.1
E16A East Helena 56.15 56⇓P **P** 09 11 51.4 +0.5
baz=56,SNR=279
OHCM Honcut 56.16 68 *e*P **P** 09 11 50.8 -0.3
G14A Jackson 56.18 58⇑P **P** 09 11 50.6 -0.4
baz=56,SNR=111
D17A Six Diamond Ra 56.19 55⇓P **P** 09 11 51.0 -0.1
baz=56,SNR=235
FLOS Flostrand 56.19 342 *e*P **P** 09 11 50.0 -0.8
FLOS AMB AMB 09 12 04.8
comp=Z,3µm,1.0s,mb6.5
F15A Butte 56.24 57⇓P **P** 09 11 51.5 0.0
baz=56,SNR=203
MCCM Marconi Confer 56.24 70 *e*P **P** 09 11 51.4 -0.2
comp=Z,1µm,0.9s,mb6.2
STOK Stokkvaagen 56.25 342 *e*P **P** 09 11 49.7 -1.5
STOK AMB AMB 09 12 07.2
comp=Z,2µm,2.1s,mb6.1
STOK *e*S **S** **09 19 05.4 +3.7**
A20A Cobblestone Ra 56.26 52⇓P **P** 09 11 51.9 +0.4
baz=56,SNR=292
H13A Challis 56.26 59⇑P **P** 09 11 51.9 +0.2
baz=56,SNR=429
LRM Limekiln Ridge 56.27 57 *e*P **P** 09 11 52.0 +0.3
MFID Camas Ranch 56.27 61⇓P **P** 09 11 52.1 +0.3
baz=56,SNR=437
MFID Camas Ranch 56.27 61 *e*P **P** 09 11 52.0 +0.3
comp=Z,873nm,0.8s,mb6.1
DANN Dangsing 56.30 273 *e*P **P** 09 11 53.6 +1.4
comp=Z,14µm,0.6s,mb7.5
I12A Atlanta 56.36 60⇓P **P** 09 11 52.7 +0.3
baz=56,SNR=485
DLMT Dillon 56.53 58 *e*P **P** 09 11 53.6 +0.1
comp=Z,2µm,1.2s,mb6.3
B20A Solberg Farm, 56.53 52⇓P **P** 09 11 53.6 +0.2
baz=56,SNR=388
C19A Slack Wire Ran 56.55 53⇓P **P** 09 11 54.3 +0.7
baz=56,SNR=337
D18A Linhart Farms, 56.58 54⇑P **P** 09 11 54.2 +0.4
baz=56,SNR=138
E17A Martinsdale 56.60 56⇓P **P** 09 11 54.6 +0.7
baz=56,SNR=329
A21A Bergtoll Ranch 56.64 51⇓P **P** 09 11 54.6 +0.4
baz=56,SNR=317
H14A Leadore 56.67 59⇑P **P** 09 11 54.1 -0.4
baz=56,SNR=226
F16A Kennard Place, 56.70 57⇑P **P** 09 11 55.0 +0.3
baz=56,SNR=296
G15A Dillon 56.72 58⇓P **P** 09 11 55.4 +0.6
baz=56,SNR=995
NST Nakhon Sawan 56.73 249⇑P **P** 09 11 56.6 +1.3
comp=Z,100nm,0.5s,mb5.4
MCMT McKenzie Canyo 56.78 58 *e*P **P** 09 11 55.2 0.0
comp=Z,4µm,1.7s,mb6.4
I13A Wildhorse Cree 56.80 60⇓P **P** 09 11 56.3 +0.9
baz=57,SNR=1000
BOZ Bozeman (W) 56.80 57⇑P **P** 09 11 56.1 +0.8
baz=57,SNR=293
BOZ Bozeman (W) 56.80 57 *e*P **P** 09 11 56.0 +0.6
comp=Z,8µm,2.4s,mb6.6
BOZ Bozeman (W) 56.80 57 *e*P **P** 09 11 56.0 +0.6
BOZ pmax pmax
comp=Z,8µm,2.4s,mb6.6
KOLN Koldanda 56.83 272 *e*P **P** 09 11 56.7 +0.9
comp=Z,12µm,0.8s,mb7.3
MYLDM Lahad Datu 56.84 224 P 09 41 33.6
comp=Z,77nm,1.6s,comp=Z,3.9nm
MYLDM Lahad Datu 56.84 224 P 09 41 33.6
MYLDM Lahad Datu 56.84 224 P **P** **09 11 57.7 +1.7**
comp=Z,1µm,1.3s,mb6.1
HLID Hailey 56.90 60⇓P **P** 09 11 56.7 +0.7
baz=57,SNR=380
HLID Hailey 56.90 60 *e*P **P** 09 11 56.6 +0.6
comp=Z,8µm,2.3s,mb6.6
SAC San Andreas 56.90 70 *e*P **P** 09 11 55.9 -0.3
SAC San Andreas 56.90 70 *e*P **P** 09 11 55.9 -0.3
PYUN Piuthan 56.94 273 *e*P **P** 09 11 57.4 +0.8
comp=Z,44µm,1.0s,mb7.7
SDKM Sandakan 56.96 226 P **P** 09 11 57.9 +1.1
E18A Harlowton 56.98 55⇓P **P** 09 11 57.3 +0.8
baz=57,SNR=104
B21A Ellsworth Farm 57.00 52⇓P **P** 09 11 57.1 +0.4
baz=57,SNR=58
G16A Moss Hill, Enn 57.01 57⇓P **P** 09 11 57.4 +0.6
baz=57,SNR=901
KKM Kota Kinabalu 57.02 227 P **P** 09 11 58.6 +1.4
KKM Kota Kinabalu 57.02 227 *e*P **P** 09 11 58.0 +0.8
comp=Z,1µm,0.9s,mb6.2
KKM Kota Kinabalu 57.02 227 P 09 41 33.3
comp=Z,323nm,1.2s
KKM Kota Kinabalu 57.02 227 P **P** 09 11 58.6 +1.4
comp=Z,2µm,1.3s,mb6.2
KAF Kangasniemi 57.02 334 *e*P **P** 09 11 56.3 -0.3
KAF pmax pmax
comp=Z,2µm,0.6s,mb6.5
KAF Kangasniemi 57.02 334 *ep* **P** 09 11 56.3 -0.3
comp=Z,2µm,0.6s,mb6.5
H15A Lima 57.03 58⇓P **P** 09 11 56.9 -0.1
baz=57,SNR=65
D19A Cripps Ranch, 57.04 54⇓P **P** 09 11 57.4 +0.4
baz=57,SNR=406
F17A Fitzpatrick Pl 57.09 56⇓P **P** 09 11 57.9 +0.5
baz=57,SNR=208
A22A Carney Farms, 57.10 51⇓P **P** 09 11 57.2 -0.1
baz=57,SNR=382
I14A Mackay 57.12 59⇓P **P** 09 11 57.9 +0.3
baz=57,SNR=276
WCN Washoe City 57.13 67⇓P **P** 09 11 58.3 +0.6
baz=57,SNR=440
WCN Washoe City 57.13 67 *e*P **P** 09 11 58.4 +0.7
WCN Washoe City 57.13 67 *e*P **P** 09 11 58.4 +0.7
J13A Cove Ranch, Pi 57.13 60⇓P **P** 09 11 58.4 +0.7
baz=57,SNR=745
C21A Desert Coulee 57.40 52⇑P **P** 09 11 59.6 +0.2
baz=57
D20A Manuel Ranch, 57.45 53⇑P **P** 09 12 00.7 +0.9
baz=57,SNR=326
G17A Pierce Place, 57.47 56⇓P **P** 09 12 01.0 +1.1
baz=57,SNR=184

QLMT **Earthquake Lak** 57.48 57 *e*P P 09 12 00.7 +0.7
J14A **Carey** 57.52 60 ⇑P P 09 12 01.4 +1.1
baz=57
F18A **Big Timber** 57.55 55 ⇑P P 09 12 01.3 +0.8
baz=57,SNR=429
I15A **Monteview** 57.56 59 ⇓P P 09 12 00.8 +0.2
baz=57,SNR=85
B22A **Reddig Ranch S** 57.56 51 ⇓P P 09 12 00.9 +0.4
baz=57,SNR=277
A23A **Redstone** 57.59 50 ⇑P P 09 12 01.1 +0.4
baz=57,SNR=71
E19A **Rath Farm, Rou** 57.59 54 ⇓P P 09 12 01.4 +0.7
baz=57,SNR=222
FINES **FINESS Array B** 57.64 333 P P 09 12 00.5 -0.3
comp=Z,688nm,0.5s,mb6.2,baz=36,slow=7.9,SNR=1751
FINES S S 09 19 22.9 +3.2
comp=Z,188nm,1.0s,baz=34,slow=14,SNR=5.3
FINES P4KPbc 09 49 07.7
comp=Z,16nm,0.8s,baz=34,slow=4.8,SNR=9.4
FINES **FINESS Array B** 57.64 333 P P 09 12 00.5 -0.3
FINES S S 09 19 22.9 +3.2
FINES *e* 09 49 07.7
FINES **FINESS Array B** 57.64 333 P P 09 12 00.5 -0.3
FINES S S 09 19 22.9 +3.3
FINES pmax pmax
comp=Z,688nm,0.5s
FINES smax
comp=N,189nm,1.0s
GCMT **Greycliff** 57.65 55 *e*P P 09 12 02.1 +0.9
comp=N,620nm,0.7s,mb6.0
JAY **Jayapura** 57.66 196 P P 09 12 03.0 +1.4
comp=N,586nm,1.3s,mb5.8
SFJD **Kangerlussuaq** 57.66 11 *e*P P 09 11 59.9 -1.0
SFJD **Kangerlussuaq** 57.66 11 *e*P P 09 11 59.9 -1.0
SFJD **Kangerlussuaq** 57.66 11 ⇓*i*P P 09 12 00.0 -0.9
comp=N,2μm,1.0s,mb6.3
SFJD
comp=Z,17μm,27.0s
H16A **Russell Place,** 57.67 57 ⇓P P 09 12 02.1 +0.8
baz=57,SNR=739
BMN **Battle Mountai** 57.67 65 *e*P P 09 12 02.2 +0.7
comp=Z,1μm,1.1s,mb6.2
BMN **Battle Mountai** 57.67 65 *e*P P 09 12 02.2 +0.8
BMN pmax pmax
comp=Z,1μm,1.1s,mb6.2
CMB **Columbia Colle** 57.69 69 *e*P P 09 12 01.9 +0.3
comp=Z,2μm,1.1s,mb6.4
CMB **Columbia Colle** 57.69 69 *e*P P 09 12 01.9 +0.3
CMB pmax pmax
comp=Z,2μm,1.1s,mb6.4
TNTI **Ternate** 57.70 212 P P 09 12 01.8 -0.1
comp=Z,2μm,1.0s,mb6.5
YMR **Madison River** 57.83 57 *e*P P 09 12 03.5 +1.0
comp=Z,2μm,0.3s,mb6.8
PUL **Pulkovo** 57.86 330 *ce*P P 09 12 02.4 +0.1
PUL pmax pmax
comp=Z,1μm,0.7s,mb6.4
PUL MLR MLR
comp=Z,26μm,19.0s
E20A **Meyer Farm, Mu** 57.87 54 ⇑P P 09 12 03.6 +0.9
baz=58,SNR=325
MNI **Manado** 57.90 215 P P 09 12 03.8 +0.6
comp=Z,2μm,1.0s,mb6.4
B23A **Brockton** 57.90 51 ⇑P P 09 12 03.1 +0.3
baz=58,SNR=177
YNR **Norris Junctio** 57.94 57 *e*P P 09 12 04.6 +1.5
comp=Z,834nm,1.0s,mb6.0
F19A **Roth Farm, Mol** 57.96 55 ⇓P P 09 12 04.0 +0.8
baz=58,SNR=557
D21A **La Casta Ranch** 58.00 53 ⇑P P 09 12 04.2 +0.7
baz=58,SNR=346
A24A **Westby** 58.01 50 ⇑P P 09 12 03.8 +0.3
baz=58,SNR=141
J15A **Blackfoot** 58.02 59 ⇓P P 09 12 04.4 +0.7
baz=58,SNR=150
C22A **Vida** 58.02 52 ⇓P P 09 12 03.5 -0.1
baz=58,SNR=270
CAL **Calcutta** 58.02 265 *e*PKP P 09 12 03.4 -0.6
CAL *ex* x 09 19 32.0
SAO **San Andreas Ge** 58.03 70 *e*P P 09 12 03.8 -0.1
comp=Z,1μm,1.1s,mb6.2
SAO **San Andreas Ge** 58.03 70 *e*P P 09 12 03.8 -0.1
SAO pmax pmax
comp=Z,1μm,1.1s,mb6.2
G18A **Lazy EL Ranch,** 58.05 56 ⇑P P 09 12 04.2 +0.3
baz=58,SNR=178
YFT **Old Faithful** 58.05 57 *e*P P 09 12 06.1 +2.2
comp=Z,3μm,0.8s,mb6.6
NSS **Namsos** 58.07 342 ⇓*i*P P 09 12 02.0 -1.7
SMLA **Simla** 58.09 280 ⇓*i*P P 09 12 03.5 -0.9
SMLA *i* S S 09 19 27.2 +0.8
DDI **Dehra Dun** 58.17 279 *e*PKP P 09 12 04.0 -1.0
DDI *ex* x 09 13 02.5
LKWY **Lake** 58.18 57 *e*P P 09 12 07.1 +2.3
comp=Z,1μm,0.8s,mb6.2
LKWY **Lake** 58.18 57 *e*P P 09 12 07.1 +2.3
LKWY pmax pmax
comp=Z,1μm,0.8s,mb6.2
H17A **Grant Village** 58.22 57 ⇑P P 09 12 07.2 +2.2
baz=58,SNR=318
DGMT **Dagmar** 58.26 50 ⇑P P 09 12 05.5 +0.3
baz=58,SNR=170
DGMT **Dagmar** 58.26 50 *e*P P 09 12 05.3 +0.1
comp=Z,2μm,1.0s,mb6.5
K14A **Jones Ranch, D** 58.26 60 ⇑P P 09 12 06.8 +1.5
baz=58,SNR=526
C23A **Lambert** 58.30 51 ⇓P P 09 12 06.1 +0.5
baz=58,SNR=368
BHK **Bhakra** 58.31 281 *e*PKP P 09 12 04.8 -1.1
BHK *ex* x 09 13 45.4
D22A **Cohagen** 58.32 52 ⇓P P 09 12 06.1 +0.4
baz=58,SNR=295
RLMT **Red Lodge** 58.33 56 ⇓P P 09 12 06.7 +0.9
baz=58,SNR=946
RLMT **Red Lodge** 58.33 56 *e*P P 09 12 06.8 +1.0
E21A **Keefer Ranch,** 58.35 53 ⇓P P 09 12 06.8 +0.9
baz=58,SNR=149
F20A **Billings** 58.38 55 ⇑P P 09 12 06.9 +0.8
baz=58,SNR=170
FLWY **Flagg Ranch** 58.39 57 *e*P P 09 12 07.5 +1.4
comp=Z,2μm,1.1s,mb6.3
IMW **Indian Meadow** 58.40 58 *e*P P 09 12 07.6 +1.3
comp=Z,909nm,0.7s,mb6.2
H18A **Shoshone NF, C** 58.46 56 ⇑P P 09 12 07.5 +0.8
baz=58,SNR=267
K15A **Arbon** 58.48 60 ⇓P P 09 12 08.2 +1.3
baz=58,SNR=496
BOK **Bokaro** 58.49 267 *ex* pP 09 13 48.0 +0.3
NIL **Nilore** 58.49 285 *e*P P 09 12 15.7 +8.7
comp=Z,21nm,0.8s
NIL **Nilore** 58.49 285 *e*P P 09 12 15.7 +8.7
DCID1 **Drake Creek** 58.50 58 *e*P P 09 12 08.3 +1.3
comp=Z,1μm,0.8s,mb6.4
J16A **Bone** 58.52 59 ⇑P P 09 12 08.3 +1.2
baz=58,SNR=302
NVAR **Mina Array Bea** 58.54 67 P P 09 12 08.1 +0.8
comp=Z,196nm,0.6s,mb5.6,baz=306,slow=6.5,SNR=692
NVAR PP PP 09 14 00.2 -24
comp=Z,131nm,0.8s,baz=298,slow=6.0,SNR=3.9
NVAR SKKS 09 39 28.2
comp=Z,8.6nm,1.0s,baz=149,slow=3.6,SNR=7.1
NVAR P4KPbc 09 49 12.6
comp=Z,1.7nm,0.8s,baz=283,slow=5.0,SNR=4.4
NVAR P4KP 09 51 12.9
comp=Z,1.5nm,0.8s,baz=290,slow=2.9,SNR=3.8
NVAR **Mina Array Bea** 58.54 67 P P 09 12 08.1 +0.7
NVAR PP PP 09 14 00.2 -24
NVAR SKKS 09 39 28.2
NVAR *e* 09 49 12.6
NVAR P4KP 09 51 12.9
I17A **Pilgrim Ck.** 58.57 58 ⇑P P 09 12 09.1 +1.7
baz=58,SNR=149
L14A **Malta** 58.59 61 ⇑P P 09 12 08.7 +1.1
baz=58,SNR=686
MOOW **Moose Ponds** 58.61 58 *e*P P 09 12 08.8 +1.1
comp=Z,926nm,0.9s,mb6.1
LAO **LASA Array** 58.64 53 ⇑P P 09 12 08.4 +0.6
baz=58,SNR=330
LAO **LASA Array** 58.64 53 *e*P P 09 12 08.4 +0.6
comp=Z,3μm,2.0s,mb6.2
TPAW **Teton Pass** 58.69 58 *e*P P 09 12 09.6 +1.3
comp=Z,15μm,2.5s,mb6.9
D23A **Lindsay** 58.75 52 ⇑P P 09 12 09.1 +0.5
baz=58,SNR=216
G20A **Bridger** 58.77 55 ⇓P P 09 12 08.9 +0.2
baz=58,SNR=247
MOS **Moscow** 58.77 324 *d*/*i*P P 09 12 08.0 -0.6
MOS *e**PP pP 09 13 50.3 +1.1
MOS *e* 09 14 26.5
MOS *i* S S 09 19 35.3 +1.1
MOS *i* 09 21 05.4
MOS *i* SS SS 09 23 40.8 +3.6
MOS *i* SSS 09 26 40.4
MOS pmax pmax
comp=Z,15μm,2.5s,mb6.9
MOS pmax pmax
comp=Z,5μm,1.2s,mb6.7
LOHW **Long Hollow** 58.78 58 *e*P P 09 12 10.1 +1.2
comp=Z,13μm,2.5s,mb6.8
H19A **Powell** 58.80 56 ⇓P P 09 12 09.8 +0.8
baz=59,SNR=256
SNOW **Snow King Moun** 58.81 58 *e*P P 09 12 10.5 +1.4
comp=Z,13μm,2.5s,mb6.8
MLAC **Mammoth Lakes** 58.83 68 ⇓P P 09 12 10.5 +1.2
baz=59,SNR=145
REDW **Red Top Meadow** 58.84 58 *e*P P 09 12 10.4 +1.2
comp=Z,3μm,1.3s,mb6.4
C24A **Savage** 58.85 51 ⇓P P 09 12 09.9 +0.7
baz=59,SNR=88
F21A **Absaloka Mine,** 58.85 54 ⇓P P 09 12 09.7 +0.5
baz=59
K16A **Soda Springs** 58.85 59 ⇑P P 09 12 10.7 +1.3
baz=59,SNR=536
J17A **Brown Place, J** 58.90 58 ⇑P P 09 12 10.9 +1.2
baz=59,SNR=326
E22A **Miles City** 58.95 53 ⇓P P 09 12 10.2 +0.3
baz=59,SNR=298
LBMI **Labuha** 58.99 212 P 09 41 25.8
comp=Z,150nm,0.9s
LBMI **Labuha** 58.99 212 P P 09 12 11.2 +0.6
comp=Z,2μm,1.2s,mb6.4
KMSI **Cibinong** 59.00 216 P P 09 12 11.4 +0.7
comp=Z,4μm,1.0s,mb6.6
HVU **Hansel Valley** 59.02 61 *e*P P 09 12 11.3 +0.8
comp=Z,10μm,2.8s,mb6.7
HVU **Hansel Valley** 59.02 61 *e*P P 09 12 11.3 +0.8
HVU pmax pmax
comp=Z,10μm,2.8s,mb6.7
L15A **Malad City** 59.05 60 ⇓P P 09 12 11.3 +0.6
baz=59,SNR=426
I18A **Diamond G Ranc** 59.10 57 ⇑P P 09 12 12.3 +1.3
baz=59,SNR=141
AHID **Auburn Hatcher** 59.15 59 *e*P P 09 12 12.1 +0.8
comp=Z,969nm,0.9s,mb6.1
KKR **Kurukshetra** 59.16 279 *e*PKP P 09 12 11.6 0.0
KKR AMb AMB 09 12 20.4
comp=Z,9μm,1.0s,mb7.0
MTUM **Tungsten Hills** 59.18 68 *e*P P 09 12 12.2 +0.6
D24A **Glendive** 59.20 51 ⇑P P 09 12 12.4 +0.8
baz=59,SNR=397
E23A **Ismay** 59.20 52 ⇓P P 09 12 12.2 +0.6
baz=59,SNR=247
K17A **Gardner Place,** 59.25 59 ⇑P P 09 12 12.4 +0.3
baz=59,SNR=118
G21A **Lodge Grass** 59.25 54 ⇓P P 09 12 12.3 +0.3
baz=59,SNR=142
I19A **Meeteetse** 59.26 56 ⇑P P 09 12 12.6 +0.6
baz=59,SNR=156
F22A **Rosebud** 59.29 53 ⇑P P 09 12 12.7 +0.4
baz=59,SNR=177
J18A **Kendall Valley** 59.36 58 ⇑P P 09 12 13.6 +0.8
baz=59,SNR=243
H20A **Greybull** 59.41 55 ⇓P P 09 12 13.2 +0.1
baz=59,SNR=151
M15A **Larsen Ranch,** 59.42 61 ⇑P P 09 12 13.8 +0.6
baz=59,SNR=342
NNT **Nongplab** 59.49 247 P P 09 12 15.2 +1.2
L16A **Fish Haven** 59.53 60 ⇓P P 09 12 14.8 +0.9
baz=59,SNR=245
RCTC **Rector, Farmer** 59.57 69 ⇑P P 09 12 13.9 -0.4
baz=59,SNR=85
TIN **Tinemaha** 59.58 68 ⇑P P 09 12 15.2 +0.8
baz=59,SNR=197
E24A **Baker** 59.62 52 ⇓P P 09 12 14.6 +0.2
baz=59,SNR=87
OBN **Obninsk** 59.64 324 *e*P P 09 12 13.9 -0.5
OBN **Obninsk** 59.64 324 ⇓*e*P P 09 12 13.8 -0.6
OBN *e*S S 09 19 51.9 +6.8
OBN pmax pmax
comp=Z,1μm,1.4s,mb6.2
OBN **Obninsk** 59.64 324 P P 09 12 14.2 -0.2
comp=Z,14μm,1.3s,mb7.2,SNR=79
ALBI **Allahabad** 59.73 272 *e*PKP P 09 12 15.0 -0.5
F23A **Volborg** 59.73 53 ⇓P P 09 12 15.6 +0.4
baz=60,SNR=355
I20A **Worland** 59.75 56 ⇓P P 09 12 16.0 +0.7
baz=60,SNR=41
L17A **Cokeville** 59.75 59 ⇓P P 09 12 15.6 +0.2
baz=60,SNR=238
HWUT **Hardware Ranch** 59.76 60 *e*P P 09 12 16.1 +0.7
comp=Z,1μm,0.8s,mb6.3
H21A **Big Horn, Sher** 59.77 55 ⇓P P 09 12 15.8 +0.3
baz=60,SNR=357
K18A **Toltan Ranch,** 59.77 58 ⇓P P 09 12 16.6 +1.1
baz=60,SNR=424
N15A **Stansbury Isla** 59.80 61 ⇑P P 09 12 16.2 +0.5
baz=60,SNR=413
J19A **Crowheart** 59.80 57 ⇓P P 09 12 16.4 +0.7
baz=60,SNR=188
MRSI **Marisa** 59.82 218 P 09 41 20.2
comp=Z,67nm,0.7s,comp=Z,0.4nm
MRSI **Marisa** 59.82 218 P P 09 12 15.4 -0.8
comp=Z,3μm,1.2s,mb6.6
BISR **Bishrakh** 59.83 278 *e*PKP P 09 12 15.2 -0.9
NDI **New Delhi** 59.88 278 *ex* x 09 12 14.0
NDI *e*S S 09 19 51.0 +2.1
SMMC **Simmler** 59.89 71 ⇓P P 09 12 17.0 +0.6
baz=60,SNR=180
PD01 **Pinedale Array** 59.90 58 *e*P P 09 12 16.7 +0.4
PD02 **Pinedale Array** 59.90 58 *e*P P 09 12 16.8 +0.4
BW06 **Boulder Array** 59.92 58 ⇑P P 09 12 16.8 +0.4
baz=60,SNR=660
BW06 **Boulder Array** 59.92 58 *e*P P 09 12 16.8 +0.3
comp=Z,954nm,0.8s,mb6.3
PDAR **Pinedale Array** 59.92 58 P P 09 12 16.8 +0.3
comp=Z,285nm,0.8s,mb5.8,baz=0.4,slow=1.9,SNR=698
PDAR PP PP 09 14 09.9 -26
comp=Z,278nm,1.0s,baz=282,slow=2.9,SNR=4.0
PDAR S S 09 19 52.7 +3.7
comp=Z,36nm,1.1s,baz=11,slow=3.0,SNR=4.5
PDAR SKKS 09 39 21.8
comp=Z,6.1nm,0.9s,baz=143,slow=3.7,SNR=5.7
PDAR P4KPbc 09 49 20.9
comp=Z,2.8nm,0.9s,baz=339,slow=1.0,SNR=4.9
PDAR **Pinedale Array** 59.92 58 P P 09 12 16.8 +0.3
PDAR PP PP 09 14 09.9 -26
PDAR S S 09 19 52.7 +3.7
PDAR SKKS 09 39 21.8
PDAR *e* 09 49 20.9
VSU **Vasula** 59.97 331 *d*/*i*P P 09 12 16.5 -0.1
VSU pmax pmax
comp=Z,1μm,0.7s,mb6.4
VSU MLR MLR
comp=Z,24μm,20.0s
R11A **Troy Canyon, C** 60.06 65 ⇓P P 09 12 17.8 +0.3
baz=60,SNR=437
AYAN **Aya Nagar** 60.08 278 *e*PKP P 09 12 18.0 +0.2
AYAN AMb AMB 09 12 26.2
comp=Z,2μm,0.8s,mb6.6
GRAC **Grapevine Rang** 60.09 67 ⇓P P 09 12 18.2 +0.5
baz=60,SNR=182
F24A **Ekalaka** 60.09 52 ⇓P P 09 12 17.8 +0.2
baz=60,SNR=150
CWC **Cottonwood Cre** 60.11 68 ⇓P P 09 12 18.2 +0.3
baz=60,SNR=79
H22A **Clearmont** 60.12 54 ⇓P P 09 12 17.6 -0.2
baz=60
DUG **Dugway** 60.16 62 ⇑P P 09 12 18.9 +0.8
baz=60,SNR=571
DUG **Dugway** 60.16 62 *e*P P 09 12 18.9 +0.7
comp=Z,2μm,1.2s,mb6.5
DUG **Dugway** 60.16 62 *e*P P 09 12 18.9 +0.8
DUG pmax pmax
comp=Z,2μm,1.2s,mb6.5
NOQ **North Oquirrh** 60.18 61 *e*P P 09 12 18.9 +0.6
comp=Z,1μm,0.9s,mb6.4
KBL **Kabul** 60.20 289 *e*P P 09 12 18.0 -0.5
comp=Z,8μm,0.9s,mb7.1
KBL **Kabul** 60.20 289 *e*P P 09 12 18.0 -0.5
KBL pmax pmax
comp=Z,8μm,0.9s,mb7.1
J20A **Shoshoni** 60.21 56 ⇑P P 09 12 19.0 +0.6
baz=60,SNR=207
K19A **Absolon Red Bu** 60.23 57 ⇓P P 09 12 18.1 -0.4
baz=60,SNR=169
I21A **Big Trails, Te** 60.25 56 ⇓P P 09 12 18.9 +0.2
baz=60,SNR=503
O15A **The Old Anders** 60.27 62 ⇑P P 09 12 19.6 +0.8
baz=60,SNR=206
SONA **Sohna** 60.28 278 *e*PKP P 09 12 18.6 -0.5
SONA AMb AMB 09 12 27.7
comp=Z,3μm,1.4s,mb6.6
PKM **Peak Mountain** 60.29 71 ⇓P P 09 12 19.8 +0.7
baz=60,SNR=148
L18A **Fontenelle, Gr** 60.30 59 ⇑P P 09 12 19.4 +0.4
baz=60,SNR=277
M17A **Scullys Gap (B** 60.31 60 ⇓P P 09 12 19.4 +0.2
baz=60,SNR=195
CTU **Camp Tracy** 60.34 61 *e*P P 09 12 20.1 +0.8
comp=Z,6μm,2.3s,mb6.6
N16A **Rees Ranch, Co** 60.36 60 ⇑P P 09 12 20.3 +0.9
baz=60,SNR=130
ISA **Isabella** 60.47 69 ⇓P P 09 12 19.5 -0.8
baz=60,SNR=252
ISA **Isabella** 60.47 69 *e*P P 09 12 19.6 -0.6
comp=Z,819nm,0.9s,mb6.2
ISA **Isabella** 60.47 69 *e*P P 09 12 19.6 -0.7
ISA pmax pmax
comp=Z,819nm,0.9s,mb6.2
ULM **Lac du Bonnet** 60.48 44 P P 09 12 19.6 -0.5
comp=Z,114nm,0.4s,mb5.7,baz=321,slow=6.3,SNR=241
ULM S S 09 19 59.7 +3.8
comp=Z,79nm,1.0s,baz=248,slow=23,SNR=4.3
ULM **Lac du Bonnet** 60.48 44 *e*P P 09 12 19.7 -0.4
ULM S S 09 19 59.7 +3.8
ULM **Lac du Bonnet** 60.48 44 *e*P P 09 12 19.7 -0.4
ULM S S 09 19 59.7 +3.8
L19A **Farson** 60.51 58 ⇑P P 09 12 20.5 +0.1
baz=60,SNR=42
J21A **Lysite** 60.53 56 ⇑P P 09 12 21.2 +0.7
baz=60,SNR=361
AGRA **Agra** 60.54 276 *e*PKP P 09 12 20.4 -0.4
JLU **Jordanelle** 60.56 61 *e*P P 09 12 21.4 +0.6
comp=Z,8μm,2.4s,mb6.7
I22A **9 Mile Ranch,** 60.58 55 ⇓P P 09 12 21.2 +0.3
baz=60,SNR=154
K20A **Yellowstone Ra** 60.60 57 ⇓P P 09 12 20.6 -0.4
baz=60,SNR=157
H23A **Clabaugh Cattl** 60.60 54 ⇑P P 09 12 20.8 -0.2
baz=60,SNR=41
M18A **Lyman** 60.65 59 ⇓P P 09 12 21.5 +0.1
baz=60,SNR=111
ARVC **Arvin** 60.67 70 ⇑P P 09 12 20.7 -0.9
baz=60,SNR=63
SBC **Santa Barbara** 60.69 71 ⇓P P 09 12 22.0 +0.3
baz=60,SNR=30
MPMC **Manual Prospec** 60.72 68 ⇓P P 09 12 22.2 +0.4
baz=60,SNR=195
FURC **Furnace Creek,** 60.76 67 ⇑P P 09 12 22.7 +0.6
baz=60,SNR=810
MDND **Maddock** 60.76 48 ⇓P P 09 12 22.4 +0.4
baz=60,SNR=152
DAU **Daniels Canyon** 60.80 61 *e*P P 09 12 23.4 +1.0
DAU **Daniels Canyon** 60.80 61 *e*P P 09 12 23.4 +1.0
O16A **Springville** 60.83 61 ⇓P P 09 12 23.3 +0.8
baz=61,SNR=231
H24A **Dirks Ranch, A** 60.86 53 ⇑P P 09 12 22.5 -0.2
baz=61,SNR=395
P15A **Leamington** 60.90 62 ⇑P P 09 12 23.7 +0.7
baz=61,SNR=320
MPU **Maple Canyon** 60.90 61 *e*P P 09 12 23.7 +0.7
comp=Z,1μm,0.8s,mb6.4
LUWI **Luwuk** 60.93 217 P 09 41 13.6
LUWI **Luwuk** 60.93 217 P P 09 12 21.2 -2.3
comp=Z,2μm,1.0s,mb6.5
LRMC **Laurel Mountai** 61.04 69 ⇑P P 09 12 23.9 -0.1
baz=61,SNR=592
R13A **O'Grain Ranch,** 61.04 64 ⇓P P 09 12 24.5 +0.6
baz=61,SNR=362
M19A **Rock Springs** 61.05 59 ⇓P P 09 12 23.9 -0.1
baz=61,SNR=46
BSC **Santa Cruz Isl** 61.06 71 ⇑P P 09 12 23.8 -0.4
baz=61,SNR=40
L20A **Wamsutter** 61.08 58 ⇓P P 09 12 24.6 +0.4
baz=61,SNR=126
OSI **Osito Adit** 61.11 70 ⇑P P 09 12 24.9 +0.4
baz=61,SNR=18
OSI **Osito Adit** 61.11 70 *e*P P 09 12 25.0 +0.5
comp=Z,2μm,0.9s,mb6.4
KHET **Khetri** 61.15 279 *e*PKP P 09 12 24.4 -0.5
KHET AMb AMB 09 12 33.0
comp=Z,3μm,0.9s,mb6.7
K21A **Alcova** 61.15 56 ⇓P P 09 12 24.9 +0.2
baz=61,SNR=323
N18A **Larsen Ranch,** 61.19 59 ⇑P P 09 12 25.2 +0.3
baz=61,SNR=108
P16A **Fountain Green** 61.19 62 ⇑P P 09 12 25.7 +0.8
baz=61,SNR=172
BWNR **Bhubaneshwar** 61.23 265 *e*PKP P 09 12 24.5 -1.0
BWNR *ex* x 09 20 17.0
BLG **Laguna Peak** 61.29 71 ⇓P P 09 12 25.4 -0.3
baz=61,SNR=115
EDW2 **Edwards Air Fo** 61.31 69 ⇑P P 09 12 25.7 -0.1
baz=61,SNR=549
BORG **Borgarnes** 61.32 358 *e*P P 09 12 26.6 +1.2
comp=Z,4μm,1.3s,mb6.7
BORG **Borgarnes** 61.32 358 P P 09 12 27.0 +1.7
comp=Z,8μm,1.1s,mb7.1,SNR=39
BORG **Borgarnes** 61.32 358 *e*P P 09 12 26.6 +1.3
BORG pmax pmax
comp=Z,4μm,1.3s
VOR **Voronezh** 61.38 320 ⇓*i*P P 09 12 25.0 -1.0
VOR *e*S S 09 20 07.0 0.0
VOR pmax pmax
comp=Z,5μm,1.4s,mb6.8
J23A **Dilts Ranch, B** 61.40 55 ⇓P P 09 12 26.0 -0.3
baz=61,SNR=44
NB2 **NORSAR Subarra** 61.41 341 P P 09 12 25.9 -0.1
comp=Z,3μm,0.7s,mb6.8,baz=26,slow=6.9
NOA **NORSAR Array B** 61.41 341 P P 09 12 25.8 -0.2
comp=Z,1μm,0.8s,mb6.4,baz=24,slow=6.6,SNR=1210
NOA S S 09 20 10.6 +3.6
comp=Z,75nm,0.9s,baz=23,slow=11,SNR=3.7
NOA SKKS SKKSdf 09 39 16.6 -5.9
comp=Z,3.3nm,0.8s,baz=215,slow=2.6,SNR=3.4
NOA P4KPbc 09 49 24.4
comp=Z,10.0nm,0.8s,baz=26,slow=3.4,SNR=12
NOA **NORSAR Array B** 61.41 341 P P 09 12 25.8 -0.2
NOA S S 09 20 10.6 +3.6
NOA SKKS SKKSdf 09 39 16.6 -5.9
NOA *e* 09 49 24.4
NOA **NORSAR Array B** 61.41 341 P P 09 12 25.8 -0.2
NOA S S 09 20 10.6 +3.6
NOA smax
comp=N,75nm,0.9s
SHOC **Shoshone** 61.49 68 ⇓P P 09 12 27.2 +0.3
baz=61,SNR=89
K22A **Casper** 61.49 56 ⇑P P 09 12 26.9 0.0
baz=61,SNR=183
I24A **Kuemmerle Ranc** 61.50 54 ⇑P P 09 12 26.6 -0.3
baz=61,SNR=124
N19A **John Jarvie Ra** 61.50 59 ⇑P P 09 12 26.8 -0.1
baz=61,SNR=244
M20A **Sweetwater, Wa** 61.55 58 ⇓P P 09 12 28.0 +0.8
baz=61,SNR=52
O18A **Roosevelt** 61.55 60 ⇑P P 09 12 27.7 +0.4
baz=61,SNR=333
NLAI **Namlea** 61.57 211 P P 09 12 29.3 +1.6
comp=N,824nm,0.9s,mb6.1
RSSD **Black Hills** 61.58 53 *e*P P 09 12 27.6 +0.2
RSSD **Black Hills** 61.58 53 *e*P P 09 12 27.6 +0.2
DECC **Green Verdugo** 61.59 70 ⇓P P 09 12 27.4 -0.3
baz=61,SNR=108
L21A **Rawlins** 61.60 57 ⇑P P 09 12 27.4 -0.1
baz=61,SNR=184
ARUT **Antelope Range** 61.61 64 *e*P P 09 12 28.3 +0.5
comp=N,23μm,1.6s,mb7.4
ARUT **Antelope Range** 61.61 64 *e*P P 09 12 28.3 +0.6
ARUT pmax pmax
comp=Z,10μm,1.6s,mb7.0
GSC **Goldstone** 61.65 68 ⇓P P 09 12 28.3 +0.2
baz=61,SNR=456
NAO01 **NORSAR Array S** 61.65 341 *e*P P 09 12 27.1 -0.5
comp=Z,195nm,1.2s,mb5.4
TMUT **Trail Mountain** 61.65 62 *e*P P 09 12 28.7 +0.7
comp=Z,2μm,0.7s,mb6.5
AAI **Ambon** 61.67 210 P P 09 12 29.4 +1.1
comp=Z,2μm,1.4s,mb6.4
HFS **Hagfors** 61.73 339 S S 09 20 13.4 +2.4

HFS comp=Z,572nm,1.1s,baz=24,slow=11,SNR=16 PKPPKP 09 41 12.9
HFS comp=Z,109nm,1.1s,baz=211,slow=4.9,SNR=23 PKP2bc 09 41 44.4
HFS comp=Z,30nm,1.1s,baz=233,slow=7.2,SNR=3.6 P4KPbc 09 49 29.7
PASC Pasadena Art C 61.73 70 *eP* **P 09 12 28.3 -0.3**
comp=Z,4µm,0.9s,mb6.9
MSU Marysvale 61.73 63 *eP* **P 09 12 29.6 +1.1**
MSU Marysvale 61.73 63 *eP* **P 09 12 29.6 +1.1**
P17A Butcher Ranch, 61.76 61 ⇑P **P 09 12 29.2 +0.5**
baz=62,SNR=399
MWC Mount Wilson 61.77 70 *eP* **P 09 12 28.9 +0.1**
comp=Z,4µm,1.5s,mb6.6
MWC Mount Wilson 61.77 70 *eP* **P 09 12 28.9 +0.1**
MWC pmax pmax
comp=Z,4µm,1.5s,mb6.6
VSR Storozhevoye 61.81 320 *eP* **P 09 12 28.6 -0.2**
VSR *e**PP pP 09 14 10.2 -0.5
VSR *e* 09 15 00.0
VSR *eS* **S 09 20 11.7 -0.5**
VSR *e* 09 21 30.7
VSR *eSS* SS 09 24 28.7 +4.1
VSR *eSSS* 09 27 25.6
VSR pmax pmax
comp=Z,580nm,0.6s,mb6.2
VSR pmax pmax
comp=N,250nm,0.7s
VSR pmax pmax
comp=E,440nm,0.8s
VSR pmax pmax
comp=Z,7µm,7.2s
VSR pmax pmax
comp=N,1µm,6.9s
VSR pmax pmax
comp=E,1µm,6.7s
VSR smax
comp=N,18µm,2.9s
VSR smax
comp=Z,350nm,1.1s
VSR smax
comp=E,11µm,1.8s
CCUT Cedar City 61.83 64 *eP* **P 09 12 29.9 +0.7**
comp=E,3µm,1.8s,mb6.4
K23A Bowen Ranch, D 61.85 55 ⇓P **P 09 12 28.1 -1.1**
baz=62,SNR=89
RRX Edison Barstow 61.86 69 ⇑P **P 09 12 29.7 +0.3**
baz=62,SNR=26
M21A Separation Pea 61.87 57 ⇑P **P 09 12 29.2 -0.1**
baz=62,SNR=108
J24A Dixon Ranch, L 61.88 54 ⇑P **P 09 12 29.0 -0.4**
baz=62,SNR=66
RWWY Rawlins 61.88 57 *eP* **P 09 12 29.3 -0.1**
P18A Preston Nutter 61.90 61 ⇓P **P 09 12 30.3 +0.7**
baz=62,SNR=394
R15A Junction 61.91 63 ⇓P **P 09 12 30.8 +1.2**
baz=62,SNR=285
Q16A Castle Valley 61.95 62 ⇑P **P 09 12 30.5 +0.5**
baz=62,SNR=311
O19A Miners Draw (B 61.97 59 ⇑P **P 09 12 29.9 -0.1**
baz=62,SNR=383
SBUM Sibu 61.97 229 P **P 09 12 32.0 +1.6**
SBUM Sibu 61.97 229 P 09 41 09.0
comp=E,45nm,1.5s
SBUM Sibu 61.97 229 P **P 09 12 31.1 +0.7**
comp=E,1µm,1.4s,mb6.2
BFSC Mount Baldy Ra 61.97 70 ⇑P **P 09 12 30.1 -0.1**
baz=62,SNR=350
FOO Floro 61.99 344 *eP* **P 09 12 27.5 -2.4**
FOO *eS* **S 09 20 18.8 +4.6**
N20A Spence Gulch, 62.00 58 ⇑P **P 09 12 31.1 +0.9**
baz=62,SNR=302
L22A Ellis Ranch, M 62.01 56 ⇓P **P 09 12 30.9 +0.6**
baz=62,SNR=253
AGMN Agassiz Nation 62.01 45 *eP* **P 09 12 29.3 -0.9**
comp=E,1µm,1.3s,mb6.2
FMP Fort Macarthur 62.02 71 ⇓P **P 09 12 30.4 -0.1**
baz=62,SNR=26
TUQ Turquoise Moun 62.03 68 ⇑P **P 09 12 30.9 +0.4**
baz=62,SNR=449
SRU San Rafael 62.15 61 ⇑P **P 09 12 31.7 +0.5**
baz=62,SNR=527
SRU San Rafael 62.15 61 *eP* **P 09 12 31.5 +0.3**
SRU San Rafael 62.15 61 *eP* **P 09 12 31.5 +0.3**
CIS Catalina Islan 62.18 71 ⇑P **P 09 12 31.1 -0.5**
baz=62,SNR=120
HYA Hoyanger 62.21 343 *eP* **P 09 12 32.2 +1.0**
HEC Hector,Ludlow 62.26 68 ⇓P **P 09 12 32.5 +0.5**
baz=62,SNR=514
K24A Anderson Ranch 62.27 55 ⇑P **P 09 12 31.2 -0.7**
baz=62,SNR=15
R16A Teasdale 62.27 62 ⇑P **P 09 12 33.3 +1.3**
baz=62,SNR=812
L23A Garrett 62.30 56 ⇓P **P 09 12 31.9 -0.2**
baz=62,SNR=182
Q18A Rafter H Ranch 62.35 61 ⇑P **P 09 12 32.6 0.0**
baz=62,SNR=399
BBRC Big Bear Solar 62.36 69 ⇑P **P 09 12 33.1 +0.4**
baz=62,SNR=329
IZAR Zarasai 62.42 330 *eP* **P 09 12 33.1 +0.5**
IZAR AMB AMB 09 12 40.4
comp=Z,780nm,1.1s,mb6.0
SCI San Clemente I 62.42 71 ⇓P **P 09 12 32.7 -0.4**
baz=62,SNR=51
N21A Black Mountain 62.43 58 ⇑P **P 09 12 33.4 +0.4**
baz=62,SNR=90
OSL Oslo 62.52 340 *eP* **P 09 12 32.9 -0.4**
O20A White River Ci 62.54 59 ⇓P **P 09 12 34.0 +0.3**
baz=62,SNR=361
P19A Cripple Cowboy 62.54 60 ⇓P **P 09 12 33.7 -0.1**
baz=62,SNR=325
SUE Sulen 62.55 344 *eP* **P 09 12 33.1 -0.3**
R17A Hanksville Air 62.57 62 ⇑P **P 09 12 33.8 -0.2**
baz=62,SNR=462
ISAL Salakas 62.61 330 *eP* **P 09 12 34.4 +0.4**
ISAL AMB AMB 09 12 41.7
comp=Z,875nm,1.0s,mb6.2
S16A Weppner Ranch, 62.63 63 ⇓P **P 09 12 35.4 +1.1**
baz=62,SNR=844
IDID Didziasalis 62.65 329 *eP* **P 09 12 34.6 +0.4**
IDID AMB AMB 09 12 41.9
comp=Z,1µm,0.8s,mb6.4
GMRC Granite Mounta 62.66 68 ⇓P **P 09 12 34.9 +0.2**
baz=62,SNR=560
MURC Murrieta 62.70 70 ⇑P **P 09 12 34.6 -0.3**
baz=62,SNR=210
L24A Wheatland 62.73 55 ⇓P **P 09 12 34.7 -0.2**
baz=62,SNR=84
LDFC Landfair 62.74 67 *eP* **P 09 12 35.3 +0.1**
comp=Z,3µm,0.8s,mb6.9
IIGN Ignalina 62.77 330 AMB AMB 09 12 43.5
comp=Z,2µm,0.6s,mb6.8
M23A Laramie 62.78 56 ⇑P **P 09 12 34.9 -0.4**
baz=62,SNR=85
K25A Mack Ranch, Ha 62.80 54 ⇓P **P 09 12 34.9 -0.5**
baz=63,SNR=36
O21A Pagoda 62.86 58 ⇓P **P 09 12 36.4 +0.5**
baz=63,SNR=82
Q19A Hogan Spring (62.91 60 ⇑P **P 09 12 35.9 -0.2**
baz=63,SNR=700
N22A Wattenberg Ran 62.92 57 ⇑P **P 09 12 36.9 +0.6**
baz=63,SNR=220
P20A De Beque 62.94 60 ⇑P **P 09 12 36.0 -0.3**
baz=63
NACGM Naroch 62.99 329 *i* P **P 09 12 32.0 -4.4**
NACGM Naroch 62.99 329 *eP* 09 41 04.0
MICGM Minsk 62.99 328 ⇓*i* P **P 09 12 34.0 -2.4**
MICGM Minsk 62.99 328 *eP* 09 41 00.0
KONO Kongsberg 63.01 341 ⇓*i* P **P 09 12 35.5 -0.9**
KONO AMB AMB 09 12 52.6
comp=Z,3µm,1.1s,mb6.7
KONO *eS* **S 09 20 28.5 +1.9**
KONO Kongsberg 63.01 341 *eP* **P 09 12 36.4 0.0**
comp=Z,73nm,2.3s
KONO Kongsberg 63.01 341 *eP* **P 09 12 36.4 0.0**
MNK Minsk 63.01 328*d i* P **P 09 12 34.0 -2.5**
MNK *e**PP pP 09 13 11.0 -68
MNK *e* 09 15 00.0
MNK *eS* **S 09 20 23.0 -3.8**
MNK *eSP* 09 21 00.0
MNK *e* 09 21 32.0
MNK pmax pmax
comp=Z,4µm,0.6s,mb7.2
MNK pmax pmax
comp=N,2µm,0.8s
MNK pmax pmax
comp=E,760nm,0.9s
MNK pmax pmax
comp=Z,70µm,5.0s
MNK pmax pmax
comp=N,31µm,6.0s
MNK pmax pmax
comp=E,15µm,5.0s
MNK pmax pmax
comp=Z,103µm,10.0s
MNK smax
comp=E,91µm,4.0s
MNK smax
comp=N,77µm,4.0s
R18A Canyonlands Na 63.01 61 ⇑P **P 09 12 36.4 -0.4**
baz=63,SNR=644
ASK Askoy 63.02 343 *eP* **P 09 12 35.7 -0.8**
AJM Ajmer 63.03 278 *e*PKP **P 09 12 36.0 -1.1**
RUND Rundenannen 63.06 343 *eP* **P 09 12 35.3 -1.4**
BELC Belle Mtn. Jos 63.06 69 ⇑P **P 09 12 36.9 -0.3**
baz=63,SNR=296
K26A Motz Farm, Whi 63.06 54 ⇑P **P 09 12 36.7 -0.4**
baz=63,SNR=83
BER Bergen 63.09 343 *eP* **P 09 12 33.2 -3.8**
N23A Red Feather La 63.11 57 ⇑P **P 09 12 37.8 +0.4**
baz=63
PFO Pinyon Flat Ob 63.11 69 ⇓P **P 09 12 37.3 -0.2**
baz=63,SNR=237
PFO Pinyon Flat Ob 63.11 69 *eP* **P 09 12 37.2 -0.3**
PFO Pinyon Flat Ob 63.11 69 *eP* **P 09 12 37.2 -0.3**
PFO Pinyon Flat Ob 63.11 69 P **P 09 12 37.0 -0.5**
comp=N,5µm,0.8s,mb7.1
S17A Black Ridge (B 63.11 62 ⇓P **P 09 12 37.7 +0.2**
baz=63,SNR=769
SOFL Sornfelli, Far 63.12 350 *eP* **P 09 12 35.9 -1.2**
SOFL AMB AMB 09 12 45.6
comp=Z,2µm,1.0s,mb6.5
M24A Cheyenne 63.22 56 ⇓P **P 09 12 38.8 +0.8**
baz=63,SNR=86
EGD Espegrend 63.22 343 *eP* **P 09 12 37.4 -0.3**
U15A North Rim 63.24 64 ⇑P **P 09 12 39.1 +0.8**
baz=63,SNR=427
NEE2 Needles Airpor 63.24 67 ⇓P **P 09 12 38.0 -0.4**
baz=63,SNR=13
109C Camp Elliot, M 63.29 70 ⇑P **P 09 12 38.3 -0.4**
baz=63,SNR=96
ODD1 Odda 63.31 342 *eP* **P 09 12 37.7 -0.6**
ODD1 AMB AMB 09 12 47.7
comp=Z,2µm,1.6s,mb6.3
O22A Kremmling 63.36 58 ⇓P **P 09 12 39.1 0.0**
baz=63,SNR=158
W13A Hualapai Mount 63.38 66 ⇓P **P 09 12 39.5 +0.3**
baz=63,SNR=369
P21A Newcastle 63.40 59 ⇓P **P 09 12 39.7 +0.4**
baz=63,SNR=81
Q20A Ridgley Place, 63.40 60 ⇑P **P 09 12 38.9 -0.4**
baz=63,SNR=170
IRM Iron Mountain 63.41 68 ⇓P **P 09 12 39.7 +0.3**
baz=63,SNR=358
R19A Curley Farm, L 63.41 61 ⇑P **P 09 12 39.3 -0.1**
baz=63,SNR=281
S18A Hurst Farm, Bl 63.49 62 ⇑P **P 09 12 40.0 +0.1**
baz=63,SNR=390
K27A Flueckinger Fa 63.51 53 ⇑P **P 09 12 39.5 -0.4**
baz=63,SNR=143
PV04 Paradox Valley 63.52 61 *eP* **P 09 12 40.4 +0.4**
SNG Songkhla 63.54 243 P **P 09 12 42.0 +1.5**
comp=Z,1µm,1.1s,mb6.3
MMPI Merauke 63.54 195 P **P 09 12 42.4 +2.0**
comp=Z,3µm,0.8s,mb6.8
ABKT Ailbek 63.55 299 P **P 09 12 41.0 +0.7**
comp=Z,30µm,1.0s,mb7.8
HNR Honiara 63.59 174 *eP* **P 09 12 39.6 -1.1**
comp=Z,4µm,1.2s,mb6.8
HNR Honiara 63.59 174 *eP* **P**
HNR pmax pmax **09 12 39.6 -1.1**
comp=Z,4µm,1.2s,mb6.8
T17A Navajo Res., N 63.59 63 ⇓P **P 09 12 40.4 -0.2**
baz=63,SNR=270
M25A Palm-Egli Farm 63.61 55 ⇓P **P 09 12 40.9 +0.3**
baz=63,SNR=124
BC3 Big Chuckawall 63.62 69 ⇑P **P 09 12 40.5 -0.3**
baz=63,SNR=398
O23A Lake Granby, G 63.64 57 ⇓P **P 09 12 41.7 +0.9**
baz=63,SNR=294
IEMG Emamgholi 63.66 298 *eP* **P 09 12 42.5 +1.5**
MONP Monument Peak 63.67 70 ⇓P **P 09 12 40.9 -0.2**
baz=63,SNR=201
PMG Port Moresby 63.67 188 P **P 09 12 40.8 -0.4**
comp=Z,317nm,0.7s,mb6.0,baz=14,slow=6.6,SNR=102
PMG Port Moresby 63.67 188 *eP* **P 09 12 40.9 -0.4**
PMG Port Moresby 63.67 188*ce* P **P 09 12 40.5 -0.7**
PMG pmax pmax
comp=Z,446nm,1.2s
PMG Port Moresby 63.67 188 P **P 09 12 40.9 -0.3**
comp=Z,1µm,1.8s,mb6.2
BRSD Miller 63.67 50 ⇓P **P 09 12 40.2 -0.8**
baz=63,SNR=89
N24A Carr 63.68 56 ⇓P **P 09 12 41.4 +0.4**
baz=63,SNR=32
BAR Barrett 63.69 70 *eP* **P 09 12 41.0 -0.2**
comp=Z,6µm,2.2s,mb6.8
P22A Eagle 63.69 58 ⇑P **P 09 12 41.4 +0.3**
baz=64,SNR=360
KDI Kendari 63.70 216 P 09 41 03.2
KDI Kendari 63.70 216 P 09 41 03.2
comp=Z,278nm,1.7s
KDI Kendari 63.70 216 P **P 09 12 41.5 0.0**
comp=Z,420nm,1.5s,mb5.7
KSM Kuching 63.70 231 *eP* **P 09 12 42.3 +0.8**
comp=Z,3µm,0.9s,mb6.8
KSM Kuching 63.70 231 P 09 41 04.4
KSM Kuching 63.70 231 P **P 09 12 41.9 +0.4**
comp=Z,3µm,1.1s,mb6.8
IMYA Miami 63.71 296 *eP* **P 09 12 42.5 +1.2**
TTSI Tana Toraja 63.85 219 P 09 41 11.1
TTSI Tana Toraja 63.85 219 P **P 09 12 41.8 -0.7**
comp=Z,568nm,1.0s,mb6.0
PDMCI Parker Dam,Lak 63.85 67 ⇑P **P 09 12 42.3 0.0**
baz=64,SNR=201
Q21A Lamborn Mesa, 63.86 59 ⇓P **P 09 12 42.3 +0.1**
baz=64,SNR=297
BHPL Bhopal 63.88 274 *e*PKP **P 09 12 42.2 -0.4**
BHPL AMb AMB 09 12 51.2
comp=Z,8µm,1.1s,mb7.2
PV01 Paradox Valley 63.88 61 *eP* **P 09 12 42.6 +0.2**
comp=Z,16µm,0.7s,mb7.7
S19A Harvey Farm, M 63.89 61 ⇑P **P 09 12 42.4 0.0**
baz=64,SNR=400
SMCO Snowmass 63.90 59 *eP* **P 09 12 43.1 +0.6**
R20A Redvale 63.94 60 ⇑P **P 09 12 42.8 +0.1**
baz=64,SNR=371
U17A Shonto 63.97 63 ⇑P **P 09 12 43.3 +0.3**
baz=64,SNR=208
T18A Mexican Hat 63.97 62 ⇑P **P 09 12 42.8 -0.2**
baz=64,SNR=823
SWSC Sam W Stewart 63.97 69 ⇑P **P 09 12 42.6 -0.4**
baz=64,SNR=148
DVTC Desert V Tower 64.02 70 ⇑P **P 09 12 43.4 +0.1**
baz=64,SNR=181
Y12C Blythe 64.06 68 ⇑P **P 09 12 44.0 +0.4**
baz=64,SNR=285
ISHV Shirvan 64.06 299 *eP* **P 09 12 45.3 +1.8**
U16A Tuba City 64.06 64 ⇓P **P 09 12 44.2 +0.6**
baz=64,SNR=341
ISRO Mashad 64.07 296 *eP* **P 09 12 44.3 +0.7**
MHI Mashad 64.07 296 *eP* **P 09 12 45.5 +1.9**
EYMN Ely 64.07 43 *eP* **P 09 12 42.6 -0.8**
N25A Grover 64.08 56 ⇑P **P 09 12 43.9 +0.3**
baz=64,SNR=8.0
ISCO Idaho Springs 64.10 57 ⇑P **P 09 12 44.6 +0.8**
baz=64,SNR=342
ISCO Idaho Springs 64.10 57 *eP* **P 09 12 44.4 +0.6**
comp=Z,9µm,2.5s,mb6.9
ISCO Idaho Springs 64.10 57 *eP* **P**
ISCO pmax pmax **09 12 44.4 +0.6**
comp=Z,9µm,2.5s,mb6.9
O24A Longmont 64.12 57 ⇓P **P 09 12 44.8 +0.9**
baz=64,SNR=132
Q22A Crested Butte, 64.17 59 ⇑P **P 09 12 44.8 +0.6**
baz=64,SNR=260
IPAY Payeh 64.21 297 *eP* **P 09 12 45.8 +1.3**
KMY Karmoy 64.21 343 *eP* **P 09 12 44.3 +0.1**
IKRD Kardeh 64.22 297 *eP* **P 09 12 42.6 -1.9**
IAKL Akhelmad 64.22 297 *eP* **P 09 12 46.1 +1.5**
S20A Disappointment 64.22 61 ⇑P **P 09 12 44.5 0.0**
baz=64,SNR=355
R21A Cimarron 64.23 60 ⇓P **P 09 12 45.0 +0.4**
baz=64,SNR=612
ISFR Sfrayin 64.27 298 *eP* **P 09 12 46.4 +1.5**
IMOG Moghan 64.29 296 *eP* **P 09 12 46.4 +1.4**
P23A Jefferson 64.32 58 ⇑P **P 09 12 45.9 +0.8**
baz=64,SNR=110
LRW Lerwick 64.32 347 *eP* **P 09 12 44.2 -0.6**
LRW AMB AMB 09 12 53.5
comp=Z,2µm,1.7s,mb6.3
WUAZ Wupatki 64.41 64 ⇑P **P 09 12 46.6 +0.7**
baz=64,SNR=510
GLA Glamis 64.42 69 ⇑P **P 09 12 46.3 +0.4**
baz=64,SNR=193
GLA Glamis 64.42 69 *eP* **P 09 12 46.3 +0.4**
comp=Z,1µm,0.8s,mb6.5
GLA Glamis 64.42 69 *eP* **P 09 12 46.3 +0.4**
GLA pmax pmax
comp=Z,1µm,0.8s,mb6.5
STKI Sintang 64.42 229 P **P 09 12 46.8 +0.7**
comp=Z,2µm,1.1s,mb6.7
U18A Rough Rock, Ch 64.52 63 ⇑P **P 09 12 46.8 +0.4**
baz=64,SNR=499
NGP Nagpur 64.53 271 *ex* **P 09 12 44.0 -2.8**
NGP *ex* x 09 20 53.0
O25A Wiggins 64.60 56 ⇓P **P 09 12 47.3 +0.4**
baz=64,SNR=40
MVCO Mesa Verde 64.62 61 ⇑P **P 09 12 47.1 0.0**
baz=64,SNR=227
MVCO Mesa Verde 64.62 61 *eP* **P 09 12 47.3 +0.2**
comp=Z,891nm,1.1s,mb6.3
MJSI Majene 64.63 220 P **P 09 12 49.2 +1.8**
comp=Z,934nm,1.2s,mb6.3
V17A Tonalea, Kykot 64.64 64 ⇓P **P 09 12 48.4 +1.1**
baz=64,SNR=918
S21A Coal Bank Pass 64.64 60 ⇑P **P 09 12 47.9 +0.7**
baz=64,SNR=657
T19A Beclabito 64.64 62 ⇑P **P 09 12 47.5 +0.2**
baz=64,SNR=556
P24A Kohler Place, 64.67 57 ⇓P **P 09 12 48.1 +0.7**
baz=64,SNR=38
Q23A Hartsel 64.68 58 ⇓P **P 09 12 48.0 +0.6**
baz=64,SNR=77
SNART Snartemo 64.68 342 *eP* **P 09 12 47.4 +0.3**
SNART AMB AMB 09 13 03.2
comp=Z,3µm,0.7s,mb7.0
SPSI Sidrap Palu 64.72 219 P 09 40 54.4
SPSI Sidrap Palu 64.72 219 P 09 40 54.4
SPSI Sidrap Palu 64.72 219 P **P 09 12 47.1 -0.9**
comp=Z,2µm,1.3s,mb6.6
R22A Saguache, Gunn 64.73 59 ⇑P **P 09 12 48.6 +0.8**
baz=64,SNR=240
Y14A Wickenburg 64.74 67 ⇓P **P 09 12 48.2 +0.3**
baz=64,SNR=529
SUW Suwalki 64.82 331 *eP* **P 09 12 47.5 -0.6**
comp=Z,8µm,2.5s,mb6.9
SUW *e*PcP PcP 09 12 54.1 -22
SUW *e*pP pP 09 14 31.0 -0.3
SUW *e*sP sP 09 15 21.2 -3.8
SUW *eS* **S 09 20 48.8 +0.1**
SUW *e*ScS ScS 09 21 51.6 -0.8
SUW *e* 09 24 13.6
SUW *e*SSS 09 28 49.1
SUW Suwalki 64.82 331 *eP* **P 09 12 47.6 -0.5**
SUW Suwalki 64.82 331⇓*eP* **P 09 12 47.5 -0.6**
SUW *e**PP pP 09 14 31.0 -0.3
SUW *e**SP sP 09 15 21.2 -3.8
SUW *eS* **S 09 20 48.8 +0.1**
SUW *e* 09 21 51.6
SUW pmax pmax
comp=Z,8µm,2.5s,mb6.9
MAK Makhachkala 64.84 309*d i* P **P 09 12 48.7 +0.3**
MAK *e* 09 13 17.7
MAK *e**PP pP 09 14 35.0 +3.3
MAK *e* 09 15 19.1
MAK *i* *SP sP 09 15 26.8 +1.5
MAK *e*PPP 09 16 57.8
MAK *i* S **S 09 20 56.0 +6.6**
MAK *i* 09 21 58.1
MAK *i* SS SS 09 25 15.3 +3.4
MAK pmax pmax
comp=N,29µm,6.7s
MAK pmax pmax
comp=Z,41µm,5.9s
MAK pmax pmax
comp=E,7µm,2.1s
MAK pmax pmax
comp=N,4µm,0.8s
MAK pmax pmax
comp=Z,4µm,1.3s,mb6.8
MAK pmax pmax
comp=E,6µm,1.3s
MAK smax
comp=N,29µm,7.1s
MAK smax
comp=Z,14µm,6.5s
MAK smax
comp=E,30µm,7.5s
MAK MLR MLR
comp=E,69µm,20.0s
MAK MLR MLR
comp=Z,53µm,15.0s
MAK MLR MLR
comp=N,34µm,15.0s
Z13A Yuma Proving G 64.94 68 ⇓P **P 09 12 49.5 +0.3**
baz=65,SNR=578
U19A Dine' College, 64.96 62 ⇓P **P 09 12 49.5 +0.2**
baz=65,SNR=427
OGNE Ogallala 64.96 54 ⇑P **P 09 12 49.4 +0.1**
baz=65,SNR=194
OGNE Ogallala 64.96 54 *eP* **P 09 12 49.3 +0.1**
comp=N,5µm,1.3s,mb7.0
Q24A Divide 64.97 58 ⇑P **P 09 12 49.6 +0.3**
baz=65,SNR=73
V18A Ganado 65.02 63 ⇓P **P 09 12 50.3 +0.6**
baz=65,SNR=374
P25A Willow Gulch B 65.04 57 ⇓P **P 09 12 50.1 +0.4**
baz=65,SNR=176
S22A 4UR Ranch, Cre 65.07 60 ⇓P **P 09 12 50.9 +1.0**
baz=65
Y15A Casa Rosa Ranc 65.09 66 ⇑P **P 09 12 50.8 +0.7**
baz=65,SNR=294
W17A Winslow 65.09 64 ⇓P **P 09 12 50.9 +0.8**
baz=65,SNR=35
KULM Kulim 65.11 242 *eP* **P 09 12 51.0 +0.5**
KULM Kulim 65.11 242 P 09 40 58.4
comp=N,154nm,0.8s
KULM Kulim 65.11 242 P S 09 21 06.6 +13
KULM Kulim 65.11 242 P **P 09 12 50.7 +0.2**
comp=N,1µm,1.1s,mb6.5
BBSI Bau Bau 65.14 215 P **P 09 12 52.6 +2.0**
comp=N,891nm,1.1s,mb6.3
XMAS Kiritimati 65.20 125 *eP* **P 09 12 50.0 -1.1**
Z14A Wintersburg 65.21 67 ⇓P **P 09 12 50.8 -0.1**
baz=65,SNR=96
X16A Lo Mia Camp, P 65.21 65 ⇑P **P 09 12 51.9 +1.0**
baz=65,SNR=559
113A Mohawk Valley, 65.21 68 ⇓P **P 09 12 50.7 -0.2**
baz=65,SNR=79
R23A Moffat 65.23 59 ⇓P **P 09 12 51.4 +0.4**
baz=65,SNR=191
U20A Newcomb 65.25 62 ⇓P **P 09 12 51.3 +0.2**
baz=65,SNR=65
ECSD EROS Data Cent 65.27 49 *eP* **P 09 12 50.6 -0.5**
comp=N,2µm,0.6s,mb6.8
T21A Navajo Lake 65.29 61 ⇑P **P 09 12 52.2 +0.8**
baz=65,SNR=148
PLKI Palangkaraya 65.42 225 P **P 09 12 53.6 +1.2**
comp=N,3µm,1.0s,mb6.9
Q25A Bedland, Calha 65.46 57 ⇓P **P 09 12 52.4 +0.1**
baz=65,SNR=145
KBKI Kotabaru 65.48 223 P **P 09 12 52.1 -0.7**
comp=N,2µm,1.2s,mb6.6
V19A Window Rock 65.48 63 ⇑P **P 09 12 53.1 +0.5**
baz=65,SNR=41
S23A Nye Farm, Mont 65.52 59 ⇓P **P 09 12 53.3 +0.6**
baz=65,SNR=167
R24A Sanders Place, 65.56 58 ⇑P **P 09 12 53.5 +0.4**
baz=65,SNR=237
W18A Petrified Fore 65.58 64 ⇑P **P 09 12 53.6 +0.4**
baz=65,SNR=41
T22A Edith 65.59 60 ⇑P **P 09 12 53.7 +0.5**
baz=65,SNR=471
Y16A Circle Bar Ran 65.60 66 ⇑P **P 09 12 54.0 +0.7**
baz=65,SNR=234
IPM Ipoh 65.61 241 *eP* **P 09 12 53.5 -0.2**
IPM Ipoh 65.61 241 P **P 09 12 53.1 -0.5**

comp=N,2µm,1.1s,mb6.7
X17A **Forest Lakes** 65.61 65 ⇑P P 09 12 54.4 +1.0
baz=65,SNR=303
U21A **Nageezi** 65.66 61 ⇑P P 09 12 54.0 +0.4
baz=65,SNR=305
Z15A **Gila River Ind** 65.69 67 ⇓P P 09 12 54.2 +0.3
baz=66,SNR=71
KAPI **Kappang** 65.69 218 eP P 09 12 52.9 -1.2
comp=N,1µm,1.2s,mb6.4
KAPI **Kappang** 65.69 218 P 09 40 53.0
KAPI **Kappang** 65.69 218 P 09 40 53.0
KAPI **Kappang** 65.69 218 P P 09 12 53.6 -0.5
comp=N,536nm,1.5s,mb6.0
KAPI **Kappang** 65.69 218 P P 09 12 53.3 -0.8
SNR=112
KAPI **Kappang** 65.69 218 P 09 40 53.2
SNR=16
114A **Black Gap (USA** 65.71 67 ⇓P P 09 12 54.5 +0.4
baz=66,SNR=302
V20A **Brimhall** 65.72 62 ⇑P P 09 12 54.2 +0.1
baz=66,SNR=128
SPMN **St. Paul** 65.72 46 ⇓P P 09 12 53.4 -0.5
baz=66,SNR=56
SDCO **Great Sand Dun** 65.74 59 ⇑P P 09 12 54.7 +0.6
baz=66,SNR=568
SDCO **Great Sand Dun** 65.74 59 eP P 09 12 54.4 +0.3
W19A **Sanders** 65.77 63 ⇑P P 09 12 55.5 +1.1
baz=66,SNR=149
AKASG **Malin Array Be** 65.79 325 P P 09 12 53.5 -0.7
comp=N,614nm,0.5s,mb6.5,baz=30,slow=6.9,SNR=1027
AKASG S S 09 21 00.5 +0.1
comp=N,86nm,1.0s,baz=25,slow=11,SNR=4.3
AKASG SKKS SKKSdf 09 39 07.1 -11
comp=N,2.7nm,0.7s,baz=222,slow=3.0,SNR=4.3
AKASG P4KPbc 09 49 45.6
comp=N,1.2nm,0.4s,baz=32,slow=5.1,SNR=6.8
AKASG **Malin Array Be** 65.79 325 P P 09 12 53.5 -0.7
AKASG S S 09 21 00.5 +0.1
AKASG SKKS SKKSdf 09 39 07.1 -11
AKASG e 09 49 45.6
AKASG **Malin Array Be** 65.79 325 P P 09 12 53.6 -0.6
AKASG S S 09 21 00.5 +0.1
AKASG pmax pmax
comp=Z,615nm,0.5s
AKASG smax
comp=N,86nm,1.0s
AKBB **Malin Array Si** 65.79 325 eP P 09 12 53.4 -0.8
AKBB **Malin Array Si** 65.79 325 eP P 09 12 53.4 -0.8
KIEV **Kiev** 65.80 325 eP P 09 12 53.5 -0.8
comp=N,2µm,0.7s,mb6.8
KIEV **Kiev** 65.80 325 eP P 09 12 53.5 -0.8
KIEV pmax pmax
comp=Z,2µm,0.7s,mb6.8
BKSI **Bulukumba** 65.84 218 P 09 40 53.8
BKSI **Bulukumba** 65.84 218 P P 09 12 54.4 -0.6
comp=Z,970nm,0.9s,mb6.4
X18A **Snowflake** 65.92 64 ⇓P P 09 12 56.0 +0.6
baz=66,SNR=355
FUNA **Funafuti** 65.94 153 eP P 09 12 55.1 -0.5
comp=Z,5µm,1.5s,mb6.9
S24A **Houchin Ranch,** 65.97 59 ⇓P P 09 12 56.0 +0.5
baz=66,SNR=304
T23A **Casias Ranch,** 66.02 60 ⇓P P 09 12 56.1 +0.2
baz=66,SNR=44
BSD **Bornholm Skovb** 66.02 336 ⇓iP P 09 12 54.9 -0.7
BSD i *PP pP 09 14 38.7 -0.6
BSD pmax pmax
comp=Z,2µm,0.8s,mb6.7
BSD MLR MLR
comp=Z,21µm,20.0s
R25A **Fountain Ranch** 66.04 58 ⇓P P 09 12 55.9 0.0
baz=66,SNR=179
MUD **Monsted U'grnd** 66.06 340 ⇓iP P 09 12 55.9 +0.1
MUD i *PP pP 09 14 42.4 +2.8
MUD pmax pmax
comp=Z,780nm,0.7s,mb6.5
MUD **Monsted U'grnd** 66.06 340 ⇓iP P 09 12 55.9 +0.1
comp=Z,776nm,0.7s,mb6.4
MUD i pP pP 09 14 42.4 +2.8
AKL **Akola** 66.08 272 ⇓iP P 09 12 56.5 0.0
AKL i x x 09 21 04.2
COP **Copenhagen** 66.08 338 ⇓iP P 09 12 56.1 +0.2
COP i *PP pP 09 14 43.3 +3.6
COP pmax pmax
comp=Z,1µm,0.8s,mb6.5
COP MLR MLR
comp=Z,13µm,20.0s
COP **Copenhagen** 66.08 338 ⇓iP P 09 12 56.1 +0.2
comp=Z,1µm,0.8s,mb6.5
COP i pP pP 09 14 43.3 +3.6
COP
comp=Z,13µm,20.0s
Y17A **Roosevelt** 66.08 65 ⇑P P 09 12 57.0 +0.7
baz=66,SNR=452
U22A **Llaves** 66.11 61 ⇓P P 09 12 56.8 +0.4
baz=66,SNR=258
V21A **Milan** 66.15 62 ⇓P P 09 12 56.8 +0.1
baz=66,SNR=168
SCHQ **Schefferville** 66.16 25 P P 09 12 55.5 -0.9
comp=Z,172nm,0.4s,mb6.0,baz=352,slow=5.5,SNR=502
SCHQ S S 09 21 07.4 +2.8
comp=Z,82nm,1.0s,baz=248,slow=19,SNR=7.2
SCHQ PKPPKP 09 41 21.8
comp=Z,95nm,1.1s,baz=122,slow=3.3,SNR=12
SCHQ **Schefferville** 66.16 25 eP P 09 12 55.5 -1.0
comp=Z,46nm,0.5s,mb5.4
SCHQ S S 09 21 07.4 +2.8
SCHQ PKPab 09 41 21.8
BBKI **Banjar Baru** 66.17 224 P S 09 21 27.2 +21
comp=Z,2µm,1.8s
BBKI **Banjar Baru** 66.17 224 P P 09 12 57.1 0.0
comp=Z,5µm,1.1s,mb7.1
KIV **Kislovodsk** 66.19 313 eP P 09 12 57.3 +0.4
comp=Z,2µm,0.6s,mb6.9
KIV **Kislovodsk** 66.19 313 diP P 09 12 57.3 +0.4
KIV e 09 13 22.5
KIV e*PP pP 09 14 38.8 -1.9
KIV e 09 15 31.7
KIV ePPP 09 17 12.3
KIV eS S 09 21 08.4 +3.0
KIV eSS SS 09 25 34.7 +2.1
KIV pmax pmax
comp=Z,7µm,5.2s
KIV pmax pmax
comp=Z,1µm,0.8s,mb6.7
KIV **Kislovodsk** 66.19 313 P P 09 12 57.1 +0.2
comp=Z,14µm,0.7s,mb7.7
KIV **Kislovodsk** 66.19 313 P 09 40 54.3
SNR=6.9
W20A **Ramah** 66.22 63 ⇑P P 09 12 57.6 +0.4
baz=66,SNR=245
S25A **Robets Cordova** 66.34 58 ⇓P P 09 12 57.8 0.0
baz=66,SNR=140
X19A **St. Johns** 66.34 64 ⇑P P 09 12 58.7 +0.8
baz=66,SNR=513
214A **Organ Pipe Nat** 66.35 68 ⇑P P 09 12 58.2 +0.1
baz=66,SNR=230
BGNE **Belgrade** 66.42 51 ⇑P P 09 12 57.7 -0.6
baz=66,SNR=143
V22A **San Miguel Ran** 66.44 61 ⇓P P 09 12 58.9 +0.4
baz=66,SNR=259
Y18A **Canyon Day Jun** 66.45 65 ⇑P P 09 12 59.4 +0.8
baz=66,SNR=368
LLD **Lille Linde** 66.45 337 ⇓iP P 09 12 54.9 -3.4
comp=Z,2µm,0.8s,mb6.7
LLD i pP pP 09 14 38.7 -3.5
LLD
comp=Z,21µm,20.0s
T24A **Torres, Weston** 66.48 59 ⇓P P 09 12 59.5 +0.7
baz=66,SNR=225
U23A **El Rito** 66.48 60 ⇑P P 09 12 59.3 +0.5
baz=66,SNR=376
116A **Eloy** 66.49 67 ⇑P P 09 12 59.2 +0.3
baz=66,SNR=194
MYKOM **Kota Tinggi** 66.49 237 P 09 40 50.8
MYKOM **Kota Tinggi** 66.49 237 P P 09 12 59.6 +0.5
comp=Z,2µm,1.1s,mb6.6
RSC **Scourie** 66.56 348 ⇓eP P 09 12 58.4 -0.5
Z17A **San Carlos Hig** 66.59 65 ⇓P P 09 13 00.2 +0.7
baz=66,SNR=128
ZEI **Tsey** 66.61 311 ⇓iP P 09 12 59.3 -0.2
ZEI e*PP pP 09 14 41.0 -2.5
ZEI eS S 09 21 13.8 +3.4
ZEI e 09 22 06.9
ZEI pmax pmax
comp=Z,6µm,6.6s
ZEI pmax pmax
comp=Z,1µm,0.9s,mb6.5
ZEI pmax pmax
comp=E,1µm,0.8s
ZEI pmax pmax
comp=N,943nm,0.8s
ZEI smax
comp=N,477nm,4.5s
ZEI smax
comp=E,3µm,7.1s
W21A **San Fidel** 66.67 62 ⇑P P 09 13 00.2 +0.3
baz=66,SNR=15
X20A **Quemado** 66.67 63 ⇓P P 09 13 01.0 +1.0
baz=66,SNR=400
Y19A **Nutrioso** 66.72 64 ⇑P P 09 13 01.6 +1.3
baz=66,SNR=397
T25A **Trinidad** 66.76 59 ⇑P P 09 13 00.4 0.0
baz=66,SNR=85
PBKI **Pangkalan Bun** 66.81 227 P S 09 21 18.7 +5.2
comp=E,509nm,1.5s
PBKI **Pangkalan Bun** 66.81 227 P P 09 13 01.2 +0.1
MVH1 **Achvaich** 66.86 348 ⇓eP P 09 13 00.1 -0.6
U24A **Moreno Valley** 66.89 60 ⇓P P 09 13 02.1 +0.9
baz=67,SNR=188
RGN **Rugen** 66.92 336 eP P 09 13 01.6 +0.4
V23A **Ortiz Mt. (NFS** 66.94 61 ⇓P P 09 13 02.6 +1.0
baz=67,SNR=342
Z18A **Geronimo** 66.98 65 ⇑P P 09 13 02.6 +0.7
baz=67,SNR=81
117A **Oracle** 67.00 66 ⇑P P 09 13 02.6 +0.6
baz=67,SNR=221
DGRG **David-gareji** 67.01 309 P P 09 13 01.2 -0.8
216A **Three Points,** 67.05 67 ⇓P P 09 13 02.9 +0.5
baz=67,SNR=274
TBLG **Delisi** 67.07 310 P P 09 13 03.1 +0.8
TBLG **Delisi** 67.07 310 P P 09 13 03.1 +0.8
MCD **Coleburn Disti** 67.07 347 ⇓eP P 09 13 01.7 -0.4
MTA **Mtatsminda** 67.08 310 P P 09 13 02.9 +0.5
W22A **Albuquerque** 67.11 62 ⇑P P 09 13 03.3 +0.6
baz=67,SNR=62
GKP **Gorka Klasztor** 67.11 334 eP P 09 13 02.3 -0.1
comp=E,10µm,4.4s
GKP ePcP PcP 09 13 08.8 -17
GKP epP pP 09 14 50.5 +3.9
GKP eS S 09 21 20.5 +4.6
GKP e 09 24 37.7
GKP eSSS 09 29 34.0
GKP **Gorka Klasztor** 67.11 334 ⇓eP P 09 13 02.3 -0.1
GKP e*PP pP 09 14 50.5 +3.9
GKP eS S 09 21 20.5 +4.6
LHMI **Lhok Sumawe** 67.12 246 P SKSac 09 22 12.5 +1.8
comp=E,697nm,2.0s
LHMI **Lhok Sumawe** 67.12 246 P P 09 13 02.7 -0.3
comp=E,6µm,1.3s,mb7.1
X21A **Alamocita Cree** 67.12 63 ⇑P P 09 13 03.9 +1.1
baz=67,SNR=558
RRR **Rubha Reidh** 67.12 349 ⇓eP P 09 13 01.7 -0.7
IKIA **Kiasar** 67.14 300 eP P 09 13 04.0 +1.2
GOR **Gori** 67.15 311 P P 09 13 04.0 +1.2
RRH **Rhenigidale** 67.16 349 ⇓eP P 09 13 01.9 -0.7
Y20A **Horse Springs,** 67.22 63 ⇓P P 09 13 04.5 +1.0
baz=67,SNR=391
Z19A **T-Link Ranch,** 67.23 65 ⇑P P 09 13 04.5 +1.1
baz=67,SNR=72
MME1 **Meikle Cairn** 67.29 347 ⇓eP P 09 13 02.6 -0.8
U25A **Circle Dot Ran** 67.33 59 ⇑P P 09 13 03.8 -0.3
baz=67,SNR=164
MDO **Dochfour** 67.35 348 ⇓eP P 09 13 03.4 -0.4
KAC **Achnashellach** 67.41 348 ⇓eP P 09 13 03.3 -0.8
KAC e pP 09 14 50.5 +2.1
W23A **Werner Place,** 67.41 61 ⇓P P 09 13 04.8 +0.3
baz=67,SNR=174
ANMO **Albuquerque** 67.42 61 eP P 09 13 04.8 +0.2
comp=E,7µm,2.8s,mb6.8
ANMO **Albuquerque** 67.42 61 eP P 09 13 04.8 +0.2
ANMO pmax pmax
comp=Z,7µm,2.8s
V24A **Rampart Ranch,** 67.42 60 ⇓P P 09 13 05.3 +0.7
baz=67,SNR=262
BEL **Belsk** 67.42 331 eP P 09 13 05.0 +0.6
comp=Z,16µm,1.8s,mb7.3
BEL ePcP PcP 09 13 11.5 -16
BEL epP pP 09 14 52.8 +4.2
BEL eS S 09 21 22.1 +2.5
BEL e 09 24 34.4
BEL eSSS 09 29 40.1
BEL **Belsk** 67.42 331 ⇓eP P 09 13 05.0 +0.7
BEL e*PP pP 09 14 52.8 +4.2
BEL eS S 09 21 22.1 +2.5
BEL pmax pmax
comp=Z,16µm,1.8s,mb7.3
X22A **Bernardo** 67.47 62 ⇓P P 09 13 06.0 +1.0
baz=67,SNR=120
LAZ **Ladron** 67.49 62 eP P 09 13 06.0 +0.9
comp=Z,30µm,2.0s,mb7.6
Y21A **Point of Rocks** 67.52 63 ⇓P P 09 13 06.2 +1.0
baz=67,SNR=136
217A **Green** 67.57 67 ⇑P P 09 13 05.8 +0.2
baz=67,SNR=286
IANJ **Anjilo** 67.59 300 eP P 09 13 07.1 +1.4
KPL **Plockton** 67.61 348 eP P 09 13 04.8 -0.6
KPL AMB AMB 09 13 14.2
comp=Z,2µm,1.8s,mb6.5
KPL e pP 09 14 47.7 -2.0
119A **Ashpeak Ranch,** 67.62 65 ⇓P P 09 13 06.4 +0.6
baz=67,SNR=140
ISHM **Shahmirzad** 67.64 300 eP P 09 13 07.4 +1.4
V25A **Rancho No Teng** 67.67 60 ⇑P P 09 13 06.0 -0.1
baz=67,SNR=193
U26A **Atchley Ranch,** 67.67 59 ⇑P P 09 13 05.6 -0.5
baz=67,SNR=141
IALA **Alasht** 67.67 301 eP P 09 13 05.4 -0.7
ANN **Anapa** 67.70 317 diP P 09 13 05.2 -0.9
ANN i *PP pP 09 14 47.9 -2.7
ANN i 09 15 43.9
ANN i PPP 09 17 31.7
ANN i S S 09 21 24.6 +1.6
ANN i 09 22 01.5
ANN i 09 22 14.4
ANN eSS SS 09 26 01.7 +6.1
ANN pmax pmax
comp=N,6µm,7.3s
ANN pmax pmax
comp=E,5µm,7.3s
ANN pmax pmax
comp=Z,22µm,7.3s
ANN smax
comp=N,5µm,5.9s
ANN smax
comp=E,15µm,5.9s
ANN smax
comp=Z,4µm,5.9s
KSB **Sheil Bridge** 67.71 348 ⇓eP P 09 13 05.7 -0.2
KSB e pP 09 14 52.9 +2.6
TSI **Tuntungan** 67.72 243 P P 09 13 06.7 0.0
comp=Z,6µm,1.0s,mb7.2
Z20A **Nine Sixteen R** 67.73 64 ⇑P P 09 13 07.2 +0.7
baz=68,SNR=308
CBKS **Cedar Bluff** 67.73 54 ⇓P P 09 13 05.5 -0.9
baz=68,SNR=61
CBKS **Cedar Bluff** 67.73 54 eP P 09 13 05.6 -0.8
comp=Z,921nm,0.8s,mb6.5
CBKS **Cedar Bluff** 67.73 54 eP P 09 13 05.6 -0.8
CBKS pmax pmax
comp=Z,921nm,0.8s,mb6.5
HYB **Hyderabad** 67.73 269 iP P 09 13 06.5 -0.3
comp=Z,1µm,1.0s,mb6.4
HYB ePcP PcP 09 13 32.0 +2.8
HYB epP pP 09 14 50.0 -1.3
HYB eSP sP 09 15 40.0 -4.4
HYB ePP PP 09 15 45.0 +0.6
HYB eScP 09 16 46.0
HYB eS S 09 21 24.0 -0.2
HYB eScS ScS 09 22 19.0 +2.7
HYB LR LR 09 30 24.0
comp=Z,79nm,16.0s
HYB ePKPPKP 09 41 21.0
HYB e 09 43 20.0
HYB e 09 43 30.0
HYB e 09 44 10.0
W24A **Lazy 6 Ranch,** 67.75 61 ⇓P P 09 13 07.0 +0.4
baz=68,SNR=188
SOC **Sochi** 67.76 314 diP P 09 13 06.2 -0.3
SOC e 09 13 26.2
SOC i 09 15 41.8
SOC i S S 09 21 25.8 +2.0
SOC e 09 22 18.2
SOC pmax pmax
comp=Z,30µm,6.2s
SOC pmax pmax
comp=Z,2µm,0.7s,mb6.7
LENM **Lemitar** 67.76 62 eP P 09 13 07.3 +0.6
BSI **Banda Aceh** 67.78 247 P SKSac 09 22 31.5 +16
BSI **Banda Aceh** 67.78 247 P P 09 13 06.5 -0.6
comp=Z,1µm,0.8s,mb6.6
IPRN **Peran** 67.79 301 eP P 09 13 07.5 +0.7
LPM **Los Pinos Moun** 67.82 62 eP P 09 13 07.5 +0.5
218A **Dragoon** 67.83 66 ⇑P P 09 13 07.9 +0.7
baz=68,SNR=125
X23A **Hourglass Bar** 67.84 61 ⇓P P 09 13 07.8 +0.6
baz=68,SNR=26
Y22D **IRIS PASSCAL I** 67.86 62 ⇓P P 09 13 08.5 +1.2
baz=68
AKH **Akhalkalaki** 67.89 311 P P 09 13 08.5 +1.2
Y22A **Socorro** 67.94 62 ⇓P P 09 13 08.5 +0.7
baz=68,SNR=11
BNM **Barren Site** 67.95 62 eP P 09 13 08.4 +0.5
comp=Z,1µm,2.0s,mb6.2
Z21A **St. Cloud Mine** 68.06 63 ⇑P P 09 13 09.6 +1.1
baz=68,SNR=320
V26A **Tequesquite Ra** 68.12 59 ⇑P P 09 13 08.4 -0.5
baz=68,SNR=127
PSI **Prapat** 68.12 242 P P 09 13 08.9 -0.3
comp=Z,3µm,0.9s,mb6.8
LATR **Latur** 68.12 271 ePKP P 09 13 09.7 +0.6
LATR ex x 09 15 03.3
120A **U Bar Ranch, L** 68.14 65 ⇓P P 09 13 09.8 +0.7
baz=68,SNR=312
ILAS **Lasjerd** 68.15 300 eP P 09 13 10.4 +1.4
MMRI **Maumere** 68.20 214 P P 09 13 09.0 -0.5
comp=Z,3µm,1.1s,mb6.8
W25A **X Bar L Ranch,** 68.23 60 ⇓P P 09 13 09.1 -0.5
baz=68,SNR=179
LVV **L'vov** 68.23 328 eP P 09 13 10.4 +1.1
LVV e 09 13 34.2
LVV e 09 15 44.6
LVV eS S 09 21 35.4 +6.3
219A **White Tail Can** 68.24 65 ⇓P P 09 13 10.1 +0.5
baz=68,SNR=396
X24A **Lazy VL Ranch,** 68.24 61 ⇑P P 09 13 10.3 +0.6
baz=68,SNR=80
GNI **Garni** 68.33 309 eP P 09 13 11.6 +1.5
comp=Z,7µm,1.3s,mb7.1
GNI **Garni** 68.33 309 deP P 09 13 11.6 +1.5
GNI pmax pmax
comp=Z,3µm,2.1s
GNI MLR MLR
comp=Z,43µm,21.0s
EBH **Black Hill** 68.40 347 ⇓eP P 09 13 09.7 -0.6
EBH e pP 09 14 56.7 +1.8
Y23A **Lovelace Mesa,** 68.42 62 ⇓P P 09 13 11.4 +0.7
baz=68,SNR=221
Z22A **Elephant Butte** 68.47 63 ⇓P P 09 13 11.4 +0.3
baz=68,SNR=158
COEN **Coen** 68.56 192 eP P 09 13 11.4 -0.2
comp=Z,9µm,0.9s,mb7.3
COEN **Coen** 68.56 192 P P 09 13 11.7 0.0
comp=Z,2µm,0.9s,mb6.6
EAB **Aberfoyle** 68.57 347 ⇓eP P 09 13 10.8 -0.4
EAB e pP 09 14 57.6 +1.6
121A **Cookes Peak, D** 68.60 64 ⇑P P 09 13 12.7 +0.8
baz=68,SNR=262
ESY **Stoneypath** 68.60 346 ⇓eP P 09 13 11.0 -0.5
TPI **Tanjungpandan** 68.65 231 P P 09 13 12.9 +0.6
comp=Z,389nm,1.3s,mb5.8
X25A **Clemmons Ranch** 68.67 60 ⇓P P 09 13 12.4 +0.2
baz=68,SNR=59
JFWS **Jewell Farm** 68.67 45 eP P 09 13 10.6 -1.5
comp=Z,666nm,0.6s,mb6.3
JFWS **Jewell Farm** 68.67 45 eP P 09 13 10.6 -1.5
JFWS pmax pmax
comp=Z,666nm,0.6s,mb6.3
EDI **Edinburgh** 68.68 347 eP P 09 13 10.4 -1.5
EDI AMB AMB 09 13 24.9
comp=Z,2µm,1.8s,mb6.3
EDI e 09 14 50.8
BCA **Borcka** 68.68 312 eP P 09 13 10.4 -1.8
W26A **Owens Ranch, T** 68.68 59 ⇑P P 09 13 11.9 -0.4
baz=68,SNR=16
220A **Playas Peak, P** 68.70 65 ⇓P P 09 13 12.7 +0.2
baz=68,SNR=272
KARS **Kars** 68.70 310 eP P 09 13 12.9 +0.6
RUE **Ruedersdorf** 68.71 335 eP P 09 13 12.4 +0.3
comp=Z,3µm,0.7s,mb6.9
319A **Douglas** 68.71 66 ⇓P P 09 13 13.0 +0.5
baz=68,SNR=276
IHRS **Heris** 68.73 306 eP P 09 13 13.3 +0.8
Y24A **Capitan** 68.74 61 ⇓P P 09 13 13.1 +0.4
baz=68,SNR=212
DBOC **Borcka** 68.75 312 iP P 09 13 12.2 -0.4
ARTV **Artvin** 68.76 312 iP P 09 13 11.8 -0.9
EAU **Auchinoon** 68.79 347 ⇓eP P 09 13 12.3 -0.3
EAU e pP 09 14 59.9 +2.5
EBL **Broad Law** 68.80 346 ⇓eP P 09 13 12.3 -0.4
EBL e pP 09 14 57.6 +0.1
KWP **Kalwaria Pacla** 68.81 329 eP P 09 13 13.4 +0.6
comp=Z,14µm,2.5s,mb7.0
KWP ePcP PcP 09 13 20.1 -13
KWP epP pP 09 15 02.8 +5.1
KWP esP sP 09 16 03.8 +13
KWP eS S 09 21 37.1 +1.3
KWP eSSS 09 30 09.6
KWP **Kalwaria Pacla** 68.81 329 ⇓eP P 09 13 13.4 +0.6
KWP e*PP pP 09 15 02.8 +5.1
KWP eS S 09 21 37.1 +1.3
KWP pmax pmax
comp=Z,14µm,2.5s,mb7.0
KWP **Kalwaria Pacla** 68.81 329 ⇓iP P 09 13 13.3 +0.5
ISRB **Sarab** 68.83 306 eP P 09 13 13.8 +0.7
PPBI **Pangkal Pinang** 68.83 233 P P 09 13 13.7 +0.3
comp=Z,2µm,1.1s,mb6.5
Z23A **Rita Site, Whi** 68.85 62 ⇑P P 09 13 13.5 +0.2
baz=69,SNR=101
DAGI **Agillar** 68.85 311 iP P 09 13 12.2 -1.0
SIM **Simferopol'** 68.88 319 ⇓iP P 09 13 13.1 -0.2
SIM e*PP pP 09 14 57.0 -1.2
SIM e 09 15 52.0
SIM iS S 09 21 41.9 +5.1
SIM eSS SS 09 26 27.0 +13
122A **Conniff Cattle** 68.89 63 ⇓P P 09 13 14.6 +1.1
baz=69,SNR=70
PGBU **Glenifferbraes** 68.96 347 eP P 09 13 13.4 -0.2
PGBU AMB AMB 09 13 22.3
comp=Z,3µm,0.8s,mb6.8
PGBU e pP 09 14 59.9 +1.4
KSU1 **Kansas State U** 68.97 52 eP P 09 13 12.4 -1.5
comp=Z,1µm,0.6s,mb6.6
221A **Mesquite Ranch** 69.02 64 ⇑P P 09 13 14.9 +0.6
baz=69,SNR=131
IMRD **Marand** 69.04 307 eP P 09 13 14.6 +0.2
W27A **Bowe Ranch, En** 69.06 59 ⇓P P 09 13 13.6 -1.0
baz=69,SNR=40
DDEM **Demirkent** 69.08 311 iP P 09 13 15.4 +0.8
X26A **CR and CF Fran** 69.08 60 ⇓P P 09 13 14.1 -0.6
baz=69,SNR=111
RGRI **Rengat** 69.08 237 P P 09 13 16.4 +1.4
comp=Z,5µm,1.0s,mb7.0
KIS **Kishinev** 69.10 323 iP P 09 13 13.0 -1.6
comp=Z,4µm,1.6s,mb6.7
KIS **Kishinev** 69.10 323 iPcP PcP 09 13 33.0 -1.5
KIS ipP pP 09 14 58.0 -1.6
KIS **Kishinev** 69.10 323 iPP PP 09 15 47.0 -8.1
comp=Z,46µm,16.0s
KIS **Kishinev** 69.10 323 ⇓iP P 09 13 13.0 -1.6
KIS i 09 13 33.0
KIS i *PP pP 09 14 58.0 -1.6
KIS i S S 09 21 38.0 -1.2
KIS i 09 22 25.0
KIS pmax pmax
comp=Z,7µm,2.2s,mb6.8
KIS pmax pmax
comp=N,4µm,1.6s
KIS pmax pmax
comp=E,3µm,1.4s
KIS pmax pmax
comp=Z,29µm,14.0s
KIS pmax pmax
comp=N,14µm,10.0s
KIS pmax pmax
comp=E,7µm,8.0s

KIS pmax pmax
comp=Z,26µm,20.0s
KIS smax
comp=N,25µm,18.0s
KIS smax
comp=E,31µm,18.0s
KIS Kishinev 69.10 323 ⇑ *i*P **P 09 13 14.2 -0.4**
Y25A Mesa, Roswell 69.13 61 ⇑P **P 09 13 14.9 -0.1**
baz=69,SNR=252
320A Kipp Ranch, An 69.14 65 ⇑P **P 09 13 15.6 +0.5**
baz=69,SNR=182
BKNI Bangkinang 69.15 239 P 09 41 23.8
BKNI Bangkinang 69.15 239 P S 09 21 50.8 +10
comp=E,488nm,1.8s
BKNI Bangkinang 69.15 239 P **P 09 13 16.0 +0.6**
comp=E,7µm,1.1s,mb7.1
OJC Ojcow 69.15 331 *e*P **P 09 13 15.1 +0.3**
OJC *e*pP pP 09 14 59.4 -0.4
OJC *e*PP PP 09 15 52.3 -3.2
OJC *e*S S 09 21 42.4 +2.7
OJC *e*SKSac SKSac 09 22 28.5 +3.4
OJC L 09 36 41.9
comp=E,46nm,23.3s
OJC Ojcow 69.15 331 *e*P **P 09 13 15.1 +0.2**
OJC Ojcow 69.15 331 *e*P **P 09 13 15.1 +0.3**
OJC *e**PP pP 09 14 59.4 -0.4
OJC *e* 09 15 52.3
OJC *e*S S 09 21 42.4 +2.7
OJC *e* 09 22 28.5
SBSI Sibolga 69.20 242 P **P 09 13 15.9 +0.2**
comp=E,1µm,0.9s,mb6.4
KAKA Kakadu 69.21 203 *e*P **P 09 13 14.9 -0.7**
comp=E,599nm,0.8s,mb6.2
KAKA *e* 09 13 23.4
KAKA *e*PCP PcP 09 13 30.0 -5.3
KAKA *e*PKPPKP 09 40 34.9
KAKA Kakadu 69.21 203 *e*P **P 09 13 15.0 -0.6**
comp=E,15µm,1.1s,mb7.4
PZAR Pazar-Rize 69.22 312 *e*P **P 09 13 14.9 -0.5**
ITBZ Tabriz 69.22 307 *e*P **P 09 13 16.2 +0.7**
ESK Eskdalemuir 69.27 346 *e*P **P 09 13 14.0 -1.4**
ESK AMB AMB 09 13 23.0
comp=Z,2µm,0.7s,mb6.6
ESK *e* pP 09 14 56.3 -4.2
ESK Eskdalemuir 69.27 346 *e*P **P 09 13 15.3 -0.2**
comp=Z,2µm,0.7s,mb6.6
ESK Eskdalemuir 69.27 346 P **P 09 13 15.5 0.0**
comp=Z,14µm,0.7s,mb7.6
ESK Eskdalemuir 69.27 346 *i*P **P 09 13 15.5 0.0**
IFTB Fath-abad 69.28 307 *e*P **P 09 13 17.0 +1.2**
IBST Bostanabad 69.30 306 *e*P **P 09 13 16.3 +0.4**
222A Williams Famil 69.30 64 ⇓P **P 09 13 16.4 +0.3**
baz=69,SNR=60
DYDN Diyadin 69.30 309 *i*P **P 09 13 17.5 +1.6**
123A Bell Site, Whi 69.32 63 ⇓P **P 09 13 16.8 +0.6**
baz=69,SNR=92
BMNI Bima 69.34 218 P **P 09 13 14.9 -1.5**
comp=Z,1µm,1.4s,mb6.2
GLMI Grayling 69.34 41 *e*P **P 09 13 15.5 -0.6**
comp=Z,12µm,0.8s,mb7.5
IAS Iasi 69.36 324 P **P 09 13 16.0 -0.2**
IAS Iasi 69.36 324 ⇑ *i*P **P 09 13 16.3 +0.1**
X27A F and S Farms, 69.37 59 ⇑P **P 09 13 16.3 -0.1**
baz=69,SNR=116
ECK Cauldkaine Hil 69.39 346 ⇓ *e*P **P 09 13 15.8 -0.3**
ECK *e* pP 09 15 03.7 +2.5
ISHB Shabestar 69.43 307 *e*P **P 09 13 17.5 +0.8**
STHS Stebnicka Huta 69.44 329 *i*P **P 09 13 17.5 +0.9**
STHS pmax pmax
comp=Z,729nm,0.7s,mb6.3
STHS Stebnicka Huta 69.44 329 *i*P **P 09 13 17.5 +0.9**
STHS *e*S S 09 21 44.2 +1.1
MNSI Mandailing Nat 69.49 241 P 09 41 24.8
comp=Z,95nm,1.3s
MNSI Mandailing Nat 69.49 241 P **P 09 13 15.9 -1.5**
comp=Z,1µm,0.9s,mb6.4
CLDR Caldiran 69.52 309 *e*P **P 09 13 16.9 -0.4**
NRDL Niedersach Rie 69.56 338 *e*P **P 09 13 17.2 0.0**
comp=Z,440nm,0.9s,mb6.0
NRDL *e*pP pP 09 15 04.9 +2.5
KSP Ksiaz 69.56 333 *e*P **P 09 13 17.4 +0.1**
comp=Z,7µm,4.8s
KSP *e*PcP PcP 09 13 24.0 -12
KSP *e*pP pP 09 15 07.0 +4.5
KSP *e*sP sP 09 16 07.9 +12
KSP *e*PPP 09 17 36.0
KSP *e*S S 09 21 49.4 +5.0
KSP *e* 09 25 08.9
KSP *e*SSS 09 30 28.6
Y26A Elida 69.57 60 ⇑P **P 09 13 17.6 -0.1**
baz=69,SNR=27
XAL Allendale 69.57 346 ⇓ *e*P **P 09 13 16.7 -0.6**
XAL *e* pP 09 15 04.7 +2.3
AGRB Hanur-Agry 69.59 310 *e*P **P 09 13 19.0 +1.3**
Z25A Roswell 69.62 61 ⇑P **P 09 13 18.0 +0.1**
baz=69,SNR=116
POO Poona 69.62 274 *e*PKP **P 09 13 18.0 -0.2**
POO AMb AMB 09 13 27.1
comp=Z,3µm,1.0s,mb6.8
124A Stringfield Ra 69.69 62 ⇑P **P 09 13 18.5 +0.1**
baz=70,SNR=93
HOMI Horasan 69.70 311 *i*P **P 09 13 19.4 +1.1**
NIE Niedzica 69.72 330 *i*P **P 09 13 18.9 +0.6**
NIE *e* 09 13 25.4
NIE *e*PP PP 09 16 00.9 +0.6
NIE Niedzica 69.72 330 ⇓ *i*P **P 09 13 18.9 +0.6**
NIE *e* 09 16 00.9
223A Chaparral, Ant 69.73 63 ⇓P **P 09 13 19.0 +0.3**
baz=70,SNR=36
RAC Raciborz 69.73 332 *e*P **P 09 13 18.8 +0.5**
RAC *e**PP pP 09 15 04.5 +1.0
RAC *e* 09 15 57.7
RAC *e*S S 09 21 46.0 -0.3
IAZR Azarshahr 69.74 307 *e*P **P 09 13 19.4 +0.8**
LEOM Leova 69.75 323 P **P 09 13 18.4 -0.1**
LEOM Leova 69.75 323 ⇓ *i*P **P 09 13 18.8 +0.3**
LEOM Leova 69.75 323 ⇓ *i*P 09 40 38.5
BUR08 Bucovina Ar. S 69.77 326 *e*P **P 09 13 18.7 +0.1**
KMMI Kalianget 69.78 223 P S 09 22 02.7 +15
KMMI Kalianget 69.78 223 P **P 09 13 19.1 0.0**
comp=Z,6µm,1.1s,mb7.0
BURAR Bucovina Array 69.78 326 ⇓P **P 09 13 18.7 0.0**
BURAR Bucovina Array 69.78 326 ⇓ *i*P **P 09 13 18.7 0.0**
BURAR Bucovina Array 69.78 326 ⇑ *i*P 09 40 36.4
GCD Castle Douglas 69.81 347 *e*P **P 09 13 18.1 -0.6**
TUTA Tutak 69.81 310 *i*P **P 09 13 18.6 -0.4**
WSI Waingapu 69.82 216 P **P 09 13 19.4 +0.1**
comp=Z,4µm,0.9s,mb6.9
UZH Uzhgorod 69.82 328 *e*P **P 09 13 17.0 -1.9**
UZH *i* 09 13 39.0
UZH *e* pP 09 15 00.0 -4.2
UZH *e* 09 15 52.4
UZH *e*S S 09 21 45.0 -2.4
UZH *e* 09 29 54.2
CRVS Cervenica-Dubn 69.84 329 *i*P **P 09 13 18.9 -0.1**
CRVS pmax pmax
comp=Z,2µm,1.9s,mb6.3
CRVS Cervenica-Dubn 69.84 329 *i*P **P 09 13 18.9 -0.1**
CRVS *e*pP pP 09 15 06.4 +2.2
CRVS *e*PP PP 09 15 56.7 -4.6
CRVS *e*S S 09 21 47.6 0.0
CRVS *e* 09 25 06.9
CRVS *e* 09 40 35.7
ICHK Chekchek 69.86 297 *e*P **P 09 13 20.6 +1.2**
KTUT Trabzon 69.86 313 *e*P **P 09 13 19.5 +0.2**
AMTX Amarillo 69.89 58 ⇑P **P 09 13 19.1 -0.5**
baz=70,SNR=179
AMTX Amarillo 69.89 58 *e*P **P 09 13 19.2 -0.4**
MACK Trabzon 69.90 313 *i*P **P 09 13 19.6 +0.2**
GAL1 Galloway 69.91 347 *e*P **P 09 13 18.5 -0.8**
GAL1 AMB AMB 09 13 28.1
comp=Z,2µm,1.8s,mb6.2
Y27A Causey 69.94 60 ⇑P **P 09 13 19.5 -0.3**
baz=70,SNR=199
UPC Upice 69.94 333 ⇓ *i*P **P 09 13 19.6 0.0**
UPC *e**PP pP 09 15 09.5 +4.6
UPC Upice 69.94 333 ⇓ *i*P **P 09 13 19.6 0.0**
UPC *ex* x 09 13 26.0
UPC *e*pP pP 09 15 09.5 +4.6
UPC *e*PKPPKP 09 41 24.2
UPC *ex* x 09 43 19.4
KESW Keswick, Cumbr 69.96 346 *e*P **P 09 13 19.4 -0.2**
KESW AMB AMB 09 13 27.4
comp=Z,2µm,0.9s,mb6.7
KESW *e* pP 09 15 07.0 +2.1
OKC Ostrava-Krasne 69.96 331 ⇓ *i*P **P 09 13 20.0 +0.3**
OKC *e**PP pP 09 15 06.3 +1.3
OKC *e*S S 09 21 53.9 +4.9
OKC Ostrava-Krasne 69.96 331 ⇓ *i*P **P 09 13 20.0 +0.3**
OKC *ex* x 09 13 26.1
OKC *e*pP pP 09 15 05.6 +0.6
OKC *e*S S 09 21 53.9 +4.9
OKC *ex* x 09 25 12.9
OKC *ex* x 09 40 34.5
CLL Collm 69.98 335 *e*P **P 09 13 19.4 -0.4**
comp=Z,1µm,0.8s,mb6.5
CLL *e*pP pP 09 15 08.0 +2.9
CLL *e*S S 09 21 49.3 +0.2
CLL Collm 69.98 335 *i*P **P 09 13 19.6 -0.2**
CLL pmax pmax
comp=Z,1µm,0.8s,mb6.5
CLL Collm 69.98 335 *i*P **P 09 13 19.6 -0.2**
comp=Z,1µm,0.8s,mb6.5
CLL *i* Pmax 09 13 25.7
comp=Z,2µm,0.7s
CLL *e*Plp 09 13 29.0
comp=N,12µm,23.5s
CLL *e*Plp 09 13 29.0
comp=E,6µm,22.7s
CLL *e*Plp 09 13 29.0
comp=Z,20µm,22.6s
CLL *i* 09 13 32.6
comp=Z,3µm,1.0s
CLL *e*pPmax pP 09 15 08.0 +2.9
CLL *e* 09 15 18.0
CLL *e*sPmax 09 16 01.0
CLL *e*PP PP 09 16 13.0 +11
comp=N,25µm,22.2s
CLL *e*PP PP 09 16 13.0 +11
comp=E,12µm,22.5s
CLL *e*PP PP 09 16 13.0 +11
comp=Z,36µm,21.5s
CLL *e* 09 18 42.0
CLL *e* 09 20 24.0
CLL *e*S S 09 21 50.0 +0.9
comp=N,20µm,26.0s
CLL *e*S S 09 21 50.0 +0.9
comp=E,42µm,29.4s
CLL *e*ScS ScS 09 22 36.0 +3.0
CLL *e*(sS) 09 25 09.0
CLL *e*sPS 09 25 18.0
CLL *e*SS SS 09 26 30.0 +0.1
CLL *e* 09 27 36.0
CLL *e*SSS 09 30 18.0
CLL *e* 09 37 36.0
CLL *e* 09 40 34.0
comp=Z,68nm,1.3s
CLL *e*PKPPKPdf 09 41 19.0
CLL *e*P 09 41 24.0
CLL *e* 09 43 25.0
DPC Dobruska-Polom 70.00 333 *e*P **P 09 13 20.0 +0.1**
DPC Dobruska-Polom 70.00 333 ⇓ *i*P **P 09 13 20.4 +0.5**
DPC *e**PP pP 09 15 10.0 +4.8
DPC *e*S S 09 21 50.6 +1.2
DPC Dobruska-Polom 70.00 333 ⇓ *i*P **P 09 13 20.4 +0.5**
DPC *ex* x 09 13 26.3
DPC *e*pP pP 09 15 10.0 +4.8
DPC *e*S S 09 21 50.6 +1.2
DPC *ex* x 09 25 11.9
DPC *ex* x 09 40 33.1
DPC *e*PKPPKP 09 41 15.1
Z26A Caprock 70.00 61 ⇓P **P 09 13 20.2 -0.1**
baz=70,SNR=136
SDSI Sungai Dareh 70.04 238 P **P 09 13 20.3 -0.4**
comp=Z,725nm,0.8s,mb6.2
ERZM Erzurum 70.05 311 *i*P **P 09 13 21.1 +0.7**
EZM Erzurum 70.05 311 *e*P **P 09 13 22.3 +1.8**
MSTX Muleshoe 70.07 59 ⇑P **P 09 13 20.2 -0.5**
baz=70,SNR=114
CLZ Clausthal 70.10 337 *e*P **P 09 13 21.0 +0.5**
comp=Z,3µm,1.7s,mb6.5
CLZ *e*pP pP 09 15 10.9 +5.0
CLZ *e*S S 09 21 53.6 +3.1
CLZ Clausthal 70.10 337 *e*P **P 09 13 21.0 +0.5**
CLZ *e**PP pP 09 15 10.9 +5.0
CLZ *e*S S 09 21 53.6 +3.1
CLZ pmax pmax
comp=Z,3µm,1.7s,mb6.5
KRLC Kraliky 70.13 332 ⇓ *i*P **P 09 13 21.0 +0.3**
KRLC *ex* x 09 13 27.1
125A Gardner Draw, 70.14 62 ⇓P **P 09 13 21.0 -0.1**
baz=70,SNR=187
BRG Berggiesshubel 70.14 335 *i*P **P 09 13 20.5 -0.3**
comp=Z,880nm,1.5s,mb6.1
BRG *i* 09 13 27.2
comp=Z,749nm,1.0s
BRG *i* PCP PcP 09 13 38.0 -0.9
comp=Z,522nm,0.8s
BRG *i* pP pP 09 15 08.6 +2.4
comp=Z,668nm,1.1s
BRG sP sP 09 15 58.0 -1.2
BRG PP PP 09 16 09.0 +5.2
BRG *i* 09 18 38.0
BRG S S 09 21 54.0 +3.0
BRG *i* 09 25 04.0
BRG SS SS 09 26 38.0 +5.6
BRG *e*PKPPKP 09 40 30.3
comp=Z,46nm,1.5s
BRG *e* 09 43 21.3
comp=Z,44nm,1.4s
BRG
comp=N,74µm,19.3s
BRG
comp=E,56µm,22.9s
BRG
comp=Z,33µm,17.9s
BRG Berggiesshubel 70.14 335 *e*P **P 09 13 20.5 -0.2**
comp=Z,874nm,1.5s,mb6.1
BRG *e*pP pP 09 15 10.9 +4.8
BRG Berggiesshubel 70.14 335 *i*P **P 09 13 20.5 -0.2**
BRG *i* 09 13 38.0
BRG *i**PP pP 09 15 08.6 +2.5
BRG *SP sP 09 15 58.0 -1.2
BRG 09 16 09.0
BRG S S 09 21 54.0 +3.0
BRG SS SS 09 26 38.0 +5.6
BRG pmax pmax
comp=Z,880nm,1.5s,mb6.1
BRG MLR MLR
comp=N,74µm,19.3s
BRG MLR MLR
comp=E,56µm,22.9s
BRG MLR MLR
comp=Z,33µm,17.9s
PPI Padang Panjang 70.15 239 P 09 41 20.4
comp=Z,377nm,1.1s
PPI Padang Panjang 70.15 239 P S 09 22 00.3 +8.2
PPI Padang Panjang 70.15 239 P **P 09 13 20.4 -0.9**
comp=Z,1µm,1.1s,mb6.4
224A Cornudas Mount 70.15 63 ⇓P **P 09 13 21.3 +0.2**
baz=70,SNR=258
BAYT Ayd¯ntepe-Bay 70.19 312 *e*P **P 09 13 22.2 +1.0**
MORC Moravsky Berou 70.19 332 *e*P **P 09 13 21.4 +0.4**
MORC Moravsky Berou 70.19 332 P **P 09 13 21.7 +0.7**
MORC Moravsky Berou 70.19 332 ⇓ *i*P **P 09 13 21.5 +0.5**
MORC Moravsky Berou 70.19 332 ⇑ *i*P 09 40 33.1
TRPA Tarpa 70.19 328 ⇓ *i*P **P 09 13 21.6 +0.5**
TRPA Tarpa 70.19 328 ⇓ *i*P 09 40 35.0
VANB Van 70.21 309 *e*P **P 09 13 22.9 +1.5**
SRBI Singaraja 70.22 222 P 09 41 24.7
comp=Z,219nm,1.9s,comp=Z,6µm
SRBI Singaraja 70.22 222 P **P 09 13 21.1 -0.6**
comp=Z,1µm,1.1s,mb6.4
IBBN Ibbenburen 70.24 339 *e*P **P 09 13 21.4 +0.1**
comp=Z,811nm,0.8s,mb6.3
IBBN *e*pP pP 09 15 10.3 +3.6
IBBN *e*S S 09 21 55.6 +3.5
CPRX Cap Rock 70.25 61 *e*P **P 09 13 21.8 +0.1**
comp=Z,745nm,0.9s,mb6.2
TVAN Van 70.25 309 *i*P **P 09 13 22.1 +0.4**
TESR 70.27 324 ⇓ *i*P **P 09 13 21.3 -0.3**
TESR 70.27 324 ⇓ *i*P 09 40 36.4
BMR Baia Mare 70.29 327 ⇓P **P 09 13 22.1 +0.4**
BMR Baia Mare 70.29 327 ⇓ *i*P **P 09 13 22.1 +0.4**
PVCC Panska Ves 70.30 334 ⇓ *i*P **P 09 13 21.8 +0.1**
PVCC *e*S S 09 21 57.9 +5.1
PVCC Panska Ves 70.30 334 ⇓ *i*P **P 09 13 21.8 +0.1**
PVCC *ex* x 09 13 27.5
PVCC *e*S S 09 21 57.9 +5.1
PVCC *ex* x 09 25 11.6
PVCC *ex* x 09 40 34.7
PVCC *e*PKPPKP 09 41 19.4
PVCC *ex* x 09 43 22.4
KHKI Kahang-Kahang 70.33 221 P 09 41 26.6
comp=Z,248nm,1.4s
KHKI Kahang-Kahang 70.33 221 P **P 09 13 20.5 -1.8**
comp=Z,2µm,1.3s,mb6.5
KOPT Kop Dagi 70.34 312 *i*P **P 09 13 22.9 +0.7**
MTNI Mataram 70.36 220 P 09 41 24.2
MTNI Mataram 70.36 220 P **P 09 13 21.1 -1.4**
comp=Z,1µm,1.4s,mb6.3
Z27A Tatum 70.36 60 ⇑P **P 09 13 22.1 -0.3**
baz=70,SNR=229
ESPY Espiye-Giresun 70.37 313 *e*P **P 09 13 21.7 -0.6**
KAD Karad 70.39 272 *e*PKP **P 09 13 22.4 -0.3**
GHRR 70.40 324 ⇑ *i*P **P 09 13 23.3 +0.9**
LIKS Likavka 70.40 331 *e*P **P 09 13 23.6 +1.3**
LIKS *e* pP 09 15 11.4 +3.6
LIKS *e*S S 09 21 56.5 +2.5
LIKS Likavka 70.40 331 *e*P **P 09 13 23.6 +1.3**
LIKS *e*pP pP 09 15 11.4 +3.6
LIKS *e*S S 09 21 56.5 +2.5
GUMT Gumushane 70.42 313 *e*P **P 09 13 23.5 +0.9**
IZEF Zefreh 70.42 299 *e*P **P 09 13 24.1 +1.3**
IMEH Mehriz 70.42 297 *e*P **P 09 13 22.8 0.0**
IKLH Kolahrood 70.47 300 *e*P **P 09 13 24.1 +1.1**
126A Clayton Basin, 70.48 61 ⇑P **P 09 13 22.7 -0.4**
baz=70,SNR=78
225A Deer Hill, Car 70.48 62 ⇑P **P 09 13 23.2 +0.1**
baz=70,SNR=74
KECS Kecovo 70.50 329 *i*P **P 09 13 23.1 +0.2**
KECS pmax pmax
comp=Z,278nm,0.7s,mb5.9
KECS Kecovo 70.50 329 *i*P **P 09 13 23.1 +0.2**
KECS *e*pP pP 09 15 10.2 +1.7
KECS *e*S S 09 21 58.5 +3.3
KECS *e* 09 40 32.1
PDSI Padang 70.50 239 P 09 41 20.2
comp=Z,192nm,2.1s
PDSI Padang 70.50 239 P S 09 22 02.0 +5.9
PDSI Padang 70.50 239 P **P 09 13 21.9 -1.5**
comp=Z,2µm,1.1s,mb6.6
MNTX Cornudas Mount 70.52 63 ⇑P **P 09 13 23.4 +0.1**
baz=70,SNR=371
MNTX Cornudas Mount 70.52 63 *e*P **P 09 13 23.4 0.0**
comp=Z,687nm,0.6s,mb6.4
GRSN GIRESUNGRSN 70.56 314 *i*P **P 09 13 21.9 -1.5**
BLJI Banyuglugur 70.56 223 P 09 41 20.7
comp=Z,162nm,1.3s
BLJI Banyuglugur 70.56 223 P **P 09 13 23.2 -0.5**
comp=Z,1µm,1.0s,mb6.4
GEVA Gevas 70.59 309 *i*P **P 09 13 25.0 +1.3**
VRTB Varto-Mus 70.62 311 *e*P **P 09 13 25.6 +1.8**
GDL2 Guadalupe Moun 70.65 62 *e*P **P 09 13 23.9 -0.2**
TLCR 70.66 322 ⇑P **P 09 13 23.6 -0.3**
TLCR 70.66 322 ⇑ *i*P **P 09 13 23.6 -0.3**
324A Moseley Ranch, 70.67 63 ⇑P **P 09 13 24.0 -0.3**
baz=70,SNR=122
BYJI Banyuwangi 70.68 222 P 09 41 24.7
BYJI Banyuwangi 70.68 222 P 09 41 24.7
comp=Z,476nm,1.4s
BYJI Banyuwangi 70.68 222 P **P 09 13 25.1 +0.7**
comp=Z,2µm,1.2s,mb6.5
GMM Mts of Mourne 70.68 348 *e*P **P 09 13 23.1 -0.8**
NBBI Negara 70.72 222 P 09 41 25.0
comp=Z,769nm,1.3s,comp=Z,8µm
NBBI Negara 70.72 222 P **P 09 13 24.2 -0.4**
comp=Z,1µm,1.1s,mb6.3
PETR 70.75 324 ⇓ *i*P **P 09 13 25.5 +1.0**
PRA Prague 70.75 334 ⇓P **P 09 13 25.0 +0.6**
PRA pP pP 09 15 12.0 +2.0
PRA PP PP 09 16 12.0 +3.0
PRA S S 09 21 57.0 -1.0
PRA *ex* x 09 25 23.0
PRA *ex* x 09 30 50.0
TATV Tatvan 70.79 310 *i*P **P 09 13 26.1 +1.2**
127A Arkansas Junct 70.79 61 ⇑P **P 09 13 24.5 -0.4**
baz=71,SNR=91
VRI Vrincioaia 70.80 324 ⇓P **P 09 13 24.8 0.0**
VRI Vrincioaia 70.80 324 ⇓ *i*P **P 09 13 24.8 0.0**
VRI Vrincioaia 70.80 324 ⇓ *i*P 09 40 32.5
PLOR Plostina 70.84 324 ⇓P **P 09 13 25.0 0.0**
PLOR Plostina 70.84 324 ⇓ *i*P **P 09 13 25.0 0.0**
PLOR Plostina 70.84 324 ⇑ *i*P 09 40 33.3
CLNB Carlsbad 70.85 61 *e*P **P 09 13 25.5 +0.2**
comp=Z,63nm,0.6s,mb5.3
HKR Hakkari 70.87 308 *e*P **P 09 13 26.3 +1.0**
VRAC Vranov 70.87 332 ⇓P **P 09 13 25.7 +0.6**
VRAC Vranov 70.87 332 ⇓ *i*P **P 09 13 25.7 +0.6**
226A Malaga, Loving 70.90 62 ⇑P **P 09 13 25.5 0.0**
baz=71,SNR=133
HAKT HAKKARI 70.90 308 *i*P **P 09 13 24.7 -0.8**
CFR Carcaliu 70.91 323 P **P 09 13 25.2 -0.2**
CFR Carcaliu 70.91 323 ⇑ *i*P **P 09 13 25.3 -0.1**
CFR Carcaliu 70.91 323 ⇓ *i*P 09 40 33.8
MOX Moxa 70.92 336 *e*P **P 09 13 25.4 0.0**
comp=Z,512nm,0.8s,mb6.1
MOX *e*pP pP 09 15 15.6 +4.5
MOX *e*S S 09 22 02.6 +2.7
MOX Moxa 70.92 336 *e*P **P 09 13 25.4 0.0**
MOX *e**PP pP 09 15 15.6 +4.5
MOX *e*S S 09 22 02.6 +2.7
MOX pmax pmax
comp=Z,512nm,0.8s,mb6.1
BNGL BINGOL 70.93 311 *i*P **P 09 13 26.0 +0.4**
TANN Tannenbergstha 70.93 335 *e*P **P 09 13 25.6 +0.2**
comp=Z,243nm,1.1s,mb5.6
TANN *e*pP pP 09 15 15.6 +4.5
TANN *e*S S 09 22 04.7 +4.7
AWI1 Witton 70.95 343 *e*P **P 09 13 25.9 +0.4**
IGAR Gharneh 70.96 299 *e*P **P 09 13 26.7 +0.8**
325A Bean Ranch, Si 70.99 63 ⇓P **P 09 13 26.0 -0.1**
baz=71,SNR=155
JAGI Jajag, Banyuwa 70.99 222 P 09 41 22.2
comp=Z,223nm,1.5s
JAGI Jajag, Banyuwa 70.99 222 P **P 09 13 23.0 -3.3**
comp=Z,563nm,1.1s,mb6.0
KRJI Kerinci 71.02 237 P S 09 22 12.3 +10
comp=Z,2µm,1.8s
KRJI Kerinci 71.02 237 P **P 09 13 27.3 +0.8**
HDIL Hopedale 71.03 46 *e*P **P 09 13 25.2 -0.9**
comp=Z,13µm,1.9s,mb7.1
KOLL Kolacno 71.03 331 *i*P **P 09 13 26.4 +0.4**
KOLL Kolacno 71.03 331 *i*P **P 09 13 26.4 +0.4**
KBI1 Birley Grange 71.03 345 ⇓ *e*P **P 09 13 25.7 -0.3**
KBI1 *e* pP 09 15 14.3 +2.7
ERZN Erzincan 71.03 312 *e*P **P 09 13 25.3 -0.9**
EZC Erzincan 71.06 312 *e*P **P 09 13 27.5 +1.1**
NGJI Ngawi 71.09 225 P **P 09 13 28.1 +1.2**
comp=Z,2µm,1.1s,mb6.6
GMJI Gumukmas 71.10 223 P 09 41 21.7
comp=Z,262nm,1.1s
GMJI Gumukmas 71.10 223 P **P 09 13 25.8 -1.1**
comp=Z,1µm,1.3s,mb6.2
BNGB Bing¯l 71.10 311 *e*P **P 09 13 27.3 +0.6**
NKC Novy Kostel 71.10 335 ⇓ *i*P **P 09 13 26.4 -0.1**
NKC *e**PP pP 09 15 15.3 +3.1
NKC *e*S S 09 22 07.7 +5.8
NKC Novy Kostel 71.10 335 ⇓ *i*P **P 09 13 26.4 -0.1**
NKC *ex* x 09 13 32.5
NKC *e*pP pP 09 15 15.3 +3.1
NKC *e*S S 09 22 07.7 +5.8
NKC *ex* x 09 25 24.0
NKC *ex* x 09 40 29.6
NKC *ex* x 09 43 26.4
UBBA Unterbreizbach 71.14 337 *e*P **P 09 13 26.5 -0.2**
UBBA *e*pP pP 09 15 14.7 +2.3
UBBA *e*S S 09 22 07.5 +5.2
BUG Bochum--Univer 71.16 339 *e*P **P 09 13 26.6 -0.2**
comp=Z,544nm,0.9s,mb6.1
BUG *e*pP pP 09 15 16.0 +3.5
BUG *e*S S 09 22 08.6 +6.1
BUG *e*sS sS 09 25 21.4 +10
SUSE Susehri 71.18 313 *i*P **P 09 13 21.8 -5.3**
PSZ Piszkesteto 71.19 329 *e*P **P 09 13 27.4 +0.4**
PSZ Piszkesteto 71.19 329 *e*P **P 09 13 27.4 +0.4**
PSZ Piszkesteto 71.19 329 ⇓ *e*P **P 09 13 27.7 +0.7**
PSZ *e* pP 09 15 15.4 +2.6
PSZ Piszkesteto 71.19 329 ⇓ *i*P **P 09 13 27.7 +0.7**
TREC Trest 71.19 333 ⇓ *i*P **P 09 13 27.2 +0.2**

TREC eS S 09 22 07.0 +4.1
TREC Trest 71.19 333⇓ *i*P **P 09 13 27.2 +0.2**
TREC ex x 09 13 33.2
TREC eS S 09 22 07.0 +4.1
TREC ex x 09 25 22.4
TREC ex x 09 40 28.5
TREC ePKPPKP 09 41 15.4
AEU East Anglia Un 71.19 343⇓ *e*P **P 09 13 26.6 -0.4**
CUKT Cukurca 71.20 308 *e*P **P 09 13 26.1 -1.1**
SMRI Semarang 71.24 227 P **P 09 13 28.5 +0.8**
comp=Z,4μm,0.9s,mb6.9
STNC Stoke 71.29 345 *e*P **P 09 13 27.0 -0.5**
STNC AMB AMB 09 13 35.7
comp=Z,2μm,2.1s,mb6.3
STNC *e* pP 09 15 14.8 +1.5
SJI Sawahan 71.30 225 P 09 41 25.8
SJI Sawahan 71.30 225 P S 09 22 17.9 +13
comp=Z,310nm,1.8s
SJI Sawahan 71.30 225 P **P 09 13 27.2 -0.8**
comp=Z,2μm,1.0s,mb6.6
KWE Weaver Farm 71.31 345 *e*P **P 09 13 27.5 -0.1**
IPIR Pirpir 71.33 300 *e*P **P 09 13 29.8 +1.7**
MDB Medias 71.35 326 P **P 09 13 28.9 +0.9**
MDB Medias 71.35 326⇓ *i*P **P 09 13 29.1 +1.1**
227A Bennet, Jal 71.35 61⇓ P **P 09 13 27.8 -0.4**
baz=71,SNR=37
KVT Kavak 71.36 315 *e*P **P 09 13 28.3 +0.2**
SMOL Smolenice 71.36 331 *i*P **P 09 13 29.2 +1.2**
SMOL Smolenice 71.36 331 *i*P **P 09 13 29.2 +1.2**
RSDY Resadiye-TOKAT 71.39 314 *e*P **P 09 13 28.4 +0.1**
ERBA Erbaa 71.39 315 *i*P **P 09 13 29.2 +0.9**
KRKI Karangkates 71.39 224 P 09 41 24.7
comp=Z,456nm,1.1s
KRKI Karangkates 71.39 224 P **P 09 13 27.4 -1.2**
comp=Z,5μm,0.8s,mb7.1
MLR Muntele Rosu 71.40 324 S S 09 22 13.0 +7.6
comp=Z,16nm,0.9s,baz=272,slow=20,SNR=5.7
MLR Muntele Rosu 71.40 324 P **P 09 13 28.6 +0.3**
MLR Muntele Rosu 71.40 324⇓ *i*P **P 09 13 28.8 +0.5**
SADO Sadowa 71.41 37 PKP2bc 09 41 15.8
comp=Z,31nm,1.1s,baz=87,slow=3.2,SNR=5.5
WLF1 Llynfaes 71.41 347 *e*P **P 09 13 26.8 -1.4**
WLF1 AMB AMB 09 13 36.7
comp=Z,2μm,1.9s,mb6.3
TIRR Tirgusor 71.43 322 *e*P **P 09 13 28.2 -0.2**
TIRR Tirgusor 71.43 322⇑ *i*P **P 09 13 28.3 -0.2**
TIRR Tirgusor 71.43 322⇑ *i*P **P 09 13 28.3 -0.2**
TIRR Tirgusor 71.43 322⇓ *i*P 09 40 25.7
WMOK Wichita Mounta 71.44 56 *e*P **P 09 13 28.2 -0.5**
comp=Z,5μm,1.1s,mb6.9
WMOK Wichita Mounta 71.44 56 *e*P **P 09 13 28.2 -0.5**
WMOK pmax pmax
comp=Z,5μm,1.1s,mb6.9
BZK Bozkurt 71.44 317 *e*P **P 09 13 25.9 -2.7**
425A Indio Mountain 71.45 63⇑ P **P 09 13 29.2 +0.4**
baz=71,SNR=263
ILIN Lien 71.49 304 *e*P **P 09 13 29.5 +0.5**
ISR Istrita 71.52 324 P **P 09 13 29.2 +0.2**
ISR Istrita 71.52 324⇑ *i*P **P 09 13 30.1 +1.1**
ISR Istrita 71.52 324⇑ *i*P 09 40 30.9
BOYT Boyabat 71.54 316 *i*P **P 09 13 29.0 -0.2**
PWJI Pagerwojo 71.54 225 P 09 41 20.8
comp=Z,126nm,1.2s
PWJI Pagerwojo 71.54 225 P **P 09 13 27.7 -1.8**
comp=Z,5μm,1.1s,mb7.0
PGOR Pogoanele 71.55 323⇑ *i*P **P 09 13 29.9 +0.7**
SIRN S¨–rnak 71.55 309 *i*P **P 09 13 29.6 +0.3**
BYBT Boyabat 71.55 316 *e*P **P 09 13 30.5 +1.3**
SISI Saibi 71.55 240 P **P 09 13 29.4 -0.2**
comp=Z,5μm,0.9s,mb7.0
ROTZ Rotzenmuhle 71.59 335 *e*P **P 09 13 29.8 +0.5**
comp=Z,400nm,0.9s,mb6.0
ROTZ epP pP 09 15 19.6 +4.3
FOEL Foel Wylfa 71.63 346 *e*P **P 09 13 28.5 -1.0**
FOEL AMB AMB 09 13 36.3
comp=Z,2μm,0.8s,mb6.7
DLF Lyons Farm 71.68 348⇓ *i*P **P 09 13 29.5 -0.2**
AMRR Amara 71.68 323⇓ *i*P **P 09 13 30.3 +0.4**
CVD Cernavoda 71.69 322⇑ *i*P **P 09 13 30.1 +0.1**
CVD Cernavoda 71.69 322⇑ *i*P **P 09 13 30.1 +0.1**
DSB Dublin 71.71 348 *e*P **P 09 13 29.6 -0.3**
BEST Besiri 71.74 310 *i*P **P 09 13 31.5 +1.1**
ZST Bratislava 71.74 331 *i*P **P 09 13 31.0 +0.8**
ZST pmax pmax
comp=Z,477nm,0.8s,mb6.1
ZST Bratislava 71.74 331 *i*P **P 09 13 31.0 +0.8**
ZST epP pP 09 15 22.7 +6.5
ZST eePP PP 09 16 08.6 -8.8
ZST eS S 09 22 12.9 +3.7
ZST *e* 09 25 36.8
PTK Pertek 71.75 312 *e*P **P 09 13 31.0 +0.5**
327A Balmorhea Ranc 71.76 62⇑ P **P 09 13 31.0 +0.4**
baz=72
TOKT Tokat 71.78 315 *e*P **P 09 13 32.5 +1.9**
MDSI Maura Dua 71.79 234 P 09 41 26.7
MDSI Maura Dua 71.79 234 P S 09 22 12.6 +2.0
comp=Z,131nm,1.3s,comp=Z,7μm
MDSI Maura Dua 71.79 234 P **P 09 13 28.9 -2.1**
comp=Z,2μm,1.1s,mb6.9
KLI Kotabumi 71.80 233 P S 09 22 13.0 +2.3
comp=Z,489nm,1.7s
KLI Kotabumi 71.80 233 P **P 09 13 29.8 -1.2**
comp=Z,3μm,1.2s,mb6.7
BJII Banjamegara 71.80 227 P 09 41 20.1
comp=Z,86nm,1.8s
BJII Banjamegara 71.80 227 P S 09 22 18.1 +7.4
comp=Z,232nm,2.2s
BJII Banjamegara 71.80 227 P **P 09 13 30.2 -0.8**
comp=Z,1μm,1.3s,mb6.3
TOKA Tokat 71.81 315 *i*P **P 09 13 30.3 -0.4**
KSI Kapahiang 71.82 236 P 09 41 27.2
comp=Z,346nm,0.9s
KSI Kapahiang 71.82 236 P S 09 22 18.3 +7.4
comp=Z,613nm,1.9s
KSI Kapahiang 71.82 236 P **P 09 13 29.9 -1.2**
comp=Z,3μm,0.8s,mb6.8
IKOM Komasi 71.82 303 *e*P **P 09 13 31.1 +0.1**
KEMA Kemaliye 71.83 313 *i*P **P 09 13 31.5 +0.6**
KHC Kasperske Hory 71.84 334 *e*P **P 09 13 31.0 +0.2**
KHC Kasperske Hory 71.84 334⇓ *i*P **P 09 13 31.2 +0.4**
KHC *e**PP pP 09 15 16.2 -0.6
KHC *e* 09 16 07.6
KHC eS S 09 22 12.6 +2.4
KHC Kasperske Hory 71.84 334⇓ *i*P **P 09 13 31.2 +0.4**
KHC *ex* x 09 13 37.1
KHC epP pP 09 15 16.2 -0.6
KHC esP sP 09 16 07.6 -2.1
KHC eS S 09 22 12.6 +2.4
KHC *ex* x 09 25 31.7
KHC *ex* x 09 40 27.6
KHC ePKPPKP 09 41 14.7
KHC *ex* x 09 43 49.3
AAM Ann Arbor 71.85 41 *e*P **P 09 13 30.7 -0.2**
comp=Z,8μm,2.0s,mb6.9
AAM Ann Arbor 71.85 41 *e*P **P 09 13 30.7 -0.3**
AAM pmax pmax
comp=Z,8μm,2.0s,mb6.9
IVIS Veis 71.86 304 *e*P **P 09 13 31.0 -0.2**
GRF Grafenberg Arr 71.91 336 *e*P **P 09 13 31.6 +0.5**
comp=Z,1μm,0.8s,mb6.5
GRF epP pP 09 15 22.6 +5.4
GRF eS S 09 22 16.2 +5.3
GRF Grafenberg Arr 71.91 336 *e*P **P 09 13 31.6 +0.5**
GRF *e**PP pP 09 15 22.6 +5.4
GRF eS S 09 22 16.2 +5.3
GRF pmax pmax
comp=Z,1μm,0.8s,mb6.5
GRFO Grafenberg 71.91 336 *e*P **P 09 13 31.6 +0.5**
GRFO epP pP 09 15 16.0 -1.2
GRFO Grafenberg 71.91 336 *e*P **P 09 13 31.7 +0.5**
GRFO *e**PP pP 09 15 16.0 -1.2
SCER sogukcermik 71.92 314 *i*P **P 09 13 30.3 -1.1**
MANR Mangalia 71.92 322⇓ *i*P **P 09 13 31.5 +0.1**
TUL1 Tulsa 71.93 53⇓ P **P 09 13 30.8 -0.7**
baz=72,SNR=333
HLM1 Long Mynd 71.95 346⇓ *e*P **P 09 13 30.0 -1.3**
HLM1 AMB AMB 09 13 38.5
comp=Z,1μm,2.1s,mb6.1
HLM1 *e* pP 09 15 18.2 +0.8
IDHR Dehrash 71.95 304 *e*P **P 09 13 31.2 -0.5**
PCJI Pacitan 71.95 225 P 09 41 19.9
comp=Z,202nm,1.2s
PCJI Pacitan 71.95 225 P S 09 22 26.2 +14
comp=Z,356nm,1.1s
PCJI Pacitan 71.95 225 P **P 09 13 30.7 -1.2**
comp=Z,1μm,1.1s,mb6.4
UGM Wanagama 71.98 226 *e*P **P 09 13 30.4 -1.7**
UGM Wanagama 71.98 226 P **P 09 13 31.4 -0.6**
comp=Z,4μm,1.0s,mb6.9
SULR 72.00 324⇑ *i*P **P 09 13 29.9 -1.9**
WET Wettzell 72.00 334 *e*P **P 09 13 32.2 +0.5**
comp=Z,673nm,0.8s,mb6.2
WET epP pP 09 15 18.6 +0.8
WET eS S 09 22 17.0 +4.9
WET Wettzell 72.00 334 *e*P **P 09 13 32.2 +0.5**
WET *e**PP pP 09 15 18.6 +0.8
WET eS S 09 22 17.0 +4.9
WET pmax pmax
comp=Z,673nm,0.8s,mb6.2
GOA Goa 72.03 272⇑ *i*P **P 09 13 32.2 -0.2**
GOA *i* S S 09 22 12.4 -0.8
GOA *i* S S 09 22 12.4 -0.8
GOA AMS AMS 09 48 29.4
comp=Z,35μm,18.0s
426A McDonald Obser 72.04 63⇑ P **P 09 13 32.0 -0.2**
baz=72,SNR=205
BALT Daday 72.05 317 *i*P **P 09 13 31.5 -0.7**
TNS Taunus Mts 72.05 338 *e*P **P 09 13 32.1 +0.1**
comp=Z,446nm,0.8s,mb6.0
TNS epP pP 09 15 22.5 +4.4
TNS Taunus Mts 72.05 338 *e*P **P 09 13 32.1 +0.1**
TNS *e**PP pP 09 15 22.5 +4.4
TNS pmax pmax
comp=Z,446nm,0.8s,mb6.0
DEV Deva 72.06 327⇑ P **P 09 13 32.6 +0.5**
DEV Deva 72.06 327⇑ *i*P **P 09 13 32.6 +0.5**
GEC2 GERESS Array S 72.07 334 *e*P **P 09 13 32.2 +0.1**
comp=Z,352nm,0.8s,mb5.9
GEC2 eS S 09 22 15.4 +2.6
GEC2 GERESS Array S 72.07 334 *e*P **P 09 13 32.2 +0.1**
GEC2 eS S 09 22 15.4 +2.6
GEC2 pmax pmax
comp=Z,352nm,0.8s,mb5.9
GERES GERESS Array B 72.07 334 P **P 09 13 32.2 +0.1**
comp=Z,244nm,0.6s,mb5.9,baz=34,slow=5.5,SNR=721
GERES PKPPKP 09 41 11.3
comp=Z,10.0nm,1.0s,baz=132,slow=2.0,SNR=4.0
GERES GERESS Array B 72.07 334 P **P 09 13 32.2 +0.1**
GERES PKPab 09 41 11.3
GERES GERESS Array B 72.07 334 P **P 09 13 32.2 +0.1**
GERES pmax pmax
comp=Z,244nm,0.6s
SFIN Scholer Farm 72.09 45⇓ P **P 09 13 31.3 -1.1**
baz=72,SNR=99
BEBN Eben Emael 72.10 340 P **P 09 13 32.2 -0.1**
comp=Z,835nm,1.5s,mb6.0
BEBN AP pP 09 15 20.9 +2.5
328A Wristen Ranch, 72.10 61⇑ P **P 09 13 32.0 -0.6**
baz=72,SNR=220
IGHG Ghaleghazi 72.16 304 *e*P **P 09 13 32.6 -0.3**
LOT Lotru 72.17 326⇓ *i*P **P 09 13 33.8 +1.1**
PSN Preselentsi 72.19 322 *i*P **P 09 13 33.4 +0.5**
PSN Preselentsi 72.19 322 *i*P **P 09 13 33.4 +0.5**
MEM Membach 72.21 339 P **P 09 13 32.9 0.0**
comp=Z,1μm,1.2s,mb6.4
MEM AP pP 09 15 23.1 +4.0
SLM Saint Louis 72.21 48 *e*P **P 09 13 32.4 -0.7**
SLM Saint Louis 72.21 48 *e*P **P 09 13 32.4 -0.7**
TOS Tosya 72.22 317 *e*P **P 09 13 34.5 +1.3**
427A Hayter Ranch, 72.22 62⇓ P **P 09 13 33.3 0.0**
baz=72,SNR=397
CTKT Corum 72.25 316 *i*P **P 09 13 33.2 -0.2**
ELZG Elazig 72.26 312 *i*P **P 09 13 35.7 +2.3**
MNAI Manna 72.26 235 P S 09 22 22.0 +6.2
comp=Z,1μm,1.0s
MNAI Manna 72.26 235 P **P 09 13 34.7 +1.0**
comp=Z,2μm,0.8s,mb6.8
LEM Lembang 72.27 229 P 09 41 20.1
comp=Z,184nm,1.4s
LEM Lembang 72.27 229 P **P 09 13 33.2 -0.5**
comp=Z,3μm,1.0s,mb6.8
BUC Bucharest 72.29 324⇓ P **P 09 13 34.2 +0.7**
LWLI Liwa 72.31 233 P S 09 22 16.2 -0.2
comp=Z,1μm,1.1s
LWLI Liwa 72.31 233 P **P 09 13 31.7 -2.3**
comp=Z,7μm,0.8s,mb7.2
SBJI Serang 72.31 231 P S 09 22 20.5 +4.1
comp=Z,590nm,1.3s
SBJI Serang 72.31 231 P **P 09 13 33.3 -0.7**
comp=Z,1μm,1.4s,mb6.3
ILGA Ilgaz 72.33 317 *i*P **P 09 13 34.6 +0.8**
SSW Stow on the Wo 72.33 345 *e*P **P 09 13 33.9 +0.3**
CONA Conrad Observa 72.33 332 *i*P **P 09 13 34.5 +0.8**
comp=Z,7μm,2.3s,mb6.8,SNR=270
SOP Sopron 72.36 332⇓ *e*P **P 09 13 34.7 +0.9**
SOP *e* pP 09 15 25.6 +5.5
UCC Uccle 72.36 341 P **P 09 13 33.6 -0.1**
comp=Z,750nm,2.3s,mb5.8
UCC AP pP 09 15 22.1 +2.1
BUC1 Bucharest 72.37 324 P **P 09 13 34.3 +0.4**
BUC1 Bucharest 72.37 324⇓ *i*P **P 09 13 34.2 +0.3**
DARE Darende-Malaty 72.39 313 *e*P **P 09 13 36.7 +2.5**
SKP1 Kophill 72.40 344 *e*P **P 09 13 33.3 -0.6**
DBJI Dramaga 72.42 230 P S 09 22 22.3 +4.7
comp=Z,347nm,1.7s
DBJI Dramaga 72.42 230 P **P 09 13 32.6 -2.0**
comp=Z,4μm,1.1s,mb6.8
MARD Mardin 72.44 310 *i*P **P 09 13 33.5 -1.0**
CLJI Cilicap 72.45 228 P **P 09 13 35.1 +0.3**
comp=Z,1μm,0.9s,mb6.5
IPAR Pars 72.47 297 *e*P **P 09 13 36.1 +1.3**
MCH1 Michaelchurch 72.47 346⇓ *e*P **P 09 13 33.8 -0.5**
MCH1 AMB AMB 09 13 43.4
comp=Z,1μm,2.0s,mb6.1
526A Mary Lane Ranc 72.49 63⇓ P **P 09 13 35.0 +0.1**
baz=72,SNR=548
IBND Bandar-abas 72.50 293 *e*P **P 09 13 34.8 -0.2**
IBND *e*P 09 13 35.3
BCLA Clavier 72.53 340 P **P 09 13 34.8 0.0**
comp=Z,2μm,2.6s,mb6.1
BCLA AP pP 09 15 23.7 +2.6
GZR Gura Zlata 72.54 326⇑ P **P 09 13 34.9 0.0**
GZR Gura Zlata 72.54 326⇑ *i*P **P 09 13 34.8 -0.1**
GZR Gura Zlata 72.54 326⇓ *i*P 09 40 26.5
TOD Tromm 72.55 337 *e*P **P 09 13 33.7 -1.2**
TOD Tromm 72.55 337 *e*P **P 09 13 33.7 -1.2**
ABH Alteburg 72.57 338 *e*P **P 09 13 33.9 -1.1**
HUMR Humele 72.57 325⇓ *i*P **P 09 13 34.4 -0.7**
SAFT Safranbolu 72.58 318 *e*P **P 09 13 35.8 +0.6**
ELSH Elham, Standar 72.63 343 *e*P **P 09 13 35.4 +0.1**
ELSH AMB AMB 09 13 44.9
comp=Z,3μm,1.4s,mb6.7
MYA Malataya 72.64 312 *e*P **P 09 13 36.9 +1.2**
MALT Malatya 72.65 312 *e*P **P 09 13 38.0 +2.3**
comp=Z,2μm,0.9s,mb6.5
MALT Malatya 72.65 312 *e*P **P 09 13 38.0 +2.3**
MALT pmax pmax
comp=Z,2μm,0.9s,mb6.5
SNF Seneffe 72.65 340 P **P 09 13 35.4 -0.1**
comp=Z,1μm,2.7s,mb6.0
SNF AP pP 09 15 24.4 +2.6
SNF XP sP 09 16 25.9 +11
MSNY Massena 72.67 34 *e*P **P 09 13 35.2 -0.5**
comp=Z,3μm,1.0s,mb6.7
527A Woodward Ranch 72.67 63⇓ P **P 09 13 36.0 0.0**
baz=72,SNR=381
428A Kincaid Ranch, 72.69 61⇓ P **P 09 13 36.2 +0.1**
baz=72,SNR=476
CORM Corum 72.69 316 *e*P **P 09 13 35.2 -0.7**
BZS Buzias 72.71 327⇓ P **P 09 13 35.6 -0.3**
BZS Buzias 72.71 327⇓ *i*P **P 09 13 35.6 -0.3**
TIM Timisoara 72.73 328 P **P 09 13 36.8 +0.8**
CANT Cankiri 72.74 317 *e*P **P 09 13 36.9 +0.7**
SWN1 Swindon 72.76 345 *e*P **P 09 13 36.1 +0.1**
SWN1 AMB AMB 09 13 45.5
comp=Z,8μm,1.8s,mb6.9
HGH Gray Hill 72.79 345⇓ *e*P **P 09 13 35.8 -0.5**
ISRV Sarvestan 72.80 296 *e*P **P 09 13 37.4 +0.7**
CISI Cisompet, Garu 72.83 229 P S 09 22 30.4 +8.3
comp=Z,408nm,1.6s,comp=Z,9μm
CISI Cisompet, Garu 72.83 229 P **P 09 13 36.7 -0.3**
comp=Z,994nm,1.1s,mb6.3
MOA Molln 72.84 333 *i*P **P 09 13 36.9 +0.3**
comp=Z,7μm,3.5s,SNR=183
RUP Ruppelstein 72.85 338 *e*P **P 09 13 35.4 -1.2**
RUP Ruppelstein 72.85 338 *e*P **P 09 13 35.4 -1.2**
WOL Wolverton 72.86 344 *e*P **P 09 13 36.6 -0.1**
WOL AMB AMB 09 13 45.6
comp=Z,3μm,1.1s,mb6.8
WOL *e* pP 09 15 23.6 +0.5
626A Big Bend Ranch 72.87 63⇓ P **P 09 13 37.1 0.0**
baz=73,SNR=630
PRD Provadia 72.89 322 *i*P **P 09 13 37.3 +0.4**
PRD Provadia 72.89 322 *i*P **P 09 13 37.3 +0.4**
AKCD Akcadag 72.89 312 *i*P **P 09 13 37.8 +0.8**
SKJI Sukabumi 72.90 230 P **P 09 13 36.9 -0.5**
comp=Z,2μm,0.9s,mb6.5
ELDT Eldivan 72.92 317 *i*P **P 09 13 38.0 +0.8**
GIVF Givet 72.93 340⇓ *i*P **P 09 13 36.8 -0.3**
comp=Z,3μm,0.9s,mb6.6
KTD Kalmit 72.98 338 *e*P **P 09 13 37.1 -0.3**
KTD Kalmit 72.98 338 *e*P **P 09 13 37.1 -0.3**
DOU Dourbes 72.98 340 P **P 09 13 37.2 -0.2**
comp=Z,960nm,1.4s,mb6.1
DOU AP pP 09 15 26.8 +3.0
KDZE Karadeniz Ereo 73.00 319 *e*P **P 09 13 37.6 -0.1**
ARSA Arzberg 73.05 332 *i*P **P 09 13 38.5 +0.7**
comp=Z,6μm,2.7s,mb6.7,SNR=79
OLIL Olney 73.05 46 *e*P **P 09 13 37.4 -0.6**
WLF Walferdange 73.08 339 P **P 09 13 37.9 0.0**
comp=Z,1μm,1.7s,mb6.1
WLF AP pP 09 15 28.3 +3.9
WLF Walferdange 73.08 339 *e*P **P 09 13 40.3 +2.4**
comp=Z,800nm,1.4s,mb6.1
WLF epP pP 09 15 27.8 +3.4
WLF eS S 09 22 31.0 +7.1
WLF esS sS 09 25 49.8 +16
WLF Walferdange 73.08 339 *e*P **P 09 13 37.9 0.0**
comp=Z,1μm,0.9s,mb6.3
WLF Walferdange 73.08 339 *e*P **P 09 13 37.9 0.0**
WLF pmax pmax
comp=Z,1μm,0.9s,mb6.3
528A Cox Ranch, San 73.09 62⇓ P **P 09 13 38.6 +0.3**
baz=73,SNR=362
SARI SarD1z-Kayseri 73.09 314 *e*P **P 09 13 39.8 +1.5**
PKSM Moragy 73.09 330⇓ P **P 09 13 37.6 -0.5**
PKSM Moragy 73.09 330⇓ *i*P **P 09 13 37.6 -0.5**
PKSM Moragy 73.09 330⇓ *i*P 09 40 21.6
BAIF Baives 73.10 340⇓ *i*P **P 09 13 38.0 0.0**
comp=Z,3μm,0.8s,mb6.6
BAIF epP pP 09 15 30.6 +6.1
LONY Lake Ozonia 73.10 34 *e*P **P 09 13 37.0 -1.1**
ZIMR 73.20 324⇓ P **P 09 13 38.5 -0.3**
ZIMR 73.20 324⇓ *i*P **P 09 13 38.5 -0.3**
PINB Pinarbasi 73.22 314 *i*P **P 09 13 39.9 +1.0**
FRNY Flat Rock 73.23 33 *e*P **P 09 13 37.7 -1.2**
STU Stuttgart 73.24 337 *e*P **P 09 13 38.8 -0.1**
comp=Z,421nm,0.9s,mb6.0
STU epP pP 09 15 30.5 +5.0
STU Stuttgart 73.24 337 *e*P **P 09 13 38.9 0.0**
STU Stuttgart 73.24 337 *e*P **P 09 13 38.9 0.0**
PQI Presque Isle 73.27 29 *e*P **P 09 13 38.4 -0.7**
comp=Z,10μm,2.1s,mb7.0
TXAR Lajitas Array 73.29 63 P **P 09 13 39.6 +0.1**
comp=Z,110nm,0.4s,mb5.8,baz=297,slow=5.0,SNR=2176
TXAR S S 09 22 28.5 +1.5
comp=Z,7.0nm,0.8s,baz=28,slow=3.0,SNR=2.2
TXAR PKPPKP 09 41 10.6
comp=Z,28nm,1.2s,baz=162,slow=2.6,SNR=10
TXAR Lajitas Array 73.29 63 P **P 09 13 39.6 +0.1**
TXAR S S 09 22 28.5 +1.5
TXAR PKPab 09 41 10.6
TXAR Lajitas Array 73.29 63 P **P 09 13 39.6 +0.1**
TXAR S S 09 22 28.5 +1.5
TXAR pmax pmax
comp=Z,110nm,0.4s
TXAR smax
comp=N,7.0nm,0.8s
BNN Bunyan 73.31 314 *e*P **P 09 13 37.4 -2.0**
FUR Furstenfeldbru 73.31 335 *e*P **P 09 13 39.5 +0.2**
comp=Z,825nm,0.9s,mb6.3
FUR eS S 09 22 32.9 +6.3
FUR Furstenfeldbru 73.31 335 *e*P **P 09 13 39.5 +0.2**
FUR eS S 09 22 32.9 +6.3
FUR pmax pmax
comp=Z,825nm,0.9s,mb6.3
RJOB Jochberg 73.33 334 *e*P **P 09 13 39.9 +0.5**
comp=Z,448nm,0.8s,mb6.0
RJOB eS S 09 22 34.0 +7.2
627A Terlingua Ranc 73.34 63⇓ P **P 09 13 39.8 0.0**
baz=73,SNR=476
BLO Bloomington 73.35 45 *e*P **P 09 13 38.8 -0.9**
BLO Bloomington 73.35 45 *e*P **P 09 13 38.8 -0.9**
SZH Strazhica 73.35 323 *i*P **P 09 13 39.0 -0.6**
SZH Strazhica 73.35 323 *i*P **P 09 13 39.0 -0.6**
LANF Langenberg 73.36 338 *e*P **P 09 13 39.7 +0.1**
LANF Langenberg 73.36 338 *e*P **P 09 13 39.7 +0.1**
LANF Langenberg 73.36 338 *e*P **P 09 13 39.7 +0.1**
SGKT Sivrigoynuk 73.39 318 *i*P **P 09 13 39.4 -0.5**
ERPA Erie 73.40 39 *e*P **P 09 13 39.5 -0.4**
comp=Z,2μm,0.4s,mb7.0
ATAB Bozova 73.41 312 *i*P **P 09 13 39.7 -0.4**
SIUC Southern Illin 73.42 48 *e*P **P 09 13 39.7 -0.5**
BR131 Keskin Array S 73.48 316 *e*P **P 09 13 40.5 +0.1**
comp=Z,67nm,0.8s,mb5.2
BRTR Keskin Array B 73.48 316 P **P 09 13 40.6 +0.2**
comp=Z,334nm,0.9s,mb5.9,baz=31,slow=2.2,SNR=404
BRTR S S 09 22 36.2 +7.4
comp=Z,55nm,1.1s,baz=90,slow=33,SNR=8.5
BRTR Keskin Array B 73.48 316 P **P 09 13 40.6 +0.2**
BRTR S S 09 22 36.2 +7.4
BRTR Keskin Array B 73.48 316 P **P 09 13 40.6 +0.2**
BRTR S S 09 22 36.3 +7.5
BRTR pmax pmax
comp=Z,334nm,0.9s
BRTR smax
comp=N,55nm,1.1s
628A Black Gap, Mar 73.58 62⇓ P **P 09 13 40.9 -0.2**
baz=73,SNR=428
KOGS Kog 73.58 331 *e*P **P 09 13 40.5 -0.3**
PVL Pavlikeni 73.60 324 *i*P **P 09 13 41.1 +0.1**
PVL Pavlikeni 73.60 324 *i*P **P 09 13 41.1 +0.1**
HENT Hendek 73.63 319 *i*P **P 09 13 39.8 -1.5**
HTL Hartland 73.66 346 *e*P **P 09 13 40.6 -0.6**
HTL AMB AMB 09 13 49.0
comp=Z,1μm,0.8s,mb6.5
HTL *e* pP 09 15 28.2 +0.2
LOD Lodumlu 73.70 317 *e*P **P 09 13 41.5 -0.2**
SOKA Soboth 73.70 332⇓ *i*P **P 09 13 42.1 +0.5**
comp=Z,9μm,3.3s
PERS Pernice 73.72 332 *i*P **P 09 13 42.0 +0.4**
PERS *i* PcP PcP 09 13 48.6 -5.7
PERS epP pP 09 15 33.6 +5.2
PERS esP sP 09 16 18.2 -2.9
ALLY Alegheny Colle 73.75 39 *e*P **P 09 13 41.3 -0.6**
AVNT Avonos 73.78 315 *i*P **P 09 13 42.3 +0.1**
KBA Koelnbreinsper 73.79 333 *i*P **P 09 13 43.1 +1.1**
comp=Z,17μm,3.1s,SNR=583
NCB Newcomb 73.79 34 *e*P **P 09 13 41.6 -0.5**
comp=Z,3μm,0.6s,mb7.0
MDU Mudurnu 73.82 318 *e*P **P 09 13 41.8 -0.6**
JMB Yambol 73.82 322 *i*P **P 09 13 42.5 +0.2**
JMB Yambol 73.82 322 *i*P **P 09 13 42.5 +0.2**
GZT Gaziantep 73.83 312 *i*P **P 09 13 42.3 -0.2**
SILT Sile 73.83 320 *e*P **P 09 13 42.1 -0.3**
BANOM Banah 73.84 292 P **P 09 13 42.8 +0.1**
SNR=1053
BBAL Bala 73.85 316 *i*P **P 09 13 42.4 -0.1**
RFTA Plano 73.85 56 *e*P **P 09 13 42.0 -0.6**
BFO Black Forest 73.86 337 *e*P **P 09 13 42.2 -0.2**
comp=Z,397nm,0.8s,mb6.0
BFO epP pP 09 15 33.6 +4.4
BFO Black Forest 73.86 337 *e*P **P 09 13 42.2 -0.2**
comp=Z,742nm,2.4s,mb5.8
BFO Black Forest 73.86 337 P **P 09 13 42.3 -0.1**
comp=Z,6μm,0.7s,mb7.2,SNR=89
BFO Black Forest 73.86 337 *e*P **P 09 13 42.2 -0.2**
BFO *e**PP pP 09 15 33.6 +4.4
BFO pmax pmax
comp=Z,397nm,0.8s,mb6.0
ACSO Alum Creek Sta 73.88 42 *e*P **P 09 13 42.2 -0.4**
USIN University of 73.88 47 *e*P **P 09 13 42.3 -0.5**
AFSR Af˙ar-Bala (A 73.95 316 *e*P **P 09 13 42.1 -1.0**
SPAK Spaichingen-Ko 73.97 337 *e*P **P 09 13 42.1 -0.9**
KLYT Kilyos 73.97 320 *e*P **P 09 13 42.8 -0.4**
SPNC Sapanca-Adapaz 73.98 319 *e*P **P 09 13 43.1 -0.2**
KMRS Kahramanmaras 73.99 313 *e*P **P 09 13 43.5 +0.2**
OBKA Obir 73.99 332 *i*P **P 09 13 43.6 +0.4**
comp=Z,13μm,3.3s,SNR=174
WATA Walderalm 74.01 335 *i*P **P 09 13 43.9 +0.6**
comp=Z,4μm,1.6s,mb6.7,SNR=88

CDF **Champ du Feu** 74.02 338 ⇓ *i* P P 09 13 43.2 -0.1
comp=Z,3µm,0.9s,mb6.5
MPEP **Malo Peshtene** 74.03 325 *i* P P 09 13 43.3 -0.2
MPEP **Malo Peshtene** 74.03 325 *i* P P 09 13 43.3 -0.2
WTTA **Wattenberg** 74.06 335 *i* P P 09 13 44.4 +0.8
comp=Z,22µm,4.2s,SNR=230
CTYL **Yal??k??y-??at** 74.06 321 *e*P P 09 13 42.9 -0.8
RETA **Reutte** 74.07 335 *i* P P 09 13 43.8 +0.2
comp=Z,11µm,3.7s,SNR=80
BHD **Baghdad** 74.08 305 *ex* x 09 13 42.0
BHD *i* x x 09 13 54.0
BHD *i* x x 09 15 28.0
BHD *i* x x 09 16 19.0
BHD *i* x x 09 22 35.0
BHD *i* x x 09 23 01.0
BHD *i* x x 09 23 07.0
BHD *i* x x 09 25 43.0
MIAR **Mount Ida** 74.08 53 *e*P P 09 13 43.6 -0.4
MIAR **Mount Ida** 74.08 53 *e*P P 09 13 43.6 -0.3
HRT **Hereke** 74.11 320 *e*P P 09 13 44.2 +0.2
MDV **Middlebury** 74.11 34 *e*P P 09 13 43.3 -0.7
MOTA **Moosalm** 74.12 335 *i* P P 09 13 44.3 +0.4
comp=Z,3µm,1.1s,mb6.7,SNR=162
GULT **Gulveren** 74.12 319 *e*P P 09 13 44.4 +0.3
MYKA **Terra Mystica** 74.13 333 ⇓ *i*P P 09 13 44.0 +0.1
comp=Z,7µm,2.8s,mb6.7
DYA **Yadsworthy** 74.13 346 *e*P P 09 13 42.4 -1.5
DYA AMB AMB 09 13 51.9
comp=Z,2µm,1.4s,mb6.5
DYA *e* pP 09 15 30.5 -0.3
ISK **Istanbul-Kandi** 74.13 320 *e*P P 09 13 41.3 -2.8
GAZ **Gaziantep** 74.13 312 *e*P P 09 13 44.0 -0.2
BGKT **Bogazkoy** 74.14 320 *e*P P 09 13 43.4 -0.8
ANDN **Andirin** 74.17 313 *i* P P 09 13 45.0 +0.6
PKME **Peaks-Kenny Pk** 74.18 30 *e*P P 09 13 44.0 -0.3
CTKS **Kestanelik-??a** 74.19 321 *e*P P 09 13 43.5 -1.0
LIBD **Limburg** 74.19 338 *e*P P 09 13 44.5 +0.2
LIBD **Limburg** 74.19 338 *e*P P 09 13 44.5 +0.2
PAGF **Fort de Pagny** 74.22 339 ⇓ *i*P P 09 13 44.7 +0.3
comp=Z,2µm,1.1s,mb6.3,baz=21
PAGF *e*pP pP 09 15 37.7 +6.3
ECH **Echery** 74.23 338 *e*P P 09 13 44.3 -0.2
ECH **Echery** 74.23 338 *e*P P 09 13 44.3 -0.2
ECH **Echery** 74.23 338 *e*P P 09 13 44.3 -0.2
WCI **Wyandotte Cave** 74.24 45 *e*P P 09 13 44.2 -0.6
WCI **Wyandotte Cave** 74.24 45 *e*P P 09 13 44.2 -0.6
BUY **Buyukada** 74.29 320 *i* P P 09 13 45.3 +0.3
ELBA **Catalca** 74.29 321 *i* P P 09 13 41.0 -4.0
LBNH **Lisbon** 74.30 33 *e*P P 09 13 45.3 +0.3
comp=Z,854nm,0.6s,mb6.5
LBNH **Lisbon** 74.30 33 *e*P P 09 13 45.3 +0.3
LBNH pmax pmax
comp=Z,854nm,0.6s,mb6.5
PVMO **Portageville** 74.30 49 *e*P P 09 13 45.0 -0.1
comp=Z,967nm,0.7s,mb6.4
EDRB **Edirne** 74.30 322 *e*P P 09 13 43.8 -1.2
SLVT **Silivri** 74.30 321 *e*P P 09 13 44.7 -0.4
ABTA **Abfaltersbach** 74.31 334 *i* P P 09 13 45.2 +0.2
comp=Z,7µm,2.2s,mb6.8,SNR=136
GPA **Golpazari** 74.32 319 *e*P P 09 13 44.8 -0.4
CTA **Charters Tower** 74.32 188 P P 09 13 44.9 -0.4
comp=Z,329nm,0.7s,mb6.0,baz=0.9,slow=6.9,SNR=185
CTA **Charters Tower** 74.32 188 *e*P P 09 13 44.6 -0.7
comp=Z,390nm,0.9s,mb5.9
CTA *e* 09 13 53.5
CTA *e*pP pP 09 15 42.5 +10
CTA *e*S S 09 22 46.3 +8.1
CTA *e*PKPPKP 09 40 58.1
CTA *e* 09 43 52.9
CTA **Charters Tower** 74.32 188 P P 09 13 44.9 -0.4
CTA **Charters Tower** 74.32 188 P P 09 13 44.9 -0.4
CTA pmax pmax
comp=Z,329nm,0.7s
CTAO **Charters Tower** 74.32 188 *e*P P 09 13 45.3 0.0
CTAO **Charters Tower** 74.32 188 *e*P P 09 13 45.3 0.0
CTAO **Charters Tower** 74.32 188 P P 09 13 45.1 -0.2
comp=Z,622nm,1.0s,mb6.1
SLE **Schleitheim** 74.35 337 ⇓ *i*P P 09 13 44.9 -0.3
comp=Z,4µm,3.3s
FELD **Feldberg im Sc** 74.36 337 *e*P P 09 13 43.6 -1.6
JCT **Junction City** 74.36 60 ⇓ P P 09 13 44.7 -0.9
baz=74,SNR=102
JCT **Junction City** 74.36 60 *e*P P 09 13 44.8 -0.8
JCT **Junction City** 74.36 60 *e*P P 09 13 44.8 -0.8
MEZF **Maizieres J'vi** 74.41 339 ⇓ *i*P P 09 13 45.7 +0.2
comp=Z,2µm,0.7s,mb6.5,baz=6.1
MEZF *e*pP pP 09 15 38.9 +6.4
ADVT **Abdulvahap** 74.42 319 *e*P P 09 13 45.1 -0.6
LJU **Ljubljana** 74.43 332 *i* P P 09 13 45.4 -0.3
LJU *i* PcP PcP 09 13 51.9 -5.4
LJU *e*pP pP 09 15 37.1 +4.4
LJU *i* sP sP 09 16 33.0 +7.8
LJU *e*S S 09 22 37.0 -1.9
LJU *e*sS sS 09 26 03.1 +13
LJU *e*SS SS 09 27 41.5 +4.2
SISC **Sisak** 74.43 331 P P 09 13 44.1 -1.6
YLV **Yalova** 74.44 320 *e*P P 09 13 45.0 -0.9
WEIN **Weingarten** 74.46 336 ⇓ *i*P P 09 13 45.9 +0.1
comp=Z,3µm,1.3s,mb6.7
UALR **University of** 74.47 52 *e*P P 09 13 45.5 -0.6
KOZT **Kozan** 74.47 313 *e*P P 09 13 47.8 +1.7
DAVA **Damuels** 74.47 336 *i* P P 09 13 46.2 +0.3
comp=Z,5µm,2.5s,mb6.6,SNR=167
THEF **They Montfort** 74.47 339 *e*P P 09 13 46.1 +0.2
THEF **They Montfort** 74.47 339 *e*P P 09 13 46.1 +0.2
THEF **They Montfort** 74.47 339 *e*P P 09 13 46.1 +0.2
ACCN **Adirondack Com** 74.50 34 *e*P P 09 13 45.5 -0.6
MSVF **Nonsavu** 74.50 157 *e*P P 09 13 46.8 +0.5
MSVF **Nonsavu** 74.50 157 *e*P P 09 13 46.8 +0.5
MSVF **Nonsavu** 74.50 157 P P 09 13 47.0 +0.7
comp=Z,5µm,1.0s,mb7.0,SNR=26
FETA **Feichten** 74.51 335 *i* P P 09 13 46.8 +0.7
comp=Z,15µm,3.9s,SNR=376
KUZU **Kuzuini** 74.53 312 *i* P P 09 13 46.3 -0.1
DIM **Dimitrovgrad** 74.56 323 *i* P P 09 13 46.8 +0.3
DIM **Dimitrovgrad** 74.56 323 *i* P P 09 13 46.8 +0.3
CRLT **Corlu** 74.57 321 *e*P P 09 13 45.7 -0.9
SVRH **Sivrihisar-ESK** 74.57 318 *e*P P 09 13 46.4 -0.2
CAVI **Cavuskoy** 74.58 319 *e*P P 09 13 45.9 -0.7
MOF **Molkenrain** 74.58 338 *e*P P 09 13 46.2 -0.3
MOF **Molkenrain** 74.58 338 *e*P P 09 13 46.2 -0.3
MOF **Molkenrain** 74.58 338 *e*P P 09 13 46.2 -0.3
WILA **Wila** 74.58 336 ⇓ *i*P P 09 13 46.7 +0.2
comp=Z,5µm,1.9s,mb6.8
DIVS **Divibare** 74.59 328 P P 09 13 46.2 -0.4
PGB **Panagyurishte** 74.59 324 *i* P P 09 13 46.7 0.0
PGB **Panagyurishte** 74.59 324 *i* P P 09 13 46.7 0.0
HAU **Haudompre** 74.61 338 ⇓ *i*P P 09 13 46.3 -0.3
comp=Z,2µm,0.7s,mb6.3
HAU *e*R
comp=Z,40µm,22.2s
VOY **Vojsko** 74.61 333 ⇓ *e*P P 09 13 46.0 -0.7
BORA **Eskisehir** 74.62 318 *i* P P 09 13 46.5 -0.4
GEMT **Gemlik** 74.63 320 *e*P P 09 13 46.9 0.0
HNH **Hanover** 74.66 33 *e*P P 09 13 46.2 -0.8
SULZ **Cheisacher** 74.66 337 ⇓ *i*P P 09 13 46.9 -0.1
comp=Z,8µm,3.1s
HINF **Hinteralfeld** 74.67 338 ⇓ *i*P P 09 13 47.7 +0.7
comp=Z,860nm,0.7s,mb6.1
HINF *e*pP pP 09 15 39.9 +5.8
SFTF **Sexfontaines** 74.69 339 ⇓ *i*P P 09 13 47.1 0.0
comp=Z,3µm,0.6s,mb6.8,baz=9.3
SFTF *e*pP pP 09 15 40.2 +6.0
ZUR **Degenried** 74.70 337 ⇓ *i*P P 09 13 47.4 +0.2
comp=Z,6µm,2.0s,mb6.8
WVL **Waterville** 74.70 31 *e*P P 09 13 45.8 -1.4
comp=Z,4µm,1.4s,mb6.8
BOJS **Bojanci** 74.72 331 *i* P P 09 13 47.3 0.0
BOJS *i* PcP PcP 09 13 53.9 -4.7
BOJS *i* pP pP 09 15 38.4 +4.0
BOJS *e*sP sP 09 16 28.2 +1.2
BOJS *e*sS sS 09 25 53.9 +0.8
BOJS *e*SS SS 09 27 41.6 -0.1
UTMT **University of** 74.72 48 *e*P P 09 13 47.6 +0.1
TKR **Tekirdag** 74.76 321 *e*P P 09 13 48.3 +0.6
BINY **Binghamton** 74.76 36 *e*P P 09 13 46.8 -0.8
comp=Z,2µm,1.2s,mb6.4
ESKT **Eskisehir** 74.77 318 *e*P P 09 13 47.9 +0.2
ESKT **Eskisehir** 74.77 318 *i* P P 09 13 46.2 -1.6
MDNY **Mudanya-Bursa** 74.80 320 *e*P P 09 13 47.9 +0.1
HATD **Hatta, Dubai** 74.80 291 P P 09 13 48.2 0.0
SNR=1551
HATD **Hatta, Dubai** 74.80 291 P 09 40 14.5
SNR=10
PLD **Plovdiv** 74.80 324 *i* P P 09 13 47.7 -0.2
PLD **Plovdiv** 74.80 324 *i* P P 09 13 47.7 -0.2
PLONS **Plons/SG** 74.81 336 ⇓ *i*P P 09 13 48.1 +0.3
comp=Z,3µm,1.3s,mb6.7
SULT **Sultanhani-AKS** 74.83 315 *e*P P 09 13 48.9 +0.8
BBS **Basel-Blauen** 74.86 337 *e*P P 09 13 47.1 -1.0
BBS **Basel-Blauen** 74.86 337 *e*P P 09 13 47.1 -1.0
VTS **Vitosha** 74.89 325 P P 09 13 48.2 -0.1
VTS **Vitosha** 74.89 325 ⇓ P P 09 13 48.3 0.0
VTS **Vitosha** 74.89 325 ⇓ *i*P P 09 13 48.3 0.0
VTS **Vitosha** 74.89 325 ⇑ *i*P 09 40 14.1
VTS **Vitosha** 74.89 325 *i* P P 09 13 48.3 0.0
VTS **Vitosha** 74.89 325 *i* P P 09 13 48.3 0.0
ULDT **Uludag** 74.90 320 *i* P P 09 13 47.7 -0.8
CEYT **Ceyhan** 74.90 313 *e*P P 09 13 48.2 -0.3
KIZT **Kizilcal** 74.91 317 *e*P P 09 13 48.3 -0.3
NAZ **Nazwa, Dubai** 74.93 292 P P 09 13 48.5 -0.3
SNR=917
NAZ **Nazwa, Dubai** 74.93 292 P 09 40 16.2
SNR=7.2
BALST **Balsthal** 74.94 337 ⇓ *i*P P 09 13 48.7 +0.2
comp=Z,7µm,2.7s,mb6.7
TRI **Trieste** 74.94 333 *e*P P 09 13 47.8 -0.8
comp=Z,1µm,0.9s,mb6.4
TRI **Trieste** 74.94 333 *e*P P 09 13 47.8 -0.8
TRI pmax pmax
comp=Z,1µm,0.9s,mb6.4
DAVOX **Davos/Dischmat** 74.94 336 S S 09 22 51.8 +7.3
comp=Z,114nm,1.3s,baz=315,slow=18,SNR=6.9
DAVOX **Davos/Dischmat** 74.94 336 ⇓ *i*P P 09 13 48.9 +0.3
comp=Z,3µm,1.2s,mb6.7
ASHO **Ashiyiah** 74.95 291 P P 09 13 49.0 0.0
SNR=999
ASHO **Ashiyiah** 74.95 291 P 09 40 14.7
SNR=12
WBK **Wadi Bani Khal** 74.99 288 P P 09 13 50.1 +0.9
SNR=750
WBK **Wadi Bani Khal** 74.99 288 P 09 40 13.8
SNR=6.6
BOURR **Bourrignon** 74.99 338 ⇓ *i*P P 09 13 49.4 +0.6
comp=Z,8µm,3.6s
MFT **Murefte** 75.03 321 *e*P P 09 13 48.9 -0.3
MUO **Muotathal** 75.07 336 ⇓ *i*P P 09 13 49.7 +0.5
comp=Z,5µm,1.4s,mb6.8
FFD **Franklin Falls** 75.07 33 *e*P P 09 13 49.7 +0.3
comp=Z,289nm,0.8s,mb5.9
JSA **Saint Aubin** 75.07 344 *e*P P 09 13 48.0 -1.2
JSA AMB AMB 09 13 57.4
comp=Z,2µm,1.6s,mb6.3
JSA *e* pP 09 15 35.9 -0.6
TRY **Troy** 75.08 34 *e*P P 09 13 48.5 -0.9
GULE **Gulek** 75.08 314 *i* P P 09 13 49.5 0.0
KCTX **Karacabey (Bur** 75.09 320 *e*P P 09 13 49.0 -0.5
LLS **Lilth-Limmern** 75.09 336 ⇓ *i*P P 09 13 49.8 +0.4
comp=Z,5µm,2.7s,mb6.5
LOMF **Lomont** 75.12 338 *e*P P 09 13 49.7 +0.2
LOMF **Lomont** 75.12 338 *e*P P 09 13 49.7 +0.2
LOMF **Lomont** 75.12 338 *e*P P 09 13 49.7 +0.2
KDHN **Kadinhani** 75.13 317 *i* P P 09 13 49.5 -0.2
HOQ **Hoqain** 75.14 290 P P 09 13 50.0 0.0
SNR=1379
HOQ **Hoqain** 75.14 290 P 09 40 13.2
SNR=25
SMDO **Samad** 75.14 289 P P 09 13 50.4 +0.3
SNR=1030
SMDO **Samad** 75.14 289 P 09 40 12.9
SNR=9.0
SART **Tekirdag** 75.16 321 *i* P P 09 13 46.3 -3.5
RKY **Sarkoy-Tekirda** 75.16 321 *e*P P 09 13 48.8 -1.1
BNT **Bandirma** 75.17 320 *e*P P 09 13 50.4 +0.4
FLN **La Foliniere** 75.21 343 ⇓ *i*P P 09 13 49.6 -0.4
comp=Z,5µm,1.0s,mb6.7,baz=11
FLN *e*R
comp=Z,17µm,21.0s
BNALP **Bannalp** 75.21 337 ⇓ *i*P P 09 13 50.3 +0.3
comp=Z,7µm,3.7s
EMMW **East Machias** 75.22 29 *e*P P 09 13 48.7 -1.4
comp=Z,2µm,0.9s,mb6.5
BERNI **Berninapass** 75.25 335 ⇓ *i*P P 09 13 51.1 +0.8
comp=Z,7µm,2.8s,mb6.7
MET **Memphis--Engin** 75.27 50 *e*P P 09 13 50.6 0.0
comp=Z,2µm,0.8s,mb6.7
LDF **La Druitiere** 75.31 343 ⇓ *i*P P 09 13 50.1 -0.5
comp=Z,4µm,1.1s,mb6.6
VDL **Val di Lei** 75.33 336 ⇓ *i*P P 09 13 51.2 +0.5
comp=Z,6µm,1.9s,mb6.8
RDO **Rodhopi** 75.35 323 *e*P P 09 13 51.0 0.0
RDO **Rodhopi** 75.35 323 P P 09 13 51.1 +0.1
WVT **Waverly** 75.36 48 *e*P P 09 13 50.4 -0.6
WVT **Waverly** 75.36 48 *e*P P 09 13 50.4 -0.7
TUE **Stuetta** 75.36 336 *e*P P 09 13 51.7 +0.8
KRBG **Karabiga-Canak** 75.37 321 *e*P P 09 13 50.5 -0.6
HASLI **Hasliberg/Brie** 75.38 337 ⇓ *i*P P 09 13 51.5 +0.5
comp=Z,8µm,2.9s,mb6.7
ALN **Alexandroupoli** 75.39 322 *e*P P 09 13 50.7 -0.5
ALN **Alexandroupoli** 75.39 322 P P 09 13 50.9 -0.3
ASUD **Al Ashush, Dub** 75.40 292 P P 09 13 51.6 +0.1
SNR=762
ASUD **Al Ashush, Dub** 75.40 292 P 09 40 13.2
SNR=10
ERIK **Erikli-Kesan** 75.42 322 *e*P P 09 13 50.6 -0.7
BOLV **Bolvadin** 75.42 318 *i* P P 09 13 51.0 -0.4
KRTS **Karatas** 75.43 313 *e*P P 09 13 52.4 +1.0
UMR **Umm Al-Rimmam** 75.45 300 *e*P P 09 13 51.3 -0.5
UMR AMb AMB 09 13 59.5
comp=Z,9µm,0.6s,mb7.4
SSPA **Standing Stone** 75.46 38 *e*P P 09 13 51.0 -0.6
comp=Z,4µm,1.4s,mb6.8
ALT **Altintas** 75.46 318 *e*P P 09 13 49.2 -2.5
ALT **Altintas** 75.46 318 *i* P P 09 13 42.2 -9.4
PLE **Pljevlja** 75.47 328 ⇓ *i*P P 09 13 51.9 +0.3
HTY **Hatay** 75.48 312 *e*P P 09 13 52.2 +0.5
ENEZ **Enez** 75.49 322 *e*P P 09 13 51.3 -0.4
KONT **Konya--Tatoy** 75.52 316 *e*P P 09 13 52.0 +0.1
FUSIO **Fusio** 75.54 336 ⇓ *i*P P 09 13 52.2 +0.3
comp=Z,7µm,1.4s,mb7.0
MERS **Mersin** 75.54 314 *e*P P 09 13 52.2 +0.1
DST **Dursunbey** 75.56 320 *e*P P 09 13 51.9 -0.3
YAYL **Yayladag** 75.57 312 *i* P P 09 13 51.7 -0.6
KKB **Krupnik** 75.57 325 *i* P P 09 13 52.2 0.0
KKB **Krupnik** 75.57 325 *i* P P 09 13 52.2 0.0
WIMIS **Wimmis** 75.59 337 ⇓ *i*P P 09 13 52.5 +0.3
comp=Z,3µm,1.4s,mb6.6
LPK **Lopseki** 75.59 321 *e*P P 09 13 50.7 -1.6
MMB **Musomiste** 75.60 324 *i* P P 09 13 52.3 0.0
MMB **Musomiste** 75.60 324 *i* P P 09 13 52.3 0.0
GRR **Gorron** 75.63 343 ⇓ *i*P P 09 13 52.3 -0.1
comp=Z,7µm,1.0s,mb6.9
TORNY **Torny/Romont** 75.64 337 ⇓ *i*P P 09 13 52.7 +0.3
comp=Z,8µm,3.0s,mb6.7
JMDO **Jabal Madar** 75.66 288 P P 09 13 53.3 +0.4
SNR=1783
GELI **Tatur-Gelibol** 75.67 321 *e*P P 09 13 49.9 -2.8
GDZ **Gediz** 75.68 319 *i* P P 09 13 50.6 -2.2
NVLJ **Novalja** 75.69 331 P P 09 13 51.9 -0.9
IVA **Berane** 75.72 327 ⇓ *i*P P 09 13 52.9 -0.1
SHUT **Suhut-Afyon** 75.72 318 *e*P P 09 13 52.7 -0.4
UPM **Unac-Piva** 75.73 328 ⇓ *i*P P 09 13 52.5 -0.5
TRD **Trivandrum** 75.74 265 *e*PKP P 09 13 53.2 -0.3
TRD AMb AMB 09 14 02.7
comp=Z,4µm,1.0s,mb6.9
NVR **Nevrokopi** 75.76 324 *e*P P 09 13 53.4 +0.2
NVR **Nevrokopi** 75.76 324 P P 09 13 53.4 +0.2
ARQ **Araqi** 75.77 290 P P 09 13 53.7 +0.2
SNR=932
ARQ **Araqi** 75.77 290 P 09 40 11.0
SNR=18
KBD **Kabd** 75.77 300 *e*P P 09 13 53.0 -0.4
KBD AMb AMB 09 14 01.8
comp=Z,6µm,0.9s,mb7.1
BALB **Balikesir** 75.81 320 *e*P P 09 13 52.2 -1.3
WRAB **Tennant Creek** 75.81 199 *e*P P 09 13 53.1 -0.5
WRAB **Tennant Creek** 75.81 199 *e*P P 09 13 53.1 -0.5
WRAB **Tennant Creek** 75.81 199 P P 09 13 53.0 -0.6
comp=Z,16µm,0.9s,mb7.6
WRAB **Tennant Creek** 75.81 199 P P 09 13 52.7 -0.9
comp=Z,6µm,0.9s,mb7.1
BALY **Balya** 75.82 320 *i* P P 09 13 53.4 -0.2
WB2 **Warramunga Arr** 75.82 199 *e*P P 09 13 53.3 -0.4
WB2 *e*pP pP 09 15 41.4 +0.1
WRA **Warramunga Arr** 75.83 199 P P 09 13 53.0 -0.6
comp=Z,400nm,0.7s,mb6.1,baz=14,slow=5.8,SNR=475
WRA pP pP 09 15 34.5 -6.9
comp=Z,61nm,1.0s,baz=14,slow=5.5,SNR=1.1
WRA S S 09 23 01.2 +6.7
comp=Z,58nm,1.0s,baz=24,slow=12,SNR=5.5
WRA PKKPbc PKKPbc 09 33 06.0 +2.1
comp=Z,9.3nm,1.0s,baz=222,slow=1.3,SNR=9.0
WRA **Warramunga Arr** 75.83 199 P P 09 13 53.0 -0.6
WRA pP pP 09 15 34.5 -6.9
WRA S S 09 23 01.2 +6.7
WRA PKKPbc PKKPbc 09 33 06.0 +2.1
WRA **Warramunga Arr** 75.83 199 P P 09 13 53.1 -0.6
WRA S S 09 23 01.2 +6.7
WRA pmax pmax
comp=Z,400nm,0.7s
WRA smax
comp=N,59nm,1.0s
LOR **Lormes** 75.83 340 ⇓ *i*P P 09 13 53.3 -0.2
comp=N,4µm,0.8s,mb6.7,baz=23
LOR *e*pP pP 09 15 46.7 +5.7
LOR *e*R
comp=N,17µm,19.2s
KAVA **Kavala** 75.85 323 P P 09 13 53.6 -0.1
LKBD **Leukerbad** 75.85 337 ⇓ *i*P P 09 13 53.9 +0.3
comp=N,2µm,2.1s,mb6.3
NATX **Nacogdoches** 75.86 55 *e*P P 09 13 54.0 0.0
BSY **Bisya** 75.87 289 P P 09 13 54.3 +0.2
SNR=2189
BSY **Bisya** 75.87 289 P 09 40 09.7
SNR=12
QUA2 **Belchertown** 75.92 34 *e*P P 09 13 53.6 -0.5
comp=N,956nm,1.6s,mb6.1
NAY **Al-Naaiem** 75.94 301 *e*P P 09 13 54.6 +0.2
NAY AMb AMB 09 14 02.5
comp=Z,5µm,0.8s,mb7.1
PVY **Plav** 75.95 327 ⇓ *i*P P 09 13 52.8 -1.4
MUGIO **Muggio** 75.95 336 ⇓ *i*P P 09 13 53.9 -0.3
comp=Z,4µm,1.2s,mb6.8
HRV **Adam Dziewonsk** 75.97 33 *e*P P 09 13 54.2 -0.1
comp=Z,2µm,1.2s,mb6.5
HRV **Adam Dziewonsk** 75.97 33 *e*P P 09 13 54.2 -0.2
HRV pmax pmax
comp=Z,2µm,1.2s,mb6.5
CABF **La Chapelle** 75.98 338 ⇓ *i*P P 09 13 54.5 +0.1
comp=Z,3µm,0.9s,mb6.5
QRN **Al-Qurain** 76.01 300 *e*P P 09 13 54.6 -0.2
QRN AMb AMB 09 14 03.1
comp=Z,13µm,0.8s,mb7.5
DEMI **Demirci** 76.01 319 *i* P P 09 13 53.8 -0.9
OXF **Oxford** 76.02 50 *e*P P 09 13 54.4 -0.4
comp=Z,2µm,0.7s,mb6.7
OXF **Oxford** 76.02 50 *e*P P 09 13 54.4 -0.4
OXF pmax pmax
comp=Z,2µm,0.7s,mb6.7
RDF **Al-Radifah** 76.05 300 *e*P P 09 13 55.2 +0.2
RDF AMb AMB 09 14 03.6
comp=Z,16µm,0.9s,mb7.5
NKY **Niksic** 76.06 328 ⇓ *i*P P 09 13 53.1 -1.7
GADA **Gvkgeada** 76.06 322 *e*P P 09 13 53.4 -1.5
SRS **Serrai** 76.06 324 P P 09 13 54.6 -0.3
HYF **Humbligny** 76.07 341 ⇓ *i*P P 09 13 55.1 +0.3
ROSF **Rostrenen** 76.08 345 ⇓ *i*P P 09 13 54.7 -0.1
comp=Z,4µm,0.8s,mb6.7
MMK **Mattmark** 76.09 337 ⇓ *i*P P 09 13 55.2 +0.3
comp=Z,2µm,0.8s,mb6.6
GRYON **Gryon** 76.09 337 ⇓ *i*P P 09 13 55.8 +0.8
comp=Z,4µm,1.9s,mb6.7
SSF **Saint Saulge** 76.10 340 ⇓ *i*P P 09 13 54.8 -0.2
comp=Z,3µm,0.8s,mb6.6
FITZ **Fitzroy Crossi** 76.10 208 P P 09 13 55.3 0.0
comp=Z,319nm,0.7s,mb6.0,baz=8.1,slow=4.5
FITZ S S 09 23 01.8 +4.3
comp=Z,55nm,1.0s,baz=264,slow=22,SNR=21
FITZ **Fitzroy Crossi** 76.10 206 ⇓ *i*P P 09 13 54.8 -0.5
comp=Z,788nm,0.7s,mb6.3
FITZ *e*PCP PcP 09 14 02.8 -2.0
FITZ *e*pP pP 09 15 54.5 +11
FITZ *e*S S 09 23 05.3 +7.8
FITZ *e*PKKP PKKPbc 09 33 11.6 +8.5
FITZ *e*PKPPKP 09 40 55.5
FITZ *e* 09 43 40.4
FITZ **Fitzroy Crossi** 76.10 208 *e*P P 09 13 54.8 -0.5
comp=Z,96nm,1.0s,mb5.3
FITZ S S 09 23 01.8 +4.3
BRY **Bratogost** 76.12 328 ⇓ *i*P P 09 13 53.9 -1.3
WES **Weston** 76.16 33 *e*P P 09 13 54.3 -1.1
comp=Z,7µm,0.9s,mb7.2
WES **Weston** 76.16 33 *e*P P 09 13 54.3 -1.1
DIX **Grande Dixence** 76.19 337 ⇓ *i*P P 09 13 56.0 +0.5
comp=Z,5µm,2.0s,mb6.7
PLAL **Pickwick Lake** 76.21 49 *e*P P 09 13 55.1 -0.8
comp=Z,723nm,0.6s,mb6.4
PLAL *e*pP pP 09 15 43.9 +0.3
EZN **Ezine** 76.23 321 *e*P P 09 13 54.2 -1.6
SALAN **Lac Salanfe** 76.23 337 ⇓ *i*P P 09 13 56.4 +0.7
comp=Z,6µm,2.3s,mb6.7
BST **Brest** 76.23 345 *e*P P 09 13 55.8 +0.1
BST **Brest** 76.23 345 *e*P P 09 13 55.8 +0.1
KNT **Kendrikon** 76.26 324 P P 09 13 56.0 0.0
KHAL **Karahalli** 76.30 318 *i* P P 09 13 53.8 -2.4
HDMB **Hadim** 76.31 316 *e*P P 09 13 55.7 -0.7
BOZC **Bozcaada** 76.31 322 *i* P P 09 13 55.7 -0.6
EMV **Vieux Emosson** 76.32 337 ⇓ *i*P P 09 13 56.7 +0.5
comp=Z,6µm,2.4s,mb6.7
TTG **Podgorica** 76.32 327 ⇓ *i*P P 09 13 55.4 -0.9
ISP **Isparta** 76.37 317 *e*P P 09 13 55.1 -1.5
ISP **Isparta** 76.37 317 *e*P P 09 13 56.0 -0.6
ISP **Isparta** 76.37 317 P P 09 13 56.0 -0.6
ISP **Isparta** 76.37 317 ⇓ P P 09 13 56.0 -0.6
ISP **Isparta** 76.37 317 ⇓ *i*P P 09 13 56.0 -0.6
AVF **Avril sur Loir** 76.39 340 ⇓ *i*P P 09 13 56.5 -0.1
comp=Z,5µm,0.9s,mb6.8
AVF *e*pP pP 09 15 50.2 +5.9
STON **Ston** 76.41 329 P P 09 13 54.2 -2.5
SOH **Sokhos** 76.41 324 *e*P P 09 13 56.2 -0.6
SOH **Sokhos** 76.41 324 P P 09 13 56.1 -0.7
SMF **Signal de Mont** 76.43 340 ⇓ *i*P P 09 13 56.7 -0.1
comp=Z,3µm,0.8s,mb6.6
QUIF **Quistinic** 76.47 345 ⇓ *i*P P 09 13 56.8 -0.2
comp=Z,6µm,1.2s,mb6.7
SUTC **Sutluce-Ispart** 76.47 317 *e*P P 09 13 56.6 -0.6
KULA **Kula-Manisa** 76.50 319 *e*P P 09 13 57.3 0.0
AKHS **Akhisar** 76.50 320 *i* P P 09 13 56.2 -1.2
BRYW **Bryant College** 76.51 33 *e*P P 09 13 56.8 -0.5
comp=Z,2µm,0.6s,mb6.7
PAL **Palisades** 76.54 35 *e*P P 09 13 56.7 -0.8
comp=Z,192nm,0.8s,mb5.7
PAL *e*pP pP 09 15 44.5 -0.8
PAL **Palisades** 76.54 35 *e*P P 09 13 56.7 -0.8
PAL *e**PP pP 09 15 44.5 -0.8
PAL pmax pmax
comp=Z,192nm,0.8s,mb5.7
HCY **Herceg Novi** 76.55 328 ⇓ *i*P P 09 13 56.2 -1.3
AYVA **Ayvalik** 76.55 321 *i* P P 09 13 56.7 -0.9
BUM **Brajici-Budva** 76.55 328 ⇓ *i*P P 09 13 56.7 -0.9
MANT **Manisa** 76.56 319 *i* P P 09 13 57.5 -0.1
LIA **Limnos Island** 76.58 322 *e*P P 09 13 57.4 -0.4
LIA **Limnos Island** 76.58 322 P P 09 13 57.3 -0.5
YLE **Yale** 76.59 35 *e*P P 09 13 56.6 -1.2
comp=Z,3µm,1.4s,mb6.7
BRNJ **Basking Ridge** 76.60 36 *e*P P 09 13 57.8 -0.1
GRG **Griva** 76.61 325 P P 09 13 58.1 +0.2
OUR **Ouranopolis** 76.62 323 P P 09 13 57.4 -0.6
BCK **Bucak** 76.65 317 *e*P P 09 13 56.6 -1.6
DZM **Mont Dzumac** 76.69 168 *e*P P 09 13 59.1 +0.7
comp=Z,1µm,1.2s,mb6.3
DZM *e*pP pP 09 15 42.2 -4.2
comp=Z,1µm,1.2s
DZM *e*S S 09 23 06.1 +2.4
comp=Z,207µm,30.8s
DZM **Mont Dzumac** 76.69 168 *e*P P 09 13 58.8 +0.4
DZM *e*S pP 09 15 55.3 +8.9
DZM AMP 09 16 00.9
comp=Z,784nm,2.6s
DZM **Mont Dzumac** 76.69 168 *e*P P 09 13 59.0 +0.5
comp=Z,1µm,1.0s,mb6.5
HORT **Hortiatis** 76.69 324 P P 09 13 57.5 -0.9
NOUC **Port Laguerre** 76.71 169 *e*P P 09 13 58.8 +0.3
NOUC *e*S pP 09 15 59.6 +13
NOUC AMP 09 15 60.0
comp=Z,43nm,0.0s
THE **Thessaloniki** 76.71 324 P P 09 13 57.5 -1.0
CPNY **Central Park** 76.71 36 *e*P P 09 13 58.3 -0.2
comp=Z,2µm,1.0s,mb6.5
BGF **Bois d'Agland** 76.71 340 ⇓ *i*P P 09 13 58.4 0.0
comp=Z,2µm,0.7s,mb6.5

ULC	**Ulcinj**	**76.75**	**327**	⇓*i*P		**P**	**09 13 58.0**	**-0.7**
PRK	**Paraskevi**	**76.76**	**321**	*e*P		**P**	**09 13 58.4**	**-0.4**
PRK	**Paraskevi**	**76.76**	**321**	P		**P**	**09 13 58.2**	**-0.6**
PLG	**Polygyros**	**76.77**	**324**	*e*P		**P**	**09 13 58.3**	**-0.5**
PLG	**Polygyros**	**76.77**	**324**	P		**P**	**09 13 58.0**	**-0.8**
HKT	**Hockley**	**76.78**	**57**	*e*P		**P**	**09 13 58.5**	**-0.5**
	comp=Z,2µm,1.9s,mb6.3							
HKT	**Hockley**	**76.78**	**57**	*e*P		**P**	**09 13 58.5**	**-0.5**
HKT				pmax	pmax			
	comp=Z,2µm,1.9s,mb6.3							
TZTN	**Tazewell**		**76.81 44**	*e*P		**P**	**09 13 58.9**	**-0.2**
EREN	**Erenkoy**		**76.83 314**	*e*P		**P**	**09 13 59.4**	**+0.2**
NORM	**Noumea**		**76.85 168**	*e*P		**P**	**09 13 59.5**	**+0.2**
LASL	**Noumea**		**76.86 168**	*e*P		**P**	**09 13 59.6**	**+0.2**
LPL	**La Plagne**	**76.88**	**337**	⇓*i*P		**P**	**09 14 00.2**	**+0.9**
	comp=Z,5µm,0.8s,mb6.8							
LPG	**La Plagne**	**76.89**	**337**	⇓*i*P		**P**	**09 14 00.4**	**+1.0**
	comp=Z,5µm,0.8s,mb6.8							
PLUM	**Mont Dore**		**76.92 168**	*e*P		**P**	**09 14 00.1**	**+0.4**
SDMD	**Soldier's Deli**		**76.92 38**	*e*P		**P**	**09 13 59.1**	**-0.5**
	comp=Z,52nm,0.9s,mb5.1							
SIGR	**SIGRI**		**76.94 321**	P		**P**	**09 13 59.0**	**-0.8**
FKH	**Fakeheh**		**76.95 311**	*e*P		**P**	**09 14 00.1**	**+0.2**
SWET	**Sewanee**		**76.95 47**	*e*P		**P**	**09 13 59.1**	**-0.8**
GAZI	**Gazipasa**	**77.00**	**315**	*i* P		**P**	**09 13 57.0**	**-3.2**
DENT	**Denizli**	**77.01**	**318**	*e*P		**P**	**09 13 59.2**	**-1.0**
PAIG	**Paliouri**	**77.09**	**323**	P		**P**	**09 13 59.6**	**-1.0**
TCF	**Toulx Ste Croi**	**77.10**	**341**	⇓*i*P		**P**	**09 14 00.6**	**+0.1**
	comp=Z,3µm,0.8s,mb6.5							
TCF				*e*pP		pP	09 15 54.6	+6.2
TIR	**Tirane**	**77.11**	**327**	*e*P		**P**	**09 14 00.4**	**-0.3**
	comp=Z,299nm,1.0s,mb5.8							
TIR	**Tirane**	**77.11**	**327**	*e*P		**P**	**09 14 00.4**	**-0.2**
TIR				pmax	pmax			
	comp=Z,299nm,1.0s,mb5.8							
ANTB	**Antalya**	**77.11**	**317**	*e*P		**P**	**09 13 58.1**	**-2.6**
PLDF	**La Plantade**	**77.12**	**339**	*e*P		**P**	**09 14 01.2**	**+0.6**
PLDF	**La Plantade**	**77.12**	**339**	*e*P		**P**	**09 14 01.2**	**+0.6**
PLDF	**La Plantade**	**77.12**	**339**	*e*P		**P**	**09 14 01.2**	**+0.6**
HWQ	**Hawqa**	**77.12**	**312**	*e*P		**P**	**09 14 00.4**	**-0.5**
IZM	**Izmir**	**77.13**	**320**	*e*P		**P**	**09 13 59.6**	**-1.2**
AGO	**Saint Agoulin**	**77.14**	**340**	*e*P		**P**	**09 14 01.4**	**+0.7**
AGO	**Saint Agoulin**	**77.14**	**340**	*e*P		**P**	**09 14 01.4**	**+0.7**
KORT	**Korkueli**	**77.14**	**317**	*i* P		**P**	**09 14 00.2**	**-0.7**
BLCB	**Balcova**	**77.22**	**320**	*e*P		**P**	**09 13 59.7**	**-1.7**
MFF	**Saint Martin d**	**77.24**	**342**	⇓*i*P		**P**	**09 14 01.5**	**+0.3**
	comp=Z,4µm,0.9s,mb6.7							
GOLH	**Golhisar**	**77.25**	**318**	*i* P		**P**	**09 13 55.9**	**-5.6**
GDM	**Grand'Maison**	**77.31**	**338**	*e*P		**P**	**09 14 02.5**	**+0.8**
GDM	**Grand'Maison**	**77.31**	**338**	*e*P		**P**	**09 14 02.5**	**+0.8**
GDM	**Grand'Maison**	**77.31**	**338**	*e*P		**P**	**09 14 02.6**	**+0.9**
LFK	**Lefkose**	**77.31**	**314**	*e*P		**P**	**09 14 01.4**	**-0.5**
BNI	**Bardonecchia**	**77.33**	**337**	*e*P		**P**	**09 14 02.5**	**+0.8**
	comp=Z,1µm,0.9s,mb6.4							
BNI	**Bardonecchia**	**77.33**	**337**	*e*P		**P**	**09 14 02.5**	**+0.7**
BNI				pmax	pmax			
	comp=Z,1µm,0.9s,mb6.4							
PHNC	**Paralimni**	**77.34**	**313**	P		**P**	**09 14 03.3**	**+1.3**
	comp=Z,68nm,1.2s,mb5.1							
CPCT	**Cooper Cave**	**77.35**	**46**	*e*P		**P**	**09 14 00.3**	**-1.8**
GLHS	**Glhisar (BURDU**	**77.35**	**318**	*e*P		**P**	**09 14 02.3**	**+0.3**
LIT	**Litokhoron**	**77.35**	**324**	P		**P**	**09 14 00.7**	**-1.3**
ELN	**Prospectdale**	**77.35**	**42**	*e*P		**P**	**09 14 01.3**	**-0.8**
GRN	**Grenoble**	**77.36**	**338**	*e*P		**P**	**09 14 02.8**	**+0.9**
GRN	**Grenoble**	**77.36**	**338**	*e*P		**P**	**09 14 02.8**	**+0.9**
GRN	**Grenoble**	**77.36**	**338**	*e*P		**P**	**09 14 02.8**	**+0.9**
KZN	**Kozani**	**77.41**	**325**	*e*P		**P**	**09 14 01.7**	**-0.6**
KZN	**Kozani**	**77.41**	**325**	P		**P**	**09 14 01.4**	**-0.9**
URLA	**Izmir**	**77.41**	**320**	*i* P		**P**	**09 14 00.7**	**-1.7**
VBMS	**Vicksburg**	**77.43**	**52**	*e*P		**P**	**09 14 02.9**	**+0.3**
	comp=Z,702nm,0.5s,mb6.5							
VBMS				*e*pP		pP	09 15 51.2	+0.5
PYM	**Petit Puy Mans**	**77.45**	**340**	*e*P		**P**	**09 14 03.0**	**+0.6**
PYM	**Petit Puy Mans**	**77.45**	**340**	*e*P		**P**	**09 14 03.0**	**+0.6**
PYM	**Petit Puy Mans**	**77.45**	**340**	*e*P		**P**	**09 14 03.0**	**+0.6**
TKL	**Tuckaleechee C**	**77.48**	**45**	*e*P		**P**	**09 14 02.0**	**-0.7**
TKL	**Tuckaleechee C**	**77.48**	**45**	*e*P		**P**	**09 14 02.0**	**-0.8**
BLA	**Blacksburg**	**77.49**	**42**	*e*P		**P**	**09 14 02.4**	**-0.4**
	comp=Z,2µm,1.2s,mb6.5							
BLA				*e*pP		pP	09 15 48.6	-2.4
BLA	**Blacksburg**	**77.49**	**42**	*e*P		**P**	**09 14 02.4**	**-0.4**
BLA				e*PP		pP	09 15 48.6	-2.3
BLA				pmax	pmax			
	comp=Z,2µm,1.2s,mb6.5							
ELL	**Elmali**	**77.54**	**317**	*e*P		**P**	**09 14 00.8**	**-2.2**
MAMC	**Mammari**	**77.54**	**314**	P		**P**	**09 14 03.5**	**+0.4**
AYDN	**Tasoluk**	**77.54**	**319**	*i* P		**P**	**09 14 02.7**	**-0.4**
NEST	**Nestorio**	**77.56**	**325**	P		**P**	**09 14 02.7**	**-0.4**
VERF	**Verneugheol**	**77.56**	**340**	*e*P		**P**	**09 14 03.2**	**+0.2**
VERF	**Verneugheol**	**77.56**	**340**	*e*P		**P**	**09 14 03.2**	**+0.2**
BHL	**Bhannes**	**77.57**	**312**	*e*P		**P**	**09 14 03.2**	**-0.1**
SSB	**Saint Sauveur**	**77.58**	**339**	*e*P		**P**	**09 14 03.4**	**+0.3**
SSB	**Saint Sauveur**	**77.58**	**339**	*e*P		**P**	**09 14 03.4**	**+0.3**
SSB	**Saint Sauveur**	**77.58**	**339**	*e*P		**P**	**09 14 03.4**	**+0.3**
CHOS	**Chios island**	**77.59**	**321**	*e*P		**P**	**09 14 03.2**	**-0.1**
CHOS	**Chios island**	**77.59**	**321**	P		**P**	**09 14 02.8**	**-0.5**
MBDF	**Montbardon**	**77.61**	**337**	⇓*i*P		**P**	**09 14 03.6**	**+0.3**
	comp=Z,2µm,0.7s,mb6.5							
ORIF	**Oris-en-Rattie**	**77.64**	**338**	⇓*i*P		**P**	**09 14 04.1**	**+0.7**
	comp=Z,4µm,0.7s,mb6.7							
ORIF				*e*R				
	comp=Z,20µm,18.6s							
CSS	**Prodhromos**	**77.67**	**314**	P		**P**	**09 14 03.7**	**-0.1**
	comp=Z,29nm,0.6s							
CSS	**Prodhromos**	**77.67**	**314**	*e*P		**P**	**09 14 03.5**	**-0.3**
	comp=Z,7µm,4.0s							
CSS				*e*PcP		PcP	09 14 11.6	0.0
CSS	**Prodhromos**	**77.67**	**314**	P		**P**	**09 14 03.6**	**-0.2**
AOS	**Alonnisos**	**77.69**	**323**	P		**P**	**09 14 03.0**	**-0.8**
KVTX	**Kingsville**	**77.71**	**60**	*e*P		**P**	**09 14 05.3**	**+1.1**
	comp=Z,1µm,0.9s,mb6.4							
KVTX				*e*pP		pP	09 15 53.4	+1.0
LEF	**Lefka**	**77.72**	**314**	*e*P		**P**	**09 14 03.6**	**-0.5**
GCAM	**G?zelcaml?**	**77.75**	**320**	*i* P		**P**	**09 14 01.3**	**-2.9**
CBN	**Corbin**	**77.79**	**39**	*e*P		**P**	**09 14 04.2**	**-0.1**
	comp=Z,863nm,0.6s,mb6.4							
NEO	**Neokhori**	**77.80**	**323**	*e*P		**P**	**09 14 03.3**	**-1.1**
NEO	**Neokhori**	**77.80**	**323**	P		**P**	**09 14 03.2**	**-1.2**
ALFC	**Alevga**	**77.81**	**314**	P		**P**	**09 14 03.9**	**-0.7**
	comp=Z,57nm,0.5s,mb5.2							
RCY	**Rachaya**	**77.83**	**311**	*e*P		**P**	**09 14 05.1**	**+0.3**
SURF	**Saint Ours**	**77.84**	**337**	*e*P		**P**	**09 14 05.1**	**+0.6**
SURF	**Saint Ours**	**77.84**	**337**	*e*P		**P**	**09 14 05.1**	**+0.6**
YER	**Yerkesik**	**77.84**	**319**	*e*P		**P**	**09 14 04.0**	**-0.8**
SMG	**Samos**	**77.89**	**320**	*e*P		**P**	**09 14 04.1**	**-0.9**
MLSB	**Milas**	**77.90**	**319**	*e*P		**P**	**09 14 04.5**	**-0.5**
LBL	**Lubilhac**	**77.90**	**340**	*e*P		**P**	**09 14 05.5**	**+0.6**
LBL	**Lubilhac**	**77.90**	**340**	*e*P		**P**	**09 14 05.5**	**+0.6**
LBL	**Lubilhac**	**77.90**	**340**	*e*P		**P**	**09 14 05.5**	**+0.6**
TURN	**Turunc**	**77.95**	**318**	*i* P		**P**	**09 14 04.5**	**-0.8**
VIVF	**Saint-Julien-l**	**77.96**	**338**	⇓*i*P		**P**	**09 14 05.7**	**+0.5**
	comp=Z,4µm,0.9s,mb6.5							
THL	**Klokotos Trika**	**77.99**	**324**	*e*P		**P**	**09 14 04.6**	**-0.9**
THL	**Klokotos Trika**	**77.99**	**324**	P		**P**	**09 14 03.5**	**-2.0**
SZAC	**Souni-Zanaja**	**78.03**	**314**	P		**P**	**09 14 05.2**	**-0.6**
SAOF	**Saorge**	**78.13**	**336**	*e*P		**P**	**09 14 06.0**	**-0.1**
SAOF	**Saorge**	**78.13**	**336**	*e*P		**P**	**09 14 06.0**	**-0.1**
SAOF	**Saorge**	**78.13**	**336**	*e*P		**P**	**09 14 06.0**	**-0.1**
AQU	**L'Aquila**	**78.14**	**331**	*e*P		**P**	**09 14 07.3**	**+1.1**
	comp=Z,11µm,3.4s							
AQU	**L'Aquila**	**78.14**	**331**	*e*P		**P**	**09 14 07.4**	**+1.2**
AQU				pmax	pmax			
	comp=Z,10µm,3.4s							
PPCY	**Paphos**	**78.15**	**315**	P		**P**	**09 14 05.3**	**-1.1**
AUTN	**L'Aution**	**78.15**	**336**	*e*P		**P**	**09 14 06.2**	**0.0**
AUTN	**L'Aution**	**78.15**	**336**	*e*P		**P**	**09 14 06.2**	**0.0**
AUTN	**L'Aution**	**78.15**	**336**	*e*P		**P**	**09 14 06.2**	**0.0**
RJF	**Les Rejaudoux**	**78.18**	**341**	⇓*i*P		**P**	**09 14 06.7**	**+0.4**
	comp=Z,5µm,1.0s,mb6.6							
RJF				*e*pP		pP	09 16 00.9	+6.2
TOUF	**Mont Tournerai**	**78.18**	**336**	*e*P		**P**	**09 14 06.8**	**+0.4**
TOUF	**Mont Tournerai**	**78.18**	**336**	*e*P		**P**	**09 14 06.8**	**+0.4**
TOUF	**Mont Tournerai**	**78.18**	**336**	*e*P		**P**	**09 14 06.8**	**+0.4**
MNCY	**Minicoy**	**78.23**	**268**	*e*PKP		**P**	**09 14 07.0**	**-0.1**
MNCY				*ex*		x	09 19 34.0	
LUCF	**Luceram**	**78.27**	**336**	*e*P		**P**	**09 14 06.8**	**-0.1**
LUCF	**Luceram**	**78.27**	**336**	*e*P		**P**	**09 14 06.8**	**-0.1**
SBF	**Sospel**	**78.28**	**336**	⇓*i*P		**P**	**09 14 06.6**	**-0.3**
	comp=Z,7µm,0.9s,mb6.8							
BODT	**Bodrum**	**78.28**	**319**	*e*P		**P**	**09 14 05.4**	**-1.7**
JAN	**Janina**	**78.30**	**325**	*e*P		**P**	**09 14 07.1**	**0.0**
JAN	**Janina**	**78.30**	**325**	P		**P**	**09 14 07.2**	**+0.1**
MVIF	**Mont Vial**	**78.31**	**336**	*e*P		**P**	**09 14 07.6**	**+0.5**
MVIF	**Mont Vial**	**78.31**	**336**	*e*P		**P**	**09 14 07.6**	**+0.5**
MVIF	**Mont Vial**	**78.31**	**336**	*e*P		**P**	**09 14 07.6**	**+0.5**
AGG	**Agios Georgios**	**78.37**	**324**	*e*P		**P**	**09 14 05.5**	**-2.0**
AGG	**Agios Georgios**	**78.37**	**324**	P		**P**	**09 14 05.7**	**-1.8**
REVF	**Revere**	**78.41**	**336**	*e*P		**P**	**09 14 08.6**	**+1.0**
REVF	**Revere**	**78.41**	**336**	*e*P		**P**	**09 14 08.6**	**+1.0**
REVF	**Revere**	**78.41**	**336**	*e*P		**P**	**09 14 08.6**	**+1.0**
ATAL	**Atalanti**	**78.42**	**323**	P		**P**	**09 14 06.3**	**-1.5**
MMAI	**Mount Meron Ar**	**78.43**	**311**	P		**P**	**09 14 07.4**	**-0.5**
	comp=Z,812nm,0.6s,mb6.4,baz=41,slow=6.0,SNR=3.7							
MMAI					PKKP	PKKPbc	09 32 40.5	-17
	comp=Z,3.6nm,0.8s,baz=188,slow=2.5,SNR=4.2							
MMAI	**Mount Meron Ar**	**78.43**	**311**	P		**P**	**09 14 07.4**	**-0.5**
MMAI					PKKP	PKKPbc	09 32 40.5	-17
CAF	**Calviac**	**78.43**	**340**	⇓*i*P		**P**	**09 14 08.5**	**+0.8**
	comp=Z,4µm,0.9s,mb6.5							
CAF				*e*pP		pP	09 16 02.7	+6.5
LKR	**Lokris**	**78.46**	**323**	*e*P		**P**	**09 14 06.5**	**-1.5**
LKR	**Lokris**	**78.46**	**323**	P		**P**	**09 14 06.4**	**-1.6**
DAT	**Datca**	**78.47**	**319**	*e*P		**P**	**09 14 06.5**	**-1.6**
ASF	**Jabal al Asfar**	**78.48**	**310**	P		**P**	**09 14 08.7**	**+0.4**
	comp=Z,558nm,0.7s,mb6.1							
ASF	**Jabal al Asfar**	**78.48**	**310**	P		**P**	**09 14 08.7**	**+0.4**
ASF	**Jabal al Asfar**	**78.48**	**310**	P		**P**	**09 14 08.7**	**+0.5**
ASF				pmax	pmax			
	comp=Z,558nm,0.7s							
CALN	**Calern**	**78.51**	**337**	*e*P		**P**	**09 14 09.2**	**+1.0**
CALN	**Calern**	**78.51**	**337**	*e*P		**P**	**09 14 09.2**	**+1.0**
CALN	**Calern**	**78.51**	**337**	*e*P		**P**	**09 14 09.2**	**+1.0**
IGT	**Igoumenitsa**	**78.59**	**325**	P		**P**	**09 14 08.0**	**-0.7**
SMRF	**Simiane la Rot**	**78.60**	**338**	⇓*i*P		**P**	**09 14 09.3**	**+0.7**
	comp=Z,2µm,0.8s,mb6.5							
KEK	**Kerkira**	**78.60**	**326**	*e*P		**P**	**09 14 07.4**	**-1.3**
KEK	**Kerkira**	**78.60**	**326**	P		**P**	**09 14 07.9**	**-0.8**
EVR	**Evrytania**	**78.64**	**324**	*e*P		**P**	**09 14 08.5**	**-0.5**
EVR	**Evrytania**	**78.64**	**324**	P		**P**	**09 14 07.8**	**-1.2**
LFF	**La Frestale**	**78.68**	**341**	⇓*i*P		**P**	**09 14 09.6**	**+0.6**
	comp=Z,5µm,0.9s,mb6.7							
PTL	**Penteli**	**78.69**	**322**	*e*P		**P**	**09 14 07.9**	**-1.3**
PTL	**Penteli**	**78.69**	**322**	P		**P**	**09 14 07.9**	**-1.3**
ARG	**Arkhangelos**	**78.71**	**318**	*e*P		**P**	**09 14 08.9**	**-0.5**
ARG	**Arkhangelos**	**78.71**	**318**	P		**P**	**09 14 08.6**	**-0.8**
NIS1	**Nisyros Isl.**	**78.73**	**319**	P		**P**	**09 14 08.1**	**-1.4**
FRF	**La Foret Royal**	**78.75**	**337**	⇓*i*P		**P**	**09 14 09.1**	**-0.3**
	comp=Z,2µm,1.0s,mb6.4							
ATH	**Athens Observa**	**78.81**	**322**	*e*P		**P**	**09 14 08.3**	**-1.6**
ATH	**Athens Observa**	**78.81**	**322**	P		**P**	**09 14 08.4**	**-1.5**
DSF	**Desfina**	**78.84**	**323**	P		**P**	**09 14 08.0**	**-2.0**
LASF	**Ste Croix**	**78.88**	**339**	⇓*i*P		**P**	**09 14 10.9**	**+0.8**
	comp=Z,2µm,1.0s,mb6.3							
VLY	**Voula,Athens**	**78.89**	**322**	*e*P		**P**	**09 14 08.5**	**-1.8**
VLY	**Voula,Athens**	**78.89**	**322**	P		**P**	**09 14 08.4**	**-1.9**
KMSC	**Kings Mountain**	**78.93**	**44**	⇑P		**P**	**09 14 09.9**	**-0.6**
	baz=79,SNR=142							
APE	**Apeiranthos**	**78.95**	**321**	*e*P		**P**	**09 14 08.8**	**-1.8**
APE	**Apeiranthos**	**78.95**	**321**	P		**P**	**09 14 08.3**	**-2.3**
APE	**Apeiranthos**	**78.95**	**321**	⇓P		**P**	**09 14 09.2**	**-1.4**
APE	**Apeiranthos**	**78.95**	**321**	⇓*i*P		**P**	**09 14 09.1**	**-1.5**
LMR	**La Mourre**	**78.99**	**337**	⇓*i*P		**P**	**09 14 10.7**	**-0.1**
	comp=Z,4µm,1.1s,mb6.6							
KALE	**Kalithea**	**79.00**	**324**	P		**P**	**09 14 09.1**	**-1.8**
LTK	**Loutraki**	**79.03**	**323**	*e*P		**P**	**09 14 08.8**	**-2.3**
LTK	**Loutraki**	**79.03**	**323**	P		**P**	**09 14 08.3**	**-2.3**
EFP	**Efpalio**	**79.05**	**324**	*e*P		**P**	**09 14 10.4**	**-0.7**
EFP	**Efpalio**	**79.05**	**324**	P		**P**	**09 14 09.6**	**-1.5**
LKD2	**Lefkada island**	**79.15**	**325**	P		**P**	**09 14 10.7**	**-1.0**
LAKA	**Lakka**	**79.19**	**324**	P		**P**	**09 14 10.7**	**-1.2**
UPR	**University Cam**	**79.22**	**324**	*e*P		**P**	**09 14 11.0**	**-1.0**
UPR	**University Cam**	**79.22**	**324**	P		**P**	**09 14 11.3**	**-0.7**
EIDS	**Eidsvold**	**79.31**	**183**	*e*P		**P**	**09 14 12.6**	**+0.1**
	comp=Z,2µm,1.7s,mb6.4							
EIDS				*e*pP		pP	09 16 00.0	-1.3
GUR	**Goura**	**79.33**	**323**	*e*P		**P**	**09 14 11.4**	**-1.3**
GUR	**Goura**	**79.33**	**323**	P		**P**	**09 14 10.9**	**-1.8**
HMDM	**Hanimaadhoo**	**79.34**	**267**	P		**P**	**09 14 13.8**	**+0.8**
	comp=Z,8µm,1.0s,mb7.2							
DID	**Didima**	**79.40**	**322**	*e*P		**P**	**09 14 10.3**	**-2.7**
DID	**Didima**	**79.40**	**322**	P		**P**	**09 14 09.5**	**-3.5**
RLS	**Rios of Patr**	**79.53**	**324**	*e*P		**P**	**09 14 13.2**	**-0.5**
AS31	**Alice Springs**	**79.53**	**199**	*e*P		**P**	**09 14 13.7**	**0.0**
ASAR	**Alice Springs**	**79.53**	**199**	P		**P**	**09 14 13.5**	**-0.2**
	comp=Z,364nm,0.7s,mb6.0,baz=12,slow=4.8,SNR=1771							
ASAR					pP	pP	09 16 02.7	0.0
	comp=Z,242nm,1.0s,baz=6.7,slow=4.4,SNR=3.0							
ASAR					S	S	09 23 36.7	+3.3
	comp=Z,58nm,1.1s,baz=356,slow=4.1,SNR=4.8							
ASAR					PKKP	PKKPbc	09 32 46.9	-8.9
	comp=Z,8.7nm,1.1s,baz=338,slow=0.7,SNR=4.2							
ASAR					PKPPKP		09 41 02.0	
	comp=Z,5.6nm,0.8s,baz=186,slow=1.4,SNR=4.9							
ASAR	**Alice Springs**	**79.53**	**199**	P		**P**	**09 14 13.5**	**-0.2**
ASAR				pP		pP	09 16 02.7	0.0
ASAR				S		S	09 23 36.7	+3.3
ASAR				PKKP		PKKPbc	09 32 46.9	-8.9
ASAR				PKPab			09 41 02.0	
ASAR	**Alice Springs**	**79.53**	**199**	P		**P**	**09 14 13.5**	**-0.2**
ASAR				*PP		pP	09 16 02.7	0.0
ASAR				S		S	09 23 36.7	+3.3
ASAR				pmax	pmax			
	comp=Z,364nm,0.7s							
ASAR				smax				
	comp=N,58nm,1.1s							
CUC	**Castrocucco**	**79.61**	**329**	*e*P		**P**	**09 14 13.0**	**-1.1**
	comp=N,986nm,1.9s,mb6.0							
CUC				*e*pP		pP	09 16 01.9	-1.0
KARP	**Karpathos**	**79.67**	**319**	P		**P**	**09 14 12.7**	**-1.8**
JSC	**Jenkinsville**	**79.70**	**44**	*e*P		**P**	**09 14 14.1**	**-0.5**
JSC	**Jenkinsville**	**79.70**	**44**	*e*P		**P**	**09 14 14.1**	**-0.6**
KFL	**Anninata**	**79.72**	**324**	P		**P**	**09 14 13.9**	**-0.8**
VLS	**Valsamata**	**79.72**	**325**	*e*P		**P**	**09 14 13.8**	**-0.9**
VLS	**Valsamata**	**79.72**	**325**	P		**P**	**09 14 13.7**	**-1.0**
VLX	**Vlachokerasia**	**79.83**	**323**	*e*P		**P**	**09 14 13.7**	**-1.6**
VLX	**Vlachokerasia**	**79.83**	**323**	P		**P**	**09 14 13.7**	**-1.6**
OSPF	**L'Ospedale**	**79.92**	**334**	*e*P		**P**	**09 14 15.5**	**-0.1**
OSPF	**L'Ospedale**	**79.92**	**334**	*e*P		**P**	**09 14 15.5**	**-0.1**
MTLF	**Montolieu**	**79.92**	**340**	⇓*i*P		**P**	**09 14 16.3**	**+0.6**
	comp=N,4µm,1.1s,mb6.6							
BRAL	**Brewton**	**80.03**	**50**	*e*P		**P**	**09 14 16.4**	**-0.1**
	comp=N,2µm,0.9s,mb6.6							
BRAL				*e*pP		pP	09 16 05.4	-0.1
ITM	**Ithomi**	**80.16**	**323**	*e*P		**P**	**09 14 15.6**	**-1.4**
ITM	**Ithomi**	**80.16**	**323**	P		**P**	**09 14 15.5**	**-1.5**
CNNC	**Cliffs of the**	**80.20**	**41**	*e*P		**P**	**09 14 17.1**	**-0.2**
	comp=N,3µm,1.4s,mb6.7							
CNNC				*e*pP		pP	09 16 06.1	-0.3
VLI	**Veliai**	**80.21**	**322**	*e*P		**P**	**09 14 15.2**	**-2.1**
VLI	**Veliai**	**80.21**	**322**	P		**P**	**09 14 14.4**	**-2.9**
LRDF	**Laroque-de-Fa**	**80.25**	**339**	*e*P		**P**	**09 14 18.7**	**+1.3**
LRDF	**Laroque-de-Fa**	**80.25**	**339**	*e*P		**P**	**09 14 18.7**	**+1.3**
PYL	**PYLOS**	**80.48**	**323**	*e*P		**P**	**09 14 16.9**	**-1.8**
PYL	**PYLOS**	**80.48**	**323**	P		**P**	**09 14 16.8**	**-1.9**
NPS	**Neapolis**	**80.51**	**320**	*e*P		**P**	**09 14 16.7**	**-2.2**
NPS	**Neapolis**	**80.51**	**320**	P		**P**	**09 14 16.6**	**-2.3**
MLS	**Moulis**	**80.52**	**340**	*e*P		**P**	**09 14 19.5**	**+0.7**
MLS	**Moulis**	**80.52**	**340**	*e*P		**P**	**09 14 19.5**	**+0.7**
CARF	**Carcanieres**	**80.55**	**340**	*e*P		**P**	**09 14 20.9**	**+2.0**
CARF	**Carcanieres**	**80.55**	**340**	*e*P		**P**	**09 14 20.9**	**+2.0**
KYTH	**Kithira**	**80.56**	**322**	P		**P**	**09 14 17.2**	**-1.9**
EPF	**Esparros**	**80.59**	**341**	⇓*i*P		**P**	**09 14 19.1**	**-0.1**
	comp=N,2µm,0.7s,mb6.5							
FILF	**Fillols**	**80.60**	**339**	*e*P		**P**	**09 14 20.6**	**+1.4**
FILF	**Fillols**	**80.60**	**339**	*e*P		**P**	**09 14 20.6**	**+1.4**
SJAF	**Saint Jean de**	**80.61**	**339**	*e*P		**P**	**09 14 19.6**	**+0.3**
SJAF	**Saint Jean de**	**80.61**	**339**	*e*P		**P**	**09 14 19.6**	**+0.3**
EJON	**La Jonquera**	**80.64**	**339**	P		**P**	**09 14 20.0**	**+0.6**
	comp=N,7µm,2.1s,mb6.8							
ORDF	**Ordiarp**	**80.66**	**342**	*e*P		**P**	**09 14 20.5**	**+1.0**
ORDF	**Ordiarp**	**80.66**	**342**	*e*P		**P**	**09 14 20.5**	**+1.0**
MELF	**Melles**	**80.67**	**341**	*e*P		**P**	**09 14 20.2**	**+0.7**
MELF	**Melles**	**80.67**	**341**	*e*P		**P**	**09 14 20.2**	**+0.7**
OSSF	**Osses**	**80.67**	**342**	*e*P		**P**	**09 14 20.6**	**+1.0**
OSSF	**Osses**	**80.67**	**342**	*e*P		**P**	**09 14 20.6**	**+1.0**
SALF	**Salau**	**80.69**	**340**	*e*P		**P**	**09 14 20.7**	**+1.0**
SALF	**Salau**	**80.69**	**340**	*e*P		**P**	**09 14 20.7**	**+1.0**
REYF	**Montagne du Re**	**80.69**	**341**	*e*P		**P**	**09 14 19.7**	**0.0**
REYF	**Montagne du Re**	**80.69**	**341**	*e*P		**P**	**09 14 19.7**	**0.0**
COW	**Cow Castle Cre**	**80.72**	**44**	*e*P		**P**	**09 14 20.2**	**+0.2**
ATE	**Arette**	**80.74**	**342**	*e*P		**P**	**09 14 21.4**	**+1.5**
ATE	**Arette**	**80.74**	**342**	*e*P		**P**	**09 14 21.4**	**+1.5**
MBWA	**Marble Bar**	**80.74**	**212**	*e*P		**P**	**09 14 18.8**	**-1.3**
	comp=N,2µm,2.0s,mb6.3							
MBWA				*e*pP		pP	09 16 09.5	0.0
MBWA	**Marble Bar**	**80.74**	**212**	P		**P**	**09 14 19.0**	**-1.1**
	comp=N,2µm,1.2s,mb6.4							
EALK	**Alkurruntz**	**80.75**	**342**	P		**P**	**09 14 20.3**	**+0.3**
	comp=N,7µm,2.0s,mb6.9							
VIEF	**Viey**	**80.80**	**341**	*e*P		**P**	**09 14 21.2**	**+1.0**
VIEF	**Viey**	**80.80**	**341**	*e*P		**P**	**09 14 21.2**	**+1.0**
CLLI	**Llivia**	**80.80**	**340**	P		**P**	**09 14 21.1**	**+0.9**
SJPF	**Ste Jean**	**80.81**	**342**	⇓*i*P		**P**	**09 14 20.3**	**0.0**
	comp=N,2µm,0.8s,mb6.4							
RESF	**Ens**	**80.81**	**341**	*e*P		**P**	**09 14 21.5**	**+1.2**
RESF	**Ens**	**80.81**	**341**	*e

PMOR ePP pP 09 16 27.2 -3.1
comp=Z,884nm,1.6s
ESDC Sonseca Array 84.63 343 P **P** **09 14 38.8 -0.8**
comp=Z,152nm,0.7s,mb5.8,baz=5.8,slow=4.3,SNR=218
ESDC pP pP 09 16 29.8 -0.3
comp=Z,273nm,0.9s,baz=4.2,slow=5.1,SNR=6.4
ESDC PKKPbc PKKPbc 09 32 51.8 +8.1
comp=Z,6.7nm,0.7s,baz=181,slow=1.5,SNR=7.2
ESDC Sonseca Array 84.63 343 P **P** **09 14 38.8 -0.8**
comp=Z,1μm,1.0s,mb6.5
ESDC pP pP 09 16 29.8 -0.3
ESDC PKKPbc PKKPbc 09 32 51.8 +8.1
ESLA Sonseca Array 84.63 343 *e*P **P** **09 14 39.5 0.0**
comp=Z,216nm,0.9s,mb5.8
PAB San Pablo 84.81 344 *e*P **P** **09 14 39.9 -0.6**
comp=Z,709nm,0.8s,mb6.3
PAB San Pablo 84.81 344 *e*P **P** **09 14 39.9 -0.6**
PAB pmax pmax
comp=Z,709nm,0.8s,mb6.3
RAR Rarotonga 84.84 138 *e*P **P** **09 14 39.5 -1.2**
comp=Z,930nm,1.5s,mb6.2
RAR Rarotonga 84.84 138 *e*P **P** **09 14 39.5 -1.2**
RAR pmax pmax
comp=Z,930nm,1.5s
EBEN Beniarda 84.88 340 P **P** **09 14 40.7 -0.1**
comp=Z,611nm,1.0s,mb6.2
DWPF Disney 85.00 47 *e*P **P** **09 14 42.4 +0.8**
comp=Z,279nm,0.8s,mb5.9
DWPF ePP pP 09 16 30.8 -1.4
PCBR Castelo Branco 85.01 346 *e*P **P** **09 14 40.8 -0.7**
comp=Z,1μm,1.3s,mb6.3
PCBR ePP pP 09 16 33.3 +1.2
CAEH 'Ain El Ouahch 85.12 334 P **P** **09 14 39.5 -2.5**
CMAH Djebel Manchou 85.12 334 P **P** **09 14 39.2 -2.9**
ETOB Tobarra 85.19 341 P **P** **09 14 42.1 -0.2**
comp=Z,943nm,0.9s,mb6.4
PTOM Tomar 85.36 347 *e*P **P** **09 14 42.5 -0.7**
comp=Z,1μm,1.1s,mb6.4
PTOM ePP pP 09 16 36.9 +3.0
EVIA Vianos 85.38 342 P **P** **09 14 43.2 -0.1**
comp=Z,333nm,0.7s,mb6.1
EVIA Vianos 85.38 342 P **P** **09 14 43.2 -0.1**
EVIA pmax pmax
comp=Z,333nm,0.7s,mb6.1
PMRV Marv??o 85.40 346 *e*P **P** **09 14 42.5 -0.9**
comp=Z,859nm,1.5s,mb6.2
PMRV *e*pP pP 09 16 36.9 +2.8
PMRV *e*S S 09 24 34.3 +2.6
PMRV *e*sS sS 09 27 59.8 +11
PMRV *e*LR LR 09 36 57.7
comp=Z,15μm,20.0s
ABSA Djebel Ababsia 85.44 334 P **P** **09 14 42.3 -1.3**
KEST Kesra 85.44 332 P **P** **09 14 43.5 -0.1**
comp=Z,299nm,0.6s,mb6.1,baz=321,slow=1.0,SNR=366
KEST S S 09 24 26.2 -6.0
comp=Z,9.3nm,1.0s,baz=229,slow=20,SNR=3.8
KEST Kesra 85.44 332 *e*P **P** **09 14 43.6 0.0**
KEST S S 09 24 26.2 -6.0
CKFL Kef-Lekhel 85.51 334 P **P** **09 14 41.9 -2.1**
CASM Ain Smara 85.70 334 P **P** **09 14 43.2 -1.7**
ALMR Almeirim 85.83 347 *e*P **P** **09 14 44.0 -1.5**
ALMR Almeirim 85.83 347 *e*P **P** **09 14 43.9 -1.6**
PMTG Montargil 85.87 346 *e*P **P** **09 14 44.7 -0.9**
comp=Z,865nm,1.6s,mb6.1
PMTG *e*pP pP 09 16 30.9 -5.7
PMTG *e*S S 09 24 35.6 -0.6
PMTG *e*sS sS 09 27 57.6 +3.8
PMTG *e*LR LR 09 36 47.9
comp=Z,9μm,20.0s
EMUR La Murta 85.91 341 P **P** **09 14 45.4 -0.5**
comp=Z,469nm,1.0s,mb6.1
PESTR Estremoz 85.98 346 *e*P **P** **09 14 45.0 -1.2**
comp=Z,925nm,1.7s,mb6.1
PESTR *e*pP pP 09 16 36.0 -1.1
PESTR Estremoz 85.98 346 *e*PP PP 09 18 20.7 +6.6
PESTR *e*S S 09 24 39.8 +2.6
PESTR *e*sS sS 09 28 06.3 +11
PESTR *e*LR LR 09 37 30.1
EBAD Badajoz 86.01 345 P **P** **09 14 45.4 -0.9**
comp=Z,274nm,1.5s,mb5.7
ABA Alger-Bouzarea 86.02 337 P **P** **09 14 45.3 -1.1**
PPT Papeete 86.02 127 *e*P **P** **09 14 47.7 +1.2**
comp=Z,869nm,1.2s,mb6.3
PPT *e*pP pP 09 16 35.0 -2.6
comp=Z,1μm,1.9s
PPT *e*S S 09 24 39.0 +1.1
comp=Z,150μm,26.5s
PPT Papeete 86.02 127 P **P** **09 14 45.5 -1.0**
comp=Z,168nm,0.8s,mb5.7,baz=350,slow=5.5,SNR=19
PPT S SKSac 09 24 29.1 +5.4
comp=Z,20nm,1.0s,baz=47,slow=20,SNR=1.8
PPT Papeete 86.02 127 P **P** **09 14 45.5 -1.0**
PPT S SKSac 09 24 29.1 +5.4
PPT Papeete 86.02 127 P **P** **09 14 45.5 -1.0**
PPT S SKSac 09 24 29.1 +5.4
PPT pmax pmax
comp=Z,168nm,0.8s
PPT smax
comp=N,20nm,1.0s
SET Setif 86.03 335 P **P** **09 14 47.0 +0.5**
PAE Paea 86.10 127 *e*P **P** **09 14 46.9 0.0**
comp=N,131nm,0.9s,mb5.5
PAE *e*pP pP 09 16 34.1 -3.9
comp=N,132nm,1.4s
TIAR Tiarei 86.12 127 *e*P **P** **09 14 47.0 0.0**
comp=N,1μm,1.0s,mb6.4
TIAR *e*pP pP 09 16 34.2 -3.9
comp=N,284nm,1.0s
PMAFR Mafra 86.12 347 *e*P **P** **09 14 46.0 -0.8**
comp=N,1μm,1.1s,mb6.5
PMAFR *e*pP pP 09 16 38.5 +0.7
PMAFR *e*S S 09 24 40.3 +1.7
PMAFR *e*sS sS 09 27 59.5 +3.1
PMAFR *e*LR LR 09 37 30.1
CKHR Kef el Ahmar 86.18 335 P **P** **09 14 44.7 -2.5**
EHUE Huescar 86.19 342 P **P** **09 14 46.6 -0.6**
comp=N,1μm,3.3s
EHUE Huescar 86.19 342 P **P** **09 14 46.6 -0.6**
EHUE pmax pmax
comp=Z,1μm,3.3s
EADA Adamuz 86.20 343 P **P** **09 14 47.1 -0.1**
comp=Z,513nm,0.9s,mb6.2
EQES Quesada 86.29 342 P **P** **09 14 47.0 -0.7**
comp=Z,603nm,1.2s,mb6.1
LIS Lisbon 86.34 347 *e*P **P** **09 14 46.7 -1.1**
LIS *e*S SKSac 09 24 26.5 +0.9
LIS *e*S SKSac 09 24 26.5 +0.9
LIS AMS AMS 09 28 53.6
comp=E,31μm,15.5s
LIS Lisbon 86.34 347 *e*P **P** **09 14 46.7 -1.2**
LIS *e*S SKSac 09 24 26.4 +0.8
EVO Evora 86.37 346 *i*P **P** **09 14 46.7 -1.3**
comp=E,704nm,0.9s,mb6.0
EVO *e*R
comp=E,18μm,22.0s
EVO Evora 86.37 346 *e*P **P** **09 14 46.8 -1.2**
comp=E,813nm,1.8s,mb6.0
EVO *e*pP pP 09 16 39.7 +0.6
EVO Evora 86.37 346 *e*PP PP 09 18 21.1 +3.9
STKA Stephens Creek 86.44 191 P **P** **09 14 47.7 -0.5**
comp=E,95nm,0.8s,mb5.5,baz=350,slow=6.2,SNR=59
STKA S SKSac 09 24 28.2 +2.6
comp=E,46nm,1.2s,baz=233,slow=23,SNR=6.3
STKA PKKPbc PKKPbc 09 32 39.8 -0.4
comp=E,15nm,0.8s,baz=194,slow=3.4,SNR=5.1
STKA SKKPbc 09 35 44.5
comp=E,12nm,0.9s,baz=294,slow=1.4,SNR=3.2
STKA PKPPKP 09 40 52.6
comp=E,18nm,1.1s,baz=326,slow=1.8,SNR=5.4
STKA Stephens Creek 86.44 191 *e*P **P** **09 14 47.6 -0.6**
comp=E,72nm,0.8s,mb5.4
STKA *e* 09 14 55.8
STKA *e*pP pP 09 16 47.9 +8.4
STKA *e*SKS 09 24 25.5
STKA *e*S S 09 24 46.1 +4.8
STKA *e*SP 09 25 55.0
STKA *e*sS sS 09 28 03.3 +3.6
STKA *e*PKKP PKKPbc 09 32 40.0 -0.1
STKA *e*PKPPKP 09 40 39.7
STKA *e* 09 43 19.7
STKA Stephens Creek 86.44 191 *e*P **P** **09 14 48.0 -0.2**
STKA *e*pP pP 09 16 37.8 -1.6
STKA S S 09 24 28.2 -13
STKA PKKPbc PKKPbc 09 32 39.8 -0.4
STKA SKKPbc 09 35 44.5
STKA PKPab 09 40 52.6
STKA Stephens Creek 86.44 191 P **P** **09 14 47.7 -0.5**
STKA S S 09 24 28.2 -13
STKA pmax pmax
comp=Z,95nm,0.8s
STKA smax
comp=N,46nm,1.2s
RAO Raoul Island 86.53 156 *e*P **P** **09 14 47.7 -0.9**
RAO Raoul Island 86.53 156 *e*P **P** **09 14 47.7 -0.9**
PBAR Barrancos 86.58 345 *e*P **P** **09 14 48.0 -1.0**
comp=N,1μm,1.4s,mb6.5
PBAR *e*pP pP 09 16 37.7 -2.5
PBAR Barrancos 86.58 345 *e*PP PP 09 18 20.6 +1.7
PBAR *e*S S 09 24 46.6 +3.7
PBAR *e*sS sS 09 28 10.6 +10
PBAR *e*LR LR 09 37 37.7
EMHD Djebel Mahouad 86.61 337 P **P** **09 14 49.6 +0.4**
ELUQ Luque 86.74 343 P **P** **09 14 49.1 -0.7**
comp=N,1μm,4.0s
ELUQ Luque 86.74 343 P **P** **09 14 49.1 -0.7**
ELUQ pmax pmax
comp=Z,1μm,4.0s
EBNR Beni Rached 86.84 338 P **P** **09 14 51.6 +1.3**
PBEJ Beja 86.84 346 *e*P **P** **09 14 49.3 -1.0**
comp=Z,1μm,1.5s,mb6.3
PBEJ *e*pP pP 09 16 36.8 -4.7
PNCL Nicolau / Gran 86.85 347 *e*P **P** **09 14 49.6 -0.7**
comp=Z,508nm,1.7s,mb6.0
PNCL *e*pP pP 09 16 35.1 -6.5
PNCL Nicolau / Gran 86.85 347 *e*PP PP 09 18 25.9 +4.8
PNCL *e*S S 09 24 49.1 +3.6
PNCL *e*sS sS 09 28 04.7 +1.0
PNCL *e*LR LR 09 37 58.0
ECOG Cogollos-Vega 86.89 342 P **P** **09 14 49.4 -1.1**
comp=Z,192nm,0.6s,mb6.0
ECOG Cogollos-Vega 86.89 342 P **P** **09 14 49.4 -1.1**
ECOG pmax pmax
comp=Z,192nm,0.6s,mb6.0
EMIN Mina Concepcio 86.92 345 P **P** **09 14 49.5 -1.1**
comp=Z,1μm,1.0s,mb6.5
ENIJ Nijar 86.94 341 P **P** **09 14 49.2 -1.5**
comp=Z,494nm,0.8s,mb6.3
ENIJ Nijar 86.94 341 P **P** **09 14 49.2 -1.5**
ENIJ pmax pmax
comp=Z,494nm,0.8s,mb6.3
MEH Mehetia 87.00 126 *e*P **P** **09 14 51.4 +0.3**
comp=Z,2μm,1.2s,mb6.7
MEH *e*pP pP 09 16 38.7 -3.8
comp=Z,487nm,1.2s
ECHA Ech Chlef 87.01 338 P **P** **09 14 54.4 +3.3**
MUKL Al Mukalla 87.06 291⇑ *e*P **P** **09 14 51.2 -0.4**
ELOJ Sierra Loja 87.12 343 P **P** **09 14 50.7 -0.8**
comp=Z,184nm,0.7s,mb5.9
ELOJ Sierra Loja 87.12 343 P **P** **09 14 50.7 -0.9**
ELOJ pmax pmax
comp=Z,184nm,0.7s,mb5.9
EBER Berja 87.14 342 P **P** **09 14 50.4 -1.2**
comp=Z,901nm,1.6s,mb6.2
ERON Agron 87.19 343 P **P** **09 14 50.8 -1.1**
comp=Z,174nm,0.6s,mb6.0
PCVE Castro Verde 87.26 346 *e*P **P** **09 14 51.2 -1.0**
comp=Z,1μm,1.1s,mb6.6
PCVE *e*pP pP 09 16 38.6 -5.0
PCVE Castro Verde 87.26 346 *e*PP PP 09 18 30.6 +6.3
PCVE *e*S S 09 24 53.4 +4.1
PCVE *e*sS sS 09 28 18.8 +11
PCVE *e*LR LR 09 37 58.1
EANR 'Ain N'Sour 87.26 339 P **P** **09 14 52.0 -0.3**
EGRO El Granado 87.27 346 P **P** **09 14 51.2 -1.0**
comp=Z,903nm,1.2s,mb6.4
OKGL Djebel Kef Gue 87.28 339 P **P** **09 15 00.0 +7.7**
EGUA Guajares 87.32 342 P **P** **09 14 51.2 -1.4**
comp=Z,533nm,1.8s,mb6.0
EGUA Guajares 87.32 342 P **P** **09 14 51.2 -1.3**
EGUA pmax pmax
comp=Z,533nm,1.8s,mb6.0
ROSA Rosais 87.41 2 *e*P **P** **09 14 55.1 +2.2**
BBSR BB Station 87.42 32 *e*P **P** **09 14 53.5 +0.4**
comp=Z,1μm,0.9s,mb6.6
PVAQ Vaqueiros 87.44 346 *e*P **P** **09 14 52.3 -0.8**
comp=Z,980nm,1.3s,mb6.4
PVAQ *e*pP pP 09 16 38.5 -6.0
PVAQ Vaqueiros 87.44 346 *e*PP PP 09 18 32.8 +7.1
PVAQ *e*S S 09 24 51.1 +0.1
PVAQ *e*sS sS 09 28 20.4 +11
PVAQ *e*LR LR 09 38 07.5
PTEO Sao Teotonio 87.44 347 *e*P **P** **09 14 52.0 -1.1**
comp=Z,1μm,2.0s,mb6.2
PTEO *e*pP pP 09 16 40.6 -3.9
PTEO Sao Teotonio 87.44 347 *e*PP PP 09 18 25.9 +0.2
ADH Angra Heroismo 87.49 1 *e*P **P** **09 14 56.5 +3.2**
comp=Z,212nm,1.0s,mb5.8
PCED Cedros 87.49 2 *e*P **P** **09 14 54.5 +1.2**
comp=Z,83nm,0.5s,mb5.7
PMAN Manadas 87.50 2 *e*P **P** **09 14 55.1 +1.8**
comp=Z,721nm,0.9s,mb6.4
CALA Caldeira 87.53 2 *e*P **P** **09 14 54.8 +1.3**
PICO Pico 87.62 2 *e*P **P** **09 14 55.4 +1.5**
PBDV Barranco-do-Ve 87.62 346 *e*P **P** **09 14 53.4 -0.5**
comp=Z,995nm,1.6s,mb6.3
PBDV *e*pP pP 09 16 39.4 -6.0
PBDV *e*S S 09 24 55.2 +2.5
PBDV *e*sS sS 09 28 22.8 +11
PBDV *e*LR LR 09 37 58.1
FORT Forrest 87.64 202 *e*P **P** **09 14 52.6 -1.2**
comp=Z,600nm,0.6s,mb6.5
FORT *e* 09 15 01.2
FORT *e*pP pP 09 16 54.5 +9.0
FORT *e*S SKSac 09 24 34.7 +1.8
FORT *e*PKKP PKKPbc 09 32 39.5 +2.4
FORT *e*PKPPKP 09 40 42.0
FORT *e* 09 43 25.2
FORT Forrest 87.64 202 *e*P **P** **09 14 53.0 -0.8**
comp=Z,2μm,0.9s,mb6.9
PCAN Candelaria 87.66 2 *e*P **P** **09 14 54.5 +0.4**
comp=Z,184nm,0.8s,mb5.9
MORF Marmelete 87.66 346 *e*P **P** **09 14 52.7 -1.4**
MORF *e*S SKSac 09 24 31.9 -1.6
MORF Marmelete 87.66 346 *e*P **P** **09 14 53.2 -0.9**
comp=Z,1μm,1.4s,mb6.5
MORF *e*pP pP 09 16 40.5 -5.1
MORF Marmelete 87.66 346 *e*PP PP 09 18 34.1 +6.6
MORF *e*S S 09 24 53.9 +0.8
MORF *e*sS sS 09 28 23.9 +12
MORF *e*LR LR 09 38 15.5
ESPR Espera 87.68 344 P **P** **09 14 53.5 -0.7**
comp=Z,1μm,1.2s,mb6.6
PID Ribeirinha 87.69 2 *e*P **P** **09 14 59.9 +5.7**
RIV Riverview 87.73 183 *e*P **P** **09 14 56.1 +1.9**
RIV *e*pP pP 09 16 54.6 +8.7
RIV *e*S S 09 25 01.2 +7.9
ETRT Tiaret 87.76 338 P **P** **09 14 54.6 0.0**
OJGS Djebel Guires 87.77 339 P **P** **09 15 02.0 +7.4**
OJBR Djebel Berber 87.78 339 P **P** **09 15 03.0 +8.3**
EMIJ Mijas 87.80 343 P **P** **09 14 53.5 -1.3**
comp=Z,708nm,1.4s,mb6.2
USTO Oran 87.82 340 P **P** **09 15 01.0 +6.1**
PFVI Vila Bisbo 87.86 347 P **P** **09 14 54.2 -0.8**
PFVI Vila Bisbo 87.86 347 *e*P **P** **09 14 54.1 -0.9**
comp=Z,980nm,1.6s,mb6.3
PFVI *e*pP pP 09 16 41.9 -4.7
PFVI Vila Bisbo 87.86 347 *e*PP PP 09 18 35.3 +6.3
PFVI *e*S S 09 24 56.5 +1.6
PFVI *e*sS sS 09 28 09.7 -4.0
PFVI Vila Bisbo 87.86 347 *e*LR LR 09 38 23.5
CMIG Matias Romero 87.89 63 S SKSac 09 24 39.8 +4.4
comp=Z,5.2nm,0.8s,baz=232,slow=23,SNR=13
CMIG PKPPKP 09 40 48.7
comp=Z,10nm,1.1s,baz=108,slow=4.4,SNR=3.9
EJIF Jimena Fronter 88.02 344 P **P** **09 14 55.3 -0.5**
comp=Z,331nm,1.1s,mb6.0
EJIF Jimena Fronter 88.02 344 P **P** **09 14 55.3 -0.5**
EJIF pmax pmax
comp=Z,331nm,1.1s,mb6.0
BBOO Buckleboo 88.09 195 *e*P **P** **09 14 54.8 -1.1**
comp=Z,8μm,1.2s,mb7.3
BBOO *e*pP pP 09 16 45.4 -2.3
EALB Alboran 88.10 342 P **P** **09 14 55.2 -1.0**
comp=Z,620nm,1.3s,mb6.2
ODJA Bouhanifia 88.12 339 P **P** **09 15 02.0 +5.7**
SFS San Fernando 88.13 344 *e*P **P** **09 14 56.3 0.0**
comp=Z,738nm,0.8s,mb6.5
SFS San Fernando 88.13 344 *e*P **P** **09 14 56.3 0.0**
SFS pmax pmax
comp=Z,738nm,0.8s,mb6.5
PSET Sete Cidades 88.33 0 *e*P **P** **09 14 56.4 -0.8**
comp=Z,46nm,0.7s,mb5.3
BART Pico Bartolome 88.37 360 *e*P **P** **09 14 53.2 -4.2**
comp=Z,212nm,1.0s,mb5.8
ODZI Dziouia 88.38 340 P **P** **09 14 56.0 -1.5**
PDA Ponta Delgada 88.40 360 *e*P **P** **09 14 59.2 +1.6**
comp=Z,214nm,0.7s,mb6.0
OLHC Oulhaca 88.46 340 P **P** **09 14 57.0 -0.9**
TEIG Tepich 88.62 56 *e*P **P** **09 14 59.1 +0.2**
comp=Z,322nm,1.1s,mb6.1
TEIG *e*pP pP 09 16 49.6 -1.1
SANA San'a 88.92 295‖ *e*P **P** **09 15 00.2 -0.1**
HAJJ Hajjah 88.98 296‖ *e*P **P** **09 15 00.4 -0.1**
PSMN Pico do Norte, 89.14 359 *e*P **P** **09 15 00.0 -1.0**
PSMA Santa Maria 89.15 360 *e*P **P** **09 15 00.8 -0.3**
comp=Z,163nm,0.9s,mb5.9
CNB Canberra Magne 89.27 184 *e*P **P** **09 15 02.6 +1.3**
comp=Z,210nm,1.5s,mb5.8
CNB *e* 09 15 08.0
CNB *e*pP pP 09 17 03.3 +10
CNB *e*SKS 09 24 46.2
CNB *e*SCS ScS 09 25 18.9 +8.5
CNB *e*PKKP PKKPbc 09 32 36.0 +2.7
CAN Canberra 89.29 184 *e*P **P** **09 15 02.1 +0.7**
comp=Z,268nm,1.0s,mb6.0
CAN *e*pP pP 09 16 51.3 -2.2
CAN Canberra 89.29 184 *e*P **P** **09 15 02.1 +0.7**
CAN *e**PP pP 09 16 51.3 -2.2
CAN pmax pmax
comp=Z,268nm,1.0s,mb6.0
BDHA Al Bayda' 89.36 293‖ *e*P **P** **09 15 02.2 -0.1**
DHBB Dhamar BB 89.50 294‖ *e*P **P** **09 15 03.0 0.0**
DHBB AMb AMB 09 15 05.5
comp=Z,1μm,1.9s,mb6.5
LBOS 89.62 293‖ *e*P **P** **09 15 03.5 0.0**
OUZ Omahuta 90.62 164 *e*P **P** **09 15 08.1 +0.5**
comp=Z,714nm,1.7s,mb6.3
OUZ *e*pP pP 09 16 58.0 -1.9
TBI Tubuai 91.09 130 *e*P **P** **09 15 11.2 +1.2**
comp=Z,842nm,1.0s,mb6.6
TBI *e*pP pP 09 17 00.2 -2.1
comp=Z,2μm,1.7s
TBI *e*SKSac SKSac 09 24 56.3 +3.1
comp=Z,41μm,25.8s
KLBR Kellerberrin 91.10 211 *e*P **P** **09 15 07.7 -2.2**
comp=Z,98nm,0.7s,mb5.8
KLBR *e* 09 15 15.9
KLBR *e*pP pP 09 17 12.7 +11
KLBR *e*S SKSac 09 24 54.3 +1.4
KLBR *e*PKKP PKKPbc 09 32 29.5 +1.0
KLBR *e*PKPPKP 09 40 46.3
DGAR Diego Garcia 91.21 259 *e*P **P** **09 15 10.5 -0.4**
comp=Z,1μm,1.1s,mb6.8
DGAR Diego Garcia 91.21 259 P **P** **09 15 10.3 -0.5**
comp=Z,6μm,0.9s,mb7.5,SNR=5.2
DGAR Diego Garcia 91.21 259 *e*P **P** **09 15 10.5 -0.3**
DGAR pmax pmax
comp=Z,1μm,1.1s,mb6.8
TOO Toolangi 91.74 187 *e*P **P** **09 15 13.7 +1.1**
comp=Z,554nm,1.6s,mb6.2
TOO *e* 09 15 20.8
TOO *e*pP pP 09 17 16.3 +11
TOO *e*SKS 09 25 00.3
TOO *e*S S 09 25 39.4 +10
TOO *e*PKKP PKKPbc 09 32 29.9 +2.7
NWAO Narrogin (SRO) 92.51 210 P **P** **09 15 15.6 -0.7**
comp=Z,38nm,0.6s,mb5.6,baz=26,slow=4.0,SNR=42
NWAO S SKSac 09 25 06.5 +6.0
comp=Z,15nm,0.9s,baz=186,slow=20,SNR=9.0
NWAO Narrogin (SRO) 92.51 210 *e*P **P** **09 15 15.5 -0.8**
comp=Z,293nm,1.1s,mb6.2
NWAO *e*pP pP 09 17 05.9 -2.8
NWAO S SKSac 09 25 06.5 +6.0
NWAO Narrogin (SRO) 92.51 210 *e*P **P** **09 15 15.5 -0.8**
NWAO *e**PP pP 09 17 05.9 -2.8
NWAO S SKSac 09 25 06.6 +6.0
NWAO pmax pmax
comp=Z,293nm,1.1s
PMOZ Porto Moniz, M 93.00 353 *e*LQ 09 35 17.6
PMOZ *e*LR LR 09 39 16.9
comp=Z,7μm,20.0s
URZ Urewera 94.19 162 P **P** **09 15 24.0 +0.1**
comp=Z,32nm,0.8s,mb5.4,baz=215,slow=5.2,SNR=6.3
URZ S SKSac 09 25 12.5 +3.1
comp=Z,32nm,0.9s,baz=105,slow=21,SNR=13
URZ Urewera 94.19 162 *e*P **P** **09 15 24.3 +0.5**
URZ S SKSac 09 25 12.5 +3.1
TGUH Tegucigalpa,Un 94.36 59 *e*P **P** **09 15 25.9 +0.5**
comp=Z,200nm,1.0s,mb6.1
TGUH *e*pP pP 09 17 17.1 -0.6
EFAM Famara 96.33 349 P **P** **09 15 32.5 -1.6**
comp=Z,669nm,1.5s,mb6.5
MOO Moorlands 96.48 185 *e*P **P** **09 15 40.5 +6.4**
comp=Z,360nm,1.3s,mb6.3
MOO *e*pP pP 09 17 35.5 +8.7
MOO *e*SKS 09 25 22.1
MOO *e*S S 09 26 14.4 +4.4
MOO *e*PKKP PKKPbc 09 32 14.1 -0.8
EBAJ Bajamar 97.19 352 P **P** **09 15 36.2 -1.7**
comp=Z,297nm,1.0s,mb6.5
FURI Furi 97.27 296 *i* P **P** **09 15 38.9 +0.4**
FURI S SKSac 09 25 31.0 +4.3
EHIG Higuera 97.28 353 P **P** **09 15 36.7 -1.6**
comp=Z,879nm,1.3s,mb6.8
SDDR Presa de Saban 97.31 43 *e*P **P** **09 15 38.0 -0.6**
comp=Z,62nm,0.7s,mb6.0
CCAN Las Canadas 97.53 352 P **P** **09 15 38.4 -1.0**
comp=Z,59nm,0.7s,mb6.0
EGOM La Gomera 97.64 352 P **P** **09 15 38.5 -1.4**
comp=Z,226nm,1.0s,mb6.5
RKT Rikitea 97.91 119 *e*P Pdif 09 15 41.6 +0.4
comp=Z,225nm,1.3s
RKT *e*SKSac SKSac 09 25 32.2 +2.9
comp=Z,57μm,28.9s
RKT *e*SP SP 09 27 57.6 +5.9
comp=Z,32μm,34.8s
CHIE El Hierro 98.12 353 P Pdif 09 15 40.8 -1.4
comp=Z,53nm,0.8s
RPZ Rata Peaks 98.61 168 S SKSac 09 25 34.8 +3.1
comp=Z,326nm,1.3s,baz=155,slow=22,SNR=12
TAM Tamanrasset 98.72 331 *e*Pdif Pdif 09 15 44.4 -0.4
comp=Z,90nm,0.9s
TAM Tamanrasset 98.72 331 *e*P Pdif 09 15 44.4 -0.4
TAM pmax pmax
comp=Z,90nm,0.9s,mb6.1
JTS JuntasAbangare 98.74 59 S SKSac 09 25 38.6 +4.5
comp=Z,20nm,1.1s,baz=160,slow=23,SNR=11
MSEY Mahe Island 98.93 274 *e*Pdif Pdif 09 15 45.8 +0.1
comp=Z,391nm,1.0s
MSEY Mahe Island 98.93 274 *e*P Pdif 09 15 45.8 +0.1
MSEY pmax pmax
comp=Z,391nm,1.0s,mb6.7
LRS Lares 99.66 39 *e*Pdif Pdif 09 15 50.5 +1.6
LSP Las Mesas 99.67 40 *e*Pdif Pdif 09 15 50.5 +1.5
CRPR Cabo Rojo, PR 99.82 40 *e*Pdif Pdif 09 15 50.5 +0.8
comp=Z,31nm,0.8s
CELP Cerrillos 99.95 39 *e*Pdif Pdif 09 15 51.4 +1.1
OBIP Obispado Ponce 99.97 39 *e*Pdif Pdif 09 15 51.3 +0.9
comp=Z,97nm,1.0s
MTP Monte Pirata 100.31 38 *e*Pdif Pdif 09 15 52.4 +0.5
comp=Z,115nm,0.9s
FDF Fort de France 104.97 36 *e*P PKiKP 09 20 23.7 -0.7
BIM Bigot 105.20 36 *e*P PKiKP 09 20 34.5 +10
KMBO Kilima Mbogo 106.42 292 *e*Pdif Pdif 09 16 19.6 +0.6
comp=Z,36nm,1.0s
KMBO Kilima Mbogo 106.42 292 *e*P Pdif 09 16 19.6 +0.6
KMBO pmax pmax
comp=Z,36nm,1.0s
SDV Santo Domingo 106.66 47 *e*Pdif Pdif 09 16 20.5 +0.4
comp=Z,15nm,0.6s
TORD Torodi Ar. Bea 108.96 332 Pdiff Pdif 09 16 29.1 -1.3
comp=Z,3.3nm,0.6s,baz=11,slow=4.4,SNR=22
TORD PKiKP PKiKP 09 20 30.9 -0.9
comp=Z,24nm,0.5s,baz=22,slow=1.8,SNR=30
TORD PKKPbc PKKPbc 09 31 38.3 0.0
comp=Z,9.5nm,0.3s,baz=191,slow=2.3,SNR=79
TORD Torodi Ar. Bea 108.96 332 Pdif Pdif 09 16 29.1 -1.3
TORD PKiKP PKiKP 09 20 30.9 -0.9
TORD PKKPbc PKKPbc 09 31 38.3 0.0
RER Riviere de l'E 111.83 264 *e*PKPdf PKiKP 09 20 38.9 +2.0
ABPO Ambohimpanom 115.16 272 *e*Pdif Pdif 09 17 00.1 +2.2
ABPO Ambohimpanom 115.16 272 *e*P Pdif 09 17 00.1 +2.2
DBIC Dimbokro 116.86 337 PKP PKPdf 09 20 46.0 -1.0
comp=Z,63nm,0.6s,baz=358,slow=1.6,SNR=18

DBIC					SKP			09 23 41.4	
	comp=Z,97nm,0.7s,baz=311,slow=1.4,SNR=4.2								
DBIC					PKKPbc	PKKPbc		09 31 18.4	+6.0
	comp=Z,49nm,1.0s,baz=176,slow=4.7,SNR=7.7								
DBIC	**Dimbokro**	**116.86**	**337**		Pdif	Pdif		09 17 03.8	-1.6
DBIC					PKP	PKPdf		09 20 46.0	-1.0
DBIC					SKP			09 23 41.4	
DBIC					PKKPbc	PKKPbc		09 31 18.4	+6.0
DBIC	**Dimbokro**	**116.86**	**337**		P	Pdif		09 17 03.8	-1.6
DBIC								09 20 46.0	
ATAH	**Atahualpa**	**116.94**	**62**		SKP	SKPdf		09 23 37.6	+3.5
	comp=Z,95nm,1.1s,baz=91,slow=3.2,SNR=2.4								
ATAH					PKKPbc	PKKPbc		09 31 18.8	+7.1
	comp=Z,17nm,0.7s,baz=166,slow=9.3,SNR=6.6								
MSKU	**Masuku**	**118.51**	**314**		PKP	PKPdf		09 20 50.2	+0.1
	comp=Z,68nm,0.8s,baz=357,slow=3.2,SNR=8.9								
MSKU					PKKPbc	PKKPbc		09 31 12.2	+5.8
	comp=Z,108nm,0.8s,baz=214,slow=2.1,SNR=9.7								
MSKU	**Masuku**	**118.51**	**314**		PKP	PKPdf		09 20 50.2	+0.1
MSKU					PKKPbc	PKKPbc		09 31 12.2	+5.8
DRV	**Dumont d'Urvil**	**121.04**	**187**		PP	PP		09 22 35.0	+2.4
DRV					SKS	SKSdf		09 27 07.0	-9.2
DRV					SKKS	SKKSac		09 28 37.0	-0.6
DRV					SP	SP		09 31 28.0	-5.1
DRV					SS	SS		09 38 31.0	+5.4
NNA	**Nana**	**121.84**	**64**		SKP			09 23 45.5	
	baz=266,slow=2.8								
NNA					PKKPbc	PKKPbc		09 30 57.9	+3.7
	comp=Z,73nm,1.0s,baz=200,slow=4.1,SNR=7.0								
NNA	**Nana**	**121.84**	**64**	*i*	PKIKP	PKPdf		09 20 58.0	+1.6
CASY	**Casey**	**124.65**	**200**	*e*	PKPdf	PKPdf		09 20 59.9	-0.2
PAF	**Port-aux-Franc**	**124.94**	**233**	*e*	PKPdf	PKPdf		09 21 02.6	+1.4
PAF	**Port-aux-Franc**	**124.94**	**233**	*e*	PKIKP	PKPdf		09 21 02.6	+1.4
MIR	**Mirnyy**	**128.96**	**207**	*e*	PKIKP	PKPdf		09 21 08.0	-0.4
MIR				*i*	*P			09 21 24.0	
MIR				*e*				09 23 49.0	
MIR				*e*	S	SKKSac		09 29 50.0	+22
MIR				*e*	*S			10 19 33.0	
MIR				*e*	SS			10 34 30.0	
MIR					pmax	pmax			
	comp=Z,1μm,1.6s								
MIR					pmax	pmax			
	comp=Z,2μm,7.0s								
MIR					smax				
	comp=N,3μm,16.0s								
MIR					smax				
	comp=E,2μm,12.0s								
MIR					MLR	MLR			
	comp=N,11μm,18.0s								
MIR					MLR	MLR			
	comp=E,22μm,18.0s								
MIR					MLR	MLR			
	comp=Z,62μm,18.0s								
LPAZ	**La Paz**	**129.94**	**58**		PKP	PKPdf		09 21 12.0	+0.2
	comp=Z,50nm,0.8s,baz=12,slow=4.6,SNR=18								
LPAZ					SKPbc	SKPbc		09 23 53.1	+6.2
	comp=Z,125nm,0.9s,baz=357,slow=5.3,SNR=8.5								
LPAZ	**La Paz**	**129.94**	**58**	*e*	PKPdf	PKPdf		09 21 10.7	-1.1
LPAZ					PKP	PKPdf		09 21 12.0	+0.2
LPAZ					SKPbc	SKPbc		09 23 53.1	+6.2
LPAZ	**La Paz**	**129.94**	**58**	*e*	PKIKP	PKPdf		09 21 10.7	-1.1
RCBR	**Riachuelo**	**131.05**	**14**		SKKPbc			09 33 30.3	
	comp=Z,66nm,1.0s,baz=157,slow=4.6,SNR=8.2								
RCBR	**Riachuelo**	**131.05**	**14**	*e*	PKPdf	PKPdf		09 21 14.9	+0.8
RCBR					SKKPbc			09 33 30.3	
VNDA	**Vanda**	**131.56**	**178**		PKP	PKPdf		09 21 12.4	-0.7
	comp=Z,17nm,0.7s,baz=317,slow=4.9,SNR=21								
VNDA					SKPbc	SKPbc		09 23 53.8	+2.9
	comp=Z,142nm,1.0s,baz=330,slow=3.9,SNR=8.7								
VNDA	**Vanda**	**131.56**	**178**		PKP	PKPdf		09 21 12.4	-0.7
VNDA				*e*	PKPdf	PKPdf		09 21 13.0	-0.1
VNDA					SKPbc	SKPbc		09 23 53.8	+2.9
VNDA	**Vanda**	**131.56**	**178**		PKIKP	PKPdf		09 21 12.4	-0.7
VNDA					pmax	pmax			
	comp=Z,17nm,0.7s								
VNDA					pmax	pmax			
	comp=N,142nm,1.0s								
TSUM	**Tsumeb**	**131.96**	**299**	*e*	PKPdf	PKPdf		09 21 09.4	-6.2
SBA	**Scott Base**	**132.03**	**176**	*e*	PKPdf	PKPdf		09 21 15.3	+1.3
SBA	**Scott Base**	**132.03**	**176**	*e*	PKIKP	PKPdf		09 21 15.3	+1.3
LBTB	**Lobatse**	**132.34**	**287**		PKHKP	PKPpre		09 21 08.0	
	comp=N,64nm,0.9s,baz=40,slow=1.7,SNR=11								
LBTB					PKP	PKPdf		09 21 15.1	-1.0
	comp=N,46nm,0.5s,baz=84,slow=1.5,SNR=8.4								
LBTB					SKPbc	SKPbc		09 24 00.6	+5.4
	comp=N,527nm,0.9s,baz=68,slow=8.2,SNR=9.8								
LBTB					SKKPbc			09 33 22.1	
	comp=N,26nm,0.9s,baz=187,slow=2.7,SNR=5.2								
LBTB	**Lobatse**	**132.34**	**287**		PKPpre	PKPpre		09 21 08.0	
LBTB				*e*	PKPdf	PKPpre		09 21 08.8	
LBTB					PKP	PKPdf		09 21 15.1	-1.0
LBTB					SKPbc	SKPbc		09 24 00.6	+5.4
LBTB					SKKPbc			09 33 22.1	
LBTB	**Lobatse**	**132.34**	**287**		PKIKP	PKPpre		09 21 08.0	
LBTB								09 24 00.6	
LBTB					pmax	pmax			
	comp=Z,64nm,0.9s								
BOSA	**Boshof**	**135.30**	**284**		PKhKP	PKPpre		09 21 11.9	
	comp=Z,15nm,0.5s,baz=30,slow=3.6,SNR=12								
BOSA					SKPbc	SKPbc		09 24 08.8	+4.0
	comp=Z,323nm,0.9s,baz=44,slow=3.6,SNR=8.8								
BOSA					SKKPbc			09 33 16.3	
	comp=Z,69nm,1.2s,baz=176,slow=1.3,SNR=5.4								
BOSA	**Boshof**	**135.30**	**284**	*e*	PKPdf	PKPdf		09 21 18.1	-3.4
BOSA					SKPbc	SKPbc		09 24 08.8	+4.0
BOSA					SKKPbc			09 33 16.3	
BOSA	**Boshof**	**135.30**	**284**		PKHKP	PKPpre		09 21 11.9	
BOSA								09 24 08.8	
BOSA					pmax	pmax			
	comp=Z,15nm,0.5s								
BOSA					pmax	pmax			
	comp=N,323nm,0.9s								
MAW	**Mawson**	**138.87**	**216**		PKhKP	PKPpre		09 21 18.7	
	comp=N,22nm,0.6s,baz=41,slow=2.6,SNR=33								
MAW					PKP	PKPdf		09 21 27.0	+0.2
	comp=N,100nm,0.7s,baz=100,slow=6.7,SNR=34								
MAW					SKPbc	SKPbc		09 24 20.1	+6.4
	comp=N,1μm,1.0s,baz=2.1,slow=4.3,SNR=20								
MAW					SKKPbc			09 32 58.7	
	comp=N,34nm,1.0s,baz=265,slow=11,SNR=5.8								
MAW	**Mawson**	**138.87**	**216**		PKPpre	PKPpre		09 21 18.7	
MAW				*e*	PKPdf	PKPdf		09 21 25.4	-1.5
MAW					PKP	PKPdf		09 21 27.0	+0.2
MAW					SKPbc	SKPbc		09 24 20.1	+6.4
MAW					SKKPbc			09 32 58.7	
MAW	**Mawson**	**138.87**	**216**		PKHKP	PKPpre		09 21 18.7	
MAW								09 21 27.0	
MAW								09 24 20.1	
MAW					pmax	pmax			
	comp=Z,22nm,0.6s								
TLL	**Tololo Astrono**	**139.79**	**72**	*e*	P	PKPdf		09 21 22.6	-7.1
TLL				*i*	S	SKPbc		09 24 23.4	+5.9
SUR	**Sutherland**	**140.65**	**284**		PKhKP	PKPpre		09 21 28.3	
	comp=Z,110nm,0.7s,baz=351,slow=1.8,SNR=44								
SUR					PKP	PKPdf		09 21 34.0	+2.7
	comp=Z,451nm,1.0s,baz=45,slow=2.5,SNR=34								
SUR					SKPbc	SKPbc		09 24 25.4	+5.7
	comp=Z,158nm,0.9s,baz=36,slow=6.8,SNR=5.9								
SUR					SKKPbc			09 32 57.1	
	comp=Z,45nm,1.0s,baz=216,slow=1.7,SNR=7.1								
SUR	**Sutherland**	**140.65**	**284**		PKPpre	PKPpre		09 21 28.3	
SUR					PKP	PKPdf		09 21 34.0	+2.7
SUR					SKPbc	SKPbc		09 24 25.4	+5.7
SUR					SKKPbc			09 32 57.1	
JACH	**Jahuel**	**141.80**	**74**	*e*	P	PKPdf		09 21 28.9	-4.4
PEL	**Peldehue**	**142.09**	**75**	*e*	P	PKPdf		09 21 29.0	-4.8
CLCH	**Cerro Calan**	**142.36**	**75**	*e*	P	PKPdf		09 21 30.1	-4.2
FCH	**Farellones**	**142.45**	**75**	*e*	P	PKPdf		09 21 32.5	-1.9
PCH	**Pirque**	**142.54**	**75**	*e*	P	PKPdf		09 21 30.9	-3.6
CHCH	**Chadas Angostu**	**142.69**	**76**	*e*	P	PKPdf		09 21 30.9	-3.9
CACH	**El Canelo**	**142.85**	**76**	*i*	P	PKPdf		09 21 32.2	-2.9
LMEL	**Las Melosas**	**142.88**	**75**	*e*	P	PKPdf		09 21 33.5	-1.6
NICH	**Los Niches**	**143.13**	**77**	*e*	P	PKPdf		09 21 30.0	-5.5
CPUP	**Villa Florida**	**143.69**	**53**		PKP	PKPdf		09 21 35.2	-1.6
	comp=Z,376nm,0.7s,baz=320,slow=2.3,SNR=305								
CPUP					SKPbc	SKPbc		09 24 34.8	+7.4
	comp=Z,220nm,0.7s,baz=343,slow=3.2,SNR=5.5								
CPUP					SKKPbc			09 32 33.2	
	comp=Z,18nm,0.8s,baz=91,slow=2.9,SNR=2.9								
CPUP	**Villa Florida**	**143.69**	**53**		PKP	PKPdf		09 21 35.2	-1.6
CPUP					SKPbc	SKPbc		09 24 34.8	+7.4
CPUP					SKKPbc			09 32 33.2	
CPUP	**Villa Florida**	**143.69**	**53**		PKIKP	PKPdf		09 21 35.2	-1.6
CPUP					pmax	pmax			
	comp=Z,376nm,0.7s								
QSPA	**South Pole Qui**	**143.97**	**180**		PKP	PKPdf		09 21 34.7	-1.0
	comp=Z,302nm,0.7s,baz=333,slow=0.7,SNR=291								
QSPA					SKPbc	SKPbc		09 24 33.8	+7.6
	comp=Z,3μm,1.0s,baz=331,slow=2.0,SNR=12								
QSPA	**South Pole Qui**	**143.97**	**180**	*e*	PKPdf	PKPdf		09 21 34.0	-1.7
QSPA					PKP	PKPdf		09 21 34.7	-1.0
QSPA					SKPbc	SKPbc		09 24 33.8	+7.6
CAM4	**Nova Friburgo**	**145.73**	**28**	*i*	*P	PKPdf		09 21 41.0	+0.6
CAM4				*i*				09 21 42.1	
CAM4				*i*				09 21 45.2	
CAM4				*i*				09 21 48.4	
CAM4				*i*				09 21 51.2	
CAM4				*i*				09 21 54.3	
CAM4				*i*				09 21 56.0	
CAM4				*i*				09 22 13.1	
CAM4				*i*				09 22 17.3	
CAM4				*i*				09 22 25.4	
CAM4				*i*				09 22 32.9	
CAM4				*i*				09 22 45.1	
CAM4				*i*				09 23 39.1	
CAM4				*i*				09 23 44.5	
CAM4				*i*				09 23 50.7	
CAM4				*i*				09 23 56.5	
CAM4				*i*				09 23 59.9	
CAM4				*i*				09 24 04.4	
PLCA	**Paso Flores**	**147.41**	**84**		PKP	PKPdf		09 21 42.2	-0.5
	comp=Z,68nm,0.8s,baz=284,slow=2.2,SNR=39								
PLCA					PKPbc	PKPbc		09 21 46.0	0.0
	comp=Z,148nm,0.7s,baz=311,slow=2.2,SNR=70								
PLCA					pPKPbc	pPKPbc		09 23 40.2	-3.4
	comp=Z,337nm,0.9s,baz=321,slow=3.5,SNR=7.7								
PLCA					SKPbc	SKPbc		09 24 41.9	+6.6
	comp=Z,912nm,1.1s,baz=315,slow=3.3,SNR=5.8								
PLCA	**Paso Flores**	**147.41**	**84**		PKP	PKPdf		09 21 42.2	-0.5
PLCA				*e*	PKPbc	PKPbc		09 21 44.8	-1.2
PLCA					PKPbc	PKPbc		09 21 46.0	0.0
PLCA					pPKPbc	pPKPbc		09 23 40.2	-3.4
PLCA					SKPbc	SKPbc		09 24 41.9	+6.6
PLCA	**Paso Flores**	**147.41**	**84**		PKIKP	PKPdf		09 21 42.2	-0.4
PLCA								09 21 46.0	
PLCA								09 23 40.3	
PLCA					pmax	pmax			
	comp=Z,68nm,0.8s								
SYO	**Syowa Base**	**147.51**	**218**	*i*	*eP	PKPdf		09 21 40.0	-1.9
SYO	**Syowa Base**	**147.51**	**218**	*i*	*iP	PKPdf		09 21 43.2	+1.3
LPA	**La Plata**	**150.39**	**62**	*de*	PKIKP	PKPdf		09 21 46.0	-1.6
LPA	**La Plata**	**150.39**	**62**		PKP	PKPab		09 22 03.0	+0.8
LPA					PP	PP		09 25 37.0	+2.3
LPA					SKIKS			09 28 11.0	
LPA					PPP			09 35 43.0	
LPA					SSS			09 50 04.0	
TRQA	**Tornquist**	**150.53**	**72**		PKPbc	PKPbc		09 21 54.4	+0.8
NVL	**N'lazarevskaya**	**156.63**	**211**	*e*	PKIKP	PKPdf		09 21 54.4	+0.2
MAIT	**Maitri**	**156.66**	**211**	*e*	P	PKPdf		09 22 01.2	+6.0
MAIT				*e*				09 22 35.1	
SNAA	**Sanae**	**159.89**	**201**	*e*		PKPdf		09 21 53.4	-5.7
SNAA				*e*				09 24 27.0	
SNAA				*e*				09 24 42.0	
SNAA				*e*				09 26 28.6	
SNAA				*e*				09 32 11.4	
SNAA	**Sanae**	**159.89**	**201**		PKP	PKPdf		09 21 58.0	-1.1
	comp=Z,9.8nm,1.1s,baz=164,slow=0.6,SNR=22								
SNAA					SKP			09 24 46.9	
	comp=Z,180nm,1.2s,baz=97,slow=4.2,SNR=6.1								
SNAA	**Sanae**	**159.89**	**201**		PKP	PKPdf		09 21 58.0	-1.1
SNAA					SKP			09 24 46.9	
SNAA	**Sanae**	**159.89**	**201**		PKIKP	PKPdf		09 21 58.0	-1.1
SNAA								09 24 46.9	
SNAA					pmax	pmax			
	comp=Z,10.0nm,1.1s								
VNA2	**Neumayer--Watz**	**161.39**	**199**	*e*		PKPdf		09 21 57.5	-3.2
	baz=20,slow=0.5								
VNA2				*e*				09 24 43.1	
VNA2				*e*				09 24 49.9	
VNA2				*e*				09 32 07.8	
VNA3	**Neumayer Olymp**	**161.52**	**196**	*e*		PKPdf		09 21 57.2	-3.7
VNA3				*e*				09 22 46.4	
VNA3				*e*				09 24 48.3	
VNA3				*e*				09 32 05.8	
VNA1	**Neumayer--Stat**	**161.78**	**199**	*e*		PKPdf		09 22 05.0	+3.9
VNA1				*e*				09 22 48.2	
VNA1				*e*				09 24 41.5	
VNA1				*e*				09 24 52.1	
VNA1				*e*				09 32 09.3	

*IDC **24** 10:32:19.8±0.7, 53.20N×35.32W, h0km, mb4.0/16, mb1 4.1/17, mb1mx4.0/33, mbtmp4.0/17, ML3.3/1, Error ellipse: s-maj=24.7km s-min=13.0km az=4.0*
*ISCJB **24** 10:32:20.1±0.5, 53.2N±0.1×35.52W±0.09, h10km, mb4.1/20, Error ellipse: s-maj=17.0km s-min=7.1km az=12.6*
*CSEM **24** 10:32:20.9±0.3, 53.13N×35.39W, h10km, Error ellipse: s-maj=18.7km s-min=9.9km az=5.0*
*NEIC **24** 10:32:21.2±0.5, 53.16N×35.38W, h10km, Error ellipse: s-maj=16.8km s-min=7.6km az=184.0*
ISC 24 10:32:21.8±0.5, 53.1N±0.1×35.49W±0.09, h10km, n77, σ1s08/71, mb4.1/20, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SFJD	**Kangerlussuaq**	**15.74**	**338**	*i*	P	**Pn**	**10 36 06.0**	**+2.8**
	19nm,1.0s							
SCHQ	**Schefferville**	**18.43**	**288**		P	**Pn**	**10 36 37.2**	**+0.2**
	1.0nm,0.3s,baz=84,slow=5.4,SNR=12							
SCHQ	**Schefferville**	**18.43**	**288**		P	**Pn**	**10 36 37.2**	**+0.2**
SCHQ	**Schefferville**	**18.43**	**288**		P	**Pn**	**10 36 37.2**	**+0.1**
SUMG	**Summit**	**19.55**	**357**	*i*	P	**Pn**	**10 36 51.7**	**+1.3**
	10nm,0.9s							
SUMG	**Summit**	**19.55**	**357**	*i*	P	**Pn**	**10 36 51.7**	**+1.3**
	10nm,0.9s							
QUIF	**Quistinic**	**21.09**	**91**	*e*	P	**P**	**10 37 08.2**	**+2.1**
FLN	**La Foliniere**	**22.34**	**87**	*e*	P	**P**	**10 37 20.1**	**+0.6**
MFF	**Saint Martin d**	**23.52**	**92**	*e*	P	**P**	**10 37 32.0**	**0.0**
BAIF	**Baives**	**24.63**	**81**	*e*	P	**P**	**10 37 41.9**	**-0.2**
RJF	**Les Rejaudoux**	**25.18**	**93**	*e*	P	**P**	**10 37 48.0**	**+0.9**
	44nm,1.1s,mb4.6							
ESDC	**Sonseca Array**	**25.33**	**109**		P	**P**	**10 37 47.4**	**-1.1**
	3.4nm,0.8s,mb3.9,baz=315,slow=9.2,SNR=7.1							
ESDC	**Sonseca Array**	**25.33**	**109**		P	**P**	**10 37 47.4**	**-1.1**
ESDC	**Sonseca Array**	**25.33**	**109**		P	**P**	**10 37 47.4**	**-1.1**
SSF	**Saint Saulge**	**25.50**	**88**	*e*	P	**P**	**10 37 50.9**	**+0.9**
	18nm,0.8s,mb4.3							
AVF	**Avril sur Loir**	**25.54**	**89**	*e*	P	**P**	**10 37 50.2**	**-0.1**
	29nm,1.0s,mb4.5							
LOR	**Lormes**	**25.61**	**87**	*e*	P	**P**	**10 37 52.1**	**+1.1**
SFTF	**Sexfontaines**	**25.90**	**84**	*e*	P	**P**	**10 37 54.2**	**+0.6**
SMF	**Signal de Mont**	**25.90**	**89**	*e*	P	**P**	**10 37 54.6**	**+1.0**
NOA	**NORSAR Array B**	**26.06**	**54**		P	**P**	**10 37 54.7**	**-0.2**
	2.7nm,0.8s,mb3.9,baz=276,slow=10.0,SNR=4.0							
NOA	**NORSAR Array B**	**26.06**	**54**		P	**P**	**10 37 54.7**	**-0.2**
NOA	**NORSAR Array B**	**26.06**	**54**		P	**P**	**10 37 54.7**	**-0.2**
SADO	**Sadowa**	**29.46**	**271**		P	**P**	**10 38 25.3**	**-0.2**
	6.7nm,0.8s,mb4.4,baz=97,slow=5.1,SNR=3.1							
SADO	**Sadowa**	**29.46**	**271**		P	**P**	**10 38 25.3**	**-0.2**
SADO	**Sadowa**	**29.46**	**271**		P	**P**	**10 38 25.3**	**-0.2**
GERES	**GERESS Array B**	**30.76**	**78**		P	**P**	**10 38 36.4**	**-0.6**
	0.3nm,0.4s,mb3.4,baz=281,slow=5.5,SNR=3.1							
GERES	**GERESS Array B**	**30.76**	**78**		P	**P**	**10 38 36.4**	**-0.6**
GERES	**GERESS Array B**	**30.76**	**78**		P	**P**	**10 38 36.4**	**-0.6**
FINES	**FINESS Array B**	**33.09**	**51**		P	**P**	**10 38 55.0**	**-2.2**
	5.7nm,1.0s,mb4.5,baz=304,slow=9.9,SNR=3.3							
FINES	**FINESS Array B**	**33.09**	**51**		P	**P**	**10 38 55.0**	**-2.2**
FINES	**FINESS Array B**	**33.09**	**51**		P	**P**	**10 38 55.0**	**-2.3**
ULM	**Lac du Bonnet**	**36.57**	**290**		P	**P**	**10 39 27.4**	**0.0**
	2.8nm,0.9s,mb4.1,baz=54,slow=5.7,SNR=3.4							
ULM	**Lac du Bonnet**	**36.57**	**290**		P	**P**	**10 39 27.4**	**0.0**
ULM	**Lac du Bonnet**	**36.57**	**290**		P	**P**	**10 39 27.4**	**-0.1**
INK	**Inuvik**	**44.79**	**328**		P	**P**	**10 40 34.3**	**-0.7**
	1.5nm,0.9s,mb3.8,baz=73,slow=9.5,SNR=5.9							
INK	**Inuvik**	**44.79**	**328**		P	**P**	**10 40 34.3**	**-0.7**
INK	**Inuvik**	**44.79**	**328**		P	**P**	**10 40 34.3**	**-0.7**
BR131	**Keskin Array S**	**47.65**	**77**	*e*	P	**P**	**10 40 57.8**	**-0.1**
	2.9nm,0.6s,mb4.5							
BR131	**Keskin Array S**	**47.65**	**77**	*e*	P	**P**	**10 40 57.8**	**-0.2**
	2.9nm,0.6s,mb4.5							
BRTR	**Keskin Array B**	**47.65**	**77**		P	**P**	**10 40 57.6**	**-0.3**
	3.9nm,0.7s,mb4.6,baz=296,slow=6.8,SNR=7.5							
BRTR	**Keskin Array B**	**47.65**	**77**		P	**P**	**10 40 57.6**	**-0.3**
BRTR	**Keskin Array B**	**47.65**	**77**		P	**P**	**10 40 57.7**	**-0.3**
PDAR	**Pinedale Array**	**48.56**	**289**		P	**P**	**10 41 05.5**	**+0.6**
	0.7nm,0.6s,mb3.9,baz=57,slow=8.4,SNR=9.2							
PDAR	**Pinedale Array**	**48.56**	**289**		P	**P**	**10 41 05.5**	**+0.6**
PDAR	**Pinedale Array**	**48.56**	**289**		P	**P**	**10 41 05.6**	**+0.7**
TORD	**Torodi Ar. Bea**	**49.62**	**129**		P	**P**	**10 41 11.6**	**-1.7**
	1.8nm,1.0s,mb4.1,baz=350,slow=6.5,SNR=6.0							
TORD					PcP	PcP	10 42 33.8	-0.9
	0.2nm,0.5s,baz=352,slow=5.5,SNR=2.4							
TORD	**Torodi Ar. Bea**	**49.62**	**129**		P	**P**	**10 41 11.6**	**-1.7**
TORD					PcP	PcP	10 42 33.8	-0.9
TORD	**Torodi Ar. Bea**	**49.62**	**129**		P	**P**	**10 41 11.6**	**-1.7**
ILAR	**Eielson Array**	**51.17**	**329**		P	**P**	**10 41 23.8**	**-0.7**
	0.8nm,0.8s,mb3.7,baz=49,slow=6.0,SNR=9.8							
ILAR	**Eielson Array**	**51.17**	**329**		P	**P**	**10 41 23.8**	**-0.7**
ILAR	**Eielson Array**	**51.17**	**329**		P	**P**	**10 41 23.8**	**-0.7**
AKTO	**Aktyubinsk**	**53.84**	**52**		P	**P**	**10 41 45.8**	**+1.3**
	0.8nm,0.4s,mb4.0,baz=257,slow=14,SNR=4.8							
AKTO	**Aktyubinsk**	**53.84**	**52**		P	**P**	**10 41 45.8**	**+1.3**
AKTO	**Aktyubinsk**	**53.84**	**52**		P	**P**	**10 41 45.8**	**+1.4**
TXAR	**Lajitas Array**	**54.23**	**272**		P	**P**	**10 41 49.0**	**+1.4**
	0.7nm,0.6s,mb3.8,baz=56,slow=8.2,SNR=11							
TXAR	**Lajitas Array**	**54.23**	**272**		P	**P**	**10 41 49.0**	**+1.4**
TXAR	**Lajitas Array**	**54.23**	**272**		P	**P**	**10 41 49.0**	**+1.5**
BVAR	**Borovoye Array**	**57.55**	**44**		P	**P**	**10 42 09.9**	**-1.1**
	2.7nm,0.8s,mb4.3,baz=309,slow=7.1,SNR=10							
BVAR	**Borovoye Array**	**57.55**	**44**		P	**P**	**10 42 09.9**	**-1.1**
BVAR	**Borovoye Array**	**57.55**	**44**		P	**P**	**10 42 09.9**	**-1.1**
ZALV	**Zalesovo Beam**	**62.35**	**35**		P	**P**	**10 42 41.8**	**-2.2**
	0.6nm,0.5s,mb4.0,baz=303,slow=8.6,SNR=4.7							
ZALV	**Zalesovo Beam**	**62.35**	**35**		P	**P**	**10 42 41.8**	**-2.2**
ZALV	**Zalesovo Beam**	**62.35**	**35**		P	**P**	**10 42 41.8**	**-2.1**
AKUT	**Akutan**	**65.41**	**330**	*e*	P	**P**	**10 43 03.3**	**-0.8**
AKUT	**Akutan**	**65.41**	**330**	*e*	P	**P**	**10 43 03.3**	**-0.8**
MKAR	**Makanchi Array**	**67.23**	**41**		P	**P**	**10 43 14.8**	**-1.0**
	1.2nm,0.8s,mb4.0,baz=326,slow=6.8,SNR=9.2							
MKAR	**Makanchi Array**	**67.23**	**41**		P	**P**	**10 43 14.8**	**-1.0**
MKAR	**Makanchi Array**	**67.23**	**41**		P	**P**	**10 43 14.8**	**-1.1**
SONM	**Songino Array**	**74.31**	**26**		P	**P**	**10 43 58.2**	**-0.7**
	1.1nm,0.8s,mb3.8,baz=333,slow=4.1,SNR=6.8							
SONM	**Songino Array**	**74.31**	**26**		P	**P**	**10 43 58.2**	**-0.7**
SONM	**Songino Array**	**74.31**	**26**		P	**P**	**10 43 58.2**	**-0.7**
WRA	**Warramunga Arr**	**145.94**	**17**		PKPbc	PKPbc	10 52 00.5	-0.9
	1.0nm,0.7s,baz=344,slow=3.4,SNR=12							
WRA	**Warramunga Arr**	**145.94**	**17**		PKPbc	PKPbc	10 52 00.5	-0.9
WRA	**Warramunga Arr**	**145.94**	**17**		PKPbc	PKPbc	10 52 00.5	-0.9
ASAR	**Alice Springs**	**149.48**	**19**		PKPbc	PKPbc	10 52 09.8	-1.1
	0.9nm,0.7s,baz=347,slow=2.6,SNR=8.7							
ASAR	**Alice Springs**	**149.48**	**19**		PKPbc	PKPbc	10 52 09.8	-1.1
ASAR	**Alice Springs**	**149.48**	**19**		PKPbc	PKPbc	10 52 09.9	-1.1

WEL 24 09:53:47.3±0.5, 36.48S×177.68E, h212km±6km, ML3.9/8, Error ellipse: s-maj=10.5km s-min=6.5km az=90.0, Off east coast of North Island

| Code | Station Name | Δ° | AZ° | Phase | ID |

KCTX	**Karacabey (Bur**	0.32	27	*i* Pg		**Pg**	10 48 43.6	-0.2
KCTX				*e*Sg		**Sg**	10 48 48.5	+0.4
BALB	**Balikesir**	0.41	213	PG		**Pg**	10 48 45.4	0.0
BALB				*e*SG		**Sg**	10 48 50.9	+0.2
BALB	**Balikesir**	0.41	213	*i* Pg		**Pg**	10 48 45.4	+0.1
BALB				*e*Sg		**Sg**	10 48 50.9	+0.2
BNT	**Bandirma**	0.42	333	PG		**Pg**	10 48 46.2	+0.5
BNT				*e*SG		**Sg**	10 48 52.2	+0.9
BNT	**Bandirma**	0.42	333	*i* Pg		**Pg**	10 48 46.2	+0.5
BNT				*e*Sg		**Sg**	10 48 52.2	+0.9
DURS	**Dursunbey**	0.45	148	*i* P		**Pg**	10 48 45.8	-0.3
DURS				*i* S		**Sg**	10 48 51.8	-0.2
DURS	**Dursunbey**	0.45	148	*i* P		**Pg**	10 48 45.8	-0.3
DURS				*i* S		**Sg**	10 48 51.8	-0.2
BALY	**Balya**	0.49	241	⇑*i* Pg		**Pg**	10 48 47.0	+0.1
BALY				*i* Sg		**Sg**	10 48 53.7	+0.4
DST	**Dursunbey**	0.51	137	PG		**Pg**	10 48 47.1	-0.2
DST				*e*SG		**Sg**	10 48 54.2	+0.1
DST	**Dursunbey**	0.51	137	*i* Pg		**Pg**	10 48 47.1	-0.2
DST				*e*Sg		**Sg**	10 48 54.2	+0.2
MDNY	**Mudanya-Bursa**	0.67	54	PG		**Pg**	10 48 49.6	-0.8
MDNY				*e*SG		**Sg**	10 49 00.1	+0.9
MDNY	**Mudanya-Bursa**	0.67	54	*i* Pg		**Pg**	10 48 49.6	-0.8
MDNY				*e*Sg		**Sg**	10 49 00.1	+0.9
KRBG	**Karabiga-Canak**	0.79	302	*e*PG		**Pg**	10 48 52.3	-0.2
KRBG	**Karabiga-Canak**	0.79	302	*e*Pg		**Pg**	10 48 52.3	-0.2
GEMT	**Gemlik**	0.90	59	*e*PG		**Pg**	10 48 54.4	-0.4
GEMT				*e*SG		**Sg**	10 49 07.5	+0.9
GEMT	**Gemlik**	0.90	59	*e*Pg		**Pg**	10 48 54.4	-0.4
GEMT				*e*Sg		**Sg**	10 49 07.5	+0.9
DEMI	**Demirci**	1.03	155	*e*P		**Pg**	10 48 56.8	-0.4
DEMI				*e*S		**Sg**	10 49 10.0	-0.5
DEMI	**Demirci**	1.03	155	*e*P		**Pg**	10 48 56.8	-0.3
DEMI				*e*S		**Sg**	10 49 10.0	-0.5
RKY	**Sarkoy-Tekirda**	1.04	313	*e*PG		**Pg**	10 48 57.1	-0.2
RKY	**Sarkoy-Tekirda**	1.04	313	*e*Pg		**Pg**	10 48 57.1	-0.2
MFT	**Murefte**	1.05	320	*e*PG		**Pg**	10 48 57.3	-0.4
MFT	**Murefte**	1.05	320	*e*Pg		**Pg**	10 48 57.3	-0.3
YLV	**Yalova**	1.09	57	*e*PN		**Pg**	10 48 57.9	-0.5
YLV	**Yalova**	1.09	57	*e*Pn		**Pg**	10 48 57.9	-0.5
AKHS	**Akhisar**	1.13	194	⇑*i* P		**Pg**	10 48 58.5	-0.7
AKHS				*i* S		**Sg**	10 49 14.7	+0.8
AKHS	**Akhisar**	1.13	194	*i* P		**Pg**	10 48 58.5	-0.6
AKHS				*i* S		**Sg**	10 49 14.7	+0.8
AKS	**Akhisar**	1.13	194	*e*PN		**Pg**	10 48 58.6	-0.6
AKS	**Akhisar**	1.13	194	*e*Pn		**Pg**	10 48 58.6	-0.5
BUY	**Buyukada**	1.13	39	*e*P		**Pg**	10 48 59.1	-0.1
BUY				*e*S		**Sg**	10 49 15.0	+1.1
BUY	**Buyukada**	1.13	39	*e*P		**Pg**	10 48 59.1	-0.1
BUY				*e*S		**Sg**	10 49 15.0	+1.1
LPK	**Lapseki**	1.15	290	*e*PN		**Pg**	10 48 58.0	-1.4
LPK	**Lapseki**	1.15	290	*e*Pn		**Pg**	10 48 58.0	-1.4
ELBA	**Catalca**	1.18	10	*e*P		**Pb**	10 48 58.5	-1.3
ELBA				*e*S		**Sb**	10 49 13.8	-1.5
ELBA	**Catalca**	1.18	10	*e*P		**Pb**	10 48 58.5	-1.4
ELBA				*e*S		**Sb**	10 49 13.8	-1.4
SLVT	**Silivri**	1.25	1	*e*PN		**Pn**	10 49 00.8	-0.1
SLVT	**Silivri**	1.25	1	*e*Pn		**Pn**	10 49 00.8	0.0
CTKS	**Kestanelik-??a**	1.28	11	*e*PN		**Pn**	10 49 01.1	-0.2
CTKS	**Kestanelik-??a**	1.28	11	*e*Pn		**Pn**	10 49 01.1	-0.2
ADVT	**Abdulvahap**	1.28	69	*e*PN		**Pn**	10 49 01.2	-0.1
ADVT	**Abdulvahap**	1.28	69	*e*Pn		**Pn**	10 49 01.2	-0.1
BGKT	**Bogazkoy**	1.28	21	*e*PN		**Pn**	10 49 01.0	-0.3
BGKT	**Bogazkoy**	1.28	21	*e*Pn		**Pn**	10 49 01.0	-0.3
CAVI	**Cavuskoy**	1.30	80	*e*PN		**Pn**	10 49 01.4	-0.2
CAVI	**Cavuskoy**	1.30	80	*e*Pn		**Pn**	10 49 01.4	-0.2
AYVA	**Ayvalik**	1.32	240	*e*P		**Pn**	10 49 02.6	+0.7
AYVA				*e*S		**Sb**	10 49 19.8	+0.6
AYVA	**Ayvalik**	1.32	240	*e*P		**Pn**	10 49 02.6	+0.7
AYVA				*e*S		**Sb**	10 49 19.8	+0.5
GELI	**Tayfur-Gelibol**	1.36	288	*e*PN		**Pn**	10 49 02.3	-0.1
GELI	**Tayfur-Gelibol**	1.36	288	*e*Pn		**Pn**	10 49 02.3	-0.1
HRT	**Hereke**	1.42	53	*e*PN		**Pn**	10 49 03.1	-0.1
HRT	**Hereke**	1.42	53	*e*Pn		**Pn**	10 49 03.1	-0.1
EZN	**Ezine**	1.43	264	*e*PN		**Pn**	10 49 03.1	-0.2
EZN	**Ezine**	1.43	264	*e*Pn		**Pn**	10 49 03.1	-0.2
KLYT	**Kilyos**	1.44	27	*e*PN		**Pn**	10 49 03.4	0.0
KLYT	**Kilyos**	1.44	27	*e*Pn		**Pn**	10 49 03.4	0.0
ERIK	**Erikli-Kesan**	1.44	299	*e*PN		**Pn**	10 49 03.5	0.0
ERIK	**Erikli-Kesan**	1.44	299	*e*Pn		**Pn**	10 49 03.5	0.0
CTYL	**Yal??k??y-??at**	1.50	3	*e*PN		**Pn**	10 49 04.3	+0.1
CTYL	**Yal??k??y-??at**	1.50	3	*e*Pn		**Pn**	10 49 04.3	+0.1
KULA	**Kula-Manisa**	1.51	165	*e*PN		**Pn**	10 49 04.3	-0.1
KULA	**Kula-Manisa**	1.51	165	*e*Pn		**Pn**	10 49 04.3	-0.1
SILT	**Sile**	1.62	43	*e*PN		**Pn**	10 49 06.1	+0.1
SILT	**Sile**	1.62	43	*e*Pn		**Pn**	10 49 06.1	+0.1
BOZC	**Bozcaada**	1.63	266	*e*P		**Pn**	10 49 06.8	+0.7
BOZC				*e*S		**Sn**	10 49 27.6	+0.5
GPA	**Golpazari**	1.67	79	*e*PN		**Pn**	10 49 06.7	+0.1
GPA	**Golpazari**	1.67	79	*e*Pn		**Pn**	10 49 06.7	+0.1
ENEZ	**Enez**	1.72	297	*e*PN		**Pn**	10 49 07.4	+0.2
ENEZ	**Enez**	1.72	297	*e*Pn		**Pn**	10 49 07.4	+0.1
IZM	**Izmir**	1.73	204	*e*PN		**Pn**	10 49 07.0	-0.5
IZM	**Izmir**	1.73	204	*e*Pn		**Pn**	10 49 07.0	-0.4
ALT	**Altintas**	1.76	121	*e*PN		**Pn**	10 49 07.7	-0.2
ALT	**Altintas**	1.76	121	*e*Pn		**Pn**	10 49 07.7	-0.2
SPNC	**Sapanca-Adapaz**	1.78	66	*e*PN		**Pn**	10 49 08.2	+0.1
SPNC	**Sapanca-Adapaz**	1.78	66	*e*Pn		**Pn**	10 49 08.2	+0.1
BLCB	**Balcova**	1.82	209	*e*PN		**Pn**	10 49 08.8	+0.2
BLCB	**Balcova**	1.82	209	*e*Pn		**Pn**	10 49 08.8	+0.2
GULT	**Gulveren**	1.85	75	*e*PN		**Pn**	10 49 09.3	+0.2
GULT	**Gulveren**	1.85	75	*e*Pn		**Pn**	10 49 09.3	+0.2
ESKT	**Eskisehir**	2.12	102	*e*PN		**Pn**	10 49 13.0	+0.3
ESKT	**Eskisehir**	2.12	102	*e*Pn		**Pn**	10 49 13.0	+0.2
MDU	**Mudurnu**	2.38	77	*e*PN		**Pn**	10 49 17.3	+0.9
MDU	**Mudurnu**	2.38	77	*e*Pn		**Pn**	10 49 17.3	+0.9
KIZT	**Kizilcal**	3.08	110	*e*PN		**Pn**	10 49 26.5	+0.6
KIZT	**Kizilcal**	3.08	110	*e*Pn		**Pn**	10 49 26.5	+0.5

*KRSC **24** 11:01:39.4±1.7,53˚68N×154˚98E,h565km±44km,ML4.7*
*ISCJB **24** 11:01:44.3±0.3,53˚99N±0˚06×154˚19E±0˚09,*
h493km±4km,mb3.9/36,Error ellipse: s-maj=10.1km
s-min=6.9km az=147.3
*MOS **24** 11:01:44.1±1.1,54˚03N×154˚25E,h499km,mb4.6/21,*
Error ellipse: s-maj=13.8km s-min=8.7km az=101.8
*IDC **24** 11:01:45.4±0.6,54˚04N×154˚10E,h488km±7km,mb3.4/20,*
mb1 3.6/22,mb1mx3.4/32,mbtmp3.4/22,Error ellipse:
s-maj=13.7km s-min=9.0km az=176.0
*NEIC **24** 11:01:45.2±0.3,54˚05N×154˚12E,h486km±4km,mb4.5/6,*
Error ellipse: s-maj=8.8km s-min=5.8km az=181.0
ISC 24 11:01:45.0±0.3,54˚01N±0˚06×154˚13E±0˚09,h488km±4km,
n134,σ0s88/155,mb3.9/36,2C-1D,Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GNL	**Ganaly**	**2.28**	**96**	*e*P	**P**	11 02 51.4	+1.1
GNL				*e*S	**S**	11 03 44.8	+1.2
PEA0B	**Petropavlovsk-**	**2.31**	**111**	*e*P	**P**	11 02 51.1	+0.6
PETK	**Petropavlovsk-**	**2.31**	**111**	P	**P**	11 02 51.1	+0.6
	16nm,0.3s,baz=309,slow=4.5,SNR=249						
PETK				S	**S**	11 03 44.9	+1.0
	baz=358,slow=16,SNR=2.1						
PETK	**Petropavlovsk-**	**2.31**	**111**	P	**P**	11 02 51.1	+0.6
PETK				S	**S**	11 03 44.9	+1.0
PETK	**Petropavlovsk-**	**2.31**	**111**	PN	**P**	11 02 51.2	+0.6
PETK				S	**S**	11 03 44.9	+0.9
PETK				pmax	pmax		
	comp=Z,16nm,0.3s						
MIPR	**Malaya Ipel'ka**	**2.35**	**137**	*e*P	**P**	11 02 51.7	+0.9
MIPR				*e*S	**S**	11 03 45.1	+0.8
GRL	**Gorelyy**	**2.78**	**120**	P	**P**	11 02 53.5	+0.1
AVH	**Avacha**	**2.84**	**103**	*e*P	**P**	11 02 54.6	+0.8
PET	**Petropavlovsk**	**2.88**	**108**	*e*P	**P**	11 02 54.2	+0.2
PET				*e*S	**S**	11 03 48.7	-1.6
PET	**Petropavlovsk**	**2.88**	**108**	*e*P	**P**	11 02 53.7	-0.3
PET	**Petropavlovsk**	**2.88**	**108**	*e*PN	**P**	11 02 54.4	+0.4
PET				*e*S	**S**	11 03 49.1	-1.2
PET				pmax	pmax		
	comp=Z,97nm,0.5s						
PET				smax			
	comp=N,39nm,0.6s						
RUS	**Russkaya**	**3.07**	**119**	*e*P	**P**	11 02 54.5	-0.9
RUS				*e*S	**S**	11 03 48.6	-4.2
RUS	**Russkaya**	**3.07**	**119**	PN	**P**	11 02 54.5	-0.9
RUS				S	**S**	11 03 48.6	-4.2
NLC	**Nalytchevo**	**3.22**	**103**	*e*P	**P**	11 02 56.0	-0.4
NLC				*e*S	**S**	11 03 52.4	-2.3
NLC	**Nalytchevo**	**3.22**	**103**	PN	**P**	11 02 56.0	-0.4
NLC				S	**S**	11 03 52.4	-2.3
ESO	**Esso**	**3.26**	**52**	*e*P	**P**	11 02 58.3	+1.7
ESO	**Esso**	**3.26**	**52**	PN	**P**	11 02 58.3	+1.7
SKR	**Severo-Kuril's**	**3.54**	**159**	*e*PN	**P**	11 03 02.0	+3.0
SKR				*e*		11 04 04.0	
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,110nm,0.5s						
SPN	**Mys Shipunski**	**3.63**	**102**	*e*P	**P**	11 02 58.0	-1.5
SPN				*e*S	**S**	11 03 54.2	-6.1
SPN	**Mys Shipunski**	**3.63**	**102**	PN	**P**	11 02 58.0	-1.5
SPN				S	**S**	11 03 54.2	-6.1
MKZ	**Mys Kozlova**	**4.49**	**80**	*e*P	**P**	11 03 04.1	-2.5
MKZ				*e*S	**S**	11 04 05.4	-7.9
MKZ	**Mys Kozlova**	**4.49**	**80**	PN	**P**	11 03 04.1	-2.5
KBTR	**Krutoberegovo**	**5.46**	**63**	*e*P	**P**	11 03 13.1	-2.2
KBTR				*e*S	**S**	11 04 21.4	-7.9
KBTR	**Krutoberegovo**	**5.46**	**63**	PN	**P**	11 03 13.1	-2.2
KBTR				S	**S**	11 04 21.4	-7.9
BKI	**Bering**	**6.99**	**75**	*e*S	**S**	11 04 53.0	-3.9
SEY	**Seymchan**	**9.00**	**355**	*e*PN	**P**	11 03 52.5	+1.3
FX1	**Attu Island--F**	**11.41**	**88**	P	**P**	11 04 17.2	+0.1
	comp=Z,13nm,0.3s,baz=315,slow=3.1,SNR=8.4						
FX1	**Attu Island--F**	**11.41**	**88**	P	**P**	11 04 17.2	+0.1
FX1	**Attu Island--F**	**11.41**	**88**	PN	**P**	11 04 17.2	+0.1
FX1				pmax	pmax		
	comp=Z,13nm,0.3s						
ERM	**Erimo**	**14.04**	**216**	*e*P	**P**	11 04 44.7	-0.5
YAK	**Yakutsk**	**15.16**	**312**	*e*P	**P**	11 04 56.5	-0.2
	comp=Z,26nm,0.6s						
YAK	**Yakutsk**	**15.16**	**312**	*e*P	**P**	11 04 56.4	-0.3
YAK				*e*S	**S**	11 07 35.0	+0.2
YAK				pmax	pmax		
	comp=Z,20nm,0.8s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,2.0nm,0.9s						
YAK				smax			
	comp=E,234nm,3.5s						
YAK				smax			
	comp=N,271nm,3.3s						
BILL	**Bilibino**	**15.21**	**18**	*e*P	**P**	11 04 57.0	-0.1
	comp=N,11nm,0.7s						
BILL	**Bilibino**	**15.21**	**18**	⇑*e*P	**P**	11 04 56.7	-0.4
BILL				*e*S	**S**	11 07 33.9	-1.7
BILL				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VLA	**Vladivostok**	**18.23**	**242**	⇑P	**P**	11 05 26.3	-1.6
VLA				S	**S**	11 08 27.4	-2.4
VLA				pmax	pmax		
	comp=Z,28nm,0.6s						
KDAK	**Kodiak Island**	**29.47**	**61**	P	**P**	11 07 07.4	-0.6
	comp=Z,2.7nm,0.3s,mb4.1,baz=282,slow=2.9,SNR=13						
KDAK	**Kodiak Island**	**29.47**	**61**	P	**P**	11 07 07.4	-0.6
KDAK	**Kodiak Island**	**29.47**	**61**	*i* P	**P**	11 07 07.3	-0.7
SONM	**Songino Array**	**30.23**	**278**	P	**P**	11 07 16.0	+1.2
	comp=Z,0.9nm,0.5s,mb3.5,baz=65,slow=8.1,SNR=8.8						
SONM	**Songino Array**	**30.23**	**278**	P	**P**	11 07 16.0	+1.2
SONM	**Songino Array**	**30.23**	**278**	P	**P**	11 07 16.0	+1.2
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR	**Eielson Array**	**30.72**	**46**	P	**P**	11 07 19.0	+0.3
	comp=Z,0.6nm,0.6s,mb3.2,baz=276,slow=9.3,SNR=13						
ILAR	**Eielson Array**	**30.72**	**46**	P	**P**	11 07 19.0	+0.3
ILAR	**Eielson Array**	**30.72**	**46**	P	**P**	11 07 19.0	+0.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**31.16**	**263**	*e*P	**P**	11 07 21.8	-1.0
HHC				pP		11 08 48.5	
HHC				PP	PP	11 08 51.1	+2.5
HHC				PcP	PcP	11 10 01.9	-1.1
HHC				sP	sP	11 10 17.5	+34
HHC				S	**S**	11 11 51.9	-1.6
HHC				sS	sS	11 14 29.8	+0.3
HHC				SS	SS	11 14 32.8	-4.5
HHC				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.5						
HHC				pmax	pmax		
	comp=Z,880nm,8.6s						
HHC				LR	LR		
	comp=N,460nm,12.2s						
HHC				LR	LR		
	comp=E,580nm,13.2s						
HHC				LR	LR		
	comp=Z,1μm,15.5s						
INK	**Inuvik**	**35.33**	**38**	P	**P**	11 07 58.4	+0.7
	comp=Z,1.3nm,0.4s,mb3.7,baz=303,slow=6.9,SNR=23						
INK	**Inuvik**	**35.33**	**38**	P	**P**	11 07 58.4	+0.7
INK	**Inuvik**	**35.33**	**38**	P	**P**	11 07 58.4	+0.7
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**39.25**	**299**	P	**P**	11 08 30.2	0.0
	comp=Z,1.2nm,0.3s,mb3.8,baz=61,slow=6.5,SNR=6.3						
ZALV	**Zalesovo Beam**	**39.25**	**299**	P	**P**	11 08 30.2	0.0
ZALV	**Zalesovo Beam**	**39.25**	**299**	P	**P**	11 08 30.2	0.0
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.7						
NVS	**Novosibirsk**	**39.63**	**301**	*e*P	**P**	11 08 32.2	-1.0
RES	**Resolute Bay**	**43.78**	**21**	P	**P**	11 09 06.3	+0.5
	comp=Z,2.0nm,0.6s,mb3.8,baz=349,slow=6.7,SNR=17						
RES	**Resolute Bay**	**43.78**	**21**	P	**P**	11 09 06.3	+0.5
RES	**Resolute Bay**	**43.78**	**21**	P	**P**	11 09 06.3	+0.5
RES				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
KURK	**Kurchatov**	**44.19**	**298**	P	**P**	11 09 10.8	+1.4
	comp=Z,3.9nm,0.3s,mb4.3,baz=61,slow=7.6,SNR=26						
KURK	**Kurchatov**	**44.19**	**298**	*e*P	**P**	11 09 10.0	+0.7
	comp=Z,9.7nm,0.3s,mb4.7						
KURK	**Kurchatov**	**44.19**	**298**	P	**P**	11 09 09.7	+0.3
KURK				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.2						
MK31	**Makanchi Array**	**44.53**	**291**	*e*P	**P**	11 09 12.5	+0.5
MK31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.7						
MKAR	**Makanchi Array**	**44.53**	**291**	P	**P**	11 09 12.7	+0.7
	comp=Z,1.5nm,0.4s,mb3.7,baz=52,slow=6.5,SNR=39						
MKAR	**Makanchi Array**	**44.53**	**291**	P	**P**	11 09 12.7	+0.7
MKAR	**Makanchi Array**	**44.53**	**291**	P	**P**	11 09 12.7	+0.7
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BVA0	**Borovoye Array**	**46.99**	**305**	*i* P	**P**	11 09 30.7	0.0
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.9						
BVAR	**Borovoye Array**	**46.99**	**305**	P	**P**	11 09 31.2	+0.5
	comp=Z,11nm,0.4s,mb4.6,baz=55,slow=7.3,SNR=56						
BVAR	**Borovoye Array**	**46.99**	**305**	P	**P**	11 09 31.2	+0.5
BVAR	**Borovoye Array**	**46.99**	**305**	P	**P**	11 09 31.2	+0.5
BVAR				pmax	pmax		
	comp=Z,11nm,0.4s						
ARU	**Arti**	**50.26**	**314**	*e*P	**P**	11 09 55.3	+0.3
	comp=Z,14nm,0.4s,mb4.6						
ARU	**Arti**	**50.26**	**314**	*d i*P	**P**	11 09 55.2	+0.2
ARU						11 11 54.9	
ARU				S	**S**	11 16 32.1	+2.1
ARU				SS	SS	11 20 12.2	+1.5
ARU				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.4						
KEV	**Kevo**	**50.75**	**339**	*e*P	**P**	11 09 57.5	-0.9
KEV	**Kevo**	**50.75**	**339**	*e*P	**P**	11 09 57.5	-0.9
ARCES	**ARCESS Array B**	**51.24**	**339**	P	**P**	11 10 01.6	-0.4
	comp=Z,1.9nm,0.3s,mb3.9,baz=40,slow=7.9,SNR=32						
ARCES	**ARCESS Array B**	**51.24**	**339**	P	**P**	11 10 01.6	-0.4
ARCES	**ARCESS Array B**	**51.24**	**339**	P	**P**	11 10 01.6	-0.4
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KKAR	**Karatay Array**	**53.30**	**295**	*e*P	**P**	11 10 17.8	+0.5
	comp=Z,3.2nm,0.6s,mb3.8						
KKAR	**Karatay Array**	**53.30**	**295**	*e*P	**P**	11 10 17.8	+0.6
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb3.8						
AB31	**Akbulak array**	**54.44**	**307**	P	**P**	11 10 25.1	-0.1
AB31				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.8						
ABKAR	**Akbulak array**	**54.44**	**307**	*e*P	**P**	11 10 25.2	0.0
	comp=Z,3.2nm,0.4s,mb4.0						
AKTO	**Aktyubinsk**	**54.52**	**309**	P	**P**	11 10 25.9	+0.1
JOF	**Joensuu**	**55.16**	**332**	*e*P	**P**	11 10 29.9	-0.1
JOF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.0						
JOF	**Joensuu**	**55.16**	**332**	*e*p	**P**	11 10 29.9	-0.1
	comp=Z,2.9nm,0.4s,mb4.0						
KAF	**Kangasniemi**	**57.17**	**334**	*e*P	**P**	11 10 43.0	-0.9
KAF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.0						
KAF	**Kangasniemi**	**57.17**	**334**	*e*p	**P**	11 10 43.0	-0.9
	comp=Z,2.6nm,0.4s,mb3.9						
FINES	**FINESS Array B**	**57.79**	**333**	P	**P**	11 10 48.0	-0.2
	comp=Z,3.3nm,0.3s,mb4.1,baz=33,slow=6.7,SNR=31						
FINES				PcP	PcP	11 11 33.1	-1.2
	comp=Z,6.1nm,1.0s,baz=79,slow=7.2,SNR=3.0						
FINES	**FINESS Array B**	**57.79**	**333**	P	**P**	11 10 48.0	-0.2
FINES				PcP	PcP	11 11 33.1	-1.2
FINES	**FINESS Array B**	**57.79**	**333**	P	**P**	11 10 48.0	-0.2
FINES						11 11 33.1	
FINES				pmax	pmax		
	comp=Z,3.0nm,0.3s						
NVAR	**Mina Array Bea**	**58.72**	**67**	P	**P**	11 10 56.3	+1.4
	comp=Z,1.6nm,0.6s,mb3.5,baz=303,slow=6.7,SNR=13						
NVAR	**Mina Array Bea**	**58.72**	**67**	P	**P**	11 10 56.3	+1.4
PDAR	**Pinedale Array**	**60.11**	**58**	P	**P**	11 11 05.0	+0.9
	comp=Z,0.8nm,0.6s,mb3.3,baz=322,slow=2.8,SNR=8.1						
PDAR	**Pinedale Array**	**60.11**	**58**	P	**P**	11 11 05.0	+0.9
VOR	**Voronezh**	**61.49**	**320**	*e*P	**P**	11 11 12.0	-1.1
NB2	**NORSAR Subarra**	**61.58**	**341**	P	**P**	11 11 12.8	-0.7
	comp=Z,3.1nm,0.5s,mb4.0,baz=25,slow=6.9						
NOA	**NORSAR Array B**	**61.58**	**341**	P	**P**	11 11 13.4	-0.1
	comp=Z,3.6nm,0.5s,mb4.1,baz=26,slow=6.8,SNR=24						
NOA	**NORSAR Array B**	**61.58**	**341**	P	**P**	11 11 13.4	-0.1
NOA	**NORSAR Array B**	**61.58**	**341**	P	**P**	11 11 13.4	-0.1
NOA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
AKASG	**Malin Array Be**	**65.91**	**325**	P	**P**	11 11 40.6	-0.8
	comp=Z,2.0nm,0.3s,mb4.2,baz=32,slow=6.9,SNR=11						
AKASG	**Malin Array Be**	**65.91**	**325**	P	**P**	11 11 40.6	-0.8
AKASG	**Malin Array Be**	**65.91**	**325**	P	**P**	11 11 40.6	-0.8
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BUR08	**Bucovina Ar. S**	**69.89**	**326**	*e*P	**P**	11 12 05.7	-0.1
GERES	**GERESS Array B**	**72.22**	**334**	P	**P**	11 12 19.4	-0.1
	comp=Z,1.2nm,0.5s,mb3.7,baz=37,slow=6.2,SNR=10						
GERES	**GERESS Array B**	**72.22**	**334**	P	**P**	11 12 19.4	-0.1
GERES	**GERESS Array B**	**72.22**	**334**	P	**P**	11 12 19.4	-0.1
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GIVF	**Givet**	**73.10**	**340**	*e*P	**P**	11 12 24.1	-0.5
BAIF	**Baives**	**73.27**	**340**	*e*P	**P**	11 12 25.3	-0.2
TXAR	**Lajitas Array**	**73.47**	**63**	P	**P**	11 12 28.1	+1.1
	comp=Z,1.0nm,0.5s,mb3.6,baz=298,slow=5.1,SNR=35						
TXAR	**Lajitas Array**	**73.47**	**63**	P	**P**	11 12 28.1	+1.1
TXAR	**Lajitas Array**	**73.47**	**63**	P	**P**	11 12 28.1	+1.0
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CDF	**Champ du Feu**	**74.18**	**338**	*e*P	**P**	11 12 30.5	-0.2
	comp=Z,2.5nm,0.4s,mb3.8						
PAGF

	0.5nm,0.3s,mb3.7,baz=112,slow=5.7,SNR=3.2					
CPUP	**Villa Florida**	**39.41 311**	P	**P**	**11 20 52.4**	**-0.9**
CFAA	**Coronel Fontan**	**39.67 294**	P	**P**	**11 20 55.3**	**-0.2**
	0.2nm,0.4s,mb3.2,baz=175,slow=7.2,SNR=3.9					
CFAA	**Coronel Fontan**	**39.67 294**	P	**P**	**11 20 55.3**	**-0.2**
VNDA	**Vanda**	**44.01 182**	P	**P**	**11 21 33.0**	**+2.6**
	3.5nm,0.9s,mb4.1,baz=189,slow=7.0,SNR=18					
VNDA	**Vanda**	**44.01 182**	P	**P**	**11 21 33.0**	**+2.6**
BOSA	**Boshof**	**45.60 71**	P	**P**	**11 21 43.3**	**-0.4**
	2.0nm,0.7s,mb4.2,baz=186,slow=5.2,SNR=5.1					
BOSA	**Boshof**	**45.60 71**	P	**P**	**11 21 43.3**	**-0.4**
LPAZ	**La Paz**	**52.83 305**	P	**P**	**11 22 39.2**	**+0.1**
	1.6nm,0.4s,mb4.3,baz=121,slow=9.4,SNR=8.4					
LPAZ	**La Paz**	**52.83 305**	P	**P**	**11 22 39.2**	**+0.1**
	1.6nm,0.5s,mb4.2					
DBIC	**Dimbokro**	**67.11 22**	P	**P**	**11 24 17.0**	**-0.2**
	4.2nm,0.6s,mb4.6,baz=180,slow=5.4,SNR=8.6					
DBIC	**Dimbokro**	**67.11 22**	P	**P**	**11 24 17.0**	**-0.2**
TORD	**Torodi Ar. Bea**	**74.81 27**	P	**P**	**11 25 04.1**	**+0.2**
	5.0nm,0.5s,mb4.7,baz=200,slow=6.6,SNR=45					
TORD	**Torodi Ar. Bea**	**74.81 27**	P	**P**	**11 25 04.1**	**+0.2**
STKA	**Stephens Creek**	**89.12 169**	P	**P**	**11 26 19.9**	**+0.9**
	3.7nm,0.9s,mb4.7,baz=212,slow=4.2,SNR=4.2					
STKA	**Stephens Creek**	**89.12 169**	P	**P**	**11 26 19.9**	**+0.9**
ASAR	**Alice Springs**	**96.14 161**	P	**P**	**11 26 51.4**	**-0.2**
	1.2nm,0.7s,mb4.4,baz=178,slow=4.1,SNR=11					
ASAR	**Alice Springs**	**96.14 161**	P	**P**	**11 26 51.4**	**-0.2**
WRA	**Warramunga Arr**	**99.86 160**	P	Pdif	11 27 09.1	+0.7
	0.2nm,0.6s,baz=64,slow=0.6,SNR=5.2					
WRA	**Warramunga Arr**	**99.86 160**	P	Pdif	11 27 09.1	+0.7
PDAR	**Pinedale Array**	**122.68 299**	PKP	PKPdf	11 32 17.5	-1.0
	0.4nm,0.5s,baz=123,slow=3.2,SNR=4.7					
PDAR	**Pinedale Array**	**122.68 299**	PKP	PKPdf	11 32 17.6	-1.0
NVAR	**Mina Array Bea**	**123.44 290**	PKP	PKPdf	11 32 20.9	+0.7
	0.5nm,0.7s,baz=146,slow=2.6,SNR=4.0					
NVAR	**Mina Array Bea**	**123.44 290**	PKP	PKPdf	11 32 20.9	+0.7
FINES	**FINESS Array B**	**126.16 28**	PKP	PKPdf	11 32 23.6	-0.9
	4.7nm,0.9s,baz=180,slow=1.1,SNR=5.2					
FINES	**FINESS Array B**	**126.16 28**	PKP	PKPdf	11 32 23.6	-0.9
AKTO	**Aktyubinsk**	**127.96 54**	PKP	PKPdf	11 32 26.6	-1.8
	0.5nm,0.3s,baz=250,slow=11,SNR=3.6					
AKTO	**Aktyubinsk**	**127.96 54**	PKP	PKPdf	11 32 26.6	-1.8
BVAR	**Borovoye Array**	**135.18 59**	PKP	PKPdf	11 32 41.9	0.0
	0.8nm,0.5s,baz=206,slow=2.1,SNR=3.8					
BVAR	**Borovoye Array**	**135.18 59**	PKP	PKPdf	11 32 41.9	0.0
MKAR	**Makanchi Array**	**136.59 73**	PKhKP	PKPpre	11 32 40.2	
	0.3nm,0.6s,baz=237,slow=3.8,SNR=3.7					
MKAR	**Makanchi Array**	**136.59 73**	PKPpre	PKPpre	11 32 40.2	
KURK	**Kurchatov**	**137.44 66**	PKhKP	PKPpre	11 32 38.9	
	0.2nm,0.5s,baz=236,slow=3.6,SNR=3.9					
KURK	**Kurchatov**	**137.44 66**	PKPpre	PKPpre	11 32 38.9	
YKA	**Yellowknife Ar**	**138.87 315**	PKP	PKPdf	11 32 48.6	+0.1
	1.9nm,0.7s,baz=140,slow=2.0,SNR=6.5					
YKA	**Yellowknife Ar**	**138.87 315**	PKP	PKPdf	11 32 48.6	+0.1
ZALV	**Zalesovo Beam**	**142.43 66**	PKhKP	PKPpre	11 32 51.3	
	0.7nm,0.5s,baz=270,slow=4.3,SNR=3.4					
ZALV	**Zalesovo Beam**	**142.43 66**	PKPpre	PKPpre	11 32 51.3	
SONM	**Songino Array**	**149.66 89**	PKPbc	PKPbc	11 33 12.1	-0.2
	2.4nm,0.5s,baz=231,slow=3.4,SNR=16					
SONM	**Songino Array**	**149.66 89**	PKPbc	PKPbc	11 33 12.1	-0.2
ILAR	**Eielson Array**	**152.68 308**	PKPbc	PKPbc	11 33 19.1	+0.3
	8.4nm,0.9s,baz=144,slow=1.5,SNR=42					
ILAR	**Eielson Array**	**152.68 308**	PKPbc	PKPbc	11 33 19.1	+0.3
KDAK	**Kodiak Island**	**152.93 291**	PKPbc	PKPbc	11 33 19.7	+0.1
	19nm,1.0s,baz=202,slow=11,SNR=4.9					
KDAK	**Kodiak Island**	**152.93 291**	PKPbc	PKPbc	11 33 19.7	+0.1

*IDC **24** 11:28:44.2±1.0,31°.65N×104°.16E, h0km, mb3.5/6, mb1 3.6/8, mb1mx3.5/28, mbtmp3.5/8, ML3.5/2, Error ellipse: s-maj=36.8km s-min=18.0km az=60.0*
*ISCJB **24** 11:28:46.2±0.9,31°.56N±0°.04×104°.16E±0°.09, h30km±9km, mb3.4/5, Error ellipse: s-maj=12.7km s-min=6.0km az=11.7*
*BJI **24** 11:28:46.6,31°.54N×104°.10E, h21km, mb4.1/3, ML3.7/14, Ms4.0/3, Ms7 4.0/2*
*NEIC **24** 11:28:46.2±0.6,31°.67N×104°.13E, h10km, Error ellipse: s-maj=14.2km s-min=10.6km az=64.0*

ISC 24 11:28:46.0±1.4,31°.57N±0°.05×104°.10E±0°.09,h11km±11km, n22,σ1§06/28,mb3.4/5,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.72**	**204**	Pg	**Pg**	**11 28 59.1**	**-0.9**
CD2				Sg	**Sg**	**11 29 10.1**	**+0.7**
CD2				smax			
	comp=N,3μm,0.6s						
CD2				smax			
	comp=E,2μm,0.6s						
LZH	**Lanzhou**	**4.51**	**357**	*e*Pg	**Pn**	**11 29 56.5**	**+2.3**
LZH				Sg	**Sb**	**11 30 58.9**	**-0.6**
LZH				smax			
	comp=N,65nm,1.0s						
LZH				smax			
	comp=E,97nm,1.1s						
LZH				LR	LR		
	comp=N,260nm,6.6s						
LZH				LR	LR		
	comp=E,230nm,7.0s						
LZH				LR	LR		
	comp=Z,310nm,8.0s						
XAN	**Xi'an**	**4.75**	**58**	Pn	**Pn**	**11 29 56.4**	**-1.1**
XAN				Pg	**Pg**	**11 30 12.9**	**-4.0**
XAN				Sn	**Sn**	**11 30 58.3**	**+5.7**
XAN				Sg	**Sb**	**11 31 11.3**	**+4.9**
XAN				smax			
	comp=N,170nm,0.5s						
XAN				smax			
	comp=E,99nm,0.9s						
ENH	**Enshi**	**4.81**	**104**	*e*Pn	**Pn**	**11 29 59.4**	**+1.0**
KMI	**Kunming**	**6.54**	**191**	Pn	**Pn**	**11 30 21.5**	**-0.6**
HHC	**Hu-ho-hao-te**	**11.04**	**31**	*e*P	**Pn**	**11 31 24.5**	**+0.6**
HHC				PP		11 31 33.1	
HHC				S	**Sn**	**11 33 28.4**	**+1.1**
HHC				SS		11 33 42.3	
HHC				PcP	PcP	11 37 21.9	+0.3
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC				LR	LR		
	comp=N,160nm,6.9s						
HHC				LR	LR		
	comp=E,310nm,5.4s						
HHC				LR	LR		
	comp=Z,1μm,11.9s						
CMAR	**Chiang Mai Arr**	**13.87**	**201**	Pn	**Pn**	**11 32 05.5**	**+2.9**
	comp=Z,0.2nm,0.3s,baz=15,slow=12,SNR=4.9						
CMAR	**Chiang Mai Arr**	**13.87**	**201**	Pn	**Pn**	**11 32 05.5**	**+2.9**
SONM	**Songino Array**	**16.34**	**6**	Pn	**Pn**	**11 32 36.0**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=182,slow=14,SNR=3.0						
SONM	**Songino Array**	**16.34**	**6**	Pn	**Pn**	**11 32 36.0**	**+0.7**
KSAR	**Wonju Array Be**	**20.43**	**67**	P	**P**	**11 33 22.4**	**-1.0**
KSRS	**Korea Array**	**20.46**	**67**	P	**P**	**11 33 22.4**	**-1.3**
	comp=Z,1.8nm,0.7s,baz=260,slow=10,SNR=4.9						
MKAR	**Makanchi Array**	**22.62**	**318**	P	**P**	**11 33 46.5**	**-0.2**
	comp=Z,0.5nm,0.8s,mb3.0,baz=116,slow=14,SNR=4.0						
MKAR	**Makanchi Array**	**22.62**	**318**	P	**P**	**11 33 46.5**	**-0.2**
ZALV	**Zalesovo Beam**	**26.30**	**334**	P	**P**	**11 34 20.9**	**-0.6**
	comp=Z,0.6nm,0.5s,mb3.4,baz=146,slow=10,SNR=3.4						
ZALV	**Zalesovo Beam**	**26.30**	**334**	P	**P**	**11 34 20.9**	**-0.6**
KURK	**Kurchatov**	**26.87**	**323**	P	**P**	**11 34 25.6**	**-1.0**
	comp=Z,0.5nm,0.6s,mb3.2,baz=130,slow=8.9,SNR=7.9						
KURK	**Kurchatov**	**26.87**	**323**	P	**P**	**11 34 25.6**	**-1.0**
WRA	**Warramunga Arr**	**58.86**	**146**	P	**P**	**11 38 44.7**	**-0.3**
	comp=Z,0.6nm,0.7s,mb3.8,baz=339,slow=7.7,SNR=10						
WRA	**Warramunga Arr**	**58.86**	**146**	P	**P**	**11 38 44.7**	**-0.3**
ASAR	**Alice Springs**	**61.89**	**149**	P	**P**	**11 39 05.9**	**+0.3**
	comp=Z,0.3nm,0.8s,mb3.5,baz=336,slow=6.2,SNR=3.7						
ASAR	**Alice Springs**	**61.89**	**149**	P	**P**	**11 39 05.9**	**+0.3**

*ISCJB **24** 11:34:04.8±0.2, 36°.59N±0°.02×28°.25E±0°.02, h80km±2km, mb4.0/20, Error ellipse: s-maj=3.2km s-min=2.4km az=147.1*
*IDC **24** 11:34:05.9±0.7, 36°.57N×28°.36E, h75km±7km, mb3.8/12, mb1 3.9/20, mb1mx3.8/31, mbtmp3.8/20, MS3.6/1, Ms1 3.6/1, ms1mx2.7/35, Error ellipse: s-maj=11.0km s-min=10.0km az=32.0*
*ATH **24** 11:34:05.0, 36°.66N×28°.25E, h77km±1km, ML3.8*
*NEIC **24** 11:34:06.6, 36°.75N×28°.33E, h22km, ML3.9(ATH), After ATH.*
*CSEM **24** 11:34:06.3±0.1, 36°.61N×28°.24E, h71km, mb4.1/7, Error ellipse: s-maj=3.0km s-min=2.2km az=53.0*

*ISK **24** 11:34:06.0, 36°.72N×28°.14E, h73km, ML4.1*
*THE **24** 11:34:07.7, 36°.68N×28°.13E, h68km±4km, ML4.3/8, Error ellipse: s-maj=4.7km s-min=1.1km az=160.0*
*HLW **24** 11:34:07.2, 36°.42N×28°.32E, h33km±32km, Md4.0, Ml4.1*
*DDA **24** 11:34:09.8, 37°.15N×28°.32E, h7km±4km, Ml4.0*

ISC 24 11:34:06.1±0.2,36°.63N±0°.02×28°.22E±0°.02,h73km±2km, h73km±7.0km:pP-P,n342,σ1§17/396,mb4.0/19,8C-12D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TURN	**Turunc**	**0.39**	**52**	*i*P	**Pn**	**11 34 16.7**	**-1.6**
TURN				*i* S	**Sn**	**11 34 23.1**	**-4.1**
TURN	**Turunc**	**0.39**	**52**	*i* P	**Pn**	**11 34 16.7**	**-1.6**
TURN				*i* S	**Sn**	**11 34 23.1**	**-4.1**
ARG	**Arkhangelos**	**0.42**	**191**	*e*P	**Pn**	**11 34 19.3**	**+0.7**
ARG				*e*S	**Sn**	**11 34 28.4**	**+0.7**
ARG	**Arkhangelos**	**0.42**	**191**	P	**Pn**	**11 34 19.3**	**+0.7**
ARG				S	**Sn**	**11 34 28.2**	**+0.5**
ARG	**Arkhangelos**	**0.42**	**191**	P	**Pn**	**11 34 19.3**	**+0.7**
ARG				S	**Sn**	**11 34 28.2**	**+0.5**
YER	**Yerkesik**	**0.50**	**5**	PG	**Pn**	**11 34 19.6**	**+0.3**
YER				*e*SG	**Sn**	**11 34 28.7**	**-0.2**
YER	**Yerkesik**	**0.50**	**5**	*i* Pg	**Pn**	**11 34 19.6**	**+0.3**
YER				*e*Sg	**Sn**	**11 34 28.7**	**-0.2**
DAT	**Datca**	**0.53**	**281**	PG	**Pn**	**11 34 19.2**	**-0.2**
DAT	**Datca**	**0.53**	**281**	*i* Pg	**Pn**	**11 34 19.3**	**-0.2**
MLSB	**Milas**	**0.75**	**332**	PG	**Pn**	**11 34 21.8**	**0.0**
MLSB				*e*SG	**Sn**	**11 34 32.7**	**-0.8**
MLSB	**Milas**	**0.75**	**332**	*i* Pg	**Pn**	**11 34 21.8**	**0.0**
MLSB				*e*Sg	**Sn**	**11 34 32.7**	**-0.8**
NIS1	**Nisyros Isl.**	**0.84**	**268**	P	**Pn**	**11 34 21.9**	**-1.0**
NIS1				S	**Sn**	**11 34 34.8**	**-0.5**
NIS1	**Nisyros Isl.**	**0.84**	**268**	P	**Pn**	**11 34 21.9**	**-1.0**
NIS1				S	**Sn**	**11 34 34.8**	**-0.5**
BODT	**Bodrum**	**0.85**	**301**	PG	**Pn**	**11 34 21.8**	**-1.2**
BODT				*e*SG	**Sn**	**11 34 33.4**	**-2.0**
AYDN	**Tasoluk**	**1.06**	**345**	*i*P	**Pn**	**11 34 25.9**	**+0.3**
AYDN				*i* S	**Sn**	**11 34 38.7**	**-1.3**
AYDN	**Tasoluk**	**1.06**	**345**	*i* P	**Pn**	**11 34 25.9**	**+0.3**
AYDN				*i* S	**Sn**	**11 34 38.7**	**-1.3**
GLHS	**Glhisar (BURDU**	**1.15**	**63**	*e*PN	**Pn**	**11 34 27.7**	**+1.1**
GLHS	**Glhisar (BURDU**	**1.15**	**63**	*e*Pn	**Pn**	**11 34 27.7**	**+1.1**
GOLH	**Golhisar**	**1.23**	**60**	*i*P	**Pn**	**11 34 28.1**	**+0.4**
GOLH				*i* S	**Sn**	**11 34 43.6**	**-0.2**
GOLH	**Golhisar**	**1.23**	**60**	*i* P	**Pn**	**11 34 28.1**	**+0.4**
GOLH				*i* S	**Sn**	**11 34 43.7**	**-0.1**
DNZL	**Cakiroluk**	**1.24**	**32**	*i*P	**Pn**	**11 34 28.0**	**+0.2**
DNZL	**Cakiroluk**	**1.24**	**32**	*i* P	**Pn**	**11 34 28.0**	**+0.2**
GCAM	**G?zelcaml?**	**1.33**	**324**	*i*P	**Pn**	**11 34 28.8**	**-0.1**
GCAM				*i* S	**Sn**	**11 34 43.5**	**-2.6**
GCAM	**G?zelcaml?**	**1.33**	**324**	*i* P	**Pn**	**11 34 28.8**	**-0.1**
GCAM				*i* S	**Sn**	**11 34 43.5**	**-2.5**
ELL	**Elmali**	**1.36**	**85**	*e*PN	**Pn**	**11 34 31.2**	**+1.9**
ELL	**Elmali**	**1.36**	**85**	*e*Pn	**Pn**	**11 34 31.2**	**+1.9**
KARP	**Karpathos**	**1.38**	**219**	*e*P	**Pn**	**11 34 30.6**	**+0.9**
KARP				*e*S	**Sn**	**11 34 48.0**	**+0.7**
KARP	**Karpathos**	**1.38**	**219**	P	**Pn**	**11 34 29.5**	**-0.2**
KARP				S	**Sn**	**11 34 47.7**	**+0.4**
KARP	**Karpathos**	**1.38**	**219**	P	**Pn**	**11 34 29.5**	**-0.2**
KARP				S	**Sn**	**11 34 47.7**	**+0.4**
SMG	**Samos**	**1.54**	**315**	*e*P	**Pn**	**11 34 31.3**	**-0.4**
SMG	**Samos**	**1.54**	**315**	*e*P	**Pn**	**11 34 31.3**	**-0.4**
MANT	**Manisa**	**1.87**	**8**	*i*P	**Pn**	**11 34 35.7**	**-0.4**
MANT				*i* S	**Sn**	**11 34 58.4**	**-0.5**
MANT	**Manisa**	**1.87**	**8**	*i* P	**Pn**	**11 34 35.7**	**-0.4**
MANT				*i* S	**Sn**	**11 34 58.4**	**-0.5**
KULA	**Kula-Manisa**	**1.91**	**10**	*e*PN	**Pn**	**11 34 36.2**	**-0.4**
KULA	**Kula-Manisa**	**1.91**	**10**	*e*Pn	**Pn**	**11 34 36.3**	**-0.3**
IZM	**Izmir**	**1.92**	**337**	*e*PN	**Pn**	**11 34 36.2**	**-0.5**
IZM	**Izmir**	**1.92**	**337**	*e*Pn	**Pn**	**11 34 36.2**	**-0.6**
ANTB	**Antalya**	**1.97**	**81**	*e*PN	**Pn**	**11 34 39.6**	**+2.1**
ANTB	**Antalya**	**1.97**	**81**	*e*Pn	**Pn**	**11 34 39.6**	**+2.2**
BLCB	**Balcova**	**1.99**	**332**	*e*PN	**Pn**	**11 34 37.4**	**-0.2**
BLCB	**Balcova**	**1.99**	**332**	*e*Pn	**Pn**	**11 34 37.4**	**-0.2**
BCK	**Bucak**	**2.06**	**66**	*e*PN	**Pn**	**11 34 40.1**	**+1.4**
BCK	**Bucak**	**2.06**	**66**	*e*Pn	**Pn**	**11 34 40.1**	**+1.4**
URLA	**Izmir**	**2.16**	**324**	*i*P	**Pn**	**11 34 38.8**	**-1.1**
URLA				*i* S	**Sn**	**11 35 02.5**	**-3.2**
URLA	**Izmir**	**2.16**	**324**	*i* P	**Pn**	**11 34 38.8**	**-1.1**
URLA				*i* S	**Sn**	**11 35 02.5**	**-3.2**
ISP	**Isparta**	**2.19**	**56**	*e*PN	**Pn**	**11 34 42.0**	**+1.6**
ISP	**Isparta**	**2.19**	**56**	*e*Pn	**Pn**	**11 34 40.8**	**+0.5**
ISP	**Isparta**	**2.19**	**56**	P	**Pn**	**11 34 41.1**	**+0.8**
ISP	**Isparta**	**2.19**	**56**	*i*P	**Pn**	**11 34 40.9**	**+0.6**
ISP	**Isparta**	**2.19**	**56**	*e*Pn	**Pn**	**11 34 40.8**	**+0.5**
ISP	**Isparta**	**2.19**	**56**	P	**Pn**	**11 34 41.1**	**+0.8**
APE	**Apeiranthos**	**2.20**	**282**	*e*PN	**Pn**	**11 34 40.9**	**+0.3**
APE	**Apeiranthos**	**2.20**	**282**	*e*P	**Pn**	**11 34 41.1**	**+0.5**
APE	**Apeiranthos**	**2.20**	**282**	P	**Pn**	**11 34 40.5**	**-0.1**
APE				S	**Sn**	**11 35 05.5**	**-1.4**
APE	**Apeiranthos**	**2.20**	**282**	*i*P	**Pn**	**11 34 40.8**	**+0.2**
APE	**Apeiranthos**	**2.20**	**282**	S	**Sn**	**11 35 05.6**	**-1.3**
APE	**Apeiranthos**	**2.20**	**282**	P	**Pn**	**11 34 40.5**	**-0.1**
APE	**Apeiranthos**	**2.20**	**282**	*e*Pn	**Pn**	**11 34 40.9**	**+0.3**
APE				S	**Sn**	**11 35 05.5**	**-1.4**
AKHS	**Akhisar**	**2.27**	**352**	*i*P	**Pn**	**11 34 41.1**	**-0.3**
AKHS				*i* S	**Sn**	**11 35 07.2**	**-1.2**
AKHS	**Akhisar**	**2.27**	**352**	*i* P	**Pn**	**11 34 41.1**	**-0.3**
AKHS				*i* S	**Sn**	**11 35 07.2**	**-1.2**
AKS	**Akhisar**	**2.27**	**352**	*e*PN	**Pn**	**11 34 40.8**	**-0.6**
AKS	**Akhisar**	**2.27**	**352**	*e*Pn	**Pn**	**11 34 40.8**	**-0.6**
SUTC	**Sutluce-Ispart**	**2.38**	**68**	*e*PN	**Pn**	**11 34 44.7**	**+1.9**
SUTC	**Sutluce-Ispart**	**2.38**	**68**	*e*Pn	**Pn**	**11 34 44.7**	**+1.8**
DEMI	**Demirci**	**2.44**	**9**	*i*P	**Pn**	**11 34 43.5**	**-0.2**
DEMI	**Demirci**	**2.44**	**9**	*i* P	**Pn**	**11 34 43.5**	**-0.2**
CHOS	**Chios island**	**2.46**	**316**	*e*P	**Pn**	**11 34 44.0**	**0.0**
CHOS	**Chios island**	**2.46**	**316**	P	**Pn**	**11 34 43.4**	**-0.6**
CHOS				S	**Sn**	**11 35 11.0**	**-2.0**
CHOS	**Chios island**	**2.46**	**316**	*e*P	**Pn**	**11 34 44.0**	**0.0**
CHOS				S	**Sn**	**11 35 11.0**	**-2.0**
NPS	**Neapolis**	**2.52**	**238**	*e*P	**Pn**	**11 34 45.4**	**+0.5**
NPS	**Neapolis**	**2.52**	**238**	P	**Pn**	**11 34 45.2**	**+0.3**
NPS				S	**Sn**	**11 35 13.7**	**-0.9**
NPS	**Neapolis**	**2.52**	**238**	P	**Pn**	**11 34 45.2**	**+0.3**
NPS				S	**Sn**	**11 35 13.7**	**-0.9**
SHUT	**Suhut-Afyon**	**2.66**	**43**	*e*PN	**Pn**	**11 34 47.5**	**+0.7**
SHUT	**Suhut-Afyon**	**2.66**	**43**	*e*Pn	**Pn**	**11 34 47.5**	**+0.7**
ALT	**Altintas**	**2.84**	**31**	*e*PN	**Pn**	**11 34 49.6**	**+0.4**
ALT	**Altintas**	**2.84**	**31**	*e*Pn	**Pn**	**11 34 49.6**	**+0.4**
BALB	**Balikesir**	**3.02**	**355**	*e*PN	**Pn**	**11 34 51.9**	**+0.3**
BALB	**Balikesir**	**3.02**	**355**	*e*Pn	**Pn**	**11 34 51.9**	**+0.4**
PRK	**Paraskevi**	**3.03**	**330**	*e*P	**Pn**	**11 34 52.0**	**+0.2**
PRK	**Paraskevi**	**3.03**	**330**	P	**Pn**	**11 34 52.0**	**+0.2**
PRK				S	**Sn**	**11 35 25.3**	**-1.6**
PRK	**Paraskevi**	**3.03**	**330**	P	**Pn**	**11 34 52.0**	**+0.2**
PRK				S	**Sn**	**11 35 25.3**	**-1.6**
BALY	**Balya**	**3.14**	**351**	*i*P	**Pn**	**11 34 53.1**	**-0.1**
BALY				*e*S	**Sn**	**11 35 21.5**	**-8.0**
BALY	**Balya**	**3.14**	**351**	*i* P	**Pn**	**11 34 53.1**	**-0.1**
SIGR	**SIGRI**	**3.18**	**325**	P	**Pn**	**11 34 53.2**	**-0.6**
SIGR				S	**Sn**	**11 35 28.3**	**-2.3**
SIGR	**SIGRI**	**3.18**	**325**	P	**Pn**	**11 34 53.2**	**-0.6**
SIGR				S	**Sn**	**11 35 28.3**	**-2.3**
SIVA	**Sivas**	**3.21**	**241**	*e*P	**Pn**	**11 34 55.7**	**+1.5**
SIVA	**Sivas**	**3.21**	**241**	*e*P	**Pn**	**11 34 55.7**	**+1.5**
HDMB	**Hadim**	**3.44**	**83**	*e*PN	**Pn**	**11 35 00.1**	**+2.8**
HDMB	**Hadim**	**3.44**	**83**	*e*Pn	**Pn**	**11 35 00.1**	**+2.8**
VAM	**Vamos**	**3.48**	**251**	*e*P	**Pn**	**11 34 59.2**	**+1.3**
VAM	**Vamos**	**3.48**	**251**	*e*P	**Pn**	**11 34 59.2**	**+1.3**
KONT	**Konya--Tatoy**	**3.55**	**67**	*e*PN	**Pn**	**11 35 00.5**	**+1.7**
KONT	**Konya--Tatoy**	**3.55**	**67**	*e*Pn	**Pn**	**11 35 00.5**	**+1.7**
BOZC	**Bozcaada**	**3.63**	**333**	*i*P	**Pn**	**11 35 00.0**	**+0.1**
BOZC				*i* S	**Sn**	**11 35 39.1**	**-2.5**
KIZT	**Kizilcal**	**3.67**	**51**	*e*PN	**Pn**	**11 35 01.7**	**+1.3**
KIZT	**Kizilcal**	**3.67**	**51**	*e*Pn	**Pn**	**11 35 01.7**	**+1.3**
VLY	**Voula,Athens**	**3.74**	**290**	*e*P	**Pn**	**11 35 03.0**	**+1.6**
VLY	**Voula,Athens**	**3.74**	**290**	*e*P	**Pn**	**11 35 03.0**	**+1.6**
PTL	**Penteli**	**3.75**	**293**	*e*P	**Pn**	**11 35 02.4**	**+0.9**
PTL	**Penteli**	**3.75**	**293**	*e*P	**Pn**	**11 35 02.4**	**+0.9**
SVRH	**Sivrihisar-ESK**	**3.83**	**42**	*e*PN	**Pn**	**11 35 03.7**	**+1.0**
SVRH	**Sivrihisar-ESK**	**3.83**	**42**	*e*Pn	**Pn**	**11 35 03.7**	**+1.1**
ATH	**Athens Observa**	**3.83**	**292**	*e*P	**Pn**	**11 35 04.4**	**+1.7**
ATH	**Athens Observa**	**3.83**	**292**	*e*P	**Pn**	**11 35 04.4**	**+1.7**
LPK	**Lapseki**	**3.91**	**343**	*e*PN	**Pn**	**11 35 03.2**	**-0.5**
LPK	**Lapseki**	**3.91**	**343**	*e*Pn	**Pn**	**11 35 03.2**	**-0.5**
NAIG	**Nisos Aigina**	**3.94**	**288**	*e*P	**Pn**	**11 35 05.4**	**+1.2**
NAIG	**Nisos Aigina**	**3.94**	**288**	*e*P	**Pn**	**11 35 05.4**	**+1.2**
GADA	**Gvkgeada**	**3.99**	**334**	*e*PN	**Pn**	**11 35 05.4**	**+0.6**
GADA	**Gvkgeada**	**3.99**	**334**	*e*Pn	**Pn**	**11 35 05.4**	**+0.5**
GELI	**Tayfur-Gelibol**	**4.00**	**340**	*e*PN	**Pn**	**11 35 05.8**	**+0.8**
GELI	**Tayfur-Gelibol**	**4.00**	**340**	*e*Pn	**Pn**	**11 35 05.8**	**+0.8**
YLV	**Yalova**	**4.03**	**13**	*e*PN	**Pn**	**11 35 07.1**	**+1.8**
YLV	**Yalova**	**4.03**	**13**	*e*Pn	**Pn**	**11 35 07.1**	**+1.7**
LIA	**Limnos Island**	**4.04**	**325**	*e*P	**Pn**	**11 35 06.2**	**+0.7**
LIA	**Limnos Island**	**4.04**	**325**	P	**Pn**	**11 35 06.0**	**+0.5**
LIA				S	**Sn**	**11 35 49.1**	**-2.5**
LIA	**Limnos Island**	**4.04**	**325**	P	**Pn**	**11 35 06.0**	**+0.5**
LIA				S	**Sn**	**11 35 49.1**	**-2.5**
DID	**Didima**	**4.08**	**284**	*e*P	**Pn**	**11 35 07.7**	**+1.6**
DID	**Didima**	**4.08**	**284**	*e*P	**Pn**	**11 35 07.7**	**+1.6**
KYTH	**Kithira**	**4.20**	**267**	*e*P	**Pn**	**11 35 08.2**	**+0.6**
KYTH	**Kithira**	**4.20**	**267**	P	**Pn**	**11 35 07.8**	**+0.2**
KYTH	**Kithira**	**4.20**	**267**	P	**Pn**	**11 35 07.8**	**+0.2**
MFT	**Murefte**	**4.21**	**350**	*e*PN	**Pn**	**11 35 08.9**	**+1.0**
MFT	**Murefte**	**4.21**	**350**	*e*Pn	**Pn**	**11 35 08.9**	**+1.1**
ERIK	**Erikli-Kesan**	**4.25**	**342**	*e*PN	**Pn**	**11 35 09.2**	**+0.8**
ERIK	**Erikli-Kesan**	**4.25**	**342**	*e*Pn	**Pn**	**11 35 09.2**	**+0.9**
VLI	**Veliai**	**4.25**	**273**	*e*P	**Pn**	**11 35 10.3**	**+1.9**
VLI	**Veliai**	**4.25**	**273**	*e*P	**Pn**	**11 35 10.3**	**+1.9**
AOS	**Alonnisos**	**4.27**	**308**	P	**Pn**	**11 35 09.5**	**+0.9**
AOS	**Alonnisos**	**4.27**	**308**	P	**Pn**	**11 35 09.5**	**+0.9**
ENEZ	**Enez**	**4.41**	**339**	*e*PN	**Pn**	**11 35 10.9**	**+0.4**
ENEZ	**Enez**	**4.41**	**339**	*e*Pn	**Pn**	**11 35 10.9**	**+0.4**
LTK	**Loutraki**	**4.41**	**290**	*e*P	**Pn**	**11 35 12.5**	**+1.9**
LTK	**Loutraki**	**4.41**	**290**	*e*P	**Pn**	**11 35 12.5**	**+1.9**
CSS	**Prodhromos**	**4.47**	**110**	*e*P	**Pn**	**11 35 12.2**	**+0.8**
CSS	**Prodhromos**	**4.47**	**110**	*e*P	**Pn**	**11 35 12.2**	**+0.8**
ALN	**Alexandroupoli**	**4.59**	**339**	*e*P	**Pn**	**11 35 13.5**	**+0.6**
ALN	**Alexandroupoli**	**4.59**	**339**	P	**Pn**	**11 35 13.4**	**+0.5**
ALN	**Alexandroupoli**	**4.59**	**339**	P	**Pn**	**11 35 13.4**	**+0.5**
LKR	**Lokris**	**4.61**	**

ASF			S	Sn	11 37 36.2	-3.0
EIL	**Elat**	**8.94 139**	P	Pn	**11 36 11.3**	**-1.2**
	comp=E,4.5nm,0.3s,baz=358,slow=9.6,SNR=35					
EIL			S	Sn	**11 37 45.5**	**-6.2**
	comp=E,23nm,0.3s,baz=99,slow=21,SNR=14					
EIL	**Elat**	**8.94 139**	P	Pn	**11 36 11.3**	**-1.2**
EIL			S	Sn	**11 37 45.5**	**-6.1**
EIL	**Elat**	**8.94 139**	P	Pn	**11 36 11.3**	**-1.2**
MLR	**Muntele Rosu**	**9.02 350**	P	Pn	**11 36 15.5**	**+2.1**
	comp=E,0.1nm,0.3s,baz=180,slow=8.7,SNR=4.3					
MLR	**Muntele Rosu**	**9.02 350**	P	Pn	**11 36 15.5**	**+2.1**
MLR	**Muntele Rosu**	**9.02 350** ⇓	*i*P	Pn	**11 36 15.4**	**+2.0**
MLR	**Muntele Rosu**	**9.02 350**	P	Pn	**11 36 15.5**	**+2.1**
GRB	**Gharib**	**9.18 154**	P	Pn	**11 36 14.9**	**-0.9**
	baz=153					
GRB	**Gharib**	**9.18 154**	P	Pn	**11 36 14.9**	**-0.9**
HBST	**Basata**	**9.20 142**	P	Pn	**11 36 15.4**	**-0.5**
	baz=141					
HBST	**Basata**	**9.20 142**	P	Pn	**11 36 15.4**	**-0.6**
HKAT	**Jabal Katrina**	**9.44 147**	P	Pn	**11 36 18.5**	**-0.8**
	baz=147					
HKAT	**Jabal Katrina**	**9.44 147**	P	Pn	**11 36 18.5**	**-0.7**
HFRF	**Wahat Farafira**	**9.46 180**	P	Pn	**11 36 19.1**	**-0.4**
	baz=181					
HFRF	**Wahat Farafira**	**9.46 180**	P	Pn	**11 36 19.1**	**-0.4**
HDHB	**Dhahab**	**9.55 144**	P	Pn	**11 36 20.3**	**-0.5**
	baz=143					
HDHB	**Dhahab**	**9.55 144**	P	Pn	**11 36 19.9**	**-0.9**
ASUT		**9.63 162**	P	Pn	**11 36 21.2**	**-0.7**
	baz=162					
ASUT		**9.63 162**	P	Pn	**11 36 21.2**	**-0.8**
TR1		**9.87 149**	P	Pn	**11 36 24.6**	**-0.6**
	baz=148					
TR1		**9.87 149**	P	Pn	**11 36 24.2**	**-1.0**
KBA	**Koelnbreinsper**	**15.20 318** ⇑	*i*Pn	Pn	**11 37 41.7**	**+5.3**
	comp=E,14nm,0.9s					
KBA	**Koelnbreinsper**	**15.20 318**	P	Pn	**11 37 41.7**	**+5.3**
	comp=E,14nm,0.9s					
KEST	**Kesra**	**15.27 272**	P	Pn	**11 37 39.5**	**+2.0**
	comp=E,0.2nm,0.3s,baz=254,slow=1.2,SNR=9.8					
KEST	**Kesra**	**15.27 272**	*e*Pn	Pn	**11 37 42.3**	**+4.8**
GERES	**GERESS Array B**	**16.18 324**	P	Pn	**11 37 51.8**	**+3.0**
	comp=E,0.5nm,0.3s,baz=133,slow=13,SNR=13					
GERES	**GERESS Array B**	**16.18 324**	P	Pn	**11 37 51.8**	**+3.0**
GERES	**GERESS Array B**	**16.18 324**	P	Pn	**11 37 51.8**	**+3.1**
WTTA	**Wattenberg**	**16.25 316** ⇑	*i*Pn	Pn	**11 37 53.5**	**+3.9**
	comp=E,15nm,0.9s					
WTTA	**Wattenberg**	**16.25 316**	P	Pn	**11 37 53.5**	**+3.9**
	comp=E,15nm,0.9s					
FETA	**Feichten**	**16.63 314** ⇑	*i*Pn	Pn	**11 37 58.2**	**+3.8**
	comp=E,25nm,1.0s					
FETA	**Feichten**	**16.63 314**	P	Pn	**11 37 58.2**	**+3.8**
	comp=E,25nm,1.0s					
DAVOX	**Davos/Dischmat**	**17.00 312**	P	Pn	**11 38 02.0**	**+3.0**
	comp=E,0.3nm,0.3s,baz=122,slow=15,SNR=4.2					
DAVOX	**Davos/Dischmat**	**17.00 312**	P	Pn	**11 38 02.0**	**+3.0**
DAVOX	**Davos/Dischmat**	**17.00 312**	P	Pn	**11 38 02.0**	**+3.0**
DAVA	**Damuels**	**17.26 314** ⇓	*i*Pn	Pn	**11 38 04.6**	**+2.4**
	comp=E,12nm,0.8s					
DAVA	**Damuels**	**17.26 314**	P	Pn	**11 38 04.6**	**+2.4**
	comp=E,12nm,0.8s					
MBDF	**Montbardon**	**18.13 303**	*e*P	Pn	**11 38 12.4**	**-0.4**
	comp=E,17nm,0.5s					
MBDF	**Montbardon**	**18.13 303**	*e*P	Pn	**11 38 12.4**	**-0.4**
	comp=E,8.4nm,0.5s					
LPG	**La Plagne**	**18.41 305**	*e*P	Pn	**11 38 16.3**	**+0.1**
LPG	**La Plagne**	**18.41 305**	*e*P	Pn	**11 38 16.3**	**+0.1**
LPL	**La Plagne**	**18.43 305**	*e*P	Pn	**11 38 16.5**	**+0.1**
	comp=E,13nm,0.5s					
LPL	**La Plagne**	**18.43 305**	*e*P	Pn	**11 38 16.5**	**+0.1**
	comp=E,6.3nm,0.5s					
ORIF	**Oris-en-Rattie**	**18.80 303**	*e*P	Pn	**11 38 19.7**	**-1.1**
	comp=E,31nm,1.0s					
ORIF	**Oris-en-Rattie**	**18.80 303**	*e*P	Pn	**11 38 19.7**	**-1.1**
	comp=E,15nm,1.0s					
CABF	**La Chapelle**	**19.26 308**	*e*P	Pn	**11 38 25.1**	**-1.2**
	comp=E,25nm,0.6s					
CABF	**La Chapelle**	**19.26 308**	*e*P	Pn	**11 38 25.1**	**-1.2**
	comp=E,13nm,0.6s					
HINF	**Hinteralfeld**	**19.31 312**	*e*P	Pn	**11 38 25.6**	**-1.2**
	comp=E,5.5nm,0.5s					
HINF	**Hinteralfeld**	**19.31 312**	*e*P	Pn	**11 38 25.6**	**-1.2**
	comp=E,2.8nm,0.5s					
CDF	**Champ du Feu**	**19.34 314**	*e*P	Pn	**11 38 26.6**	**-0.7**
CDF	**Champ du Feu**	**19.34 314**	*e*P	Pn	**11 38 26.6**	**-0.7**
VIVF	**Saint-Julien-l**	**19.59 302**	*e*P	Pn	**11 38 28.3**	**-1.9**
	comp=E,27nm,0.6s					
VIVF	**Saint-Julien-l**	**19.59 302**	*e*P	Pn	**11 38 28.3**	**-1.9**
	comp=E,14nm,0.6s					
HAU	**Haudompre**	**19.70 312**	*e*P	Pn	**11 38 30.3**	**-1.1**
	comp=E,18nm,0.6s					
HAU	**Haudompre**	**19.70 312**	*e*P	Pn	**11 38 30.3**	**-1.1**
	comp=E,9.1nm,0.6s					
LASF	**Ste Croix**	**19.96 299**	*e*P	Pn	**11 38 32.5**	**-2.0**
	comp=E,23nm,0.9s					
LASF	**Ste Croix**	**19.96 299**	*e*P	Pn	**11 38 32.5**	**-2.0**
	comp=E,11nm,0.9s					
SFTF	**Sexfontaines**	**20.57 311**	*e*P	P	**11 38 39.8**	**+1.0**
	comp=E,16nm,0.4s					
SFTF	**Sexfontaines**	**20.57 311**	*e*P	P	**11 38 39.8**	**+1.0**
	comp=E,7.9nm,0.4s					
SMF	**Signal de Mont**	**20.71 306**	*e*P	P	**11 38 40.1**	**-0.2**
	comp=E,27nm,0.5s					
SMF	**Signal de Mont**	**20.71 306**	*e*P	P	**11 38 40.1**	**-0.2**
	comp=E,13nm,0.5s					
LOR	**Lormes**	**20.92 308**	*e*P	P	**11 38 42.8**	**+0.2**
LOR	**Lormes**	**20.92 308**	*e*P	P	**11 38 42.8**	**+0.2**
MTLF	**Montolieu**	**20.97 297**	*e*P	P	**11 38 42.7**	**-0.5**
	comp=E,17nm,0.8s					
MTLF	**Montolieu**	**20.97 297**	*e*P	P	**11 38 42.7**	**-0.5**
	comp=E,8.3nm,0.8s					
SSF	**Saint Saulge**	**21.07 307**	*e*P	P	**11 38 43.9**	**-0.3**
	comp=E,24nm,0.7s,mb4.3					
SSF	**Saint Saulge**	**21.07 307**	*e*P	P	**11 38 43.9**	**-0.3**
	comp=E,12nm,0.7s,mb4.3					
AVF	**Avril sur Loir**	**21.08 307**	*e*P	P	**11 38 43.3**	**-0.9**
	comp=E,8.5nm,0.6s,mb3.9					
AVF	**Avril sur Loir**	**21.08 307**	*e*P	P	**11 38 43.3**	**-0.9**
	comp=E,4.2nm,0.6s,mb3.9					
BGF	**Bois d'Agland**	**21.33 306**	*e*P	P	**11 38 46.2**	**-0.8**
	comp=E,27nm,0.8s,mb4.3					
BGF	**Bois d'Agland**	**21.33 306**	*e*P	P	**11 38 46.2**	**-0.8**
	comp=E,13nm,0.8s,mb4.3					
TCF	**Toulx Ste Croi**	**21.67 305**	*e*P	P	**11 38 52.1**	**+1.6**
	comp=E,11nm,0.7s,mb4.0					
TCF	**Toulx Ste Croi**	**21.67 305**	*e*P	P	**11 38 52.1**	**+1.6**
	comp=E,5.5nm,0.7s,mb4.0					
EPF	**Esparros**	**22.29 295**	*e*P	P	**11 38 56.7**	**-0.5**
	comp=E,10nm,0.8s,mb3.9					
EPF	**Esparros**	**22.29 295**	*e*P	P	**11 38 56.7**	**-0.5**
	comp=E,5.1nm,0.8s,mb3.9					
ETSF	**Etsaut**	**22.93 295**	*e*P	P	**11 39 04.9**	**+1.0**
ETSF	**Etsaut**	**22.93 295**	*e*P	P	**11 39 04.9**	**+1.0**
MFF	**Saint Martin d**	**23.32 304**	*e*P	P	**11 39 07.3**	**-0.3**
	comp=E,12nm,0.6s,mb4.1					
MFF	**Saint Martin d**	**23.32 304**	*e*P	P	**11 39 07.3**	**-0.3**
	comp=E,5.8nm,0.6s,mb4.1					
LDF	**La Druitiere**	**23.90 309**	*e*P	P	**11 39 12.7**	**-0.1**
	comp=E,11nm,0.7s,mb4.0					
LDF	**La Druitiere**	**23.90 309**	*e*P	P	**11 39 12.7**	**-0.1**
	comp=E,5.5nm,0.7s,mb4.0					
FLN	**La Foliniere**	**24.18 309**	*e*P	P	**11 39 14.9**	**-0.5**
FLN	**La Foliniere**	**24.18 309**	*e*P	P	**11 39 14.9**	**-0.5**
GRR	**Gorron**	**24.29 308**	*e*P	P	**11 39 16.2**	**-0.3**
GRR	**Gorron**	**24.29 308**	*e*P	P	**11 39 16.2**	**-0.3**
FINES	**FINESS Array B**	**24.87 358**	P	P	**11 39 21.6**	**0.0**
	comp=E,6.2nm,0.8s,mb4.1,baz=158,slow=10,SNR=14					
FINES			pP		11 39 39.4	
	comp=E,2.8nm,0.6s,baz=146,slow=14,SNR=1.4					
FINES	**FINESS Array B**	**24.87 358**	P	P	**11 39 21.6**	**0.0**
FINES			pP		11 39 39.4	
FINES	**FINESS Array B**	**24.87 358**	P	P	**11 39 21.5**	**-0.1**
HFS	**Hagfors**	**25.30 343**	P	P	**11 39 25.0**	**-0.5**
	comp=E,2.9nm,0.8s,mb3.8,baz=166,slow=9.2,SNR=6.4					
HFS	**Hagfors**	**25.30 343**	P	P	**11 39 25.0**	**-0.5**
HFS	**Hagfors**	**25.30 343**	P	P	**11 39 25.0**	**-0.5**
ESDC	**Sonseca Array**	**25.42 287**	P	P	**11 39 27.0**	**+0.2**
	comp=E,3.1nm,0.4s,mb4.1,baz=83,slow=9.4,SNR=16					
ESDC	**Sonseca Array**	**25.42 287**	P	P	**11 39 27.0**	**+0.2**
ESDC	**Sonseca Array**	**25.42 287**	P	P	**11 39 27.0**	**+0.2**
ARCES	**ARCESS Array B**	**32.99 358**	P	P	**11 40 33.6**	**0.0**
	comp=E,4.0nm,0.8s,mb4.3,baz=163,slow=8.5,SNR=6.5					
ARCES	**ARCESS Array B**	**32.99 358**	P	P	**11 40 33.6**	**0.0**
ARCES	**ARCESS Array B**	**32.99 358**	P	P	**11 40 33.7**	**0.0**
TORD	**Torodi Ar. Bea**	**33.35 232**	P	P	**11 40 37.9**	**+0.5**
	comp=E,9.2nm,0.6s,mb4.8,baz=34,slow=8.8,SNR=96					
TORD			pP	pP	11 40 55.4	+0.7
	comp=E,1.0nm,0.6s,baz=30,slow=8.4,SNR=1.9					
TORD	**Torodi Ar. Bea**	**33.35 232**	P	P	**11 40 37.9**	**+0.5**
TORD			pP	pP	11 40 55.4	+0.7
TORD	**Torodi Ar. Bea**	**33.35 232**	P	P	**11 40 37.8**	**+0.5**
TORD			pP	pP	11 40 55.4	+0.7
MKAR	**Makanchi Array**	**40.89 58**	P	P	**11 41 41.6**	**+0.8**
	comp=E,0.6nm,0.8s,mb3.5,baz=292,slow=3.8,SNR=4.3					
MKAR			pP	pP	11 41 57.5	-1.2
	comp=E,1.1nm,0.8s,baz=298,slow=6.4,SNR=5.4					
MKAR	**Makanchi Array**	**40.89 58**	P	P	**11 41 41.6**	**+0.8**
MKAR			pP	pP	11 41 57.5	-1.2
MKAR	**Makanchi Array**	**40.89 58**	P	P	**11 41 41.7**	**+0.8**
MKAR			pP	pP	11 41 57.5	-1.2
DBIC	**Dimbokro**	**42.43 233**	P	P	**11 41 53.3**	**-0.5**
	comp=E,2.2nm,0.5s,mb4.2,baz=24,slow=9.0,SNR=8.0					
DBIC	**Dimbokro**	**42.43 233**	P	P	**11 41 53.3**	**-0.5**
DBIC	**Dimbokro**	**42.43 233**	P	P	**11 41 53.3**	**-0.5**
SONM	**Songino Array**	**56.63 52**	P	P	**11 43 42.7**	**+1.3**
	comp=E,0.2nm,0.7s,mb3.3,baz=256,slow=4.3,SNR=2.7					
SONM	**Songino Array**	**56.63 52**	P	P	**11 43 42.7**	**+1.4**
SONM	**Songino Array**	**56.63 52**	P	P	**11 43 42.7**	**+1.3**
SCHQ	**Schefferville**	**63.67 320**	P	P	**11 44 27.9**	**-1.5**
	comp=E,2.7nm,0.7s,mb4.2,baz=83,slow=8.1,SNR=4.8					
SCHQ	**Schefferville**	**63.67 320**	P	P	**11 44 27.9**	**-1.5**
SCHQ	**Schefferville**	**63.67 320**	P	P	**11 44 27.9**	**-1.5**
CMAR	**Chiang Mai Arr**	**63.96 86**	P	P	**11 44 30.0**	**-1.8**
	comp=E,0.5nm,0.7s,mb3.4,baz=283,slow=8.7,SNR=4.2					
CMAR			pP	pP	11 44 50.4	-0.6
	comp=E,1.0nm,0.7s,baz=298,slow=8.4,SNR=5.6					
CMAR	**Chiang Mai Arr**	**63.96 86**	P	P	**11 44 30.0**	**-1.8**
CMAR			pP	pP	11 44 50.4	-0.6
CMAR	**Chiang Mai Arr**	**63.96 86**	P	P	**11 44 30.0**	**-1.8**
CMAR			pP	pP	11 44 50.3	-0.6
BOSA	**Boshof**	**64.96 183**	P	P	**11 44 37.8**	**-0.2**
	comp=E,1.2nm,0.7s,mb3.8,baz=0.0,slow=2.0,SNR=2.8					
BOSA	**Boshof**	**64.96 183**	P	P	**11 44 37.8**	**-0.2**
BOSA	**Boshof**	**64.96 183**	P	P	**11 44 37.8**	**-0.2**
ILAR	**Eielson Array**	**78.86 358**	P	P	**11 46 00.2**	**-0.6**
	comp=E,0.3nm,0.8s,mb3.1,baz=12,slow=4.7,SNR=3.6					
ILAR	**Eielson Array**	**78.86 358**	P	P	**11 46 00.2**	**-0.6**
ILAR	**Eielson Array**	**78.86 358**	P	P	**11 46 00.2**	**-0.6**
ASAR	**Alice Springs**	**115.88 101**	PKP	PKPdf	11 52 40.5	-0.1
	comp=E,0.3nm,0.8s,baz=285,slow=1.6,SNR=4.0					
ASAR	**Alice Springs**	**115.88 101**	PKP	PKPdf	11 52 40.5	-0.1
ASAR	**Alice Springs**	**115.88 101**	PKIKP	PKPdf	11 52 40.5	-0.1

IDC 24 11:37:19.1±1.9, 8°01S×123°91E, h0km, mb3.5/1, mb1 3.7/4, mb1mx3.4/19, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=139.8km s-min=27.7km az=64.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.18**	**171**	Pn	Pn	11 39 46.6	0.0
	0.2nm,0.3s,baz=15,slow=13,SNR=6.3						
FITZ				Sn	Sn	11 41 28.3	-13
	0.9nm,0.3s,baz=272,slow=21,SNR=8.7						
WRA	**Warramunga Arr**	**15.59**	**141**	Pn	Pn	11 41 01.0	+0.6
	0.2nm,0.3s,baz=319,slow=13,SNR=8.6						
WRA				Sn	Sn	11 43 35.5	-18
	0.1nm,0.3s,baz=311,slow=22,SNR=4.3						
ASAR	**Alice Springs**	**18.29**	**150**	P	Pn	11 41 34.2	-0.2
	0.1nm,0.3s,baz=329,slow=13,SNR=6.9						
ASAR				S	Sn	11 44 43.5	-16
	0.1nm,0.3s,baz=322,slow=22,SNR=4.2						
MKAR	**Makanchi Array**	**65.91**	**330**	P	P	11 48 06.9	+0.1
	0.3nm,0.6s,baz=141,slow=6.2,SNR=3.9						

IDC 24 11:44:30.6±2.2, 60°34S×28°25W, h0km, mb3.9/3, mb1 3.9/3, mb1mx3.5/14, mbtmp3.8/3, Error ellipse: s-maj=89.9km s-min=46.6km az=110.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**15.18**	**149**	*e*	Pn	11 48 01.9	-4.0
BOSA	**Boshof**	**47.67**	**73**	P	P	11 53 08.6	+0.1
	1.0nm,0.5s,baz=222,slow=11,SNR=4.4						
TORD	**Torodi Ar. Bea**	**77.07**	**30**	P	P	11 56 25.6	+0.2
	0.9nm,0.5s,baz=199,slow=6.1,SNR=7.8						
ASAR	**Alice Springs**	**95.04**	**164**	P	P	11 57 55.3	+0.2
	0.2nm,0.8s,baz=192,slow=3.4,SNR=2.9						
SONM	**Songino Array**	**151.23**	**95**	PKPbc	PKPbc	12 04 24.2	-0.4
	0.2nm,0.5s,baz=215,slow=3.7,SNR=4.3						

*ISCJB **24** 11:51:59.7±0.5, 38°.81N±0°.02×23°.52E±0°.03, h5km±4km, Error ellipse: s-maj=4.1km s-min=3.5km az=168.5*
*ATH **24** 11:51:59.8, 38°.81N×23°.50E, h23km±1km, MD3.0/11, ML3.0*
*CSEM **24** 11:52:00.1±0.1, 38°.80N×23°.52E, h10km, ML2.6/6, Error ellipse: s-maj=2.8km s-min=2.3km az=103.0*
*THE **24** 11:52:00.4, 38°.80N×23°.51E, h5km±1km, ML2.6/6, Error ellipse: s-maj=1.7km s-min=0.7km az=333.0*

ISC 24 11:52:00.3±0.5, 38°.81N±0°.02×23°.51E±0°.03, h8km±4km, n49, σ0s72/85, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATAL	**Atalanti**	**0.40**	**253**	P	**Pg**	**11 52 08.1**	**-0.1**
ATAL				S	**Sg**	**11 52 13.9**	**+0.4**
ATAL	**Atalanti**	**0.40**	**253**	P	**Pg**	**11 52 08.1**	**-0.1**
ATAL				S	**Sg**	**11 52 13.9**	**+0.4**
LKR	**Lokris**	**0.43**	**248**	*e*PB	**Pg**	**11 52 08.6**	**-0.2**
LKR				*e*SB	**Sg**	**11 52 14.5**	**0.0**
LKR	**Lokris**	**0.43**	**248**	P	**Pg**	**11 52 08.5**	**-0.3**
LKR				S	**Sg**	**11 52 14.8**	**+0.3**
LKR	**Lokris**	**0.43**	**248**	*e*Pb	**Pg**	**11 52 08.6**	**-0.2**
LKR				*e*Sb	**Sg**	**11 52 14.5**	**0.0**
LKR				S	**Sg**	**11 52 14.8**	**+0.3**
AOS	**Alonnisos**	**0.46**	**39**	P	**Pg**	**11 52 09.2**	**0.0**
AOS				S	**Sg**	**11 52 16.2**	**+0.9**
AOS	**Alonnisos**	**0.46**	**39**	P	**Pg**	**11 52 09.2**	**0.0**
AOS				S	**Sg**	**11 52 16.2**	**+0.9**
NEO	**Neokhori**	**0.54**	**335**	*e*PN	**Pg**	**11 52 11.1**	**+0.3**
NEO	**Neokhori**	**0.54**	**335**	P	**Pg**	**11 52 11.1**	**+0.3**
NEO	**Neokhori**	**0.54**	**335**	P	**Pg**	**11 52 11.1**	**+0.3**
PTL	**Penteli**	**0.81**	**160**	*e*PN	**Pg**	**11 52 14.3**	**-1.7**
PTL				*e*SN	**Sg**	**11 52 27.3**	**+0.8**
PTL	**Penteli**	**0.81**	**160**	*e*Pn	**Pg**	**11 52 14.3**	**-1.7**
PTL				*e*Sn	**Sg**	**11 52 27.3**	**+0.8**
ATH	**Athens Observa**	**0.85**	**169**	*e*PN	**Pg**	**11 52 17.2**	**+0.4**
ATH				*e*SN	**Sg**	**11 52 28.6**	**+0.7**
ATH	**Athens Observa**	**0.85**	**169**	*e*Pn	**Pg**	**11 52 17.2**	**+0.4**
ATH				*e*Sn	**Sg**	**11 52 28.6**	**+0.7**
DSF	**Desfina**	**0.87**	**243**	P	**Pg**	**11 52 16.8**	**-0.3**
DSF				S	**Sg**	**11 52 28.3**	**-0.1**
DSF	**Desfina**	**0.87**	**243**	P	**Pg**	**11 52 16.8**	**-0.3**
DSF				S	**Sg**	**11 52 28.3**	**-0.1**
LTK	**Loutraki**	**0.90**	**209**	*e*PN	**Pg**	**11 52 17.1**	**-0.5**
LTK				*e*SN	**Sg**	**11 52 30.5**	**+1.2**
LTK	**Loutraki**	**0.90**	**209**	P	**Pg**	**11 52 17.1**	**-0.5**
LTK				S	**Sg**	**11 52 30.8**	**+1.5**
LTK	**Loutraki**	**0.90**	**209**	P	**Pg**	**11 52 17.1**	**-0.5**
LTK				*e*Sn	**Sg**	**11 52 30.5**	**+1.2**
LTK				S	**Sg**	**11 52 30.8**	**+1.5**
AGG	**Agios Georgios**	**0.95**	**283**	*e*PN	**Pg**	**11 52 17.6**	**-0.9**
AGG				*e*SB	**Sg**	**11 52 30.1**	**-0.7**
AGG	**Agios Georgios**	**0.95**	**283**	P	**Pg**	**11 52 17.6**	**-0.9**
AGG				S	**Sg**	**11 52 31.6**	**+0.8**
AGG	**Agios Georgios**	**0.95**	**283**	P	**Pg**	**11 52 17.6**	**-0.9**
AGG				*e*Sb	**Sg**	**11 52 30.1**	**-0.7**
AGG				S	**Sg**	**11 52 31.6**	**+0.8**
VLY	**Voula,Athens**	**0.98**	**167**	*e*PN	**Pg**	**11 52 18.9**	**-0.4**
VLY				*e*SN	**Sg**	**11 52 32.3**	**+0.3**
VLY	**Voula,Athens**	**0.98**	**167**	P	**Pg**	**11 52 18.9**	**-0.4**
VLY				S	**Sg**	**11 52 31.8**	**-0.2**
VLY	**Voula,Athens**	**0.98**	**167**	P	**Pg**	**11 52 18.9**	**-0.4**
VLY				S	**Sg**	**11 52 31.8**	**-0.2**
VLY				*e*Sn	**Sg**	**11 52 32.3**	**+0.3**
NAIG	**Nisos Aigina**	**1.05**	**181**	*e*PN	**Pg**	**11 52 20.5**	**-0.1**
NAIG	**Nisos Aigina**	**1.05**	**181**	*e*Pn	**Pg**	**11 52 20.5**	**-0.1**
PAIG	**Paliouri**	**1.12**	**7**	P	**Pg**	**11 52 21.4**	**-0.5**
PAIG	**Paliouri**	**1.12**	**7**	P	**Pg**	**11 52 21.4**	**-0.5**
GUR	**Goura**	**1.27**	**227**	*e*PN	**Pn**	**11 52 24.1**	**-0.2**
GUR				*e*SN	**Sn**	**11 52 42.0**	**+0.5**
GUR	**Goura**	**1.27**	**227**	P	**Pn**	**11 52 24.2**	**-0.1**
GUR				S	**Sn**	**11 52 42.0**	**+0.5**
GUR	**Goura**	**1.27**	**227**	P	**Pn**	**11 52 24.2**	**-0.1**
GUR				S	**Sn**	**11 52 42.0**	**+0.5**
EFP	**Efpalio**	**1.32**	**253**	*e*PN	**Pn**	**11 52 25.3**	**+0.3**
EFP				*e*SN	**Sn**	**11 52 42.4**	**-0.3**
EFP	**Efpalio**	**1.32**	**253**	*e*Pn	**Pn**	**11 52 25.3**	**+0.3**
EFP				*e*Sn	**Sn**	**11 52 42.4**	**-0.3**
DID	**Didima**	**1.32**	**190**	*e*PN	**Pn**	**11 52 24.8**	**-0.2**
DID				*e*SN	**Sn**	**11 52 42.7**	**-0.1**
DID	**Didima**	**1.32**	**190**	P	**Pn**	**11 52 24.7**	**-0.3**
DID				S	**Sb**	**11 52 42.6**	**+0.2**
DID	**Didima**	**1.32**	**190**	*e*Pn	**Pn**	**11 52 24.8**	**-0.2**
DID				*e*Sn	**Sn**	**11 52 42.7**	**-0.1**
THL	**Klokotos Trika**	**1.39**	**303**	*e*PN	**Pn**	**11 52 26.5**	**+0.6**
THL				*e*SN	**Sn**	**11 52 45.2**	**+0.8**
THL	**Klokotos Trika**	**1.39**	**303**	*e*Pn	**Pn**	**11 52 26.5**	**+0.6**
THL				*e*Sn	**Sn**	**11 52 45.2**	**+0.8**
PLG	**Polygyros**	**1.56**	**358**	*e*PN	**Pn**	**11 52 27.9**	**-0.4**
PLG	**Polygyros**	**1.56**	**358**	*e*Pn	**Pn**	**11 52 27.9**	**-0.4**
VLX	**Vlachokerasia**	**1.70**	**212**	*e*PN	**Pn**	**11 52 30.4**	**+0.2**
VLX	**Vlachokerasia**	**1.70**	**212**	*e*Pn	**Pn**	**11 52 30.4**	**+0.2**
ITM	**Ithomi**	**2.06**	**218**	*e*PB	**Pb**	**11 52 34.6**	**-3.3**
ITM	**Ithomi**	**2.06**	**218**	*e*Pb	**Pb**	**11 52 34.6**	**-3.3**
VLI	**Veliai**	**2.14**	**192**	*e*PB	**Pb**	**11 52 36.3**	**-3.0**
VLI	**Veliai**	**2.14**	**192**	*e*Pb	**Pb**	**11 52 36.3**	**-3.0**
APE	**Apeiranthos**	**2.36**	**137**	*e*PN	**Pn**	**11 52 39.5**	**+0.2**
APE	**Apeiranthos**	**2.36**	**137**	*e*Pn	**Pn**	**11 52 39.5**	**+0.2**

*ISCJB **24** 12:00:30.3±0.4, 23°.24N±0°.02×121°.66E±0°.02, h28km±3km, Error ellipse: s-maj=4.1km s-min=3.1km az=146.9*
*TAP **24** 12:00:30.6, 23°.23N×121°.67E, h35km, ML3.4, D*
*JMA **24** 12:00:31.6±0.4, 23°.26N×121°.69E, h83km, M2.6*

ISC 24 12:00:30.9±0.4, 23°24N±0°.02×121°63E±0°.02, h28km±3km, n40, σ0s81/72, 6C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHKT	**Chengkung**	**0.28**	**239**	P	**Pb**	**12 00 38.4**	**+0.5**
	baz=243						
CHKT				S	**Sb**	**12 00 44.0**	**+1.3**
	baz=243						
TWF1	**Yuli**	**0.32**	**290** ⇓	*i*P	**Pb**	**12 00 39.1**	**+0.7**
	baz=289						
TWF1				*e*S	**Sb**	**12 00 45.0**	**+1.3**
	baz=289						
EHY	**Hungye**	**0.38**	**313** ⇓	*i*P	**Pb**	**12 00 39.6**	**+0.2**
	baz=310						
EHY				*e*S	**Sb**	**12 00 45.7**	**+0.5**
	baz=310						
TEGC	**Jichi Village**	**0.47**	**350**	*e*P	**Pb**	**12 00 41.1**	**+0.3**
	baz=346						
ELDTW	**Lidau**	**0.56**	**265** ⇑	*i*P	**Pb**	**12 00 41.7**	**-0.6**
	baz=265						
ELDTW				*e*S	**Sb**	**12 00 49.0**	**-1.1**
	baz=265						
ESL	**Shilin**	**0.60**	**343**	P	**Pb**	**12 00 42.2**	**-0.6**
	baz=339						
ESL				*e*S	**Sb**	**12 00 50.1**	**-0.9**
	baz=339						
TWG	**Pinlang**	**0.66**	**231** ⇑	*i*P	**Pb**	**12 00 42.9**	**-1.0**
	baz=232						
TWG				*e*S	**Sb**	**12 00 51.9**	**-0.9**
	baz=232						
YUS	**Yu-Shan**	**0.67**	**292**	P	**Pb**	**12 00 44.1**	**+0.1**
	baz=291						
YUS				S	**Sb**	**12 00 52.9**	**0.0**
	baz=291						
ALS	**Alishan**	**0.80**	**290**	P	**Pn**	**12 00 46.2**	**0.0**
	baz=289						
ALS				S	**Sb**	**12 00 56.8**	**+0.1**
	baz=289						
STYT	**Tauyuan**	**0.81**	**264** ⇑	*i*

JMJ	**Miyako jima 2**	**3.70**	**64**	*e*S		**Sn**	**12 02 07.8**	**-1.0**

IGQ 24 12:07:53.6, 2°.05S × 78°.37W, h164km ± 3km, Mb4.1, Ms3.9, 1C-14D, Error ellipse: s-maj=4.4km s-min=2.7km az=21.3, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACE	**Macas**	**0.27**	**141**	⇓P	Pn	12 08 17.3	+1.6
RIOE	**Riobamba**	**0.39**	**318**	⇓P	Pn	12 08 16.7	+0.6
PAT1	**Patacocha**	**0.54**	**353**	S	Sn	12 08 35.5	+1.0
PAT1	**Patacocha**	**0.54**	**353**	P	Pn	12 08 16.9	+0.2
ARRY	**Arrayan**	**0.54**	**351**	P	Pn	12 08 16.6	-0.1
BMAS	**Trigal station**	**0.55**	**348**	⇓P	Pn	12 08 16.8	0.0
ULBA	**Ulba**	**0.59**	**356**	P	Pn	12 08 17.5	+0.5
RETU	**Refugio**	**0.59**	**353**	P	Pn	12 08 17.6	+0.6
BIL2	**Estacion Bilba**	**0.60**	**347**	P	Pn	12 08 17.6	+0.5
BBIL	**Ulba Tungurahu**	**0.60**	**349**	⇓P	Pn	12 08 17.3	+0.3
BULB	**Ulba Tungurahu**	**0.60**	**356**	⇓P	Pn	12 08 17.2	+0.1
IGUA	**Igualata**	**0.61**	**334**	P	Pn	12 08 17.6	+0.5
BRUN	**Tungurahua Vol**	**0.62**	**356**	⇓P	Pn	12 08 17.3	+0.2
JUI6	**Juive**	**0.62**	**351**	P	Pn	12 08 17.6	+0.4
RUN5	**Runtun**	**0.63**	**355**	P	Pn	12 08 17.5	+0.3
PISA	**Pisayambo**	**0.98**	**359**	P	Pn	12 08 20.3	+0.7
BMOR	**Cotopaxi Volca**	**1.31**	**356**	⇓S	Sn	12 08 45.3	+0.7
BMOR	**Cotopaxi Volca**	**1.31**	**356**	⇓P	Pn	12 08 23.2	+0.8
TAMB	**Tambo**	**1.34**	**0**	P	Pn	12 08 23.9	+1.2
BTAM	**Cotopaxi Volca**	**1.36**	**359**	⇓P	Pn	12 08 23.9	+1.0
BREF	**Cotopaxi Volca**	**1.37**	**357**	⇓P	Pn	12 08 24.2	+1.3
BVC2	**Cotopaxi Volca**	**1.38**	**358**	⇓P	Pn	12 08 24.1	+1.0
VC1	**Cotopaxi 1**	**1.39**	**359**	P	Pn	12 08 24.6	+1.4
PITA	**Cotopaxi Volc**	**1.48**	**358**	P	Pn	12 08 25.2	+1.2
ANTI	**Antisana**	**1.60**	**7**	⇓S	Sn	12 08 51.3	+1.6
ANTI	**Antisana**	**1.60**	**7**	⇓P	Pn	12 08 26.6	+1.4
JUA2	**San Juan 2**	**1.83**	**353**	P	Pn	12 08 28.9	+1.2
GGP	**Refugio Guagua**	**1.87**	**353**	⇑P	Pn	12 08 29.5	+1.3
TERV	**Terraza Guagua**	**1.87**	**353**	P	Pn	12 08 29.5	+1.3
PINO	**Pino**	**1.89**	**353**	P	Pn	12 08 29.2	+0.8
YANA	**Yana**	**1.93**	**354**	P	Pn	12 08 29.6	+0.8
PECV	**Mancha de Ca P**	**2.10**	**307**	P	Pn	12 08 33.7	+3.0
CAYA	**Cayambe**	**2.14**	**10**	P	Pn	12 08 33.2	+2.1
OTAV	**Otavalo**	**2.27**	**358**	⇓P	Pn	12 08 34.5	+1.9
CHIS	**Cerro-Chispas-**	**2.56**	**293**	P	Pn	12 08 37.7	+1.7
LITE	**Lita**	**2.83**	**0**	P	Pn	12 08 41.0	+1.5

*IDC **24** 12:24:56.4±3.9, 10°.34S × 110°.41E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.3/20, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=195.3km s-min=26.7km az=46.0*
*ISCJB **24** 12:25:03.3±0.8, 9°.48S±0°.05 × 111°.45E±0°.06, h33km, mb3.1/3, Error ellipse: s-maj=8.4km s-min=6.3km az=149.7*
*DJA **24** 12:25:03, 9°.36S × 111°.51E, h12km, MLv3.4/4*
ISC 24 12:25:04.8±0.8, 9°.44S±0°.05 × 111°.45E±0°.06, h35km, n14, σ1.9§13/21, mb3.1/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**1.27**	**347**	P	**Pn**	**12 25 24.4**	**-1.6**
PCJI				S	**Sn**	**12 25 40.4**	**-1.4**
PWJI	**Pagerwojo**	**1.45**	**14**	P	**Pn**	**12 25 26.8**	**-1.7**
PWJI				S	**Sn**	**12 25 45.9**	**-0.5**
KRKI	**Karangkates**	**1.61**	**38**	P	**Pn**	**12 25 29.5**	**-1.2**
KRKI				S	**Sn**	**12 25 50.3**	**0.0**
SJI	**Sawahan**	**1.72**	**10**	P	**Pn**	**12 25 31.7**	**-0.6**
SJI				S	**Sn**	**12 25 53.5**	**+0.5**
UGM	**Wanagama**	**1.77**	**329**	P	**Pn**	**12 25 34.3**	**+1.3**
UGM				S	**Sn**	**12 25 55.9**	**+1.6**
NGJI	**Ngawi**	**2.06**	**0**	P	**Pn**	**12 25 39.6**	**+2.7**
NGJI				S	Sn	12 25 40.4	-21
GMJI	**Gumukmas**	**2.28**	**60**	P	**Pn**	**12 25 39.6**	**-0.4**
GMJI				S	**Sn**	**12 26 08.0**	**+1.1**
SMRI	**Semarang**	**2.58**	**337**	P	**Pn**	**12 25 43.3**	**-0.8**
BLJI	**Banyuglugur**	**2.70**	**52**	P	**Pn**	**12 25 44.8**	**-1.0**
GRJI	**Gresik**	**2.71**	**22**	P	**Pn**	**12 25 47.0**	**+1.2**
GRJI				S	**Sn**	**12 26 18.5**	**+1.1**
FITZ	**Fitzroy Crossi**	**16.24**	**124**	Pn	**Pn**	**12 28 49.5**	**-0.8**
	0.1nm,0.3s,baz=336,slow=17,SNR=2.7						
WRA	**Warramunga Arr**	**24.44**	**118**	P	**P**	**12 30 21.8**	**+1.4**
	0.4nm,0.9s,mb2.9,baz=284,slow=10,SNR=3.0						
ASAR	**Alice Springs**	**25.70**	**126**	P	**P**	**12 30 32.3**	**+0.5**
	0.2nm,0.5s,mb3.0,baz=306,slow=10,SNR=5.6						
MKAR	**Makanchi Array**	**61.73**	**338**	P	**P**	**12 35 19.4**	**-0.1**
	0.2nm,0.4s,mb3.6,baz=154,slow=7.1,SNR=5.2						

*ISCJB **24** 12:29:26.6±0.4, 38°.98N±0°.02 × 23°.38E±0°.03, h9km ± 3km, Error ellipse: s-maj=3.6km s-min=2.6km az=5.6*
*CSEM **24** 12:29:26.9±0.1, 38°.98N × 23°.36E, h12km, MD3.1, Error ellipse: s-maj=2.9km s-min=2.1km az=98.0*
*ATH **24** 12:29:26.5, 39°.00N × 23°.37E, h25km, MD3.1/13, ML2.8*
*THE **24** 12:29:27.3, 38°.98N × 23°.35E, h10km, ML2.7/10, Error ellipse: s-maj=0.7km s-min=0.4km az=99.0*
ISC 24 12:29:27.2±0.4, 38°.98N±0°.02 × 23°.37E±0°.03, h12km ± 3km, n69, σ0.975/119, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.34**	**340**	*e*PB	**Pg**	**12 29 34.3**	**+0.2**
NEO				*e*SB	**Sg**	**12 29 39.7**	**+0.9**
NEO	**Neokhori**	**0.34**	**340**	P	**Pg**	**12 29 34.3**	**+0.2**
NEO				S	**Sg**	**12 29 39.8**	**+1.0**
NEO	**Neokhori**	**0.34**	**340**	P	**Pg**	**12 29 34.3**	**+0.2**
NEO				S	**Sg**	**12 29 39.8**	**+1.0**
ATAL	**Atalanti**	**0.40**	**223**	P	**Pg**	**12 29 34.8**	**-0.3**
ATAL				S	**Sg**	**12 29 40.0**	**-0.5**
ATAL	**Atalanti**	**0.40**	**223**	P	**Pg**	**12 29 34.8**	**-0.3**
ATAL				S	**Sg**	**12 29 40.0**	**-0.5**
AOS	**Alonnisos**	**0.44**	**65**	P	**Pg**	**12 29 35.6**	**-0.3**
AOS				S	**Sg**	**12 29 42.3**	**+0.6**
AOS	**Alonnisos**	**0.44**	**65**	P	**Pg**	**12 29 35.6**	**-0.3**
AOS				S	**Sg**	**12 29 42.3**	**+0.6**
LKR	**Lokris**	**0.44**	**221**	*e*PB	**Pg**	**12 29 35.7**	**-0.2**
LKR				*e*SB	**Sg**	**12 29 42.3**	**+0.5**
LKR	**Lokris**	**0.44**	**221**	P	**Pg**	**12 29 36.0**	**+0.1**
LKR				S	**Sg**	**12 29 42.2**	**+0.4**
LKR	**Lokris**	**0.44**	**221**	*e*Pb	**Pg**	**12 29 35.7**	**-0.2**
LKR	**Lokris**	**0.44**	**221**	P	**Pg**	**12 29 36.0**	**+0.1**
LKR				S	**Sg**	**12 29 42.2**	**+0.4**
AGG	**Agios Georgios**	**0.81**	**273**	*e*PN	**Pg**	**12 29 42.1**	**-0.8**
AGG				*e*SN	**Sg**	**12 29 53.9**	**+0.4**
AGG	**Agios Georgios**	**0.81**	**273**	P	**Pg**	**12 29 41.8**	**-1.1**
AGG				S	**Sg**	**12 29 53.8**	**+0.3**
AGG	**Agios Georgios**	**0.81**	**273**	P	**Pg**	**12 29 41.8**	**-1.1**
AGG	**Agios Georgios**	**0.81**	**273**	*e*Pn	**Pg**	**12 29 42.1**	**-0.8**
AGG				S	**Sg**	**12 29 53.8**	**+0.3**
DSF	**Desfina**	**0.87**	**229**	P	**Pg**	**12 29 42.9**	**-1.2**
DSF				S	**Sg**	**12 29 55.6**	**+0.1**
DSF	**Desfina**	**0.87**	**229**	P	**Pg**	**12 29 42.9**	**-1.2**
DSF				S	**Sg**	**12 29 55.6**	**+0.1**
PAIG	**Paliouri**	**0.97**	**14**	P	**Pg**	**12 29 45.8**	**-0.2**
PAIG				S	**Sg**	**12 29 59.8**	**+1.1**
PAIG	**Paliouri**	**0.97**	**14**	P	**Pg**	**12 29 45.8**	**-0.2**
PAIG				S	**Sg**	**12 29 59.8**	**+1.1**
LTK	**Loutraki**	**1.01**	**198**	*e*PN	**Pg**	**12 29 45.8**	**-0.9**
LTK				*e*SN	**Sg**	**12 30 01.1**	**+1.3**
LTK	**Loutraki**	**1.01**	**198**	P	**Pg**	**12 29 45.7**	**-1.0**
LTK				S	**Sg**	**12 30 00.9**	**+1.1**
LTK	**Loutraki**	**1.01**	**198**	P	**Pg**	**12 29 45.7**	**-1.0**
LTK				*e*Sn	**Sg**	**12 30 01.1**	**+1.3**
PTL	**Penteli**	**1.01**	**157**	*e*PN	**Pg**	**12 29 46.2**	**-0.5**
PTL				*e*SN	**Sg**	**12 29 59.6**	**-0.2**
PTL	**Penteli**	**1.01**	**157**	P	**Pg**	**12 29 46.1**	**-0.6**
PTL				S	**Sg**	**12 30 01.3**	**+1.5**
PTL	**Penteli**	**1.01**	**157**	P	**Pg**	**12 29 46.1**	**-0.6**
PTL				*e*Sn	**Sg**	**12 29 59.6**	**-0.2**
PTL				S	**Sg**	**12 30 01.3**	**+1.5**
ATH	**Athens Observa**	**1.05**	**165**	*e*PN	**Pg**	**12 29 46.8**	**-0.6**
ATH				*e*SN	**Sg**	**12 30 01.4**	**+0.4**
ATH	**Athens Observa**	**1.05**	**165**	*e*Pn	**Pg**	**12 29 46.8**	**-0.6**
ATH				*e*Sn	**Sg**	**12 30 01.4**	**+0.4**
KALE	**Kalithea**	**1.13**	**239**	P	**Pg**	**12 29 47.7**	**-1.3**
KALE				S	**Sg**	**12 30 04.3**	**+0.6**
KALE	**Kalithea**	**1.13**	**239**	P	**Pg**	**12 29 47.7**	**-1.3**
KALE				S	**Sg**	**12 30 04.3**	**+0.6**
VLY	**Voula,Athens**	**1.18**	**163**	*e*PN	**Pn**	**12 29 49.2**	**-0.3**
VLY				*e*SN	**Sn**	**12 30 05.1**	**-0.3**
VLY	**Voula,Athens**	**1.18**	**163**	P	**Pn**	**12 30 06.2**	**+1.6**
VLY				*e*Sn	**Sn**	**12 30 05.1**	**-0.3**
VLY				S	**Sb**	**12 30 06.2**	**+1.6**
THL	**Klokotos Trika**	**1.20**	**299**	*e*PN	**Pn**	**12 29 49.0**	**-0.8**
THL				*e*SN	**Sn**	**12 30 05.9**	**-0.1**
THL	**Klokotos Trika**	**1.20**	**299**	P	**Pn**	**12 29 49.1**	**-0.7**
THL				S	**Sb**	**12 30 06.7**	**+1.3**
THL	**Klokotos Trika**	**1.20**	**299**	P	**Pn**	**12 29 49.1**	**-0.7**
THL				*e*Sn	**Sn**	**12 30 05.9**	**-0.1**
THL				S	**Sb**	**12 30 06.7**	**+1.3**
NAIG	**Nisos Aigina**	**1.23**	**176**	*e*PN	**Pn**	**12 29 49.9**	**-0.2**
NAIG	**Nisos Aigina**	**1.23**	**176**	*e*Pn	**Pn**	**12 29 49.9**	**-0.2**
EFP	**Efpalio**	**1.27**	**245**	*e*PN	**Pn**	**12 29 50.3**	**-0.5**
EFP				*e*SN	**Sn**	**12 30 08.6**	**+0.8**
EFP	**Efpalio**	**1.27**	**245**	*e*Pn	**Pn**	**12 29 50.3**	**-0.5**
EFP				*e*Sn	**Sn**	**12 30 08.6**	**+0.8**
LIT	**Litokhoron**	**1.31**	**329**	P	**Pn**	**12 29 50.8**	**-0.4**
LIT				S	**Sb**	**12 30 08.9**	**+0.5**
LIT	**Litokhoron**	**1.31**	**329**	P	**Pn**	**12 29 50.8**	**-0.4**
LIT				S	**Sb**	**12 30 08.9**	**+0.5**
GUR	**Goura**	**1.32**	**218**	*e*PN	**Pn**	**12 29 51.1**	**-0.3**
GUR				*e*SN	**Sn**	**12 30 10.1**	**+1.2**
GUR	**Goura**	**1.32**	**218**	P	**Pn**	**12 29 51.2**	**-0.2**
GUR				S	**Sb**	**12 30 08.7**	**-0.1**
GUR	**Goura**	**1.32**	**218**	*e*Pn	**Pn**	**12 29 51.1**	**-0.3**
GUR				S	**Sb**	**12 30 08.7**	**-0.1**
GUR				*e*Sn	**Sn**	**12 30 10.1**	**+1.2**
PLG	**Polygyros**	**1.39**	**2**	*e*PN	**Pn**	**12 29 51.7**	**-0.7**
PLG				*e*SN	**Sn**	**12 30 09.4**	**-1.2**
PLG	**Polygyros**	**1.39**	**2**	P	**Pn**	**12 29 51.6**	**-0.8**
PLG	**Polygyros**	**1.39**	**2**	*e*Pn	**Pn**	**12 29 51.7**	**-0.7**
PLG				*e*Sn	**Sn**	**12 30 09.4**	**-1.2**
OUR	**Ouranopolis**	**1.43**	**19**	P	**Pn**	**12 29 52.5**	**-0.4**
OUR	**Ouranopolis**	**1.43**	**19**	P	**Pn**	**12 29 52.5**	**-0.4**
DID	**Didima**	**1.48**	**184**	*e*PN	**Pn**	**12 29 53.3**	**-0.3**
DID				*e*SN	**Sn**	**12 30 13.1**	**+0.3**
DID	**Didima**	**1.48**	**184**	P	**Pn**	**12 29 53.2**	**-0.4**
DID				S	**Sn**	**12 30 12.8**	**0.0**
DID	**Didima**	**1.48**	**184**	P	**Pn**	**12 29 53.2**	**-0.4**
DID				S	**Sn**	**12 30 12.8**	**0.0**
DID				*e*Sn	**Sn**	**12 30 13.1**	**+0.3**
VLX	**Vlachokerasia**	**1.79**	**206**	*e*PN	**Pn**	**12 29 58.7**	**+0.8**
VLX	**Vlachokerasia**	**1.79**	**206**	*e*Pn	**Pn**	**12 29 58.7**	**+0.8**
KZN	**Kozani**	**1.81**	**317**	*e*PN	**Pn**	**12 29 58.9**	**+0.8**
KZN	**Kozani**	**1.81**	**317**	*e*Pn	**Pn**	**12 29 58.9**	**+0.8**
SOH	**Sokhos**	**1.84**	**360**	*e*PN	**Pn**	**12 29 58.6**	**+0.1**
SOH	**Sokhos**	**1.84**	**360**	*e*Pn	**Pn**	**12 29 58.6**	**+0.1**
GRG	**Griva**	**2.11**	**340**	P	**Pn**	**12 30 02.1**	**-0.1**
GRG	**Griva**	**2.11**	**340**	P	**Pn**	**12 30 02.1**	**-0.1**
ITM	**Ithomi**	**2.13**	**213**	*e*PN	**Pn**	**12 30 02.0**	**-0.6**
ITM	**Ithomi**	**2.13**	**213**	*e*Pn	**Pn**	**12 30 02.0**	**-0.6**
CHOS	**Chios island**	**2.18**	**105**	*e*PN	**Pn**	**12 30 03.6**	**+0.3**
CHOS	**Chios island**	**2.18**	**105**	*e*Pn	**Pn**	**12 30 03.6**	**+0.3**
VLI	**Veliai**	**2.29**	**189**	*e*PN	**Pn**	**12 30 04.3**	**-0.4**
VLI	**Veliai**	**2.29**	**189**	*e*Pn	**Pn**	**12 30 04.3**	**-0.4**
PYL	**PYLOS**	**2.45**	**212**	*e*PB	**Pb**	**12 30 08.1**	**-3.1**
KYTH	**Kithira**	**2.71**	**186**	*e*PN	**Pn**	**12 30 11.4**	**+0.8**
KYTH	**Kithira**	**2.71**	**186**	*e*Pn	**Pn**	**12 30 11.4**	**+0.8**

*DDA **24** 12:32:04.7, 38°.08N × 30°.92E, h7km ± 7km, Md3.0*
*ISCJB **24** 12:32:05.2±0.5, 37°.98N±0°.03 × 31°.05E±0°.04, h13km ± 5km, Error ellipse: s-maj=5.9km s-min=4.0km az=23.6*
*CSEM **24** 12:32:05.4±0.3, 37°.98N × 31°.02E, h12km, ML2.3, Error ellipse: s-maj=6.0km s-min=4.6km az=107.0*
*ISK **24** 12:32:05.3, 37°.95N × 30°.94E, h24km, ML2.3*
ISC 24 12:32:05.9±0.5, 37°.98N±0°.03 × 31°.04E±0°.04, h15km ± 5km, n28, σ1.9§05/47, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.44**	**249**	*e*PG	**Pg**	**12 32 12.7**	**-1.9**
ISP				*e*SG	**Sg**	**12 32 19.5**	**-1.1**
ISP	**Isparta**	**0.44**	**249**	*e*Pg	**Pg**	**12 32 12.7**	**-2.0**
ISP				*e*Sg	**Sg**	**12 32 19.5**	**-1.1**
SUTC	**Sutluce-Ispart**	**0.50**	**184**	*e*PG	**Pg**	**12 32 15.2**	**-0.6**
SUTC				*e*SG	**Sg**	**12 32 23.4**	**+0.8**
SUTC	**Sutluce-Ispart**	**0.50**	**184**	*e*Pg	**Pg**	**12 32 15.2**	**-0.6**
SUTC				*e*Sg	**Sg**	**12 32 23.4**	**+0.8**
BCK	**Bucak**	**0.63**	**215**	*e*PG	**Pg**	**12 32 17.0**	**-1.2**
BCK	**Bucak**	**0.63**	**215**	*e*Pg	**Pg**	**12 32 17.0**	**-1.2**
SHUT	**Suhut-Afyon**	**0.69**	**326**	*e*PG	**Pg**	**12 32 19.0**	**-0.3**
SHUT				*e*SG	**Sg**	**12 32 29.9**	**+1.5**
SHUT	**Suhut-Afyon**	**0.69**	**326**	*e*Pg	**Pg**	**12 32 19.0**	**-0.4**
SHUT				*e*Sg	**Sg**	**12 32 30.0**	**+1.5**
BOLV	**Bolvadin**	**0.74**	**355**	*i* P	**Pg**	**12 32 20.9**	**+0.6**
BOLV				*i* S	**Sg**	**12 32 30.5**	**+0.4**
BOLV	**Bolvadin**	**0.74**	**355**	*i* Pn	**Pg**	**12 32 20.9**	**+0.6**
BOLV				*i* S	**Sg**	**12 32 30.5**	**+0.4**
KDHN	**Kadinhani**	**1.00**	**57**	*i* P	**Pg**	**12 32 24.6**	**-0.7**
KDHN				*i* S	**Sg**	**12 32 39.2**	**+0.8**
KDHN	**Kadinhani**	**1.00**	**57**	*i* P	**Pg**	**12 32 24.6**	**-0.7**
KDHN				*i* S	**Sg**	**12 32 39.2**	**+0.8**
KONT	**Konya--Tatoy**	**1.04**	**91**	*e*PN	**Pg**	**12 32 26.1**	**0.0**
KONT	**Konya--Tatoy**	**1.04**	**91**	*e*Pn	**Pg**	**12 32 26.1**	**+0.1**
KORT	**Korkueli**	**1.12**	**210**	*i* P	**Pg**	**12 32 28.1**	**+0.6**
KORT				*i* S	**Sg**	**12 32 43.7**	**+1.6**
KORT	**Korkueli**	**1.12**	**210**	*i* P	**Pg**	**12 32 28.1**	**+0.6**
KORT				*i* S	**Sg**	**12 32 43.7**	**+1.6**
KHAL	**Karahalli**	**1.28**	**288**	*i* P	**Pn**	**12 32 28.9**	**-0.3**
KHAL				*i* S	**Sb**	**12 32 47.9**	**+1.9**
KHAL	**Karahalli**	**1.28**	**288**	*i* P	**Pn**	**12 32 28.9**	**-0.3**
KHAL				*i* S	**Sb**	**12 32 47.8**	**+1.8**
GOLH	**Golhisar**	**1.39**	**238**	*i* P	**Pn**	**12 32 30.3**	**-0.4**
GOLH				*i* S	**Sn**	**12 32 50.6**	**+1.8**
GOLH	**Golhisar**	**1.39**	**238**	*i* P	**Pn**	**12 32 30.3**	**-0.4**
GOLH				*i* S	**Sn**	**12 32 50.6**	**+1.8**
ESKT	**Eskisehir**	**1.54**	**355**	*i* P	**Pn**	**12 32 32.6**	**-0.2**
SEYT	**Eskypehyr**	**1.54**	**355**	*i* P	**Pn**	**12 32 32.6**	**-0.3**
GDZ	**Gediz**	**1.65**	**313**	*i* P	**Pn**	**12 32 33.6**	**-0.7**
GDZ				*i* S	**Sn**	**12 32 54.0**	**-1.2**
GDZ	**Gediz**	**1.65**	**313**	*i* P	**Pn**	**12 32 33.6**	**-0.7**
GDZ				*i* S	**Sn**	**12 32 54.0**	**-1.2**
KULA	**Kula-Manisa**	**1.95**	**287**	*e*PN	**Pn**	**12 32 36.8**	**-1.6**
KULA	**Kula-Manisa**	**1.95**	**287**	*e*Pn	**Pn**	**12 32 36.8**	**-1.6**
MANT	**Manisa**	**2.02**	**285**	*i* P	**Pn**	**12 32 40.0**	**+0.6**
MANT				*i* S	**Sn**	**12 33 10.9**	**+6.5**
MANT	**Manisa**	**2.02**	**285**	*i* P	**Pn**	**12 32 40.0**	**+0.6**

IDC 24 13:07:52.8±4.9, 5°.73S × 151°.11E, h89km ± 41km, mb3.4/4, mb1 3.7/5, mb1mx3.3/18, mbtmp3.5/5, MS3.6/1, Ms1 3.6/1, ms1mx3.2/4, Error ellipse: s-maj=94.4km s-min=29.0km az=131.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.36**	**227**	P	Pn	13 09 09.9	-0.4
	3.5nm,0.3s,baz=44,slow=10.0,SNR=22						
PMG				S	Sn	13 10 11.0	+0.3
	11nm,0.3s,baz=236,slow=18,SNR=12						
WRA	**Warramunga Arr**	**21.57**	**228**	P	P	13 12 36.0	+0.6
	1.4nm,0.8s,baz=53,slow=10,SNR=10						
ASAR	**Alice Springs**	**24.34**	**221**	P	P	13 13 02.2	-0.3
	0.5nm,0.4s,baz=56,slow=9.5,SNR=24						
STKA	**Stephens Creek**	**27.50**	**198**	LR	LR	13 25 15.1	
	comp=Z,129nm,18.7s,baz=236,slow=38						
FITZ	**Fitzroy Crossi**	**27.74**	**241**	P	P	13 13 34.7	+1.5
	1.1nm,0.4s,baz=57,slow=9.3,SNR=7.9						
ILAR	**Eielson Array**	**83.65**	**22**	P	P	13 20 12.0	+0.8
	0.7nm,0.6s,baz=250,slow=5.3,SNR=18						
ILAR				pP	pP	13 20 29.2	-5.4
	1.0nm,0.9s,baz=251,slow=5.3,SNR=4.1						
TORD	**Torodi Ar. Bea**	**148.97**	**286**	PKPbc	PKPbc	13 27 29.0	-2.6
	0.2nm,0.5s,baz=92,slow=2.3,SNR=2.6						

*GRAL **24** 13:21:37.4±0.3, 34°.47N × 36°.89E, h0km ± 7km, MD2.9*
*CSEM **24** 13:21:39.9±0.2, 34°.39N × 36°.65E, h15km, Mc1.6, Error ellipse: s-maj=5.8km s-min=4.9km az=129.0*
*ISCJB **24** 13:21:40.4±0.7, 34°.41N±0°.04 × 36°.70E±0°.04, h9km ± 5km, Error ellipse: s-maj=6.5km s-min=5.4km az=141.2*
*NSSC **24** 13:21:40, 34°.43N × 36°.68E, h13km ± 5km*
ISC 24 13:21:40.4±0.6, 34°.39N±0°.03 × 36°.69E±0°.04, h12km ± 5km, n15, σ0.893/28, 10D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAWK	**Haweek**	**0.27**	**299**	⇑P	**Pg**	**13 21 45.0**	**-0.9**
HAWK				⇓S	**Sg**	**13 21 50.0**	**+0.4**
HAWK	**Haweek**	**0.27**	**299**	⇑*i*P	**Pg**	**13 21 45.1**	**-0.8**
HAWK				⇓*i*S	**Sg**	**13 21 50.3**	**+0.7**
FKH	**Fakeheh**	**0.28**	**237**	*e*P	**Pg**	**13 21 45.6**	**-0.6**
FKH				*e*S	**Sg**	**13 21 51.7**	**+1.6**
FKH	**Fakeheh**	**0.28**	**237**	*e*P	**Pg**	**13 21 45.6**	**-0.6**
FKH				*e*S	**Sg**	**13 21 51.7**	**+1.7**
RABH	**Abou Rabah**	**0.43**	**84**	⇑P	**Pg**	**13 21 49.0**	**+0.1**
RABH				⇓S	**Sg**	**13 21 55.0**	**+0.3**
RABH	**Abou Rabah**	**0.43**	**84**	⇑*i*P	**Pg**	**13 21 49.9**	**+1.0**
RABH				⇓*i*S	**Sg**	**13 21 55.0**	**+0.3**
HWQ	**Hawqa**	**0.62**	**260**	*e*P	**Pg**	**13 21 51.8**	**-0.7**
HWQ	**Hawqa**	**0.62**	**260**	*e*P	**Pg**	**13 21 51.8**	**-0.7**
BIDA	**Albida**	**0.69**	**334**	⇓P	**Pg**	**13 21 53.0**	**-0.8**
BIDA				⇓S	**Sg**	**13 22 03.0**	**+0.1**
BIDA	**Albida**	**0.69**	**334**	⇓*i*P	**Pg**	**13 21 53.5**	**-0.3**
BIDA				⇓*i*S	**Sg**	**13 22 03.3**	**+0.4**
WRDH	**Warideh**	**1.14**	**349**	⇓*i*P	**Pb**	**13 22 01.0**	**-1.0**
WRDH				⇓*i*S	**Sb**	**13 22 16.4**	**-0.4**
RCY	**Rachaya**	**1.16**	**219**	*e*P	**Pb**	**13 22 00.8**	**-1.6**
RCY				*e*S	**Sb**	**13 22 18.0**	**+0.7**
RCY	**Rachaya**	**1.16**	**219**	*e*P	**Pb**	**13 22 00.8**	**-1.6**
RCY				*e*S	**Sb**	**13 22 18.0**	**+0.7**
YAYL	**Yayladag**	**1.71**	**344**	*i* P	**Pn**	**13 22 10.0**	**-0.1**
YAYL				*i* S	**Sn**	**13 22 33.7**	**+1.9**
YAYL	**Yayladag**	**1.71**	**344**	*i* P	**Pn**	**13 22 10.0**	**0.0**
YAYL				*i* S	**Sn**	**13 22 33.7**	**+1.9**

*ISCJB **24** 13:34:49.4±0.4, 38°.97N±0°.02 × 23°.37E±0°.03, h12km ± 3km, Error ellipse: s-maj=4.4km s-min=3.6km az=173.1*
*CSEM **24** 13:34:49.8±0.1, 38°.99N × 23°.35E, h15km, MD3.0, Error ellipse: s-maj=3.3km s-min=2.7km az=95.0*
*ATH **24** 13:34:49.3, 38°.99N × 23°.36E, h25km, MD3.0/12, ML2.6*
*THE **24** 13:34:50.1, 38°.98N × 23°.35E, h12km, ML2.5/2, Error ellipse: s-maj=1.0km s-min=0.4km az=292.0*
ISC 24 13:34:49.9±0.4, 38°.98N±0°.02 × 23°.37E±0°.03, h14km ± 3km, n43, σ0.973/71, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.34**	**341**	*e*PB	**Pg**	**13 34 57.2**	**+0.2**
NEO				*e*SB	**Sg**	**13 35 02.1**	**+0.4**
NEO	**Neokhori**	**0.34**	**341**	P	**Pg**	**13 34 57.1**	**+0.1**
NEO				S	**Sg**	**13 35 02.7**	**+1.0**
NEO	**Neokhori**	**0.34**	**341**	P	**Pg**	**13 34 57.1**	**+0.1**
NEO				*e*Sb	**Sg**	**13 35 02.1**	**+0.4**
NEO				S	**Sg**	**13 35 02.7**	**+1.0**
ATAL	**Atalanti**	**0.40**	**223**	P	**Pg**	**13 34 57.7**	**-0.2**
ATAL				S	**Sg**	**13 35 03.3**	**+0.1**
ATAL	**Atalanti**	**0.40**	**223**	P	**Pg**	**13 34 57.7**	**-0.2**
ATAL				S	**Sg**	**13 35 03.3**	**+0.1**
LKR	**Lokris**	**0.44**	**221**	*e*PB	**Pg**	**13 34 58.5**	**-0.1**
LKR				*e*SB	**Sg**	**13 35 05.1**	**+0.6**
LKR	**Lokris**	**0.44**	**221**	P	**Pg**	**13 34 58.4**	**-0.2**
LKR				S	**Sg**	**13 35

HIZ	Hauiti	5.20 231	*e*PN	Pn	13 38 11.0	+0.9
OUZ	Omahuta	5.27 270	*e*P	Pn	13 38 09.0	-2.0
	65nm,0.7s					
PXZ	Pawanui	5.29 207	*e*PN	Pn	13 38 09.5	-1.7
WAZ	Wanganui	5.94 221	*e*PN	Pn	13 38 19.1	-1.0
BFZ	Birch Farm	6.08 208	*e*PN	Pn	13 38 19.8	-2.4
MRZ	Mangatainoka R	6.34 212	*e*PN	Pn	13 38 23.6	-2.0
HOWZ	Holdsworth Sta	6.57 212	*e*PN	Pn	13 38 26.3	-2.4
OGWZ	Otaki Gorge	6.65 214	*e*PN	Pn	13 38 27.7	-2.2
SNZO	South Karori	7.26 214	P	Pn	13 38 40.8	+2.7
	133nm,0.8s					
TCW	Tory Channel	7.38 216	*e*PN	Pn	13 38 36.2	-3.7
TCW			*e*SN	Sn	13 39 59.4	-2.6
KHZ	Kahutara	8.66 214	*e*SN	Sn	13 40 27.7	-5.6
CTZ	Chatham Island	8.74 164	*e*PN	Pn	13 38 59.7	+1.4
LTZ	Lake Taylor	9.54 217	*e*SN	Sn	13 40 47.5	-7.3
MQZ	McQueen's Vall	10.08 212	PN	Pn	13 39 15.0	-1.6
MQZ			*e*SN	Sn	13 40 58.9	-9.0
ODZ	Otahua Downs	12.03 214	*e*PN	Pn	13 39 38.8	-4.3
EIDS	Eidsvold	26.82 284	*e*P	P	13 42 28.9	+1.0
	18nm,1.0s,mb4.5					
CMSA	Cobar Meteorol	28.82 268	*e*P	P	13 42 47.5	+1.8
	72nm,0.8s,mb5.3					
QLP	Quilpie	31.79 276	*e*P	P	13 43 14.3	+2.4
STKA	Stephens Creek	32.07 265	P	P	13 43 14.8	+0.5
	3.8nm,0.6s,mb4.3,baz=110,slow=8.7,SNR=14					
STKA	Stephens Creek	32.07 265	*e*P	P	13 43 17.8	+3.5
	4.3nm,1.1s,mb4.1					
STKA	Stephens Creek	32.07 265	P	P	13 43 14.8	+0.5
PPT	Papeete	32.29 65	LR	LR	13 52 34.0	
	comp=Z,187nm,18.8s,baz=118,slow=29					
CTA	Charters Tower	33.37 288	*e*P	P	13 43 27.9	+2.2
	8.1nm,0.9s,mb4.5					
MTSU	Mount Surprise	35.98 289	*e*P	P	13 43 48.7	+0.4
COEN	Coen	39.38 293	*e*P	P	13 44 18.2	+1.2
	56nm,0.6s,mb5.6					
ASAR	Alice Springs	41.47 273	P	P	13 44 31.6	-2.5
	29nm,0.5s,mb5.4,baz=114,slow=7.5,SNR=139					
ASAR			ScP	ScP	13 50 11.1	-2.6
	0.3nm,0.5s,baz=117,slow=3.9,SNR=4.8					
ASAR			S	S	13 50 44.2	+0.3
	0.4nm,0.8s,baz=121,slow=15,SNR=4.3					
ASAR	Alice Springs	41.47 273	P	P	13 44 31.6	-2.5
ASAR			ScP	ScP	13 50 11.1	-2.6
ASAR			S	S	13 50 44.2	+0.3
WB2	Warramunga Arr	42.91 279	*e*P	P	13 44 45.1	-0.7
WRAB	Tennant Creek	42.91 279	*e*P	P	13 44 45.0	-0.9
	22nm,0.5s,mb5.2					
WRA	Warramunga Arr	42.91 279	P	P	13 44 43.6	-2.3
	21nm,0.5s,mb5.1,baz=119,slow=7.7,SNR=148					
WRA	Warramunga Arr	42.91 279	P	P	13 44 43.6	-2.3
VNDA	Vanda	42.99 186	P	P	13 44 49.7	+3.8
	0.4nm,0.3s,mb3.6,baz=82,slow=22,SNR=10					
VNDA	Vanda	42.99 186	P	P	13 44 49.7	+3.8
FORT	Forrest	43.39 261	*e*P	P	13 44 49.9	+0.2
	12nm,0.6s,mb4.8					
FITZ	Fitzroy Crossi	50.92 275	*e*P	P	13 45 48.1	-0.2
	11nm,0.6s,mb5.1					
FITZ	Fitzroy Crossi	50.92 275	*e*P	P	13 45 48.0	-0.3
	10nm,1.1s,mb4.8					
MBWA	Marble Bar	54.22 268	*e*P	P	13 46 11.7	-1.0
MBWA	Marble Bar	54.22 268	*e*P	P	13 46 11.6	-1.1
	8.5nm,0.6s,mb5.0					
QSPA	South Pole Qui	54.75 180	P	P	13 46 21.4	+5.7
	5.5nm,0.6s,mb4.8,baz=14,slow=3.5,SNR=10					
QSPA	South Pole Qui	54.75 180	*e*P	P	13 46 21.9	+6.2
	5.8nm,0.6s,mb4.8					
MAW	Mawson	67.09 202	P	P	13 47 42.2	+2.7
	12nm,1.1s,mb4.6,baz=112,slow=5.9,SNR=9.7					
MAW	Mawson	67.09 202	*e*P	P	13 47 43.1	+3.7
	2.9nm,1.2s,mb4.0					
SNAA	Sanae	73.23 179	*e*P	P	13 48 16.3	-0.6
	21nm,1.7s,mb4.7					
PLCA	Paso Flores	80.32 133	P	P	13 49 02.3	+4.9
	2.2nm,0.8s,mb4.0,baz=263,slow=1.7,SNR=5.9					
PLCA	Paso Flores	80.32 133	*e*P	P	13 49 02.1	+4.8
PETK	Petropavlovsk-	90.23 347	P	P	13 49 45.1	-1.0
	4.8nm,0.9s,mb4.6,baz=127,slow=6.6,SNR=6.8					
PETK	Petropavlovsk-	90.23 347	P	P	13 49 45.1	-1.0
CMAR	Chiang Mai Arp	93.51 290	P	P	13 50 02.1	-0.1
	1.0nm,0.8s,mb4.2,baz=150,slow=4.0,SNR=6.3					
CMAR	Chiang Mai Arr	93.51 290	P	P	13 50 02.1	-0.1
MKAR	Makanchi Array	119.63 308	PKP	PKPdf	13 55 33.8	-1.4
	0.3nm,0.4s,baz=202,slow=2.1,SNR=5.1					
MKAR	Makanchi Array	119.63 308	PKP	PKPdf	13 55 33.8	-1.4
ZALV	Zalesovo Beam	120.58 317	PKP	PKPdf	13 55 34.8	-2.0
	0.5nm,0.5s,baz=108,slow=3.2,SNR=3.0					
ZALV	Zalesovo Beam	120.58 317	PKP	PKPdf	13 55 34.8	-2.0
BVAR	Borovoye Array	128.70 313	PKP	PKPdf	13 55 52.0	-0.4
	1.0nm,0.6s,baz=146,slow=1.9,SNR=6.8					
BVAR	Borovoye Array	128.70 313	PKP	PKPdf	13 55 52.0	-0.4
SPITS	Spitsbergen Ar	136.52 355	PKP	PKPdf	13 56 07.2	+0.7
	3.2nm,0.5s,baz=30,slow=8.7,SNR=9.9					
SPITS	Spitsbergen Ar	136.52 355	PKP	PKPdf	13 56 07.2	+0.7
ARCES	ARCESS Array B	143.03 345	PKP	PKPdf	13 56 16.7	-1.8
	2.8nm,0.8s,baz=48,slow=7.2,SNR=5.6					
ARCES	ARCESS Array B	143.03 345	PKP	PKPdf	13 56 16.7	-1.8
JOF	Joensuu	146.32 335	*e*p	PKPdf	13 56 24.0	-0.3
	5.5nm,0.5s					
KAF	Kangasniemi	148.56 336	*e*p	PKPdf	13 56 29.6	+1.5
	4.4nm,0.5s					
FINES	FINESS Array B	149.12 336	PKPbc	PKPbc	13 56 32.1	-1.1
	4.5nm,0.5s,baz=43,slow=4.1,SNR=35					
FINES	FINESS Array B	149.12 336	PKPbc	PKPbc	13 56 32.1	-1.1
MMAI	Mount Meron Ar	150.75 276	PKPbc	PKPbc	13 56 38.8	+0.7
	4.2nm,0.5s,baz=87,slow=5.9,SNR=11					
MMAI	Mount Meron Ar	150.75 276	PKPbc	PKPbc	13 56 38.8	+0.7
DBIC	Dimbokro	151.08 170	PKPbc	PKPbc	13 56 42.1	+2.6
	5.0nm,0.9s,baz=154,slow=5.6,SNR=5.0					
DBIC	Dimbokro	151.08 170	PKPbc	PKPbc	13 56 42.1	+2.6
BR131	Keskin Array S	153.10 289	*e*PKPbc	PKPbc	13 56 42.9	-0.4
BRTR	Keskin Array B	153.10 289	PKPbc	PKPbc	13 56 42.9	-0.4
	3.0nm,0.5s,baz=151,slow=4.3,SNR=12					
BRTR	Keskin Array B	153.10 289	PKPbc	PKPbc	13 56 42.9	-0.4
NB2	NORSAR Subarra	153.34 348	PKPdf	PKPdf	13 56 42.6	+7.1
	comp=Z,1.7nm,0.7s,baz=27,slow=1.8					
NOA	NORSAR Array B	153.34 348	PKPbc	PKPbc	13 56 42.5	-0.5
	comp=Z,2.6nm,0.8s,baz=28,slow=2.0,SNR=4.4					
NOA	NORSAR Array B	153.34 348	PKPbc	PKPbc	13 56 42.5	-0.5
HFS	Hagfors	153.69 345	PKPbc	PKPbc	13 56 43.0	-0.8
	comp=Z,4.7nm,0.9s,baz=73,slow=9.7,SNR=2.3					
HFS	Hagfors	153.69 345	PKPbc	PKPbc	13 56 43.0	-0.8
AKASG	Malin Array Be	153.96 315	PKPbc	PKPbc	13 56 44.1	-0.7
	comp=Z,1.2nm,0.5s,baz=56,slow=2.1,SNR=7.9					
AKASG	Malin Array Be	153.96 315	PKPbc	PKPbc	13 56 44.1	-0.7
TORD	Torodi Ar. Bea	157.82 184	PKP	PKPdf	13 56 44.9	+2.0
	comp=Z,0.3nm,0.7s,baz=71,slow=0.6,SNR=2.4					
TORD			PKPab	PKPab	13 57 18.5	+2.8
	comp=Z,3.8nm,1.0s,baz=168,slow=4.1,SNR=13					
TORD	Torodi Ar. Bea	157.82 184	PKP	PKPdf	13 56 44.9	+2.0
TORD			PKPab	PKPab	13 57 18.5	+2.8

GUC 24 14:04:35.9±0.7, 28.78S×71.08W, h89km±9km, ML4.2, 1C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VACH	Vallenar	0.34	55	*e*P		Pn	14 04 50.0 +0.6
VACH				*i* S		Sn	14 04 59.8 +0.3
VACH				AML	AML	14 05 00.5	
	comp=E,25μm,0.1s						
LSCH	La Serena	1.14	187	*e*P		Pn	14 04 57.3 +0.1
LSCH				*i* S		Sn	14 05 13.4 +0.3
TLL	Tololo Astrono	1.41	170	↑*i* P		Pn	14 05 03.8 +3.3
TLL				*i* S		Sn	14 05 22.9 +4.0
CPCH	Copiapo	1.55	25	*e*P		Pn	14 05 02.6 +0.4
CPCH				*i* S		Sn	14 05 22.7 +0.5
CPCH				AML	AML	14 05 23.1	
	comp=N,3μm,0.1s						
CDCH	Caldera	1.72	8	*e*P		Pn	14 05 04.0 -0.3

IDC 24 14:09:21.0±3.1, 22.77N×11.48W, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.4/25, mbtmp3.6/4, ML4.0/2, Error ellipse: s-maj=105.3km s-min=34.4km az=86.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	Torodi Ar. Bea	15.76	125	Pn	Pn	14 13 05.7	+1.3
	0.4nm,0.3s,baz=314,slow=13,SNR=6.3						
DBIC	Dimbokro	17.23	157	P	Pn	14 13 21.3	-1.9
	0.6nm,0.3s,baz=354,slow=15,SNR=7.1						
GERES	GERESS Array B	32.79	31	P	P	14 15 55.3	-0.5
	0.3nm,0.4s,baz=214,slow=10,SNR=2.9						
MKAR	Makanchi Array	76.24	45	P	P	14 21 11.7	+0.3
	0.4nm,0.7s,baz=292,slow=7.6,SNR=2.4						
WRA	Warramunga Arr	148.09	91	PKPbc	PKPbc	14 29 08.2	-1.1
	0.2nm,0.3s,baz=298,slow=1.9,SNR=5.0						
ASAR	Alice Springs	148.22	99	PKPbc	PKPbc	14 29 10.0	+0.4
	0.4nm,0.7s,baz=282,slow=1.8,SNR=8.0						

WEL 24 14:11:12.0±0.5, 38.37S×176.06E, h131km±4km, ML3.5/14, Error ellipse: s-maj=3.0km s-min=2.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPRZ	Ohinepanea	0.65	37	PN	Pn	14 11 32.3	+0.2
URZ	Urewera	0.83	83	PN	Pn	14 11 33.0	-0.4
URZ				SN	Sn	14 11 49.4	-0.3
BKZ	Black Stump Fm	0.86	157	PN	Pn	14 11 33.9	+0.2
BKZ				SN	Sn	14 11 50.3	+0.1
NMHZ	Naumai	0.93	142	PN	Pn	14 11 35.4	+1.1
RAHZ	Arahi	0.97	125	PN	Pn	14 11 35.4	+0.8
MTVZ	Mangateitei	1.11	204	PN	Pn	14 11 36.4	+0.4
BHHZ	Black Hill Sta	1.12	180	PN	Pn	14 11 36.0	0.0
MWZ	Matawai	1.15	89	PN	Pn	14 11 36.2	-0.1
MWZ				SN	Sn	14 11 54.5	-0.4
KNZ	Kokohu	1.42	118	PN	Pn	14 11 39.2	0.0
CKHZ	Cape Kidnapper	1.51	149	PN	Pn	14 11 40.4	+0.2
CKHZ				SN	Sn	14 12 01.5	-0.2
PNHZ	Pukenui	1.54	176	PN	Pn	14 11 40.1	-0.5
KAHZ	Kahuranaki	1.56	156	PN	Pn	14 11 40.8	+0.1
WAZ	Wanganui	1.62	211	PN	Pn	14 11 41.4	0.0
MHGZ	Mahia Peninsul	1.64	119	PN	Pn	14 11 42.2	+0.6
TSZ	Takapari Road	1.69	183	PN	Pn	14 11 41.5	-0.7
WPHZ	Waipukurau	1.72	170	PN	Pn	14 11 42.0	-0.6
PXZ	Pawanui	1.77	160	PN	Pn	14 11 42.6	-0.6
DVHZ	Dannevirke	1.93	178	PN	Pn	14 11 43.9	-1.2
POWZ	Post Office Ro	2.03	186	PN	Pn	14 11 45.0	-1.3
BFZ	Birch Farm	2.31	177	PN	Pn	14 11 48.2	-1.6
MRZ	Mangatainoka R	2.32	189	PN	Pn	14 11 48.1	-1.8
TIWZ	Tintock	2.41	183	PN	Pn	14 11 49.2	-1.8
OGWZ	Otaki Gorge	2.54	196	PN	Pn	14 11 50.6	-2.0
HOWZ	Holdsworth Sta	2.56	189	PN	Pn	14 11 50.7	-2.3
KIW	Kapiti Island	2.64	199	PN	Pn	14 11 51.5	-2.4
TMWZ	Te Maipa	2.74	183	PN	Pn	14 11 52.9	-2.3
CAW	Cannon Point	2.84	195	PN	Pn	14 11 53.9	-2.6
TRWZ	Traveller	3.04	185	PN	Pn	14 11 56.3	-2.8
PAWZ	Paruwai Farm	3.05	189	PN	Pn	14 11 56.1	-3.0
MSWZ	Moikau Station	3.10	191	PN	Pn	14 11 56.8	-3.1
TCW	Tory Channel	3.15	205	PN	Pn	14 11 57.7	-2.9
PLWZ	Palliser	3.25	191	PN	Pn	14 11 58.5	-3.3
NNZ	Nelson	3.52	215	PN	Pn	14 12 02.5	-2.8

IDC 24 14:11:48.5±2.0, 22.07S×169.69E, h0km, mb4.0/8, mb1 4.2/8, mb1mx4.0/18, mbtmp4.0/8, Error ellipse: s-maj=81.0km s-min=24.2km az=163.0
ISCJB 24 14:11:51.6±0.9, 22.3S±0.2×169.6E±0.1, h33km, mb4.0/9, Error ellipse: s-maj=24.3km s-min=15.8km az=170.9
NEIC 24 14:11:53.4±0.8, 22.24S×169.63E, h35km, mb4.0/2, Error ellipse: s-maj=23.3km s-min=14.6km az=168.0

ISC 24 14:11:53.4±0.9, 22.2S±0.2×169.7E±0.1, h35km, n25, σ0.89/24, mb4.0/9, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	2.98	273	*e*P	Pn	14 12 34.1	-4.1
DZM				*e*S	Sn	14 13 20.0	+7.3
DZM	Mont Dzumac	2.98	273	*e*P	Pn	14 12 36.1	-2.2
NOUC	Port Laguerre	3.11	272	*e*P	Pn	14 12 35.6	-4.5
MSVF	Nonsavu	9.07	62	*e*P	Pn	14 14 11.4	+9.4
	50nm,1.4s						
CTA	Charters Tower	21.93	271	P	P	14 16 44.5	+0.5
	2.2nm,0.3s,mb4.0,baz=95,slow=8.5,SNR=6.7						
CTA	Charters Tower	21.93	271	P	P	14 16 44.5	+0.5
PMG	Port Moresby	25.08	297	P	P	14 17 14.5	-0.4
	8.2nm,0.8s,mb4.3,baz=110,slow=7.5,SNR=7.3						
PMG	Port Moresby	25.08	297	*e*P	P	14 17 15.5	+0.6
	7.2nm,0.8s,mb4.2						
STKA	Stephens Creek	26.70	243	*e*P	P	14 17 30.1	+0.6
ASAR	Alice Springs	32.90	260	P	P	14 18 25.4	+0.9
	2.1nm,0.8s,mb4.1,baz=84,slow=8.4,SNR=21						
ASAR	Alice Springs	32.90	260	P	P	14 18 25.4	+0.9
WB2	Warramunga Arr	32.98	267	P	P	14 18 24.8	-0.4
WRA	Warramunga Arr	32.99	267	P	P	14 18 24.3	-1.0
	0.8nm,0.6s,mb3.8,baz=96,slow=8.0,SNR=9.5						
WRA	Warramunga Arr	32.99	267	P	P	14 18 24.3	-1.0
VNDA	Vanda	55.46	182	*e*P	P	14 21 23.7	-0.5
	0.4nm,0.4s,mb3.8						
CMAR	Chiang Mai Arr	80.09	295	P	P	14 24 01.5	+1.3
	0.3nm,0.3s,mb3.8,baz=125,slow=4.5,SNR=2.1						
CMAR	Chiang Mai Arr	80.09	295	P	P	14 24 01.5	+1.3
SONM	Songino Array	89.84	323	P	P	14 24 48.6	+0.2
	0.5nm,0.9s,mb3.8,baz=111,slow=2.0,SNR=2.8						
SONM	Songino Array	89.84	323	P	P	14 24 48.6	+0.2
NVAR	Mina Array Bea	90.49	48	P	P	14 24 52.1	+0.5
	1.4nm,0.7s,mb4.4,baz=224,slow=9.7,SNR=11						
NVAR	Mina Array Bea	90.49	48	P	P	14 24 52.1	+0.5
ILAR	Eielson Array	92.96	17	P	P	14 25 01.2	-1.3
	0.4nm,0.8s,mb3.9,baz=228,slow=5.1,SNR=8.0						
ILAR	Eielson Array	92.96	17	P	P	14 25 01.2	-1.3
GERES	GERESS Array B	147.29	330	PKPbc	PKPbc	14 31 33.5	+0.4
	0.6nm,0.6s,baz=28,slow=4.4,SNR=4.5						
GERES	GERESS Array B	147.29	330	PKPbc	PKPbc	14 31 33.5	+0.4

JMA 24 14:13:37.7±0.1, 32.05N×140.67E, h23km, M4.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	Mitsune	1.28	326	P	Pn	14 14 00.3	+0.1
JHJ2				S	Sn	14 14 16.6	0.0
BSO1	Boso 1	2.61	6	P	Pn	14 14 18.6	+0.2
BSO1				*e*S	Sn	14 14 49.5	+0.1
BSO3	Boso 3	2.75	357	P	Pn	14 14 21.1	+0.8
BSO3				S	Sn	14 14 53.3	+0.5
BSO4	Boso 4	2.94	355	P	Pn	14 14 24.6	+1.5
BSO4				S	Sn	14 14 59.0	+1.3
JOD2	Odawara 2	3.47	338	P	Pn	14 14 32.3	+2.1
JOD2				*e*S	Sn	14 15 11.9	+1.4
JYN	Shimob	3.87	333	P	Pn	14 14 39.0	+3.3
JHU	Hanno	3.96	343	P	Pn	14 14 39.0	+1.9
JHU				*e*S	Sn	14 15 23.0	+0.2
JYT	Yasato	4.19	355	P	Pn	14 14 42.1	+2.0
JYT				S	Sn	14 15 30.4	+2.1
JRY	Ryogami san	4.22	340	P	Pn	14 14 43.2	+2.6
JRY				S	Sn	14 15 31.4	+2.3
JAG	Ashikaga	4.48	347	P	Pn	14 14 46.0	+1.9
MAT	Matsushiro	4.92	336	P	Pn	14 14 54.6	+4.4
MAT				S	Sn	14 15 51.1	+4.6

ISCJB 24 14:27:44.3±0.9, 19.2S±0.2×177.6W±0.1, h583km±11km, mb3.4/9, Error ellipse: s-maj=27.7km s-min=12.7km az=145.3
IDC 24 14:27:45.6±1.8, 18.83S×177.83W, h572km±19km, mb3.0/9, mb1 3.3/10, mb1mx3.1/19, mbtmp3.0/10, Error ellipse: s-maj=45.7km s-min=13.3km az=151.0
NEIC 24 14:27:45.4±1.0, 19.21S×177.57W, h584km±10km, Error ellipse: s-maj=26.1km s-min=15.5km az=145.0

ISC 24 14:27:45.0±0.9, 19.2S±0.2×177.5W±0.1, h576km±10km, n28, σ1.29/26, mb3.4/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	4.44	288	P	P	14 29 14.1	+2.1
AFI	Afiamalu	7.60	47	P	P	14 29 39.8	+0.1
	4.2nm,0.3s,baz=197,slow=14,SNR=11						
AFI				S	S	14 31 12.0	-1.7
	0.7nm,0.3s,baz=221,slow=20,SNR=3.5						
AFI	Afiamalu	7.60	47	P	P	14 29 39.8	+0.1
AFI				S	S	14 31 12.0	-1.7
URZ	Urewera	19.58	193	*e*P	P	14 31 34.6	-1.2
WRA	Warramunga Arr	45.25	261	P	P	14 35 11.2	-0.9
	0.4nm,0.4s,mb3.4,baz=97,slow=7.8,SNR=13						
WRA				PcP	PcP	14 36 39.6	0.0
	0.3nm,0.7s,baz=91,slow=3.9,SNR=4.8						
WRA	Warramunga Arr	45.25	261	P	P	14 35 11.2	-0.8
WRA				PcP	PcP	14 36 39.6	0.0
ASAR	Alice Springs	45.28	255	P	P	14 35 12.4	+0.2
	0.6nm,0.5s,mb3.4,baz=87,slow=8.0,SNR=16						
ASAR				PcP	PcP	14 36 39.4	-0.3
	0.9nm,0.9s,baz=111,slow=4.4,SNR=9.7						
ASAR				S	S	14 41 07.9	-3.5
	0.7nm,0.8s,baz=91,slow=15,SNR=7.3						
ASAR	Alice Springs	45.28	255	P	P	14 35 12.4	+0.2
ASAR				PcP	PcP	14 36 39.4	-0.3
ASAR				S	S	14 41 07.9	-3.5
MJAR	Matsushiro Arr	69.42	323	P	P	14 37 54.8	-1.2
	0.7nm,0.5s,mb3.3,baz=170,slow=5.3,SNR=4.1						
MJAR	Matsushiro Arr	69.42	323	P	P	14 37 54.8	-1.2
PETK	Petropavlovsk-	75.11	345	P	P	14 38 27.4	-1.0
	2.0nm,0.9s,mb3.6,baz=116,slow=6.9,SNR=4.2						
PETK	Petropavlovsk-	75.11	345	P	P	14 38 27.4	-1.0
NVAR	Mina Array Bea	79.75	43	P	P	14 38 55.5	+1.7
	0.2nm,0.3s,mb2.9,baz=216,slow=9.0,SNR=2.9						
NVAR	Mina Array Bea	79.75	43	P	P	14 38 55.5	+1.7
TXAR	Lajitas Array	85.96	57	P	P	14 39 27.2	+2.1
	0.5nm,0.7s,mb3.3,baz=218,slow=9.4,SNR=3.7						
TXAR	Lajitas Array	85.96	57	P	P	14 39 27.2	+2.1
ILAR	Eielson Array	86.93	13	P	P	14 39 27.9	-0.9
	0.7nm,0.7s,mb3.5,baz=228,slow=5.1,SNR=12						
ILAR	Eielson Array	86.93	13	P	P	14 39 27.9	-0.9
PDAR	Pinedale Array	87.69	43	P	P	14 39 34.0	+1.1
	0.3nm,0.6s,mb3.2,baz=223,slow=6.0,SNR=2.7						
PDAR	Pinedale Array	87.69	43	P	P	14 39 34.0	+1.1
CMAR	Chiang Mai Arr	90.10	289	P	P	14 39 45.2	+0.6
	0.9nm,0.9s,mb3.6,baz=120,slow=2.5,SNR=6.5						
CMAR	Chiang Mai Arr	90.10	289	P	P	14 39 45.2	+0.6
MKAR	Makanchi Array	110.62	314	PKiKP	PKiKP	14 45 11.1	-1.5
	0.3nm,0.7s,baz=35,slow=5.3,SNR=3.9						
MKAR	Makanchi Array	110.62	314	PKiKP	PKiKP	14 45 11.1	-1.5
BRTR	Keskin Array B	146.27	314	PKPbc	PKPbc	14 46 21.2	-0.6
	0.6nm,0.5s,baz=100,slow=3.4,SNR=3.3						
BRTR	Keskin Array B	146.27	314	PKPbc	PKPbc	14 46 21.2	-0.6
GERES	GERESS Array B	149.05	346	PKPbc	PKPbc	14 46 28.7	+0.1
	1.1nm,0.8s,baz=20,slow=3.1,SNR=5.5						
GERES	GERESS Array B	149.05	346	PKPbc	PKPbc	14 46 28.7	+0.1

ISCJB 24 14:33:07.9±0.8, 36.3N±0.2×134.6E±0.1, h337km±11km, mb3.0/3, Error ellipse: s-maj=35.0km s-min=18.9km az=5.3
IDC 24 14:33:08.2±1.5, 36.39N×134.70E, h328km±16km, mb2.8/3, mb1 2.9/5, mb1mx2.6/27, mbtmp2.6/5, Error ellipse: s-maj=31.6km s-min=26.8km az=133.0
JMA 24 14:33:09.0±0.2, 37.20N×135.28E, h361km, M2.9

ISC 24 14:33:08.8±0.8, 36.4N±0.2×134.6E±0.1, h332km±11km, n12, σ0.84/11, mb3.0/3, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIE	Ise	2.60	139	P	Pn	14 34 09.9	+6.6
JNG	Nsakai	2.79	88	P	Pn	14 34 04.5	-0.4
MAT	Matsushiro	2.88	86	P	Pn	14 34 05.3	-0.4
MJAR	Matsushiro Arr	2.88	86	P	Pn	14 34 04.7	-1.0
	0.5nm,0.3s,baz=273,slow=10,SNR=9.1						
JRY	Ryogami san	3.46	95	P	Pn	14 34 13.6	+2.3
JFK	Kawauchi	5.09	77	*e*S	Sx	14 35 22.2	
JMM	Marumori	5.13	71	P	Pn	14 34 22.7	-6.4
KSRS	Korea Array	5.49	283	P	Pn	14 34 33.3	+0.2
	0.2nm,0.3s,baz=94,slow=12,SNR=4.2						
JMK	Ichinoseki	5.82	62	P	Pn	14 34 29.4	-7.4
JMK				*e*S	Sx	14 35 29.0	
WRA	Warramunga Arr	56.01	180	P	P	14 42 13.5	-0.3
	0.2nm,0.3s,mb2.9,baz=357,slow=7.5,SNR=7.1						
ASAR	Alice Springs	59.72	181	P	P	14 42 39.3	0.0
	0.3nm,1.0s,mb2.7,baz=356,slow=5.6,SNR=3.4						
PDAR	Pinedale Array	81.90	42	P	P	14 44 51.8	+0.1
	0.8nm,1.1s,mb3.5,baz=310,slow=3.4,SNR=4.2						

IDC 24 14:57:01.1±2.2, 45.92N×95.39E, h0km, mb3.3/1, mb1 3.3/4, mb1mx3.1/28, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=84.7km s-min=26.2km az=35.0
BJI 24 14:57:44.3, 46.90N×90.98E, h17km, ML3.2/7
NNC 24 14:57:51.4±5.5, 47.09N×90.07E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=46.5km s-min=38.5km az=158.0

**ISC 24 14:57:02.4±3.9, 45.7N±0.1×95.2E±0.1, h5km±25km, n8, σ1.

mb3.6/15, Error ellipse: s-maj=14.5km s-min=8.0km az=146.3

MOS ***24*** *15:30:36.9±1.2, 53°.62N×154°.26E, h468km, mb4.5/7, Error ellipse: s-maj=18.3km s-min=12.1km az=58.8*

IDC ***24*** *15:30:37.4±1.2, 53°.63N×154°.06E, h454km±15km, mb3.1/13, mb1 3.4/15, mb1mx3.2/29, mbtmp3.1/15, Error ellipse: s-maj=17.2km s-min=10.4km az=151.0*

NEIC ***24*** *15:30:37.7±0.4, 53°.65N×154°.10E, h457km±6km, mb4.1/3, Error ellipse: s-maj=10.9km s-min=6.0km az=153.0*

ISC 24 15:30:37.7±0.4, 53°.67N±0°.08×154°.2E±0°.1, h454km±5km, n78, σ1°02/88, mb3.6/15, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIPR	**Malaya Ipel'ka**	**2.08**	**131**	*e*P	**P**	**15 31 39.6**	**+0.6**
MIPR				*e*S	**S**	**15 32 30.7**	**+2.0**
PETK	**Petropavlovsk-**	**2.17**	**104**	P	**P**	**15 31 39.6**	**+0.2**
	5.3nm,0.3s,baz=259,slow=7.0,SNR=125						
PETK	**Petropavlovsk-**	**2.17**	**104**	P	**P**	**15 31 39.6**	**+0.2**
PETK	**Petropavlovsk-**	**2.17**	**104**	*e*PN	**P**	**15 31 39.6**	**+0.2**
PETK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
GNL	**Ganaly**	**2.22**	**88**	*e*P	**P**	**15 31 40.7**	**+1.0**
AVH	**Avacha**	**2.74**	**97**	*e*P	**P**	**15 31 44.0**	**+0.9**
PET	**Petropavlovsk**	**2.75**	**102**	*e*P	**P**	**15 31 43.7**	**+0.6**
PET				*e*S	**S**	**15 32 37.1**	**+0.8**
PET	**Petropavlovsk**	**2.75**	**102**	*e*P	**P**	**15 31 43.5**	**+0.4**
PET	**Petropavlovsk**	**2.75**	**102**	*e*PN	**P**	**15 31 43.5**	**+0.4**
RUS	**Russkaya**	**2.88**	**114**	*e*P	**P**	**15 31 43.4**	**-0.7**
RUS				*e*S	**S**	**15 32 35.9**	**-2.2**
RUS	**Russkaya**	**2.88**	**114**	PN	**P**	**15 31 43.4**	**-0.7**
RUS				S	**S**	**15 32 35.9**	**-2.2**
NLC	**Nalytchevo**	**3.12**	**97**	*e*P	**P**	**15 31 45.6**	**-0.2**
NLC				*e*S	**S**	**15 32 38.0**	**-3.2**
NLC	**Nalytchevo**	**3.12**	**97**	PN	**P**	**15 31 45.6**	**-0.2**
NLC				S	**S**	**15 32 38.0**	**-3.2**
ESO	**Esso**	**3.45**	**47**	*e*P	**P**	**15 31 49.9**	**+1.7**
ESO	**Esso**	**3.45**	**47**	PN	**P**	**15 31 49.9**	**+1.7**
SPN	**Mys Shipunski**	**3.53**	**97**	*e*P	**P**	**15 31 47.9**	**-1.1**
SPN				*e*S	**S**	**15 32 42.2**	**-4.9**
SPN	**Mys Shipunski**	**3.53**	**97**	PN	**P**	**15 31 47.9**	**-1.1**
SPN				S	**S**	**15 32 42.2**	**-4.9**
SRDR	**Sredinnyy**	**4.14**	**48**	*e*P	**P**	**15 31 53.9**	**-0.2**
MKZ	**Mys Kozlova**	**4.52**	**76**	*e*P	**P**	**15 31 56.2**	**-1.3**
MKZ				*e*S	**S**	**15 32 56.3**	**-6.4**
MKZ	**Mys Kozlova**	**4.52**	**76**	PN	**P**	**15 31 56.2**	**-1.3**
BDR	**Baidarnaya**	**4.96**	**51**	P	**P**	**15 32 02.0**	**+0.4**
SRKR	**Sorokina**	**4.99**	**50**	P	**P**	**15 32 01.9**	**0.0**
KBTR	**Krutoberegovo**	**5.58**	**59**	*e*P	**P**	**15 32 05.6**	**-2.1**
KBTR				*e*S	**S**	**15 33 14.7**	**-6.6**
KBTR	**Krutoberegovo**	**5.58**	**59**	PN	**P**	**15 32 05.6**	**-2.1**
BKI	**Bering**	**7.04**	**73**	*e*S	**S**	**15 33 46.9**	**-1.9**
YSS	**Yuzh-Sakhalins**	**9.93**	**232**	*e*P	**P**	**15 32 54.6**	**+0.6**
YSS	**Yuzh-Sakhalins**	**9.93**	**232**	*e*PN	**P**	**15 32 54.6**	**+0.6**
FX1	**Attu Island--F**	**11.38**	**86**	P	**P**	**15 33 10.3**	**+0.7**
	comp=Z,4.5nm,0.3s,baz=250,slow=15,SNR=4.0						
FX1	**Attu Island--F**	**11.38**	**86**	P	**P**	**15 33 10.3**	**+0.7**
FX1	**Attu Island--F**	**11.38**	**86**	PN	**P**	**15 33 10.3**	**+0.7**
FX1				pmax	pmax		
	comp=Z,5.0nm,0.3s						
BILL	**Bilibino**	**15.52**	**17**	*e*P	**P**	**15 33 54.5**	**+0.7**
BILL	**Bilibino**	**15.52**	**17**	*e*P	**P**	**15 33 54.5**	**+0.7**
MJA0	**Matsu Arr-Jizo**	**20.41**	**219**	*e*P	**P**	**15 34 43.8**	**+1.3**
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MJAR	**Matsushiro Arr**	**20.43**	**219**	P	**P**	**15 34 42.1**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=9.4,slow=7.5,SNR=5.1						
MJAR	**Matsushiro Arr**	**20.43**	**219**	P	**P**	**15 34 42.1**	**-0.5**
MJAR	**Matsushiro Arr**	**20.43**	**219**	P	**P**	**15 34 42.2**	**-0.5**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KDAK	**Kodiak Island**	**29.60**	**60**	P	**P**	**15 36 03.4**	**-0.5**
	comp=Z,19nm,1.1s,mb4.5,baz=297,slow=16,SNR=9.4						
KDAK	**Kodiak Island**	**29.60**	**60**	P	**P**	**15 36 03.4**	**-0.5**
KDAK	**Kodiak Island**	**29.60**	**60**	*i* P	**P**	**15 36 03.9**	**0.0**
SLKM	**Skilak Lake**	**30.13**	**54**	*e*P	**P**	**15 36 15.8**	**+7.3**
SONM	**Songino Array**	**30.33**	**279**	P	**P**	**15 36 10.7**	**+0.3**
	comp=Z,0.2nm,0.3s,mb3.0,baz=56,slow=7.1,SNR=4.0						
SONM	**Songino Array**	**30.33**	**279**	P	**P**	**15 36 10.7**	**+0.3**
SONM	**Songino Array**	**30.33**	**279**	P	**P**	**15 36 10.7**	**+0.3**
COLA	**College**	**30.50**	**45**	*e*P	**P**	**15 36 12.4**	**+0.7**
	comp=Z,3.8nm,0.4s,mb4.2						
COLA	**College**	**30.50**	**45**	*e*P	**P**	**15 36 12.4**	**+0.7**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.2						
ILAR	**Eielson Array**	**30.93**	**46**	P	**P**	**15 36 15.8**	**+0.5**
	comp=Z,2.2nm,0.7s,mb3.7,baz=264,slow=7.6,SNR=27						
ILAR	**Eielson Array**	**30.93**	**46**	P	**P**	**15 36 15.8**	**+0.5**
ILAR	**Eielson Array**	**30.93**	**46**	P	**P**	**15 36 15.8**	**+0.5**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
EGAK	**Eagle**	**33.34**	**45**	*e*P	**P**	**15 36 36.1**	**+0.1**
	comp=Z,2.6nm,0.3s,mb4.1						
INK	**Inuvik**	**35.57**	**38**	*e*P	**P**	**15 36 55.3**	**+0.6**
	comp=Z,3.4nm,0.4s,mb4.1						
INK	**Inuvik**	**35.57**	**38**	*e*P	**P**	**15 36 55.3**	**+0.6**
INK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ZALV	**Zalesovo Beam**	**39.46**	**299**	P	**P**	**15 37 25.6**	**-1.3**
	comp=Z,0.3nm,0.3s,mb3.1,baz=60,slow=8.5,SNR=2.5						
ZALV	**Zalesovo Beam**	**39.46**	**299**	P	**P**	**15 37 25.6**	**-1.3**
ZALV	**Zalesovo Beam**	**39.46**	**299**	P	**P**	**15 37 25.6**	**-1.3**
KURK	**Kurchatov**	**44.39**	**298**	P	**P**	**15 38 05.7**	**-0.4**
	comp=Z,0.6nm,0.3s,mb3.5,baz=59,slow=7.3,SNR=4.8						
KURK	**Kurchatov**	**44.39**	**298**	P	**P**	**15 38 05.7**	**-0.4**
KURK	**Kurchatov**	**44.39**	**298**	*e*P	**P**	**15 38 04.2**	**-1.9**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.3						
MK31	**Makanchi Array**	**44.69**	**292**	*e*P	**P**	**15 38 07.7**	**-0.8**
MK31	**Makanchi Array**	**44.69**	**292**	*e*P	**P**	**15 38 07.7**	**-0.8**
MKAR	**Makanchi Array**	**44.69**	**292**	P	**P**	**15 38 07.2**	**-1.3**
	comp=Z,0.3nm,0.5s,mb3.0,baz=50,slow=6.4,SNR=7.6						
MKAR	**Makanchi Array**	**44.69**	**292**	P	**P**	**15 38 07.2**	**-1.3**
MKAR	**Makanchi Array**	**44.69**	**292**	*e*P	**P**	**15 38 07.6**	**-0.9**
YKA	**Yellowknife Ar**	**45.08**	**41**	P	**P**	**15 38 11.7**	**+0.4**
	comp=Z,2.0nm,0.6s,mb3.8,baz=302,slow=7.3,SNR=7.8						
YKA	**Yellowknife Ar**	**45.08**	**41**	P	**P**	**15 38 11.7**	**+0.4**
YKA	**Yellowknife Ar**	**45.08**	**41**	P	**P**	**15 38 11.7**	**+0.4**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NVAR	**Mina Array Bea**	**58.81**	**67**	P	**P**	**15 39 52.3**	**+1.3**
	comp=Z,0.6nm,0.4s,mb3.2,baz=301,slow=0.9,SNR=6.0						
NVAR	**Mina Array Bea**	**58.81**	**67**	P	**P**	**15 39 52.3**	**+1.3**
PDAR	**Pinedale Array**	**60.26**	**57**	P	**P**	**15 40 01.2**	**+0.6**
	comp=Z,1.2nm,0.7s,mb3.4,baz=327,slow=1.6,SNR=10						
PDAR	**Pinedale Array**	**60.26**	**57**	P	**P**	**15 40 01.2**	**+0.6**
TXAR	**Lajitas Array**	**73.59**	**63**	P	**P**	**15 41 24.3**	**+0.9**
	comp=Z,0.4nm,0.5s,mb3.2,baz=308,slow=4.5,SNR=4.8						
TXAR	**Lajitas Array**	**73.59**	**63**	P	**P**	**15 41 24.3**	**+0.9**
TXAR	**Lajitas Array**	**73.59**	**63**	P	**P**	**15 41 24.3**	**+0.9**
WRA	**Warramunga Arr**	**75.29**	**199**	P	**P**	**15 41 31.8**	**-1.2**
	comp=Z,1.4nm,0.7s,mb3.6,baz=16,slow=5.9,SNR=14						
WRA	**Warramunga Arr**	**75.29**	**199**	P	**P**	**15 41 31.8**	**-1.2**
WRA	**Warramunga Arr**	**75.29**	**199**	P	**P**	**15 41 31.8**	**-1.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**78.99**	**199**	P	**P**	**15 41 52.7**	**-0.5**
	comp=Z,1.7nm,0.6s,mb3.8,baz=11,slow=4.9,SNR=65						
ASAR	**Alice Springs**	**78.99**	**199**	P	**P**	**15 41 52.7**	**-0.5**
ASAR	**Alice Springs**	**78.99**	**199**	P	**P**	**15 41 52.7**	**-0.5**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						

IDC 24 15:41:24.5±1.9, 59°.17S×24°.15W, h0km, mb4.0/1, mb1 4.0/1, mb1mx3.4/16, mbtmp4.0/1, Error ellipse: s-maj=90.4km s-min=59.3km az=155.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**75.06**	**26**	P	P	15 53 07.8	0.0
	0.7nm,0.5s,baz=202,slow=6.7,SNR=12						
SONM	**Songino Array**	**149.20**	**89**	PKPbc	PKPbc	16 01 14.2	+0.4
	0.2nm,0.4s,baz=230,slow=4.3,SNR=4.0						
ILAR	**Eielson Array**	**153.36**	**306**	PKPbc	PKPbc	16 01 21.4	-1.4
	0.3nm,0.4s,baz=132,slow=2.7,SNR=10						
ILAR				PKPab	PKPab	16 01 36.1	+1.0
	0.6nm,0.6s,baz=133,slow=3.7,SNR=2.9						

MAN 24 15:49:24.9±0.49N×123°.62E, h36km, mb3.7, ML2.4, MS2.0,

Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAGZ	**Pagadian**	**1.65**	**188**	*e*P	Pn	15 49 52.5	+2.0
IPIL	**Ipil**	**1.98**	**211**	*e*P	Pn	15 49 57.0	+1.9
IPIL				*e*S	Sn	15 50 19.4	+0.6
BUKP	**Musuan**	**2.15**	**138**	*e*P	Pn	15 49 58.9	+1.5

NNC ***24*** *15:55:29.6±2.9, 39°.69N×73°.50E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=28.2km s-min=16.7km az=18.0*

ISC 24 15:55:22.8±2.1, 39°.0N±0°.1×73°.8E±0°.1, h10km, n12, σ1°61/14, 5C, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.80**	**72**	Pg	**Pg**	**15 55 54.8**	**-2.6**
KSH				Sg	**Sn**	**15 56 11.6**	**-5.2**
KSH				smax			
	comp=N,160nm,0.8s						
KSH				smax			
	comp=E,77nm,0.6s						
AML	**Almayashu**	**3.16**	**359**	P	**Pn**	**15 56 12.9**	**+0.3**
	SNR=32						
UCH	**Uchtor**	**3.31**	**10**	P	**Sn**	**15 56 53.2**	**-0.7**
	SNR=5.9						
KZA	**Kyzart**	**3.31**	**20**	P	**Pn**	**15 56 16.8**	**+2.2**
	SNR=37						
EKS2	**Erkin-Say**	**3.69**	**0**	P	**Pn**	**15 56 21.6**	**+1.8**
	SNR=7.5						
AAK	**Ala-Archa**	**3.70**	**8**	P	**Pn**	**15 56 21.5**	**+1.5**
	SNR=6.8						
ULHL	**Ulahol**	**3.78**	**29**	P	**Pn**	**15 56 26.1**	**+5.0**
	SNR=7.7						
KBK	**Karagaybulak**	**3.79**	**13**	P	**Pn**	**15 56 26.3**	**+5.0**
	SNR=14						
TKM2	**Tokmak 2**	**4.19**	**19**	P	**Pn**	**15 56 15.8**	**-11**
	SNR=6.0						
TKM2	**Tokmak 2**	**4.19**	**19**	⇑Pn	**Pn**	**15 56 27.6**	**+0.9**
	comp=E,2.4nm,0.8s						
TKM2				⇑Lg		15 57 22.0	
	comp=E,23nm,0.8s						
KK31	**Karatay Array**	**4.81**	**330**	⇑Pn	**Pn**	**15 56 35.7**	**+0.5**
	comp=E,1.8nm,0.3s,baz=134,slow=13,SNR=18						
KK31				⇑Sn	**Sn**	**15 57 28.4**	**-2.5**
	comp=E,1.9nm,0.3s						
KK31				⇑Lg		15 57 40.5	
	comp=E,14nm,0.6s,baz=142,slow=30,SNR=5.2						
AB31	**Akbulak array**	**14.27**	**321**	Pn	**Pn**	**15 58 42.9**	**-1.9**
	comp=E,1.7nm,1.1s,baz=129,slow=14,SNR=8.6						

IDC ***24*** *15:55:40.7±0.8, 52°.60S×118°.32W, h0km, mb3.9/5, mb1 4.2/5, mb1mx4.0/15, mbtmp3.9/5, MS4.1/11, Ms1 4.1/11, ms1mx3.9/20, Error ellipse: s-maj=40.7km s-min=25.5km az=143.0*

ISCJB ***24*** *15:55:41.7±0.8, 52°.75S±0°.2×118°.2W±0°.4, h10km, mb4.0/6, MS4.1/11, Error ellipse: s-maj=37.1km s-min=21.3km az=33.5*

NEIC ***24*** *15:55:42.5±0.7, 52°.72S×118°.30W, h10km, mb4.6/1, Error ellipse: s-maj=34.1km s-min=23.0km az=133.0*

ISC 24 15:55:43.3±0.8, 52°.7S±0°.2×118°.4W±0°.4, h10km, n33, σ0°88/11, mb4.0/6, MS4.1/11, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station**	**29.66**	**135**	LR	LR	16 10 10.5	
	comp=Z,338nm,19.0s,MS4.0,baz=304,slow=29						
PLCA	**Paso Flores**	**34.30**	**89**	LR	LR	16 13 24.0	
	comp=Z,296nm,18.9s,MS4.0,baz=155,slow=31						
QSPA	**South Pole Qui**	**37.49**	**180**	P	**P**	**16 02 56.8**	**+0.4**
	0.9nm,0.3s,mb4.1,baz=90,slow=3.9,SNR=3.7						
QSPA	**South Pole Qui**	**37.49**	**180**	P	**P**	**16 02 56.8**	**+0.4**
TBI	**Tubuai**	**37.65**	**309**	*e*LR	LR	16 13 23.4	
	598nm,27.0s						
PPT	**Papeete**	**42.72**	**313**	*e*LR	LR	16 15 39.6	
	473nm,31.5s						
PPT				*e*LR	LR	16 15 46.5	
	674nm,26.8s						
PPT	**Papeete**	**42.72**	**313**	LR	LR	16 17 08.5	
	comp=Z,290nm,18.6s,MS4.2,baz=1.9,slow=30						
RAR	**Rarotonga**	**44.64**	**299**	LR	LR	16 20 11.3	
	comp=Z,158nm,18.4s,MS4.0,baz=250,slow=33						
URZ	**Urewera**	**45.92**	**261**	LR	LR	16 19 00.6	
	comp=Z,297nm,20.5s,MS4.2,baz=192,slow=30						
RPZ	**Rata Peaks**	**46.10**	**252**	LR	LR	16 17 31.5	
	comp=Z,90nm,20.8s,MS3.7,baz=153,slow=28						
CPUP	**Villa Florida**	**52.10**	**84**	LR	LR	16 23 49.0	
	comp=Z,403nm,19.1s,MS4.5,baz=189,slow=32						
LPAZ	**La Paz**	**53.51**	**67**	P	**P**	**16 05 03.2**	**-0.7**
	2.3nm,1.0s,mb4.1,baz=230,slow=6.2,SNR=6.6						
LPAZ				LR	LR	16 22 09.8	
	comp=Z,183nm,19.5s,MS4.1,baz=44,slow=30						
LPAZ	**La Paz**	**53.51**	**67**	P	**P**	**16 05 03.2**	**-0.7**
DZM	**Mont Dzumac**	**63.83**	**268**	*e*LR	LR	16 25 24.6	
	328nm,24.4s						
ROSC	**El Rosal**	**68.35**	**48**	LR	LR	16 32 03.0	
	comp=Z,69nm,18.6s,MS3.9,baz=20,slow=32						
STKA	**Stephens Creek**	**70.91**	**242**	LR	LR	16 32 14.0	
	comp=Z,129nm,19.6s,MS4.2,baz=296,slow=31						
ASAR	**Alice Springs**	**81.54**	**242**	P	**P**	**16 08 00.7**	**-0.3**
	0.9nm,1.1s,mb3.6,baz=146,slow=6.7,SNR=3.3						
ASAR	**Alice Springs**	**81.54**	**242**	P	**P**	**16 08 00.7**	**-0.3**
TXAR	**Lajitas Array**	**82.70**	**13**	P	**P**	**16 08 05.9**	**-0.7**
	0.6nm,0.9s,mb3.6,baz=175,slow=4.3,SNR=2.7						
TXAR	**Lajitas Array**	**82.70**	**13**	P	**P**	**16 08 05.9**	**-0.7**
WRA	**Warramunga Arr**	**84.31**	**245**	P	**P**	**16 08 15.0**	**-0.4**
	1.4nm,1.2s,mb4.0,baz=144,slow=4.7,SNR=2.7						
WRA				LR	LR	16 43 14.4	
	comp=Z,150nm,18.9s,MS4.4,baz=160,slow=34						
WRA	**Warramunga Arr**	**84.31**	**245**	P	**P**	**16 08 15.0**	**-0.4**
WMOK	**Wichita Mounta**	**88.74**	**16**	P	**P**	**16 08 38.4**	**+1.9**
	2.2nm,0.6s,mb4.7						
GERES	**GERESS Array B**	**149.91**	**78**	PKPbc	PKPbc	16 15 30.0	-2.6
	3.3nm,1.0s,baz=202,slow=2.9,SNR=11						
GERES	**GERESS Array B**	**149.91**	**78**	PKPbc	PKPbc	16 15 30.0	-2.6
CLL	**Collm**	**150.50**	**73**	*e*PKPbc	PKPbc	16 15 31.0	-3.0
	comp=Z,10.0nm,1.4s						
CLL				*e*PKPab	PKPab	16 15 39.0	-1.7
	comp=Z,11nm,1.2s						
BRG	**Berggiesshubel**	**150.88**	**74**	*e*P	PKPdf	16 15 34.9	+5.6
	comp=Z,37nm,1.9s						
SONM	**Songino Array**	**151.32**	**278**	PKPbc	PKPbc	16 15 34.0	-2.1
	comp=Z,0.5nm,0.8s,baz=83,slow=4.8,SNR=3.5						
SONM	**Songino Array**	**151.32**	**278**	PKPbc	PKPbc	16 15 34.0	-2.1
BRTR	**Keskin Array B**	**156.88**	**113**	PKPab	PKPab	16 16 07.8	-0.3
	comp=Z,0.7nm,0.7s,baz=346,slow=3.6,SNR=4.3						
BRTR	**Keskin Array B**	**156.88**	**113**	PKPab	PKPab	16 16 07.8	-0.3
MKAR	**Makanchi Array**	**165.40**	**254**	PKPab	PKPab	16 16 45.2	0.0
	comp=Z,0.5nm,0.9s,baz=114,slow=3.5,SNR=2.8						
MKAR	**Makanchi Array**	**165.40**	**254**	PKPab	PKPab	16 16 45.2	0.0

ISCJB ***24*** *16:24:06.0±1.5, 42°.99N±0°.07×126°.4W±0°.2, h10km, mb3.0/2, Error ellipse: s-maj=18.1km s-min=9.0km az=159.4*

IDC ***24*** *16:24:06.0±2.2, 43°.02N×126°.21W, h0km, mb3.0/2, mb1 3.5/4, mb1mx3.3/26, mbtmp3.0/4, ML3.0/2, Error ellipse: s-maj=48.3km s-min=20.3km az=45.0*

NEIC ***24*** *16:24:07.5±1.1, 42°.97N×126°.35W, h10km, ML2.7, Error ellipse: s-maj=13.1km s-min=6.3km az=70.0*

ISC 24 16:24:07.5±1.6, 42°.98N±0°.07×126°.4W±0°.2, h10km, n27, σ0°75/27, mb3.0/2, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEBM	**Edson Butte**	**1.50**	**93**	P	**Pn**	**16 24 33.3**	**-1.2**
KBO	**Bosley Butte**	**1.76**	**115**	*e*P	**Pn**	**16 24 37.0**	**-1.1**
RNO	**Roman Nose**	**2.13**	**63**	P	**Pn**	**16 24 42.4**	**-0.8**
DBO	**Dodson Butte**	**2.30**	**85**	P	**Pn**	**16 24 44.9**	**-0.5**
HUMO	**Hull Mountain**	**2.54**	**97**	*e*P	**Pn**	**16 24 48.2**	**-0.6**
MPOR	**Mary's Peak**	**2.55**	**52**	P	**Pn**	**16 24 47.8**	**-1.1**
BBOR	**Butler Butte**	**2.71**	**91**	P	**Pn**	**16 24 51.5**	**+0.4**
HEBO	**Mount Hebo**	**2.93**	**39**	*e*P	**Pn**	**16 24 53.2**	**-0.8**
YBH	**Yreka Blue Hor**	**2.99**	**113**	*e*P	**Pn**	**16 24 55.5**	**+0.6**
BROR	**Big Rock Looko**	**3.13**	**64**	P	**Pn**	**16 24 56.7**	**-0.1**
IRO	**Indian Ridge**	**3.17**	**70**	P	**Pn**	**16 24 57.7**	**+0.3**
FRIS	**Frissel Point**	**3.34**	**67**	P	**Pn**	**16 25 00.1**	**+0.4**
BKCOR	**Black Crater**	**3.65**	**67**	P	**Pn**	**16 25 04.5**	**+0.5**
NLO	**Nicolai Mounta**	**3.75**	**33**	P	**Pn**	**16 25 05.0**	**-0.4**
HOOD	**Mount Hood Mea**	**4.13**	**54**	*e*P	**Pn**	**16 25 11.4**	**+0.8**
TDL	**Tradedollar La**	**4.49**	**40**	P	**Pn**	**16 25 16.1**	**+0.6**
ASR	**Mount Adams--S**	**4.66**	**45**	P	**Pn**	**16 25 18.6**	**+0.7**
LON	**Longmire**	**4.98**	**39**	*e*P	**Pn**	**16 25 22.3**	**+0.1**
HTW	**Haystack Looko**	**5.81**	**32**	P	**Pn**	**16 25 33.6**	**-0.1**
NVAR	**Mina Array Bea**	**7.63**	**124**	Pn	**Pn**	**16 25 58.6**	**0.0**
	0.1nm,0.3s,baz=306,slow=13,SNR=2.9						
NVAR	**Mina Array Bea**	**7.63**	**124**	Pn	**Pn**	**16 25 58.6**	**0.0**
PDAR	**Pinedale Array**	**12.35**	**85**	Pn	**Pn**	**16 27 05.8**	**+2.5**
	0.0nm,0.3s,baz=280,slow=12,SNR=4.0						
PDAR	**Pinedale Array**	**12.35**	**85**	Pn	**Pn**	**16 27 05.8**	**+2.5**
TXAR	**Lajitas Array**	**22.75**	**119**	P	**P**	**16 29 10.3**	**+0.5**
	0.1nm,0.3s,mb2.7,baz=287,slow=9.3,SNR=2.4						
TXAR	**Lajitas Array**	**22.75**	**119**	P	**P**	**16 29 10.3**	**+0.5**
ILAR	**Eielson Array**	**24.73**	**339**	P	**P**	**16 29 28.7**	**0.0**
	0.6nm,0.7s,mb3.2,baz=146,slow=8.5,SNR=8.3						
ILAR	**Eielson Array**	**24.73**	**339**	P	**P**	**16 29 28.7**	**0.0**

IDC 24 17:27:02.3±2.6, 5°.47S×131°.04E, h0km, mb3.7/1, mb1 3.8/4, mb1mx3.5/17, mbtmp3.6/4, ML3.5/3, Error ellipse: s-maj=124.5km s-min=27.7km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.62**	**202**	Pn	Pn	17 30 16.5	-0.3
	0.2nm,0.3s,baz=30,slow=13,SNR=11						
FITZ				Sn	Sn	17 32 35.7	-13
	0.3nm,0.3s,baz=86,slow=23,SNR=6.9						
WRA	**Warramunga Arr**	**14.74**	**168**	Pn	Pn	17 30 31.5	-0.6
	0.2nm,0.3s,baz=332,slow=14,SNR=10.0						
WRA				Sn	Sn	17 33 05.3	-11
	0.3nm,0.3s,baz=343,slow=22,SNR=7.1						
ASAR	**Alice Springs**	**18.30**	**172**	P	Pn	17 31 18.2	+0.5
	0.2nm,0.3s,baz=354,slow=12,SNR=50						
ASAR				S	Sn	17 34 33.5	-9.2
	0.1nm,0.3s,baz=343,slow=25,SNR=5.5						
MKAR	**Makanchi Array**	**67.53**	**326**	P	P	17 38 00.5	+0.1
	0.3nm,0.4s,baz=111,slow=8.0,SNR=9.0						

PRE 24 17:27:20.0±0.7, 26°.40S×27°.45E, h2km, ML1.5, South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLOF	**Kloof**	**0.15**	**71**	*e*P	Pg	17 27 23.4	+0.4
KLOF				*e*S	Sg	17 27 25.3	+0.4
KLOF				AML	AML	17 27 25.6	
	comp=Z,163nm,0.3s						
PRYS	**Parys**	**0.53**	**189**	*e*P	Pg	17 27 30.4	+0.3
PRYS				*e*S	Sg	17 27 37.5	+0.4
PRYS				AML	AML	17 27 38.6	
	comp=Z,9.3nm,0.2s						
KSR	**Koster**	**0.74**	**318**	*e*P	Pg	17 27 34.1	-0.1
KSR				*e*S	Sg	17 27 44.2	+0.5
BFSD	**Buffelsfontein**	**0.75**	**232**	*e*P	Pg	17 27 34.7	+0.2
BFSD				*e*S	Sg	17 27 44.7	+0.5
BFSD				AML	AML	17 27 46.8	
	comp=Z,9.5nm,0.3s						
SLR	**Silverton**	**1.00**	**49**	*e*P	Pg	17 27 39.1	-0.1
SLR				*e*S	Sg	17 27 53.0	+0.9
SLR				AML	AML	17 27 59.5	
	comp=Z,5.8nm,0.1s						
SEK	**Senekal**	**1.92**	**175**	*e*P	Pn	17 27 54.0	+0.2
SEK				*e*S	Sn	17 28 19.3	+0.8
SEK				AML	AML	17 28 21.3	
	comp=Z,6.0nm,0.2s						
SWZ	**Schweizer**	**2.05**	**247**	*e*P	Pn	17 27 56.5	+1.1
SWZ				*e*S	Sn	17 28 23.0	+1.4
SWZ				AML	AML	17 28 25.9	
	comp=Z,7.3nm,0.3s						

IDC ***24*** *17:29:14.8±13.0, 36°.63N×70°.71E, h193km±122km, mb3.1/2, mb1 3.1/5, mb1mx2.9/27, mbtmp3.1/5, Error ellipse: s-maj=111.6km s-min=30.5km az=166.0*

ISCJB ***24*** *17:29:16.9±0.5, 36°.71N±0°.04×71°.0E±0°.1, h225km±8km, mb3.4/2,

Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.23**	**19**	*i* P	Pn	17 36 43.0	-1.2
CMIG				*i* S	Sn	17 36 54.1	-1.9
HUIG	**Huatulco**	**1.56**	**225**	*i* P	Pn	17 36 54.9	-1.3
HUIG				*i* S	Sn	17 37 15.6	-1.6
OXX	**Oaxaca**	**1.70**	**277**	*i* P	Pn	17 36 56.5	-1.4
OXX				*i* S	Sn	17 37 19.0	-1.2
VHO	**Vista Hermosa**	**1.71**	**277**	*i* P	Pn	17 36 57.1	-0.9
VHO				*i* S	Sn	17 37 19.0	-1.4
TGIG		**1.76**	**93**	*i* P	Pn	17 36 57.5	-1.2
TGIG				*i* S	Sn	17 37 19.1	-2.4
PCIG		**2.04**	**125**	*i* P	Pn	17 37 01.4	-0.7
PCIG				*i* S	Sn	17 37 26.3	-1.4
TPIG	**Tehuac#an**	**2.76**	**304**	*e*P	Pn	17 37 11.1	-0.4
TPIG				*i* S	Sn	17 37 43.2	-1.2
CCIG	**Comitan**	**2.77**	**102**	*i* P	Pn	17 37 10.6	-1.0
CCIG				*i* S	Sn	17 37 43.7	-1.0
UTMO	**Huajuapan**	**2.88**	**290**	*i* P	Pn	17 37 11.8	-1.2
UTMO				*i* S	Sn	17 37 46.3	-1.0
PNIG	**Pinotepa**	**3.08**	**261**	*i* P	Pn	17 37 13.5	-2.2
PNIG				*i* S	Sn	17 37 50.3	-1.6
PPM	**Popocatepetl**	**4.11**	**303**	*i* P	Pn	17 37 29.8	+0.3
PPM				*i* S	Sn	17 38 16.9	+0.1
MZVM		**4.67**	**300**	*e*P	Pn	17 37 36.9	-0.1
CAIG	**El Cayaco**	**5.08**	**273**	*i* P	Pn	17 37 41.4	-1.2
CAIG				*i* S	Sn	17 38 37.6	-2.6

*ISCJB **24** 17:40:45.9±1.4, 17°.4**S**±0°.3×178°.7**W**±0°.2, h497^{km}±24^{km}, mb4.1/15, Error ellipse: s-maj=49.6km s-min=17.4km az=150.8*

*NEIC **24** 17:40:46.9±1.1, 17°.36**S**×178°.72**W**, h498^{km}±17^{km}, mb3.9/3, Error ellipse: s-maj=53.9km s-min=13.0km az=155.0*

*IDC **24** 17:40:47.1±2.1, 17°.33**S**×178°.73**W**, h498^{km}±26^{km}, mb3.4/7, mb1 3.6/8, mb1mx3.3/21, mbtmp3.5/8, Error ellipse: s-maj=52.9km s-min=16.8km az=154.0*

ISC 24 17:40:47.1±1.3, 17°.4S±0°.3×178°.7W±0°.2, h497^{km}±23^{km}, n31, σ0^{s}62/29, mb4.1/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.52**	**64**	P	**P**	**17 42 38.5**	**-0.1**
	5.5nm,0.3s,baz=45,slow=7.0,SNR=5.4						
AFI	**Afiamalu**	**7.52**	**64**	P	**P**	**17 42 38.5**	**-0.1**
ARMA	**Armidale**	**29.95**	**239**	*e*P	**P**	**17 46 15.0**	**+0.8**
RMQ	**Roma**	**31.43**	**248**	*e*P	**P**	**17 46 27.7**	**+0.7**
	7.2nm,0.5s,mb4.4						
CTA	**Charters Tower**	**33.25**	**260**	*e*P	**P**	**17 46 42.7**	**+0.1**
	3.6nm,0.7s,mb3.9						
CTAO	**Charters Tower**	**33.25**	**260**	*e*P	**P**	**17 46 42.9**	**+0.3**
	6.3nm,0.9s,mb4.0						
PMG	**Port Moresby**	**34.09**	**279**	P	**P**	**17 46 49.3**	**-0.4**
	6.1nm,0.7s,mb4.1,baz=159,slow=8.6,SNR=6.2						
PMG	**Port Moresby**	**34.09**	**279**	P	**P**	**17 46 49.3**	**-0.4**
CMSA	**Cobar Meteorol**	**35.16**	**240**	*e*P	**P**	**17 46 58.5**	**0.0**
	34nm,0.6s,mb5.0						
QLP	**Quilpie**	**35.45**	**248**	*e*P	**P**	**17 47 00.8**	**-0.2**
COEN	**Coen**	**36.81**	**270**	*e*P	**P**	**17 47 13.3**	**+0.9**
	23nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**38.63**	**241**	P	**P**	**17 47 27.6**	**+0.5**
	4.3nm,0.5s,mb4.2,baz=82,slow=7.7,SNR=25						
STKA	**Stephens Creek**	**38.63**	**241**	*e*P	**P**	**17 47 27.5**	**+0.4**
	4.0nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**38.63**	**241**	P	**P**	**17 47 27.6**	**+0.5**
WRAB	**Tennant Creek**	**44.43**	**259**	*e*P	**P**	**17 48 12.4**	**-1.0**
	1.4nm,0.4s,mb3.7						
WRA	**Warramunga Arr**	**44.44**	**259**	P	**P**	**17 48 12.5**	**-0.9**
	1.2nm,0.2s,mb3.9,baz=86,slow=8.3,SNR=72						
WRA				PcP	PcP	17 49 45.7	-0.9
	0.7nm,0.9s,baz=91,slow=3.5,SNR=5.0						
WRA	**Warramunga Arr**	**44.44**	**259**	P	**P**	**17 48 12.5**	**-0.9**
WRA				PcP	PcP	17 49 45.7	-0.9
ASAR	**Alice Springs**	**44.66**	**254**	P	**P**	**17 48 14.8**	**-0.2**
	22nm,0.7s,mb4.7,baz=90,slow=7.8,SNR=690						
ASAR				PcP	PcP	17 49 46.4	-0.9
	0.7nm,0.4s,baz=105,slow=4.0,SNR=5.3						
ASAR	**Alice Springs**	**44.66**	**254**	P	**P**	**17 48 14.8**	**-0.2**
ASAR				PcP	PcP	17 49 46.4	-0.9
KAKA	**Kakadu**	**47.30**	**269**	*e*P	**P**	**17 48 35.5**	**+0.1**
	10nm,0.4s,mb4.6						
FORT	**Forrest**	**49.97**	**244**	*e*P	**P**	**17 48 54.0**	**-1.0**
	10.0nm,0.5s,mb4.4						
FITZ	**Fitzroy Crossi**	**52.83**	**260**	P	**P**	**17 49 16.1**	**+0.2**
	2.3nm,0.5s,mb3.8,baz=98,slow=3.6,SNR=18						
FITZ	**Fitzroy Crossi**	**52.83**	**260**	*e*P	**P**	**17 49 16.3**	**+0.4**
	5.6nm,0.9s,mb3.9						
FITZ	**Fitzroy Crossi**	**52.83**	**260**	P	**P**	**17 49 16.1**	**+0.2**
MBWA	**Marble Bar**	**57.92**	**256**	*e*P	**P**	**17 49 50.7**	**-0.8**
	2.8nm,0.4s,mb4.0						
PDAR	**Pinedale Array**	**87.18**	**44**	P	**P**	**17 52 39.8**	**0.0**
	0.2nm,0.5s,mb3.1,baz=218,slow=5.5,SNR=2.8						
PDAR	**Pinedale Array**	**87.18**	**44**	P	**P**	**17 52 39.8**	**0.0**
CMAR	**Chiang Mai Arr**	**88.44**	**290**	P	**P**	**17 52 47.4**	**+1.0**
	0.6nm,0.9s,mb3.3,baz=116,slow=4.1,SNR=4.1						
CMAR	**Chiang Mai Arr**	**88.44**	**290**	P	**P**	**17 52 47.4**	**+1.0**
GERES	**GERESS Array B**	**147.04**	**345**	PKPbc	PKPbc	17 59 33.0	-0.6
	0.2nm,0.5s,baz=26,slow=2.5,SNR=3.9						
GERES	**GERESS Array B**	**147.04**	**345**	PKPbc	PKPbc	17 59 33.0	-0.6

*ISCJB **24** 17:41:24.8±2.0, 21°.0**S**±0°.1×69°.0**W**±0°.2, h124^{km}±18^{km}, mb4.0/5, Error ellipse: s-maj=30.6km s-min=15.9km az=153.6*

*IDC **24** 17:41:25.5±4.7, 21°.05**S**×69°.01**W**, h114^{km}±32^{km}, mb3.8/5, mb1 3.8/7, mb1mx3.6/18, mbtmp3.7/7, Error ellipse: s-maj=57.8km s-min=22.1km az=28.0*

*NEIC **24** 17:41:25.7±1.7, 21°.00**S**×68°.91**W**, h114^{km}±14^{km}, mb4.2/2, Error ellipse: s-maj=24.7km s-min=12.6km az=62.0*

ISC 24 17:41:26.4±1.9, 21°.0S±0°.1×68°.9W±0°.2, h119^{km}±17^{km}, n21, σ0^{s}86/17, mb4.0/5, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.74**	**9**	P	**Pn**	**17 42 36.1**	**+0.2**
	4.5nm,0.3s,baz=208,slow=6.2,SNR=75						
LPAZ				S	**Sn**	**17 43 19.2**	**-11**
	2.0nm,0.3s,baz=210,slow=13,SNR=6.1						
LPAZ	**La Paz**	**4.74**	**9**	P	**Pn**	**17 42 36.1**	**+0.2**
LPAZ				S	**Sn**	**17 43 19.2**	**-11**
CPUP	**Villa Florida**	**11.87**	**119**	P	**Pn**	**17 44 12.1**	**+0.2**
	0.2nm,0.3s,baz=299,slow=13,SNR=3.1						
CPUP	**Villa Florida**	**11.87**	**119**	*e*P	**Pn**	**17 44 09.9**	**-2.0**
	5.8nm,0.8s						
TRQA	**Tornquist**	**18.03**	**162**	*e*P	**P**	**17 45 28.8**	**+0.6**
	14nm,1.3s						
RCBR	**Riachuelo**	**35.37**	**69**	P	**P**	**17 48 12.1**	**+1.3**
	9.5nm,0.8s,mb4.7,baz=36,slow=22,SNR=7.4						
RCBR	**Riachuelo**	**35.37**	**69**	P	**P**	**17 48 12.1**	**+1.3**
TXAR	**Lajitas Array**	**60.21**	**325**	P	**P**	**17 51 20.9**	**-1.1**
	0.6nm,0.7s,mb3.8,baz=153,slow=6.9,SNR=4.1						
TXAR	**Lajitas Array**	**60.21**	**325**	P	**P**	**17 51 20.9**	**-1.1**
DBIC	**Dimbokro**	**68.60**	**74**	P	**P**	**17 52 16.7**	**-0.4**
	2.5nm,0.8s,mb4.1,baz=258,slow=4.4,SNR=2.6						
DBIC	**Dimbokro**	**68.60**	**74**	P	**P**	**17 52 16.7**	**-0.4**
NVAR	**Mina Array Bea**	**75.09**	**322**	P	**P**	**17 52 56.0**	**+0.7**
	0.5nm,0.5s,mb3.5,baz=143,slow=7.7,SNR=4.4						
NVAR	**Mina Array Bea**	**75.09**	**322**	P	**P**	**17 52 56.0**	**+0.7**
TORD	**Torodi Ar. Bea**	**77.19**	**70**	P	**P**	**17 53 07.2**	**-0.6**
	2.2nm,0.5s,mb4.2,baz=254,slow=5.5,SNR=7.8						
TORD				pP	pP	17 53 36.9	-0.8
	1.6nm,0.6s,baz=250,slow=5.4,SNR=7.6						
TORD	**Torodi Ar. Bea**	**77.19**	**70**	P	**P**	**17 53 07.2**	**-0.6**
TORD				pP	pP	17 53 36.9	-0.8
ZALV	**Zalesovo Beam**	**141.50**	**25**	PKP	PKPdf	18 00 42.6	-0.6
	0.4nm,0.4s,baz=344,slow=4.7,SNR=2.8						
ZALV	**Zalesovo Beam**	**141.50**	**25**	PKP	PKPdf	18 00 42.6	-0.6
MKAR	**Makanchi Array**	**145.23**	**35**	PKPbc	PKPbc	18 00 50.1	+0.2
	2.8nm,0.7s,baz=308,slow=3.3,SNR=23						
MKAR	**Makanchi Array**	**145.23**	**35**	PKPbc	PKPbc	18 00 50.1	+0.2
SONM	**Songino Array**	**152.96**	**7**	PKPbc	PKPbc	18 01 09.3	-0.3
	0.6nm,0.7s,baz=277,slow=0.9,SNR=5.3						
SONM	**Songino Array**	**152.96**	**7**	PKPbc	PKPbc	18 01 09.3	-0.3

GUC 24 17:45:51.7±0.8, 34°.46S**×70°.06**W**, h12^{km}±5^{km}, MD3.5, ML2.4, 4C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACH	**El Canelo**	**0.56**	**307** ⇑	*i* P	Pg	17 46 02.2	-0.4
CACH				*i* S	Sg	17 46 10.0	-0.1
LMEL	**Las Melosas**	**0.62**	**349** ⇑	*i* P	Pg	17 46 03.4	-0.4
LMEL				*i* S	Sg	17 46 12.8	+0.8
LMEL				AML	AML	17 46 14.3	
	comp=N,237nm,0.5s						
CHCH	**Chadas Angostu**	**0.72**	**317** ⇑	*i* P	Pg	17 46 05.4	-0.2
CHCH				*i* S	Sg	17 46 15.2	+0.1
FCH	**Farellones**	**1.15**	**350**	*e*P	Pb	17 46 12.9	-0.5
FCH				*i* S	Sb	17 46 29.5	+1.3
FCH				AML	AML	17 46 37.1	
	comp=N,78nm,0.3s						
RCDM	**Rinconada Maip**	**1.15**	**327** ⇑	*i* P	Pb	17 46 12.9	-0.6
RCDM				*i* S	Sb	17 46 28.9	+0.5
RCDM				AML	AML	17 46 30.5	
	comp=E,231nm,0.1s						
LNV	**Longovilo**	**1.23**	**294** ⇓	*i* P	Pn	17 46 14.0	-0.6
LNV				*i* S	Sb	17 46 30.5	0.0
PEL	**Peldehue**	**1.41**	**338**	*e*P	Pn	17 46 17.6	+0.5
PEL				*i* S	Sn	17 46 37.8	+2.1
PEL				AML	AML	17 46 42.6	
	comp=E,120nm,0.7s						
ROCH	**El Roble**	**1.68**	**332**	*e*P	Pn	17 46 22.6	+1.7
ROCH				*i* S	Sn	17 46 45.7	+3.4
ROCH				AML	AML	17 46 56.0	
	comp=N,109nm,0.6s						

DDA 24 18:04:01.3, 36°.38N×40°.81E, h7^{km}±1^{km}, Md3.3, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARD	**Mardin**	**0.94**	**358**	*i* P	Pg	18 04 19.5	+0.2
MARD				*i* S	Sg	18 04 32.7	+1.2
BEST	**Besiri**	**1.56**	**13**	*i* P	Pn	18 04 30.6	+1.2
BEST				*i* S	Sn	18 04 52.6	+2.8
DIYA	**Diyarbakir**	**1.64**	**341**	*e*P	Pn	18 04 30.9	+0.4
DIYA				*i* S	Sn	18 04 55.5	+3.6
BHD	**Baghdad**	**4.27**	**136**	*ex*	x	18 05 10.0	
BHD				*ex*	x	18 05 59.0	

*ISCJB **24** 18:16:23.5±0.6, 34°.19**N**±0°.04×24°.43**E**±0°.08, h33^{km}, Error ellipse: s-maj=9.9km s-min=4.5km az=164.6*

*CSEM **24** 18:16:24.2±0.3, 34°.26**N**×24°.40**E**, h20^{km}, MD3.4, Error ellipse: s-maj=11.9km s-min=5.8km az=67.0*

*HLW **24** 18:16:25.8, 34°.28**N**×24°.66**E**, h31^{km}±20^{km}, Md2.9, Ml3.0*

*ATH **24** 18:16:25.6, 34°.43**N**×24°.41**E**, h31^{km}±3^{km}, MD3.4/6*

ISC 24 18:16:24.8±1.4, 34°.23N**±0°.04×24°.42**E**±0°.09, h31^{km}±14^{km}, n24, σ1^{s}22/32, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.67**	**335**	*e*PB	**Pb**	**18 16 36.0**	**-2.0**
GVD	**Gavdhos**	**0.67**	**335**	*e*Pb	**Pb**	**18 16 36.0**	**-2.0**
VAM	**Vamos**	**1.19**	**351**	*e*PN	**Pn**	**18 16 44.7**	**-0.5**
VAM				*e*SN	**Sn**	**18 16 59.1**	**-1.1**
VAM	**Vamos**	**1.19**	**351**	*e*Pn	**Pn**	**18 16 44.7**	**-0.5**
VAM				*e*Sn	**Sn**	**18 16 59.1**	**-1.1**
NPS	**Neapolis**	**1.42**	**43**	*e*PN	**Pn**	**18 16 49.6**	**+1.2**
NPS				*e*SN	**Sn**	**18 17 05.5**	**-0.5**
NPS	**Neapolis**	**1.42**	**43**	*e*Pn	**Pn**	**18 16 49.6**	**+1.2**
NPS				*e*Sn	**Sn**	**18 17 05.5**	**-0.5**
KYTH	**Kithira**	**2.34**	**331**	*e*PN	**Pn**	**18 17 01.4**	**+0.4**
KYTH	**Kithira**	**2.34**	**331**	*e*Pn	**Pn**	**18 17 01.4**	**+0.4**
KARP	**Karpathos**	**2.60**	**59**	*e*PN	**Pn**	**18 17 06.7**	**+2.0**
KARP	**Karpathos**	**2.60**	**59**	*e*Pn	**Pn**	**18 17 06.7**	**+2.0**
SLUM		**2.81**	**166**	P	**Pn**	**18 17 08.8**	**+1.2**
	baz=170						
SLUM		**2.81**	**166**	P	**Pn**	**18 17 08.8**	**+1.2**
ITM	**Ithomi**	**3.58**	**326**	*e*PN	**Pn**	**18 17 18.9**	**+0.9**
ITM	**Ithomi**	**3.58**	**326**	*e*Pn	**Pn**	**18 17 18.9**	**+0.9**
HMAT	**Matruh**	**3.86**	**144**	P	**Pn**	**18 17 21.5**	**-0.4**
	baz=146						
HMAT				AMP		18 18 00.0	
	comp=E,20μm,0.2s,logA/T=4.9,baz=146						
HMAT				S	**Sn**	**18 18 04.0**	**-2.2**
	baz=146						
HMAT	**Matruh**	**3.86**	**144**	P	**Pn**	**18 17 23.3**	**+1.4**
SWA2		**5.05**	**170**	P	**Pn**	**18 17 39.6**	**+1.3**
	baz=172						
SWA2				S	**Sn**	**18 18 35.1**	**-0.5**
	baz=172						
SWA2		**5.05**	**170**	P	**Pn**	**18 17 39.0**	**+0.7**
SWA2				S	**Sn**	**18 18 35.0**	**-0.6**
HNAT	**Natroun**	**6.98**	**129**	P	**Pn**	**18 18 05.0**	**+0.1**
	baz=130						
HNAT	**Natroun**	**6.98**	**129**	P	**Pn**	**18 18 05.4**	**+0.6**
AWBH		**7.03**	**146**	P	**Pn**	**18 18 06.3**	**+0.8**
	baz=147						
AWBH				S	**Sn**	**18 19 21.6**	**-2.8**
	baz=147						
AWBH		**7.03**	**146**	P	**Pn**	**18 18 06.3**	**+0.8**
AMAG	**Maghara**	**8.24**	**113**	P	**Pn**	**18 18 21.9**	**-0.2**
	baz=114						
AMAG	**Maghara**	**8.24**	**113**	P	**Pn**	**18 18 21.5**	**-0.6**

*BJI **24** 18:44:16.5, 53°.17**N**×159°.78**E**, h63^{km}, mB4.8/26, mb4.8/38, Ms4.6/23, Ms7 4.1/23*

*IDC **24** 18:44:18.0±0.5, 53°.03**N**×159°.58**E**, h44^{km}±4^{km}, mb4.4/38, mb1 4.6/39, mb1mx4.6/41, mbtmp4.5/39, ML5.1/1, MS3.6/18, Ms1 3.6/18, ms1mx3.4/41, Error ellipse: s-maj=11.7km s-min=8.7km az=138.0*

*NEIC **24** 18:44:17.6±0.2, 52°.99**N**×159°.64**E**, mb4.8/44, Error ellipse: s-maj=6.7km s-min=4.2km az=159.0*

*MOS **24** 18:44:17.5±1.4, 52°.93**N**×159°.68**E**, h58^{km}, mb5.0/60, Error ellipse: s-maj=7.9km s-min=4.4km az=91.3*

MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.

*KRSC **24** 18:44:18.3±0.1, 52°.86**N**×159°.95**E**, h49^{km}±30^{km}, ML5.3*

*ISCJB **24** 18:44:19.1±0.3, 52°.89**N**±0°.03×159°.68**E**±0°.03, h70^{km}±2^{km}, mb4.8/170, Error ellipse: s-maj=4.4km s-min=2.4km az=164.7*

*SZGRF **24** 18:44:25.3, 53°.30**N**×158°.85**E**, h33^{km}, mb5.1, Near east coast of Kamchatka Peninsula, Russia*

ISC 24 18:44:20.9±0.3, 52°.94N**±0°.03×159°.58**E**±0°.03, h69^{km}±2^{km}, h59^{km}±4.8^{km}: pP-P, n725, σ0^{s}78/726, mb4.8/170, 155C-152D, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLC	**Nalytchevo**	**0.28**	**329**	*i* P	**Pn**	**18 44 29.0**	**-2.7**
NLC	**Nalytchevo**	**0.28**	**329**	PN	**Pn**	**18 44 29.0**	**-2.7**
SPN	**Mys Shipunski**	**0.31**	**58**	*i* P	**Pn**	**18 44 26.8**	**-5.2**
SPN	**Mys Shipunski**	**0.31**	**58**	PN	**Pn**	**18 44 26.8**	**-5.2**
PET	**Petropavlovsk**	**0.57**	**279**	*i* P	**Pn**	**18 44 33.3**	**-0.9**
PET	**Petropavlovsk**	**0.57**	**279**	*e*P	**Pn**	**18 44 32.4**	**-1.8**
PET				*e*Sn	**Sn**	**18 44 42.3**	**-1.7**
PET	**Petropavlovsk**	**0.57**	**279** ⇓	*i*PN	**Pn**	**18 44 33.3**	**-0.9**
PET				*e*S	**Sn**	**18 44 44.2**	**+0.2**
PET				pmax	pmax		
	comp=Z,2μm,0.4s						
PET				pmax	pmax		
	comp=Z,195nm,0.5s						
PET				smax			
	comp=E,6μm,6.0s						
PET				smax			
	comp=E,669nm,0.6s						
INSR	**Institute**	**0.60**	**283**	*e*P	**Pn**	**18 44 33.1**	**-1.5**
INSR				*i* S	**Sn**	**18 44 45.6**	**+0.9**
AVH	**Avacha**	**0.61**	**303**	*i* P	**Pn**	**18 44 34.2**	**-0.4**
RUS	**Russkaya**	**0.82**	**233**	*e*P	**Pn**	**18 44 35.3**	**-1.7**
RUS	**Russkaya**	**0.82**	**233**	PN	**Pn**	**18 44 35.3**	**-1.7**
GRL	**Gorelyy**	**0.99**	**248**	*e*P	**Pn**	**18 44 39.1**	**0.0**
GRL				*i* S	**Sn**	**18 44 54.1**	**+1.3**
KII	**Karymskiy**	**1.11**	**356**	*i* P	**Pn**	**18 44 39.4**	**-1.2**
PEA0B	**Petropavlovsk-**	**1.15**	**279**	*e*P	**Pn**	**18 44 41.3**	**+0.2**
PEA0B				*e*Sn	**Sn**	**18 44 57.9**	**+1.6**
PETK	**Petropavlovsk-**	**1.15**	**279**	P	**Pn**	**18 44 41.9**	**+0.7**
	comp=E,2μm,0.3s,baz=88,slow=19						
PETK				S	**Sn**	**18 44 59.5**	**+3.2**
	comp=E,1μm,0.3s,baz=86,slow=20,SNR=18						
PETK	**Petropavlovsk-**	**1.15**	**279**	P	**Pn**	**18 44 41.9**	**+0.7**
PETK				S	**Sn**	**18 44 59.5**	**+3.2**
PETK	**Petropavlovsk-**	**1.15**	**279**	PN	**Pn**	**18 44 41.9**	**+0.8**
GNL	**Ganaly**	**1.24**	**308**	*e*P	**Pn**	**18 44 43.3**	**+1.0**
MIPR	**Malaya Ipel'ka**	**1.84**	**250**	*e*P	**Pn**	**18 44 51.4**	**+1.1**
MKZ	**Mys Kozlova**	**2.07**	**37**	*e*P	**Pn**	**18 44 49.3**	**-4.0**
MKZ				*i* S	**Sn**	**18 45 11.2**	**-6.8**
MKZ	**Mys Kozlova**	**2.07**	**37**	PN	**Pn**	**18 44 49.3**	**-4.0**
MKZ				S	**Sn**	**18 45 11.2**	**-6.8**
TUMR	**Tumrok**	**2.38**	**8**	*e*P	**Pn**	**18 44 58.0**	**+0.5**
KMNR	**Kamenistaya**	**2.85**	**7**	*e*P	**Pn**	**18 45 04.4**	**+0.4**
ESO	**Esso**	**3.04**	**351**	*e*P	**Pn**	**18 45 06.9**	**+0.4**
ESO	**Esso**	**3.04**	**351**	PN	**Pn**	**18 45 06.9**	**+0.4**
BZMR	**Bezymyannaya**	**3.05**	**10**	*e*P	**Pn**	**18 45 07.3**	**+0.6**
KIRR	**Kirishev**	**3.06**	**8**	*e*P	**Pn**	**18 45 07.1**	**+0.4**
KPT	**Kopyto**	**3.06**	**7**	*e*P	**Pn**	**18 45 07.0**	**+0.2**
SKR	**Severo-Kuril's**	**3.12**	**225**	*e*PN	**Pn**	**18 45 10.4**	**+2.9**
SKR				*i* S	**Sn**	**18 45 46.5**	**+2.9**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				pmax	pmax		
	comp=N,50nm,0.4s						
SKR				pmax	pmax		
	comp=E,70nm,0.4s						
SKR				smax			
	comp=N,2μm,0.5s						
SKR				smax			
	comp=E,920nm,0.5s						
SKR				smax			
	comp=N,2μm,4.0s						
SKR				smax			
	comp=E,2μm,4.0s						
KOZ	**Kozyrevsk**	**3.13**	**3**	*e*P	**Pn**	**18 45 08.1**	**+0.3**
KOZR	**Kozyr**	**3.14**	**3**	PN	**Pn**	**18 45 08.1**	**+0.2**
ZLN	**Zelenaya**	**3.17**	**13**	*e*P	**Pn**	**18 45 09.3**	**+1.0**
KRSR	**Krestovskiy**	**3.34**	**9**	*e*P	**Pn**	**18 45 10.2**	**-0.4**
SRDR	**Sredinnyy**	**3.39**	**1**	*e*P	**Pn**	**18 45 11.2**	**-0.1**
KLY	**Klyuchi**	**3.44**	**10**	*e*P	**Pn**	**18 45 12.6**	**+0.6**
KLY	**Klyuchi**	**3.44**	**10**	PN	**Pn**	**18 45 12.6**	**+0.6**
BDR	**Baidarnaya**	**3.76**	**14**	*e*P	**Pn**	**18 45 16.8**	**+0.5**
BDR				*i* S	**Sn**	**18 46 01.2**	**+1.9**
KBTR	**Krutoberegovo**	**3.78**	**29**	*e*P	**Pn**	**18 45 15.1**	**-1.5**
KBTR				*i* S	**Sn**	**18 45 58.1**	**-1.7**
KBTR	**Krutoberegovo**	**3.78**	**29**	PN	**Pn**	**18 45 15.1**	**-1.5**
KBTR				S	**Sn**	**18 45 58.1**	**-1.7**
SMKR	**Semkarok**	**3.81**	**16**	*e*P	**Pn**	**18 45 16.9**	**-0.1**
SRKR	**Sorokina**	**3.84**	**13**	*e*P	**Pn**	**18 45 18.0**	**+0.6**
BKI	**Bering**	**4.40**	**56**	*e*P	**Pn**	**18 45 21.0**	**-4.0**
BKI				*i* S	**Sn**	**18 46 04.9**	**-10**
BKI	**Bering**	**4.40**	**56**	PN	**Pn**	**18 45 21.0**	**-4.0**
FX1	**Attu Island--F**	**8.21**	**85**	P	**Pn**	**18 46 12.4**	**-4.7**
	comp=E,88nm,0.3s,baz=294,slow=4.6,SNR=119						
FX1				S	**Sn**	**18 47 35.4**	**-13**
	comp=E,29nm,0.3s,baz=233,slow=21,SNR=7.8						
FX1	**Attu Island--F**	**8.21**	**85**	P	**Pn**	**18 46 12.4**	**-4.7**
FX1				S	**Sn**	**18 47 35.4**	**-13**
FX1	**Attu Island--F**	**8.21**	**85**	PN	**Pn**	**18 46 12.5**	**-4.7**
FX1				pmax	pmax		
	comp=Z,88nm,0.3s						
SMY	**Shemya**	**8.80**	**86**	*e*P	**Pn**	**18 46 19.9**	**-5.2**
SMY	**Shemya**	**8.80**	**86**	*e*PN	**Pn**	**18 46 19.9**	**-5.2**
SEY	**Seymchan**	**10.72**	**342**	*c* PN	**Pn**	**18 46 53.0**	**+1.7**
YSS	**Yuzh-Sakhalins**	**12.37**	**248**	*e*PN	**Pn**	**18 47 22.7**	**+8.9**
YSS				MLR	MLR		
	comp=Z,400nm,14.0s						
ASAJ	**Asahikawa**	**14.27**	**239**	P	**Pn**	**18 47 40.2**	**+1.0**
	comp=Z,3.4nm,0.3s,baz=60,slow=10,SNR=28						
ASAJ				LR	LR	18 52 58.8	
	comp=Z,153nm,19.9s,baz=179,slow=36						
ASAJ	**Asahikawa**	**14.27**	**239**	*e*P	**Pn**	**18 47 39.6**	**+0.3**
	comp=Z,26nm,0.8s						
ASAJ	**Asahikawa**	**14.27**	**239**	P	**Pn**	**18 47 40.2**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BILL	**Bilibino**	**15.49**	**9**	*e*P	**Pn**	**18 47 53.4**	**-1.5**
	comp=Z,47nm,0.8s						
BILL	**Bilibino**	**15.49**	**9** ⇑	*e*P	**Pn**	**18 47 55.4**	**+0.6**
BILL				*e*S	**S**	**18 50 45.3**	**-12**
BILL				pmax	pmax		
	comp=Z,35nm,0.9s						
ERM	**Erimo**	**15.54**	**232**	*e*P	**Pn**	**18 47 52.3**	**-3.3**
HABR	**Khabarovsk**	**16.14**	**264**	*e*P	**Pn**	**18 48 01.8**	**-1.3**
HABR				S	**S**	**18 50 59.8**	**-11**
HABR				pmax	pmax		
	comp=E,90nm,2.1s						
HABR				pmax	pmax		
	comp=N,75nm,3.2s						
HABR				pmax	pmax		
	comp=Z,125nm

ILAR PcP PcP 18 53 19.2 -1.3
comp=Z,0.7nm,0.8s,baz=285,slow=2.6,SNR=4.2
ILAR LR LR 19 00 11.7
comp=Z,57nm,20.8s,baz=308,slow=33
ILAR Eielson Array 29.15 45 P **P** **18 50 13.6 -1.3**
ILAR pP pP 18 50 24.8 -6.5
ILAR PcP PcP 18 53 19.2 -1.3
ILAR Eielson Array 29.15 45 P **P** **18 50 13.6 -1.3**
ILAR *PP pP 18 50 24.8 -6.5
ILAR 18 53 19.2
ILAR pmax pmax
comp=Z,4.0nm,0.7s
EGAK Eagle 31.59 45 *eP* **P** **18 50 34.4 -2.1**
comp=Z,16nm,0.7s,mb4.9
BJI Beijing 32.04 264 P **P** **18 50 40.0 -0.6**
BJI S **S** **18 55 46.9 -0.5**
BJI pmax pmax
comp=Z,12nm,0.4s,mb5.0
BJI LR LR
comp=N,140nm,15.3s
BJI LR LR
comp=E,190nm,16.4s
BJI LR LR
comp=Z,81nm,17.6s
ULN Ulaanbaatar 33.23 283 *eP* **P** **18 50 50.9 -0.1**
comp=Z,5.0nm,0.8s,mb4.4
ULN Ulaanbaatar 33.23 283 *eP* **P** **18 50 50.9 -0.1**
ULN pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
SONM Songino Array 33.63 283 P **P** **18 50 54.8 +0.4**
comp=Z,3.3nm,0.5s,mb4.4,baz=65,slow=7.8,SNR=29
SONM PcP PcP 18 53 33.4 +0.5
comp=Z,4.6nm,0.7s,baz=77,slow=1.2,SNR=18
SONM LR LR 19 04 23.3
comp=Z,231nm,21.7s,baz=201,slow=36
SONM Songino Array 33.63 283 P **P** **18 50 54.8 +0.4**
SONM PcP PcP 18 53 33.4 +0.5
SONM Songino Array 33.63 283 P **P** **18 50 54.8 +0.3**
SONM 18 53 33.4
SONM pmax pmax
comp=Z,3.0nm,0.5s
SONM MLR MLR
comp=Z,231nm,21.7s
INK Inuvik 34.19 37 *eP* **P** **18 50 58.4 -0.6**
comp=Z,20nm,0.8s,mb5.0
INK Inuvik 34.19 37 *eP* **P** **18 50 58.4 -0.6**
INK pmax pmax
comp=Z,20nm,0.8s
ZAK Zakamensk 34.26 289 *eP* **P** **18 51 00.1 +0.3**
ZAK *e* 18 53 35.5
HHC Hu-ho-hao-te 34.33 269 *eP* **P** **18 51 01.5 +0.9**
HHC pP pP 18 51 17.3 +0.1
HHC sP sP 18 51 24.3 -0.9
HHC PP PP 18 52 14.8 -4.5
HHC S **S** **18 56 23.8 +0.9**
HHC SS SS 18 58 34.3 -19
HHC ScS ScS 19 01 17.5 +1.1
HHC pmax pmax
comp=Z,13nm,0.8s,mb4.8
HHC pmax pmax
comp=Z,57nm,3.7s
HHC LR LR
comp=N,170nm,7.8s
HHC LR LR
comp=E,600nm,8.1s
HHC LR LR
comp=Z,170nm,14.3s
JOW Kunigami 34.97 234 P **P** **18 51 08.0 +1.8**
comp=Z,78nm,0.5s,mb5.8,baz=10,slow=9.6,SNR=32
JOW Kunigami 34.97 234 *eP* **P** **18 51 07.0 +0.8**
comp=Z,32nm,0.5s,mb5.4
NJ2 Nanjing 35.91 251 *eP* **P** **18 51 15.9 +1.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
GUMO Guam 40.96 202 LR LR 19 09 51.3
comp=Z,51nm,18.4s,baz=55,slow=37
YULB Yu-li 41.34 240 *eP* **P** **18 51 59.1 -0.7**
comp=Z,16nm,0.6s,mb5.0
LZH Lanzhou 42.03 269 *eP* **P** **18 52 05.1 -0.2**
LZH pP pP 18 52 21.0 -1.3
LZH sP sP 18 52 26.8 -3.4
LZH PP PP 18 53 47.3 +3.8
LZH pmax pmax
comp=Z,20nm,1.3s,mb4.7
LZH pmax pmax
comp=Z,78nm,6.0s
LZH LR LR
comp=N,220nm,12.3s
LZH LR LR
comp=E,270nm,13.5s
LZH LR LR
comp=Z,310nm,17.6s
GTA Gaotai 42.32 276 *eP* **P** **18 52 07.8 +0.2**
GTA pP pP 18 52 23.0 -1.6
GTA sP sP 18 52 30.4 -2.1
GTA S **S** **18 58 24.3 +1.0**
GTA sS sS 18 58 50.1 -2.2
GTA SS SS 19 01 29.5 -4.3
GTA pmax pmax
comp=Z,12nm,0.8s,mb4.7
GTA pmax pmax
comp=Z,99nm,6.4s
GTA LR LR
comp=N,130nm,10.0s
GTA LR LR
comp=E,130nm,10.9s
GTA LR LR
comp=Z,160nm,14.0s
ZAA0 Zalesovo Array 42.60 303 *eP* **P** **18 52 07.5 -2.2**
ZALV Zalesovo Beam 42.60 303 P **P** **18 52 07.6 -2.1**
comp=Z,4.7nm,0.8s,mb4.3,baz=63,slow=6.8,SNR=17
ZALV PcP PcP 18 54 00.6 -0.1
comp=Z,2.2nm,0.6s,baz=66,slow=4.3,SNR=5.1
ZALV LR LR 19 11 10.6
comp=Z,95nm,18.4s,baz=241,slow=38
ZALV Zalesovo Beam 42.60 303 P **P** **18 52 07.6 -2.1**
ZALV PcP PcP 18 54 00.6 -0.1
ZALV Zalesovo Beam 42.60 303 P **P** **18 52 07.6 -2.1**
ZALV 18 54 00.6
ZALV pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
ZALV MLR MLR
comp=Z,95nm,18.4s
ENH Enshi 42.68 258 *eP* **P** **18 52 08.8 -1.8**
comp=Z,13nm,0.7s,mb4.8
NVS Novosibirsk 42.95 304 *eP* **P** **18 52 09.3 -3.2**
NVS *e*PP pP 18 52 28.5 -1.1
NVS *e* 18 53 54.1
NVS *eS* **S** **18 58 24.0 -8.2**
NVS pmax pmax
comp=Z,16nm,0.9s,mb4.8
NVS pmax pmax
comp=N,4.0nm,0.9s
NVS pmax pmax
comp=E,7.0nm,0.9s
NVS smax
comp=N,9.0nm,1.9s
YKA Yellowknife Ar 43.49 42 P **P** **18 52 16.3 -0.4**
comp=N,7.9nm,0.7s,mb4.6,baz=298,slow=7.8,SNR=14
YKA pP pP 18 52 28.0 -5.9
comp=N,5.1nm,0.8s,baz=302,slow=8.6,SNR=5.6
YKA Yellowknife Ar 43.49 42 P **P** **18 52 16.3 -0.4**
YKA pP pP 18 52 28.0 -5.9
YKA Yellowknife Ar 43.49 42 P **P** **18 52 16.3 -0.4**
YKA *PP pP 18 52 28.0 -5.8
YKA pmax pmax
comp=Z,8.0nm,0.7s
RES Resolute Bay 43.59 22 P **P** **18 52 17.3 -0.1**
baz=313,slow=9.8
RES Resolute Bay 43.59 22 *eP* **P** **18 52 16.4 -1.0**
comp=Z,5.6nm,0.5s,mb4.5
RES Resolute Bay 43.59 22 P **P** **18 52 17.3 -0.1**
CD2 Chengdu 45.64 264 P **P** **18 52 35.3 +1.0**
CD2 pP pP 18 52 50.8 -0.7
CD2 sP sP 18 52 57.8 -1.6
CD2 PP PP 18 54 23.3 +1.2
CD2 PcS PcS 18 58 06.4 +0.7
CD2 S **S** **18 59 19.0 +7.2**
CD2 sS sS 18 59 38.5 -2.6
CD2 SS SS 19 02 27.3 -9.2
CD2 pmax pmax
comp=Z,20nm,0.5s,mb5.1
CD2 pmax pmax
comp=Z,150nm,6.0s

CD2 LR LR
comp=N,380nm,8.9s
CD2 LR LR
comp=Z,230nm,6.5s
WMQ Urumqi 46.73 289 P **P** **18 52 43.0 +0.3**
WMQ pmax pmax
comp=Z,18nm,0.6s,mb5.0
WMQ LR LR
comp=N,89nm,23.0s
WMQ LR LR
comp=E,64nm,19.6s
WMQ LR LR
comp=Z,110nm,24.2s
GYA Guiyang 47.16 257 *eP* **P** **18 52 45.4 -0.8**
GYA pP pP 18 53 03.8 +0.3
GYA sP sP 18 53 12.0 +0.6
GYA PcP PcP 18 54 17.6 +0.8
GYA ScP ScP 18 58 03.3 -1.0
GYA PcS PcS 18 58 12.0 -0.1
GYA S **S** **18 59 33.6 0.0**
GYA sS sS 19 00 03.1 +0.1
GYA pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
GYA pmax pmax
comp=Z,110nm,5.0s
SPITS Spitsbergen Ar 47.24 350 P **P** **18 52 45.4 -0.8**
comp=Z,12nm,0.4s,mb5.0,baz=61,slow=6.9,SNR=67
SPITS PcP PcP 18 54 16.6 +0.3
comp=Z,11nm,1.1s,baz=15,slow=8.1,SNR=2.2
SPITS LR LR 19 15 05.3
comp=Z,32nm,19.4s,baz=170,slow=39
SPITS Spitsbergen Ar 47.24 350 P **P** **18 52 45.4 -0.8**
SPITS PcP PcP 18 54 16.6 +0.3
SPITS Spitsbergen Ar 47.24 350 P **P** **18 52 45.4 -0.8**
SPITS 18 54 16.6
SPITS pmax pmax
comp=Z,12nm,0.4s
SPITS MLR MLR
comp=Z,32nm,19.4s
KURK Kurchatov 47.55 302 P **P** **18 52 47.6 -1.4**
comp=Z,11nm,0.7s,mb4.8,baz=59,slow=7.4,SNR=18
KURK PcP PcP 18 54 17.7 -0.1
comp=Z,2.4nm,0.6s,baz=54,slow=3.2,SNR=7.5
KURK LR LR 19 14 21.6
comp=Z,129nm,19.1s,baz=65,slow=38
KURK Kurchatov 47.55 302 *eP* **P** **18 52 47.4 -1.5**
comp=Z,12nm,0.6s,mb4.9
KURK PcP PcP 18 54 17.7 -0.1
KURK Kurchatov 47.55 302 *eP* **P** **18 52 47.3 -1.7**
KURK pmax pmax
comp=Z,24nm,1.5s,mb4.8
MK31 Makanchi Array 47.94 295 *eP* **P** **18 52 50.5 -1.6**
MK31 Makanchi Array 47.94 295 *eP* **P** **18 52 50.5 -1.5**
MKAR Makanchi Array 47.94 295 P **P** **18 52 50.3 -1.7**
comp=Z,5.3nm,0.5s,mb4.7,baz=57,slow=6.8,SNR=160
MKAR PcP PcP 18 54 17.4 -1.9
comp=Z,0.5nm,0.5s,baz=44,slow=5.6,SNR=1.7
MKAR LR LR 19 13 59.9
comp=Z,68nm,21.7s,baz=354,slow=37
MKAR Makanchi Array 47.94 295 P **P** **18 52 50.3 -1.7**
MKAR PcP PcP 18 54 17.4 -1.9
MKAR Makanchi Array 47.94 295 P **P** **18 52 50.3 -1.7**
MKAR 18 54 17.4
MKAR pmax pmax
comp=Z,5.0nm,0.5s
MKAR MLR MLR
comp=Z,68nm,21.7s
C09A Chrisman Ranch 49.94 61 ⇓P **P** **18 53 06.7 -0.5**
baz=50
F07A Phinny Hill Vi 50.24 64 ⇑P **P** **18 53 09.4 -0.2**
baz=50
BVA0 Borovoye Array 50.24 308 *iP* **P** **18 53 07.8 -1.7**
BVAR Borovoye Array 50.24 308 P **P** **18 53 07.7 -1.8**
comp=Z,4.7nm,0.5s,mb4.7,baz=61,slow=7.1,SNR=38
BVAR PcP PcP 18 54 26.9 -0.6
comp=Z,3.9nm,0.6s,baz=64,slow=3.4,SNR=6.3
BVAR LR LR 19 16 34.4
comp=Z,130nm,18.9s,baz=90,slow=39
BVAR Borovoye Array 50.24 308 P **P** **18 53 07.7 -1.8**
BVAR PcP PcP 18 54 26.9 -0.6
BVAR Borovoye Array 50.24 308 P **P** **18 53 07.7 -1.8**
BVAR 18 54 26.9
BVAR pmax pmax
comp=Z,5.0nm,0.5s
BVAR MLR MLR
comp=Z,130nm,18.9s
NEW Newport 50.25 60 ⇑P **P** **18 53 08.8 -0.8**
baz=50
BRVK Borovoye 50.27 308 *eP* **P** **18 53 07.8 -1.9**
comp=Z,7.0nm,0.6s,mb4.8
BRVK Borovoye 50.27 308 *eP* **P** **18 53 07.9 -1.8**
BRVK pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
G06A Carlson Farm, 50.27 65 ⇑P **P** **18 53 09.5 -0.3**
baz=50
E08A Dider Farm, El 50.34 63 ⇑P **P** **18 53 09.9 -0.4**
baz=50
KMI Kunming 50.49 260 P **P** **18 53 11.0 -0.7**
KMI pP pP 18 53 27.6 -1.6
KMI sP sP 18 53 35.5 -1.5
KMI PP PP 18 55 09.4 +1.6
KMI S **S** **19 00 18.5 -1.9**
KMI SS SS 19 03 51.0 -3.8
KMI pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
KMI pmax pmax
comp=Z,75nm,6.6s
KMI LR LR
comp=N,140nm,22.1s
KMI LR LR
comp=E,140nm,22.1s
KMI LR LR
comp=Z,140nm,21.5s
DAG Danmarks Havn 50.56 359 *iP* **P** **18 53 10.0 -1.6**
DAG pmax pmax
comp=Z,11nm,0.8s,mb4.9
DAG Danmarks Havn 50.56 359 *iP* **P** **18 53 10.0 -1.6**
comp=Z,15nm,0.8s,mb5.1
E09A Wood Farm, Sta 50.81 62 ⇑P **P** **18 53 13.4 -0.5**
baz=51
B12A Libby 50.92 59 ⇓P **P** **18 53 14.1 -0.6**
baz=51
C11A Tepee Creek (N 50.97 60 ⇓P **P** **18 53 14.4 -0.6**
baz=51
G08A Pilot Rock 51.15 64 ⇑P **P** **18 53 16.2 -0.2**
baz=51
A13A Flathead Natio 51.23 58 ⇓P **P** **18 53 16.8 -0.2**
baz=51
C12B Naegeli Ranch, 51.46 59 ⇓P **P** **18 53 18.9 +0.2**
baz=51
B13A Whitefish 51.56 58 ⇓P **P** **18 53 19.5 0.0**
baz=51
F10A Beach Ranch, E 51.65 62 ⇓P **P** **18 53 19.1 -1.0**
baz=51
A14A Double T Ranch 51.71 57 ⇑P **P** **18 53 19.5 -1.1**
baz=51
BSMT Bassoo Peak 51.73 59 *eP* **P** **18 53 20.7 0.0**
comp=Z,11nm,0.9s,mb4.9
C13A Hot Springs 51.95 59 ⇑P **P** **18 53 22.0 -0.3**
baz=52
JTMT Jette 52.06 59 *eP* **P** **18 53 23.0 -0.1**
comp=Z,6.7nm,1.0s,mb4.6
A15A Johnson Ranch, 52.06 57 ⇑P **P** **18 53 22.4 -0.7**
baz=52
E12A Beaver Dam Sad 52.24 61 ⇓P **P** **18 53 24.1 -0.4**
baz=52
C14A Swan Lake 52.32 58 ⇑P **P** **18 53 24.3 -0.8**
baz=52
SWMT Swartz Lake 52.35 59 *eP* **P** **18 53 23.5 -1.8**
comp=Z,2.7nm,0.9s,mb4.3
D13A Huson 52.38 59 ⇑P **P** **18 53 24.7 -0.9**
baz=52
B15A Bradely Ranch, 52.57 57 ⇓P **P** **18 53 26.0 -1.0**
baz=52
A16A West Butte Ran 52.65 56 ⇓P **P** **18 53 26.5 -1.0**
baz=52
MSO Missoula 52.83 59 ⇑P **P** **18 53 28.4 -0.4**
baz=53
F12A Elk City 52.84 61 ⇑P **P** **18 53 28.6 -0.4**
baz=53
KEV Kevo 52.87 341 *eP* **P** **18 53 26.6 -2.2**
KEV Kevo 52.87 341 *eP* **P** **18 53 26.6 -2.2**
D14A Greenough 52.89 59 ⇑P **P** **18 53 28.7 -0.6**
baz=53
C15A Salmond Ranch, 52.90 58 ⇓P **P** **18 53 29.0 -0.4**
baz=53,SNR=5.0

E13A Victor 52.95 60 ⇓P **P** **18 53 29.2 -0.6**
baz=53
A17A Triple J Farms 53.10 56 ⇓P **P** **18 53 29.9 -0.9**
baz=53
CHMT Chamberlain Mo 53.13 59 *eP* **P** **18 53 29.1 -2.0**
G12A Big Creek, Yel 53.21 62 ⇓P **P** **18 53 30.7 -1.0**
baz=53
ARU Arti 53.30 317 *eP* **P** **18 53 30.4 -1.8**
comp=Z,11nm,0.7s,mb5.0
ARU Arti 53.30 317 *diP* **P** **18 53 30.4 -1.8**
ARU *e*PP pP 18 53 49.3 -0.5
ARU *e* 18 54 37.5
ARU *e* 18 55 28.7
ARU S **S** **19 00 57.6 -0.6**
ARU SS SS 19 04 37.1 -0.9
ARU pmax pmax
comp=Z,11nm,0.7s,mb5.0
C16A Fuhringer Ranc 53.32 57 ⇓P **P** **18 53 31.6 -0.9**
baz=53
E14A Clinton 53.33 59 ⇓P **P** **18 53 32.3 -0.3**
baz=53
ARCES ARCESS Array B 53.34 342 P **P** **18 53 30.3 -2.0**
comp=Z,3.1nm,0.6s,mb4.5,baz=35,slow=7.5,SNR=15
ARCES PcP PcP 18 54 38.3 -0.5
comp=Z,5.0nm,0.8s,baz=14,slow=2.5,SNR=6.3
ARCES LR LR 19 20 10.1
comp=Z,63nm,19.4s,baz=200,slow=40
ARCES ARCESS Array B 53.34 342 P **P** **18 53 30.3 -2.0**
ARCES PcP PcP 18 54 38.3 -0.5
ARCES ARCESS Array B 53.34 342 P **P** **18 53 30.3 -2.0**
ARCES 18 54 38.3
ARCES pmax pmax
comp=Z,3.0nm,0.6s
ARCES MLR MLR
comp=Z,63nm,19.4s
FFC Flin Flon 53.36 46 *iP* **P** **18 53 32.9 +0.3**
D15A Lincoln 53.42 58 ⇑P **P** **18 53 32.9 -0.3**
baz=53
E15A Deer Lodge 53.77 59 ⇓P **P** **18 53 35.2 -0.6**
baz=54
G13A Cobalt 53.82 61 ⇓P **P** **18 53 35.7 -0.4**
baz=54
B18A Beardsley Farm 53.92 56 ⇓P **P** **18 53 36.1 -0.8**
baz=54
MFID Camas Ranch 54.08 64 ⇑P **P** **18 53 38.0 -0.1**
baz=54
LSA Lhasa 54.13 273 *eP* **P** **18 53 39.1 +0.5**
comp=Z,5.4nm,0.6s,mb4.8
LSA Lhasa 54.13 273 *eP* **P** **18 53 39.1 +0.5**
LSA pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
SUMG Summit 54.16 7 *eP* **P** **18 53 38.3 +0.1**
comp=Z,32nm,0.9s,mb5.3
SUMG Summit 54.16 7 *eP* **P** **18 53 38.3 +0.1**
SUMG pmax pmax
comp=Z,32nm,0.9s
H13A Challis 54.16 62 ⇑P **P** **18 53 38.4 -0.3**
baz=54
E16A East Helena 54.20 58 ⇓P **P** **18 53 38.7 -0.2**
baz=54
I12A Atlanta 54.20 63 ⇓P **P** **18 53 38.6 -0.4**
baz=54
F15A Butte 54.23 59 ⇓P **P** **18 53 39.1 -0.1**
baz=54
D17A Six Diamond Ra 54.29 57 ⇓P **P** **18 53 39.1 -0.5**
baz=54
B19A Brinkman Farms 54.30 55 ⇓P **P** **18 53 39.2 -0.4**
baz=54
USP Ospenovka 54.44 297 P **P** **18 53 40.0 -0.7**
SNR=8.5
CHMS Chumysh 54.48 296 P **P** **18 53 40.5 -0.6**
SNR=6.2
A20A Cobblestone Ra 54.51 54 ⇓P **P** **18 53 40.4 -0.8**
baz=54
KBK Karagaybulak 54.61 296 P **P** **18 53 41.1 -0.8**
SNR=7.5
E17A Martinsdale 54.66 58 ⇑P **P** **18 53 42.4 +0.2**
baz=54
I13A Wildhorse Cree 54.66 62 ⇓P **P** **18 53 42.7 +0.4**
baz=54
C19A Slack Wire Ran 54.73 56 ⇑P **P** **18 53 42.3 -0.4**
baz=54
HLID Hailey 54.74 63 ⇓P **P** **18 53 42.9 0.0**
baz=54
B20A Solberg Farm, 54.76 55 ⇓P **P** **18 53 42.6 -0.4**
baz=54
AAK Ala-Archa 54.87 296 P **P** **18 53 43.0 -0.8**
SNR=12
AAK Ala-Archa 54.87 296 *eP* **P** **18 53 42.6 -1.2**
comp=Z,44nm,0.9s,mb5.5
AAK Ala-Archa 54.87 296 *iP* **P** **18 53 43.0 -0.8**
A21A Bergtoll Ranch 54.93 53 ⇓P **P** **18 53 43.5 -0.7**
baz=55
H15A Lima 54.98 61 ⇑P **P** **18 53 44.1 -0.4**
baz=55
G16A Moss Hill, Enn 55.00 60 ⇑P **P** **18 53 44.7 -0.1**
baz=55
E18A Harlowton 55.08 57 ⇑P **P** **18 53 44.8 -0.5**
baz=55
F17A Fitzpatrick Pl 55.14 58 ⇑P **P** **18 53 45.8 0.0**
baz=55
D19A Cripps Ranch, 55.20 56 ⇓P **P** **18 53 46.1 0.0**
baz=55
EKS2 Erkin-Say 55.24 296 P **P** **18 53 45.6 -0.9**
SNR=15
EKS2 Erkin-Say 55.24 296 *eP* **P** **18 53 45.5 -1.0**
comp=Z,7.1nm,0.7s,mb4.8
EKS2 Erkin-Say 55.24 296 *eP* **P** **18 53 45.5 -1.0**
EKS2 pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
J14A Carey 55.38 62 ⇓P **P** **18 53 47.5 0.0**
baz=55
A22A Carney Farms, 55.42 53 ⇓P **P** **18 53 47.5 -0.2**
baz=55
QLMT Earthquake Lak 55.47 60 *eP* **P** **18 53 47.8 -0.3**
comp=Z,0.3nm,0.4s,mb3.7
I15A Monteview 55.48 61 ⇓P **P** **18 53 48.0 -0.1**
baz=55
D20A Manuel Ranch, 55.62 56 ⇓P **P** **18 53 49.1 0.0**
baz=55
F18A Big Timber 55.62 58 ⇓P **P** **18 53 49.4 +0.2**
baz=55
AML Almayashu 55.65 296 P **P** **18 53 49.1 -0.3**
SNR=6.6
H16A Russell Place, 55.65 60 ⇓P **P** **18 53 49.2 -0.2**
baz=55,SNR=5.4
E19A Rath Farm, Rou 55.72 57 ⇓P **P** **18 53 49.9 0.0**
baz=55
E20A Meyer Farm, Mu 56.02 56 ⇓P **P** **18 53 52.2 +0.1**
baz=56
F19A Roth Farm, Mol 56.05 57 ⇑P **P** **18 53 52.6 +0.3**
baz=56
NVAR Mina Array Bea 56.09 70 P **P** **18 53 53.3 +0.7**
comp=Z,2.8nm,0.7s,mb4.4,baz=294,slow=7.4,SNR=15
NVAR pP pP 18 54 05.0 -5.4
comp=Z,3.3nm,0.8s,baz=297,slow=7.3,SNR=7.2
NVAR Mina Array Bea 56.09 70 P **P** **18 53 53.3 +0.7**
NVAR pP pP 18 54 05.0 -5.4
K14A Jones Ranch, D 56.10 63 ⇓P **P** **18 53 53.7 +1.0**
baz=56
KSH Kashi 56.18 292 *eP* **P** **18 53 56.0 +2.7**
KSH pP pP 18 54 11.9 +0.9
KSH sP sP 18 54 18.9 +0.1
KSH PcP PcP 18 54 52.9 +2.6
KSH PP PP 18 56 03.3 +4.6
KSH ScP ScP 18 58 45.4 +2.3
KSH PcS PcS 18 58 52.0 +1.2
KSH S **S** **19 01 37.8 +0.6**
KSH sS sS 19 02 06.4 -0.9
KSH ScS ScS 19 03 36.0 +0.2
KSH pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
KSH pmax pmax
comp=Z,88nm,5.7s
KSH LR LR
comp=N,99nm,5.5s
KSH LR LR
comp=E,140nm,5.5s
KSH LR LR
comp=Z,170nm,4.6s
D21A La Casta Ranch 56.20 55 ⇓P **P** **18 53 53.7 +0.4**
baz=56
H17A Grant Village 56.21 60 ⇓P **P** **18 53 54.4 +0.9**
baz=56,SNR=5.1
B23A Brockton 56.22 53 ⇓P **P** **18 53 53.1 -0.3**
baz=56
K15A Arbon 56.35 62 ⇑P **P** **18 53 55.3 +0.9**

baz=56
RLMT **Red Lodge** 56.39 58 ⇓P P 18 53 55.3 +0.7
baz=56
L14A **Malta** 56.41 63 ⇑P P 18 53 56.1 +1.2
baz=56
H18A **Shoshone NF, C** 56.49 59 ⇓P P 18 53 54.8 -0.6
baz=56
F20A **Billings** 56.49 57 ⇑P P 18 53 55.9 +0.5
baz=56
I17A **Pilgrim Ck.** 56.54 60 ⇑P P 18 53 56.0 +0.2
baz=56
D22A **Cohagen** 56.55 55 ⇓P P 18 53 55.9 +0.1
baz=56
C23A **Lambert** 56.59 54 ⇓P P 18 53 56.1 +0.1
baz=56
KK31 **Karatay Array** 56.69 299 *i* P P 18 53 55.2 -1.6
KK31 pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
KKAR **Karatay Array** 56.69 299 *e*P P 18 53 55.5 -1.3
comp=Z,4.8nm,0.6s,mb4.7
KKAR **Karatay Array** 56.69 299 *e*P P 18 53 55.5 -1.3
KKAR pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
K16A **Soda Springs** 56.75 62 ⇓P P 18 53 58.2 +0.9
baz=56
LAO **LASA Array** 56.85 55 ⇑P P 18 53 58.3 +0.4
baz=57
L15A **Malad City** 56.90 63 ⇑P P 18 53 58.6 +0.3
baz=57
I18A **Diamond G Ranc** 57.09 60 ⇓P P 18 53 59.8 +0.1
baz=57
M15A **Larsen Ranch,** 57.24 63 ⇓P P 18 54 00.8 +0.1
baz=57
G21A **Lodge Grass** 57.37 57 ⇑P P 18 54 01.3 -0.3
baz=57
H20A **Greybull** 57.48 58 ⇓P P 18 54 02.6 +0.2
baz=57
CHTO **Chiang Mai** 57.57 258 *e*P P 18 54 03.5 +0.2
comp=Z,5.5nm,0.8s,mb4.6
CHTO **Chiang Mai** 57.57 258 *e*P P 18 54 03.5 +0.2
CHTO pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
JOF **Joensuu** 57.58 335 *e*P P 18 54 00.8 -2.0
JOF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
JOF **Joensuu** 57.58 335 *e*p P 18 54 00.8 -2.0
comp=Z,4.2nm,0.6s,mb4.7
L17A **Cokeville** 57.64 62 ⇓P P 18 54 03.9 +0.4
baz=57
AB31 **Akbulak array** 57.66 310 P P 18 54 01.9 -1.7
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
ABKAR **Akbulak array** 57.66 310 *e*P P 18 54 01.1 -2.5
comp=Z,1.4nm,0.5s,mb4.2
R11A **Troy Canyon, C** 57.68 68 ⇓P P 18 54 04.6 +0.7
baz=57
AKTO **Aktyubinsk** 57.70 312 P P 18 54 02.0 -1.8
comp=Z,1.9nm,0.4s,mb4.5,baz=64,slow=8.1,SNR=14
AKTO PcP PcP 18 54 55.5 -0.5
comp=Z,4.8nm,0.8s,baz=54,slow=6.9,SNR=7.3
AKTO LR LR 19 21 41.8
comp=Z,102nm,19.8s,baz=95,slow=39
AKTO **Aktyubinsk** 57.70 312 P P 18 54 02.0 -1.8
AKTO PcP PcP 18 54 55.5 -0.5
AKTO **Aktyubinsk** 57.70 312 P P 18 54 02.0 -1.8
AKTO 18 54 55.5
AKTO pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
AKTO MLR MLR
comp=Z,102nm,19.8s
K18A **Toltan Ranch,** 57.71 61 ⇓P P 18 54 04.8 +0.7
baz=57,SNR=7.4
FRB **Frobisher Bay** 57.77 23 P P 18 54 01.9 -2.3
comp=Z,8.0nm,0.5s,mb5.0,baz=345,slow=7.0,SNR=9.5
FRB **Frobisher Bay** 57.77 23 P P 18 54 01.9 -2.3
FRB **Frobisher Bay** 57.77 23 P P 18 54 01.9 -2.3
FRB pmax pmax
comp=Z,8.0nm,0.5s
J19A **Crowheart** 57.79 60 ⇑P P 18 54 04.7 +0.1
baz=58
I20A **Worland** 57.79 59 ⇑P P 18 54 04.5 -0.1
baz=58
CM31 **Chiang Mai Arr** 57.84 258 *e*P P 18 54 06.3 +1.0
comp=Z,1.8nm,0.6s,mb4.3
CMAR **Chiang Mai Arr** 57.84 258 P P 18 54 05.8 +0.5
comp=Z,2.6nm,0.7s,mb4.4,baz=22,slow=7.1,SNR=22
CMAR PcP PcP 18 54 56.8 -0.3
comp=Z,2.7nm,0.8s,baz=22,slow=4.1,SNR=8.9
CMAR LR LR 19 19 45.7
comp=Z,36nm,19.8s,baz=22,slow=37
CMAR **Chiang Mai Arr** 57.84 258 P P 18 54 05.8 +0.5
CMAR PcP PcP 18 54 56.8 -0.3
CMAR **Chiang Mai Arr** 57.84 258 P P 18 54 05.8 +0.5
CMAR 18 54 56.8
CMAR pmax pmax
comp=Z,3.0nm,0.7s
CMAR MLR MLR
comp=Z,36nm,19.8s
PD01 **Pinedale Array** 57.85 60 *e*P P 18 54 05.2 +0.2
BW06 **Boulder Array** 57.87 60 ⇑P P 18 54 05.2 0.0
baz=58,SNR=9.9
PDAR **Pinedale Array** 57.87 60 P P 18 54 05.3 +0.1
comp=Z,6.4nm,0.8s,mb4.7,baz=319,slow=2.7,SNR=28
PDAR pP pP 18 54 17.6 -5.4
comp=Z,2.9nm,0.8s,baz=294,slow=1.4,SNR=8.6
PDAR **Pinedale Array** 57.87 60 P P 18 54 05.3 +0.1
PDAR pP pP 18 54 17.6 -5.4
H21A **Big Horn, Sher** 57.87 57 ⇓P P 18 54 05.2 0.0
baz=58
E24A **Baker** 57.88 54 ⇓P P 18 54 05.3 +0.1
baz=58
TAPN **Taplejung** 57.91 274 *e*P P 18 54 05.3 -0.3
comp=Z,24nm,0.4s,mb5.6
ISA **Isabella** 57.92 72 ⇓P P 18 54 05.1 -0.6
baz=58
DUG **Dugway** 57.92 65 ⇑P P 18 54 05.4 -0.2
baz=58
F23A **Volborg** 57.93 55 ⇑P P 18 54 05.4 -0.1
baz=58
M17A **Scullys Gap (B** 58.19 62 ⇓P P 18 54 07.7 +0.3
baz=58
K19A **Absolon Red Bu** 58.20 60 ⇑P P 18 54 07.5 0.0
baz=58
MPMC **Manual Prospec** 58.21 71 ⇑P P 18 54 08.3 +0.7
baz=58
L18A **Fontenelle, Gr** 58.21 61 ⇑P P 18 54 08.2 +0.6
baz=58
J20A **Shoshoni** 58.23 59 ⇑P P 18 54 08.2 +0.6
baz=58,SNR=6.2
H22A **Clearmont** 58.25 57 ⇓P P 18 54 07.8 0.0
baz=58
FURC **Furnace Creek,** 58.28 70 ⇑P P 18 54 08.9 +0.8
baz=58
I21A **Big Trails, Te** 58.32 58 ⇑P P 18 54 08.3 +0.1
baz=58
F24A **Ekalaka** 58.32 55 ⇑P P 18 54 08.6 +0.4
baz=58
ODAN **Odare** 58.46 274 *e*P P 18 54 08.5 -1.0
comp=Z,15nm,0.6s,mb5.2
N17A **Moffit Pass** 58.47 63 ⇓P P 18 54 09.3 -0.1
baz=58
LRMC **Laurel Mountai** 58.51 72 ⇑P P 18 54 10.4 +0.7
baz=58
J21A **Lysite** 58.57 59 ⇑P P 18 54 10.2 +0.2
baz=58
K20A **Yellowstone Ra** 58.59 60 ⇓P P 18 54 10.1 0.0
baz=58
JIRN **Jiri** 58.60 275 *e*P P 18 54 10.2 -0.2
comp=Z,7.8nm,0.7s,mb4.8
GUN **Gumba** 58.60 276 *e*P P 18 54 10.0 -0.5
comp=Z,19nm,0.5s,mb5.4
O16A **Springville** 58.63 64 ⇓P P 18 54 11.2 +0.7
baz=58
P15A **Leamington** 58.65 65 ⇑P P 18 54 11.0 +0.4
baz=58
I22A **9 Mile Ranch,** 58.67 58 ⇑P P 18 54 11.1 +0.3
baz=58
BLG **Laguna Peak** 58.68 74 ⇑P P 18 54 11.2 +0.3
baz=58
R13A **O'Grain Ranch,** 58.70 67 ⇓P P 18 54 11.4 +0.4
baz=58
EDW2 **Edwards Air Fo** 58.76 72 ⇑P P 18 54 11.6 +0.2
baz=58
RAMN **Ramite** 58.87 274 *e*P P 18 54 11.7 -0.6
comp=Z,46nm,0.4s,mb5.8
J22A **Midwest** 59.02 58 ⇑P P 18 54 13.1 0.0
baz=59
H24A **Dirks Ranch, A** 59.05 56 ⇑P P 18 54 12.9 -0.4
baz=59
L20A **Wamsutter** 59.05 60 ⇓P P 18 54 13.2 -0.1
baz=59
KKN **Kakani** 59.05 276 *e*P P 18 54 13.2 -0.4
comp=Z,30nm,0.5s,mb5.6
N18A **Larsen Ranch,** 59.07 62 ⇓P P 18 54 12.9 -0.6
baz=59
PKI **Pulchoki** 59.13 276 *e*P P 18 54 13.8 -0.4
comp=Z,25nm,0.6s,mb5.4
GSC **Goldstone** 59.14 71 ⇑P P 18 54 14.0 -0.1
baz=59
ULM **Lac du Bonnet** 59.16 46 P P 18 54 13.1 -0.8
comp=Z,4.5nm,0.4s,mb4.9,baz=298,slow=5.9,SNR=7.6
ULM pP pP 18 54 25.8 -6.0
comp=Z,5.7nm,0.5s,baz=323,slow=6.9,SNR=5.0
ULM **Lac du Bonnet** 59.16 46 P P 18 54 13.1 -0.8
ULM pP pP 18 54 25.8 -6.0
ULM **Lac du Bonnet** 59.16 46 P P 18 54 13.1 -0.9
ULM *PP pP 18 54 25.8 -6.1
ULM pmax pmax
comp=Z,5.0nm,0.4s
K21A **Alcova** 59.17 59 ⇓P P 18 54 14.1 -0.2
baz=59,SNR=5.3
ARUT **Antelope Range** 59.27 67 *e*P P 18 54 15.9 +0.9
comp=Z,1.6nm,0.7s,mb4.2
ARUT **Antelope Range** 59.27 67 *e*P P 18 54 15.9 +0.9
ARUT pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
GKN **Gorkha** 59.28 277 *e*P P 18 54 14.5 -0.7
comp=Z,18nm,0.5s,mb5.3
DMN **Daman** 59.29 276 *e*P P 18 54 14.9 -0.3
comp=Z,27nm,0.5s,mb5.5
M20A **Sweetwater, Wa** 59.49 61 ⇓P P 18 54 16.8 +0.4
baz=59
KAF **Kangasniemi** 59.51 337 *e*P P 18 54 14.4 -1.8
KAF pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
KAF **Kangasniemi** 59.51 337 *e*p P 18 54 14.4 -1.8
comp=Z,5.7nm,0.5s,mb4.9
K22A **Casper** 59.54 59 ⇓P P 18 54 17.3 +0.6
baz=59
TUQ **Turquoise Moun** 59.55 71 ⇓P P 18 54 17.3 +0.4
baz=59
DANN **Dangsing** 59.56 278 *e*P P 18 54 16.6 -0.5
comp=Z,28nm,0.7s,mb5.4
L21A **Rawlins** 59.59 60 ⇓P P 18 54 17.3 +0.2
baz=59
P18A **Preston Nutter** 59.72 63 ⇑P P 18 54 18.2 +0.2
baz=60
Q16A **Castle Valley** 59.72 65 ⇓P P 18 54 18.3 +0.2
baz=60
HEC **Hector,Ludlow** 59.75 71 ⇓P P 18 54 18.7 +0.4
baz=60
RSSD **Black Hills** 59.75 56 *e*P P 18 54 18.3 +0.1
RSSD **Black Hills** 59.75 56 *e*P P 18 54 18.3 +0.1
M21A **Separation Pea** 59.84 60 ⇓P P 18 54 19.2 +0.4
baz=60
O19A **Miners Draw (B** 59.85 62 ⇑P P 18 54 19.2 +0.3
baz=60
N20A **Spence Gulch,** 59.92 61 ⇑P P 18 54 19.6 +0.2
baz=60
K23A **Bowen Ranch, D** 59.92 58 ⇓P P 18 54 20.1 +0.7
baz=60
SRU **San Rafael** 59.94 64 ⇑P P 18 54 19.8 +0.2
baz=60
R16A **Teasdale** 60.00 65 ⇑P P 18 54 20.8 +0.8
baz=60
J24A **Dixon Ranch, L** 60.00 57 ⇓P P 18 54 20.1 +0.2
baz=60
KOLN **Koldanda** 60.08 277 *e*P P 18 54 19.9 -0.7
comp=Z,15nm,0.6s,mb5.2
FINES **FINESS Array B** 60.14 336 P P 18 54 19.8 -0.8
comp=Z,4.2nm,0.3s,mb4.9,baz=34,slow=6.9,SNR=56
FINES **FINESS Array B** 60.14 336 P P 18 54 19.8 -0.8
FINES **FINESS Array B** 60.14 336 P P 18 54 19.8 -0.8
FINES pmax pmax
comp=Z,4.0nm,0.3s
GMRC **Granite Mounta** 60.17 71 ⇑P P 18 54 21.7 +0.5
baz=60
PYUN **Piuthan** 60.20 278 *e*P P 18 54 21.0 -0.5
S16A **Weppner Ranch,** 60.34 66 ⇓P P 18 54 23.0 +0.7
baz=60
L23A **Garrett** 60.35 59 ⇑P P 18 54 22.1 -0.1
baz=60
M22A **Cedar Creek Ra** 60.39 60 ⇓P P 18 54 22.8 +0.3
baz=60
P19A **Cripple Cowboy** 60.40 63 ⇑P P 18 54 22.7 +0.1
baz=60
O20A **White River Ci** 60.43 62 ⇓P P 18 54 22.8 -0.1
baz=60
BELC **Belle Mtn. Jos** 60.53 72 ⇑P P 18 54 23.8 +0.1
baz=60
Q19A **Hogan Spring (** 60.73 63 ⇑P P 18 54 24.7 -0.3
baz=60
R18A **Canyonlands Na** 60.80 64 ⇓P P 18 54 24.8 -0.6
baz=60
M23A **Laramie** 60.80 59 ⇓P P 18 54 25.2 -0.1
baz=60
P20A **De Beque** 60.81 62 ⇑P P 18 54 25.2 -0.3
baz=60
S17A **Black Ridge (B** 60.84 65 ⇓P P 18 54 25.8 0.0
baz=61
IRM **Iron Mountain** 60.90 71 ⇓P P 18 54 26.5 +0.4
baz=61
W13A **Hualapai Mount** 60.95 69 ⇓P P 18 54 26.6 +0.2
baz=61
BC3 **Big Chuckawall** 61.09 72 ⇓P P 18 54 27.8 +0.4
baz=61
N23A **Red Feather La** 61.10 60 ⇑P P 18 54 27.7 +0.3
baz=61,SNR=5.0
R19A **Curley Farm, L** 61.21 64 ⇑P P 18 54 28.1 -0.1
baz=61
S18A **Hurst Farm, Bl** 61.25 65 ⇑P P 18 54 28.4 -0.1
baz=61
T17A **Navajo Res., N** 61.30 66 ⇑P P 18 54 28.8 -0.1
baz=61
PDMCI **Parker Dam,Lak** 61.38 70 ⇓P P 18 54 28.9 -0.5
baz=61
S19A **Harvey Farm, M** 61.67 64 ⇓P P 18 54 30.9 -0.5
baz=61
T18A **Mexican Hat** 61.71 65 ⇓P P 18 54 31.0 -0.6
baz=62
U16A **Tuba City** 61.74 67 ⇓P P 18 54 31.6 -0.2
baz=62
R20A **Redvale** 61.77 63 ⇓P P 18 54 31.6 -0.4
baz=62
GLA **Glamis** 61.89 72 ⇑P P 18 54 32.7 -0.1
baz=62
S20A **Disappointment** 62.04 64 ⇓P P 18 54 34.0 +0.3
baz=62
WUAZ **Wupatki** 62.06 67 ⇓P P 18 54 34.4 +0.5
baz=62
Q22A **Crested Butte,** 62.06 62 ⇑P P 18 54 34.4 +0.5
baz=62
ISCO **Idaho Springs** 62.07 60 ⇓P P 18 54 34.5 +0.5
baz=62,SNR=5.4
ISCO **Idaho Springs** 62.07 60 *e*P P 18 54 33.9 0.0
comp=Z,8.6nm,1.1s,mb4.7
ISCO **Idaho Springs** 62.07 60 *e*P P 18 54 33.9 0.0
ISCO pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
R21A **Cimarron** 62.08 63 ⇓P P 18 54 34.5 +0.5
baz=62
U18A **Rough Rock, Ch** 62.24 66 ⇓P P 18 54 35.6 +0.4
baz=62
Y14A **Wickenburg** 62.29 70 ⇓P P 18 54 35.6 +0.1
baz=62
V17A **Tonalea, Kykot** 62.30 67 ⇓P P 18 54 35.8 +0.2
baz=62
MVCO **Mesa Verde** 62.41 64 ⇑P P 18 54 36.6 +0.3
baz=62
Z13A **Yuma Proving G** 62.45 71 ⇑P P 18 54 36.6 0.0
baz=62
S21A **Coal Bank Pass** 62.47 63 ⇓P P 18 54 36.9 +0.3
baz=62
Q23A **Hartsel** 62.61 61 ⇓P P 18 54 38.0 +0.4
baz=62
R22A **Saguache, Gunn** 62.61 62 ⇑P P 18 54 38.1 +0.5
baz=62
Y15A **Casa Rosa Ranc** 62.66 69 ⇓P P 18 54 38.3 +0.3
baz=62
U19A **Dine' College,** 62.69 65 ⇓P P 18 54 38.2 0.0
baz=62
V18A **Ganado** 62.72 66 ⇓P P 18 54 38.7 +0.3
baz=62
X16A **Lo Mia Camp, P** 62.82 68 ⇓P P 18 54 39.6 +0.5
baz=63
S22A **4UR Ranch, Cre** 62.92 63 ⇑P P 18 54 39.9 +0.2
baz=63
PMG **Port Moresby** 62.99 194 P P 18 54 39.3 -1.0
comp=Z,4.2nm,0.7s,mb4.5,baz=330,slow=21,SNR=3.4
PMG **Port Moresby** 62.99 194 P P 18 54 39.3 -1.0
PMG **Port Moresby** 62.99 194 P P 18 54 39.3 -1.0
PMG pmax pmax
comp=Z,4.0nm,0.7s
P25A **Willow Gulch B** 63.04 60 ⇑P P 18 54 40.8 +0.4
baz=63
114A **Black Gap (USA** 63.23 71 ⇑P P 18 54 41.2 -0.5
baz=63
T22A **Edith** 63.42 63 ⇓P P 18 54 43.5 +0.5
baz=63
Q25A **Bedland, Calha** 63.44 60 ⇓P P 18 54 43.5 +0.4
baz=63
U21A **Nageezi** 63.44 64 ⇑P P 18 54 43.6 +0.4
baz=63
X18A **Snowflake** 63.58 67 ⇑P P 18 54 44.9 +0.9
baz=63
KBL **Kabul** 63.60 293 *e*P P 18 54 41.4 -2.8
comp=Z,4.0nm,0.7s,mb4.4
KBL **Kabul** 63.60 293 *e*P P 18 54 41.4 -2.8
KBL pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
NB2 **NORSAR Subarra** 63.61 343 P P 18 54 43.0 -0.8
comp=Z,5.2nm,0.4s,mb4.7,baz=22,slow=6.9
NOA **NORSAR Array B** 63.61 343 P P 18 54 43.1 -0.7
comp=Z,4.6nm,0.4s,mb4.7,baz=22,slow=6.6,SNR=45
NOA LR LR 19 28 21.1
comp=Z,49nm,19.1s,baz=180,slow=42
NOA **NORSAR Array B** 63.61 343 P P 18 54 43.1 -0.7
NOA **NORSAR Array B** 63.61 343 P P 18 54 43.1 -0.7
NOA pmax pmax
comp=Z,5.0nm,0.4s
NOA MLR MLR
comp=Z,49nm,19.1s
115A **Sonoran Desert** 63.63 70 ⇑P P 18 54 44.9 +0.5
baz=63
SDCO **Great Sand Dun** 63.64 62 ⇑P P 18 54 45.0 +0.6
baz=63
ECSD **EROS Data Cent** 63.66 52 *e*P P 18 54 43.1 -1.4
Y17A **Roosevelt** 63.69 68 ⇑P P 18 54 44.8 +0.1
baz=64
S24A **Houchin Ranch,** 63.87 62 ⇑P P 18 54 46.3 +0.4
baz=64
V21A **Milan** 63.91 65 ⇑P P 18 54 46.4 +0.2
baz=64
W20A **Ramah** 63.94 66 ⇑P P 18 54 46.9 +0.5
baz=64
HFS **Hagfors** 64.01 342 P P 18 54 45.5 -0.9
comp=Z,3.9nm,0.3s,mb4.7,baz=46,slow=6.4,SNR=32
HFS **Hagfors** 64.01 342 P P 18 54 45.5 -0.9
HFS **Hagfors** 64.01 342 P P 18 54 45.5 -0.9
HFS pmax pmax
comp=Z,4.0nm,0.3s
X19A **St. Johns** 64.02 67 ⇑P P 18 54 47.2 +0.3
baz=64
V22A **San Miguel Ran** 64.23 64 ⇑P P 18 54 48.4 +0.1
baz=64
S25A **Robets Cordova** 64.27 61 ⇓P P 18 54 48.6 +0.1
baz=64
SPMN **St. Paul** 64.30 48 ⇓P P 18 54 48.2 -0.4
baz=64
T24A **Torres, Weston** 64.37 62 ⇑P P 18 54 49.6 +0.4
baz=64
X20A **Quemado** 64.37 66 ⇑P P 18 54 49.4 +0.1
baz=64
V23A **Ortiz Mt. (NFS** 64.75 64 ⇓P P 18 54 52.5 +0.8
baz=64
X21A **Alamocita Cree** 64.84 66 ⇓P P 18 54 52.9 +0.6
baz=65
Y20A **Horse Springs,** 64.91 67 ⇑P P 18 54 53.4 +0.6
baz=65
118A **Homack Ranch,** 64.96 69 ⇓P P 18 54 53.6 +0.5
baz=65
217A **Green Valley** 65.12 70 ⇓P P 18 54 54.8 +0.6
baz=65
U25A **Circle Dot Ran** 65.22 62 ⇓P P 18 54 54.8 0.0
baz=65,SNR=5.8
119A **Ashpeak Ranch,** 65.24 68 ⇓P P 18 54 55.1 +0.2
baz=65
V24A **Rampart Ranch,** 65.26 63 ⇓P P 18 54 55.7 +0.7
baz=65
Z20A **Nine Sixteen R** 65.38 67 ⇓P P 18 54 56.4 +0.6
baz=65
V25A **Rancho No Teng** 65.53 63 ⇑P P 18 54 57.0 +0.3
baz=65
W24A **Lazy 6 Ranch,** 65.57 64 ⇓P P 18 54 57.2 +0.2
baz=65
X23A **Hourglass Bar** 65.61 65 ⇓P P 18 54 58.0 +0.7
baz=65
Y22A **Socorro** 65.67 66 ⇓P P 18 54 58.3 +0.6
baz=65
120A **U Bar Ranch, L** 65.78 68 ⇑P P 18 54 58.9 +0.4
baz=66
219A **White Tail Can** 65.84 69 ⇓P P 18 54 59.1 +0.4
baz=66
SCHQ **Schefferville** 65.94 27 P P 18 54 58.3 -0.7
comp=Z,5.8nm,0.7s,mb4.5,baz=16,slow=7.9,SNR=12
SCHQ **Schefferville** 65.94 27 P P 18 54 58.3 -0.7
V26A **Tequesquite Ra** 66.00 62 ⇓P P 18 54 59.8 0.0
baz=66
X24A **Lazy V/L Ranch,** 66.04 64 ⇑P P 18 55 00.3 +0.2
baz=66
W25A **X Bar L Ranch,** 66.08 63 ⇑P P 18 55 00.5 +0.2
baz=66
Y23A **Lovelace Mesa,** 66.17 65 ⇓P P 18 55 01.2 +0.2
baz=66
Z22A **Elephant Butte** 66.18 66 ⇑P P 18 55 01.2 +0.3
baz=66
220A **Playas Peak, P** 66.32 68 ⇓P P 18 55 01.7 -0.1
baz=66
X25A **Clemmons Ranch** 66.49 64 ⇑P P 18 55 02.5 -0.4
baz=66
Y24A **Capitan** 66.52 65 ⇑P P 18 55 03.7 +0.6
baz=66,SNR=6.2
Y25A **Mesa, Roswell** 66.92 64 ⇓P P 18 55 05.8 +0.1
baz=67,SNR=8.5
X26A **CR and CF Fran** 66.93 63 ⇑P P 18 55 05.7 0.0
baz=67
Y26A **Elida** 67.40 63 ⇓P P 18 55 08.7 0.0
baz=67,SNR=5.9
Z25A **Roswell** 67.40 65 ⇓P P 18 55 09.1 +0.4
baz=67
124A **Stringfield Ra** 67.43 65 ⇓P P 18 55 09.0 0.0
baz=67
Y27A **Causey** 67.78 63 ⇑P P 18 55 10.9 -0.3
baz=68,SNR=5.3
Z26A **Caprock** 67.81 64 ⇑P P 18 55 10.8 -0.5
baz=68,SNR=8.3
AMTX **Amarillo** 67.82 61 ⇑P P 18 55 11.0 -0.3
baz=68
224A **Cornudas Mount** 67.86 66 ⇑P P 18 55 11.7 +0.1
baz=68
125A **Gardner Draw,** 67.90 65 ⇓P P 18 55 11.7 -0.2
baz=68
MSTX **Muleshoe** 67.93 63 ⇓P P 18 55 11.6 -0.4
baz=68
CPRX **Cap Rock** 68.05 64 *e*P P 18 55 13.2 +0.3
comp=Z,4.3nm,0.5s,mb4.5
Z27A **Tatum** 68.19 63 ⇓P P 18 55 13.3 -0.4
baz=68,SNR=6.4
MNTX **Cornudas Mount** 68.23 66 ⇓P P 18 55 13.9 -0.1
baz=68,SNR=6.2
MNTX **Cornudas Mount** 68.23 66 *e*P P 18 55 13.8 -0.2
comp=Z,2.7nm,0.9s,mb4.1
126A **Clayton Basin,** 68.26 65 ⇑P P 18 55 14.1 0.0
baz=68
324A **Moseley Ranch,** 68.37 66 ⇑P P 18 55 14.7 -0.2
baz=68
AKASG **Malin Array Be** 68.59 329 P P 18 55 14.5 -1.4
comp=Z,2.9nm,0.3s,mb4.5,baz=30,slow=7.0,SNR=21
AKASG LR LR 19 28 20.6
comp=Z,85nm,21.9s,baz=320,slow=39
AKASG **Malin Array Be** 68.59 329 P P 18 55 14.5 -1.4
AKASG **Malin Array Be** 68.59 329 P P 18 55 14.5 -1.4
AKASG pmax pmax
comp=Z,3.0nm,0.3s
AKASG MLR MLR
comp=Z,85nm,21.9s
AKBB **Malin Array Si** 68.59 329 *e*P P 18 55 14.4 -1.5
AKBB **Malin Array Si** 68.59 329 *e*P P 18 55 14.4 -1.5
KIEV **Kiev** 68.60 329 *e*P P 18 55 14.0 -2.0
comp=Z,5.5nm,0.6s,mb4.6
KIEV **Kiev** 68.60 329 *e*P P 18 55 14.0 -2.0
KIEV pmax pmax
comp=Z,6.0nm,0.6s,mb4.6

226A Malaga, Loving 68.66 65 ⇑P P 18 55 16.6 0.0
baz=68

325A Bean Ranch, Si 68.70 66 ⇓P P 18 55 16.8 -0.1
baz=68

425A Indio Mountain 69.14 66 ⇑P P 18 55 19.7 +0.1
baz=69,SNR=5.1

326A Caldwell Ranch 69.29 65 ⇓P P 18 55 20.3 -0.3
baz=69

WMOK Wichita Mounta 69.45 59 *e*P P 18 55 20.2 -1.3
comp=Z,7.1nm,0.8s,mb4.5

WMOK *e* 18 55 33.3

WMOK Wichita Mounta 69.45 59 *e*P P 18 55 20.3 -1.2

WMOK *e* 18 55 33.3

WMOK pmax pmax
comp=Z,7.0nm,0.8s,mb4.5

426A McDonald Obser 69.76 66 ⇓P P 18 55 23.2 -0.3
baz=70

328A Wristen Ranch, 69.89 65 ⇓P P 18 55 24.1 -0.1
baz=70,SNR=8.2

427A Hayter Ranch, 69.97 65 ⇓P P 18 55 24.8 +0.1
baz=70

526A Mary Lane Ranc 70.19 66 ⇓P P 18 55 26.0 -0.1
baz=70

527A Woodward Ranch 70.39 66 ⇓P P 18 55 27.1 -0.3
baz=70

428A Kincaid Ranch, 70.46 65 ⇓P P 18 55 27.7 0.0
baz=70,SNR=8.4

626A Big Bend Ranch 70.56 67 ⇓P P 18 55 28.4 0.0
baz=70

528A Cox Ranch, San 70.83 65 ⇓P P 18 55 30.0 0.0
baz=71,SNR=5.8

TXAR Lajitas Array 70.99 67 P P 18 55 31.0 +0.1
comp=Z,5.3nm,0.6s,mb4.6,baz=295,slow=5.2,SNR=54

TXAR pP pP 18 55 43.5 -5.9
comp=Z,2.3nm,0.4s,baz=303,slow=5.1,SNR=8.0

TXAR Lajitas Array 70.99 67 P P 18 55 31.0 +0.1

TXAR pP pP 18 55 43.5 -5.9

TXAR Lajitas Array 70.99 67 P P 18 55 31.0 0.0

TXAR *PP pP 18 55 43.5 -5.8

TXAR pmax pmax
comp=Z,5.0nm,0.6s

627A Terlingua Ranc 71.05 66 ⇓P P 18 55 31.1 -0.2
baz=71

628A Black Gap, Mar 71.30 66 ⇓P P 18 55 32.5 -0.4
baz=71

KWP Kalwaria Pacla 71.49 332 ⇑P P 18 55 33.2 -0.5

KWP Kalwaria Pacla 71.49 332 ⇑*i*P P 18 55 33.2 -0.5

NRDL Niedersach Rie 71.88 341 *e*P P 18 55 36.5 +0.6
comp=Z,15nm,0.9s,mb4.8

STHS Stebnicka Huta 72.09 333 *e*P P 18 55 37.6 +0.3

STHS pmax pmax
comp=Z,11nm,0.7s,mb4.8

STHS Stebnicka Huta 72.09 333 *e*P P 18 55 37.6 +0.3

JCT Junction City 72.22 63 ⇑P P 18 55 37.8 -0.6
baz=72

CLL Collm 72.39 339 *e*P P 18 55 39.2 +0.2
comp=Z,30nm,1.0s,mb5.1

CLL Collm 72.39 339 ⇑*i*P P 18 55 39.2 +0.2

CLL pmax pmax
comp=Z,30nm,1.0s,mb5.1

CLL Collm 72.39 339 ⇑*i*P P 18 55 39.2 +0.2
comp=Z,30nm,1.0s,mb5.1

CLZ Clausthal 72.44 341 *e*P P 18 55 40.2 +0.9
comp=Z,38nm,1.0s,mb5.2

CLZ Clausthal 72.44 341 *e*P P 18 55 40.2 +0.9

CLZ pmax pmax
comp=Z,38nm,1.0s,mb5.2

UPC Upice 72.44 337 *e*P P 18 55 40.1 +0.7

UPC Upice 72.44 337 *e*P P 18 55 40.1 +0.7

CRVS Cervenica-Dubn 72.50 332 *e*P P 18 55 39.8 +0.1

CRVS pmax pmax
comp=Z,10.0nm,1.2s,mb4.5

CRVS Cervenica-Dubn 72.50 332 *e*P P 18 55 39.8 +0.1

UZH Uzhgorod 72.51 332 *e*P P 18 55 36.6 -3.2

DPC Dobruska-Polom 72.52 336 *e*P P 18 55 40.6 +0.8

DPC Dobruska-Polom 72.52 336 *e*P P 18 55 40.6 +0.8

OKC Ostrava-Krasne 72.53 335 *e*P P 18 55 40.6 +0.7

OKC Ostrava-Krasne 72.53 335 *e*P P 18 55 40.6 +0.7

BUR08 Bucovina Ar. S 72.53 330 *e*P P 18 55 39.3 -0.6

BURAR Bucovina Array 72.56 330 ⇑P P 18 55 39.7 -0.4

BURAR Bucovina Array 72.56 330 ⇑*i*P P 18 55 39.7 -0.4

BRG Berggiesshubel 72.59 338 *e*P P 18 55 40.2 0.0
comp=Z,14nm,1.1s,mb4.7

BRG Berggiesshubel 72.59 338 *e*P P 18 55 40.3 +0.1
comp=Z,14nm,1.1s,mb4.7

BRG Berggiesshubel 72.59 338 *e*P P 18 55 40.7 +0.5
comp=Z,13nm,1.1s,mb4.7

BRG Berggiesshubel 72.59 338 *e*P P 18 55 40.2 0.0

BRG pmax pmax
comp=Z,14nm,1.1s,mb4.7

MORC Moravsky Berou 72.74 335 *e*P P 18 55 41.5 +0.4
comp=Z,16nm,0.9s,mb4.8

MORC Moravsky Berou 72.74 335 ⇑P P 18 55 41.8 +0.7

MORC Moravsky Berou 72.74 335 ⇑*i*P P 18 55 41.8 +0.7

PVCC Panska Ves 72.77 337 *e*P P 18 55 42.0 +0.7

PVCC Panska Ves 72.77 337 *e*P P 18 55 42.0 +0.7

TRPA Tarpa 72.89 331 ⇓*i*P P 18 55 42.1 +0.1

KECS Kecovo 73.15 333 *e*P P 18 55 43.9 +0.3

KECS Kecovo 73.15 333 *e*P P 18 55 43.9 +0.3

MOX Moxa 73.32 339 *e*P P 18 55 45.1 +0.6
comp=Z,17nm,1.2s,mb4.8

MOX Moxa 73.32 339 *e*P P 18 55 45.1 +0.6

MOX pmax pmax
comp=Z,17nm,1.2s,mb4.8

TANN Tannenbergstha 73.35 339 *e*P P 18 55 45.2 +0.5
comp=Z,14nm,1.4s,mb4.6

VRAC Vranov 73.41 336 P P 18 55 46.0 +0.9
comp=Z,17nm,0.8s,mb4.9,baz=26,slow=6.4,SNR=17

VRAC Vranov 73.41 336 P P 18 55 46.0 +0.9

VRAC Vranov 73.41 336 ⇑P P 18 55 46.0 +0.9

VRAC Vranov 73.41 336 ⇑*i*P P 18 55 46.0 +0.9

NKC Novy Kostel 73.52 339 *e*P P 18 55 46.4 +0.7

NKC Novy Kostel 73.52 339 *e*P P 18 55 46.4 +0.7

KOLL Kolacno 73.62 334 *e*P P 18 55 46.6 +0.3

KOLL Kolacno 73.62 334 *e*P P 18 55 46.6 +0.3

CTA Charters Tower 73.63 193 P P 18 55 46.5 0.0
comp=Z,4.1nm,0.7s,mb4.3,baz=67,slow=4.3,SNR=4.9

CTA Charters Tower 73.63 193 P P 18 55 46.5 0.0

CTA Charters Tower 73.63 193 P P 18 55 46.6 0.0

CTA pmax pmax
comp=Z,4.0nm,0.7s

TREC Trest 73.70 336 *e*P P 18 55 47.4 +0.6

TREC Trest 73.70 336 *e*P P 18 55 47.4 +0.6

WVT Waverly 73.80 51 *e*P P 18 55 46.2 -1.4
comp=Z,3.2nm,0.6s,mb4.2

WVT *e* 18 55 58.9

WVT Waverly 73.80 51 *e*P P 18 55 46.2 -1.4

WVT *e* 18 55 58.9

WVT pmax pmax
comp=Z,3.0nm,0.6s,mb4.2

PSZ Piszkesteto 73.83 333 *e*P P 18 55 48.4 +0.8
comp=Z,5.3nm,0.8s,mb4.3

PSZ Piszkesteto 73.83 333 ⇑P P 18 55 49.0 +1.4

PSZ Piszkesteto 73.83 333 ⇑*i*P P 18 55 49.0 +1.4

ROTZ Rotzenmuhle 74.02 339 *e*P P 18 55 49.6 +1.0
comp=Z,10.0nm,1.0s,mb4.5

MLR Muntele Rosu 74.22 328 P P 18 55 49.8 -0.1
comp=Z,1.5nm,0.5s,mb4.0,baz=216,slow=2.4,SNR=13

MLR Muntele Rosu 74.22 328 P P 18 55 49.8 -0.1

MLR Muntele Rosu 74.22 328 ⇓P P 18 55 50.9 +1.0

MLR Muntele Rosu 74.22 328 ⇓*i*P P 18 55 50.9 +1.0

GRF Grafenberg Arr 74.30 339 *e*P P 18 55 51.0 +0.7
comp=Z,60nm,1.3s,mb5.2

GRF Grafenberg Arr 74.30 339 *e*P P 18 55 51.0 +0.7

GRF pmax pmax
comp=Z,60nm,1.3s,mb5.2

KHC Kasperske Hory 74.30 338 *e*P P 18 55 50.9 +0.6
comp=Z,17nm,0.9s,mb4.8

KHC Kasperske Hory 74.30 338 *e*P P 18 55 51.2 +0.9

KHC Kasperske Hory 74.30 338 *e*P P 18 55 51.2 +0.9

KHC *ex* x 18 55 54.0

TNS Taunus Mts 74.36 341 *e*P P 18 55 51.4 +0.8
comp=Z,16nm,0.8s,mb4.8

TNS Taunus Mts 74.36 341 *e*P P 18 55 51.4 +0.8

TNS pmax pmax
comp=Z,16nm,0.8s,mb4.8

SSPA Standing Stone 74.42 42 *e*P P 18 55 49.7 -1.4
comp=Z,7.0nm,0.5s,mb4.7

MEM Membach 74.45 343 P P 18 55 50.2 -0.9
comp=Z,33nm,1.1s,mb5.0

GEC2 GERESS Array S 74.54 337 *e*P P 18 55 52.3 +0.6
comp=Z,11nm,0.6s,mb4.8

GEC2 GERESS Array S 74.54 337 *e*P P 18 55 52.3 +0.6

GEC2 pmax pmax
comp=Z,11nm,0.6s,mb4.8

GERES GERESS Array B 74.54 337 P P 18 55 52.1 +0.4
comp=Z,6.6nm,0.4s,mb4.7,baz=32,slow=5.9,SNR=76

GERES LR LR 19 31 36.1
comp=Z,122nm,21.5s,baz=200,slow=38

GERES GERESS Array B 74.54 337 P P 18 55 52.1 +0.4

GERES GERESS Array B 74.54 337 P P 18 55 52.1 +0.4

GERES pmax pmax
comp=Z,7.0nm,0.4s

GERES MLR MLR
comp=Z,122nm,21.5s

PLAL Pickwick Lake 74.61 52 *e*P P 18 55 51.2 -1.2

PLAL *e*PcP PcP 18 56 03.8 -2.6

BCLA Clavier 74.75 343 P P 18 55 53.4 +0.5
comp=Z,39nm,3.7s

SNF Seneffe 74.84 344 P P 18 55 53.6 +0.2

CONA Conrad Observa 74.88 336 ⇓*i*P P 18 55 54.4 +0.8
comp=Z,15nm,0.6s,mb4.9

DZM Mont Dzumac 74.92 173 *e*LR LR 19 19 03.8
comp=Z,85nm,28.0s

GIVF Givet 75.14 343 *e*P P 18 55 55.2 +0.1
comp=Z,38nm,0.9s,mb4.8

DOU Dourbes 75.19 344 P P 18 55 55.8 +0.4

BAIF Baives 75.29 344 *e*P P 18 55 56.3 +0.3
comp=Z,28nm,0.7s,mb4.8

GZR Gura Zlata 75.29 330 ⇑P P 18 55 55.9 -0.2

GZR Gura Zlata 75.29 330 ⇑*i*P P 18 55 55.9 -0.2

WLF Walferdange 75.33 343 P P 18 55 52.9 -3.3
comp=Z,31nm,2.2s,mb4.7

MOA Molln 75.34 337 *i*P P 18 55 56.9 +0.6
comp=Z,11nm,1.3s,mb4.4,SNR=6.3

BZS Buzias 75.44 331 ⇑P P 18 55 57.2 +0.3

BZS Buzias 75.44 331 ⇑*i*P P 18 55 57.2 +0.3

ARSA Arzberg 75.59 336 ⇑*i*P P 18 55 58.4 +0.6
comp=Z,29nm,1.3s,mb4.8

PKSM Moragy 75.74 333 ⇑P P 18 55 58.5 -0.1

PKSM Moragy 75.74 333 ⇑*i*P P 18 55 58.5 -0.1

RJOB Jochberg 75.79 338 *e*P P 18 55 59.6 +0.7
comp=Z,9.0nm,0.9s,mb4.5

WRA Warramunga Arr 75.81 204 P P 18 55 59.0 -0.1
comp=Z,4.5nm,0.8s,mb4.3,baz=18,slow=6.0,SNR=24

WRA pP pP 18 56 12.9 -4.8
comp=Z,3.4nm,0.9s,baz=17,slow=6.0,SNR=8.3

WRA Warramunga Arr 75.81 204 P P 18 55 59.0 -0.1

WRA pP pP 18 56 12.9 -4.8

WRA Warramunga Arr 75.81 204 P P 18 55 59.0 -0.1

WRA *PP pP 18 56 13.0 -4.7

WRA pmax pmax
comp=Z,5.0nm,0.8s

TKL Tuckaleechee C 76.06 49 *e*P P 18 55 58.1 -2.5

TKL Tuckaleechee C 76.06 49 *e*P P 18 55 58.1 -2.5

BFO Black Forest 76.19 341 *e*P P 18 56 01.6 +0.4
comp=Z,14nm,1.0s,mb4.7

BFO Black Forest 76.19 341 *e*P P 18 56 01.6 +0.4

BFO pmax pmax
comp=Z,14nm,1.0s,mb4.7

SZH Strazhica 76.21 327 *i*P P 18 56 00.6 -0.7

SOKA Soboth 76.25 336 ⇑*i*P P 18 56 02.4 +0.9
comp=Z,18nm,0.5s,mb5.1

PERS Pernice 76.27 336 *i*P P 18 56 02.4 +0.8

KBA Koelnbreinsper 76.28 337 ⇑*i*P P 18 56 02.8 +1.1
comp=Z,78nm,0.7s,mb5.5,SNR=16

CDF Champ du Feu 76.32 341 ⇑*i*P P 18 56 02.4 +0.5
comp=Z,45nm,0.9s,mb4.9

WATA Walderalm 76.45 338 ⇓*i*P P 18 56 03.6 +1.0
comp=Z,8.6nm,0.5s,mb4.8

PAGF Fort de Pagny 76.47 342 ⇑*i*P P 18 56 03.5 +0.8
comp=Z,20nm,0.9s,mb4.5

WTTA Wattenberg 76.50 338 ⇓*i*P P 18 56 04.0 +1.0
comp=Z,25nm,1.1s,mb4.8

OBKA Obir 76.53 336 ⇑*i*P P 18 56 03.7 +0.7
comp=Z,15nm,0.6s,mb4.9,SNR=8.3

ECH Echery 76.53 341 *e*P P 18 56 03.1 0.0
comp=Z,18nm,1.0s,mb4.8

ECH Echery 76.53 341 *e*P P 18 56 03.1 0.0

ECH pmax pmax
comp=Z,18nm,1.0s,mb4.8

ECH Echery 76.53 341 *e*P P 18 56 03.5 +0.4

MOTA Moosalm 76.54 339 ⇓*i*P P 18 56 03.9 +0.8
comp=Z,16nm,0.8s,mb4.8,SNR=10

BR131 Keskin Array S 76.55 320 *e*P P 18 56 03.7 +0.4
comp=Z,6.6nm,0.9s,mb4.4

BRTR Keskin Array B 76.55 320 P P 18 56 03.0 -0.4
comp=Z,4.6nm,0.9s,mb4.2,baz=36,slow=2.9,SNR=14

BRTR Keskin Array B 76.55 320 P P 18 56 03.0 -0.4

BRTR Keskin Array B 76.55 320 P P 18 56 03.0 -0.3

BRTR pmax pmax
comp=Z,5.0nm,0.9s

FITZ Fitzroy Crossi 76.60 213 P P 18 56 04.3 +0.6
comp=Z,6.2nm,0.8s,mb4.4,baz=54,slow=4.5,SNR=14

FITZ Fitzroy Crossi 76.60 213 *e*P P 18 56 04.0 +0.3
comp=Z,6.9nm,0.6s,mb4.6

FITZ Fitzroy Crossi 76.60 213 P P 18 56 04.3 +0.6

MYKA Terra Mystica 76.63 337 ⇓*i*P P 18 56 03.9 +0.3
comp=Z,8.5nm,0.5s,mb4.7

MEZF Maizieres J'vi 76.65 343 ⇑*i*P P 18 56 04.4 +0.7
comp=Z,16nm,0.5s,mb4.7

FELD Feldberg im Sc 76.69 341 *e*P P 18 56 04.2 +0.2

THEF They Montfort 76.74 342 *e*P P 18 56 04.8 +0.5

THEF They Montfort 76.74 342 *e*P P 18 56 04.8 +0.5

THEF They Montfort 76.74 342 *e*P P 18 56 04.8 +0.5

ABTA Abfaltersbach 76.79 337 ⇑*i*P P 18 56 04.8 +0.3
comp=Z,41nm,1.2s,mb5.0,SNR=16

DAVA Damuels 76.87 339 ⇑*i*P P 18 56 05.2 +0.2
comp=Z,22nm,0.9s,mb4.9

MOF Molkenrain 76.89 341 *e*P P 18 56 05.3 +0.2

MOF Molkenrain 76.89 341 *e*P P 18 56 05.3 +0.2

MOF Molkenrain 76.89 341 *e*P P 18 56 05.3 +0.2

HAU Haudompre 76.89 342 *e*P P 18 56 05.3 +0.2
comp=Z,51nm,1.0s,mb4.9

FETA Feichten 76.93 339 ⇓*i*P P 18 56 06.3 +0.9
comp=Z,27nm,1.0s,mb5.0,SNR=18

SFTF Sexfontaines 76.94 343 ⇑*i*P P 18 56 05.7 +0.3
comp=Z,28nm,0.6s,mb4.9

HINF Hinteralfeld 76.97 342 ⇑*i*P P 18 56 05.6 0.0
comp=Z,9.7nm,0.6s,mb4.4

VISS Visnje 77.11 336 *i*P P 18 56 06.4 0.0

JAVS Javornik 77.22 336 *i*P P 18 56 06.8 -0.1

FLN La Foliniere 77.27 347 *e*P P 18 56 07.0 -0.2
comp=Z,40nm,0.8s,mb4.9

BOJS Bojanci 77.29 335 *e*P P 18 56 07.9 +0.6

DAVOX Davos/Dischmat 77.35 339 P P 18 56 09.1 +1.4
comp=Z,17nm,0.7s,mb4.9,baz=18,slow=4.4,SNR=25

DAVOX Davos/Dischmat 77.35 339 P P 18 56 09.1 +1.4

DAVOX Davos/Dischmat 77.35 339 P P 18 56 09.1 +1.4

LDF La Druitiere 77.39 346 ⇑*i*P P 18 56 07.6 -0.3
comp=Z,7.6nm,0.5s,mb4.4

DIM Dimitrovgrad 77.43 327 *i*P P 18 56 08.4 +0.2

VTS Vitosha 77.69 329 ⇑P P 18 56 09.8 +0.1

VTS Vitosha 77.69 329 ⇑*i*P P 18 56 09.8 +0.1

VTS Vitosha 77.69 329 *i*P P 18 56 09.4 -0.3

GRR Gorron 77.69 347 ⇑*i*P P 18 56 09.7 +0.1
comp=Z,38nm,0.6s,mb5.0

TUE Stuetta 77.75 339 *e*P P 18 56 10.9 +0.9
comp=Z,32nm,0.7s,mb5.2

LOR Lormes 78.05 343 ⇑*i*P P 18 56 11.8 +0.2
comp=Z,22nm,0.7s,mb4.7

ROSF Rostrenen 78.06 348 *e*P P 18 56 11.8 +0.2
comp=Z,20nm,0.9s,mb5.2

HYF Humbligny 78.25 344 *e*P P 18 56 13.3 +0.6

CABF La Chapelle 78.28 342 ⇑*i*P P 18 56 13.6 +0.8
comp=Z,54nm,1.0s,mb4.9

SSF Saint Saulge 78.31 344 ⇑*i*P P 18 56 13.2 +0.2
comp=Z,26nm,0.8s,mb4.7

KKB Krupnik 78.39 328 *i*P P 18 56 13.2 -0.3

MMB Musomiste 78.43 328 *i*P P 18 56 13.9 +0.1

QUIF Quistinic 78.46 348 *e*P P 18 56 13.8 0.0
comp=Z,64nm,0.9s,mb5.0

AVF Avril sur Loir 78.60 344 ⇑*i*P P 18 56 15.0 +0.4
comp=Z,44nm,0.8s,mb5.0

SMF Signal de Mont 78.65 343 *e*P P 18 56 15.3 +0.4
comp=Z,26nm,0.9s,mb4.8

BGF Bois d'Agland 78.91 344 *e*P P 18 56 16.7 +0.4
comp=Z,16nm,0.6s,mb4.7

RSL Roselend 79.06 341 *e*P P 18 56 18.1 +0.9

RSL Roselend 79.06 341 *e*P P 18 56 18.1 +0.9

RSL Roselend 79.06 341 *e*P P 18 56 18.1 +0.9

LPL La Plagne 79.20 341 ⇑*i*P P 18 56 19.5 +1.5
comp=Z,80nm,0.8s,mb5.3

LPG La Plagne 79.22 341 ⇑*i*P P 18 56 19.7 +1.7
comp=Z,96nm,0.8s,mb5.4

TCF Toulx Ste Croi 79.28 344 ⇑*i*P P 18 56 18.8 +0.5
comp=Z,44nm,1.0s,mb5.0

MFF Saint Martin d 79.34 346 ⇑*i*P P 18 56 19.1 +0.4
comp=Z,39nm,0.7s,mb5.0

PLDF La Plantade 79.35 343 *e*P P 18 56 19.6 +0.9

PLDF La Plantade 79.35 343 *e*P P 18 56 19.6 +0.9

PLDF La Plantade 79.35 343 *e*P P 18 56 19.6 +0.9

AGO Saint Agoulin 79.35 344 *e*P P 18 56 19.7 +1.0

AGO Saint Agoulin 79.35 344 *e*P P 18 56 19.7 +1.0

AS31 Alice Springs 79.48 204 *e*P P 18 56 19.9 +0.4

BNI Bardonecchia 79.66 341 *e*P P 18 56 21.4 +1.0
comp=Z,24nm,1.1s,mb4.9

BNI Bardonecchia 79.66 341 *e*P P 18 56 21.4 +1.0

BNI pmax pmax
comp=Z,24nm,1.1s,mb4.9

PYM Petit Puy Mans 79.67 344 *e*P P 18 56 20.9 +0.4

PYM Petit Puy Mans 79.67 344 *e*P P 18 56 20.9 +0.4

PYM Petit Puy Mans 79.67 344 *e*P P 18 56 20.9 +0.4

SSB Saint Sauveur 79.85 342 *e*P P 18 56 22.3 +0.8
comp=Z,8.5nm,0.4s,mb4.9

SSB *e* pP 18 56 41.9 +1.8

SSB Saint Sauveur 79.85 342 *e*P P 18 56 22.3 +0.8

SSB *e* pP 18 56 41.9 +1.7

SSB pmax pmax
comp=Z,8.0nm,0.4s,mb4.9

ORIF Oris-en-Rattie 79.94 341 ⇑*i*P P 18 56 23.4 +1.4
comp=Z,76nm,0.9s,mb5.2

MBDF Montbardon 79.95 341 *e*P P 18 56 22.3 +0.3
comp=Z,26nm,0.8s,mb4.8

VIVF Saint-Julien-l 80.23 342 ⇑*i*P P 18 56 24.6 +1.1
comp=Z,82nm,1.1s,mb5.2

RJF Les Rejaudoux 80.35 344 *e*P P 18 56 24.7 +0.6
comp=Z,33nm,0.9s,mb4.9

CAF Calviac 80.62 344 ⇑*i*P P 18 56 26.8 +1.2
comp=Z,32nm,0.7s,mb5.0

SBF Sospel 80.65 340 *e*P P 18 56 26.1 +0.3

LFF La Frestale 80.83 345 ⇑*i*P P 18 56 27.7 +1.0

SMRF Simiane la Rot 80.91 341 *e*P P 18 56 28.7 +1.5

FRF La Foret Royal 81.10 340 *e*P P 18 56 29.4 +1.2

LASF Ste Croix 81.14 343 ⇑*i*P P 18 56 29.7 +1.3
comp=Z,11nm,0.6s,mb4.6

PMOR Pomariorio Ree 81.31 129 *e*T 20 25 40.5
comp=Z,5.0nm,0.2s

LMR La Mourre 81.34 340 ⇑*i*P P 18 56 29.9 +0.4
comp=Z,26nm,0.8s,mb4.8

MBWA Marble Bar 81.48 217 *e*P P 18 56 30.0 -0.3

MMAI Mount Meron Ar 81.61 315 P P 18 56 31.4 +0.3
comp=Z,6.2nm,0.5s,mb4.7,baz=33,slow=6.3,SNR=18

MMAI Mount Meron Ar 81.61 315 P P 18 56 31.4 +0.3

ASF Jabal al Asfar 81.69 314 P P 18 56 31.7 +0.2
comp=Z,8.4nm,0.8s,mb4.6,baz=342,slow=1.6,SNR=12

ASF Jabal al Asfar 81.69 314 P P 18 56 31.7 +0.2

ASF Jabal al Asfar 81.69 314 P P 18 56 31.7 +0.2

ASF pmax pmax
comp=Z,8.0nm,0.9s

MTLF Montolieu 82.14 344 *e*P P 18 56 34.9 +1.2
comp=Z,32nm,0.8s,mb4.9

EPF Esparros 82.75 345 *e*P P 18 56 37.2 +0.3
comp=Z,76nm,1.2s,mb5.1

PPT Papeete 82.77 132 *e*LR LR 19 22 37.4
comp=Z,136nm,27.5s

SJPF Ste Jean 82.91 346 *e*P P 18 56 39.2 +1.5
comp=Z,28nm,0.7s,mb4.9

ETSF Etsaut 83.02 345 ⇑*i*P P 18 56 39.6 +1.3
comp=Z,43nm,0.7s,mb5.1

EIL Elat 84.69 314 P P 18 56 47.1 +0.1
comp=Z,11nm,0.8s,mb4.8,baz=346,slow=2.8,SNR=12

EIL Elat 84.69 314 P P 18 56 47.1 +0.1

STKA Stephens Creek 85.90 195 P P 18 56 52.9 +0.3
comp=Z,3.4nm,0.8s,mb4.3,baz=15,slow=5.1,SNR=4.2

STKA Stephens Creek 85.90 195 P P 18 56 52.9 +0.3

STKA Stephens Creek 85.90 195 P P 18 56 52.9 +0.3

STKA pmax pmax
comp=Z,3.0nm,0.8s

ESDC Sonseca Array 86.67 347 P P 18 56 56.7 +0.1
comp=Z,6.7nm,0.8s,mb4.7,baz=6.2,slow=4.9,SNR=19

ESDC Sonseca Array 86.67 347 P P 18 56 56.7 +0.1

MEEK Meekatharra 86.90 216 *e*P P 18 56 57.2 -0.5
comp=Z,42nm,0.6s,mb5.5

TBI Tubuai 87.89 134 *e*LR LR 19 25 00.9
comp=Z,109nm,29.2s

TBI *e*T 20 33 55.3
comp=Z,4.8nm,0.3s

KEST Kesra 87.98 336 P P 18 57 02.6 -0.4
comp=Z,1.7nm,0.5s,mb4.3,baz=14,slow=2.4,SNR=12

KEST Kesra 87.98 336 P P 18 57 02.6 -0.4

RKT Rikitea 94.54 123 *e*T 20 42 11.0
comp=Z,2.4nm,0.3s

TORD Torodi Ar. Bea 111.49 337 PKiKP PKiKP 19 02 46.8 -0.5
comp=Z,3.4nm,0.5s,baz=1.8,slow=2.2,SNR=4.6

TORD Torodi Ar. Bea 111.49 337 PKiKP PKiKP 19 02 46.8 -0.5

DBIC Dimbokro 119.17 342 PKP PKPdf 19 03 00.6 -1.4
comp=Z,2.7nm,0.7s,baz=327,slow=4.3,SNR=6.1

DBIC Dimbokro 119.17 342 PKP PKPdf 19 03 00.6 -1.4

DBIC Dimbokro 119.17 342 PKIKP PKPdf 19 03 00.6 -1.4

DBIC pmax pmax
comp=Z,3.0nm,0.7s

LPAZ La Paz 127.81 64 PKP PKPdf 19 03 18.6 +0.2
comp=Z,1.1nm,0.3s,baz=303,slow=4.8,SNR=14

LPAZ La Paz 127.81 64 PKP PKPdf 19 03 18.6 +0.2

LPAZ La Paz 127.81 64 PKIKP PKPdf 19 03 18.6 +0.2

LPAZ pmax pmax
comp=Z,1.0nm,0.3s

VNDA Vanda 130.19 179 PKP PKPdf 19 03 21.1 -0.1
comp=Z,1.0nm,0.7s,baz=303,slow=4.5,SNR=8.7

VNDA Vanda 130.19 179 PKP PKPdf 19 03 21.1 -0.1

VNDA Vanda 130.19 179 PKIKP PKPdf 19 03 21.1 0.0

VNDA pmax pmax
comp=Z,1.0nm,0.7s

BOSA Boshof 138.68 288 PKP PKPdf 19 03 36.6 -1.9
comp=Z,3.0nm,0.8s,baz=107,slow=3.0,SNR=5.8

BOSA Boshof 138.68 288 PKP PKPdf 19 03 36.6 -1.9

BOSA Boshof 138.68 288 PKIKP PKPdf 19 03 36.6 -1.9

BOSA pmax pmax
comp=Z,3.0nm,0.8s

QSPA South Pole Qui 142.68 180 *e*PKPpre PKPpre 19 03 39.2

PLCA Paso Flores 144.32 91 PKP PKPdf 19 03 46.5 -1.6
comp=Z,5.5nm,0.9s,baz=279,slow=2.7,SNR=10

PLCA Paso Flores 144.32 91 PKP PKPdf 19 03 46.5 -1.6

PLCA Paso Flores 144.32 91 PKIKP PKPdf 19 03 46.6 -1.6

PLCA pmax pmax
comp=Z,6.0nm,0.9s

SYO Syowa Base 148.38 217 ⇓*e*P PKPdf 19 03 55.8 +1.7

SNAA Sanae 159.66 196 *e* PKPab 19 04 44.1 -4.9

VNA3 Neumayer Olymp 161.01 191 *e* PKPab 19 04 50.9 -3.9

VNA2 Neumayer--Watz 161.02 193 *e* PKPab 19 04 51.5 -3.4
baz=166,slow=3.1

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*IDC **24** 18:48:57.2±2.0, 17°.67S×178°.71W, h537km±25km, mb3.5/11, mb1 3.8/12, mb1mx3.5/22, mbtmp3.6/12, Error ellipse: s-maj=39.9km s-min=12.0km az=152.0*
*NEIC **24** 18:48:58.0±1.1, 17°.815S×178°.61W, h556km±10km, mb4.3/1, Error ellipse: s-maj=48.3km s-min=12.2km az=155.0*
*ISCJB **24** 18:48:59.1±1.4, 17°.75S±0°.3×178°.9W±0°.2, h575km±14km, mb4.1/14, Error ellipse: s-maj=46.9km s-min=15.6km az=148.8*

ISC 24 18:48:58.4±1.1, 17°.8S±0°.3×178°.7W±0°.2, h558km±11km, n34, σ0998/31, mb4.1/14, Fiji Islands region

Code	Station Name	Δ°	Az°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.13**	**270**	*e*P	**P**	**18 50 16.2**	**+1.3**
AFI	**Afiamalu**	**7.66**	**61**	P	**P**	**18 50 50.6**	**-2.5**
	3.9nm,0.3s,baz=217,slow=10,SNR=5.8						
AFI	**Afiamalu**	**7.66**	**61**	P	**P**	**18 50 50.6**	**-2.5**
ARMA	**Armidale**	**29.80**	**239**	*e*P	**P**	**18 54 21.4**	**+0.8**
CTA	**Charters Tower**	**33.23**	**260**	P	**P**	**18 54 49.8**	**-0.2**
	7.7nm,0.6s,mb4.4,baz=84,slow=9.0,SNR=9.7						
CTA	**Charters Tower**	**33.23**	**260**	*e*P	**P**	**18 54 49.8**	**-0.3**
	4.8nm,0.7s,mb4.1						
CTA	**Charters Tower**	**33.23**	**260**	P	**P**	**18 54 49.8**	**-0.2**
PMG	**Port Moresby**	**34.20**	**280**	P	**P**	**18 54 59.4**	**+1.1**
	12nm,0.8s,mb4.5,baz=64,slow=10.0,SNR=6.3						
PMG	**Port Moresby**	**34.20**	**280**	P	**P**	**18 54 59.4**	**+1.1**
STKA	**Stephens Creek**	**38.48**	**241**	P	**P**	**18 55 34.0**	**+0.7**
	4.2nm,0.5s,mb4.3,baz=97,slow=10.0,SNR=32						
STKA	**Stephens Creek**	**38.48**	**241**	*e*P	**P**	**18 55 33.7**	**+0.4**
	4.5nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**38.48**	**241**	P	**P**	**18 55 34.0**	**+0.7**
WRAB	**Tennant Creek**	**44.41**	**259**	P	**P**	**18 56 19.3**	**-0.9**
	7.3nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**44.42**	**259**	P	**P**	**18 56 19.1**	**-1.2**
	3.8nm,0.5s,mb4.2,baz=97,slow=7.0,SNR=40						
WRA	**Warramunga Arr**	**44.42**	**259**	P	**P**	**18 56 19.1**	**-1.2**
ASAR	**Alice Springs**	**44.59**	**254**	P	**P**	**18 56 21.4**	**-0.2**
	38nm,0.6s,mb5.1,baz=90,slow=7.7,SNR=852						
ASAR	**Alice Springs**	**44.59**	**254**	P	**P**	**18 56 21.4**	**-0.2**
KAKA	**Kakadu**	**47.35**	**269**	*e*P	**P**	**18 56 42.4**	**-0.2**
	5.5nm,0.3s,mb4.6						

FORT	Forest	49.84	245	*e*P		P		18 57 00.1	-0.8
	13nm,0.6s,mb4.5								
FITZ	Fitzroy Crossi	52.81	260	P		P		18 57 22.1	-0.4
	1.7nm,0.5s,mb3.7,baz=118,slow=2.8,SNR=6.5								
FITZ	Fitzroy Crossi	52.81	260	P		P		18 57 22.1	-0.4
PETK	Petropavlovsk-	73.50	345	P		P		18 59 34.2	-0.1
	2.8nm,0.8s,mb3.7,baz=152,slow=7.8,SNR=3.7								
PETK	Petropavlovsk-	73.50	345	P		P		18 59 34.2	-0.1
NVAR	Mina Array Bea	79.50	44	P		P		19 00 08.7	+1.1
	1.3nm,0.7s,mb3.4,baz=224,slow=8.3,SNR=7.4								
NVAR	Mina Array Bea	79.50	44	P		P		19 00 08.7	+1.1
ILAR	Eielson Array	85.82	13	P		P		19 00 37.9	-0.7
	0.5nm,0.3s,mb3.5,baz=224,slow=5.0,SNR=14								
ILAR	Eielson Array	85.82	13	P		P		19 00 37.9	-0.7
TXAR	Lajitas Array	86.13	58	P		P		19 00 42.7	+1.7
	1.2nm,0.8s,mb3.6,baz=215,slow=5.7,SNR=8.2								
TXAR	Lajitas Array	86.13	58	P		P		19 00 42.7	+1.7
PDAR	Pinedale Array	87.42	44	P		P		19 00 47.0	+0.2
	0.9nm,0.5s,mb3.6,baz=210,slow=4.0,SNR=7.9								
PDAR	Pinedale Array	87.42	44	P		P		19 00 47.0	+0.2
CLL	Collm	145.29	347	*i* PKPbc		PKPbc	PKPbc	19 07 34.1	+0.3
GERES	GERESS Array B	147.43	345	PKPbc		PKPbc		19 07 40.0	+0.2
	0.9nm,0.5s,baz=14,slow=3.1,SNR=10								
GERES	GERESS Array B	147.43	345	PKPbc		PKPbc		19 07 40.0	+0.2

IDC 24 18:58:00.8±1.8,2.64N×127.11E,h0km,mb3.5/3,mb1 3.7/3,mb1mx3.4/20,mbtmp3.5/3,Error ellipse: s-maj=140.8km s-min=25.5km az=67.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.54	163	P		P		19 03 12.6	-0.5
	0.9nm,0.4s,baz=342,slow=10,SNR=21								
ASAR	Alice Springs	26.98	166	P		P		19 03 44.2	-0.1
	0.2nm,0.4s,baz=346,slow=7.4,SNR=12								
ASAR				PcP		PcP		19 07 07.0	+0.5
	0.2nm,0.6s,baz=352,slow=0.5,SNR=4.2								
MKAR	Makanchi Array	58.66	325	P		P		19 07 60.0	0.0
	0.2nm,0.4s,baz=124,slow=6.3,SNR=5.1								

*ISCJB **24** 18:59:05.9±0.3,55.39N±0.02×110.50E±0.04,h10km, mb4.2/9,MS3.6/3,Error ellipse: s-maj=3.9km s-min=2.2km az=143.6*
*BJI **24** 18:59:06.4,55.60N×110.97E,h18km,mB4.8/3,mb4.0/7, Ms4.0/3,Ms7 3.6/2*
*MOS **24** 18:59:06.8±1.2,55.47N×110.42E,h14km,mb4.6/4,Error ellipse: s-maj=10.6km s-min=6.6km az=66.9*
*IDC **24** 18:59:07.9±1.4,55.55N×110.13E,h0km,mb3.9/4, mb1 4.0/8,mb1mx3.7/30,mbtmp3.9/8,ML3.9/4,MS3.7/3, Ms1 3.7/3,ms1mx2.9/41,Error ellipse: s-maj=28.3km s-min=19.6km az=129.0*
*BYKL **24** 18:59:07.6±0.2,55.47N×110.43E*
*NEIC **24** 18:59:08.9±0.9,55.51N×110.25E,h10km,mb4.1/2,Error ellipse: s-maj=14.3km s-min=11.2km az=93.0*

ISC 24 18:59:07.8±0.2,55.42N±0.02×110.49E±0.03,h10km,n88,σ1§51/145,mb4.2/9,MS3.6/3,23C-6D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMO	Kumora	0.62	40	*e*PG		Pg		18 59 18.3	-1.5
KMO				*e*				18 59 26.1	
KMO				pmax	pmax				
	comp=Z,2μm,0.4s								
KMO				smax					
	comp=N,6μm,1.2s								
KMO	Kumora	0.62	40	⇓*i*Pg		Pg		18 59 18.4	-1.4
KMO				Pmax				18 59 18.8	
	comp=N,2μm,0.5s								
KMO				*e*Sg		Sg		18 59 26.5	-1.5
KMO				Smax				18 59 30.0	
	comp=N,6μm,1.2s								
NIZ	Nizh Angarsk	0.65	304	⇑*i*PG		Pg		18 59 18.9	-1.4
NIZ				*e*				18 59 27.4	
NIZ				pmax	pmax				
	comp=Z,699nm,0.5s								
NIZ				smax					
	comp=E,2μm,0.6s								
NIZ	Nizh Angarsk	0.65	304	⇑*i*Pg		Pg		18 59 18.9	-1.4
NIZ				Pmax				18 59 19.2	
	comp=E,442nm,0.6s								
NIZ				*e*Sg		Sg		18 59 27.5	-1.2
NIZ				Smax				18 59 28.3	
	comp=E,2μm,0.5s								
NIZ				*e*Sb		Sb		18 59 33.5	+3.3
YLYR	Ulyunkhan	0.67	144	⇑*i*PG		Pg		18 59 20.7	+0.1
YLYR				*e*				18 59 29.4	
YLYR				pmax	pmax				
	comp=Z,2μm,0.2s								
YLYR				smax					
	comp=N,3μm,0.6s								
YLYR	Ulyunkhan	0.67	144	⇑*i*Pg		Pg		18 59 20.7	+0.1
YLYR				Pmax				18 59 25.1	
	comp=N,892nm,0.6s								
YLYR				*e*Sg		Sg		18 59 30.2	+0.9
YLYR				Smax				18 59 30.5	
	comp=N,3μm,0.8s								
YOA	Uoyan	1.00	44	⇑*i*PG		Pg		18 59 25.6	-1.4
YOA				*i*				18 59 39.5	
YOA				pmax	pmax				
	comp=Z,1μm,0.3s								
YOA				smax					
	comp=E,7μm,0.7s								
YOA	Uoyan	1.00	44	⇑*i*Pg		Pg		18 59 25.5	-1.5
YOA				Pmax				18 59 26.7	
	comp=E,1μm,0.6s								
YOA				*e*Sg		Sg		18 59 39.7	-0.4
YOA				Smax				18 59 44.6	
	comp=E,7μm,1.1s								
SYVR	Suvo	1.78	189	*e*PN		Pn		18 59 40.3	+1.7
SYVR				*e*				19 00 05.7	
SYVR				pmax	pmax				
	comp=Z,643nm,0.6s								
SYVR				smax					
	comp=N,3μm,0.7s								
SYVR	Suvo	1.78	189	*e*Pg		Pn		18 59 40.4	+1.8
SYVR				Pmax				18 59 41.6	
	comp=N,438nm,0.5s								
SYVR				*e*Sg		Sg		19 00 05.5	+0.5
SYVR				Smax				19 00 08.0	
	comp=N,3μm,1.0s								
UKT	Uakit	1.79	86	*e*PN		Pn		18 59 39.8	+1.1
UKT				*e*				19 00 03.8	
UKT				pmax	pmax				
	comp=Z,548nm,0.5s								
UKT				smax					
	comp=N,2μm,0.4s								
UKT	Uakit	1.79	86	⇑*i*Pg		Pn		18 59 39.9	+1.2
UKT				Pmax				18 59 41.0	
	comp=N,582nm,0.6s								
UKT				*e*Sg		Sg		19 00 03.8	-1.5
UKT				Smax				19 00 06.5	
	comp=N,3μm,1.6s								
SVKR	Severomuysk	1.87	67	*e*PN		Pn		18 59 41.4	+1.6
SVKR				*e*				19 00 06.3	
SVKR				pmax	pmax				
	comp=Z,489nm,0.5s								
SVKR				smax					
	comp=N,9μm,0.7s								
SVKR	Severomuysk	1.87	67	⇑*i*Pg		Pn		18 59 41.4	+1.6
SVKR				Pmax				18 59 46.2	
	comp=N,448nm,0.5s								
SVKR				*e*Sg		Sg		19 00 07.0	-0.9
SVKR				Smax				19 00 08.6	
	comp=N,9μm,1.0s								
SVKR				*e*				19 00 16.6	
MXMB	Maximikha	2.39	206	*e*Pn		Pn		18 59 47.7	+0.9
MXMB				⇑*i*Pg		Pg		18 59 51.2	-2.2
MXMB				Pmax				18 59 54.0	
	comp=N,786nm,0.8s								
MXMB				*e*				18 59 55.7	
MXMB				*e*Sg		Sg		19 00 24.0	-0.3
MXMB				Smax				19 00 27.9	
	comp=N,5μm,1.0s								
OGRR	Ongureny	2.45	225	*e*PN		Pn		18 59 49.8	+2.1
OGRR				*e*				18 59 53.1	
OGRR				*e*				19 00 24.0	
OGRR				pmax	pmax				
	comp=Z,398nm,0.4s								
OGRR				smax					
	comp=N,1μm,0.9s								
OGRR	Ongureny	2.45	225	*e*Pn		Pn		18 59 49.3	+1.6
OGRR				⇑*i*Pg		Pg		18 59 51.9	-2.7
OGRR				Pmax				18 59 52.5	
	comp=N,400nm,0.4s								
OGRR				*e*Sg		Sg		19 00 24.1	-2.2
OGRR				Smax				19 00 27.9	
	comp=N,1μm,0.6s								
NLYR	Nelyaty	3.12	68	⇑*i*Pn		Pn		18 59 58.1	+1.1
NLYR				*e*Pg		Pg		19 00 03.7	-3.9
NLYR				Pmax				19 00 13.3	
	comp=N,145nm,0.8s								
NLYR				*e*Sn		Sn		19 00 32.6	-1.7
NLYR				*e*Sg		Sg		19 00 44.6	-3.4
NLYR				Smax				19 00 56.3	
	comp=N,1μm,1.5s								
ZRHB	Zarechye	3.48	216	⇓*i*Pg		Pb		19 00 10.1	+0.8
ZRHB				Pmax				19 00 12.7	
	comp=N,566nm,1.3s								
ZRHB				*e*Sg		Sg		19 00 56.8	-2.5
ZRHB				Smax				19 01 11.9	
	comp=N,2μm,1.0s								
TRG	Tyrgan	3.61	224	*e*PN		Pn		19 00 04.8	+1.2
TRG				*e*				19 00 13.2	
TRG				*e*S		Sn		19 00 46.8	+0.6
TRG				*e*				19 00 59.0	
TRG				pmax	pmax				
	comp=Z,127nm,0.6s								
TRG				smax					
	comp=E,653nm,0.6s								
TRG	Tyrgan	3.61	224	⇑*i*Pn		Pn		19 00 04.9	+1.3
	comp=E,55nm,0.6s								
TRG				⇑*i*Pn		Pn		19 00 04.9	+1.3
	comp=E,23nm,0.6s								
TRG				⇓*i*Pn		Pn		19 00 04.9	+1.3
	comp=E,27nm,0.6s								
TRG				*e*				19 00 07.1	
TRG				⇓*i*Pg		Pg		19 00 11.9	-4.9
TRG				Pmax				19 00 17.2	
	comp=E,155nm,1.2s								
TRG				*e*Sg		Sg		19 00 59.4	-4.1
TRG				Smax				19 01 07.8	
	comp=E,651nm,1.1s								
UUDB	Ulan-Yde	3.93	206	⇑*i*Pn		Pn		19 00 10.1	+2.0
UUDB				*e*Pg		Pg		19 00 18.7	-4.3
UUDB				Pmax				19 00 20.8	
	comp=E,390nm,0.9s								
UUDB				*e*Sg		Sg		19 01 10.6	-3.3
UUDB				Smax				19 01 20.4	
	comp=E,725nm,1.9s								
FFNB	Fofonovo	4.03	215	⇑*i*Pn		Pn		19 00 10.6	+1.1
FFNB				*e*Pg		Pg		19 00 19.5	-5.5
FFNB				Pmax				19 00 29.3	
	comp=E,52nm,0.5s								
FFNB				*e*Sg		Sg		19 01 12.7	-4.5
FFNB				Smax				19 01 28.5	
	comp=E,439nm,1.2s								
KAB	Kabansk	4.07	216	*e*PN		Pb		19 00 22.4	+3.0
KAB	Kabansk	4.07	216	⇑*i*Pg		Pg		19 00 21.8	-3.8
KAB				Pmax				19 00 26.3	
	comp=E,36nm,0.4s								
KAB				*e*Sg		Sg		19 01 15.3	-3.0
KAB				Smax				19 01 38.9	
	comp=E,2μm,1.3s								
HRMR	Khuramsha	4.34	210	⇓*i*Pn		Pn		19 00 15.4	+1.7
HRMR				⇓*i*Pg		Pg		19 00 25.0	-5.8
HRMR				Pmax				19 00 29.1	
	comp=E,315nm,0.5s								
HRMR				*e*Sg		Sg		19 01 23.3	-3.7
HRMR				Smax				19 01 32.2	
	comp=E,2μm,0.8s								
CRS	Chara	4.60	68	*e*PN		Pn		19 00 19.1	+1.9
CRS				*e*				19 00 31.0	
CRS				*e*				19 01 29.7	
CRS				pmax	pmax				
	comp=Z,104nm,0.8s								
CRS				smax					
	comp=E,698nm,1.6s								
CRS	Chara	4.60	68	*e*Pn		Pn		19 00 18.5	+1.3
CRS				*e*Pg		Pg		19 00 31.4	-4.4
CRS				Pmax				19 00 34.9	
	comp=E,121nm,1.6s								
CRS				*e*Sg		Sg		19 01 30.6	-4.7
CRS				Smax				19 01 38.5	
	comp=E,700nm,1.7s								
IRK	Irkutsk	4.86	232	*e*PN		Pn		19 00 21.8	+0.9
IRK				*e*				19 00 35.4	
IRK				*e*S		Sn		19 01 17.4	+0.3
IRK				*e*				19 01 38.2	
IRK				pmax	pmax				
	comp=Z,240nm,0.5s								
IRK				smax					
	comp=N,1μm,0.5s								
IRK	Irkutsk	4.86	232	*e*Pn		Pn		19 00 21.6	+0.7
IRK				*e*Pg		Pg		19 00 35.0	-5.8
IRK				Pmax				19 00 39.1	
	comp=N,233nm,0.7s								
IRK				*e*Sn		Sn		19 01 15.5	-1.6
IRK				*e*Sg		Sg		19 01 37.3	-6.5
IRK				Smax				19 01 41.0	
	comp=N,2μm,1.0s								
LSTR	Listvyanka	4.89	226	*e*Pn		Pn		19 00 22.2	+0.9
LSTR				*e*Pg		Pg		19 00 35.8	-5.6
LSTR				Pmax				19 00 40.6	
	comp=N,54nm,0.6s								
LSTR				*e*Sg		Sg		19 01 38.7	-6.0
LSTR				Smax				19 01 48.0	
	comp=N,723nm,1.8s								
KHNR	Khani	5.51	70	*e*Pn		Pn		19 00 30.7	+0.9
KHNR				*e*Pg		Pg		19 00 47.9	-5.4
KHNR				*e*Sg		Sg		19 01 57.6	-7.0
TLY	Talaya	5.53	230	*e*P		Pn		19 00 30.3	+0.2
	comp=N,104nm,0.8s								
TLY	Talaya	5.53	230	*e*PN		Pn		19 00 30.9	+0.8
TLY				*e*				19 00 47.3	
TLY				*e*S		Sn		19 01 34.0	+0.3
TLY				*e*				19 01 57.6	
TLY				pmax	pmax				
	comp=Z,123nm,0.8s								
TLY				smax					
	comp=E,379nm,0.9s								
TLY	Talaya	5.53	230	⇑*i*Pn		Pn		19 00 31.0	+0.9
TLY				*e*Pg		Pg		19 00 47.3	-6.4
TLY				Pmax				19 00 49.7	
	comp=E,125nm,1.1s								
TLY				*e*Sn		Sn		19 01 31.6	-2.1
TLY				*e*Sg		Sg		19 01 58.0	-7.3
TLY				Smax				19 02 04.4	
	comp=E,377nm,1.0s								
TUP	Tupik	5.55	96	*e*PN		Pn		19 00 31.1	+0.8
TUP				*e*				19 00 47.6	
TUP				*e*S		Sn		19 01 34.0	-0.1
TUP				*e*				19 02 00.0	
TUP				pmax	pmax				
	comp=Z,33nm,0.7s								
TUP				smax					
	comp=N,591nm,1.3s								
TUP	Tupik	5.55	96	⇑*i*Pn		Pn		19 00 31.0	+0.7
TUP				max				19 00 31.9	
	comp=N,63nm,0.9s								
TUP				⇑*i*Pg		Pg		19 00 47.6	-6.4
TUP				*e*				19 00 52.7	
TUP				*e*Sn		Sn		19 01 33.0	-1.1
TUP				*e*Sg		Sg		19 02 01.0	-4.8
TUP				Smax				19 02 07.7	
	comp=N,600nm,1.1s								
KPC	Khapcheranga	5.84	168	*e*PN		Pn		19 00 34.7	+0.5
KPC				*e*				19 00 53.0	
KPC				*e*S		Sn		19 01 39.9	-1.2
KPC				*e*				19 02 09.9	
KPC				pmax	pmax				
	comp=Z,29nm,0.7s								
KPC				smax					
	comp=E,508nm,1.3s								
KPC	Khapcheranga	5.84	168	⇑*i*Pn		Pn		19 00 34.9	+0.7
KPC				⇑*i*Pg		Pg		19 00 54.0	-5.4
KPC				Pmax				19 00 58.9	
	comp=E,22nm,0.8s								
KPC				*e*Sn		Sn		19 01 39.7	-1.4
KPC				*e*Sg		Sg		19 02 10.6	-4.4
KPC				Smax				19 02 11.4	
	comp=E,508nm,1.3s								
ARS	Arshan	5.93	237	*e*PN		Pn		19 00 36.0	+0.4
ARS				*e*				19 00 55.0	
ARS				*e*S		Sn		19 01 42.6	-0.9
ARS				*e*				19 02 10.3	
ARS				pmax	pmax				
	comp=Z,646nm,0.6s								
ARS				smax					
	comp=E,1μm,0.9s								
ARS	Arshan	5.93	237	*e*Pn		Pn		19 00 36.0	+0.4
ARS				*e*Pg		Pg		19 00 55.0	-6.3
ARS				Pmax				19 00 57.7	
	comp=E,179nm,0.6s								
ARS				*e*Sn		Sn		19 01 42.8	-0.7
ARS				*e*Sg		Sg		19 02 10.8	-7.3
ARS				Smax				19 02 16.1	
	comp=E,1μm,1.0s								
ZAK	Zakamensk	6.66	224	*e*PN		Pn		19 00 46.4	+0.8
ZAK				*e*				19 01 08.0	
ZAK				*e*S		Sn		19 02 02.3	+0.8
ZAK				*e*S		Sg		19 02 35.6	-5.8
ZAK				pmax	pmax				
	comp=Z,13nm,0.5s								
ZAK				smax					
	comp=N,227nm,1.0s								
ZAK	Zakamensk	6.66	224	*e*Pn		Pn		19 00 46.9	+1.3
ZAK				*e*Pg		Pg		19 01 08.2	-7.0
ZAK				Pmax				19 01 11.4	
	comp=N,13nm,0.7s								
ZAK				*e*Sg		Sg		19 02 35.6	-5.8
ZAK				Smax				19 02 40.2	
	comp=N,227nm,1.2s								
MOY	Mondy	6.79	240	*e*PN		Pn		19 00 49.5	+2.2
MOY				*e*				19 01 11.0	
MOY				*e*S		Sn		19 02 03.7	-0.9
MOY				*e*				19 02 35.4	
MOY				pmax	pmax				
	comp=Z,55nm,0.3s								
MOY				pmax	pmax				
	comp=E,507nm,1.8s								
MOY	Mondy	6.79	240	⇑*i*Pn		Pn		19 00 49.6	+2.3
MOY				max				19 00 50.6	
	comp=E,109nm,1.3s								
MOY				*e*Sg		Sg		19 02 38.5	-7.0
MOY				Smax				19 02 52.9	
	comp=E,507nm,1.8s								
ULN	Ulaanbaatar	7.86	197	*e*P		Pn		19 01 03.7	+1.7
	comp=E,11nm,0.6s								
ULN	Ulaanbaatar	7.86	197	*e*PN		Pn		19 01 03.7	+1.8
ULN				pmax	pmax				
	comp=Z,11nm,0.6s								
SONM	Songino Array	8.01	200	Pn		Pn		19 01 06.2	+2.2
	comp=Z,1.2nm,0.3s,baz=11,slow=14,SNR=42								
SONM				Pg		Pn		19 01 34.7	+31
	comp=Z,3.0nm,0.3s,baz=5.4,slow=17,SNR=13								
SONM				Lg				19 03 21.0	
	comp=Z,5.2nm,0.3s,baz=16,slow=26,SNR=17								
SONM	Songino Array	8.01	200	Pn		Pn		19 01 06.2	+2.2
SONM				Pg		Pn		19 01 34.7	+31
SONM				Lg				19 03 21.0	
SONM	Songino Array	8.01	200	PN		Pn		19 01 06.2	+2.2
SONM								19 01 34.7	
SONM				pmax	pmax				
	comp=Z,1.0nm,0.3s								
SONM				pmax	pmax				
	comp=Z,3.0nm,0.3s								
IENR	Iengra	8.14	78	⇑*i*Pn		Pn		19 01 05.8	0.0
IENR				*e*Pg		Pn		19 01 34.8	+29
IENR				*e*Sn		Sn		19 02 35.4	-2.3
IENR				*e*Sg		Sn		19 03 20.0	+42
HIA	Hailar	8.36	134	*e*Sg		Sx		19 03 27.6	
ZAA0	Zalesovo Array	14.89	275	*e*P		Pn		19 02 38.2	+0.1
ZALV	Zalesovo Beam	14.89	275	Pn		Pn		19 02 37.6	-0.4
	comp=Z,0.2nm,0.3s,baz=84,slow=8.9,SNR=34								
ZALV				Lg				19 06 50.4	
	comp=Z,0.1nm,0.3s,baz=87,slow=25,SNR=2.9								
ZALV	Zalesovo Beam	14.89	275	Pn		Pn		19 02 37.6	-0.4
ZALV				Lg				19 06 50.4	
ZALV	Zalesovo Beam	14.89	275	P		Pn		19 02 37.7	-0.4
NVS	Novosibirsk	15.56	279	*e*P		Pn		19 02 49.3	+2.4
NVS				*e*				19 05 39.4	
HABR	Khabarovsk	16.61	105	P		Pn		19 02 59.2	-1.2
HABR				pmax	pmax				
	comp=E,27nm,0.6s								
HABR				pmax	pmax				
	comp=N,13nm,0.4s								
HABR				pmax	pmax				
	comp=Z,18nm,0.7s								
GTA	Gaotai	17.53	208	*e*P		Pn		19 03 17.5	+5.5
GTA				pP		pP		19 03 20.5	+4.5
GTA				sP		sP		19 03 23.6	+6.3
GTA				pmax	pmax				
	comp=Z,2.0nm,0.9s								
MK31	Makanchi Array	19.58	256	*e*P		Pn		19 03 35.0	-2.0
MK31	Makanchi Array	19.58	256	*e*P		Pn		19 03 35.0	-1.9
MKAR	Makanchi Array	19.58	256	P		Pn		19 03 37.2	+0.2
	comp=Z,0.7nm,0.3s,baz=55,slow=9.6,SNR=22								
MKAR				Lg				19 09 21.4	
	comp=Z,0.0nm,0.3s,baz=41,slow=27,SNR=2.9								
MKAR	Makanchi Array	19.58	256	P		Pn		19 03 37.2	+0.2
MKAR				Lg				19 09 21.4	
MKAR	Makanchi Array	19.58	256	P		Pn		19 03 37.2	+0.3
MKAR				pmax	pmax				
	comp=Z,1.0nm,0.3s								
KURK	Kurchatov	19.61	269	P		Pn		19 03 37.0	-0.3
	comp=Z,0.2nm,0.3s,baz=68,slow=12,SNR=17								
KURK				Lg				19 09 21.6	
	comp=Z,0.0nm,0.3s,baz=61,slow=30,SNR=5.2								
KURK	Kurchatov	19.61	269	*e*P		Pn		19 03 35.0	-2.3
	comp=Z,8.8nm,1.0s								
KURK				Lg				19 09 21.6	
KURK	Kurchatov	19.61	269	*e*P		Pn		19 03 34.4	-2.9
BVAR	Borovoye Array	23.34	281	P		P		19 04 16.1	+0.1
	comp=Z,2.7nm,0.7s,mb3.8,baz=64,slow=10,SNR=14								
BVAR	Borovoye Array	23.34	281	P		P		19 04 16.1	+0.1
BVAR	Borovoye Array	23.34	281	P		P		19 04 16.1	+0.2
BVAR				pmax	pmax				
	comp=Z,3.0nm,0.7s								
BRVK	Borovoye	23.39	281	*e*P		P		19 04 15.4	-1.0
	comp=Z,6.6nm,0.8s,mb4.1								
BRVK	Borovoye	23.39	281	*e*P		P		19 04 15.2	-1.2
BRVK				pmax	pmax				
	comp=Z,2.0nm,0.6s,mb3.7								
ASAJ	Asahikawa	23.40	105	LR		LR		19 13 02.7	
	comp=Z,37nm,20.7s,MS2.8,baz=179,slow=35								
JHJ	Hachijo jima 2	30.23	125	LR		LR		19 17 56.4	
	comp=Z,382nm,18.1s,MS4.1,baz=65,slow=37								
JIRN	Jiri	32.83	222	*e*P		P		19 05 43.8	+2.6
	comp=Z,3.0nm,0.6s,mb4.4								
KKN	Kakani	33.06	224	*e*P		P		19 05 45.6	+2.3
	comp=Z,11nm,0.7s,mb4.9								
GKN	Gorkha	33.13	225	*e*P		P		19 05 46.4	+2.5
DMN	Daman	33.29	224	*e*P		P		19 05 47.8	+2.5
	comp=Z,7.2nm,0.8s,mb4.7								
KOLN	Koldanda	33.76	226	*e*P		P		19 05 51.1	+1.7
	comp=Z,5.1nm,0.6s,mb4.7								
FINES	FINESS Array B	41.66	314	P		P		19 06 53.6	-2.1
	comp=Z,3.7nm,0.9s,mb4.0,baz=62,slow=9.8,SNR=3.1								
FINES	FINESS Array B	41.66	314	P		P		19 06 53.6	-2.1
FINES	FINESS Array B	41.66	314	P		P		19 06 53.7	-2.1
FINES				pmax	pmax				
	comp=Z,4.0nm,0.9s								
ILAR	Eielson Array	46.47	35	P		P		19 07 36.2	+2.0
	comp=Z,1.0nm,0.8s,mb3.8,baz=304,slow=7.4,SNR=13								
ILAR

CBIJ	**Chichi jima**	**2.57**	**350**	P		**Pn**	**19 03 25.4**	**0.0**	
	7.1nm,0.3s,baz=261,slow=18,SNR=15								
CBIJ				S		Sn	19 03 55.8	+0.1	
	9.8nm,0.3s,baz=270,slow=23,SNR=5.8								
CBIJ	**Chichi jima**	**2.57**	**350**	P		**Pn**	**19 03 25.4**	**0.0**	
CBIJ				S		Sn	19 03 55.8	+0.1	
MDJ	**Mudanjiang**	**22.68**	**335**	*eP*		**P**	19 07 39.9	-0.2	
	5.4nm,0.8s,mb3.9								
WRA	**Warramunga Arr**	**44.98**	**191**	P		**P**	**19 10 52.8**	**0.0**	
	2.5nm,0.8s,mb4.0,baz=10,slow=8.2,SNR=13								
WRA	**Warramunga Arr**	**44.98**	**191**	P		**P**	**19 10 52.8**	**0.0**	
ASAR	**Alice Springs**	**48.69**	**191**	P		**P**	**19 11 21.6**	**-0.2**	
	0.5nm,0.7s,mb3.6,baz=13,slow=12,SNR=5.4								
ASAR	**Alice Springs**	**48.69**	**191**	P		**P**	**19 11 21.6**	**-0.2**	
TAPN	**Taplejung**	**49.19**	**286**	*eP*		**P**	**19 11 26.8**	**+1.1**	
	3.2nm,0.4s,mb4.6								
ODAN	**Odare**	**49.55**	**285**	*eP*		**P**	**19 11 28.3**	**-0.2**	
JIRN	**Jiri**	**50.46**	**286**	*eP*		**P**	**19 11 36.0**	**+0.6**	
	6.1nm,0.6s,mb4.7								
GUN	**Gumba**	**50.69**	**287**	*eP*		**P**	**19 11 37.2**	**+0.1**	
	7.9nm,0.5s,mb5.0								
KKN	**Kakani**	**51.23**	**287**	*eP*		**P**	**19 11 40.7**	**-0.4**	
DMN	**Daman**	**51.42**	**287**	*eP*		**P**	**19 11 42.9**	**+0.4**	
GKN	**Gorkha**	**51.76**	**287**	*eP*		**P**	**19 11 44.8**	**-0.2**	
	4.4nm,0.5s,mb4.8								
DANN	**Dangsing**	**52.45**	**288**	*eP*		**P**	**19 11 50.5**	**+0.3**	
	24nm,0.6s,mb5.4								
MKAR	**Makanchi Array**	**52.46**	**311**	P		**P**	**19 11 49.1**	**-0.8**	
	0.2nm,0.4s,mb3.5,baz=93,slow=9.8,SNR=8.8								
MKAR	**Makanchi Array**	**52.46**	**311**	P		**P**	**19 11 49.1**	**-0.8**	
KOLN	**Koldanda**	**52.70**	**287**	*eP*		**P**	**19 11 51.6**	**-0.4**	
KURK	**Kurchatov**	**55.10**	**316**	P		**P**	**19 12 08.3**	**-0.8**	
	0.6nm,0.5s,mb3.9,baz=91,slow=7.8,SNR=9.9								
KURK	**Kurchatov**	**55.10**	**316**	P		**P**	**19 12 08.3**	**-0.8**	
ILAR	**Eielson Array**	**59.72**	**28**	P		**P**	**19 12 47.1**	**+5.8**	
	0.6nm,0.8s,mb3.7,baz=256,slow=5.7,SNR=4.3								
ILAR	**Eielson Array**	**59.72**	**28**	P		**P**	**19 12 47.1**	**+5.8**	
BVAR	**Borovoye Array**	**60.23**	**318**	P		**P**	**19 12 44.8**	**-0.2**	
	1.1nm,0.5s,mb4.1,baz=90,slow=7.6,SNR=8.0								
BVAR	**Borovoye Array**	**60.23**	**318**	P		**P**	**19 12 44.8**	**-0.2**	
ARCES	**ARCESS Array B**	**76.08**	**341**	P		**P**	**19 14 24.6**	**+0.8**	
	3.6nm,0.8s,mb4.2,baz=57,slow=7.4,SNR=3.7								
ARCES	**ARCESS Array B**	**76.08**	**341**	P		**P**	**19 14 24.6**	**+0.8**	
FINES	**FINESS Array B**	**80.42**	**334**	P		**P**	**19 14 48.3**	**+0.3**	
	7.0nm,1.0s,mb4.4,baz=42,slow=6.4,SNR=4.4								
FINES	**FINESS Array B**	**80.42**	**334**	P		**P**	**19 14 48.3**	**+0.3**	

*IDC **24** 19:03:12.5±7.9,23.˚83S×179.˚83W,h520km±73km,mb3.3/7, mb1 3.5/8,mb1mx3.2/20,mbtmp3.4/8, Error ellipse: s-maj=89.5km s-min=19.8km az=46.0*
*NEIC **24** 19:03:13.0±4.6,23.˚93S×179.˚93W,h520km±35km,mb4.5/2, Error ellipse: s-maj=69.2km s-min=14.3km az=46.0*
ISC 24 19:03:13.0±6.3,23.˚9S±0.˚4×180.˚0W±0.˚5,h515km±48km, n20,σ0s51/20,mb3.9/8,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
URZ	**Urewera**	**14.49**	**189**	P		**P**	**19 06 17.3**	**-0.2**
	2.0nm,0.3s,baz=326,slow=12,SNR=6.3							
URZ	**Urewera**	**14.49**	**189**	P		**P**	**19 06 17.3**	**-0.2**
CTA	**Charters Tower**	**31.50**	**270**	P		**P**	**19 08 53.7**	**+1.2**
	8.4nm,0.4s,mb4.6,baz=98,slow=10,SNR=20							
CTA	**Charters Tower**	**31.50**	**270**	P		**P**	**19 08 53.7**	**+1.2**
CTAO	**Charters Tower**	**31.50**	**270**	*eP*		**P**	**19 08 53.1**	**+0.6**
	10nm,0.6s,mb4.5							
PMG	**Port Moresby**	**34.53**	**289**	P		**P**	**19 09 18.5**	**+0.3**
	3.4nm,0.4s,mb4.2,baz=178,slow=4.2,SNR=3.8							
PMG	**Port Moresby**	**34.53**	**289**	P		**P**	**19 09 18.5**	**+0.3**
STKA	**Stephens Creek**	**34.73**	**248**	P		**P**	**19 09 20.4**	**+0.7**
	1.5nm,0.9s,mb3.5,baz=90,slow=12,SNR=4.0							
STKA	**Stephens Creek**	**34.73**	**248**	P		**P**	**19 09 20.4**	**+0.7**
AS31	**Alice Springs**	**42.05**	**261**	*eP*		**P**	**19 10 19.3**	**0.0**
ASAR	**Alice Springs**	**42.05**	**261**	P		**P**	**19 10 18.9**	**-0.5**
	2.1nm,0.5s,mb3.9,baz=96,slow=7.6,SNR=62							
ASAR	**Alice Springs**	**42.05**	**261**	P		**P**	**19 10 18.9**	**-0.5**
WRAB	**Tennant Creek**	**42.42**	**266**	*eP*		**P**	**19 10 21.7**	**-0.6**
	2.7nm,0.3s,mb4.2							
WRA	**Warramunga Arr**	**42.43**	**266**	P		**P**	**19 10 22.1**	**-0.3**
	4.5nm,0.3s,mb4.5,baz=96,slow=8.4,SNR=256							
WRA	**Warramunga Arr**	**42.43**	**266**	P		**P**	**19 10 22.1**	**-0.3**
KAKA	**Kakadu**	**46.34**	**275**	*eP*		**P**	**19 10 52.1**	**-0.6**
VNDA	**Vanda**	**54.35**	**185**	P		**P**	**19 11 50.1**	**-0.1**
	0.5nm,0.8s,mb2.9,baz=14,slow=6.2,SNR=3.6							
VNDA	**Vanda**	**54.35**	**185**	P		**P**	**19 11 50.1**	**-0.1**
QSPA	**South Pole Qui**	**66.15**	**180**	P		**P**	**19 13 08.9**	**+0.4**
	1.2nm,0.6s,mb3.6,baz=123,slow=2.0,SNR=4.1							
QSPA	**South Pole Qui**	**66.15**	**180**	P		**P**	**19 13 08.9**	**+0.4**

GUC 24 19:05:38.4±0.7,35.˚91S×71.˚69W,h88km±3km,MD3.3, ML3.5,2C-2D,Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
LNCH	**Linares**	**0.10**	**47**	*eP*		Pn	19 05 51.2	+0.4
LNCH				*i* S		Sn	19 06 00.6	+0.6
LNCH				AML		AML	19 06 01.5	
	comp=E,6µm,0.3s							
TALC	**Talca**	**0.52**	**5**	↓*i* P		Pn	19 05 53.3	+0.2
TALC				*i* S		Sn	19 06 04.1	+0.2
CCHI	**Chillan**	**0.76**	**204**	↑*i* P		Pn	19 05 55.4	+0.1
CCHI				*e*S		Sn	19 06 08.0	+0.2
CCHI				AML		AML	19 06 08.9	
	comp=N,707nm,0.5s							
COCH	**Cobquecura**	**0.92**	**256**	↓*i* P		Pn	19 05 57.5	+0.5
COCH				*i* S		Sn	19 06 11.3	+0.4
COCH				AML		AML	19 06 13.2	
	comp=N,568nm,0.4s							
NICH	**Los Niches**	**0.98**	**23**	*eP*		Pn	19 05 58.3	+0.5
NICH				*e*S		Sn	19 06 13.2	+1.0
LNV	**Longovilo**	**1.97**	**7**	*eP*		Pn	19 06 11.2	+1.1
LNV				*i* S		Sn	19 06 35.5	+1.3
CHCH	**Chadas Angostu**	**2.15**	**24**	*eP*		Pn	19 06 12.9	+0.4
CHCH				*i* S		Sn	19 06 39.3	+0.7
RCDM	**Rinconada Maip**	**2.52**	**17**	*eP*		Pn	19 06 17.8	+0.3
RCDM				*e*S		Sn	19 06 47.9	+0.4
RCDM				AML		AML	19 06 48.8	
	comp=E,296nm,0.1s							
CLCH	**Cerro Calan**	**2.68**	**21**	*eP*		Pn	19 06 20.4	+0.8
CLCH				*i* S		Sn	19 06 52.2	+0.9
CLCH				AML		AML	19 07 09.2	
	comp=N,226nm,0.7s							
FCH	**Farellones**	**2.83**	**24**	*eP*		Pn	19 06 22.9	+1.4
FCH				*e*S		Sn	19 06 56.1	+1.4
FCH				AML		AML	19 06 59.2	
	comp=N,289nm,0.1s							
PEL	**Peldehue**	**2.88**	**17**	↑*i* P		Pn	19 06 23.3	+1.0
PEL				*i* S		Sn	19 06 57.0	+0.9
PEL				AML		AML	19 07 18.6	
	comp=N,289nm,0.7s							
ROCH	**El Roble**	**2.99**	**11**	*eP*		Pn	19 06 24.7	+1.0
ROCH				*i* S		Sn	19 06 59.8	+1.3
ROCH				AML		AML	19 07 17.2	
	comp=N,206nm,0.4s							

*ISCJB **24** 19:12:20.0±0.7,27.˚4S±0.˚1×66.˚4E±0.˚2,h10km,mb4.0/12, Error ellipse: s-maj=26.4km s-min=16.2km az=171.0*
*IDC **24** 19:12:20.1±0.8,27.˚43S×66.˚36E,h0km,mb4.0/11, mb1 4.1/11,mb1mx3.9/25,mbtmp4.0/11,Error ellipse: s-maj=33.2km s-min=19.9km az=84.0*
*NEIC **24** 19:12:21.6±0.5,27.˚42S×66.˚36E,h10km,mb4.5/2,Error ellipse: s-maj=19.6km s-min=12.1km az=80.0*
ISC 24 19:12:21.9±0.7,27.˚4S±0.˚1×66.˚4E±0.˚2,h10km,n26, σ0s48/24,mb4.0/12,Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MAW	**Mawson**	**40.27**	**182**	P		**P**	**19 19 58.8**	**+0.2**
	2.6nm,1.0s,mb3.9,baz=0.0,slow=14,SNR=3.9							
MAW	**Mawson**	**40.27**	**182**	P		**P**	**19 19 58.8**	**+0.2**
CMAR	**Chiang Mai Arr**	**55.45**	**38**	P		**P**	**19 21 57.5**	**+0.6**
	0.7nm,0.9s,mb3.7,baz=232,slow=6.1,SNR=5.1							
CMAR	**Chiang Mai Arr**	**55.45**	**38**	P		**P**	**19 21 57.5**	**+0.6**
ASAR	**Alice Springs**	**60.36**	**103**	P		**P**	**19 22 31.5**	**0.0**
	0.9nm,0.7s,mb3.9,baz=252,slow=6.3,SNR=14							
ASAR	**Alice Springs**	**60.36**	**103**	P		**P**	**19 22 31.5**	**0.0**
AS31	**Alice Springs**	**60.37**	**103**	*eP*		**P**	**19 22 31.1**	**-0.4**
WRA	**Warramunga Arr**	**62.02**	**99**	P		**P**	**19 22 42.6**	**-0.1**
	3.6nm,1.2s,mb4.4,baz=251,slow=6.1,SNR=5.8							
WRA	**Warramunga Arr**	**62.02**	**99**	P		**P**	**19 22 42.6**	**-0.1**
QSPA	**South Pole Qui**	**62.73**	**180**	P		**P**	**19 22 46.5**	**-0.1**
	3.8nm,0.9s,mb4.5,baz=261,slow=2.8,SNR=8.8							
QSPA	**South Pole Qui**	**62.73**	**180**	*eP*		**P**	**19 22 46.5**	**0.0**
	7.2nm,1.1s,mb4.7							
BRTR	**Keskin Array B**	**73.44**	**334**	P		**P**	**19 23 54.4**	**+0.1**
	1.4nm,0.9s,mb3.9,baz=163,slow=9.0,SNR=5.7							
BRTR	**Keskin Array B**	**73.44**	**334**	P		**P**	**19 23 54.4**	**+0.1**
ABKAR	**Akbulak array**	**76.54**	**356**	*eP*		**P**	**19 24 11.5**	**-0.4**
	1.5nm,0.8s,mb4.0							
KURK	**Kurchatov**	**78.53**	**8**	P		**P**	**19 24 22.5**	**-0.5**
	1.0nm,1.0s,mb3.7,baz=202,slow=5.9,SNR=5.9							
KURK	**Kurchatov**	**78.53**	**8**	P		**P**	**19 24 22.5**	**-0.5**
BVAR	**Borovoye Array**	**80.17**	**2**	P		**P**	**19 24 32.8**	**+0.8**
	0.3nm,0.3s,mb3.6,baz=166,slow=7.4,SNR=4.9							
BVAR	**Borovoye Array**	**80.17**	**2**	P		**P**	**19 24 32.8**	**+0.9**
ZALV	**Zalesovo Beam**	**82.58**	**11**	P		**P**	**19 24 44.3**	**-0.3**
	2.1nm,0.8s,mb4.2,baz=197,slow=4.0,SNR=9.1							
ZALV	**Zalesovo Beam**	**82.58**	**11**	P		**P**	**19 24 44.3**	**-0.3**
SONM	**Songino Array**	**83.09**	**26**	P		**P**	**19 24 46.5**	**-1.0**
	0.8nm,0.8s,mb3.8,baz=207,slow=3.0,SNR=6.9							
SONM	**Songino Array**	**83.09**	**26**	P		**P**	**19 24 46.5**	**-1.0**
KSAR	**Wonju Array Be**	**86.54**	**44**	P		**P**	**19 25 05.7**	**+0.6**
KSRS	**Korea Array**	**86.57**	**44**	P		**P**	**19 25 05.7**	**+0.4**
	2.2nm,0.8s,mb4.4,baz=220,slow=5.6,SNR=5.4							
YKA	**Yellowknife Ar**	**144.92**	**1**	PKP		PKPdf	19 31 57.2	-1.3
	3.9nm,0.7s,baz=344,slow=3.7,SNR=12							
YKA	**Yellowknife Ar**	**144.92**	**1**	PKP		PKPdf	19 31 57.2	-1.3

*BYKL **24** 19:42:59.5±0.2,55.˚46N×110.˚45E*
MOS 24 19:43:00.1±1.7,55.˚40N×110.˚50E,h10km,mb4.0/1,7C-2D, Error ellipse: s-maj=84.5km s-min=39.6km az=140.1, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KMO	**Kumora**	**0.63**	**39**	↓*i* Pg		Pg	19 43 10.1	-2.2
KMO				*e*Sg		Sg	19 43 18.5	-2.0
KMO				Pmax				
	248nm,0.4s							
KMO				Smax				
	358nm,1.2s							
YLYR	**Ulyunkhan**	**0.65**	**144**	↑*i* Pg		Pg	19 43 12.4	-0.2
YLYR				*e*Sg		Sg	19 43 22.1	+1.0
YLYR				*e*Sb		Sb	19 43 25.6	+3.1
YLYR				Pmax				
	38nm,0.1s							
YLYR				Smax				
	215nm,0.3s							
NIZ	**Nizh Angarsk**	**0.66**	**305**	↑*i* Pg		Pg	19 43 10.2	-2.7
NIZ				*e*Sg		Sg	19 43 19.1	-2.4
NIZ				Pmax				
	43nm,0.2s							
NIZ				Smax				
	226nm,0.3s							
YOA	**Uoyan**	**1.01**	**43**	↑*i* PG		Pg	19 43 17.3	-2.2
YOA				*i*			19 43 31.4	
YOA				pmax		pmax		
	comp=Z,105nm,0.2s							
YOA				smax				
	comp=E,503nm,0.6s							
YOA	**Uoyan**	**1.01**	**43**	↑*i* Pg		Pg	19 43 17.3	-2.2
YOA				*e*Sg		Sg	19 43 31.5	-1.1
YOA				Pmax				
	comp=E,39nm,0.2s							
YOA				Smax				
	comp=E,428nm,0.5s							
SYVR	**Suvo**	**1.77**	**190**	*e*Pg		Pg	19 43 32.3	-1.7
SYVR				*e*Sg		Sg	19 43 57.5	+0.6
SYVR				Pmax				
	comp=E,23nm,0.4s							
SYVR				Smax				
	comp=E,194nm,1.0s							
UKT	**Uakit**	**1.78**	**86**	*e*PN		Pn	19 43 31.9	+1.0
UKT				*e*			19 43 55.0	
UKT				pmax		pmax		
	comp=Z,35nm,0.5s							
UKT				smax				
	comp=N,250nm,0.5s							
UKT	**Uakit**	**1.78**	**86**	↓*i* Pg		Pg	19 43 31.9	-2.4
UKT				*e*Sg		Sg	19 43 55.7	-1.7
UKT				Pmax				
	comp=N,36nm,0.6s							
UKT				Smax				
	comp=N,250nm,0.6s							
SVKR	**Severomuysk**	**1.87**	**66**	*e*Pg		Pg	19 43 33.7	-2.3
SVKR				*e*Sg		Sg	19 43 58.8	-1.4
SVKR				Pmax				
	comp=N,52nm,0.4s							
SVKR				Smax				
	comp=N,613nm,0.6s							
MXMB	**Maximikha**	**2.38**	**206**	*e*Pn		Pn	19 43 40.0	+1.0
MXMB				*e*Pg		Pg	19 43 43.1	-2.5
MXMB				*e*Sg		Sg	19 44 16.4	+0.1
MXMB				Pmax				
	comp=N,33nm,0.4s							
MXMB				Smax				
	comp=N,244nm,1.0s							
OGRR	**Ongureny**	**2.44**	**225**	*e*Pn		Pn	19 43 40.8	+0.8
OGRR				*e*Pg		Pg	19 43 43.6	-3.3
OGRR				*e*Sg		Sg	19 44 15.9	-2.6
OGRR				Pmax				
	comp=N,34nm,0.3s							
OGRR				Smax				
	comp=N,69nm,0.4s							
NLYR	**Nelyaty**	**3.12**	**67**	↑*i* Pn		Pn	19 43 50.1	+0.8
NLYR				*e*Pg		Pg	19 43 55.4	-4.5
NLYR				*e*Sg		Sg	19 44 36.1	-4.2
NLYR				Pmax				
	comp=N,10.0nm,0.5s							
NLYR				Smax				
	comp=N,73nm,1.2s							
TRG	**Tyrgan**	**3.60**	**224**	*e*Pn		Pn	19 43 57.7	+1.8
TRG				*e*Pg		Pg	19 44 03.8	-5.2
TRG				*e*Sg		Sg	19 44 51.5	-4.2
TRG				Pmax				
	comp=N,9.0nm,0.3s							
TRG				Smax				
	comp=N,34nm,0.4s							
UUDB	**Ulan-Yde**	**3.92**	**207**	*e*Pg		Pg	19 44 10.1	-5.1
UUDB				*e*Sg		Sg	19 45 03.0	-2.9
UUDB				Pmax				
	comp=N,27nm,0.9s							
UUDB				Smax				
	comp=N,53nm,2.0s							
FFNB	**Fofonovo**	**4.03**	**215**	*e*Sg		Sg	19 45 04.9	-4.4
FFNB				Smax				
	comp=N,42nm,0.7s							
HRMR	**Khuramsha**	**4.33**	**211**	*e*Pn		Pn	19 44 07.1	+1.2
HRMR				*e*Pg		Pg	19 44 17.8	-5.2
HRMR				*e*Sg		Sg	19 45 15.3	-3.7
HRMR				Pmax				
	comp=N,18nm,0.5s							
HRMR				Smax				
	comp=N,89nm,0.8s							
CRS	**Chara**	**4.60**	**68**	*e*PN		Pg	19 44 23.2	-4.9
CRS				*e*			19 45 21.6	
CRS				pmax		pmax		
	comp=Z,27nm,1.7s							
CRS				smax				
	comp=E,63nm,1.2s							
CRS	**Chara**	**4.60**	**68**	*e*Pg		Pg	19 44 23.0	-5.1
CRS				*e*Sg		Sg	19 45 21.3	-6.3
CRS				Smax				
	comp=E,63nm,1.4s							
LSTR	**Listvyanka**	**4.89**	**226**	*e*Pn		Pn	19 44 13.0	-0.5
LSTR				*e*Pg		Pg	19 44 27.2	-6.4
LSTR				*e*Sg		Sg	19 45 30.1	-6.8
LSTR				Smax				
	comp=E,8.0nm,0.5s							
KHNR	**Khani**	**5.51**	**70**	*e*Sg		Sg	19 45 50.0	-6.9
TLY	**Talaya**	**5.53**	**230**	*e*Pg		Pg	19 44 39.6	-6.3
TLY				*e*Sg		Sg	19 45 49.6	-7.9
TLY				Pmax				
	comp=E,7.0nm,0.6s							
TLY				Smax				
	comp=E,11nm,0.6s							
TUP	**Tupik**	**5.54**	**96**	*e*PN		Pn	19 44 23.2	+0.7
TUP				*e*			19 44 39.5	
TUP				*e*			19 45 51.6	
TUP				pmax		pmax		
	comp=Z,7.0nm,0.5s							
TUP				smax				
	comp=N,51nm,0.9s							
TUP	**Tupik**	**5.54**	**96**	*e*Pn		Pn	19 44 22.9	+0.4
TUP				*e*Pg		Pg	19 44 39.2	-6.9
TUP				*e*Sn		Sn	19 45 25.5	-0.7
TUP				*e*Sg		Sg	19 45 51.6	-6.2
TUP				Pmax				
	comp=N,1.0nm,0.2s							
TUP				Smax				
	comp=N,50nm,1.2s							
KPC	**Khapcheranga**	**5.82**	**168**	*e*Sg		Sg	19 46 01.1	-5.7
KPC				Smax				
	comp=N,48nm,1.8s							
ARS	**Arshan**	**5.93**	**237**	*e*PN		Pn	19 44 28.3	+0.4
ARS				*e*			19 44 49.0	
ARS				*e*			19 46 03.2	
ARS				pmax		pmax		
	comp=Z,7.0nm,0.1s							
ARS				smax				
	comp=N,66nm,0.5s							
ARS	**Arshan**	**5.93**	**237**	*e*Pn		Pn	19 44 28.3	+0.4
ARS				*e*			19 44 32.5	
ARS				Pg		Pg	19 44 47.5	-6.1
ARS				*e*Sn		Sn	19 45 34.3	-1.5
ARS				*e*Sg		Sg	19 46 02.9	-7.5
ARS				Pmax				
	comp=N,18nm,0.8s							
ARS				Smax				
	comp=N,67nm,0.7s							
ZAK	**Zakamensk**	**6.66**	**224**	*e*Sg		Sg	19 46 27.3	-6.3
ZAK				Smax				
	comp=N,7.0nm,1.3s							
MOY	**Mondy**	**6.79**	**240**	↑*i* Pn		Pn	19 44 41.1	+1.5
MOY				*e*Sn		Sn	19 45 54.6	-2.3
MOY				*e*Sg		Sg	19 46 29.7	-8.1
MOY				max				
	comp=N,5.0nm,0.5s							
MOY				Smax				
	comp=N,7.0nm,0.7s							
ORL	**Orlik**	**6.93**	**250**	↑*i* Pn		Pn	19 44 42.6	+1.1
ORL				*e*Sn		Sn	19 45 57.7	-2.6
ORL				*e*Sg		Sg	19 46 34.3	-7.9
ORL				max				
	comp=N,2.0nm,0.3s							
ORL				Smax				
	comp=N,21nm,1.2s							

*SOF **24** 19:46:12.9,39.˚41N×28.˚56E,h5km,MD2.8*
*ISCJB **24** 19:46:21.8±0.3,39.˚99N±0.˚01×28.˚17E±0.˚02,h7km±2km, mb3.3/2,Error ellipse: s-maj=2.3km s-min=2.2km az=16.8*
*DDA **24** 19:46:21.6,39.˚98N×28.˚19E,h26km±1km,Ml3.9*
*NEIC **24** 19:46:21.0,39.˚98N×28.˚17E,h10km,ML3.7(ISK),After ISK.*
*ATH **24** 19:46:21.2,39.˚97N×28.˚11E,h13km±7km,MD3.7/12*
*CSEM **24** 19:46:22.5±0.1,39.˚98N×28.˚18E,h8km,ML3.8,Error ellipse: s-maj=1.8km s-min=1.7km az=30.0*
*IDC **24** 19:46:22.9±1.4,40.˚01N×28.˚28E,h0km,mb3.3/2, mb1 3.3/4,mb1mx3.1/25,mbtmp3.2/4,ML3.0/2,Error ellipse: s-maj=21.0km s-min=15.2km az=33.0*
*ISK **24** 19:46:22.2,39.˚98N×28.˚18E,h13km,ML3.8*
*THE **24** 19:46:23.6,39.˚95N×28.˚33E,h27km±19km,ML4.1/4,Error ellipse: s-maj=20.5km s-min=1.5km az=90.0*
ISC 24 19:46:22.4±0.3,39.˚98N±0.˚01×28.˚17E±0.˚02,h5km±2km, n239,σ0s82/290,mb3.3/2,11C-11D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KCTX	**Karacabey (Bur**	**0.32**	**27**	PG		**Pg**	**19 46 29.2**	**+0.6**
KCTX				*e*SG		**Sg**	**19 46 33.6**	**+0.8**
KCTX	**Karacabey (Bur**	**0.32**	**27**	*i* Pg		**Pg**	**19 46 29.2**	**+0.6**
KCTX				*e*Sg		**Sg**	**19 46 33.6**	**+0.8**
BALB	**Balikesir**	**0.41**	**213**	PG		**Pg**	**19 46 31.0**	**+0.7**
BALB	**Balikesir**	**0.41**	**213**	*i* Pg		**Pg**	**19 46 31.0**	**+0.8**
BNT	**Bandirma**	**0.42**	**333**	PG		**Pg**	**19 46 31.6**	**+1.0**
BNT	**Bandirma**	**0.42**	**333**	*i* Pg		**Pg**	**19 46 31.6**	**+1.0**
DURS	**Dursunbey**	**0.45**	**148**	*i* P		**Pg**	**19 46 31.3**	**+0.3**
DURS				*i* S		**Sg**	**19 46 37.4**	**+0.6**
DURS	**Dursunbey**	**0.45**	**148**	*i* P		**Pg**	**19 46 31.3**	**+0.3**
DURS				*i* S		**Sg**	**19 46 37.4**	**+0.6**
BALY	**Balya**	**0.49**	**241**	*i* P		**Pg**	**19 46 32.4**	**+0.6**
BALY				*i* S		**Sg**	**19 46 38.8**	**+0.7**
BALY	**Balya**	**0.49**	**241**	*i* P		**Pg**	**19 46 32.4**	**+0.6**
BALY				*i* S		**Sg**	**19 46 38.8**	**+0.7**
DST	**Dursunbey**	**0.51**	**137**	PG		**Pg**	**19 46 32.5**	**+0.3**
DST	**Dursunbey**	**0.51**	**137**	*i* Pg		**Pg**	**19 46 32.5**	**+0.3**
MDNY	**Mudanya-Bursa**	**0.67**	**54**	*e*PG		**Pg**	**19 46 35.4**	**+0.1**
MDNY				*e*SG		**Sg**	**19 46 45.3**	**+1.2**
MDNY	**Mudanya-Bursa**	**0.67**	**54**	*e*Pg		**Pg**	**19 46 35.4**	**+0.1**
MDNY				*e*Sg		**Sg**	**19 46 45.3**	**+1.2**
ULDT	**Uludag**	**0.76**	**77**	*i* P		**Pg**	**19 46 36.0**	**-1.0**
ULDT				*i* S		**Sg**	**19 46 44.8**	**-2.1**
ULDT	**Uludag**	**0.76**	**77**	*i* P		**Pg**	**19 46 36.0**	**-1.0**
ULDT				*i* S		**Sg**	**19 46 44.8**	**-2.1**
KRBG	**Karabiga-Canak**	**0.79**	**302**	*e*PG		**Pg**	**19 46 37.6**	**+0.1**
KRBG				*e*SG		**Sg**	**19 46 49.2**	**+1.6**
KRBG	**Karabiga-Canak**	**0.79**	**302**	*e*Pg		**Pg**	**19 46 37.6**	**+0.1**
KRBG				*e*Sg		**Sg**	**19 46 49.3**	**+1.6**
GEMT	**Gemlik**	**0.90**	**59**	*e*PG		**Pg**	**19 46 40.1**	**+0.3**
GEMT	**Gemlik**	**0.90**	**59**	*e*Pg		**Pg**	**19 46 40.1**	**+0.3**
DEMI	**Demirci**	**1.03**	**155**	*i* P

CTYL	Yal??k??y-??at	1.50	3	ePN	Pn	19 46 49.5	-0.4		
CTYL	Yal??k??y-??at	1.50	3	ePn	Pn	19 46 49.5	-0.4		
KULA	Kula-Manisa	1.51	165	ePN	Pn	19 46 49.6	-0.4		
KULA	Kula-Manisa	1.51	165	ePn	Pn	19 46 49.7	-0.4		
SILT	Sile	1.62	43	ePN	Pn	19 46 51.3	-0.3		
SILT	Sile	1.62	43	ePn	Pn	19 46 51.3	-0.3		
PRK	Paraskevi	1.64	244	ePB	Pb	19 46 51.4	-1.6		
PRK				eSB	Sb	19 47 13.2	-0.8		
PRK	Paraskevi	1.64	244	P	Pn	19 46 51.3	-0.5		
PRK				S	Sn	19 47 12.4	-0.8		
PRK	Paraskevi	1.64	244	P	Pn	19 46 51.3	-0.5		
PRK				S	Sn	19 47 12.4	-0.8		
PRK				eSb	Sb	19 47 13.2	-0.8		
GPA	Golpazari	1.67	79	ePN	Pn	19 46 52.0	-0.3		
GPA	Golpazari	1.67	79	ePn	Pn	19 46 52.0	-0.2		
ENEZ	Enez	1.71	297	ePN	Pn	19 46 52.5	-0.3		
ENEZ	Enez	1.71	297	ePn	Pn	19 46 52.5	-0.4		
IZM	Izmir	1.73	204	ePN	Pn	19 46 52.5	-0.6		
IZM	Izmir	1.73	204	ePn	Pn	19 46 52.5	-0.6		
GADA	Gvkgeada	1.75	278	ePN	Pn	19 46 53.1	-0.3		
GADA	Gvkgeada	1.75	278	ePn	Pn	19 46 53.1	-0.3		
BORA	Eskisehir	1.76	93	*i* P	Pn	19 46 52.6	-0.9		
BORA				*i* S	Sn	19 47 17.5	+1.3		
BORA	Eskisehir	1.76	93	*i* P	Pn	19 46 52.6	-0.9		
BORA				*i* S	Sn	19 47 17.5	+1.3		
ALT	Altintas	1.76	121	ePN	Pn	19 46 52.9	-0.6		
ALT	Altintas	1.76	121	*i* P	Pn	19 46 44.3	-9.2		
ALT				*i* S	Sn	19 46 59.0	-17		
ALT	Altintas	1.76	121	ePn	Pn	19 46 52.9	-0.6		
SPNC	Sapanca-Adapaz	1.78	66	ePN	Pn	19 46 53.5	-0.2		
SPNC	Sapanca-Adapaz	1.78	66	ePn	Pn	19 46 53.5	-0.3		
BLCB	Balcova	1.82	209	ePN	Pn	19 46 53.8	-0.4		
BLCB	Balcova	1.82	209	ePn	Pn	19 46 53.9	-0.4		
GULT	Gulveren	1.85	75	ePN	Pn	19 46 54.5	-0.2		
GULT	Gulveren	1.85	75	ePn	Pn	19 46 54.5	-0.3		
ALN	Alexandroupoli	1.86	300	ePN	Pn	19 46 54.5	-0.4		
ALN				eSN	Sn	19 47 18.6	-0.1		
ALN	Alexandroupoli	1.86	300	P	Pn	19 46 54.5	-0.4		
ALN				S	Sn	19 47 18.4	-0.3		
ALN	Alexandroupoli	1.86	300	P	Pn	19 46 54.5	-0.4		
ALN				S	Sn	19 47 18.4	-0.3		
KHAL	Karahalli	1.91	147	*i* P	Pn	19 46 55.3	-0.2		
KHAL				*i* S	Sn	19 47 21.3	+1.4		
KHAL	Karahalli	1.91	147	*i* P	Pn	19 46 55.3	-0.2		
KHAL				*i* S	Sn	19 47 21.3	+1.4		
SIGR	SIGRI	1.94	247	P	Pn	19 46 55.5	-0.5		
SIGR				S	Sn	19 47 19.8	-1.0		
SIGR	SIGRI	1.94	247	P	Pn	19 46 55.5	-0.5		
SIGR				S	Sn	19 47 19.8	-1.0		
ESKT	Eskisehir	2.12	102	ePN	Pn	19 46 58.2	-0.2		
ESKT	Eskisehir	2.12	102	ePn	Pn	19 46 58.2	-0.2		
EDRB	Edirne	2.15	330	ePN	Pn	19 46 59.0	0.0		
EDRB	Edirne	2.15	330	ePn	Pn	19 46 59.0	+0.1		
HENT	Hendek	2.25	67	*i* P	Pn	19 47 02.2	+2.0		
HENT				*i* S	Sn	19 47 22.5	-5.8		
HENT	Hendek	2.25	67	*i* P	Pn	19 47 02.2	+2.0		
CHOS	Chios island	2.29	227	ePN	Pn	19 47 00.2	-0.5		
CHOS				eSN	Sn	19 47 29.1	-0.1		
CHOS	Chios island	2.29	227	P	Pn	19 46 59.9	-0.8		
CHOS	Chios island	2.29	227	P	Pn	19 46 59.9	-0.8		
CHOS	Chios island	2.29	227	ePn	Pn	19 47 00.2	-0.5		
CHOS				eSn	Sn	19 47 29.1	-0.1		
LIA	Limnos Island	2.30	269	ePN	Pn	19 47 00.9	0.0		
LIA				eSN	Sn	19 47 28.5	-1.0		
LIA	Limnos Island	2.30	269	P	Pn	19 47 00.6	-0.3		
LIA				S	Sn	19 47 30.0	+0.5		
LIA	Limnos Island	2.30	269	P	Pn	19 47 00.6	-0.3		
LIA	Limnos Island	2.30	269	ePn	Pn	19 47 00.9	0.0		
LIA				eSn	Sn	19 47 28.5	-1.0		
LIA				S	Sn	19 47 30.0	+0.5		
RDO	Rodhopi	2.32	301	ePN	Pn	19 47 01.2	0.0		
RDO	Rodhopi	2.32	301	P	Pn	19 47 01.1	-0.1		
RDO	Rodhopi	2.32	301	P	Pn	19 47 01.1	-0.1		
DENT	Denizli	2.32	163	ePN	Pn	19 47 01.2	0.0		
DENT	Denizli	2.32	163	ePn	Pn	19 47 01.3	+0.1		
MDU	Mudurnu	2.38	77	ePN	Pn	19 47 01.9	-0.1		
MDU	Mudurnu	2.38	77	ePn	Pn	19 47 01.9	-0.1		
SMG	Samos	2.50	205	ePB	Pn	19 47 02.8	-0.8		
SMG	Samos	2.50	205	ePb	Pn	19 47 02.8	-0.8		
SVRH	Sivrihisar-ESK	2.64	101	ePN	Pn	19 47 05.8	+0.2		
SVRH	Sivrihisar-ESK	2.64	101	ePn	Pn	19 47 05.8	+0.2		
KDZ	Kurdzhali	2.67	310	P	Pn	19 47 06.1	+0.1		
KDZ	Kurdzhali	2.67	310	P	Pn	19 47 06.1	+0.1		
KDZ	Kurdzhali	2.67	310	P	Pn	19 47 06.1	+0.1		
MLSB	Milas	2.70	187	ePN	Pn	19 47 06.6	+0.2		
MLSB	Milas	2.70	187	ePn	Pn	19 47 06.6	+0.2		
KDZE	Karadeniz Ereo	2.83	61	ePN	Pn	19 47 08.4	+0.3		
KDZE	Karadeniz Ereo	2.83	61	ePn	Pn	19 47 08.4	+0.3		
ISP	Isparta	2.83	139	ePN	Pn	19 47 08.7	+0.5		
ISP	Isparta	2.83	139	eP	Pn	19 47 07.5	-0.7		
ISP	Isparta	2.83	139	‖ *i* P	Pg	19 47 15.9	-0.7		
ISP	Isparta	2.83	139	eP	Pn	19 47 07.5	-0.7		
ISP	Isparta	2.83	139	ePn	Pn	19 47 08.7	+0.5		
DIM	Dimitrovgrad	2.87	317	P	Pn	19 47 10.4	+1.6		
DIM	Dimitrovgrad	2.87	317	P	Pn	19 47 10.4	+1.6		
DIM	Dimitrovgrad	2.87	317	P	Pn	19 47 10.4	+1.6		
KAVA	Kavala	2.97	291	P	Pn	19 47 09.7	-0.4		
KAVA	Kavala	2.97	291	P	Pn	19 47 09.7	-0.4		
BODT	Bodrum	2.99	193	ePN	Pn	19 47 10.7	+0.3		
BODT	Bodrum	2.99	193	ePn	Pn	19 47 10.7	+0.3		
GLHS	Glhisar (BURDU	3.01	159	ePN	Pn	19 47 10.9	+0.3		
GLHS	Glhisar (BURDU	3.01	159	ePn	Pn	19 47 10.9	+0.3		
KIZT	Kizilcal	3.08	110	ePN	Pn	19 47 11.9	+0.3		
KIZT	Kizilcal	3.08	110	ePn	Pn	19 47 11.9	+0.3		
PRD	Provadia	3.27	350	P	Pn	19 47 14.1	-0.1		
PRD	Provadia	3.27	350	P	Pn	19 47 14.1	-0.1		
PRD	Provadia	3.27	350	P	Pn	19 47 14.1	-0.1		
DAT	Datca	3.28	188	ePN	Pn	19 47 14.8	+0.4		
DAT	Datca	3.28	188	ePn	Pn	19 47 14.8	+0.4		
SUTC	Sutluce-Ispart	3.34	138	ePN	Pn	19 47 15.7	+0.6		
SUTC	Sutluce-Ispart	3.34	138	ePn	Pn	19 47 15.7	+0.5		
PLD	Plovdiv	3.37	310	P	Pn	19 47 16.3	+0.7		
PLD	Plovdiv	3.37	310	P	Pn	19 47 16.3	+0.7		
PLD	Plovdiv	3.37	310	P	Pn	19 47 16.3	+0.7		
ELL	Elmali	3.50	156	ePN	Pn	19 47 18.1	+0.6		
ELL	Elmali	3.50	156	ePn	Pn	19 47 18.1	+0.6		
LOD	Lodumlu	3.53	90	ePN	Pn	19 47 18.4	+0.6		
LOD	Lodumlu	3.53	90	ePn	Pn	19 47 18.4	+0.5		
NVR	Nevrokopi	3.55	294	ePN	Pn	19 47 18.0	-0.1		
NVR	Nevrokopi	3.55	294	P	Pn	19 47 17.9	-0.2		
NVR	Nevrokopi	3.55	294	P	Pn	19 47 17.9	-0.2		
APE	Apeiranthos	3.57	216	ePN	Pn	19 47 19.0	+0.6		
APE	Apeiranthos	3.57	216	ePN	Pn	19 47 17.1	-1.2		
APE	Apeiranthos	3.57	216	‖ *i* P	Pn	19 47 23.5	+5.2		
APE	Apeiranthos	3.57	216	ePn	Pn	19 47 19.0	+0.7		
PLG	Polygyros	3.64	278	ePN	Pn	19 47 19.1	-0.2		
PLG	Polygyros	3.64	278	ePn	Pn	19 47 19.1	-0.2		
SAFT	Safranbolu	3.66	68	ePN	Pn	19 47 20.2	+0.6		
SAFT	Safranbolu	3.66	68	ePn	Pn	19 47 20.2	+0.6		
SRS	Serrai	3.67	290	P	Pn	19 47 19.0	-0.7		
SRS	Serrai	3.67	290	P	Pn	19 47 19.0	-0.7		
SZH	Strazhica	3.69	334	P	Pn	19 47 23.1	+3.1		
SZH	Strazhica	3.69	334	P	Pn	19 47 23.1	+3.1		
SZH	Strazhica	3.69	334	P	Pn	19 47 23.1	+3.1		
PSN	Preselentsi	3.70	0	P	Pn	19 47 21.9	+1.8		
PSN	Preselentsi	3.70	0	P	Pn	19 47 21.9	+1.8		
PSN	Preselentsi	3.70	0	P	Pn	19 47 21.9	+1.8		
MMB	Musomiste	3.73	297	P	Pn	19 47 20.5	-0.1		
MMB	Musomiste	3.73	297	P	Pn	19 47 20.5	-0.1		
MMB	Musomiste	3.73	297	P	Pn	19 47 20.5	-0.1		
ARG	Arkhangelos	3.76	181	ePN	Pn	19 47 22.1	+1.2		
ARG	Arkhangelos	3.76	181	ePn	Pn	19 47 22.1	+1.2		
SOH	Sokhos	3.77	284	ePN	Pn	19 47 20.3	-0.8		
SOH	Sokhos	3.77	284	ePn	Pn	19 47 20.3	-0.8		
AFSR	Af˙ar-Bala (A	3.82	96	ePN	Pn	19 47 22.6	+0.8		
AFSR	Af˙ar-Bala (A	3.82	96	ePn	Pn	19 47 22.6	+0.8		
KONT	Konya--Tatoy	3.85	121	ePN	Pn	19 47 23.1	+1.0		
KONT	Konya--Tatoy	3.85	121	ePn	Pn	19 47 23.2	+1.0		
PVL	Pavlikeni	3.87	328	P	Pn	19 47 24.4	+1.9		
PVL	Pavlikeni	3.87	328	P	Pn	19 47 24.4	+1.9		
PVL	Pavlikeni	3.87	328	P	Pn	19 47 24.4	+1.9		
PGB	Panagyurishte	3.96	312	P	Pg	19 47 36.6	-1.7		
BR131	Keskin Array S	4.22	92	eP	Pn	19 47 26.5	-0.8		
BR131	Keskin Array S	4.22	92	eP	Pn	19 47 26.5	-0.8		
BRTR	Keskin Array B	4.22	92	Pn	Pn	19 47 26.9	-0.4		
	0.5nm,0.3s,baz=258,slow=12,SNR=19								
BRTR				Pg	Pg	19 47 39.3	-3.9		
	1.8nm,0.3s,baz=271,slow=17,SNR=25								
BRTR				Sn	Sn	19 48 15.2	-1.7		
	1.1nm,0.3s,baz=266,slow=17,SNR=3.8								
BRTR				Lg		19 48 36.2			
	0.8nm,0.3s,baz=273,slow=23,SNR=3.7								
BRTR	Keskin Array B	4.22	92	Pn	Pn	19 47 26.9	-0.4		
BRTR				Pg	Pg	19 47 39.3	-3.9		
BRTR				Sn	Sn	19 48 15.2	-1.7		
BRTR				Lg		19 48 36.2			
BRTR	Keskin Array B	4.22	92	Pn	Pn	19 47 26.9	-0.4		
BRTR	Keskin Array B	4.22	92	Pg	Pg	19 47 39.3	-3.9		
KARP	Karpathos	4.50	191	ePN	Pn	19 47 31.8	+0.7		
KARP	Karpathos	4.50	191	ePn	Pn	19 47 31.8	+0.7		
VTS	Vitosha	4.56	307	‖ P	Pn	19 47 32.9	+1.0		
VTS	Vitosha	4.56	307	‖ *i* P	Pn	19 47 32.9	+1.0		
MPEP	Malo Peshtene	4.73	317	P	Pn	19 47 34.7	+0.4		
MPEP	Malo Peshtene	4.73	317	P	Pn	19 47 34.7	+0.4		
TLCR		5.22	5	‖ *i* P	Pn	19 47 41.7	+0.6		
TLCR		5.22	5	‖ *i* P	Pn	19 47 41.7	+0.6		
MLR	Muntele Rosu	5.75	344	Pn	Pn	19 47 50.0	+1.8		
	0.3nm,0.3s,baz=201,slow=2.4,SNR=11								
MLR				Lg		19 49 26.8			
	0.2nm,0.3s,baz=90,slow=20,SNR=3.0								
MLR	Muntele Rosu	5.75	344	Pn	Pn	19 47 50.0	+1.8		
MLR				Lg		19 49 26.8			
MLR	Muntele Rosu	5.75	344	‖ *i* P	Pn	19 47 49.8	+1.6		
MLR	Muntele Rosu	5.75	344	‖ *i* P	Pn	19 47 49.8	+1.6		
PLOR	Plostina	5.97	350	‖ P	Pn	19 47 52.6	+1.2		
PLOR	Plostina	5.97	350	‖ *i* P	Pn	19 47 52.6	+1.2		
VRI	Vrincioaia	5.98	350	‖ P	Pn	19 47 52.2	+0.8		
VRI	Vrincioaia	5.98	350	‖ *i* P	Pn	19 47 52.2	+0.8		
TESR		6.62	351	‖ P	Pn	19 48 00.1	-0.2		
TESR		6.62	351	‖ *i* P	Pn	19 48 00.1	-0.2		
GZR	Gura Zlata	6.71	325	‖ P	Pn	19 48 02.1	+0.6		
GZR	Gura Zlata	6.71	325	‖ *i* P	Pn	19 48 02.1	+0.6		
BZS	Buzias	7.41	322	‖ P	Pn	19 48 11.4	+0.3		
BZS	Buzias	7.41	322	‖ *i* P	Pn	19 48 11.4	+0.3		
DRGR		7.88	332	‖ P	Pn	19 48 17.8	+0.3		
DRGR		7.88	332	‖ *i* P	Pn	19 48 17.8	+0.3		
BURAR	Bucovina Array	7.92	345	‖ P	Pn	19 48 19.6	+1.5		
BURAR	Bucovina Array	7.92	345	‖ *i* P	Pn	19 48 19.6	+1.5		
BUR08	Bucovina Ar. S	7.96	345	eP	Pn	19 48 17.9	-0.7		
BUR08	Bucovina Ar. S	7.96	345	eP	Pn	19 48 17.9	-0.7		
TORD	Torodi Ar. Bea	35.45	228	P	P	19 53 21.9	+2.3		
	0.2nm,0.6s,mb3.2,baz=30,slow=9.6,SNR=2.5								
TORD	Torodi Ar. Bea	35.45	228	P	P	19 53 21.9	+2.3		
MKAR	Makanchi Array	39.25	62	P	P	19 53 51.6	0.0		
	0.4nm,0.7s,mb3.3,baz=282,slow=6.9,SNR=4.8								
MKAR	Makanchi Array	39.25	62	P	P	19 53 51.6	0.0		

BJI ***24*** *19:53:31.3, 5˚.62S × 147˚.38E, h80km, mB5.1/23, mb4.8/35, Ms4.8/16, Ms7 4.5/16*
ISCJB ***24*** *19:53:32.3 ± 0.9, 5˚.81S ± 0˚.04 × 147˚.13E ± 0˚.05, h85km ± 8km, mb4.8/59, Error ellipse: s-maj=8.1km s-min=5.8km az=4.7*
DJA ***24*** *19:53:32, 5˚.78S × 147˚.65E, h107km, mb5.4/22*
IDC ***24*** *19:53:34.0 ± 1.6, 5˚.84S × 146˚.97E, h82km ± 14km, mb4.4/18, mb1 4.5/21, mb1mx4.5/24, mbtmp4.5/21, MS3.8/9, Ms1 3.8/9, ms1mx3.5/17, Error ellipse: s-maj=16.5km s-min=7.5km az=102.0*
NEIC ***24*** *19:53:34.7 ± 1.0, 5˚.79S × 147˚.03E, h90km ± 9km, mb4.9/20, Error ellipse: s-maj=8.9km s-min=6.1km az=97.0*

ISC 24 19:53:35.0 ± 0.7, 5˚.89S ± 0˚.03 × 147˚.11E ± 0˚.05, h95km ± 7km, h78km ± 9km : pP-P, n150, σ1 s03/144, mb4.8/59, 1C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.49**	**179**	P		Pn	**19 54 26.2**	**-1.1**
	83nm,0.3s,baz=338,slow=6.2,SNR=222							
PMG				S		Sn	**19 55 07.2**	**-0.5**
	147nm,0.3s,baz=168,slow=24,SNR=10							
PMG				LR		LR	19 56 05.9	
	comp=Z,2μm,21.4s,baz=58,slow=43							
PMG	**Port Moresby**	**3.49**	**179**	P		Pn	**19 54 26.2**	**-1.1**
PMG				S		Sn	**19 55 07.2**	**-0.5**
PMG	**Port Moresby**	**3.49**	**179**	P		Pn	**19 54 26.5**	**-0.8**
JAY	**Jayapura**	**7.21**	**297**	P		Pn	**19 55 19.9**	**+2.1**
	3.7nm104nm,0.8s							
COEN	**Coen**	**8.90**	**205**	eP		Pn	**19 55 40.3**	**-0.5**
	477nm,0.3s							
COEN				eS		Sn	**19 57 16.1**	**-3.3**
COEN	**Coen**	**8.90**	**205**	ePn		Pn	**19 55 40.3**	**-0.5**
	560nm,0.3s							
COEN	**Coen**	**8.90**	**205**	P		Pn	**19 55 41.0**	**+0.2**
	3μm147nm,1.2s							
HNR	**Honiara**	**13.20**	**106**	Pn		Pn	**19 56 39.4**	**+0.5**
	211nm,0.6s							
CTA	**Charters Tower**	**14.13**	**183**	P		Pn	**19 56 54.3**	**+3.3**
	2.6nm,0.3s,baz=358,slow=15,SNR=13							
CTA				S		Sn	**19 59 24.4**	**-2.2**
	0.2nm,0.3s,baz=283,slow=18,SNR=1.6							
CTA	**Charters Tower**	**14.13**	**183**	eP		Pn	**19 56 53.9**	**+2.9**
	15nm,0.8s							
CTA	**Charters Tower**	**14.13**	**183**	P		Pn	**19 56 54.3**	**+3.3**
CTA				S		Sn	**19 59 24.4**	**-2.2**
CTAO	**Charters Tower**	**14.13**	**183**	ePn		Pn	**19 56 53.4**	**+2.4**
	21nm,0.9s							
CTAO	**Charters Tower**	**14.13**	**183**	P		Pn	**19 56 54.4**	**+3.4**
TLE	**Tual**	**14.30**	**270**	P		Pn	**19 57 00.1**	**+7.0**
KAKA	**Kakadu**	**15.97**	**244**	eP		Pn	**19 57 13.9**	**-0.4**
	44nm,0.3s							
KAKA	**Kakadu**	**15.97**	**244**	ePn		Pn	**19 57 13.7**	**-0.6**
	250nm,0.7s							
BNDI	**Bandanaira**	**17.18**	**274**	P		Pn	**19 57 31.3**	**+2.0**
	292nm,0.8s							
MSAI	**Masohi**	**18.29**	**277**	P		Pn	**19 57 44.6**	**+1.9**
	249nm21nm,0.8s							
WRAB	**Tennant Creek**	**18.67**	**220**	eP		Pn	**19 57 46.1**	**-1.0**
	37nm,0.8s							
WRA	**Warramunga Arr**	**18.68**	**220**	P		Pn	**19 57 46.3**	**-1.0**
	4.5nm,0.3s,baz=42,slow=11,SNR=128							
WRA				S		**S**	**20 01 12.4**	**-1.4**
	0.2nm,0.3s,baz=47,slow=22,SNR=9.7							
WRA	**Warramunga Arr**	**18.68**	**220**	P		Pn	**19 57 46.3**	**-1.0**
WRA				S		**S**	**20 01 12.4**	**-1.4**
AAI	**Ambon**	**18.97**	**276**	P		Pn	**19 57 49.7**	**-1.1**
	2μm213nm,0.7s							
GUMO	**Guam**	**19.48**	**353**	P		Pn	**19 57 54.4**	**-2.3**
	3.7nm,0.3s,baz=190,slow=17,SNR=4.0							
GUMO				LR		LR	20 04 56.9	
	comp=Z,129nm,18.4s,baz=152,slow=35							
GUMO	**Guam**	**19.48**	**353**	P		Pn	**19 57 54.5**	**-2.3**
GUMO	**Guam**	**19.48**	**353**	P		Pn	**19 57 50.0**	**-6.7**
	228nm,1.2s							
EIDS	**Eidsvold**	**19.74**	**169**	eP		Pn	**19 57 58.9**	**-0.7**
	75nm,1.4s							
NLAI	**Namlea**	**20.11**	**277**	P		P	**19 58 02.7**	**+1.2**
	1μm63nm,0.6s							
AS31	**Alice Springs**	**21.76**	**214**	eP		P	**19 58 19.9**	**+0.8**
ASAR	**Alice Springs**	**21.77**	**214**	P		P	**19 58 20.0**	**+0.9**
	20nm,0.4s,mb4.8,baz=48,slow=8.4,SNR=161							
ASAR				S		**S**	**20 02 15.4**	**+0.9**
	8.0nm,0.8s,baz=31,slow=21,SNR=7.1							
ASAR				LR		LR	20 07 08.1	
	comp=Z,242nm,21.1s,baz=350,slow=38							
ASAR	**Alice Springs**	**21.77**	**214**	P		P	**19 58 20.0**	**+0.9**
ASAR				S		**S**	**20 02 15.4**	**+0.9**
MNI	**Manado**	**23.40**	**287**	P		P	**19 58 34.4**	**-1.2**
	99nm,0.8s,mb5.2							
FITZ	**Fitzroy Crossi**	**24.21**	**238**	P		P	**19 58 44.1**	**+1.1**
	242nm,0.6s,mb5.7,baz=61,slow=8.7,SNR=674							
FITZ	**Fitzroy Crossi**	**24.21**	**238**	eP		P	**19 58 44.0**	**+1.0**
	554nm,0.6s							
FITZ				eS		**S**	**20 02 52.9**	**-1.9**
FITZ	**Fitzroy Crossi**	**24.21**	**238**	eP		P	**19 58 43.9**	**+0.9**
	314nm,0.7s,mb5.8							
FITZ	**Fitzroy Crossi**	**24.21**	**238**	P		P	**19 58 43.9**	**+0.9**
	454nm,0.8s,mb5.9							
KDI	**Kendari**	**24.47**	**273**	P		P	**19 58 45.5**	**+0.1**
	25nm,1.2s,mb4.4							
LUWI	**Luwuk**	**24.75**	**280**	P		P	**19 58 48.7**	**+0.7**
	833nm71nm,0.9s,mb5.1							
ARMA	**Armidale**	**24.77**	**171**	eP		P	**19 58 49.5**	**+1.6**
ARMA	**Armidale**	**24.77**	**171**	eP		P	**19 58 48.9**	**+1.0**
	15nm,0.7s,mb4.5							
MMRI	**Maumere**	**24.82**	**262**	P		P	**19 58 48.5**	**-0.1**
	3μm202nm,0.6s,mb5.8							
STKA	**Stephens Creek**	**26.36**	**191**	P		P	**19 59 03.5**	**+1.2**
	12nm,0.7s,mb4.4,baz=348,slow=11,SNR=31							
STKA				LR		LR	20 09 33.2	
	comp=Z,334nm,21.7s,baz=285,slow=36							
STKA	**Stephens Creek**	**26.36**	**191**	eP		P	**19 59 03.4**	**+1.1**
	12nm,0.9s,mb4.3							
STKA	**Stephens Creek**	**26.36**	**191**	eP		P	**19 59 03.1**	**+0.8**
	14nm,1.5s,mb4.2							

WSI	Waingapu	26.82	260	P		P	19 59 06.9	+0.2	
	3μm381nm,0.9s,mb5.9								
BKSI	Bulukumba	26.86	270	P		P	19 59 07.0	0.0	
	385nm44nm,0.9s,mb5.0								
MSSI	Masamba	26.91	276	P		P	19 59 12.6	+5.1	
KAPI	Kappang	27.24	270	eP		P	19 59 09.2	-1.3	
	49nm,1.0s,mb5.0								
SPSI	Sidrap Palu	27.30	273	P		P	19 59 11.3	+0.3	
	32nm,0.9s,mb4.8								
FORT	Forrest	30.55	214	eP		P	19 59 40.9	+1.3	
	22nm,0.4s,mb5.2								
FORT	Forrest	30.55	214	eP		P	19 59 40.8	+1.3	
	26nm,0.7s,mb5.1								
MBWA	Marble Bar	30.55	238	eP		P	19 59 40.8	+1.0	
MBWA	Marble Bar	30.55	238	eP		P	19 59 40.7	+1.0	
CBIJ	Chichi jima	33.14	352	P		P	20 00 01.1	-1.2	
	32nm,0.4s,mb5.5,baz=266,slow=18,SNR=12								
CBIJ	Chichi jima	33.14	352	P		P	20 00 01.1	-1.2	
KMBL	Kambalda	34.65	220	eP		P	20 00 16.7	+1.3	
	290nm,0.8s								
KLBR	Kellerberrin	37.52	223	eP		P	20 00 40.7	+0.8	
	24nm,0.5s,mb5.3								
NWAO	Narrogin (SRO)	38.68	222	P		P	20 00 51.0	+1.3	
	8.5nm,0.6s,mb4.8,baz=45,slow=11,SNR=9.5								
NWAO	Narrogin (SRO)	38.68	222	eP		P	20 00 49.7	+0.1	
CISI	Cisompet, Garu	39.05	265	P		P	20 00 52.3	-0.7	
	220nm,1.1s,mb5.9								
LEM	Lembang	39.25	266	P		P	20 00 55.1	+0.5	
	120nm,0.9s,mb5.7								
CBJI	Citeko	40.02	267	P		P	20 01 00.6	-0.4	
	224nm,0.8s,5μm								
DBJI	Dramaga	40.12	267	P		P	20 01 01.8	0.0	
URZ	Urewera	42.18	144	P		P	20 01 19.9	+1.5	
	11nm,0.6s,mb4.7,baz=248,slow=5.4,SNR=4.6								
URZ	Urewera	42.18	144	P		P	20 01 19.9	+1.5	
MJAR	Matsushiro Arr	43.02	349	P		P	20 01 25.2	0.0	
	5.9nm,0.4s,mb4.7,baz=156,slow=5.7,SNR=24								
MJAR				ScP		ScP	20 06 58.6	+2.1	
	3.4nm,1.0s,baz=182,slow=6.6,SNR=5.3								
MJAR				LR		LR	20 17 26.8		
	comp=Z,35nm,20.0s,baz=155,slow=33								
MJAR	Matsushiro Arr	43.02	349	P		P	20 01 25.2	0.0	
MJAR				ScP		ScP	20 06 58.6	+2.1	
MAJO	Matsushiro	43.03	349

LSA	Lhasa	64.26	307	*eP*	P		20 04 00.9	+0.5
	comp=Z,2.8nm,0.8s,mb4.1							
SONM	Songino Array	64.36	331	P	P		20 04 00.9	+0.2
	comp=Z,5.8nm,0.6s,mb4.6,baz=150,slow=6.1,SNR=33							
SONM				PKP2bc			20 32 54.4	
	comp=Z,2.1nm,1.0s,baz=316,slow=0.6,SNR=9.0							
SONM	Songino Array	64.36	331	P	P		20 04 00.9	+0.2
SONM				*e*			20 32 54.4	
TAPN	Taplejung	66.18	303	*eP*	P		20 04 12.3	-0.6
	comp=Z,5.3nm,0.6s,mb4.6							
ODAN	Odare	66.28	303	*eP*	P		20 04 13.4	-0.1
	comp=Z,7.1nm,0.5s,mb4.8							
RAMN	Ramite	66.97	302	*eP*	P		20 04 17.7	-0.2
JIRN	Jiri	67.55	303	*eP*	P		20 04 21.4	-0.2
	comp=Z,2.8nm,0.6s,mb4.2							
GUN	Gumba	67.89	303	*eP*	P		20 04 23.1	-0.6
	comp=Z,11nm,0.4s,mb5.0							
KKN	Kakani	68.36	303	*eP*	P		20 04 25.8	-0.8
	comp=Z,4.9nm,0.6s,mb4.5							
DMN	Daman	68.44	303	*eP*	P		20 04 26.7	-0.5
GKN	Gorkha	68.96	303	*eP*	P		20 04 29.6	-0.8
KOLN	Koldanda	69.76	302	*eP*	P		20 04 34.7	-0.6
	comp=Z,6.8nm,0.5s,mb4.8							
DANN	Dangsing	69.81	303	*eP*	P		20 04 34.7	-0.9
	comp=Z,8.2nm,0.6s,mb4.8							
VNDA	Vanda	72.01	177	P	P		20 04 49.5	+1.5
	comp=Z,16nm,0.9s,mb4.8,baz=331,slow=6.7,SNR=67							
VNDA	Vanda	72.01	177	*eP*	P		20 04 49.1	+1.1
	comp=Z,16nm,1.0s,mb4.8							
SBA	Scott Base	72.66	176	P	P		20 04 52.4	+0.5
WMQ	Urumqi	72.78	319	P	P		20 04 54.0	+0.8
BILL	Bilibino	74.99	7	*eP*	P		20 05 05.4	-0.2
	comp=Z,3.8nm,0.5s,mb4.4							
MK31	Makanchi Array	77.48	320	*eP*	P		20 05 19.1	-1.0
MKAR	Makanchi Array	77.48	320	P	P		20 05 19.6	-0.6
	comp=Z,0.9nm,0.3s,mb4.0,baz=98,slow=8.5,SNR=40							
MKAR	Makanchi Array	77.48	320	P	P		20 05 19.6	-0.6
ZAA0	Zalesovo Array	78.98	328	*eP*	P		20 05 25.9	-2.3
ZALV	Zalesovo Beam	78.98	328	P	P		20 05 26.4	-1.8
	comp=Z,3.9nm,0.4s,mb4.6,baz=112,slow=6.0,SNR=26							
ZALV				PKKPbc	PKKPbc		20 24 21.1	-2.2
	comp=Z,1.0nm,0.4s,baz=306,slow=2.3,SNR=6.9							
ZALV				PKPPKP			20 32 28.1	
	comp=Z,0.6nm,0.6s,baz=270,slow=2.4,SNR=4.7							
ZALV	Zalesovo Beam	78.98	328	P	P		20 05 26.4	-1.8
ZALV				PKKPbc	PKKPbc		20 24 21.1	-2.2
ZALV				PKPab			20 32 28.1	
KURK	Kurchatov	81.19	323	P	P		20 05 39.2	-0.9
	comp=Z,1.1nm,0.5s,mb3.9,baz=117,slow=4.3,SNR=10							
KURK				PKKPbc	PKKPbc		20 24 17.1	-0.9
	comp=Z,0.3nm,0.3s,baz=287,slow=2.9,SNR=4.4							
KURK	Kurchatov	81.19	323	P	P		20 05 39.2	-0.9
KURK				PKKPbc	PKKPbc		20 24 17.1	-0.9
AAK	Ala-Archa	81.34	315	*eP*	P		20 05 42.0	+0.8
	comp=Z,12nm,0.7s,mb4.8							
MAW	Mawson	82.39	203	P	P		20 05 47.5	+1.3
	comp=Z,9.3nm,0.9s,mb4.6,baz=93,slow=6.6,SNR=17							
MAW	Mawson	82.39	203	*eP*	P		20 05 47.1	+0.9
	comp=Z,1.7nm,0.8s,mb3.9							
QSPA	South Pole Qui	84.08	180	LR	LR		20 40 33.7	
	comp=Z,61nm,21.9s,baz=169,slow=34							
QSPA	South Pole Qui	84.08	180	*eP*	P		20 05 55.5	+0.8
	comp=Z,58nm,1.1s,mb5.3							
KKAR	Karatay Array	84.29	314	P	P		20 05 55.2	-1.2
COLA	College	85.01	23	*eP*	P		20 05 58.6	-0.9
	comp=Z,9.1nm,0.8s,mb4.8							
COLD	Coldfoot	85.20	20	*eP*	P		20 06 01.4	+0.9
	comp=Z,6.4nm,1.0s,mb4.5							
ILAR	Eielson Array	85.34	23	P	P		20 05 59.8	-1.4
	comp=Z,9.2nm,0.6s,mb4.9,baz=252,slow=4.7,SNR=115							
ILAR				PKKPbc	PKKPbc		20 24 06.2	-2.8
	comp=Z,0.3nm,0.5s,baz=40,slow=0.9,SNR=6.8							
ILAR	Eielson Array	85.34	23	P	P		20 05 59.8	-1.4
ILAR				PKKPbc	PKKPbc		20 24 06.2	-2.8
BVAR	Borovoye Array	86.74	324	P	P		20 06 06.8	-1.6
	comp=Z,2.0nm,0.6s,mb4.2,baz=103,slow=6.2,SNR=20							
BVAR	Borovoye Array	86.74	324	P	P		20 06 06.8	-1.6
BRVK	Borovoye	86.81	324	*eP*	P		20 06 06.9	-1.8
SYO	Syowa Base	90.73	200	*eP*	P		20 06 26.3	-0.6
DLBC	Dease Lake	91.25	31	LR	LR		20 41 11.8	
	comp=Z,51nm,19.0s,baz=225,slow=31							
INK	Inuvik	91.52	21	PKKP	PKKPbc		20 23 50.9	-2.9
	comp=Z,1.3nm,0.4s,baz=105,slow=2.3,SNR=7.7							
NVAR	Mina Array Bea	97.22	52	LR	LR		20 46 50.7	
	comp=Z,44nm,19.1s,baz=124,slow=33							
ARCES	ARCESS Array B	106.19	342	PKKPbc	PKKPbc		20 23 08.9	-3.5
	comp=Z,3.0nm,0.8s,baz=230,slow=3.4,SNR=11							
ARCES	ARCESS Array B	106.19	342	PKKPbc	PKKPbc		20 23 08.9	-3.5
TXAR	Lajitas Array	109.62	61	PKKPbc	PKKPbc		20 23 02.1	+1.8
CLL	Collm	120.93	326	*e*PKPdf	PKPdf		20 12 16.0	-0.3
GERES	GERESS Array B	121.88	326	PKP	PKPdf		20 12 18.4	+0.2
	comp=Z,1.5nm,0.5s,baz=78,slow=1.9,SNR=15							
GERES				PKKPab	PKKPab		20 22 17.2	+0.1
	comp=Z,0.3nm,0.6s,baz=193,slow=3.9,SNR=4.1							
GERES	GERESS Array B	121.88	326	PKP	PKPdf		20 12 18.4	+0.2
GERES				PKKPab	PKKPab		20 22 17.2	+0.1
PLCA	Paso Flores	122.16	147	PKP	PKPdf		20 12 20.3	+1.2
	comp=Z,6.7nm,0.6s,baz=185,slow=2.9,SNR=21							
PLCA	Paso Flores	122.16	147	PKP	PKPdf		20 12 20.3	+1.2
LPAZ	La Paz	138.76	123	PKhKP	PKPpre		20 12 45.5	
	comp=Z,1.6nm,0.5s,baz=282,slow=3.7,SNR=6.0							
LPAZ				PKP	PKPdf		20 12 53.1	+2.1
	comp=Z,2.0nm,0.6s,baz=34,slow=1.8,SNR=5.9							
LPAZ	La Paz	138.76	123	PKPpre	PKPpre		20 12 45.5	
LPAZ				PKP	PKPdf		20 12 53.1	+2.1
CPUP	Villa Florida	140.16	145	PKhKP	PKPpre		20 12 45.1	
	comp=Z,0.8nm,0.4s,baz=175,slow=3.1,SNR=3.0							
CPUP				PKP	PKPdf		20 12 54.4	+1.0
	comp=Z,7.1nm,0.9s,baz=320,slow=1.1,SNR=8.5							
CPUP	Villa Florida	140.16	145	PKPpre	PKPpre		20 12 45.1	
CPUP				PKP	PKPdf		20 12 54.4	+1.0
TORD	Torodi Ar. Bea	145.16	285	PKPbc	PKPbc		20 13 01.2	-1.1
	comp=Z,6.3nm,0.5s,baz=78,slow=3.1,SNR=72							
TORD	Torodi Ar. Bea	145.16	285	PKPbc	PKPbc		20 13 01.2	-1.1
DBIC	Dimbokro	152.12	273	PKPbc	PKPbc		20 13 18.9	-1.6
	comp=Z,2.6nm,0.5s,baz=99,slow=6.1,SNR=11							
DBIC	Dimbokro	152.12	273	PKPbc	PKPbc		20 13 18.9	-1.6

IDC 24 19:55:41.6±1.2, 3.0°06'S×141.39°E, h0km, mb4.0/3, mb1 4.4/4, mb1mx3.9/17, mbtmp4.2/4, ML3.9/1, Error ellipse: s-maj=63.4km s-min=27.8km az=103.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	18.14	202	P	Pn	19 59 56.1	+1.0
	0.4nm,0.3s,baz=24,slow=12,SNR=4.6						
ASAR	Alice Springs	21.73	199	P	P	20 00 32.8	-1.8
	2.2nm,0.5s,baz=33,slow=9.0,SNR=2.3						
BVAR	Borovoye Array	81.14	325	P	P	20 07 58.6	-0.3
	2.1nm,0.7s,baz=113,slow=8.2,SNR=4.9						
ILAR	Eielson Array	85.05	24	P	P	20 08 18.0	-0.9
	1.0nm,0.7s,baz=260,slow=4.9,SNR=5.1						
LPAZ	La Paz	145.06	124	PKPbc	PKPbc	20 15 22.9	+1.5
	1.6nm,0.9s,baz=268,slow=4.5,SNR=3.9						
DBIC	Dimbokro	146.19	277	PKPbc	PKPbc	20 15 26.1	+1.0
	3.9nm,0.9s,baz=83,slow=2.8,SNR=3.1						

KRSC 24 20:08:29.3±0.3, 52.95°N×157.33°E, h290km±39km, ML3.7, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIPR	Malaya Ipel'ka	0.76	208	*eP*	Pn	20 09 08.3	+0.7
GNL	Ganaly	0.83	26	*eP*	Pn	20 09 08.9	+1.2
RUS	Russkaya	0.89	125	*eP*	Pn	20 09 09.2	+1.1
RUS				*i* S	S	20 09 39.2	+0.4
AVH	Avacha	0.91	69	*eP*	Pn	20 09 10.2	+2.1
SPN	Mys Shipunski	1.63	84	*eP*	Pn	20 09 13.9	+1.6
SPN				*i* S	S	20 09 45.4	-1.1
MKZ	Mys Kozlova	3.07	57	*eP*	Pn	20 09 25.8	+0.9
MKZ				*i* S	S	20 10 08.4	-0.8
KBTR	Krutoberegovo	4.57	42	*eP*	Pn	20 09 44.2	+3.0

IDC 24 20:31:10.9±2.3, 0.06°S×124.98°E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/20, mbtmp3.3/3, Error ellipse: s-maj=322.0km s-min=25.5km az=64.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	21.78	156	P	P	20 36 05.1	+0.6
	0.3nm,0.4s,baz=334,slow=9.8,SNR=4.9						
ASAR	Alice Springs	25.01	160	P	P	20 36 36.5	-0.3
	0.6nm,0.8s,baz=344,slow=11,SNR=6.6						
MKAR	Makanchi Array	59.72	327	P	P	20 41 17.5	+0.1
	0.3nm,0.6s,baz=125,slow=7.3,SNR=3.7						

IGQ 24 20:51:45.4, 1.09°N×79.64°W, h12km±6km, Mb4.2, Ms4.0, 4C-9D, Error ellipse: s-maj=6.4km s-min=4.3km az=47.7, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GOLV	Golondrinas	1.01	150	⇓P	Pb	20 52 04.5	-0.3
GOLV	Golondrinas	1.01	150	⇓S	Sg	20 52 20.1	+2.1
LITE	Lita	1.31	102	⇑S	Sb	20 52 27.5	+0.9
LITE	Lita	1.31	102	⇑P	Pn	20 52 09.5	+0.1
OTAV	Otavalo	1.46	125	⇓P	Pn	20 52 11.9	+0.4
YANA	Yana	1.61	138	⇓P	Pn	20 52 14.9	+1.3
YANA	Yana	1.61	138	⇓S	Sn	20 52 35.1	+0.8
PINO	Pino	1.61	140	P	Pn	20 52 15.0	+1.4
TERV	Terraza Guagua	1.63	140	P	Pn	20 52 15.3	+1.5
GGP	Refugio Guagua	1.63	140	⇑P	Pn	20 52 14.9	+1.0
JUA2	San Juan 2	1.66	141	P	Pn	20 52 15.8	+1.5
CAYA	Cayambe	1.94	121	P	Pn	20 52 20.9	+2.8
PITA	Cotopaxi Volc	2.04	144	P	Pn	20 52 22.5	+3.0
VC1	Cotopaxi 1	2.12	144	P	Pn	20 52 24.1	+3.4
BREF	Cotopaxi Volca	2.12	146	⇓P	Pn	20 52 23.8	+3.1
ANTI	Antisana	2.13	136	P	Pn	20 52 23.6	+2.9
BVC2	Cotopaxi Volca	2.13	145	⇓P	Pn	20 52 23.8	+3.0
BTAM	Cotopaxi Volca	2.15	145	P	Pn	20 52 24.6	+3.6
MOV1	Cotopaxi Vol s	2.16	146	P	Pn	20 52 24.4	+3.3
BMOR	Cotopaxi Volca	2.16	147	P	Pn	20 52 23.9	+2.7
COV1	Cotopaxi Volc	2.17	143	P	Pn	20 52 24.7	+3.4
COV1				P		21 11 40.6	
TAMB	Tambo	2.18	144	P	Pn	20 52 25.7	+4.2
CHAR	Charly	2.29	121	P	Pn	20 52 27.5	+4.5
LAV4	Lava4-Reventad	2.33	120	P	Pn	20 52 27.9	+4.4
PISA	Pisayambo	2.48	150	P	Pn	20 52 29.0	+3.5
IGUA	Igualata	2.75	159	P	Pn	20 52 34.5	+5.2
JUI6	Juive	2.76	155	P	Pn	20 52 34.5	+5.1
BBIL	Ulba Tungurahu	2.77	155	⇓P	Pn	20 52 34.4	+4.7
BRUN	Tungurahua Vol	2.78	154	P	Pn	20 52 35.0	+5.3
BULB	Ulba Tungurahu	2.80	154	⇑P	Pn	20 52 34.5	+4.5
ARRY	Arrayan	2.84	155	⇓P	Pn	20 52 35.1	+4.6
ARRY				P		21 11 51.3	
PAT1	Patacocha	2.85	155	P	Pn	20 52 35.6	+4.9

*ISCJB **24** 21:05:47.6±0.5, 30.8°N±0.1×41.77°W±0.09, h10km, mb4.2/20, MS3.8/28, Error ellipse: s-maj=15.9km s-min=10.9km az=19.0*

*IDC **24** 21:05:48.0±0.8, 30.83°N×41.74°W, h0km, mb4.2/16, mb1 4.3/16, mb1mx4.1/31, mbtmp4.2/16, MS3.8/28, Ms1 3.8/28, ms1mx3.7/43, Error ellipse: s-maj=23.4km s-min=16.1km az=9.0*

*NEIC **24** 21:05:49.2±0.4, 30.79°N×41.72°W, h10km, mb4.5/4, Error ellipse: s-maj=12.2km s-min=8.8km az=200.0*

ISC 24 21:05:49.2±0.6, 30.8°N±0.1×41.73°W±0.10, h10km, n61, σ0.6s74/40, mb4.2/20, MS3.8/28, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SACV	Santiago Islan	22.88	129	P	P	21 10 52.5	-0.5
SJG	San Juan	25.48	246	LR	LR	21 18 56.5	
	comp=Z,96nm,20.1s,MS3.3,baz=135,slow=31						
BBTS	Babate	28.13	119	LR	LR	21 20 03.6	
	comp=Z,222nm,18.6s,MS3.8,baz=111,slow=30						
SCHQ	Schefferville	30.00	331	LR	LR	21 23 44.5	
	comp=Z,204nm,19.1s,MS3.8,baz=32,slow=36						
ESDC	Sonseca Array	31.92	63	LR	LR	21 21 47.2	
	comp=Z,134nm,21.3s,MS3.6,baz=315,slow=30						
DSB	Dublin	34.04	38	P	P	21 12 33.6	+0.3
TKL	Tuckaleechee C	35.32	289	LR	LR	21 23 34.1	
	comp=Z,260nm,19.8s,MS4.0,baz=239,slow=30						
FRB	Frobisher Bay	37.11	341	P	P	21 12 59.2	-0.3
	13nm,1.0s,mb4.7,baz=100,slow=6.1,SNR=3.0						
FRB				LR	LR	21 25 56.9	
	comp=Z,131nm,18.3s,MS3.8,baz=193,slow=33						
FRB	Frobisher Bay	37.11	341	P	P	21 12 59.2	-0.3
ROSC	El Rosal	40.05	237	LR	LR	21 27 21.1	
	comp=Z,73nm,21.4s,MS3.5,baz=37,slow=32						
SUMG	Summit	41.91	1	*eP*	P	21 13 40.2	+0.7
	6.3nm,0.8s,mb4.3						
DBIC	Dimbokro	42.03	117	P	P	21 13 41.6	+0.4
	4.4nm,0.9s,mb4.1,baz=313,slow=11,SNR=3.7						
DBIC				LR	LR	21 28 39.5	
	comp=Z,138nm,19.9s,MS3.8,baz=7.0,slow=33						
DBIC	Dimbokro	42.03	117	P	P	21 13 41.6	+0.4
TEIG	Tepich	43.04	267	LR	LR	21 28 46.6	
	comp=Z,150nm,19.2s,MS3.9,baz=336,slow=32						
TORD	Torodi Ar. Bea	43.61	104	P	P	21 13 53.0	-1.0
	2.6nm,1.0s,mb3.9,baz=298,slow=9.0,SNR=10.0						
TORD				LR	LR	21 30 18.3	
	comp=Z,73nm,20.0s,MS3.6,baz=255,slow=34						
TORD	Torodi Ar. Bea	43.61	104	P	P	21 13 53.0	-1.0
ULM	Lac du Bonnet	44.45	312	LR	LR	21 30 57.7	
	comp=Z,79nm,18.1s,MS3.7,baz=3.7,slow=34						
GERES	GERESS Array B	45.20	50	P	P	21 14 06.6	+0.3
	0.6nm,0.6s,mb3.6,baz=260,slow=7.6,SNR=6.4						
GERES	GERESS Array B	45.20	50	P	P	21 14 06.6	+0.3
NOA	NORSAR Array B	45.81	33	LR	LR	21 31 44.6	
	comp=Z,40nm,16.9s,MS3.4,baz=5.0,slow=34						
FINES	FINESS Array B	52.95	34	LR	LR	21 36 32.2	
	comp=Z,58nm,19.4s,MS3.6,baz=101,slow=35						
TXAR	Lajitas Array	53.01	285	P	P	21 15 05.5	-0.9
	1.5nm,1.0s,mb3.9,baz=88,slow=6.4,SNR=7.5						
TXAR				LR	LR	21 34 24.7	
	comp=Z,61nm,20.1s,MS3.6,baz=0.0,slow=32						
TXAR	Lajitas Array	53.01	285	P	P	21 15 05.5	-0.9
LPAZ	La Paz	53.23	212	P	P	21 15 10.8	+2.9
	0.9nm,0.5s,mb4.0,baz=328,slow=3.3,SNR=6.3						
LPAZ				LR	LR	21 35 25.2	
	comp=Z,62nm,21.3s,MS3.6,baz=236,slow=33						
LPAZ	La Paz	53.23	212	P	P	21 15 10.8	+2.9
ANMO	Albuquerque	53.70	293	LR	LR	21 34 43.9	
	comp=Z,126nm,19.1s,MS4.0,baz=263,slow=32						
PDAR	Pinedale Array	54.30	303	P	P	21 15 15.3	-0.4
	5.4nm,1.1s,mb4.4,baz=79,slow=7.7,SNR=9.8						
PDAR				LR	LR	21 36 50.4	
	comp=Z,217nm,18.6s,MS4.2,baz=104,slow=34						
PDAR	Pinedale Array	54.30	303	P	P	21 15 15.2	-0.4
PD02	Pinedale Array	54.31	303	*eP*	P	21 15 15.1	-0.6
AKASG	Malin Array Be	55.16	47	P	P	21 15 21.1	-0.7
	0.7nm,0.4s,mb4.0,baz=276,slow=6.2,SNR=5.5						
AKASG	Malin Array Be	55.16	47	P	P	21 15 21.1	-0.7
YKA	Yellowknife Ar	55.36	327	LR	LR	21 38 20.8	
	comp=Z,17nm,18.3s,MS3.2,baz=90,slow=35						
MSU	Marysvale	57.21	298	P	P	21 15 37.2	+0.6
	9.4nm,1.5s,mb4.6						
CPUP	Villa Florida	58.69	196	LR	LR	21 37 40.5	
	comp=Z,48nm,20.9s,MS3.6,baz=164,slow=32						
BRTR	Keskin Array B	60.55	59	P	P	21 16 00.5	+0.7
	0.9nm,0.9s,mb3.9,baz=137,slow=47,SNR=5.0						
BRTR				LR	LR	21 38 39.1	
	comp=Z,21nm,18.9s,MS3.3,baz=188,slow=33						
BRTR	Keskin Array B	60.55	59	P	P	21 16 00.6	+0.7
NVAR	Mina Array Bea	61.84	300	P	P	21 16 08.4	-0.2
	0.8nm,0.6s,mb4.0,baz=81,slow=6.7,SNR=4.9						
NVAR	Mina Array Bea	61.84	300	P	P	21 16 08.4	-0.2
INK	Inuvik	62.46	335	P	P	21 16 12.3	+0.1
	9.4nm,1.1s,mb4.8,baz=68,slow=8.1,SNR=12						
INK				LR	LR	21 40 47.4	
	comp=Z,103nm,18.8s,MS4.0,baz=25,slow=34						
INK	Inuvik	62.46	335	P	P	21 16 12.3	+0.1
DLBC	Dease Lake	63.50	324	LR	LR	21 43 18.8	
	comp=Z,257nm,18.6s,MS4.4,baz=107,slow=36						
BBB	Bella Bella	64.25	317	LR	LR	21 43 51.8	
	comp=Z,134nm,19.9s,MS4.1,baz=252,slow=36						
ILAR	Eielson Array	68.70	334	P	P	21 16 53.1	+0.5
	3.0nm,0.8s,mb4.3,baz=53,slow=4.2,SNR=30						
ILAR				LR	LR	21 47 11.1	
	comp=Z,127nm,18.7s,MS4.2,baz=60,slow=36						
ILAR	Eielson Array	68.70	334	P	P	21 16 53.1	+0.5
AKTO	Aktyubinsk	72.66	41	P	P	21 17 17.7	+0.7
	3.0nm,0.8s,mb4.3,baz=297,slow=6.3,SNR=13						
AKTO	Aktyubinsk	72.66	41	P	P	21 17 17.7	+0.7
ABKAR	Akbulak array	74.32	42	*eP*	P	21 17 26.8	+0.1
	1.4nm,0.9s,mb3.9						
KDAK	Kodiak Island	74.60	329	LR	LR	21 51 14.1	
	comp=Z,251nm,19.0s,MS4.5,baz=108,slow=37						
BVAR	Borovoye Array	77.89	35	P	P	21 17 47.8	+0.7
	0.8nm,0.7s,mb3.8,baz=280,slow=4.1,SNR=5.7						
BVAR	Borovoye Array	77.89	35	P	P	21 17 47.8	+0.7
KURK	Kurchatov	83.32	34	*eP*	P	21 18 15.3	-0.9
	6.6nm,1.1s,mb4.6						
ZAA0	Zalesovo Array	83.83	29	*eP*	P	21 18 17.5	-1.3
ZALV	Zalesovo Beam	83.83	29	P	P	21 18 19.3	+0.6
	3.0nm,0.9s,mb4.4,baz=308,slow=5.5,SNR=14						
ZALV	Zalesovo Beam	83.83	29	P	P	21 18 19.3	+0.6
LBTB	Lobatse	85.00	123	LR	LR	21 51 44.5	
	comp=Z,48nm,19.6s,MS3.9,baz=131,slow=32						
SUR	Sutherland	86.29	131	LR	LR	21 49 29.8	
	comp=Z,56nm,19.1s,MS4.0,baz=255,slow=30						
BOSA	Boshof	86.94	126	LR	LR	21 57 13.6	
	comp=Z,50nm,18.5s,MS4.0,baz=174,slow=36						
MKAR	Makanchi Array	87.78	35	P	P	21 18 38.1	-0.4
	1.2nm,1.0s,mb4.1,baz=299,slow=8.0,SNR=4.5						
MKAR	Makanchi Array	87.78	35	P	P	21 18 38.1	-0.4
ASAR	Alice Springs	171.94	30	PKPab	PKPab	21 27 19.9	-1.2
	0.3nm,0.7s,baz=319,slow=5.4,SNR=4.4						
ASAR	Alice Springs	171.94	30	PKPab	PKPab	21 27 19.9	-1.2

IGQ 24 21:11:01.1, 1.20°N×79.54°W, h12km±6km, Mb4.1, Ms3.9, 3C-7D, Error ellipse: s-maj=8.8km s-min=4.5km az=18.8, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GOLV	Golondrinas	1.06	158	⇓S	Sb	21 11 37.5	+2.2
GOLV	Golondrinas	1.06	158	⇓P	Pb	21 11 20.8	-0.7
LITE	Lita	1.24	108	P	Pn	21 11 25.4	+1.1
OTAV	Otavalo	1.45	131	⇓P	Pn	21 11 28.1	+1.0
YANA	Yana	1.63	144	⇓S	Sn	21 11 53.3	+2.8
YANA	Yana	1.63	144	⇓P	Pn	21 11 31.1	+1.5
PINO	Pino	1.64	145	P	Pn	21 11 31.4	+1.7
TERV	Terraza Guagua	1.65	146	P	Pn	21 11 31.8	+1.8
GGP	Refugio Guagua	1.66	145	⇑P	Pn	21 11 31.2	+1.1
JUA2	San Juan 2	1.69	146	P	Pn	21 11 32.0	+1.6
CAYA	Cayambe	1.91	126	⇓P	Pn	21 11 37.3	+3.7
PITA	Cotopaxi Volc	2.07	148	P	Pn	21 11 39.1	+3.4
ANTI	Antisana	2.14	140	P	Pn	21 11 40.1	+3.4
VC1	Cotopaxi 1	2.15	148	P	Pn	21 11 40.2	+3.3
BREF	Cotopaxi Volca	2.16	149	P	Pn	21 11 40.3	+3.4
BVC2	Cotopaxi Volca	2.16	149	⇑P	Pn	21 11 40.5	+3.6
BTAM	Cotopaxi Volca	2.18	148	⇑P	Pn	21 11 40.8	+3.5
MOV1	Cotopaxi Vol s	2.19	150	P	Pn	21 11 40.8	+3.4
BMOR	Cotopaxi Volca	2.20	151	P	Pn	21 11 40.4	+2.8
TAMB	Tambo	2.22	148	P	Pn	21 11 41.4	+3.6
CHAR	Charly	2.26	124	P	Pn	21 11 43.9	+5.5
CONE	Cono NE Rev Vo	2.28	124	P	Pn	21 11 44.5	+5.9
LAV4	Lava4-Reventad	2.30	124	P	Pn	21 11 43.7	+4.9
PISA	Pisayambo	2.52	153	P	Pn	21 11 45.9	+3.9
IGUA	Igualata	2.82	161	P	Pn	21 11 50.1	+4.0
BULB	Ulba Tungurahu	2.85	157	⇓P	Pn	21 11 50.9	+4.4

*ISCJB **24** 21:17:13.8±0.8, 48.94°S±0.09×128.0°E±0.3, h10km, mb3.8/6, MS3.6/6, Error ellipse: s-maj=28.5km s-min=13.2km az=1.0*

*IDC **24** 21:17:14.8±1.1, 48.86°S×128.05°E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.8/13, mbtmp3.8/5, MS3.6/8, Ms1 3.6/8, ms1mx3.1/26, Error ellipse: s-maj=66.8km s-min=20.0km az=93.0*

*NEIC **24** 21:17:14.4±0.7, 49.09°S×128.04°E, h10km, mb4.0/4, Error ellipse: s-maj=28.2km s-min=11.7km az=102.0*

**ISC 24 21:17:16.4±0.9, 48.9°S±0.1×128.1°E±0.3, h10km, n21, σ0.057/15, mb3.8/6, MS3

TKM2	**Tokmak 2**	**7.28**	**25**	⇑P		**Pn**	**21 23 06.8**	**+0.3**
	3.4nm,0.5s								
TKM2				⇓S		**Sn**	**21 24 28.4**	**+0.8**
	3.9nm,0.6s								
PYUN	**Piuthan**	**12.84**	**127**	*e*P		**Pn**	**21 24 19.5**	**-0.8**
DANN	**Dangsing**	**13.18**	**124**	*e*P		**Pn**	**21 24 23.4**	**-1.3**
MK31	**Makanchi Array**	**13.19**	**35**	P		**Pn**	**21 24 32.2**	**+7.4**
	1.4nm,0.8s,baz=222,slow=11,SNR=9.9								
MK31	**Makanchi Array**	**13.19**	**35**	*e*Pn		**Pn**	**21 24 27.2**	**+2.4**
MKAR	**Makanchi Array**	**13.19**	**35**	P		**Pn**	**21 24 27.4**	**+2.7**
	0.1nm,0.3s,baz=211,slow=13,SNR=3.5								
MKAR	**Makanchi Array**	**13.19**	**35**	P		**Pn**	**21 24 27.4**	**+2.7**
KOLN	**Koldanda**	**13.46**	**126**	*e*P		**Pn**	**21 24 26.9**	**-1.4**
GKN	**Gorkha**	**13.99**	**123**	*e*P		**Pn**	**21 24 34.7**	**-0.4**
	11nm,0.4s								
DMN	**Daman**	**14.56**	**123**	*e*P		**Pn**	**21 24 41.6**	**-0.7**
KKN	**Kakani**	**14.56**	**122**	*e*P		**Pn**	**21 24 41.6**	**-0.7**
	5.1nm,0.4s								
PKI	**Pulchoki**	**14.79**	**123**	*e*P		**Pn**	**21 24 45.2**	**0.0**
GUN	**Gumba**	**14.90**	**121**	*e*P		**Pn**	**21 24 45.4**	**-1.2**
KURBB	**Kurchatov Arra**	**15.12**	**18**	⇓P		**Pn**	**21 24 52.9**	**+3.9**
	0.4nm,0.6s								
KURK	**Kurchatov**	**15.23**	**18**	⇑P		**Pn**	**21 24 54.6**	**+4.1**
	3.1nm,1.2s								
KURK	**Kurchatov**	**15.23**	**18**	P		**Pn**	**21 24 53.0**	**+2.6**
	0.2nm,0.3s,baz=201,slow=10,SNR=21								
KURK				LR		LR	21 31 59.0		
	comp=Z,30nm,19.2s,baz=25,slow=42								
KURK	**Kurchatov**	**15.23**	**18**	P		**Pn**	**21 24 53.0**	**+2.6**
JIRN	**Jiri**	**15.27**	**121**	*e*P		**Pn**	**21 24 50.7**	**-0.5**
	6.0nm,0.4s								
AB31	**Akbulak array**	**15.32**	**331**	P		**Pn**	**21 24 49.5**	**-2.1**
	1.0nm,0.4s,baz=149,slow=12,SNR=60								
AB31				⇓S		**S**	**21 27 27.9**	**-20**
	1.4nm,0.5s,baz=152,slow=22,SNR=7.4								
ABKAR	**Akbulak array**	**15.32**	**331**	*e*Pn		**Pn**	**21 24 49.7**	**-1.9**
	2.1nm,0.4s								
ABKAR				*e*Sn		**Sn**	**21 27 25.4**	**-16**
TAPN	**Taplejung**	**16.53**	**118**	*e*P		**Pn**	**21 25 07.7**	**+1.1**
ODAN	**Odare**	**16.60**	**120**	*e*P		**Pn**	**21 25 07.2**	**-0.3**
	4.7nm,0.4s								
BVAR	**Borovoye Array**	**16.64**	**358**	P		**Pn**	**21 25 09.8**	**+2.1**
	0.1nm,0.3s,baz=171,slow=12,SNR=3.4								
BVAR	**Borovoye Array**	**16.64**	**358**	P		**Pn**	**21 25 09.8**	**+2.1**
AKTO	**Aktyubinsk**	**17.02**	**330**	⇑P		**Pn**	**21 25 12.5**	**+0.1**
	0.3nm,0.7s								
AKTO				⇓S		**S**	**21 28 09.5**	**-12**
	0.4nm,1.1s								
AKTO	**Aktyubinsk**	**17.02**	**330**	P		**Pn**	**21 25 12.8**	**+0.5**
	0.2nm,0.3s,baz=132,slow=15,SNR=6.7								
AKTO	**Aktyubinsk**	**17.02**	**330**	P		**Pn**	**21 25 12.8**	**+0.5**
ZAA0	**Zalesovo Array**	**19.88**	**24**	*e*P		**P**	**21 25 44.2**	**+1.1**
ZALV	**Zalesovo Beam**	**19.88**	**24**	P		**P**	**21 25 45.6**	**+2.5**
	1.3nm,0.3s,baz=212,slow=9.7,SNR=36								
ZALV	**Zalesovo Beam**	**19.88**	**24**	P		**P**	**21 25 45.6**	**+2.5**
TORD	**Torodi Ar. Bea**	**66.03**	**269**	P		**P**	**21 31 58.2**	**+3.2**
	0.3nm,0.8s,mb3.2,baz=46,slow=5.8,SNR=4.6								
TORD	**Torodi Ar. Bea**	**66.03**	**269**	P		**P**	**21 31 58.2**	**+3.2**
WRA	**Warramunga Arr**	**81.68**	**122**	P		**P**	**21 33 30.4**	**+4.5**
	0.2nm,0.6s,mb2.9,baz=327,slow=4.8,SNR=2.8								
WRA	**Warramunga Arr**	**81.68**	**122**	P		**P**	**21 33 30.4**	**+4.5**

IDC 24 21:23:04.3±2.5,0°.95S×133°.68E,*h*0km,mb3.1/2,
mb1 3.5/4,mb1mx3.3/20,mbtmp3.3/4,ML3.5/2,Error
ellipse: s-maj=94.5km s-min=26.8km az=79.0,Irian
Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.79**	**204**	P		Pn	21 27 27.2	+1.5
	0.1nm,0.3s,baz=35,slow=14,SNR=3.6							
WRA	**Warramunga Arr**	**18.89**	**178**	P		Pn	21 27 26.0	-0.9
	0.1nm,0.3s,baz=355,slow=12,SNR=8.5							
ASAR	**Alice Springs**	**22.58**	**179**	P		P	21 28 05.8	-0.6
	0.3nm,0.4s,baz=6.1,slow=12,SNR=5.7							
MKAR	**Makanchi Array**	**65.37**	**324**	P		P	21 33 48.5	0.0
	0.3nm,0.8s,baz=109,slow=7.9,SNR=4.6							

*ISCJB **24** 21:48:38.9±0.2,35°.33N×0°.03×81°.37E±0°.05,h10km,*
mb4.1/26,Error ellipse: s-maj=5.9km s-min=3.7km
az=152.5
*IDC **24** 21:48:38.4±0.6,35°.20N×81°.40E,h0km,mb4.1/17,*
mb1 4.3/21,mb1mx4.1/30,mbtmp4.1/21,ML3.5/4,Error
ellipse: s-maj=16.7km s-min=15.4km az=54.0
*NEIC **24** 21:48:40.5±0.4,35°.33N×81°.37E,h10km,mb4.1/5,Error*
ellipse: s-maj=8.8km s-min=6.2km az=49.0
*MOS **24** 21:48:42.3±1.5,35°.38N×81°.34E,h33km,mb4.2/14,Error*
ellipse: s-maj=12.3km s-min=6.7km az=108.5
*NDI **24** 21:48:44.2±1.8,34°.96N×81°.64E,h10km,ML3.9,*
mb4.1(NEIC)

ISC 24 21:48:41.1±0.2,35°.36N±0°.03×81°.36E±0°.04,h10km,n132,
σ1°.09/130,mb4.1/26,1C,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SDNR	**Sundarnagar**	**5.32**	**225**	*e*PKP		**Pn**	**21 50 02.0**	**+1.4**
SDNR				*ex*		**Sn**	**21 51 07.2**	**+5.3**
DDI	**Dehra Dun**	**5.75**	**210**	*e*PKP		**Pn**	**21 50 05.5**	**-0.9**
CHCP	**Chirah Chowk**	**6.90**	**258**	P		**Pn**	**21 50 25.4**	**+3.2**
DANN	**Dangsing**	**7.28**	**163**	*e*P		**Pn**	**21 50 26.4**	**-1.1**
	21nm,0.6s							
NDI	**New Delhi**	**7.53**	**209**	*e*PKP		**Pn**	**21 50 31.0**	**+0.1**
KOLN	**Koldanda**	**7.81**	**165**	*e*P		**Pn**	**21 50 31.5**	**-3.2**
GKN	**Gorkha**	**7.85**	**158**	*e*P		**Pn**	**21 50 35.5**	**+0.2**
CEP	**Cherat**	**7.95**	**262**	P		**Pn**	**21 50 39.0**	**+2.4**
CEP				S		**Sn**	**21 51 53.0**	**-14**
KZA	**Kyzart**	**8.23**	**326**	P		**Pn**	**21 50 44.0**	**+3.5**
	SNR=5.7							
KKN	**Kakani**	**8.26**	**155**	*e*P		**Pn**	**21 50 41.4**	**+0.5**
	21nm,0.6s							
KUDL	**Kundal**	**8.31**	**211**	*e*PKP		**Pn**	**21 50 41.8**	**+0.3**
KUDL				*e*S		**Sn**	**21 52 05.3**	**-10**
DMN	**Daman**	**8.36**	**157**	*e*P		**Pn**	**21 50 42.9**	**+0.6**
GUN	**Gumba**	**8.37**	**151**	*e*P		**Pn**	**21 50 43.6**	**+1.2**
	18nm,0.4s							
THW	**Thamme Wali**	**8.38**	**255**	P		**Pn**	**21 50 43.9**	**+1.3**
PKI	**Pulchoki**	**8.50**	**155**	*e*P		**Pn**	**21 50 45.2**	**+1.0**
	33nm,0.6s							
AGRA	**Agra**	**8.62**	**201**	*e*S		**Sn**	**21 52 12.4**	**-11**
AGRA				AML		AML	21 52 28.6	
	comp=E,58nm,0.4s							
AGRA				AML		AML	21 52 29.3	
	comp=N,67nm,0.4s							
KHET	**Khetri**	**8.67**	**215**	*e*S		**Sn**	**21 52 16.5**	**-7.9**
JIRN	**Jiri**	**8.71**	**150**	*e*P		**Pn**	**21 50 48.7**	**+1.6**
	comp=N,44nm,0.4s							
TKM2	**Tokmak 2**	**8.77**	**331**	P		Px	21 51 02.8	
	SNR=5.7							
KBK	**Karagaybulak**	**8.83**	**328**	P		**Pn**	**21 50 52.0**	**+3.4**
	SNR=7.6							
AAK	**Ala-Archa**	**9.01**	**326**	*e*Pn		**Pn**	**21 50 52.1**	**+0.9**
	comp=N,75nm,0.8s							
AAK	**Ala-Archa**	**9.01**	**326**	*e*P		**Pn**	**21 50 52.1**	**+0.9**
AAK				pmax		pmax		
	comp=Z,75nm,0.8s							
AML	**Almayashu**	**9.03**	**321**	P		**Pn**	**21 50 55.0**	**+3.6**
	SNR=11							
FRU	**Bishkek**	**9.12**	**327**	*e*P		**Pn**	**21 50 56.0**	**+3.4**
FRU				pmax		pmax		
	comp=Z,70nm,1.8s							
CHMS	**Chumysh**	**9.19**	**328**	P		**Pn**	**21 50 57.0**	**+3.5**
	SNR=7.2							
EKS2	**Erkin-Say**	**9.38**	**323**	P		**Pn**	**21 50 59.6**	**+3.4**
	SNR=9.6							
EKS2	**Erkin-Say**	**9.38**	**323**	*e*Pn		**Pn**	**21 50 57.3**	**+1.2**
	comp=Z,11nm,0.8s							
EKS2				Sn		Sn	21 52 23.2	-18
EKS2	**Erkin-Say**	**9.38**	**323**	*e*P		**Pn**	**21 50 57.3**	**+1.2**
EKS2				pmax		pmax		
	comp=Z,11nm,0.8s							
RAMN	**Ramite**	**9.51**	**150**	*e*P		**Pn**	**21 50 58.7**	**+0.6**
TAPN	**Taplejung**	**9.65**	**144**	*e*P		**Pn**	**21 51 01.1**	**+1.1**
ODAN	**Odare**	**9.92**	**147**	*e*P		**Pn**	**21 51 03.2**	**-0.5**
LSA	**Lhasa**	**10.00**	**122**	*e*Pn		**Pn**	**21 51 04.4**	**-0.4**
	comp=Z,7.8nm,1.0s							
LSA	**Lhasa**	**10.00**	**122**	*e*P		**Pn**	**21 51 04.4**	**-0.4**
LSA				pmax		pmax		
	comp=Z,8.0nm,1.0s							
KBL	**Kabul**	**10.15**	**269**	*e*Pn		**Pn**	**21 51 06.7**	**-0.1**
	comp=Z,8.4nm,0.8s							
KBL				*e*Sn		**Sn**	**21 52 59.0**	**-1.6**
KBL	**Kabul**	**10.15**	**269**	*e*P		**Pn**	**21 51 06.7**	**-0.1**
KBL				*e*			21 52 59.0	
KBL				pmax		pmax		
	comp=Z,8.0nm,0.8s							
MK31	**Makanchi Array**	**11.44**	**3**	*e*Pn		**Pn**	**21 51 23.9**	**-0.5**
MK31	**Makanchi Array**	**11.44**	**3**	*e*P		**Pn**	**21 51 24.0**	**-0.4**
MKAR	**Makanchi Array**	**11.44**	**3**	Pn		**Pn**	**21 51 24.1**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=180,slow=12,SNR=27							
MKAR	**Makanchi Array**	**11.44**	**3**	Pn		**Pn**	**21 51 24.1**	**-0.3**
MKAR	**Makanchi Array**	**11.44**	**3**	P		**Pn**	**21 51 24.1**	**-0.3**
SHL	**Shillong**	**13.32**	**134**	*e*PKP		**Pn**	**21 51 46.0**	**-4.2**
KURK	**Kurchatov**	**15.47**	**353**	Pn		**Pn**	**21 52 15.1**	**-4.1**
	comp=Z,0.0nm,0.3s,baz=174,slow=12,SNR=22							
KURK				Lg			21 56 46.5	
	comp=Z,0.0nm,0.3s,baz=171,slow=26,SNR=3.4							
KURK	**Kurchatov**	**15.47**	**353**	*e*Pn		**Pn**	**21 52 16.8**	**-2.4**
	comp=Z,16nm,1.1s							
KURK				Lg			21 56 46.5	
KURK	**Kurchatov**	**15.47**	**353**	*e*P		**Pn**	**21 52 16.8**	**-2.4**
KURK				pmax		pmax		
	comp=Z,16nm,1.1s							
ZAA0	**Zalesovo Array**	**18.74**	**6**	*e*Pn		**Pn**	**21 52 59.0**	**-1.2**
ZALV	**Zalesovo Beam**	**18.74**	**6**	P		**Pn**	**21 52 58.4**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=193,slow=12,SNR=31							
ZALV	**Zalesovo Beam**	**18.74**	**6**	P		**Pn**	**21 52 58.4**	**-1.8**
ZALV	**Zalesovo Beam**	**18.74**	**6**	P		**Pn**	**21 52 58.4**	**-1.8**
BVAR	**Borovoye Array**	**19.29**	**340**	P		**Pn**	**21 53 06.1**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=141,slow=10,SNR=22							
BVAR				Lg			21 58 48.2	
	comp=Z,0.1nm,0.3s,baz=158,slow=21,SNR=2.7							
BVAR	**Borovoye Array**	**19.29**	**340**	P		**Pn**	**21 53 06.1**	**-0.8**
BVAR				Lg			21 58 48.2	
BVAR	**Borovoye Array**	**19.29**	**340**	P		**Pn**	**21 53 06.1**	**-0.8**
BRVK	**Borovoye**	**19.35**	**340**	*e*Pn		**Pn**	**21 53 06.8**	**-0.8**
	comp=Z,16nm,1.0s							
BRVK	**Borovoye**	**19.35**	**340**	*e*P		**Pn**	**21 53 06.8**	**-0.8**
BRVK				pmax		pmax		
	comp=Z,16nm,1.0s							
NVS	**Novosibirsk**	**19.52**	**3**	*e*P		**Pn**	**21 53 04.5**	**-5.1**
ABKAR	**Akbulak array**	**20.96**	**318**	*e*P		**P**	**21 53 24.4**	**+0.3**
	comp=Z,2.7nm,0.5s							
ZAK	**Zakamensk**	**21.87**	**40**	*e*P		**P**	**21 53 36.0**	**+2.2**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.2s,mb3.4							
SONM	**Songino Array**	**22.37**	**48**	P		**P**	**21 53 40.9**	**+1.7**
	comp=Z,3.2nm,0.8s,mb3.8,baz=241,slow=9.9,SNR=23							
SONM	**Songino Array**	**22.37**	**48**	P		**P**	**21 53 40.9**	**+1.7**
SONM	**Songino Array**	**22.37**	**48**	P		**P**	**21 53 40.9**	**+1.7**
SONM				pmax		pmax		
	comp=Z,3.0nm,0.8s							
AKTO	**Aktyubinsk**	**22.66**	**319**	P		**P**	**21 53 42.7**	**+0.5**
	comp=Z,3.2nm,0.7s,mb3.9,baz=121,slow=9.2,SNR=7.2							
AKTO	**Aktyubinsk**	**22.66**	**319**	P		**P**	**21 53 42.7**	**+0.5**
AKTO	**Aktyubinsk**	**22.66**	**319**	P		**P**	**21 53 42.7**	**+0.5**
AKTO				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb3.8							
CHTO	**Chiang Mai**	**22.67**	**132**	*e*P		**P**	**21 53 42.3**	**-0.3**
	comp=Z,3.2nm,0.8s,mb3.8							
CHTO	**Chiang Mai**	**22.67**	**132**	*e*P		**P**	**21 53 42.3**	**-0.3**
CHTO				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb3.8							
ULN	**Ulaanbaatar**	**22.79**	**49**	*e*P		**P**	**21 53 44.1**	**+0.4**
	comp=Z,12nm,1.3s,mb4.2							
ULN	**Ulaanbaatar**	**22.79**	**49**	*e*P		**P**	**21 53 44.1**	**+0.5**
ULN				pmax		pmax		
	comp=Z,12nm,1.3s,mb4.2							
CMAR	**Chiang Mai Arr**	**22.94**	**133**	P		**P**	**21 53 46.0**	**+0.5**
	comp=Z,1.0nm,0.7s,mb3.3,baz=319,slow=10,SNR=11							
CMAR	**Chiang Mai Arr**	**22.94**	**133**	P		**P**	**21 53 46.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**22.94**	**133**	P		**P**	**21 53 46.0**	**+0.5**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
BRTR	**Keskin Array B**	**37.74**	**291**	P		**P**	**21 55 57.3**	**+0.4**
	comp=Z,0.3nm,0.4s,mb3.4,baz=104,slow=12,SNR=2.9							
BRTR	**Keskin Array B**	**37.74**	**291**	P		**P**	**21 55 57.4**	**+0.4**
BRTR	**Keskin Array B**	**37.74**	**291**	P		**P**	**21 55 57.4**	**+0.4**
AKASG	**Malin Array Be**	**40.21**	**309**	P		**P**	**21 56 17.2**	**-0.3**
	comp=Z,1.8nm,0.5s,mb4.0,baz=75,slow=7.9,SNR=8.7							
AKASG	**Malin Array Be**	**40.21**	**309**	P		**P**	**21 56 17.2**	**-0.3**
AKASG	**Malin Array Be**	**40.21**	**309**	P		**P**	**21 56 17.2**	**-0.3**
AKASG				pmax		pmax		
	comp=Z,2.0nm,0.5s							
FINES	**FINESS Array B**	**43.20**	**325**	P		**P**	**21 56 42.6**	**+0.7**
	comp=Z,3.8nm,0.6s,mb4.3,baz=116,slow=13,SNR=9.9							
FINES	**FINESS Array B**	**43.20**	**325**	P		**P**	**21 56 42.6**	**+0.7**
FINES	**FINESS Array B**	**43.20**	**325**	P		**P**	**21 56 42.6**	**+0.7**
FINES				pmax		pmax		
	comp=Z,4.0nm,0.6s							
MJAR	**Matsushiro Arr**	**45.45**	**71**	P		**P**	**21 57 00.1**	**-0.1**
	comp=Z,2.1nm,0.8s,mb4.0,baz=290,slow=11,SNR=4.4							
MJAR	**Matsushiro Arr**	**45.45**	**71**	P		**P**	**21 57 00.1**	**-0.1**
MJAR	**Matsushiro Arr**	**45.45**	**71**	P		**P**	**21 57 00.1**	**-0.1**
MJAR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
ARCES	**ARCESS Array B**	**45.52**	**336**	P		**P**	**21 57 01.1**	**+0.8**
	comp=Z,3.8nm,0.8s,mb4.4,baz=110,slow=10,SNR=4.8							
ARCES	**ARCESS Array B**	**45.52**	**336**	P		**P**	**21 57 01.1**	**+0.8**
ARCES	**ARCESS Array B**	**45.52**	**336**	P		**P**	**21 57 01.1**	**+0.8**
ARCES				pmax		pmax		
	comp=Z,4.0nm,0.8s							
NB2	**NORSAR Subarra**	**50.33**	**324**	P		**P**	**21 57 37.5**	**-0.1**
	comp=Z,5.8nm,0.8s,mb4.7,baz=88,slow=7.9							
NOA	**NORSAR Array B**	**50.33**	**324**	P		**P**	**21 57 37.7**	**+0.1**
	comp=Z,3.7nm,0.7s,mb4.5,baz=87,slow=7.5,SNR=8.8							
NOA	**NORSAR Array B**	**50.33**	**324**	P		**P**	**21 57 37.7**	**+0.1**
NOA	**NORSAR Array B**	**50.33**	**324**	P		**P**	**21 57 37.7**	**+0.1**
NOA				pmax		pmax		
	comp=Z,4.0nm,0.7s							
GERES	**GERESS Array B**	**50.38**	**308**	P		**P**	**21 57 38.7**	**+0.5**
	comp=Z,1.2nm,0.7s,mb4.0,baz=69,slow=7.3,SNR=13							
GERES	**GERESS Array B**	**50.38**	**308**	P		**P**	**21 57 38.7**	**+0.5**
GERES	**GERESS Array B**	**50.38**	**308**	P		**P**	**21 57 38.7**	**+0.5**
GERES				pmax		pmax		
	comp=Z,1.0nm,0.7s							
CDF	**Champ du Feu**	**54.62**	**308**	*e*P		**P**	**21 58 09.9**	**+0.2**
	comp=Z,11nm,1.1s,mb4.5							
HINF	**Hinteralfeld**	**55.06**	**308**	*e*P		**P**	**21 58 12.7**	**-0.1**
	comp=Z,8.6nm,0.7s,mb4.6							
LPG	**La Plagne**	**55.80**	**305**	⇑*i*P		**P**	**21 58 18.2**	**0.0**
	comp=Z,13nm,0.9s,mb4.7							
LPL	**La Plagne**	**55.80**	**305**	*e*P		**P**	**21 58 18.1**	**-0.2**
	comp=Z,13nm,0.8s,mb4.7							
SBF	**Sospel**	**55.84**	**303**	*e*P		**P**	**21 58 18.1**	**-0.4**
	comp=Z,188nm,1.4s							
FRF	**La Foret Royal**	**56.48**	**303**	*e*P		**P**	**21 58 22.5**	**-0.6**
LMR	**La Mourre**	**56.65**	**303**	*e*P		**P**	**21 58 23.2**	**-1.1**
SMRF	**Simiane la Rot**	**57.08**	**304**	*e*P		**P**	**21 58 26.6**	**-0.7**
SMF	**Signal de Mont**	**57.37**	**307**	*e*P		**P**	**21 58 28.1**	**-1.2**
SSF	**Saint Saulge**	**57.45**	**308**	*e*P		**P**	**21 58 29.5**	**-0.4**
LDF	**La Druitiere**	**59.26**	**310**	*e*P		**P**	**21 58 42.0**	**-0.5**
	comp=Z,7.4nm,0.6s,mb4.6							
FLN	**La Foliniere**	**59.42**	**310**	*e*P		**P**	**21 58 43.1**	**-0.6**
EPF	**Esparros**	**60.97**	**304**	*e*P		**P**	**21 58 54.4**	**0.0**
ILAR	**Eielson Array**	**73.30**	**20**	P		**P**	**22 00 11.6**	**-0.7**
	comp=Z,1.1nm,0.9s,mb3.8,baz=306,slow=5.5,SNR=11							
ILAR	**Eielson Array**	**73.30**	**20**	P		**P**	**22 00 11.6**	**-0.7**
ILAR	**Eielson Array**	**73.30**	**20**	P		**P**	**22 00 11.6**	**-0.7**
ILAR				pmax		pmax		
	comp=Z,1.0nm,0.9s							
INK	**Inuvik**	**73.41**	**13**	P		**P**	**22 00 13.0**	**+0.1**
	comp=Z,1.4nm,0.9s,mb3.9,baz=353,slow=5.1,SNR=2.7							
INK	**Inuvik**	**73.41**	**13**	P		**P**	**22 00 13.0**	**+0.1**
INK	**Inuvik**	**73.41**	**13**	P		**P**	**22 00 13.0**	**+0.2**
INK				pmax		pmax		
	comp=Z,1.0nm,0.9s							
TORD	**Torodi Ar. Bea**	**74.16**	**275**	P		**P**	**22 00 16.9**	**-1.2**
	comp=Z,3.9nm,0.7s,mb4.4,baz=44,slow=5.2,SNR=33							
TORD	**Torodi Ar. Bea**	**74.16**	**275**	P		**P**	**22 00 16.9**	**-1.2**
WRA	**Warramunga Arr**	**74.47**	**129**	P		**P**	**22 00 17.7**	**-2.1**
	comp=Z,2.0nm,1.0s,mb4.0,baz=328,slow=5.8,SNR=7.7							
WRA	**Warramunga Arr**	**74.47**	**129**	P		**P**	**22 00 17.7**	**-2.1**
WRA	**Warramunga Arr**	**74.47**	**129**	P		**P**	**22 00 17.7**	**-2.0**
WRA				pmax		pmax		
	comp=Z,2.0nm,1.0s							
ASAR	**Alice Springs**	**76.95**	**132**	P		**P**	**22 00 32.0**	**-1.9**
	comp=Z,0.4nm,0.5s,mb3.6,baz=318,slow=5.7,SNR=4.8							
ASAR	**Alice Springs**	**76.95**	**132**	P		**P**	**22 00 32.0**	**-1.9**
ASAR	**Alice Springs**	**76.95**	**132**	P		**P**	**22 00 32.0**	**-1.8**
LBTB	**Lobatse**	**79.93**	**230**	P		**P**	**22 00 49.3**	**-0.9**
	comp=Z,7.3nm,0.9s,mb4.6,baz=66,slow=5.0,SNR=12							
LBTB	**Lobatse**	**79.93**	**230**	P		**P**	**22 00 49.3**	**-0.9**
LBTB	**Lobatse**	**79.93**	**230**	P		**P**	**22 00 49.3**	**-1.0**
LBTB				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.6							
YKA	**Yellowknife Ar**	**81.64**	**7**	P		**P**	**22 00 58.5**	**-0.5**
	comp=Z,0.6nm,0.8s,mb3.6,baz=299,slow=13,SNR=3.3							
YKA	**Yellowknife Ar**	**81.64**	**7**	P		**P**	**22 00 58.5**	**-0.4**
YKA	**Yellowknife Ar**	**81.64**	**7**	P		**P**	**22 00 58.5**	**-0.4**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.8s							
BOSA	**Boshof**	**82.75**	**227**	P		**P**	**22 01 03.7**	**-1.5**
	comp=Z,6.1nm,0.8s,mb4.7,baz=52,slow=5.1,SNR=14							
BOSA	**Boshof**	**82.75**	**227**	P		**P**	**22 01 03.7**	**-1.5**
BOSA	**Boshof**	**82.75**	**227**	P		**P**	**22 01 03.7**	**-1.5**
BOSA				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.7							
TXAR	**Lajitas Array**	**115.47**	**5**	PKP		PKPdf	22 07 24.2	+0.7
	comp=Z,0.4nm,0.7s,baz=128,slow=5.8,SNR=2.9							
TXAR	**Lajitas Array**	**115.47**	**5**	PKP		PKPdf	22 07 24.2	+0.7
TXAR	**Lajitas Array**	**115.47**	**5**	PKIKP		PKPdf	22 07 24.2	+0.7
LPAZ	**La Paz**	**146.81**	**297**	PKPbc		PKPbc	22 08 22.0	-1.9
	comp=Z,1.4nm,0.7s,baz=11,slow=4.1,SNR=5.9							
LPAZ	**La Paz**	**146.81**	**297**	PKPbc		PKPbc	22 08 22.0	-1.9

*IDC **24** 21:49:24.0±0.5,35°.15N×81°.33E,h0km,mb4.3/21,*
mb1 4.4/25,mb1mx4.3/32,mbtmp4.3/25,ML4.0/4,Error
ellipse: s-maj=13.9km s-min=10.2km az=75.0
*ISCJB **24** 21:49:24.2±0.3,35°.37N±0°.03×81°.36E±0°.07,h10km,*
mb4.3/27,Error ellipse: s-maj=9.2km s-min=4.1km
az=159.2
*NEIC **24** 21:49:25.7±0.3,35°.28N×81°.37E,h10km,mb4.0/4,Error*
ellipse: s-maj=9.0km s-min=6.5km az=60.0
*MOS **24** 21:49:27.7±1.3,35°.40N×81°.39E,h33km,mb4.5/16,Error*
ellipse: s-maj=14.8km s-min=7.7km az=102.7

ISC 24 21:49:26.3±0.3,35°.38N±0°.03×81°.33E±0°.07,h10km,n104,
σ1°.07/107,mb4.3/27,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**7.30**	**163**	*e*P		**Pn**	**21 51 13.0**	**-0.1**
KOLN	**Koldanda**	**7.83**	**165**	*e*P		**Pn**	**21 51 18.9**	**-1.3**
GKN	**Gorkha**	**7.87**	**158**	*e*P		**Pn**	**21 51 22.2**	**+1.3**
KKN	**Kakani**	**8.28**	**155**	*e*P		**Pn**	**21 51 28.2**	**+1.7**
	20nm,0.5s							
DMN	**Daman**	**8.39**	**156**	*e*P		**Pn**	**21 51 29.5**	**+1.6**
	34nm,0.6s							
GUN	**Gumba**	**8.39**	**151**	*e*P		**Pn**	**21 51 29.5**	**+1.5**
	42nm,0.4s							
PKI	**Pulchoki**	**8.52**	**155**	*e*P		**Pn**	**21 51 31.4**	**+1.6**
	39nm,0.5s							
JIRN	**Jiri**	**8.74**	**150**	*e*P		**Pn**	**21 51 33.8**	**+1.0**
	71nm,0.4s							
TAPN	**Taplejung**	**9.68**	**144**	*e*P		**Pn**	**21 51 46.4**	**+0.7**
ODAN	**Odare**	**9.95**	**147**	*e*P		**Pn**	**21 51 48.5**	**-0.9**
**

FINES					pmax	pmax				
	comp=Z,6.0nm,0.6s									
MJAR	**Matsushiro Arr**	**45.48**	**71**		P	**P**	**21 57 44.9**	**-0.8**		
	comp=Z,2.9nm,0.7s,mb4.2,baz=286,slow=10.0,SNR=6.8									
MJAR	**Matsushiro Arr**	**45.48**	**71**		P	**P**	**21 57 44.9**	**-0.8**		
MJAR	**Matsushiro Arr**	**45.48**	**71**		P	**P**	**21 57 44.9**	**-0.8**		
MJAR					pmax	pmax				
	comp=Z,3.0nm,0.7s									
ARCES	**ARCESS Array B**	**45.49**	**336**		P	**P**	**21 57 45.5**	**+0.1**		
	comp=Z,6.9nm,0.9s,mb4.5,baz=96,slow=7.4,SNR=5.6									
ARCES	**ARCESS Array B**	**45.49**	**336**		P	**P**	**21 57 45.5**	**+0.1**		
ARCES	**ARCESS Array B**	**45.49**	**336**		P	**P**	**21 57 45.5**	**+0.1**		
ARCES					pmax	pmax				
	comp=Z,7.0nm,0.9s									
NOA	**NORSAR Array B**	**50.30**	**323**		P	**P**	**21 58 23.0**	**+0.3**		
	comp=Z,3.5nm,0.7s,mb4.5,baz=88,slow=7.5,SNR=8.7									
NOA	**NORSAR Array B**	**50.30**	**323**		P	**P**	**21 58 23.0**	**+0.3**		
NOA	**NORSAR Array B**	**50.30**	**323**		P	**P**	**21 58 23.0**	**+0.3**		
NOA					pmax	pmax				
	comp=Z,4.0nm,0.7s									
GERES	**GERESS Array B**	**50.34**	**307**		P	**P**	**21 58 24.2**	**+1.0**		
	comp=Z,1.3nm,0.7s,mb4.1,baz=76,slow=7.0,SNR=7.7									
GERES	**GERESS Array B**	**50.34**	**307**		P	**P**	**21 58 24.2**	**+1.0**		
GERES	**GERESS Array B**	**50.34**	**307**		P	**P**	**21 58 24.3**	**+1.1**		
GERES					pmax	pmax				
	comp=Z,1.0nm,0.7s									
PETK	**Petropavlovsk-**	**54.84**	**46**		P	**P**	**21 58 57.4**	**+1.0**		
	comp=Z,10nm,1.0s,mb4.8,baz=258,slow=10,SNR=3.5									
PETK	**Petropavlovsk-**	**54.84**	**46**		P	**P**	**21 58 57.4**	**+1.0**		
PETK	**Petropavlovsk-**	**54.84**	**46**		P	**P**	**21 58 57.4**	**+1.0**		
PETK					pmax	pmax				
	comp=Z,10.0nm,1.0s,mb4.8									
LPG	**La Plagne**	**55.77**	**305**	*eP*		**P**	**21 59 04.1**	**+0.8**		
	comp=Z,14nm,0.8s,mb4.7									
LPL	**La Plagne**	**55.77**	**305**	*eP*		**P**	**21 59 04.1**	**+0.8**		
	comp=Z,14nm,0.7s,mb4.8									
SMF	**Signal de Mont**	**57.33**	**307**	*eP*		**P**	**21 59 14.1**	**-0.3**		
LDF	**La Druitiere**	**59.23**	**310**	*eP*		**P**	**21 59 27.3**	**-0.3**		
	comp=Z,3.7nm,0.6s,mb4.3									
FITZ	**Fitzroy Crossi**	**67.78**	**134**		P	**P**	**22 00 22.9**	**-1.5**		
	comp=Z,1.9nm,0.7s,mb4.2,baz=22,slow=5.4,SNR=3.6									
FITZ	**Fitzroy Crossi**	**67.78**	**134**		P	**P**	**22 00 22.9**	**-1.5**		
ILAR	**Eielson Array**	**73.30**	**19**		P	**P**	**22 00 57.5**	**-0.1**		
	comp=Z,1.2nm,0.8s,mb3.9,baz=319,slow=5.0,SNR=8.2									
ILAR	**Eielson Array**	**73.30**	**19**		P	**P**	**22 00 57.5**	**-0.1**		
ILAR	**Eielson Array**	**73.30**	**19**		P	**P**	**22 00 57.5**	**-0.1**		
ILAR					pmax	pmax				
	comp=Z,1.0nm,0.8s									
TORD	**Torodi Ar. Bea**	**74.12**	**275**		P	**P**	**22 01 02.4**	**-0.8**		
	comp=Z,3.1nm,0.7s,mb4.4,baz=43,slow=5.0,SNR=12									
TORD	**Torodi Ar. Bea**	**74.12**	**275**		P	**P**	**22 01 02.4**	**-0.8**		
WRA	**Warramunga Arr**	**74.51**	**129**		P	**P**	**22 01 03.6**	**-1.6**		
	comp=Z,3.0nm,1.1s,mb4.1,baz=325,slow=5.5,SNR=6.9									
WRA	**Warramunga Arr**	**74.51**	**129**		P	**P**	**22 01 03.6**	**-1.6**		
WRA	**Warramunga Arr**	**74.51**	**129**		P	**P**	**22 01 03.6**	**-1.6**		
WRA					pmax	pmax				
	comp=Z,3.0nm,1.1s									
ASAR	**Alice Springs**	**76.98**	**132**		P	**P**	**22 01 17.6**	**-1.7**		
	comp=Z,1.2nm,0.6s,mb4.0,baz=322,slow=5.9,SNR=10									
ASAR	**Alice Springs**	**76.98**	**132**		P	**P**	**22 01 17.6**	**-1.7**		
ASAR	**Alice Springs**	**76.98**	**132**		P	**P**	**22 01 17.6**	**-1.7**		
ASAR					pmax	pmax				
	comp=Z,1.0nm,0.6s									
LBTB	**Lobatse**	**79.91**	**230**		P	**P**	**22 01 35.0**	**-0.5**		
	comp=Z,9.2nm,0.8s,mb4.8,baz=59,slow=4.7,SNR=13									
LBTB	**Lobatse**	**79.91**	**230**		P	**P**	**22 01 35.0**	**-0.5**		
LBTB	**Lobatse**	**79.91**	**230**		P	**P**	**22 01 35.0**	**-0.5**		
LBTB					pmax	pmax				
	comp=Z,9.0nm,0.8s,mb4.8									
YKA	**Yellowknife Ar**	**81.63**	**7**		P	**P**	**22 01 43.5**	**-0.7**		
	comp=Z,2.7nm,1.0s,mb4.2,baz=339,slow=5.4,SNR=7.2									
YKA	**Yellowknife Ar**	**81.63**	**7**		P	**P**	**22 01 43.5**	**-0.7**		
YKA	**Yellowknife Ar**	**81.63**	**7**		P	**P**	**22 01 43.5**	**-0.7**		
YKA					pmax	pmax				
	comp=Z,3.0nm,1.0s									
CTA	**Charters Tower**	**82.61**	**121**		P	**P**	**22 01 48.4**	**-1.5**		
	comp=Z,2.6nm,0.5s,mb4.5,baz=309,slow=5.7,SNR=6.2									
CTA	**Charters Tower**	**82.61**	**121**		P	**P**	**22 01 48.4**	**-1.5**		
CTA	**Charters Tower**	**82.61**	**121**		P	**P**	**22 01 48.4**	**-1.5**		
CTA					pmax	pmax				
	comp=Z,3.0nm,0.5s									
BOSA	**Boshof**	**82.73**	**227**		P	**P**	**22 01 49.0**	**-1.4**		
	comp=Z,8.6nm,0.7s,mb4.9,baz=27,slow=3.8,SNR=16									
BOSA	**Boshof**	**82.73**	**227**		P	**P**	**22 01 49.0**	**-1.4**		
BOSA	**Boshof**	**82.73**	**227**		P	**P**	**22 01 49.0**	**-1.4**		
BOSA					pmax	pmax				
	comp=Z,9.0nm,0.7s,mb4.9									
DBIC	**Dimbokro**	**83.08**	**273**		P	**P**	**22 01 51.7**	**-0.9**		
	comp=Z,4.3nm,0.9s,mb4.5,baz=130,slow=9.1,SNR=4.0									
DBIC	**Dimbokro**	**83.08**	**273**		P	**P**	**22 01 51.7**	**-0.9**		
DBIC	**Dimbokro**	**83.08**	**273**		P	**P**	**22 01 51.7**	**-0.9**		
DBIC					pmax	pmax				
	comp=Z,4.0nm,0.9s									
LPAZ	**La Paz**	**146.78**	**297**		PKPbc	PKPbc	22 09 07.8	-1.3		
	comp=Z,1.2nm,0.6s,baz=39,slow=5.2,SNR=4.9									
LPAZ	**La Paz**	**146.78**	**297**		PKPbc	PKPbc	22 09 07.8	-1.3		

CASC 24 21:52:57.3±1.2, 11°52N×86°18W, h131km±6km, MD3.5, ML2.9, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APON	**Apoyo**	**0.41**	**16**	*eP*		Pn	21 53 16.1	+0.1
CRUN	**El Crucero**	**0.47**	**346**	*eP*		Pn	21 53 17.0	+0.6
CONN	**Concepcion**	**0.54**	**86**	*eP*		Pn	21 53 16.9	+0.1
XAVN	**Gruta Xavier**	**0.64**	**347**	*eP*		Pn	21 53 17.5	+0.1
APYN	**Apoyeque**	**0.73**	**347**	*eP*		Pn	21 53 18.0	-0.1
COPN	**Copaltepe**	**0.77**	**328**	*eP*		Pn	21 53 17.9	-0.4
COPN				*eS*		Sn	21 53 35.7	+1.4
COPN					AML	AML	21 53 36.7	
	comp=Z,184nm,0.2s							
HUEN		**0.81**	**0**	*eP*		Pn	21 53 18.6	-0.1
MOMJ	**Momotombo**	**0.95**	**338**	*eP*		Pn	21 53 19.5	-0.4
GBS2	**Las Lilas**	**0.99**	**134**	*iP*		Pn	21 53 20.5	+0.2
GBS2				*iS*		Sn	21 53 38.3	+0.7
GB1A	**Borinquen Arri**	**1.04**	**132**	*iP*		Pn	21 53 21.3	+0.6
LAPC	**Finca la Perla**	**1.05**	**136**	*iP*		Pn	21 53 20.8	0.0
LAPC				*iS*		Sn	21 53 39.2	+0.5
MIRN	**Miramar**	**1.05**	**330**	*eP*		Pn	21 53 20.8	0.0
NY14	**Universidad de**	**1.07**	**144**	*iP*		Pn	21 53 21.9	+0.9
GPS1	**Guardaparques**	**1.10**	**132**	*iS*		Sn	21 53 40.9	+1.3
GPS2	**Hotel Rinc¯‡n**	**1.11**	**133**	*iS*		Sn	21 53 41.0	+1.2
TEL3	**Telica 3**	**1.23**	**328**	*eP*		Pn	21 53 22.5	-0.1
CUI	**Cuipilapa**	**1.31**	**131**	*iP*		Pn	21 53 23.8	+0.3
CUI				*iS*		Sn	21 53 44.6	+1.2
JCR	**Jicaral**	**1.96**	**148**	↑*eP*		Pn	21 53 31.5	+0.6
JCR				*eS*		Sn	21 53 56.8	+0.1
CGA2	**Cerro Gallo 2**	**2.25**	**131**	*eP*		Pn	21 53 35.5	+1.0
CGA2				*eS*		Sn	21 54 04.1	+1.1
PRS1	**Puriscal**	**2.39**	**130**	*eP*		Pn	21 53 37.9	+1.7
PRS1				*eS*		Sn	21 54 07.8	+1.7
LAJ	**Bijagual**	**2.61**	**129**	*eP*		Pn	21 53 37.2	-1.7
LAJ				*eS*		Sn	21 54 08.5	-2.5

*ISCJB **24** 22:49:51.2±1.4, 65°.45N±0°.03×134°.18W±0°.07, h15km±9km, mb3.6/4, Error ellipse: s-maj=5.3km s-min=4.8km az=0.0*
*IDC **24** 22:49:51.6±0.7, 65°.55N×134°.31W, h0km, mb3.8/4, mb1 4.1/8, mb1mx3.7/29, mbtmp3.8/8, ML4.0/4, Error ellipse: s-maj=10.1km s-min=8.4km az=37.0*
*PGC **24** 22:49:52.8±0.0, 65°.49N×134°.27W, h1km, ML4.1/3, Mw3.9, 217km south of Fort McPherson, Nt Northern Yukon Territory, Canada*
*NEIC **24** 22:49:52.8, 65°.49N×134°.26W, h1km, MW3.9(PGC), After PGC.*

ISC 24 22:49:52.2±1.2, 65°.47N±0°.03×134°.27W±0°.06, h7km±8km, n36, σ1°11/60, mb3.6/4, 5C-10D, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAWY	**Dawson**	**2.61**	**240**	↑*P*n	**Pn**	**22 50 35.1**	**+0.5**
DAWY				*S*n	**Sn**	**22 51 06.8**	**+0.4**
DAWY				*S*g	**Sg**	**22 51 14.1**	**-1.6**
DAWY	**Dawson**	**2.61**	**240**	↑*P*n	**Pn**	**22 50 35.1**	**+0.5**
DAWY				↑*S*n	**Sn**	**22 51 06.8**	**+0.4**
DAWY				↓*S*g	**Sg**	**22 51 14.1**	**-1.6**
INK	**Inuvik**	**2.87**	**6**	*P*n	**Pn**	**22 50 39.1**	**+0.8**
	5.3nm,0.3s,baz=187,slow=19,SNR=81						
INK				*L*g		22 51 17.8	
	28nm,0.3s,baz=106,slow=33,SNR=6.1						
INK	**Inuvik**	**2.87**	**6**	↓*P*n	**Pn**	**22 50 39.0**	**+0.8**
INK				*S*n	**Sn**	**22 51 13.3**	**+0.3**
INK				*L*g		22 51 17.8	
INK	**Inuvik**	**2.87**	**6**	↓*P*n	**Pn**	**22 50 39.0**	**+0.8**
INK				↓*S*n	**Sn**	**22 51 13.3**	**+0.3**
EGAK	**Eagle**	**2.99**	**260**	*eP*n	**Pn**	**22 50 39.6**	**-0.3**
EGAK				*eS*n	**Sn**	**22 51 14.4**	**-1.6**
WHY	**Whitehorse**	**4.83**	**184**	↑*P*n	**Pn**	**22 51 05.7**	**+0.5**
WHY				*S*n	**Sn**	**22 51 59.8**	**-1.5**
WHY	**Whitehorse**	**4.83**	**184**	↑*P*n	**Pn**	**22 51 05.7**	**+0.5**
WHY				↓*S*n	**Sn**	**22 51 59.8**	**-1.5**
MENT	**Mentasta**	**4.84**	**243**	*eP*n	**Pn**	**22 51 05.5**	**+0.2**
MENT				*eS*n	**Sn**	**22 52 03.2**	**+1.6**
ILAR	**Eielson Array**	**5.37**	**268**	*P*n	**Pn**	**22 51 12.1**	**-0.6**
	0.4nm,0.3s,baz=79,slow=12,SNR=17						
ILAR				*S*n	**Sn**	**22 52 12.2**	**-2.5**
	2.7nm,0.3s,baz=88,slow=15,SNR=3.1						
ILAR				*L*g		22 52 37.7	
	5.8nm,0.3s,baz=351,slow=28,SNR=7.4						
ILAR	**Eielson Array**	**5.37**	**268**	*P*n	**Pn**	**22 51 12.1**	**-0.6**
ILAR				*S*n	**Sn**	**22 52 12.2**	**-2.5**
ILAR				*L*g		22 52 37.7	
PAX	**Paxson**	**5.49**	**248**	*eP*n	**Pn**	**22 51 15.4**	**+1.1**
	16nm,0.6s						
PAX				*eS*n	**Sn**	**22 52 17.8**	**+0.3**
COLA	**College**	**5.75**	**270**	*eP*n	**Pn**	**22 51 17.6**	**-0.2**
	17nm,0.8s						
COLA				*eS*n	**Sn**	**22 52 25.7**	**+1.7**
SKAG	**Skagway**	**6.05**	**185**	*eP*n	**Pn**	**22 51 23.0**	**+1.1**
	21nm,0.4s						
SKAG				*eS*n	**Sn**	**22 52 33.2**	**+1.9**
PLBC	**Pleasant Camp**	**6.11**	**190**	↑*P*n	**Pn**	**22 51 24.3**	**+1.6**
PLBC				*S*n	**Sn**	**22 52 31.6**	**-1.2**
PLBC	**Pleasant Camp**	**6.11**	**190**	↑*P*n	**Pn**	**22 51 24.3**	**+1.6**
PLBC				↓*S*n	**Sn**	**22 52 31.6**	**-1.2**
PNL	**Peninsula**	**6.28**	**204**	*eP*n	**Pn**	**22 51 26.8**	**+1.7**
COLD	**Coldfoot**	**6.65**	**293**	*eP*n	**Pn**	**22 51 31.0**	**+1.0**
	6.2nm,0.4s						
COLD				*eS*n	**Sn**	**22 52 45.1**	**-0.8**
TRF	**Thorofare Moun**	**7.21**	**261**	*eP*n	**Pn**	**22 51 37.8**	**0.0**
	19nm,0.7s						
TRF				*eS*n	**Sn**	**22 52 58.3**	**-1.5**
DLBC	**Dease Lake**	**7.33**	**162**	*P*n	**Pn**	**22 51 40.1**	**+0.6**
	4.0nm,0.3s,baz=6.6,slow=10,SNR=30						
DLBC				*S*n	**Sn**	**22 53 01.0**	**-1.7**
	2.3nm,0.3s,baz=167,slow=20,SNR=1.6						
DLBC				*L*g		22 53 41.3	
	2.6nm,0.3s,baz=131,slow=27,SNR=3.3						
DLBC	**Dease Lake**	**7.33**	**162**	*P*n	**Pn**	**22 51 40.2**	**+0.8**
DLBC				*S*n	**Sn**	**22 53 01.0**	**-1.7**
DLBC				*S*g	**Sg**	**22 53 39.5**	**-7.7**
DLBC				*L*g		22 53 41.3	
DLBC	**Dease Lake**	**7.33**	**162**	*P*n	**Pn**	**22 51 40.2**	**+0.8**
DLBC				↑*S*g	**Sg**	**22 53 39.5**	**-7.7**
GALN	**Gameti Lake**	**7.36**	**93**	↑*P*n	**Pn**	**22 51 39.2**	**-0.7**
GALN	**Gameti Lake**	**7.36**	**93**	↑*P*n	**Pn**	**22 51 39.2**	**-0.7**
CTLN	**Castor Lake**	**7.81**	**89**	↑*P*n	**Pn**	**22 51 45.3**	**-0.8**
CTLN	**Castor Lake**	**7.81**	**89**	↑*P*n	**Pn**	**22 51 45.3**	**-0.8**
FNBB	**Fort Nelson**	**8.43**	**136**	↓*S*g	Sx	22 54 15.7	
YKW3	**Yellowknife Ar**	**9.09**	**100**	↓*P*n	**Pn**	**22 52 03.0**	**-0.6**
YKW3	**Yellowknife Ar**	**9.09**	**100**	↓*P*n	**Pn**	**22 52 03.0**	**-0.6**
YKA	**Yellowknife Ar**	**9.13**	**100**	*P*n	**Pn**	**22 52 03.0**	**-1.1**
	3.9nm,0.3s,baz=332,slow=26,SNR=40						
YKA				*S*n	**Sn**	**22 53 39.3**	**-7.7**
	2.3nm,0.3s,baz=300,slow=22,SNR=5.7						
YKA				*L*g		22 54 39.6	
	baz=335,slow=12,SNR=2.4						
YKA	**Yellowknife Ar**	**9.13**	**100**	*P*n	**Pn**	**22 52 03.0**	**-1.1**
YKA				*S*n	**Sn**	**22 53 39.2**	**-7.7**
YKA				*L*g		22 54 39.6	
JERN	**Jeri Cho Mine,**	**9.38**	**76**	↓*P*n	**Pn**	**22 52 06.3**	**-1.3**
PDAR	**Pinedale Array**	**26.61**	**137**	*P*	**P**	**22 55 31.2**	**+0.4**
	0.3nm,0.6s,mb3.0,baz=358,slow=2.2,SNR=2.9						
TXAR	**Lajitas Array**	**40.83**	**137**	*P*	**P**	**22 57 35.5**	**+1.4**
	0.3nm,0.8s,mb3.0,baz=340,slow=7.7,SNR=2.8						
ARCES	**ARCESS Array B**	**44.54**	**10**	*P*	**P**	**22 58 03.6**	**-0.1**
	5.7nm,0.8s,mb4.4,baz=27,slow=10,SNR=3.4						
FINES	**FINESS Array B**	**52.56**	**12**	*P*	**P**	**22 59 05.9**	**+0.3**
	2.0nm,0.7s,mb4.2,baz=15,slow=7.9,SNR=7.3						

*NEIC **24** 22:52:06.7, 38°.99N×23°.37E, h23km, ML3.5(THE), After ATH.*
*IDC **24** 22:52:06.2±1.2, 38°.98N×23°.28E, h0km, mb3.7/4, mb1 3.7/7, mb1mx3.5/27, mbtmp3.5/7, ML3.3/3, MS3.3/1, Ms1 3.3/1, ms1mx2.2/46, Error ellipse: s-maj=25.5km s-min=16.4km az=124.0*
*ATH **24** 22:52:06.7, 38°.99N×23°.37E, h23km±1km, ML4.0*
*ISCJB **24** 22:52:06.6±0.4, 39°.00N±0°.02×23°.39E±0°.02, h8km±3km, mb3.6/4, Error ellipse: s-maj=2.7km s-min=2.5km az=166.4*
*CSEM **24** 22:52:07.4±0.1, 38°.98N×23°.37E, h9km, ML4.0, Error ellipse: s-maj=2.2km s-min=2.1km az=146.0*
*THE **24** 22:52:07.4, 38°.97N×23°.37E, h7km, ML3.5/11, Error ellipse: s-maj=0.9km s-min=0.5km az=194.0*

ISC 24 22:52:07.5±0.4, 38°.98N±0°.02×23°.37E±0°.02, h9km±3km, n225, σ0°90/269, mb3.6/4, 6C-4D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEO	**Neokhori**	**0.34**	**340**	*eP*B	**Pg**	**22 52 14.5**	**+0.2**
NEO				*eS*B	**Sg**	**22 52 19.6**	**+0.7**
NEO	**Neokhori**	**0.34**	**340**	*P*	**Pg**	**22 52 14.0**	**-0.3**
NEO	**Neokhori**	**0.34**	**340**	*P*	**Pg**	**22 52 14.5**	**+0.2**
NEO				*S*	**Sg**	**22 52 20.0**	**+1.1**
NEO	**Neokhori**	**0.34**	**340**	*P*	**Pg**	**22 52 14.5**	**+0.2**
NEO				*eS*b	**Sg**	**22 52 19.6**	**+0.7**
NEO				*S*	**Sg**	**22 52 20.0**	**+1.1**
ATAL	**Atalanti**	**0.40**	**224**	*P*	**Pg**	**22 52 15.1**	**-0.2**
ATAL				*S*	**Sg**	**22 52 20.3**	**-0.2**
ATAL	**Atalanti**	**0.40**	**224**	*P*	**Pg**	**22 52 15.1**	**-0.2**
ATAL				*S*	**Sg**	**22 52 20.3**	**-0.2**
AOS	**Alonnisos**	**0.44**	**64**	*P*	**Pg**	**22 52 15.8**	**-0.2**
AOS				*S*	**Sg**	**22 52 22.4**	**+0.6**
AOS	**Alonnisos**	**0.44**	**64**	*P*	**Pg**	**22 52 15.8**	**-0.2**
AOS				*S*	**Sg**	**22 52 22.4**	**+0.6**
LKR	**Lokris**	**0.44**	**221**	*eP*B	**Pg**	**22 52 15.9**	**-0.2**
LKR				*eS*B	**Sg**	**22 52 22.5**	**+0.7**
LKR	**Lokris**	**0.44**	**221**	*P*	**Pg**	**22 52 15.8**	**-0.3**
LKR				*S*	**Sg**	**22 52 22.5**	**+0.7**
LKR	**Lokris**	**0.44**	**221**	*P*	**Pg**	**22 52 15.8**	**-0.3**
LKR				*S*	**Sg**	**22 52 22.5**	**+0.7**
AGG	**Agios Georgios**	**0.81**	**273**	*eP*N	**Pg**	**22 52 22.4**	**-0.7**
AGG				*eS*N	**Sg**	**22 52 33.8**	**+0.1**
AGG	**Agios Georgios**	**0.81**	**273**	*P*	**Pg**	**22 52 22.0**	**-1.1**
AGG	**Agios Georgios**	**0.81**	**273**	*P*	**Pg**	**22 52 22.0**	**-1.1**
AGG				*S*	**Sg**	**22 52 34.3**	**+0.6**
AGG	**Agios Georgios**	**0.81**	**273**	*P*	**Pg**	**22 52 22.0**	**-1.1**
AGG	**Agios Georgios**	**0.81**	**273**	*eP*n	**Pg**	**22 52 22.4**	**-0.7**
AGG				*eS*n	**Sg**	**22 52 33.8**	**+0.1**
AGG				*S*	**Sg**	**22 52 34.3**	**+0.6**
PAIG	**Paliouri**	**0.97**	**14**	*P*	**Pg**	**22 52 25.6**	**-0.6**
PAIG	**Paliouri**	**0.97**	**14**	*P*	**Pg**	**22 52 26.0**	**-0.2**
PAIG				*S*	**Sg**	**22 52 40.1**	**+1.2**
PAIG	**Paliouri**	**0.97**	**14**	*P*	**Pg**	**22 52 25.6**	**-0.6**
PAIG				*S*	**Sg**	**22 52 40.1**	**+1.2**
PTL	**Penteli**	**1.01**	**157**	*P*	**Pg**	**22 52 25.9**	**-1.0**
PTL	**Penteli**	**1.01**	**157**	*P*	**Pg**	**22 52 26.0**	**-0.9**
PTL	**Penteli**	**1.01**	**157**	*P*	**Pg**	**22 52 26.0**	**-0.9**
ATH	**Athens Observa**	**1.04**	**165**	*eP*N	**Pg**	**22 52 26.9**	**-0.6**
ATH				*eS*N	**Sg**	**22 52 41.9**	**+0.8**
ATH	**Athens Observa**	**1.04**	**165**	*P*	**Pg**	**22 52 26.7**	**-0.8**
ATH	**Athens Observa**	**1.04**	**165**	*P*	**Pg**	**22 52 26.9**	**-0.6**
ATH				*S*	**Sg**	**22 52 41.8**	**+0.7**
ATH	**Athens Observa**	**1.04**	**165**	*P*	**Pg**	**22 52 26.9**	**-0.6**
ATH				*eS*n	**Sg**	**22 52 41.9**	**+0.8**
KALE	**Kalithea**	**1.13**	**239**	*P*	**Pg**	**22 52 28.1**	**-1.1**
KALE				*S*	**Sg**	**22 52 44.7**	**+0.8**
KALE	**Kalithea**	**1.13**	**239**	*P*	**Pg**	**22 52 28.1**	**-1.1**
KALE				*S*	**Sg**	**22 52 44.7**	**+0.8**
VLY	**Voula,Athens**	**1.18**	**163**	*P*	**Pb**	**22 52 29.0**	**-1.0**
VLY	**Voula,Athens**	**1.18**	**163**	*P*	**Pb**	**22 52 29.1**	**-0.9**
VLY				*S*	**Sb**	**22 52 46.2**	**+0.9**
VLY	**Voula,Athens**	**1.18**	**163**	*P*	**Pb**	**22 52 29.1**	**-0.9**
VLY				*S*	**Sb**	**22 52 46.2**	**+0.9**
THL	**Klokotos Trika**	**1.20**	**299**	*eP*N	**Pn**	**22 52 29.0**	**-1.5**
THL				*eS*N	**Sn**	**22 52 46.7**	**-0.3**
THL	**Klokotos Trika**	**1.20**	**299**	*P*	**Pb**	**22 52 29.1**	**-1.4**
THL				*S*	**Sb**	**22 52 46.3**	**+0.2**
THL	**Klokotos Trika**	**1.20**	**299**	*P*	**Pb**	**22 52 29.1**	**-1.4**
THL				*S*	**Sb**	**22 52 46.3**	**+0.2**
THL				*eS*n	**Sn**	**22 52 46.7**	**-0.3**
EVR	**Evrytania**	**1.22**	**267**	*eP*N	**Pn**	**22 52 30.3**	**-0.5**
EVR				*eS*N	**Sn**	**22 52 46.5**	**-0.9**
EVR	**Evrytania**	**1.22**	**267**	*P*	**Pn**	**22 52 30.5**	**-0.3**
EVR	**Evrytania**	**1.22**	**267**	*P*	**Pn**	**22 52 30.6**	**-0.2**
EVR				*S*	**Sb**	**22 52 48.8**	**+2.2**
EVR	**Evrytania**	**1.22**	**267**	*eP*n	**Pn**	**22 52 30.3**	**-0.5**
EVR	**Evrytania**	**1.22**	**267**	*P*	**Pn**	**22 52 30.6**	**-0.2**
EVR				*eS*n	**Sn**	**22 52 46.5**	**-0.9**
EVR				*S*	**Sb**	**22 52 48.8**	**+2.2**
LIT	**Litokhoron**	**1.31**	**329**	*P*	**Pn**	**22 52 31.1**	**-0.9**
LIT				*S*	**Sb**	**22 52 50.2**	**+1.0**
LIT	**Litokhoron**	**1.31**	**329**	*P*	**Pn**	**22 52 31.1**	**-0.9**
LIT	**Litokhoron**	**1.31**	**329**	*P*	**Pn**	**22 52 31.1**	**-0.9**
LIT				*S*	**Sb**	**22 52 50.2**	**+1.0**
LAKA	**Lakka**	**1.32**	**236**	*P*	**Pn**	**22 52 31.6**	**-0.5**
LAKA				*S*	**Sb**	**22 52 49.3**	**-0.1**
LAKA	**Lakka**	**1.32**	**236**	*P*	**Pn**	**22 52 31.6**	**-0.5**
LAKA				*S*	**Sb**	**22 52 49.3**	**-0.1**
PLG	**Polygyros**	**1.39**	**2**	*eP*N	**Pn**	**22 52 32.1**	**-1.0**
PLG	**Polygyros**	**1.39**	**2**	*P*	**Pn**	**22 52 31.7**	**-1.4**
PLG	**Polygyros**	**1.39**	**2**	*P*	**Pn**	**22 52 32.0**	**-1.1**
PLG	**Polygyros**	**1.39**	**2**	*eP*n	**Pn**	**22 52 32.1**	**-1.0**
OUR	**Ouranopolis**	**1.43**	**19**	*P*	**Pn**	**22 52 32.4**	**-1.3**
OUR	**Ouranopolis**	**1.43**	**19**	*P*	**Pn**	**22 52 32.8**	**-0.9**
OUR	**Ouranopolis**	**1.43**	**19**	*P*	**Pn**	**22 52 32.8**	**-0.9**
HORT	**Hortiatis**	**1.63**	**353**	*P*	**Pn**	**22 52 35.5**	**-0.9**
HORT	**Hortiatis**	**1.63**	**353**	*P*	**Pn**	**22 52 35.8**	**-0.6**
HORT	**Hortiatis**	**1.63**	**353**	*P*	**Pn**	**22 52 35.8**	**-0.6**
LIA	**Limnos Island**	**1.68**	**56**	*eP*B	**Pn**	**22 52 36.1**	**-0.9**
LIA				*eS*N	**Sn**	**22 52 58.8**	**+0.2**
LIA	**Limnos Island**	**1.68**	**56**	*P*	**Pn**	**22 52 36.2**	**-0.8**
LIA	**Limnos Island**	**1.68**	**56**	*P*	**Pn**	**22 52 35.8**	**-1.2**
LIA				*S*	**Sn**	**22 52 59.8**	**+1.2**
LIA	**Limnos Island**	**1.68**	**56**	*P*	**Pn**	**22 52 36.2**	**-0.8**
LIA				*eS*n	**Sn**	**22 52 58.8**	**+0.2**
LIA				*S*	**Sn**	**22 52 59.8**	**+1.2**
THE	**Thessaloniki**	**1.68**	**349**	*P*	**Pn**	**22 52 35.8**	**-1.3**
THE	**Thessaloniki**	**1.68**	**349**	*P*	**Pn**	**22 52 36.0**	**-1.1**
THE	**Thessaloniki**	**1.68**	**349**	*P*	**Pn**	**22 52 36.0**	**-1.1**
RLS	**Riolos of Patr**	**1.76**	**239**	*P*	**Pn**	**22 52 38.7**	**+0.6**
RLS	**

KULA	Kula-Manisa	4.16	95	*e*PN		Pn	22 53 11.4	+0.2
KULA	Kula-Manisa	4.16	95	*e*Pn		Pn	22 53 11.4	+0.2
KARP	Karpathos	4.57	137	P		Pn	22 53 21.0	+4.2
KARP	Karpathos	4.57	137	P		Pn	22 53 21.0	+4.2
GRUS	Gruza	5.29	339	*e*Pn		Pn	22 53 27.3	+0.6
ELL	Elmali	5.63	111	*e*PN		Pn	22 53 32.3	+0.9
ELL	Elmali	5.63	111	Pn		Pn	22 53 32.4	+1.0
ELL	Elmali	5.63	111	Pn		Pn	22 53 32.4	+1.0
DIVS	Divibare	5.71	335	*e*Pn		Pn	22 53 34.6	+2.2
GZR	Gura Zlata	6.42	356	P		Pn	22 53 42.4	+0.2
GZR	Gura Zlata	6.42	356	⇑*i*P		Pn	22 53 42.4	+0.2
GZR	Gura Zlata	6.42	356	P		Pn	22 53 42.4	+0.2
LOT	Lotru	6.47	2	P		Pn	22 53 43.4	+0.5
LOT	Lotru	6.47	2	⇑*i*P		Pn	22 53 43.4	+0.5
LOT	Lotru	6.47	2	P		Pn	22 53 43.4	+0.5
BZS	Buzias	6.76	349	P		Pn	22 53 46.1	-0.7
BZS	Buzias	6.76	349	⇑*i*P		Pn	22 53 46.1	-0.7
BZS	Buzias	6.76	349	P		Pn	22 53 46.1	-0.7
MLR	Muntele Rosu	6.78	16	Pn		Pn	22 53 48.1	+1.0
	0.4nm,0.3s,baz=274,slow=8.7,SNR=14							
MLR				Sn		Sn	22 55 04.1	-0.3
	0.2nm,0.3s,baz=236,slow=21,SNR=1.2							
MLR	Muntele Rosu	6.78	16	Pn		Pn	22 53 48.1	+1.0
MLR				Sn		Sn	22 55 04.1	-0.3
MLR	Muntele Rosu	6.78	16	⇓*i*P		Pn	22 53 48.1	+1.0
MLR	Muntele Rosu	6.78	16	⇓*i*P		Pn	22 53 48.1	+1.0
MLR				Sn		Sn	22 55 04.1	-0.3
PLOR	Plostina	7.28	18	⇓*i*P		Pn	22 53 56.3	+2.3
TESR		7.90	17	P		Pn	22 54 04.0	+1.5
TESR		7.90	17	⇑*i*P		Pn	22 54 04.1	+1.6
TESR		7.90	17	P		Pn	22 54 04.0	+1.5
BRTR	Keskin Array B	7.99	81	Pn		Pn	22 54 06.1	+2.3
	0.1nm,0.3s,baz=262,slow=13,SNR=4.1							
BRTR	Keskin Array B	7.99	81	Pn		Pn	22 54 06.1	+2.3
BURAR	Bucovina Array	8.73	8	P		Pn	22 54 14.9	+1.0
BURAR	Bucovina Array	8.73	8	⇓*i*P		Pn	22 54 14.9	+1.0
BURAR	Bucovina Array	8.73	8	P		Pn	22 54 14.9	+1.0
MMAI	Mount Meron Ar	11.41	118	Pn		Pn	22 54 51.3	+0.6
	0.3nm,0.3s,baz=306,slow=12,SNR=3.4							
MMAI	Mount Meron Ar	11.41	118	Pn		Pn	22 54 51.3	+0.6
MMAI	Mount Meron Ar	11.41	118	Pn		Pn	22 54 51.3	+0.6
ESDC	Sonseca Array	21.13	281	P		P	22 56 52.7	+0.1
	0.6nm,0.5s,mb3.2,baz=77,slow=11,SNR=7.5							
ESDC	Sonseca Array	21.13	281	P		P	22 56 52.7	+0.1
ESDC	Sonseca Array	21.13	281	P		P	22 56 52.7	+0.1
TORD	Torodi Ar. Bea	32.10	223	P		P	22 58 34.3	-0.7
	1.3nm,0.6s,mb3.9,baz=34,slow=9.0,SNR=19							
TORD	Torodi Ar. Bea	32.10	223	P		P	22 58 34.4	-0.7
TORD	Torodi Ar. Bea	32.10	223	P		P	22 58 34.3	-0.8
MSKU	Masuku	41.42	195	LR		LR	23 17 04.6	
	comp=Z,34nm,18.2s,baz=115,slow=36							
MKAR	Makanchi Array	42.97	60	P		P	23 00 07.3	+0.5
	0.8nm,0.6s,mb3.6,baz=271,slow=8.7,SNR=7.0							
MKAR	Makanchi Array	42.97	60	P		P	23 00 07.3	+0.5
MKAR	Makanchi Array	42.97	60	P		P	23 00 07.3	+0.5
ZALV	Zalesovo Beam	43.49	49	P		P	23 00 11.0	+0.1
	0.9nm,0.6s,mb3.7,baz=270,slow=7.9,SNR=4.9							
ZALV	Zalesovo Beam	43.49	49	P		P	23 00 11.0	+0.1
ZALV	Zalesovo Beam	43.49	49	P		P	23 00 11.0	+0.1

IDC ***24*** *22:59:54.4±0.6,35.89N×141.51E,h0km,mb4.1/19, mb1 4.2/23,mb1mx4.2/34,mbtmp4.2/23,ML3.9/4,MS3.5/12, Ms1 3.6/12,ms1mx3.2/40,Error ellipse: s-maj=18.1km s-min=13.5km az=87.0*

ISCJB ***24*** *22:59:56.0±1.1,35.92N±0.03×141.64E±0.06,h27km±7km, mb4.3/30,MS3.6/8,Error ellipse: s-maj=7.9km s-min=5.6km az=173.2*

MOS ***24*** *22:59:56.7±1.3,35.90N×141.64E,h33km,mb4.4/16,Error ellipse: s-maj=13.9km s-min=8.5km az=130.4*

NEIC ***24*** *22:59:58.5±4.2,35.85N×141.49E,h29km±29km,mb4.6/7, MW4.2(NIED),Error ellipse: s-maj=14.5km s-min=9.4km az=67.0*

NEIC Recorded [2 JMA] in Ibaraki and [1 JMA] in Chiba and Tochigi.

JMA ***24*** *22:59:58.4±0.2,35.95N×141.45E,h39km±2km,M4.3 JMA Felt II J1.*

NIED ***24*** *23:00:00,36.00N×141.50E,h26km,Mw4.2 Best double couple: M0≥2.19000×10^15 NP1:φs≥20.00000°,δ74.00000°, λ79.00000°. NP2:φs≥235.00000°,δ19.00000°,λ123.00000°.*

ISC 24 22:59:55.4±1.2,35.93N±0.03×141.63E±0.05,h10km±6km, n111,σ1s06/120,mb4.3/30,MS3.6/8,5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	Chosi	0.67	250	⇓P	Pg	23 00 09.4	+1.1
CHOJ				*e*S	Sg	23 00 17.6	+0.6
JHO	Hitachi	1.09	309	⇓P	Pb	23 00 15.8	-0.5
JHO				*e*S	Sg	23 00 29.8	-0.7
JYT	Yasato	1.20	285	⇓P	Pb	23 00 16.8	-1.3
JYT				*e*S	Sb	23 00 30.2	-3.5
BSO1	Boso 1	1.38	203	P	Pn	23 00 22.0	+1.3
BSO1				*e*S	Sb	23 00 38.6	-0.4
BSO3	Boso 3	1.45	219	P	Pn	23 00 22.1	+0.4
JFK	Kawauchi	1.55	337	P	Pn	23 00 23.4	+0.3
JAG	Ashikaga	1.82	286	⇓P	Pn	23 00 25.9	-0.9
JAG				*e*S	Sn	23 00 46.3	-3.7
JFT	Otama	1.89	327	⇓P	Pn	23 00 29.0	+1.3
JFT				*e*S	Sn	23 00 51.3	-0.3
MJAR	Matsushiro Arr	2.83	283	Pn	Pn	23 00 40.7	+0.1
	18nm,0.3s,baz=64,slow=20,SNR=86						
MJAR				Sn	Sn	23 01 16.7	+2.0
	20nm,0.3s,baz=151,slow=39,SNR=2.0						
MJAR				LR	LR	23 01 50.7	
	comp=Z,873nm,21.7s,baz=55,slow=43						
MJAR	Matsushiro Arr	2.83	283	Pn	Pn	23 00 40.7	+0.1
MJAR				Sn	Sn	23 01 16.7	+2.0
MJAR	Matsushiro Arr	2.83	283	P	Pn	23 00 40.7	+0.1
MJAR						23 01 16.7	
MJAR				pmax	pmax		
	comp=Z,18nm,0.3s						
MJAR				smax			
	comp=N,20nm,0.3s						
MAJO	Matsushiro	2.83	283	*e*Pn	Pn	23 00 41.1	+0.5
MAJO	Matsushiro	2.83	283	*e*P	Pn	23 00 41.1	+0.5
MAT	Matsushiro	2.83	283	P	Pn	23 00 41.0	+0.4
MAT				*e*S	Sn	23 01 15.6	+0.8
JHJ	Hachijo jima 2	3.19	209	Pn	Pn	23 00 44.2	-1.5
	comp=N,26nm,0.3s,baz=0.0,slow=11,SNR=3.1						
JHJ				Sn	Sn	23 01 20.1	-3.7
	comp=N,80nm,0.3s,baz=75,slow=24,SNR=9.6						
JHJ				LR	LR	23 01 23.1	
	comp=N,592nm,18.6s,baz=203,slow=29						
ASAJ	Asahikawa	8.21	5	Pn	Pn	23 01 54.6	+0.2
	comp=N,1.5nm,0.3s,baz=189,slow=4.4,SNR=6.2						
ASAJ				Sn	Sn	23 03 25.3	-1.9
	comp=N,1.1nm,0.3s,baz=116,slow=33,SNR=1.5						
ASAJ				LR	LR	23 05 58.3	
	comp=N,147nm,18.9s,baz=316,slow=44						
ASAJ	Asahikawa	8.21	5	Pn	Pn	23 01 54.6	+0.2
ASAJ				Sn	Sn	23 03 25.3	-1.9
ASAJ	Asahikawa	8.21	5	P	Pn	23 01 54.6	+0.2
ASAJ						23 03 25.3	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
CBIJ	Chichi jima	8.82	177	Pn	Pn	23 02 00.7	-2.3
	comp=N,6.1nm,0.3s,baz=279,slow=5.6,SNR=7.2						
CBIJ				Sn	Sn	23 03 33.2	-9.3
	comp=N,6.3nm,0.3s,baz=234,slow=21,SNR=2.3						
CBIJ	Chichi jima	8.82	177	Pn	Pn	23 02 00.7	-2.3
CBIJ				Sn	Sn	23 03 33.2	-9.3
KSRS	Korea Array	11.11	282	Pn	Pn	23 02 38.4	+4.1
	comp=N,0.6nm,0.3s,baz=102,slow=14,SNR=6.1						
KSRS				LR	LR	23 06 47.0	
	comp=N,186nm,19.2s,baz=277,slow=37						
KSRS	Korea Array	11.11	282	P	Pn	23 02 38.4	+4.2
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSAR	Wonju Array Be	11.14	282	Pn	Pn	23 02 38.4	+3.7
KSAR	Wonju Array Be	11.14	282	P	Pn	23 02 38.4	+3.8
GUMO	Guam	22.44	172	P	P	23 04 52.1	-2.4
GUMO	Guam	22.44	172	P	P	23 04 52.1	-2.4
YAK	Yakutsk	27.18	348	*e*P	P	23 05 37.8	-0.9
YAK				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.5						
YAK				pmax	pmax		
	comp=N,7.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.2s						
ENH	Enshi	27.43	267	*e*P	P	23 05 41.2	-0.1
	comp=E,9.8nm,0.9s,mb4.3						
SONM	Songino Array	28.55	306	P	P	23 05 50.5	-0.7
	comp=E,2.5nm,0.7s,mb4.1,baz=109,slow=8.6,SNR=15						
SONM				LR	LR	23 17 35.7	
	comp=E,109nm,19.7s,MS3.5,baz=321,slow=37						
SONM	Songino Array	28.55	306	P	P	23 05 50.5	-0.7
SONM	Songino Array	28.55	306	P	P	23 05 50.5	-0.7
SONM				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,109nm,19.7s						
CMAR	Chiang Mai Arr	41.40	257	P	P	23 07 42.2	+0.2
	comp=Z,0.4nm,0.4s,mb3.4,baz=50,slow=6.5,SNR=5.8						
CMAR				LR	LR	23 26 42.6	
	comp=Z,48nm,19.8s,MS3.4,baz=80,slow=39						
CMAR	Chiang Mai Arr	41.40	257	P	P	23 07 42.2	+0.2
CMAR	Chiang Mai Arr	41.40	257	P	P	23 07 42.2	+0.2
CMAR				MLR	MLR		
	comp=Z,48nm,19.8s						
ZAA0	Zalesovo Array	42.79	313	*e*P	P	23 07 52.3	-0.6
ZAA0				*e*PcP	PcP	23 09 43.0	-1.1
ZALV	Zalesovo Beam	42.79	313	P	P	23 07 53.2	+0.2
	comp=Z,4.7nm,0.7s,mb4.3,baz=83,slow=6.9,SNR=27						
ZALV				PcP	PcP	23 09 44.7	+0.6
	comp=Z,1.3nm,0.7s,baz=120,slow=3.6,SNR=4.2						
ZALV				LR	LR	23 26 45.3	
	comp=Z,36nm,18.8s,MS3.3,baz=77,slow=38						
ZALV	Zalesovo Beam	42.79	313	P	P	23 07 53.2	+0.2
ZALV				PcP	PcP	23 09 44.7	+0.6
ZALV	Zalesovo Beam	42.79	313	P	P	23 07 53.2	+0.3
ZALV						23 09 44.7	
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
NVS	Novosibirsk	43.73	315	*e*P	P	23 07 57.8	-2.7
MK31	Makanchi Array	44.85	303	*e*P	P	23 08 09.9	+0.2
MK31	Makanchi Array	44.85	303	*e*P	P	23 08 09.9	+0.3
MKAR	Makanchi Array	44.85	303	P	P	23 08 09.9	+0.2
	comp=Z,2.2nm,0.6s,mb4.2,baz=85,slow=9.1,SNR=28						
MKAR				LR	LR	23 27 41.0	
	comp=Z,69nm,19.1s,MS3.6,baz=173,slow=37						
MKAR	Makanchi Array	44.85	303	P	P	23 08 09.9	+0.2
MKAR	Makanchi Array	44.85	303	P	P	23 08 09.9	+0.3
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,69nm,19.1s						
KURK	Kurchatov	46.75	309	P	P	23 08 25.2	+0.7
	comp=Z,7.5nm,0.5s,mb4.9,baz=84,slow=8.0,SNR=35						
KURK				LR	LR	23 28 49.0	
	comp=Z,68nm,20.4s,MS3.6,baz=70,slow=37						
KURK	Kurchatov	46.75	309	*e*P	P	23 08 22.7	-1.9
	comp=Z,13nm,0.8s,mb4.9						
KURK				*e*		23 08 34.3	
KURK	Kurchatov	46.75	309	P	P	23 08 25.2	+0.6
KURK				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.9						
KURK				MLR	MLR		
	comp=Z,68nm,20.4s,MS3.6						
RAMN	Ramite	47.26	275	*e*P	P	23 08 29.0	+0.1
JIRN	Jiri	47.30	276	*e*P	P	23 08 29.7	+0.5
	comp=Z,27nm,0.9s,mb5.2						
GUN	Gumba	47.45	277	*e*P	P	23 08 30.4	+0.1
PKI	Pulchoki	47.97	277	*e*P	P	23 08 34.1	-0.2
	comp=Z,16nm,0.8s,mb5.1						
KKN	Kakani	47.98	277	*e*P	P	23 08 34.3	-0.1
	comp=Z,26nm,1.0s,mb5.2						
DMN	Daman	48.19	277	*e*P	P	23 08 35.7	-0.4
GKN	Gorkha	48.41	277	*e*P	P	23 08 37.8	0.0
	comp=Z,54nm,0.8s						
DANN	Dangsing	48.97	278	*e*P	P	23 08 42.6	+0.5
	comp=Z,66nm,0.8s						
KOLN	Koldanda	49.34	278	*e*P	P	23 08 45.2	+0.3
	comp=Z,7.6nm,0.6s,mb4.9						
PYUN	Piuthan	49.69	278	*e*P	P	23 08 48.0	+0.4
ILAR	Eielson Array	50.33	32	P	P	23 08 54.2	+2.3
	comp=Z,0.7nm,0.8s,mb3.7,baz=272,slow=5.7,SNR=6.8						
ILAR	Eielson Array	50.33	32	P	P	23 08 54.2	+2.3
ILAR	Eielson Array	50.33	32	P	P	23 08 54.2	+2.3
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AAK	Ala-Archa	51.17	299	*e*P	P	23 08 56.2	-2.4
	comp=Z,12nm,0.8s,mb4.9						
AAK	Ala-Archa	51.17	299	*e*P	P	23 08 56.2	-2.4
AAK				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
BVAR	Borovoye Array	51.44	313	P	P	23 09 00.9	+0.4
	comp=Z,2.0nm,0.6s,mb4.2,baz=71,slow=7.9,SNR=9.2						
BVAR	Borovoye Array	51.44	313	P	P	23 09 00.9	+0.4
BVAR	Borovoye Array	51.44	313	P	P	23 09 00.9	+0.4
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KKAR	Karatay Array	53.83	301	*e*P	P	23 09 17.2	-1.1
	comp=Z,1.3nm,0.6s,mb4.0						
KKAR				*e*		23 09 27.9	
KKAR	Karatay Array	53.83	301	*e*P	P	23 09 17.2	-1.1
KKAR				*e*		23 09 27.9	
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
INK	Inuvik	55.29	27	P	P	23 09 30.8	+2.3
	comp=Z,0.7nm,0.7s,mb3.8,baz=300,slow=2.9,SNR=2.7						
INK	Inuvik	55.29	27	P	P	23 09 30.8	+2.3
INK	Inuvik	55.29	27	P	P	23 09 30.8	+2.3
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FITZ	Fitzroy Crossi	55.83	198	P	P	23 09 33.8	+0.9
	comp=Z,2.9nm,0.9s,mb4.3,baz=44,slow=9.1,SNR=4.2						
FITZ	Fitzroy Crossi	55.83	198	P	P	23 09 33.8	+0.9
WRA	Warramunga Arr	56.00	188	P	P	23 09 34.1	0.0
	comp=Z,2.7nm,0.8s,mb4.3,baz=2.7,slow=7.6,SNR=13						
WRA	Warramunga Arr	56.00	188	P	P	23 09 34.1	0.0
WRA	Warramunga Arr	56.00	188	P	P	23 09 34.1	0.0
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARU	Arti	57.30	319	*e*P	P	23 09 41.8	-1.3
	comp=Z,13nm,1.0s,mb4.9						
ARU				*e*		23 09 53.5	
ARU	Arti	57.30	319	P	P	23 09 43.2	+0.2
ABKAR	Akbulak array	58.78	311	*e*P	P	23 09 51.1	-2.4
	comp=Z,0.9nm,0.4s,mb4.2						
AKTO	Aktyubinsk	59.54	312	P	P	23 09 59.1	+0.4
	comp=Z,2.0nm,0.9s,mb4.1,baz=51,slow=6.5,SNR=4.7						
AKTO	Aktyubinsk	59.54	312	P	P	23 09 59.1	+0.4
AKTO	Aktyubinsk	59.54	312	P	P	23 09 59.1	+0.3
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
ASAR	Alice Springs	59.72	188	P	P	23 10 00.7	+0.5
	comp=Z,0.9nm,0.8s,mb3.9,baz=16,slow=6.1,SNR=7.0						
ASAR	Alice Springs	59.72	188	P	P	23 10 00.7	+0.5
ASAR	Alice Springs	59.72	188	P	P	23 10 00.7	+0.5
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	ARCESS Array B	65.08	340	LR	LR	23 40 26.5	
	comp=Z,42nm,18.3s,MS3.7,baz=359,slow=37						
FINES	FINESS Array B	69.87	332	P	P	23 11 06.4	+0.4
	comp=Z,8.0nm,1.1s,mb4.5,baz=73,slow=6.6,SNR=5.9						
FINES	FINESS Array B	69.87	332	P	P	23 11 06.4	+0.4
FINES	FINESS Array B	69.87	332	P	P	23 11 06.4	+0.4
FINES				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HLID	Hailey	75.00	47	*e*P	P	23 11 31.9	-5.0
	comp=Z,3.0nm,0.8s,mb4.3						
HFS	Hagfors	75.16	336	P	P	23 11 38.8	+1.3
	comp=Z,5.2nm,1.0s,mb4.4,baz=83,slow=12,SNR=3.1						
HFS	Hagfors	75.16	336	P	P	23 11 38.8	+1.3
HFS	Hagfors	75.16	336	P	P	23 11 38.8	+1.3
HFS				pmax	pmax		
	comp=Z,5.0nm,1.0s						
NB2	NORSAR Subarra	75.27	337	P	P	23 11 39.0	+0.9
	comp=Z,0.8nm,0.6s,mb3.8,baz=39,slow=6.2						
NOA	NORSAR Array B	75.27	337	P	P	23 11 38.8	+0.7
	comp=Z,1.1nm,0.8s,mb3.9,baz=42,slow=5.4,SNR=3.6						
NOA				LR	LR	23 47 40.3	
	comp=Z,52nm,19.5s,MS3.8,baz=340,slow=38						
NOA	NORSAR Array B	75.27	337	P	P	23 11 38.8	+0.7
NOA	NORSAR Array B	75.27	337	P	P	23 11 38.8	+0.7
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,52nm,19.5s						
AKASG	Malin Array Be	75.27	323	P	P	23 11 38.5	+0.1
	comp=Z,2.2nm,0.5s,mb4.3,baz=47,slow=5.7,SNR=13						
AKASG	Malin Array Be	75.27	323	P	P	23 11 38.5	+0.1
AKASG	Malin Array Be	75.27	323	P	P	23 11 38.5	+0.2
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NVAR	Mina Array Bea	75.51	53	P	P	23 11 40.8	+0.8
	comp=Z,0.8nm,0.6s,mb3.9,baz=310,slow=7.9,SNR=3.5						
NVAR	Mina Array Bea	75.51	53	P	P	23 11 40.8	+0.8
BRTR	Keskin Array B	79.71	312	P	P	23 12 04.0	+0.6
	comp=Z,1.1nm,0.8s,mb3.9,baz=145,slow=5.7,SNR=4.7						
BRTR	Keskin Array B	79.71	312	P	P	23 12 04.0	+0.7
BRTR	Keskin Array B	79.71	312	P	P	23 12 04.0	+0.6
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	GERESS Array B	83.74	328	P	P	23 12 25.0	+0.5
	comp=Z,0.5nm,0.6s,mb3.8,baz=35,slow=4.9,SNR=5.6						
GERES				LR	LR	23 54 16.6	
	comp=Z,63nm,18.0s,MS4.0,baz=132,slow=39						
GERES	GERESS Array B	83.74	328	P	P	23 12 25.0	+0.5
GERES	GERESS Array B	83.74	328	P	P	23 12 25.0	+0.6
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES				MLR	MLR		
	comp=Z,63nm,18.0s						
TORD	Torodi Ar. Bea	118.23	315	PKP	PKPdf	23 18 42.5	-0.9
	comp=Z,0.4nm,1.0s,baz=146,slow=2.8,SNR=3.0						
TORD	Torodi Ar. Bea	118.23	315	PKP	PKPdf	23 18 42.5	-0.9
LPAZ	La Paz	147.09	61	PKPbc	PKPbc	23 19 40.4	+1.4
	comp=Z,1.3nm,0.8s,baz=21,slow=3.4,SNR=4.8						
LPAZ	La Paz	147.09	61	PKPbc	PKPbc	23 19 40.4	+1.4

ISCJB ***24*** *23:13:38.0±0.6,36.27N±0.04×71.3E±0.1,h147km±10km, Error ellipse: s-maj=13.7km s-min=5.2km az=166.9*

NEIC ***24*** *23:13:39.3±3.4,36.35N×71.05E,h103km±25km,mb3.2/1, Error ellipse: s-maj=33.4km s-min=20.5km az=197.0*

NNC ***24*** *23:13:43.7±5.8,37.17N×70.55E,h0km,mb3.4,mpv3.2, Error ellipse: s-maj=69.7km s-min=43.6km az=97.0*

IDC ***24*** *23:13:58.8±13.0,37.01N×71.11E,h294km±140km, mb2.7/1,mb1 2.9/6,mb1mx2.6/29,mbtmp2.8/6,Error ellipse: s-maj=85.4km s-min=48.0km az=13.0*

ISC 24 23:13:38.8±0.6,36.25N±0.04×71.3E±0.1,h150km±10km, n37,σ0s99/44,3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.48	167	⇓P	Pn	23 14 19.6	-0.2
CEP				S	Sn	23 14 52.0	+0.7
CHCP	Chirah Chowk	3.07	147	P	Pn	23 14 28.2	+1.1
THW	Thamme Wali	3.47	173	P	Pn	23 14 32.3	0.0
AML	Almayashu	6.17	17	P	Pn	23 15 07.7	0.0
	SNR=71						
KZA	Kyzart	6.60	27	P	Pn	23 15 13.5	+0.2
	SNR=8.0						
EKS2	Erkin-Say	6.69	16	P	Pn	23 15 15.4	+0.8
	SNR=20						
EKS2	Erkin-Say	6.69	16	*e*Pn	Pn	23 15 14.4	-0.2
	7.9nm,0.6s						
EKS2				*e*S	Sn	23 16 29.1	-0.7
AAK	Ala-Archa	6.85	21	P	Pn	23 15 17.1	+0.3
	SNR=15						
AAK	Ala-Archa	6.85	21	*e*Pn	Pn	23 15 16.9	+0.1
	43nm,0.4s						
AAK				*e*S	Sn	23 16 34.0	+0.4
KK31	Karatay Array	6.87	355	Pn	Pn	23 15 15.5	-1.5
	0.7nm,0.2s,baz=171,slow=12,SNR=20						
KK31				⇓Sn	Sn	23 16 28.0	-5.9
	9.2nm,0.7s,baz=181,slow=24						
KKAR	Karatay Array	6.87	355	*e*Pn	Pn	23 15 15.8	-1.1
	3.8nm,0.3s						
KKAR				S	Sn	23 16 28.1	-5.8
CHMS	Chumysh	7.26	21	P	Pn	23 15 22.1	-0.1
	SNR=6.0						
USP	Ospenovka	7.44	19	P	Pn	23 15 25.0	+0.4
	SNR=5.0						
DANN	Dangsing	13.19	123	*e*P	Pn	23 16 39.3	-1.1
	8.4nm,0.4s						
MKAR	Makanchi Array	13.38	35	P	Pn	23 16 51.1	+8.5
	0.1nm,0.3s,baz=218,slow=11,SNR=4.7						
MKAR	Makanchi Array	13.38	35	P	Pn	23 16 51.1	+8.5
KOLN	Koldanda	13.46	125	*e*P	Pn	23 16 43.3	-0.5
	3.5nm,0.3s						
GKN	Gorkha	14.00	122	*e*P	Pn	23 16 49.7	-1.0
	4.2nm,0.3s						
KKN	Kakani	14.58	121	*e*P	Pn	23 16 57.3	-0.6
	9.0nm,0.5s						
PKI	Pulchoki	14.80	122	*e*P	Pn	23 17 00.7	-0.1
GUN	Gumba	14.92	120	*e*P	Pn	23 17 02.3	+0.1
JIRN	Jiri	15.29	120	*e*P	Pn	23 17 06.1	-0.7
	7.3nm,0.3s						
AB31	Akbulak array	15.40	331	Pn	Pn	23 17 07.0	-0.9
	0.2nm,0.3s,baz=2.2,slow=28,SNR=27						
AB31				Sn	Sn	23 19 46.0	-13
	0.7nm,0.6s,baz=146,slow=24,SNR=3.9						
ABKAR	Akbulak array	15.40	331	*e*P	Pn	23 17 07.0	-0.9
	0.6nm,0.4s						
ABKAR				*e*S	S	23 19 44

IZM				*e*Sg		**Sg**	**23 30 29.9**	**+0.3**
GCAM	**G?zelcaml?**	**0.71**	**129**	*i* P		**Pg**	**23 30 24.0**	**+0.9**
GCAM				*i* S		**Sg**	**23 30 33.7**	**+1.4**
GCAM	**G?zelcaml?**	**0.71**	**129**	*i* P		**Pg**	**23 30 24.0**	**+0.9**
AYVA	**Ayvalik**	**1.16**	**6**	*i* P		**Pg**	**23 30 31.6**	**-0.2**
AYVA				*i* S		**Sg**	**23 30 48.0**	**+1.1**
AYVA	**Ayvalik**	**1.16**	**6**	*i* P		**Pg**	**23 30 31.6**	**-0.2**
AYVA				*i* S		**Sg**	**23 30 48.0**	**+1.1**
AYDN	**Tasoluk**	**1.17**	**114**	*i* P		**Pg**	**23 30 32.5**	**+0.6**
AYDN				*i* S		**Sg**	**23 30 47.4**	**+0.3**
AYDN	**Tasoluk**	**1.17**	**114**	*i* P		**Pg**	**23 30 32.5**	**+0.6**
AYDN				*i* S		**Sg**	**23 30 47.4**	**+0.3**
AKHS	**Akhisar**	**1.24**	**54**	*i* P		**Pg**	**23 30 32.2**	**-1.1**
AKHS				*i* S		**Sg**	**23 30 47.4**	**-2.0**
AKHS	**Akhisar**	**1.24**	**54**	*i* P		**Pg**	**23 30 32.2**	**-1.1**
AKHS				*i* S		**Sg**	**23 30 47.4**	**-2.0**
AKS	**Akhisar**	**1.24**	**54**	*e*PN		**Pn**	**23 30 33.4**	**-0.5**
AKS	**Akhisar**	**1.24**	**54**	*e*Pn		**Pn**	**23 30 33.4**	**-0.4**
BODT	**Bodrum**	**1.25**	**150**	*e*PN		**Pn**	**23 30 33.2**	**-0.7**
BODT	**Bodrum**	**1.25**	**150**	*e*Pn		**Pn**	**23 30 33.2**	**-0.7**
MLSB	**Milas**	**1.30**	**130**	*e*PN		**Pn**	**23 30 33.8**	**-0.9**
MLSB	**Milas**	**1.30**	**130**	*e*Pn		**Pn**	**23 30 33.8**	**-0.9**
APE	**Apeiranthos**	**1.34**	**217**	*e*PN		**Pn**	**23 30 35.4**	**+0.3**
APE	**Apeiranthos**	**1.34**	**217**	*e*Pn		**Pn**	**23 30 35.4**	**+0.2**
MANT	**Manisa**	**1.63**	**77**	*i* P		**Pn**	**23 30 40.7**	**+1.5**
MANT				*i* S		**Sn**	**23 30 59.9**	**-0.8**
MANT	**Manisa**	**1.63**	**77**	*i* P		**Pn**	**23 30 40.7**	**+1.6**
MANT				*i* S		**Sn**	**23 30 59.9**	**-0.8**
DAT	**Datca**	**1.65**	**149**	*e*PN		**Pn**	**23 30 38.7**	**-0.6**
DAT	**Datca**	**1.65**	**149**	*e*Pn		**Pn**	**23 30 38.7**	**-0.7**
EZN	**Ezine**	**1.68**	**355**	*e*PN		**Pn**	**23 30 40.3**	**+0.4**
EZN	**Ezine**	**1.68**	**355**	*e*Pn		**Pn**	**23 30 40.3**	**+0.4**
KULA	**Kula-Manisa**	**1.71**	**77**	*e*PN		**Pn**	**23 30 39.6**	**-0.7**
KULA	**Kula-Manisa**	**1.71**	**77**	*e*Pn		**Pn**	**23 30 39.6**	**-0.7**
YER	**Yerkesik**	**1.72**	**126**	*e*PN		**Pn**	**23 30 39.0**	**-1.4**
YER	**Yerkesik**	**1.72**	**126**	*e*Pn		**Pn**	**23 30 39.0**	**-1.4**
BALY	**Balya**	**1.80**	**28**	*i* P		**Pn**	**23 30 42.5**	**+0.9**
BALY				*i* S		**Sn**	**23 31 05.1**	**+0.2**
BALY	**Balya**	**1.80**	**28**	*i* P		**Pn**	**23 30 42.5**	**+1.0**
BALY				*i* S		**Sn**	**23 31 05.1**	**+0.2**
BALB	**Balikesir**	**1.82**	**35**	*e*PN		**Pn**	**23 30 41.5**	**-0.3**
BALB	**Balikesir**	**1.82**	**35**	*e*Pn		**Pn**	**23 30 41.5**	**-0.3**
DEMI	**Demirci**	**1.93**	**62**	*i* P		**Pn**	**23 30 47.2**	**+3.9**
DEMI				*i* S		**Sn**	**23 31 09.8**	**+1.6**
GADA	**Gvkgeada**	**2.10**	**347**	*e*PN		**Pn**	**23 30 46.0**	**+0.4**
GADA	**Gvkgeada**	**2.10**	**347**	*e*Pn		**Pn**	**23 30 46.0**	**+0.4**
DST	**Dursunbey**	**2.18**	**48**	*e*PN		**Pn**	**23 30 45.9**	**-0.9**
DST	**Dursunbey**	**2.18**	**48**	*e*Pn		**Pn**	**23 30 45.9**	**-0.9**
LPK	**Lapseki**	**2.23**	**4**	*e*PN		**Pn**	**23 30 47.2**	**-0.2**
LPK	**Lapseki**	**2.23**	**4**	*e*Pn		**Pn**	**23 30 47.2**	**-0.2**
GELI	**Tayfur-Gelibol**	**2.25**	**359**	*e*PN		**Pn**	**23 30 47.1**	**-0.5**
GELI	**Tayfur-Gelibol**	**2.25**	**359**	*e*Pn		**Pn**	**23 30 47.1**	**-0.5**
KRBG	**Karabiga-Canak**	**2.32**	**15**	*e*PN		**Pn**	**23 30 48.9**	**+0.3**
KRBG	**Karabiga-Canak**	**2.32**	**15**	*e*Pn		**Pn**	**23 30 48.9**	**+0.3**
KHAL	**Karahalli**	**2.34**	**84**	*i* P		**Pn**	**23 30 55.3**	**+6.4**
KHAL				*i* S		**Sn**	**23 31 22.6**	**+4.3**
BNT	**Bandirma**	**2.45**	**26**	*e*PN		**Pn**	**23 30 51.1**	**+0.6**
BNT	**Bandirma**	**2.45**	**26**	*e*Pn		**Pn**	**23 30 51.1**	**+0.6**
KCTX	**Karacabey (Bur**	**2.54**	**33**	*e*PN		**Pn**	**23 30 52.1**	**+0.3**
KCTX	**Karacabey (Bur**	**2.54**	**33**	*e*Pn		**Pn**	**23 30 52.1**	**+0.4**

IDC 24 23:54:38.9±3.2, 7.°27S×108.°13W, h0km, mb3.7/5, mb1 4.1/5, mb1mx3.9/15, mbtmp3.7/5, MS3.6/8, Ms1 3.6/8, ms1mx3.3/24, Error ellipse: s-maj=166.0km s-min=47.9km az=104.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**27.52**	**28**	LR	LR	00 08 39.3	
	comp=Z,188nm,20.1s,baz=190,slow=30						
JTS	**JuntasAbangare**	**28.93**	**53**	LR	LR	00 09 20.8	
	comp=Z,79nm,18.2s,baz=137,slow=30						
TXAR	**Lajitas Array**	**36.64**	**7**	P	P	00 01 47.6	+0.4
	0.6nm,0.7s,baz=192,slow=8.0,SNR=3.3						
LPAZ	**La Paz**	**40.10**	**107**	LR	LR	00 14 59.9	
	comp=Z,57nm,20.8s,baz=59,slow=30						
CFAA	**Coronel Fontan**	**44.36**	**128**	LR	LR	00 14 56.6	
	comp=Z,5.9nm,21.1s,baz=160,slow=28						
NVAR	**Mina Array Bea**	**46.44**	**349**	P	P	00 03 09.2	+1.7
	0.5nm,0.8s,baz=184,slow=12,SNR=3.8						
NVAR				LR	LR	00 17 08.2	
	comp=Z,31nm,21.0s,baz=306,slow=29						
PLCA	**Paso Flores**	**47.22**	**141**	LR	LR	00 17 19.0	
	comp=Z,129nm,20.1s,baz=150,slow=29						
PDAR	**Pinedale Array**	**49.81**	**359**	P	P	00 03 33.1	-0.4
	0.8nm,0.7s,baz=155,slow=5.1,SNR=7.5						
CPUP	**Villa Florida**	**51.82**	**118**	LR	LR	00 21 52.9	
	comp=Z,65nm,21.8s,baz=89,slow=32						
RCBR	**Riachuelo**	**71.70**	**94**	LR	LR	00 35 14.9	
	comp=Z,50nm,18.6s,baz=48,slow=34						
ILAR	**Eielson Array**	**77.41**	**344**	P	P	00 06 34.0	-1.5
	0.5nm,0.8s,baz=153,slow=5.7,SNR=5.9						
INK	**Inuvik**	**77.49**	**351**	P	P	00 06 35.9	0.0
	2.0nm,1.1s,baz=161,slow=8.2,SNR=2.2						
PETK	**Petropavlovsk-**	**98.27**	**323**	LR	LR	00 43 20.4	
	comp=Z,42nm,19.1s,baz=89,slow=30						
KURK	**Kurchatov**	**136.33**	**354**	PKP	PKPdf	00 14 03.4	+0.8
	0.5nm,0.8s,baz=1.9,slow=2.5,SNR=4.2						
MKAR	**Makanchi Array**	**139.61**	**349**	PKP	PKPdf	00 14 07.8	-1.0
	0.5nm,0.7s,baz=157,slow=0.9,SNR=3.8						
CMAR	**Chiang Mai Arr**	**151.41**	**295**	PKPbc	PKPbc	00 14 36.0	+0.3
	1.1nm,0.4s,baz=58,slow=1.2,SNR=7.5						

IDC 24 23:58:47.5±4.8, 30.°06N×67.°91E, h0km, mb3.3/5, mb1 3.4/5, mb1mx3.2/29, mbtmp3.4/5, Error ellipse: s-maj=138.8km s-min=28.3km az=137.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**20.10**	**30**	P	P	00 03 21.9	-0.8
	0.6nm,0.6s,baz=213,slow=10,SNR=6.3						
KURK	**Kurchatov**	**22.14**	**18**	P	P	00 03 44.8	+0.1
	0.4nm,0.5s,baz=212,slow=9.5,SNR=3.5						
BVAR	**Borovoye Array**	**23.02**	**4**	P	P	00 03 53.5	-0.4
	0.7nm,0.5s,baz=184,slow=11,SNR=5.3						
ZALV	**Zalesovo Beam**	**26.84**	**22**	P	P	00 04 29.5	0.0
	1.3nm,0.5s,baz=229,slow=8.8,SNR=6.2						
TORD	**Torodi Ar. Bea**	**63.05**	**270**	P	P	00 09 17.0	0.0
	0.3nm,0.8s,baz=60,slow=5.5,SNR=5.2						

ISCJB ***25*** *00:09:33.3±0.8, 59.°6S±0.°1×25.°9W±0.°2, h10km, mb3.7/4, MS3.4/4, Error ellipse: s-maj=21.4km s-min=10.1km az=142.8*

IDC ***25*** *00:09:34.6±1.8, 59.°36S×26.°08W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/15, mbtmp3.8/3, MS3.5/4, Ms1 3.5/4, ms1mx3.1/18, Error ellipse: s-maj=72.4km s-min=33.1km az=1.0*

NEIC ***25*** *00:09:38.8±0.8, 59.°65S×25.°90W, h35km, mb3.9/4, Error ellipse: s-maj=21.8km s-min=15.5km az=55.0*

ISC 25 00:09:35.4±0.8, 59.°6S±0.°1×25.°9W±0.°3, h10km, n21, σ0s92/14, mb3.7/4, MS3.4/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.31**	**154**	*e*P	**Pn**	**00 12 44.7**	**+0.7**
VNA1				*e*S	Sx	00 15 05.6	
VNA3	**Neumayer Olymp**	**13.47**	**157**	*e*P	**Pn**	**00 12 45.9**	**-0.3**
VNA3				*e*S	Sx	00 15 04.1	
VNA2	**Neumayer--Watz**	**13.71**	**154**	*e*P	**Pn**	**00 12 50.2**	**+0.8**
	baz=317,slow=14						
VNA2				*e*S	Sx	00 15 11.8	
SNAA	**Sanae**	**15.28**	**152**	*e*P	**Pn**	**00 13 09.0**	**-1.8**
SNAA				*e*S	Sx	00 15 44.7	
SNAA	**Sanae**	**15.28**	**152**	*e*Pn	**Pn**	**00 13 08.8**	**-2.0**
	12nm,0.4s						
SNAA				*e*Sn	Sx	00 15 47.0	
PMSA	**Palmer Station**	**18.34**	**237**	Pn	**Pn**	**00 13 49.2**	**-0.1**
USHA	**Ushuaia**	**23.20**	**263**	LR	LR	00 21 46.4	
	comp=Z,152nm,18.1s,MS3.5,baz=24,slow=32						
PLCA	**Paso Flores**	**33.41**	**284**	P	**P**	**00 16 14.9**	**+1.1**
	0.9nm,0.5s,mb4.0,baz=117,slow=11,SNR=5.1						
PLCA				LR	LR	00 28 40.0	
	comp=Z,56nm,19.8s,MS3.3,baz=168,slow=34						
PLCA	**Paso Flores**	**33.41**	**284**	*e*P	**P**	**00 16 15.1**	**+1.4**
	0.8nm,0.5s,mb3.9						
CPUP	**Villa Florida**	**39.67**	**313**	P	**P**	**00 17 06.1**	**-1.2**
VNDA	**Vanda**	**43.10**	**182**	LR	LR	00 33 48.7	
	comp=Z,48nm,18.9s,MS3.4,baz=186,slow=34						
VNDA	**Vanda**	**43.10**	**182**	*e*P	**P**	**00 17 35.3**	**+0.4**
	0.4nm,0.5s,mb3.4						
BOSA	**Boshof**	**46.31**	**71**	LR	LR	00 33 43.2	
	comp=Z,51nm,18.8s,MS3.5,baz=179,slow=31						
LPAZ	**La Paz**	**52.98**	**306**	P	**P**	**00 18 51.0**	**-1.0**
	0.4nm,0.4s,mb3.7,baz=180,slow=8.1,SNR=3.1						
LPAZ	**La Paz**	**52.98**	**306**	*e*P	**P**	**00 18 51.9**	**0.0**
	1.0nm,0.7s,mb3.9						
TORD	**Torodi Ar. Bea**	**75.81**	**28**	P	**P**	**00 21 22.0**	**+0.7**
	0.6nm,0.5s,mb3.8,baz=196,slow=6.6,SNR=12						
TORD	**Torodi Ar. Bea**	**75.81**	**28**	P	**P**	**00 21 22.0**	**+0.7**
SONM	**Songino Array**	**150.10**	**92**	PKPbc	PKPbc	00 29 25.9	+0.8
	0.4nm,0.6s,baz=184,slow=4.3,SNR=3.1						
SONM	**Songino Array**	**150.10**	**92**	PKPbc	PKPbc	00 29 25.9	+0.8
ILAR	**Eielson Array**	**152.86**	**306**	PKPbc	PKPbc	00 29 31.1	+0.3
	0.3nm,0.6s,baz=147,slow=1.2,SNR=7.3						
ILAR	**Eielson Array**	**152.86**	**306**	PKPbc	PKPbc	00 29 31.1	+0.3

IDC ***25*** *00:12:40.3±2.2, 22.°99S×171.°50E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/17, mbtmp3.9/6, MS3.4/4, Ms1 3.3/4, ms1mx2.9/29, Error ellipse: s-maj=116.5km s-min=29.5km az=161.0*

NEIC ***25*** *00:12:45.5±0.7, 23.°10S×171.°47E, h35km, mb3.5/2, Error ellipse: s-maj=24.3km s-min=13.5km az=173.0*

ISCJB ***25*** *00:12:46.6±2.3, 23.°1S±0.°2×171.°2E±0.°1, h45km±18km, mb3.7/8, MS3.3/3, Error ellipse: s-maj=35.1km s-min=17.3km az=6.9*

ISC 25 00:12:47.6±2.3, 23.°0S±0.°2×171.°2E±0.°1, h41km±18km, n28, σ1s07/24, mb3.7/8, MS3.3/3, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**4.11**	**281**	*e*P	**Pn**	**00 13 48.6**	**+0.8**
BAYA				*e*S	**Sn**	**00 14 34.3**	**-0.3**
NORM	**Noumea**	**4.45**	**279**	*e*P	**Pn**	**00 13 52.7**	**+0.1**
NORM				*e*S	**Sn**	**00 14 40.6**	**-2.6**
DZM	**Mont Dzumac**	**4.52**	**281**	*e*Pn	**Pn**	**00 13 54.0**	**+0.5**
DZM				*e*Sn	**Sn**	**00 14 46.1**	**+1.2**
NOUC	**Port Laguerre**	**4.64**	**280**	*e*P	**Pn**	**00 13 55.4**	**+0.2**
NOUC				*e*S	**Sn**	**00 14 45.5**	**-2.4**
AFI	**Afiamalu**	**18.48**	**64**	LR	LR	00 22 36.1	
	comp=Z,72nm,18.7s,baz=252,slow=33						
CTA	**Charters Tower**	**23.40**	**272**	LR	LR	00 26 12.0	
	comp=Z,70nm,18.2s,MS3.2,baz=235,slow=34						
CTAO	**Charters Tower**	**23.40**	**272**	P	**P**	**00 17 53.4**	**+0.3**
STKA	**Stephens Creek**	**27.67**	**245**	LR	LR	00 27 57.5	
	comp=Z,71nm,19.2s,MS3.3,baz=26,slow=33						
STKA	**Stephens Creek**	**27.67**	**245**	*e*P	**P**	**00 18 31.7**	**+0.1**
ASAR	**Alice Springs**	**34.21**	**261**	P	**P**	**00 19 30.6**	**+1.1**
	1.2nm,0.7s,mb3.9,baz=84,slow=9.3,SNR=12						
ASAR	**Alice Springs**	**34.21**	**261**	P	**P**	**00 19 30.6**	**+1.1**
WRAB	**Tennant Creek**	**34.40**	**268**	*e*P	**P**	**00 19 32.1**	**+1.1**
	0.4nm,0.5s,mb3.6						
WRA	**Warramunga Arr**	**34.41**	**268**	P	**P**	**00 19 30.9**	**-0.3**
	0.2nm,0.4s,mb3.4,baz=97,slow=8.5,SNR=6.8						
WRA	**Warramunga Arr**	**34.41**	**268**	P	**P**	**00 19 30.9**	**-0.3**
FITZ	**Fitzroy Crossi**	**42.84**	**268**	P	**P**	**00 20 42.0**	**+0.1**
	1.6nm,0.7s,mb3.9,baz=167,slow=14,SNR=3.9						
FITZ	**Fitzroy Crossi**	**42.84**	**268**	*e*P	**P**	**00 20 42.2**	**+0.3**
NWAO	**Narrogin (SRO)**	**48.25**	**246**	LR	LR	00 43 00.4	
	comp=Z,56nm,19.4s,MS3.6,baz=55,slow=38						
MAW	**Mawson**	**75.64**	**202**	*e*P	**P**	**00 24 26.2**	**-1.7**
	0.2nm,0.5s,mb3.3						
CMAR	**Chiang Mai Arr**	**81.74**	**294**	P	**P**	**00 25 03.6**	**+1.2**
	0.7nm,0.3s,mb4.0,baz=132,slow=2.7,SNR=3.4						
CMAR	**Chiang Mai Arr**	**81.74**	**294**	P	**P**	**00 25 03.6**	**+1.2**
NVAR	**Mina Array Bea**	**89.93**	**48**	P	**P**	**00 25 40.9**	**-1.5**
	0.6nm,0.7s,mb4.0,baz=220,slow=8.9,SNR=5.7						
NVAR	**Mina Array Bea**	**89.93**	**48**	P	**P**	**00 25 40.9**	**-1.5**
SONM	**Songino Array**	**91.34**	**322**	P	**P**	**00 25 48.6**	**-0.2**
	0.3nm,0.6s,mb3.8,baz=123,slow=7.1,SNR=2.6						
SONM	**Songino Array**	**91.34**	**322**	P	**P**	**00 25 48.6**	**-0.2**
GERES	**GERESS Array B**	**148.69**	**331**	PKPbc	PKPbc	00 32 28.3	-1.8
	0.2nm,0.5s,baz=38,slow=1.7,SNR=6.1						
GERES	**GERESS Array B**	**148.69**	**331**	PKPbc	PKPbc	00 32 28.3	-1.8
TORD	**Torodi Ar. Bea**	**166.03**	**227**	PKP	PKPdf	00 32 48.0	-0.9
	0.6nm,1.0s,baz=215,slow=0.4,SNR=2.9						
TORD	**Torodi Ar. Bea**	**166.03**	**227**	PKP	PKPdf	00 32 48.0	-0.9

IDC 25 00:25:56.7±1.7, 17.°90N×147.°05E, h0km, mb3.8/6, mb1 3.8/6, mb1mx3.6/25, mbtmp3.8/6, Error ellipse: s-maj=69.2km s-min=21.9km az=92.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**36.11**	**11**	P	P	00 33 00.5	+0.3
	2.7nm,0.5s,baz=220,slow=6.6,SNR=5.2						
WRA	**Warramunga Arr**	**39.62**	**199**	P	P	00 33 31.5	+1.3
	1.1nm,0.8s,baz=21,slow=8.4,SNR=7.2						
ASAR	**Alice Springs**	**43.26**	**198**	P	P	00 33 58.5	-1.6
	0.4nm,0.7s,baz=21,slow=8.0,SNR=4.7						
ZALV	**Zalesovo Beam**	**59.43**	**323**	P	P	00 36 01.0	-0.1
	0.3nm,0.3s,baz=110,slow=7.8,SNR=3.3						
KURK	**Kurchatov**	**62.72**	**318**	P	P	00 36 24.9	+1.4
	0.4nm,0.6s,baz=98,slow=5.9,SNR=4.2						
BVAR	**Borovoye Array**	**67.91**	**321**	P	P	00 36 56.3	-0.8
	0.6nm,0.7s,baz=100,slow=7.9,SNR=3.0						

IDC ***25*** *00:43:15.0±4.2, 35.°27N×81.°46E, h0km, mb3.4/1, mb1 3.4/5, mb1mx3.2/28, mbtmp3.4/5, ML3.1/4, MS3.3/1, Ms1 3.3/1, ms1mx2.3/29, Error ellipse: s-maj=60.3km s-min=38.0km az=61.0*

NEIC ***25*** *00:43:20.8±2.6, 35.°73N×81.°48E, h10km, mb3.3/1, Error ellipse: s-maj=36.9km s-min=18.1km az=191.0*

ISC 25 00:43:22.1±1.7, 35.°9N±0.°1×81.°5E±0.°2, h10km, n14, σ0s98/16, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**10.91**	**3**	*e*Pn	**Pn**	**00 45 58.2**	**-0.1**
MK31				*e*Sn	**Sn**	**00 48 00.1**	**-0.2**
MKAR	**Makanchi Array**	**10.91**	**3**	Pn	**Pn**	**00 45 59.8**	**+1.5**
	0.2nm,0.3s,baz=182,slow=12,SNR=9.7						
MKAR				Sn	**Sn**	**00 48 08.7**	**+8.3**
	0.1nm,0.3s,baz=192,slow=26,SNR=2.3						
MKAR				Lg		00 49 21.7	
	0.0nm,0.3s,baz=180,slow=31,SNR=2.2						
MKAR	**Makanchi Array**	**10.91**	**3**	Pn	**Pn**	**00 45 59.8**	**+1.5**
MKAR				Sn	**Sn**	**00 48 08.7**	**+8.3**
MKAR				Lg		00 49 21.7	
KURK	**Kurchatov**	**14.96**	**353**	Pn	**Pn**	**00 46 51.2**	**-2.3**
	0.0nm,0.3s,baz=168,slow=10,SNR=3.6						
KURK				Lg		00 51 30.9	
	0.0nm,0.3s,baz=159,slow=32,SNR=3.0						
KURK	**Kurchatov**	**14.96**	**353**	Pn	**Pn**	**00 46 51.2**	**-2.3**
KURK				Lg		00 51 30.9	
ZALV	**Zalesovo Beam**	**18.21**	**6**	P	**Pn**	**00 47 35.3**	**+0.4**
	0.0nm,0.3s,baz=194,slow=11,SNR=5.3						
ZALV	**Zalesovo Beam**	**18.21**	**6**	P	**Pn**	**00 47 35.3**	**+0.4**
BVAR	**Borovoye Array**	**18.82**	**339**	P	**Pn**	**00 47 43.5**	**+1.2**
	0.1nm,0.3s,baz=143,slow=13,SNR=2.2						
BVAR	**Borovoye Array**	**18.82**	**339**	P	**Pn**	**00 47 43.5**	**+1.1**
ABKAR	**Akbulak array**	**20.62**	**317**	*e*P	**P**	**00 48 00.9**	**-0.5**
	1.0nm,0.8s						
SONM	**Songino Array**	**21.98**	**49**	P	**P**	**00 48 15.7**	**-0.4**
	2.1nm,1.2s,baz=243,slow=9.8,SNR=5.5						
SONM	**Songino Array**	**21.98**	**49**	P	**P**	**00 48 15.7**	**-0.4**
AKTO	**Aktyubinsk**	**22.31**	**318**	LR	LR	00 58 00.6	
	comp=Z,62nm,18.2s,baz=58,slow=39						
ULN	**Ulaanbaatar**	**22.40**	**50**	P	**P**	**00 48 20.5**	**0.0**

IDC ***25*** *01:01:41.6±2.3, 17.°52S×178.°97W, h510km±27km, mb3.3/10, mb1 3.6/11, mb1mx3.4/22, mbtmp3.3/11, Error ellipse: s-maj=35.8km s-min=13.2km az=153.0*

ISCJB ***25*** *01:01:42.8±1.0, 17.°5S±0.°2×179.°0W±0.°1, h538km±11km, mb3.7/10, Error ellipse: s-maj=41.3km s-min=14.4km az=154.5*

NEIC ***25*** *01:01:42.9±0.8, 17.°52S×178.°91W, h529km±8km, mb3.4/1, Error ellipse: s-maj=30.9km s-min=11.0km az=154.0*

ISC 25 01:01:43.5±1.0, 17.°5S±0.°2×179.°0W±0.°1, h534km±11km, n28, σ0s83/25, mb3.7/10, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.82**	**264**	*e*P	**P**	**01 02 56.9**	**+0.8**
AFI	**Afiamalu**	**7.81**	**64**	P	**P**	**01 03 36.2**	**-2.8**
	5.4nm,0.3s,baz=242,slow=17,SNR=3.7						
AFI	**Afiamalu**	**7.81**	**64**	P	**P**	**01 03 36.2**	**-2.8**
CTA	**Charters Tower**	**32.96**	**260**	P	**P**	**01 07 34.4**	**0.0**
	2.4nm,0.6s,mb3.9,baz=82,slow=11,SNR=4.8						
CTA	**Charters Tower**	**32.96**	**260**	P	**P**	**01 07 34.4**	**0.0**
STKA	**Stephens Creek**	**38.34**	**241**	P	**P**	**01 08 18.9**	**+0.1**
	3.0nm,0.5s,mb4.1,baz=89,slow=8.6,SNR=4.3						
STKA	**Stephens Creek**	**38.34**	**241**	*e*P	**P**	**01 08 19.1**	**+0.2**
	0.6nm,0.5s,mb3.4						
WRA	**Warramunga Arr**	**44.15**	**259**	P	**P**	**01 09 04.6**	**-0.4**
	0.9nm,0.6s,mb3.5,baz=96,slow=7.1,SNR=9.8						
WRA	**Warramunga Arr**	**44.15**	**259**	P	**P**	**01 09 04.6**	**-0.4**
ASAR	**Alice Springs**	**44.36**	**254**	P	**P**	**01 09 06.5**	**-0.2**
	10nm,0.5s,mb4.6,baz=89,slow=8.1,SNR=118						
ASAR				S	**S**	**01 15 01.1**	**-1.3**
	0.2nm,0.4s,baz=87,slow=16,SNR=4.9						
ASAR	**Alice Springs**	**44.36**	**254**	P	**P**	**01 09 06.5**	**-0.2**
ASAR				S	**S**	**01 15 01.1**	**-1.3**
FITZ	**Fitzroy Crossi**	**52.54**	**260**	P	**P**	**01 10 07.7**	**+0.2**
	0.9nm,0.6s,mb3.3,baz=105,slow=12,SNR=3.4						
FITZ	**Fitzroy Crossi**	**52.54**	**260**	P	**P**	**01 10 07.7**	**+0.2**
QSPA	**South Pole Qui**	**72.58**	**180**	P	**P**	**01 12 15.9**	**0.0**
	1.3nm,0.8s,mb3.4,baz=266,slow=1.0,SNR=4.2						
QSPA	**South Pole Qui**	**72.58**	**180**	P	**P**	**01 12 15.9**	**0.0**
NVAR	**Mina Array Bea**	**79.50**	**44**	P	**P**	**01 12 55.8**	**+1.0**
	1.1nm,0.7s,mb3.3,baz=216,slow=8.5,SNR=8.7						
NVAR	**Mina Array Bea**	**79.50**	**44**	P	**P**	**01 12 55.8**	**+1.0**
ILAR	**Eielson Array**	**85.59**	**13**	P	**P**	**01 13 24.4**	**-0.5**
	0.9nm,0.4s,mb3.8,baz=222,slow=6.3,SNR=2.3						
ILAR	**Eielson Array**	**85.59**	**13**	P	**P**	**01 13 24.4**	**-0.5**
TXAR	**Lajitas Array**	**86.24**	**58**	P	**P**	**01 13 30.0**	**+1.1**
	1.0nm,0.7s,mb3.5,baz=213,slow=6.8,SNR=12						
TXAR	**Lajitas Array**	**86.24**	**58**	P	**P**	**01 13 30.0**	**+1.1**
PDAR	**Pinedale Array**	**87.43**	**44**	P	**P**	**01 13 34.0**	**-0.1**
	0.8nm,0.5s,mb3.6,baz=209,slow=3.6,SNR=8.1						
PDAR	**Pinedale Array**	**87.43**	**44**	P	**P**	**01 13 34.0**	**-0.1**
BRTR	**Keskin Array B**	**144.07**	**315**	PKP	PKPdf	01 20 18.7	+0.1
	0.5nm,0.7s,baz=78,slow=3.3,SNR=3.8						
BRTR	**Keskin Array B**	**144.07**	**315**	PKP	PKPdf	01 20 18.7	+0.1
CLL	**Collm**	**144.91**	**347**	*i* PKPbc	PKPdf	01 20 20.5	+0.9
	comp=Z,5.0nm,0.7s						
GERES	**GERESS Array B**	**147.04**	**345**	PKPbc	PKPbc	01 20 26.5	+0.2
	comp=Z,1.2nm,0.7s,baz=29,slow=3.0,SNR=8.8						
GERES	**GERESS Array B**	**147.04**	**345**	PKPbc	PKPbc	01 20 26.5	+0.2

MEX 25 01:03:18.0±0.3, 18.°98N×102.°69W, h71km±9km, MD3.9, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMIG	**Aquila**	**0.93**	**222**	*i* P	Pn	01 03 34.5	-1.2
MMIG				*i* S	Sn	01 03 46.6	-2.1
SFJM	**Santa Fe**	**1.53**	**348**	*i* P	Pn	01 03 42.1	-1.4
SFJM				*i* S	Sn	01 04 01.3	-1.3
MOIG	**Morelia**	**1.58**	**64**	*e*P	Pn

KHZ	**Kahutara**	**5.21**	**205**	PN	Pn	01 12 38.1	-3.7

*ISCJB **25** 01:19:45.7±0.4,46°.79S×10°.71W±0°.1,h10km, mb4.5/18,MS4.7/21,Error ellipse: s-maj=12.0km s-min=9.4km az=150.4*

*IDC **25** 01:19:45.9±0.6,46°.78S×10°.71W,h0km,mb4.2/12, mb1 4.3/12,mb1mx4.1/19,mbtmp4.2/12,MS4.6/18, Ms1 4.6/18,ms1mx4.4/29,Error ellipse: s-maj=17.5km s-min=16.8km az=140.0*

*BJI **25** 01:19:47.6,46°.70S×10°.70W,h10km,mB5.5/7,Ms5.5/7, Ms7 5.1/7*

*NEIC **25** 01:19:47.5±0.4,46°.78S×10°.72W,h10km,mb5.0/12,Error ellipse: s-maj=14.4km s-min=9.0km az=158.0*

*GCMT **25** 01:19:52.6±0.2,47°.09S×10°.27W,h15km±1km,MW5.4, Moment Tensor Solution. s58,c89; s98,c168; Moment tensor: Scale 10¹⁷Nm; Mrr=0.24±.03; Mθθ=0.76±.03; Mφφ=0.52±.03; Mrθ=0.10±.07; Mθφ=-1.10±.02; Mφr=0.55±.09; Best double couple: M₀1.40000×10¹⁷ NP1:φs77.00000°, δ68.00000°,λ=167.00000°. NP2:φs342.00000°, δ78.00000°,λ=-23.00000°. Principal axes: T 1.4100, Plg7.0000°, Azm31.0000°; N -0.0200, Plg64.0000°, Azm136.0000°; P -1.3900, Plg25.0000°, Azm298.0000°; Data Used: ll IU IC G CN.*

ISC 25 01:19:47.6±0.4,46°.80S±0°.08×10°.7W±0°.1,h10km,n60, σ0.97/36,mb4.5/18,MS4.7/21,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**23.95**	**178**	*e*	**P**		**01 25 11.3**	**+10**
VNA2	**Neumayer--Watz**	**24.25**	**177**	*e*	**P**		**01 25 01.6**	**-2.7**
VNA3	**Neumayer Olymp**	**24.52**	**179**	*e*	**P**		**01 25 02.4**	**-4.3**
SNAA	**Sanae**	**25.22**	**174**	*e*	**P**		**01 25 08.8**	**-4.3**
SNAA	**Sanae**	**25.22**	**174**	P	**P**		**01 25 12.7**	**-0.5**
	1.3nm,0.6s,mb3.7,baz=360,slow=12,SNR=26							
SNAA				LR	LR		01 32 39.1	
	comp=Z,344nm,19.6s,MS3.9,baz=355,slow=31							
SNAA	**Sanae**	**25.22**	**174**	*e*P	**P**		**01 25 08.3**	**-4.8**
	26nm,1.1s,mb4.7							
MAIT	**Maitri**	**26.37**	**163**	*e*P	**P**		**01 25 24.9**	**+1.4**
SUR	**Sutherland**	**28.02**	**70**	LR	LR		01 33 23.4	
	comp=Z,1μm,21.7s,MS4.4,baz=227,slow=29							
SUR	**Sutherland**	**28.02**	**70**	P	**P**		**01 25 39.5**	**+0.8**
	36nm,1.5s,mb4.8							
EFI	**East Falkland**	**30.86**	**243**	*e*P	**P**		**01 26 04.0**	**+0.4**
	227nm,1.6s							
BOSA	**Boshof**	**33.38**	**70**	P	**P**		**01 26 25.0**	**-1.0**
	3.8nm,0.8s,mb4.4,baz=222,slow=9.9,SNR=7.0							
BOSA				LR	LR		01 36 49.6	
	comp=Z,1μm,20.2s,MS4.7,baz=229,slow=31							
BOSA	**Boshof**	**33.38**	**70**	P	**P**		**01 26 25.0**	**-1.0**
	55nm,2.1s,mb5.1							
TSUM	**Tsumeb**	**35.98**	**50**	*e*P	**P**		**01 26 48.1**	**-0.4**
	64nm,1.9s,mb5.2							
LBTB	**Lobatse**	**36.12**	**66**	P	**P**		**01 26 48.8**	**-0.9**
	5.7nm,0.8s,mb4.6,baz=238,slow=8.4,SNR=11							
LBTB				LR	LR		01 39 11.3	
	comp=Z,1μm,19.0s,MS4.7,baz=234,slow=32							
LBTB	**Lobatse**	**36.12**	**66**	*e*P	**P**		**01 26 48.8**	**-0.9**
	6.7nm,0.8s,mb4.6							
TRQA	**Tornquist**	**38.24**	**264**	*e*P	**P**		**01 27 07.3**	**-0.3**
	17nm,1.1s,mb4.7							
MAW	**Mawson**	**41.79**	**147**	P	**P**		**01 27 36.6**	**-0.1**
	4.0nm,0.9s,mb4.0,baz=269,slow=7.6,SNR=4.6							
MAW				LR	LR		01 41 57.9	
	comp=Z,254nm,19.2s,MS4.1,baz=267,slow=32							
MAW	**Mawson**	**41.79**	**147**	*e*P	**P**		**01 27 38.5**	**+1.8**
CPUP	**Villa Florida**	**41.92**	**283**	P	**P**		**01 27 38.1**	**-0.2**
	2.1nm,0.5s,mb4.0,baz=118,slow=6.4,SNR=13							
CPUP				LR	LR		01 42 24.1	
	comp=Z,166nm,18.2s,MS4.0,baz=123,slow=32							
CPUP	**Villa Florida**	**41.92**	**283**	*e*P	**P**		**01 27 38.5**	**+0.2**
PLCA	**Paso Flores**	**42.72**	**256**	P	**P**		**01 27 44.5**	**-0.1**
	5.1nm,1.0s,mb4.2,baz=116,slow=5.9,SNR=4.9							
PLCA	**Paso Flores**	**42.72**	**256**	*e*P	**P**		**01 27 44.6**	**0.0**
	112nm,2.8s,mb5.1							
QSPA	**South Pole Qui**	**43.46**	**180**	P	**P**		**01 27 50.6**	**+0.5**
	6.2nm,0.8s,mb4.4,baz=221,slow=5.8,SNR=12							
QSPA				LR	LR		01 43 54.3	
	comp=Z,1μm,20.1s,MS4.9,baz=8.9,slow=33							
QSPA	**South Pole Qui**	**43.46**	**180**	*e*P	**P**		**01 27 49.0**	**-1.1**
	18nm,1.2s,mb4.7							
LSZ	**Lusaka**	**45.07**	**59**	*e*P	**P**		**01 28 02.9**	**-0.9**
	42nm,1.8s,mb5.0							
CFAA	**Coronel Fontan**	**46.08**	**268**	P	**P**		**01 28 11.1**	**-0.6**
	1.5nm,0.8s,mb4.0,baz=124,slow=7.6,SNR=15							
CFAA	**Coronel Fontan**	**46.08**	**268**	*e*P	**P**		**01 28 11.1**	**-0.6**
LCO	**Las Campanas**	**49.34**	**269**	*e*P	**P**		**01 28 37.0**	**0.0**
	31nm,1.1s,mb5.2							
DBIC	**Dimbokro**	**53.49**	**7**	P	**P**		**01 29 08.5**	**+0.4**
	6.4nm,1.1s,mb4.5,baz=205,slow=6.0,SNR=3.6							
DBIC				LR	LR		01 46 35.0	
	comp=Z,660nm,18.9s,MS4.7,baz=163,slow=30							
DBIC	**Dimbokro**	**53.49**	**7**	P	**P**		**01 29 08.5**	**+0.4**
VNDA	**Vanda**	**55.87**	**178**	P	**P**		**01 29 25.6**	**+1.0**
	0.9nm,0.9s,mb3.8,baz=206,slow=9.8,SNR=4.2							
VNDA	**Vanda**	**55.87**	**178**	P	**P**		**01 29 25.6**	**+1.0**
LPAZ	**La Paz**	**56.09**	**283**	P	**P**		**01 29 26.4**	**-0.7**
	2.0nm,0.8s,mb4.2,baz=136,slow=6.2,SNR=8.1							
LPAZ				LR	LR		01 51 59.6	
	comp=Z,257nm,19.8s,MS4.3,baz=125,slow=34							
LPAZ	**La Paz**	**56.09**	**283**	*e*P	**P**		**01 29 26.9**	**-0.1**
TORD	**Torodi Ar. Bea**	**60.70**	**14**	P	**P**		**01 29 59.4**	**+0.3**
	12nm,1.4s,mb4.8,baz=188,slow=6.9,SNR=17							
TORD				LR	LR		01 50 43.8	
	comp=Z,999nm,20.8s,MS4.9,baz=165,slow=31							
TORD	**Torodi Ar. Bea**	**60.70**	**14**	P	**P**		**01 29 59.4**	**+0.3**
TAM	**Tamanrasset**	**70.81**	**16**	*e*P	**P**		**01 31 06.4**	**+2.3**
	24nm,1.8s,mb4.8							
ATD	**Arta Tunnel**	**75.19**	**55**	LR	LR		02 04 03.2	
	comp=Z,657nm,18.1s,MS5.0,baz=292,slow=35							
SJG	**San Juan**	**81.60**	**308**	LR	LR		02 06 37.1	
	comp=Z,580nm,19.6s,MS4.9,baz=360,slow=34							
ESDC	**Sonseca Array**	**86.31**	**5**	LR	LR		02 06 59.9	
	comp=Z,208nm,20.7s,MS4.5,baz=200,slow=33							
EIL	**Elat**	**86.56**	**39**	LR	LR		02 09 58.2	
	comp=Z,760nm,18.6s,MS5.1,baz=188,slow=35							
ASF	**Jabal al Asfar**	**89.56**	**39**	LR	LR		02 11 59.6	
	comp=Z,382nm,18.3s,MS4.9,baz=65,slow=35							
MMAI	**Mount Meron Ar**	**89.66**	**37**	LR	LR		02 10 28.0	
	comp=Z,559nm,19.8s,MS5.0,baz=220,slow=34							
GERES	**GERESS Array B**	**97.60**	**16**	LR	LR		02 13 54.0	
	comp=Z,427nm,18.0s,MS5.0,baz=131,slow=33							
VRAC	**Vranov**	**98.62**	**18**	LR	LR		02 15 59.1	
	comp=Z,378nm,20.0s,MS4.9,baz=48,slow=34							
PDAR	**Pinedale Array**	**124.71**	**298**	PKP	PKPdf		01 38 48.4	+1.6
	0.3nm,0.6s,baz=120,slow=3.2,SNR=3.5							
PDAR	**Pinedale Array**	**124.71**	**298**	PKP	PKPdf		01 38 48.4	+1.6
WMQ	**Urumqi**	**125.04**	**61**	PKP	PKPdf		01 38 47.8	+0.4
WMQ				LR	LR			
	comp=N,310nm,16.7s							
WMQ				LR	LR			
	comp=E,230nm,10.8s							
WMQ				LR	LR			
	comp=Z,560nm,28.0s							
NVAR	**Mina Array Bea**	**127.80**	**289**	PKP	PKPdf		01 38 53.3	+0.5
	comp=Z,0.2nm,0.6s,baz=145,slow=3.3,SNR=2.6							
NVAR	**Mina Array Bea**	**127.80**	**289**	PKP	PKPdf		01 38 53.3	+0.5
CD2	**Chengdu**	**128.03**	**83**	PKP	PKPdf		01 38 55.4	+1.9
CD2				PP	PP		01 41 02.3	+5.2
CD2				PKS			01 42 30.6	
CD2				SKS	SKSdf		01 46 05.8	+0.7
CD2				SKKS	SKKSac		01 47 55.0	+1.0
CD2				SS	SS		01 58 14.4	+3.5
CD2				AMB	AMB			
	comp=Z,160nm,5.3s							
CD2				LR	LR			
	comp=N,350nm,10.7s							
CD2				LR	LR			
	comp=Z,220nm,10.1s,MS5.1							
LZH	**Lanzhou**	**131.10**	**78**	*e*PKP	PKPdf		01 39 00.9	+1.7
LZH				sPKP			01 39 05.5	
LZH				*e*PP	PP		01 41 23.0	+5.9
LZH				SKKS	SKKSac		01 48 11.3	-1.6
LZH				*e*SS	SS		01 58 51.0	+2.2
LZH				AMB	AMB			
	comp=Z,130nm,9.3s							
LZH				LR	LR			
	comp=N,170nm,17.8s,MS4.9							
LZH				LR	LR			
	comp=E,150nm,19.0s,MS4.9							
LZH				LR	LR			
	comp=Z,250nm,20.2s,MS4.9							
HHC	**Hu-ho-hao-te**	**138.75**	**77**	*e*PKP	PKPdf		01 39 13.1	-0.2
HHC				PP	PP		01 42 08.9	+3.5
HHC				PKS			01 42 47.6	
HHC				SKS	SKSdf		01 46 20.0	-3.6
HHC				SKKS	SKKSac		01 48 57.3	-1.5
HHC				SS	SS		02 00 19.9	-0.7
HHC				LR	LR			
	comp=N,280nm,29.9s,MS5.1							
HHC				LR	LR			
	comp=E,440nm,27.5s,MS5.1							
HHC				LR	LR			
	comp=Z,890nm,30.9s,MS5.3							
NJ2	**Nanjing**	**139.06**	**93**	*e*PKP	PKPdf		01 39 12.3	-1.9
INK	**Inuvik**	**144.39**	**328**	PKP	PKPdf		01 39 21.8	-0.8
	comp=Z,2.7nm,0.8s,baz=93,slow=3.1,SNR=5.8							
INK	**Inuvik**	**144.39**	**328**	*e*PKPdf	PKPdf		01 39 20.9	-1.6
INK				PKP	PKPdf		01 39 21.8	-0.8
EGAK	**Eagle**	**147.94**	**322**	*e*PKPdf	PKPdf		01 39 25.3	-3.4
ILAR	**Eielson Array**	**150.34**	**323**	PKPbc	PKPbc		01 39 37.4	-0.4
	comp=Z,2.0nm,0.6s,baz=73,slow=2.5,SNR=28							
ILAR	**Eielson Array**	**150.34**	**323**	PKPbc	PKPbc		01 39 37.4	-0.3
MDJ	**Mudanjiang**	**152.40**	**80**	PKPbc	PKPdf		01 39 36.4	+0.1
MDJ				AMB	AMB			
	comp=Z,72nm,3.7s							

PGC 25 01:25:21.2±0.8,48°.76N×129°.74W,h10km,ML3.1/6, Mw3.7,6D,273km southwest of Pt. Hardy, Bc Vancouver Island Region,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**2.04**	**56**	⇑Pn	Pn		01 25 53.2	-2.4
EDB				⇓Sn	Sn		01 26 17.2	-4.0
HOLB	**Holberg**	**2.15**	**28**	⇓Pn	Pn		01 25 54.9	-2.3
MAYB	**Maynard**	**2.35**	**44**	Pn	Pn		01 25 57.8	-2.0
PHC	**Port Hardy**	**2.46**	**37**	Pn	Pn		01 26 00.9	-0.4
PHC				⇓Sn	Sn		01 26 27.8	-3.6
WOSB	**Woss**	**2.50**	**55**	⇓Pn	Pn		01 26 00.5	-1.3
OZB	**Mount Ozzard**	**2.81**	**84**	⇑Pn	Pn		01 26 04.4	-1.8
OZB				⇑Sn	Sn		01 26 36.3	-3.7
BTB	**Buttle Lake**	**2.86**	**74**	⇑Pn	Pn		01 26 06.3	-0.5
BTB				⇓Sn	Sn		01 26 38.5	-2.8
PFB	**Port Renfrew**	**3.52**	**91**	⇑Sn	Sn		01 26 53.8	-3.7
BBB	**Bella Bella**	**3.59**	**16**	Pn	Pn		01 26 15.9	-0.9
BBB				⇓Sn	Sn		01 26 56.4	-2.7

*IDC **25** 01:36:25.3±0.3,30°.03S×177°.75W,h0km,mb5.4/24, mb1 5.4/27,mb1mx5.4/28,mbtmp5.3/27,ML5.5/2,MS5.1/17, Ms1 5.1/17,ms1mx5.0/24,Error ellipse: s-maj=12.7km s-min=12.2km az=90.0*

*ISCJB **25** 01:36:28.8±0.1,30°.34S±0°.03×177°.89W±0°.03,h33km, mb5.6/187,MS5.2/188,Error ellipse: s-maj=4.2km s-min=2.5km az=140.2*

*MOS **25** 01:36:29.8±0.9,30°.01S×177°.91W,h33km,mb5.8/48, MS5.2/42,Error ellipse: s-maj=9.8km s-min=7.9km az=73.4*

*BJI **25** 01:36:29.5,30°.30S×177°.90W,h35km,mB5.7/27, mb5.5/32,Ms5.4/27,Ms7 5.1/29*

*NEIC **25** 01:36:30.6±0.1,30°.24S×177°.88W,h35km,mb5.6/101, MS5.3/150,MW5.6,MW5.5,Error ellipse: s-maj=5.6km s-min=3.6km az=140.0,Moment Tensor Solution. s44 Moment tensor: Scale 10¹⁷Nm; Mrr=1.96; Mθθ=0.45; Mφφ=-1.51; Mrθ=0.58; Mθφ=-0.56; Mφr=0.35; Best double couple: M₀2.00000×10¹⁷ NP1:φs34.00000°,δ54.00000°, λ101.00000°. NP2:φs195.00000°,δ37.00000°,λ75.00000°. Principal axes: T 2.1000, Plg77.0000°, Azm343.0000°; N -0.2700, Plg9.0000°, Azm206.0000°; P -1.8400, Plg8.0000°, Azm115.0000°;*

*GCMT **25** 01:36:33.3±0.1,30°.07S×177°.38W,h42km,MW5.6, Moment Tensor Solution. s88,c165; s2,c2; Moment tensor: Scale 10¹⁷Nm; Mrr2.81±.06; Mθθ-0.07±.04; Mφφ-2.74±.04; Mrθ0.55±.04; Mθφ-0.54±.03; Mφr1.71±.04; Best double couple: M₀3.40000×10¹⁷ NP1:φs187.00000°, δ29.00000°,λ83.00000°. NP2:φs15.00000°,δ61.00000°, λ94.00000°. Principal axes: T 3.3400, Plg74.0000°, Azm294.0000°; N 0.0300, Plg3.0000°, Azm193.0000°; P -3.3600, Plg16.0000°, Azm102.0000°; Data Used: ll IU IC G CN. Surface waves: sta=103, comp=194, per= 50.*

*DJA **25** 01:36:52,30°.32S×178°.39W,h204km,Mw5.4/39*

ISC 25 01:36:26.0±1.0,30°.30S±0°.02×177°.79W±0°.03,h5km±6km, h35km±.8km:pP-P,n1328,σ0.69/801,mb5.6/186,MS5.2/188, 263C-211D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.05**	**354**	*e*Pn	**Pn**		**01 36 46.0**	**-1.4**
RAO				*e*S	**Sg**		**01 37 01.8**	**+2.0**
RAO	**Raoul Island**	**1.05**	**354**	*e*P	**Pg**		**01 36 46.0**	**-0.2**
RAO				*e*S	**Sg**		**01 37 01.8**	**+2.0**
PUZ	**Puketiti**	**8.41**	**202**	PN	**Pn**		**01 38 27.6**	**-0.9**
PUZ				SN	**Sn**		**01 40 06.6**	**+2.6**
OUZ	**Omahuta**	**8.75**	**234**	*e*Pn	Px		01 38 43.4	
	272nm,0.9s							
OUZ	**Omahuta**	**8.75**	**234**	PN	Px		01 38 43.7	
CNGZ	**Carnagh Statio**	**8.81**	**201**	*e*PN	**Pn**		**01 38 33.5**	**-0.4**
CNGZ				SN	**Sn**		**01 40 16.0**	**+2.4**
OPRZ	**Ohinepanea**	**8.87**	**210**	PN	**Pn**		**01 38 38.3**	**+3.5**
MWZ	**Matawai**	**8.90**	**205**	*e*PN	**Pn**		**01 38 34.8**	**-0.5**
MWZ				SN	**Sn**		**01 40 15.1**	**-0.8**
URZ	**Urewera**	**8.99**	**207**	Pn	**Pn**		**01 38 37.0**	**+0.6**
	7.9nm,0.3s,baz=307,slow=7.1,SNR=26							
URZ				Sn	**Sn**		**01 40 19.9**	**+1.8**
	21nm,0.3s,baz=356,slow=19,SNR=13							
URZ	**Urewera**	**8.99**	**207**	*e*Pn	**Pn**		**01 38 36.3**	**-0.1**
URZ				*e*S	**Sn**		**01 40 24.2**	**+6.2**
URZ	**Urewera**	**8.99**	**207**	PN	**Pn**		**01 38 36.5**	**+0.1**
URZ				SN	**Sn**		**01 40 20.1**	**+2.1**
PRGZ	**Paritu Road**	**9.31**	**201**	PN	**Pn**		**01 38 40.0**	**-0.9**
KNZ	**Kokohu**	**9.46**	**202**	PN	**Pn**		**01 38 42.3**	**-0.7**
MHGZ	**Mahia Peninsul**	**9.51**	**201**	PN	**Pn**		**01 38 43.0**	**-0.6**
DVHZ	**Dannevirke**	**11.13**	**205**	SN	**Sn**		**01 41 05.8**	**-4.7**
ANWZ	**Angora Road**	**11.16**	**203**	SN	**Sn**		**01 41 08.3**	**-3.0**
SNZO	**South Karori**	**12.55**	**207**	*e*Pn	**Pn**		**01 39 25.2**	**0.0**
SNZO				*e*S	**Sn**		**01 41 41.9**	**-3.5**
MSVF	**Nonsavu**	**13.07**	**342**	*e*Pn	**Pn**		**01 39 34.4**	**+1.9**
MSVF	**Nonsavu**	**13.07**	**342**	*e*P	**Pn**		**01 39 34.4**	**+2.0**
MSVF	**Nonsavu**	**13.07**	**342**	Pn	**Pn**		**01 39 34.6**	**+2.2**
	452nm,1.0s,SNR=7.5							
THZ	**Tophouse**	**13.68**	**211**	*e*PN	**Pn**		**01 39 39.9**	**-0.8**
THZ				*e*SN	**Sn**		**01 42 06.0**	**-7.0**
KHZ	**Kahutara**	**13.95**	**208**	*e*Pn	**Pn**		**01 39 43.9**	**-0.4**
KHZ				*e*S	**Sn**		**01 42 11.4**	**-8.2**
KHZ	**Kahutara**	**13.95**	**208**	*e*PN	**Pn**		**01 39 40.7**	**-3.7**
MQZ	**McQueen's Vall**	**15.39**	**207**	*e*SN	**Sn**		**01 42 40.2**	**-14**
RPZ	**Rata Peaks**	**16.06**	**210**	Pn	**Pn**		**01 40 15.0**	**+2.5**
	21nm,0.3s,baz=1.0,slow=1.8,SNR=8.6							
RPZ				Sn	**Sn**		**01 42 59.1**	**-12**
	2.4nm,0.3s,baz=18,slow=20,SNR=4.5							
RPZ	**Rata Peaks**	**16.06**	**210**	*e*Pn	**Pn**		**01 40 13.7**	**+1.1**
	90nm,0.8s							
RPZ				*e*S	**Sn**		**01 43 02.3**	**-8.6**
DZM	**Mont Dzumac**	**16.34**	**296**	*e*P	**Pn**		**01 40 23.8**	**+7.6**
	1μm,1.4s							
DZM				*e*LR	LR		01 44 11.6	
	24μm,24.8s							
DZM	**Mont Dzumac**	**16.34**	**296**	*e*P	**Pn**		**01 40 23.6**	**+7.3**
DZM	**Mont Dzumac**	**16.34**	**296**	*e*Pn	**Pn**		**01 40 23.9**	**+7.7**
	383nm,1.0s							
NOUC	**Port Laguerre**	**16.43**	**296**	*e*P	**Pn**		**01 40 22.9**	**+5.5**
AFI	**Afiamalu**	**17.23**	**20**	Pn	**Pn**		**01 40 23.8**	**-3.7**
	8.1nm,0.3s,baz=204,slow=20,SNR=10							
AFI				Sn	**Sn**		**01 43 33.8**	**-5.8**
	11nm,0.3s,baz=123,slow=18,SNR=4.7							
AFI	**Afiamalu**	**17.23**	**20**	Pn	**Pn**		**01 40 23.8**	**-3.7**
AFI				Sn	**Sn**		**01 43 33.8**	**-5.8**
AFI	**Afiamalu**	**17.23**	**20**	P	**Pn**		**01 40 23.8**	**-3.7**
AFI							01 43 33.8	
ODZ	**Otahua Downs**	**17.30**	**209**	*e*Pn	**Pn**		**01 40 28.4**	**+0.2**
	4μm,2.2s							
ODZ				*e*S	**Sn**		**01 43 28.1**	**-13**
ODZ	**Otahua Downs**	**17.30**	**209**	*e*PN	**Pn**		**01 40 27.5**	**-0.8**
ODZ				*e*SN	**Sn**		**01 43 28.3**	**-13**
RAR	**Rarotonga**	**18.56**	**65**	P	**Pn**		**01 40 40.4**	**-3.6**
	11nm,0.3s,baz=217,slow=6.3,SNR=12							
RAR				S	Sn		01 43 49.1	-23
	7.1nm,0.3s,baz=83,slow=18,SNR=3.0							
RAR	**Rarotonga**	**18.56**	**65**	*e*Pn	**Pn**		**01 40 40.0**	**-3.9**
RAR				*e*S	Sn		01 43 49.2	-23
RAR	**Rarotonga**	**18.56**	**65**	P	**Pn**		**01 40 40.4**	**-3.6**
RAR				pmax	pmax			
	comp=Z,11nm,0.3s							
TBI	**Tubuai**	**26.17**	**81**	*e*LQ			01 47 05.7	
	comp=Z,6μm,25.8s							
TBI				*e*LR	LR		01 48 19.5	
	comp=Z,13μm,26.8s,baz=249							
TBI				*e*T			02 08 26.7	
	comp=Z,136nm,0.3s							
ARMA	**Armidale**	**26.35**	**262**	*e*P	**P**		**01 42 07.3**	**+4.3**
ARMA	**Armidale**	**26.35**	**262**	*e*P	**P**		**01 42 07.4**	**+4.4**
	comp=Z,74nm,0.8s,mb5.3							
EIDS	**Eidsvold**	**27.91**	**272**	*e*P	**P**		**01 42 19.7**	**+2.6**
	comp=Z,148nm,1.2s,mb5.5							
EIDS				*e*PcP	PcP		01 45 35.2	+2.5
CNB	**Canberra Magne**	**27.98**	**251**	*e*P	**P**		**01 42 21.8**	**+4.2**
	comp=Z,435nm,0.9s,mb6.1							
CAN	**Canberra**	**28.28**	**251**	*e*P	**P**		**01 42 23.9**	**+3.7**
	comp=Z,107nm,0.8s,mb5.5							
CAN				LR	LR			
	comp=Z,4μm,19.0s,MS5.0							
CAN	**Canberra**	**28.28**	**251**	*e*P	**P**		**01 42 24.0**	**+3.7**
CAN				pmax	pmax			
	comp=Z,107nm,0.8s,mb5.5							
CAN				MLR	MLR			
	comp=Z,4μm,19.0s,MS5.0							
PAE	**Paea**	**28.59**	**70**	*e*T			02 11 26.3	
	comp=Z,32nm,0.3s							
PPT	**Papeete**	**28.65**	**70**	*e*S	**S**		**01 47 03.2**	**-10**
	comp=Z,2μm,26.2s							
PPT				*e*LQ			01 48 13.9	
	comp=Z,5μm,23.5s							
PPT				*e*LR	LR		01 49 24.5	
	comp=Z,12μm,26.0s,baz=236							
PPT				*e*T			02 11 30.1	
	comp=Z,29nm,0.3s							
PPT	**Papeete**	**28.65**	**70**	LR	LR		01 50 53.3	
	comp=Z,2μm,21.1s,MS4.8,baz=239,slow=30							
TIAR	**Tiarei**	**28.84**	**70**	*e*P	**P**		**01 42 23.3**	**-2.2**
	comp=Z,106nm,0.8s,mb5.6							
TIAR				*e*T			02 11 44.8	
	comp=Z,22nm,0.3s							
HNR	**Honiara**	**29.37**	**310**	*e*P	**P**		**01 42 29.7**	**-0.5**
	comp=Z,97nm,0.8s,mb5.6							
HNR				LR	LR			
	comp=Z,3μm,22.0s,MS4.9							
HNR	**Honiara**	**29.37**	**310**	*e*P	**P**		**01 42 29.7**	**-0.5**
HNR				pmax	pmax			
	comp=Z,97nm,0.8s,mb5.6							
HNR				MLR	MLR			
	comp=Z,3μm,22.0s,MS4.9							
MEH	**Mehetia**	**29.73**	**72**	*e*T			02 12 51.6	
	comp=Z,209nm,0.3s							
MOO	**Moorlands**	**30.48**	**237**	*e*P	**P**		**01 42 42.3**	**+2.6**
	comp=Z,369nm,0.9s,mb6.1							
TAU	**Tasmania Unive**	**30.48**	**236**	*e*P	**P**		**01 42 40.4**	**+0.6**
	comp=Z,104nm,1.1s,mb5.5							
TAU				LR	LR			
	comp=Z,6μm,20.0s,MS5.2							
TAU	**Tasmania Unive**	**30.48**	**236**	*e*P	**P**		**01 42 40.4**	**+0.6**
TAU				pmax	pmax			
	comp=Z,104nm,1.1s,mb5.5							
TAU				MLR	MLR			
	comp=Z,6μm,20.0s,MS5.2							
TOO	**Toolangi**	**31.17**	**247**	*e*P	**P**		**01 42 49.3**	**+3.4**
	comp=Z,385nm,0.6s,mb6.4							
PMOR	**Pomariorio Ree**	**31.39**	**68**	*e*T			02 14 55.2	
	comp=Z,17nm,0.4s							
VAH	**Vaihoa**	**31.47**	**68**	*e*T			02 15 01.0	
	comp=Z,199nm,0.3s							
TARA	**Tarawa**	**32.70**	**343**	*e*P	**P**		**01 42 57.0**	**-2.5**
	comp=Z,71nm,0.6s,mb5.8							
TARA				LR	LR			
	comp=Z,2μm,20.0s,MS4.7							
CTA	**Charters Tower**	**33.96**	**279**	S	**S**		**01 48 38.9**	**+2.8**
	comp=Z,1.8nm,0.7s,baz=60,slow=20,SNR=1.8							
CTA				ScP	ScP		01 49 33.4	-1.0
	comp=Z,5.3nm,0.8s,baz=245,slow=1.9,SNR=3.8							
CTA				LR	LR		01 55 45.4	
	comp=Z,6μm,18.1s,MS5.4,baz=116,slow=34							
CTA	**Charters Tower**	**33.96**	**279**	*e*P	**P**		**01 43 12.5**	**+2.0**
	comp=Z,390nm,1.0s,mb6.3							
CTA	**Charters Tower**	**33.96**	**279**	ScP	ScP		01 49 33.4	-1.0
CTAO	**Charters Tower**	**33.96**	**279**	*e*P	**P**		**01 43 12.9**	**+2.4**
	comp=Z,397nm,1.0s,mb6.3							
CTAO				LR	LR			
	comp=Z,6μm,20.0s,MS5.3							
CTAO	**Charters Tower**	**33.96**	**279**	*e*P	**P**		**01 43 12.9**	**+2.4**
CTAO				pm

comp=Z,144nm,0.8s,mb5.8,baz=110,slow=7.9,SNR=293
WRA ScP ScP 01 50 12.2 -1.8
comp=Z,4.9nm,1.1s,baz=107,slow=4.1,SNR=4.7
WRA S **S** **01 51 13.5 +2.3**
comp=Z,3.3nm,1.0s,baz=111,slow=15,SNR=3.6
WRA PKiKP PKiKP 01 53 20.5 -1.5
comp=Z,1.2nm,0.6s,baz=122,slow=0.3,SNR=5.4
WRA LR LR 02 03 13.1
comp=Z,4μm,18.1s,MS5.4,baz=115,slow=36
WRA Warramunga Arr 44.27 272 P **P** **01 44 36.8 0.0**
WRA ScP ScP 01 50 12.2 -1.8
WRA S **S** **01 51 13.5 +2.3**
WRA PKiKP PKiKP 01 53 20.5 -1.5
WRA Warramunga Arr 44.27 272 P **P** **01 44 36.8 0.0**
WRA S **S** **01 51 13.5 +2.2**
DRV Dumont d'Urvil 44.30 203 P **P** **01 44 36.0 -0.4**
DRV S **S** **01 51 00.0 -11**
DRV R 01 58 00.0
FORT Forrest 46.25 255 *eP* **P** **01 44 52.1 -0.3**
comp=Z,90nm,0.6s,mb5.9
FORT Forrest 46.25 255 *eP* **P** **01 44 52.1 -0.3**
comp=Z,120nm,0.8s,mb5.9
JOHN Johnston Islan 47.43 11 PFAKE 01 45 10.0 +8.4
JOHN LR LR
comp=Z,30μm,21.0s,MS6.2
JAY Jayapura 48.01 297 P **P** **01 45 06.8 +0.5**
comp=Z,8μmcomp=Z,60nm,1.1s,mb5.5
SBA Scott Base 48.15 184 *eP* **P** **01 45 11.6 +5.0**
comp=Z,58nm,0.7s,mb5.7
SBA LR LR
comp=Z,851nm,22.0s,MS4.7
SBA Scott Base 48.15 184 *eP* **P** **01 45 11.6 +5.0**
SBA pmax pmax
comp=Z,58nm,0.7s,mb5.7
SBA MLR MLR
comp=Z,851nm,22.0s,MS4.7
VNDA Vanda 48.21 186 P **P** **01 45 10.7 +3.6**
comp=Z,13nm,0.8s,mb5.0,baz=7.7,slow=7.0,SNR=42
VNDA LR LR 02 03 10.5
comp=Z,631nm,19.5s,MS4.6,baz=42,slow=33
VNDA Vanda 48.21 186 *eP* **P** **01 45 10.7 +3.6**
comp=Z,45nm,1.4s,mb5.3
VNDA S **S** **01 52 07.0 +0.5**
VNDA Vanda 48.21 186 *eP* **P** **01 45 10.7 +3.6**
VNDA S **S** **01 52 07.0 +0.5**
VNDA pmax pmax
comp=Z,45nm,1.4s
KAKA Kakadu 49.09 280 *eP* **P** **01 45 12.5 -2.2**
comp=Z,43nm,0.7s,mb5.6
KAKA Kakadu 49.09 280 *eP* **P** **01 45 13.8 -0.8**
comp=Z,121nm,0.7s,mb6.0
SMPI Sarmi 49.89 296 P **P** **01 45 22.0 +1.3**
comp=Z,3μmcomp=Z,76nm,1.3s,mb5.6
SMPI Sarmi 49.89 296 P **P** **01 45 20.8 +0.1**
comp=Z,3μmcomp=Z,76nm,1.3s,mb5.6
FITZ Fitzroy Crossi 52.54 270 P **P** **01 45 40.9 +0.3**
comp=Z,54nm,0.8s,mb5.5,baz=140,slow=6.5,SNR=60
FITZ LR LR 02 06 41.7
comp=Z,2μm,19.9s,MS5.2,baz=136,slow=35
FITZ Fitzroy Crossi 52.54 270 *eP* **P** **01 45 40.8 +0.2**
comp=Z,91nm,0.8s,mb5.8
FITZ *eS* **S** **01 53 17.2 +9.1**
FITZ Fitzroy Crossi 52.54 270 P **P** **01 45 40.9 +0.3**
KLBR Kellerberrin 54.55 251 *eP* **P** **01 45 54.5 -0.7**
comp=Z,81nm,1.0s,mb5.7
NWAO Narrogin (SRO) 54.60 249 *eP* **P** **01 45 55.3 -0.3**
comp=Z,14nm,0.8s,mb5.0
NWAO LR LR
comp=Z,2μm,20.0s,MS5.2
NWAO Narrogin (SRO) 54.60 249 *eP* **P** **01 45 55.3 -0.3**
NWAO pmax pmax
comp=Z,14nm,0.8s
NWAO MLR MLR
comp=Z,2μm,20.0s
KIP Kipapa 54.83 23*ceP* **P** **01 45 57.4 +0.2**
KIP pmax pmax
comp=Z,66nm,1.0s,mb5.6
CASY Casey 55.31 208 *eP* **P** **01 46 00.5 +0.3**
CASY Casey 55.31 208 *eP* **P** **01 46 00.8 +0.7**
comp=Z,153nm,0.7s,mb6.1
CASY LR LR
comp=Z,1μm,22.0s,MS4.9
BNDI Bandanaira 55.49 287 P **P** **01 46 03.0 +0.8**
comp=Z,255nm,1.1s,mb6.2
MBWA Marble Bar 56.41 264 *eP* **P** **01 46 08.0 -0.8**
MBWA Marble Bar 56.41 264 *eP* **P** **01 46 07.8 -1.0**
comp=Z,39nm,0.8s,mb5.5
MBWA LR LR
comp=Z,5μm,19.0s,MS5.6
MBWA Marble Bar 56.41 264 P **P** **01 46 09.0 +0.2**
comp=Z,64nm,0.9s,mb5.7
GUMO Guam 56.54 315 P **P** **01 46 08.0 -1.6**
comp=Z,32nm,0.4s,mb5.7,baz=205,slow=18,SNR=4.3
GUMO LR LR 02 07 26.5
comp=Z,1μm,20.0s,MS5.0,baz=141,slow=33
GUMO Guam 56.54 315 P **P** **01 46 08.0 -1.6**
GUMO Guam 56.54 315 P **P** **01 46 08.0 -1.6**
GUMO Guam 56.54 315 P **P** **01 46 11.5 +1.9**
comp=Z,220nm,1.0s,mb6.1
MSAI Masohi 56.95 287 P **P** **01 46 11.9 -0.8**
comp=Z,655nmcomp=Z,24nm,0.9s,mb5.2
AAI Ambon 57.37 286 P **P** **01 46 14.3 -1.3**
comp=Z,62nm,0.6s,mb5.8
MIDW Midway 58.19 0 PFAKE 01 46 30.0 +9.0
MIDW LR LR
comp=Z,2μm,20.0s,MS5.3
NLAI Namlea 58.52 286 P **P** **01 46 23.4 -0.4**
comp=Z,1μmcomp=Z,119nm,0.9s,mb5.9
RPN Rapa Nui 59.29 105 S **S** **01 54 46.3 +8.4**
comp=Z,19nm,0.5s,baz=232,slow=19,SNR=1.7
LBMI Labuha 59.66 289 P **P** **01 46 32.3 +0.7**
comp=Z,1μmcomp=Z,114nm,1.2s,mb5.8
QSPA South Pole Qui 59.81 180 P **P** **01 46 34.8 +3.1**
comp=Z,65nm,0.9s,mb5.7,baz=28,slow=1.3,SNR=132
QSPA S **S** **01 54 48.5 +5.4**
comp=Z,1.1nm,0.7s,baz=312,slow=4.6,SNR=7.4
QSPA LR LR 02 07 48.5
comp=Z,965nm,21.1s,MS4.9,baz=39,slow=31
QSPA South Pole Qui 59.81 180 P **P** **01 46 34.8 +3.1**
QSPA S **S** **01 54 48.5 +5.4**
MMRI Maumere 59.81 278 P **P** **01 46 32.9 +0.2**
comp=Z,2μmcomp=Z,158nm,1.1s,mb6.0
TNTI Ternate 60.58 290 P **P** **01 46 37.7 -0.2**
comp=Z,164nm,1.1s,mb6.1
TNTI Ternate 60.58 290 P **P** **01 46 37.7 -0.2**
comp=Z,164nm,1.1s,mb6.1
BBSI Bau Bau 61.13 281 P **P** **01 46 42.2 +0.5**
comp=Z,1μmcomp=Z,46nm,1.2s,mb5.5
KDI Kendari 61.89 283 P **P** **01 46 46.1 -0.7**
KDI Kendari 61.89 283 P **P** **01 46 46.1 -0.7**
comp=Z,1μmcomp=Z,60nm,0.9s,mb5.7
BMNI Bima 62.90 276 P **P** **01 46 53.4 -0.2**
comp=Z,852nmcomp=Z,82nm,1.1s,mb5.8
BMNI Bima 62.90 276 P **P** **01 46 53.4 -0.2**
comp=Z,852nmcomp=Z,82nm,1.1s,mb5.8
MNI Manado 63.02 289 P **P** **01 46 59.7 +5.3**
comp=Z,223nm,1.1s,mb6.2
MNI Manado 63.02 289 P **P** **01 46 55.0 +0.6**
comp=Z,222nm,1.1s,mb6.2
BKSI Bulukumba 63.29 280 P **P** **01 46 55.5 -0.7**
comp=Z,904nmcomp=Z,57nm,0.8s,mb5.8
BKSI Bulukumba 63.29 280 P **P** **01 46 55.5 -0.7**
comp=Z,904nmcomp=Z,57nm,0.8s,mb5.8
LUWI Luwuk 63.34 286 P **P** **01 46 56.4 -0.1**
comp=Z,1μmcomp=Z,141nm,1.1s,mb6.0
LUWI Luwuk 63.34 286 P **P** **01 46 56.4 -0.1**
comp=Z,1μmcomp=Z,141nm,1.1s,mb6.0
SGSI Sangihe 63.76 292 P **P** **01 47 00.0 +0.7**
comp=Z,292nm,0.3s,mb6.7
KAPI Kappang 63.77 280 *eP* **P** **01 46 58.7 -0.7**
comp=Z,23nm,0.9s,mb5.2
KAPI LR LR
comp=Z,789nm,22.0s,MS4.8
KAPI Kappang 63.77 280 P **P** **01 46 58.9 -0.5**
comp=Z,813nmcomp=Z,45nm,1.4s,mb5.3
KAPI Kappang 63.77 280 P **P** **01 46 57.9 -1.5**
comp=Z,814nmcomp=Z,45nm,1.4s,mb5.3
KAPI Kappang 63.77 280 P **P** **01 46 59.0 -0.3**
SNR=6.2
SPSI Sidrap Palu 64.30 281 P **P** **01 47 01.7 -1.1**
comp=Z,669nmcomp=Z,38nm,0.9s,mb5.4
SPSI Sidrap Palu 64.30 281 P **P** **01 47 00.2 -2.6**
comp=Z,676nmcomp=Z,38nm,0.9s,mb5.4
TTSI Tana Toraja 64.74 282 P **P** **01 47 05.4 -0.3**
comp=Z,1μmcomp=Z,53nm,1.2s,mb5.4
TTSI Tana Toraja 64.74 282 P **P** **01 47 04.9 -0.8**
comp=Z,1μmcomp=Z,53nm,1.2s,mb5.4
MRSI Marisa 64.86 286 P **P** **01 47 06.6 +0.1**
comp=Z,53nm,0.7s,mb5.7
MRSI Marisa 64.86 286 P **P** **01 47 05.0 -1.5**
comp=Z,53nm,0.7s,mb5.7
MTNI Mataram 65.03 275 P **P** **01 47 08.3 +0.7**
comp=Z,122nm,1.1s,mb5.9
MTNI Mataram 65.03 275 P **P** **01 47 07.9 +0.3**
comp=Z,122nm,1.1s,mb5.9
MJSI Majene 65.18 281 P **P** **01 47 09.0 +0.4**
comp=Z,2μmcomp=Z,100nm,1.4s,mb5.7
DAV Davao City (W) 65.75 295 P **P** **01 47 12.5 +0.3**
comp=Z,228nm,0.4s,mb6.6,baz=8.4,slow=9.8,SNR=4.4
DAV Davao City (W) 65.75 295 P **P** **01 47 12.5 +0.3**
DAV LR LR
comp=Z,627nm,22.0s,MS4.8
PCI Palu 65.86 284 P **P** **01 47 19.3 +6.3**
comp=Z,7μmcomp=Z,605nm,1.1s,mb6.6
SRBI Singaraja 66.12 275 P **P** **01 47 15.5 +0.8**
SRBI Singaraja 66.12 275 P **P** **01 47 13.9 -0.8**
comp=Z,4μmcomp=Z,127nm,1.1s,mb5.9
GMJI Gumukmas 67.55 273 P **P** **01 47 22.7 -1.1**
comp=Z,75nm,1.1s,mb5.7
BLJI Banyuglugur 67.68 274 P **P** **01 47 24.0 -0.6**
comp=Z,116nm,0.3s,mb6.4
KMMI Kalianget 67.70 275 P **P** **01 47 25.3 +0.5**
comp=Z,4μmcomp=Z,107nm,1.2s,mb5.7
KBKI Kotabaru 67.71 280 P **P** **01 47 25.1 +0.3**
comp=Z,3μmcomp=Z,58nm,1.4s,mb5.4
KRKI Karangkates 68.47 273 P **P** **01 47 30.7 +1.1**
comp=Z,206nm,1.1s,mb6.1
CBIJ Chichi jima 68.72 322 P **P** **01 47 31.9 +1.2**
comp=Z,42nm,0.5s,mb5.6,baz=104,slow=21,SNR=5.6
CBIJ LR LR 02 11 57.3
comp=Z,807nm,21.4s,MS4.9,baz=294,slow=31
CBIJ Chichi jima 68.72 322 P **P** **01 47 31.9 +1.2**
BBKI Banjar Baru 68.76 279 P **P** **01 47 31.7 +0.3**
comp=Z,6μmcomp=Z,126nm,1.0s,mb5.8
PWJI Parerwojo 69.09 273 P **P** **01 47 33.7 +0.2**
comp=Z,63nm,1.1s,mb5.5
SJI Sawahan 69.26 273 P **P** **01 47 34.7 +0.1**
comp=Z,77nm,1.2s,mb5.5
PCJI Pacitan 69.55 272 P **P** **01 47 36.5 +0.2**
comp=Z,286nm,0.9s,mb6.2
NGJI Ngawi 69.71 273 P **P** **01 47 37.5 +0.2**
MYLDM Lahad Datu 70.33 289 P **P** **01 47 42.2 +1.1**
MYLDM Lahad Datu 70.33 289 P **P** **01 47 41.6 +0.5**
comp=Z,52nm,1.0s,mb5.4
TSM Tawau 70.35 287 P **P** **01 47 41.5 +0.2**
BJII Banjamegara 71.24 272 P **P** **01 47 46.8 +0.2**
comp=Z,1μmcomp=Z,43nm,1.9s,mb5.0
CLJI Cilicap 71.65 272 P **P** **01 47 48.8 -0.3**
comp=Z,832nm,0.5s
SDKM Sandakan 71.67 288 P **P** **01 47 49.0 -0.2**
PBKI Pangkalan Bun 71.86 278 P **P** **01 47 50.6 +0.2**
PMSA Palmer Station 72.28 156 PFAKE 01 48 00.0 +7.9
PMSA LR LR
comp=Z,2μm,20.0s,MS5.3
MAW Mawson 72.46 201 P **P** **01 47 54.7 +1.5**
comp=Z,45nm,0.8s,mb5.5,baz=128,slow=7.5,SNR=76
MAW LR LR 02 18 33.5
comp=Z,1μm,20.8s,MS5.2,baz=122,slow=35
MAW Mawson 72.46 201 *eP* **P** **01 47 54.5 +1.4**
comp=Z,38nm,0.8s,mb5.4
MAW Mawson 72.46 201 *eP* **P** **01 47 54.6 +1.5**
comp=Z,14nm,0.9s,mb4.9
MAW Mawson 72.46 201 P **P** **01 47 54.7 +1.6**
MAW pmax pmax
comp=Z,45nm,0.8s
KDM Kudat 72.68 289 P **P** **01 47 55.0 -0.3**
KKM Kota Kinabalu 72.70 288 P **P** **01 47 55.1 -0.2**
KKM Kota Kinabalu 72.70 288 *eP* **P** **01 47 54.8 -0.6**
comp=Z,91nm,0.8s,mb5.8
KKM Kota Kinabalu 72.70 288 P **P** **01 47 54.0 -1.4**
comp=Z,2μmcomp=Z,136nm,0.8s,mb5.9
LEM Lembang 73.29 272 P **P** **01 47 58.8 -0.1**
comp=Z,106nm,1.0s,mb5.7
STKI Sintang 73.45 280 P **P** **01 48 00.1 +0.2**
comp=Z,122nm,0.8s,mb5.9
SBUM Sibu 74.07 283 P **P** **01 48 03.6 0.0**
SBUM Sibu 74.07 283 P **P** **01 48 03.6 +0.1**
comp=Z,1μmcomp=Z,65nm,1.1s,mb5.5
DBJI Dramaga 74.18 272 P **P** **01 48 04.2 +0.1**
comp=Z,118nm,1.0s,mb5.8
CGJI Cibinong 75.06 271 P **P** **01 48 08.2 -1.1**
comp=Z,91nm,1.2s,mb5.6
KSM Kuching 75.18 281 P **P** **01 48 09.6 -0.3**
KSM Kuching 75.18 281 *eP* **P** **01 48 09.3 -0.6**
comp=Z,134nm,1.5s,mb5.7
KSM Kuching 75.18 281 P **P** **01 48 07.9 -2.0**
comp=Z,1μmcomp=Z,76nm,1.1s,mb5.5
RBSI Rajabasa 75.40 272 P **P** **01 48 11.3 +0.1**
comp=Z,53nm,1.9s,mb5.1
KLI Kotabumi 76.64 272 P **P** **01 48 17.4 -0.9**
comp=Z,7μmcomp=Z,96nm,1.2s,mb5.6
JOW Kunigami 76.73 312 P **P** **01 48 17.3 -1.1**
comp=Z,35nm,0.7s,mb5.4,baz=145,slow=8.8,SNR=5.6
JOW Kunigami 76.73 312 *eP* **P** **01 48 17.8 -0.6**
PPBI Pangkal Pinang 76.89 275 P **P** **01 48 19.8 +0.1**
comp=Z,9μmcomp=Z,44nm,1.9s,mb5.1
SYO Syowa Base 77.25 193 *jP* **P** **01 48 20.0 -0.8**
SYO Syowa Base 77.25 193 *jP* **P** **01 48 29.2 +8.4**
MDSI Maura Dua 77.42 272 P **P** **01 48 20.9 -1.8**
comp=Z,2μmcomp=Z,87nm,0.8s,mb5.7
SNAA Sanae 78.25 178 *e* **P** **01 48 22.3 -4.0**
SNAA Sanae 78.25 178 P **P** **01 48 27.2 +0.9**
comp=Z,11nm,0.8s,mb4.8,baz=208,slow=5.7,SNR=73
SNAA S S 01 58 24.8 +3.4
comp=Z,0.6nm,1.1s,baz=172,slow=19,SNR=2.5
SNAA Sanae 78.25 178 *eP* **P** **01 48 22.8 -3.5**
comp=Z,62nm,1.1s,mb5.5
SNAA S S 01 58 24.8 +3.4
SNAA Sanae 78.25 178 P **P** **01 48 27.2 +0.9**
SNAA S S 01 58 24.8 +3.4
SNAA pmax pmax
comp=Z,11nm,0.8s
SNAA smax
comp=N,1.0nm,1.1s
MJAR Matsushiro Arr 78.26 325 P **P** **01 48 25.4 -1.4**
comp=N,22nm,0.9s,mb5.1,baz=167,slow=5.7,SNR=29
MJAR LR LR 02 16 44.8
comp=N,561nm,20.4s,MS4.9,baz=90,slow=31
MJAR Matsushiro Arr 78.26 325 P **P** **01 48 25.4 -1.4**
MJAR Matsushiro Arr 78.26 325 P **P** **01 48 25.4 -1.4**
MAJO Matsushiro 78.26 325 *eP* **P** **01 48 25.6 -1.2**
comp=N,215nm,1.9s,mb5.8
MAJO Matsushiro 78.26 325 *eP* **P** **01 48 25.6 -1.2**
MAJO pmax pmax
comp=Z,215nm,1.9s,mb5.8
MAT Matsushiro 78.26 325 P **P** **01 48 25.0 -1.8**
MAT *eS* S 01 58 28.6 +6.3
VNA3 Neumayer Olymp 78.39 176 *e* **P** **01 48 25.5 -1.6**
VNA2 Neumayer--Watz 78.83 177 *e* **P** **01 48 28.1 -1.4**
baz=186,slow=4.7
MAIT Maitri 78.98 183 *eP* **P** **01 48 31.4 +1.0**
NVL N'lazarevskaya 78.99 183 *jP* **P** **01 48 32.9 +2.5**
NVL pmax pmax
comp=Z,27nm,0.7s,mb5.3
NVL MLR MLR
comp=Z,653nm,20.0s,MS5.0
VNA1 Neumayer--Stat 79.06 176 *e* **P** **01 48 29.8 -1.0**
KSI Kapahiang 79.20 272 P **P** **01 48 32.4 -0.2**
comp=Z,8μmcomp=Z,170nm,0.3s,mb6.5
JNU Nakatsue 79.60 318 *eP* **P** **01 48 35.0 +0.8**
comp=Z,20nm,1.1s,mb5.0
SSLB Suanglung 79.65 305 *eP* **P** **01 48 32.9 -1.8**
comp=Z,36nm,0.8s,mb5.4
COCO West Island 80.01 262 PFAKE 01 48 50.0 +13
COCO LR LR
comp=Z,2μm,19.0s,MS5.5
COCO West Island 80.01 262 P **P** **01 48 36.8 -0.1**
comp=Z,113nm,1.5s,mb5.6
TATO Taipei 80.03 307 PFAKE
TATO LR LR 01 48 50.0 +13
comp=Z,1μm,20.0s,MS5.3
ERM Erimo 80.46 332 PFAKE 01 48 50.0 +11
ERM LR LR
comp=Z,2μm,20.0s,MS5.4
MYKOM Kota Tinggi 80.86 277 P **P** **01 48 41.8 +0.3**
MYKOM Kota Tinggi 80.86 277 P **P** **01 48 41.4 -0.1**
comp=Z,52nm,1.0s,mb5.4
YUK Yuzh-Kuril'sk 81.10 334 *i* P **P** **01 48 37.5 -4.5**
YUK S S 01 58 51.3 -0.7
YUK pmax pmax
comp=N,1734μm,3.5s
YUK pmax pmax
comp=Z,933μm,3.5s
YUK pmax pmax
comp=E,1558μm,3.5s
YUK MLR MLR
comp=E,851nm,19.0s
PDSI Padang 82.41 273 P **P** **01 48 48.5 -1.2**
comp=E,78nm,0.8s,mb5.7
ASAJ Asahikawa 82.43 332 P **P** **01 48 48.7 -0.3**
comp=E,34nm,0.9s,mb5.3,baz=203,slow=7.5,SNR=10
ASAJ Asahikawa 82.43 332 *eP* **P** **01 48 48.8 -0.3**
comp=E,22nm,1.1s,mb5.0
ASAJ Asahikawa 82.43 332 P **P** **01 48 48.7 -0.3**
ASAJ pmax pmax
comp=Z,34nm,0.9s
PLCA Paso Flores 82.44 133 P **P** **01 48 50.7 +1.2**
comp=Z,12nm,0.9s,mb4.8,baz=227,slow=5.8,SNR=26
PLCA PKKPbc PKKPbc 02 07 13.6 -1.8
comp=Z,1.0nm,0.6s,baz=77,slow=7.3,SNR=3.5
PLCA LR LR 02 16 38.1
comp=Z,1μm,21.9s,MS5.3,baz=250,slow=29
PLCA Paso Flores 82.44 133 *eP* **P** **01 48 50.7 +1.2**
comp=Z,27nm,1.2s,mb5.0
PLCA PKKPbc PKKPbc 02 07 13.6 -1.8
PLCA Paso Flores 82.44 133 *eP* **P** **01 48 50.7 +1.2**
PLCA pmax pmax
comp=Z,27nm,1.2s
BKNI Bangkinang 82.53 275 P **P** **01 48 49.8 -0.6**
comp=Z,66nm,0.5s,mb5.9
FX1 Attu Island--F 83.20 354 P **P** **01 48 51.3 -1.5**
comp=Z,57nm,0.9s,mb5.6,baz=148,slow=9.6,SNR=4.9
FX1 Attu Island--F 83.20 354 *eP* **P** **01 48 52.1 -0.7**
FX1 Attu Island--F 83.20 354 *eP* **P** **01 48 52.1 -0.7**
SSE Sheshan 84.18 311 P **P** **01 48 57.3 -1.1**
SSE sP sP 01 49 10.5 +10
SSE S S 01 59 25.1 +1.1
SSE pmax pmax
comp=Z,49nm,0.7s,mb5.8
SSE pmax pmax
comp=Z,230nm,5.5s
SSE LR LR
comp=N,450nm,25.4s,MS4.9
SSE LR LR
comp=E,410nm,24.8s,MS4.9
SSE LR LR
comp=Z,710nm,24.2s,MS5.0
SCI San Clemente I 84.27 47 ⇓P **P** **01 48 58.8 -0.1**
baz=85
BSC Santa Cruz Isl 84.28 45 ⇑P **P** **01 48 59.0 +0.1**
baz=85,SNR=9.8
KSRS Korea Array 84.39 320 P **P** **01 48 59.2 0.0**
comp=Z,11nm,0.8s,mb5.0,baz=143,slow=5.8,SNR=26
KSRS LR LR 02 26 04.6
comp=Z,585nm,18.6s,MS5.0,baz=138,slow=35
KSRS Korea Array 84.39 320 P **P** **01 48 59.3 0.0**
KSRS pmax pmax
comp=Z,11nm,0.8s,mb5.0
KSRS MLR MLR
comp=Z,585nm,18.7s,MS5.0
KSAR Wonju Array Be 84.40 319 P **P** **01 48 59.2 -0.1**
KSAR Wonju Array Be 84.40 319 P **P** **01 48 59.3 -0.1**
SBC Santa Barbara 84.53 45 ⇑P **P** **01 49 00.1 0.0**
baz=85
CIS Catalina Islan 84.65 46 ⇑P **P** **01 49 00.4 -0.3**
baz=85,SNR=8.0
IPM Ipoh 84.65 278 P **P** **01 49 00.7 -0.6**
IPM Ipoh 84.65 278 *eP* **P** **01 49 00.4 -0.8**
comp=Z,156nm,1.8s,mb5.8
IPM Ipoh 84.65 278 P **P** **01 49 00.6 -0.6**
BLG Laguna Peak 84.70 45 ⇑P **P** **01 49 01.1 +0.1**
baz=85
YSS Yuzh-Sakhalins 84.73 334 *eP* **P** **01 49 01.0 +0.2**
comp=Z,77nm,0.8s,mb5.9
YSS LR LR
comp=Z,611nm,21.0s,MS5.0
YSS Yuzh-Sakhalins 84.73 334⇑*eP* **P** **01 49 01.3 +0.5**
YSS *eS* S 01 59 30.0 +1.1
YSS *ePS* 02 00 46.0
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.8
YSS pmax pmax
comp=E,70nm,1.1s
YSS MLR MLR
comp=N,1μm,18.0s,MS5.3
YSS MLR MLR
comp=Z,1μm,18.0s,MS5.2
YSS MLR MLR
comp=E,500nm,19.0s,MS5.3
PKM Peak Mountain 84.77 44 ⇓P **P** **01 49 02.0 +0.7**
baz=85,SNR=11
FMP Fort Macarthur 84.92 46 ⇓P **P** **01 49 02.3 +0.2**
baz=85
SMMC Simmler 84.94 44 ⇑P **P** **01 49 02.6 +0.4**
baz=85
SAO San Andreas Ge 85.08 42 *eP* **P** **01 49 02.6 -0.2**
SAO San Andreas Ge 85.08 42 *eP* **P** **01 49 02.6 -0.2**
QIZ Qiongzhong 85.11 295 P Px 01 49 14.8
QIZ S S 01 59 30.3 -3.5
QIZ LR LR
comp=Z,620nm,20.9s,MS5.0
QIZ Qiongzhong 85.11 295 PFAKE 01 49 10.0 +6.6
QIZ LR LR
comp=Z,572nm,19.0s,MS5.0
109C Camp Elliot, M 85.13 47 ⇑P **P** **01 49 03.4 +0.3**
baz=86
INCN Inchon 85.14 319 PFAKE 01 49 10.0 +6.9
INCN LR LR
comp=Z,449nm,20.0s,MS4.9
OSI Osito Adit 85.25 45 ⇑P **P** **01 49 03.7 0.0**
baz=86
DECC Green Verdugo 85.25 46 ⇓P **P** **01 49 03.8 +0.1**
baz=86
BAR Barrett 85.27 48 *eP* **P** **01 49 03.7 -0.1**
comp=Z,88nm,1.4s,mb5.7
PASC Pasadena Art C 85.29 46 *eP* **P** **01 49 04.8 +0.9**
comp=Z,264nm,1.4s,mb6.2
KULM Kulim 85.39 279 P **P** **01 49 04.9 0.0**
KULM Kulim 85.39 279 *eP* **P** **01 49 04.6 -0.3**
comp=Z,125nm,1.8s,mb5.7
MWC Mount Wilson 85.40 46 *eP* **P** **01 49 04.8 +0.3**
comp=Z,116nm,1.4s,mb5.8
MWC Mount Wilson 85.40 46 *eP* **P** **01 49 04.8 +0.3**
MWC pmax pmax
comp=Z,116nm,1.4s,mb5.8
PET Petropavlovsk 85.48 346 PFAKE 01 49 20.0 +16
PET LR LR
comp=Z,1μm,20.0s,MS5.2
PET Petropavlovsk 85.48 346 *eP* **P** **01 49 03.1 -1.3**
PET *eS* S 01 59 29.5 -6.4
PET pmax pmax
comp=Z,51nm,0.8s,mb5.7
PET pmax pmax
comp=Z,1μm,5.0s
PET pmax pmax
comp=Z,2μm,4.4s
ARVC Arvin 85.53 45 ⇓P **P** **01 49 04.9 -0.2**
baz=86,SNR=8.3
MURC Murrieta 85.53 47 ⇑P **P** **01 49 05.4 +0.2**
baz=86,SNR=16
MONP Monument Peak 85.56 48 ⇓P **P** **01 49 05.8 +0.4**
baz=86,SNR=28
DVTC Desert V Tower 85.62 48 ⇑P **P** **01 49 05.4 -0.2**
baz=86,SNR=8.6
BFSC Mount Baldy Ra 85.66 46 ⇓P **P** **01 49 05.3 -0.5**
baz=86,SNR=25
HOPS Hopland 85.72 40 *eP* **P** **01 49 06.3 +0.4**
comp=Z,88nm,1.1s,mb5.9
PEA0B Petropavlovsk- 85.76 345 *eP* **P** **01 49 05.4 -0.4**
PETK Petropavlovsk- 85.76 345 P **P** **01 49 05.2 -0.6**
comp=Z,71nm,0.8s,mb5.9,baz=130,slow=6.6,SNR=51
PETK Petropavlovsk- 85.76 345 P **P** **01 49 05.2 -0.6**
PETK Petropavlovsk- 85.76 345 P **P** **01 49 05.2 -0.6**
VES Vestal, Richgr 85.85 44 ⇑P **P** **01 49 06.5 -0.2**
baz=86,SNR=20
EDW2 Edwards Air Fo 85.88 45 ⇑P **P** **01 49 06.9 0.0**
baz=86,SNR=41
KCPM Cahto Peak 85.93 39 *eP* **P** **01 49 07.7 +0.7**
comp=Z,34nm,1.1s,mb5.5
SWSC Sam W. Stewart 86.00 48 ⇓P **P** **01 49 07.5 +0.1**
baz=86,SNR=14
PFO Pinyon Flat Ob 86.01 47 ⇑P **P** **01 49 07.3 -0.2**
baz=86,SNR=21
PFO Pinyon Flat Ob 86.01 47 *eP* **P** **01 49 07.6 +0.1**
PFO LR LR
comp=Z,774nm,20.0s,MS5.1
PFO Pinyon Flat Ob 86.01 47 *eP* **P** **01 49 07.6 +0.1**
PFO MLR MLR
comp=Z,774nm,20.0s,MS5.1
PFO Pinyon Flat Ob 86.01 47 P **P** **01 49 08.0 +0.5**

comp=Z,182nm,1.1s,mb6.2,SNR=9.9
KIPM Iron Peak 86.07 39 eP P 01 49 08.6 +1.0
comp=Z,89nm,1.3s,mb5.8
RCTC Rector, Farmer 86.07 44 ⇑P P 01 49 07.2 -0.5
baz=86
ISA Isabella 86.10 45 ⇑P P 01 49 08.0 +0.1
baz=86,SNR=49
ISA Isabella 86.10 45 eP P 01 49 08.0 +0.1
comp=Z,179nm,1.5s,mb6.1
ISA Isabella 86.10 45 eP P 01 49 08.0 +0.1
ISA pmax pmax
comp=Z,179nm,1.5s,mb6.1
BBRC Big Bear Solar 86.14 46 ⇑P P 01 49 08.8 +0.6
baz=86
NJ2 Nanjing 86.32 310 eP P 01 49 09.3 +0.2
NJ2 pP pP 01 49 19.8 +9.0
NJ2 sP sP 01 49 23.3 +12
NJ2 PP PP 01 52 32.4 +2.0
NJ2 S S 01 59 40.0 -5.2
NJ2 sS sS 01 59 58.0 +10
NJ2 pmax pmax
comp=Z,20nm,1.0s,mb5.3
NJ2 pmax pmax
comp=Z,330nm,9.5s
NJ2 LR LR
comp=N,1μm,23.0s,MS5.2
NJ2 LR LR
comp=E,670nm,23.8s,MS5.2
NJ2 LR LR
comp=Z,8μm,23.6s,MS6.1
LRMC Laurel Mountai 86.46 45 ⇓P P 01 49 10.0 +0.3
baz=87,SNR=27
RRX Edison Barstow 86.49 46 ⇑P P 01 49 10.1 +0.3
baz=87
BELC Belle Mtn. Jos 86.55 47 ⇑P P 01 49 10.5 +0.4
baz=87,SNR=45
CMB Columbia Colle 86.57 42 eP P 01 49 09.6 -0.6
comp=Z,51nm,1.0s,mb5.7
CMB Columbia Colle 86.57 42 eP P 01 49 09.6 -0.5
CMB pmax pmax
comp=Z,51nm,1.0s,mb5.7
BC3 Big Chuckawall 86.68 48 ⇓P P 01 49 11.4 +0.6
baz=87,SNR=33
KHMM Horse Mountain 86.69 38 eP P 01 49 11.8 +1.2
comp=Z,43nm,1.0s,mb5.6
GLA Glamis 86.69 49 ⇓P P 01 49 11.7 +0.8
baz=87,SNR=20
GLA Glamis 86.69 49 eP P 01 49 11.7 +0.8
comp=Z,128nm,1.4s,mb6.0
GLA Glamis 86.69 49 eP P 01 49 11.7 +0.8
GLA pmax pmax
comp=Z,128nm,1.4s,mb6.0
OHCM Honcut 86.84 40 eP P 01 49 11.4 -0.1
CWC Cottonwood Cre 86.86 44 ⇑P P 01 49 11.6 0.0
baz=87,SNR=13
HEC Hector,Ludlow 86.88 46 ⇓P P 01 49 11.6 -0.1
baz=87,SNR=35
GSC Goldstone 86.89 46 ⇓P P 01 49 12.1 +0.3
baz=87,SNR=46
GSC Goldstone 86.89 46 eP P 01 49 11.9 +0.1
comp=Z,133nm,1.3s,mb6.0
GSC Goldstone 86.89 46 eP P 01 49 11.9 +0.1
GSC pmax pmax
comp=Z,133nm,1.3s,mb6.0
MPMC Manual Prospec 86.96 45 ⇓P P 01 49 12.3 +0.2
baz=87,SNR=57
DAC Darwin (Calif) 87.04 45 PFAKE 01 49 20.0 +7.5
DAC LR LR
comp=Z,1μm,21.0s,MS5.2
WDC Whiskeytown Da 87.12 39 eP P 01 49 12.1 -0.7
comp=Z,87nm,1.4s,mb5.8
WDC Whiskeytown Da 87.12 39 eP P 01 49 12.1 -0.7
WDC pmax pmax
comp=Z,87nm,1.4s,mb5.8
MTUM Tungsten Hills 87.17 43 eP P 01 49 13.8 +0.6
TIN Tinemaha 87.17 44 ⇓P P 01 49 13.4 +0.2
baz=88,SNR=12
IRM Iron Mountain 87.19 48 ⇓P P 01 49 14.0 +0.7
baz=88,SNR=46
MLAC Mammoth Lakes 87.20 43 ⇑P P 01 49 13.5 +0.3
baz=88,SNR=5.6
113A Mohawk Valley, 87.21 49 ⇑P P 01 49 13.7 +0.3
baz=88,SNR=14
GMRC Granite Mounta 87.27 47 ⇑P P 01 49 14.2 +0.5
baz=88,SNR=18
Y12C Blythe 87.33 48 ⇑P P 01 49 14.3 +0.3
baz=88,SNR=8.6
214A Organ Pipe Nat 87.33 50 ⇓P P 01 49 14.3 +0.3
baz=88,SNR=22
PAYG Puerto Ayora 87.51 89 PFAKE 01 49 30.0 +15
PAYG LR LR
comp=Z,1μm,19.0s,MS5.3
TUQ Turquoise Moun 87.52 46 ⇓P P 01 49 15.4 +0.5
baz=88,SNR=27
Z13A Yuma Proving G 87.55 49 ⇓P P 01 49 15.1 +0.1
baz=88,SNR=49
SHOC Shoshone 87.60 46 ⇑P P 01 49 14.9 -0.3
baz=88,SNR=25
FURC Furnace Creek, 87.61 45 ⇓P P 01 49 15.2 -0.1
baz=88,SNR=17
GRAC Grapevine Rang 87.65 44 ⇓P P 01 49 15.7 +0.2
baz=88,SNR=24
114A Black Gap (USA 87.78 50 ⇓P P 01 49 16.6 +0.4
baz=88,SNR=15
WCN Washoe City 87.79 41 ⇑P P 01 49 16.0 0.0
baz=88,SNR=16
WCN Washoe City 87.79 41 eP P 01 49 15.9 -0.1
WCN Washoe City 87.79 41 eP P 01 49 15.9 -0.1
LDFC Landfair 87.80 47 eP P 01 49 17.2 +1.0
comp=Z,167nm,1.0s,mb6.2
KEBM Edson Butte 87.81 36 eP P 01 49 17.2 +1.1
comp=Z,76nm,1.1s,mb5.8
YBH Yreka Blue Hor 87.84 38 eP P 01 49 16.5 +0.3
YBH ePP PP 01 52 41.5 -1.1
YBH Yreka Blue Hor 87.84 38 eP P 01 49 16.5 +0.3
YBH e 01 52 41.5
NEE2 Needles Airpor 87.92 47 ⇑P P 01 49 16.7 -0.1
baz=88
PDMCI Parker Dam,Lak 87.93 48 ⇓P P 01 49 17.4 +0.6
baz=88,SNR=17
NVAR Mina Array Bea 88.04 43 P P 01 49 17.4 +0.2
comp=Z,22nm,0.8s,mb5.5,baz=222,slow=8.1,SNR=135
NVAR PKKP PKKPbc 02 07 01.1 -2.4
comp=Z,1.7nm,0.8s,baz=55,slow=3.4,SNR=10.0
NVAR PKPPKP 02 15 11.2
comp=Z,1.3nm,1.0s,baz=72,slow=2.9,SNR=5.4
NVAR LR LR 02 25 51.1
comp=Z,1μm,18.2s,MS5.4,baz=125,slow=34
NVAR Mina Array Bea 88.04 43 P P 01 49 17.4 +0.2
NVAR PKKP PKKPbc 02 07 01.1 -2.4
NVAR PKPab 02 15 11.2
Z14A Wintersburg 88.12 49 ⇓P P 01 49 18.1 +0.3
baz=88,SNR=21
115A Sonoran Desert 88.18 50 ⇑P P 01 49 18.5 +0.4
baz=88,SNR=18
216A Three Points, 88.27 51 ⇓P P 01 49 19.2 +0.7
baz=89
HUMO Hull Mountain 88.33 37 eP P 01 49 18.4 -0.1
comp=Z,168nm,2.0s,mb5.9
WHN Wuhan 88.43 307 ⇑P P 01 49 17.1 -2.2
WHN LR LR
comp=Z,2μm,26.0s,MS5.3
Y14A Wickenburg 88.44 49 ⇑P P 01 49 19.6 +0.3
baz=89,SNR=37
116A Eloy 88.44 51 ⇑P P 01 49 19.9 +0.5
baz=89,SNR=5.8
TPH Tonopah 88.45 43 PFAKE 01 49 30.0 +11
TPH LR LR
comp=Z,914nm,19.0s,MS5.2
217A Green Valley 88.56 52 ⇑P P 01 49 20.4 +0.5
baz=89,SNR=29
Z15A Gila River Ind 88.59 50 ⇓P P 01 49 20.3 +0.3
baz=89
W13A Hualapai Mount 88.59 47 ⇑P P 01 49 20.6 +0.6
baz=89,SNR=29
MDJ Mudanjiang 88.64 325 P P 01 49 20.1 +0.1
MDJ pP pP 01 49 29.6 +7.9
MDJ sP sP 01 49 33.3 +11
MDJ PP PP 01 52 47.8 -1.2
MDJ S S 02 00 03.8 -3.1
MDJ pmax pmax
comp=Z,19nm,1.1s,mb5.3
MDJ pmax pmax
comp=Z,390nm,4.8s
MDJ LR LR
comp=N,300nm,28.1s,MS4.7
MDJ LR LR
comp=E,310nm,28.4s,MS4.7
MDJ LR LR
comp=Z,630nm,28.1s,MS4.9
MDJ Mudanjiang 88.64 325 eP P 01 49 19.7 -0.3
comp=Z,12nm,0.8s,mb5.3
MDJ LR LR
comp=Z,615nm,19.0s,MS5.0
LCO Las Campanas 88.88 123 eP P 01 49 21.6 -0.1
comp=Z,32nm,1.1s,mb5.6
LCO LR LR
comp=Z,2μm,19.0s,MS5.6
Y15A Casa Rosa Ranc 88.88 49 ⇓P P 01 49 21.8 +0.5
baz=89,SNR=44
TUC Tucson 88.91 51 eP P 01 49 22.2 +0.7
TUC LR LR
comp=Z,663nm,22.0s,MS5.0
TUC Tucson 88.91 51 eP P 01 49 22.2 +0.7
TUC MLR MLR
comp=Z,663nm,22.0s,MS5.0
318A Bisbee 88.93 52 ⇑P P 01 49 21.9 +0.2
baz=89,SNR=32
DL2 Dalian 89.00 317 ⇑P P 01 49 21.8 0.0
DL2 S S 02 00 04.5 -6.0
DL2 pmax pmax
comp=Z,20nm,0.8s,mb5.5
DL2 pmax pmax
comp=Z,220nm,6.3s
DL2 LR LR
comp=N,260nm,24.1s,MS4.8
DL2 LR LR
comp=E,370nm,25.0s,MS4.8
DL2 LR LR
comp=Z,410nm,27.0s,MS4.7
HABR Khabarovsk 89.05 331 eP P 01 49 21.7 0.0
HABR e*SP sP 01 49 35.0 +11
HABR eS SKSac 01 59 46.4 -5.4
HABR e*SS sS 02 00 05.7 -7.6
HABR eSS SS 02 06 02.9 -1.6
HABR eSSS 02 09 39.1
HABR pmax pmax
comp=Z,162nm,1.5s,mb6.1
HABR pmax pmax
comp=E,56nm,1.1s
HABR pmax pmax
comp=N,62nm,1.5s
HABR MLR MLR
comp=Z,425nm,19.0s,MS4.9
117A Oracle 89.10 51 ⇓P P 01 49 23.2 +0.8
baz=90,SNR=30
218A Dragoon 89.21 52 ⇓P P 01 49 23.8 +0.9
baz=90,SNR=35
MOD Modoc 89.26 39 eP P 01 49 22.6 -0.3
comp=Z,26nm,0.9s,mb5.6
319A Douglas 89.38 53 ⇑P P 01 49 24.2 +0.5
baz=90,SNR=14
TRQA Tornquist 89.38 135 eP P 01 49 24.4 +0.6
comp=Z,43nm,1.2s,mb5.7
TRQA LR LR
comp=Z,1μm,19.0s,MS5.3
Y16A Circle Bar Ran 89.40 50 ⇓P P 01 49 24.5 +0.7
baz=90,SNR=65
K05A Summer Lake 89.50 38 ⇓P P 01 49 24.1 +0.1
baz=90,SNR=25
COR Corvallis 89.55 36 eP P 01 49 25.3 +1.1
comp=Z,81nm,1.2s,mb5.9
COR Corvallis 89.55 36 eP P 01 49 25.3 +1.1
COR pmax pmax
comp=Z,81nm,1.2s,mb5.9
R11A Troy Canyon, C 89.60 44 ⇓P P 01 49 24.7 0.0
baz=90,SNR=12
118A Homack Ranch, 89.66 51 ⇓P P 01 49 25.9 +0.9
baz=90,SNR=48
IRO Indian Ridge 89.68 37 P P 01 49 25.4 +0.6
Y17A Roosevelt 89.71 50 ⇓P P 01 49 26.3 +1.1
baz=90,SNR=41
Z17A San Carlos Hig 89.71 51 ⇓P P 01 49 26.2 +0.9
baz=90,SNR=13
X16A Lo Mia Camp, P 89.75 49 ⇑P P 01 49 26.4 +1.0
baz=90,SNR=97
219A White Tail Can 89.76 52 ⇓P P 01 49 26.0 +0.5
baz=90,SNR=17
320A Kipp Ranch, An 89.87 53 ⇑P P 01 49 26.8 +0.7
baz=90,SNR=15
Z18A Geronimo 89.88 51 ⇑P P 01 49 26.9 +0.8
baz=90
X17A Forest Lakes 90.12 50 ⇓P P 01 49 28.2 +1.1
baz=90,SNR=32
119A Ashpeak Ranch, 90.18 52 ⇓P P 01 49 28.4 +0.9
baz=90,SNR=14
H04A Detroit Lake 90.19 36 ⇓P P 01 49 26.8 -0.4
baz=91,SNR=17
220A Playas Peak, P 90.21 53 ⇓P P 01 49 28.1 +0.5
baz=91,SNR=25
KDAK Kodiak Island 90.27 13 PFAKE 01 49 40.0 +13
KDAK LR LR
comp=Z,1μm,20.0s,MS5.4
Y18A Canyon Day Jun 90.29 50 ⇑P P 01 49 29.0 +1.1
baz=91,SNR=62
U15A North Rim 90.43 47 ⇑P P 01 49 29.7 +1.2
baz=91
CCUT Cedar City 90.46 46 eP P 01 49 29.8 +1.1
comp=Z,58nm,1.3s,mb5.8
WUAZ Wupatki 90.46 48 ⇓P P 01 49 29.3 +0.6
baz=91,SNR=37
WUAZ Wupatki 90.46 48 eP P 01 49 29.2 +0.5
comp=Z,125nm,1.4s,mb6.0
WUAZ LR LR
comp=Z,870nm,19.0s,MS5.2
R13A O'Grain Ranch, 90.48 45 ⇓P P 01 49 29.7 +1.0
baz=91
120A U Bar Ranch, L 90.51 52 ⇑P P 01 49 29.8 +0.8
baz=91,SNR=28
Z19A T-Link Ranch, 90.52 51 ⇓P P 01 49 29.8 +0.8
baz=91,SNR=7.2
WVOR Wild Horse Val 90.53 39 eP P 01 49 28.3 -0.5
comp=Z,42nm,1.4s,mb5.6
WVOR LR LR
comp=Z,2μm,19.0s,MS5.5
WVOR Wild Horse Val 90.53 39 eP P 01 49 28.3 -0.5
WVOR pmax pmax
comp=Z,42nm,1.4s,mb5.6
WVOR MLR MLR
comp=Z,2μm,19.0s,MS5.5
ARUT Antelope Range 90.56 46 eP P 01 49 30.2 +1.1
comp=Z,66nm,1.6s,mb5.7
ARUT Antelope Range 90.56 46 eP P 01 49 30.2 +1.1
ARUT pmax pmax
comp=Z,66nm,1.6s,mb5.7
W17A Winslow 90.63 49 ⇑P P 01 49 30.3 +0.8
baz=91
VBEM Beaver Butte 90.76 36 P P 01 49 30.1 +0.2
221A Mesquite Ranch 90.78 53 ⇑P P 01 49 31.2 +0.9
baz=91,SNR=6.0
X18A Snowflake 90.80 50 ⇑P P 01 49 31.0 +0.7
baz=91,SNR=23
E03A Lebam 90.82 34 ⇓P P 01 49 30.2 +0.1
baz=91,SNR=12
Z20A Nine Sixteen R 90.87 52 ⇑P P 01 49 31.2 +0.5
baz=91,SNR=38
VIPM Ingram Point 90.87 37 P P 01 49 30.5 +0.1
VIPM Ingram Point 90.87 37 P P 01 49 30.5 +0.1
V17A Tonalea, Kykot 90.90 49 ⇓P P 01 49 31.3 +0.5
baz=91,SNR=34
Y19A Nutrioso 90.92 51 ⇑P P 01 49 32.1 +1.2
baz=91,SNR=61
RVW Rose Valley 90.94 35 P P 01 49 31.6 +1.0
VFP Flag Point 91.00 36 P P 01 49 31.6 +0.7
U16A Tuba City 91.00 48 ⇓P P 01 49 31.7 +0.5
baz=91
KLR Kul'dur 91.04 330 eP P 01 49 27.3 -3.7
KLR eS S 02 00 23.5 -5.4
KLR pmax pmax
comp=E,30nm,1.6s
KLR pmax pmax
comp=Z,74nm,1.6s,mb5.8
121A Cooks Peak, D 91.08 53 ⇓P P 01 49 31.9 +0.3
baz=91,SNR=7.3
I07A Izee 91.17 38 ⇓P P 01 49 31.5 -0.2
baz=92,SNR=31
X19A St. Johns 91.18 50 ⇑P P 01 49 32.4 +0.3
baz=92,SNR=11
J08A Circle Bar Ran 91.23 39 ⇓P P 01 49 31.4 -0.7
baz=92,SNR=17
NLWA Neilton Lookou 91.28 33 eP P 01 49 33.0 +0.8
comp=Z,26nm,1.0s,mb5.5
NLWA LR LR
comp=Z,1μm,22.0s,MS5.3
W18A Petrified Fore 91.29 50 ⇑P P 01 49 32.9 +0.4
baz=92,SNR=14
222A Williams Famil 91.31 53 ⇓P P 01 49 32.9 +0.2
baz=92
OSR Olympics--Salm 91.31 33 P P 01 49 33.5 +1.2
G06A Carlson Farm, 91.36 36 ⇑P P 01 49 32.6 -0.1
baz=92,SNR=28
Y20A Horse Springs, 91.48 51 ⇓P P 01 49 33.8 +0.3
baz=92,SNR=55
ASR Mount Adams--S 91.51 35 P P 01 49 33.8 +0.5
V18A Ganado 91.52 49 ⇓P P 01 49 34.1 +0.5
baz=92,SNR=17
W19A Sanders 91.52 50 ⇑P P 01 49 34.0 +0.3
baz=92,SNR=16
R15A Junction 91.54 46 ⇑P P 01 49 34.2 +0.6
baz=92
U17A Shonto 91.58 48 ⇑P P 01 49 34.4 +0.5
baz=92,SNR=12
Z21A St. Cloud Mine 91.61 52 ⇓P P 01 49 34.6 +0.5
baz=92,SNR=24
GYA Guiyang 91.66 300 eP P 01 49 35.9 +1.4
GYA pP pP 01 49 47.3 +11
GYA PP PP 01 53 17.0 +3.7
GYA SKS 02 00 03.3
GYA S S 02 00 31.4 -4.2
GYA SS SS 02 06 42.8 -0.3
GYA pmax pmax
comp=Z,40nm,1.0s,mb5.7
GYA pmax pmax
comp=Z,170nm,6.2s
GYA LR LR
comp=N,820nm,20.5s,MS5.2
GYA LR LR
comp=E,610nm,21.8s,MS5.2
GYA LR LR
comp=Z,990nm,19.1s,MS5.3
S16A Weppner Ranch, 91.67 47 ⇓P P 01 49 34.4 +0.2
baz=92,SNR=14
ENH Enshi 91.69 304 eP P 01 49 34.9 +0.4
comp=Z,156nm,1.6s,mb6.1
ENH LR LR
comp=Z,379nm,19.0s,MS4.9
223A Chaparral, Ant 91.72 54 ⇑P P 01 49 35.1 +0.4
baz=92
122A Conniff Cattle 91.72 53 ⇓P P 01 49 35.5 +0.9
baz=92,SNR=5.2
T17A Navajo Res., N 91.73 47 ⇑P P 01 49 35.2 +0.7
baz=92,SNR=23
MVU Marysvale 91.76 46 PFAKE 01 49 50.0 +15
MVU LR LR
comp=Z,812nm,21.0s,MS5.2
X20A Quemado 91.77 51 ⇑P P 01 49 35.1 +0.3
baz=92,SNR=41
MSU Marysvale 91.79 46 eP P 01 49 36.0 +1.2
MSU Marysvale 91.79 46 eP P 01 49 36.0 +1.2
LON Longmire 91.82 35 eP P 01 49 34.0 -0.7
comp=Z,11nm,1.0s,mb5.2
LON Longmire 91.82 35 eP P 01 49 34.0 -0.7
LON pmax pmax
comp=Z,11nm,1.0s,mb5.1
GNW Green Mountain 91.90 34 eP P 01 49 34.6 -0.4
comp=Z,15nm,1.0s,mb5.3
WPW White Pass 91.92 35 P P 01 49 35.6 +0.4
JBO Jordan Butte 91.93 37 P P 01 49 35.3 0.0
626A Big Bend Ranch 91.97 57 ⇑P P 01 49 35.8 -0.1
baz=92,SNR=16
U18A Rough Rock, Ch 91.98 48 ⇑P P 01 49 36.0 +0.3
baz=92,SNR=14
Y21A Point of Rocks 92.02 51 ⇓P P 01 49 36.5 +0.5
baz=92,SNR=39
D05A Enumclaw 92.04 34 ⇓P P 01 49 36.1 +0.4
baz=92,SNR=8.7
425A Indio Mountain 92.04 55 ⇓P P 01 49 36.2 +0.1
baz=92,SNR=15
324A Moseley Ranch, 92.06 55 ⇓P P 01 49 36.0 -0.3
baz=92,SNR=12
Z22A Elephant Butte 92.06 52 ⇓P P 01 49 36.7 +0.5
baz=92,SNR=9.2
R16A Teasdale 92.08 46 ⇑P P 01 49 36.7 +0.6
baz=92,SNR=14
V19A Window Rock 92.10 49 ⇑P P 01 49 36.4 +0.1
baz=92
S17A Black Ridge (B 92.11 47 ⇓P P 01 49 36.4 +0.1
baz=92,SNR=14
W20A Ramah 92.11 50 ⇑P P 01 49 37.3 +1.0
baz=92,SNR=42
F07A Phinny Hill Vi 92.18 36 ⇓P P 01 49 36.4 0.0
baz=93
TXAR Lajitas Array 92.18 57 P P 01 49 37.0 +0.2
comp=Z,6.5nm,0.9s,mb4.9,baz=209,slow=7.2,SNR=36
TXAR PKKPbc PKKPbc 02 06 52.5 0.0
comp=Z,0.3nm,0.7s,baz=84,slow=3.7,SNR=3.2
TXAR LR LR 02 27 17.7
comp=Z,1μm,18.2s,MS5.3,baz=105,slow=33
TXAR Lajitas Array 92.18 57 P P 01 49 37.0 +0.2
TXAR PKKPbc PKKPbc 02 06 52.5 0.0
TXAR Lajitas Array 92.18 57 P P 01 49 37.0 +0.1
TXAR 02 06 52.6
123A Bell Site, Whi 92.19 53 ⇑P P 01 49 36.5 -0.3
baz=92
X21A Alamocita Cree 92.19 51 ⇑P P 01 49 37.6 +0.8
baz=92,SNR=43
G08A Pilot Rock 92.27 37 ⇑P P 01 49 36.7 -0.1
baz=93,SNR=56
MNTX Cornudas Mount 92.28 54 ⇓P P 01 49 37.1 -0.2
baz=93,SNR=18
MNTX Cornudas Mount 92.28 54 eP P 01 49 36.9 -0.4
comp=Z,9.9nm,0.9s,mb5.1
MNTX LR LR
comp=Z,524nm,19.0s,MS5.0
526A Mary Lane Ranc 92.28 56 ⇑P P 01 49 37.0 -0.3
baz=93,SNR=19
U19A Dine' College, 92.33 49 ⇓P P 01 49 37.8 +0.4
baz=93,SNR=11
P15A Leamington 92.38 45 ⇓P P 01 49 37.6 +0.1
baz=93,SNR=8.0
325A Bean Ranch, Si 92.38 55 ⇑P P 01 49 37.6 -0.2
baz=93,SNR=12
224A Cornudas Mount 92.39 54 ⇑P P 01 49 37.5 -0.3
baz=93,SNR=13
T18A Mexican Hat 92.40 48 ⇓P P 01 49 37.8 +0.2
baz=93,SNR=26
DUG Dugway 92.44 44 ⇑P P 01 49 37.8 0.0
baz=93,SNR=8.0
DUG Dugway 92.44 44 eP P 01 49 38.3 +0.5
comp=Z,15nm,1.2s,mb5.2
DUG LR LR
comp=Z,1μm,19.0s,MS5.3
DUG Dugway 92.44 44 eP P 01 49 38.3 +0.5
DUG pmax pmax
comp=Z,15nm,1.2s,mb5.2
DUG MLR MLR
comp=Z,1μm,19.0s,MS5.3
627A Terlingua Ranc 92.45 57 ⇑P P 01 49 38.0 -0.1
baz=93,SNR=21
Y22A Socorro 92.45 52 ⇑P P 01 49 38.5 +0.5
baz=93,SNR=15
V20A Brimhall 92.53 50 ⇑P P 01 49 38.4 +0.1
baz=93,SNR=8.7
CMIG Matias Romero 92.55 72 P P 01 49 39.8 +1.0
comp=Z,4.8nm,0.8s,mb5.0,baz=275,slow=2.9,SNR=8.5
CMIG Matias Romero 92.55 72 P P 01 49 39.8 +1.0
Y22D IRIS PASSCAL I 92.56 52 ⇓P P 01 49 38.8 +0.3
baz=93
Z23A Rita Site, Whi 92.57 53 ⇓P P 01 49 38.6 0.0
baz=93,SNR=6.3
LENM Lemitar 92.58 52 eP P 01 49 39.6 +1.0
LAZ Ladron 92.60 51 eP P 01 49 39.5 +0.8
comp=Z,34nm,1.6s,mb5.5
R17A Hanksville Air 92.64 46 ⇑P P 01 49 38.5 -0.3
baz=93,SNR=11
Q16A Castle Valley 92.66 46 ⇑P P 01 49 39.8 +1.0
baz=93
S18A Hurst Farm, BI 92.66 47 ⇑P P 01 49 38.9 0.0
baz=93,SNR=6.4
426A McDonald Obser 92.66 56 ⇓P P 01 49 39.0 -0.1
baz=93,SNR=9.6
E07A Sunnyside 92.67 36 ⇑P P 01 49 38.3 -0.3
baz=93,SNR=9.8
527A Woodward Ranch 92.67 57 ⇑P P 01 49 38.4 -0.7
baz=93,SNR=16
W21A San Fidel 92.67 51 ⇓P P 01 49 39.2 +0.2
baz=93,SNR=6.8
RSW Rattlesnake Hi 92.69 36 eP P 01 49 39.1 +0.4
O15A The Old Anders 92.70 44 ⇓P P 01 49 39.0 +0.1
baz=93
SNIWA Snively Ranch 92.70 36 P P 01 49 39.2 +0.4

HAWA **Hanford** 92.72 36 *eP* P 01 49 39.0 +0.1
comp=Z,28nm,1.0s,mb5.7
HAWA LR LR
comp=Z,1µm,22.0s,MS5.3
MFID **Camas Ranch** 92.73 40 ⇑P P 01 49 38.6 -0.5
baz=93,SNR=26
MFID **Camas Ranch** 92.73 40 *eP* P 01 49 39.0 0.0
comp=Z,24nm,0.9s,mb5.6
X22A **Bernardo** 92.75 51 ⇓P P 01 49 39.8 +0.4
baz=93
T19A **Beclabito** 92.77 48 ⇑P P 01 49 39.3 -0.1
baz=93,SNR=6.6
JCW **Jim Creek** 92.77 34 *eP* P 01 49 39.2 +0.2
comp=Z,7.6nm,0.7s,mb5.2
P16A **Fountain Green** 92.78 45 ⇓P P 01 49 40.0 +0.7
baz=93
124A **Stringfield Ra** 92.79 54 ⇑P P 01 49 39.6 0.0
baz=93,SNR=8.4
BNM **Barren Site** 92.81 52 *eP* P 01 49 40.3 +0.7
comp=Z,89nm,1.8s,mb5.9
GBB **Gable Butte** 92.82 36 P P 01 49 39.8 +0.5
U20A **Newcomb** 92.83 49 ⇑P P 01 49 39.8 +0.1
baz=93
628A **Black Gap, Mar** 92.83 57 ⇓P P 01 49 39.4 -0.5
baz=93,SNR=18
BMO **Blue Mountains** 92.86 38 *eP* P 01 49 39.0 -0.5
comp=Z,16nm,1.1s,mb5.4
BMO LR LR
comp=Z,885nm,19.0s,MS5.2
TMUT **Trail Mountain** 92.86 45 *eP* P 01 49 40.8 +1.0
comp=Z,26nm,1.0s,mb5.6
LPM **Los Pinos Moun** 92.89 52 *eP* P 01 49 41.0 +0.9
225A **Deer Hill, Car** 92.90 54 ⇓P P 01 49 39.8 -0.3
baz=93,SNR=7.3
BJT **Baijiatuau** 92.97 315 *eP* P 01 49 39.7 -0.5
comp=Z,16nm,0.8s,mb5.5
BJT LR LR
comp=Z,742nm,22.0s,MS5.1
BJT **Baijiatuau** 92.97 315 *eP* P 01 49 39.7 -0.5
BJT pmax pmax
comp=Z,16nm,0.8s
BJT MLR MLR
comp=Z,742nm,22.0s
BJI **Beijing** 92.98 315 P P 01 49 40.9 +0.6
BJI S S 02 00 46.5 -0.3
BJI sS sS 02 01 05.3 +16
BJI SS SS 02 07 03.5 +1.8
BJI pmax pmax
comp=Z,17nm,0.8s,mb5.5
BJI pmax pmax
comp=Z,240nm,4.3s
BJI LR LR
comp=N,580nm,22.9s,MS5.1
BJI LR LR
comp=E,500nm,20.1s,MS5.1
BJI LR LR
comp=Z,580nm,22.5s,MS5.0
LNOR **Lincton Mounta** 93.01 37 *eP* P 01 49 39.9 -0.3
comp=Z,38nm,1.7s,mb5.5
LNOR **Lincton Mounta** 93.01 37 *eP* P 01 49 39.9 -0.4
LNOR pmax pmax
comp=Z,38nm,1.7s,mb5.5
E08A **Dider Farm, El** 93.03 36 ⇓P P 01 49 40.3 0.0
baz=93
MPU **Maple Canyon** 93.04 45 *eP* P 01 49 40.4 -0.2
comp=Z,18nm,1.1s,mb5.4
N15A **Stansbury Isla** 93.04 44 ⇑P P 01 49 40.2 -0.3
baz=93,SNR=7.2
326A **Caldwell Ranch** 93.06 55 ⇓P P 01 49 40.4 -0.4
baz=93
Y23A **Lovelace Mesa,** 93.07 52 ⇓P P 01 49 41.0 +0.1
baz=93,SNR=12
V21A **Milan** 93.08 50 ⇑P P 01 49 40.8 0.0
baz=93,SNR=10
R18A **Canyonlands Na** 93.14 47 ⇑P P 01 49 40.8 -0.2
baz=94,SNR=18
ETW **Entiat** 93.14 35 P P 01 49 40.8 0.0
W22A **Albuquerque** 93.17 51 ⇓P P 01 49 41.9 +0.7
baz=94
SRU **San Rafael** 93.17 46 ⇑P P 01 49 41.2 0.0
baz=94,SNR=14
SRU **San Rafael** 93.17 46 *eP* P 01 49 41.4 +0.2
comp=Z,19nm,1.0s,mb5.5
SRU **San Rafael** 93.17 46 *eP* P 01 49 41.4 +0.2
SRU pmax pmax
comp=Z,19nm,1.0s,mb5.5
427A **Hayter Ranch,** 93.21 56 ⇓P P 01 49 41.7 +0.2
baz=94,SNR=26
O16A **Springville** 93.24 45 ⇓P P 01 49 41.8 +0.3
baz=94
S19A **Harvey Farm, M** 93.24 48 ⇑P P 01 49 41.6 0.0
baz=94,SNR=10
A05A **Maple Falls** 93.26 33 ⇓P P 01 49 41.2 -0.1
baz=94
P17A **Butcher Ranch,** 93.26 46 ⇑P P 01 49 41.8 +0.3
baz=94
528A **Cox Ranch, San** 93.28 57 ⇓P P 01 49 41.4 -0.5
baz=94,SNR=13
NNA **Nana** 93.28 106 PFAKE 01 49 50.0 +7.7
NNA LR LR
comp=Z,1µm,22.0s,MS5.3
125A **Gardner Draw,** 93.32 54 ⇓P P 01 49 42.3 +0.2
baz=94,SNR=7.1
L14A **Malta** 93.33 42 ⇓P P 01 49 41.9 +0.1
baz=94,SNR=14
MVCO **Mesa Verde** 93.33 48 ⇓P P 01 49 41.8 -0.2
baz=94
MVCO **Mesa Verde** 93.33 48 *eP* P 01 49 42.8 +0.8
comp=Z,82nm,2.1s,mb5.8
MVCO LR LR
comp=Z,899nm,19.0s,MS5.2
X23A **Hourglass Bar** 93.35 52 ⇑P P 01 49 42.0 -0.1
baz=94,SNR=8.4
I12A **Atlanta** 93.36 40 ⇑P P 01 49 41.8 -0.1
baz=94,SNR=24
ANMO **Albuquerque** 93.38 51 P P 01 49 42.5 +0.2
comp=Z,8.8nm,0.9s,mb5.2,baz=202,slow=5.5,SNR=31
ANMO **Albuquerque** 93.38 51 *eP* P 01 49 42.3 +0.1
comp=Z,64nm,1.6s,mb5.8
ANMO *e* 01 49 57.6
ANMO LR LR
comp=Z,973nm,19.0s,MS5.3
ANMO **Albuquerque** 93.38 51 P P 01 49 42.5 +0.3
ANMO pmax pmax
comp=Z,9.0nm,0.9s
226A **Malaga, Loving** 93.38 55 ⇑P P 01 49 41.7 -0.6
baz=94
Q18A **Rafter H Ranch** 93.41 46 ⇑P P 01 49 42.4 +0.1
baz=94,SNR=9.0
U21A **Nageezi** 93.43 49 ⇓P P 01 49 42.3 -0.1
baz=94,SNR=28
327A **Balmorhea Ranc** 93.43 56 ⇑P P 01 49 41.7 -0.9
baz=94
M15A **Larsen Ranch,** 93.44 43 ⇑P P 01 49 41.8 -0.6
baz=94,SNR=35
HVU **Hansel Valley** 93.44 43 *eP* P 01 49 42.1 -0.3
comp=Z,101nm,1.5s,mb6.0
HVU **Hansel Valley** 93.44 43 *eP* P 01 49 42.1 -0.2
HVU pmax pmax
comp=Z,101nm,1.5s,mb6.0
R19A **Curley Farm, L** 93.48 47 ⇓P P 01 49 42.3 -0.3
baz=94,SNR=9.2
Y24A **Capitan** 93.49 53 ⇑P P 01 49 42.7 -0.1
baz=94,SNR=28
JLU **Jordanelle** 93.51 44 *eP* P 01 49 43.0 +0.3
comp=Z,36nm,1.4s,mb5.6
DAU **Daniels Canyon** 93.51 45 *eP* P 01 49 43.5 +0.7
DAU **Daniels Canyon** 93.51 45 *eP* P 01 49 43.5 +0.8
E09A **Wood Farm, Sta** 93.51 37 ⇓P P 01 49 42.0 -0.6
baz=94,SNR=11
CM31 **Chiang Mai Arr** 93.54 289 PFAKE 01 49 50.0 +6.7
CM31 LR LR
comp=Z,568nm,19.0s,MS5.0
CMAR **Chiang Mai Arr** 93.54 289 P P 01 49 44.3 +0.9
comp=Z,3.6nm,0.7s,mb4.9,baz=140,slow=3.5,SNR=13
CMAR PP PP 01 53 27.5 -0.7
comp=Z,1.0nm,0.3s,baz=134,slow=5.2,SNR=3.7
CMAR **Chiang Mai Arr** 93.54 289 P P 01 49 44.3 +0.9
CMAR PP PP 01 53 27.5 -0.7
CMAR **Chiang Mai Arr** 93.54 289 P P 01 49 44.3 +1.0
CMAR 01 53 27.5
HLID **Hailey** 93.61 41 ⇑P P 01 49 43.6 +0.5
baz=94,SNR=29
HLID **Hailey** 93.61 41 *eP* P 01 49 42.9 -0.2
comp=Z,16nm,0.8s,mb5.5
HLID LR LR
comp=Z,952nm,19.0s,MS5.3

V22A **San Miguel Ran** 93.62 50 ⇑P P 01 49 43.4 +0.1
baz=94
Z25A **Roswell** 93.63 53 ⇑P P 01 49 43.2 -0.3
baz=94,SNR=10.0
F10A **Beach Ranch, E** 93.63 37 ⇑P P 01 49 42.0 -1.1
baz=94,SNR=18
J13A **Cove Ranch, Pi** 93.64 41 ⇓P P 01 49 43.7 +0.5
baz=94,SNR=47
P18A **Preston Nutter** 93.66 46 ⇓P P 01 49 43.4 0.0
baz=94
428A **Kincaid Ranch,** 93.66 57 ⇓P P 01 49 43.3 -0.3
baz=94,SNR=6.0
PV10 **Paradox Valley** 93.67 47 *eP* P 01 49 43.4 -0.1
comp=Z,230nm,1.0s,mb6.6
K14A **Jones Ranch, D** 93.68 42 ⇓P P 01 49 43.5 +0.1
baz=94,SNR=16
N16A **Rees Ranch, Co** 93.69 44 ⇑P P 01 49 43.7 +0.1
baz=94
O17A **Robinson Place** 93.69 45 ⇑P P 01 49 43.6 0.0
baz=94,SNR=5.7
W23A **Werner Place,** 93.70 51 ⇑P P 01 49 43.5 -0.2
baz=94
CHTO **Chiang Mai** 93.72 289 PFAKE 01 49 50.0 +5.8
CHTO LR LR
comp=Z,475nm,21.0s,MS4.9
126A **Clayton Basin,** 93.76 54 ⇑P P 01 49 43.8 -0.2
baz=94
PV04 **Paradox Valley** 93.77 47 *eP* P 01 49 44.7 +0.7
S20A **Disappointment** 93.78 48 ⇑P P 01 49 44.1 0.0
baz=94,SNR=6.4
OD2 **Odessa Site #2** 93.81 36 *eP* P 01 49 43.4 -0.5
L15A **Malad City** 93.81 43 ⇓P P 01 49 43.6 -0.4
baz=94,SNR=25
PV01 **Paradox Valley** 93.83 48 *eP* P 01 49 44.3 0.0
comp=Z,808nm,1.0s
T21A **Navajo Lake** 93.83 49 ⇓P P 01 49 44.0 -0.3
baz=94
M16A **Huntsville** 93.83 44 ⇓P P 01 49 43.6 -0.5
baz=94
Q19A **Hogan Spring (** 93.87 47 ⇓P P 01 49 44.1 -0.3
baz=94,SNR=9.3
227A **Bennet, Jal** 93.93 55 ⇑P P 01 49 43.9 -0.9
baz=94
328A **Wristen Ranch,** 93.93 56 ⇑P P 01 49 43.8 -1.1
baz=94
U22A **Llaves** 93.93 50 ⇑P P 01 49 44.2 -0.5
baz=94
KMI **Kunming** 93.94 297 P P 01 49 49.0 +3.9
KMI PP PP 01 53 37.8 +6.6
KMI SKS 02 00 18.3
KMI S S 02 00 52.5 -3.5
KMI SS SS 02 07 07.4 -8.5
KMI LR LR
comp=N,250nm,14.6s
KMI LR LR
comp=E,300nm,20.4s
KMI LR LR
comp=Z,430nm,20.4s
J14A **Carey** 93.97 41 ⇑P P 01 49 45.0 +0.2
baz=94,SNR=44
R20A **Redvale** 93.98 48 ⇓P P 01 49 44.7 -0.2
baz=94
H12A **Diamond D Ranc** 93.99 40 ⇑P P 01 49 44.2 -0.6
baz=94,SNR=34
Y25A **Mesa, Roswell** 94.00 53 ⇑P P 01 49 44.8 -0.4
baz=94,SNR=21
V23A **Ortiz Mt. (NFS** 94.01 51 ⇑P P 01 49 45.6 +0.4
baz=94,SNR=7.6
HWUT **Hardware Ranch** 94.05 43 *eP* P 01 49 44.8 -0.4
comp=Z,29nm,1.4s,mb5.5
HWUT LR LR
comp=Z,2µm,19.0s,MS5.5
S21A **Coal Bank Pass** 94.05 48 ⇓P P 01 49 45.2 -0.1
baz=94,SNR=7.8
N17A **Moffit Pass** 94.09 44 ⇑P P 01 49 45.0 -0.4
baz=94,SNR=6.1
G12A **Big Creek, Yel** 94.10 39 ⇓P P 01 49 44.9 -0.4
baz=94
Z26A **Caprock** 94.14 54 ⇓P P 01 49 44.8 -1.0
baz=94,SNR=7.7
K15A **Arbon** 94.14 42 ⇓P P 01 49 45.4 -0.2
baz=94,SNR=24
O18A **Roosevelt** 94.18 45 ⇓P P 01 49 45.2 -0.6
baz=95
W24A **Lazy 6 Ranch,** 94.23 52 ⇑P P 01 49 45.3 -0.8
baz=95,SNR=9.1
127A **Arkansas Junct** 94.24 55 ⇑P P 01 49 45.6 -0.6
baz=95
T22A **Edith** 94.26 49 ⇑P P 01 49 46.1 -0.2
baz=95
C09A **Chrisman Ranch** 94.30 36 ⇑P P 01 49 45.9 -0.2
baz=95
H13A **Challis** 94.33 40 ⇑P P 01 49 45.9 -0.5
baz=95,SNR=15
U23A **El Rito** 94.34 50 ⇑P P 01 49 46.4 -0.2
baz=95
X25A **Clemmons Ranch** 94.36 52 ⇑P P 01 49 46.1 -0.7
baz=95
L16A **Fish Haven** 94.38 43 ⇑P P 01 49 46.2 -0.5
baz=95,SNR=22
I14A **Mackay** 94.39 41 ⇑P P 01 49 46.9 +0.3
baz=95,SNR=20
P19A **Cripple Cowboy** 94.45 46 ⇑P P 01 49 47.0 -0.1
baz=95,SNR=6.4
Q20A **Ridgley Place,** 94.48 47 ⇓P P 01 49 46.6 -0.6
baz=95,SNR=8.3
M17A **Scullys Gap (B** 94.51 44 ⇑P P 01 49 46.7 -0.6
baz=95,SNR=7.3
TTA **Tatalina** 94.53 10 *eP* P 01 49 47.1 +0.3
comp=Z,16nm,1.0s,mb5.4
TTA **Tatalina** 94.53 10 *eP* P 01 49 47.1 +0.3
TTA pmax pmax
comp=Z,16nm,1.0s,mb5.4
F12A **Elk City** 94.54 39 ⇑P P 01 49 46.8 -0.5
baz=95,SNR=17
Y26A **Elida** 94.60 53 ⇑P P 01 49 47.3 -0.6
baz=95
V24A **Rampart Ranch,** 94.61 51 ⇓P P 01 49 48.0 0.0
baz=95,SNR=8.1
R21A **Cimarron** 94.62 48 ⇑P P 01 49 47.9 0.0
baz=95,SNR=11
J15A **Blackfoot** 94.64 42 ⇓P P 01 49 47.5 -0.3
baz=95,SNR=30
G13A **Cobalt** 94.68 40 ⇑P P 01 49 47.4 -0.6
baz=95,SNR=16
Z27A **Tatum** 94.69 54 ⇑P P 01 49 47.6 -0.8
baz=95
S22A **4UR Ranch, Cre** 94.73 49 ⇑P P 01 49 48.0 -0.4
baz=95,SNR=9.3
P20A **De Beque** 94.74 47 ⇑P P 01 49 47.9 -0.4
baz=95,SNR=10
O19A **Miners Draw (B** 94.75 46 ⇓P P 01 49 48.3 -0.1
baz=95
L17A **Cokeville** 94.76 43 ⇑P P 01 49 47.7 -0.7
baz=95,SNR=5.7
K16A **Soda Springs** 94.78 42 ⇑P P 01 49 48.4 -0.1
baz=95,SNR=17
E12A **Beaver Dam Sad** 94.80 38 ⇓P P 01 49 48.0 -0.5
baz=95
M18A **Lyman** 94.84 44 ⇑P P 01 49 48.8 0.0
baz=95,SNR=5.1
T23A **Casias Ranch,** 94.84 50 ⇓P P 01 49 48.6 -0.3
baz=95
H14A **Leadore** 94.86 40 ⇑P P 01 49 48.7 -0.1
baz=95,SNR=19
Q21A **Lamborn Mesa,** 94.87 48 ⇑P P 01 49 48.2 -0.8
baz=95
W25A **X Bar L Ranch,** 94.88 52 ⇑P P 01 49 48.5 -0.6
baz=95,SNR=14
X26A **CR and CF Fran** 94.96 53 ⇑P P 01 49 48.8 -0.7
baz=95
I15A **Monteview** 94.98 41 ⇑P P 01 49 49.5 +0.2
baz=95
U24A **Moreno Valley** 94.99 51 ⇑P P 01 49 49.3 -0.4
baz=95
AHID **Auburn Hatcher** 95.03 43 *eP* P 01 49 50.6 +1.0
comp=Z,99nm,1.7s,mb6.0
AHID LR LR
comp=Z,1µm,19.0s,MS5.4
J16A **Bone** 95.04 42 ⇓P P 01 49 49.8 +0.2
baz=95,SNR=19
Y27A **Causey** 95.04 54 ⇑P P 01 49 49.1 -0.8
baz=95,SNR=12
R22A **Saguache, Gunn** 95.05 48 ⇑P P 01 49 49.8 0.0
baz=95,SNR=7.4
F13A **Darby** 95.06 39 ⇓P P 01 49 49.1 -0.6
baz=96,SNR=11
N19A **John Jarvie Ra** 95.07 45 ⇓P P 01 49 49.8 0.0
baz=95
V25A **Rancho No Teng** 95.12 51 ⇓P P 01 49 50.2 0.0
baz=96,SNR=8.6
K17A **Gardner Place,** 95.12 43 ⇑P P 01 49 50.0 -0.1
baz=96,SNR=19
L18A **Fontenelle, Gr** 95.15 44 ⇑P P 01 49 50.1 -0.1
baz=96
NEW **Newport** 95.19 36 ⇑P P 01 49 49.5 -0.7
baz=96
NEW **Newport** 95.19 36 *eP* P 01 49 49.7 -0.5
comp=Z,6.9nm,1.2s,mb5.0
NEW LR LR
comp=Z,1µm,20.0s,MS5.3
NEW **Newport** 95.19 36 *eP* P 01 49 49.7 -0.5
NEW pmax pmax
comp=Z,7.0nm,1.2s
NEW MLR MLR
comp=Z,1µm,20.0s
G14A **Jackson** 95.20 40 ⇑P P 01 49 50.1 -0.2
baz=96,SNR=5.8
O20A **White River Ci** 95.20 46 ⇓P P 01 49 50.1 -0.4
baz=96
RRI2 **Red Ridge** 95.25 42 *eP* P 01 49 50.3 -0.3
comp=Z,54nm,1.5s,mb5.8
H15A **Lima** 95.27 41 ⇓P P 01 49 50.8 +0.1
baz=96,SNR=9.1
MCMT **McKenzie Canyo** 95.28 40 *eP* P 01 49 51.1 +0.4
comp=Z,8.9nm,1.1s,mb5.1
W26A **Owens Ranch, T** 95.28 52 ⇑P P 01 49 50.2 -0.8
baz=96
Q22A **Crested Butte,** 95.31 48 ⇑P P 01 49 50.5 -0.5
baz=96,SNR=6.6
D12A **Red Ives Fores** 95.32 38 ⇓P P 01 49 50.4 -0.5
baz=96
C11A **Tepee Creek (N** 95.35 37 ⇓P P 01 49 50.4 -0.6
baz=96
MSTX **Muleshoe** 95.36 54 ⇑P P 01 49 50.7 -0.7
baz=96,SNR=7.5
M19A **Rock Springs** 95.44 45 ⇑P P 01 49 51.0 -0.5
baz=96
SMCO **Snowmass** 95.45 48 *eP* P 01 49 51.4 -0.2
comp=Z,31nm,1.5s,mb5.5
I16A **Newdale** 95.47 42 ⇓P P 01 49 51.7 +0.1
baz=96,SNR=17
X27A **F and S Farms,** 95.50 53 ⇓P P 01 49 51.2 -0.8
baz=96,SNR=6.7
KVTX **Kingsville** 95.52 61 PFAKE 01 50 00.0 +7.7
KVTX LR LR
comp=Z,963nm,22.0s,MS5.2
REDW **Red Top Meadow** 95.53 42 *eP* P 01 49 51.5 -0.4
comp=Z,47nm,1.4s,mb5.7
TPAW **Teton Pass** 95.55 42 *eP* P 01 49 51.7 -0.3
comp=Z,32nm,1.4s,mb5.6
E13A **Victor** 95.55 38 ⇓P P 01 49 51.5 -0.4
baz=96
U25A **Circle Dot Ran** 95.57 51 ⇓P P 01 49 52.2 -0.1
baz=96,SNR=8.2
K18A **Toltan Ranch,** 95.58 43 ⇑P P 01 49 52.0 -0.1
baz=96,SNR=14
SDCO **Great Sand Dun** 95.59 49 ⇓P P 01 49 52.3 -0.1
baz=96
SDCO **Great Sand Dun** 95.59 49 *eP* P 01 49 52.9 +0.5
comp=Z,17nm,1.5s,mb5.2
SDCO LR LR
comp=Z,782nm,19.0s,MS5.2
N20A **Spence Gulch,** 95.59 46 ⇓P P 01 49 51.8 -0.4
baz=96,SNR=9.4
F14A **Wisdom** 95.60 39 ⇑P P 01 49 52.2 +0.1
baz=96
J17A **Brown Place, J** 95.61 42 ⇑P P 01 49 52.0 -0.3
baz=96,SNR=13
JCT **Junction City** 95.62 58 ⇑P P 01 49 51.9 -0.7
baz=96
JCT **Junction City** 95.62 58 *eP* P 01 49 52.5 -0.2
comp=Z,16nm,1.3s,mb5.3
JCT LR LR
comp=Z,1µm,19.0s,MS5.4
JCT **Junction City** 95.62 58 *eP* P 01 49 52.5 -0.2
JCT pmax pmax
comp=Z,16nm,1.3s,mb5.3
JCT MLR MLR
comp=Z,1µm,19.0s,MS5.4
R23A **Moffat** 95.63 49 ⇑P P 01 49 52.8 +0.3
baz=96,SNR=8.0
SNOW **Snow King Moun** 95.65 42 *eP* P 01 49 52.7 +0.3
comp=Z,21nm,0.9s,mb5.6
V26A **Tequesquite Ra** 95.66 52 ⇓P P 01 49 52.2 -0.4
baz=96
L19A **Farson** 95.67 44 ⇓P P 01 49 52.5 0.0
baz=96,SNR=5.9
C12B **Naegeli Ranch,** 95.67 37 ⇑P P 01 49 51.7 -0.7
baz=96
G15A **Dillon** 95.69 40 ⇑P P 01 49 52.3 -0.2
baz=96,SNR=21
S24A **Houchin Ranch,** 95.72 50 ⇑P P 01 49 53.0 +0.1
baz=96,SNR=6.2
O21A **Pagoda** 95.73 46 ⇓P P 01 49 52.6 -0.3
baz=96
DLMT **Dillon** 95.75 40 *eP* P 01 49 53.3 +0.5
comp=Z,40nm,1.5s,mb5.6
W27A **Bowe Ranch, En** 95.75 53 ⇑P P 01 49 52.4 -0.7
baz=96
IMW **Indian Meadow** 95.80 42 *eP* P 01 49 52.8 -0.3
comp=Z,18nm,1.1s,mb5.4
D13A **Huson** 95.82 38 ⇓P P 01 49 52.6 -0.5
baz=96
LOHW **Long Hollow** 95.83 42 *eP* P 01 49 53.2 0.0
comp=Z,40nm,1.5s,mb5.6
P22A **Eagle** 95.83 47 ⇑P P 01 49 52.8 -0.5
baz=96
E14A **Clinton** 95.91 39 ⇓P P 01 49 52.6 -0.9
baz=96
SEY **Seymchan** 95.92 347 *ceP* P 01 49 52.3 -0.9
MSO **Missoula** 95.93 38 ⇓P P 01 49 53.0 -0.6
baz=96
MSO **Missoula** 95.93 38 PFAKE 01 50 10.0 +16
MSO LR LR
comp=Z,883nm,20.0s,MS5.2
J18A **Kendall Valley** 95.93 43 ⇓P P 01 49 53.2 -0.5
baz=96,SNR=29
PD01 **Pinedale Array** 95.93 43 *eP* P 01 49 53.6 -0.1
BW06 **Boulder Array** 95.94 43 ⇓P P 01 49 52.9 -0.8
baz=96
BW06 **Boulder Array** 95.94 43 PFAKE 01 50 10.0 +16
BW06 LR LR
comp=Z,2µm,19.0s,MS5.5
PDAR **Pinedale Array** 95.94 43 P P 01 49 53.0 -0.8
comp=Z,3.7nm,0.8s,mb4.9,baz=208,slow=3.2,SNR=32
PDAR PP PP 01 53 44.3 -2.2
comp=Z,3.0nm,1.2s,baz=248,slow=6.5,SNR=5.6
PDAR PKKPbc PKKPbc 02 06 42.6 -0.5
comp=Z,3.0nm,0.7s,baz=85,slow=4.4,SNR=22
PDAR LR LR 02 30 46.5
comp=Z,934nm,18.4s,MS5.3,baz=206,slow=34
PDAR **Pinedale Array** 95.94 43 P P 01 49 53.0 -0.8
PDAR PP PP 01 53 44.3 -2.2
PDAR PKKPbc PKKPbc 02 06 42.6 -0.5
TRF **Thorofare Moun** 95.95 12 *eP* P 01 49 52.6 -0.8
comp=Z,21nm,1.0s,mb5.5
T25A **Trinidad** 95.98 50 ⇑P P 01 49 53.1 -1.0
baz=96
N21A **Black Mountain** 96.01 46 ⇑P P 01 49 53.7 -0.4
baz=96,SNR=7.2
U26A **Atchley Ranch,** 96.02 51 ⇑P P 01 49 53.6 -0.7
baz=96,SNR=6.0
M20A **Sweetwater, Wa** 96.02 45 ⇑P P 01 49 54.5 +0.3
baz=96,SNR=5.5
I17A **Pilgrim Ck.** 96.03 42 ⇓P P 01 49 54.6 +0.4
baz=96,SNR=8.4
FLWY **Flagg Ranch** 96.05 42 *eP* P 01 49 54.2 -0.1
comp=Z,56nm,1.3s,mb5.8
QLMT **Earthquake Lak** 96.08 41 *eP* P 01 49 55.8 +1.5
B12A **Libby** 96.10 36 ⇑P P 01 49 54.3 -0.1
baz=96
F15A **Butte** 96.10 40 ⇑P P 01 49 54.5 0.0
baz=96
H16A **Russell Place,** 96.11 41 ⇓P P 01 49 55.1 +0.6
baz=96,SNR=11
G16A **Moss Hill, Enn** 96.11 40 ⇑P P 01 49 55.0 +0.5
baz=96,SNR=8.0
R24A **Sanders Place,** 96.12 49 ⇓P P 01 49 54.3 -0.5
baz=96
C13A **Hot Springs** 96.12 37 ⇓P P 01 49 54.6 +0.1
baz=96
CD2 **Chengdu** 96.19 302 P P 01 49 56.8 +1.6
CD2 pP pP 01 50 07.3 +10
CD2 sP sP 01 50 11.5 +14
CD2 PP PP 01 53 53.3 +4.6

CD2 SKS 02 00 30.5
CD2 S S 02 01 11.3 -4.0
CD2 sS sS 02 01 29.0 +11
CD2 SS SS 02 07 48.8 +1.0
CD2 pmax pmax
comp=Z,20nm,0.5s,mb5.8
CD2 pmax pmax
comp=Z,300nm,5.4s
CD2 LR LR
comp=E,550nm,14.9s
CD2 LR LR
comp=Z,490nm,19.0s,MS5.0
L20A Wamsutter 96.23 45 ⇑P **P 01 49 55.0 -0.2**
baz=97,SNR=15
S25A Robets Cordova 96.25 50 ⇓P **P 01 49 54.8 -0.5**
baz=97
O22A Kremmling 96.28 47 ⇑P **P 01 49 55.2 -0.2**
baz=97,SNR=5.7
P23A Jefferson 96.29 48 ⇓P **P 01 49 55.0 -0.4**
baz=97
HHC Hu-ho-hao-te 96.29 314 *eP* **P 01 49 57.0 +1.6**
HHC pP pP 01 50 07.8 +11
HHC sP sP 01 50 11.5 +14
HHC PP PP 01 53 54.3 +5.0
HHC SKS 02 00 29.8
HHC S S 02 01 12.1 -3.6
HHC sS sS 02 01 30.3 +12
HHC pmax pmax
comp=Z,12nm,0.6s,mb5.5
HHC pmax pmax
comp=Z,160nm,4.7s
HHC LR LR
comp=N,280nm,29.4s,MS4.8
HHC LR LR
comp=E,380nm,28.9s,MS4.8
HHC LR LR
comp=Z,890nm,30.4s,MS5.1
H17A Grant Village 96.31 42 ⇑P **P 01 49 55.7 +0.3**
baz=97,SNR=5.8
D14A Greenough 96.32 38 ⇑P **P 01 49 54.6 -0.8**
baz=97
I18A Diamond G Ranc 96.34 43 ⇓P **P 01 49 55.5 -0.1**
baz=97,SNR=6.0
CHMT Chamberlain Mo 96.35 39 *eP* **P 01 49 55.3 -0.2**
comp=Z,9.1nm,1.5s,mb5.0
A12A Yaak River Ran 96.36 36 ⇓P **P 01 49 55.2 -0.3**
baz=97
E15A Deer Lodge 96.38 39 ⇑P **P 01 49 55.0 -0.7**
baz=97
K19A Absolon Red Bu 96.40 44 ⇓P **P 01 49 55.5 -0.4**
baz=97
MCK McKinley 96.46 12 *eP* **P 01 49 55.6 0.0**
comp=Z,8.0nm,0.8s,mb5.2
MCK McKinley 96.46 12 *eP* **P 01 49 55.6 0.0**
MCK pmax pmax
comp=Z,8.0nm,0.8s,mb5.2
BOZ Bozeman (W) 96.46 40 ⇑P **P 01 49 55.7 -0.4**
baz=97
BOZ Bozeman (W) 96.46 40 PFAKE 01 50 10.0 +14
BOZ LR LR
comp=Z,618nm,20.0s,MS5.1
Q24A Divide 96.50 48 ⇓P **P 01 49 55.9 -0.6**
baz=97
LKWY Lake 96.51 42 PFAKE 01 50 10.0 +14
LKWY LR LR
comp=Z,2μm,19.0s,MS5.7
J19A Crowheart 96.53 43 ⇑P **P 01 49 55.7 -0.7**
baz=97,SNR=6.5
F16A Kennard Place, 96.55 40 ⇓P **P 01 49 56.1 -0.4**
baz=97
M21A Separation Pea 96.59 45 ⇓P **P 01 49 56.0 -0.8**
baz=97,SNR=8.0
K20A Yellowstone Ra 96.60 44 ⇑P **P 01 49 56.6 -0.1**
baz=97,SNR=6.0
AMTX Amarillo 96.61 53 PFAKE 01 50 10.0 +13
AMTX LR LR
comp=Z,861nm,22.0s,MS5.2
C14A Swan Lake 96.62 38 ⇓P **P 01 49 56.2 -0.5**
baz=97
R25A Fountain Ranch 96.62 50 ⇓P **P 01 49 55.6 -1.4**
baz=97
B13A Whitefish 96.62 37 ⇑P **P 01 49 56.9 +0.2**
baz=97
ISCO Idaho Springs 96.67 48 ⇓P **P 01 49 57.0 -0.2**
baz=97
ISCO Idaho Springs 96.67 48 PFAKE 01 50 10.0 +13
ISCO LR LR
comp=Z,936nm,20.0s,MS5.3
N22A Wattenberg Ran 96.70 46 ⇓P **P 01 49 57.3 0.0**
baz=97
O23A Lake Granby, G 96.71 47 ⇑P **P 01 49 57.7 +0.3**
baz=97
HIA Hailar 96.74 324 PFAKE 01 50 10.0 +13
HIA LR LR
comp=Z,800nm,20.0s,MS5.2
G17A Pierce Place, 96.77 41 ⇑P **P 01 49 57.8 +0.3**
baz=97
L21A Rawlins 96.79 45 ⇓P **P 01 49 57.9 +0.2**
baz=97
D15A Lincoln 96.82 39 ⇑P **P 01 49 58.0 +0.3**
baz=97
M22A Cedar Creek Ra 96.95 46 ⇓P **P 01 49 58.2 -0.2**
baz=97
P24A Kohler Place, 96.96 48 ⇓P **P 01 49 58.4 -0.1**
baz=97
HRY Holter Researc 97.00 39 *eP* **P 01 49 58.8 +0.4**
H18A Shoshone NF, C 97.00 42 ⇓P **P 01 49 58.5 -0.1**
baz=97
I19A Meeteetse 97.02 43 ⇑P **P 01 49 58.5 -0.1**
baz=97,SNR=8.5
N23A Red Feather La 97.07 47 ⇓P **P 01 49 58.7 -0.3**
baz=97
J20A Shoshoni 97.16 44 ⇓P **P 01 49 58.8 -0.5**
baz=98,SNR=7.6
F17A Fitzpatrick Pl 97.16 40 ⇓P **P 01 49 59.2 0.0**
baz=98
C15A Salmond Ranch, 97.22 38 ⇓P **P 01 49 59.4 -0.1**
baz=98
B14A Marquette Ranc 97.23 37 ⇓P **P 01 49 58.9 -0.6**
baz=98
K21A Alcova 97.25 45 ⇑P **P 01 49 58.9 -0.8**
baz=98,SNR=10
D16A Dana Ranch, Ca 97.34 39 ⇑P **P 01 49 59.9 -0.1**
baz=98
E17A Martinsdale 97.38 40 ⇓P **P 01 50 00.1 -0.2**
baz=98
H19A Powell 97.39 42 ⇑P **P 01 50 00.3 0.0**
baz=98
TGUH Tegucigalpa,Un 97.40 78 PFAKE 01 50 10.0 +8.9
TGUH LR LR
comp=Z,966nm,21.0s,MS5.3
L22A Ellis Ranch, M 97.41 45 ⇓P **P 01 50 00.1 -0.4**
baz=98
G18A Lazy EL Ranch, 97.44 41 ⇑P **P 01 50 00.4 -0.1**
baz=98
P25A Willow Gulch B 97.44 48 ⇑P **P 01 50 00.2 -0.5**
baz=98
I20A Worland 97.47 43 ⇓P **P 01 50 00.6 -0.2**
baz=98
RLMT Red Lodge 97.49 42 ⇓P **P 01 50 00.8 0.0**
baz=98
RLMT Red Lodge 97.49 42 *eP* **P 01 50 01.3 +0.5**
comp=Z,6.2nm,1.2s,mb4.9
RLMT LR LR
comp=Z,1μm,19.0s,MS5.4
A14A Double T Ranch 97.53 37 ⇓P **P 01 50 01.0 +0.2**
baz=98,SNR=5.1
J21A Lysite 97.54 44 ⇓P **P 01 50 00.5 -0.5**
baz=98,SNR=10
F18A Big Timber 97.69 41 ⇑P **P 01 50 01.3 -0.3**
baz=98
COLA College 97.70 12 *eP* **P 01 49 59.9 -1.3**
comp=Z,11nm,0.9s,mb5.4
COLA LR LR
comp=Z,1μm,20.0s,MS5.3
COLA College 97.70 12 *eP* **P 01 49 59.9 -1.3**
COLA pmax pmax
comp=Z,11nm,0.9s,mb5.4
COLA MLR MLR
comp=Z,1μm,20.0s,MS5.3
K22A Casper 97.70 45 ⇓P **P 01 50 01.1 -0.7**
baz=98,SNR=5.7
C16A Fuhringer Ranc 97.70 38 ⇑P **P 01 50 01.3 -0.4**
baz=98
ILAR Eielson Array 97.79 13 P **P 01 50 00.2 -1.3**
comp=Z,2.2nm,0.7s,mb4.8,baz=218,slow=5.2,SNR=35
ILAR PP PP 01 53 57.2 -3.0
comp=Z,0.6nm,0.8s,baz=218,slow=6.7,SNR=4.6
ILAR PKiKP PKiKP 01 54 34.2 -1.1
comp=Z,1.4nm,0.9s,baz=288,slow=2.7,SNR=5.5
ILAR PKKPbc PKKPbc 02 06 29.8 -9.0
comp=Z,0.4nm,0.7s,baz=36,slow=1.0,SNR=7.5
ILAR Eielson Array 97.79 13 P **P 01 50 00.2 -1.3**
ILAR PP PP 01 53 57.2 -3.0
ILAR PKiKP PKiKP 01 54 34.2 -1.2
ILAR PKKPbc PKKPbc 02 06 29.8 -9.0
ILAR Eielson Array 97.79 13 P **P 01 50 00.3 -1.3**
ILAR 01 53 57.2
H20A Greybull 97.86 43 ⇑P **P 01 50 01.5 -0.9**
baz=98
D17A Six Diamond Ra 97.89 39 ⇓P **P 01 50 02.4 0.0**
baz=98
I21A Big Trails, Te 97.89 44 ⇑P **P 01 50 02.1 -0.5**
baz=98,SNR=6.8
A15A Johnson Ranch, 97.89 37 ⇑P **P 01 50 02.6 +0.2**
baz=98
L23A Garrett 97.90 46 ⇓P **P 01 50 02.0 -0.7**
baz=98,SNR=5.3
E18A Harlowton 97.97 40 ⇓Pdiff **P 01 50 03.2 +0.3**
baz=98
LPAZ La Paz 98.02 114 P **P 01 50 05.7 +1.8**
comp=Z,2.0nm,0.6s,mb4.8,baz=274,slow=1.1,SNR=13
LPAZ LR LR 02 25 33.5
comp=Z,439nm,21.3s,MS4.9,baz=248,slow=30
LPAZ La Paz 98.02 114 P **P 01 50 05.7 +1.8**
LPAZ La Paz 98.02 114 P **P 01 50 05.7 +1.8**
B16A M & M Farms, S 98.09 38 ⇑Pdiff **P 01 50 02.5 -0.9**
baz=98
F19A Roth Farm, Mol 98.10 41 ⇓Pdiff **P 01 50 03.7 +0.3**
baz=98
G20A Bridger 98.16 42 ⇓Pdiff **P 01 50 03.6 -0.2**
baz=98
J22A Midwest 98.16 44 ⇓Pdiff **P 01 50 03.2 -0.6**
baz=98
OTAV Otavalo 98.19 95 PFAKE 01 50 20.0 +15
OTAV LR LR
comp=Z,783nm,22.0s,MS5.2
K23A Bowen Ranch, D 98.31 45 ⇑Pdiff **P 01 50 04.0 -0.5**
baz=99
I22A 9 Mile Ranch, 98.42 44 ⇑Pdiff **P 01 50 04.9 -0.1**
baz=99
H21A Big Horn, Sher 98.50 43 ⇓Pdiff **P 01 50 04.9 -0.5**
baz=99
B17A L&G Farms, Che 98.51 38 ⇑Pdiff **P 01 50 05.1 -0.2**
baz=99
WMOK Wichita Mounta 98.57 55 PFAKE 01 50 20.0 +14
WMOK LR LR
comp=Z,759nm,20.0s,MS5.2
BILL Bilibino 98.76 354 PFAKE 01 50 20.0 +14
BILL LR LR
comp=Z,956nm,20.0s,MS5.3
BILL Bilibino 98.76 354 *eP* **P 01 50 04.4 -1.5**
BILL pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
BILL MLR MLR
comp=Z,800nm,20.0s,MS5.2
LZH Lanzhou 98.81 307 *eP* **P 01 50 06.5 -0.4**
LZH pP pP 01 50 17.6 +9.0
LZH sP sP 01 50 21.3 +12
LZH *e*PP PP 01 54 10.8 +2.1
LZH SKS 02 00 41.3
LZH *e*S S 02 01 31.5 -6.0
LZH sS sS 02 01 49.6 +9.3
LZH pmax pmax
comp=Z,25nm,1.5s,mb5.5
LZH pmax pmax
comp=Z,160nm,6.3s
LZH LR LR
comp=N,530nm,18.0s,MS5.4
LZH LR LR
comp=E,940nm,19.5s,MS5.4
LZH LR LR
comp=Z,970nm,20.0s,MS5.3
H22A Clearmont 98.89 43 ⇑Pdiff **P 01 50 07.1 0.0**
baz=99
D19A Cripps Ranch, 98.90 40 ⇓Pdiff **P 01 50 06.8 -0.2**
baz=99
EGMT Eagleton 98.91 39 PFAKE 01 50 20.0 +13
EGMT LR LR
comp=Z,2μm,19.0s,MS5.5
E20A Meyer Farm, Mu 98.94 41 ⇓Pdiff **P 01 50 06.9 -0.3**
baz=99
A17A Triple J Farms 98.95 38 ⇓Pdiff **P 01 50 06.8 -0.4**
baz=99
EGAK Eagle 98.99 15 PFAKE 01 50 20.0 +13
EGAK LR LR
comp=Z,1μm,20.0s,MS5.3
C19A Slack Wire Ran 99.13 40 ⇓Pdiff **P 01 50 07.9 -0.1**
baz=100
J24A Dixon Ranch, L 99.21 45 ⇑Pdiff **P 01 50 08.3 -0.2**
baz=100
D20A Manuel Ranch, 99.27 40 ⇓Pdiff **P 01 50 08.3 -0.4**
baz=100
A18A Metzger Ranch, 99.39 38 ⇑Pdiff **P 01 50 09.3 +0.2**
baz=100
TEIG Tepich 99.54 72 PFAKE 01 50 20.0 +9.5
TEIG LR LR
comp=Z,430nm,20.0s,MS5.0
OGNE Ogallala 99.59 48 PFAKE 01 50 20.0 +10
OGNE LR LR
comp=Z,860nm,20.0s,MS5.2
F22A Rosebud 99.61 42 ⇓Pdiff **P 01 50 09.9 -0.3**
baz=100
D21A La Casta Ranch 99.90 41 ⇑Pdiff Pdif 01 50 11.2 -0.6
baz=100
CPUP Villa Florida 99.91 128 P Pdif 01 50 15.8 +4.0
comp=Z,0.4nm,0.4s,baz=196,slow=8.6,SNR=5.5
CPUP PKKPbc PKKPbc 02 06 29.9 -1.2
comp=Z,1.8nm,0.8s,baz=14,slow=2.4,SNR=5.2
CPUP Villa Florida 99.91 128 P Pdif 01 50 15.8 +4.0
CPUP PKKPbc PKKPbc 02 06 29.9 -1.2
CPUP LR LR
comp=Z,240nm,19.0s,MS4.7
CPUP Villa Florida 99.91 128 P Pdif 01 50 15.8 +4.0
CPUP MLR MLR
comp=Z,240nm,19.0s
A19A Klindworth Far 99.99 39 ⇑Pdiff Pdif 01 50 11.7 -0.4
baz=100
CBKS Cedar Bluff 99.99 51 PFAKE 01 50 20.0 +7.8
CBKS LR LR
comp=Z,1μm,20.0s,MS5.3
H24A Dirks Ranch, A 100.05 44 ⇑Pdiff Pdif 01 50 11.9 -0.5
baz=100
NATX Nacogdoches 100.07 59 PFAKE 01 50 20.0 +7.5
NATX LR LR
comp=Z,1μm,19.0s,MS5.5
F23A Volborg 100.07 43 ⇑Pdiff Pdif 01 50 12.2 -0.3
baz=100
LAO LASA Array 100.13 42 PFAKE 01 50 20.0 +7.2
LAO LR LR
comp=Z,940nm,19.0s,MS5.3
D22A Cohagen 100.41 41 ⇓Pdiff Pdif 01 50 13.3 -0.7
baz=101
YAK Yakutsk 101.22 338 PFAKE 01 50 30.0 +12
YAK LR LR
comp=Z,910nm,22.0s,MS5.2
MIAR Mount Ida 102.21 57 PFAKE 01 50 30.0 +8.0
MIAR LR LR
comp=Z,810nm,20.0s,MS5.2
DGMT Dagmar 102.25 41 PFAKE 01 50 30.0 +7.8
DGMT LR LR
comp=Z,1μm,21.0s,MS5.3
KSU1 Kansas State U 102.25 52 PFAKE 01 50 30.0 +7.8
KSU1 LR LR
comp=Z,785nm,19.0s,MS5.2
ULN Ulaanbaatar 102.82 318 PFAKE 01 50 40.0 +15
ULN LR LR
comp=Z,418nm,20.0s,MS5.0
DGAR Diego Garcia 103.04 253 PFAKE 01 50 40.0 +14
DGAR LR LR
comp=Z,1μm,22.0s,MS5.4
SONM Songino Array 103.19 318 Pdiff Pdif 01 50 25.5 -0.8
comp=Z,0.4nm,0.6s,baz=125,slow=3.4,SNR=3.1
SONM PP PP 01 54 37.0 -4.6
comp=Z,1.4nm,0.9s,baz=139,slow=4.9,SNR=4.8
SONM PKKPbc PKKPbc 02 06 22.3 -0.3
comp=Z,0.8nm,0.6s,baz=297,slow=2.3,SNR=4.7
SONM Songino Array 103.19 318 Pdif Pdif 01 50 25.5 -0.8
SONM PP PP 01 54 37.0 -4.6
SONM PKKPbc PKKPbc 02 06 22.3 -0.3
SONM Songino Array 103.19 318 P Pdif 01 50 25.5 -0.9
SONM 01 54 37.0
GTA Gaotai 103.22 308 *eP* PKiKP 01 54 46.3 +0.4
GTA pP 01 54 50.5
GTA sP 01 54 54.0
GTA pmax pmax
comp=Z,6.0nm,0.9s
VBMS Vicksburg 103.39 60 PFAKE 01 50 40.0 +13
VBMS LR LR
comp=Z,647nm,19.0s,MS5.2
INK Inuvik 103.64 15 Pdiff Pdif 01 50 26.8 -1.6
comp=Z,1.7nm,1.0s,baz=93,slow=2.3,SNR=3.3
INK PP PP 01 54 41.5 -3.0
comp=Z,1.4nm,0.9s,baz=175,slow=4.9,SNR=3.7
INK Inuvik 103.64 15 Pdif Pdif 01 50 26.8 -1.6
INK PP PP 01 54 41.5 -3.0
INK Inuvik 103.64 15 P Pdif 01 50 26.8 -1.6
INK 01 54 41.5
ECSD EROS Data Cent 104.46 48 PFAKE 01 50 40.0 +8.0
ECSD LR LR
comp=Z,868nm,19.0s,MS5.3
LSA Lhasa 105.15 296 PFAKE 01 55 00.0 +10
LSA LR LR
comp=Z,486nm,20.0s,MS5.0
OXF Oxford 105.25 59 PFAKE 01 55 00.0 +10
OXF LR LR
comp=Z,1μm,19.0s,MS5.5
YKA Yellowknife Ar 105.28 25 PKKPbc PKKPbc 02 06 14.7 -2.0
comp=Z,1.3nm,0.8s,baz=42,slow=2.8,SNR=4.4
YKA PKKPab PKKPab 02 06 30.9 +1.0
comp=Z,4.0nm,0.8s,baz=53,slow=5.0,SNR=8.0
YKA Yellowknife Ar 105.28 25 PKKPbc PKKPbc 02 06 14.7 -2.0
YKA PKKPab PKKPab 02 06 30.9 +1.0
BRAL Brewton 105.48 63 PFAKE 01 55 00.0 +10
BRAL LR LR
comp=Z,511nm,20.0s,MS5.1
SCIA State Center 105.84 51 PFAKE 01 55 00.0 +9.3
SCIA LR LR
comp=Z,1μm,20.0s,MS5.4
PLAL Pickwick Lake 106.44 59 PFAKE 01 55 00.0 +8.0
PLAL LR LR
comp=Z,2μm,19.0s,MS5.7
FFC Flin Flon 106.62 36 PFAKE 01 55 00.0 +8.3
FFC LR LR
comp=Z,852nm,21.0s,MS5.3
TLY Talaya 106.62 320 PFAKE 01 55 00.0 +8.2
TLY LR LR
comp=Z,492nm,20.0s,MS5.1
MDRS Chennai 106.70 276 *ex* PKiKP 01 54 51.2 -1.9
MDRS *ex* x 02 04 27.2
MDRS *ex* x 02 24 27.2
MDRS *ex* x 02 52 06.2
TAPN Taplejung 106.84 292 *eP* PKiKP 01 54 52.9 -0.1
ODAN Odare 106.89 292 *eP* PKiKP 01 54 53.0 -0.1
AGMN Agassiz Nation 107.02 44 PFAKE 01 55 00.0 +7.4
AGMN LR LR
comp=Z,1μm,19.0s,MS5.4
RER Riviere de l'E 107.43 232 PFAKE 01 55 10.0 +16
RER LR LR
comp=Z,993nm,20.0s,MS5.4
RAMN Ramite 107.56 291 *eP* PKiKP 01 54 53.7 -0.6
comp=Z,26nm,0.7s
MTDJ Mount Denham 107.60 79 PFAKE 01 55 10.0 +15
MTDJ LR LR
comp=Z,1μm,20.0s,MS5.5
ULM Lac du Bonnet 107.87 42 PKKPbc PKKPbc 02 06 08.0 -0.3
comp=Z,3.5nm,0.7s,baz=76,slow=4.0,SNR=5.8
ULM PKKPab PKKPab 02 06 20.5 +1.5
comp=Z,3.5nm,0.8s,baz=60,slow=4.0,SNR=4.4
ULM Lac du Bonnet 107.87 42 PKKPbc PKKPbc 02 06 08.0 -0.3
ULM PKKPab PKKPab 02 06 20.5 +1.5
ULM LR LR
comp=Z,1μm,20.0s,MS5.4
HDIL Hopedale 107.93 53 PFAKE 01 55 10.0 +15
HDIL LR LR
comp=Z,641nm,20.0s,MS5.2
JIRN Jiri 108.19 292 *eP* PKiKP 01 54 54.8 -0.7
comp=Z,13nm,0.6s
JFWS Jewell Farm 108.26 51 PFAKE 01 55 10.0 +15
JFWS LR LR
comp=Z,841nm,19.0s,MS5.3
GUN Gumba 108.55 292 *eP* PKiKP 01 54 55.7 -0.4
PKI Pulchoki 108.78 291 *eP* PKiKP 01 54 55.3 -1.3
comp=Z,12nm,0.6s
KKN Kakani 108.98 292 *eP* PKiKP 01 54 56.3 -0.7
SDV Santo Domingo 109.22 91 PFAKE 01 55 10.0 +12
SDV LR LR
comp=Z,288nm,21.0s,MS4.8
EYMN Ely 109.52 45 PFAKE 01 55 10.0 +13
EYMN LR LR
comp=Z,908nm,21.0s,MS5.3
KOLN Koldanda 110.33 291 *eP* PKiKP 01 54 57.8 -1.7
comp=Z,12nm,0.7s
DANN Dangsing 110.43 292 *eP* PKiKP 01 54 58.5 -1.2
comp=Z,17nm,0.6s
PYUN Piuthan 110.95 291 *eP* PKiKP 01 54 58.9 -1.8
comp=Z,19nm,0.8s
NHSC New Hope 111.66 64 PFAKE 01 55 10.0 +8.1
NHSC LR LR
comp=Z,564nm,20.0s,MS5.2
ACSO Alum Creek Sta 112.24 56 PFAKE 01 55 10.0 +7.3
ACSO LR LR
comp=Z,1μm,19.0s,MS5.6
AAM Ann Arbor 112.51 53 PFAKE 01 55 10.0 +6.8
AAM LR LR
comp=Z,783nm,19.0s,MS5.3
GLMI Grayling 112.75 50 PFAKE 01 55 20.0 +16
GLMI LR LR
comp=Z,546nm,21.0s,MS5.1
BLA Blacksburg 113.01 59 PFAKE 01 55 20.0 +16
BLA LR LR
comp=Z,1μm,19.0s,MS5.5
WMQ Urumqi 113.31 308 PKP PKiKP 01 55 04.3 -0.3
WMQ PP PP 01 56 00.1 +4.5
WMQ AMB AMB
comp=Z,62nm,10.0s
WMQ LR LR
comp=N,320nm,16.4s,MS5.2
WMQ LR LR
comp=E,230nm,11.6s,MS5.2
WMQ LR LR
comp=Z,550nm,27.6s
CNNC Cliffs of the 114.21 62 PFAKE 01 55 20.0 +13
CNNC LR LR
comp=Z,639nm,19.0s,MS5.2
ABPO Ambohimpanom 114.57 227 PFAKE 01 55 20.0 +12
ABPO LR LR
comp=Z,664nm,20.0s,MS5.2
ERPA Erie 115.01 54 PFAKE 01 55 20.0 +12
ERPA LR LR
comp=Z,589nm,22.0s,MS5.2
SUR Sutherland 115.22 197 PFAKE 01 55 20.0 +11
SUR LR LR
comp=Z,686nm,19.0s,MS5.3
CBN Corbin 115.62 59 PFAKE 01 55 20.0 +11
CBN LR LR
comp=Z,1μm,19.0s,MS5.5
SJG San Juan 117.29 84 PFAKE 01 55 20.0 +7.0
SJG LR LR
comp=Z,405nm,19.0s,MS5.1
BOSA Boshof 117.42 203 PKP PKPdf 01 55 13.4 +0.2
comp=Z,5.1nm,0.8s,baz=166,slow=2.6,SNR=12
BOSA Boshof 117.42 203 PKP PKPdf 01 55 13.4 +0.2
BOSA *e*PKPdf PKPdf 01 55 13.6 +0.4
BOSA LR LR
comp=Z,695nm,21.0s,MS5.3
BOSA Boshof 117.42 203 PKIKP PKPdf 01 55 13.4 +0.2
BOSA MLR MLR
comp=Z,695nm,21.0s,MS5.3
MK31 Makanchi Array 117.85 310 PKIKP PKPdf 01 55 11.5 -1.8
MK31 pmax pmax
comp=Z,12nm,0.7s
MKAR Makanchi Array 117.85 310 PKP PKPdf 01 55 11.6 -1.7
comp=Z,9.7nm,0.7s,baz=110,slow=0.7,SNR=60
MKAR PKKPab PKKPab 02 05 34.4 -1.0
comp=Z,0.8nm,0.5s,baz=266,slow=2.8,SNR=9.6
MKAR Makanchi Array 117.85 310 PKP PKPdf 01 55 11.6 -1.7
MKAR PKKPab PKKPab 02 05 34.4 -1.0
MKAR Makanchi Array 117.85 310 PKIKP PKPdf 01 55 11.6 -1.7
BINY Binghamton 117.87 55 PFAKE 01 55 30.0 +17
BINY LR LR
comp=Z,1μm,21.0s,MS5.5
ZALV Zalesovo Beam 118.08 318 PKP PKPdf 01 55 11.4 -2.1
comp=Z,7.4nm,0.7s,baz=133,slow=2.3,SNR=39
ZALV Zalesovo Beam 118.08 318 PKP PKPdf 01 55 11.4 -2.1
ZALV Zalesovo Beam 118.08 318 PKIKP PKPdf 01 55 11.4 -2.1
MSEY Mahe Island 118.35 245 PFAKE 01 55 30.0 +15
MSEY LR LR

comp=Z,722nm,19.0s,MS5.3
GRGR Grenville 118.52 92 PFAKE 01 55 30.0 +14
GRGR LR LR
comp=Z,565nm,20.0s,MS5.2
NVS Novosibirsk 119.18 319⇓ *i* PKIKP PKPdf 01 55 12.5 -3.1
NVS *e* 02 02 00.5
LONY Lake Ozonia 119.51 53 PFAKE 01 55 30.0 +13
LONY LR LR
comp=Z,597nm,20.0s,MS5.2
NCB Newcomb 119.59 54 PFAKE 01 55 30.0 +13
NCB LR LR
comp=Z,550nm,19.0s,MS5.2
FDF Fort de France 120.14 90 PFAKE 01 55 30.0 +11
FDF LR LR
comp=Z,465nm,21.0s,MS5.1
KSH Kashi 120.34 301 PKP PKPdf 01 55 18.1 -0.2
KSH sPKP 01 55 32.5
KSH PKS 01 58 53.5
KSH SKS SKSdf 02 02 25.3 -5.6
KSH AMB AMB
comp=Z,150nm,6.2s
KSH LR LR
comp=N,90nm,5.0s
KSH LR LR
comp=E,130nm,5.1s
KSH LR LR
comp=Z,93nm,4.4s
LBTB Lobatse 120.60 205 PFAKE 01 55 30.0 +11
LBTB LR LR
comp=Z,680nm,19.0s,MS5.3
NIL Nilore 120.75 293 PFAKE 01 55 30.0 +11
NIL LR LR
comp=Z,36nm,20.0s,MS4.0
BBGH Gun Hill 120.80 92 PFAKE 01 55 30.0 +10
BBGH LR LR
comp=Z,1μm,19.0s,MS5.6
ULHL Ulahol 120.86 304 P PKPdf 01 55 18.5 -0.7
SNR=11
ANWB Willy Bob 120.86 87 PFAKE 01 55 30.0 +10
ANWB LR LR
comp=Z,486nm,20.0s,MS5.1
KURK Kurchatov 121.11 314 PKP PKPdf 01 55 17.8 -1.6
comp=Z,34nm,0.7s,baz=104,slow=1.9,SNR=212
KURK PKKPab PKKPab 02 05 22.1 +1.1
comp=Z,0.5nm,0.6s,baz=280,slow=5.6,SNR=7.1
KURK Kurchatov 121.11 314 *e*PKPdf PKPdf 01 55 17.7 -1.7
KURK PKKPab PKKPab 02 05 22.1 +1.1
KURK LR LR
comp=Z,484nm,20.0s,MS5.1
KURK Kurchatov 121.11 314 PKIKP PKPdf 01 55 17.8 -1.6
KURK pmax pmax
comp=Z,34nm,0.7s
KURK pmax pmax
comp=Z,1.0nm,0.6s
LBNH Lisbon 121.26 54 PFAKE 01 55 30.0 +10
LBNH LR LR
comp=Z,896nm,19.0s,MS5.4
TKM2 Tokmak 2 121.48 304 P PKPdf 01 55 18.8 -1.6
SNR=12
TKM2 Tokmak 2 121.48 304 *e*PKPdf PKPdf 01 55 19.3 -1.1
TKM2 LR LR
comp=Z,394nm,21.0s,MS5.0
TKM2 Tokmak 2 121.48 304 *e*PKIKP PKPdf 01 55 19.3 -1.1
TKM2 MLR MLR
comp=Z,394nm,21.0s,MS5.0
KZA Kyzart 121.53 303 P PKPdf 01 55 20.6 +0.1
SNR=38
KBK Karagaybulak 121.89 304 P PKPdf 01 55 20.4 -0.7
SNR=21
UCH Uchtor 122.10 303 P PKPdf 01 55 21.6 0.0
SNR=7.1
CHMS Chumysh 122.10 304 P PKPdf 01 55 20.5 -1.1
SNR=28
FRU Bishkek 122.16 304⇑ *i* PKIKP PKPdf 01 55 21.0 -0.7
FRU *e* 01 55 30.0
FRU pmax pmax
comp=Z,60nm,1.8s
AAK Ala-Archa 122.20 304 P PKPdf 01 55 20.9 -0.9
SNR=28
AAK Ala-Archa 122.20 304 *e*PKPdf PKPdf 01 55 21.0 -0.8
AAK LR LR
comp=Z,433nm,20.0s,MS5.1
AAK Ala-Archa 122.20 304 *e*PKIKP PKPdf 01 55 21.0 -0.8
AAK MLR MLR
comp=Z,433nm,20.0s,MS5.1
USP Ospenovka 122.34 305 P PKPdf 01 55 20.8 -1.3
SNR=21
AML Almayashu 122.67 303 P PKPdf 01 55 22.2 -0.4
SNR=67
EKS2 Erkin-Say 122.73 304 P PKPdf 01 55 22.3 -0.5
SNR=37
EKS2 Erkin-Say 122.73 304 *e*PKPdf PKPdf 01 55 22.1 -0.7
EKS2 LR LR
comp=Z,496nm,20.0s,MS5.2
EKS2 Erkin-Say 122.73 304 *e*PKIKP PKPdf 01 55 22.1 -0.7
EKS2 MLR MLR
comp=Z,496nm,20.0s,MS5.2
PKME Peaks-Kenny Pk 123.31 53 PFAKE 01 55 40.0 +16
PKME LR LR
comp=Z,649nm,19.0s,MS5.3
BBSR BB Station 123.68 69 PFAKE 01 55 40.0 +15
BBSR LR LR
comp=Z,588nm,21.0s,MS5.2
KBL Kabul 124.34 293 *e*PKPdf PKPdf 01 55 25.9 -0.2
KBL Kabul 124.34 293 *e*PKIKP PKPdf 01 55 25.9 -0.3
KK31 Karatay Array 125.17 304 PKIKP PKPdf 01 55 26.3 -1.2
KK31 pmax pmax
comp=Z,46nm,0.7s
KKAR Karatay Array 125.17 304 *e*PKPdf PKPdf 01 55 26.2 -1.3
KKAR Karatay Array 125.17 304 *e*PKIKP PKPdf 01 55 26.2 -1.3
SCHQ Schefferville 126.05 42 PFAKE 01 55 40.0 +11
SCHQ LR LR
comp=Z,2μm,19.0s,MS5.8
BVA0 Borovoye Array 126.46 316 *i* PKIKP PKPdf 01 55 28.4 -1.2
BVA0 pmax pmax
comp=Z,12nm,1.0s
BVAR Borovoye Array 126.46 316 PKP PKPdf 01 55 28.4 -1.2
comp=Z,36nm,0.7s,baz=100,slow=1.7,SNR=131
BVAR Borovoye Array 126.46 316 PKP PKPdf 01 55 28.4 -1.2
BVAR Borovoye Array 126.46 316 PKIKP PKPdf 01 55 28.4 -1.2
BRVK Borovoye 126.52 316 *e*PKPdf PKPdf 01 55 28.1 -1.6
BRVK LR LR
comp=Z,454nm,22.0s,MS5.1
BRVK Borovoye 126.52 316 *c i* PKIKP PKPdf 01 55 26.9 -2.8
BRVK pmax pmax
comp=Z,53nm,1.0s
BRVK MLR MLR
comp=Z,437nm,24.0s,MS5.0
LSZ Lusaka 128.24 213 *e*PKPdf PKPdf 01 55 35.8 +1.5
LSZ LR LR
comp=Z,552nm,21.0s,MS5.2
LSZ Lusaka 128.24 213 *e*PKIKP PKPdf 01 55 35.8 +1.6
LSZ MLR MLR
comp=Z,552nm,21.0s,MS5.2
TSUM Tsumeb 128.61 199 PFAKE 01 55 50.0 +15
TSUM LR LR
comp=Z,673nm,19.0s,MS5.3
RCBR Riachuelo 128.79 128 PFAKE 01 55 50.0 +15
RCBR LR LR
comp=Z,784nm,20.0s,MS5.4
SMDO Samad 130.00 276 P PKPdf 01 55 36.6 -0.7
SNR=7.2
BSY Bisya 130.62 275 P PKPdf 01 55 37.7 -0.8
SNR=6.9
KBS Kingsbay 131.10 358 PFAKE 01 55 50.0 +12
KBS LR LR
comp=Z,519nm,22.0s,MS5.2
SPA0 Spitsbergen Ar 131.62 356 *e*P PKPdf 01 55 39.1 +0.3
SPITS Spitsbergen Ar 131.62 356 PKP PKPdf 01 55 38.1 -0.6
comp=Z,16nm,0.7s,baz=45,slow=5.8,SNR=10
SPITS Spitsbergen Ar 131.62 356 PKP PKPdf 01 55 38.1 -0.6
SPITS Spitsbergen Ar 131.62 356 PKIKP PKPdf 01 55 38.2 -0.6
SFJD Kangerlussuaq 131.84 25 PFAKE 01 55 50.0 +11
SFJD LR LR
comp=Z,834nm,20.0s,MS5.4
SVE Sverdlovsk 131.93 321⇑ *i* PKIKP PKPdf 01 55 39.5 -0.4
SVE *e*SP SP 02 08 19.8 +5.1
SVE pmax pmax
comp=Z,31nm,1.2s
SVE MLR MLR
comp=Z,824nm,22.0s,MS5.4
HATD Hatta, Dubai 132.25 277 P PKPdf 01 55 41.0 -0.5
SNR=6.5
DAG Danmarks Havn 132.43 6 *i* PKIKP PKPdf 01 55 38.1 -2.2
DAG pmax pmax
comp=Z,5.0nm,0.8s
DAG Danmarks Havn 132.43 6 *i* P PKPdf 01 55 38.1 -2.2
comp=Z,7.1nm,0.8s
SUMG Summit 132.56 15 *e*PKPdf PKPdf 01 55 41.9 +1.2
SUMG Summit 132.56 15 *e*PKIKP PKPdf 01 55 41.9 +1.2
SUMG Summit 132.56 15 *i* P PKPdf 01 55 42.1 +1.4
comp=Z,9.1nm,1.0s
AB31 Akbulak array 132.98 311 *i* PKIKP PKPdf 01 55 40.9 -1.2
AB31 pmax pmax
comp=Z,16nm,0.9s
ABKAR Akbulak array 132.98 311 *e*PKPdf PKPdf 01 55 41.5 -0.6
ARU Arti 133.13 321 *e*PKPdf PKPdf 01 55 41.2 -0.9
ARU LR LR
comp=Z,713nm,20.0s,MS5.4
ARU Arti 133.13 321 *i* PKIKP PKPdf 01 55 40.3 -1.9
ARU 01 58 06.4
ARU SS SS 02 15 44.1 -8.4
SOKR Solikamsk 133.41 325 *c i* PKIKP PKPdf 01 55 41.7 -0.9
SOKR pmax pmax
comp=Z,40nm,1.0s
AKTO Aktyubinsk 134.17 312 PKhKP PKPpre 01 55 29.6
comp=Z,1.2nm,0.6s,baz=74,slow=4.6,SNR=5.4
AKTO PKP PKPdf 01 55 43.6 -0.7
comp=Z,22nm,0.7s,baz=76,slow=3.0,SNR=31
AKTO SKPbc SKPbc 01 59 13.6 -0.7
comp=Z,5.7nm,1.1s,baz=326,slow=6.4,SNR=6.0
AKTO Aktyubinsk 134.17 312 PKPpre PKPpre 01 55 29.6
AKTO PKP PKPdf 01 55 43.6 -0.7
AKTO SKPbc SKPbc 01 59 13.6 -0.7
AKTO Aktyubinsk 134.17 312 PKIKP PKPdf 01 55 43.5 -0.8
AKTO pmax pmax
comp=Z,4.0nm,0.8s
KMBO Kilima Mbogo 134.28 233 *e*PKPdf PKPdf 01 55 47.3 +1.6
KMBO LR LR
comp=Z,464nm,19.0s,MS5.2
KMBO Kilima Mbogo 134.28 233 *e*PKIKP PKPdf 01 55 47.3 +1.6
KMBO MLR MLR
comp=Z,464nm,19.0s
LVZ Lovozero 137.81 342 PFAKE 01 56 00.0 +9.4
LVZ LR LR
comp=Z,656nm,21.0s,MS5.3
KEV Kevo 138.06 347 PFAKE 01 56 00.0 +9.0
KEV LR LR
comp=Z,985nm,21.0s,MS5.5
APA Apatity 138.37 343⇓ *i* PKHKP PKPpre 01 55 42.6
APA MLR MLR
comp=Z,1μm,25.0s,MS5.5
ARCES ARCESS Array B 138.53 348 PKhKP PKPpre 01 55 43.2
comp=Z,9.4nm,0.7s,baz=72,slow=2.1,SNR=18
ARCES PKP PKPdf 01 55 51.2 -0.7
comp=Z,13nm,0.7s,baz=29,slow=2.1,SNR=13
ARCES ARCESS Array B 138.53 348 PKPpre PKPpre 01 55 43.2
ARCES PKP PKPdf 01 55 51.2 -0.7
ARCES ARCESS Array B 138.53 348 PKHKP PKPpre 01 55 43.2
ARCES 01 55 51.2
ARCES ARCESS Array S 138.53 348 *e* PKPpre 01 55 43.5
MBAR Mbarara 138.99 227 PFAKE 01 56 10.0 +16
MBAR LR LR
comp=Z,603nm,20.0s,MS5.3
KTK1 Kautokeino 139.39 349 *e*P PKPdf 01 55 54.5 +1.0
QRN Al-Qurain 140.40 280 *e*P PKPdf 01 55 50.9 -5.6
QRN AMb AMB 01 56 02.5
comp=Z,214nm,1.8s
RDF Al-Radifah 140.75 280 *e*P PKPdf 01 55 51.7 -5.5
RDF AMb AMB 01 56 00.9
comp=Z,154nm,1.2s
KLMR Klimovskoe 140.76 332 *e*PKIKP PKPdf 01 55 51.6 -4.5
KLMR pmax pmax
comp=Z,53nm,1.5s
KLMR MLR MLR
comp=Z,1μm,22.0s,MS5.6
NAY Al-Naaiem 141.09 280 *e*P PKPdf 01 55 52.0 -5.8
NAY AMb AMB 01 56 01.3
comp=Z,42nm,1.2s
MIB Mutribah 141.13 281 *e*P PKPdf 01 55 52.0 -5.8
MIB AMb AMB 01 55 59.1
comp=Z,40nm,0.9s
MAK Makhachkala 141.95 302 *e*PKIKP PKPdf 01 55 55.2 -3.7
MAK *e* 01 59 01.1
MAK *e*PPP 02 02 08.8
MAK *e* 02 03 03.5
MAK *e*SS SS 02 17 32.7 -5.5
MAK pmax pmax
comp=Z,191nm,1.1s
MAK MLR MLR
comp=Z,608nm,23.0s,MS5.3
JOF Joensuu 142.39 339 *e*PKHKP PKPpre 01 55 52.3
JOF Joensuu 142.39 339 *e*pkp PKPpre 01 55 52.3
STOK Stokkvaagen 143.34 353 *e*P PKPdf 01 55 56.6 -4.0
MTA Mtatsminda 144.05 300 P PKPdf 01 56 00.3 -2.3
TBLG Delisi 144.09 300 PKIKP PKPdf 01 56 00.9 -1.8
TBLG Delisi 144.09 300 P PKPdf 01 56 00.9 -1.7
GNI Garni 144.18 298 *e*PKPdf PKPdf 01 56 01.0 -1.9
GNI LR LR
comp=Z,455nm,21.0s,MS5.2
GNI Garni 144.18 298 *c i* PKIKP PKPdf 01 55 59.5 -3.4
BHD Baghdad 144.20 286 *i* x x 01 55 57.0
BHD *i* x x 01 59 35.0
BHD *i* x x 02 03 24.0
MOS Moscow 144.35 326 *e*PKHKP PKPpre 01 55 58.7
MOS pmax pmax
comp=Z,104nm,1.1s
KAF Kangasniemi 144.51 341 *e*PKHKP PKPpre 01 55 57.9
KAF Kangasniemi 144.51 341 *e*pkp PKPpre 01 55 57.9
ZEI Tsey 144.61 302 *i* PKIKP PKPdf 01 56 06.0 +2.4
ZEI pmax pmax
comp=Z,32nm,0.8s
ONI Oni 144.96 302 P PKPdf 01 56 03.0 -1.1
DYDN Diyadin 145.02 297⇑ *i* P PKPbc 01 56 03.4 -0.3
HAKT HAKKARI 145.03 293⇑ *i* P PKPbc 01 56 01.9 -2.0
AKH Akhalkalaki 145.05 300 P PKPbc 01 56 03.9 +0.2
FINES FINESS Array B 145.11 340 PKP PKPdf 01 56 01.7 -2.1
comp=Z,334nm,0.7s,baz=60,slow=3.4,SNR=459
FINES FINESS Array B 145.11 340 PKP PKPdf 01 56 01.7 -2.1
FINES FINESS Array B 145.11 340 PKIKP PKPdf 01 56 01.7 -2.1
OBN Obninsk 145.19 325 *e*PKPbc PKPbc 01 56 02.3 -1.5
OBN LR LR
comp=Z,620nm,21.0s,MS5.4
OBN Obninsk 145.19 325⇑ *i* PKIKP PKPdf 01 56 02.2 -1.9
OBN *e* 01 59 19.2
OBN *i* 02 02 33.0
OBN pmax pmax
comp=Z,250nm,0.9s
NSS Namsos 145.21 353 *e*P PKPbc 01 56 00.7 -2.8
TVAN Van 145.27 295 *i* P PKPbc 01 56 02.2 -2.4
KIV Kislovodsk 145.32 305 *e*PKPbc PKPbc 01 56 03.9 -0.7
KIV LR LR
comp=Z,711nm,20.0s,MS5.4
KIV Kislovodsk 145.32 305 *c i* PKP2 PKPab 01 56 03.1 -1.6
KIV *e*SS SS 02 18 12.2 -4.6
KIV pmax pmax
comp=Z,73nm,1.1s
GEVA Gevas 145.54 295⇑ *i* P PKPdf 01 56 04.0 -1.3
VSR Storozhevoye 145.58 318 *e*PKP2 PKPab 01 56 03.2 -2.2
VSR pmax pmax
comp=N,40nm,0.9s
VSR pmax pmax
comp=E,90nm,0.9s
VSR pmax pmax
comp=Z,230nm,0.9s
TUTA Tutak 145.70 297⇑ *i* P PKPdf 01 56 05.3 -0.2
SIRN S`--rnak 146.06 293⇑ *i* P PKPdf 01 56 05.1 -1.1
DAGI Agillar 146.26 300⇑ *i* P PKPdf 01 56 05.5 -0.9
HOMI Horasan 146.36 298⇑ *i* P PKPdf 01 56 07.6 +1.0
DDEM Demirkent 146.41 299⇑ *i* P PKPdf 01 56 06.0 -0.7
MSKU Masuku 146.41 201 PKPbc PKPbc 01 56 09.4 +0.6
comp=Z,62nm,0.6s,baz=146,slow=3.6,SNR=16
MSKU Masuku 146.41 201 PKPbc PKPbc 01 56 09.4 +0.6
MSKU LR LR
comp=Z,3.0nm,22.0s
DBOC Borcka 146.42 300⇑ *i* P PKPdf 01 56 07.2 +0.5
ERZM Erzurum 146.79 298 *i* P PKPdf 01 56 07.3 -0.1
BNGL BINGOL 147.02 296⇑ *i* P PKPdf 01 56 07.0 -0.8
MARD Mardin 147.37 293⇑ *i* P PKPdf 01 56 06.3 -2.1
SOC Sochi 147.50 305 *e*PKIKP PKPdf 01 56 06.7 -1.7
SOC *i* 01 56 11.6
SOC *e* 01 59 43.0
SOC *e*PPP 02 02 50.7
SOC pmax pmax
comp=Z,98nm,0.8s
DIYA Diyarbakir 147.87 294⇑ *i* P PKPbc 01 56 11.5 -0.7
FOO Floro 148.64 357 *e*P PKPdf 01 56 11.5 +1.7
NB2 NORSAR Subarra148.68 352 PKP PKPbc 01 56 12.5 -1.1
comp=Z,89nm,0.8s,baz=15,slow=2.9
NB2 NORSAR Subarra148.68 352 PKP PKPbc 01 56 12.5 -1.1
baz=15,slow=2.9
NOA NORSAR Array B148.68 352 PKPbc PKPbc 01 56 12.3 -1.3
comp=Z,58nm,0.9s,baz=16,slow=4.4,SNR=66
NOA NORSAR Array B148.68 352 PKPbc PKPbc 01 56 12.3 -1.3
NOA NORSAR Array B148.68 352 PKIKP PKPbc 01 56 12.3 -1.3
ELZG Elazig 148.73 295⇑ *i* P PKPbc 01 56 14.8 +0.4
ANN Anapa 148.82 308 *i* PKP2 PKPbc 01 56 13.3 -1.2
ANN pmax pmax
comp=Z,209nm,1.0s
ANN MLR MLR
comp=Z,387nm,23.0s,MS5.1
NAO01 NORSAR Array S148.91 352 *e*PKPbc PKPbc 01 56 13.0 -1.1
NC602 NORSAR Array S148.93 351 *e*P PKPbc 01 56 12.2 -2.0
GRSN GIRESUNGRSN 149.02 300 *i* P PKPdf 01 56 12.9 +1.9
KEMA Kemaliye 149.05 297⇑ *i* P PKPbc 01 56 14.9 -0.3
ATAB Bozova 149.34 293⇑ *i* P PKPdf 01 56 09.4 -2.2
IZAR Zarasai 149.39 333 *e*P PKPbc 01 56 14.5 -1.1
IZAR AMB AMB 01 56 17.1
comp=Z,58nm,1.3s
ISAL Salakas 149.57 333 *e*P PKPbc 01 56 14.7 -1.2
ISAL AMB AMB 01 56 17.6
comp=Z,43nm,1.4s
AKCD Akcadag 149.58 295⇑ *i* P PKPbc 01 56 16.1 -0.5
MICGM Minsk 149.59 330⇓ *e*P PKPdf 01 56 12.0 +0.5
MNK Minsk 149.61 330⇓ *e*PKHKP PKPdf 01 56 12.0 +0.5
MNK pmax pmax
comp=Z,560nm,1.0s
IIGN Ignalina 149.69 333 *e*P PKPbc 01 56 15.1 -1.2
IIGN AMB AMB 01 56 17.9
comp=Z,56nm,1.3s
ASK Askoy 149.75 357 *e*P PKPbc 01 56 16.1 -0.2
NACGM Naroch 149.78 331 *e*P PKPdf 01 56 12.0 +0.2
RUND Rundenannen 149.81 357 *e*P PKPbc 01 56 15.6 -0.8
OSL Oslo 149.81 351 *e*P PKPbc 01 56 16.7 +0.3
GZZT Gaziantep 149.92 293 *i* P PKPbc 01 56 16.1 -1.4
SCER sogukcermik 150.03 298⇑ *i* P PKPbc 01 56 17.7 +0.1
ERBA Erbaa 150.19 300⇑ *i* P PKPbc 01 56 16.8 -1.2
KONO Kongsberg 150.23 352 *e*P PKPbc 01 56 16.3 -1.1
KONO Kongsberg 150.23 352 *e*PKPbc PKPbc 01 56 16.6 -0.8
KONO LR LR
comp=Z,582nm,19.0s,MS5.4
KONO Kongsberg 150.23 352 *e*PKP2 PKPbc 01 56 16.6 -0.8
KONO MLR MLR
comp=Z,582nm,19.0s,MS5.4
ODD1 Odda 150.24 356 *e*P PKPbc 01 56 16.8 -0.7
KUZU Kuzuini 150.34 292⇑ *i* P PKPbc 01 56 17.9 -0.5
ASF Jabal al Asfar 150.35 283 PKPbc PKPbc 01 56 18.8 +0.1
comp=Z,51nm,1.0s,baz=175,slow=0.9,SNR=15
ASF Jabal al Asfar 150.35 283 PKPbc PKPbc 01 56 18.8 +0.1
ASF Jabal al Asfar 150.35 283 PKIKP PKPbc 01 56 18.8 +0.1
PINB Pinarbasi 150.73 296⇑ *i* P PKPbc 01 56 17.7 -1.7
ANDN Andirin 150.88 294⇑ *i* P PKPbc 01 56 19.4 -0.3
FKH Fakeheh 150.90 287 *e*P PKPbc 01 56 20.1 +0.3
COBT Iskenderun 151.01 291⇑ *i* P PKPbc 01 56 18.9 -1.2
SIM Simferopol' 151.02 309 *c i* PKIKP PKPbc 01 56 20.1 +0.3
SIM pmax pmax
comp=Z,129nm,0.7s
HWQ Hawqa 151.28 287 *e*P PKPbc 01 56 20.8 0.0
AKASG Malin Array Be 151.33 323 PKPbc PKPbc 01 56 19.2 -1.1
comp=Z,97nm,0.7s,baz=46,slow=2.8,SNR=14
AKASG Malin Array Be 151.33 323 PKPbc PKPbc 01 56 19.2 -1.1
AKASG Malin Array Be 151.33 323 PKIKP PKPbc 01 56 19.3 -1.0
AKBB Malin Array Si 151.33 323 *e*PKPbc PKPbc 01 56 18.8 -1.6
AKBB Malin Array Si 151.33 323 *e*PKIKP PKPbc 01 56 18.8 -1.5
KIEV Kiev 151.34 323 *e*PKPbc PKPbc 01 56 19.2 -1.2
KIEV LR LR
comp=Z,462nm,20.0s,MS5.3
KIEV Kiev 151.34 323 *e*PKIKP PKPbc 01 56 19.2 -1.2
KIEV MLR MLR
comp=Z,462nm,20.0s,MS5.3
RCY Rachaya 151.34 285 *e*P PKPbc 01 56 21.1 +0.2
BHL Bhannes 151.51 286 *e*P PKPbc 01 56 21.0 -0.3
CTKT Corum 151.68 300⇑ *i* P PKPbc 01 56 19.8 -1.7
SNART Snartemo 151.76 354 *e*P PKPbc 01 56 20.4 -0.7
SUW Suwalki 151.87 333 *e*PKPc PKPbc 01 56 20.0 -1.5
SUW Suwalki 151.87 333 *e*PKPbc PKPbc 01 56 20.5 -1.0
SUW Suwalki 151.87 333⇑ *e*PKIKP PKPbc 01 56 20.0 -1.5
AVNT Avonos 151.92 296⇑ *i* P PKPbc 01 56 20.7 -1.4
GULE Gulek 152.15 293⇑ *i* P PKPbc 01 56 22.3 -0.3
BALT Daday 152.52 303 *i* P PKPbc 01 56 21.9 -1.5
BR131 Keskin Array S 152.71 299 *e*PKPdf PKPdf 01 56 15.7 -1.0
BR131 *e*PKPbc PKPbc 01 56 22.6 -1.2
BR131 LR LR
comp=Z,377nm,19.0s,MS5.2
BRTR Keskin Array B 152.71 299 PKP PKPdf 01 56 15.8 -1.0
comp=Z,3.7nm,0.9s,baz=85,slow=3.1,SNR=15
BRTR PKPbc PKPbc 01 56 22.9 -1.0
comp=Z,31nm,0.8s,baz=160,slow=3.1,SNR=48
BRTR Keskin Array B 152.71 299 PKP PKPdf 01 56 15.8 -1.0
BRTR PKPbc PKPbc 01 56 22.9 -1.0
BRTR Keskin Array B 152.71 299 PKIKP PKPdf 01 56 15.8 -1.0
BRTR 01 56 22.9
BBAL Bala 153.13 298⇑ *i* P PKPbc 01 56 23.9 -0.9
MUD Monsted U'grnd 153.40 351 *i* P PKPab 01 56 35.6 -1.3
comp=Z,52nm,1.2s
CSS Prodhromos 153.44 288 *e*PKPbc PKPbc 01 56 25.0 -0.6
CSS LR LR
comp=Z,790nm,21.0s,MS5.5
KIS Kishinev 153.54 317 *e*PKP PKPbc 01 56 23.0 -2.4
KIS Kishinev 153.54 317 *e*PP PP 02 00 14.0 +2.1
KIS Kishinev 153.54 317 *e*PS 02 11 20.0
KIS Kishinev 153.54 317 *e*PKIKP PKPbc 01 56 23.0 -2.4
KIS *e* 01 56 31.0
KIS *e* 01 56 34.0
KIS *e* 02 00 14.0
COP Copenhagen 153.61 347 *i* PKP2 PKPab 01 56 36.8 -1.0
COP pmax pmax
comp=Z,49nm,0.8s
COP Copenhagen 153.61 347 *i* P PKPab 01 56 36.8 -1.0
comp=Z,49nm,0.8s
LLD Lille Linde 153.98 347 *i* P PKPab 01 56 35.5 -3.9
comp=Z,41nm,1.0s
TLCR 154.39 313⇓ PKIKP PKPbc 01 56 26.9 -0.4
TLCR 154.39 313⇓⇑ P PKPbc 01 56 26.9 -0.4
BEL Belsk 154.47 333 *e*PKP PKPbc 01 56 27.0 -0.2
BEL Belsk 154.47 333 *e*PKIKP PKPbc 01 56 27.0 -0.2
LVV L'vov 154.49 326 *e*PKIKP PKPbc 01 56 27.1 -0.3
LVV *e* 01 56 40.5
HENT Hendek 154.51 302 *i* P PKPbc 01 56 25.4 -2.3
GKP Gorka Klasztor 154.56 339 *e*PKPdf PKPbc 01 56 27.4 0.0
GKP *e*PKPab PKPab 01 56 41.4 -0.5
GKP Gorka Klasztor 154.56 339 *e*PKP2 PKPab 01 56 41.4 -0.5
CFR Carcaliu 154.83 313⇑ PKIKP PKPbc 01 56 27.9 -0.3
CFR Carcaliu 154.83 313⇑ *i* P PKPbc 01 56 27.9 -0.3
GHRR 154.85 316⇓⇓ *i* P PKPbc 01 56 28.8 +0.5
TESR 155.07 317⇑ *i* P PKPdf 01 56 28.0 +8.1
BORA Eskisehir 155.08 300⇑ *i* P PKPdf 01 56 28.3 +8.2
KWP Kalwaria Pacla 155.25 327 *e*PKPdf PKPdf 01 56 28.5 +8.5
KWP *e*PKPab PKPab 01 56 44.4 -0.7
KWP Kalwaria Pacla 155.25 327 PFAKE 01 56 30.0 +10
KWP LR LR
comp=Z,1μm,19.0s,MS5.7
KWP Kalwaria Pacla 155.25 327 *e*PKP2 PKPab 01 56 44.4 -0.6
KWP Kalwaria Pacla 155.25 327⇓ *i* P PKPab 01 56 44.3 -0.7
BURAR Bucovina Array 155.27 321⇑ PKIKP PKPdf 01 56 28.8 +8.7
BURAR Bucovina Array 155.27 321⇑ *i* P PKPdf 01 56 28.8 +8.7
VRI Vrincioaia 155.36 316⇓ PKIKP PKPdf 01 56 28.7 +8.4
VRI Vrincioaia 155.36 316⇓ *i* P PKPdf 01 56 28.7 +8.4
PLOR Plostina 155.41 316⇑ *i* P PKPab 01 56 39.5 -6.4
ISP Isparta 155.44 295 PFAKE 01 56 30.0 +9.3
ISP LR LR
comp=Z,810nm,20.0s,MS5.5
PSN Preselentsi 155.44 310 *i* P PKPab 01 56 46.7 +0.6
PSN Preselentsi 155.44 310 *i* P PKPab 01 56 46.7 +0.6
DBIC Dimbokro 155.57 163 PKP PKPdf 01 56 21.8 +0.2
comp=Z,5.2nm,0.6s,baz=133,slow=1.3,SNR=12
DBIC SKKPbc 02 06 50.9
comp=Z,6.1nm,1.0s,baz=39,slow=3.9,SNR=4.0
DBIC Dimbokro 155.57 163 PKP PKPdf 01 56 21.8 +0.2
DBIC SKKPbc 02 06 50.9
DBIC LR LR
comp=Z,626nm,20.0s,MS5.4
DBIC Dimbokro 155.57 163 PKIKP PKPdf 01 56 21.8 +0.2
DBIC MLR MLR
comp=Z,626nm,20.0s
BSEG Bad Segeberg 155.66 348 *e*PKPab PKPab 01 56 44.8 -1.8
BSEG Bad Segeberg 155.66 348 *e*PKP2 PKPab 01 56 44.8 -1.8
MLR Muntele Rosu 156.02 316 ⇓ PKIKP PKPdf 01 56 30.2 +9.0
MLR Muntele Rosu 156.02 316 ⇓ *i* P PKPdf 01 56 30.2 +9.0
OJC Ojcow 156.11 331 *e*PKPdf PKPdf 01 56 23.1 +2.0
OJC Ojcow 156.11 331 *e*PKIKP PKPdf 01 56 23.1 +2.0
UZH Uzhgorod 156.13 326⇓ *i* PKIKP PKPdf 01 56 30.0 +8.8

UZH *e* 01 56 36.2
UZH *e* 01 56 47.6
SULR **156.24 314** ⇑*i*P PKPab 01 56 47.3 -2.1
CRVS **Cervenica-Dubn** **156.34 327** *e*PKIKP PKPdf 01 56 21.1 -0.4
CRVS **Cervenica-Dubn** **156.34 327** *e*PKP PKPdf 01 56 21.1 -0.4
TRPA **Tarpa** **156.35 325** ⇓*i*P PKPdf 01 56 30.9 +9.4
NIE **Niedzica** **156.49 329** *e*PKPdf PKPdf 01 56 21.3 -0.4
NIE *e*PKPab PKPab 01 56 49.5 -0.8
NIE **Niedzica** **156.49 329** *e*PKIKP PKPdf 01 56 21.3 -0.4
NIE *e* 01 56 31.9
KSP **Ksiaz** **156.94 337** *e*PKPdf PKPdf 01 56 22.1 -0.1
KSP *e*PKPab PKPab 01 56 51.6 -0.5
NRDL **Niedersach Rie** **157.08 348** *e*PKPab PKPab 01 56 51.2 -1.5
OKC **Ostrava-Krasne** **157.08 333** *e*PKP2 PKPab 01 56 51.9 -0.9
OKC MLR MLR
comp=Z,700nm,21.2s,MS5.5
OKC **Ostrava-Krasne** **157.08 333** *e*PKPAB PKPab 01 56 51.9 -0.9
OKC AMS AMS 03 03 20.0
comp=Z,700nm,21.2s
KECS **Kecovo** **157.10 328** *e* PKPdf 01 56 32.9 +10
SZH **Strazhica** **157.10 311** P PKPab 01 56 52.4 -0.8
SZH **Strazhica** **157.10 311** P PKPab 01 56 52.4 -0.8
DRGR **157.12 322** ⇑*i*P PKPdf 01 56 32.8 +10
UPC **Upice** **157.31 337** *e*PKP2 PKPab 01 56 53.2 -0.6
UPC **Upice** **157.31 337** *e*PKPAB PKPab 01 56 53.2 -0.6
DPC **Dobruska-Polom** **157.34 336** *e*PKIKP PKPdf 01 56 21.9 -0.8
DPC MLR MLR
comp=Z,900nm,23.3s,MS5.5
DPC **Dobruska-Polom** **157.34 336** *e*PKPDF PKPdf 01 56 21.9 -0.8
DPC *e*PKPAB PKPab 01 56 53.5 -0.4
DPC AMS AMS 03 08 40.0
comp=Z,900nm,23.3s
MORC **Moravsky Berou** **157.36 334** *e*PKPdf PKPdf 01 56 23.1 +0.3
MORC **Moravsky Berou** **157.36 334** ⇑PKIKP PKPdf 01 56 22.4 -0.4
MORC **Moravsky Berou** **157.36 334** ⇑*i*P PKPdf 01 56 22.4 -0.4
CLL **Collm** **157.53 342** *e*PKPab PKPab 01 56 53.5 -1.2
CLL **Collm** **157.53 342** *e*PKIKP PKPdf 01 56 22.0 -0.9
CLL pmax pmax
comp=Z,72nm,0.9s
CLL MLR MLR
comp=Z,600nm,23.7s,MS5.3
CLL **Collm** **157.53 342** *e*PKPdf PKPdf 01 56 22.0 -0.9
CLL *ep*PKPdf pPKPdf 01 56 31.0 +6.3
CLL *i* PKPab PKPab 01 56 53.3 -1.4
comp=Z,72nm,0.9s
CLL *ep*PKPab pPKPab 01 57 02.0 +5.6
CLL *e*PP PP 02 00 35.0 +1.6
CLL *e*SS SS 02 20 36.0 +6.3
CLL *e*SSS 02 26 36.0
CLL *e*SSSS 02 30 36.0
IBBN **Ibbenburen** **157.63 351** *e*PKPab PKPab 01 56 54.3 -0.8
CLZ **Clausthal** **157.65 347** *e*PKPab PKPab 01 56 54.2 -1.0
CLZ **Clausthal** **157.65 347** *e*PKP2 PKPab 01 56 54.2 -1.0
BRG **Berggiesshubel** **157.65 340** *e*PKP PKPdf 01 56 21.3 -1.8
comp=Z,48nm,2.0s
BRG *i* 01 56 54.5
comp=Z,64nm,0.9s
BRG **Berggiesshubel** **157.65 340** *e*PKPab PKPab 01 56 54.3 -1.0
BRG **Berggiesshubel** **157.65 340** *e*PKIKP PKPdf 01 56 21.3 -1.8
BRG pmax pmax
comp=Z,49nm,2.0s
PVCC **Panska Ves** **157.77 339** *e*PKP2 PKPab 01 56 55.0 -0.8
PVCC **Panska Ves** **157.77 339** *e*PKPAB PKPab 01 56 55.0 -0.8
PSZ **Piszkesteto** **157.78 327** PFAKE
PSZ LR LR
comp=Z,681nm,22.0s,MS5.4
PSZ **Piszkesteto** **157.78 327** ⇑PKP2 PKPab 01 56 56.2 +0.3
PSZ **Piszkesteto** **157.78 327** ⇓*e*PKP PKPab 01 56 54.8 -1.1
PSZ **Piszkesteto** **157.78 327** ⇑*i*P PKPab 01 56 56.2 +0.3
FBE **Freiberg** **157.78 341** *e*PKPab PKPab 01 56 55.0 -0.8
NEUB **Neuenburg** **157.93 344** *e*PKPab PKPab 01 56 55.3 -1.1
WTSB **Winterswijk** **158.09 352** *e*PKP PKPab 01 56 55.5 -1.6
comp=Z,64nm,0.8s
VRAC **Vranov** **158.10 334** PKP PKPdf 01 56 22.8 -0.9
comp=Z,1.6nm,0.6s,baz=45,slow=2.9,SNR=3.7
VRAC PKPab PKPab 01 56 56.4 -0.8
comp=Z,23nm,0.9s,baz=50,slow=4.0,SNR=19
VRAC **Vranov** **158.10 334** PKP PKPdf 01 56 22.8 -0.9
VRAC PKPab PKPab 01 56 56.4 -0.8
VRAC **Vranov** **158.10 334** ⇑PKP2 PKPab 01 56 56.7 -0.6
VRAC **Vranov** **158.10 334** ⇑*i*P PKPab 01 56 56.7 -0.6
PRA **Prague** **158.21 338** PKPAB PKPab 01 56 57.0 -0.7
SMOL **Smolenice** **158.41 332** *e*PKP2 PKPab 01 56 47.0 -12
SMOL **Smolenice** **158.41 332** *e* PKPab 01 56 47.0 -12
PLD **Plovdiv** **158.43 309** *i* P PKPab 01 57 02.9 +3.9
PLD **Plovdiv** **158.43 309** *i* P PKPab 01 57 02.9 +3.9
BZS **Buzias** **158.45 321** ⇑PKIKP PKPdf 01 56 22.9 -1.4
BZS **Buzias** **158.45 321** ⇑*i*P PKPdf 01 56 22.9 -1.4
MPEP **Malo Peshtene** **158.47 313** *i* P PKPab 01 57 02.8 +3.7
MPEP **Malo Peshtene** **158.47 313** *i* P PKPab 01 57 02.8 +3.7
TANN **Tannenbergstha** **158.48 342** *e*PKPab PKPab 01 56 58.1 -0.7
MOX **Moxa** **158.49 344** *e*PKPab PKPab 01 56 57.7 -1.2
MOX **Moxa** **158.49 344** *e*PKP2 PKPab 01 56 57.7 -1.2
WERD **Werda** **158.49 342** *e*PKPab PKPab 01 56 58.0 -0.9
BUD **Budapest** **158.50 328** ⇓PKP PKPab 01 56 58.4 -0.7
PLN **Plauen** **158.50 342** *e*PKPab PKPab 01 56 58.1 -0.8
TREC **Trest** **158.52 336** *e*PKP2 PKPab 01 56 58.5 -0.6
TREC **Trest** **158.52 336** *e*PKPAB PKPab 01 56 58.5 -0.6
BUG **Bochum--Univer** **158.55 351** *e*PKPab PKPab 01 56 57.6 -1.5
GUNZ **Gunzen** **158.56 342** *e*PKPab PKPab 01 56 58.3 -0.9
PGB **Panagyurishte** **158.59 311** *i* P PKPab 01 56 59.7 +0.1
PGB **Panagyurishte** **158.59 311** *i* P PKPab 01 56 59.7 +0.1
WERN **Wernitzgruen** **158.62 342** *e*PKPab PKPab 01 56 58.7 -0.7
NKC **Novy Kostel** **158.65 342** *e*PKP2 PKPab 01 56 58.7 -0.9
NKC **Novy Kostel** **158.65 342** *e*PKPAB PKPab 01 56 58.7 -0.9
UBBA **Unterbreizbach** **158.69 346** *e*PKPab PKPab 01 56 58.0 -1.7
ROTZ **Rotzenmuhle** **159.14 342** *e*PKPab PKPab 01 57 01.0 -0.7
VTS **Vitosha** **159.19 312** ⇓PKP2 PKPab 01 57 01.6 -0.7
VTS **Vitosha** **159.19 312** ⇓*i*P PKPab 01 57 01.6 -0.7
VTS **Vitosha** **159.19 312** *i* P PKPab 01 57 02.8 +0.5
VTS **Vitosha** **159.19 312** *i* P PKPab 01 57 02.8 +0.5
KHC **Kasperske Hory** **159.30 339** *e*PKIKP PKPdf 01 56 23.6 -1.5
KHC *e* 01 56 37.0
KHC *e* 01 57 01.8
KHC MLR MLR
comp=Z,600nm,21.0s,MS5.4
KHC **Kasperske Hory** **159.30 339** *e*PKPDF PKPdf 01 56 23.6 -1.5
KHC *ep*PKP pPKPdf 01 56 37.0 +10
KHC *ex* x 01 56 48.0
KHC *e*PKPAB PKPab 01 57 01.8 -0.6
KHC *ex* x 01 57 23.5
KHC AMS AMS 03 07 00.0
comp=Z,600nm,21.0s
MMB **Musomiste** **159.31 309** *i* P PKPab 01 57 02.3 -0.5
MMB **Musomiste** **159.31 309** *i* P PKPab 01 57 02.3 -0.5
BEBN **Eben Emael** **159.36 354** PKPab PKPab 01 57 01.6 -1.0
HGN **Heimansgroeve** **159.37 353** *e*PKP PKPab 01 57 01.3 -1.4
comp=Z,96nm,1.1s
GRA3 **Grafenberg Arr** **159.38 343** *e*PKPab PKPab 01 57 02.6 -0.1
SOP **Sopron** **159.43 332** ⇓*e*PKP PKPab 01 57 02.6 -0.5
UCC **Uccle** **159.46 356** PKPab PKPab 01 57 01.5 -1.5
GRF **Grafenberg Arr** **159.47 343** *e*PKPab PKPab 01 57 02.2 -0.9
GRF *e*L 03 03 19.8
comp=N,498nm,21.3s
GRF **Grafenberg Arr** **159.47 343** *e*PKP2 PKPab 01 57 02.2 -0.9
WET **Wettzell** **159.51 340** *e*PKPab PKPab 01 57 02.7 -0.6
WET **Wettzell** **159.51 340** *e*PKP2 PKPab 01 57 02.7 -0.6
GEC2 **GERESS Array S** **159.51 338** *e*PKPab PKPab 01 57 03.0 -0.4
GEC2 **GERESS Array S** **159.51 338** *e*PKP2 PKPab 01 57 03.0 -0.4
GERES **GERESS Array B** **159.51 338** PKP PKPdf 01 56 24.6 -0.8
comp=N,2.1nm,1.0s,baz=17,slow=1.0,SNR=8.7
GERES PKPab PKPab 01 57 02.4 -0.9
comp=N,9.5nm,0.8s,baz=34,slow=4.0,SNR=21
GERES **GERESS Array B** **159.51 338** PKP PKPdf 01 56 24.6 -0.8
GERES PKPab PKPab 01 57 02.4 -0.9
GERES **GERESS Array B** **159.51 338** PKIKP PKPdf 01 56 24.6 -0.8
GERES 01 57 02.4
MEM **Membach** **159.51 353** PKPab PKPab 01 57 02.0 -1.3
TNS **Taunus Mts** **159.55 348** *e*PKPab PKPab 01 57 02.3 -1.2
TNS **Taunus Mts** **159.55 348** *e*PKP2 PKPab 01 57 02.3 -1.2
PKSM **Moragy** **159.60 326** ⇓PKIKP PKPdf 01 56 24.5 -1.1
PKSM **Moragy** **159.60 326** ⇓*i*P PKPdf 01 56 24.5 -1.1
KKB **Krupnik** **159.62 310** *i* P PKPab 01 57 04.1 0.0
KKB **Krupnik** **159.62 310** *i* P PKPab 01 57 04.1 0.0
SNF **Seneffe** **159.75 356** PKPab PKPab 01 57 03.1 -1.2
BCLA **Clavier** **159.77 354** PKPab PKPab 01 57 02.6 -1.8
DOU **Dourbes** **160.15 355** PKPab PKPab 01 57 04.9 -1.1
MOA **Molln** **160.18 335** ⇓*i*PKPdf PKPdf 01 56 25.0 -1.1
comp=N,9.6nm,1.8s
MOA ⇑*i*PKPab PKPab 01 57 05.8 -0.5
comp=N,30nm,1.2s
ARSA **Arzberg** **160.19 332** ⇓*i*PKPdf PKPdf 01 56 25.1 -1.1
comp=N,4.6nm,1.2s
ARSA ⇓*i*PKPab PKPab 01 57 05.5 -0.9
comp=N,14nm,1.3s
BAIF **Baives** **160.21 356** *e*PKIKP PKPdf 01 56 25.5 -0.6
comp=N,17nm,1.0s
WLF **Walferdange** **160.43 352** PKPab PKPab 01 57 06.6 -0.7
WLF **Walferdange** **160.43 352** *e*PKPab PKPab 01 57 06.7 -0.6
WLF **Walferdange** **160.43 352** PFAKE
WLF LR LR
comp=Z,583nm,19.0s
RJOB **Jochberg** **160.78 338** *e*PKPab PKPab 01 57 08.5 -0.4
STU **Stuttgart** **160.80 346** *e*PKPab PKPab 01 57 07.7 -1.2
FUR **Furstenfeldbru** **160.85 341** *e*PKPab PKPab 01 57 08.5 -0.7
FUR **Furstenfeldbru** **160.85 341** *e*PKP2 PKPab 01 57 08.5 -0.7
SOKA **Soboth** **160.85 332** ⇑*i*PKPdf PKPdf 01 56 26.0 -0.9
comp=Z,10nm,1.2s
SOKA ⇑*i*PKPab PKPab 01 57 08.1 -1.2
comp=Z,26nm,1.4s
LANF **Langenberg** **160.86 349** PKP PKPab 01 57 08.5 -0.7
KBA **Koelnbreinsper** **161.16 336** ⇓*i*PKPdf PKPdf 01 56 24.8 -2.5
comp=Z,9.7nm,1.0s
KBA ⇑*i*PKPab PKPab 01 57 09.8 -0.8
comp=Z,14nm,0.8s
BFO **Black Forest** **161.39 347** *e*PKPab PKPab 01 57 10.4 -1.2
BFO **Black Forest** **161.39 347** PFAKE 01 56 40.0 +13
BFO LR LR
comp=Z,853nm,19.0s
BFO **Black Forest** **161.39 347** *e*PKP2 PKPab 01 57 10.4 -1.2
MYKA **Terra Mystica** **161.43 335** ⇓*i*PKPdf PKPdf 01 56 25.8 -1.8
comp=Z,5.1nm,0.8s
MYKA ⇑*i*PKPab PKPab 01 57 09.7 -2.2
comp=Z,17nm,0.8s
CDF **Champ du Feu** **161.50 349** *e*PKIKP PKPdf 01 56 26.1 -1.5
WATA **Walderalm** **161.51 340** ⇓*i*PKPdf PKPdf 01 56 26.0 -1.6
comp=Z,4.9nm,1.1s
WATA ⇓*i*PKPab PKPab 01 57 11.3 -0.8
comp=Z,35nm,0.8s,SNR=10
WTTA **Wattenberg** **161.56 339** ⇓*i*PKPdf PKPdf 01 56 27.1 -0.6
comp=Z,12nm,1.3s
WTTA ⇓*i*PKPab PKPab 01 57 12.0 -0.4
comp=Z,44nm,0.7s
RETA **Reutte** **161.61 341** *i* PKPab PKPab 01 57 11.8 -0.8
comp=Z,63nm,1.1s,SNR=13
LDF **La Druitiere** **161.65 5** *e*PKIKP PKPdf 01 56 26.8 -0.9
comp=Z,12nm,0.8s
MOTA **Moosalm** **161.65 340** ⇑*i*PKPdf PKPdf 01 56 26.4 -1.3
comp=Z,4.6nm,0.9s
MOTA ⇑*i*PKPab PKPab 01 57 12.2 -0.5
comp=Z,54nm,0.9s,SNR=14
MEZF **Maizieres J'vi** **161.69 354** *e*PKIKP PKPdf 01 56 27.4 -0.4
ECH **Echery** **161.71 349** PFAKE 01 56 40.0 +12
ECH LR LR
comp=Z,771nm,20.0s
ECH **Echery** **161.71 349** PKP PKPab 01 57 12.0 -0.9
ABTA **Abfaltersbach** **161.74 337** ⇓*i*PKPdf PKPdf 01 56 26.3 -1.6
comp=Z,15nm,1.5s
ABTA ⇑*i*PKPab PKPab 01 57 11.7 -1.5
comp=Z,32nm,1.0s,SNR=9.1
GRR **Gorron** **161.78 7** *e*PKIKP PKPdf 01 56 27.2 -0.7
THEF **They Montfort** **161.87 352** PKP PKPab 01 57 12.9 -0.7
QUIF **Quistinic** **161.93 12** *e*PKIKP PKPdf 01 56 27.3 -0.8
TIR **Tirane** **161.97 312** PFAKE 01 56 40.0 +12
TIR LR LR
comp=Z,673nm,20.0s
SFTF **Sexfontaines** **161.99 354** *e*PKIKP PKPdf 01 56 27.6 -0.5
comp=Z,55nm,1.1s
DAVA **Damuels** **162.03 343** ⇑*i*PKPdf PKPdf 01 56 26.9 -1.2
comp=Z,16nm,1.6s
DAVA ⇑*i*PKPab PKPab 01 57 13.2 -1.2
comp=Z,46nm,0.8s,SNR=10
HAU **Haudompre** **162.04 351** *e*PKIKP PKPdf 01 56 27.2 -1.0
HAU *e*R
comp=Z,779nm,21.8s
FETA **Feichten** **162.05 341** ⇑*i*PKPdf PKPdf 01 56 26.8 -1.4
comp=Z,10nm,1.3s
FETA *i* PKPab PKPab 01 57 14.0 -0.4
comp=Z,34nm,1.0s,SNR=7.4
MOF **Molkenrain** **162.07 349** PKP PKPab 01 57 13.6 -0.9
HINF **Hinteralfeld** **162.15 350** *e*PKIKP PKPdf 01 56 27.2 -1.1
comp=Z,74nm,1.6s
TRI **Trieste** **162.16 333** PFAKE 01 56 40.0 +12
TRI LR LR
comp=Z,842nm,22.0s
DAVOX **Davos/Dischmat** **162.50 342** PKP PKPdf 01 56 29.2 +0.6
comp=Z,2.8nm,0.7s,baz=18,slow=3.7,SNR=7.1
DAVOX PKPab PKPab 01 57 15.5 -1.0
baz=10,slow=7.1
DAVOX **Davos/Dischmat** **162.50 342** PKP PKPdf 01 56 29.2 +0.6
DAVOX PKPab PKPab 01 57 15.5 -1.0
DAVOX **Davos/Dischmat** **162.50 342** PKIKP PKPdf 01 56 29.2 +0.5
DAVOX 01 57 15.5
LOMF **Lomont** **162.60 349** PKP PKPab 01 57 16.3 -0.6
TORD **Torodi Ar. Bea** **162.92 178** PKP PKPdf 01 56 29.9 -0.2
comp=Z,7.7nm,1.2s,baz=235,slow=0.5,SNR=20
TORD PKPab PKPab 01 57 19.8 +0.8
comp=Z,14nm,1.0s,baz=179,slow=3.6,SNR=14
TORD PP PP 02 01 02.6 +0.3
comp=Z,2.9nm,1.0s,baz=189,slow=7.2,SNR=4.3
TORD SKKPbc 02 06 15.4
comp=Z,1.2nm,0.9s,baz=35,slow=2.9,SNR=3.6
TORD **Torodi Ar. Bea** **162.92 178** PKP PKPdf 01 56 29.9 -0.2
TORD PKPab PKPab 01 57 19.8 +0.8
TORD PP PP 02 01 02.6 +0.3
TORD SKKPbc 02 06 15.4
TUE **Stuetta** **162.93 343** PFAKE 01 56 40.0 +11
TUE LR LR
comp=Z,997nm,20.0s
LOR **Lormes** **163.01 356** *e*PKIKP PKPdf 01 56 28.6 -0.6
LOR *e*R
comp=Z,985nm,22.2s
SSF **Saint Saulge** **163.23 357** *e*PKIKP PKPdf 01 56 28.8 -0.6
comp=Z,20nm,1.0s
CABF **La Chapelle** **163.44 351** *e*PKIKP PKPdf 01 56 29.4 -0.2
comp=Z,29nm,1.0s
MFF **Saint Martin d** **163.62 6** *e*PKIKP PKPdf 01 56 29.3 -0.5
comp=Z,38nm,1.1s
BGF **Bois d'Agland** **163.76 358** *e*PKIKP PKPdf 01 56 29.3 -0.6
TCF **Toulx Ste Croi** **164.04 360** *e*PKIKP PKPdf 01 56 29.4 -0.7
RSL **Roselend** **164.25 349** PKP PKPab 01 57 23.2 -1.0
AGO **Saint Agoulin** **164.26 358** PKP PKPab 01 57 22.7 -1.5
PLDF **La Plantade** **164.32 356** PKP PKPab 01 57 23.5 -0.9
LPL **La Plagne** **164.40 348** *e*PKIKP PKPdf 01 56 30.1 -0.4
LPG **La Plagne** **164.41 348** *e*PKIKP PKPdf 01 56 30.0 -0.5
BNI **Bardonecchia** **164.86 348** PFAKE 01 56 40.0 +9.1
BNI LR LR
comp=Z,1μm,20.0s
SSB **Saint Sauveur** **164.94 354** PFAKE 01 56 40.0 +9.0
SSB LR LR
comp=Z,851nm,21.0s
AQU **L'Aquila** **164.98 326** PFAKE 01 56 40.0 +8.9
AQU LR LR
comp=Z,966nm,19.0s
LBL **Lubilhac** **165.07 357** PKP PKPab 01 57 27.0 -0.8
ORIF **Oris-en-Rattie** **165.12 350** *e*PKIKP PKPdf 01 56 30.8 -0.3
comp=Z,23nm,1.2s
ORIF *e*R
comp=Z,776nm,20.8s
MBDF **Montbardon** **165.16 347** *e*PKIKP PKPdf 01 56 30.6 -0.6
CUC **Castrocucco** **165.27 315** PFAKE 01 56 40.0 +8.6
CUC LR LR
comp=Z,736nm,20.0s
CAF **Calviac** **165.40 0** *e*PKIKP PKPdf 01 56 31.3 -0.1
PGAV **Gavieira, Arco** **165.62 33** *e*PKPdf PKPdf 01 56 31.3 -0.4
SAOF **Saorge** **165.69 344** PKP PKPab 01 57 28.6 -2.0
TOUF **Mont Tournerai** **165.74 345** PKP PKPab 01 57 30.1 -0.7
LUCF **Luceram** **165.83 345** PKP PKPab 01 57 29.8 -1.4
MVIF **Mont Vial** **165.87 345** PKP PKPab 01 57 30.3 -1.0
PCAB **Cabril** **165.93 33** *e*PKPdf PKPdf 01 56 33.1 +1.2
REVF **Revere** **165.97 344** PKP PKPab 01 57 29.3 -2.5
CEL **Celeste** **166.19 309** PFAKE 01 56 40.0 +7.7
CEL LR LR
comp=Z,1μm,22.0s
FRF **La Foret Royal** **166.30 346** *e*PKIKP PKPdf 01 56 31.2 -1.0
comp=Z,165nm,1.7s
POLO **Lamas de Olo** **166.31 34** *e*PKPdf PKPdf 01 56 33.3 +1.1
PVRL **Vila Real** **166.42 34** *e*PKPdf PKPdf 01 56 33.9 +1.6
LMR **La Mourre** **166.55 346** *e*PKIKP PKPdf 01 56 31.5 -0.9
MVO **Moncorvo** **166.83 32** *e*PKPdf PKPdf 01 56 33.7 +1.1
MTLF **Montolieu** **166.99 360** *e*PKIKP PKPdf 01 56 31.8 -0.9
MTE **Manteigas** **167.17 36** *e*PKPdf PKPdf 01 56 34.7 +1.8
EPF **Esparros** **167.21 6** *e*PKIKP PKPdf 01 56 31.8 -1.1
ETSF **Etsaut** **167.23 9** *e*PKIKP PKPdf 01 56 32.2 -0.7
PNCL **Nicolau / Gran** **168.19 46** *e*PKPdf PKPdf 01 56 35.0 +1.3
EVO **Evora** **168.23 43** *e*PKPdf PKPdf 01 56 34.7 +1.0
WDD **Wield Dalam** **168.28 301** PFAKE 01 56 40.0 +6.1
WDD LR LR
comp=Z,1μm,19.0s
MORF **Marmelete** **168.59 49** *e*PKPdf PKPdf 01 56 33.5 -0.5
PBEJ **Beja** **168.65 45** *e*PKPdf PKPdf 01 56 34.9 +0.9
PBDV **Barranco-do-Ve** **169.09 48** *e*PKPdf PKPdf 01 56 35.5 +1.2
PAB **San Pablo** **169.33 28** PFAKE 01 56 50.0 +16
PAB LR LR
comp=Z,1μm,20.0s
ESDC **Sonseca Array** **169.37 27** PKP PKPdf 01 56 34.4 -0.1
comp=Z,2.5nm,0.8s,baz=352,slow=2.1,SNR=9.0
ESDC **Sonseca Array** **169.37 27** PKP PKPdf 01 56 34.4 -0.1
ESLA **Sonseca Array** **169.37 27** PFAKE 01 56 50.0 +16
ESLA LR LR
comp=Z,5μm,20.0s
SFS **San Fernando** **170.66 47** PFAKE 01 56 50.0 +15
SFS LR LR
comp=Z,2μm,20.0s
KEST **Kesra** **171.92 314** PKP PKPdf 01 56 36.4 +0.5
comp=Z,2.6nm,0.9s,baz=73,slow=22,SNR=4.5
KEST PKPab PKPab 01 57 59.6 +1.1
comp=Z,3.6nm,0.9s,baz=246,slow=13,SNR=3.8
KEST **Kesra** **171.92 314** PKP PKPdf 01 56 36.4 +0.5
KEST PKPab PKPab 01 57 59.6 +1.1
TAM **Tamanrasset** **171.95 202** *e*PKPdf PKPdf 01 56 36.9 +0.6
TAM *e*PKPab PKPab 01 58 00.6 +1.8
TAM LR LR
comp=Z,571nm,20.0s
TAM **Tamanrasset** **171.95 202** *e*PKIKP PKPdf 01 56 36.9 +0.6
TAM *e* 01 58 00.6
TAM MLR MLR
comp=Z,571nm,20.0s

WEL 25 01:37:53.1±0.2, 40°29S×174°26E, h91km±3km, ML3.1/5, Error ellipse: s-maj=1.6km s-min=0.7km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**0.58**	**206**	PN	Pn	01 38 08.5	-0.1
DUWZ				SN	Sn	01 38 19.8	-0.3
KIW	**Kapiti Island**	**0.76**	**140**	PN	Pn	01 38 10.2	0.0
KIW				SN	Sn	01 38 22.2	-0.9
WAZ	**Wanganui**	**0.77**	**47**	PN	Pn	01 38 10.7	+0.3
OGWZ	**Otaki Gorge**	**0.87**	**128**	PN	Pn	01 38 11.6	+0.2
TCW	**Tory Channel**	**0.93**	**179**	PN	Pn	01 38 12.1	0.0
TCW				SN	Sn	01 38 25.6	-0.6
DFE	**Dawson Falls**	**0.97**	**353**	PN	Pn	01 38 12.5	0.0
NRZ	**Ngariki Road**	**0.98**	**345**	PN	Pn	01 38 12.5	-0.2
RAEZ	**Rainy Point**	**1.00**	**6**	*e*PN	Pn	01 38 12.7	-0.2
NEZ	**North Egmont**	**1.02**	**353**	PN	Pn	01 38 12.8	-0.3
NWEZ	**Newall Road**	**1.05**	**343**	PN	Pn	01 38 13.4	-0.1
MRZ	**Mangatainoka R**	**1.07**	**111**	PN	Pn	01 38 14.4	+0.7
MRZ				SN	Sn	01 38 27.9	-1.2
DREZ	**Durham Road**	**1.10**	**358**	PN	Pn	01 38 13.9	-0.1
PKE	**Pukeiti**	**1.11**	**349**	PN	Pn	01 38 13.9	-0.2
NNZ	**Nelson**	**1.15**	**215**	PN	Pn	01 38 14.4	-0.1
NNZ				SN	Sn	01 38 30.5	-0.1
TUWZ	**Tuamarina**	**1.17**	**192**	PN	Pn	01 38 14.7	-0.1
MHEZ	**Mangahewa**	**1.21**	**2**	PN	Pn	01 38 15.5	+0.2
VRZ	**Vera Road**	**1.22**	**18**	PN	Pn	01 38 15.4	-0.1
QRZ	**Quartz Range**	**1.43**	**247**	PN	Pn	01 38 16.7	-1.2
MOVZ	**Moawhango**	**1.45**	**53**	PN	Pn	01 38 17.4	-0.8
BSWZ	**Blackbirch Sta**	**1.46**	**191**	PN	Pn	01 38 18.9	+0.5
PLWZ	**Palliser**	**1.49**	**150**	PN	Pn	01 38 18.6	-0.1
WTVZ	**West Tongariro**	**1.55**	**42**	PN	Pn	01 38 19.3	-0.3
OTVZ	**Oturere**	**1.56**	**44**	PN	Pn	01 38 19.5	-0.1
KRVZ	**Karewarewa**	**1.60**	**42**	PN	Pn	01 38 19.9	-0.2
KATZ	**Kakaramea**	**1.71**	**41**	PN	Pn	01 38 21.6	0.0
THZ	**Tophouse**	**1.80**	**214**	PN	Pn	01 38 22.4	-0.2
HIZ	**Hauiti**	**1.83**	**15**	PN	Pn	01 38 22.6	-0.6
HIZ				SN	Sn	01 38 44.8	-1.1
KHZ	**Kahutara**	**2.20**	**194**	PN	Pn	01 38 27.6	-0.3
DSZ	**Denniston Nort**	**2.36**	**231**	PN	Pn	01 38 29.2	-0.9
MKAZ	**Moumakai**	**3.25**	**13**	*e*PN	Pn	01 38 41.3	-0.7
MQZ	**McQueen's Vall**	**3.62**	**199**	PN	Pn	01 38 44.2	-2.8

IDC 25 02:31:34.7±2.9, 0°52S×133°16E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.6/20, mbtmp3.6/4, ML3.8/2, Error ellipse: s-maj=123.7km s-min=26.2km az=78.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.97**	**203**	P	Pn	02 35 58.4	+0.1
	0.3nm,0.3s,baz=34,slow=13,SNR=5.9						
FITZ				S	Sn	02 39 17.2	-14
	0.1nm,0.3s,baz=179,slow=18,SNR=2.7						
WRA	**Warramunga Arr**	**19.34**	**177**	P	Pn	02 36 02.0	-0.7
	0.2nm,0.3s,baz=356,slow=13,SNR=8.1						
WRA				S	Sn	02 39 27.0	-13
	0.0nm,0.3s,baz=5.9,slow=23,SNR=4.3						
ASAR	**Alice Springs**	**23.02**	**178**	P	P	02 36 40.9	-0.6
	1.4nm,0.6s,baz=357,slow=8.6,SNR=18						
MKAR	**Makanchi Array**	**64.72**	**324**	P	P	02 42 14.9	+0.2
	0.4nm,0.5s,baz=120,slow=8.2,SNR=4.7						

*ISCJB **25** 02:34:18.6±1.2, 27°.85N±0°.04×56°.81E±0°.07, h12km±11km, Error ellipse: s-maj=10.3km s-min=7.3km az=1.6*
*CSEM **25** 02:34:19.8, 28°.08N×56°.18E, h14km, ML3.3, After THR*
*TEH **25** 02:34:21.1, 27°.68N×56°.76E, h30km*
*OMAN **25** 02:34:39.1±99.0, 26°.49N×57°.64E, h10km, Error ellipse: s-maj=31.4km s-min=2.6km az=12.0*

ISC 25 02:34:19.8±0.8, 27°.82N±0°.04×56°.80E±0°.06, h11km±8km, n20, σ0°72/23, 1C-2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBND	**Bandar-abas**	**0.44**	**212**	*e*Pg	**Pg**	**02 34 28.4**	**0.0**
IBND				*e*Sg	**Sg**	**02 34 34.6**	**+0.3**
IBND				*e*		02 34 46.2	
	comp=Z,88μm,0.2s						
BNDS	**Bandar-Abbas**	**0.70**	**233**	*e*Pg	**Pg**	**02 34 32.9**	**-0.5**
KRBR	**Kerman**	**2.15**	**359**	*e*Pg	**Pn**	**02 34 55.2**	**-0.4**
KRBR				*e*Sg	**Sn**	**02 35 22.1**	**-0.1**
HATD	**Hatta, Dubai**	**3.05**	**192**	⇓P	**Pb**	**02 35 15.0**	**+1.0**
ASHO	**Ashiyiah**	**3.20**	**192**	P	**Pn**	**02 35 10.5**	**+0.6**
	SNR=8.1						
ISRV	**Sarvestan**	**3.59**	**296**	*e*Pn	**Pn**	**02 35 15.8**	**+0.4**
ISRV				*e*		02 36 16.9	
	comp=Z,441nm,0.2s						
IPAR	**Pars**	**3.86**	**302**	*e*Pn	**Pn**	**02 35 19.0**	**0.0**
IPAR				*e*		02 36 33.4	
	comp=Z,350nm,0.3s						
IBAF	**Bafgh**	**3.90**	**344**	*e*Pn	**Pn**	**02 35 18.9**	**-0.8**
IBAF				*e*		02 36 25.3	
	comp=Z,359nm,0.2s						
ZHSF	**Zahedan**	**3.92**	**62**	*e*Pn	**Pb**	**02 35 27.3**	**-1.6**
IMEH	**Mehriz**	**4.03**	**332**	*e*Pn	**Pn**	**02 35 21.8**	**+0.4**
IMEH				*e*		02 36 39.9	
	comp=Z,207nm,0.4s						
ICHK	**Chekchek**	**4.87**	**335**	*e*Pn	**Pn**	**02 35 33.2**	**+0.3**
ICHK				*e*		02 36 33.7	
	comp=Z,149nm,0.3s						
SMDO	**Samad**	**4.88**	**166**	⇑P	**Pn**	**02 35 32.8**	**-0.2**
**IS

az=127.9, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACE	**Macas**	**0.72**	**289**	⇑S	Sg	02 49 51.7	+1.3
MACE	**Macas**	**0.72**	**289**	⇑P	Pg	02 49 41.1	+0.2
RIOE	**Riobamba**	**1.34**	**303**	P	Pn	02 49 51.8	+0.5
PAT1	**Patacocha**	**1.35**	**317**	⇑P	Pn	02 49 52.2	+0.8
ARRY	**Arrayan**	**1.36**	**316**	P	Pn	02 49 51.7	+0.2
ULBA	**Ulba**	**1.37**	**319**	P	Pn	02 49 52.7	+1.0
ULBA	**Ulba**	**1.37**	**319**	S	Sn	02 50 11.2	+1.4
BULB	**Ulba Tungurahu**	**1.38**	**319**	⇑S	Sn	02 50 10.7	+0.6
BULB	**Ulba Tungurahu**	**1.38**	**319**	⇑P	Pn	02 49 52.3	+0.4
BRUN	**Tungurahua Vol**	**1.39**	**320**	S	Sn	02 50 11.3	+0.9
BRUN	**Tungurahua Vol**	**1.39**	**320**	P	Pn	02 49 52.5	+0.4
RETU	**Refugio**	**1.39**	**318**	P	Pn	02 49 52.7	+0.7
RUN5	**Runtun**	**1.41**	**320**	P	Pn	02 49 52.9	+0.7
BBIL	**Ulba Tungurahu**	**1.42**	**317**	P	Pn	02 49 53.4	+0.9
BBIL	**Ulba Tungurahu**	**1.42**	**317**	S	Sn	02 50 13.8	+2.7
BIL2	**Estacion Bilba**	**1.43**	**316**	P	Pn	02 49 54.3	+1.8
JUI6	**Juive**	**1.43**	**318**	⇓S	Sn	02 50 12.3	+1.1
JUI6	**Juive**	**1.43**	**318**	⇓P	Pn	02 49 53.2	+0.6
IGUA	**Igualata**	**1.50**	**311**	P	Pn	02 49 55.7	+2.2
PISA	**Pisayambo**	**1.67**	**328**	⇓S	Sn	02 50 20.5	+3.3
PISA	**Pisayambo**	**1.67**	**328**	⇓P	Pn	02 49 58.2	+2.3
TAMB	**Tambo**	**1.98**	**334**	P	Pn	02 50 03.1	+2.9
TAMB	**Tambo**	**1.98**	**334**	S	Sn	02 50 30.7	+5.8
BMOR	**Cotopaxi Volca**	**1.99**	**332**	⇑S	Sn	02 50 30.5	+5.4
BMOR	**Cotopaxi Volca**	**1.99**	**332**	⇑P	Pn	02 50 03.2	+3.0
MOV1	**Cotopaxi Vol s**	**2.00**	**332**	P	Pn	02 50 03.0	+2.6
COV1	**Cotopaxi Volc**	**2.00**	**335**	S	Sn	02 50 34.3	+8.9
COV1	**Cotopaxi Volc**	**2.00**	**335**	P	Pn	02 50 04.7	+4.3
BTAM	**Cotopaxi Volca**	**2.01**	**334**	⇓P	Pn	02 50 03.5	+2.9
BVC2	**Cotopaxi Volca**	**2.03**	**334**	⇓P	Pn	02 50 04.1	+3.2
BRIF	**Cotopaxi Volca**	**2.03**	**333**	S	Sn	02 50 32.5	+6.3
BREF	**Cotopaxi Volca**	**2.03**	**333**	P	Pn	02 50 04.2	+3.4
VC1	**Cotopaxi 1**	**2.04**	**334**	⇑P	Pn	02 50 04.0	+3.0
ANTI	**Antisana**	**2.13**	**342**	S	Sn	02 50 33.9	+5.3
ANTI	**Antisana**	**2.13**	**342**	P	Pn	02 50 04.4	+2.2
PITA	**Cotopaxi Volc**	**2.13**	**334**	⇑P	Pn	02 50 06.5	+4.3
PITA	**Cotopaxi Volc**	**2.13**	**334**	⇑S	Sn	02 50 34.9	+6.3
LAV4	**Lava4-Reventad**	**2.39**	**357**	P	Pn	02 50 09.9	+4.1
CHAR	**Charly**	**2.40**	**356**	S	Sn	02 50 43.4	+8.3
CHAR	**Charly**	**2.40**	**356**	P	Pn	02 50 09.8	+4.0
CONE	**Cono NE Rev Vo**	**2.41**	**357**	P	Pn	02 50 09.3	+3.3
GGP	**Refugio Guagua**	**2.54**	**335**	⇓P	Pn	02 50 14.0	+6.1
PINO	**Pino**	**2.56**	**335**	⇑P	Pn	02 50 13.5	+5.3
CAYA	**Cayambe**	**2.59**	**349**	⇑S	Sn	02 50 49.3	+9.4
CAYA	**Cayambe**	**2.59**	**349**	⇑P	Pn	02 50 13.3	+4.8
OTAV	**Otavalo**	**2.87**	**341**	⇓P	Pn	02 50 18.3	+5.9

IDC 25 03:14:14.0±2.9, 10°.28S×161°.55E, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.9/20, mbtmp4.0/6, ML3.8/1, Error ellipse: s-maj=103.5km s-min=25.6km az=133.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**17.67**	**235**	P	Pn	03 18 22.1	+0.3
	0.2nm,0.3s,baz=60,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**27.93**	**247**	P	P	03 20 06.5	+0.4
	2.3nm,0.6s,baz=74,slow=9.0,SNR=18						
ASAR	**Alice Springs**	**29.52**	**240**	P	P	03 20 19.9	-0.5
	0.3nm,0.3s,baz=67,slow=9.6,SNR=7.1						
FITZ	**Fitzroy Crossi**	**35.62**	**253**	P	P	03 21 13.7	-0.1
	1.9nm,0.5s,baz=75,slow=6.5,SNR=13						
SONM	**Songino Array**	**75.65**	**325**	P	P	03 26 01.5	+0.5
	1.1nm,0.5s,baz=139,slow=6.4,SNR=4.8						
ILAR	**Eielson Array**	**84.15**	**20**	P	P	03 26 46.6	-0.1
	0.4nm,0.6s,baz=238,slow=4.4,SNR=6.6						

*CSEM **25** 03:18:00.1±0.5, 28°.07N×56°.53E, h15km, ML3.4, Error ellipse: s-maj=19.2km s-min=9.3km az=100.0*
*TEH **25** 03:18:02.4, 27°.90N×56°.63E, h4km*
*SGS **25** 03:18:02.2, 27°.52N×56°.83E, h10km*
*OMAN **25** 03:18:20.1±99.0, 26°.63N×56°.17E, h10km, Error ellipse: s-maj=88.8km s-min=18.1km az=38.0*

ISC 25 03:18:03.4±0.8, 27°.84N±0°.04×56°.63E±0°.07, h25km±9km, n28, σ0°91/34, 1C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.39**	**191**	*e*Pg	**Pb**	**03 18 10.4**	**-1.4**
IBND				⇑*e*Pg	**Pb**	**03 18 10.6**	**-1.2**
IBND				*e*Sg	**Sb**	**03 18 18.2**	**+0.6**
IBND				*e*		03 18 29.1	
	comp=Z,99μm,0.2s						
BNDS	**Bandar-Abbas**	**0.59**	**223**	*e*Pg	**Pb**	**03 18 14.5**	**-0.6**
BANOM	**Banah**	**1.93**	**189**	P	**Pn**	**03 18 34.0**	**-0.6**
	SNR=29						
BANOM	**Banah**	**1.93**	**189**	P	**Pn**	**03 18 34.0**	**-0.6**
KRBR	**Kerman**	**2.14**	**3**	*e*Pg	**Pn**	**03 18 37.3**	**-0.2**
ASHO	**Ashiyiah**	**3.18**	**189**	P	**Pn**	**03 18 53.3**	**+1.4**
	SNR=10						
ASHO	**Ashiyiah**	**3.18**	**189**	P	**Pn**	**03 18 53.3**	**+1.5**
	SNR=10						
ASUD	**Al Ashush, Dub**	**3.40**	**200**	P	**Pn**	**03 18 55.9**	**+1.1**
	SNR=16						
ASUD	**Al Ashush, Dub**	**3.40**	**200**	P	**Pn**	**03 18 55.9**	**+1.0**
	SNR=16						
ISRV	**Sarvestan**	**3.45**	**297**	*e*Pn	**Pn**	**03 18 56.5**	**+1.0**
ISRV				*e*		03 20 04.8	
	comp=Z,524nm,0.2s						
IPAR	**Pars**	**3.72**	**303**	*e*Pn	**Pn**	**03 18 59.7**	**+0.5**
IPAR				*e*		03 20 14.4	
	comp=Z,359nm,0.4s						
IBAF	**Bafgh**	**3.85**	**346**	*e*Pn	**Pn**	**03 19 01.3**	**+0.3**
IBAF				*e*		03 20 07.6	
	comp=Z,362nm,0.2s						
IMEH	**Mehriz**	**3.95**	**334**	*e*	**Pb**	**03 19 16.4**	**+4.1**
	comp=Z,216nm,0.3s						
IMEH				*e*Pn	**Pn**	**03 19 02.7**	**+0.3**
ZHSF	**Zahedan**	**4.05**	**63**	*e*Pn	**Pn**	**03 19 07.4**	**+3.6**
ICHK	**Chekchek**	**4.79**	**337**	*e*Pn	**Pn**	**03 19 15.0**	**+1.0**
ICHK				*e*		03 19 36.2	
	comp=Z,191nm,0.2s						
ISAD	**Sadrabad**	**4.80**	**329**	*e*Pn	**Pn**	**03 19 14.2**	**+0.2**
ISAD				*e*		03 20 52.2	
	comp=Z,217nm,0.3s						
IKOO	**Kooshah**	**5.01**	**24**	*e*Pn	**Pn**	**03 19 16.8**	**-0.2**
IKOO				*e*Sg	**Sb**	**03 20 37.1**	**+6.9**
IKOO				*e*		03 20 49.4	
	comp=Z,288nm,0.4s						
ITEG	**Tejag**	**5.37**	**19**	*e*Pn	**Pn**	**03 19 22.2**	**+0.4**
ITEG				*e*		03 19 41.3	
	comp=Z,260nm,0.2s						
IDAH	**Dahanechah**	**5.63**	**29**	*e*Pn	**Pn**	**03 19 25.6**	**+0.1**
IDAH				*e*		03 19 51.7	
	comp=Z,141nm,0.3s						
IDAH				*e*Sn	**Sn**	**03 20 27.0**	**-2.4**
IMON	**Monand**	**5.95**	**25**	*e*Pn	**Pn**	**03 19 29.5**	**-0.3**
IMON				*e*		03 19 46.9	
	comp=Z,153nm,0.1s						
SLWS		**6.16**	**242**	S	**Sn**	**03 20 41.3**	**-1.2**
SLWS		**6.16**	**242**	S	**Sn**	**03 20 41.3**	**-1.2**
IZEF	**Zefreh**	**6.26**	**325**	*e*Pn	**Pn**	**03 19 34.2**	**+0.1**
IZEF				*e*		03 19 38.8	
	comp=Z,49nm,0.1s						
BTHS		**6.43**	**235**	P	**Pn**	**03 19 35.8**	**-0.7**
BTHS		**6.43**	**235**	P	**Pn**	**03 19 35.8**	**-0.7**
BTHS				S	**Sn**	**03 20 41.9**	**-7.1**
IKLH	**Kolahrood**	**6.98**	**323**	*e*Pn	**Pn**	**03 19 43.4**	**-0.7**
IKLH				*e*		03 20 12.8	
	comp=Z,195nm,0.0s						
ASYS		**10.90**	**271**	P	**Pn**	**03 20 33.7**	**-4.1**
ASYS		**10.90**	**271**	P	**Pn**	**03 20 33.7**	**-4.0**

*IDC **25** 03:30:56.4±0.8, 1°.26N×122°.06E, h0km, mb4.0/9, mb1 4.2/11, mb1mx4.0/25, mbtmp4.1/11, ML4.6/2, Error ellipse: s-maj=51.8km s-min=14.7km az=69.0*
*NEIC **25** 03:31:01.6±0.4, 1°.33N×122°.26E, h35km, mb4.1/3, Error ellipse: s-maj=14.6km s-min=6.6km az=81.0*
*DJA **25** 03:31:02, 1°.34N×121°.87E, h10km, MLv4.6/9*

ISC 25 03:31:07.6±1.1, 1°.14N±0°.08×122°.04E±0°.09, h94km±10km, n37, σ0°68/36, mb3.8/10, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.67**	**189**	P	**Pn**	**03 31 17.9**	**-6.2**
MRSI				S	**Sn**	**03 31 30.9**	**-5.6**
KMSI	**Cibinong**	**2.02**	**106**	P	**Pn**	**03 31 40.8**	**+0.6**
LUWI	**Luwuk**	**2.29**	**161**	P	**Pn**	**03 31 42.6**	**-1.1**
LUWI				S	**Sn**	**03 32 19.0**	**+7.6**
MNI	**Manado**	**2.81**	**84**	P	Px	03 32 10.3	
MSSI	**Masamba**	**4.05**	**205**	P	**Pn**	**03 32 07.5**	**+0.1**
TTSI	**Tana Toraja**	**4.71**	**208**	P	**Pn**	**03 32 16.4**	**0.0**
KDI	**Kendari**	**5.10**	**173**	P	**Pn**	**03 32 26.9**	**+5.3**
	0.2nm864nm52nm,0.9s						
SPSI	**Sidrap Palu**	**5.56**	**204**	P	**Pn**	**03 32 29.0**	**+1.2**
	0.3nm886nm82nm,1.0s						
KAPI	**Kappang**	**6.53**	**200**	Pn	**Pn**	**03 32 40.0**	**-1.1**
	20nm,0.7s						
KAPI	**Kappang**	**6.53**	**200**	P	**Pn**	**03 32 41.0**	**-0.1**
	0.1nm34nm,1.0s						
BKSI	**Bulukumba**	**6.70**	**197**	P	**Pn**	**03 32 43.9**	**+0.5**
DAV	**Davao City (W)**	**6.87**	**31**	Pn	**Pn**	**03 32 36.9**	**-8.7**
	29nm,0.3s,baz=256,slow=20,SNR=4.7						
DAV	**Davao City (W)**	**6.87**	**31**	Pn	**Pn**	**03 32 37.0**	**-8.7**
FITZ	**Fitzroy Crossi**	**19.45**	**170**	P	**Pn**	**03 35 27.3**	**-1.6**
	0.8nm,0.3s,baz=18,slow=8.8,SNR=20						
FITZ	**Fitzroy Crossi**	**19.45**	**170**	*e*P	**Pn**	**03 35 26.8**	**-2.1**
	5.2nm,0.6s						
WRAB	**Tennant Creek**	**24.17**	**151**	*e*P	**P**	**03 36 15.1**	**-0.2**
	3.5nm,0.8s,mb3.7						
WRA	**Warramunga Arr**	**24.18**	**151**	P	**P**	**03 36 15.3**	**0.0**
	4.2nm,0.9s,mb3.8,baz=332,slow=10,SNR=15						
WRA	**Warramunga Arr**	**24.18**	**151**	P	**P**	**03 36 15.3**	**0.0**
WB2	**Warramunga Arr**	**24.18**	**151**	*e*P	**P**	**03 36 15.4**	**0.0**
ASAR	**Alice Springs**	**27.22**	**156**	P	**P**	**03 36 43.6**	**+0.8**
	0.7nm,0.6s,mb3.4,baz=348,slow=14,SNR=6.7						
ASAR	**Alice Springs**	**27.22**	**156**	P	**P**	**03 36 43.6**	**+0.8**
STKA	**Stephens Creek**	**37.71**	**152**	P	**P**	**03 38 14.7**	**+0.6**
	2.0nm,0.5s,mb4.2,baz=315,slow=9.3,SNR=6.1						
STKA	**Stephens Creek**	**37.71**	**152**	P	**P**	**03 38 14.7**	**+0.6**
SONM	**Songino Array**	**48.45**	**346**	P	**P**	**03 39 39.8**	**-0.6**
	1.7nm,0.7s,mb4.0,baz=164,slow=8.7,SNR=8.2						
SONM	**Songino Array**	**48.45**	**346**	P	**P**	**03 39 39.8**	**-0.6**
MKAR	**Makanchi Array**	**57.14**	**328**	P	**P**	**03 40 44.2**	**-0.3**
	0.5nm,0.5s,mb3.8,baz=117,slow=8.1,SNR=3.6						
MKAR	**Makanchi Array**	**57.14**	**328**	P	**P**	**03 40 44.2**	**-0.3**
ZALV	**Zalesovo Beam**	**60.88**	**336**	P	**P**	**03 41 10.5**	**+0.3**
	0.2nm,0.3s,mb3.6,baz=148,slow=8.4,SNR=1.9						
ZALV	**Zalesovo Beam**	**60.88**	**336**	P	**P**	**03 41 10.5**	**+0.3**
KURK	**Kurchatov**	**61.51**	**330**	P	**P**	**03 41 14.7**	**+0.1**
	0.8nm,0.5s,mb4.0,baz=127,slow=7.1,SNR=5.4						
KURK	**Kurchatov**	**61.51**	**330**	*e*P	**P**	**03 41 14.5**	**0.0**
	4.4nm,0.9s,mb4.5						
BVAR	**Borovoye Array**	**67.02**	**329**	P	**P**	**03 41 50.3**	**-0.1**
	0.8nm,0.5s,mb3.8,baz=111,slow=7.9,SNR=2.4						
BVAR	**Borovoye Array**	**67.02**	**329**	P	**P**	**03 41 50.3**	**-0.1**
VNDA	**Vanda**	**81.50**	**172**	P	**P**	**03 43 14.5**	**+0.4**
	0.9nm,0.8s,mb3.7,baz=318,slow=8.0,SNR=4.2						
VNDA	**Vanda**	**81.50**	**172**	P	**P**	**03 43 14.5**	**+0.4**
TORD	**Torodi Ar. Bea**	**119.18**	**286**	PKP	PKPdf	03 49 48.6	+1.9
	0.2nm,0.5s,baz=24,slow=1.6,SNR=3.9						
TORD	**Torodi Ar. Bea**	**119.18**	**286**	PKP	PKPdf	03 49 48.6	+1.9

IDC 25 03:32:17.8±1.9, 52°.22N×172°.94E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.4/28, mbtmp3.5/4, ML3.1/1, Error ellipse: s-maj=35.4km s-min=13.6km az=95.0, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**0.68**	**11**	Pg	Pg	03 32 32.1	+1.3
	205nm,0.3s,baz=195,slow=3.6,SNR=338						
FX1				Lg		03 32 39.8	
	337nm,0.3s,baz=90,slow=20,SNR=24						
PETK	**Petropavlovsk-**	**9.31**	**282**	Pn	Pn	03 34 32.7	-0.5
	0.2nm,0.3s,baz=103,slow=18,SNR=2.6						
KDAK	**Kodiak Island**	**20.38**	**61**	P	P	03 36 58.6	+2.9
	10nm,1.1s,baz=267,slow=11,SNR=1.4						
ILAR	**Eielson Array**	**23.97**	**43**	P	P	03 37 33.2	-0.2
	0.7nm,0.8s,baz=248,slow=8.7,SNR=9.7						
INK	**Inuvik**	**29.80**	**37**	P	P	03 38 26.6	+0.8
	0.7nm,0.6s,baz=243,slow=6.4,SNR=2.1						
TXAR	**Lajitas Array**	**63.51**	**76**	P	P	03 42 49.3	-0.4
	0.1nm,0.4s,baz=317,slow=5.1,SNR=4.3						

GUC 25 03:57:12.6±0.8, 31°.99S×67°.59W, h2km, MD3.9, ML3.7, 1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**2.63**	**239**	*e*P	Pn	03 57 58.8	+2.7
FCH				*i* S	Sn	03 58 33.2	+4.5
FCH				AML	AML	03 58 34.7	
	comp=E,68nm,0.3s						
CLCH	**Cerro Calan**	**2.85**	**240**	*i* S	Sn	03 58 37.2	+3.3
CLCH				AML	AML	03 58 40.6	
	comp=N,150nm,0.6s						
PEL	**Peldehue**	**2.85**	**245**	*e*P	Pn	03 58 00.2	+1.1
PEL				*i* S	Sn	03 58 36.4	+2.4
PEL				AML	AML	03 58 38.0	
	comp=N,358nm,0.5s						
CMCH	**Combarbala**	**3.02**	**285**	⇓*i*P	Pn	03 58 04.0	+2.6
CMCH				*i* S	Sn	03 58 41.9	+3.7
CMCH				AML	AML	03 58 44.3	
	comp=E,848nm,0.4s						
ROCH	**El Roble**	**3.05**	**250**	*e*P	Pn	03 58 03.1	+1.3
ROCH				AML	AML	03 58 43.8	
	comp=N,275nm,0.5s						
VACH	**Vallenar**	**4.37**	**320**	*i* S	Sn	03 59 13.2	+1.7

*IDC **25** 04:08:07.6±1.2, 19°.42N×66°.25W, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.5/22, mbtmp3.4/3, Error ellipse: s-maj=35.4km s-min=19.0km az=72.0*
*ISCJB **25** 04:08:08.5±1.5, 19°.50N±0°.06×66°.32W±0°.05, h15km±10km, mb3.5/3, Error ellipse: s-maj=10.6km s-min=7.6km az=33.4*
*NEIC **25** 04:08:09.6, 19°.65N×66°.39W, h51km, MD3.5(RSPR), After RSPR.*
*RSPR **25** 04:08:09.6, 19°.65N×66°.39W, h51km±22km, MD3.5/13*

ISC 25 04:08:08.3±1.2, 19°.43N±0°.05×66°.32W±0°.05, h4km±6km, n38, σ0°58/46, mb3.5/3, 14C-7D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.15**	**201**	⇑*e*P	**Pg**	**04 08 30.8**	**+0.4**
AOPR	**Arecibo Observ**	**1.15**	**201**	⇑*e*P	**Pg**	**04 08 30.8**	**+0.4**
AGPR	**Aguadilla, PR**	**1.22**	**218**	⇓*e*P	**Pg**	**04 08 30.9**	**-0.7**
AGPR	**Aguadilla, PR**	**1.22**	**218**	*e*Pn	**Pn**	**04 08 31.8**	**-0.4**
CBYP	**Canovanas**	**1.23**	**159**	⇓*e*P	**Pg**	**04 08 32.3**	**+0.4**
CBYP	**Canovanas**	**1.23**	**159**	*e*Pn	**Pn**	**04 08 32.7**	**+0.4**
CBYP				*e*S	**Sg**	**04 08 46.3**	**-1.6**
LRS	**Lares**	**1.23**	**204**	⇓*e*P	**Pg**	**04 08 31.9**	**-0.1**
LRS	**Lares**	**1.23**	**204**	*e*Pn	**Pn**	**04 08 31.7**	**-0.7**
LRS				*e*S	**Sg**	**04 08 48.2**	**+0.2**
SJG	**San Juan**	**1.32**	**173**	⇑*e*P	**Pn**	**04 08 33.4**	**-0.2**
SJG	**San Juan**	**1.32**	**173**	*e*S	**Sg**	**04 08 52.7**	**+2.0**
SJG	**San Juan**	**1.32**	**173**	⇑*e*P	**Pn**	**04 08 33.5**	**-0.1**
SJG	**San Juan**	**1.32**	**173**	Pn	**Pn**	**04 08 33.3**	**-0.2**
	19nm,0.3s,baz=358,slow=9.9,SNR=29						
SJG				Sn	**Sn**	**04 08 51.0**	**-0.6**
	50nm,0.3s,baz=51,slow=16,SNR=8.4						
SJG	**San Juan**	**1.32**	**173**	*e*Pn	**Pn**	**04 08 34.0**	**+0.5**
SJG				*e*S	**Sg**	**04 08 51.5**	**+0.8**
HUMP	**Col San Antoni**	**1.35**	**161**	⇑*e*P	**Pn**	**04 08 33.7**	**-0.3**
HUMP	**Col San Antoni**	**1.35**	**161**	⇑*e*P	**Pn**	**04 08 33.7**	**-0.3**
CELP	**Cerrillos**	**1.37**	**190**	⇓*e*P	**Pn**	**04 08 34.7**	**+0.5**
CELP	**Cerrillos**	**1.37**	**190**	*e*Pn	**Pn**	**04 08 33.8**	**-0.4**
OBIP	**Obispado Ponce**	**1.40**	**191**	⇓*e*P	**Pn**	**04 08 34.9**	**+0.2**
OBIP	**Obispado Ponce**	**1.40**	**191**	⇓*e*P	**Pn**	**04 08 34.9**	**+0.2**
OBIP				*e*S	**Sb**	**04 08 54.2**	**+0.8**
CPD	**Cerro la Pandu**	**1.44**	**165**	⇑*e*P	**Pn**	**04 08 35.0**	**-0.1**
CPD	**Cerro la Pandu**	**1.44**	**165**	⇑*e*P	**Pn**	**04 08 35.0**	**-0.1**
LSP	**Las Mesas**	**1.44**	**210**	⇑*e*P	**Pn**	**04 08 35.0**	**-0.2**
LSP	**Las Mesas**	**1.44**	**210**	*e*Pn	**Pn**	**04 08 35.0**	**-0.3**
LSP				*e*S	**Sb**	**04 08 54.3**	**-0.2**
MTP	**Monte Pirata**	**1.51**	**151**	⇑*e*P	**Pn**	**04 08 36.0**	**-0.1**
MTP	**Monte Pirata**	**1.51**	**151**	*e*Pn	**Pn**	**04 08 36.1**	**0.0**
MTP				*e*S	**Sn**	**04 08 56.0**	**-0.3**
ICM	**Isla Caja Muer**	**1.54**	**187**	*e*Pn	**Pn**	**04 08 36.9**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.60**	**208**	⇑*e*P	**Pn**	**04 08 37.4**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.60**	**208**	*e*Pn	**Pn**	**04 08 37.2**	**-0.3**
STVI	**Saint Thomas**	**1.68**	**129**	⇑*e*P	**Pn**	**04 08 38.8**	**+0.3**
STVI	**Saint Thomas**	**1.68**	**129**	⇑*e*P	**Pn**	**04 08 38.8**	**+0.3**
STVI				*e*S	**Sn**	**04 09 01.0**	**+0.5**
TBVI	**Tortola**	**1.90**	**122**	⇓*e*P	**Pn**	**04 08 41.3**	**-0.2**
TBVI	**Tortola**	**1.90**	**122**	⇓*e*P	**Pn**	**04 08 41.3**	**-0.2**
TXAR	**Lajitas Array**	**35.29**	**294**	P	**P**	**04 15 05.7**	**+1.1**
	0.3nm,0.4s,mb3.5,baz=100,slow=9.7,SNR=8.7						
TXAR	**Lajitas Array**	**35.29**	**294**	P	**P**	**04 15 05.7**	**+1.1**
TORD	**Torodi Ar. Bea**	**65.23**	**84**	P	**P**	**04 18 51.6**	**0.0**
	0.3nm,0.9s,mb3.3,baz=275,slow=6.6,SNR=1.8						
TORD	**Torodi Ar. Bea**	**65.23**	**84**	P	**P**	**04 18 51.6**	**0.0**
ILAR	**Eielson Array**	**68.59**	**333**	P	**P**	**04 19 11.6**	**-0.5**
	0.5nm,0.6s,mb3.6,baz=105,slow=4.1,SNR=12						
ILAR	**Eielson Array**	**68.59**	**333**	P	**P**	**04 19 11.6**	**-0.5**

*ISCJB **25** 04:11:34.6±0.2, 36°.07N±0°.01×117°.25W±0°.02, h10km, MS2.8/2, Error ellipse: s-maj=2.0km s-min=1.8km az=144.5*
*IDC **25** 04:11:36.0±1.9, 35°.92N×117°.29W, h0km, mb3.5/1, mb1 3.5/4, mb1mx3.3/25, mbtmp3.1/4, ML3.0/3, MS2.9/2, Ms1 2.8/2, ms1mx2.5/28, Error ellipse: s-maj=27.5km s-min=10.4km az=53.0*
*NEIC **25** 04:11:36.2, 35°.97N×117°.33W, h1km, ML3.9(PAS), After PAS.*
NEIC Felt [II] at Trona.

ISC 25 04:11:36.2±0.2, 36°.00N±0°.01×117°.30W±0°.01, h10km, n96, σ1°24/163, MS2.8/2, 40C-33D, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPMC	**Manual Prospec**	**0.17**	**293**	⇑P	**Pg**	**04 11 39.6**	**-0.3**
	baz=0.2,SNR=1000						
MPMC				⇑S	**Sg**	**04 11 42.1**	**-0.2**
	baz=0.2						
FURC	**Furnace Creek,**	**0.59**	**37**	P	**Pg**	**04 11 48.2**	**+0.5**
	baz=0.6,SNR=1000						
FURC				⇑S	**Sg**	**04 11 56.9**	**+1.4**
	baz=0.6						
LRMC	**Laurel Mountai**	**0.61**	**212**	P	**Pg**	**04 11 47.0**	**-0.9**
	baz=0.6,SNR=313						
LRMC				⇓S	**Sg**	**04 11 55.0**	**-0.8**
	baz=0.6						
CWC	**Cottonwood Cre**	**0.77**	**305**	⇓P	**Pg**	**04 11 50.9**	**-0.2**
	baz=0.8,SNR=116						
CWC				⇑S	**Sg**	**04 12 01.4**	**+0.2**
	baz=0.8						
GSC	**Goldstone**	**0.80**	**150**	⇓P	**Pg**	**04 11 51.2**	**-0.4**
	baz=0.8,SNR=195						
GSC				⇓S	**Sg**	**04 12 02.5**	**+0.5**
	baz=0.8						
GSC	**Goldstone**	**0.80**	**150**	*e*Pg	**Pg**	**04 11 51.1**	**-0.5**
GSC				*e*S	**Sg**	**04 12 03.2**	**+1.2**
SHOC	**Shoshone**	**0.83**	**96**	⇓P	**Pg**	**04 11 52.5**	**+0.3**
	baz=0.9,SNR=40						
SHOC				⇑S	**Sg**	**04 12 04.1**	**+1.0**
	baz=0.9						
GRAC	**Grapevine Rang**	**1.00**	**357**	⇑P	**Pg**	**04 11 55.6**	**0.0**
	baz=1.0,SNR=916						
GRAC				⇓S	**Sg**	**04 12 10.2**	**+1.6**
	baz=1.0						
ISA	**Isabella**	**1.01**	**251**	⇑P	**Pg**	**04 11 54.6**	**-1.0**
	baz=1.0,SNR=1000						
ISA				⇓S	**Sg**	**04 12 07.8**	**-0.9**
	baz=1.0						
ISA	**Isabella**	**1.01**	**251**	*e*Pg	**Pg**	**04 11 54.5**	**-1.1**
ISA				*e*S	**Sg**	**04 12 07.0**	**-1.8**
RRX	**Edison Barstow**	**1.14**	**168**	⇓P	**Pb**	**04 11 57.4**	**-0.5**
	baz=1.1,SNR=43						
RRX				⇓S	**Sb**	**04 12 12.4**	**-0.3**
	baz=1.1						
EDW2	**Edwards Air Fo**	**1.25**	**207**	P	**Pn**	**04 11 58.5**	**-1.2**
	baz=1.2,SNR=463						
EDW2				⇑S	**Sb**	**04 12 14.7**	**-1.2**
	baz=1.2						
TUQ	**Turquoise Moun**	**1.25**	**116**	⇑P	**Pn**	**04 11 59.3**	**-0.4**
	baz=1.3,SNR=861						
TUQ				⇓S	**Sb**	**04 12 16.8**	**+0.8**
	baz

NVAR					Pg		Pg	04 12 24.9	-0.3	
NVAR					Lg			04 12 59.1		
R11A	**Troy Canyon, C**	**2.72**	**30**	⇑P			**Pn**	**04 12 20.4**	**+0.5**	
	baz=2.8,SNR=15									
R11A				⇑Sb			**Sb**	**04 13 01.8**	**+3.5**	
	baz=2.8									
CIS	**Catalina Islan**	**2.74**	**200**	⇓Sb			**Sb**	**04 13 00.4**	**+1.7**	
	baz=2.7									
BC3	**Big Chuckawall**	**2.79**	**146**	⇑P			**Pn**	**04 12 19.9**	**-0.9**	
	baz=2.8,SNR=33									
W13A	**Hualapai Mount**	**2.92**	**107**	⇓P			**Pn**	**04 12 22.9**	**+0.2**	
	baz=2.9,SNR=7.4									
109C	**Camp Elliot, M**	**3.10**	**177**	⇑P			**Pn**	**04 12 24.6**	**-0.6**	
	baz=3.1									
MONP	**Monument Peak**	**3.18**	**167**	⇑P			**Pn**	**04 12 26.1**	**-0.1**	
	baz=3.2,SNR=19									
Y12C	**Blythe**	**3.20**	**134**	⇑P			**Pn**	**04 12 25.6**	**-0.9**	
	baz=3.2,SNR=27									
CMB	**Columbia Colle**	**3.20**	**310**	*e*Pn			**Pb**	**04 12 30.6**	**-2.5**	
CMB				*e*S			**Sb**	**04 13 13.3**	**+1.1**	
SWSC	**Sam W. Stewart**	**3.29**	**157**	⇓P			**Pn**	**04 12 26.3**	**-1.4**	
	baz=3.3,SNR=6.6									
BAR	**Barrett**	**3.35**	**171**	*e*Pn			**Pn**	**04 12 28.5**	**0.0**	
BAR				*e*S			**Sg**	**04 13 20.0**	**-3.7**	
SAO	**San Andreas Ge**	**3.43**	**284**	*e*Pn			**Pn**	**04 12 30.5**	**+0.8**	
SAO				*e*S			**Sg**	**04 13 28.9**	**+2.4**	
R13A	**O'Grain Ranch,**	**3.44**	**50**	⇑P			**Pn**	**04 12 31.1**	**+1.3**	
	baz=3.5									
CCUT	**Cedar City**	**3.52**	**63**	*e*Pn			**Pn**	**04 12 32.7**	**+1.8**	
ARUT	**Antelope Range**	**3.57**	**59**	*e*Pn			**Pn**	**04 12 33.3**	**+1.7**	
ARUT				*e*Pg			**Pg**	**04 12 43.3**	**-1.4**	
ARUT				*e*S			**Sg**	**04 13 32.7**	**+1.7**	
GLA	**Glamis**	**3.58**	**144**	⇓P			**Pn**	**04 12 30.6**	**-1.0**	
	baz=3.6,SNR=20									
GLA	**Glamis**	**3.58**	**144**	*e*Pn			**Pn**	**04 12 30.8**	**-0.9**	
GLA				*e*S			**Sg**	**04 13 29.2**	**-1.8**	
WCN	**Washoe City**	**3.83**	**330**	Pn			**Pn**	**04 12 35.2**	**0.0**	
WCN				*e*Pg			**Pg**	**04 12 47.7**	**-1.9**	
WCN				*e*S			**Sg**	**04 13 40.9**	**+1.6**	
U15A	**North Rim**	**4.07**	**82**	⇓P			**Pn**	**04 12 40.2**	**+1.7**	
	baz=4.1									
Z13A	**Yuma Proving G**	**4.10**	**132**	⇑P			**Pn**	**04 12 38.1**	**-0.8**	
	baz=4.1,SNR=22									
SAC	**San Andreas**	**4.40**	**293**	*e*Pn			**Pn**	**04 12 44.4**	**+1.3**	
Y15A	**Casa Rosa Ranc**	**4.56**	**115**	⇑P			**Pn**	**04 12 45.7**	**+0.5**	
	baz=4.6									
MSU	**Marysvale**	**4.80**	**57**	*e*Pn			**Pn**	**04 12 50.7**	**+2.2**	
MSU				*e*Pg			**Pg**	**04 13 06.7**	**-1.3**	
WUAZ	**Wupatki**	**4.84**	**94**	*e*Pn			**Pn**	**04 12 52.2**	**+3.1**	
WUAZ				*e*Pg			**Pg**	**04 13 05.7**	**-3.2**	
114A	**Black Gap (USA**	**4.88**	**130**	⇑P			**Pn**	**04 12 49.0**	**-0.6**	
	baz=4.9									
MCCM	**Marconi Confer**	**4.95**	**297**	*e*Pn			**Pn**	**04 12 55.3**	**+4.7**	
Y16A	**Circle Bar Ran**	**5.23**	**112**	⇑P			**Pn**	**04 12 55.0**	**+0.6**	
	baz=5.2									
V17A	**Tonalea, Kykot**	**5.30**	**92**	⇓P			**Pn**	**04 12 57.5**	**+2.1**	
	baz=5.3									
115A	**Sonoran Desert**	**5.33**	**127**	⇑P			**Pn**	**04 12 55.7**	**-0.1**	
	baz=5.3,SNR=9.1									
DUG	**Dugway**	**5.49**	**39**	*e*Pn			**Pn**	**04 12 57.6**	**-0.3**	
DUG				*e*Pg			**Pg**	**04 13 19.6**	**-1.7**	
DUG				*e*S			**Sg**	**04 14 26.9**	**-5.3**	
TMUT	**Trail Mountain**	**5.85**	**54**	*e*Pn			**Pn**	**04 13 06.0**	**+3.0**	
TMUT				*e*Pg			**Pg**	**04 13 28.2**	**0.0**	
TMUT				*e*S			**Sg**	**04 14 42.1**	**-1.9**	
MPU	**Maple Canyon**	**6.01**	**46**	*e*Pn			**Pn**	**04 13 05.9**	**+0.8**	
MPU				*e*Pg			**Pg**	**04 13 30.5**	**-0.7**	
MPU				*e*S			**Sg**	**04 14 44.1**	**-5.0**	
SRU	**San Rafael**	**6.22**	**58**	*e*Pn			**Pn**	**04 13 00.5**	**-7.5**	
	17nm,0.6s									
SRU				*e*Pg			**Pg**	**04 13 29.7**	**-5.5**	
SRU				*e*S			**Sg**	**04 14 56.5**	**+0.8**	
DAU	**Daniels Canyon**	**6.49**	**45**	*e*Pn			**Pn**	**04 13 09.5**	**-2.2**	
	32nm,1.2s									
DAU				*e*Pg			**Pg**	**04 13 40.3**	**0.0**	
DAU				*e*S			**Sg**	**04 15 03.8**	**-0.6**	
JLU	**Jordanelle**	**6.50**	**43**	*e*Pn			**Pn**	**04 13 15.9**	**+4.0**	
	1.7nm,0.7s									
JLU				*e*Pg			**Pg**	**04 13 40.2**	**-0.5**	
JLU				*e*S			**Sg**	**04 15 02.7**	**-2.3**	
WVOR	**Wild Horse Val**	**6.51**	**351**	*e*Pn			**Pn**	**04 13 11.4**	**-0.6**	
	8.3nm,1.0s									
WVOR				*e*Pg			**Pg**	**04 13 41.6**	**+0.7**	
TUC	**Tucson**	**6.53**	**122**	*e*Pn			**Pn**	**04 13 12.0**	**-0.3**	
	2.5nm,0.6s									
TUC				*e*Pg			**Pg**	**04 13 39.1**	**-2.1**	
TUC				*e*S			**Sg**	**04 15 00.3**	**-5.5**	
HVU	**Hansel Valley**	**6.77**	**30**	*e*Pn			**Pn**	**04 13 11.8**	**-3.7**	
HVU				*e*Pg			**Pg**	**04 13 43.8**	**-1.9**	
HVU				*e*S			**Sg**	**04 15 06.8**	**-6.6**	
PV10	**Paradox Valley**	**7.01**	**68**	*e*Pn			**Pn**	**04 13 17.9**	**-0.9**	
	378nm,0.7s									
PV10				*e*Pg			**Pg**	**04 13 46.6**	**-3.8**	
PV10				*e*S			**Sg**	**04 15 22.6**	**+1.5**	
PV04	**Paradox Valley**	**7.12**	**68**	*e*Pn			**Pn**	**04 13 22.1**	**+1.8**	
PV04				*e*Pg			**Pg**	**04 13 47.7**	**-4.6**	
HWUT	**Hardware Ranch**	**7.17**	**37**	*e*Pn			**Pn**	**04 13 22.1**	**+1.0**	
	5.4nm,0.8s									
HWUT				*e*S			**Sg**	**04 15 26.0**	**-0.3**	
MVCO	**Mesa Verde**	**7.18**	**78**	*e*Pn			**Pn**	**04 13 19.9**	**-1.3**	
	118nm,1.3s									
PV01	**Paradox Valley**	**7.30**	**70**	*e*Pn			**Pn**	**04 13 22.6**	**-0.2**	
PV01				*e*Pg			**Pg**	**04 13 53.9**	**-2.0**	
MFID	**Camas Ranch**	**7.50**	**8**	Pn			**Pn**	**04 13 23.0**	**-2.5**	
MFID				*e*Pg			**Pg**	**04 13 54.6**	**-5.0**	
MFID				*e*S			**Sg**	**04 15 29.6**	**-7.1**	
HLID	**Hailey**	**7.88**	**15**	*e*Pn			**Pn**	**04 13 34.8**	**+4.0**	
	6.4nm,0.8s									
HLID				*e*S			Sn	04 15 40.3	+40	
LAZ	**Ladron**	**8.47**	**98**	Pn			**Pn**	**04 13 35.6**	**-3.3**	
LAZ				*e*Pg			Pn	04 14 14.4	+36	
LAZ				*e*S			Sn	04 16 05.4	+51	
ANMO	**Albuquerque**	**8.90**	**94**	Pg			Px	04 14 21.1		
	0.2nm,0.3s,baz=287,slow=11,SNR=14									
ANMO				Lg				04 16 13.1		
	0.1nm,0.3s,baz=160,slow=7.1,SNR=3.0									
ANMO	**Albuquerque**	**8.90**	**94**	Pg			Px	04 14 21.1		
ANMO				Lg				04 16 13.1		
PDAR	**Pinedale Array**	**9.03**	**39**	Pn			**Pn**	**04 13 50.9**	**+4.3**	
	0.0nm,0.3s,baz=216,slow=10,SNR=2.8									
PDAR				Lg				04 16 18.6		
	0.1nm,0.3s,baz=211,slow=27,SNR=3.3									
PDAR	**Pinedale Array**	**9.03**	**39**	Pn			**Pn**	**04 13 50.9**	**+4.3**	
PDAR				Lg				04 16 18.6		
TXAR	**Lajitas Array**	**13.26**	**116**	Pn			**Pn**	**04 14 48.0**	**+3.5**	
	0.0nm,0.3s,baz=340,slow=5.1,SNR=2.5									
TXAR				Lg				04 18 37.7		
	0.0nm,0.3s,baz=280,slow=31,SNR=3.2									
TXAR	**Lajitas Array**	**13.26**	**116**	Pn			**Pn**	**04 14 48.0**	**+3.5**	
TXAR				Lg				04 18 37.7		
ULM	**Lac du Bonnet**	**21.05**	**41**	P			**P**	**04 16 23.3**	**+3.2**	
	1.6nm,0.7s,baz=238,slow=4.1,SNR=1.9									
ULM	**Lac du Bonnet**	**21.05**	**41**	P			**P**	**04 16 23.3**	**+3.2**	
YKA	**Yellowknife Ar**	**26.58**	**3**	LR			LR	04 29 15.4		
	comp=Z,9.7nm,18.1s,MS2.4,baz=60,slow=40									
SADO	**Sadowa**	**30.13**	**61**	LR			LR	04 29 56.2		
	comp=Z,52nm,20.5s,MS3.2,baz=127,slow=36									

*ISCJB **25** 04:17:33.3±1.2,5.°62S±0.°06×148.°42E±0.°08,h147km±10km, mb4.4/20, Error ellipse: s-maj=14.5km s-min=8.2km az=28.7*

*IDC **25** 04:17:34.9±1.7,5.°66S×148.°37E,h149km±15km,mb4.1/13, mb1 4.3/15,mb1mx4.2/20,mbtmp4.1/15, Error ellipse: s-maj=23.6km s-min=10.3km az=108.0*

*NEIC **25** 04:17:36.4±1.6,5.°62S×148.°35E,h163km±14km,mb4.7/11, Error ellipse: s-maj=16.5km s-min=10.7km az=89.0*

ISC 25 04:17:36.8±1.0,5.°68S±0.°06×148.°21E±0.°08,h158km±9km, n57,σ1°10/64,mb4.4/20,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
PMG	**Port Moresby**	**3.84**	**196**	P		**Pn**	**04 18 34.1**	**-1.2**
	56nm,0.3s,baz=345,slow=6.2,SNR=104							
PMG				S		**Sn**	**04 19 19.0**	**-1.8**
	51nm,0.3s,baz=185,slow=23,SNR=9.2							
PMG	**Port Moresby**	**3.84**	**196**	*e*Pn		**Pn**	**04 18 34.0**	**-1.3**
PMG				S		**Sn**	**04 19 19.0**	**-1.8**
PMG				*e*S		**Sn**	**04 19 20.4**	**-0.4**
COEN	**Coen**	**9.60**	**211**	*e*Pn		**Pn**	**04 19 53.1**	**+1.7**
	49nm,0.8s							
COEN				*e*S		**Sn**	**04 21 36.5**	**-1.6**
CTA	**Charters Tower**	**14.44**	**187**	P		**Pn**	**04 20 55.4**	**+1.3**
	0.3nm,0.3s,baz=11,slow=12,SNR=14							
CTA	**Charters Tower**	**14.44**	**187**	P		**Pn**	**04 20 55.4**	**+1.3**
CTAO	**Charters Tower**	**14.44**	**187**	*e*Pn		**Pn**	**04 20 55.5**	**+1.5**
	13nm,0.9s							
KAKA	**Kakadu**	**17.05**	**245**	*e*P		**Pn**	**04 21 26.0**	**0.0**
	45nm,0.4s							
KAKA	**Kakadu**	**17.05**	**245**	*e*Pg		**Pn**	**04 21 26.3**	**+0.3**
	123nm,0.5s							
KAKA				*e*S		**S**	**04 24 33.2**	**-1.7**
WRAB	**Tennant Creek**	**19.55**	**222**	*e*P		**P**	**04 21 53.8**	**+1.4**
	86nm,0.8s							
WRAB				*e*S		**S**	**04 25 23.7**	**-1.1**
WB2	**Warramunga Arr**	**19.56**	**222**	*e*P		**P**	**04 21 53.8**	**+1.3**
WB2				*e*S		**S**	**04 25 24.2**	**-0.7**
WRA	**Warramunga Arr**	**19.56**	**222**	P		**P**	**04 21 53.9**	**+1.3**
	9.8nm,0.3s,baz=48,slow=11,SNR=130							
WRA				S		**S**	**04 25 27.2**	**+2.2**
	baz=44,slow=20,SNR=9.0							
WRA	**Warramunga Arr**	**19.56**	**222**	P		**P**	**04 21 53.9**	**+1.3**
WRA				S		**S**	**04 25 27.2**	**+2.2**
EIDS	**Eidsvold**	**19.77**	**172**	*e*P		**P**	**04 21 55.0**	**+0.3**
	79nm,0.6s							
EIDS	**Eidsvold**	**19.77**	**172**	*e*P		**P**	**04 21 55.1**	**+0.4**
	18nm,0.8s							
ASAR	**Alice Springs**	**22.57**	**216**	P		**P**	**04 22 25.2**	**+1.2**
	27nm,0.5s,mb5.0,baz=53,slow=8.8,SNR=368							
ASAR				S		**S**	**04 26 26.5**	**+7.0**
	2.9nm,0.9s,baz=29,slow=23,SNR=7.3							
ASAR	**Alice Springs**	**22.57**	**216**	P		**P**	**04 22 25.2**	**+1.2**
ASAR				S		**S**	**04 26 26.5**	**+7.0**
ARMA	**Armidale**	**24.82**	**173**	*e*P		**P**	**04 22 44.0**	**-0.3**
ARMA	**Armidale**	**24.82**	**173**	*e*P		**P**	**04 22 44.0**	**-0.4**
	12nm,0.9s,mb4.4							
FITZ	**Fitzroy Crossi**	**25.26**	**239**	P		**P**	**04 22 49.4**	**+0.9**
	44nm,0.6s,mb5.2,baz=66,slow=7.8,SNR=142							
FITZ	**Fitzroy Crossi**	**25.26**	**239**	*e*P		**P**	**04 22 49.2**	**+0.7**
	82nm,0.6s,mb5.4							
FITZ	**Fitzroy Crossi**	**25.26**	**239**	*e*P		**P**	**04 22 49.4**	**+0.9**
	81nm,0.9s,mb5.2							
STKA	**Stephens Creek**	**26.78**	**193**	P		**P**	**04 23 02.1**	**+0.1**
	2.7nm,0.4s,mb4.2,baz=8.6,slow=11,SNR=5.8							
STKA	**Stephens Creek**	**26.78**	**193**	P		**P**	**04 23 02.1**	**+0.1**
BBOO	**Buckleboo**	**29.27**	**201**	*e*P		**P**	**04 23 23.8**	**-0.4**
	49nm,1.1s,mb5.2							
FORT	**Forrest**	**31.33**	**215**	*e*P		**P**	**04 23 42.8**	**+0.4**
	40nm,0.6s,mb5.3							
MBWA	**Marble Bar**	**31.59**	**238**	*e*P		**P**	**04 23 45.2**	**+0.4**
MBWA	**Marble Bar**	**31.59**	**238**	*e*P		**P**	**04 23 45.1**	**+0.3**
	12nm,0.6s,mb4.8							
MEEK	**Meekatharra**	**35.08**	**230**	*e*P		**P**	**04 24 15.8**	**+0.9**
	261nm,0.9s							
KLBR	**Kellerberrin**	**38.43**	**224**	*e*P		**P**	**04 24 43.2**	**0.0**
	18nm,0.5s,mb5.0							
NWAO	**Narrogin (SRO)**	**39.57**	**223**	P		**P**	**04 24 52.6**	**-0.1**
	baz=27,slow=8.7							
NWAO	**Narrogin (SRO)**	**39.57**	**223**	*e*P		**P**	**04 24 52.7**	**0.0**
	5.6nm,0.5s,mb4.5							
KSRS	**Korea Array**	**46.90**	**338**	P		**P**	**04 25 52.5**	**+1.2**
	3.4nm,0.8s,mb4.0,baz=152,slow=10,SNR=8.3							
KSAR	**Wonju Array Be**	**46.90**	**338**	P		**P**	**04 25 52.5**	**+1.2**
PETK	**Petropavlovsk-**	**59.12**	**7**	P		**P**	**04 27 21.1**	**+0.7**
	1.9nm,0.5s,mb4.2,baz=170,slow=8.8,SNR=4.6							
PETK	**Petropavlovsk-**	**59.12**	**7**	P		**P**	**04 27 21.1**	**+0.7**
SONM	**Songino Array**	**64.72**	**330**	P		**P**	**04 27 58.7**	**+0.8**
	1.4nm,0.6s,mb4.0,baz=152,slow=4.6,SNR=5.9							
SONM	**Songino Array**	**64.72**	**330**	P		**P**	**04 27 58.7**	**+0.8**
VNDA	**Vanda**	**72.16**	**177**	P		**P**	**04 28 43.6**	**-0.1**
	5.1nm,0.7s,mb4.3,baz=327,slow=6.8,SNR=18							
VNDA	**Vanda**	**72.16**	**177**	*e*P		**P**	**04 28 43.5**	**-0.2**
	5.4nm,0.9s,mb4.3							
MK31	**Makanchi Array**	**78.02**	**320**	*e*P		**P**	**04 29 17.3**	**-0.5**
MKAR	**Makanchi Array**	**78.02**	**320**	P		**P**	**04 29 17.0**	**-0.8**
	1.6nm,0.5s,mb3.9,baz=104,slow=7.0,SNR=8.0							
MKAR	**Makanchi Array**	**78.02**	**320**	P		**P**	**04 29 17.0**	**-0.8**
ZALV	**Zalesovo Beam**	**79.39**	**327**	P		**P**	**04 29 23.4**	**-1.7**
	1.7nm,0.3s,mb4.1,baz=110,slow=5.5,SNR=10.0							
ZALV	**Zalesovo Beam**	**79.39**	**327**	P		**P**	**04 29 23.4**	**-1.7**
KURK	**Kurchatov**	**81.68**	**323**	P		**P**	**04 29 36.4**	**-1.0**
	0.7nm,0.6s,mb3.5,baz=111,slow=4.2,SNR=7.9							
KURK	**Kurchatov**	**81.68**	**323**	P		**P**	**04 29 36.4**	**-1.0**
MAW	**Mawson**	**83.00**	**203**	P		**P**	**04 29 43.6**	**-0.3**
	3.6nm,0.6s,mb4.3,baz=91,slow=7.0,SNR=12							
MAW	**Mawson**	**83.00**	**203**	P		**P**	**04 29 43.6**	**-0.3**
QSPA	**South Pole Qui**	**84.28**	**180**	*e*P		**P**	**04 29 49.7**	**-0.6**
	3.6nm,0.4s,mb4.5							
ILAR	**Eielson Array**	**84.72**	**23**	P		**P**	**04 29 50.5**	**-2.1**
	2.7nm,0.6s,mb4.2,baz=251,slow=5.1,SNR=40							
ILAR	**Eielson Array**	**84.72**	**23**	P		**P**	**04 29 50.5**	**-2.1**
BVAR	**Borovoye Array**	**87.22**	**324**	P		**P**	**04 30 03.2**	**-2.0**
	0.5nm,0.5s,mb3.6,baz=108,slow=4.8,SNR=6.0							
BVAR	**Borovoye Array**	**87.22**	**324**	P		**P**	**04 30 03.2**	**-2.0**
GERES	**GERESS Array B**	**122.32**	**326**	PKP	PKPdf		04 36 10.7	-2.4
	0.2nm,0.3s,baz=45,slow=7.7,SNR=2.2							
GERES	**GERESS Array B**	**122.32**	**326**	PKP	PKPdf		04 36 10.7	-2.4
TORD	**Torodi Ar. Bea**	**146.17**	**285**	PKPbc	PKPbc		04 36 57.7	-1.8
	1.4nm,0.5s,baz=78,slow=2.9,SNR=34							
TORD	**Torodi Ar. Bea**	**146.17**	**285**	PKPbc	PKPbc		04 36 57.7	-1.8

*NEIC **25** 04:20:22.9, 19.°34N×65.°28W, h90km±8km, MD3.4/5, 24C, After RSPR.*

RSPR 25 04:20:22.9,19.°34N×65.°28W,h90km±8km,MD3.4/5,24C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
STVI	**Saint Thomas**	**1.03**	**163**	⇑*e*P		**Pn**	04 20 42.2	-0.8
STVI	**Saint Thomas**	**1.03**	**163**	*e*Pg		Pn	04 20 42.1	-1.0
STVI				*e*S		Sn	04 20 56.0	-2.1
STVI	**Saint Thomas**	**1.03**	**163**	⇓*e*P		Pn	04 20 42.2	-0.8
STVI				*e*S		Sn	04 20 57.9	-0.2
TBVI	**Tortola**	**1.11**	**146**	⇑*e*P		Pn	04 20 43.5	-0.5
TBVI	**Tortola**	**1.11**	**146**	⇑*e*P		Pn	04 20 43.5	-0.5
TBVI	**Tortola**	**1.11**	**146**	⇓*e*P		Pn	04 20 43.5	-0.5
CBYP	**Canovanas**	**1.20**	**207**	⇑*e*P		Pn	04 20 44.3	-0.6
CBYP	**Canovanas**	**1.20**	**207**	*e*Pn		Pn	04 20 44.4	-0.6
CBYP				*e*S		Sn	04 21 01.5	-0.1
CBYP	**Canovanas**	**1.20**	**207**	⇓*e*P		Pn	04 20 44.3	-0.6
CBYP				*e*S		Sn	04 21 01.5	-0.1
MTP	**Monte Pirata**	**1.27**	**192**	⇑*e*P		Pn	04 20 45.1	-0.7
MTP	**Monte Pirata**	**1.27**	**192**	*e*Pn		Pn	04 20 45.3	-0.5
MTP				*e*S		Sn	04 21 01.3	-1.7
MTP	**Monte Pirata**	**1.27**	**192**	⇓*e*P		Pn	04 20 45.1	-0.7
MTP				*e*S		Sn	04 21 02.7	-0.3
HUMP	**Col San Antoni**	**1.31**	**205**	⇑*e*P		Pn	04 20 45.4	-1.0
HUMP	**Col San Antoni**	**1.31**	**205**	⇑*e*P		Pn	04 20 45.4	-1.0
HUMP				*e*S		Sn	04 21 03.6	-0.3
HUMP	**Col San Antoni**	**1.31**	**205**	⇓*e*P		Pn	04 20 45.4	-1.0
HUMP				*e*S		Sn	04 21 03.6	-0.3
SJG	**San Juan**	**1.48**	**214**	⇑*e*P		Pn	04 20 47.8	-0.6
SJG	**San Juan**	**1.48**	**214**	⇑*e*P		Pn	04 20 47.8	-0.6
SJG	**San Juan**	**1.48**	**214**	*e*Pn		Pn	04 20 47.6	-0.9
SJG				*e*S		Sn	04 21 07.7	0.0
SJG	**San Juan**	**1.48**	**214**	⇓*e*P		Pn	04 20 47.8	-0.6
SJG	**San Juan**	**1.48**	**214**	⇓*e*P		Pn	04 20 47.8	-0.6
SJG				*e*S		Sn	04 21 07.3	-0.4
CELP	**Cerrillos**	**1.76**	**225**	⇑*e*P		Pn	04 20 51.9	-0.2
CELP	**Cerrillos**	**1.76**	**225**	*e*Pn		Pn	04 20 51.7	-0.4
CELP				*e*S		Sn	04 21 12.0	-2.2
CELP	**Cerrillos**	**1.76**	**225**	⇓*e*P		Pn	04 20 51.9	-0.2
ICM	**Isla Caja Muer**	**1.86**	**220**	⇑*e*P		Pn	04 20 53.2	-0.2
ICM	**Isla Caja Muer**	**1.86**	**220**	⇑*e*P		Pn	04 20 53.2	-0.2
ICM				*e*S		Sn	04 21 16.4	-0.1
ICM	**Isla Caja Muer**	**1.86**	**220**	⇓*e*P		Pn	04 20 53.2	-0.2
ICM				*e*S		Sn	04 21 16.4	-0.1
CRPR	**Cabo Rojo, PR**	**2.19**	**233**	⇑*e*P		Pn	04 20 57.5	-0.1
CRPR	**Cabo Rojo, PR**	**2.19**	**233**	⇑*e*P		Pn	04 20 57.5	-0.1
CRPR				*e*S		Sn	04 21 23.6	-0.6
CRPR	**Cabo Rojo, PR**	**2.19**	**233**	⇓*e*P		Pn	04 20 57.5	-0.1
CRPR				*e*S		Sn	04 21 23.6	-0.6

*IDC **25** 04:53:50.8±1.4, 12.°12N×87.°84W, h0km, mb3.9/7, mb1 4.1/9, mb1mx3.9/25, mbtmp4.0/9, ML2.8/2, MS3.3/5, Ms1 3.3/5, ms1mx2.9/38, Error ellipse: s-maj=49.9km s-min=14.1km az=46.0*

*ISCJB **25** 04:53:51.6±0.5, 12.°07N±0.°05×87.°85W±0.°04, h10km, mb4.0/13, MS3.5/2, Error ellipse: s-maj=8.8km s-min=4.0km az=36.3*

*CASC **25** 04:53:51.1±4.9, 12.°63N×87.°96W, h28km±757km, MD4.7, ML3.6, mb4.3(NEIC)*

*NEIC **25** 04:53:57.4±0.9, 12.°19N×87.°62W, h47km±10km, mb4.3/5, MD4.7(CASC), Error ellipse: s-maj=20.2km s-min=7.0km az=52.0*

ISC 25 04:53:53.3±0.5,12.°13N±0.°05×87.°74W±0.°04,h10km,n52, σ1°16/59,mb4.0/13,MS3.5/2,1D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op	ISC		h m s	ISC
TEL3	**Telica 3**	**0.98**	**63**	*e*P		**Pg**	**04 54 12.4**	**+0.2**
MIRN	**Miramar**	**1.05**	**73**	*e*P		**Pg**	**04 54 13.3**	**-0.3**
COPN	**Copaltepe**	**1.12**	**87**	*e*P		**Pb**	**04 54 14.1**	**-0.8**
COPN				⇓*e*S		**Sb**	**04 54 31.4**	**+1.9**
CSAN		**1.29**	**87**	*e*P		**Pn**	**04 54 19.2**	**+1.8**
XAVN	**Gruta Xavier**	**1.38**	**89**	*e*P		**Pn**	**04 54 18.4**	**-0.3**
CRUN	**El Crucero**	**1.42**	**96**	*e*P		**Pn**	**04 54 18.9**	**-0.2**
MGAN	**Managua**	**1.46**	**89**	*e*P		**Pn**	**04 54 19.6**	**-0.1**
TICN	**Ticuantepe**	**1.48**	**93**	*e*P		**Pn**	**04 54 19.6**	**-0.4**
HUEN		**1.55**	**82**	*e*P		**Pn**	**04 54 20.3**	**-0.6**
APON	**Apoyo**	**1.65**	**97**	*e*P		**Pn**	**04 54 21.2**	**-1.1**
TGUH	**Tegucigalpa,Un**	**1.97**	**13**	*e*Pn		**Pn**	**04 54 27.5**	**+0.7**
CONN	**Concepcion**	**2.14**	**105**	*e*P		**Pn**	**04 54 27.8**	**-1.3**
CRZC	**La Cruz**	**2.40**	**119**	*e*P		**Pn**	**04 54 33.1**	**+0.4**
CRZC				*e*S		**Sn**	**04 54 58.4**	**-3.9**
JTS	**JuntasAbangare**	**3.29**	**123**	Pn		**Pn**	**04 54 45.4**	**+0.5**
	3.3nm,0.3s,baz=312,slow=17,SNR=8.7							
JTS				Sn		**Sn**	**04 55 27.6**	**+3.5**
	8.4nm,0.3s,baz=13,slow=16,SNR=4.7							
JTS				Lg			04 55 36.8	
	10nm,0.3s,baz=194,slow=22,SNR=7.7							
JTS				LR	LR		04 56 24.5	
	comp=Z,588nm,19.5s,baz=288,slow=46							
JTS	**JuntasAbangare**	**3.29**	**123**	*e*Pn		**Pn**	**04 54 46.1**	**+1.2**
JTS				Sn		**Sn**	**04 55 27.6**	**+3.5**
JCR	**Jicaral**	**3.43**	**131**	*e*P		**Pn**	**04 54 45.8**	**-1.1**
JCR	**Jicaral**	**3.43**	**131**	*e*P		**Pb**	**04 54 53.2**	**-1.0**
JCR				*e*S		**Sg**	**04 55 44.1**	**+0.5**
CGA2	**Cerro Gallo 2**	**3.84**	**123**	*e*P		**Pn**	**04 54 53.7**	**+1.2**
CGA2				*e*S		**Sn**	**04 55 35.4**	**-2.2**
CGA2	**Cerro Gallo 2**	**3.84**	**123**	*e*P		**Pn**	**04 54 53.2**	**+0.7**
CGA2				*e*S		**Sb**	**04 55 48.5**	**+0.8**
PRS1	**Puriscal**	**3.98**	**122**	*e*P		**P

2.2nm,0.7s,mb3.8,baz=150,slow=8.2,SNR=7.1
KSAR Wonju Array Be 25.59 323 P **P** 05 20 32.7 -0.1
PMG Port Moresby 27.17 179 P **P** 05 20 46.6 -0.7
14nm,0.6s,mb4.6,baz=8.3,slow=8.0,SNR=5.9
PMG Port Moresby 27.17 179 *eP* **P** 05 20 46.9 -0.4
14nm,0.8s,mb4.6
COEN Coen 31.90 187 *eP* **P** 05 21 29.1 -0.1
21nm,0.6s,mb5.1
PETK Petropavlovsk- 36.11 11 LR LR 05 36 32.6
comp=Z,51nm,19.1s,MS3.3,baz=19,slow=36
CTA Charters Tower 37.79 181 LR LR 05 37 05.0
comp=Z,47nm,20.9s,MS3.3,baz=51,slow=35
WRAB Tennant Creek 39.58 199 *eP* **P** 05 22 34.5 -0.4
6.1nm,0.8s,mb4.4
WB2 Warramunga Arr 39.59 199 *eP* **P** 05 22 34.2 -0.9
WRA Warramunga Arr 39.59 199 P **P** 05 22 34.8 -0.2
5.8nm,0.8s,mb4.3,baz=21,slow=9.3,SNR=23
WRA Warramunga Arr 39.59 199 P **P** 05 22 34.8 -0.2
FITZ Fitzroy Crossi 41.44 211 *eP* **P** 05 22 51.1 +0.7
4.8nm,1.3s,mb4.0
AS31 Alice Springs 43.23 197 *eP* **P** 05 23 05.1 +0.2
ASAR Alice Springs 43.24 197 P **P** 05 23 04.7 -0.2
1.5nm,0.7s,mb3.8,baz=24,slow=8.2,SNR=16
ASAR LR LR 05 39 54.5
comp=Z,70nm,20.8s,MS3.5,baz=20,slow=34
ASAR Alice Springs 43.24 197 P **P** 05 23 04.7 -0.2
SONM Songino Array 44.41 321 P **P** 05 23 13.3 -0.8
0.2nm,0.3s,mb3.3,baz=187,slow=5.8,SNR=1.6
SONM Songino Array 44.41 321 P **P** 05 23 13.3 -0.8
CMAR Chiang Mai Arr 45.40 278 P **P** 05 23 22.8 +0.4
0.9nm,0.5s,mb3.9,baz=68,slow=7.3,SNR=6.8
CMAR Chiang Mai Arr 45.40 278 P **P** 05 23 22.8 +0.4
STKA Stephens Creek 49.78 186 P **P** 05 23 57.5 +1.5
2.4nm,0.8s,mb4.3,baz=25,slow=10,SNR=4.0
STKA LR LR 05 45 02.2
comp=Z,69nm,18.7s,MS3.7,baz=25,slow=36
STKA Stephens Creek 49.78 186 P **P** 05 23 57.5 +1.5
ZALV Zalesovo Beam 59.28 323 P **P** 05 25 05.3 +0.6
1.1nm,0.6s,mb4.0,baz=107,slow=5.9,SNR=5.4
ZALV LR LR 05 51 25.7
comp=Z,43nm,18.6s,MS3.6,baz=62,slow=37
ZALV Zalesovo Beam 59.28 323 P **P** 05 25 05.2 +0.6
KURK Kurchatov 62.56 318 LR LR 05 54 44.2
comp=Z,62nm,18.2s,MS3.8,baz=150,slow=38
ILAR Eielson Array 63.85 26 P **P** 05 25 35.0 -0.2
1.7nm,1.1s,mb4.0,baz=238,slow=5.6,SNR=6.7
ILAR Eielson Array 63.85 26 P **P** 05 25 35.0 -0.2
INK Inuvik 69.65 23 P **P** 05 26 12.3 +0.2
0.8nm,0.9s,mb3.6,baz=235,slow=10,SNR=1.9
INK Inuvik 69.65 23 P **P** 05 26 12.3 +0.2
ABKAR Akbulak array 74.63 317 *eP* **P** 05 26 41.9 -0.4
1.1nm,0.7s,mb3.9
YKA Yellowknife Ar 78.15 28 LR LR 05 59 13.2
comp=Z,7.8nm,19.8s,MS3.0,baz=110,slow=34
NVAR Mina Array Bea 82.75 52 P **P** 05 27 27.3 +0.2
0.6nm,0.8s,mb3.7,baz=256,slow=7.7,SNR=4.0
NVAR Mina Array Bea 82.75 52 P **P** 05 27 27.4 +0.2
FINES FINESS Array B 88.03 336 P **P** 05 27 52.6 -0.3
3.0nm,0.8s,mb4.6,baz=46,slow=6.0,SNR=2.0
FINES FINESS Array B 88.03 336 P **P** 05 27 52.6 -0.3
BRTR Keskin Array B 95.42 315 P **P** 05 28 27.8 +0.2
0.2nm,0.4s,mb3.9,baz=46,slow=6.6,SNR=2.3
BRTR Keskin Array B 95.42 315 P **P** 05 28 27.8 +0.2
CFAA Coronel Fontan 145.53 120 PKPbc PKPbc 05 34 40.6 -0.9
0.3nm,0.7s,baz=232,slow=7.2,SNR=4.3
CFAA Coronel Fontan 145.53 120 PKPbc PKPbc 05 34 40.6 -0.9

*IDC **25** 05:21:07.4±0.7, 18°.15N×147°.07E, h0km, mb3.9/10, mb1 4.1/12, mb1mx3.9/24, mbtmp3.9/12, ML4.0/1, Error ellipse: s-maj=30.1km s-min=15.9km az=96.0*
*ISCJB **25** 05:21:10.4±0.6, 18°.14N±0°.06×147°.1E±0°.2, h33km, mb3.9/12, Error ellipse: s-maj=21.0km s-min=7.7km az=9.7*
*NEIC **25** 05:21:12.5±0.5, 18°.09N×146°.98E, h35km, mb4.1/2, Error ellipse: s-maj=18.8km s-min=9.0km az=93.0*

ISC 25 05:21:12.4±0.6,**18°.16N**±0°.06×**147°.1E**±0°.2,**h35**km,**n32, σ0s85/28, mb3.9**/12,**1C, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.02**	**205**		Pn	**Pn**	**05 22 23.1**	**-2.2**
	6.2nm,0.3s,baz=349,slow=22,SNR=2.9							
GUMO					Sn	**Sn**	**05 23 22.9**	**+0.9**
	14nm,0.3s,baz=15,slow=20,SNR=3.4							
GUMO	**Guam**	**5.02**	**205**	*e*Pn		**Pn**	**05 22 22.0**	**-3.2**
GUMO				*e*Sn		**Sn**	**05 23 22.9**	**+0.9**
MJAR	**Matsushiro Arr**	**19.91**	**339**	P		**Pn**	**05 25 42.0**	**-0.9**
	0.4nm,0.3s,baz=162,slow=8.8,SNR=4.0							
MJAR	**Matsushiro Arr**	**19.91**	**339**	P		**Pn**	**05 25 42.0**	**-0.9**
KSRS	**Korea Array**	**25.53**	**323**	P		**P**	**05 26 38.4**	**+0.6**
	1.6nm,0.8s,mb3.6,baz=155,slow=8.7,SNR=4.3							
KSAR	**Wonju Array Be**	**25.55**	**323**	P		**P**	**05 26 38.4**	**+0.4**
WRAB	**Tennant Creek**	**39.86**	**199**	*e*P		**P**	**05 28 42.3**	**-0.5**
	2.8nm,0.8s,mb4.0							
WRA	**Warramunga Arr**	**39.88**	**199**	P		**P**	**05 28 42.5**	**-0.4**
	2.1nm,0.7s,mb4.0,baz=22,slow=9.3,SNR=11							
WRA	**Warramunga Arr**	**39.88**	**199**	P		**P**	**05 28 42.5**	**-0.4**
ASAR	**Alice Springs**	**43.52**	**198**	P		**P**	**05 29 12.8**	**+0.1**
	0.7nm,0.5s,mb3.6,baz=20,slow=7.1,SNR=6.0							
ASAR	**Alice Springs**	**43.52**	**198**	P		**P**	**05 29 12.8**	**+0.1**
SONM	**Songino Array**	**44.38**	**321**	P		**P**	**05 29 20.4**	**+1.0**
	0.7nm,0.6s,mb3.6,baz=136,slow=9.3,SNR=2.2							
SONM	**Songino Array**	**44.38**	**321**	P		**P**	**05 29 20.4**	**+1.0**
STKA	**Stephens Creek**	**50.03**	**186**	P		**P**	**05 30 04.0**	**+0.4**
	1.6nm,0.8s,mb4.1,baz=92,slow=17,SNR=1.7							
STKA	**Stephens Creek**	**50.03**	**186**	P		**P**	**05 30 04.0**	**+0.4**
ZALV	**Zalesovo Beam**	**59.24**	**322**	P		**P**	**05 31 10.3**	**+0.1**
	0.3nm,0.3s,mb3.8,baz=114,slow=6.5,SNR=1.0							
ZALV	**Zalesovo Beam**	**59.24**	**322**	P		**P**	**05 31 10.3**	**+0.2**
KURK	**Kurchatov**	**62.55**	**318**	*e*P		**P**	**05 31 32.7**	**0.0**
	1.1nm,0.6s,mb4.2							
ILAR	**Eielson Array**	**63.55**	**26**	P		**P**	**05 31 38.4**	**-0.7**
	0.6nm,0.8s,mb3.6,baz=254,slow=6.2,SNR=5.0							
ILAR	**Eielson Array**	**63.55**	**26**	P		**P**	**05 31 38.4**	**-0.7**
YKA	**Yellowknife Ar**	**77.85**	**28**	P		**P**	**05 33 06.2**	**0.0**
	0.7nm,0.7s,mb3.7,baz=285,slow=5.6,SNR=2.8							
YKA	**Yellowknife Ar**	**77.85**	**28**	P		**P**	**05 33 06.2**	**0.0**
NVAR	**Mina Array Bea**	**82.44**	**52**	P		**P**	**05 33 32.9**	**+1.6**
	0.5nm,0.7s,mb3.5,baz=269,slow=7.1,SNR=4.4							
NVAR	**Mina Array Bea**	**82.44**	**52**	P		**P**	**05 33 32.9**	**+1.6**
FINES	**FINESS Array B**	**87.92**	**336**	P		**P**	**05 33 57.1**	**-1.2**
	1.8nm,0.7s,mb4.4,baz=33,slow=4.5,SNR=4.8							
FINES	**FINESS Array B**	**87.92**	**336**	P		**P**	**05 33 57.1**	**-1.2**
TORD	**Torodi Ar. Bea**	**133.81**	**310**	PKP		PKPdf	05 40 26.9	+0.3
	0.2nm,0.5s,baz=19,slow=1.7,SNR=2.2							
TORD	**Torodi Ar. Bea**	**133.81**	**310**	PKP		PKPdf	05 40 26.9	+0.3
CFAA	**Coronel Fontan**	**145.44**	**120**	PKPbc		PKPbc	05 40 47.4	+0.1
	0.1nm,0.7s,baz=257,slow=6.2,SNR=3.7							
CFAA	**Coronel Fontan**	**145.44**	**120**	PKPbc		PKPbc	05 40 47.4	+0.1
LPAZ	**La Paz**	**146.35**	**92**	PKPbc		PKPbc	05 40 52.6	+2.2
	0.9nm,0.9s,baz=129,slow=5.6,SNR=2.3							
LPAZ	**La Paz**	**146.35**	**92**	*e*PKP		PKPdf	05 40 51.5	+2.3

TRN 25 05:22:23.9, 17°.13N×62°.37W, h21km, MD3.1, M3.5(FDF), **1D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKI	**Saint Kitts**	**0.41**	**300**	*e*P		Pb	05 22 35.0	+2.5
SKI				*e*S		Sb	05 22 41.1	+2.8
BPA	**Boggy Peak**	**0.49**	**99**	*e*P		Pb	05 22 36.2	+2.4
BPA				*e*S		Sb	05 22 44.0	+3.3
LZG	**Guadaloupe-1**	**1.13**	**150**	*e*P		Pn	05 22 45.8	+1.3
BCG	**Bois Riant Cap**	**1.26**	**145**	*e*P		Pn	05 22 48.0	+1.8
SCG	**Saint Claude**	**1.27**	**149**	*e*P		Pn	05 22 48.1	+1.7
DOG	**Dongo Capester**	**1.30**	**147**	*e*P		Pn	05 22 48.5	+1.7
HMG	**Houelmont**	**1.30**	**151**	*e*P		Pn	05 22 48.4	+1.6
PHG	**Guadaloupe-2**	**1.30**	**148**	*e*P		Pn	05 22 48.2	+1.4
TBG	**Guadaloupe-3**	**1.44**	**151**	*e*P		Pn	05 22 50.4	+1.7
DEG	**La Desirade**	**1.49**	**123**	*e*P		Pn	05 22 51.5	+2.1
DEG				*e*S		Sn	05 23 10.9	+2.8
MGG	**Marie-Galante**	**1.57**	**140**	*e*P		Pn	05 22 52.2	+1.8

*IDC **25** 05:55:16.9±1.0, 18°.77N×66°.97W, h0km, mb3.3/5, mb1 3.7/5, mb1mx3.6/22, mbtmp3.3/5, Error ellipse: s-maj=60.3km s-min=14.5km az=36.0*
*ISCJB **25** 05:55:18.3±0.6, 18°.19N±0°.06×67°.36W±0°.04, h25km±3km, mb3.3/5, Error ellipse: s-maj=9.8km s-min=6.0km az=13.1*
*NEIC **25** 05:55:19.8, 18°.18N×67°.30W, h21km, MD3.3(RSPR), After RSPR.*

NEIC Felt [V] at Aguada, Isabela and Mayaguez.
*RSPR **25** 05:55:19.8, 18°.18N×67°.30W, h21km±1km, MD3.3/15*

ISC 25 05:55:18.9±0.6,**18°.18N**±0°.05×**67°.33W**±0°.04,**h20**km±4km, **n44, σ0s79/53, mb3.3/5, 15C-15D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MPR	**Mayaguez**	**0.18**	**79**	*e*P		**Pb**	**05 55 24.1**	**+0.2**
MPR	**Mayaguez**	**0.18**	**79**	*e*P		**Pb**	**05 55 24.1**	**+0.2**
MPR				*e*S		**Sb**	**05 55 27.7**	**+0.6**
LSP	**Las Mesas**	**0.23**	**90**	*e*P		**Pb**	**05 55 24.7**	**+0.2**
LSP	**Las Mesas**	**0.23**	**90**	*e*P		**Pb**	**05 55 24.7**	**+0.2**
CRPR	**Cabo Rojo, PR**	**0.27**	**129**	*e*P		**Pb**	**05 55 25.2**	**+0.1**
CRPR	**Cabo Rojo, PR**	**0.27**	**129**	*e*P		**Pb**	**05 55 25.2**	**+0.1**
CRPR				*e*S		**Sb**	**05 55 29.8**	**+0.5**
AGPR	**Aguadilla, PR**	**0.35**	**35**	*e*P		**Pb**	**05 55 26.5**	**-0.1**
AGPR	**Aguadilla, PR**	**0.35**	**35**	*e*P		**Pb**	**05 55 26.5**	**-0.1**
AGPR				*e*S		**Sb**	**05 55 32.1**	**+0.4**
GBPR	**Guanica, Bosqu**	**0.47**	**115**	*e*P		**Pb**	**05 55 28.4**	**-0.2**
LRS	**Lares**	**0.47**	**76**	*e*P		**Pb**	**05 55 27.9**	**-0.6**
LRS	**Lares**	**0.47**	**76**	*e*P		**Pb**	**05 55 27.9**	**-0.6**
IMO	**Isla Mona**	**0.56**	**263**	*e*P		**Pb**	**05 55 30.2**	**+0.2**
IMO	**Isla Mona**	**0.56**	**263**	*e*P		**Pb**	**05 55 30.2**	**+0.2**
AOPR	**Arecibo Observ**	**0.57**	**73**	*e*P		**Pb**	**05 55 29.4**	**-0.8**
AOPR	**Arecibo Observ**	**0.57**	**73**	*e*P		**Pb**	**05 55 29.4**	**-0.8**
OBIP	**Obispado Ponce**	**0.70**	**101**	*e*P		**Pb**	**05 55 31.5**	**-0.9**
OBIP	**Obispado Ponce**	**0.70**	**101**	*e*P		**Pb**	**05 55 31.5**	**-0.9**
CELP	**Cerrillos**	**0.72**	**98**	*e*P		**Pb**	**05 55 31.7**	**-1.0**
CELP	**Cerrillos**	**0.72**	**98**	*e*P		**Pb**	**05 55 31.7**	**-1.0**
ICM	**Isla Caja Muer**	**0.82**	**110**	*e*P		**Pb**	**05 55 34.0**	**-0.4**
ICM	**Isla Caja Muer**	**0.82**	**110**	*e*P		**Pb**	**05 55 34.0**	**-0.4**
ICM				*e*S		**Sb**	**05 55 45.8**	**+0.8**
SJG	**San Juan**	**1.12**	**93**	*e*P		**Pn**	**05 55 38.2**	**-1.3**
SJG	**San Juan**	**1.12**	**93**	*e*P		**Pn**	**05 55 38.4**	**-1.1**
SJG	**San Juan**	**1.12**	**93**	Pn		**Pn**	**05 55 38.4**	**-1.1**
	72nm,0.3s,baz=272,slow=12,SNR=53							
SJG				Sn		**Sn**	**05 55 54.7**	**+0.4**
	316nm,0.3s,baz=90,slow=20,SNR=30							
SJG	**San Juan**	**1.12**	**93**	*e*P		**Pn**	**05 55 38.2**	**-1.3**
SJG				Sn		**Sn**	**05 55 54.7**	**+0.4**
CPD	**Cerro la Pandu**	**1.35**	**96**	*e*P		**Pn**	**05 55 42.7**	**+0.1**
CPD	**Cerro la Pandu**	**1.35**	**96**	*e*P		**Pn**	**05 55 42.7**	**+0.1**
CBYP	**Canovanas**	**1.40**	**86**	*e*P		**Pn**	**05 55 43.6**	**+0.2**
CBYP	**Canovanas**	**1.40**	**86**	*e*P		**Pn**	**05 55 43.6**	**+0.2**
HUMP	**Col San Antoni**	**1.40**	**91**	*e*P		**Pn**	**05 55 43.8**	**+0.4**
HUMP	**Col San Antoni**	**1.40**	**91**	*e*P		**Pn**	**05 55 43.8**	**+0.4**
HUMP				*e*S		**Sn**	**05 56 01.9**	**+0.6**
MTP	**Monte Pirata**	**1.69**	**92**	*e*Pn		**Pn**	**05 55 47.4**	**+0.1**
STVI	**Saint Thomas**	**2.26**	**85**	*e*Pn		**Pn**	**05 55 53.6**	**-1.6**
STVI				*e*Sn		**Sn**	**05 56 24.0**	**+1.6**
SDDR	**Presa de Saban**	**3.84**	**283**	*e*Pn		**Pn**	**05 56 22.4**	**+5.5**
SDDR				*e*S		**Sn**	**05 57 13.1**	**+12**
TXAR	**Lajitas Array**	**34.93**	**295**	P		**P**	**06 02 11.3**	**+1.7**
	0.2nm,0.6s,mb3.2,baz=105,slow=8.9,SNR=5.5							
TXAR	**Lajitas Array**	**34.93**	**295**	P		**P**	**06 02 11.3**	**+1.7**
PDAR	**Pinedale Array**	**43.27**	**314**	P		**P**	**06 03 19.7**	**+0.6**
	0.2nm,0.3s,mb3.3,baz=125,slow=7.8,SNR=3.1							
PDAR	**Pinedale Array**	**43.27**	**314**	P		**P**	**06 03 19.7**	**+0.6**
NVAR	**Mina Array Bea**	**48.54**	**305**	P		**P**	**06 04 01.5**	**+0.7**
	0.1nm,0.3s,mb3.3,baz=84,slow=10,SNR=2.5							
NVAR	**Mina Array Bea**	**48.54**	**305**	P		**P**	**06 04 01.5**	**+0.7**
TORD	**Torodi Ar. Bea**	**66.32**	**83**	P		**P**	**06 06 05.5**	**-1.1**
	0.4nm,0.7s,mb3.6,baz=286,slow=5.4,SNR=3.8							
TORD	**Torodi Ar. Bea**	**66.32**	**83**	P		**P**	**06 06 05.5**	**-1.1**
ILAR	**Eielson Array**	**69.27**	**333**	P		**P**	**06 06 22.9**	**-1.4**
	0.2nm,0.5s,mb3.3,baz=96,slow=5.2,SNR=6.9							
ILAR	**Eielson Array**	**69.27**	**333**	P		**P**	**06 06 22.9**	**-1.4**

*IDC **25** 06:03:06.0±0.9, 19°.25S×169°.59E, h0km, mb4.4/12, mb1 4.6/12, mb1mx4.5/17, mbtmp4.4/12, MS4.4/15, Ms1 4.4/15, ms1mx4.2/23, Error ellipse: s-maj=30.3km s-min=20.3km az=140.0*
*NOU **25** 06:03:06.0±0.8, 18°.08S×168°.90E, h30km, MD3.6, MS2.1*
*ISCJB **25** 06:03:10.4±1.2, 19°.27S±0°.07×169°.77E±0°.06, h41km±10km, mb4.8/40, MS4.5/17, Error ellipse: s-maj=13.7km s-min=7.8km az=147.0*
*GCMT **25** 06:03:11.6±0.2, 18°.98S×169°.62E, h100km±3km, MW5.3, Moment Tensor Solution. s11,c11; s69,c98; Moment tensor: Scale 10^17 Nm; Mrr=0.00; Mθθ=0.00; Mφφ=0.00; Mrθ=0.00; Mrφ=0.00; Mθφ=0.00; Best double couple: M0=1.00000×10^17 NP1:φs=226.00000°, δ=43.00000°, λ=92.00000°. NP2:φs=44.00000°, δ=47.00000°, λ=88.00000°. Principal axes: T 0.9900, Plg=88.0000°, Azm=283.0000°; N 0.0600, Plg=1.0000°, Azm=45.0000°; P -1.0500, Plg=2.0000°, Azm=135.0000°; Data Used: IU II CN G IC.*
*NEIC **25** 06:03:15.0±1.9, 19°.43S×169°.82E, h76km±18km, mb4.9/20 Error ellipse: s-maj=23.5km s-min=10.3km az=158.0*
*BJI **25** 06:03:15.3, 19°.60S×170°.00E, h93km, mB5.0/15, mb4.7/24*

ISC 25 06:03:12.8±1.0,**19°.30S**±0°.08×**169°.77E**±0°.06,**h49**km±9km, **h98**km±4km:**pP-P,n109,σ1s43/80, mb4.8**/40,**MS4.5**/17, **3C-3D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.92**	**223**	*e*P		**Pn**	**06 04 09.1**	**-1.4**
BAYA				*e*S		**Sn**	**06 04 57.2**	**+1.9**
DZM	**Mont Dzumac**	**4.16**	**228**	*e*Pn		**Pn**	**06 04 12.9**	**-0.9**
	83nm,0.3s							
DZM				*e*Sn		**Sn**	**06 05 02.9**	**+1.7**
	122nm,0.2s							
DZM				*e*LR	LR		06 05 10.7	
	17μm,25.4s							
DZM	**Mont Dzumac**	**4.16**	**228**	*e*P		**Pn**	**06 04 11.0**	**-2.8**
DZM				AMP			06 05 17.8	
	comp=Z,1μm,0.0s							
LASL	**Noumea**	**4.20**	**225**	*e*P		**Pn**	**06 04 13.4**	**-0.9**
NORM	**Noumea**	**4.24**	**226**	*e*P		**Pn**	**06 04 13.3**	**-1.5**
NORM				*e*S		**Sn**	**06 05 04.2**	**+1.2**
NOUC	**Port Laguerre**	**4.28**	**229**	*e*P		**Pn**	**06 04 14.4**	**-1.1**
NOUC				*e*S		**Sn**	**06 05 03.7**	**-0.4**
NOUC				AMP			06 05 23.7	
	comp=Z,60nm,13.7s							
MSVF	**Nonsavu**	**8.01**	**80**	*e*Pn		**Pn**	**06 05 07.6**	**+1.0**
HNR	**Honiara**	**13.66**	**315**	*e*Pn		**Pn**	**06 06 31.9**	**+8.0**
	comp=Z,58nm,0.8s							
EIDS	**Eidsvold**	**18.31**	**247**	*e*Pn		**Pn**	**06 07 25.6**	**+2.4**
	comp=Z,74nm,1.7s							
AFI	**Afiamalu**	**18.47**	**76**	LR	LR		06 12 54.1	
	comp=Z,2μm,22.0s,baz=250,slow=32							
ARMA	**Armidale**	**19.81**	**233**	*e*P		**Pn**	**06 07 41.6**	**+0.4**
ARMA	**Armidale**	**19.81**	**233**	*e*P		**Pn**	**06 07 41.6**	**+0.4**
	comp=Z,114nm,1.8s							
URZ	**Urewera**	**19.94**	**163**	LR	LR		06 13 26.5	
	comp=Z,757nm,19.1s,baz=252,slow=31							
RMQ	**Roma**	**20.62**	**246**	*e*P		**P**	**06 07 49.6**	**+1.5**
	comp=Z,251nm,2.0s							
CTA	**Charters Tower**	**22.16**	**264**	P		**P**	**06 08 06.3**	**+1.7**
	comp=Z,2.4nm,0.4s,mb4.0,baz=97,slow=8.7,SNR=5.0							
CTA				LR	LR		06 15 31.0	
	comp=Z,405nm,20.2s,MS3.8,baz=80,slow=34							
CTA	**Charters Tower**	**22.16**	**264**	P		**P**	**06 08 06.3**	**+1.7**
CTAO	**Charters Tower**	**22.16**	**264**	*e*P		**P**	**06 08 06.6**	**+2.0**
	comp=Z,27nm,1.2s,mb4.6							
PMG	**Port Moresby**	**23.98**	**291**	P		**P**	**06 08 20.7**	**-2.3**
	comp=Z,10nm,0.6s,mb4.4,baz=111,slow=8.9,SNR=8.3							
PMG	**Port Moresby**	**23.98**	**291**	*e*P		**P**	**06 08 21.7**	**-1.3**
	comp=Z,67nm,1.4s,mb4.9							
CNB	**Canberra Magne**	**24.08**	**224**	*e*P		**P**	**06 08 24.4**	**+0.8**
	comp=Z,76nm,0.8s,mb5.2							
MTSU	**Mount Surprise**	**24.13**	**269**	*e*P		**P**	**06 08 22.8**	**-1.5**
	comp=Z,32nm,0.8s,mb4.8							
YNG	**Young**	**24.16**	**227**	*e*P		**P**	**06 08 26.1**	**+1.7**
	comp=Z,12nm,0.9s,mb4.3							
RPZ	**Rata Peaks**	**24.37**	**178**	LR	LR		06 16 52.7	
	comp=Z,2μm,19.9s,MS4.5,baz=359,slow=34							
COEN	**Coen**	**26.02**	**278**	*e*P		**P**	**06 08 40.7**	**-0.8**
	comp=Z,145nm,1.3s,mb5.3							
STKA	**Stephens Creek**	**28.24**	**238**	P		**P**	**06 08 59.5**	**-1.7**
	comp=Z,4.7nm,0.7s,mb4.2,baz=88,slow=7.6,SNR=8.7							
STKA				LR	LR		06 19 58.4	
	comp=Z,1μm,19.1s,MS4.5,baz=71,slow=36							
STKA	**Stephens Creek**	**28.24**	**238**	*e*P		**P**	**06 09 00.1**	**-1.2**
	comp=Z,6.2nm,0.7s,mb4.3							
STKA	**Stephens Creek**	**28.24**	**238**	*e*P		**P**	**06 08 59.8**	**-1.4**
	comp=Z,20nm,2.0s,mb4.4							
WRAB	**Tennant Creek**	**33.34**	**263**	*e*P		**P**	**06 09 45.3**	**-1.0**
	comp=Z,4.6nm,0.8s,mb4.5							
WRA	**Warramunga Arr**	**33.34**	**263**	P		**P**	**06 09 43.8**	**-2.7**
	comp=Z,1.8nm,0.8s,mb4.1,baz=93,slow=8.4,SNR=11							
WRA				PcP	PcP		06 12 27.7	+0.2
	comp=Z,0.4nm,0.3s,baz=99,slow=4.1,SNR=3.9							
WRA				LR	LR		06 22 54.1	
	comp=Z,649nm,19.8s,MS4.3,baz=90,slow=36							
WRA	**Warramunga Arr**	**33.34**	**263**	P		**P**	**06 09 43.8**	**-2.7**
WRA				PcP	PcP		06 12 27.7	+0.2
ASAR	**Alice Springs**	**33.60**	**256**	P		**P**	**06 09 47.0**	**-1.6**
	comp=Z,8.9nm,0.4s,mb5.0,baz=83,slow=8.7,SNR=78							
ASAR				PcP	PcP		06 12 27.3	-0.9
	comp=Z,0.7nm,0.7s,baz=110,slow=3.0,SNR=4.5							
ASAR				LR	LR		06 23 08.0	
	comp=Z,762nm,18.4s,MS4.5,baz=92,slow=36							
ASAR	**Alice Springs**	**33.60**	**256**	P		**P**	**06 09 47.0**	**-1.6**
ASAR				PcP	PcP		06 12 27.3	-0.9
TBI	**Tubuai**	**38.10**	**103**	*e*LQ			06 18 56.1	
	comp=Z,1μm,29.2s							
PPT	**Papeete**	**38.55**	**94**	*e*S		**S**	**06 16 21.5**	**-2.1**
	comp=Z,94nm,25.8s							
PPT				*e*LQ			06 19 07.5	
	comp=Z,2μm,30.0s							
PPT				*e*LR	LR		06 20 42.7	
	comp=Z,621nm,28.2s							
PPT	**Papeete**	**38.55**	**94**	LR	LR		06 22 28.0	
	comp=Z,148nm,20.8s,MS3.8,baz=240,slow=30							
FORT	**Forrest**	**39.28**	**245**	*e*P		**P**	**06 10 36.2**	**-0.7**
	comp=Z,23nm,0.7s,mb5.0							
FORT	**Forrest**	**39.28**	**245**	*e*P		**P**	**06 10 35.0**	**-2.0**
	comp=Z,28nm,0.8s,mb5.0							
FITZ	**Fitzroy Crossi**	**41.74**	**264**	*e*P		**P**	**06 10 56.0**	**-1.4**
	comp=Z,30nm,0.8s,mb5.0							
FITZ	**Fitzroy Crossi**	**41.74**	**264**	*e*P		**P**	**06 10 56.3**	**-1.1**
	comp=Z,23nm,0.9s,mb4.8							
MBWA	**Marble Bar**	**46.84**	**259**	*e*P		**P**	**06 11 37.2**	**-1.0**
	comp=Z,47nm,1.5s,mb5.2							
MEEK	**Meekatharra**	**47.41**	**251**	*e*P		**P**	**06 11 41.7**	**-0.9**
	comp=Z,103nm,0.6s,mb5.9							
KLBR	**Kellerberrin**	**48.14**	**245**	*e*P		**P**	**06 11 47.1**	**-1.1**
	comp=Z,153nm,1.9s,mb5.7							
NWAO	**Narrogin (SRO)**	**48.63**	**243**	*e*P		**P**	**06 11 52.8**	**+0.8**
	comp=Z,12nm,0.3s,mb4.9							
TAOE	**Nuku Hiva Isla**	**49.52**	**85**	*e*LR	LR		06 25 50.2	
	comp=Z,520nm,28.3s							
VNDA	**Vanda**	**58.39**	**182**	LR	LR		06 36 11.2	
	comp=Z,224nm,18.4s,MS4.3,baz=14,slow=34							
SBA	**Scott Base**	**58.61**	**181**	*e*P		**P**	**06 13 06.4**	**+2.1**
	comp=Z,36nm,1.1s,mb5.3							
MJAR	**Matsushiro Arr**	**63.04**	**332**	P		**P**	**06 13 33.0**	**-1.8**
	comp=Z,8.1nm,0.9s,mb4.9,baz=168,slow=7.5,SNR=8.3							
MJAR	**Matsushiro Arr**	**63.04**	**332**	P		**P**	**06 13 33.0**	**-1.8**
MAJO	**Matsushiro**	**63.04**	**332**	*e*P		**P**	**06 13 34.0**	**-0.8**
	comp=Z,18nm,1.0s,mb5.2							
MAT	**Matsushiro**	**63.04**	**332**	P		**P**	**06 13 33.2**	**-1.6**
TATO	**Taipei**	**64.37**	**311**	*e*P		**P**	**06 13 46.0**	**+2.1**
	comp=Z,115nm,1.2s,mb5.8							
YSS	**Yuzh-Sakhalins**	**70.30**	**341**	*e*P		**P**	**06 14 26.5**	**+5.6**
	comp=Z,39nm,0.9s,mb5.3							
NJ2	**Nanjing**	**70.60**	**316**	*e*P		**P**	**06 14 26.3**	**+3.2**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.7s,mb4.8							
PETK	**Petropavlovsk-**	**72.86**	**352**	P		**P**	**06 14 38.0**	**+1.8**
	comp=Z,5.6nm,0.8s,mb4.

NVAR	**Mina Array Bea**	**88.46**	**48**	P		**P**	**06 16 01.3**	**+1.4**
SNAA	**Sanae**	**89.12**	**182**	*e*		**P**	**06 15 56.5**	**-6.0**
SNAA	**Sanae**	**89.12**	**182**	*eP*		**P**	**06 15 58.2**	**-4.3**
	comp=Z,15nm,1.4s,mb5.1							
VNA3	**Neumayer Olymp**	**89.70**	**180**	*e*		**P**	**06 16 02.6**	**-2.6**
VNA2	**Neumayer--Watz**	**90.00**	**181**	*e*		**P**	**06 16 02.3**	**-4.3**
	baz=203,slow=1.9							
ILAR	**Eielson Array**	**90.14**	**17**	P		**P**	**06 16 08.0**	**+0.8**
	comp=Z,0.8nm,0.8s,mb4.1,baz=245,slow=6.2,SNR=8.2							
ILAR				LR		LR	06 49 43.3	
	comp=Z,304nm,19.7s,MS4.7,baz=31,slow=31							
ILAR	**Eielson Array**	**90.14**	**17**	P		**P**	**06 16 08.0**	**+0.8**
PDAR	**Pinedale Array**	**96.29**	**47**	LR		LR	06 54 46.8	
	comp=Z,130nm,18.7s,MS4.4,baz=255,slow=32							
TXAR	**Lajitas Array**	**96.35**	**61**	P		**P**	**06 16 36.3**	**-0.3**
	comp=Z,0.8nm,1.1s,mb4.1,baz=213,slow=3.0,SNR=3.5							
TXAR				LR		LR	06 51 33.8	
	comp=Z,246nm,19.3s,MS4.7,baz=110,slow=30							
TXAR	**Lajitas Array**	**96.35**	**61**	P		**P**	**06 16 36.3**	**-0.3**
WMQ	**Urumqi**	**97.51**	**314**	*eP*		**P**	**06 16 42.4**	**+0.5**
CONA	**Conrad Observa**	**144.45**	**329**	*i*PKPdf	PKPdf		06 22 42.5	-1.1
	comp=Z,7.8nm,1.0s							
KHC	**Kasperske Hory**	**144.62**	**333**	*e*PKPdf	PKPdf		06 22 43.1	-0.7
GERES	**GERESS Array B**	**144.78**	**332**	PKP	PKPdf		06 22 42.6	-1.5
	comp=Z,1.6nm,0.8s,baz=35,slow=4.9,SNR=7.7							
GERES	**GERESS Array B**	**144.78**	**332**	PKP	PKPdf		06 22 42.6	-1.5
MOA	**Molln**	**145.26**	**331**	*i*PKPab	PKPab		06 22 43.5	-1.3
	comp=Z,26nm,1.0s							
SOKA	**Soboth**	**145.73**	**329**	*i*PKPab	PKPab		06 22 46.1	-0.5
	comp=Z,14nm,1.0s							
ABTA	**Abfaltersbach**	**146.88**	**331**	*i*PKPab	PKPab		06 22 49.4	-1.6
	comp=Z,18nm,1.0s							
WLF	**Walferdange**	**146.98**	**340**	*e*PKPbc	PKPbc		06 22 49.6	-0.3
BFO	**Black Forest**	**147.37**	**337**	*e*PKPbc	PKPbc		06 22 50.7	-0.3
FETA	**Feichten**	**147.46**	**333**	*i*PKPbc	PKPbc		06 22 50.3	-1.0
	comp=Z,7.8nm,0.8s							
CDF	**Champ du Feu**	**147.69**	**338**	*e*PKIKP	PKPbc		06 22 52.8	+1.0
	comp=Z,32nm,1.0s							
HAU	**Haudompre**	**148.36**	**339**	*e*PKIKP	PKPbc		06 22 55.4	+1.8
	comp=Z,13nm,0.7s							
TUE	**Stuetta**	**148.48**	**334**	*e*PKPbc	PKPbc		06 22 53.3	-0.7
SFTF	**Sexfontaines**	**148.62**	**340**	*e*PKIKP	PKPbc		06 22 56.6	+2.3
	comp=Z,53nm,1.2s							
CABF	**La Chapelle**	**149.64**	**337**	*e*PKIKP	PKPbc		06 22 56.2	-0.7
	comp=Z,25nm,0.9s							
LOR	**Lormes**	**149.82**	**341**	*e*PKIKP	PKPbc		06 22 56.2	-1.1
	comp=Z,19nm,0.8s							
SSF	**Saint Saulge**	**150.11**	**341**	*e*PKIKP	PKPbc		06 22 57.0	-1.1
	comp=Z,22nm,0.9s							
LPL	**La Plagne**	**150.32**	**336**	*e*PKIKP	PKPbc		06 22 58.0	-0.6
	comp=Z,16nm,0.8s							
LPG	**La Plagne**	**150.33**	**335**	*e*PKIKP	PKPbc		06 22 58.2	-0.4
	comp=Z,28nm,1.2s							
SMF	**Signal de Mont**	**150.38**	**340**	*e*PKIKP	PKPbc		06 22 57.4	-1.3
	comp=Z,45nm,1.2s							
BNI	**Bardonecchia**	**150.72**	**335**	*e*PKPdf	PKPdf		06 22 54.4	+0.4
ORIF	**Oris-en-Rattie**	**151.15**	**336**	*e*PKIKP	PKPbc		06 22 59.5	-1.1
	comp=Z,17nm,0.8s							
TORD	**Torodi Ar. Bea**	**167.02**	**244**	PKP	PKPdf		06 23 13.7	-0.3
	comp=Z,1.0nm,1.0s,baz=45,slow=1.8,SNR=4.9							
TORD				PKPab	PKPab		06 24 18.7	+0.7
	comp=Z,0.3nm,0.5s,baz=90,slow=2.9,SNR=2.6							
TORD	**Torodi Ar. Bea**	**167.02**	**244**	PKP	PKPdf		06 23 13.7	-0.3
TORD				PKPab	PKPab		06 24 18.7	+0.7

*ISCJB **25** 06:23:35.8±0.4,37.86N±0.03×29.20E±0.04,h8km±6km, Error ellipse: s-maj=4.9km s-min=4.1km az=28.7*
*CSEM **25** 06:23:35.9±0.2,37.86N×29.21E,h10km,MD2.9, Error ellipse: s-maj=3.8km s-min=3.4km az=126.0*
*DDA **25** 06:23:35.6,37.85N×29.24E,h14km±1km,Md2.8*
*ISK **25** 06:23:35.9,37.82N×29.20E,h10km,MD2.9*

ISC 25 06:23:36.3±0.4,37.86N±0.03×29.20E±0.04,h13km±5km, n30,σ0.77/46,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DENT	**Denizli**	**0.17**	**231**	*e*PG	**Pg**	**06 23 40.2**	**0.0**
DENT	**Denizli**	**0.17**	**231**	*e*Pg	**Pg**	**06 23 40.2**	**0.0**
DNZL	**Cakiroluk**	**0.21**	**215**	*i* P	**Pg**	**06 23 40.7**	**-0.1**
DNZL				*i* S	**Sg**	**06 23 44.3**	**+0.3**
DNZL	**Cakiroluk**	**0.21**	**215**	*i* P	**Pg**	**06 23 40.7**	**-0.1**
DNZL				*i* S	**Sg**	**06 23 44.3**	**+0.4**
KHAL	**Karahalli**	**0.56**	**24**	*i* P	**Pg**	**06 23 46.4**	**-0.9**
KHAL				*i* S	**Sg**	**06 23 54.3**	**-0.4**
KHAL	**Karahalli**	**0.56**	**24**	*i* P	**Pg**	**06 23 46.3**	**-0.9**
KHAL				*i* S	**Sg**	**06 23 54.3**	**-0.4**
GLHS	**Glhisar (BURDU**	**0.74**	**161**	*e*PG	**Pg**	**06 23 49.8**	**-0.9**
GLHS	**Glhisar (BURDU**	**0.74**	**161**	*e*Pg	**Pg**	**06 23 49.8**	**-0.9**
KULA	**Kula-Manisa**	**0.78**	**327**	*e*PG	**Pg**	**06 23 51.4**	**0.0**
KULA				*e*SG	**Sg**	**06 24 04.0**	**+2.4**
KULA	**Kula-Manisa**	**0.78**	**327**	*e*Pg	**Pg**	**06 23 51.4**	**0.0**
KULA				*e*Sg	**Sg**	**06 24 04.0**	**+2.4**
MANT	**Manisa**	**0.81**	**321**	*i* P	**Pg**	**06 23 51.5**	**-0.5**
MANT				*i* S	**Sg**	**06 24 01.8**	**-0.7**
MANT	**Manisa**	**0.81**	**321**	*i* P	**Pg**	**06 23 51.5**	**-0.4**
MANT				*i* S	**Sg**	**06 24 01.8**	**-0.7**
YER	**Yerkesik**	**1.03**	**225**	*e*PG	**Pg**	**06 23 55.4**	**-0.7**
YER				*e*SG	**Sg**	**06 24 09.6**	**+0.1**
YER	**Yerkesik**	**1.03**	**225**	*e*Pg	**Pg**	**06 23 55.4**	**-0.7**
YER				*e*Sg	**Sg**	**06 24 09.6**	**+0.1**
ISP	**Isparta**	**1.05**	**92**	*e*PG	**Pg**	**06 23 56.1**	**-0.4**
ISP				*e*SG	**Sg**	**06 24 11.6**	**+1.4**
ISP	**Isparta**	**1.05**	**92**	*e*Pg	**Pg**	**06 23 56.1**	**-0.4**
ISP				*e*Sg	**Sg**	**06 24 11.6**	**+1.4**
AYDN	**Tasoluk**	**1.06**	**260**	*i* P	**Pg**	**06 23 56.8**	**0.0**
AYDN				*i* S	**Sg**	**06 24 11.1**	**+0.4**
AYDN	**Tasoluk**	**1.06**	**260**	*i* P	**Pg**	**06 23 56.8**	**0.0**
AYDN				*i* S	**Sg**	**06 24 11.1**	**+0.4**
BCK	**Bucak**	**1.17**	**109**	*e*PN	**Pn**	**06 23 58.4**	**0.0**
BCK	**Bucak**	**1.17**	**109**	*e*Pn	**Pn**	**06 23 58.4**	**0.0**
ELL	**Elmali**	**1.25**	**153**	*e*PN	**Pn**	**06 23 59.3**	**-0.1**
ELL	**Elmali**	**1.25**	**153**	*e*Pn	**Pn**	**06 23 59.3**	**-0.1**
GDZ	**Gediz**	**1.25**	**10**	*i* P	**Pn**	**06 23 58.0**	**-1.4**
GDZ				*i* S	**Sb**	**06 24 15.4**	**-0.3**
GDZ	**Gediz**	**1.25**	**10**	*i* P	**Pn**	**06 23 58.0**	**-1.4**
GDZ				*i* S	**Sb**	**06 24 15.4**	**-0.2**
MLSB	**Milas**	**1.26**	**244**	*e*PN	**Pn**	**06 24 00.1**	**+0.5**
MLSB	**Milas**	**1.26**	**244**	*e*Pn	**Pn**	**06 24 00.1**	**+0.5**
SHUT	**Suhut-Afyon**	**1.27**	**57**	*e*PN	**Pn**	**06 24 00.1**	**+0.4**
SHUT	**Suhut-Afyon**	**1.27**	**57**	*e*Pn	**Pn**	**06 24 00.1**	**+0.4**
ALT	**Altintas**	**1.39**	**31**	*e*PN	**Pn**	**06 24 02.7**	**+1.3**
ALT	**Altintas**	**1.39**	**31**	*e*Pn	**Pn**	**06 24 02.7**	**+1.3**

DJA 25 07:01:09,8.45S×108.48E,h18km,MLv4.1/16,Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMJI	**Cimerak**	**0.66**	**357**	P	Pb	07 01 23.0	+0.9
CMJI				S	Sb	07 01 31.2	+0.3
CLJI	**Cilicap**	**0.90**	**36**	P	Pb	07 01 26.3	+0.2
CLJI				S	Sb	07 01 38.7	+1.0
CISI	**Cisompet, Garu**	**1.11**	**323**	P	Pn	07 01 29.2	-0.4
CISI				S	Sb	07 01 42.1	-1.6
BJII	**Banjamegara**	**1.65**	**48**	P	Pn	07 01 36.8	-0.3
BJII				S	Sn	07 01 59.2	+1.4
LEM	**Lembang**	**1.82**	**332**	P	Pn	07 01 41.1	+1.6
UGM	**Wanagama**	**2.09**	**75**	P	Pn	07 01 43.3	+0.1
UGM				S	Sn	07 02 08.4	-0.4
SKJI	**Sukabumi**	**2.39**	**307**	P	Pn	07 01 47.5	+0.3
SMRI	**Semarang**	**2.39**	**55**	P	Pn	07 01 48.6	+1.3
SMRI				S	Sn	07 02 17.8	+1.7
DBJI	**Dramaga**	**2.55**	**318**	P	Pn	07 01 51.6	+2.1
DBJI				S	Sn	07 02 21.4	+1.4
PCJI	**Pacitan**	**2.68**	**85**	P	Pn	07 01 51.7	+0.4
CGJI	**Cibinong**	**3.31**	**303**	P	Pn	07 02 01.0	+1.0
PWJI	**Pagerwojo**	**3.32**	**83**	P	Pn	07 02 00.4	+0.4
PWJI				S	Sn	07 02 39.8	+0.8
SJI	**Sawahan**	**3.33**	**78**	P	Pn	07 02 02.0	+1.8
SJI				S	Sn	07 02 43.8	+4.4
XMIS	**Christmas Isla**	**3.44**	**234**	P	Pn	07 02 01.0	-0.8
GMJI	**Gumukmas**	**4.92**	**88**	P	Pn	07 02 24.0	+2.0

IDC 25 07:36:48.9±1.5,0.71N×99.53E,h0km,mb4.0/7,mb1 4.0/7, mb1mx3.7/25,mbtmp4.0/7,Error ellipse: s-maj=83.4km s-min=18.8km az=51.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**39.81**	**123**	P	P	07 44 24.3	+0.2
	1.8nm,0.5s,baz=303,slow=9.0,SNR=12						
ASAR	**Alice Springs**	**41.26**	**128**	P	P	07 44 35.8	-0.3
	0.2nm,0.4s,baz=301,slow=7.7,SNR=7.1						
MKAR	**Makanchi Array**	**48.31**	**344**	P	P	07 45 32.6	+0.7
	1.2nm,0.3s,baz=156,slow=8.7,SNR=14						
KURK	**Kurchatov**	**52.89**	**343**	P	P	07 46 06.5	0.0
	0.9nm,0.5s,baz=160,slow=7.0,SNR=4.6						
ZALV	**Zalesovo Beam**	**54.44**	**349**	P	P	07 46 17.4	-0.3
	0.5nm,0.3s,baz=163,slow=7.5,SNR=3.5						
BVAR	**Borovoye Array**	**57.49**	**340**	P	P	07 46 38.9	-0.8
	1.2nm,0.5s,baz=140,slow=7.4,SNR=6.2						
BRTR	**Keskin Array B**	**71.16**	**312**	P	P	07 48 09.8	+0.1
	1.3nm,0.6s,baz=134,slow=6.2,SNR=6.5						

CASC 25 07:50:53.8±4.6,12.77N×90.79W,h2km±28km,MD3.9, ML3.2,3C-2D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSG	**Pto de San Jos**	**1.18**	**360**	*i*eP	Pg	07 51 22.8	+6.4
PCG	**Pacaya**	**1.63**	**6**	*e*P	Pn	07 51 22.4	-1.1
PCG				*e*S	Sn	07 51 47.5	+2.4
FUG	**Fuego 3**	**1.67**	**358**	*i*eP	Pn	07 51 22.4	-1.7
JAT	**Jato**	**1.75**	**332**	*i*P	Pn	07 51 27.1	+1.9
FG6		**1.79**	**357**	*i*eP	Pn	07 51 23.2	-2.5
NBG	**Las Nubes**	**1.86**	**13**	*i*eP	Pn	07 51 21.9	-4.9
NBG				*e*S	Sn	07 51 45.8	-5.1
TP2	**Tecpan 2**	**2.02**	**354**	*e*P	Pn	07 51 23.1	-5.8
TP2				*e*S	Sn	07 51 55.1	+0.3
TEL3	**Telica 3**	**3.85**	**92**	*e*P	Pn	07 51 53.1	-1.1
COPN	**Copaltepe**	**4.14**	**98**	*e*P	Pn	07 51 57.5	-0.6
COPN				*e*S	Sn	07 52 44.8	-2.4
CRUN	**El Crucero**	**4.45**	**100**	*e*P	Pn	07 52 02.3	-0.2
TICN	**Ticuantepe**	**4.51**	**99**	*e*P	Pn	07 52 02.8	-0.4
HUEN		**4.53**	**95**	*e*P	Pn	07 52 01.4	-2.0
JCR	**Jicaral**	**6.28**	**117**	*e*P	Pn	07 52 30.1	+2.6
JCR				*e*S	Sn	07 53 41.3	+1.4
CGA2	**Cerro Gallo 2**	**6.78**	**113**	*e*P	Pn	07 52 36.9	+2.6
CGA2				*e*S	Sn	07 53 55.4	+3.2
PRS1	**Puriscal**	**6.93**	**113**	*e*P	Pn	07 52 38.8	+2.4
PRS1				*e*S	Sn	07 53 59.6	+3.7

WEL 25 08:07:00.8±0.3,36.54S×176.99E,h33km,ML3.7/4,Error ellipse: s-maj=2.7km s-min=2.1km az=0.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MYRZ	**Mayor Island**	**0.95**	**219**	*eP**	Pb	08 07 17.4	-1.4
MYRZ				S*	Sb	08 07 29.2	-1.9
KUZ	**Kuaotunu**	**1.04**	**258**	PN	Pn	08 07 18.7	-0.3
KUZ				SN	Sn	08 07 31.8	-0.6
MKAZ	**Moumakai**	**1.57**	**248**	PN	Pn	08 07 25.5	-0.8
MTAZ	**Mototapu**	**1.69**	**261**	*e*PN	Pn	08 07 29.1	+1.2
PUZ	**Puketiti**	**1.83**	**147**	*e*PN	Pn	08 07 29.4	-0.6

IDC 25 08:15:03.7±39.0,14.63S×167.21E,h0km,mb4.0/4, mb1 4.2/4,mb1mx3.8/19,mbtmp4.0/4,Error ellipse: s-maj=664.9km s-min=98.2km az=69.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**29.01**	**229**	P	P	08 21 05.5	+0.1
	2.7nm,0.5s,baz=51,slow=8.4,SNR=7.9						
WRA	**Warramunga Arr**	**31.79**	**256**	P	P	08 21 29.7	-0.4
	0.3nm,0.3s,baz=82,slow=8.1,SNR=3.7						
ASAR	**Alice Springs**	**32.65**	**249**	P	P	08 21 37.3	-0.3
	1.4nm,0.8s,baz=79,slow=9.0,SNR=15						
FITZ	**Fitzroy Crossi**	**39.98**	**259**	P	P	08 22 41.0	+0.7
	1.4nm,0.8s,baz=67,slow=7.7,SNR=2.4						

*ISCJB **25** 09:04:19.2±1.0,45.2N±0.1×149.4E±0.1,h188km±8km, mb4.0/14,Error ellipse: s-maj=24.4km s-min=9.4km az=144.0*
*IDC **25** 09:04:19.2±3.2,46.09N×149.16E,h164km±31km,mb3.0/7, mb1 3.3/9,mb1mx3.2/24,mbtmp3.1/9,Error ellipse: s-maj=33.5km s-min=17.1km az=132.0*
*NEIC **25** 09:04:19.5±1.7,46.05N×149.19E,h165km±16km,mb4.3/1, Error ellipse: s-maj=22.6km s-min=11.7km az=138.0*
*JMA **25** 09:04:19.5±0.5,45.31N×149.43E,h159km,M3.6*

ISC 25 09:04:19.8±1.0,45.2N±0.1×149.5E±0.1,h180km±9km,n52, σ0.99/55,mb4.0/14,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**3.21**	**238**	P	**Pn**	**09 05 11.1**	**+0.2**
NEM2				*e*S	**Sn**	**09 05 51.2**	**+0.5**
JNK	**Nakash**	**3.74**	**247**	P	**Pn**	**09 05 18.2**	**+0.7**
JAK	**Akkeshi**	**4.05**	**240**	P	**Pn**	**09 05 21.7**	**+0.3**
JAR	**Ashorobuto**	**4.49**	**248**	P	**Pn**	**09 05 28.0**	**+1.0**
JOB	**Onbets**	**4.63**	**243**	P	**Pn**	**09 05 29.8**	**+0.9**
JOB				*e*S	**Sn**	**09 06 23.2**	**+0.1**
JKK2	**Kamakawa 2**	**4.96**	**257**	P	**Pn**	**09 05 33.7**	**+0.5**
ASAJ	**Asahikawa**	**5.00**	**261**	P	**Pn**	**09 05 33.4**	**-0.3**
	0.8nm,0.3s,baz=96,slow=19,SNR=7.8						
ASAJ				S	Sn	09 06 51.4	+20
	baz=258,slow=20,SNR=1.5						
ASAJ	**Asahikawa**	**5.00**	**261**	P	**Pn**	**09 05 33.4**	**-0.3**
ASAJ				S	Sn	09 06 51.4	+20
ASAJ	**Asahikawa**	**5.00**	**261**	P	**Pn**	**09 05 34.0**	**+0.3**
JCH	**Churui**	**5.08**	**242**	P	**Pn**	**09 05 34.9**	**+0.2**
JCH				*e*S	**Sn**	**09 06 32.6**	**-0.9**
JBT2	**Biratori 2**	**5.64**	**248**	P	**Pn**	**09 05 43.2**	**+1.2**
JNBK	**Urakawa-nobuka**	**5.64**	**242**	P	**Pn**	**09 05 41.7**	**-0.3**
JNBK				*e*S	**Sn**	**09 06 45.7**	**-0.9**
JNB	**Noboribetsu**	**6.65**	**249**	P	**Pn**	**09 05 54.9**	**-0.3**
JNB				*e*S	**Sn**	**09 07 10.0**	**-0.5**
JKB	**Kayabe**	**6.94**	**245**	P	**Pn**	**09 05 58.6**	**-0.4**
JKB				*e*S	**Sn**	**09 07 14.3**	**-3.0**
JSH	**Shimam**	**7.24**	**253**	P	**Pn**	**09 06 03.3**	**+0.3**
JSR	**Shiriuchi**	**7.51**	**244**	P	**Pn**	**09 06 06.4**	**-0.2**
JSR				*e*S	**Sn**	**09 07 28.4**	**-2.7**
JTM	**Tenmabayashi**	**7.54**	**238**	P	**Pn**	**09 06 07.2**	**+0.3**
JTM				*e*S	**Sn**	**09 07 28.9**	**-2.7**
JANG	**Nango**	**7.54**	**234**	P	**Pn**	**09 06 07.3**	**+0.4**
JANG				*e*S	**Sn**	**09 07 27.7**	**-4.0**
JTH	**Tanohata**	**7.65**	**230**	*e*S	**Sn**	**09 07 33.3**	**-1.0**
OFUJ	**Ofunato**	**8.38**	**226**	*e*S	**Sn**	**09 07 52.7**	**+1.0**
JRG	**Rokugo**	**8.70**	**232**	*e*S	**Sn**	**09 08 00.3**	**+0.9**
KSRS	**Korea Array**	**17.88**	**252**	P	**Pn**	**09 08 19.2**	**+1.9**
	0.3nm,0.3s,baz=59,slow=11,SNR=6.8						
KSAR	**Wonju Array Be**	**17.91**	**252**	P	**Pn**	**09 08 19.2**	**+1.5**
PMR	**Palmer**	**38.52**	**42**	*eP*	**P**	**09 11 29.5**	**+5.4**
	9.5nm,0.7s,mb4.5						
SML	**Sawmill**	**38.88**	**42**	*eP*	**P**	**09 11 25.2**	**-1.9**
	5.2nm,0.8s,mb4.2						
ILAR	**Eielson Array**	**39.38**	**37**	P	**P**	**09 11 27.0**	**-4.3**
	0.3nm,0.6s,mb3.1,baz=265,slow=7.4,SNR=8.9						
ILAR	**Eielson Array**	**39.38**	**37**	P	**P**	**09 11 27.0**	**-4.3**
ZALV	**Zalesovo Beam**	**41.49**	**306**	PcP	PcP	09 13 42.2	-0.4
	0.9nm,0.5s,baz=72,slow=2.4,SNR=4.8						
ZALV	**Zalesovo Beam**	**41.49**	**306**	PcP	PcP	09 13 42.2	-0.4
MKAR	**Makanchi Array**	**45.41**	**297**	PcP	PcP	09 13 55.8	-0.3
	0.7nm,0.6s,baz=88,slow=2.9,SNR=4.5						
MKAR	**Makanchi Array**	**45.41**	**297**	PcP	PcP	09 13 55.8	-0.3
KURK	**Kurchatov**	**46.12**	**304**	P	**P**	**09 12 20.9**	**-4.7**
	0.3nm,0.3s,mb3.4,baz=70,slow=8.4,SNR=3.0						
KURK				PcP	PcP	09 13 58.2	-0.3
	0.5nm,0.5s,baz=76,slow=3.2,SNR=6.0						
KURK	**Kurchatov**	**46.12**	**304**	P	**P**	**09 12 20.9**	**-4.7**
KURK				PcP	PcP	09 13 58.2	-0.3
JIRN	**Jiri**	**52.51**	**273**	*eP*	**P**	**09 13 15.2**	**+0.9**
	8.9nm,0.5s,mb4.8						
GUN	**Gumba**	**52.58**	**274**	*eP*	**P**	**09 13 15.3**	**+0.5**
RAMN	**Ramite**	**52.65**	**272**	*eP*	**P**	**09 13 15.2**	**-0.1**
	9.9nm,0.4s,mb4.8						
GKN	**Gorkha**	**53.40**	**275**	*eP*	**P**	**09 13 21.0**	**+0.2**
	9.5nm,0.4s,mb4.9						
YKA	**Yellowknife Ar**	**53.72**	**35**	P	**P**	**09 13 19.1**	**-3.4**
	0.6nm,0.7s,mb3.5,baz=302,slow=6.9,SNR=6.2						
YKA	**Yellowknife Ar**	**53.72**	**35**	P	**P**	**09 13 19.1**	**-3.4**
DANN	**Dangsing**	**53.81**	**276**	*eP*	**P**	**09 13 24.4**	**+0.6**
KOLN	**Koldanda**	**54.27**	**275**	*eP*	**P**	**09 13 27.3**	**+0.2**
	6.7nm,0.5s,mb4.6						
PYUN	**Piuthan**	**54.50**	**276**	*eP*	**P**	**09 13 28.2**	**-0.6**
	26nm,0.9s,mb5.0						
WRA	**Warramunga Arr**	**66.22**	**196**	P	**P**	**09 14 53.7**	**+5.6**
	0.2nm,0.4s,mb3.3,baz=11,slow=6.5,SNR=2.8						
WRA	**Warramunga Arr**	**66.22**	**196**	P	**P**	**09 14 53.7**	**+5.6**
PDAR	**Pinedale Array**	**67.75**	**51**	P	**P**	**09 14 56.5**	**-1.1**
	0.5nm,0.6s,mb3.4,baz=270,slow=1.3,SNR=4.5						
PDAR	**Pinedale Array**	**67.75**	**51**	P	**P**	**09 14 56.5**	**-1.1**
ASAR	**Alice Springs**	**69.94**	**195**	P	**P**	**09 15 17.9**	**+6.7**
	0.1nm,0.4s,mb2.9,baz=7.9,slow=6.4,SNR=3.7						
ASAR	**Alice Springs**	**69.94**	**195**	P	**P**	**09 15 17.9**	**+6.7**
TXAR	**Lajitas Array**	**80.50**	**58**	P	**P**	**09 16 11.5**	**-0.2**
	0.3nm,0.6s,mb3.1,baz=291,slow=3.8,SNR=8.6						
TXAR	**Lajitas Array**	**80.50**	**58**	P	**P**	**09 16 11.5**	**-0.2**
PLCA	**Paso Flores**	**150.60**	**96**	PKPbc	PKPbc	09 23 52.2	+2.6
	0.8nm,0.5s,baz=317,slow=2.4,SNR=5.1						
PLCA	**Paso Flores**	**150.60**	**96**	PKPbc	PKPbc	09 23 52.2	+2.6

TRN 25 09:48:18.3,16.56N×61.28W,h58km,MD2.9,M2.8(FDF), 1C,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEG	**La Desirade**	**0.33**	**139**	*eP*	Pn	09 48 29.9	+1.5
DEG				*e*S	Sn	09 48 37.8	+2.0
BCG	**Bois Riant Cap**	**0.57**	**214**	*eP*	Pn	09 48 32.3	+1.3
DOG	**Dongo Capester**	**0.62**	**211**	*eP*	Pn	09 48 32.9	+1.4
LZG	**Guadaloupe-1**	**0.63**	**228**	*eP*	Pn	09 48 32.9	+1.3
MGG	**Marie-Galante**	**0.64**	**183**	*eP*	Pn	09 48 33.6	+1.8
PHG	**Guadaloupe-2**	**0.65**	**212**	*eP*	Pn	09 48 33.2	+1.4
HMG	**Houelmont**	**0.70**	**215**	*eP*	Pn	09 48 34.2	+1.7
BPA	**Boggy Peak**	**0.73**	**311**	*i*eP	Pn	09 48 34.6	+1.7
BPA				*e*S	Sn	09 48 45.0	+1.6
TBG	**Guadaloupe-3**	**0.79**	**206**	*eP*	Pn	09 48 34.9	+1.3
SKI	**Saint Kitts**	**1.59**	**299**	*e*S	Sn	09 49 06.0	+2.4
MVM	**Montagne Vaucl**	**2.03**	**169**	*eP*	Pn	09 48 51.8	+1.6
MVM				*e*S	Sn	09 49 15.9	+1.4
BIM	**Bigot**	**2.04**	**174**	*eP*	Pn	09 48 51.7	+1.3
BIM				*e*S	Sn	09 49 16.6	+1.8

*DJA **25** 10:21:16,8.60N×124.04E,h74km,mb5.4/9*
*ISCJB **25** 10:21:21.3±0.5,7.84N±0.02×124.25E±0.03,h26km±3km, mb4.8/74,MS4.2/40,Error ellipse: s-maj=5.0km s-min=3.4km az=153.9*
*MAN **25** 10:21:21,7.96N×124.19E,h2km,mb5.4,ML4.4,MS4.7*
MAN INTENSITY III - OZAMIS CITY; INTENSITY II - ILIGAN CITY; CAGAYAN DE ORO CITY; COTABATO CITY; SULTAN KUDARAT.
*MOS **25** 10:21:21.9±1.1,7.91N×124.20E,h33km,mb5.1/21,Error ellipse: s-maj=16.7km s-min=7.1km az=117.5*
*BJI **25** 10:21:22.3,7.82N×123.95E,h19km,mB5.0/24,mb4.8/36, Ms4.5/29,Ms7 4.3/31*
*IDC **25** 10:21:23.9±3.5,7.89N×124.20E,h33km±27km,mb4.3/20, mb1 4.5/20,mb1mx4.3/28,mbtmp4.3/20,MS4.0/26, Ms1 4.1/26,ms1mx3.9/40,Error ellipse: s-maj=23.5km s-min=11.2km az=68.0*
*NEIC **25** 10:21:25.1±0.8,7.86N×124.22E,h44km±8km,mb5.0/27, Error ellipse: s-maj=6.9km s-min=3.7km az=62.0*
NEIC Felt [III PIVS] at Ozamiz City and [II PIVS] at Cagayan de Oro, Cotabato, Iligan and Sultan Kudarat.
*GCMT **25** 10:21:25.3±0.3,7.97N×124.26E,h24km±1km,MW4.9, Moment Tensor Solution. s16,c18; s58,c87; Moment tensor: Scale 10^{16}Nm; Mrr0.31±.15; Mθθ1.61±.09; Mϕϕ-1.92±.13; Mrθ-1.04±.17; Mrϕ-1.18±.08; Mθϕ-0.10±.14; Best double couple:

NJ2 sS sS 10 31 13.5 +4.9
NJ2 pmax pmax
comp=Z,20nm,0.9s,mb4.7
NJ2 pmax pmax
comp=Z,310nm,3.9s
NJ2 LR LR
comp=N,240nm,15.8s,MS3.9
NJ2 LR LR
comp=E,180nm,14.5s,MS3.9
NJ2 LR LR
comp=Z,890nm,12.8s,MS4.5
GYA Guiyang 24.90 320 P **P** **10 26 44.3 +0.2**
GYA pP 10 26 51.8
GYA PP 10 27 22.5
GYA PcP PcP 10 30 22.0 +2.1
GYA S **S** **10 31 04.3 -2.7**
GYA ScP ScP 10 33 57.5 -1.2
GYA pmax pmax
comp=Z,20nm,0.8s,mb4.7
GYA pmax pmax
comp=Z,130nm,4.8s
GYA LR LR
comp=N,480nm,15.9s,MS4.2
GYA LR LR
comp=E,410nm,16.0s,MS4.2
GYA LR LR
comp=Z,470nm,15.5s,MS4.1
CBIJ Chichi jima 25.59 40 LR LR 10 36 02.7
comp=Z,204nm,18.6s,MS3.7,baz=134,slow=34
FITZ Fitzroy Crossi 25.86 177 P **P** **10 26 52.5 -0.4**
comp=Z,34nm,0.9s,mb4.9,baz=6.4,slow=12,SNR=40
FITZ LR LR 10 36 35.3
comp=Z,118nm,20.4s,MS3.4,baz=99,slow=35
FITZ Fitzroy Crossi 25.86 177 *e*P **P** **10 26 52.5 -0.3**
comp=Z,51nm,0.8s,mb5.1
FITZ *e*S **S** **10 31 28.0 +5.7**
FITZ Fitzroy Crossi 25.86 177 *e*P **P** **10 26 52.6 -0.2**
comp=Z,39nm,0.9s,mb4.9
BDT Bhumibol Dam 26.29 293 P **P** **10 26 59.0 +2.2**
CHRT Chiangrai 26.51 299 ⇓P **P** **10 26 58.0 -0.8**
comp=Z,316nm,1.1s,mb5.8
KMI Kunming 26.73 312 P **P** **10 27 02.5 +1.8**
KMI S **S** **10 31 34.5 -1.6**
KMI pmax pmax
comp=Z,14nm,0.5s,mb4.8
KMI LR LR
comp=N,370nm,18.0s,MS4.2
KMI LR LR
comp=E,470nm,19.1s,MS4.2
KMI LR LR
comp=Z,660nm,17.7s,MS4.2
CMAR Chiang Mai Arr 26.73 296 P **P** **10 27 01.6 +0.8**
comp=Z,22nm,1.0s,mb4.6,baz=112,slow=8.0,SNR=39
CMAR LR LR 10 37 58.2
comp=Z,469nm,19.1s,MS4.1,baz=124,slow=37
CMAR Chiang Mai Arr 26.73 296 P **P** **10 27 01.6 +0.8**
CMAR Chiang Mai Arr 26.73 296 P **P** **10 27 01.6 +0.8**
CHG Chiang Mai 26.85 296 P **P** **10 27 04.3 +2.4**
CHTO Chiang Mai 26.85 296 *e*P **P** **10 27 01.9 0.0**
comp=Z,15nm,1.1s,mb4.4
CHTO Chiang Mai 26.85 296 *e*P **P** **10 27 01.9 0.0**
CHTO pmax pmax
comp=Z,15nm,1.1s,mb4.4
PMG Port Moresby 28.58 127 P **P** **10 27 17.9 +0.5**
comp=Z,16nm,0.9s,mb4.7,baz=291,slow=8.6,SNR=6.9
PMG Port Moresby 28.58 127 *e*P **P** **10 27 18.1 +0.7**
comp=Z,20nm,1.0s,mb4.8
PMG Port Moresby 28.58 127 *e*P **P** **10 27 18.1 +0.7**
PMG pmax pmax
comp=Z,20nm,1.0s
COEN Coen 28.71 139 *e*P **P** **10 27 17.9 -0.7**
comp=Z,125nm,0.8s,mb5.7
JHJ Hachijo jima 2 28.95 28 LR LR 10 36 59.4
comp=Z,441nm,21.4s,MS4.0,baz=135,slow=32
WRAB Tennant Creek 29.38 160 *e*P **P** **10 27 23.5 -0.9**
comp=Z,77nm,1.0s,mb5.4
WRAB Tennant Creek 29.38 160 *e*P **P** **10 27 23.5 -0.9**
WRAB Tennant Creek 29.38 160 P **P** **10 27 23.0 -1.4**
comp=Z,242nm,1.0s,mb5.9,SNR=13
WRA Warramunga Arr 29.39 160 P **P** **10 27 23.3 -1.1**
comp=Z,20nm,0.8s,mb4.9,baz=337,slow=9.8,SNR=97
WRA Warramunga Arr 29.39 160 P **P** **10 27 23.3 -1.1**
WRA Warramunga Arr 29.39 160 P **P** **10 27 23.3 -1.2**
WB2 Warramunga Arr 29.39 160 *e*P **P** **10 27 23.6 -0.9**
KSRS Korea Array 29.63 6 LR LR 10 39 41.0
comp=Z,290nm,19.5s,MS3.9,baz=194,slow=37
CD2 Chengdu 29.85 323 P **P** **10 27 31.0 +2.5**
CD2 pP pP 10 27 38.3 +5.5
CD2 sP sP 10 27 41.8 +7.2
CD2 PP PP 10 28 28.8 -7.2
CD2 S **S** **10 32 25.5 +0.4**
CD2 sS sS 10 32 37.8 +5.6
CD2 SS SS 10 34 02.5 -30
CD2 pmax pmax
comp=Z,120nm,0.8s,mb5.7
CD2 pmax pmax
comp=Z,200nm,6.5s
CD2 LR LR
comp=E,680nm,16.0s
CD2 LR LR
comp=Z,730nm,17.8s,MS4.4
MJAR Matsushiro Arr 31.24 22 P **P** **10 27 39.3 -1.5**
comp=Z,1.3nm,0.9s,mb3.8,baz=217,slow=7.7,SNR=2.6
MJAR LR LR 10 38 32.3
comp=Z,299nm,20.9s,MS3.9,baz=215,slow=33
MJAR Matsushiro Arr 31.24 22 P **P** **10 27 39.3 -1.5**
MJAR Matsushiro Arr 31.24 22 P **P** **10 27 39.3 -1.4**
AS31 Alice Springs 32.75 163 *e*P **P** **10 27 53.5 -0.5**
ASAR Alice Springs 32.75 163 P **P** **10 27 53.7 -0.4**
comp=Z,12nm,0.9s,mb4.8,baz=336,slow=7.4,SNR=101
ASAR Alice Springs 32.75 163 P **P** **10 27 53.7 -0.4**
ASAR Alice Springs 32.75 163 P **P** **10 27 53.7 -0.4**
BJI Beijing 32.82 349 P **P** **10 27 54.5 -0.1**
BJI LR LR
comp=N,130nm,10.4s
BJI LR LR
comp=E,520nm,24.2s
BJI LR LR
comp=Z,140nm,32.1s
LZH Lanzhou 33.68 329 *e*P **P** **10 28 04.0 +1.8**
LZH pP pP 10 28 11.5 +5.0
LZH sP sP 10 28 14.5 +6.2
LZH PP PP 10 29 17.3 -1.2
LZH *e*S **S** **10 33 25.5 +0.6**
LZH sS sS 10 33 37.5 +5.4
LZH *e*SS SS 10 35 31.8 -19
LZH pmax pmax
comp=Z,35nm,1.5s,mb5.1
LZH pmax pmax
comp=Z,140nm,4.3s
LZH LR LR
comp=N,700nm,16.5s,MS4.7
LZH LR LR
comp=E,810nm,16.2s,MS4.7
LZH LR LR
comp=Z,730nm,16.3s,MS4.5
SNY Shenyang 33.81 359 ⇓P **P** **10 28 10.0 +6.8**
SNY pmax pmax
comp=Z,15nm,0.8s,mb5.0
SNY LR LR
comp=N,320nm,16.2s
SNY LR LR
comp=Z,430nm,15.7s,MS4.3
HHC Hu-ho-hao-te 34.71 343 *e*P **P** **10 28 14.5 +3.5**
HHC sP sP 10 28 25.0 +7.9
HHC PP PP 10 29 32.5 +2.7
HHC PcP PcP 10 30 47.5 +2.7
HHC S **S** **10 33 43.5 +2.9**
HHC sS sS 10 33 55.5 +7.7
HHC ScS ScS 10 38 31.5 -1.5
HHC pmax pmax
comp=Z,14nm,0.6s,mb5.1
HHC pmax pmax
comp=Z,100nm,5.0s
HHC LR LR
comp=N,420nm,21.4s,MS4.2
HHC LR LR
comp=E,250nm,20.8s,MS4.2
HHC LR LR
comp=Z,540nm,23.5s,MS4.2
MEEK Meekatharra 34.74 189 *e*P **P** **10 28 10.5 -0.9**
comp=Z,85nm,0.9s,mb5.7
CTA Charters Tower 35.25 142 P **P** **10 28 16.8 +0.9**
comp=Z,6.7nm,1.0s,mb4.5,baz=319,slow=11,SNR=4.2
CTA LR LR 10 44 21.9
comp=Z,250nm,18.9s,MS4.0,baz=129,slow=39

CTA Charters Tower 35.25 142 *e*P **P** **10 28 21.4 +5.5**
comp=Z,8.5nm,1.1s,mb4.6
CTA Charters Tower 35.25 142 P **P** **10 28 16.8 +0.9**
CTA Charters Tower 35.25 142 P **P** **10 28 16.8 +0.9**
CTAO Charters Tower 35.25 142 *e*P **P** **10 28 16.8 +0.9**
comp=Z,51nm,1.6s,mb5.2
CTAO Charters Tower 35.25 142 *e*P **P** **10 28 16.8 +0.9**
CTAO pmax pmax
comp=Z,51nm,1.6s,mb5.2
SHL Shillong 35.47 304 *e*PKP **P** **10 28 18.5 +0.7**
CN2 Changchun 35.79 2 *e*P **P** **10 28 24.0 +3.7**
CN2 *es*P sP 10 28 34.5 +8.1
CN2 *e*S **S** **10 34 01.3 +4.1**
CN2 pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,12.0s,MS4.2
CN2 LR LR
comp=E,200nm,12.0s,MS4.2
CN2 LR LR
comp=Z,300nm,13.0s,MS4.2
MDJ Mudanjiang 36.89 6 P **P** **10 28 31.0 +1.4**
MDJ pP pP 10 28 37.0 +3.0
MDJ sP sP 10 28 39.8 +4.0
MDJ PP PP 10 29 55.3 +1.5
MDJ S **S** **10 34 16.0 +2.1**
MDJ sS sS 10 34 26.5 +5.4
MDJ pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MDJ pmax pmax
comp=Z,90nm,4.3s
MDJ LR LR
comp=N,200nm,18.1s
MDJ LR LR
comp=E,240nm,11.7s
MDJ LR LR
comp=Z,280nm,11.4s
GTA Gaotai 38.28 329 *e*P **P** **10 28 42.0 +0.5**
GTA pP pP 10 28 49.0 +3.1
GTA sP sP 10 28 52.3 +4.7
GTA S **S** **10 34 37.0 +1.8**
GTA sS sS 10 34 51.8 +9.4
GTA pmax pmax
comp=Z,9.0nm,1.1s,mb4.4
GTA pmax pmax
comp=Z,120nm,4.5s
GTA LR LR
comp=N,410nm,14.2s,MS4.5
GTA LR LR
comp=E,410nm,15.9s,MS4.5
GTA LR LR
comp=Z,640nm,16.6s,MS4.5
FORT Forrest 38.62 175 *e*P **P** **10 28 44.2 -0.2**
comp=Z,38nm,0.9s,mb5.1
FORT Forrest 38.62 175 *e*P **P** **10 28 44.2 -0.1**
comp=Z,52nm,0.9s,mb5.3
ASAJ Asahikawa 39.49 21 LR LR 10 42 35.5
comp=Z,243nm,20.9s,MS4.0,baz=345,slow=32
TAPN Taplejung 39.61 304 *e*P **P** **10 28 53.2 +0.4**
comp=Z,53nm,1.4s,mb5.1
ODAN Odare 39.69 303 *e*P **P** **10 28 53.8 +0.3**
KLBR Kellerberrin 39.74 189 *e*P **P** **10 28 53.0 -0.7**
comp=Z,26nm,1.3s,mb4.8
KLBR *ep*P pP 10 28 59.1 +1.0
RAMN Ramite 40.38 303 *e*P **P** **10 28 59.8 +0.6**
comp=Z,56nm,1.1s,mb5.2
JIRN Jiri 40.97 304 *e*P **P** **10 29 04.5 +0.4**
comp=Z,40nm,1.0s,mb5.0
NWAO Narrogin (SRO) 41.12 189 P **P** **10 29 05.0 -0.2**
comp=Z,13nm,0.7s,mb4.7,baz=21,slow=8.5,SNR=9.3
NWAO LR LR 10 47 47.3
comp=Z,112nm,18.1s,MS3.8,baz=52,slow=38
NWAO Narrogin (SRO) 41.12 189 P **P** **10 29 05.0 -0.2**
NWAO Narrogin (SRO) 41.12 189 P **P** **10 29 05.0 -0.2**
GUN Gumba 41.32 304 *e*P **P** **10 29 07.4 +0.4**
comp=Z,59nm,1.0s,mb5.2
HABR Khabarovsk 41.48 11 *e*P Px 10 29 19.4
HABR *e* 10 30 41.8
HABR *e* 10 31 01.9
HABR *e*PPP 10 31 11.0
HABR *e*S **S** **10 35 20.0 -2.8**
HABR *e*'SS sS 10 35 36.8 +6.7
HABR *e*SS SS 10 38 27.1 -0.3
HABR *e* 10 39 06.0
HABR pmax pmax
comp=E,89nm,3.6s
HABR pmax pmax
comp=N,71nm,2.7s
HABR pmax pmax
comp=Z,54nm,2.7s,mb4.7
HABR MLR MLR
comp=N,461nm,18.0s,MS4.7
HABR MLR MLR
comp=E,723nm,18.0s,MS4.7
HABR MLR MLR
comp=Z,193nm,18.0s,MS4.0
PKI Pulchoki 41.59 303 *e*P **P** **10 29 09.1 -0.1**
KKN Kakani 41.77 303 *e*P **P** **10 29 10.5 -0.2**
DMN Daman 41.85 303 *e*P **P** **10 29 11.4 0.0**
comp=Z,41nm,1.1s,mb5.0
BBOO Buckleboo 42.01 165 *e*P **P** **10 29 11.4 -1.0**
comp=Z,88nm,0.9s,mb5.4
BBOO *ep*P pP 10 29 18.0 +1.1
BBOO Buckleboo 42.01 165 *e*P **P** **10 29 13.0 +0.6**
comp=Z,972nm,1.3s
EIDS Eidsvold 42.14 142 *e*P **P** **10 29 12.7 -0.9**
comp=Z,22nm,1.1s,mb4.7
GKN Gorkha 42.38 303 *e*P **P** **10 29 15.3 -0.4**
ULN Ulaanbaatar 42.43 343 *e*P **P** **10 29 16.0 +0.2**
comp=Z,7.1nm,1.1s,mb4.2
ULN Ulaanbaatar 42.43 343 *e*P **P** **10 29 16.0 +0.2**
ULN pmax pmax
comp=Z,7.0nm,1.1s,mb4.2
SONM Songino Array 42.60 342 P **P** **10 29 17.2 +0.1**
comp=Z,3.3nm,1.1s,mb4.0,baz=157,slow=7.8,SNR=8.0
SONM LR LR 10 47 40.8
comp=Z,549nm,21.9s,MS4.4,baz=267,slow=37
SONM Songino Array 42.60 342 P **P** **10 29 17.2 +0.1**
SONM Songino Array 42.60 342 P **P** **10 29 17.2 +0.1**
STKA Stephens Creek 42.88 158 P **P** **10 29 19.8 +0.2**
comp=Z,36nm,0.9s,mb5.1,baz=332,slow=8.8,SNR=38
STKA LR LR 10 48 40.7
comp=Z,173nm,21.2s,MS3.9,baz=5.7,slow=38
STKA Stephens Creek 42.88 158 *e*P **P** **10 29 19.3 -0.2**
comp=Z,27nm,0.9s,mb5.0
STKA *ep*P pP 10 29 25.6 +1.6
STKA *e* 10 31 03.6
STKA Stephens Creek 42.88 158 *e*P **P** **10 29 19.4 -0.2**
comp=Z,17nm,0.9s,mb4.8
STKA Stephens Creek 42.88 158 *e*P **P** **10 29 19.4 -0.1**
STKA pmax pmax
comp=Z,17nm,0.9s
KOLN Koldanda 43.16 302 *e*P **P** **10 29 21.8 -0.2**
comp=Z,29nm,1.0s,mb5.0
DANN Dangsing 43.23 303 *e*P **P** **10 29 22.2 -0.3**
comp=Z,54nm,1.1s,mb5.2
PYUN Piuthan 43.78 303 *e*P **P** **10 29 27.1 +0.1**
comp=Z,187nm,1.1s,mb5.7
ZAK Zakamensk 45.81 341 *e*P **P** **10 29 40.8 -2.0**
ZAK *e* 10 31 23.9
ARMA Armidale 46.28 147 *e*P **P** **10 29 47.2 +0.4**
WMQ Urumqi 47.92 325 P **P** **10 30 00.8 +1.4**
WMQ pP pP 10 30 08.3 +4.4
WMQ sP sP 10 30 11.5 +5.9
WMQ PP PP 10 31 52.0 +0.6
WMQ S **S** **10 36 55.5 -1.0**
WMQ ScS ScS 10 39 49.5 -3.1
WMQ pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
WMQ pmax pmax
comp=Z,110nm,6.3s
WMQ LR LR
comp=N,360nm,16.5s,MS4.6
WMQ LR LR
comp=E,320nm,13.1s,MS4.6
WMQ LR LR
comp=Z,190nm,17.3s,MS4.1
DDI Dehra Dun 48.58 304 *ex* **P** **10 30 03.5 -1.2**
CNB Canberra Magne 49.08 153 *e*P **P** **10 30 09.0 +0.6**
comp=Z,78nm,1.1s,mb5.7
DZM Mont Dzumac 50.97 127 *e*LR LR 10 45 03.7
comp=Z,297nm,32.5s
PETK Petropavlovsk- 52.63 25 P **P** **10 30 34.3 -0.6**
comp=Z,6.6nm,1.0s,mb4.5,baz=210,slow=4.3,SNR=2.6
PETK LR LR 10 51 04.5
comp=Z,136nm,19.7s,MS4.0,baz=238,slow=34
PETK Petropavlovsk- 52.63 25 P **P** **10 30 34.3 -0.6**
PETK Petropavlovsk- 52.63 25 P **P** **10 30 34.3 -0.7**
MK31 Makanchi Array 52.75 325 *e*P **P** **10 30 35.9 0.0**
MK31 Makanchi Array 52.75 325 *e*P **P** **10 30 35.9 0.0**
MKAR Makanchi Array 52.75 325 P **P** **10 30 35.6 -0.3**
comp=Z,9.7nm,1.0s,mb4.7,baz=122,slow=7.4,SNR=16
MKAR LR LR 10 53 31.6
comp=Z,144nm,21.8s,MS4.0,baz=354,slow=37
MKAR Makanchi Array 52.75 325 *e*P **P** **10 30 36.0 +0.1**
MKAR Makanchi Array 52.75 325 *e*P **P** **10 30 36.0 +0.1**
KSH Kashi 53.38 314 *e*P **P** **10 30 43.8 +3.1**
KSH pP pP 10 30 51.5 +6.3
KSH sP sP 10 30 54.8 +7.8
KSH PcP PcP 10 31 50.0 +2.0
KSH PP PP 10 32 46.0 +4.9
KSH ScP ScP 10 35 44.8 -0.8
KSH PcS PcS 10 35 47.8 +0.9
KSH S **S** **10 38 13.0 +0.6**
KSH sS sS 10 38 26.8 +6.9
KSH ScS ScS 10 40 28.3 -1.9
KSH SS SS 10 41 54.0 +1.5
KSH pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
KSH pmax pmax
comp=Z,53nm,3.4s
KSH LR LR
comp=N,77nm,5.2s
KSH LR LR
comp=E,160nm,5.4s
KSH LR LR
comp=Z,170nm,5.3s
YAK Yakutsk 54.19 3 *e*P **P** **10 30 46.8 +0.5**
comp=Z,25nm,0.9s,mb5.2
YAK Yakutsk 54.19 3 *e*P **P** **10 30 48.6 +2.4**
YAK pmax pmax
comp=Z,19nm,0.8s,mb5.1
TKM2 Tokmak 2 55.01 318 *e*P **P** **10 30 53.1 +0.5**
comp=Z,4.2nm,1.0s,mb4.4
TKM2 Tokmak 2 55.01 318 *e*P **P** **10 30 53.1 +0.5**
TKM2 pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
AAK Ala-Archa 55.63 317 *e*P **P** **10 30 57.0 -0.1**
comp=Z,26nm,1.2s,mb5.1
AAK Ala-Archa 55.63 317 *e*P **P** **10 30 57.0 -0.1**
AAK pmax pmax
comp=Z,26nm,1.2s,mb5.1
ZAA0 Zalesovo Array 55.78 333 *e*P **P** **10 30 57.1 -0.8**
ZALV Zalesovo Beam 55.78 333 P **P** **10 30 54.0 -3.9**
comp=Z,5.1nm,0.9s,mb4.5,baz=126,slow=9.1,SNR=15
ZALV LR LR 10 56 28.5
comp=Z,130nm,18.5s,MS4.0,baz=254,slow=38
ZALV Zalesovo Beam 55.78 333 P **P** **10 30 54.0 -3.9**
ZALV Zalesovo Beam 55.78 333 P **P** **10 30 54.0 -3.9**
EKS2 Erkin-Say 56.13 317 *e*P **P** **10 31 01.2 +0.5**
comp=Z,4.6nm,0.9s,mb4.5
EKS2 Erkin-Say 56.13 317 *e*P **P** **10 31 01.2 +0.6**
EKS2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
KURK Kurchatov 56.92 327 P **P** **10 31 05.7 -0.4**
comp=Z,14nm,1.1s,mb4.9,baz=127,slow=7.0,SNR=23
KURK Kurchatov 56.92 327 *e*P **P** **10 31 05.8 -0.4**
comp=Z,32nm,1.2s,mb5.2
KURK Kurchatov 56.92 327 *d iP* **P** **10 31 05.1 -1.0**
KURK pmax pmax
comp=Z,30nm,1.1s,mb5.2
KURK Kurchatov 56.92 327 P **P** **10 31 05.4 -0.7**
comp=Z,128nm,1.2s,mb5.8,SNR=11
KBL Kabul 57.06 306 *e*P **P** **10 31 07.8 +0.4**
comp=Z,36nm,1.6s,mb5.2
KBL Kabul 57.06 306 *e*P **P** **10 31 07.8 +0.4**
KBL pmax pmax
comp=Z,36nm,1.6s,mb5.2
NVS Novosibirsk 57.07 333 *e*P **P** **10 31 04.6 -2.5**
NVS pmax pmax
comp=Z,20nm,1.2s,mb5.0
KK31 Karatay Array 58.52 316 *i* P **P** **10 31 16.3 -1.2**
KK31 pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
SEY Seymchan 58.62 15⇑ *e*P **P** **10 31 16.1 -1.7**
MSVF Nonsavu 58.93 116 *e*P **P** **10 31 28.1 +7.3**
comp=Z,23nm,1.1s,mb5.1
MSVF Nonsavu 58.93 116 *e*P **P** **10 31 28.1 +7.4**
MSVF pmax pmax
comp=Z,23nm,1.1s,mb5.1
BVAR Borovoye Array 62.50 327 P **P** **10 31 43.9 -0.7**
comp=Z,8.4nm,1.1s,mb4.8,baz=116,slow=6.6,SNR=18
BVAR Borovoye Array 62.50 327 P **P** **10 31 43.9 -0.7**
BVAR Borovoye Array 62.50 327 P **P** **10 31 43.9 -0.6**
BILL Bilibino 66.23 16 *e*P **P** **10 32 08.8 +0.1**
comp=Z,17nm,1.4s,mb4.9
BILL Bilibino 66.23 16 ⇓ *iP* **P** **10 32 08.3 -0.4**
BILL *e* 10 32 37.2
BILL *e* 10 34 36.1
BILL pmax pmax
comp=Z,25nm,1.5s,mb5.0
AB31 Akbulak array 67.38 320 *i* P **P** **10 32 15.2 -1.2**
ABKAR Akbulak array 67.38 320 *e*P **P** **10 32 15.8 -0.6**
comp=Z,1.6nm,0.6s,mb4.2
AKTO Aktyubinsk 68.88 321 P **P** **10 32 24.7 -1.1**
comp=Z,2.3nm,0.7s,mb4.2,baz=101,slow=10.0,SNR=5.6
AKTO LR LR 11 05 29.2
comp=Z,200nm,18.1s,MS4.4,baz=266,slow=38
AKTO Aktyubinsk 68.88 321 P **P** **10 32 24.7 -1.1**
AKTO Aktyubinsk 68.88 321 P **P** **10 32 24.7 -1.1**
SVE Sverdlovsk 69.14 328 *e*P **P** **10 32 26.2 -1.0**
SVE pmax pmax
comp=Z,22nm,1.5s,mb4.9
ARU Arti 70.12 327 *e*P **P** **10 32 33.5 +0.2**
comp=Z,13nm,1.2s,mb4.8
ARU Arti 70.12 327 *d iP* **P** **10 32 31.8 -1.5**
ARU 10 35 03.9
ARU S S 10 41 42.4 -1.5
ARU SS SS 10 46 09.5 -4.1
ARU pmax pmax
comp=Z,13nm,1.2s,mb4.7
GNI Garni 76.94 309 LR LR 11 12 45.1
comp=Z,48nm,18.1s,MS3.9,baz=213,slow=40
ZEI Tsey 77.60 312 *e*P **P** **10 33 15.8 -1.6**
ZEI pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
KLMR Klimovskoe 80.59 330 *e*P **P** **10 33 25.0 -8.4**
KLMR pmax pmax
comp=Z,35nm,1.3s,mb5.1
BPAW Bear Paw Mtn. 80.68 26 *e*P **P** **10 33 36.8 +3.0**
comp=Z,49nm,1.4s,mb5.2
MCK McKinley 81.58 27 *e*P **P** **10 33 38.9 +0.2**
comp=Z,54nm,1.4s,mb5.3
MCK McKinley 81.58 27 *e*P **P** **10 33 38.9 +0.2**
MCK pmax pmax
comp=Z,53nm,1.4s,mb5.3
SML Sawmill 81.90 29 *e*P **P** **10 33 46.2 +5.9**
comp=Z,16nm,1.4s,mb4.7
SML Sawmill 81.90 29 *e*P **P** **10 33 46.2 +5.9**
SML pmax pmax
comp=Z,16nm,1.4s,mb4.8
OBN Obninsk 82.25 325⇑ *e*P **P** **10 33 41.2 -1.2**
OBN pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
OBN MLR MLR
comp=Z,100nm,13.0s,MS4.4
ILAR Eielson Array 82.45 26 P **P** **10 33 43.3 +0.2**
comp=Z,0.5nm,0.9s,baz=250,slow=4.6,SNR=4.9
ILAR Eielson Array 82.45 26 P **P** **10 33 43.4 +0.2**
ILAR Eielson Array 82.45 26 P **P** **10 33 43.4 +0.2**
APA Apatity 83.09 337 ⇓ *eP* **P** **10 33 51.0 +4.6**
APA MLR MLR
comp=Z,600nm,16.0s,MS5.1
ASF Jabal al Asfar 83.61 302 LR LR 11 16 11.7
comp=Z,47nm,19.2s,MS3.9,baz=195,slow=39
BRTR Keskin Array B 85.48 309 P **P** **10 33 59.2 0.0**
comp=Z,1.3nm,0.8s,mb4.1,baz=103,slow=5.0,SNR=6.5
BRTR LR LR 11 20 08.2
comp=Z,41nm,18.7s,MS3.9,baz=212,slow=41
BRTR Keskin Array B 85.48 309 P **P** **10 33 59.2 0.0**
BRTR Keskin Array B 85.48 309 P **P** **10 33 59.2 0.0**
EIL Elat 85.53 299 LR LR 11 16 51.1
comp=Z,63nm,19.2s,MS4.0,baz=271,slow=39
ARCES ARCESS Array B 85.72 340 LR LR 11 15 29.2
comp=Z,159nm,18.9s,MS4.4,baz=332,slow=38
SPITS Spitsbergen Ar 85.95 349 LR LR 11 16 38.3
comp=Z,199nm,19.3s,MS4.5,baz=65,slow=39
FINES FINESS Array B 87.02 332 LR LR 11 14 34.1
comp=Z,188nm,18.5s,MS4.5,baz=360,slow=37

AKASG	**Malin Array Be**	**87.12 321**	P	**P**	**10 34 05.7**	**-1.3**		
	comp=Z,0.7nm,0.5s,mb4.1,baz=75,slow=4.1,SNR=5.7							
AKASG	**Malin Array Be**	**87.12 321**	P	**P**	**10 34 05.7**	**-1.3**		
AKASG	**Malin Array Be**	**87.12 321**	P	**P**	**10 34 05.7**	**-1.3**		
KMBO	**Kilima Mbogo**	**87.16 268**	*e*P	**P**	**10 34 12.3**	**+4.3**		
	comp=Z,8.3nm,1.2s,mb4.8							
KMBO	**Kilima Mbogo**	**87.16 268**	*e*P	**P**	**10 34 12.3**	**+4.3**		
KMBO			pmax	pmax				
	comp=Z,8.0nm,1.2s							
VNDA	**Vanda**	**87.84 172**	P	**P**	**10 34 08.5**	**-1.4**		
	comp=Z,1.3nm,1.0s,mb4.1,baz=320,slow=3.7,SNR=3.7							
VNDA	**Vanda**	**87.84 172**	P	**P**	**10 34 08.5**	**-1.4**		
VNDA	**Vanda**	**87.84 172**	P	**P**	**10 34 08.5**	**-1.4**		
PPT	**Papeete**	**88.75 108**	*e*LR	LR	11 02 35.4			
	comp=Z,103nm,25.5s							
TBI	**Tubuai**	**89.72 113**	*e*LR	LR	11 03 01.4			
	comp=Z,124nm,31.2s							
NOA	**NORSAR Array B**	**93.98 333**	P	**P**	**10 34 37.5**	**-1.4**		
	comp=Z,2.9nm,1.1s,mb4.6,baz=68,slow=5.1,SNR=2.5							
NOA	**NORSAR Array B**	**93.98 333**	P	**P**	**10 34 37.5**	**-1.4**		
NOA	**NORSAR Array B**	**93.98 333**	P	**P**	**10 34 37.5**	**-1.4**		
VRAC	**Vranov**	**95.36 321**	LR	LR	11 23 42.0			
	comp=Z,115nm,20.2s,MS4.3,baz=67,slow=39							
GERES	**GERESS Array B**	**97.31 321**	LR	LR	11 25 36.0			
	comp=Z,115nm,18.1s,MS4.4,baz=276,slow=40							
QSPA	**South Pole Qui**	**97.76 180**	LR	LR	11 19 12.8			
	comp=Z,74nm,20.2s,MS4.2,baz=2.5,slow=36							
TORD	**Torodi Ar. Bea**	**119.22 290**	PKP	PKPdf	10 40 09.8	-1.5		
	comp=Z,0.9nm,1.0s,baz=67,slow=2.4,SNR=3.4							
TORD	**Torodi Ar. Bea**	**119.22 290**	PKP	PKPdf	10 40 09.8	-1.5		
TXAR	**Lajitas Array**	**120.90 49**	PKP	PKPdf	10 40 13.8	-0.4		
	comp=Z,0.1nm,0.4s,baz=304,slow=2.1,SNR=2.6							
TXAR	**Lajitas Array**	**120.90 49**	PKP	PKPdf	10 40 13.8	-0.4		
TXAR	**Lajitas Array**	**120.90 49**	PKIKP	PKPdf	10 40 13.8	-0.4		
PLCA	**Paso Flores**	**144.74 160**	PKP	PKPdf	10 40 57.1	-1.2		
	comp=Z,5.2nm,1.0s,baz=204,slow=3.6,SNR=7.1							
PLCA	**Paso Flores**	**144.74 160**	PKP	PKPdf	10 40 57.1	-1.2		
PLCA	**Paso Flores**	**144.74 160**	PKIKP	PKPdf	10 40 57.1	-1.2		

IDC ***25*** *10:25:18.8±1.1, 32°.36N×105°.47E, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.6/27, mbtmp3.8/6, ML3.5/2, Error ellipse: s-maj=43.6km s-min=20.4km az=54.0*
BJI ***25*** *10:25:19.7, 32°.49N×105°.37E, h12km, mb3.8/3, ML3.7/16, Ms3.8/5, Ms7 3.6/5*
NEIC ***25*** *10:25:20.2±0.8, 32°.32N×105°.49E, h10km, Error ellipse: s-maj=19.6km s-min=9.1km az=46.0*
ISC 25 10:25:18.8±0.9**, 32°.38N**±0°.03×**105°.48E**±0°.04**, h0**km±7km**, n19**, σ0**°.88**/28**, mb3.9**/4**, Sichuan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.08**	**225**	Pn	**Pn**	**10 25 55.0**	**+0.1**
CD2				Pg	**Pg**	**10 25 57.5**	**-1.2**
CD2				Sg	**Sg**	**10 26 26.0**	**+0.4**
CD2				smax			
	comp=N,6μm,0.4s						
CD2				smax			
	comp=E,2μm,0.5s						
XAN	**Xi'an**	**3.32**	**59**	Pn	**Pn**	**10 26 13.0**	**+1.0**
XAN				Pg	**Pb**	**10 26 19.0**	**+0.4**
XAN				Sg	**Sg**	**10 27 05.0**	**-0.5**
XAN				smax			
	comp=N,240nm,0.8s						
XAN				smax			
	comp=E,140nm,0.8s						
LZH	**Lanzhou**	**3.94**	**340**	Pn	**Pn**	**10 26 21.0**	**+0.6**
LZH				Pg	**Pb**	**10 26 28.5**	**-0.5**
LZH				Sg	**Sb**	**10 27 16.5**	**-0.7**
LZH				smax			
	comp=N,280nm,1.0s						
LZH				smax			
	comp=E,480nm,1.0s						
LZH				LR	LR		
	comp=N,560nm,6.0s						
LZH				LR	LR		
	comp=E,460nm,7.4s						
LZH				LR	LR		
	comp=Z,510nm,8.5s						
ENH	**Enshi**	**4.02**	**121**	*e*Pg	**Pg**	**10 26 36.1**	**+0.2**
ENH				*e*Sn	**Sn**	**10 27 09.8**	**+0.4**
GYA	**Guiyang**	**5.99**	**170**	Pn	**Pn**	**10 26 50.8**	**+2.1**
GYA				Sn	**Sn**	**10 27 56.3**	**-1.8**
GYA				smax			
	comp=N,60nm,0.7s						
GYA				smax			
	comp=E,50nm,0.6s						
GTA	**Gaotai**	**8.38**	**328**	*e*P	**Pn**	**10 27 25.5**	**+4.0**
GTA				pP		10 27 29.5	
GTA				sP		10 27 32.5	
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
HHC	**Hu-ho-hao-te**	**9.76**	**28**	*e*P	**Pn**	**10 27 40.0**	**-0.3**
HHC				sP		10 27 46.5	
HHC				S	**Sn**	**10 29 30.0**	**-0.6**
HHC				PcS	PcS	10 37 26.5	-1.7
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC				LR	LR		
	comp=N,170nm,6.0s						
HHC				LR	LR		
	comp=E,170nm,5.2s						
HHC				LR	LR		
	comp=Z,180nm,5.4s						
SONM	**Songino Array**	**15.45**	**2**	Pn	**Pn**	**10 28 59.5**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=182,slow=11,SNR=4.8						
SONM	**Songino Array**	**15.45**	**2**	Pn	**Pn**	**10 28 59.5**	**+1.6**
KSAR	**Wonju Array Be**	**19.04**	**68**	P	**Pn**	**10 29 42.6**	**-0.4**
KSRS	**Korea Array**	**19.07**	**68**	P	**Pn**	**10 29 42.6**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=253,slow=11,SNR=6.4						
MKAR	**Makanchi Array**	**22.83**	**316**	P	**P**	**10 30 24.2**	**+0.9**
	comp=Z,1.5nm,0.9s,mb3.5,baz=113,slow=11,SNR=5.6						
MKAR	**Makanchi Array**	**22.83**	**316**	P	**P**	**10 30 24.2**	**+1.0**
KURK	**Kurchatov**	**26.96**	**321**	P	**P**	**10 31 01.1**	**-0.7**
	comp=Z,5.2nm,1.0s,mb4.2,baz=118,slow=8.7,SNR=5.7						
KURK	**Kurchatov**	**26.96**	**321**	P	**P**	**10 31 01.1**	**-0.7**
WRA	**Warramunga Arr**	**58.91**	**148**	P	**P**	**10 35 19.4**	**-0.2**
	comp=Z,0.8nm,0.5s,mb4.0,baz=342,slow=7.5,SNR=12						
WRA	**Warramunga Arr**	**58.91**	**148**	P	**P**	**10 35 19.4**	**-0.2**
ASAR	**Alice Springs**	**62.00**	**150**	P	**P**	**10 35 40.9**	**+0.1**
	comp=Z,0.5nm,0.7s,mb3.9,baz=340,slow=7.5,SNR=6.7						
ASAR	**Alice Springs**	**62.00**	**150**	P	**P**	**10 35 40.9**	**+0.1**

NEIC ***25*** *10:33:20.9±0.9, 24°.68N×122°.42E, h10km, MG3.5(JMA), Error ellipse: s-maj=16.7km s-min=10.2km az=150.0*
ISCJB ***25*** *10:33:21.8±0.4, 24°.86N±0°.03×122°.23E±0°.02, h94km±3km, Error ellipse: s-maj=5.0km s-min=2.7km az=155.5*
JMA ***25*** *10:33:21.7±0.3, 24°.82N×122°.18E, h95km, M3.5*
TAP ***25*** *10:33:22.4, 24°.81N×122°.20E, h91km, ML4.5, C*
ISC 25 10:33:22.7±0.4**, 24°.84N**±0°.03×**122°.22E**±0°.02**, h91**km±4km**, n74**, σ0**°.88**/131**, 6C-14D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.27**	**308**	P	**Pn**	**10 33 36.2**	**+0.2**
	baz=308						
TWB1				S	**Sn**	**10 33 45.8**	**-0.1**
	baz=308						
TWC	**Suao**	**0.41**	**235**	⇓*i*P	**Pn**	**10 33 36.5**	**-0.2**
	baz=235						
TWC				S	**Sn**	**10 33 46.4**	**-0.9**
	baz=235						
ILA	**Ilan**	**0.44**	**260**	P	**Pn**	**10 33 37.2**	**+0.3**
	baz=257						
ILA				S	**Sn**	**10 33 47.9**	**+0.3**
	baz=257						
NWF	**Wu-fen Shan**	**0.46**	**300**	⇑*i*P	**Pn**	**10 33 37.4**	**+0.2**
	baz=297						
NWF				*e*S	**Sn**	**10 33 48.1**	**+0.2**
	baz=297						
TWE	**Neicheng**	**0.52**	**256**	*i* P	**Pn**	**10 33 37.6**	**+0.1**
	baz=263						
TWE				S	**Sn**	**10 33 48.2**	**-0.5**
	baz=263						
TWA	**Mucha**	**0.59**	**283**	⇑*i*P	**Pn**	**10 33 38.2**	**0.0**
	baz=280						
TWA				S	**Sn**	**10 33 49.5**	**-0.3**
	baz=280						
ENA	**Nanau**	**0.60**	**227**	⇓*i*P	**Pn**	**10 33 38.4**	**+0.1**
	baz=220						
ENA				*e*S	**Sn**	**10 33 49.9**	**0.0**
	baz=220						
ENTT	**Nioudou**	**0.63**	**251**	*i* P	**Pn**	**10 33 38.8**	**+0.2**
	baz=254						
ENTT				*e*S	**Sn**	**10 33 50.9**	**+0.5**
	baz=254						
TAP1	**Taipei**	**0.66**	**287**	P	**Pn**	**10 33 38.7**	**-0.1**
	baz=288						
TAP1				S	**Sn**	**10 33 50.3**	**-0.7**
	baz=288						
TATO	**Taipei**	**0.68**	**281**	*e*Pn	**Pn**	**10 33 38.6**	**-0.4**
TATO				*e*Sn	**Sn**	**10 33 50.3**	**-0.9**
TWY	**Chenhua**	**0.71**	**307**	⇑*i*P	**Pn**	**10 33 39.5**	**+0.2**
	baz=304						
TWY				*e*S	**Sn**	**10 33 51.9**	**+0.2**
	baz=304						
TWS1	**Kuangyinshan**	**0.77**	**289**	⇑*i*P	**Pn**	**10 33 40.1**	**+0.2**
	baz=290						
TWS1				*e*S	**Sn**	**10 33 52.8**	**0.0**
	baz=290						
YHNB	**Yeheng**	**0.79**	**257**	*e*Pn	**Pn**	**10 33 39.9**	**-0.2**
YHNB				*e*Sg	**Sn**	**10 33 53.1**	**0.0**
NSK	**Sanguang**	**0.80**	**258**	⇑*i*P	**Pn**	**10 33 40.2**	**0.0**
	baz=266						
NSK				S	**Sn**	**10 33 53.3**	**-0.1**
	baz=266						
YOJ	**Yonaguni jima**	**0.81**	**118**	P	**Pn**	**10 33 40.2**	**-0.1**
YOJ				*e*S	**Sn**	**10 33 53.8**	**+0.2**
NNS	**Nan Shan**	**0.87**	**243**	⇓*i*P	**Pn**	**10 33 41.4**	**+0.5**
	baz=234						
NNS				S	**Sn**	**10 33 54.9**	**+0.3**
	baz=234						
NACB	**Ninganchiao**	**0.88**	**221**	*e*Pn	**Pn**	**10 33 40.0**	**-1.0**
NACB				*e*Sn	**Sn**	**10 33 54.3**	**-0.5**
NCU	**National Centr**	**0.95**	**278**	P	**Pn**	**10 33 41.9**	**+0.1**
	baz=285						
NCU				*e*S	**Sn**	**10 33 56.6**	**+0.5**
	baz=285						
TWD	**Chiawan**	**0.95**	**217**	P	**Pn**	**10 33 41.2**	**-0.6**
	baz=216						
TWD				*e*S	**Sn**	**10 33 55.5**	**-0.6**
	baz=216						
HWA	**Hwalien**	**1.03**	**213**	*e*P	**Pn**	**10 33 42.0**	**-0.8**
	baz=206						
HWA				S	**Sn**	**10 33 57.8**	**+0.1**
	baz=206						
WHF	**Hehuan Shan**	**1.11**	**232**	⇓*i*P	**Pn**	**10 33 44.0**	**+0.2**
	baz=226						
WHF				*e*S	**Sn**	**10 34 00.1**	**+0.5**
	baz=226						
TWT	**Tachien**	**1.12**	**239**	⇓*i*P	**Pn**	**10 33 44.6**	**+0.9**
	baz=231						
TWT				S	**Sn**	**10 33 59.8**	**+0.2**
	baz=231						
NSTT	**Nanjuang**	**1.13**	**259**	P	**Pn**	**10 33 43.9**	**0.0**
	baz=259						
NSTT				S	**Sn**	**10 33 59.5**	**-0.3**
	baz=259						
HSN	**Hsinchu**	**1.14**	**268**	P	**Pn**	**10 33 43.9**	**-0.1**
	baz=260						
HSN				*e*S	**Sn**	**10 33 59.7**	**-0.3**
	baz=260						
ESL	**Shilin**	**1.25**	**215**	⇓*i*P	**Pn**	**10 33 44.1**	**-1.2**
	baz=220						
ESL				*e*S	**Sn**	**10 34 00.1**	**-2.4**
	baz=220						
NSY	**Sanyi**	**1.40**	**253**	P	**Pn**	**10 33 47.5**	**+0.4**
	baz=252						
NSY				*e*S	**Sn**	**10 34 05.8**	**+0.2**
	baz=252						
TWQ1	**Liyutan**	**1.41**	**250**	P	**Pn**	**10 33 47.4**	**+0.1**
	baz=249						
TWQ1				S	**Sn**	**10 34 05.6**	**-0.3**
	baz=249						
IRIF	**Iriomote-Funau**	**1.46**	**110**	P	**Pn**	**10 33 47.5**	**-0.5**
IRIF				*e*S	**Sn**	**10 34 07.4**	**+0.3**
SMLT	**Sun Moon Lake**	**1.54**	**232**	⇓*i*P	**Pn**	**10 33 49.5**	**+0.6**
	baz=226						
SMLT				*e*S	**Sn**	**10 34 10.6**	**+1.8**
	baz=226						
TYC	**Yuchr**	**1.56**	**233**	⇓*i*P	**Pn**	**10 33 49.5**	**+0.3**
	baz=231						
TYC				*e*S	**Sn**	**10 34 10.2**	**+0.9**
	baz=231						
SSLB	**Suanglung**	**1.56**	**228**	*e*Pn	**Pn**	**10 33 49.1**	**-0.1**
SSLB				*e*Sn	**Sn**	**10 34 09.9**	**+0.6**
EHY	**Hungye**	**1.56**	**212**	P	**Pn**	**10 33 47.5**	**-1.7**
	baz=211						
TCU	**Taichung**	**1.57**	**244**	*e*P	**Pn**	**10 33 49.6**	**+0.3**
	baz=251						
TCU				*e*S	**Sn**	**10 34 09.2**	**-0.3**
	baz=251						
HATJ	**Hateruma jima**	**1.64**	**118**	P	**Pn**	**10 33 50.4**	**+0.2**
HATJ				*e*S	**Sn**	**10 34 12.1**	**+0.9**
YULB	**Yu-li**	**1.67**	**210**	*e*Pn	**Pn**	**10 33 48.9**	**-1.8**
YULB				*e*Sn	**Sn**	**10 34 10.7**	**-1.1**
WNT	**Mingjian**	**1.70**	**236**	P	**Pn**	**10 33 51.1**	**+0.2**
	baz=244						
WNT				*e*S	**Sn**	**10 34 12.9**	**+0.5**
	baz=244						
TWF1	**Yuli**	**1.71**	**210**	P	**Pn**	**10 33 49.5**	**-1.6**
	baz=214						
JKRS	**Kuro-shima**	**1.74**	**110**	P	**Pn**	**10 33 51.2**	**-0.2**
YUS	**Yu-Shan**	**1.78**	**221**	⇓*i*P	**Pn**	**10 33 52.5**	**+0.6**
	baz=210						
YUS				*e*S	**Sn**	**10 34 15.1**	**+0.8**
	baz=210						
JIJ	**Ishigaki jima**	**1.81**	**105**	P	**Pn**	**10 33 52.0**	**-0.4**
JIJ				*e*S	**Sn**	**10 34 15.7**	**+0.6**
ALS	**Alishan**	**1.85**	**225**	⇓*i*P	**Pn**	**10 33 54.0**	**+1.0**
	baz=232						
ALS				*e*S	**Sn**	**10 34 18.2**	**+2.1**
	baz=232						
CHN5	**Tsauling**	**1.88**	**229**	P	**Pn**	**10 33 53.6**	**+0.3**
	baz=236						
CHN5				*e*S	**Sn**	**10 34 18.2**	**+1.6**
	baz=236						
WGK	**Gukeng**	**1.90**	**233**	*e*P	**Pn**	**10 33 54.1**	**+0.5**
	baz=230						
WGK				*e*S	**Sn**	**10 34 17.8**	**+0.7**
	baz=230						
CHKT	**Chengkung**	**1.91**	**204**	P	**Pn**	**10 33 52.3**	**-1.3**
	baz=197						
CHKT				S	**Sn**	**10 34 14.1**	**-3.1**
	baz=197						
ELDTW	**Lidau**	**1.98**	**214**	⇓*i*P	**Pn**	**10 33 53.5**	**-1.1**
	baz=207						
CHN2	**Minshiung**	**2.06**	**231**	*e*P	**Pn**	**10 33 56.4**	**+0.7**
	baz=238						
CHN2				*e*S	**Sn**	**10 34 22.6**	**+1.7**
	baz=238						
CHN4	**Tsaushan**	**2.10**	**225**	P	**Pn**	**10 33 56.7**	**+0.4**
	baz=222						
CHN4				S	**Sn**	**10 34 23.1**	**+1.2**
	baz=222						
TPUB	**Ta-pu**	**2.12**	**224**	*e*Pn	**Pn**	**10 33 56.6**	**+0.2**
TPUB				*e*Sn	**Sn**	**10 34 21.0**	**-1.2**
CHY	**Chiayi**	**2.12**	**231**	P	**Pn**	**10 33 56.6**	**+0.2**
	baz=237						
CHY				*e*S	**Sn**	**10 34 22.4**	**+0.1**
	baz=237						
STYT	**Tauyuan**	**2.14**	**219**	P	**Pn**	**10 33 57.4**	**+0.6**
	baz=216						
STYT				*e*S	**Sn**	**10 34 24.1**	**+1.3**
	baz=216						
WTP	**Ta-pu**	**2.17**	**223**	⇓*i*P	**Pn**	**10 33 57.4**	**+0.4**
	baz=231						
WTP				*e*S	**Sn**	**10 34 24.4**	**+1.1**
	baz=231						
WSF	**Szhu**	**2.19**	**237**	*e*P	**Pn**	**10 33 57.0**	**-0.3**
	baz=234						
WSF				*e*S	**Sn**	**10 34 23.3**	**-0.5**
	baz=234						
CHN1	**Nanshi**	**2.26**	**224**	⇓*i*P	**Pn**	**10 33 58.5**	**+0.2**
	baz=230						
CHN1				S	**Sn**	**10 34 26.2**	**+0.5**
	baz=230						
JTJ	**Tarama**	**2.26**	**95**	P	**Pn**	**10 33 59.0**	**+0.7**
JTJ				*e*S	**Sn**	**10 34 27.6**	**+1.9**
TWG	**Pinlang**	**2.27**	**208**	*e*Pn	**Pn**	**10 33 56.5**	**-2.0**
TWG				*e*Sn	**Sn**	**10 34 23.6**	**-2.3**
TWG	**Pinlang**	**2.27**	**208**	⇑*i*P	**Pn**	**10 33 56.6**	**-1.9**
	baz=203						
CHN8	**Yiju**	**2.37**	**231**	*e*P	**Pn**	**10 34 01.3**	**+1.6**
	baz=228						
CHN8				*e*S	**Sn**	**10 34 28.0**	**-0.1**
	baz=228						
SCLT	**Jiali**	**2.49**	**229**	*e*P	**Pn**	**10 34 01.9**	**+0.6**
	baz=225						
SCLT				*e*S	**Sn**	**10 34 31.3**	**+0.3**
	baz=225						
ECL	**Taimali**	**2.52**	**208**	*e*P	**Pn**	**10 33 59.9**	**-1.9**
	baz=203						
SSD	**Sandimen**	**2.55**	**215**	*e*P	**Pn**	**10 34 02.8**	**+0.6**
	baz=220						
TAI1	**Yung-k'ang**	**2.56**	**226**	*e*P	**Pn**	**10 34 02.8**	**+0.5**
	baz=232						
TWM1	**Shoushan**	**2.60**	**220**	*e*P	**Pn**	**10 34 04.4**	**+1.6**
	baz=216						
PNG	**Penghu**	**2.75**	**243**	*e*P	**Pn**	**10 34 03.4**	**-1.4**
	baz=240						
PNG				*e*S	**Sn**	**10 34 34.4**	**-2.7**
	baz=240						
EAST	**Anshuo**	**2.75**	**207**	*e*P	**Pn**	**10 34 03.6**	**-1.4**
	baz=202						
LAY	**Lan-yu**	**2.86**	**193**	*e*P	**Pn**	**10 34 04.7**	**-1.6**
	baz=194						
SCZT	**Fangliau**	**2.87**	**211**	P	**Pn**	**10 34 06.8**	**+0.4**
	baz=218						
JOGS	**Gusukube**	**2.90**	**91**	P	**Pn**	**10 34 07.4**	**+0.6**
QZH	**Quanzhou**	**3.30**	**272**	⇓*i*Pn	**Pn**	**10 34 09.3**	**-2.9**
QZH				Sn	**Sn**	**10 34 44.8**	**-5.7**
QZH				smax			
	comp=N,220nm,0.5s						
QZH				smax			
	comp=E,70nm,0.5s						
KNM	**Kinmen**	**3.47**	**264**	*e*P	**Pn**	**10 34 15.1**	**+0.5**
	baz=255						
JKE	**Kume jima 2**	**4.38**	**69**	P	**Pn**	**10 34 28.0**	**+1.2**
JKE				*e*S	**Sn**	**10 35 20.4**	**+3.7**
JOW	**Kunigami**	**5.80**	**69**	*e*Pn	**Pn**	**10 34 45.4**	**-0.8**
JOW	**Kunigami**	**5.80**	**69**	P	**Pn**	**10 34 45.8**	**-0.4**
JOW				*e*S	**Sn**	**10 35 51.0**	**-0.4**
JTK	**Tokunoshima**	**6.71**	**63**	P	**Pn**	**10 34 57.7**	**-0.9**
JAM	**Amami Oshima**	**7.50**	**60**	P	**Pn**	**10 35 08.5**	**-0.8**

IDC ***25*** *10:33:57.0±0.7, 1°.50N×128°.14E, h0km, mb4.1/12, mb1 4.3/13, mb1mx4.2/20, mbtmp4.1/13, ML3.7/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/30, Error ellipse: s-maj=40.2km s-min=13.6km az=76.0*
ISCJB ***25*** *10:34:01.2±1.6, 1°.44N±0°.07×128°.17E±0°.09, h44km±15km, mb4.4/19, Error ellipse: s-maj=17.0km s-min=8.6km az=145.4*
NEIC ***25*** *10:34:01.9±0.4, 1°.44N×128°.18E, h35km, mb4.6/4, Error ellipse: s-maj=26.7km s-min=7.5km az=74.0*
DJA ***25*** *10:34:10, 0°.78N×127°.79E, h4km, MLv4.3/11*
ISC 25 10:34:02.8±1.6**, 1°.45N**±0°.08×**128°.26E**±0°.10**, h42**km±16km**, n55**, σ1°.01/54**, mb4.4/19**, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.12**	**233**	P	**Pn**	**10 34 18.5**	**-3.5**
TNTI				S	**Sn**	**10 34 30.6**	**-5.6**
LBMI	**Labuha**	**2.21**	**200**	P	**Pn**	**10 34 36.7**	**-0.3**
MNI	**Manado**	**3.42**	**270**	P	**Pn**	**10 34 59.3**	**+5.7**
SGSI	**Sangihe**	**3.51**	**309**	P	Px	10 35 08.2	
KMSI	**Cibinong**	**4.37**	**258**	P	**Pn**	**10 35 06.0**	**-0.6**
NLAI	**Namlea**	**4.80**	**194**	P	**Pn**	**10 35 12.6**	**0.0**
MSAI	**Masohi**	**4.81**	**172**	P	**Pn**	**10 35 13.8**	**+1.0**
LUWI	**Luwuk**	**6.02**	**246**	P	**Pn**	**10 35 30.4**	**+1.1**
	0.4nm68nm,0.9s						
BNDI	**Bandanaira**	**6.16**	**165**	P	**Pn**	**10 35 36.5**	**+5.2**
	0.4nm90nm,1.8s						
MRSI	**Marisa**	**6.39**	**261**	P	**Pn**	**10 35 39.9**	**+5.5**
	0.2nm40nm,1.1s						
KDI	**Kendari**	**7.79**	**226**	P	**Pn**	**10 35 54.3**	**+0.7**
	0.1nm24nm,0.9s						
TTSI	**Tana Toraja**	**9.55**	**242**	P	**Pn**	**10 36 16.0**	**-1.8**
	30nm,1.3s						
SPSI	**Sidrap Palu**	**10.05**	**238**	P	**Pn**	**10 36 25.5**	**+0.9**
	38nm,0.8s						
BKSI	**Bulukumba**	**10.55**	**230**	P	**Pn**	**10 36 32.5**	**+1.0**
KAKA	**Kakadu**	**14.67**	**164**	*e*Pn	**Pn**	**10 37 25.3**	**-2.4**
	52nm,1.0s						
FITZ	**Fitzroy Crossi**	**19.60**	**187**	P	**Pn**	**10 38 26.4**	**-2.8**
	0.2nm,0.3s,baz=3.2,slow=9.4,SNR=7.7						
FITZ	**Fitzroy Crossi**	**19.60**	**187**	P	**Pn**	**10 38 26.4**	**-2.8**
GUMO	**Guam**	**20.38**	**53**	LR	LR	10 45 44.6	
	comp=Z,83nm,20.5s,baz=288,slow=35						
WRA	**Warramunga Arr**	**22.08**	**165**	P	**P**	**10 38 54.9**	**+0.5**
	11nm,0.7s,mb4.4,baz=342,slow=11,SNR=45						
WRA	**Warramunga Arr**	**22.08**	**165**	P	**P**	**10 38 54.9**	**+0.5**
WB2	**Warramunga Arr**	**22.09**	**165**	*e*P	**P**	**10 38 54.5**	**+0.1**
AS31	**Alice Springs**	**25.57**	**168**	*e*P	**P**	**10 39 26.9**	**-1.0**
ASAR	**Alice Springs**	**25.57**	**168**	P	**P**	**10 39 28.7**	**+0.8**
	6.7nm,0.8s,mb4.2,baz=349,slow=11,SNR=23						
ASAR	**Alice Springs**	**25.57**	**168**	P	**P**	**10 39 28.7**	**+0.8**
CMAR	**Chiang Mai Arr**	**33.35**	**302**	P	**P**	**10 40 37.8**	**+0.6**
	0.8nm,0.7s,mb3.8,baz=113,slow=8.0,SNR=6.0						
CMAR	**Chiang Mai Arr**	**33.35**	**302**	P	**P**	**10 40 37.8**	**+0.6**
STKA	**Stephens Creek**	**35.48**	**160**	P	**P**	**10 40 55.9**	**+0.5**
	6.3nm,0.9s,mb4.5,baz=345,slow=11,SNR=7.0						
STKA	**Stephens Creek**	**35.48**	**160**	P	**P**	**10 40 55.9**	**+0.5**
KSAR	**Wonju Array Be**	**35.81**	**359**	P	**P**	**10 40 59.1**	**+0.9**
KSRS	**Korea Array**	**35.83**	**360**	P	**P**	**10 40 59.1**	**+0.8**
	1.6nm,0.7s,mb4.0,baz=175,slow=9.0,SNR=4.2						
MJAR	**Matsushiro Arr**	**36.11**	**14**	P	**P**	**10 41 01.9**	**+1.2**
	1.2nm,0.5s,mb4.1,baz=192,slow=9.9,SNR=4.7						
MJAR	**Matsushiro Arr**	**36.11**	**14**	P	**P**	**10 41 01.9**	**+1.2**
LSA	**Lhasa**	**45.08**	**312**	*e*P	**P**	**10 42 23.1**	**+8.1**
	8.4nm,0.8s,mb4.6						
RAMN	**Ramite**	**47.31**	**306**	*e*P	**P**	**10 42 33.0**	**+0.5**
JIRN	**Jiri**	**47.94**	**307**	*e*P	**P**	**10 42 37.8**	**+0.4**
	40nm,1.2s,mb5.3						
GUN	**Gumba**	**48.30**	**307**	*e*P	**P**	**10 42 40.2**	**0.0**
	23nm,0.8s,mb5.2						
ULN	**Ulaanbaatar**	**49.74**	**341**	*e*P	**P**	**10 42 50.3**	**-0.5**
	6.4nm,0.9s,mb4.7						
SONM	**Songino Array**	**49.93**	**341**	P	**P**	**10 42 51.5**	**-0.8**
	2.4nm,0.7s,mb4.3,baz=152,slow=8.8,SNR=14						
SONM	**Songino Array**	**49.93**	**341**	P	**P**	**10 42 51.5**	**-0.8**
**

s-maj=18.0km s-min=12.2km az=176.0

ISC 25 11:00:15.4±0.8, 61°02N±0°04×28°80E±0°08, h0km, n33, σ0s98/52, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.78**	**232**	*e*P	**Pg**	**11 00 30.4**	**+0.2**
VJF				*e*SB	**Sb**	**11 00 42.2**	**-0.5**
VJF				*e*RG		11 00 47.3	
VJF	**Virojoki**	**0.78**	**232**	P	**Pg**	**11 00 30.3**	**+0.1**
VJF				Sb	**Sb**	**11 00 42.2**	**-0.5**
FIA0	**FINESS Array S**	**1.38**	**289**	Pg	**Pg**	**11 00 41.6**	**-0.3**
	baz=113,slow=18						
FIA0				Lg		11 01 02.1	
	baz=95,slow=37						
FIA0				Rg		11 01 09.8	
	baz=113,slow=37						
FIA0	**FINESS Array S**	**1.38**	**289**	*e*P	**Pg**	**11 00 41.4**	**-0.5**
	baz=106						
FIA0				*e*S	**Sg**	**11 01 01.2**	**+1.4**
FIA0				MSG		11 01 01.2	
	comp=Z,9.2nm,0.3s						
FIA0				*e*RG		11 01 09.7	
FIA0	**FINESS Array S**	**1.38**	**289**	Pg	**Pg**	**11 00 41.6**	**-0.3**
	baz=113,slow=16,SNR=90						
FIA0				Lg		11 01 02.1	
	baz=95,slow=31,SNR=6.0						
FINES	**FINESS Array B**	**1.38**	**289**	Pg	**Pg**	**11 00 41.6**	**-0.3**
	comp=Z,3.1nm,0.3s,baz=111,slow=15,SNR=48						
FINES				Lg		11 01 01.7	
	comp=Z,13nm,0.3s,baz=103,slow=30,SNR=30						
FINES				Rg		11 01 09.4	
	comp=Z,43nm,0.7s,baz=98,slow=30,SNR=20						
PVF	**Pernaja**	**1.52**	**253**	*e*P	**Pn**	**11 00 43.3**	**-0.4**
PVF				*e*SN	**Sn**	**11 01 08.1**	**+4.0**
PVF				MSG		11 01 08.1	
	comp=Z,3.0nm,0.1s						
PVF	**Pernaja**	**1.52**	**253**	P	**Pn**	**11 00 43.2**	**-0.5**
KAF	**Kangasniemi**	**1.62**	**314**	*e*PN	**Pn**	**11 00 46.4**	**+1.3**
KAF				*e*SG	**Sg**	**11 01 08.2**	**+0.8**
KAF				MSG		11 01 08.2	
	comp=Z,26nm,0.4s						
KAF	**Kangasniemi**	**1.62**	**314**	Pn	**Pn**	**11 00 46.4**	**+1.2**
KAF				Sg	**Sg**	**11 01 08.2**	**+0.8**
	comp=Z,26nm,0.4s						
SUF	**Sumiainen**	**2.12**	**325**	*e*PB	**Pb**	**11 00 54.5**	**-0.1**
SUF				*e*SG	**Sg**	**11 01 23.3**	**-0.1**
SUF				MSG		11 01 23.3	
	comp=Z,4.3nm,0.2s						
SUF	**Sumiainen**	**2.12**	**325**	Pb	**Pb**	**11 00 54.5**	**-0.1**
SUF				Sg	**Sg**	**11 01 23.2**	**-0.2**
	comp=Z,4.3nm,0.2s						
KEF	**Keuruu**	**2.20**	**303**	*e*P	**Pn**	**11 00 55.1**	**+1.9**
KEF				*e*SG	**Sg**	**11 01 26.1**	**0.0**
KEF				MSG		11 01 26.1	
	comp=Z,7.9nm,0.4s						
JOF	**Joensuu**	**2.25**	**31**	*e*P	**Pn**	**11 00 53.8**	**0.0**
JOF				*e*S	**Sn**	**11 01 21.4**	**-0.8**
JOF				MSG		11 01 21.4	
	comp=Z,7.8nm,0.4s						
JOF	**Joensuu**	**2.25**	**31**	P	**Pn**	**11 00 53.7**	**-0.1**
JOF				S	**Sn**	**11 01 21.4**	**-0.8**
	comp=Z,7.8nm,0.4s						
MEF	**Metsahovi**	**2.31**	**252**	*e*P	**Pn**	**11 00 55.8**	**+1.2**
MEF				*e*SB	**Sb**	**11 01 27.2**	**+0.2**
MEF				MSG		11 01 27.2	
	comp=Z,4.4nm,0.4s						
MEF	**Metsahovi**	**2.31**	**252**	P	**Pn**	**11 00 55.8**	**+1.1**
RAF	**Rauma**	**3.42**	**273**	*e*SG	**Sg**	**11 02 04.1**	**-1.1**
RAF				MSG		11 02 04.1	
	comp=Z,4.1nm,0.4s						
RAF	**Rauma**	**3.42**	**273**	Sg	**Sg**	**11 02 04.1**	**-1.1**
	comp=Z,4.1nm,0.4s						
VAF	**Ylistaro**	**3.53**	**308**	*e*SG	**Sg**	**11 02 07.6**	**-1.0**
VAF				MSG		11 02 07.6	
	comp=Z,5.2nm,0.4s						
VAF	**Ylistaro**	**3.53**	**308**	Sg	**Sg**	**11 02 07.6**	**-1.0**
	comp=Z,5.2nm,0.4s						
HFS	**Hagfors**	**7.49**	**270**	Pn	**Pn**	**11 02 06.0**	**+0.2**
	baz=84,slow=12						
HFS				Sn	**Sn**	**11 03 28.8**	**-2.4**
	baz=80,slow=28						
HFS				Lg		11 04 06.3	
	baz=79,slow=37						
HFS	**Hagfors**	**7.49**	**270**	Pn	**Pn**	**11 02 06.3**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=77,slow=15,SNR=7.1						
HFS				Lg		11 04 14.4	
	comp=Z,0.7nm,0.3s,baz=76,slow=30,SNR=5.1						
HFS	**Hagfors**	**7.49**	**270**	*e*P	**Pn**	**11 02 06.0**	**+0.2**
HFS				*e*S	**Sn**	**11 03 28.8**	**-2.4**
HFS				*e*SG	**Sg**	**11 04 06.3**	**-9.4**
HFS	**Hagfors**	**7.49**	**270**	P	**Pn**	**11 02 05.9**	**+0.2**
HFS				S	**Sn**	**11 03 28.8**	**-2.5**
NB2	**NORSAR Subarra**	**8.53**	**278**	Pn	**Pn**	**11 02 20.0**	**0.0**
NB2				Lg		11 04 44.0	
	baz=68,slow=28						
NB2	**NORSAR Subarra**	**8.53**	**278**	*e*P	**Pn**	**11 02 20.0**	**0.0**
NB2				*e*SG	**Sg**	**11 04 44.0**	**-5.1**
NB2	**NORSAR Subarra**	**8.53**	**278**	P	**Pn**	**11 02 20.0**	**0.0**
NOA	**NORSAR Array B**	**8.53**	**278**	Pn	**Pn**	**11 02 20.0**	**0.0**
	comp=Z,0.2nm,0.3s,baz=74,slow=16,SNR=3.8						
NOA				Lg		11 04 42.2	
	comp=Z,0.4nm,0.3s,baz=306,slow=15,SNR=2.9						
ARA0	**ARCESS Array S**	**8.66**	**352**	Pn	**Pn**	**11 02 20.1**	**-1.6**
	baz=168,slow=14						
ARA0				Sn	**Sn**	**11 03 53.4**	**-6.6**
	baz=171,slow=28						
ARA0	**ARCESS Array S**	**8.66**	**352**	*e*P	**Pn**	**11 02 20.1**	**-1.6**
ARA0				*e*S	**Sn**	**11 03 53.4**	**-6.6**
ARA0	**ARCESS Array S**	**8.66**	**352**	P	**Pn**	**11 02 20.1**	**-1.7**
ARCES	**ARCESS Array B**	**8.66**	**352**	Pn	**Pn**	**11 02 22.4**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=170,slow=11,SNR=6.1						
ARCES				Lg		11 04 44.0	
	comp=Z,0.4nm,0.3s,baz=167,slow=29,SNR=5.3						

WEL 25 11:05:15.8±0.4, 45°32S×167°06E, h30km±1km, ML4.2/14, 1D, Error ellipse: s-maj=4.4km s-min=3.4km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.17**	**158**	P*	Pb	11 05 21.5	-0.3
DCZ				S*	Sb	11 05 25.8	0.0
MLZ	**Mavora Lakes**	**0.78**	**92**	||PN	Pn	11 05 29.7	-1.1
MLZ				SN	Sn	11 05 39.8	-1.7
PYZ	**Puysegur Point**	**0.89**	**197**	PN	Pn	11 05 31.7	-0.5
PYZ				SN	Sn	11 05 46.4	+2.4
MSZ	**Milford Sound**	**0.89**	**44**	PN	Pn	11 05 29.4	-2.9
MSZ				SN	Sn	11 05 42.7	-1.5
WKZ	**Wanaka**	**1.47**	**71**	PN	Pn	11 05 40.5	+0.3
EAZ	**Earnscleugh**	**1.59**	**88**	PN	Pn	11 05 42.6	+0.8
APZ	**The Paps**	**1.64**	**157**	PN	Pn	11 05 44.1	+1.5
JCZ	**Jackson Bay**	**1.74**	**45**	PN	Pn	11 05 43.4	-0.4
SYZ	**Scrubby Hill**	**1.89**	**131**	PN	Pn	11 05 47.1	+1.1
TUZ	**Tuapeka**	**1.91**	**110**	PN	Pn	11 05 47.1	+0.8
LBZ	**Lake Benmore**	**2.41**	**68**	PN	Pn	11 05 52.9	-0.2
ODZ	**Otahua Downs**	**2.55**	**85**	PN	Pn	11 05 54.8	-0.2
FOZ	**Fox Glacier**	**2.57**	**48**	PN	Pn	11 05 55.7	+0.4
RPZ	**Rata Peaks**	**3.27**	**62**	PN	Pn	11 06 04.2	-0.8
WVZ	**Waitaha Valley**	**3.47**	**51**	PN	Pn	11 06 06.8	-0.8
MQZ	**McQueen's Hall**	**4.31**	**70**	PN	Pn	11 06 17.8	-1.5
CRLZ	**Canterbury Las**	**4.34**	**68**	PN	Pn	11 06 18.3	-1.4
LTZ	**Lake Taylor**	**4.53**	**58**	PN	Pn	11 06 20.9	-1.4
THZ	**Tophouse**	**5.54**	**52**	*e*PN	Pn	11 06 35.0	-1.1
QRZ	**Quartz Range**	**6.02**	**44**	*e*PN	Pn	11 06 40.8	-1.9
NNZ	**Nelson**	**6.17**	**51**	*e*PN	Pn	11 06 44.7	-0.1

IDC 25 11:22:53.3±0.8, 31°36N×103°75E, h0km, mb4.0/9, mb1 4.1/11, mb1mx3.9/26, mbtmp4.0/11, ML3.6/2, MS2.8/2, Ms1 2.8/2, ms1mx2.3/40, Error ellipse: s-maj=30.6km s-min=16.1km az=66.0

BJI 25 11:22:54.3, 31°23N×103°91E, h7km, mB4.6/2, mb4.5/7, ML4.0/20, Ms3.9/8, Ms7 3.6/7

NEIC 25 11:22:55.2±0.5, 31°29N×103°72E, h10km, mb4.0/2, Error ellipse: s-maj=13.9km s-min=9.1km az=64.0

ISCJB 25 11:22:56.7±0.6, 31°19N±0°04×103°84E±0°05, h33km±7km, mb3.9/10, MS2.7/2, Error ellipse: s-maj=7.4km s-min=6.1km az=27.2

ISC 25 11:22:58.1±0.6, 31°19N±0°03×103°80E±0°05, h25km±5km, n44, σ1s39/54, mb3.9/10, MS2.7/2, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.28**	**188**	Pg	**Pb**	**11 23 02.8**	**-2.0**
CD2				Sg	**Sb**	**11 23 09.0**	**-0.4**
CD2				smax			
	comp=N,28μm,0.6s						
CD2				smax			
	comp=E,15μm,0.4s						
LZH	**Lanzhou**	**4.89**	**0**	*e*Pn	**Pn**	**11 24 12.5**	**+2.5**
LZH				Pg	**Pb**	**11 24 24.0**	**+1.0**
LZH				Sg	**Sb**	**11 25 27.3**	**+5.9**
LZH				smax			
	comp=N,110nm,1.0s						
LZH				smax			
	comp=E,390nm,1.0s						
LZH				LR	LR		
	comp=N,1μm,5.0s						
LZH				LR	LR		
	comp=E,1μm,9.0s						
LZH				LR	LR		
	comp=Z,1μm,6.0s						
ENH	**Enshi**	**4.98**	**99**	*e*Pn	**Pn**	**11 24 12.1**	**+0.9**
	comp=Z,150nm,0.5s						
XAN	**Xi'an**	**5.17**	**55**	Pn	**Pn**	**11 24 12.3**	**-1.6**
XAN				Pg	**Pb**	**11 24 28.5**	**+0.7**
XAN				Sn	**Sn**	**11 25 18.0**	**+5.3**
XAN				smax			
	comp=N,290nm,0.8s						
XAN				smax			
	comp=E,140nm,0.9s						
XAN				LR	LR		
	comp=N,240nm,6.1s						
XAN				LR	LR		
	comp=E,130nm,6.8s						
XAN				LR	LR		
	comp=Z,160nm,6.6s						
GYA	**Guiyang**	**5.34**	**151**	Pn	**Pn**	**11 24 18.3**	**+2.1**
GYA				Sn	**Sn**	**11 25 16.5**	**-0.3**
GYA				Sg	**Sb**	**11 25 37.5**	**+3.2**
GYA				smax			
	comp=N,270nm,0.9s						
GYA				smax			
	comp=E,260nm,1.0s						
GYA				LR	LR		
	comp=N,310nm,6.4s						
GYA				LR	LR		
	comp=E,310nm,6.3s						
GYA				LR	LR		
	comp=Z,430nm,7.7s						
KMI	**Kunming**	**6.11**	**189**	Pn	**Pn**	**11 24 26.5**	**-0.4**
KMI				Sn	**Sn**	**11 25 36.0**	**0.0**
KMI				smax			
	comp=N,38nm,1.1s						
KMI				smax			
	comp=E,36nm,1.1s						
KMI				LR	LR		
	comp=N,550nm,10.1s						
KMI				LR	LR		
	comp=E,1μm,10.5s						
KMI				LR	LR		
	comp=Z,450nm,9.1s						
WHN	**Wuhan**	**9.09**	**91**	P	Px	11 25 30.3	
WHN				S	**Sn**	**11 26 48.5**	**-0.7**
WHN				LR	LR		
	comp=Z,1μm,5.6s						
HHC	**Hu-ho-hao-te**	**11.50**	**31**	*e*P	**Pn**	**11 25 40.0**	**-0.7**
HHC				PP		11 25 48.8	
HHC				S	**Sn**	**11 27 49.3**	**+1.0**
HHC				SS		11 28 02.8	
HHC				PcP	PcP	11 31 33.0	+1.2
HHC				pmax	pmax		
	comp=Z,12nm,0.5s						
HHC				pmax	pmax		
	comp=Z,81nm,5.4s						
HHC				LR	LR		
	comp=N,160nm,4.9s						
HHC				LR	LR		
	comp=E,180nm,5.0s						
HHC				LR	LR		
	comp=Z,180nm,5.1s						
NJ2	**Nanjing**	**12.86**	**82**	*e*P	**Pn**	**11 26 02.8**	**+3.5**
NJ2				S	**Sn**	**11 28 25.8**	**+4.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NJ2				LR	LR		
	comp=N,230nm,8.8s						
NJ2				LR	LR		
	comp=E,260nm,9.0s						
CMAR	**Chiang Mai Arr**	**13.41**	**200**	Pn	**Pn**	**11 26 06.7**	**-0.3**
	comp=E,0.1nm,0.3s,baz=14,slow=12,SNR=4.4						
CMAR	**Chiang Mai Arr**	**13.41**	**200**	Pn	**Pn**	**11 26 06.7**	**-0.3**
GUN	**Gumba**	**15.94**	**263**	*e*P	**Pn**	**11 26 47.1**	**+6.4**
	comp=E,22nm,0.8s						
PKI	**Pulchoki**	**16.43**	**262**	*e*P	**Pn**	**11 26 51.2**	**+4.1**
KKN	**Kakani**	**16.48**	**263**	*e*P	**Pn**	**11 26 51.9**	**+4.3**
	comp=E,21nm,0.7s						
DMN	**Daman**	**16.68**	**262**	*e*P	**Pn**	**11 26 54.1**	**+3.9**
	comp=E,24nm,0.7s						
SONM	**Songino Array**	**16.75**	**6**	Pn	**Pn**	**11 26 49.2**	**-1.6**
	comp=E,0.1nm,0.3s,baz=183,slow=13,SNR=11						
SONM	**Songino Array**	**16.75**	**6**	Pn	**Pn**	**11 26 49.2**	**-1.6**
ULN	**Ulaanbaatar**	**16.84**	**8**	*e*P	**Pn**	**11 26 54.1**	**+2.0**
	comp=E,4.1nm,1.0s						
GKN	**Gorkha**	**16.97**	**264**	*e*P	**Pn**	**11 26 56.1**	**+2.3**
	comp=E,26nm,0.6s						
DANN	**Dangsing**	**17.63**	**266**	*e*P	**Pn**	**11 27 02.8**	**+0.8**
	comp=E,15nm,0.8s						
KOLN	**Koldanda**	**17.92**	**264**	*e*P	**Pn**	**11 27 05.7**	**+0.1**
KSAR	**Wonju Array Be**	**20.82**	**66**	P	**P**	**11 27 37.6**	**0.0**
KSRS	**Korea Array**	**20.85**	**66**	P	**P**	**11 27 37.6**	**-0.4**
	comp=E,12nm,0.7s,baz=259,slow=10,SNR=41						
MKAR	**Makanchi Array**	**22.75**	**319**	P	**P**	**11 27 56.9**	**-1.4**
	comp=E,2.1nm,0.8s,mb3.6,baz=119,slow=12,SNR=6.8						
MKAR	**Makanchi Array**	**22.75**	**319**	P	**P**	**11 27 56.9**	**-1.4**
ZAA0	**Zalesovo Array**	**26.54**	**335**	*e*P	**P**	**11 28 31.2**	**-2.4**
ZALV	**Zalesovo Beam**	**26.54**	**335**	P	**P**	**11 28 30.7**	**-2.9**
	comp=E,1.9nm,0.8s,mb3.7,baz=140,slow=9.2,SNR=6.3						
ZALV				LR	LR	11 40 49.8	
	comp=E,10nm,19.9s,MS2.4,baz=98,slow=41						
ZALV	**Zalesovo Beam**	**26.54**	**335**	P	**P**	**11 28 30.7**	**-2.9**
KURK	**Kurchatov**	**27.03**	**323**	P	**P**	**11 28 35.5**	**-2.6**
	comp=E,1.5nm,0.7s,mb3.6,baz=127,slow=9.7,SNR=8.4						
KURK				LR	LR	11 40 28.1	
	comp=E,36nm,18.9s,MS3.0,baz=210,slow=39						
KURK	**Kurchatov**	**27.03**	**323**	P	**P**	**11 28 35.5**	**-2.6**
BVAR	**Borovoye Array**	**32.57**	**322**	P	**P**	**11 29 28.2**	**+1.1**
	comp=E,0.5nm,0.5s,mb3.7,baz=98,slow=10,SNR=3.1						
BVAR	**Borovoye Array**	**32.57**	**322**	P	**P**	**11 29 28.2**	**+1.1**
WRAB	**Tennant Creek**	**58.68**	**146**	*e*P	**P**	**11 32 53.5**	**-0.1**
	comp=E,3.9nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**58.68**	**146**	P	**P**	**11 32 53.8**	**+0.2**
	comp=E,3.1nm,0.8s,mb4.4,baz=338,slow=7.7,SNR=28						
WRA	**Warramunga Arr**	**58.68**	**146**	P	**P**	**11 32 53.8**	**+0.2**
WB2	**Warramunga Arr**	**58.69**	**146**	*e*P	**P**	**11 32 54.0**	**+0.3**
ASAR	**Alice Springs**	**61.69**	**149**	P	**P**	**11 33 15.2**	**+1.1**
	comp=E,0.7nm,0.6s,mb3.9,baz=340,slow=6.3,SNR=9.6						
ASAR	**Alice Springs**	**61.69**	**149**	P	**P**	**11 33 15.2**	**+1.1**
ILAR	**Eielson Array**	**69.88**	**26**	P	**P**	**11 34 03.8**	**-2.6**
	comp=E,0.6nm,0.5s,mb3.8,baz=294,slow=3.3,SNR=11						
ILAR	**Eielson Array**	**69.88**	**26**	P	**P**	**11 34 03.8**	**-2.6**
STKA	**Stephens Creek**	**72.22**	**147**	P	**P**	**11 34 20.8**	**-0.1**
	comp=E,1.4nm,0.7s,mb4.0,baz=325,slow=7.9,SNR=4.0						
STKA	**Stephens Creek**	**72.22**	**147**	P	**P**	**11 34 20.8**	**-0.1**
YKA	**Yellowknife Ar**	**81.69**	**17**	P	**P**	**11 35 11.8**	**-2.1**
	comp=E,0.7nm,0.6s,mb3.8,baz=329,slow=5.4,SNR=6.5						
YKA	**Yellowknife Ar**	**81.69**	**17**	P	**P**	**11 35 11.8**	**-2.1**

ISCJB 25 11:23:08.2±0.5, 27°94N±0°06×127°84E±0°08, h147km±5km, mb3.9/8, Error ellipse: s-maj=13.8km s-min=6.7km az=32.0

IDC 25 11:23:09.0±0.8, 28°01N×128°15E, h140km±7km, mb3.3/5, mb1 3.5/6, mb1mx3.2/24, mbtmp3.2/6, Error ellipse: s-maj=45.8km s-min=14.6km az=85.0

JMA 25 11:23:09.6±0.2, 28°05N×127°72E, h125km, M3.5

NEIC 25 11:23:09.6±1.1, 27°98N×128°00E, h142km±10km, mb3.9/1, Error ellipse: s-maj=37.2km s-min=12.7km az=83.0

ISC 25 11:23:09.4±0.5, 27°95N±0°06×127°82E±0°08, h139km±5km, n27, σ0s80/36, mb3.9/8, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.92**	**172**	P	**Pn**	**11 23 32.8**	**+0.3**
JIH				*e*S	**Sn**	**11 23 50.4**	**+0.4**
JTK	**Tokunoshima**	**1.02**	**99**	P	**Pn**	**11 23 33.4**	**+0.1**
JTK				S	**Sn**	**11 23 51.1**	**-0.3**
JOW	**Kunigami**	**1.19**	**160**	P	**Pn**	**11 23 35.4**	**+0.5**
	199nm,0.3s,baz=115,slow=21,SNR=675						
JOW				S	**Sn**	**11 23 53.9**	**-0.4**
	80nm,0.3s,baz=126,slow=19,SNR=25						
JOW	**Kunigami**	**1.19**	**160**	P	**Pn**	**11 23 35.4**	**+0.5**
JOW				S	**Sn**	**11 23 53.9**	**-0.4**
JOW	**Kunigami**	**1.19**	**160**	P	**Pn**	**11 23 35.4**	**+0.5**
JOW				S	**Sn**	**11 23 54.1**	**-0.2**
JAGN	**Aguni-jima**	**1.45**	**201**	P	**Pn**	**11 23 37.8**	**+0.2**
JAGN				*e*S	**Sn**	**11 23 58.7**	**-0.5**
JAM	**Amami Oshima**	**1.64**	**73**	P	**Pn**	**11 23 39.7**	**0.0**
JAM				*e*S	**Sn**	**11 24 02.3**	**-0.6**
NAH1	**Naha**	**1.75**	**184**	P	**Pn**	**11 23 41.5**	**+0.6**
NAH1				*e*S	**Sn**	**11 24 05.1**	**+0.1**
JJT2	**Tamagusuku 2**	**1.81**	**182**	P	**Pn**	**11 23 42.6**	**+1.0**
JKE	**Kume jima 2**	**1.86**	**210**	P	**Pn**	**11 23 42.1**	**-0.2**
JKE				*e*S	**Sn**	**11 24 06.2**	**-1.2**
JZK	**Kikaishima**	**1.94**	**79**	P	**Pn**	**11 23 44.1**	**+1.0**
JTN	**Tanegashima 3**	**3.86**	**45**	P	**Pn**	**11 24 07.4**	**0.0**
KSAR	**Wonju Array Be**	**9.46**	**0**	P	**Pn**	**11 25 22.1**	**-0.2**
KSRS	**Korea Array**	**9.47**	**1**	P	**Pn**	**11 25 22.1**	**-0.4**
	0.0nm,0.3s,baz=176,slow=13,SNR=6.8						
SONM	**Songino Array**	**25.92**	**326**	P	**P**	**11 28 28.9**	**+0.5**
	1.2nm,0.5s,mb3.8,baz=139,slow=10.0,SNR=6.3						
SONM	**Songino Array**	**25.92**	**326**	P	**P**	**11 28 28.9**	**+0.5**
WRAB	**Tennant Creek**	**48.02**	**172**	*e*P	**P**	**11 31 34.3**	**-0.2**
	1.5nm,0.7s,mb3.7						
WRA	**Warramunga Arr**	**48.03**	**172**	P	**P**	**11 31 34.0**	**-0.5**
	1.0nm,0.7s,mb3.6,baz=352,slow=8.0,SNR=12						
WRA	**Warramunga Arr**	**48.03**	**172**	P	**P**	**11 31 34.0**	**-0.5**
ASAR	**Alice Springs**	**51.65**	**173**	P	**P**	**11 32 01.9**	**0.0**
	0.4nm,0.4s,mb3.4,baz=1.3,slow=15,SNR=13						
ASAR	**Alice Springs**	**51.65**	**173**	P	**P**	**11 32 01.9**	**0.0**
ARU	**Arti**	**55.82**	**321**	*e*P	**P**	**11 32 33.1**	**+1.2**
	35nm,1.4s,mb5.0						
ILAR	**Eielson Array**	**63.10**	**29**	P	**P**	**11 33 20.1**	**-1.6**
	0.1nm,0.4s,mb3.0,baz=261,slow=6.1,SNR=5.2						
ILAR	**Eielson Array**	**63.10**	**29**	P	**P**	**11 33 20.1**	**-1.6**
YKA	**Yellowknife Ar**	**77.12**	**25**	P	**P**	**11 34 45.2**	**-2.0**
	0.4nm,0.4s,mb3.4,baz=305,slow=5.8,SNR=8.2						
YKA	**Yellowknife Ar**	**77.12**	**25**	P	**P**	**11 34 45.2**	**-2.0**
FLWY	**Flagg Ranch**	**90.56**	**38**	*e*P	**P**	**11 35 58.1**	**+2.4**
	5.9nm,0.4s,mb5.0						

IDC 25 11:43:29.4±1.9, 9°82S×125°52E, h0km, mb4.0/1, mb1 3.7/4, mb1mx3.5/16, mbtmp3.6/4, ML3.3/3, Error ellipse: s-maj=94.1km s-min=28.6km az=66.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.24**	**179**	Pn	Pn	11 45 29.3	-0.9
	0.3nm,0.3s,baz=7.5,slow=14,SNR=8.8						
FITZ				Sn	Sn	11 46 52.9	-11
	0.8nm,0.3s,baz=291,slow=18,SNR=6.8						
WRA	**Warramunga Arr**	**13.18**	**141**	Pn	Pn	11 46 38.9	+0.9
	0.2nm,0.3s,baz=321,slow=13,SNR=7.1						
WRA				Sn	Sn	11 49 02.2	-3.3
	0.2nm,0.3s,baz=307,slow=24,SNR=5.0						
ASAR	**Alice Springs**	**15.93**	**151**	Pn	Pn	11 47 15.4	+0.3
	0.1nm,0.3s,baz=319,slow=12,SNR=16						
ASAR				Sn	Sn	11 50 06.1	-6.4
	0.1nm,0.3s,baz=314,slow=20,SNR=4.2						
MKAR	**Makanchi Array**	**68.27**	**330**	P	P	11 54 32.3	+0.2
	0.8nm,0.7s,baz=131,slow=7.9,SNR=3.8						

ISCJB 25 12:12:59.6±0.8, 30°3N±0°1×96°95E±0°09, h10km, mb3.8/2, Error ellipse: s-maj=15.8km s-min=10.0km az=156.2

IDC 25 12:13:00.9±1.7, 30°32N×97°17E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.4/25, mbtmp3.5/4, ML3.1/1, Error ellipse: s-maj=78.0km s-min=26.0km az=68.0

BJI 25 12:13:01.5, 30°37N×96°88E, h10km, ML3.5/5

ISC 25 12:13:01.8±0.8, 30°36N±0°10×97°00E±0°09, h10km, n16, σ0s91/17, mb3.8/2, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**6.57**	**225**	*e*PKP	**Pn**	**12 14 38.0**	**-0.5**
SHL				*e*S	**Sb**	**12 16 23.0**	**+8.2**
TAPN	**Taplejung**	**8.68**	**252**	*e*P	**Pn**	**12 15 08.5**	**+1.1**
	6.7nm,0.4s						
ODAN	**Odare**	**9.13**	**250**	*e*P	**Pn**	**12 15 13.5**	**-0.1**
RAMN	**Ramite**	**9.74**	**252**	*e*P	**Pn**	**12 15 22.5**	**+0.5**
	12nm,0.4s						
JIRN	**Jiri**	**9.83**	**257**	*e*P	**Pn**	**12 15 24.3**	**+1.1**
	6.4nm,0.3s						
GUN	**Gumba**	**10.02**	**259**	*e*P	**Pn**	**12 15 26.2**	**+0.4**
	6.1nm,0.3s						
PKI	**Pulchoki**	**10.52**	**258**	*e*P	**Pn**	**12 15 32.9**	**+0.3**
KKN	**Kakani**	**10.56**	**259**	*e*P	**Pn**	**12 15 33.7**	**+0.5**
GKN	**Gorkha**	**11.05**	**261**	*e*P	**Pn**	**12 15 40.5**	**+0.6**
DANN	**Dangsing**	**11.72**	**263**	*e*P	**Pn**	**12 15 48.5**	**-0.6**
KOLN	**Koldanda**	**12.00**	**261**	*e*P	**Pn**	**12 15 50.3**	**-2.6**
	3.9nm,0.3s						
PYUN	**Piuthan**	**12.44**	**263**	*e*P	**Pn**	**12 15 56.3**	**-2.6**
SONM	**Songino Array**	**18.89**	**20**	P	**Pn**	**12 17 22.9**	**+0.1**
	0.1nm,0.3s,baz=200,slow=12,SNR=6.5						
MKAR	**Makanchi Array**	**19.98**	**329**	P	**Pn**	**12 17 36.0**	**+0.1**
	0.5nm,0.7s,baz=132,slow=12,SNR=2.5						
WRA	**Warramunga Arr**	**61.58**	**140**	P	**P**	**12 23 19.5**	**0.0**
	0.9nm,0.8s,mb4.0,baz=329,slow=7.6,SNR=5.3						
ASAR	**Alice Springs**	**64.34**	**142**	P	**P**	**12 23 37.7**	**-0.1**
	0.5nm,0.6s,

INK	**Inuvik**	**69.49**	**23**	LR	LR	13 09 19.8
	comp=Z,332nm,21.3s,baz=346,slow=36					
NVAR	**Mina Array Bea**	**82.50**	**52**	P	**P**	**12 39 33.4 +6.1**
	0.6nm,0.9s,mb3.6,baz=273,slow=7.0,SNR=3.9					
NVAR	**Mina Array Bea**	**82.50**	**52**	P	**P**	**12 39 33.4 +6.1**
CASY	**Casey**	**88.37**	**194**	*e*P	**P**	**12 39 48.5 -7.2**
	7.8nm,0.6s,mb5.1					

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*ISCJB **25** 12:27:14.5±0.3,37°.18N±0°.02×5°.39W±0°.01,h7km±2km, Error ellipse: s-maj=2.9km s-min=1.8km az=9.5*
*CSEM **25** 12:27:15.7±0.1,37°.09N×5°.37W,h10km,ML3.7/29, Error ellipse: s-maj=2.2km s-min=1.4km az=1.0*
*LDG **25** 12:27:16.3±0.1,37°.05N×5°.43W,h2km,Ml3.4/4, Error ellipse: s-maj=3.5km s-min=2.2km az=2.0*
*IGIL **25** 12:27:17.5,37°.08N×5°.40W,h10km,ML3.3*
*INMG **25** 12:27:17.4±1.2,37°.01N×5°.36W,h20km±2km,ML3.3, Error ellipse: s-maj=1.7km s-min=1.4km az=4.0*
*MDD **25** 12:27:17.1±0.2,37°.06N×5°.38W,h11km,mbLg3.1/44, Error ellipse: s-maj=2.7km s-min=2.0km az=173.0,PRIMO*
*NEIC **25** 12:27:17.3,37°.08N×5°.40W,h10km,MN3.1(MDD),After MDD.*
*SFS **25** 12:27:17.0,37°.05N×5°.38W,h11km,ML3.1*
ISC 25 12:27:15.7±0.3,37°.14N±0°.02×5°.38W±0°.01,h10km±2km, n195,σ1§18/311,2D,Spain

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LIJA	**Lijar**	**0.23**	**185**	∥Pg		**Pg**	**12 27 19.1**	**-1.3**
LIJA				Lg			12 27 24.1	
LIJA	**Lijar**	**0.23**	**185**	*i* P		**Pg**	**12 27 19.1**	**-1.4**
LIJA				*i* S		**Sg**	**12 27 24.1**	**+0.5**
ESPR	**Espera**	**0.47**	**235**	Pg		**Pg**	**12 27 25.4**	**+0.6**
ESPR				Lg			12 27 31.4	
ESPR	**Espera**	**0.47**	**235**	Pg		**Pg**	**12 27 25.4**	**+0.6**
	259nm,0.3s,SNR=222							
ESPR				Lg			12 27 30.7	
	546nm,0.3s,SNR=19							
ESPR	**Espera**	**0.47**	**235**	Pg		**Pg**	**12 27 25.4**	**+0.6**
	259nm,0.3s,SNR=222							
ESPR				Lg			12 27 30.7	
	546nm,0.3s,SNR=19							
GIBL	**Gibalbin**	**0.56**	**237**	Lg			12 27 36.9	
EJIF	**Jimena Fronter**	**0.69**	**186**	Pg		**Pg**	**12 27 27.9**	**-1.1**
EJIF				Lg			12 27 39.7	
EJIF	**Jimena Fronter**	**0.69**	**186**	Pg		**Pg**	**12 27 28.0**	**-1.0**
	194nm,0.3s,SNR=7.9							
EJIF				Lg			12 27 37.1	
	953nm,0.5s,SNR=7.9							
EJIF	**Jimena Fronter**	**0.69**	**186**	Pg		**Pg**	**12 27 27.9**	**-1.1**
EJIF				Lg			12 27 37.1	
	953nm,0.5s,SNR=7.9							
EMIJ	**Mijas**	**0.75**	**139**	Pg		**Pg**	**12 27 29.2**	**-1.0**
EMIJ				Lg			12 27 40.7	
EMIJ	**Mijas**	**0.75**	**139**	Pg		**Pg**	**12 27 29.2**	**-1.0**
	161nm,0.4s,SNR=73							
EMIJ				Lg			12 27 39.3	
	350nm,0.3s,SNR=20							
EMIJ	**Mijas**	**0.75**	**139**	Pg		**Pg**	**12 27 29.2**	**-1.0**
	161nm,0.4s,SNR=73							
EMIJ				Lg			12 27 39.3	
	350nm,0.3s,SNR=20							
EMAL	**Malaga-Limoner**	**0.85**	**116**	Pg		**Pg**	**12 27 32.1**	**+0.1**
EMAL				Lg			12 27 42.5	
EMAL	**Malaga-Limoner**	**0.85**	**116**	*i* P		**Pg**	**12 27 32.2**	**+0.2**
EMAL				*e*S		**Sg**	**12 27 42.5**	**-0.6**
CNIL	**Conil**	**0.94**	**216**	Pg		**Pg**	**12 27 34.9**	**+1.1**
CNIL				Lg			12 27 51.1	
CNIL	**Conil**	**0.94**	**216**	*i* P		**Pg**	**12 27 34.8**	**+1.0**
SFS	**San Fernando**	**0.94**	**225**	*e*Pg		**Pg**	**12 27 34.5**	**+0.6**
SFS	**San Fernando**	**0.94**	**225**	∥Pg		**Pg**	**12 27 34.7**	**+0.9**
SFS				Lg			12 27 56.7	
SFS	**San Fernando**	**0.94**	**225**	*e*Pg		**Pg**	**12 27 34.5**	**+0.6**
SFS	**San Fernando**	**0.94**	**225**	*i* P		**Pg**	**12 27 34.7**	**+0.8**
ELOJ	**Sierra Loja**	**0.98**	**89**	Pg		**Pg**	**12 27 36.0**	**+1.4**
ELOJ				Lg			12 27 49.7	
ELOJ	**Sierra Loja**	**0.98**	**89**	Pg		**Pg**	**12 27 36.0**	**+1.4**
	94nm,0.4s,SNR=33							
ELOJ				Lg			12 27 48.4	
	280nm,0.4s,SNR=5.0							
ELOJ	**Sierra Loja**	**0.98**	**89**	Pg		**Pg**	**12 27 36.0**	**+1.4**
	94nm,0.4s,SNR=33							
ELOJ				Lg			12 27 48.4	
	280nm,0.4s,SNR=5.0							
ELUQ	**Luque**	**0.98**	**64**	Pg		**Pg**	**12 27 35.6**	**+1.0**
ELUQ				Lg			12 27 51.2	
ELUQ	**Luque**	**0.98**	**64**	Pg		**Pg**	**12 27 36.0**	**+1.4**
	206nm,0.3s,SNR=7.9							
ELUQ				Lg			12 27 49.9	
	289nm,0.2s,SNR=7.9							
ELUQ	**Luque**	**0.98**	**64**	Pg		**Pg**	**12 27 35.6**	**+1.0**
ELUQ				Lg			12 27 49.9	
	289nm,0.2s,SNR=7.9							
EMIN	**Mina Concepcio**	**1.21**	**302**	Pg		**Pg**	**12 27 38.9**	**0.0**
EMIN				Lg			12 27 56.8	
EMIN	**Mina Concepcio**	**1.21**	**302**	Pg		**Pg**	**12 27 38.9**	**0.0**
	101nm,0.3s,SNR=467							
EMIN				Lg			12 27 56.8	
	210nm,0.3s,SNR=32							
EMIN	**Mina Concepcio**	**1.21**	**302**	Pg		**Pg**	**12 27 38.9**	**0.0**
	101nm,0.3s,SNR=467							
EMIN				Lg			12 27 56.8	
	210nm,0.3s,SNR=32							
EADA	**Adamuz**	**1.21**	**31**	Pg		**Pg**	**12 27 39.7**	**+0.7**
EADA				Lg			12 27 59.3	
EADA	**Adamuz**	**1.21**	**31**	Pg		**Pg**	**12 27 39.7**	**+0.7**
	65nm,0.4s,SNR=190							
EADA				Lg			12 27 57.6	
	254nm,0.4s,SNR=5.0							
EADA	**Adamuz**	**1.21**	**31**	Pg		**Pg**	**12 27 39.7**	**+0.7**
	85nm,0.4s,SNR=190							
EADA				Lg			12 27 57.6	
	254nm,0.4s,SNR=5.0							
ERON	**Agron**	**1.26**	**95**	Pg		**Pg**	**12 27 40.0**	**0.0**
ERON				Lg			12 27 59.8	
ERON	**Agron**	**1.26**	**95**	Pg		**Pg**	**12 27 40.0**	**0.0**
	52nm,0.2s,SNR=7.9							
ERON				Lg			12 27 57.3	
	190nm,0.3s,SNR=7.9							
ERON	**Agron**	**1.26**	**95**	Pg		**Pg**	**12 27 40.0**	**0.0**
	52nm,0.2s,SNR=7.9							
ERON				Lg			12 27 57.3	
	190nm,0.3s,SNR=7.9							
ECOG	**Cogollos-Vega**	**1.45**	**84**	Pg		**Pg**	**12 27 43.4**	**-0.2**
ECOG				Lg			12 28 06.2	
ECOG	**Cogollos-Vega**	**1.45**	**84**	Pg		**Pg**	**12 27 43.4**	**-0.2**
	166nm,0.6s,SNR=47							
ECOG				Lg			12 28 03.7	
	167nm,0.3s,SNR=9.4							
ECOG	**Cogollos-Vega**	**1.45**	**84**	Pg		**Pg**	**12 27 43.4**	**-0.2**
	166nm,0.6s,SNR=47							
ECOG				Lg			12 28 03.7	
	167nm,0.3s,SNR=9.4							
EGUA	**Guajares**	**1.48**	**101**	Pg		**Pg**	**12 27 44.5**	**+0.3**
EGUA				Lg			12 28 06.4	
EGUA	**Guajares**	**1.48**	**101**	Pg		**Pg**	**12 27 43.7**	**-0.4**
	80nm,0.3s,SNR=7.9							
EGUA				Lg			12 28 03.9	
	672nm,0.5s,SNR=7.9							
EGUA	**Guajares**	**1.48**	**101**	Pg		**Pg**	**12 27 43.7**	**-0.5**
	80nm,0.3s,SNR=7.9							
EGUA				Lg			12 28 03.9	
	672nm,0.5s,SNR=7.9							
EQUE	**Quentar**	**1.55**	**87**	Pg		**Pg**	**12 27 44.9**	**-0.6**
	93nm,0.3s,SNR=7.9							
EQUE				Lg			12 28 07.2	
	96nm,0.3s,SNR=7.9							
EQUE	**Quentar**	**1.55**	**87**	Pg		**Pg**	**12 27 44.9**	**-0.5**
	93nm,0.3s,SNR=7.9							
EQUE				Lg			12 28 07.2	
	96nm,0.3s,SNR=7.9							
PBAR	**Barrancos**	**1.68**	**309**	*e*Pn		**Pn**	**12 27 45.7**	**+0.6**
PBAR				*e*Sg		**Sg**	**12 28 12.1**	**+2.4**
	100nm,0.5s							
PBAR	**Barrancos**	**1.68**	**309**	*e*Pn		**Pn**	**12 27 45.7**	**+0.6**
PBAR				*e*Sg		**Sg**	**12 28 12.1**	**+2.4**
PBAR				A			12 28 15.5	
	100nm,0.5s							
EGRO	**El Granado**	**1.73**	**284**	Pg		**Pg**	**12 27 45.9**	**-2.9**
EGRO				Lg			12 28 13.3	
EGRO	**El Granado**	**1.73**	**284**	Pn		**Pn**	**12 27 45.9**	**+0.2**
	35nm,0.3s,SNR=5.4							
EGRO				Pg		**Pg**	**12 27 48.4**	**-0.4**
	24nm,0.3s,SNR=49							
EGRO				Sn		**Sn**	**12 28 07.2**	**-0.5**
	185nm,0.6s,SNR=11							
EGRO				Lg			12 28 11.1	
	147nm,0.3s,SNR=5.0							
EGRO	**El Granado**	**1.73**	**284**	Pn		**Pn**	**12 27 45.9**	**+0.2**
	35nm,0.3s,SNR=5.4							
PVAQ	**Vaqueiros**	**1.89**	**279**	*e*Pn		**Pn**	**12 27 47.7**	**-0.2**
PVAQ				*e*Sg		**Sg**	**12 28 16.0**	**-0.3**
	159nm,0.5s							
PVAQ	**Vaqueiros**	**1.89**	**279**	*e*Pn		**Pn**	**12 27 47.7**	**-0.2**
PVAQ				*e*Sg		**Sg**	**12 28 16.0**	**-0.3**
PVAQ				A			12 28 18.4	
	159nm,0.5s							
EQES	**Quesada**	**1.95**	**69**	Pg		**Pn**	**12 27 49.7**	**+0.9**
EQES				Pg		**Pg**	**12 27 53.1**	**0.0**
EQES				Sn		**Sn**	**12 28 17.2**	**+3.8**
EQES				Lg			12 28 20.5	
EQES	**Quesada**	**1.95**	**69**	Pn		**Pn**	**12 27 49.7**	**+0.9**
	1.6nm,0.1s,SNR=7.9							
EQES				Pg		**Pg**	**12 27 53.1**	**0.0**
	49nm,0.5s,SNR=19							
EQES				Sn		**Sn**	**12 28 14.3**	**+0.9**
	141nm,0.4s,SNR=14							
EQES				Lg			12 28 20.5	
	160nm,0.4s,SNR=7.9							
EQES	**Quesada**	**1.95**	**69**	Pn		**Pn**	**12 27 49.7**	**+0.8**
	1.6nm,0.1s,SNR=7.9							
EBER	**Berja**	**2.00**	**96**	Pg		**Pg**	**12 27 55.0**	**+0.8**
EBER				Lg			12 28 22.5	
EBER	**Berja**	**2.00**	**96**	Pn		**Pn**	**12 27 49.8**	**+0.2**
	73nm,0.6s,SNR=9.6							
EBER				Pg		**Pg**	**12 27 53.9**	**-0.2**
	52nm,0.4s,SNR=34							
EBER				Sn		**Sn**	**12 28 14.6**	**-0.1**
	59nm,0.4s,SNR=5.9							
EBER				Lg			12 28 21.0	
	150nm,0.5s,SNR=7.9							
EBER	**Berja**	**2.00**	**96**	Pn		**Pn**	**12 27 49.8**	**+0.2**
	73nm,0.6s,SNR=9.6							
EBER	**Berja**	**2.00**	**96**	Pg		**Pg**	**12 27 53.9**	**-0.3**
	52nm,0.4s,SNR=34							
EBER				Sn		**Sn**	**12 28 14.6**	**-0.1**
	59nm,0.4s,SNR=5.9							
EBER				Lg			12 28 21.0	
	150nm,0.5s,SNR=7.9							
PBDV	**Barranco-do-Ve**	**2.04**	**274**	*e*Pn		**Pn**	**12 27 50.1**	**0.0**
PBDV				*e*Sg		**Sg**	**12 28 21.0**	**-0.3**
	186nm,0.7s							
PBDV	**Barranco-do-Ve**	**2.04**	**274**	*e*Pn		**Pn**	**12 27 50.1**	**0.0**
PBDV				*e*Sg		**Sg**	**12 28 21.0**	**-0.3**
PBDV				A			12 28 24.0	
	186nm,0.7s							
EBAD	**Badajoz**	**2.07**	**322**	Pn		**Pn**	**12 27 51.2**	**+0.8**
EBAD				Pg		**Pg**	**12 27 56.0**	**+0.5**
EBAD				Lg			12 28 23.7	
EBAD	**Badajoz**	**2.07**	**322**	Pn		**Pn**	**12 27 51.2**	**+0.8**
	1.7nm,0.2s,SNR=7.9							
EBAD				Pg		**Pg**	**12 27 56.0**	**+0.5**
	17nm,0.2s,SNR=7.9							
EBAD				Sn		**Sn**	**12 28 16.9**	**+0.6**
	45nm,0.4s,SNR=7.9							
EBAD				Lg			12 28 23.7	
	154nm,0.4s,SNR=7.9							
EBAD	**Badajoz**	**2.07**	**322**	Pn		**Pn**	**12 27 51.2**	**+0.7**
	1.7nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**2.07**	**322**	Pg		**Pg**	**12 27 56.0**	**+0.6**
	17nm,0.2s,SNR=7.9							
EBAD				Sn		**Sn**	**12 28 16.9**	**+0.6**
	45nm,0.4s,SNR=7.9							
EBAD				Lg			12 28 23.7	
	154nm,0.4s,SNR=7.9							
PBEJ	**Beja**	**2.17**	**295**	*e*Pn		**Pn**	**12 27 52.2**	**+0.4**
PBEJ				*e*Sg		**Sg**	**12 28 25.1**	**-0.3**
	66nm,0.4s							
PBEJ	**Beja**	**2.17**	**295**	*e*Pn		**Pn**	**12 27 52.2**	**+0.4**
PBEJ				*e*Sg		**Sg**	**12 28 25.1**	**-0.3**
PBEJ				A			12 28 30.7	
	66nm,0.4s							
PCVE	**Castro Verde**	**2.18**	**284**	*e*Pn		**Pn**	**12 27 52.0**	**+0.1**
PCVE				*e*Sg		**Sg**	**12 28 25.8**	**+0.1**
	124nm,0.4s							
PCVE	**Castro Verde**	**2.18**	**284**	*e*Pn		**Pn**	**12 27 52.0**	**+0.1**
PCVE				*e*Sg		**Sg**	**12 28 25.8**	**+0.1**
PCVE				A			12 28 34.0	
	124nm,0.4s							
EHUE	**Huescar**	**2.32**	**72**	Pn		**Pn**	**12 27 54.6**	**+0.8**
EHUE				Lg			12 28 31.3	
EHUE	**Huescar**	**2.32**	**72**	Pn		**Pn**	**12 27 54.6**	**+0.8**
	3.4nm,0.1s,SNR=7.9							
EHUE				Pg		**Pg**	**12 27 59.3**	**-0.8**
	9.8nm,0.2s,SNR=7.9							
EHUE				Sn		**Sn**	**12 28 22.4**	**0.0**
	16nm,0.6s,SNR=7.9							
EHUE				Lg			12 28 31.3	
	32nm,0.3s,SNR=7.9							
EHUE	**Huescar**	**2.32**	**72**	Pn		**Pn**	**12 27 54.6**	**+0.7**
	3.4nm,0.1s,SNR=7.9							
MESJ	**Messejana**	**2.37**	**288**	*e*P		**Pn**	**12 27 54.7**	**+0.2**
MESJ				*e*			12 27 55.4	
	baz=84,slow=16							
MESJ				*e*S		**Sn**	**12 28 21.9**	**-1.7**
PESTR	**Estremoz**	**2.46**	**315**	*e*Pn		**Pn**	**12 27 56.9**	**+1.1**
PESTR				*e*Sg		**Sg**	**12 28 36.0**	**+1.3**
	118nm,0.5s							
PESTR	**Estremoz**	**2.46**	**315**	*e*Pn		**Pn**	**12 27 56.9**	**+1.1**
PESTR				*e*Sg		**Sg**	**12 28 36.0**	**+1.3**
PESTR				A			12 28 42.6	
	118nm,0.5s							
EVO	**Evora**	**2.51**	**305**	*e*Pn		**Pn**	**12 27 58.1**	**+1.6**
EVO	**Evora**	**2.51**	**305**	*e*Pg		**Pg**	**12 28 04.5**	**+0.7**
EVO				*e*Sg		**Sg**	**12 28 36.0**	**-0.3**
	149nm,0.4s							
PAB	**San Pablo**	**2.54**	**18**	*e*Pn		**Pn**	**12 28 02.5**	**+5.5**
PAB				*e*Sg		**Sg**	**12 28 42.9**	**+5.6**
PAB	**San Pablo**	**2.54**	**18**	*e*Pn		**Pn**	**12 28 02.5**	**+5.6**
PAB				*e*Sg		**Sg**	**12 28 42.9**	**+5.6**
ENIJ	**Nijar**	**2.54**	**93**	Pn		**Pn**	**12 27 57.9**	**+1.0**
ENIJ				Pg		**Pg**	**12 28 07.6**	**+3.2**
ENIJ				Lg			12 28 36.0	
ENIJ	**Nijar**	**2.54**	**93**	Pn		**Pn**	**12 27 57.1**	**+0.1**
	1.4nm,0.2s,SNR=7.9							
ENIJ				Pg		**Pg**	**12 28 03.0**	**-1.4**
	30nm,0.4s,SNR=7.9							
ENIJ				Sn		**Sn**	**12 28 26.6**	**-1.3**
	12nm,0.3s,SNR=7.9							
ENIJ				Lg			12 28 37.2	
	33nm,0.7s,SNR=7.9							
ENIJ	**Nijar**	**2.54**	**93**	Pn		**Pn**	**12 27 57.1**	**+0.1**
	1.4nm,0.2s,SNR=7.9							
ENIJ	**Nijar**	**2.54**	**93**	Pg		**Pg**	**12 28 03.0**	**-1.4**
	30nm,0.4s,SNR=7.9							
ENIJ				Sn		**Sn**	**12 28 26.6**	**-1.3**
	12nm,0.3s,SNR=7.9							
ENIJ				Lg			12 28 37.2	
	33nm,0.7s,SNR=7.9							
EVOP	**Sao Brissos**	**2.58**	**303**	*e*Pn		**Pn**	**12 27 58.1**	**+0.6**
EVOP				*e*Pg		**Pg**	**12 28 04.5**	**-0.7**
EVOP				*e*Sg		**Sg**	**12 28 36.0**	**-2.6**
EVOP	**Sao Brissos**	**2.58**	**303**	*e*Pn		**Pn**	**12 27 58.1**	**+0.6**
EVOP	**Sao Brissos**	**2.58**	**303**	*e*Pg		**Pg**	**12 28 04.5**	**-0.7**
EVOP				*e*Sg		**Sg**	**12 28 36.0**	**-2.6**
	74nm,0.4s							
MORF	**Marmelete**	**2.62**	**275**	*e*Pn		**Pn**	**12 27 58.3**	**+0.3**
MORF				*e*Sn		**Sn**	**12 28 29.5**	**-0.3**
MORF				*e*Sg		**Sg**	**12 28 39.1**	**-0.7**
MORF				A			12 28 42.3	
	104nm,0.2s							
MORF	**Marmelete**	**2.62**	**275**	*e*Pn		**Pn**	**12 27 58.3**	**+0.3**
MORF				*e*Sn		**Sn**	**12 28 29.5**	**-0.3**
MORF				*e*Sg		**Sg**	**12 28 39.1**	**-0.7**
MORF				A			12 28 42.3	
	104nm,0.2s							
PNCL	**Nicolau / Gran**	**2.69**	**292**	*e*Pn		**Pn**	**12 27 59.3**	**+0.4**
PNCL				*e*Sg		**Sg**	**12 28 42.7**	**+0.7**
	70nm,0.4s							
PNCL	**Nicolau / Gran**	**2.69**	**292**	*e*Pn		**Pn**	**12 27 59.3**	**+0.4**
PNCL				*e*Sg		**Sg**	**12 28 42.7**	**+0.7**
PNCL				A			12 28 45.4	
	70nm,0.4s							
PTEO	**Sao Teotonio**	**2.70**	**280**	*e*Pn		**Pn**	**12 27 59.1**	**0.0**
PTEO				*e*Sn		**Sn**	**12 28 30.3**	**-1.5**
PTEO				*e*Sg		**Sg**	**12 28 41.6**	**-0.8**
	122nm,0.5s							
PTEO	**Sao Teotonio**	**2.70**	**280**	*e*Pn		**Pn**	**12 27 59.1**	**0.0**
PTEO				*e*Sn		**Sn**	**12 28 30.3**	**-1.5**
PTEO				*e*Sg		**Sg**	**12 28 41.6**	**-0.8**
PTEO				A			12 28 46.3	
	122nm,0.5s							
EVIA	**Vianos**	**2.73**	**56**	Pn		**Pn**	**12 28 00.2**	**+0.7**
EVIA				Pg		**Pg**	**12 28 07.7**	**-0.2**
EVIA				Sn		**Sn**	**12 28 34.4**	**+1.9**
EVIA				Lg			12 28 44.2	
EVIA	**Vianos**	**2.73**	**56**	Pn		**Pn**	**12 28 00.2**	**+0.7**
	12nm,0.8s,SNR=14							
EVIA				Pg		**Pg**	**12 28 07.7**	**-0.2**
	31nm,0.3s,SNR=16							
EVIA				Sn		**Sn**	**12 28 33.0**	**+0.5**
	176nm,0.8s,SNR=5.0							
EVIA				Lg			12 28 44.2	
	168nm,0.8s,SNR=6.7							
EVIA	**Vianos**	**2.73**	**56**	Pn		**Pn**	**12 28 00.2**	**+0.7**
	12nm,0.8s,SNR=14							
EVIA	**Vianos**	**2.73**	**56**	Pg		**Pg**	**12 28 07.7**	**-0.2**
	31nm,0.3s,SNR=16							
EVIA				Sn		**Sn**	**12 28 33.0**	**+0.5**
	176nm,0.8s,SNR=5.0							
EVIA				Lg			12 28 44.2	
	168nm,0.8s,SNR=6.7							
PFVI	**Vila Bisbo**	**2.76**	**271**	Pn		**Pn**	**12 27 59.6**	**-0.3**
PFVI				Pg		**Pg**	**12 28 06.5**	**-2.0**
PFVI				Sn		**Sn**	**12 28 31.6**	**-1.6**
PFVI				Lg			12 28 44.9	
PFVI	**Vila Bisbo**	**2.76**	**271**	Pn		**Pn**	**12 27 59.6**	**-0.3**
	7.6nm,0.3s,SNR=13							
PFVI				Pg		**Pg**	**12 28 06.5**	**-2.0**
	30nm,0.3s,SNR=93							
PFVI				Sn		**Sn**	**12 28 31.6**	**-1.6**
	63nm,0.2s,SNR=7.9							
PFVI				Lg			12 28 44.1	
	34nm,0.7s,SNR=7.9							
PFVI	**Vila Bisbo**	**2.76**	**271**	Pn		**Pn**	**12 27 59.6**	**-0.3**
	7.6nm,0.3s,SNR=13							
PFVI	**Vila Bisbo**	**2.76**	**271**	Pg		**Pg**	**12 28 06.5**	**-2.0**
	30nm,0.3s,SNR=93							
PFVI				*e*Sn		**Sn**	**12 28 32.1**	**-1.1**
	84nm,0.6s							
PFVI				Lg			12 28 44.2	
	34nm,0.7s,SNR=7.9							
PFVI	**Vila Bisbo**	**2.76**	**271**	*e*Pn		**Pn**	**12 27 59.3**	**-0.6**
PFVI				*e*Sn		**Sn**	**12 28 32.1**	**-1.1**
PFVI				A			12 28 53.2	
	84nm,0.6s							
ESDC	**Sonseca Array**	**2.77**	**23**	Pn		**Pn**	**12 28 02.3**	**+2.2**
ESDC				Pg		**Pg**	**12 28 10.0**	**+1.3**
ESDC				Sn		**Sn**	**12 28 34.7**	**+1.2**
ESDC				Lg			12 28 47.2	
ESDC	**Sonseca Array**	**2.77**	**23**	Pn		**Pn**	**12 28 01.3**	**+1.2**
	1.1nm,0.3s,baz=201,slow=13,SNR=7.9							
ESDC				Pg		**Pg**	**12 28 08.7**	**0.0**
	2.6nm,0.3s,baz=204,slow=16,SNR=14							
ESDC				Sn		**Sn**	**12 28 34.7**	**+1.2**
	6.1nm,0.3s,baz=204,slow=28,SNR=4.7							
ESDC				Lg			12 28 47.2	
	19nm,0.3s,baz=207,slow=29,SNR=16							
ESDC	**Sonseca Array**	**2.77**	**23**	Pn		**Pn**	**12 28 01.3**	**+1.2**
	1.1nm,0.3s,baz=201,slow=13,SNR=7.9							
ESDC	**Sonseca Array**	**2.77**	**23**	Pg		**Pg**	**12 28 10.0**	**+1.2**
ESDC				Sn		**Sn**	**12 28 34.7**	**+1.2**
	6.1nm,0.3s,baz=204,slow=28,SNR=4.7							
ESDC				Lg			12 28 47.2	
	19nm,0.3s,baz=207,slow=29,SNR=16							
ESLA	**Sonseca Array**	**2.77**	**23**	*e*Pn		**Pn**	**12 28 03.9**	**+3.8**
ESLA				*e*Sg		**Sg**	**12 28 47.1**	**+2.5**
ESLA	**Sonseca Array**	**2.77**	**23**	*e*Pn		**Pn**	**12 28 03.9**	**+3.8**
ESLA				*e*Sg		**Sg**	**12 28 47.1**	**+2.5**
PMRV	**Marv??o**	**2.78**	**326**	*e*Pn		**Pn**	**12 28 01.4**	**+1.1**
PMRV				*e*Sg		**Sg**	**12 28 48.7**	**+3.5**
	84nm,0.4s							
PMRV	**Marv??o**	**2.78**	**326**	*e*Pn		**Pn**	**12 28 01.4**	**+1.1**
PMRV				*e*Sg		**Sg**	**12 28 48.7**	**+3.5**
PMRV				A			12 28 50.6	
	84nm,0.4s							
PMTG	**Montargil**	**2.96**	**312**	*e*Pn		**Pn**	**12 28 04.0**	**+1.3**
PMTG				*e*Sg		**Sg**	**12 28 48.6**	**-2.2**
	69nm,0.6s							
PMTG	**Montargil**	**2.96**	**312**	*e*Pn		**Pn**	**12 28 04.0**	**+1.3**
PMTG				*e*Sg		**Sg**	**12 28 48.6**	**-2.2**
PMTG				A			12 29 00.2	
	69nm,0.6s							
EPLA	**Plasencia**	**2.98**	**350**	Pn		**Pn**	**12 28 04.8**	**+1.9**
EPLA				Pg		**Pg**	**12 28 13.4**	**+0.7**
EPLA				Sn		**Sn**	**12 28 37.9**	**-0.7**
EPLA				Lg			12 28 51.8	
EPLA	**Plasencia**	**2.98**	**350**	Pn		**Pn**	**12 28 04.5**	**+1.6**
	0.2nm,0.2s,SNR=7.9							
EPLA				Pg		**Pg**	**12 28 12.4**	**-0.4**
	9.5nm,0.3s,SNR=6.7							
EPLA				Sn		**Sn**	**12 28 38.3**	**-0.4**
	23nm,0.3s,SNR=7.9							
EPLA				Lg			12 28 52.5	
	77nm,0.3s,SNR=7.9							
EPLA	**Plasencia**	**2.98**	**350**	Pn		**Pn**	**12 28 04.5

PMAFR	**Mafra**	**3.58**	**302**	*e*Sn	**Sn**	**12 28 54.1**	**+0.6**
PMAFR				A		12 29 26.8	
	comp=E,69nm,0.4s						
GUD	**Guadarrama**	**3.63**	**15**	Pn	**Pn**	**12 28 13.3**	**+1.4**
GUD				Pg	**Pg**	**12 28 26.9**	**+1.6**
GUD				Sn	**Sn**	**12 28 50.8**	**-4.0**
GUD				Lg		12 29 11.9	
GUD	**Guadarrama**	**3.63**	**15**	Pn	**Pn**	**12 28 13.3**	**+1.4**
	comp=E,2.5nm,0.5s,SNR=7.9						
GUD				Pg	**Pg**	**12 28 24.1**	**-1.1**
	comp=E,7.0nm,0.4s,SNR=7.9						
GUD				Sn	**Sn**	**12 28 54.6**	**-0.1**
	comp=E,16nm,0.5s,SNR=7.9						
GUD				Lg		12 29 13.3	
	comp=E,66nm,0.5s,SNR=7.9						
GUD	**Guadarrama**	**3.63**	**15**	Pn	**Pn**	**12 28 13.3**	**+1.4**
	comp=E,2.5nm,0.5s,SNR=7.9						
GUD	**Guadarrama**	**3.63**	**15**	Pg	**Pg**	**12 28 26.9**	**+1.6**
GUD				Sn	**Sn**	**12 28 54.6**	**-0.2**
	comp=E,16nm,0.5s,SNR=7.9						
GUD				Lg		12 29 13.3	
	comp=E,66nm,0.5s,SNR=7.9						
PVIS	**Viseu**	**4.08**	**332**	*e*Sn	**Sn**	**12 29 05.8**	**0.0**
	comp=E,31nm,0.5s						
PVIS	**Viseu**	**4.08**	**332**	*e*Sn	**Sn**	**12 29 05.8**	**0.0**
PVIS				A		12 29 41.8	
	comp=E,31nm,0.5s						
MVO	**Moncorvo**	**4.22**	**343**	Pn	**Pn**	**12 28 21.9**	**+1.9**
	comp=E,42nm,0.4s,SNR=7.2						
MVO				Pg	**Pg**	**12 28 34.2**	**-2.4**
	comp=E,53nm,0.5s,SNR=6.2						
MVO				Sn	**Sn**	**12 29 08.8**	**-0.6**
	comp=E,28nm,0.6s,SNR=7.9						
MVO				Lg		12 29 32.1	
	comp=E,8.7nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**4.22**	**343**	Pn	**Pn**	**12 28 21.9**	**+1.8**
	comp=E,42nm,0.4s,SNR=7.2						
MVO	**Moncorvo**	**4.22**	**343**	Pg	**Pg**	**12 28 34.2**	**-2.4**
	comp=E,53nm,0.5s,SNR=6.2						
MVO				Sn	**Sn**	**12 29 08.8**	**-0.6**
	comp=E,28nm,0.6s,SNR=7.9						
MVO				*e*Sg	**Sg**	**12 29 32.1**	**+0.8**
	comp=E,66nm,0.5s						
MVO				Lg		12 29 32.1	
	comp=E,8.7nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**4.22**	**343**	*e*Sg	**Sg**	**12 29 32.1**	**+0.8**
MVO				A		12 29 42.4	
	comp=E,66nm,0.5s						
ECHE	**Chera**	**4.25**	**53**	Pg	**Pg**	**12 28 37.0**	**0.0**
ECHE				Lg		12 29 37.9	
ECHE	**Chera**	**4.25**	**53**	Pn	**Pn**	**12 28 21.3**	**+0.9**
	comp=E,3.4nm,0.3s,SNR=7.9						
ECHE				Pg	**Pg**	**12 28 34.8**	**-2.3**
	comp=E,2.8nm,0.6s,SNR=7.9						
ECHE				Lg		12 29 31.9	
	comp=E,9.9nm,0.4s,SNR=7.9						
ECHE	**Chera**	**4.25**	**53**	Pn	**Pn**	**12 28 21.3**	**+0.9**
	comp=E,3.4nm,0.3s,SNR=7.9						
ECHE	**Chera**	**4.25**	**53**	Pg	**Pg**	**12 28 37.0**	**0.0**
ECHE				Lg		12 29 31.9	
	comp=E,9.9nm,0.4s,SNR=7.9						
EBEN	**Beniarda**	**4.37**	**67**	Pn	**Pn**	**12 28 22.5**	**+0.4**
	comp=E,0.9nm,0.3s,SNR=7.9						
EBEN				Pg	**Pg**	**12 28 36.6**	**-2.7**
	comp=E,2.8nm,0.4s,SNR=7.9						
EBEN				Sn	**Sn**	**12 29 10.9**	**-2.0**
	comp=E,7.3nm,0.8s,SNR=7.9						
EBEN				Lg		12 29 36.1	
	comp=E,17nm,0.8s,SNR=7.9						
EBEN	**Beniarda**	**4.37**	**67**	Pn	**Pn**	**12 28 22.5**	**+0.5**
	comp=E,0.9nm,0.3s,SNR=7.9						
EBEN				Sn	**Sn**	**12 29 10.9**	**-2.0**
	comp=E,7.3nm,0.8s,SNR=7.9						
EBEN				Lg		12 29 36.1	
	comp=E,17nm,0.8s,SNR=7.9						
ETOR	**Torete**	**4.50**	**34**	Pn	**Pn**	**12 28 21.0**	**-2.9**
ETOR	**Torete**	**4.50**	**34**	Pn	**Pn**	**12 28 24.6**	**+0.7**
	comp=E,5.4nm,0.7s,SNR=10						
ETOR				Pg	**Pg**	**12 28 39.6**	**-2.3**
	comp=E,2.8nm,0.3s,SNR=7.9						
ETOR				Sn	**Sn**	**12 29 15.5**	**-0.7**
	comp=E,7.6nm,0.4s,SNR=5.6						
ETOR				Lg		12 29 40.8	
	comp=E,51nm,0.5s,SNR=5.5						
ETOR	**Torete**	**4.50**	**34**	Pn	**Pn**	**12 28 21.0**	**-2.8**
ETOR	**Torete**	**4.50**	**34**	Pn	**Pn**	**12 28 24.6**	**+0.8**
	comp=E,5.4nm,0.7s,SNR=10						
PVRL	**Vila Real**	**4.52**	**337**	*e*Sn	**Sn**	**12 29 15.9**	**-0.7**
	comp=E,21nm,0.4s						
PVRL	**Vila Real**	**4.52**	**337**	*e*Sn	**Sn**	**12 29 15.9**	**-0.7**
PVRL				A		12 29 52.4	
	comp=E,21nm,0.4s						
ECAL	**Calabor**	**4.91**	**348**	Pn	**Pn**	**12 28 30.7**	**+1.2**
	comp=E,2.8nm,0.3s,SNR=5.4						
ECAL				Pg	**Pg**	**12 28 46.1**	**-3.7**
	comp=E,10nm,0.7s,SNR=7.9						
ECAL				Sn	**Sn**	**12 29 25.0**	**-1.4**
	comp=E,68nm,1.0s,SNR=7.9						
ECAL				Lg		12 29 53.5	
	comp=E,41nm,0.6s,SNR=6.6						
ECAL	**Calabor**	**4.91**	**348**	Pn	**Pn**	**12 28 30.7**	**+1.2**
	comp=E,2.8nm,0.3s,SNR=5.4						
ECAL	**Calabor**	**4.91**	**348**	Pg	**Pg**	**12 28 46.1**	**-3.7**
	comp=E,10nm,0.7s,SNR=7.9						
ECAL				Sn	**Sn**	**12 29 25.0**	**-1.4**
	comp=E,68nm,1.0s,SNR=7.9						
ECAL				Lg		12 29 53.5	
	comp=E,41nm,0.6s,SNR=6.6						
EMOS	**Mosqueruela**	**5.01**	**48**	Pn	**Pn**	**12 28 31.9**	**+1.1**
	comp=E,2.1nm,0.4s,SNR=7.9						
EMOS				Pg	**Pg**	**12 28 47.6**	**-4.0**
	comp=E,1.3nm,0.3s,SNR=7.9						
EMOS				Sn	**Sn**	**12 29 26.8**	**-2.0**
	comp=E,12nm,1.0s,SNR=7.9						
EMOS				Lg		12 29 56.8	
	comp=E,42nm,0.7s,SNR=7.9						
EMOS	**Mosqueruela**	**5.01**	**48**	Pn	**Pn**	**12 28 31.9**	**+1.0**
	comp=E,2.1nm,0.4s,SNR=7.9						
ELOB	**Lobios**	**5.16**	**337**	Pn	**Pn**	**12 28 35.0**	**+2.0**
	comp=E,1.5nm,0.2s,SNR=7.9						
ELOB				Sn	**Sn**	**12 29 30.9**	**-1.6**
	comp=E,26nm,0.5s,SNR=5.3						
ELOB				Lg		12 30 01.7	
	comp=E,29nm,0.5s,SNR=4.8						
ELOB	**Lobios**	**5.16**	**337**	Pn	**Pn**	**12 28 35.0**	**+2.0**
	comp=E,1.5nm,0.2s,SNR=7.9						
ELOB				Sn	**Sn**	**12 29 30.9**	**-1.6**
	comp=E,26nm,0.5s,SNR=5.3						
ELOB				Lg		12 30 01.7	
	comp=E,29nm,0.5s,SNR=4.8						
ESAC	**San Caprasio**	**5.95**	**38**	Lg		12 30 26.2	
	comp=E,31nm,0.5s,SNR=7.9						
EARI	**Arriondas**	**6.16**	**1**	Lg		12 30 33.1	
	comp=E,68nm,1.4s,SNR=7.9						
ELAN	**Lanestosa**	**6.27**	**13**	Lg		12 30 36.5	
	comp=E,22nm,1.0s,SNR=7.9						
EPON	**Pontenova**	**6.33**	**348**	Lg		12 30 38.1	
	comp=E,23nm,1.1s,SNR=7.9						
EARA	**Aranguren**	**6.34**	**26**	Lg		12 30 38.9	
	comp=E,16nm,0.9s,SNR=7.9						
IUNC	**Unciti**	**6.36**	**27**	Lg		12 30 39.3	
	comp=E,11nm,0.6s,SNR=7.9						
EMAZ	**Mazaricos**	**6.43**	**336**	Lg		12 30 41.3	
	comp=E,25nm,1.3s,SNR=7.9						
IPRE	**Itoiz**	**6.45**	**27**	Lg		12 30 41.7	
	comp=E,3.6nm,1.0s,SNR=7.9						
IEPA	**Eparoz**	**6.46**	**28**	Lg		12 30 42.0	
	comp=E,18nm,1.0s,SNR=7.9						
IUSE	**Utxeti**	**6.50**	**26**	Lg		12 30 44.1	
	comp=E,97nm,0.3s,SNR=6.0						
IELO	**Elcoad**	**6.53**	**28**	Pn	**Pn**	**12 28 53.6**	**+1.9**
	comp=E,0.4nm,0.4s,SNR=7.9						
IELO				Lg		12 30 44.0	
	comp=E,1.1nm,2.7s,SNR=7.9						
IELO	**Elcoad**	**6.53**	**28**	Pn	**Pn**	**12 28 53.6**	**+1.9**
	comp=E,0.4nm,0.4s,SNR=7.9						
SJPF	**Ste Jean**	**6.76**	**27**	*e*Pn	**Pn**	**12 28 55.5**	**+0.5**
SJPF				*e*Sg	**Sg**	**12 30 51.2**	**-1.6**
	comp=E,4.0nm,0.4s						
SJPF	**Ste Jean**	**6.76**	**27**	*e*Pn	**Pn**	**12 28 55.5**	**+0.5**
SJPF				*e*Sg	**Sg**	**12 30 51.2**	**-1.6**
SJPF	**Ste Jean**	**6.76**	**27**	Pn	**Pn**	**12 28 55.5**	**+0.5**
SJPF				Lg		12 30 51.2	
	comp=E,2.0nm,0.4s						
SJPF	**Ste Jean**	**6.76**	**27**	*e*Pn	**Pn**	**12 28 55.5**	**+0.5**
ETSF	**Etsaut**	**6.84**	**31**	*e*Pn	**Pn**	**12 28 57.0**	**+1.0**
ETSF				*e*Sn	**Sn**	**12 30 12.1**	**-1.8**
ETSF				*e*Sg	**Sg**	**12 30 53.1**	**-2.1**
	comp=E,7.7nm,0.6s						
ETSF	**Etsaut**	**6.84**	**31**	*e*Pn	**Pn**	**12 28 57.0**	**+1.0**
ETSF				*e*Sn	**Sn**	**12 30 12.1**	**-1.8**
ETSF				Sn	**Sn**	**12 30 12.1**	**-1.8**
ETSF				Lg		12 30 53.1	
	comp=E,3.8nm,0.6s						
ETSF	**Etsaut**	**6.84**	**31**	*e*Pn	**Pn**	**12 28 57.0**	**+1.0**
EBIE	**Bielsa**	**6.98**	**36**	Pn	**Pn**	**12 28 59.1**	**+1.2**
	comp=E,3.8nm,0.5s,SNR=8.0						
EBIE				Sn	**Sn**	**12 30 14.2**	**-3.1**
	comp=E,27nm,3.4s,SNR=8.0						
EBIE	**Bielsa**	**6.98**	**36**	Pn	**Pn**	**12 28 59.1**	**+1.2**
	comp=E,3.8nm,0.5s,SNR=8.0						
EPF	**Esparros**	**7.34**	**35**	*e*Pn	**Pn**	**12 29 03.3**	**+0.5**
EPF				*e*Sn	**Sn**	**12 30 22.8**	**-3.3**
EPF				*e*Sg	**Sg**	**12 31 09.2**	**-2.0**
	comp=E,2.7nm,0.3s						
EPF	**Esparros**	**7.34**	**35**	*e*Pn	**Pn**	**12 29 03.3**	**+0.5**
EPF				*e*Sn	**Sn**	**12 30 22.8**	**-3.3**
EPF				*e*Sg	**Sg**	**12 31 09.2**	**-2.0**
EPF	**Esparros**	**7.34**	**35**	Pn	**Pn**	**12 29 03.3**	**+0.5**
EPF				Sn	**Sn**	**12 30 22.8**	**-3.3**
EPF				Lg		12 31 09.2	
	comp=E,1.4nm,0.3s						
EPF	**Esparros**	**7.34**	**35**	*e*Pn	**Pn**	**12 29 03.3**	**+0.5**
MTLF	**Montolieu**	**8.49**	**41**	*e*Pn	**Pn**	**12 29 18.6**	**-0.1**
MTLF	**Montolieu**	**8.49**	**41**	*e*Pn	**Pn**	**12 29 18.6**	**-0.1**
MTLF	**Montolieu**	**8.49**	**41**	Pn	**Pn**	**12 29 18.6**	**-0.1**
MTLF	**Montolieu**	**8.49**	**41**	*e*Pn	**Pn**	**12 29 18.6**	**-0.1**
RJF	**Les Rejaudoux**	**9.67**	**30**	*e*Pn	**Pn**	**12 29 35.5**	**+0.7**
RJF	**Les Rejaudoux**	**9.67**	**30**	*e*Pn	**Pn**	**12 29 35.5**	**+0.7**
RJF	**Les Rejaudoux**	**9.67**	**30**	Pn	**Pn**	**12 29 35.5**	**+0.7**
RJF	**Les Rejaudoux**	**9.67**	**30**	*e*Pn	**Pn**	**12 29 35.5**	**+0.7**
GRR	**Gorron**	**11.72**	**15**	*e*Pn	**Pn**	**12 30 02.8**	**-0.1**
GRR	**Gorron**	**11.72**	**15**	*e*Pn	**Pn**	**12 30 02.8**	**-0.1**
GRR	**Gorron**	**11.72**	**15**	Pn	**Pn**	**12 30 02.8**	**-0.1**
GRR	**Gorron**	**11.72**	**15**	*e*Pn	**Pn**	**12 30 02.8**	**-0.1**

ISCJB ***25*** *12:28:09.1±1.9, 16°.5S×0°.2×173°.9W±0°.2, h79km±19km, mb3.9/9, Error ellipse: s-maj=38.6km s-min=14.7km az=135.1*

NEIC ***25*** *12:28:10.9±1.6, 16°.66S×173°.78W, h85km±14km, mb4.0/1, Error ellipse: s-maj=23.0km s-min=11.4km az=140.0*

IDC ***25*** *12:28:10.5±3.0, 16°.62S×173°.84W, h80km±27km, mb3.8/8, mb1 4.0/9, mb1mx3.8/20, mbtmp3.8/9, Error ellipse: s-maj=33.5km s-min=15.9km az=138.0*

ISC 25 12:28:10.1±1.9, 16°.6S±0°.2×173°.8W±0°.2, h76km±18km, n26, σ1§04/22, mb3.9/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.29**	**37**	P	**Pn**	**12 29 01.2**	**+1.7**
	103nm,0.3s,baz=69,slow=1.2,SNR=390						
AFI				S	**Sn**	**12 29 36.0**	**-1.5**
	314nm,0.3s,baz=81,slow=19,SNR=17						
AFI	**Afiamalu**	**3.29**	**37**	P	**Pn**	**12 29 01.2**	**+1.7**
AFI				S	**Sn**	**12 29 36.0**	**-1.5**
URZ	**Urewera**	**23.03**	**199**	P	**P**	**12 33 08.3**	**-0.5**
	20nm,0.6s,mb4.6,baz=252,slow=8.7,SNR=14						
URZ	**Urewera**	**23.03**	**199**	P	**P**	**12 33 08.3**	**-0.5**
STKA	**Stephens Creek**	**43.12**	**241**	P	**P**	**12 36 02.9**	**-0.2**
	2.0nm,0.7s,mb4.0,baz=80,slow=8.7,SNR=6.4						
STKA	**Stephens Creek**	**43.12**	**241**	*e*P	**P**	**12 36 03.1**	**0.0**
WRAB	**Tennant Creek**	**49.19**	**258**	P	**P**	**12 36 52.5**	**+1.6**
	1.4nm,0.8s,mb3.9						
WRA	**Warramunga Arr**	**49.20**	**258**	P	**P**	**12 36 49.7**	**-1.2**
	0.3nm,0.4s,mb3.6,baz=95,slow=6.8,SNR=7.3						
WRA	**Warramunga Arr**	**49.20**	**258**	P	**P**	**12 36 49.7**	**-1.2**
AS31	**Alice Springs**	**49.38**	**253**	*e*P	**P**	**12 36 51.7**	**-0.6**
ASAR	**Alice Springs**	**49.38**	**253**	P	**P**	**12 36 51.8**	**-0.5**
	3.8nm,0.6s,mb4.5,baz=89,slow=8.3,SNR=55						
ASAR	**Alice Springs**	**49.38**	**253**	P	**P**	**12 36 51.8**	**-0.5**
TXAR	**Lajitas Array**	**81.59**	**56**	P	**P**	**12 40 20.6**	**+0.7**
	0.4nm,0.7s,mb3.4,baz=225,slow=7.3,SNR=6.9						
TXAR	**Lajitas Array**	**81.59**	**56**	P	**P**	**12 40 20.6**	**+0.7**
PDAR	**Pinedale Array**	**83.40**	**42**	P	**P**	**12 40 29.1**	**+0.1**
	1.8nm,0.7s,mb4.0,baz=207,slow=3.5,SNR=16						
PDAR	**Pinedale Array**	**83.40**	**42**	P	**P**	**12 40 29.1**	**+0.1**
ILAR	**Eielson Array**	**83.66**	**11**	P	**P**	**12 40 28.9**	**-0.9**
	0.3nm,0.5s,mb3.4,baz=200,slow=5.4,SNR=11						
ILAR	**Eielson Array**	**83.66**	**11**	P	**P**	**12 40 28.9**	**-0.9**
SONM	**Songino Array**	**95.45**	**318**	P	**P**	**12 41 27.5**	**+1.3**
	0.3nm,0.8s,mb3.8,baz=100,slow=5.0,SNR=2.5						
SONM	**Songino Array**	**95.45**	**318**	P	**P**	**12 41 27.5**	**+1.3**
BRTR	**Keskin Array B**	**146.80**	**320**	PKPbc	PKPbc	12 47 44.4	+0.6
	1.6nm,0.8s,baz=85,slow=1.6,SNR=7.3						
BRTR	**Keskin Array B**	**146.80**	**320**	PKPbc	PKPbc	12 47 44.4	+0.6
GERES	**GERESS Array B**	**147.23**	**351**	PKPbc	PKPbc	12 47 45.0	+0.4
	0.6nm,0.5s,baz=22,slow=1.1,SNR=4.5						
GERES	**GERESS Array B**	**147.23**	**351**	PKPbc	PKPbc	12 47 45.0	+0.4
TORD	**Torodi Ar. Bea**	**174.48**	**127**	PKPab	PKPab	12 49 44.7	-0.5
	0.7nm,0.8s,baz=244,slow=3.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	**174.48**	**127**	PKPab	PKPab	12 49 44.7	-0.5

IDC 25 12:38:35.5±18.0, 19°.82S×177°.61W, h528km±210km, mb3.2/5, mb1 3.5/5, mb1mx3.1/19, mbtmp3.2/5, Error ellipse: s-maj=214.2km s-min=54.6km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.92**	**263**	P	P	12 44 35.0	+0.2
	4.7nm,0.5s,baz=82,slow=10,SNR=9.8						
ASAR	**Alice Springs**	**45.03**	**256**	P	P	12 46 04.1	-0.1
	1.8nm,0.4s,baz=91,slow=7.4,SNR=26						
WRA	**Warramunga Arr**	**45.06**	**261**	P	P	12 46 04.0	-0.5
	1.7nm,0.4s,baz=98,slow=8.2,SNR=13						
FITZ	**Fitzroy Crossi**	**53.48**	**262**	P	P	12 47 06.7	+0.1
	0.7nm,0.4s,baz=129,slow=6.5,SNR=5.3						
TXAR	**Lajitas Array**	**86.38**	**57**	P	P	12 50 22.1	+0.1
	0.2nm,0.7s,baz=218,slow=5.7,SNR=3.6						

DJA ***25*** *12:39:59, 18°.49N×147°.33E, h10km, mb5.4/13*

ISCJB ***25*** *12:40:03.6±0.9, 18°.04N±0°.02×146°.88E±0°.02, h18km±6km, mb5.3/216, MS5.3/225, Error ellipse: s-maj=4.1km s-min=3.1km az=177.1*

NEIC ***25*** *12:40:03.5±0.1, 18°.01N×146°.97E, h10km, mb5.5/122, MS5.3/173, MW5.5, Error ellipse: s-maj=4.1km s-min=3.6km az=129.0, Moment Tensor Solution. s68 Moment tensor: Scale 10^17 Nm; Mrr=0.94; Mθθ=-0.34; Mφφ=-0.59; Mrθ=-0.93; Mrφ=1.46; Mθφ=0.86; Best double couple: M0=2.10000×10^17 NP1:φs=308.00000°, δ67.00000°, λ78.00000°. NP2:φs=156.00000°, δ26.00000°, λ116.00000°. Principal axes: T 1.4300, Plg66.0000°, Azm196.0000°; N 0.9800, Plg11.0000°, Azm312.0000°; P -2.4100, Plg20.0000°, Azm46.0000°;*

IDC ***25*** *12:40:05.2±1.7, 18°.04N×147°.06E, h24km±10km, mb4.7/32, mb1 4.8/35, mb1mx4.8/36, mbtmp4.7/35, ML4.5/2, MS5.2/28, Ms1 5.2/28, ms1mx5.1/32 Error ellipse: s-maj=14.0km s-min=7.8km az=85.0*

MOS ***25*** *12:40:05.3±1.0, 18°.01N×146°.86E, h33km, mb5.6/70, MS5.2/44, Error ellipse: s-maj=8.0km s-min=5.0km az=102.3*

BJI ***25*** *12:40:06.8, 17°.95N×147°.48E, h76km, mB5.2/41, mb4.9/46, Ms5.4/60, Ms7 5.1/55*

GCMT ***25*** *12:40:08.9±0.1, 18°.12N×147°.23E, h14km, MW5.6, Moment Tensor Solution. s90,c155; s27,c27; Moment tensor: Scale 10^17 Nm; Mrr=1.66±.04; Mθθ=0.65±.03; Mφφ=-1.02±.03; Mrθ=-1.62±.09; Mθφ=1.35±.02; Mrφ=1.22±.08; Best double couple: M0=2.80000×10^17 NP1:φs=153.00000°, δ23.00000°, λ113.00000°. NP2:φs=309.00000°, δ69.00000°, λ80.00000°. Principal axes: T 2.5700, Plg65.0000°, Azm203.0000°; N 0.4600, Plg9.0000°, Azm312.0000°; P -3.0400, Plg23.0000°, Azm46.0000°; Data Used: II IU CN IC G. Surface waves: sta=110, comp=214, per= 50.*

ISC 25 12:40:08.1±0.7, 18°.04N±0°.03×146°.92E±0°.02, h38km±6km, h72km±2.7km:pP-P, n962, σ0§75/855, mb5.3/216, MS5.3/225, 178C-181D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.85**	**204**	Pn	**Pn**	**12 41 20.3**	**+1.7**
	148nm,0.3s,baz=110,slow=2.5,SNR=41						
GUMO				Sn	**Sn**	**12 42 19.2**	**+5.7**
	87nm,0.3s,baz=180,slow=20,SNR=2.7						
GUMO				LR	LR	12 43 09.3	
	comp=Z,26μm,20.9s,baz=31,slow=38						
GUMO	**Guam**	**4.85**	**204**	Pn	**Pn**	**12 41 20.3**	**+1.7**
GUMO				Sn	**Sn**	**12 42 19.2**	**+5.7**
GUMO	**Guam**	**4.85**	**204**	P	**Pn**	**12 41 20.3**	**+1.7**
GUMO						12 42 19.2	
GUMO	**Guam**	**4.85**	**204**	P	**Pn**	**12 41 20.5**	**+1.9**
	8.0nm2μm,1.0s						
CBIJ	**Chichi jima**	**10.01**	**335**	Pn	**Pn**	**12 42 30.4**	**+1.0**
	14nm,0.3s,baz=98,slow=23,SNR=5.9						
CBIJ				Sn	**Sn**	**12 44 16.4**	**-4.1**
	24nm,0.3s,baz=308,slow=19,SNR=3.9						
CBIJ				T		12 53 02.1	
	31nm,0.3s,baz=284,slow=19,SNR=4.2						
CBIJ	**Chichi jima**	**10.01**	**335**	Pn	**Pn**	**12 42 30.4**	**+1.0**
CBIJ				Sn	**Sn**	**12 44 16.4**	**-4.1**
CBIJ				TT		12 53 02.1	
JOW	**Kunigami**	**19.31**	**300**	P	**Pn**	**12 44 30.4**	**-0.8**
	2.2nm,0.3s,baz=137,slow=9.3,SNR=3.9						
JOW				LR	LR	12 51 19.8	
	comp=Z,8μm,18.3s,baz=131,slow=35						
JOW	**Kunigami**	**19.31**	**300**	*e*P	**Pn**	**12 44 29.5**	**-1.8**
	66nm,1.3s						
MJAR	**Matsushiro Arr**	**19.97**	**339**	P	**Pn**	**12 44 37.3**	**-1.6**
	1.9nm,0.3s,baz=174,slow=11,SNR=30						
MJAR				S	**S**	**12 48 23.0**	**+3.5**
	0.3nm,0.3s,baz=192,slow=18,SNR=4.8						
MJAR	**Matsushiro Arr**	**19.97**	**339**	P	**Pn**	**12 44 37.3**	**-1.6**
MJAR				S	**S**	**12 48 23.0**	**+3.5**
MJAR	**Matsushiro Arr**	**19.97**	**339**	P	**Pn**	**12 44 37.3**	**-1.6**
MJAR				S	**S**	**12 48 23.0**	**+3.5**
MAJO	**Matsushiro**	**19.97**	**339**	*e*P	**Pn**	**12 44 36.4**	**-2.6**
	144nm,1.0s						
MAJO				LR	LR		
	comp=Z,4μm,20.0s						
MAJO	**Matsushiro**	**19.97**	**339**	*e*P	**Pn**	**12 44 36.4**	**-2.5**
MAJO				pmax	pmax		
	comp=Z,144nm,1.0s						
MAJO				MLR	MLR		
	comp=Z,4μm,20.0s						
MAT	**Matsushiro**	**19.97**	**339**	P	**Pn**	**12 44 37.0**	**-1.9**
MAT				S	**S**	**12 48 15.0**	**-4.6**
JNU	**Nakatsue**	**20.81**	**319**	*e*P	**P**	**12 44 45.9**	**-0.3**
	comp=Z,85nm,1.3s						
JAY	**Jayapura**	**21.33**	**197**	P	**P**	**12 44 52.2**	**+0.3**
	comp=Z,5μmcomp=Z,156nm,1.2s,mb5.2						
SMPI	**Sarmi**	**21.49**	**203**	P	**P**	**12 44 54.2**	**+0.6**
	comp=Z,4μmcomp=Z,269nm,1.4s,mb5.4						
BAKI	**Biak**	**21.88**	**210**	P	**P**	**12 44 53.8**	**-4.0**
DAV	**Davao City (W)**	**23.49**	**245**	P	**P**	**12 45 15.0**	**+0.3**
	comp=Z,187nm,0.4s,mb4.9,baz=225,slow=1.4,SNR=2.6						
DAV				LR	LR	12 53 03.3	
	comp=Z,9μm,19.8s,MS5.2,baz=256,slow=33						
DAV	**Davao City (W)**	**23.49**	**245**	P	**P**	**12 45 15.3**	**+0.6**
	comp=Z,296nm,0.4s,mb6.1						
ERM	**Erimo**	**24.11**	**353**	PFAKE		12 45 30.0	+10
ERM				LR	LR		
	comp=Z,4μm,19.0s,MS4.9						
ERM	**Erimo**	**24.11**	**353**	*ce*P	**P**	**12 45 20.1**	**0.0**
ERM				pmax	pmax		
	comp=Z,200nm,2.5s,mb5.1						
NACB	**Ninganchiao**	**24.38**	**289**	P	**P**	**12 45 14.5**	**-8.3**
	comp=Z,103nm,1.2s,mb5.1						
YULB	**Yu-li**	**24.54**	**287**	*e*P	**P**	**12 45 22.8**	**-1.5**
TATO	**Taipei**	**24.62**	**291**	PFAKE		12 45 40.0	+15
TATO				LR	LR		
	comp=Z,4μm,22.0s,MS4.8						
YHNB	**Yeheng**	**24.67**	**290**	*e*P	**P**	**12 45 22.9**	**-2.5**
	comp=Z,94nm,0.9s,mb5.3						
YHNB				LR	LR		
	comp=Z,7μm,20.0s,MS5.1						
SSLB	**Suanglung**	**24.90**	**288**	*e*P	**P**	**12 45 28.8**	**+1.2**
	comp=Z,70nm,0.9s,mb5.2						
TPUB	**Ta-pu**	**25.13**	**286**	*e*P	**P**	**12 45 30.0**	**+0.3**
TGY	**Tagaytay City**	**25.27**	**265**	LR	LR	12 54 30.7	
	comp=Z,33nm,18.1s,baz=278,slow=34						
KSRS	**Korea Array**	**25.53**	**323**	P	**P**	**12 45 33.2**	**+0.1**
	comp=Z,34nm,0.8s,mb4.9,baz=147,slow=9.2,SNR=96						
KSRS				PcP	PcP	12 49 03.8	-0.1
	comp=Z,5.4nm,1.0s,baz=173,slow=2.1,SNR=4.6						
KSRS				ScP	ScP	12 52 40.6	+0.3
	comp=Z,7.7nm,1.2s,baz=140,slow=4.0,SNR=7.2						
KSRS				LR	LR	12 55 13.7	
	comp=Z,7μm,20.9s,MS5.2,baz=124,slow=35						
KSAR	**Wonju Array Be**	**25.55**	**323**	P	**P**	**12 45 33.2**	**0.0**
KSAR				PcP	PcP	12 49 03.8	-0.1
KSAR				ScP	ScP	12 52 40.6	+0.2
KSAR	**Wonju Array

NJ2 LR LR
comp=Z,12μm,21.6s,MS5.5
YSS Yuzh-Sakhalins 29.03 354 eP P 12 46 05.5 +1.1
comp=Z,34nm,1.0s,mb5.0
YSS LR LR
comp=Z,1μm,20.0s,MS4.4
YSS Yuzh-Sakhalins 29.03 354 eP P 12 46 06.4 +2.0
YSS e 12 46 53.0
YSS e 12 49 19.0
YSS eS S 12 50 48.0 -5.1
YSS MLR MLR
comp=Z,2μm,15.0s,MS5.0
YSS MLR MLR
comp=N,2μm,16.0s,MS5.0
YSS MLR MLR
comp=E,2μm,14.0s,MS5.0
MRSI Marisa 30.13 237 P P 12 46 13.6 -0.9
comp=E,2μmcomp=E,50nm,1.4s,mb5.0
HNR Honiara 30.18 154 LR LR 12 58 12.6
comp=E,8μm,18.7s,MS5.4,baz=320,slow=36
HNR Honiara 30.18 154 eP P 12 46 14.0 -0.9
comp=E,82nm,1.1s,mb5.4
HNR Honiara 30.18 154 eP P 12 46 14.0 -0.8
HNR pmax pmax
comp=Z,82nm,1.1s,mb5.4
MDJ Mudanjiang 30.21 335 P P 12 46 15.5 +0.6
MDJ pP pP 12 46 32.0 +6.4
MDJ sP sP 12 46 40.8 +11
MDJ S S 12 51 11.0 -0.7
MDJ ScP ScP 12 52 50.5 -4.1
MDJ PcS PcS 12 52 58.3 -0.2
MDJ pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
MDJ pmax pmax
comp=Z,200nm,5.5s
MDJ LR LR
comp=N,2μm,25.3s
MDJ LR LR
comp=E,4μm,18.2s
MDJ LR LR
comp=Z,3μm,19.0s
MDJ Mudanjiang 30.21 335 eP P 12 46 15.7 +0.8
comp=Z,42nm,1.1s,mb5.1
MDJ LR LR
comp=Z,4μm,21.0s,MS5.0
DL2 Dalian 30.26 319 eP P 12 46 16.3 +0.9
DL2 sP sP 12 46 45.8 +15
DL2 S S 12 51 10.5 -2.1
DL2 pmax pmax
comp=Z,20nm,1.1s,mb4.8
DL2 pmax pmax
comp=Z,160nm,7.4s
DL2 LR LR
comp=N,1μm,20.9s,MS4.7
DL2 LR LR
comp=E,1μm,20.6s,MS4.7
DL2 LR LR
comp=Z,2μm,21.4s,MS4.7
LUWI Luwuk 30.41 234 P P 12 46 16.1 -0.8
comp=Z,2μmcomp=Z,91nm,1.1s,mb5.4
TARA Tarawa 30.44 120 PFAKE 12 46 30.0 +13
TARA LR LR
comp=Z,4μm,21.0s,MS5.0
MYLDM Lahad Datu 30.57 249 P P 12 46 18.4 0.0
comp=Z,2μmcomp=Z,37nm,1.3s,mb5.0
SNY Shenyang 30.97 325 ⇓P P 12 46 21.3 -0.3
SNY S S 12 51 18.5 -5.2
SNY pmax pmax
comp=Z,170nm,5.3s
SNY pmax pmax
comp=Z,270nm,5.5s
SNY LR LR
comp=N,4μm,16.7s,MS5.2
SNY LR LR
comp=E,4μm,18.6s,MS5.2
SNY LR LR
comp=Z,4μm,20.6s,MS5.1
CN2 Changchun 31.41 329 eP P 12 46 25.5 0.0
CN2 epP pP 12 46 43.3 +7.1
CN2 eS S 12 51 29.5 -1.0
CN2 SS SS 12 53 23.3 -23
CN2 pmax pmax
comp=Z,10.0nm,0.5s,mb4.9
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,5μm,17.0s,MS5.3
CN2 LR LR
comp=E,3μm,17.0s,MS5.3
CN2 LR LR
comp=Z,4μm,19.0s,MS5.1
GZH Guangzhou 31.79 285 P P 12 46 37.0 +7.9
GZH S S 12 51 37.8 +0.9
GZH LR LR
comp=N,2μm,19.3s,MS5.0
GZH LR LR
comp=E,2μm,17.3s,MS5.0
GZH LR LR
comp=Z,4μm,18.3s,MS5.1
HABR Khabarovsk 31.85 345 deP P 12 46 27.8 -1.5
HABR e*PP pP 12 46 37.1 -2.9
HABR e*SP sP 12 46 41.4 -3.3
HABR e 12 47 33.4
HABR PPP 12 47 44.0
HABR 12 49 17.8
HABR eS S 12 51 37.7 +0.5
HABR e*SS sS 12 51 53.9 -1.2
HABR eSS SS 12 53 28.9 -26
HABR eSSS 12 53 44.9
HABR e 12 56 56.5
HABR pmax pmax
comp=E,28nm,1.8s
HABR pmax pmax
comp=Z,55nm,1.7s,mb5.1
HABR pmax pmax
comp=N,27nm,1.8s
HABR MLR MLR
comp=Z,3μm,19.0s,MS5.0
HABR MLR MLR
comp=N,3μm,19.0s,MS5.2
HABR MLR MLR
comp=E,4μm,19.0s,MS5.2
TIA Tai'an 31.92 311 P P 12 46 30.8 +0.7
TIA LR LR
comp=N,3μm,19.6s,MS5.1
TIA LR LR
comp=E,3μm,16.7s,MS5.1
TIA LR LR
comp=Z,3μm,19.6s,MS5.0
COEN Coen 32.01 187 eP P 12 46 30.7 -0.2
comp=Z,252nm,0.8s,mb6.1
WHN Wuhan 32.07 299 P P 12 46 37.0 +5.5
WHN PP PP 12 47 43.5 -0.8
WHN S S 12 51 42.8 +1.7
WHN LR LR
comp=N,6μm,14.0s,MS5.5
WHN LR LR
comp=E,2μm,13.5s,MS5.5
WHN LR LR
comp=Z,9μm,20.1s
KKM Kota Kinabalu 32.25 252 eP P 12 46 34.5 +1.3
comp=Z,38nm,0.8s,mb5.3
KKM LR LR
comp=Z,5μm,21.0s,MS5.2
KDI Kendari 32.44 230 P P 12 46 35.0 +0.2
comp=Z,824nmcomp=Z,34nm,1.3s,mb5.0
KLR Kul'dur 33.44 342 eP P 12 46 39.0 -4.2
KLR eS S 12 51 58.0 -3.9
KLR e 12 54 12.5
KLR pmax pmax
comp=Z,100nm,1.8s,mb5.4
KLR MLR MLR
comp=N,3μm,14.0s,MS5.3
KLR MLR MLR
comp=E,2μm,14.0s,MS5.3
KLR MLR MLR
comp=Z,10μm,14.0s,MS5.7
KAKA Kakadu 33.74 206 eP P 12 46 44.1 -2.0
comp=Z,20nm,0.6s,mb5.2
KAKA Kakadu 33.74 206 eP P 12 46 44.5 -1.6
comp=Z,54nm,0.6s,mb5.7
TTSI Tana Toraja 33.95 235 P P 12 46 49.7 +1.7
comp=Z,1μmcomp=Z,88nm,1.3s,mb5.5
MIDW Midway 34.25 66 PFAKE 12 47 00.0 +9.5
MIDW LR LR
comp=Z,3μm,19.0s,MS5.1
BJT Baijiatuau 34.40 316 PFAKE 12 47 00.0 +8.3
BJT LR LR
comp=Z,3μm,19.0s,MS5.1
BJI Beijing 34.41 316 P P 12 46 52.3 +0.6
BJI pP pP 12 47 09.0 +6.5
BJI sP sP 12 47 18.0 +11
BJI S S 12 52 12.8 -4.3
BJI pmax pmax
comp=Z,16nm,0.4s,mb5.3
BJI pmax pmax
comp=Z,270nm,5.2s
BJI LR LR
comp=N,3μm,18.6s,MS5.2
BJI LR LR
comp=E,3μm,20.6s,MS5.2
BJI LR LR
comp=Z,2μm,25.2s,MS4.8
SPSI Sidrap Palu 34.57 233 P P 12 46 53.5 +0.1
QIZ Qiongzhong 35.13 278 P P 12 46 56.5 -1.7
QIZ S S 12 52 25.5 -3.2
QIZ LR LR
comp=N,2μm,18.7s,MS5.0
QIZ LR LR
comp=E,1μm,18.1s,MS5.0
QIZ LR LR
comp=Z,4μm,20.0s,MS5.1
QIZ Qiongzhong 35.13 278 PFAKE 12 47 10.0 +12
QIZ LR LR
comp=Z,4μm,20.0s,MS5.1
PETK Petropavlovsk- 35.99 11 P P 12 47 04.6 -0.5
comp=Z,3.9nm,0.7s,mb4.4,baz=189,slow=8.7,SNR=6.0
PETK LR LR 13 00 55.5
comp=Z,3μm,19.7s,MS5.0,baz=192,slow=35
PETK Petropavlovsk- 35.99 11 P P 12 47 04.6 -0.5
PETK Petropavlovsk- 35.99 11 P P 12 47 04.6 -0.5
PET Petropavlovsk 36.09 12 PFAKE 12 47 20.0 +14
PET LR LR
comp=Z,3μm,19.0s,MS5.1
PET Petropavlovsk 36.09 12 eP P 12 47 08.8 +2.8
PET eS S 12 52 45.9 +3.3
PET pmax pmax
comp=Z,36nm,1.2s,mb5.2
PET pmax pmax
comp=Z,500nm,8.5s
ENH Enshi 36.10 297 PFAKE 12 47 20.0 +14
ENH LR LR
comp=Z,3μm,19.0s,MS5.1
XAN Xi'an 37.43 303 P P 12 47 25.0 +7.3
XAN PP PP 12 49 01.0 +17
XAN S S 12 53 07.3 +3.7
XAN SS tx 12 54 45.5
XAN pmax pmax
comp=Z,2.0nm,1.0s
XAN LR LR
comp=N,4μm,28.1s,MS5.0
XAN LR LR
comp=E,470nm,29.2s,MS5.0
XAN LR LR
comp=Z,930nm,18.0s
HHC Hu-ho-hao-te 37.89 314 eP P 12 47 22.5 +1.0
HHC pP pP 12 47 40.8 +8.5
HHC sP sP 12 47 49.8 +13
HHC PP PP 12 48 54.0 +5.6
HHC S S 12 53 08.0 -2.3
HHC sS sS 12 53 39.0 +11
HHC ScS ScS 12 57 25.0 -5.8
HHC pmax pmax
comp=Z,15nm,0.8s,mb4.8
HHC pmax pmax
comp=Z,120nm,7.6s
HHC LR LR
comp=N,3μm,16.1s,MS5.3
HHC LR LR
comp=E,3μm,17.8s,MS5.3
HHC LR LR
comp=Z,4μm,21.4s,MS5.2
CTA Charters Tower 37.90 181 P P 12 47 20.9 -0.8
comp=Z,12nm,0.8s,mb4.6,baz=0.7,slow=9.8,SNR=16
CTA LR LR 13 01 56.7
comp=Z,2μm,20.7s,MS5.0,baz=1.8,slow=35
CTA Charters Tower 37.90 181 eP P 12 47 21.0 -0.7
comp=Z,11nm,0.9s,mb4.6
CTA Charters Tower 37.90 181 P P 12 47 20.9 -0.8
CTA Charters Tower 37.90 181 P P 12 47 20.9 -0.8
CTAO Charters Tower 37.90 181 eP P 12 47 21.4 -0.3
comp=Z,205nm,2.4s,mb5.4
CTAO LR LR
comp=Z,2μm,21.0s,MS4.9
CTAO Charters Tower 37.90 181 eP P 12 47 21.4 -0.3
CTAO pmax pmax
comp=Z,205nm,2.4s,mb5.4
CTAO MLR MLR
comp=Z,2μm,21.0s,MS4.9
GYA Guiyang 38.07 290 P P 12 47 24.0 +0.8
GYA pP pP 12 47 42.5 +8.4
GYA sP sP 12 47 50.0 +11
GYA PP PP 12 48 56.3 +5.7
GYA S S 12 53 14.5 +1.1
GYA ScP ScP 12 53 19.0 -3.8
GYA PcS PcS 12 53 27.5 +0.5
GYA sS sS 12 53 42.0 +11
GYA pmax pmax
comp=Z,60nm,1.0s,mb5.3
GYA pmax pmax
comp=Z,350nm,5.1s
GYA LR LR
comp=N,2μm,18.0s,MS5.1
GYA LR LR
comp=E,1μm,18.7s,MS5.1
GYA LR LR
comp=Z,2μm,16.2s,MS5.0
HIA Hailar 38.09 331 eP P 12 47 22.9 -0.1
comp=Z,37nm,0.9s,mb5.1
HIA LR LR
comp=Z,3μm,20.0s,MS5.1
HIA Hailar 38.09 331 eP P 12 47 22.9 -0.1
HIA pmax pmax
comp=Z,37nm,0.9s
HIA MLR MLR
comp=Z,3μm,20.0s
BTO Baotou 38.84 313 eP P 12 47 24.5 -5.0
KSM Kuching 39.53 250 eP P 12 47 35.5 0.0
comp=Z,58nm,1.2s,mb5.2
KSM LR LR
comp=Z,1μm,19.0s,MS4.8
WRAB Tennant Creek 39.71 199 eP P 12 47 35.7 -1.1
comp=Z,139nm,1.1s,mb5.6
WRAB LR LR
comp=Z,4μm,22.0s,MS5.2
WRAB Tennant Creek 39.71 199 eP P 12 47 35.7 -1.1
WRAB pmax pmax
comp=Z,139nm,1.1s,mb5.6
WRAB MLR MLR
comp=Z,4μm,22.0s,MS5.2
WB2 Warramunga Arr 39.72 199 eP P 12 47 35.5 -1.4
WRA Warramunga Arr 39.72 199 P P 12 47 36.4 -0.6
comp=Z,44nm,0.7s,mb5.3,baz=22,slow=9.0,SNR=63
WRA PcP PcP 12 49 43.1 +0.1
comp=Z,4.2nm,0.6s,baz=18,slow=3.7,SNR=4.7
WRA ScP ScP 12 53 30.2 +1.2
comp=Z,4.5nm,1.2s,baz=20,slow=3.6,SNR=4.7
WRA LR LR 13 03 20.0
comp=Z,3μm,21.9s,MS5.2,baz=25,slow=35
WRA Warramunga Arr 39.72 199 P P 12 47 36.4 -0.6
WRA PcP PcP 12 49 43.1 +0.1
WRA ScP ScP 12 53 30.2 +1.2
WRA Warramunga Arr 39.72 199 P P 12 47 36.4 -0.5
WRA 12 49 43.2
WRA 12 53 30.2
FX1 Attu Island--F 40.35 24 LR LR 13 04 04.5
comp=Z,3μm,18.1s,MS5.2,baz=257,slow=36
CD2 Chengdu 41.08 297 P P 12 47 50.0 +1.8
CD2 pP pP 12 48 08.5 +9.3
CD2 sP sP 12 48 17.5 +14
CD2 PP PP 12 49 29.0 +5.6
CD2 S S 12 53 57.0 -1.5
CD2 sS sS 12 54 28.8 +12
CD2 SS SS 12 56 57.5 -4.4
CD2 pmax pmax
comp=Z,20nm,0.5s,mb5.0
CD2 pmax pmax
comp=Z,400nm,6.6s
CD2 LR LR
comp=E,4μm,16.7s
CD2 LR LR
comp=Z,4μm,17.8s,MS5.4
KMI Kunming 41.54 288 P P 12 47 54.0 +1.9
KMI S S 12 54 07.0 +1.5
KMI SS SS 12 57 12.8 +1.6
KMI pmax pmax
comp=Z,11nm,0.9s,mb4.5
KMI pmax pmax
comp=Z,240nm,6.6s
KMI LR LR
comp=N,760nm,17.3s,MS5.0
KMI LR LR
comp=E,2μm,16.8s,MS5.0
KMI LR LR
comp=Z,1μm,15.6s,MS4.9
FITZ Fitzroy Crossi 41.57 211 P P 12 47 51.5 -0.8
comp=Z,11nm,0.7s,mb4.6,baz=40,slow=9.2,SNR=12
FITZ Fitzroy Crossi 41.57 211 eP P 12 47 51.6 -0.7
comp=Z,18nm,0.7s,mb4.8
FITZ Fitzroy Crossi 41.57 211 eP P 12 47 51.7 -0.6
comp=Z,19nm,1.0s,mb4.7
LZH Lanzhou 41.98 304 eP P 12 48 02.0 +6.5
LZH pP pP 12 48 20.0 +14
LZH sP sP 12 48 29.0 +18
LZH PP PP 12 49 44.0 +11
LZH eS S 12 54 15.0 +3.3
LZH sS sS 12 54 46.0 +16
LZH SS SS 12 57 18.5 -1.0
LZH pmax pmax
comp=Z,37nm,1.0s,mb5.0
LZH pmax pmax
comp=Z,320nm,5.6s
LZH LR LR
comp=N,2μm,14.0s,MS5.4
LZH LR LR
comp=E,4μm,17.2s,MS5.4
LZH LR LR
comp=Z,4μm,19.3s,MS5.3
CLNS Chul'man 42.10 342 eP P 12 47 57.7 +1.5
CLNS e 12 49 34.0
CLNS e 12 49 50.3
CLNS ePPP 12 50 06.8
CLNS eS S 12 54 17.1 +4.2
CLNS pmax pmax
comp=Z,54nm,1.3s,mb5.0
CLNS pmax pmax
comp=N,45nm,1.5s
CLNS pmax pmax
comp=E,24nm,1.5s
CLNS pmax pmax
comp=N,20nm,1.2s
CLNS pmax pmax
comp=E,16nm,1.1s
CLNS pmax pmax
comp=Z,9.0nm,1.1s,mb4.3
CLNS smax
comp=E,1μm,14.4s
CLNS smax
comp=N,596nm,13.3s
CLNS MLR MLR
comp=E,1μm,16.0s,MS5.2
CLNS MLR MLR
comp=Z,2μm,18.0s,MS5.1
CLNS MLR MLR
comp=N,2μm,17.0s,MS5.2
EIDS Eidsvold 43.34 175 eP P 12 48 06.2 -0.4
comp=N,26nm,1.2s,mb4.8
AS31 Alice Springs 43.36 198 eP P 12 48 06.4 -0.3
ASAR Alice Springs 43.36 198 P P 12 48 06.3 -0.4
comp=N,13nm,0.6s,mb4.8,baz=19,slow=8.1,SNR=100
ASAR PcP PcP 12 49 55.6 +0.7
comp=N,3.7nm,0.7s,baz=28,slow=4.2,SNR=3.6
ASAR S S 12 54 34.9 +2.8
comp=N,0.4nm,0.3s,baz=35,slow=11,SNR=3.8
ASAR LR LR 13 08 08.8
comp=N,1μm,18.4s,MS4.9,baz=20,slow=39
ASAR PKPPKP 13 20 21.9
comp=N,0.5nm,0.9s,baz=186,slow=3.8,SNR=4.4
ASAR Alice Springs 43.36 198 P P 12 48 06.3 -0.4
ASAR PcP PcP 12 49 55.6 +0.7
ASAR S S 12 54 34.9 +2.8
ASAR PKPab 13 20 21.9
ASAR Alice Springs 43.36 198 P P 12 48 06.3 -0.4
ASAR 12 49 55.6
ASAR S S 12 54 34.9 +2.8
ULN Ulaanbaatar 44.00 322 eP P 12 48 11.9 +0.2
ULN LR LR
comp=Z,4μm,21.0s,MS5.3
ULN Ulaanbaatar 44.00 322 eP P 12 48 11.9 +0.2
ULN MLR MLR
comp=Z,4μm,21.0s,MS5.3
ULN Ulaanbaatar 44.00 322 P P 12 48 19.5 +7.8
SNR=16
DZM Mont Dzumac 44.21 154 eS S 12 54 47.4 +2.9
comp=Z,2μm,25.8s
DZM eLR LR 13 00 43.4
comp=Z,6μm,21.9s
DZM Mont Dzumac 44.21 154 eP P 12 48 13.9 +0.3
comp=Z,70nm,1.1s,mb5.3
SONM Songino Array 44.38 321 P P 12 48 14.4 -0.3
comp=Z,5.4nm,0.7s,mb4.4,baz=130,slow=8.0,SNR=39
SONM PcP PcP 12 49 58.1 0.0
comp=Z,4.2nm,0.8s,baz=132,slow=4.3,SNR=2.9
SONM ScP ScP 12 53 46.9 -0.4
comp=Z,8.4nm,1.3s,baz=136,slow=1.7,SNR=5.0
SONM LR LR 13 08 42.2
comp=Z,5μm,18.4s,MS5.5,baz=115,slow=39
SONM Songino Array 44.38 321 P P 12 48 14.4 -0.3
SONM PcP PcP 12 49 58.1 0.0
SONM ScP ScP 12 53 46.9 -0.4
SONM Songino Array 44.38 321 P P 12 48 14.4 -0.3
SONM 12 49 58.1
NST Nakhon Sawan 44.75 274 P P 12 48 19.0 +0.9
comp=Z,46nm,0.8s,mb5.4
SEY Seymchan 45.01 4⇑ eP P 12 48 20.5 +1.1
CHTO Chiang Mai 45.42 279 eP P 12 48 24.1 +0.7
comp=Z,24nm,1.5s,mb4.8
CHTO LR LR
comp=Z,1μm,19.0s,MS4.9
CHTO Chiang Mai 45.42 279 eP P 12 48 24.1 +0.7
CHTO pmax pmax
comp=Z,24nm,1.5s,mb4.8
CHTO MLR MLR
comp=Z,1μm,19.0s,MS4.9
CM31 Chiang Mai Arr 45.46 278 eP P 12 48 25.2 +1.4
comp=Z,10nm,0.8s,mb4.7
CM31 LR LR
comp=Z,1μm,19.0s,MS4.9
CMAR Chiang Mai Arr 45.46 278 P P 12 48 24.6 +0.9
comp=Z,16nm,0.9s,mb4.9,baz=70,slow=7.6,SNR=82
CMAR LR LR 13 05 54.9
comp=Z,1μm,19.6s,MS4.9,baz=174,slow=34
CMAR Chiang Mai Arr 45.46 278 P P 12 48 24.6 +0.9
CMAR Chiang Mai Arr 45.46 278 P P 12 48 24.6 +0.9
BDT Bhumibol Dam 45.57 277 P P 12 48 25.0 +0.4
YAK Yakutsk 45.58 349 eP P 12 48 24.9 +0.9
comp=Z,89nm,0.8s,mb5.8
YAK LR LR
comp=Z,2μm,20.0s,MS5.0
YAK Yakutsk 45.58 349 eP P 12 48 25.8 +1.8
YAK e*PP pP 12 48 37.9 +2.8
YAK e 12 50 04.4
YAK e 12 50 12.2
YAK eS S 12 55 05.0 +1.5
YAK e 12 58 15.2
YAK pmax pmax
comp=Z,91nm,1.0s,mb5.7
YAK pmax pmax
comp=E,16nm,1.2s
YAK pmax pmax
comp=N,36nm,1.1s
YAK pmax pmax
comp=Z,428nm,6.2s
YAK pmax pmax
comp=N,272nm,3.8s
YAK pmax pmax
comp=E,146nm,3.1s
YAK smax
comp=E,368nm,4.5s
YAK smax
comp=N,851nm,4.9s
YAK MLR MLR
comp=N,2μm,17.0s
YAK MLR MLR
comp=Z,2μm,17.0s,MS5.1
GTA Gaotai 45.87 308 eP P 12 48 28.8 +2.1
GTA pP pP 12 48 47.0 +9.2

GTA sP sP 12 48 56.3 +14
GTA S **S** **12 55 09.5 +1.2**
GTA sS sS 12 55 40.5 +14
GTA SS SS 12 58 29.0 -4.2
GTA pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
GTA pmax pmax
comp=Z,220nm,5.7s
GTA LR LR
comp=N,4μm,20.6s,MS5.4
GTA LR LR
comp=E,2μm,20.2s,MS5.4
GTA LR LR
comp=Z,3μm,18.5s,MS5.2
SNG Songkhla 46.34 263 P **P** **12 48 33.0 +2.3**
comp=Z,180nm,0.8s,mb6.0
IPM Ipoh 46.84 259 *e*P **P** **12 48 34.1 -0.5**
comp=Z,63nm,1.3s,mb5.4
KULM Kulim 46.92 260 *e*P **P** **12 48 37.3 +2.0**
comp=Z,59nm,1.0s,mb5.5
KULM LR LR
comp=Z,2μm,20.0s,MS5.0
MSVF Nonsavu 46.92 138 *e*P **P** **12 48 34.1 -1.0**
comp=Z,28nm,0.9s,mb5.2
MSVF LR LR
comp=Z,2μm,20.0s,MS5.0
MSVF Nonsavu 46.92 138 *e*P **P** **12 48 34.1 -1.0**
MSVF pmax pmax
comp=Z,28nm,0.9s,mb5.2
MSVF MLR MLR
comp=Z,2μm,20.0s,MS5.0
MBWA Marble Bar 47.20 216 *e*P **P** **12 48 37.0 -0.2**
comp=Z,19nm,1.0s,mb5.0
MBWA LR LR
comp=Z,1μm,19.0s,MS4.8
ZAK Zakamensk 47.37 323 *e*P **P** **12 48 37.6 -0.6**
ZAK *e* 12 58 31.5
ZAK pmax pmax
comp=Z,12nm,1.0s,mb4.8
IRK Irkutsk 47.70 326 *e*P **P** **12 48 43.6 +2.9**
IRK *e* 12 55 27.3
IRK pmax pmax
comp=Z,130nm,2.1s,mb5.6
TLY Talaya 47.77 325 *e*P **P** **12 48 42.5 +1.3**
comp=Z,105nm,1.9s,mb5.5
TLY LR LR
comp=Z,3μm,20.0s,MS5.3
TLY Talaya 47.77 325 *e*P **P** **12 48 42.0 +0.7**
TLY *e*S **S** **12 55 35.9 +0.9**
TLY *e* 12 58 36.3
TLY pmax pmax
comp=Z,25nm,1.3s,mb5.1
TLY MLR MLR
comp=Z,3μm,20.0s,MS5.2
TLY Talaya 47.77 325 P **P** **12 48 48.3 +7.0**
SNR=8.2
ARMA Armidale 48.39 175 *e*P **P** **12 48 45.8 -0.5**
ARMA Armidale 48.39 175 *e*P **P** **12 48 46.3 0.0**
comp=Z,258nm,2.1s,mb5.9
MOY Mondy 49.23 324 *e*P **P** **12 48 57.0 +4.4**
STKA Stephens Creek 49.90 186 P **P** **12 48 56.7 -1.1**
comp=Z,16nm,0.7s,mb5.2,baz=4.0,slow=8.0,SNR=20
STKA LR LR 13 12 04.8
comp=Z,2μm,18.2s,MS5.2,baz=4.2,slow=38
STKA Stephens Creek 49.90 186 *e*P **P** **12 48 57.0 -0.8**
comp=Z,13nm,0.7s,mb5.1
STKA Stephens Creek 49.90 186 *e*P **P** **12 48 57.1 -0.8**
comp=Z,3.7nm,0.8s,mb4.5
STKA Stephens Creek 49.90 186 *e*P **P** **12 48 57.1 -0.7**
STKA pmax pmax
comp=Z,4.0nm,0.8s
SHL Shillong 51.35 289 *e*PKP **P** **12 49 10.0 +0.9**
SHL *ex* x 12 54 20.5
SHL *e*S **S** **12 56 26.0 0.0**
BILL Bilibino 51.47 9 *e*P **P** **12 49 08.6 -0.6**
comp=Z,61nm,1.3s,mb5.4
BILL LR LR
comp=Z,2μm,22.0s,MS5.1
BILL Bilibino 51.47 9 *e*P **P** **12 49 09.5 +0.3**
BILL *i* pP 12 49 18.3 -2.2
BILL *i* 12 50 23.5
BILL *i* 12 51 06.3
BILL *i* S **S** **12 56 22.6 -3.8**
BILL pmax pmax
comp=Z,32nm,1.6s,mb5.0
BILL MLR MLR
comp=Z,1μm,18.0s,MS4.9
BBOO Buckleboo 51.62 192 *e*P **P** **12 49 10.0 -0.8**
comp=Z,2μm,0.8s
KIP Kipapa 51.72 77⇑ *i*P **P** **12 49 11.8 -0.1**
KIP pmax pmax
comp=Z,70nm,1.0s,mb5.5
FORT Forrest 51.82 201 *e*P **P** **12 49 11.9 -0.4**
comp=Z,37nm,0.6s,mb5.5
FORT Forrest 51.82 201 *e*P **P** **12 49 12.0 -0.3**
comp=Z,75nm,1.0s,mb5.6
LSA Lhasa 51.88 294 P **P** **12 49 15.3 +2.4**
LSA S **S** **12 56 38.5 +5.4**
LSA LR LR
comp=N,990nm,20.5s,MS5.0
LSA LR LR
comp=E,1μm,23.7s,MS5.0
LSA Lhasa 51.88 294 *e*P **P** **12 49 14.9 +1.9**
comp=E,15nm,0.8s,mb5.0
LSA LR LR
comp=Z,1μm,21.0s,MS5.0
LSA Lhasa 51.88 294 *e*P **P** **12 49 14.9 +2.0**
LSA pmax pmax
comp=Z,15nm,0.8s,mb5.0
LSA MLR MLR
comp=Z,1μm,21.0s,MS5.0
CAN Canberra 53.11 178 *e*P **P** **12 49 22.2 +0.4**
comp=Z,49nm,1.1s,mb5.3
CAN LR LR
comp=Z,3μm,22.0s,MS5.3
CAN Canberra 53.11 178 *e*P **P** **12 49 22.2 +0.4**
CAN pmax pmax
comp=Z,49nm,1.1s,mb5.3
CAN MLR MLR
comp=Z,3μm,22.0s,MS5.3
CNB Canberra Magne 53.11 178 *e*P **P** **12 49 21.7 -0.1**
comp=Z,172nm,1.0s,mb5.9
TAPN Taplejung 54.98 291 *e*P **P** **12 49 36.8 +1.0**
comp=Z,27nm,0.7s,mb5.4
ODAN Odare 55.30 291 *e*P **P** **12 49 38.7 +0.6**
comp=Z,38nm,0.8s,mb5.5
TOO Toolangi 55.33 181 *e*P **P** **12 49 37.8 -0.1**
comp=Z,72nm,1.0s,mb5.7
WMQ Urumqi 55.62 311 P **P** **12 49 41.5 +1.5**
WMQ pP pP 12 50 00.5 +9.1
WMQ sP sP 12 50 09.5 +14
WMQ PP PP 12 51 48.0 +3.6
WMQ S **S** **12 57 19.8 -3.5**
WMQ ScS ScS 12 59 19.8 -6.5
WMQ pmax pmax
comp=Z,58nm,1.3s,mb5.5
WMQ pmax pmax
comp=Z,120nm,4.2s
WMQ LR LR
comp=N,3μm,17.6s,MS5.4
WMQ LR LR
comp=E,2μm,19.3s,MS5.4
WMQ LR LR
comp=Z,2μm,21.0s,MS5.2
RAMN Ramite 56.00 291 *e*P **P** **12 49 44.1 +1.0**
JIRN Jiri 56.31 292 *e*P **P** **12 49 45.8 +0.5**
comp=Z,55nm,0.7s,mb5.7
GUN Gumba 56.56 292 *e*P **P** **12 49 48.2 +1.1**
KLBR Kellerberrin 56.74 210 *e*P **P** **12 49 49.1 +1.0**
comp=Z,88nm,1.7s,mb5.5
XMAS Kiritimati 56.79 100 PFAKE 12 50 00.0 +11
XMAS LR LR
comp=Z,3μm,20.0s,MS5.3
PKI Pulchoki 57.01 292 *e*P **P** **12 49 50.7 +0.5**
KKN Kakani 57.10 292 *e*P **P** **12 49 51.6 +0.7**
comp=Z,32nm,0.8s,mb5.4
DMN Daman 57.27 292 *e*P **P** **12 49 52.8 +0.7**
GKN Gorkha 57.65 292 *e*P **P** **12 49 54.9 +0.1**
RAO Raoul Island 57.99 144 PFAKE 12 50 10.0 +13
RAO LR LR
comp=Z,1μm,19.0s,MS5.1
NWAO Narrogin (SRO) 58.09 209 P **P** **12 49 56.4 -1.2**
comp=Z,10.0nm,0.6s,mb5.0,baz=48,slow=6.3,SNR=5.9
NWAO LR LR 13 17 28.8
comp=Z,3μm,18.2s,MS5.4,baz=208,slow=39
NWAO Narrogin (SRO) 58.09 209 P **P** **12 49 56.4 -1.2**
DANN Dangsing 58.40 293 *e*P **P** **12 50 00.0 0.0**
comp=Z,140nm,0.6s,mb6.2
KOLN Koldanda 58.59 292 *e*P **P** **12 50 01.5 +0.1**
comp=Z,32nm,0.8s,mb5.4
PYUN Piuthan 59.10 292 *e*P **P** **12 50 04.2 -0.7**
ZAA0 Zalesovo Array 59.24 323 *e*P **P** **12 50 04.0 -1.4**
ZALV Zalesovo Beam 59.24 323 P **P** **12 50 04.0 -1.4**
comp=Z,12nm,0.7s,mb5.0,baz=105,slow=7.4,SNR=24
ZALV LR LR 13 16 36.9
comp=Z,2μm,20.1s,MS5.2,baz=97,slow=37
ZALV PKPPKP 13 19 37.9
comp=Z,0.2nm,0.4s,baz=17,slow=5.4,SNR=4.9
ZALV Zalesovo Beam 59.24 323 P **P** **12 50 04.0 -1.4**
ZALV PKPab 13 19 37.9
ZALV Zalesovo Beam 59.24 323 P **P** **12 50 04.1 -1.3**
KDAK Kodiak Island 59.27 33 P **P** **12 50 07.6 +2.1**
comp=Z,7.4nm,0.7s,mb4.8,baz=277,slow=7.3,SNR=4.5
KDAK Kodiak Island 59.27 33 P **P** **12 50 07.6 +2.1**
KDAK LR LR
comp=Z,2μm,19.0s,MS5.3
KDAK Kodiak Island 59.27 33 P **P** **12 50 07.6 +2.1**
KDAK MLR MLR
comp=Z,2μm,19.0s,MS5.3
MK31 Makanchi Array 59.75 314 *e*P **P** **12 50 09.2 +0.1**
MK31 Makanchi Array 59.75 314 *e*P **P** **12 50 08.8 -0.3**
MK31 pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
MKAR Makanchi Array 59.75 314 P **P** **12 50 08.6 -0.5**
comp=Z,1.5nm,0.5s,mb4.3,baz=88,slow=8.2,SNR=25
MKAR ScP ScP 12 54 52.7 -1.0
comp=Z,3.7nm,1.0s,baz=54,slow=7.3,SNR=4.2
MKAR LR LR 13 17 59.2
comp=Z,2μm,19.6s,MS5.2,baz=95,slow=38
MKAR Makanchi Array 59.75 314 P **P** **12 50 08.6 -0.5**
MKAR ScP ScP 12 54 52.7 -0.9
MKAR Makanchi Array 59.75 314 P **P** **12 50 08.6 -0.5**
NVS Novosibirsk 60.33 323 *e*P **P** **12 50 10.9 -2.0**
NVS *i* S **S** **12 58 24.1 -0.4**
NVS pmax pmax
comp=E,81nm,1.8s
NVS pmax pmax
comp=Z,135nm,1.8s,mb5.7
NVS smax
comp=N,195nm,3.1s
NVS smax
comp=E,42nm,3.1s
TAU Tasmania Unive 60.65 180 PFAKE 12 50 30.0 +15
TAU LR LR
comp=Z,4μm,20.0s,MS5.5
PPLA Purkeypile 60.94 27 *e*P **P** **12 50 18.6 +1.7**
comp=Z,55nm,1.2s,mb5.6
SEW Seward 61.43 31 P **P** **12 50 21.3 +1.0**
BPAW Bear Paw Mtn. 61.83 26 *e*P **P** **12 50 22.1 -0.8**
comp=Z,66nm,1.0s,mb5.7
TRF Thorofare Moun 61.93 27 *e*P **P** **12 50 23.1 -0.5**
comp=Z,55nm,1.0s,mb5.6
PMR Palmer 61.95 29 *e*P **P** **12 50 23.1 -0.7**
comp=Z,32nm,1.1s,mb5.4
PMR Palmer 61.95 29 *e*P **P** **12 50 23.1 -0.6**
PMR pmax pmax
comp=Z,32nm,1.1s,mb5.4
SML Sawmill 62.37 29 *e*P **P** **12 50 26.3 -0.2**
comp=Z,14nm,1.0s,mb5.0
SML Sawmill 62.37 29 *e*P **P** **12 50 26.3 -0.3**
SML pmax pmax
comp=Z,14nm,1.0s,mb5.0
KURK Kurchatov 62.53 318 P **P** **12 50 27.1 -0.7**
comp=Z,16nm,0.7s,mb5.2,baz=98,slow=6.9,SNR=46
KURK Kurchatov 62.53 318 P **P** **12 50 27.1 -0.7**
KURK LR LR
comp=Z,4μm,20.0s,MS5.5
KURK Kurchatov 62.53 318 P **P** **12 50 27.1 -0.7**
KURK MLR MLR
comp=Z,4μm,20.0s,MS5.5
MCK McKinley 62.59 27 *e*P **P** **12 50 27.6 -0.4**
comp=Z,302nm,2.4s,mb6.0
MCK McKinley 62.59 27 *e*P **P** **12 50 27.6 -0.4**
MCK pmax pmax
comp=Z,302nm,2.4s,mb6.0
URZ Urewera 62.77 154 P **P** **12 50 28.6 -0.8**
comp=Z,9.5nm,0.8s,mb5.0,baz=173,slow=11,SNR=2.2
URZ Urewera 62.77 154 P **P** **12 50 28.6 -0.8**
COLD Coldfoot 63.10 23 *e*P **P** **12 50 32.2 +0.9**
comp=Z,29nm,1.0s,mb5.4
COLA College 63.34 26 *e*P **P** **12 50 30.6 -2.4**
comp=Z,21nm,0.9s,mb5.3
COLA LR LR
comp=Z,3μm,20.0s,MS5.4
COLA College 63.34 26 *e*P **P** **12 50 30.6 -2.4**
COLA pmax pmax
comp=Z,21nm,0.9s,mb5.3
COLA MLR MLR
comp=Z,3μm,20.0s,MS5.4
ILAR Eielson Array 63.72 26 P **P** **12 50 32.8 -2.7**
comp=Z,5.2nm,0.8s,mb4.6,baz=257,slow=5.7,SNR=40
ILAR LR LR 13 17 32.0
comp=Z,2μm,18.9s,MS5.3,baz=265,slow=35
ILAR Eielson Array 63.72 26 P **P** **12 50 32.8 -2.7**
ILAR Eielson Array 63.72 26 P **P** **12 50 32.8 -2.7**
PAX Paxson 63.93 28 *e*P **P** **12 50 36.5 -0.4**
comp=Z,38nm,1.1s,mb5.3
PAX Paxson 63.93 28 *e*P **P** **12 50 36.5 -0.4**
PAX pmax pmax
comp=Z,38nm,1.1s,mb5.3
BMRM Bremner River 63.96 30 *e*P **P** **12 50 37.7 +0.6**
comp=Z,82nm,1.1s,mb5.7
KSH Kashi 64.19 306 P **P** **12 50 42.8 +3.7**
KSH pP pP 12 51 02.3 +12
KSH sP sP 12 51 11.0 +16
KSH PcP PcP 12 51 16.3 +2.5
KSH PP PP 12 53 07.0 +6.6
KSH ScP 12 55 10.8
KSH PcS 12 55 19.0
KSH S **S** **12 59 12.3 -1.5**
KSH sS sS 12 59 47.5 +15
KSH ScS ScS 13 00 26.0 -4.3
KSH SS SS 13 03 26.5 +3.1
KSH pmax pmax
comp=Z,19nm,1.3s,mb5.0
KSH pmax pmax
comp=Z,190nm,7.4s
KSH LR LR
comp=N,1μm,15.2s,MS5.3
KSH LR LR
comp=E,710nm,15.1s,MS5.3
KSH LR LR
comp=Z,960nm,14.6s,MS5.1
TKM2 Tokmak 2 64.36 309 *e*P **P** **12 50 40.6 +0.5**
comp=Z,13nm,1.0s,mb4.9
TKM2 LR LR
comp=Z,2μm,19.0s,MS5.3
TKM2 Tokmak 2 64.36 309 *e*P **P** **12 50 40.6 +0.5**
TKM2 pmax pmax
comp=Z,13nm,1.0s,mb4.9
TKM2 MLR MLR
comp=Z,2μm,19.0s,MS5.3
SNZO South Karori 64.43 157 PFAKE 12 50 50.0 +10
SNZO LR LR
comp=Z,2μm,19.0s,MS5.2
DOT Dot Lake 64.69 27 *e*P **P** **12 50 41.2 -0.7**
comp=Z,12nm,0.8s,mb5.0
MENT Mentasta 64.71 28 *e*P **P** **12 50 40.5 -1.4**
HYB Hyderabad 64.76 281 *i*P **P** **12 50 43.0 -0.1**
FRU Bishkek 65.09 309 *i*P **P** **12 50 46.0 +1.2**
FRU *i* 12 50 54.0
FRU pmax pmax
comp=Z,60nm,2.0s,mb5.3
AAK Ala-Archa 65.18 309 *e*P **P** **12 50 44.0 -1.4**
comp=Z,142nm,1.8s,mb5.7
AAK LR LR
comp=Z,2μm,20.0s,MS5.2
AAK Ala-Archa 65.18 309⇑ *e*P **P** **12 50 44.3 -1.1**
AAK pmax pmax
comp=Z,15nm,1.2s,mb4.9
EKS2 Erkin-Say 65.71 309 *e*P **P** **12 50 50.3 +1.5**
comp=Z,12nm,1.4s,mb4.7
EKS2 LR LR
comp=Z,1μm,19.0s,MS5.2
EKS2 Erkin-Say 65.71 309 *e*P **P** **12 50 50.3 +1.4**
EKS2 pmax pmax
comp=Z,12nm,1.4s,mb4.7
EKS2 MLR MLR
comp=Z,1μm,19.0s,MS5.2
EGAK Eagle 66.13 26 *e*P **P** **12 50 51.0 -0.1**
comp=Z,241nm,2.3s,mb5.8
EGAK LR LR
comp=Z,2μm,19.0s,MS5.4
DAWY Dawson 66.79 27 *e*P **P** **12 50 54.7 -0.7**
BVA0 Borovoye Array 67.72 321 *i*P **P** **12 51 00.6 -0.8**
BVA0 pmax pmax
comp=Z,14nm,1.3s,mb4.8
BVAR Borovoye Array 67.72 321 P **P** **12 51 01.0 -0.4**
comp=Z,16nm,0.6s,mb5.2,baz=94,slow=7.4,SNR=87
BVAR S S 12 59 58.8 +2.6
comp=Z,1.9nm,1.0s,baz=81,slow=9.2,SNR=6.4
BVAR Borovoye Array 67.72 321 P **P** **12 51 01.0 -0.4**
BVAR S S 12 59 58.8 +2.6
BVAR Borovoye Array 67.72 321 P **P** **12 51 01.0 -0.4**
BVAR S S 12 59 58.8 +2.6
BRVK Borovoye 67.78 321 *e*P **P** **12 51 01.2 -0.6**
comp=Z,120nm,1.6s,mb5.7
BRVK LR LR
comp=Z,3μm,20.0s,MS5.5
BRVK Borovoye 67.78 321 *c i*P **P** **12 51 01.2 -0.6**
BRVK pmax pmax
comp=Z,19nm,0.8s,mb5.2
BRVK Borovoye 67.78 321 P **P** **12 51 03.0 +1.2**
SNR=29
KK31 Karatay Array 68.08 310 *i*P **P** **12 51 03.6 -0.3**
KK31 pmax pmax
comp=Z,11nm,0.8s,mb4.9
INK Inuvik 69.52 23 *e*P **P** **12 51 11.1 -1.3**
comp=Z,31nm,1.0s,mb5.2
INK Inuvik 69.52 23 *e*P **P** **12 51 11.1 -1.3**
INK pmax pmax
comp=Z,31nm,1.0s
WRAK Wrangell Islan 70.05 36 PFAKE 12 51 30.0 +14
WRAK LR LR
comp=Z,2μm,21.0s,MS5.4
KBL Kabul 70.20 301 *e*P **P** **12 51 17.0 -0.2**
comp=Z,32nm,1.3s,mb5.1
KBL Kabul 70.20 301 *e*P **P** **12 51 17.0 -0.3**
KBL pmax pmax
comp=Z,32nm,1.3s,mb5.1
DLBC Dease Lake 71.19 33 *e*P **P** **12 51 22.2 -0.5**
PPT Papeete 71.78 116 *e*S S 13 00 47.0 +2.0
comp=Z,1μm,26.2s
PPT *e*LQ 13 09 41.9
comp=Z,3μm,29.0s
PPT *e*LR LR 13 13 23.0
comp=Z,1μm,21.0s,baz=303
SVE Sverdlovsk 73.08 325⇑ *e*P **P** **12 51 34.0 -0.1**
SVE *e*S S 13 00 59.5 +0.8
SVE *e* 13 01 35.9
SVE *e*SS SS 13 05 44.5 +4.8
SVE pmax pmax
comp=Z,108nm,2.1s,mb5.4
SVE MLR MLR
comp=Z,2μm,18.0s,MS5.5
ARU Arti 74.27 325 *e*P **P** **12 51 40.4 -0.7**
comp=Z,135nm,1.5s,mb5.7
ARU LR LR
comp=Z,2μm,20.0s,MS5.3
ARU Arti 74.27 325 *c i*P **P** **12 51 40.7 -0.4**
ARU 12 54 29.2
ARU S S 13 01 13.0 +0.9
ARU pmax pmax
comp=Z,24nm,1.0s,mb5.1
ARU MLR MLR
comp=Z,1μm,18.0s,MS5.3
ARU Arti 74.27 325 P **P** **12 51 40.2 -0.9**
comp=Z,220nm,1.1s,mb6.0,SNR=7.2
TBI Tubuai 74.50 121 *e*S S 13 01 17.3 +1.6
comp=Z,1μm,29.8s
TBI *e*LQ 13 10 32.2
comp=Z,1μm,30.2s
TBI *e*LR LR 13 14 33.5
comp=Z,507nm,21.0s
AB31 Akbulak array 74.61 317 *e*P **P** **12 51 41.9 -1.3**
AB31 pmax pmax
comp=Z,19nm,0.9s,mb5.0
ABKAR Akbulak array 74.61 317 *e*P **P** **12 51 41.9 -1.3**
SOKR Solikamsk 74.70 328⇑ *i*P **P** **12 51 43.5 0.0**
SOKR S S 13 01 20.9 +4.1
SOKR pmax pmax
comp=Z,50nm,1.2s,mb5.3
AKTO Aktyubinsk 75.62 319 P **P** **12 51 48.4 -0.6**
comp=Z,6.1nm,0.6s,mb4.7,baz=83,slow=7.1,SNR=28
AKTO Aktyubinsk 75.62 319 P **P** **12 51 48.4 -0.6**
AKTO Aktyubinsk 75.62 319 P **P** **12 51 48.4 -0.7**
NLWA Neilton Lookou 76.42 44 *e*P **P** **12 51 54.7 +1.1**
comp=Z,36nm,1.1s,mb5.2
NLWA LR LR
comp=Z,1μm,20.0s,MS5.2
PGC Sidney 76.43 43 *e*P **P** **12 51 50.2 -3.5**
comp=Z,2.4nm,1.1s
E03A Lebam 76.80 45⇓ P **P** **12 51 54.5 -1.3**
baz=77
BMW Boistfort Moun 77.04 45 *e*P **P** **12 51 57.9 +0.7**
BMW Boistfort Moun 77.04 45 *e*P **P** **12 51 57.9 +0.7**
KEBM Edson Butte 77.05 49 *e*P **P** **12 51 58.7 +1.4**
comp=Z,98nm,1.1s,mb5.7
GNW Green Mountain 77.07 44 *e*P **P** **12 51 58.0 +0.6**
comp=Z,24nm,1.2s,mb5.0
A05A Maple Falls 77.24 42⇓ P **P** **12 51 57.8 -0.4**
baz=77
COR Corvallis 77.41 47 P **P** **12 52 00.8 +1.5**
comp=Z,139nm,1.4s,mb5.7
COR Corvallis 77.41 47 P **P** **12 52 00.8 +1.5**
COR pmax pmax
comp=Z,139nm,1.4s,mb5.7
JCW Jim Creek 77.52 43 P **P** **12 52 00.2 +0.4**
FL2 Flat Top 2 77.70 45 P **P** **12 52 01.7 +0.8**
D05A Enumclaw 77.71 44⇓ P **P** **12 52 00.6 -0.3**
baz=78
TDL Tradedollar La 77.75 45 P **P** **12 52 01.7 +0.5**
LON Longmire 77.93 45 *e*P **P** **12 52 02.8 +0.6**
comp=Z,123nm,2.0s,mb5.5
LON Longmire 77.93 45 *e*P **P** **12 52 02.8 +0.6**
LON pmax pmax
comp=Z,123nm,2.0s,mb5.5
KHMM Horse Mountain 77.94 51 *e*P **P** **12 52 03.6 +1.3**
comp=Z,82nm,1.2s,mb5.5
YKA Yellowknife Ar 78.02 28 P **P** **12 52 00.7 -1.6**
comp=Z,10nm,1.0s,mb4.7,baz=288,slow=5.5,SNR=27
YKA LR LR 13 26 05.0
comp=Z,260nm,19.9s,MS4.6,baz=140,slow=35
YKA Yellowknife Ar 78.02 28 P **P** **12 52 00.7 -1.6**
YKA Yellowknife Ar 78.02 28 P **P** **12 52 00.7 -1.6**
HUMO Hull Mountain 78.10 49 *e*P **P** **12 52 03.6 +0.4**
comp=Z,82nm,1.5s,mb5.4
H04A Detroit Lake 78.16 47⇑ P **P** **12 52 02.8 -0.6**
baz=78
ASR Mount Adams--S 78.22 45 P **P** **12 52 04.3 +0.6**
GULW Guler Mountain 78.27 45 P **P** **12 52 04.7 +0.6**
WRW Wenatchee Ridg 78.28 43 P **P** **12 52 04.6 +0.5**
KCPM Cahto Peak 78.33 52 *e*P **P** **12 52 05.4 +0.9**
comp=Z,43nm,1.0s,mb5.3
HOOD Mount Hood Mea 78.38 46 *e*P **P** **12 52 05.3 +0.7**
comp=Z,62nm,1.1s,mb5.5
KIPM Iron Peak 78.38 52 *e*P **P** **12 52 04.6 -0.1**
comp=Z,117nm,1.2s,mb5.7
YBH Yreka Blue Hor 78.49 50 *e*P **P** **12 52 05.3 0.0**
comp=Z,44nm,1.1s,mb5.3
YBH Yreka Blue Hor 78.49 50 *e*P **P** **12 52 05.4 +0.1**
YBH pmax pmax
comp=Z,44nm,1.1s
ETW Entiat 78.71 44 P **P** **12 52 06.4 0.0**
HOPS Hopland 78.88 53 *e*P **P** **12 52 08.4 +0.9**
comp=Z,288nm,2.3s,mb5.8
WDC Whiskeytown Da 78.89 51 *e*P **P** **12 52 08.1 +0.5**
comp=Z,101nm,1.8s,mb5.5
WDC Whiskeytown Da 78.89 51 *e*P **P** **12 52 08.1 +0.5**
WDC pmax pmax
comp=Z,101nm,1.8s,mb5.5
G06A Carlson Farm, 79.09 46⇑ P **P** **12 52 08.1 -0.5**
baz=79
E07A Sunnyside 79.28 45⇓ P **P** **12 52 09.5 -0.1**
baz=79
VIPM Ingram Point 79.29 47 P **P** **12 52 10.2 +0.5**
VIPM Ingram Point 79.29 47 P **P** **12 52 10.2 +0.5**
F07A Phinny Hill Vi 79.41 45⇑ P **P** **12 52 10.1 -0.2**
baz=79
RSW Rattlesnake Hi 79.50 45 *e*P **P** **12 52 11.5 +0.7**
LTIM Timbered Crate 79.51 50 P **P** **12 52 11.4 +0.4**
HAWA Hanford 79.54 45 *e*P **P** **12 52 10.4 -0.6**
comp=Z,48nm,1.3s,mb5.3
HAWA LR LR
comp=Z,2μm,20.0s,MS5.4
K05A Summer Lake 79.55 48⇓ P **P** **12 52 11.2 0.0**
baz=80

RES	Resolute Bay	79.78	14	P		P		12 52 11.9	+0.1		
	comp=Z,7.3nm,0.8s,mb4.6,baz=312,slow=5.3										
RES	Resolute Bay	79.78	14	P		P		12 52 11.9	+0.1		
RES	Resolute Bay	79.78	14	P		P		12 52 11.9	+0.1		
OD2	Odessa Site #2	79.82	43	P		P		12 52 11.7	-0.8		
E08A	Dider Farm, El	79.83	44	⇑P		P		12 52 11.9	-0.7		
	baz=80										
OHCM	Honcut	79.99	52	*e*P		P		12 52 13.6	0.0		
SPITS	Spitsbergen Ar	80.00	351	P		P		12 52 13.1	+0.2		
	comp=Z,7.0nm,0.8s,mb4.7,baz=52,slow=13,SNR=4.1										
SPITS	Spitsbergen Ar	80.00	351	P		P		12 52 13.1	+0.2		
SPITS	Spitsbergen Ar	80.00	351	P		P		12 52 13.1	+0.2		
C09A	Chrisman Ranch	80.00	43	⇓P		P		12 52 12.9	-0.5		
	baz=80,SNR=10										
KBS	Kingsbay	80.09	352		PFAKE						
KBS					LR		LR				
	comp=Z,702nm,21.0s,MS5.0										
KBS	Kingsbay	80.09	352	⇑*e*P		P		12 52 16.1	+2.7		
KBS					pmax		pmax				
	comp=Z,94nm,1.9s,mb5.4										
I07A	Izee	80.17	47	⇓P		P		12 52 13.5	-1.0		
	baz=80										
MOD	Modoc	80.18	49	*e*P		P		12 52 13.3	-1.3		
	comp=Z,58nm,1.3s,mb5.3										
G08A	Pilot Rock	80.22	46	⇑P		P		12 52 14.3	-0.4		
	baz=80										
E09A	Wood Farm, Sta	80.43	44	⇑P		P		12 52 15.5	-0.3		
	baz=80										
LNOR	Lincton Mounta	80.52	45	*e*P		P		12 52 17.4	+1.1		
LNOR	Lincton Mounta	80.52	45	*e*P		P		12 52 17.4	+1.1		
NEW	Newport	80.61	42	⇑P		P		12 52 16.6	-0.2		
	baz=80,SNR=18										
NEW	Newport	80.61	42	*e*P		P		12 52 16.3	-0.5		
	comp=Z,70nm,1.3s,mb5.4										
NEW					LR		LR				
	comp=Z,3μm,20.0s,MS5.6										
NEW	Newport	80.61	42	*e*P		P		12 52 16.3	-0.5		
NEW					pmax		pmax				
	comp=Z,70nm,1.3s										
NEW					MLR		MLR				
	comp=Z,3μm,20.0s										
J08A	Circle Bar Ran	81.09	47	⇑P		P		12 52 19.1	-0.3		
	baz=81										
CMB	Columbia Colle	81.16	53	*e*P		P		12 52 19.4	-0.6		
	comp=Z,72nm,1.4s,mb5.4										
CMB	Columbia Colle	81.16	53	*e*P		P		12 52 19.4	-0.5		
CMB					pmax		pmax				
	comp=Z,72nm,1.4s,mb5.4										
F10A	Beach Ranch, E	81.20	45	⇓P		P		12 52 19.3	-0.6		
	baz=81										
WVOR	Wild Horse Val	81.23	48	*e*P		P		12 52 19.3	-0.9		
	comp=Z,68nm,1.3s,mb5.4										
WVOR					LR		LR				
	comp=Z,2μm,20.0s,MS5.5										
WVOR	Wild Horse Val	81.23	48	*e*P		P		12 52 19.3	-0.9		
WVOR					pmax		pmax				
	comp=Z,68nm,1.3s,mb5.4										
WVOR					MLR		MLR				
	comp=Z,2μm,20.0s,MS5.5										
WCN	Washoe City	81.29	52	⇑P		P		12 52 20.5	-0.1		
	baz=81										
WCN	Washoe City	81.29	52	*e*P		P		12 52 20.2	-0.3		
	comp=Z,52nm,1.4s,mb5.3										
WCN	Washoe City	81.29	52	*e*P		P		12 52 20.2	-0.4		
WCN					pmax		pmax				
	comp=Z,52nm,1.4s,mb5.3										
A12A	Yaak River Ran	81.35	41	⇑P		P		12 52 21.0	+0.3		
	baz=81										
WBK	Wadi Bani Khal	81.43	291	P		P		12 52 21.8	+0.2		
	SNR=12										
LVZ	Lovozero	81.46	339		PFAKE						
LVZ					LR		LR				
	comp=Z,1μm,20.0s,MS5.2										
LVZ	Lovozero	81.46	339	⇓*e*P		P		12 52 21.0	+0.1		
LVZ					pmax		pmax				
	comp=Z,32nm,1.3s,mb5.1										
BMO	Blue Mountains	81.47	46	*e*P		P		12 52 20.9	-0.5		
BMO					LR		LR				
	comp=Z,1μm,20.0s,MS5.2										
BMO	Blue Mountains	81.47	46	*e*P		P		12 52 20.9	-0.5		
BMO					MLR		MLR				
	comp=Z,1μm,20.0s,MS5.2										
B12A	Libby	81.53	42	⇓P		P		12 52 21.6	-0.1		
	baz=82										
C12B	Naegeli Ranch,	81.83	43	⇓P		P		12 52 23.2	-0.1		
	baz=82										
APA	Apatity	82.03	339	⇓*i*P		P		12 52 24.0	+0.1		
APA				*i* S		S		13 02 36.0	+0.8		
APA					pmax		pmax				
	comp=Z,26nm,1.0s,mb5.1										
APA					MLR		MLR				
	comp=Z,1μm,18.0s,MS5.3										
D12A	Red Ives Fores	82.11	43	⇑P		P		12 52 24.4	-0.4		
	baz=82										
SMMC	Simmler	82.22	56	⇑P		P		12 52 25.4	-0.1		
	baz=82										
BSMT	Bassoo Peak	82.23	42	*e*P		P		12 52 25.3	0.0		
JMDO	Jabal Madar	82.26	291	P		P		12 52 26.2	+0.2		
	SNR=7.6										
B13A	Whitefish	82.27	42	⇓P		P		12 52 25.4	-0.1		
	baz=82,SNR=12										
WALA	Waterton Lakes	82.40	41	*e*P		P		12 52 26.9	+0.7		
	comp=Z,2.5nm,1.4s										
C13A	Hot Springs	82.42	42	⇓P		P		12 52 26.2	-0.1		
	baz=82,SNR=17										
BLMT	Blacktail Moun	82.45	42	*e*P		P		12 52 27.4	+0.9		
MLAC	Mammoth Lakes	82.45	53	⇑P		P		12 52 25.4	-1.4		
	baz=82										
PKM	Peak Mountain	82.48	56	⇑P		P		12 52 27.0	+0.1		
	baz=82										
RCTC	Rector, Farmer	82.53	54	⇑P		P		12 52 26.5	-0.6		
	baz=82										
F12A	Elk City	82.58	44	⇓P		P		12 52 26.8	-0.4		
	baz=82										
KLMR	Klimovskoe	82.58	332	*e*P		P		12 52 25.3	-1.6		
KLMR				S		S		13 02 46.9	+5.9		
KLMR				S		S		13 02 47.3	+6.3		
KLMR					pmax		pmax				
	comp=Z,126nm,1.6s,mb5.7										
KLMR					pmax		pmax				
	comp=Z,166nm,5.4s										
KLMR					MLR		MLR				
	comp=Z,2μm,20.0s,MS5.5										
JTMT	Jette	82.59	42	*e*P		P		12 52 27.7	+0.5		
NVAR	Mina Array Bea	82.62	52	P		P		12 52 27.4	-0.2		
	comp=Z,12nm,1.0s,mb4.9,baz=280,slow=5.2,SNR=43										
NVAR					LR		LR	13 24 13.0			
	comp=Z,1μm,19.9s,MS5.2,baz=82,slow=32										
NVAR	Mina Array Bea	82.62	52	P		P		12 52 27.4	-0.2		
HOQ	Hoqain	82.62	292	P		P		12 52 28.0	+0.2		
	SNR=18										
D13A	Huson	82.68	43	⇓P		P		12 52 27.1	-0.6		
	baz=83,SNR=7.6										
YBMT	Yellow Bay	82.72	42	*e*P		P		12 52 28.4	+0.6		
A14A	Double T Ranch	82.74	41	⇑P		P		12 52 28.0	0.0		
	baz=83,SNR=8.6										
MTUM	Tungsten Hills	82.74	53	*e*P		P		12 52 30.2	+2.0		
VES	Vestal, Richgr	82.78	55	⇓P		P		12 52 27.6	-0.9		
	baz=83,SNR=10.0										
BMN	Battle Mountai	82.83	50	*e*P		P		12 52 28.1	-0.5		
	comp=Z,41nm,1.4s,mb5.3										
BMN					LR		LR				
	comp=Z,2μm,21.0s,MS5.5										
BMN	Battle Mountai	82.83	50	*e*P		P		12 52 28.1	-0.5		
BMN					pmax		pmax				
	comp=Z,41nm,1.4s,mb5.3										
BMN					MLR		MLR				
	comp=Z,2μm,21.0s,MS5.5										
SWMT	Swartz Lake	82.84	42	*e*P		P		12 52 28.7	+0.2		
KEV	Kevo	82.91	342		PFAKE			12 52 40.0	+12		
KEV					LR		LR				
	comp=Z,2μm,19.0s,MS5.5										
KEV	Kevo	82.91	342	*e*P		P		12 52 27.6	-0.8		
KEV					pmax		pmax				
	comp=Z,11nm,0.7s,mb5.0										
KEV	Kevo	82.91	342	*e*p		P		12 52 27.6	-0.8		
	comp=Z,11nm,0.7s,mb5.0										
MFID	Camas Ranch	82.91	47	⇑P		P		12 52 28.6	-0.4		
	baz=83,SNR=21										
MFID	Camas Ranch	82.91	47	*e*P		P		12 52 28.5	-0.5		
	comp=Z,63nm,1.2s,mb5.5										
C14A	Swan Lake	82.92	42	⇑P		P		12 52 28.6	-0.4		
	baz=83										
BSY	Bisya	82.96	292	P		P		12 52 29.7	+0.1		
	SNR=8.8										
B14A	Marquette Ranc	83.03	41	⇑P		P		12 52 29.2	-0.2		
	baz=83										
E13A	Victor	83.07	43	⇓P		P		12 52 29.6	-0.2		
	baz=83										
TIN	Tinemaha	83.08	53	⇑P		P		12 52 29.4	-0.6		
	baz=83										
MSO	Missoula	83.10	43	⇑P		P		12 52 29.7	-0.1		
	baz=83										
MSO	Missoula	83.10	43	*e*P		P		12 52 29.5	-0.4		
	comp=Z,5.3nm,1.3s,mb4.4										
MSO					LR		LR				
	comp=Z,1μm,21.0s,MS5.2										
A15A	Johnson Ranch,	83.16	41	⇑P		P		12 52 29.4	-0.7		
	baz=83,SNR=17										
F13A	Darby	83.18	44	⇑P		P		12 52 29.7	-0.7		
	baz=83,SNR=16										
ARVC	Arvin	83.19	55	⇓P		P		12 52 30.1	-0.5		
	baz=83										
H12A	Diamond D Ranc	83.22	45	⇓P		P		12 52 30.3	-0.3		
	baz=83,SNR=15										
SLMT	Seeley Lake	83.26	43	*e*P		P		12 52 31.0	+0.3		
I12A	Atlanta	83.28	46	⇓P		P		12 52 30.4	-0.4		
	baz=83										
D14A	Greenough	83.30	43	⇓P		P		12 52 30.5	-0.4		
	baz=83										
ISA	Isabella	83.31	55	⇓P		P		12 52 30.9	-0.3		
	baz=83										
ISA	Isabella	83.31	55	*e*P		P		12 52 30.8	-0.4		
	comp=Z,21nm,1.1s,mb5.1										
ISA	Isabella	83.31	55	*e*P		P		12 52 30.8	-0.4		
ISA					pmax		pmax				
	comp=Z,21nm,1.1s,mb5.1										
CWC	Cottonwood Cre	83.38	54	⇓P		P		12 52 31.4	-0.2		
	baz=83										
ARQ	Araqi	83.39	292	P		P		12 52 32.1	+0.3		
	SNR=7.1										
ASHO	Ashiyiah	83.41	294	P		P		12 52 31.1	-0.8		
	SNR=5.1										
OSI	Osito Adit	83.42	56	*e*P		P		12 52 32.2	+0.4		
ARCES	ARCESS Array B	83.47	342	P		P		12 52 30.7	-0.6		
	comp=Z,12nm,0.8s,mb5.0,baz=76,slow=7.5,SNR=22										
ARCES					LR		LR	13 32 25.9			
	comp=Z,1μm,19.1s,MS5.3,baz=64,slow=38										
ARCES	ARCESS Array B	83.47	342	P		P		12 52 30.7	-0.7		
ARCES	ARCESS Array B	83.47	342	P		P		12 52 30.7	-0.6		
G13A	Cobalt	83.47	45	⇓P		P		12 52 31.6	-0.2		
	baz=83,SNR=18										
B15A	Bradely Ranch,	83.49	41	⇓P		P		12 52 31.5	-0.4		
	baz=83,SNR=11										
CHMT	Chamberlain Mo	83.52	43	*e*P		P		12 52 31.9	-0.1		
E14A	Clinton	83.53	43	⇑P		P		12 52 31.7	-0.4		
	baz=83										
TPH	Tonopah	83.54	52		PFAKE						
TPH					LR		LR				
	comp=Z,1μm,20.0s,MS5.3										
H13A	Challis	83.63	45	⇑P		P		12 52 32.2	-0.4		
	baz=84,SNR=7.9										
C15A	Salmond Ranch,	83.65	42	⇓P		P		12 52 32.3	-0.4		
	baz=84										
GRAC	Grapevine Rang	83.76	53	⇓P		P		12 52 33.1	-0.4		
	baz=84										
DAC	Darwin (Calif)	83.81	54		PFAKE						
DAC					LR		LR				
	comp=Z,1μm,19.0s,MS5.3										
F14A	Wisdom	83.81	44	⇑P		P		12 52 33.0	-0.6		
	baz=84										
HLID	Hailey	83.84	46	⇓P		P		12 52 33.7	-0.1		
	baz=84,SNR=19										
HLID	Hailey	83.84	46		PFAKE						
HLID					LR		LR				
	comp=Z,2μm,20.0s,MS5.4										
A16A	West Butte Ran	83.88	41	⇓P		P		12 52 33.2	-0.6		
	baz=84										
EDW2	Edwards Air Fo	83.92	55	⇓P		P		12 52 34.1	-0.2		
	baz=84,SNR=12										
G14A	Jackson	83.94	44	⇓P		P		12 52 33.5	-0.7		
	baz=84										
D15A	Lincoln	83.95	43	⇓P		P		12 52 33.7	-0.5		
	baz=84										
MPMC	Manual Prospec	83.95	54	⇑P		P		12 52 33.7	-0.8		
	baz=84,SNR=23										
LRMC	Laurel Mountai	83.97	55	⇓P		P		12 52 34.0	-0.7		
	baz=84,SNR=14										
PASC	Pasadena Art C	83.98	56	*e*P		P		12 52 36.7	+2.0		
B16A	M & M Farms, S	83.99	41	⇑P		P		12 52 33.5	-0.9		
	baz=84,SNR=10										
CIS	Catalina Islan	84.04	57	⇑P		P		12 52 34.6	-0.4		
	baz=84										
J13A	Cove Ranch, Pi	84.06	46	⇓P		P		12 52 34.2	-0.7		
	baz=84,SNR=12										
MWC	Mount Wilson	84.06	56	*e*P		P		12 52 35.3	+0.2		
MWC	Mount Wilson	84.06	56	*e*P		P		12 52 35.3	+0.2		
C16A	Fuhringer Ranc	84.18	42	⇓P		P		12 52 35.0	-0.4		
	baz=84										
FURC	Furnace Creek,	84.31	54	⇑P		P		12 52 35.4	-0.9		
	baz=84,SNR=9.0										
BFSC	Mount Baldy Ra	84.38	56	⇓P		P		12 52 36.2	-0.5		
	baz=84										
F15A	Butte	84.38	44	⇑P		P		12 52 35.9	-0.6		
	baz=84										
I14A	Mackay	84.38	46	⇓P		P		12 52 36.3	-0.2		
	baz=84,SNR=14										
LRM	Limekiln Ridge	84.41	44	*e*P		P		12 52 36.1	-0.5		
A17A	Triple J Farms	84.43	40	⇓P		P		12 52 36.5	-0.2		
	baz=84,SNR=6.4										
DLMT	Dillon	84.47	44	*e*P		P		12 52 38.8	+1.9		
MCMT	McKenzie Canyo	84.49	45	*e*P		P		12 52 37.3	+0.3		
	comp=Z,15nm,1.5s,mb4.9										
HRY	Holter Researc	84.51	43	*e*P		P		12 52 37.0	0.0		
J14A	Carey	84.54	46	⇑P		P		12 52 37.4	+0.1		
	baz=84,SNR=18										
MAK	Makhachkala	84.56	313	*e*P		P		12 52 35.2	-2.2		
MAK				*e*				12 55 51.6			
MAK				*e*PPP				12 57 50.6			
MAK				*e*S		S		13 02 54.8	-6.9		
MAK					pmax		pmax				
	comp=Z,25nm,0.4s,mb5.7										
D16A	Dana Ranch, Ca	84.58	42	⇓P		P		12 52 37.7	+0.3		
	baz=84,SNR=7.5										
B17A	L&G Farms, Che	84.60	41	⇑P		P		12 52 37.6	+0.1		
	baz=84,SNR=17										
G15A	Dillon	84.61	44	⇓P		P		12 52 37.3	-0.3		
	baz=84										
DRV	Dumont d'Urvil	84.61	183	P		P		12 52 42.0	+5.1		
DRV	Dumont d'Urvil	84.61	183	PP		PP		12 55 48.0	-5.3		
DRV				S		S		13 03 03.0	+2.1		
DRV				SS		SS		13 08 35.0	+1.8		
DRV				R				13 21 00.0			
E16A	East Helena	84.67	43	⇑P		P		12 52 37.6	-0.3		
	baz=85,SNR=10										
R11A	Troy Canyon, C	84.68	52	⇑P		P		12 52 38.3	+0.2		
	baz=85,SNR=21										
H15A	Lima	84.69	45	⇓P		P		12 52 38.1	0.0		
	baz=85										
GSC	Goldstone	84.72	55	⇑P		P		12 52 38.0	-0.3		
	baz=85,SNR=9.4										
GSC	Goldstone	84.72	55	*e*P		P		12 52 37.9	-0.5		
GSC	Goldstone	84.72	55	*e*P		P		12 52 37.9	-0.5		
SHOC	Shoshone	84.93	54	⇓P		P		12 52 39.0	-0.4		
	baz=85										
MURC	Murrieta	84.94	56	⇑P		P		12 52 39.1	-0.5		
	baz=85										
BBRC	Big Bear Solar	84.95	56	⇑P		P		12 52 39.6	0.0		
	baz=85										
A18A	Metzger Ranch,	84.97	40	⇓P		P		12 52 39.3	-0.1		
	baz=85,SNR=14										
F16A	Kennard Place,	84.97	44	⇑P		P		12 52 39.4	0.0		
	baz=85,SNR=8.6										
DAG	Danmarks Havn	84.99	357	*e*P		P		12 52 37.5	-1.4		
DAG					pmax		pmax				
	comp=Z,13nm,0.9s,mb5.1										
DAG	Danmarks Havn	84.99	357	*i* P		P		12 52 49.9	+11		
DAG											
	comp=Z,460nm,16.0s										
BOZ	Bozeman (W)	85.01	44	⇓P		P		12 52 39.8	+0.1		
	baz=85										
BOZ	Bozeman (W)	85.01	44	*e*P		P		12 52 39.4	-0.3		
	comp=Z,35nm,1.4s,mb5.3										
BOZ					LR		LR				
	comp=Z,815nm,20.0s,MS5.1										
BOZ	Bozeman (W)	85.01	44	*e*P		P		12 52 39.4	-0.2		
BOZ					pmax		pmax				
	comp=Z,35nm,1.4s,mb5.3										
BOZ					MLR		MLR				
	comp=Z,815nm,20.0s,MS5.1										
I15A	Monteview	85.01	45	⇑P		P		12 52 40.1	+0.4		
	baz=85										
K14A	Jones Ranch, D	85.04	47	⇑P		P		12 52 39.8	0.0		
	baz=85,SNR=13										
G16A	Moss Hill, Enn	85.04	44	⇓P		P		12 52 39.8	0.0		
	baz=85,SNR=14										
D17A	Six Diamond Ra	85.08	42	⇑P		P		12 52 39.9	-0.1		
	baz=85,SNR=19										
JOF	Joensuu	85.10	336	*e*P		P		12 52 37.8	-1.9		
JOF					pmax		pmax				
	comp=Z,22nm,0.5s,mb5.5										
JOF	Joensuu	85.10	336	*e*p		P		12 52 37.8	-1.9		
	comp=Z,22nm,0.5s,mb5.5										
L14A	Malta	85.17	47	⇑P		P		12 52 40.5	0.0		
	baz=85,SNR=17										
B18A	Beardsley Farm	85.20	41	⇑P		P		12 52 40.2	-0.3		
	baz=85,SNR=8.5										
E17A	Martinsdale	85.22	43	⇑P		P		12 52 40.8	+0.1		
	baz=85,SNR=5.8										
HEC	Hector,Ludlow	85.23	55	⇑P		P		12 52 41.1	+0.1		
	baz=85										
EGMT	Eagleton	85.35	41	⇓P		P		12 52 41.2	-0.1		
	baz=85										
EGMT	Eagleton	85.35	41	*e*P		P		12 52 41.6	+0.3		
EGMT					LR		LR				
	comp=Z,2μm,22.0s,MS5.5										
TUQ	Turquoise Moun	85.36	54	⇑P		P		12 52 41.6	0.0		
	baz=85,SNR=11										
QLMT	Earthquake Lak	85.43	44	*e*P		P		12 52 42.5	+0.7		
K15A	Arbon	85.44	47	⇓P		P		12 52 42.5	+0.7		
	baz=85,SNR=12										
PFO	Pinyon Flat Ob	85.52	56	⇑P		P		12 52 42.1	-0.4		
	baz=86										
PFO	Pinyon Flat Ob	85.52	56	*e*P		P		12 52 41.6	-0.8		
	comp=Z,30nm,1.2s,mb5.4										
PFO					LR		LR				
	comp=Z,1μm,19.0s,MS5.3										
PFO	Pinyon Flat Ob	85.52	56	*e*P		P		12 52 41.6	-0.9		
PFO					pmax		pmax				
	comp=Z,30nm,1.2s,mb5.4										
PFO					MLR		MLR				
	comp=Z,1μm,19.0s,MS5.3										
F17A	Fitzpatrick Pl	85.55	43	⇓P		P		12 52 42.5	+0.1		
	baz=86,SNR=5.9										
HVU	Hansel Valley	85.58	48	*e*P		P		12 52 43.1	+0.6		
HVU	Hansel Valley	85.58	48	*e*P		P		12 52 43.1	+0.5		
H16A	Russell Place,	85.60	44	⇑P		P		12 52 43.0	+0.4		
	baz=86,SNR=13										
D18A	Linhart Farms,	85.63	42	⇑P		P		12 52 42.6	-0.1		
	baz=86										
A19A	Klindworth Far	85.64	40	⇓P		P		12 52 42.7	0.0		
	baz=86										
MOS	Moscow	85.64	328	*e*P		P		12 52 47.1	+4.6		
MOS				*e*S		S		13 03 11.0	-0.8		
MOS					pmax		pmax				
	comp=Z,73nm,1.2s,mb5.8										
BAR	Barrett	85.64	57	*e*P		P		12 52 41.8	-1.3		
	comp=Z,26nm,1.4s,mb5.3										
G17A	Pierce Place,	85.71	44	⇑P		P		12 52 43.3	+0.1		
	baz=86										
I16A	Newdale	85.73	45	⇓P		P		12 52 44.0	+0.7		
	baz=86,SNR=6.9										
BELC	Belle Mtn. Jos	85.76	56	⇑P		P		12 52 43.1	-0.5		
	baz=86										
GMRC	Granite Mounta	85.77	55	⇓P		P		12 52 43.5	-0.1		
	baz=86,SNR=14										
L15A	Malad City	85.77	47	⇑P		P		12 52 43.5	0.0		
	baz=86,SNR=12										
MONP	Monument Peak	85.78	57	⇑P		P		12 52 43.5	-0.3		
	baz=86										
E18A	Harlowton	85.79	42	⇑P		P		12 52 43.5	0.0		
	baz=86,SNR=10										
YMR	Madison River	85.80	44	*e*P		P		12 52 44.0	+0.4		
	comp=Z,58nm,1.1s,mb5.7										
J16A	Bone	85.86	46	⇓P		P		12 52 44.1	+0.2		
	baz=86,SNR=16										
C19A	Slack Wire Ran	85.90	41	⇓P		P		12 52 43.8	-0.2		
	baz=86,SNR=8.7										
M15A	Larsen Ranch,	85.92	48	⇓P		P		12 52 44.2	-0.1		
	baz=86,SNR=12										
R13A	O'Grain Ranch,	85.94	51	⇓P		P		12 52 45.0	+0.5		
	baz=86,SNR=14										
YFT	Old Faithful	85.96	45	*e*P		P		12 52 45.5	+1.1		
YNR	Norris Junctio	85.97	44	*e*P		P		12 52 46.5	+2.1		
	comp=Z,127nm,1.3s,mb6.0										
RRI2	Red Ridge	86.03	46	*e*P		P		12 52 44.4	-0.4		
	comp=Z,44nm,1.2s,mb5.6										
K16A	Soda Springs	86.03	46	⇓P		P		12 52 45.0	+0.2		
	baz=86,SNR=15										
DCID1	Drake Creek	86.04	45	*e*P		P		12 52 45.3	+0.5		
	comp=Z,76nm,1.4s,mb5.7					

K17A **Gardner Place,** 86.52 46 ⇑P P 12 52 47.5 +0.3
baz=86
RKT **Rikitea** 86.54 116 *e*S S 13 03 26.0 +4.3
comp=Z,294nm,25.5s
RKT *e*LQ 13 15 51.4
comp=Z,2µm,27.2s
RKT *e*LR LR 13 19 43.9
comp=Z,905nm,21.5s,baz=297
E19A **Rath Farm, Rou** 86.55 42 ⇑P P 12 52 47.1 -0.1
baz=86,SNR=7.7
DGRG **David-gareji** 86.57 312 P P 12 52 47.7 +0.3
CCUT **Cedar City** 86.60 52 *e*P P 12 52 47.5 -0.2
H18A **Shoshone NF, C** 86.66 44 ⇑P P 12 52 48.0 +0.2
baz=87
F19A **Roth Farm, Mol** 86.69 43 ⇓P P 12 52 47.9 0.0
baz=87
P15A **Leamington** 86.70 50 ⇓P P 12 52 47.9 -0.2
baz=87
A21A **Bergtoll Ranch** 86.71 39 ⇑P P 12 52 47.6 -0.4
baz=87,SNR=12
D20A **Manuel Ranch,** 86.72 41 ⇑P P 12 52 47.9 -0.1
baz=87,SNR=16
RLMT **Red Lodge** 86.75 44 ⇓P P 12 52 48.9 +0.6
baz=87,SNR=13
RLMT **Red Lodge** 86.75 44 *e*P P 12 52 48.6 +0.3
comp=Z,126nm,1.6s,mb5.9
RLMT LR LR
comp=Z,1µm,21.0s,MS5.2
L17A **Cokeville** 86.79 47 ⇑P P 12 52 48.8 +0.3
baz=87
N16A **Rees Ranch, Co** 86.83 48 ⇑P P 12 52 48.9 +0.2
baz=87
B21A **Ellsworth Farm** 86.89 40 ⇓P P 12 52 49.0 +0.1
baz=87,SNR=12
MTA **Mtatsminda** 86.89 313 P P 12 52 49.2 +0.2
TBLG **Delisi** 86.91 313 *e*P P 12 52 49.2 +0.1
TBLG **Delisi** 86.91 313 P P 12 52 49.2 +0.1
I18A **Diamond G Ranc** 86.92 45 ⇓P P 12 52 49.2 +0.1
baz=87
JLU **Jordanelle** 86.93 48 *e*P P 12 52 48.3 -0.9
comp=Z,60nm,1.3s,mb5.7
E20A **Meyer Farm, Mu** 86.95 42 ⇓P P 12 52 49.3 +0.1
baz=87
J18A **Kendall Valley** 86.97 45 ⇑P P 12 52 49.5 +0.2
baz=87,SNR=24
GLA **Glamis** 86.99 56 ⇓P P 12 52 49.5 -0.2
baz=87
Y12C **Blythe** 87.00 56 ⇓P P 12 52 49.2 -0.5
baz=87
MPU **Maple Canyon** 87.01 49 *e*P P 12 52 49.7 +0.1
comp=Z,42nm,1.3s,mb5.5
FFC **Flin Flon** 87.01 33 *e*P P 12 52 48.4 -0.9
comp=Z,48nm,1.1s,mb5.6
FFC LR LR
comp=Z,1µm,20.0s,MS5.3
FFC **Flin Flon** 87.01 33 *e*P P 12 52 48.4 -0.9
FFC pmax pmax
comp=Z,48nm,1.1s,mb5.6
FFC MLR MLR
comp=Z,1µm,20.0s,MS5.3
W13A **Hualapai Mount** 87.04 54 ⇑P P 12 52 49.6 -0.3
baz=87
C21A **Desert Coulee** 87.08 40 ⇑P P 12 52 49.7 -0.1
baz=87,SNR=11
H19A **Powell** 87.11 44 ⇑P P 12 52 50.6 +0.6
baz=87,SNR=12
ZEI **Tsey** 87.11 314 *e*P P 12 52 48.1 -2.0
ZEI pmax pmax
comp=Z,11nm,1.0s,mb5.0
PDMCI **Parker Dam,Lak** 87.11 55 ⇓P P 12 52 49.7 -0.5
baz=87
MVU **Marysvale** 87.12 50 PFAKE 12 53 00.0 +10
MVU LR LR
comp=Z,2µm,19.0s,MS5.5
DAU **Daniels Canyon** 87.13 48 *e*P P 12 52 50.6 +0.4
DAU **Daniels Canyon** 87.13 48 *e*P P 12 52 50.6 +0.4
MSU **Marysvale** 87.15 50 *e*P P 12 52 50.5 +0.1
MSU **Marysvale** 87.15 50 *e*P P 12 52 50.5 +0.2
M17A **Scullys Gap (B** 87.17 47 ⇓P P 12 52 50.1 -0.2
baz=87
K18A **Toltan Ranch,** 87.17 46 ⇓P P 12 52 50.5 +0.2
baz=87,SNR=9.6
R15A **Junction** 87.18 51 ⇓P P 12 52 50.5 0.0
baz=87
RBK **Rabkut** 87.19 287 P P 12 52 50.3 -0.7
SNR=8.2
F20A **Billings** 87.22 43 ⇓P P 12 52 50.5 0.0
baz=87
N17A **Moffit Pass** 87.24 48 ⇓P P 12 52 50.8 0.0
baz=87
A22A **Carney Farms,** 87.32 39 ⇑P P 12 52 51.3 +0.4
baz=87
I19A **Meeteetse** 87.35 44 ⇑P P 12 52 51.1 -0.1
baz=87
G20A **Bridger** 87.40 43 ⇑P P 12 52 51.7 +0.3
baz=87
PD01 **Pinedale Array** 87.43 46 *e*P P 12 52 50.5 -1.1
L18A **Fontenelle, Gr** 87.44 47 ⇑P P 12 52 51.7 0.0
baz=87,SNR=11
PD02 **Pinedale Array** 87.44 46 *e*P P 12 52 49.7 -2.0
D21A **La Casta Ranch** 87.45 41 ⇑P P 12 52 51.7 +0.1
baz=87
BW06 **Boulder Array** 87.45 46 ⇑P P 12 52 52.1 +0.4
baz=87
BW06 **Boulder Array** 87.45 46 PFAKE 12 53 00.0 +8.3
BW06 LR LR
comp=Z,883nm,21.0s,MS5.2
PDAR **Pinedale Array** 87.45 46 P P 12 52 50.8 -1.0
comp=Z,1.5nm,0.9s,mb4.2,baz=325,slow=1.8,SNR=9.2
PDAR LR LR 13 28 00.5
comp=Z,700nm,20.4s,MS5.1,baz=0.0,slow=33
PDAR **Pinedale Array** 87.45 46 P P 12 52 50.8 -0.9
KIV **Kislovodsk** 87.48 316 PFAKE 12 53 00.0 +8.2
KIV LR LR
comp=Z,3µm,20.0s,MS5.6
KIV **Kislovodsk** 87.48 316 *e*P P 12 52 52.9 +1.1
KIV *e*S S 13 03 18.0 -12
KIV *e*SS SS 13 09 19.6 +4.3
KIV pmax pmax
comp=Z,14nm,1.0s,mb5.2
KIV MLR MLR
comp=Z,3µm,20.0s,MS5.6
ONI **Oni** 87.48 314 P P 12 52 46.9 -5.0
KAF **Kangasniemi** 87.49 336 *e*P P 12 52 48.4 -3.1
KAF pmax pmax
comp=Z,4.0nm,0.5s,mb4.9
KAF **Kangasniemi** 87.49 336 *e*p P 12 52 48.4 -3.1
comp=Z,4.3nm,0.5s,mb4.9
GNI **Garni** 87.49 311 PFAKE 12 53 00.0 +8.0
GNI LR LR
comp=Z,688nm,20.0s,MS5.1
GNI **Garni** 87.49 311⇑ *e*P P 12 52 52.2 +0.2
GNI pmax pmax
comp=Z,18nm,2.5s
B22A **Reddig Ranch S** 87.56 40 ⇑P P 12 52 52.3 +0.2
baz=88
TMUT **Trail Mountain** 87.57 49 *e*P P 12 52 52.8 +0.4
comp=Z,34nm,1.3s,mb5.4
O17A **Robinson Place** 87.58 49 ⇓P P 12 52 52.5 +0.1
baz=88,SNR=16
M18A **Lyman** 87.60 47 ⇑P P 12 52 52.3 -0.1
baz=88,SNR=6.1
J19A **Crowheart** 87.60 45 ⇓P P 12 52 52.1 -0.3
baz=88,SNR=27
E21A **Keefer Ranch,** 87.61 42 ⇑P P 12 52 52.1 -0.3
baz=88
Q16A **Castle Valley** 87.74 50 ⇑P P 12 52 53.4 +0.2
baz=88,SNR=13
R16A **Teasdale** 87.74 50 ⇓P P 12 52 53.4 +0.2
baz=88,SNR=23
U15A **North Rim** 87.80 52 ⇑P P 12 52 53.7 +0.2
baz=88,SNR=16
H20A **Greybull** 87.83 44 ⇓P P 12 52 53.6 +0.2
baz=88
L19A **Farson** 87.84 46 ⇑P P 12 52 54.0 +0.4
baz=88
P17A **Butcher Ranch,** 87.85 49 ⇑P P 12 52 53.5 -0.1
baz=88
S16A **Weppner Ranch,** 87.86 51 ⇓P P 12 52 53.8 +0.1
baz=88,SNR=19
C22A **Vida** 87.86 40 ⇑P P 12 52 53.9 +0.3
baz=88
Z13A **Yuma Proving G** 87.87 56 ⇓P P 12 52 53.6 -0.3
baz=88,SNR=10
K19A **Absolon Red Bu** 87.91 46 ⇓P P 12 52 53.6 -0.4
baz=88,SNR=13
D22A **Cohagen** 87.92 41 ⇓P P 12 52 53.9 +0.1
baz=88,SNR=14
I20A **Worland** 87.96 44 ⇑P P 12 52 54.6 +0.5
baz=88
FINES **FINESS Array B** 87.96 336 P P 12 52 51.7 -2.0
comp=Z,11nm,0.7s,mb5.2,baz=57,slow=5.1,SNR=21
FINES LR LR 13 32 53.9
comp=Z,1µm,21.3s,MS5.4,baz=202,slow=36
FINES **FINESS Array B** 87.96 336 P P 12 52 51.7 -2.0
FINES **FINESS Array B** 87.96 336 P P 12 52 51.7 -2.0
G21A **Lodge Grass** 88.05 43 ⇑P P 12 52 54.7 +0.2
baz=88
ABTO **Aybut** 88.06 288 P P 12 52 55.2 +0.1
SNR=9.5
O18A **Roosevelt** 88.08 48 ⇓P P 12 52 54.7 0.0
baz=88
LAO **LASA Array** 88.08 41 ⇓P P 12 52 55.0 +0.3
baz=88,SNR=8.4
LAO **LASA Array** 88.08 41 *e*P P 12 52 54.5 -0.1
comp=Z,107nm,1.4s,mb5.9
LAO LR LR
comp=Z,2µm,21.0s,MS5.5
B23A **Brockton** 88.10 39 ⇑P P 12 52 54.5 -0.2
baz=88
Y14A **Wickenburg** 88.12 55 ⇓P P 12 52 55.2 0.0
baz=88,SNR=12
SRU **San Rafael** 88.14 49 ⇑P P 12 52 54.7 -0.4
baz=88
SRU **San Rafael** 88.14 49 *e*P P 12 52 53.6 -1.4
comp=Z,52nm,1.1s,mb5.7
SRU **San Rafael** 88.14 49 *e*P P 12 52 53.7 -1.4
SRU pmax pmax
comp=Z,52nm,1.1s,mb5.7
P18A **Preston Nutter** 88.14 49 ⇑P P 12 52 55.1 0.0
baz=88
M19A **Rock Springs** 88.20 47 ⇓P P 12 52 55.7 +0.4
baz=88
J20A **Shoshoni** 88.22 45 ⇑P P 12 52 55.6 +0.3
baz=88
R17A **Hanksville Air** 88.25 50 ⇓P P 12 52 55.3 -0.3
baz=88,SNR=17
C23A **Lambert** 88.26 40 ⇑P P 12 52 55.4 -0.1
baz=88,SNR=11
K20A **Yellowstone Ra** 88.32 46 ⇓P P 12 52 55.7 -0.1
baz=88
Z14A **Wintersburg** 88.37 56 ⇑P P 12 52 56.6 +0.3
baz=88
CASY **Casey** 88.38 194 PFAKE 12 53 10.0 +15
CASY LR LR
comp=Z,1µm,20.0s,MS5.2
H21A **Big Horn, Sher** 88.40 43 ⇓P P 12 52 56.3 +0.1
baz=88
Q18A **Rafter H Ranch** 88.42 49 ⇑P P 12 52 56.7 +0.3
baz=88
N19A **John Jarvie Ra** 88.42 47 ⇑P P 12 52 56.7 +0.3
baz=88
F22A **Rosebud** 88.44 42 ⇑P P 12 52 56.4 0.0
baz=88
S17A **Black Ridge (B** 88.47 51 ⇑P P 12 52 56.4 -0.3
baz=88,SNR=10.0
I21A **Big Trails, Te** 88.57 44 ⇓P P 12 52 57.1 +0.1
baz=88
DGMT **Dagmar** 88.57 39 ⇑P P 12 52 57.0 +0.1
baz=88
DGMT **Dagmar** 88.57 39 *e*P P 12 52 56.5 -0.4
DGMT LR LR
comp=Z,2µm,20.0s,MS5.6
114A **Black Gap (USA** 88.63 56 ⇑P P 12 52 57.6 0.0
baz=89,SNR=7.1
Y15A **Casa Rosa Ranc** 88.64 55 ⇓P P 12 52 58.1 +0.5
baz=89,SNR=11
J21A **Lysite** 88.65 45 ⇑P P 12 52 57.1 -0.3
baz=89,SNR=8.7
T17A **Navajo Res., N** 88.71 51 ⇓P P 12 52 57.9 +0.1
baz=89,SNR=19
E23A **Ismay** 88.74 41 ⇓P P 12 52 57.9 +0.2
baz=89
U16A **Tuba City** 88.78 52 ⇓P P 12 52 58.6 +0.4
baz=89,SNR=18
WUAZ **Wupatki** 88.82 53 ⇑P P 12 52 58.6 +0.3
baz=89,SNR=17
WUAZ **Wupatki** 88.82 53 *e*P P 12 52 57.9 -0.4
comp=Z,61nm,1.1s,mb5.8
WUAZ LR LR
comp=Z,815nm,20.0s,MS5.1
R18A **Canyonlands Na** 88.86 50 ⇓P P 12 52 58.1 -0.4
baz=89,SNR=20
H22A **Clearmont** 88.87 43 ⇑P P 12 52 58.6 +0.3
baz=89
M20A **Sweetwater, Wa** 88.88 47 ⇑P P 12 52 58.9 +0.3
baz=89
U17A **Shonto** 88.96 52 ⇓P P 12 52 59.0 0.0
baz=89,SNR=8.3
214A **Organ Pipe Nat** 88.97 57 ⇓P P 12 52 59.4 +0.3
baz=89
F23A **Volborg** 89.00 42 ⇑P P 12 52 58.8 -0.2
baz=89
P19A **Cripple Cowboy** 89.05 49 ⇑P P 12 52 59.0 -0.3
baz=89,SNR=22
S18A **Hurst Farm, Bl** 89.05 51 ⇑P P 12 52 59.1 -0.3
baz=89
K21A **Alcova** 89.07 45 ⇓P P 12 52 59.4 0.0
baz=89,SNR=9.2
I22A **9 Mile Ranch,** 89.07 44 ⇑P P 12 52 58.7 -0.6
baz=89
D24A **Glendive** 89.08 40 ⇑P P 12 52 59.4 0.0
baz=89
N20A **Spence Gulch,** 89.09 47 ⇓P P 12 52 59.6 +0.1
baz=89
Q19A **Hogan Spring (** 89.10 49 ⇓P P 12 52 59.7 +0.1
baz=89
X16A **Lo Mia Camp, P** 89.16 54 ⇓P P 12 53 00.3 +0.3
baz=89
V17A **Tonalea, Kykot** 89.22 53 ⇓P P 12 53 00.2 -0.1
baz=89,SNR=18
L21A **Rawlins** 89.25 46 ⇑P P 12 53 00.4 +0.1
baz=89,SNR=7.8
J22A **Midwest** 89.27 44 ⇑P P 12 53 00.8 +0.5
baz=89
Y16A **Circle Bar Ran** 89.33 55 ⇓P P 12 53 00.9 +0.1
baz=89,SNR=12
T18A **Mexican Hat** 89.35 51 ⇓P P 12 53 00.8 0.0
baz=89,SNR=12
R19A **Curley Farm, L** 89.36 50 ⇑P P 12 53 00.8 -0.1
baz=89,SNR=12
O20A **White River Ci** 89.38 48 ⇑P P 12 53 00.9 +0.1
baz=89
VSU **Vasula** 89.40 333⇑ *e*P P 12 53 00.4 -0.2
VSU pmax pmax
comp=Z,25nm,1.0s,mb5.5
M21A **Separation Pea** 89.40 46 ⇓P P 12 53 00.8 -0.2
baz=89,SNR=7.1
RWWY **Rawlins** 89.47 46 *e*P P 12 52 57.5 -3.8
comp=Z,18nm,0.8s,mb5.5
W17A **Winslow** 89.48 53 ⇓P P 12 53 02.1 +0.6
baz=89
SUMG **Summit** 89.53 2 *e*P P 12 52 59.3 -1.7
comp=Z,14nm,0.9s,mb5.3
SUMG **Summit** 89.53 2 *e*P P 12 52 59.3 -1.7
SUMG pmax pmax
comp=Z,14nm,0.9s
SUMG **Summit** 89.53 2 *i*P P 12 53 09.4 +8.4
comp=Z,13nm,1.0s,mb5.2
SUMG *e* 13 03 51.0
SUMG
comp=Z,620nm,14.0s
K22A **Casper** 89.55 45 ⇓P P 12 53 02.2 +0.6
baz=90
F24A **Ekalaka** 89.56 41 ⇓P P 12 53 02.4 +0.7
baz=90
PV04 **Paradox Valley** 89.58 50 *e*P P 12 53 01.4 -0.5
SOC **Sochi** 89.60 316 *e*P P 12 52 56.2 -5.7
SOC *e* 12 56 41.3
SOC *e*S SKSac 13 03 28.1 -1.4
SOC *e**SS sS 13 03 45.1 -25
SOC *e* 13 04 49.9
U18A **Rough Rock, Ch** 89.62 52 ⇓P P 12 53 02.7 +0.6
baz=90
116A **Eloy** 89.63 56 ⇓P P 12 53 02.7 +0.5
baz=90
N21A **Black Mountain** 89.63 47 ⇑P P 12 53 02.5 +0.4
baz=90,SNR=8.4
S19A **Harvey Farm, M** 89.66 50 ⇑P P 12 53 02.4 +0.2
baz=90,SNR=8.3
X17A **Forest Lakes** 89.68 54 ⇑P P 12 53 02.7 +0.3
baz=90
Q20A **Ridgley Place,** 89.80 49 ⇑P P 12 53 03.3 +0.4
baz=90,SNR=18
V18A **Ganado** 89.84 52 ⇑P P 12 53 03.3 +0.1
baz=90,SNR=11
L22A **Ellis Ranch, M** 89.86 46 ⇑P P 12 53 04.1 +0.9
baz=90
Y17A **Roosevelt** 89.89 55 ⇓P P 12 53 03.5 +0.1
baz=90,SNR=6.7
PV01 **Paradox Valley** 89.92 50 *e*P P 12 53 02.9 -0.6
comp=Z,3µm,1.2s
H24A **Dirks Ranch, A** 89.97 43 ⇓P P 12 53 03.6 +0.1
baz=90
M22A **Cedar Creek Ra** 90.01 46 ⇓P P 12 53 04.6 +0.8
baz=90
216A **Three Points,** 90.03 56 ⇑P P 12 53 04.2 +0.1
baz=90
R20A **Redvale** 90.04 50 ⇑P P 12 53 03.8 -0.2
baz=90,SNR=8.6
T19A **Beclabito** 90.09 51 ⇓P P 12 53 04.6 +0.3
baz=90,SNR=14
U19A **Dine' College,** 90.16 52 ⇓P P 12 53 05.0 +0.4
baz=90,SNR=11
S20A **Disappointment** 90.19 50 ⇑P P 12 53 04.5 -0.2
baz=90
X18A **Snowflake** 90.27 54 ⇓P P 12 53 05.3 +0.1
baz=90
Z17A **San Carlos Hig** 90.33 55 ⇓P P 12 53 05.9 +0.5
baz=90
L23A **Garrett** 90.33 45 ⇓P P 12 53 05.6 +0.3
baz=90
MVCO **Mesa Verde** 90.33 51 ⇓P P 12 53 05.9 +0.5
baz=90
MVCO **Mesa Verde** 90.33 51 *e*P P 12 53 05.8 +0.4
comp=Z,41nm,1.3s,mb5.6
MVCO *e*pP pP 12 53 19.2 +1.9
MVCO LR LR
comp=Z,1µm,19.0s,MS5.4
N22A **Wattenberg Ran** 90.36 47 ⇑P P 12 53 05.2 -0.2
baz=90
Q21A **Lamborn Mesa,** 90.36 49 ⇑P P 12 53 05.8 +0.3
baz=90,SNR=6.5
117A **Oracle** 90.38 56 ⇓P P 12 53 06.5 +0.7
baz=90,SNR=11
TUC **Tucson** 90.44 56 *e*P P 12 53 06.3 +0.3
comp=Z,36nm,1.4s,mb5.5
TUC LR LR
comp=Z,890nm,20.0s,MS5.2
TUC **Tucson** 90.44 56 *e*P P 12 53 06.3 +0.3
TUC pmax pmax
comp=Z,36nm,1.4s,mb5.5
TUC MLR MLR
comp=Z,890nm,20.0s,MS5.2
Y18A **Canyon Day Jun** 90.48 54 ⇓P P 12 53 06.8 +0.6
baz=90,SNR=12
V19A **Window Rock** 90.50 52 ⇓P P 12 53 06.2 0.0
baz=90
O22A **Kremmling** 90.55 47 ⇑P P 12 53 06.4 0.0
baz=90
ANN **Anapa** 90.56 318 *e*P P 12 53 04.7 -1.6
ANN *e* 12 56 47.2
ANN *e* 13 03 33.0
ANN pmax pmax
comp=Z,37nm,1.0s,mb5.7
R21A **Cimarron** 90.57 49 ⇓P P 12 53 07.2 +0.8
baz=90,SNR=24
RSSD **Black Hills** 90.57 43 *e*P P 12 53 06.5 +0.1
comp=Z,34nm,1.5s,mb5.5
RSSD **Black Hills** 90.57 43 *e*P P 12 53 06.5 +0.1
RSSD pmax pmax
comp=Z,34nm,1.5s,mb5.5
M23A **Laramie** 90.58 46 ⇓P P 12 53 06.9 +0.4
baz=90,SNR=11
217A **Green Valley** 90.62 56 ⇑P P 12 53 07.4 +0.6
baz=90,SNR=16
P22A **Eagle** 90.64 48 ⇑P P 12 53 07.1 +0.3
baz=90
SMCO **Snowmass** 90.65 48 *e*P P 12 53 06.8 -0.1
comp=Z,65nm,1.6s,mb5.7
N23A **Red Feather La** 90.67 46 ⇑P P 12 53 07.6 +0.7
baz=91,SNR=15
S21A **Coal Bank Pass** 90.67 50 ⇓P P 12 53 07.1 +0.1
baz=91
X19A **St. Johns** 90.81 53 ⇓P P 12 53 08.4 +0.7
baz=91
Q22A **Crested Butte,** 90.83 49 ⇓P P 12 53 08.0 +0.3
baz=91
PHWY **Pilot Hill** 90.83 46 *e*P P 12 53 08.4 +0.7
comp=Z,40nm,1.5s,mb5.5
V20A **Brimhall** 90.91 52 ⇓P P 12 53 08.5 +0.4
baz=91
118A **Homack Ranch,** 90.96 55 ⇑P P 12 53 09.2 +0.7
baz=91,SNR=16
O23A **Lake Granby, G** 90.97 47 ⇓P P 12 53 09.1 +0.8
baz=91
Y19A **Nutrioso** 91.02 54 ⇓P P 12 53 09.3 +0.6
baz=91,SNR=16
MICGM **Minsk** 91.11 329⇓ *e*P P 12 53 05.0 -3.6
T21A **Navajo Lake** 91.13 50 ⇑P P 12 53 09.2 +0.1
baz=91
MNK **Minsk** 91.13 329⇓ *e*P P 12 53 05.0 -3.7
MNK *e* 13 03 30.0
MNK *e*S S 13 03 54.0 -10
MNK *e*PS PS 13 05 06.0 -11
MNK pmax pmax
comp=Z,70nm,1.0s,mb6.0
W20A **Ramah** 91.14 53 ⇓P P 12 53 09.2 0.0
baz=91
218A **Dragoon** 91.15 56 ⇑P P 12 53 10.3 +1.0
baz=91,SNR=9.0
IZAR **Zarasai** 91.18 331 *e*P P 12 53 07.8 -1.2
IZAR AMB AMB 12 53 19.9
comp=Z,28nm,1.5s,mb5.4
M24A **Cheyenne** 91.19 46 ⇑P P 12 53 10.4 +1.0
baz=91
R22A **Saguache, Gunn** 91.19 49 ⇓P P 12 53 09.8 +0.4
baz=91
U21A **Nageezi** 91.26 51 ⇓P P 12 53 10.0 +0.2
baz=91
ISAL **Salakas** 91.33 331 *e*P P 12 53 08.5 -1.2
ISAL AMB AMB 12 53 20.7
comp=Z,22nm,0.9s,mb5.5
S22A **4UR Ranch, Cre** 91.34 50 ⇓P P 12 53 10.0 -0.1
baz=91
K25A **Mack Ranch, Ha** 91.34 44 ⇓P P 12 53 10.4 +0.4
baz=91
ISCO **Idaho Springs** 91.36 47 ⇓P P 12 53 10.4 +0.3
baz=91
ISCO **Idaho Springs** 91.36 47 *e*P P 12 53 10.1 0.0
comp=Z,30nm,1.4s,mb5.4
ISCO LR LR
comp=Z,2µm,20.0s,MS5.4
ISCO **Idaho Springs** 91.36 47 *e*P P 12 53 10.1 0.0
ISCO pmax pmax
comp=Z,30nm,1.4s,mb5.4
ISCO MLR MLR
comp=Z,2µm,20.0s,MS5.4
SCO **Scoresbysund** 91.36 356 *e*P P 12 53 16.3 +6.8
SCO *i* 13 03 42.4
X20A **Quemado** 91.37 53 ⇓P P 12 53 10.9 +0.6
baz=91,SNR=13
P23A **Jefferson** 91.38 48 ⇑P P 12 53 10.6 +0.4
baz=91
318A **Bisbee** 91.39 56 ⇑P P 12 53 11.0 +0.6
baz=91,SNR=15
IIGN **Ignalina** 91.42 331 *e*P P 12 53 09.0 -1.1
IIGN AMB AMB 12 53 20.9
comp=Z,18nm,1.4s,mb5.2
N24A **Carr** 91.43 46 ⇓P P 12 53 11.2 +0.8
baz=91
T22A **Edith** 91.58 50 ⇑P P 12 53 11.7 +0.5
baz=92
Y20A **Horse Springs,** 91.71 54 ⇑P P 12 53 12.6 +0.7
baz=92,SNR=10
K26A **Motz Farm, Whi** 91.76 44 ⇓P P 12 53 12.4 +0.5
baz=92
219A **White Tail Can** 91.76 56 ⇑P P 12 53 12.5 +0.3
baz=92
Z20A **Nine Sixteen R** 91.85 54 ⇓P P 12 53 13.1 +0.6
baz=92,SNR=18
U22A **Llaves** 91.87 51 ⇑P P 12 53 12.8 +0.2
baz=92
R23A **Moffat** 91.88 49 ⇓P P 12 53 13.2 +0.6
baz=92
X21A **Alamocita Cree** 91.95 53 ⇓P P 12 53 13.7 +0.7
baz=92
319A **Douglas** 91.98 56 ⇓P P 12 53 13.5 +0.3
baz=92
120A **U Bar Ranch, L** 92.04 55 ⇑P P 12 53 14.4 +0.9
baz=92,SNR=12
Y21A **Point of Rocks** 92.21 53 ⇑P P 12 53 14.6 +0.4
baz=92,SNR=9.9

SDCO Great Sand Dun 92.30 49 ⇑P P 12 53 14.9 +0.3
baz=92
SDCO Great Sand Dun 92.30 49 eP P 12 53 13.9 -0.6
comp=Z,20nm,1.4s,mb5.3
SDCO LR LR
comp=Z,2μm,20.0s,MS5.5
220A Playas Peak, P 92.37 55 ⇓P P 12 53 15.5 +0.6
baz=92,SNR=10
K27A Fluecksinger Fa 92.38 44 ⇑P P 12 53 15.4 +0.6
baz=92
U23A El Rito 92.38 51 ⇑P P 12 53 14.8 -0.2
baz=92,SNR=7.6
LAZ Ladron 92.46 53 eP P 12 53 15.2 -0.2
comp=Z,7.2nm,1.2s,mb4.9
ULM Lac du Bonnet 92.47 35 P P 12 53 14.1 -1.0
comp=Z,5.5nm,0.9s,mb4.9,baz=5.2,slow=3.9,SNR=3.3
ULM LR 13 33 30.3
comp=Z,2μm,19.4s,MS5.5,baz=94,slow=35
ULM Lac du Bonnet 92.47 35 eP P 12 53 13.8 -1.3
comp=Z,20nm,1.0s,mb5.4
ULM Lac du Bonnet 92.47 35 eP P 12 53 13.8 -1.2
ULM pmax pmax
comp=Z,19nm,1.0s
Z21A St. Cloud Mine 92.49 54 ⇓P P 12 53 16.0 +0.6
baz=92,SNR=12
P25A Willow Gulch B 92.49 47 ⇓P P 12 53 15.6 +0.2
baz=92
AKASG Malin Array Be 92.50 326 P P 12 53 14.0 -1.2
comp=Z,0.6nm,0.4s,mb4.4,baz=44,slow=5.9,SNR=6.7
AKASG LR LR 13 37 27.7
comp=Z,2μm,19.0s,MS5.5,baz=60,slow=37
AKASG Malin Array Be 92.50 326 P P 12 53 14.0 -1.2
AKASG Malin Array Be 92.50 326 P P 12 53 14.0 -1.2
X22A Bernardo 92.51 53 ⇑P P 12 53 16.3 +0.7
baz=92
KIEV Kiev 92.51 326 PFAKE 12 53 30.0 +15
KIEV LR LR
comp=Z,2μm,19.0s,MS5.5
S24A Houchin Ranch, 92.55 49 ⇓P P 12 53 16.5 +0.8
baz=92
320A Kipp Ranch, An 92.59 56 ⇓P P 12 53 16.4 +0.4
baz=92
V23A Ortiz Mt. (NFS 92.63 51 ⇓P P 12 53 16.7 +0.6
baz=92
Q25A Bedland, Calha 92.69 48 ⇓P P 12 53 16.7 +0.3
baz=93
121A Cookes Peak, D 92.70 55 ⇑P P 12 53 16.7 +0.2
baz=93
ANMO Albuquerque 92.75 52 P P 12 53 16.8 +0.1
comp=Z,5.4nm,1.1s,mb4.9,baz=292,slow=5.4,SNR=9.3
ANMO Albuquerque 92.75 52 eP P 12 53 16.7 0.0
comp=Z,21nm,1.4s,mb5.4
ANMO LR LR
comp=Z,806nm,19.0s,MS5.2
ANMO Albuquerque 92.75 52 eP P 12 53 16.7 0.0
ANMO pmax pmax
comp=Z,21nm,1.4s
ANMO MLR MLR
comp=Z,806nm,19.0s
Y22A Socorro 92.78 53 ⇑P P 12 53 17.0 +0.2
baz=93
MSEY Mahe Island 92.80 266 PFAKE 12 53 30.0 +13
MSEY LR LR
comp=Z,685nm,21.0s,MS5.1
W23A Werner Place, 92.89 52 ⇓P P 12 53 17.4 +0.1
baz=93
T24A Torres, Weston 92.90 50 ⇑P P 12 53 17.8 +0.4
baz=93
BNM Barren Site 92.95 53 eP P 12 53 18.1 +0.5
comp=Z,23nm,1.6s,mb5.3
R25A Fountain Ranch 93.00 48 ⇓P P 12 53 17.9 +0.2
baz=93
U24A Moreno Valley 93.02 50 ⇑P P 12 53 18.2 +0.3
baz=93,SNR=6.7
Z22A Elephant Butte 93.05 54 ⇑P P 12 53 18.3 +0.2
baz=93,SNR=7.2
S25A Robets Cordova 93.10 49 ⇓P P 12 53 18.4 +0.2
baz=93
X23A Hourglass Bar 93.10 52 ⇑P P 12 53 18.7 +0.4
baz=93
122A Conniff Cattle 93.25 54 ⇓P P 12 53 19.4 +0.4
baz=93
V24A Rampart Ranch, 93.31 51 ⇓P P 12 53 19.7 +0.4
baz=93
OGNE Ogallala 93.31 45 PFAKE 12 53 30.0 +11
OGNE LR LR
comp=Z,769nm,19.0s,MS5.2
T25A Trinidad 93.34 49 ⇓P P 12 53 19.5 +0.2
baz=93
W24A Lazy 6 Ranch, 93.43 51 ⇑P P 12 53 19.9 +0.2
baz=93
Y23A Lovelace Mesa, 93.47 53 ⇓P P 12 53 19.9 -0.1
baz=93,SNR=8.9
AGMN Agassiz Nation 93.52 37 PFAKE 12 53 30.0 +10
AGMN LR LR
comp=Z,2μm,20.0s,MS5.5
NB2 NORSAR Subarra 93.58 340 P P 12 53 20.2 +0.3
comp=Z,4.5nm,1.0s,mb4.8,baz=47,slow=4.6
NB2 NORSAR Subarra 93.58 340 P P 12 53 20.2 +0.3
baz=47,slow=4.6
NOA NORSAR Array B 93.58 340 P P 12 53 18.6 -1.3
comp=Z,1.5nm,0.7s,mb4.5,baz=52,slow=4.3,SNR=7.9
NOA PP PP 12 57 08.1 +3.8
comp=Z,7.0nm,1.1s,baz=42,slow=7.8,SNR=3.7
NOA LR LR 13 42 28.8
comp=Z,802nm,18.4s,MS5.2,baz=75,slow=40
NOA NORSAR Array B 93.58 340 P P 12 53 18.6 -1.3
NOA PP PP 12 57 08.1 +3.8
NOA NORSAR Array B 93.58 340 P P 12 53 18.6 -1.3
NOA 12 57 08.1
Z23A Rita Site, Whi 93.61 53 ⇓P P 12 53 21.1 +0.4
baz=94
SUW Suwalki 93.63 331 eP P 12 53 19.2 -1.1
SUW Suwalki 93.63 331 eP P 12 53 19.3 -1.0
U25A Circle Dot Ran 93.66 50 ⇑P P 12 53 20.7 -0.1
baz=94
Y24A Capitan 93.94 53 ⇓P P 12 53 21.7 -0.5
baz=94
W25A X Bar L Ranch, 94.12 51 ⇓P P 12 53 22.9 -0.1
baz=94
U26A Atchley Ranch, 94.14 50 ⇓P P 12 53 22.8 -0.2
baz=94
SFJD Kangerlussuaq 94.21 7 P P 12 53 22.0 -0.7
SFJD LR LR
comp=Z,1μm,20.0s,MS5.3
SFJD Kangerlussuaq 94.21 7 P P 12 53 22.0 -0.7
SFJD MLR MLR
comp=Z,1μm,20.0s,MS5.3
V26A Tequesquite Ra 94.37 50 ⇓P P 12 53 24.0 -0.1
baz=94
124A Stringfield Ra 94.44 54 ⇑P P 12 53 24.3 -0.1
baz=94
Y25A Mesa, Roswell 94.50 52 ⇓P P 12 53 24.4 -0.4
baz=94,SNR=6.3
224A Cornudas Mount 94.64 54 ⇑P P 12 53 24.8 -0.6
baz=95
W26A Owens Ranch, T 94.69 51 ⇑P P 12 53 25.9 +0.2
baz=95
Z25A Roswell 94.75 53 ⇓P P 12 53 25.9 0.0
baz=95
X26A CR and CF Fran 94.89 51 ⇑P P 12 53 26.2 -0.4
baz=95
MNTX Cornudas Mount 94.91 55 ⇓P P 12 53 26.2 -0.4
baz=95
MNTX Cornudas Mount 94.91 55 eP P 12 53 25.8 -0.9
comp=Z,12nm,1.2s,mb5.2
MNTX LR LR
comp=Z,732nm,19.0s,MS5.2
324A Moseley Ranch, 94.93 55 ⇑P P 12 53 26.5 -0.3
baz=95
125A Gardner Draw, 95.06 53 ⇑P P 12 53 26.8 -0.5
baz=95
KONO Kongsberg 95.17 340 PFAKE 12 53 40.0 +13
KONO LR LR
comp=Z,2μm,19.0s,MS5.5
Z26A Caprock 95.32 53 ⇑P P 12 53 28.2 -0.3
baz=95
325A Bean Ranch, Si 95.36 55 ⇓P P 12 53 28.7 0.0
baz=95,SNR=6.3
BR131 Keskin Array S 95.40 315 eP P 12 53 26.7 -2.0
comp=Z,5.2nm,0.8s,mb5.0
BR131 LR LR
comp=Z,755nm,19.0s,MS5.2
BRTR Keskin Array B 95.40 315 P P 12 53 27.2 -1.5
comp=Z,6.6nm,0.9s,mb5.1,baz=93,slow=2.9,SNR=19
BRTR PP PP 12 57 32.6 +13
comp=Z,1.6nm,1.0s,baz=60,slow=6.0,SNR=3.9
BRTR LR LR 13 42 04.4
comp=Z,735nm,19.1s,MS5.2,baz=294,slow=39
BRTR Keskin Array B 95.40 315 P P 12 53 27.2 -1.5
BRTR PP PP 12 57 32.6 +13
BRTR Keskin Array B 95.40 315 P P 12 53 27.2 -1.5
ECSD EROS Data Cent 95.47 41 PFAKE 12 53 40.0 +11
ECSD LR LR
comp=Z,2μm,21.0s,MS5.5
425A Indio Mountain 95.59 55 ⇑P P 12 53 30.1 +0.3
baz=96
Y27A Causey 95.67 52 ⇓P P 12 53 30.3 +0.2
baz=96
VNDA Vanda 95.77 177 PFAKE 12 53 40.0 +11
VNDA LR LR
comp=Z,321nm,22.0s,MS4.8
CBKS Cedar Bluff 95.87 46 PFAKE 12 53 40.0 +9.1
CBKS LR LR
comp=Z,1μm,19.0s,MS5.3
Z27A Tatum 95.88 52 ⇓P P 12 53 31.7 +0.7
baz=96
MSTX Muleshoe 95.92 52 ⇑P P 12 53 32.0 +0.8
baz=96
EYMN Ely 96.15 35 PFAKE 12 53 40.0 +8.1
EYMN LR LR
comp=Z,2μm,20.0s,MS5.5
326A Caldwell Ranch 96.15 54 ⇑P P 12 53 32.6 +0.3
baz=96
AMTX Amarillo 96.32 50 eP P 12 53 33.0 0.0
AMTX LR LR
comp=Z,1μm,19.0s,MS5.4
426A McDonald Obser 96.39 55 ⇓P P 12 53 33.8 +0.4
baz=96
SBA Scott Base 96.39 176 PFAKE 12 53 40.0 +7.7
SBA LR LR
comp=Z,662nm,20.0s,MS5.1
KWP Kalwaria Pacla 96.55 327 PFAKE 12 53 40.0 +6.3
KWP LR LR
comp=Z,2μm,19.0s,MS5.6
526A Mary Lane Ranc 96.60 56 ⇑P P 12 53 34.5 +0.1
baz=96
626A Big Bend Ranch 96.78 56 ⇓P P 12 53 35.4 +0.1
baz=97
427A Hayter Ranch, 96.80 55 ⇓P P 12 53 35.8 +0.5
baz=97
527A Woodward Ranch 96.94 55 ⇑P P 12 53 36.1 +0.1
baz=97
TXAR Lajitas Array 97.24 56 P P 12 53 36.9 -0.4
comp=Z,1.5nm,1.0s,mb4.4,baz=293,slow=4.6,SNR=9.1
TXAR PKKP PKKPbc 13 10 16.3 0.0
comp=Z,0.2nm,0.7s,baz=150,slow=3.8,SNR=3.3
TXAR LR LR 13 39 20.4
comp=Z,981nm,18.1s,MS5.3,baz=340,slow=37
TXAR Lajitas Array 97.24 56 P P 12 53 36.9 -0.4
TXAR PKKP PKKPbc 13 10 16.3 0.0
TXAR Lajitas Array 97.24 56 P P 12 53 36.9 -0.4
627A Terlingua Ranc 97.41 56 ⇓P P 12 53 38.5 +0.5
baz=97
528A Cox Ranch, San 97.57 55 ⇑P P 12 53 39.1 +0.3
baz=98
628A Black Gap, Mar 97.79 56 ⇑P P 12 53 39.9 +0.1
baz=98
KSU1 Kansas State U 97.85 45 PFAKE 12 53 50.0 +10
KSU1 LR LR
comp=Z,1μm,20.0s,MS5.4
CSS Prodhromos 97.88 311 PFAKE 12 53 50.0 +10
CSS LR LR
comp=Z,1μm,20.0s,MS5.4
ISP Isparta 98.45 314 PFAKE 12 53 50.0 +7.4
ISP LR LR
comp=Z,848nm,21.0s,MS5.2
WMOK Wichita Mounta 98.50 49 PFAKE 12 53 50.0 +7.1
WMOK LR LR
comp=Z,889nm,19.0s,MS5.3
SCIA State Center 98.55 41 PFAKE 12 53 50.0 +7.1
SCIA LR LR
comp=Z,1μm,22.0s,MS5.4
OKC Ostrava-Krasne 98.70 329 AMS AMS 13 43 30.0
comp=Z,1μm,17.0s
PSZ Piszkesteto 99.07 327 PFAKE 12 54 00.0 +15
PSZ LR LR
comp=Z,1μm,20.0s,MS5.5
DPC Dobruska-Polom 99.22 330 ePP PP 12 57 54.8 +6.8
DPC AMS AMS 13 43 40.0
comp=Z,2μm,19.1s
UPC Upice 99.26 331 ePP PP 12 57 50.0 +1.7
JCT Junction City 99.74 54 PFAKE 12 54 00.0 +12
JCT LR LR
comp=Z,1μm,19.0s,MS5.4
JFWS Jewell Farm 99.79 39 PFAKE 12 54 00.0 +12
JFWS LR LR
comp=Z,3μm,22.0s,MS5.7
PVCC Panska Ves 99.91 331 ePP PP 12 58 00.4 +7.2
PVCC AMS AMS 13 44 50.0
comp=Z,1μm,18.7s
BRG Berggiesshubel 99.95 332 P Pdif 12 53 56.0 +7.1
BRG 12 57 59.7
BRG S Sdif 13 05 23.0 +2.5
BRG SS SS 13 12 16.0 +3.5
BRG pmax pmax
comp=Z,64nm,1.9s,mb5.7
BRG MLR MLR
comp=N,2μm,18.7s,MS5.6
BRG MLR MLR
comp=E,785nm,18.1s,MS5.6
BRG MLR MLR
comp=Z,2μm,19.0s,MS5.5
CLL Collm 100.06 333 eP Pdif 12 53 50.0 +0.6
CLL e 12 58 00.0
CLL e 13 04 25.0
CLL eS Sdif 13 05 23.0 +1.6
CLL MLR MLR
comp=Z,2μm,19.7s,MS5.6
CLL Collm 100.06 333 ePdif Pdif 12 53 50.0 +0.6
CLL e(sPdif) 12 53 59.0
CLL ePP PP 12 58 00.0 +5.7
CLL e 12 58 12.0
CLL eSKSac SKSac 13 04 25.0 -0.2
CLL eSdif Sdif 13 05 23.0 +1.6
CLL ePS PS 13 06 52.0 -2.1
CLL eSS SS 13 12 12.0 -1.9
CLL eSSSS 13 19 24.0
CLL Lm 13 42 00.0
comp=N,1μm,18.4s
CLL Lm 13 42 00.0
comp=E,900nm,18.7s
CLL Lm 13 42 00.0
comp=Z,2μm,19.7s
TREC Trest 100.34 330 ePP PP 12 58 03.2 +6.7
TREC AMS AMS 13 42 10.0
comp=Z,1μm,19.6s
NKC Novy Kostel 101.08 332 ePP PP 12 58 10.3 +8.3
NKC AMS AMS 13 42 40.0
comp=Z,2μm,22.5s
KHC Kasperske Hory 101.35 331 ePP PP 12 58 10.6 +6.5
KHC AMS AMS 13 45 00.0
comp=Z,2μm,18.5s
GERES GERESS Array B 101.50 331 P Pdif 12 53 53.7 -2.1
comp=Z,0.7nm,0.8s,baz=46,slow=5.6,SNR=3.7
GERES PP PP 12 58 09.3 +4.1
comp=Z,1.2nm,0.9s,baz=51,slow=7.7,SNR=4.6
GERES GERESS Array B 101.50 331 P Pdif 12 53 53.7 -2.1
GERES PP PP 12 58 09.3 +4.1
GERES GERESS Array B 101.50 331 P Pdif 12 53 53.7 -2.1
GERES 12 58 09.4
HDIL Hopedale 101.75 40 PFAKE 12 54 10.0 +13
HDIL LR LR
comp=Z,2μm,21.0s,MS5.5
GLMI Grayling 101.82 35 PFAKE 12 54 10.0 +13
GLMI LR LR
comp=Z,1μm,20.0s,MS5.5
SCHQ Schefferville 101.92 19 PFAKE 12 54 10.0 +12
SCHQ LR LR
comp=Z,2μm,20.0s,MS5.6
MIAR Mount Ida 102.30 47 PFAKE 12 54 10.0 +11
MIAR LR LR
comp=Z,2μm,20.0s,MS5.5
KVTX Kingsville 102.58 55 PFAKE 12 54 10.0 +9.4
KVTX LR LR
comp=Z,1μm,19.0s,MS5.5
ESK Eskdalemuir 102.65 343 PFAKE 12 54 10.0 +9.1
ESK LR LR
comp=Z,1μm,19.0s,MS5.4
NATX Nacogdoches 102.97 50 PFAKE 12 54 10.0 +7.7
NATX LR LR
comp=Z,2μm,19.0s,MS5.6
TIR Tirane 103.24 322 PFAKE 12 54 20.0 +16
TIR LR LR
comp=Z,1μm,19.0s,MS5.5
TRI Trieste 103.67 328 PFAKE 12 54 20.0 +15
TRI LR LR
comp=Z,1μm,19.0s,MS5.4
AAM Ann Arbor 103.99 36 PFAKE 12 54 20.0 +13
AAM LR LR
comp=Z,2μm,20.0s,MS5.7
WLF Walferdange 104.17 335 PFAKE 12 54 20.0 +12
WLF LR LR
comp=Z,1μm,19.0s,MS5.5
MAW Mawson 104.28 203 PFAKE 12 54 20.0 +12
MAW LR LR
comp=Z,909nm,20.0s,MS5.3
BFO Black Forest 104.30 333 PFAKE 12 54 20.0 +12
BFO LR LR
comp=Z,1μm,19.0s,MS5.4
ABPO Ambohimpanom 104.56 254 PFAKE 12 54 20.0 +11
ABPO LR LR
comp=Z,499nm,21.0s,MS5.0
ECH Echery 104.89 333 PFAKE 12 54 20.0 +9.2
ECH LR LR
comp=Z,1μm,22.0s,MS5.4
OXF Oxford 105.18 45 PFAKE 12 58 40.0 +13
OXF LR LR
comp=Z,1μm,19.0s,MS5.5
TUE Stuetta 105.24 331 PFAKE 12 58 40.0 +13
TUE LR LR
comp=Z,2μm,21.0s,MS5.7
VBMS Vicksburg 105.70 48 PFAKE 12 58 40.0 +12
VBMS LR LR
comp=Z,2μm,19.0s,MS5.6
ACSO Alum Creek Sta 105.73 37 PFAKE 12 58 40.0 +12
ACSO LR LR
comp=Z,3μm,21.0s,MS5.8
PLAL Pickwick Lake 105.81 44 PFAKE 12 58 40.0 +12
PLAL LR LR
comp=Z,1μm,19.0s,MS5.4
ERPA Erie 106.13 34 PFAKE 12 58 40.0 +12
ERPA LR LR
comp=Z,2μm,20.0s,MS5.6
AQU L'Aquila 106.20 326 PFAKE 12 58 40.0 +11
AQU LR LR
comp=Z,1μm,22.0s,MS5.4
CUC Castrocucco 106.47 323 PFAKE 12 58 40.0 +11
CUC LR LR
comp=Z,603nm,19.0s,MS5.2
LONY Lake Ozonia 107.06 30 PFAKE 12 58 40.0 +10
LONY LR LR
comp=Z,1μm,20.0s,MS5.4
BNI Bardonecchia 107.54 332 PFAKE 12 58 40.0 +9.1
BNI LR LR
comp=Z,2μm,20.0s,MS5.6
CEL Celeste 107.57 321 PFAKE 12 58 40.0 +8.8
CEL LR LR
comp=Z,751nm,20.0s,MS5.2
NCB Newcomb 107.72 30 PFAKE 12 58 40.0 +8.7
NCB LR LR
comp=Z,889nm,20.0s,MS5.3
QSPA South Pole Qui 107.86 180 PFAKE 12 58 40.0 +10
QSPA LR LR
comp=Z,1μm,19.0s,MS5.5
BINY Binghamton 108.17 32 PFAKE 12 58 40.0 +7.8
BINY LR LR
comp=Z,2μm,19.0s,MS5.7
SSB Saint Sauveur 108.31 333 PFAKE 12 58 40.0 +7.6
SSB LR LR
comp=Z,840nm,20.0s,MS5.3
LBNH Lisbon 108.58 28 PFAKE 12 58 40.0 +7.1
LBNH LR LR
comp=Z,1μm,19.0s,MS5.5
BRAL Brewton 108.82 47 PFAKE 12 58 50.0 +16
BRAL LR LR
comp=Z,2μm,20.0s,MS5.6
PKME Peaks-Kenny Pk 108.91 26 PFAKE 12 58 40.0 +6.5
PKME LR LR
comp=Z,1μm,20.0s,MS5.5
KMBO Kilima Mbogo 109.04 275 PFAKE 12 58 50.0 +15
KMBO LR LR
comp=Z,668nm,20.0s,MS5.2
BLA Blacksburg 109.23 38 PFAKE 12 58 50.0 +16
BLA LR LR
comp=Z,2μm,22.0s,MS5.6
CBN Corbin 110.30 36 PFAKE 12 58 50.0 +14
CBN LR LR
comp=Z,3μm,20.0s,MS5.9
CNNC Cliffs of the 112.06 39 PFAKE 12 58 50.0 +10
CNNC LR LR
comp=Z,2μm,20.0s,MS5.7
NHSC New Hope 112.10 42 PFAKE 12 58 50.0 +10
NHSC LR LR
comp=Z,1μm,19.0s,MS5.6
TEIG Tepich 113.83 57 PFAKE 12 59 00.0 +16
TEIG LR LR
comp=Z,908nm,20.0s,MS5.4
MBAR Mbarara 115.03 278 PFAKE 12 59 00.0 +14
MBAR LR LR
comp=Z,704nm,19.0s,MS5.3
ESLA Sonseca Array 116.47 335 PFAKE 12 59 00.0 +12
ESLA LR LR
comp=Z,9μm,20.0s,MS6.4
PAB San Pablo 116.74 335 PFAKE 12 59 00.0 +11
PAB LR LR
comp=Z,1μm,20.0s,MS5.5
MTE Manteigas 117.19 338 PFAKE 12 59 00.0 +11
MTE LR LR
comp=Z,2μm,19.0s,MS5.6
TGUH Tegucigalpa,Un 117.76 63 PFAKE 12 59 00.0 +8.8
TGUH LR LR
comp=Z,906nm,21.0s,MS5.4
SFS San Fernando 120.13 335 PFAKE 12 59 10.0 +15
SFS LR LR
comp=Z,2μm,21.0s,MS5.8
PAYG Puerto Ayora 121.25 80 PFAKE 12 59 10.0 +12
PAYG LR LR
comp=Z,694nm,19.0s,MS5.3
BBSR BB Station 121.44 31 PFAKE 12 59 10.0 +12
BBSR LR LR
comp=Z,1μm,19.0s,MS5.5
LSZ Lusaka 121.47 263 ePKPdf PKPdf 12 58 58.7 +0.5
LSZ LR LR
comp=Z,548nm,19.0s,MS5.2
LSZ Lusaka 121.47 263 ePKIKP PKPdf 12 58 58.7 +0.5
LSZ MLR MLR
comp=Z,548nm,19.0s,MS5.2
JTS JuntasAbangare 121.56 65 PFAKE 12 59 10.0 +11
JTS LR LR
comp=Z,593nm,20.0s,MS5.2
MTDJ Mount Denham 123.35 53 PFAKE 12 59 10.0 +8.2
MTDJ LR LR
comp=Z,871nm,20.0s,MS5.4
SNAA Sanae 123.51 191 ePKPpre PKPpre 12 58 53.8
SNAA Sanae 123.51 191 ePKIKP PKPdf 12 58 53.8 -6.7
GTBY Guantanamo Bay 124.09 50 PFAKE 12 59 10.0 +6.8
GTBY LR LR
comp=Z,789nm,20.0s,MS5.4
TAM Tamanrasset 124.58 316 ePKPdf PKPdf 12 59 04.8 +0.7
TAM LR LR
comp=Z,590nm,20.0s,MS5.2
TAM Tamanrasset 124.58 316 ePKIKP PKPdf 12 59 04.8 +0.7
TAM MLR MLR
comp=Z,590nm,20.0s,MS5.2
LBTB Lobatse 125.33 252 PFAKE 12 59 20.0 +15
LBTB LR LR
comp=Z,693nm,21.0s,MS5.3
BOSA Boshof 125.86 247 PFAKE 12 59 20.0 +14
BOSA LR LR
comp=Z,455nm,22.0s,MS5.1
BCIP Isla Barro Col 126.50 63 PFAKE 12 59 20.0 +12
BCIP LR LR
comp=Z,844nm,20.0s,MS5.4
SDDR Presa de Saban 127.44 47 PFAKE 12 59 20.0 +10
SDDR LR LR
comp=Z,1μm,20.0s,MS5.5
SUR Sutherland 129.68 243 PFAKE 12 59 30.0 +16
SUR LR LR
comp=Z,387nm,22.0s,MS5.0
SJG San Juan 131.54 44 PFAKE 12 59 30.0 +13
SJG LR LR
comp=Z,1μm,21.0s,MS5.5
OTAV Otavalo 131.84 73 PFAKE 12 59 30.0 +12
OTAV LR LR
comp=Z,487nm,19.0s,MS5.2
TSUM Tsumeb 132.12 260 PFAKE 12 59 30.0 +12

TSUM					LR	LR			
	comp=Z,476nm,20.0s,MS5.2								
TORD	**Torodi Ar. Bea**	**133.77**	**310**		PKhKP	PKPpre	12 59 07.8		
	comp=Z,0.3nm,0.8s,baz=42,slow=2.5,SNR=3.5								
TORD					PKP	PKPdf	12 59 19.9	-1.8	
	comp=Z,3.6nm,0.9s,baz=24,slow=2.5,SNR=16								
TORD					PP	PP	13 01 48.2	-2.2	
	comp=Z,1.4nm,1.0s,baz=29,slow=6.5,SNR=3.9								
TORD					SKPbc	SKPbc	13 02 47.0	-0.8	
	comp=Z,8.0nm,1.2s,baz=53,slow=3.3,SNR=9.6								
TORD	**Torodi Ar. Bea**	**133.77**	**310**		PKPpre	PKPpre	12 59 07.8		
TORD					PKP	PKPdf	12 59 19.9	-1.8	
TORD					PP	PP	13 01 48.2	-2.2	
TORD					SKPbc	SKPbc	13 02 47.0	-0.8	
SDV	**Santo Domingo**	**134.27**	**57**	*e*	PKPdf	PKPdf	12 59 22.3	-0.4	
SDV					LR	LR			
	comp=Z,202nm,20.0s,MS4.8								
ANWB	**Willy Bob**	**134.65**	**40**		PFAKE		12 59 30.0	+6.7	
ANWB					LR	LR			
	comp=Z,1μm,20.0s,MS5.6								
FDF	**Fort de France**	**137.26**	**42**		PFAKE		12 59 40.0	+12	
FDF					LR	LR			
	comp=Z,1μm,22.0s,MS5.6								
NNA	**Nana**	**137.38**	**88**		PFAKE		12 59 40.0	+12	
NNA					LR	LR			
	comp=Z,498nm,19.0s,MS5.3								
GRGR	**Grenville**	**138.83**	**45**		PFAKE		12 59 40.0	+8.8	
GRGR					LR	LR			
	comp=Z,1μm,22.0s,MS5.7								
BBGH	**Gun Hill**	**139.47**	**42**		PFAKE		12 59 40.0	+7.7	
BBGH					LR	LR			
	comp=Z,2μm,20.0s,MS5.9								
PLCA	**Paso Flores**	**140.71**	**133**		PFAKE		12 59 50.0	+16	
PLCA					LR	LR			
	comp=Z,502nm,19.0s,MS5.3								
DBIC	**Dimbokro**	**142.87**	**309**		PKhKP	PKPpre	12 59 34.2		
	comp=Z,9.0nm,1.0s,baz=47,slow=3.7,SNR=6.9								
DBIC	**Dimbokro**	**142.87**	**309**	*e*	PKPpre	PKPpre	12 59 33.6		
DBIC					PKPpre	PKPpre	12 59 34.2		
DBIC					LR	LR			
	comp=Z,556nm,22.0s,MS5.3								
DBIC	**Dimbokro**	**142.87**	**309**	*e*	PKIKP	PKPpre	12 59 33.6		
DBIC					MLR	MLR			
	comp=Z,556nm,22.0s								
LCO	**Las Campanas**	**143.96**	**115**	*e*	PKPpre	PKPpre	12 59 37.4		
LPAZ	**La Paz**	**146.49**	**92**		PKPbc	PKPbc	12 59 45.6	-0.4	
	comp=Z,12nm,0.9s,baz=292,slow=3.2,SNR=28								
LPAZ	**La Paz**	**146.49**	**92**	*e*	PKPdf	PKPdf	12 59 44.8	+0.2	
LPAZ					PKPbc	PKPbc	12 59 45.6	-0.4	
LPAZ					LR	LR			
	comp=Z,767nm,20.0s,MS5.5								
LPAZ	**La Paz**	**146.49**	**92**	*e*	PKP2	PKPab	12 59 44.8	-2.2	
LPAZ					MLR	MLR			
	comp=Z,767nm,20.0s								
TRQA	**Tornquist**	**147.83**	**134**	*e*	PKPbc	PKPbc	12 59 47.2	-2.0	
TRQA					LR	LR			
	comp=Z,601nm,20.0s,MS5.4								
SHEL	**Horse Pasture**	**153.79**	**270**		PFAKE		13 00 10.0	+14	
SHEL					LR	LR			
	comp=Z,516nm,19.0s,MS5.4								
CPUP	**Villa Florida**	**156.11**	**114**		PKPab	PKPab	13 00 24.0	-2.6	
	comp=Z,2.3nm,0.7s,baz=228,slow=3.7,SNR=3.5								
CPUP	**Villa Florida**	**156.11**	**114**		PKPab	PKPab	13 00 24.0	-2.6	
CPUP	**Villa Florida**	**156.11**	**114**		PKP2	PKPab	13 00 24.0	-2.6	
RCBR	**Riachuelo**	**167.55**	**13**		PFAKE		13 00 20.0	+8.9	
RCBR					LR	LR			
	comp=Z,958nm,21.0s								

*ISCJB **25** 13:35:34.0±4.3, 18°.05N±0°.08×147°.0E±0°.5, h72km±30km, mb3.9/5, Error ellipse: s-maj=76.5km s-min=12.9km az=1.6*

*IDC **25** 13:35:34.8±6.8, 18°.05N×147°.12E, h67km±49km, mb3.5/5, mb1 3.8/6, mb1mx3.4/22, mbtmp3.6/6, ML4.3/1, Error ellipse: s-maj=96.4km s-min=19.9km az=89.0*

*NEIC **25** 13:35:37.8±3.7, 17°.99N×146°.77E, h84km±21km, mb4.2/1, Error ellipse: s-maj=92.3km s-min=9.5km az=88.0*

ISC 25 13:35:35.5±4.1, 18°.01N±0°.08×147°.2E±0°.5, h73km±28km, n16, σ0°73/18, mb3.9/5, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.92**	**207**	P			**Pn**	**13 36 45.2**	**-1.7**
	11nm,0.3s,baz=208,slow=18,SNR=12								
GUMO				S			**Sn**	**13 37 43.1**	**+0.5**
	2.9nm,0.3s,baz=189,slow=19,SNR=2.6								
GUMO	**Guam**	**4.92**	**207**	*e*Pn			**Pn**	**13 36 46.6**	**-0.4**
GUMO				S			**Sn**	**13 37 43.1**	**+0.5**
MJAR	**Matsushiro Arr**	**20.08**	**339**	P			**P**	**13 40 03.5**	**+0.4**
	1.1nm,0.6s,baz=175,slow=10.0,SNR=3.6								
MJAR	**Matsushiro Arr**	**20.08**	**339**	P			**P**	**13 40 03.5**	**+0.4**
MAJO	**Matsushiro**	**20.08**	**339**	*e*P			**P**	**13 40 04.0**	**+0.9**
WRAB	**Tennant Creek**	**39.75**	**199**	*e*P			**P**	**13 43 00.7**	**-0.5**
	2.9nm,0.9s,mb4.1								
WB2	**Warramunga Arr**	**39.76**	**199**	P			**P**	**13 43 02.2**	**+0.9**
WRA	**Warramunga Arr**	**39.76**	**199**	P			**P**	**13 43 01.5**	**+0.2**
	0.5nm,0.4s,mb3.7,baz=26,slow=9.0,SNR=3.3								
WRA	**Warramunga Arr**	**39.76**	**199**	P			**P**	**13 43 01.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**41.66**	**212**	*e*P			**P**	**13 43 16.8**	**-0.2**
ASAR	**Alice Springs**	**43.40**	**198**	P			**P**	**13 43 31.5**	**+0.5**
	0.4nm,0.4s,mb3.5,baz=22,slow=7.9,SNR=12								
ASAR	**Alice Springs**	**43.40**	**198**	P			**P**	**13 43 31.5**	**+0.5**
MKAR	**Makanchi Array**	**59.94**	**314**	P			**P**	**13 45 33.0**	**-1.1**
	1.3nm,1.1s,mb3.9,baz=96,slow=7.4,SNR=5.5								
MKAR	**Makanchi Array**	**59.94**	**314**	P			**P**	**13 45 33.0**	**-1.1**
FINES	**FINESS Array B**	**88.08**	**336**	P			**P**	**13 48 17.0**	**-0.7**
	1.9nm,0.9s,mb4.1,baz=47,slow=6.1,SNR=3.5								
FINES	**FINESS Array B**	**88.08**	**336**	P			**P**	**13 48 17.0**	**-0.7**

*IDC **25** 13:43:54.2±1.3, 10°.11S×124°.86E, h0km, mb3.7/4, mb1 3.9/7, mb1mx3.8/16, mbtmp3.8/7, ML3.8/3, Error ellipse: s-maj=85.6km s-min=23.0km az=64.0*

*NEIC **25** 13:43:59.0±0.7, 10°.14S×124°.96E, h35km, Error ellipse: s-maj=34.7km s-min=8.9km az=58.0*

*ISCJB **25** 13:44:00.3±2.6, 10°.4S±0°.1×124°.9E±0°.1, h74km±29km, mb3.7/4, Error ellipse: s-maj=27.2km s-min=13.7km az=147.7*

ISC 25 13:44:03.1±3.1, 10°.4S±0°.2×125°.1E±0°.1, h84km±37km, n17, σ1§12/23, mb3.7/4, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**7.71**	**176**	Pn			**Pn**	**13 45 53.1**	**+0.4**
	1.0nm,0.3s,baz=10,slow=12,SNR=26								
FITZ				Sn			**Sn**	**13 47 18.1**	**-0.3**
	3.0nm,0.3s,baz=259,slow=16,SNR=7.4								
FITZ	**Fitzroy Crossi**	**7.71**	**176**	*e*P			**Pn**	**13 45 52.5**	**-0.1**
	6.1nm,0.5s								
FITZ				Sn			**Sn**	**13 47 18.1**	**-0.3**
WRA	**Warramunga Arr**	**13.05**	**138**	Pn			**Pn**	**13 47 04.0**	**-1.3**
	0.5nm,0.3s,baz=314,slow=11,SNR=6.9								
WRA				Sn			**Sn**	**13 49 27.3**	**-1.4**
	0.7nm,0.3s,baz=312,slow=22,SNR=4.6								
WRA	**Warramunga Arr**	**13.05**	**138**	Pn			**Pn**	**13 47 04.0**	**-1.3**
WRA				Sn			**Sn**	**13 49 27.3**	**-1.4**
WRAB	**Tennant Creek**	**13.05**	**138**	*e*P			**Pn**	**13 47 05.4**	**+0.1**
	4.9nm,0.6s								
WB2	**Warramunga Arr**	**13.06**	**138**	*e*P			**Pn**	**13 47 06.3**	**+0.9**
AS31	**Alice Springs**	**15.68**	**149**	*e*P			**Pn**	**13 47 41.3**	**+2.2**
ASAR	**Alice Springs**	**15.68**	**149**	Pn			**Pn**	**13 47 40.0**	**+0.9**
	0.4nm,0.3s,baz=318,slow=12,SNR=40								
ASAR				Sn			**Sn**	**13 50 32.2**	**-0.1**
	0.3nm,0.3s,baz=313,slow=22,SNR=4.4								
ASAR	**Alice Springs**	**15.68**	**149**	Pn			**Pn**	**13 47 40.0**	**+0.9**
ASAR				Sn			**Sn**	**13 50 32.2**	**-0.1**
CMAR	**Chiang Mai Arr**	**38.54**	**318**	P			**P**	**13 51 15.0**	**-2.8**
	0.4nm,0.3s,mb3.7,baz=144,slow=7.7,SNR=4.9								
CMAR	**Chiang Mai Arr**	**38.54**	**318**	P			**P**	**13 51 15.0**	**-2.8**
SONM	**Songino Array**	**60.27**	**346**	P			**P**	**13 54 04.0**	**+1.3**
	0.8nm,0.9s,mb3.8,baz=174,slow=5.5,SNR=3.6								
SONM	**Songino Array**	**60.27**	**346**	P			**P**	**13 54 04.0**	**+1.3**
MKAR	**Makanchi Array**	**68.52**	**330**	P			**P**	**13 54 56.6**	**+0.1**
	1.4nm,0.8s,mb3.8,baz=150,slow=7.3,SNR=5.4								
MKAR	**Makanchi Array**	**68.52**	**330**	P			**P**	**13 54 56.6**	**+0.1**
ZALV	**Zalesovo Beam**	**72.57**	**336**	P			**P**	**13 55 20.3**	**-0.7**
	0.3nm,0.4s,mb3.5,baz=128,slow=6.4,SNR=2.7								
ZALV	**Zalesovo Beam**	**72.57**	**336**	P			**P**	**13 55 20.3**	**-0.7**

CASC 25 13:48:19.4±1.6, 13°.84N×91°.51W, h0km±8km, MD3.6, 2C-2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.49**	**345**	‖	*i*P		Pg	13 48 29.9	+1.1
FUG	**Fuego 3**	**0.88**	**47**		*e*P		Pg	13 48 37.0	+0.6
FG6		**0.94**	**40**	‖	*e*P		Pg	13 48 37.5	+0.2
PCG	**Pacaya**	**1.03**	**58**	‖	*e*P		Pg	13 48 40.3	+1.1
PCG					*e*S		Sg	13 48 54.9	+2.3
NBG	**Las Nubes**	**1.35**	**57**	‖	*e*P		Pg	13 48 45.4	+0.1
NBG					*e*S		Sg	13 49 06.3	+3.5
RBDL	**Robledal**	**1.79**	**81**		*e*P		Pn	13 48 51.4	-0.1
RTR	**El Retiro**	**1.81**	**88**		*e*P		Pn	13 48 52.4	+0.5
SBLS	**San Blas**	**1.83**	**90**		*e*P		Pn	13 48 52.5	+0.4
SBLS					*e*S		Sn	13 49 18.2	+2.1
SNJE	**San Jose**	**1.85**	**89**		*e*P		Pn	13 48 53.0	+0.6
MTO2	**Montecristo 2**	**2.16**	**75**		*e*P		Pn	13 48 55.7	-0.9
BOQS	**Boqueron**	**2.17**	**93**		*e*P		Pn	13 48 57.1	+0.3

*IDC **25** 13:55:14.0±5.4, 6°.06S×147°.48E, h0km, mb3.9/3, mb1 3.9/5, mb1mx3.6/16, mbtmp3.8/5, ML3.4/2, Error ellipse: s-maj=82.6km s-min=43.4km az=59.0*

*NEIC **25** 13:55:16.8±3.8, 5°.88S×147°.56E, h35km, mb3.4/3, Error ellipse: s-maj=52.8km s-min=26.0km az=48.0*

ISC 25 13:55:16.6±6.1, 5°.9S±0°.2×147°.4E±0°.3, h28km±44km, n14, σ0°79/16, mb3.5/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.50**	**185**	Pn			**Pn**	**13 56 08.9**	**-0.3**
	3.6nm,0.3s,baz=19,slow=12,SNR=17								
PMG				Sn			**Sn**	**13 56 50.5**	**+0.8**
	3.4nm,0.3s,baz=240,slow=20,SNR=6.5								
PMG	**Port Moresby**	**3.50**	**185**	*e*P			**Pn**	**13 56 09.1**	**-0.1**
PMG				*e*S			**Sn**	**13 56 49.0**	**-0.7**
COEN	**Coen**	**9.05**	**207**	*e*P			**Pn**	**13 57 26.9**	**+1.5**
WRAB	**Tennant Creek**	**18.89**	**221**	*e*P			**Pn**	**13 59 35.4**	**-0.3**
	1.5nm,0.5s								
WB2	**Warramunga Arr**	**18.89**	**221**	*e*P			**Pn**	**13 59 34.7**	**-1.1**
WRA	**Warramunga Arr**	**18.90**	**221**	P			**Pn**	**13 59 34.9**	**-0.9**
	0.5nm,0.3s,baz=49,slow=11,SNR=5.2								
WRA	**Warramunga Arr**	**18.90**	**221**	P			**Pn**	**13 59 34.9**	**-0.9**
AS31	**Alice Springs**	**21.95**	**215**	*e*P			**P**	**14 00 08.3**	**+0.1**
ASAR	**Alice Springs**	**21.95**	**215**	P			**P**	**14 00 08.4**	**+0.2**
	1.0nm,0.5s,mb3.5,baz=51,slow=9.0,SNR=36								
ASAR	**Alice Springs**	**21.95**	**215**	P			**P**	**14 00 08.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**24.50**	**238**	*e*P			**P**	**14 00 34.7**	**+1.0**
	4.5nm,0.6s,mb4.1,baz=62,slow=8.9,SNR=21								
FITZ	**Fitzroy Crossi**	**24.50**	**238**	*e*P			**P**	**14 00 34.9**	**+1.2**
	3.7nm,0.6s,mb4.0								
STKA	**Stephens Creek**	**26.42**	**191**	P			**P**	**14 00 50.5**	**-0.5**
	0.9nm,0.7s,mb3.4,baz=23,slow=11,SNR=4.0								
STKA	**Stephens Creek**	**26.42**	**191**	*e*P			**P**	**14 00 50.9**	**-0.1**
	0.1nm,0.4s,mb2.7								

*CSEM **25** 14:02:35.7, 27°.83N×56°.80E, h25km, ML3.5, After TEH*

TEH 25 14:02:35.7, 27°.83N×56°.80E, h25km, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.44**	**211**	*e*Pg			Pb	14 02 42.6	-2.3
IBND				*e*Sg			Sb	14 02 51.2	+0.1
IBND				*e*				14 03 01.9	
	comp=Z,58μm,0.3s								
ISRV	**Sarvestan**	**3.59**	**296**	*e*Pn			Pn	14 03 29.6	-0.1
ISRV				*e*Sg			Sn	14 04 27.9	+17
ISRV				*e*				14 05 09.7	
	comp=Z,883nm,0.5s								
ISRV	**Sarvestan**	**3.59**	**296**	*e*Pn			Pn	14 03 29.6	-0.1
ISRV				*e*Sg			Sn	14 04 27.9	+17
IPAR	**Pars**	**3.85**	**302**	*e*Pn			Pn	14 03 33.5	+0.2
IPAR				*e*				14 04 46.5	
	comp=Z,657nm,0.4s								
IPAR	**Pars**	**3.85**	**302**	*e*Pn			Pn	14 03 33.5	+0.2
IBAF	**Bafgh**	**3.90**	**344**	*e*Pn			Pn	14 03 33.3	-0.7
IBAF				*e*				14 04 40.0	
	comp=Z,506nm,0.2s								
IBAF	**Bafgh**	**3.90**	**344**	*e*Pn			Pn	14 03 33.3	-0.7
IMEH	**Mehriz**	**4.03**	**332**	*e*Pn			Pn	14 03 35.0	-0.7
IMEH				*e*				14 04 53.2	
	comp=Z,307nm,0.3s								
IMEH	**Mehriz**	**4.03**	**332**	*e*Pn			Pn	14 03 35.0	-0.7
ICHK	**Chekchek**	**4.87**	**335**	*e*Pn			Pn	14 03 46.8	-0.5
ICHK				*e*				14 04 08.5	
	comp=Z,308nm,0.2s								
ICHK	**Chekchek**	**4.87**	**335**	*e*Pn			Pn	14 03 46.8	-0.5
IKOO	**Kooshah**	**4.97**	**22**	*e*Pn			Pn	14 03 48.4	-0.2
IKOO				*e*				14 04 55.5	
	comp=N,439nm,0.1s								
IKOO	**Kooshah**	**4.97**	**22**	*e*Pn			Pn	14 03 48.4	-0.2
IDAH	**Dahanechah**	**5.57**	**28**	*e*Pn			Pn	14 03 56.7	-0.3
IDAH				*e*				14 06 44.9	
	comp=Z,299nm,0.2s								
IDAH	**Dahanechah**	**5.57**	**28**	*e*Pn			Pn	14 03 56.7	-0.3

*CSEM **25** 14:04:43.1, 30°.88N×56°.63E, h15km, ML3.6, After THR*

*ISCJB **25** 14:04:55.8±1.2, 30°.53N±0°.07×57°.40E±0°.04, h10km, Error ellipse: s-maj=9.6km s-min=4.4km az=168.6*

*TEH **25** 14:05:00.5, 30°.54N×57°.37E, h32km*

ISC 25 14:04:56.3±1.1, 30°.43N±0°.06×57°.41E±0°.04, h10km, n10, σ0°66/13, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.72**	**232**	*e*Pn			**Pn**	**14 05 04.1**	**-8.4**
KRBR				*e*Sg			**Sg**	**14 05 13.1**	**-6.4**
IBAF	**Bafgh**	**1.96**	**307**	*e*Pn			**Pn**	**14 05 30.2**	**+0.6**
IBAF				*e*				14 05 32.8	
	comp=Z,2μm,0.1s								
IBAF				*e*Sg			**Sg**	**14 05 59.5**	**+0.1**
IKOO	**Kooshah**	**2.41**	**34**	*e*Pn			**Pn**	**14 05 36.6**	**+0.8**
IKOO				*e*Sg			**Sg**	**14 06 13.9**	**+0.1**
IKOO				*e*				14 06 19.7	
	comp=N,4μm,0.1s								
IMEH	**Mehriz**	**2.59**	**292**	*e*Pn			**Pn**	**14 05 39.1**	**+0.9**
IMEH				*e*Sg			**Sg**	**14 06 19.4**	**-0.1**
IMEH				*e*				14 06 21.9	
	comp=Z,918nm,0.2s								
ITEG	**Tejag**	**2.71**	**24**	*e*Sg			**Sg**	**14 06 23.0**	**-0.4**
ZHSF	**Zahedan**	**3.03**	**105**	*e*Pn			**Pn**	**14 05 43.0**	**-1.2**
IDAH	**Dahanechah**	**3.12**	**42**	*e*Sg			**Sg**	**14 06 36.5**	**+0.2**
ICHK	**Chekchek**	**3.15**	**306**	*e*Pn			**Pn**	**14 05 45.9**	**+0.1**
ICHK				*e*Sg			**Sg**	**14 06 36.2**	**-1.1**
ICHK				*e*				14 06 42.3	
	comp=Z,389nm,0.1s								
TABS	**Tabas**	**3.22**	**356**	*e*Pn			Px	14 05 29.6	
NASN	**Na'in**	**4.58**	**302**	*e*Pn			Px	14 05 42.8	

*ISCJB **25** 15:04:38.8±2.7, 22°.82S±0°.06×175°.25W±0°.04, h6km±16km, mb5.3/107, MS5.4/172, Error ellipse: s-maj=10.4km s-min=4.7km az=158.1*

*IDC **25** 15:04:39.3±0.5, 22°.79S×175°.24W, h0km, mb5.0/21, mb1 5.1/21, mb1mx5.0/23, mbtmp5.0/21, MS5.2/22, Ms1 5.2/22, ms1mx5.0/36, Error ellipse: s-maj=18.4km s-min=14.9km az=150.0*

*DJA **25** 15:04:40, 22°.75S×175°.37W, h10km, mb5.4/13*

*BJI **25** 15:04:43.5, 22°.46S×174°.82W, h37km, mB5.8/37, mb5.4/38, Ms5.5/40, Ms7 5.2/40*

*NEIC **25** 15:04:44.2±0.2, 22°.90S×175°.20W, h35km, mb5.3/69, MS5.4/127, MW5.6, Error ellipse: s-maj=9.5km s-min=4.6km az=152.0*

*GCMT **25** 15:04:45.1±0.1, 22°.94S×174°.54W, h18km, MW5.6, Moment Tensor Solution. s81,c158; s32,c34; Moment tensor: Scale 10^17 Nm; Mrr 2.16±.04; Mθθ -0.31±.02; Mφφ -1.85±.03; Mrθ 0.79±.07; Mrφ -0.99±.02; Mθφ 1.93±.07; Best double couple: M0 3.10000×10^17 NP1:φ 209.00000°, δ 24.00000°, λ 95.00000°. NP2:φ 23.00000°, δ 66.00000°, λ 88.00000°. Principal axes: T 2.9800, Plg68.0000°, Azm289.0000°; N 0.1700, Plg2.0000°, Azm24.0000°; P -3.1500, Plg21.0000°, Azm115.0000°; Data Used: II IU IC G CN. Surface waves: sta=111, comp=228, per= 50.*

*MOS **25** 15:04:48.8±1.3, 21°.46S×175°.27W, h33km, mb5.4/34, MS5.3/27 Error ellipse: s-maj=12.9km s-min=9.1km az=71.4*

ISC 25 15:04:42.6±3.0, 22°.82S±0°.06×175°.22W±0°.04, h20km±18km, h36km±1.9km; pP-P, n798, σ0°62/510, mb5.3/107, MS5.4/172, 169C-156D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**8.09**	**308**	*e*P			**Pn**	**15 06 44.9**	**+5.8**
	462nm,1.2s								
MSVF	**Nonsavu**	**8.09**	**308**	*e*P			**Pn**	**15 06 44.9**	**+5.8**
MSVF						pmax	pmax		
	comp=Z,462nm,1.2s								
MSVF	**Nonsavu**	**8.09**	**308**	Pn			**Pn**	**15 06 45.5**	**+6.5**
	comp=Z,1μm,0.8s,SNR=34								
AFI	**Afiamalu**	**9.45**	**21**	Pn			**Pn**	**15 06 49.3**	**-8.4**
	comp=Z,11nm,0.3s,baz=218,slow=1.2,SNR=19								
AFI				Sn			**Sn**	**15 08 26.0**	**-17**
	comp=Z,5.9nm,0.3s,baz=192,slow=20,SNR=2.3								
AFI	**Afiamalu**	**9.45**	**21**	Pn			**Pn**	**15 06 49.3**	**-8.4**
AFI				Sn			**Sn**	**15 08 26.0**	**-17**
AFI	**Afiamalu**	**9.45**	**21**	P			**Pn**	**15 06 49.3**	**-8.4**
AFI								15 08 26.0	
RAR	**Rarotonga**	**14.42**	**87**	Pn			**Pn**	**15 07 54.3**	**-11**
	comp=Z,21nm,0.3s,baz=262,slow=9.4,SNR=22								
RAR				Sn			Sn	15 10 14.9	-30
	comp=Z,4.1nm,0.3s,baz=141,slow=13,SNR=2.3								
RAR				LR			LR	15 12 38.4	
	comp=Z,10μm,19.6s,baz=276,slow=33								
RAR	**Rarotonga**	**14.42**	**87**	*e*P			**Pn**	**15 07 54.0**	**-12**
RAR				Sn			Sn	15 10 14.9	-30
RAR	**Rarotonga**	**14.42**	**87**	P			**Pn**	**15 07 54.3**	**-11**
RAR				pmax			pmax		
	comp=Z,21nm,0.3s								
RAR				MLR			MLR		
	comp=Z,10μm,19.6s								
URZ	**Urewera**	**16.73**	**201**	Pn			**Pn**	**15 08 29.2**	**-6.7**
	comp=Z,0.2nm,0.3s,baz=297,slow=4.5,SNR=3.4								
URZ				Sn			**Sn**	**15 11 26.8**	**-14**
	comp=Z,0.8nm,0.3s,baz=36,slow=19,SNR=5.3								
URZ	**Urewera**	**16.73**	**201**	*e*P			**Pn**	**15 08 32.9**	**-2.9**
URZ				Sn			**Sn**	**15 11 26.8**	**-14**
NORM	**Noumea**	**16.91**	**268**	*e*P			**Pn**	**15 08 44.6**	**+6.4**
DZM	**Mont Dzumac**	**16.96**	**269**	*e*P			**Pn**	**15 08 47.2**	**+8.3**
	comp=Z,210nm,0.9s								
DZM				*e*LR			LR	15 13 01.7	
	comp=Z,7μm,20.6s								
DZM	**Mont Dzumac**	**16.96**	**269**	*e*P			**Pn**	**15 08 44.3**	**+5.4**
TBI	**Tubuai**	**23.70**	**96**	*e*LQ				15 14 03.0	
	comp=Z,8μm,27.2s								
TBI				*e*LR			LR	15 15 22.8	
	comp=Z,8μm,30.2s								
PPT	**Papeete**	**24.62**	**82**	*e*LQ				15 14 34.1	
	comp=Z,11μm,25.5s								
PPT				*e*LR			LR	15 15 28.1	
	comp=Z,10μm,30.0s								
HNR	**Honiara**	**27.26**	**295**	P			**P**	**15 10 26.3**	**+0.5**
	comp=Z,26nm,0.7s,mb4.9,baz=68,slow=0.5,SNR=5.3								
HNR				LR			LR	15 20 02.7	
	comp=Z,2μm,18.6s,MS4.8,baz=159,slow=34								
HNR	**Honiara**	**27.26**	**295**	P			**P**	**15 10 26.3**	**+0.5**
HNR				LR			LR		
	comp=Z,3μm,20.0s,MS4.8								
HNR	**Honiara**	**27.26**	**295**	P			**P**	**15 10 26.3**	**+0.6**
HNR				MLR			MLR		
	comp=Z,3μm,20.0s,MS4.8								
ARMA	**Armidale**	**30.50**	**249**	*e*P			**P**	**15 10 55.9**	**+1.4**
ARMA	**Armidale**	**30.50**	**249**	*e*P			**P**	**15 10 55.9**	**+1.4**
	comp=Z,20nm,0.8s,mb5.0								
EIDS	**Eidsvold**	**30.82**	**258**	P			**P**	**15 10 57.0**	**-0.4**
	comp=Z,18nm,1.0s,mb4.9								
CNB	**Canberra Magne**	**33.19**	**240**	*e*P			**P**	**15 11 19.6**	**+1.6**
	comp=Z,61nm,0.9s,mb5.5								
CAN	**Canberra**	**33.48**	**240**	PFAKE				15 11 30.0	+9.4
CAN				LR			LR		
	comp=Z,5μm,19.0s,MS5.2								
CTA	**Charters Tower**	**35.89**	**267**	P			**P**	**15 11 40.2**	**-1.4**
	comp=Z,22nm,0.5s,mb5.3,baz=93,slow=12,SNR=36								
CTA	**Charters Tower**	**35.89**	**267**	*e*P			**P**	**15 11 41.3**	**-0.3**
	comp=Z,16nm,0.6s,mb5.1								
CTA	**Charters Tower**	**35.89**	**267**	P			**P**	**15 11 40.2**	**-1.4**
CTA	**Charters Tower**	**35.89**	**267**	P			**P**	**15 11 40.2**	**-1.4**
CTAO	**Charters Tower**	**35.89**	**267**	P			**P**	**15 11 41.3**	**-0.3**
	comp=Z,31nm,0.8s,mb5.3								
CTAO				LR			LR		
	comp=Z,2μm,19.0s,MS5.0								
CTAO	**Charters Tower**	**35.89**	**267**	P			**P**	**15 11 41.3**	**

comp=Z,8.3nm,0.4s,mb5.0
KAKA Kakadu 50.62 272 *e*P **P** 15 13 39.6 -1.1
comp=Z,25nm,0.5s,mb5.4
MIDW Midway 50.78 358 PFAKE
MIDW LR LR 15 13 50.0 +8.5
comp=Z,3µm,20.0s,MS5.4
FORT Forrest 50.79 248 *e*P **P** **15 13 40.9 -0.8**
comp=Z,38nm,0.5s,mb5.6
FORT Forrest 50.79 248 *e*P **P** **15 13 40.6 -1.2**
comp=Z,50nm,0.7s,mb5.5
GUMO Guam 53.26 309 PFAKE
GUMO LR LR 15 14 10.0 +10
comp=Z,1µm,20.0s,MS4.9
FITZ Fitzroy Crossi 55.30 263 LR LR 15 38 13.7
comp=Z,4µm,19.2s,MS5.5,baz=93,slow=36
FITZ Fitzroy Crossi 55.30 263 *e*P **P** **15 14 14.8 -0.4**
comp=Z,26nm,0.9s,mb5.3
FITZ Fitzroy Crossi 55.30 263 *e*P **P** **15 14 14.8 -0.4**
comp=Z,17nm,0.8s,mb5.1
SBA Scott Base 55.75 185 *e*P **P** **15 14 20.3 +2.8**
comp=Z,142nm,2.0s,mb5.7
SBA Scott Base 55.75 185 *e*P **P** **15 14 20.3 +2.8**
SBA pmax pmax
comp=Z,141nm,2.0s,mb5.7
VNDA Vanda 55.85 186 *e*P **P** **15 14 19.7 +1.5**
comp=Z,23nm,1.5s,mb5.0
VNDA Vanda 55.85 186 *e*P **P** **15 14 19.7 +1.4**
VNDA pmax pmax
comp=Z,23nm,1.5s
RPN Rapa Nui 59.28 109 PFAKE
RPN LR LR 15 14 50.0 +6.8
comp=Z,2µm,19.0s,MS5.3
KLBR Kellerberrin 59.44 246 *e*P **P** **15 14 43.9 -0.3**
comp=Z,36nm,0.9s,mb5.4
NWAO Narrogin (SRO) 59.66 244 LR LR 15 40 20.3
comp=Z,2µm,18.1s,MS5.4,baz=350,slow=36
MBWA Marble Bar 59.88 258 *e*P **P** **15 14 46.5 -0.9**
MBWA LR LR
comp=Z,2µm,19.0s,MS5.2
CASY Casey 62.99 206 PFAKE
CASY LR LR 15 15 20.0 +12
comp=Z,1µm,19.0s,MS5.1
CBIJ Chichi jima 64.48 318 LR LR 15 39 41.2
comp=Z,2µm,18.3s,MS5.3,baz=305,slow=33
DAV Davao City (W) 65.05 290 PFAKE
DAV LR LR 15 15 30.0 +7.9
comp=Z,1µm,20.0s,MS5.1
QSPA South Pole Qui 67.26 180 P **P** **15 15 36.6 +1.4**
comp=Z,12nm,0.9s,mb4.9,baz=35,slow=3.1,SNR=12
QSPA LR LR 15 41 47.0
comp=Z,1µm,19.9s,MS5.2,baz=48,slow=33
QSPA South Pole Qui 67.26 180 *e*P **P** **15 15 35.5 +0.3**
comp=Z,190nm,1.9s,mb5.8
KKM Kota Kinabalu 72.84 284 PFAKE
KKM LR LR 15 16 20.0 +9.5
comp=Z,466nm,19.0s,MS4.8
MJAR Matsushiro Arr 73.61 322 P **P** **15 16 14.1 -0.4**
comp=Z,12nm,0.7s,mb4.9,baz=165,slow=6.2,SNR=31
MJAR LR LR 15 47 28.1
comp=Z,470nm,18.7s,MS4.8,baz=140,slow=35
MJAR Matsushiro Arr 73.61 322 P **P** **15 16 14.1 -0.4**
MJAR Matsushiro Arr 73.61 322 P **P** **15 16 14.1 -0.4**
MAJO Matsushiro 73.61 322 PFAKE
MAJO LR LR 15 16 30.0 +15
comp=Z,1µm,20.0s,MS5.2
MAT Matsushiro 73.61 322 P **P** **15 16 13.7 -0.8**
MAT *e*S S 15 25 46.0 +2.2
ERM Erimo 75.12 329 PFAKE
ERM LR LR 15 16 30.0 +6.8
comp=Z,2µm,20.0s,MS5.5
YUK Yuzh-Kuril'sk 75.48 332 *i* P **P** **15 16 24.3 -0.9**
YUK SSS 15 33 56.1
YUK pmax pmax
comp=Z,407nm,1.6s,mb6.1
YUK pmax pmax
comp=N,195µm,1.7s
YUK pmax pmax
comp=Z,29µm,1.7s
YUK pmax pmax
comp=E,418µm,1.7s
FX1 Attu Island--F 76.06 353 LR LR 15 47 38.6
comp=E,2µm,18.2s,MS5.5,baz=62,slow=34
KSM Kuching 76.28 278 *e*P **P** **15 16 31.0 +0.4**
comp=E,15nm,0.9s,mb4.9
KSM LR LR
comp=Z,764nm,19.0s,MS5.0
KSM Kuching 76.28 278 P **P** **15 16 31.3 +0.7**
comp=Z,772nmcomp=Z,63nm,0.9s,mb5.5
ASAJ Asahikawa 77.00 330 P **P** **15 16 34.1 +0.3**
comp=Z,36nm,0.8s,mb5.3,baz=228,slow=11,SNR=16
ASAJ LR LR 15 47 45.9
comp=Z,2µm,19.4s,MS5.5,baz=168,slow=34
ASAJ Asahikawa 77.00 330 *e*P **P** **15 16 35.0 +1.1**
comp=Z,17nm,0.9s,mb5.0
ASAJ Asahikawa 77.00 330 P **P** **15 16 34.2 +0.3**
ASAJ pmax pmax
comp=Z,36nm,0.9s
OSI Osito Adit 78.35 45 ⇓P **P** **15 16 41.6 -0.1**
baz=78
BAR Barrett 78.54 47 *e*P **P** **15 16 43.1 +0.4**
comp=Z,22nm,1.6s,mb4.8
MURC Murrieta 78.73 46 ⇑P **P** **15 16 43.2 -0.6**
baz=79
BFSC Mount Baldy Ra 78.82 45 ⇑P **P** **15 16 43.9 -0.4**
baz=79
MONP Monument Peak 78.83 47 ⇓P **P** **15 16 44.4 +0.1**
baz=79
PET Petropavlovsk 78.87 344 *e*P **P** **15 16 42.8 -1.2**
PET pmax pmax
comp=Z,700nm,5.7s
PET MLR MLR
comp=Z,2µm,17.0s,MS5.5
PET MLR MLR
comp=Z,1µm,17.0s
VES Vestal, Richgr 78.88 43 ⇓P **P** **15 16 44.7 +0.2**
baz=79
DVTC Desert V Tower 78.92 48 ⇑P **P** **15 16 44.9 +0.1**
baz=79
EDW2 Edwards Air Fo 78.99 45 ⇑P **P** **15 16 44.7 -0.5**
baz=79,SNR=7.2
YSS Yuzh-Sakhalins 79.13 332 *e*P **P** **15 16 46.7 +1.1**
comp=Z,49nm,0.9s,mb5.4
YSS Yuzh-Sakhalins 79.13 332⇓ *e*P **P** **15 16 46.6 +1.0**
YSS *e* 15 16 54.8
YSS *e* 15 17 04.6
YSS *e* 15 19 46.0
YSS *e*S S 15 26 46.0 +2.0
YSS *e*PS 15 27 16.0
YSS *e* 15 27 33.0
ISA Isabella 79.16 44 ⇓P **P** **15 16 45.4 -0.7**
baz=79,SNR=6.5
ISA Isabella 79.16 44 *e*P **P** **15 16 46.2 +0.2**
comp=Z,57nm,1.6s,mb5.2
ISA Isabella 79.16 44 *e*P **P** **15 16 46.2 +0.1**
ISA pmax pmax
comp=Z,57nm,1.6s,mb5.2
PEA0B Petropavlovsk- 79.19 344 *e*P **P** **15 16 46.3 +0.6**
PETK Petropavlovsk- 79.19 344 P **P** **15 16 45.9 +0.1**
comp=Z,24nm,0.8s,mb5.2,baz=135,slow=7.5,SNR=21
PETK LR LR 15 52 23.0
comp=Z,603nm,18.5s,MS5.0,baz=150,slow=36
PETK Petropavlovsk- 79.19 344 P **P** **15 16 45.9 +0.1**
PETK Petropavlovsk- 79.19 344 P **P** **15 16 45.9 +0.1**
PFO Pinyon Flat Ob 79.24 47 ⇑P **P** **15 16 46.5 0.0**
baz=79
PFO Pinyon Flat Ob 79.24 47 *e*P **P** **15 16 46.4 -0.1**
comp=Z,50nm,1.9s,mb5.1
PFO LR LR
comp=Z,2µm,19.0s,MS5.4
PFO Pinyon Flat Ob 79.24 47 *e*P **P** **15 16 46.4 -0.1**
PFO pmax pmax
comp=Z,50nm,1.9s,mb5.1
PFO MLR MLR
comp=Z,2µm,19.0s,MS5.4
SWSC Sam W. Stewart 79.29 47 ⇑P **P** **15 16 46.9 +0.1**
baz=80
CMB Columbia Colle 79.46 41 *e*P **P** **15 16 47.5 -0.1**
comp=Z,12nm,1.1s,mb4.8
CMB Columbia Colle 79.46 41 *e*P **P** **15 16 47.5 -0.1**
CMB pmax pmax
comp=Z,13nm,1.1s,mb4.8
LRMC Laurel Mountai 79.55 44 ⇑P **P** **15 16 48.0 -0.2**
baz=80,SNR=8.3
BELC Belle Mtn. Jos 79.78 46 ⇑P **P** **15 16 49.2 -0.3**
baz=80,SNR=8.3
WDC Whiskeytown Da 79.86 38 *e*P **P** **15 16 49.5 -0.2**
comp=Z,61nm,1.6s,mb5.3
WDC Whiskeytown Da 79.86 38 *e*P **P** **15 16 49.5 -0.2**
WDC pmax pmax
comp=Z,61nm,1.6s,mb5.3
CWC Cottonwood Cre 79.89 43 ⇓P **P** **15 16 50.2 +0.2**
baz=80
BC3 Big Chuckawall 79.94 47 ⇓P **P** **15 16 50.2 -0.2**
baz=80
GLA Glamis 80.01 48 ⇑P **P** **15 16 50.7 -0.1**
baz=80
GLA Glamis 80.01 48 *e*P **P** **15 16 50.7 -0.1**
comp=Z,54nm,1.6s,mb5.2
GLA Glamis 80.01 48 *e*P **P** **15 16 50.7 -0.1**
GLA pmax pmax
comp=Z,54nm,1.6s,mb5.2
GSC Goldstone 80.02 45 ⇓P **P** **15 16 50.6 -0.1**
baz=80,SNR=6.3
GSC Goldstone 80.02 45 *e*P **P** **15 16 50.2 -0.5**
comp=Z,24nm,1.5s,mb4.9
GSC Goldstone 80.02 45 *e*P **P** **15 16 50.2 -0.5**
GSC pmax pmax
comp=Z,24nm,1.5s,mb4.9
MPMC Manual Prospec 80.03 44 ⇓P **P** **15 16 50.8 0.0**
baz=80,SNR=14
HEC Hector,Ludlow 80.05 46 ⇓P **P** **15 16 51.0 +0.1**
baz=80
DAC Darwin (Calif) 80.10 44 PFAKE
DAC LR LR 15 17 00.0 +8.8
comp=Z,2µm,21.0s,MS5.4
MLAC Mammoth Lakes 80.15 42 ⇓P **P** **15 16 51.5 +0.1**
baz=80
MAW Mawson 80.25 199 P **P** **15 16 53.3 +1.8**
comp=Z,9.1nm,0.8s,mb4.7,baz=146,slow=3.1,SNR=8.0
MAW LR LR 15 54 05.0
comp=Z,2µm,18.4s,MS5.5,baz=115,slow=37
MAW Mawson 80.25 199 *e*P **P** **15 16 53.2 +1.7**
comp=Z,17nm,1.4s,mb4.8
MAW Mawson 80.25 199 *e*P **P** **15 16 52.2 +0.6**
comp=Z,14nm,1.4s,mb4.7
MAW LR LR
comp=Z,3µm,19.0s,MS5.7
KSRS Korea Array 80.33 317 P **P** **15 16 53.4 +1.0**
comp=Z,4.1nm,0.7s,mb4.5,baz=129,slow=6.0,SNR=16
KSRS LR LR 15 48 50.2
comp=Z,1µm,19.0s,MS5.2,baz=135,slow=33
KSRS Korea Array 80.33 317 P **P** **15 16 53.4 +1.0**
KSAR Wonju Array Be 80.35 317 P **P** **15 16 53.4 +0.9**
KSAR Wonju Array Be 80.35 317 P **P** **15 16 53.4 +0.9**
IRM Iron Mountain 80.44 47 ⇑P **P** **15 16 52.9 -0.2**
baz=81,SNR=12
GMRC Granite Mounta 80.46 46 ⇓P **P** **15 16 53.1 0.0**
baz=81
Y12C Blythe 80.62 47 ⇓P **P** **15 16 54.1 0.0**
baz=81
WCN Washoe City 80.65 40 ⇑P **P** **15 16 54.7 +0.7**
baz=81
WCN Washoe City 80.65 40 *e*P **P** **15 16 53.4 -0.6**
comp=Z,27nm,1.4s,mb5.0
WCN Washoe City 80.65 40 *e*P **P** **15 16 53.4 -0.6**
WCN pmax pmax
comp=Z,27nm,1.4s,mb5.0
TUQ Turquoise Moun 80.67 45 ⇓P **P** **15 16 54.3 0.0**
baz=81,SNR=9.7
GRAC Grapevine Rang 80.68 43 ⇑P **P** **15 16 55.0 +0.7**
baz=81
FURC Furnace Creek, 80.69 44 ⇓P **P** **15 16 54.3 0.0**
baz=81
SHOC Shoshone 80.72 45 ⇑P **P** **15 16 53.9 -0.6**
baz=81,SNR=6.2
214A Organ Pipe Nat 80.79 50 ⇓P **P** **15 16 54.3 -0.7**
baz=81
Z13A Yuma Proving G 80.90 48 ⇑P **P** **15 16 55.4 -0.1**
baz=81,SNR=7.1
NVAR Mina Array Bea 80.98 42 P **P** **15 16 55.4 -0.4**
comp=Z,14nm,1.2s,mb4.8,baz=223,slow=7.9,SNR=35
NVAR LR LR 15 49 55.2
comp=Z,2µm,18.0s,MS5.4,baz=127,slow=34
NVAR Mina Array Bea 80.98 42 P **P** **15 16 55.4 -0.4**
LDFC Landfair 81.00 46 *e*P **P** **15 16 56.1 +0.1**
comp=Z,67nm,1.5s,mb5.3
SSE Sheshan 81.15 309 P **P** **15 16 54.3 -2.6**
SSE S S 15 27 10.0 +4.1
SSE pmax pmax
comp=Z,34nm,0.7s,mb5.4
SSE pmax pmax
comp=Z,360nm,9.7s
SSE LR LR
comp=N,420nm,18.7s,MS5.0
SSE LR LR
comp=E,570nm,18.9s,MS5.0
SSE LR LR
comp=Z,790nm,16.7s,MS5.1
INCN Inchon 81.16 317 PFAKE
INCN LR LR 15 17 10.0 +13
comp=Z,966nm,19.0s,MS5.2
PDMCI Parker Dam,Lak 81.20 47 ⇓P **P** **15 16 57.2 0.0**
baz=81
Z14A Wintersburg 81.48 49 ⇓P **P** **15 16 58.1 -0.5**
baz=82
VLA Vladivostok 81.66 324*c* *i*P **P** **15 16 59.9 +0.6**
VLA pmax pmax
comp=Z,28nm,1.0s,mb5.2
Y14A Wickenburg 81.77 48 ⇓P **P** **15 17 00.1 0.0**
baz=82
W13A Hualapai Mount 81.83 47 ⇓P **P** **15 17 00.3 -0.1**
baz=82
MOD Modoc 82.00 38 *e*P **P** **15 17 00.3 -0.8**
comp=Z,53nm,1.6s,mb5.2
217A Green Valley 82.11 51 ⇓P **P** **15 17 02.2 +0.3**
baz=82
K05A Summer Lake 82.20 37 ⇑P **P** **15 17 02.3 +0.1**
baz=82
Y15A Casa Rosa Ranc 82.24 48 ⇑P **P** **15 17 02.7 +0.1**
baz=82,SNR=8.9
TUC Tucson 82.42 50 *e*P **P** **15 17 03.7 +0.1**
comp=Z,33nm,1.6s,mb5.0
TUC Tucson 82.42 50 *e*P **P** **15 17 03.7 +0.1**
TUC pmax pmax
comp=Z,33nm,1.6s,mb5.0
KDAK Kodiak Island 82.50 12 P **P** **15 17 04.1 +0.8**
comp=Z,20nm,1.1s,mb5.1,baz=135,slow=10.0,SNR=3.5
KDAK Kodiak Island 82.50 12 P **P** **15 17 04.1 +0.8**
KDAK LR LR
comp=Z,2µm,20.0s,MS5.5
KDAK Kodiak Island 82.50 12 P **P** **15 17 04.1 +0.7**
KDAK MLR MLR
comp=Z,2µm,20.0s,MS5.5
318A Bisbee 82.52 52 ⇑P **P** **15 17 03.6 -0.5**
baz=83
117A Oracle 82.59 50 ⇑P **P** **15 17 04.4 -0.1**
baz=83
R11A Troy Canyon, C 82.62 43 ⇓P **P** **15 17 04.2 -0.3**
baz=83
218A Dragoon 82.77 51 ⇓P **P** **15 17 05.1 -0.2**
baz=83
Y16A Circle Bar Ran 82.79 49 ⇓P **P** **15 17 05.5 +0.1**
baz=83,SNR=9.0
H04A Detroit Lake 82.79 35 ⇑P **P** **15 17 05.4 +0.2**
baz=83
BMN Battle Mountai 82.88 41 *e*P **P** **15 17 03.9 -1.9**
comp=Z,29nm,1.4s,mb5.1
BMN LR LR
comp=Z,2µm,19.0s,MS5.5
BMN Battle Mountai 82.88 41 *e*P **P** **15 17 03.9 -1.9**
BMN pmax pmax
comp=Z,29nm,1.4s,mb5.1
BMN MLR MLR
comp=Z,2µm,19.0s,MS5.5
X16A Lo Mia Camp, P 83.11 48 ⇑P **P** **15 17 07.5 +0.3**
baz=83,SNR=7.2
Y17A Roosevelt 83.13 49 ⇑P **P** **15 17 07.4 +0.2**
baz=83
118A Homack Ranch, 83.18 51 ⇓P **P** **15 17 07.6 +0.1**
baz=83,SNR=5.4
WVOR Wild Horse Val 83.29 38 *e*P **P** **15 17 07.3 -0.5**
comp=Z,24nm,1.3s,mb5.1
WVOR Wild Horse Val 83.29 38 *e*P **P** **15 17 07.3 -0.5**
WVOR pmax pmax
comp=Z,24nm,1.3s,mb5.1
219A White Tail Can 83.34 51 ⇑P **P** **15 17 08.1 -0.3**
baz=84
COCO West Island 83.49 260 PFAKE
COCO LR LR 15 17 20.0 +10
comp=Z,899nm,19.0s,MS5.2
HOOD Mount Hood Mea 83.50 35 *e*P **P** **15 17 09.1 +0.2**
comp=Z,8.1nm,1.0s,mb4.7
X17A Forest Lakes 83.50 49 ⇑P **P** **15 17 09.1 -0.1**
baz=84
VIPM Ingram Point 83.52 36 P **P** **15 17 09.1 +0.2**
VIPM Ingram Point 83.52 36 P **P** **15 17 09.1 +0.1**
R13A O'Grain Ranch, 83.55 44 ⇑P **P** **15 17 09.7 +0.3**
baz=84
CCUT Cedar City 83.58 45 *e*P **P** **15 17 07.2 -2.3**
comp=Z,33nm,1.3s,mb5.3
VFP Flag Point 83.60 35 P **P** **15 17 09.7 +0.3**
U15A North Rim 83.65 46 ⇑P **P** **15 17 10.4 +0.5**
baz=84,SNR=29
ARUT Antelope Range 83.67 45 *e*P **P** **15 17 10.7 +0.7**
comp=Z,33nm,1.2s,mb5.3
ARUT Antelope Range 83.67 45 *e*P **P** **15 17 10.7 +0.8**
ARUT pmax pmax
comp=Z,33nm,1.2s,mb5.3
HABR Khabarovsk 83.74 329*ce*P **P** **15 17 09.3 -0.7**
HABR *e**PP pP 15 17 19.3 +2.7
HABR *e**SP sP 15 17 23.6 +4.6
HABR *e* 15 20 22.5
HABR PPP 15 22 15.9
HABR *e*S S 15 27 28.8 -2.9
HABR pmax pmax
comp=Z,119nm,3.0s
HABR MLR MLR
comp=Z,1µm,18.0s,MS5.2
Y18A Canyon Day Jun 83.74 50 ⇓P **P** **15 17 10.5 +0.2**
baz=84
WUAZ Wupatki 83.76 47 ⇓P **P** **15 17 10.9 +0.5**
baz=84,SNR=6.9
WUAZ Wupatki 83.76 47 *e*P **P** **15 17 10.3 -0.1**
comp=Z,55nm,1.6s,mb5.4
220A Playas Peak, P 83.82 52 ⇑P **P** **15 17 10.6 -0.3**
baz=84,SNR=11
I07A Izee 83.85 37 ⇓P **P** **15 17 10.8 +0.1**
baz=84
TDL Tradedollar La 83.89 34 P **P** **15 17 11.7 +0.8**
MDJ Mudanjiang 83.90 324 P **P** **15 17 11.5 +0.6**
MDJ pP pP 15 17 21.0 +3.4
MDJ sP sP 15 17 24.8 +4.9
MDJ S S 15 27 33.3 -0.2
MDJ sS sS 15 27 49.5 +5.1
MDJ pmax pmax
comp=Z,26nm,1.3s,mb5.2
MDJ pmax pmax
comp=Z,640nm,6.8s
MDJ LR LR
comp=N,650nm,17.7s,MS5.2
MDJ LR LR
comp=E,770nm,17.4s,MS5.2
MDJ LR LR
comp=Z,2µm,19.0s,MS5.4
MDJ Mudanjiang 83.90 324 *e*P **P** **15 17 10.7 -0.2**
comp=Z,29nm,0.8s,mb5.5
MDJ LR LR
comp=Z,2µm,20.0s,MS5.4
J08A Circle Bar Ran 83.97 38 ⇓P **P** **15 17 11.5 +0.2**
baz=84
W17A Winslow 83.97 48 ⇑P **P** **15 17 11.5 -0.1**
baz=84
G06A Carlson Farm, 83.98 35 ⇓P **P** **15 17 11.6 +0.2**
baz=84
120A U Bar Ranch, L 84.08 51 ⇑P **P** **15 17 12.3 +0.1**
baz=84,SNR=6.1
X18A Snowflake 84.20 49 ⇓P **P** **15 17 12.8 0.0**
baz=84
U16A Tuba City 84.27 47 ⇑P **P** **15 17 13.3 +0.2**
baz=84,SNR=7.3
Y19A Nutrioso 84.38 50 ⇑P **P** **15 17 13.7 0.0**
baz=84,SNR=9.8
GNW Green Mountain 84.41 33 *e*P **P** **15 17 11.7 -1.7**
comp=Z,12nm,0.8s,mb5.1
Z20A Nine Sixteen R 84.41 51 ⇑P **P** **15 17 14.3 +0.5**
baz=85,SNR=11
221A Mesquite Ranch 84.42 52 ⇑P **P** **15 17 14.1 +0.2**
baz=85
D05A Enumclaw 84.57 33 ⇑P **P** **15 17 14.8 +0.5**
baz=85
X19A St. Johns 84.61 49 ⇓P **P** **15 17 15.1 +0.3**
baz=85
W18A Petrified Fore 84.67 49 ⇓P **P** **15 17 15.5 +0.4**
baz=85
121A Cookes Peak, D 84.69 52 ⇑P **P** **15 17 15.3 +0.1**
baz=85
S16A Weppner Ranch, 84.84 46 ⇑P **P** **15 17 16.0 +0.1**
baz=85
U17A Shonto 84.84 47 ⇑P **P** **15 17 16.2 +0.3**
baz=85,SNR=6.2
V18A Ganado 84.85 48 ⇑P **P** **15 17 16.0 +0.1**
baz=85,SNR=12
MVU Marysvale 84.87 45 PFAKE
MVU LR LR 15 17 30.0 +14
comp=Z,1µm,20.0s,MS5.3
MSU Marysvale 84.90 45 *e*P **P** **15 17 16.4 +0.3**
comp=Z,45nm,1.5s,mb5.4
MSU Marysvale 84.90 45 *e*P **P** **15 17 16.5 +0.4**
MSU pmax pmax
comp=Z,45nm,1.5s,mb5.4
W19A Sanders 84.91 49 ⇑P **P** **15 17 16.5 +0.3**
baz=85,SNR=5.6
G08A Pilot Rock 84.92 36 ⇑P **P** **15 17 15.9 -0.2**
baz=85
T17A Navajo Res., N 84.96 46 ⇓P **P** **15 17 17.0 +0.5**
baz=85,SNR=13
Y20A Horse Springs, 84.98 50 ⇓P **P** **15 17 16.8 +0.1**
baz=85,SNR=22
SYO Syowa Base 85.02 192⇓ *e*P **P** **15 17 15.0 -1.3**
Z21A St. Cloud Mine 85.17 51 ⇓P **P** **15 17 17.7 +0.1**
baz=85
DL2 Dalian 85.19 316⇑ *i*P **P** **15 17 18.0 +0.4**
DL2 S S 15 27 44.0 -2.6
DL2 pmax pmax
comp=Z,20nm,0.9s,mb5.2
DL2 pmax pmax
comp=Z,290nm,5.8s
DL2 LR LR
comp=N,170nm,18.9s,MS4.9
DL2 LR LR
comp=E,360nm,16.3s,MS4.9
DL2 LR LR
comp=Z,330nm,15.7s,MS4.8
R16A Teasdale 85.22 45 ⇑P **P** **15 17 17.8 0.0**
baz=85,SNR=8.1
X20A Quemado 85.22 50 ⇑P **P** **15 17 18.5 +0.6**
baz=85
E07A Sunnyside 85.26 35 ⇑P **P** **15 17 17.8 +0.1**
baz=86
U18A Rough Rock, Ch 85.28 47 ⇑P **P** **15 17 18.5 +0.4**
baz=85,SNR=13
S17A Black Ridge (B 85.31 46 ⇓P **P** **15 17 18.0 -0.3**
baz=86,SNR=16
HAWA Hanford 85.32 35 P **P** **15 17 15.7 -2.3**
HAWA LR LR
comp=Z,67nm,1.6s,mb5.5
comp=Z,3µm,19.0s,MS5.7
P15A Leamington 85.43 44 ⇑P **P** **15 17 19.0 +0.2**
baz=86
DUG Dugway 85.45 43 ⇓P **P** **15 17 19.1 +0.2**
baz=86
DUG Dugway 85.45 43 *e*P **P** **15 17 18.4 -0.5**
comp=Z,14nm,1.5s,mb4.9
DUG LR LR
comp=Z,1µm,20.0s,MS5.2
DUG Dugway 85.45 43 *e*P **P** **15 17 18.4 -0.5**
DUG pmax pmax
comp=Z,14nm,1.5s,mb4.9
DUG MLR MLR
comp=Z,1µm,20.0s,MS5.2
V19A Window Rock 85.46 48 ⇓P **P** **15 17 19.1 0.0**
baz=86
MFID Camas Ranch 85.52 39 ⇑P **P** **15 17 19.3 +0.2**
baz=86
MFID Camas Ranch 85.52 39 *e*P **P** **15 17 17.6 -1.5**
comp=Z,20nm,1.3s,mb5.2
Y21A Point of Rocks 85.53 50 ⇓P **P** **15 17 20.1 +0.7**
baz=86,SNR=13
W20A Ramah 85.53 49 ⇑P **P** **15 17 19.6 +0.3**
baz=86,SNR=13
BMO Blue Mountains 85.56 37 *e*P **P** **15 17 18.9 -0.4**
comp=Z,27nm,1.7s,mb5.2
BMO LR LR
comp=Z,2µm,19.0s,MS5.5
SNAA Sanae 85.61 178 *e* P **P** **15 17 15.7 -3.6**
SNAA Sanae 85.61 178 *e*P **P** **15 17 15.4 -3.9**
comp=Z,54nm,1.2s,mb5.7
E08A Dider Farm, El 85.64 35 ⇓P **P** **15 17 19.9 +0.3**
baz=86
SNY Shenyang 85.64 319 ⇓P **P** **15 17 21.5 +1.7**
SNY S S 15 27 48.3 -2.6

SNY pmax pmax
comp=Z,23nm,0.6s,mb5.6
SNY pmax pmax
comp=Z,840nm,8.0s
SNY LR LR
comp=N,480nm,19.6s,MS5.1
SNY LR LR
comp=E,600nm,19.1s,MS5.1
SNY LR LR
comp=Z,800nm,18.6s,MS5.1
VNA3 Neumayer Olymp 85.65 175 *e* **P 15 17 19.5 0.0**
Z22A Elephant Butte 85.65 51 ⇓P **P 15 17 20.1 0.0**
baz=86,SNR=10
U19A Dine' College, 85.66 48 ⇓P **P 15 17 19.9 -0.1**
baz=86,SNR=11
T18A Mexican Hat 85.66 47 ⇑P **P 15 17 20.2 +0.2**
baz=86,SNR=32
X21A Alamocita Cree 85.68 50 ⇓P **P 15 17 20.4 +0.2**
baz=86,SNR=13
ETW Entiat 85.69 34 P **P 15 17 19.9 +0.1**
CN2 Changchun 85.71 321 *e*P **P 15 17 20.8 +0.7**
CN2 *e*pP pP 15 17 31.5 +4.8
CN2 *e*sP sP 15 17 39.0 +10
CN2 *e*S S 15 27 51.3 -0.2
CN2 SS SS 15 33 31.0 +2.1
CN2 pmax pmax
comp=Z,10.0nm,1.1s,mb5.0
CN2 pmax pmax
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,500nm,17.0s,MS5.2
CN2 LR LR
comp=E,600nm,17.0s,MS5.2
CN2 LR LR
comp=Z,900nm,17.0s,MS5.2
O15A The Old Anders 85.71 43 ⇓P **P 15 17 20.6 +0.5**
baz=86
A05A Maple Falls 85.74 32 ⇑P **P 15 17 20.7 +0.7**
baz=86
R17A Hanksville Air 85.80 45 ⇑P **P 15 17 20.4 -0.2**
baz=86,SNR=8.5
PLCA Paso Flores 85.81 133 LR LR 15 48 16.7
comp=Z,1μm,19.1s,MS5.3,baz=231,slow=30
324A Moseley Ranch, 85.82 54 ⇓P **P 15 17 20.5 -0.4**
baz=86,SNR=9.2
KLR Kul'dur 85.84 328 *e*P **P 15 17 16.8 -3.8**
KLR *e*S S 15 27 47.0 -5.5
KLR pmax pmax
comp=Z,300nm,2.8s,mb6.0
KLR pmax pmax
comp=Z,2μm,11.0s
425A Indio Mountain 85.87 54 ⇓P **P 15 17 20.9 -0.3**
baz=86,SNR=9.2
S18A Hurst Farm, Bl 85.88 46 ⇑P **P 15 17 20.7 -0.4**
baz=86
WHN Wuhan 85.89 305 ⇑P **P 15 17 22.0 +0.7**
WHN S S 15 27 50.5 -3.4
WHN pmax pmax
comp=Z,1μm,7.7s
WHN LR LR
comp=N,2μm,15.4s,MS5.7
WHN LR LR
comp=E,1μm,15.3s,MS5.7
WHN LR LR
comp=Z,3μm,15.6s,MS5.8
V20A Brimhall 85.91 48 ⇓P **P 15 17 21.3 0.0**
baz=86
626A Big Bend Ranch 85.91 56 ⇓P **P 15 17 21.1 -0.4**
baz=86,SNR=11
TMUT Trail Mountain 85.96 44 *e*P **P 15 17 20.8 -0.6**
comp=Z,145nm,1.8s,mb5.9
IPM Ipoh 85.97 277 P **P 15 17 24.2 +2.1**
comp=Z,961nmcomp=Z,47nm,0.9s,mb5.7
Y22A Socorro 86.00 51 ⇓P **P 15 17 21.7 -0.1**
baz=86
MNTX Cornudas Mount 86.02 53 ⇓P **P 15 17 21.4 -0.5**
baz=86,SNR=17
MNTX Cornudas Mount 86.02 53 *e*P **P 15 17 21.4 -0.5**
comp=Z,27nm,1.5s,mb5.3
MNTX LR LR
comp=Z,978nm,20.0s,MS5.2
T19A Beclabito 86.07 47 ⇑P **P 15 17 22.2 +0.2**
baz=86
224A Cornudas Mount 86.11 53 ⇑P **P 15 17 22.3 0.0**
baz=86,SNR=12
LENM Lemitar 86.11 51 *e*P **P 15 17 21.9 -0.4**
comp=Z,27nm,1.4s,mb5.3
VNA2 Neumayer--Watz 86.12 176 *e* **P 15 17 22.1 +0.3**
E09A Wood Farm, Sta 86.14 36 ⇑P **P 15 17 22.5 +0.4**
baz=86
I12A Atlanta 86.15 39 ⇓P **P 15 17 22.4 +0.2**
baz=86
TXAR Lajitas Array 86.17 56 P **P 15 17 21.4 -1.3**
comp=Z,8.8nm,1.1s,mb4.9,baz=217,slow=5.6,SNR=35
TXAR LR LR 15 51 51.3
comp=Z,1μm,18.2s,MS5.4,baz=240,slow=33
TXAR Lajitas Array 86.17 56 P **P 15 17 21.4 -1.3**
TXAR Lajitas Array 86.17 56 P **P 15 17 21.4 -1.3**
325A Bean Ranch, Si 86.17 54 ⇓P **P 15 17 21.8 -0.8**
baz=86,SNR=9.6
U20A Newcomb 86.17 48 ⇓P **P 15 17 22.8 +0.3**
baz=86
Z23A Rita Site, Whi 86.18 52 ⇑P **P 15 17 22.7 0.0**
baz=86
526A Mary Lane Ranc 86.19 55 ⇑P **P 15 17 22.2 -0.6**
baz=86,SNR=18
L14A Malta 86.24 41 ⇑P **P 15 17 22.7 0.0**
baz=86
F10A Beach Ranch, E 86.30 36 ⇓P **P 15 17 22.8 -0.1**
baz=86
SRU San Rafael 86.31 45 ⇑P **P 15 17 22.8 -0.4**
baz=86,SNR=11
SRU San Rafael 86.31 45 *e*P **P 15 17 23.1 -0.1**
comp=Z,34nm,1.3s,mb5.4
SRU *e* 15 17 52.5
SRU San Rafael 86.31 45 *e*P **P 15 17 23.1 0.0**
SRU pmax pmax
comp=Z,34nm,1.3s,mb5.4
R18A Canyonlands Na 86.32 46 ⇓P **P 15 17 22.7 -0.5**
baz=86,SNR=16
VNA1 Neumayer--Stat 86.33 176 *e* **P 15 17 24.3 +1.5**
BNM Barren Site 86.35 51 P **P 15 17 23.3 -0.2**
comp=Z,60nm,1.9s,mb5.5
P17A Butcher Ranch, 86.36 44 ⇓P **P 15 17 23.4 0.0**
baz=86
OD2 Odessa Site #2 86.39 35 *e*P **P 15 17 23.4 0.0**
comp=Z,84nm,1.6s,mb5.7
M15A Larsen Ranch, 86.40 42 ⇓P **P 15 17 22.5 -1.0**
baz=87,SNR=7.9
LPM Los Pinos Moun 86.42 51 *e*P **P 15 17 22.9 -1.0**
comp=Z,40nm,1.7s,mb5.4
HLID Hailey 86.43 39 ⇑P **P 15 17 23.9 +0.3**
baz=87
HLID Hailey 86.43 39 PFAKE 15 17 30.0 +6.4
HLID LR LR
comp=Z,1μm,20.0s,MS5.2
627A Terlingua Ranc 86.44 56 ⇑P **P 15 17 23.4 -0.6**
baz=87,SNR=16
124A Stringfield Ra 86.47 52 ⇓P **P 15 17 24.0 -0.1**
baz=87,SNR=9.9
J13A Cove Ranch, Pi 86.47 40 ⇑P **P 15 17 24.3 +0.4**
baz=87
S19A Harvey Farm, M 86.48 47 ⇓P **P 15 17 24.4 +0.3**
baz=87
V21A Milan 86.48 49 ⇓P **P 15 17 24.2 +0.1**
baz=87
426A McDonald Obser 86.53 55 ⇓P **P 15 17 24.1 -0.3**
baz=87,SNR=18
DAU Daniels Canyon 86.55 43 P **P 15 17 23.9 -0.4**
comp=Z,29nm,1.5s,mb5.3
DAU Daniels Canyon 86.55 43 P **P 15 17 23.9 -0.4**
DAU pmax pmax
comp=Z,29nm,1.5s,mb5.3
Q18A Rafter H Ranch 86.56 45 ⇓P **P 15 17 23.7 -0.6**
baz=87,SNR=13
K14A Jones Ranch, D 86.57 41 ⇓P **P 15 17 24.7 +0.4**
baz=87
527A Woodward Ranch 86.59 55 ⇑P **P 15 17 24.0 -0.7**
baz=87,SNR=9.5
MVCO Mesa Verde 86.63 47 ⇓P **P 15 17 25.1 +0.3**
baz=87
MVCO Mesa Verde 86.63 47 PFAKE 15 17 40.0 +15
MVCO LR LR
comp=Z,2μm,19.0s,MS5.5
KULM Kulim 86.63 277 PFAKE 15 17 40.0 +15
KULM LR LR
comp=Z,749nm,20.0s,MS5.1
225A Deer Hill, Car 86.64 53 ⇑P **P 15 17 24.8 -0.2**
baz=87,SNR=6.0
Y23A Lovelace Mesa, 86.65 51 ⇑P **P 15 17 25.0 0.0**
baz=87
N16A Rees Ranch, Co 86.70 43 ⇑P **P 15 17 25.2 +0.2**
baz=87
L15A Malad City 86.74 42 ⇑P **P 15 17 25.3 +0.1**
baz=87
H12A Diamond D Ranc 86.76 38 ⇓P **P 15 17 25.5 +0.3**
baz=87
O17A Robinson Place 86.76 44 ⇓P **P 15 17 25.3 -0.1**
baz=87,SNR=10
P18A Preston Nutter 86.77 45 ⇑P **P 15 17 25.8 +0.4**
baz=87
U21A Nageezi 86.79 48 ⇓P **P 15 17 25.7 +0.1**
baz=87
J14A Carey 86.82 40 ⇓P **P 15 17 25.9 +0.4**
baz=87
M16A Huntsville 86.82 43 ⇓P **P 15 17 26.1 +0.4**
baz=87
628A Black Gap, Mar 86.83 56 ⇓P **P 15 17 25.3 -0.7**
baz=87,SNR=10
ANMO Albuquerque 86.87 50 *e*P **P 15 17 25.9 -0.2**
comp=Z,26nm,1.4s,mb5.3
ANMO LR LR
comp=Z,3μm,19.0s,MS5.7
ANMO Albuquerque 86.87 50 *e*P **P 15 17 25.9 -0.1**
ANMO pmax pmax
comp=Z,26nm,1.4s
ANMO MLR MLR
comp=Z,3μm,19.0s
X23A Hourglass Bar 86.88 51 ⇑P **P 15 17 26.2 +0.2**
baz=87
326A Caldwell Ranch 86.88 54 ⇑P **P 15 17 26.2 0.0**
baz=87
C09A Chrisman Ranch 86.88 34 ⇓P **P 15 17 25.9 +0.2**
baz=87
HWUT Hardware Ranch 87.03 42 PFAKE 15 17 40.0 +13
HWUT LR LR
comp=Z,2μm,19.0s,MS5.5
125A Gardner Draw, 87.03 53 ⇓P **P 15 17 26.3 -0.5**
baz=87,SNR=8.5
K15A Arbon 87.04 41 ⇑P **P 15 17 26.5 -0.1**
baz=87
Q19A Hogan Spring (87.05 45 ⇓P **P 15 17 26.6 -0.2**
baz=87
V22A San Miguel Ran 87.05 49 ⇑P **P 15 17 26.9 +0.1**
baz=87
S20A Disappointment 87.05 47 ⇓P **P 15 17 26.7 -0.1**
baz=87
PV01 Paradox Valley 87.07 46 *e*P **P 15 17 26.7 -0.2**
comp=Z,2μm,1.6s
Y24A Capitan 87.09 51 ⇑P **P 15 17 27.1 0.0**
baz=87,SNR=14
427A Hayter Ranch, 87.09 55 ⇓P **P 15 17 26.9 -0.2**
baz=87,SNR=16
BMRM Bremner River 87.10 14 *e*P **P 15 17 27.0 +0.6**
H13A Challis 87.11 39 ⇑P **P 15 17 26.8 -0.2**
baz=87
W23A Werner Place, 87.20 50 ⇑P **P 15 17 27.8 +0.2**
baz=87
R20A Redvale 87.22 46 ⇑P **P 15 17 27.8 +0.2**
baz=87
528A Cox Ranch, San 87.23 56 ⇓P **P 15 17 27.4 -0.5**
baz=87,SNR=13
PSI Prapat 87.25 274 P **P 15 17 28.6 +0.2**
comp=Z,767nmcomp=Z,33nm,1.2s,mb5.4
F12A Elk City 87.25 37 ⇓P **P 15 17 27.7 +0.1**
baz=87
Z25A Roswell 87.29 52 ⇓P **P 15 17 28.3 +0.2**
baz=87
U22A Llaves 87.32 49 ⇓P **P 15 17 28.3 +0.1**
baz=88
L16A Fish Haven 87.34 42 ⇓P **P 15 17 28.2 +0.1**
baz=88
S21A Coal Bank Pass 87.34 47 ⇑P **P 15 17 28.4 +0.1**
baz=88
X24A Lazy VL Ranch, 87.41 51 ⇑P **P 15 17 28.8 +0.1**
baz=88
CLNB Carlsbad 87.41 53 *e*P **P 15 17 27.9 -0.8**
comp=Z,3.7nm,0.6s,mb4.8
V23A Ortiz Mt. (NFS 87.47 50 ⇓P **P 15 17 28.6 -0.3**
baz=88
E12A Beaver Dam Sad 87.48 37 ⇑P **P 15 17 28.6 0.0**
baz=88
M17A Scullys Gap (B 87.51 43 ⇓P **P 15 17 29.0 0.0**
baz=88
428A Kincaid Ranch, 87.58 55 ⇑P **P 15 17 29.4 -0.2**
baz=88
P19A Cripple Cowboy 87.59 45 ⇓P **P 15 17 29.6 +0.2**
baz=88
T22A Edith 87.61 48 ⇓P **P 15 17 29.5 0.0**
baz=88
Y25A Mesa, Roswell 87.62 52 ⇑P **P 15 17 29.0 -0.7**
baz=88,SNR=14
K16A Soda Springs 87.70 41 ⇓P **P 15 17 29.9 +0.1**
baz=88
W24A Lazy 6 Ranch, 87.75 50 ⇓P **P 15 17 30.3 0.0**
baz=88
NEW Newport 87.78 35 ⇓P **P 15 17 30.2 +0.1**
baz=88
328A Wristen Ranch, 87.79 55 ⇑P **P 15 17 29.8 -0.8**
baz=88
F13A Darby 87.79 38 ⇓P **P 15 17 30.1 -0.1**
baz=88
Z26A Caprock 87.83 53 ⇑P **P 15 17 30.2 -0.4**
baz=88,SNR=7.1
O19A Miners Draw (B 87.86 44 ⇓P **P 15 17 30.8 +0.2**
baz=88
M18A Lyman 87.86 43 ⇑P **P 15 17 30.9 +0.2**
baz=88
R21A Cimarron 87.87 47 ⇑P **P 15 17 30.6 -0.1**
baz=88
P20A De Beque 87.91 45 ⇓P **P 15 17 30.9 0.0**
baz=88
J16A Bone 87.93 41 ⇑P **P 15 17 31.0 +0.1**
baz=88
X25A Clemmons Ranch 87.94 51 ⇓P **P 15 17 30.7 -0.5**
baz=88,SNR=6.3
AHID Auburn Hatcher 87.96 42 PFAKE 15 17 40.0 +8.9
AHID LR LR
comp=Z,2μm,19.0s,MS5.6
C11A Tepee Creek (N 87.97 35 ⇓P **P 15 17 31.2 +0.2**
baz=88
S22A 4UR Ranch, Cre 88.04 48 ⇑P **P 15 17 31.6 0.0**
baz=88
MCMT McKenzie Canyo 88.08 39 *e*P **P 15 17 31.0 -0.6**
V24A Rampart Ranch, 88.10 50 ⇑P **P 15 17 32.2 +0.3**
baz=88
TRF Thorafare Moun 88.20 11 *e*P **P 15 17 30.9 -0.8**
comp=Z,19nm,0.8s,mb5.4
Y26A Elida 88.25 52 ⇓P **P 15 17 32.5 -0.2**
baz=88
C12B Naegeli Ranch, 88.31 36 ⇑P **P 15 17 32.9 +0.3**
baz=88
R22A Saguache, Gunn 88.34 47 ⇑P **P 15 17 33.2 +0.2**
baz=88
I16A Newdale 88.35 40 ⇓P **P 15 17 33.4 +0.6**
baz=88
Z27A Tatum 88.41 53 ⇑P **P 15 17 32.8 -0.6**
baz=88
W25A X Bar L Ranch, 88.42 51 ⇓P **P 15 17 33.5 0.0**
baz=89
REDW Red Top Meadow 88.44 41 *e*P **P 15 17 32.4 -1.0**
comp=Z,18nm,1.5s,mb5.1
G15A Dillon 88.49 39 ⇓P **P 15 17 33.4 -0.1**
baz=89
D13A Huson 88.50 37 ⇓P **P 15 17 34.0 +0.6**
baz=89
K18A Toltan Ranch, 88.54 42 ⇓P **P 15 17 34.1 +0.3**
baz=89
Q22A Crested Butte, 88.56 47 ⇑P **P 15 17 34.1 +0.1**
baz=89
X26A CR and CF Fran 88.57 51 ⇑P **P 15 17 34.1 0.0**
baz=89
MSO Missoula 88.62 37 ⇓P **P 15 17 34.5 +0.4**
baz=89
MSO Missoula 88.62 37 PFAKE 15 17 50.0 +16
MSO LR LR
comp=Z,2μm,19.0s,MS5.5
E14A Clinton 88.63 38 ⇑P **P 15 17 34.6 +0.4**
baz=89
L19A Farson 88.67 43 ⇑P **P 15 17 34.8 +0.4**
baz=89
SMCO Snowmass 88.68 46 *e*P **P 15 17 34.7 +0.1**
comp=Z,8.9nm,1.3s,mb4.9
N20A Spence Gulch, 88.70 44 ⇑P **P 15 17 34.2 -0.4**
baz=89,SNR=8.3
MOOW Moose Ponds 88.72 41 *e*P **P 15 17 34.0 -0.6**
comp=Z,33nm,2.2s,mb5.3
C13A Hot Springs 88.78 36 ⇓P **P 15 17 35.0 +0.2**
baz=89
J18A Kendall Valley 88.87 42 ⇑P **P 15 17 34.9 -0.5**
baz=89,SNR=11
F15A Butte 88.87 38 ⇓P **P 15 17 35.5 +0.2**
baz=89
LRM Limekiln Ridge 88.88 38 *e*P **P 15 17 35.3 0.0**
comp=Z,228nm,1.7s,mb6.2
BW06 Boulder Array 88.91 42 ⇑P **P 15 17 35.4 -0.1**
baz=89
BW06 Boulder Array 88.91 42 PFAKE 15 17 50.0 +14
BW06 LR LR
comp=Z,2μm,19.0s,MS5.5
PDAR Pinedale Array 88.91 42 P **P 15 17 35.2 -0.4**
comp=Z,3.7nm,1.0s,mb4.7,baz=236,slow=2.7,SNR=10
PDAR LR LR 15 55 07.2
comp=Z,1μm,18.1s,MS5.4,baz=239,slow=34
PDAR Pinedale Array 88.91 42 P **P 15 17 35.2 -0.4**
I17A Pilgrim Ck. 88.92 41 ⇓P **P 15 17 36.0 +0.4**
baz=89
G16A Moss Hill, Enn 88.92 39 ⇑P **P 15 17 35.8 +0.2**
baz=89
T24A Torres, Weston 88.92 49 ⇑P **P 15 17 35.9 +0.2**
baz=89
SDCO Great Sand Dun 88.95 48 ⇑P **P 15 17 36.1 +0.2**
baz=89
SDCO Great Sand Dun 88.95 48 PFAKE 15 17 50.0 +14
SDCO LR LR
comp=Z,2μm,19.0s,MS5.5
R23A Moffat 88.95 48 ⇑P **P 15 17 36.1 +0.2**
baz=89
H16A Russell Place, 88.95 40 ⇑P **P 15 17 36.2 +0.5**
baz=89
D14A Greenough 89.01 37 ⇓P **P 15 17 35.8 -0.1**
baz=89
U25A Circle Dot Ran 89.04 50 ⇓P **P 15 17 36.2 -0.1**
baz=89
MSTX Muleshoe 89.04 52 ⇓P **P 15 17 36.2 -0.2**
baz=89
CHMT Chamberlain Mo 89.06 37 *e*P **P 15 17 34.2 -2.0**
comp=Z,16nm,1.6s,mb5.1
S24A Houchin Ranch, 89.09 48 ⇓P **P 15 17 36.5 -0.1**
baz=89
N21A Black Mountain 89.14 45 ⇓P **P 15 17 36.6 -0.1**
baz=89
SEY Seymchan 89.23 346 ⇓*e*P **P 15 17 37.0 +0.5**
BOZ Bozeman (W) 89.26 39 ⇓P **P 15 17 36.6 -0.5**
baz=89
BOZ Bozeman (W) 89.26 39 *e*P **P 15 17 35.8 -1.3**
comp=Z,26nm,1.8s,mb5.3
BOZ LR LR
comp=Z,2μm,20.0s,MS5.4
BOZ Bozeman (W) 89.26 39 *e*P **P 15 17 35.8 -1.3**
BOZ pmax pmax
comp=Z,26nm,1.8s,mb5.3
BOZ MLR MLR
comp=Z,2μm,20.0s,MS5.4
C14A Swan Lake 89.28 36 ⇓P **P 15 17 37.6 +0.4**
baz=90
F16A Kennard Place, 89.34 39 ⇓P **P 15 17 38.0 +0.5**
baz=90
BJT Baijiatuau 89.34 314 PFAKE 15 17 50.0 +12
BJT LR LR
comp=Z,660nm,20.0s,MS5.1
BJI Beijing 89.35 314 P **P 15 17 38.8 +1.1**
BJI PP PP 15 21 10.0 +0.9
BJI sS sS 15 28 41.3 +3.6
BJI pmax pmax
comp=Z,21nm,1.8s,mb5.2
BJI pmax pmax
comp=Z,590nm,4.7s
BJI LR LR
comp=N,580nm,19.5s,MS5.1
BJI LR LR
comp=E,530nm,19.5s,MS5.1
BJI LR LR
comp=Z,470nm,24.9s
LKWY Lake 89.38 40 PFAKE 15 17 50.0 +12
LKWY LR LR
comp=Z,3μm,19.0s,MS5.7
T25A Trinidad 89.40 49 ⇑P **P 15 17 38.2 +0.2**
baz=90
R24A Sanders Place, 89.46 48 ⇑P **P 15 17 38.3 +0.1**
baz=90
O22A Kremmling 89.47 46 ⇑P **P 15 17 38.1 -0.1**
baz=90
ENH Enshi 89.47 303 *e*P **P 15 17 38.6 +0.1**
comp=Z,39nm,1.0s,mb5.7
ENH LR LR
comp=Z,970nm,21.0s,MS5.2
J19A Crowheart 89.49 42 ⇑P **P 15 17 38.4 +0.1**
baz=90
U26A Atchley Ranch, 89.51 50 ⇓P **P 15 17 38.3 -0.2**
baz=90
D15A Lincoln 89.54 37 ⇑P **P 15 17 38.5 +0.1**
baz=90
A13A Flathead Natio 89.61 35 ⇑P **P 15 17 38.8 +0.1**
baz=90
S25A Robets Cordova 89.64 49 ⇓P **P 15 17 39.4 +0.3**
baz=90
JCT Junction City 89.67 57 PFAKE 15 17 50.0 +11
JCT LR LR
comp=Z,2μm,19.0s,MS5.5
M21A Separation Pea 89.68 44 ⇑P **P 15 17 39.9 +0.7**
baz=90
E16A East Helena 89.73 38 ⇓P **P 15 17 39.9 +0.6**
baz=90
HRY Holter Researc 89.74 38 *e*P **P 15 17 39.0 -0.4**
comp=Z,24nm,1.5s,mb5.3
Q24A Divide 89.79 47 ⇓P **P 15 17 40.4 +0.6**
baz=90
L21A Rawlins 89.86 44 ⇓P **P 15 17 40.1 +0.1**
baz=90
KVTX Kingsville 89.87 60 PFAKE 15 17 50.0 +10
KVTX LR LR
comp=Z,1μm,19.0s,MS5.3
H18A Shoshone NF, C 89.88 41 ⇓P **P 15 17 40.5 +0.4**
baz=90
B14A Marquette Ranc 89.89 36 ⇓P **P 15 17 39.7 -0.3**
baz=90,SNR=8.4
ISCO Idaho Springs 89.90 46 PFAKE 15 17 50.0 +10
ISCO LR LR
comp=Z,1μm,19.0s,MS5.4
C15A Salmond Ranch, 89.91 37 ⇓P **P 15 17 39.7 -0.5**
baz=90
COLA College 89.94 11 *e*P **P 15 17 39.2 -0.6**
comp=Z,19nm,1.2s,mb5.3
COLA LR LR
comp=Z,1μm,20.0s,MS5.4
COLA College 89.94 11 *e*P **P 15 17 39.2 -0.6**
COLA pmax pmax
comp=Z,19nm,1.2s,mb5.3
COLA MLR MLR
comp=Z,1μm,20.0s,MS5.4
I19A Meeteetse 89.94 41 ⇓P **P 15 17 40.6 +0.3**
baz=90
F17A Fitzpatrick Pl 89.97 39 ⇑P **P 15 17 39.8 -0.7**
baz=90
ILAR Eielson Array 90.02 12 P **P 15 17 39.2 -1.0**
comp=Z,5.0nm,1.1s,mb4.8,baz=220,slow=4.7,SNR=18
ILAR LR LR 15 57 06.0
comp=Z,939nm,18.2s,MS5.3,baz=22,slow=35
ILAR Eielson Array 90.02 12 P **P 15 17 39.2 -1.0**
ILAR Eielson Array 90.02 12 P **P 15 17 39.2 -1.0**
GYA Guiyang 90.03 299 *e*P **P 15 17 42.0 +0.8**
GYA pP pP 15 17 53.3 +5.4
GYA PP PP 15 21 19.0 +4.2
GYA SKS 15 28 08.8
GYA S S 15 28 30.5 -3.0
GYA SS SS 15 34 33.0 +0.4
GYA pmax pmax
comp=Z,30nm,1.0s,mb5.6
GYA pmax pmax
comp=Z,150nm,6.5s
GYA LR LR
comp=N,500nm,20.8s,MS5.1
GYA LR LR
comp=E,470nm,21.0s,MS5.1
GYA LR LR
comp=Z,530nm,19.9s,MS5.0
D16A Dana Ranch, Ca 90.08 38 ⇓P **P 15 17 41.1 +0.1**
baz=90
A14A Double T Ranch 90.16 36 ⇑P **P 15 17 41.1 -0.2**
baz=90,SNR=8.5
B15A Bradely Ranch, 90.25 36 ⇑P **P 15 17 41.5 -0.2**

baz=90
AMTX Amarillo 90.27 52 PFAKE 15 17 50.0 +7.9
AMTX LR LR
comp=Z,4μm,19.0s,MS5.8
K21A Alcova 90.28 43 ⇑P **P 15 17 41.9 0.0**
baz=90
H19A Powell 90.28 41 ⇑P **P 15 17 42.3 +0.4**
baz=90
G18A Lazy EL Ranch, 90.29 40 ⇓P **P 15 17 42.2 +0.3**
baz=90
RLMT Red Lodge 90.36 40 ⇓P **P 15 17 42.6 +0.3**
baz=90
RLMT Red Lodge 90.36 40 *e*P **P 15 17 42.7 +0.5**
comp=Z,30nm,1.7s,mb5.3
RLMT LR LR
comp=Z,1μm,20.0s,MS5.4
C16A Fuhringer Ranc 90.41 37 ⇑P **P 15 17 42.8 +0.4**
baz=91
GCMT Greycliff 90.48 40 *e*P **P 15 17 43.4 +0.6**
comp=Z,43nm,1.8s,mb5.5
L22A Ellis Ranch, M 90.49 44 ⇑P **P 15 17 43.0 +0.1**
baz=91
F18A Big Timber 90.52 39 ⇑P **P 15 17 43.2 +0.2**
baz=91
J21A Lysite 90.53 42 ⇓P **P 15 17 43.0 -0.1**
baz=91
A15A Johnson Ranch, 90.54 36 ⇑P **P 15 17 42.9 -0.1**
baz=91,SNR=12
D17A Six Diamond Ra 90.64 38 ⇓P **P 15 17 43.4 -0.1**
baz=91,SNR=10
E18A Harlowton 90.76 39 ⇑P **P 15 17 44.2 +0.1**
baz=91,SNR=7.6
H20A Greybull 90.78 41 ⇓P **P 15 17 44.0 -0.2**
baz=91
I21A Big Trails, Te 90.87 42 ⇑P **P 15 17 44.2 -0.5**
baz=91
F19A Roth Farm, Mol 90.94 40 ⇑P **P 15 17 44.4 -0.6**
baz=91
LCO Las Campanas 90.95 122 PFAKE 15 18 00.0 +14
LCO LR LR
comp=Z,2μm,19.0s,MS5.5
DAWY Dawson 91.00 15 *e*P **P 15 17 45.3 +0.5**
A16A West Butte Ran 91.14 36 ⇓P **P 15 17 45.2 -0.6**
baz=91,SNR=9.0
D18A Linhart Farms, 91.17 38 ⇑P **P 15 17 46.1 +0.1**
baz=91
EGAK Eagle 91.20 14 *e*P **P 15 17 45.1 -0.6**
comp=Z,40nm,1.6s,mb5.5
EGAK LR LR
comp=Z,1μm,19.0s,MS5.4
B17A L&G Farms, Che 91.21 37 ⇓P **P 15 17 46.5 +0.4**
baz=91
I22A 9 Mile Ranch, 91.41 42 ⇑P **P 15 17 47.5 +0.3**
baz=92
XAN Xi'an 91.58 306 P **P 15 17 48.8 +0.5**
XAN SKS 15 28 20.5
XAN pmax pmax
comp=Z,11nm,0.9s,mb5.2
XAN pmax pmax
comp=Z,110nm,7.0s
XAN LR LR
comp=N,390nm,21.9s,MS4.9
XAN LR LR
comp=E,210nm,19.3s,MS4.9
XAN LR LR
comp=Z,300nm,18.9s,MS4.8
BILL Bilibino 91.62 353 PFAKE 15 18 00.0 +12
BILL LR LR
comp=Z,2μm,20.0s,MS5.5
BILL Bilibino 91.62 353 *e*P **P 15 17 46.9 -0.7**
A17A Triple J Farms 91.62 37 ⇑P **P 15 17 48.3 +0.3**
baz=92,SNR=8.6
EGMT Eagleton 91.64 38 ⇑P **P 15 17 48.5 +0.4**
baz=92
EGMT Eagleton 91.64 38 *e*P **P 15 17 47.1 -1.1**
comp=Z,34nm,1.6s,mb5.4
EGMT LR LR
comp=Z,2μm,19.0s,MS5.6
CFAA Coronel Fontan 91.65 125 P **P 15 17 48.6 -0.2**
comp=Z,0.1nm,0.3s,baz=238,slow=3.9,SNR=3.7
CFAA Coronel Fontan 91.65 125 P **P 15 17 48.6 -0.2**
D19A Cripps Ranch, 91.68 39 ⇑P **P 15 17 48.8 +0.4**
baz=92
E20A Meyer Farm, Mu 91.77 40 ⇓P **P 15 17 49.1 +0.3**
baz=92
B18A Beardsley Farm 91.83 37 ⇑P **P 15 17 49.6 +0.6**
baz=92
C19A Slack Wire Ran 91.89 38 ⇓P **P 15 17 49.2 -0.2**
baz=92,SNR=8.7
D20A Manuel Ranch, 92.07 39 ⇑P **P 15 17 50.6 +0.4**
baz=92
A18A Metzger Ranch, 92.08 37 ⇑P **P 15 17 49.8 -0.4**
baz=92,SNR=8.5
HIA Hailar 92.08 324 PFAKE 15 18 00.0 +10
HIA LR LR
comp=Z,2μm,20.0s,MS5.5
E21A Keefer Ranch, 92.41 40 ⇑P **P 15 17 52.1 +0.4**
baz=93
KMI Kunming 92.69 296 P **P 15 17 55.5 +1.9**
KMI pP pP 15 18 11.5 +11
KMI PP PP 15 21 43.0 +7.1
KMI SKS 15 28 23.8
KMI S S 15 28 56.5 -1.3
KMI pmax pmax
comp=Z,24nm,0.8s,mb5.7
KMI pmax pmax
comp=Z,370nm,6.0s
KMI LR LR
comp=N,410nm,16.3s,MS5.2
KMI LR LR
comp=E,470nm,15.2s,MS5.2
KMI LR LR
comp=Z,760nm,18.8s,MS5.2
A19A Klindworth Far 92.70 37 ⇑P **P 15 17 53.6 +0.6**
baz=93
BDT Bhumibol Dam 92.79 287 P **P 15 17 56.0 +1.8**
HHC Hu-ho-hao-te 92.82 313 *e*P **P 15 17 54.8 +1.0**
HHC sP sP 15 18 09.5 +6.7
HHC PP PP 15 21 40.5 +4.0
HHC SKS 15 28 24.5
HHC S S 15 28 55.3 -2.9
HHC sS sS 15 29 12.8 +3.6
HHC pmax pmax
comp=Z,17nm,0.6s,mb5.7
HHC pmax pmax
comp=Z,340nm,6.7s
HHC LR LR
comp=N,480nm,18.2s,MS5.1
HHC LR LR
comp=E,560nm,21.2s,MS5.1
HHC LR LR
comp=Z,590nm,21.2s,MS5.0
B20A Solberg Farm, 92.85 38 ⇑P **P 15 17 53.9 +0.2**
baz=93
TRQA Tornquist 92.91 133 *e*P **P 15 17 54.0 -0.5**
comp=Z,7.0nm,0.8s,mb5.1
K26A Motz Farm, Whi 92.92 45 ⇑P **P 15 17 54.2 0.0**
baz=93
NNA Nana 92.98 104 PFAKE 15 18 10.0 +15
NNA LR LR
comp=Z,2μm,19.0s,MS5.6
LAO LASA Array 92.99 40 PFAKE 15 18 10.0 +16
LAO LR LR
comp=Z,916nm,21.0s,MS5.2
F23A Volborg 92.99 41 ⇓P **P 15 17 54.8 +0.3**
baz=93
H24A Dirks Ranch, A 93.04 42 ⇓P **P 15 17 55.0 +0.3**
baz=93
RSSD Black Hills 93.06 43 *e*P **P 15 17 54.2 -0.6**
comp=Z,21nm,1.4s,mb5.4
RSSD Black Hills 93.06 43 *e*P **P 15 17 54.2 -0.6**
RSSD pmax pmax
comp=Z,21nm,1.4s,mb5.4
C21A Desert Coulee 93.06 39 ⇓P **P 15 17 54.9 +0.2**
baz=93
CHRT Chiangrai 93.12 290 ⇑P **P 15 17 56.0 +0.3**
comp=Z,132nm,1.0s,mb6.3
D22A Cohagen 93.25 40 ⇓P **P 15 17 56.0 +0.4**
baz=93
CM31 Chiang Mai Arr 93.31 289 *e*P **P 15 17 58.2 +1.7**
comp=Z,16nm,0.9s,mb5.4
CM31 LR LR
comp=Z,832nm,20.0s,MS5.2
CMAR Chiang Mai Arr 93.31 289 P **P 15 17 57.9 +1.3**
comp=Z,16nm,0.9s,mb5.4,baz=132,slow=3.0,SNR=54
CMAR LR LR 15 58 53.3
comp=Z,783nm,18.9s,MS5.2,baz=138,slow=35
CMAR Chiang Mai Arr 93.31 289 P **P 15 17 57.9 +1.3**
CMAR Chiang Mai Arr 93.31 289 P **P 15 17 57.9 +1.3**
CHG Chiang Mai 93.45 289 P **P 15 17 58.5 +1.3**
CHTO Chiang Mai 93.45 289 PFAKE 15 18 10.0 +13
CHTO LR LR
comp=Z,870nm,20.0s,MS5.2
CHTO Chiang Mai 93.45 289 P **P 15 17 59.1 +1.9**
CBKS Cedar Bluff 93.45 49 PFAKE 15 18 10.0 +13
CBKS LR LR
comp=Z,3μm,19.0s,MS5.7
A21A Bergtoll Ranch 93.75 38 ⇑P **P 15 17 58.3 +0.4**
baz=94
B22A Reddig Ranch S 93.94 39 ⇑P **P 15 17 59.3 +0.5**
baz=94
E24A Baker 94.07 41 ⇓P **P 15 18 00.1 +0.7**
baz=94
C23A Lambert 94.16 39 ⇓P **P 15 18 00.2 +0.4**
baz=94
JTS JuntasAbangare 94.17 81 PFAKE 15 18 10.0 +9.3
JTS LR LR
comp=Z,582nm,19.0s,MS5.1
NATX Nacogdoches 94.19 57 PFAKE 15 18 10.0 +10
NATX LR LR
comp=Z,2μm,19.0s,MS5.6
CD2 Chengdu 94.20 302 P **P 15 18 00.0 -0.4**
CD2 pP pP 15 18 11.8 +4.7
CD2 sP sP 15 18 15.8 +6.3
CD2 PP PP 15 21 51.3 +3.7
CD2 SKS 15 28 32.3
CD2 S S 15 29 07.5 -3.4
CD2 sS sS 15 29 25.0 +3.0
CD2 SS SS 15 35 33.5 +1.0
CD2 pmax pmax
comp=Z,10.0nm,0.5s,mb5.5
CD2 pmax pmax
comp=Z,410nm,9.5s
CD2 LR LR
comp=E,970nm,17.2s
CD2 LR LR
comp=Z,680nm,14.2s,MS5.3
B23A Brockton 94.60 39 ⇓P **P 15 18 02.0 +0.2**
baz=95
TEIG Tepich 94.96 70 LR LR 15 54 22.6
DGMT Dagmar 95.06 39 PFAKE 15 18 10.0 +6.1
DGMT LR LR
comp=Z,2μm,19.0s,MS5.5
YAK Yakutsk 95.23 337 *e*P **P 15 18 04.3 -0.1**
YAK pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
KSU1 Kansas State U 95.77 50 PFAKE 15 18 20.0 +13
KSU1 LR LR
comp=Z,2μm,19.0s,MS5.7
INK Inuvik 95.85 14 P **P 15 18 07.5 +0.4**
comp=Z,1.6nm,0.9s,mb4.5,baz=200,slow=0.7,SNR=4.4
INK Inuvik 95.85 14 P **P 15 18 07.5 +0.4**
INK Inuvik 95.85 14 P **P 15 18 07.5 +0.5**
MIAR Mount Ida 96.15 55 PFAKE 15 18 20.0 +11
MIAR LR LR
comp=Z,1μm,20.0s,MS5.5
LZH Lanzhou 96.22 306 *e*P **P 15 18 10.5 +1.0**
LZH pP pP 15 18 21.3 +5.1
LZH sP sP 15 18 25.0 +6.4
LZH *e*PP PP 15 22 07.3 +4.1
LZH SKS 15 28 43.0
LZH *e*S S 15 29 25.3 -2.9
LZH sS sS 15 29 41.0 +1.7
LZH *e*SS SS 15 36 03.0 +2.0
LZH pmax pmax
comp=Z,32nm,1.2s,mb5.6
LZH pmax pmax
comp=Z,180nm,7.5s
LZH LR LR
comp=N,890nm,17.9s,MS5.6
LZH LR LR
comp=E,2μm,19.3s,MS5.6
LZH LR LR
comp=Z,2μm,20.0s,MS5.5
YKA Yellowknife Ar 97.55 24 P **P 15 18 14.7 -0.1**
comp=Z,1.1nm,0.8s,mb4.4,baz=255,slow=3.9,SNR=6.5
YKA LR LR 15 59 53.0
comp=Z,94nm,18.3s,MS4.3,baz=145,slow=34
YKA Yellowknife Ar 97.55 24 P **P 15 18 14.7 -0.1**
YKA Yellowknife Ar 97.55 24 P **P 15 18 14.7 -0.2**
ECSD EROS Data Cent 97.68 46 PFAKE 15 18 30.0 +14
ECSD LR LR
comp=Z,2μm,19.0s,MS5.6
BCIP Isla Barro Col 98.43 84 PFAKE 15 18 30.0 +10
BCIP LR LR
comp=Z,962nm,19.0s,MS5.3
LPAZ La Paz 98.80 112 PFAKE 15 18 30.0 +8.3
LPAZ LR LR
comp=Z,804nm,22.0s,MS5.2
SONM Songino Array 99.19 318 P **P 15 18 23.1 +0.4**
comp=Z,0.6nm,0.7s,mb4.2,baz=147,slow=3.6,SNR=4.8
SONM Songino Array 99.19 318 P **P 15 18 23.1 +0.4**
SONM Songino Array 99.19 318 P **P 15 18 23.1 +0.5**
FFC Flin Flon 99.20 34 PFAKE 15 18 30.0 +7.5
FFC LR LR
comp=Z,2μm,20.0s,MS5.5
OXF Oxford 99.32 57 PFAKE 15 18 30.0 +6.5
OXF LR LR
comp=Z,3μm,19.0s,MS5.8
BRAL Brewton 99.93 61 PFAKE 15 18 40.0 +14
BRAL LR LR
comp=Z,985nm,19.0s,MS5.3
AGMN Agassiz Nation 99.98 42 PFAKE 15 18 40.0 +14
AGMN LR LR
comp=Z,1μm,19.0s,MS5.4
PLAL Pickwick Lake 100.51 57 PFAKE 15 18 40.0 +11
PLAL LR LR
comp=Z,2μm,19.0s,MS5.7
HDIL Hopedale 101.53 51 PFAKE 15 18 40.0 +6.9
HDIL LR LR
comp=Z,3μm,19.0s,MS5.8
JFWS Jewell Farm 101.67 48 PFAKE 15 18 40.0 +6.2
JFWS LR LR
comp=Z,1μm,20.0s,MS5.5
CPUP Villa Florida 102.55 126 PFAKE 15 18 50.0 +12
CPUP LR LR
comp=Z,243nm,19.0s,MS4.7
EYMN Ely 102.58 43 PFAKE 15 18 50.0 +12
EYMN LR LR
comp=Z,1μm,20.0s,MS5.5
LSA Lhasa 103.94 297 PFAKE 15 19 00.0 +16
LSA LR LR
comp=Z,728nm,20.0s,MS5.2
ACSO Alum Creek Sta 106.01 53 PFAKE 15 23 20.0 +15
ACSO LR LR
comp=Z,2μm,19.0s,MS5.7
AAM Ann Arbor 106.10 51 PFAKE 15 23 20.0 +15
AAM LR LR
comp=Z,2μm,20.0s,MS5.7
NHSC New Hope 106.13 60 PFAKE 15 23 20.0 +14
NHSC LR LR
comp=Z,2μm,19.0s,MS5.6
GLMI Grayling 106.14 48 PFAKE 15 23 20.0 +15
GLMI LR LR
comp=Z,2μm,20.0s,MS5.6
BLA Blacksburg 107.09 56 PFAKE 15 23 20.0 +13
BLA LR LR
comp=Z,1μm,19.0s,MS5.5
CNNC Cliffs of the 108.54 59 PFAKE 15 23 20.0 +10
CNNC LR LR
comp=Z,1μm,19.0s,MS5.6
ERPA Erie 108.68 51 PFAKE 15 23 20.0 +10
ERPA LR LR
comp=Z,2μm,19.0s,MS5.7
CBN Corbin 109.68 56 PFAKE 15 23 20.0 +7.8
CBN LR LR
comp=Z,2μm,19.0s,MS5.6
WMQ Urumqi 110.39 310 PKP PKiKP 15 23 12.5 -0.9
WMQ sPKP 15 23 27.0
WMQ PP PP 15 23 52.8 +3.8
WMQ LR LR
comp=N,190nm,21.2s
WMQ LR LR
comp=E,570nm,28.7s
WMQ LR LR
comp=Z,550nm,24.2s,MS5.0
BINY Binghamton 111.60 52 PFAKE 15 23 30.0 +14
BINY LR LR
comp=Z,2μm,19.0s,MS5.8
LONY Lake Ozonia 113.06 50 PFAKE 15 23 30.0 +12
LONY LR LR
comp=Z,2μm,19.0s,MS5.7
NCB Newcomb 113.20 50 PFAKE 15 23 30.0 +11
NCB LR LR
comp=Z,3μm,19.0s,MS5.8
RER Riviere de l'E 113.82 232 PFAKE 15 23 30.0 +9.3
RER LR LR
comp=Z,973nm,19.0s,MS5.4
MKAR Makanchi Array 114.66 312 PKP PKiKP 15 23 20.7 -0.7
comp=Z,1.2nm,0.7s,baz=83,slow=4.6,SNR=7.8
MKAR Makanchi Array 114.66 312 PKP PKiKP 15 23 20.7 -0.7
MKAR Makanchi Array 114.66 312 PKIKP PKiKP 15 23 20.7 -0.7
LBNH Lisbon 114.88 50 PFAKE 15 23 30.0 +8.1
LBNH LR LR
comp=Z,3μm,19.0s,MS5.8
GRGR Grenville 116.19 87 PFAKE 15 23 40.0 +15
GRGR LR LR
comp=Z,457nm,20.0s,MS5.1
KURK Kurchatov 117.45 317 PKP PKPdf 15 23 25.7 -0.9
comp=Z,1.2nm,0.6s,baz=95,slow=1.7,SNR=9.5
KURK Kurchatov 117.45 317 *e*PKPdf PKPdf 15 23 25.6 -1.0
KURK LR LR
comp=Z,592nm,20.0s,MS5.2
KURK Kurchatov 117.45 317 ⇑ *i*PKIKP PKPdf 15 23 25.9 -0.7
FDF Fort de France 117.49 85 PFAKE 15 23 40.0 +12
FDF LR LR
comp=Z,494nm,19.0s,MS5.2
BBSR BB Station 118.64 65 PFAKE 15 23 40.0 +10
BBSR LR LR
comp=Z,648nm,19.0s,MS5.3
TKM2 Tokmak 2 118.97 308 PFAKE 15 23 40.0 +10
TKM2 LR LR
comp=Z,593nm,20.0s,MS5.2
AAK Ala-Archa 119.75 307 PFAKE 15 23 40.0 +8.7
AAK LR LR
comp=Z,639nm,20.0s,MS5.2
AAK Ala-Archa 119.75 307 *i* PKIKP PKPdf 15 23 27.1 -4.2
EKS2 Erkin-Say 120.28 307 PFAKE 15 23 40.0 +7.6
EKS2 LR LR
comp=Z,653nm,20.0s,MS5.3
ABPO Ambohimpanom 121.28 228 PFAKE 15 23 50.0 +15
ABPO LR LR
comp=Z,633nm,20.0s,MS5.3
BVAR Borovoye Array 122.51 319 PKP PKPdf 15 23 35.6 -0.7
comp=Z,1.1nm,0.4s,baz=106,slow=2.1,SNR=8.5
BVAR Borovoye Array 122.51 319 PKP PKPdf 15 23 35.6 -0.7
BVAR Borovoye Array 122.51 319 PKIKP PKPdf 15 23 35.6 -0.7
BRVK Borovoye 122.57 319 *e*PKPdf PKPdf 15 23 35.7 -0.7
BRVK LR LR
comp=Z,833nm,20.0s,MS5.4
BRVK Borovoye 122.57 319 *c i*PKIKP PKPdf 15 23 35.2 -1.2
BRVK pmax pmax
comp=Z,4.0nm,1.2s
SUR Sutherland 123.01 196 PFAKE 15 23 50.0 +12
SUR LR LR
comp=Z,2μm,19.0s,MS5.7
KBL Kabul 123.25 297 *e*PKPdf PKPdf 15 23 38.5 +0.2
KBL Kabul 123.25 297 *e*PKIKP PKPdf 15 23 38.5 +0.2
MSEY Mahe Island 123.45 248 PFAKE 15 23 50.0 +11
MSEY LR LR
comp=Z,1μm,19.0s,MS5.6
KBS Kingsbay 123.74 358 PFAKE 15 23 50.0 +12
KBS LR LR
comp=Z,580nm,19.0s,MS5.3
BOSA Boshof 125.18 202 PFAKE 15 23 50.0 +7.7
BOSA LR LR
comp=Z,2μm,19.0s,MS5.7
LBTB Lobatse 128.33 204 PFAKE 15 24 00.0 +12
LBTB LR LR
comp=Z,1μm,19.0s,MS5.6
ARU Arti 128.57 325 PFAKE 15 24 00.0 +12
ARU LR LR
comp=Z,934nm,20.0s,MS5.5
ARU Arti 128.57 325 *i* PKIKP PKPdf 15 23 47.8 0.0
ARU 15 25 52.9
ARU PPP 15 28 33.5
ARU 15 30 51.7
ARU SS SS 15 42 54.7 -14
ARU MLR MLR
comp=Z,918nm,19.0s,MS5.5
AKTO Aktyubinsk 130.51 318 PKP PKPdf 15 23 52.6 +1.0
comp=Z,1.3nm,0.7s,baz=102,slow=4.1,SNR=5.7
AKTO Aktyubinsk 130.51 318 PKP PKPdf 15 23 52.6 +1.0
AKTO Aktyubinsk 130.51 318 PKIKP PKPdf 15 23 52.7 +1.0
KEV Kevo 131.21 350 PFAKE 15 24 00.0 +7.5
KEV LR LR
comp=Z,888nm,20.0s,MS5.5
LVZ Lovozero 131.28 345 PFAKE 15 24 00.0 +7.4
LVZ LR LR
comp=Z,800nm,19.0s,MS5.4
ARCES ARCESS Array B 131.65 350 PKP PKPdf 15 23 54.0 +0.8
comp=Z,2.2nm,0.7s,baz=48,slow=1.8,SNR=9.5
ARCES ARCESS Array B 131.65 350 PKP PKPdf 15 23 54.0 +0.8
APA Apatity 131.83 346 ⇓ *i*PKIKP PKPdf 15 23 51.0 -2.7
APA MLR MLR
comp=Z,1μm,18.0s,MS5.6
KLMR Klimovskoe 135.03 337 *e*PKIKP PKPdf 15 24 02.8 +2.9
KLMR pmax pmax
comp=Z,17nm,1.5s
LSZ Lusaka 135.74 213 PFAKE 15 24 10.0 +7.4
LSZ LR LR
comp=Z,698nm,20.0s,MS5.4
FINES FINESS Array B 138.70 345 PKP PKPdf 15 24 08.3 +1.7
comp=Z,2.1nm,0.6s,baz=64,slow=4.4,SNR=5.9
FINES FINESS Array B 138.70 345 PKP PKPdf 15 24 08.3 +1.7
FINES FINESS Array B 138.70 345 PKIKP PKPdf 15 24 08.3 +1.6
MAK Makhachkala 139.41 310 *e*PKHKP PKPpre 15 24 03.0
MAK *e* 15 31 11.1
MAK *e*SS SS 15 45 10.1 -11
MAK pmax pmax
comp=Z,214nm,8.5s
OBN Obninsk 140.02 332 PFAKE 15 24 20.0 +11
OBN LR LR
comp=Z,699nm,19.0s,MS5.4
SHEL Horse Pasture 140.10 164 PFAKE 15 24 20.0 +9.4
SHEL LR LR
comp=Z,937nm,20.0s,MS5.5
KMBO Kilima Mbogo 140.41 237 PFAKE 15 24 20.0 +8.7
KMBO LR LR
comp=Z,647nm,19.0s,MS5.4
NOA NORSAR Array B 141.55 355 PKhKP PKPpre 15 24 08.9
comp=Z,1.0nm,0.7s,baz=3.3,slow=2.3,SNR=2.9
NOA NORSAR Array B 141.55 355 PKPpre PKPpre 15 24 08.9
NOA NORSAR Array B 141.55 355 PKHKP PKPpre 15 24 08.9
ZEI Tsey 142.00 311 *i* PKHKP PKPpre 15 24 08.2
ZEI pmax pmax
comp=Z,10.0nm,2.1s
GNI Garni 142.16 307 PFAKE 15 24 30.0 +16
GNI LR LR
comp=Z,489nm,20.0s,MS5.3
GNI Garni 142.16 307 ⇑ *i*PKIKP PKPdf 15 24 16.1 +2.5
HFS Hagfors 142.19 353 PKhKP PKPpre 15 24 07.0
comp=Z,1.5nm,0.4s,baz=3.8,slow=4.3,SNR=8.3
HFS Hagfors 142.19 353 PKPpre PKPpre 15 24 07.0
HFS Hagfors 142.19 353 PKHKP PKPpre 15 24 07.0
KIV Kislovodsk 142.42 313 PFAKE 15 24 30.0 +16
KIV LR LR
comp=Z,1μm,20.0s,MS5.6
KIV Kislovodsk 142.42 313 *i* PKHKP PKPpre 15 24 10.5
KIV *e* 15 27 16.1
KIV *e*SS SS 15 45 52.3 -3.5
KIV *e*SSS 15 51 13.8
KIV pmax pmax
comp=Z,5.0nm,1.1s
KONO Kongsberg 143.05 356 PFAKE 15 24 30.0 +15
KONO LR LR
comp=Z,655nm,20.0s,MS5.4
HAKT HAKKARI 143.56 303 *i* P PKPdf 15 24 12.3 -3.9
BHD Baghdad 143.72 296 *i* x x 15 24 12.0
TUTA Tutak 143.79 306 *i* P PKPdf 15 24 14.4 -2.1
MIGM Minsk 143.93 337 *e* PKPpre 15 24 12.0
MNK Minsk 143.94 337 *e*PKHKP PKPpre 15 24 12.0
DDEM Demirkent 144.13 309 *i* P PKPdf 15 24 14.7 -2.4
HOMI Horasan 144.28 307 *i* P PKPdf 15 24 15.9 -1.4
SOC Sochi 144.54 314 *e*PKHKP PKPpre 15 24 13.9
SOC *i* 15 24 16.9
SOC *e* 15 24 28.2
ERZM Erzurum 144.71 307 *i* P PKPdf 15 24 17.4 -0.7
BNGL BINGOL 145.16 306 *i* P PKPbc 15 24 18.7 +0.3
KOPT Kop Dagi 145.31 308 *i* P PKPbc 15 24 20.2 +1.2
BEST Besiri 145.36 304 *i* P PKPbc 15 24 18.9 -0.2
ANN Anapa 145.47 317 *i* PKHKP PKPdf 15 24 18.4 -0.8
ANN pmax pmax
comp=Z,98nm,1.0s
MBAR Mbarara 145.63 231 PFAKE 15 24 30.0 +9.5

MBAR					LR	LR		
	comp=Z,753nm,21.0s,MS5.5							
MARD	**Mardin**	**145.88**	**303**	*i* P		PKPdf	15 24 20.1	-0.1
SUW	**Suwalki**	**145.90**	**341**	*e*PKPc			15 24 19.9	
SUW	**Suwalki**	**145.90**	**341**	*e*PKPdf		PKPdf	15 24 20.2	+0.5
SUW	**Suwalki**	**145.90**	**341**	*e*PKIKP		PKPdf	15 24 20.2	+0.5
DIYA	**Diyarbakir**	**146.22**	**305**	*i* P		PKPdf	15 24 21.9	+1.2
MUD	**Monsted U'grnd**	**146.25**	**356**	*e*PKIKP		PKPdf	15 24 24.1	+3.9
MUD	**Monsted U'grnd**	**146.25**	**356**	*i* P		PKPdf	15 24 24.1	+3.9
AKASG	**Malin Array Be**	**146.28**	**332**	PKPbc		PKPbc	15 24 19.9	-1.6
	comp=Z,14nm,0.6s,baz=39,slow=4.1,SNR=40							
AKASG	**Malin Array Be**	**146.28**	**332**	PKPbc		PKPbc	15 24 19.9	-1.6
AKASG	**Malin Array Be**	**146.28**	**332**	PKHKP		PKPdf	15 24 20.0	-0.4
AKBB	**Malin Array Si**	**146.28**	**332**	*e*PKPbc		PKPbc	15 24 21.1	-0.5
AKBB	**Malin Array Si**	**146.28**	**332**	*e*PKP2		PKPab	15 24 21.1	-1.2
KIEV	**Kiev**	**146.29**	**332**	*e*PKPdf		PKPdf	15 24 20.0	-0.5
KIEV				LR		LR		
	comp=Z,781nm,20.0s,MS5.5							
KIEV	**Kiev**	**146.29**	**332**	*e*PKHKP		PKPdf	15 24 20.0	-0.4
KIEV				MLR		MLR		
	comp=Z,781nm,20.0s,MS5.5							
COP	**Copenhagen**	**146.69**	**352**	*e*PKIKP		PKPab	15 24 25.5	+1.8
COP				MLR		MLR		
	comp=Z,200nm,17.0s,MS5.0							
COP	**Copenhagen**	**146.69**	**352**	*i* P		PKPab	15 24 25.5	+1.8
COP								
	comp=Z,190nm,17.0s							
BSD	**Bornholm Skovb**	**146.88**	**349**	*e*PKP2		PKPab	15 24 25.5	+1.0
SUSE	**Susehri**	**146.90**	**309**	*i* P		PKPdf	15 24 23.4	+1.6
ELZG	**Elazig**	**146.91**	**306**	*i* P		PKPab	15 24 24.9	-0.3
ESK	**Eskdalemuir**	**147.01**	**8**	PFAKE			15 24 30.0	+8.5
ESK				LR		LR		
	comp=Z,849nm,19.0s,MS5.5							
KEMA	**Kemaliye**	**147.02**	**308**	*i* P		PKPab	15 24 25.5	-0.1
LLD	**Lille Linde**	**147.06**	**352**	*i* P		PKPab	15 24 25.5	+0.3
SIM	**Simferopol'**	**147.43**	**320**	*i* PKP2		PKPbc	15 24 25.9	+0.9
ERBA	**Erbaa**	**147.74**	**311**	*i* P		PKPdf	15 24 22.9	-0.3
ATAB	**Bozova**	**147.74**	**305**	*i* P		PKPbc	15 24 25.9	-0.3
AKCD	**Akcadag**	**147.76**	**306**	*i* P		PKPab	15 24 27.7	-0.8
SCER	**sogukcermik**	**147.79**	**309**	*i* P		PKPbc	15 24 26.9	+0.7
GKP	**Gorka Klasztor**	**148.15**	**346**	*e*PKP		PKPab	15 24 33.7	+4.1
GKP	**Gorka Klasztor**	**148.15**	**346**	*e*PKP2		PKPab	15 24 33.7	+4.1
GZT	**Gaziantep**	**148.33**	**305**	*i* P		PKPbc	15 24 26.7	-1.1
BEL	**Belsk**	**148.51**	**341**	*e*PKPc		PKPbc	15 24 27.9	+0.2
BEL	**Belsk**	**148.51**	**341**⇑	*e*PKIKP		PKPbc	15 24 27.9	+0.2
PINB	**Pinarbasi**	**148.75**	**308**	*i* P		PKPbc	15 24 29.3	+0.5
KUZU	**Kuzuini**	**148.88**	**304**	*i* P		PKPbc	15 24 29.3	+0.1
KIS	**Kishinev**	**149.08**	**327**	*e*PKP		PKPbc	15 24 28.0	-1.3
KIS	**Kishinev**	**149.08**	**327**	*e*PP			15 28 08.0	
KIS				*e*LR		LR	16 29 20.0	
	comp=Z,600nm,20.0s							
KIS	**Kishinev**	**149.08**	**327**	*e*PKIKP		PKPbc	15 24 28.0	-1.3
KIS				*e*			15 24 35.0	
KIS				*e*			15 24 38.0	
KIS				*e*			15 28 08.0	
KIS				MLR		MLR		
	comp=N,500nm,20.0s							
KIS				MLR		MLR		
	comp=Z,600nm,20.0s,MS5.4							
CTKT	**Corum**	**149.12**	**312**	*i* P		PKPbc	15 24 29.6	-0.1
ANDN	**Andirin**	**149.18**	**306**	*i* P		PKPbc	15 24 30.8	+1.0
ILGA	**Ilgaz**	**149.65**	**314**	*i* P		PKPbc	15 24 32.0	+1.1
KWP	**Kalwaria Pacla**	**149.75**	**337**	*e*PKP		PKPbc	15 24 30.9	0.0
KWP	**Kalwaria Pacla**	**149.75**	**337**	*e*PKPbc		PKPbc	15 24 31.0	+0.1
KWP				LR		LR		
	comp=Z,1μm,19.0s,MS5.7							
KWP	**Kalwaria Pacla**	**149.75**	**337**	⇑PKP2		PKPbc	15 24 31.6	+0.7
KWP	**Kalwaria Pacla**	**149.75**	**337**⇑	*i*P		PKPbc	15 24 31.6	+0.7
AVNT	**Avonos**	**149.84**	**309**	*i* P		PKPbc	15 24 31.8	+0.4
YAYL	**Yayladag**	**149.84**	**303**	*i* P		PKPbc	15 24 31.8	+0.2
YURE	**YUREGIR**	**149.96**	**305**	*i* P		PKPbc	15 24 30.3	-1.6
OJC	**Ojcow**	**150.23**	**340**	*e*PKP		PKPbc	15 24 30.1	-1.9
OJC	**Ojcow**	**150.23**	**340**	*e*PKIKP		PKPbc	15 24 30.1	-1.9
BR131	**Keskin Array S**	**150.31**	**311**	*e*PKPbc		PKPbc	15 24 32.5	-0.1
BR131				LR		LR		
	comp=Z,552nm,19.0s,MS5.4							
BRTR	**Keskin Array B**	**150.31**	**311**	PKPbc		PKPbc	15 24 31.8	-0.8
	comp=Z,6.7nm,0.8s,baz=134,slow=2.9,SNR=29							
BRTR	**Keskin Array B**	**150.31**	**311**	PKPbc		PKPbc	15 24 31.8	-0.8
BRTR	**Keskin Array B**	**150.31**	**311**	PKHKP		PKPbc	15 24 31.8	-0.8
BUR08	**Bucovina Ar. S**	**150.32**	**332**	*e*PKPbc		PKPbc	15 24 33.3	+1.0
BURAR	**Bucovina Array**	**150.34**	**331**	⇑PKP2		PKPbc	15 24 34.5	+2.1
BURAR	**Bucovina Array**	**150.34**	**331**⇑	*i*P		PKPbc	15 24 34.5	+2.1
STHS	**Stebnicka Huta**	**150.45**	**338**	*e*PKP2		PKPbc	15 24 35.1	+2.5
STHS	**Stebnicka Huta**	**150.45**	**338**	*e*PKP		PKPbc	15 24 35.1	+2.5
GULE	**Gulek**	**150.45**	**306**	*i* P		PKPbc	15 24 33.2	+0.2
KOLS	**Kolonicke sedl**	**150.48**	**336**	*e*PKHKP		PKPbc	15 24 32.6	-0.1
KOLS	**Kolonicke sedl**	**150.48**	**336**	*e*PKP		PKPbc	15 24 32.6	-0.1
TESR		**150.49**	**329**⇑	*i*P		PKPbc	15 24 34.3	+1.5
KSP	**Ksiaz**	**150.63**	**345**	*e*PKP		PKPbc	15 24 33.6	+0.7
CFR	**Carcaliu**	**150.66**	**325**	⇓PKHKP		PKPbc	15 24 34.2	+1.0
CFR	**Carcaliu**	**150.66**	**325**	⇓*i*P		PKPbc	15 24 34.2	+1.0
CFR	**Carcaliu**	**150.66**	**325**	⇓*i*P		PKPbc	15 24 34.2	+1.0
UZH	**Uzhgorod**	**150.73**	**336**	*e*PKHKP		PKPbc	15 24 33.0	-0.3
UZH				*e*			15 24 40.2	
NIE	**Niedzica**	**150.76**	**339**	*e*PKP		PKPbc	15 24 34.2	+0.9
NIE	**Niedzica**	**150.76**	**339**	*e*PKHKP		PKPbc	15 24 34.2	+0.9
CRVS	**Cervenica-Dubn**	**150.81**	**337**	*e*PKHKP		PKPbc	15 24 33.3	-0.1
CRVS	**Cervenica-Dubn**	**150.81**	**337**	*e*PKP		PKPbc	15 24 33.3	-0.1
CLL	**Collm**	**150.86**	**349**	*e*PKHKP		PKPbc	15 24 33.0	-0.5
CLL				*i*			15 24 40.0	
CLL				MLR		MLR		
	comp=Z,900nm,18.1s,MS5.6							
CLL	**Collm**	**150.86**	**349**	*e*PKPbc		PKPbc	15 24 33.0	-0.5
CLL				*i* PKPab		PKPab	15 24 40.0	-0.7
	comp=Z,19nm,1.0s							
CLL				*i* pPKPbc		pPKPbc	15 24 45.6	+5.3
	comp=Z,36nm,1.0s							
CLL				*e*PP		PP	15 28 06.0	-3.9
CLL				*e*			15 29 06.0	
CLL				*e*PPP			15 31 36.0	
CLL				*e*PPPP			15 33 54.0	
CLL				*e*SKKSac		SKKSac	15 35 06.0	+5.8
CLL				*e*PSKS			15 38 27.0	
CLL				*e*PPS			15 41 06.0	
CLL				*e*SS		SS	15 47 33.0	+3.5
CLL				*e*PSPS			15 48 47.0	
CLL				*e*SSS			15 53 12.0	
CLL				*e*SSSS			15 57 24.0	
CLL				Lm			16 42 00.0	
	comp=N,600nm,18.3s							
CLL				Lm			16 42 00.0	
	comp=E,500nm,18.0s							
CLL				Lm			16 42 00.0	
	comp=Z,900nm,18.1s							
VRI	**Vrincioaia**	**150.91**	**328**	⇓PKHKP		PKPbc	15 24 33.9	+0.1
VRI	**Vrincioaia**	**150.91**	**328**	⇓*i*P		PKPbc	15 24 33.9	+0.1
VRI	**Vrincioaia**	**150.91**	**328**	⇓*i*P		PKPbc	15 24 33.9	+0.1
PLOR	**Plostina**	**150.96**	**328**	⇑PKHKP		PKPbc	15 24 33.4	-0.5
PLOR	**Plostina**	**150.96**	**328**⇑	*i*P		PKPbc	15 24 33.4	-0.5
PLOR	**Plostina**	**150.96**	**328**⇑	*i*P		PKPbc	15 24 33.4	-0.5
TIRR	**Tirgusor**	**150.98**	**324**	⇓PKP2		PKPbc	15 24 37.0	+3.0
TIRR	**Tirgusor**	**150.98**	**324**	⇓*i*P		PKPbc	15 24 37.0	+3.0
SGKT	**Sivrigoynuk**	**150.99**	**314**	*i* P		PKPbc	15 24 33.6	-0.6
UPC	**Upice**	**151.00**	**345**	*e*PKHKP		PKPbc	15 24 34.1	+0.2
UPC	**Upice**	**151.00**	**345**⇑	*e*PKP		PKPbc	15 24 34.1	+0.2
TRPA	**Tarpa**	**151.04**	**335**⇑	*i*P		PKPbc	15 24 34.2	+0.2
OKC	**Ostrava-Krasne**	**151.06**	**342**	*e*PKHKP		PKPbc	15 24 34.0	0.0
OKC				*e*			15 24 42.3	
OKC				MLR		MLR		
	comp=Z,500nm,15.5s,MS5.4							
OKC	**Ostrava-Krasne**	**151.06**	**342**⇑	*e*PKP		PKPbc	15 24 34.0	0.0
OKC				*e*PKPAB		PKPab	15 24 42.3	+0.7
OKC				AMS		AMS	16 40 10.0	
	comp=Z,500nm,15.5s							
DPC	**Dobruska-Polom**	**151.07**	**345**	*e*PKHKP		PKPbc	15 24 33.5	-0.5
DPC				*e*			15 24 43.1	
DPC				MLR		MLR		
	comp=Z,1μm,18.6s,MS5.7							
DPC	**Dobruska-Polom**	**151.07**	**345**⇑	*e*PKP		PKPbc	15 24 33.5	-0.5
DPC				*e*PKPAB		PKPab	15 24 43.1	+1.5
DPC				AMS		AMS	16 38 50.0	
	comp=Z,1μm,18.6s							
BRG	**Berggiesshubel**	**151.10**	**348**	*e*PKP		PKPbc	15 24 34.3	+0.2
	comp=Z,16nm,1.0s							
BRG				SS		SS	15 47 34.0	+1.8
BRG								
	comp=N,572nm,16.1s							
BRG								
	comp=E,297nm,13.6s							
BRG								
	comp=Z,1μm,18.1s							

BRG	**Berggiesshubel**	**151.10**	**348**	*e*PKHKP		PKPbc	15 24 34.3	+0.2
BRG				pmax		pmax		
	comp=Z,16nm,0.9s							
BRG				MLR		MLR		
	comp=N,572nm,16.1s,MS5.6							
BRG				MLR		MLR		
	comp=E,297nm,13.6s,MS5.6							
BRG				MLR		MLR		
	comp=Z,1μm,18.1s,MS5.7							
MMAI	**Mount Meron Ar**	**151.19**	**297**	PKPbc		PKPbc	15 24 35.6	+0.7
	comp=Z,18nm,0.8s,baz=46,slow=4.8,SNR=16							
MMAI	**Mount Meron Ar**	**151.19**	**297**	PKPbc		PKPbc	15 24 35.6	+0.7
MORC	**Moravsky Berou**	**151.28**	**343**	*e*PKPbc		PKPbc	15 24 34.9	+0.3
MORC	**Moravsky Berou**	**151.28**	**343**	⇑PKHKP		PKPbc	15 24 35.5	+1.0
MORC	**Moravsky Berou**	**151.28**	**343**⇑	*i*P		PKPbc	15 24 35.5	+1.0
PVCC	**Panska Ves**	**151.31**	**347**	*e*PKHKP		PKPbc	15 24 35.0	+0.4
PVCC				MLR		MLR		
	comp=Z,800nm,18.6s,MS5.5							
PVCC	**Panska Ves**	**151.31**	**347**⇑	*e*PKP		PKPbc	15 24 35.0	+0.4
PVCC				*ex*		x	15 24 46.3	
PVCC				AMS		AMS	16 32 10.0	
	comp=Z,800nm,18.6s							
KECS	**Kecovo**	**151.50**	**338**	*e*PKIKP		PKPbc	15 24 36.7	+1.6
KECS	**Kecovo**	**151.50**	**338**	*e*PKP		PKPbc	15 24 36.7	+1.6
MLR	**Muntele Rosu**	**151.56**	**328**	PKPbc		PKPbc	15 24 34.0	-1.3
	comp=Z,1.2nm,0.6s,baz=173,slow=4.4,SNR=5.7							
MLR	**Muntele Rosu**	**151.56**	**328**	PKPbc		PKPbc	15 24 34.0	-1.3
MLR	**Muntele Rosu**	**151.56**	**328**	PKIKP		PKPbc	15 24 34.0	-1.3
KDHN	**Kadinhani**	**151.90**	**310**	*i* P		PKPbc	15 24 36.0	-0.4
VRAC	**Vranov**	**151.97**	**343**	PKPab		PKPab	15 24 46.0	+0.6
	comp=Z,5.4nm,0.7s,baz=358,slow=8.1,SNR=5.5							
VRAC	**Vranov**	**151.97**	**343**	PKPab		PKPab	15 24 46.0	+0.6
VRAC	**Vranov**	**151.97**	**343**⇑	*i*P		PKPab	15 24 46.3	+0.9
NKC	**Novy Kostel**	**151.99**	**349**	*e*PKIKP		PKPbc	15 24 35.7	-0.4
NKC				*e*			15 24 46.5	
NKC				MLR		MLR		
	comp=Z,1μm,18.1s,MS5.7							
NKC	**Novy Kostel**	**151.99**	**349**⇑	*e*PKP		PKPbc	15 24 35.7	-0.4
NKC				*e*PKPAB		PKPab	15 24 46.5	+1.1
NKC				AMS		AMS	16 41 20.0	
	comp=Z,1μm,18.1s							
VOIR		**152.04**	**329**	⇓PKIKP		PKPbc	15 24 38.1	+1.7
VOIR		**152.04**	**329**	⇓*i*P		PKPbc	15 24 38.1	+1.7
DRGR		**152.05**	**333**	⇑PKIKP		PKPbc	15 24 37.3	+0.9
DRGR		**152.05**	**333**⇑	*i*P		PKPbc	15 24 37.3	+0.9
PSZ	**Piszkesteto**	**152.19**	**338**	PFAKE			15 24 40.0	+10
PSZ				LR		LR		
	comp=Z,892nm,19.0s,MS5.6							
PSZ	**Piszkesteto**	**152.19**	**338**	⇑PKIKP		PKPbc	15 24 37.6	+0.9
PSZ	**Piszkesteto**	**152.19**	**338**⇓	*e*PKP		PKPab	15 24 47.1	+0.7
PSZ	**Piszkesteto**	**152.19**	**338**⇑	*i*P		PKPbc	15 24 37.5	+0.8
TREC	**Trest**	**152.26**	**345**	AMS		AMS	16 42 00.0	
	comp=Z,2μm,19.7s							
ESKT	**Eskisehir**	**152.31**	**313**	*i* P		PKPbc	15 24 36.4	-0.8
CSS	**Prodhromos**	**152.33**	**302**	PKPbc		PKPbc	15 24 37.4	-0.1
CSS				LR		LR		
	comp=Z,657nm,19.0s,MS5.5							
BORA	**Eskisehir**	**152.40**	**314**	*i* P		PKPbc	15 24 36.7	-0.7
BOLV	**Bolvadin**	**152.62**	**311**	*i* P		PKPdf	15 24 32.9	+2.0
KHC	**Kasperske Hory**	**152.84**	**347**	*e*PKIKP		PKPbc	15 24 38.0	-0.1
KHC				*e*			15 24 48.7	
KHC				MLR		MLR		
	comp=Z,1μm,22.7s,MS5.6							
KHC	**Kasperske Hory**	**152.84**	**347**	*e*PKPDF		PKPdf	15 24 32.5	+1.6
KHC			⇑	*e*PKP		PKPdf	15 24 38.0	+7.1
KHC				*e*PKPAB		PKPab	15 24 48.7	-0.3
KHC				*ep*PKP		pPKPab	15 24 57.0	+1.3
KHC				AMS		AMS	16 38 10.0	
	comp=Z,1μm,22.7s							
GERES	**GERESS Array B**	**153.08**	**347**	PKPbc		PKPbc	15 24 37.8	-0.8
	comp=Z,1.5nm,0.8s,baz=129,slow=1.9,SNR=5.4							
GERES				PKPab		PKPab	15 24 50.7	+0.7
	comp=Z,2.5nm,0.7s,baz=29,slow=3.0,SNR=9.0							
GERES	**GERESS Array B**	**153.08**	**347**	PKPbc		PKPbc	15 24 37.8	-0.8
GERES				PKPab		PKPab	15 24 50.7	+0.7
GERES	**GERESS Array B**	**153.08**	**347**	PKIKP		PKPbc	15 24 37.8	-0.8
GERES							15 24 50.7	
GZR	**Gura Zlata**	**153.12**	**331**	⇓PKIKP		PKPbc	15 24 40.8	+2.0
GZR	**Gura Zlata**	**153.12**	**331**	⇓*i*P		PKPbc	15 24 40.8	+2.0
ISP	**Isparta**	**153.33**	**310**	PFAKE			15 24 40.0	+8.0
ISP				LR		LR		
	comp=Z,715nm,19.0s,MS5.5							
CONA	**Conrad Observa**	**153.43**	**343**⇑	*i*PKiKP		PKPbc	15 24 39.0	-0.4
	comp=Z,25nm,1.1s							
BZS	**Buzias**	**153.45**	**333**	⇑PKIKP		PKPbc	15 24 39.5	0.0
BZS	**Buzias**	**153.45**	**333**⇑	*i*P		PKPbc	15 24 39.5	0.0
SOP	**Sopron**	**153.46**	**342**	*e*PKP		PKPab	15 24 51.4	-0.3
ARSA	**Arzberg**	**154.14**	**343**	⇓*i*PKiKP		PKPbc	15 24 41.6	+0.6
	comp=Z,14nm,1.1s							
BFO	**Black Forest**	**154.39**	**355**	PFAKE			15 24 40.0	+6.9
BFO				LR		LR		
	comp=Z,529nm,20.0s,MS5.4							
ECH	**Echery**	**154.59**	**356**	PFAKE			15 24 40.0	+6.6
ECH				LR		LR		
	comp=Z,1μm,19.0s,MS5.8							
SOKA	**Soboth**	**154.80**	**343**⇓	*i*pPKPdf		pPKPdf	15 24 44.4	+3.8
	comp=Z,18nm,1.2s							
SSB	**Saint Sauveur**	**157.60**	**0**	PFAKE			15 24 50.0	+13
SSB				LR		LR		
	comp=Z,978nm,19.0s,MS5.7							
TIR	**Tirane**	**157.60**	**329**	PFAKE			15 24 50.0	+12
TIR				LR		LR		
	comp=Z,1μm,19.0s,MS5.7							
BNI	**Bardonecchia**	**157.77**	**356**	PFAKE			15 24 50.0	+12
BNI				LR		LR		
	comp=Z,1μm,19.0s,MS5.7							
AQU	**L'Aquila**	**159.24**	**342**	PFAKE			15 24 50.0	+10
AQU				LR		LR		
	comp=Z,1μm,20.0s,MS5.7							
MTE	**Manteigas**	**159.61**	**28**	PFAKE			15 24 50.0	+10
MTE				LR		LR		
	comp=Z,2μm,21.0s,MS5.8							
CUC	**Castrocucco**	**160.49**	**334**	PFAKE			15 24 50.0	+8.9
CUC				LR		LR		
	comp=Z,672nm,19.0s							
DBIC	**Dimbokro**	**161.45**	**149**	PFAKE			15 24 50.0	+7.1
DBIC				LR		LR		
	comp=Z,2μm,20.0s							
ESLA	**Sonseca Array**	**161.63**	**22**	PFAKE			15 24 50.0	+7.7
ESLA				LR		LR		
	comp=Z,6μm,20.0s							
CEL	**Celeste**	**161.90**	**331**	PFAKE			15 24 50.0	+7.4
CEL				LR		LR		
	comp=Z,997nm,19.0s							
SFS	**San Fernando**	**163.41**	**33**	PFAKE			15 24 50.0	+5.8
SFS				LR		LR		
	comp=Z,3μm,21.0s							
TORD	**Torodi Ar. Bea**	**169.94**	**163**	PKP		PKPdf	15 24 49.6	-0.1
	comp=Z,0.9nm,0.8s,baz=252,slow=0.6,SNR=4.5							
TORD				PKPab		PKPab	15 26 03.5	-0.7
	comp=Z,2.8nm,1.0s,baz=194,slow=3.5,SNR=6.7							
TORD				PP		PP	15 29 49.1	-3.8
	comp=Z,0.4nm,0.9s,baz=203,slow=5.9,SNR=2.5							
TORD	**Torodi Ar. Bea**	**169.94**	**163**	PKP		PKPdf	15 24 49.6	-0.1
TORD				PKPab		PKPab	15 26 03.5	-0.7
TORD				PP		PP	15 29 49.1	-3.8
TAM	**Tamanrasset**	**179.31**	**268**	PFAKE			15 25 00.0	+7.6
TAM				LR		LR		
	comp=Z,731nm,20.0s							

SZGRF ***25*** *15:05:31.7,22˙.81S×35˙.94E,h28km,mb5.0,Mozambique*
ISCJB ***25*** *15:05:36.7±0.2,21˙.94S±0˙.03×33˙.50E±0˙.04,h10km, mb4.9/109,MS4.8/11,Error ellipse: s-maj=6.6km s-min=3.4km az=34.4*
BJI ***25*** *15:05:36.8,21˙.41S×33˙.13E,h10km,mB5.3/20,mb5.2/24, Ms5.4/21,Ms7 5.1/20*
MOS ***25*** *15:05:37.7±0.9,21˙.75S×33˙.78E,h10km,mb5.1/31,Error ellipse: s-maj=14.4km s-min=7.0km az=82.9*
PRE ***25*** *15:05:38.8±1.2,22˙.06S×33˙.52E,h5km,ML6.3*
DJA ***25*** *15:05:38,21˙.86S×33˙.29E,h10km,mb5.2/8*
NEIC ***25*** *15:05:38.2±0.2,21˙.92S×33˙.41E,h10km,mb4.9/24,Error ellipse: s-maj=8.8km s-min=6.9km az=126.0*
IDC ***25*** *15:05:41.4±0.4,21˙.85S×33˙.49E,h27km±2km,mb4.5/28, mb1 4.5/28,mb1mx4.4/31,mbtmp4.4/28,ML5.4/1,MS4.2/7, Ms1 4.2/7,ms1mx3.7/37,Error ellipse: s-maj=14.4km s-min=11.5km az=52.0*
ISC 25 15:05:38.2±2.4,21˚92S±0˚04×33˚61E±0˚05,h7km±15km, h27km±1.2km;pP-P,n522,σ0:86/307,mb4.9/108,MS4.8/11, 96C-84D,Mozambique

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
MOPA	**Mopani**	**2.59**	**232**	*e*P		**Pn**	**15 06 20.5**	**-0.1**
MOPA				*e*S		**Sn**	**15 06 50.4**	**-2.0**
MOPA				AML		AML	15 07 04.3	
	comp=Z,43μm,0.6s							
POGA	**Pongola**	**5.73**	**198**	*e*P		**Pn**	**15 07 03.0**	**-0.8**
POGA				*e*S		**Sn**	**15 08 03.1**	**-6.6**
POGA				AML		AML	15 08 59.8	
	comp=Z,2μm,0.6s							
SLR	**Silverton**	**6.18**	**231**	*e*P		**Pn**	**15 07 10.4**	**+0.5**
SLR				*e*S		**Sn**	**15 08 15.3**	**-5.7**
SLR				AML		AML	15 09 07.3	
	comp=Z,3μm,0.5s							
KSR	**Koster**	**7.29**	**236**	*e*P		**Pn**	**15 07 25.3**	**+0.2**
KSR				*e*S		**Sn**	**15 08 43.3**	**-4.8**
KSR				AML		AML	15 09 37.2	
	comp=Z,1μm,0.5s							
PRYS	**Parys**	**7.57**	**228**	*e*P		**Pn**	**15 07 28.6**	**-0.4**
PRYS				*e*S		**Sn**	**15 08 48.8**	**-6.4**
PRYS				AML		AML	15 09 37.9	
	comp=Z,1μm,0.7s							
LBTB	**Lobatse**	**7.98**	**246**	Pn		**Pn**	**15 07 32.8**	**-1.8**
	comp=Z,54nm,0.3s,baz=76,slow=12,SNR=665							
LBTB				Sn		**Sn**	**15 08 57.5**	**-7.7**
	comp=Z,75nm,0.3s,baz=132,slow=11,SNR=7.3							
LBTB				Lg			15 09 40.9	
	comp=Z,81nm,0.3s,baz=347,slow=21,SNR=11							
LBTB				LR		LR	15 10 51.5	
	comp=Z,2μm,19.8s,baz=79,slow=39							
LBTB	**Lobatse**	**7.98**	**246**	*e*P		**Pn**	**15 07 32.5**	**-2.1**
	comp=Z,202nm,1.9s							
LBTB				Sn		**Sn**	**15 08 57.5**	**-7.7**
LBTB				Lg			15 09 40.9	
LBTB	**Lobatse**	**7.98**	**246**	P		**Pn**	**15 07 32.8**	**-1.8**
LBTB				pmax		pmax		
	comp=Z,54nm,0.3s							
LBTB				MLR		MLR		
	comp=Z,2μm,19.8s							
LSZ	**Lusaka**	**8.37**	**321**	*e*P		**Pn**	**15 07 35.6**	**-4.4**
	comp=Z,211nm,0.6s							
LSZ	**Lusaka**	**8.37**	**321**	*e*P		**Pn**	**15 07 35.6**	**-4.4**
LSZ				pmax		pmax		
	comp=Z,211nm,0.6s							
SEK	**Senekal**	**8.37**	**219**	*e*P		**Pn**	**15 07 39.4**	**-0.7**
SEK				*e*S		**Sn**	**15 09 07.2**	**-7.6**
SEK				AML		AML	15 10 11.8	
	comp=Z,1μm,0.7s							
SWZ	**Schweizer**	**9.18**	**234**	*e*P		**Pn**	**15 07 50.5**	**-0.6**
SWZ				*e*S		**Sn**	**15 09 27.1**	**-7.6**
SWZ				AML		AML	15 10 27.2	
	comp=Z,594nm,0.6s							
KSD	**Kokstad**	**9.38**	**203**	*e*P		**Pn**	**15 07 54.0**	**+0.1**
KSD				*e*S		**Sn**	**15 09 31.6**	**-8.0**
KSD				AML		AML	15 10 46.6	
	comp=Z,490nm,0.7s							
BOSA	**Boshof**	**10.08**	**227**	Pn		**Pn**	**15 08 01.2**	**-2.2**
	comp=Z,18nm,0.3s,baz=53,slow=14,SNR=219							
BOSA				Sn		**Sn**	**15 09 45.8**	**-11**
	comp=Z,18nm,0.3s,baz=352,slow=15,SNR=4.5							
BOSA				Lg			15 10 49.4	
	comp=Z,18nm,0.3s,baz=137,slow=22,SNR=6.4							
BOSA				LR		LR	15 12 17.2	
	comp=Z,987nm,18.7s,baz=56,slow=39							

comp=Z,27nm,0.7s,mb5.4,baz=312,slow=8.5,SNR=51
MAW Mawson 49.22 166 *e*P P **15 14 27.7 +0.8**
comp=Z,5.7nm,0.8s,mb4.7
MAW Mawson 49.22 166 *e*P P **15 14 27.7 +0.8**
MAW pmax pmax
comp=Z,6.0nm,0.8s
NVL N'lazarevskaya 50.52 189 *e*P P **15 14 38.5 +1.8**
NVL *e*PP pP 15 14 46.6 +7.7
NVL pmax pmax
comp=Z,16nm,0.9s,mb5.0
MAIT Maitri 50.54 189 *e*P P **15 14 37.3 +0.5**
TAM Tamanrasset 52.18 327 *e*P P **15 14 58.1 +8.4**
comp=Z,3.4nm,0.8s,mb4.3
TAM Tamanrasset 52.18 327 *e*P P **15 14 58.2 +8.4**
TAM pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
NAY Al-Naaiem 52.53 15 *e*P P **15 14 52.2 -0.1**
NAY AMb AMB 15 14 53.9
comp=Z,18nm,1.2s,mb4.9
UMR Umm Al-Rimmam 52.94 15 *e*P P **15 14 55.7 +0.5**
UMR AMb AMB 15 14 57.1
comp=Z,102nm,1.1s,mb5.7
MIB Mutribah 53.09 15 *e*P P **15 14 56.7 +0.4**
MIB AMb AMB 15 15 06.3
comp=Z,48nm,0.8s,mb5.5
SNAA Sanae 53.96 193 *e* P **15 14 58.2 -4.1**
SNAA Sanae 53.96 193 *e*P P **15 14 57.6 -4.7**
comp=Z,14nm,1.1s,mb4.8
SNAA Sanae 53.96 193 *e*P P **15 14 57.6 -4.7**
SNAA pmax pmax
comp=Z,14nm,1.1s
VNA2 Neumayer--Watz 54.49 195 *e* P **15 15 06.4 +0.2**
baz=29,slow=7.1
VNA2 *e* 15 15 14.8
VNA1 Neumayer--Stat 54.53 196 *e* P **15 15 07.3 +0.9**
VNA1 *e* 15 15 15.5
VNA3 Neumayer Olymp 55.26 196 *e* P **15 15 11.6 -0.2**
VNA3 *e* 15 15 19.9
BRTR Keskin Array B 61.32 0 P P **15 15 54.9 +0.5**
comp=Z,4.0nm,0.8s,mb4.6,baz=183,slow=8.3,SNR=18
BRTR pP pP 15 16 02.8 +6.2
comp=Z,9.0nm,0.7s,baz=174,slow=8.8,SNR=31
BRTR Keskin Array B 61.32 0 P P **15 15 54.9 +0.5**
BRTR pP pP 15 16 02.8 +6.2
BRTR Keskin Array B 61.32 0 P P **15 15 54.9 +0.5**
BRTR *PP pP 15 16 02.8 +6.2
BR131 Keskin Array S 61.32 0 *e*P P **15 15 54.4 0.0**
comp=Z,7.3nm,0.7s,mb4.9
BR131 *e* 15 16 03.0
GNI Garni 62.61 10 P P **15 16 03.3 +0.3**
comp=Z,6.9nm,0.8s,mb4.8
GNI Garni 62.61 10 P P **15 16 03.3 +0.2**
GNI pmax pmax
comp=Z,7.0nm,0.8s
AKH Akhalkalaki 63.66 8 P P **15 16 10.6 +0.5**
DGRG David-gareji 63.98 10 P P **15 16 11.3 -0.9**
ONI Oni 64.82 8 P P **15 16 18.3 +0.6**
ZEI Tsey 65.06 8 *e*P P **15 16 18.9 -0.2**
ZEI pmax pmax
comp=Z,13nm,1.5s,mb4.7
KIV Kislovodsk 66.07 7 P P **15 16 26.1 +0.4**
comp=Z,15nm,1.0s,mb5.0
KIV *e* 15 16 34.3
KIV Kislovodsk 66.07 7 *e*P P **15 16 26.3 +0.6**
KIV pmax pmax
comp=Z,13nm,0.9s,mb5.0
MLR Muntele Rosu 67.44 354 P P **15 16 34.9 +0.6**
comp=Z,1.3nm,0.8s,mb4.0,baz=196,slow=10,SNR=5.5
MLR pP pP 15 16 43.3 +6.7
comp=Z,1.4nm,0.8s,baz=143,slow=9.4,SNR=4.5
MLR Muntele Rosu 67.44 354 P P **15 16 34.9 +0.6**
MLR pP pP 15 16 43.3 +6.7
MLR Muntele Rosu 67.44 354 P P **15 16 34.9 +0.5**
MLR *PP pP 15 16 43.3 +6.6
MLR Muntele Rosu 67.44 354⇑*i*P P **15 16 35.4 +1.0**
GZR Gura Zlata 67.70 352 ⇓P P **15 16 40.0 +3.9**
GZR Gura Zlata 67.70 352 ⇓*i*P P **15 16 40.0 +3.9**
PLOR Plostina 67.74 355 ⇓P P **15 16 36.7 +0.5**
PLOR Plostina 67.74 355 ⇓*i*P P **15 16 36.7 +0.5**
VRI Vrincioaia 67.74 355 ⇑P P **15 16 37.7 +1.4**
VRI Vrincioaia 67.74 355 ⇑*i*P P **15 16 37.7 +1.4**
PGF Pioggiola 68.04 341 *e*P P **15 16 38.4 +0.1**
comp=Z,261nm,1.7s,mb5.7
BZS Buzias 68.09 351 ⇓P P **15 16 39.0 +0.5**
BZS Buzias 68.09 351 ⇓*i*P P **15 16 39.0 +0.5**
PYUN Piuthan 68.89 46 *e*P P **15 16 43.3 -0.6**
comp=Z,88nm,0.9s,mb5.7
KOLN Koldanda 69.08 47 *e*P P **15 16 44.5 -0.6**
comp=Z,34nm,0.9s,mb5.3
DRGR 69.09 352⇑P P **15 16 45.4 +0.7**
DRGR 69.09 352⇑*i*P P **15 16 45.4 +0.7**
PKSM Moragy 69.15 349⇑*i*P P **15 16 53.6 +8.5**
LMR La Mourre 69.55 339 *e*P P **15 16 47.8 +0.2**
DANN Dangsing 69.56 46 *e*P P **15 16 47.4 -0.7**
comp=Z,41nm,0.9s,mb5.3
BURAR Bucovina Array 69.61 354 ⇓P P **15 16 49.5 +1.6**
BURAR Bucovina Array 69.61 354 ⇓*i*P P **15 16 49.5 +1.6**
BUR08 Bucovina Ar. S 69.65 354 *e*P P **15 16 48.9 +0.8**
FRF La Foret Royal 69.70 339 *e*P P **15 16 48.7 +0.1**
SBF Sospel 69.72 340 *e*P P **15 16 48.7 0.0**
GKN Gorkha 69.93 47 *e*P P **15 16 49.7 -0.7**
comp=Z,62nm,0.8s,mb5.6
DMN Daman 70.00 48 *e*P P **15 16 50.4 -0.4**
PKI Pulchoki 70.19 48 *e*P P **15 16 51.4 -0.5**
comp=Z,51nm,1.0s,mb5.4
KKN Kakani 70.24 48 *e*P P **15 16 51.7 -0.5**
comp=Z,31nm,0.9s,mb5.2
PSZ Piszkesteto 70.59 350 ⇓P P **15 17 00.4 +6.5**
PSZ Piszkesteto 70.59 350 ⇓*i*P P **15 17 00.4 +6.5**
ESDC Sonseca Array 70.60 330 P P **15 16 54.3 +0.1**
comp=Z,0.5nm,0.3s,mb3.9,baz=148,slow=5.3,SNR=8.1
ESDC pP pP 15 17 02.2 +5.8
comp=Z,5.7nm,0.8s,baz=145,slow=5.9,SNR=7.3
ESDC Sonseca Array 70.60 330 P P **15 16 54.3 +0.1**
ESDC pP pP 15 17 02.2 +5.8
RAMN Ramite 70.63 49 *e*P P **15 16 54.6 -0.1**
comp=Z,46nm,0.8s,mb5.5
MBDF Montbardon 70.71 340 *e*P P **15 16 55.9 +1.2**
comp=Z,20nm,0.9s,mb4.8
GUN Gumba 70.72 48 *e*P P **15 16 55.1 -0.1**
comp=Z,98nm,0.9s,mb5.7
JIRN Jiri 70.78 48 *e*P P **15 16 55.3 -0.3**
comp=Z,63nm,0.8s,mb5.6
IPM Ipoh 70.93 77 *e*P P **15 16 57.0 +0.2**
comp=Z,24nm,0.8s,mb5.2
ABTA Abfaltersbach 70.95 345⇑*i*P P **15 16 57.1 +1.0**
comp=Z,7.0nm,0.7s,mb4.7
ABTA ⇓*i*SP SP 15 17 06.0 +6.8
comp=Z,16nm,1.0s
ODAN Odare 71.13 50 *e*P P **15 16 57.5 -0.2**
comp=Z,45nm,0.9s,mb5.4
LPG La Plagne 71.40 340 *e*P P **15 16 59.3 +0.4**
comp=Z,48nm,1.3s,mb5.0
LPL La Plagne 71.43 340 *e*P P **15 16 59.4 +0.4**
comp=Z,37nm,1.1s,mb5.0
VIVF Saint-Julien-l 71.51 339 *e*P P **15 17 00.2 +0.6**
EPF Esparros 71.52 335 *e*P P **15 16 59.9 +0.2**
comp=Z,20nm,0.9s,mb4.7
TUE Stuetta 71.52 343 *e*P P **15 16 59.3 -0.3**
comp=Z,17nm,0.9s,mb5.0
MOA Molln 71.58 346⇓*i*P P **15 17 00.3 +0.4**
comp=Z,12nm,0.9s,mb4.8
MOA ⇑*i*SP SP 15 17 08.9 +5.9
comp=Z,17nm,1.0s
FETA Feichten 71.66 344⇑*i*P P **15 17 01.4 +1.0**
comp=Z,13nm,0.9s,mb4.9
FETA ⇑*i*SP SP 15 17 09.6 +6.1
comp=Z,21nm,1.0s
TAPN Taplejung 71.66 49 *e*P P **15 17 00.7 -0.2**
comp=Z,24nm,1.1s,mb5.0
DAVOX Davos/Dischmat 71.66 343 P P **15 17 01.3 +0.9**
comp=Z,5.5nm,0.6s,mb4.6,baz=141,slow=11,SNR=8.7
DAVOX pP pP 15 17 09.3 +6.6
comp=Z,13nm,0.9s,baz=128,slow=11,SNR=5.7
DAVOX Davos/Dischmat 71.66 343 P P **15 17 01.3 +0.9**
DAVOX pP pP 15 17 09.3 +6.6
ETSF Etsaut 71.76 334 *e*P P **15 17 01.3 +0.1**
comp=Z,25nm,0.8s,mb4.9
MOTA Moosalm 71.86 344⇑*i*P P **15 17 02.2 +0.6**
comp=Z,7.0nm,0.8s,mb4.7
MOTA ⇑*i*SP SP 15 17 09.8 +5.1
comp=Z,21nm,1.1s
SJPF Ste Jean 72.21 334 *e*P P **15 17 03.8 0.0**
comp=Z,137nm,1.6s,mb5.3
KIEV Kiev 72.39 357 *e*P P **15 17 02.2 -2.5**
comp=Z,5.2nm,1.0s,mb4.4
KIEV *e* 15 17 12.1
KIEV Kiev 72.39 357 *e*P P **15 17 02.2 -2.5**
KIEV pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
AKASG Malin Array Be 72.40 357 P P **15 17 04.2 -0.6**
comp=Z,2.5nm,0.6s,mb4.3,baz=182,slow=5.8,SNR=7.6
AKASG pP pP 15 17 12.4 +5.4
comp=Z,6.2nm,0.8s,baz=184,slow=5.8,SNR=8.9
AKASG Malin Array Be 72.40 357 P P **15 17 04.2 -0.6**
AKASG pP pP 15 17 12.4 +5.4
AKASG Malin Array Be 72.40 357 P P **15 17 04.2 -0.5**
AKASG *PP pP 15 17 12.5 +5.5
CAF Calviac 72.48 337 *e*P P **15 17 05.8 +0.4**
FUR Furstenfeldbru 72.58 345 *e*P P **15 17 06.9 +1.0**
comp=Z,42nm,1.3s,mb5.2
FUR Furstenfeldbru 72.58 345 *e*P P **15 17 06.9 +1.0**
FUR pmax pmax
comp=Z,42nm,1.3s,mb5.2
CABF La Chapelle 72.61 340 *e*P P **15 17 06.5 +0.4**
comp=Z,39nm,1.0s,mb5.0
GEC2 GERESS Array S 72.65 346 *e*P P **15 17 06.3 0.0**
comp=Z,14nm,1.5s,mb4.7
GEC2 GERESS Array S 72.65 346 *e*P P **15 17 06.3 0.0**
GEC2 pmax pmax
comp=Z,14nm,1.5s,mb4.7
GERES GERESS Array B 72.65 346 P P **15 17 06.7 +0.4**
comp=Z,2.6nm,0.8s,mb4.2,baz=152,slow=6.0,SNR=14
GERES pP pP 15 17 15.0 +6.4
comp=Z,4.1nm,0.8s,baz=160,slow=5.5,SNR=12
GERES GERESS Array B 72.65 346 P P **15 17 06.7 +0.4**
GERES pP pP 15 17 15.0 +6.5
GERES GERESS Array B 72.65 346 P P **15 17 06.7 +0.4**
GERES *PP pP 15 17 15.0 +6.4
MORC Moravsky Berou 72.78 349⇓P P **15 17 15.4 +8.3**
MORC Moravsky Berou 72.78 349⇓*i*P P **15 17 15.4 +8.3**
KSH Kashi 72.81 33 *e*P P **15 17 04.5 -3.0**
KSH pP pP 15 17 09.3 -0.5
KSH sP sP 15 17 11.5 +0.9
KSH PcP PcP 15 17 23.0 -1.7
KSH PP PP 15 19 46.8 -3.0
KSH S S 15 26 25.0 -8.8
KSH sS sS 15 26 33.3 -4.2
KSH SKS 15 27 03.8
KSH ScS ScS 15 27 06.8 -8.7
KSH SS SS 15 31 04.8 -9.5
KSH pmax pmax
comp=Z,3.0nm,0.3s,mb4.7
KSH pmax pmax
comp=Z,27nm,3.6s
KSH LR LR
comp=N,130nm,5.4s
KSH LR LR
comp=E,170nm,6.0s
KSH LR LR
comp=Z,200nm,5.5s
KHC Kasperske Hory 72.95 346 *e*P P **15 17 06.0 -2.1**
KHC Kasperske Hory 72.95 346 *e*P P **15 17 06.0 -2.1**
KHC *ex* x 15 17 16.5
LFF La Frestale 72.98 336 *e*P P **15 17 08.7 +0.3**
KK31 Karatay Array 73.07 27 *i*P P **15 17 08.6 -0.3**
KKAR Karatay Array 73.07 27 *e*P P **15 17 08.3 -0.6**
comp=Z,14nm,0.9s,mb4.9
KKAR Karatay Array 73.07 27 *e*P P **15 17 08.3 -0.6**
KKAR pmax pmax
comp=Z,14nm,0.9s,mb4.9
NWAO Narrogin (SRO) 73.30 119 P P **15 17 11.4 +0.7**
comp=Z,10nm,0.8s,mb4.8,baz=220,slow=7.1
NWAO pP pP 15 17 19.6 +6.6
baz=287,slow=6.3
NWAO Narrogin (SRO) 73.30 119 P P **15 17 11.4 +0.7**
NWAO pP pP 15 17 19.6 +6.6
NWAO Narrogin (SRO) 73.30 119 P P **15 17 11.4 +0.7**
NWAO *PP pP 15 17 19.6 +6.6
SMF Signal de Mont 73.36 339 *e*P P **15 17 10.6 0.0**
comp=Z,42nm,1.2s,mb5.0
HINF Hinteralfeld 73.46 342 *e*P P **15 17 11.2 +0.1**
DPC Dobruska-Polom 73.55 349 *e*P P **15 17 19.8 +8.2**
DPC Dobruska-Polom 73.55 349 *e*P P **15 17 19.8 +8.2**
TCF Toulx Ste Croi 73.60 338 *e*P P **15 17 12.6 +0.6**
BGF Bois d'Agland 73.62 338 *e*P P **15 17 11.3 -0.8**
AVF Avrsur Loir 73.65 339 *e*P P **15 17 12.4 +0.1**
comp=Z,26nm,0.9s,mb4.8
AML Almayashu 73.71 30 P P **15 17 13.4 +0.6**
SNR=17
UPC Upice 73.76 348 *e*P P **15 17 20.6 +7.8**
UPC Upice 73.76 348 *e*P P **15 17 20.6 +7.8**
HAU Haudompre 73.78 341 *e*P P **15 17 13.1 +0.1**
comp=Z,62nm,1.1s,mb5.1
HAU *e*R
comp=Z,191nm,20.5s
SSF Saint Saulge 73.83 339 *e*P P **15 17 13.2 -0.1**
ROTZ Rotzenmühle 73.85 346 *e*P P **15 17 14.1 +0.7**
comp=Z,12nm,1.0s,mb4.8
CDF Champ du Feu 73.87 342 *e*P P **15 17 13.4 -0.1**
comp=Z,19nm,1.0s,mb4.7
LOR Lormes 73.90 339 *e*P P **15 17 13.6 -0.1**
LOR *e*R
comp=Z,148nm,21.5s
GRA2 Grafenberg Arr 73.94 345 *e*P P **15 17 14.7 +0.8**
EKS2 Erkin-Say 74.16 30 P P **15 17 15.5 +0.1**
SNR=14
EKS2 Erkin-Say 74.16 30 *e*P P **15 17 15.5 +0.1**
comp=Z,13nm,1.0s,mb4.8
EKS2 Erkin-Say 74.16 30 *e*P P **15 17 15.5 +0.1**
EKS2 pmax pmax
comp=Z,13nm,1.0s,mb4.8
NKC Novy Kostel 74.23 346 *e*P P **15 17 24.6 +9.0**
NKC Novy Kostel 74.23 346 *e*P P **15 17 24.6 +9.0**
SFTF Sexfontaines 74.35 341 *e*P P **15 17 16.7 +0.4**
KZA Kyzart 74.40 31 P P **15 17 18.1 +1.3**
SNR=8.3
TANN Tannenbergstha 74.40 346 *e*P P **15 17 17.4 +0.8**
comp=Z,9.0nm,1.0s,mb4.7
PAGF Fort de Pagny 74.45 341 *e*P P **15 17 17.2 +0.3**
WERD Werda 74.47 346 *e*P P **15 17 17.9 +0.9**
comp=Z,15nm,1.3s,mb4.8
AAK Ala-Archa 74.47 30 P P **15 17 17.6 +0.4**
SNR=5.8
AAK Ala-Archa 74.47 30 *e*P P **15 17 16.1 -1.1**
comp=Z,48nm,1.3s,mb5.3
AAK Ala-Archa 74.47 30 *e*P P **15 17 16.1 -1.1**
AAK pmax pmax
comp=Z,48nm,1.3s,mb5.3
BRG Berggiesshubel 74.52 347 *e*P P **15 17 17.4 +0.2**
comp=Z,37nm,2.5s,mb4.9
AB31 Akbulak array 74.64 18 P P **15 17 16.6 -1.4**
AB31 pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
ABKAR Akbulak array 74.64 18 *e*P P **15 17 17.0 -0.9**
comp=Z,3.4nm,0.5s,mb4.5
ABKAR *e* 15 17 25.1
KBK Karagaybulak 74.70 30 P P **15 17 19.8 +1.2**
SNR=5.1
MOX Moxa 74.81 346 *e*P P **15 17 19.7 +0.8**
comp=Z,15nm,1.3s,mb4.8
MOX Moxa 74.81 346 *e*P P **15 17 19.7 +0.8**
MOX pmax pmax
comp=Z,15nm,1.3s,mb4.8
USP Ospenovka 74.97 30 P P **15 17 19.9 -0.2**
SNR=6.8
ULHL Ulahol 75.00 31 P P **15 17 21.4 +1.1**
SNR=5.2
CLL Collm 75.12 347 *e*P P **15 17 21.0 +0.3**
comp=Z,14nm,1.6s,mb4.6
CLL *e*pP pP 15 17 29.2 +6.2
CLL Collm 75.12 347 *e*P P **15 17 21.0 +0.3**
CLL *i* 15 17 29.3
CLL Collm 75.12 347 *e*P P **15 17 21.0 +0.3**
CLL *i* (sP) sP 15 17 29.3 +5.4
comp=Z,11nm,1.1s
AKTO Aktyubinsk 75.20 16 P P **15 17 20.7 -0.5**
comp=Z,4.7nm,0.8s,mb4.5,baz=199,slow=5.2,SNR=15
AKTO pP pP 15 17 28.9 +5.4
comp=Z,3.6nm,0.7s,baz=53,slow=6.6,SNR=8.4
AKTO Aktyubinsk 75.20 16 P P **15 17 20.7 -0.5**
AKTO pP pP 15 17 28.9 +5.4
AKTO Aktyubinsk 75.20 16 P P **15 17 19.9 -1.3**
TNS Taunus Mts 75.20 344 *e*P P **15 17 21.9 +0.7**
comp=Z,13nm,1.2s,mb4.7
TNS Taunus Mts 75.20 344 *e*P P **15 17 21.9 +0.7**
TNS pmax pmax
comp=Z,13nm,1.2s,mb4.7
TKM2 Tokmak 2 75.21 31 P P **15 17 21.8 +0.4**
SNR=13
TKM2 Tokmak 2 75.21 31 *e*P P **15 17 21.6 +0.2**
comp=Z,22nm,1.1s,mb5.0
TKM2 Tokmak 2 75.21 31 *i*P P **15 17 21.8 +0.3**
CM31 Chiang Mai Arr 75.46 63 *e*P P **15 17 23.4 0.0**
comp=Z,1.0nm,0.4s,mb4.1
CMAR Chiang Mai Arr 75.46 63 P P **15 17 23.4 -0.1**
comp=Z,2.9nm,0.7s,mb4.3,baz=245,slow=7.4,SNR=27
CMAR Chiang Mai Arr 75.46 63 P P **15 17 23.4 -0.1**
CMAR Chiang Mai Arr 75.46 63 P P **15 17 23.4 0.0**
LSA Lhasa 75.48 49 *e*P P **15 17 24.4 +1.1**
comp=Z,24nm,0.8s,mb5.2
LSA Lhasa 75.48 49 *e*P P **15 17 24.4 +1.1**
LSA pmax pmax
comp=Z,24nm,0.8s,mb5.2
CHTO Chiang Mai 75.63 63 *e*P P **15 17 24.1 -0.3**
comp=Z,14nm,1.2s,mb4.8
CHTO Chiang Mai 75.63 63 *e*P P **15 17 24.1 -0.3**
CHTO pmax pmax
comp=Z,14nm,1.2s,mb4.8
GIVF Givet 76.10 341 *e*P P **15 17 26.4 0.0**
BCLA Clavier 76.24 342 P P **15 17 28.4 +1.2**
BAIF Baives 76.25 341 *e*P P **15 17 27.5 +0.3**
comp=Z,50nm,1.2s,mb5.0
VNDA Vanda 76.28 170 *e*P P **15 17 25.2 -2.1**
comp=Z,7.5nm,1.0s,mb4.6
VNDA Vanda 76.28 170 *e*P P **15 17 25.2 -2.0**
VNDA pmax pmax
comp=Z,8.0nm,1.0s
LDF La Druitiere 76.39 338 *e*P P **15 17 27.8 -0.3**
OBN Obninsk 76.75 2⇑*i*P P **15 17 29.8 -0.2**
OBN *i* 15 17 38.2
OBN *e* 15 27 07.1
OBN *e* 15 27 39.0
OBN pmax pmax
comp=Z,13nm,1.2s,mb4.7
ROSF Rostrenen 77.34 336 *e*P P **15 17 33.8 +0.4**
BSEG Bad Segeberg 78.17 346 *e*P P **15 17 37.7 -0.2**
comp=Z,52nm,1.3s,mb5.3
BSEG Bad Segeberg 78.17 346 *e*P P **15 17 37.7 -0.2**
BSEG pmax pmax
comp=Z,52nm,1.3s,mb5.3
VSU Vasula 80.28 356*ce*P P **15 17 48.4 -0.9**
VSU pmax pmax
comp=Z,31nm,1.7s,mb5.0
ARU Arti 80.84 14 *e*P P **15 17 52.0 -0.4**
comp=Z,11nm,1.1s,mb4.7
ARU Arti 80.84 14*d i*P P **15 17 52.0 -0.4**
ARU 15 20 54.4
ARU S S 15 28 03.9 +3.1
ARU SS SS 15 33 16.4 +1.3
ARU pmax pmax
comp=Z,13nm,1.2s,mb4.7
VOSK Vostochnaya 81.12 22 P P **15 17 52.2 -1.8**
VOSK pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
BRVK Borovoye 81.16 21 *e*P P **15 17 53.7 -0.5**
comp=Z,8.7nm,1.1s,mb4.6
BRVK Borovoye 81.16 21 P P **15 17 53.1 -1.1**
comp=Z,52nm,1.0s,mb5.4,SNR=5.0
BRVK Borovoye 81.16 21*d i*P P **15 17 53.6 -0.6**
BRVK pmax pmax
comp=Z,16nm,1.7s,mb4.7
BVA0 Borovoye Array 81.17 21 *i*P P **15 17 53.3 -0.9**
BVA0 pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
BVAR Borovoye Array 81.17 21 P P **15 17 53.8 -0.4**
comp=Z,11nm,0.9s,mb4.8,baz=217,slow=6.7,SNR=46
BVAR pP pP 15 18 02.9 +6.4
comp=Z,8.3nm,0.8s,baz=212,slow=5.3,SNR=15
BVAR Borovoye Array 81.17 21 P P **15 17 53.8 -0.4**
BVAR pP pP 15 18 02.9 +6.4
BVAR Borovoye Array 81.17 21 P P **15 17 53.8 -0.4**
BVAR *PP pP 15 18 02.9 +6.4
MK31 Makanchi Array 81.28 31 *e*P P **15 17 54.3 -0.7**
MK31 Makanchi Array 81.28 31 *e*P P **15 17 54.3 -0.7**
MKAR Makanchi Array 81.28 31 P P **15 17 54.4 -0.6**
comp=Z,7.2nm,0.8s,mb4.6,baz=219,slow=5.4,SNR=24
MKAR pP pP 15 18 02.9 +5.6
comp=Z,4.0nm,0.7s,baz=219,slow=6.2,SNR=7.0
MKAR Makanchi Array 81.28 31 P P **15 17 54.4 -0.6**
MKAR pP pP 15 18 02.9 +5.6
MKAR Makanchi Array 81.28 31 P P **15 17 54.4 -0.6**
MKAR *PP pP 15 18 02.9 +5.6
CPUP Villa Florida 81.37 245 P P **15 17 55.3 -0.8**
comp=Z,0.4nm,0.4s,mb3.8,baz=279,slow=1.2,SNR=3.1
CPUP Villa Florida 81.37 245 P P **15 17 55.3 -0.8**
CPUP Villa Florida 81.37 245 P P **15 17 55.3 -0.8**
SVE Sverdlovsk 81.67 15 *e*P P **15 17 56.1 -0.7**
SVE pmax pmax
comp=Z,20nm,1.6s,mb4.8
WMQ Urumqi 82.05 36 P P **15 17 59.8 +0.6**
WMQ pP pP 15 18 04.5 +3.0
WMQ sP sP 15 18 06.8 +4.5
WMQ pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
WMQ LR LR
comp=N,320nm,18.3s,MS5.0
WMQ LR LR
comp=E,520nm,16.5s,MS5.0
WMQ LR LR
comp=Z,530nm,21.0s,MS4.9
KURK Kurchatov 82.48 27 P P **15 18 00.7 -0.5**
comp=Z,16nm,0.8s,mb5.0,baz=228,slow=5.8,SNR=133
KURK pP pP 15 18 09.5 +6.0
comp=Z,11nm,0.8s,baz=226,slow=5.9,SNR=15
KURK PP PP 15 21 04.9 -5.8
comp=Z,0.9nm,0.7s,baz=236,slow=5.3,SNR=2.9
KURK Kurchatov 82.48 27 *e*P P **15 18 01.2 0.0**
KURK pP pP 15 18 09.5 +6.0
KURK PP PP 15 21 04.9 -5.8
KURK Kurchatov 82.48 27*d i*P P **15 18 00.9 -0.3**
KURK pmax pmax
comp=Z,40nm,1.7s,mb5.1
KURK Kurchatov 82.48 27 P P **15 18 01.7 +0.5**
comp=Z,116nm,1.0s,mb5.8,SNR=10
KLMR Klimovskoe 82.61 3 *e*P P **15 17 59.2 -2.4**
KLMR pmax pmax
comp=Z,22nm,1.4s,mb5.0
FINES FINESS Array B 83.28 356 P P **15 18 05.0 -0.1**
comp=Z,4.6nm,0.8s,mb4.6,baz=155,slow=5.5,SNR=6.9
FINES pP pP 15 18 13.2 +5.8
comp=Z,4.5nm,0.8s,baz=151,slow=4.4,SNR=3.9
FINES FINESS Array B 83.28 356 P P **15 18 05.0 -0.1**
FINES pP pP 15 18 13.2 +5.8
FINES FINESS Array B 83.28 356 P P **15 18 05.0 -0.1**
FINES *PP pP 15 18 13.2 +5.8
SOKR Solikamsk 83.39 12⇑*i*P P **15 18 06.2 +0.5**
SOKR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
KAF Kangasniemi 83.94 357 *e*P P **15 18 07.7 -0.8**
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
KAF Kangasniemi 83.94 357 *ep* P **15 18 07.7 -0.8**
comp=Z,4.6nm,0.6s,mb4.8
JOF Joensuu 84.56 359 *e*P P **15 18 11.0 -0.6**
JOF pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
JOF Joensuu 84.56 359 *ep* P **15 18 11.0 -0.6**
comp=Z,1.7nm,0.6s,mb4.3
NB2 NORSAR Subarra 84.62 349 P P **15 18 11.8 -0.2**
comp=Z,11nm,1.0s,mb4.9,baz=152,slow=4.8
NOA NORSAR Array B 84.62 349 P P **15 18 12.1 +0.1**
comp=Z,5.6nm,0.8s,mb4.7,baz=151,slow=4.7,SNR=9.2
NOA pP pP 15 18 21.3 +7.0
comp=Z,6.4nm,0.9s,baz=152,slow=4.7,SNR=11
NOA NORSAR Array B 84.62 349 P P **15 18 12.1 +0.1**
NOA pP pP 15 18 21.3 +7.0
NOA NORSAR Array B 84.62 349 P P **15 18 12.1 +0.1**
NOA *PP pP 15 18 21.3 +7.0
FITZ Fitzroy Crossi 85.22 107 P P **15 18 17.0 +0.8**
comp=Z,8.0nm,0.7s,mb4.9,baz=223,slow=5.3,SNR=10
FITZ pP pP 15 18 26.0 +7.5
comp=Z,2.3nm,0.5s,baz=235,slow=5.2,SNR=3.1
FITZ Fitzroy Crossi 85.22 107 P P **15 18 17.0 +0.8**
FITZ pP pP 15 18 26.0 +7.5
CD2 Chengdu 85.33 54 P P **15 18 16.8 +0.5**
CD2 pP pP 15 18 21.5 +2.9
CD2 sP sP 15 18 23.8 +4.4
CD2 PP PP 15 21 37.5 +3.0
CD2 SKS 15 28 38.8
CD2 S S 15 28 48.3 +0.7
CD2 sS sS 15 28 55.5 +4.1
CD2 SS SS 15 34 28.0 +5.2
CD2 pmax pmax
comp=Z,170nm,0.9s

CD2 pmax pmax
comp=Z,410nm,5.3s
CD2 LR LR
comp=E,1µm,17.8s
CD2 LR LR
comp=Z,1µm,20.2s,MS5.2
GYA Guiyang 85.52 59 *e*P **P 15 18 18.8 +1.5**
GYA PP PP 15 21 40.8 +4.7
GYA SKS 15 28 41.3
GYA S S 15 28 50.8 +1.2
GYA pmax pmax
comp=Z,20nm,1.0s,mb5.3
GYA pmax pmax
comp=Z,120nm,6.2s
GYA LR LR
comp=N,530nm,19.8s,MS5.1
GYA LR LR
comp=E,500nm,20.0s,MS5.1
GYA LR LR
comp=Z,570nm,18.9s,MS5.0
GTA Gaotai 86.81 45 *e*P **P 15 18 23.5 +0.1**
GTA pP pP 15 18 34.0 +8.3
GTA sP sP 15 18 38.0 +11
GTA pmax pmax
comp=Z,13nm,0.8s,mb5.2
GTA pmax pmax
comp=Z,130nm,6.2s
GTA LR LR
comp=N,230nm,15.9s,MS5.2
GTA LR LR
comp=E,840nm,19.0s,MS5.2
GTA LR LR
comp=Z,830nm,19.2s,MS5.2
NVS Novosibirsk 87.41 26 *e*P **P 15 18 24.0 -1.9**
NVS pmax pmax
comp=E,3.0nm,0.8s
NVS pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
NVS pmax pmax
comp=N,2.0nm,0.7s
ZALV Zalesovo Beam 87.44 27 P **P 15 18 24.4 -1.7**
comp=N,0.7nm,0.5s,mb4.1,baz=244,slow=4.1,SNR=4.4
ZALV PP PP 15 21 49.3 -1.8
comp=N,0.7nm,0.5s,baz=236,slow=10,SNR=3.5
ZALV Zalesovo Beam 87.44 27 P **P 15 18 24.4 -1.7**
ZALV PP PP 15 21 49.3 -1.8
ZALV Zalesovo Beam 87.44 27 P **P 15 18 24.4 -1.7**
ZALV 15 21 49.3
LZH Lanzhou 87.89 50 *e*P **P 15 18 37.0 +8.3**
LZH pP pP 15 18 40.3 +9.3
LZH sP sP 15 18 41.8 +10
LZH SKS 15 29 03.8
LZH *e*S S 15 29 20.3 +8.1
LZH sS sS 15 29 29.5 +13
LZH *e*SS SS 15 35 12.5 +12
LZH pmax pmax
comp=Z,22nm,1.5s,mb5.2
LZH pmax pmax
comp=Z,160nm,6.7s
LZH LR LR
comp=N,830nm,17.9s,MS5.3
LZH LR LR
comp=E,610nm,14.5s,MS5.3
LZH LR LR
comp=Z,980nm,20.0s
CFAA Coronel Fontan 88.23 237 P **P 15 18 29.5 -1.1**
comp=Z,0.4nm,0.5s,mb3.9,baz=117,slow=5.2,SNR=5.8
CFAA pP pP 15 18 39.8 +6.9
comp=Z,0.6nm,0.5s,baz=129,slow=6.1,SNR=4.5
CFAA Coronel Fontan 88.23 237 P **P 15 18 29.5 -1.1**
CFAA pP pP 15 18 39.8 +6.9
APA Apatity 89.21 360⇓ *e*P **P 15 18 33.0 -1.2**
ASAR Alice Springs 90.23 116 P **P 15 18 40.5 +0.4**
comp=Z,9.7nm,0.9s,mb5.1,baz=242,slow=4.0,SNR=30
ASAR Alice Springs 90.23 116 P **P 15 18 40.5 +0.4**
ASAR Alice Springs 90.23 116 P **P 15 18 40.5 +0.4**
ARCES ARCESS Array B 91.38 357 P **P 15 18 43.5 -0.8**
comp=Z,1.5nm,0.6s,mb4.5,baz=152,slow=5.5,SNR=5.8
ARCES ARCESS Array B 91.38 357 P **P 15 18 43.5 -0.8**
ARCES ARCESS Array B 91.38 357 P **P 15 18 43.5 -0.7**
WRA Warramunga Arr 92.11 112 P **P 15 18 49.0 +0.1**
comp=Z,3.1nm,1.0s,mb4.6,baz=249,slow=3.1,SNR=9.8
WRA Warramunga Arr 92.11 112 P **P 15 18 49.0 +0.1**
WRA Warramunga Arr 92.11 112 P **P 15 18 49.0 +0.1**
STKA Stephens Creek 92.81 126 P **P 15 18 53.2 +1.2**
comp=Z,3.3nm,0.7s,mb4.9,baz=224,slow=7.4,SNR=5.3
STKA Stephens Creek 92.81 126 P **P 15 18 53.2 +1.2**
STKA Stephens Creek 92.81 126 P **P 15 18 53.2 +1.3**
LPAZ La Paz 94.47 251 P **P 15 19 00.6 +0.8**
comp=Z,1.5nm,0.6s,mb4.6,baz=135,slow=4.9,SNR=6.7
LPAZ pP pP 15 19 09.2 +7.0
comp=Z,2.1nm,0.7s,baz=19,slow=7.2,SNR=4.8
LPAZ LR LR 16 01 01.1
comp=Z,512nm,18.7s,MS5.0,baz=146,slow=35
LPAZ La Paz 94.47 251 P **P 15 19 00.6 +0.8**
LPAZ pP pP 15 19 09.2 +7.0
LPAZ La Paz 94.47 251 P **P 15 19 00.6 +0.7**
LPAZ *PP pP 15 19 09.2 +7.0
ZAK Zakamensk 94.50 37 *e*P **P 15 18 58.6 -0.5**
ZAK pmax pmax
comp=Z,1.0nm,0.9s,mb4.2
SONM Songino Array 95.11 40 P **P 15 19 01.6 -0.4**
comp=Z,1.6nm,0.8s,mb4.5,baz=230,slow=4.8,SNR=8.6
SONM Songino Array 95.11 40 P **P 15 19 01.6 -0.4**
SONM Songino Array 95.11 40 P **P 15 19 01.6 -0.3**
HHC Hu-ho-hao-te 95.44 48 *e*P **P 15 19 04.5 +0.9**
HHC sP sP 15 19 12.5 +5.7
HHC PP PP 15 22 58.5 +3.9
HHC SKS 15 29 38.5
HHC S S 15 30 19.0 -1.4
HHC sS sS 15 30 26.5 +2.2
HHC pmax pmax
comp=Z,12nm,0.9s,mb5.3
HHC pmax pmax
comp=Z,160nm,7.7s
HHC LR LR
comp=N,380nm,19.0s,MS5.2
HHC LR LR
comp=E,590nm,19.4s,MS5.2
HHC LR LR
comp=Z,770nm,25.9s
NJ2 Nanjing 97.50 59 *e*P **P 15 19 13.8 +0.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s,mb5.5
CN2 Changchun 106.11 49 *e*P Pdif 15 19 52.8 +1.5
MDJ Mudanjiang 109.20 49 P Pdif 15 20 04.3 -0.7
MDJ pmax pmax
comp=Z,3.0nm,1.3s
MDJ pmax pmax
comp=Z,59nm,4.1s
HABR Khabarovsk 113.55 45 *e*P Pdif 15 20 21.2 -3.2
HABR 15 25 07.3
HABR *e* 15 31 25.9
HABR *e*PS PS 15 34 44.7 -0.7
HABR *e*SS SS 15 40 58.2 +1.5
HABR pmax pmax
comp=N,38nm,2.2s
HABR pmax pmax
comp=E,44nm,2.2s
HABR pmax pmax
comp=E,27nm,1.6s
HABR MLR MLR
comp=Z,282nm,18.0s,MS4.9
BILL Bilibino 125.49 20⇑ *i*PKIKP PKPdf 15 24 39.5 +0.1
BILL pmax pmax
comp=Z,17nm,2.5s
EYMN Ely 129.32 315 *e*PKPdf PKPdf 15 24 46.1 -1.3
ULM Lac du Bonnet 131.57 319 PKP PKPdf 15 24 50.0 -1.6
comp=Z,4.8nm,0.8s,baz=123,slow=1.2,SNR=3.7
ULM pPKP pPKPdf 15 24 59.6 +5.7
comp=Z,8.1nm,0.9s,baz=48,slow=1.4,SNR=4.8
ULM Lac du Bonnet 131.57 319 PKP PKPdf 15 24 50.0 -1.6
ULM pPKP pPKPdf 15 24 59.6 +5.7
ULM Lac du Bonnet 131.57 319 PKIKP PKPdf 15 24 50.0 -1.6
INK Inuvik 132.93 354 PKP PKPdf 15 24 51.9 -1.7
comp=Z,1.7nm,0.8s,baz=76,slow=2.2,SNR=4.2
INK Inuvik 132.93 354 PKP PKPdf 15 24 51.9 -1.7
INK Inuvik 132.93 354 PKIKP PKPdf 15 24 51.9 -1.7
ECSD EROS Data Cent 133.65 310 *e*PKPdf PKPdf 15 24 54.3 -1.4
YKA Yellowknife Ar 134.04 340 PKP PKPdf 15 24 55.4 -0.4
comp=Z,3.0nm,0.7s,baz=38,slow=2.0,SNR=22
YKA pPKP pPKPdf 15 25 04.6 +6.4
comp=Z,7.1nm,0.7s,baz=40,slow=2.0,SNR=22
YKA Yellowknife Ar 134.04 340 PKP PKPdf 15 24 55.5 -0.4
YKA pPKP pPKPdf 15 25 04.7 +6.4
YKA Yellowknife Ar 134.04 340 PKIKP PKPdf 15 24 55.5 -0.3
ILAR Eielson Array 137.16 0 PKP PKPdf 15 25 00.9 -0.6
comp=Z,0.6nm,0.8s,baz=339,slow=3.0,SNR=6.8
ILAR pPKP pPKPdf 15 25 09.8 +5.8
comp=Z,1.3nm,0.8s,baz=333,slow=2.3,SNR=8.1
ILAR Eielson Array 137.16 0 PKP PKPdf 15 25 00.9 -0.6
ILAR pPKP pPKPdf 15 25 09.8 +5.8
ILAR Eielson Array 137.16 0 PKIKP PKPdf 15 25 01.0 -0.6
TXAR Lajitas Array 140.94 290 PKhKP PKPpre 15 25 03.2
comp=Z,1.3nm,0.6s,baz=112,slow=5.4,SNR=16
TXAR PKP PKPdf 15 25 09.3 -0.3
comp=Z,1.3nm,0.6s,baz=122,slow=6.5,SNR=12
TXAR Lajitas Array 140.94 290 PKPpre PKPpre 15 25 03.2
TXAR PKP PKPdf 15 25 09.3 -0.3
TXAR Lajitas Array 140.94 290 PKHKP PKPpre 15 25 03.2
TXAR 15 25 09.3
SDCO Great Sand Dun 141.51 304 *e*PKPdf PKPpre 15 25 05.0
SMCO Snowmass 142.28 306 *e*PKPpre PKPpre 15 25 09.3
MNTX Cornudas Mount 142.31 294 *e*PKPpre PKPpre 15 25 05.4
R21A Cimarron 142.93 305 ⇓P PKPdf 15 25 10.4 -2.5
baz=143
D15A Lincoln 142.94 321 ⇑P PKPdf 15 25 10.3 -2.3
baz=143
PDAR Pinedale Array 142.97 313 PKP PKPdf 15 25 13.9 +1.1
comp=Z,6.3nm,0.9s,baz=84,slow=3.7,SNR=2.9
PDAR Pinedale Array 142.97 313 PKP PKPdf 15 25 13.9 +1.1
BNM Barren Site 143.06 298 PKPpre PKPpre 15 25 09.7
YBMT Yellow Bay 143.36 323 *e*PKPpre PKPpre 15 25 10.3
IMW Indian Meadow 143.44 315 *e*PKPpre PKPpre 15 25 08.2
D14A Greenough 143.50 321 ⇑P PKPdf 15 25 11.3 -2.3
baz=143
LRM Limekiln Ridge 143.51 319 *e*PKPpre PKPpre 15 25 10.8
O19A Miners Draw (B 143.54 309 ⇓P PKPdf 15 25 11.6 -2.3
baz=143
JTMT Jette 143.58 323 *e*PKPpre PKPpre 15 25 11.3
R20A Redvale 143.61 305 ⇓P PKPdf 15 25 12.2 -1.9
baz=143
P19A Cripple Cowboy 143.64 308 ⇑P PKPdf 15 25 11.9 -2.2
baz=144
S20A Disappointment 143.69 305 ⇑P PKPdf 15 25 12.3 -1.9
baz=144
PV01 Paradox Valley 143.77 305 *e*PKPpre PKPpre 15 25 12.7
C13A Hot Springs 143.78 323 ⇑P PKPdf 15 25 12.2 -1.9
baz=144
I16A Newdale 143.81 316 ⇓P PKPdf 15 25 11.9 -2.3
baz=144
G15A Dillon 143.85 318 ⇓P PKPdf 15 25 12.4 -1.9
baz=144
KDAK Kodiak Island 143.89 6 PKP PKPdf 15 25 11.6 -2.3
comp=Z,10nm,0.7s,baz=230,slow=0.9,SNR=6.0
KDAK Kodiak Island 143.89 6 PKP PKPdf 15 25 11.6 -2.3
KDAK Kodiak Island 143.89 6 PKIKP PKPdf 15 25 11.6 -2.3
RRI2 Red Ridge 143.92 315 *e*PKPpre PKPpre 15 25 11.9
Y21A Point of Rocks 143.94 298 ⇓P PKPdf 15 25 13.1 -1.7
baz=144
MVCO Mesa Verde 143.95 304 ⇑P PKPdf 15 25 13.2 -1.5
baz=144
MVCO Mesa Verde 143.95 304 *e*PKPdf PKPdf 15 25 13.2 -1.6
PV04 Paradox Valley 143.95 306 *e*PKPdf PKPdf 15 25 12.9 -1.7
X21A Alamocita Cree 143.96 299 ⇓P PKPdf 15 25 13.2 -1.6
baz=144
D13A Huson 144.04 322 ⇑P PKPdf 15 25 13.1 -1.4
baz=144
Q19A Hogan Spring (144.06 307 ⇑P PKPdf 15 25 12.9 -1.9
baz=144
L17A Cokeville 144.13 312 ⇓P PKPdf 15 25 13.3 -1.5
baz=144
J16A Bone 144.15 315 ⇓P PKPdf 15 25 13.4 -1.5
baz=144,SNR=5.9
O18A Roosevelt 144.19 309 ⇓P PKPdf 15 25 13.7 -1.4
baz=144
H15A Lima 144.21 317 ⇓P PKPdf 15 25 14.6 -0.3
baz=144
MCMT McKenzie Canyo 144.24 318 PKPdf PKPdf 15 25 14.2 -0.8
R19A Curley Farm, L 144.25 306 ⇑P PKPdf 15 25 14.0 -1.2
baz=144
V20A Brimhall 144.25 301 ⇓P PKPdf 15 25 14.2 -1.0
baz=144
121A Cookes Peak, D 144.25 296 ⇓P PKPdf 15 25 14.4 -1.0
baz=144
G14A Jackson 144.41 319 ⇑P PKPdf 15 25 14.8 -0.4
baz=144
W20A Ramah 144.41 300 ⇑P PKPdf 15 25 15.0 -0.6
baz=144,SNR=18
T19A Beclabito 144.45 303 ⇑P PKPdf 15 25 15.1 -0.5
baz=144
X20A Quemado 144.53 299 ⇑P PKPdf 15 25 15.8 0.0
baz=144
Y20A Horse Springs, 144.54 298 ⇓P PKPdf 15 25 15.8 0.0
baz=144,SNR=6.1
N17A Moffit Pass 144.54 311 ⇑P PKPdf 15 25 15.3 -0.3
baz=144
L16A Fish Haven 144.54 313 ⇓P PKPdf 15 25 14.8 -0.8
baz=144
P18A Preston Nutter 144.57 308 ⇑P PKPdf 15 25 15.3 -0.4
baz=144
C11A Tepee Creek (N 144.61 324 ⇓P PKPdf 15 25 14.0 -1.6
baz=144
Q18A Rafter H Ranch 144.66 307 ⇑P PKPdf 15 25 15.2 -0.7
baz=144
F13A Darby 144.66 320 ⇓P PKPdf 15 25 15.0 -0.6
baz=144,SNR=8.0
R18A Canyonlands Na 144.70 306 ⇑P PKPdf 15 25 14.9 -1.1
baz=144,SNR=18
U19A Dine' College, 144.72 302 ⇑P PKPdf 15 25 15.7 -0.4
baz=144
V19A Window Rock 144.73 301 ⇑P PKPdf 15 25 15.4 -0.7
baz=144
O17A Robinson Place 144.74 309 ⇓P PKPdf 15 25 15.5 -0.5
baz=144,SNR=13
HWUT Hardware Ranch 144.80 312 PKPdf PKPdf 15 25 14.7 -1.4
NEW Newport 144.82 325 ⇓P PKPdf 15 25 16.1 +0.3
baz=145
Z20A Nine Sixteen R 144.84 297 ⇓P PKPdf 15 25 15.9 -0.5
baz=145,SNR=7.7
SRU San Rafael 144.94 307 ⇓P PKPdf 15 25 15.9 -0.5
baz=145,SNR=16
SRU San Rafael 144.94 307 *e*PKPdf PKPdf 15 25 15.5 -0.9
SRU San Rafael 144.94 307 *e*PKIKP PKPdf 15 25 15.5 -0.9
220A Playas Peak, P 144.95 295 ⇑P PKPdf 15 25 16.2 -0.4
baz=145
M16A Huntsville 144.96 312 ⇓P PKPdf 15 25 15.6 -0.7
baz=145
120A U Bar Ranch, L 144.96 296 ⇓P PKPdf 15 25 15.9 -0.8
baz=145
G13A Cobalt 144.96 319 ⇑P PKPdf 15 25 16.3 +0.1
baz=145,SNR=9.6
S18A Hurst Farm, Bl 144.97 305 ⇑P PKPdf 15 25 16.2 -0.3
baz=145,SNR=25
P17A Butcher Ranch, 144.98 308 ⇑P PKPdf 15 25 16.3 -0.1
baz=145
K15A Arbon 145.01 314 ⇑P PKPbc 15 25 16.3 +0.6
baz=145
DAU Daniels Canyon 145.03 310 *e*PKPdf PKPdf 15 25 16.1 -0.4
DAU Daniels Canyon 145.03 310 *e*PKIKP PKPdf 15 25 16.1 -0.4
T18A Mexican Hat 145.03 304 ⇑P PKPbc 15 25 16.7 +0.7
baz=145,SNR=32
I14A Mackay 145.05 317 ⇓P PKPbc 15 25 16.6 +0.8
baz=145
E12A Beaver Dam Sad 145.05 322 ⇓P PKPbc 15 25 15.6 -0.1
baz=145,SNR=6.9
JLU Jordanelle 145.10 310 *e*PKPdf PKPdf 15 25 15.9 -0.7
W19A Sanders 145.13 300 ⇓P PKPbc 15 25 16.3 0.0
baz=145,SNR=25
X19A St. Johns 145.19 299 ⇓P PKPbc 15 25 16.9 +0.3
baz=145,SNR=9.4
L15A Malad City 145.20 313 ⇑P PKPbc 15 25 16.3 -0.1
baz=145,SNR=8.8
F12A Elk City 145.23 321 ⇓P PKPbc 15 25 16.4 +0.1
baz=145,SNR=17
H13A Challis 145.24 318 ⇑P PKPbc 15 25 17.3 +0.9
baz=145,SNR=45
Y19A Nutrioso 145.25 298 ⇓P PKPbc 15 25 17.7 +0.9
baz=145,SNR=16
R17A Hanksville Air 145.30 306 ⇑P PKPbc 15 25 16.8 0.0
baz=145,SNR=9.0
J14A Carey 145.37 316 ⇑P PKPbc 15 25 18.2 +1.4
baz=145,SNR=22
TMUT Trail Mountain 145.38 308 *e*PKP PKPdf 15 25 17.3 +0.2
W18A Petrified Fore 145.41 300 ⇑P PKPbc 15 25 17.5 +0.2
baz=145
V18A Ganado 145.43 302 ⇓P PKPbc 15 25 18.0 +0.6
baz=145,SNR=15
M15A Larsen Ranch, 145.46 312 ⇑P PKPdf 15 25 16.8 -0.4
baz=145,SNR=14
Q16A Castle Valley 145.48 307 ⇑P PKPdf 15 25 17.3 0.0
baz=145,SNR=5.1
K14A Jones Ranch, D 145.50 314 ⇓P PKPdf 15 25 17.5 +0.3
baz=145,SNR=15
HVU Hansel Valley 145.56 313 *e*PKP PKPdf 15 25 17.4 0.0
HVU Hansel Valley 145.56 313 *e*PKIKP PKPdf 15 25 17.4 0.0
219A White Tail Can 145.56 295 ⇑P PKPdf 15 25 18.4 +0.8
baz=145,SNR=30
S17A Black Ridge (B 145.60 305 ⇓P PKPdf 15 25 17.8 +0.2
baz=145,SNR=13
H12A Diamond D Ranc 145.62 319 ⇓P PKPdf 15 25 17.9 +0.6
baz=145,SNR=25
319A Douglas 145.65 294 ⇑P PKPdf 15 25 18.6 +0.8
baz=145,SNR=6.9
X18A Snowflake 145.70 300 ⇑P PKPdf 15 25 19.1 +1.2
baz=146,SNR=14
C09A Chrisman Ranch 145.71 326 ⇑P PKPdf 15 25 18.0 +0.6
baz=146
J13A Cove Ranch, Pi 145.76 316 ⇑P PKPdf 15 25 19.5 +1.8
baz=146,SNR=27
L14A Malta 145.76 314 ⇑P PKPdf 15 25 18.6 +0.9
baz=146,SNR=13
U17A Shonto 145.78 303 ⇓P PKPdf 15 25 19.1 +1.2
baz=146,SNR=8.3
T17A Navajo Res., N 145.78 304 ⇓P PKPdf 15 25 19.3 +1.4
baz=146,SNR=16
HLID Hailey 145.83 317 ⇓P PKPdf 15 25 19.4 +1.6
baz=146,SNR=22
HLID Hailey 145.83 317 *e*PKP PKPdf 15 25 19.0 +1.3
R16A Teasdale 145.92 307 ⇓P PKPdf 15 25 19.2 +1.1
baz=146,SNR=7.3
Y18A Canyon Day Jun 145.92 298 ⇑P PKPdf 15 25 19.6 +1.3
baz=146,SNR=8.3
O15A The Old Anders 145.94 310 ⇑P PKPdf 15 25 19.3 +1.2
baz=146
Z18A Geronimo 146.04 297 ⇓P PKPdf 15 25 20.1 +1.7
baz=146
118A Homack Ranch, 146.06 296 ⇑P PKPdf 15 25 20.2 +1.7
baz=146,SNR=25
P15A Leamington 146.07 309 ⇓P PKPdf 15 25 19.5 +1.2
baz=146,SNR=12
I12A Atlanta 146.17 318 ⇑P PKPdf 15 25 20.3 +2.0
baz=146,SNR=16
S16A Weppner Ranch, 146.18 306 ⇓P PKPdf 15 25 19.8 +1.2
baz=146
W17A Winslow 146.20 301 ⇓P PKPdf 15 25 20.3 +1.6
baz=146
OD2 Odessa Site #2 146.20 325 *e*PKPbc PKPbc 15 25 18.9 -0.4
DUG Dugway 146.22 310 ⇑P PKPdf 15 25 19.9 +1.3
baz=146,SNR=12
DUG Dugway 146.22 310 *e*PKPbc PKPbc 15 25 18.4 -1.2
DUG Dugway 146.22 310 *e*PKP2 PKPab 15 25 18.4 -1.9
218A Dragoon 146.22 295 ⇓P PKPdf 15 25 20.2 +1.4
baz=146,SNR=14
F10A Beach Ranch, E 146.25 322 ⇓P PKPdf 15 25 19.6 +1.2
baz=146
318A Bisbee 146.25 294 ⇑P PKPdf 15 25 20.6 +1.7
baz=146,SNR=33
U16A Tuba City 146.27 303 ⇑P PKPdf 15 25 20.5 +1.8
baz=146
MSU Marysvale 146.36 307 *e*PKPbc PKPbc 15 25 20.8 +0.8
MSU *e* 15 25 29.7
MSU Marysvale 146.36 307 *e*PKP2 PKPab 15 25 20.8 -0.1
Z17A San Carlos Hig 146.37 297 ⇓P PKPdf 15 25 21.3 +2.3
baz=146
X17A Forest Lakes 146.44 299 ⇑P PKPdf 15 25 21.2 +2.1
baz=146,SNR=7.7
E09A Wood Farm, Sta 146.44 324 ⇑P PKPdf 15 25 20.4 +1.7
baz=146
Y17A Roosevelt 146.60 298 ⇑P PKPdf 15 25 20.9 +1.6
baz=146
WUAZ Wupatki 146.62 302 ⇑P PKPdf 15 25 21.5 +2.1
baz=146,SNR=8.4
WUAZ Wupatki 146.62 302 *e*PKPbc PKPbc 15 25 21.1 +0.2
WUAZ *e* 15 25 30.7
117A Oracle 146.71 296 ⇓P PKPdf 15 25 21.9 +2.3
baz=146,SNR=9.3
A05A Maple Falls 146.78 330 ⇑P PKPdf 15 25 21.8 +2.6
baz=147
TUC Tucson 146.79 296 *e*PKPbc PKPbc 15 25 22.1 +0.6
TUC *e* 15 25 30.9
MFID Camas Ranch 146.80 317 ⇓P PKPdf 15 25 22.2 +2.8
baz=147,SNR=16
MFID Camas Ranch 146.80 317 *e*PKPbc PKPbc 15 25 20.5 -0.6
ETW Entiat 146.90 327 *e*PKPbc PKPbc 15 25 19.9 -1.4
217A Green Valley 146.90 295 ⇑P PKPdf 15 25 22.2 +2.2
baz=147,SNR=5.6
LNOR Lincton Mounta 146.91 323 *e*PKPbc PKPbc 15 25 20.2 -1.2
LNOR Lincton Mounta 146.91 323 *e*PKP2 PKPbc 15 25 20.2 -1.2
X16A Lo Mia Camp, P 146.93 300 ⇓P PKPab 15 25 22.3 -1.0
baz=147
BMO Blue Mountains 146.93 321 PKPdf PKPdf 15 25 18.7 -0.9
BMO *e*PKPbc PKPbc 15 25 21.0 -0.5
BMO Blue Mountains 146.93 321 PKHKP PKPdf 15 25 18.7 -0.9
E08A Dider Farm, El 146.95 324 ⇓P PKPbc 15 25 22.3 +0.8
baz=147
Y16A Circle Bar Ran 147.08 299 ⇑P PKPbc 15 25 23.2 +0.9
baz=147
U15A North Rim 147.09 304 ⇑P PKPbc 15 25 22.9 +0.7
baz=147,SNR=7.8
HAWA Hanford 147.27 325 *e*PKPbc PKPbc 15 25 20.9 -1.5
JCW Jim Creek 147.28 329 P PKPdf 15 25 21.1 +1.0
RSW Rattlesnake Hi 147.30 325 PKPbc PKPbc 15 25 22.1 -0.4
E07A Sunnyside 147.34 325 ⇑P PKPbc 15 25 22.5 -0.1
baz=147
216A Three Points, 147.41 295 ⇓P PKPbc 15 25 23.3 0.0
baz=147
116A Eloy 147.52 297 ⇑P PKPbc 15 25 23.6 0.0
baz=147
G08A Pilot Rock 147.63 323 ⇓P PKPbc 15 25 22.8 -0.7
baz=148
NAC Naches 147.73 326 P PKPbc 15 25 24.2 +0.6
RMW Rattlesnake Mo 147.73 328 P PKPbc 15 25 23.8 +0.2
RMW Rattlesnake Mo 147.73 328 PKP2 PKPbc 15 25 23.8 +0.2
Y15A Casa Rosa Ranc 147.75 299 ⇑P PKPbc 15 25 24.2 +0.1
baz=148,SNR=8.8
R13A O'Grain Ranch, 147.80 308 ⇑P PKPbc 15 25 24.8 +0.7
baz=148
D05A Enumclaw 148.01 328 ⇑P PKPbc 15 25 24.9 +0.5
baz=148
LON Longmire 148.22 327 P PKPdf 15 25 22.5 +0.9
LON Longmire 148.22 327 PKIKP PKPdf 15 25 22.5 +0.8
Y14A Wickenburg 148.30 299 ⇓P PKPbc 15 25 25.9 +0.3
baz=148,SNR=7.4
Z14A Wintersburg 148.38 298 ⇓P PKPbc 15 25 25.6 -0.2
baz=148
114A Black Gap (USA 148.46 297 ⇑P PKPbc 15 25 26.0 -0.1
baz=148
J08A Circle Bar Ran 148.47 319 ⇑P PKPbc 15 25 26.0 +0.2
baz=148
214A Organ Pipe Nat 148.55 296 ⇓P PKPbc 15 25 26.6 +0.3
baz=148
G06A Carlson Farm, 148.60 324 ⇑P PKPbc 15 25 26.4 +0.4
baz=148
TDL Tradedollar La 148.70 327 P PKPbc 15 25 26.9 +0.6
W13A Hualapai Mount 148.71 302 ⇑P PKPbc 15 25 27.8 +1.1
baz=148
R11A Troy Canyon, C 148.91 309 ⇓P PKPbc 15 25 27.6 +0.6
baz=149
Z13A Yuma Proving G 149.00 298 ⇑P PKPbc 15 25 27.9 +0.4
baz=149,SNR=7.8
VIPM Ingram Point 149.04 323 P PKPdf 15 25 24.5 +1.5
VIPM Ingram Point 149.04 323 PKIKP PKPdf 15 25 24.5 +1.4
WVOR Wild Horse Val 149.07 318 *e*PKPbc PKPdf 15 25 24.4 +1.3
WVOR Wild Horse Val 149.07 318 *e*PKIKP PKPdf 15 25 24.5 +1.3
HOOD Mount Hood Mea 149.09 325 *e*PKPbc PKPdf 15 25 23.8 +0.6
PDMCI Parker Dam,Lak 149.12 301 ⇑P PKPbc 15 25 28.3 +0.6
baz=149
Y12C Blythe 149.57 300 ⇓P PKPbc 15 25 29.1 +0.3
baz=149
LDFC Landfair 149.68 302 *e*PKPbc PKPbc 15 25 29.6 +0.6
BKCOR Black Crater 149.78 323 P PKPbc 15 25 29.9 +0.9
H04A Detroit Lake 149.80 324 ⇑P PKPbc 15 25 29.3 +0.3
baz=150
IRM Iron Mountain 149.97 301 ⇓P PKPbc 15 25 30.1 +0.3
baz=150,SNR=10
GLA Glamis 149.99 298 ⇑P PKPbc 15 25 30.5 +0.7
baz=150
GMRC Granite Mounta 150.20 302 ⇓P PKPbc 15 25 30.6 +0.3
baz=150,SNR=6.3
TUQ Turquoise Moun 150.20 304 ⇑P PKPbc 15 25 30.6 +0.3
baz=150,SNR=5.9
BROR Big Rock Looko 150.21 324 P PKPbc 15 25 29.8 -0.2
K05A Summer Lake 150.28 320 ⇑P PKPbc 15 25 30.8 +0.6
baz=150
BC3 Big Chuckawall 150.35 300 ⇑P PKPbc 15 25 31.1 +0.4
baz=150,SNR=6.2
MOD Modoc 150.40 318 *e*PKPbc PKPdf 15 25 26.7 +1.4

FURC	**Furnace Creek,** baz=150,SNR=8.1	**150.56**	**306**	⇑P		PKPbc	15 25 32.5	+1.3
BELC	**Belle Mtn. Jos** baz=150,SNR=5.8	**150.69**	**301**	⇑P		PKPbc	15 25 32.1	+0.6
HEC	**Hector,Ludlow** baz=150,SNR=6.5	**150.71**	**303**	⇓P		PKPbc	15 25 32.6	+1.0
GRAC	**Grapevine Rang** baz=150	**150.74**	**307**	⇓P		PKPbc	15 25 32.9	+1.3
SWSC	**Sam W. Stewart** baz=151	**150.81**	**299**	⇑P		PKPbc	15 25 32.6	+0.7
NVAR	**Mina Array Bea** comp=Z,8.4nm,0.7s,baz=157,slow=2.2,SNR=38	**150.82**	**311**	PKP		PKPdf	15 25 25.9	-0.2
NVAR	comp=Z,8.4nm,0.7s,baz=68,slow=3.8,SNR=53			PKPbc		PKPbc	15 25 32.7	+1.0
NVAR	comp=Z,9.9nm,0.6s,baz=67,slow=3.5,SNR=11			pPKPbc		pPKPbc	15 25 41.7	+7.6
NVAR	**Mina Array Bea**	**150.82**	**311**	PKP		PKPdf	15 25 25.9	-0.2
NVAR				PKPbc		PKPbc	15 25 32.7	+1.0
NVAR				pPKPbc		pPKPbc	15 25 41.7	+7.6
GSC	**Goldstone** baz=151	**150.93**	**304**	⇓P		PKPbc	15 25 33.0	+1.0
GSC	**Goldstone**	**150.93**	**304**	*e*PKPbc		PKPbc	15 25 32.7	+0.7
GSC	**Goldstone**	**150.93**	**304**	*e*PKIKP		PKPbc	15 25 32.7	+0.7
DVTC	**Desert V Tower** baz=151	**151.12**	**298**	⇑P		PKPbc	15 25 33.4	+0.8
PFO	**Pinyon Flat Ob** baz=151,SNR=6.0	**151.16**	**300**	⇓P		PKPbc	15 25 33.4	+0.7
PFO	**Pinyon Flat Ob**	**151.16**	**300**	*e*PKPbc		PKPbc	15 25 33.0	+0.4
PFO	**Pinyon Flat Ob**	**151.16**	**300**	*e*PKIKP		PKPbc	15 25 33.0	+0.3
MPMC	**Manual Prospec** baz=151,SNR=14	**151.19**	**306**	⇑P		PKPbc	15 25 33.7	+1.0
MONP	**Monument Peak** baz=151	**151.33**	**299**	⇓P		PKPbc	15 25 34.0	+0.9
BBRC	**Big Bear Solar** baz=151	**151.34**	**302**	⇑P		PKPbc	15 25 34.0	+1.0
TIN	**Tinemaha** baz=151	**151.35**	**308**	⇓P		PKPbc	15 25 34.5	+1.6
LASM	**Arnica Sink**	**151.35**	**319**	P		PKPbc	15 25 33.5	+0.7
CWC	**Cottonwood Cre** baz=151	**151.49**	**307**	⇑P		PKPbc	15 25 34.6	+1.3
LRMC	**Laurel Mountai** baz=151,SNR=6.0	**151.54**	**305**	⇑P		PKPbc	15 25 34.4	+1.0
HUMO	**Hull Mountain**	**151.56**	**322**	*e*PKPbc		PKPbc	15 25 32.8	-0.5
LHEM	**Herd Peak**	**151.73**	**320**	P		PKPbc	15 25 34.1	+0.4
BFSC	**Mount Baldy Ra** baz=152	**151.93**	**302**	⇓P		PKPbc	15 25 34.0	-0.4
EDW2	**Edwards Air Fo** baz=152,SNR=8.7	**151.98**	**304**	⇓P		PKPbc	15 25 34.9	+0.4
ISA	**Isabella** baz=152,SNR=10	**152.07**	**306**	⇑P		PKPbc	15 25 35.5	+0.8
ISA	**Isabella**	**152.07**	**306**	*e*PKPbc		PKPbc	15 25 35.6	+0.9
ISA	**Isabella**	**152.07**	**306**	*e*PKIKP		PKPbc	15 25 35.6	+0.9
PKM	**Peak Mountain** baz=153	**153.38**	**305**	⇓P		PKPbc	15 25 39.2	+1.6

NEIC ***25*** *15:14:19.1±8.0,22.˚89N×122.˚04E,h12km±22km, Error ellipse: s-maj=71.6km s-min=20.1km az=123.0*
JMA ***25*** *15:14:21.9±0.3,22.˚87N×122.˚01E,h67km,M3.4*
TAP ***25*** *15:14:22.3,22.˚88N×121.˚91E,h32km,ML3.9,C*
ISC 25 15:14:19.6±0.5,**22.˚93N**±0.˚02×**121.˚99E**±0.˚02,**h5**km±3km,
n67,σ**1s06**/112,**11C-5D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung** baz=294	**0.60**	**286**	⇑*i*	P	**Pg**	**15 14 32.5**	**+1.3**
CHKT	baz=294			*i*	S	**Sg**	**15 14 39.5**	**+0.5**
TWF1	**Yuli** baz=318	**0.77**	**303**	⇑*i*	P	**Pg**	**15 14 35.3**	**+1.0**
TWF1	baz=318			*e*	S	**Sg**	**15 14 45.5**	**+1.2**
YULB	**Yu-li**	**0.79**	**306**	*e*	P	**Pg**	**15 14 35.5**	**+0.8**
TTN	**Taitung** baz=253	**0.80**	**258**	*e*	P	**Pg**	**15 14 35.0**	**+0.1**
TTN	baz=253			*e*	S	**Sg**	**15 14 45.2**	**-0.1**
EHY	**Hungye** baz=325	**0.84**	**313**	⇑*i*	P	**Pg**	**15 14 36.5**	**+0.7**
EHY	baz=325				S	**Sg**	**15 14 48.1**	**+1.4**
TWG	**Pinlang**	**0.85**	**263**	*e*	P	**Pg**	**15 14 36.1**	**+0.1**
TWG	**Pinlang** baz=265	**0.85**	**263**	*e*	P	**Pg**	**15 14 36.1**	**+0.1**
TWG	baz=265			*e*	S	**Sg**	**15 14 46.8**	**-0.4**
ELDTW	**Lidau** baz=290	**0.93**	**286**	⇑*i*	P	**Pg**	**15 14 37.5**	**-0.1**
ELDTW	baz=290			*e*	S	**Sg**	**15 14 48.1**	**-1.6**
LAY	**Lan-yu** baz=200	**0.98**	**205**	*e*	P	**Pg**	**15 14 36.9**	**-1.4**
LAY	baz=200			*e*	S	**Sg**	**15 14 47.5**	**-3.5**
ECL	**Taimali** baz=251	**1.01**	**251**	⇓*i*	P	**Pg**	**15 14 38.1**	**-0.9**
ECL	baz=251			*e*	S	**Sg**	**15 14 49.5**	**-2.8**
ESL	**Shilin** baz=344	**1.02**	**330**	*e*	P	**Pg**	**15 14 39.0**	**-0.1**
ESL	baz=344			*e*	S	**Sg**	**15 14 51.9**	**-0.5**
HWA	**Hwalien** baz=346	**1.10**	**341**	*e*	P	**Pg**	**15 14 41.1**	**+0.3**
YUS	**Yu-Shan** baz=296	**1.11**	**300**	⇑*i*	P	**Pg**	**15 14 41.3**	**+0.5**
YUS	baz=296			*e*	S	**Sg**	**15 14 54.5**	**-0.8**
STYT	**Tauyuan** baz=290	**1.16**	**282**	*i*	P	**Pg**	**15 14 41.3**	**-0.5**
STYT	baz=290			*e*	S	**Sg**	**15 14 55.0**	**-1.9**
TAW	**Tawu** baz=250	**1.16**	**241**	*e*	P	**Pg**	**15 14 40.2**	**-1.7**
EAST	**Anshuo** baz=253	**1.19**	**243**	⇓*i*	P	**Pg**	**15 14 40.9**	**-1.5**
TWD	**Chiawan** baz=347	**1.20**	**342**	*e*	P	**Pb**	**15 14 42.3**	**-0.5**
TWD	baz=347			*e*	S	**Sg**	**15 14 56.5**	**-1.8**
ALS	**Alishan** baz=302	**1.23**	**298**	⇑*i*	P	**Pb**	**15 14 43.6**	**+0.2**
ALS	baz=302			*e*	S	**Sb**	**15 14 59.1**	**-0.5**
SSD	**Sandimen** baz=270	**1.27**	**262**	⇓*i*	P	**Pn**	**15 14 42.4**	**-1.6**
SSLB	**Suanglung**	**1.28**	**312**	*e*	P	**Pn**	**15 14 43.0**	**-1.1**
NACB	**Ninganchiao**	**1.29**	**344**	*e*	P	**Pn**	**15 14 43.0**	**-1.3**
TPUB	**Ta-pu**	**1.31**	**287**	*e*	P	**Pn**	**15 14 44.4**	**-0.1**
TPUB				*e*	S	**Sb**	**15 15 01.7**	**0.0**
WTP	**Ta-pu** baz=287	**1.31**	**284**	⇑P		**Pn**	**15 14 44.5**	**0.0**
WTP	baz=287			*e*	S	**Sb**	**15 15 01.5**	**-0.2**
CHN4	**Tsaushan** baz=291	**1.35**	**288**	P		**Pn**	**15 14 45.7**	**+0.6**
CHN4	baz=291			*e*	S	**Sb**	**15 15 03.2**	**+0.2**
CHN1	**Nanshi** baz=283	**1.37**	**281**	⇑*i*	P	**Pn**	**15 14 45.8**	**+0.4**
CHN1	baz=283			*e*	S	**Sb**	**15 15 02.8**	**-0.8**
CHN5	**Tsauling** baz=302	**1.38**	**299**	⇑*i*	P	**Pn**	**15 14 46.4**	**+0.9**
CHN5	baz=302				S	**Sb**	**15 15 04.2**	**+0.4**
SMLT	**Sun Moon Lake** baz=324	**1.38**	**314**	⇑*i*	P	**Pn**	**15 14 45.6**	**+0.1**
SMLT	baz=324			*e*	S	**Sb**	**15 15 02.8**	**-1.0**
WHF	**Hehuan Shan** baz=335	**1.38**	**331**	⇑P		**Pn**	**15 14 45.1**	**-0.4**
WHF	baz=335			*e*	S	**Sb**	**15 15 01.3**	**-2.6**
SCZT	**Fangliau** baz=239	**1.38**	**247**	*e*	P	**Pn**	**15 14 44.0**	**-1.5**
SGLT	**Jiouru** baz=267	**1.40**	**262**	*e*	P	**Pn**	**15 14 46.3**	**+0.6**
TYC	**Yuchr** baz=324	**1.42**	**313**	P		**Pn**	**15 14 46.2**	**+0.1**
TYC	baz=324			*e*	S	**Sn**	**15 15 04.5**	**-0.7**
TWM1	**Shoushan** baz=267	**1.45**	**266**	*e*	P	**Pn**	**15 14 47.8**	**+1.3**
TWK1	**Hengchun** baz=226	**1.47**	**228**	*e*	P	**Pn**	**15 14 45.6**	**-1.2**
HEN	**Hengchun** baz=241	**1.48**	**232**	*e*	P	**Pn**	**15 14 46.2**	**-0.7**
CHN3	**Shinhua** baz=277	**1.51**	**276**	*e*	P	**Pn**	**15 14 49.6**	**+2.3**
CHN3	baz=277			*e*	S	**Sn**	**15 15 08.9**	**+1.7**
ENA	**Nanau** baz=355	**1.51**	**351**	*e*	P	**Pn**	**15 14 47.0**	**-0.3**
TWT	**Tachien** baz=343	**1.52**	**331**	*e*	P	**Pn**	**15 14 47.5**	**+0.2**
TWT	baz=343			*e*	S	**Sn**	**15 15 05.1**	**-2.4**
WGK	**Gukeng** baz=315	**1.52**	**300**	P		**Pn**	**15 14 48.7**	**+1.4**
WGK	baz=315			*e*	S	**Sn**	**15 15 06.8**	**-0.6**
CHN2	**Minshiung** baz=295	**1.52**	**294**	*e*	P	**Pn**	**15 14 48.8**	**+1.3**
CHN2	baz=295			*e*	S	**Sn**	**15 15 08.2**	**+0.6**
WNT	**Mingjian** baz=311	**1.53**	**308**	P		**Pn**	**15 14 48.7**	**+1.2**
WNT	baz=311			*e*	S	**Sn**	**15 15 07.8**	**0.0**
CHY	**Chiayi** baz=293	**1.55**	**292**	*e*	P	**Pn**	**15 14 49.3**	**+1.5**
CHY	baz=293			*e*	S	**Sn**	**15 15 08.2**	**-0.1**
NNS	**Nan Shan** baz=343	**1.61**	**339**	⇓*e*	P	**Pn**	**15 14 48.9**	**+0.2**
TWP	**Hsiaoliuchiu** baz=237	**1.61**	**249**	*e*	P	**Pn**	**15 14 51.0**	**+2.2**
TWC	**Suao** baz=359	**1.68**	**356**	*e*	P	**Pn**	**15 14 50.2**	**+0.6**
TWC	baz=359			*e*	S	**Sn**	**15 15 10.1**	**-1.4**
CHN8	**Yiju** baz=285	**1.69**	**285**	*e*	P	**Pn**	**15 14 50.7**	**+0.9**
CHN8	baz=285				S	**Sn**	**15 15 11.8**	**0.0**
TCU	**Taichung** baz=318	**1.71**	**315**	⇓P		**Pn**	**15 14 51.9**	**+1.8**
ENTT	**Nioudou** baz=350	**1.75**	**347**	*e*	P	**Pn**	**15 14 50.9**	**+0.3**
ENTT	baz=350			*e*	S	**Sn**	**15 15 10.6**	**-2.6**
WSF	**Szhu** baz=295	**1.77**	**294**	*e*	P	**Pn**	**15 14 51.4**	**+0.4**
WSF	baz=295			*e*	S	**Sn**	**15 15 13.1**	**-0.8**
YOJ	**Yonaguni jima** baz=33	**1.79**	**31**	*e*	P	**Pn**	**15 14 51.0**	**-0.1**
YOJ	**Yonaguni jima**	**1.79**	**31**	P		**Pn**	**15 14 51.6**	**+0.5**
YOJ				*e*	S	**Sn**	**15 15 14.8**	**+0.6**
TWQ1	**Liyutan** baz=336	**1.80**	**322**	P		**Pn**	**15 14 53.1**	**+1.8**
TWQ1	baz=336			*e*	S	**Sn**	**15 15 15.7**	**+1.2**
TWE	**Neicheng** baz=2.0	**1.81**	**351**	P		**Pn**	**15 14 51.6**	**+0.3**
TWE	baz=2.0			*e*	S	**Sn**	**15 15 13.5**	**-1.2**
YHNB	**Yeheng**	**1.82**	**342**	*e*	P	**Pn**	**15 14 52.1**	**+0.5**
NSK	**Sanguang** baz=345	**1.83**	**342**	*e*	P	**Pn**	**15 14 52.2**	**+0.5**
NSK	baz=345			*e*	S	**Sn**	**15 15 13.1**	**-2.2**
NSY	**Sanyi** baz=339	**1.86**	**323**	*e*	P	**Pn**	**15 14 53.6**	**+1.5**
NSY	baz=339			*e*	S	**Sn**	**15 15 17.8**	**+1.8**
NSTT	**Nanjuang** baz=342	**1.92**	**332**	*e*	P	**Pn**	**15 14 54.1**	**+1.2**
NSTT	baz=342			*e*	S	**Sn**	**15 15 16.5**	**-1.0**
HATJ	**Hateruma jima**	**2.01**	**56**	P		**Pn**	**15 14 54.6**	**+0.5**
HATJ				*e*	S	**Sn**	**15 15 18.3**	**-1.3**
TWA	**Mucha** baz=353	**2.08**	**350**	*e*	P	**Pn**	**15 14 56.7**	**+1.6**
IRIF	**Iriomote-Funau**	**2.12**	**48**	P		**Pn**	**15 14 56.4**	**+0.7**
IRIF				*e*	S	**Sn**	**15 15 22.3**	**-0.1**
NWF	**Wu-fen Shan** baz=357	**2.14**	**355**	*e*	P	**Pn**	**15 14 57.6**	**+1.7**
NWF	baz=357			*e*	S	**Sn**	**15 15 23.2**	**+0.3**
TWS1	**Kuangyinshan** baz=349	**2.22**	**346**	*e*	P	**Pn**	**15 14 57.7**	**+0.5**
JKRS	**Kuro-shima**	**2.26**	**54**	P		**Pn**	**15 14 58.4**	**+0.8**
JKRS				*e*	S	**Sn**	**15 15 24.7**	**-1.2**
PNG	**Penghu** baz=286	**2.33**	**286**	*e*	P	**Pn**	**15 14 58.7**	**+0.1**
JIJ	**Ishigaki jima**	**2.43**	**54**	P		**Pn**	**15 15 00.2**	**+0.2**
JIJ				*e*	S	**Sn**	**15 15 29.0**	**-1.2**
JTJ	**Tarama**	**3.01**	**55**	P		**Pn**	**15 15 08.3**	**+0.4**
JTJ				*e*	S	**Sn**	**15 15 43.3**	**-1.1**
JMJ	**Miyako jima 2**	**3.56**	**58**	P		**Pn**	**15 15 16.3**	**+0.8**
JMJ				*e*	S	**Sn**	**15 15 57.1**	**-0.8**
JOGS	**Gusukube**	**3.62**	**59**	P		**Pn**	**15 15 17.3**	**+1.0**
JOGS				*e*	S	**Sn**	**15 15 58.7**	**-0.7**

KRSC ***25*** *15:15:21.1±1.2,60.˚68N×166.˚74E,h169km±171km,ML4.4*
MOS ***25*** *15:15:21.2±1.0,60.˚76N×165.˚97E,h11km,mb4.4/1,Error ellipse: s-maj=20.8km s-min=8.6km az=88.4*
IDC ***25*** *15:15:22.2±0.6,60.˚76N×165.˚66E,h0km,mb3.9/13, mb1 4.2/14,mb1mx4.0/28,mbtmp4.0/14,ML3.4/1,MS3.2/1, Ms1 3.2/1,ms1mx2.7/51,Error ellipse: s-maj=16.7km s-min=13.7km az=17.0*
ISCJB ***25*** *15:15:22.3±0.3,60.˚78N±0.˚04×165.˚77E±0.˚06,h10km, mb4.1/16,Error ellipse: s-maj=5.6km s-min=4.3km az=177.7*
NERS ***25*** *15:15:24.4,60.˚87N×165.˚68E,h14km*
NEIC ***25*** *15:15:25.6±3.2,60.˚66N×165.˚70E,h24km±24km,mb4.3/4, Error ellipse: s-maj=10.9km s-min=7.4km az=170.0*
ISC 25 15:15:24.2±0.3,**60.80N**±0.˚04×**165.80E**±0.˚05,**h10**km,**n79,**
σ**1s14/88,mb4.1**/16,**1C,Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EVEN	**Evensk**	**3.36**	**292**	*e*	P	**Pn**	**15 16 16.1**	**-0.5**
EVEN				*e*	Pg	**Pg**	**15 16 24.4**	**-4.1**
EVEN				*e*			15 16 27.7	
EVEN					Pgmax		15 16 30.3	
	50nm,0.4s							
EVEN				*e*	Sg	**Sg**	**15 17 07.6**	**-4.3**
EVEN					Sgmax		15 17 18.7	
	310nm,0.7s							
PALN	**Palana**	**3.40**	**242**	*e*	P	**Pb**	**15 16 23.5**	**-0.9**
PALN				*i*	S	**Sb**	**15 17 08.0**	**+2.3**
KBTR	**Krutoberegovo**	**4.86**	**200**	*e*	P	**Pn**	**15 16 37.1**	**-0.2**
KBTR				*i*	S	**Sn**	**15 17 34.0**	**+0.5**
KBTR	**Krutoberegovo**	**4.86**	**200**	PN		**Pn**	**15 16 37.1**	**-0.2**
KBTR				S		**Sn**	**15 17 34.0**	**+0.5**
OMS	**Omsukchan**	**5.08**	**294**	*e*	P	**Pn**	**15 16 40.4**	**+0.1**
OMS					Pmax		15 16 42.4	
	20nm,0.6s							
OMS				*e*	S	**Sn**	**15 17 40.7**	**+1.8**
OMS				*e*			15 17 55.6	
OMS				*e*	Sg	**Sg**	**15 18 05.0**	**-2.1**
OMS					Sgmax		15 18 12.3	
	100nm,0.9s							
OMS					Sgmax		15 18 12.3	
	50nm,0.9s							
BKI	**Bering**	**5.61**	**179**	*e*	P	**Pn**	**15 16 46.8**	**-0.8**
BKI	**Bering**	**5.61**	**179**	PN		**Pn**	**15 16 46.8**	**-0.8**
ESO	**Esso**	**6.15**	**221**	*e*	P	**Pn**	**15 16 55.6**	**+0.7**
ESO	**Esso**	**6.15**	**221**	PN		**Pn**	**15 16 55.6**	**+0.7**
TLAR	**Talaya**	**6.54**	**279**	*e*	P	**Pn**	**15 17 02.2**	**+2.0**
TLAR					Pmax		15 17 05.5	
	10.0nm,0.5s							
TLAR				*e*	S	**Sn**	**15 18 17.5**	**+2.8**
TLAR				*e*	Sg	**Sg**	**15 18 50.7**	**-3.0**
TLAR					Sgmax		15 19 00.8	
	40nm,0.7s							
MKZ	**Mys Kozlova**	**6.62**	**201**	*e*	P	**Pn**	**15 17 01.9**	**+0.4**
MKZ	**Mys Kozlova**	**6.62**	**201**	PN		**Pn**	**15 17 01.9**	**+0.4**
SEY	**Seymchan**	**6.70**	**294**	*e*	P	**Pn**	**15 17 03.1**	**+0.6**
SEY					Pmax		15 17 03.4	
	5.0nm,0.2s							
SEY				*e*	S	**Sn**	**15 18 18.2**	**-0.5**
SEY				*e*	S	**Sg**	**15 18 51.4**	**-7.5**
SEY					Sgmax		15 19 12.0	
	210nm,0.8s							
BILL	**Bilibino**	**7.28**	**1**	*e*	P	**Pn**	**15 17 10.9**	**+0.5**
BILL	**Bilibino** 10nm,0.6s	**7.28**	**1**	*e*	P	**Pn**	**15 17 11.1**	**+0.7**
BILL				*e*			15 17 16.6	
BILL	**Bilibino**	**7.28**	**1**	⇑*i*	PN	**Pn**	**15 17 12.0**	**+1.6**
BILL					Pmax	Pmax		
	comp=Z,3.0nm,0.7s							
MGD	**Magadan 1**	**7.50**	**271**	*e*	P	**Pn**	**15 17 14.6**	**+1.2**
MGD					Pmax		15 17 15.3	
	comp=Z,10.0nm,0.7s							
MGD				*e*	S	**Sn**	**15 18 38.3**	**-0.1**
SUUS	**Susuman**	**8.58**	**291**	*e*	P	**Pn**	**15 17 30.2**	**+1.9**
SUUS					Pmax		15 17 39.3	
	comp=Z,10.0nm,0.4s							
SUUS				*e*			15 19 59.0	
SUUS				*e*max			15 20 10.0	
	comp=Z,190nm,1.6s							
SUUS				*e*max			15 20 10.0	
	comp=Z,60nm,1.3s							
OCHR	**Omchak**	**8.69**	**284**	*e*	P	**Pn**	**15 17 30.8**	**+1.0**
OCHR					Pmax		15 17 32.1	
	comp=Z,20nm,0.7s							
OCHR				*e*			15 17 39.2	
OCHR				*e*			15 19 41.7	
OCHR				*e*			15 20 05.3	
PETK	**Petropavlovsk-** comp=Z,141nm,18.6s,baz=26,slow=37	**8.88**	**213**	LR		LR	15 20 47.7	
FX1	**Attu Island--F** comp=Z,1.5nm,0.3s,baz=337,slow=21,SNR=6.4	**8.89**	**150**	Pn		**Pn**	**15 17 30.6**	**-2.0**
FX1	**Attu Island--F**	**8.89**	**150**	Pn		**Pn**	**15 17 30.6**	**-2.0**
FX1	**Attu Island--F**	**8.89**	**150**	PN		**Pn**	**15 17 30.7**	**-1.9**
YAK	**Yakutsk** comp=Z,16nm,0.8s	**17.19**	**290**	*e*	P	**Pn**	**15 19 26.0**	**+1.9**
YAK	**Yakutsk**	**17.19**	**290**	*e*	P	**Pn**	**15 19 25.4**	**+1.3**
YAK					pmax	pmax		
	comp=Z,14nm,0.8s							
YSS	**Yuzh-Sakhalins**	**19.26**	**234**	P		**Pn**	**15 19 44.9**	**-4.7**
YSS	**Yuzh-Sakhalins**	**19.26**	**234**	P		**Pn**	**15 19 44.9**	**-4.6**
COLD	**Coldfoot** comp=Z,9.2nm,0.9s	**19.94**	**52**	*e*	P	**Pn**	**15 19 58.1**	**+0.6**
COLA	**College**	**21.16**	**59**	*e*	P	**P**	**15 20 12.1**	**+3.0**
COLA	**College**	**21.16**	**59**	*e*	P	**P**	**15 20 12.1**	**+3.1**
ILAR	**Eielson Array** comp=Z,3.6nm,0.7s,mb3.9,baz=275,slow=8.7,SNR=32	**21.58**	**59**	P		**P**	**15 20 14.4**	**+0.8**
ILAR	**Eielson Array**	**21.58**	**59**	P		**P**	**15 20 14.4**	**+0.8**
EGAK	**Eagle**	**23.97**	**57**	*e*	P	**P**	**15 20 37.1**	**-1.2**
DAWY	**Dawson**	**24.91**	**59**	*e*	P	**P**	**15 20 47.1**	**+0.3**
INK	**Inuvik** comp=Z,4.1nm,1.0s,mb3.9,baz=288,slow=13,SNR=5.6	**26.07**	**48**	P		**P**	**15 20 57.4**	**+0.1**
INK					PcP	PcP	15 24 24.3	-0.2
	comp=Z,3.3nm,1.1s,baz=243,slow=6.8,SNR=3.6							
INK	**Inuvik**	**26.07**	**48**	*e*	P	**P**	**15 20 57.0**	**-0.3**
INK					PcP	PcP	15 24 24.3	-0.2
INK	**Inuvik**	**26.07**	**48**	*e*	P	**P**	**15 20 57.0**	**-0.3**
INK							15 24 24.3	
YKA	**Yellowknife Ar** comp=Z,1.1nm,0.6s,mb3.9,baz=304,slow=8.4,SNR=7.8	**35.61**	**52**	P		**P**	**15 22 20.7**	**-0.8**
YKA	**Yellowknife Ar**	**35.61**	**52**	P		**P**	**15 22 20.7**	**-0.8**
YKA	**Yellowknife Ar**	**35.61**	**52**	P		**P**	**15 22 20.7**	**-0.8**
SONM	**Songino Array** comp=Z,1.1nm,0.8s,mb3.8,baz=64,slow=6.8,SNR=6.1	**35.69**	**276**	P		**P**	**15 22 22.3**	**0.0**
SONM					PcP	PcP	15 24 49.3	-0.9
	comp=Z,1.3nm,1.2s,baz=33,slow=3.4,SNR=3.5							
SONM	**Songino Array**	**35.69**	**276**	P		**P**	**15 22 22.3**	**0.0**
SONM					PcP	PcP	15 24 49.3	-0.9
SONM	**Songino Array**	**35.69**	**276**	P		**P**	**15 22 22.3**	**0.0**
SONM							15 24 49.3	
ZALV	**Zalesovo Beam** comp=Z,0.3nm,0.3s,mb3.4,baz=22,slow=8.0,SNR=2.6	**41.55**	**298**	P		**P**	**15 23 11.3**	**-0.1**
ZALV	**Zalesovo Beam**	**41.55**	**298**	P		**P**	**15 23 11.3**	**-0.1**
ZALV	**Zalesovo Beam**	**41.55**	**298**	P		**P**	**15 23 11.3**	**-0.1**
KURK	**Kurchatov** comp=Z,7.7nm,0.7s,mb4.7	**46.52**	**299**	*e*	P	**P**	**15 23 50.5**	**-0.8**
KURK	**Kurchatov**	**46.52**	**299**	*e*	P	**P**	**15 23 50.5**	**-0.8**
CHMT	**Chamberlain Mo** comp=Z,3.1nm,0.8s,mb4.3	**46.58**	**69**	P		**P**	**15 23 51.1**	**-0.6**
MK31	**Makanchi Array**	**47.83**	**293**	*e*	P	**P**	**15 24 00.4**	**-1.2**
MK31	**Makanchi Array**	**47.83**	**293**	*e*	P	**P**	**15 24 00.4**	**-1.2**
MKAR	**Makanchi Array** comp=Z,1.4nm,0.6s,mb4.2,baz=50,slow=3.7,SNR=8.0	**47.83**	**293**	P		**P**	**15 24 00.6**	**-1.0**
MKAR	**Makanchi Array**	**47.83**	**293**	P		**P**	**15 24 00.6**	**-1.0**
MKAR	**Makanchi Array**	**47.83**	**293**	P		**P**	**15 24 00.6**	**-1.0**
BVAR	**Borovoye Array** comp=Z,5.6nm,0.8s,mb4.7,baz=50,slow=6.4,SNR=12	**48.20**	**306**	P		**P**	**15 24 03.0**	**-1.2**
BVAR	**Borovoye Array**	**48.20**	**306**	P		**P**	**15 24 03.0**	**-1.2**
BVAR	**Borovoye Array**	**48.20**	**306**	P		**P**	**15 24 03.0**	**-1.3**
BRVK	**Borovoye**	**48.21**	**306**	*e*	P	**P**	**15 24 04.3**	**-0.1**
BRVK	**Borovoye**	**48.21**	**306**	*e*	P	**P**	**15 24 04.3**	**-0.1**
FLWY	**Flagg Ranch**	**49.90**	**69**	*e*	P	**P**	**15 24 18.5**	**+1.1**
NVAR	**Mina Array Bea** comp=Z,0.7nm,0.8s,mb3.7,baz=308,slow=7.1,SNR=5.8	**50.71**	**80**	P		**P**	**15 24 24.6**	**+1.0**
NVAR	**Mina Array Bea**	**50.71**	**80**	P		**P**	**15 24 24.6**	**+1.0**
PDAR	**Pinedale Array** comp=Z,4.5nm,0.9s,mb4.4,baz=2.5,slow=3.4,SNR=9.7	**51.44**	**70**	P		**P**	**15 24 29.5**	**+0.4**
PDAR	**Pinedale Array**	**51.44**	**70**	P		**P**	**15 24 29.5**	**+0.4**
NOA	**NORSAR Array B** comp=Z,1.1nm,0.6s,mb4.0,baz=14,slow=7.3,SNR=3.4	**56.93**	**346**	P		**P**	**15 25 08.1**	**-0.7**
NOA	**NORSAR Array B**	**56.93**	**346**	P		**P**	**15 25 08.1**	**-0.7**
NOA	**NORSAR Array B**	**56.93**	**346**	P		**P**	**15 25 08.1**	**-0.7**
CMAR	**Chiang Mai Arr** comp=Z,0.6nm,0.6s,mb3.9,baz=12,slow=6.1,SNR=5.5	**62.79**	**259**	P		**P**	**15 25 48.5**	**-1.1**
CMAR	**Chiang Mai Arr**	**62.79**	**259**	P		**P**	**15 25 48.6**	**-1.1**
ZEI	**Tsey**	**66.50**	**317**	*e*	P	**P**	**15 26 12.8**	**-0.8**
ZEI					pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3							
WRA	**Warramunga Arr** comp=Z,1.7nm,0.9s,mb4.2,baz=12,slow=5.4,SNR=6.4	**84.37**	**210**	P		**P**	**15 27 55.3**	**-1.0**
WRA	**Warramunga Arr**	**84.37**	**210**	P		**P**	**15 27 55.3**	**-1.0**
WRA	**Warramunga Arr**	**84.37**	**210**	P		**P**	**15 27 55.3**	**-0.9**
ASAR	**Alice Springs** comp=Z,0.4nm,0.8s,mb3.7,baz=13,slow=5.2,SNR=7.8	**88.06**	**209**	P		**P**	**15 28 13.7**	**-0.7**
ASAR	**Alice Springs**	**88.06**	**209**	P		**P**	**15 28 13.7**	**-0.7**
ASAR	**Alice Springs**	**88.06**	**209**	P		**P**	**15 28 13.7**	**-0.6**
QSPA	**South Pole Qui** comp=Z,7.4nm,0.7s,baz=346,slow=1.1,SNR=18	**150.56**	**180**	PKPbc		PKPbc	15 35 13.2	-0.9
QSPA	**South Pole Qui**	**150.56**	**180**	PKPbc		PKPbc	15 35 13.2	-0.9

ISCJB ***25*** *15:22:48.2±0.5,38.˚81N±0.˚02×23.˚58E±0.˚04,h2km±11km, Error ellipse: s-maj=5.7km s-min=4.0km az=167.7*
THE ***25*** *15:22:48.6,38.˚81N×23.˚57E,h6km±15km,ML2.4/2,Error ellipse: s-maj=15.7km s-min=0.5km az=316.0*

VLY				*e*SB	**Sb**	**15 23 20.8**	**+0.3**
VLY	**Voula,Athens**	**0.98**	**169**	P	**Pg**	**15 23 07.1**	**-0.5**
VLY				S	**Sg**	**15 23 20.3**	**-0.1**
VLY	**Voula,Athens**	**0.98**	**169**	P	**Pg**	**15 23 07.1**	**-0.5**
VLY				S	**Sg**	**15 23 20.3**	**-0.1**
VLY				*e*Sb	**Sb**	**15 23 20.8**	**+0.3**
NAIG	**Nisos Aigina**	**1.06**	**183**	*e*PB	**Pg**	**15 23 08.9**	**-0.2**
NAIG	**Nisos Aigina**	**1.06**	**183**	*e*Pb	**Pg**	**15 23 08.9**	**-0.2**
THL	**Klokotos Trika**	**1.42**	**302**	*e*PB	**Pb**	**15 23 15.1**	**+0.1**
THL	**Klokotos Trika**	**1.42**	**302**	*e*Pb	**Pb**	**15 23 15.1**	**+0.1**

ISCJB ***25*** *15:33:06.8±1.7, 47.2°N±0.1°×153.1°E±0.2, h36*^{km}*±15*^{km}*, mb3.8/9, Error ellipse: s-maj=27.9km s-min=12.0km az=37.9*

MOS ***25*** *15:33:08.2±1.7, 47.2°ON×152.99°E, h49*^{km}*, mb4.0/2, Error ellipse: s-maj=33.3km s-min=11.1km az=70.2*

IDC ***25*** *15:33:12.1±4.5, 47.28°N×153.28°E, h67*^{km}*±41*^{km}*, mb3.6/7, mb1 3.8/8, mb1mx3.4/25, mbtmp3.6/8, ML3.3/1, Error ellipse: s-maj=32.6km s-min=21.2km az=118.0*

NEIC ***25*** *15:33:12.1±1.5, 47.31°N×153.22°E, h67*^{km}*±14*^{km}*, mb3.5/1, Error ellipse: s-maj=22.5km s-min=12.8km az=116.0*

ISC 25 15:33:09.8±1.3, 47.2°N±0.1°×153.1°E±0.2, h44^{km}**±12**^{km}**, n35, σ0^{s}98/35, mb3.8/9, 2C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.02**	**29**	*e*PN	**Pn**	**15 34 12.5**	**+3.8**
SKR	comp=Z,80nm,0.5s			pmax	pmax		
PEA0B	**Petropavlovsk-**	**6.61**	**25**	*e*P	**Pn**	**15 34 44.8**	**+0.5**
PETK	**Petropavlovsk-**	**6.61**	**25**	P	**Pn**	**15 34 44.6**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=182,slow=12,SNR=13						
PETK	**Petropavlovsk-**	**6.61**	**25**	P	**Pn**	**15 34 44.6**	**+0.4**
PETK	**Petropavlovsk-**	**6.61**	**25**	PN	**Pn**	**15 34 44.7**	**+0.4**
PET	**Petropavlovsk**	**6.84**	**30**	P	**Pn**	**15 34 47.9**	**+0.6**
PET	**Petropavlovsk**	**6.84**	**30**	PN	**Pn**	**15 34 47.9**	**+0.5**
ERM	**Erimo**	**8.77**	**237**	*e*PN	**Pn**	**15 35 12.2**	**-1.7**
BILL	**Bilibino**	**21.95**	**13**	*e*P	**P**	**15 37 56.9**	**-2.3**
BILL	**Bilibino**	**21.95**	**13**	*e*P	**P**	**15 37 56.9**	**-2.3**
INK	**Inuvik**	**41.28**	**33**	*e*P	**P**	**15 40 50.1**	**0.0**
	comp=Z,0.4nm,0.4s,mb3.4						
INK	**Inuvik**	**41.28**	**33**	*e*P	**P**	**15 40 50.2**	**0.0**
YKA	**Yellowknife Ar**	**50.58**	**37**	P	**P**	**15 42 02.9**	**-0.5**
	comp=Z,0.8nm,0.7s,mb3.8,baz=296,slow=6.9,SNR=3.5						
YKA	**Yellowknife Ar**	**50.58**	**37**	P	**P**	**15 42 02.9**	**-0.5**
YKA	**Yellowknife Ar**	**50.58**	**37**	P	**P**	**15 42 02.9**	**-0.5**
BRVK	**Borovoye**	**50.59**	**309**	*e*P	**P**	**15 42 04.7**	**+1.1**
BRVK	comp=Z,1.0nm,0.8s,mb3.8			pmax	pmax		
CMAR	**Chiang Mai Arr**	**52.45**	**256**	P	**P**	**15 42 19.5**	**+1.5**
	comp=Z,0.3nm,0.6s,mb3.4,baz=41,slow=8.4,SNR=3.9						
CMAR	**Chiang Mai Arr**	**52.45**	**256**	P	**P**	**15 42 19.5**	**+1.5**
CMAR	**Chiang Mai Arr**	**52.45**	**256**	P	**P**	**15 42 19.5**	**+1.5**
FINES	**FINESS Array B**	**63.62**	**335**	P	**P**	**15 43 35.3**	**-0.2**
	comp=Z,3.1nm,0.9s,mb4.3,baz=15,slow=8.1,SNR=4.5						
FINES	**FINESS Array B**	**63.62**	**335**	P	**P**	**15 43 35.3**	**-0.2**
FINES	**FINESS Array B**	**63.62**	**335**	P	**P**	**15 43 35.3**	**-0.2**
HFS	**Hagfors**	**68.02**	**339**	P	**P**	**15 44 03.3**	**-0.5**
	comp=Z,1.7nm,0.7s,mb4.2,baz=46,slow=4.3,SNR=6.8						
HFS	**Hagfors**	**68.02**	**339**	P	**P**	**15 44 03.3**	**-0.5**
HFS	**Hagfors**	**68.02**	**339**	P	**P**	**15 44 03.3**	**-0.6**
AS31	**Alice Springs**	**72.63**	**198**	*e*P	**P**	**15 44 32.8**	**+0.5**
ASAR	**Alice Springs**	**72.63**	**198**	P	**P**	**15 44 32.9**	**+0.5**
	comp=Z,0.8nm,0.5s,mb3.9,baz=13,slow=5.9,SNR=31						
ASAR	**Alice Springs**	**72.63**	**198**	P	**P**	**15 44 32.9**	**+0.5**
ASAR	**Alice Springs**	**72.63**	**198**	P	**P**	**15 44 32.9**	**+0.5**
TXAR	**Lajitas Array**	**77.29**	**61**	P	**P**	**15 44 58.3**	**-1.1**
	comp=Z,0.4nm,0.7s,mb3.5,baz=313,slow=4.7,SNR=4.5						
TXAR	**Lajitas Array**	**77.29**	**61**	P	**P**	**15 44 58.3**	**-1.1**
TXAR	**Lajitas Array**	**77.29**	**61**	P	**P**	**15 44 58.3**	**-1.2**
STKA	**Stephens Creek**	**79.39**	**190**	P	**P**	**15 45 11.0**	**+0.3**
	comp=Z,0.9nm,0.7s,mb3.8,baz=326,slow=11,SNR=2.8						
STKA	**Stephens Creek**	**79.39**	**190**	P	**P**	**15 45 11.0**	**+0.3**
STKA	**Stephens Creek**	**79.39**	**190**	P	**P**	**15 45 11.0**	**+0.3**

DJA 25 15:38:43, 2.21°S×100.50°E, h11^{km}**, MLv3.9/4, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRJI	**Kerinci**	**0.97**	**83**	P	Pg	15 39 01.2	-0.5
PDSI	**Padang**	**1.29**	**358**	P	Pn	15 39 06.2	-0.8
SDSI	**Sungai Dareh**	**1.57**	**36**	P	Pn	15 39 10.9	0.0
PPI	**Padang Panjang**	**1.74**	**357**	P	Pn	15 39 14.0	+0.8
PPI				S	Sn	15 39 36.5	+1.0
MNSI	**Mandailing Nat**	**3.12**	**343**	P	Pn	15 39 32.9	+0.7

ISCJB ***25*** *15:42:05.1±1.2, 21.6°ON×106.06°×143.2°E±0.1, h304*^{km}*±12*^{km}*, mb3.6/19, Error ellipse: s-maj=20.6km s-min=10.1km az=179.4*

IDC ***25*** *15:42:05.8±1.7, 21.64°N×143.20°E, h293*^{km}*±16*^{km}*, mb3.4/18, mb1 3.5/19, mb1mx3.4/27, mbtmp3.4/19, Error ellipse: s-maj=16.2km s-min=9.6km az=93.0*

NEIC ***25*** *15:42:06.6±1.0, 21.61°N×143.23°E, h303*^{km}*±10*^{km}*, mb3.9/3, Error ellipse: s-maj=12.4km s-min=6.2km az=90.0*

ISC 25 15:42:05.9±1.2, 21.62°N±0.06°×143.2°E±0.1, h295^{km}**±12**^{km}**, n45, σ0^{s}53/45, mb3.6/19, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.53**	**350**	P	**Pn**	**15 43 30.4**	**+1.0**
	14nm,0.3s,baz=328,slow=22,SNR=9.1						
CBIJ				S	**S**	**15 44 35.8**	**-0.7**
	18nm,0.3s,baz=278,slow=21,SNR=9.1						
CBIJ	**Chichi jima**	**5.53**	**350**	P	**Pn**	**15 43 30.4**	**+1.0**
CBIJ				S	**S**	**15 44 35.8**	**-0.7**
JNU	**Nakatsue**	**15.83**	**319**	*e*P	**Pn**	**15 45 34.0**	**-0.1**
KSRS	**Korea Array**	**20.59**	**323**	P	**P**	**15 46 23.2**	**+0.1**
	3.2nm,0.6s,baz=144,slow=8.7,SNR=18						
KSAR	**Wonju Array Be**	**20.60**	**323**	P	**P**	**15 46 23.2**	**0.0**
ASAJ	**Asahikawa**	**22.44**	**359**	P	**P**	**15 46 38.9**	**-1.2**
	1.9nm,0.4s,mb3.7,baz=165,slow=20,SNR=2.8						
ASAJ	**Asahikawa**	**22.44**	**359**	P	**P**	**15 46 38.9**	**-1.2**
PETK	**Petropavlovsk-**	**33.34**	**16**	P	**P**	**15 48 16.6**	**+0.2**
	7.3nm,1.0s,mb4.2,baz=224,slow=12,SNR=3.8						
PETK	**Petropavlovsk-**	**33.34**	**16**	P	**P**	**15 48 16.6**	**+0.2**
SONM	**Songino Array**	**39.41**	**321**	P	**P**	**15 49 08.7**	**+1.1**
	0.4nm,0.4s,mb3.2,baz=132,slow=8.4,SNR=9.5						
SONM	**Songino Array**	**39.41**	**321**	P	**P**	**15 49 08.7**	**+1.1**
YAK	**Yakutsk**	**41.45**	**350**	*e*P	**P**	**15 49 23.7**	**-0.2**
	11nm,0.4s,mb4.4						
CMAR	**Chiang Mai Arr**	**41.61**	**274**	P	**P**	**15 49 26.1**	**+0.2**
	0.5nm,0.5s,mb3.0,baz=96,slow=5.9,SNR=7.7						
CMAR	**Chiang Mai Arr**	**41.61**	**274**	P	**P**	**15 49 26.1**	**+0.2**
WRAB	**Tennant Creek**	**42.20**	**192**	*e*P	**P**	**15 49 30.4**	**0.0**
	3.2nm,0.5s,mb3.8						
WB2	**Warramunga Arr**	**42.21**	**192**	*e*P	**P**	**15 49 30.5**	**-0.1**
WRA	**Warramunga Arr**	**42.21**	**192**	P	**P**	**15 49 30.7**	**+0.2**
	2.4nm,0.5s,mb3.6,baz=13,slow=8.2,SNR=23						
WRA	**Warramunga Arr**	**42.21**	**192**	P	**P**	**15 49 30.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**43.07**	**205**	P	**P**	**15 49 37.3**	**-0.1**
	1.3nm,0.3s,mb3.6,baz=40,slow=14,SNR=11						
FITZ	**Fitzroy Crossi**	**43.07**	**205**	P	**P**	**15 49 37.3**	**-0.1**
AS31	**Alice Springs**	**45.92**	**192**	*e*P	**P**	**15 49 59.5**	**-0.3**
ASAR	**Alice Springs**	**45.92**	**192**	P	**P**	**15 49 59.5**	**-0.3**
	0.6nm,0.5s,mb3.1,baz=16,slow=11,SNR=25						
ASAR	**Alice Springs**	**45.92**	**192**	P	**P**	**15 49 59.5**	**-0.3**
STKA	**Stephens Creek**	**53.22**	**182**	P	**P**	**15 50 54.3**	**-0.1**
	1.1nm,0.8s,mb3.3,baz=348,slow=14,SNR=2.8						
STKA	**Stephens Creek**	**53.22**	**182**	P	**P**	**15 50 54.3**	**-0.1**
ZALV	**Zalesovo Beam**	**54.29**	**322**	P	**P**	**15 51 01.2**	**-0.6**
	0.5nm,0.4s,mb3.2,baz=94,slow=6.5,SNR=3.0						
ZALV	**Zalesovo Beam**	**54.29**	**322**	P	**P**	**15 51 01.2**	**-0.6**
MKAR	**Makanchi Array**	**54.77**	**313**	P	**P**	**15 51 05.7**	**+0.2**
	0.9nm,0.8s,mb3.2,baz=76,slow=7.6,SNR=3.0						
MKAR	**Makanchi Array**	**54.77**	**313**	P	**P**	**15 51 05.7**	**+0.2**
KURK	**Kurchatov**	**57.55**	**317**	P	**P**	**15 51 25.1**	**+0.2**
	0.7nm,0.4s,mb3.4,baz=97,slow=7.7,SNR=5.4						
KURK	**Kurchatov**	**57.55**	**317**	*e*P	**P**	**15 51 25.4**	**+0.5**
	0.5nm,0.4s,mb3.3						
ILAR	**Eielson Array**	**62.09**	**27**	P	**P**	**15 51 55.5**	**0.0**
	0.9nm,0.8s,mb3.5,baz=259,slow=5.0,SNR=18						
ILAR	**Eielson Array**	**62.09**	**27**	P	**P**	**15 51 55.5**	**0.0**
BVAR	**Borovoye Array**	**62.75**	**320**	P	**P**	**15 51 59.8**	**-0.1**
	1.1nm,0.3s,mb3.9,baz=91,slow=7.2,SNR=12						
BVAR	**Borovoye Array**	**62.75**	**320**	P	**P**	**15 51 59.8**	**-0.1**
YKA	**Yellowknife Ar**	**76.51**	**28**	P	**P**	**15 53 24.1**	**+0.8**
	0.8nm,0.5s,mb3.7,baz=291,slow=6.0,SNR=8.8						
YKA	**Yellowknife Ar**	**76.51**	**28**	P	**P**	**15 53 24.1**	**+0.8**
ARCES	**ARCESS Array B**	**79.00**	**342**	P	**P**	**15 53 37.3**	**+0.5**
	1.4nm,0.5s,mb4.0,baz=74,slow=9.5,SNR=9.6						
ARCES	**ARCESS Array B**	**79.00**	**342**	P	**P**	**15 53 37.4**	**+0.5**
NVAR	**Mina Array Bea**	**83.17**	**51**	P	**P**	**15 53 59.5**	**+0.1**
	0.5nm,0.8s,mb3.4,baz=279,slow=5.9,SNR=3.3						
NVAR	**Mina Array Bea**	**83.17**	**51**	P	**P**	**15 53 59.5**	**+0.1**
FINES	**FINESS Array B**	**83.26**	**334**	P	**P**	**15 53 58.2**	**-1.1**
	2.0nm,0.6s,mb4.1,baz=83,slow=6.0,SNR=8.6						
FINES	**FINESS Array B**	**83.26**	**334**	P	**P**	**15 53 58.2**	**-1.1**
PLCA	**Paso Flores**	**145.69**	**131**	PKPbc	PKPbc	16 01 10.9	+0.7
	1.1nm,0.5s,baz=229,slow=3.5,SNR=6.4						
PLCA	**Paso Flores**	**145.69**	**131**	*e*PKPbc	PKPbc	16 01 11.2	+1.0

IDC ***25*** *15:44:37.3±9.3, 36.29°N×140.91°E, h0*^{km}*, mb3.6/2, mb1 3.7/3, mb1mx3.3/24, mbtmp3.6/3, Error ellipse: s-maj=150.7km s-min=67.0km az=141.0*

ISCJB ***25*** *15:44:46.8±1.1, 35.93°N±0.05°×140.14°E±0.10, h72*^{km}*±6*^{km}*, mb3.1/2, Error ellipse: s-maj=13.9km s-min=7.9km az=22.2*

JMA ***25*** *15:44:48.0±0.1, 35.99°N×140.07°E, h65*^{km}*±1*^{km}*, M3.0*

ISC 25 15:44:47.6±1.1, 35.93°N±0.05°×140.14°E±0.10, h67^{km}**±6**^{km}**, n12, σ0^{s}72/19, mb3.1/2, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.30**	**9**	P	**Pn**	**15 44 58.4**	**0.0**
JYT				S	**Sn**	**15 45 06.0**	**-0.3**
TOK	**Tokyo**	**0.39**	**231**	S	**Sn**	**15 45 09.6**	**+2.0**
JAG	**Ashikaga**	**0.74**	**312**	P	**Pn**	**15 45 02.4**	**-0.3**
JAG				S	**Sn**	**15 45 13.0**	**-0.9**
JRY	**Ryogami san**	**1.00**	**275**	P	**Pn**	**15 45 05.8**	**-0.2**
JOD2	**Odawara 2**	**1.09**	**232**	P	**Pn**	**15 45 06.8**	**-0.2**
JOD2				S	**Sn**	**15 45 20.2**	**-1.3**
JKT	**Katashina**	**1.10**	**319**	P	**Pn**	**15 45 06.8**	**-0.4**
JKT				S	**Sn**	**15 45 21.5**	**-0.3**
JYN	**Shimob**	**1.37**	**252**	P	**Pn**	**15 45 10.9**	**+0.2**
JYN				S	**Sn**	**15 45 27.9**	**-0.1**
JFY	**Yanaizu**	**1.51**	**347**	P	**Pn**	**15 45 12.9**	**+0.3**
JFY				S	**Sn**	**15 45 31.8**	**+0.4**
MJAR	**Matsushiro Arr**	**1.67**	**292**	Pn	**Pn**	**15 45 14.4**	**-0.3**
	18nm,0.3s,baz=95,slow=12,SNR=207						
MAT	**Matsushiro**	**1.67**	**292**	P	**Pn**	**15 45 15.0**	**+0.2**
MAT				*e*S	**Sn**	**15 45 36.5**	**+1.2**
SONM	**Songino Array**	**27.57**	**306**	P	**P**	**15 50 29.3**	**+1.1**
	0.2nm,0.6s,mb2.8,baz=84,slow=7.4,SNR=3.6						
ZALV	**Zalesovo Beam**	**41.91**	**313**	P	**P**	**15 52 30.5**	**-0.7**
	0.3nm,0.3s,mb3.5,baz=91,slow=7.2,SNR=3.9						

GUC 25 15:57:49.9±0.5, 28.02°S×70.56°W, h70^{km}**±6**^{km}**, ML3.9, 2C, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.58**	**197**	*i*P	Pn	15 58 04.0	+0.5
VACH				*i* S	Sn	15 58 14.1	+0.7
VACH				AML	AML	15 58 15.9	
	comp=E,14μm,0.1s						
CPCH	**Copiapo**	**0.69**	**16**	*i* S	Sn	15 58 16.3	+0.8
CPCH				AML	AML	15 58 16.7	
	comp=N,74μm,0.1s						
CDCH	**Caldera**	**0.98**	**346**	*e*P	Pn	15 58 08.3	+0.2
CDCH				*i* S	Sn	15 58 22.1	+0.4
CDCH				AML	AML	15 58 23.4	
	comp=N,1μm,0.1s						
LCO	**Las Campanas**	**0.99**	**187**	*i*P	Pn	15 58 09.1	+0.8
LCO				*i* S	Sn	15 58 23.7	+1.8
LCO				AML	AML	15 58 24.9	
	comp=N,991nm,0.3s						

ISCJB ***25*** *16:12:29.1±3.1, 18.04°N±0.07°×147.5°E±0.2, h46*^{km}*±26*^{km}*, mb3.8/12, Error ellipse: s-maj=31.4km s-min=10.8km az=175.0*

IDC ***25*** *16:12:31.3±3.5, 18.06°N×147.38°E, h47*^{km}*±33*^{km}*, mb3.5/12, mb1 3.7/13, mb1mx3.6/23, mbtmp3.6/13, ML4.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.9/26, Error ellipse: s-maj=33.5km s-min=14.1km az=84.0*

NEIC ***25*** *16:12:31.9±2.1, 18.04°N×147.46°E, h55*^{km}*±18*^{km}*, mb4.2/1, Error ellipse: s-maj=25.4km s-min=7.9km az=82.0*

ISC 25 16:12:31.8±2.7, 18.03°N±0.07°×147.4°E±0.2, h53^{km}**±23**^{km}**, n29, σ0^{s}67/31, mb3.8/12, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.06**	**210**	P	**Pn**	**16 13 45.0**	**-0.2**
	11nm,0.3s,baz=91,slow=21,SNR=8.9						
GUMO				S	**Sn**	**16 14 42.1**	**-0.2**
	12nm,0.3s,baz=324,slow=19,SNR=2.7						
GUMO				LR	LR	16 15 40.4	
	comp=Z,332nm,18.2s,baz=344,slow=37						
GUMO	**Guam**	**5.06**	**210**	P	**Pn**	**16 13 45.3**	**+0.1**
GUMO				S	**Sn**	**16 14 42.1**	**-0.2**
MJAR	**Matsushiro Arr**	**20.16**	**338**	P	**P**	**16 17 01.2**	**-0.5**
	0.7nm,0.8s,baz=140,slow=9.6,SNR=3.0						
MJAR	**Matsushiro Arr**	**20.16**	**338**	P	**P**	**16 17 01.2**	**-0.5**
JNU	**Nakatsue**	**21.14**	**318**	*e*P	**P**	**16 17 14.0**	**+1.6**
KSRS	**Korea Array**	**25.84**	**322**	P	**P**	**16 17 58.4**	**+0.1**
	1.2nm,0.7s,mb3.5,baz=153,slow=8.9,SNR=4.3						
KSAR	**Wonju Array Be**	**25.86**	**322**	P	**P**	**16 17 58.4**	**-0.1**
PMG	**Port Moresby**	**27.26**	**181**	P	**P**	**16 18 10.0**	**-1.3**
	5.1nm,0.8s,mb4.1,baz=14,slow=9.8,SNR=4.3						
PMG	**Port Moresby**	**27.26**	**181**	P	**P**	**16 18 10.0**	**-1.3**
WRAB	**Tennant Creek**	**39.85**	**199**	*e*P	**P**	**16 20 00.7**	**+0.4**
	2.5nm,0.7s,mb4.0						
WB2	**Warramunga Arr**	**39.86**	**199**	*e*P	**P**	**16 20 00.6**	**+0.1**
WRA	**Warramunga Arr**	**39.87**	**199**	P	**P**	**16 20 00.9**	**+0.4**
	3.0nm,0.9s,mb4.0,baz=22,slow=9.3,SNR=10						
WRA	**Warramunga Arr**	**39.87**	**199**	P	**P**	**16 20 00.9**	**+0.4**
ASAR	**Alice Springs**	**43.50**	**198**	P	**P**	**16 20 31.2**	**+1.1**
	1.0nm,0.7s,mb3.7,baz=21,slow=8.0,SNR=30						
ASAR	**Alice Springs**	**43.50**	**198**	P	**P**	**16 20 31.2**	**+1.1**
SONM	**Songino Array**	**44.70**	**321**	P	**P**	**16 20 39.3**	**-0.2**
	0.3nm,0.5s,mb3.4,baz=128,slow=7.5,SNR=3.3						
SONM	**Songino Array**	**44.70**	**321**	P	**P**	**16 20 39.3**	**-0.2**
CMAR	**Chiang Mai Arr**	**45.95**	**278**	P	**P**	**16 20 49.6**	**-0.2**
	0.8nm,0.7s,mb3.8,baz=68,slow=7.9,SNR=8.0						
CMAR	**Chiang Mai Arr**	**45.95**	**278**	P	**P**	**16 20 49.6**	**-0.2**
STKA	**Stephens Creek**	**49.94**	**186**	P	**P**	**16 21 20.4**	**+0.1**
	1.5nm,0.7s,mb4.1,baz=56,slow=3.6,SNR=4.7						
STKA	**Stephens Creek**	**49.94**	**186**	P	**P**	**16 21 20.4**	**+0.1**
ZALV	**Zalesovo Beam**	**59.55**	**322**	P	**P**	**16 22 28.5**	**-1.2**
	0.3nm,0.3s,mb3.8,baz=102,slow=13,SNR=3.2						
ZALV	**Zalesovo Beam**	**59.55**	**322**	P	**P**	**16 22 28.5**	**-1.3**
MKAR	**Makanchi Array**	**60.11**	**314**	P	**P**	**16 22 33.8**	**0.0**
	0.5nm,0.8s,mb3.6,baz=87,slow=6.5,SNR=5.3						
MKAR	**Makanchi Array**	**60.11**	**314**	P	**P**	**16 22 33.8**	**0.0**
ILAR	**Eielson Array**	**63.52**	**26**	P	**P**	**16 22 56.9**	**+0.6**
	0.3nm,0.9s,mb3.3,baz=222,slow=7.7,SNR=3.8						
ILAR	**Eielson Array**	**63.52**	**26**	P	**P**	**16 22 56.9**	**+0.6**
FINES	**FINESS Array B**	**88.18**	**336**	P	**P**	**16 25 16.3**	**-0.5**
	1.6nm,0.6s,mb4.4,baz=125,slow=7.0,SNR=3.3						
FINES	**FINESS Array B**	**88.18**	**336**	P	**P**	**16 25 16.3**	**-0.5**

MAN 25 16:32:23, 8.96N×121.79E, h33^{km}**, mb4.6, ML3.4, MS3.4, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**1.40**	**146**	*e*P	Pn	16 32 46.8	+0.5
IPIL				*e*S	Sn	16 33 02.8	-0.8
GUIM	**Jordan**	**1.83**	**25**	*e*P	Pn	16 32 52.6	+0.5
PAGZ	**Pagadian**	**1.93**	**125**	*e*P	Pn	16 32 54.9	+1.5
CUYO	**Cuyo Island**	**2.02**	**338**	*e*P	Pn	16 32 56.5	+1.7
ENPP	**El Nido**	**3.22**	**314**	*e*P	Pn	16 33 12.5	+1.2

IDC ***25*** *16:33:09.6±2.4, 18.17°N×102.85°W, h0*^{km}*, mb3.8/3, mb1 4.0/5, mb1mx3.8/23, mbtmp3.6/5, ML3.3/2, MS3.4/3, Ms1 3.4/3, ms1mx3.1/44, Error ellipse: s-maj=47.2km s-min=23.7km az=31.0*

ISCJB ***25*** *16:33:10.4±0.7, 18.01°N±0.06°×102.97°W±0.05, h33*^{km}*, mb3.8/3, Error ellipse: s-maj=10.5km s-min=3.5km az=32.3*

MEX ***25*** *16:33:12.2±0.5, 18.03°N×102.96°W, h9*^{km}*±10*^{km}*, MD4.3*

ISC 25 16:33:11.2±1.0, 18.01°N±0.07°×102.96°W±0.06, h24^{km}**±11**^{km}**, n19, σ0^{s}93/30, mb3.8/3, Michoacan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.46**	**307**	*i* P	**Pb**	**16 33 20.3**	**-0.4**
MMIG				*i* S	**Sb**	**16 33 27.8**	**+0.6**
ZIIG	**Zihuatanejo**	**1.48**	**106**	*i* P	**Pn**	**16 33 35.1**	**-1.3**
ZIIG				*i* S	**Sn**	**16 33 54.0**	**-0.9**
SFJM	**Santa Fe**	**2.46**	**358**	*i* P	**Pn**	**16 33 49.5**	**-0.4**
SFJM				*i* S	**Sn**	**16 34 18.2**	**-1.0**
CAIG	**El Cayaco**	**2.74**	**110**	*e*P	**Pn**	**16 33 53.5**	**-0.3**
CAIG				*i* S	**Sn**	**16 34 25.2**	**-0.9**
ACX	**Acapulco**	**3.17**	**111**	*e*P	**Pn**	**16 33 59.1**	**-0.6**
ACX				*i* S	**Sn**	**16 34 34.4**	**-2.3**
MEIG	**Mezcala**	**3.18**	**91**	*e*P	**Pn**	**16 34 00.1**	**+0.3**
MEIG				*i* S	**Sn**	**16 34 36.8**	**-0.2**
PLIG	**Platanillo**	**3.31**	**83**	*e*P	**Pn**	**16 34 01.4**	**-0.2**
PLIG				*i* S	**Sn**	**16 34 40.4**	**+0.3**
ANIG	**Ahuacatlan**	**3.36**	**334**	*i* P	**Pn**	**16 34 01.8**	**-0.5**
ANIG				*i* S	**Sn**	**16 34 40.4**	**-1.1**
PPM	**Popocatepetl**	**4.24**	**75**	*i* P	**Pn**	**16 34 14.5**	**+0.1**
PPM				*e*P		16 34 15.1	
PPM				*i* S	**Sn**	**16 35 03.8**	**+0.6**
PPM				*i* S	**Sn**	**16 35 04.0**	**+0.8**
PNIG	**Pinotepa**	**4.89**	**109**	*e*P	**Pn**	**16 34 22.7**	**-0.7**
PNIG				*i* S	**Sn**	**16 35 19.8**	**+0.5**
UTMO	**Huajuapan**	**4.91**	**91**	*e*P	**Pn**	**16 34 24.0**	**+0.4**
UTMO				*i* S	**Sn**	**16 35 20.1**	**+0.4**
VHO	**Vista Hermosa**	**6.01**	**98**	*e*P	**Pn**	**16 34 40.4**	**+1.6**
VHO				*i* S	**Sn**	**16 35 49.0**	**+2.2**
CMIG	**Matias Romero**	**7.76**	**96**	Pn	**Pn**	**16 35 03.2**	**+0.5**
	0.2nm,0.3s,baz=328,slow=14,SNR=6.4						
CMIG				Lg		16 37 13.6	
	0.8nm,0.3s,baz=63,slow=2.9,SNR=5.7						
CMIG				LR	LR	16 37 48.2	
	comp=Z,158nm,18.4s,baz=305,slow=36						
TXAR	**Lajitas Array**	**11.29**	**357**	Pn	**Pn**	**16 35 51.2**	**+0.1**
	0.1nm,0.3s,baz=176,slow=13,SNR=3.8						
TXAR				Lg		16 39 03.1	
	0.0nm,0.3s,baz=213,slow=23,SNR=3.4						
TEIG	**Tepich**	**14.05**	**79**	LR	LR	16 42 46.1	
	comp=Z,103nm,18.3s,baz=222,slow=41						
ANMO	**Albuquerque**	**17.16**	**350**	LR	LR	16 44 24.3	
	comp=Z,282nm,18.0s,baz=277,slow=40						
NVAR	**Mina Array Bea**	**24.36**	**330**	P	**P**	**16 38 30.1**	**+2.8**
	1.1nm,0.8s,mb3.3,baz=149,slow=9.9,SNR=7.7						
INK	**Inuvik**	**53.85**	**346**	P	**P**	**16 42 32.5**	**+0.6**
	0.6nm,0.4s,mb3.9,baz=140,slow=7.8,SNR=4.3						
ILAR	**Eielson Array**	**55.15**	**339**	P	**P**	**16 42 42.1**	**+0.8**
	1.7nm,0.9s,mb4.1,baz=144,slow=5.5,SNR=13						

JMA ***25*** *17:16:22.8±0.3, 24.79°N×122.06°E, h68*^{km}*, M3.4*

TAP ***25*** *17:16:22.8, 24.62°N×122.04°E, h71*^{km}*, ML3.8, C*

ISCJB ***25*** *17:16:23.4±0.5, 24.63°N±0.03°×122.06°E±0.02, h66*^{km}*±5*^{km}*, Error ellipse: s-maj=4.9km s-min=2.9km az=158.5*

ISC 25 17:16:23.9±0.5, 24.64°N±0.03°×122.06°E±0.02, h65^{km}**±5**^{km}**, n56, σ0^{s}85/102, 1C-9

	baz=217							
WNT	**Mingjian**	**1.47**	**239**	*e*P		**Pn**	**17 16 49.2**	**+1.0**
	baz=252							
WNT				*e*S		**Sn**	**17 17 07.3**	**+0.8**
	baz=252							
YUS	**Yu-Shan**	**1.53**	**222**	*e*P		**Pn**	**17 16 49.4**	**+0.3**
	baz=214							
YUS				*e*S		**Sn**	**17 17 08.0**	**-0.1**
	baz=214							
IRIF	**Iriomote-Funau**	**1.55**	**101**	P		**Pn**	**17 16 48.9**	**-0.4**
IRIF				*e*S		**Sn**	**17 17 08.9**	**+0.4**
ALS	**Alishan**	**1.60**	**226**	P		**Pn**	**17 16 51.8**	**+1.7**
	baz=219							
ALS				*e*S		**Sn**	**17 17 12.0**	**+2.2**
	baz=219							
CHN5	**Tsauling**	**1.63**	**231**	P		**Pn**	**17 16 51.0**	**+0.5**
	baz=243							
CHN5				*e*S		**Sn**	**17 17 12.2**	**+1.7**
	baz=243							
CHKT	**Chengkung**	**1.66**	**203**	*e*P		**Pn**	**17 16 49.1**	**-1.7**
	baz=196							
CHKT				*e*S		**Sn**	**17 17 08.4**	**-2.7**
	baz=196							
WGK	**Gukeng**	**1.67**	**236**	*e*P		**Pn**	**17 16 51.7**	**+0.8**
	baz=248							
WGK				*e*S		**Sn**	**17 17 12.0**	**+0.7**
	baz=248							
HATJ	**Hateruma jima**	**1.69**	**110**	P		**Pn**	**17 16 51.8**	**+0.6**
ELDTW	**Lidau**	**1.73**	**214**	P		**Pn**	**17 16 50.8**	**-0.9**
	baz=210							
ELDTW				*e*S		**Sn**	**17 17 11.9**	**-1.0**
	baz=210							
JKRS	**Kuro-shima**	**1.82**	**102**	P		**Pn**	**17 16 53.0**	**+0.1**
JKRS				*e*S		**Sn**	**17 17 15.4**	**+0.4**
CHN2	**Minshiung**	**1.82**	**233**	*e*P		**Pn**	**17 16 53.6**	**+0.6**
	baz=246							
CHN4	**Tsaushan**	**1.86**	**227**	*e*P		**Pn**	**17 16 54.4**	**+0.9**
	baz=240							
CHN4				*e*S		**Sn**	**17 17 16.7**	**+0.8**
	baz=240							
CHY	**Chiayi**	**1.88**	**233**	*e*S		**Sn**	**17 17 16.9**	**+0.5**
	baz=246							
STYT	**Tauyuan**	**1.89**	**219**	*e*P		**Pn**	**17 16 54.6**	**+0.6**
	baz=212							
STYT				*e*S		**Sn**	**17 17 17.1**	**+0.3**
	baz=212							
JIJ	**Ishigaki jima**	**1.92**	**98**	P		**Pn**	**17 16 54.0**	**-0.2**
JIJ				*e*S		**Sn**	**17 17 17.0**	**-0.4**
WTP	**Ta-pu**	**1.92**	**224**	*e*P		**Pn**	**17 16 54.9**	**+0.6**
	baz=238							
WTP				*e*S		**Sn**	**17 17 17.6**	**+0.2**
	baz=238							
WSF	**Szhu**	**1.95**	**240**	*e*P		**Pn**	**17 16 52.4**	**-2.3**
	baz=250							
WSF				*e*S		**Sn**	**17 17 18.0**	**-0.3**
	baz=250							
CHN1	**Nanshi**	**2.02**	**224**	*e*P		**Pn**	**17 16 55.9**	**+0.3**
	baz=237							
CHN1				*e*S		**Sn**	**17 17 20.4**	**+0.6**
	baz=237							
TWG	**Pinlang**	**2.02**	**207**	*e*P		**Pn**	**17 16 54.5**	**-1.2**
	baz=200							
TWG				*e*S		**Sn**	**17 17 17.4**	**-2.6**
	baz=200							
CHN8	**Yiju**	**2.12**	**233**	*e*P		**Pn**	**17 16 54.5**	**-2.6**
	baz=246							
ECL	**Taimali**	**2.27**	**207**	*e*P		**Pn**	**17 16 58.2**	**-0.9**
	baz=199							
SSD	**Sandimen**	**2.29**	**215**	*e*P		**Pn**	**17 17 00.3**	**+0.9**
	baz=217							
SSD				*e*S		**Sn**	**17 17 26.3**	**-0.2**
	baz=217							
TWM1	**Shoushan**	**2.35**	**220**	*e*P		**Pn**	**17 17 02.4**	**+2.2**
	baz=222							
JTJ	**Tarama**	**2.40**	**89**	P		**Pn**	**17 17 01.4**	**+0.5**
JTJ				*e*S		**Sn**	**17 17 31.0**	**+1.8**
EAST	**Anshuo**	**2.50**	**207**	*e*P		**Pn**	**17 17 02.9**	**+0.6**
	baz=200							
SCZT	**Fangliau**	**2.61**	**211**	*e*P		**Pn**	**17 17 04.3**	**+0.6**
	baz=213							
SCZT				*e*S		**Sn**	**17 17 33.6**	**-0.8**
	baz=213							
QZH	**Quanzhou**	**3.17**	**276**	||/*i*Pn		**Pn**	**17 17 07.8**	**-3.5**
QZH				Sn			**Sn**	**17 17 41.3**	**-6.6**
QZH				smax					
	comp=N,100nm,0.9s								
QZH				smax					
	comp=E,80nm,0.8s								

*ISCJB **25** 17:19:01.1±1.0,19°.3S±0°.2×177°.4W±0°.1, h595km±14km, mb4.0/10, Error ellipse: s-maj=28.0km s-min=17.5km az=145.6*
*IDC **25** 17:19:01.8±1.7,19°.29S×177°.51W, h569km±25km, mb3.2/6, mb1 3.4/8, mb1mx3.2/19, mbtmp3.3/8, Error ellipse: s-maj=29.4km s-min=15.6km az=145.0*
*NEIC **25** 17:19:01.8±0.9, 19°.36S×177°.42W, h578km±12km, mb4.2/3, Error ellipse: s-maj=27.0km s-min=13.7km az=153.0*
ISC 25 17:19:02.0±1.0,19°.3S±0°.2×177°.4W±0°.1, h587km±13km, n29,σ0s77/31, mb4.0/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.63**	**289**	*e*P	**P**	**17 20 31.6**	**+0.4**
AFI	**Afiamalu**	**7.55**	**46**	P	**P**	**17 20 55.9**	**-0.7**
	5.2nm,0.3s,baz=176,slow=6.2,SNR=9.2						
AFI	**Afiamalu**	**7.55**	**46**	P	**P**	**17 20 55.9**	**-0.7**
URZ	**Urewera**	**19.52**	**193**	P	**P**	**17 22 50.8**	**-1.0**
	1.6nm,0.3s,baz=271,slow=2.4,SNR=4.0						
URZ	**Urewera**	**19.52**	**193**	P	**P**	**17 22 50.8**	**-1.0**
ARMA	**Armidale**	**30.16**	**242**	*e*P	**P**	**17 24 27.0**	**+1.1**
CTA	**Charters Tower**	**34.24**	**262**	P	**P**	**17 24 59.2**	**-1.3**
	1.3nm,0.3s,mb4.1,baz=59,slow=12,SNR=4.2						
CTA	**Charters Tower**	**34.24**	**262**	*e*P	**P**	**17 25 00.4**	**-0.1**
	6.1nm,1.9s,mb3.9						
CTA	**Charters Tower**	**34.24**	**262**	P	**P**	**17 24 59.2**	**-1.3**
CTAO	**Charters Tower**	**34.24**	**262**	*e*P	**P**	**17 24 59.7**	**-0.8**
	3.5nm,0.7s,mb4.1						
TOO	**Toolangi**	**37.12**	**233**	*e*P	**P**	**17 25 25.3**	**+1.3**
	23nm,0.6s,mb4.9						
COEN	**Coen**	**38.14**	**272**	*e*P	**P**	**17 25 32.9**	**+0.3**
	50nm,1.2s,mb4.9						
STKA	**Stephens Creek**	**38.88**	**243**	P	**P**	**17 25 39.4**	**+1.0**
	3.1nm,0.4s,mb4.2,baz=85,slow=8.8,SNR=22						
STKA	**Stephens Creek**	**38.88**	**243**	*e*P	**P**	**17 25 39.3**	**+0.9**
	4.9nm,1.1s,mb4.0						
STKA	**Stephens Creek**	**38.88**	**243**	*e*P	**P**	**17 25 38.9**	**+0.6**
	1.9nm,1.0s,mb3.6						
WB2	**Warramunga Arr**	**45.38**	**261**	*e*P	**P**	**17 26 28.8**	**-0.6**
WRAB	**Tennant Creek**	**45.38**	**261**	*e*P	**P**	**17 26 28.7**	**-0.7**
WRA	**Warramunga Arr**	**45.39**	**261**	P	**P**	**17 26 29.3**	**-0.2**
	2.2nm,0.4s,mb4.0,baz=98,slow=7.8,SNR=56						
WRA	**Warramunga Arr**	**45.39**	**261**	P	**P**	**17 26 29.3**	**-0.2**
AS31	**Alice Springs**	**45.41**	**255**	*e*P	**P**	**17 26 29.3**	**-0.3**
AS31				*e*pP	pP	17 28 11.6	-2.6
ASAR	**Alice Springs**	**45.41**	**255**	P	**P**	**17 26 29.8**	**+0.2**
	4.1nm,0.5s,mb4.2,baz=86,slow=8.3,SNR=163						
ASAR				S	**S**	**17 32 27.6**	**-1.4**
	0.6nm,0.8s,baz=90,slow=14,SNR=6.6						
ASAR	**Alice Springs**	**45.41**	**255**	P	**P**	**17 26 29.8**	**+0.2**
ASAR				S	**S**	**17 32 27.6**	**-1.4**
KAKA	**Kakadu**	**48.58**	**270**	*e*P	**P**	**17 26 53.3**	**-0.1**
	3.2nm,0.4s,mb4.1						
FITZ	**Fitzroy Crossi**	**53.81**	**261**	*e*P	**P**	**17 27 31.5**	**+0.4**
	2.7nm,0.6s,mb3.8						
MBWA	**Marble Bar**	**58.73**	**256**	*e*P	**P**	**17 28 04.4**	**-0.5**
TXAR	**Lajitas Array**	**85.88**	**57**	P	**P**	**17 30 44.5**	**+3.7**
	0.4nm,0.7s,mb3.1,baz=215,slow=7.7,SNR=4.8						
TXAR	**Lajitas Array**	**85.88**	**57**	P	**P**	**17 30 44.5**	**+3.7**
ILAR	**Eielson Array**	**86.99**	**13**	P	**P**	**17 30 45.6**	**+0.4**
	0.3nm,0.8s,mb3.1,baz=188,slow=5.5,SNR=8.1						
ILAR	**Eielson Array**	**86.99**	**13**	P	**P**	**17 30 45.6**	**+0.4**

*IDC **25** 17:20:29.9±1.2,31°.20N×103°.24E, h0km, mb3.5/5, mb1 3.5/6, mb1mx3.3/25, mbtmp3.4/6, ML3.1/1, Error ellipse: s-maj=43.3km s-min=20.8km az=60.0*
*BJI **25** 17:20:32.6, 31°.27N×103°.55E, h13km, ML3.5/14, Ms3.7/2, Ms7 3.6/1*
*NEIC **25** 17:20:36.0±1.4, 31°.31N×103°.50E, h39km±15km, mb4.2/3, Error ellipse: s-maj=15.2km s-min=10.1km az=206.0*
ISC 25 17:20:32.9±0.9,31°.29N±0°.03×103°.58E±0°.04, h7km±6km, n30,σ1s37/39, mb3.7/7, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.41**	**158**	Pg	**Pg**	**17 20 41.5**	**+0.6**
CD2				Sg	**Sg**	**17 20 50.3**	**+3.9**
CD2				smax			
	comp=N,6μm,0.7s						
CD2				smax			
	comp=E,5μm,0.6s						
LZH	**Lanzhou**	**4.79**	**3**	*e*Pg	**Pg**	**17 22 05.5**	**+0.9**
LZH				Sg	**Sg**	**17 23 03.8**	**-2.8**
LZH				smax			
	comp=N,65nm,1.1s						
LZH				smax			
	comp=E,27nm,1.2s						
ENH	**Enshi**	**5.19**	**100**	*e*Pn	**Pn**	**17 21 51.3**	**+0.4**
	comp=E,30nm,1.0s						
ENH				*e*Sn	**Sn**	**17 22 53.5**	**+2.4**
XAN	**Xi'an**	**5.27**	**57**	Pg	**Pg**	**17 22 08.5**	**-5.5**
XAN				Sn	**Sn**	**17 23 03.8**	**+11**
XAN				Sg	**Sg**	**17 23 21.3**	**-1.0**
XAN				smax			
	comp=N,40nm,0.9s						
XAN				smax			
	comp=E,22nm,0.9s						
GYA	**Guiyang**	**5.53**	**150**	*e*Pn	**Pn**	**17 21 52.0**	**-3.6**
GYA				Pg	**Pg**	**17 22 15.3**	**-3.5**
GYA				Sn	**Sn**	**17 22 57.5**	**-1.9**
GYA				Sg	**Sg**	**17 23 30.8**	**+0.4**
GYA				smax			
	comp=N,60nm,0.9s						
GYA				smax			
	comp=E,70nm,0.9s						
LSA	**Lhasa**	**10.84**	**265**	P	**Pn**	**17 23 08.6**	**+0.1**
HHC	**Hu-ho-hao-te**	**11.51**	**32**	*e*P	**Pn**	**17 23 18.0**	**+0.3**
HHC				PP		17 23 27.3	
HHC				S	**Sn**	**17 25 28.0**	**+1.5**
HHC				SS		17 25 42.0	
HHC				PcP	PcP	17 29 10.0	+0.3
HHC				LR	LR		
	comp=N,140nm,5.7s						
HHC				LR	LR		
	comp=E,220nm,5.3s						
HHC				LR	LR		
	comp=Z,140nm,5.0s						
JIRN	**Jiri**	**15.57**	**261**	*e*P	**Pn**	**17 24 14.8**	**+1.9**
GUN	**Gumba**	**15.76**	**262**	*e*P	**Pn**	**17 24 17.3**	**+2.0**
	comp=Z,24nm,1.0s						
PKI	**Pulchoki**	**16.25**	**261**	*e*P	**Pn**	**17 24 22.4**	**+0.6**
KKN	**Kakani**	**16.30**	**262**	*e*P	**Pn**	**17 24 23.2**	**+0.9**
	comp=Z,19nm,0.8s						
DMN	**Daman**	**16.50**	**262**	*e*P	**Pn**	**17 24 25.5**	**+0.6**
	comp=Z,17nm,0.8s						
SONM	**Songino Array**	**16.66**	**7**	Pn	**Pn**	**17 24 26.5**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=180,slow=12,SNR=3.0						
SONM	**Songino Array**	**16.66**	**7**	Pn	**Pn**	**17 24 26.5**	**-0.3**
GKN	**Gorkha**	**16.79**	**264**	*e*P	**Pn**	**17 24 28.1**	**-0.4**
	comp=Z,20nm,0.6s						
DANN	**Dangsing**	**17.44**	**265**	*e*P	**Pn**	**17 24 35.7**	**-1.1**
KSAR	**Wonju Array Be**	**20.95**	**66**	P	**P**	**17 25 17.9**	**+1.5**
KSRS	**Korea Array**	**20.99**	**66**	P	**P**	**17 25 17.9**	**+1.1**
	comp=Z,1.8nm,0.8s,baz=258,slow=9.8,SNR=6.0						
AAK	**Ala-Archa**	**25.72**	**304**	P	**P**	**17 26 03.8**	**0.0**
	comp=Z,5.5nm,0.9s,mb4.1						
EKS2	**Erkin-Say**	**26.24**	**304**	P	**P**	**17 26 06.4**	**-2.1**
ZALV	**Zalesovo Beam**	**26.36**	**335**	P	**P**	**17 26 06.3**	**-3.1**
	comp=Z,0.2nm,0.4s,mb3.0,baz=168,slow=7.4,SNR=2.9						
ZALV	**Zalesovo Beam**	**26.36**	**335**	P	**P**	**17 26 06.3**	**-3.1**
KURK	**Kurchatov**	**26.82**	**324**	P	**P**	**17 26 11.6**	**-2.1**
	comp=Z,0.9nm,0.9s,mb3.3,baz=126,slow=10.0,SNR=6.1						
KURK	**Kurchatov**	**26.82**	**324**	P	**P**	**17 26 11.6**	**-2.1**
ARU	**Arti**	**40.01**	**322**	*e*P	**P**	**17 28 09.4**	**+1.3**
	comp=Z,3.4nm,0.8s,mb4.1						
WRAB	**Tennant Creek**	**58.88**	**146**	*e*P	**P**	**17 30 31.5**	**-1.1**
	comp=Z,2.5nm,1.0s,mb4.2						
WRA	**Warramunga Arr**	**58.88**	**146**	P	**P**	**17 30 31.5**	**-1.1**
	comp=Z,0.4nm,0.4s,mb3.8,baz=338,slow=7.5,SNR=4.9						
WRA	**Warramunga Arr**	**58.88**	**146**	P	**P**	**17 30 31.5**	**-1.1**
ASAR	**Alice Springs**	**61.89**	**148**	P	**P**	**17 30 51.6**	**-1.5**
	comp=Z,0.2nm,0.7s,mb3.4,baz=326,slow=6.9,SNR=3.1						
ASAR	**Alice Springs**	**61.89**	**148**	P	**P**	**17 30 51.6**	**-1.5**

*ISCJB **25** 17:30:31.9±0.7,30°.31N±0°.06×57°.52E±0°.05, h10km, Error ellipse: s-maj=8.6km s-min=5.1km az=157.9*
*CSEM **25** 17:30:31.6±0.4,30°.27N×57°.59E, h2km, ML3.5, Error ellipse: s-maj=11.0km s-min=6.4km az=166.0*
*THR **25** 17:30:31.2±0.4,30°.27N×57°.50E, h14km±5km, ML3.5*
*TEH **25** 17:30:33.7,30°.38N×57°.61E, h3km*
ISC 25 17:30:32.4±0.6,30°.24N±0°.05×57°.56E±0°.03, h10km, n35,σ1s38/44, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.74**	**250**	*e*Pg	**Pg**	**17 30 44.8**	**-1.9**
KRBR				*e*Sg	**Sg**	**17 30 54.9**	**-1.6**
KRBR				AML	AML	17 30 58.4	
	comp=E,2μm,0.1s						
KRBR				AML	AML	17 30 59.5	
	comp=N,2μm,0.0s						
KRBR	**Kerman**	**0.74**	**250**	*e*Pg	**Pg**	**17 30 44.8**	**-1.9**
KRBR				*e*Sg	**Sg**	**17 30 54.9**	**-1.5**
IBAF	**Bafgh**	**2.18**	**309**	*e*	**Pg**	**17 31 17.7**	**+3.6**
	comp=Z,5μm,0.1s						
IBAF				*e*Pn	**Pn**	**17 31 09.2**	**+0.5**
IBAF				*e*Sg	**Sg**	**17 31 40.1**	**-2.3**
IKOO	**Kooshah**	**2.50**	**29**	*e*Pn	**Pn**	**17 31 11.4**	**-1.7**
IKOO				*e*		17 31 17.7	
	comp=Z,10μm,0.2s						
IKOO	**Kooshah**	**2.50**	**29**	*e*Pn	**Pn**	**17 31 11.4**	**-1.7**
IMEH	**Mehriz**	**2.78**	**295**	*e*Pn	**Pn**	**17 31 18.3**	**+1.3**
IMEH				*e*Sg	**Sg**	**17 31 59.5**	**-2.3**
ITEG	**Tejag**	**2.83**	**21**	*e*Pn	**Pn**	**17 31 16.4**	**-1.3**
ITEG				*e*		17 32 01.6	
	comp=Z,5μm,0.2s						
ITEG	**Tejag**	**2.83**	**21**	*e*Pn	**Pn**	**17 31 16.4**	**-1.3**
ZHSF	**Zahedan**	**2.86**	**102**	*e*Pn	**Pn**	**17 31 19.4**	**+1.4**
ZHSF				*e*Sg	**Sg**	**17 32 02.3**	**-1.9**
ZHSF				AML	AML	17 32 03.0	
	comp=N,95nm,0.1s						
ZHSF	**Zahedan**	**2.86**	**102**	*e*Pn	**Pn**	**17 31 19.4**	**+1.4**
ZHSF				*e*Sg	**Sg**	**17 32 02.3**	**-1.9**
IDAH	**Dahanechah**	**3.17**	**38**	*e*Pn	**Pn**	**17 31 21.9**	**-0.5**
IDAH				*e*		17 31 38.2	
	comp=Z,2μm,0.2s						
IDAH	**Dahanechah**	**3.17**	**38**	*e*Pn	**Pn**	**17 31 21.9**	**-0.5**
ICHK	**Chekchek**	**3.36**	**307**	*e*Pn	**Pn**	**17 31 26.2**	**+1.3**
ICHK				*e*		17 32 22.5	
	comp=Z,1μm,0.2s						
ICHK	**Chekchek**	**3.36**	**307**	*e*Pn	**Pn**	**17 31 26.2**	**+1.3**
TABS	**Tabas**	**3.42**	**354**	*e*Pn	**Pn**	**17 31 25.6**	**-0.1**
TABS				AML	AML	17 32 26.4	
	comp=N,286nm,0.6s						
TABS				AML	AML	17 32 26.9	
	comp=E,133nm,0.5s						
TABS	**Tabas**	**3.42**	**354**	*e*Pn	**Pn**	**17 31 25.6**	**-0.1**
IMON	**Monand**	**3.44**	**31**	*e*Pn	**Pn**	**17 31 25.8**	**-0.3**
IMON				*e*		17 31 38.1	
	comp=Z,2μm,0.1s						
IMON	**Monand**	**3.44**	**31**	*e*Pn	**Pn**	**17 31 25.8**	**-0.3**
ISAD	**Sadrabad**	**3.72**	**298**	*e*Pn	**Pn**	**17 31 31.6**	**+1.7**
ISAD				*e*		17 32 34.6	
	comp=Z,779nm,0.1s						
ISAD	**Sadrabad**	**3.72**	**298**	*e*Pn	**Pn**	**17 31 31.6**	**+1.7**
IPAR	**Pars**	**3.94**	**265**	*e*Pn	**Pn**	**17 31 35.4**	**+2.6**
IPAR				*e*		17 32 43.9	
	comp=Z,469nm,0.4s						
IPAR	**Pars**	**3.94**	**265**	*e*Pn	**Pn**	**17 31 35.4**	**+2.6**
ISRV	**Sarvestan**	**3.96**	**259**	*e*Pn	**Pn**	**17 31 33.6**	**+0.4**
ISRV				*e*		17 32 04.9	
	comp=Z,349nm,0.1s						
ISRV	**Sarvestan**	**3.96**	**259**	*e*Pn	**Pn**	**17 31 33.6**	**+0.4**
IZEF	**Zefreh**	**5.19**	**302**	*e*	**Sg**	**17 33 18.9**	**-0.2**
	comp=Z,139nm,0.2s						
IKLH	**Kolahrood**	**5.95**	**303**	*e*Pn	**Pn**	**17 32 01.5**	**+1.0**
IKLH				*e*		17 34 00.9	
	comp=Z,111nm,0.4s						
IKLH	**Kolahrood**	**5.95**	**303**	*e*Pn	**Pn**	**17 32 01.5**	**+1.0**
ISFB	**Sefidab**	**6.09**	**314**	*e*Pn	**Pn**	**17 32 03.2**	**+0.8**
ISFB				*e*		17 33 49.1	
	comp=Z,131nm,0.3s						
ISFB	**Sefidab**	**6.09**	**314**	*e*Pn	**Pn**	**17 32 03.2**	**+0.8**
IPAY	**Payeh**	**6.30**	**11**	*e*	**Pn**	**17 32 11.7**	**+6.3**
	comp=Z,98nm,0.1s						
IPAY				*e*Pn	**Pn**	**17 32 04.9**	**-0.5**
IKRD	**Kardeh**	**6.56**	**7**	*e*Pn	**Pn**	**17 32 10.6**	**+1.7**
IKRD				*e*		17 33 30.8	
	comp=Z,80nm,0.2s						
IKRD	**Kardeh**	**6.56**	**7**	*e*Pn	**Pn**	**17 32 10.6**	**+1.7**
IDMV	**Damavand**	**7.06**	**320**	*e*Pn	**Pn**	**17 32 16.1**	**+0.3**
IDMV				*e*		17 32 56.6	
	comp=Z,89nm,0.2s						
IDMV	**Damavand**	**7.06**	**320**	*e*Pn	**Pn**	**17 32 16.1**	**+0.3**

DJA 25 17:43:20,8°.08S×117°.69E, h26km, MLv3.6/8, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTNI	**Mataram**	**1.60**	**250**	P	Pn	17 43 46.6	0.0
KHKI	**Kahang-Kahang**	**2.08**	**262**	P	Pn	17 43 52.9	-0.3
SRBI	**Singaraja**	**2.45**	**270**	P	Pn	17 43 58.8	+0.4
IGBI	**Denpasar**	**2.62**	**254**	P	Pn	17 44 01.0	+0.3
BKSI	**Bulukumba**	**3.65**	**42**	P	Pn	17 44 15.2	+0.3
KMMI	**Kalianget**	**3.83**	**285**	P	Pn	17 44 18.0	+0.7
BLJI	**Banyuglugur**	**4.07**	**274**	P	Pn	17 44 21.2	+0.6
GMJI	**Gumukmas**	**4.21**	**267**	P	Pn	17 44 23.0	+0.5
SPSI	**Sidrap Palu**	**4.58**	**27**	P	Pn	17 44 27.7	0.0

*ISCJB **25** 17:58:40.8±1.7,2°.94S±0°.04×129°.38E±0°.07, h21km±12km, mb4.0/16, Error ellipse: s-maj=12.7km s-min=5.7km az=155.9*
*DJA **25** 17:58:43,2°.88S×129°.16E, h10km, MLv4.2/10*
*NEIC **25** 17:58:46.3±2.3,3°.05S×129°.31E, h47km±24km, mb4.0/11, Error ellipse: s-maj=22.4km s-min=12.1km az=69.0*
*IDC **25** 17:58:46.1±3.8,3°.11S×129°.09E, h47km±37km, mb3.8/7, mb1 4.0/9, mb1mx3.8/19, mbtmp3.8/9, ML3.9/2, MS3.1/1, Ms1 3.1/1, ms1mx2.3/23, Error ellipse: s-maj=102.9km s-min=11.6km az=72.0*
ISC 25 17:58:42.6±1.3,2°.99S±0°.04×129°.32E±0°.05, h18km±7km, n50,σ1s05/58, mb4.0/16, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.53**	**227**	P	**Pg**	**17 58 52.3**	**-0.8**
MSAI				S	**Sg**	**17 59 00.3**	**0.0**
AAI	**Ambon**	**1.32**	**238**	P	**Pn**	**17 59 06.0**	**-0.2**
AAI				S	**Sn**	**17 59 24.4**	**+1.1**
BNDI	**Bandanaira**	**1.64**	**159**	P	**Pn**	**17 59 14.8**	**+4.3**
NLAI	**Namlea**	**2.23**	**263**	P	**Pn**	**17 59 18.7**	**0.0**
TNTI	**Ternate**	**4.21**	**332**	P	**Pn**	**17 59 44.3**	**-1.7**
TLE	**Tual**	**4.31**	**128**	P	**Pn**	**17 59 53.6**	**+6.3**
KMSI	**Cibinong**	**6.40**	**303**	P	**Pn**	**18 00 16.6**	**+0.5**
	0.5nm59nm,0.9s						
KDI	**Kendari**	**6.75**	**262**	P	**Pn**	**18 00 22.0**	**+1.0**
	0.1nm25nm,1.0s						
LUWI	**Luwuk**	**6.82**	**286**	P	**Pn**	**18 00 20.3**	**-1.6**
	0.2nm42nm,0.9s						
PCI	**Palu**	**9.70**	**282**	P	**Pn**	**18 01 05.3**	**+3.9**
KAKA	**Kakadu**	**10.14**	**162**	*e*P	**Pn**	**18 01 07.9**	**+0.4**
	8.2nm,0.4s						
KAKA				*e*S	**Sn**	**18 03 00.9**	**-0.1**
KAKA	**Kakadu**	**10.14**	**162**	*e*Pn	**Pn**	**18 01 08.4**	**+0.9**
	30nm,0.6s						
KAKA				*e*Sn	**Sn**	**18 03 00.3**	**-0.6**
FITZ	**Fitzroy Crossi**	**15.45**	**193**	P	**Pn**	**18 02 20.0**	**+0.2**
	0.2nm,0.3s,baz=35,slow=12,SNR=6.0						
FITZ	**Fitzroy Crossi**	**15.45**	**193**	*e*P	**Pn**	**18 02 20.4**	**+0.6**
	8.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**15.45**	**193**	P	**Pn**	**18 02 20.0**	**+0.2**
COEN	**Coen**	**17.50**	**129**	*e*P	**Pn**	**18 02 47.2**	**+1.3**
	34nm,0.8s						
COEN	**Coen**	**17.50**	**129**	*e*Pn	**Pn**	**18 02 46.5**	**+0.6**
	35nm,0.7s						
WRAB	**Tennant Creek**	**17.55**	**164**	*e*Pn	**Pn**	**18 02 47.0**	**+0.5**
	11nm,1.0s						
WRA	**Warramunga Arr**	**17.55**	**164**	P	**Pn**	**18 02 46.9**	**+0.4**
	0.8nm,0.3s,baz=345,slow=12,SNR=15						
WRA				S	**Sn**	**18 05 59.9**	**-1.8**
	0.2nm,0.3s,baz=340,slow=21,SNR=3.4						
WRA	**Warramunga Arr**	**17.55**	**164**	P	**Pn**	**18 02 46.9**	**+0.4**
WRA				S	**Sn**	**18 05 59.9**	**-1.8**
WB2	**Warramunga Arr**	**17.56**	**164**	*e*Pn	**Pn**	**18 02 47.2**	**+0.6**
QIS	**Mount Isa**	**20.14**	**151**	*e*P	**P**	**18 03 17.0**	**+1.0**
MBWA	**Marble Bar**	**20.33**	**207**	*e*P	**P**	**18 03 16.9**	**-1.1**
	19nm,1.1s						
AS31	**Alice Springs**	**21.03**	**168**	*e*P	**P**	**18 03 25.6**	**0.0**
AS31				*e*S	**S**	**18 07 13.2**	**-6.0**
ASAR	**Alice Springs**	**21.03**	**168**	P	**P**	**18 03 26.0**	**+0.4**
	15nm,0.7s,mb4.4,baz=347,slow=10,SNR=238						
ASAR				S	**S**	**18 07 17.0**	**-2.3**
	1.3nm,0.8s,baz=348,slow=18,SNR=5.3						
ASAR	**Alice Springs**	**21.03**	**168**	P	**P**	**18 03 26.0**	**+0.4**
ASAR				S	**S**	**18 07 17.0**	**-2.3**
MTSU	**Mount Surprise**	**21.04**	**137**	*e*P	**P**	**18 03 31.7**	**+5.9**
	15nm,1.1s,mb4.2						
BBOO	**Buckleboo**	**30.34**	**169**	*e*P	**P**	**18 04 53.2**	**-0.1**
	32nm,1.5s,mb4.8						
STKA	**Stephens Creek**	**30.98**	**159**	P	**P**	**18 04 59.6**	**+0.6**
	2.2nm,0.7s,mb4.1,baz=7,slow=6.6,SNR=3.5						
STKA	**Stephens Creek**	**30.98**	**159**	*e*P	**P**	**18 04 58.9

PTK	**Pertek**	**1.14**	**246**	*e*Pn	**Pg**	**18 29 59.0**	**0.0**
PTK				*e*Sn	**Sg**	**18 30 16.4**	**+2.7**
GUMT	**Gumushane**	**1.46**	**319**	*e*Pn	**Pg**	**18 30 05.4**	**+0.3**
GUMT	**Gumushane**	**1.46**	**319**	*e*Pn	**Pg**	**18 30 05.4**	**+0.3**
SVRC	**Sivrice-ELAZID**	**1.48**	**229**	*e*PN	**Pg**	**18 30 05.1**	**-0.4**
SVRC	**Sivrice-ELAZID**	**1.48**	**229**	*e*Pn	**Pg**	**18 30 05.1**	**-0.4**
BEST	**Besiri**	**1.53**	**164**	*i* P	**Pg**	**18 30 05.6**	**-0.9**
BEST				*i* S	**Sg**	**18 30 27.0**	**+0.8**
TUTA	**Tutak**	**1.62**	**88**	*i* P	**Pg**	**18 30 07.0**	**-1.2**
TUTA				*i* S	**Sg**	**18 30 30.1**	**+1.0**
TUTA	**Tutak**	**1.62**	**88**	*i* P	**Pg**	**18 30 06.9**	**-1.3**
TUTA				*i* S	**Sg**	**18 30 30.1**	**+1.0**
DDEM	**Demirkent**	**1.72**	**27**	*i* P	**Pg**	**18 30 09.6**	**-0.5**
DDEM				*i* S	**Sg**	**18 30 33.7**	**+1.3**
DDEM	**Demirkent**	**1.72**	**27**	*i* P	**Pg**	**18 30 09.6**	**-0.5**
DDEM				*i* S	**Sg**	**18 30 33.7**	**+1.3**
AGRB	**Hanur-Agry**	**1.77**	**82**	*e*PN	**Pg**	**18 30 08.4**	**-0.2**
AGRB	**Hanur-Agry**	**1.77**	**82**	*e*Pn	**Pn**	**18 30 08.4**	**-0.2**
DBAD	**Bademkaya**	**1.81**	**24**	*i* P	**Pg**	**18 30 11.8**	**-0.2**
DBAD				*i* S	**Sg**	**18 30 35.4**	**0.0**
DBAD	**Bademkaya**	**1.81**	**24**	*i* P	**Pg**	**18 30 11.8**	**-0.1**
DBAD				*i* S	**Sg**	**18 30 35.4**	**0.0**
DAGI	**Agillar**	**1.94**	**28**	*i* P	**Pg**	**18 30 12.5**	**-1.9**
DAGI				*i* S	**Sg**	**18 30 39.5**	**0.0**

KRSC 25 18:30:00.2±1.1, 50°.93N×157°.44E, h111km±111km, ML3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**1.41**	**343**	*e*P	Pn	18 30 27.4	+1.4
MIPR				*e*S	Sn	18 30 47.2	+1.6
RUS	**Russkaya**	**1.65**	**24**	*e*P	Pn	18 30 32.7	+3.9
RUS				*e*S	Sn	18 30 56.2	+5.7
PET	**Petropavlovsk**	**2.23**	**19**	*e*P	Pn	18 30 39.7	+3.7
PET				*e*S	Sn	18 31 08.7	+5.2
AVH	**Avacha**	**2.47**	**18**	*e*P	Pn	18 30 43.5	+4.3
NLC	**Nalytchevo**	**2.53**	**27**	*e*P	Pn	18 30 42.9	+2.9
NLC				*e*S	Sn	18 31 13.6	+3.0
SPN	**Mys Shipunski**	**2.69**	**35**	*e*S	Sn	18 31 18.4	+4.0
GNL	**Ganaly**	**2.79**	**6**	*e*P	Pn	18 30 46.2	+2.9
MKZ	**Mys Kozlova**	**4.47**	**34**	*e*P	Pn	18 31 08.7	+3.0
MKZ				*e*S	Sn	18 31 57.8	+1.1
KBTR	**Krutoberegovo**	**6.18**	**29**	*e*P	Pn	18 31 32.0	+3.2

NOU ***25*** *18:35:54.5±1.4, 19°.67S×170°.84E, h30km, MD3.2, ML3.5*
IDC ***25*** *18:35:57.0±5.2, 21°.54S×170°.68E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/14, mbtmp3.7/3, Error ellipse: s-maj=197.5km s-min=50.0km az=149.0*
NEIC ***25*** *18:35:58.1±1.2, 22°.57S×171°.33E, h35km, mb3.8/3, Error ellipse: s-maj=33.8km s-min=20.5km az=202.0*
ISC 25 18:35:58.4±4.0, 22°.6S±0°.3×171°.25E±0°.10, h33km±29km, n17, σ0°.83/18, mb3.8/5, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**4.06**	**275**	*e*S	**Sn**	**18 37 45.9**	**+1.1**
NORM	**Noumea**	**4.43**	**273**	*e*P	**Pn**	**18 37 03.6**	**+0.3**
DZM	**Mont Dzumac**	**4.48**	**275**	*e*P	**Pn**	**18 37 04.0**	**-0.1**
DZM				*e*S	**Sn**	**18 37 54.8**	**-0.3**
DZM				AMP		18 38 00.9	
	comp=Z,683nm,2.8s						
DZM	**Mont Dzumac**	**4.48**	**275**	*e*Pn	**Pn**	**18 37 05.2**	**+1.2**
DZM				*e*Sn	**Sn**	**18 37 53.4**	**-1.6**
NOUC	**Port Laguerre**	**4.61**	**275**	*e*P	**Pn**	**18 37 05.0**	**-0.8**
NOUC				*e*S	**Sn**	**18 37 58.1**	**-0.1**
NOUC				AMP		18 38 01.2	
	comp=Z,39nm,0.8s						
EIDS	**Eidsvold**	**18.64**	**257**	P	**Pn**	**18 40 17.7**	**+3.7**
	comp=Z,1.4nm,0.7s						
PMG	**Port Moresby**	**26.54**	**296**	P	**P**	**18 41 33.3**	**-0.2**
	comp=Z,2.3nm,0.7s,mb3.8						
AS31	**Alice Springs**	**34.31**	**261**	*e*Pn	**P**	**18 42 42.3**	**+0.2**
ASAR	**Alice Springs**	**34.31**	**261**	P	**P**	**18 42 42.1**	**+0.1**
	comp=Z,1.2nm,0.8s,mb3.9,baz=83,slow=9.3,SNR=24						
ASAR	**Alice Springs**	**34.31**	**261**	P	**P**	**18 42 42.1**	**+0.1**
WRA	**Warramunga Arr**	**34.45**	**267**	P	**P**	**18 42 41.8**	**-1.5**
	comp=Z,0.4nm,0.6s,mb3.5,baz=98,slow=8.5,SNR=6.1						
WRA	**Warramunga Arr**	**34.45**	**267**	P	**P**	**18 42 41.8**	**-1.5**
QSPA	**South Pole Qui**	**67.51**	**180**	*e*P	**P**	**18 46 50.8**	**0.0**
	comp=Z,2.3nm,1.2s,mb4.1						
CMAR	**Chiang Mai Arr**	**81.57**	**294**	P	**P**	**18 48 14.1**	**+0.8**
	comp=Z,0.6nm,0.7s,mb3.6,baz=120,slow=4.9,SNR=5.6						
CMAR	**Chiang Mai Arr**	**81.57**	**294**	P	**P**	**18 48 14.1**	**+0.8**
GERES	**GERESS Array B**	**148.29**	**331**	PKPbc	PKPbc	18 55 40.3	-0.8
	comp=Z,0.4nm,0.6s,baz=44,slow=4.4,SNR=2.9						
GERES	**GERESS Array B**	**148.29**	**331**	PKPbc	PKPbc	18 55 40.3	-0.8

IDC 25 19:07:07.7±9.8, 18°.12N×147°.57E, h0km, mb3.4/5, mb1 3.5/5, mb1mx3.3/23, mbtmp3.4/5, Error ellipse: s-maj=396.9km s-min=23.7km az=83.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.99**	**200**	P	P	19 14 44.5	+0.2
	0.2nm,0.4s,baz=23,slow=9.3,SNR=3.0						
ASAR	**Alice Springs**	**43.62**	**198**	P	P	19 15 13.6	-0.3
	0.1nm,0.3s,baz=23,slow=7.8,SNR=4.4						
ZALV	**Zalesovo Beam**	**59.56**	**322**	P	P	19 17 13.1	+0.2
	0.2nm,0.3s,baz=90,slow=7.5,SNR=2.3						
KURK	**Kurchatov**	**62.89**	**318**	P	P	19 17 35.7	+0.1
	0.4nm,0.6s,baz=91,slow=7.4,SNR=5.5						
BVAR	**Borovoye Array**	**68.05**	**321**	P	P	19 18 09.0	0.0
	0.3nm,0.5s,baz=114,slow=6.5,SNR=2.5						

NEIC ***25*** *19:20:49.6±1.4, 6°.96S×129°.43E, h136km±14km, mb4.3/19, Error ellipse: s-maj=13.0km s-min=8.2km az=61.0*
ISCJB ***25*** *19:20:51.5±0.5, 7°.01S±0°.03×129°.45E±0°.06, h172km±6km, mb4.3/35, Error ellipse: s-maj=10.5km s-min=4.9km az=162.9*
IDC ***25*** *19:20:52.7±2.8, 6°.90S×129°.45E, h160km±26km, mb3.8/11, mb1 3.9/13, mb1mx3.8/19, mbtmp3.8/13, MS2.9/2, Ms1 2.9/2, ms1mx2.4/26, Error ellipse: s-maj=25.9km s-min=12.3km az=73.0*
DJA ***25*** *19:20:53, 7°.10S×129°.45E, h107km, mb4.7/11*
ISC 25 19:20:52.4±0.5, 7°.02S±0°.04×129°.48E±0°.06, h164km±6km, n98, σ0°.99/107, mb4.3/35, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**2.52**	**10**	P	**Pn**	**19 21 34.9**	**+0.4**
TLE	**Tual**	**3.52**	**67**	P	**Pn**	**19 21 47.3**	**+0.4**
AAI	**Ambon**	**3.55**	**339**	P	**Pn**	**19 21 47.6**	**+0.3**
MSAI	**Masohi**	**3.69**	**351**	P	**Pn**	**19 21 50.1**	**+1.0**
NLAI	**Namlea**	**4.44**	**328**	P	**Pn**	**19 21 55.1**	**-3.7**
KAKA	**Kakadu**	**6.36**	**153**	*e*P	**Sn**	**19 23 29.9**	**-6.2**
	321nm,0.4s						
KAKA	**Kakadu**	**6.36**	**153**	*e*Pn	**Pn**	**19 22 23.3**	**-0.8**
	120nm,0.4s						
KAKA				*e*Sn	**Sn**	**19 23 28.7**	**-7.4**
TNTI	**Ternate**	**8.02**	**345**	P	**Pn**	**19 22 46.2**	**+0.1**
	85nm,0.7s						
BAKI	**Biak**	**8.79**	**49**	P	**Pn**	**19 22 56.3**	**0.0**
	95nm,1.0s						
FITZ	**Fitzroy Crossi**	**11.63**	**198**	P	**Pn**	**19 23 31.2**	**-2.3**
	3.5nm,0.3s,baz=30,slow=9.6,SNR=101						
FITZ				S	**Sn**	**19 25 30.9**	**-12**
	4.0nm,0.3s,baz=76,slow=15,SNR=4.5						
FITZ				LR	LR	19 28 34.4	
	comp=Z,44nm,20.8s,baz=269,slow=39						
FITZ	**Fitzroy Crossi**	**11.63**	**198**	*e*P	**Pn**	**19 23 31.6**	**-2.0**
	22nm,0.3s						
FITZ				*e*S	**Sn**	**19 25 30.6**	**-12**
FITZ	**Fitzroy Crossi**	**11.63**	**198**	P	**Pn**	**19 23 31.2**	**-2.3**
FITZ				*e*Pn	**Pn**	**19 23 31.2**	**-2.3**
FITZ				*e*Sn	**Sn**	**19 25 30.8**	**-12**
FITZ				S	**Sn**	**19 25 30.9**	**-12**
FITZ	**Fitzroy Crossi**	**11.63**	**198**	P	**Pn**	**19 23 32.4**	**-1.2**
	29nm,0.8s						
WRAB	**Tennant Creek**	**13.68**	**160**	*e*Pn	**Pn**	**19 23 56.4**	**-3.4**
	8.4nm,0.5s						
WRAB				*e*Sn	**Sn**	**19 26 18.8**	**-13**
WRAB	**Tennant Creek**	**13.68**	**160**	P	**Pn**	**19 23 58.4**	**-1.4**
	21nm,0.8s						
WRA	**Warramunga Arr**	**13.69**	**160**	P	**Pn**	**19 23 57.3**	**-2.5**
	2.2nm,0.3s,baz=345,slow=13,SNR=27						
WRA				S	**Sn**	**19 26 22.3**	**-9.5**
	3.8nm,0.3s,baz=332,slow=22,SNR=6.7						
WRA				ScP	ScP	19 32 30.5	+0.3
	0.2nm,0.3s,baz=326,slow=2.0,SNR=4.7						
WRA	**Warramunga Arr**	**13.69**	**160**	P	**Pn**	**19 23 57.3**	**-2.5**
WRA				S	**Sn**	**19 26 22.3**	**-9.5**
WRA				ScP	ScP	19 32 30.5	+0.3
WB2	**Warramunga Arr**	**13.69**	**160**	*e*Pn	**Pn**	**19 23 56.9**	**-3.0**
WB2				*e*Sn	**Sn**	**19 26 19.7**	**-12**
BBKI	**Banjar Baru**	**14.99**	**283**	P	**Pn**	**19 24 21.1**	**+4.8**
	132nm,0.9s						
COEN	**Coen**	**15.13**	**118**	*e*P	**Pn**	**19 24 18.7**	**+0.8**
	32nm,0.3s						
COEN				*e*S	**Sn**	**19 26 53.1**	**-13**
COEN	**Coen**	**15.13**	**118**	*e*Pn	**Pn**	**19 24 17.6**	**-0.3**
	40nm,0.4s						
COEN				*e*Sn	**Sn**	**19 26 53.1**	**-13**
COEN	**Coen**	**15.13**	**118**	P	**Pn**	**19 24 20.2**	**+2.3**
	16nm,1.1s						
MBWA	**Marble Bar**	**16.92**	**213**	*e*P	Px	19 24 56.7	
MBWA				*e*S	**S**	**19 27 54.1**	**+6.9**
MBWA	**Marble Bar**	**16.92**	**213**	*e*P	**Pn**	**19 24 39.0**	**-0.7**
	8.9nm,0.6s						
MBWA				*e*S	**S**	**19 27 34.6**	**-13**
AS31	**Alice Springs**	**17.09**	**166**	*e*P	**Pn**	**19 24 42.3**	**+0.6**
AS31				*e*S	**S**	**19 27 41.5**	**-8.9**
ASAR	**Alice Springs**	**17.09**	**166**	P	**Pn**	**19 24 42.9**	**+1.3**
	1.8nm,0.3s,baz=349,slow=11,SNR=183						
ASAR				S	**S**	**19 27 46.6**	**-3.9**
	1.3nm,0.3s,baz=335,slow=16,SNR=7.5						
ASAR				ScP	ScP	19 32 36.8	+0.4
	0.3nm,0.3s,baz=359,slow=1.6,SNR=8.7						
ASAR	**Alice Springs**	**17.09**	**166**	P	**Pn**	**19 24 42.9**	**+1.3**
ASAR				S	**S**	**19 27 46.6**	**-3.9**
ASAR				ScP	ScP	19 32 36.8	+0.4
PMG	**Port Moresby**	**17.66**	**99**	P	**Pn**	**19 24 49.7**	**+1.1**
	1.2nm,0.3s,baz=280,slow=5.4,SNR=13						
PMG	**Port Moresby**	**17.66**	**99**	*e*P	**Pn**	**19 24 49.4**	**+0.8**
	31nm,1.1s						
PMG	**Port Moresby**	**17.66**	**99**	P	**Pn**	**19 24 51.0**	**+2.4**
	24nm,1.3s						
PBKI	**Pangkalan Bun**	**18.25**	**283**	P	**P**	**19 24 56.1**	**+2.5**
	135nm,0.9s						
KKM	**Kota Kinabalu**	**18.53**	**314**	P	**P**	**19 24 57.2**	**+0.6**
STKI	**Sintang**	**19.28**	**291**	P	**P**	**19 25 11.1**	**+6.3**
	2µm17nm,0.9s						
CTA	**Charters Tower**	**20.82**	**130**	LR	LR	19 33 04.0	
	comp=Z,46nm,18.5s,baz=231,slow=35						
KSM	**Kuching**	**20.91**	**293**	*e*P	**P**	**19 25 21.1**	**-1.1**
	13nm,0.8s						
KSM	**Kuching**	**20.91**	**293**	P	**P**	**19 25 26.3**	**+4.1**
MEEK	**Meekatharra**	**22.08**	**207**	*e*P	**P**	**19 25 34.9**	**+0.5**
	18nm,0.3s,mb5.0						
FORT	**Forrest**	**23.67**	**183**	*e*P	**P**	**19 25 50.5**	**+1.5**
	16nm,0.7s,mb4.7						
KMBL	**Kambalda**	**25.24**	**195**	*e*P	**P**	**19 26 04.5**	**+1.2**
	68nm,0.6s,mb5.3						
MORW	**Morawa**	**25.33**	**208**	*e*P	**P**	**19 26 04.8**	**+0.7**
	28nm,0.5s,mb5.0						
KLBR	**Kellerberrin**	**26.79**	**203**	*e*P	**P**	**19 26 18.3**	**+1.1**
	11nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**27.19**	**157**	P	**P**	**19 26 21.8**	**+1.0**
	2.1nm,0.4s,mb4.0,baz=346,slow=9.4,SNR=5.7						
STKA	**Stephens Creek**	**27.19**	**157**	*e*P	**P**	**19 26 20.9**	**+0.1**
	1.8nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**27.19**	**157**	*e*P	**P**	**19 26 20.9**	**+0.1**
NWAO	**Narrogin (SRO)**	**28.17**	**202**	P	**P**	**19 26 30.3**	**+0.8**
	8.4nm,0.9s,mb4.5,baz=355,slow=8.6,SNR=8.1						
NWAO	**Narrogin (SRO)**	**28.17**	**202**	P	**P**	**19 26 30.3**	**+0.8**
CMSA	**Cobar Meteorol**	**28.71**	**150**	*e*P	**P**	**19 26 35.6**	**+1.3**
	8.7nm,0.4s,mb4.8						
KULM	**Kulim**	**31.26**	**292**	*e*P	**P**	**19 26 56.4**	**-0.6**
	4.4nm,0.6s,mb4.4						
COCO	**West Island**	**32.57**	**258**	*e*P	**P**	**19 27 08.0**	**-0.5**
	42nm,0.3s						
TAU	**Tasmania Unive**	**39.05**	**159**	*e*P	**P**	**19 28 04.2**	**+1.0**
	20nm,1.0s,mb4.7						
CM31	**Chiang Mai Arr**	**39.35**	**310**	*e*P	**P**	**19 28 05.6**	**-0.4**
CMAR	**Chiang Mai Arr**	**39.35**	**310**	P	**P**	**19 28 06.2**	**+0.1**
	3.6nm,0.5s,mb4.2,baz=135,slow=6.8,SNR=52						
CMAR	**Chiang Mai Arr**	**39.35**	**310**	P	**P**	**19 28 06.2**	**+0.1**
CHTO	**Chiang Mai**	**39.56**	**311**	*e*P	**P**	**19 28 07.4**	**-0.4**
	4.9nm,0.6s,mb4.3						
MJAR	**Matsushiro Arr**	**44.10**	**10**	P	**P**	**19 28 42.7**	**-1.6**
	1.2nm,0.5s,mb3.8,baz=192,slow=9.5,SNR=5.3						
MJAR	**Matsushiro Arr**	**44.10**	**10**	P	**P**	**19 28 42.7**	**-1.6**
LSA	**Lhasa**	**51.85**	**317**	*e*P	**P**	**19 29 43.9**	**-0.2**
	2.0nm,0.6s,mb3.9						
ODAN	**Odare**	**52.88**	**311**	*e*P	**P**	**19 29 51.4**	**-0.2**
	6.3nm,0.4s,mb4.7						
TAPN	**Taplejung**	**52.91**	**312**	*e*P	**P**	**19 29 51.8**	**-0.1**
	7.6nm,0.3s,mb4.9						
RAMN	**Ramite**	**53.52**	**311**	*e*P	**P**	**19 29 56.5**	**+0.2**
	12nm,0.4s,mb5.0						
JIRN	**Jiri**	**54.21**	**311**	*e*P	**P**	**19 30 01.3**	**0.0**
	2.5nm,0.4s,mb4.3						
GUN	**Gumba**	**54.57**	**312**	*e*P	**P**	**19 30 04.0**	**0.0**
	11nm,0.4s,mb5.0						
KKN	**Kakani**	**54.96**	**311**	*e*P	**P**	**19 30 06.5**	**-0.2**
DMN	**Daman**	**54.99**	**311**	*e*P	**P**	**19 30 07.2**	**+0.2**
GKN	**Gorkha**	**55.55**	**311**	*e*P	**P**	**19 30 10.7**	**-0.3**
KOLN	**Koldanda**	**56.21**	**310**	*e*P	**P**	**19 30 15.6**	**-0.1**
DANN	**Dangsing**	**56.39**	**311**	*e*P	**P**	**19 30 16.7**	**-0.2**
PYUN	**Piuthan**	**56.84**	**310**	*e*P	**P**	**19 30 20.2**	**+0.1**
	25nm,0.9s,mb5.0						
ULN	**Ulaanbaatar**	**58.12**	**342**	*e*P	**P**	**19 30 26.6**	**-2.1**
	1.0nm,0.6s,mb3.8						
SONM	**Songino Array**	**58.30**	**342**	P	**P**	**19 30 30.4**	**+0.5**
	0.4nm,0.6s,mb3.5,baz=152,slow=5.8,SNR=4.4						
SONM	**Songino Array**	**58.30**	**342**	P	**P**	**19 30 30.4**	**+0.5**
TLY	**Talaya**	**62.53**	**342**	*e*P	**P**	**19 30 56.7**	**-1.8**
	3.5nm,0.8s,mb4.2						
MK31	**Makanchi Array**	**67.96**	**327**	*e*P	**P**	**19 31 33.6**	**0.0**
MKAR	**Makanchi Array**	**67.96**	**327**	P	**P**	**19 31 34.2**	**+0.6**
	2.1nm,0.4s,mb4.2,baz=114,slow=8.4,SNR=68						
MKAR	**Makanchi Array**	**67.96**	**327**	P	**P**	**19 31 34.2**	**+0.6**
AAK	**Ala-Archa**	**70.22**	**320**	*e*P	**P**	**19 31 48.6**	**+1.0**
	4.7nm,0.4s,mb4.6						
EKS2	**Erkin-Say**	**70.69**	**320**	*e*P	**P**	**19 31 51.0**	**+0.5**
	1.3nm,0.7s,mb3.8						
ZAA0	**Zalesovo Array**	**71.37**	**334**	*e*P	**P**	**19 31 52.6**	**-1.7**
ZALV	**Zalesovo Beam**	**71.37**	**334**	P	**P**	**19 31 53.7**	**-0.6**
	0.7nm,0.4s,mb3.7,baz=124,slow=5.1,SNR=6.2						
ZALV	**Zalesovo Beam**	**71.37**	**334**	P	**P**	**19 31 53.7**	**-0.6**
KURK	**Kurchatov**	**72.26**	**329**	P	**P**	**19 31 59.5**	**-0.1**
	1.4nm,0.5s,mb3.9,baz=129,slow=4.9,SNR=20						
KURK	**Kurchatov**	**72.26**	**329**	*e*P	**P**	**19 31 59.3**	**-0.3**
	5.3nm,1.2s,mb4.2						
VNDA	**Vanda**	**72.49**	**173**	*e*P	**P**	**19 32 01.3**	**+0.6**
	2.2nm,0.9s,mb3.9						
MAW	**Mawson**	**74.74**	**201**	P	**P**	**19 32 15.8**	**+1.9**
	3.2nm,0.6s,mb4.2,baz=85,slow=5.0,SNR=8.5						
MAW	**Mawson**	**74.74**	**201**	*e*P	**P**	**19 32 15.4**	**+1.5**
	0.7nm,0.9s,mb3.5						
BVAR	**Borovoye Array**	**77.80**	**328**	P	**P**	**19 32 31.1**	**-0.3**
	1.0nm,0.8s,mb3.5,baz=132,slow=4.4,SNR=4.1						
BVAR	**Borovoye Array**	**77.80**	**328**	P	**P**	**19 32 31.1**	**-0.3**
ABKAR	**Akbulak array**	**82.20**	**322**	*e*P	**P**	**19 32 54.0**	**-1.0**
	2.1nm,0.8s,mb3.8						
QSPA	**South Pole Qui**	**82.96**	**180**	*e*P	**P**	**19 32 59.2**	**+0.7**
	2.6nm,0.6s,mb4.1						
AKTO	**Aktyubinsk**	**83.77**	**322**	P	**P**	**19 33 03.5**	**+0.4**
	1.3nm,0.4s,mb4.0,baz=106,slow=4.5,SNR=7.9						
AKTO	**Aktyubinsk**	**83.77**	**322**	P	**P**	**19 33 03.5**	**+0.4**
ARU	**Arti**	**85.45**	**328**	*e*P	**P**	**19 33 10.8**	**-0.6**
	7.2nm,1.0s,mb4.4						
TORD	**Torodi Ar. Bea**	**128.30**	**281**	PKP	PKPdf	19 39 40.6	+0.2
	0.7nm,0.7s,baz=84,slow=1.3,SNR=5.7						
TORD	**Torodi Ar. Bea**	**128.30**	**281**	PKP	PKPdf	19 39 40.6	+0.2
CPUP	**Villa Florida**	**146.20**	**169**	PKPbc	PKPbc	19 40 15.0	+0.8
	1.3nm,0.5s,baz=184,slow=5.2,SNR=4.7						
CPUP	**Villa Florida**	**146.20**	**169**	PKPbc	PKPbc	19 40 15.0	+0.8
LPAZ	**La Paz**	**151.02**	**143**	PKPbc	PKPbc	19 40 29.1	+2.3
	1.3nm,0.4s,baz=34,slow=4.4,SNR=3.7						
LPAZ	**La Paz**	**151.02**	**143**	PKPbc	PKPbc	19 40 29.1	+2.3

ISCJB ***25*** *19:34:13.3±0.6, 38°.15N±0°.02×26°.52E±0°.04, h2km±5km, Error ellipse: s-maj=5.4km s-min=3.8km az=158.3*
CSEM ***25*** *19:34:13.0±0.3, 38°.16N×26°.51E, h2km, MD2.7, Error ellipse: s-maj=6.5km s-min=5.1km az=56.0*
DDA ***25*** *19:34:13.4, 38°.18N×26°.58E, h4km±3km, Md2.7*
ATH ***25*** *19:34:13.3, 38°.15N×26°.53E, h29km, MD3.2/5*
ISC 25 19:34:13.8±0.6, 38°.15N±0°.02×26°.53E±0°.04, h1km±5km, n26, σ1°23/50, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.22**	**15**	*i* P	**Pg**	**19 34 16.4**	**-1.5**
URLA				*i* S	**Sg**	**19 34 19.7**	**-1.1**
URLA	**Izmir**	**0.22**	**15**	*i* P	**Pg**	**19 34 16.4**	**-1.6**
URLA				*i* S	**Sg**	**19 34 19.7**	**-1.1**
CHOS	**Chios island**	**0.44**	**303**	*e*PB	**Pg**	**19 34 22.9**	**+0.7**
CHOS				*e*SB	**Sg**	**19 34 30.1**	**+2.2**
CHOS	**Chios island**	**0.44**	**303**	*e*Pb	**Pg**	**19 34 22.9**	**+0.7**
CHOS				*e*Sb	**Sg**	**19 34 30.1**	**+2.2**
SMG	**Samos**	**0.50**	**151**	*e*PN	**Pg**	**19 34 23.9**	**+0.5**
SMG				*e*SN	**Sg**	**19 34 32.1**	**+2.1**
SMG	**Samos**	**0.50**	**151**	*e*Pn	**Pg**	**19 34 23.9**	**+0.5**
SMG				*e*Sn	**Sg**	**19 34 32.1**	**+2.1**
GCAM	**G?zelcaml?**	**0.72**	**129**	*i* P	**Pg**	**19 34 27.1**	**-0.4**
GCAM				*i* S	**Sg**	**19 34 37.7**	**+0.9**
GCAM	**G?zelcaml?**	**0.72**	**129**	*i* P	**Pg**	**19 34 27.1**	**-0.4**
GCAM				*i* S	**Sg**	**19 34 37.7**	**+0.9**
PRK	**Paraskevi**	**1.11**	**350**	*e*PN	**Pg**	**19 34 34.4**	**-0.7**
PRK				*e*SN	**Sg**	**19 34 49.9**	**+0.3**
PRK	**Paraskevi**	**1.11**	**350**	*e*Pn	**Pg**	**19 34 34.4**	**-0.7**
PRK				*e*Sn	**Sg**	**19 34 49.9**	**+0.3**
AYVA	**Ayvalik**	**1.16**	**6**	*i* P	**Pg**	**19 34 31.4**	**-4.7**
AYVA				*i* S	**Sg**	**19 34 51.8**	**+0.6**
AYVA	**Ayvalik**	**1.16**	**6**	*i* P	**Pg**	**19 34 31.4**	**-4.7**
AYVA				*i* S	**Sg**	**19 34 51.8**	**+0.6**
AYDN	**Tasoluk**	**1.18**	**114**	*i* P	**Pg**	**19 34 36.1**	**-0.2**
AYDN				*i* S	**Sg**	**19 34 51.1**	**-0.4**
AYDN	**Tasoluk**	**1.18**	**114**	*i* P	**Pg**	**19 34 36.1**	**-0.2**
AYDN				*i* S	**Sg**	**19 34 51.2**	**-0.4**
AKHS	**Akhisar**	**1.25**	**54**	*i* P	**Pg**	**19 34 35.5**	**-2.2**
AKHS				*i* S	**Sg**	**19 34 53.5**	**-0.3**
AKHS	**Akhisar**	**1.25**	**54**	*i* P	**Pg**	**19 34 35.5**	**-2.2**
AKHS				*i* S	**Sg**	**19 34 53.5**	**-0.3**
APE	**Apeiranthos**	**1.34**	**217**	*e*PN	**Pn**	**19 34 37.6**	**-2.0**
APE				*e*SN	**Sn**	**19 34 56.5**	**-1.5**
APE	**Apeiranthos**	**1.34**	**217**	*e*Pn	**Pn**	**19 34 37.6**	**-2.0**
APE				*e*Sn	**Sn**	**19 34 56.5**	**-1.5**
MANT	**Manisa**	**1.63**	**77**	*i* P	**Pn**	**19 34 43.8**	**+0.2**
MANT				*i* S	**Sn**	**19 35 04.1**	**-1.2**
MANT	**Manisa**	**1.63**	**77**	*i* P	**Pn**	**19 34 43.8**	**+0.2**
MANT				*i* S	**Sn**	**19 35 04.1**	**-1.2**
BALY	**Balya**	**1.80**	**28**	*i* P	**Pn**	**19 34 46.0**	**0.0**
BALY				*i* S	**Sn**	**19 35 11.4**	**+2.0**
BALY	**Balya**	**1.80**	**28**	*i* P	**Pn**	**19 34 46.0**	**0.0**
BALY				*i* S	**Sn**	**19 35 11.4**	**+2.0**
DEMI	**Demirci**	**1.93**	**62**	*i* P	**Pn**	**19 34 50.5**	**+2.7**
DEMI				*i* S	**Sn**	**19 35 13.9**	**+1.3**
DEMI	**Demirci**	**1.93**	**62**	*i* P	**Pn**	**19 34 50.5**	**+2.7**
DEMI				*i* S	**Sn**	**19 35 13.9**	**+1.2**
ALN	**Alexandroupoli**	**2.77**	**352**	*e*PN	**Pn**	**19 34 58.7**	**-0.5**
ALN	**Alexandroupoli**	**2.77**	**352**	*e*Pn	**Pn**	**19 34 58.7**	**-0.5**

IDC ***25*** *19:37:02.8±4.3, 2°.52S×140°.51E, h0km, mb3.6/2, mb1 4.1/3, mb1mx3.7/14, mbtmp3.9/3, ML3.9/1, Error ellipse: s-maj=101.8km s-min=57.5km az=101.0*
*

comp=N,150nm,19.3s,MS3.7
SSE LR LR
comp=E,150nm,19.1s,MS3.7
SSE LR LR
comp=Z,140nm,20.9s,MS3.5
PMG Port Moresby 27.31 180 P P 19 43 37.8 -0.1
comp=Z,43nm,0.7s,mb5.1,baz=4.8,slow=5.6,SNR=38
PMG Port Moresby 27.31 180 *eP* P 19 43 37.2 -0.7
comp=Z,46nm,0.8s,mb5.1
PMG Port Moresby 27.31 180 *c iP* P 19 43 37.1 -0.8
PMG *i* *PP pP 19 43 54.2 +1.8
PMG pmax pmax
comp=Z,63nm,1.0s
PMG Port Moresby 27.31 180 P P 19 43 37.4 -0.5
comp=Z,581nmcomp=Z,66nm,0.9s,mb5.2
VLA Vladivostok 28.06 336‖ *eP* P 19 43 45.2 +0.8
VLA 19 46 56.5
VLA pmax pmax
comp=Z,23nm,1.3s,mb4.7
NJ2 Nanjing 28.95 304 *eP* P 19 43 58.0 +5.5
NJ2 S S 19 48 40.0 +0.7
NJ2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
NJ2 pmax pmax
comp=Z,300nm,5.2s
NJ2 LR LR
comp=N,320nm,17.6s,MS4.2
NJ2 LR LR
comp=E,290nm,13.7s,MS4.2
HNR Honiara 30.17 154 LR LR 19 54 48.2
comp=E,436nm,19.9s,MS4.1,baz=307,slow=34
MDJ Mudanjiang 30.23 335 P P 19 44 03.3 -0.2
MDJ pP pP 19 44 20.0 +1.9
MDJ sP sP 19 44 28.5 +3.5
MDJ PP PP 19 45 11.8 -0.9
MDJ S S 19 48 58.0 -0.9
MDJ pmax pmax
comp=Z,4.0nm,1.1s,mb4.1
MDJ pmax pmax
comp=Z,96nm,4.4s
MDJ LR LR
comp=N,130nm,32.9s,MS3.6
MDJ LR LR
comp=E,190nm,35.7s,MS3.6
MDJ LR LR
comp=Z,88nm,26.7s
MDJ Mudanjiang 30.23 335 P P 19 44 04.4 +0.8
comp=Z,12nm,0.9s,mb4.6
HABR Khabarovsk 31.85 345 P P 19 44 18.0 +0.2
HABR *e* 19 45 25.7
HABR *eS* S 19 49 23.5 -0.6
HABR *eSS* SS 19 51 21.3 -21
HABR pmax pmax
comp=Z,37nm,2.1s,mb4.8
HABR pmax pmax
comp=N,45nm,2.6s
HABR pmax pmax
comp=E,81nm,2.8s
HABR MLR MLR
comp=Z,123nm,18.0s,MS3.6
COEN Coen 32.05 187 *eP* P 19 44 19.9 0.0
comp=Z,108nm,0.6s,mb5.9
WHN Wuhan 32.13 299 P P 19 44 30.5 +10
KKM Kota Kinabalu 32.35 252 *eP* P 19 44 22.1 -0.5
comp=Z,21nm,0.8s,mb5.0
KLR Kul'dur 33.44 342 *eP* P 19 44 26.3 -5.4
BJT Baijiatuan 34.44 316 P P 19 44 39.4 -1.1
BJT Baijiatuan 34.44 316 P P 19 44 39.4 -1.2
BJI Beijing 34.45 316 P P 19 44 46.3 +5.7
BJI S S 19 50 15.3 +11
BJI pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BJI LR LR
comp=N,280nm,15.5s,MS4.2
BJI LR LR
comp=E,230nm,20.0s,MS4.2
BJI LR LR
comp=Z,170nm,20.7s,MS3.8
PETK Petropavlovsk- 35.94 11 LR LR 19 59 03.8
comp=Z,155nm,18.7s,MS3.8,baz=197,slow=35
HHC Hu-ho-hao-te 37.93 314 *eP* P 19 45 14.8 +4.5
HHC PP PP 19 46 49.0 +11
HHC ScP ScP 19 50 59.5 -8.5
HHC pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
HHC pmax pmax
comp=Z,170nm,4.9s
HHC LR LR
comp=N,130nm,10.7s,MS4.3
HHC LR LR
comp=E,210nm,11.3s,MS4.3
HHC LR LR
comp=Z,200nm,20.6s
CTA Charters Tower 37.93 181 P P 19 45 10.1 -0.4
comp=Z,3.9nm,0.8s,mb4.2,baz=10,slow=8.6,SNR=5.4
CTA LR LR 19 59 11.7
comp=Z,108nm,19.8s,MS3.7,baz=24,slow=34
CTA Charters Tower 37.93 181 *eP* P 19 45 10.7 +0.2
comp=Z,3.8nm,0.9s,mb4.1
CTA Charters Tower 37.93 181 P P 19 45 10.1 -0.4
CTA Charters Tower 37.93 181 P P 19 45 10.1 -0.4
HIA Hailar 38.11 331 *eP* P 19 45 12.1 +0.4
comp=Z,10nm,0.7s,mb4.7
HIA Hailar 38.11 331 *eP* P 19 45 12.1 +0.4
HIA pmax pmax
comp=Z,10.0nm,0.7s
KSM Kuching 39.63 250 *eP* P 19 45 24.6 -0.2
comp=Z,14nm,0.8s,mb4.7
KSM Kuching 39.63 250 P P 19 45 25.3 +0.4
comp=Z,23nm,1.0s,mb4.8
WRAB Tennant Creek 39.77 199 *eP* P 19 45 25.1 -0.7
comp=Z,20nm,0.8s,mb4.9
WRAB Tennant Creek 39.77 199 *eP* P 19 45 25.2 -0.6
WRAB pmax pmax
comp=Z,20nm,0.8s,mb4.9
WB2 Warramunga Arr 39.77 199 *eP* P 19 45 25.4 -0.5
WRA Warramunga Arr 39.78 199 P P 19 45 25.7 -0.2
comp=Z,20nm,0.8s,mb4.9,baz=22,slow=9.2,SNR=70
WRA PcP PcP 19 47 32.5 +1.2
comp=Z,1.8nm,0.6s,baz=14,slow=3.5,SNR=4.4
WRA ScP ScP 19 51 18.5 +3.2
comp=Z,0.7nm,0.8s,baz=13,slow=3.9,SNR=4.9
WRA Warramunga Arr 39.78 199 P P 19 45 25.7 -0.2
WRA PcP PcP 19 47 32.5 +1.2
WRA ScP ScP 19 51 18.5 +3.2
WRA Warramunga Arr 39.78 199 P P 19 45 25.7 -0.2
WRA 19 47 32.5
WRA 19 51 18.5
FITZ Fitzroy Crossi 41.65 211 P P 19 45 41.1 -0.3
comp=Z,5.9nm,0.8s,mb4.3,baz=75,slow=5.9,SNR=8.4
FITZ Fitzroy Crossi 41.65 211 *eP* P 19 45 40.9 -0.5
comp=Z,11nm,0.8s,mb4.5
FITZ Fitzroy Crossi 41.65 211 P P 19 45 41.1 -0.3
AS31 Alice Springs 43.42 198 *eP* P 19 45 55.7 +0.1
ASAR Alice Springs 43.42 198 P P 19 45 56.0 +0.3
comp=Z,8.5nm,0.7s,mb4.6,baz=22,slow=8.3,SNR=79
ASAR LR LR 20 04 43.2
comp=Z,95nm,19.2s,MS3.7,baz=18,slow=37
ASAR Alice Springs 43.42 198 P P 19 45 56.0 +0.3
ASAR Alice Springs 43.42 198 P P 19 45 56.0 +0.3
ULN Ulaanbaatar 44.03 322 *eP* P 19 45 59.8 -0.6
comp=Z,6.3nm,0.9s,mb4.3
ULN Ulaanbaatar 44.03 322 *eP* P 19 45 59.8 -0.6
ULN pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
ULN Ulaanbaatar 44.03 322 P P 19 46 04.3 +3.9
comp=Z,8.9nm,1.2s,mb4.4
SONM Songino Array 44.41 321 P P 19 46 03.5 +0.1
comp=Z,4.1nm,0.7s,mb4.3,baz=137,slow=9.3,SNR=19
SONM PcP PcP 19 47 46.8 +0.5
comp=Z,2.0nm,0.8s,baz=166,slow=4.2,SNR=4.6
SONM ScP ScP 19 51 34.8 +1.3
comp=Z,0.7nm,0.8s,baz=129,slow=4.0,SNR=3.8
SONM LR LR 20 04 55.3
comp=Z,295nm,20.8s,MS4.2,baz=15,slow=36
SONM Songino Array 44.41 321 P P 19 46 03.5 +0.1
SONM PcP PcP 19 47 46.8 +0.5
SONM ScP ScP 19 51 34.8 +1.3
SONM Songino Array 44.41 321 P P 19 46 03.5 +0.1
SONM 19 47 46.8
SEY Seymchan 44.97 3 *ceP* P 19 46 10.5 +2.9
CM31 Chiang Mai Arr 45.55 278 *eP* P 19 46 12.4 -0.4
comp=Z,3.9nm,0.7s,mb4.5
CMAR Chiang Mai Arr 45.55 278 P P 19 46 13.1 +0.2
comp=Z,6.2nm,0.8s,mb4.6,baz=68,slow=6.8,SNR=51
CMAR PcP PcP 19 47 52.6 +1.8
comp=Z,2.6nm,0.9s,baz=92,slow=2.9,SNR=4.6
CMAR Chiang Mai Arr 45.55 278 P P 19 46 13.1 +0.2
CMAR PcP PcP 19 47 52.6 +1.8
CMAR Chiang Mai Arr 45.55 278 P P 19 46 13.1 +0.2
CMAR 19 47 52.6
YAK Yakutsk 45.57 349 *eP* P 19 46 13.9 +1.6
comp=Z,16nm,0.4s,mb5.3
YAK Yakutsk 45.57 349 *eP* P 19 46 13.6 +1.3
YAK pmax pmax
comp=Z,13nm,0.8s,mb4.9
KULM Kulim 47.01 260 *eP* P 19 46 26.1 +1.6
KULM Kulim 47.01 260 P P 19 46 27.3 +2.9
comp=Z,710nmcomp=Z,48nm,1.1s,mb5.3
MBWA Marble Bar 47.28 216 *eP* P 19 46 25.7 -0.6
comp=Z,22nm,1.1s,mb5.0
ZAK Zakamensk 47.40 323 *eP* P 19 46 26.8 -0.1
TLY Talaya 47.79 325 *eP* P 19 46 31.6 +1.7
TLY Talaya 47.79 325 *eP* P 19 46 35.9 +6.0
TLY *e* pP 19 46 45.9 +0.7
TLY *eS* S 19 53 19.4 -2.8
TLY *eSS* SS 19 56 21.4 -30
TLY *eSSS* 19 58 04.0
TLY pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
TLY MLR MLR
comp=Z,161nm,20.0s,MS4.0
ARMA Armidale 48.42 175 *eP* P 19 46 35.3 +0.4
STKA Stephens Creek 49.94 186 P P 19 46 46.4 -0.1
comp=Z,6.0nm,0.7s,mb4.8,baz=355,slow=9.3,SNR=14
STKA LR LR 20 10 02.3
comp=Z,129nm,18.2s,MS4.0,baz=23,slow=38
STKA Stephens Creek 49.94 186 *eP* P 19 46 46.4 -0.1
comp=Z,5.4nm,0.6s,mb4.8
STKA Stephens Creek 49.94 186 *eP* P 19 46 45.8 -0.7
comp=Z,1.2nm,0.7s,mb4.0
STKA Stephens Creek 49.94 186 *eP* P 19 46 45.8 -0.7
BILL Bilibino 51.42 9 *eP* P 19 47 01.5 +4.2
BILL *e* 19 49 02.3
BILL pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BBOO Buckleboo 51.67 192 *eP* P 19 46 59.8 +0.2
comp=Z,420nm,0.7s
BBOO Buckleboo 51.67 192 *eP* P 19 46 59.7 +0.2
comp=Z,1µm,0.8s
FORT Forrest 51.88 201 *eP* P 19 47 01.9 +0.7
comp=Z,19nm,0.7s,mb5.1
FORT Forrest 51.88 201 *eP* P 19 47 01.6 +0.4
comp=Z,27nm,0.8s,mb5.2
LSA Lhasa 51.95 294 P P 19 47 01.2 -0.7
comp=Z,2.9nm,0.6s,mb4.4
LSA Lhasa 51.95 294 P P 19 47 01.2 -0.6
LSA pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
TAPN Taplejung 55.05 291 *eP* P 19 47 25.6 +0.9
ODAN Odare 55.37 291 *eP* P 19 47 27.6 +0.7
MORW Morawa 55.60 213 *eP* P 19 47 28.0 -0.4
comp=Z,69nm,0.8s,mb5.7
WMQ Urumqi 55.66 311 P P 19 47 30.0 +1.3
WMQ pP pP 19 47 49.0 +4.7
WMQ sP sP 19 47 57.8 +6.8
WMQ pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
WMQ LR LR
comp=N,140nm,20.0s
WMQ LR LR
comp=Z,140nm,21.5s,MS4.0
RAMN Ramite 56.07 291 *eP* P 19 47 32.3 +0.4
comp=Z,15nm,1.1s,mb5.0
JIRN Jiri 56.38 292 *eP* P 19 47 35.4 +1.2
comp=Z,8.4nm,0.7s,mb4.9
GUN Gumba 56.64 292 *eP* P 19 47 36.8 +0.8
comp=Z,27nm,1.0s,mb5.2
KLBR Kellerberrin 56.81 210 *eP* P 19 47 35.4 -1.6
comp=Z,21nm,1.2s,mb5.0
PKI Pulchoki 57.08 292 *eP* P 19 47 39.4 +0.3
KKN Kakani 57.18 292 *eP* P 19 47 40.0 +0.2
comp=Z,15nm,0.9s,mb5.0
DMN Daman 57.34 292 *eP* P 19 47 41.6 +0.6
GKN Gorkha 57.73 292 *eP* P 19 47 43.9 +0.2
comp=Z,14nm,0.8s,mb5.1
DANN Dangsing 58.47 293 *eP* P 19 47 49.6 +0.7
comp=Z,42nm,0.6s,mb5.6
KOLN Koldanda 58.66 292 *eP* P 19 47 50.7 +0.5
comp=Z,12nm,0.7s,mb5.0
PYUN Piuthan 59.17 292 *eP* P 19 47 53.8 +0.1
comp=Z,32nm,1.0s,mb5.3
ZAA0 Zalesovo Array 59.27 323 *eP* P 19 47 52.8 -1.1
ZALV Zalesovo Beam 59.27 323 P P 19 47 53.5 -0.4
comp=Z,4.4nm,0.7s,mb4.6,baz=106,slow=8.2,SNR=19
ZALV LR LR 20 14 24.1
comp=Z,98nm,19.9s,MS3.9,baz=247,slow=37
ZALV Zalesovo Beam 59.27 323 P P 19 47 53.5 -0.4
ZALV Zalesovo Beam 59.27 323 P P 19 47 53.5 -0.4
MKAR Makanchi Array 59.80 314 P P 19 47 57.8 +0.1
comp=Z,1.2nm,0.5s,mb4.2,baz=90,slow=7.6,SNR=15
MKAR LR LR 20 15 47.0
comp=Z,118nm,19.6s,MS4.0,baz=171,slow=38
MKAR Makanchi Array 59.80 314 P P 19 47 57.8 +0.1
MKAR Makanchi Array 59.80 314 P P 19 47 57.8 +0.1
NVS Novosibirsk 60.35 323 *eP* P 19 47 59.6 -1.8
NVS pmax pmax
comp=E,16nm,1.3s
NVS pmax pmax
comp=Z,18nm,1.3s,mb4.9
BPAW Bear Paw Mtn. 61.76 26 *eP* P 19 48 09.7 -1.0
comp=Z,9.7nm,1.0s,mb4.9
SML Sawmill 62.30 29 P P 19 48 14.7 +0.3
SML Sawmill 62.30 29 P P 19 48 14.7 +0.3
MCK McKinley 62.52 27 P P 19 48 18.7 +2.9
comp=Z,4.7nm,0.7s,mb4.7
MCK McKinley 62.52 27 P P 19 48 18.7 +2.9
MCK pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
KURK Kurchatov 62.57 318 P P 19 48 15.9 -0.5
comp=Z,3.8nm,0.6s,mb4.7,baz=96,slow=7.5,SNR=30
KURK Kurchatov 62.57 318 *eP* P 19 48 15.2 -1.2
comp=Z,12nm,0.9s,mb5.0
KURK Kurchatov 62.57 318 *d iP* P 19 48 16.1 -0.3
KURK pmax pmax
comp=Z,13nm,1.2s,mb4.9
COLD Coldfoot 63.03 23 *eP* P 19 48 20.5 +1.3
comp=Z,2.1nm,0.8s,mb4.3
ILAR Eielson Array 63.65 26 P P 19 48 21.7 -1.6
comp=Z,1.8nm,0.9s,mb4.1,baz=256,slow=4.8,SNR=10
ILAR LR LR 20 15 21.2
comp=Z,122nm,18.0s,MS4.1,baz=283,slow=35
ILAR Eielson Array 63.65 26 P P 19 48 21.7 -1.6
ILAR Eielson Array 63.65 26 P P 19 48 21.7 -1.6
TKM2 Tokmak 2 64.41 309 *eP* P 19 48 29.8 +1.1
comp=Z,6.5nm,0.9s,mb4.7
TKM2 Tokmak 2 64.41 309 *eP* P 19 48 29.8 +1.1
TKM2 pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
RPZ Rata Peaks 65.32 161 P P 19 48 34.3 -0.1
comp=Z,16nm,0.9s,mb5.0,baz=46,slow=21,SNR=3.8
RPZ Rata Peaks 65.32 161 P P 19 48 34.3 -0.1
EKS2 Erkin-Say 65.76 309 *eP* P 19 48 36.6 -0.9
EKS2 Erkin-Say 65.76 309 *eP* P 19 48 36.6 -0.9
BVAR Borovoye Array 67.75 321 P P 19 48 49.9 0.0
comp=Z,4.5nm,0.5s,mb4.8,baz=90,slow=6.2,SNR=39
BVAR Borovoye Array 67.75 321 P P 19 48 49.9 0.0
BVAR Borovoye Array 67.75 321 P P 19 48 49.9 0.0
BRVK Borovoye 67.81 321 *eP* P 19 48 49.9 -0.5
comp=Z,8.4nm,0.7s,mb4.9
BRVK Borovoye 67.81 321‖ *eP* P 19 48 50.9 +0.6
BRVK pmax pmax
comp=Z,11nm,1.2s,mb4.8
KKAR Karatay Array 68.13 310 *eP* P 19 48 51.1 -1.4
comp=Z,2.8nm,0.6s,mb4.5
KKAR Karatay Array 68.13 310 *eP* P 19 48 51.1 -1.4
KKAR pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
INK Inuvik 69.45 23 P P 19 49 00.6 +0.4
comp=Z,3.4nm,1.0s,mb4.2,baz=328,slow=21,SNR=3.4
INK Inuvik 69.45 23 *eP* P 19 49 00.2 0.0
comp=Z,12nm,1.4s,mb4.6
INK Inuvik 69.45 23 *eP* P 19 49 00.2 0.0
INK pmax pmax
comp=Z,12nm,1.4s
KBL Kabul 70.27 301 *eP* P 19 49 06.0 +0.1
comp=Z,7.2nm,1.0s,mb4.6
KBL Kabul 70.27 301 *eP* P 19 49 06.0 +0.1
KBL pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
SVE Sverdlovsk 73.11 325‖ *eP* P 19 49 28.9 +6.4
SVE pmax pmax
comp=Z,15nm,1.3s,mb4.8
ARU Arti 74.30 325 *eP* P 19 49 28.3 -1.2
comp=Z,4.2nm,0.5s,mb4.6
ARU Arti 74.30 325 *d iP* P 19 49 29.9 +0.4
ARU S S 19 58 59.7 +0.8
ARU SS SS 20 03 47.2 +2.0
ABKAR Akbulak array 74.65 317 *eP* P 19 49 30.9 -0.8
comp=Z,4.0nm,0.7s,mb4.5
AKTO Aktyubinsk 75.66 319 P P 19 49 38.0 +0.6
comp=Z,2.1nm,0.6s,mb4.2,baz=66,slow=14,SNR=11
AKTO LR LR 20 24 04.6
comp=Z,85nm,19.4s,MS4.1,baz=235,slow=37
AKTO Aktyubinsk 75.66 319 P P 19 49 38.0 +0.6
AKTO Aktyubinsk 75.66 319 P P 19 49 38.0 +0.5
YKA Yellowknife Ar 77.95 28 P P 19 49 50.0 -0.1
comp=Z,2.5nm,0.8s,mb4.2,baz=287,slow=5.5,SNR=5.7
YKA LR LR 20 23 44.3
comp=Z,18nm,20.4s,MS3.4,baz=155,slow=35
YKA Yellowknife Ar 77.95 28 P P 19 49 50.0 -0.1
YKA Yellowknife Ar 77.95 28 P P 19 49 50.1 0.0
NVAR Mina Array Bea 82.53 52 P P 19 50 16.8 +1.5
comp=Z,1.8nm,0.8s,mb4.2,baz=258,slow=6.0,SNR=9.8
NVAR Mina Array Bea 82.53 52 P P 19 50 16.8 +1.5
KLMR Klimovskoe 82.60 332 *eP* P 19 50 13.2 -1.9
KLMR pmax pmax
comp=Z,19nm,1.3s,mb5.0
KEV Kevo 82.91 342 *eP* P 19 50 17.2 +0.6
KEV pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
KEV Kevo 82.91 342 *ep* P 19 50 17.2 +0.6
comp=Z,4.5nm,0.7s,mb4.6
ARCES ARCESS Array B 83.47 342 P P 19 50 19.2 -0.2
comp=Z,6.5nm,0.9s,mb4.7,baz=54,slow=8.2,SNR=10
ARCES LR LR 20 32 54.5
comp=Z,80nm,18.2s,MS4.1,baz=38,slow=40
ARCES ARCESS Array B 83.47 342 P P 19 50 19.2 -0.2
ARCES ARCESS Array B 83.47 342 P P 19 50 19.3 -0.2
ARE0 ARCESS Array S 83.47 342 P P 19 50 15.6 -3.8
JOF Joensuu 85.11 336 *eP* P 19 50 27.2 -0.7
JOF pmax pmax
comp=Z,10.0nm,0.6s,mb5.1
JOF Joensuu 85.11 336 *ep* P 19 50 27.2 -0.7
comp=Z,10nm,0.6s,mb5.1
OBN Obninsk 86.48 327‖ *iP* P 19 50 35.9 +1.1
OBN *eS* S 20 01 01.2 -5.2
OBN pmax pmax
comp=Z,16nm,1.2s,mb5.1
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.3
FFC Flin Flon 86.94 33 *eP* P 19 50 40.0 +2.9
comp=Z,5.4nm,0.8s,mb4.8
FFC Flin Flon 86.94 33 *eP* P 19 50 40.0 +2.9
FFC pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
ZEI Tsey 87.16 314 *eP* P 19 50 38.2 -0.2
ZEI pmax pmax
comp=Z,3.0nm,0.9s,mb4.5
PDAR Pinedale Array 87.36 46 LR LR 20 22 50.4
comp=Z,48nm,21.2s,MS3.9,baz=152,slow=31
KAF Kangasniemi 87.49 336 *eP* P 19 50 38.4 -1.2
KAF pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
KAF Kangasniemi 87.49 336 *ep* P 19 50 38.4 -1.2
comp=Z,2.5nm,0.7s,mb4.5
KIV Kislovodsk 87.52 316 P P 19 50 40.2 0.0
comp=Z,5.1nm,0.8s,mb4.8
KIV Kislovodsk 87.52 316 *eP* P 19 50 41.0 +0.8
KIV *e* 20 01 00.7
KIV pmax pmax
comp=Z,4.0nm,1.1s,mb4.6
KIV MLR MLR
comp=Z,150nm,19.0s,MS4.4
FINES FINESS Array B 87.97 336 P P 19 50 41.6 -0.3
comp=Z,5.3nm,0.6s,mb4.9,baz=51,slow=5.4,SNR=21
FINES LR LR 20 30 30.3
comp=Z,103nm,19.8s,MS4.2,baz=138,slow=36
FINES FINESS Array B 87.97 336 P P 19 50 41.6 -0.3
FINES FINESS Array B 87.97 336 P P 19 50 41.6 -0.3
NOA NORSAR Array B 93.59 340 P P 19 51 08.0 -0.1
comp=Z,0.8nm,0.7s,mb4.3,baz=47,slow=4.7,SNR=4.2
NOA LR LR 20 38 44.1
comp=Z,44nm,19.9s,MS3.9,baz=180,slow=39
NOA NORSAR Array B 93.59 340 P P 19 51 08.0 -0.1
NOA NORSAR Array B 93.59 340 P P 19 51 08.0 -0.1
SUW Suwalki 93.65 331 P P 19 51 08.2 -0.3
comp=Z,19nm,0.9s,mb5.5
SUW Suwalki 93.65 331 P P 19 51 08.2 -0.3
BR131 Keskin Array S 95.44 315 *eP* P 19 51 17.5 +0.5
comp=Z,1.8nm,0.9s,mb4.5
BRTR Keskin Array B 95.44 315 P P 19 51 17.6 +0.5
comp=Z,2.1nm,0.8s,mb4.6,baz=87,slow=3.7,SNR=13
BRTR LR LR 20 39 52.3
comp=Z,50nm,18.6s,MS4.0,baz=300,slow=39
BRTR Keskin Array B 95.44 315 P P 19 51 17.6 +0.5
BRTR Keskin Array B 95.44 315 P P 19 51 17.6 +0.6
VNDA Vanda 95.80 177 P P 19 51 14.1 -3.6
comp=Z,1.9nm,0.8s,mb4.6
VNDA Vanda 95.80 177 P P 19 51 14.1 -3.6
VNDA pmax pmax
comp=Z,2.0nm,0.8s
TXAR Lajitas Array 97.15 56 LR LR 20 30 19.2
comp=Z,59nm,19.1s,MS4.1,baz=185,slow=32
CLL Collm 100.07 333 *eP* Pdif 19 51 33.0 -4.5
CLL MLR MLR
comp=Z,100nm,19.2s,MS4.3
LSZ Lusaka 121.56 263 *e*PKPdf PKPdf 19 56 47.2 +0.8
LSZ Lusaka 121.56 263 *e*PKIKP PKPdf 19 56 47.3 +0.9
TORD Torodi Ar. Bea 133.82 310 PKP PKPdf 19 57 09.8 -0.1
comp=Z,1.5nm,0.8s,baz=60,slow=1.2,SNR=10
TORD Torodi Ar. Bea 133.82 310 PKP PKPdf 19 57 09.8 -0.1
PLCA Paso Flores 140.66 133 PKP PKPdf 19 57 23.2 +1.5
comp=Z,1.3nm,0.8s,baz=200,slow=2.4,SNR=3.8
PLCA Paso Flores 140.66 133 PKP PKPdf 19 57 23.2 +1.5
PLCA Paso Flores 140.66 133 PKIKP PKPdf 19 57 23.2 +1.5
DBIC Dimbokro 142.92 309 PKP PKPdf 19 57 28.0 +1.4
comp=Z,1.3nm,0.4s,baz=125,slow=4.4,SNR=3.5
DBIC Dimbokro 142.92 309 PKP PKPdf 19 57 28.0 +1.4
DBIC Dimbokro 142.92 309 PKIKP PKPdf 19 57 28.0 +1.4
LPAZ La Paz 146.40 92 PKPbc PKPbc 19 57 34.8 +0.9
comp=Z,4.6nm,0.8s,baz=309,slow=2.4,SNR=16
LPAZ La Paz 146.40 92 PKPbc PKPbc 19 57 34.8 +0.9

ISK ***25*** *19:50:15.8, 37.41N×37.18E, h6km, ML1.7*
ISCJB ***25*** *19:50:16.2±0.7, 37.38N±0.03×37.17E±0.04, h6km±6km,*
Error ellipse: s-maj=5.6km s-min=4.9km az=4.5
CSEM ***25*** *19:50:16.1±0.2, 37.36N×37.19E, h5km, ML1.7, Error*
ellipse: s-maj=5.4km s-min=4.6km az=125.0
DDA ***25*** *19:50:16.4, 37.34N×37.14E, h7km±4km, Md2.9*
ISC 25 19:50:16.5±0.6, 37.36N±0.03×37.18E±0.04, h5km±5km,
n30, o0.98/49, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.19**	**173**	*e*PG		**Pg**	**19 50 20.8**	**+0.6**
GAZ	**Gaziantep**	**0.19**	**173**	*e*Pg		**Pg**	**19 50 20.8**	**+0.6**
KMRS	**Kahramanmaras**	**0.27**	**303**	*e*PG		**Pg**	**19 50 21.3**	**-0.5**
KMRS				*e*SG		**Sg**	**19 50 24.5**	**-0.8**
KMRS	**Kahramanmaras**	**0.27**	**303**	*e*Pg		**Pg**	**19 50 21.3**	**-0.4**
KMRS				*e*Sg		**Sg**	**19 50 24.5**	**-0.8**
KUZU	**Kuzuini**	**0.59**	**188**	*i* P		**Pg**	**19 50 28.4**	**+0.6**
KUZU				*i* S		**Sg**	**19 50 39.9**	**+4.4**
KUZU	**Kuzuini**	**0.59**	**188**	*i* P		**Pg**	**19 50 28.4**	**+0.6**
KUZU				*i* S		**Sg**	**19 50 39.8**	**+4.4**
ANDN	**Andirin**	**0.70**	**289**	*i* P		**Pg**	**19 50 28.9**	**-1.1**
ANDN				*i* S		**Sg**	**19 50 39.6**	**+0.5**
ANDN	**Andirin**	**0.70**	**289**	*i* P		**Pg**	**19 50 28.9**	**-1.1**
ANDN				*i* S		**Sg**	**19 50 39.6**	**+0.5**
KOZT	**Kozan**	**1.09**	**277**	*e*PG		**Pg**	**19 50 37.2**	**-0.1**
KOZT				*e*SG		**Sg**	**19 50 52.3**	**+0.8**
KOZT	**Kozan**	**1.09**	**277**	*e*Pg		**Pg**	**19 50 37.2**	**-0.1**
KOZT				*e*Sg		**Sg**	**19 50 52.3**	**+0.9**
AKCD	**Akcadag**	**1.10**	**32**	*i* P		**Pg**	**19 50 37.9**	**+0.2**
AKCD				*i* S		**Sg**	**19 50 54.9**	**+2.8**
AKCD	**Akcadag**	**1.10**	**32**	*i* P		**Pg**	**19 50 37.8**	**+0.1**
AKCD				*i* S		**Sg**	**19 50 54.9**	**+2.9**
COBT	**Iskenderun**	**1.12**	**222**	*i* P		**Pg**	**19 50 36.0**	**-1.9**
COBT				*i* S		**Sg**	**19 50 52.9**	**+0.5**
COBT	**Iskenderun**	**1.12**	**222**	*i* P		**Pg**	**19 50 36.0**	**-1.9**
COBT				*i* S		**Sg**	**19 50 52.9**	**+0.5**
MALT	**Malatya**	**1.37**	**46**	*e*PN		**Pn**	**19 50 41.8**	**-0.4**
MALT	**Malatya**	**1.37**	**46**	*e*Pn		**Pn**	**19 50 41.8**	**-0.4**
SARI	**SarD1z-Kayseri**	**1.37**	**344**	*e*PN		**Pn**	**19 50 38.6**	**-3.7**
SARI				*e*SN		**Sn**	**19 50 55.0**	**-5.8**

MYA	**Malataya**	**1.38**	**45**	*e*PN	**Pn**	**19 50 41.6**	**-0.7**
MYA	**Malataya**	**1.38**	**45**	*e*Pn	**Pn**	**19 50 41.6**	**-0.7**
PINB	**Pinarbasi**	**1.46**	**335**	*i* P	**Pn**	**19 50 45.3**	**+2.0**
PINB				*i* S	**Sn**	**19 51 04.2**	**+1.4**
PINB	**Pinarbasi**	**1.46**	**335**	*i* P	**Pn**	**19 50 45.3**	**+1.9**
PINB				*i* S	**Sn**	**19 51 04.2**	**+1.4**
YAYL	**Yayladag**	**1.58**	**214**	*i* P	**Pn**	**19 50 45.1**	**0.0**
YAYL				*i* S	**Sn**	**19 51 06.0**	**+0.2**
YAYL	**Yayladag**	**1.58**	**214**	*i* P	**Pn**	**19 50 45.1**	**+0.1**
YAYL				*i* S	**Sn**	**19 51 06.0**	**+0.2**
DARE	**Darende-Malaty**	**1.67**	**17**	*e*PN	**Pn**	**19 50 39.0**	**-7.3**
BNN	**Bunyan**	**1.83**	**325**	*e*PN	**Pn**	**19 50 48.0**	**-0.5**
BNN				*e*SN	**Sn**	**19 51 11.5**	**-0.5**
BNN	**Bunyan**	**1.83**	**325**	*e*Pn	**Pn**	**19 50 48.0**	**-0.5**
BNN				*e*Sn	**Sn**	**19 51 11.5**	**-0.5**
SVRC	**Sivrice-ELAZID**	**1.97**	**58**	*e*PN	**Pn**	**19 50 49.6**	**-0.8**
SVRC	**Sivrice-ELAZID**	**1.97**	**58**	*e*Pn	**Pn**	**19 50 49.6**	**-0.8**
PTK	**Pertek**	**2.32**	**48**	*e*PN	**Pn**	**19 50 55.0**	**-0.2**
PTK	**Pertek**	**2.32**	**48**	*e*Pn	**Pn**	**19 50 55.0**	**-0.3**

*ISCJB **25** 20:17:55.4±0.5, 34°.49N±0°.03×27°.05E±0°.07, h33km, Error ellipse: s-maj=8.1km s-min=4.7km az=3.1*
*CSEM **25** 20:17:56.6±0.2, 34°.63N×27°.02E, h80km, ML2.8, Error ellipse: s-maj=8.1km s-min=5.1km az=72.0*
*ATH **25** 20:17:58.8, 34°.94N×26°.81E, h86km×3km*
*HLW **25** 20:17:59.8, 34°.32N×27°.14E, h31km±22km, Md3.6, Ml2.7*

ISC 25 20:17:57.0±0.5, 34°.56N±0°.03×26°.98E±0°.07, h35km, n28, σ0s84/40, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**1.00**	**9**	*e*P	**Pn**	**20 18 14.8**	**+0.3**
KARP				*e*S	**Sn**	**20 18 27.4**	**0.0**
KARP	**Karpathos**	**1.00**	**9**	*e*P	**Pn**	**20 18 14.8**	**+0.3**
KARP				*e*S	**Sn**	**20 18 27.4**	**0.0**
NPS	**Neapolis**	**1.32**	**303**	*e*P	**Pn**	**20 18 19.2**	**+0.2**
NPS	**Neapolis**	**1.32**	**303**	*e*P	**Pn**	**20 18 19.2**	**+0.2**
ARG	**Arkhangelos**	**1.90**	**29**	*e*P	**Pn**	**20 18 27.5**	**+0.5**
ARG				*e*S	**Sn**	**20 18 49.3**	**-0.4**
ARG	**Arkhangelos**	**1.90**	**29**	*e*P	**Pn**	**20 18 27.5**	**+0.5**
ARG				*e*S	**Sn**	**20 18 49.3**	**-0.4**
VAM	**Vamos**	**2.43**	**291**	*e*P	**Pn**	**20 18 35.0**	**+0.8**
VAM	**Vamos**	**2.43**	**291**	*e*P	**Pn**	**20 18 35.0**	**+0.8**
APE	**Apeiranthos**	**2.77**	**335**	*e*P	**Pn**	**20 18 37.0**	**-1.8**
APE	**Apeiranthos**	**2.77**	**335**	*e*P	**Pn**	**20 18 37.0**	**-1.8**
SLUM		**3.40**	**206**	P	**Pn**	**20 18 48.6**	**+1.2**
	baz=211						
SLUM				AMP		20 19 00.0	
	comp=E,20μm,0.1s,logA/T=5.3,baz=211						
SLUM				S	**Sn**	**20 19 24.8**	**-1.7**
	baz=211						
SLUM		**3.40**	**206**	P	**Pn**	**20 18 48.1**	**+0.6**
SLUM				S	**Sn**	**20 19 24.8**	**-1.7**
SWA2		**5.45**	**194**	P	**Pn**	**20 19 16.6**	**+0.9**
	baz=197						
SWA2				S	**Sn**	**20 20 13.5**	**-3.8**
	baz=197						
SWA2		**5.45**	**194**	P	**Pn**	**20 19 16.6**	**+0.8**
SWA2				S	**Sn**	**20 20 13.5**	**-3.8**
GLL	**Jalalah**	**6.38**	**140**	P	**Pn**	**20 19 28.5**	**0.0**
	baz=139						
GLL	**Jalalah**	**6.38**	**140**	P	**Pn**	**20 19 28.5**	**-0.1**
AWBH		**6.43**	**165**	P	**Pn**	**20 19 29.2**	**0.0**
	baz=165						
AWBH		**6.43**	**165**	P	**Pn**	**20 19 29.2**	**0.0**
AMAG	**Maghara**	**6.55**	**125**	P	**Pn**	**20 19 31.0**	**+0.2**
	baz=123						
AMAG				S	**Sn**	**20 20 39.6**	**-4.7**
	baz=123						
AMAG	**Maghara**	**6.55**	**125**	P	**Pn**	**20 19 29.7**	**-1.1**
AMAG				S	**Sn**	**20 20 37.7**	**-6.5**
SUZ		**6.84**	**132**	P	**Pn**	**20 19 34.4**	**-0.3**
	baz=131						
SUZ		**6.84**	**132**	P	**Pn**	**20 19 34.4**	**-0.4**
HFRF	**Wahat Farafira**	**7.47**	**171**	P	**Pn**	**20 19 43.8**	**+0.3**
	baz=171						
HFRF				S	**Sn**	**20 21 01.7**	**-5.3**
	baz=171						
HFRF	**Wahat Farafira**	**7.47**	**171**	P	**Pn**	**20 19 44.2**	**+0.7**
HFRF				S	**Sn**	**20 21 01.7**	**-5.3**
HKAT	**Jabal Katrina**	**8.49**	**133**	P	**Pn**	**20 19 57.8**	**+0.4**
	baz=132						
HKAT	**Jabal Katrina**	**8.49**	**133**	P	**Pn**	**20 19 56.8**	**-0.6**
HDK2	**Wahat Dakhilah**	**10.35**	**170**	P	**Pn**	**20 20 23.2**	**+0.3**
	baz=170						
HDK2	**Wahat Dakhilah**	**10.35**	**170**	P	**Pn**	**20 20 24.2**	**+1.3**

*ISK **25** 20:30:11.9, 39°.44N×27°.50E, h5km, MD2.7*
*ISCJB **25** 20:30:12.1±0.5, 39°.42N±0°.02×27°.55E±0°.04, h8km±13km, Error ellipse: s-maj=4.8km s-min=3.9km az=16.0*
*CSEM **25** 20:30:12.6±0.1, 39°.42N×27°.54E, h10km, MD2.8, Error ellipse: s-maj=2.9km s-min=2.3km az=112.0*
*DDA **25** 20:30:12.3, 39°.42N×27°.56E, h7km±4km, Md2.8*

ISC 25 20:30:12.8±0.6, 39°.42N±0°.02×27°.55E±0°.04, h10km±12km, n26, σ0s51/44, 2C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BALY	**Balya**	**0.33**	**10**	⇑*i*P	**Pg**	**20 30 19.6**	**+0.3**
BALY				*i* S	**Sg**	**20 30 24.4**	**+0.7**
BALY	**Balya**	**0.33**	**10**	*i* P	**Pg**	**20 30 19.6**	**+0.3**
BALY				*i* S	**Sg**	**20 30 24.4**	**+0.8**
BALB	**Balikesir**	**0.34**	**50**	PG	**Pg**	**20 30 19.8**	**+0.2**
BALB				*e*SG	**Sg**	**20 30 24.9**	**+0.8**
BALB	**Balikesir**	**0.34**	**50**	*i* Pg	**Pg**	**20 30 19.8**	**+0.3**
BALB				*e*Sg	**Sg**	**20 30 24.9**	**+0.8**
AKHS	**Akhisar**	**0.58**	**159**	⇑*i*P	**Pg**	**20 30 24.1**	**+0.1**
AKHS				*i* S	**Sg**	**20 30 32.1**	**+0.5**
AKHS	**Akhisar**	**0.58**	**159**	*i* P	**Pg**	**20 30 24.1**	**+0.1**
AKHS				*i* S	**Sg**	**20 30 32.1**	**+0.5**
AYVA	**Ayvalik**	**0.67**	**261**	*e*P	**Pg**	**20 30 26.1**	**+0.3**
AYVA				*e*S	**Sg**	**20 30 34.9**	**+0.3**
AYVA	**Ayvalik**	**0.67**	**261**	*e*P	**Pg**	**20 30 26.1**	**+0.3**
AYVA				*e*S	**Sg**	**20 30 34.9**	**+0.3**
DURS	**Dursunbey**	**0.74**	**76**	*e*P	**Pg**	**20 30 26.5**	**-0.6**
DURS				*e*S	**Sg**	**20 30 36.3**	**-0.5**
DURS	**Dursunbey**	**0.74**	**76**	*e*P	**Pg**	**20 30 26.5**	**-0.6**
DURS				*e*S	**Sg**	**20 30 36.3**	**-0.5**
DST	**Dursunbey**	**0.85**	**77**	*e*PG	**Pg**	**20 30 28.8**	**-0.4**
DST	**Dursunbey**	**0.85**	**77**	*e*Pg	**Pg**	**20 30 28.8**	**-0.4**
BNT	**Bandirma**	**0.98**	**17**	*e*PG	**Pg**	**20 30 30.7**	**-0.9**
BNT				*e*SG	**Sg**	**20 30 44.6**	**+0.2**
BNT	**Bandirma**	**0.98**	**17**	*e*Pg	**Pg**	**20 30 30.7**	**-0.9**
BNT				*e*Sg	**Sg**	**20 30 44.6**	**+0.2**
DEMI	**Demirci**	**0.98**	**112**	*e*P	**Pg**	**20 30 32.0**	**+0.3**
DEMI				*e*S	**Sg**	**20 30 44.6**	**+0.1**
DEMI	**Demirci**	**0.98**	**112**	*e*P	**Pg**	**20 30 32.0**	**+0.3**
DEMI				*e*S	**Sg**	**20 30 44.6**	**+0.1**
KRBG	**Karabiga-Canak**	**0.99**	**349**	*e*PG	**Pg**	**20 30 31.1**	**-0.7**
KRBG				*e*SG	**Sg**	**20 30 44.3**	**-0.4**
KRBG	**Karabiga-Canak**	**0.99**	**349**	*e*Pg	**Pg**	**20 30 31.2**	**-0.7**
KRBG				*e*Sg	**Sg**	**20 30 44.3**	**-0.4**
IZM	**Izmir**	**1.04**	**192**	*e*PG	**Pg**	**20 30 31.9**	**-0.9**
IZM	**Izmir**	**1.04**	**192**	*e*Pg	**Pg**	**20 30 32.0**	**-0.9**
KCTX	**Karacabey (Bur**	**1.05**	**36**	*e*PG	**Pg**	**20 30 32.7**	**-0.3**
KCTX				*e*SG	**Sg**	**20 30 46.6**	**0.0**
KCTX	**Karacabey (Bur**	**1.05**	**36**	*e*Pg	**Pg**	**20 30 32.7**	**-0.3**
KCTX				*e*Sg	**Sg**	**20 30 46.6**	**-0.1**
BLCB	**Balcova**	**1.10**	**201**	*e*PN	**Pg**	**20 30 34.1**	**+0.1**
BLCB	**Balcova**	**1.10**	**201**	*e*Pn	**Pg**	**20 30 34.1**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.40**	**47**	*e*PN	**Pn**	**20 30 39.1**	**+0.8**
MDNY	**Mudanya-Bursa**	**1.40**	**47**	*e*Pn	**Pn**	**20 30 39.1**	**+0.8**

JMA 25 20:33:17.9, 36°.65N×139°.48E, h10km±1km, M0.4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKT	**Katashina**	**0.22**	**302**	S	Sg	20 33 26.0	+0.5
JAG	**Ashikaga**	**0.23**	**185**	S	Sg	20 33 25.8	+0.1

*IDC **25** 20:34:38.8±2.2, 17°.55S×167°.47E, h0km, mb4.0/5, mb1 4.3/6, mb1mx4.0/18, mbtmp4.2/6, ML5.3/1, MS3.3/5, Ms1 3.3/5, ms1mx2.9/31, Error ellipse: s-maj=56.6km s-min=31.6km az=134.0*
*ISCJB **25** 20:34:42.6±0.9, 17°.62S±0°.05×167°.4E±0°.1, h33km, mb4.2/8, MS3.3/4, Error ellipse: s-maj=17.6km s-min=7.9km az=179.1*
*NEIC **25** 20:34:43.3±1.1, 17°.49S×167°.32E, h30km, mb4.1/4, Error ellipse: s-maj=20.9km s-min=15.8km az=105.0*

ISC 25 20:34:41.5±6.1, 17°.58S±0°.07×167°.5E±0°.2, h15km±37km, n25, σ1s12/24, mb4.2/8, MS3.3/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.56**	**192**	*e*P	**Pn**	**20 35 50.7**	**+0.7**
DZM				*e*S	**Sn**	**20 36 41.3**	**-1.6**
DZM	**Mont Dzumac**	**4.56**	**192**	*e*Pn	**Pn**	**20 35 50.2**	**+0.1**
DZM				*e*Sn	**Sn**	**20 36 43.2**	**+0.4**
HNR	**Honiara**	**10.90**	**317**	Pn	**Pn**	**20 37 16.4**	**-0.7**
	20nm,0.3s,baz=217,slow=1.1,SNR=7.1						
HNR				LR	LR	20 40 53.8	
	comp=Z,60nm,18.6s,baz=87,slow=34						
HNR	**Honiara**	**10.90**	**317**	*e*Pn	**Pn**	**20 37 13.8**	**-3.3**
	46nm,0.5s						
EIDS	**Eidsvold**	**17.08**	**240**	*e*Pn	**Pn**	**20 38 38.0**	**-1.9**
	7.1nm,0.9s						
CTA	**Charters Tower**	**20.22**	**260**	P	**P**	**20 39 17.7**	**+1.6**
	4.2nm,0.6s,baz=88,slow=12,SNR=10.0						
CTA				LR	LR	20 46 13.8	
	comp=Z,86nm,18.5s,MS3.1,baz=221,slow=34						
CTA	**Charters Tower**	**20.22**	**260**	*e*P	**P**	**20 39 17.6**	**+1.5**
	3.8nm,0.6s						
CTA	**Charters Tower**	**20.22**	**260**	P	**P**	**20 39 17.7**	**+1.6**
CTAO	**Charters Tower**	**20.22**	**260**	*e*P	**P**	**20 39 17.1**	**+1.1**
	11nm,1.1s						
AFI	**Afiamalu**	**20.32**	**83**	LR	LR	20 45 21.2	
	comp=Z,88nm,21.2s,MS3.1,baz=267,slow=32						
PMG	**Port Moresby**	**21.32**	**290**	P	**P**	**20 39 29.4**	**+1.3**
	9.4nm,1.0s,mb4.1						
CMSA	**Cobar Meteorol**	**24.12**	**231**	*e*P	**P**	**20 39 58.0**	**+1.2**
	39nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**27.37**	**234**	P	**P**	**20 40 26.6**	**+0.4**
	6.8nm,0.8s,mb4.2,baz=75,slow=8.4,SNR=11						
STKA	**Stephens Creek**	**27.37**	**234**	*e*P	**P**	**20 40 27.4**	**+1.1**
	6.7nm,1.0s,mb4.1						
STKA	**Stephens Creek**	**27.37**	**234**	P	**P**	**20 40 26.6**	**+0.4**
STKA				*e*		20 40 37.0	
TOO	**Toolangi**	**27.72**	**220**	*e*P	Px	20 41 05.2	
	11nm,0.2s						
WRA	**Warramunga Arr**	**31.41**	**260**	P	**P**	**20 41 00.7**	**-1.6**
	0.7nm,0.9s,mb3.5,baz=82,slow=7.0,SNR=4.6						
WRA	**Warramunga Arr**	**31.41**	**260**	P	**P**	**20 41 00.7**	**-1.6**
ASAR	**Alice Springs**	**31.93**	**253**	P	**P**	**20 41 06.0**	**-0.7**
	1.3nm,0.5s,mb4.0,baz=80,slow=8.5,SNR=31						
ASAR				LR	LR	20 52 42.8	
	comp=Z,100nm,18.9s,MS3.5,baz=87,slow=34						
ASAR	**Alice Springs**	**31.93**	**253**	P	**P**	**20 41 06.0**	**-0.7**
BBOO	**Buckleboo**	**32.05**	**236**	*e*P	**P**	**20 41 08.6**	**+0.8**
	39nm,1.1s,mb5.2						
FITZ	**Fitzroy Crossi**	**39.74**	**263**	LR	LR	20 58 09.5	
	comp=Z,50nm,21.6s,MS3.3,baz=273,slow=36						
CMB	**Columbia Colle**	**87.33**	**49**	P	**P**	**20 47 27.9**	**-0.1**
	3.7nm,0.9s,mb4.6						
ILAR	**Eielson Array**	**89.17**	**18**	P	**P**	**20 47 35.9**	**-0.2**
	0.2nm,0.6s,mb3.6,baz=238,slow=5.0,SNR=4.9						
ILAR	**Eielson Array**	**89.17**	**18**	P	**P**	**20 47 35.9**	**-0.2**

DJA 25 20:35:44, 7°.67S×106°.47E, h18km, MLv3.5/5, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKJI	**Sukabumi**	**0.67**	**7**	P	Pb	20 35 57.7	+0.6
DBJI	**Dramaga**	**1.14**	**14**	P	Pn	20 36 03.7	-1.4
CGJI	**Cibinong**	**1.30**	**324**	P	Pn	20 36 07.0	-0.3
CISI	**Cisompet, Garu**	**1.34**	**85**	P	Pn	20 36 07.0	-0.8
LEM	**Lembang**	**1.41**	**54**	P	Pn	20 36 09.6	+0.8

*NEIC **25** 20:36:36.6±2.1, 22°.08N×143°.54E, h127km±16km, mb4.2/6, Error ellipse: s-maj=22.8km s-min=16.3km az=108.0*
*ISCJB **25** 20:36:41.1±2.6, 22°.6N±0°.1×143°.3E±0°.2, h154km±19km, mb4.0/15, Error ellipse: s-maj=28.3km s-min=22.1km az=5.1*
*IDC **25** 20:36:44.6±5.8, 22°.74N×143°.12E, h156km±36km, mb3.7/9, mb1 3.7/10, mb1mx3.5/24, mbtmp3.7/10, Error ellipse: s-maj=50.7km s-min=30.3km az=145.0*

ISC 25 20:36:42.6±2.4, 22°.6N±0°.1×143°.3E±0°.2, h149km±17km, n32, σ0s81/32, mb4.0/15, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**4.56**	**348**	P	**Pn**	**20 37 51.8**	**+1.6**
	18nm,0.3s,baz=258,slow=22,SNR=16						
CBIJ				S	**Sn**	**20 38 41.2**	**-1.5**
	26nm,0.3s,baz=224,slow=22,SNR=10						
CBIJ	**Chichi jima**	**4.56**	**348**	P	**Pn**	**20 37 51.8**	**+1.6**
CBIJ				S	**Sn**	**20 38 41.2**	**-1.5**
KSRS	**Korea Array**	**19.83**	**322**	P	**P**	**20 41 06.2**	**+4.5**
	0.6nm,0.3s,baz=146,slow=9.2,SNR=11						
KSAR	**Wonju Array Be**	**19.85**	**322**	P	**P**	**20 41 06.2**	**+4.4**
PETK	**Petropavlovsk-**	**32.37**	**16**	P	**P**	**20 42 59.1**	**+1.3**
	47nm,1.4s,mb5.0,baz=205,slow=6.1,SNR=3.7						
PETK	**Petropavlovsk-**	**32.37**	**16**	P	**P**	**20 42 59.1**	**+1.3**
PET	**Petropavlovsk**	**32.55**	**17**	P	**P**	**20 42 58.0**	**-1.3**
	72nm,1.2s						
SONM	**Songino Array**	**38.68**	**320**	P	**P**	**20 43 52.2**	**+0.5**
	0.4nm,0.5s,mb3.3,baz=133,slow=6.8,SNR=5.7						
SONM	**Songino Array**	**38.68**	**320**	P	**P**	**20 43 52.2**	**+0.5**
CMAR	**Chiang Mai Arr**	**41.60**	**273**	P	**P**	**20 44 16.1**	**0.0**
	0.8nm,0.4s,mb3.8,baz=62,slow=7.5,SNR=5.2						
CMAR	**Chiang Mai Arr**	**41.60**	**273**	P	**P**	**20 44 16.1**	**0.0**
WRAB	**Tennant Creek**	**43.18**	**192**	P	**P**	**20 44 20.4**	**-8.4**
	1.9nm,0.7s,mb3.8						
ZALV	**Zalesovo Beam**	**53.54**	**321**	P	**P**	**20 45 47.6**	**-0.1**
	0.7nm,0.4s,mb3.8,baz=110,slow=7.9,SNR=6.0						
ZALV	**Zalesovo Beam**	**53.54**	**321**	P	**P**	**20 45 47.6**	**-0.1**
MKAR	**Makanchi Array**	**54.13**	**312**	P	**P**	**20 45 51.8**	**-0.4**
	0.7nm,0.5s,mb3.6,baz=91,slow=9.4,SNR=10						
MKAR	**Makanchi Array**	**54.13**	**312**	P	**P**	**20 45 51.8**	**-0.4**
STKA	**Stephens Creek**	**54.21**	**182**	P	**P**	**20 45 52.0**	**-0.8**
KURK	**Kurchatov**	**56.86**	**317**	P	**P**	**20 46 12.2**	**+0.6**
	3.1nm,0.6s,mb4.3,baz=95,slow=7.7,SNR=12						
KURK	**Kurchatov**	**56.86**	**317**	*e*P	**P**	**20 46 11.2**	**-0.3**
	2.1nm,0.6s,mb4.1						
TKM2	**Tokmak 2**	**58.84**	**307**	*e*P	**P**	**20 46 26.2**	**+0.6**
	1.1nm,0.5s,mb3.9						
BVAR	**Borovoye Array**	**62.02**	**319**	P	**P**	**20 46 47.4**	**+0.4**
	3.9nm,0.4s,mb4.6,baz=86,slow=6.6,SNR=22						
BVAR	**Borovoye Array**	**62.02**	**319**	P	**P**	**20 46 47.4**	**+0.4**
BRVK	**Borovoye**	**62.09**	**319**	*e*P	**P**	**20 46 47.3**	**-0.1**
	3.1nm,0.6s,mb4.3						
KBL	**Kabul**	**64.96**	**299**	*e*P	**P**	**20 47 06.2**	**-0.4**
	1.8nm,0.4s,mb4.2						
ABKAR	**Akbulak array**	**68.94**	**316**	*e*P	**P**	**20 47 31.1**	**-0.4**
	0.7nm,0.4s,mb3.7						
ARCES	**ARCESS Array B**	**78.07**	**341**	P	**P**	**20 48 25.3**	**+0.8**
	4.5nm,1.0s,mb4.0,baz=53,slow=6.7,SNR=6.8						
ARCES	**ARCESS Array B**	**78.07**	**341**	P	**P**	**20 48 25.3**	**+0.8**
JOF	**Joensuu**	**79.52**	**334**	*ep*	**P**	**20 48 32.5**	**0.0**
	1.7nm,0.5s,mb3.9						
FINES	**FINESS Array B**	**82.38**	**334**	P	**P**	**20 48 47.0**	**-0.7**
	1.0nm,0.6s,mb3.6,baz=71,slow=4.1,SNR=9.2						
FINES	**FINESS Array B**	**82.38**	**334**	P	**P**	**20 48 47.0**	**-0.7**
TORD	**Torodi Ar. Bea**	**128.22**	**310**	PKP	PKPdf	20 55 31.6	-0.5
	0.1nm,0.5s,baz=110,slow=2.8,SNR=2.8						
TORD	**Torodi Ar. Bea**	**128.22**	**310**	PKP	PKPdf	20 55 31.6	-0.5

*CSEM **25** 20:46:59.0±0.2, 41°.81N×23°.30E, h2km, MD3.2, Error ellipse: s-maj=5.8km s-min=2.6km az=63.0*
*ATH **25** 20:46:59.7, 41°.81N×23°.42E, h12km±2km, MD3.2/4*
*BEO **25** 20:47:02.0±0.8, 41°.94N×23°.34E, h16km±9km, ML2.0/5*

ISC 25 20:46:59.3±0.5, 41°.81N±0°.03×23°.29E±0°.05, h2km±11km, n20, σ0s59/33, 7D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NVR	**Nevrokopi**	**0.63**	**137**	*e*PB	**Pg**	**20 47 10.7**	**-0.6**
NVR				*e*SG	**Sg**	**20 47 18.5**	**-1.0**
NVR	**Nevrokopi**	**0.63**	**137**	*e*Pb	**Pg**	**20 47 10.7**	**-0.6**
NVR				*e*Sg	**Sg**	**20 47 18.5**	**-1.0**
VTS	**Vitosha**	**0.78**	**355**	⇓*e*Pg	**Pg**	**20 47 14.4**	**+0.1**
VTS				*e*Sg	**Sg**	**20 47 24.6**	**+0.1**
VTS	**Vitosha**	**0.78**	**355**	⇓*e*Pg	**Pg**	**20 47 14.4**	**+0.1**
VTS				*e*Sg	**Sg**	**20 47 24.6**	**+0.1**
SOH	**Sokhos**	**0.99**	**177**	*e*PG	**Pg**	**20 47 18.3**	**0.0**
SOH				*e*SG	**Sg**	**20 47 31.9**	**+0.8**
SOH	**Sokhos**	**0.99**	**177**	*e*Pg	**Pg**	**20 47 18.3**	**0.0**
SOH				*e*Sg	**Sg**	**20 47 31.9**	**+0.8**
PLD	**Plovdiv**	**1.09**	**74**	*e*Pg	**Pg**	**20 47 20.8**	**+0.6**
PLD				*e*Sg	**Sg**	**20 47 35.0**	**+0.6**
PLG	**Polygyros**	**1.44**	**175**	*e*PB	**Pb**	**20 47 26.3**	**-0.6**
PLG				*e*SG	**Sg**	**20 47 46.0**	**+0.4**
PLG	**Polygyros**	**1.44**	**175**	*e*Pb	**Pb**	**20 47 26.3**	**-0.6**
PLG				*e*Sg	**Sg**	**20 47 46.0**	**+0.4**
BARS	**Barje**	**1.49**	**313**	⇓*e*Pg	**Pg**	**20 47 28.2**	**+0.4**
BARS				*e*Sg	**Sg**	**20 47 47.8**	**+0.7**
BARS	**Barje**	**1.49**	**313**	⇓*e*Pg	**Pg**	**20 47 28.2**	**+0.4**
ZAPS	**Zavoj**	**1.54**	**342**	⇓*e*Pg	**Pg**	**20 47 29.1**	**+0.2**
ZAPS				*e*Sg	**Sg**	**20 47 48.0**	**-0.8**
RDO	**Rodhopi**	**1.81**	**111**	*e*PN	**Pn**	**20 47 31.6**	**+0.1**
RDO	**Rodhopi**	**1.81**	**111**	*e*Pn	**Pn**	**20 47 31.6**	**+0.1**
GRUS	**Gruza**	**2.81**	**318**	⇓*e*Pg	**Pg**	**20 47 51.8**	**-1.4**
GRUS				*e*Sg	**Sg**	**20 48 29.8**	**+0.2**
GRUS	**Gruza**	**2.81**	**318**	⇓*e*Pg	**Pg**	**20 47 51.8**	**-1.4**
GRUS				*e*Sg	**Sg**	**20 48 29.8**	**+0.2**
IVAS	**Ivanjica**	**2.91**	**308**	*e*Sg	**Sg**	**20 48 32.8**	**0.0**
IVAS	**Ivanjica**	**2.91**	**308**	*e*Sg	**Sg**	**20 48 32.8**	**0.0**
DIVS	**Divibare**	**3.33**	**314**	*e*Pn	**Pn**	**20 47 52.7**	**+0.3**
DIVS	**Divibare**	**3.33**	**314**	*e*Pn	**Pn**	**20 47 52.7**	**+0.3**

*ISK **25** 21:18:18.9, 40°.55N×33°.00E, h4km, MD3.0*
*ISCJB **25** 21:18:19.5±0.4, 40°.56N±0°.02×32°.99E±0°.03, h4km±7km, Error ellipse: s-maj=4.3km s-min=3.5km az=138.3*
*CSEM **25** 21:18:19.9±0.2, 40°.56N×33°.02E, h10km, MD3.0, Error ellipse: s-maj=4.1km s-min=3.1km az=139.0*
*DDA **25** 21:18:19.0, 40°.58N×33°.03E, h5km±1km, Md3.2*

ISC 25 21:18:20.2±0.4, 40°.55N±0°.02×33°.01E±0°.03, h9km±5km, n38, σ0s85/62, 2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELDT	**Eldivan**	**0.32**	**100**	⇓*i*Pg	**Pg**	**21 18 26.6**	**0.0**
ELDT				*i* Sg	**Sg**	**21 18 31.7**	**+0.8**
CANT	**Cankiri**	**0.47**	**83**	PG	**Pg**	**21 18 29.3**	**0.0**
CANT				*e*SG	**Sg**	**21 18 36.4**	**+0.9**
LOD	**Lodumlu**	**0.69**	**196**	*e*PG	**Pg**	**21 18 32.3**	**-1.2**
LOD				*e*SG	**Sg**	**21 18 43.0**	**+0.6**
LOD	**Lodumlu**	**0.69**	**196**	*e*Pg	**Pg**	**21 18 32.3**	**-1.1**
LOD				*e*Sg	**Sg**	**21 18 43.0**	**+0.6**
SGKT	**Sivrigoynuk**	**0.73**	**272**	⇓*i*P	**Pg**	**21 18 33.6**	**-0.7**
SGKT				*i* S	**Sg**	**21 18 45.5**	**+1.8**
SGKT	**Sivrigoynuk**	**0.73**	**272**	*i* P	**Pg**	**21 18 33.6**	**-0.7**
SGKT				*i* S	**Sg**	**21 18 45.5**	**+1.7**
SAFT	**Safranbolu**	**0.73**	**341**	*e*PG	**Pg**	**21 18 33.7**	**-0.7**
SAFT				*e*SG	**Sg**	**21 18 44.2**	**+0.3**
SAFT	**Safranbolu**	**0.73**	**341**	*e*Pg	**Pg**	**21 18 33.7**	**-0.7**
SAFT				*e*Sg	**Sg**	**21 18 44.2**	**+0.3**
ILGA	**Ilgaz**	**0.73**	**47**	*e*P	**Pg**	**21 18 33.7**	**-0.7**
ILGA				*e*S	**Sg**	**21 18 44.5**	**+0.6**
ILGA	**Ilgaz**	**0.73**	**47**	*e*P	**Pg**	**21 18 33.7**	**-0.7**
ILGA				*e*S	**Sg**	**21 18 44.5**	**+0.5**
TOS	**Tosya**	**0.91**	**57**	*e*PG	**Pg**	**21 18 36.9**	**-0.9**
TOS				*e*SG	**Sg**	**21 18 50.2**	**+0.7**
TOS	**Tosya**	**0.91**	**57**	*e*Pg	**Pg**	**21 18 36.9**	**-0.8**
TOS				*e*Sg	**Sg**	**21 18 50.2**	**+0.6**
BBAL	**Bala**	**1.01**	**175**	*e*P	**Pg**	**21 18 39.3**	**-0.3**
BBAL				*e*S	**Sg**	**21 18 55.5**	**+2.8**
BBAL	**Bala**	**1.01**	**175**	*e*P	**Pg**	**21 18 39.3**	**-0.3**
BBAL				*e*S	**Sg**	**21 18 55.5**	**+2.8**
BALT

KUZU				*e*S	**Sg**	**21 33 52.0**	**+1.6**
GZT	**Gaziantep**	**1.02**	**91**	*e*P	**Pg**	**21 33 40.6**	**-1.1**
GZT				*e*S	**Sg**	**21 33 55.1**	**+0.1**
PINB	**Pinarbasi**	**1.30**	**4**	*e*P	**Pg**	**21 33 47.5**	**+0.5**
PINB				*e*S	**Sg**	**21 34 05.0**	**+1.2**
PINB	**Pinarbasi**	**1.30**	**4**	*e*P	**Pg**	**21 33 47.5**	**+0.5**
PINB				*e*S	**Sg**	**21 34 05.1**	**+1.2**
SARI	**SarD1z-Kayseri**	**1.34**	**14**	*e*PG	**Pg**	**21 33 41.5**	**-6.2**
SARI				*e*SG	**Sg**	**21 33 56.4**	**-8.8**
AKCD	**Akcadag**	**1.59**	**54**	*e*P	**Pg**	**21 33 51.7**	**-0.8**
AKCD				*e*S	**Sg**	**21 34 13.1**	**0.0**
AKCD	**Akcadag**	**1.59**	**54**	*e*P	**Pg**	**21 33 51.7**	**-0.8**
AKCD				*e*S	**Sg**	**21 34 13.1**	**0.0**

DMN ***25*** *21:50:45.4±0.3, 31°.46N×83°.19E, h60km, Ml4.7/3, Error ellipse: s-maj=8.0km s-min=4.6km az=134.0*
IDC ***25*** *21:50:46.9±0.8, 30°.56N×83°.51E, h0km, mb4.0/18, mb1 4.1/20, mb1mx4.0/32, mbtmp4.0/20, ML3.6/2, Error ellipse: s-maj=22.9km s-min=14.3km az=43.0*
NEIC ***25*** *21:50:49.2±0.5, 30°.63N×83°.48E, h10km, mb4.5/3, Error ellipse: s-maj=13.1km s-min=7.0km az=221.0*
MOS ***25*** *21:50:50.4±1.1, 30°.58N×83°.45E, h33km, mb4.4/9, Error ellipse: s-maj=12.5km s-min=6.9km az=119.0*
NDI ***25*** *21:50:51.2±2.7, 30°.50N×83°.36E, h10km, ML4.4, mb4.5(NEIC)*

ISC 25 21:50:50.5±1.1, 30°.61N±0°.03×83°.46E±0°.03, h18km±8km, n122, σ1916/128, mb4.1/27, 5C, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DANN	**Dangsing**	**2.27**	**173**	*e*Pn	**Pb**	**21 51 32.5**	**+1.7**
DANN				*e*Sn	**Sg**	**21 52 07.8**	**+4.4**
	1μm,0.7s						
PYUN	**Piuthan**	**2.53**	**190**	*e*Pn	**Pb**	**21 51 35.4**	**0.0**
PYUN				*e*Sn	**Sg**	**21 52 12.5**	**+0.5**
GKN	**Gorkha**	**2.79**	**158**	*e*Pn	**Pb**	**21 51 39.4**	**-0.4**
GKN				*e*Sn	**Sg**	**21 52 19.7**	**-0.5**
	1μm,0.9s						
KOLN	**Koldanda**	**2.83**	**178**	*e*Pn	**Pb**	**21 51 40.0**	**-0.5**
KOLN				*e*Sn	**Sg**	**21 52 20.3**	**-1.2**
	1μm,0.8s						
KKN	**Kakani**	**3.23**	**150**	*e*Pn	**Pn**	**21 51 44.9**	**+4.7**
DMN	**Daman**	**3.32**	**154**	*e*Pn	**Pn**	**21 51 46.5**	**+5.0**
GUN	**Gumba**	**3.42**	**141**	*e*Pn	**Pn**	**21 51 47.2**	**+4.4**
PKI	**Pulchoki**	**3.47**	**150**	*e*Pn	**Pn**	**21 51 48.2**	**+4.6**
JIRN	**Jiri**	**3.78**	**140**	*e*Pn	**Pn**	**21 51 52.4**	**+4.5**
RAMN	**Ramite**	**4.57**	**142**	*e*Pn	**Pn**	**21 52 02.2**	**+3.5**
DDI	**Dehra Dun**	**4.68**	**268**	*ex*	x	21 53 01.5	
DDI				*i*x	x	21 53 05.6	
TAPN	**Taplejung**	**4.94**	**130**	*e*Pn	**Pn**	**21 52 07.1**	**+3.4**
ODAN	**Odare**	**5.08**	**136**	*e*Pn	**Pn**	**21 52 09.4**	**+3.7**
ASOR	**Ausora**	**5.29**	**251**	*e*PKP	**Pn**	**21 52 08.1**	**-0.4**
SMLA	**Simla**	**5.44**	**277**	*i* P	**Pn**	**21 52 10.7**	**+0.1**
SMLA				*i* x	x	21 53 04.8	
SMLA				AML	AML	21 53 20.8	
	comp=N,703nm,1.5s						
SMLA				AML	AML	21 53 21.4	
	comp=E,808nm,1.7s						
BISR	**Bishrakh**	**5.63**	**250**	*e*PKP	**Pn**	**21 52 13.4**	**+0.2**
SDNR	**Sundarnagar**	**5.64**	**281**	*ex*	**Pb**	**21 52 27.0**	**-1.4**
SDNR				*e*S	**Sn**	**21 53 13.0**	**-4.8**
NDI	**New Delhi**	**5.77**	**252**	*ex*	**Pn**	**21 52 17.6**	**+2.5**
NDI				*ex*	x	21 52 58.2	
NDI				*ex*	**Sg**	**21 53 57.0**	**+1.5**
KKR	**Kurukshetra**	**5.78**	**265**	*e*PKP	**Pn**	**21 52 15.8**	**+0.4**
AGRA	**Agra**	**5.89**	**237**	*e*PKP	**Pn**	**21 52 16.3**	**-0.6**
AGRA				*e*S	**Sn**	**21 53 17.5**	**-6.5**
AYAN	**Aya Nagar**	**5.91**	**251**	*e*PKP	**Pn**	**21 52 17.3**	**+0.1**
BHGR	**Bahadurgarh**	**5.99**	**253**	*ex*	**Pn**	**21 52 15.9**	**-2.4**
SONA	**Sohna**	**6.04**	**249**	*e*PKP	**Pn**	**21 52 20.2**	**+1.3**
KUDL	**Kundal**	**6.56**	**250**	*e*PKP	**Pn**	**21 52 26.4**	**+0.3**
LSA	**Lhasa**	**6.72**	**96**	*e*Pn	**Pn**	**21 52 31.1**	**+2.9**
LSA	**Lhasa**	**6.72**	**96**	*e*P	**Pn**	**21 52 31.1**	**+2.9**
KHET	**Khetri**	**7.14**	**251**	*e*PKP	**Pn**	**21 52 34.6**	**+0.5**
SHL	**Shillong**	**8.97**	**122**	*e*PKP	**Pn**	**21 53 00.0**	**+0.9**
SHL				*ex*	x	21 55 48.0	
BHPL	**Bhopal**	**9.10**	**218**	*e*PKP	**Pn**	**21 53 01.5**	**+0.6**
CAL	**Calcutta**	**9.14**	**150**	*e*PKP	**Pn**	**21 53 00.9**	**-0.6**
CAL				*ex*	x	21 55 36.2	
NGP	**Nagpur**	**10.22**	**204**	*e*PKP	**Pn**	**21 53 14.7**	**-1.6**
AKL	**Akola**	**11.45**	**212**	*e*PKP	**Pn**	**21 53 31.6**	**-1.5**
AKL				*i* x	x	21 58 33.0	
KBL	**Kabul**	**12.78**	**292**	*e*Pn	**Pn**	**21 53 53.3**	**+2.1**
KBL				Sn	**Sn**	**21 56 10.2**	**-2.8**
KBL	**Kabul**	**12.78**	**292**	*e*P	**Pn**	**21 53 53.3**	**+2.1**
KBL						21 56 10.2	
HYB	**Hyderabad**	**13.87**	**200**	*i* P	**Pn**	**21 54 04.5**	**-1.8**
HYB				*e*S	**Sn**	**21 56 41.0**	**+1.1**
AAK	**Ala-Archa**	**13.98**	**332**	*e*Pn	**Pn**	**21 54 08.1**	**+0.5**
AAK	**Ala-Archa**	**13.98**	**332**	*e*P	**Pn**	**21 54 08.1**	**+0.5**
FRU	**Bishkek**	**14.10**	**332**	*e*P	**Pn**	**21 54 19.0**	**+10**
EKS2	**Erkin-Say**	**14.31**	**330**	*e*Pn	**Pn**	**21 54 11.4**	**-0.7**
EKS2	**Erkin-Say**	**14.31**	**330**	*e*P	**Pn**	**21 54 11.4**	**-0.7**
MKAR	**Makanchi Array**	**16.19**	**357**	Pn	**Pn**	**21 54 34.9**	**-2.0**
	comp=E,0.3nm,0.3s,baz=183,slow=11,SNR=21						
MKAR	**Makanchi Array**	**16.19**	**357**	*e*Pn	**Pn**	**21 54 36.5**	**-0.4**
MKAR	**Makanchi Array**	**16.19**	**357**	*e*P	**Pn**	**21 54 36.5**	**-0.4**
KKAR	**Karatay Array**	**16.19**	**324**	*e*Pn	**Pn**	**21 54 35.8**	**-1.1**
KKAR	**Karatay Array**	**16.19**	**324**	*e*P	**Pn**	**21 54 35.8**	**-1.2**
CM31	**Chiang Mai Arr**	**18.54**	**127**	*e*P	**Pn**	**21 55 06.7**	**+0.3**
	comp=E,3.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**18.54**	**127**	P	**Pn**	**21 55 05.9**	**-0.5**
	comp=E,0.1nm,0.3s,baz=310,slow=11,SNR=17						
CMAR	**Chiang Mai Arr**	**18.54**	**127**	P	**Pn**	**21 55 05.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**18.54**	**127**	P	**Pn**	**21 55 05.9**	**-0.5**
KURK	**Kurchatov**	**20.41**	**351**	P	**P**	**21 55 23.3**	**-3.1**
	comp=E,5.7nm,0.8s,baz=172,slow=10,SNR=47						
KURK	**Kurchatov**	**20.41**	**351**	*e*P	**P**	**21 55 24.2**	**-2.1**
KURK	**Kurchatov**	**20.41**	**351**	*e*P	**P**	**21 55 24.4**	**-2.0**
KURK				pmax	pmax		
	comp=Z,18nm,1.7s						
ZAA0	**Zalesovo Array**	**23.34**	**2**	*e*P	**P**	**21 55 57.2**	**-0.5**
ZALV	**Zalesovo Beam**	**23.34**	**2**	P	**P**	**21 55 57.1**	**-0.5**
	comp=E,5.0nm,0.8s,mb4.0,baz=185,slow=11,SNR=25						
ZALV	**Zalesovo Beam**	**23.34**	**2**	P	**P**	**21 55 57.1**	**-0.5**
ZALV	**Zalesovo Beam**	**23.34**	**2**	P	**P**	**21 55 57.2**	**-0.5**
BVAR	**Borovoye Array**	**24.35**	**341**	P	**P**	**21 56 07.6**	**+0.5**
	comp=Z,0.7nm,0.5s,mb3.4,baz=149,slow=10.0,SNR=8.8						
BVAR	**Borovoye Array**	**24.35**	**341**	P	**P**	**21 56 07.6**	**+0.5**
BVAR	**Borovoye Array**	**24.35**	**341**	P	**P**	**21 56 07.6**	**+0.5**
BRVK	**Borovoye**	**24.41**	**341**	*e*P	**P**	**21 56 08.6**	**+1.0**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb3.9						
SONM	**Songino Array**	**24.58**	**39**	P	**P**	**21 56 09.1**	**-0.1**
	comp=Z,2.5nm,0.8s,mb3.8,baz=228,slow=10.0,SNR=23						
SONM	**Songino Array**	**24.58**	**39**	P	**P**	**21 56 09.1**	**-0.1**
SONM	**Songino Array**	**24.58**	**39**	P	**P**	**21 56 09.1**	**-0.2**
ZAK	**Zakamensk**	**24.70**	**31**	*e*P	**P**	**21 56 11.0**	**+0.6**
ZAK				*e*		21 56 47.0	
ULN	**Ulaanbaatar**	**24.96**	**40**	*e*P	**P**	**21 56 12.2**	**-0.5**
	comp=Z,42nm,2.1s,mb4.6						
ULN	**Ulaanbaatar**	**24.96**	**40**	*e*P	**P**	**21 56 12.2**	**-0.5**
ULN				pmax	pmax		
	comp=Z,42nm,2.1s,mb4.6						
ABKAR	**Akbulak array**	**25.75**	**323**	*e*P	**P**	**21 56 21.7**	**+1.8**
AKTO	**Aktyubinsk**	**27.46**	**323**	P	**P**	**21 56 35.6**	**+0.3**
	comp=Z,1.0nm,0.8s,mb3.4,baz=138,slow=5.4,SNR=4.2						
AKTO	**Aktyubinsk**	**27.46**	**323**	P	**P**	**21 56 35.6**	**+0.3**
AKTO	**Aktyubinsk**	**27.46**	**323**	P	**P**	**21 56 35.6**	**+0.3**
SVE	**Sverdlovsk**	**30.68**	**335**	*e*P	**P**	**21 57 03.7**	**-0.1**
SVE				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
SVE				MLR	MLR		
	comp=Z,251nm,13.0s						
ARU	**Arti**	**31.16**	**333**	*c i*P	**P**	**21 57 09.0**	**+0.9**
ARU				*e*		21 58 11.9	
ARU				S	**S**	**22 02 15.5**	**+2.6**
ARU				SS	SS	22 04 01.2	-25
ARU				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.2						
ZEI	**Tsey**	**33.67**	**302**	*e*P	**P**	**21 57 32.8**	**+2.5**
ZEI				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
KIV	**Kislovodsk**	**34.72**	**304**	*e*P	**P**	**21 57 37.2**	**-2.1**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
KSAR	**Wonju Array Be**	**37.17**	**67**	P	**P**	**21 57 59.5**	**-1.0**
KSAR	**Wonju Array Be**	**37.17**	**67**	P	**P**	**21 57 59.5**	**-0.9**
KSRS	**Korea Array**	**37.20**	**67**	P	**P**	**21 57 59.5**	**-1.2**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
OBN	**Obninsk**	**41.14**	**320**	*i*P	**P**	**21 58 34.7**	**+1.4**
OBN				pmax	pmax		
	comp=Z,26nm,1.6s,mb4.6						
BRTR	**Keskin Array B**	**41.28**	**297**	P	**P**	**21 58 34.5**	**-0.3**
	comp=Z,0.4nm,0.7s,mb3.2,baz=58,slow=4.7,SNR=3.7						
BRTR	**Keskin Array B**	**41.28**	**297**	P	**P**	**21 58 34.5**	**-0.3**
BRTR	**Keskin Array B**	**41.28**	**297**	P	**P**	**21 58 34.5**	**-0.2**
KLMR	**Klimovskoe**	**41.78**	**329**	*e*P	**P**	**21 58 32.8**	**-5.7**
KLMR				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.5						
AKASG	**Malin Array Be**	**44.65**	**313**	P	**P**	**21 59 01.5**	**-0.3**
	comp=Z,0.7nm,0.5s,mb3.8,baz=77,slow=7.9,SNR=6.1						
AKASG	**Malin Array Be**	**44.65**	**313**	P	**P**	**21 59 01.5**	**-0.3**
AKASG	**Malin Array Be**	**44.65**	**313**	P	**P**	**21 59 01.5**	**-0.3**
JOF	**Joensuu**	**46.17**	**330**	*e*P	**P**	**21 59 14.6**	**+0.9**
JOF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
JOF	**Joensuu**	**46.17**	**330**	*ep*	**P**	**21 59 14.6**	**+0.9**
	comp=Z,3.2nm,0.6s,mb4.4						
MLR	**Muntele Rosu**	**46.70**	**305**	P	**P**	**21 59 18.6**	**+0.5**
	comp=Z,0.4nm,0.5s,mb3.6,baz=81,slow=5.4,SNR=3.5						
MLR	**Muntele Rosu**	**46.70**	**305**	P	**P**	**21 59 18.6**	**+0.5**
MLR	**Muntele Rosu**	**46.70**	**305**	P	**P**	**21 59 18.6**	**+0.4**
FINES	**FINESS Array B**	**48.12**	**327**	P	**P**	**21 59 29.2**	**+0.3**
	comp=Z,2.8nm,0.7s,mb4.4,baz=105,slow=8.6,SNR=9.4						
FINES	**FINESS Array B**	**48.12**	**327**	P	**P**	**21 59 29.2**	**+0.3**
FINES	**FINESS Array B**	**48.12**	**327**	P	**P**	**21 59 29.2**	**+0.3**
ARCES	**ARCESS Array B**	**50.57**	**337**	P	**P**	**21 59 47.4**	**-0.1**
	comp=Z,5.2nm,1.0s,mb4.4,baz=113,slow=9.3,SNR=5.0						
ARCES	**ARCESS Array B**	**50.57**	**337**	P	**P**	**21 59 47.4**	**-0.1**
ARCES	**ARCESS Array B**	**50.57**	**337**	P	**P**	**21 59 47.4**	**-0.1**
NB2	**NORSAR Subarra**	**55.21**	**326**	P	**P**	**22 00 22.1**	**+0.2**
	comp=Z,1.8nm,0.7s,mb4.2,baz=88,slow=7.4						
NOA	**NORSAR Array B**	**55.21**	**326**	P	**P**	**22 00 21.9**	**0.0**
	comp=Z,1.4nm,0.8s,mb4.0,baz=88,slow=7.4,SNR=4.3						
NOA	**NORSAR Array B**	**55.21**	**326**	P	**P**	**22 00 21.9**	**0.0**
NOA	**NORSAR Array B**	**55.21**	**326**	P	**P**	**22 00 22.0**	**+0.1**
WRA	**Warramunga Arr**	**70.12**	**129**	P	**P**	**22 02 01.4**	**-0.5**
	comp=Z,1.9nm,0.8s,mb4.0,baz=323,slow=6.5,SNR=6.8						
WRA	**Warramunga Arr**	**70.12**	**129**	P	**P**	**22 02 01.4**	**-0.5**
WRA	**Warramunga Arr**	**70.12**	**129**	P	**P**	**22 02 01.5**	**-0.4**
ASAR	**Alice Springs**	**72.47**	**132**	P	**P**	**22 02 15.2**	**-0.8**
	comp=Z,0.4nm,0.8s,mb3.4,baz=318,slow=6.4,SNR=5.3						
ASAR	**Alice Springs**	**72.47**	**132**	P	**P**	**22 02 15.2**	**-0.8**
ASAR	**Alice Springs**	**72.47**	**132**	P	**P**	**22 02 15.3**	**-0.7**
COLD	**Coldfoot**	**74.47**	**19**	*e*P	**P**	**22 02 28.9**	**+1.7**
	comp=Z,7.4nm,1.1s,mb4.5						
TORD	**Torodi Ar. Bea**	**76.42**	**277**	P	**P**	**22 02 38.4**	**-1.0**
	comp=Z,1.2nm,0.9s,mb3.8,baz=49,slow=5.1,SNR=6.5						
TORD	**Torodi Ar. Bea**	**76.42**	**277**	P	**P**	**22 02 38.4**	**-1.0**
ILAR	**Eielson Array**	**77.18**	**20**	P	**P**	**22 02 41.6**	**-1.1**
	comp=Z,3.0nm,0.8s,mb4.3,baz=298,slow=4.7,SNR=40						
ILAR	**Eielson Array**	**77.18**	**20**	P	**P**	**22 02 41.6**	**-1.1**
ILAR	**Eielson Array**	**77.18**	**20**	P	**P**	**22 02 41.6**	**-1.1**
INK	**Inuvik**	**77.63**	**13**	P	**P**	**22 02 45.2**	**0.0**
	comp=Z,3.0nm,0.8s,mb4.2,baz=356,slow=6.5,SNR=10.0						
INK	**Inuvik**	**77.63**	**13**	P	**P**	**22 02 45.2**	**0.0**
INK	**Inuvik**	**77.63**	**13**	P	**P**	**22 02 45.3**	**+0.1**
STKA	**Stephens Creek**	**83.05**	**133**	P	**P**	**22 03 12.7**	**-2.1**
	comp=Z,0.9nm,0.7s,mb3.9,baz=305,slow=13,SNR=2.9						
STKA	**Stephens Creek**	**83.05**	**133**	P	**P**	**22 03 12.7**	**-2.1**
STKA	**Stephens Creek**	**83.05**	**133**	P	**P**	**22 03 12.7**	**-2.1**
TRIS	**Tristan da Cun**	**111.93**	**239**	*e*PKiKP	PKiKP	22 09 33.9	+9.4
CPCT	**Cooper Cave**	**113.33**	**349**	*e*PKiKP	PKiKP	22 09 30.7	+3.3
SWET	**Sewanee**	**113.77**	**351**	*e*PKiKPbc	PKKPbc	22 20 12.5	+1.7

ISCJB ***25*** *21:51:26.9±0.4, 30°.73N±0°.06×83°.61E±0°.06, h10km, mb4.0/25, MS4.0/2, Error ellipse: s-maj=10.2km s-min=5.9km az=31.3*
IDC ***25*** *21:51:26.9±0.7, 30°.69N×83°.69E, h0km, mb4.0/19, mb1 4.1/21, mb1mx4.0/33, mbtmp4.0/21, ML3.8/1, MS3.9/3, Ms1 3.9/3, ms1mx3.2/30, Error ellipse: s-maj=20.2km s-min=14.8km az=54.0*
NEIC ***25*** *21:51:28.6±0.4, 30°.74N×83°.64E, h10km, mb4.2/7, Error ellipse: s-maj=9.6km s-min=5.8km az=40.0*
MOS ***25*** *21:51:30.1±1.3, 30°.76N×83°.61E, h33km, mb4.4/6, Error ellipse: s-maj=13.8km s-min=6.9km az=118.6*

ISC 25 21:51:28.7±0.4, 30°.76N±0°.06×83°.69E±0°.06, h10km, n87, σ0996/86, mb4.0/25, MS4.0/2, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**6.54**	**97**	*e*Pn	**Pn**	**21 53 08.1**	**+3.1**
LSA	**Lhasa**	**6.54**	**97**	*e*P	**Pn**	**21 53 08.1**	**+3.1**
KBL	**Kabul**	**12.90**	**291**	*e*Pn	**Pn**	**21 54 30.7**	**-1.4**
KBL				*e*Sn	**Sn**	**21 56 55.8**	**+0.1**
KBL	**Kabul**	**12.90**	**291**	*e*P	**Pn**	**21 54 30.7**	**-1.4**
KBL				*e*		21 56 55.8	
TKM2	**Tokmak 2**	**13.75**	**334**	*e*P	**Pn**	**21 54 44.4**	**+0.8**
TKM2	**Tokmak 2**	**13.75**	**334**	*e*P	**Pn**	**21 54 44.4**	**+0.8**
EKS2	**Erkin-Say**	**14.28**	**329**	*e*Pn	**Pn**	**21 54 50.8**	**0.0**
EKS2	**Erkin-Say**	**14.28**	**329**	*e*P	**Pn**	**21 54 50.8**	**0.0**
MKAR	**Makanchi Array**	**16.05**	**357**	Pn	**Pn**	**21 55 13.3**	**-0.9**
	baz=172,slow=12,SNR=2.1						
MKAR	**Makanchi Array**	**16.05**	**357**	Pn	**Pn**	**21 55 13.3**	**-0.9**
MKAR	**Makanchi Array**	**16.05**	**357**	P	**Pn**	**21 55 13.4**	**-0.9**
KKAR	**Karatay Array**	**16.18**	**323**	*e*Pn	**Pn**	**21 55 14.9**	**-1.2**
	3.0nm,0.6s						
KKAR	**Karatay Array**	**16.18**	**323**	*e*P	**Pn**	**21 55 14.9**	**-1.2**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CHTO	**Chiang Mai**	**18.23**	**127**	*e*P	**Pn**	**21 55 40.9**	**-1.1**
	comp=Z,3.9nm,0.9s						
CHTO	**Chiang Mai**	**18.23**	**127**	*e*P	**Pn**	**21 55 40.9**	**-1.0**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**18.48**	**128**	P	**Pn**	**21 55 45.5**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=307,slow=9.8,SNR=4.6						
CMAR				LR	LR	22 02 53.0	
	comp=Z,180nm,18.5s,baz=310,slow=37						
CMAR	**Chiang Mai Arr**	**18.48**	**128**	P	**Pn**	**21 55 45.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**18.48**	**128**	P	**Pn**	**21 55 45.6**	**+0.7**
KURK	**Kurchatov**	**20.29**	**351**	P	**P**	**21 56 02.6**	**-1.8**
	comp=Z,5.7nm,0.8s,baz=172,slow=10,SNR=16						
KURK	**Kurchatov**	**20.29**	**351**	*e*P	**P**	**21 56 03.4**	**-1.0**
KURK	**Kurchatov**	**20.29**	**351**	*e*P	**P**	**21 56 03.4**	**-1.0**
ENH	**Enshi**	**22.22**	**85**	P	**P**	**21 56 24.7**	**-0.7**
	comp=Z,7.8nm,0.4s,mb4.5						
ZAA0	**Zalesovo Array**	**23.19**	**2**	*e*P	**P**	**21 56 34.9**	**-0.5**
ZALV	**Zalesovo Beam**	**23.19**	**2**	P	**P**	**21 56 34.6**	**-0.8**
	comp=Z,4.9nm,0.9s,mb3.9,baz=181,slow=10,SNR=7.4						
ZALV	**Zalesovo Beam**	**23.19**	**2**	P	**P**	**21 56 34.6**	**-0.8**
ZALV	**Zalesovo Beam**	**23.19**	**2**	P	**P**	**21 56 34.6**	**-0.8**
NVS	**Novosibirsk**	**24.07**	**359**	*e*P	**P**	**21 56 41.5**	**-2.4**
NVS				pmax	pmax		
	comp=Z,38nm,2.1s,mb4.5						
NVS				pmax	pmax		
	comp=N,18nm,1.9s						
BVAR	**Borovoye Array**	**24.27**	**340**	P	**P**	**21 56 46.3**	**+0.5**
	comp=N,0.6nm,0.5s,mb3.3,baz=143,slow=8.8,SNR=6.2						
BVAR	**Borovoye Array**	**24.27**	**340**	P	**P**	**21 56 46.3**	**+0.5**
BVAR	**Borovoye Array**	**24.27**	**340**	P	**P**	**21 56 46.3**	**+0.5**
BRVK	**Borovoye**	**24.33**	**340**	*e*P	**P**	**21 56 47.2**	**+0.8**
	comp=N,6.1nm,1.0s,mb4.0						
BRVK	**Borovoye**	**24.33**	**340**	*e*P	**P**	**21 56 47.2**	**+0.9**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0						
SONM	**Songino Array**	**24.34**	**39**	P	**P**	**21 56 48.4**	**+1.9**
	comp=Z,1.9nm,0.7s,mb3.6,baz=228,slow=9.8,SNR=6.2						
SONM	**Songino Array**	**24.34**	**39**	P	**P**	**21 56 48.4**	**+1.9**
SONM	**Songino Array**	**24.34**	**39**	P	**P**	**21 56 48.4**	**+1.9**
ULN	**Ulaanbaatar**	**24.72**	**40**	*e*P	**P**	**21 56 50.2**	**+0.3**
	comp=Z,7.0nm,1.1s,mb4.1						
ULN	**Ulaanbaatar**	**24.72**	**40**	*e*P	**P**	**21 56 50.2**	**+0.2**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.1						
AKTO	**Aktyubinsk**	**27.45**	**323**	P	**P**	**21 57 16.1**	**+1.4**
	comp=Z,1.4nm,0.7s,mb3.6,baz=143,slow=21,SNR=4.4						
AKTO	**Aktyubinsk**	**27.45**	**323**	P	**P**	**21 57 16.1**	**+1.4**
AKTO	**Aktyubinsk**	**27.45**	**323**	P	**P**	**21 57 16.1**	**+1.5**
ARU	**Arti**	**31.11**	**333**	*e*P	**P**	**21 57 46.8**	**-0.2**
	comp=Z,6.6nm,1.0s,mb4.4						
ARU	**Arti**	**31.11**	**333**	*e*P	**P**	**21 57 46.8**	**-0.3**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ZEI	**Tsey**	**33.76**	**302**	*e*P	**P**	**21 58 12.2**	**+1.8**
ZEI				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
KIV	**Kislovodsk**	**34.80**	**304**	*e*P	**P**	**21 58 19.7**	**+0.3**
	comp=Z,3.0nm,0.6s,mb4.4						
KIV	**Kislovodsk**	**34.80**	**304**	*e*P	**P**	**21 58 19.7**	**+0.3**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRTR	**Keskin Array B**	**41.39**	**297**	P	**P**	**21 59 14.8**	**-0.2**
	comp=Z,1.0nm,0.9s,mb3.5,baz=126,slow=6.3,SNR=6.6						
BRTR	**Keskin Array B**	**41.39**	**297**	P	**P**	**21 59 14.8**	**-0.2**
BRTR	**Keskin Array B**	**41.39**	**297**	P	**P**	**21 59 14.9**	**-0.2**
EIL	**Eilat**	**41.86**	**281**	LR	LR	22 19 01.6	
	comp=Z,121nm,18.3s,MS3.8,baz=268,slow=40						
ATD	**Arta Tunnel**	**42.33**	**252**	P	**P**	**21 59 23.6**	**+0.6**
	comp=Z,5.7nm,0.9s,mb4.2,baz=12,slow=7.7,SNR=3.9						
ATD	**Arta Tunnel**	**42.33**	**252**	P	**P**	**21 59 23.6**	**+0.6**
AKASG	**Malin Array Be**	**44.69**	**313**	P	**P**	**21 59 42.1**	**+0.5**
	comp=Z,0.7nm,0.4s,mb3.8,baz=80,slow=7.6,SNR=4.0						
AKASG	**Malin Array Be**	**44.69**	**313**	P	**P**	**21 59 42.1**	**+0.5**
AKASG	**Malin Array Be**	**44.69**	**313**	P	**P**	**21 59 42.1**	**+0.5**
MLR	**Muntele Rosu**	**46.77**	**305**	P	**P**	**21 59 58.5**	**+0.3**
	comp=Z,1.4nm,1.0s,mb3.9,baz=56,slow=3.1,SNR=3.7						
MLR	**Muntele Rosu**	**46.77**	**305**	P	**P**	**21 59 58.5**	**+0.3**
MLR	**Muntele Rosu**	**46.77**	**305**	P	**P**	**21 59 58.5**	**+0.3**
FINES	**FINESS Array B**	**48.10**	**327**	P	**P**	**22 00 09.1**	**+0.9**
	comp=Z,3.5nm,0.6s,mb4.6,baz=116,slow=7.5,SNR=12						
FINES	**FINESS Array B**	**48.10**	**327**	P	**P**	**22 00 09.1**	**+0.9**
FINES	**FINESS Array B**	**48.10**	**327**	P	**P**	**22 00 09.1**	**+0.9**
ARCES	**ARCESS Array B**	**50.50**	**337**	P	**P**	**22 00 27.6**	**+1.1**
	comp=Z,1.7nm,0.6s,mb4.2,baz=104,slow=7.8,SNR=6.2						
ARCES	**ARCESS Array B**	**50.50**	**337**	P	**P**	**22 00 27.6**	**+1.1**
ARCES	**ARCESS Array B**	**50.50**	**337**	P	**P**	**22 00 27.6**	**+1.1**
NOA	**NORSAR Array B**	**55.20**	**326**	P	**P**	**22 01 01.4**	**+0.1**
	comp=Z,0.6nm,0.8s,mb3.7,baz=93,slow=7.6,SNR=3.5						
NOA	**NORSAR Array B**	**55.20**	**326**	P	**P**	**22 01 01.4**	**+0.1**
NOA	**NORSAR Array B**	**55.20**	**326**	P	**P**	**22 01 01.4**	**+0.1**
WRA	**Warramunga Arr**	**70.07**	**129**	P	**P**	**22 02 40.2**	**-0.9**
	comp=Z,0.3nm,0.3s,mb3.7,baz=98,slow=25,SNR=5.5						
WRA	**Warramunga

MSKU	**Masuku**	**28.89**	**296**	LR	LR	22 23 26.2	
	comp=Z,27nm,19.3s,MS2.9,baz=117,slow=40						
TORD	**Torodi Ar. Bea**	**46.89**	**305**	P	**P**	**22 12 24.6**	**-0.3**
	comp=Z,1.8nm,0.7s,mb4.1,baz=121,slow=7.6,SNR=20						
TORD	**Torodi Ar. Bea**	**46.89**	**305**	P	**P**	**22 12 24.6**	**-0.3**
ASF	**Jabal al Asfar**	**47.38**	**357**	P	**P**	**22 12 29.0**	**+0.7**
	comp=Z,1.6nm,0.6s,mb4.2,baz=95,slow=6.1,SNR=3.9						
ASF	**Jabal al Asfar**	**47.38**	**357**	P	**P**	**22 12 29.0**	**+0.7**
MMAI	**Mount Meron Ar**	**48.31**	**355**	P	**P**	**22 12 36.7**	**+1.1**
	comp=Z,1.9nm,0.6s,mb4.3,baz=166,slow=7.7,SNR=7.9						
MMAI	**Mount Meron Ar**	**48.31**	**355**	P	**P**	**22 12 36.7**	**+1.1**
DBIC	**Dimbokro**	**49.04**	**293**	P	**P**	**22 12 41.8**	**+0.2**
	comp=Z,3.8nm,0.6s,mb4.6,baz=111,slow=8.1,SNR=10						
DBIC	**Dimbokro**	**49.04**	**293**	P	**P**	**22 12 41.8**	**+0.2**
BR131	**Keskin Array S**	**55.12**	**355**	*e*P	**P**	**22 13 26.2**	**-0.1**
	comp=Z,1.2nm,0.6s,mb4.1						
BRTR	**Keskin Array B**	**55.12**	**355**	P	**P**	**22 13 26.9**	**+0.6**
	comp=Z,2.0nm,0.6s,mb4.3,baz=167,slow=9.6,SNR=16						
BRTR	**Keskin Array B**	**55.12**	**355**	P	**P**	**22 13 26.9**	**+0.6**
KBL	**Kabul**	**57.12**	**29**	*e*P	**P**	**22 13 41.9**	**+1.2**
	comp=Z,2.8nm,0.6s,mb4.5						
PYUN	**Piuthan**	**60.43**	**44**	*e*P	**P**	**22 14 03.8**	**-0.1**
KOLN	**Koldanda**	**60.63**	**45**	*e*P	**P**	**22 14 04.9**	**-0.4**
DANN	**Dangsing**	**61.11**	**45**	*e*P	**P**	**22 14 08.2**	**-0.3**
GKN	**Gorkha**	**61.49**	**46**	*e*P	**P**	**22 14 10.7**	**-0.4**
	comp=Z,12nm,0.7s,mb5.1						
DMN	**Daman**	**61.57**	**46**	*e*P	**P**	**22 14 11.8**	**+0.1**
	comp=Z,6.8nm,0.6s,mb4.9						
PKI	**Pulchoki**	**61.76**	**46**	*e*P	**P**	**22 14 12.8**	**-0.1**
	comp=Z,10nm,0.6s,mb5.1						
KKN	**Kakani**	**61.81**	**46**	*e*P	**P**	**22 14 13.2**	**0.0**
	comp=Z,8.9nm,0.6s,mb5.0						
RAMN	**Ramite**	**62.23**	**48**	*e*P	**P**	**22 14 16.2**	**+0.1**
	comp=Z,9.1nm,0.5s,mb5.1						
GUN	**Gumba**	**62.30**	**46**	*e*P	**P**	**22 14 16.8**	**+0.3**
	comp=Z,16nm,0.5s,mb5.4						
JIRN	**Jiri**	**62.36**	**47**	*e*P	**P**	**22 14 16.8**	**-0.2**
KKAR	**Karatay Array**	**64.85**	**25**	*e*P	**P**	**22 14 33.4**	**+0.3**
AKASG	**Malin Array Be**	**66.44**	**353**	P	**P**	**22 14 42.0**	**-1.1**
	comp=Z,1.4nm,0.5s,mb4.3,baz=175,slow=6.0,SNR=9.3						
AKASG	**Malin Array Be**	**66.44**	**353**	P	**P**	**22 14 42.0**	**-1.1**
MBDF	**Montbardon**	**66.82**	**335**	*e*P	**P**	**22 14 45.8**	**0.0**
	comp=Z,8.2nm,0.8s,mb4.5						
TKM2	**Tokmak 2**	**66.89**	**28**	*e*P	**P**	**22 14 47.0**	**+0.8**
ABKAR	**Akbulak array**	**66.91**	**14**	*e*P	**P**	**22 14 45.8**	**-0.5**
DAVOX	**Davos/Dischmat**	**67.37**	**338**	P	**P**	**22 14 48.5**	**-0.7**
	comp=Z,1.8nm,0.5s,mb4.4,baz=241,slow=9.1,SNR=6.6						
DAVOX	**Davos/Dischmat**	**67.37**	**338**	P	**P**	**22 14 48.5**	**-0.7**
LPG	**La Plagne**	**67.47**	**336**	*e*P	**P**	**22 14 49.8**	**0.0**
	comp=Z,6.9nm,0.7s,mb4.5						
LPL	**La Plagne**	**67.49**	**336**	*e*P	**P**	**22 14 49.9**	**-0.1**
	comp=Z,11nm,0.8s,mb4.6						
LASF	**Ste Croix**	**67.52**	**333**	*e*P	**P**	**22 14 49.5**	**-0.7**
AKTO	**Aktyubinsk**	**67.58**	**13**	P	**P**	**22 14 49.8**	**-0.6**
	comp=Z,3.2nm,0.6s,mb4.5,baz=180,slow=6.3,SNR=14						
AKTO	**Aktyubinsk**	**67.58**	**13**	P	**P**	**22 14 49.8**	**-0.6**
CMAR	**Chiang Mai Arr**	**67.60**	**62**	P	**P**	**22 14 51.1**	**-0.2**
	comp=Z,0.8nm,0.7s,mb3.9,baz=256,slow=6.5,SNR=6.3						
CMAR	**Chiang Mai Arr**	**67.60**	**62**	P	**P**	**22 14 51.0**	**-0.2**
VIVF	**Saint-Julien-l**	**67.79**	**334**	*e*P	**P**	**22 14 51.6**	**-0.3**
GERES	**GERESS Array B**	**67.94**	**342**	P	**P**	**22 14 52.8**	**+0.1**
	comp=Z,1.9nm,0.6s,mb4.3,baz=146,slow=5.3,SNR=20						
GERES	**GERESS Array B**	**67.94**	**342**	P	**P**	**22 14 52.8**	**+0.1**
ESDC	**Sonseca Array**	**68.10**	**325**	P	**P**	**22 14 55.5**	**+1.5**
	comp=Z,4.0nm,0.7s,mb4.5,baz=137,slow=6.2,SNR=16						
ESDC	**Sonseca Array**	**68.10**	**325**	P	**P**	**22 14 55.5**	**+1.5**
EPF	**Esparros**	**68.32**	**330**	*e*P	**P**	**22 14 55.5**	**+0.2**
CABF	**La Chapelle**	**68.65**	**336**	*e*P	**P**	**22 14 57.6**	**+0.4**
	comp=Z,21nm,0.9s,mb4.7						
ETSF	**Etsaut**	**68.66**	**330**	*e*P	**P**	**22 14 58.2**	**+0.8**
SJPF	**Ste Jean**	**69.15**	**329**	*e*P	**P**	**22 15 00.8**	**+0.4**
	comp=Z,25nm,0.9s,mb4.8						
SMF	**Signal de Mont**	**69.58**	**335**	*e*P	**P**	**22 15 03.0**	**0.0**
HAU	**Haudompre**	**69.70**	**337**	*e*P	**P**	**22 15 03.7**	**0.0**
	comp=Z,30nm,1.1s,mb4.8						
HAU				*e*R			
	comp=Z,61nm,17.2s						
AVF	**Avril sur Loir**	**69.90**	**334**	*e*P	**P**	**22 15 05.1**	**+0.1**
TCF	**Toulx Ste Croi**	**69.98**	**333**	*e*P	**P**	**22 15 05.4**	**-0.1**
	comp=Z,12nm,0.9s,mb4.5						
LOR	**Lormes**	**70.07**	**335**	*e*P	**P**	**22 15 06.1**	**+0.1**
	comp=Z,11nm,0.9s,mb4.5						
LOR				*e*R			
	comp=Z,69nm,19.8s						
MK31	**Makanchi Array**	**72.92**	**29**	*e*P	**P**	**22 15 23.1**	**-0.2**
MKAR	**Makanchi Array**	**72.92**	**29**	P	**P**	**22 15 23.1**	**-0.1**
	comp=Z,1.6nm,0.4s,mb4.3,baz=215,slow=6.9,SNR=45						
MKAR	**Makanchi Array**	**72.92**	**29**	P	**P**	**22 15 23.1**	**-0.1**
BRVK	**Borovoye**	**73.20**	**19**	*e*P	**P**	**22 15 24.8**	**+0.1**
	comp=Z,5.2nm,0.6s,mb4.6						
BVAR	**Borovoye Array**	**73.21**	**19**	P	**P**	**22 15 24.8**	**0.0**
	comp=Z,6.6nm,0.6s,mb4.8,baz=215,slow=5.7,SNR=72						
BVAR	**Borovoye Array**	**73.21**	**19**	P	**P**	**22 15 24.8**	**0.0**
ARU	**Arti**	**73.36**	**11**	*e*P	**P**	**22 15 25.5**	**-0.1**
	comp=Z,9.3nm,0.6s,mb4.9						
KURK	**Kurchatov**	**74.27**	**25**	P	**P**	**22 15 30.4**	**-0.7**
	comp=Z,3.3nm,0.8s,mb4.3,baz=223,slow=6.7,SNR=31						
KURK	**Kurchatov**	**74.27**	**25**	*e*P	**P**	**22 15 30.6**	**-0.5**
QSPA	**South Pole Qui**	**74.70**	**180**	*e*P	**P**	**22 15 34.2**	**+1.0**
FINES	**FINESS Array B**	**77.34**	**353**	P	**P**	**22 15 48.0**	**-0.3**
	comp=Z,1.3nm,0.6s,mb4.0,baz=142,slow=6.8,SNR=4.5						
FINES	**FINESS Array B**	**77.34**	**353**	P	**P**	**22 15 48.0**	**-0.3**
ZALV	**Zalesovo Beam**	**79.22**	**25**	P	**P**	**22 15 58.3**	**-0.6**
	comp=Z,2.4nm,0.8s,mb4.2,baz=235,slow=5.2,SNR=16						
ZALV	**Zalesovo Beam**	**79.22**	**25**	P	**P**	**22 15 58.3**	**-0.6**
NOA	**NORSAR Array B**	**79.46**	**346**	P	**P**	**22 15 59.9**	**-0.2**
	comp=Z,1.2nm,0.8s,mb3.9,baz=159,slow=8.1,SNR=3.0						
NOA	**NORSAR Array B**	**79.46**	**346**	P	**P**	**22 15 59.9**	**-0.2**
ARCES	**ARCESS Array B**	**85.30**	**355**	P	**P**	**22 16 30.2**	**-0.3**
	comp=Z,4.3nm,0.8s,mb4.6,baz=159,slow=4.7,SNR=15						
ARCES	**ARCESS Array B**	**85.30**	**355**	P	**P**	**22 16 30.2**	**-0.3**
SONM	**Songino Array**	**86.63**	**38**	P	**P**	**22 16 38.0**	**+0.4**
	comp=Z,1.3nm,0.8s,mb4.2,baz=234,slow=5.7,SNR=12						
SONM	**Songino Array**	**86.63**	**38**	P	**P**	**22 16 38.0**	**+0.5**
ASAR	**Alice Springs**	**87.92**	**114**	P	**P**	**22 16 44.2**	**-0.2**
	comp=Z,0.8nm,0.7s,mb4.0,baz=254,slow=4.3,SNR=8.4						
ASAR	**Alice Springs**	**87.92**	**114**	P	**P**	**22 16 44.2**	**-0.2**
WRA	**Warramunga Arr**	**89.33**	**110**	P	**P**	**22 16 50.1**	**-1.1**
	comp=Z,0.7nm,0.6s,mb4.2,baz=252,slow=3.1,SNR=5.1						
WRA	**Warramunga Arr**	**89.33**	**110**	P	**P**	**22 16 50.1**	**-1.1**
PDAR	**Pinedale Array**	**141.94**	**322**	PKP	PKPdf	22 23 26.2	+0.1
	comp=Z,0.6nm,0.8s,baz=44,slow=4.5,SNR=5.4						
PDAR	**Pinedale Array**	**141.94**	**322**	PKP	PKPdf	22 23 26.2	+0.1
NVAR	**Mina Array Bea**	**149.82**	**324**	PKPbc	PKPbc	22 23 42.4	-2.1
	comp=Z,0.5nm,0.6s,baz=64,slow=3.4,SNR=4.3						
NVAR	**Mina Array Bea**	**149.82**	**324**	PKPbc	PKPbc	22 23 42.4	-2.1

ISCJB ***25*** *22:13:15.2±0.6, 29.90N±0.02×51.80E±0.02, h10km±4km, mb4.5/74, MS3.4/13, Error ellipse: s-maj=3.9km s-min=2.9km az=30.7*

IDC ***25*** *22:13:15.6±0.6, 29.99N×51.84E, h0km, mb4.3/24, mb1 4.3/29, mb1mx4.2/38, mbtmp4.3/29, ML4.2/4, MS3.4/12, Ms1 3.4/12, ms1mx3.1/42, Error ellipse: s-maj=14.7km s-min=11.9km az=159.0*

NEIC ***25*** *22:13:16.8, 29.81N×51.72E, h10km, mb4.5/10, ML4.6(THR), MN4.5(TEH), After TEH.*

TEH ***25*** *22:13:16.9, 29.85N×51.73E, h7km*

BJI ***25*** *22:13:17.6, 30.35N×51.95E, h11km, mB4.7/4, mb4.6/10, Ms4.7/1, Ms7 4.3/1*

CSEM ***25*** *22:13:17.3±0.1, 29.96N×51.83E, h10km, mb4.5/37, Ms3.5, Error ellipse: s-maj=3.8km s-min=3.1km az=19.0*

THR ***25*** *22:13:17.7±0.4, 30.04N×51.85E, h15km, ML4.5*

MOS ***25*** *22:13:18.8±1.3, 29.96N×51.88E, h33km, mb4.6/18, Error ellipse: s-maj=8.2km s-min=5.1km az=102.8*

SGS ***25*** *22:13:21.2, 30.01N×51.84E, h15km*

OMAN ***25*** *22:13:39.1±99.0, 28.68N×52.75E, h206km±1km, Error ellipse: s-maj=192.0km s-min=5.7km az=335.0*

ISC 25 22:13:17.6±0.6, 29.91N±0.02×51.80E±0.02, h13km±4km, n506, σ1§10/524, mb4.5/74, MS3.4/13, 29C-20D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SHI	**Shiraz**	**0.67**	**113**	*e*Pg		**Pg**	**22 13 29.7**	**-1.0**
SHI				*e*Sg		**Sg**	**22 13 40.1**	**+0.5**
SHI				*e*			22 13 42.6	
	comp=Z,98μm,0.2s							
SHI	**Shiraz**	**0.67**	**113**	*e*Pg		**Pg**	**22 13 29.7**	**-1.0**
SHI				*e*Sg		**Sg**	**22 13 40.1**	**+0.5**
IPAR	**Pars**	**1.08**	**93**	Pg		**Pg**	**22 13 34.8**	**-3.7**
IPAR	**Pars**	**1.08**	**93**	⇓*e*Pg		**Pg**	**22 13 34.9**	**-3.6**
IPAR				*e*Sg		**Sg**	**22 13 52.1**	**-0.5**
IPAR				*e*			22 13 58.8	
	comp=Z,49μm,0.3s							
IPAR	**Pars**	**1.08**	**93**	⇓*e*Pg		**Pg**	**22 13 34.9**	**-3.6**
IPAR				*e*Sg		**Sg**	**22 13 52.1**	**-0.5**
ISRV	**Sarvestan**	**1.25**	**114**	⇓*e*Pg		**Pg**	**22 13 39.4**	**-2.4**
ISRV				*e*			22 14 13.7	
	comp=Z,50μm,0.4s							
ISRV	**Sarvestan**	**1.25**	**114**	⇓*e*Pg		**Pg**	**22 13 39.4**	**-2.4**
IGAR	**Gharneh**	**2.50**	**5**	⇓*e*Pn		**Pn**	**22 13 59.2**	**+1.3**
IGAR				*e*			22 14 41.5	
	comp=Z,20μm,0.3s							
ISAD	**Sadrabad**	**2.57**	**38**	Pn		**Pn**	**22 14 00.7**	**+1.7**
ISAD				Sn		**Sn**	**22 14 32.6**	**+2.5**
ISAD	**Sadrabad**	**2.57**	**38**	*e*Pn		**Pn**	**22 14 00.4**	**+1.4**
ISAD				*e*			22 14 43.5	
	comp=Z,21μm,0.3s							
ISAD	**Sadrabad**	**2.57**	**38**	*e*Pn		**Pn**	**22 14 00.4**	**+1.4**
IMEH	**Mehriz**	**2.83**	**58**	Pn		**Pn**	**22 14 04.0**	**+1.4**
IMEH	**Mehriz**	**2.83**	**58**	*e*		**Pb**	**22 14 08.9**	**+0.8**
	comp=Z,9μm,0.2s							
IMEH				⇑*e*Pn		**Pn**	**22 14 03.9**	**+1.3**
NASN	**Na'in**	**3.01**	**16**	*e*Pn		**Pn**	**22 14 05.3**	**+0.3**
NASN	**Na'in**	**3.01**	**16**	*e*Pn		**Pn**	**22 14 05.3**	**+0.3**
NASN	**Na'in**	**3.01**	**16**	*e*Pn		**Pn**	**22 14 05.3**	**+0.3**
IZEF	**Zefreh**	**3.01**	**8**	*e*		**Pg**	**22 14 15.6**	**+0.2**
	comp=Z,7μm,0.2s							
IZEF				*e*Pn		**Pn**	**22 14 05.8**	**+0.8**
ICHK	**Chekchek**	**3.23**	**43**	Pn		**Pn**	**22 14 08.9**	**+0.9**
ICHK	**Chekchek**	**3.23**	**43**	*e*		**Pb**	**22 14 16.0**	**+1.2**
	comp=Z,11μm,0.2s							
ICHK				*e*Pn		**Pn**	**22 14 09.0**	**+1.0**
ICHK	**Chekchek**	**3.23**	**43**	Pn		**Pn**	**22 14 08.9**	**+0.9**
SHGR	**Shooshtar-Gavs**	**3.38**	**311**	*e*Pn		**Pn**	**22 14 11.3**	**+1.2**
SHGR	**Shooshtar-Gavs**	**3.38**	**311**	*e*Pn		**Pn**	**22 14 11.3**	**+1.2**
SHGR					AML	AML	22 15 12.7	
	comp=N,1μm,0.5s							
SHGR					AML	AML	22 15 14.7	
	comp=E,1μm,0.1s							
SHGR	**Shooshtar-Gavs**	**3.38**	**311**	*e*Pn		**Pn**	**22 14 11.3**	**+1.1**
IKLH	**Kolahrood**	**3.41**	**357**	Pn		**Pn**	**22 14 10.9**	**+0.5**
IKLH	**Kolahrood**	**3.41**	**357**	*e*Pn		**Pn**	**22 14 10.7**	**+0.2**
IKLH				*e*			22 15 20.8	
	comp=Z,9μm,0.3s							
IKLH	**Kolahrood**	**3.41**	**357**	*e*Pn		**Pn**	**22 14 10.7**	**+0.2**
UMR	**Umm Al-Rimmam**	**3.57**	**265**	*e*P		**Pn**	**22 14 15.4**	**+2.6**
UMR					AML	AML	22 15 01.8	
	comp=Z,788nm,0.5s							
UMR	**Umm Al-Rimmam**	**3.57**	**265**	*e*P		**Pn**	**22 14 15.4**	**+2.6**
QRN	**Al-Qurain**	**3.59**	**252**	*e*P		**Pn**	**22 14 16.0**	**+3.1**
QRN					AML	AML	22 15 02.5	
	comp=Z,923nm,0.4s							
IBAF	**Bafgh**	**3.65**	**62**	Pn		**Pn**	**22 14 14.5**	**+0.7**
IBAF	**Bafgh**	**3.65**	**62**	*e*Pn		**Pn**	**22 14 14.5**	**+0.7**
IBAF				*e*			22 14 24.8	
	comp=Z,9μm,0.2s							
IBAF	**Bafgh**	**3.65**	**62**	*e*Pn		**Pn**	**22 14 14.5**	**+0.7**
KBD	**Kabd**	**3.66**	**259**	*e*P		**Pn**	**22 14 16.5**	**+2.6**
KBD					AML	AML	22 15 02.9	
	comp=Z,435nm,0.3s							
KBD	**Kabd**	**3.66**	**259**	*e*P		**Pn**	**22 14 16.5**	**+2.6**
KFJS		**3.79**	**244**	P		**Pn**	**22 14 19.0**	**+3.2**
KFJS		**3.79**	**244**	P		**Pn**	**22 14 19.0**	**+3.2**
RDF	**Al-Radifah**	**3.84**	**256**	*e*P		**Pn**	**22 14 19.6**	**+3.2**
RDF					AML	AML	22 15 07.0	
	comp=Z,459nm,0.4s							
RDF	**Al-Radifah**	**3.84**	**256**	*e*P		**Pn**	**22 14 19.6**	**+3.2**
MIB	**Mutribah**	**3.88**	**270**	*e*P		**Pn**	**22 14 19.4**	**+2.4**
MIB					AML	AML	22 15 13.6	
	comp=Z,549nm,0.5s							
MIB	**Mutribah**	**3.88**	**270**	*e*P		**Pn**	**22 14 19.4**	**+2.4**
NAY	**Al-Naaiem**	**4.03**	**262**	*e*P		**Pn**	**22 14 22.2**	**+3.2**
NAY					AML	AML	22 15 09.2	
	comp=Z,219nm,0.4s							
NAY	**Al-Naaiem**	**4.03**	**262**	*e*P		**Pn**	**22 14 22.2**	**+3.2**
KRBR	**Kerman**	**4.30**	**88**	*e*Pn		**Pn**	**22 14 24.4**	**+1.6**
KRBR	**Kerman**	**4.30**	**88**	*e*Pn		**Pn**	**22 14 24.4**	**+1.6**
KRBR					AML	AML	22 15 43.0	
	comp=E,581nm,1.1s							
KRBR					AML	AML	22 15 49.9	
	comp=N,408nm,1.2s							
KRBR	**Kerman**	**4.30**	**88**	*e*Pn		**Pn**	**22 14 24.4**	**+1.6**
ISFB	**Sefidab**	**4.45**	**5**	Pn		**Pn**	**22 14 24.3**	**-0.4**
ISFB	**Sefidab**	**4.45**	**5**	*e*Pn		**Pn**	**22 14 24.4**	**-0.3**
ISFB				*e*			22 15 18.6	
	comp=Z,5μm,0.2s							
ISFB	**Sefidab**	**4.45**	**5**	*e*Pn		**Pn**	**22 14 24.4**	**-0.3**
BOQSS		**4.56**	**209**	P		**Pn**	**22 14 30.4**	**+4.0**
GHVR	**GHOM**	**4.58**	**355**	*e*Pn		**Pn**	**22 14 27.2**	**+0.6**
GHVR	**GHOM**	**4.58**	**355**	*e*Pn		**Pn**	**22 14 27.2**	**+0.6**
GHVR					AML	AML	22 15 23.6	
	comp=N,429nm,0.3s							
GHVR					AML	AML	22 15 24.9	
	comp=E,545nm,0.6s							
GHVR	**GHOM**	**4.58**	**355**	*e*Pn		**Pn**	**22 14 27.2**	**+0.6**
IBND	**Bandar-abas**	**4.83**	**119**	*e*Pn		**Pn**	**22 14 29.8**	**-0.2**
IBND				*e*			22 15 34.0	
	comp=Z,7μm,0.2s							
IBND	**Bandar-abas**	**4.83**	**119**	*e*Pn		**Pn**	**22 14 29.8**	**-0.2**
ASAO	**Ashtian**	**4.87**	**342**	*e*Pn		**Pn**	**22 14 31.1**	**+0.6**
ASAO	**Ashtian**	**4.87**	**342**	*e*Pn		**Pn**	**22 14 31.1**	**+0.6**
ASAO					AML	AML	22 15 30.8	
	comp=N,510nm,0.4s							
ASAO	**Ashtian**	**4.87**	**342**	*e*Pn		**Pn**	**22 14 31.1**	**+0.6**
ILAS	**Lasjerd**	**5.54**	**10**	Pn		**Pn**	**22 14 39.7**	**-0.1**
ILAS	**Lasjerd**	**5.54**	**10**	*e*Pn		**Pn**	**22 14 39.7**	**-0.1**
ILAS				*e*			22 15 13.3	
	comp=Z,2μm,0.3s							
ILAS	**Lasjerd**	**5.54**	**10**	*e*Pn		**Pn**	**22 14 39.7**	**-0.1**
IR3	**Iran Long-Peri**	**5.59**	**353**	*e*Pn		**Pn**	**22 14 39.6**	**-0.9**
IR3				*e*Sg		**Sg**	**22 16 13.2**	**-3.9**
IR3	**Iran Long-Peri**	**5.59**	**353**	*e*Pn		**Pn**	**22 14 39.6**	**-0.9**
IR3				*e*Sg		**Sg**	**22 16 13.2**	**-3.9**
IKOM	**Komasi**	**5.60**	**321**	Pn		**Pn**	**22 14 40.6**	**0.0**
IKOM	**Komasi**	**5.60**	**321**	*e*Pn		**Pn**	**22 14 40.2**	**-0.4**
IKOM				*e*			22 15 50.3	
	comp=Z,4μm,0.2s							
IKOM	**Komasi**	**5.60**	**321**	*e*Pn		**Pn**	**22 14 40.2**	**-0.4**
BANOM	**Banah**	**5.62**	**134**	P		**Pn**	**22 14 40.9**	**0.0**
	SNR=125							
BANOM	**Banah**	**5.62**	**134**	P		**Pn**	**22 14 40.9**	**0.0**
	SNR=125							
IRAZ	**Razeghan**	**5.70**	**344**	Pn		**Pn**	**22 14 41.9**	**-0.1**
IRAZ	**Razeghan**	**5.70**	**344**	*e*Pn		**Pn**	**22 14 42.0**	**0.0**
IRAZ				*e*			22 15 33.5	
	comp=Z,2μm,0.3s							
IRAZ	**Razeghan**	**5.70**	**344**	*e*Pn		**Pn**	**22 14 42.0**	**0.0**
DAMV	**Damavand**	**5.71**	**1**	*e*Pn		**Pn**	**22 14 42.2**	**+0.2**
DAMV	**Damavand**	**5.71**	**1**	*e*Pn		**Pn**	**22 14 42.2**	**+0.2**
DAMV	**Damavand**	**5.71**	**1**	*e*Pn		**Pn**	**22 14 42.2**	**+0.1**
IFIR	**Firoozkooh**	**5.77**	**8**	Pn		**Pn**	**22 14 42.5**	**-0.5**
IFIR	**Firoozkooh**	**5.77**	**8**	*e*Pn		**Pn**	**22 14 42.6**	**-0.4**
IFIR				*e*			22 14 46.8	
	comp=Z,2μm,0.1s							
IFIR	**Firoozkooh**	**5.77**	**8**	Pn		**Pn**	**22 14 42.5**	**-0.5**
IANJ	**Anjilo**	**5.82**	**17**	Pn		**Pn**	**22 14 43.4**	**-0.2**
IANJ	**Anjilo**	**5.82**	**17**	*e*Pn		**Pn**	**22 14 43.5**	**-0.1**
IANJ				*e*			22 14 45.5	
	comp=Z,2μm,0.1s							
IANJ	**Anjilo**	**5.82**	**17**	*e*Pn		**Pn**	**22 14 43.5**	**-0.1**
IMHD	**Mahdasht**	**5.84**	**351**	Pn		**Pn**	**22 14 43.6**	**-0.3**
IMHD	**Mahdasht**	**5.84**	**351**	*e*Pn		**Pn**	**22 14 43.6**	**-0.3**
IMHD				*e*			22 15 18.5	
	comp=Z,1μm,0.2s							
IMHD	**Mahdasht**	**5.84**	**351**	*e*Pn		**Pn**	**22 14 43.6**	**-0.3**
TABS	**Tabas**	**5.86**	**49**	*e*Pn		**Pn**	**22 14 44.5**	**+0.3**
TABS	**Tabas**	**5.86**	**49**	*e*Pn		**Pn**	**22 14 44.5**	**+0.3**
BTHS		**5.90**	**189**	P		**Pn**	**22 14 47.2**	**+2.4**
BTHS		**5.90**	**189**	P		**Pn**	**22 14 47.2**	**+2.4**
NAZ	**Nazwa, Dubai**	**5.98**	**144**	P		**Pn**	**22 14 46.8**	**+1.0**
	SNR=14							
NAZ				P			22 14 46.9	
	SNR=18							
NAZ	**Nazwa, Dubai**	**5.98**	**144**	P		**Pn**	**22 14 46.8**	**+0.9**
	SNR=14							
CHTH	**Charan**	**6.01**	**355**	*e*Pn		**Pn**	**22 14 46.6**	**+0.4**
CHTH	**Charan**	**6.01**	**355**	*e*Pn		**Pn**	**22 14 46.6**	**+0.4**
CHTH	**Charan**	**6.01**	**355**	*e*Pn		**Pn**	**22 14 46.6**	**+0.4**
ISHM	**Shahmirzad**	**6.01**	**12**	*e*Pn		**Pn**	**22 14 46.2**	**-0.1**
ISHM				*e*			22 14 49.4	
	comp=Z,2μm,0.2s							
ISHM	**Shahmirzad**	**6.01**	**12**	*e*Pn		**Pn**	**22 14 46.2**	**-0.1**
IALA	**Alasht**	**6.21**	**8**	*e*Pn		**Pn**	**22 14 48.7**	**-0.4**
IALA				*e*			22 14 50.5	
	comp=Z,10μm,0.1s							
IALA	**Alasht**	**6.21**	**8**	*e*Pn		**Pn**	**22 14 48.7**	**-0.4**
IVIS	**Veis**	**6.23**	**319**	*e*Pn		**Pn**	**22 14 48.2**	**-1.1**
IVIS	**Veis**	**6.23**	**319**	*e*Pn		**Pn**	**22 14 48.2**	**-1.1**
IGHG	**Ghaleghazi**	**6.26**	**316**	Pn		**Pn**	**22 14 49.5**	**-0.1**
IGHG	**Ghaleghazi**	**6.26**	**316**	*e*Pn		**Pn**	**22 14 48.7**	**-0.9**
IGHG				*e*			22 16 15.3	
	comp=Z,4μm,0.3s							
IGHG	**Ghaleghazi**	**6.26**	**316**	*e*Pn		**Pn**	**22 14 48.7**	**-0.9**
IPRN	**Peran**	**6.33**	**4**	Pn		**Pn**	**22 14 51.8**	**+1.1**
IPRN	**Peran**	**6.33**	**4**	*e*Pn		**Pn**	**22 14 51.8**	**+1.1**
IPRN				*e*			22 14 58.2	
	comp=Z,2μm,0.2s							
IPRN	**Peran**	**6.33**	**4**	*e*Pn		**Pn**	**22 14 51.8**	**+1.1**
HATD	**Hatta, Dubai**	**6.36**	**142**	P		**Pn**	**22 14 52.1**	**+1.0**
	SNR=18							
HATD				P			22 14 52.2	
	SNR=20							
HATD	**Hatta, Dubai**	**6.36**	**142**	P		**Pn**	**22 14 52.1**	**+1.0**
	SNR=18							
SNGE	**Sanandaj**	**6.39**	**325**	*e*Pn		**Pn**	**22 14 52.6**	**+1.1**
SNGE	**Sanandaj**	**6.39**	**325**	*e*Pn		**Pn**	**22 14 52.6**	**+1.1**
SNGE	**Sanandaj**	**6.39**	**325**	*e*Pn		**Pn**	**22 14 52.6**	**+1.1**
ASHO	**Ashiyiah**	**6.43**	**143**	P		**Pn**	**22 14 52.2**	**+0.1**
	SNR=173							
ASHO				P			22 14 52.9	
	SNR=34							
ASHO				P			22 14 53.7	
	SNR=5.3							
ASHO	**Ashiyiah**	**6.43**	**143**	P		**Pn**	**22 14 52.2**	**+0.1**
	SNR=173							
ILIN	**Lien**	**6.46**	**322**	Pn		**Pn**	**22 14 51.9**	**-0.5**
ILIN	**Lien**	**6.46**	**322**	*e*Pn		**Pn**	**22 14 51.9**	**-0.5**
ILIN	**Lien**	**6.46**	**322**	*e*Pn		**Pn**	**22 14 51.9**	**-0.5**
IKIA	**Kiasar**	**6.48**	**14**	Pn		**Pn**	**22 14 53.5**	**+0.9**
IKIA	**Kiasar**	**6.48**	**14**	*e*Pn		**Pn**	**22 14 52.8**	**+0.2**
IKIA				*e*			22 17 00.6	
	comp=Z,2μm,0.7s							
IKIA	**Kiasar**	**6.48**	**14**	*e*Pn		**Pn**	**22 14 52.8**	**+0.2**
IDHR	**Dehrash**	**6.62**	**318**	Pn		**Pn**	**22 14 53.8**	**-0.8**
IDHR	**Dehrash**	**6.62**	**318**	*e*Pn		**Pn**	**22 14 53.8**	**-0.8**
IDHR				*e*			22 16 17.6	
	comp=Z,4μm,0.4s							
IDHR	**Dehrash**	**6.62**	**318**	*e*Pn		**Pn**	**22 14 53.8**	**-0.8**
ITEG	**Tejag**	**6.64**	**

ASF Lg 22 20 31.8
comp=Z,0.4nm,0.3s,baz=170,slow=19,SNR=2.2
ASF Jabal al Asfar 12.98 284 Pn **Pn 22 16 19.9 -1.9**
ASF Sn **Sn 22 18 41.8 -4.3**
ASF Lg 22 20 31.8
ASF Jabal al Asfar 12.98 284 P **Pn 22 16 19.9 -1.9**
ASF 22 18 41.8
MTA Mtatsminda 13.06 336 P **Pn 22 16 28.9 +6.1**
TBLG Delisi 13.11 336 *eP* **Pn 22 16 29.1 +5.6**
TBLG Delisi 13.11 336 P **Pn 22 16 29.1 +5.7**
AKH Akhalkalaki 13.31 332 P Px 22 16 43.7
GOR Gori 13.56 335 P Px 22 16 42.4
ZEI Tsey 14.32 336 *eP* **Pn 22 16 43.0 +3.0**
ZEI pmax pmax
comp=Z,32nm,1.4s
ZEI Tsey 14.32 336 *eP* **Pn 22 16 43.0 +3.0**
comp=Z,32nm,1.4s
ONI Oni 14.33 334 P **Pn 22 16 44.1 +4.0**
MMAI Mount Meron Ar 14.34 287 Pn **Pn 22 16 38.3 -2.0**
comp=Z,1.7nm,0.3s,baz=99,slow=18,SNR=15
MMAI Sn **Sn 22 19 13.8 -5.4**
comp=Z,1.2nm,0.3s,baz=116,slow=26,SNR=4.2
MMAI Mount Meron Ar 14.34 287 Pn **Pn 22 16 38.3 -2.0**
MMAI Sn **Sn 22 19 13.8 -5.4**
MMAI Mount Meron Ar 14.34 287 Pn **Pn 22 16 38.3 -2.0**
EIL Elat 14.64 273 Pn **Pn 22 16 44.3 -0.1**
comp=Z,0.5nm,0.3s,baz=80,slow=2.4,SNR=5.0
EIL Sn **Sn 22 19 22.5 -4.1**
comp=Z,0.6nm,0.3s,baz=31,slow=11,SNR=2.5
EIL Lg 22 21 25.1
baz=342,slow=21,SNR=2.7
EIL Elat 14.64 273 Pn **Pn 22 16 44.3 -0.1**
EIL Sn **Sn 22 19 22.5 -4.1**
EIL Lg 22 21 25.1
EIL Elat 14.64 273 Pn **Pn 22 16 44.3 -0.1**
EIL Sn **Sn 22 19 22.5 -4.1**
KBL Kabul 15.30 68 *e*Pn **Pn 22 16 55.2 +1.9**
comp=Z,18nm,1.4s
KBL Kabul 15.30 68 *eP* **Pn 22 16 55.2 +1.9**
KBL pmax pmax
comp=Z,17nm,1.4s
KBL Kabul 15.30 68 *e*Pn **Pn 22 16 55.2 +1.9**
comp=Z,18nm,1.4s
MUKL Al Mukalla 15.57 190 *eP* **Pn 22 16 55.8 -1.1**
KIV Kislovodsk 15.79 335 *e*Pn **Pn 22 17 03.0 +3.4**
comp=Z,64nm,1.2s
KIV Kislovodsk 15.79 335 *eP* **Pn 22 17 01.7 +2.1**
KIV *e*S **Sn 22 19 56.7 +2.4**
KIV pmax pmax
comp=Z,57nm,1.1s
KIV Kislovodsk 15.79 335 *eP* **Pn 22 17 01.7 +2.1**
comp=Z,57nm,1.1s
CSS Prodhromos 16.39 293 *e*Pn **Pn 22 17 08.9 +1.6**
comp=Z,76nm,1.7s
CSS Prodhromos 16.39 293 *e*Pn **Pn 22 17 08.9 +1.6**
comp=Z,76nm,1.7s
SOC Sochi 16.71 328 *eP* **Pn 22 17 09.0 -2.4**
SOC *e* 22 20 14.2
SOC pmax pmax
comp=Z,12nm,0.6s
THW Thamme Wali 17.27 75 P **Pn 22 17 17.5 -1.0**
CEP Cherat 17.52 72 P **Pn 22 17 21.2 -0.4**
BRTR Keskin Array B 17.81 308 P **Pn 22 17 25.3 +0.1**
comp=Z,1.0nm,0.3s,baz=132,slow=13,SNR=45
BRTR Keskin Array B 17.81 308 P **Pn 22 17 25.3 +0.1**
BRTR Keskin Array B 17.81 308 P **Pn 22 17 25.3 +0.1**
BRTR Keskin Array B 17.81 308 P **Pn 22 17 25.3 +0.1**
KK31 Karatay Array 19.93 44 *i* P **Pn 22 17 48.4 -2.4**
KK31 pmax pmax
comp=Z,3.0nm,0.3s
KK31 Karatay Array 19.93 44 *i* P **Pn 22 17 48.4 -2.4**
comp=Z,3.0nm,0.3s
KKAR Karatay Array 19.93 44 *eP* **Pn 22 17 48.8 -2.0**
KKAR Karatay Array 19.93 44 *eP* **Pn 22 17 48.8 -2.0**
KKAR Karatay Array 19.93 44 *eP* **Pn 22 17 48.8 -2.0**
AB31 Akbulak array 20.29 16 *i* P **P 22 17 51.6 -1.4**
AB31 pmax pmax
comp=Z,3.0nm,0.2s
AB31 Akbulak array 20.29 16 *i* P **P 22 17 51.6 -1.4**
comp=Z,3.0nm,0.2s
ABKAR Akbulak array 20.29 16 *eP* **P 22 17 51.9 -1.1**
ABKAR Akbulak array 20.29 16 *eP* **P 22 17 51.9 -1.1**
AKTK Aktyubinsk 21.03 11 *i* P **P 22 17 59.2 -1.8**
AKTO Aktyubinsk 21.03 11 P **P 22 17 59.8 -1.1**
comp=Z,3.3nm,0.3s,mb4.1,baz=194,slow=11,SNR=20
AKTO LR LR 22 28 37.6
comp=Z,64nm,19.9s,MS3.0,baz=9.0,slow=44
AKTO Aktyubinsk 21.03 11 P **P 22 17 59.8 -1.1**
AKTO Aktyubinsk 21.03 11 *i* P **P 22 17 59.2 -1.8**
AKTO Aktyubinsk 21.03 11 P **P 22 17 59.8 -1.2**
AML Almayashu 21.43 49 P **P 22 18 05.0 -0.4**
SNR=29
EKS2 Erkin-Say 21.73 48 P **P 22 18 09.4 +0.8**
SNR=9.9
EKS2 Erkin-Say 21.73 48 *eP* **P 22 18 09.4 +0.8**
comp=Z,10nm,0.8s,mb4.3
EKS2 Erkin-Say 21.73 48 *eP* **P 22 18 09.4 +0.8**
EKS2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
EKS2 Erkin-Say 21.73 48 *eP* **P 22 18 09.4 +0.8**
comp=Z,10.0nm,0.8s,mb4.3
AAK Ala-Archa 22.19 49 P **P 22 18 15.8 +2.3**
SNR=13
AAK Ala-Archa 22.19 49 *eP* **P 22 18 13.2 -0.3**
comp=Z,74nm,1.1s,mb5.0
AAK Ala-Archa 22.19 49 *d*/*P* **P 22 18 12.6 -0.9**
AAK pmax pmax
comp=Z,15nm,1.1s,mb4.3
AAK Ala-Archa 22.19 49 *i* P **P 22 18 12.6 -0.9**
comp=Z,15nm,1.1s,mb4.3
KZA Kyzart 22.44 51 P **P 22 18 16.6 +0.4**
SNR=12
USP Ospenovka 22.49 47 P **P 22 18 17.7 +1.0**
SNR=8.7
KBK Karagaybulak 22.50 49 P **P 22 18 19.8 +2.1**
SNR=8.6
CHMS Chumysh 22.53 48 P **P 22 18 18.4 +1.3**
SNR=6.6
TKM2 Tokmak 2 23.04 49 *eP* **P 22 18 22.2 -0.3**
comp=Z,14nm,1.5s,mb4.2
TKM2 Tokmak 2 23.04 49 *eP* **P 22 18 22.3 -0.2**
TKM2 pmax pmax
comp=Z,15nm,1.5s,mb4.2
TKM2 Tokmak 2 23.04 49 *eP* **P 22 18 22.2 -0.3**
comp=Z,14nm,1.5s,mb4.2
VSR Storozhevoye 23.28 340 *eP* **P 22 18 24.5 -0.5**
VSR *e*S **S 22 22 31.2 -5.5**
VSR pmax pmax
comp=Z,20nm,1.5s,mb4.3
VSR pmax pmax
comp=N,10.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.3s
VSR smax
comp=N,60nm,0.9s
VSR smax
comp=E,40nm,0.9s
VSR smax
comp=Z,10.0nm,1.3s
VSR Storozhevoye 23.28 340 *eP* **P 22 18 24.5 -0.5**
comp=Z,10.0nm,1.0s,mb4.2
TIRR Tirgusor 23.52 315 *d*/*P* **P 22 18 29.2 +1.7**
TIRR Tirgusor 23.52 315 *i*/*P* **P 22 18 29.2 +1.7**
TIRR Tirgusor 23.52 315 P **P 22 18 29.2 +1.7**
CFR Carcaliu 24.05 316 *d*/*P* **P 22 18 31.5 -0.9**
CFR Carcaliu 24.05 316 *i*/*P* **P 22 18 31.5 -0.9**
CFR Carcaliu 24.05 316 P **P 22 18 31.5 -0.9**
LEOM Leova 24.68 319 *d*/*P* **P 22 18 38.0 -0.2**
LEOM Leova 24.68 319 *i*/*P* **P 22 18 38.0 -0.2**
LEOM Leova 24.68 319 P **P 22 18 38.0 -0.2**
SULR 24.97 313 *d*/*P* **P 22 18 40.4 -0.4**
SULR 24.97 313 *i*/*P* **P 22 18 40.4 -0.4**
VRI Vrincioaia 25.26 316 *d*/*P* **P 22 18 42.7 -0.7**
VRI Vrincioaia 25.26 316 *i*/*P* **P 22 18 42.7 -0.7**
VRI Vrincioaia 25.26 316 P **P 22 18 42.7 -0.7**
PLOR Plostina 25.30 316 *d*/*P* **P 22 18 45.5 +1.8**
PLOR Plostina 25.30 316 *i*/*P* **P 22 18 45.5 +1.8**
PLOR Plostina 25.30 316 P **P 22 18 45.5 +1.8**
MLR Muntele Rosu 25.55 315 P **P 22 18 48.5 +2.4**
comp=Z,5.7nm,0.7s,mb4.2,baz=179,slow=4.3,SNR=24
MLR LR LR 22 29 27.9
comp=Z,25nm,18.5s,MS2.8,baz=133,slow=38
MLR Muntele Rosu 25.55 315 P **P 22 18 48.5 +2.4**
MLR Muntele Rosu 25.55 315 P **P 22 18 48.5 +2.5**
MLR Muntele Rosu 25.55 315 *d*/*P* **P 22 18 49.4 +3.4**
MLR Muntele Rosu 25.55 315 P **P 22 18 48.5 +2.5**
TESR 25.64 317 *d*/*P* **P 22 18 47.6 +0.8**
TESR 25.64 317 *i*/*P* **P 22 18 47.6 +0.8**
VOIR 26.08 314 *d*/*P* **P 22 18 54.4 +3.5**
VOIR 26.08 314 *i*/*P* **P 22 18 54.3 +3.4**
VTS Vitosha 26.17 307 *d*/*P* **P 22 18 53.5 +1.8**
VTS Vitosha 26.17 307 *i*/*P* **P 22 18 53.5 +1.8**
VTS Vitosha 26.17 307 P **P 22 18 53.5 +1.8**
AKASG Malin Array Be 26.79 327 P **P 22 18 56.1 -1.0**
comp=Z,2.4nm,0.4s,mb4.0,baz=134,slow=8.7,SNR=14
AKASG Malin Array Be 26.79 327 P **P 22 18 56.1 -1.0**
AKASG Malin Array Be 26.79 327 P **P 22 18 56.1 -1.1**
AKASG Malin Array Be 26.79 327 P **P 22 18 56.1 -1.1**
KIEV Kiev 26.79 327 *eP* **P 22 18 56.4 -0.8**
comp=Z,8.1nm,0.7s,mb4.4
KIEV Kiev 26.79 327 *eP* **P 22 18 56.4 -0.8**
KIEV pmax pmax
comp=Z,8.0nm,0.7s,mb4.4
KIEV Kiev 26.79 327 *eP* **P 22 18 56.4 -0.8**
comp=Z,8.0nm,0.7s,mb4.4
BRVK Borovoye 26.80 25 *eP* **P 22 18 57.3 +0.1**
comp=Z,6.8nm,1.0s,mb4.1
BRVK Borovoye 26.80 25 *de*P **P 22 18 57.0 -0.2**
BRVK pmax pmax
comp=Z,11nm,1.2s,mb4.3
BRVK Borovoye 26.80 25 *eP* **P 22 18 57.0 -0.2**
comp=Z,11nm,1.2s,mb4.3
BVAR Borovoye Array 26.81 25 P **P 22 18 57.4 0.0**
comp=Z,5.0nm,0.7s,mb4.2,baz=223,slow=7.8,SNR=28
BVAR PcP PcP 22 22 19.8 -0.1
comp=Z,0.7nm,0.4s,baz=184,slow=3.0,SNR=6.1
BVAR ScP ScP 22 25 57.2 -2.6
comp=Z,0.5nm,0.8s,baz=192,slow=2.8,SNR=3.2
BVAR LR LR 22 30 07.6
comp=Z,68nm,20.8s,MS3.2,baz=79,slow=38
BVAR Borovoye Array 26.81 25 P **P 22 18 57.4 0.0**
BVAR PcP PcP 22 22 19.8 -0.1
BVAR ScP ScP 22 25 57.2 -2.5
BVAR Borovoye Array 26.81 25 P **P 22 18 57.4 0.0**
BVAR 22 22 19.8
BVAR Borovoye Array 26.81 25 P **P 22 18 57.4 0.0**
LOT Lotru 26.89 313 *d*/*P* **P 22 19 01.1 +2.9**
LOT Lotru 26.89 313 *i*/*P* **P 22 19 01.1 +2.9**
ARU Arti 26.94 8 *c*/*P* **P 22 18 58.6 +0.2**
ARU *e* 22 19 38.0
ARU S **S 22 23 34.6 -0.4**
ARU SS 22 24 37.8
ARU pmax pmax
comp=Z,12nm,2.5s,mb4.0
ARU Arti 26.94 8 *i* P **P 22 18 58.6 +0.2**
comp=Z,12nm,2.5s,mb4.0
ARU S **S 22 23 34.6 -0.4**
BURAR Bucovina Array 27.05 318 *d*/*P* **P 22 18 59.9 +0.4**
BURAR Bucovina Array 27.05 318 *i*/*P* **P 22 18 59.9 +0.4**
BURAR Bucovina Array 27.05 318 P **P 22 18 59.9 +0.4**
KRUS Krusevo 27.20 303 *e*Pn **P 22 19 02.3 +1.2**
KRUS Krusevo 27.20 303 *eP*n **P 22 19 02.2 +1.2**
BARS Barje 27.21 306 *eP* **P 22 19 02.5 +1.4**
PYUN Piuthan 27.30 86 *eP* **P 22 19 02.0 0.0**
OBN Obninsk 27.46 341 *d*/*eP* **P 22 19 02.7 -0.4**
OBN pmax pmax
comp=Z,22nm,1.6s,mb4.4
OBN MLR MLR
comp=Z,100nm,19.0s,MS3.4
OBN Obninsk 27.46 341 *eP* **P 22 19 02.7 -0.4**
comp=Z,100nm,19.0s
GZR Gura Zlata 27.50 312 *d*/*P* **P 22 19 05.2 +1.5**
GZR Gura Zlata 27.50 312 *i*/*P* **P 22 19 05.2 +1.5**
GZR Gura Zlata 27.50 312 P **P 22 19 05.2 +1.5**
SVE Sverdlovsk 27.62 10 *eP* **P 22 19 04.9 +0.4**
SVE pmax pmax
comp=Z,7.0nm,1.2s,mb4.2
SVE Sverdlovsk 27.62 10 *eP* **P 22 19 04.9 +0.4**
comp=Z,7.0nm,1.2s,mb4.2
KOLN Koldanda 27.89 86 *eP* **P 22 19 07.1 -0.2**
comp=Z,4.3nm,0.3s,mb4.5
DANN Dangsing 27.91 85 *eP* **P 22 19 07.8 +0.3**
comp=Z,10nm,0.3s,mb5.0
DRGR 28.14 315 *d*/*P* **P 22 19 10.2 +0.8**
DRGR 28.14 315 *i*/*P* **P 22 19 10.2 +0.8**
DRGR 28.14 315 P **P 22 19 10.2 +0.8**
BZS Buzias 28.34 312 *d*/*P* **P 22 19 11.1 -0.1**
BZS Buzias 28.34 312 *i*/*P* **P 22 19 11.1 -0.1**
BZS Buzias 28.34 312 P **P 22 19 11.1 -0.1**
GKN Gorkha 28.74 86 *eP* **P 22 19 14.7 -0.2**
comp=Z,11nm,0.3s,mb5.1
KURK Kurchatov 28.89 36 P **P 22 19 15.0 -1.0**
comp=Z,2.7nm,0.7s,mb4.1,baz=235,slow=9.2,SNR=19
KURK LR LR 22 32 14.6
comp=Z,101nm,18.8s,MS3.5,baz=235,slow=40
KURK Kurchatov 28.89 36 *eP* **P 22 19 16.0 +0.1**
KURK Kurchatov 28.89 36 *c*/*P* **P 22 19 16.2 +0.2**
KURK pmax pmax
comp=Z,6.0nm,1.2s,mb4.2
KURK Kurchatov 28.89 36 *eP* **P 22 19 16.0 0.0**
MKAR Makanchi Array 29.01 46 P **P 22 19 16.1 -0.9**
comp=Z,1.5nm,0.6s,mb3.9,baz=230,slow=9.5,SNR=10
MKAR PcP PcP 22 22 24.3 -1.1
comp=Z,0.3nm,0.4s,baz=246,slow=3.3,SNR=4.7
MKAR LR LR 22 31 31.2
comp=Z,79nm,20.4s,MS3.3,baz=174,slow=38
MKAR Makanchi Array 29.01 46 P **P 22 19 16.1 -0.9**
MKAR PcP PcP 22 22 24.3 -1.1
MKAR Makanchi Array 29.01 46 P **P 22 19 16.2 -0.9**
MKAR 22 22 24.3
MKAR Makanchi Array 29.01 46 P **P 22 19 16.1 -1.0**
DMN Daman 29.23 86 *eP* **P 22 19 19.1 -0.2**
comp=Z,11nm,0.3s,mb5.1
UZH Uzhgorod 29.25 318 *e* **P 22 19 22.2 +3.0**
KKN Kakani 29.34 86 *eP* **P 22 19 20.1 -0.2**
comp=Z,9.0nm,0.4s,mb4.9
PKI Pulchoki 29.50 86 *eP* **P 22 19 21.7 0.0**
GUN Gumba 29.84 85 *eP* **P 22 19 24.8 +0.2**
comp=Z,10nm,0.4s,mb4.9
JIRN Jiri 30.16 86 *eP* **P 22 19 27.4 -0.1**
comp=Z,5.8nm,0.3s,mb4.8
RAMN Ramite 30.67 87 *eP* **P 22 19 31.1 -1.0**
comp=Z,6.1nm,0.3s,mb4.9
ODAN Odare 31.38 87 *eP* **P 22 19 37.5 -0.8**
TAPN Taplejung 31.54 86 *eP* **P 22 19 39.1 -0.6**
comp=Z,5.4nm,0.4s,mb4.8
KLMR Klimovskoe 32.02 349 *eP* **P 22 19 42.0 -1.5**
KLMR pmax pmax
comp=Z,28nm,1.5s,mb4.9
KLMR Klimovskoe 32.02 349 *eP* **P 22 19 42.0 -1.5**
comp=Z,28nm,1.5s,mb4.9
VRAC Vranov 32.92 316 P **P 22 19 52.2 +0.6**
comp=Z,3.4nm,0.6s,mb4.5,baz=81,slow=8.5,SNR=4.4
VRAC LR LR 22 35 43.5
comp=Z,57nm,18.4s,MS3.3,baz=191,slow=41
VRAC Vranov 32.92 316 P **P 22 19 52.2 +0.6**
VRAC Vranov 32.92 316 P **P 22 19 52.2 +0.6**
VRAC Vranov 32.92 316 P **P 22 19 52.2 +0.6**
NVS Novosibirsk 33.57 33 *eP* **P 22 19 55.6 -1.5**
NVS Novosibirsk 33.57 33 *eP* **P 22 19 55.6 -1.5**
ZALV Zalesovo Beam 33.85 35 P **P 22 19 58.9 -0.7**
comp=Z,6.2nm,0.5s,mb4.8,baz=249,slow=9.2,SNR=36
ZALV LR LR 22 35 42.7
comp=Z,48nm,18.3s,MS3.3,baz=254,slow=40
ZALV Zalesovo Beam 33.85 35 P **P 22 19 58.9 -0.7**
ZALV Zalesovo Beam 33.85 35 P **P 22 19 58.9 -0.7**
ZALV Zalesovo Beam 33.85 35 P **P 22 19 58.8 -0.8**
MOA Molln 33.86 313 *d*/*P* **P 22 19 59.9 +0.2**
comp=Z,10.0nm,1.2s,mb4.6
MOA Molln 33.86 313 P **P 22 19 59.9 +0.2**
comp=Z,10.0nm,1.2s,mb4.6
GERES GERESS Array B 34.53 314 P **P 22 20 05.5 0.0**
comp=Z,0.6nm,0.5s,mb3.8,baz=107,slow=8.9,SNR=8.9
GERES GERESS Array B 34.53 314 P **P 22 20 05.5 0.0**
GERES GERESS Array B 34.53 314 P **P 22 20 05.6 0.0**
GERES GERESS Array B 34.53 314 P **P 22 20 05.6 0.0**
ABTA Abfaltersbach 34.69 310 *d*/*P* **P 22 20 07.4 +0.5**
comp=Z,7.6nm,1.2s,mb4.5
ABTA Abfaltersbach 34.69 310 P **P 22 20 07.4 +0.5**
comp=Z,7.6nm,1.2s,mb4.5
KHC Kasperske Hory 34.70 314 *eP* **P 22 20 09.6 +2.6**
comp=Z,49nm,2.2s,mb5.0
KHC Kasperske Hory 34.70 314 *eP* **P 22 20 03.5 -3.6**
KHC Kasperske Hory 34.70 314 *eP* **P 22 20 07.0 -0.1**
WTTA Wattenberg 35.40 311 *d*/*P* **P 22 20 12.5 -0.6**
comp=Z,7.6nm,0.8s,mb4.7
WTTA Wattenberg 35.40 311 P **P 22 20 12.5 -0.6**
comp=Z,7.6nm,0.8s,mb4.7
JOF Joensuu 35.58 344 *eP* **P 22 20 13.4 -1.0**
JOF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
JOF Joensuu 35.58 344 *ep* **P 22 20 13.4 -1.0**
comp=Z,5.0nm,0.6s,mb4.6
JOF Joensuu 35.58 344 *eP* **P 22 20 13.4 -1.0**
comp=Z,5.0nm,0.6s,mb4.6
MOTA Moosalm 35.77 311 *d*/*P* **P 22 20 15.7 -0.6**
comp=Z,8.1nm,0.8s,mb4.7
MOTA Moosalm 35.77 311 P **P 22 20 15.7 -0.6**
comp=Z,8.1nm,0.8s,mb4.7
CLL Collm 35.81 318 *eP* **P 22 20 19.0 +2.4**
CLL *e* 22 20 25.0
CLL Collm 35.81 318 *ep*P pP 22 20 19.0 -1.6
CLL *e* 22 20 25.0
CLL Collm 35.81 318 *eP* **P 22 20 19.0 +2.4**
FINES FINESS Array B 35.81 339 P **P 22 20 15.1 -1.3**
comp=Z,4.6nm,0.5s,mb4.7,baz=145,slow=9.0,SNR=58
FINES LR LR 22 36 00.3
comp=Z,70nm,19.9s,MS3.4,baz=314,slow=38
FINES FINESS Array B 35.81 339 P **P 22 20 15.1 -1.3**
FINES FINESS Array B 35.81 339 P **P 22 20 15.1 -1.3**
FINES FINESS Array B 35.81 339 P **P 22 20 15.1 -1.3**
FETA Feichten 35.94 310 *i*/*P* **P 22 20 17.6 -0.1**
comp=Z,15nm,1.0s,mb4.9
FETA Feichten 35.94 310 P **P 22 20 17.6 -0.1**
comp=Z,15nm,1.0s,mb4.9
KEST Kesra 35.94 291 P **P 22 20 18.9 +1.0**
comp=Z,1.2nm,0.7s,mb3.9,baz=198,slow=22,SNR=6.7
KEST Kesra 35.94 291 P **P 22 20 18.9 +1.0**
KEST Kesra 35.94 291 P **P 22 20 18.9 +1.0**
KAF Kangasniemi 36.26 340 *eP* **P 22 20 18.8 -1.5**
KAF pmax pmax
comp=Z,2.0nm,0.3s,mb4.5
KAF Kangasniemi 36.26 340 *ep* **P 22 20 18.8 -1.5**
comp=Z,1.6nm,0.3s,mb4.4
KAF Kangasniemi 36.26 340 *eP* **P 22 20 18.8 -1.5**
comp=Z,2.0nm,0.3s,mb4.5
PGF Pioggiola 36.39 302 *eP* **P 22 20 18.9 -2.8**
PGF Pioggiola 36.39 302 *eP* **P 22 20 18.9 -2.8**
DAVOX Davos/Dischmat 36.45 309 P **P 22 20 22.2 +0.1**
comp=Z,3.9nm,0.6s,mb4.5,baz=172,slow=21,SNR=8.3
DAVOX Davos/Dischmat 36.45 309 P **P 22 20 22.2 +0.1**
DAVOX Davos/Dischmat 36.45 309 P **P 22 20 22.2 +0.1**
DAVOX Davos/Dischmat 36.45 309 P **P 22 20 22.2 +0.1**
DAVA Damuels 36.56 310 *i*/*P* **P 22 20 22.5 -0.5**
comp=Z,14nm,0.5s,mb5.1
DAVA Damuels 36.56 310 P **P 22 20 22.5 -0.6**
comp=Z,14nm,0.5s,mb5.1
MBDF Montbardon 38.25 305 *eP* **P 22 20 36.3 -1.1**
comp=Z,18nm,0.7s,mb4.6
MBDF Montbardon 38.25 305 *eP* **P 22 20 36.3 -1.1**
comp=Z,8.9nm,0.7s,mb4.6
LPG La Plagne 38.37 307 *eP* **P 22 20 38.3 0.0**
comp=Z,16nm,0.7s,mb4.6
LPG La Plagne 38.37 307 *eP* **P 22 20 38.3 0.0**
comp=Z,8.2nm,0.7s,mb4.6
LPL La Plagne 38.38 307 *eP* **P 22 20 38.2 -0.3**
comp=Z,18nm,0.7s,mb4.6
LPL La Plagne 38.38 307 *eP* **P 22 20 38.2 -0.3**
comp=Z,9.0nm,0.7s,mb4.6
CDF Champ du Feu 38.52 311 *eP* **P 22 20 39.2 -0.4**
CDF Champ du Feu 38.52 311 *eP* **P 22 20 39.2 -0.4**
HINF Hinteralfeld 38.68 310 *eP* **P 22 20 39.1 -1.9**
HINF Hinteralfeld 38.68 310 *eP* **P 22 20 39.1 -1.9**
ORIF Oris-en-Rattie 38.90 306 *eP* **P 22 20 42.3 -0.6**
comp=Z,11nm,0.8s,mb4.3
ORIF Oris-en-Rattie 38.90 306 *eP* **P 22 20 42.3 -0.6**
comp=Z,5.7nm,0.8s,mb4.3
CABF La Chapelle 38.99 308 *eP* **P 22 20 43.4 -0.1**
comp=Z,44nm,1.0s,mb4.8
CABF La Chapelle 38.99 308 *eP* **P 22 20 43.4 -0.1**
comp=Z,22nm,1.0s,mb4.8
HAU Haudompre 39.05 311 *eP* **P 22 20 43.9 -0.2**
HAU Haudompre 39.05 311 *eP* **P 22 20 43.9 -0.2**
LVZ Lovozero 39.36 350 *i*/*eP* **P 22 20 47.7 +1.3**
LVZ pmax pmax
comp=Z,27nm,1.7s,mb4.7
LVZ Lovozero 39.36 350 *eP* **P 22 20 47.7 +1.3**
comp=Z,27nm,1.7s,mb4.7
HFS Hagfors 39.52 331 P **P 22 20 46.8 -1.0**
comp=Z,2.0nm,0.3s,mb4.4,baz=136,slow=9.0,SNR=43
HFS Hagfors 39.52 331 P **P 22 20 46.8 -1.0**
HFS Hagfors 39.52 331 P **P 22 20 46.8 -1.0**
HFS Hagfors 39.52 331 P **P 22 20 46.8 -1.0**
GTA Gaotai 40.21 63 *eP* **P 22 20 54.5 +0.7**
GTA pP pP 22 20 59.3 +1.4
GTA sP sP 22 21 02.8 +3.3
GTA pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
SMF Signal de Mont 40.52 308 *eP* **P 22 20 55.6 -0.7**
comp=Z,15nm,0.7s,mb4.4
SMF Signal de Mont 40.52 308 *eP* **P 22 20 55.6 -0.7**
comp=Z,7.7nm,0.7s,mb4.4
SSF Saint Saulge 40.80 309 *eP* **P 22 20 57.6 -1.0**
comp=Z,5.2nm,0.6s,mb4.0
SSF Saint Saulge 40.80 309 *eP* **P 22 20 57.6 -1.0**
comp=Z,2.6nm,0.6s,mb4.0
BAIF Baives 40.83 313 *eP* **P 22 20 57.8 -1.0**
BAIF Baives 40.83 313 *eP* **P 22 20 57.8 -1.0**
AVF Avril sur Loir 40.88 308 *eP* **P 22 20 58.3 -0.9**
comp=Z,20nm,1.1s,mb4.4
AVF Avril sur Loir 40.88 308 *eP* **P 22 20 58.3 -0.9**
comp=Z,10nm,1.1s,mb4.4
NB2 NORSAR Subarra 41.04 331 P **P 22 20 58.2 -2.2**
comp=Z,2.2nm,0.8s,mb3.8,baz=122,slow=8.6
NB2 NORSAR Subarra 41.04 331 P **P 22 20 58.2 -2.2**
baz=122,slow=8.4,SNR=25
NOA NORSAR Array B 41.04 331 P **P 22 20 58.9 -1.4**
comp=Z,1.5nm,0.7s,mb3.8,baz=122,slow=8.3,SNR=6.4
NOA LR LR 22 38 51.1
comp=Z,54nm,18.1s,MS3.5,baz=60,slow=38
NOA NORSAR Array B 41.04 331 P **P 22 20 58.9 -1.4**
NOA NORSAR Array B 41.04 331 P **P 22 20 58.9 -1.5**
NOA NORSAR Array B 41.04 331 P **P 22 20 58.9 -1.5**
BGF Bois d'Agland 41.20 308 *eP* **P 22 21 01.5 -0.4**
comp=Z,9.3nm,0.7s,mb4.2
BGF Bois d'Agland 41.20 308 *eP* **P 22 21 01.5 -0.4**
comp=Z,4.7nm,0.7s,mb4.2
TCF Toulx Ste Croi 41.61 307 *eP* **P 22 21 03.7 -1.6**
TCF Toulx Ste Croi 41.61 307 *eP* **P 22 21 03.7 -1.6**
RJF Les Rejaudoux 42.01 306 *eP* **P 22 21 07.9 -0.7**
comp=Z,7.4nm,0.6s,mb4.2
RJF Les Rejaudoux 42.01 306 *eP* **P 22 21 07.9 -0.7**
comp=Z,3.7nm,0.6s,mb4.2
KEV Kevo 42.32 347 *eP* **P 22 21 09.2 -1.5**
KEV pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
KEV Kevo 42.32 347 *ep* **P 22 21 09.2 -1.5**
comp=Z,3.7nm,0.6s,mb4.2
KEV Kevo 42.32 347 *eP* **P 22 21 09.2 -1.5**
comp=Z,4.0nm,0.6s,mb4.2
ARCES ARCESS Array B 42.42 347 P **P 22 21 11.1 -0.6**
comp=Z,2.6nm,0.6s,mb4.1,baz=143,slow=9.0,SNR=30
ARCES ARCESS Array B 42.42 347 P **P 22 21 11.1 -0.6**
ARCES ARCESS Array B 42.42 347 P **P 22 21 11.1 -0.5**
ARCES ARCESS Array B 42.42 347 P **P 22 21 11.1 -0.5**
ARE0 ARCESS Array S 42.42 347 *eP* **P 22 21 11.7 +0.1**
ARE0 ARCESS Array S 42.42 347 *eP* **P 22 21 11.7 +0.1**
SNR=25
KTK1 Kautokeino 42.48 345 *eP* **P 22 21 11.1 -1.0**
KTK1 *e*PP PP 22 22 51.1 +0.7
KTK1 Kautokeino 42.48 345 *eP* **P 22 21 11.1 -1.0**
SNR=25
EPF Esparros 42.78 302 *eP* **P 22 21 14.3 -0.6**
EPF Esparros 42.78 302 *eP* **P 22 21 14.3 -0.6**
LDF La Druitiere 43.41 310 *eP* **P 22 21 19.1 -0.8**
comp=Z,3.2nm,0.3s,mb4.2
LDF La Druitiere 43.41 310 *eP* **P 22 21 19.1 -0.8**
comp=Z,1.6nm,0.3s,mb4.2
ETSF Etsaut 43.44 302 *eP* **P 22 21 21.7 +1.5**
ETSF Etsaut 43.44 302 *eP* **P 22 21 21.7 +1.5**
FLN La Foliniere 43.66 311 *eP* **P 22 21 21.2 -0.7**
FLN La Foliniere 43.66 311 *eP* **P 22 21 21.2 -0.7**
GRR Gorron 43.88 310 *eP* **P 22 21 22.9 -0.8**
GRR Gorron 43.88 310 *eP* **P 22 21 22.9 -0.8**
SJPF Ste Jean 43.93 303 *eP* **P 22 21 23.5 -0.6**
comp=Z,16nm,0.6s,mb4.7
SJPF Ste Jean 43.93 303 *eP* **P 22 21 23.5 -0.6**
comp=Z,8.1nm,0.6s,mb4.7
CHTO Chiang Mai 44.07 93 *eP* **P 22 21 26.2 +0.6**
comp=Z,4.8nm,0.7s,mb4.3
CHTO Chiang Mai 44.07 93 *eP* **P 22 21 26.2 +0.6**
CHTO pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
CHTO Chiang Mai 44.07 93 *eP* **P 22 21 26.2 +0.6**

	comp=Z,5.0nm,0.7s,mb4.3								
CMAR	**Chiang Mai Arr**	**44.22**	**94**	P		**P**	**22 21 26.9**	**+0.1**	
	comp=Z,0.7nm,0.5s,mb3.6,baz=283,slow=8.3,SNR=8.0								
CMAR	**Chiang Mai Arr**	**44.22**	**94**	P		**P**	**22 21 26.9**	**+0.1**	
CMAR	**Chiang Mai Arr**	**44.22**	**94**	P		**P**	**22 21 26.9**	**+0.2**	
CMAR	**Chiang Mai Arr**	**44.22**	**94**	P		**P**	**22 21 26.9**	**+0.2**	
SONM	**Songino Array**	**45.13**	**51**	P		**P**	**22 21 33.3**	**-0.4**	
	comp=Z,0.3nm,0.4s,mb3.5,baz=268,slow=7.1,SNR=3.5								
SONM				PcP		PcP			
	comp=Z,0.5nm,0.5s,baz=268,slow=3.8,SNR=3.7						22 23 13.6	-0.4	
SONM				LR		LR			
	comp=Z,78nm,18.8s,MS3.7,baz=66,slow=38						22 41 36.1		
SONM	**Songino Array**	**45.13**	**51**	P		**P**	**22 21 33.3**	**-0.4**	
SONM				PcP		PcP	22 23 13.6	-0.4	
SONM	**Songino Array**	**45.13**	**51**	P		**P**	**22 21 33.3**	**-0.3**	
SONM							22 23 13.6		
SONM	**Songino Array**	**45.13**	**51**	P		**P**	**22 21 33.3**	**-0.3**	
QUIF	**Quistinic**	**45.38**	**309**	*e*P		**P**	**22 21 35.1**	**-0.6**	
	comp=Z,6.4nm,0.5s,mb4.5								
QUIF	**Quistinic**	**45.38**	**309**	*e*P		**P**	**22 21 35.1**	**-0.6**	
	comp=Z,3.2nm,0.5s,mb4.5								
ESDC	**Sonseca Array**	**46.18**	**298**	P		**P**	**22 21 43.2**	**+1.1**	
	comp=Z,0.7nm,0.5s,mb3.9,baz=76,slow=8.2,SNR=7.5								
ESDC	**Sonseca Array**	**46.18**	**298**	P		**P**	**22 21 43.2**	**+1.1**	
ESDC	**Sonseca Array**	**46.18**	**298**	P		**P**	**22 21 43.2**	**+1.1**	
HHC	**Hu-ho-hao-te**	**49.08**	**60**	*e*P		**P**	**22 22 05.3**	**+0.6**	
HHC				PcP		PcP	22 23 30.5	+2.3	
HHC				PP		PP	22 23 58.5	+0.3	
HHC				ScP		ScP	22 27 25.8	+2.7	
HHC				S		**S**	**22 29 09.0**	**-0.3**	
HHC				ScS		ScS	22 31 56.5	-0.2	
HHC				SS		SS	22 32 34.5	-5.6	
HHC				pmax		pmax			
	comp=Z,8.0nm,0.8s,mb4.8								
HHC				pmax		pmax			
	comp=Z,72nm,6.1s								
HHC				LR		LR			
	comp=N,170nm,8.3s								
HHC				LR		LR			
	comp=E,230nm,9.9s								
HHC				LR		LR			
	comp=Z,150nm,10.4s,MS4.3								
TORD	**Torodi Ar. Bea**	**49.11**	**261**	P		**P**	**22 22 05.2**	**0.0**	
	comp=Z,3.8nm,0.5s,mb4.7,baz=59,slow=8.2,SNR=7.0								
TORD	**Torodi Ar. Bea**	**49.11**	**261**	P		**P**	**22 22 05.2**	**0.0**	
TORD	**Torodi Ar. Bea**	**49.11**	**261**	P		**P**	**22 22 05.2**	**0.0**	
SPA0	**Spitsbergen Ar**	**50.85**	**351**	*e*P		**P**	**22 22 18.3**	**+0.7**	
SPA0	**Spitsbergen Ar**	**50.85**	**351**	*e*P		**P**	**22 22 18.3**	**+0.7**	
	SNR=23								
NJ2	**Nanjing**	**56.67**	**69**	*e*P		**P**	**22 23 03.5**	**+2.7**	
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.6s,mb5.0								
DBIC	**Dimbokro**	**57.91**	**258**	P		**P**	**22 23 09.7**	**-0.1**	
	comp=Z,3.1nm,0.5s,mb4.6,baz=21,slow=4.7,SNR=11								
DBIC	**Dimbokro**	**57.91**	**258**	P		**P**	**22 23 09.7**	**-0.1**	
DBIC	**Dimbokro**	**57.91**	**258**	P		**P**	**22 23 09.7**	**-0.1**	
DBIC	**Dimbokro**	**57.91**	**258**	P		**P**	**22 23 09.7**	**-0.1**	
LBTB	**Lobatse**	**60.12**	**208**	P		**P**	**22 23 26.2**	**+1.4**	
	comp=Z,11nm,0.9s,mb4.9,baz=46,slow=6.4,SNR=13								
LBTB	**Lobatse**	**60.12**	**208**	*e*P		**P**	**22 23 26.4**	**+1.6**	
LBTB	**Lobatse**	**60.12**	**208**	*e*P		**P**	**22 23 26.4**	**+1.6**	
LBTB	**Lobatse**	**60.12**	**208**	*e*P		**P**	**22 23 26.4**	**+1.6**	
SUMG	**Summit**	**61.84**	**340**	*i* P		**P**	**22 23 37.6**	**+1.6**	
SUMG				pmax		pmax			
	comp=Z,5.0nm,0.8s								
SUMG	**Summit**	**61.84**	**340**	*i* P		**P**	**22 23 37.6**	**+1.6**	
	comp=Z,5.4nm,0.8s,mb4.7								
SUMG	**Summit**	**61.84**	**340**	*i* P		**P**	**22 23 37.6**	**+1.6**	
	comp=Z,5.0nm,0.8s,mb4.7								
KSAR	**Wonju Array Be**	**62.19**	**61**	P		**P**	**22 23 37.5**	**-1.4**	
KSAR	**Wonju Array Be**	**62.19**	**61**	P		**P**	**22 23 37.5**	**-1.4**	
KSAR	**Wonju Array Be**	**62.19**	**61**	P		**P**	**22 23 37.5**	**-1.4**	
KSRS	**Korea Array**	**62.21**	**61**	P		**P**	**22 23 37.5**	**-1.6**	
	comp=Z,0.9nm,0.5s,mb4.2,baz=278,slow=7.0,SNR=5.2								
KSRS				LR		LR	22 54 42.7		
	comp=Z,55nm,18.0s,MS3.8,baz=264,slow=40								
KSRS	**Korea Array**	**62.21**	**61**	P		**P**	**22 23 37.5**	**-1.6**	
KSRS				pmax		pmax			
	comp=Z,1.0nm,0.5s,mb4.2								
KSRS				MLR		MLR			
	comp=Z,55nm,18.0s,MS3.8								
KSRS	**Korea Array**	**62.21**	**61**	P		**P**	**22 23 37.5**	**-1.6**	
	comp=Z,55nm,18.0s								
BOSA	**Boshof**	**63.48**	**206**	P		**P**	**22 23 48.0**	**+0.6**	
	comp=Z,6.1nm,0.6s,mb4.9,baz=39,slow=6.1,SNR=13								
BOSA	**Boshof**	**63.48**	**206**	P		**P**	**22 23 48.0**	**+0.6**	
BOSA	**Boshof**	**63.48**	**206**	P		**P**	**22 23 48.0**	**+0.6**	
BOSA	**Boshof**	**63.48**	**206**	P		**P**	**22 23 48.0**	**+0.6**	
SEY	**Seymchan**	**68.39**	**29**	⇑*i*P		**P**	**22 24 19.2**	**+0.6**	
SEY	**Seymchan**	**68.39**	**29**	*i* P		**P**	**22 24 19.2**	**+0.6**	
BILL	**Bilibino**	**71.07**	**21**	*e*P		**P**	**22 24 35.5**	**+0.4**	
BILL				*e*			22 24 59.1		
BILL				pmax		pmax			
	comp=Z,15nm,2.3s,mb4.5								
BILL	**Bilibino**	**71.07**	**21**	*e*P		**P**	**22 24 35.5**	**+0.4**	
	comp=Z,15nm,2.3s,mb4.5								
INK	**Inuvik**	**82.00**	**2**	P		**P**	**22 25 36.0**	**-0.9**	
	comp=Z,1.3nm,0.5s,mb4.2,baz=323,slow=4.4,SNR=6.0								
INK	**Inuvik**	**82.00**	**2**	P		**P**	**22 25 36.0**	**-0.9**	
INK	**Inuvik**	**82.00**	**2**	P		**P**	**22 25 36.0**	**-0.8**	
INK	**Inuvik**	**82.00**	**2**	P		**P**	**22 25 36.0**	**-0.9**	
ILAR	**Eielson Array**	**84.51**	**8**	P		**P**	**22 25 49.4**	**-0.5**	
	comp=Z,0.9nm,0.7s,mb4.0,baz=323,slow=4.9,SNR=12								
ILAR	**Eielson Array**	**84.51**	**8**	P		**P**	**22 25 49.4**	**-0.5**	
ILAR	**Eielson Array**	**84.51**	**8**	P		**P**	**22 25 49.4**	**-0.5**	
ILAR	**Eielson Array**	**84.51**	**8**	P		**P**	**22 25 49.4**	**-0.5**	

*IDC **25** 22:29:14.1±56.0, 15.70S×177.94E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/16, mbtmp3.8/3, MS3.6/2, Ms1 3.6/2, ms1mx2.8/28, Error ellipse: s-maj=999.6km s-min=145.3km az=74.0*

ISC 25 22:30:32.9±4.3, 18.9S±0.3×169.4E±0.6, h35km, n7, σ0s93/6, mb3.8/3, MS3.7/2, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**4.00**	**215**	*e*S	**Sn**	**22 32 18.0**	**+0.5**
NOUC	**Port Laguerre**	**4.30**	**221**	*e*P	**Pn**	**22 31 34.8**	**-1.1**
NOUC				*e*S	**Sn**	**22 32 24.7**	**-0.2**
STKA	**Stephens Creek**	**28.14**	**237**	P	**P**	**22 36 22.6**	**+0.8**
	1.4nm,0.8s,mb3.6,baz=90,slow=10,SNR=2.2						
WRA	**Warramunga Arr**	**33.02**	**262**	P	**P**	**22 37 04.7**	**-0.4**
	0.4nm,0.5s,mb3.6,baz=87,slow=8.5,SNR=3.3						
ASAR	**Alice Springs**	**33.33**	**255**	P	**P**	**22 37 08.2**	**+0.4**
	1.6nm,0.4s,mb4.3,baz=83,slow=8.8,SNR=34						
DAV	**Davao City (W)**	**50.28**	**297**	LR	LR	23 01 18.5	
	comp=Z,46nm,18.0s,MS3.5,baz=110,slow=34						
CMIG	**Matias Romero**	**100.64**	**76**	LR	LR	23 16 36.1	
	comp=Z,33nm,19.1s,MS3.9,baz=210,slow=31						

WEL 25 22:47:21.5±0.3, 36.31S×179.88E, h33km, ML5.5/3, Error ellipse: s-maj=4.3km s-min=4.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.77**	**225**	*e*PN	Pn	22 47 48.9	-0.9
MXZ				SN	Sn	22 48 08.6	-2.6
MXZ				SN	Sn	22 48 09.0	-2.1
CNGZ	**Carnagh Statio**	**2.54**	**211**	PN	Pn	22 47 59.7	-0.7
MWZ	**Matawai**	**2.75**	**222**	PN	Pn	22 48 02.8	-0.4
MWZ				SN	Sn	22 48 33.8	-1.6
URZ	**Urewera**	**2.94**	**228**	PN	Pn	22 48 05.2	-0.7
URZ				SN	Sn	22 48 38.1	-1.9

*IDC **25** 22:53:56.0±1.2, 7.17S×128.07E, h0km, mb3.6/4, mb1 3.9/7, mb1mx3.8/17, mbtmp3.8/7, ML4.0/3, Error ellipse: s-maj=88.1km s-min=20.1km az=71.0*
*NEIC **25** 22:54:08.7±2.9, 7.65S×127.74E, h113km±31km, mb2.9/1, Error ellipse: s-maj=34.7km s-min=23.4km az=69.0*

ISC 25 22:54:04.3±3.3, 7.5S±0.1×128.0E±0.1, h69km±36km, n16, σ1s08/19, mb3.4/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.78**	**140**	*e*Pn	**Pn**	**22 55 46.6**	**+5.4**
KAKA				*e*Sn	**Sn**	**22 56 55.9**	**-1.2**
FITZ	**Fitzroy Crossi**	**10.81**	**192**	Pn	**Pn**	**22 56 37.3**	**+1.1**
	1.1nm,0.3s,baz=30,slow=8.4,SNR=24						
FITZ				Sn	**Sn**	**22 58 34.3**	**-1.2**
	1.8nm,0.3s,baz=287,slow=19,SNR=8.3						
FITZ	**Fitzroy Crossi**	**10.81**	**192**	Pn	**Pn**	**22 56 37.3**	**+1.1**
FITZ				Sn	**Sn**	**22 58 34.3**	**-1.2**
WRAB	**Tennant Creek**	**13.82**	**154**	*e*Pn	**Pn**	**22 57 17.3**	**+0.3**
WRAB				*e*Sn	Sx	22 59 42.3	
WRA	**Warramunga Arr**	**13.82**	**154**	Pn	**Pn**	**22 57 17.0**	**-0.1**
	0.6nm,0.3s,baz=321,slow=14,SNR=12						
WRA				Sn	Sx	22 59 41.4	
	1.9nm,0.3s,baz=332,slow=23,SNR=12						
WRA	**Warramunga Arr**	**13.82**	**154**	Pn	**Pn**	**22 57 17.0**	**-0.1**
WRA				Sn	Sx	22 59 41.4	
WB2	**Warramunga Arr**	**13.83**	**154**	*e*Pn	**Pn**	**22 57 16.8**	**-0.4**
WB2				*e*Sn	Sx	22 59 39.1	
ASAR	**Alice Springs**	**17.06**	**161**	P	**Pn**	**22 58 00.6**	**+2.3**
	0.8nm,0.3s,baz=340,slow=11,SNR=68						
ASAR				S	Sx	23 00 53.6	
	0.2nm,0.3s,baz=339,slow=18,SNR=4.0						
ASAR	**Alice Springs**	**17.06**	**161**	P	**Pn**	**22 58 00.6**	**+2.3**
ASAR				S	Sx	23 00 53.6	
STKA	**Stephens Creek**	**27.38**	**154**	P	**P**	**22 59 44.7**	**+1.6**
	1.6nm,1.0s,mb3.5,baz=326,slow=12,SNR=2.8						
STKA	**Stephens Creek**	**27.38**	**154**	P	**P**	**22 59 43.6**	**+0.5**
	0.3nm,0.8s,mb2.9						
SONM	**Songino Array**	**58.30**	**343**	P	**P**	**23 03 52.2**	**+0.4**
	0.4nm,0.6s,mb3.6,baz=172,slow=7.5,SNR=4.9						
SONM	**Songino Array**	**58.30**	**343**	P	**P**	**23 03 52.2**	**+0.4**
MKAR	**Makanchi Array**	**67.56**	**328**	P	**P**	**23 04 53.0**	**-0.4**
	0.2nm,0.3s,mb3.4,baz=116,slow=7.5,SNR=5.8						
MKAR	**Makanchi Array**	**67.56**	**328**	P	**P**	**23 04 53.0**	**-0.4**
KURK	**Kurchatov**	**71.91**	**329**	P	**P**	**23 05 18.3**	**-1.6**
	0.4nm,0.6s,mb3.4,baz=137,slow=4.4,SNR=4.2						

*ISK **25** 23:34:25.9, 38.19N×37.46E, h3km, MD2.7*
*ISCJB **25** 23:34:27.0±0.5, 38.11N±0.03×37.49E±0.03, h11km±5km, Error ellipse: s-maj=5.0km s-min=3.6km az=168.7*
*CSEM **25** 23:34:26.8±0.1, 38.12N×37.47E, h12km, MD2.8, Error ellipse: s-maj=3.9km s-min=2.5km az=170.0*
*DDA **25** 23:34:26.2, 38.09N×37.49E, h11km±4km, MD2.8*

ISC 25 23:34:27.2±0.4, 38.09N±0.03×37.49E±0.03, h14km±5km, n29, σ0s75/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKCD	**Akcadag**	**0.40**	**59**	*i* P	**Pg**	**23 34 34.7**	**-0.5**
AKCD				*i* S	**Sg**	**23 34 41.1**	**+0.5**
AKCD	**Akcadag**	**0.40**	**59**	*i* P	**Pg**	**23 34 34.7**	**-0.5**
AKCD				*i* S	**Sg**	**23 34 41.1**	**+0.5**
GZT	**Gaziantep**	**0.74**	**175**	*i* P	**Pg**	**23 34 41.5**	**0.0**
GZT				*i* S	**Sg**	**23 34 50.4**	**-0.8**
KMRS	**Kahramanmaras**	**0.75**	**219**	*e*PG	**Pg**	**23 34 42.0**	**+0.2**
KMRS				*e*SG	**Sg**	**23 34 54.6**	**+3.0**
KMRS	**Kahramanmaras**	**0.75**	**219**	*e*Pg	**Pg**	**23 34 42.0**	**+0.3**
KMRS				*e*Sg	**Sg**	**23 34 54.6**	**+3.0**
MALT	**Malatya**	**0.77**	**73**	*e*PG	**Pg**	**23 34 42.0**	**-0.2**
MALT				*e*SG	**Sg**	**23 34 52.8**	**+0.4**
MALT	**Malatya**	**0.77**	**73**	*e*Pg	**Pg**	**23 34 42.0**	**-0.2**
MALT				*e*Sg	**Sg**	**23 34 52.8**	**+0.4**
MYA	**Malataya**	**0.78**	**72**	*e*PG	**Pg**	**23 34 41.6**	**-0.7**
MYA				*e*SG	**Sg**	**23 34 53.0**	**+0.6**
MYA	**Malataya**	**0.78**	**72**	*e*Pg	**Pg**	**23 34 41.6**	**-0.6**
MYA				*e*Sg	**Sg**	**23 34 53.0**	**+0.6**
SARI	**SarD1z-Kayseri**	**0.85**	**314**	*e*PG	**Pg**	**23 34 42.7**	**-1.0**
SARI				*e*SG	**Sg**	**23 34 55.5**	**+0.6**
SARI	**SarD1z-Kayseri**	**0.85**	**314**	*e*Pg	**Pg**	**23 34 42.7**	**-1.0**
SARI				*e*Sg	**Sg**	**23 34 55.5**	**+0.6**
ATAB	**Bozova**	**0.89**	**134**	*i* P	**Pg**	**23 34 43.9**	**-0.6**
ATAB				*i* S	**Sg**	**23 34 56.0**	**-0.2**
ATAB	**Bozova**	**0.89**	**134**	*i* P	**Pg**	**23 34 43.8**	**-0.7**
ATAB				*i* S	**Sg**	**23 34 56.0**	**-0.1**
DARE	**Darende-Malaty**	**0.89**	**16**	*e*PG	**Pg**	**23 34 34.8**	**-10**
GAZ	**Gaziantep**	**0.94**	**193**	*e*PG	**Pg**	**23 34 46.2**	**+0.7**
GAZ	**Gaziantep**	**0.94**	**193**	*e*Pg	**Pg**	**23 34 46.2**	**+0.7**
PINB	**Pinarbasi**	**1.03**	**305**	*i* P	**Pb**	**23 34 44.9**	**-2.0**
PINB				*i* S	**Sb**	**23 35 01.3**	**+1.0**
PINB	**Pinarbasi**	**1.03**	**305**	*i* P	**Pb**	**23 34 44.9**	**-2.0**
PINB				*i* S	**Sb**	**23 35 01.3**	**+1.0**
ANDN	**Andirin**	**1.04**	**241**	*i* P	**Pb**	**23 34 46.6**	**-0.4**
ANDN				*i* S	**Sb**	**23 35 00.4**	**0.0**
ANDN	**Andirin**	**1.04**	**241**	*i* P	**Pb**	**23 34 46.6**	**-0.4**
ANDN				*i* S	**Sb**	**23 35 00.4**	**-0.1**
ELZG	**Elazig**	**1.25**	**71**	*i* P	**Pn**	**23 34 50.3**	**+0.1**
ELZG				*i* S	**Sb**	**23 35 06.8**	**+0.3**
ELZG	**Elazig**	**1.25**	**71**	*i* P	**Pn**	**23 34 50.3**	**+0.1**
ELZG				*i* S	**Sb**	**23 35 06.8**	**+0.4**
KOZT	**Kozan**	**1.45**	**246**	*e*PN	**Pn**	**23 34 53.7**	**+0.7**
SVRC	**Sivrice-ELAZID**	**1.46**	**78**	*e*PN	**Pn**	**23 34 53.5**	**+0.3**
SVRC	**Sivrice-ELAZID**	**1.46**	**78**	*e*Pn	**Pn**	**23 34 53.5**	**+0.3**
BNN	**Bunyan**	**1.50**	**301**	*e*PN	**Pn**	**23 34 53.1**	**-0.6**
BNN	**Bunyan**	**1.50**	**301**	*e*Pn	**Pn**	**23 34 53.1**	**-0.6**
PTK	**Pertek**	**1.69**	**61**	*e*PN	**Pn**	**23 34 56.5**	**0.0**
PTK	**Pertek**	**1.69**	**61**	*e*Pn	**Pn**	**23 34 56.5**	**+0.1**

WEL 25 23:36:24.1±0.4, 44.83S×167.37E, h5km, ML3.6/10, 4C, Error ellipse: s-maj=3.2km s-min=2.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.43**	**69**	PG	Pg	23 36 32.7	+0.4
MSZ				SG	Sg	23 36 37.0	-0.8
DCZ	**Deep Cove**	**0.67**	**193**	P*	Pb	23 36 36.8	-1.4
DCZ				SG	Sg	23 36 45.6	+0.1
MLZ	**Mavora Lakes**	**0.77**	**133**	⇑P*	Pb	23 36 39.0	-0.9
MLZ				S*	Sb	23 36 49.5	-1.1
WHZ	**Wether Hill Ro**	**1.14**	**159**	⇑P*	Pb	23 36 45.5	-0.8
WHZ				S*	Sb	23 37 00.6	-0.7
WKZ	**Wanaka**	**1.17**	**90**	⇑P*	Pb	23 36 46.4	-0.4
JCZ	**Jackson Bay**	**1.25**	**53**	P*	Pb	23 36 47.8	-0.3
PYZ	**Puysegur Point**	**1.42**	**200**	*e*PN	Pn	23 36 50.1	-0.5
EAZ	**Earnscleugh**	**1.43**	**107**	⇑PN	Pn	23 36 50.6	-0.1
EAZ				SN	Sn	23 37 08.0	-1.8
TUZ	**Tuapeka**	**1.95**	**126**	PN	Pn	23 36 58.7	+0.8
APZ	**The Paps**	**2.05**	**168**	PN	Pn	23 36 60.0	+0.8
LBZ	**Lake Benmore**	**2.06**	**79**	*e*PN	Pn	23 37 00.5	+1.3
LBZ				SN	Sn	23 37 27.6	+2.3
FOZ	**Fox Glacier**	**2.09**	**54**	PN	Pn	23 37 01.5	+1.8
SYZ	**Scrubby Hill**	**2.11**	**145**	PN	Pn	23 37 00.9	+0.8
ODZ	**Otahua Downs**	**2.33**	**96**	PN	Pn	23 37 04.5	+1.4
RPZ	**Rata Peaks**	**2.87**	**68**	PN	Pn	23 37 12.0	+1.5
QRZ	**Quartz Range**	**5.51**	**45**	PN	Pn	23 37 46.8	0.0
QRZ				SN	Sn	23 38 47.2	-3.3

IDC 25 23:46:53.6±4.3, 5.29S×101.86E, h0km, mb3.7/4, mb1 3.7/4, mb1mx3.4/20, mbtmp3.7/4, Error ellipse: s-maj=184.0km s-min=27.6km az=55.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**35.86**	**124**	P	P	23 53 55.4	0.0
	0.2nm,0.3s,baz=301,slow=8.2,SNR=3.7						
SONM	**Songino Array**	**53.04**	**4**	P	P	23 56 12.6	+0.3
	1.1nm,0.6s,baz=182,slow=7.2,SNR=9.9						
MKAR	**Makanchi Array**	**54.68**	**344**	P	P	23 56 24.5	+0.2
	0.4nm,0.7s,baz=150,slow=8.2,SNR=4.7						
ZALV	**Zalesovo Beam**	**60.73**	**349**	P	P	23 57 06.5	-0.3
	0.5nm,0.3s,baz=152,slow=5.3,SNR=4.6						

*IDC **25** 23:49:07.8±1.6, 24.80N×121.59E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/22, mbtmp3.7/5, MS2.3/1, Ms1 2.3/1, ms1mx2.0/34, Error ellipse: s-maj=136.7km s-min=19.2km az=65.0*
*ISCJB **25** 23:49:08.6±0.8, 25.12N±0.03×122.35E±0.03, h15km±4km, mb3.8/8, Error ellipse: s-maj=5.1km s-min=4.3km az=145.7*
*NEIC **25** 23:49:08.2±1.8, 25.12N×122.34E, h8km±11km, mb3.9/3, Error ellipse: s-maj=13.4km s-min=7.8km az=95.0*
*TAP **25** 23:49:09.0, 25.11N×122.26E, h15km, ML3.8, C*

ISC 25 23:49:08.8±0.7, 25.08N±0.03×122.33E±0.04, h7km±3km, n56, σ0s84/86, mb3.8/8, 3C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.32**	**257**	*i* P	**Pg**	**23 49 15.3**	**+0.2**
	baz=256						
TWB1				*i* S	**Sg**	**23 49 19.4**	**+0.1**
	baz=256						
NWF	**Wu-fen Shan**	**0.50**	**269**	⇑*i*P	**Pg**	**23 49 18.6**	**+0.1**
	baz=273						
NWF				S	**Sg**	**23 49 25.2**	**+0.2**
	baz=273						
ILA	**Ilan**	**0.62**	**240**	*e*P	**Pg**	**23 49 21.7**	**+1.0**
	baz=221						
ILA				*e*S	**Sg**	**23 49 28.8**	**+0.1**
	baz=221						
TWC	**Suao**	**0.64**	**223**	P	**Pg**	**23 49 21.4**	**+0.2**
	baz=205						
TWC				*e*S	**Sg**	**23 49 29.9**	**+0.4**
	baz=205						
TWA	**Mucha**	**0.69**	**262**	P	**Pg**	**23 49 22.2**	**+0.1**
	baz=248						
TWA				*e*S	**Sg**	**23 49 31.4**	**+0.4**
	baz=248						
TWY	**Chenhua**	**0.69**	**287**	*i* P	**Pg**	**23 49 22.1**	**-0.1**
	baz=285						
TWY				S	**Sg**	**23 49 31.5**	**+0.4**
	baz=285						
TWE	**Neicheng**	**0.70**	**240**	⇑*i*P	**Pg**	**23 49 22.3**	**-0.1**
	baz=223						
TWE				S	**Sg**	**23 49 30.9**	**-0.6**
	baz=223						
TAP1	**Taipei**	**0.73**	**267**	P	**Pg**	**23 49 23.5**	**+0.5**
	baz=263						
TAP1				S	**Sg**	**23 49 33.3**	**+0.8**
	baz=263						
TATO	**Taipei**	**0.77**	**262**	*e*P	**Pg**	**23 49 23.5**	**-0.2**
TATO				*e*S	**Sg**	**23 49 33.8**	**+0.1**
ENTT	**Nioudou**	**0.82**	**238**	⇑P	**Pg**	**23 49 24.7**	**+0.1**
	baz=234						
ENTT				*e*S	**Sg**	**23 49 35.0**	**-0.3**
	baz=234						
TWS1	**Kuangyinshan**	**0.83**	**272**	P	**Pg**	**23 49 25.2**	**+0.4**
	baz=268						
TWS1				*e*S	**Sg**	**23 49 36.2**	**+0.6**
	baz=268						
ENA	**Nanau**	**0.84**	**220**	*e*P	**Pg**	**23 49 25.2**	**+0.2**
	baz=205						
ENA				*e*S	**Sg**	**23 49 36.1**	**+0.1**
	baz=205						
YHNB	**Yeheng**	**0.96**	**245**	*e*P	**Pg**	**23 49 27.0**	**-0.3**
YHNB				*e*S	**Sg**	**23 49 39.6**	**-0.2**
NSK	**Sanguang**	**0.97**	**246**	*i* P	**Pg**	**23 49 27.0**	**-0.5**
	baz=242						
NSK				*e*S	**Sg**	**23 49 38.5**	**-1.7**
	baz=242						
NCU	**National Centr**	**1.04**	**264**	*e*P	**Pg**	**23 49 29.0**	**+0.1**
	baz=260						
NCU				*e*S	**Sg**	**23 49 42.5**	**0.0**
	baz=260						
NNS	**Nan Shan**	**1.08**	**234**	P	**Pg**	**23 49 28.9**	**-0.6**
	baz=231						
NNS				*e*S	**Sg**	**23 49 43.1**	**-0.5**
	baz=231						
NACB	**Ninganchiao**	**1.12**	**217**	*e*P	**Pg**	**23 49 29.3**	**-1.1**
NACB				*e*S	**Sg**	**23 49 44.0**	**-1.0**
TWD	**Chiawan**	**1.20**	**214**	P	**Pg**	**23 49 31.2**	**-0.7**
	baz=204						
TWD				S	**Sg**	**23 49 46.8**	**-0.6**
	baz=204						
HWA	**Hwalien**	**1.28**	**211**	*e*P	**Pn**	**23 49 33.1**	**-0.1**
	baz=208						
NSTT	**Nanjuang**	**1.29**	**250**	*e*P	**Pn**	**23 49 31.6**	**-1.6**
	baz=236						
NSTT				*e*S	**Sb**	**23 49 48.9**	**-1.2**
	baz=236						
TWT	**Tachien**	**1.34**	**232**	P	**Pn**	**23 49 33.6**	**-0.3**
	baz=230						
TWT				S	**Sb**	**23 49 51.4**	**-0.2**
	baz=230						
WHF	**Hehuan Shan**	**1.34**	**226**	⇓*i*P	**Pn**	**23 49 33.9**	**-0.2**
	baz=224						
WHF				*e*S	**Sb**	**23 49 49.9**	**-1.9**
	baz=224						
ESL	**Shilin**	**1.50**	**213**	*e*P	**Pn**	**23 49 36.8**	**+0.6**
	baz=212						
ESL				*e*S	**Sn**	**23 49 55.6**	**-0.4**
	baz=212						
NSY	**Sanyi**	**1.57**	**246**	*e*P	**Pn**	**23 49 37.5**	**+0.4**
	baz=257						
TWQ1	**Liyutan**	**1.59**	**243**	*e*P	**Pn**	**23 49 37.2**	**-0.2**
	baz=255						
TWQ1				*e*S	**Sn**	**23 49 57.9**	**-0.4**
	baz=255						
SMLT	**Sun Moon Lake**	**1.77**	**228**	*e*P	**Pn**	**23 49 40.5**	**+0.7**
	baz=215						
TCU	**Taichung**	**1.77**	**239**	*e*P	**Pn**	**23 49 41.5**	**+1.6**
	baz=251						

ANDN				*i* S	**Sg**	**00 02 34.7**	**+0.2**
KOZT	**Kozan**	**0.38**	**254**	*e*PG	**Pg**	**00 02 38.8**	**-0.2**
KOZT				*e*SG	**Sg**	**00 02 45.6**	**+1.6**
KMRS	**Kahramanmaras**	**0.50**	**99**	*e*PG	**Pg**	**00 02 39.6**	**-1.8**
KMRS				*e*SG	**Sg**	**00 02 47.3**	**-0.6**
KMRS	**Kahramanmaras**	**0.50**	**99**	*e*Pg	**Pg**	**00 02 39.6**	**-1.7**
KMRS				*e*Sg	**Sg**	**00 02 47.3**	**-0.6**
GAZ	**Gaziantep**	**0.85**	**119**	*e*PG	**Pg**	**00 02 46.7**	**-1.3**
GAZ				*e*SG	**Sg**	**00 03 00.1**	**+1.1**
GAZ	**Gaziantep**	**0.85**	**119**	*e*Pg	**Pg**	**00 02 46.7**	**-1.3**
GAZ				*e*Sg	**Sg**	**00 03 00.1**	**+1.1**
KUZU	**Kuzuini**	**1.03**	**142**	*i* P	**Pg**	**00 02 51.6**	**+0.1**
KUZU				*i* S	**Sg**	**00 03 04.8**	**0.0**
KUZU	**Kuzuini**	**1.03**	**142**	*i* P	**Pg**	**00 02 51.6**	**+0.1**
KUZU				*i* S	**Sg**	**00 03 04.8**	**0.0**
GZT	**Gaziantep**	**1.05**	**102**	*i* P	**Pg**	**00 02 51.1**	**-0.7**
GZT				*i* S	**Sg**	**00 03 07.1**	**+1.7**
COBT	**Iskenderun**	**1.07**	**181**	*i* P	**Pg**	**00 02 51.8**	**-0.3**
COBT	**Iskenderun**	**1.07**	**181**	*i* P	**Pg**	**00 02 51.8**	**-0.3**
BNN	**Bunyan**	**1.31**	**345**	*e*PN	**Pn**	**00 02 52.8**	**-3.5**
BNN	**Bunyan**	**1.31**	**345**	*e*Pn	**Pn**	**00 02 52.8**	**-3.5**
AKCD	**Akcadag**	**1.48**	**61**	*e*P	**Pn**	**00 02 59.0**	**+0.4**
AKCD				*i* S	**Sn**	**00 03 19.5**	**+1.4**
AKCD	**Akcadag**	**1.48**	**61**	*e*P	**Pn**	**00 02 59.0**	**+0.4**
AKCD				*i* S	**Sn**	**00 03 19.5**	**+1.3**
DARE	**Darende-Malaty**	**1.82**	**41**	*e*PN	**Pn**	**00 02 55.1**	**-8.2**
DARE	**Darende-Malaty**	**1.82**	**41**	*e*Pn	**Pn**	**00 02 55.1**	**-8.2**
MALT	**Malatya**	**1.84**	**66**	*e*PN	**Pn**	**00 03 02.8**	**-0.9**
MALT	**Malatya**	**1.84**	**66**	*e*Pn	**Pn**	**00 03 02.8**	**-0.9**
KEMA	**Kemaliye**	**2.42**	**45**	*i* P	**Pg**	**00 03 20.4**	**+2.4**
KEMA	**Kemaliye**	**2.42**	**45**	*i* P	**Pg**	**00 03 20.4**	**+2.4**

NEIC ***26*** *00:13:35.7, 18°.84N×65°.25W, h48km, MD2.9(RSPR), After RSPR.*

RSPR 26 00:13:35.7, 18°.84N×65°.25W, h48km±6km, MD2.9/8, 22C-12D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBVI	**Tortola**	**0.74**	**125**	*e*P	Pn	00 13 48.3	-1.6
TBVI				*e*S	Sn	00 13 58.3	-1.7
TBVI	**Tortola**	**0.74**	**125**	↓*i*P	Pn	00 13 48.9	-0.9
TBVI	**Tortola**	**0.74**	**125**	↓*i*P	Pn	00 13 48.9	-0.9
TBVI				*e*S	Sn	00 13 58.3	-1.7
TBVI	**Tortola**	**0.74**	**125**	↓*i*P	Pn	00 13 48.9	-0.9
MTP	**Monte Pirata**	**0.79**	**201**	↑*e*P	Pn	00 13 50.0	-0.6
MTP	**Monte Pirata**	**0.79**	**201**	*e*S	Sn	00 14 01.2	-0.2
MTP	**Monte Pirata**	**0.79**	**201**	↑*e*P	Pn	00 13 49.8	-0.7
MTP	**Monte Pirata**	**0.79**	**201**	*e*S	Sn	00 14 00.7	-0.7
MTP	**Monte Pirata**	**0.79**	**201**	↑*e*P	Pn	00 13 49.8	-0.7
MTP				*e*S	Sn	00 14 00.7	-0.7
MTP	**Monte Pirata**	**0.79**	**201**	↑*e*P	Pn	00 13 49.8	-0.7
MTP				*e*S	Sn	00 14 00.7	-0.7
CBYP	**Canovanas**	**0.81**	**225**	↓*e*P	Pn	00 13 49.9	-0.9
CBYP	**Canovanas**	**0.81**	**225**	↑*e*P	Pn	00 13 50.1	-0.7
CBYP				*e*S	Sn	00 14 01.1	-0.7
CBYP	**Canovanas**	**0.81**	**225**	*e*S	Sn	00 14 00.9	-0.8
CBYP	**Canovanas**	**0.81**	**225**	↓*i*P	Pn	00 13 49.8	-0.9
CBYP	**Canovanas**	**0.81**	**225**	*e*S	Sn	00 14 00.6	-1.1
CBYP	**Canovanas**	**0.81**	**225**	↓*e*P	Pn	00 13 49.9	-0.9
CBYP				*e*S	Sn	00 14 00.6	-1.1
CBYP	**Canovanas**	**0.81**	**225**	↓*i*P	Pn	00 13 49.8	-0.9
CBYP				*e*S	Sn	00 14 00.6	-1.1
HUMP	**Col San Antoni**	**0.90**	**219**	↑*e*P	Pn	00 13 50.8	-1.1
HUMP	**Col San Antoni**	**0.90**	**219**	*e*S	Sn	00 14 02.7	-1.2
HUMP	**Col San Antoni**	**0.90**	**219**	↑*i*P	Pn	00 13 51.0	-1.0
HUMP	**Col San Antoni**	**0.90**	**219**	*e*S	Sn	00 14 02.7	-1.2
HUMP	**Col San Antoni**	**0.90**	**219**	↑*i*P	Pn	00 13 51.0	-1.0
HUMP				*e*S	Sn	00 14 02.7	-1.2
HUMP	**Col San Antoni**	**0.90**	**219**	↑*i*P	Pn	00 13 51.0	-1.0
HUMP				*e*S	Sn	00 14 02.7	-1.2
CPD	**Cerro la Pandu**	**1.02**	**218**	↑*e*P	Pn	00 13 53.2	-0.3
CPD	**Cerro la Pandu**	**1.02**	**218**	*e*S	Sn	00 14 06.2	-0.6
CPD	**Cerro la Pandu**	**1.02**	**218**	↑*e*P	Pn	00 13 52.8	-0.8
CPD	**Cerro la Pandu**	**1.02**	**218**	*e*S	Sn	00 14 05.7	-1.1
CPD	**Cerro la Pandu**	**1.02**	**218**	↑*e*P	Pn	00 13 53.2	-0.3
CPD				*e*S	Sn	00 14 06.2	-0.6
CPD	**Cerro la Pandu**	**1.02**	**218**	↑*e*P	Pn	00 13 52.8	-0.8
CPD				*e*S	Sn	00 14 05.7	-1.1
SJG	**San Juan**	**1.12**	**230**	↓*e*P	Pn	00 13 53.9	-1.0
SJG	**San Juan**	**1.12**	**230**	↑*e*P	Pn	00 13 54.0	-0.9
SJG				*e*S	Sn	00 14 08.3	-0.9
SJG	**San Juan**	**1.12**	**230**	↑*e*P	Pn	00 13 53.9	-1.0
SJG	**San Juan**	**1.12**	**230**	*e*S	Sn	00 14 08.3	-0.9
SJG	**San Juan**	**1.12**	**230**	↑*i*P	Pn	00 13 54.0	-0.9
SJG	**San Juan**	**1.12**	**230**	↑*e*P	Pn	00 13 53.9	-1.0
SJG				*e*S	Sn	00 14 08.3	-0.9
SJG	**San Juan**	**1.12**	**230**	↑*e*P	Pn	00 13 53.9	-1.0
SJG	**San Juan**	**1.12**	**230**	↑*i*P	Pn	00 13 54.0	-0.9
SJG				*e*S	Sn	00 14 08.3	-0.9
CELP	**Cerrillos**	**1.47**	**239**	↓*e*P	Pn	00 13 59.1	-0.6
CELP				*e*S	Sn	00 14 17.2	-0.6
CELP	**Cerrillos**	**1.47**	**239**	↓*e*P	Pn	00 13 59.1	-0.6
CELP				*e*S	Sn	00 14 17.2	-0.6
AOPR	**Arecibo Observ**	**1.51**	**251**	↓*e*P	Pn	00 13 59.6	-0.6
AOPR	**Arecibo Observ**	**1.51**	**251**	↑*e*P	Pn	00 13 59.5	-0.7
AOPR	**Arecibo Observ**	**1.51**	**251**	↓*e*P	Pn	00 13 59.6	-0.6
AOPR	**Arecibo Observ**	**1.51**	**251**	↑*e*P	Pn	00 13 59.5	-0.7
OBIP	**Obispado Ponce**	**1.51**	**238**	↑*e*P	Pn	00 13 59.5	-0.7
OBIP	**Obispado Ponce**	**1.51**	**238**	*e*S	Sn	00 14 17.9	-0.9
OBIP	**Obispado Ponce**	**1.51**	**238**	↑*e*P	Pn	00 13 59.5	-0.7
OBIP				*e*S	Sn	00 14 17.9	-0.9

ISC 26 00:15:15.3±2.3, 39°.2N±0°.1×73°.9E±0°.2, h35km, n11, σ1°.9 12/14, 3C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.62**	**77**	Pg	**Pn**	**00 15 40.0**	**-1.3**
KSH				Sg	**Sn**	**00 15 57.0**	**-4.0**
KSH	comp=N,130nm,0.8s			smax			
KSH	comp=E,83nm,0.7s			smax			
AML	**Almayashu** SNR=22	**2.95**	**357**	P	**Pn**	**00 15 59.4**	**-0.2**
KZA	**Kyzart** SNR=8.5	**3.06**	**19**	P	**Pn**	**00 16 02.6**	**+1.5**
UCH	**Uchtor** SNR=6.2	**3.07**	**8**	P	**Sn**	**00 16 36.5**	**-0.4**
AAK	**Ala-Archa** SNR=19	**3.47**	**7**	P	**Pn**	**00 16 06.5**	**-0.4**
EKS2	**Erkin-Say** SNR=13	**3.48**	**358**	P	**Pn**	**00 16 06.2**	**-0.7**
ULHL	**Ulahol** SNR=7.8	**3.53**	**29**	P	**Pn**	**00 16 11.5**	**+4.0**
KBK	**Karagaybulak** SNR=16	**3.56**	**12**	P	**Pn**	**00 16 09.4**	**+1.5**
CHMS	**Chumysh** SNR=6.9	**3.86**	**9**	P	**Pn**	**00 16 16.7**	**+4.5**
USP	**Ospenovka** SNR=15	**4.10**	**6**	P	**Pn**	**00 16 20.9**	**+5.4**
KK31	**Karatay Array** comp=E,0.6nm,0.3s,baz=144,slow=13,SNR=4.9	**4.69**	**328**	↓Pn	**Pn**	**00 16 25.0**	**+1.5**
KK31	comp=E,1.0nm,0.3s,baz=147,slow=16,SNR=12			↑Pg	**Pn**	**00 16 34.7**	**+11**
KK31	comp=E,2.3nm,0.4s,baz=144,slow=23,SNR=4.4			↑Sn	**Sn**	**00 17 15.6**	**-1.0**
KK31	comp=E,7.1nm,0.5s,baz=137,slow=30			↑Lg		00 17 30.7	

IDC 26 00:28:28.3±2.2, 6°.42S×129°.74E, h0km, mb3.7/1, mb1 4.0/4, mb1mx3.6/16, mbtmp3.8/4, ML3.9/3, Error ellipse: s-maj=99.4km s-min=26.8km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi** 0.4nm,0.3s,baz=26,slow=12,SNR=16	**12.28**	**199**	Pn	Pn	00 31 24.7	+0.1
FITZ	0.5nm,0.3s,baz=251,slow=24,SNR=4.0			Sn	Sn	00 33 26.3	-16
WRA	**Warramunga Arr** 0.7nm,0.3s,baz=335,slow=15,SNR=11	**14.16**	**162**	Pn	Pn	00 31 49.9	-0.5
WRA	0.8nm,0.3s,baz=340,slow=22,SNR=6.7			Sn	Sn	00 34 15.8	-13
ASAR	**Alice Springs** 0.4nm,0.3s,baz=351,slow=11,SNR=18	**17.61**	**167**	P	Pn	00 32 35.5	+0.3
ASAR	0.2nm,0.3s,baz=351,slow=26,SNR=4.9			S	Sn	00 35 39.0	-13
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=118,slow=8.1,SNR=14	**67.60**	**327**	P	P	00 39 27.0	+0.1

IDC 26 00:35:37.2±13.0, 47°.40N×147°.76E, h261km±163km, mb3.0/4, mb1 3.2/4, mb1mx2.9/22, mbtmp3.0/4, Error ellipse: s-maj=266.4km s-min=27.0km az=166.0, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILAR	**Eielson Array** 0.2nm,0.4s,baz=255,slow=5.9,SNR=9.4	**38.34**	**39**	P	P	00 42 32.6	-0.1
MKAR	**Makanchi Array** 0.6nm,0.9s,baz=53,slow=9.6,SNR=3.1	**43.37**	**294**	P	P	00 43 13.8	0.0
FINES	**FINESS Array B** 1.4nm,0.9s,baz=46,slow=5.8,SNR=3.9	**61.83**	**332**	P	P	00 45 28.2	-0.1
GERES	**GERESS Array B** 0.4nm,0.5s,baz=32,slow=5.2,SNR=6.5	**76.18**	**331**	P	P	00 46 56.7	+0.3

CSEM ***26*** *00:38:14.0±99.0, 38°.39N×26°.42E, h10km, ML3.2*
DDA ***26*** *00:38:14.5, 38°.25N×26°.49E, h7km±4km, Md3.1, MI3.2*

ISC 26 00:38:14.1±3.4, 38°.2N±0°.2×26°.5E±0°.2, h10km, n6, σ0°.13/12, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URLA	**Izmir**	**0.15**	**40**	*i* P	**Pg**	**00 38 17.4**	**-0.1**
URLA				*i* S	**Sg**	**00 38 19.9**	**+0.1**
URLA	**Izmir**	**0.15**	**40**	*i* P	**Pg**	**00 38 17.5**	**0.0**
URLA				*i* S	**Sg**	**00 38 19.9**	**0.0**
BLCB	**Balcova**	**0.47**	**72**	*e*PG	**Pg**	**00 38 23.3**	**0.0**
BLCB				*e*SG	**Sg**	**00 38 29.3**	**-0.2**
BLCB	**Balcova**	**0.47**	**72**	*e*Pg	**Pg**	**00 38 23.3**	**0.0**
BLCB				*e*Sg	**Sg**	**00 38 29.3**	**-0.2**
IZM	**Izmir**	**0.64**	**76**	*e*PG	**Pg**	**00 38 26.6**	**0.0**
IZM				*e*SG	**Sg**	**00 38 35.1**	**+0.2**
IZM	**Izmir**	**0.64**	**76**	*e*Pg	**Pg**	**00 38 26.6**	**+0.1**
IZM				*e*Sg	**Sg**	**00 38 35.1**	**+0.2**

IDC ***26*** *00:43:27.7±1.9, 5°.22S×131°.76E, h0km, mb3.8/4, mb1 4.4/7, mb1mx4.1/15, mbtmp4.2/7, ML4.7/3, MS2.7/1, Ms1 2.7/1, ms1mx1.9/31, Error ellipse: s-maj=81.8km s-min=24.2km az=78.0*
NEIC ***26*** *00:43:32.6±1.9, 5°.27S×131°.78E, h37km±21km, mb4.1/5, Error ellipse: s-maj=19.5km s-min=13.1km az=64.0*
ISCJB ***26*** *00:43:34.4±0.8, 5°.46S±0°.04×131°.66E±0°.07, h76km±8km, mb3.7/7, Error ellipse: s-maj=12.1km s-min=5.5km az=159.5*
DJA ***26*** *00:43:37.5, 5°.26S×131°.62E, h73km, MLv4.8/7*

ISC 26 00:43:35.8±0.7, 5°.46S±0°.04×131°.64E±0°.07, h70km±8km, n39, σ1°.18/52, mb3.7/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TLE	**Tual**	**1.11**	**99**	P	**Pn**	**00 43 58.6**	**+3.0**
BNDI	**Bandanaira**	**1.96**	**298**	P	**Pn**	**00 44 07.2**	**+0.2**
MSAI	**Masohi**	**3.42**	**308**	P	**Pn**	**00 44 25.5**	**-1.3**
AAI	**Ambon**	**3.86**	**297**	P	**Pn**	**00 44 32.7**	**0.0**
NLAI	**Namlea**	**5.04**	**296**	P	**Pn**	**00 44 49.9**	**+1.1**
BAKI	**Biak** 1.1nm3μm161nm,0.7s	**6.16**	**47**	P	**Pn**	**00 45 03.5**	**-0.6**
KAKA	**Kakadu** 46nm,0.1s	**7.24**	**174**	*e*P	**Pn**	**00 45 21.8**	**+2.8**
KAKA				*e*S	**Sn**	**00 46 39.7**	**-0.1**
KAKA	**Kakadu** 257nm,0.5s	**7.24**	**174**	*e*Pn	**Pn**	**00 45 21.5**	**+2.5**
KAKA				*e*Sn	**Sn**	**00 46 40.1**	**+0.2**
KDI	**Kendari**	**9.11**	**279**	P	**Pn**	**00 45 48.4**	**+3.8**
FITZ	**Fitzroy Crossi** 4.6nm,0.3s,baz=28,slow=11,SNR=86	**13.86**	**205**	Pn	**Pn**	**00 46 48.6**	**-0.5**
FITZ	2.3nm,0.3s,baz=173,slow=17,SNR=8.6			Sn	**Sn**	**00 49 14.4**	**-7.0**
FITZ	comp=Z,34nm,20.4s,baz=13,slow=37			LR	LR	00 52 12.1	
FITZ	**Fitzroy Crossi** 19nm,0.3s	**13.86**	**205**	*e*P	**Pn**	**00 46 48.4**	**-0.6**
FITZ				*e*S	**Sn**	**00 49 13.0**	**-8.4**
FITZ	**Fitzroy Crossi**	**13.86**	**205**	Pn	**Pn**	**00 46 48.6**	**-0.5**
FITZ				Sn	**Sn**	**00 49 14.4**	**-7.0**
COEN	**Coen** 22nm,0.4s	**14.15**	**127**	*e*P	**Pn**	**00 46 53.2**	**+0.3**
COEN				*e*S	**Sn**	**00 49 16.6**	**-12**
COEN	**Coen** 30nm,0.4s	**14.15**	**127**	*e*Pn	**Pn**	**00 46 50.8**	**-2.1**
COEN				*e*Sn	**Sn**	**00 49 21.6**	**-7.0**
WRAB	**Tennant Creek** 20nm,0.6s	**14.62**	**170**	*e*Pn	**Pn**	**00 46 58.0**	**-1.0**
WRAB				*e*Sn	**Sn**	**00 49 38.8**	**-1.1**
WRA	**Warramunga Arr** 3.2nm,0.3s,baz=345,slow=14,SNR=57	**14.63**	**170**	Pn	**Pn**	**00 46 58.2**	**-0.9**
WRA	3.2nm,0.3s,baz=357,slow=23,SNR=11			Sn	**Sn**	**00 49 36.2**	**-3.9**
WRA	**Warramunga Arr**	**14.63**	**170**	Pn	**Pn**	**00 46 58.2**	**-0.9**
WRA				Sn	**Sn**	**00 49 36.2**	**-3.9**
WB2	**Warramunga Arr**	**14.63**	**170**	*e*Pn	**Pn**	**00 46 58.5**	**-0.6**
ASAR	**Alice Springs** 1.6nm,0.3s,baz=344,slow=9.9,SNR=59	**18.23**	**173**	P	**Pn**	**00 47 45.8**	**+1.8**
ASAR	0.9nm,0.3s,baz=359,slow=27,SNR=7.1			S	**S**	**00 51 02.4**	**-5.4**
ASAR	**Alice Springs**	**18.23**	**173**	P	**Pn**	**00 47 45.8**	**+1.8**
ASAR				S	**S**	**00 51 02.4**	**-5.4**
KKM	**Kota Kinabalu** 23nm,0.9s	**19.18**	**306**	*e*P	**Pn**	**00 47 53.7**	**-1.8**
MBWA	**Marble Bar**	**19.41**	**215**	*e*P	**Pn**	**00 48 00.1**	**+1.9**
MBWA	**Marble Bar** 5.3nm,0.5s	**19.41**	**215**	*e*P	**Pn**	**00 47 58.9**	**+0.7**
MBWA				*e*S	**S**	**00 51 23.9**	**-8.4**
CTA	**Charters Tower** 1.4nm,0.6s,baz=288,slow=16,SNR=2.5	**20.33**	**137**	P	**P**	**00 48 12.7**	**+6.3**
CTA	**Charters Tower**	**20.33**	**137**	P	**P**	**00 48 12.7**	**+6.3**
FORT	**Forrest** 10nm,0.6s,mb4.4	**25.41**	**187**	*e*P	**P**	**00 49 03.4**	**+6.6**
FORT	**Forrest** 9.3nm,0.5s,mb4.5	**25.41**	**187**	*e*P	**P**	**00 48 59.4**	**+2.6**
STKA	**Stephens Creek** 0.5nm,0.8s,mb3.1	**27.88**	**162**	*e*P	**P**	**00 49 20.4**	**+1.4**
CMAR	**Chiang Mai Arr** 0.8nm,0.3s,mb4.0,baz=136,slow=7.2,SNR=5.6	**40.05**	**307**	P	**P**	**00 51 04.7**	**+0.3**
CMAR	**Chiang Mai Arr**	**40.05**	**307**	P	**P**	**00 51 04.7**	**+0.3**
SONM	**Songino Array** 0.2nm,0.5s,mb3.4,baz=164,slow=8.9,SNR=3.0	**57.53**	**340**	P	**P**	**00 53 18.3**	**+0.5**
SONM	**Songino Array**	**57.53**	**340**	P	**P**	**00 53 18.3**	**+0.5**
MK31	**Makanchi Array**	**67.86**	**326**	*e*P	**P**	**00 54 26.6**	**0.0**
MKAR	**Makanchi Array** 0.9nm,0.4s,mb3.9,baz=125,slow=7.6,SNR=24	**67.86**	**326**	P	**P**	**00 54 27.5**	**+0.9**
MKAR	**Makanchi Array**	**67.86**	**326**	P	**P**	**00 54 27.5**	**+0.9**
ZALV	**Zalesovo Beam** 0.3nm,0.4s,mb3.5,baz=123,slow=6.0,SNR=3.5	**70.95**	**333**	P	**P**	**00 54 44.7**	**-0.8**
ZALV	**Zalesovo Beam**	**70.95**	**333**	P	**P**	**00 54 44.7**	**-0.8**
KURK	**Kurchatov** 0.9nm,0.8s,mb3.6	**72.08**	**328**	*e*P	**P**	**00 54 51.3**	**-1.1**
ARU	**Arti**	**85.28**	**328**	P	**P**	**00 56 05.0**	**+0.3**

IDC ***26*** *00:52:26.5±1.3, 10°.89S×163°.36E, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.1/18, mbtmp4.1/9, ML4.3/1, MS3.3/2, Ms1 3.3/2, ms1mx2.7/28, Error ellipse: s-maj=41.3km s-min=22.0km az=149.0*
ISCJB ***26*** *00:52:31.0±3.8, 10°.9S±0°.1×163°.3E±0°.2, h38km±29km, mb4.0/10, MS3.2/2, Error ellipse: s-maj=27.1km s-min=18.5km az=21.3*
NEIC ***26*** *00:52:32.5±0.8, 10°.73S×163°.27E, h35km, mb4.0/4, Error ellipse: s-maj=21.5km s-min=12.1km az=138.0*

ISC 26 00:52:32.5±3.8, 10°.9S±0°.1×163°.3E±0°.2, h37km±30km, n26, σ0°.79/26, mb4.0/10, MS3.2/2, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara** 26nm,0.3s,baz=163,slow=3.6,SNR=8.1	**3.58**	**293**	Pn	**Pn**	**00 53 25.3**	**-0.3**
HNR	22nm,0.3s,baz=344,slow=16,SNR=6.3			Sn	**Sn**	**00 54 08.7**	**+2.0**
HNR	**Honiara**	**3.58**	**293**	*e*Pn	**Pn**	**00 53 24.7**	**-0.9**
HNR				*e*Sn	**Sn**	**00 54 06.5**	**-0.3**
CTA	**Charters Tower** 0.4nm,0.3s,baz=61,slow=16,SNR=3.0	**18.80**	**239**	P	**Pn**	**00 56 52.1**	**+2.5**
CTA	**Charters Tower**	**18.80**	**239**	P	**Pn**	**00 56 52.1**	**+2.5**
CTAO	**Charters Tower**	**18.80**	**239**	*e*P	**Pn**	**00 56 49.6**	**-0.1**
COEN	**Coen** 19nm,0.8s	**19.89**	**259**	*e*P	**Pn**	**00 57 01.5**	**-1.3**
AFI	**Afiamalu** comp=Z,58nm,19.8s,MS3.1,baz=33,slow=32	**24.53**	**100**	LR	LR	01 05 26.4	
STKA	**Stephens Creek** 0.5nm,0.7s,mb3.4	**28.98**	**220**	*e*P	**P**	**00 58 29.6**	**+0.9**
WRAB	**Tennant Creek** 2.1nm,0.7s,mb4.0	**29.29**	**249**	*e*P	**P**	**00 58 31.1**	**-0.6**
WRA	**Warramunga Arr** 2.4nm,0.8s,mb4.0,baz=76,slow=9.3,SNR=13	**29.30**	**249**	P	**P**	**00 58 31.4**	**-0.3**
WRA	**Warramunga Arr**	**29.30**	**249**	P	**P**	**00 58 31.4**	**-0.3**
GUMO	**Guam** comp=Z,76nm,19.7s,MS3.4,baz=254,slow=33	**30.39**	**323**	LR	LR	01 09 13.7	
ASAR	**Alice Springs** 4.3nm,0.7s,mb4.4,baz=74,slow=9.6,SNR=43	**30.75**	**242**	P	**P**	**00 58 44.3**	**-0.2**
ASAR	**Alice Springs**	**30.75**	**242**	P	**P**	**00 58 44.3**	**-0.2**
FITZ	**Fitzroy Crossi** 2.6nm,0.7s,mb4.2,baz=99,slow=6.7,SNR=5.0	**37.11**	**254**	P	**P**	**00 59 39.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**37.11**	**254**	P	**P**	**00 59 39.4**	**-0.4**
SONM	**Songino Array** 0.8nm,0.9s,mb3.7,baz=124,slow=6.3,SNR=4.3	**77.10**	**325**	P	**P**	**01 04 22.7**	**+0.7**
SONM	**Songino Array**	**77.10**	**325**	P	**P**	**01 04 22.7**	**+0.7**
ILAR	**Eielson Array** 0.7nm,1.0s,mb3.7,baz=235,slow=3.2,SNR=4.4	**84.11**	**19**	P	**P**	**01 04 59.2**	**+0.1**
ILAR	**Eielson Array**	**84.11**	**19**	P	**P**	**01 04 59.2**	**+0.1**
NVAR	**Mina Array Bea** 0.5nm,0.6s,mb3.9,baz=220,slow=8.3,SNR=5.3	**87.74**	**50**	P	**P**	**01 05 17.9**	**+0.1**
NVAR	**Mina Array Bea**	**87.74**	**50**	P	**P**	**01 05 17.9**	**+0.1**
MKAR	**Makanchi Array** 1.2nm,0.7s,mb4.3,baz=100,slow=6.5,SNR=8.7	**91.74**	**317**	P	**P**	**01 05 36.2**	**-0.1**
MKAR	**Makanchi Array**	**91.74**	**317**	P	**P**	**01 05 36.2**	**-0.1**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,mb4.1,baz=110,slow=1.7,SNR=3.2	**92.00**	**325**	P	**P**	**01 05 37.0**	**-0.3**
ZALV	**Zalesovo Beam**	**92.00**	**325**	P	**P**	**01 05 37.0**	**-0.3**

ISCJB ***26*** *00:57:12.2±0.8, 2°.49S±0°.05×76°.33W±0°.09, h159km±8km, mb3.9/21, Error ellipse: s-maj=14.8km s-min=6.2km az=162.5*
IDC ***26*** *00:57:12.6±1.9, 2°.37S×76°.22W, h143km±19km, mb3.7/16, mb1 3.9/19, mb1mx3.8/26, mbtmp3.8/19, Error ellipse: s-maj=20.0km s-min=11.0km az=66.0*
NEIC ***26*** *00:57:12.7±0.7, 2°.40S×76°.23W, h146km±7km, mb4.0/6, Error ellipse: s-maj=11.9km s-min=5.7km az=73.0*

ISC 26 00:57:12.7±0.8, 2°.50S±0°.05×76°.25W±0°.09, h148km±8km, n55, σ1°.08/53, mb3.9/21, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTAV	**Otavalo**	**3.50**	**321**	*e*Pn	**Pn**	**00 58 05.3**	**-1.0**
OTAV				*e*Sn	**Sn**	**00 58 49.6**	**+1.6**
ATAH	**Atahualpa** 14nm,0.3s,baz=24,slow=7.9,SNR=99	**5.07**	**205**	P	**Pn**	**00 58 27.1**	**0.0**
ATAH	20nm,0.3s,baz=14,slow=8.3,SNR=14			S	**Sn**	**00 59 23.1**	**-2.0**
ATAH	**Atahualpa**	**5.07**	**205**	P	**Pn**	**00 58 27.1**	**0.0**
ATAH				S	**Sn**	**00 59 23.1**	**-2.0**
ROSC	**El Rosal** 1.5nm,0.3s,baz=94,slow=2.3,SNR=6.4	**7.56**	**15**	P	**Pn**	**00 59 00.4**	**+0.2**
ROSC	baz=94,slow=19,SNR=1.6			S	**Sn**	**01 00 38.9**	**+14**
ROSC	**El Rosal**	**7.56**	**15**	P	**Pn**	**00 59 00.4**	**+0.2**
ROSC				S	**Sn**	**01 00 38.9**	**+14**
NNA	**Nana** 14nm,0.3s,baz=360,slow=7.9,SNR=30	**9.44**	**184**	P	**Pn**	**00 59 27.4**	**+2.0**
NNA	16nm,0.3s,baz=215,slow=13,SNR=7.1			S	**Sn**	**01 01 01.9**	**-8.1**
NNA	**Nana**	**9.44**	**184**	P	**Pn**	**00 59 27.4**	**+2.0**
NNA				S	**Sn**	**01 01 01.9**	**-8.1**
LPAZ	**La Paz** 1.2nm,0.5s	**15.86**	**150**	*e*Pn	**Pn**	**01 00 47.7**	**-0.3**
LPAZ				*e*Sn	**Sn**	**01 03 41.2**	**-3.4**
SJG	**San Juan** 7.4nm,0.4s,mb4.5,baz=201,slow=17,SNR=3.8	**22.77**	**26**	P	**P**	**01 02 02.1**	**-0.5**
SJG	**San Juan**	**22.77**	**26**	P	**P**	**01 02 02.1**	**-0.5**
TEIG	**Tepich** 3.7nm,0.5s,mb4.2,baz=144,slow=17,SNR=4.1	**25.48**	**333**	P	**P**	**01 02 27.2**	**-0.1**
TEIG	**Tepich**	**25.48**	**333**	P	**P**	**01 02 27.2**	**-0.1**
CPUP	**Villa Florida** 0.6nm,0.4s,mb3.7,baz=292,slow=6.7,SNR=4.0	**29.86**	**144**	P	**P**	**01 03 06.7**	**+0.4**
CPUP	**Villa Florida** 7.1nm,0.7s,mb4.4,baz=139,slow=9.7,SNR=32	**29.86**	**144**	P	**P**	**01 03 06.7**	**+0.4**
CFAA	**Coronel Fontan** 0.2nm,0.5s,mb3.1,baz=351,slow=9.1,SNR=5.7	**29.92**	**166**	P	**P**	**01 03 09.1**	**+2.4**
CFAA	**Coronel F

	baz=150								
HWA	**Hwalien**	**0.10**	**50**	⇑*i*P		**Pg**	**01 00 28.6**	**+1.0**
	baz=70								
HWA				*i* S		**Sg**	**01 00 31.7**	**+1.9**
	baz=70								
ESL	**Shilin**	**0.12**	**220**	⇓*i*P		**Pg**	**01 00 28.0**	**+0.2**
	baz=193								
ESL				S		**Sg**	**01 00 30.1**	**-0.2**
	baz=193								
TWD	**Chiawan**	**0.18**	**23**	⇓*i*P		**Pg**	**01 00 29.2**	**+0.4**
	baz=32								
TWD				*i* S		**Sg**	**01 00 32.1**	**+0.4**
	baz=32								
TEGC	**Jichi Village**	**0.20**	**174**	*e*P		**Pg**	**01 00 30.1**	**+1.1**
	baz=168								
TEGC				*e*S		**Sg**	**01 00 34.4**	**+2.3**
	baz=168								
NACB	**Ninganchiao**	**0.27**	**15**	*e*Pg		**Pg**	**01 00 29.7**	**-0.5**
NACB				*e*Sg		**Sg**	**01 00 33.6**	**-0.5**
WHF	**Hehuan Shan**	**0.33**	**315**	⇑*i*P		**Pg**	**01 00 31.1**	**-0.2**
	baz=320								
WHF				*i* S		**Sg**	**01 00 35.6**	**-0.3**
	baz=320								
TWT	**Tachien**	**0.46**	**318**	⇑*i*P		**Pg**	**01 00 33.9**	**+0.1**
	baz=312								
TWT				S		**Sg**	**01 00 40.1**	**+0.1**
	baz=312								
SSLB	**Suanglung**	**0.53**	**257**	*e*Pg		**Pg**	**01 00 34.0**	**-1.0**
SSLB				*e*Sg		**Sg**	**01 00 40.8**	**-1.3**
NNS	**Nan Shan**	**0.54**	**346**	*e*P		**Pg**	**01 00 34.8**	**-0.5**
	baz=350								
NNS				S		**Sg**	**01 00 42.2**	**-0.3**
	baz=350								
ENA	**Nanau**	**0.55**	**21**	*i* P		**Pg**	**01 00 35.1**	**-0.3**
	baz=26								
ENA				S		**Sg**	**01 00 42.6**	**-0.2**
	baz=26								
YULB	**Yu-li**	**0.55**	**202**	*e*Pg		**Pg**	**01 00 34.5**	**-0.9**
YULB				*e*Sg		**Sg**	**01 00 41.9**	**-0.9**
SMLT	**Sun Moon Lake**	**0.57**	**267**	⇑*i*P		**Pg**	**01 00 35.4**	**-0.3**
	baz=273								
SMLT				S		**Sg**	**01 00 42.4**	**-0.8**
	baz=273								
TWF1	**Yuli**	**0.59**	**200**	⇓*e*P		**Pg**	**01 00 34.7**	**-1.4**
	baz=195								
TWF1				*e*S		**Sg**	**01 00 44.2**	**+0.2**
	baz=195								
TYC	**Yuchr**	**0.61**	**270**	⇑*i*P		**Pg**	**01 00 35.8**	**-0.6**
	baz=275								
TYC				*i* S		**Sg**	**01 00 43.4**	**-1.0**
	baz=275								
YUS	**Yu-Shan**	**0.67**	**231**	⇓*i*P		**Pg**	**01 00 37.7**	**+0.1**
	baz=216								
YUS				*i* S		**Sg**	**01 00 46.1**	**-0.3**
	baz=216								
ENTT	**Nioudou**	**0.73**	**3**	P		**Pg**	**01 00 38.4**	**-0.3**
	baz=7.0								
ENTT				S		**Sg**	**01 00 48.0**	**-0.3**
	baz=7.0								
TWC	**Suao**	**0.76**	**23**	*e*P		**Pg**	**01 00 38.4**	**-0.9**
	baz=27								
TWC				*e*S		**Sg**	**01 00 48.8**	**-0.5**
	baz=27								
ALS	**Alishan**	**0.77**	**239**	⇑*i*P		**Pg**	**01 00 39.4**	**0.0**
	baz=225								
ALS				*e*S		**Sg**	**01 00 48.7**	**-0.8**
	baz=225								
WNT	**Mingjian**	**0.77**	**268**	*e*P		**Pg**	**01 00 39.4**	**0.0**
	baz=268								
WNT				*e*S		**Sg**	**01 00 50.8**	**+1.4**
	baz=268								
YHNB	**Yeheng**	**0.77**	**350**	*e*Pg		**Pg**	**01 00 38.8**	**-0.7**
YHNB				*e*Sg		**Sg**	**01 00 48.3**	**-1.3**
NSK	**Sanguang**	**0.78**	**349**	⇑*i*P		**Pg**	**01 00 39.4**	**-0.2**
	baz=344								
NSK				S		**Sg**	**01 00 49.3**	**-0.6**
	baz=344								
TCU	**Taichung**	**0.81**	**287**	*e*P		**Pg**	**01 00 40.7**	**+0.5**
	baz=287								
TWQ1	**Liyutan**	**0.81**	**303**	*e*P		**Pg**	**01 00 40.4**	**+0.2**
	baz=304								
TWQ1				*e*S		**Sg**	**01 00 52.9**	**+2.0**
	baz=304								
CHKT	**Chengkung**	**0.82**	**190**	*e*P		**Pg**	**01 00 40.1**	**-0.3**
	baz=185								
TWE	**Neicheng**	**0.82**	**9**	*e*P		**Pg**	**01 00 38.9**	**-1.5**
	baz=13								
TWE				*e*S		**Sg**	**01 00 50.8**	**-0.4**
	baz=13								
CHN5	**Tsauling**	**0.83**	**248**	⇑*i*P		**Pg**	**01 00 41.0**	**+0.3**
	baz=246								
CHN5				S		**Sg**	**01 00 53.1**	**+1.5**
	baz=246								
ELDTW	**Lidau**	**0.85**	**213**	*e*P		**Pg**	**01 00 39.6**	**-1.4**
	baz=218								
ELDTW				*e*S		**Sg**	**01 00 50.9**	**-1.3**
	baz=218								
NSY	**Sanyi**	**0.86**	**306**	P		**Pg**	**01 00 41.8**	**+0.7**
	baz=307								
NSY				*e*S		**Sg**	**01 00 54.2**	**+1.9**
	baz=307								
NSTT	**Nanjuang**	**0.86**	**327**	*e*P		**Pg**	**01 00 40.9**	**-0.3**
	baz=329								
NSTT				S		**Sg**	**01 00 52.5**	**+0.1**
	baz=329								
WGK	**Gukeng**	**0.90**	**256**	*e*P		**Pg**	**01 00 42.8**	**+0.7**
	baz=254								
TPUB	**Ta-pu**	**1.02**	**234**	*e*Pg		**Pg**	**01 00 43.9**	**-0.3**
TPUB				*e*Sg		**Sg**	**01 00 56.6**	**-0.8**
STYT	**Tauyuan**	**1.02**	**223**	*e*P		**Pb**	**01 00 43.8**	**-0.2**
	baz=212								
STYT				*e*S		**Sb**	**01 00 57.8**	**+0.5**
	baz=212								
CHN2	**Minshiung**	**1.03**	**249**	*e*P		**Pb**	**01 00 44.0**	**-0.1**
	baz=246								
TATO	**Taipei**	**1.06**	**358**	*e*Pn		**Pn**	**01 00 44.2**	**-0.9**
TATO				*e*Sg		**Sg**	**01 00 58.7**	**-0.2**
WTP	**Ta-pu**	**1.06**	**232**	*e*P		**Pb**	**01 00 44.8**	**+0.1**
	baz=229								
TWA	**Mucha**	**1.07**	**3**	*e*P		**Pb**	**01 00 46.0**	**+1.1**
	baz=358								
TWA				*e*S		**Sb**	**01 00 58.5**	**-0.2**
	baz=358								
CHY	**Chiayi**	**1.08**	**248**	*e*P		**Pb**	**01 00 44.4**	**-0.7**
	baz=246								
NCU	**National Centr**	**1.10**	**344**	*e*P		**Pb**	**01 00 46.2**	**+0.8**
	baz=346								
NCU				*e*S		**Sb**	**01 01 01.1**	**+1.6**
	baz=346								
TWG	**Pinlang**	**1.16**	**201**	*e*Pn		**Pn**	**01 00 45.6**	**-0.7**
TWG				*e*Sn		**Sn**	**01 00 59.0**	**-3.0**
TWG	**Pinlang**	**1.16**	**201**	*e*P		**Pb**	**01 00 45.6**	**-0.8**
	baz=183								
CHN1	**Nanshi**	**1.16**	**232**	*e*P		**Pb**	**01 00 46.7**	**+0.3**
	baz=229								
CHN1				S		**Sb**	**01 01 02.7**	**+1.4**
	baz=229								
NWF	**Wu-fen Shan**	**1.18**	**12**	*e*P		**Pn**	**01 00 47.2**	**+0.5**
	baz=16								
TWS1	**Kuangyinshan**	**1.19**	**356**	*e*P		**Pn**	**01 00 48.1**	**+1.3**
	baz=15								
ECL	**Taimali**	**1.41**	**202**	*e*P		**Pn**	**01 00 50.4**	**+0.6**
	baz=184								
SSD	**Sandimen**	**1.42**	**215**	*e*P		**Pn**	**01 00 50.2**	**+0.3**
	baz=212								
SSD				*e*S		**Sn**	**01 01 08.3**	**-0.1**
	baz=212								
YOJ	**Yonaguni jima**	**1.47**	**68**	*e*P		**Pn**	**01 00 49.8**	**-0.9**
	baz=69								
EAST	**Anshuo**	**1.64**	**202**	*e*P		**Pn**	**01 00 54.8**	**+1.8**
	baz=187								
SCZT	**Fangliau**	**1.74**	**209**	*e*P		**Pn**	**01 00 56.6**	**+2.2**
	baz=199								

JMA 26 01:00:47.2±0.4, 31°.85N×139°.58E, h182km±3km, M3.7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.27**	**9**	P	Pn	01 01 17.7	+0.5
TTO1	**TONANKAI O.B.S**	**2.94**	**308**	P	Pn	01 01 35.3	+0.1
BSO1	**Boso 1**	**3.03**	**22**	P	Pn	01 01 36.1	-0.1
BSO1				S	Sn	01 02 12.6	-2.0
BSO3	**Boso 3**	**3.04**	**15**	P	Pn	01 01 36.5	+0.1
BSO3				S	Sn	01 02 12.5	-2.4
BSO4	**Boso 4**	**3.19**	**11**	P	Pn	01 01 38.8	+0.6
BSO4				S	Sn	01 02 17.7	-0.5
HMMJ	**Hamamatsu 2**	**3.38**	**333**	P	Pn	01 01 41.0	+0.5
JIE	**Ise**	**3.50**	**317**	P	Pn	01 01 42.4	+0.4
JKN2	**Miekihoku**	**3.66**	**312**	P	Pn	01 01 44.0	0.0
JRY	**Ryogami san**	**4.19**	**352**	P	Pn	01 01 51.8	+1.1
JYT	**Yasato**	**4.40**	**6**	P	Pn	01 01 52.1	-1.2
JYT				S	Sn	01 02 41.6	-3.7
JAG	**Ashikaga**	**4.56**	**359**	P	Pn	01 01 54.3	-1.2
JAG				*e*S	Sn	01 02 45.1	-4.0

*IDC **26** 01:07:20.0±2.4, 10°.97S×114°.61E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.7/19, mbtmp3.7/8, Error ellipse: s-maj=129.6km s-min=17.7km az=50.0*
*ISCJB **26** 01:07:21.2±0.8, 11°.32S±0°.06×114°.2E±0°.1, h33km, mb3.6/8, Error ellipse: s-maj=18.3km s-min=7.3km az=160.0*
*NEIC **26** 01:07:23.9±1.0, 11°.21S×114°.25E, h35km, mb4.2/1, Error ellipse: s-maj=53.8km s-min=11.3km az=51.0*
*DJA **26** 01:07:54, 8°.42S×115°.34E, h10km, MLv2.7/4*

ISC 26 01:07:23.8±0.8, 11°.29S±0°.06×114°.3E±0°.1, h35km, n26, σ1s40/32, mb3.6/8, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**2.58**	**18**	P	Pn	**01 08 02.9**	**-0.1**
NBBI	**Negara**	**2.91**	**5**	P	Pn	**01 08 08.2**	**+0.6**
GMJI	**Gumukmas**	**3.12**	**343**	P	Sn	**01 08 44.8**	**-1.8**
KHKI	**Kahang-Kahang**	**3.16**	**23**	P	Pn	**01 08 11.8**	**+0.8**
MTNI	**Mataram**	**3.19**	**35**	P	Pn	**01 08 10.7**	**-0.7**
BLJI	**Banyuglugur**	**3.59**	**348**	P	Pn	**01 08 19.8**	**+2.8**
MBWA	**Marble Bar**	**11.10**	**153**	*e*Pn	Pn	**01 09 57.7**	**-2.3**
FITZ	**Fitzroy Crossi**	**12.85**	**123**	Pn	Pn	**01 10 21.5**	**-2.6**
	0.2nm,0.3s,baz=309,slow=11,SNR=6.6						
FITZ				Sn	Sn	**01 12 32.6**	**-13**
	0.6nm,0.3s,baz=203,slow=22,SNR=13						
FITZ	**Fitzroy Crossi**	**12.85**	**123**	Pn	Pn	**01 10 21.5**	**-2.6**
FITZ				Sn	Sn	**01 12 32.6**	**-13**
WRA	**Warramunga Arr**	**21.07**	**117**	P	P	**01 12 05.5**	**+0.4**
	2.3nm,0.6s,mb3.7,baz=290,slow=12,SNR=14						
WRA				S	S	**01 15 47.2**	**-11**
	0.5nm,0.5s,baz=289,slow=23,SNR=3.3						
WRA	**Warramunga Arr**	**21.07**	**117**	P	P	**01 12 05.5**	**+0.4**
WRA				S	S	**01 15 47.2**	**-11**
WB2	**Warramunga Arr**	**21.09**	**117**	*e*P	P	**01 12 07.9**	**+2.7**
ASAR	**Alice Springs**	**22.32**	**126**	P	P	**01 12 19.3**	**+0.8**
	1.0nm,0.7s,mb3.4,baz=301,slow=9.5,SNR=11						
ASAR				S	S	**01 16 20.7**	**-1.5**
	0.4nm,0.6s,baz=299,slow=24,SNR=4.2						
ASAR	**Alice Springs**	**22.32**	**126**	P	P	**01 12 19.3**	**+0.8**
ASAR				S	S	**01 16 20.7**	**-1.5**
FORT	**Forrest**	**23.20**	**149**	*e*P	P	**01 12 28.9**	**+1.3**
	3.7nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**32.42**	**133**	P	P	**01 13 52.4**	**+1.8**
	0.5nm,0.3s,mb3.9,baz=304,slow=8.3,SNR=3.9						
STKA	**Stephens Creek**	**32.42**	**133**	P	P	**01 13 52.4**	**+1.8**
SONM	**Songino Array**	**59.28**	**354**	P	P	**01 17 21.6**	**-0.1**
	0.2nm,0.6s,mb3.3,baz=183,slow=9.7,SNR=2.3						
SONM	**Songino Array**	**59.28**	**354**	P	P	**01 17 21.6**	**-0.1**
MK31	**Makanchi Array**	**64.53**	**336**	*e*P	P	**01 17 54.5**	**-2.7**
MKAR	**Makanchi Array**	**64.53**	**336**	P	P	**01 17 57.5**	**+0.4**
	0.6nm,0.6s,mb3.8,baz=148,slow=7.1,SNR=5.4						
MKAR	**Makanchi Array**	**64.53**	**336**	P	P	**01 17 57.5**	**+0.4**
KURK	**Kurchatov**	**69.13**	**337**	P	P	**01 18 26.6**	**+0.3**
	0.1nm,0.2s,mb3.3,baz=146,slow=6.7,SNR=4.2						
KURK	**Kurchatov**	**69.13**	**337**	P	P	**01 18 26.6**	**+0.3**
ZALV	**Zalesovo Beam**	**69.65**	**342**	P	P	**01 18 29.6**	**+0.2**
	0.2nm,0.3s,mb3.5,baz=158,slow=4.7,SNR=3.4						
ZALV	**Zalesovo Beam**	**69.65**	**342**	P	P	**01 18 29.6**	**+0.1**

IDC 26 01:15:14.7±6.8, 32°.07S×179°.12E, h543km±95km, mb3.0/2, mb1 3.4/3, mb1mx3.1/13, mbtmp3.2/3, Error ellipse: s-maj=127.2km s-min=39.8km az=6.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**6.39**	**191**	*e*P*	P	01 16 54.9	-1.4
URZ	**Urewera**	**6.39**	**194**	P	P	01 16 55.6	-0.8
	7.6nm,0.3s,baz=338,slow=18,SNR=48						
URZ				S	S	01 18 20.8	+1.0
	0.8nm,0.3s,baz=22,slow=19,SNR=3.7						
URZ	**Urewera**	**6.39**	**194**	*e*P*	P	01 16 53.7	-2.7
ASAR	**Alice Springs**	**40.60**	**270**	P	P	01 22 08.1	+0.6
	0.5nm,0.3s,baz=110,slow=8.1,SNR=4.1						
WRA	**Warramunga Arr**	**41.74**	**276**	P	P	01 22 16.3	-0.4
	1.4nm,0.3s,baz=112,slow=8.0,SNR=12						
FINES	**FINESS Array B**	**145.79**	**337**	PKPbc	PKPbc	01 33 51.6	-0.7
	3.8nm,1.0s,baz=46,slow=4.0,SNR=3.0						

*ATH **26** 01:19:14.8, 38°.15N×21°.60E, h25km, MD2.9/9*
*ISCJB **26** 01:19:15.8±0.4, 38°.11N±0°.03×21°.64E±0°.04, h21km±5km, Error ellipse: s-maj=5.6km s-min=4.4km az=152.9*
*CSEM **26** 01:19:15.5±0.2, 38°.14N×21°.62E, h20km, MD2.9, Error ellipse: s-maj=5.3km s-min=4.5km az=117.0*
*THE **26** 01:19:15.7, 38°.12N×21°.59E, h9km±3km, ML2.1/2, Error ellipse: s-maj=3.9km s-min=0.7km az=89.0*

ISC 26 01:19:15.9±0.4, 38°.13N±0°.03×21°.63E±0°.03, h20km±5km, n37, σ0s88/57, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.14**	**242**	*e*PB	**Pb**	**01 19 20.0**	**-0.3**
RLS				*e*SB	**Sb**	**01 19 23.7**	**+0.4**
RLS	**Riolos of Patr**	**0.14**	**242**	*e*Pb	**Pb**	**01 19 20.0**	**-0.3**
RLS				*e*Sb	**Sb**	**01 19 23.7**	**+0.4**
UPR	**University Cam**	**0.20**	**38**	*e*PB	**Pb**	**01 19 20.5**	**-0.6**
UPR				*e*SB	**Sb**	**01 19 24.8**	**+0.2**
UPR	**University Cam**	**0.20**	**38**	*e*Pb	**Pb**	**01 19 20.5**	**-0.6**
UPR				*e*Sb	**Sb**	**01 19 24.8**	**+0.2**
LAKA	**Lakka**	**0.30**	**67**	P	**Pb**	**01 19 22.2**	**-0.4**
LAKA				S	**Sb**	**01 19 27.5**	**+0.4**
LAKA	**Lakka**	**0.30**	**67**	P	**Pb**	**01 19 22.2**	**-0.4**
LAKA				S	**Sb**	**01 19 27.5**	**+0.4**
EFP	**Efpalio**	**0.37**	**36**	*e*PB	**Pb**	**01 19 23.1**	**-0.7**
EFP				*e*SB	**Sb**	**01 19 29.2**	**0.0**
EFP	**Efpalio**	**0.37**	**36**	*e*Pb	**Pb**	**01 19 23.1**	**-0.7**
EFP				*e*Sb	**Sb**	**01 19 29.2**	**0.0**
KALE	**Kalithea**	**0.48**	**57**	P	**Pb**	**01 19 25.1**	**-0.6**
KALE				S	**Sb**	**01 19 32.4**	**0.0**
KALE	**Kalithea**	**0.48**	**57**	P	**Pb**	**01 19 25.1**	**-0.6**
KALE				S	**Sb**	**01 19 32.4**	**0.0**
GUR	**Goura**	**0.60**	**108**	*e*PB	**Pb**	**01 19 26.7**	**-0.9**
GUR				*e*SN	**Sb**	**01 19 36.5**	**+0.9**
GUR	**Goura**	**0.60**	**108**	*e*Pb	**Pb**	**01 19 26.7**	**-0.9**
EVR	**Evrytania**	**0.80**	**10**	*e*PN	**Pn**	**01 19 30.5**	**-1.6**
EVR	**Evrytania**	**0.80**	**10**	P	**Pb**	**01 19 31.1**	**-0.1**
EVR				S	**Sb**	**01 19 43.4**	**+1.8**
EVR	**Evrytania**	**0.80**	**10**	*e*Pn	**Pn**	**01 19 30.5**	**-1.6**
EVR	**Evrytania**	**0.80**	**10**	P	**Pb**	**01 19 31.1**	**-0.1**
EVR				S	**Sb**	**01 19 43.4**	**+1.8**
VLS	**Valsamata**	**0.82**	**274**	*e*PN	**Pb**	**01 19 30.6**	**-0.8**
VLS	**Valsamata**	**0.82**	**274**	P	**Pb**	**01 19 30.6**	**-0.8**
VLS				S	**Sb**	**01 19 41.9**	**-0.1**
VLS	**Valsamata**	**0.82**	**274**	P	**Pb**	**01 19 30.6**	**-0.8**
VLS				S	**Sb**	**01 19 41.9**	**-0.1**
VLX	**Vlachokerasia**	**0.96**	**141**	*e*PN	**Pn**	**01 19 33.9**	**-0.3**
VLX	**Vlachokerasia**	**0.96**	**141**	*e*Pn	**Pn**	**01 19 33.9**	**-0.3**
ITM	**Ithomi**	**0.97**	**166**	*e*PN	**Pn**	**01 19 33.5**	**-0.9**
ITM				*e*SN	**Sn**	**01 19 48.5**	**+0.9**
ITM	**Ithomi**	**0.97**	**166**	P	**Pb**	**01 19 33.8**	**-0.3**
ITM				S	**Sn**	**01 19 48.5**	**+0.9**
ITM	**Ithomi**	**0.97**	**166**	*e*Pn	**Pn**	**01 19 33.5**	**-0.9**
ITM	**Ithomi**	**0.97**	**166**	P	**Pb**	**01 19 33.8**	**-0.3**
ITM				S	**Sn**	**01 19 48.5**	**+0.9**
LKD2	**Lefkada island**	**1.01**	**311**	P	**Pb**	**01 19 33.8**	**-0.9**
LKD2				S	**Sb**	**01 19 49.5**	**+2.0**
LKD2	**Lefkada island**	**1.01**	**311**	P	**Pb**	**01 19 33.8**	**-0.9**
LKD2				S	**Sb**	**01 19 49.5**	**+2.0**
AGG	**Agios Georgios**	**1.05**	**31**	P	**Pb**	**01 19 36.0**	**+0.6**
AGG	**Agios Georgios**	**1.05**	**31**	P	**Pb**	**01 19 36.0**	**+0.6**
LTK	**Loutraki**	**1.06**	**95**	*e*PN	**Pn**	**01 19 35.4**	**-0.2**
LTK	**Loutraki**	**1.06**	**95**	*e*Pn	**Pn**	**01 19 35.4**	**-0.2**
LKR	**Lokris**	**1.20**	**64**	*e*PN	**Pn**	**01 19 37.5**	**0.0**
LKR	**Lokris**	**1.20**	**64**	*e*Pn	**Pn**	**01 19 35.6**	**-1.9**
PYL	**PYLOS**	**1.23**	**176**	*e*PN	**Pn**	**01 19 39.2**	**+1.3**
PYL	**PYLOS**	**1.23**	**176**	*e*Pn	**Pn**	**01 19 39.2**	**+1.3**
DID	**Didima**	**1.42**	**115**	*e*PN	**Pn**	**01 19 42.1**	**+1.6**
DID	**Didima**	**1.42**	**115**	*e*Pn	**Pn**	**01 19 42.1**	**+1.6**

*NEIC **26** 01:30:56.5±1.0, 23°.92N×121°.52E, h15km±13km, ML3.8(TAP), Error ellipse: s-maj=18.9km s-min=7.4km az=114.0*
NEIC Recorded [3 TAP] in Hua-lien and [1 TAP] in Nan-t'ou.
*ISCJB **26** 01:30:57.4±0.4, 23°.91N±0°.01×121°.54E±0°.03, h17km±4km, Error ellipse: s-maj=4.4km s-min=2.1km az=19.8*
*TAP **26** 01:30:57.2, 23°.93N×121°.47E, h16km, ML3.3, B*

ISC 26 01:30:57.3±0.3, 23°.92N±0°.01×121°.52E±0°.02, h14km±2km, n41, σ0s80/76, 7C-3D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESF	**Shoufeng Towns**	**0.05**	**191**	⇑*i*P	**Pg**	**01 31 00.4**	**+0.4**
	baz=151						
ESF				*i* S	**Sg**	**01 31 02.4**	**+0.5**
	baz=151						
HWA	**Hwalien**	**0.10**	**54**	⇑*i*P	**Pg**	**01 31 01.4**	**+0.9**
	baz=68						
HWA				*i* S	**Sg**	**01 31 04.6**	**+1.7**
	baz=68						
ESL	**Shilin**	**0.13**	**217**	⇓*i*P	**Pg**	**01 31 00.8**	**0.0**
	baz=195						
ESL				S	**Sg**	**01 31 03.0**	**-0.3**
	baz=195						
TWD	**Chiawan**	**0.18**	**24**	⇑*i*P	**Pg**	**01 31 02.0**	**+0.5**
	baz=31						
TWD				*i* S	**Sg**	**01 31 05.1**	**+0.5**
	baz=31						
TEGC	**Jichi Village**	**0.21**	**174**	*e*P	**Pg**	**01 31 02.7**	**+0.7**
	baz=168						
TEGC				*e*S	**Sg**	**01 31 07.6**	**+2.3**
	baz=168						
NACB	**Ninganchiao**	**0.27**	**16**	*e*Pg	**Pg**	**01 31 02.1**	**-0.9**
NACB				*e*Sg	**Sg**	**01 31 06.5**	**-0.3**
WHF	**Hehuan Shan**	**0.32**	**315**	⇑*i*P	**Pg**	**01 31 04.0**	**0.0**
	baz=320						
WHF				*i* S	**Sg**	**01 31 08.5**	**0.0**
	baz=320						
EHY	**Hungye**	**0.45**	**204**	⇓*i*P	**Pg**	**01 31 05.8**	**-0.4**
	baz=191						
EHY				*e*S	**Sg**	**01 31 11.8**	**-0.4**
	baz=191						
TWT	**Tachien**	**0.46**	**317**	*e*P	**Pg**	**01 31 06.0**	**-0.4**
	baz=312						
TWT				S	**Sg**	**01 31 13.0**	**+0.4**
	baz=312						
SSLB	**Suanglung**	**0.53**	**256**	*e*Pg	**Pg**	**01 31 06.5**	**-1.3**
SSLB				*e*Sg	**Sg**	**01 31 13.5**	**-1.4**
NNS	**Nan Shan**	**0.54**	**346**	⇑*i*P	**Pg**	**01 31 08.2**	**+0.3**
	baz=350						
NNS				S	**Sg**	**01 31 14.9**	**-0.2**
	baz=350						
ENA	**Nanau**	**0.55**	**22**	P	**Pg**	**01 31 08.0**	**-0.1**
	baz=27						
ENA				S	**Sg**	**01 31 15.6**	**+0.1**
	baz=27						
YULB	**Yu-li**	**0.56**	**201**	*e*Pg	**Pg**	**01 31 07.7**	**-0.7**
YULB				*e*Sg	**Sg**	**01 31 15.1**	**-0.7**
SMLT	**Sun Moon Lake**	**0.56**	**267**	P	**Pg**	**01 31 08.1**	**-0.3**
	baz=265						
SMLT				S	**Sg**	**01 31 15.1**	**-0.9**
	baz=265						
TWF1	**Yuli**	**0.60**	**200**	*e*P	**Pg**	**01 31 08.4**	**-0.6**
	baz=195						
TWF1				*e*S	**Sg**	**01 31 17.0**	**+0.1**
	baz=195						
TYC	**Yuchr**	**0.60**	**269**	*i* P	**Pg**	**01 31 08.7**	**-0.5**
	baz=273						
TYC				*i* S	**Sg**	**01 31 16.2**	**-1.0**
	baz=273						
YUS	**Yu-Shan**	**0.67**	**231**	⇓*i*P	**Pg**	**01 31 10.5**	**+0.1**
	baz=216						
YUS				S	**Sg**	**01 31 18.9**	**-0.4**
	baz=216						
ENTT	**Nioudou**	**0.72**	**4**	P	**Pg**	**01 31 11.3**	**-0.1**
	baz=7.0						
ENTT				S	**Sg**	**01 31 20.7**	**-0.3**
	baz=7.0						
TWC	**Suao**	**0.75**	**24**	P	**Pg**	**01 31 11.3**	**-0.7**
	baz=27						
TWC				S	**Sg**	**01 31 21.7**	**-0.2**
	baz=27						
YHNB	**Yeheng**	**0.76**	**350**	*e*Pg	**Pg**	**01 31 11.7**	**-0.5**
YHNB				*e*Sg	**Sg**	**01 31 21.2**	**-0.9**
ALS	**Alishan**	**0.77**	**238**	⇑*i*P	**Pg**	**01 31 12.3**	**0.0**
	baz=227						
ALS				S	**Sg**	**01 31 21.6**	**-0.7**
	baz=227						
NSK	**Sanguang**	**0.77**	**349**	*i* P	**Pg**	**01 31 12.2**	**-0.1**
	baz=345						
NSK				*i* S	**Sg**	**01 31 21.9**	**-0.6**
	baz=345						
TCU	**Taichung**	**0.80**	**287**	*e*P	**Pg**	**01 31 14.0**	**+1.1**
	baz=287						
TWQ1	**Liyutan**	**0.80**	**302**	*e*P	**Pg**	**01 31 13.2**	**+0.3**
	baz=304						
TWQ1				*e*S	**Sg**	**01 31 25.1**	**+1.5**
	baz=304						
TWE	**Neicheng**	**0.81**	**10**	*e*P	**Pg**	**01 31 12.7**	**-0.5**
	baz=14						
TWE				*e*S	**Sg**	**01 31 22.1**	**-1.7**
	baz=14						
CHN5	**Tsauling**	**0.83**	**248**	⇑*i*P	**Pg**	**01 31 13.8**	**+0.4**
	baz=238						
CHN5				S	**Sg**	**01 31 25.6**	**+1.3**
	baz=238						
NSY	**Sanyi**	**0.85**	**306**	*e*P	**Pg**	**01 31 14.7**	**+0.9**
	baz=316						
NSY				*e*S	**Sg**	**01 31 27.4**	**+2.3**
	baz=316						
NSTT	**Nanjuang**	**0.

WHZ	**Wether Hill Ro**	**1.18**	**158**	⇑P*	Pb	01 34 39.2	-0.8
WKZ	**Wanaka**	**1.21**	**92**	P*	Pb	01 34 39.9	-0.5
JCZ	**Jackson Bay**	**1.26**	**55**	*e*P*	Pb	01 34 41.4	+0.2
PYZ	**Puysegur Point**	**1.44**	**198**	*e*PN	Pn	01 34 42.4	-1.5
EAZ	**Earnscleugh**	**1.47**	**108**	PN	Pn	01 34 44.2	0.0
TUZ	**Tuapeka**	**2.00**	**126**	PN	Pn	01 34 52.4	+0.9
LBZ	**Lake Benmore**	**2.08**	**80**	PN	Pn	01 34 54.6	+1.9
LBZ				SN	Sn	01 35 18.6	-0.4
APZ	**The Paps**	**2.09**	**167**	PN	Pn	01 34 53.6	+0.8
FOZ	**Fox Glacier**	**2.10**	**55**	*e*PN	Pn	01 34 54.5	+1.6
SYZ	**Scrubby Hill**	**2.16**	**144**	PN	Pn	01 34 54.7	+1.0
SYZ				SN	Sn	01 35 20.8	0.0
ODZ	**Otahua Downs**	**2.37**	**97**	PN	Pn	01 34 58.2	+1.6
ODZ				SN	Sn	01 35 25.9	-0.2
QRZ	**Quartz Range**	**5.51**	**46**	PN	Pn	01 35 40.3	+0.5

*ISCJB **26** 02:10:27.4±3.6,22.°90S±0.°08×175.°49W±0.°07, h11km±21km, mb4.8/41, MS4.2/14, Error ellipse: s-maj=14.3km s-min=10.0km az=154.6*

*IDC **26** 02:10:31.2±3.6,22.°84S×175.°27W, h34km±27km, mb4.2/14, mb1 4.4/15, mb1mx4.3/19, mbtmp4.2/15, ML4.2/1, MS4.1/12, Ms1 4.1/12, ms1mx3.8/30, Error ellipse: s-maj=22.5km s-min=14.2km az=154.0*

*NEIC **26** 02:10:39.4±1.8,22.°93S×175.°59W, h98km±15km, mb4.7/13, Error ellipse: s-maj=12.0km s-min=9.7km az=135.0*

*BJI **26** 02:10:40.1,22.°76S×175.°35W, h115km, mB5.1/16, mb4.9/26*

ISC 26 02:10:31.9±3.7,22.°90S±0.°08×175.°47W±0.°07, h30km±25km, h98km±6.2km:pP-P,n117,σ1°13/81,mb4.8/41, MS4.2/14,5C,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**7.96**	**309**	*e*Pn	**Pn**	**02 12 32.0**	**+6.5**
AFI	**Afiamalu**	**9.60**	**22**	Pn	**Pn**	**02 12 40.8**	**-7.3**
	18nm,0.3s,baz=334,slow=17,SNR=3.7						
AFI				Sn	**Sn**	**02 14 19.3**	**-16**
	10.0nm,0.3s,baz=5.4,slow=15,SNR=3.0						
AFI	**Afiamalu**	**9.60**	**22**	Pn	**Pn**	**02 12 40.8**	**-7.3**
AFI				Sn	**Sn**	**02 14 19.3**	**-16**
RAR	**Rarotonga**	**14.65**	**86**	LR	LR	02 18 25.1	
	comp=Z,883nm,21.4s,baz=279,slow=33						
URZ	**Urewera**	**16.58**	**201**	Pn	**Pn**	**02 14 23.7**	**+1.6**
	0.8nm,0.3s,baz=300,slow=9.0,SNR=3.5						
URZ				Sn	**Sn**	**02 17 14.8**	**-11**
	0.4nm,0.3s,baz=138,slow=20,SNR=4.6						
URZ	**Urewera**	**16.58**	**201**	Pn	**Pn**	**02 14 23.7**	**+1.6**
URZ				Sn	**Sn**	**02 17 14.8**	**-10**
DZM	**Mont Dzumac**	**16.74**	**269**	*e*LR	LR	02 18 29.4	
	576nm,20.9s						
DZM	**Mont Dzumac**	**16.74**	**269**	*e*Pn	**Pn**	**02 14 32.8**	**+8.6**
	90nm,1.5s						
TBI	**Tubuai**	**23.92**	**96**	*e*LQ		02 19 59.5	
	630nm,27.8s						
TBI				*e*LR	LR	02 21 11.7	
	496nm,29.2s,baz=270						
PPT	**Papeete**	**24.85**	**82**	*e*LQ		02 20 33.0	
	809nm,25.8s						
PPT				*e*LR	LR	02 21 47.6	
	445nm,22.8s,baz=255						
HNR	**Honiara**	**27.08**	**296**	LR	LR	02 24 59.4	
	comp=Z,314nm,20.6s,MS3.9,baz=145,slow=32						
EIDS	**Eidsvold**	**30.58**	**259**	*e*P	**P**	**02 16 44.3**	**+1.1**
	13nm,0.5s,mb5.0						
RMQ	**Roma**	**32.63**	**256**	*e*P	**P**	**02 17 02.4**	**+1.2**
	16nm,1.1s,mb4.9						
CMSA	**Cobar Meteorol**	**35.45**	**247**	*e*P	**P**	**02 17 25.9**	**+0.3**
	34nm,0.7s,mb5.4						
CTA	**Charters Tower**	**35.66**	**267**	P	**P**	**02 17 28.4**	**+0.9**
	6.1nm,0.4s,mb4.8,baz=101,slow=10,SNR=15						
CTA	**Charters Tower**	**35.66**	**267**	*e*P	**P**	**02 17 28.0**	**+0.5**
	6.1nm,0.5s,mb4.8						
CTA	**Charters Tower**	**35.66**	**267**	P	**P**	**02 17 28.4**	**+0.8**
CTAO	**Charters Tower**	**35.66**	**267**	*e*P	**P**	**02 17 27.3**	**-0.3**
	10nm,0.8s,mb4.8						
TAOE	**Nuku Hiva Isla**	**36.61**	**73**	*e*LR	LR	02 27 08.3	
	251nm,23.4s						
RKT	**Rikitea**	**37.19**	**98**	*e*LR	LR	02 26 58.2	
	347nm,34.0s						
MTSU	**Mount Surprise**	**37.88**	**270**	*e*P	**P**	**02 17 46.7**	**+0.3**
	10.0nm,0.6s,mb4.7						
PMG	**Port Moresby**	**38.19**	**284**	P	**P**	**02 17 49.8**	**+0.7**
	22nm,0.9s,mb4.9,baz=82,slow=4.9,SNR=14						
PMG	**Port Moresby**	**38.19**	**284**	*e*P	**P**	**02 17 48.7**	**-0.4**
	22nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**38.95**	**247**	P	**P**	**02 17 55.6**	**+0.3**
	4.3nm,0.6s,mb4.4,baz=90,slow=10,SNR=13						
STKA				LR	LR	02 33 39.4	
	comp=Z,479nm,18.1s,MS4.4,baz=28,slow=36						
STKA	**Stephens Creek**	**38.95**	**247**	*e*P	**P**	**02 17 55.7**	**+0.4**
	2.5nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**38.95**	**247**	*e*P	**P**	**02 17 55.8**	**+0.5**
	14nm,2.5s,mb4.2						
COEN	**Coen**	**40.12**	**275**	*e*P	**P**	**02 18 06.6**	**+1.4**
	15nm,0.8s,mb4.8						
COEN	**Coen**	**40.12**	**275**	*e*P	**P**	**02 18 05.3**	**+0.1**
	174nm,1.9s,mb5.5						
BBOO	**Buckleboo**	**43.66**	**246**	*e*P	**P**	**02 18 32.9**	**-1.1**
	40nm,0.9s,mb5.2						
ASAR	**Alice Springs**	**46.31**	**259**	P	**P**	**02 18 55.0**	**-0.1**
	12nm,0.9s,mb4.8,baz=98,slow=7.6,SNR=99						
ASAR				S	**S**	**02 25 42.0**	**+1.5**
	0.5nm,0.7s,baz=85,slow=15,SNR=5.7						
ASAR	**Alice Springs**	**46.31**	**259**	P	**P**	**02 18 55.0**	**-0.1**
ASAR				S	**S**	**02 25 42.0**	**+1.5**
WB2	**Warramunga Arr**	**46.63**	**264**	*e*P	**P**	**02 18 56.7**	**-1.1**
WRAB	**Tennant Creek**	**46.63**	**264**	*e*P	**P**	**02 18 56.5**	**-1.3**
	24nm,1.0s,mb5.1						
WRA	**Warramunga Arr**	**46.64**	**264**	P	**P**	**02 18 56.9**	**-0.9**
	8.3nm,0.8s,mb4.7,baz=104,slow=7.8,SNR=51						
WRA	**Warramunga Arr**	**46.64**	**264**	P	**P**	**02 18 56.9**	**-0.9**
KAKA	**Kakadu**	**50.40**	**272**	*e*P	**P**	**02 19 25.2**	**-1.6**
	4.6nm,0.8s,mb4.6						
FORT	**Forrest**	**50.55**	**248**	*e*P	**P**	**02 19 27.0**	**-0.8**
FITZ	**Fitzroy Crossi**	**55.06**	**263**	P	**P**	**02 20 01.1**	**-0.2**
	6.5nm,0.8s,mb4.7,baz=103,slow=8.6,SNR=12						
FITZ				LR	LR	02 43 58.1	
	comp=Z,306nm,18.5s,MS4.4,baz=156,slow=36						
FITZ	**Fitzroy Crossi**	**55.06**	**263**	P	**P**	**02 20 01.1**	**-0.2**
VNDA	**Vanda**	**55.76**	**186**	*e*P	**P**	**02 20 06.7**	**+1.3**
	11nm,1.6s,mb4.6						
MBWA	**Marble Bar**	**59.65**	**258**	*e*P	**P**	**02 20 32.5**	**-1.1**
	29nm,1.3s,mb5.2						
CBIJ	**Chichi jima**	**64.38**	**318**	LR	LR	02 45 28.6	
	comp=Z,162nm,18.7s,MS4.2,baz=94,slow=32						
QSPA	**South Pole Qui**	**67.19**	**180**	P	**P**	**02 21 22.2**	**-0.3**
	3.9nm,0.8s,mb4.5,baz=9.4,slow=2.6,SNR=5.6						
QSPA	**South Pole Qui**	**67.19**	**180**	P	**P**	**02 21 22.2**	**-0.3**
JOW	**Kunigami**	**73.50**	**309**	LR	LR	02 52 12.4	
	comp=Z,144nm,19.0s,MS4.3,baz=50,slow=34						
MJAR	**Matsushiro Arr**	**73.53**	**323**	P	**P**	**02 22 00.6**	**-1.2**
	1.8nm,0.6s,mb4.2,baz=163,slow=5.7,SNR=6.3						
MJAR	**Matsushiro Arr**	**73.53**	**323**	P	**P**	**02 22 00.6**	**-1.2**
ASAJ	**Asahikawa**	**76.95**	**330**	LR	LR	02 50 44.7	
	comp=Z,100nm,21.6s,MS4.1,baz=68,slow=31						
PETK	**Petropavlovsk-**	**79.19**	**344**	LR	LR	02 52 21.6	
	comp=Z,68nm,20.6s,MS4.0,baz=241,slow=32						
MAW	**Mawson**	**80.11**	**199**	P	**P**	**02 22 37.6**	**-1.0**
	3.8nm,0.7s,mb4.4,baz=159,slow=4.8,SNR=6.6						
MAW				LR	LR	02 55 55.1	
	comp=Z,142nm,18.4s,MS4.3,baz=306,slow=34						
MAW	**Mawson**	**80.11**	**199**	P	**P**	**02 22 37.6**	**-1.0**
KSRS	**Korea Array**	**80.23**	**318**	P	**P**	**02 22 39.5**	**-0.1**
	0.7nm,0.3s,mb4.1,baz=122,slow=6.0,SNR=4.3						
KSRS				LR	LR	02 54 27.5	
	comp=Z,76nm,18.2s,MS4.1,baz=27,slow=33						
KSAR	**Wonju Array Be**	**80.25**	**318**	P	**P**	**02 22 39.5**	**-0.2**
NVAR	**Mina Array Bea**	**81.19**	**42**	P	**P**	**02 22 42.4**	**-2.3**
	1.8nm,1.0s,mb4.0,baz=224,slow=8.4,SNR=9.3						
NVAR	**Mina Array Bea**	**81.19**	**42**	P	**P**	**02 22 42.4**	**-2.3**
TUC	**Tucson**	**82.64**	**51**	*e*P	**P**	**02 22 52.7**	**+0.2**
	1.3nm,0.7s,mb4.1						
NJ2	**Nanjing**	**83.21**	**309**	*e*P	**P**	**02 22 56.3**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.3						
WVOR	**Wild Horse Val**	**83.49**	**39**	*e*P	**P**	**02 22 57.9**	**+1.2**
	comp=Z,18nm,1.7s,mb4.8						
CCUT	**Cedar City**	**83.80**	**45**	*e*P	**P**	**02 22 59.7**	**+1.4**
	comp=Z,9.1nm,1.5s,mb4.7						
MDJ	**Mudanjiang**	**83.82**	**324**	P	**P**	**02 22 59.0**	**+0.7**
MDJ				sP	sP	02 23 38.5	+27
MDJ				PP	PP	02 26 12.5	+0.3
MDJ				S	S	02 33 13.3	-6.2
MDJ				SS	SS	02 38 39.5	-8.5
MDJ				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.0						
MDJ				pmax	pmax		
	comp=Z,89nm,6.0s						
MDJ				LR	LR		
	comp=N,32nm,21.0s,MS3.8						
MDJ				LR	LR		
	comp=E,24nm,22.3s,MS3.8						
MDJ				LR	LR		
	comp=Z,94nm,21.0s,MS4.1						
ARUT	**Antelope Range**	**83.88**	**45**	*e*P	**P**	**02 22 59.8**	**+1.0**
	comp=Z,3.1nm,0.7s,mb4.5						
SYO	**Syowa Base**	**84.90**	**192**	⇑*e*P	**P**	**02 23 01.2**	**-2.3**
SYO	**Syowa Base**	**84.90**	**192**	⇑*e*PcP	**P**	**02 23 04.8**	**+1.3**
MSU	**Marysvale**	**85.11**	**45**	*e*P	**P**	**02 23 06.0**	**+1.0**
SNAA	**Sanae**	**85.55**	**178**	*e*	pP	02 23 19.8	+3.4
VNA3	**Neumayer Olymp**	**85.59**	**175**	*e*	**P**	**02 23 05.3**	**-1.7**
VNA3				*e*		02 23 11.7	
CN2	**Changchun**	**85.62**	**321**	*e*P	**P**	**02 23 08.5**	**+1.1**
CN2				*e*sP	sP	02 23 51.5	+31
CN2				*e*S	S	02 33 30.0	-7.4
CN2				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.8						
CN2				pmax	pmax		
	comp=Z,100nm,5.0s						
PLCA	**Paso Flores**	**85.93**	**133**	LR	LR	02 57 36.9	
	comp=Z,101nm,18.2s,MS4.2,baz=102,slow=33						
VNA2	**Neumayer--Watz**	**86.06**	**176**	*e*	**P**	**02 23 08.2**	**-1.1**
	baz=165,slow=1.8						
VNA2				*e*		02 23 13.7	
TXAR	**Lajitas Array**	**86.39**	**56**	P	**P**	**02 23 08.6**	**-2.9**
	comp=Z,1.2nm,1.0s,mb4.1,baz=211,slow=4.4,SNR=9.6						
TXAR	**Lajitas Array**	**86.39**	**56**	P	**P**	**02 23 08.6**	**-2.9**
ANMO	**Albuquerque**	**87.09**	**50**	*e*P	**P**	**02 23 15.5**	**+0.6**
	comp=Z,26nm,2.3s,mb5.0						
PDAR	**Pinedale Array**	**89.12**	**42**	P	**P**	**02 23 22.0**	**-2.3**
	comp=Z,0.4nm,0.7s,mb3.9,baz=216,slow=2.9,SNR=3.2						
PDAR	**Pinedale Array**	**89.12**	**42**	P	**P**	**02 23 22.0**	**-2.3**
BJI	**Beijing**	**89.24**	**314**	P	**P**	**02 23 25.3**	**+0.4**
BJI				pP	pP	02 23 53.5	+19
BJI				sP	sP	02 24 06.0	+28
BJI				S	S	02 34 05.5	-6.8
BJI				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb5.1						
BOZ	**Bozeman (W)**	**89.46**	**39**	*e*P	**P**	**02 23 28.5**	**+2.7**
	comp=Z,1.6nm,0.6s,mb4.5						
GYA	**Guiyang**	**89.86**	**299**	*e*P	**P**	**02 23 28.0**	**-0.2**
GYA				pP	pP	02 23 58.8	+21
GYA				sP	sP	02 24 11.5	+30
GYA				PP	PP	02 27 03.5	+2.2
GYA				SKS		02 33 45.0	
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb5.1						
ILAR	**Eielson Array**	**90.14**	**12**	P	**P**	**02 23 26.4**	**-2.1**
	comp=Z,2.2nm,1.1s,mb4.4,baz=210,slow=5.6,SNR=7.6						
ILAR	**Eielson Array**	**90.14**	**12**	P	**P**	**02 23 26.4**	**-2.1**
XAN	**Xi'an**	**91.44**	**306**	P	**P**	**02 23 35.3**	**-0.1**
XAN				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.7						
XAN				pmax	pmax		
	comp=Z,12nm,3.8s						
KMI	**Kunming**	**92.52**	**296**	P	**P**	**02 23 40.0**	**-0.6**
KMI				pP	pP	02 24 08.5	+18
KMI				sP	sP	02 24 23.8	+30
KMI				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb5.1						
KMI				LR	LR		
	comp=Z,54nm,25.9s,MS3.9						
HHC	**Hu-ho-hao-te**	**92.70**	**313**	*e*P	**P**	**02 23 42.0**	**+1.0**
HHC				pP	pP	02 24 12.8	+22
HHC				sP	sP	02 24 26.0	+32
HHC				PP	PP	02 27 27.8	+4.3
HHC				SKS		02 34 02.0	
HHC				S	S	02 34 33.5	-10
HHC				sS	sS	02 35 30.5	+30
HHC				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.3						
HHC				pmax	pmax		
	comp=Z,73nm,5.1s						
HHC				LR	LR		
	comp=N,160nm,19.0s,MS4.9						
HHC				LR	LR		
	comp=E,430nm,21.8s,MS4.9						
HHC				LR	LR		
	comp=Z,94nm,20.0s,MS4.2						
CMAR	**Chiang Mai Arr**	**93.12**	**289**	P	**P**	**02 23 45.4**	**+2.0**
	comp=Z,1.6nm,0.3s,mb4.9,baz=132,slow=3.4,SNR=13						
CMAR	**Chiang Mai Arr**	**93.12**	**289**	P	**P**	**02 23 45.4**	**+1.9**
CHTO	**Chiang Mai**	**93.25**	**289**	*e*P	**P**	**02 23 44.4**	**+0.4**
CHTO				*e*pP	pP	02 24 06.7	+13
CD2	**Chengdu**	**94.05**	**302**	P	**P**	**02 23 47.5**	**0.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.5						
CD2				pmax	pmax		
	comp=Z,150nm,4.8s						
LZH	**Lanzhou**	**96.08**	**306**	*e*P	**P**	**02 23 56.0**	**-0.6**
LZH				pP	pP	02 24 25.8	+19
LZH				sP	sP	02 24 37.5	+28
LZH				*e*PP	PP	02 27 52.0	+2.0
LZH				pmax	pmax		
	comp=Z,15nm,1.5s,mb5.2						
LZH				pmax	pmax		
	comp=Z,56nm,8.6s						
LPAZ	**La Paz**	**98.98**	**112**	*e*P	**P**	**02 24 11.6**	**+1.3**
SONM	**Songino Array**	**99.10**	**318**	LR	LR	03 08 35.5	
	comp=Z,81nm,18.1s,MS4.3,baz=43,slow=35						
WMQ	**Urumqi**	**110.26**	**310**	PKP	PKiKP	02 28 59.3	-1.5
MKAR	**Makanchi Array**	**114.54**	**312**	PKP	PKiKP	02 29 07.3	-1.5
	comp=Z,0.5nm,0.6s,baz=155,slow=1.6,SNR=4.0						
MKAR	**Makanchi Array**	**114.54**	**312**	PKP	PKiKP	02 29 07.3	-1.5
HFS	**Hagfors**	**142.24**	**353**	PKP	PKPdf	02 30 00.9	+0.1
	comp=Z,3.4nm,0.9s,baz=96,slow=2.9,SNR=3.7						
HFS	**Hagfors**	**142.24**	**353**	PKP	PKPdf	02 30 00.9	+0.1
SUW	**Suwalki**	**145.89**	**340**	*e*PKP	PKPdf	02 30 07.7	+0.3
SUW	**Suwalki**	**145.89**	**340**	*e*PKPbc	PKPbc	02 30 07.0	-1.0
AKASG	**Malin Array Be**	**146.24**	**331**	PKPbc	PKPbc	02 30 07.0	-2.2
	comp=Z,4.9nm,0.8s,baz=42,slow=4.1,SNR=14						
AKASG	**Malin Array Be**	**146.24**	**331**	PKPbc	PKPbc	02 30 07.0	-2.2
AKBB	**Malin Array Si**	**146.24**	**331**	*e*PKPbc	PKPbc	02 30 07.2	-2.0
KIEV	**Kiev**	**146.25**	**331**	*e*PKPbc	PKPbc	02 30 07.2	-2.0
KWP	**Kalwaria Pacla**	**149.72**	**336**	*e*PKPbc	PKPbc	02 30 17.6	-0.9
BR131	**Keskin Array S**	**150.18**	**311**	*e*PKPbc	PKPbc	02 30 19.1	-0.8
BRTR	**Keskin Array B**	**150.18**	**311**	PKPbc	PKPbc	02 30 19.4	-0.5
	comp=Z,1.9nm,0.8s,baz=125,slow=3.5,SNR=8.0						
BRTR	**Keskin Array B**	**150.18**	**311**	PKPbc	PKPbc	02 30 19.4	-0.5
BUR08	**Bucovina Ar. S**	**150.27**	**331**	*e*PKPdf	PKPdf	02 30 13.3	-1.5
BUR08				*e*PKPbc	PKPbc	02 30 18.4	-1.6
BUR08				*e*PKPab	PKPab	02 30 23.9	-2.2
CLL	**Collm**	**150.89**	**349**	*e*PKPbc	PKPbc	02 30 20.0	-1.3
CLL				*e*PKPab	PKPab	02 30 29.0	+0.5
	comp=Z,14nm,1.2s						
CLL				*ep*PKPbc	pPKPbc	02 30 49.0	+18
UPC	**Upice**	**151.01**	**345**	*e*PKPAB	PKPab	02 30 31.5	+2.4
DPC	**Dobruska-Polom**	**151.08**	**344**	⇑*e*PKP	PKPdf	02 30 21.9	+6.0
BRG	**Berggiesshubel**	**151.13**	**348**	*e*PKP	PKPbc	02 30 20.8	-1.0
	comp=Z,4.0nm,0.8s						
MORC	**Moravsky Berou**	**151.28**	**342**	*e*PKPbc	PKPbc	02 30 21.5	-0.7
PVCC	**Panska Ves**	**151.32**	**347**	*e*PKP	PKPdf	02 30 21.4	+5.1
PSZ	**Piszkesteto**	**152.17**	**338**	*e*PKPdf	PKPdf	02 30 17.4	-0.3
PSZ				*e*PKPab	PKPab	02 30 33.6	-0.4
KHC	**Kasperske Hory**	**152.85**	**347**	⇑*e*PKP	PKPdf	02 30 23.5	+4.9
KHC				*ex*	x	02 30 29.0	
KHC				*ep*PKP	pPKPdf	02 30 43.5	+15
GERES	**GERESS Array B**	**153.10**	**347**	PKPbc	PKPbc	02 30 27.0	+0.7
	comp=Z,0.2nm,0.5s,baz=98,slow=2.0,SNR=4.3						
GERES				PKPab	PKPab	02 30 37.1	-0.7
	comp=Z,0.9nm,0.8s,baz=260,slow=2.3,SNR=5.1						
GERES	**GERESS Array B**	**153.10**	**347**	PKPbc	PKPbc	02 30 27.0	+0.7
GERES				PKPab	PKPab	02 30 37.1	-0.7
TORD	**Torodi Ar. Bea**	**169.94**	**164**	PKPab	PKPab	02 31 51.4	-0.6
	comp=Z,0.6nm,0.7s,baz=192,slow=6.0,SNR=4.0						
TORD	**Torodi Ar. Bea**	**169.94**	**164**	PKPab	PKPab	02 31 51.4	-0.6

*ISCJB **26** 02:18:42.3±0.5,23.°9N±0.°1×45.°48W±0.°07, h10km, mb4.1/30, MS3.6/16, Error ellipse: s-maj=16.1km s-min=8.7km az=177.1*

*IDC **26** 02:18:42.5±1.3,23.°90N×45.°48W, h0km, mb3.9/15, mb1 4.1/15, mb1mx4.0/27, mbtmp3.9/15, MS3.6/16, Ms1 3.6/16, ms1mx3.4/36, Error ellipse: s-maj=36.4km s-min=18.1km az=9.0*

*NEIC **26** 02:18:43.8±0.4,23.°86N×45.°49W, h10km, mb4.3/15, Error ellipse: s-maj=13.0km s-min=7.0km az=177.0*

ISC 26 02:18:44.2±0.5,23.°9N±0.°1×45.°47W±0.°07, h10km,n56, σ0°68/48, mb4.1/30, MS3.6/16, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJG	**San Juan**	**20.14**	**257**	LR	LR	02 29 30.0	
	comp=Z,149nm,18.0s,MS3.4,baz=84,slow=32						
ROSC	**El Rosal**	**33.63**	**240**	LR	LR	02 36 35.7	
	comp=Z,90nm,20.6s,MS3.5,baz=16,slow=32						
SCHQ	**Schefferville**	**34.75**	**338**	LR	LR	02 38 11.0	
	comp=Z,91nm,19.3s,MS3.5,baz=259,slow=34						
WVT	**Waverly**	**38.38**	**299**	*e*P	**P**	**02 26 05.8**	**+0.2**
	8.6nm,1.2s,mb4.4						
OTAV	**Otavalo**	**39.69**	**238**	*e*P	**P**	**02 26 16.5**	**-0.4**
	3.2nm,0.9s,mb4.0						
DBIC	**Dimbokro**	**42.55**	**107**	P	**P**	**02 26 41.4**	**+1.0**
	3.0nm,1.0s,mb4.0,baz=312,slow=8.7,SNR=3.7						
DBIC	**Dimbokro**	**42.55**	**107**	P	**P**	**02 26 41.4**	**+1.0**
LPAZ	**La Paz**	**45.66**	**211**	*e*P	**P**	**02 27 05.0**	**-0.3**
	2.2nm,0.8s,mb4.1						
TORD	**Torodi Ar. Bea**	**45.79**	**95**	P	**P**	**02 27 05.0**	**-1.4**
	3.0nm,0.7s,mb4.3,baz=296,slow=8.1,SNR=23						
TORD				LR	LR	02 43 13.8	
	comp=Z,66nm,21.0s,MS3.6,baz=300,slow=32						
TORD	**Torodi Ar. Bea**	**45.79**	**95**	P	**P**	**02 27 05.0**	**-1.4**
TAM	**Tamanrasset**	**46.62**	**81**	*e*P	**P**	**02 27 13.7**	**+0.8**
	5.3nm,1.3s,mb4.3						
ULM	**Lac du Bonnet**	**46.90**	**317**	LR	LR	02 43 22.2	
	comp=Z,107nm,19.9s,MS3.8,baz=195,slow=32						
WMOK	**Wichita Mounta**	**47.25**	**296**	*e*P	**P**	**02 27 14.4**	**-3.2**
	4.2nm,1.0s,mb4.3						
CBKS	**Cedar Bluff**	**48.01**	**301**	*e*P	**P**	**02 27 22.9**	**-0.6**
	3.4nm,0.6s,mb4.5						
KEST	**Kesra**	**48.45**	**63**	P	**P**	**02 27 27.4**	**+0.5**
	2.2nm,1.0s,mb4.2,baz=251,slow=9.1,SNR=3.8						
KEST				LR	LR	02 42 41.2	
	comp=Z,30nm,21.8s,MS3.2,baz=296,slow=30						
KEST	**Kesra**	**48.45**	**63**	P	**P**	**02 27 27.4**	**+0.5**
DAVOX	**Davos/Dischmat**	**49.44**	**48**	LR	LR	02 45 21.7	
	comp=Z,80nm,20.0s,MS3.7,baz=266,slow=32						
AMTX	**Amarillo**	**49.63**	**296**	*e*P	**P**	**02 27 36.8**	**+0.8**
	10nm,0.9s,mb4.9						
JMIC	**Jan Mayen**	**51.67**	**15**	P	**P**	**02 27 50.9**	**0.0**
	282nm,0.3s,baz=167,slow=8.5,SNR=3.9						
JMIC	**Jan Mayen**	**51.67**	**15**	P	**P**	**02 27 50.9**	**0.0**
TXAR	**Lajitas Array**	**51.87**	**289**	P	**P**	**02 27 53.1**	**+0.1**
	0.4nm,0.8s,mb3.4,baz=106,slow=7.9,SNR=4.9						
TXAR	**Lajitas Array**	**51.87**	**289**	P	**P**	**02 27 53.1**	**+0.1**
GERES	**GERESS Array B**	**52.25**	**46**	P	**P**	**02 27 55.4**	**-0.1**
	0.6nm,0.7s,mb3.7,baz=236,slow=7.2,SNR=5.4						
GERES				LR	LR	02 45 01.9	
	comp=Z,39nm,21.1s,MS3.4,baz=264,slow=30						
GERES	**GERESS Array B**	**52.25**	**46**	P	**P**	**02 27 55.4**	**-0.1**
NB2	**NORSAR Subarra**	**53.38**	**30**	P	**P**	**02 28 03.9**	**+0.2**
	comp=Z,1.0nm,0.7s,mb3.9,baz=252,slow=7.9						
NOA	**NORSAR Array B**	**53.38**	**30**	P	**P**	**02 28 03.9**	**+0.3**
	comp=Z,1.6nm,0.7s,mb4.0,baz=253,slow=7.7,SNR=4.1						
NOA				LR	LR	02 47 36.1	
	comp=Z,35nm,18.7s,MS3.4,baz=180,slow=32						
NOA	**NORSAR Array B**	**53.38**	**30**	P	**P**	**02 28 03.9**	**+0.3**
VRAC	**Vranov**	**54.19**	**45**	LR	LR	02 46 46.8	
	comp=Z,38nm,19.3s,MS3.5,baz=252,slow=31						
HFS	**Hagfors**	**54.30**	**32**	P	**P**	**02 28 10.6**	**+0.2**
	comp=Z,2.7nm,0.7s,mb4.3,baz=216,slow=7.1,SNR=7.3						
HFS	**Hagfors**	**54.30**	**32**	P	**P**	**02 28 10.6**	**+0.1**
MORC	**Moravsky Berou**	**54.84**	**45**	*e*P	**P**	**02 28 13.2**	**-1.2**
	comp=Z,2.0nm,0.9s,mb4.2						
BW06	**Boulder Array**	**55.46

AKCD	**Akcadag**	**1.66**	**37**	*i* P	**Pg**	**02 26 20.5**	**+0.9**
AKCD				*i* S	**Sg**	**02 26 41.6**	**+0.6**
SARI	**SarD1z-Kayseri**	**1.71**	**1**	*e*Pn	**Pn**	**02 26 13.9**	**-3.5**
SARI	**SarD1z-Kayseri**	**1.71**	**1**	*e*Pn	**Pn**	**02 26 13.9**	**-3.5**
MYA	**Malataya**	**1.95**	**45**	*e*PN	**Pn**	**02 26 22.3**	**+1.6**
MYA	**Malataya**	**1.95**	**45**	*e*Pn	**Pn**	**02 26 22.3**	**+1.6**

CSEM ***26*** *02:49:58.8±0.7,37.68N×44.02E,h2km, MD2.8, Error ellipse: s-maj=13.4km s-min=4.5km az=100.0*
DDA ***26*** *02:50:01.0,37.66N×43.84E,h7km±2km, Md2.8*
ISK ***26*** *02:50:00.1,37.68N×43.56E,h5km, ML1.7*

ISC 26 02:49:59.7±1.8,37.68N±0.04×44.0E±0.1,h9km±8km,n12, σ0961/24,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.21**	**241**	*e*PG	**Pg**	**02 50 04.5**	**+0.6**
HKR				*e*SG	**Sg**	**02 50 07.4**	**+0.6**
HKR	**Hakkari**	**0.21**	**241**	*e*Pg	**Pg**	**02 50 04.5**	**+0.6**
HKR				*e*Sg	**Sg**	**02 50 07.4**	**+0.6**
HAKT	**HAKKARI**	**0.24**	**240**	*i* P	**Pg**	**02 50 04.2**	**-0.4**
HAKT				*i* S	**Sg**	**02 50 06.8**	**-1.1**
HAKT	**HAKKARI**	**0.24**	**240**	*i* P	**Pg**	**02 50 04.2**	**-0.3**
HAKT				*i* S	**Sg**	**02 50 06.8**	**-1.0**
CUKT	**Cukurca**	**0.52**	**214**	*e*PG	**Pg**	**02 50 09.5**	**-0.2**
CUKT				*e*SG	**Sg**	**02 50 17.0**	**+0.4**
CUKT	**Cukurca**	**0.52**	**214**	*e*Pg	**Pg**	**02 50 09.5**	**-0.2**
CUKT				*e*Sg	**Sg**	**02 50 17.0**	**+0.4**
TVAN	**Van**	**0.96**	**332**	*i* P	**Pg**	**02 50 18.7**	**+0.7**
TVAN				*i* S	**Sg**	**02 50 30.0**	**-0.4**
TVAN	**Van**	**0.96**	**332**	*i* P	**Pg**	**02 50 18.7**	**+0.7**
TVAN				*i* S	**Sg**	**02 50 30.0**	**-0.5**
VANB	**Van**	**1.02**	**333**	*e*PG	**Pg**	**02 50 18.2**	**-1.1**
VANB				*e*SG	**Sg**	**02 50 33.3**	**+0.8**
VANB	**Van**	**1.02**	**333**	*e*Pg	**Pg**	**02 50 18.2**	**-1.1**
VANB				*e*Sg	**Sg**	**02 50 33.3**	**+0.8**
SIRN	**S¨–rnak**	**1.25**	**262**	*i* P	**Pn**	**02 50 23.4**	**0.0**
SIRN				*i* S	**Sb**	**02 50 39.7**	**0.0**
SIRN	**S¨–rnak**	**1.25**	**262**	*i* P	**Pn**	**02 50 23.4**	**0.0**
SIRN				*i* S	**Sb**	**02 50 39.7**	**0.0**

KRSC 26 03:07:06.3±1.1,51.18N×158.63E,h10km±10km,ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.26**	**357**	*e*P	Pn	03 07 29.4	-0.5
RUS				*e*S	Sb	03 07 46.3	0.0
GRL	**Gorelyy**	**1.42**	**346**	*i* P	Pn	03 07 32.8	+0.7
GRL				*i* S	Sn	03 07 52.1	+1.3
MIPR	**Malaya Ipel'ka**	**1.60**	**314**	*e*P	Pn	03 07 35.2	+0.6
MIPR				S	Sn	03 07 56.2	+0.9
PET	**Petropavlovsk**	**1.85**	**0**	P	Pn	03 07 38.6	+0.6
PET				*e*S	Sn	03 08 02.3	+0.9
UGLR	**Uglovaya**	**2.04**	**3**	P	Pn	03 07 42.1	+1.5
NLC	**Nalytchevo**	**2.04**	**12**	S	Sn	03 08 06.7	+0.5
AVH	**Avacha**	**2.09**	**2**	*e*P	Pn	03 07 42.9	+1.6
AVH				S	Sn	03 08 09.3	+1.9
SPN	**Mys Shipunski**	**2.10**	**24**	P	Pn	03 07 43.6	+2.1
SPN				S	Sn	03 08 10.7	+3.0
SDLR	**Sedlovina**	**2.11**	**4**	*e*P	Pn	03 07 42.1	+0.5
KOK	**Koryaka**	**2.12**	**0**	*e*P	Pn	03 07 43.7	+2.0
KOK				S	Sn	03 08 10.6	+2.6
GNL	**Ganaly**	**2.55**	**351**	*i* P	Pn	03 07 49.2	+1.5
MKZ	**Mys Kozlova**	**3.87**	**28**	*e*P	Pn	03 08 05.5	-0.3
KBTR	**Krutoberegovo**	**5.62**	**25**	P	Pn	03 08 32.4	+2.6

ISCJB ***26*** *03:28:21.5±1.0,5.3S±0.2×100.6E±0.3,h30km, mb3.8/10, Error ellipse: s-maj=45.8km s-min=12.9km az=149.4*
NEIC ***26*** *03:28:23.8±0.7,5.25S×100.65E, mb4.0/3, Error ellipse: s-maj=34.5km s-min=9.7km az=59.0*
IDC ***26*** *03:28:24.8±2.7,5.12S×100.80E,h32km±5km, mb3.6/7, mb1 3.7/7, mb1mx3.5/21, mbtmp3.6/7, Error ellipse: s-maj=128.6km s-min=16.3km az=57.0*

ISC 26 03:28:24.0±1.0,5.3S±0.2×100.6E±0.3,h32km, h32km±.9km:pP-P,n19,σ0934/17,mb3.8/10,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**23.62**	**356**	P	**P**	**03 33 32.8**	**+0.4**
	0.7nm,0.4s,mb3.5,baz=184,slow=11,SNR=5.0						
CMAR	**Chiang Mai Arr**	**23.62**	**356**	P	**P**	**03 33 32.8**	**+0.4**
WRA	**Warramunga Arr**	**35.87**	**117**	P	**P**	**03 35 21.4**	**+0.2**
	0.4nm,0.9s,mb3.3,baz=288,slow=12,SNR=4.7						
WRA	**Warramunga Arr**	**35.87**	**117**	P	**P**	**03 35 21.4**	**+0.2**
ASAR	**Alice Springs**	**36.89**	**123**	P	**P**	**03 35 29.5**	**-0.3**
	0.3nm,0.3s,mb3.6,baz=297,slow=7.5,SNR=4.8						
ASAR	**Alice Springs**	**36.89**	**123**	P	**P**	**03 35 29.5**	**-0.3**
STKA	**Stephens Creek**	**46.55**	**130**	P	**P**	**03 36 49.2**	**+0.4**
	2.2nm,1.0s,mb4.1,baz=300,slow=10,SNR=3.8						
STKA				pP	pP	03 36 58.7	+0.2
	2.1nm,0.8s,baz=278,slow=7.1,SNR=2.7						
STKA	**Stephens Creek**	**46.55**	**130**	P	**P**	**03 36 49.2**	**+0.4**
STKA				pP	pP	03 36 58.7	+0.2
SONM	**Songino Array**	**53.10**	**5**	P	**P**	**03 37 37.5**	**-0.8**
	0.8nm,0.8s,mb3.7,baz=190,slow=7.3,SNR=5.0						
SONM	**Songino Array**	**53.10**	**5**	P	**P**	**03 37 37.5**	**-0.8**
MKAR	**Makanchi Array**	**54.31**	**345**	P	**P**	**03 37 47.3**	**+0.1**
	0.7nm,0.7s,mb3.7,baz=156,slow=7.9,SNR=4.9						
MKAR				pP	pP	03 37 57.0	0.0
	0.7nm,0.7s,baz=145,slow=8.6,SNR=3.8						
MKAR	**Makanchi Array**	**54.31**	**345**	P	**P**	**03 37 47.3**	**+0.1**
MKAR				pP	pP	03 37 57.0	0.0
KURK	**Kurchatov**	**58.89**	**344**	*e*P	**P**	**03 38 19.9**	**+0.3**
	1.0nm,0.7s,mb4.0						
ZALV	**Zalesovo Beam**	**60.46**	**349**	P	**P**	**03 38 30.3**	**-0.1**
	1.1nm,0.7s,mb4.0,baz=159,slow=4.5,SNR=5.9						
ZALV				pP	pP	03 38 39.4	-0.9
	1.8nm,0.8s,baz=190,slow=4.5,SNR=4.2						
ZALV	**Zalesovo Beam**	**60.46**	**349**	P	**P**	**03 38 30.3**	**-0.1**
ZALV				pP	pP	03 38 39.4	-0.9
ABKAR	**Akbulak array**	**64.78**	**332**	*e*P	**P**	**03 38 59.3**	**-0.1**
	1.5nm,0.6s,mb4.2						
ABKAR				*e*pP	pP	03 39 08.5	-0.8
VNDA	**Vanda**	**78.87**	**169**	*e*P	**P**	**03 40 23.3**	**-0.2**
	0.8nm,0.6s,mb3.8						
TXAR	**Lajitas Array**	**146.80**	**41**	PKPbc	PKPbc	03 48 04.7	+1.1
	0.7nm,0.8s,baz=310,slow=2.9,SNR=7.5						
TXAR				pPKPbc	pPKPbc	03 48 14.3	+0.3
	0.9nm,0.8s,baz=303,slow=1.1,SNR=8.3						
TXAR	**Lajitas Array**	**146.80**	**41**	PKPbc	PKPbc	03 48 04.7	+1.1
TXAR				pPKPbc	pPKPbc	03 48 14.3	+0.3

NEIC ***26*** *03:54:55.4,51.13N×178.36W,h17km, mb3.6/2, ML3.8(PMR), ML3.5(AEIC), After AEIC*
ISCJB ***26*** *03:54:56.3±0.8,51.3N±0.1×178.42W±0.04,h56km±4km, mb4.2/23, Error ellipse: s-maj=17.1km s-min=4.2km az=173.6*
IDC ***26*** *03:54:57.8±3.1,51.42N×178.43W,h57km±25km, mb3.6/18, mb1 3.8/20, mb1mx3.7/30, mbtmp3.6/20, ML3.3/2, MS3.0/2, Ms1 3.0/2, ms1mx2.6/47, Error ellipse: s-maj=24.8km s-min=13.7km az=172.0*

ISC 26 03:54:57.0±0.8,51.31N±0.10×178.41W±0.04,h47km±5km, n85,σ1808/84,mb4.2/23,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.50**	**333**	P	**Pn**	**03 55 08.0**	**-0.1**
GAEA	**Gareloi East**	**0.52**	**336**	P	**Pn**	**03 55 06.7**	**-1.6**
TAFL	**Tanaga Flats**	**0.55**	**35**	P	**Pn**	**03 55 07.8**	**-0.9**
TAFL				S	**Sn**	**03 55 17.8**	**+0.8**
GANE	**Gareloi Northe**	**0.56**	**336**	P	**Pn**	**03 55 08.6**	**-0.2**
TASE	**Tanaga Southea**	**0.57**	**24**	P	**Pn**	**03 55 08.6**	**-0.4**
TANO	**Tanaga North**	**0.63**	**16**	P	**Pn**	**03 55 09.7**	**-0.1**
KIMD	**Kanaga Island**	**0.86**	**58**	P	**Pn**	**03 55 11.4**	**-1.4**
KIMD				S	**Sn**	**03 55 23.8**	**-0.5**
KICM	**Kanaga Island**	**0.97**	**51**	P	**Pn**	**03 55 13.8**	**-0.5**
KICM				S	**Sn**	**03 55 28.3**	**+1.4**
CERAA	**Semis' Rag'd T**	**1.33**	**297**	P	**Pn**	**03 55 18.9**	**-0.2**
ETKA	**Kagalaska Isla**	**1.37**	**65**	P	**Pn**	**03 55 18.4**	**-1.2**
ETKA				S	**Sn**	**03 55 35.9**	**-0.6**
CESW	**Semis' Southwe**	**1.40**	**296**	P	**Pn**	**03 55 19.6**	**-0.5**
AMKA	**Amchitka**	**1.44**	**274**	P	**Pn**	**03 55 19.3**	**-1.3**
GSCK	**Great Sitkin C**	**1.56**	**63**	P	**Pn**	**03 55 21.9**	**-0.5**
GSTD	**Great Sitkin T**	**1.59**	**61**	P	**Pn**	**03 55 22.5**	**-0.3**
GSTD				S	**Sn**	**03 55 43.7**	**+1.5**
GSMY	**Great Sitkin M**	**1.64**	**63**	P	**Pn**	**03 55 23.0**	**-0.3**
GSMY				S	**Sn**	**03 55 44.5**	**+1.3**
GSTR	**Great Sitkin T**	**1.66**	**61**	*e*Pn	**Pn**	**03 55 24.2**	**+0.5**
LSSE	**Little Sitkin**	**1.98**	**289**	P	**Pn**	**03 55 29.1**	**+1.0**
LSSA	**Little Sitkin**	**2.02**	**290**	P	**Pn**	**03 55 29.2**	**+0.6**
LSNW	**Little Sitkin**	**2.03**	**290**	P	**Pn**	**03 55 29.7**	**+1.0**
ATKA	**Atka Island**	**2.77**	**70**	P	**Pn**	**03 55 39.0**	**+0.2**
FX1	**Attu Island--F**	**5.43**	**290**	P	**Pn**	**03 56 15.5**	**+0.2**
	1.4nm,0.3s,baz=289,slow=11,SNR=6.4						
FX1				S	**Sn**	**03 57 17.3**	**+0.9**
	2.3nm,0.3s,baz=260,slow=17,SNR=2.0						
FX1	**Attu Island--F**	**5.43**	**290**	P	**Pn**	**03 56 15.5**	**+0.2**
FX1				S	**Sn**	**03 57 17.3**	**+0.9**
UNV	**Unalaska Valle**	**7.69**	**66**	*e*Pn	**Pn**	**03 56 48.0**	**+1.8**
PETK	**Petropavlovsk-**	**14.74**	**286**	LR	LR	04 03 17.3	
	comp=Z,70nm,21.3s,baz=174,slow=34						
OHAK	**Old Harbor**	**15.77**	**58**	*e*Pn	**Pn**	**03 58 35.9**	**+0.3**
KDAK	**Kodiak Island**	**16.26**	**56**	P	**Pn**	**03 58 40.0**	**-1.8**
	1.0nm,0.3s,baz=260,slow=7.6,SNR=17						
KDAK	**Kodiak Island**	**16.26**	**56**	P	**Pn**	**03 58 40.0**	**-1.8**
SLKM	**Skilak Lake**	**18.15**	**49**	*e*Pn	**Pn**	**03 59 06.0**	**+0.8**
BPAW	**Bear Paw Mtn.**	**19.25**	**38**	*e*P	**Pn**	**03 59 20.7**	**+2.3**
	1.5nm,0.4s						
ILAR	**Eielson Array**	**21.14**	**38**	P	**P**	**03 59 35.7**	**-1.9**
	0.4nm,0.5s,baz=247,slow=11,SNR=13						
ILAR	**Eielson Array**	**21.14**	**38**	P	**P**	**03 59 35.7**	**-1.9**
DOT	**Dot Lake**	**21.88**	**42**	*e*P	**P**	**03 59 48.1**	**+2.5**
	1.3nm,0.6s,mb3.5						
ASAJ	**Asahikawa**	**26.95**	**270**	LR	LR	04 10 32.4	
	comp=Z,24nm,18.9s,baz=164,slow=35						
INK	**Inuvik**	**27.38**	**35**	P	**P**	**04 00 36.0**	**-1.3**
	0.4nm,0.4s,mb3.3,baz=253,slow=7.3,SNR=5.9						
INK	**Inuvik**	**27.38**	**35**	P	**P**	**04 00 36.0**	**-1.3**
PDAR	**Pinedale Array**	**46.10**	**72**	P	**P**	**04 03 16.7**	**+0.5**
	1.3nm,0.6s,mb4.0,baz=308,slow=3.2,SNR=12						
PDAR	**Pinedale Array**	**46.10**	**72**	P	**P**	**04 03 16.7**	**+0.5**
SONM	**Songino Array**	**46.90**	**297**	P	**P**	**04 03 23.2**	**+0.9**
	0.9nm,0.5s,mb4.0,baz=62,slow=7.5,SNR=8.0						
SONM	**Songino Array**	**46.90**	**297**	P	**P**	**04 03 23.2**	**+0.9**
SPITS	**Spitsbergen Ar**	**50.46**	**356**	P	**P**	**04 03 48.7**	**-0.6**
	9.7nm,0.9s,mb4.8,baz=58,slow=8.2,SNR=5.2						
SPITS	**Spitsbergen Ar**	**50.46**	**356**	P	**P**	**04 03 48.7**	**-0.6**
ZALV	**Zalesovo Beam**	**54.26**	**314**	PcP	PcP	04 05 21.2	-0.2
	1.3nm,0.7s,baz=33,slow=3.4,SNR=6.0						
ARCES	**ARCESS Array B**	**58.20**	**350**	P	**P**	**04 04 44.6**	**-1.0**
	4.3nm,0.9s,mb4.5,baz=21,slow=7.4,SNR=8.4						
ARCES	**ARCESS Array B**	**58.20**	**350**	P	**P**	**04 04 44.6**	**-1.0**
TXAR	**Lajitas Array**	**58.42**	**81**	P	**P**	**04 04 48.2**	**+0.5**
	0.2nm,0.6s,mb3.4,baz=301,slow=4.6,SNR=4.1						
TXAR	**Lajitas Array**	**58.42**	**81**	P	**P**	**04 04 48.2**	**+0.5**
KURK	**Kurchatov**	**59.24**	**314**	P	**P**	**04 04 52.7**	**-0.4**
	0.4nm,0.5s,mb3.7,baz=43,slow=6.8,SNR=6.3						
KURK				PcP	PcP	04 05 41.1	+0.2
	1.0nm,1.1s,baz=50,slow=2.9,SNR=4.3						
KURK	**Kurchatov**	**59.24**	**314**	P	**P**	**04 04 52.7**	**-0.4**
KURK				PcP	PcP	04 05 41.1	+0.2
MKAR	**Makanchi Array**	**60.27**	**309**	P	**P**	**04 04 58.8**	**-1.5**
	0.7nm,0.8s,mb3.7,baz=52,slow=6.2,SNR=3.8						
MKAR	**Makanchi Array**	**60.27**	**309**	P	**P**	**04 04 58.8**	**-1.5**
BVAR	**Borovoye Array**	**61.10**	**320**	P	**P**	**04 05 04.0**	**-1.8**
	1.0nm,0.3s,mb4.4,baz=36,slow=7.8,SNR=5.9						
BVAR				PcP	PcP	04 05 48.1	-0.2
	0.3nm,0.3s,baz=54,slow=2.6,SNR=3.7						
BVAR	**Borovoye Array**	**61.10**	**320**	P	**P**	**04 05 04.0**	**-1.8**
BVAR				PcP	PcP	04 05 48.1	-0.2
FINES	**FINESS Array B**	**65.90**	**347**	P	**P**	**04 05 36.3**	**-1.1**
	2.5nm,0.8s,mb4.3,baz=57,slow=7.0,SNR=4.7						
FINES	**FINESS Array B**	**65.90**	**347**	P	**P**	**04 05 36.3**	**-1.1**
CMAR	**Chiang Mai Arr**	**71.26**	**276**	P	**P**	**04 06 09.8**	**-1.7**
	0.7nm,0.4s,mb3.9,baz=41,slow=5.9,SNR=4.1						
CMAR	**Chiang Mai Arr**	**71.26**	**276**	P	**P**	**04 06 09.8**	**-1.7**
TAPN	**Taplejung**	**71.46**	**291**	*e*P	**P**	**04 06 13.7**	**+1.2**
	26nm,0.8s,mb5.2						
GUN	**Gumba**	**72.11**	**292**	*e*P	**P**	**04 06 17.9**	**+1.5**
	72nm,0.4s						
JIRN	**Jiri**	**72.12**	**292**	*e*P	**P**	**04 06 18.0**	**+1.5**
	20nm,0.6s,mb5.2						
RAMN	**Ramite**	**72.41**	**291**	*e*P	**P**	**04 06 19.3**	**+1.1**
	40nm,0.6s						
KKN	**Kakani**	**72.55**	**293**	*e*P	**P**	**04 06 20.0**	**+1.0**
PKI	**Pulchoki**	**72.64**	**292**	*e*P	**P**	**04 06 20.6**	**+1.0**
	19nm,0.6s,mb5.2						
GKN	**Gorkha**	**72.76**	**293**	*e*P	**P**	**04 06 21.1**	**+0.8**
	21nm,0.5s,mb5.3						
DMN	**Daman**	**72.78**	**293**	*e*P	**P**	**04 06 21.7**	**+1.3**
DANN	**Dangsing**	**73.00**	**294**	*e*P	**P**	**04 06 22.7**	**+1.0**
	29nm,0.8s,mb5.3						
KOLN	**Koldanda**	**73.53**	**294**	*e*P	**P**	**04 06 25.4**	**+0.6**
PYUN	**Piuthan**	**73.63**	**294**	*e*P	**P**	**04 06 25.9**	**+0.5**
	60nm,0.9s						
AKASG	**Malin Array Be**	**75.69**	**342**	P	**P**	**04 06 34.8**	**-2.1**
	0.4nm,0.3s,mb3.9,baz=15,slow=5.1,SNR=4.2						
AKASG	**Malin Array Be**	**75.69**	**342**	P	**P**	**04 06 34.8**	**-2.1**
GERES	**GERESS Array B**	**79.69**	**352**	P	**P**	**04 06 58.2**	**-1.1**
	0.3nm,0.7s,mb3.4,baz=46,slow=4.2,SNR=3.0						
GERES	**GERESS Array B**	**79.69**	**352**	P	**P**	**04 06 58.2**	**-1.1**
WRA	**Warramunga Arr**	**82.13**	**224**	P	**P**	**04 07 11.4**	**-1.1**
	0.3nm,0.7s,mb3.3,baz=30,slow=5.9,SNR=2.4						
WRA	**Warramunga Arr**	**82.13**	**224**	P	**P**	**04 07 11.4**	**-1.1**
BRTR	**Keskin Array B**	**85.11**	**336**	P	**P**	**04 07 26.8**	**-0.9**
	1.5nm,0.8s,mb4.2,baz=61,slow=3.4,SNR=7.9						
BRTR	**Keskin Array B**	**85.11**	**336**	P	**P**	**04 07 26.8**	**-0.9**
ASAR	**Alice Springs**	**85.60**	**223**	P	**P**	**04 07 29.9**	**-0.2**
	0.3nm,0.5s,mb3.8,baz=28,slow=6.2,SNR=5.0						
ASAR	**Alice Springs**	**85.60**	**223**	P	**P**	**04 07 29.9**	**-0.2**
ESDC	**Sonseca Array**	**89.26**	**4**	P	**P**	**04 07 46.9**	**-0.8**
	0.4nm,0.5s,mb4.0,baz=356,slow=3.4,SNR=3.3						
ESDC	**Sonseca Array**	**89.26**	**4**	P	**P**	**04 07 46.9**	**-0.8**
TORD	**Torodi Ar. Bea**	**115.81**	**360**	PKP	PKPdf	04 13 33.7	-0.8
	0.2nm,0.6s,baz=357,slow=3.2,SNR=3.9						
TORD	**Torodi Ar. Bea**	**115.81**	**360**	PKP	PKPdf	04 13 33.7	-0.8
DBIC	**Dimbokro**	**121.98**	**8**	PKP	PKPdf	04 13 45.5	-0.9
	0.8nm,0.5s,baz=346,slow=4.8,SNR=4.5						
DBIC	**Dimbokro**	**121.98**	**8**	PKP	PKPdf	04 13 45.5	-0.9
BOSA	**Boshof**	**151.20**	**313**	PKPbc	PKPbc	04 14 45.4	+0.5
	1.9nm,0.8s,baz=19,slow=4.1,SNR=5.2						
BOSA	**Boshof**	**151.20**	**313**	PKPbc	PKPbc	04 14 45.4	+0.5

SZGRF ***26*** *04:01:59.0,23.00S×168.75E,h46km, mb4.6, New Caledonia*
LDG ***26*** *04:02:04.3±0.4,19.79S×168.88E,h10km,Mb5.6/4, Ms4.6/10, Error ellipse: s-maj=30.7km s-min=6.2km az=124.0*
ISCJB ***26*** *04:02:06.9±0.1,20.51S±0.04×169.27E±0.03,h49km, mb5.3/112, MS4.5/27, Error ellipse: s-maj=5.7km s-min=2.6km az=151.6*
NOU ***26*** *04:02:07.2±1.1,19.93S×168.93E,h30km,MD3.2, ML4.1, MS4.6*
IDC ***26*** *04:02:08.4±0.5,20.46S×169.36E,h51km±3km, mb4.7/21, mb1 4.9/23, mb1mx4.9/24, mbtmp4.8/23, MS4.4/20, Ms1 4.4/20, ms1mx4.3/29, Error ellipse: s-maj=13.8km s-min=11.9km az=140.0*
BJI ***26*** *04:02:08.7,19.72S×169.37E,h43km, mB5.1/24, mb5.0/38, Ms5.2/19, Ms7 4.6/20*
NEIC ***26*** *04:02:08.3±0.2,20.45S×169.29E, mb5.3/50, Error ellipse: s-maj=7.0km s-min=5.4km az=142.0*
MOS ***26*** *04:02:10.8±1.3,20.48S×169.21E,h82km, mb5.2/25, Error ellipse: s-maj=10.9km s-min=9.2km az=156.3*
GCMT ***26*** *04:02:11.9±0.2,20.58S×169.30E,h44km±1km, MW5.2, Moment Tensor Solution. s60,c87; s81,c124; Moment tensor: Scale 1016Nm; Mrr3.27±.20; Mθθ1.86±.18; Mϕϕ-5.13±.19; Mrθ-2.64±.19; Mθϕ-1.18±.14; Mϕr6.06±.25; Best double couple: Mo8.10000×1016 NP1:ϕ221.00000°, δ26.00000°, λ148.00000°. NP2:ϕ341.00000°, δ76.00000°, λ67.00000°. Principal axes: T 7.8400, Plg53.0000°, Azm224.0000°; N 0.4700, Plg22.0000°, Azm346.0000°; P -8.3100, Plg28.0000°, Azm89.0000°; Data Used: II IU G IC CN.*
DJA ***26*** *04:02:13,20.65S×169.27E,h84km, Mw5.5/32*

ISC 26 04:02:08.6±0.1,20.57S±0.04×169.33E±0.03,h51km, h51km±.7km:pP-P,n573,σ0977/361,mb5.3/112,MS4.5/27, 82C-70D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**2.77**	**235**	*e*P	**Pn**	**04 02 50.5**	**0.0**
BAYA				*e*S	**Sn**	**04 03 21.5**	**-1.3**
BAYA				AMP		04 03 24.0	
	comp=Z,338nm,1.4s						
PLUM	**Mont Dore**	**3.03**	**235**	*e*P	**Pn**	**04 02 54.4**	**+0.4**
PLUM				*e*S	**Sn**	**04 03 28.8**	**-0.2**
PLUM				AMP		04 03 31.6	
	comp=Z,3μm,0.7s						
DZM	**Mont Dzumac**	**3.08**	**240**	*e*Pn	**Pn**	**04 02 53.9**	**-0.8**
	comp=Z,171nm,0.2s						
DZM				*e*Sn	**Sn**	**04 03 28.8**	**-1.5**
	comp=Z,3μm,0.2s						
DZM				*e*LR	LR	04 03 41.0	
	comp=Z,20μm,25.6s						
DZM	**Mont Dzumac**	**3.08**	**240**	*e*P	**Pn**	**04 02 53.5**	**-1.2**
DZM				*e*S	**Sn**	**04 03 28.1**	**-2.2**
DZM				AMP		04 03 49.9	
	comp=Z,27μm,10.1s						
DZM	**Mont Dzumac**	**3.08**	**240**	*e*Pn	**Pn**	**04 02 53.9**	**-0.8**
DZM				*e*Sn	**Sn**	**04 03 28.8**	**-1.5**
NORM	**Noumea**	**3.12**	**238**	*e*P	**Pn**	**04 02 54.6**	**-0.7**
NORM				*e*S	**Sn**	**04 03 30.4**	**-1.1**
NORM				AMP		04 03 32.2	
	comp=Z,2μm,1.8s						
NOUC	**Port Laguerre**	**3.21**	**241**	*e*P	**Pn**	**04 02 55.7**	**-0.8**
NOUC				*e*S	**Sn**	**04 03 32.3**	**-1.2**
NOUC				AMP		04 03 36.5	
	comp=Z,1μm,0.8s						
MSVF	**Nonsavu**	**8.71**	**73**	*e*Pn	**Pn**	**04 04 16.9**	**+5.0**
MSVF	**Nonsavu**	**8.71**	**73**	*e*P	**Pn**	**04 04 16.9**	**+4.9**
MSVF	**Nonsavu**	**8.71**	**73**	Pn	**Pn**	**04 04 17.1**	**+5.1**
	comp=Z,2μm,1.4s,SNR=25						
OUZ	**Omahuta**	**15.07**	**166**	*e*Pn	**Pn**	**04 05 41.5**	**+3.2**
	comp=Z,61nm,0.9s						
EIDS	**Eidsvold**	**17.47**	**251**	*e*P	**Pn**	**04 06 12.1**	**+3.4**
	comp=Z,126nm,0.9s						
ARMA	**Armidale**	**18.73**	**235**	*i*P	**Pn**	**04 06 26.2**	**+2.3**
ARMA				*e*pP	pP	04 06 41.0	+6.4
ARMA	**Armidale**	**18.73**	**235**	*e*P	**Pn**	**04 06 25.3**	**+1.4**
	comp=Z,188nm,1.1s						
URZ	**Urewera**	**18.87**	**161**	P	**Pn**	**04 06 26.9**	**+1.3**
	comp=Z,1.8nm,0.3s,baz=19,slow=4.5,SNR=19						
URZ				S	**S**	**04 10 13.2**	**+17**
	comp=Z,0.2nm,0.3s,baz=282,slow=20,SNR=4.8						
URZ	**Urewera**	**18.87**	**161**	*e*P	**Pn**	**04 06 27.1**	**+1.5**
	comp=Z,70nm,1.0s						
URZ				S	**S**	**04 10 13.2**	**+17**
AFI	**Afiamalu**	**19.21**	**73**	P	**Pn**	**04 06 28.1**	**-1.7**
	comp=Z,1.7nm,0.3s,baz=338,slow=5.4,SNR=10						
AFI				LR	LR	04 12 35.0	
	comp=Z,1μm,19.8s,baz=251,slow=33						
AFI	**Afiamalu**	**19.21**	**73**	P	**Pn**	**04 06 28.1**	**-1.8**
AFI	**Afiamalu**	**19.21**	**73**	P	**Pn**	**04 06 28.1**	**-1.7**
RIV	**Riverview**	**20.83**	**227**	*e*P	**P**	**04 06 49.0**	**+3.1**
CTA	**Charters Tower**	**21.64**	**267**	P	**P**	**04 06 56.3**	**+1.5**
	comp=Z,107nm,0.8s,mb5.3,baz=92,slow=12,SNR=65						
CTA	**Charters Tower**	**21.64**	**267**	*i*P	**P**	**04 06 56.2**	**+1.4**
	comp=Z,90nm,0.9s,mb5.2						
CTA				*e*pP		04 07 10.2	
CTA	**Charters Tower**	**21.64**	**267**	P	**P**	**04 06 56.3**	**+1.5**
CTA	**Charters Tower**	**21.64**	**267**	P	**P**	**04 06 56.3**	**+1.5**
CTAO	**Charters Tower**	**21.64**	**267**	*e*P	**P**	**04 06 55.6**	**+0.8**
	comp=Z,174nm,1.0s,mb5.4						
CTAO	**Charters Tower**	**21.64**	**267**	*e*P	**P**	**04 06 55.6**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,174nm,1.0s,mb5.4						
CTAO	**Charters Tower**	**21.64**	**267**	P	**P**	**04 06 56.4**	**+1.6**
	comp=Z,2μmcomp=Z,181nm,0.9s,mb5.5						
KHZ	**Kahutara**	**22.07**	**172**	*e

FORT Forrest 38.38 246 ⇑*i*P P **04 09 24.6 -0.4**
comp=Z,123nm,0.7s,mb5.8
FORT Forrest 38.38 246 *e*P P **04 09 23.9 -1.1**
comp=Z,129nm,0.7s,mb5.8
PPT Papeete 38.88 93 *e*S S **04 15 28.5 +4.3**
comp=Z,263nm,32.8s
PPT *e*LQ 04 18 32.4
comp=Z,925nm,33.0s
PPT *e*LR LR 04 20 18.2
comp=Z,3µm,28.2s,baz=253
FITZ Fitzroy Crossi 41.21 266 LR LR 04 26 36.4
comp=Z,1µm,21.3s,MS4.7,baz=112,slow=36
FITZ Fitzroy Crossi 41.21 266 ⇑*i*P P **04 09 48.7 0.0**
comp=Z,132nm,1.0s,mb5.5
FITZ *e*pP pP 04 10 01.6 -0.5
FITZ Fitzroy Crossi 41.21 266 *e*P P **04 09 48.6 -0.1**
comp=Z,102nm,1.0s,mb5.4
FITZ Fitzroy Crossi 41.21 266 P P **04 09 48.9 +0.2**
comp=Z,1µmcomp=Z,110nm,1.2s,mb5.4
GUMO Guam 41.60 323 LR LR 04 24 50.6
comp=Z,395nm,22.0s,MS4.2,baz=111,slow=33
NLAI Namlea 44.58 287 P P **04 10 16.5 +0.5**
comp=Z,3µmcomp=Z,112nm,1.3s,mb5.5
MBWA Marble Bar 46.20 260 *e*P P **04 10 28.3 -0.4**
comp=Z,134nm,1.1s,mb5.8
MBWA *e*pP pP 04 10 41.1 -1.2
MBWA Marble Bar 46.20 260 P P **04 10 28.8 +0.1**
comp=Z,1µmcomp=Z,127nm,1.1s,mb5.8
MMRI Maumere 46.93 277 P P **04 10 34.4 -0.1**
comp=Z,2µmcomp=Z,178nm,0.9s,mb6.0
KLBR Kellerberrin 47.23 246 ⇑*i*P P **04 10 35.7 -1.0**
comp=Z,238nm,0.9s,mb6.1
KLBR *e*pP pP 04 10 48.3 -2.1
NWAO Narrogin (SRO) 47.70 244 *e*P P **04 10 38.8 -1.5**
comp=Z,90nm,0.9s,mb5.8
NWAO Narrogin (SRO) 47.70 244 *e*P P **04 10 38.8 -1.5**
NWAO pmax pmax
comp=Z,90nm,0.9s
KDI Kendari 48.32 284 P P **04 10 45.3 -0.1**
comp=Z,688nmcomp=Z,66nm,1.1s,mb5.6
LUWI Luwuk 49.42 287 P P **04 10 54.4 +0.6**
comp=Z,2µmcomp=Z,175nm,1.1s,mb6.0
TAOE Nuku Hiva Isla 50.05 84 *e*LR LR 04 25 29.0
comp=Z,1µm,29.0s
BKSI Bulukumba 50.08 281 P P **04 10 58.6 -0.2**
comp=Z,888nmcomp=Z,104nm,1.0s,mb5.8
BMNI Bima 50.26 276 P P **04 10 59.9 -0.3**
comp=Z,4µmcomp=Z,430nm,1.1s,mb6.4
SPSI Sidrap Palu 50.92 282 P P **04 11 04.4 -0.8**
comp=Z,81nm,1.1s,mb5.6
DAV Davao City (W) 51.02 298 LR LR 04 33 23.4
comp=Z,148nm,18.5s,MS4.0,baz=129,slow=37
TTSI Tana Toraja 51.24 283 P P **04 11 08.2 +0.6**
comp=Z,1µmcomp=Z,64nm,1.1s,mb5.5
RKT Rikitea 51.50 104 *e*LR LR 04 26 02.6
comp=Z,1µm,33.8s
MJSI Majene 51.81 282 P P **04 11 13.7 +1.9**
comp=Z,3µmcomp=Z,210nm,1.2s,mb6.0
MTNI Mataram 52.58 275 P P **04 11 17.7 +0.2**
comp=Z,93nm,1.2s,mb5.6
KHKI Kahang-Kahang 53.20 275 P P **04 11 21.4 -0.7**
comp=Z,102nm,1.0s,mb5.7
SRBI Singaraja 53.66 275 P P **04 11 25.7 +0.2**
comp=Z,3µmcomp=Z,115nm,1.1s,mb5.7
NBBI Negara 54.12 275 P P **04 11 31.7 +2.9**
BYJI Banyuwangi 54.41 275 P P **04 11 32.5 +1.5**
comp=Z,114nm,1.1s,mb5.7
JAGI Jajag, Banyuwa 54.52 274 P P **04 11 31.1 -0.7**
comp=Z,2µmcomp=Z,115nm,1.1s,mb5.8
KMMI Kalianget 55.17 276 P P **04 11 37.5 +1.1**
comp=Z,109nm,1.3s,mb5.7
BLJI Banyuglugur 55.28 275 P P **04 11 37.2 0.0**
comp=Z,6µmcomp=Z,99nm,0.9s,mb5.8
MYLDM Lahad Datu 56.07 291 P P **04 11 42.7 -0.2**
MYLDM Lahad Datu 56.07 291 P P **04 11 46.0 +3.1**
TSM Tawau 56.20 290 P P **04 11 44.4 +0.6**
PWJI Pagerwojo 56.86 274 P P **04 11 48.7 +0.2**
comp=Z,91nm,0.9s,mb5.8
SJI Sawahan 56.99 274 P P **04 11 50.0 +0.5**
comp=Z,99nm,1.0s,mb5.8
VNDA Vanda 57.11 182 *e*P P **04 11 48.8 -0.6**
comp=Z,29nm,1.4s,mb5.1
VNDA Vanda 57.11 182 *e*P P **04 11 48.8 -0.6**
VNDA pmax pmax
comp=Z,29nm,1.4s
SBA Scott Base 57.34 181 *e*P P **04 11 51.8 +0.9**
comp=Z,88nm,1.0s,mb5.8
SBA Scott Base 57.34 181 *e*P P **04 11 51.8 +0.8**
PCJI Pacitan 57.39 273 P P **04 11 53.6 +1.3**
comp=Z,179nm,1.1s,mb6.0
SDKM Sandakan 57.43 291 P P **04 11 53.0 +0.5**
KKM Kota Kinabalu 58.48 291 P P **04 12 00.2 +0.3**
KKM Kota Kinabalu 58.48 291 *e*P P **04 11 59.7 -0.2**
comp=Z,240nm,1.5s,mb6.0
KKM *e*pP pP 04 12 13.3 -0.7
KKM Kota Kinabalu 58.48 291 P P **04 12 00.7 +0.8**
comp=Z,1µmcomp=Z,44nm,1.4s,mb5.3
KKM P pP 04 12 13.6 -0.3
comp=Z,44nm,1.4s,comp=Z,1µm
CASY Casey 58.95 204 ⇑*i*P P **04 12 01.8 -0.5**
CASY Casey 58.95 204 *e*P P **04 12 01.5 -0.9**
comp=Z,81nm,1.2s,mb5.6
BJII Banjamegara 59.05 274 P P **04 12 11.1 +7.2**
SBUM Sibu 60.43 285 P P **04 12 13.9 +0.5**
SBUM Sibu 60.43 285 P P **04 12 14.1 +0.8**
comp=Z,563nmcomp=Z,34nm,1.8s,mb5.1
CISI Cisompet, Garu 60.75 273 P P **04 12 15.1 -0.4**
comp=Z,122nm,1.2s,mb5.9
KSM Kuching 61.76 283 P P **04 12 22.2 -0.1**
KSM Kuching 61.76 283 *e*P P **04 12 21.8 -0.6**
comp=Z,82nm,0.8s,mb5.9
KSM *e*pP pP 04 12 35.2 -1.3
KSM Kuching 61.76 283 P P **04 12 22.3 -0.1**
comp=Z,951nmcomp=Z,110nm,0.9s,mb6.0
CBJI Citeko 62.03 274 P P **04 12 23.8 -0.4**
comp=Z,485nm,0.9s
DBJI Dramaga 62.08 273 P P **04 12 24.5 0.0**
comp=Z,353nm,1.0s,mb6.5
MJAR Matsushiro Arr 63.96 332 P P **04 12 35.9 -0.6**
comp=Z,8.7nm,0.9s,mb4.8,baz=172,slow=7.3,SNR=15
MJAR Matsushiro Arr 63.96 332 P P **04 12 35.9 -0.6**
MJAR Matsushiro Arr 63.96 332 P P **04 12 35.9 -0.6**
MAJO Matsushiro 63.96 332 *e*P P **04 12 35.5 -1.0**
comp=Z,3.8nm,0.4s,mb4.8
MAJO Matsushiro 63.96 332 *e*P P **04 12 35.5 -1.0**
MAJO pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
MAT Matsushiro 63.96 332 P P **04 12 35.5 -1.0**
MAT S S **04 21 10.0 +1.3**
KLSI 64.60 275 P P **04 12 40.7 -0.5**
comp=Z,8µmcomp=Z,175nm,1.4s,mb5.9
YHNB Yeheng 64.79 312 *e*P P **04 12 42.0 -0.2**
comp=Z,55nm,1.0s,mb5.5
MDSI Maura Dua 65.19 275 P P **04 12 43.5 -1.5**
comp=Z,2µmcomp=Z,99nm,0.9s,mb5.8
MYKOM Kota Tinggi 67.80 281 P P **04 13 02.0 +0.3**
MYKOM Kota Tinggi 67.80 281 P P **04 13 02.4 +0.7**
comp=Z,552nmcomp=Z,60nm,0.9s,mb5.6
KGM Kluang 68.38 281 P P **04 13 06.2 +0.8**
ASAJ Asahikawa 68.87 340 P P **04 13 07.6 -0.1**
comp=Z,13nm,0.9s,mb4.9,baz=252,slow=9.6,SNR=2.6
ASAJ LR LR 04 36 47.2
comp=Z,208nm,21.3s,MS4.3,baz=150,slow=30
ASAJ Asahikawa 68.87 340 P P **04 13 07.6 -0.1**
QSPA South Pole Qui 69.49 180 *e*P P **04 13 11.0 -0.1**
comp=Z,73nm,1.0s,mb5.6
KSRS Korea Array 69.64 326 P P **04 13 13.1 +0.4**
comp=Z,3.0nm,0.7s,mb4.3,baz=140,slow=6.6,SNR=11
KSRS pP pP 04 13 26.7 -0.4
comp=Z,2.0nm,0.7s,baz=142,slow=4.8,SNR=3.2
KSRS LR LR 04 41 38.2
comp=Z,126nm,19.7s,MS4.2,baz=242,slow=34
KSAR Wonju Array Be 69.66 326 P P **04 13 13.1 +0.3**
KSAR pP pP 04 13 26.7 -0.4
KSAR Wonju Array Be 69.66 326 P P **04 13 13.1 +0.4**
NJ2 Nanjing 71.22 316 *e*P P **04 13 24.3 +1.9**
NJ2 pmax pmax
comp=Z,20nm,0.6s,mb5.2
YSS Yuzh-Sakhalins 71.36 341 *e*P pP 04 13 36.0 -1.3
YSS *e* 04 13 44.1
YSS *e* 04 22 56.0
IPM Ipoh 71.44 282 P P **04 13 23.9 -0.3**
IPM Ipoh 71.44 282 *e*P P **04 13 23.6 -0.6**
comp=Z,22nm,0.9s,mb5.1
IPM *e*pP pP 04 13 37.3 -1.3
IPM Ipoh 71.44 282 P P **04 13 24.5 +0.3**
comp=Z,68nm,1.2s,mb5.4
KULM Kulim 72.11 283 P P **04 13 27.9 -0.3**
KULM Kulim 72.11 283 *e*P P **04 13 27.7 -0.5**
comp=Z,81nm,1.3s,mb5.5
KULM *e*pP pP 04 13 40.4 -2.3
KULM Kulim 72.11 283 P pP 04 13 41.7 -0.9
PSI Prapat 72.73 280 P P **04 13 31.3 -0.6**
comp=Z,39nm,1.4s,mb5.2
WHN Wuhan 73.30 312 P P **04 13 34.5 -0.4**
WHN S S 04 23 02.0 +2.1
WHN LR LR
comp=Z,480nm,17.3s,MS4.8
RPN Rapa Nui 73.49 113 LR LR 04 37 53.2
comp=Z,310nm,18.1s,MS4.6,baz=322,slow=29
PETK Petropavlovsk- 74.06 353 P P **04 13 36.5 -2.3**
comp=Z,1.2nm,0.5s,mb4.1,baz=128,slow=8.0,SNR=5.4
PETK LR LR 04 39 51.1
comp=Z,309nm,21.6s,MS4.6,baz=161,slow=31
PETK Petropavlovsk- 74.06 353 P P **04 13 36.5 -2.3**
PETK Petropavlovsk- 74.06 353 P P **04 13 36.5 -2.2**
MDJ Mudanjiang 74.33 332 P P **04 13 41.0 +0.5**
MDJ pP pP 04 13 55.0 0.0
MDJ sP sP 04 14 00.8 +0.1
MDJ PP PP 04 16 27.3 -0.1
MDJ pmax pmax
comp=Z,12nm,1.8s,mb4.5
MDJ pmax pmax
comp=Z,130nm,6.3s
MDJ LR LR
comp=N,110nm,32.8s,MS4.1
MDJ LR LR
comp=E,110nm,30.4s,MS4.1
MDJ LR LR
comp=Z,140nm,27.2s,MS4.1
MDJ Mudanjiang 74.33 332 *e*P P **04 13 39.0 -1.5**
comp=Z,18nm,1.0s,mb5.0
CN2 Changchun 75.63 329 *e*P P **04 13 48.5 +0.4**
CN2 *e*pP pP 04 14 05.0 +2.4
CN2 *e*S S 04 23 25.8 +0.4
CN2 pmax pmax
comp=Z,20nm,0.9s,mb5.0
CN2 pmax pmax
comp=Z,200nm,5.0s
GYA Guiyang 76.65 305 P P **04 13 55.8 +1.5**
GYA pP pP 04 14 10.3 +1.5
GYA sP sP 04 14 17.5 +3.0
GYA PP PP 04 16 51.5 +4.1
GYA S S 04 23 38.0 +0.7
GYA SKS 04 23 58.3
GYA sS sS 04 24 01.8 +0.1
GYA SS SS 04 28 35.0 +0.9
GYA pmax pmax
comp=Z,20nm,1.0s,mb5.0
GYA pmax pmax
comp=Z,160nm,5.3s
GYA LR LR
comp=N,830nm,20.5s,MS5.1
GYA LR LR
comp=E,630nm,21.8s,MS5.1
GYA LR LR
comp=Z,870nm,20.2s,MS5.1
NST Nakhon Sawan 76.89 292 P P **04 13 54.0 -1.8**
comp=Z,43nm,1.2s,mb5.3
KLR Kul'dur 77.11 336 *e*P PcP 04 14 07.0 0.0
KLR pmax pmax
comp=Z,100nm,1.8s,mb5.4
MAW Mawson 77.24 202 P P **04 13 57.8 +0.8**
comp=Z,37nm,0.8s,mb5.3,baz=116,slow=6.8,SNR=37
MAW pP pP 04 14 11.6 0.0
comp=Z,21nm,0.9s,baz=79,slow=5.2,SNR=6.1
MAW LR LR 04 43 29.2
comp=Z,301nm,20.5s,MS4.6,baz=112,slow=32
MAW Mawson 77.24 202 ⇑*i*P P **04 13 57.5 +0.5**
comp=Z,31nm,0.9s,mb5.2
MAW Mawson 77.24 202 *e*P P **04 13 57.2 +0.2**
comp=Z,11nm,1.0s,mb4.8
MAW pP pP 04 14 11.6 0.0
MAW Mawson 77.24 202 *e*P P **04 13 57.2 +0.2**
MAW *PP pP 04 14 11.6 +0.1
MAW pmax pmax
comp=Z,11nm,1.0s
BJI Beijing 78.02 321 P P **04 14 01.8 +0.2**
BJI PP PP 04 17 00.8 +2.1
BJI S S 04 23 53.8 +2.2
BJI pmax pmax
comp=Z,20nm,0.9s,mb5.0
BJI LR LR
comp=N,150nm,19.0s,MS4.5
BJI LR LR
comp=E,160nm,22.5s,MS4.5
BJI LR LR
comp=Z,96nm,42.9s
CHRT Chiangrai 79.04 296 ⇓P P **04 14 08.0 +0.3**
comp=Z,250nm,1.0s,mb6.1
KMI Kunming 79.05 302 P P **04 14 09.0 +1.4**
KMI pP pP 04 14 21.8 -0.5
KMI S S 04 24 04.3 +1.1
KMI pmax pmax
comp=Z,39nm,1.0s,mb5.3
XAN Xi'an 79.07 313 P P **04 14 07.5 -0.1**
XAN pP pP 04 14 21.8 -0.4
XAN pmax pmax
comp=Z,6.0nm,1.4s,mb4.3
XAN pmax pmax
comp=Z,30nm,6.1s
CM31 Chiang Mai Arr 79.13 294 *e*P P **04 14 09.7 +1.5**
comp=Z,3.9nm,0.4s,mb4.7
CM31 *e*pP pP 04 14 23.6 +0.7
CMAR Chiang Mai Arr 79.13 294 P P **04 14 09.6 +1.4**
comp=Z,20nm,0.9s,mb5.0,baz=134,slow=4.3,SNR=56
CMAR pP pP 04 14 23.4 +0.6
comp=Z,35nm,1.0s,baz=154,slow=3.7,SNR=15
CMAR Chiang Mai Arr 79.13 294 P P **04 14 09.6 +1.4**
CMAR pP pP 04 14 23.4 +0.6
CMAR Chiang Mai Arr 79.13 294 P P **04 14 09.6 +1.4**
CHG Chiang Mai 79.28 295 P P **04 14 09.9 +0.9**
CHTO Chiang Mai 79.28 295 *e*P P **04 14 09.7 +0.7**
comp=Z,46nm,1.0s,mb5.4
CHTO *e*pP pP 04 14 23.2 -0.5
CHTO Chiang Mai 79.28 295 *e*P P **04 14 09.7 +0.7**
CHTO *e*PP pP 04 14 23.2 -0.5
CHTO pmax pmax
comp=Z,46nm,1.0s,mb5.4
CHTO Chiang Mai 79.28 295 P P **04 14 10.0 +1.0**
comp=Z,58nm,1.0s,mb5.4
CD2 Chengdu 81.11 308 P P **04 14 20.5 +1.9**
CD2 pP pP 04 14 35.0 +1.7
CD2 sP sP 04 14 40.8 +1.8
CD2 PP PP 04 17 28.3 +3.7
CD2 S S 04 24 25.0 +0.3
CD2 SKS 04 24 30.5
CD2 pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
CD2 pmax pmax
comp=Z,130nm,5.3s
CD2 LR LR
comp=N,260nm,7.7s
CD2 LR LR
comp=Z,280nm,11.3s,MS4.9
HHC Hu-ho-hao-te 81.28 320 *e*P P **04 14 20.5 +1.2**
HHC pP pP 04 14 34.0 0.0
HHC sP sP 04 14 39.0 -0.7
HHC PP PP 04 17 29.3 +3.5
HHC S S 04 24 25.8 -0.2
HHC SKS 04 24 31.5
HHC pmax pmax
comp=Z,20nm,0.8s,mb5.1
HHC pmax pmax
comp=Z,110nm,5.7s
HHC LR LR
comp=N,350nm,25.5s,MS5.5
HHC LR LR
comp=E,2µm,24.1s,MS5.5
HHC LR LR
comp=Z,190nm,27.5s,MS4.3
OHAK Old Harbor 83.57 19 *e*P P **04 14 29.8 -1.0**
comp=Z,35nm,0.9s,mb5.5
LZH Lanzhou 83.68 312 *e*P P **04 14 32.0 +0.1**
LZH pP pP 04 14 46.3 -0.4
LZH sP sP 04 14 51.3 -1.0
LZH *e*PP PP 04 17 47.5 +1.9
LZH SKS 04 24 47.3
LZH *e*S S 04 24 50.5 -0.2
LZH sS sS 04 25 13.5 -2.0
LZH pmax pmax
comp=Z,31nm,1.2s,mb5.3
LZH pmax pmax
comp=Z,110nm,5.6s
LZH LR LR
comp=N,590nm,16.7s,MS5.1
LZH LR LR
comp=E,370nm,16.5s,MS5.1
LZH LR LR
comp=Z,710nm,18.4s,MS5.1
SYO Syowa Base 83.69 196 ⇓*e*P P **04 14 29.4 -2.1**
SYO Syowa Base 83.69 196 ⇓*i*pP pP 04 14 44.2 -2.0
KDAK Kodiak Island 84.25 19 P P **04 14 33.0 -1.3**
comp=Z,16nm,0.8s,mb5.2,baz=207,slow=2.3,SNR=4.3
KDAK Kodiak Island 84.25 19 P P **04 14 33.0 -1.3**
KDAK Kodiak Island 84.25 19 *i*P P **04 14 34.1 -0.2**
CLNS Chul'man 85.64 337 *e*P P **04 14 40.6 -0.7**
CLNS pmax pmax
comp=Z,12nm,1.0s,mb5.1
CLNS pmax pmax
comp=N,10.0nm,1.0s
CLNS pmax pmax
comp=E,7.0nm,1.3s
NVL N'lazarevskaya 87.56 187 *e*P P **04 14 50.9 +0.2**
NVL pmax pmax
comp=Z,37nm,1.3s,mb5.5
MAIT Maitri 87.56 187 *e*P P **04 14 49.7 -1.0**
ARVC Arvin 87.75 51 ⇓P P **04 14 52.4 +0.2**
baz=88
SNAA Sanae 87.85 182 *e* P **04 14 51.3 -0.7**
SNAA *e* pP 04 15 05.9 -1.0
SNAA Sanae 87.85 182 *e*P P **04 14 51.2 -0.9**
comp=Z,12nm,1.0s,mb5.1
SNAA Sanae 87.85 182 *e*P P **04 14 51.2 -0.8**
SNAA pmax pmax
comp=Z,12nm,1.0s
CMB Columbia Colle 87.97 48 *e*P P **04 14 52.4 -0.8**
comp=Z,8.4nm,0.9s,mb5.0
CMB Columbia Colle 87.97 48 *e*P P **04 14 52.4 -0.7**
CMB pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
ULN Ulaanbaatar 87.97 323 *e*P P **04 14 53.4 +0.5**
comp=Z,44nm,1.3s,mb5.5
ULN *e*pP pP 04 15 08.0 +0.3
ULN Ulaanbaatar 87.97 323 *e*P P **04 14 53.4 +0.5**
ULN pmax pmax
comp=Z,44nm,1.3s,mb5.5
ULN Ulaanbaatar 87.97 323 P P **04 14 53.1 +0.2**
109C Camp Elliot, M 88.03 54 ⇓P P **04 14 53.6 0.0**
baz=88
GTA Gaotai 88.10 313 P P **04 14 54.0 +0.3**
GTA pP pP 04 15 09.5 +1.0
GTA sP sP 04 15 16.0 +1.8
GTA SKS 04 25 18.3
GTA S S 04 25 33.5 -0.3
GTA sS sS 04 25 57.0 -1.8
GTA pmax pmax
comp=Z,10.0nm,1.2s,mb4.9
GTA pmax pmax
comp=Z,82nm,4.0s
YBH Yreka Blue Hor 88.19 44 *e*P P **04 14 54.3 +0.2**
comp=Z,8.1nm,0.8s,mb5.0
YBH Yreka Blue Hor 88.19 44 *e*P P **04 14 54.3 +0.2**
YBH pmax pmax
comp=Z,8.0nm,0.8s
BFSC Mount Baldy Ra 88.21 52 ⇓P P **04 14 54.8 +0.4**
baz=88
ISA Isabella 88.25 51 ⇑P P **04 14 54.4 -0.1**
baz=88,SNR=15
ISA Isabella 88.25 51 *e*P P **04 14 54.3 -0.2**
comp=Z,16nm,0.9s,mb5.2
ISA Isabella 88.25 51 *e*P P **04 14 54.3 -0.2**
ISA pmax pmax
comp=Z,16nm,0.9s,mb5.2
EDW2 Edwards Air Fo 88.25 52 ⇑P P **04 14 54.4 -0.2**
baz=88
MURC Murrieta 88.27 53 ⇓P P **04 14 53.9 -0.8**
baz=88
SONM Songino Array 88.33 323 P P **04 14 54.8 +0.3**
comp=Z,9.7nm,0.9s,mb5.0,baz=141,slow=5.4,SNR=48
SONM pP pP 04 15 08.4 -1.0
comp=Z,14nm,1.1s,baz=132,slow=4.8,SNR=12
SONM LR LR 04 50 30.6
comp=Z,177nm,21.9s,MS4.4,baz=163,slow=33
SONM Songino Array 88.33 323 P P **04 14 54.8 +0.3**
SONM pP pP 04 15 08.4 -1.0
SONM Songino Array 88.33 323 P P **04 14 54.8 +0.2**
BILL Bilibino 88.37 359 *e*P P **04 14 52.8 -1.5**
comp=Z,42nm,2.0s,mb5.3
BILL Bilibino 88.37 359 P P **04 14 52.0 -2.3**
BILL *e* 04 15 13.6
BILL *e* 04 15 23.7
BILL pmax pmax
comp=Z,7.0nm,1.2s,mb4.8
VNA3 Neumayer Olymp 88.43 180 *e* P **04 14 54.0 -0.8**
VNA3 *e* pP 04 15 08.1 -1.6
HUMO Hull Mountain 88.46 43 *e*P P **04 14 55.4 +0.1**
comp=Z,10nm,0.8s,mb5.1
MONP Monument Peak 88.55 54 ⇑P P **04 14 55.8 -0.2**
baz=89
DVTC Desert V Tower 88.70 54 ⇑P P **04 14 56.9 +0.3**
baz=89
VNA2 Neumayer--Watz 88.73 181 *e* P **04 14 55.7 -0.5**
baz=180,slow=4.5
VNA2 *e* pP 04 15 10.3 -0.8
LRMC Laurel Mountai 88.73 51 ⇑P P **04 14 57.0 +0.2**
baz=89
PFO Pinyon Flat Ob 88.83 53 ⇓P P **04 14 57.3 0.0**
baz=89
CWC Cottonwood Cre 88.88 50 ⇑P P **04 14 57.6 +0.1**
baz=89
VNA1 Neumayer--Stat 89.02 181 *e* P **04 14 57.3 -0.3**
VNA1 *e* pP 04 15 11.3 -1.1
SWSC Sam W. Stewart 89.05 54 ⇓P P **04 14 57.8 -0.5**
baz=89
MPMC Manual Prospec 89.14 51 ⇓P P **04 14 58.4 -0.3**
baz=89
GSC Goldstone 89.31 52 ⇓P P **04 14 59.3 -0.2**
baz=89
BELC Belle Mtn. Jos 89.35 53 ⇑P P **04 14 60.0 +0.3**
baz=90,SNR=8.6
HEC Hector,Ludlow 89.45 52 ⇑P P **04 15 00.1 -0.1**
baz=90
BC3 Big Chuckawall 89.61 54 ⇑P P **04 15 00.3 -0.6**
baz=90,SNR=5.1
NVAR Mina Array Bea 89.61 48 P P **04 15 00.9 0.0**
comp=Z,7.5nm,0.8s,mb5.1,baz=226,slow=8.3,SNR=31
NVAR pP pP 04 15 16.6 +0.9
comp=Z,4.6nm,0.9s,baz=229,slow=9.1,SNR=6.0
NVAR LR LR 04 48 06.7
comp=Z,320nm,19.6s,MS4.8,baz=309,slow=31
NVAR Mina Array Bea 89.61 48 P P **04 15 00.9 0.0**
NVAR pP pP 04 15 16.6 +0.9
GRAC Grapevine Rang 89.64 50 ⇑P P **04 15 00.8 -0.3**
baz=90,SNR=15
FURC Furnace Creek, 89.78 51 ⇓P P **04 15 01.4 -0.3**
baz=90,SNR=6.3
GLA Glamis 89.83 55 ⇑P P **04 15 01.8 -0.3**
baz=90
MOD Modoc 89.85 45 *e*P P **04 15 01.6 -0.2**
comp=Z,7.1nm,0.8s,mb5.0
K05A Summer Lake 89.85 44 ⇑P P **04 15 02.0 +0.2**
baz=90
GMRC Granite Mounta 89.93 53 ⇑P P **04 15 02.1 -0.3**
baz=90
SHOC Shoshone 89.95 51 ⇑P P **04 15 02.1 -0.4**
baz=90
H04A Detroit Lake 89.97 42 ⇓P P **04 15 02.0 -0.4**
baz=90
TUQ Turquoise Moun 90.01 52 ⇑P P **04 15 02.6 -0.2**
baz=90
IRM Iron Mountain 90.05 53 ⇓P P **04 15 02.4 -0.6**
baz=90,SNR=9.3
E03A Lebam 90.06 39 ⇓P P **04 15 02.5 -0.2**
baz=90
Y12C Blythe 90.35 54 ⇑P P **04 15 04.2 -0.3**
baz=90
LDFC Landfair 90.47 53 *e*P P **04 15 05.0 +0.1**
comp=Z,21nm,0.9s,mb5.5
113A Mohawk Valley, 90.53 55 ⇑P P **04 15 04.6 -0.7**
baz=91,SNR=13
BBB Bella Bella 90.53 33 LR LR 04 46 34.1
comp=Z,227nm,21.4s,MS4.6,baz=232,slow=30
HOOD Mount Hood Mea 90.62 41 *e*P P **04 15 06.7 +1.4**
comp=Z,24nm,1.0s,mb5.5
Z13A Yuma Proving G 90.79 55 ⇓P P **04 15 06.2 -0.3**
baz=91,SNR=20

PDMCI **Parker Dam,Lak** 90.87 54 ⇑P P 04 15 06.6 -0.2
baz=91,SNR=6.8
214A **Organ Pipe Nat** 90.94 56 ⇑P P 04 15 07.0 -0.2
baz=91
GNW **Green Mountain** 91.01 39 *e*P P 04 15 06.8 -0.4
comp=Z,8.6nm,0.8s,mb5.1
GNW *e*pP pP 04 15 20.9 -1.1
WVOR **Wild Horse Val** 91.19 45 *e*P P 04 15 07.5 -0.6
comp=Z,8.0nm,0.9s,mb5.0
WVOR **Wild Horse Val** 91.19 45 *e*P P 04 15 07.5 -0.6
WVOR pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
114A **Black Gap (USA** 91.20 55 ⇓P P 04 15 08.3 -0.1
baz=91
G06A **Carlson Farm,** 91.21 42 ⇓P P 04 15 08.2 +0.1
baz=91
LON **Longmire** 91.21 40 *e*P P 04 15 09.7 +1.6
comp=Z,6.5nm,0.9s,mb5.0
LON **Longmire** 91.21 40 *e*P P 04 15 09.7 +1.6
LON pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
COLA **College** 91.28 17 *e*P P 04 15 06.8 -1.1
comp=Z,10nm,1.1s,mb5.1
COLA **College** 91.28 17 *e*P P 04 15 06.8 -1.2
COLA pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
D05A **Enumclaw** 91.32 39 ⇑P P 04 15 08.8 +0.2
baz=91
I07A **Izee** 91.38 43 ⇓P P 04 15 09.0 0.0
baz=92
W13A **Hualapai Mount** 91.39 53 ⇓P P 04 15 08.8 -0.4
baz=92,SNR=5.8
Z14A **Wintersburg** 91.40 55 ⇓P P 04 15 09.3 0.0
baz=92
ZAK **Zakamensk** 91.42 324⇑*i*P P 04 15 08.4 -0.5
ZAK pmax pmax
comp=Z,5.0nm,1.2s,mb4.7
ILAR **Eielson Array** 91.47 17 P P 04 15 06.5 -2.3
comp=Z,1.3nm,0.7s,mb4.3,baz=222,slow=4.6,SNR=12
ILAR LR LR 04 49 26.9
comp=Z,185nm,20.2s,MS4.5,baz=245,slow=31
ILAR **Eielson Array** 91.47 17 P P 04 15 06.5 -2.3
ILAR **Eielson Array** 91.47 17 P P 04 15 06.6 -2.2
R11A **Troy Canyon, C** 91.50 49 ⇑P P 04 15 09.2 -0.4
baz=92
Y14A **Wickenburg** 91.58 54 ⇑P P 04 15 09.2 -0.9
baz=92
J08A **Circle Bar Ran** 91.72 44 ⇑P P 04 15 10.3 -0.3
baz=92
TLY **Talaya** 91.89 325 *e*P P 04 15 10.5 -0.6
TLY *e* 04 18 47.8
TLY pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
216A **Three Points,** 92.02 57 ⇑P P 04 15 12.1 -0.1
baz=92
116A **Eloy** 92.04 56 ⇑P P 04 15 12.3 0.0
baz=92,SNR=10.0
Y15A **Casa Rosa Ranc** 92.10 55 ⇑P P 04 15 12.5 0.0
baz=92,SNR=28
G08A **Pilot Rock** 92.28 42 ⇓P P 04 15 12.9 -0.2
baz=92
HAWA **Hanford** 92.43 41 *e*P P 04 15 14.7 +0.9
comp=Z,16nm,1.2s,mb5.2
217A **Green Valley** 92.43 57 ⇑P P 04 15 14.0 -0.1
baz=92,SNR=7.4
ETW **Entiat** 92.51 40 *e*P P 04 15 13.8 -0.3
comp=Z,8.1nm,0.9s,mb5.2
R13A **O'Grain Ranch,** 92.58 50 ⇑P P 04 15 14.7 +0.1
baz=93
TUC **Tucson** 92.66 57 *e*P P 04 15 15.0 -0.1
comp=Z,6.8nm,0.9s,mb5.1
TUC *e*pP pP 04 15 30.3 +0.2
TUC **Tucson** 92.66 57 *e*P P 04 15 15.0 -0.2
TUC pmax pmax
comp=Z,7.0nm,0.9s,mb5.1
Y16A **Circle Bar Ran** 92.73 55 ⇓P P 04 15 15.6 +0.2
baz=93,SNR=15
117A **Oracle** 92.80 56 ⇑P P 04 15 15.6 -0.2
baz=93,SNR=14
ARUT **Antelope Range** 92.81 51 *e*P P 04 15 17.4 +1.7
comp=Z,9.6nm,1.2s,mb5.1
ARUT **Antelope Range** 92.81 51 *e*P P 04 15 17.4 +1.7
ARUT pmax pmax
comp=Z,10.0nm,1.2s,mb5.1
318A **Bisbee** 92.95 58 ⇓P P 04 15 16.3 -0.3
baz=93
X16A **Lo Mia Camp, P** 92.96 54 ⇓P P 04 15 16.5 -0.1
baz=93,SNR=15
U15A **North Rim** 93.11 52 ⇓P P 04 15 17.7 +0.6
baz=93
218A **Dragoon** 93.11 57 ⇓P P 04 15 17.5 +0.2
baz=93
Y17A **Roosevelt** 93.14 55 ⇓P P 04 15 17.5 +0.2
baz=93
DLBC **Dease Lake** 93.17 27 P P 04 15 17.4 +0.6
comp=Z,5.3nm,0.9s,mb5.0,baz=212,slow=5.4,SNR=6.1
DLBC **Dease Lake** 93.17 27 P P 04 15 17.4 +0.6
X17A **Forest Lakes** 93.42 55 ⇓P P 04 15 18.7 0.0
baz=94,SNR=8.2
118A **Homack Ranch,** 93.42 57 ⇑P P 04 15 18.2 -0.5
baz=94,SNR=5.5
WUAZ **Wupatki** 93.44 53 ⇓P P 04 15 18.6 0.0
baz=94
WUAZ **Wupatki** 93.44 53 *e*P P 04 15 18.8 +0.1
comp=Z,7.6nm,0.9s,mb5.1
WUAZ *e*pP pP 04 15 34.7 +1.2
MFID **Camas Ranch** 93.47 45 ⇓P P 04 15 18.9 +0.3
baz=94
319A **Douglas** 93.49 58 ⇑P P 04 15 19.0 0.0
baz=94
F10A **Beach Ranch, E** 93.67 42 ⇑P P 04 15 19.1 -0.4
baz=94
219A **White Tail Can** 93.74 57 ⇑P P 04 15 19.8 -0.4
baz=94
Y18A **Canyon Day Jun** 93.80 55 ⇑P P 04 15 20.5 +0.1
baz=94
U16A **Tuba City** 93.86 53 ⇑P P 04 15 20.7 +0.1
baz=94
V17A **Tonalea, Kykot** 93.92 54 ⇑P P 04 15 20.7 -0.2
baz=94
119A **Ashpeak Ranch,** 93.99 57 ⇓P P 04 15 21.1 -0.1
baz=94
MSU **Marysvale** 94.01 50 *e*P P 04 15 23.1 +1.9
comp=Z,2.1nm,0.9s,mb4.6
MSU **Marysvale** 94.01 50 *e*P P 04 15 23.1 +1.9
MSU pmax pmax
comp=Z,2.0nm,0.9s,mb4.5
320A **Kipp Ranch, An** 94.08 58 ⇑P P 04 15 21.5 -0.2
baz=94,SNR=8.9
I12A **Atlanta** 94.09 45 ⇑P P 04 15 21.5 0.0
baz=94
DUG **Dugway** 94.22 49 ⇓P P 04 15 21.9 -0.2
baz=94
220A **Playas Peak, P** 94.28 58 ⇑P P 04 15 22.4 -0.3
baz=94
R16A **Teasdale** 94.42 51 ⇓P P 04 15 23.8 +0.6
baz=94
T17A **Navajo Res., N** 94.43 52 ⇑P P 04 15 23.8 +0.6
baz=94
Y19A **Nutrioso** 94.47 56 ⇑P P 04 15 23.7 +0.2
baz=95
HLID **Hailey** 94.47 45 ⇓P P 04 15 23.4 +0.1
baz=95
G12A **Big Creek, Yel** 94.52 43 ⇓P P 04 15 23.2 -0.2
baz=95
J13A **Cove Ranch, Pi** 94.56 45 ⇓P P 04 15 23.3 -0.4
baz=95
H12A **Diamond D Ranc** 94.59 44 ⇓P P 04 15 23.5 -0.2
baz=95
V18A **Ganado** 94.60 54 ⇑P P 04 15 24.2 +0.2
baz=95
X19A **St. Johns** 94.61 55 ⇓P P 04 15 24.1 0.0
baz=95
S17A **Black Ridge (B** 94.67 52 ⇑P P 04 15 24.5 +0.2
baz=95
N15A **Stansbury Isla** 94.69 48 ⇓P P 04 15 24.5 +0.2
baz=95
I13A **Wildhorse Cree** 94.81 45 ⇓P P 04 15 24.8 0.0
baz=95
F12A **Elk City** 94.83 43 ⇑P P 04 15 24.9 +0.1
baz=95
K14A **Jones Ranch, D** 94.89 46 ⇓P P 04 15 25.3 +0.1
baz=95
E12A **Beaver Dam Sad** 94.90 42 ⇓P P 04 15 25.3 +0.2
baz=95
M15A **Larsen Ranch,** 94.97 48 ⇓P P 04 15 25.7 +0.2
baz=95
J14A **Carey** 94.97 46 ⇓P P 04 15 26.0 +0.5
baz=95
H13A **Challis** 94.98 44 ⇓P P 04 15 25.7 +0.2
baz=95
R17A **Hanksville Air** 95.03 51 ⇓P P 04 15 25.5 -0.4
baz=95
C11A **Tepee Creek (N** 95.08 41 ⇑P P 04 15 26.1 +0.2
baz=95
T18A **Mexican Hat** 95.17 52 ⇑P P 04 15 26.8 +0.2
baz=95
G13A **Cobalt** 95.21 44 ⇓P P 04 15 26.0 -0.6
baz=95
L15A **Malad City** 95.22 47 ⇑P P 04 15 26.4 -0.3
baz=95
I14A **Mackay** 95.26 45 ⇓P P 04 15 26.6 -0.3
baz=95
X20A **Quemado** 95.26 55 ⇑P P 04 15 26.8 -0.3
baz=95
D12A **Red Ives Fores** 95.30 42 ⇓P P 04 15 26.9 0.0
baz=95
U19A **Dine' College,** 95.36 53 ⇑P P 04 15 27.9 +0.4
baz=96
F13A **Darby** 95.43 43 ⇓P P 04 15 27.1 -0.5
baz=96
C12B **Naegeli Ranch,** 95.50 41 ⇑P P 04 15 28.3 +0.5
baz=96
H14A **Leadore** 95.59 44 ⇑P P 04 15 28.8 +0.5
baz=96
R18A **Canyonlands Na** 95.62 51 ⇓P P 04 15 28.9 +0.3
baz=96
O17A **Robinson Place** 95.68 49 ⇑P P 04 15 29.0 +0.1
baz=96
T19A **Beclabito** 95.69 53 ⇓P P 04 15 28.9 -0.1
baz=96
Q18A **Rafter H Ranch** 95.71 50 ⇓P P 04 15 29.2 +0.2
baz=96
Y21A **Point of Rocks** 95.71 56 ⇓P P 04 15 29.2 +0.1
baz=96
J15A **Blackfoot** 95.73 46 ⇓P P 04 15 28.8 -0.2
baz=96
S19A **Harvey Farm, M** 95.94 52 ⇑P P 04 15 30.2 +0.2
baz=96
R19A **Curley Farm, L** 96.05 51 ⇑P P 04 15 30.4 -0.2
baz=96
K16A **Soda Springs** 96.08 47 ⇓P P 04 15 30.7 0.0
baz=96
J16A **Bone** 96.24 46 ⇓P P 04 15 31.0 -0.3
baz=96
Y22A **Socorro** 96.24 56 ⇓P P 04 15 31.2 -0.3
baz=96
U21A **Nageezi** 96.58 54 ⇑P P 04 15 33.3 +0.3
baz=97
MNTX **Cornudas Mount** 96.72 59 ⇑P P 04 15 33.7 0.0
baz=97
224A **Cornudas Mount** 96.73 58 ⇑P P 04 15 34.3 +0.5
baz=97
T21A **Navajo Lake** 96.87 53 ⇑P P 04 15 34.4 +0.1
baz=97
ANMO **Albuquerque** 96.98 55 P P 04 15 34.9 0.0
comp=Z,0.8nm,0.7s,mb4.2,baz=149,slow=3.2,SNR=5.0
ANMO **Albuquerque** 96.98 55 P P 04 15 34.9 0.0
ANMO **Albuquerque** 96.98 55 P P 04 15 34.9 0.0
H16A **Russell Place,** 97.02 45 ⇓P P 04 15 35.0 +0.2
baz=97
TXAR **Lajitas Array** 97.32 62 P P 04 15 36.0 -0.6
comp=Z,1.0nm,0.8s,mb4.3,baz=240,slow=4.8,SNR=12
TXAR PKKPbc PKKPbc 04 32 15.6 +0.3
comp=Z,0.7nm,0.8s,baz=96,slow=3.7,SNR=8.2
TXAR LR LR 04 52 08.7
comp=Z,254nm,19.0s,MS4.7,baz=135,slow=31
TXAR **Lajitas Array** 97.32 62 P P 04 15 36.0 -0.6
TXAR PKKPbc PKKPbc 04 32 15.6 +0.3
TXAR **Lajitas Array** 97.32 62 P P 04 15 36.0 -0.6
Y24A **Capitan** 97.43 57 ⇓P P 04 15 37.4 +0.5
baz=98
PDAR **Pinedale Array** 97.45 47 P P 04 15 38.2 +1.4
comp=Z,0.9nm,0.8s,mb4.2,baz=212,slow=3.6,SNR=7.0
PDAR PP PP 04 19 46.5 +12
comp=Z,2.3nm,1.1s,baz=258,slow=4.2,SNR=6.8
PDAR PKKPbc PKKPbc 04 32 13.8 -1.6
comp=Z,1.3nm,1.1s,baz=84,slow=6.1,SNR=6.4
PDAR LR LR 04 53 05.4
comp=Z,111nm,18.9s,MS4.4,baz=261,slow=31
PDAR **Pinedale Array** 97.45 47 P P 04 15 38.2 +1.4
PDAR PP PP 04 19 46.5 +12
PDAR PKKPbc PKKPbc 04 32 13.8 -1.6
PLCA **Paso Flores** 97.49 138 LR LR 04 49 52.5
comp=Z,98nm,18.9s,MS4.3,baz=244,slow=29
INK **Inuvik** 97.77 18 P P 04 15 35.6 -2.0
comp=Z,2.1nm,1.0s,mb4.6,baz=255,slow=5.0,SNR=4.8
INK PKKPbc PKKPbc 04 32 12.7 -2.8
comp=Z,0.7nm,0.7s,baz=69,slow=2.5,SNR=5.0
INK **Inuvik** 97.77 18 P P 04 15 35.6 -2.0
INK PKKPbc PKKPbc 04 32 12.7 -2.8
INK **Inuvik** 97.77 18 P P 04 15 35.6 -2.0
WMQ **Urumqi** 98.18 314 P P 04 15 41.0 +0.9
WMQ LR LR
comp=Z,120nm,29.5s,MS4.2
MKAR **Makanchi Array** 102.74 315 P Pdif 04 16 00.5 +0.2
comp=Z,1.5nm,1.0s,baz=111,slow=2.0,SNR=3.2
MKAR pP 04 16 14.9
comp=Z,0.6nm,0.6s,baz=86,slow=5.2,SNR=3.5
MKAR PP PP 04 20 13.6 -1.2
comp=Z,0.8nm,0.9s,baz=107,slow=7.8,SNR=4.1
MKAR **Makanchi Array** 102.74 315 P Pdif 04 16 00.5 +0.2
MKAR pP 04 16 14.9
MKAR PP PP 04 16 00.5 -1.2
MKAR **Makanchi Array** 102.74 315 P Pdif 04 16 00.5 +0.2
MKAR 04 20 13.6
ZALV **Zalesovo Beam** 103.22 323 Pdiff Pdif 04 16 00.9 -1.6
comp=Z,0.5nm,0.5s,baz=123,slow=5.5,SNR=4.4
ZALV **Zalesovo Beam** 103.22 323 Pdif Pdif 04 16 00.9 -1.6
ZALV **Zalesovo Beam** 103.22 323 P Pdif 04 16 00.9 -1.6
KURK **Kurchatov** 106.08 319 Pdiff Pdif 04 16 15.2 0.0
comp=Z,0.2nm,0.4s,baz=95,slow=4.0,SNR=5.0
KURK PP PP 04 20 37.2 -2.2
comp=Z,1.7nm,1.0s,baz=104,slow=7.7,SNR=5.2
KURK PKKPbc PKKPbc 04 31 54.9 +4.4
comp=Z,0.8nm,0.3s,baz=290,slow=1.1,SNR=6.9
KURK **Kurchatov** 106.08 319 Pdif Pdif 04 16 15.2 0.0
KURK PP PP 04 20 37.2 -2.2
KURK PKKPbc PKKPbc 04 31 54.9 +4.4
KURK **Kurchatov** 106.08 319 P Pdif 04 16 15.2 0.0
KURK 04 20 37.2
LPAZ **La Paz** 112.75 119 *e*PKP PKiKP 04 20 41.5 +1.1
LPAZ **La Paz** 112.75 119 *e*PKiKP PKiKP 04 20 41.5 +1.1
AKTO **Aktyubinsk** 119.10 317 PKP PKPdf 04 20 49.0 -2.6
comp=Z,0.7nm,0.3s,baz=265,slow=14,SNR=5.0
AKTO **Aktyubinsk** 119.10 317 PKP PKPdf 04 20 49.0 -2.6
AKTO **Aktyubinsk** 119.10 317 PKiKP PKPdf 04 20 49.0 -2.5
BOSA **Boshof** 120.05 217 PKP PKPdf 04 20 53.9 -0.3
comp=Z,2.4nm,0.8s,baz=210,slow=4.2,SNR=4.0
BOSA **Boshof** 120.05 217 *e*PKPdf PKPdf 04 20 53.8 -0.4
BOSA PKP PKPdf 04 20 53.9 -0.3
BOSA **Boshof** 120.05 217 *e*PKiKP PKPdf 04 20 53.8 -0.4
LBTB **Lobatse** 122.59 220 *e*PKPdf PKPdf 04 20 58.7 -0.5
LBTB **Lobatse** 122.59 220 *e*PKiKP PKPdf 04 20 58.7 -0.5
APA **Apatity** 125.51 341⇑*i*PKiKP PKPdf 04 21 08.2 +4.8
ARCES **ARCESS Array B** 126.37 345 PKP PKPdf 04 21 04.0 -1.0
comp=Z,2.4nm,0.7s,baz=91,slow=3.0,SNR=7.5
ARCES **ARCESS Array B** 126.37 345 PKP PKPdf 04 21 04.0 -1.0
ARCES **ARCESS Array B** 126.37 345 PKiKP PKPdf 04 21 04.0 -1.0
LSZ **Lusaka** 127.79 230 *e*PKPdf PKPdf 04 21 09.4 +0.1
LSZ **Lusaka** 127.79 230 *e*PKiKP PKPdf 04 21 09.4 +0.1
SJG **San Juan** 127.80 83 PKP PKPdf 04 21 08.1 -1.1
comp=Z,16nm,0.8s,baz=340,slow=3.9,SNR=5.4
SJG **San Juan** 127.80 83 PKP PKPdf 04 21 08.1 -1.1
SJG **San Juan** 127.80 83 PKiKP PKPdf 04 21 08.1 -1.1
KMBO **Kilima Mbogo** 128.39 251 *e*PKPdf PKPdf 04 21 10.5 0.0
KMBO **Kilima Mbogo** 128.39 251 *e*PKiKP PKPdf 04 21 10.5 0.0
TSUM **Tsumeb** 131.75 217 *e*PKPdf PKPdf 04 21 16.3 -0.4
FINES **FINESS Array B** 131.84 337 PKP PKPdf 04 21 15.0 -0.5
comp=Z,2.4nm,0.8s,baz=134,slow=5.5,SNR=3.3
FINES SKPbc SKPbc 04 24 34.6 -2.6
comp=Z,18nm,0.8s,baz=90,slow=5.7,SNR=23
FINES **FINESS Array B** 131.84 337 PKP PKPdf 04 21 15.0 -0.6
FINES SKPbc SKPbc 04 24 34.6 -2.6
FINES **FINESS Array B** 131.84 337 PKiKP PKPdf 04 21 15.0 -0.6
AKASG **Malin Array Be** 136.61 324 PKP PKPdf 04 21 23.4 -1.5
comp=Z,0.3nm,0.3s,baz=46,slow=2.0,SNR=3.7
AKASG SKPbc SKPbc 04 24 50.8 -2.4
comp=Z,1.6nm,0.7s,baz=46,slow=2.7,SNR=7.2
AKASG **Malin Array Be** 136.61 324 PKP PKPdf 04 21 23.4 -1.5
AKASG SKPbc SKPbc 04 24 50.8 -2.4
AKASG **Malin Array Be** 136.61 324 PKiKP PKPdf 04 21 23.4 -1.5
NOA **NORSAR Array B** 136.74 345 SKPbc SKPbc 04 24 50.2 -3.1
comp=Z,3.9nm,0.9s,baz=32,slow=2.5,SNR=4.1
NOA **NORSAR Array B** 136.74 345 SKPbc SKPbc 04 24 50.2 -3.1
BR131 **Keskin Array S** 137.68 307 *e*PKPdf PKPdf 04 21 27.6 +0.4
BRTR **Keskin Array B** 137.68 307 PKP PKPdf 04 21 26.1 -1.1
comp=Z,1.3nm,0.9s,baz=132,slow=3.5,SNR=5.4
BRTR pPKP pPKPdf 04 21 42.0 -0.6
comp=Z,2.7nm,1.1s,baz=131,slow=5.4,SNR=4.1
BRTR SKPbc SKPbc 04 24 55.4 -1.4
comp=Z,0.9nm,0.8s,baz=90,slow=1.2,SNR=3.6
BRTR **Keskin Array B** 137.68 307 PKP PKPdf 04 21 26.1 -1.1
BRTR pPKP pPKPdf 04 21 42.0 -0.6
BRTR SKPbc SKPbc 04 24 55.4 -1.4
BRTR **Keskin Array B** 137.68 307 PKiKP PKPdf 04 21 26.1 -1.1
MLR **Muntele Rosu** 141.01 318 PKP PKPdf 04 21 32.4 -0.7
comp=Z,0.8nm,1.0s,baz=298,slow=23,SNR=3.2
MLR SKPbc SKPbc 04 25 04.5 -1.2
comp=Z,2.7nm,1.2s,baz=9.2,slow=4.8,SNR=4.5
MLR **Muntele Rosu** 141.01 318 PKP PKPdf 04 21 32.4 -0.7
MLR SKPbc SKPbc 04 25 04.5 -1.2
MLR **Muntele Rosu** 141.01 318 PKiKP PKPdf 04 21 32.4 -0.7
KOLS **Kolonicke sedl** 141.36 325 *e*PKiKP PKPdf 04 21 33.0 -0.6
KOLS **Kolonicke sedl** 141.36 325 *e*PKP PKPdf 04 21 32.9 -0.7
KOLS *e* 04 21 47.9
KOLS *e*SKP 04 25 03.6
CRVS **Cervenica-Dubn** 141.81 325 *e*PKiKP PKPdf 04 21 35.0 +0.6
CRVS **Cervenica-Dubn** 141.81 325 *e*PKP PKPdf 04 21 35.0 +0.6
CRVS *e*SKP 04 25 07.0
OJC **Ojcow** 141.86 328 *e*PKP PKPdf 04 21 30.8 -3.6
OJC **Ojcow** 141.86 328 *e*PKiKP PKPdf 04 21 30.8 -3.6
DRGR **142.31 322** ⇑PKHKP PKPpre 04 21 28.6
DRGR **142.31 322** ⇑*i*P PKPpre 04 21 28.6
KECS **Kecovo** 142.58 325 *e*PKiKP PKPdf 04 21 32.4 -3.4
KECS **Kecovo** 142.58 325 *e*PKP PKPdf 04 21 32.4 -3.4
KECS *e* 04 21 44.9
PSZ **Piszkesteto** 143.24 325 *e*PKPdf PKPdf 04 21 33.8 -3.2
PSZ **Piszkesteto** 143.24 325 *e*PKiKP PKPdf 04 21 33.8 -3.2
PSZ **Piszkesteto** 143.24 325⇓*e*PKP PKPpre 04 21 30.3
MORC **Moravsky Berou** 143.25 329 *e*PKPdf PKPdf 04 21 33.5 -3.4
MORC **Moravsky Berou** 143.25 329 ⇑PKiKP PKPdf 04 21 33.4 -3.5
MORC **Moravsky Berou** 143.25 329 ⇑*i*P PKPdf 04 21 33.4 -3.5
DPC **Dobruska-Polom** 143.42 331 *e*PKiKP PKPdf 04 21 34.0 -3.2
DPC **Dobruska-Polom** 143.42 331 *e*PKP PKPdf 04 21 34.0 -3.2
DPC *ex* 04 21 48.1
UPC **Upice** 143.45 331 *e*PKiKP PKPdf 04 21 34.1 -3.2
UPC **Upice** 143.45 331 *e*PKP PKPdf 04 21 34.1 -3.2
UPC *ex* x 04 21 48.4
RZN **Rozhen** 143.47 313 P PKPdf 04 21 33.5 -4.1
PGB **Panagyurishte** 143.48 315 P PKPdf 04 21 34.3 -3.3
BZS **Buzias** 143.59 321 ⇓PKiKP PKPdf 04 21 34.7 -3.0
BZS **Buzias** 143.59 321 ⇓*i*P PKPdf 04 21 34.7 -3.0
KOLL **Kolacno** 143.61 327 *e*PKiKP PKPdf 04 21 35.8 -1.8
KOLL **Kolacno** 143.61 327 *e*PKP PKPdf 04 21 35.8 -1.8
KOLL *e* 04 21 50.5
KOLL *e*SKP 04 25 10.6
RCBR **Riachuelo** 143.91 134 PKhKP PKPpre 04 21 34.7
comp=Z,7.6nm,0.8s,baz=211,slow=5.9,SNR=4.1
RCBR PKP PKPdf 04 21 38.0 -1.2
comp=Z,10nm,0.9s,baz=124,slow=2.7,SNR=4.5
RCBR **Riachuelo** 143.91 134 PKPpre PKPpre 04 21 34.7
RCBR PKP PKPdf 04 21 38.0 -1.2
BUD **Budapest** 143.97 325⇓*e*PKP PKPdf 04 21 36.3 -2.0
VRAC **Vranov** 144.02 329 PKP PKPdf 04 21 36.6 -1.7
comp=Z,6.9nm,0.8s,baz=54,slow=5.8,SNR=6.2
VRAC SKPbc SKPbc 04 25 12.1 -0.9
comp=Z,1.1nm,0.4s,baz=27,slow=6.8,SNR=3.1
VRAC **Vranov** 144.02 329 PKP PKPdf 04 21 36.6 -1.7
VRAC SKPbc SKPbc 04 25 12.1 -0.9
VRAC **Vranov** 144.02 329 ⇑PKiKP PKPdf 04 21 36.3 -2.0
VRAC **Vranov** 144.02 329 ⇑*i*P PKPdf 04 21 36.3 -2.0
PVCC **Panska Ves** 144.08 332 *e*PKiKP PKPdf 04 21 36.5 -1.9
PVCC **Panska Ves** 144.08 332 *e*PKP PKPdf 04 21 36.5 -1.9
PVCC *ep*PKP pPKPdf 04 21 50.4 -3.4
BRG **Berggiesshubel** 144.09 333 *i*PKP PKPdf 04 21 35.9 -2.4
comp=Z,13nm,0.8s
BRG *i* 04 21 38.6
comp=Z,36nm,1.2s
BRG *i*pPKP pPKPdf 04 21 49.7 -4.1
comp=Z,31nm,1.1s
BRG *i* 04 25 11.1
comp=Z,14nm,1.1s
BRG **Berggiesshubel** 144.09 333 *e*PKPbc PKPdf 04 21 36.0 -2.4
BRG *ep*PKPbc 04 21 50.3
BRG **Berggiesshubel** 144.09 333 *i*PKiKP PKPdf 04 21 35.9 -2.5
BRG pmax pmax
comp=Z,13nm,0.8s
VTS **Vitosha** 144.09 315 ⇓PKiKP PKPdf 04 21 36.7 -1.9
VTS **Vitosha** 144.09 315 ⇓*i*P PKPdf 04 21 36.7 -1.9
VTS **Vitosha** 144.09 315 P PKPdf 04 21 35.8 -2.8
CLL **Collm** 144.15 335 *e*PKPbc PKPdf 04 21 36.0 -2.5
CLL *ep*PKPbc 04 21 50.2
CLL **Collm** 144.15 335 *i*PKiKP PKPdf 04 21 35.6 -2.9
CLL pmax pmax
comp=Z,15nm,1.0s
CLL **Collm** 144.15 335 *i*PKPdf PKPdf 04 21 35.6 -2.9
comp=Z,15nm,1.0s
CLL *i*PKiKP PKiKP 04 21 38.6 -3.4
comp=Z,24nm,1.3s
CLL *i*pPKPdf pPKPdf 04 21 49.9 -4.0
comp=Z,89nm,2.0s
CLL *i*sPKiKP 04 22 59.9
CLL *e*SKPbc SKPbc 04 25 11.0 -2.2
comp=Z,14nm,1.0s
MMB **Musomiste** 144.19 314 P PKPdf 04 21 35.0 -3.8
FBE **Freiberg** 144.30 334 *e*PKPbc PKPdf 04 21 36.8 -1.9
FBE *ep*PKPbc 04 21 51.2
KKB **Krupnik** 144.50 314 P PKPdf 04 21 36.2 -3.2
ZST **Bratislava** 144.52 328 *e*PKiKP PKPdf 04 21 38.0 -1.2
ZST **Bratislava** 144.52 328 *e*PKP PKPdf 04 21 38.0 -1.2
ZST *e* 04 21 52.9
TREC **Trest** 144.55 330 *e*PKiKP PKPdf 04 21 37.7 -1.5
TREC **Trest** 144.55 330 *e*PKP PKPdf 04 21 37.7 -1.5
TREC *ep*PKP pPKPdf 04 21 51.6 -3.0
NEUB **Neuenburg** 144.71 335 *e*PKPbc PKPdf 04 21 38.2 -1.2
NEUB *ep*PKPbc 04 21 52.6
CLZ **Clausthal** 144.73 337 *ep*PKPbc 04 21 52.4
PKSM **Moragy** 144.95 324 ⇓PKiKP PKPdf 04 21 39.1 -0.9
PKSM **Moragy** 144.95 324 ⇓*i*P PKPdf 04 21 39.1 -0.9
TANN **Tannenbergstha** 145.06 334 *e*PKPbc PKPbc 04 21 39.2 -0.3
TANN *ep*PKPbc 04 21 53.5
WERD **Werda** 145.09 334 *e*PKPbc PKPbc 04 21 39.4 -0.3
WERD *ep*PKPbc pPKPbc 04 21 53.6 -1.2
PLN **Plauen** 145.12 334 *e*PKPbc PKPbc 04 21 39.8 0.0
PLN *ep*PKPbc pPKPbc 04 21 53.7 -1.2
SOP **Sopron** 145.13 327⇑*e*PKP PKPdf 04 21 39.7 -0.6
GUNZ **Gunzen** 145.15 334 *e*PKPbc PKPbc 04 21 40.0 +0.2
GUNZ *ep*PKPbc pPKPbc 04 21 53.8 -1.2
WERN **Wernitzgruen** 145.19 334 *e*PKPbc PKPbc 04 21 40.3 +0.3
WERN *ep*PKPbc pPKPbc 04 21 54.2 -1.0
NKC **Novy Kostel** 145.20 334 *e*PKPbc PKPbc 04 21 40.3 +0.3
NKC **Novy Kostel** 145.20 334 *e*PKiKP PKPdf 04 21 39.9 -0.4
NKC **Novy Kostel** 145.20 334 *e*PKP PKPdf 04 21 39.9 -0.4
NKC *ep*PKP pPKPdf 04 21 54.0 -1.7
MOX **Moxa** 145.22 335 *e*PKPbc PKPbc 04 21 39.9 -0.2
MOX *ep*PKPbc pPKPbc 04 21 53.7 -1.6
MOX **Moxa** 145.22 335 *e*PKiKP PKPdf 04 21 39.9 -0.4
IBBN **Ibbenburen** 145.24 340 *e*PKPbc PKPbc 04 21 39.9 -0.2
IBBN *ep*PKPbc pPKPbc 04 21 54.5 -0.8
ROHR **Rohrbach** 145.25 334 *e*PKPbc PKPbc 04 21 40.4 +0.2
CONA **Conrad Observa** 145.31 328⇑*i*PKPdf PKPdf 04 21 40.5 -0.1
comp=Z,34nm,0.8s,SNR=10
KHC **Kasperske Hory** 145.54 332 PKiKP PKPdf 04 21 41.0 +0.1
KHC **Kasperske Hory** 145.54 332 PKP PKPdf 04 21 41.0 +0.1
KHC *ep*PKP pPKPdf 04 21 54.5 -1.8
SKO **Skopje** 145.54 316 *e*P PKPdf 04 21 39.7 -1.5
ROTZ **Rotzenmuhle** 145.66 333 *e*PKPbc PKPbc 04 21 41.5 0.0
ROTZ *ep*PKPbc pPKPbc 04 21 55.9 -0.8
GEC2 **GERESS Array S** 145.69 331 *e*PKPbc PKPbc 04 21 41.6 0.0
GEC2 *ep*PKPbc pPKPbc 04 21 55.7 -1.1
GEC2 **GERESS Array S** 145.69 331 *e*PKP2 PKPab 04 21 41.6 -0.4
GERES **GERESS Array B** 145.69 331 PKPbc PKPbc 04 21 40.8 -0.8
comp=Z,19nm,0.9s,baz=33,slow=3.2,SNR=102
GERES pPKPbc pPKPbc 04 21 55.4 -1.5
comp=Z,25nm,0.9s,baz=37,slow=3.3,SNR=19
GERES SKPbc SKPbc 04 25 14.9 -2.0
comp=Z,3.5nm,0.8s,baz=48,slow=2.0,SNR=7.2
GERES **GERESS Array B** 145.69 331 PKPbc PKPbc 04 21 40.9 -0.8
GERES pPKPbc pPKPbc 04 21 55.4 -1.5
GERES SKPbc SKPbc 04 25 14.9 -2.0
GERES **GERESS Array B** 145.69 331 PKP2 PKPab 04 21 40.9 -1.1
UBBA **Unterbreizbach** 145.70 337 *ep*PKPbc pPKPbc 04 21 55.4 -1.4
WTSB **Winterswijk** 145.83 341 *e*PKP pPKPdf 04 21 55.5 -1.3
comp=Z,57nm,1.6s
KRUS **Krusevo** 145.95 315 *e*P PKPdf 04 21 40.8 -1.1

GRF	**Grafenberg Arr**	**146.12 334**	*e*L			05 29 29.4		
	comp=Z,112nm,20.7s							
GRFO	**Grafenberg**	**146.12 334**	*e*PKPbc	PKPdf		04 21 41.6	-0.3	
GRFO	**Grafenberg**	**146.12 334**	*e*PKP2	PKPdf		04 21 41.6	-0.3	
BUG	**Bochum--Üniver**	**146.13 340**	*ep*PKPbc	pPKPbc		04 21 56.5	-1.6	
MOA	**Molln**	**146.15 329**	⇑*i*PKPab	PKPab		04 21 43.1	-0.7	
	comp=Z,13nm,0.9s,SNR=11							
PERS	**Pernice**	**146.56 327**	*i* PKPdf	PKPdf		04 21 43.8	+1.0	
PERS			*i*			04 21 58.0		
TNS	**Taunus Mts**	**146.76 337**	*e*PKPbc	PKPbc		04 21 46.2	+1.5	
TNS			*ep*PKPbc	pPKPbc		04 21 58.8	-1.2	
TNS	**Taunus Mts**	**146.76 337**	*e*PKP2	PKPab		04 21 46.2	+0.2	
RJOB	**Jochberg**	**146.92 331**	*e*PKPbc	PKPbc		04 21 44.7	-0.6	
RJOB			*ep*PKPbc	pPKPbc		04 21 58.9	-1.6	
HGN	**Heimansgroeve**	**147.15 340**	*e*PKP	pPKPdf		04 21 59.3	+0.3	
	comp=Z,31nm,1.4s							
BOJS	**Bojanci**	**147.24 325**	*i* PKPdf	PKPbc		04 21 46.4	+0.2	
BOJS			*i*			04 22 00.2		
MEM	**Membach**	**147.26 340**	APKPbc	pPKPdf		04 21 59.8	+0.6	
LJU	**Ljubljana**	**147.26 327**	*i* PKPdf	PKPbc		04 21 45.9	-0.4	
LJU			*i*			04 22 00.2		
VOY	**Vojsko**	**147.59 327**	*e*PKPdf	PKPdf		04 21 45.8	+1.3	
VOY			*e*			04 22 00.2		
VOY			*e*			04 22 04.8		
VOY			*e*			04 22 12.8		
JAVS	**Javornik**	**147.60 327**	*i* PKPdf	PKPdf		04 21 46.4	+1.9	
JAVS			*i*			04 22 00.8		
KTD	**Kalmit**	**147.64 337**	PKP	PKPab		04 21 48.9	-0.6	
KTD	**Kalmit**	**147.64 337**	PKP2	PKPab		04 21 48.9	-0.6	
BCLA	**Clavier**	**147.64 341**	PKPab	PKPab		04 21 48.9	-0.5	
BCLA			APKPbc			04 22 01.3		
STU	**Stuttgart**	**147.66 335**	*e*PKPbc	PKPbc		04 21 46.8	-0.5	
STU			*ep*PKPbc	pPKPbc		04 22 01.3	-1.3	
STU	**Stuttgart**	**147.66 335**	*e*PKPbc	PKPbc		04 21 46.7	-0.6	
STU			*ep*PKPdf	pPKPdf		04 22 00.8	+0.9	
STU	**Stuttgart**	**147.66 335**	*e*PKP2	PKPbc		04 21 46.7	-0.6	
RUP	**Ruppelstein**	**147.69 338**	PKP	PKPdf		04 21 45.7	+1.2	
RUP	**Ruppelstein**	**147.69 338**	PKP2	PKPdf		04 21 45.7	+1.2	
WTTA	**Wattenberg**	**147.80 331**	⇓*i*PKPbc	PKPbc		04 21 47.0	-0.7	
	comp=Z,21nm,1.1s							
SNF	**Seneffe**	**147.87 342**	PKPbc	PKPbc		04 21 47.4	-0.4	
SNF			APKPbc			04 22 01.5		
MOTA	**Moosalm**	**147.97 332**	⇑*i*PKPbc	PKPbc		04 21 47.3	-0.9	
	comp=Z,25nm,1.1s,SNR=8.6							
LANF	**Langenberg**	**148.02 337**	PKP	PKPbc		04 21 47.1	-1.2	
LANF	**Langenberg**	**148.02 337**	PKP2	PKPbc		04 21 47.1	-1.2	
LANF	**Langenberg**	**148.02 337**	PKP	PKPbc		04 21 47.1	-1.2	
WLF	**Walferdange**	**148.03 339**	PKPbc	PKPbc		04 21 47.9	-0.3	
WLF			APKPbc			04 22 02.3		
WLF	**Walferdange**	**148.03 339**	*e*PKPbc	PKPbc		04 21 48.7	+0.5	
WLF			*ep*PKPbc	pPKPbc		04 22 02.8	-0.7	
WLF	**Walferdange**	**148.03 339**	*e*PKPbc	PKPbc		04 21 48.5	+0.2	
WLF	**Walferdange**	**148.03 339**	*e*PKP2	PKPbc		04 21 48.5	+0.3	
DOU	**Dourbes**	**148.14 341**	PKPbc	PKPbc		04 21 48.0	-0.5	
DOU			PKPab	PKPab		04 21 50.8	-0.7	
DOU			APKPbc			04 22 02.1		
BFO	**Black Forest**	**148.36 336**	*e*PKPbc	PKPbc		04 21 48.4	-0.8	
BFO	**Black Forest**	**148.36 336**	*e*PKP2	PKPbc		04 21 48.4	-0.8	
SPAK	**Spaichingen-Ko**	**148.36 335**	PKP	PKPdf		04 21 47.6	+1.9	
FETA	**Feichten**	**148.39 332**	⇑*i*PKPbc	PKPbc		04 21 48.8	-0.5	
	comp=Z,15nm,0.8s							
DAVA	**Damuels**	**148.56 333**	⇓*i*PKPbc	PKPbc		04 21 49.1	-0.6	
	comp=Z,13nm,1.0s							
CDF	**Champ du Feu**	**148.69 337**	*e*PKP1	PKPbc		04 21 49.4	-0.6	
FELD	**Feldberg im Sc**	**148.85 335**	PKP	PKPbc		04 21 50.4	-0.1	
ECH	**Echery**	**148.90 337**	*e*PKPbc	PKPbc		04 21 50.1	-0.4	
ECH	**Echery**	**148.90 337**	*e*PKP2	PKPbc		04 21 50.1	-0.5	
ECH	**Echery**	**148.90 337**	PKP	PKPbc		04 21 50.4	-0.2	
DAVOX	**Davos/Dischmat**	**148.95 332**	PKPbc	PKPbc		04 21 50.7	0.0	
	comp=Z,14nm,0.6s,baz=33,slow=2.0,SNR=26							
DAVOX			pPKPbc	pPKPbc		04 22 04.8	-1.2	
	comp=Z,17nm,0.8s,baz=359,slow=1.4,SNR=8.0							
DAVOX	**Davos/Dischmat**	**148.95 332**	PKPbc	PKPbc		04 21 50.7	0.0	
DAVOX			pPKPbc	pPKPbc		04 22 04.8	-1.2	
DAVOX	**Davos/Dischmat**	**148.95 332**	PKP2	PKPbc		04 21 50.7	0.0	
MOF	**Molkenrain**	**149.21 336**	PKP	PKPbc		04 21 50.9	-0.5	
MOF	**Molkenrain**	**149.21 336**	PKP2	PKPbc		04 21 50.9	-0.5	
MOF	**Molkenrain**	**149.21 336**	PKP	PKPbc		04 21 50.9	-0.5	
HINF	**Hinteralfeld**	**149.34 337**	*e*PKP1	PKPbc		04 21 50.8	-0.9	
HAU	**Haudompre**	**149.37 337**	*e*PKP1	PKPbc		04 21 51.1	-0.6	
	comp=Z,41nm,1.0s							
HAU			*e*R					
	comp=Z,180nm,22.8s							
TUE	**Stuetta**	**149.42 332**	*e*PKPbc	PKPbc		04 21 51.6	-0.3	
LOMF	**Lomont**	**149.74 336**	PKP	PKPbc		04 21 51.3	-1.4	
LOMF	**Lomont**	**149.74 336**	PKP2	PKPbc		04 21 51.3	-1.4	
LOMF	**Lomont**	**149.74 336**	PKP	PKPbc		04 21 51.3	-1.4	
AQU	**L'Aquila**	**150.29 322**	*e*PKPdf	PKPdf		04 21 49.3	+0.3	
AQU			*ep*PKPbc	PKPbc		04 21 54.5	+0.4	
AQU	**L'Aquila**	**150.29 322**	*e*PKIKP	PKPdf		04 21 49.3	+0.3	
CABF	**La Chapelle**	**150.64 336**	*e*PKP1	PKPbc		04 21 54.8	-0.1	
	comp=Z,169nm,1.7s							
FLN	**La Foliniere**	**150.70 346**	*e*PKP1	PKPbc		04 21 53.5	-1.4	
FLN			*e*R					
	comp=Z,162nm,19.8s							
LDF	**La Druitiere**	**150.78 346**	*e*PKP1	PKPbc		04 21 53.6	-1.5	
LOR	**Lormes**	**150.86 339**	*e*PKP1	PKPbc		04 21 54.8	-0.6	
	comp=Z,52nm,1.2s							
LOR			*e*R					
	comp=Z,125nm,20.0s							
GRR	**Gorron**	**151.14 346**	*e*PKP1	PKPbc		04 21 54.7	-1.3	
SSF	**Saint Saulge**	**151.16 340**	*e*PKP1	PKPbc		04 21 55.5	-0.6	
	comp=Z,30nm,1.1s							
LPL	**La Plagne**	**151.28 334**	*e*PKP1	PKPbc		04 21 56.3	-0.1	
	comp=Z,25nm,0.9s							
LPG	**La Plagne**	**151.29 334**	*e*PKP1	PKPbc		04 21 56.4	0.0	
	comp=Z,12nm,0.6s							
SMF	**Signal de Mont**	**151.41 339**	*e*PKP1	PKPbc		04 21 55.7	-1.0	
BNI	**Bardonecchia**	**151.68 334**	*e*PKPbc	PKPbc		04 21 57.3	-0.1	
MBDF	**Montbardon**	**151.91 333**	*e*PKP1	PKPbc		04 21 58.1	+0.2	
QUIF	**Quistinic**	**152.05 349**	*e*PKP1	PKPbc		04 21 56.7	-1.4	
	comp=Z,5.8nm,0.6s							
ORIF	**Oris-en-Rattie**	**152.12 334**	*e*PKP1	PKPbc		04 21 57.8	-0.5	
	comp=Z,20nm,0.7s							
ORIF			*e*R					
	comp=Z,131nm,22.8s							
TCF	**Toulx Ste Croi**	**152.26 341**	*e*PKP1	PKPbc		04 21 57.8	-0.8	
	comp=Z,19nm,1.0s							
KEST	**Kesra**	**156.84 315**	PKPab	PKPab		04 22 28.9	+0.5	
	comp=Z,2.1nm,1.0s,baz=32,slow=9.5,SNR=3.0							
KEST			pPKPab	pPKPab		04 22 43.1	-0.3	
	comp=Z,3.9nm,1.1s,baz=79,slow=5.2,SNR=3.2							
KEST	**Kesra**	**156.84 315**	PKPab	PKPab		04 22 28.9	+0.5	
KEST			pPKPab	pPKPab		04 22 43.1	-0.3	
ESDC	**Sonseca Array**	**160.10 345**	PKPab	PKPab		04 22 42.1	-0.2	
	comp=Z,0.2nm,0.5s,baz=355,slow=2.7,SNR=4.1							
ESDC	**Sonseca Array**	**160.10 345**	PKPab	PKPab		04 22 42.1	-0.2	
DBIC	**Dimbokro**	**165.08 203**	PKP	PKPdf		04 22 07.0	-1.1	
	comp=Z,3.7nm,0.9s,baz=63,slow=6.8,SNR=3.6							
DBIC			PKPab	PKPab		04 23 05.3	+0.6	
	comp=Z,13nm,1.1s,baz=153,slow=6.4,SNR=6.2							
DBIC			pPKPab	pPKPab		04 23 20.2	+0.5	
	comp=Z,14nm,1.1s,baz=122,slow=4.4,SNR=5.1							
DBIC	**Dimbokro**	**165.08 203**	PKP	PKPdf		04 22 07.0	-1.1	
DBIC			PKPab	PKPab		04 23 05.3	+0.6	
DBIC			pPKPab	pPKPab		04 23 20.2	+0.5	
DBIC	**Dimbokro**	**165.08 203**	PKIKP	PKPdf		04 22 07.0	-1.0	
DBIC						04 23 05.3		
TORD	**Torodi Ar. Bea**	**166.06 240**	PKP	PKPdf		04 22 08.0	-0.8	
	comp=Z,2.1nm,1.2s,baz=7.8,slow=2.4,SNR=7.0							
TORD			pPKP	pPKPdf		04 22 23.1	-1.1	
	comp=Z,1.8nm,1.1s,baz=26,slow=0.2,SNR=5.3							
TORD			PKPab	PKPab		04 23 07.8	-1.4	
	comp=Z,5.8nm,1.0s,baz=114,slow=4.3,SNR=12							
TORD	**Torodi Ar. Bea**	**166.06 240**	PKP	PKPdf		04 22 08.0	-0.8	
TORD			pPKP	pPKPdf		04 22 23.1	-1.1	
TORD			PKPab	PKPab		04 23 07.8	-1.4	

*IDC **26** 04:16:57.1±3.5,22.47S×67.99W,h112km±34km,mb3.8/8, mb1 3.9/10,mb1mx3.8/17,mbtmp3.7/10,Error ellipse: s-maj=27.4km s-min=20.4km az=33.0*
*ISCJB **26** 04:16:59.4±0.5,22.67S±0.04×68.16W±0.07,h151km±4km, mb3.8/20,Error ellipse: s-maj=10.2km s-min=6.2km az=171.5*
*NEIC **26** 04:16:59.3±0.8,22.62S×68.19W,h132km±8km,mb4.0/20, Error ellipse: s-maj=13.1km s-min=7.3km az=71.0*
*GUC **26** 04:17:01.3±0.6,22.56S×68.27W,h141km±4km,ML4.5*
ISC 26 04:17:00.4±0.5,22.66S±0.04×68.13W±0.07,h143km±4km, n52,σ1.9s07/56,mb3.8/20,5C-1D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPCH	**San Pedro de A**	**0.25**	**194**	⇓*i*P	**Pn**	**04 17 21.7**	**+1.8**
SPCH				*e*S	**Sn**	**04 17 37.5**	**+2.6**
SPCH				AML	AML	04 17 38.7	
	comp=E,6μm,0.8s						
PB04	**Plate Boundary**	**1.31**	**287**	⇑*i*P	**Pn**	**04 17 33.8**	**+6.3**
PB04				*i* S	**Sn**	**04 17 58.8**	**+11**
PB04				AML	AML	04 18 02.5	
	comp=E,4μm,0.4s						
PB09	**Plate Boundary**	**1.34**	**310**	⇑*i*P	**Pn**	**04 17 27.9**	**+0.1**
PB09				*i* S	**Sn**	**04 17 48.0**	**-0.7**
PB09				AML	AML	04 17 50.1	
	comp=N,21μm,0.4s						
MACH	**Maria Elena**	**1.57**	**287**	⇑*i*P	**Pn**	**04 17 30.3**	**+0.1**
MACH				*i* S	**Sn**	**04 17 52.5**	**-0.5**
MECH	**Mejillones**	**2.18**	**258**	⇑*i*P	**Pn**	**04 17 37.9**	**+0.6**
MECH				AML	AML	04 18 10.8	
	comp=N,3μm,0.2s						
ANCH	**Antofagasta**	**2.33**	**244**	⇑*i*P	**Pn**	**04 17 39.9**	**+0.9**
ANCH				*i* S	**Sn**	**04 18 09.4**	**+0.6**
PSGC	**Pisagua**	**3.57**	**328**	*e*P	**Pn**	**04 17 51.2**	**-3.7**
PSGC				*e*S	**Sn**	**04 18 31.6**	**-5.5**
PSGC				AML	AML	04 18 33.1	
	comp=N,777nm,0.4s						
CPCH	**Copiapo**	**5.09**	**203**	*e*P	**Pn**	**04 18 14.1**	**-0.7**
CPCH				*i* S	**Sn**	**04 19 12.9**	**0.0**
LPAZ	**La Paz**	**6.34**	**0**	*e*Pn	**Pn**	**04 18 30.1**	**-1.5**
	comp=N,20nm,0.5s						
LCO	**Las Campanas**	**6.73**	**200**	*e*Pn	**Pn**	**04 18 34.6**	**-2.2**
	comp=N,39nm,0.7s						
LCO				*e*Sn	**Sn**	**04 19 50.6**	**-1.6**
CFAA	**Coronel Fontan**	**8.91**	**181**	P	**Pn**	**04 19 04.5**	**-1.3**
	comp=N,0.2nm,0.3s,baz=353,slow=14,SNR=10						
CFAA				S	**Sn**	**04 20 40.0**	**-4.6**
	comp=N,0.1nm,0.3s,baz=270,slow=20,SNR=4.4						
CFAA	**Coronel Fontan**	**8.91**	**181**	P	**Pn**	**04 19 04.5**	**-1.3**
CFAA				S	**Sn**	**04 20 40.0**	**-4.6**
CPUP	**Villa Florida**	**10.49**	**113**	P	**Pn**	**04 19 25.5**	**-1.5**
	comp=N,0.2nm,0.3s,baz=319,slow=8.4,SNR=4.4						
CPUP	**Villa Florida**	**10.49**	**113**	*e*Pn	**Pn**	**04 19 29.1**	**+2.1**
	comp=N,12nm,1.4s						
NNA	**Nana**	**13.48**	**321**	*e*Pn	**Pn**	**04 20 05.2**	**-0.8**
TRQA	**Tornquist**	**16.23**	**162**	*e*P	**Pn**	**04 20 41.6**	**+1.4**
	comp=N,3.3nm,0.6s						
PLCA	**Paso Flores**	**18.13**	**186**	P	**P**	**04 21 02.8**	**+1.4**
	comp=N,0.1nm,0.3s,baz=12,slow=14,SNR=5.9						
PLCA	**Paso Flores**	**18.13**	**186**	*e*P	**P**	**04 21 03.0**	**+1.6**
	comp=N,4.8nm,0.8s						
OTAV	**Otavalo**	**24.88**	**335**	*e*P	**P**	**04 22 11.2**	**+1.2**
	comp=N,6.4nm,1.4s,mb4.0						
TKL	**Tuckaleechee C**	**59.86**	**345**	P	**P**	**04 26 49.2**	**-1.6**
	comp=N,4.8nm,0.9s,mb4.3,baz=197,slow=11,SNR=3.3						
TKL	**Tuckaleechee C**	**59.86**	**345**	P	**P**	**04 26 49.2**	**-1.6**
TXAR	**Lajitas Array**	**61.99**	**325**	P	**P**	**04 27 05.0**	**-0.3**
	comp=N,0.2nm,0.6s,mb3.1,baz=150,slow=8.6,SNR=4.0						
TXAR	**Lajitas Array**	**61.99**	**325**	P	**P**	**04 27 05.0**	**-0.3**
MNTX	**Cornudas Mount**	**64.76**	**325**	*e*P	**P**	**04 27 22.5**	**-1.0**
	comp=N,0.8nm,0.8s,mb3.6						
ANMO	**Albuquerque**	**67.87**	**327**	P	**P**	**04 27 44.2**	**+1.0**
	comp=N,1.4nm,0.7s,mb3.8,baz=148,slow=13,SNR=6.1						
ANMO	**Albuquerque**	**67.87**	**327**	*e*P	**P**	**04 27 43.8**	**+0.6**
	comp=N,1.6nm,0.6s,mb3.9						
TUC	**Tucson**	**68.19**	**322**	*e*P	**P**	**04 27 45.3**	**0.0**
	comp=N,1.0nm,0.7s,mb3.6						
DBIC	**Dimbokro**	**68.38**	**73**	P	**P**	**04 27 45.8**	**-1.1**
	comp=N,7.3nm,0.9s,mb4.4,baz=220,slow=3.1,SNR=5.8						
DBIC	**Dimbokro**	**68.38**	**73**	*e*P	**P**	**04 27 45.9**	**-1.0**
	comp=N,17nm,1.2s,mb4.7						
SDCO	**Great Sand Dun**	**69.61**	**329**	*e*P	**P**	**04 27 54.5**	**+0.5**
	comp=N,2.0nm,0.9s,mb3.9						
DUG	**Dugway**	**75.12**	**326**	*e*P	**P**	**04 28 26.6**	**+0.1**
	comp=N,1.1nm,0.7s,mb3.6						
PDAR	**Pinedale Array**	**75.47**	**330**	P	**P**	**04 28 28.6**	**0.0**
	comp=N,0.5nm,0.7s,mb3.3,baz=134,slow=7.7,SNR=4.3						
PDAR	**Pinedale Array**	**75.47**	**330**	P	**P**	**04 28 28.6**	**0.0**
HWUT	**Hardware Ranch**	**75.55**	**328**	*e*P	**P**	**04 28 29.1**	**+0.2**
	comp=N,2.2nm,0.6s,mb4.0						
SNOW	**Snow King Moun**	**76.57**	**330**	*e*P	**P**	**04 28 35.3**	**+0.6**
	comp=N,2.2nm,0.6s,mb4.0						
LOHW	**Long Hollow**	**76.61**	**330**	*e*P	**P**	**04 28 35.5**	**+0.6**
	comp=N,1.7nm,0.7s,mb3.8						
ULM	**Lac du Bonnet**	**76.64**	**342**	P	**P**	**04 28 34.3**	**-0.7**
	comp=N,2.4nm,0.5s,mb4.1,baz=172,slow=7.1,SNR=6.3						
ULM	**Lac du Bonnet**	**76.64**	**342**	*e*P	**P**	**04 28 33.5**	**-1.4**
	comp=N,2.8nm,0.6s,mb4.1						
TPAW	**Teton Pass**	**76.68**	**329**	*e*P	**P**	**04 28 36.1**	**+0.8**
	comp=N,2.2nm,0.7s,mb3.9						
NVAR	**Mina Array Bea**	**76.85**	**322**	P	**P**	**04 28 36.7**	**+0.3**
	comp=N,0.6nm,0.7s,mb3.4,baz=130,slow=5.1,SNR=5.6						
NVAR	**Mina Array Bea**	**76.85**	**322**	P	**P**	**04 28 36.7**	**+0.3**
TORD	**Torodi Ar. Bea**	**77.07**	**70**	P	**P**	**04 28 37.1**	**-1.1**
	comp=N,4.1nm,0.6s,mb4.3,baz=255,slow=5.6,SNR=88						
TORD	**Torodi Ar. Bea**	**77.07**	**70**	P	**P**	**04 28 37.1**	**-1.0**
HLID	**Hailey**	**78.41**	**328**	*e*P	**P**	**04 28 45.9**	**+1.0**
	comp=N,3.4nm,0.8s,mb4.0						
MCMT	**McKenzie Canyo**	**78.58**	**329**	*e*P	**P**	**04 28 47.3**	**+1.4**
	comp=N,0.5nm,0.7s,mb3.2						
LBTB	**Lobatse**	**83.88**	**114**	*e*P	**P**	**04 29 14.7**	**+0.2**
	comp=N,2.8nm,0.8s,mb4.0						
ASAR	**Alice Springs**	**129.21**	**206**	PKP	PKPdf	04 35 53.2	+1.0
	comp=N,0.9nm,0.7s,baz=155,slow=2.6,SNR=9.2						
ASAR	**Alice Springs**	**129.21**	**206**	PKP	PKPdf	04 35 53.2	+1.0
WRA	**Warramunga Arr**	**132.31**	**209**	PKP	PKPdf	04 35 58.6	+0.5
	comp=N,0.5nm,0.7s,baz=170,slow=1.4,SNR=6.3						
WRA	**Warramunga Arr**	**132.31**	**209**	PKP	PKPdf	04 35 58.6	+0.5
MKAR	**Makanchi Array**	**146.13**	**37**	PKPbc	PKPbc	04 36 23.8	+0.2
	comp=N,1.1nm,0.8s,baz=337,slow=3.9,SNR=6.1						
MKAR	**Makanchi Array**	**146.13**	**37**	PKPbc	PKPbc	04 36 23.8	+0.2

*CSEM **26** 04:18:59.5±0.1,39.18N×27.77E,h10km,MD2.8,Error ellipse: s-maj=3.0km s-min=2.5km az=106.0*
*ISK **26** 04:18:59.2,39.18N×27.78E,h16km,MD2.8*
DDA 26 04:18:58.6,39.19N×27.79E,h25km±1km,Md2.9,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKS	**Akhisar**	**0.31**	**177**	*e*PG	Pb	04 19 06.1	+0.4
AKS				*e*SG	Sb	04 19 11.1	+0.5
AKS	**Akhisar**	**0.31**	**177**	*e*Pg	Pb	04 19 06.1	+0.4
AKS				*e*Sg	Sb	04 19 11.1	+0.6
AKHS	**Akhisar**	**0.31**	**177**	*i* P	Pb	04 19 06.0	+0.3
AKHS				*i* S	Sb	04 19 10.4	-0.2
AKHS	**Akhisar**	**0.31**	**177**	*i* P	Pb	04 19 06.0	+0.3
AKHS				*i* S	Sb	04 19 10.4	-0.2
BALB	**Balikesir**	**0.46**	**9**	*e*PG	Pb	04 19 09.0	+0.9
BALB				*e*SG	Sb	04 19 16.1	+1.5
BALB	**Balikesir**	**0.46**	**9**	*e*Pg	Pb	04 19 09.0	+0.9
BALB				*e*Sg	Sb	04 19 16.1	+1.5
BALY	**Balya**	**0.57**	**347**	*i* P	Pb	04 19 10.9	+1.0
BALY				*i* S	Sb	04 19 17.6	-0.1
BALY	**Balya**	**0.57**	**347**	*i* P	Pb	04 19 10.9	+1.0
BALY				*i* S	Sb	04 19 17.5	-0.2
DURS	**Dursunbey**	**0.67**	**52**	*i* P	Pb	04 19 12.7	+1.0
DURS				*i* S	Sb	04 19 21.8	+1.2
DURS	**Dursunbey**	**0.67**	**52**	*i* P	Pb	04 19 12.7	+1.0
DURS				*i* S	Sb	04 19 21.8	+1.2
DEMI	**Demirci**	**0.73**	**101**	*i* P	Pb	04 19 14.1	+1.4
DEMI				*i* S	Sb	04 19 24.1	+1.8
DEMI	**Demirci**	**0.73**	**101**	*i* P	Pb	04 19 14.1	+1.4
DEMI				*i* S	Sb	04 19 24.1	+1.8
DST	**Dursunbey**	**0.77**	**57**	*e*PG	Pb	04 19 14.9	+1.7
DST				*e*SG	Sb	04 19 25.9	+2.6
DST	**Dursunbey**	**0.77**	**57**	*e*Pg	Pb	04 19 14.9	+1.7
DST				*e*Sg	Sb	04 19 25.9	+2.6
AYVA	**Ayvalik**	**0.86**	**278**	*i* P	Pb	04 19 15.7	+0.8
AYVA				*i* S	Sb	04 19 27.0	+1.0
AYVA	**Ayvalik**	**0.86**	**278**	*i* P	Pb	04 19 15.6	+0.7
AYVA				*i* S	Sb	04 19 27.0	+1.0
IZM	**Izmir**	**0.89**	**208**	*e*PG	Pb	04 19 16.4	+1.1
IZM	**Izmir**	**0.89**	**208**	*e*Pg	Pb	04 19 16.4	+1.1
MANT	**Manisa**	**0.92**	**139**	*i* P	Pb	04 19 17.2	+1.4
MANT				*i* S	Sb	04 19 29.4	+1.8
MANT	**Manisa**	**0.92**	**139**	*i* P	Pb	04 19 17.2	+1.4
MANT				*i* S	Sb	04 19 29.4	+1.8
KULA	**Kula-Manisa**	**0.95**	**134**	*e*PG	Pn	04 19 17.6	+1.3
KULA	**Kula-Manisa**	**0.95**	**134**	*e*Pg	Pn	04 19 17.6	+1.3
BLCB	**Balcova**	**0.99**	**216**	*e*PG	Pn	04 19 18.4	+1.6
BLCB	**Balcova**	**0.99**	**216**	*e*Pg	Pn	04 19 18.4	+1.6
KCTX	**Karacabey (Bur**	**1.16**	**22**	*e*PN	Pn	04 19 21.4	+2.2
KCTX	**Karacabey (Bur**	**1.16**	**22**	*e*Pn	Pn	04 19 21.4	+2.2
BNT	**Bandirma**	**1.17**	**5**	*e*PN	Pn	04 19 21.7	+2.3
BNT	**Bandirma**	**1.17**	**5**	*e*Pn	Pn	04 19 21.7	+2.4
URLA	**Izmir**	**1.25**	**229**	*i* P	Pn	04 19 21.6	+1.3
URLA				*i* S	Sn	04 19 39.8	+3.5
URLA	**Izmir**	**1.25**	**229**	*i* P	Pn	04 19 21.6	+1.3
URLA				*i* S	Sn	04 19 39.8	+3.5
KRBG	**Karabiga-Canak**	**1.26**	**343**	*e*PN	Pn	04 19 22.8	+2.2
KRBG	**Karabiga-Canak**	**1.26**	**343**	*e*Pn	Pn	04 19 22.8	+2.2
EZN	**Ezine**	**1.30**	**300**	*e*PN	Pn	04 19 23.2	+2.1
EZN	**Ezine**	**1.30**	**300**	*e*Pn	Pn	04 19 23.2	+2.1
GDZ	**Gediz**	**1.32**	**94**	*i* P	Pn	04 19 23.4	+2.1
GDZ				*i* S	Sn	04 19 40.6	+2.5
GDZ	**Gediz**	**1.32**	**94**	*i* P	Pn	04 19 23.4	+2.1
GDZ				*i* S	Sn	04 19 40.6	+2.5
ULDT	**Uludag**	**1.41**	**47**	*i* P	Pn	04 19 24.3	+1.7
ULDT				*i* S	Sn	04 19 43.3	+3.0
ULDT	**Uludag**	**1.41**	**47**	*i* P	Pn	04 19 24.3	+1.7
ULDT				*i* S	Sn	04 19 43.3	+2.9
AYDN	**Tasoluk**	**1.52**	**177**	*i* P	Pn	04 19 27.1	+2.9
AYDN				*i* S	Sn	04 19 47.3	+4.1
AYDN	**Tasoluk**	**1.52**	**177**	*i* P	Pn	04 19 27.1	+2.9
AYDN				*i* S	Sn	04 19 47.3	+4.2
KHAL	**Karahalli**	**1.56**	**121**	*i* P	Pn	04 19 27.9	+3.3
KHAL	**Karahalli**	**1.56**	**121**	*i* P	Pn	04 19 27.9	+3.3
SART	**Tekirdag**	**1.57**	**343**	*i* P	Pn	04 19 21.9	-2.9
BORA	**Eskisehir**	**2.17**	**71**	*i* P	Pn	04 19 37.4	+4.4
BORA				*i* S	Sn	04 20 04.3	+5.1
BORA	**Eskisehir**	**2.17**	**71**	*i* P	Pn	04 19 37.4	+4.3
BORA				*i* S	Sn	04 20 04.3	+5.2
ESKT	**Eskisehir**	**2.40**	**81**	*i* P	Pn	04 19 44.7	+8.6

*IDC **26** 04:22:56.4±6.4,36.01N×69.94E,h104km±56km,mb3.6/8, mb1 3.7/12,mb1mx3.4/30,mbtmp3.6/12,Error ellipse: s-maj=33.7km s-min=21.9km az=176.0*
*ISCJB **26** 04:22:57.5±0.4,36.15N±0.03×70.08E±0.05,h133km±6km, mb3.6/7,Error ellipse: s-maj=7.1km s-min=4.6km az=170.4*
*NEIC **26** 04:22:58.7±0.7,36.18N×69.95E,h120km±7km,mb3.8/5, Error ellipse: s-maj=11.9km s-min=7.2km az=127.0*
*NNC **26** 04:23:01.5±5.1,36.44N×69.71E,h99km±

INK	**Inuvik**	**74.38**	**9**	P		**P**	**04 34 23.7**	**+1.9**
	comp=Z,0.9nm,0.7s,mb3.6,baz=348,slow=4.4,SNR=6.7							
INK	**Inuvik**	**74.38**	**9**	P		**P**	**04 34 23.7**	**+2.0**
WRA	**Warramunga Arr**	**82.43**	**121**	P		**P**	**04 35 07.3**	**+0.7**
	comp=Z,0.2nm,0.5s,mb3.2,baz=324,slow=4.7,SNR=4.9							
WRA	**Warramunga Arr**	**82.43**	**121**	P		**P**	**04 35 07.3**	**+0.7**

*ISCJB **26** 04:31:22.1±0.5,3˚.29N±0˚.06×124˚.7E±0˚.1,h309km±5km, mb3.9/16, Error ellipse: s-maj=19.3km s-min=8.1km az=163.0*

*NEIC **26** 04:31:22.9±3.5,3˚.32N×124˚.71E,h300km±38km, mb3.9/5, Error ellipse: s-maj=19.1km s-min=8.1km az=73.0*

*IDC **26** 04:31:26.0±2.5,3˚.26N×124˚.71E,h334km±25km, mb3.6/12, mb1 3.6/12, mb1mx3.4/24, mbtmp3.6/12, Error ellipse: s-maj=33.4km s-min=7.9km az=71.0*

*DJA **26** 04:31:52, 0˚.95N×125˚.07E, h84km, MLv4.0/3*

ISC 26 04:31:23.1±0.5,3˚.27N±0˚.06×124˚.7E±0˚.1, h302km±5km, n40, σ0.74/42, mb3.9/16, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SGSI	**Sangihe**	**0.95**	**64**	P		**S**	**04 32 35.7**	**+0.2**
MNI	**Manado**	**1.82**	**175**	P		**Pn**	**04 32 08.6**	**-0.2**
TNTI	**Ternate**	**3.66**	**133**	P		**Pn**	**04 32 25.0**	**-0.8**
LUWI	**Luwuk**	**4.69**	**204**	P		**Pn**	**04 32 38.3**	**+1.1**
NLAI	**Namlea**	**6.91**	**159**	P		**Pn**	**04 33 03.2**	**-0.3**
KDI	**Kendari**	**7.47**	**196**	P		**Pn**	**04 33 08.2**	**-2.1**
	17nm,0.8s							
MSAI	**Masohi**	**7.83**	**147**	P		**Pn**	**04 33 16.0**	**+1.3**
FITZ	**Fitzroy Crossi**	**21.26**	**177**	P		**P**	**04 35 45.8**	**-0.5**
	3.1nm,0.5s,mb3.9,baz=360,slow=5.6,SNR=34							
FITZ	**Fitzroy Crossi**	**21.26**	**177**	P		**P**	**04 35 45.8**	**-0.5**
WRA	**Warramunga Arr**	**24.95**	**158**	P		**P**	**04 36 19.5**	**-0.3**
	3.4nm,0.4s,mb4.2,baz=336,slow=9.9,SNR=36							
WRA				S		**S**	**04 40 17.2**	**-3.3**
	0.7nm,0.9s,baz=337,slow=17,SNR=4.7							
WRA	**Warramunga Arr**	**24.95**	**158**	P		**P**	**04 36 19.5**	**-0.3**
WRA				S		**S**	**04 40 17.2**	**-3.3**
COEN	**Coen**	**25.09**	**133**	*e*P		**P**	**04 36 20.9**	**-0.2**
ASAR	**Alice Springs**	**28.25**	**162**	P		**P**	**04 36 49.5**	**+0.5**
	0.9nm,0.5s,mb3.5,baz=344,slow=7.5,SNR=15							
ASAR				PcP		PcP	04 39 54.5	+0.4
	0.4nm,0.5s,baz=338,slow=2.2,SNR=4.3							
ASAR				S		**S**	**04 41 11.9**	**-0.5**
	0.5nm,0.8s,baz=360,slow=22,SNR=3.6							
ASAR	**Alice Springs**	**28.25**	**162**	P		**P**	**04 36 49.5**	**+0.5**
ASAR				PcP		PcP	04 39 54.5	+0.4
ASAR				S		**S**	**04 41 11.9**	**-0.5**
MJAR	**Matsushiro Arr**	**35.38**	**19**	P		**P**	**04 37 50.8**	**0.0**
	1.9nm,0.6s,mb3.8,baz=192,slow=9.6,SNR=5.1							
MJAR	**Matsushiro Arr**	**35.38**	**19**	P		**P**	**04 37 50.8**	**0.0**
NWAO	**Narrogin (SRO)**	**36.68**	**191**	P		**P**	**04 38 02.8**	**+1.0**
	5.1nm,0.9s,mb3.9,baz=31,slow=5.9,SNR=2.4							
NWAO	**Narrogin (SRO)**	**36.68**	**191**	P		**P**	**04 38 02.8**	**+1.0**
STKA	**Stephens Creek**	**38.48**	**157**	P		**P**	**04 38 17.9**	**+1.1**
	2.2nm,0.3s,mb4.0,baz=342,slow=9.0,SNR=4.4							
STKA	**Stephens Creek**	**38.48**	**157**	P		**P**	**04 38 17.9**	**+1.1**
ULN	**Ulaanbaatar**	**46.95**	**344**	*e*P		**P**	**04 39 23.8**	**-0.4**
	2.3nm,0.5s,mb3.8							
SONM	**Songino Array**	**47.11**	**343**	P		**P**	**04 39 25.6**	**+0.2**
	1.7nm,0.6s,mb3.5,baz=157,slow=8.0,SNR=15							
SONM	**Songino Array**	**47.11**	**343**	P		**P**	**04 39 25.6**	**+0.2**
MK31	**Makanchi Array**	**56.78**	**326**	*e*P		**P**	**04 40 36.3**	**0.0**
MKAR	**Makanchi Array**	**56.78**	**326**	P		**P**	**04 40 36.4**	**+0.1**
	3.2nm,0.4s,mb4.1,baz=123,slow=7.3,SNR=105							
MKAR	**Makanchi Array**	**56.78**	**326**	P		**P**	**04 40 36.4**	**+0.2**
TKM2	**Tokmak 2**	**58.74**	**320**	*e*P		**P**	**04 40 50.0**	**0.0**
	2.8nm,0.5s,mb4.0							
EKS2	**Erkin-Say**	**59.82**	**319**	*e*P		**P**	**04 40 57.7**	**+0.4**
	1.7nm,0.6s,mb3.8							
ZALV	**Zalesovo Beam**	**60.08**	**334**	P		**P**	**04 40 57.8**	**-1.0**
	2.2nm,0.6s,mb3.9,baz=139,slow=6.7,SNR=9.7							
ZALV	**Zalesovo Beam**	**60.08**	**334**	P		**P**	**04 40 57.8**	**-1.0**
KURK	**Kurchatov**	**61.04**	**328**	P		**P**	**04 41 05.7**	**+0.4**
	6.9nm,0.6s,mb4.4,baz=130,slow=6.4,SNR=60							
KURK	**Kurchatov**	**61.04**	**328**	*e*P		**P**	**04 41 04.9**	**-0.4**
	11nm,0.6s,mb4.6							
BVAR	**Borovoye Array**	**66.59**	**328**	P		**P**	**04 41 41.4**	**+0.1**
	0.9nm,0.7s,mb3.6,baz=137,slow=11,SNR=4.3							
BVAR	**Borovoye Array**	**66.59**	**328**	P		**P**	**04 41 41.4**	**+0.1**
ABKAR	**Akbulak array**	**71.21**	**321**	*e*P		**P**	**04 42 09.2**	**-0.5**
	1.2nm,0.6s,mb3.7							
AKTO	**Aktyubinsk**	**72.75**	**322**	P		**P**	**04 42 18.3**	**-0.4**
	1.2nm,0.3s,mb4.0,baz=116,slow=9.3,SNR=6.8							
AKTO	**Aktyubinsk**	**72.75**	**322**	P		**P**	**04 42 18.3**	**-0.4**
BUR08	**Bucovina Ar. S**	**93.98**	**318**	*e*P		**P**	**04 44 08.2**	**+1.1**
TXAR	**Lajitas Array**	**123.50**	**51**	PKP		PKPdf	04 49 44.9	-0.5
	0.1nm,0.5s,baz=270,slow=2.7,SNR=3.0							
TXAR	**Lajitas Array**	**123.50**	**51**	PKP		PKPdf	04 49 44.9	-0.5

*BJI **26** 04:46:52.0,5˚.72S×68˚.02E, h10km, mB5.2/31, mb5.0/52, Ms4.8/30, Ms7 4.5/32*

*ISCJB **26** 04:46:59.0±1.4,4˚.90S±0˚.04×68˚.51E±0˚.03, h6km±8km, mb4.9/106, MS4.3/39, Error ellipse: s-maj=7.0km s-min=5.8km az=177.2*

*MOS **26** 04:46:59.6±1.0,4˚.88S×68˚.57E, h10km, mb5.0/23, Error ellipse: s-maj=8.4km s-min=6.5km az=92.8*

*IDC **26** 04:47:00.2±0.5,4˚.84S×68˚.55E, h0km, mb4.5/28, mb1 4.5/28, mb1mx4.4/32, mbtmp4.5/28, MS4.2/25, Ms1 4.2/25, ms1mx4.1/34, Error ellipse: s-maj=15.6km s-min=12.2km az=24.0*

*NEIC **26** 04:47:01.7±0.2,4˚.92S×68˚.55E, h10km, mb4.9/28, Error ellipse: s-maj=6.3km s-min=5.0km az=182.0*

*TEH **26** 04:47:01.0,4˚.97S×68˚.53E, h10km*

*GCMT **26** 04:47:03.8±0.2,4˚.92S×68˚.47E, h12km, MW5.2, Moment Tensor Solution. s47,c65; s89,c152; Moment tensor: Scale 10^16^Nm; Mrr-1.39±.14; Mθθ-5.67±.13; Mϕϕ 7.06±.12; Mrθ-0.20±.38; Mrϕ-1.62±. 13; Mθϕ 1.53±.35; Best double couple: Mo6.70000×10^16^ NP1:ϕs38.00000°, δ83.00000°, λ 7.00000°. NP2:ϕs307.00000°, δ83.00000°, λ173.00000°. Principal axes: T 7.5300, Plg10.0000°, Azm263.0000°; N -1.6600, Plg80.0000°, Azm83.0000°; P -5.8700, Plg0.0000°, Azm353.0000°; Data Used: II IU IC G CN.*

*DJA **26** 04:47:04, 5˚.18S×68˚.58E, h19km, mb5.2/13*

ISC 26 04:47:02.8±1.5,4˚.91S±0˚.04×68˚.50E±0˚.03, h17km±9km, h15km±.7km:pP-P, n311, σ0.94/271, mb4.9/106, MS4.3/39, 7C-4D, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DGAR	**Diego Garcia**	**4.65**	**122**	*e*Pn		**Pn**	**04 48 09.0**	**-3.2**
DGAR	**Diego Garcia**	**4.65**	**122**	*e*P		**Pn**	**04 48 09.0**	**-3.2**
MSEY	**Mahe Island**	**12.98**	**270**	*e*Pn		**Pn**	**04 50 07.4**	**+0.9**
	89nm,0.4s							
MSEY				*e*Sn		**Sn**	**04 52 27.0**	**-3.6**
MSEY	**Mahe Island**	**12.98**	**270**	*e*P		**Pn**	**04 50 07.4**	**+0.9**
MSEY				*e*			04 52 27.0	
MSEY				pmax		pmax		
	comp=Z,89nm,0.4s							
MSEY	**Mahe Island**	**12.98**	**270**	P		**Pn**	**04 50 08.2**	**+1.7**
	SNR=6.6							
TRD	**Trivandrum**	**15.78**	**32**	*e*PKP		**Pn**	**04 50 44.6**	**+0.4**
TRD				AMb		AMB	04 50 50.1	
	comp=Z,61nm,1.1s							
POO	**Poona**	**23.88**	**13**	*e*PKP		**P**	**04 52 16.1**	**+0.5**
POO				AMb		AMB	04 52 22.3	
	comp=Z,37nm,1.8s,mb4.5							
HYB	**Hyderabad**	**24.31**	**24**	*i* P		**P**	**04 52 18.5**	**-1.0**
HYB				*e*S		**S**	**04 56 40.0**	**+1.9**
ABPO	**Ambohimpanom**	**25.04**	**234**	*e*P		**P**	**04 52 25.5**	**-0.8**
	comp=Z,31nm,1.6s,mb4.6							
ABPO	**Ambohimpanom**	**25.04**	**234**	*e*P		**P**	**04 52 25.5**	**-0.8**
ABPO				pmax		pmax		
	comp=Z,31nm,1.6s,mb4.6							
VIS	**Vishakhapatnam**	**26.83**	**33**	*ex*		**P**	**04 52 38.6**	**-3.9**
VIS				AMb		AMB	04 52 43.4	
	comp=Z,36nm,1.8s,mb4.6							
BHJ	**Bhuj**	**28.02**	**2**	*e*PKP		**P**	**04 52 53.0**	**0.0**
BHJ				AMb		AMB	04 53 07.0	
	comp=Z,22nm,0.0s							
BHPL	**Bhopal**	**29.31**	**17**	*e*PKP		**P**	**04 53 04.4**	**-0.1**
BHPL				AMb		AMB	04 53 08.6	
	comp=Z,33nm,1.4s,mb4.9							
ATD	**Arta Tunnel**	**30.30**	**303**	LR		LR	05 02 52.5	
	comp=Z,575nm,21.1s,MS4.2,baz=116,slow=31							
KMBO	**Kilima Mbogo**	**31.42**	**276**	*e*P		**P**	**04 53 24.3**	**+0.9**
KMBO	**Kilima Mbogo**	**31.42**	**276**	*e*P		**P**	**04 53 24.3**	**+0.9**
KULM	**Kulim**	**33.67**	**73**	*e*P		**P**	**04 53 42.8**	**-0.4**
	comp=Z,21nm,0.8s,mb5.1							
IPM	**Ipoh**	**33.80**	**74**	*e*P		**P**	**04 53 44.6**	**+0.3**
	comp=Z,23nm,1.0s,mb5.1							
NDI	**New Delhi**	**34.44**	**14**	*e*PKP		**P**	**04 53 49.0**	**-0.5**
MDSI	**Maura Dua**	**35.56**	**91**	P		**P**	**04 54 01.0**	**+1.5**
	comp=Z,46nm,1.3s,mb5.2							
KOLN	**Koldanda**	**35.61**	**23**	*e*P		**P**	**04 53 59.9**	**+0.2**
PYUN	**Piuthan**	**35.67**	**22**	*e*P		**P**	**04 54 00.3**	**+0.1**
	comp=Z,184nm,1.0s,mb6.0							
MYKOM	**Kota Tinggi**	**35.94**	**80**	P		**P**	**04 54 03.2**	**+0.5**
	comp=Z,681nmcomp=Z,61nm,1.1s,mb5.4							
DMN	**Daman**	**36.09**	**26**	*e*P		**P**	**04 54 04.3**	**+0.5**
	comp=Z,105nm,0.9s,mb5.8							
KLSI		**36.10**	**91**	P		**P**	**04 54 05.8**	**+1.7**
	comp=Z,7μmcomp=Z,144nm,1.2s,mb5.8							
PKI	**Pulchoki**	**36.19**	**26**	*e*P		**P**	**04 54 05.0**	**+0.4**
	comp=Z,79nm,1.1s,mb5.5							
DANN	**Dangsing**	**36.19**	**23**	*e*P		**P**	**04 54 04.9**	**+0.3**
	comp=Z,65nm,1.0s,mb5.5							
RAMN	**Ramite**	**36.19**	**28**	*e*P		**P**	**04 54 05.5**	**+0.8**
	comp=Z,124nm,1.1s,mb5.8							
DDI	**Dehra Dun**	**36.21**	**14**	*e*PKP		**P**	**04 54 06.5**	**+1.7**
GKN	**Gorkha**	**36.24**	**25**	*e*P		**P**	**04 54 05.3**	**+0.3**
	comp=Z,150nm,1.0s,mb5.9							
KKN	**Kakani**	**36.32**	**26**	*e*P		**P**	**04 54 06.1**	**+0.3**
ODAN	**Odare**	**36.49**	**29**	*e*P		**P**	**04 54 07.9**	**+0.7**
	comp=Z,112nm,1.1s,mb5.7							
JIRN	**Jiri**	**36.61**	**27**	*e*P		**P**	**04 54 08.8**	**+0.6**
	comp=Z,26nm,1.2s,mb4.9							
GUN	**Gumba**	**36.69**	**26**	*e*P		**P**	**04 54 09.6**	**+0.7**
	comp=Z,191nm,1.1s,mb5.8							
TAPN	**Taplejung**	**37.06**	**29**	*e*P		**P**	**04 54 12.6**	**+0.6**
	comp=Z,90nm,1.0s,mb5.6							
IPAR	**Pars**	**37.60**	**338**	*e*P		**P**	**04 54 16.1**	**-0.5**
PPBI	**Pangkal Pinang**	**37.66**	**87**	P		**P**	**04 54 17.8**	**+0.4**
	comp=Z,50nm,0.9s,mb5.2							
CM31	**Chiang Mai Arr**	**37.95**	**51**	*e*P		**P**	**04 54 20.1**	**+0.4**
	comp=Z,7.5nm,0.6s,mb4.6							
CMAR	**Chiang Mai Arr**	**37.95**	**51**	P		**P**	**04 54 19.9**	**+0.2**
	comp=Z,13nm,0.9s,mb4.7,baz=243,slow=9.2,SNR=58							
CMAR					PcP	PcP	04 56 35.5	0.0
	comp=Z,3.1nm,0.9s,baz=236,slow=4.2,SNR=3.8							
CMAR					LR	LR	05 09 26.6	
	comp=Z,408nm,18.1s,MS4.3,baz=236,slow=36							
CMAR	**Chiang Mai Arr**	**37.95**	**51**	P		**P**	**04 54 19.9**	**+0.2**
CMAR					PcP	PcP	04 56 35.5	0.0
CMAR	**Chiang Mai Arr**	**37.95**	**51**	P		**P**	**04 54 19.9**	**+0.2**
CMAR							04 56 35.6	
CHTO	**Chiang Mai**	**38.15**	**51**	*e*P		**P**	**04 54 21.6**	**+0.2**
CHTO	**Chiang Mai**	**38.15**	**51**	*e*P		**P**	**04 54 21.6**	**+0.2**
CHTO	**Chiang Mai**	**38.15**	**51**	P		**P**	**04 54 21.4**	**0.0**
	comp=Z,44nm,1.1s,mb5.1							
CHTO	**Chiang Mai**	**38.15**	**51**	P		**P**	**04 54 21.9**	**+0.5**
	comp=Z,44nm,1.1s,mb5.1							
CHTO	**Chiang Mai**	**38.15**	**51**	P		**P**	**04 54 21.9**	**+0.5**
	SNR=6.0							
ITEG	**Tejag**	**38.72**	**347**	*e*P		**P**	**04 54 26.0**	**0.0**
KBL	**Kabul**	**39.24**	**1**	*e*P		**P**	**04 54 31.1**	**+0.7**
	comp=Z,9.4nm,0.9s,mb4.5							
KBL	**Kabul**	**39.24**	**1**	*e*P		**P**	**04 54 31.1**	**+0.8**
KBL				pmax		pmax		
	comp=Z,9.0nm,0.9s,mb4.5							
ISAD	**Sadrabad**	**39.24**	**340**	*e*P		**P**	**04 54 27.7**	**-2.7**
ICHK	**Chekchek**	**39.31**	**341**	*e*P		**P**	**04 54 28.6**	**-2.3**
IZEF	**Zefreh**	**40.61**	**339**	*e*P		**P**	**04 54 40.4**	**-1.4**
LSA	**Lhasa**	**40.70**	**31**	P		**P**	**04 54 43.8**	**+1.2**
LSA				pmax		pmax		
	comp=Z,20nm,2.0s,mb4.4							
LSA	**Lhasa**	**40.70**	**31**	*e*P		**P**	**04 54 43.8**	**+1.2**
	comp=Z,45nm,1.3s,mb4.9							
LSA	**Lhasa**	**40.70**	**31**	*e*P		**P**	**04 54 43.8**	**+1.2**
LSA				pmax		pmax		
	comp=Z,45nm,1.3s,mb4.9							
LSZ	**Lusaka**	**40.93**	**252**	*e*P		**P**	**04 54 44.2**	**-0.4**
	comp=Z,3.3nm,0.7s,mb4.1							
LSZ	**Lusaka**	**40.93**	**252**	*e*P		**P**	**04 54 44.3**	**-0.4**
LSZ				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.0							
IKLH	**Kolahrood**	**41.27**	**338**	*e*P		**P**	**04 54 46.8**	**-0.3**
IPAY	**Payeh**	**42.10**	**349**	*e*P		**P**	**04 54 56.1**	**+2.2**
KSM	**Kuching**	**42.25**	**82**	*e*P		**P**	**04 54 55.9**	**+0.3**
	comp=Z,60nm,1.1s,mb5.1							
KSM	**Kuching**	**42.25**	**82**	P		**P**	**04 54 55.8**	**+0.3**
	comp=Z,49nm,1.2s,mb5.0							
KSM	**Kuching**	**42.25**	**82**	P		**P**	**04 54 56.3**	**+0.8**
	comp=Z,49nm,1.3s,mb5.0							
IAKL	**Akhelmad**	**42.29**	**348**	*e*P		**P**	**04 54 55.3**	**-0.2**
IANJ	**Anjilo**	**42.44**	**342**	*e*P		**P**	**04 54 56.9**	**+0.2**
SBUM	**Sibu**	**44.29**	**81**	P		**P**	**04 55 12.0**	**-0.1**
SBUM	**Sibu**	**44.29**	**81**	P		**P**	**04 55 12.2**	**+0.1**
	comp=Z,808nmcomp=Z,57nm,1.6s,mb5.0							
KMI	**Kunming**	**44.70**	**46**	P		**P**	**04 55 15.3**	**+0.1**
KMI				pmax		pmax		
	comp=Z,11nm,1.2s,mb4.6							
KSH	**Kashi**	**44.74**	**8**	P		**P**	**04 55 11.8**	**-3.4**
KSH				pP		pP	04 55 16.3	-4.3
KSH				sP		sP	04 55 18.8	-3.9
KSH				PP		PP	04 56 56.3	-3.6
KSH				ScP		ScP	05 00 47.0	-2.1
KSH				PcS		PcS	05 00 48.8	-2.0
KSH				S		**S**	**05 01 43.5**	**-7.9**
KSH				ScS		ScS	05 05 07.5	-4.8
KSH				pmax		pmax		
	comp=Z,120nm,1.9s,mb5.4							
KSH				LR		LR		
	comp=N,420nm,12.2s							
KSH				LR		LR		
	comp=E,210nm,9.3s							
KSH				LR		LR		
	comp=Z,370nm,9.5s							
LBTB	**Lobatse**	**45.74**	**240**	P		**P**	**04 55 25.4**	**+2.0**
	comp=Z,1.4nm,0.6s,mb4.0,baz=78,slow=9.3,SNR=3.1							
LBTB	**Lobatse**	**45.74**	**240**	P		**P**	**04 55 25.4**	**+2.0**
LBTB	**Lobatse**	**45.74**	**240**	P		**P**	**04 55 25.4**	**+2.0**
AML	**Almayashu**	**47.06**	**5**	P		**P**	**04 55 34.3**	**+0.9**
	SNR=11							
QIZ	**Qiongzhong**	**47.15**	**58**	P		**P**	**04 55 30.3**	**-4.3**
QIZ				S		**S**	**05 02 22.5**	**-4.1**
QIZ				pmax		pmax		
	comp=Z,140nm,4.6s							
QIZ				LR		LR		
	comp=Z,600nm,15.5s,MS4.7							
KZA	**Kyzart**	**47.17**	**7**	P		**P**	**04 55 35.5**	**+1.2**
	SNR=65							
BOSA	**Boshof**	**47.26**	**235**	P		**P**	**04 55 36.1**	**+0.8**
	comp=Z,3.5nm,0.8s,mb4.3,baz=73,slow=9.5,SNR=4.4							
BOSA					LR	LR	05 12 39.2	
	comp=Z,557nm,20.6s,MS4.5,baz=76,slow=32							
BOSA	**Boshof**	**47.26**	**235**	*e*P		**P**	**04 55 36.0**	**+0.6**
	comp=Z,4.3nm,0.8s,mb4.4							
BOSA	**Boshof**	**47.26**	**235**	*e*P		**P**	**04 55 36.0**	**+0.7**
BOSA				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.4							
ASF	**Jabal al Asfar**	**47.58**	**323**	P		**P**	**04 55 38.4**	**+0.7**
	comp=Z,3.5nm,0.8s,mb4.4,baz=21,slow=3.6,SNR=6.7							
ASF	**Jabal al Asfar**	**47.58**	**323**	P		**P**	**04 55 38.4**	**+0.7**
ASF	**Jabal al Asfar**	**47.58**	**323**	P		**P**	**04 55 38.4**	**+0.7**
EKS2	**Erkin-Say**	**47.59**	**5**	P		**P**	**04 55 38.8**	**+1.3**
	SNR=15							
EKS2	**Erkin-Say**	**47.59**	**5**	*e*P		**P**	**04 55 38.8**	**+1.2**
	comp=Z,92nm,1.7s,mb5.5							
EKS2	**Erkin-Say**	**47.59**	**5**	*e*P		**P**	**04 55 38.8**	**+1.2**
EKS2				pmax		pmax		
	comp=Z,92nm,1.7s,mb5.5							
AAK	**Ala-Archa**	**47.63**	**6**	P		**P**	**04 55 38.7**	**+0.8**
	SNR=17							
AAK	**Ala-Archa**	**47.63**	**6**	*e*P		**P**	**04 55 39.0**	**+1.1**
	comp=Z,178nm,1.3s,mb5.9							
AAK	**Ala-Archa**	**47.63**	**6**	*c iP*		**P**	**04 55 38.4**	**+0.5**
AAK				pmax		pmax		
	comp=Z,111nm,1.7s,mb5.6							
AAK	**Ala-Archa**	**47.63**	**6**	P		**P**	**04 55 39.1**	**+1.2**
	comp=Z,2μmcomp=Z,119nm,1.6s,mb5.7							
AAK	**Ala-Archa**	**47.63**	**6**	P		**P**	**04 55 39.3**	**+1.4**
	SNR=22							
KKAR	**Karatay Array**	**47.83**	**2**	*e*P		**P**	**04 55 39.6**	**+0.3**
KKAR	**Karatay Array**	**47.83**	**2**	*e*P		**P**	**04 55 39.6**	**+0.2**
FRU	**Bishkek**	**47.84**	**6**	*e*P		**P**	**04 55 40.5**	**+1.0**
FRU				pmax		pmax		
	comp=Z,95nm,1.8s,mb5.5							
TKM2	**Tokmak 2**	**48.04**	**7**	P		**P**	**04 55 41.0**	**-0.1**
	SNR=18							
TKM2	**Tokmak 2**	**48.04**	**7**	*e*P		**P**	**04 55 41.3**	**+0.2**
	comp=Z,11nm,0.7s,mb5.0							
TKM2	**Tokmak 2**	**48.04**	**7**	*e*P		**P**	**04 55 41.3**	**+0.2**
TKM2				pmax		pmax		
	comp=Z,11nm,0.7s,mb5.0							
GYA	**Guiyang**	**48.35**	**48**	P		**P**	**04 55 45.5**	**+1.7**
GYA				PP		PP	04 57 38.0	+1.5
GYA				S		**S**	**05 02 51.5**	**+8.0**
GYA				SS		SS	05 06 10.8	-2.6
GYA				pmax		pmax		
	comp=Z,20nm,1.0s,mb5.1							
GYA				pmax		pmax		
	comp=Z,110nm,4.8s							
GYA				LR		LR		
	comp=N,490nm,17.5s,MS4.6							
GYA				LR		LR		
	comp=E,330nm,18.8s,MS4.6							
GYA				LR		LR		
	comp=Z,470nm,17.2s,MS4.5							
KKM	**Kota Kinabalu**	**48.87**	**78**	*e*P		**P**	**04 55 48.3**	**+0.3**
KKM	**Kota Kinabalu**	**48.87**	**78**	P		**P**	**04 55 48.5**	**+0.5**
	comp=Z,45nm,1.0s,mb5.5							
CD2	**Chengdu**	**49.02**	**41**	P		**P**	**04 55 48.0**	**-0.8**
CD2				pP		pP	04 55 52.5	-1.8
CD2				sP		sP	04 55 55.0	-1.4
CD2				PP		PP	04 57 42.0	-0.6
CD2				S		**S**	**05 02 52.5**	**-0.3**
CD2				pmax		pmax		
	comp=Z,60nm,1.2s,mb5.5							
CD2				pmax		pmax		
	comp=Z,230nm,6.0s							
CD2				LR		LR		
	comp=N,340nm,8.9s							
CD2				LR		LR		
	comp=Z,340nm,14.3s,MS4.5							
MMAI	**Mount Meron Ar**	**49.06**	**323**	P		**P**	**04 55 50.5**	**+1.3**
	comp=Z,3.5nm,0.7s,mb4.5,baz=114,slow=10,SNR=4.7							
MMAI	**Mount Meron Ar**	**49.06**	**323**	P		**P**	**04 55 50.5**	**+1.3**
GNI	**Garni**	**49.88**	**336**	LR		LR	05 15 32.9	
	comp=Z,172nm,19.6s,MS4.1,baz=338,slow=34							
GNI	**Garni**	**49.88**	**336**	*e*P		**P**	**04 55 56.3**	**+1.0**
	comp=Z,26nm,1.2s,mb5.1							
GNI	**Garni**	**49.88**	**336**	*e*P		**P**	**04 55 56.3**	**+1.1**
GNI				pmax		pmax		
	comp=Z,26nm,1.2s							
GNI	**Garni**	**49.88**	**336**	P		**P**	**04 55 57.9**	**+2.7**
	SNR=5.6							
MYLDM	**Lahad Datu**	**50.93**	**79**	P		**P**	**04 56 03.8**	**+0.1**
	comp=Z,32nm,1.2s,mb5.1							
WMQ	**Urumqi**	**51.51**	**18**	P		**P**	**04 56 07.3**	**-0.1**
WMQ				pP		pP	04 56 11.8	-1.1
WMQ				sP		sP	04 56 14.3	-0.7
WMQ				PP		PP	04 58 05.5	+0.5
WMQ				S		**S**	**05 03 26.3**	**-0.7**
WMQ				ScS		ScS	05 05 54.0	-3.1
WMQ				pmax		pmax		
	comp=Z,41nm,1.2s,mb5.2							
WMQ				pmax		pmax		
	comp=Z,290nm,4.3s							
WMQ				LR		LR		
	comp=N,440nm,14.6s,MS4.6							
WMQ				LR		LR		
	comp=E,210nm,17.4s,MS4.6							
WMQ				LR		LR		
	comp=Z,320nm,21.5s,MS4.3							
TSUM	**Tsumeb**	**51.58**	**249**	*e*P		**P**	**04 56 08.3**	**-0.2**
	comp=Z,7.7nm,1.2s,mb4.5							
SUR	**Sutherland**	**52.20**	**232**	P		**P**	**04 56 12.9**	**0.0**
	comp=Z,3.9nm,0.7s,mb4.5,baz=59,slow=5.9,SNR=4.2							
SUR	**Sutherland**	**52.20**	**232**	P		**P**	**04 56 12.9**	**0.0**
ZEI	**Tsey**	**52.44**	**337**	*e*P		**P**	**04 56 12.6**	**-1.8**
ZEI				pmax		pmax		
	comp=Z,10.0nm,1.6s,mb4.5							
LZH	**Lanzhou**	**52.52**	**36**	*e*P		**P**	**04 56 15.0**	**-0.2**
LZH				pP		pP	04 56 18.3	-2.4
LZH				sP		sP	04 56 19.8	-3.0

BRVK Borovoye 57.77 1 *e*P P 04 56 52.7 0.0
BRVK pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
TWG Pinlang 58.27 59 *e*P P 04 56 58.2 +1.4
YULB Yu-li 58.67 59 *e*P P 04 57 00.6 +1.0
HHC Hu-ho-hao-te 60.21 37 *e*P P 04 57 10.0 +0.1
HHC sP sP 04 57 17.5 -0.1
HHC PcP PcP 04 57 54.8 -0.5
HHC PP PP 04 59 25.5 +2.6
HHC S **S 05 05 22.8 -0.3**
HHC ScS ScS 05 06 56.5 -3.5
HHC pmax pmax
comp=Z,32nm,1.0s,mb5.3
HHC pmax pmax
comp=Z,220nm,4.2s
HHC LR LR
comp=N,160nm,12.3s,MS4.8
HHC LR LR
comp=E,470nm,14.6s,MS4.8
HHC LR LR
comp=Z,130nm,19.1s,MS4.1
ZAA0 Zalesovo Array 60.22 11 *e*P P 04 57 08.2 -1.5
ZALV Zalesovo Beam 60.22 11 P P 04 57 08.6 -1.2
comp=Z,8.2nm,0.8s,mb4.8,baz=218,slow=6.8,SNR=28
ZALV LR LR 05 22 13.5
comp=Z,154nm,21.1s,MS4.1,baz=27,slow=35
ZALV Zalesovo Beam 60.22 11 P P 04 57 08.6 -1.2
ZALV Zalesovo Beam 60.22 11 P P 04 57 08.6 -1.1
NJ2 Nanjing 60.34 49 *e*P P 04 57 12.3 +1.3
NJ2 pmax pmax
comp=Z,20nm,0.6s,mb5.3
NVS Novosibirsk 60.79 10 *i*P P 04 57 11.2 -2.4
NVS pmax pmax
comp=Z,53nm,1.8s,mb5.4
NVS pmax pmax
comp=N,34nm,1.7s
NVS pmax pmax
comp=E,18nm,1.7s
ARU Arti 61.67 354 *e*P P 04 57 19.6 +0.1
comp=E,27nm,1.3s,mb5.2
ARU Arti 61.67 354 *d i*P P 04 57 19.5 0.0
ARU 04 59 32.4
ARU S **S 05 05 43.2 +2.0**
ARU SS SS 05 09 47.3 +4.3
ARU pmax pmax
comp=Z,27nm,1.4s,mb5.2
SSE Sheshan 61.68 51 P P 04 57 17.8 -2.3
SSE S **S 05 05 42.0 -0.2**
SSE pmax pmax
comp=Z,34nm,0.7s,mb5.6
SSE pmax pmax
comp=Z,100nm,4.9s
SSE LR LR
comp=N,96nm,24.1s,MS4.2
SSE LR LR
comp=E,180nm,23.9s,MS4.2
SSE LR LR
comp=Z,260nm,19.2s,MS4.4
SVE Sverdlovsk 61.86 355 *e*P P 04 57 21.1 +0.3
SVE pmax pmax
comp=Z,20nm,1.3s,mb5.1
SONM Songino Array 62.17 28 P P 04 57 23.4 +0.4
comp=Z,13nm,0.8s,mb5.1,baz=220,slow=7.0,SNR=102
SONM LR LR 05 23 55.1
comp=Z,341nm,21.7s,MS4.5,baz=167,slow=36
SONM Songino Array 62.17 28 P P 04 57 23.4 +0.4
SONM Songino Array 62.17 28 P P 04 57 23.4 +0.4
KIS Kishinev 62.43 330 *e*P Px 04 57 36.0
KIS LRM 05 22 00.0
comp=Z,400nm,17.0s
KIS Kishinev 62.43 330 *e*P Px 04 57 36.0
ULN Ulaanbaatar 62.50 28 *e*P P 04 57 25.1 -0.2
ULN Ulaanbaatar 62.50 28 *e*P P 04 57 25.1 -0.2
ULN Ulaanbaatar 62.50 28 P P 04 57 25.5 +0.2
ULN Ulaanbaatar 62.50 28 P P 04 57 25.9 +0.7
SNR=7.5
BJI Beijing 62.58 40 P P 04 57 25.5 -0.5
BJI S **S 05 05 59.0 +5.8**
BJI pmax pmax
comp=Z,27nm,0.9s,mb5.4
BJI pmax pmax
comp=Z,260nm,5.0s
BJI LR LR
comp=N,170nm,19.2s,MS4.4
BJI LR LR
comp=E,190nm,21.1s,MS4.4
BJI LR LR
comp=Z,150nm,20.1s,MS4.2
ZAK Zakamensk 62.70 24⇑ *i*P P 04 57 26.2 -0.4
ZAK *e* 04 59 46.3
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb4.0
MAW Mawson 62.71 182 LR LR 05 18 37.6
comp=Z,275nm,19.7s,MS4.4,baz=354,slow=30
MLR Muntele Rosu 62.88 328 LR LR 05 25 19.8
comp=Z,28nm,21.4s,MS3.4,baz=324,slow=37
TLY Talaya 63.85 24 *e*P P 04 57 33.4 -0.8
TLY pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
AKASG Malin Array Be 64.86 334 P P 04 57 39.6 -1.1
comp=Z,1.1nm,0.5s,mb4.2,baz=130,slow=5.6,SNR=6.3
AKASG Malin Array Be 64.86 334 P P 04 57 39.6 -1.1
AKASG Malin Array Be 64.86 334 P P 04 57 39.6 -1.2
AKBB Malin Array Si 64.86 334 *e*P P 04 57 40.7 -0.1
AKBB Malin Array Si 64.86 334 *e*P P 04 57 40.7 -0.1
KIEV Kiev 64.86 334 *e*P P 04 57 40.9 +0.1
comp=Z,4.5nm,0.6s,mb4.7
KIEV Kiev 64.86 334 *e*P P 04 57 40.9 +0.1
KIEV pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
OBN Obninsk 65.40 340⇓ *e*P P 04 57 46.5 +2.3
OBN *e* 04 57 54.8
OBN S S 05 06 30.0 +2.3
OBN SS SS 05 10 43.0 +1.7
OBN pmax pmax
comp=Z,18nm,1.4s,mb4.9
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.1
ASAR Alice Springs 65.53 114 P P 04 57 46.0 +0.3
comp=Z,2.6nm,0.8s,mb4.3,baz=280,slow=5.9,SNR=18
ASAR PP PP 05 00 09.2 -0.9
comp=Z,0.3nm,0.6s,baz=279,slow=8.1,SNR=4.5
ASAR Alice Springs 65.53 114 P P 04 57 46.0 +0.3
ASAR PP PP 05 00 09.2 -0.9
ASAR Alice Springs 65.53 114 P P 04 57 46.0 +0.2
ASAR 05 00 09.2
MOS Moscow 65.57 341 *e*P P 04 57 45.3 0.0
MOS *e* 04 58 17.1
MOS *e* 05 00 09.2
MOS pmax pmax
comp=Z,24nm,0.7s,mb5.3
WRA Warramunga Arr 65.64 110 P P 04 57 46.4 -0.1
comp=Z,5.8nm,0.8s,mb4.7,baz=283,slow=6.2,SNR=41
WRA LR LR 05 21 12.4
comp=Z,366nm,18.9s,MS4.6,baz=255,slow=31
WRA Warramunga Arr 65.64 110 P P 04 57 46.4 -0.1
WRA Warramunga Arr 65.64 110 P P 04 57 46.4 -0.1
WRAB Tennant Creek 65.65 110 *e*P P 04 57 46.6 0.0
WRAB Tennant Creek 65.65 110 *e*P P 04 57 46.6 0.0
WB2 Warramunga Arr 65.65 110 *e*P P 04 57 45.9 -0.7
SYO Syowa Base 66.82 191⇓ *e*P P 04 57 51.8 -1.3
SYO Syowa Base 66.82 191⇓ *ep*P P 04 57 55.8 +2.7
TAM Tamanrasset 67.35 297 *e*P P 04 57 58.0 +0.6
comp=Z,2.6nm,0.9s,mb4.3
TAM Tamanrasset 67.35 297 *e*P P 04 57 58.1 +0.7
TAM pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
KEST Kesra 68.52 311 LR LR 05 30 27.3
comp=Z,80nm,18.4s,MS4.0,baz=236,slow=38
TORD Torodi Ar. Bea 68.71 286 P P 04 58 05.5 -0.6
comp=Z,2.3nm,1.1s,mb4.0,baz=97,slow=4.0,SNR=7.8
TORD LR LR 05 30 19.2
comp=Z,295nm,19.4s,MS4.5,baz=95,slow=38
TORD Torodi Ar. Bea 68.71 286 P P 04 58 05.5 -0.6
KLMR Klimovskoe 69.36 345 *e*P P 04 58 05.2 -4.0
KLMR pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
KSAR Wonju Array Be 69.37 47 P P 04 58 08.9 -0.8
KSAR Wonju Array Be 69.37 47 P P 04 58 08.9 -0.8
KSRS Korea Array 69.40 47 P P 04 58 08.9 -1.0
KSRS LR LR 05 30 04.5
comp=Z,2.5nm,0.6s,mb4.4,baz=253,slow=7.5,SNR=10
comp=Z,292nm,18.6s,MS4.5,baz=240,slow=37
MORC Moravsky Berou 69.99 328 *e*P P 04 58 13.7 +0.4
comp=Z,2.6nm,0.9s,mb4.2
MORC Moravsky Berou 69.99 328 *e*P P 04 58 13.7 +0.4
MORC pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
JNU Nakatsue 70.04 52 *e*P P 04 58 13.9 -0.1
comp=Z,38nm,1.8s,mb5.0
CN2 Changchun 70.44 40 *e*P P 04 58 15.0 -1.2
CN2 *es*P sP 04 58 22.0 -1.9
CN2 *e*S S 05 07 26.3 -2.1
CN2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,19.0s,MS4.7
CN2 LR LR
comp=E,300nm,19.0s,MS4.7
CN2 LR LR
comp=Z,200nm,20.0s,MS4.4
GERES GERESS Array B 71.60 325 P P 04 58 22.9 -0.2
comp=Z,0.1nm,0.3s,baz=163,slow=8.2,SNR=2.7
GERES GERESS Array B 71.60 325 P P 04 58 22.9 -0.2
GERES GERESS Array B 71.60 325 P P 04 58 22.9 -0.2
DAVOX Davos/Dischmat 72.86 322 P P 04 58 30.3 -0.3
comp=Z,3.4nm,0.6s,mb4.5,baz=111,slow=5.3,SNR=8.1
DAVOX Davos/Dischmat 72.86 322 P P 04 58 30.3 -0.3
STKA Stephens Creek 73.07 122 P P 04 58 32.8 +0.4
comp=Z,1.3nm,0.6s,mb4.0,baz=282,slow=8.4,SNR=2.5
STKA LR LR 05 27 29.1
comp=Z,444nm,18.5s,MS4.8,baz=135,slow=33
STKA Stephens Creek 73.07 122 P P 04 58 32.8 +0.4
STKA Stephens Creek 73.07 122 P P 04 58 32.8 +0.5
DAVA Damuels 73.09 323⇑ *i*P P 04 58 32.2 +0.2
comp=Z,11nm,0.8s,mb4.8
CLL Collm 73.26 327 *e*P P 04 58 32.0 -1.0
CLL Collm 73.26 327 *e*P P 04 58 32.0 -1.0
MDJ Mudanjiang 73.47 41 P P 04 58 34.5 +0.1
MDJ pP pP 04 58 38.0 -2.0
MDJ PP PP 05 01 18.0 -0.4
MDJ S S 05 08 04.8 +1.5
MDJ pmax pmax
comp=Z,23nm,1.2s,mb5.0
MDJ pmax pmax
comp=Z,82nm,5.3s
MDJ LR LR
comp=N,110nm,34.0s,MS4.0
MDJ LR LR
comp=E,70nm,29.6s,MS4.0
MDJ LR LR
comp=Z,150nm,24.1s
MDJ Mudanjiang 73.47 41 *e*P P 04 58 34.5 +0.2
comp=Z,16nm,0.9s,mb5.0
FINES FINESS Array B 73.81 340 P P 04 58 36.0 0.0
comp=Z,3.0nm,0.8s,mb4.3,baz=129,slow=11,SNR=3.8
FINES FINESS Array B 73.81 340 P P 04 58 36.0 0.0
FINES FINESS Array B 73.81 340 P P 04 58 36.0 0.0
COEN Coen 73.98 103 *e*P P 04 58 36.6 -1.4
DBIC Dimbokro 74.12 278 P P 04 58 40.0 +1.1
DBIC pmax pmax
comp=Z,4.5nm,0.8s,mb4.5,baz=84,slow=5.4,SNR=9.2
DBIC LR LR 05 30 19.8
comp=Z,249nm,20.4s,MS4.5,baz=32,slow=35
DBIC Dimbokro 74.12 278 *e*P P 04 58 39.6 +0.8
comp=Z,12nm,1.0s,mb4.8
DBIC Dimbokro 74.12 278 *e*P P 04 58 39.6 +0.8
DBIC pmax pmax
comp=Z,12nm,1.0s
LPG La Plagne 74.26 320 *e*P P 04 58 39.0 0.0
comp=Z,38nm,1.4s,mb4.8
LPL La Plagne 74.28 320 *e*P P 04 58 39.0 -0.1
comp=Z,40nm,1.4s,mb4.8
CDF Champ du Feu 75.16 323 *e*P P 04 58 43.3 -0.8
comp=Z,83nm,1.9s,mb5.0
HINF Hinteralfeld 75.16 322 *e*P P 04 58 43.8 -0.3
CLNS Chul'man 76.58 28 *e*P P 04 58 51.7 -0.4
CLNS pmax pmax
comp=Z,11nm,0.8s,mb4.8
CLNS pmax pmax
comp=E,7.0nm,1.0s
CLNS pmax pmax
comp=N,3.0nm,0.8s
KLR Kul'dur 76.72 37 *e*P P 04 58 47.8 -5.2
LOR Lormes 76.80 321 *e*P P 04 58 53.0 -0.5
MAJO Matsushiro 76.83 51 *e*P P 04 58 53.5 -0.4
MAJO Matsushiro 76.83 51 *e*P P 04 58 53.5 -0.4
MAT Matsushiro 76.83 51 P P 04 58 52.8 -1.1
MJAR Matsushiro Arr 76.83 51 P P 04 58 53.6 -0.4
comp=N,1.3nm,0.2s,mb4.4,baz=256,slow=8.2,SNR=12
MJAR LR LR 05 34 37.5
comp=N,176nm,19.4s,MS4.4,baz=260,slow=37
MJAR Matsushiro Arr 76.83 51 P P 04 58 53.6 -0.4
MJAR Matsushiro Arr 76.83 51 P P 04 58 53.6 -0.3
CTA Charters Tower 76.84 109 P P 04 58 54.4 +0.1
comp=N,3.4nm,0.4s,mb4.6,baz=256,slow=4.0,SNR=6.3
CTA Charters Tower 76.84 109 P P 04 58 54.4 +0.1
CTA Charters Tower 76.84 109 *e*P P 04 58 53.7 -0.6
comp=N,20nm,1.1s,mb5.0
CTAO Charters Tower 76.84 109 *e*P P 04 58 53.7 -0.6
CTAO pmax pmax
comp=Z,20nm,1.1s,mb5.0
SSF Saint Saulge 76.94 321 *e*P P 04 58 53.7 -0.6
comp=Z,12nm,0.9s,mb4.5
BGF Bois d'Agland 77.18 320 *e*P P 04 58 54.7 -1.0
comp=Z,27nm,1.0s,mb4.8
HFS Hagfors 77.66 335 P P 04 58 59.3 +1.2
comp=Z,4.9nm,0.6s,mb4.7,baz=121,slow=7.4,SNR=23
HFS Hagfors 77.66 335 P P 04 58 59.3 +1.2
HFS Hagfors 77.66 335 P P 04 58 59.3 +1.3
GUMO Guam 77.97 75 LR LR 05 28 25.8
comp=Z,174nm,21.4s,MS4.3,baz=185,slow=32
LFF La Frestale 78.00 318 *e*P P 04 58 59.9 -0.4
PMG Port Moresby 78.05 99 P P 04 59 00.3 -0.9
comp=Z,6.7nm,0.5s,mb4.8,baz=253,slow=4.2,SNR=6.6
PMG Port Moresby 78.05 99 *e*P P 04 59 01.4 +0.1
comp=Z,6.9nm,0.7s,mb4.7
PMG Port Moresby 78.05 99 *e*P P 04 59 01.4 +0.2
PMG pmax pmax
comp=Z,7.0nm,0.7s
SJPF Ste Jean 78.76 316 *e*P P 04 59 04.2 -0.3
comp=Z,109nm,1.5s,mb5.3
NB2 NORSAR Subarra 79.18 335 P P 04 59 06.8 +0.4
comp=Z,12nm,1.2s,mb4.7,baz=121,slow=5.6
NOA NORSAR Array B 79.18 335 P P 04 59 06.9 +0.5
comp=Z,2.5nm,1.1s,mb4.0,baz=116,slow=5.9,SNR=4.2
NOA LR LR 05 34 24.9
comp=Z,83nm,18.9s,MS4.1,baz=85,slow=36
NOA NORSAR Array B 79.18 335 P P 04 59 06.9 +0.5
NOA NORSAR Array B 79.18 335 P P 04 59 06.9 +0.5
SNAA Sanae 79.54 198 *e* P 04 59 08.6 +0.3
SNAA Sanae 79.54 198 *e*P P 04 59 08.3 0.0
comp=Z,2.9nm,1.1s,mb4.1
SNAA Sanae 79.54 198 *e*P P 04 59 08.3 0.0
ESDC Sonseca Array 79.77 312 P P 04 59 09.9 -0.2
comp=Z,1.5nm,0.7s,mb4.0,baz=94,slow=4.7,SNR=6.2
ESDC LR LR 05 35 08.2
comp=Z,100nm,20.6s,MS4.2,baz=110,slow=36
ESDC Sonseca Array 79.77 312 P P 04 59 09.9 -0.2
ARCES ARCESS Array B 79.82 346 P P 04 59 11.2 +1.4
comp=Z,4.6nm,0.9s,mb4.4,baz=124,slow=5.6,SNR=4.3
ARCES LR LR 05 35 18.0
comp=Z,174nm,18.0s,MS4.4,baz=52,slow=36
ARCES ARCESS Array B 79.82 346 P P 04 59 11.2 +1.4
ARCES ARCESS Array B 79.82 346 P P 04 59 11.2 +1.4
VNA2 Neumayer--Watz 80.78 199 *e* P 04 59 20.5 +5.5
baz=64,slow=3.5
VNA2 *e* pP 04 59 25.5 +4.8
VNA3 Neumayer Olymp 81.57 199 *e* P 04 59 19.7 +0.5
VNA3 *e* pP 04 59 24.2 -0.7
ASAJ Asahikawa 82.09 44 LR LR 05 36 49.2
comp=Z,155nm,18.8s,MS4.4,baz=355,slow=36
YSS Yuzh-Sakhalins 82.92 42⇑ *e*P P 04 59 25.1 -1.6
YSS *e* 04 59 33.0
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
SEY Seymchan 91.55 27⇑ *e*P P 05 00 08.1 -0.2
PETK Petropavlovsk- 93.41 37 LR LR 05 41 06.5
comp=Z,159nm,20.9s,MS4.5,baz=6.2,slow=35
DZM Mont Dzumac 95.51 113 *e*SS SS 05 18 15.3 +3.2
comp=Z,165nm,29.0s
DZM *e*LR LR 05 31 19.1
comp=Z,893nm,22.1s
PPT Papeete 136.28 122 *e*LR LR 05 50 25.2
PDAR Pinedale Array 142.27 358 PKP PKPdf 05 06 35.9 +1.2
comp=Z,0.5nm,0.7s,baz=66,slow=1.1,SNR=5.7
PDAR Pinedale Array 142.27 358 PKP PKPdf 05 06 35.9 +1.2
CBKS Cedar Bluff 144.60 344 *e*PKPdf PKPdf 05 06 38.2 -0.7
CBKS Cedar Bluff 144.60 344 *e*PKIKP PKPdf 05 06 38.2 -0.7
DUG Dugway 144.85 2 *e*PKPdf PKPdf 05 06 40.1 +0.8
DUG Dugway 144.85 2 *e*PKIKP PKPdf 05 06 40.1 +0.8
ISCO Idaho Springs 144.87 352 *e*PKPdf PKPdf 05 06 40.4 +1.1
ISCO Idaho Springs 144.87 352 *e*PKIKP PKPdf 05 06 40.4 +1.1
UALR University of 145.39 332 *e*PKPbc PKPbc 05 06 41.5 +1.2
SMCO Snowmass 145.65 354 *e*PKPbc PKPbc 05 06 41.5 +0.6
CMB Columbia Colle 146.05 13 *e*PKPbc PKPbc 05 06 43.6 +1.5
CMB Columbia Colle 146.05 13 *e*PKP2 PKPab 05 06 43.6 +0.9
NVAR Mina Array Bea 146.07 10 PKPbc PKPbc 05 06 43.0 +0.9
comp=Z,3.5nm,0.9s,baz=360,slow=1.9,SNR=22
NVAR Mina Array Bea 146.07 10 PKPbc PKPbc 05 06 43.0 +0.9
MIAR Mount Ida 146.15 333 *e*PKPbc PKPbc 05 06 44.4 +1.8
MIAR Mount Ida 146.15 333 *e*PKP2 PKPab 05 06 44.4 +1.2
MSU Marysvale 146.55 1 *e*PKPbc PKPab 05 06 45.9 +1.3
MSU Marysvale 146.55 1 *e*PKP2 PKPab 05 06 45.9 +1.3
PV04 Paradox Valley 146.59 356 *e*PKPbc PKPab 05 06 46.1 +1.4
OTAV Otavalo 146.67 263 *e*PKPbc PKPbc 05 06 45.8 +1.1
PV01 Paradox Valley 146.82 356 *e*PKPbc PKPbc 05 06 45.9 +1.5
SDCO Great Sand Dun 146.87 351 *e*PKPbc PKPab 05 06 46.8 +1.0
WMOK Wichita Mounta 148.07 340 *e*PKPbc PKPbc 05 06 48.9 +0.9
WMOK Wichita Mounta 148.07 340 *e*PKP2 PKPbc 05 06 48.9 +0.9
GSC Goldstone 149.37 9 *e*PKPbc PKPbc 05 06 53.2 +1.9
GSC Goldstone 149.37 9 *e*PKP2 PKPbc 05 06 53.2 +1.9
WUAZ Wupatki 149.54 360 *e*PKPab PKPab 05 06 56.5 -0.1
LDFC Landfair 149.80 6 *e*PKPbc PKPbc 05 06 53.6 +1.2
LAZ Ladron 150.38 353 *e*PKPbc PKPbc 05 06 55.0 +1.2
LAZ *e*PKPab PKPab 05 06 59.7 -0.3
BNM Barren Site 150.56 352 *e*PKPdf PKPdf 05 06 49.1 +0.2
BNM *e*PKPbc PKPbc 05 06 55.8 +1.5
BNM *e*PKPab PKPab 05 06 60.0 -0.8
LENM Lemitar 150.59 352 *e*PKPbc PKPbc 05 06 55.5 +1.2
LENM *e*PKPab PKPab 05 07 00.1 -0.8
HKT Hockley 151.03 331 *e*PKPbc PKPbc 05 06 57.3 +1.8
HKT *e*PKPab PKPab 05 07 02.2 -0.6
HKT Hockley 151.03 331 *e*PKIKP PKPbc 05 06 57.3 +1.8
HKT *e* 05 07 02.2
JCT Junction City 152.28 338 *e*PKPbc PKPbc 05 06 57.5 -0.8
JCT Junction City 152.28 338 *e*PKIKP PKPbc 05 06 57.5 -0.8
TUC Tucson 152.74 359 *e*PKPbc PKPbc 05 07 01.6 +2.3
TUC Tucson 152.74 359 *e*PKIKP PKPbc 05 07 01.6 +2.3
MNTX Cornudas Mount 152.74 349 *e*PKPbc PKPbc 05 06 60.0 +0.7
TXAR Lajitas Array 154.60 344 PKP PKPdf 05 06 55.8 +0.8
comp=Z,0.4nm,0.8s,baz=238,slow=2.4,SNR=4.5
TXAR PKPbc PKPbc 05 07 04.8 +1.4
comp=Z,1.0nm,0.7s,baz=99,slow=1.5,SNR=10
TXAR PKPab PKPab 05 07 19.2 +1.4
comp=Z,3.0nm,0.9s,baz=36,slow=3.6,SNR=11
TXAR Lajitas Array 154.60 344 PKP PKPdf 05 06 55.8 +0.8
TXAR PKPbc PKPbc 05 07 04.8 +1.4
TXAR PKPab PKPab 05 07 19.2 +1.4
TXAR Lajitas Array 154.60 344 PKIKP PKPdf 05 06 55.8 +0.8

CSEM ***26*** *04:48:18.6, 36.40N×21.38E, h36km, MD2.8, After ATH*
ATH 26 04:48:18.6, 36.40N×21.38E, h36km±5km, MD2.8/4,
Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.57**	**30**	*e*PN	Pn	04 48 30.7	+0.4
PYL				*e*SN	Sn	04 48 39.7	+1.2
PYL	**PYLOS**	**0.57**	**30**	*e*Pn	Pn	04 48 30.7	+0.4
PYL				*e*Sn	Sn	04 48 39.7	+1.2
ITM	**Ithomi**	**0.89**	**29**	*e*PN	Pn	04 48 36.0	+1.4
ITM				*e*SN	Sn	04 48 48.3	+1.9
ITM	**Ithomi**	**0.89**	**29**	*e*Pn	Pn	04 48 36.0	+1.4
ITM				*e*Sn	Sn	04 48 48.3	+1.9
VLI	**Veliai**	**1.29**	**75**	*e*PN	Pn	04 48 42.3	+2.2
VLI	**Veliai**	**1.29**	**75**	*e*Pn	Pn	04 48 42.3	+2.2
KYTH	**Kithira**	**1.34**	**95**	*e*PN	Pn	04 48 42.5	+1.7
KYTH	**Kithira**	**1.34**	**95**	*e*Pn	Pn	04 48 42.5	+1.7
DID	**Didima**	**1.85**	**53**	*e*PN	Pn	04 48 49.5	+1.7
DID	**Didima**	**1.85**	**53**	*e*Pn	Pn	04 48 49.5	+1.7

BYKL ***26*** *05:10:23.7±0.3, 55.14N×109.94E*
MOS 26 05:10:23.6±1.3, 55.10N×110.00E, h1km, mb4.2/1, 8C-2D,
Error ellipse: s-maj=94.1km s-min=22.4km az=51.9,
Lake Baikal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YLYR	**Ulyunkhan**	**0.71**	**108**⇑	*i*Pg	Pg	05 10 36.6	-0.5
YLYR				*e*Sg	Sg	05 10 46.5	+0.3
YLYR				Pmax			
	45nm,0.2s						
YLYR				Smax			
	260nm,0.4s						
KMO	**Kumora**	**1.04**	**40**	*e*PG	Pg	05 10 42.1	-1.5
KMO				*e*		05 10 55.7	
KMO				pmax	pmax		
	comp=Z,78nm,0.4s						
KMO				smax			
	comp=N,375nm,0.6s						
KMO	**Kumora**	**1.04**	**40**⇑	*i*Pg	Pg	05 10 42.3	-1.3
KMO				*e*		05 10 46.2	
KMO				*e*Sg	Sg	05 10 56.3	-0.8
KMO				Pmax			
	comp=N,81nm,0.5s						
KMO				Smax			
	comp=N,373nm,0.8s						
YOA	**Uoyan**	**1.42**	**43**	*e*Pg	Pg	05 10 50.4	-0.5
YOA				*e*Sg	Sg	05 11 09.3	0.0
YOA				Pmax			
	comp=N,257nm,0.3s						
YOA				Smax			
	comp=N,1μm,0.6s						
SYVR	**Suvo**	**1.45**	**180**⇓	*i*Pg	Pg	05 10 50.5	-0.8
SYVR				*e*Sg	Sg	05 11 10.6	+0.6
SYVR				Pmax			
	comp=N,37nm,0.5s						
SYVR				Smax			
	comp=N,185nm,1.0s						
MXMB	**Maximikha**	**1.98**	**202**	*e*Pg	Pg	05 11 00.3	-1.3
MXMB				*e*Sg	Sg	05 11 27.1	-0.1
MXMB				Pmax			
	comp=N,39nm,0.6s						
MXMB				Smax			
	comp=N,198nm,1.0s						
OGRR	**Ongureny**	**2.03**	**225**	*e*PN	Pn	05 10 59.6	+0.8
OGRR				*e*		05 11 01.5	
OGRR				*e*		05 11 27.7	
OGRR				pmax	pmax		
	comp=Z,42nm,0.4s						
OGRR				smax			
	comp=E,162nm,0.9s						
OGRR	**Ongureny**	**2.03**	**225**	*e*Pn	Pn	05 10 59.6	+0.8
OGRR				⇑*i*Pg	Pg	05 11 00.7	-1.7
OGRR				*e*Sg	Sg	05 11 27.5	-1.2
OGRR				Pmax			
	comp=E,42nm,0.4s						
OGRR				Smax			
	comp=E,151nm,0.8s						
UKT	**Uakit**	**2.11**	**78**	*e*PN	Pn	05 11 01.0	+1.0
UKT				*e*		05 11 29.6	
UKT				pmax	pmax		
	comp=Z,78nm,0.4s						
UKT				smax			
	comp=N,208nm,0.5s						
UKT	**Uakit**	**2.11**	**78**⇑	*i*Pn	Pn	05 11 01.0	+1.0
UKT				⇑*i*Pg	Pg	05 11 01.6	-2.4
UKT				*e*Sg	Sg	05 11 30.0	-1.3
UKT				Pmax			
	comp=N,76nm,0.5s						
UKT				Smax			
	comp=N,172nm,0.6s						
SVKR	**Severomuysk**	**2.26**	**62**	*e*PN	Pn	05 11 04.3	+2.2
SVKR				*e*		05 11 34.6	
SVKR				pmax	pmax		
	comp=Z,116nm,0.6s						
SVKR				smax			
	comp=N,578nm,0.7s						
SVKR	**Severomuysk**	**2.26**	**62**⇓	*i*Pg	Pg	05 11 04.4	-2.5
SVKR				*e*Sg	Sg	05 11 35.2	-1.0
SVKR				Pmax			
	comp=N,121nm,0.5s						
SVKR				Smax			
	comp=N,586nm,0.5s						
ZRHB	**Zarechye**	**3.06**	**215**	*e*Pg	Pg	05 11 19.1	-3.1
ZRHB				*e*Sg	Sg	05 11 58.2	-3.6
ZRHB				Pmax			
	comp=N,68nm,0.4s						

ZRHB				Smax				
	comp=N,230nm,1.0s							
TRG	**Tyrgan**	**3.19**	**224**	*e*Pn	Pn	05 11 13.7	-1.1	
TRG				*e*Pg	Pg	05 11 21.2	-3.4	
TRG				*e*Sn	Sn	05 11 52.1	-1.2	
TRG				*e*Sg	Sg	05 12 02.0	-3.9	
TRG				Pmax				
	comp=N,5.0nm,0.3s							
TRG				Smax				
	comp=N,32nm,0.4s							
NLYR	**Nelyaty**	**3.51**	**64**	*e*Pn	Pn	05 11 19.7	+0.5	
NLYR				*e*Pg	Pg	05 11 26.4	-4.4	
NLYR				*e*		05 11 29.8		
NLYR				*e*Sg	Sg	05 12 12.6	-3.6	
NLYR				max				
	comp=N,35nm,0.7s							
NLYR				Smax				
	comp=N,80nm,1.1s							
UUDB	**Ulan-Yde**	**3.53**	**204**	⇑*i*Pn	Pn	05 11 20.5	+1.1	
UUDB				*e*Pg	Pg	05 11 27.8	-3.3	
UUDB				*e*Sg	Sg	05 12 14.9	-1.9	
UUDB				Pmax				
	comp=N,17nm,1.0s							
UUDB				Smax				
	comp=N,37nm,1.0s							
FFNB	**Fofonovo**	**3.62**	**214**	*e*Pn	Pn	05 11 21.5	+0.8	
FFNB				Pg	Pg	05 11 30.9	-1.9	
FFNB				*e*Sg	Sg	05 12 16.0	-3.7	
FFNB				Pmax				
	comp=N,1.0nm,0.2s							
FFNB				Smax				
	comp=N,24nm,1.0s							
HRMR	**Khuramsha**	**3.93**	**209**	*e*Pn	Pn	05 11 25.0	+0.1	
HRMR				*e*Pg	Pg	05 11 34.7	-4.1	
HRMR				*e*Sg	Sg	05 12 25.5	-4.2	
HRMR				Pmax				
	comp=N,15nm,0.5s							
HRMR				Smax				
	comp=N,110nm,0.7s							
LSTR	**Listvyanka**	**4.47**	**226**	*e*Sg	Sg	05 12 41.2	-6.0	
LSTR				Smax				
	comp=N,73nm,1.8s							
CRS	**Chara**	**4.98**	**65**	*e*PN	Pn	05 11 53.1	+14	
CRS				*e*		05 12 58.0		
CRS				pmax	pmax			
	comp=Z,34nm,1.1s							
CRS				smax				
	comp=E,46nm,1.5s							
CRS	**Chara**	**4.98**	**65**	*e*Pg	Pg	05 11 52.8	-6.1	
CRS				*e*Sg	Sg	05 12 58.0	-5.4	
CRS				Pmax				
	comp=E,7.0nm,0.5s							
CRS				Smax				
	comp=E,46nm,1.9s							
TLY	**Talaya**	**5.12**	**231**	*e*PN	Pn	05 11 41.5	+0.2	
TLY				*e*		05 11 55.6		
TLY				*e*		05 13 00.1		
TLY				pmax	pmax			
	comp=Z,7.0nm,0.5s							
TLY				smax				
	comp=N,37nm,1.9s							
TLY	**Talaya**	**5.12**	**231**	*e*Pg	Pg	05 11 56.5	-5.1	
TLY				*e*Sg	Sg	05 13 01.4	-6.5	
TLY				Pmax				
	comp=N,6.0nm,0.6s							
TLY				Smax				
	comp=N,20nm,0.8s							
ARS	**Arshan**	**5.53**	**238**	*e*Sg	Sg	05 13 14.6	-6.5	
ARS				Smax				
	comp=N,65nm,0.8s							
KPC	**Khapcheranga**	**5.60**	**164**	*e*Pn	Pn	05 11 47.8	-0.1	
KPC				*e*Pg	Pg	05 12 05.9	-4.9	
KPC				*e*Sn	Sn	05 12 51.3	-1.5	
KPC				*e*Sg	Sg	05 13 17.7	-5.6	
KPC				Pmax				
	comp=N,2.0nm,0.4s							
KPC				Smax				
	comp=N,23nm,1.2s							
TUP	**Tupik**	**5.80**	**93**	⇑*i*Pn	Pn	05 11 51.1	+0.4	
TUP				*e*Pg	Pg	05 12 09.2	-5.5	
TUP				*e*Sg	Sg	05 13 24.4	-5.4	
TUP				Pmax				
	comp=N,3.0nm,0.4s							
TUP				Smax				
	comp=N,61nm,1.6s							
ZAK	**Zakamensk**	**6.24**	**224**	*e*Sg	Sg	05 13 38.0	-5.9	
ZAK				Smax				
	comp=N,6.0nm,0.9s							
MOY	**Mondy**	**6.39**	**241**	*e*Pn	Pn	05 12 00.6	+1.8	
MOY				*e*Sn	Sn	05 13 08.5	-3.8	
MOY				*e*Sg	Sg	05 13 42.7	-6.0	
MOY				max				
	comp=N,5.0nm,0.6s							
MOY				Smax				
	comp=N,10.0nm,0.9s							
ORL	**Orlik**	**6.56**	**251**	⇑*i*Pn	Pn	05 12 02.7	+1.7	
ORL				*e*		05 13 15.3		
ORL				*e*Sg	Sg	05 13 44.5	-9.5	
ORL				max				
	comp=N,7.0nm,1.2s							
ORL				Smax				
	comp=N,22nm,1.0s							

*ISCJB **26** 05:25:24.8±1.6,5°.62S±0°.08×106°.89E±0°.09, h292km±16km, mb3.8/17, Error ellipse: s-maj=16.4km s-min=10.2km az=143.7*

*NEIC **26** 05:25:24.7±0.8,5°.65S×106°.81E, h279km±7km, mb4.3/6, Error ellipse: s-maj=14.5km s-min=7.8km az=57.0*

*IDC **26** 05:25:25.2±0.7,5°.70S×106°.86E, h283km±7km, mb3.6/14, mb1 3.7/14, mb1mx3.6/21, mbtmp3.6/14, Error ellipse: s-maj=14.0km s-min=7.7km az=51.0*

ISC 26 05:25:26.1±1.6,5°.63S±0°.08×106°.86E±0°.09, h290km±16km, h280km±2.5km; pP-P, n50, σ0°95/48, mb3.8/17, 2C, Jawa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**11.62**	**330**	*e*Pn		**Pn**	**05 28 04.4**	**+0.2**
	40nm,0.6s							
KULM	**Kulim**	**12.50**	**330**	*e*Pn		**Pn**	**05 28 14.1**	**-0.9**
	34nm,0.8s							
FITZ	**Fitzroy Crossi**	**22.13**	**126**	P		**P**	**05 29 57.8**	**-0.4**
	2.6nm,0.7s,mb3.7,baz=281,slow=10,SNR=4.7							
FITZ	**Fitzroy Crossi**	**22.13**	**126**	P		**P**	**05 29 57.8**	**-0.4**
CMAR	**Chiang Mai Arr**	**25.18**	**342**	P		**P**	**05 30 26.8**	**+1.1**
	0.6nm,0.4s,mb3.3,baz=179,slow=9.2,SNR=3.9							
CMAR				pP		pP	05 31 18.5	
	0.5nm,0.4s,baz=176,slow=7.8,SNR=2.3							
CMAR	**Chiang Mai Arr**	**25.18**	**342**	P		**P**	**05 30 26.8**	**+1.1**
CMAR				pP			05 31 18.5	
NWAO	**Narrogin (SRO)**	**28.82**	**162**	P		**P**	**05 30 58.1**	**+0.2**
	9.8nm,0.8s,mb4.3,baz=348,slow=8.3,SNR=3.9							
NWAO	**Narrogin (SRO)**	**28.82**	**162**	P		**P**	**05 30 58.1**	**+0.2**
WRA	**Warramunga Arr**	**30.26**	**121**	P		**P**	**05 31 10.3**	**-0.5**
	1.1nm,0.5s,mb3.6,baz=308,slow=8.7,SNR=33							
WRA				pP		pP	05 32 04.4	-2.6
	2.0nm,0.8s,baz=292,slow=11,SNR=4.1							
WRA				PcP		PcP	05 34 03.8	0.0
	3.3nm,0.5s,baz=302,slow=2.0,SNR=14							
WRA				S		**S**	**05 35 46.9**	**-2.0**
	2.0nm,0.9s,baz=298,slow=17,SNR=9.5							
WRA	**Warramunga Arr**	**30.26**	**121**	P		**P**	**05 31 10.3**	**-0.5**
WRA				pP		pP	05 32 04.4	-2.6
WRA				PcP		PcP	05 34 03.8	0.0
WRA				S		**S**	**05 35 46.9**	**-2.0**
ASAR	**Alice Springs**	**31.60**	**127**	P		**P**	**05 31 22.2**	**-0.3**
	2.0nm,0.5s,mb3.9,baz=301,slow=7.8,SNR=34							
ASAR				pP		pP	05 32 17.9	-1.0
	1.0nm,0.7s,baz=305,slow=9.7,SNR=2.2							
ASAR				PcP		PcP	05 34 07.6	+0.3
	4.2nm,0.7s,baz=313,slow=2.4,SNR=24							
ASAR				S		**S**	**05 36 08.6**	**-1.2**
	4.3nm,0.8s,baz=294,slow=15,SNR=21							
ASAR	**Alice Springs**	**31.60**	**127**	P		**P**	**05 31 22.2**	**-0.3**
ASAR				pP		pP	05 32 17.9	-1.0
ASAR				PcP		PcP	05 34 07.6	+0.3
ASAR				S		**S**	**05 36 08.6**	**-1.2**
STKA	**Stephens Creek**	**41.66**	**133**	P		**P**	**05 32 47.0**	**+0.1**
	13nm,0.6s,mb4.3,baz=302,slow=7.5,SNR=30							
STKA				PcP		PcP	05 34 38.1	+0.4
	3.1nm,0.5s,baz=318,slow=4.9,SNR=3.3							
STKA				S		**S**	**05 38 42.5**	**+1.2**
	3.7nm,1.1s,baz=99,slow=18,SNR=3.4							
STKA	**Stephens Creek**	**41.66**	**133**	*e*P		**P**	**05 32 46.9**	**0.0**
	2.8nm,0.8s,mb3.5							
STKA				PcP		PcP	05 34 38.1	+0.4
STKA				S		**S**	**05 38 42.5**	**+1.2**
KSAR	**Wonju Array Be**	**47.13**	**23**	P		**P**	**05 33 30.8**	**+1.0**
KSRS	**Korea Array**	**47.15**	**23**	P		**P**	**05 33 30.8**	**+0.9**
	1.6nm,0.5s,mb3.6,baz=213,slow=8.7,SNR=8.2							
HNR	**Honiara**	**52.72**	**98**	P		**P**	**05 34 12.7**	**+0.6**
	49nm,0.4s,baz=293,slow=13,SNR=2.8							
HNR	**Honiara**	**52.72**	**98**	P		**P**	**05 34 12.7**	**+0.6**
SONM	**Songino Array**	**53.24**	**360**	P		**P**	**05 34 16.1**	**+1.0**
	2.0nm,0.8s,mb3.5,baz=170,slow=8.3,SNR=16							
SONM				pP		pP	05 35 15.8	-1.5
	0.7nm,0.6s,baz=172,slow=8.6,SNR=4.3							
SONM	**Songino Array**	**53.24**	**360**	P		**P**	**05 34 16.1**	**+1.0**
SONM				pP		pP	05 35 15.8	-1.5
MKAR	**Makanchi Array**	**56.56**	**340**	P		**P**	**05 34 37.8**	**-1.0**
	0.7nm,0.6s,mb3.3,baz=162,slow=8.3,SNR=6.3							
MKAR				pP		pP	05 35 39.5	-2.4
	1.6nm,0.8s,baz=148,slow=8.7,SNR=6.1							
MKAR	**Makanchi Array**	**56.56**	**340**	P		**P**	**05 34 37.8**	**-1.0**
MKAR				pP		pP	05 35 39.5	-2.4
ZALV	**Zalesovo Beam**	**62.19**	**345**	pP		pP	05 36 18.1	-3.2
	1.4nm,0.7s,baz=144,slow=5.5,SNR=3.9							
ZALV	**Zalesovo Beam**	**62.19**	**345**	pP		pP	05 36 18.1	-3.2
ABKAR	**Akbulak array**	**68.18**	**329**	*e*P		**P**	**05 35 54.0**	**-1.3**
	0.9nm,0.5s,mb3.8							
MAW	**Mawson**	**68.63**	**197**	P		**P**	**05 35 56.5**	**-1.3**
	23nm,0.3s,baz=62,slow=11,SNR=118							
MAW	**Mawson**	**68.63**	**197**	P		**P**	**05 35 56.5**	**-1.3**
PETK	**Petropavlovsk-**	**72.47**	**29**	P		**P**	**05 36 20.9**	**-0.3**
	5.0nm,0.5s,mb4.4,baz=190,slow=4.3,SNR=12							
PETK	**Petropavlovsk-**	**72.47**	**29**	P		**P**	**05 36 20.9**	**-0.3**
SYO	**Syowa Base**	**76.73**	**200**	⇑*e*P		**P**	**05 36 39.3**	**-6.0**
SYO	**Syowa Base**	**76.73**	**200**	⇑*e*P		**P**	**05 36 44.5**	**-0.8**
VNDA	**Vanda**	**77.33**	**169**	*e*P		**P**	**05 36 48.9**	**+0.4**
	8.0nm,1.3s,mb4.3							
LBTB	**Lobatse**	**79.74**	**246**	P		**P**	**05 37 03.0**	**+0.4**
	3.5nm,0.8s,mb4.2,baz=116,slow=5.6,SNR=7.0							
LBTB	**Lobatse**	**79.74**	**246**	P		**P**	**05 37 03.0**	**+0.4**
BOSA	**Boshof**	**79.97**	**242**	P		**P**	**05 37 04.2**	**+0.4**
	2.8nm,0.6s,mb4.2,baz=64,slow=4.9,SNR=10							
BOSA	**Boshof**	**79.97**	**242**	P		**P**	**05 37 04.2**	**+0.4**
BRTR	**Keskin Array B**	**80.82**	**312**	P		**P**	**05 37 07.2**	**-0.8**
	0.8nm,0.9s,mb3.4,baz=142,slow=6.2,SNR=3.9							
BRTR	**Keskin Array B**	**80.82**	**312**	P		**P**	**05 37 07.2**	**-0.8**
QSPA	**South Pole Qui**	**84.35**	**180**	*e*P		**P**	**05 37 26.0**	**+0.7**
	2.8nm,0.5s,mb4.3							
AKASG	**Malin Array Be**	**86.55**	**322**	P		**P**	**05 37 35.1**	**-1.5**
	0.2nm,0.3s,mb3.4,baz=79,slow=4.6,SNR=4.4							
AKASG	**Malin Array Be**	**86.55**	**322**	P		**P**	**05 37 35.1**	**-1.5**
SNAA	**Sanae**	**90.78**	**197**	*e*		**P**	**05 37 57.7**	**+1.6**
VNA2	**Neumayer--Watz**	**92.42**	**197**	*e*		**P**	**05 38 05.3**	**+1.6**
	baz=82,slow=4.3							
VNA1	**Neumayer--Stat**	**92.80**	**198**	*e*		**P**	**05 38 01.9**	**-3.6**
TORD	**Torodi Ar. Bea**	**106.00**	**282**	PKiKP	PKiKP		05 43 16.1	-0.5
	0.5nm,0.6s,baz=53,slow=1.3,SNR=5.9							
TORD	**Torodi Ar. Bea**	**106.00**	**282**	PKiKP	PKiKP		05 43 16.1	-0.5
TXAR	**Lajitas Array**	**142.76**	**47**	PKP	PKPdf		05 44 23.8	-1.8
	0.5nm,0.6s,baz=298,slow=0.9,SNR=9.8							
TXAR				pPKP	pPKPdf		05 45 34.0	-4.8
	0.3nm,0.8s,baz=306,slow=2.1,SNR=3.0							
TXAR	**Lajitas Array**	**142.76**	**47**	PKP	PKPdf		05 44 23.8	-1.8
TXAR				pPKP	pPKPdf		05 45 34.0	-4.8
CPUP	**Villa Florida**	**144.72**	**205**	PKP	PKPdf		05 44 29.1	-0.1
	3.6nm,0.4s,baz=118,slow=1.5,SNR=34							
CPUP	**Villa Florida**	**144.72**	**205**	PKP	PKPdf		05 44 29.1	-0.1

*IDC **26** 05:57:20.9±0.7, 18°.36N×120°.96E, h0km, mb3.8/10, mb1 3.9/11, mb1mx3.8/24, mbtmp3.8/11, MS3.4/11, Ms1 3.4/11, ms1mx3.2/29, Error ellipse: s-maj=30.7km s-min=14.9km az=69.0*

*NEIC **26** 05:57:22.0±0.5, 18°.21N×120°.86E, h10km, mb4.3/2, Error ellipse: s-maj=15.8km s-min=6.7km az=87.0*

NEIC Felt [II PIVS] at Pasuquin.

*MAN **26** 05:57:25, 18°.59N×120°.72E, h1km, mb4.9, ML3.8, MS3.8*

MAN INTENSITY II - PASUQUIN ILOCOS NORTE.

*ISCJB **26** 05:57:26.6±0.4, 18°.61N±0°.02×120°.64E±0°.08, h34km±7km, mb3.8/10, MS3.4/10, Error ellipse: s-maj=12.1km s-min=3.8km az=3.2*

ISC 26 05:57:27.4±0.5, 18°.55N±0°.03×120°.70E±0°.07, h29km±5km, n49, σ1°35/52, mb3.8/10, MS3.4/10, 1C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.23**	**199**	⇓*i*P		**Pb**	**05 57 33.2**	**-0.7**
PIP				*e*S		**Sb**	**05 57 38.2**	**0.0**
SIPP	**Brgy, Tapao**	**0.66**	**200**	⇓*e*P		**Pb**	**05 57 39.5**	**-0.9**
SIPP				*i* S		**Sb**	**05 57 48.8**	**-0.4**
APYP	**Conner**	**0.85**	**143**	*e*P		**Pn**	**05 57 43.3**	**-0.1**
APYP				*e*S		**Sb**	**05 57 55.1**	**+0.3**
ABRA	**Dolores**	**0.89**	**179**	*e*P		**Pn**	**05 57 42.9**	**-1.0**
ABRA				*e*S		**Sn**	**05 57 54.6**	**-1.2**
CAUP	**Cauayan**	**1.92**	**146**	*e*P		**Pn**	**05 58 01.0**	**+2.9**
BCPH	**Baguio City Da**	**2.15**	**183**	⇑*i*P		**Pn**	**05 58 01.9**	**+0.5**
BCPH				*i* S		**Sn**	**05 58 30.2**	**+3.1**
BOLP	**Bolinao**	**2.28**	**199**	*e*P		**Pn**	**05 58 04.8**	**+1.8**
BALP	**Baler**	**2.91**	**163**	*e*P		**Pn**	**05 58 14.8**	**+3.1**
TWG	**Pinlang**	**4.27**	**5**	*e*Pn		**Pn**	**05 58 30.2**	**-0.1**
TWG				*e*Sn		**Sn**	**05 59 19.9**	**+0.6**
TGY	**Tagaytay City**	**4.42**	**177**	Pg		**Pn**	**05 58 37.6**	**+5.0**
	100nm,0.3s,baz=244,slow=6.1,SNR=4.6							
TGY				Lg			05 59 31.4	
	72nm,0.3s,baz=169,slow=23,SNR=3.0							
TGY	**Tagaytay City**	**4.42**	**177**	Pg		**Pn**	**05 58 37.6**	**+5.0**
TGY				Lg			05 59 31.4	
TPUB	**Ta-pu**	**4.73**	**359**	*e*Pn		**Pn**	**05 58 37.5**	**+0.7**
TPUB				*e*Sn		**Sn**	**05 59 28.1**	**-2.6**
YULB	**Yu-li**	**4.86**	**7**	*e*Pn		**Pn**	**05 58 39.7**	**+1.3**
	44nm,0.6s							
YULB				*e*Sn		**Sn**	**05 59 31.0**	**-2.7**
SSLB	**Suanglung**	**5.22**	**3**	*e*Pn		**Pn**	**05 58 45.0**	**+1.5**
	64nm,0.7s							
SSLB				*e*Sn		**Sn**	**05 59 40.6**	**-2.1**
NACB	**Ninganchiao**	**5.66**	**8**	*e*Pn		**Pn**	**05 58 51.1**	**+1.5**
	48nm,0.6s							
NACB				*e*Sn		**Sn**	**05 59 54.5**	**+0.8**
YHNB	**Yeheng**	**6.13**	**6**	*e*Pn		**Pn**	**05 58 57.5**	**+1.6**
	67nm,0.8s							
YHNB				*e*Sn		**Sn**	**06 00 05.7**	**+0.6**
KSAR	**Wonju Array Be**	**19.85**	**17**	P		**Pn**	**06 01 55.7**	**-2.0**
KSRS	**Korea Array**	**19.88**	**17**	P		**Pn**	**06 01 55.7**	**-2.3**
	0.3nm,0.3s,baz=200,slow=9.4,SNR=3.9							
KSRS				LR		LR	06 10 42.0	
	comp=Z,36nm,20.0s,baz=205,slow=40							
CMAR	**Chiang Mai Arr**	**20.63**	**273**	P		**P**	**06 02 04.8**	**+0.2**
	0.9nm,0.3s,baz=96,slow=8.3,SNR=4.1							
CMAR				LR		LR	06 10 19.8	
	comp=Z,57nm,19.5s,MS3.0,baz=85,slow=37							
CMAR	**Chiang Mai Arr**	**20.63**	**273**	P		**P**	**06 02 04.8**	**+0.2**
JHJ	**Hachijo jima 2**	**22.43**	**46**	LR		LR	06 09 28.1	
	comp=Z,134nm,18.1s,MS3.4,baz=159,slow=32							
GUMO	**Guam**	**23.73**	**98**	LR		LR	06 09 32.9	
	comp=Z,87nm,20.6s,MS3.2,baz=69,slow=31							
SONM	**Songino Array**	**31.46**	**341**	P		**P**	**06 03 48.3**	**+2.1**
	0.3nm,0.7s,mb3.3,baz=154,slow=8.3,SNR=2.6							
SONM				LR		LR	06 17 02.5	
	comp=Z,103nm,19.1s,MS3.5,baz=169,slow=37							
SONM	**Songino Array**	**31.46**	**341**	P		**P**	**06 03 48.3**	**+2.1**
WRAB	**Tennant Creek**	**40.52**	**160**	*e*P		**P**	**06 05 00.1**	**-3.9**
WRA	**Warramunga Arr**	**40.52**	**160**	P		**P**	**06 04 59.8**	**-4.2**
	0.4nm,0.4s,mb3.4,baz=344,slow=9.0,SNR=11							
WRA				PcP		PcP	06 07 04.0	-2.2
	1.4nm,0.7s,baz=345,slow=3.4,SNR=12							
WRA	**Warramunga Arr**	**40.52**	**160**	P		**P**	**06 04 59.8**	**-4.2**
WRA				PcP		PcP	06 07 04.0	-2.2
MKAR	**Makanchi Array**	**42.23**	**321**	P		**P**	**06 05 18.9**	**+1.1**
	1.1nm,0.8s,mb3.5,baz=120,slow=7.2,SNR=5.8							
MKAR				LR		LR	06 25 18.4	
	comp=Z,41nm,18.4s,MS3.4,baz=174,slow=39							
MKAR	**Makanchi Array**	**42.23**	**321**	P		**P**	**06 05 18.9**	**+1.1**
ASAR	**Alice Springs**	**43.89**	**162**	P		**P**	**06 05 27.6**	**-3.8**
	0.8nm,0.5s,mb3.7,baz=334,slow=7.2,SNR=9.5							
ASAR	**Alice Springs**	**43.89**	**162**	P		**P**	**06 05 27.6**	**-3.8**
ZALV	**Zalesovo Beam**	**44.81**	**331**	P		**P**	**06 05 39.0**	**+0.5**
	0.4nm,0.3s,mb3.7,baz=126,slow=7.3,SNR=2.8							
ZALV				LR		LR	06 25 21.2	
	comp=Z,26nm,19.0s,MS3.2,baz=78,slow=37							
ZALV	**Zalesovo Beam**	**44.81**	**331**	P		**P**	**06 05 39.0**	**+0.5**
PETK	**Petropavlovsk-**	**44.85**	**31**	LR		LR	06 23 25.8	
	comp=Z,35nm,21.3s,MS3.3,baz=64,slow=35							
CTA	**Charters Tower**	**45.85**	**146**	LR		LR	06 24 17.6	
	comp=Z,53nm,21.6s,MS3.5,baz=49,slow=36							
KURK	**Kurchatov**	**46.23**	**324**	P		**P**	**06 05 49.9**	**+0.1**
	2.7nm,0.7s,mb4.3,baz=120,slow=7.8,SNR=15							
KURK	**Kurchatov**	**46.23**	**324**	*e*P		**P**	**06 05 49.9**	**+0.1**
	3.3nm,0.8s,mb4.3							
HNR	**Honiara**	**47.67**	**122**	LR		LR	06 22 40.0	
	comp=Z,82nm,18.5s,MS3.7,baz=303,slow=32							
KKAR	**Karatay Array**	**48.69**	**311**	*e*P		**P**	**06 06 08.7**	**-0.3**
BVAR	**Borovoye Array**	**51.83**	**324**	P		**P**	**06 06 32.4**	**-0.3**
	0.4nm,0.4s,mb3.7,baz=115,slow=5.5,SNR=2.5							
BVAR				PcP		PcP	06 07 43.9	-1.5
	0.7nm,0.7s,baz=75,slow=2.2,SNR=2.5							
BVAR	**Borovoye Array**	**51.83**	**324**	P		**P**	**06 06 32.4**	**-0.3**
BVAR				PcP		PcP	06 07 43.9	-1.5
ABKAR	**Akbulak array**	**57.15**	**317**	*e*P		**P**	**06 07 10.8**	**-0.5**
	2.1nm,0.9s,mb4.2							
AKTO	**Aktyubinsk**	**58.57**	**318**	P		**P**	**06 07 20.9**	**-0.4**
	0.5nm,0.3s,mb4.0,baz=41,slow=11,SNR=3.0							
AKTO	**Aktyubinsk**	**58.57**	**318**	P		**P**	**06 07 20.9**	**-0.4**
ILAR	**Eielson Array**	**74.43**	**26**	P		**P**	**06 09 00.1**	**-2.3**
	0.5nm,0.5s,mb3.7,baz=266,slow=5.0,SNR=13							
ILAR	**Eielson Array**	**74.43**	**26**	P		**P**	**06 09 00.1**	**-2.3**
NOA	**NORSAR Array B**	**82.98**	**332**	LR		LR	06 51 52.1	
	comp=Z,37nm,20.5s,MS3.7,baz=180,slow=39							
TXAR	**Lajitas Array**	**115.99**	**43**	PKP		PKPdf	06 16 06.4	-1.7
	0.2nm,0.8s,baz=219,slow=1.2,SNR=3.2							
TXAR	**Lajitas Array**	**115.99**	**43**	PKP		PKPdf	06 16 06.4	-1.7

*IDC **26** 06:19:38.6±3.6, 18°.20N×148°.08E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/21, mbtmp3.9/5, ML4.4/1, MS3.1/1, Ms1 3.1/1, ms1mx2.2/33, Error ellipse: s-maj=114.8km s-min=23.2km az=83.0*

*ISCJB **26** 06:19:50.7±3.2, 18°.02N±0°.07×146°.9E±0°.3, h76km±24km, mb3.8/6, Error ellipse: s-maj=49.4km s-min=11.2km az=178.4*

*NEIC **26** 06:19:54.2±1.9, 17°.96N×146°.58E, h83km±14km, Error ellipse: s-maj=38.2km s-min=7.6km az=86.0*

ISC 26 06:19:51.5±2.8, 18°.07N±0°.06×146°.9E±0°.3, h70km±20km, n19, σ0°67/21, mb3.8/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.87**	**204**	Pn		**Pn**	**06 21 02.1**	**-0.2**
	13nm,0.3s,baz=27,slow=16,SNR=4.0							
GUMO				Sn		**Sn**	**06 21 57.8**	**+0.5**
	5.9nm,0.3s,baz=180,slow=20,SNR=2.7							
GUMO				LR		LR	06 22 48.9	
	comp=Z,176nm,18.2s,baz=76,slow=34							
GUMO	**Guam**	**4.87**	**204**	Pn		**Pn**	**06 21 02.1**	**-0.2**
GUMO				Sn		**Sn**	**06 21 57.9**	**+0.5**
MJAR	**Matsushiro Arr**	**19.95**	**339**	P		**Pn**	**06 24 19.8**	**-0.1**
	1.2nm,0.6s,baz=167,slow=10,SNR=3.0							
MJAR	**Matsushiro Arr**	**19.95**	**339**	P		**Pn**	**06 24 19.8**	**-0.1**
MAJO	**Matsushiro**	**19.95**	**339**	*e*P		**Pn**	**06 24 19.0**	**-1.0**
DAV	**Davao City (W)**	**23.49**	**245**	P		**P**	**06 24 53.7**	**-1.5**
KSRS	**Korea Array**	**25.51**	**323**	P		**P**	**06 25 14.2**	**+0.9**
	0.9nm,0.5s,mb3.4,baz=143,slow=9.1,SNR=5.2							
KSAR	**Wonju Array Be**	**25.53**	**323**	P		**P**	**06 25 14.2**	**+0.7**
WRAB	**Tennant Creek**	**39.73**	**199**	*e*P		**P**	**06 27 17.9**	**+0.7**
	12nm,1.4s,mb4.5							
WB2	**Warramunga Arr**	**39.74**	**199**	*e*P		**P**	**06 27 17.4**	**+0.1**
WRA	**Warramunga Arr**	**39.74**	**199**	P		**P**	**06 27 17.1**	**-0.3**
	2.0nm,0.7s,mb4.0,baz=24,slow=8.9,SNR=18							
WRA	**Warramunga Arr**	**39.74**	**199**	P		**P**	**06 27 17.1**	**-0.3**
AS31	**Alice Springs**	**43.38**	**197**	*e*P		**P**	**06 27 46.6**	**-0.5**
ASAR	**Alice Springs**	**43.38**	**197**	P		**P**	**06 27 47.0**	**-0.1**
	0.6nm,0.6s,mb3.5,baz=15,slow=7.1,SNR=12							
ASAR	**Alice Springs**	**43.38**	**197**	P		**P**	**06 27 47.0**	**-0.1**
SONM	**Songino Array**	**44.36**	**321**	P		**P**	**06 27 55.3**	**+0.6**
	0.2nm,0.4s,mb3.2,baz=133,slow=10.0,SNR=3.1							
SONM	**Songino Array**	**44.36**	**321**	P		**P**	**06 27 55.3**	**+0.6**
BVAR	**Borovoye Array**	**67.70**	**321**	P		**P**	**06 30 45.9**	**+4.7**
	1.2nm,0.6s,mb3.9,baz=92,slow=8.7,SNR=2.6							
BVAR	**Borovoye Array**	**67.70**	**321**	P		**P**	**06 30 45.9**	**+4.7**

*IDC **26** 06:25:24.1±1.5, 0°.01S×17°.85W,

n15,σ0ᵍ69/17, mb3.6/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.82**	**357**	P	**Pn**	**06 36 24.3**	**-1.2**
MNSI	**Mandailing Nat**	**1.32**	**153**	P	**Pn**	**06 36 30.4**	**+0.2**
MNSI				S	**Sn**	**06 36 50.4**	**0.0**
TSI	**Tuntungan**	**1.57**	**345**	P	**Pn**	**06 36 33.5**	**+0.6**
TPTI		**2.20**	**305**	P	**Pn**	**06 36 41.0**	**+0.7**
TPTI				S	**Sn**	**06 37 08.1**	**-0.3**
BKNI	**Bangkinang**	**2.64**	**128**	P	**Pn**	**06 36 46.2**	**+0.4**
PPI	**Padang Panjang**	**2.81**	**149**	P	**Pn**	**06 36 48.0**	**0.0**
IPM	**Ipoh**	**3.22**	**39**	P	**Pn**	**06 36 54.5**	**+1.1**
PDSI	**Padang**	**3.23**	**153**	P	**Pn**	**06 36 53.4**	**-0.1**
KULM	**Kulim**	**3.69**	**27**	P	**Pn**	**06 36 58.7**	**-0.8**
BSI	**Banda Aceh**	**5.07**	**314**	P	**Pn**	**06 37 17.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**16.38**	**360**	Pn	**Pn**	**06 39 45.5**	**-0.5**
	0.7nm,0.3s,baz=177,slow=8.7,SNR=6.2						
WRA	**Warramunga Arr**	**40.97**	**124**	P	**P**	**06 43 31.9**	**-1.6**
	0.8nm,0.3s,mb3.9,baz=302,slow=9.1,SNR=27						
ASAR	**Alice Springs**	**42.47**	**129**	P	**P**	**06 43 46.1**	**+0.4**
	0.3nm,0.5s,mb3.2,baz=300,slow=7.6,SNR=8.5						
MKAR	**Makanchi Array**	**46.95**	**344**	P	**P**	**06 44 21.2**	**+0.4**
	0.5nm,0.4s,mb3.5,baz=151,slow=8.3,SNR=4.6						
ZALV	**Zalesovo Beam**	**53.10**	**350**	P	**P**	**06 45 07.8**	**+0.7**
	0.9nm,0.4s,mb3.9,baz=176,slow=5.7,SNR=3.5						

*ISK **26** 06:42:40.9, 37.°05N×35.°85E, h20km, ML2.2*
*ISCJB **26** 06:42:41.4±0.5, 37.°08N±0.°03×35.°82E±0.°03, h10km, Error ellipse: s-maj=4.1km s-min=3.6km az=7.0*
*CSEM **26** 06:42:41.2±0.2, 37.°13N×35.°80E, h15km, ML2.2, Error ellipse: s-maj=4.1km s-min=3.2km az=175.0*
*DDA **26** 06:42:41.2, 37.°11N×35.°82E, h7km±6km, Md2.9*

ISC 26 06:42:42.2±0.5, 37.°09N±0.°03×35.°81E±0.°03, h10km, n18, σ1ᵍ04/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.09**	**214**	PG	**Pg**	**06 42 44.9**	**+0.2**
CEYT				*e*SG	**Sg**	**06 42 48.1**	**+1.6**
CEYT	**Ceyhan**	**0.09**	**214**	*i* Pg	**Pg**	**06 42 44.9**	**+0.2**
CEYT				*e*Sg	**Sg**	**06 42 48.1**	**+1.6**
KOZT	**Kozan**	**0.39**	**2**	PG	**Pg**	**06 42 50.5**	**+0.6**
KOZT				*e*SG	**Sg**	**06 42 56.9**	**+1.8**
ANDN	**Andirin**	**0.65**	**41**	*i* P	**Pg**	**06 42 53.7**	**-1.1**
ANDN				*i* S	**Sg**	**06 43 06.8**	**+3.5**
ANDN	**Andirin**	**0.65**	**41**	*i* P	**Pg**	**06 42 53.7**	**-1.1**
COBT	**Iskenderun**	**0.67**	**148**	*i* P	**Pg**	**06 42 54.6**	**-0.6**
COBT				*i* S	**Sg**	**06 43 05.1**	**+1.2**
COBT	**Iskenderun**	**0.67**	**148**	*i* P	**Pg**	**06 42 54.6**	**-0.5**
COBT				*i* S	**Sg**	**06 43 05.1**	**+1.2**
GULE	**Gulek**	**0.85**	**284**	*i* P	**Pg**	**06 42 57.0**	**-1.6**
GULE				*i* S	**Sg**	**06 43 10.2**	**+0.5**
GULE	**Gulek**	**0.85**	**284**	*i* P	**Pg**	**06 42 57.0**	**-1.6**
GULE				*i* S	**Sg**	**06 43 10.2**	**+0.5**
KMRS	**Kahramanmaras**	**0.96**	**64**	*e*PG	**Pg**	**06 42 59.6**	**-1.1**
KMRS				*e*SG	**Sg**	**06 43 13.3**	**+0.1**
KMRS	**Kahramanmaras**	**0.96**	**64**	*e*Pg	**Pg**	**06 42 59.6**	**-1.1**
KMRS				*e*Sg	**Sg**	**06 43 13.3**	**+0.1**
MERS	**Mersin**	**1.06**	**258**	*e*PN	**Pg**	**06 43 01.3**	**-1.2**
MERS				*e*SN	**Sg**	**06 43 16.4**	**+0.1**
MERS	**Mersin**	**1.06**	**258**	*e*Pn	**Pg**	**06 43 01.3**	**-1.2**
MERS				*e*Sn	**Sg**	**06 43 16.4**	**+0.1**
KUZU	**Kuzuini**	**1.06**	**107**	*i* P	**Pg**	**06 43 01.7**	**-0.9**
KUZU				*i* S	**Sg**	**06 43 16.6**	**+0.2**
KUZU	**Kuzuini**	**1.06**	**107**	*i* P	**Pg**	**06 43 01.7**	**-0.9**
KUZU				*i* S	**Sg**	**06 43 16.6**	**+0.3**
YAYL	**Yayladag**	**1.08**	**167**	*i* P	**Pg**	**06 43 01.9**	**-1.0**
YAYL				*i* S	**Sg**	**06 43 17.6**	**+0.7**
YAYL	**Yayladag**	**1.08**	**167**	*i* P	**Pg**	**06 43 01.9**	**-1.0**
YAYL				*i* S	**Sg**	**06 43 17.6**	**+0.7**
SARI	**SarD1z-Kayseri**	**1.73**	**24**	*e*PN	**Pn**	**06 43 06.4**	**-6.0**

*IDC **26** 06:53:33.5±1.0, 12.°12N×143.°25E, h0km, mb4.0/6, mb1 4.3/8, mb1mx3.9/23, mbtmp4.1/8, ML4.6/1, Error ellipse: s-maj=55.2km s-min=18.0km az=109.0*
*ISCJB **26** 06:53:34.0±4.9, 12.°1N±0.°1×143.°3E±0.°1, h15km±37km, mb4.0/6, Error ellipse: s-maj=28.4km s-min=12.1km az=33.6*
*NEIC **26** 06:53:35.1±5.7, 12.°12N×143.°24E, h10km, Error ellipse: s-maj=27.9km s-min=11.0km az=106.0*

ISC 26 06:53:36.1±5.7, 12.°1N±0.°1×143.°3E±0.°2, h16km±37km, n16, σ0ᵍ91/18, mb4.0/6, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.08**	**45**	Pn	**Pn**	**06 54 11.1**	**+0.7**
	51nm,0.3s,baz=218,slow=3.9,SNR=24						
GUMO				Sn	**Sn**	**06 54 35.3**	**-0.7**
	73nm,0.3s,baz=162,slow=22,SNR=14						
GUMO	**Guam**	**2.08**	**45**	Pn	**Pn**	**06 54 11.1**	**+0.7**
GUMO				Sn	**Sn**	**06 54 35.3**	**-0.7**
CBIJ	**Chichi jima**	**14.94**	**356**	Pn	**Pn**	**06 57 06.0**	**-0.6**
	11nm,0.3s,baz=284,slow=22,SNR=6.7						
CBIJ	**Chichi jima**	**14.94**	**356**	Pn	**Pn**	**06 57 06.0**	**-0.6**
WRA	**Warramunga Arr**	**33.07**	**196**	P	**P**	**07 00 10.8**	**-0.4**
	1.5nm,0.8s,mb4.0,baz=18,slow=9.2,SNR=5.0						
WRA	**Warramunga Arr**	**33.07**	**196**	P	**P**	**07 00 10.8**	**-0.4**
ASAR	**Alice Springs**	**36.75**	**195**	P	**P**	**07 00 43.3**	**+0.3**
	0.5nm,0.6s,mb3.5,baz=20,slow=9.5,SNR=4.1						
ASAR	**Alice Springs**	**36.75**	**195**	P	**P**	**07 00 43.2**	**+0.3**
STKA	**Stephens Creek**	**43.78**	**182**	P	**P**	**07 01 40.1**	**-1.0**
	0.8nm,0.5s,mb3.7,baz=39,slow=13,SNR=2.3						
STKA	**Stephens Creek**	**43.78**	**182**	P	**P**	**07 01 40.1**	**-1.0**
ILAR	**Eielson Array**	**70.52**	**25**	P	**P**	**07 04 49.2**	**-0.7**
	0.7nm,0.6s,mb3.8,baz=251,slow=5.8,SNR=18						
ILAR	**Eielson Array**	**70.52**	**25**	P	**P**	**07 04 49.2**	**-0.7**
ARCES	**ARCESS Array B**	**88.01**	**342**	P	**P**	**07 06 25.8**	**+0.6**
	2.9nm,0.8s,mb4.5,baz=75,slow=5.3,SNR=6.0						
ARCES	**ARCESS Array B**	**88.01**	**342**	P	**P**	**07 06 25.8**	**+0.6**
NVAR	**Mina Array Bea**	**88.99**	**51**	P	**P**	**07 06 32.6**	**+2.2**
	0.6nm,0.6s,mb4.1,baz=283,slow=4.9,SNR=6.1						
NVAR	**Mina Array Bea**	**88.99**	**51**	P	**P**	**07 06 32.6**	**+2.2**

*IDC **26** 06:53:57.5±2.4, 2.°82S×130.°15E, h0km, mb4.0/3, mb1 4.3/5, mb1mx3.9/18, mbtmp4.1/5, ML3.9/2, Error ellipse: s-maj=80.7km s-min=23.0km az=60.0*
*ISCJB **26** 06:53:58.9±0.9, 2.°77S±0.°08×130.°11E±0.°06, h33km, mb4.0/3, Error ellipse: s-maj=12.8km s-min=6.3km az=37.7*
*DJA **26** 06:53:58, 2.°57S×130.°00E, h10km, MLv4.0/5*
*NEIC **26** 06:54:03.2±1.2, 2.°97S×130.°10E, h35km, mb3.6/1, Error ellipse: s-maj=22.5km s-min=11.1km az=218.0*

ISC 26 06:54:01.6±1.0, 2.°83S±0.°09×130.°05E±0.°07, h35km, n20, σ1ᵍ50/26, mb4.0/3, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**1.23**	**245**	P	**Pn**	**06 54 20.8**	**-1.5**
MSAI				S	**Sn**	**06 54 39.7**	**+1.9**
BNDI	**Bandanaira**	**1.69**	**185**	P	**Pn**	**06 54 31.9**	**+3.3**
BNDI				S	**Sn**	**06 54 56.8**	**+7.8**
AAI	**Ambon**	**2.04**	**245**	P	**Pn**	**06 54 32.1**	**-1.4**
NLAI	**Namlea**	**2.98**	**262**	P	**Pn**	**06 54 44.5**	**-1.8**
LBMI	**Labuha**	**3.35**	**310**	S	**Sn**	**06 55 28.2**	**-2.0**
KAPI	**Kappang**	**10.50**	**258**	Pn	**Pn**	**06 56 32.2**	**+2.5**
FITZ	**Fitzroy Crossi**	**15.78**	**196**	Pn	**Pn**	**06 57 41.4**	**+0.1**
	0.4nm,0.3s,baz=358,slow=9.0,SNR=9.0						
FITZ	**Fitzroy Crossi**	**15.78**	**196**	Pn	**Pn**	**06 57 41.4**	**+0.1**
COEN	**Coen**	**17.04**	**131**	*e*P	**Pn**	**06 57 58.1**	**+0.9**
WRAB	**Tennant Creek**	**17.51**	**166**	*e*Pn	**Pn**	**06 58 02.0**	**-1.1**
	3.2nm,0.6s						
WRA	**Warramunga Arr**	**17.52**	**166**	P	**Pn**	**06 58 02.0**	**-1.1**
	0.5nm,0.3s,baz=346,slow=12,SNR=22						
WRA				S	**S**	**07 01 13.3**	**-11**
	0.2nm,0.3s,baz=352,slow=23,SNR=4.8						
WRA	**Warramunga Arr**	**17.52**	**166**	P	**Pn**	**06 58 02.0**	**-1.1**
WRA				S	**S**	**07 01 13.3**	**-11**
WB2	**Warramunga Arr**	**17.52**	**166**	*e*Pn	**Pn**	**06 58 02.0**	**-1.2**
AS31	**Alice Springs**	**21.04**	**170**	*e*P	**P**	**06 58 43.9**	**+1.3**
ASAR	**Alice Springs**	**21.05**	**170**	P	**P**	**06 58 43.4**	**+0.8**
	8.1nm,0.7s,mb4.2,baz=350,slow=10,SNR=54						
ASAR				S	**S**	**07 02 32.0**	**-3.1**
	1.0nm,0.8s,baz=348,slow=17,SNR=6.0						
ASAR	**Alice Springs**	**21.05**	**170**	P	**P**	**06 58 43.4**	**+0.8**
ASAR				S	**S**	**07 02 32.0**	**-3.1**
STKA	**Stephens Creek**	**30.87**	**161**	P	**P**	**07 00 15.3**	**+0.6**
	0.8nm,0.5s,mb3.8,baz=336,slow=10.0,SNR=3.2						
STKA	**Stephens Creek**	**30.87**	**161**	P	**P**	**07 00 15.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**37.23**	**306**	P	**P**	**07 01 11.9**	**+1.9**
	0.6nm,0.3s,mb3.9,baz=110,slow=7.8,SNR=16						
CMAR	**Chiang Mai Arr**	**37.23**	**306**	P	**P**	**07 01 11.9**	**+1.9**

*ISK **26** 06:57:25.2, 37.°04N×35.°81E, h22km, ML1.7*
*ISCJB **26** 06:57:26.2±0.5, 37.°06N±0.°03×35.°82E±0.°04, h10km, Error ellipse: s-maj=4.5km s-min=3.9km az=158.4*
*CSEM **26** 06:57:26.1±0.3, 37.°04N×35.°80E, h18km±2km, ML1.7, Error ellipse: s-maj=6.4km s-min=5.8km az=110.0*
*DDA **26** 06:57:26.4, 37.°07N×35.°77E, h7km±7km, Md2.5*

ISC 26 06:57:26.9±0.5, 37.°07N±0.°03×35.°82E±0.°04, h10km, n17, σ1ᵍ22/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.08**	**223**	PG	**Pg**	**06 57 29.3**	**+0.2**
CEYT				*e*SG	**Sg**	**06 57 32.3**	**+1.5**
CEYT	**Ceyhan**	**0.08**	**223**	*i* Pg	**Pg**	**06 57 29.3**	**+0.2**
CEYT				*e*Sg	**Sg**	**06 57 32.3**	**+1.5**
KOZT	**Kozan**	**0.41**	**1**	*e*PG	**Pg**	**06 57 34.7**	**-0.3**
KOZT				*e*SG	**Sg**	**06 57 41.6**	**+1.2**
KRTS	**Karatas**	**0.61**	**216**	*e*PG	**Pg**	**06 57 37.1**	**-1.5**
KRTS	**Karatas**	**0.61**	**216**	*e*Pg	**Pg**	**06 57 37.1**	**-1.5**
COBT	**Iskenderun**	**0.65**	**147**	*i* P	**Pg**	**06 57 39.4**	**-0.1**
COBT				*i* S	**Sg**	**06 57 49.2**	**+1.3**
COBT	**Iskenderun**	**0.65**	**147**	*i* P	**Pg**	**06 57 39.3**	**-0.1**
COBT				*i* S	**Sg**	**06 57 49.2**	**+1.2**
ANDN	**Andirin**	**0.66**	**39**	*i* P	**Pg**	**06 57 39.2**	**-0.5**
ANDN				*i* S	**Sg**	**06 57 51.0**	**+2.6**
ANDN	**Andirin**	**0.66**	**39**	*i* P	**Pg**	**06 57 39.2**	**-0.5**
ANDN				*i* S	**Sg**	**06 57 51.0**	**+2.6**
GULE	**Gulek**	**0.86**	**285**	*i* P	**Pg**	**06 57 42.1**	**-1.3**
GULE				*i* S	**Sg**	**06 57 55.0**	**+0.5**
GULE	**Gulek**	**0.86**	**285**	*i* P	**Pg**	**06 57 42.1**	**-1.3**
GULE				*i* S	**Sg**	**06 57 55.0**	**+0.5**
KMRS	**Kahramanmaras**	**0.97**	**63**	*e*PG	**Pg**	**06 57 44.2**	**-1.3**
KMRS	**Kahramanmaras**	**0.97**	**63**	*e*Pg	**Pg**	**06 57 44.2**	**-1.3**
KUZU	**Kuzuini**	**1.05**	**106**	*i* P	**Pg**	**06 57 45.0**	**-2.1**
KUZU				*i* S	**Sg**	**06 58 00.6**	**-0.2**
KUZU	**Kuzuini**	**1.05**	**106**	*i* P	**Pg**	**06 57 45.0**	**-2.1**
KUZU				*i* S	**Sg**	**06 58 00.6**	**-0.1**
YAYL	**Yayladag**	**1.06**	**167**	*i* P	**Pg**	**06 57 46.2**	**-0.9**
YAYL				*i* S	**Sg**	**06 58 02.6**	**+1.7**
YAYL	**Yayladag**	**1.06**	**167**	*i* P	**Pg**	**06 57 46.2**	**-1.0**
YAYL				*i* S	**Sg**	**06 58 02.6**	**+1.7**

*IDC **26** 06:59:19.9±0.7, 36.°03N×69.°04E, h0km, mb4.1/15, mb1 4.3/19, mb1mx4.1/30, mbtmp4.1/19, ML4.2/4, Error ellipse: s-maj=17.8km s-min=13.4km az=23.0*
*MOS **26** 06:59:23.7±1.1, 36.°22N×69.°04E, h33km, mb4.4/9, Error ellipse: s-maj=10.2km s-min=6.4km az=83.4*
*ISCJB **26** 06:59:24.1±0.6, 36.°13N±0.°02×69.°17E±0.°05, h45km±7km, mb4.2/27, Error ellipse: s-maj=6.2km s-min=4.0km az=170.8*
*NNC **26** 06:59:24.1±4.0, 36.°45N×68.°72E, h0km, mb4.3, mpv4.6, Error ellipse: s-maj=37.9km s-min=26.2km az=162.0*
*NEIC **26** 06:59:25.1±2.9, 36.°16N×69.°06E, h32km±22km, mb4.3/2, Error ellipse: s-maj=10.0km s-min=9.0km az=216.0*

ISC 26 06:59:25.9±0.5, 36.°08N±0.°02×69.°15E±0.°05, h45km±6km, n151, σ1ᵍ19/167, mb4.2/27, 9C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.54**	**183**	*e*Pn	**Pn**	**06 59 51.5**	**+0.6**
KBL				*e*Sn	**Sn**	**07 00 10.9**	**+1.2**
KBL	**Kabul**	**1.54**	**183**	*e*PN	**Pn**	**06 59 51.5**	**+0.6**
KBL				*e*		07 00 10.9	
CEP	**Cherat**	**3.20**	**134**	⇑P	**Pn**	**07 00 19.2**	**+5.5**
CEP				S	**Sn**	**07 01 09.0**	**+18**
THW	**Thamme Wali**	**3.92**	**146**	⇑P	**Pn**	**07 00 27.6**	**+4.0**
CHCP	**Chirah Chowk**	**4.16**	**124**	⇑P	**Pn**	**07 00 31.8**	**+4.9**
AML	**Almayashu**	**7.00**	**29**	P	**Pn**	**07 01 06.7**	**+0.9**
	SNR=364						
KK31	**Karatay Array**	**7.09**	**8**	Pn	**Pn**	**07 01 06.7**	**-0.4**
	5.6nm,0.3s,baz=194,slow=12,SNR=184						
KK31				⇓Sn	**Sn**	**07 02 24.1**	**-2.2**
	17nm,0.4s,baz=194,slow=24,SNR=4.9						
KKAR	**Karatay Array**	**7.09**	**8**	*e*Pn	**Pn**	**07 01 06.5**	**-0.6**
	18nm,0.3s						
KKAR				*e*Sn	**Sn**	**07 02 24.1**	**-2.2**
KKAR	**Karatay Array**	**7.09**	**8**	*e*PN	**Pn**	**07 01 06.5**	**-0.6**
KKAR				pmax	pmax		
	comp=Z,18nm,0.3s						
UCH	**Uchtor**	**7.42**	**33**	P	**Pn**	**07 01 12.8**	**+1.3**
	SNR=22						
EKS2	**Erkin-Say**	**7.49**	**27**	P	**Pn**	**07 01 13.0**	**+0.5**
	SNR=32						
EKS2	**Erkin-Say**	**7.49**	**27**	*e*Pn	**Pn**	**07 01 12.9**	**+0.4**
	comp=Z,21nm,0.5s						
EKS2				*e*Sn	**Sn**	**07 02 37.4**	**+1.4**
EKS2	**Erkin-Say**	**7.49**	**27**	*e*P	**Pn**	**07 01 12.9**	**+0.4**
EKS2				*e*		07 02 37.4	
EKS2				pmax	pmax		
	comp=Z,21nm,0.5s						
BHK	**Bhakra**	**7.63**	**125**	*ex*	x	07 01 20.0	
KZA	**Kyzart**	**7.64**	**37**	P	**Pn**	**07 01 16.0**	**+1.4**
	SNR=35						
AAK	**Ala-Archa**	**7.74**	**31**	P	**Pn**	**07 01 17.1**	**+1.1**
	SNR=63						
AAK	**Ala-Archa**	**7.74**	**31**	*e*Pn	**Pn**	**07 01 16.9**	**+0.8**
	comp=Z,219nm,0.4s						
AAK				*e*Sn	**Sn**	**07 02 41.9**	**-0.5**
AAK	**Ala-Archa**	**7.74**	**31**	*e*P	**Pn**	**07 01 16.9**	**+0.9**
AAK				*e*		07 02 41.9	
AAK				pmax	pmax		
	comp=Z,219nm,0.4s						
KBK	**Karagaybulak**	**7.96**	**33**	P	**Pn**	**07 01 20.4**	**+1.4**
	SNR=28						
SDNR	**Sundarnagar**	**7.96**	**123**	*e*PKP	**Pn**	**07 01 22.0**	**+3.0**
SDNR				*ex*	x	07 02 48.0	
FRU	**Bishkek**	**7.96**	**30**	*e*P	**Pn**	**07 01 19.8**	**+0.8**
FRU				*e*S	**Sn**	**07 02 52.0**	**+4.4**
FRU				pmax	pmax		
	comp=Z,53nm,1.8s						
FRU				pmax	pmax		
	comp=E,220nm,1.8s						
CHMS	**Chumysh**	**8.15**	**30**	P	**Pn**	**07 01 22.2**	**+0.6**
	SNR=28						
ULHL	**Ulahol**	**8.26**	**40**	P	**Pn**	**07 01 24.4**	**+1.4**
	SNR=58						
USP	**Ospenovka**	**8.28**	**28**	P	**Pn**	**07 01 23.3**	**0.0**
	SNR=27						
SMLA	**Simla**	**8.31**	**124**	*i* P	**Pn**	**07 01 25.6**	**+1.7**
SMLA				*i* x	x	07 03 01.3	
SMLA				⇓AML	AML	07 03 04.3	
	comp=E,1μm,0.4s						
SMLA				⇓AML	AML	07 03 05.9	
	comp=N,2μm,0.5s						
TKM2	**Tokmak 2**	**8.45**	**34**	P	**Pn**	**07 01 26.6**	**+0.9**
	SNR=37						
TKM2	**Tokmak 2**	**8.45**	**34**	⇑Pn	**Pn**	**07 01 26.4**	**+0.7**
	comp=N,31nm,0.5s						
TKM2				⇑Sn	**Sn**	**07 03 02.6**	**+2.8**
	comp=N,27nm,0.8s						
TKM2	**Tokmak 2**	**8.45**	**34**	*e*Pn	**Pn**	**07 01 26.2**	**+0.4**
	comp=N,48nm,0.5s						
TKM2				*e*Sn	**Sn**	**07 03 00.9**	**+1.1**
TKM2	**Tokmak 2**	**8.45**	**34**	*i* P	**Pn**	**07 01 26.6**	**+0.8**
DDI	**Dehra Dun**	**9.42**	**125**	*ex*	x	07 01 43.0	
KHET	**Khetri**	**9.78**	**143**	*e*PKP	**Pn**	**07 01 43.1**	**-0.8**
KHET				*e*S	**Sn**	**07 03 24.4**	**-8.0**
KHET				AML	AML	07 03 36.0	
	comp=N,30nm,0.6s						
KHET				AML	AML	07 03 36.4	
	comp=E,27nm,0.6s						
NDI	**New Delhi**	**10.04**	**135**	*e*PKP	**Pn**	**07 01 46.6**	**-1.0**
NDI				*e*S	**Sn**	**07 03 29.6**	**-9.4**
NDI				AML	AML	07 05 20.8	
	comp=E,25nm,0.1s						
NDI				AML	AML	07 05 21.0	
	comp=N,14nm,0.9s						
AYAN	**Aya Nagar**	**10.15**	**136**	*e*PKP	**Pn**	**07 01 49.0**	**0.0**
AYAN				*e*S	**Sn**	**07 03 33.7**	**-7.7**
PYUN	**Piuthan**	**14.17**	**120**	*e*P	**Pn**	**07 02 41.7**	**-2.2**
PYUN	**Piuthan**	**14.17**	**120**	*e*P	**Pn**	**07 02 42.8**	**-1.1**
MK31	**Makanchi Array**	**14.53**	**39**	⇑P	**Pn**	**07 02 47.3**	**-1.4**
	comp=N,5.0nm,0.6s,baz=219,slow=11,SNR=7.5						
MK31	**Makanchi Array**	**14.53**	**39**	*e*Pn	**Pn**	**07 02 46.7**	**-1.9**
MK31	**Makanchi Array**	**14.53**	**39**	*e*P	**Pn**	**07 02 46.7**	**-2.0**
MKAR	**Makanchi Array**	**14.53**	**39**	Pn	**Pn**	**07 02 46.5**	**-2.1**
	comp=N,0.4nm,0.3s,baz=228,slow=13,SNR=29						
MKAR	**Makanchi Array**	**14.53**	**39**	Pn	**Pn**	**07 02 46.5**	**-2.1**
MKAR	**Makanchi Array**	**14.53**	**39**	P	**Pn**	**07 02 46.5**	**-2.2**
DANN	**Dangsing**	**14.57**	**118**	*e*P	**Pn**	**07 02 47.9**	**-1.4**
	comp=N,57nm,0.6s						
DANN	**Dangsing**	**14.57**	**118**	*e*P	**Pn**	**07 02 47.9**	**-1.4**
	comp=N,57nm,0.6s						
BHPL	**Bhopal**	**14.67**	**148**	*e*PKP	**Pn**	**07 02 50.3**	**-0.3**
BHPL				*ex*	x	07 05 26.8	
AB31	**Akbulak array**	**14.79**	**336**	P	**Pn**	**07 02 46.1**	**-5.9**
	comp=N,3.2nm,0.5s,baz=155,slow=12,SNR=49						
ABKAR	**Akbulak array**	**14.79**	**336**	*e*Pn	**Pn**	**07 02 46.3**	**-5.7**
	comp=N,6.9nm,0.5s						
KOLN	**Koldanda**	**14.80**	**120**	*e*P	**Pn**	**07 02 50.8**	**-1.5**
	comp=N,25nm,0.4s						
KOLN	**Koldanda**	**14.80**	**120**	*e*P	**Pn**	**07 02 50.8**	**-1.5**
	comp=N,39nm,0.6s						
GKN	**Gorkha**	**15.40**	**117**	*e*P	**Pn**	**07 02 58.9**	**-1.2**
	comp=N,61nm,0.5s						
GKN	**Gorkha**	**15.40**	**117**	*e*P	**Pn**	**07 02 58.5**	**-1.6**
DMN	**Daman**	**15.96**	**117**	*e*P	**Pn**	**07 03 05.9**	**-1.5**
	comp=N,65nm,0.6s						
DMN	**Daman**	**15.96**	**117**	*e*P	**Pn**	**07 03 06.4**	**-1.0**
	comp=N,65nm,0.6s						
KKN	**Kakani**	**15.98**	**117**	*e*P	**Pn**	**07 03 06.7**	**-1.0**
	comp=N,92nm,0.7s						
KKN	**Kakani**	**15.98**	**117**	*e*P	**Pn**	**07 03 06.8**	**-0.9**
	comp=N,92nm,0.7s						
KURK	**Kurchatov**	**16.14**	**22**	Pn	**Pn**	**07 03 03.9**	**-5.7**
	comp=N,0.2nm,0.3s,baz=212,slow=12,SNR=21						
KURK	**Kurchatov**	**16.14**	**22**	Pn	**Pn**	**07 03 03.9**	**-5.7**
KURK	**Kurchatov**	**16.14**	**22**	*c* *i*P	**Pn**	**07 03 04.9**	**-4.7**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
PKI	**Pulchoki**	**16.20**	**117**	*e*P	**Pn**	**07 03 09.6**	**-0.9**
	comp=Z,90nm,0.7s						
PKI	**Pulchoki**	**16.20**	**117**	*e*P	**Pn**	**07 03 09.6**	**-0.9**
	comp=Z,90nm,0.7s						
GUN	**Gumba**	**16.35**	**115**	*e*P	**Pn**	**07 03 11.5**	**-0.8**
	comp=Z,57nm,0.6s						
GUN	**Gumba**	**16.35**	**115**	*e*P	**Pn**	**07 03 11.6**	**-0.7**
	comp=Z,57nm,0.6s						
AKTO	**Aktyubinsk**	**16.45**	**334**	⇓P	**Pn**	**07 03 10.6**	**-2.8**
	comp=Z,0.9nm,0.7s						
AKTO	**Aktyubinsk**	**16.45**	**334**	Pn	**Pn**	**07 03 09.3**	**-4.1**
	comp=Z,1.1nm,0.3s,baz=150,slow=15,SNR=11						
AKTO				Sn	**Sn**	**07 06 04.0**	**-11**
	comp=Z,0.2nm,0.3s,baz=351,slow=19,SNR=2.6						
AKTO	**Aktyubinsk**	**16.45**	**334**	Pn	**Pn**	**07 03 09.3**	**-4.1**
AKTO				Sn	**Sn**	**07 06 04.0**	**-11**
AKTO	**Aktyubinsk**	**16.45**	**334**	P	**Pn**	**07 03 09.3**	**-4.1**
AKTO						07 06 04.0	
JIRN	**Jiri**	**16.72**	**115**	*e*P	**Pn**	**07 03 16.4**	**-0.6**
	comp=Z,37nm,0.6s						
JIRN	**Jiri**	**16.72**	**115**	*e*P	**Pn**	**07 03 16.6**	**-0.4**
	comp=Z,37nm,0.6s						
BVA0	**Borovoye Array**	**16.96**	**3**	⇓P	**Pn**	**07 03 19.7**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=166,slow=9.9,SNR=11						
BVAR	**Borovoye Array**	**16.96**	**3**	P	**Pn**	**07 03 17.3**	**-2.6**
	comp=Z,2.5nm,0.3s,baz=155,slow=15,SNR=23						
BVAR				S	**S**	**07 06 20.1**	**-16**
	comp=Z,0.4nm,0.3s,baz=179,slow=23,SNR=3.6						
BVAR	**Borovoye Array**	**16.96**	**3**	P	**Pn**	**07 03 17.3**	**-2.6**
BVAR				S	**S**	**07 06 20.1**	**-16**
BVAR	**Borovoye Array**	**16.96**	**3**	P	**Pn**	**07 03 17.3**	**-2.5**
BVAR				S	**S**	**07 06 20.1**	**-16**
RAMN	**Ramite**	**17.43**	**117**	*e*P	**Pn**	**07 03 25.2**	**-0.5**
	comp=Z,40nm,0.4s						
RAMN	**Ramite**	**17.43**	**117**	*e*P	**Pn**	**07 03 24.6**	**-1.1**
	comp=Z,40nm,0.4s						
TAPN	**Taplejung**	**18.01**	**114**	*e*P	**P

KSRS **Korea Array** 46.43 70 P P 07 07 50.1 +1.9
comp=Z,0.8nm,0.4s,mb4.0,baz=268,slow=6.0,SNR=3.4
KSRS **Korea Array** 46.43 70 P P 07 07 50.1 +1.9
KSRS pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
KLR **Kul'dur** 46.60 53 *e*P P 07 07 46.2 -3.2
SBF **Sospel** 46.95 299 *e*P P 07 07 51.4 -0.8
comp=Z,40nm,0.8s,mb5.1
LPG **La Plagne** 47.09 302 *e*P P 07 07 54.2 +0.9
comp=Z,7.0nm,0.8s,mb4.3
LPL **La Plagne** 47.10 302 *e*P P 07 07 54.4 +1.1
MBDF **Montbardon** 47.24 301 *e*P P 07 07 54.2 -0.2
comp=Z,18nm,0.9s,mb4.7
SMF **Signal de Mont** 48.84 304 *e*P P 07 08 06.4 -0.4
AVF **Avril sur Loir** 49.14 304 *e*P P 07 08 09.0 -0.1
comp=Z,16nm,1.0s,mb4.7
TCF **Toulx Ste Croi** 50.02 304 *e*P P 07 08 14.8 -1.0
comp=Z,9.8nm,0.9s,mb4.5
LDF **La Druitiere** 51.03 307 *e*P P 07 08 23.7 +0.3
ETSF **Etsaut** 52.83 300 *e*P P 07 08 36.6 -0.3
ESDC **Sonseca Array** 56.32 297 P P 07 09 02.7 +0.4
comp=Z,1.2nm,0.6s,mb4.1,baz=63,slow=8.1,SNR=4.5
ESDC **Sonseca Array** 56.32 297 P P 07 09 02.7 +0.4
BILL **Bilibino** 59.64 26 P P 07 09 26.0 +1.0
BILL *e* pP 07 09 36.1 -1.6
BILL *e* 07 09 43.6
BILL pmax pmax
comp=Z,7.0nm,1.7s,mb4.4
TORD **Torodi Ar. Bea** 64.21 268 P P 07 09 55.6 -0.8
comp=Z,1.0nm,0.4s,mb4.2,baz=48,slow=6.0,SNR=27
TORD **Torodi Ar. Bea** 64.21 268 P P 07 09 55.6 -0.8
ILAR **Eielson Array** 75.58 15 P P 07 11 05.7 +0.1
comp=Z,1.5nm,0.9s,mb3.9,baz=321,slow=4.7,SNR=15
ILAR **Eielson Array** 75.58 15 P P 07 11 05.7 +0.1
ILAR **Eielson Array** 75.58 15 P P 07 11 05.7 +0.2
WRA **Warramunga Arr** 83.05 121 P P 07 11 46.7 -0.1
comp=Z,1.4nm,0.7s,mb4.1,baz=325,slow=4.0,SNR=18
WRA **Warramunga Arr** 83.05 121 P P 07 11 46.7 -0.1
WRA **Warramunga Arr** 83.05 121 P P 07 11 46.7 -0.2
ASAR **Alice Springs** 85.26 124 P P 07 11 58.0 +0.1
comp=Z,1.1nm,0.7s,mb4.1,baz=312,slow=5.1,SNR=21
ASAR **Alice Springs** 85.26 124 P P 07 11 58.0 +0.1
ASAR **Alice Springs** 85.26 124 P P 07 11 58.1 +0.1

IDC ***26*** *07:02:24.8±0.8,29.°95N×51.°81E,h0km,mb4.1/15, mb1 4.2/18,mb1mx4.1/30,mbtmp4.1/18,ML4.2/3,MS3.6/14, Ms1 3.6/14,ms1mx3.3/43,Error ellipse: s-maj=19.1km s-min=17.3km az=26.0*
CSEM ***26*** *07:02:26.6±0.2,29.°91N×51.°85E,h10km,mb4.5/14,Ms3.4, Error ellipse: s-maj=7.1km s-min=5.2km az=6.0*
TEH ***26*** *07:02:26.5,29.°85N×51.°78E,h4km*
MOS ***26*** *07:02:27.9±1.6,29.°91N×51.°80E,h33km,mb4.5/6,Error ellipse: s-maj=15.9km s-min=7.8km az=118.9*
NEIC ***26*** *07:02:27.0,29.°81N×51.°78E,h11km,mb4.2/3, MN4.3(TEH),After TEH.*
THR ***26*** *07:02:28.3±0.7,30.°11N×51.°91E,h15km,ML4.2*
OMAN ***26*** *07:03:27.1±99.0,25.°62N×54.°14E,h162km±41km,Error ellipse: s-maj=127.3km s-min=8.5km az=338.0*

ISC 26 07:02:27.9±0.8,**29.°91N**±0.°03×**51.°88E**±0.°03,**h17**km±5km, **n228**,σ1°**s19**/230,**mb4.3**/34,**MS3.6**/14,**12C-6D**,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHI	**Shiraz**	**0.62**	**116**	*e*Pg	**Pg**	**07 02 39.3**	**-0.7**
SHI				*e*		07 02 57.7	
	comp=E,100μm,0.2s						
IPAR	**Pars**	**1.02**	**94**	*e*Pg	**Pg**	**07 02 46.0**	**-1.6**
IPAR				*e*Sg	**Sg**	**07 03 00.7**	**-0.3**
IPAR				*e*		07 03 08.0	
	comp=Z,42μm,0.3s						
IPAR	**Pars**	**1.02**	**94**	*e*Pg	**Pg**	**07 02 46.0**	**-1.6**
IPAR				*e*Sg	**Sg**	**07 03 00.7**	**-0.3**
ISRV	**Sarvestan**	**1.20**	**116**	⇓*e*Pg	**Pg**	**07 02 48.4**	**-2.7**
ISRV	**Sarvestan**	**1.20**	**116**	⇓*e*Pg	**Pg**	**07 02 48.4**	**-2.7**
IGAR	**Gharneh**	**2.49**	**3**	*e*	**Pb**	**07 03 13.3**	**+1.2**
	comp=Z,9μm,0.3s						
IGAR				*e*Pn	**Pn**	**07 03 08.7**	**+1.1**
ISAD	**Sadrabad**	**2.53**	**38**	*e*Sg	**Sg**	**07 03 48.6**	**-0.5**
ISAD				*e*Pn	**Pn**	**07 03 09.8**	**+1.7**
ISAD				*e*		07 03 50.0	
	comp=Z,10μm,0.3s						
IMEH	**Mehriz**	**2.78**	**57**	*e*Pn	**Pn**	**07 03 13.2**	**+1.6**
IMEH				*e*		07 04 00.6	
	comp=Z,7μm,0.5s						
IMEH	**Mehriz**	**2.78**	**57**	*e*Pn	**Pn**	**07 03 13.2**	**+1.6**
IPIR	**Pirpir**	**2.89**	**343**	*e*Pn	**Pn**	**07 03 14.0**	**+0.9**
IPIR				*e*		07 04 15.4	
	comp=Z,9μm,0.4s						
IPIR	**Pirpir**	**2.89**	**343**	*e*Pn	**Pn**	**07 03 14.0**	**+0.9**
NASN	**Na'in**	**2.98**	**15**	*e*Pn	**Pn**	**07 03 14.8**	**+0.4**
NASN	**Na'in**	**2.98**	**15**	*e*Pn	**Pn**	**07 03 14.8**	**+0.4**
IZEF	**Zefreh**	**3.00**	**7**	*e*Pn	**Pn**	**07 03 15.6**	**+1.0**
IZEF				*e*		07 03 30.1	
	comp=Z,4μm,0.3s						
IZEF	**Zefreh**	**3.00**	**7**	*e*Pn	**Pn**	**07 03 15.6**	**+1.0**
ICHK	**Chekchek**	**3.18**	**42**	*e*Pn	**Pn**	**07 03 18.4**	**+1.3**
ICHK				*e*		07 03 26.5	
	comp=Z,4μm,0.2s						
ICHK	**Chekchek**	**3.18**	**42**	*e*Pn	**Pn**	**07 03 18.4**	**+1.3**
IKLH	**Kolahrood**	**3.40**	**356**	*e*Pn	**Pn**	**07 03 21.3**	**+1.1**
IKLH				*e*		07 04 37.4	
	comp=Z,7μm,0.4s						
IKLH	**Kolahrood**	**3.40**	**356**	*e*Pn	**Pn**	**07 03 21.3**	**+1.1**
SHGR	**Shooshtar-Gavs**	**3.43**	**310**	*e*Pn	**Pn**	**07 03 22.0**	**+1.5**
SHGR				AML	AML	07 04 32.2	
	comp=N,903nm,0.6s						
SHGR	**Shooshtar-Gavs**	**3.43**	**310**	*e*Pn	**Pn**	**07 03 22.0**	**+1.5**
IBAF	**Bafgh**	**3.59**	**61**	*e*Pn	**Pn**	**07 03 24.1**	**+1.4**
IBAF				*e*		07 03 34.7	
	comp=Z,3μm,0.3s						
IBAF	**Bafgh**	**3.59**	**61**	*e*Pn	**Pn**	**07 03 24.1**	**+1.4**
QRN	**Al-Qurain**	**3.65**	**252**	*e*P	**Pn**	**07 03 25.2**	**+1.7**
QRN				*e*S	**Sn**	**07 04 08.0**	**+1.8**
QRN				AML	AML	07 04 08.1	
	comp=Z,360nm,0.8s						
KBD	**Kabd**	**3.72**	**260**	*e*P	**Pn**	**07 03 26.3**	**+1.8**
KBD				*e*S	**Sn**	**07 04 10.8**	**+2.9**
KBD				AML	AML	07 04 19.5	
	comp=Z,474nm,0.5s						
KBD	**Kabd**	**3.72**	**260**	*e*P	**Pn**	**07 03 26.3**	**+1.8**
KBD				*e*S	**Sn**	**07 04 10.8**	**+2.9**
NAY	**Al-Naaiem**	**4.09**	**262**	*e*P	**Pn**	**07 03 31.2**	**+1.6**
NAY				AML	AML	07 04 20.6	
	comp=Z,147nm,0.5s						
NAY	**Al-Naaiem**	**4.09**	**262**	*e*P	**Pn**	**07 03 31.2**	**+1.6**
KRBR	**Kerman**	**4.24**	**88**	*e*Pn	**Pn**	**07 03 34.1**	**+2.4**
KRBR				AML	AML	07 04 58.7	
	comp=N,194nm,0.6s						
KRBR	**Kerman**	**4.24**	**88**	*e*Pn	**Pn**	**07 03 34.1**	**+2.4**
ISFB	**Sefidab**	**4.43**	**4**	*e*Pn	**Pn**	**07 03 33.8**	**-0.6**
ISFB				*e*		07 05 05.5	
	comp=Z,2μm,0.4s						
ISFB	**Sefidab**	**4.43**	**4**	*e*Pn	**Pn**	**07 03 33.8**	**-0.6**
ASAO	**Ashtian**	**4.88**	**342**	*e*Pn	**Pn**	**07 03 41.3**	**+0.9**
ASAO	**Ashtian**	**4.88**	**342**	*e*Pn	**Pn**	**07 03 41.3**	**+0.8**
IVRN	**Varamin**	**5.07**	**359**	*e*Pn	**Pn**	**07 03 43.0**	**-0.1**
IVRN				*e*Pn	**Pn**	**07 03 43.6**	**+0.5**
IVRN	**Varamin**	**5.07**	**359**	*e*Pn	**Pn**	**07 03 43.6**	**+0.5**
BANOM	**Banah**	**5.58**	**134**	P	**Pn**	**07 03 50.5**	**+0.4**
	SNR=57						
IR3	**Iran Long-Peri**	**5.59**	**353**	*e*Pn	**Pn**	**07 03 50.8**	**+0.5**
IR3	**Iran Long-Peri**	**5.59**	**353**	*e*Pn	**Pn**	**07 03 50.8**	**+0.5**
IKOM	**Komasi**	**5.64**	**320**	*e*Pn	**Pn**	**07 03 50.4**	**-0.5**
IKOM				*e*		07 04 20.1	
	comp=Z,3μm,0.4s						
IKOM	**Komasi**	**5.64**	**320**	*e*Pn	**Pn**	**07 03 50.4**	**-0.5**
IDMV	**Damavand**	**5.65**	**1**	*e*Pn	**Pn**	**07 03 50.6**	**-0.4**
IDMV				*e*		07 06 34.0	
	comp=Z,1μm,0.6s						
IDMV	**Damavand**	**5.65**	**1**	*e*Pn	**Pn**	**07 03 50.6**	**-0.4**
DAMV	**Damavand**	**5.70**	**1**	*e*Pn	**Pn**	**07 03 51.5**	**-0.2**
IRAZ	**Razeghan**	**5.71**	**344**	*e*Pn	**Pn**	**07 03 52.1**	**+0.2**
IRAZ				*e*		07 05 44.0	
	comp=N,5μm,0.6s						
IRAZ	**Razeghan**	**5.71**	**344**	*e*Pn	**Pn**	**07 03 52.1**	**+0.2**
IFIR	**Firoozkooh**	**5.76**	**7**	*e*Pn	**Pn**	**07 03 52.1**	**-0.4**
IFIR				*e*		07 03 56.3	
	comp=Z,1μm,0.1s						
IFIR	**Firoozkooh**	**5.76**	**7**	*e*Pn	**Pn**	**07 03 52.1**	**-0.4**
TABS	**Tabas**	**5.81**	**49**	*e*Pn	**Pn**	**07 03 54.6**	**+1.3**
IMHD	**Mahdasht**	**5.84**	**350**	*e*Pn	**Pn**	**07 03 53.1**	**-0.6**
IMHD				*e*		07 06 00.4	
	comp=Z,484nm,0.4s						
IMHD	**Mahdasht**	**5.84**	**350**	*e*Pn	**Pn**	**07 03 53.1**	**-0.6**
NAZ	**Nazwa, Dubai**	**5.95**	**145**	P	**Pn**	**07 03 57.4**	**+2.2**
	SNR=5.4						
NAZ				P		07 03 57.7	
	SNR=6.6						
CHTH	**Charan**	**6.01**	**354**	*e*Pn	**Pn**	**07 03 56.6**	**+0.7**
ASUD	**Al Ashush, Dub**	**6.10**	**149**	P	**Pn**	**07 03 59.0**	**+1.8**
	SNR=17						
IVIS	**Veis**	**6.27**	**318**	*e*Pn	**Pn**	**07 03 58.8**	**-0.7**
IVIS				*e*		07 05 29.3	
	comp=Z,887nm,0.3s						
IVIS	**Veis**	**6.27**	**318**	*e*Pn	**Pn**	**07 03 58.8**	**-0.7**
IGHG	**Ghaleghazi**	**6.30**	**316**	*e*Pn	**Pn**	**07 03 59.8**	**-0.1**
IGHG				*e*		07 05 14.7	
	comp=Z,2μm,0.3s						
IGHG	**Ghaleghazi**	**6.30**	**316**	*e*Pn	**Pn**	**07 03 59.8**	**-0.1**
IPRN	**Peran**	**6.32**	**3**	*e*Pn	**Pn**	**07 04 01.2**	**+0.9**
IPRN				*e*		07 04 13.7	
	comp=Z,1μm,0.3s						
IPRN	**Peran**	**6.32**	**3**	*e*Pn	**Pn**	**07 04 01.2**	**+0.9**
ASHO	**Ashiyiah**	**6.40**	**143**	P	**Pn**	**07 04 02.5**	**+1.1**
	SNR=32						
ASHO				P		07 04 03.4	
	SNR=20						
IKIA	**Kiasar**	**6.46**	**13**	*e*Pn	**Pn**	**07 04 02.9**	**+0.8**
IKIA				*e*		07 04 33.2	
	comp=Z,402nm,0.3s						
IKIA	**Kiasar**	**6.46**	**13**	*e*Pn	**Pn**	**07 04 02.9**	**+0.8**
ILIN	**Lien**	**6.49**	**321**	*e*Pn	**Pn**	**07 04 01.5**	**-1.1**
ILIN				*e*		07 05 17.4	
	comp=Z,1μm,0.3s						
ILIN	**Lien**	**6.49**	**321**	*e*Pn	**Pn**	**07 04 01.5**	**-1.1**
IDHR	**Dehrash**	**6.66**	**317**	*e*	**Pn**	**07 04 13.7**	**+8.8**
	comp=Z,2μm,0.2s						
IDHR				*e*Pn	**Pn**	**07 04 03.8**	**-1.1**
HOQ	**Hoqain**	**7.96**	**141**	P	**Pn**	**07 04 23.6**	**+0.8**
	SNR=7.5						
WBK	**Wadi Bani Khal**	**9.66**	**137**	P	**Pn**	**07 04 45.2**	**-1.0**
	SNR=11						
WBK				P		07 04 45.2	
	SNR=14						
ABTO	**Aybut**	**12.57**	**174**	P	**Pn**	**07 05 24.4**	**-1.7**
	SNR=10						
ASF	**Jabal al Asfar**	**13.04**	**284**	Pn	**Pn**	**07 05 29.4**	**-3.0**
	comp=Z,2.2nm,0.3s,baz=334,slow=12,SNR=13						
ASF				Sn	**Sn**	**07 07 48.4**	**-8.7**
	comp=Z,0.4nm,0.3s,baz=340,slow=6.7,SNR=2.7						
ASF	**Jabal al Asfar**	**13.04**	**284**	Pn	**Pn**	**07 05 29.4**	**-3.0**
ASF				Sn	**Sn**	**07 07 48.4**	**-8.7**
ASF	**Jabal al Asfar**	**13.04**	**284**	P	**Pn**	**07 05 29.4**	**-3.0**
ASF						07 07 48.4	
ZEI	**Tsey**	**14.34**	**336**	*e*P	**Pn**	**07 05 51.3**	**+1.3**
ZEI				pmax	pmax		
	comp=Z,15nm,1.0s						
ZEI	**Tsey**	**14.34**	**336**	*e*P	**Pn**	**07 05 51.3**	**+1.3**
	comp=Z,15nm,1.0s						
MMAI	**Mount Meron Ar**	**14.40**	**287**	Pn	**Pn**	**07 05 51.1**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=100,slow=16,SNR=2.9						
MMAI				Sn	**Sn**	**07 08 19.1**	**-11**
	comp=Z,2.0nm,0.3s,baz=163,slow=17,SNR=5.1						
MMAI				LR	LR	07 12 24.3	
	comp=Z,70nm,21.8s,baz=85,slow=42						
MMAI	**Mount Meron Ar**	**14.40**	**287**	Pn	**Pn**	**07 05 51.1**	**+0.2**
MMAI				Sn	**Sn**	**07 08 19.1**	**-11**
EIL	**Elat**	**14.70**	**273**	Pn	**Pn**	**07 06 01.2**	**+6.2**
	comp=Z,0.7nm,0.3s,baz=30,slow=9.2,SNR=6.3						
EIL	**Elat**	**14.70**	**273**	Pn	**Pn**	**07 06 01.2**	**+6.2**
KIV	**Kislovodsk**	**15.81**	**335**	*e*Pn	**Pn**	**07 06 07.5**	**-2.0**
	comp=Z,49nm,1.0s						
KIV	**Kislovodsk**	**15.81**	**335**	*e*P	**Pn**	**07 06 14.1**	**+4.5**
KIV				pmax	pmax		
	comp=Z,41nm,1.0s						
KIV	**Kislovodsk**	**15.81**	**335**	*e*P	**Pn**	**07 06 14.1**	**+4.5**
	comp=Z,41nm,1.0s						
SOC	**Sochi**	**16.74**	**328**	*e* / P	**Pn**	**07 06 23.4**	**+1.9**
SOC				pmax	pmax		
	comp=Z,17nm,0.8s						
SOC	**Sochi**	**16.74**	**328**	*i* P	**Pn**	**07 06 23.4**	**+1.9**
	comp=Z,17nm,0.8s						
BR131	**Keskin Array S**	**17.86**	**308**	*e*Pn	**Pn**	**07 06 33.8**	**-1.7**
	comp=Z,6.6nm,0.7s						
BRTR	**Keskin Array B**	**17.86**	**308**	P	**Pn**	**07 06 35.3**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=133,slow=13,SNR=16						
BRTR	**Keskin Array B**	**17.86**	**308**	P	**Pn**	**07 06 35.3**	**-0.2**
BRTR	**Keskin Array B**	**17.86**	**308**	P	**Pn**	**07 06 35.3**	**-0.2**
ATD	**Arta Tunnel**	**20.13**	**207**	LR	LR	07 15 43.2	
	comp=Z,161nm,18.3s,MS3.4,baz=48,slow=40						
AKTO	**Aktyubinsk**	**21.01**	**11**	LR	LR	07 17 47.4	
	comp=Z,53nm,18.9s,MS2.9,baz=62,slow=44						
KSH	**Kashi**	**21.95**	**58**	*e*P	**P**	**07 07 17.0**	**-3.6**
KSH				pmax	pmax		
	comp=Z,190nm,4.5s						
AAK	**Ala-Archa**	**22.14**	**49**	*e*P	Px	07 07 33.2	
AAK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.3						
AAK	**Ala-Archa**	**22.14**	**49**	*e*P	Px	07 07 33.2	
	comp=Z,11nm,0.9s						
VRI	**Vrincioaia**	**25.30**	**316**	⇑P	**P**	**07 07 54.3**	**+0.9**
VRI	**Vrincioaia**	**25.30**	**316**	⇑*i*P	**P**	**07 07 54.3**	**+0.9**
VRI	**Vrincioaia**	**25.30**	**316**	P	**P**	**07 07 54.3**	**+0.9**
MLR	**Muntele Rosu**	**25.59**	**315**	P	**P**	**07 07 56.9**	**+0.9**
	comp=Z,3.8nm,0.9s,mb3.9,baz=220,slow=3.9,SNR=12						
MLR				LR	LR	07 20 23.6	
	comp=Z,34nm,18.5s,MS2.9,baz=262,slow=42						
MLR	**Muntele Rosu**	**25.59**	**315**	P	**P**	**07 07 56.9**	**+0.9**
MLR	**Muntele Rosu**	**25.59**	**315**	P	**P**	**07 07 56.9**	**+0.9**
MLR	**Muntele Rosu**	**25.59**	**315**	⇓*i*P	**P**	**07 07 58.3**	**+2.3**
MLR	**Muntele Rosu**	**25.59**	**315**	P	**P**	**07 07 56.9**	**+0.9**
TESR		**25.67**	**317**	⇓*i*P	**P**	**07 07 56.8**	**0.0**
VOIR		**26.12**	**314**	⇑P	**P**	**07 08 07.0**	**+6.1**
VOIR		**26.12**	**314**	⇑*i*P	**P**	**07 08 07.0**	**+6.1**
VOIR		**26.12**	**314**	P	**P**	**07 08 07.0**	**+6.1**
VTS	**Vitosha**	**26.22**	**307**	⇑P	**P**	**07 08 04.0**	**+2.2**
VTS	**Vitosha**	**26.22**	**307**	⇑*i*P	**P**	**07 08 04.0**	**+2.2**
VTS	**Vitosha**	**26.22**	**307**	P	**P**	**07 08 04.0**	**+2.2**
BVAR	**Borovoye Array**	**26.78**	**25**	P	**P**	**07 08 07.5**	**+0.8**
	comp=Z,3.1nm,0.8s,mb3.9,baz=184,slow=10,SNR=4.2						
BVAR	**Borovoye Array**	**26.78**	**25**	P	**P**	**07 08 07.5**	**+0.8**
BVAR	**Borovoye Array**	**26.78**	**25**	P	**P**	**07 08 07.5**	**+0.8**
BVAR	**Borovoye Array**	**26.78**	**25**	P	**P**	**07 08 07.5**	**+0.8**
AKASG	**Malin Array Be**	**26.82**	**327**	P	**P**	**07 08 05.8**	**-1.3**
	comp=Z,0.9nm,0.4s,mb3.7,baz=132,slow=9.0,SNR=7.8						
AKASG	**Malin Array Be**	**26.82**	**327**	P	**P**	**07 08 05.8**	**-1.3**
AKASG	**Malin Array Be**	**26.82**	**327**	P	**P**	**07 08 05.8**	**-1.3**
AKASG	**Malin Array Be**	**26.82**	**327**	P	**P**	**07 08 05.8**	**-1.3**
BURAR	**Bucovina Array**	**27.08**	**318**	⇓P	**P**	**07 08 12.0**	**+2.5**
BURAR	**Bucovina Array**	**27.08**	**318**	⇓*i*P	**P**	**07 08 12.0**	**+2.5**
OBN	**Obninsk**	**27.47**	**341**	P	**P**	**07 08 10.0**	**-2.9**
OBN				*e*		07 08 18.2	
OBN				*e*		07 08 25.9	
OBN	**Obninsk**	**27.47**	**341**	P	**P**	**07 08 10.0**	**-2.9**
GZR	**Gura Zlata**	**27.55**	**312**	⇑P	**P**	**07 08 15.5**	**+1.8**
GZR	**Gura Zlata**	**27.55**	**312**	⇑*i*P	**P**	**07 08 15.5**	**+1.8**
GZR	**Gura Zlata**	**27.55**	**312**	P	**P**	**07 08 15.5**	**+1.8**
KURK	**Kurchatov**	**28.85**	**36**	LR	LR	07 21 10.7	
	comp=Z,80nm,19.8s,MS3.3,baz=225,slow=39						
KURK	**Kurchatov**	**28.85**	**36**	*e*P	**P**	**07 08 32.1**	**+6.9**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.4						
MKAR	**Makanchi Array**	**28.96**	**46**	LR	LR	07 20 40.0	
	comp=Z,132nm,18.7s,MS3.6,baz=181,slow=38						
ZALV	**Zalesovo Beam**	**33.81**	**35**	P	**P**	**07 09 08.6**	**-0.2**
	comp=Z,3.5nm,0.7s,mb4.4,baz=251,slow=9.2,SNR=4.0						
ZALV				LR	LR	07 24 40.3	
	comp=Z,69nm,18.1s,MS3.4,baz=235,slow=40						
ZALV	**Zalesovo Beam**	**33.81**	**35**	P	**P**	**07 09 08.6**	**-0.2**
ZALV	**Zalesovo Beam**	**33.81**	**35**	P	**P**	**07 09 08.6**	**-0.2**
ZALV	**Zalesovo Beam**	**33.81**	**35**	P	**P**	**07 09 08.6**	**-0.2**
GERES	**GERESS Array B**	**34.58**	**314**	P	**P**	**07 09 14.3**	**-1.3**
	comp=Z,0.5nm,0.4s,mb3.8,baz=111,slow=7.3,SNR=4.7						
GERES	**GERESS Array B**	**34.58**	**314**	P	**P**	**07 09 14.3**	**-1.3**
GERES	**GERESS Array B**	**34.58**	**314**	P	**P**	**07 09 14.3**	**-1.3**
GERES	**GERESS Array B**	**34.58**	**314**	P	**P**	**07 09 14.3**	**-1.3**
KHC	**Kasperske Hory**	**34.74**	**314**	*e*P	**P**	**07 09 15.5**	**-1.5**
KHC				*e*		07 09 30.5	
KHC	**Kasperske Hory**	**34.74**	**314**	*e*P	**P**	**07 09 15.5**	**-1.5**
KHC				*ex*	x	07 09 30.5	
KHC	**Kasperske Hory**	**34.74**	**314**	*e*P	**P**	**07 09 15.5**	**-1.5**
WTTA	**Wattenberg**	**35.44**	**311**	⇑/pP	pP	07 09 25.7	-2.6
	comp=Z,16nm,0.9s						
JOF	**Joensuu**	**35.59**	**344**	*e*P	**P**	**07 09 22.6**	**-1.5**
JOF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
JOF	**Joensuu**	**35.59**	**344**	*e*P	**P**	**07 09 22.6**	**-1.5**
	comp=Z,4.3nm,0.7s,mb4.5						
JOF	**Joensuu**	**35.59**	**344**	*e*P	**P**	**07 09 22.6**	**-1.5**
	comp=Z,4.0nm,0.7s,mb4.5						
FINES	**FINESS Array B**	**35.83**	**339**	P	**P**	**07 09 24.5**	**-1.7**
	comp=Z,2.2nm,0.5s,mb4.4,baz=148,slow=9.6,SNR=14						
FINES	**FINESS Array B**	**35.83**	**339**	P	**P**	**07 09 24.5**	**-1.7**
FINES	**FINESS Array B**	**35.83**	**339**	P	**P**	**07 09 24.5**	**-1.7**
FINES	**FINESS Array B**	**35.83**	**339**	P	**P**	**07 09 24.5**	**-1.7**
FETA	**Feichten**	**35.98**	**310**	⇑*i*P	**P**	**07 09 26.9**	**-0.8**
	comp=Z,13nm,0.8s,mb4.9						
KAF	**Kangasniemi**	**36.28**	**340**	*e*P	**P**	**07 09 28.1**	**-1.9**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
KAF	**Kangasniemi**	**36.28**	**340**	*e*P	**P**	**07 09 28.1**	**-1.9**
	comp=Z,2.3nm,0.5s,mb4.4						
KAF	**Kangasniemi**	**36.28**	**340**	*e*P	**P**	**07 09 28.1**	**-1.9**
	comp=Z,2.0nm,0.5s,mb4.3						
PGF	**Pioggiola**	**36.44**	**302**	*e*P	**P**	**07 09 31.2**	**-0.5**
	comp=Z,67nm,1.3s,mb5.1						
PGF	**Pioggiola**	**36.44**	**302**	*e*P	**P**	**07 09 31.2**	**-0.5**
	comp=Z,33nm,1.3s,mb5.1						
DAVA	**Damuels**	**36.61**	**310**	⇑*i*P	**P**	**07 09 32.0**	**-1.0**
	comp=Z,30nm,0.9s,mb5.1						
SBF	**Sospel**	**37.72**	**304**	*e*P	**P**	**07 09 42.3**	**-0.3**
	comp=Z,70nm,1.1s,mb5.0						
SBF	**Sospel**	**37.72**	**304**	*e*P	**P**	**07 09 42.3**	**-0.3**
	comp=Z,35nm,1.1s,mb5.0						
MBDF	**Montbardon**	**38.30**	**305**	*e*P	**P**	**07 09 47.3**	**-0.1**
	comp=Z,28nm,0.8s,mb4.8						
MBDF	**Montbardon**	**38.30**	**305**	*e*P	**P**	**07 09 47.3**	**-0.1**
	comp=Z,14nm,0.8s,mb4.8						
LPG	**La Plagne**	**38.41**	**307**	*e*P	**P**	**07 09 48.4**	**0.0**
	comp=Z,19nm,0.8s,mb4.6						
LPG	**La Plagne**	**38.41**	**307**	*e*P	**P**	**07 09 48.4**	**0.0**
	comp=Z,9.6nm,0.8s,mb4.6						
LPL	**La Plagne**	**38.43**	**307**	*e*P	**P**	**07 09 48.3**	**-0.2**
	comp=Z,39nm,1.0s,mb4.8						
LPL	**La Plagne**	**38.43**	**307**	*e*P	**P**	**07 09 48.3**	**-0.2**
	comp=Z,19nm,1.0s,mb4.8						
ORIF	**Oris-en-Rattie**	**38.95**	**306**	*e*P	**P**	**07 09 52.5**	**-0.4**
ORIF				*e*R			
	comp=Z,116nm,20.5s						
ORIF	**Oris-en-Rattie**	**38.95**	**306**	*e*P	**P**	**07 09 52.5**	**-0.4**
CABF	**La Chapelle**	**39.03**	**308**	*e*P	**P**	**07 09 52.4**	**-1.1**
	comp=Z,48nm,1.1s,mb4.8						
CABF	**La Chapelle**	**39.03**	**308**	*e*P	**P**	**07 09 52.4**	**-1.1**
	comp=Z,24nm,1.1s,mb4.8						
LASF	**Ste Croix**	**40.31**	**304**	*e*P	**P**	**07 10 02.7**	**-1.6**
LASF	**Ste Croix**	**40.31**	**304**	*e*P	**P**	**07 10 02.7**	**-1.6**
SMF	**Signal de Mont**	**40.57**	**308**	*e*P	**P**	**07 10 05.9**	**-0.4**
	comp=Z,21nm,0.9s,mb4.5						
SMF	**Signal de Mont**	**40.57**	**308**	*e*P	**P**	**07 10 05.9**	**-0.4**
	comp=Z,10nm,0.9s,mb4.5						
LOR	**Lormes**	**40.64**	**309**	*e*P	**P**	**07 10 06.4**	**-0.5**
	comp=Z,14nm,1.0s,mb4.3						
LOR				*e*R			
	comp=Z,66nm,19.0s						
LOR	**Lormes**	**40.64**	**309**	*e*P	**P**	**07 10 06.4**	**-0.5**
	comp=Z,7.2nm,1.0s,mb4.3						
SSF	**Saint Saulge**	**40.85**	**309**	*e*P	**P**	**07 10 07.5**	**-1.1**
	comp=Z,12nm,0.9s,mb4.2						
SSF	**Saint Saulge**	**40.85**	**309**	*e*P	**P**	**07 10 07.5**	**-1.1**
	comp=Z,5.9nm,0.9s,mb4.2						
BAIF	**Baives**	**40.87**	**313**	*e*P	**P**	**07 10 08.5**	**-0.2**
BAIF	**Baives**

comp=Z,0.3nm,0.7s,mb3.8,baz=307,slow=4.7,SNR=3.1

ASAR	**Alice Springs**	**95.03**	**114**	P	**P**	**07 15 48.8**	**-1.2**
ASAR	**Alice Springs**	**95.03**	**114**	P	**P**	**07 15 48.7**	**-1.3**
ASAR	**Alice Springs**	**95.03**	**114**	P	**P**	**07 15 48.7**	**-1.3**

NNC 26 07:03:57.3±1.6, 50.27N×77.77E, h0km, mb3.6, mpv2.2, 4C-2D, Error ellipse: s-maj=24.5km s-min=8.2km az=138.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR20	**Kurchatov Arra**	**0.54**	**46**	P	Pg	07 04 09.1	+1.5
	0.2nm,0.3s						
KUR07	**Kurchatov Arra**	**0.57**	**56**	P	Pg	07 04 08.2	-0.1
KUR07				S	Sg	07 04 16.9	+1.2
KUR06	**Kurchatov Arra**	**0.59**	**55**	P	Pg	07 04 08.5	0.0
KUR06				S	Sg	07 04 17.9	+1.7
KUR16	**Kurchatov Arra**	**0.59**	**52**	⇑S	Sg	07 04 17.9	+1.7
	1.2nm,0.5s						
KURBB	**Kurchatov Arra**	**0.60**	**54**	⇓P	Pg	07 04 08.9	0.0
	1.5nm,0.2s						
KURBB				S	Sg	07 04 18.0	+1.4
	6.7nm,0.4s						
KUR15	**Kurchatov Arra**	**0.61**	**55**	P	Pg	07 04 08.4	-0.7
KUR15				S	Sg	07 04 17.6	+0.6
KUR05	**Kurchatov Arra**	**0.62**	**52**	P	Pg	07 04 09.0	-0.1
KUR05				S	Sg	07 04 17.9	+0.8
KUR14	**Kurchatov Arra**	**0.63**	**56**	P	Pg	07 04 08.4	-1.0
KUR14				S	Sg	07 04 16.8	-0.7
KUR04	**Kurchatov Arra**	**0.63**	**51**	P	Pg	07 04 09.4	0.0
KUR04				S	Sg	07 04 18.7	+1.1
KURK	**Kurchatov**	**0.70**	**50**	⇓P	Pg	07 04 10.2	-0.5
	5.3nm,0.4s						
KURK				⇑S	Sg	07 04 19.7	-0.2
	6.6nm,0.4s						
MK31	**Makanchi Array**	**4.59**	**137**	⇑Pn	Pn	07 05 09.3	+1.4
	2.8nm,0.7s,baz=323,slow=15,SNR=7.7						
MK31				⇑Sn	Sn	07 06 03.8	+1.8
	2.5nm,0.6s,baz=328,slow=26,SNR=7.4						

JMA 26 07:11:01.1±0.2, 39.45N×144.18E, h55km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.83**	**275**	P	Pn	07 11 31.1	+1.0
MIYJ				eS	Sn	07 11 53.5	+1.3
JTH	**Tanohata**	**1.85**	**286**	P	Pn	07 11 31.2	+0.8
JTH				eS	Sn	07 11 53.6	+0.9
OFUJ	**Ofunato**	**1.98**	**260**	P	Pn	07 11 32.9	+0.7
OFUJ				S	Sn	07 11 56.2	+0.3
JOM	**Ohasama**	**2.24**	**272**	P	Pn	07 11 37.0	+1.3
JOM				S	Sn	07 12 03.7	+1.6
JMK	**Ichinoseki**	**2.35**	**259**	P	Pn	07 11 38.2	+0.9
JMK				S	Sn	07 12 05.4	+0.4
JYK	**Kaneyama**	**3.02**	**261**	P	Pn	07 11 48.0	+1.6
JYK				eS	Sn	07 12 23.2	+2.0
JNBK	**Urakawa-nobuka**	**3.03**	**340**	P	Pn	07 11 47.7	+1.2
JNBK				S	Sn	07 12 23.3	+1.8
JOT	**Ohata**	**3.07**	**310**	P	Pn	07 11 48.6	+1.5
JOT				S	Sn	07 12 23.7	+1.1
JCH	**Churui**	**3.22**	**349**	P	Pn	07 11 49.5	+0.4
JCH				S	Sn	07 12 26.0	-0.3
JKB	**Kayabe**	**3.41**	**316**	eS	Sn	07 12 32.3	+1.3
NEM2	**Nemuro 2**	**4.08**	**16**	P	Pn	07 11 59.4	-1.6
NEM2				eS	Sn	07 12 43.3	-4.1
JOSM	**Okushiri--Mats**	**4.44**	**308**	P	Pn	07 12 07.1	+1.3
JOSM				eS	Sn	07 12 56.1	0.0
JTKR	**Abashiri--Toko**	**4.52**	**358**	P	Pn	07 12 07.4	+0.4
JTKR				S	Sn	07 12 57.3	-0.9
JHR	**Hokuryu**	**4.67**	**338**	P	Pn	07 12 12.1	+3.1
JHR				eS	Sn	07 13 04.3	+2.5

*ISCJB **26** 07:16:04.4±0.7, 22.65N±0.04×141.9E±0.1, h260km±7km, mb3.9/22, Error ellipse: s-maj=18.6km s-min=6.9km az=174.1*
*NEIC **26** 07:16:05.5±0.7, 22.58N×141.93E, h255km±7km, mb4.0/1, Error ellipse: s-maj=11.4km s-min=5.0km az=84.0*
*IDC **26** 07:16:06.1±1.6, 22.58N×141.94E, h261km±15km, mb3.7/18, mb1 3.7/21, mb1mx3.7/30, mbtmp3.6/21, Error ellipse: s-maj=15.0km s-min=8.9km az=90.0*
*JMA **26** 07:16:08.9±0.2, 22.99N×142.13E, h286km, M5.1*
ISC 26 07:16:05.0±0.7, 22.61N±0.05×141.9E±0.1, h250km±7km, n57, σ0°82/67, mb3.9/22, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHHJ	**Haha-jima-NKT**	**4.01**	**3**	P	Pn	**07 17 10.6**	**+1.7**
JHHJ				eS	**S**	**07 17 58.5**	**-1.2**
CBIJ	**Chichi jima**	**4.47**	**3**	P	**Pn**	**07 17 15.5**	**+1.1**
	101nm,0.3s,baz=280,slow=23,SNR=56						
CBIJ	**Chichi jima**	**4.47**	**3**	P	**Pn**	**07 17 15.5**	**+1.1**
CBIJ	**Chichi jima**	**4.47**	**3**	P	**Pn**	**07 17 15.4**	**+1.0**
CBIJ				eS	**S**	**07 18 08.2**	**-1.4**
GUMO	**Guam**	**9.40**	**162**	Pn	**Pn**	**07 18 16.0**	**-0.1**
BSO1	**Boso 1**	**12.03**	**356**	P	**Pn**	**07 18 48.8**	**0.0**
BSO1				eS	**S**	**07 20 56.4**	**-6.5**
BSO3	**Boso 3**	**12.21**	**355**	P	**Pn**	**07 18 50.2**	**-0.9**
BSO3				eS	**S**	**07 20 58.6**	**-8.5**
BSO4	**Boso 4**	**12.41**	**354**	P	**Pn**	**07 18 53.0**	**-0.6**
BSO4				eS	**S**	**07 21 01.9**	**-10**
JAG	**Ashikaga**	**13.93**	**352**	P	**Pn**	**07 19 11.9**	**-0.3**
JAG				eS	**S**	**07 21 38.4**	**-8.0**
MJAR	**Matsushiro Arr**	**14.25**	**348**	P	**Pn**	**07 19 16.6**	**+0.5**
	0.5nm,0.3s,baz=24,slow=9.6,SNR=3.4						
MJAR	**Matsushiro Arr**	**14.25**	**348**	P	**Pn**	**07 19 16.6**	**+0.5**
MAJO	**Matsushiro**	**14.25**	**348**	Pn	**Pn**	**07 19 17.1**	**+1.0**
KSRS	**Korea Array**	**19.09**	**324**	P	**P**	**07 20 08.7**	**-0.5**
	1.3nm,0.3s,baz=80,slow=15,SNR=16						
KSAR	**Wonju Array Be**	**19.10**	**324**	P	**P**	**07 20 08.7**	**-0.7**
ASAJ	**Asahikawa**	**21.46**	**1**	P	**P**	**07 20 35.7**	**+1.9**
	3.7nm,0.6s,mb4.1,baz=229,slow=6.0,SNR=4.5						
ASAJ	**Asahikawa**	**21.46**	**1**	P	**P**	**07 20 35.7**	**+1.9**
SONM	**Songino Array**	**37.89**	**320**	P	**P**	**07 22 59.1**	**+1.0**
	0.5nm,0.3s,mb3.5,baz=133,slow=5.8,SNR=6.1						
SONM	**Songino Array**	**37.89**	**320**	P	**P**	**07 22 59.1**	**+1.0**
CTA	**Charters Tower**	**42.65**	**174**	P	**P**	**07 23 38.1**	**+0.9**
	2.7nm,0.6s,mb3.8,baz=2.7,slow=6.8,SNR=3.6						
CTA	**Charters Tower**	**42.65**	**174**	P	**P**	**07 23 38.1**	**+0.9**
WRAB	**Tennant Creek**	**42.92**	**190**	eP	**P**	**07 23 39.5**	**0.0**
	6.5nm,0.8s,mb4.1						
WB2	**Warramunga Arr**	**42.93**	**190**	eP	**P**	**07 23 39.4**	**-0.2**
WRA	**Warramunga Arr**	**42.93**	**190**	P	**P**	**07 23 39.7**	**+0.1**
	5.5nm,0.7s,mb4.1,baz=11,slow=8.3,SNR=72						
WRA				ScP	ScP	07 28 51.0	-1.3
	0.4nm,0.5s,baz=3.4,slow=4.6,SNR=11						
WRA				S	**S**	**07 29 44.3**	**-1.1**
	0.3nm,0.7s,baz=7.8,slow=13,SNR=3.7						
WRA	**Warramunga Arr**	**42.93**	**190**	P	**P**	**07 23 39.7**	**+0.1**
WRA				ScP	ScP	07 28 51.0	-1.3
WRA				S	**S**	**07 29 44.3**	**-1.1**
AS31	**Alice Springs**	**46.65**	**190**	eP	**P**	**07 24 09.1**	**+0.4**
ASAR	**Alice Springs**	**46.65**	**190**	P	**P**	**07 24 08.3**	**-0.4**
	1.0nm,0.6s,mb3.4,baz=15,slow=10,SNR=21						
ASAR				S	**S**	**07 30 36.2**	**-2.4**
	0.4nm,1.0s,baz=17,slow=19,SNR=4.1						
ASAR	**Alice Springs**	**46.65**	**190**	P	**P**	**07 24 08.3**	**-0.4**
ASAR				S	**S**	**07 30 36.2**	**-2.4**
AKUT	**Akutan**	**50.10**	**37**	eP	**P**	**07 24 34.7**	**+0.1**
ZALV	**Zalesovo Beam**	**52.77**	**321**	P	**P**	**07 24 54.6**	**+0.2**
	1.9nm,0.4s,mb3.9,baz=115,slow=7.1,SNR=7.5						
ZALV	**Zalesovo Beam**	**52.77**	**321**	P	**P**	**07 24 54.6**	**+0.2**
MKAR	**Makanchi Array**	**53.22**	**312**	P	**P**	**07 24 58.8**	**+1.1**
	1.1nm,0.5s,mb3.5,baz=92,slow=8.8,SNR=7.0						
MKAR				PcP	PcP	07 26 02.3	+0.1
	0.5nm,0.6s,baz=87,slow=5.2,SNR=2.9						
MKAR	**Makanchi Array**	**53.22**	**312**	P	**P**	**07 24 58.8**	**+1.1**
MKAR				PcP	PcP	07 26 02.3	+0.1
STKA	**Stephens Creek**	**54.18**	**180**	P	**P**	**07 25 04.2**	**-0.5**
	0.7nm,0.5s,mb3.5,baz=323,slow=12,SNR=4.6						
STKA	**Stephens Creek**	**54.18**	**180**	P	**P**	**07 25 04.2**	**-0.5**
KURK	**Kurchatov**	**56.01**	**317**	P	**P**	**07 25 18.5**	**+0.8**
	2.3nm,0.4s,mb4.1,baz=92,slow=7.4,SNR=21						
KURK	**Kurchatov**	**56.01**	**317**	P	**P**	**07 25 18.5**	**+0.8**
KDAK	**Kodiak Island**	**58.13**	**35**	P	**P**	**07 25 32.6**	**+0.2**
	8.9nm,0.8s,mb4.4,baz=347,slow=12,SNR=10.0						
KDAK	**Kodiak Island**	**58.13**	**35**	P	**P**	**07 25 32.6**	**+0.2**
BVAR	**Borovoye Array**	**61.22**	**319**	P	**P**	**07 25 54.1**	**+0.7**
	2.8nm,0.5s,mb4.2,baz=102,slow=7.2,SNR=16						
BVAR	**Borovoye Array**	**61.22**	**319**	P	**P**	**07 25 54.1**	**+0.7**
ILAR	**Eielson Array**	**61.77**	**27**	P	**P**	**07 25 56.2**	**-0.7**
	1.9nm,0.7s,mb3.8,baz=258,slow=5.8,SNR=27						
ILAR	**Eielson Array**	**61.77**	**27**	P	**P**	**07 25 56.2**	**-0.7**
INK	**Inuvik**	**67.21**	**24**	P	**P**	**07 26 31.8**	**-0.2**
	1.4nm,0.5s,mb3.8,baz=286,slow=6.5,SNR=14						
INK	**Inuvik**	**67.21**	**24**	P	**P**	**07 26 31.8**	**-0.2**
YKA	**Yellowknife Ar**	**76.20**	**28**	P	**P**	**07 27 25.3**	**-0.1**
	0.9nm,0.3s,mb3.8,baz=293,slow=5.7,SNR=7.8						
YKA	**Yellowknife Ar**	**76.20**	**28**	P	**P**	**07 27 25.3**	**-0.1**
KEV	**Kevo**	**77.12**	**341**	ep	**P**	**07 27 29.6**	**-0.9**
	5.0nm,0.8s,mb4.2						
ARCES	**ARCESS Array B**	**77.69**	**341**	P	**P**	**07 27 34.1**	**+0.5**
	2.0nm,0.6s,mb3.9,baz=60,slow=7.2,SNR=9.9						
ARCES	**ARCESS Array B**	**77.69**	**341**	P	**P**	**07 27 34.1**	**+0.5**
JOF	**Joensuu**	**78.99**	**334**	ep	**P**	**07 27 40.1**	**-0.7**
	4.2nm,0.5s,mb4.3						
KAF	**Kangasniemi**	**81.40**	**335**	ep	**P**	**07 27 52.5**	**-1.2**
	2.7nm,0.5s,mb4.1						
FINES	**FINESS Array B**	**81.85**	**334**	P	**P**	**07 27 55.4**	**-0.7**
	2.9nm,0.3s,mb4.4,baz=67,slow=4.8,SNR=29						
FINES	**FINESS Array B**	**81.85**	**334**	P	**P**	**07 27 55.4**	**-0.7**
NVAR	**Mina Array Bea**	**83.49**	**51**	P	**P**	**07 28 06.0**	**+1.0**
	2.2nm,0.6s,mb4.1,baz=286,slow=5.5,SNR=27						
NVAR	**Mina Array Bea**	**83.49**	**51**	P	**P**	**07 28 06.0**	**+1.0**
BRTR	**Keskin Array B**	**88.86**	**313**	P	**P**	**07 28 30.8**	**-0.2**
	0.5nm,0.4s,mb3.7,baz=78,slow=3.4,SNR=3.3						
BRTR	**Keskin Array B**	**88.86**	**313**	P	**P**	**07 28 30.9**	**-0.2**

*IDC **26** 07:29:12.8±0.6, 63.18N×151.55W, h0km, mb4.1/18, mb1 4.3/21, mb1mx4.2/26, mbtmp4.1/21, ML3.5/3, MS3.2/6, Ms1 3.2/6, ms1mx2.8/46, Error ellipse: s-maj=15.1km s-min=8.6km az=160.0*
*ISCJB **26** 07:29:13.1±0.2, 63.22N±0.02×151.50W±0.04, h10km, mb4.4/36, MS3.5/3, Error ellipse: s-maj=2.7km s-min=2.3km az=28.3*
*BJI **26** 07:29:13.1, 63.26N×151.67W, h20km, mB4.9/5, mb4.6/13, Ms7 4.5/2*
*NEIC **26** 07:29:13.4, 63.13N×151.46W, h10km, mb4.7/13, ML4.4(PMR), ML4.0(AEIC), After AEIC.*
ISC 26 07:29:14.9±0.2, 63.22N±0.02×151.48W±0.04, h10km, (h16km±.3km:pP-P), n247, σ0°81/261, mb4.4/36, MS3.5/3, 67C-62D, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPLA	**Purkeypile**	**0.46**	**225**	ePg	**Pg**	**07 29 21.6**	**-2.2**
PPLA				eSg	**Sg**	**07 29 28.1**	**-1.7**
TRF	**Thorofare Moun**	**0.59**	**66**	ePg	**Pg**	**07 29 25.5**	**-0.7**
CHUM	**Lake Minchumin**	**0.77**	**331**	P	**Pg**	**07 29 30.2**	**+0.6**
CHUM				S	**Sg**	**07 29 41.4**	**+1.8**
BPAW	**Bear Paw Mtn.**	**0.91**	**14**	ePg	**Pg**	**07 29 32.5**	**+0.1**
BPAW				eSg	**Sg**	**07 29 42.0**	**-2.2**
TRAP	**Trapper Creek**	**1.05**	**147**	P	**Pg**	**07 29 32.1**	**-3.0**
RND	**Reindeer**	**1.20**	**80**	P	**Pb**	**07 29 35.7**	**-1.9**
RND				S	**Sb**	**07 29 52.1**	**-1.0**
SKT	**Skwentna**	**1.24**	**181**	P	**Pn**	**07 29 35.1**	**-3.1**
SKT				S	**Sb**	**07 29 50.0**	**-4.4**
MCK	**McKinley**	**1.25**	**65**	ePg	**Pg**	**07 29 37.1**	**-1.8**
MCK				eSg	**Sg**	**07 29 54.0**	**-1.1**
NEA	**Nenana**	**1.73**	**37**	P	**Pn**	**07 29 43.6**	**-1.3**
STLK	**Strandline Lak**	**1.73**	**186**	P	**Pn**	**07 29 42.8**	**-2.1**
SUA	**Susitna One**	**1.79**	**169**	P	**Pn**	**07 29 44.2**	**-1.6**
SUA				S	**Sn**	**07 30 06.9**	**-1.7**
MLY	**Manley**	**1.85**	**10**	P	**Pn**	**07 29 46.4**	**-0.1**
SPNW	**Spurr Northwes**	**1.95**	**196**	P	**Pn**	**07 29 46.7**	**-1.2**
WRH	**Wood River Hil**	**1.96**	**49**	P	**Pn**	**07 29 46.9**	**-1.1**
PMR	**Palmer**	**1.96**	**145**	eP	**Pn**	**07 29 46.8**	**-1.3**
SML	**Sawmill**	**2.03**	**133**	ePn	**Pn**	**07 29 47.3**	**-1.8**
SML				eSn	**Sn**	**07 30 13.6**	**-0.8**
SPU	**Mount Spurr**	**2.06**	**188**	ePn	**Pn**	**07 29 48.1**	**-1.4**
CKL	**Chakachamna La**	**2.07**	**192**	P	**Pn**	**07 29 49.1**	**-0.4**
TT01	**Tatalina**	**2.09**	**263**	P	**Pn**	**07 29 48.4**	**-1.5**
FIB	**Fire Island**	**2.15**	**163**	P	**Pn**	**07 29 50.2**	**-0.4**
CCB	**Clear Creek Bu**	**2.17**	**47**	P	**Pn**	**07 29 49.6**	**-1.3**
BKG	**Blockade Glaci**	**2.19**	**190**	P	**Pn**	**07 29 50.3**	**-0.9**
MDM	**Murphy Dome**	**2.26**	**38**	P	**Pn**	**07 29 51.1**	**-1.1**
COLA	**College**	**2.30**	**42**	ePn	**Pn**	**07 29 51.8**	**-1.0**
COLA				eSn	**Sn**	**07 30 19.7**	**-1.4**
HDA	**Harding Lake**	**2.33**	**57**	P	**Pn**	**07 29 52.4**	**-0.9**
SCM	**Sheep Creek Mo**	**2.37**	**124**	P	**Pn**	**07 29 51.7**	**-2.1**
ILAR	**Eielson Array**	**2.55**	**50**	Pn	**Pn**	**07 29 55.0**	**-1.3**
	4.3nm,0.3s,baz=235,slow=13,SNR=90						
ILAR				Pg	**Pg**	**07 29 58.7**	**-5.1**
	23nm,0.3s,baz=235,slow=17,SNR=58						
ILAR				Lg		07 30 35.2	
	53nm,0.3s,baz=236,slow=29,SNR=14						
ILAR	**Eielson Array**	**2.55**	**50**	Pn	**Pn**	**07 29 55.0**	**-1.3**
ILAR				Pg	**Pg**	**07 29 58.7**	**-5.1**
ILAR				Lg		07 30 35.2	
IL1	**Eielson Array**	**2.56**	**50**	P	**Pn**	**07 29 54.8**	**-1.5**
DDM	**Donnelly Dome**	**2.58**	**75**	P	**Pn**	**07 29 56.6**	**0.0**
PAX	**Paxson**	**2.74**	**93**	ePn	**Pn**	**07 29 58.3**	**-0.5**
PAX				eSn	**Sn**	**07 30 31.2**	**-0.8**
RDN	**Redoubt North**	**2.78**	**193**	P	**Pn**	**07 29 59.0**	**-0.4**
SLKM	**Skilak Lake**	**2.79**	**167**	ePn	**Pn**	**07 29 59.0**	**-0.4**
SLKM				eSn	**Sn**	**07 30 33.3**	**+0.3**
GCSA	**Galena City Sc**	**2.83**	**305**	P	**Pn**	**07 30 00.2**	**+0.2**
RSO	**Redoubt South**	**2.83**	**193**	ePn	**Pn**	**07 30 00.3**	**+0.3**
RED	**Redoubt Volcan**	**2.88**	**193**	P	**Pn**	**07 29 59.8**	**-0.9**
SEW	**Seward**	**3.27**	**162**	ePn	**Pn**	**07 30 07.3**	**+1.2**
DOT	**Dot Lake**	**3.36**	**79**	ePn	**Pn**	**07 30 07.5**	**+0.2**
DIV	**Divide**	**3.40**	**126**	ePn	**Pn**	**07 30 07.1**	**-0.7**
DIV				eSn	**Sn**	**07 30 48.0**	**-0.1**
MENT	**Mentasta**	**3.54**	**91**	eP	**Pn**	**07 30 10.7**	**+0.9**
BMRM	**Bremner River**	**3.94**	**122**	ePn	**Pn**	**07 30 14.9**	**-0.3**
COLD	**Coldfoot**	**4.06**	**7**	ePn	**Pn**	**07 30 17.6**	**+0.6**
COLD				eSn	**Sn**	**07 31 06.2**	**+1.8**
EGAK	**Eagle**	**4.80**	**66**	ePn	**Pn**	**07 30 27.1**	**0.0**
EGAK				eSn	**Sn**	**07 31 22.0**	**-0.8**
DAWY	**Dawson**	**5.45**	**76**	ePn	**Pn**	**07 30 35.8**	**-0.3**
DAWY				eSn	**Sn**	**07 31 37.4**	**-1.3**
KDAK	**Kodiak Island**	**5.48**	**186**	Pn	**Pn**	**07 30 35.1**	**-1.3**
	2.1nm,0.3s,baz=10,slow=13,SNR=18						
KDAK				Sn	**Sn**	**07 31 43.0**	**+3.6**
	4.7nm,0.3s,baz=337,slow=5.5,SNR=3.6						
KDAK	**Kodiak Island**	**5.48**	**186**	Pn	**Pn**	**07 30 35.1**	**-1.3**
KDAK				Sn	**Sn**	**07 31 43.0**	**+3.6**
OHAK	**Old Harbor**	**6.08**	**189**	ePn	**Pn**	**07 30 45.8**	**+1.1**
PNL	**Peninsula**	**6.79**	**116**	ePn	**Pn**	**07 30 54.8**	**+0.3**
TNA	**Tin City**	**7.50**	**296**	ePn	**Pn**	**07 31 04.8**	**+0.7**
	66nm,0.8s						
TNA				eSn	**Sn**	**07 32 27.8**	**-1.2**
CHGN	**Chignik**	**7.77**	**210**	ePn	**Pn**	**07 31 08.3**	**+0.6**
INK	**Inuvik**	**8.95**	**47**	Pn	**Pn**	**07 31 24.0**	**0.0**
	0.7nm,0.3s,baz=240,slow=15,SNR=21						
INK				LR	LR	07 35 47.3	
	comp=Z,88nm,19.9s,baz=191,slow=44						
INK	**Inuvik**	**8.95**	**47**	ePn	**Pn**	**07 31 24.0**	**0.0**
	9.5nm,0.8s						
FALS	**False Pass**	**10.38**	**222**	ePn	**Pn**	**07 31 46.1**	**+2.5**
DLBC	**Dease Lake**	**11.48**	**105**	LR	LR	07 36 00.0	
	comp=Z,105nm,20.1s,baz=290,slow=35						
YKA	**Yellowknife Ar**	**16.70**	**76**	Pn	**Pn**	**07 33 08.2**	**-0.3**
	0.3nm,0.3s,baz=283,slow=9.5,SNR=8.3						
YKA				LR	LR	07 40 18.9	
	comp=Z,26nm,18.8s,baz=115,slow=40						
YKA	**Yellowknife Ar**	**16.70**	**76**	Pn	**Pn**	**07 33 08.2**	**-0.3**
FX1	**Attu Island--F**	**21.09**	**257**	P	**P**	**07 33 58.3**	**-0.7**
	8.3nm,0.5s,mb4.3,baz=270,slow=4.7,SNR=8.8						
FX1	**Attu Island--F**	**21.09**	**257**	P	**P**	**07 33 58.3**	**-0.7**
RES	**Resolute Bay**	**22.22**	**36**	P	**P**	**07 34 11.4**	**+0.5**
	3.4nm,0.9s,mb3.8,baz=250,slow=14,SNR=5.1						
RES	**Resolute Bay**	**22.22**	**36**	P	**P**	**07 34 11.4**	**+0.5**
C16A	**Fuhringer Ranc**	**26.71**	**106**	⇓P	**P**	**07 34 54.0**	**+0.1**
	baz=27						
PETK	**Petropavlovsk-**	**27.90**	**273**	P	**P**	**07 35 03.4**	**-1.0**
	1.4nm,0.7s,mb3.7,baz=70,slow=13,SNR=3.1						
PETK	**Petropavlovsk-**	**27.90**	**273**	P	**P**	**07 35 03.4**	**-1.0**
A21A	**Bergtoll Ranch**	**27.94**	**100**	⇓P	**P**	**07 35 05.9**	**+1.0**
	baz=28						
MFID	**Camas Ranch**	**28.50**	**117**	⇓P	**P**	**07 35 09.3**	**-0.7**
	baz=28						
I13A	**Wildhorse Cree**	**28.79**	**114**	⇓P	**P**	**07 35 11.6**	**-0.9**
	baz=29						
C22A	**Vida**	**29.33**	**100**	⇓P	**P**	**07 35 17.4**	**+0.1**
	baz=29						
H16A	**Russell Place,**	**29.35**	**110**	⇑P	**P**	**07 35 17.5**	**0.0**
	baz=29						
C23A	**Lambert**	**29.60**	**99**	⇑P	**P**	**07 35 19.8**	**+0.1**
	baz=30						
RLMT	**Red Lodge**	**29.87**	**107**	⇑P	**P**	**07 35 22.9**	**+0.8**
	baz=30						
LAO	**LASA Array**	**29.98**	**102**	⇑P	**P**	**07 35 24.0**	**+0.9**
	baz=30						
D23A	**Lindsay**	**30.07**	**100**	⇓P	**P**	**07 35 25.2**	**+1.4**
	baz=30						
K14A	**Jones Ranch, D**	**30.31**	**115**	⇓P	**P**	**07 35 26.9**	**+0.9**
	baz=30						
H19A	**Powell**	**30.35**	**107**	⇑P	**P**	**07 35 27.3**	**+0.9**
	baz=30						
TPAW	**Teton Pass**	**30.46**	**111**	eP	**P**	**07 35 28.4**	**+1.1**
	24nm,1.9s,mb4.6						
D24A	**Glendive**	**30.50**	**99**	⇓P	**P**	**07 35 28.5**	**+0.8**
	baz=30						
I19A	**Meeteetse**	**30.85**	**108**	⇓P	**P**	**07 35 31.2**	**+0.4**
	baz=31						
J18A	**Kendall Valley**	**31.08**	**110**	⇑P	**P**	**07 35 33.5**	**+0.7**
	baz=31						
I20A	**Worland**	**31.30**	**107**	⇑P	**P**	**07 35 35.3**	**+0.7**
	baz=31						
J19A	**Crowheart**	**31.45**	**109**	⇓P	**P**	**07 35 37.1**	**+1.0**
	baz=31						
PD01	**Pinedale Array**	**31.62**	**110**	eP	**P**	**07 35 37.2**	**-0.3**
BW06	**Boulder Array**	**31.64**	**110**	⇓P	**P**	**07 35 37.9**	**+0.2**
	baz=32						
BW06	**Boulder Array**	**31.64**	**110**	eP	**P**	**07 35 38.2**	**+0.5**
	43nm,2.5s,mb4.8						
PDAR	**Pinedale Array**	**31.64**	**110**	P	**P**	**07 35 38.1**	**+0.4**
	1.8nm,0.9s,mb3.9,baz=328,slow=5.3,SNR=11						
PDAR				PcP	PcP	07 38 28.1	-1.3
	0.6nm,0.7s,baz=11,slow=0.9,SNR=3.9						
PDAR	**Pinedale Array**	**31.64**	**110**	P	**P**	**07 35 38.1**	**+0.4**
PDAR				PcP	PcP	07 38 28.1	-1.3
I21A	**Big Trails, Te**	**31.77**	**107**	⇑P	**P**	**07 35 38.9**	**0.0**
	baz=32						
J20A	**Shoshoni**	**31.79**	**108**	⇑P	**P**	**07 35 39.1**	**0.0**
	baz=32						
NVAR	**Mina Array Bea**	**31.83**	**125**	P	**P**	**07 35 39.4**	**0.0**
	0.7nm,0.7s,mb3.6,baz=321,slow=9.5,SNR=6.4						
NVAR				PcP	PcP	07 38 29.9	-0.1
	1.6nm,0.7s,baz=287,slow=2.4,SNR=11						
NVAR	**Mina Array Bea**	**31.83**	**125**	P	**P**	**07 35 39.4**	**0.0**
NVAR				PcP	PcP	07 38 29.9	-0.1
N15A	**Stansbury Isla**	**31.96**	**116**	⇑P	**P**	**07 35 40.5**	**-0.1**
	baz=32						
ULM	**Lac du Bonnet**	**32.02**	**87**	P	**P**	**07 35 41.1**	**+0.1**
	2.7nm,0.7s,mb4.2,baz=313,slow=12,SNR=3.0						
ULM	**Lac du Bonnet**	**32.02**	**87**	P	**P**	**07 35 41.1**	**+0.1**
I22A	**9 Mile Ranch,**	**32.06**	**106**	⇓P	**P**	**07 35 40.9**	**-0.5**
	baz=32						
J21A	**Lysite**	**32.08**	**107**	⇑P	**P**	**07 35 41.4**	**-0.1**
	baz=32,SNR=5.0						
DUG	**Dugway**	**32.43**	**117**	⇑P	**P**	**07 35 45.0**	**+0.3**
	baz=32						
J22A	**Midwest**	**32.44**	**106**	⇑P	**P**	**07 35 45.5**	**+0.8**
	baz=32						
K21A	**Alcova**	**32.74**	**108**	⇑P	**P**	**07 35 47.1**	**-0.2**
	baz=33						
R11A	**Troy Canyon, C**	**32.92**	**122**	⇓P	**P**	**07 35 49.2**	**+0.2**
	baz=33						
RSSD	**Black Hills**	**32.95**	**103**	eP	**P**	**07 35 49.0**	**-0.2**
	26nm,2.1s,mb4.8						
O17A	**Robinson Place**	**33.28**	**114**	⇓P	**P**	**07 35 52.6**	**+0.5**
	baz=33				

baz=39
Y19A Nutrioso 39.24 118 ⇓P P 07 36 43.7 +0.7
baz=39
V24A Rampart Ranch, 39.34 112 ⇑P P 07 36 44.7 +0.7
baz=39,SNR=5.7
X21A Alamocita Cree 39.41 116 ⇓P P 07 36 45.0 +0.5
baz=39
U26A Atchley Ranch, 39.42 110 ⇑P P 07 36 44.9 +0.3
baz=39
W23A Werner Place, 39.46 114 ⇑P P 07 36 45.4 +0.5
baz=39
ANMO Albuquerque 39.52 114 eP P 07 36 47.2 +1.8
8.4nm,1.9s,mb4.2
V25A Rancho No Teng 39.52 111 ⇓P P 07 36 45.8 +0.4
baz=39
Y20A Horse Springs, 39.63 117 ⇑P P 07 36 46.9 +0.5
baz=40
W24A Lazy 6 Ranch, 39.73 113 ⇓P P 07 36 47.6 +0.5
baz=40
117A Oracle 39.87 121 ⇑P P 07 36 49.1 +0.7
baz=40
V26A Tequesquite Ra 39.91 110 ⇓P P 07 36 49.5 +0.9
baz=40
X23A Hourglass Bar 39.95 114 ⇑P P 07 36 49.8 +0.9
baz=40
W25A X Bar L Ranch, 40.12 112 ⇑P P 07 36 51.1 +0.7
baz=40
Z20A Nine Sixteen R 40.24 118 ⇓P P 07 36 52.4 +0.9
baz=40
X24A Lazy VL Ranch, 40.27 113 ⇓P P 07 36 52.5 +0.9
baz=40
KSU1 Kansas State U 40.29 100 eP P 07 36 51.1 -0.7
23nm,1.3s,mb4.7
217A Green Valley 40.55 121 ⇓P P 07 36 54.8 +0.8
baz=40
Y23A Lovelace Mesa, 40.56 114 ⇓P P 07 36 55.1 +1.0
baz=40
Z22A Elephant Butte 40.78 116 ⇑P P 07 36 56.6 +0.8
baz=41
Y24A Capitan 40.82 114 ⇓P P 07 36 57.0 +0.8
baz=41
219A White Tail Can 40.96 119 ⇓P P 07 36 58.0 +0.7
baz=41
X26A CR and CF Fran 40.97 111 ⇑P P 07 36 57.9 +0.5
baz=41
Z23A Rita Site, Whi 41.07 115 ⇑P P 07 36 58.8 +0.5
baz=41
121A Cookes Peak, D 41.08 117 ⇑P P 07 36 58.6 +0.3
baz=41
Y25A Mesa, Roswell 41.14 113 ⇑P P 07 36 59.1 +0.3
baz=41
318A Bisbee 41.17 121 ⇓P P 07 36 59.7 +0.6
baz=41
X27A F and S Farms, 41.19 111 ⇓P P 07 36 59.9 +0.7
baz=41
SCHQ Schefferville 41.27 61 P P 07 36 58.8 -0.9
3.9nm,0.8s,mb4.1,baz=331,slow=10,SNR=2.5
SCHQ Schefferville 41.27 61 P P 07 36 58.8 -0.9
220A Playas Peak, P 41.33 119 ⇑P P 07 37 00.9 +0.4
baz=41
Z25A Roswell 41.68 113 ⇑P P 07 37 03.7 +0.4
baz=42
Y27A Causey 41.81 111 ⇑P P 07 37 04.1 -0.2
baz=42,SNR=6.0
124A Stringfield Ra 41.88 115 ⇓P P 07 37 05.2 +0.3
baz=42
MSTX Muleshoe 41.90 111 ⇑P P 07 37 05.0 -0.1
baz=42
Z26A Caprock 42.00 113 ⇓P P 07 37 05.9 0.0
baz=42
125A Gardner Draw, 42.24 114 ⇓P P 07 37 08.2 +0.3
baz=42
Z27A Tatum 42.28 112 ⇑P P 07 37 08.1 -0.1
baz=42
225A Deer Hill, Car 42.65 114 ⇓P P 07 37 11.5 +0.3
baz=43
MNTX Cornudas Mount 42.78 115 ⇑P P 07 37 12.3 +0.1
baz=43
WMOK Wichita Mounta 42.96 106 eP P 07 37 13.2 -0.6
18nm,1.6s,mb4.5
324A Moseley Ranch, 42.97 116 ⇑P P 07 37 13.8 +0.1
baz=43
226A Malaga, Loving 42.99 114 ⇑P P 07 37 13.9 -0.1
baz=43
325A Bean Ranch, Si 43.24 115 ⇓P P 07 37 16.0 +0.1
baz=43
326A Caldwell Ranch 43.69 114 ⇑P P 07 37 19.6 -0.1
baz=44
425A Indio Mountain 43.74 115 ⇓P P 07 37 20.4 +0.3
baz=44,SNR=6.2
426A McDonald Obser 44.24 115 ⇓P P 07 37 24.1 +0.1
baz=44
427A Hayter Ranch, 44.34 114 ⇓P P 07 37 24.8 -0.1
baz=44
428A Kincaid Ranch, 44.75 113 ⇓P P 07 37 28.1 +0.1
baz=45
526A Mary Lane Ranc 44.75 115 ⇑P P 07 37 28.3 +0.2
baz=45
527A Woodward Ranch 44.87 114 ⇑P P 07 37 28.8 -0.3
baz=45,SNR=6.2
626A Big Bend Ranch 45.17 115 ⇓P P 07 37 31.6 +0.1
baz=45
528A Cox Ranch, San 45.20 114 ⇓P P 07 37 31.7 +0.1
baz=45
TXAR Lajitas Array 45.56 115 P P 07 37 34.7 +0.1
1.8nm,0.7s,mb4.1,baz=330,slow=6.4,SNR=25
TXAR PcP PcP 07 39 12.2 -0.8
2.1nm,0.9s,baz=286,slow=2.2,SNR=6.9
TXAR LR LR 07 56 55.3
comp=Z,36nm,18.9s,MS3.3,baz=5.0,slow=36
TXAR Lajitas Array 45.56 115 P P 07 37 34.7 +0.1
TXAR PcP PcP 07 39 12.2 -0.8
627A Terlingua Ranc 45.57 115 ⇑P P 07 37 34.1 -0.5
baz=46,SNR=5.2
628A Black Gap, Mar 45.75 114 ⇑P P 07 37 35.9 -0.2
baz=46
JCT Junction City 46.17 110 ⇑P P 07 37 38.7 -0.7
baz=46,SNR=6.3
JCT Junction City 46.17 110 eP P 07 37 39.1 -0.3
8.3nm,0.8s,mb4.7
MDJ Mudanjiang 46.68 286 P P 07 37 40.0 -3.2
MDJ pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MDJ pmax pmax
comp=Z,78nm,7.5s
OXF Oxford 47.31 97 eP P 07 37 47.7 -0.5
comp=Z,48nm,1.3s,mb5.3
ARCES ARCESS Array B 47.51 1 P P 07 37 50.8 +1.4
comp=Z,5.0nm,0.9s,mb4.6,baz=7.0,slow=8.2,SNR=2.7
ARCES ARCESS Array B 47.51 1 P P 07 37 50.8 +1.4
PLAL Pickwick Lake 47.52 95 eP P 07 37 49.5 -0.4
CN2 Changchun 49.12 288 eP P 07 38 01.5 -0.6
CN2 pmax pmax
comp=Z,30nm,0.8s,mb5.4
MJAR Matsushiro Arr 49.35 272 P P 07 38 03.9 0.0
comp=Z,1.4nm,0.6s,mb4.2,baz=4.6,slow=6.4,SNR=5.0
MJAR Matsushiro Arr 49.35 272 P P 07 38 03.9 0.0
KSRS Korea Array 53.22 281 P P 07 38 33.2 +0.3
comp=Z,5.2nm,0.7s,mb4.6,baz=27,slow=6.7,SNR=18
KSRS LR LR 08 02 15.7
comp=Z,14nm,18.8s,MS3.0,baz=230,slow=37
ULN Ulaanbaatar 53.24 305 eP P 07 38 33.5 +0.6
comp=Z,4.4nm,0.8s,mb4.4
KSAR Wonju Array Be 53.25 281 P P 07 38 33.2 +0.1
SONM Songino Array 53.51 305 P P 07 38 36.2 +1.2
comp=Z,4.9nm,0.8s,mb4.5,baz=30,slow=6.8,SNR=23
SONM Songino Array 53.51 305 P P 07 38 36.2 +1.2
ZAA0 Zalesovo Array 55.22 323 eP P 07 38 46.3 -0.9
ZALV Zalesovo Beam 55.22 323 P P 07 38 46.6 -0.6
comp=Z,4.5nm,0.7s,mb4.6,baz=29,slow=6.6,SNR=20
ZALV Zalesovo Beam 55.22 323 P P 07 38 46.6 -0.6
MKAR Makanchi Array 62.37 321 P P 07 39 35.9 -1.2
comp=Z,1.8nm,0.6s,mb4.4,baz=48,slow=7.4,SNR=14
MKAR Makanchi Array 62.37 321 P P 07 39 35.9 -1.2
GTA Gaotai 63.18 305 eP P 07 39 43.0 +0.4
GTA pP pP 07 39 47.8 +1.9
GTA sP sP 07 39 50.3 +3.2
GTA pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
LZH Lanzhou 64.55 300 eP P 07 39 51.5 -0.1
LZH pP pP 07 39 56.0 +1.1
LZH sP sP 07 39 58.8 +2.7
LZH pmax pmax
comp=Z,16nm,1.2s,mb4.9
AKASG Malin Array Be 66.42 360 P P 07 40 03.4 -0.1
comp=Z,0.4nm,0.3s,mb3.9,baz=2.3,slow=6.0,SNR=5.2
AKASG Malin Array Be 66.42 360 P P 07 40 03.4 -0.1

AAK Ala-Archa 68.33 325 eP P 07 40 15.2 -0.5
comp=Z,116nm,0.8s,mb4.9
EKS2 Erkin-Say 68.49 326 eP P 07 40 16.5 -0.2
comp=Z,5.2nm,0.8s,mb4.6
KSH Kashi 70.85 323 eP P 07 40 33.5 +2.1
KSH pP pP 07 40 38.3 +3.6
KSH sP sP 07 40 40.5 +4.6
KSH PcP PcP 07 40 53.8 +1.8
KSH PP PP 07 43 13.5 +5.8
KSH S S 07 49 48.8 +2.7
KSH SKS 07 50 31.5
KSH ScS ScS 07 50 34.0 -0.8
KSH SS SS 07 54 24.5 +7.1
KSH pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
KSH LR LR
comp=Z,78nm,6.2s
ESDC Sonseca Array 74.22 26 P P 07 40 50.7 -0.7
comp=Z,0.6nm,0.4s,mb3.8,baz=340,slow=5.6,SNR=5.5
ESDC Sonseca Array 74.22 26 P P 07 40 50.7 -0.8
BRTR Keskin Array B 77.32 356 P P 07 41 09.1 -0.1
comp=Z,0.9nm,0.8s,mb3.8,baz=267,slow=2.5,SNR=5.5
BRTR Keskin Array B 77.32 356 P P 07 41 09.1 -0.1
CMAR Chiang Mai Arr 82.16 295 P P 07 41 33.7 -2.0
comp=Z,1.0nm,0.4s,mb4.1,baz=354,slow=6.1,SNR=7.5
CMAR Chiang Mai Arr 82.16 295 P P 07 41 33.7 -2.0
NNA Nana 93.81 109 LR LR 08 30 52.8
comp=Z,61nm,20.3s,MS4.0,baz=42,slow=39
BOSA Boshof 145.32 5 PKPbc PKPbc 07 48 50.0 -2.0
comp=Z,2.5nm,0.7s,baz=6.4,slow=5.9,SNR=6.6
BOSA Boshof 145.32 5 PKPbc PKPbc 07 48 50.0 -2.0
QSPA South Pole Qui 153.03 180 PKPbc PKPbc 07 49 08.6 -1.7
comp=Z,1.8nm,0.6s,baz=98,slow=1.4,SNR=6.8
QSPA South Pole Qui 153.03 180 PKPbc PKPbc 07 49 08.6 -1.7

IDC 26 08:02:33.8±1.4, 29.68N×90.20E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/25, mbtmp3.5/5, ML3.4/1, Error ellipse: s-maj=52.2km s-min=25.0km az=62.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	18.16	342	P	Pn	08 06 47.9	+0.5
	0.1nm,0.3s,baz=182,slow=16,SNR=3.8						
SONM	Songino Array	22.01	30	P	P	08 07 29.8	+0.2
	0.7nm,0.9s,baz=229,slow=13,SNR=4.0						
GERES	GERESS Array B	59.73	312	P	P	08 12 40.1	-0.1
	0.3nm,0.2s,baz=70,slow=4.3,SNR=2.8						
WRA	Warramunga Arr	65.13	134	P	P	08 13 15.3	-1.4
	0.6nm,0.7s,baz=325,slow=6.5,SNR=8.6						
ASAR	Alice Springs	67.66	137	P	P	08 13 34.6	+1.8
	0.5nm,0.8s,baz=322,slow=6.6,SNR=6.6						

IDC 26 08:18:55.2±37.0, 20.05S×178.61W, h671km±315km, mb3.0/4, mb1 3.1/4, mb1mx2.9/16, mbtmp3.0/4, Error ellipse: s-maj=354.7km s-min=112.0km az=75.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	32.97	264	P	P	08 24 38.9	+0.3
	2.3nm,0.3s,baz=82,slow=11,SNR=4.7						
STKA	Stephens Creek	37.47	244	P	P	08 25 15.5	+0.1
	0.6nm,0.3s,baz=90,slow=11,SNR=3.6						
ASAR	Alice Springs	44.07	256	P	P	08 26 07.5	+0.2
	2.5nm,0.8s,baz=91,slow=7.7,SNR=34						
ASAR				PcP	PcP	08 27 36.8	-0.1
	0.2nm,0.4s,baz=117,slow=4.3,SNR=4.2						
WRA	Warramunga Arr	44.10	262	P	P	08 26 07.4	-0.1
	1.5nm,0.4s,baz=97,slow=8.0,SNR=70						

GUC 26 08:20:12.3±0.9, 23.41S×71.02W, h35km±6km, ML4.2, 3C-2D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MECH	Mejillones	0.60	60	⇓P	Pn	08 20 24.2	-0.2
MECH				*i* S	Sn	08 20 32.6	-0.4
MECH				AML	AML	08 20 40.1	
	comp=E,14μm,0.4s						
ANCH	Antofagasta	0.62	116	⇓*i*P	Pn	08 20 24.3	-0.3
ANCH				*i* S	Sn	08 20 32.5	-0.7
ANCH				AML	AML	08 20 33.0	
	comp=N,7μm,0.6s						
MACH	Maria Elena	1.68	44	*e*P	Pn	08 20 42.0	+2.8
MACH				*i* S	Sn	08 21 03.8	+4.3
PB04	Plate Boundary	1.81	51	⇑*i*P	Pn	08 20 35.2	-5.8
PB04				*i* S	Sn	08 20 53.7	-9.2
PB04				AML	AML	08 20 59.4	
	comp=N,4μm,0.3s						
PB09	Plate Boundary	2.30	46	⇑*i*P	Pn	08 20 50.0	+2.3
PB09				*e*S	Sn	08 21 19.1	+4.3
PB09				AML	AML	08 21 27.3	
	comp=N,11μm,0.4s						
HMBC	Humberston	3.29	19	⇑*i*P	Pn	08 21 03.7	+2.3
HMBC				AML	AML	08 22 07.8	
	comp=N,794nm,0.4s						

*MOS **26** 08:23:23.8±1.2, 54.00N×156.00E, h550km, mb4.0/1, Error ellipse: s-maj=99.9km s-min=78.0km az=33.7*

KRSC 26 08:23:23.8±2.3, 53.95N×155.97E, h553km±63km, ML4.3, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GNL	Ganaly	1.20	102	*i* P	P	08 24 31.5	+0.8
KOK	Koryaka	1.72	111	P	P	08 24 34.7	+2.2
PET	Petropavlovsk	1.85	119	P	P	08 24 34.8	+1.8
PET	Petropavlovsk	1.85	119	P	P	08 24 34.8	+1.8
SDLR	Sedlovina	1.86	110	P	P	08 24 34.9	+1.8
RUS	Russkaya	2.16	134	*e*P	P	08 24 35.4	+1.0
RUS	Russkaya	2.16	134	P	P	08 24 35.4	+1.0
NLC	Nalytchevo	2.16	110	P	P	08 24 36.5	+2.1
NLC				*i* S	S	08 25 29.1	-2.9
NLC	Nalytchevo	2.16	110	P	P	08 24 36.5	+2.1
NLC				S	S	08 25 29.1	-2.9
SPN	Mys Shipunski	2.57	108	P	P	08 24 38.1	+1.7
SPN				*i* S	S	08 25 31.8	-3.9
SPN	Mys Shipunski	2.57	108	P	P	08 24 38.1	+1.7
SPN				S	S	08 25 31.8	-3.9
MKZ	Mys Kozlova	3.43	77	P	P	08 24 42.9	+1.3
MKZ				*i* S	S	08 25 41.3	-4.1
MKZ	Mys Kozlova	3.43	77	P	P	08 24 42.9	+1.3
MKZ				S	S	08 25 41.3	-4.1

NEIC 26 08:27:13.9, 54.33N×161.37W, h19km, ML3.5(PMR), **ML3.1**(AEIC), **After AEIC., Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRIA	Deer Island	0.82	321	P	Pb	08 27 28.4	-1.2
DOL	Dolgoi Island	0.87	341	P	Pb	08 27 28.9	-1.5
DOL				S	Sb	08 27 41.0	-0.7
DT1	Dutton Round H	0.94	326	P	Pb	08 27 29.9	-1.7
DTNA	Dutton South F	0.97	328	P	Pb	08 27 30.5	-1.6
PS4A	Pavlof South-4	1.06	345	P	Pb	08 27 31.6	-1.9
PVV	Pavlof Volcano	1.08	347	P	Pb	08 27 31.8	-2.1
PVV				S	Sb	08 27 46.3	-1.2
SDPT	Sand Point	1.15	26	P	Pn	08 27 32.8	-2.1
SDPT				S	Sb	08 27 47.8	-1.8
FALS	False Pass	1.30	295	P	Pn	08 27 35.0	-2.0
FALS				S	Sn	08 27 52.3	-1.7
VNWF	Veniaminof 8	2.10	29	P	Pn	08 27 47.1	-0.9
VNHG	Veniaminof 1	2.28	33	P	Pn	08 27 49.3	-1.1
AKUT	Akutan	2.59	268	*e*P	Pn	08 27 53.4	-1.3
CHGN	Chignik	2.60	39	*e*P	Pn	08 27 52.5	-2.4
UNV	Unalaska Valle	3.06	263	P	Pn	08 27 59.2	-2.0
ANNE	Aniakchak Nort	3.20	35	P	Pn	08 28 01.1	-2.0
MREP	Makushin Rep't	3.21	263	P	Pn	08 28 01.5	-1.7
MSOM	Makushin Julie	3.33	263	P	Pn	08 28 03.5	-1.3

IDC 26 08:27:22.0±5.2, 21.80S×175.92W, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.8/16, mbtmp4.0/4, ML2.0/1, Error ellipse: s-maj=186.8km s-min=31.0km az=136.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	8.79	27	Pn	Pn	08 29 29.9	-0.5
	1.0nm,0.3s,baz=343,slow=19,SNR=2.5						
AFI				Sn	Sn	08 31 02.5	-7.7
	0.6nm,0.3s,baz=144,slow=19,SNR=2.2						
STKA	Stephens Creek	39.00	246	P	P	08 34 49.9	-0.4
	0.4nm,0.3s,baz=118,slow=15,SNR=3.2						
ASAR	Alice Springs	46.12	258	P	P	08 35 48.4	-0.1
	3.6nm,0.9s,baz=93,slow=8.3,SNR=38						
WRA	Warramunga Arr	46.35	263	P	P	08 35 50.3	0.0
	1.3nm,0.7s,baz=102,slow=7.9,SNR=12						
AKASG	Malin Array Be	145.08	332	PKPbc	PKPbc	08 47 00.2	-0.4
	0.5nm,0.5s,baz=42,slow=4.7,SNR=4.8						

*CRAAG **26** 09:03:22.4, 36.82N×3.73E, Ml3.5*
*ISCJB **26** 09:03:23.5±1.3, 37.09N±0.07×3.56E±0.09, h20km±18km, Error ellipse: s-maj=11.8km s-min=11.2km az=44.9*
*CSEM **26** 09:03:24.7±0.3, 36.96N×3.53E, h20km, mb4.5/5, Error ellipse: s-maj=11.2km s-min=7.0km az=87.0*
*MDD **26** 09:03:27.1±3.1, 37.24N×3.55E, h0km, mbLg2.5/4, Error ellipse: s-maj=27.7km s-min=20.8km az=150.0, PRIMO*

ISC 26 09:03:24.1±1.2, 37.03N±0.06×3.57E±0.09, h18km±10km, n30, σ1s48/40, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABMS	Boumerdes	0.29	194	P	Pg	09 03 27.5	-2.9
ABMS	Boumerdes	0.29	194	P	Pg	09 03 27.5	-2.9
ABMS	Boumerdes	0.29	194	P	Pg	09 03 27.5	-2.9
ABA	Alger-Bouzarea	0.48	242	P	Pg	09 03 33.6	-0.3
ABA	Alger-Bouzarea	0.48	242	P	Pg	09 03 33.6	-0.3
ABA	Alger-Bouzarea	0.48	242	P	Pg	09 03 33.6	-0.3
EMHD	Djebel Mahouad	0.96	211	P	Pb	09 03 40.9	-1.4
EMHD	Djebel Mahouad	0.96	211	P	Pb	09 03 40.9	-1.4
EMHD	Djebel Mahouad	0.96	211	P	Pb	09 03 40.9	-1.4
ATAF	Djebel Tarf	1.29	153	P	Pn	09 03 47.1	-0.1
ATAF	Djebel Tarf	1.29	153	P	Pn	09 03 47.1	-0.1
ATAF	Djebel Tarf	1.29	153	P	Pn	09 03 47.1	-0.1
SET	Setif	1.69	119	P	Px	09 04 06.0	
SET	Setif	1.69	119	P	Px	09 04 06.0	
SET	Setif	1.69	119	P	Px	09 04 06.0	
EIBI	Ibiza	2.66	319	S	Sn	09 04 38.1	+0.4
	2.3nm,0.2s,SNR=7.9						
EIBI	Ibiza	2.66	319	S	Sn	09 04 38.1	+0.4
	2.3nm,0.2s,SNR=7.9						
ETOS	Mallorca	2.80	348	P	Pn	09 04 08.8	+0.8
	30nm,0.4s,SNR=4.7						
ETOS				S	Sn	09 04 39.6	-1.7
	4.1nm,0.1s,SNR=7.9						
ETOS	Mallorca	2.80	348	P	Pn	09 04 08.8	+0.8
	30nm,0.4s,SNR=4.7						
ETOS				S	Sn	09 04 39.6	-1.6
	4.1nm,0.1s,SNR=7.9						
ETOB	Tobarra	4.36	293	P	Pn	09 04 31.2	+1.8
	0.1nm,0.1s,SNR=7.9						
ETOB				S	Sn	09 05 20.5	+0.8
	1.1nm,0.2s,SNR=7.9						
ETOB	Tobarra	4.36	293	P	Pn	09 04 31.2	+1.8
	0.1nm,0.1s,SNR=7.9						
ETOB				S	Sn	09 05 20.5	+0.8
	1.1nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	4.59	318	P	Pn	09 04 35.0	+2.4
	1.0nm,0.3s,SNR=7.9						
EMOS				S	Sn	09 05 24.1	-1.3
	0.6nm,0.2s,SNR=7.9						
EPOB	Poblet	4.73	337	P	Pn	09 04 35.9	+1.3
	52nm,1.0s,SNR=7.9						
EPOB				S	Sn	09 05 26.4	-2.4
	2.6nm,0.3s,SNR=7.9						
EPOB	Poblet	4.73	337	P	Pn	09 04 35.9	+1.4
	52nm,1.0s,SNR=7.9						
EPOB				S	Sn	09 05 26.4	-2.5
	2.6nm,0.3s,SNR=7.9						
CFON	Fontmartina	4.81	350	P	Pn	09 04 36.2	+0.6
	5.8nm,0.2s,SNR=17						
CFON				S	Sn	09 05 27.6	-3.2
	5.0nm,0.2s,SNR=7.9						
CFON	Fontmartina	4.81	350	P	Pn	09 04 36.2	+0.6
	5.8nm,0.2s,SNR=17						
CFON				S	Sn	09 05 27.6	-3.2
	SNR=7.9						
EMIR	Miracle	5.13	343	P	Pn	09 04 42.1	+2.1
	14nm,0.3s,SNR=7.0						
EMIR				S	Sn	09 05 37.7	-0.9
	1.9nm,0.2s,SNR=7.9						
EMIR	Miracle	5.13	343	P	Pn	09 04 42.1	+2.1
	14nm,0.3s,SNR=7.0						
EMIR				S	Sn	09 05 38.2	-0.5
	SNR=7.9						
EJON	La Jonquera	5.44	355	P	Pn	09 04 46.0	+1.8
	1.7nm,0.1s,SNR=9.9						
EJON				S	Sn	09 05 45.3	-1.0
	1.4nm,0.1s,SNR=7.9						
EJON	La Jonquera	5.44	355	P	Pn	09 04 46.0	+1.8
	1.7nm,0.1s,SNR=9.9						
EJON				S	Sn	09 05 45.3	-1.0
	SNR=7.9						

TRN 26 09:13:40.6, 13.89N×60.82W, h32km, MD3.2, M2.5(FDF), **3C, Windward Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLW	Petit Monier	0.17	319	*e*P	Pb	09 13 48.6	+1.8
SLW				*e*S	Sb	09 13 53.5	+2.4
MCLT	Moule a Chique	0.21	213	*e*P	Pb	09 13 49.6	+2.4
MCLT				*e*S	Sb	09 13 54.7	+3.0
SLB	Belfond	0.22	254	⇑*i*P	Pb	09 13 50.0	+3.0
SLB				*e*S	Sb	09 13 54.7	+2.9
MVM	Montagne Vaucl	0.66	354	*e*P	Pn	09 13 54.0	+0.2
BIM	Bigot	0.67	339	⇑*i*P	Pn	09 13 54.6	+0.8
BIM				⇑*e*S	Sb	09 14 03.7	+0.7
SVV	Soufriere Volc	0.69	214	*e*S	Sb	09 14 06.0	+2.6
SVB	Belmont	0.74	214	*e*P	Pn	09 13 57.9	+3.1
SVB				*e*S	Sb	09 14 06.3	+1.3
FCV	Fort Charlotte	0.84	210	*e*S	Sn	09 14 10.4	+3.1
FDF	Fort de France	0.90	339	*e*P	Pn	09 13 57.9	+0.9
FDF				*e*S	Sn	09 14 08.6	-0.2

*ISCJB **26** 09:15:53.2±0.6, 50.29N±0.05×18.80E±0.04, h0km, Error ellipse: s-maj=7.0km s-min=3.5km az=4.4*
*CSEM **26** 09:15:53.9±0.4, 50.31N×18.80E, h2km, ML2.5/4, Error ellipse: s-maj=11.0km s-min=4.3km az=173.0*
*IPEC **26** 09:15:54.4±0.2, 50.27N×18.84E, h0km±1km, ML1.6/3, Error ellipse: s-maj=2.5km s-min=0.8km az=167.0*
*PRU **26** 09:15:54.8, 50.26N×18.80E, h0km*

ISC 26 09:15:54.1±0.6, 50.25N±0.05×18.82E±0.04, h0km, n18, σ1s16/30, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	Ostrava-Krasne	0.60	227	*e*PG	Pg	09 16 06.6	+1.1
OKC				*e*SG	Sg	09 16 15.3	+2.1
	comp=Z,24nm,0.8s						
OKC	Ostrava-Krasne	0.60	227	Pg	Pg	09 16 06.6	+1.1
OKC				Sg	Sg	09 16 15.3	+2.1
	comp=Z,24nm,0.8s						
OJC	Ojcow	0.63	92	*e*Pg	Pg	09 16 05.9	-0.3
OJC				*e*Sg	Sg	09 16 14.4	0.0
OJC	Ojcow	0.63	92	*e*Pg	Pg	09 16 05.8	-0.4
	baz=275						
OJC				*e*Sg	Sg	09 16 14.2	-0.2
	baz=275						
MORC	Moravsky Berou	0.95	241	*e*Pg	Pg	09 16 12.8	+0.5
MORC				*e*Sg	Sg	09 16 25.6	+1.1
	comp=Z,9.8nm,0.2s,baz=59						
DPC	Dobruska-Polom	1.60	275	*e*PG	Pg	09 16 23.4	-1.4
DPC				*e*SG	Sg	09 16 45.3	-0.3
	comp=Z,10nm,0.6s						
DPC	Dobruska-Polom	1.60	275	*e*Pn	Pn	09 16 23.3	-0.4
	baz=92						
DPC				*e*Sg	Sg	09 16 45.2	-0.4
	baz=92						
KSP	Ksiaz	1.72	291	*e*Pg	Pg	09 16 26.8	-0.2
KSP				*e*Sg	Sg	09 16 49.9	+0.7
VRAC	Vranov	1.72	238	*e*Pn	Pn	09 16 25.8	+0.5
	baz=56						
VRAC				*e*Sg	Sg	09 16 48.5	-0.9
	comp=Z,5.3nm,0.2s,baz=56						
STHS	Stebnicka Huta	1.78	117	*e*SN	Sn	09 16 50.6	+1.3
STHS	Stebnicka Huta	1.78	117	*e*Sn	Sn	09 16 50.7	+1.4
UPC	Upice	1.81	279	*e*SG	Sg	09 16 53.5	+1.1
UPC	Upice	1.81	279	Sg	Sg	09 16 53.5	+1.1
KRUC	Moravsky	1.97	234	*e*Pn	Pn	09 16 30.4	+1.7

	baz=52							
KRUC				*e*Sg		**Sg**	**09 16 56.0**	**-1.4**
	comp=Z,2.8nm,0.3s,baz=52							
KECS	**Kecovo**	**2.08**	**148**	*e*SN		**Sn**	**09 16 54.6**	**-2.1**
KECS	**Kecovo**	**2.08**	**148**	*e*Sn		**Sn**	**09 16 54.7**	**-2.0**
KHC	**Kasperske Hory**	**3.58**	**254**	*e*PG		**Pg**	**09 17 01.0**	**-1.7**
KHC				*e*SG		**Sg**	**09 17 47.5**	**-1.6**
KHC	**Kasperske Hory**	**3.58**	**254**	Pg		**Pg**	**09 17 01.0**	**-1.7**
KHC				Sg		**Sg**	**09 17 47.5**	**-1.6**

*IDC **26** 09:16:05.1±2.4, 30.°36N×83.°69E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/27, mbtmp3.7/6, MS2.8/1, Ms1 2.8/1, ms1mx2.1/40, Error ellipse: s-maj=56.8km s-min=34.6km az=140.0*

*ISCJB **26** 09:16:06.9±0.8, 30.°15N±0.°09×83.°4E±0.°1, h33km, mb3.4/6, Error ellipse: s-maj=16.8km s-min=13.1km az=174.7*

*NEIC **26** 09:16:08.2±1.2, 30.°54N×83.°50E, h10km, mb3.7/2, Error ellipse: s-maj=26.6km s-min=12.9km az=205.0*

ISC 26 09:16:08.4±0.9, 30.°15N±0.°10×83.°6E±0.°2, h35km, n18, σ0s99/17, mb3.4/6, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ALBI	**Allahabad**	**5.06**	**198**	*e*PKP			**Pn**	**09 17 21.0**	**-0.7**
LSA	**Lhasa**	**6.62**	**92**	*e*Pn			**Pn**	**09 17 47.8**	**+4.7**
	11nm,0.8s								
AAK	**Ala-Archa**	**14.42**	**332**	*e*Pn			**Pn**	**09 19 34.3**	**+4.4**
	9.8nm,0.7s								
AAK				*e*Sn			Sn	09 22 32.5	+24
KKAR	**Karatay Array**	**16.61**	**325**	*e*Pn			**Pn**	**09 19 57.5**	**-0.8**
	3.2nm,0.8s								
KURK	**Kurchatov**	**20.88**	**351**	P			**P**	**09 20 46.3**	**-1.0**
	6.1nm,0.8s,baz=173,slow=10,SNR=24								
KURK	**Kurchatov**	**20.88**	**351**	P			**P**	**09 20 46.3**	**-1.0**
ZALV	**Zalesovo Beam**	**23.80**	**2**	P			**P**	**09 21 17.0**	**-0.8**
	1.1nm,0.6s,mb3.5,baz=181,slow=10,SNR=4.1								
ZALV	**Zalesovo Beam**	**23.80**	**2**	P			**P**	**09 21 17.0**	**-0.8**
BVAR	**Borovoye Array**	**24.81**	**341**	P			**P**	**09 21 27.1**	**+0.2**
	0.3nm,0.4s,mb3.2,baz=147,slow=9.2,SNR=4.0								
BVAR	**Borovoye Array**	**24.81**	**341**	P			**P**	**09 21 27.1**	**+0.2**
SONM	**Songino Array**	**24.90**	**38**	P			**P**	**09 21 28.5**	**+0.7**
	0.4nm,0.7s,mb3.1,baz=223,slow=10,SNR=5.5								
SONM	**Songino Array**	**24.90**	**38**	P			**P**	**09 21 28.5**	**+0.7**
ABKAR	**Akbulak array**	**26.16**	**323**	*e*P			**P**	**09 21 40.3**	**+1.0**
	1.4nm,0.6s,mb3.7								
KSRS	**Korea Array**	**37.32**	**67**	LR			LR	09 39 20.2	
	comp=Z,13nm,18.6s,baz=240,slow=38								
TORD	**Torodi Ar. Bea**	**76.55**	**277**	P			**P**	**09 27 58.6**	**+3.1**
	1.2nm,0.9s,mb3.8,baz=70,slow=3.2,SNR=6.0								
TORD	**Torodi Ar. Bea**	**76.55**	**277**	P			**P**	**09 27 58.6**	**+3.1**
ILAR	**Eielson Array**	**77.59**	**20**	P			**P**	**09 28 00.3**	**-0.1**
	0.2nm,0.5s,mb3.3,baz=282,slow=4.3,SNR=4.0								
ILAR	**Eielson Array**	**77.59**	**20**	P			**P**	**09 28 00.3**	**-0.1**

NNC 26 09:17:43.1±2.5, 46.°27N×84.°82E, h0km, mb3.6, mpv3.2, 3C-4D, Error ellipse: s-maj=18.4km s-min=12.2km az=106.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**1.82**	**288**	⇑Pn			Pn	09 18 15.3	-0.3
	10nm,0.3s,baz=107,slow=15,SNR=629								
MK31				⇑Sn			Sn	09 18 40.6	+1.2
	20nm,0.4s,baz=105,slow=27,SNR=22								
KURK	**Kurchatov**	**6.06**	**319**	⇓Pn			Pn	09 19 16.3	+2.4
	1.0nm,0.7s								
KURK				⇑Pg			Pg	09 19 32.4	-6.8
	0.5nm,0.3s								
KURK				⇓Lg				09 20 54.1	
	7.2nm,0.7s								
TKM2	**Tokmak 2**	**7.38**	**246**	⇓P			Pn	09 19 32.6	+0.6
	1.1nm,0.4s								
AB31	**Akbulak array**	**16.97**	**289**	⇓P			Pn	09 21 40.6	-1.0
	1.7nm,0.7s,baz=101,slow=9.1,SNR=16								

*JMA **26** 09:35:08.6±0.3, 23.°24N×122.°07E, h50km, M2.8*

TAP 26 09:35:09.4, 23.°30N×122.°03E, h43km, ML3.3, 3C, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.65**	**252**	P			Pn	09 35 21.1	-1.0
	baz=247								
CHKT				S			Sn	09 35 29.7	-1.6
	baz=247								
TWF1	**Yuli**	**0.68**	**275**	⇑*i*P			Pn	09 35 22.1	-0.5
	baz=268								
TWF1				S			Sn	09 35 31.7	-0.4
	baz=268								
EHY	**Hungye**	**0.68**	**288**	P			Pn	09 35 22.1	-0.5
	baz=287								
EHY				*e*S			Sn	09 35 32.2	0.0
	baz=287								
ESL	**Shilin**	**0.75**	**313**	⇑*i*P			Pn	09 35 22.8	-0.8
	baz=319								
ESL				S			Sn	09 35 32.4	-1.4
	baz=319								
TWD	**Chiawan**	**0.87**	**333**	*e*P			Pn	09 35 25.1	-0.2
	baz=333								
ELDTW	**Lidau**	**0.94**	**264**	⇑*i*P			Pn	09 35 25.6	-0.5
	baz=263								
ELDTW				*e*S			Sn	09 35 37.3	-1.1
	baz=263								
TTN	**Taitung**	**0.98**	**237**	*e*P			Pn	09 35 25.7	-0.9
	baz=231								
TTN				S			Sn	09 35 39.1	-0.3
	baz=231								
TWG	**Pinlang**	**1.00**	**242**	P			Pn	09 35 26.5	-0.5
	baz=236								
TWG				S			Sn	09 35 39.2	-0.7
	baz=236								
YUS	**Yu-Shan**	**1.01**	**281**	*i* P			Pn	09 35 27.9	+0.8
	baz=280								
YUS				*e*S			Sn	09 35 40.6	+0.5
	baz=280								
WHF	**Hehuan Shan**	**1.10**	**320**	P			Pn	09 35 28.4	+0.1
	baz=320								
WHF				*e*S			Sn	09 35 42.5	+0.3
	baz=320								
ALS	**Alishan**	**1.15**	**281**	P			Pn	09 35 30.1	+1.1
	baz=275								
ENA	**Nanau**	**1.16**	**347**	*e*P			Pn	09 35 29.2	+0.1
	baz=347								
ENA				*e*S			Sn	09 35 44.2	+0.5
	baz=347								
STYT	**Tauyuan**	**1.18**	**264**	*e*P			Pn	09 35 30.0	+0.6
	baz=263								
STYT				*e*S			Sn	09 35 44.0	-0.3
	baz=263								
SMLT	**Sun Moon Lake**	**1.19**	**299**	*e*P			Pn	09 35 30.2	+0.7
	baz=306								
SMLT				*e*S			Sn	09 35 46.0	+1.4
	baz=306								
ECL	**Taimali**	**1.22**	**235**	*i* P			Pn	09 35 29.1	-0.8
	baz=244								
ECL				*e*S			Sn	09 35 43.7	-1.4
	baz=244								
TWT	**Tachien**	**1.23**	**321**	*e*S			Sn	09 35 45.9	+0.3
	baz=320								
TYC	**Yuchr**	**1.23**	**299**	*e*P			Pn	09 35 31.1	+0.9
	baz=307								
TYC				*e*S			Sn	09 35 46.6	+0.9
	baz=307								
CHN5	**Tsauling**	**1.28**	**284**	*e*P			Pn	09 35 32.3	+1.5
	baz=283								
CHN5				*e*S			Sn	09 35 49.1	+2.4
	baz=283								
NNS	**Nan Shan**	**1.29**	**332**	*e*P			Pn	09 35 32.1	+1.3
	baz=332								
NNS				*e*S			Sn	09 35 47.7	+0.8
	baz=332								
TWC	**Suao**	**1.31**	**353**	*e*P			Pn	09 35 32.1	+0.8
	baz=353								
TWC				*e*S			Sn	09 35 48.2	+0.6
	baz=353								
CHN4	**Tsaushan**	**1.32**	**273**	P			Pn	09 35 32.9	+1.5
	baz=272								
LAY	**Lan-yu**	**1.33**	**200**	*e*P			Pn	09 35 30.4	-1.1
	baz=199								
LAY				*e*S			Sn	09 35 45.2	-2.8
	baz=199								
CHN1	**Nanshi**	**1.39**	**266**	P			Pn	09 35 34.1	+1.9
	baz=265								
CHN1				*e*S			Sn	09 35 52.4	+2.9
	baz=265								
ENTT	**Nioudou**	**1.40**	**342**	*e*P			Pn	09 35 32.5	+0.1
	baz=343								
ENTT				*e*S			Sn	09 35 50.7	+1.0
	baz=343								
SSD	**Sandimen**	**1.40**	**247**	P			Pn	09 35 32.5	+0.1
	baz=240								
WGK	**Gukeng**	**1.40**	**286**	*e*P			Pn	09 35 32.2	-0.2
	baz=286								
EAST	**Anshuo**	**1.42**	**230**	*e*P			Pn	09 35 32.0	-0.7
	baz=237								
EAST				*e*S			Sn	09 35 49.8	-0.4
	baz=237								
TWE	**Neicheng**	**1.46**	**347**	*e*P			Pn	09 35 35.5	+2.3
	baz=348								
YOJ	**Yonaguni jima**	**1.46**	**38**	P			Pn	09 35 33.6	+0.3
NSK	**Sanguang**	**1.50**	**336**	*e*P			Pn	09 35 34.3	+0.5
	baz=336								
NSK				*e*S			Sn	09 35 51.8	-0.4
	baz=336								
TCU	**Taichung**	**1.50**	**304**	*e*P			Pn	09 35 36.4	+2.5
	baz=305								
TCU				*e*S			Sn	09 35 55.6	+3.3
	baz=305								
TWQ1	**Liyutan**	**1.56**	**312**	*e*P			Pn	09 35 37.0	+2.4
	baz=324								
TWQ1				*e*S			Sn	09 35 56.6	+3.1
	baz=324								
SCZT	**Fangliau**	**1.60**	**235**	*e*P			Pn	09 35 35.6	+0.5
	baz=234								
NSY	**Sanyi**	**1.61**	**314**	*e*P			Pn	09 35 37.9	+2.6
	baz=326								
NSY				*e*S			Sn	09 35 58.0	+3.2
	baz=326								
NSTT	**Nanjuang**	**1.63**	**325**	*e*P			Pn	09 35 36.5	+1.0
	baz=325								
NSTT				*e*S			Sn	09 35 56.7	+1.4
	baz=325								
TWA	**Mucha**	**1.72**	**346**	*e*P			Pn	09 35 36.9	0.0
	baz=339								
HATJ	**Hateruma jima**	**1.79**	**65**	P			Pn	09 35 37.8	0.0
HATJ				*e*S			Sn	09 35 59.0	-0.4
IRIF	**Iriomote-Funau**	**1.87**	**56**	P			Pn	09 35 39.0	+0.2
IRIF				*e*S			Sn	09 36 01.9	+0.7
JKRS	**Kuro-shima**	**2.04**	**62**	P			Pn	09 35 41.5	+0.3
JKRS				*e*S			Sn	09 36 05.8	+0.4
JJI	**Ishigaki jima**	**2.20**	**61**	P			Pn	09 35 43.5	0.0
JTJ	**Tarama**	**2.78**	**61**	P			Pn	09 35 51.8	+0.4
JTJ				S			Sn	09 36 23.6	-0.2

IDC 26 09:39:56.3±59.0, 14.°79S×166.°55E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/16, mbtmp3.9/3, Error ellipse: s-maj=997.6km s-min=113.9km az=66.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.43**	**229**	P			P	09 45 52.7	-0.1
	0.8nm,0.7s,baz=54,slow=14,SNR=3.3								
WRA	**Warramunga Arr**	**31.14**	**256**	P			P	09 46 17.3	+0.4
	0.5nm,0.6s,baz=86,slow=9.3,SNR=11								
ASAR	**Alice Springs**	**32.00**	**249**	P			P	09 46 24.4	-0.2
	1.5nm,0.5s,baz=78,slow=9.0,SNR=54								

*NEIC **26** 09:47:06.4, 18.°35N×68.°81W, h125km, MD3.7(RSPR), After RSPR.*

RSPR 26 09:47:06.4, 18.°35N×68.°81W, h125km±4km, MD3.7/12, 19C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SMN1	**Samana, DR**	**0.94**	**333**	⇑*e*P			Pn	09 47 27.6	-0.8
SMN1				*e*S			Sn	09 47 44.7	-0.2
AGPR	**Aguadilla, PR**	**1.62**	**86**	⇑*e*P			Pn	09 47 35.6	+0.1
AGPR	**Aguadilla, PR**	**1.62**	**86**	⇑*e*P			Pn	09 47 35.6	+0.1
AGPR				*e*S			Sn	09 47 58.4	+0.6
LSP	**Las Mesas**	**1.65**	**96**	⇓*e*P			Pn	09 47 36.2	+0.3
LSP	**Las Mesas**	**1.65**	**96**	⇓*e*P			Pn	09 47 36.2	+0.3
CRPR	**Cabo Rojo, PR**	**1.66**	**102**	⇑*e*P			Pn	09 47 36.1	+0.2
CRPR	**Cabo Rojo, PR**	**1.66**	**102**	⇑*e*P			Pn	09 47 36.1	+0.2
CRPR				*e*S			Sn	09 47 58.9	+0.4
LRS	**Lares**	**1.87**	**91**	*e*S			Sn	09 48 03.6	+0.5
LRS	**Lares**	**1.87**	**91**	*e*Pn			Pn	09 47 38.5	0.0
LRS				*e*Sn			Sn	09 48 06.4	+3.3
GBPR	**Guanica, Bosqu**	**1.88**	**101**	⇓*e*P			Pn	09 47 38.7	+0.1
AOPR	**Arecibo Observ**	**1.96**	**90**	⇓*e*P			Pn	09 47 40.2	+0.6
AOPR	**Arecibo Observ**	**1.96**	**90**	⇓*e*P			Pn	09 47 40.2	+0.6
AOPR				*e*S			Sn	09 48 07.0	+2.1
OBIP	**Obispado Ponce**	**2.12**	**98**	⇑*e*P			Pn	09 47 41.3	-0.3
OBIP	**Obispado Ponce**	**2.12**	**98**	⇑*e*P			Pn	09 47 41.3	-0.3
OBIP				*e*S			Sn	09 48 09.4	+0.8
CELP	**Cerrillos**	**2.14**	**97**	⇑*e*P			Pn	09 47 41.3	-0.6
CELP				*e*S			Sn	09 48 08.3	-0.7
CELP	**Cerrillos**	**2.14**	**97**	⇑*e*P			Pn	09 47 41.3	-0.6
CELP				*e*S			Sn	09 48 08.3	-0.7
ICM	**Isla Caja Muer**	**2.23**	**101**	⇑*e*P			Pn	09 47 42.2	-0.8
ICM	**Isla Caja Muer**	**2.23**	**101**	⇑*e*P			Pn	09 47 42.2	-0.8
ICM				*e*S			Sn	09 48 10.1	-0.9
SDDR	**Presa de Saban**	**2.43**	**285**	*e*Pn			Pn	09 47 44.5	-1.0
SDDR				*e*Sn			Sn	09 48 15.6	0.0
CPD	**Cerro la Pandu**	**2.77**	**96**	⇑*e*P			Pn	09 47 50.1	+0.2
CPD	**Cerro la Pandu**	**2.77**	**96**	⇑*e*P			Pn	09 47 50.1	+0.2
CPD				*e*S			Sn	09 48 24.3	+0.9
CBYP	**Canovanas**	**2.81**	**91**	⇑*e*P			Pn	09 47 50.3	-0.1
CBYP	**Canovanas**	**2.81**	**91**	⇑*e*P			Pn	09 47 50.3	-0.1
CBYP				*e*S			Sn	09 48 23.9	-0.3
HUMP	**Col San Antoni**	**2.82**	**94**	⇑*e*P			Pn	09 47 50.5	-0.1
HUMP	**Col San Antoni**	**2.82**	**94**	⇑*e*P			Pn	09 47 50.5	-0.1
HUMP				*e*S			Sn	09 48 25.4	+0.8
MTP	**Monte Pirata**	**3.11**	**94**	⇑*e*P			Pn	09 47 54.3	0.0
MTP	**Monte Pirata**	**3.11**	**94**	⇑*e*P			Pn	09 47 54.3	0.0
MTP				*e*S			Sn	09 48 31.5	+0.2

IDC 26 10:07:03.0±8.1, 5.°39S×153.°94E, h186km±61km, mb3.1/4, mb1 3.3/5, mb1mx3.1/16, mbtmp3.2/5, Error ellipse: s-maj=73.9km s-min=27.5km az=90.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.82**	**239**	P			Pn	10 08 52.6	-1.3
	4.1nm,0.3s,baz=65,slow=6.1,SNR=15								
PMG				S			Sn	10 10 23.9	+1.9
	0.9nm,0.3s,baz=320,slow=17,SNR=3.0								
WRA	**Warramunga Arr**	**23.93**	**231**	P			P	10 12 00.5	+0.3
	0.7nm,0.7s,baz=54,slow=10,SNR=7.8								
ASAR	**Alice Springs**	**26.51**	**225**	P			P	10 12 24.9	+1.5
	0.2nm,0.5s,baz=54,slow=9.1,SNR=1.0								
STKA	**Stephens Creek**	**28.78**	**202**	P			P	10 12 43.0	-0.5
	0.9nm,0.7s,baz=350,slow=12,SNR=2.0								
SONM	**Songino Array**	**67.43**	**327**	P			P	10 17 39.5	+1.0
	0.6nm,0.5s,baz=147,slow=7.3,SNR=5.2								
TORD	**Torodi Ar. Bea**	**151.57**	**288**	PKPbc			PKPbc	10 26 34.5	-1.7
	0.1nm,0.4s,baz=37,slow=1.5,SNR=1.3								

*ISCJB **26** 10:14:33.8±1.1, 54.°5S±0.°1×136.°3W±0.°4, h10km, mb4.1/5, MS4.3/19, Error ellipse: s-maj=31.5km s-min=15.9km az=175.8*

*IDC **26** 10:14:33.1±1.1, 54.°30S×136.°17W, h0km, mb4.1/5, mb1 4.3/5, mb1mx4.1/12, mbtmp4.1/5, MS4.2/19, Ms1 4.2/19, ms1mx4.2/23, Error ellipse: s-maj=38.4km s-min=34.1km az=149.0*

*NEIC **26** 10:14:34.3±0.7, 54.°30S×136.°10W, h10km, mb4.5/1, Error ellipse: s-maj=26.2km s-min=21.2km az=146.0*

*GCMT **26** 10:14:40.5±0.2, 54.°59S×135.°85W, h20km±1km, MW5.1, Moment Tensor Solution. s41,c52; s79,c112; Moment tensor: Scale 10^{16}Nm; M_{rr}-0.46±.19; $M_{\theta\theta}$3.26±.20; $M_{\phi\phi}$-2.80±.16; $M_{r\theta}$1.35±.36; $M_{\theta\phi}$3.72±.14; $M_{\phi r}$0.79±.31; Best double couple: $M_0$5.00000×10^{16} NP1:ϕ_s111.00000°, δ78.00000°, λ9.00000°. NP2:ϕ_s19.00000°, δ81.00000°, λ168.00000°. Principal axes: T 5.4400, Plg15.0000°, Azm334.0000°; N -0.8700, Plg75.0000°, Azm162.0000°; P -4.5700, Plg2.0000°, Azm65.0000°; Data Used: ll IU G IC CN.*

ISC 26 10:14:35.5±1.1, 54.°5S±0.°1×136.°2W±0.°4, h10km, n38, σ0s65/14, mb4.1/5, MS4.3/19, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**31.33**	**2**	*e*LR			LR	10 28 58.2	
	1μm,31.0s								
RKT				*e*T				10 53 40.6	
	9.3nm,0.3s								
TBI	**Tubuai**	**32.64**	**337**	*e*S			**S**	**10 26 24.2**	**+1.0**
	109nm,28.8s								
TBI				*e*LR			LR	10 29 31.4	
	1μm,28.5s,baz=168								
TBI				*e*T				10 55 24.7	
	53nm,0.4s								
RPN	**Rapa Nui**	**33.67**	**47**	LR			LR	10 31 37.5	
	comp=Z,185nm,20.1s,MS3.8,baz=31,slow=30								
URZ	**Urewera**	**35.32**	**278**	LR			LR	10 32 31.9	
	comp=Z,417nm,20.0s,MS4.2,baz=137,slow=30								
RPZ	**Rata Peaks**	**35.37**	**266**	LR			LR	10 32 23.8	
	comp=Z,503nm,18.1s,MS4.3,baz=291,slow=30								
QSPA	**South Pole Qui**	**35.69**	**180**	P			**P**	**10 21 34.4**	**+1.2**
	2.2nm,0.7s,mb4.2,baz=66,slow=3.2,SNR=8.8								
QSPA				LR			LR	10 34 08.3	
	comp=Z,456nm,18.6s,MS4.3,baz=74,slow=33								
QSPA	**South Pole Qui**	**35.69**	**180**	P			**P**	**10 21 34.4**	**+1.2**
	4.1nm,1.2s,mb4.2								
PMSA	**Palmer Station**	**35.87**	**136**	LR			LR	10 32 00.5	
	comp=Z,748nm,21.3s,MS4.4,baz=313,slow=29								
RAR	**Rarotonga**	**37.70**	**322**	LR			LR	10 32 31.8	
	comp=Z,347nm,21.5s,MS4.1,baz=195,slow=29								
PAE	**Paea**	**38.17**	**339**	*e*T				11 02 21.5	
	2.0nm,0.3s								
PPT	**Papeete**	**38.26**	**339**	*e*S			**S**	**10 27 50.2**	**+0.7**
	132nm,25.0s								
PPT				*e*LR			LR	10 32 07.5	
	1μm,26.2s,baz=175								
PPT				*e*T				11 02 21.5	
	4.8nm,0.3s								
PLCA	**Paso Flores**	**44.71**	**100**	LR			LR	10 37 03.3	
	comp=Z,287nm,18.9s,MS4.2,baz=55,slow=30								
TAOE	**Nuku Hiva Isla**	**45.61**	**355**	*e*LR			LR	10 35 36.0	
	1μm,30.4s								
AFI	**Afiamalu**	**49.09**	**312**	LR			LR	10 38 49.2	
	comp=Z,206nm,19.4s,MS4.1,baz=276,slow=30								
DZM	**Mont Dzumac**	**53.46**	**284**	*e*LR			LR	10 39 21.9	
	455nm,24.6s								
MAW	**Mawson**	**57.40**	**189**	LR			LR	10 45 39.8	
	comp=Z,144nm,19.4s,MS4.1,baz=161,slow=32								
STKA	**Stephens Creek**	**60.39**	**256**	P			**P**	**10 24 44.3**	**-0.4**
	0.9nm,0.6s,mb4.0,baz=96,slow=9.2,SNR=3.2								
STKA				LR			LR	10 45 44.5	
	comp=Z,214nm,19.9s,MS4.3,baz=44,slow=31								
STKA	**Stephens Creek**	**60.39**	**256**	P			**P**	**10 24 44.3**	**-0.4**
CPUP	**Villa Florida**	**62.66**	**98**	LR			LR	10 47 27.1	
	comp=Z,253nm,19.6s,MS4.4,baz=315,slow=32								
CTA	**Charters Tower**	**66.70**	**268**	LR			LR	10 51 26.5	
	comp=Z,107nm,21.3s,MS4.0,baz=49,slow=33								
ASAR	**Alice Springs**	**71.03**	**256**	P			**P**	**10 25 53.2**	**-0.2**
	2.8nm,0.8s,mb4.2,baz=141,slow=6.3,SNR=34								
ASAR	**Alice Springs**	**71.03**	**256**	P			**P**	**10 25 53.2**	**-0.2**
AS31	**Alice Springs**	**71.03**	**256**	*e*P			**P**	**10 25 53.1**	**-0.3**
NWAO	**Narrogin (SRO)**	**72.58**	**238**	LR			LR	10 52 20.4	
	comp=Z,157nm,18.1s,MS4.3,baz=22,slow=31								
WB2	**Warramunga Arr**	**73.70**	**259**	*e*P			**P**	**10 26 09.4**	**0.0**
WRA	**Warramunga Arr**	**73.71**	**259**	P			**P**	**10 26 09.1**	**-0.3**
	4.2nm,0.8s,mb4.4,baz=144,slow=5.2,SNR=41								
WRA				LR			LR	10 55 52.9	
	comp=Z,236nm,21.4s,MS4.4,baz=190,slow=34								
WRA	**Warramunga Arr**	**73.71**	**259**	P			**P**	**10 26 09.1**	**-0.3**
ROSC	**El Rosal**	**78.12**	**64**	LR			LR	10 54 11.6	
	comp=Z,85nm,20.6s,MS4.1,baz=197,slow=30								
FITZ	**Fitzroy Crossi**	**80.09**	**253**	LR			LR	10 58 29.5	
	comp=Z,210nm,18.0s,MS4.5,baz=147,slow=33								
TXAR	**Lajitas Array**	**88.06**	**28**	P			**P**	**10 27 24.7**	**-0.9**
	0.1nm,0.4s,mb3.4,baz=151,slow=26,SNR=2.1								
TXAR	**Lajitas Array**	**88.06**	**28**	P			**P**	**10 27 24.7**	**-0.9**
NVAR	**Mina Array Bea**	**93.81**	**14**	LR			LR	11 01 58.4	
	comp=Z,156nm,20.3s,MS4.5,baz=238,slow=30								
BOSA	**Boshof**	**95.71**	**164**	LR			LR	11 04 23.3	
	comp=Z,282nm,20.8s,MS4.7,baz=166,slow=31								
PDAR	**Pinedale Array**	**99.52**	**20**	LR			LR	11 04 31.4	
	comp=Z,132nm,20.0s,MS4.4,baz=44,slow=30								
ILAR	**Eielson Array**	**119.21**	**355**	PKP			PKPdf	10 33 21.6	-1.4
	0.3nm,0.8s,baz=206,slow=3.0,SNR=4.8								
ILAR	**Eielson Array**	**119.21**	**355**	PKP			PKPdf	10 33 21.6	-1.4
TORD	**Torodi Ar. Bea**	**127.25**	**125**	PKP			PKPdf	10 33 39.0	-1.0
	0.2nm,0.6s,baz=200,slow=3.8,SNR=2.9								
TORD	**Torodi Ar. Bea**	**127.25**	**125**	PKP			PKPdf	10 33 39.0	-1.0

MEX 26 10:22:09.0±0.7, 15.°68N×91.°23W, h70km±28km, MD3.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.06**	**305**	*i* P			Pn	10 22 27.0	-1.3
CCIG				*i* S			Sn	10 22 41.0	-1.6
THIG		**1.26**	**233**	*e*P			Pn	10 22 29.5	-1.4
THIG				*i* P				10 22 29.8	
THIG				*i* S			Sn	10 22 45.8	-1.4
SCX	**San Cristobal**	**1.71**	**308**	*e*P			Pn	10 22 35.6	-1.2
SCX				*i* S			Sn	10 22 57.8	-0.1

KIW	**Kapiti Island**	**12.77**	**203**	*e*PN		**Pn**	**10 27 09.3**	**-0.9**
KIW				SN		**Sn**	**10 29 29.1**	**-2.5**
MTW	**Mount Morrison**	**12.84**	**201**	SN		**Sn**	**10 29 30.6**	**-2.6**
PAWZ	**Paruwai Farm**	**13.07**	**201**	SN		**Sn**	**10 29 34.2**	**-4.5**
PLWZ	**Palliser**	**13.29**	**201**	SN		**Sn**	**10 29 40.7**	**-3.4**
TCW	**Tory Channel**	**13.31**	**205**	*e*PN		**Pn**	**10 27 17.5**	**+0.6**
TUWZ	**Tuamarina**	**13.62**	**205**	*e*PN		**Pn**	**10 27 22.4**	**+1.5**
NNZ	**Nelson**	**13.65**	**207**	*e*PN		**Pn**	**10 27 22.2**	**+0.8**
NNZ				SN		**Sn**	**10 29 50.7**	**-2.0**
THZ	**Tophouse**	**14.30**	**207**	PN		**Pn**	**10 27 29.6**	**+0.1**
THZ				SN		**Sn**	**10 30 05.0**	**-3.3**
KHZ	**Kahutara**	**14.63**	**204**	PN		**Pn**	**10 27 32.7**	**-0.8**
KHZ				SN		**Sn**	**10 30 10.2**	**-5.9**
LTZ	**Lake Taylor**	**15.42**	**207**	PN		**Pn**	**10 27 43.8**	**+0.5**
LTZ				SN		**Sn**	**10 30 28.0**	**-6.9**
MQZ	**McQueen's Vall**	**16.07**	**204**	SN		**Sn**	**10 30 40.9**	**-10**
AFI	**Afiamalu**	**16.49**	**23**	P		**Pn**	**10 27 48.7**	**-7.9**
	3.1nm,0.3s,baz=90,slow=22,SNR=6.1							
AFI				S		S	10 30 27.0	-33
	1.0nm,0.3s,baz=303,slow=22,SNR=6.2							
AFI	**Afiamalu**	**16.49**	**23**	P		**Pn**	**10 27 48.7**	**-7.9**
AFI				S		S	10 30 27.0	-33
RPZ	**Rata Peaks**	**16.68**	**207**	P		**Pn**	**10 28 03.7**	**+5.0**
	0.4nm,0.3s,baz=5.7,slow=13,SNR=2.3							
RPZ				S		**S**	**10 30 55.3**	**-8.5**
	1.4nm,0.3s,baz=332,slow=21,SNR=7.9							
RPZ	**Rata Peaks**	**16.68**	**207**	P		**Pn**	**10 28 03.7**	**+5.0**
RPZ				S		**S**	**10 30 55.4**	**-8.5**
ARMA	**Armidale**	**25.96**	**260**	*e*P		**P**	**10 29 36.8**	**+4.8**
	1.9nm,0.6s,mb3.9							
STKA	**Stephens Creek**	**34.38**	**255**	P		**P**	**10 30 47.9**	**+1.8**
	3.2nm,0.7s,mb4.2,baz=105,slow=9.5,SNR=13							
STKA	**Stephens Creek**	**34.38**	**255**	P		**P**	**10 30 47.9**	**+1.8**
AS31	**Alice Springs**	**42.81**	**266**	*e*P		**P**	**10 31 56.9**	**+0.6**
ASAR	**Alice Springs**	**42.81**	**266**	P		**P**	**10 31 56.2**	**-0.1**
	2.0nm,0.5s,mb4.0,baz=100,slow=6.9,SNR=69							
ASAR	**Alice Springs**	**42.81**	**266**	P		**P**	**10 31 56.2**	**-0.1**
WRAB	**Tennant Creek**	**43.69**	**271**	*e*P		**P**	**10 32 03.4**	**-0.1**
	1.4nm,0.5s,mb3.9							
WRA	**Warramunga Arr**	**43.69**	**271**	P		**P**	**10 32 03.0**	**-0.5**
	1.3nm,0.4s,mb4.0,baz=109,slow=8.0,SNR=39							
WRA				pP		pP	10 32 27.0	-12
	0.3nm,0.4s,baz=110,slow=7.2,SNR=1.7							
WRA	**Warramunga Arr**	**43.69**	**271**	P		**P**	**10 32 03.0**	**-0.5**
WRA				pP		pP	10 32 27.0	-12
VNDA	**Vanda**	**49.17**	**186**	*e*P		**P**	**10 32 50.5**	**+5.1**
	1.6nm,0.6s,mb3.8							
FITZ	**Fitzroy Crossi**	**51.99**	**269**	P		**P**	**10 33 07.3**	**-0.1**
	1.1nm,0.3s,mb3.9,baz=175,slow=16,SNR=14							
FITZ	**Fitzroy Crossi**	**51.99**	**269**	P		**P**	**10 33 07.3**	**-0.1**
QSPA	**South Pole Qui**	**60.83**	**180**	*e*P		**P**	**10 34 11.9**	**+3.0**
	6.2nm,0.8s,mb4.5							
MAW	**Mawson**	**73.22**	**201**	P		**P**	**10 35 28.2**	**+0.9**
	4.6nm,0.7s,mb4.3,baz=108,slow=7.7,SNR=4.6							
MAW	**Mawson**	**73.22**	**201**	P		**P**	**10 35 28.2**	**+0.9**
SYO	**Syowa Base**	**78.12**	**193**⇑	*e*P		**P**	**10 35 54.6**	**-0.4**
SNAA	**Sanae**	**79.28**	**179**	*e*		**P**	**10 36 02.7**	**+1.4**
VNA3	**Neumayer Olymp**	**79.44**	**176**	*e*		**P**	**10 36 03.3**	**+1.1**
NVAR	**Mina Array Bea**	**87.67**	**43**	P		**P**	**10 36 42.4**	**-2.1**
	1.1nm,0.7s,mb3.8,baz=229,slow=9.2,SNR=6.1							
NVAR	**Mina Array Bea**	**87.67**	**43**	P		**P**	**10 36 42.4**	**-2.1**
TXAR	**Lajitas Array**	**92.10**	**57**	P		**P**	**10 37 03.6**	**-1.8**
	0.2nm,0.7s,mb3.2,baz=188,slow=3.8,SNR=1.9							
TXAR	**Lajitas Array**	**92.10**	**57**	P		**P**	**10 37 03.6**	**-1.8**
FINES	**FINESS Array B**	**143.97**	**340**	PKhKP		PKPpre	10 43 24.4	
	5.7nm,1.0s,baz=48,slow=5.7,SNR=5.2							
FINES	**FINESS Array B**	**143.97**	**340**	PKPpre		PKPpre	10 43 24.4	
AKASG	**Malin Array Be**	**150.19**	**324**	PKPbc		PKPbc	10 43 43.1	-2.6
	1.4nm,0.3s,baz=44,slow=3.4,SNR=9.8							
AKASG	**Malin Array Be**	**150.19**	**324**	PKPbc		PKPbc	10 43 43.1	-2.6
TORD	**Torodi Ar. Bea**	**163.94**	**180**	PKPab		PKPab	10 44 51.7	-0.6
	0.8nm,0.8s,baz=173,slow=4.1,SNR=5.1							
TORD	**Torodi Ar. Bea**	**163.94**	**180**	PKPab		PKPbc	10 44 51.7	-0.6

*IDC **26** 10:29:50.4±1.5,53˚.91N×91˚.23E,h0km,mb3.5/2, mb1 3.8/5,mb1mx3.5/29,mbtmp3.7/5,ML3.7/3,MS3.2/2, Ms1 3.2/2,ms1mx2.4/34,Error ellipse: s-maj=24.7km s-min=13.9km az=142.0*

*ISCJB **26** 10:29:52.4±1.9,53˚.61N±0˚.09×91˚.0E±0˚.2,h10km,mb3.3/2, Error ellipse: s-maj=21.4km s-min=11.8km az=14.9*

ISC 26 10:29:51.9±1.3,53˚.81N±0˚.10×91˚.3E±0˚.2,h10km,n9, σ1ŝ38/13,mb3.3/2,3C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**3.84**	**275**	Pn	**Pn**	**10 30 52.1**	**+1.2**
	2.9nm,0.3s,baz=97,slow=13,SNR=37						
ZALV				Pg	**Pb**	**10 30 56.7**	**-2.8**
	4.1nm,0.3s,baz=97,slow=16,SNR=38						
ZALV				Lg		10 31 48.2	
	6.5nm,0.3s,baz=90,slow=28,SNR=11						
KURK	**Kurchatov**	**8.37**	**253**	⇑Pn	**Pn**	**10 31 52.7**	**-0.4**
	5.9nm,0.7s						
KURK				⇓Sn	**Sn**	**10 33 22.2**	**-5.4**
	23nm,1.0s						
KURK				⇑Lg		10 34 09.3	
	110nm,1.1s						
KURK	**Kurchatov**	**8.37**	**253**	Pn	**Pn**	**10 31 54.5**	**+1.3**
	0.6nm,0.3s,baz=66,slow=15,SNR=18						
KURK				Sn	**Sn**	**10 33 27.2**	**-0.3**
	0.1nm,0.3s,baz=66,slow=25,SNR=11						
KURK				Lg		10 34 16.0	
	0.1nm,0.3s,baz=66,slow=30,SNR=5.1						
KURK				LR	LR	10 35 19.8	
	comp=Z,28nm,18.8s,baz=220,slow=39						
MK31	**Makanchi Array**	**9.08**	**223**	⇑Pn	**Pn**	**10 32 03.9**	**+1.1**
	3.7nm,0.8s,baz=39,slow=15,SNR=20						
MK31				⇓Sn	**Sn**	**10 33 43.9**	**-1.1**
	11nm,0.9s,baz=44,slow=22,SNR=4.8						
MK31				⇓Lg		10 34 32.7	
	38nm,1.0s,baz=37,slow=28,SNR=4.1						
MKAR	**Makanchi Array**	**9.08**	**223**	Pn	**Pn**	**10 32 04.3**	**+1.5**
	0.6nm,0.3s,baz=42,slow=14,SNR=14						
MKAR				Sn	**Sn**	**10 33 44.2**	**-0.8**
	0.3nm,0.3s,baz=42,slow=19,SNR=6.9						
MKAR				Lg		10 34 33.8	
	0.3nm,0.3s,baz=32,slow=22,SNR=5.8						
SONM	**Songino Array**	**11.26**	**116**	Pg	Px	10 33 14.1	
	0.1nm,0.3s,baz=308,slow=13,SNR=5.0						
SONM				Lg		10 35 50.7	
	0.3nm,0.3s,baz=306,slow=29,SNR=12						
AKTO	**Aktyubinsk**	**20.60**	**274**	P	**P**	**10 34 33.7**	**+2.9**
	0.5nm,0.3s,baz=237,slow=18,SNR=1.6						
ILAR	**Eielson Array**	**53.60**	**27**	P	**P**	**10 39 10.9**	**-1.5**
	0.3nm,0.7s,mb3.4,baz=303,slow=3.2,SNR=5.1						
TORD	**Torodi Ar. Bea**	**79.28**	**278**	P	**P**	**10 41 57.2**	**-0.3**
	0.1nm,0.3s,mb3.2,baz=48,slow=4.1,SNR=2.9						
TORD				LR	LR	11 24 37.5	
	comp=Z,61nm,18.2s,baz=230,slow=42						

IDC 26 10:32:19.1±9.3,5˚.17S×129˚.40E,h274km±103km,mb2.7/1, mb1 2.6/4,mb1mx2.5/17,mbtmp2.5/4,Error ellipse: s-maj=73.1km s-min=36.6km az=62.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**13.37**	**196**	P	Pn	10 35 19.3	+0.4
	0.2nm,0.3s,baz=346,slow=22,SNR=1.8						
FITZ				S		10 37 42.0	-5.0
	0.1nm,0.3s,baz=147,slow=17,SNR=2.3						
WRA	**Warramunga Arr**	**15.45**	**162**	P	Pn	10 35 42.6	-1.3
	0.1nm,0.3s,baz=345,slow=12,SNR=1.5						
WRA				S	S	10 38 32.0	+0.4
	0.1nm,0.3s,baz=344,slow=18,SNR=5.0						
ASAR	**Alice Springs**	**18.90**	**167**	P	P	10 36 21.1	+1.1
	0.1nm,0.3s,baz=348,slow=12,SNR=3.1						
MKAR	**Makanchi Array**	**66.37**	**327**	P	P	10 42 38.8	0.0
	0.2nm,0.3s,baz=117,slow=7.5,SNR=5.4						

IDC 26 10:52:36.7±3.5,7˚.80S×109˚.20E,h0km,mb3.5/3, mb1 3.6/3,mb1mx3.4/18,mbtmp3.5/3,Error ellipse: s-maj=188.3km s-min=26.7km az=49.0,Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.18**	**119**	P	P	10 58 22.7	+0.5
	0.3nm,0.5s,baz=291,slow=11,SNR=6.1						
ASAR	**Alice Springs**	**28.46**	**126**	P	P	10 58 33.2	-0.4
	0.1nm,0.3s,baz=316,slow=8.0,SNR=1.9						
MKAR	**Makanchi Array**	**59.39**	**339**	P	P	11 02 40.9	0.0
	0.9nm,0.6s,baz=140,slow=8.1,SNR=12						

*IDC **26** 11:13:14.9±2.4,6˚.16S×128˚.64E,h337km±24km,mb3.2/7, mb1 3.3/10,mb1mx3.2/18,mbtmp3.2/10,Error ellipse: s-maj=37.8km s-min=9.7km az=67.0*

*NEIC **26** 11:13:14.9±2.7,6˚.13S×128˚.68E,h338km±34km,mb4.3/1, Error ellipse: s-maj=24.6km s-min=11.5km az=219.0*

ISC 26 11:13:16.4±1.9,6˚.16S±0˚.06×128˚.8E±0˚.1,h358km±23km, n24,σ0ŝ94/32,mb4.3/7,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.27**	**194**	P	**P**	**11 16 00.5**	**-0.2**
	0.2nm,0.3s,baz=32,slow=14,SNR=6.5						
FITZ				S	**S**	**11 18 17.7**	**+1.1**
	0.2nm,0.3s,baz=82,slow=23,SNR=3.0						
FITZ	**Fitzroy Crossi**	**12.27**	**194**	P	**P**	**11 16 00.5**	**-0.2**
FITZ				S	**S**	**11 18 17.7**	**+1.1**
WRAB	**Tennant Creek**	**14.72**	**159**	*e*P	**P**	**11 16 27.3**	**-0.4**
	5.5nm,0.3s						
WRAB				*e*S	**S**	**11 19 04.5**	**-1.7**
WRA	**Warramunga Arr**	**14.72**	**159**	P	**P**	**11 16 27.6**	**-0.2**
	1.7nm,0.3s,baz=340,slow=12,SNR=110						
WRA				S	**S**	**11 19 04.5**	**-1.8**
	0.2nm,0.3s,baz=331,slow=21,SNR=5.5						
WRA	**Warramunga Arr**	**14.72**	**159**	P	**P**	**11 16 27.6**	**-0.2**
WRA				S	**S**	**11 19 04.5**	**-1.8**
WB2	**Warramunga Arr**	**14.73**	**159**	*e*P	**P**	**11 16 27.2**	**-0.6**
WB2				*e*S	**S**	**11 19 01.5**	**-4.9**
COEN	**Coen**	**16.13**	**120**	*e*P	**P**	**11 16 43.4**	**+0.3**
	87nm,0.4s						
AS31	**Alice Springs**	**18.09**	**165**	*e*P	**P**	**11 17 04.3**	**+0.3**
ASAR	**Alice Springs**	**18.09**	**165**	P	**P**	**11 17 04.3**	**+0.3**
	1.3nm,0.3s,baz=346,slow=11,SNR=132						
ASAR				S	**S**	**11 20 14.0**	**+1.5**
	0.3nm,0.3s,baz=344,slow=20,SNR=37						
ASAR				ScP	ScP	11 24 24.9	+4.2
	0.1nm,0.3s,baz=355,slow=1.6,SNR=6.8						
ASAR	**Alice Springs**	**18.09**	**165**	P	**P**	**11 17 04.3**	**+0.3**
ASAR				S	**S**	**11 20 14.0**	**+1.5**
ASAR				ScP	ScP	11 24 24.9	+4.2
CTA	**Charters Tower**	**21.89**	**131**	P	**P**	**11 17 43.1**	**+1.9**
	2.4nm,0.9s,mb3.4,baz=316,slow=11,SNR=3.6						
CTA	**Charters Tower**	**21.89**	**131**	P	**P**	**11 17 43.1**	**+1.9**
STKA	**Stephens Creek**	**28.25**	**157**	P	**P**	**11 18 38.6**	**+0.6**
	0.9nm,0.5s,mb3.2,baz=66,slow=18,SNR=3.4						
STKA	**Stephens Creek**	**28.25**	**157**	P	**P**	**11 18 38.6**	**+0.6**
CMAR	**Chiang Mai Arr**	**38.28**	**310**	P	**P**	**11 20 03.1**	**-0.8**
	1.2nm,0.4s,mb3.5,baz=140,slow=7.5,SNR=7.7						
CMAR	**Chiang Mai Arr**	**38.28**	**310**	P	**P**	**11 20 03.1**	**-0.8**
SONM	**Songino Array**	**57.27**	**342**	P	**P**	**11 22 28.6**	**+0.8**
	0.2nm,0.4s,mb2.8,baz=146,slow=7.7,SNR=2.2						
SONM	**Songino Array**	**57.27**	**342**	P	**P**	**11 22 28.6**	**+0.8**
MKAR	**Makanchi Array**	**66.87**	**327**	P	**P**	**11 23 31.1**	**+0.2**
	0.4nm,0.3s,mb3.6,baz=122,slow=8.6,SNR=9.1						
MKAR	**Makanchi Array**	**66.87**	**327**	P	**P**	**11 23 31.1**	**+0.2**
ZALV	**Zalesovo Beam**	**70.31**	**334**	P	**P**	**11 23 51.1**	**-0.7**
	0.2nm,0.3s,mb3.3,baz=99,slow=9.5,SNR=3.8						
ZALV	**Zalesovo Beam**	**70.31**	**334**	P	**P**	**11 23 51.1**	**-0.7**
KURK	**Kurchatov**	**71.18**	**329**	P	**P**	**11 23 56.6**	**-0.5**
	0.8nm,0.5s,mb3.7,baz=129,slow=4.7,SNR=8.2						
KURK	**Kurchatov**	**71.18**	**329**	P	**P**	**11 23 56.6**	**-0.5**

IDC 26 11:28:19.4±3.0,10˚.95S×163˚.31E,h0km,mb4.1/3, mb1 4.2/4,mb1mx3.8/17,mbtmp4.1/4,ML4.1/1,Error ellipse: s-maj=53.1km s-min=44.2km az=73.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.63**	**294**	Pn	Pn	11 29 18.1	+1.1
	14nm,0.3s,baz=78,slow=4.2,SNR=4.0						
HNR				Sn	Sn	11 29 59.9	-0.6
	10nm,0.3s,baz=140,slow=21,SNR=3.1						
WRA	**Warramunga Arr**	**29.28**	**249**	P	P	11 34 23.3	-0.3
	0.9nm,0.6s,baz=79,slow=8.9,SNR=14						
ASAR	**Alice Springs**	**30.71**	**242**	P	P	11 34 36.5	+0.3
	1.1nm,0.3s,baz=64,slow=10,SNR=45						
MKAR	**Makanchi Array**	**91.82**	**317**	P	P	11 41 29.3	0.0
	1.0nm,0.9s,baz=113,slow=5.7,SNR=5.4						

*IDC **26** 11:53:25.4±5.1,11˚.47S×166˚.39E,h49km±41km,mb4.0/10, mb1 4.2/11,mb1mx4.0/18,mbtmp4.0/11,ML4.8/1,MS3.5/8, Ms1 3.5/8,ms1mx3.3/28,Error ellipse: s-maj=36.1km s-min=22.2km az=118.0*

*ISCJB **26** 11:53:26.0±2.5,11˚.44S±0˚.09×166˚.3E±0˚.1,h65km±20km, mb4.2/13,Error ellipse: s-maj=20.7km s-min=12.7km az=145.7*

*NEIC **26** 11:53:26.7±0.5,11˚.49S×166˚.38E,mb4.8/3,Error ellipse: s-maj=14.9km s-min=11.6km az=143.0*

ISC 26 11:53:27.9±1.9,11˚.42S±0˚.09×166˚.3E±0˚.1,h69km±15km, n41,σ0ŝ72/33,mb4.2/13,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.56**	**287**	P	**Pn**	**11 55 01.7**	**0.0**
	21nm,0.3s,baz=203,slow=4.8,SNR=7.8						
HNR				S	**Sn**	**11 56 14.9**	**-0.2**
	5.6nm,0.3s,baz=92,slow=22,SNR=5.9						
HNR	**Honiara**	**6.56**	**287**	P	**Pn**	**11 55 01.7**	**0.0**
HNR				S	**Sn**	**11 56 14.9**	**-0.2**
DZM	**Mont Dzumac**	**10.59**	**179**	*e*Pn	**Pn**	**11 55 57.0**	**+0.1**
	3.9nm,0.3s						
DZM				*e*Sn	**Sn**	**11 57 41.1**	**-13**
	3.4nm,0.2s						
DZM				*e*LR	LR	11 58 18.7	
	426nm,25.6s						
CTA	**Charters Tower**	**21.12**	**243**	P	**P**	**11 58 07.5**	**+0.4**
	6.4nm,0.8s,mb4.0,baz=74,slow=11,SNR=7.8						
CTA				LR	LR	12 04 47.6	
	comp=Z,147nm,21.7s,baz=53,slow=32						
CTA	**Charters Tower**	**21.12**	**243**	*e*P	**P**	**11 58 08.1**	**+1.0**
	5.5nm,0.8s,mb3.9						
CTA	**Charters Tower**	**21.12**	**243**	P	**P**	**11 58 07.5**	**+0.4**
AFI	**Afiamalu**	**21.53**	**99**	LR	LR	12 05 00.8	
	comp=Z,57nm,19.2s,baz=36,slow=32						
ARMA	**Armidale**	**23.30**	**214**	*e*P	**P**	**11 58 30.8**	**+1.0**
URZ	**Urewera**	**28.42**	**162**	LR	LR	12 08 39.9	
	comp=Z,84nm,19.2s,baz=301,slow=32						
STKA	**Stephens Creek**	**30.55**	**224**	P	**P**	**11 59 34.9**	**-0.1**
	6.8nm,0.8s,mb4.4,baz=48,slow=8.9,SNR=16						
STKA				LR	LR	12 10 58.7	
	comp=Z,122nm,20.4s,baz=26,slow=34						
STKA	**Stephens Creek**	**30.55**	**224**	*e*P	**P**	**11 59 35.6**	**+0.6**
	5.3nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**30.55**	**224**	P	**P**	**11 59 34.9**	**-0.1**
WRAB	**Tennant Creek**	**31.86**	**251**	*e*P	**P**	**11 59 45.9**	**-0.7**
	17nm,1.4s,mb4.6						
WRA	**Warramunga Arr**	**31.87**	**251**	P	**P**	**11 59 46.2**	**-0.5**
	6.2nm,0.8s,mb4.4,baz=82,slow=9.1,SNR=43						
WRA	**Warramunga Arr**	**31.87**	**251**	P	**P**	**11 59 46.2**	**-0.5**
RPZ	**Rata Peaks**	**32.44**	**174**	LR	LR	12 10 36.5	
	comp=Z,132nm,19.9s,baz=6.4,slow=32						
GUMO	**Guam**	**32.70**	**319**	LR	LR	12 10 45.7	
	comp=Z,56nm,19.7s,baz=79,slow=32						
ASAR	**Alice Springs**	**33.12**	**244**	P	**P**	**11 59 56.7**	**-0.9**
	5.3nm,0.8s,mb4.5,baz=75,slow=9.4,SNR=55						
ASAR				PcP	PcP	12 02 39.5	0.0
	0.6nm,0.5s,baz=84,slow=1.9,SNR=7.1						
ASAR	**Alice Springs**	**33.12**	**244**	P	**P**	**11 59 56.7**	**-0.9**
ASAR				PcP	PcP	12 02 39.5	0.0
RAR	**Rarotonga**	**33.91**	**111**	LR	LR	12 10 52.9	
	comp=Z,134nm,21.7s,baz=205,slow=31						
PPT	**Papeete**	**43.08**	**103**	*e*LR	LR	12 13 23.5	
	156nm,30.2s						
TBI	**Tubuai**	**43.68**	**112**	*e*LR	LR	12 13 37.7	
	144nm,29.8s						
RKT	**Rikitea**	**56.95**	**110**	*e*LR	LR	12 19 42.1	
	175nm,28.2s						
CMAR	**Chiang Mai Arr**	**72.76**	**293**	P	**P**	**12 04 51.0**	**+1.6**
	2.5nm,0.9s,mb4.0,baz=126,slow=4.4,SNR=14						
CMAR	**Chiang Mai Arr**	**72.76**	**293**	P	**P**	**12 04 51.0**	**+1.6**
QSPA	**South Pole Qui**	**78.59**	**180**	*e*P	**P**	**12 05 21.2**	**-0.3**
	8.8nm,1.0s,mb4.5						
QSPA				*e*pP	pP	12 05 40.8	+0.5
SONM	**Songino Array**	**79.29**	**324**	P	**P**	**12 05 26.7**	**+0.9**
	0.6nm,0.6s,mb3.6,baz=138,slow=4.2,SNR=5.2						
SONM	**Songino Array**	**79.29**	**324**	P	**P**	**12 05 26.7**	**+0.9**
ILAR	**Eielson Array**	**83.69**	**18**	P	**P**	**12 05 47.9**	**-0.8**
	0.8nm,1.0s,mb3.5,baz=239,slow=5.4,SNR=6.3						
ILAR	**Eielson Array**	**83.69**	**18**	P	**P**	**12 05 47.9**	**-0.8**
NVAR	**Mina Array Bea**	**85.84**	**50**	P	**P**	**12 06 00.3**	**+0.1**
	0.2nm,0.5s,mb3.3,baz=240,slow=6.9,SNR=3.4						
NVAR	**Mina Array Bea**	**85.84**	**50**	P	**P**	**12 06 00.3**	**+0.1**

INK	**Inuvik**	**90.08**	**19**	LR	LR	12 39 51.8		
	comp=Z,52nm,20.9s,baz=94,slow=31							
MK31	**Makanchi Array**	**94.17**	**317**	*e*P	**P**	**12 06 39.5**	**+0.4**	
MK31				*e*pP	pP	12 06 55.2	-3.0	
MKAR	**Makanchi Array**	**94.17**	**317**	P	**P**	**12 06 39.5**	**+0.5**	
	2.6nm,0.8s,mb4.6,baz=95,slow=5.7,SNR=19							
MKAR	**Makanchi Array**	**94.17**	**317**	P	**P**	**12 06 39.5**	**+0.5**	
ZALV	**Zalesovo Beam**	**94.18**	**324**	P	**P**	**12 06 37.8**	**-1.1**	
	0.2nm,0.3s,mb3.9,baz=107,slow=5.1,SNR=4.8							
ZALV	**Zalesovo Beam**	**94.18**	**324**	P	**P**	**12 06 37.8**	**-1.1**	
SNAA	**Sanae**	**96.78**	**183**	*e*P	**P**	**12 06 49.9**	**-0.7**	
	7.8nm,0.7s,mb5.2							
TORD	**Torodi Ar. Bea**	**164.86**	**278**	PKPab	PKPab	12 14 20.8	-0.6	
	0.9nm,0.9s,baz=116,slow=3.7,SNR=4.7							
TORD	**Torodi Ar. Bea**	**164.86**	**278**	PKPab	PKPab	12 14 20.8	-0.7	

*IDC **26** 12:07:32.0±0.6,13˚.43N×120˚.38E,h0km,mb4.3/14, mb1 4.4/14,mb1mx4.3/20,mbtmp4.3/14,MS3.4/11, Ms1 3.4/11,ms1mx3.2/33,Error ellipse: s-maj=19.5km s-min=13.4km az=84.0*

*BJI **26** 12:07:32.0,13˚.69N×121˚.36E,h21km,mB4.8/19,mb4.4/31, Ms4.3/20,Ms7 3.9/21*

*MAN **26** 12:07:33,13˚.38N×120˚.26E,h1km,mb5.4,ML4.4,MS4.7*

*MOS **26** 12:07:34.9±0.7,13˚.57N×120˚.70E,h33km,mb4.6/10,Error ellipse: s-maj=22.0km s-min=8.1km az=121.8*

*ISCJB **26** 12:07:37.4±0.5,13˚.38N±0˚.03×120˚.40E±0˚.05,h51km±5km, mb4.7/54,MS3.5/17,Error ellipse: s-maj=7.7km s-min=4.6km az=167.5*

*NEIC **26** 12:07:40.4±0.9,13˚.65N×120˚.80E,h66km±8km,mb4.7/11, Error ellipse: s-maj=13.7km s-min=7.1km az=68.0*

NEIC Felt [II PIVS] at Paluan.

ISC 26 12:07:38.6±0.5,13˚.38N±0˚.03×120˚.42E±0˚.05,h46km±5km, h7km±6.9km:pP-P,n146,σ1ŝ07/153,mb4.7/54,MS3.5/17, 5C-1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.39**	**334**	*e*P	**Pn**	**12 07 40.1**	**-8.2**
TGY	**Tagaytay City**	**0.87**	**35**	Pn	**Pn**	**12 07 52.0**	**-2.6**
	3μm,0.3s,baz=248,slow=2.5,SNR=102						
TGY				Sn	**Sn**	**12 08 06.3**	**+0.2**
	2μm,0.3s,baz=324,slow=22,SNR=27						
TGY	**Tagaytay City**	**0.87**	**35**	Pn	**Pn**	**12 07 52.0**	**-2.6**
TGY				Sn	**Sn**	**12 08 06.3**	**+0.2**
TGY	**Tagaytay City**	**0.87**	**35**	P	**Pn**	**12 07 52.0**	**-2.5**
TGY						12 08 06.3	
TGY	**Tagaytay City**	**0.87**	**35**⇑	*e*P	**Pn**	**12 07 52.2**	**-2.4**
LQP	**Lukban**	**1.30**	**56**	*e*P	**Pn**	**12 08 00.9**	**+0.5**
BOAC	**Boac**	**1.38**	**87**	*e*P	**Pn**	**12 08 01.3**	**-0.2**
BUSP	**Coron**	**1.39**	**189**	*e*P	**Pn**	**12 07 59.8**	**-1.7**
OTRP	**Odiongan**	**1.86**	**123**	*e*P	**Pn**	**12 08 09.1**	**+1.1**
POLP	**Polilio Island**	**1.99**	**47**	*e*P	**Pn**	**12 08 09.7**	**-0.1**
GQP	**Guinayangan**	**2.03**	**75**⇑	*e*P	**Pn**	**12 08 11.3**	**+0.9**
GQP				*e*S	**Sn**	**12 08 39.9**	**+5.3**
AUQP	**San Andres**	**2.19**	**91**	*e*P	**Pn**	**12 08 07.1**	**-5.5**
ENPP	**El Nido**	**2.37**	**204**	*e*P	**Pn**	**12 08 13.0**	**-2.1**
SCZP	**Santa Cruz**	**2.43**	**348**	*e*P	**Pn**	**12 08 14.8**	**-1.1**
CUYO	**Cuyo Island**	**2.58**	**167**	*e*P	**Pn**	**12 08 16.9**	**-1.1**
BALP	**Baler**	**2.60**	**25**	*e*P	**Pn**	**12 08 18.3**	**+0.1**
RCP	**Roxas**	**2.90**	**128**⇑	*e*P	**Pn**	**12 08 24.8**	**+2.5**
**BC

comp=Z,220nm,13.6s,MS3.9
HHC Hu-ho-hao-te 28.44 346 *e*P P **12 13 28.0 -1.1**
HHC sP sP 12 13 35.5 -11
HHC PP PP 12 14 19.3 -15
HHC PcP PcP 12 16 41.0 +0.6
HHC S **S** **12 18 12.8 -0.5**
HHC ScS ScS 12 18 20.3 -13
HHC pmax pmax 12 24 11.0 0.0
comp=Z,10.0nm,0.7s,mb4.5
HHC pmax pmax
comp=Z,68nm,6.3s
HHC LR LR
comp=N,120nm,11.0s,MS4.3
HHC LR LR
comp=E,380nm,11.3s,MS4.3
HHC LR LR
comp=Z,110nm,14.9s,MS3.6
CN2 Changchun 30.62 7 *e*P P **12 13 43.5 -4.9**
CN2 *e*sP sP 12 13 50.0 -16
CN2 *e*S **S** **12 18 40.5 -6.9**
CN2 pmax pmax
comp=Z,10.0nm,0.5s,mb4.9
CN2 LR LR
comp=N,200nm,21.0s,MS3.9
CN2 LR LR
comp=E,200nm,21.0s,MS3.9
CN2 LR LR
comp=Z,200nm,22.0s,MS3.7
GTA Gaotai 31.67 329 *e*P P **12 14 01.3 +3.6**
GTA pP pP 12 14 05.8 -4.0
GTA sP sP 12 14 08.3 -7.0
GTA pmax pmax
comp=Z,3.0nm,1.5s,mb3.9
FITZ Fitzroy Crossi 31.70 171 *e*P P **12 13 58.4 +0.3**
comp=Z,12nm,0.9s,mb4.7
MDJ Mudanjiang 32.10 12 P P **12 13 55.0 -6.4**
MDJ S **S** **12 19 04.3 -6.2**
MDJ pmax pmax
comp=Z,110nm,4.2s
MDJ LR LR
comp=Z,37nm,32.6s,MS2.9
TAPN Taplejung 33.55 300 *e*P P **12 14 14.7 +0.4**
ODAN Odare 33.67 299 *e*P P **12 14 15.7 +0.3**
comp=Z,25nm,0.7s,mb5.2
RAMN Ramite 34.38 298 *e*P P **12 14 22.4 +0.9**
comp=Z,20nm,0.7s,mb5.2
JIRN Jiri 34.93 299 *e*P P **12 14 26.7 +0.4**
comp=Z,9.0nm,0.7s,mb4.8
GUN Gumba 35.27 300 *e*P P **12 14 29.5 +0.3**
comp=Z,38nm,0.7s,mb5.4
COEN Coen 35.29 139 *e*P P **12 14 28.0 -1.5**
comp=Z,12nm,0.6s,mb5.0
COEN Coen 35.29 139 *e*P P **12 14 27.8 -1.7**
comp=Z,25nm,0.8s,mb5.2
PKI Pulchoki 35.57 299 *e*P P **12 14 31.8 0.0**
comp=Z,16nm,0.6s,mb5.2
KKN Kakani 35.74 299 *e*P P **12 14 33.5 +0.3**
WRAB Tennant Creek 35.83 157 *e*P P **12 14 34.0 0.0**
comp=Z,27nm,0.6s,mb5.3
WRAB Tennant Creek 35.83 157 *e*P P **12 14 34.0 0.0**
WRA Warramunga Arr 35.83 157 P P **12 14 33.8 -0.3**
comp=Z,24nm,0.6s,mb5.3,baz=334,slow=10.0,SNR=243
WRA Warramunga Arr 35.83 157 P P **12 14 33.8 -0.3**
WRA Warramunga Arr 35.83 157 P P **12 14 33.8 -0.2**
DMN Daman 35.84 299 *e*P P **12 14 34.2 +0.1**
WB2 Warramunga Arr 35.84 157 *e*P P **12 14 33.8 -0.2**
ULN Ulaanbaatar 36.14 345 *e*P P **12 14 35.2 -1.2**
comp=Z,2.6nm,0.5s,mb4.4
ULN Ulaanbaatar 36.14 345 *e*P P **12 14 35.2 -1.2**
ULN pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
SONM Songino Array 36.29 344 P P **12 14 37.3 -0.3**
comp=Z,5.2nm,0.7s,mb4.6,baz=164,slow=10,SNR=47
SONM LR LR 12 28 42.5
comp=Z,64nm,18.4s,MS3.4,baz=195,slow=35
SONM Songino Array 36.29 344 P P **12 14 37.3 -0.3**
SONM Songino Array 36.29 344 P P **12 14 37.3 -0.3**
GKN Gorkha 36.34 299 *e*P P **12 14 37.8 -0.6**
comp=Z,18nm,0.8s,mb5.1
HABR Khabarovsk 37.03 16 *e*P P **12 14 40.4 -3.5**
HABR *e**SP sP 12 14 53.3 -8.3
HABR *e* 12 17 01.0
HABR S **S** **12 20 22.1 -4.3**
HABR *e**SS sS 12 20 37.6 -9.4
HABR pmax pmax
comp=Z,67nm,2.7s,mb5.0
HABR pmax pmax
comp=E,64nm,2.7s
HABR pmax pmax
comp=N,18nm,2.1s
HABR MLR MLR
comp=Z,115nm,19.0s,MS3.7
KOLN Koldanda 37.17 298 *e*P P **12 14 45.2 -0.2**
comp=Z,22nm,0.7s,mb5.1
DANN Dangsing 37.19 299 *e*P P **12 14 45.4 -0.2**
comp=Z,30nm,0.8s,mb5.2
PYUN Piuthan 37.77 299 *e*P P **12 14 50.7 +0.2**
comp=Z,161nm,0.9s,mb5.7
QIS Mount Isa 38.64 150 *e*P P **12 14 58.2 +0.4**
ASAR Alice Springs 39.11 160 P P **12 15 02.4 +0.7**
comp=Z,20nm,0.5s,mb5.1,baz=338,slow=6.8,SNR=559
ASAR Alice Springs 39.11 160 P P **12 15 02.4 +0.7**
ASAR Alice Springs 39.11 160 P P **12 15 02.4 +0.7**
ZAK Zakamensk 39.46 343 *e*P P **12 15 02.7 -1.7**
ZAK pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
MEEK Meekatharra 39.82 183 *e*P P **12 15 07.6 0.0**
comp=Z,72nm,0.9s,mb5.4
WMQ Urumqi 41.30 324 P P **12 15 21.0 +1.3**
WMQ pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
WMQ LR LR
comp=N,76nm,18.3s
WMQ LR LR
comp=Z,88nm,18.9s,MS3.6
KMBL Kambalda 44.51 178 *e*P P **12 15 45.0 -0.7**
comp=Z,91nm,0.9s,mb5.6
MK31 Makanchi Array 46.13 324 *e*P P **12 15 58.7 +0.3**
MK31 Makanchi Array 46.13 324 *e*P P **12 15 58.7 +0.3**
MKAR Makanchi Array 46.13 324 P P **12 15 58.8 +0.4**
comp=Z,2.2nm,0.6s,mb4.3,baz=128,slow=8.9,SNR=16
MKAR PcP PcP 12 17 34.5 +0.6
comp=Z,0.8nm,0.7s,baz=97,slow=5.0,SNR=3.4
MKAR LR LR 12 36 29.0
comp=Z,34nm,20.0s,MS3.3,baz=173,slow=38
MKAR Makanchi Array 46.13 324 P P **12 15 58.8 +0.4**
MKAR PcP PcP 12 17 34.5 +0.6
MKAR Makanchi Array 46.13 324 P P **12 15 58.8 +0.4**
MKAR 12 17 34.5
KSH Kashi 46.91 312 *e*P P **12 16 10.0 +5.3**
KSH pP pP 12 16 14.5 -2.8
KSH sP sP 12 16 17.0 -5.6
KSH PcP PcP 12 17 40.0 +3.1
KSH PP PP 12 18 01.0 +5.4
KSH ScP ScP 12 21 32.5 +5.4
KSH PcS PcS 12 21 34.3 +2.5
KSH S **S** **12 23 03.8 +11**
KSH sS sS 12 23 11.5 -2.1
KSH ScS ScS 12 26 00.8 +5.3
KSH SS SS 12 26 26.0 +6.3
KSH pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
KSH pmax pmax
comp=Z,100nm,6.0s
KSH LR LR
comp=N,95nm,4.7s
KSH LR LR
comp=E,90nm,5.2s
KSH LR LR
comp=Z,110nm,4.9s
BBOO Buckleboo 48.30 162 *e*P P **12 16 15.3 -0.2**
comp=Z,27nm,0.4s,mb5.6
TKM2 Tokmak 2 48.47 316 *e*P P **12 16 17.7 +1.0**
comp=Z,4.1nm,0.6s,mb4.6
TKM2 Tokmak 2 48.47 316 *e*P P **12 16 17.7 +1.0**
TKM2 pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
AAK Ala-Archa 49.10 315 *e*P P **12 16 22.9 +1.4**
comp=Z,17nm,0.8s,mb5.1
AAK Ala-Archa 49.10 315 *e*P P **12 16 22.1 +0.5**
AAK pmax pmax
comp=Z,21nm,1.6s,mb4.9
ZAA0 Zalesovo Array 49.22 333 *e*P P **12 16 21.6 -0.6**
ZALV Zalesovo Beam 49.22 333 P P **12 16 21.4 -0.9**
comp=Z,1.1nm,0.4s,mb4.3,baz=121,slow=5.7,SNR=8.3
ZALV LR LR 12 38 15.8
comp=Z,38nm,18.1s,MS3.4,baz=66,slow=38
ZALV Zalesovo Beam 49.22 333 P P **12 16 21.4 -0.9**
ZALV Zalesovo Beam 49.22 333 P P **12 16 21.4 -0.9**
STKA Stephens Creek 49.37 156 P P **12 16 23.8 +0.2**
comp=Z,2.2nm,0.6s,mb4.4,baz=328,slow=7.9,SNR=7.0
STKA LR LR 12 36 15.6
comp=Z,45nm,20.4s,MS3.5,baz=209,slow=35
STKA Stephens Creek 49.37 156 *e*P P **12 16 23.6 0.0**
comp=Z,1.6nm,0.5s,mb4.3
STKA Stephens Creek 49.37 156 P P **12 16 23.8 +0.2**
STKA Stephens Creek 49.37 156 P P **12 16 23.8 +0.2**
EKS2 Erkin-Say 49.60 315 *e*P P **12 16 26.9 +1.5**
comp=Z,7.5nm,0.8s,mb4.8
EKS2 Erkin-Say 49.60 315 *e*P P **12 16 26.9 +1.5**
EKS2 pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
KURK Kurchatov 50.30 327 P P **12 16 30.1 -0.5**
comp=Z,3.2nm,0.6s,mb4.5,baz=129,slow=7.6,SNR=23
KURK Kurchatov 50.30 327 P P **12 16 30.1 -0.5**
KURK Kurchatov 50.30 327 *d* P P **12 16 30.2 -0.4**
KURK pmax pmax
comp=Z,18nm,1.1s,mb5.0
CMSA Cobar Meteorol 50.82 152 *e*P P **12 16 35.8 +1.1**
comp=Z,26nm,0.8s,mb5.2
BVA0 Borovoye Array 55.88 326 *i* P P **12 17 11.5 -0.1**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
BVAR Borovoye Array 55.88 326 LR LR 12 41 17.8
comp=Z,50nm,19.6s,MS3.6,baz=5.8,slow=36
BRVK Borovoye 55.96 326 *e*P P **12 17 12.7 +0.6**
comp=Z,10.0nm,0.9s,mb4.8
BRVK Borovoye 55.96 326 *e*P P **12 17 12.7 +0.6**
BRVK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
AB31 Akbulak array 60.80 319 *i* P P **12 17 45.8 -0.2**
AB31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.3
ABKAR Akbulak array 60.80 319 *e*P P **12 17 45.7 -0.3**
comp=Z,3.8nm,0.8s,mb4.6
ABKAR *e*PcP PcP 12 18 28.9 -0.5
AKTO Aktyubinsk 62.29 320 LR LR 12 46 22.5
comp=Z,62nm,20.5s,MS3.8,baz=99,slow=38
AKTO Aktyubinsk 62.29 320 *i* P P **12 17 55.6 -0.4**
ZEI Tsey 71.18 311 *e*P P **12 18 51.7 -1.1**
ZEI pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
KLMR Klimovskoe 73.99 330 *e*P P **12 19 06.6 -2.6**
KLMR pmax pmax
comp=Z,41nm,1.6s,mb5.1
OBN Obninsk 75.64 324 P P **12 19 21.0 +2.2**
OBN *e* pP 12 19 33.6 +1.4
BRTR Keskin Array B 79.14 308 P P **12 19 39.1 +0.4**
comp=Z,1.0nm,0.8s,mb3.8,baz=126,slow=3.5,SNR=4.8
BRTR Keskin Array B 79.14 308 P P **12 19 39.1 +0.4**
BRTR Keskin Array B 79.14 308 P P **12 19 39.1 +0.4**
ILAR Eielson Array 79.15 26 P P **12 19 36.7 -1.6**
comp=Z,0.5nm,0.6s,mb3.6,baz=303,slow=4.4,SNR=8.9
ILAR Eielson Array 79.15 26 P P **12 19 36.7 -1.6**
ILAR Eielson Array 79.15 26 P P **12 19 36.7 -1.6**
ARCES ARCESS Array B 79.28 339 P P **12 19 38.2 -0.7**
comp=Z,3nm,0.9s,mb4.4,baz=92,slow=7.3,SNR=6.5
ARCES ARCESS Array B 79.28 339 P P **12 19 38.2 -0.7**
ARCES ARCESS Array B 79.28 339 P P **12 19 38.2 -0.7**
EIL Elat 79.62 298 LR LR 12 59 55.2
comp=Z,25nm,20.2s,MS3.5,baz=94,slow=40
FINES FINESS Array B 80.43 331 P P **12 19 44.6 -0.6**
comp=Z,2.0nm,0.5s,mb4.3,baz=57,slow=7.0,SNR=5.1
FINES FINESS Array B 80.43 331 P P **12 19 44.6 -0.6**
FINES FINESS Array B 80.43 331 P P **12 19 44.6 -0.7**
AKASG Malin Array Be 80.53 320 P P **12 19 45.1 -1.0**
comp=Z,1.1nm,0.6s,mb4.0,baz=74,slow=4.5,SNR=4.3
AKASG Malin Array Be 80.53 320 P P **12 19 45.1 -0.9**
AKASG Malin Array Be 80.53 320 P P **12 19 45.1 -0.9**
OJC Ojcow 86.50 321 *e*P P **12 20 16.5 -0.2**
OJC Ojcow 86.50 321 *e*P P **12 20 16.5 -0.2**
NB2 NORSAR Subarra 87.42 333 P P **12 20 19.6 -1.3**
comp=Z,1.7nm,0.6s,mb4.5,baz=66,slow=4.8
NOA NORSAR Array B 87.42 333 P P **12 20 19.8 -1.1**
comp=Z,3.1nm,0.8s,mb4.6,baz=69,slow=4.5,SNR=6.0
NOA LR LR 13 02 43.2
comp=Z,43nm,21.1s,MS3.8,baz=180,slow=38
NOA NORSAR Array B 87.42 333 P P **12 20 19.8 -1.1**
NOA NORSAR Array B 87.42 333 P P **12 20 19.8 -1.1**
MAW Mawson 90.71 199 P P **12 20 37.1 +1.0**
comp=Z,2.5nm,0.9s,mb4.5,baz=83,slow=14,SNR=2.0
MAW Mawson 90.71 199 P P **12 20 37.1 +1.0**
MAW Mawson 90.71 199 P P **12 20 37.1 +1.0**
GERES GERESS Array B 90.71 321 P P **12 20 36.1 -0.5**
comp=Z,1.0nm,0.7s,mb4.3,baz=68,slow=3.6,SNR=5.6
GERES GERESS Array B 90.71 321 P P **12 20 36.1 -0.5**
GERES GERESS Array B 90.71 321 P P **12 20 36.2 -0.5**

IDC ***26*** *12:15:12.0±1.9, 13°.45N×125°.60E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/23, mbtmp3.7/7, Error ellipse: s-maj=141.9km s-min=17.6km az=70.0*
ISCJB ***26*** *12:15:15.2±0.8, 13°.38N±0°.07×125°.20E±0°.09, h33km, mb3.7/7, Error ellipse: s-maj=12.6km s-min=10.4km az=19.4*
MAN ***26*** *12:15:15, 13°.53N×125°.05E, h24km, mb4.6, ML3.5, MS3.5*
ISC 26 12:15:17.6±0.8, 13°.32N±0°.08×125°.1E±0°.1, h35km, n11, σ1§26/13, mb3.7/7, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**0.93**	**210**	*e*P	**Pn**	**12 15 33.7**	**-0.4**
PVCP	**Virac**	**0.99**	**286**	*e*P	**Pn**	**12 15 31.8**	**-3.2**
PVCP				*e*S	**Sn**	**12 15 42.5**	**-5.3**
RCP	**Roxas**	**2.92**	**233**	*e*P	**Pn**	**12 16 01.8**	**+0.3**
RCP				*i* S	**Sn**	**12 16 38.2**	**+2.9**
BOAC	**Boac**	**3.21**	**273**	*e*P	**Pn**	**12 16 04.5**	**-0.9**
FITZ	**Fitzroy Crossi**	**31.22**	**179**	P	**P**	**12 21 33.0**	**-0.9**
	1.5nm,0.8s,mb3.9,baz=13,slow=21,SNR=1.9						
WRA	**Warramunga Arr**	**34.27**	**164**	P	**P**	**12 21 59.9**	**-0.7**
	0.1nm,0.4s,mb3.1,baz=344,slow=9.0,SNR=1.6						
ASAR	**Alice Springs**	**37.74**	**167**	P	**P**	**12 22 30.9**	**+0.6**
	0.2nm,0.3s,mb3.3,baz=350,slow=7.5,SNR=8.8						
SONM	**Songino Array**	**37.79**	**339**	P	**P**	**12 22 29.0**	**-1.3**
	0.5nm,0.8s,mb3.3,baz=153,slow=9.2,SNR=4.6						
MKAR	**Makanchi Array**	**48.95**	**322**	P	**P**	**12 24 01.6**	**+1.2**
	1.2nm,0.8s,mb4.0,baz=113,slow=9.3,SNR=9.3						
KURK	**Kurchatov**	**52.95**	**325**	P	**P**	**12 24 31.6**	**+1.2**
	2.8nm,0.7s,mb4.3,baz=122,slow=7.6,SNR=21						
BVAR	**Borovoye Array**	**58.55**	**325**	P	**P**	**12 25 12.1**	**+1.6**
	0.3nm,0.3s,mb3.8,baz=75,slow=38,SNR=2.0						

WEL 26 12:17:42.4±0.4, 37°.13S×176°.86E, h200km±3km, ML3.6/16, Error ellipse: s-maj=3.7km s-min=3.5km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPRZ	**Ohinepanea**	**0.75**	**198**	PN	Pn	12 18 11.1	+0.4
URZ	**Urewera**	**1.15**	**170**	PN	Pn	12 18 13.1	-0.1
URZ				SN	Sn	12 18 36.7	-0.5
MXZ	**Matakaoa Point**	**1.23**	**111**	PN	Pn	12 18 13.9	+0.1
MXZ				SN	Sn	12 18 38.1	-0.1
MWZ	**Matawai**	**1.31**	**156**	PN	Pn	12 18 14.3	-0.2
MWZ				SN	Sn	12 18 39.8	+0.3
PUZ	**Puketiti**	**1.46**	**131**	PN	Pn	12 18 15.8	+0.2
PUZ				SN	Sn	12 18 40.9	-0.7
CNGZ	**Carnagh Statio**	**1.72**	**142**	PN	Pn	12 18 18.7	+0.6
RAHZ	**Arahi**	**1.79**	**174**	PN	Pn	12 18 19.0	+0.2
RAHZ				SN	Sn	12 18 46.8	-0.4
NMHZ	**Naumai**	**1.96**	**181**	PN	Pn	12 18 21.1	+0.6
PRGZ	**Paritu Road**	**1.96**	**156**	PN	Pn	12 18 20.9	+0.4
KNZ	**Kokohu**	**1.99**	**161**	PN	Pn	12 18 20.5	-0.3
BKZ	**Black Stump Fm**	**2.05**	**188**	PN	Pn	12 18 20.9	-0.5
BKZ				*e*SN	Sn	12 18 50.6	-1.3
MHGZ	**Mahia Peninsul**	**2.18**	**158**	PN	Pn	12 18 23.3	+0.5
NGZ	**Ngauruhoe**	**2.27**	**205**	PN	Pn	12 18 24.7	+1.0
MCHZ	**McNeill Hill**	**2.31**	**183**	PN	Pn	12 18 24.2	+0.1
TUVZ	**Tukino**	**2.33**	**204**	PN	Pn	12 18 24.5	+0.1
WNVZ	**Wahianoa**	**2.41**	**204**	PN	Pn	12 18 25.1	-0.1
BHHZ	**Black Hill Sta**	**2.44**	**195**	PN	Pn	12 18 24.7	-0.8
MTVZ	**Mangateitei**	**2.50**	**205**	PN	Pn	12 18 26.3	+0.1
CKHZ	**Cape Kidnapper**	**2.53**	**176**	PN	Pn	12 18 26.4	-0.2
KAHZ	**Kahuranaki**	**2.66**	**180**	PN	Pn	12 18 27.4	-0.6
PNHZ	**Pukenui**	**2.83**	**190**	PN	Pn	12 18 28.7	-1.2
PXZ	**Pawanui**	**2.90**	**180**	PN	Pn	12 18 29.3	-1.4
WPHZ	**Waipukurau**	**2.95**	**186**	PN	Pn	12 18 30.0	-1.3
WAZ	**Wanganui**	**3.00**	**209**	PN	Pn	12 18 31.3	-0.7
PRHZ	**Porangahau**	**3.14**	**183**	PN	Pn	12 18 32.0	-1.6
DVHZ	**Dannevirke**	**3.21**	**189**	PN	Pn	12 18 32.7	-1.7
POWZ	**Post Office Ro**	**3.37**	**194**	PN	Pn	12 18 34.8	-1.5
BFZ	**Birch Farm**	**3.58**	**187**	PN	Pn	12 18 36.8	-2.0
MRZ	**Mangatainoka R**	**3.66**	**195**	PN	Pn	12 18 37.5	-2.4
TIWZ	**Tintock**	**3.72**	**191**	PN	Pn	12 18 38.8	-1.9
HOWZ	**Holdsworth Sta**	**3.90**	**195**	PN	Pn	12 18 40.4	-2.6
OGWZ	**Otaki Gorge**	**3.91**	**199**	PN	Pn	12 18 40.5	-2.5
KIW	**Kapiti Island**	**4.02**	**202**	PN	Pn	12 18 41.6	-2.8
TMWZ	**Te Maipa**	**4.04**	**190**	PN	Pn	12 18 42.7	-1.9
MTW	**Mount Morrison**	**4.16**	**194**	PN	Pn	12 18 43.1	-2.9
CAW	**Cannon Point**	**4.21**	**199**	PN	Pn	12 18 43.6	-3.0
WEL	**Wellington**	**4.45**	**201**	PN	Pn	12 18 46.9	-2.9
MSWZ	**Moikau Station**	**4.46**	**196**	PN	Pn	12 18 46.6	-3.2
SNZO	**South Karori**	**4.50**	**201**	PN	Pn	12 18 46.9	-3.4
TCW	**Tory Channel**	**4.54**	**205**	PN	Pn	12 18 47.9	-3.0
PLWZ	**Palliser**	**4.60**	**195**	PN	Pn	12 18 48.2	-3.4
TUWZ	**Tuamarina**	**4.85**	**207**	PN	Pn	12 18 51.8	-3.1
NNZ	**Nelson**	**4.89**	**212**	PN	Pn	12 18 53.3	-2.0
THZ	**Tophouse**	**5.54**	**212**	PN	Pn	12 19 01.2	-2.5
KHZ	**Kahutara**	**5.87**	**205**	PN	Pn	12 19 04.2	-3.6
LTZ	**Lake Taylor**	**6.65**	**211**	PN	Pn	12 19 14.2	-3.8

ISCJB ***26*** *12:22:00.0±0.4, 12°.58N±0°.06×88°.12W±0°.04, h61km±4km, mb4.1/16, Error ellipse: s-maj=11.5km s-min=3.4km az=31.2*
CASC ***26*** *12:22:00.4±2.5, 12°.60N×88°.13W, h47km±98km, MD4.0, ML4.3, mb4.4(NEIC)*
NEIC ***26*** *12:22:02.6±1.1, 12°.63N×87°.98W, h73km±10km, mb4.4/7, Error ellipse: s-maj=18.4km s-min=10.8km az=51.0*
IDC ***26*** *12:22:02.3±2.6, 12°.78N×87°.92W, h66km±23km, mb3.8/9, mb1 4.0/11, mb1mx3.8/23, mbtmp3.8/11, MS3.5/11, Ms1 3.5/11, ms1mx3.3/28, Error ellipse: s-maj=34.6km s-min=21.2km az=48.0*
ISC 26 12:22:01.2±0.4, 12°.63N±0°.06×88°.09W±0°.04, h54km±5km, n76, σ1§23/81, mb4.1/16, MS3.5/8, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.69**	**21**	*e*P	**Pn**	**12 22 15.1**	**+0.1**
VSM	**San Miguel**	**0.81**	**347**	*e*P	**Pn**	**12 22 16.3**	**-0.3**
BLLM	**Bellamira**	**0.82**	**350**	*e*P	**Pn**	**12 22 16.3**	**-0.4**
CRIN	**San Cristobal**	**1.01**	**86**	*e*P	**Pn**	**12 22 19.1**	**-0.2**
CRIN				*e*S	**Sn**	**12 22 34.1**	**+1.6**
CRIN				AML	AML	12 22 39.2	
	comp=E,4μm,0.2s						
CAHU	**Cacacuatique**	**1.14**	**354**	*e*P	**Pn**	**12 22 21.4**	**+0.5**
MIRN	**Miramar**	**1.36**	**98**	*e*P	**Pn**	**12 22 23.1**	**-0.8**
MIRN				*e*S	**Sn**	**12 22 41.2**	**+0.4**
LFRS	**El Faro**	**1.37**	**316**	*e*P	**Pn**	**12 22 22.4**	**-1.6**
LBRS	**Las Brisas**	**1.44**	**320**	*e*P	**Pn**	**12 22 24.2**	**-0.8**
COPN	**Copaltepe**	**1.53**	**107**	*e*P	**Pn**	**12 22 24.3**	**-1.9**
COPN				*e*S	**Sn**	**12 22 45.5**	**+0.5**
SNET	**Serv Nac Est T**	**1.53**	**313**	*e*P	**Pn**	**12 22 24.4**	**-1.8**
SNET				*e*S	**Sn**	**12 22 43.5**	**-1.5**
SNET				AML	AML	12 22 49.4	
	comp=Z,6μm,0.3s						
BOQS	**Boqueron**	**1.60**	**314**	*e*P	**Pn**	**12 22 26.3**	**-0.8**
BOQS				*e*S	**Sn**	**12 22 47.5**	**+0.9**
TGUH	**Tegucigalpa,Un**	**1.62**	**29**	*e*Pn	**Pn**	**12 22 28.7**	**+1.2**
TGUH				*e*Sn	**Sn**	**12 22 40.0**	**-7.3**
TGUH	**Tegucigalpa,Un**	**1.62**	**29**	*e*P	**Pn**	**12 22 28.7**	**+1.2**
TGUH				AML	AML	12 23 12.6	
	comp=E,6μm,0.6s						
CSAN		**1.69**	**105**	*e*P	**Pn**	**12 22 27.9**	**-0.5**
CSAN				*e*S	**Sn**	**12 22 49.9**	**+1.1**
XAVN	**Gruta Xavier**	**1.79**	**105**	*e*P	**Pn**	**12 22 27.9**	**-1.8**
TISN	**Laguna Tiscapa**	**1.84**	**105**	*e*P	**Pn**	**12 22 28.7**	**-1.7**
MGAN	**Managua**	**1.86**	**105**	*e*P	**Pn**	**12 22 29.4**	**-1.3**
HUEN		**1.89**	**99**	*e*P	**Pn**	**12 22 29.9**	**-1.2**
TICN	**Ticuantepe**	**1.91**	**108**	*e*P	**Pn**	**12 22 30.9**	**-0.4**
SBLS	**San Blas**	**1.92**	**309**	*e*P	**Pn**	**12 22 30.2**	**-1.3**
RTR	**El Retiro**	**1.97**	**310**	*e*P	**Pn**	**12 22 31.2**	**-1.1**
RBDL	**Robledal**	**2.14**	**314**	*e*P	**Pn**	**12 22 34.4**	**-0.2**
MTO2	**Montecristo 2**	**2.15**	**325**	*e*P	**Pn**	**12 22 34.4**	**-0.3**
FUG	**Fuego 3**	**3.23**	**304**	*e*P	**Pn**	**12 22 52.5**	**+3.0**
FUG				*e*S	**Sn**	**12 23 27.8**	**+1.1**
FG6		**3.33**	**306**	*e*P	**Pn**	**12 22 54.4**	**+3.7**
FG6				*e*S	**Sn**	**12 23 29.8**	**+0.7**
TP2	**Tecpan 2**	**3.56**	**307**	*e*P	**Pn**	**12 22 54.3**	**+0.3**
TP2				*e*S	**Sn**	**12 23 29.8**	**-5.2**
JAT	**Jato**	**3.84**	**296**	*e*P	**Pn**	**12 22 58.9**	**+1.1**
JTS	**JuntasAbangare**	**3.85**	**127**	P	**Pn**	**12 22 58.0**	**0.0**
	comp=E,0.6nm,0.3s,baz=329,slow=23,SNR=7.0						
JTS				S	**Sn**	**12 23 53.8**	**+12**
	comp=E,5.4nm,0.3s,baz=287,slow=16,SNR=5.2						
JTS				LR	LR	12 24 57.6	
	comp=E,474nm,21.2s,baz=12,slow=46						
JTS	**JuntasAbangare**	**3.85**	**127**	P	**Pn**	**12 22 58.0**	**0.0**
JTS				*e*Sn	**Sn**	**12 23 53.1**	**+11**
JTS				S	**Sn**	**12 23 53.8**	**+12**
JCR	**Jicaral**	**4.02**	**133**	*e*P	**Pn**	**12 22 59.7**	**-0.6**
CGA2	**Cerro Gallo 2**	**4.40**	**126**	*e*P	**Pn**	**12 23 08.1**	**+2.5**
PRS1	**Puriscal**	**4.54**	**125**	*e*P	**Pn**	**12 23 10.5**	**+3.0**
QCR	**Quepos**	**5.00**	**129**	*e*P	**Pn**	**12 23 14.1**	**+0.3**
BUS	**Buena Vista**	**5.23**	**125**	*e*P	**Pn**	**12 23 19.7**	**+2.7**
TEIG	**Tepich**	**7.55**	**359**	P	**Pn**	**12 23 51.4**	**+2.6**
	comp=E,3.3nm,0.3s,baz=346,slow=21,SNR=11						
TEIG				LR	LR	12 27 11.2	
	comp=E,311nm,21.3s,baz=155,slow=42						
TEIG	**Tepich**	**7.55**	**359**	P	**Pn**	**12 23 51.4**	**+2.6**
CMIG	**Matias Romero**	**7.93**	**305**	P	**Pn**	**12 23 55.1**	**+1.2**
	comp=E,0.8nm,0.3s,baz=126,slow=10.0,SNR=10						
CMIG				S	**Sn**	**12 25 18.2**	**-4.0**
	comp=E,0.9nm,0.3s,baz=93,slow=16,SNR=2.8						
CMIG	**Matias Romero**	**7.93**	**305**	P	**Pn**	**12 23 55.1**	**+1.2**
CMIG				S	**Sn**	**12 25 18.2**	**-4.0**
ROSC	**El Rosal**	**15.63**	**118**	LR	LR	12 31 51.0	
	comp=E,85nm,21.1s,baz=203,slow=38						
JCT	**Junction City**	**20.81**	**330**	P	**P**	**12 26 39.7**	**+1.5**
	comp=E,13nm,0.6s						
JCT				*e*S	**S**	**12 30 21.7**	**-5.7**
SJG	**San Juan**	**21.84**	**73**	LR	LR	12 34 12.3	
	comp=E,81nm,21.2s,MS3.1,baz=267,slow=34						
ATAH	**Atahualpa**	**21.87**	**153**	LR	LR	12 33 56.5	
	comp=E,144nm,21.8s,MS3.4,baz=212,slow=33						
TXAR	**Lajitas Array**	**22.04**	**321**	P	**P**	**12 26 52.3**	**+0.9**
	comp=E,7.6nm,0.8s,mb4.2,baz=139,slow=10.0,SNR=62						
TXAR				PcP	PcP	12 30 47.3	-0.6
	comp=E,0.3nm,0.9s,baz=132,slow=1.9,SNR=3.6						
TXAR	**Lajitas Array**	**22.04**	**321**	P	**P**	**12 26 52.3**	**+0.9**
TXAR				PcP	PcP	12 30 47.3	-0.6
MIAR	**Mount Ida**	**22.38**	**348**	*e*P	**P**	**12 26 56.1**	**+1.2**
	comp=E,8.0nm,0.7s,mb4.3						
MIAR				*e*pP		12 27 11.9	
TKL	**Tuckaleechee C**	**23.25**	**9**	P	**P**	**12 27 04.5**	**+0.3**
	comp=E,7.9nm,0.8s,mb4.2,baz=176,slow=11,SNR=7.9						
TKL				LR	LR	12 36 23.0	
	comp=E,79nm,18.7s,MS3.2,baz=41,slow=37						
TKL	**Tuckaleechee C**	**23.25**	**9**	P	**P**	**12 27 04.5**	**+0.3**
WMOK	**Wichita Mounta**	**24.05**	**338**	*e*P	**P**	**12 27 10.7**	**-0.7**
	comp=E,1.0nm,0.4s,mb3.6						
CPRX	**Cap Rock**	**24.91**	**327**	*e*P	**P**	**12 27 19.5**	**+0.2**
	comp=E,11nm,0.8s,mb4.4						
AMTX	**Amarillo**	**25.35**	**333**	*e*P	**P**	**12 27 23.3**	**+0.1**
	comp=

	comp=E,119nm,20.1s,MS3.7,baz=296,slow=38						
ULM	**Lac du Bonnet**	**38.05**	**352**	P	**P**	**12 29 11.6**	**-2.7**
HRY	**Holter Researc**	**39.42**	**334**	*e*P	**P**	**12 29 26.0**	**+0.1**
	comp=E,3.6nm,0.7s,mb4.2						
SCHQ	**Schefferville**	**45.29**	**17**	P	**P**	**12 30 12.0**	**-1.4**
	comp=E,3.0nm,0.5s,mb4.4,baz=228,slow=8.1,SNR=11						
SCHQ				LR	LR	12 50 10.6	
	comp=E,106nm,20.2s,MS3.8,baz=307,slow=37						
SCHQ	**Schefferville**	**45.29**	**17**	P	**P**	**12 30 12.0**	**-1.4**
CPUP	**Villa Florida**	**48.94**	**143**	LR	LR	12 54 06.7	
	comp=E,38nm,18.7s,MS3.4,baz=232,slow=39						
YKA	**Yellowknife Ar**	**53.28**	**345**	P	**P**	**12 31 11.6**	**-2.6**
	comp=E,1.4nm,0.6s,mb4.1,baz=139,slow=6.5,SNR=7.4						
YKA	**Yellowknife Ar**	**53.28**	**345**	P	**P**	**12 31 11.7**	**-2.6**
INK	**Inuvik**	**62.85**	**343**	P	**P**	**12 32 20.4**	**-0.7**
	comp=E,1.0nm,0.7s,mb4.1,baz=162,slow=17,SNR=6.8						
INK	**Inuvik**	**62.85**	**343**	P	**P**	**12 32 20.4**	**-0.7**
ILAR	**Eielson Array**	**65.61**	**336**	P	**P**	**12 32 37.9**	**-1.4**
	comp=E,0.7nm,0.6s,mb3.9,baz=161,slow=4.8,SNR=19						
ILAR	**Eielson Array**	**65.61**	**336**	P	**P**	**12 32 37.9**	**-1.4**
GERES	**GERESS Array B**	**88.20**	**40**	LR	LR	13 12 26.6	
	comp=E,47nm,19.2s,MS3.9,baz=306,slow=34						
WRA	**Warramunga Arr**	**138.72**	**254**	PKP	PKPdf	12 41 22.2	+0.1
	comp=E,0.4nm,0.6s,baz=89,slow=2.4,SNR=9.5						
WRA	**Warramunga Arr**	**138.72**	**254**	PKP	PKPdf	12 41 22.2	+0.1
ASAR	**Alice Springs**	**138.76**	**249**	PKP	PKPdf	12 41 22.6	+0.4
	comp=E,0.4nm,0.8s,baz=94,slow=1.2,SNR=5.1						
ASAR	**Alice Springs**	**138.76**	**249**	PKP	PKPdf	12 41 22.6	+0.4
CMAR	**Chiang Mai Arr**	**148.34**	**347**	PKP	PKPdf	12 41 38.6	-0.4
	comp=E,0.3nm,0.3s,baz=306,slow=44,SNR=5.5						
CMAR				PKPbc	PKPbc	12 41 41.1	-1.3
	comp=E,1.1nm,0.6s,baz=290,slow=2.3,SNR=9.1						
CMAR	**Chiang Mai Arr**	**148.34**	**347**	PKP	PKPdf	12 41 38.6	-0.4
CMAR				PKPbc	PKPbc	12 41 41.1	-1.3

*ISCJB **26** 12:25:29.2±0.6,49.99N±0.03×88.38E±0.06,h10km, Error ellipse: s-maj=5.8km s-min=4.4km az=36.2*
*IDC **26** 12:25:30.3±1.3,49.86N×88.42E,h0km,mb3.4/1, mb1 3.8/7,mb1mx3.5/31,mbtmp3.7/7,ML4.0/5, Error ellipse: s-maj=15.8km s-min=12.5km az=27.0*
*NEIC **26** 12:25:31.7±0.7,49.91N×88.48E,h10km,mb3.7/1, Error ellipse: s-maj=11.2km s-min=9.8km az=185.0*
*MOS **26** 12:25:31.8±1.5,49.83N×88.14E,h13km,mb4.2/1, Error ellipse: s-maj=14.8km s-min=9.2km az=103.4*
*NNC **26** 12:25:32.6±3.1,49.98N×88.07E,h0km,mb3.9,mpv4.0, Error ellipse: s-maj=24.5km s-min=14.8km az=86.0*
*ASRS **26** 12:25:32.6±1.2,49.90N×88.17E,h15km,Ms2.9*
ISC 26 12:25:31.5±0.6,50.01N±0.03×88.32E±0.06,h10km,n48,
σ1§55/75,9C-8D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
AKAR	**Aktash**	**0.55**	**305**	*e*Pg		**Pg**	**12 25 42.3**	**+0.1**
AKAR				*e*Sg		**Sg**	**12 25 51.3**	**+1.9**
AKAR	**Aktash**	**0.55**	**305**	*e*PG		**Pg**	**12 25 42.3**	**+0.1**
AKAR				*e*			12 25 51.3	
UKR	**Ust'-Kan**	**2.45**	**294**	*e*Pg		**Pg**	**12 26 15.3**	**-3.2**
UKR				*e*Sg		**Sg**	**12 26 50.3**	**+0.1**
UKR	**Ust'-Kan**	**2.45**	**294**	*e*PN		**Pg**	**12 26 15.3**	**-3.2**
UKR				*e*			12 26 50.3	
TASR	**Tashtagol**	**2.77**	**354**	*e*Pg		**Pg**	**12 26 23.2**	**-1.4**
TASR				*e*Sg		**Sg**	**12 27 01.8**	**+1.3**
TASR	**Tashtagol**	**2.77**	**354**	*e*PN		**Pg**	**12 26 23.2**	**-1.4**
TASR				*e*			12 27 01.8	
CERR	**Cheremushki**	**3.45**	**33**	*i* Pn		**Pn**	**12 26 30.1**	**+4.9**
CERR				*i* Pg		**Pg**	**12 26 36.5**	**-1.0**
CERR				*i* Sg		**Sg**	**12 27 26.0**	**+3.9**
CERR	**Cheremushki**	**3.45**	**33**	*i* PN		**Pn**	**12 26 30.1**	**+4.9**
CERR				*i*			12 26 36.5	
CERR				*i*			12 27 26.0	
ELT	**Yel'tsovka**	**3.51**	**339**	*e*Pn		**Pn**	**12 26 31.2**	**+5.2**
ELT				*e*Sg		**Sg**	**12 27 22.7**	**-1.4**
ELT	**Yel'tsovka**	**3.51**	**339**	*e*PN		**Pn**	**12 26 31.2**	**+5.2**
ELT				*e*			12 27 22.7	
ZAA0	**Zalesovo Array**	**4.50**	**333**	*e*Pn		**Pn**	**12 26 42.7**	**+3.0**
ZAA0				*e*Sn		**Sn**	**12 27 37.4**	**+5.3**
ZALV	**Zalesovo Beam**	**4.50**	**333**	Pn		**Pn**	**12 26 43.0**	**+3.3**
	2.9nm,0.3s,baz=157,slow=13,SNR=36							
ZALV				Pg		**Pg**	**12 26 55.6**	**-2.1**
	4.3nm,0.3s,baz=156,slow=15,SNR=9.5							
ZALV				Sn		**Sn**	**12 27 38.1**	**+6.0**
	6.2nm,0.3s,baz=148,slow=21,SNR=8.4							
ZALV				Lg			12 27 57.3	
	14nm,0.3s,baz=144,slow=26,SNR=8.6							
ZALV	**Zalesovo Beam**	**4.50**	**333**	Pn		**Pn**	**12 26 43.0**	**+3.3**
ZALV				Pg		**Pg**	**12 26 55.6**	**-2.1**
ZALV				Sn		**Sn**	**12 27 38.1**	**+6.0**
ZALV				Lg			12 27 57.3	
ZALV	**Zalesovo Beam**	**4.50**	**333**	*e*PN		**Pn**	**12 26 43.0**	**+3.3**
ZALV				pmax	pmax			
	comp=Z,3.0nm,0.3s							
MK31	**Makanchi Array**	**5.14**	**234**	⇑Pn		**Pn**	**12 26 50.4**	**+1.8**
	comp=Z,4.2nm,0.3s,baz=52,slow=14,SNR=5.5							
MK31				⇑Pg		**Pg**	**12 27 03.2**	**-6.8**
	comp=Z,7.9nm,0.4s,baz=62,slow=19,SNR=3.9							
MK31				⇓Sn		**Sn**	**12 27 49.4**	**+1.5**
	comp=Z,17nm,0.5s,baz=58,slow=25,SNR=4.6							
MK31				⇓Lg			12 28 08.3	
	comp=Z,52nm,0.5s,baz=51,slow=27,SNR=9.4							
MK31	**Makanchi Array**	**5.14**	**234**	*e*Pn		**Pn**	**12 26 49.8**	**+1.3**
MK31				*e*Sn		**Sn**	**12 27 49.2**	**+1.3**
MK31	**Makanchi Array**	**5.14**	**234**	*e*PN		**Pn**	**12 26 49.8**	**+1.3**
MK31				*e*			12 27 49.2	
MKAR	**Makanchi Array**	**5.14**	**234**	Pn		**Pn**	**12 26 50.0**	**+1.5**
	comp=Z,6.9nm,0.3s,baz=53,slow=14,SNR=78							
MKAR				Pg		**Pg**	**12 27 03.2**	**-6.8**
	comp=Z,10nm,0.3s,baz=54,slow=17,SNR=19							
MKAR				Lg			12 28 10.2	
	comp=Z,16nm,0.3s,baz=58,slow=28,SNR=13							
MKAR	**Makanchi Array**	**5.14**	**234**	Pn		**Pn**	**12 26 50.0**	**+1.5**
MKAR				Pg		**Pg**	**12 27 03.2**	**-6.8**
MKAR				Lg			12 28 10.2	
MKAR	**Makanchi Array**	**5.14**	**234**	*e*PN		**Pn**	**12 26 50.0**	**+1.5**
MKAR				pmax	pmax			
	comp=Z,7.0nm,0.3s							
NVS	**Novosibirsk**	**5.75**	**329**	*e*Pn		**Pn**	**12 26 57.8**	**+0.9**
NVS				*e*Pg		**Pg**	**12 27 19.1**	**-2.5**
NVS				*e*Sn		**Sn**	**12 28 05.4**	**+2.5**
NVS				*e*Sg		**Sg**	**12 28 32.9**	**-3.2**
NVS	**Novosibirsk**	**5.75**	**329**	*e*PN		**Pn**	**12 26 57.8**	**+0.9**
NVS				*e*			12 27 19.1	
NVS				*e*			12 28 32.9	
KURK	**Kurchatov**	**6.25**	**280**	⇑Pn		**Pn**	**12 27 04.9**	**+1.2**
	comp=Z,23nm,0.7s							
KURK				⇑Sn		**Sn**	**12 28 17.7**	**+2.6**
	comp=Z,40nm,0.6s							
KURK				⇓Lg			12 28 48.0	
	comp=Z,52nm,0.6s							
KURK	**Kurchatov**	**6.25**	**280**	Pn		**Pn**	**12 27 05.8**	**+2.1**
	comp=Z,2.4nm,0.3s,baz=94,slow=15,SNR=59							
KURK				Sn		**Sn**	**12 28 19.7**	**+4.6**
	comp=Z,1.8nm,0.3s,baz=90,slow=27,SNR=6.0							
KURK				Lg			12 28 49.5	
	comp=Z,2.1nm,0.3s,baz=92,slow=33,SNR=8.5							
KURK	**Kurchatov**	**6.25**	**280**	Pn		**Pn**	**12 27 05.8**	**+2.1**
	comp=Z,3.6nm,0.7s							
KURK				*e*Sn		**Sn**	**12 28 17.7**	**+2.6**
KURK				Sn		**Sn**	**12 28 19.7**	**+4.6**
KURK				Lg			12 28 49.5	
KURK	**Kurchatov**	**6.25**	**280**	*c i*PN		**Pn**	**12 27 04.9**	**+1.2**
TLY	**Talaya**	**9.84**	**74**	*e*P		Px	12 28 24.1	
VOSK	**Vostochnaya**	**11.18**	**291**	⇑Pn		**Pn**	**12 28 11.1**	**-0.1**
	comp=Z,0.9nm,0.5s							
VOSK				⇓Sn		**Sn**	**12 30 14.6**	**-1.5**
	comp=Z,3.2nm,0.6s							
VOSK				⇓Lg			12 31 20.3	
	comp=Z,6.6nm,1.0s							
TKM2	**Tokmak 2**	**11.27**	**236**	⇑Pn		**Pn**	**12 28 11.2**	**-1.3**
	comp=Z,1.2nm,0.6s							
TKM2				⇓Sn		**Sn**	**12 30 16.1**	**-2.3**
	comp=Z,0.6nm,0.4s							
TKM2				⇓Lg			12 31 20.5	
	comp=Z,9.1nm,1.1s							
BVA0	**Borovoye Array**	**11.57**	**292**	⇓Pn		**Pn**	**12 28 15.5**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=107,slow=17,SNR=5.9							
BVA0				⇑Sn		**Sn**	**12 30 23.3**	**-2.4**
	comp=Z,0.3nm,0.5s,baz=70,slow=46,SNR=3.9							
BVAR	**Borovoye Array**	**11.57**	**292**	Pn		**Pn**	**12 28 16.8**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=107,slow=15,SNR=8.4							
BVAR				Sn		**Sn**	**12 30 23.2**	**-2.6**
	comp=Z,0.6nm,0.3s,baz=101,slow=22,SNR=4.0							
BVAR	**Borovoye Array**	**11.57**	**292**	Pn		**Pn**	**12 28 16.8**	**+0.2**
BVAR				Sn		**Sn**	**12 30 23.2**	**-2.6**
BVAR	**Borovoye Array**	**11.57**	**292**	P		**Pn**	**12 28 16.8**	**+0.2**
BVAR				P		**Pn**	**12 30 23.2**	
AAK	**Ala-Archa**	**12.06**	**238**	*e*Pn		**Pn**	**12 28 24.6**	**+1.3**
	comp=Z,9.4nm,0.4s							
AAK	**Ala-Archa**	**12.06**	**238**	*e*P		**Pn**	**12 28 24.6**	**+1.3**
AAK				pmax	pmax			
	comp=Z,9.0nm,0.4s							
SONM	**Songino Array**	**12.09**	**93**	Pn		**Pn**	**12 28 22.3**	**-1.4**
	comp=Z,0.0nm,0.3s,baz=281,slow=16,SNR=3.1							
SONM				Lg			12 31 54.0	
	comp=Z,0.2nm,0.3s,baz=281,slow=30,SNR=8.7							
SONM	**Songino Array**	**12.09**	**93**	Pn		**Pn**	**12 28 22.3**	**-1.4**
SONM				Lg			12 31 54.0	
SONM	**Songino Array**	**12.09**	**93**	P		**Pn**	**12 28 22.3**	**-1.3**
AB31	**Akbulak array**	**18.36**	**279**	⇑P		**Pn**	**12 29 46.2**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=74,slow=12,SNR=10							
ABKAR	**Akbulak array**	**18.36**	**279**	*e*P		**Pn**	**12 29 46.2**	**+0.3**
	comp=Z,0.4nm,0.4s							
ARU	**Arti**	**18.84**	**301**	*e*P		**Pn**	**12 29 52.9**	**+1.1**
	comp=Z,1.9nm,0.4s							
ARU	**Arti**	**18.84**	**301**	*e*P		**Pn**	**12 29 52.9**	**+1.1**
ARU				pmax	pmax			
	comp=Z,2.0nm,0.4s							
AKTO	**Aktyubinsk**	**19.34**	**283**	P		**Pn**	**12 29 57.5**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=86,slow=14,SNR=7.7							
AKTO	**Aktyubinsk**	**19.34**	**283**	P		**Pn**	**12 29 57.5**	**-0.4**
AKTO	**Aktyubinsk**	**19.34**	**283**	P		**Pn**	**12 29 57.5**	**-0.3**
WRA	**Warramunga Arr**	**80.65**	**137**	P		**P**	**12 37 43.4**	**-1.0**
	comp=Z,0.2nm,0.9s,baz=343,slow=6.2,SNR=1.5							
WRA	**Warramunga Arr**	**80.65**	**137**	P		**P**	**12 37 43.4**	**-1.0**
WRA	**Warramunga Arr**	**80.65**	**137**	P		**P**	**12 37 43.4**	**-0.9**

*MAN **26** 12:25:41, 13.41N×120.24E,h5km, mb4.6,ML3.5,MS3.4*
MAN INTENSITY II - PALUAN OCCIDENTAL MINDORO.
*IDC **26** 12:25:41.9±1.1, 13.29N×120.60E,h0km,mb4.0/4, mb1 4.3/4,mb1mx3.7/21,mbtmp4.0/4, Error ellipse: s-maj=27.0km s-min=15.4km az=93.0*
ISC 26 12:25:41.8±1.1,13.40N±0.04×120.27E±0.08,h5km±10km, n17,σ0§78/20,mb4.0/4,2C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
LUBP	**Lubang**	**0.33**	**356**	*e*P		**Pg**	**12 25 48.0**	**-0.2**
LUBP				*e*S		**Sg**	**12 25 52.4**	**-0.2**
TGY	**Tagaytay City**	**0.95**	**43**	Pn		**Pn**	**12 26 01.0**	**-0.9**
	437nm,0.3s,baz=212,slow=4.4,SNR=16							
TGY				Sn		**Sn**	**12 26 16.2**	**+0.4**
	483nm,0.3s,baz=347,slow=21,SNR=12							
TGY	**Tagaytay City**	**0.95**	**43**	*e*P		**Pg**	**12 26 00.5**	**+0.4**
BUSP	**Coron**	**1.39**	**183**	*e*P		**Pn**	**12 26 07.8**	**-0.1**
BUSP				*e*S		**Sb**	**12 26 27.1**	**+0.7**
BOAC	**Boac**	**1.53**	**88**	*e*P		**Pn**	**12 26 08.9**	**-1.0**
OTRP	**Odiongan**	**1.99**	**121**	*e*P		**Pn**	**12 26 16.4**	**+0.2**
POLP	**Polilio Island**	**2.09**	**51**	*e*P		**Pn**	**12 26 18.1**	**+0.6**
GQP	**Guinayangan**	**2.17**	**76**	*e*P		**Pn**	**12 26 19.2**	**+0.5**
GQP				*e*			12 26 47.2	
ENPP	**El Nido**	**2.33**	**201**	*e*P		**Pn**	**12 26 20.8**	**-0.1**
SCZP	**Santa Cruz**	**2.39**	**352**	*e*P		**Pn**	**12 26 21.0**	**-0.6**
CUYO	**Cuyo Island**	**2.64**	**164**	*e*P		**Pn**	**12 26 24.5**	**-0.6**
BALP	**Baler**	**2.65**	**28**	*e*P		**Pn**	**12 26 25.8**	**+0.6**
GUIM	**Jordan**	**3.57**	**140**	*e*P		**Pn**	**12 26 38.9**	**+1.0**
CMAR	**Chiang Mai Arr**	**21.11**	**287**	P		**P**	**12 30 30.9**	**+3.3**
	3.0nm,0.8s,mb3.6,baz=97,slow=9.2,SNR=17							
WRA	**Warramunga Arr**	**35.91**	**157**	P		**P**	**12 32 41.8**	**-1.5**
	4.1nm,0.7s,mb4.5,baz=336,slow=9.6,SNR=54							
ASAR	**Alice Springs**	**39.18**	**160**	P		**P**	**12 33 10.3**	**-0.5**
	3.1nm,0.6s,mb4.2,baz=338,slow=6.9,SNR=69							
MKAR	**Makanchi Array**	**46.03**	**324**	P		**P**	**12 34 10.3**	**+4.0**
	0.3nm,0.3s,mb3.6,baz=132,slow=7.1,SNR=3.2							

*IDC **26** 12:37:24.2±1.8, 13.39N×125.34E,h0km,mb3.7/7, mb1 3.7/7,mb1mx3.5/22,mbtmp3.7/7, Error ellipse: s-maj=169.0km s-min=19.4km az=68.0*
*MAN **26** 12:37:24, 13.46N×125.26E,h31km,mb4.6,ML3.5,MS3.4*
*ISCJB **26** 12:37:27.0±0.8, 13.37N±0.06×125.23E±0.07,h33km, mb3.7/7, Error ellipse: s-maj=10.4km s-min=8.1km az=20.5*
ISC 26 12:37:29.2±0.8,13.31N±0.06×125.20E±0.08,h35km,n11,
σ0§86/15,mb3.7/7,1C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
CNP	**Catarman**	**0.95**	**214**	*e*P		**Pn**	**12 37 45.2**	**-0.8**
CNP				*e*S		**Sn**	**12 37 57.9**	**-0.5**
PVCP	**Virac**	**1.06**	**286**	*e*P		**Pn**	**12 37 43.3**	**-4.3**
PVCP				*e*S		**Sn**	**12 37 54.6**	**-6.6**
GQP	**Guinayangan**	**2.75**	**283**	*i*P		**Pn**	**12 38 07.9**	**-2.9**
GQP				*i* S		**Sn**	**12 38 43.7**	**+0.9**
RCP	**Roxas**	**2.96**	**234**	⇓*e*P		**Pn**	**12 38 13.4**	**-0.4**
RCP				*i* S		**Sn**	**12 38 49.4**	**+1.3**
WRA	**Warramunga Arr**	**34.24**	**165**	P		**P**	**12 44 12.4**	**+0.5**
	0.1nm,0.4s,mb3.1,baz=344,slow=9.0,SNR=1.7							
ASAR	**Alice Springs**	**37.72**	**167**	P		**P**	**12 44 42.1**	**+0.4**
	0.3nm,0.5s,mb3.2,baz=352,slow=7.8,SNR=6.9							
SONM	**Songino Array**	**37.83**	**339**	P		**P**	**12 44 42.0**	**-0.4**
	0.4nm,0.5s,mb3.4,baz=154,slow=10,SNR=5.4							
MKAR	**Makanchi Array**	**49.00**	**322**	P		**P**	**12 46 12.9**	**+0.5**
	1.4nm,0.8s,mb4.0,baz=106,slow=8.9,SNR=4.5							
ZALV	**Zalesovo Beam**	**51.48**	**331**	P		**P**	**12 46 31.4**	**+0.3**
	0.3nm,0.3s,mb3.7,baz=140,slow=6.4,SNR=2.2							
KURK	**Kurchatov**	**52.99**	**325**	P		**P**	**12 46 43.1**	**+0.7**
	3.5nm,0.8s,mb4.4,baz=122,slow=8.0,SNR=11							
BVAR	**Borovoye Array**	**58.59**	**325**	P		**P**	**12 47 22.4**	**-0.1**
	0.8nm,0.7s,mb3.9,baz=131,slow=8.1,SNR=4.8							

*CSEM **26** 12:44:23.3±0.1,32.24N×47.40E,h15km,ML3.4, Error ellipse: s-maj=3.7km s-min=2.5km az=86.0*
*TEH **26** 12:44:26.3,32.30N×47.45E,h34km*
ISC 26 12:44:23.7±1.1,32.23N±0.04×47.37E±0.05,h19km±8km, n40,σ0§81/47,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
SHGR	**Shooshtar-Gavs**	**1.22**	**95**	*e*Sg		**Sg**	**12 45 02.8**	**-0.5**
IKOM	**Komasi**	**1.95**	**3**	*e*Pn		**Pn**	**12 44 55.8**	**+0.1**
IKOM				*e*Sg		**Sg**	**12 45 24.6**	**-1.9**
IKOM				*e*			12 45 37.1	
	comp=Z,5μm,0.3s							
IKOM	**Komasi**	**1.95**	**3**	*e*Pn		**Pn**	**12 44 55.8**	**+0.1**
IKOM				*e*Sg		**Sg**	**12 45 24.6**	**-1.9**
IGHG	**Ghaleghazi**	**2.20**	**342**	*e*Pn		**Pn**	**12 44 59.8**	**+0.5**
IGHG				*e*Sg		**Sg**	**12 45 35.0**	**+0.3**
IGHG				*e*			12 45 48.9	
	comp=Z,7μm,0.3s							
IGHG	**Ghaleghazi**	**2.20**	**342**	*e*Pn		**Pn**	**12 44 59.8**	**+0.5**
IGHG				*e*Sg		**Sg**	**12 45 35.0**	**+0.3**
IVIS	**Veis**	**2.33**	**349**	*e*Pn		**Pn**	**12 45 01.1**	**0.0**
IVIS				*e*			12 45 40.2	
	comp=Z,2μm,0.2s							
IVIS	**Veis**	**2.33**	**349**	*e*Pn		**Pn**	**12 45 01.1**	**0.0**
MIB	**Mutribah**	**2.42**	**181**	*e*P		**Pn**	**12 45 02.6**	**+0.4**
MIB				AML	AML		12 45 39.1	
	comp=Z,109nm,0.6s							
MIB	**Mutribah**	**2.42**	**181**	*e*P		**Pn**	**12 45 02.6**	**+0.4**
IDHR	**Dehrash**	**2.60**	**342**	*e*		**Sg**	**12 45 49.7**	**+2.3**
	comp=Z,2μm,0.2s							
IDHR				*e*Pn		**Pn**	**12 45 05.0**	**+0.3**
ILIN	**Lien**	**2.71**	**353**	*e*		**Sg**	**12 45 54.5**	**+3.7**
	comp=Z,1μm,0.3s							
ILIN				*e*Pn		**Pn**	**12 45 06.3**	**+0.1**
BHD	**Baghdad**	**2.73**	**293**	*ex*		x	12 45 04.0	
BHD				*ex*		x	12 45 38.0	
BHD	**Baghdad**	**2.73**	**293**	*e*Pn		**Pn**	**12 45 04.0**	**-2.5**
BHD				*e*Sn		**Sn**	**12 45 38.0**	**-0.9**
SNGE	**Sanandaj**	**2.86**	**360**	*e*Pn		**Pn**	**12 45 08.7**	**+0.4**
NAY	**Al-Naaiem**	**2.97**	**182**	*e*P		**Pn**	**12 45 10.1**	**+0.2**
NAY	**Al-Naaiem**	**2.97**	**182**	*e*P		**Pn**	**12 45 10.1**	**+0.3**
IPIR	**Pirpir**	**3.01**	**80**	*e*Pn		**Pn**	**12 45 10.3**	**-0.1**
IPIR	**Pirpir**	**3.01**	**80**	*e*Pn		**Pn**	**12 45 10.3**	**-0.1**
KBD	**Kabd**	**3.05**	**175**	*e*P		**Pn**	**12 45 11.2**	**+0.2**
KBD	**Kabd**	**3.05**	**175**	*e*P		**Pn**	**12 45 11.2**	**+0.2**
ASAO	**Ashtian**	**3.21**	**43**	*e*Pn		**Pn**	**12 45 14.0**	**+0.9**
RDF	**Al-Radifah**	**3.29**	**177**	*e*P		**Pn**	**12 45 14.7**	**+0.4**
RDF				AML	AML		12 45 59.4	
	comp=Z,34nm,0.4s							
RDF	**Al-Radifah**	**3.29**	**177**	*e*P		**Pn**	**12 45 14.7**	**+0.4**
QRN	**Al-Qurain**	**3.50**	**172**	*e*P		**Pn**	**12 45 17.1**	**0.0**
QRN				AML	AML		12 46 02.0	
	comp=Z,47nm,0.5s							

IKLH	**Kolahrood**	**3.71**	**72**	*e*Pn		**Pn**	**12 45 19.8**	**-0.2**
IKLH				*e*			12 46 26.9	
	comp=Z,799nm,0.4s							
IKLH	**Kolahrood**	**3.71**	**72**	*e*Pn		**Pn**	**12 45 19.8**	**-0.2**
IRAZ	**Razeghan**	**3.82**	**33**	*e*Pn		**Pn**	**12 45 21.7**	**+0.2**
IRAZ				*e*			12 45 23.8	
	comp=Z,2μm,0.2s							
IRAZ	**Razeghan**	**3.82**	**33**	*e*Pn		**Pn**	**12 45 21.7**	**+0.2**
GHVR	**GHOM**	**3.98**	**55**	*e*Pn		**Pn**	**12 45 24.4**	**+0.7**
IZEF	**Zefreh**	**4.24**	**80**	*e*Pn		**Pn**	**12 45 26.7**	**-0.6**
IZEF				*e*			12 45 51.2	
	comp=Z,257nm,0.2s							
IZEF	**Zefreh**	**4.24**	**80**	*e*Pn		**Pn**	**12 45 26.7**	**-0.6**
ZNJK	**Zanjan**	**4.56**	**13**	*e*Pn		**Pn**	**12 45 32.6**	**+0.9**
IVRN	**Varamin**	**4.56**	**52**	*e*Pn		**Pn**	**12 45 31.3**	**-0.4**
IVRN				*e*Pn		**Pn**	**12 45 31.4**	**-0.3**
IVRN				*e*			12 45 52.6	
	comp=Z,374nm,0.2s							
IVRN	**Varamin**	**4.56**	**52**	*e*Pn		**Pn**	**12 45 31.4**	**-0.3**
ISFB	**Sefidab**	**4.59**	**61**	*e*Pn		**Pn**	**12 45 31.9**	**-0.3**
ISFB				*e*			12 45 52.4	
	comp=Z,159nm,0.3s							
ISFB	**Sefidab**	**4.59**	**61**	*e*Pn		**Pn**	**12 45 31.9**	**-0.3**
IDMV	**Damavand**	**5.12**	**48**	*e*Pn		**Pn**	**12 45 38.7**	**-0.6**
IDMV				*e*			12 45 39.2	
	comp=Z,326nm,0.2s							
IDMV	**Damavand**	**5.12**	**48**	*e*Pn		**Pn**	**12 45 38.7**	**-0.6**
ISHM	**Shahmirzad**	**6.08**	**52**	*e*Pn		**Pn**	**12 45 52.2**	**-0.3**
ISHM				*e*			12 46 14.0	
	comp=Z,206nm,0.2s							
ISHM	**Shahmirzad**	**6.08**	**52**	*e*Pn		**Pn**	**12 45 52.2**	**-0.3**

*IDC **26** 12:45:03.8±0.9, 13.40N×120.38E,h0km,mb4.2/7, mb1 4.4/7,mb1mx3.9/22,mbtmp4.2/7,MS3.6/1,Ms1 3.6/1, ms1mx2.6/27, Error ellipse: s-maj=21.5km s-min=15.9km az=96.0*
*MAN **26** 12:45:04, 13.34N×120.28E,h1km,mb4.7,ML3.5,MS3.5*
MAN INTENSITY II - PALUAN OCCIDENTAL MINDORO.
*ISCJB **26** 12:45:08.3±0.6, 13.34N±0.04×120.25E±0.06,h45km±8km, mb4.2/9, Error ellipse: s-maj=10.0km s-min=5.9km az=17.3*
*NEIC **26** 12:45:10.1±1.2, 13.48N×120.57E,h50km±13km,mb4.2/2, Error ellipse: s-maj=16.3km s-min=8.3km az=56.0*
NEIC Feli [II PIVS] at Paluan.
ISC 26 12:45:09.3±0.7,13.34N±0.04×120.26E±0.06,h38km±9km, n34,σ1§15/38,mb4.2/9,1C-1D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
LUBP	**Lubang**	**0.39**	**358**	*e*P		**Pn**	**12 45 11.5**	**-7.1**
TGY	**Tagaytay City**	**1.00**	**41**	Pn		**Pn**	**12 45 24.1**	**-2.8**
	574nm,0.3s,baz=208,slow=2.3,SNR=34							
TGY				Sn		**Sn**	**12 45 38.5**	**-1.3**
	602nm,0.3s,baz=206,slow=22,SNR=13							
TGY	**Tagaytay City**	**1.00**	**41**	Pn		**Pn**	**12 45 24.1**	**-2.7**
TGY				Sn		**Sn**	**12 45 38.5**	**-1.3**
TGY	**Tagaytay City**

VLS	**Valsamata**	**1.01**	**262**	*e*Pn	**Pg**	**13 04 22.5**	**-2.4**
VLS	**Valsamata**	**1.01**	**262**	P	**Pg**	**13 04 25.4**	**+0.5**
LKD2	**Lefkada island**	**1.05**	**297**	P	**Pg**	**13 04 26.4**	**+0.7**
LKD2	**Lefkada island**	**1.05**	**297**	P	**Pg**	**13 04 26.4**	**+0.7**
DID	**Didima**	**1.36**	**126**	*e*Pn	**Pn**	**13 04 29.6**	**+0.4**
DID	**Didima**	**1.36**	**126**	*e*Pn	**Pn**	**13 04 29.6**	**+0.4**

*ISCJB **26** 13:18:22.3±0.9, 49°.3S±0°.1×106°.3E±0°.4, h10km, mb4.0/6, MS3.7/5, Error ellipse: s-maj=37.5km s-min=14.9km az=22.2*
*IDC **26** 13:18:22.9±1.1, 49°.28S×106°.35E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/14, mbtmp3.9/5, MS3.6/5, Ms1 3.6/5, ms1mx3.2/16, Error ellipse: s-maj=50.0km s-min=20.6km az=114.0*
*NEIC **26** 13:18:24.4±0.7, 49°.28S×106°.36E, h10km, mb4.4/1, Error ellipse: s-maj=29.7km s-min=12.1km az=109.0*
ISC 26 13:18:24.3±0.9, **49°.3S**±0°.1×**106°.4E**±0°.4, **h10**km, **n21**, σ0**820**/13, **mb4.0**/6, **MS3.7**/5, **Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**31.55**	**70**	LR	LR	13 35 30.9	
	comp=Z,87nm,18.1s,MS3.5,baz=207,slow=33						
ASAR	**Alice Springs**	**33.49**	**50**	P	**P**	**13 25 03.9**	**+0.2**
	1.0nm,0.8s,mb3.8,baz=207,slow=7.8,SNR=11						
ASAR	**Alice Springs**	**33.49**	**50**	P	**P**	**13 25 03.9**	**+0.2**
VNDA	**Vanda**	**35.09**	**162**	*e*P	**P**	**13 25 17.2**	**+0.1**
	5.6nm,1.1s,mb4.4						
WRA	**Warramunga Arr**	**36.84**	**47**	P	**P**	**13 25 32.3**	**-0.3**
	1.2nm,0.8s,mb3.8,baz=210,slow=8.4,SNR=7.6						
WRA	**Warramunga Arr**	**36.84**	**47**	P	**P**	**13 25 32.3**	**-0.3**
QSPA	**South Pole Qui**	**40.86**	**180**	P	**P**	**13 26 05.7**	**0.0**
	3.4nm,0.8s,mb4.0,baz=296,slow=2.7,SNR=7.8						
QSPA	**South Pole Qui**	**40.86**	**180**	P	**P**	**13 26 05.7**	**0.0**
SNAA	**Sanae**	**49.55**	**203**	*e*	**P**	**13 27 14.2**	**-0.5**
SNAA	**Sanae**	**49.55**	**203**	P	**P**	**13 27 14.8**	**+0.1**
	0.9nm,0.7s,mb3.9,baz=139,slow=12,SNR=10						
SNAA	**Sanae**	**49.55**	**203**	P	**P**	**13 27 14.8**	**+0.1**
VNA2	**Neumayer--Watz**	**51.17**	**203**	*e*	**P**	**13 27 26.9**	**-0.1**
	baz=124,slow=6.4						
BOSA	**Boshof**	**63.31**	**256**	LR	LR	13 50 32.5	
	comp=Z,45nm,18.8s,MS3.7,baz=3.1,slow=30						
CMAR	**Chiang Mai Arr**	**67.75**	**352**	P	**P**	**13 29 22.1**	**+0.1**
	0.9nm,0.7s,mb3.9,baz=193,slow=5.8,SNR=6.4						
CMAR				LR	LR	13 54 09.2	
	comp=Z,42nm,19.6s,MS3.7,baz=151,slow=32						
CMAR	**Chiang Mai Arr**	**67.75**	**352**	P	**P**	**13 29 22.1**	**+0.1**
PLCA	**Paso Flores**	**90.33**	**182**	LR	LR	14 12 19.2	
	comp=Z,65nm,18.7s,MS4.1,baz=157,slow=36						
MKAR	**Makanchi Array**	**97.94**	**344**	LR	LR	14 12 49.7	
	comp=Z,18nm,20.2s,MS3.6,baz=64,slow=33						
NVAR	**Mina Array Bea**	**146.48**	**92**	PKPbc	PKPbc	13 38 06.0	+0.8
	0.6nm,0.7s,baz=231,slow=5.0,SNR=5.4						
NVAR	**Mina Array Bea**	**146.48**	**92**	PKPbc	PKPbc	13 38 06.0	+0.8
TXAR	**Lajitas Array**	**149.71**	**120**	PKPbc	PKPbc	13 38 14.5	+0.5
	0.9nm,1.0s,baz=209,slow=7.2,SNR=5.5						
TXAR	**Lajitas Array**	**149.71**	**120**	PKPbc	PKPbc	13 38 14.5	+0.5

*ISCJB **26** 13:53:05.9±0.7, 31°.32S±0°.07×138°.73E±0°.05, h10km, Error ellipse: s-maj=9.5km s-min=6.4km az=11.5*
*AUST **26** 13:53:08.8, 31°.59S×138°.79E, h10km, ML2.7*
*IDC **26** 13:53:12.6±4.3, 30°.66S×139°.36E, h0km, mb1 2.8/3, mb1mx2.8/13, mbtmp2.5/3, ML2.6/3, Error ellipse: s-maj=151.7km s-min=15.3km az=43.0*
ISC 26 13:53:07.8±0.7, **31°.40S**±0°.07×**138°.73E**±0°.05, **h10**km, **n6**, σ1**909**/11, **South Australia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**2.49**	**102**	P	**Pn**	**13 53 49.5**	**+1.2**
	0.5nm,0.3s,baz=292,slow=8.9,SNR=15						
STKA				Pg	**Pg**	**13 53 55.8**	**+0.2**
	1.7nm,0.3s,baz=283,slow=17,SNR=20						
STKA				Lg		13 54 24.0	
	10nm,0.3s,baz=6.6,slow=14,SNR=7.4						
STKA	**Stephens Creek**	**2.49**	**102**	*e*P	**Pn**	**13 53 49.4**	**+1.0**
STKA				*e*S	**Sn**	**13 54 16.9**	**-1.9**
	6.1nm,0.3s						
BBOO	**Buckleboo**	**2.67**	**237**	*e*P	**Pn**	**13 53 50.5**	**-0.3**
BBOO				*e*S	**Sn**	**13 54 23.0**	**-0.2**
	71nm,0.3s						
CMSA	**Cobar Meteorol**	**5.95**	**93**	*e*P	**Pn**	**13 54 36.7**	**+0.8**
CMSA				*e*S	**Sn**	**13 55 40.2**	**-3.9**
	5.0nm,0.3s						
ASAR	**Alice Springs**	**8.81**	**330**	Pn	**Pn**	**13 55 16.5**	**+1.3**
	0.1nm,0.3s,baz=149,slow=13,SNR=2.0						
ASAR				Sn	**Sn**	**13 56 53.0**	**-1.6**
	0.2nm,0.3s,baz=153,slow=22,SNR=4.5						
WRA	**Warramunga Arr**	**12.07**	**340**	Pn	**Pn**	**13 56 00.6**	**+0.7**
	0.1nm,0.3s,baz=153,slow=13,SNR=9.6						

*ISCJB **26** 13:56:04.8±0.7, 41°.03N±0°.03×43°.83E±0°.04, h10km, Error ellipse: s-maj=5.4km s-min=3.3km az=149.1*
*CSEM **26** 13:56:04.8±0.3, 40°.97N×43°.85E, h2km, ML2.8, Error ellipse: s-maj=6.4km s-min=4.2km az=145.0*
*TIF **26** 13:56:04.7, 41°.13N×43°.86E, h10km*
*MOS **26** 13:56:04.9±1.2, 41°.01N×44°.16E, h17km, mb4.1/1, Error ellipse: s-maj=63.8km s-min=11.4km az=86.1*
ISC 26 13:56:04.9±0.6, **40°.99N**±0°.03×**43°.85E**±0°.04, **h10**km, **n32**, σ1**900**/59, **1C-1D, Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKH	**Akhalkalaki**	**0.50**	**328**	P	**Pg**	**13 56 14.5**	**-0.2**
AKH				S	**Sg**	**13 56 21.3**	**0.0**
AKH	**Akhalkalaki**	**0.50**	**328**	P	**Pg**	**13 56 14.5**	**-0.2**
AKH				S	**Sg**	**13 56 21.3**	**0.0**
TBLG	**Delisi**	**1.00**	**42**	*i* PG	**Pg**	**13 56 23.5**	**-0.7**
TBLG				*i* S	**Sg**	**13 56 37.6**	**+0.4**
TBLG	**Delisi**	**1.00**	**42**	P	**Pg**	**13 56 23.5**	**-0.6**
TBLG				S	**Sg**	**13 56 37.6**	**+0.4**
TBLG	**Delisi**	**1.00**	**42**	P	**Pg**	**13 56 23.5**	**-0.7**
TBLG				S	**Sg**	**13 56 37.6**	**+0.4**
MTA	**Mtatsminda**	**1.00**	**45**	P	**Pg**	**13 56 23.3**	**-0.9**
MTA				S	**Sg**	**13 56 37.3**	**0.0**
MTA	**Mtatsminda**	**1.00**	**45**	P	**Pg**	**13 56 23.3**	**-0.9**
MTA				S	**Sg**	**13 56 37.3**	**0.0**
GOR	**Gori**	**1.02**	**11**	P	**Pg**	**13 56 24.5**	**0.0**
GOR				S	**Sg**	**13 56 38.9**	**+1.2**
GOR	**Gori**	**1.02**	**11**	P	**Pg**	**13 56 24.5**	**0.0**
GOR				S	**Sg**	**13 56 38.9**	**+1.2**
DGRG	**David-gareji**	**1.24**	**68**	P	**Pn**	**13 56 27.5**	**-0.7**
DGRG				S	**Sb**	**13 56 46.1**	**+1.7**
DGRG	**David-gareji**	**1.24**	**68**	P	**Pn**	**13 56 27.5**	**-0.8**
DGRG				S	**Sb**	**13 56 46.1**	**+1.6**
ARTV	**Artvin**	**1.46**	**278**	*i* P	**Pn**	**13 56 31.3**	**0.0**
ARTV	**Artvin**	**1.46**	**278**	*i* P	**Pn**	**13 56 31.3**	**0.0**
ARTV				*i* S	**Sn**	**13 56 50.2**	**-0.4**
DAGI	**Agillar**	**1.47**	**274**	*i* P	**Pn**	**13 56 32.0**	**+0.6**
DDEM	**Demirkent**	**1.59**	**267**	*i* P	**Pn**	**13 56 33.1**	**0.0**
DDEM	**Demirkent**	**1.59**	**267**	*i* P	**Pn**	**13 56 33.1**	**0.0**
DDEM				*i* S	**Sg**	**13 56 56.8**	**+0.8**
ONI	**Oni**	**1.63**	**350**	P	**Pn**	**13 56 35.0**	**+1.3**
ONI				S	**Sg**	**13 56 56.9**	**-0.4**
ONI	**Oni**	**1.63**	**350**	P	**Pn**	**13 56 35.0**	**+1.4**
ONI				S	**Sg**	**13 56 56.9**	**-0.4**
TUTA	**Tutak**	**1.77**	**207**	*i* P	**Pg**	**13 56 37.5**	**-1.3**
TUTA	**Tutak**	**1.77**	**207**	*i* P	**Pg**	**13 56 37.5**	**-1.3**
ZEI	**Tsey**	**1.78**	**1**	⇓*i* PN	**Pg**	**13 56 38.2**	**-0.9**
ZEI				*i* S	**Sg**	**13 57 02.9**	**+0.7**
ZEI	**Tsey**	**1.78**	**1**	*i* Pn	**Pg**	**13 56 38.2**	**-0.9**
ZEI				*i* Sg	**Sg**	**13 57 02.9**	**+0.7**
LACR	**Lac**	**1.87**	**10**	⇑*i* PN	**Pg**	**13 56 39.2**	**-1.5**
LACR				*e*S	**Sg**	**13 57 03.6**	**-1.3**
LACR	**Lac**	**1.87**	**10**	*i* Pn	**Pg**	**13 56 39.2**	**-1.5**
LACR				*e*Sg	**Sg**	**13 57 03.6**	**-1.3**
DIGR	**Digorskoe uzhe**	**1.92**	**354**	*e*PN	**Pg**	**13 56 40.4**	**-1.4**
DIGR				*e*S	**Sg**	**13 57 06.9**	**+0.2**
DIGR	**Digorskoe uzhe**	**1.92**	**354**	*e*Pn	**Pg**	**13 56 40.4**	**-1.4**
DIGR				*e*Sg	**Sg**	**13 57 06.9**	**+0.2**
VLKR	**Vladikavkaz**	**2.15**	**16**	*e*PN	**Pn**	**13 56 41.6**	**+0.8**
VLKR				*e*S	**Sb**	**13 57 09.3**	**-1.3**
VLKR	**Vladikavkaz**	**2.15**	**16**	*e*Pn	**Pn**	**13 56 41.6**	**+0.8**
VLKR				*e*Sb	**Sb**	**13 57 09.3**	**-1.3**
SNJR	**Sundja**	**2.20**	**19**	*e*PN	**Pn**	**13 56 42.7**	**+1.2**
SNJR				*e*S	**Sb**	**13 57 10.8**	**-1.3**
SNJR	**Sundja**	**2.20**	**19**	*e*Pn	**Pn**	**13 56 42.7**	**+1.2**
SNJR				*e*Sb	**Sb**	**13 57 10.8**	**-1.3**
ARNR	**Ardon**	**2.23**	**8**	*e*PN	**Pn**	**13 56 43.3**	**+1.5**
ARNR				*e*S	**Sn**	**13 57 11.8**	**+2.5**
ARNR	**Ardon**	**2.23**	**8**	*e*Pn	**Pn**	**13 56 43.3**	**+1.5**
ARNR				*e*Sn	**Sn**	**13 57 11.8**	**+2.5**

*IDC **26** 14:03:58.4±0.7, 45°.96N×154°.32E, h0km, mb3.7/16, mb1 3.9/18, mb1mx3.8/27, mbtmp3.7/18, ML3.2/2, Error ellipse: s-maj=21.3km s-min=15.5km az=158.0*
*NEIC **26** 14:04:00.8±4.1, 46°.04N×154°.25E, h14km±25km, mb4.3/2, Error ellipse: s-maj=13.8km s-min=7.2km az=149.0*
*ISCJB **26** 14:04:01.5±0.6, 46°.04N±0°.08×154°.16E±0°.08, h33km, mb3.7/17, Error ellipse: s-maj=13.4km s-min=5.5km az=152.4*
*MOS **26** 14:04:01.4±0.7, 45°.99N×154°.22E, h34km, mb4.0/2, Error ellipse: s-maj=12.4km s-min=10.5km az=161.1*
ISC 26 14:04:03.9±0.6, **46°.04N**±0°.09×**154°.19E**±0°.08, **h35**km, **n70**, σ0**890**/70, **mb3.7**/17, **3C, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.51**	**262**	*e*P	**Pn**	**14 05 09.2**	**-0.4**
KUR				*i* S	**Sn**	**14 05 59.3**	**-1.4**
KUR				pmax	pmax		
	comp=Z,100nm,0.6s						
KUR				smax			
	comp=N,110nm,0.6s						
KUR				smax			
	comp=E,60nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**6.23**	**254**	*c i*P	**Pn**	**14 05 33.6**	**+0.4**
YUK				*i* S	**Sn**	**14 06 42.0**	**-1.2**
YUK				pmax	pmax		
	comp=N,25nm,0.9s						
YUK				pmax	pmax		
	comp=Z,310nm,1.2s						
YUK				pmax	pmax		
	comp=Z,56nm,0.9s						
YUK				pmax	pmax		
	comp=E,32nm,0.5s						
YUK				smax			
	comp=E,503nm,2.3s						
YUK				smax			
	comp=E,82nm,0.7s						
YUK				smax			
	comp=N,40nm,0.7s						
YUK				smax			
	comp=N,646nm,2.3s						
PEA0B	**Petropavlovsk-**	**7.43**	**17**	P	**Pn**	**14 05 48.3**	**-1.4**
PETK	**Petropavlovsk-**	**7.43**	**17**	Pn	**Pn**	**14 05 48.0**	**-1.7**
	comp=N,0.4nm,0.3s,baz=204,slow=14,SNR=6.8						
PETK	**Petropavlovsk-**	**7.43**	**17**	Pn	**Pn**	**14 05 48.0**	**-1.7**
PETK	**Petropavlovsk-**	**7.43**	**17**	*e*P	**Pn**	**14 05 49.8**	**+0.1**
YSS	**Yuzh-Sakhalins**	**7.94**	**281**	⇑*e*P	**Pn**	**14 05 59.0**	**+2.3**
ASAJ	**Asahikawa**	**8.43**	**261**	Pn	**Pn**	**14 06 03.2**	**-0.2**
	comp=N,0.3nm,0.3s,baz=58,slow=19,SNR=3.6						
ASAJ	**Asahikawa**	**8.43**	**261**	P	**Pn**	**14 06 04.0**	**+0.6**
ASAJ	**Asahikawa**	**8.43**	**261**	P	**Pn**	**14 06 03.2**	**-0.2**
ERM	**Erimo**	**8.90**	**247**	*e*P	**Pn**	**14 06 10.3**	**+0.4**
KLR	**Kul'dur**	**15.45**	**290**	*e*P	**Pn**	**14 07 39.8**	**+0.9**
KSRS	**Korea Array**	**21.32**	**256**	P	**P**	**14 08 47.7**	**+0.2**
	comp=N,0.6nm,0.6s,mb3.1,baz=57,slow=9.8,SNR=2.9						
KSRS	**Korea Array**	**21.32**	**256**	P	**P**	**14 08 47.7**	**+0.2**
KSAR	**Wonju Array Be**	**21.35**	**256**	P	**P**	**14 08 47.7**	**-0.2**
KSAR	**Wonju Array Be**	**21.35**	**256**	P	**P**	**14 08 47.7**	**-0.2**
SONM	**Songino Array**	**32.28**	**291**	P	**P**	**14 10 30.2**	**+1.3**
	comp=N,0.8nm,0.9s,mb3.5,baz=80,slow=8.2,SNR=3.0						
SONM	**Songino Array**	**32.28**	**291**	P	**P**	**14 10 30.2**	**+1.3**
SONM	**Songino Array**	**32.28**	**291**	P	**P**	**14 10 30.2**	**+1.2**
COLA	**College**	**36.24**	**38**	P	**P**	**14 11 03.7**	**+0.6**
COLA	**College**	**36.24**	**38**	P	**P**	**14 11 03.7**	**+0.7**
ILAR	**Eielson Array**	**36.65**	**38**	P	**P**	**14 11 06.5**	**0.0**
	comp=N,1.3nm,1.2s,mb3.6,baz=257,slow=7.5,SNR=4.4						
ILAR	**Eielson Array**	**36.65**	**38**	P	**P**	**14 11 06.5**	**0.0**
ILAR	**Eielson Array**	**36.65**	**38**	P	**P**	**14 11 06.5**	**0.0**
INK	**Inuvik**	**41.86**	**32**	*e*P	**P**	**14 11 49.8**	**-0.2**
INK	**Inuvik**	**41.86**	**32**	*e*P	**P**	**14 11 49.8**	**-0.2**
ZALV	**Zalesovo Beam**	**43.63**	**307**	P	**P**	**14 12 03.5**	**-1.0**
	comp=N,0.8nm,0.5s,mb3.7,baz=58,slow=8.2,SNR=4.9						
ZALV	**Zalesovo Beam**	**43.63**	**307**	P	**P**	**14 12 03.5**	**-1.0**
ZALV	**Zalesovo Beam**	**43.63**	**307**	*e*P	**P**	**14 12 03.7**	**-0.8**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
MK31	**Makanchi Array**	**47.93**	**298**	*e*P	**P**	**14 12 38.7**	**+0.1**
MK31	**Makanchi Array**	**47.93**	**298**	*e*P	**P**	**14 12 38.7**	**+0.2**
MKAR	**Makanchi Array**	**47.93**	**298**	P	**P**	**14 12 38.8**	**+0.3**
	comp=Z,0.6nm,0.7s,mb3.8,baz=74,slow=6.4,SNR=6.6						
MKAR	**Makanchi Array**	**47.93**	**298**	P	**P**	**14 12 38.8**	**+0.3**
MKAR	**Makanchi Array**	**47.93**	**298**	P	**P**	**14 12 38.8**	**+0.3**
KURK	**Kurchatov**	**48.38**	**305**	P	**P**	**14 12 42.9**	**+1.0**
	comp=Z,2.0nm,0.7s,mb4.3,baz=70,slow=8.5,SNR=4.4						
KURK	**Kurchatov**	**48.38**	**305**	*e*P	**P**	**14 12 41.5**	**-0.4**
	comp=Z,2.8nm,0.6s,mb4.5						
KURK	**Kurchatov**	**48.38**	**305**	⇑*i*P	**P**	**14 12 41.5**	**-0.4**
BVAR	**Borovoye Array**	**51.88**	**310**	P	**P**	**14 13 09.2**	**+0.7**
	comp=Z,0.7nm,0.6s,mb3.8,baz=35,slow=5.4,SNR=4.2						
BVAR	**Borovoye Array**	**51.88**	**310**	P	**P**	**14 13 09.2**	**+0.7**
BVAR	**Borovoye Array**	**51.88**	**310**	P	**P**	**14 13 09.2**	**+0.7**
BRVK	**Borovoye**	**51.93**	**310**	*e*P	**P**	**14 13 07.2**	**-1.6**
BRVK	**Borovoye**	**51.93**	**310**	*e*P	**P**	**14 13 07.2**	**-1.6**
CMAR	**Chiang Mai Arr**	**52.94**	**258**	P	**P**	**14 13 17.0**	**+0.3**
	comp=Z,0.3nm,0.3s,mb3.6,baz=40,slow=7.2,SNR=3.5						
CMAR	**Chiang Mai Arr**	**52.94**	**258**	P	**P**	**14 13 17.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**52.94**	**258**	P	**P**	**14 13 17.0**	**+0.3**
ABKAR	**Akbulak array**	**59.45**	**311**	*e*P	**P**	**14 14 02.4**	**-0.5**
	comp=Z,1.6nm,0.9s,mb4.0						
NVAR	**Mina Array Bea**	**62.10**	**63**	P	**P**	**14 14 20.8**	**-0.2**
	comp=Z,0.2nm,0.5s,mb3.5,baz=286,slow=6.5,SNR=3.7						
NVAR	**Mina Array Bea**	**62.10**	**63**	P	**P**	**14 14 20.8**	**-0.2**
PDAR	**Pinedale Array**	**64.56**	**54**	P	**P**	**14 14 37.3**	**+0.1**
	comp=Z,0.3nm,0.7s,mb3.5,baz=333,slow=3.0,SNR=3.0						
PDAR	**Pinedale Array**	**64.56**	**54**	P	**P**	**14 14 37.3**	**+0.1**
FINES	**FINESS Array B**	**65.00**	**335**	P	**P**	**14 14 40.8**	**+1.1**
	comp=Z,3.7nm,0.9s,mb4.4,baz=35,slow=7.0,SNR=4.9						
FINES	**FINESS Array B**	**65.00**	**335**	P	**P**	**14 14 40.8**	**+1.1**
FINES	**FINESS Array B**	**65.00**	**335**	P	**P**	**14 14 40.8**	**+1.1**
WRA	**Warramunga Arr**	**68.09**	**200**	P	**P**	**14 14 59.0**	**-0.9**
	comp=Z,0.8nm,0.8s,mb3.8,baz=17,slow=6.7,SNR=6.5						
WRA	**Warramunga Arr**	**68.09**	**200**	P	**P**	**14 14 59.0**	**-0.9**
WRA	**Warramunga Arr**	**68.09**	**200**	P	**P**	**14 14 59.0**	**-0.9**
ASAR	**Alice Springs**	**71.78**	**200**	P	**P**	**14 15 22.6**	**+0.1**
	comp=Z,0.4nm,0.7s,mb3.5,baz=18,slow=5.5,SNR=6.3						
ASAR	**Alice Springs**	**71.78**	**200**	P	**P**	**14 15 22.6**	**+0.1**
ASAR	**Alice Springs**	**71.78**	**200**	*e*P	**P**	**14 15 22.5**	**0.0**
AKASG	**Malin Array Be**	**72.55**	**327**	P	**P**	**14 15 26.7**	**-0.2**
	comp=Z,0.4nm,0.4s,mb3.7,baz=37,slow=6.6,SNR=3.2						
AKASG	**Malin Array Be**	**72.55**	**327**	P	**P**	**14 15 26.7**	**-0.2**
AKASG	**Malin Array Be**	**72.55**	**327**	P	**P**	**14 15 26.7**	**-0.2**
TXAR	**Lajitas Array**	**77.19**	**61**	P	**P**	**14 15 53.9**	**-0.2**
	comp=Z,0.8nm,0.7s,mb3.8,baz=300,slow=3.9,SNR=12						
TXAR	**Lajitas Array**	**77.19**	**61**	P	**P**	**14 15 53.9**	**-0.2**
TXAR	**Lajitas Array**	**77.19**	**61**	P	**P**	**14 15 53.9**	**-0.2**
BRTR	**Keskin Array B**	**79.42**	**317**	P	**P**	**14 16 08.7**	**+2.4**
	comp=Z,0.5nm,0.4s,mb3.8,baz=11,slow=2.9,SNR=3.4						
BRTR	**Keskin Array B**	**79.42**	**317**	P	**P**	**14 16 08.7**	**+2.4**
BRTR	**Keskin Array B**	**79.42**	**317**	P	**P**	**14 16 08.7**	**+2.5**
LPAZ	**La Paz**	**134.00**	**64**	*e*PKPdf	PKPdf	14 23 18.9	+1.3
LPAZ	**La Paz**	**134.00**	**64**	*e*PKIKP	PKPdf	14 23 18.9	+1.4

*ISCJB **26** 14:10:36.0±0.7, 29°.32N±0°.04×130°.48E±0°.09, h49km±9km, mb3.3/4, Error ellipse: s-maj=14.2km s-min=4.7km az=17.6*
*JMA **26** 14:10:36.1±0.1, 29°.34N×130°.47E, h46km, M3.2*
*NEIC **26** 14:10:37.0±1.7, 29°.28N×130°.46E, h41km±17km, Error ellipse: s-maj=33.7km s-min=13.5km az=99.0*
*IDC **26** 14:10:45.7±2.3, 28°.93N×129°.58E, h105km±25km, mb3.0/4, mb1 3.1/6, mb1mx3.0/26, mbtmp3.0/6, Error ellipse: s-maj=36.3km s-min=23.2km az=90.0*
ISC 26 14:10:36.9±0.7, **29°.32N**±0°.04×**130°.47E**±0°.09, **h38**km±10km, **n22**, σ0**876**/29, **mb3.3**/4, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.73**	**315**	P	**Pn**	**14 10 49.8**	**-0.9**
JNN				*e*S	**Sn**	**14 11 00.7**	**0.0**
JZK	**Kikaishima**	**1.10**	**204**	P	**Pn**	**14 10 55.8**	**+0.1**
JKC	**Kuchinoerabu**	**1.16**	**348**	P	**Pn**	**14 10 56.1**	**-0.5**
JKC				*e*S	**Sn**	**14 11 10.9**	**-0.3**
JAM	**Amami Oshima**	**1.19**	**220**	P	**Pn**	**14 10 56.6**	**-0.3**
JAM				*e*S	**Sn**	**14 11 12.5**	**+0.7**
JTN	**Tanegashima 3**	**1.40**	**18**	P	**Pn**	**14 10 59.3**	**-0.6**
JTSR	**Tashiro 2**	**1.88**	**12**	P	**Pn**	**14 11 06.2**	**-0.3**
JTSR				*e*S	**Sn**	**14 11 29.6**	**+0.7**
JTK	**Tokunoshima**	**2.03**	**222**	P	**Pn**	**14 11 08.9**	**+0.3**
JTK				S	**Sn**	**14 11 34.6**	**+1.8**
JSU	**Suzuyama**	**2.18**	**360**	P	**Pn**	**14 11 10.4**	**-0.2**
JNAR	**Kushima--Naru**	**2.30**	**17**	P	**Pn**	**14 11 12.9**	**+0.6**
JSJ	**Shimokoshiki**	**2.44**	**345**	P	**Pn**	**14 11 14.0**	**-0.1**
JSJ				S	**Sn**	**14 11 43.1**	**+0.4**
JOW	**Kunigami**	**3.15**	**219**	P	**Pn**	**14 11 23.6**	**-0.4**
	4.5nm,0.3s,baz=98,slow=16,SNR=19						
JOW				S	**Sn**	**14 11 58.8**	**-1.5**
	4.9nm,0.3s,baz=53,slow=25,SNR=1.7						
JOW	**Kunigami**	**3.15**	**219**	P	**Pn**	**14 11 23.6**	**-0.4**
JOW				S	**Sn**	**14 11 58.8**	**-1.5**
JNU	**Nakatsue**	**3.80**	**5**	*e*P	**Pn**	**14 11 33.7**	**+0.7**
MJAR	**Matsushiro Arr**	**9.70**	**40**	P	Px	14 13 13.3	
	0.2nm,0.3s,baz=233,slow=15,SNR=4.0						
SONM	**Songino Array**	**26.21**	**322**	P	**P**	**14 16 09.7**	**+1.8**
	0.5nm,0.7s,mb3.2,baz=134,slow=8.9,SNR=5.9						
SONM	**Songino Array**	**26.21**	**322**	P	**P**	**14 16 09.7**	**+1.8**
MKAR	**Makanchi Array**	**41.06**	**309**	P	**P**	**14 18 15.9**	**-0.6**
	0.2nm,0.4s,mb3.1,baz=100,slow=9.8,SNR=3.4						
MKAR	**Makanchi Array**	**41.06**	**309**	P	**P**	**14 18 15.9**	**-0.6**
WRA	**Warramunga Arr**	**49.12**	**175**	P	**P**	**14 19 20.4**	**-0.3**
	0.2nm,0.6s,mb3.3,baz=356,slow=9.9,SNR=3.1						
WRA	**Warramunga Arr**	**49.12**	**175**	P	**P**	**14 19 20.4**	**-0.3**
BVAR	**Borovoye Array**	**49.35**	**316**	P	**P**	**14 19 21.6**	**-0.7**
	0.6nm,0.6s,mb3.8,baz=107,slow=9.2,SNR=2.9						
BVAR	**Borovoye Array**	**49.35**	**316**	P	**P**	**14 19 21.6**	**-0.7**

IDC 26 14:11:53.3±2.1, **17°.78S**×**176°.19W**, **h0**km, **mb4.0**/5, **mb1 4.3**/5, **mb1mx3.9**/16, **mbtmp4.0**/5, **MS3.5**/4, **Ms1 3.5**/4, **ms1mx3.2**/25, **Error ellipse: s-maj=118.4km s-min=27.1km az=147.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**15.85**	**105**	LR	LR	14 20 36.2	
	comp=Z,204nm,19.5s,baz=98,slow=33						
DZM	**Mont Dzumac**	**16.88**	**252**	*e*LR	LR	14 20 19.2	
	288nm,25.9s						
HNR	**Honiara**	**24.61**	**287**	LR	LR	14 24 48.9	
	comp=Z,159nm,19.5s,baz=298,slow=32						
PPT	**Papeete**	**25.35**	**94**	*e*LR	LR	14 24 00.6	
	247nm,27.0s,baz=263						
TBI	**Tubuai**	**25.61**	**107**	*e*LR	LR	14 24 17.4	
	221nm,27.5s,baz=278						
TAOE	**Nuku Hiva Isla**	**36.12**	**81**	*e*LR	LR	14 29 00.8	
	162nm,30.5s						
STKA	**Stephens Creek**	**40.55**	**242**	P	P	14 19 36.0	+1.4
	2.6nm,0.9s,baz=57,slow=7.7,SNR=3.6						
WRA	**Warramunga Arr**	**46.73**	**259**	P	P	14 20 23.5	-1.1
	0.8nm,1.1s,baz=99,slow=6.4,SNR=3.5						
ASAR	**Alice Springs**	**46.86**	**254**	P	P	14 20 24.7	-0.8
	5.7nm,0.9s,baz=86,slow=8.5,SNR=24						
TXAR	**Lajitas Array**	**84.14**	**57**	P	P	14 24 26.0	-0.7
	0.3nm,1.0s,baz=275,slow=4.4,SNR=2.6						
**MA

SZVM	**Salazar**	**2.72**	**18**	*eP*		**Pn**	14 56 42.3	-1.9
SZVM				*i* S		Sn	14 57 14.1	-2.3
PPM	**Popocatepetl**	**2.81**	**34**	*eP*		**Pn**	14 56 43.5	-2.0
PPM				*i* S		Sn	14 57 15.0	-3.7
IIO	**Organos**	**3.21**	**27**	*i* P		**Pn**	14 56 49.1	-1.9
IIO				*i* S		Sn	14 57 25.9	-2.6
MMIG	**Aquila**	**3.30**	**298**	*eP*		**Pn**	14 56 50.9	-1.3
MMIG				*i* S		Sn	14 57 29.4	-1.4

*ISCJB **26** 15:08:29.0±0.4, 23°.32N±0°.03×123°.02E±0°.02, h33km, Error ellipse: s-maj=3.9km s-min=2.1km az=156.5*
*JMA **26** 15:08:29.4±0.2, 23°.37N×123°.06E, h63km±4km, M3.1*
*TAP **26** 15:08:30.8, 23°.38N×122°.92E, h74km±1km, ML3.8, D*

ISC 26 15:08:29.7±0.4, 23°.32N±0°.03×123°.03E±0°.02, h35km, n53, σ1§11/93, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.02**	**44**	*eP*	P	**Pn**	**15 08 47.3**	**-0.2**
HATJ				*eS*	S	**Sn**	**15 09 00.2**	**-0.4**
YOJ	**Yonaguni jima**	**1.14**	**359**	*eP*	P	**Pn**	**15 08 48.8**	**-0.3**
YOJ				*eS*	S	**Sn**	**15 09 03.7**	**+0.2**
IRIF	**Iriomote-Funau**	**1.20**	**32**	*eP*	P	**Pn**	**15 08 49.8**	**-0.1**
IRIF				*eS*	S	**Sn**	**15 09 04.7**	**-0.3**
JKRS	**Kuro-shima**	**1.28**	**44**	*eP*	P	**Pn**	**15 08 51.0**	**-0.1**
JKRS				*eS*	S	**Sn**	**15 09 06.6**	**-0.4**
JIJ	**Ishigaki jima**	**1.46**	**44**	*eP*	P	**Pn**	**15 08 52.9**	**-0.6**
JIJ				*eS*	S	**Sn**	**15 09 10.1**	**-1.2**
TWD	**Chiawan** baz=294	**1.52**	**300**	*eP*	P	**Pn**	**15 08 53.9**	**-0.4**
TWD				*eS*	S	**Sn**	**15 09 10.7**	**-2.2**
ESL	**Shilin** baz=282	**1.55**	**289**	*eP*	P	**Pn**	**15 08 54.0**	**-0.8**
ESL				*eS*	S	**Sn**	**15 09 09.7**	**-3.9**
CHKT	**Chengkung** baz=259	**1.55**	**262**	*eP*	P	**Pn**	**15 08 53.8**	**-1.0**
CHKT				*eS*	S	**Sn**	**15 09 10.8**	**-2.8**
EHY	**Hungye** baz=280	**1.58**	**277**	*eP*	P	**Pn**	**15 08 55.0**	**-0.2**
EHY				*eS*	S	**Sn**	**15 09 12.7**	**-1.7**
TWF1	**Yuli** baz=265	**1.59**	**272**	P	P	**Pn**	**15 08 55.1**	**-0.3**
TWF1				*eS*	S	**Sn**	**15 09 12.0**	**-2.7**
ENA	**Nanau** baz=323	**1.62**	**313**	P	P	**Pn**	**15 08 56.1**	**+0.4**
ENA				*eS*	S	**Sn**	**15 09 15.1**	**-0.2**
TWC	**Suao** baz=322	**1.68**	**320**	P	P	**Pn**	**15 08 56.6**	**+0.1**
TWC				*eS*	S	**Sn**	**15 09 15.3**	**-1.5**
WHF	**Hehuan Shan** baz=290	**1.81**	**297**	P	P	**Pn**	**15 08 59.2**	**+0.8**
WHF				*eS*	S	**Sn**	**15 09 19.3**	**-1.0**
TTN	**Taitung** baz=244	**1.82**	**252**	*eS*	S	**Sn**	**15 09 19.1**	**-1.3**
ELDTW	**Lidau** baz=264	**1.86**	**266**	*eP*	P	**Pn**	**15 08 58.6**	**-0.3**
ELDTW				*eS*	S	**Sn**	**15 09 19.4**	**-1.8**
ILA	**Ilan** baz=323	**1.86**	**321**	*eP*	P	**Pn**	**15 08 59.3**	**+0.3**
ILA				*eS*	S	**Sn**	**15 09 21.1**	**-0.1**
LAY	**Lan-yu** baz=229	**1.87**	**227**	*eP*	P	**Pn**	**15 08 58.4**	**-0.8**
LAY				*eS*	S	**Sn**	**15 09 18.3**	**-3.2**
TWG	**Pinlang** baz=256	**1.87**	**255**	P	P	**Pn**	**15 08 59.2**	**0.0**
TWG				*eS*	S	**Sn**	**15 09 19.7**	**-1.9**
TWE	**Neicheng** baz=321	**1.87**	**319**	P	P	**Pn**	**15 08 60.0**	**+0.8**
TWE				*eS*	S	**Sn**	**15 09 20.8**	**-0.8**
ENTT	**Nioudou** baz=323	**1.88**	**315**	P	P	**Pn**	**15 08 59.9**	**+0.6**
ENTT				*eS*	S	**Sn**	**15 09 21.1**	**-0.7**
NNS	**Nan Shan** baz=299	**1.88**	**307**	*eP*	P	**Pn**	**15 09 00.2**	**+0.8**
NNS				*eS*	S	**Sn**	**15 09 20.9**	**-1.1**
YUS	**Yu-Shan** baz=274	**1.92**	**276**	P	P	**Pn**	**15 09 00.6**	**+0.8**
YUS				*eS*	S	**Sn**	**15 09 21.8**	**-0.9**
TWB1	**Santiao Chiao** baz=334	**1.93**	**331**	*eP*	P	**Pn**	**15 09 00.7**	**+0.6**
TWB1				*eS*	S	**Sn**	**15 09 21.8**	**-1.3**
TWT	**Tachien** baz=299	**1.94**	**299**	*eP*	P	**Pn**	**15 09 00.5**	**+0.4**
TWT				*eS*	S	**Sn**	**15 09 22.6**	**-0.7**
JTJ	**Tarama**	**2.02**	**49**	P	P	**Pn**	**15 09 01.2**	**0.0**
JTJ				S	S	**Sn**	**15 09 25.2**	**0.0**
SMLT	**Sun Moon Lake** baz=286	**2.03**	**286**	*eP*	P	**Pn**	**15 09 02.1**	**+0.7**
SMLT				*eS*	S	**Sn**	**15 09 25.0**	**-0.6**
NSK	**Sanguang** baz=303	**2.04**	**312**	*eP*	P	**Pn**	**15 09 02.3**	**+0.8**
NSK				*eS*	S	**Sn**	**15 09 25.2**	**-0.6**
ECL	**Taimali** baz=247	**2.04**	**250**	P	P	**Pn**	**15 09 01.2**	**-0.3**
ECL				*eS*	S	**Sn**	**15 09 23.4**	**-2.4**
ALS	**Alishan** baz=274	**2.05**	**276**	*eP*	P	**Pn**	**15 09 02.6**	**+0.9**
ALS				*eS*	S	**Sn**	**15 09 26.5**	**+0.4**
TYC	**Yuchr** baz=291	**2.08**	**287**	*eP*	P	**Pn**	**15 09 02.8**	**+0.8**
TYC				*eS*	S	**Sn**	**15 09 26.7**	**+0.1**
NWF	**Wu-fen Shan** baz=329	**2.08**	**327**	P	P	**Pn**	**15 09 02.8**	**+0.7**
NWF				*eS*	S	**Sn**	**15 09 25.9**	**-1.0**
STYT	**Tauyuan** baz=264	**2.10**	**266**	*eP*	P	**Pn**	**15 09 02.7**	**+0.4**
STYT				*eS*	S	**Sn**	**15 09 26.3**	**-0.8**
TWA	**Mucha** baz=335	**2.12**	**322**	*eP*	P	**Pn**	**15 09 03.1**	**+0.5**
TWA				*eS*	S	**Sn**	**15 09 27.9**	**+0.3**
CHN5	**Tsauling** baz=285	**2.18**	**278**	*eP*	P	**Pn**	**15 09 05.3**	**+1.9**
EAST	**Anshuo** baz=243	**2.22**	**246**	P	P	**Pn**	**15 09 04.0**	**+0.1**
EAST				*eS*	S	**Sn**	**15 09 28.2**	**-2.0**
WNT	**Mingjian** baz=270	**2.22**	**285**	*eS*	S	**Sn**	**15 09 31.8**	**+1.5**
WTP	**Ta-pu** baz=267	**2.22**	**269**	*eP*	P	**Pn**	**15 09 05.7**	**+1.6**
WTP				*eS*	S	**Sn**	**15 09 32.1**	**+1.8**
CHN4	**Tsaushan** baz=270	**2.24**	**271**	*eP*	P	**Pn**	**15 09 06.4**	**+2.1**
NSTT	**Nanjuang** baz=301	**2.27**	**306**	*eP*	P	**Pn**	**15 09 06.4**	**+1.8**
NSTT				*eS*	S	**Sn**	**15 09 31.9**	**+0.5**
SSD	**Sandimen** baz=254	**2.28**	**256**	*eP*	P	**Pn**	**15 09 05.2**	**+0.4**
WGK	**Gukeng** baz=278	**2.30**	**280**	*eS*	S	**Sn**	**15 09 33.7**	**+1.7**
CHN1	**Nanshi** baz=260	**2.31**	**267**	*eP*	P	**Pn**	**15 09 07.6**	**+2.4**
CHN1				*eS*	S	**Sn**	**15 09 34.3**	**+2.0**
TWS1	**Kuangyinshan** baz=332	**2.31**	**321**	*eP*	P	**Pn**	**15 09 06.0**	**+0.8**
TWS1				*eS*	S	**Sn**	**15 09 33.0**	**+0.7**
TWQ1	**Liyutan** baz=297	**2.31**	**297**	*eP*	P	**Pn**	**15 09 07.1**	**+1.9**
TWQ1				*eS*	S	**Sn**	**15 09 34.2**	**+1.8**
SCZT	**Fangliau** baz=242	**2.42**	**248**	*eP*	P	**Pn**	**15 09 07.4**	**+0.7**
TWM1	**Shoushan** baz=256	**2.45**	**259**	*eP*	P	**Pn**	**15 09 11.4**	**+4.2**
CHN3	**Shinhua** baz=273	**2.46**	**265**	*eS*	S	**Sn**	**15 09 40.6**	**+4.4**
HEN	**Hengchun** baz=228	**2.49**	**239**	*eS*	S	**Sn**	**15 09 36.1**	**-0.8**
JMJ	**Miyako jima 2**	**2.55**	**54**	P	P	**Pn**	**15 09 08.5**	**0.0**
JMJ				*eS*	S	**Sn**	**15 09 38.0**	**-0.3**
WTCT	**Ta-ch'eng** baz=282	**2.58**	**283**	*eP*	P	**Pn**	**15 09 11.4**	**+2.5**
CHN8	**Yiju** baz=269	**2.59**	**271**	*eS*	S	**Sn**	**15 09 41.4**	**+2.0**
JOGS	**Gusukube**	**2.60**	**56**	P	P	**Pn**	**15 09 09.3**	**0.0**
JOGS				*eS*	S	**Sn**	**15 09 39.9**	**+0.2**
JKE	**Kume jima 2**	**4.54**	**48**	P	P	**Pn**	**15 09 34.3**	**-1.6**

*KNET **26** 15:13:10.3±0.5, 41°.64N×72°.73E, h0km, ml2.9, Error ellipse: s-maj=5.5km s-min=3.3km az=142.0*
*ISCJB **26** 15:13:15.1±1.6, 41°.8N±0°.1×72°.86E±0°.06, h10km, Error ellipse: s-maj=20.5km s-min=6.7km az=1.9*

ISC 26 15:13:14.2±1.5, 41°.7N±0°.1×72°.83E±0°.06, h10km, n11, σ1§36/15, 8C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AML	**Almayashu** 44nm,0.2s,SNR=86	**0.79**	**54**	⇑*eP*	P	**Pg**	**15 13 27.4**	**-2.1**
AML				⇓*eS*	S	**Sg**	**15 13 40.5**	**+0.7**
AML	100nm,0.2s			⇓*eS*	S	**Sg**	**15 13 40.5**	**+0.7**
EKS2	**Erkin-Say** 12nm,0.2s,SNR=40	**1.21**	**35**	⇑*eP*	P	**Pn**	**15 13 34.7**	**-2.5**
UCH	**Uchtor** 8.7nm,0.1s,SNR=10	**1.37**	**66**	⇓*eP*	P	**Pn**	**15 13 38.5**	**-1.0**
AAK	**Ala-Archa** 73nm,0.4s,SNR=66	**1.57**	**52**	⇑*eP*	P	**Pn**	**15 13 41.3**	**-0.8**
KZA	**Kyzart** 23nm,0.2s,SNR=50	**1.85**	**77**	⇑*eP*	P	**Pn**	**15 13 46.7**	**+0.6**
KBK	**Karagaybulak** 85nm,0.4s,SNR=88	**1.86**	**57**	⇓*eP*	P	**Pn**	**15 13 47.4**	**+1.4**
CHMS	**Chumysh** 44nm,0.3s,SNR=40	**1.95**	**46**	⇑*eP*	P	**Pn**	**15 13 48.2**	**+0.9**
USP	**Ospenovka** 53nm,0.3s,SNR=82	**2.02**	**37**	⇓*eP*	P	**Pn**	**15 13 49.2**	**+0.9**
KK31	**Karatay Array** 7.5nm,0.3s,baz=135,slow=16,SNR=70	**2.23**	**311**	⇑*eP*n	P	**Pn**	**15 13 49.4**	**-1.8**
KK31	14nm,0.3s,baz=132,slow=27,SNR=5.4			⇑*eS*n	S	**Sn**	**15 14 20.0**	**+1.1**
TKM2	**Tokmak 2** 58nm,0.3s,SNR=95	**2.40**	**58**	⇓*eP*	P	**Pn**	**15 13 55.6**	**+2.0**
TKM2	**Tokmak 2** 28nm,0.3s	**2.40**	**58**	⇑*eP*n	P	**Pn**	**15 13 55.9**	**+2.3**
TKM2	56nm,0.7s			⇓*eS*n	S	**Sg**	**15 14 30.9**	**-0.5**

*ISCJB **26** 15:43:39.0±1.5, 16°.38S±0°.10×174°.37W±0°.09, h125km±13km, mb4.4/31, Error ellipse: s-maj=19.1km s-min=8.3km az=141.8*
*IDC **26** 15:43:40.3±2.4, 16°.53S×174°.21W, h130km±20km, mb4.0/15, mb1 4.2/16, mb1mx4.2/20, mbtmp4.0/16, Error ellipse: s-maj=20.5km s-min=11.4km az=136.0*
*NEIC **26** 15:43:40.6±1.0, 16°.45S×174°.27W, h131km±9km, mb4.4/12, Error ellipse: s-maj=14.2km s-min=6.0km az=145.0*

ISC 26 15:43:40.3±1.4, 16°.48S±0°.10×174°.28W±0°.09, h125km±13km, n96, σ0§71/61, mb4.4/31, 6C-3D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 125nm,0.3s,baz=61,slow=1.5,SNR=274	**3.52**	**44**	P	P	**Pn**	**15 44 33.1**	**-0.5**
AFI				S	S	**Sn**	**15 45 09.6**	**-5.2**
AFI	**Afiamalu** 939nm,0.3s,baz=25,slow=18,SNR=13	**3.52**	**44**	P	P	**Pn**	**15 44 33.1**	**-0.5**
AFI				S	S	**Sn**	**15 45 09.6**	**-5.2**
MSVF	**Nonsavu** 46nm,0.9s	**7.43**	**259**	*eP*	P	**Pn**	**15 45 35.5**	**+9.3**
DZM	**Mont Dzumac**	**19.02**	**250**	*eP*	P	**P**	**15 47 55.2**	**+2.7**
URZ	**Urewera** 10nm,0.7s,mb4.3,baz=73,slow=6.0,SNR=3.2	**22.98**	**198**	P	P	**P**	**15 48 34.7**	**+0.8**
URZ	3.6nm,0.8s,baz=253,slow=12,SNR=1.7			S	S	**S**	**15 52 33.5**	**-1.1**
URZ	**Urewera**	**22.98**	**198**	*eP*	P	**P**	**15 48 34.9**	**+0.9**
URZ				S	S	**S**	**15 52 33.5**	**-1.1**
EIDS	**Eidsvold** 16nm,0.7s,mb5.0	**33.46**	**249**	*eP*	P	**P**	**15 50 07.1**	**-0.4**
EIDS	**Eidsvold**	**33.46**	**249**	*eP*	P	**P**	**15 50 06.8**	**-0.8**
ARMA	**Armidale**	**34.06**	**240**	*eP*	P	**P**	**15 50 12.9**	**+0.2**
CTA	**Charters Tower** 2.4nm,0.7s,mb4.1,baz=86,slow=13,SNR=4.0	**37.58**	**258**	P	P	**P**	**15 50 43.5**	**+0.6**
CTA	**Charters Tower**	**37.58**	**258**	P	P	**P**	**15 50 43.5**	**+0.6**
CTAO	**Charters Tower** 2.6nm,0.6s,mb4.2	**37.58**	**258**	P	P	**P**	**15 50 42.4**	**-0.5**
PMG	**Port Moresby** 10nm,0.8s,mb4.7,baz=54,slow=8.3,SNR=6.0	**38.18**	**276**	P	P	**P**	**15 50 47.5**	**-0.4**
PMG	**Port Moresby**	**38.18**	**276**	P	P	**P**	**15 50 47.5**	**-0.4**
CMSA	**Cobar Meteorol** 48nm,0.6s,mb5.5	**39.28**	**240**	*eP*	P	**P**	**15 50 56.9**	**0.0**
MTSU	**Mount Surprise** 3.5nm,0.5s,mb4.5	**39.50**	**261**	*eP*	P	**P**	**15 50 59.8**	**+0.9**
QLP	**Quilpie**	**39.72**	**248**	*eP*	P	**P**	**15 51 00.1**	**-0.6**
COEN	**Coen** 13nm,0.6s,mb4.9	**41.07**	**268**	*eP*	P	**P**	**15 51 12.6**	**+0.7**
STKA	**Stephens Creek** 7.3nm,0.5s,mb4.6,baz=92,slow=9.6,SNR=30	**42.77**	**241**	P	P	**P**	**15 51 25.9**	**+0.4**
STKA	**Stephens Creek** 5.3nm,0.6s,mb4.5	**42.77**	**241**	*eP*	P	**P**	**15 51 25.8**	**+0.3**
STKA	**Stephens Creek**	**42.77**	**241**	P	P	**P**	**15 51 25.9**	**+0.4**
BBOO	**Buckleboo** 26nm,0.5s,mb5.3	**47.54**	**240**	*eP*	P	**P**	**15 52 02.8**	**-0.4**
WB2	**Warramunga Arr**	**48.77**	**258**	*eP*	P	**P**	**15 52 12.1**	**-0.6**
WRAB	**Tennant Creek** 2.5nm,0.8s,mb4.2	**48.77**	**258**	*eP*	P	**P**	**15 52 12.1**	**-0.7**
WRA	**Warramunga Arr** 2.0nm,0.7s,mb4.2,baz=94,slow=7.2,SNR=47	**48.78**	**258**	P	P	**P**	**15 52 12.1**	**-0.8**
WRA	**Warramunga Arr**	**48.78**	**258**	P	P	**P**	**15 52 12.1**	**-0.8**
AS31	**Alice Springs**	**48.97**	**253**	*eP*	P	**P**	**15 52 13.7**	**-0.6**
ASAR	**Alice Springs** 9.8nm,0.7s,mb4.9,baz=91,slow=7.6,SNR=249	**48.97**	**253**	P	P	**P**	**15 52 13.9**	**-0.4**
ASAR	**Alice Springs**	**48.97**	**253**	P	P	**P**	**15 52 13.9**	**-0.4**
FORT	**Forrest** 12nm,0.7s,mb5.0	**54.17**	**244**	*eP*	P	**P**	**15 52 52.2**	**-0.7**
MJAR	**Matsushiro Arr** 0.9nm,0.6s,mb3.8,baz=159,slow=6.1,SNR=5.5	**69.22**	**321**	P	P	**P**	**15 54 33.6**	**+0.1**
MJAR	**Matsushiro Arr**	**69.22**	**321**	P	P	**P**	**15 54 33.6**	**+0.1**
PETK	**Petropavlovsk-** 5.6nm,0.8s,mb4.5,baz=127,slow=8.1,SNR=5.4	**73.40**	**343**	P	P	**P**	**15 54 58.4**	**+0.1**
PETK	**Petropavlovsk-**	**73.40**	**343**	P	P	**P**	**15 54 58.4**	**+0.1**
QSPA	**South Pole Qui** 5.8nm,1.1s,mb4.2	**73.57**	**180**	*eP*	P	**P**	**15 54 59.3**	**+0.2**
NVAR	**Mina Array Bea** 3.7nm,0.8s,mb4.2,baz=230,slow=9.7,SNR=18	**75.70**	**42**	P	P	**P**	**15 55 11.9**	**-0.1**
NVAR	**Mina Array Bea**	**75.70**	**42**	P	P	**P**	**15 55 11.9**	**-0.1**
TMUT	**Trail Mountain** 7.1nm,1.1s,mb4.4	**80.83**	**44**	*eP*	P	**P**	**15 55 41.2**	**+1.0**
HLID	**Hailey** 4.9nm,0.9s,mb4.3	**81.00**	**40**	*eP*	P	**P**	**15 55 41.3**	**+0.3**
TXAR	**Lajitas Array** 1.1nm,1.0s,mb3.6,baz=208,slow=7.8,SNR=6.3	**81.92**	**56**	P	P	**P**	**15 55 46.5**	**+0.3**
TXAR	**Lajitas Array**	**81.92**	**56**	P	P	**P**	**15 55 46.5**	**+0.3**
RRI2	**Red Ridge** 7.5nm,1.0s,mb4.5	**82.80**	**41**	*eP*	P	**P**	**15 55 50.4**	**-0.1**
IMW	**Indian Meadow** 8.2nm,1.0s,mb4.5	**83.32**	**41**	*eP*	P	**P**	**15 55 53.1**	**0.0**
QLMT	**Earthquake Lak** 0.2nm,0.4s,mb3.3	**83.49**	**40**	*eP*	P	**P**	**15 55 54.8**	**+0.8**
FLWY	**Flagg Ranch** 7.0nm,0.9s,mb4.5	**83.56**	**41**	*eP*	P	**P**	**15 55 54.5**	**+0.1**
COLA	**College** 17nm,0.9s,mb4.9	**83.58**	**11**	*eP*	P	**P**	**15 55 52.9**	**-1.1**
PDAR	**Pinedale Array** 3.5nm,0.6s,mb4.3,baz=211,slow=3.7,SNR=28	**83.63**	**42**	P	P	**P**	**15 55 54.0**	**-0.7**
PDAR	**Pinedale Array**	**83.63**	**42**	P	P	**P**	**15 55 54.0**	**-0.7**
ILAR	**Eielson Array** 3.2nm,0.6s,mb4.4,baz=226,slow=5.8,SNR=84	**83.67**	**11**	P	P	**P**	**15 55 53.5**	**-0.9**
ILAR	**Eielson Array**	**83.67**	**11**	P	P	**P**	**15 55 53.5**	**-0.9**
HRY	**Holter Researc** 3.6nm,0.7s,mb4.3	**84.22**	**38**	*eP*	P	**P**	**15 55 57.6**	**0.0**
MAW	**Mawson** 1.1nm,0.5s,mb4.0,baz=128,slow=11,SNR=4.4	**86.50**	**199**	P	P	**P**	**15 56 08.7**	**0.0**
MAW	**Mawson**	**86.50**	**199**	P	P	**P**	**15 56 08.7**	**0.0**
CMAR	**Chiang Mai Arr** 1.0nm,0.6s,mb4.2,baz=82,slow=2.3,SNR=8.9	**92.15**	**288**	P	P	**P**	**15 56 37.9**	**+1.7**
CMAR	**Chiang Mai Arr**	**92.15**	**288**	P	P	**P**	**15 56 37.9**	**+1.7**
SONM	**Songino Array** 0.3nm,0.7s,mb3.9,baz=108,slow=4.7,SNR=3.6	**95.08**	**318**	P	P	**P**	**15 56 49.5**	**+0.6**
SONM	**Songino Array**	**95.08**	**318**	P	P	**P**	**15 56 49.5**	**+0.6**
MKAR	**Makanchi Array** 1.0nm,0.6s,baz=89,slow=0.7,SNR=11	**110.97**	**314**	PKiKP	PKiKP	**PKiKP**	16 01 57.4	-1.3
MKAR	**Makanchi Array**	**110.97**	**314**	PKiKP	PKiKP	**PKiKP**	16 01 57.4	-1.3
KURK	**Kurchatov** 0.7nm,0.6s,baz=90,slow=1.8,SNR=11	**113.39**	**319**	PKiKP	PKiKP	**PKiKP**	16 02 02.3	-0.9
KURK	**Kurchatov**	**113.39**	**319**	PKiKP	PKiKP	**PKiKP**	16 02 02.3	-0.9
BVAR	**Borovoye Array** 1.9nm,0.7s,baz=63,slow=1.5,SNR=13	**118.20**	**322**	PKP	PKPdf	**PKPdf**	16 02 11.6	-0.8
BVAR	**Borovoye Array**	**118.20**	**322**	PKP	PKPdf	**PKPdf**	16 02 11.6	-0.8
ARCES	**ARCESS Array B** 3.3nm,0.8s,baz=308,slow=4.0,SNR=3.8	**125.55**	**352**	PKP	PKPdf	**PKPdf**	16 02 25.7	-0.3
ARCES	**ARCESS Array B**	**125.55**	**352**	PKP	PKPdf	**PKPdf**	16 02 25.7	-0.3
NOA	**NORSAR Array B** 0.6nm,0.7s,baz=16,slow=11,SNR=3.2	**135.32**	**356**	PKP	PKPdf	**PKPdf**	16 02 44.3	-0.5
NOA	**NORSAR Array B**	**135.32**	**356**	PKP	PKPdf	**PKPdf**	16 02 44.3	-0.5
CLL	**Collm**	**144.77**	**352**	*e*PKPdf	PKPdf	**PKPdf**	16 03 01.0	-1.2
KOLS	**Kolonicke sedl**	**144.93**	**341**	*e*PKP	PKPdf	**PKPdf**	16 03 01.1	-1.4
BURAR	**Bucovina Array**	**145.04**	**337**	⇓*i*P	PKPbc	**PKPbc**	16 03 02.9	+0.5
UPC	**Upice**	**145.06**	**349**	*e*PKP	PKPdf	**PKPdf**	16 03 02.4	-0.3
DPC	**Dobruska-Polom**	**145.15**	**348**	*e*PKP	PKPdf	**PKPdf**	16 03 02.9	+0.1
CRVS	**Cervenica-Dubn**	**145.20**	**342**	*e*PKP	PKPdf	**PKPdf**	16 03 03.7	+0.7
OKC	**Ostrava-Krasne**	**145.24**	**346**	*e*PKP	PKPdf	**PKPdf**	16 03 02.1	-0.9
PVCC	**Panska Ves**	**145.30**	**350**	*e*PKP	PKPdf	**PKPdf**	16 03 03.0	-0.1
MORC	**Moravsky Berou**	**145.43**	**346**	⇑*i*P	PKPdf	**PKPdf**	16 03 03.9	+0.5
KECS	**Kecovo**	**145.87**	**342**	*e*PKP	PKPdf	**PKPdf**	16 03 05.5	+1.4
NKC	**Novy Kostel**	**145.90**	**352**	*e*PKP	PKPdf	**PKPdf**	16 03 03.9	-0.2
TREC	**Trest**	**146.32**	**348**	*e*PKP	PKPbc	**PKPbc**	16 03 07.9	+1.7
BR131	**Keskin Array S**	**146.44**	**319**	*e*PKPbc	PKPbc	**PKPbc**	16 03 06.7	-0.2
BRTR	**Keskin Array B** 7.2nm,0.9s,baz=109,slow=2.5,SNR=26	**146.44**	**319**	PKPbc	PKPbc	**PKPbc**	16 03 06.9	0.0
BRTR	**Keskin Array B**	**146.44**	**319**	PKPbc	PKPbc	**PKPbc**	16 03 06.9	0.0
MLR	**Muntele Rosu**	**146.48**	**334**	⇓*i*P	PKPbc	**PKPbc**	16 03 07.4	+0.6
KHC	**Kasperske Hory**	**146.81**	**351**	*e*PKP	PKPdf	**PKPdf**	16 03 07.5	+1.8
GERES	**GERESS Array B** 1.8nm,0.7s,baz=29,slow=3.0,SNR=12	**147.07**	**350**	PKPbc	PKPbc	**PKPbc**	16 03 08.2	-0.2
GERES	**GERESS Array B**	**147.07**	**350**	PKPbc	PKPbc	**PKPbc**	16 03 08.2	-0.2
CONA	**Conrad Observa** 10nm,1.4s	**147.55**	**347**	⇑*i*PKPab	PKPab	**PKPab**	16 03 10.1	-2.0
GZR	**Gura Zlata**	**147.82**	**337**	⇓*i*P	PKPbc	**PKPbc**	16 03 10.8	+0.2
WTTA	**Wattenberg** 5.7nm,0.5s	**148.92**	**352**	⇑*i*PKiKP	PKPbc	**PKPbc**	16 03 13.2	-0.1
FETA	**Feichten** 5.9nm,0.8s	**149.26**	**353**	⇑*i*PKiKP	PKPbc	**PKPbc**	16 03 15.0	+0.8
ABTA	**Abfaltersbach** 8.1nm,0.9s	**149.30**	**351**	⇑*i*PKPbc	PKPbc	**PKPbc**	16 03 13.6	-0.7
VTS	**Vitosha**	**149.98**	**334**	⇑*i*P	PKPbc	**PKPbc**	16 03 16.2	+0.1
KEST	**Kesra** 1.0nm,0.7s,baz=0.0,slow=2.0,SNR=3.5	**160.56**	**351**	PKPab	PKPab	**PKPab**	16 04 07.2	-0.2
KEST	**Kesra**	**160.56**	**351**	PKPab	PKPab	**PKPab**	16 04 07.2	-0.2
TORD	**Torodi Ar. Bea** 1.5nm,0.9s,baz=302,slow=1.6,SNR=7.1	**174.89**	**130**	PKP	PKPdf	**PKPdf**	16 03 34.3	-1.8
TORD	0.4nm,0.8s,baz=241,slow=4.3,SNR=3.5			PKPab	PKPab	**PKPab**	16 05 10.1	-1.3
TORD	**Torodi Ar. Bea**	**174.89**	**130**	PKP	PKPdf	**PKPdf**	16 03 34.3	-1.8
TORD				PKPab	PKPab	**PKPab**	16 05 10.1	-1.3

*IDC **26** 15:43:41.4±13.0, 11°.89N×88°.32W, h0km, mb3.1/1, mb1 3.7/1, mb1mx3.3/19, mbtmp3.2/1, MS3.5/1, Ms1 3.6/1, ms1mx2.8/10, Error ellipse: s-maj=1051.0km s-min=64.9km az=63.0*
*ISCJB **26** 15:44:04.0±0.8, 13°.1N±0°.1×87°.6W±0°.1, h197km±7km, Error ellipse: s-maj=24.3km s-min=7.5km az=42.6*
*CASC **26** 15:44:03.2±1.7, 13°.15N×87°.57W, h201km±9km, MD3.8, ML3.5*

ISC 26 15:44:04.3±0.8, 13°.2N±0°.1×87°.6W±0°.1, h196km±7km, n23, σ0§57/25, 2C, Honduras

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.25**	**300**	*i* P	P	**Pn**	**15 44 29.6**	**-0.7**
BLLM	**Bellamira**	**0.67**	**295**	⇑*i*P	P	**Pn**	**15 44 31.2**	**-0.6**
VSM	**San Miguel**	**0.70**	**293**	*i* P	P	**Pn**	**15 44 31.8**	**-0.1**
CRIN	**San Cristobal**	**0.71**	**129**	*eP*	P	**Pn**	**15 44 31.7**	**-0.3**
CRIN				*eS*	S	**Sn**	**15 44 53.3**	**+0.1**
CRIN	comp=E,684nm,0.2s			AML	AML		15 44 59.6	
TGUH	**Tegucigalpa,Un**	**0.96**	**20**	*eP*	P	**Pn**	**15 44 33.4**	**0.0**
TGUH				*eS*	S	**Sn**	**15 44 56.3**	**+0.3**
CNGN	**Cerro Negro**	**1.10**	**126**	*eP*	P	**Pn**	**15 44 34.4**	**-0.1**
CNGN				*eS*	S	**Sn**	**15 44 58.1**	**+0.4**
CNGN	comp=N,359nm,0.2s			AML	AML		15 45 07.0	
MOMN	**Momotombo**	**1.28**	**125**	*eP*	P	**Pn**	**15 44 36.4**	**+0.6**
COPN	**Copaltepe**	**1.39**	**134**	*eP*	P	**Pn**	**15 44 36.1**	**-0.6**
LFRS	**El Faro**	**1.49**	**288**	⇑*i*P	P	**Pn**	**15 44 37.5**	**-0.1**
CSAN		**1.51**	**130**	*eP*	P	**Pn**	**15 44 38.8**	**+1.0**
APYN	**Apoyeque**	**1.53**	**126**	*eP*	P	**Pn**	**15 44 37.7**	**-0.3**
HUEN		**1.62**	**120**	*eP*	P	**Pn**	**15 44 38.6**	**-0.2**
BOQS	**Boqueron**	**1.72**	**290**	*eP*	P	**Pn**	**15 44 39.9**	**+0.2**
BOQS				*eS*	S	**Sn**	**15 45 11.0**	**+3.7**
TICN	**Ticuantepe**	**1.75**	**129**	*eP*	P	**Pn**	**15 44 39.5**	**-0.5**
JTS	**JuntasAbangare**	**3.86**	**137**	*eP*	P	**Pn**	**15 45 04.0

ISCJB **26** 16:25:14.9±0.6,20.91S±0.07×179.47W±0.06, h649km,8km,mb4.4/34,Error ellipse: s-maj=12.6km s-min=5.9km az=147.1

IDC **26** 16:25:15.7±1.7,20.92S×179.38W,h646km±19km, mb3.7/16,mb1 3.9/16,mb1mx3.9/19,mbtmp3.7/16,Error ellipse: s-maj=18.3km s-min=10.1km az=151.0

ISC 26 16:25:15.2±0.7,20.93S±0.07×179.40W±0.06, h635km±7km,n323,σ0945/250,mb4.5/34,117C-82D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.98**	**322**	*eP*n		**P**		**16 26 42.4**	**-0.8**
MSVF				*eS*		**S**		**16 27 55.0**	**+0.2**
AFI	**Afiamalu**	**10.08**	**47**	P		**P**		**16 27 29.2**	**-6.3**
AFI	9.3nm,0.3s,baz=66,slow=22,SNR=18				S	**S**		**16 29 20.0**	**-11**
AFI	**Afiamalu**	**10.08**	**47**	P		**P**		**16 27 29.2**	**-6.3**
AFI	1.8nm,0.3s,baz=74,slow=21,SNR=2.5				S	**S**		**16 29 20.0**	**-11**
DZM	**Mont Dzumac**	**13.23**	**262**	*eP*		**P**		**16 28 05.5**	**-0.2**
URZ	15nm,0.6s **Urewera**	**17.54**	**189**	P		**P**		**16 28 41.1**	**-3.8**
URZ	1.9nm,0.3s,baz=301,slow=2.2,SNR=8.8				S	**S**		**16 31 34.8**	**-0.2**
URZ	1.0nm,0.3s,baz=86,slow=21,SNR=12 **Urewera**	**17.54**	**189**	*eP*		**P**		**16 28 41.1**	**-3.7**
URZ					S	**S**		**16 31 34.8**	**-0.2**
KHZ	**Kahutara**	**22.24**	**194**	*eP*		**P**		**16 29 23.9**	**-3.1**
EIDS	**Eidsvold**	**27.47**	**255**	*eP*		**P**		**16 30 13.6**	**+0.2**
ARMA	42nm,0.5s,mb5.3 **Armidale**	**27.70**	**244**	*eP*		**P**		**16 30 16.4**	**+1.1**
CNB	**Canberra Magne**	**30.90**	**236**	*eP*		**P**		**16 30 43.5**	**+0.8**
CTA	55nm,0.7s,mb5.3 **Charters Tower**	**32.14**	**265**	P		**P**		**16 30 54.1**	**+0.7**
	27nm,0.4s,mb5.2,baz=93,slow=10,SNR=65								
CTA	**Charters Tower** 20nm,0.4s,mb5.1	**32.14**	**265**	*eP*		**P**		**16 30 54.1**	**+0.7**
CTA	**Charters Tower**	**32.14**	**265**	P		**P**		**16 30 54.1**	**+0.7**
CMSA	**Cobar Meteorol** 84nm,0.6s,mb5.5	**32.92**	**244**	*eP*		**P**		**16 31 00.1**	**+0.3**
QLP	**Quilpie**	**33.68**	**253**	*eP*		**P**		**16 31 06.3**	**+0.1**
PMG	**Port Moresby** 15nm,0.7s,mb4.7,baz=88,slow=6.4,SNR=15	**34.17**	**284**	P		**P**		**16 31 10.9**	**+0.5**
PMG	**Port Moresby**	**34.17**	**284**	P		**P**		**16 31 10.9**	**+0.5**
TOO	**Toolangi** 50nm,0.6s,mb5.3	**34.59**	**234**	*eP*		**P**		**16 31 13.8**	**+0.2**
COEN	**Coen** 40nm,0.8s,mb5.0	**36.30**	**275**	*eP*		**P**		**16 31 28.8**	**+0.8**
COEN	**Coen** 129nm,1.3s,mb5.3	**36.30**	**275**	*eP*		**P**		**16 31 28.8**	**+0.8**
STKA	**Stephens Creek** 13nm,0.8s,mb4.5,baz=93,slow=9.7,SNR=32	**36.42**	**244**	P		**P**		**16 31 29.4**	**+0.7**
STKA	**Stephens Creek** 7.7nm,0.6s,mb4.4	**36.42**	**244**	*eP*		**P**		**16 31 29.3**	**+0.6**
STKA	**Stephens Creek** 2.1nm,0.8s,mb3.7	**36.42**	**244**	*eP*		**P**		**16 31 29.1**	**+0.4**
BBOO	**Buckleboo** 73nm,0.4s	**41.18**	**244**	*eP*		**P**		**16 32 06.9**	**+0.1**
BBOO	**Buckleboo**	**41.18**	**244**	*eP*		**P**		**16 32 06.7**	**-0.1**
AS31	**Alice Springs**	**43.14**	**257**	*eP*		**P**		**16 32 22.4**	**+0.1**
ASAR	**Alice Springs** 18nm,0.5s,mb4.8,baz=93,slow=8.1,SNR=547	**43.15**	**257**	P		**P**		**16 32 22.4**	**+0.2**
ASAR				PcP		PcP	PcP	16 33 57.0	0.0
ASAR	1.5nm,0.6s,baz=100,slow=4.1,SNR=5.4			ScP		ScP	ScP	16 36 49.2	+0.4
ASAR	1.0nm,0.8s,baz=122,slow=3.7,SNR=5.9				S	**S**		**16 38 04.4**	**-0.3**
ASAR	1.9nm,0.8s,baz=94,slow=15,SNR=12 **Alice Springs**	**43.15**	**257**	P		**P**		**16 32 22.4**	**+0.2**
ASAR				PcP		PcP	PcP	16 33 57.0	0.0
ASAR				ScP		ScP	ScP	16 36 49.2	+0.4
ASAR					S	**S**		**16 38 04.4**	**-0.3**
WB2	**Warramunga Arr**	**43.23**	**263**	*eP*		**P**		**16 32 22.5**	**-0.5**
WRAB	**Tennant Creek** 16nm,0.8s,mb4.6	**43.23**	**263**	*eP*		**P**		**16 32 22.7**	**-0.3**
WRA	**Warramunga Arr** 7.2nm,0.4s,mb4.6,baz=97,slow=7.4,SNR=320	**43.24**	**263**	P		**P**		**16 32 22.7**	**-0.4**
WRA					S	**S**		**16 38 04.4**	**-1.8**
WRA	1.7nm,0.8s,baz=98,slow=13,SNR=7.0 **Warramunga Arr**	**43.24**	**263**	P		**P**		**16 32 22.7**	**-0.4**
WRA					S	**S**		**16 38 04.4**	**-1.8**
FORT	**Forrest** 18nm,0.5s,mb4.9	**47.92**	**247**	*eP*		**P**		**16 32 57.9**	**-0.4**
FITZ	**Fitzroy Crossi** 3.9nm,0.5s,mb4.0	**51.67**	**263**	*eP*		**P**		**16 33 26.0**	**+0.3**
FITZ	**Fitzroy Crossi**	**51.67**	**263**	*eP*		**P**		**16 33 25.9**	**+0.1**
QSPA	**South Pole Qui** 0.6nm,0.7s,baz=91,slow=14,SNR=4.4	**69.14**	**180**	P		**P**		**16 35 18.7**	**-0.4**
QSPA					pP	pP	pP	16 37 25.2	0.0
QSPA	4.0nm,0.9s,baz=30,slow=4.3,SNR=8.4 **South Pole Qui**	**69.14**	**180**	*eP*		**P**		**16 35 18.7**	**-0.5**
QSPA					pP	pP	pP	16 37 25.2	0.0
MJAR	**Matsushiro Arr** 5.4nm,0.8s,mb4.0,baz=168,slow=6.3,SNR=15	**69.78**	**325**	P		**P**		**16 35 23.4**	**-0.2**
MJAR	**Matsushiro Arr**	**69.78**	**325**	P		**P**		**16 35 23.4**	**-0.2**
FX1	**Attu Island--F** 8.7nm,0.6s,mb4.5,baz=146,slow=7.3,SNR=4.0	**73.78**	**355**	P		**P**		**16 35 44.9**	**-1.4**
FX1	**Attu Island--F**	**73.78**	**355**	P		**P**		**16 35 44.9**	**-1.4**
KSRS	**Korea Array** 1.0nm,0.6s,mb3.4,baz=128,slow=6.6,SNR=3.7	**76.34**	**319**	P		**P**		**16 35 59.7**	**-1.1**
PETK	**Petropavlovsk-** 8.8nm,0.8s,mb4.3,baz=132,slow=5.0,SNR=20	**76.35**	**346**	P		**P**		**16 36 00.2**	**-0.4**
PETK	**Petropavlovsk-**	**76.35**	**346**	P		**P**		**16 36 00.2**	**-0.4**
KSAR	**Wonju Array Be**	**76.36**	**319**	P		**P**		**16 35 59.8**	**-1.2**
BFSC	**Mount Baldy Ra** baz=81	**80.34**	**48**	⇓P		**P**		**16 36 22.2**	**0.0**
EDW2	**Edwards Air Fo** baz=81	**80.47**	**47**	⇓P		**P**		**16 36 22.9**	**+0.1**
MONP	**Monument Peak** baz=81	**80.48**	**49**	⇑P		**P**		**16 36 23.0**	**+0.1**
ISA	**Isabella** baz=81	**80.57**	**46**	⇑P		**P**		**16 36 23.8**	**+0.5**
SWSC	**Sam W. Stewart** baz=81	**80.95**	**50**	⇑P		**P**		**16 36 25.3**	**0.0**
CWC	**Cottonwood Cre** baz=82	**81.27**	**46**	⇓P		**P**		**16 36 26.8**	**0.0**
BELC	**Belle Mtn. Jos** baz=82	**81.37**	**49**	⇓P		**P**		**16 36 27.0**	**-0.5**
YBH	**Yreka Blue Hor** 7.5nm,0.9s,mb4.1	**81.44**	**39**	*eP*		**P**		**16 36 27.8**	**+0.1**
MPMC	**Manual Prospec** baz=82	**81.46**	**46**	⇓P		**P**		**16 36 28.0**	**+0.1**
GSC	**Goldstone** baz=82	**81.51**	**47**	⇑P		**P**		**16 36 28.1**	**0.0**
GSC	**Goldstone** 2.4nm,0.5s,mb4.0	**81.51**	**47**	*eP*		**P**		**16 36 27.4**	**-0.7**
TIN	**Tinemaha** baz=82	**81.52**	**45**	⇑P		**P**		**16 36 28.5**	**+0.4**
BC3	**Big Chuckawall** baz=82	**81.57**	**49**	⇓P		**P**		**16 36 28.5**	**0.0**
HEC	**Hector,Ludlow** baz=82	**81.58**	**48**	⇑P		**P**		**16 36 28.4**	**-0.1**
WCN	**Washoe City** baz=82	**81.80**	**43**	⇓P		**P**		**16 36 29.8**	**+0.3**
GMRC	**Granite Mounta** baz=82	**82.02**	**48**	⇑P		**P**		**16 36 30.3**	**-0.5**
IRM	**Iron Mountain** baz=82	**82.05**	**49**	⇓P		**P**		**16 36 30.7**	**-0.2**
GRAC	**Grapevine Rang** baz=82	**82.06**	**46**	⇓P		**P**		**16 36 30.4**	**-0.5**
FURC	**Furnace Creek,** baz=82	**82.11**	**46**	⇑P		**P**		**16 36 30.9**	**-0.2**
TUQ	**Turquoise Moun** baz=82	**82.19**	**48**	⇑P		**P**		**16 36 31.7**	**+0.1**
NVAR	**Mina Array Bea** 5.3nm,0.8s,mb4.1,baz=223,slow=8.9,SNR=21	**82.24**	**44**	P		**P**		**16 36 31.7**	**-0.1**
NVAR	**Mina Array Bea**	**82.24**	**44**	P		**P**		**16 36 31.7**	**-0.1**
Y12C	**Blythe** baz=82	**82.28**	**50**	⇓P		**P**		**16 36 31.9**	**-0.1**
113A	**Mohawk Valley,** baz=82	**82.32**	**51**	⇑P		**P**		**16 36 32.5**	**+0.3**
LDFC	**Landfair** 18nm,1.0s,mb4.6	**82.56**	**48**	*eP*		**P**		**16 36 33.2**	**-0.3**
Z13A	**Yuma Proving G** baz=83	**82.62**	**50**	⇓P		**P**		**16 36 34.0**	**+0.3**
PDMCI	**Parker Dam,Lak** baz=83	**82.84**	**49**	⇓P		**P**		**16 36 35.0**	**+0.1**
MOD	**Modoc** 13nm,1.1s,mb4.4	**82.98**	**40**	*eP*		**P**		**16 36 35.1**	**-0.3**
K05A	**Summer Lake** baz=83	**83.12**	**39**	⇓P		**P**		**16 36 36.8**	**+0.8**
115A	**Sonoran Desert** baz=84	**83.40**	**51**	⇑P		**P**		**16 36 38.2**	**+0.5**
W13A	**Hualapai Mount** baz=84	**83.43**	**49**	⇓P		**P**		**16 36 37.9**	**+0.2**
Y14A	**Wickenburg** baz=84	**83.46**	**50**	⇑P		**P**		**16 36 37.7**	**-0.2**
H04A	**Detroit Lake** baz=84	**83.55**	**37**	⇑P		**P**		**16 36 37.9**	**-0.2**
E03A	**Lebam** baz=84	**83.95**	**35**	⇑P		**P**		**16 36 40.4**	**+0.4**
Y15A	**Casa Rosa Ranc** baz=84	**83.95**	**50**	⇓P		**P**		**16 36 40.5**	**+0.1**
117A	**Oracle** baz=85	**84.44**	**52**	⇑P		**P**		**16 36 43.0**	**+0.2**
318A	**Bisbee** baz=85	**84.45**	**54**	⇓P		**P**		**16 36 43.1**	**+0.3**
Y16A	**Circle Bar Ran** baz=85	**84.53**	**51**	⇓P		**P**		**16 36 44.0**	**+0.8**
218A	**Dragoon** baz=85	**84.66**	**53**	⇑P		**P**		**16 36 44.6**	**+0.8**
I07A	**Izee** baz=85	**84.73**	**39**	⇓P		**P**		**16 36 44.5**	**+0.6**
X16A	**Lo Mia Camp, P** baz=85	**84.82**	**50**	⇓P		**P**		**16 36 44.7**	**+0.2**
Y17A	**Roosevelt** baz=85	**84.90**	**51**	⇑P		**P**		**16 36 45.6**	**+0.6**
J08A	**Circle Bar Ran** baz=85	**84.93**	**40**	⇑P		**P**		**16 36 45.1**	**+0.2**
118A	**Homack Ranch,** baz=85	**85.04**	**52**	⇑P		**P**		**16 36 45.8**	**+0.2**
ENH	**Enshi** 6.4nm,0.8s,mb4.3	**85.20**	**305**	*eP*		**P**		**16 36 46.4**	**-0.1**
U15A	**North Rim** baz=85	**85.22**	**48**	⇓P		**P**		**16 36 46.9**	**+0.4**
219A	**White Tail Can** baz=85	**85.26**	**53**	⇓P		**P**		**16 36 47.0**	**+0.3**
WUAZ	**Wupatki** baz=86	**85.41**	**49**	⇓P		**P**		**16 36 47.8**	**+0.4**
Y18A	**Canyon Day Jun** baz=86	**85.53**	**51**	⇑P		**P**		**16 36 48.4**	**+0.4**
119A	**Ashpeak Ranch,** baz=86	**85.59**	**53**	⇑P		**P**		**16 36 48.6**	**+0.3**
G08A	**Pilot Rock** baz=86,SNR=9.2	**85.75**	**38**	⇓P		**P**		**16 36 48.6**	**-0.2**
220A	**Playas Peak, P** baz=86	**85.77**	**54**	⇓P		**P**		**16 36 49.4**	**+0.3**
V17A	**Tonalea, Kykot** baz=86	**85.88**	**50**	⇓P		**P**		**16 36 49.9**	**+0.3**
U16A	**Tuba City** baz=86	**85.89**	**49**	⇓P		**P**		**16 36 50.3**	**+0.7**
E07A	**Sunnyside** baz=86	**85.99**	**37**	⇑P		**P**		**16 36 50.3**	**+0.5**
Y19A	**Nutrioso** baz=86	**86.19**	**52**	⇓P		**P**		**16 36 51.9**	**+0.8**
Z20A	**Nine Sixteen R** baz=86	**86.28**	**53**	⇓P		**P**		**16 36 52.1**	**+0.5**
ETW	**Entiat** 10nm,0.6s,mb4.6	**86.34**	**36**	*eP*		**P**		**16 36 51.3**	**-0.2**
E08A	**Dider Farm, El** baz=87	**86.39**	**37**	⇑P		**P**		**16 36 52.0**	**+0.3**
T17A	**Navajo Res., N** baz=87	**86.54**	**48**	⇑P		**P**		**16 36 52.6**	**-0.1**
MFID	**Camas Ranch** baz=87	**86.56**	**41**	⇑P		**P**		**16 36 52.5**	**-0.1**
121A	**Cookes Peak, D** baz=87	**86.62**	**53**	⇑P		**P**		**16 36 53.4**	**+0.3**
W19A	**Sanders** baz=87	**86.64**	**51**	⇑P		**P**		**16 36 53.6**	**+0.4**
Y20A	**Horse Springs,** baz=87	**86.81**	**52**	⇑P		**P**		**16 36 53.9**	**-0.1**
S17A	**Black Ridge (B** baz=87	**86.85**	**48**	⇓P		**P**		**16 36 53.5**	**-0.6**
U18A	**Rough Rock, Ch** baz=87	**86.92**	**49**	⇑P		**P**		**16 36 54.5**	**0.0**
E09A	**Wood Farm, Sta** baz=87	**86.92**	**37**	⇓P		**P**		**16 36 54.0**	**-0.2**
X20A	**Quemado** baz=87	**87.02**	**51**	⇑P		**P**		**16 36 55.0**	**0.0**
Z21A	**St. Cloud Mine** baz=87	**87.06**	**53**	⇑P		**P**		**16 36 55.5**	**+0.3**
OD2	**Odessa Site #2** 14nm,1.0s,mb4.6	**87.11**	**36**	*eP*		**P**		**16 36 55.0**	**-0.1**
F10A	**Beach Ranch, E** baz=87,SNR=17	**87.14**	**38**	⇑P		**P**		**16 36 54.4**	**-0.8**
I12A	**Atlanta** baz=88,SNR=6.8	**87.19**	**41**	⇑P		**P**		**16 36 55.9**	**+0.3**
T18A	**Mexican Hat** baz=88	**87.26**	**49**	⇓P		**P**		**16 36 56.2**	**+0.2**
U19A	**Dine' College,** baz=88	**87.33**	**50**	⇑P		**P**		**16 36 56.8**	**+0.5**
X21A	**Alamocita Cree** baz=88	**87.49**	**52**	⇑P		**P**		**16 36 57.3**	**+0.2**
HLID	**Hailey** baz=88,SNR=5.4	**87.51**	**41**	⇓P		**P**		**16 36 57.1**	**+0.1**
HLID	**Hailey** 5.0nm,1.0s,mb4.2	**87.51**	**41**	*eP*		**P**		**16 36 57.1**	**0.0**
Z22A	**Elephant Butte** baz=88	**87.56**	**53**	⇓P		**P**		**16 36 57.3**	**-0.2**
J13A	**Cove Ranch, Pi** baz=88,SNR=8.2	**87.57**	**41**	⇓P		**P**		**16 36 57.3**	**0.0**
C09A	**Chrisman Ranch** baz=88	**87.59**	**36**	⇑P		**P**		**16 36 57.0**	**-0.3**
M15A	**Larsen Ranch,** baz=88	**87.66**	**44**	⇑P		**P**		**16 36 57.7**	**-0.1**
K14A	**Jones Ranch, D** baz=88	**87.75**	**43**	⇑P		**P**		**16 36 58.3**	**+0.1**
H12A	**Diamond D Ranc** baz=88,SNR=9.9	**87.76**	**40**	⇓P		**P**		**16 36 57.9**	**-0.2**
SRU	**San Rafael** baz=88	**87.76**	**47**	⇓P		**P**		**16 36 58.5**	**+0.2**
G12A	**Big Creek, Yel** baz=88	**87.79**	**40**	⇓P		**P**		**16 36 58.5**	**+0.2**
P17A	**Butcher Ranch,** baz=88	**87.80**	**46**	⇑P		**P**		**16 36 58.5**	**+0.1**
R18A	**Canyonlands Na** baz=88	**87.84**	**47**	⇓P		**P**		**16 36 58.8**	**+0.1**
Y22A	**Socorro** baz=88	**87.87**	**52**	⇑P		**P**		**16 36 59.1**	**+0.1**
I13A	**Wildhorse Cree** baz=88	**87.88**	**41**	⇓P		**P**		**16 36 58.7**	**0.0**
324A	**Moseley Ranch,** baz=88	**87.88**	**55**	⇓P		**P**		**16 36 59.2**	**+0.1**
J14A	**Carey** baz=88,SNR=9.8	**87.94**	**42**	⇓P		**P**		**16 36 59.5**	**+0.5**
L15A	**Malad City** baz=88	**87.97**	**43**	⇑P		**P**		**16 36 59.3**	**+0.1**
425A	**Indio Mountain** baz=88	**87.98**	**56**	⇓P		**P**		**16 36 59.7**	**+0.1**
Q18A	**Rafter H Ranch** baz=88	**88.03**	**47**	⇓P		**P**		**16 36 59.4**	**-0.2**
N16A	**Rees Ranch, Co** baz=88	**88.03**	**45**	⇑P		**P**		**16 36 59.4**	**-0.2**
MNTX	**Cornudas Mount** baz=88,SNR=6.2	**88.07**	**55**	⇑P		**P**		**16 36 59.4**	**-0.5**
Z23A	**Rita Site, Whi** baz=88	**88.11**	**53**	⇑P		**P**		**16 37 00.2**	**+0.1**
626A	**Big Bend Ranch** baz=88	**88.11**	**57**	⇓P		**P**		**16 37 00.5**	**+0.3**
M16A	**Huntsville** baz=88	**88.12**	**44**	⇑P		**P**		**16 36 59.9**	**0.0**
224A	**Cornudas Mount** baz=88	**88.12**	**55**	⇓P		**P**		**16 37 00.5**	**+0.3**
H13A	**Challis** baz=88,SNR=6.4	**88.13**	**40**	⇑P		**P**		**16 36 59.8**	**-0.1**
O17A	**Robinson Place** baz=88,SNR=11	**88.15**	**46**	⇓P		**P**		**16 37 00.6**	**+0.5**
F12A	**Elk City** baz=88,SNR=9.4	**88.17**	**39**	⇓P		**P**		**16 36 59.8**	**-0.2**
P18A	**Preston Nutter** baz=88	**88.20**	**46**	⇓P		**P**		**16 37 00.7**	**+0.3**
K15A	**Arbon** baz=88	**88.23**	**43**	⇑P		**P**		**16 37 00.4**	**0.0**
325A	**Bean Ranch, Si** baz=88	**88.24**	**56**	⇓P		**P**		**16 37 00.4**	**-0.4**
I14A	**Mackay** baz=88,SNR=5.9	**88.29**	**41**	⇑P		**P**		**16 37 01.6**	**+0.9**
E12A	**Beaver Dam Sad** baz=89	**88.34**	**38**	⇑P		**P**		**16 37 00.5**	**-0.4**
526A	**Mary Lane Ranc** baz=88	**88.36**	**57**	⇑P		**P**		**16 37 01.0**	**-0.4**
TXAR	**Lajitas Array** 3.6nm,0.8s,mb4.2,baz=220,slow=5.9,SNR=24	**88.39**	**58**	P		**P**		**16 37 01.5**	**0.0**
TXAR	**Lajitas Array**	**88.39**	**58**	P		**P**		**16 37 01.5**	**0.0**
G13A	**Cobalt** baz=89	**88.43**	**40**	⇑P		**P**		**16 37 01.0**	**-0.3**
124A	**Stringfield Ra** baz=89	**88.45**	**54**	⇑P		**P**		**16 37 01.3**	**-0.4**
U21A	**Nageezi** baz=89,SNR=5.4	**88.50**	**50**	⇓P		**P**		**16 37 01.7**	**-0.1**
Y23A	**Lovelace Mesa,** baz=89	**88.54**	**53**	⇑P		**P**		**16 37 01.9**	**-0.2**
Q19A	**Hogan Spring (** baz=89	**88.55**	**47**	⇑P		**P**		**16 37 01.8**	**-0.2**
L16A	**Fish Haven** baz=89	**88.59**	**44**	⇑P		**P**		**16 37 01.7**	**-0.4**
J15A	**Blackfoot** baz=89,SNR=7.6	**88.65**	**42**	⇑P		**P**		**16 37 02.7**	**+0.3**
627A	**Terlingua Ranc** baz=89,SNR=5.8	**88.66**	**58**	⇑P		**P**		**16 37 02.7**	**-0.1**
426A	**McDonald Obser** baz=89	**88.67**	**57**	⇓P		**P**		**16 37 02.7**	**-0.1**
225A	**Deer Hill, Car** baz=89	**88.67**	**55**	⇑P		**P**		**16 37 02.5**	**-0.2**
H14A	**Leadore** baz=89	**88.70**	**41**	⇓P		**P**		**16 37 02.7**	**+0.1**
C11A	**Tepee Creek (N** baz=89	**88.73**	**37**	⇓P		**P**		**16 37 02.5**	**-0.2**
F13A	**Darby** baz=89	**88.74**	**39**	⇑P		**P**		**16 37 02.3**	**-0.4**
527A	**Woodward Ranch** baz=89	**88.78**	**57**	⇑P		**P**		**16 37 02.5**	**-0.7**
D12A	**Red Ives Fores** baz=89	**88.82**	**38**	⇓P		**P**		**16 37 02.4**	**-0.6**
M17A	**Scullys Gap (B** baz=89	**88.82**	**44**	⇓P		**P**		**16 37 02.7**	**-0.5**
K16A	**Soda Springs** baz=89	**88.90**	**43**	⇓P		**P**		**16 37 03.7**	**+0.2**
DLBC	**Dease Lake** 3.0nm,0.8s,mb4.2,baz=242,slow=8.9,SNR=3.7	**88.96**	**24**	P		**P**		**16 37 02.3**	**-1.1**
DLBC	**Dease Lake**	**88.96**	**24**	P		**P**		**16 37 02.3**	**-1.1**
S21A	**Coal Bank Pass** baz=89	**88.97**	**49**	⇓P		**P**		**16 37 04.4**	**+0.4**
Y24A	**Capitan** baz=89,SNR=8.8	**89.00**	**53**	⇓P		**P**		**16 37 03.9**	**-0.4**
CMAR	**Chiang Mai Arr** 2.9nm,0.9s,mb4.1,baz=127,slow=3.1,SNR=18	**89.02**	**290**	P		**P**		**16 37 06.4**	**+1.7**
CMAR	**Chiang Mai Arr**	**89.02**	**290**	P		**P**		**16 37 06.4**	**+1.7**
ILAR	**Eielson Array** 3.5nm,0.8s,mb4.3,baz=218,slow=5.2,SNR=16	**89.02**	**13**	P		**P**		**16 37 01.9**	**-1.7**
ILAR	**Eielson Array**	**89.02**	**13**	P		**P**		**16 37 01.9**	**-1.7**
125A	**Gardner Draw,** baz=89	**89.04**	**54**	⇓P		**P**		**16 37 04.3**	**-0.1**
628A	**Black Gap, Mar** baz=89	**89.07**	**58**	⇓P		**P**		**16 37 04.5**	**-0.1**
C12B	**Naegeli Ranch,** baz=89	**89.10**	**37**	⇓P		**P**		**16 37 04.2**	**-0.1**
J16A	**Bone** baz=89,SNR=6.3	**89.11**	**43**	⇓P		**P**		**16 37 04.5**	**0.0**
MCMT	**McKenzie Canyo** 2.4nm,1.1s,mb3.9	**89.13**	**41**	*eP*		**P**		**16 37 04.6**	**+0.1**
H15A	**Lima** baz=89	**89.14**	**41**	⇑P		**P**		**16 37 05.3**	**+0.7**
M18A	**Lyman** baz=89	**89.19**	**45**	⇓P		**P**		**16 37 05.3**	**+0.3**
Q20A	**Ridgley Place,** baz=89	**89.21**	**48**	⇑P		**P**		**16 37 05.1**	**+0.1**
427A	**Hayter Ranch,** baz=89,SNR=7.8	**89.24**	**57**	⇑P		**P**		**16 37 05.2**	**-0.2**
N18A	**Larsen Ranch,** baz=90	**89.24**	**45**	⇑P		**P**		**16 37 05.3**	**+0.2**
O19A	**Miners Draw (B** baz=90	**89.28**	**46**	⇑P		**P**		**16 37 05.8**	**+0.4**
K17A	**Gardner Place,** baz=90	**89.29**	**43**	⇑P		**P**		**16 37 05.5**	**+0.2**
528A	**Cox Ranch, San** baz=90	**89.43**	**57**	⇑P		**P**		**16 37 06.4**	**+0.1**
R21A	**Cimarron** baz=90	**89.46**	**48**	⇓P		**P**		**16 37 06.4**	**+0.2**
I16A	**Newdale** baz=90	**89.49**	**42**	⇑P		**P**		**16 37 06.8**	**+0.6**
G15A	**Dillon** baz=90	**89.52**	**41**	⇑P		**P**		**16 37 06.2**	**-0.1**
Y25A	**Mesa, Roswell** baz=90	**89.56**	**53**	⇓P		**P**		**16 37 06.4**	**-0.4**
E14A	**Clinton** baz=90	**89.56**	**39**	⇑P		**P**		**16 37 06.3**	**-0.2**
W24A	**Lazy 6 Ranch,** baz=90	**89.58**	**52**	⇑P		**P**		**16 37 06.5**	**-0.4**
C13A	**Hot Springs** baz=90	**89.60**	**38**	⇓P		**P**		**16 37 06.4**	**-0.2**
A12A	**Yaak River Ran** baz=90	**89.67**	**36**	⇓P		**P**		**16 37 06.7**	**-0.2**
S22A	**4UR Ranch, Cre** baz=90	**89.68**	**49**	⇑P		**P**		**16 37 07.2**	**-0.1**
J17A	**Brown Place, J** baz=90	**89.72**	**43**	⇓P		**P**		**16 37 07.2**	**-0.2**
428A	**Kincaid Ranch,** baz=90	**89.75**	**57**	⇑P		**P**		**16 37 07.8**	**0.0**
K18A	**Toltan Ranch,** baz=90	**89.80**	**44**	⇓P		**P**		**16 37 07.8**	**+0.1**
Z26A	**Caprock** baz=90	**89.81**	**54**	⇑P		**P**		**16 37 07.6**	**-0.4**
M19A	**Rock Springs** baz=90	**89.83**	**45**	⇑P		**P**		**16 37 07.9**	**+0.1**
R22A	**Saguache, Gunn** baz=90	**89.95**	**49**	⇑P		**P**		**16 37 08.9**	**+0.4**
L19A	**Farson** baz=90	**89.98**	**44**	⇓P		**P**		**16 37 08.4**	**-0.2**
QLMT	**Earthquake Lak**	**90.00**	**41**	P		**P**		**16 37 09.5**	**+0.9**
H16A	**Russell Place,** baz=90	**90.05**	**41**	⇓P		**P**		**16 37 09.3**	**+0.5**
J18A	**Kendall Valley** baz=90,SNR=6.3	**90.09**	**43**	⇓P		**P**		**16 37 08.7**	**-0.4**
N20A	**Spence Gulch,** baz=90	**90.11**	**46**	⇑P		**P**		**16 37 09.4**	**+0.2**
BW06	**Boulder Array**	**90.17**	**44**	*eP*		**P**		**16 37 10.0**	**+0.6**
PDAR	**Pinedale Array** 1.9nm,0.7s,mb4.0,baz=215,slow=4.9,SNR=7.6	**90.17**	**44**	P		**P**		**16 37 08.9**	**-0.5**
PDAR	**Pinedale Array**	**90.17**	**44**	P		**P**		**16 37 08.9**	**-0.5**
Y26A	**Elida** baz=90	**90.21**	**54**	⇑P		**P**		**16 37 09.6**	**-0.2**
BOZ	**Bozeman (W)** baz=90	**90.28**	**40**	⇓P		**P**		**16 37 10.2**	**+0.3**
W25A	**X Bar L Ranch,** baz=90	**90.28**	**52**	⇑P		**P**		**16 37 09.2**	**-1.0**
V25A

SPITS	**Spitsbergen Ar**	**122.20**	**356**	PKP		PKPdf	16 42 57.5	-0.9
AKTO	**Aktyubinsk**	**126.51**	**318**	PKP		PKPdf	16 43 07.2	-0.2
	0.9nm,0.6s,baz=76,slow=4.5,SNR=3.5							
AKTO	**Aktyubinsk**	**126.51**	**318**	PKP		PKPdf	16 43 07.2	-0.2
ARCES	**ARCESS Array B**	**129.09**	**349**	PKP		PKPdf	16 43 10.9	-0.9
	3.6nm,0.6s,baz=45,slow=1.2,SNR=20							
ARCES	**ARCESS Array B**	**129.09**	**349**	PKP		PKPdf	16 43 10.9	-0.9
FINES	**FINESS Array B**	**135.80**	**343**	PKP		PKPdf	16 43 22.5	-2.1
	4.9nm,1.0s,baz=47,slow=3.6,SNR=7.6							
FINES	**FINESS Array B**	**135.80**	**343**	PKP		PKPdf	16 43 22.5	-2.1
NOA	**NORSAR Array B**	**139.23**	**352**	PKhKP		PKPpre	16 43 22.2	
	1.5nm,0.9s,baz=339,slow=3.6,SNR=4.6							
NOA				PKP		PKPdf	16 43 30.0	-0.9
	1.7nm,0.8s,baz=14,slow=4.1,SNR=3.4							
NOA	**NORSAR Array B**	**139.23**	**352**	PKPpre		PKPpre	16 43 22.2	
NOA				PKP		PKPdf	16 43 29.9	-0.9
HFS	**Hagfors**	**139.74**	**350**	PKhKP		PKPpre	16 43 23.3	
	1.8nm,0.4s,baz=43,slow=2.6,SNR=13							
HFS	**Hagfors**	**139.74**	**350**	PKPpre		PKPpre	16 43 23.3	
AKASG	**Malin Array Be**	**142.74**	**330**	PKhKP		PKPpre	16 43 34.0	
	11nm,0.4s,baz=43,slow=4.3,SNR=66							
AKASG	**Malin Array Be**	**142.74**	**330**	PKPpre		PKPpre	16 43 34.0	
ASF	**Jabal al Asfar**	**145.80**	**297**	PKPbc		PKPbc	16 43 45.7	+0.4
	1.2nm,0.5s,baz=44,slow=2.1,SNR=7.1							
ASF	**Jabal al Asfar**	**145.80**	**297**	PKPbc		PKPbc	16 43 45.7	+0.4
BRTR	**Keskin Array B**	**146.14**	**311**	PKPbc		PKPbc	16 43 45.3	-0.7
	3.0nm,0.6s,baz=135,slow=3.7,SNR=21							
BRTR				pPKPbc			16 46 09.7	
	0.5nm,0.6s,baz=30,slow=2.1,SNR=3.6							
BRTR	**Keskin Array B**	**146.14**	**311**	PKPbc		PKPbc	16 43 45.3	-0.7
BRTR				pPKPbc			16 46 09.7	
BURAR	**Bucovina Array**	**146.77**	**329**	⇑*i*P		PKPbc	16 43 48.4	+1.0
TESR		**146.81**	**326**	⇑*i*P		PKPbc	16 43 47.2	-0.3
MMAI	**Mount Meron Ar**	**146.88**	**299**	PKPbc		PKPbc	16 43 48.7	+0.5
	5.5nm,0.6s,baz=64,slow=5.7,SNR=16							
MMAI	**Mount Meron Ar**	**146.88**	**299**	PKPbc		PKPbc	16 43 48.7	+0.5
KOLS	**Kolonicke sedl**	**147.12**	**333**	*e*PKP		PKPbc	16 43 48.5	+0.2
VRI	**Vrincioaia**	**147.19**	**325**	⇑*i*P		PKPbc	16 43 48.7	+0.1
CRVS	**Cervenica-Dubn**	**147.48**	**334**	*e*PKP		PKPbc	16 43 49.2	0.0
TRPA	**Tarpa**	**147.62**	**332**	⇑*i*P		PKPbc	16 43 49.2	-0.4
ISR	**Istrita**	**147.77**	**324**	⇑*i*P		PKPab	16 43 55.8	+0.9
DOPR	**Dopca**	**147.82**	**327**	⇑*i*P		PKPbc	16 43 50.8	+0.6
EIL	**Elat**	**147.84**	**293**	PKPbc		PKPbc	16 43 50.5	-0.3
	4.0nm,0.7s,baz=32,slow=1.2,SNR=5.0							
EIL	**Elat**	**147.84**	**293**	PKPbc		PKPbc	16 43 50.5	-0.3
MLR	**Muntele Rosu**	**147.85**	**326**	PKPbc		PKPbc	16 43 50.1	-0.1
	1.3nm,0.6s,baz=141,slow=21,SNR=6.8							
MLR	**Muntele Rosu**	**147.85**	**326**	PKPbc		PKPbc	16 43 50.1	-0.1
MLR	**Muntele Rosu**	**147.85**	**326**	⇑*i*P		PKPbc	16 43 50.3	0.0
OKC	**Ostrava-Krasne**	**147.96**	**338**	*e*PKP		PKPbc	16 43 50.1	-0.3
OKC				*e*PKPAB		PKPab	16 43 55.9	+0.4
UPC	**Upice**	**148.07**	**341**	⇑*e*PKP		PKPbc	16 43 50.5	-0.1
UPC				*e*PKPAB		PKPab	16 43 56.4	+0.4
DPC	**Dobruska-Polom**	**148.12**	**341**	*e*PKPDF		PKPdf	16 43 45.5	-1.1
DPC				⇑*e*PKP		PKPbc	16 43 51.1	+0.3
DPC				*e*PKPAB		PKPab	16 43 56.8	+0.6
CLL	**Collm**	**148.16**	**345**	⇑*i*PKPbc		PKPbc	16 43 50.3	-0.5
	comp=Z,16nm,0.8s							
KECS	**Kecovo**	**148.21**	**335**	*e*PKP		PKPbc	16 43 51.6	+0.5
MORC	**Moravsky Berou**	**148.22**	**339**	⇑*i*P		PKPbc	16 43 51.4	+0.4
BRG	**Berggiesshubel**	**148.32**	**344**	*e*P		PKPbc	16 43 51.0	-0.2
	comp=Z,8.0nm,0.7s							
PVCC	**Panska Ves**	**148.47**	**343**	⇑*e*PKP		PKPbc	16 43 51.7	+0.1
KOLL	**Kolacno**	**148.93**	**337**	*e*PKP		PKPbc	16 43 53.0	+0.2
VRAC	**Vranov**	**148.94**	**340**	PKPbc		PKPbc	16 43 52.6	-0.2
	comp=Z,2.1nm,0.4s,baz=93,slow=3.0,SNR=4.2							
VRAC	**Vranov**	**148.94**	**340**	PKPbc		PKPbc	16 43 52.6	-0.2
NKC	**Novy Kostel**	**149.29**	**345**	⇑*e*PKP		PKPbc	16 43 53.4	-0.2
NKC				*e*PKPAB		PKPab	16 44 01.3	+0.3
GZR	**Gura Zlata**	**149.53**	**328**	⇑*i*P		PKPbc	16 43 53.8	-0.6
BZS	**Buzias**	**149.93**	**330**	⇑*i*P		PKPbc	16 43 54.7	-0.6
KHC	**Kasperske Hory**	**150.01**	**343**	⇑*e*PKP		PKPbc	16 43 55.2	-0.1
KHC				*e*PKPAB		PKPab	16 44 04.4	+0.4
GERES	**GERESS Array B**	**150.23**	**342**	PKPbc		PKPbc	16 43 55.6	-0.3
	comp=Z,3.8nm,0.6s,baz=34,slow=2.3,SNR=27							
GERES				PKPab		PKPab	16 44 05.2	+0.2
	comp=Z,0.5nm,0.5s,baz=27,slow=3.3,SNR=4.3							
GERES	**GERESS Array B**	**150.23**	**342**	PKPbc		PKPbc	16 43 55.6	-0.3
GERES				PKPab		PKPab	16 44 05.2	+0.2
BCLA	**Clavier**	**150.33**	**354**	PKPbc		PKPbc	16 43 56.4	+0.4
SNF	**Seneffe**	**150.34**	**355**	PKPbc		PKPbc	16 43 55.7	-0.4
CONA	**Conrad Observa**	**150.38**	**339**	⇑*i*PKiKP		PKPbc	16 43 56.0	-0.2
	comp=Z,8.7nm,0.6s							
GIVF	**Givet**	**150.69**	**354**	⇑*i*PKP1		PKPbc	16 43 56.4	-0.5
	comp=Z,35nm,0.7s							
DOU	**Dourbes**	**150.72**	**355**	PKPbc		PKPbc	16 43 56.4	-0.5
BAIF	**Baives**	**150.79**	**355**	⇑*i*PKP1		PKPbc	16 43 56.7	-0.4
	comp=Z,16nm,0.8s							
WLF	**Walferdange**	**150.99**	**353**	PKPbc		PKPbc	16 43 58.2	+0.7
CDF	**Champ du Feu**	**152.06**	**350**	⇑*i*PKP1		PKPbc	16 43 59.4	-0.6
	comp=Z,7.6nm,0.6s							
PAGF	**Fort de Pagny**	**152.13**	**353**	⇑*i*PKP1		PKPbc	16 43 59.9	-0.2
	comp=Z,4.0nm,0.5s							
FLN	**La Foliniere**	**152.21**	**2**	⇑*i*PKP1		PKPbc	16 43 59.3	-1.0
	comp=Z,22nm,0.8s							
WTTA	**Wattenberg**	**152.24**	**344**	⇑*i*PKPbc		PKPbc	16 43 59.9	-0.6
	comp=Z,5.6nm,0.5s							
MEZF	**Maizieres J'vi**	**152.25**	**354**	*e*PKP1		PKPbc	16 44 00.0	-0.4
LDF	**La Druitiere**	**152.39**	**1**	⇑*i*PKP1		PKPbc	16 43 59.5	-1.2
	comp=Z,6.4nm,0.5s							
ABTA	**Abfaltersbach**	**152.47**	**342**	⇑*i*PKPbc		PKPbc	16 43 59.7	-1.2
	comp=Z,6.9nm,0.6s							
SFTF	**Sexfontaines**	**152.55**	**354**	⇑*i*PKP1		PKPbc	16 44 00.6	-0.5
	comp=Z,23nm,0.7s							
GRR	**Gorron**	**152.58**	**2**	⇑*i*PKP1		PKPbc	16 44 00.2	-0.9
	comp=Z,6.1nm,0.6s							
HAU	**Haudompre**	**152.59**	**352**	⇑*i*PKP1		PKPbc	16 44 00.4	-0.8
	comp=Z,10nm,0.7s							
HINF	**Hinteralfeld**	**152.70**	**351**	*e*PKP1		PKPbc	16 44 00.6	-0.8
DAVOX	**Davos/Dischmat**	**153.12**	**346**	PKPbc		PKPbc	16 44 01.4	-1.0
	comp=Z,6.3nm,0.6s,baz=256,slow=1.8,SNR=8.4							
DAVOX				PKPab		PKPab	16 44 17.8	+0.5
	comp=Z,5.1nm,0.7s,baz=16,slow=8.4,SNR=4.5							
DAVOX	**Davos/Dischmat**	**153.12**	**346**	PKPbc		PKPbc	16 44 01.4	-1.0
DAVOX				PKPab		PKPab	16 44 17.8	+0.5
KEST	**Kesra**	**163.37**	**334**	PKPab		PKPab	16 45 02.1	-0.1
	comp=Z,1.6nm,0.8s,baz=92,slow=4.8,SNR=4.7							
KEST	**Kesra**	**163.37**	**334**	PKPab		PKPab	16 45 02.1	-0.1
TORD	**Torodi Ar. Bea**	**172.19**	**188**	PKP		PKPdf	16 44 11.6	-1.7
	comp=Z,0.2nm,0.5s,baz=306,slow=0.8,SNR=6.8							
TORD				PKPab		PKPab	16 45 40.7	-0.9
	comp=Z,0.6nm,0.9s,baz=256,slow=5.8,SNR=3.1							
TORD	**Torodi Ar. Bea**	**172.19**	**188**	PKP		PKPdf	16 44 11.6	-1.7
TORD				PKPab		PKPab	16 45 40.7	-0.9

*ISCJB **26** 16:25:42.0±0.4,60.14N±0.04×153.17W±0.09, h158km±4km, mb3.5/3, Error ellipse: s-maj=8.5km s-min=4.4km az=31.3*
*IDC **26** 16:25:41.9±1.2,60.14N×152.89W,h143km±37km, mb3.3/3, mb1 3.4/5, mb1mx3.1/24, mbtmp3.4/5, Error ellipse: s-maj=68.9km s-min=12.6km az=108.0*
*NEIC **26** 16:25:44.0,60.13N×153.17W,h151km, MG3.1(AEIC), After AEIC.*

ISC 26 16:25:42.9±0.4, 60.12N±0.03×153.17W±0.09, h154km±4km, n58, σ0.974/69, mb3.5/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ILW	**Iliamna West**	**0.07**	**166**	P	**Pn**	**16 26 03.6**	**+0.2**
ILW				S	**Sn**	**16 26 19.6**	**+0.6**
INE	**Iliamna NE**	**0.08**	**140**	P	**Pn**	**16 26 03.6**	**+0.2**
RED	**Redoubt Volcan**	**0.36**	**34**	P	**Pn**	**16 26 04.1**	**+0.1**
RED				S	**Sn**	**16 26 19.7**	**-0.5**
RSO	**Redoubt South**	**0.40**	**31**	P	**Pn**	**16 26 04.5**	**+0.3**
REF	**Redoubt East F**	**0.43**	**32**	P	**Pn**	**16 26 04.6**	**+0.3**
REF				S	**Sn**	**16 26 20.5**	**-0.2**
RDN	**Redoubt North**	**0.44**	**27**	P	**Pn**	**16 26 04.8**	**+0.4**
OPT	**Oil Point**	**0.47**	**184**	P	**Pn**	**16 26 04.9**	**+0.4**
AUNW	**Augustine NWes**	**0.77**	**192**	P	**Pn**	**16 26 06.6**	**+0.4**
AUW	**Augustine West**	**0.77**	**192**	P	**Pn**	**16 26 06.7**	**+0.5**
AUE	**Augustine Isla**	**0.78**	**188**	P	**Pn**	**16 26 06.5**	**+0.3**
BKG	**Blockade Glaci**	**1.05**	**25**	P	**Pn**	**16 26 08.5**	**+0.2**
CKL	**Chakachamna La**	**1.15**	**20**	P	**Pn**	**16 26 09.6**	**+0.4**
BRLK	**Bradley Lake**	**1.21**	**106**	P	**Pn**	**16 26 10.5**	**+0.7**
BRLK				S	**Sn**	**16 26 29.8**	**-0.5**
SPNW	**Spurr Northwes**	**1.26**	**13**	P	**Pn**	**16 26 09.6**	**-0.6**
SLKM	**Skilak Lake**	**1.52**	**74**	P	**Pn**	**16 26 12.9**	**+0.1**
SLKM				S	**Sn**	**16 26 35.0**	**-0.8**
STLK	**Strandline Lak**	**1.53**	**25**	P	**Pn**	**16 26 13.1**	**+0.2**
KAPH	**Katmai Pasha**	**1.65**	**202**	P	**Pn**	**16 26 14.5**	**+0.3**
KAHC	**Katmai Hardscr**	**1.75**	**213**	P	**Pn**	**16 26 15.4**	**0.0**
SUA	**Susitna One**	**1.79**	**40**	P	**Pn**	**16 26 16.0**	**+0.2**
SUA				S	**Sn**	**16 26 41.5**	**+0.4**
FIB	**Fire Island**	**1.81**	**53**	P	**Pn**	**16 26 16.7**	**+0.7**
FIB				S	**Sn**	**16 26 42.8**	**+1.4**
SEW	**Seward**	**1.86**	**89**	P	**Pn**	**16 26 17.2**	**+0.6**
SKT	**Skwentna**	**2.03**	**22**	P	**Pn**	**16 26 18.4**	**0.0**
KAKN	**Katmai Knife C**	**2.08**	**209**	P	**Pn**	**16 26 19.1**	**+0.1**
KELA	**Mount Kelaz**	**2.14**	**219**	P	**Pn**	**16 26 19.8**	**0.0**
KCE	**Katmai Mt Cerb**	**2.15**	**210**	P	**Pn**	**16 26 20.5**	**+0.5**
KABU	**Katmai Buttres**	**2.15**	**211**	P	**Pn**	**16 26 20.3**	**+0.4**
KABR	**Katmai Barrier**	**2.20**	**206**	P	**Pn**	**16 26 20.5**	**0.0**
KDAK	**Kodiak Island**	**2.37**	**172**	P	**Pn**	**16 26 21.6**	**-1.0**
	2.0nm,0.3s,baz=86,slow=2.6,SNR=34						
KDAK				S	**Sn**	**16 26 51.3**	**-1.7**
	22nm,0.3s,baz=150,slow=23,SNR=9.2						
KDAK	**Kodiak Island**	**2.37**	**172**	P	**Pn**	**16 26 21.6**	**-1.0**
KDAK				S	**Sn**	**16 26 51.3**	**-1.7**
PMR	**Palmer**	**2.46**	**52**	*e*P	**Pn**	**16 26 22.5**	**-1.2**
TRAP	**Trapper Creek**	**2.63**	**31**	P	**Pn**	**16 26 25.4**	**-0.2**
PPLA	**Purkeypile**	**2.82**	**9**	*e*P	**Pn**	**16 26 28.6**	**+0.5**
SML	**Sawmill**	**2.90**	**52**	*e*P	**Pn**	**16 26 28.1**	**-0.9**
OHAK	**Old Harbor**	**2.91**	**181**	*e*P	**Pn**	**16 26 27.8**	**-1.4**
TT01	**Tatalina**	**3.11**	**335**	P	**Pn**	**16 26 30.4**	**-1.2**
TTA	**Tatalina**	**3.13**	**335**	*e*P	**Pn**	**16 26 31.0**	**-0.9**
TRF	**Thorofare Moun**	**3.61**	**21**	*e*P	**Pn**	**16 26 38.2**	**+0.2**
DIV	**Divide**	**3.78**	**71**	*e*P	**Pn**	**16 26 41.0**	**+0.8**
BPAW	**Bear Paw Mtn.**	**4.12**	**13**	*e*P	**Pn**	**16 26 44.3**	**-0.3**
MCK	**McKinley**	**4.14**	**27**	*e*P	**Pn**	**16 26 44.7**	**-0.1**
BMRM	**Bremner River**	**4.31**	**75**	*e*P	**Pn**	**16 26 47.6**	**+0.5**
PAX	**Paxson**	**4.66**	**49**	*e*P	**Pn**	**16 26 48.1**	**-3.5**
CHGN	**Chignik**	**4.73**	**218**	*e*P	**Pn**	**16 26 52.7**	**0.0**
MENT	**Mentasta**	**5.33**	**54**	*e*P	**Pn**	**16 27 00.7**	**+0.2**
COLA	**College**	**5.37**	**25**	*e*P	**Pn**	**16 27 00.2**	**-0.7**
	16nm,0.6s						
ILAR	**Eielson Array**	**5.50**	**29**	P	**Pn**	**16 27 01.8**	**-0.9**
	6.9nm,0.3s,baz=217,slow=13,SNR=440						
ILAR				S	**Sn**	**16 28 01.7**	**-3.5**
	0.6nm,0.3s,baz=207,slow=16,SNR=1.5						
ILAR	**Eielson Array**	**5.50**	**29**	P	**Pn**	**16 27 01.8**	**-0.9**
ILAR				S	**Sn**	**16 28 01.7**	**-3.5**
DOT	**Dot Lake**	**5.57**	**47**	*e*P	**Pn**	**16 27 03.7**	**0.0**
	6.3nm,0.6s						
PNL	**Peninsula**	**6.95**	**88**	*e*P	**Pn**	**16 27 25.5**	**+3.5**
COLD	**Coldfoot**	**7.25**	**9**	*e*P	**Pn**	**16 27 25.6**	**-0.4**
	4.4nm,0.6s						
EGAK	**Eagle**	**7.26**	**45**	*e*P	**Pn**	**16 27 25.6**	**-0.6**
	4.6nm,0.4s						
DAWY	**Dawson**	**7.57**	**53**	*e*P	**Pn**	**16 27 31.1**	**+0.8**
SONM	**Songino Array**	**54.65**	**306**	P	**P**	**16 34 57.5**	**+2.4**
	0.5nm,1.0s,mb3.2,baz=40,slow=7.2,SNR=4.7						
SONM	**Songino Array**	**54.65**	**306**	P	**P**	**16 34 57.5**	**+2.4**
ZALV	**Zalesovo Beam**	**57.23**	**323**	P	**P**	**16 35 14.2**	**+0.9**
	0.9nm,0.5s,mb3.9,baz=28,slow=6.8,SNR=5.1						
ZALV	**Zalesovo Beam**	**57.23**	**323**	P	**P**	**16 35 14.2**	**+0.9**
MKAR	**Makanchi Array**	**64.28**	**321**	P	**P**	**16 36 00.2**	**-0.9**
	0.2nm,0.4s,mb3.3,baz=37,slow=6.0,SNR=5.6						
MKAR	**Makanchi Array**	**64.28**	**321**	P	**P**	**16 36 00.2**	**-0.9**

*ISCJB **26** 16:41:14.4±0.3,38.94N±0.03×71.60E±0.05, h10km, mb4.0/24, MS3.3/5, Error ellipse: s-maj=5.2km s-min=3.9km az=162.8*
*IDC **26** 16:41:15.6±0.6,39.17N×71.73E, h0km, mb4.0/17, mb1 4.1/22, mb1mx4.0/34, mbtmp4.0/22, ML3.9/5, MS3.2/8, Ms1 3.2/8, ms1mx2.9/42, Error ellipse: s-maj=13.1km s-min=11.8km az=61.0*
*BJI **26** 16:41:19.8,39.80N×71.50E, h60km, mB4.3/2, mb4.3/10, ML3.9/5, Ms7 3.8/1*
*MOS **26** 16:41:19.8±1.4,39.34N×71.64E, h33km, mb4.3/6, Error ellipse: s-maj=10.8km s-min=5.9km az=86.3*
*NNC **26** 16:41:20.6±4.3,39.48N×71.55E, h0km, mb4.4, mpv4.4, Error ellipse: s-maj=42.0km s-min=24.9km az=10.0*
*NEIC **26** 16:41:23.4±0.8,39.31N×71.80E, h57km±7km, mb4.2/4, Error ellipse: s-maj=7.7km s-min=6.7km az=198.0*

ISC 26 16:41:15.9±0.3, 38.92N±0.03×71.56E±0.05, h10km, n145, σ1.927/149, mb4.0/24, MS3.3/5, 10C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**3.48**	**79**	⇑*i*P	**Pn**	**16 42 09.0**	**-1.0**
KSH				S	**Sn**	**16 42 49.3**	**-1.9**
KSH				smax			
	comp=N,430nm,0.9s						
KSH				smax			
	comp=E,650nm,1.0s						
AML	**Almayashu**	**3.59**	**26**	P	**Pn**	**16 42 11.3**	**-0.3**
	SNR=245						
UCH	**Uchtor**	**3.99**	**33**	P	**Pn**	**16 42 19.0**	**+1.9**
	SNR=36						
EKS2	**Erkin-Say**	**4.09**	**24**	P	**Pn**	**16 42 18.2**	**-0.3**
	SNR=52						
EKS2	**Erkin-Say**	**4.09**	**24**	*e*Pn	**Pn**	**16 42 18.1**	**-0.4**
EKS2				*e*Sn	**Sn**	**16 43 01.1**	**-5.3**
EKS2	**Erkin-Say**	**4.09**	**24**	*e*PN	**Pn**	**16 42 18.1**	**-0.4**
EKS2				*e*		16 43 01.1	
KZA	**Kyzart**	**4.22**	**41**	P	**Pn**	**16 42 21.0**	**+0.8**
	SNR=231						
KK31	**Karatay Array**	**4.25**	**350**	⇓Pn	**Pn**	**16 42 19.7**	**-1.0**
	comp=E,22nm,0.3s,baz=170,slow=11,SNR=940						
KK31				⇑Pg	**Pb**	**16 42 30.9**	**+0.2**
	comp=E,54nm,0.5s,baz=171,slow=17,SNR=5.0						
KK31				⇑Lg		16 43 18.2	
	comp=E,190nm,0.6s						
KK31	**Karatay Array**	**4.25**	**350**	*i* PN	**Pn**	**16 42 19.4**	**-1.3**
KK31				pmax	pmax		
	comp=Z,32nm,0.2s						
KKAR	**Karatay Array**	**4.25**	**350**	*e*Pn	**Pn**	**16 42 19.1**	**-1.5**
KKAR	**Karatay Array**	**4.25**	**350**	*e*PN	**Pn**	**16 42 19.1**	**-1.6**
AAK	**Ala-Archa**	**4.32**	**30**	P	**Pn**	**16 42 21.9**	**+0.2**
	SNR=55						
AAK	**Ala-Archa**	**4.32**	**30**	*e*Pn	**Pn**	**16 42 21.6**	**-0.1**
AAK	**Ala-Archa**	**4.32**	**30**	*d*PN	**Pn**	**16 42 21.8**	**+0.2**
KBK	**Karagaybulak**	**4.53**	**33**	P	**Pn**	**16 42 25.3**	**+0.9**
	SNR=63						
CHMS	**Chumysh**	**4.73**	**30**	P	**Pn**	**16 42 27.6**	**+0.3**
	SNR=131						
KBL	**Kabul**	**4.82**	**206**	*e*Pn	**Pb**	**16 42 39.5**	**-0.9**
	comp=Z,24nm,0.5s						
KBL	**Kabul**	**4.82**	**206**	*e*PN	**Pb**	**16 42 39.5**	**-0.9**
KBL				pmax	pmax		
	comp=Z,24nm,0.5s						
ULHL	**Ulahol**	**4.87**	**46**	P	**Pn**	**16 42 30.1**	**+0.9**
	SNR=21						
USP	**Ospenovka**	**4.87**	**26**	P	**Pn**	**16 42 28.8**	**-0.4**
	SNR=76						
TKM2	**Tokmak 2**	**5.03**	**36**	P	**Pn**	**16 42 32.0**	**+0.7**
	SNR=14						
TKM2	**Tokmak 2**	**5.03**	**36**	⇑Pn	**Pn**	**16 42 32.0**	**+0.7**
	comp=Z,43nm,0.5s						
TKM2				⇑Lg		16 43 41.7	
	comp=Z,74nm,0.7s						
TKM2	**Tokmak 2**	**5.03**	**36**	*e*Pn	**Pn**	**16 42 31.2**	**-0.1**
TKM2	**Tokmak 2**	**5.03**	**36**	*i* PN	**Pn**	**16 42 31.9**	**+0.6**
CHCP	**Chirah Chowk**	**5.43**	**165**	P	**Pb**	**16 42 48.5**	**-2.3**
KNDC	**Almaty**	**5.92**	**42**	⇑Pn	**Pn**	**16 42 45.7**	**+2.1**
	comp=Z,28nm,0.5s						
KNDC				⇓Lg		16 44 13.8	
	comp=Z,177nm,0.8s						
AAA	**Alma-Ata**	**5.95**	**41**	*e*PN	**Pb**	**16 43 01.5**	**+1.9**
AAA				*e*S	**Sb**	**16 44 11.9**	**+1.0**
AAA				pmax	pmax		
	comp=Z,75nm,0.5s						
AAA				smax			
	comp=N,196nm,0.8s						
THW	**Thamme Wali**	**6.12**	**179**	P	**Pb**	**16 42 57.0**	**-5.5**
MK31	**Makanchi Array**	**11.12**	**42**	⇑Pn	**Pn**	**16 43 54.5**	**-0.4**
	comp=N,17nm,0.6s,baz=231,slow=13,SNR=6.3						
MK31	**Makanchi Array**	**11.12**	**42**	*e*Pn	**Pn**	**16 43 54.1**	**-0.7**
MK31	**Makanchi Array**	**11.12**	**42**	*e*P	**Pn**	**16 43 54.2**	**-0.7**
MKAR	**Makanchi Array**	**11.12**	**42**	Pn	**Pn**	**16 43 54.8**	**-0.1**
	comp=N,0.3nm,0.3s,baz=222,slow=13,SNR=18						
MKAR				Lg		16 46 50.4	
	comp=N,0.2nm,0.3s,baz=231,slow=18,SNR=3.7						
MKAR	**Makanchi Array**	**11.12**	**42**	Pn	**Pn**	**16 43 54.8**	**-0.1**
MKAR				Lg		16 46 50.4	
MKAR	**Makanchi Array**	**11.12**	**42**	*e*P	**Pn**	**16 43 55.2**	**+0.3**
KURK	**Kurchatov**	**12.80**	**21**	Pn	**Pn**	**16 44 11.5**	**-6.3**
	comp=N,0.2nm,0.3s,baz=214,slow=12,SNR=18						
KURK				Lg		16 47 45.1	
	comp=N,0.1nm,0.3s,baz=205,slow=28,SNR=5.8						
KURK				LR	LR	16 49 20.1	
	comp=N,25nm,21.0s,baz=315,slow=39						
KURK	**Kurchatov**	**12.80**	**21**	*e*P	**Pn**	**16 44 12.8**	**-5.0**
KURK				Lg		16 47 45.1	
KURK	**Kurchatov**	**12.80**	**21**	⇑*e*P	**Pn**	**16 44 14.8**	**-3.0**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
AB31	**Akbulak array**	**13.27**	**325**	⇓Pn	**Pn**	**16 44 20.4**	**-3.8**
	comp=Z,5.0nm,0.5s						
AB31	**Akbulak array**	**13.27**	**325**	*i* P	**Pn**	**16 44 19.7**	**-4.5**
AB31				pmax	pmax		
	comp=Z,11nm,0.5s						
ABKAR	**Akbulak array**	**13.27**	**325**	*e*P	**Pn**	**16 44 19.6**	**-4.6**
	comp=Z,9.0nm,0.5s						
ABKAR				*e*S	**Sn**	**16 46 35.6**	**-16**
BVA0	**Borovoye Array**	**14.13**	**357**	⇓Pn	**Pn**	**16 44 30.8**	**-5.1**
	comp=Z,0.9nm,0.8s						
BVA0	**Borovoye Array**	**14.13**	**357**	P	**Pn**	**16 44 41.5**	**+5.6**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BVAR	**Borovoye Array**	**14.13**	**357**	Pn	**Pn**	**16 44 30.9**	**-5.0**
	comp=Z,0.6nm,0.3s,baz=151,slow=9.9,SNR=12						
BVAR				Sn	**Sn**	**16 46 59.0**	**-14**
	comp=Z,0.3nm,0.3s,baz=170,slow=29,SNR=5.1						
BVAR				Lg		16 48 35.3	
	comp=Z,0.2nm,0.3s,baz=161,slow=29,SNR=2.6						
BVAR				LR	LR	16 50 14.6	
	comp=Z,85nm,20.5s,baz=41,slow=39						
BVAR	**Borovoye Array**	**14.13**	**357**	Pn	**Pn**	**16 44 30.9**	**-5.0**
BVAR				Sn	**Sn**	**16 46 59.0**	**-14**
BVAR				Lg		16 48 35.3	
BVAR	**Borovoye Array**	**14.13**	**357**	P	**Pn**	**16 44 30.9**	**-5.0**
BVAR						16 46 59.0	
BRVK	**Borovoye**	**14.17**	**357**	*e*P	**Pn**	**16 44 30.1**	**-6.3**
	comp=Z,3.7nm,0.6s						
BRVK	**Borovoye**	**14.17**	**357**	⇓*e*P	**Pn**	**16 44 32.2**	**-4.2**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
PYUN	**Piuthan**	**14.39**	**135**	*e*P	**Pn**	**16 44 39.8**	**+0.2**
	comp=Z,71nm,1.0s						
DANN	**Dangsing**	**14.63**	**132**	*e*P	**Pn**	**16 44 42.0**	**-0.8**
KOLN	**Koldanda**	**14.98**	**134**	*e*P	**Pn**	**16 44 46.8**	**-0.9**
AKTO	**Aktyubinsk**	**14.98**	**325**	⇑Pn	**Pn**	**16 44 43.2**	**-4.3**
	comp=Z,9.9nm,0.8s						

DAVOX	**Davos/Dischmat**	**44.86**	**301**	P	**P**	**16**	**49**	**31.3 +1.1**
MJAR	**Matsushiro Arr**	**51.69**	**70**	LR	LR	17	13	49.8
	comp=Z,49nm,19.0s,MS3.6,baz=255,slow=38							
TORD	**Torodi Ar. Bea**	**66.24**	**268**	P	**P**	**16**	**52**	**05.9 +1.6**
	comp=Z,1.2nm,0.6s,mb4.1,baz=46,slow=6.0,SNR=9.5							
TORD	**Torodi Ar. Bea**	**66.24**	**268**	P	**P**	**16**	**52**	**05.9 +1.6**
INK	**Inuvik**	**71.45**	**10**	P	**P**	**16**	**52**	**33.9 -2.1**
	comp=Z,1.7nm,0.5s,mb4.3,baz=353,slow=6.8,SNR=6.1							
INK	**Inuvik**	**71.45**	**10**	P	**P**	**16**	**52**	**33.9 -2.1**
INK	**Inuvik**	**71.45**	**10**	P	**P**	**16**	**52**	**33.9 -2.0**
ILAR	**Eielson Array**	**72.33**	**16**	P	**P**	**16**	**52**	**40.3 -1.0**
	comp=Z,0.5nm,0.8s,mb3.5,baz=331,slow=5.3,SNR=6.8							
ILAR	**Eielson Array**	**72.33**	**16**	P	**P**	**16**	**52**	**40.4 -1.0**
ILAR	**Eielson Array**	**72.33**	**16**	P	**P**	**16**	**52**	**40.4 -0.9**
FITZ	**Fitzroy Crossi**	**75.99**	**127**	P	**P**	**16**	**53**	**05.2 +1.9**
	comp=Z,1.9nm,0.9s,mb4.0,baz=344,slow=7.4,SNR=4.5							
FITZ	**Fitzroy Crossi**	**75.99**	**127**	P	**P**	**16**	**53**	**05.2 +1.9**
YKA	**Yellowknife Ar**	**78.81**	**3**	P	**P**	**16**	**53**	**18.1 -0.4**
	comp=Z,1.1nm,0.5s,mb4.1,baz=351,slow=5.5,SNR=10.0							
YKA	**Yellowknife Ar**	**78.81**	**3**	P	**P**	**16**	**53**	**18.1 -0.4**
YKA	**Yellowknife Ar**	**78.81**	**3**	P	**P**	**16**	**53**	**18.1 -0.4**
WRA	**Warramunga Arr**	**82.90**	**123**	P	**P**	**16**	**53**	**42.4 +1.4**
	comp=Z,1.4nm,0.6s,mb4.1,baz=326,slow=4.9,SNR=17							
WRA	**Warramunga Arr**	**82.90**	**123**	P	**P**	**16**	**53**	**42.4 +1.4**
WRA	**Warramunga Arr**	**82.90**	**123**	P	**P**	**16**	**53**	**42.4 +1.5**
WRAB	**Tennant Creek**	**82.90**	**123**	*e*P	**P**	**16**	**53**	**42.4 +1.5**
	comp=Z,1.4nm,0.5s,mb4.2							
WRAB	**Tennant Creek**	**82.90**	**123**	*e*P	**P**	**16**	**53**	**42.4 +1.5**
WRAB				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb4.1							
WB2	**Warramunga Ar**	**82.91**	**123**	*e*P	**P**	**16**	**53**	**42.6 +1.6**
AS31	**Alice Springs**	**85.28**	**125**	*e*P	**P**	**16**	**53**	**54.3 +1.4**
ASAR	**Alice Springs**	**85.28**	**125**	P	**P**	**16**	**53**	**54.6 +1.7**
	comp=Z,0.7nm,0.7s,mb3.9,baz=313,slow=4.8,SNR=28							
ASAR	**Alice Springs**	**85.28**	**125**	P	**P**	**16**	**53**	**54.6 +1.7**
ASAR	**Alice Springs**	**85.28**	**125**	*e*P	**P**	**16**	**53**	**54.7 +1.7**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
QSPA	**South Pole Qui**	**128.71**	**180**	PKP	PKPdf	17	00	24.7 +2.8
	comp=Z,0.9nm,1.0s,baz=261,slow=0.9,SNR=2.5							
QSPA	**South Pole Qui**	**128.71**	**180**	PKP	PKPdf	17	00	24.7 +2.8
PLCA	**Paso Flores**	**150.99**	**254**	PKPbc	PKPbc	17	01	10.7 +2.1
	comp=Z,0.8nm,0.6s,baz=41,slow=1.6,SNR=2.9							
PLCA	**Paso Flores**	**150.99**	**254**	PKPbc	PKPbc	17	01	10.7 +2.1

IDC 26 16:46:18.2±9.0, 17°14S×174°13W, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/16, mbtmp3.4/3, Error ellipse: s-maj=397.4km s-min=37.0km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.79**	**258**	P	P	16	55	05.0 -0.3
	0.1nm,0.4s,baz=96,slow=7.5,SNR=2.9							
ASAR	**Alice Springs**	**48.93**	**253**	P	P	16	55	06.7 +0.2
	0.4nm,0.4s,baz=90,slow=7.6,SNR=20							
ILAR	**Eielson Array**	**84.28**	**11**	P	P	16	58	51.4 0.0
	0.2nm,0.5s,baz=222,slow=5.4,SNR=6.2							

*NEIC **26** 17:04:33.2, 19°.47N×66°.37W, h63km, MD3.4(RSPR), After RSPR.*

RSPR 26 17:04:33.2, 19°.47N×66°.37W, h63km±11km, MD3.4/9, 26C-8D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**1.17**	**198**	↑*e*P	Pn	17	04	52.7 -0.9
AOPR	**Arecibo Observ**	**1.17**	**198**	↑*e*P	Pn	17	04	52.5 -1.1
AOPR	**Arecibo Observ**	**1.17**	**198**	*e*S	Sn	17	05	07.5 -1.3
AOPR	**Arecibo Observ**	**1.17**	**198**	↑*e*P	Pn	17	04	52.5 -1.1
AOPR				*e*S	Sn	17	05	07.5 -1.3
AGPR	**Aguadilla, PR**	**1.21**	**215**	*e*P	Pn	17	04	53.3 -0.9
LRS	**Lares**	**1.25**	**201**	↑*e*P	Pn	17	04	53.8 -0.8
LRS	**Lares**	**1.25**	**201**	↑*e*P	Pn	17	04	53.8 -0.8
CBYP	**Canovanas**	**1.28**	**158**	↑*e*P	Pn	17	04	54.0 -1.1
CBYP	**Canovanas**	**1.28**	**158**	↑*e*P	Pn	17	04	54.1 -1.0
CBYP	**Canovanas**	**1.28**	**158**	*e*S	Sn	17	05	11.3 -0.2
CBYP	**Canovanas**	**1.28**	**158**	↑*e*P	Pn	17	04	54.1 -1.0
CBYP				*e*S	Sn	17	05	10.6 -0.9
CBYP				*e*S	Sn	17	05	11.3 -0.2
SJG	**San Juan**	**1.36**	**171**	↑*e*P	Pn	17	04	55.4 -0.8
SJG				*e*S	Sn	17	05	12.6 -0.8
SJG	**San Juan**	**1.36**	**171**	↑*e*P	Pn	17	04	55.4 -0.7
SJG	**San Juan**	**1.36**	**171**	↑*e*P	Pn	17	04	55.0 -1.2
SJG	**San Juan**	**1.36**	**171**	↑*e*P	Pn	17	04	55.0 -1.2
SJG				*e*S	Sn	17	05	12.6 -0.8
CELP	**Cerrillos**	**1.40**	**188**	↓*e*P	Pn	17	04	56.1 -0.5
CELP				*e*S	Sn	17	05	14.0 -0.2
CELP	**Cerrillos**	**1.40**	**188**	↓*e*P	Pn	17	04	56.1 -0.5
CELP				*e*S	Sn	17	05	14.0 -0.2
HUMP	**Col San Antoni**	**1.41**	**159**	↑*e*P	Pn	17	04	55.5 -1.2
HUMP	**Col San Antoni**	**1.41**	**159**	↓*e*P	Pn	17	04	56.1 -0.7
HUMP				*e*S	Sn	17	05	14.1 -0.3
HUMP	**Col San Antoni**	**1.41**	**159**	↑*e*P	Pn	17	04	55.5 -1.2
HUMP				*e*S	Sn	17	05	13.7 -0.8
OBIP	**Obispado Ponce**	**1.43**	**189**	↑*e*P	Pn	17	04	56.5 -0.6
OBIP	**Obispado Ponce**	**1.43**	**189**	↓*e*P	Pn	17	04	56.2 -0.9
OBIP	**Obispado Ponce**	**1.43**	**189**	↓*e*P	Pn	17	04	56.2 -0.9
OBIP				*e*S	Sn	17	05	14.5 -0.5
LSP	**Las Mesas**	**1.45**	**208**	*e*P	Pn	17	04	55.0 -2.3
CPD	**Cerro la Pandu**	**1.49**	**163**	↑*e*P	Pn	17	04	56.7 -1.1
CPD	**Cerro la Pandu**	**1.49**	**163**	↓*e*P	Pn	17	04	56.7 -1.1
CPD	**Cerro la Pandu**	**1.49**	**163**	*e*S	Sn	17	05	16.3 0.0
CPD	**Cerro la Pandu**	**1.49**	**163**	↑*e*P	Pn	17	04	56.7 -1.1
CPD				*e*S	Sn	17	05	15.5 -0.8
CPD				*e*S	Sn	17	05	16.3 0.0
MTP	**Monte Pirata**	**1.57**	**150**	↑*e*P	Pn	17	04	58.0 -0.9
MTP	**Monte Pirata**	**1.57**	**150**	↑*e*P	Pn	17	04	58.5 -0.4
MTP	**Monte Pirata**	**1.57**	**150**	*e*S	Sn	17	05	18.9 +0.6
MTP	**Monte Pirata**	**1.57**	**150**	↑*e*P	Pn	17	04	58.0 -0.9
MTP				*e*S	Sn	17	05	18.0 -0.3
ICM	**Isla Caja Muer**	**1.57**	**185**	↑*e*P	Pn	17	04	58.0 -0.9
ICM	**Isla Caja Muer**	**1.57**	**185**	↑*e*P	Pn	17	04	58.0 -0.9
ICM				*e*S	Sn	17	05	17.4 -0.9
CRPR	**Cabo Rojo, PR**	**1.61**	**206**	↓*e*P	Pn	17	04	59.1 -0.4
CRPR	**Cabo Rojo, PR**	**1.61**	**206**	↑*e*P	Pn	17	05	00.1 +0.6
CRPR	**Cabo Rojo, PR**	**1.61**	**206**	↓*e*P	Pn	17	04	59.1 -0.4
CRPR				*e*S	Sn	17	05	18.6 -0.7
STVI	**Saint Thomas**	**1.74**	**129**	↑*e*P	Pn	17	05	00.7 -0.5
STVI	**Saint Thomas**	**1.74**	**129**	↑*e*P	Pn	17	05	00.4 -0.8
STVI	**Saint Thomas**	**1.74**	**129**	*e*S	Sn	17	05	23.0 +0.5
STVI	**Saint Thomas**	**1.74**	**129**	↑*e*P	Pn	17	05	00.4 -0.8
STVI				*e*S	Sn	17	05	22.3 -0.2
STVI				*e*S	Sn	17	05	23.0 +0.5

IDC 26 17:05:58.8±5.9, 3°02S×131°65E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.4/15, mbtmp3.4/3, ML2.8/1, Error ellipse: s-maj=413.6km s-min=27.9km az=73.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.03**	**171**	P	Pn	17	09	56.8 -1.7
	0.0nm,0.3s,baz=352,slow=12,SNR=5.4							
ASAR	**Alice Springs**	**20.64**	**174**	P	P	17	10	40.9 +0.8
	1.4nm,0.5s,baz=350,slow=10,SNR=49							
MKAR	**Makanchi Array**	**65.86**	**325**	P	P	17	16	46.3 +0.1
	0.2nm,0.7s,baz=143,slow=6.7,SNR=2.9							

IDC 26 17:15:08.5±5.7, 5°12S×153°80E, h204km±48km, mb2.9/3, mb1 3.2/5, mb1mx2.9/17, mbtmp3.0/5, Error ellipse: s-maj=84.5km s-min=30.6km az=123.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.84**	**237**	P	Pn	17	16	59.4 -0.2
	2.3nm,0.3s,baz=66,slow=8.0,SNR=12							
PMG				S	Sn	17	18	29.8 +1.5
	1.0nm,0.3s,baz=30,slow=18,SNR=3.9							
CTA	**Charters Tower**	**16.59**	**206**	P	P	17	18	48.3 -0.3
	0.2nm,0.3s,baz=58,slow=9.5,SNR=2.2							
WRA	**Warramunga Arr**	**23.99**	**230**	P	P	17	20	05.0 +0.5
	0.4nm,0.4s,baz=56,slow=10,SNR=9.1							
ASAR	**Alice Springs**	**26.60**	**224**	P	P	17	20	27.7 -0.3
	0.1nm,0.4s,baz=56,slow=9.1,SNR=6.8							
ILAR	**Eielson Array**	**82.08**	**22**	P	P	17	27	05.9 +0.2
	0.8nm,1.1s,baz=232,slow=5.6,SNR=3.7							

IDC 26 17:17:00.9±12.0, 6°06S×153°45E, h124km±102km, mb3.2/5, mb1 3.4/5, mb1mx3.1/17, mbtmp3.2/5, MS2.8/1, Ms1 2.8/1, ms1mx2.1/27, Error ellipse: s-maj=69.4km s-min=28.8km az=107.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.26**	**118**	LR	LR	17	21	02.8
	comp=Z,63nm,18.6s,baz=164,slow=33							
WRA	**Warramunga Arr**	**23.13**	**232**	P	P	17	21	58.2 +1.9
	0.3nm,0.6s,baz=56,slow=9.5,SNR=3.7							
WRA				PcP	PcP	17	25	41.3 0.0
	0.7nm,0.6s,baz=59,slow=2.4,SNR=11							
ASAR	**Alice Springs**	**25.69**	**225**	P	P	17	22	19.5 0.0
	0.7nm,0.9s,baz=58,slow=8.9,SNR=5.8							
ASAR				PcP	PcP	17	25	46.6 -0.2
	0.3nm,0.6s,baz=52,slow=3.2,SNR=5.1							
FITZ	**Fitzroy Crossi**	**29.65**	**244**	P	P	17	22	53.4 -1.6
	1.6nm,0.9s,baz=72,slow=6.4,SNR=3.0							
SONM	**Songino Array**	**67.72**	**328**	P	P	17	27	45.7 +0.8
	0.3nm,0.6s,baz=117,slow=9.3,SNR=3.4							
ILAR	**Eielson Array**	**83.08**	**22**	P	P	17	29	12.0 -0.2
	0.3nm,0.9s,baz=234,slow=4.3,SNR=5.1							
TORD	**Torodi Ar. Bea**	**151.29**	**286**	PKPbc	PKPbc	17	36	40.1 -0.7
	0.6nm,0.5s,baz=82,slow=1.5,SNR=6.6							

*ISCJB **26** 17:33:58.2±0.2, 44°.07N±0°.01×114°.76W±0°.02, h10km, Error ellipse: s-maj=1.8km s-min=1.6km az=143.3*
*NEIC **26** 17:33:58.0, 44°.06N×114°.68W, h10km, ML3.7(BUT), After BUT.*

ISC 26 17:33:58.0±0.4, 44°.07N±0°.01×114°.71W±0°.02, h0km±3km, n124, c0s97/181, 66C-68D, Western Idaho

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I12A	**Atlanta**	**0.41**	**228**	↓P	**Pg**	**17**	**34**	**06.3 +0.4**
	baz=0.4,SNR=1000							
I12A				↓S	**Sg**	**17**	**34**	**12.4 +1.3**
	baz=0.4							
I13A	**Wildhorse Cree**	**0.46**	**110**	↑P	**Pg**	**17**	**34**	**05.9 -0.8**
	baz=0.4,SNR=1000							
I13A				↑S	**Sg**	**17**	**34**	**11.7 -0.9**
	baz=0.4							
H12A	**Diamond D Ranc**	**0.49**	**348**	↓P	**Pg**	**17**	**34**	**08.0 +0.5**
	baz=0.5,SNR=791							
H12A				↓S	**Sg**	**17**	**34**	**15.7 +1.9**
	baz=0.5							
HLID	**Hailey**	**0.55**	**157**	↑P	**Pg**	**17**	**34**	**08.0 -0.5**
	baz=0.5,SNR=1000							
HLID				↑S	**Sg**	**17**	**34**	**15.1 -0.5**
	baz=0.5							
HLID	**Hailey**	**0.55**	**157**	*e*Pg	**Pg**	**17**	**34**	**07.9 -0.6**
H13A	**Challis**	**0.59**	**33**	↓P	**Pg**	**17**	**34**	**09.5 +0.2**
	baz=0.6,SNR=1000							
H13A				↓S	**Sg**	**17**	**34**	**17.3 +0.2**
	baz=0.6							
J13A	**Cove Ranch, Pi**	**0.78**	**150**	↑P	**Pg**	**17**	**34**	**12.0 -0.8**
	baz=0.8,SNR=239							
J13A				↓S	**Sg**	**17**	**34**	**21.6 -1.2**
	baz=0.8							
I14A	**Mackay**	**0.92**	**98**	↓P	**Pg**	**17**	**34**	**14.4 -1.2**
	baz=0.9,SNR=1000							
I14A				↓S	**Sg**	**17**	**34**	**26.9 -0.6**
	baz=0.9							
MFID	**Camas Ranch**	**1.04**	**232**	P	**Pg**	**17**	**34**	**18.1 +0.2**
	baz=1.1,SNR=1000							
MFID				↑S	**Sg**	**17**	**34**	**32.3 +0.9**
	baz=1.1							
MFID	**Camas Ranch**	**1.04**	**232**	*e*Pg	**Pg**	**17**	**34**	**17.8 -0.1**
G13A	**Cobalt**	**1.08**	**18**	↑P	**Pg**	**17**	**34**	**18.6 -0.1**
	baz=1.1,SNR=307							
G13A				↑S	**Sg**	**17**	**34**	**33.3 +0.7**
	baz=1.1							
H14A	**Leadore**	**1.11**	**60**	↓P	**Pg**	**17**	**34**	**18.9 -0.3**
	baz=1.1							
H14A				↑S	**Sg**	**17**	**34**	**32.9 -0.7**
	baz=1.1							
J14A	**Carey**	**1.14**	**130**	↓P	**Pg**	**17**	**34**	**18.9 -0.9**
	baz=1.1,SNR=1000							
J14A				↓S	**Sg**	**17**	**34**	**33.9 -0.7**
	baz=1.1							
G12A	**Big Creek, Yel**	**1.15**	**338**	P	**Pg**	**17**	**34**	**19.9 0.0**
	baz=1.2,SNR=1000							
G12A				↓S	**Sg**	**17**	**34**	**36.2 +1.3**
	baz=1.2							
G14A	**Jackson**	**1.48**	**37**	↓P	**Pn**	**17**	**34**	**25.1 -0.7**
	baz=1.5,SNR=89							
G14A				↑S	**Sg**	**17**	**34**	**45.2 -0.1**
	baz=1.5							
MCMT	**McKenzie Canyo**	**1.53**	**60**	*e*Pg	**Pg**	**17**	**34**	**25.8 -1.5**
H15A	**Lima**	**1.58**	**69**	↑P	**Pn**	**17**	**34**	**26.7 -0.4**
	baz=1.6,SNR=535							
H15A				↑S	**Sn**	**17**	**34**	**47.1 -1.1**
	baz=1.6							
I15A	**Monteview**	**1.61**	**92**	↓P	**Pn**	**17**	**34**	**26.7 -0.8**
	baz=1.6,SNR=30							
I15A				↓S	**Sn**	**17**	**34**	**47.7 -1.2**
	baz=1.6							
F12A	**Elk City**	**1.73**	**347**	P	**Pn**	**17**	**34**	**29.2 0.0**
	baz=1.7,SNR=737							
F12A				↓S	**Sn**	**17**	**34**	**52.7 +0.7**
	baz=1.7							
F13A	**Darby**	**1.74**	**9**	↑P	**Pn**	**17**	**34**	**29.0 -0.4**
	baz=1.7,SNR=387							
F13A				↑S	**Sn**	**17**	**34**	**52.4 +0.1**
	baz=1.7							
J15A	**Blackfoot**	**1.78**	**111**	↓P	**Pn**	**17**	**34**	**29.2 -0.7**
	baz=1.8,SNR=954							
J15A				↓S	**Sn**	**17**	**34**	**52.0 -1.2**
	baz=1.8							
K14A	**Jones Ranch, D**	**1.89**	**143**	↑P	**Pn**	**17**	**34**	**30.7 -0.8**
	baz=1.9,SNR=16							
K14A				↓S	**Sn**	**17**	**34**	**55.1 -0.8**
	baz=1.9							
G15A	**Dillon**	**1.93**	**55**	↑P	**Pn**	**17**	**34**	**31.0 -1.0**
	baz=1.9,SNR=361							
G15A				↓Sb	**Sb**	**17**	**34**	**58.1 -0.4**
	baz=1.9							
DLMT	**Dillon**	**1.99**	**49**	*e*Pn	**Pn**	**17**	**34**	**31.6 -1.1**
F14A	**Wisdom**	**1.99**	**28**	↑P	**Pn**	**17**	**34**	**32.0 -0.7**
	baz=2.0,SNR=20							
F14A				↓Sb	**Sb**	**17**	**35**	**00.7 +0.5**
	baz=2.0							
BMO	**Blue Mountains**	**2.02**	**294**	*e*Pn	**Pn**	**17**	**34**	**32.6 -0.5**
K15A	**Arbon**	**2.11**	**130**	↓P	**Pn**	**17**	**34**	**34.1 -0.3**
	baz=2.1,SNR=30							
K15A				↑Sb	**Sb**	**17**	**35**	**03.0 -0.7**
	baz=2.1							
L14A	**Malta**	**2.30**	**152**	↑Sb	**Sb**	**17**	**35**	**08.1 -1.1**
	baz=2.3							
I16A	**Newdale**	**2.33**	**94**	↓P	**Pn**	**17**	**34**	**37.9 +0.4**
	baz=2.3							
I16A				↓Sb	**Sb**	**17**	**35**	**09.7 -0.5**
	baz=2.3							
F15A	**Butte**	**2.37**	**41**	↓P	**Pn**	**17**	**34**	**37.2 -0.9**
	baz=2.4,SNR=18							
F15A				↓Sb	**Sb**	**17**	**35**	**11.6 +0.3**
	baz=2.4							
G16A	**Moss Hill, Enn**	**2.38**	**60**	↑P	**Pn**	**17**	**34**	**38.1 0.0**
	baz=2.4,SNR=86							
G16A				↓Sb	**Sb**	**17**	**35**	**11.6 +0.2**
	baz=2.4							
LRM	**Limekiln Ridge**	**2.38**	**42**	*e*Pn	**Pn**	**17**	**34**	**37.2 -0.9**
J16A	**Bone**	**2.38**	**108**	↓P	**Pn**	**17**	**34**	**38.5 +0.3**
	baz=2.4,SNR=60							
J16A				↑Sb	**Sb**	**17**	**35**	**11.2 -0.5**
	baz=2.4							
E13A	**Victor**	**2.40**	**9**	↓P	**Pn**	**17**	**34**	**38.0 -0.5**
	baz=2.4,SNR=17							
E13A				↑Sb	**Sb**	**17**	**35**	**13.3 +1.1**
	baz=2.4							
E12A	**Beaver Dam Sad**	**2.42**	**346**	↓P	**Pn**	**17**	**34**	**38.4 -0.4**
	baz=2.4,SNR=26							
E12A				↑Sb	**Sb**	**17**	**35**	**14.7 +1.9**
	baz=2.4							
QLMT	**Earthquake Lak**	**2.47**	**71**	*e*Pn	**Pn**	**17**	**34**	**39.6 +0.2**
E14A	**Clinton**	**2.50**	**20**	↑P	**Pn**	**17**	**34**	**39.0 -0.8**
	baz=2.5,SNR=23							
RRI2	**Red Ridge**	**2.56**	**105**	*e*Pn	**Pn**	**17**	**34**	**40.7 0.0**
H16A	**Russell Place,**	**2.56**	**74**	↑P	**Pn**	**17**	**34**	**41.0 +0.4**
	baz=2.5,SNR=59							
H16A				↑Sb	**Sb**	**17**	**35**	**16.9 +0.2**
	baz=2.5							
K16A	**Soda Springs**	**2.59**	**117**	↓P	**Pn**	**17**	**34**	**42.2 +1.2**
	baz=2.6							
K16A				↓Sb	**Sb**	**17**	**35**	**17.4 -0.1**
	baz=2.6							
DCID1	**Drake Creek**	**2.59**	**99**	*e*Pn	**Pn**	**17**	**34**	**41.7 +0.6**
F10A	**Beach Ranch, E**	**2.61**	**318**	P	**Pn**	**17**	**34**	**42.0 +0.6**
	baz=2.6,SNR=46							
F10A				↑Sb	**Sb**	**17**	**35**	**19.7 +1.5**
	baz=2.6							
L15A	**Malad City**	**2.68**	**140**	↓P	**Pn**	**17**	**34**	**42.4 +0.2**
	baz=2.7							
L15A				↓Sb	**Sb**	**17**	**35**	**19.7 -0.4**
	baz=2.7							
BOZ	**Bozeman (W)**	**2.70**	**53**	↑P	**Pn**	**17**	**34**	**42.6 0.0**
	baz=2.7,SNR=22							
BOZ				↑Sb	**Sb**	**17**	**35**	**21.0 +0.3**
	baz=2.7							
BOZ	**Bozeman (W)**	**2.70**	**53**	*e*Pn	**Pn**	**17**	**34**	**42.3 -0.2**
IMW	**Indian Meadow**	**2.73**	**92**	*e*Pn	**Pn**	**17**	**34**	**43.2 +0.2**
YMR	**Madison River**	**2.75**	**76**	*e*Pn	**Pn**	**17**	**34**	**43.7 +0.4**
E15A	**Deer Lodge**	**2.77**	**31**	↓P	**Pn**	**17**	**34**	**42.6 -1.0**
	baz=2.8							
E15A				↑Sb	**Sb**	**17**	**35**	**24.1 +1.2**
	baz=2.8							
F16A	**Kennard Place,**	**2.78**	**51**	↑P	**Pn**	**17**	**34**	**43.2 -0.5**
	baz=2.8							
F16A				↑Sb	**Sb**	**17**	**35**	**23.7 +0.6**
	baz=2.8							
TPAW	**Teton Pass**	**2.78**	**101**	*e*Pn	**Pn**	**17**	**34**	**43.9 +0.2**
MSO	**Missoula**	**2.81**	**11**	↓P	**Pn**	**17**	**34**	**43.5 -0.6**
	baz=2.8,SNR=17							
MSO	**Missoula**	**2.81**	**11**	*e*Pn	**Pn**	**17**	**34**	**43.5 -0.6**
J08A	**Circle Bar Ran**	**2.82**	**257**	↓P	**Pn**	**17**	**34**	**44.0 -0.2**
	baz=2.8,SNR=12							
J08A				↓S	**Sn**	**17**	**35**	**19.5 +0.6**
	baz=2.8							
MOOW	**Moose Ponds**	**2.88**	**95**	*e*Pn	**Pn**	**17**	**34**	**45.3 +0.2**
REDW	**Red Top Meadow**	**2.88**	**103**	*e*Pn	**Pn**	**17**	**34**	**45.4 +0.3**
FLWY	**Flagg Ranch**	**2.89**	**88**	*e*Pn	**Pn**	**17**	**34**	**46.0 +0.8**
SNOW	**Snow King Moun**	**2.93**	**101**	*e*Pn	**Pn**	**17**	**34**	**48.6 +2.9**
AHID	**Auburn Hatcher**	**2.94**	**115**	*e*Pn	**Pn**	**17**	**34**	**46.7 +0.9**
J17A	**Brown Place, J**	**2.98**	**102**	↑P	**Pn**	**17**	**34**	**46.9 +0.5**
	baz=3.0							
J17A				↓Sb	**Sb**	**17**	**35**	**28.4 -0.5**
	baz=3.0							
I17A	**Pilgrim Ck.**	**2.99**	**91**	↓P	**Pn**	**17**	**34**	**47.7 +1.2**
	baz=3.0							
I17A				↓Sb	**Sb**	**17**	**35**	**29.4 +0.4**
	baz=3.0							
H17A	**Grant Village**	**2.99**	**82**	↓P	**Pn**	**17**	**34**	**48.1 +1.5**
	baz=3.0							
H17A				↑Sb	**Sb**	**17**	**35**	**30.0 +0.9**
	baz=3.0							
LOHW	**Long Hollow**	**3.00**	**97**	*e*Pn	**Pn**	**17**	**34**	**47.7 +0.9**
CHMT	**Chamberlain Mo**	**3.02**	**19**	*e*Pn	**Pn**	**17**	**34**	**45.9 -1.2**
D13A	**Huson**	**3.03**	**3**	↑P	**Pn**	**17**	**34**	**46.8 -0.3**
	baz=3.0,SNR=39							
D13A				↑S	**Sn**	**17**	**35**	**23.2 -0.9**
	baz=3.0							
G17A	**Pierce Place,**	**3.10**	**65**	↓P	**Pn**	**17**	**34**	**49.1 +1.1**
	baz=3.1							
G17A				↑Sb	**Sb**	**17**	**35**	**32.9 +0.8**
	baz=3.1							
LNOR	**Lincton Mounta**	**3.11**	**307**	P	**Pn**	**17**	**34**	**48.7 +0.5**
D14A	**Greenough**	**3.13**	**15**	↑P	**Pn**	**17**	**34**	**47.5 -1.0**
	baz=3.1,SNR=14							
D14A				↑Sb	**Sb**	**17**	**35**	**35.1 +2.0**
	baz=3.1							
L16A	**Fish Haven**	**3.16**	**129**	↑P	**Pn**	**17**	**34**	**52.9 +4.0**
	baz=3.1							
L16A				↑Sb	**Sb**	**17**	**35**	**34.8 +0.8**
	baz=3.1							
BURN	**Burns**	**3.24**	**263**	P	**Pn**	**17**	**34**	**50.2 +0.3**
E16A	**East Helena**	**3.27

VIPM	Ingram Point	4.27 278	P	Pn	17 35 04.5	+0.4
OD2	Odessa Site #2	4.35 321	*e*Pn	Pn	17 35 05.3	+0.1
B14A	Marquette Ranc baz=4.4	4.41 13	⇓S	Sn	17 35 56.1	-1.9
K19A	Absolon Red Bu baz=4.4	4.45 104	⇑Sb	Sb	17 36 12.1	+1.1
DAU	Daniels Canyon	4.46 144	*e*Pn	Pn	17 35 10.0	+3.2
F19A	Roth Farm, Mol baz=4.4	4.46 64	⇓Sb	Sb	17 36 13.5	+2.0
B15A	Bradely Ranch, baz=4.5,SNR=8.4	4.50 19	⇓P	Pn	17 35 06.3	-1.0
C17A	Wharram Farm, baz=4.5,SNR=5.6	4.51 36	⇑P	Pn	17 35 06.0	-1.4
C17A	baz=4.5		⇓S	Sn	17 35 58.8	-1.6
NEW	Newport baz=4.5	4.52 339	⇓P	Pn	17 35 07.2	-0.4
NEW	Newport	4.52 339	*e*Pn	Pn	17 35 07.2	-0.4
MOD	Modoc	4.64 244	*e*Pn	Pn	17 35 09.6	+0.3
WALA	Waterton Lakes 0.1nm,0.4s	5.02 6	Pn	Pn	17 35 12.7	-1.8
ETW	Entiat 12nm,0.5s	5.29 314	*e*Pn	Pn	17 35 17.4	-0.6

DJA 26 17:45:41.1±94.9S×121°16.8E, h20km, MLv3.6/8, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSSI	Masamba	1.03	234	P	Pb	17 45 58.3	-1.9
MSSI				S	Sb	17 46 13.5	+0.1
TTSI	Tana Toraja	1.73	231	P	Pn	17 46 09.7	-0.3
TTSI				S	Sn	17 46 34.5	+3.0
LUWI	Luwuk	1.84	61	P	Pn	17 46 10.5	-1.0
LUWI				S	Sn	17 46 37.3	+3.1
SPSI	Sidrap Palu	2.44	215	P	Pn	17 46 19.7	-0.1
SPSI				S	Sn	17 46 52.6	+3.5
KDI	Kendari	2.48	144	P	Pn	17 46 21.2	+0.9
MRSI	Marisa	2.52	18	P	Pn	17 46 22.3	+1.4
KAPI	Kappang	3.36	205	P	Pn	17 46 32.9	+0.5
BKSI	Bulukumba	3.52	197	P	Pn	17 46 33.6	-0.9

*IDC **26** 17:46:51.4±0.9,3°.59N×126°.80E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.7/21, mbtmp3.8/8, Error ellipse: s-maj=54.7km s-min=15.9km az=76.0*
*ISCJB **26** 17:46:54.3±0.6,3°.6N±0°.1×126°.8E±0°.3, h33km, mb3.9/10, Error ellipse: s-maj=45.2km s-min=11.4km az=165.5*
*NEIC **26** 17:46:56.5±0.5,3°.58N×126°.80E, h35km, mb4.2/2, Error ellipse: s-maj=36.0km s-min=9.3km az=76.0*

ISC 26 17:46:56.6±0.6,3°.6N±0°.1×126°.8E±0°.3, h35km, n19, σ0.966/19, mb3.9/10, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi 1.0nm,0.4s,mb3.6,baz=252,slow=6.4,SNR=10	21.57	183	P	P	17 51 42.7	-0.5
FITZ	Fitzroy Crossi	21.57	183	P	P	17 51 42.7	-0.5
WRAB	Tennant Creek 7.6nm,0.7s,mb4.3	24.51	163	*e*P	P	17 52 12.2	-0.6
WRA	Warramunga Arr 8.1nm,0.7s,mb4.4,baz=343,slow=10,SNR=73	24.52	163	P	P	17 52 12.5	-0.4
WRA	Warramunga Arr	24.52	163	P	P	17 52 12.5	-0.4
AS31	Alice Springs	27.95	166	*e*P	P	17 52 45.4	+1.5
ASAR	Alice Springs 0.6nm,0.6s,mb3.4,baz=345,slow=7.9,SNR=18	27.95	166	P	P	17 52 43.6	-0.2
ASAR	Alice Springs	27.95	166	P	P	17 52 43.6	-0.2
STKA	Stephens Creek 2.8nm,0.6s,mb4.2,baz=339,slow=7.8,SNR=11	37.96	159	P	P	17 54 11.5	+0.4
STKA	Stephens Creek	37.96	159	*e*P	P	17 54 10.7	-0.3
SONM	Songino Array 0.2nm,0.7s,mb3.2,baz=126,slow=7.3,SNR=2.6	47.47	341	P	P	17 55 28.2	+0.3
SONM	Songino Array	47.47	341	P	P	17 55 28.2	+0.3
PETK	Petropavlovsk- 3.6nm,0.9s,mb4.4,baz=206,slow=4.8,SNR=7.6	55.55	22	P	P	17 56 28.1	-0.2
PETK	Petropavlovsk-	55.55	22	P	P	17 56 28.1	-0.2
MKAR	Makanchi Array 0.3nm,0.5s,mb3.6,baz=121,slow=7.2,SNR=7.3	57.72	325	P	P	17 56 44.5	+0.7
MKAR	Makanchi Array	57.72	325	P	P	17 56 44.5	+0.7
KURK	Kurchatov 0.3nm,0.4s,mb3.8,baz=128,slow=8.1,SNR=3.1	61.90	328	P	P	17 57 11.6	-0.9
KURK	Kurchatov	61.90	328	P	P	17 57 11.6	-0.9
VNDA	Vanda 1.0nm,0.7s,mb4.0	83.26	173	*e*P	P	17 59 19.5	+0.4

*ISCJB **26** 17:57:11.3±1.5, 15°.8S±0°.6×175°.1W±0°.4, h214km±17km, mb3.2/7, Error ellipse: s-maj=110.0km s-min=18.0km az=148.6*
*NEIC **26** 17:57:12.8±1.5, 15°.86S×175°.00W, h217km±16km, Error ellipse: s-maj=88.5km s-min=15.2km az=149.0*
*IDC **26** 17:57:12.1±1.5, 15°.71S×175°.06W, h208km±17km, mb3.1/7, mb1 3.5/8, mb1mx3.4/17, mbtmp3.2/8, Error ellipse: s-maj=94.6km s-min=14.1km az=149.0*

ISC 26 17:57:12.3±1.5, 15°.8S±0°.6×175°.0W±0°.4, h210km±16km, n16, σ0.978/18, mb3.2/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu 25nm,0.3s,baz=53,slow=3.3,SNR=25	3.66	60	P	Pn	17 58 11.3	+1.0
AFI				S	Sn	17 58 55.2	-0.7
AFI	Afiamalu 69nm,0.3s,baz=41,slow=22,SNR=23	3.66	60	P	Pn	17 58 11.3	+1.0
AFI				S	Sn	17 58 55.2	-0.7
STKA	Stephens Creek 1.8nm,0.9s,mb3.5,baz=117,slow=4.5,SNR=2.9	42.48	240	P	P	18 04 48.1	+1.1
STKA	Stephens Creek	42.48	240	P	P	18 04 48.1	+1.1
WRA	Warramunga Arr 0.2nm,0.5s,mb2.7,baz=93,slow=6.7,SNR=5.2	48.23	257	P	P	18 05 31.7	-0.6
WRA	Warramunga Arr	48.23	257	P	P	18 05 31.7	-0.6
ASAR	Alice Springs 0.4nm,0.7s,mb2.9,baz=89,slow=7.7,SNR=9.7	48.49	252	P	P	18 05 33.2	-1.1
ASAR	Alice Springs	48.49	252	P	P	18 05 33.1	-1.1
NVAR	Mina Array Bea 1.4nm,0.9s,mb3.6,baz=230,slow=7.1,SNR=6.5	75.68	43	P	P	18 08 35.0	+0.5
NVAR	Mina Array Bea	75.68	43	P	P	18 08 35.0	+0.5
TXAR	Lajitas Array 0.7nm,1.0s,mb3.2,baz=217,slow=10,SNR=4.7	82.14	57	P	P	18 09 09.4	-0.5
TXAR	Lajitas Array	82.14	57	P	P	18 09 09.4	-0.5
ILAR	Eielson Array 0.2nm,0.6s,mb3.0,baz=231,slow=6.1,SNR=4.8	83.15	12	P	P	18 09 15.1	+0.8
ILAR	Eielson Array	83.15	12	P	P	18 09 15.1	+0.8
PDAR	Pinedale Array 0.9nm,0.7s,mb3.6,baz=196,slow=3.6,SNR=8.7	83.61	42	P	P	18 09 16.7	-0.4
PDAR	Pinedale Array	83.61	42	P	P	18 09 16.7	-0.4

IDC 26 18:01:18.4±3.2, 12°.92S×14°.30W, h0km, mb3.8/6, mb1 3.8/6, mb1mx3.7/20, mbtmp3.9/6, MS3.4/13, Ms1 3.4/13, ms1mx3.3/31, Error ellipse: s-maj=258.8km s-min=29.8km az=107.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	Dimbokro 4.4nm,0.9s,baz=197,slow=9.9,SNR=4.0	21.60	26	P	P	18 06 10.5	+0.4
DBIC				LR	LR	18 12 34.1	
	comp=Z,110nm,19.2s,baz=187,slow=31						
RCBR	Riachuelo comp=Z,70nm,20.6s,baz=17,slow=30	22.44	286	LR	LR	18 12 34.2	
BBTS	Babate comp=Z,59nm,18.8s,baz=143,slow=30	27.49	355	LR	LR	18 15 11.2	
MSKU	Masuku	29.81	70	LR	LR	18 16 31.0	
	comp=Z,70nm,21.3s,baz=308,slow=31						
TORD	Torodi Ar. Bea 0.5nm,0.6s,baz=217,slow=9.6,SNR=3.5	30.36	32	P	P	18 07 31.4	-0.8
TORD				LR	LR	18 18 10.1	
	comp=Z,90nm,18.8s,baz=250,slow=33						
SUR	Sutherland comp=Z,41nm,20.0s,baz=227,slow=32	37.50	127	LR	LR	18 21 16.3	
LBTB	Lobatse comp=Z,67nm,20.9s,baz=70,slow=31	39.45	114	LR	LR	18 21 57.7	
BOSA	Boshof comp=Z,83nm,20.0s,baz=89,slow=31	39.93	119	LR	LR	18 21 53.5	
CPUP	Villa Florida comp=Z,76nm,19.5s,baz=258,slow=32	42.47	245	LR	LR	18 24 09.1	
KEST	Kesra 1.9nm,0.9s,baz=225,slow=8.6,SNR=5.7	53.31	24	P	P	18 10 40.2	+1.0
KEST				LR	LR	18 32 26.5	
	comp=Z,30nm,18.6s,baz=157,slow=35						
PLCA	Paso Flores comp=Z,55nm,18.9s,baz=191,slow=32	56.22	229	LR	LR	18 30 56.0	
ROSC	El Rosal	62.19	283	LR	LR	18 38 18.0	
	comp=Z,49nm,18.8s,baz=69,slow=36						
GERES	GERESS Array B comp=Z,20nm,19.3s,baz=284,slow=37	66.30	20	LR	LR	18 42 13.4	
BRTR	Keskin Array B 0.3nm,0.7s,baz=237,slow=7.9,SNR=3.8	68.75	38	P	P	18 12 25.1	+0.9
AKASG	Malin Array Be 1.6nm,0.7s,baz=226,slow=6.7,SNR=5.8	73.85	27	P	P	18 12 54.0	-0.8
QSPA	South Pole Qui 1.1nm,1.1s,baz=254,slow=3.2,SNR=3.3	77.23	180	P	P	18 13 14.4	+0.6

IDC 26 18:35:07.2±18.0, 22°.87S×174°.51W, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.9/17, mbtmp4.1/5, Error ellipse: s-maj=336.7km s-min=142.1km az=83.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower 4.4nm,0.5s,baz=96,slow=12,SNR=5.5	36.54	267	P	P	18 42 16.0	+1.2
STKA	Stephens Creek 0.8nm,0.4s,baz=114,slow=11,SNR=5.7	39.78	247	P	P	18 42 41.0	-1.0
ASAR	Alice Springs 0.4nm,0.5s,baz=90,slow=6.5,SNR=22	47.18	258	P	P	18 43 41.0	-0.8
WRA	Warramunga Arr 2.1nm,0.5s,baz=100,slow=8.3,SNR=45	47.52	263	P	P	18 43 44.0	-0.5
FITZ	Fitzroy Crossi 2.5nm,0.8s,baz=131,slow=9.3,SNR=6.3	55.95	263	P	P	18 44 48.6	+1.1

*ISCJB **26** 19:25:39.2±3.2, 13°.4N±0°.2×120°.6E±0°.2, h38km±36km, mb3.7/6, Error ellipse: s-maj=45.3km s-min=18.1km az=146.4*
*IDC **26** 19:25:39.5±4.6, 13°.39N×120°.60E, h23km±34km, mb3.5/5, mb1 3.7/5, mb1mx3.4/21, mbtmp3.5/5, Error ellipse: s-maj=48.9km s-min=18.5km az=60.0*
*NEIC **26** 19:25:39.2±3.9, 13°.38N×120°.59E, h23km±32km, mb4.0/1, Error ellipse: s-maj=37.7km s-min=15.5km az=56.0*

ISC 26 19:25:39.3±3.8, 13°.4N±0°.2×120°.6E±0°.2, h23km±32km, n13, σ0.992/13, mb3.7/6, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	Tagaytay City 356nm,0.3s,baz=206,slow=4.8,SNR=18	0.80	25	Pg	Pb	19 25 54.6	+0.1
TGY				Lg		19 26 07.9	
	190nm,0.3s,baz=155,slow=23,SNR=21						
TGY	Tagaytay City	0.80	25	Pg	Pb	19 25 54.6	+0.1
TGY				Lg		19 26 07.9	
CMAR	Chiang Mai Arr 1.0nm,0.8s,mb3.2,baz=94,slow=9.2,SNR=8.4	21.41	286	P	P	19 30 25.3	-0.4
CMAR	Chiang Mai Arr	21.41	286	P	P	19 30 25.3	-0.4
WRAB	Tennant Creek 1.0nm,0.5s,mb4.0	35.77	157	P	P	19 32 36.5	-0.3
WRA	Warramunga Arr 1.7nm,0.6s,mb4.2,baz=335,slow=9.7,SNR=9.8	35.77	158	P	P	19 32 36.5	-0.3
WRA	Warramunga Arr	35.77	158	P	P	19 32 36.5	-0.2
SONM	Songino Array 0.4nm,0.7s,mb3.5,baz=162,slow=10,SNR=3.3	36.33	344	P	P	19 32 40.0	-1.4
SONM	Songino Array	36.33	344	P	P	19 32 40.0	-1.4
ASAR	Alice Springs 1.5nm,0.5s,mb4.0,baz=340,slow=6.9,SNR=11	39.05	160	P	P	19 33 05.0	+0.5
ASAR	Alice Springs	39.05	160	P	P	19 33 05.0	+0.5
MKAR	Makanchi Array 0.3nm,0.7s,mb3.4,baz=116,slow=9.8,SNR=2.8	46.23	324	P	P	19 34 04.6	+2.0
MKAR	Makanchi Array	46.23	324	P	P	19 34 04.6	+2.0

WEL 26 19:33:50.9±0.5, 37°.00S×176°.52E, h318km±3km, ML3.9/13, Error ellipse: s-maj=5.8km s-min=5.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	1.35	160	PN	Pn	19 34 34.9	+0.1
URZ				SN	S	19 35 09.4	-0.4
MXZ	Matakaoa Point	1.54	112	PN	Pn	19 34 35.9	-0.1
MXZ				SN	S	19 35 11.1	-0.8
MWZ	Matawai	1.56	149	PN	Pn	19 34 36.3	+0.3
MWZ				SN	S	19 35 11.7	-0.4
PUZ	Puketiti	1.75	128	SN	S	19 35 13.5	-1.0
CNGZ	Carnagh Statio	2.00	138	PN	Pn	19 34 39.6	+0.4
NMHZ	Naumai	2.11	174	PN	Pn	19 34 40.8	+0.9
BKZ	Black Stump Fm	2.17	180	PN	Pn	19 34 40.4	0.0
KNZ	Kokohu	2.22	156	PN	Pn	19 34 40.8	0.0
TUVZ	Tukino	2.37	196	PN	Pn	19 34 42.7	+0.7
MHGZ	Mahia Peninsul	2.42	153	PN	Pn	19 34 43.0	+0.6
WNVZ	Wahianoa	2.44	197	PN	Pn	19 34 43.2	+0.6
MCHZ	McNeill Hill	2.45	177	PN	Pn	19 34 43.1	+0.4
BHHZ	Black Hill Sta	2.51	188	PN	Pn	19 34 43.4	+0.1
MTVZ	Mangateitei	2.52	199	PN	Pn	19 34 44.0	+0.7
CKHZ	Cape Kidnapper	2.69	171	PN	Pn	19 34 45.0	+0.1
KAHZ	Kahuranaki	2.81	174	PN	Pn	19 34 46.0	+0.1
PNHZ	Pukenui	2.92	185	PN	Pn	19 34 46.6	-0.4
TSZ	Takapari Road	3.09	188	PN	Pn	19 34 47.9	-0.7
PRHZ	Porangahau	3.27	178	PN	Pn	19 34 49.9	-0.4
BFZ	Birch Farm	3.69	183	PN	Pn	19 34 53.6	-1.0
MRZ	Mangatainoka R	3.73	191	PN	Pn	19 34 53.5	-1.5
OGWZ	Otaki Gorge	3.96	195	PN	Pn	19 34 56.1	-1.3
HOWZ	Holdsworth Sta	3.97	191	PN	Pn	19 34 56.4	-1.2
KIW	Kapiti Island	4.06	197	PN	Pn	19 34 57.3	-1.2
MTW	Mount Morrison	4.23	190	PN	Pn	19 34 58.6	-1.8
CAW	Cannon Point	4.26	195	PN	Pn	19 34 59.7	-0.9
SNZO	South Karori	4.53	198	PN	Pn	19 35 02.3	-1.3
TCW	Tory Channel	4.56	202	PN	Pn	19 35 02.7	-1.2
PLWZ	Palliser	4.67	192	PN	Pn	19 35 03.3	-1.9
TUWZ	Tuamarina	4.86	203	PN	Pn	19 35 05.8	-1.6
NNZ	Nelson	4.87	209	PN	Pn	19 35 05.2	-2.2
QRZ	Quartz Range	4.93	218	PN	Pn	19 35 05.8	-2.3
THZ	Tophouse	5.52	209	PN	Pn	19 35 12.8	-2.1
KHZ	Kahutara	5.88	202	PN	Pn	19 35 17.5	-1.5
MQZ	McQueen's Vall	7.32	203	SN	S	19 36 55.6	-6.2

GUC 26 19:35:46.1±0.7, 32°.55S×71°.68W, h28km±3km, MD3.8, ML3.0, 5C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.48	176	⇑*i*P	Pb	19 35 56.0	-0.1
IHA				*i*S	Sb	19 36 02.7	-0.2
JACH	Jahuel	0.93	99	⇑*i*P	Pn	19 36 03.1	-0.1
JACH				*i*S	Sb	19 36 15.7	+0.3
PEL	Peldehue	1.02	126	⇑*i*P	Pn	19 36 04.8	+0.2
PEL				*i*S	Sn	19 36 18.1	+0.1
PEL				AML	AML	19 36 19.4	
	comp=E,1μm,0.3s						
RCDM	Rinconada Maip	1.19	142	⇑*i*P	Pn	19 36 07.3	+0.4
RCDM				*i*S	Sn	19 36 22.7	+0.6
RCDM				AML	AML	19 36 24.2	
	comp=E,338nm,0.6s						
SAN	Santiago	1.24	137	*e*S	Sn	19 36 24.3	+1.0
SAN				AML	AML	19 36 29.1	
	comp=N,276nm,0.8s						
TACH	Talagante	1.27	151	*e*P	Pn	19 36 08.7	+0.8
TACH				*e*S	Sn	19 36 25.1	+1.2
CLCH	Cerro Calan	1.28	132	*e*P	Pn	19 36 08.7	+0.7
CLCH				*i*S	Sn	19 36 25.5	+1.2
CLCH				AML	AML	19 36 36.0	
	comp=N,272nm,0.9s						
FCH	Farellones	1.40	124	⇓*i*P	Pn	19 36 10.7	+0.9
FCH				*i*S	Sn	19 36 28.0	+0.7
FCH				AML	AML	19 36 29.4	
	comp=N,323nm,0.3s						
LNV	Longovilo	1.42	171	*e*P	Pn	19 36 10.6	+0.5
LNV				*i*S	Sn	19 36 28.7	+0.9
PCH	Pirque	1.45	138	*e*P	Pn	19 36 11.3	+0.9
PCH				*e*S	Sn	19 36 30.7	+2.3
CMCH	Combarbala	1.49	23	⇑*i*P	Pn	19 36 11.7	+0.8
CMCH				*i*S	Sn	19 36 31.2	+1.8
CMCH				AML	AML	19 36 36.3	
	comp=N,1μm,0.6s						
LMEL	Las Melosas	1.79	137	*e*P	Pn	19 36 16.7	+1.6
LMEL				*i*S	Sn	19 36 39.8	+2.9
LMEL				AML	AML	19 36 44.0	
	comp=N,215nm,0.2s						
CACH	El Canelo	1.81	150	*e*P	Pn	19 36 17.7	+2.4
CACH				*e*S	Sn	19 36 41.4	+4.1
TLL	Tololo Astrono	2.49	18	*e*P	Pn	19 36 26.2	+1.5
TLL				*e*S	Sn	19 36 57.5	+3.4
TLL				AML	AML	19 37 07.7	
	comp=N,81nm,0.8s						

MEX 26 19:53:37.0±1.1, 15°.52N×96°.46W, h21km±43km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.42	54	*i*P	Pb	19 53 43.8	-2.0
HUIG				*i*S	Sb	19 53 50.4	-1.3
VHO	Vista Hermosa	1.56	350	*i*P	Pn	19 54 00.5	-3.2
VHO				*i*S	Sn	19 54 19.5	-3.8
PNIG	Pinotepa	1.82	299	*i*P	Pn	19 54 05.3	-1.8
PNIG				*i*S	Sn	19 54 25.2	-4.4
CMIG	Matias Romero	2.18	44	*i*P	Pn	19 54 09.9	-2.1
CMIG				*i*S	Sn	19 54 35.8	-2.6
UTMO	Huajuapan	2.63	331	*e*P	Pn	19 54 15.8	-2.5
UTMO				*i*S	Sn	19 54 46.4	-3.3
PCIG		3.13	86	*e*P	Pn	19 54 24.8	-0.4
TGIG		3.44	68	*e*P	Pn	19 54 31.2	+1.8
PPM	Popocatepetl	4.09	330	*i*P	Pn	19 54 37.8	-0.5
PPM				*i*S	Sn	19 55 23.0	-2.5

IDC 26 19:56:39.3±3.4, 6°.70S×148°.36E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.3/15, mbtmp3.3/3, ML3.1/1, Error ellipse: s-maj=106.4km s-min=45.1km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.1nm,0.3s,baz=51,slow=11,SNR=3.0	18.93	225	P	Pn	20 01 01.9	-0.6
ASAR	Alice Springs 0.2nm,0.5s,baz=53,slow=9.4,SNR=6.8	21.85	218	P	P	20 01 34.2	+0.5
FITZ	Fitzroy Crossi 1.2nm,0.3s,baz=56,slow=11,SNR=19	24.88	241	P	P	20 02 03.5	-0.5
TORD	Torodi Ar. Bea 0.1nm,0.3s,baz=68,slow=2.9,SNR=6.3	146.57	284	PKPbc	PKPbc	20 16 23.4	-0.5

IDC 26 20:01:38.5±2.2, 3°.97S×129°.03E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/18, mbtmp3.5/4, ML2.9/1, Error ellipse: s-maj=188.8km s-min=26.3km az=69.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.0nm,0.3s,baz=344,slow=12,SNR=4.6	16.70	162	Pn	Pn	20 05 32.2	-1.9
WRA				Sn	Sn	20 08 35.5	-4.8
	0.1nm,0.3s,baz=358,slow=22,SNR=5.0						
ASAR	Alice Springs 4.0nm,0.5s,baz=352,slow=11,SNR=91	20.14	167	P	P	20 06 15.3	+1.0
MKAR	Makanchi Array 0.3nm,0.5s,baz=114,slow=9.4,SNR=5.2	65.17	327	P	P	20 12 22.6	+1.1
KURK	Kurchatov 0.4nm,0.7s,baz=132,slow=5.7,SNR=4.1	69.44	328	P	P	20 12 47.4	-1.1

*IDC **26** 20:17:57.0±2.7, 22°.20N×121°.32E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/21, mbtmp3.5/4, Error ellipse: s-maj=244.6km s-min=22.8km az=63.0*
*NEIC **26** 20:17:59.6±0.7, 21°.83N×120°.48E, h10km, mb3.6/1, Error ellipse: s-maj=19.8km s-min=8.3km az=97.0*
*ISCJB **26** 20:18:01.5±0.6, 21°.81N±0°.03×120°.50E±0°.04, h33km, mb3.4/5, Error ellipse: s-maj=6.0km s-min=4.7km az=164.8*
*TAP **26** 20:18:01.1, 21°.84N×120°.54E, h44km±1km, ML3.5, D*

ISC 26 20:18:02.8±0.6, 21°.86N±0°.03×120°.54E±0°.04, h35km, n44, σ0.980/61, mb3.4/5, 2C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HEN	Hengchun baz=49	0.24	53	⇓*i*P	Pn	20 18 09.6	-0.4
HEN				*e*S	Sn	20 18 15.7	+0.9
TWK1	Hengchun baz=68	0.26	72	⇓*i*P	Pn	20 18 09.8	-0.5
TWK1				S	Sn	20 18 16.2	+0.9
TWP	Hsiaoliuchiu baz=342	0.51	342	*e*P	Pn	20 18 13.7	+0.1
TWP				*e*S	Sn	20 18 22.1	+1.0
SCZT	Fangliau baz=8.0	0.51	9	⇑*i*P	Pn	20 18 12.8	-0.8
SCZT				*e*S	Sn	20 18 20.7	-0.5
EAST	Anshuo baz=28	0.59	29	P	Pn	20 18 14.3	-0.5
EAST				*e*S	Sn	20 18 24.1	+1.0
TAW	Tawu baz=33	0.60	34	P	Pn	20 18 14.3	-0.4
TAW				*e*S	Sn	20 18 22.8	-0.4
KAU	Kaohsiung baz=344	0.73	343	*e*P	Pn	20 18 16.5	-0.2
KAU				*e*S	Sn	20 18 28.4	+1.8
ECL	Taimali baz=27	0.83	28	P	Pn	20 18 17.4	-0.5
ECL				*e*S	Sn	20 18 29.7	+0.8
SGLT	Jiouru baz=357	0.86	357	*e*P	Pn	20 18 18.9	+0.5
SGLT				*e*S	Sn	20 18 30.9	+1.2
SSD	Sandimen baz=5.0	0.88	6	⇑*i*P	Pn	20 18 17.8	-0.9
SSD				*e*S	Sn	20 18 27.7	-2.6
LAY	Lan-yu baz=78	0.96	79	*e*P	Pn	20 18 18.4	-1.3
LAY				*e*S	Sn	20 18 32.2	0.0
TWM1	Shoushan baz=354	0.96	354	*e*P	Pn	20 18 20.2	+0.4
TWM1				S	Sn	20 18 30.7	-1.6
TWG	Pinlang baz=27	1.07	27	*e*P	Pn	20 18 20.8	-0.6
TWG	Pinlang	1.07	27	*e*P	Pn	20 18 21.6	+0.3
CHN3	Shinhua baz=352	1.22	353	*e*P	Pn	20 18 23.0	-0.3
CHN3				*e*S	Sn	20 18 39.2	+0.6
STYT	Tauyuan baz=9.0	1.31	9	P	Pn	20 18 24.1	-0.4
CHN1	Nanshi baz=359	1.32	360	*e*P	Pn	20 18 23.9	-0.8
WTP	Ta-pu baz=3.0	1.38	3	P	Pn	20 18 24.6	-0.9
ELDTW	Lidau baz=18	1.39	19	*e*P	Pn	20 18 25.7	0.0
TPUB	Ta-pu	1.43	3	*e*P	Pn	20 18 24.7	-1.6
CHKT	Chengkung baz=31	1.45	32	*e*P	Pn	20 18 26.3	-0.2
CHKT				*e*S	Sn	20 18 44.8	+0.4
CHN4	Tsaushan baz=1.0	1.48	2	*e*P	Pn	20 18 26.3	-0.7
TWF1	Yuli baz=25	1.64	25	*e*P	Pn	20 18 30.0	+0.8
TWF1				*e*S	Sn	20 18 49.6	+0.6
ALS	Alishan baz=8.0	1.66	9	P	Pn	20 18 29.1	-0.2
ALS				*e*S	Sn	20 18 49.6	+0.1
YUS	Yu-Shan baz=13	1.66	13	*e*P	Pn	20 18 29.3	-0.2
YULB	Yu-li	1.68	25	*e*P	Pn	20 18 29.9	+0.3
CHN5	Tsauling baz=4.0	1.73	4	P	Pn	20 18 29.6	-0.8
CHN5				*e*S	Sn	20 18 50.5	-0.8
EHY	Hungye baz=23	1.79	24	*e*P	Pn	20 18 31.8	+0.7
S

NNS	**Nan Shan**	**2.68**	**17**	*e*P		**Pn**	**20 18 44.3**	**+0.9**
	baz=16							
YHNB	**Yeheng**	**2.90**	**15**	*e*P		**Pn**	**20 18 47.6**	**+1.2**
MKAR	**Makanchi Array**	**39.62**	**318**	P		**P**	**20 25 32.0**	**+1.1**
	0.4nm,0.6s,mb3.3,baz=106,slow=9.8,SNR=4.5							
MKAR	**Makanchi Array**	**39.62**	**318**	P		**P**	**20 25 32.0**	**+1.1**
ZALV	**Zalesovo Beam**	**41.89**	**329**	P		**P**	**20 25 49.8**	**+0.3**
	1.1nm,0.8s,mb3.5,baz=116,slow=9.5,SNR=5.4							
ZALV	**Zalesovo Beam**	**41.89**	**329**	P		**P**	**20 25 49.8**	**+0.3**
WRAB	**Tennant Creek**	**43.68**	**161**	P		**P**	**20 26 04.9**	**+0.6**
	0.6nm,0.6s,mb3.5							
WRA	**Warramunga Ar**	**43.68**	**161**	P		**P**	**20 26 04.2**	**-0.2**
	0.5nm,0.7s,mb3.4,baz=344,slow=8.7,SNR=6.1							
WRA	**Warramunga Arr**	**43.68**	**161**	P		**P**	**20 26 04.2**	**-0.2**
ASAR	**Alice Springs**	**47.09**	**163**	P		**P**	**20 26 31.9**	**+0.6**
	0.1nm,0.3s,mb3.2,baz=339,slow=6.9,SNR=4.4							
ASAR	**Alice Springs**	**47.09**	**163**	P		**P**	**20 26 31.9**	**+0.6**

*ISCJB **26** 20:18:06.0±0.4,35.32N±0.03×25.99E±0.03, h96km±7km, Error ellipse: s-maj=5.1km s-min=4.3km az=36.6*
*CSEM **26** 20:18:07.6±0.2,35.32N×26.03E, h74km±5km, MD3.4, Error ellipse: s-maj=5.3km s-min=3.8km az=51.0*
*ATH **26** 20:18:08.6, 35.48N×25.94E, h58km±1km, MD3.4/12*
*THE **26** 20:18:10.3, 35.50N×25.92E, h46km±4km, ML3.2/1, Error ellipse: s-maj=4.9km s-min=1.0km az=169.0*
*HLW **26** 20:18:10.8, 35.02N×26.35E, h33km±24km, Md3.3, Ml2.7*

ISC 26 20:18:07.7±0.4, 35.33N±0.03×26.00E±0.03, h76km±7km, n85, σ1§04/119, Crete

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NPS	**Neapolis**	**0.32**	**259**	*e*P		**Pn**	**20 18 18.9**	**-0.7**
NPS				*e*S		**Sn**	**20 18 26.4**	**-2.0**
NPS	**Neapolis**	**0.32**	**259**	P		**Pn**	**20 18 19.0**	**-0.6**
NPS				S		**Sn**	**20 18 26.5**	**-1.9**
NPS	**Neapolis**	**0.32**	**259**	P		**Pn**	**20 18 19.0**	**-0.6**
NPS				S		**Sn**	**20 18 26.5**	**-1.9**
IDI	**Anoyia**	**0.91**	**268**	*e*P		**Pn**	**20 18 25.4**	**+0.1**
IDI				*e*S		**Sn**	**20 18 38.5**	**0.0**
IDI	**Anoyia**	**0.91**	**268**	*e*P		**Pn**	**20 18 25.4**	**+0.1**
IDI				*e*S		**Sn**	**20 18 38.5**	**0.0**
KARP	**Karpathos**	**0.97**	**77**	*e*P		**Pn**	**20 18 27.2**	**+1.1**
KARP				*e*S		**Sn**	**20 18 41.6**	**+1.7**
KARP	**Karpathos**	**0.97**	**77**	P		**Pn**	**20 18 27.2**	**+1.1**
KARP				S		**Sn**	**20 18 40.4**	**+0.5**
KARP	**Karpathos**	**0.97**	**77**	*e*P		**Pn**	**20 18 27.2**	**+1.1**
KARP				*e*S		**Sn**	**20 18 41.6**	**+1.7**
SIVA	**Sivas**	**1.02**	**253**	*e*P		**Pn**	**20 18 28.3**	**+1.6**
SIVA				*e*S		**Sn**	**20 18 42.0**	**+1.1**
SIVA	**Sivas**	**1.02**	**253**	P		**Pn**	**20 18 28.5**	**+1.8**
SIVA				S		**Sn**	**20 18 42.1**	**+1.2**
SIVA	**Sivas**	**1.02**	**253**	*e*P		**Pn**	**20 18 28.3**	**+1.6**
SIVA				*e*S		**Sn**	**20 18 42.0**	**+1.1**
VAM	**Vamos**	**1.47**	**274**	*e*P		**Pn**	**20 18 33.1**	**+0.7**
VAM				*e*S		**Sn**	**20 18 51.8**	**+0.7**
VAM	**Vamos**	**1.47**	**274**	P		**Pn**	**20 18 32.1**	**-0.3**
VAM				S		**Sn**	**20 18 49.9**	**-1.2**
VAM	**Vamos**	**1.47**	**274**	*e*P		**Pn**	**20 18 33.1**	**+0.7**
VAM				*e*S		**Sn**	**20 18 51.8**	**+0.7**
NIS1	**Nisyros Isl.**	**1.59**	**37**	P		**Pn**	**20 18 34.4**	**+0.4**
NIS1	**Nisyros Isl.**	**1.59**	**37**	P		**Pn**	**20 18 34.4**	**+0.4**
GVD	**Gavdhos**	**1.64**	**253**	*e*P		**Pn**	**20 18 36.7**	**+2.0**
GVD	**Gavdhos**	**1.64**	**253**	P		**Pn**	**20 18 37.2**	**+2.5**
GVD	**Gavdhos**	**1.64**	**253**	*e*P		**Pn**	**20 18 36.7**	**+2.0**
APE	**Apeiranthos**	**1.78**	**348**	*e*P		**Pn**	**20 18 35.9**	**-0.6**
APE				*e*S		**Sn**	**20 18 56.7**	**-1.6**
APE	**Apeiranthos**	**1.78**	**348**	P		**Pn**	**20 18 35.8**	**-0.7**
APE				S		**Sn**	**20 18 55.7**	**-2.6**
APE	**Apeiranthos**	**1.78**	**348**	*e*P		**Pn**	**20 18 35.9**	**-0.6**
APE				*e*S		**Sn**	**20 18 56.7**	**-1.6**
ARG	**Arkhangelos**	**1.94**	**62**	*e*P		**Pn**	**20 18 40.3**	**+1.6**
ARG				*e*S		**Sn**	**20 19 03.7**	**+1.4**
ARG	**Arkhangelos**	**1.94**	**62**	P		**Pn**	**20 18 40.3**	**+1.6**
ARG				S		**Sn**	**20 19 03.3**	**+1.0**
ARG	**Arkhangelos**	**1.94**	**62**	*e*P		**Pn**	**20 18 40.3**	**+1.6**
ARG				S		**Sn**	**20 19 03.3**	**+1.0**
SMG	**Samos**	**2.47**	**16**	*e*P		**Pn**	**20 18 45.8**	**+0.1**
SMG				*e*S		**Sn**	**20 19 14.1**	**-0.8**
SMG	**Samos**	**2.47**	**16**	*e*P		**Pn**	**20 18 45.8**	**+0.1**
SMG				*e*S		**Sn**	**20 19 14.1**	**-0.8**
KYTH	**Kithira**	**2.59**	**292**	*e*P		**Pn**	**20 18 47.9**	**+0.6**
KYTH	**Kithira**	**2.59**	**292**	P		**Pn**	**20 18 47.1**	**-0.2**
KYTH	**Kithira**	**2.59**	**292**	P		**Pn**	**20 18 47.1**	**-0.2**
VLI	**Veliai**	**2.84**	**300**	*e*P		**Pn**	**20 18 51.0**	**+0.2**
VLI				*e*S		**Sn**	**20 19 22.4**	**-1.6**
VLI	**Veliai**	**2.84**	**300**	P		**Pn**	**20 18 50.8**	**0.0**
VLI				S		**Sn**	**20 19 21.5**	**-2.5**
VLI	**Veliai**	**2.84**	**300**	P		**Pn**	**20 18 50.8**	**0.0**
VLI				*e*S		**Sn**	**20 19 22.4**	**-1.6**
CHOS	**Chios island**	**3.05**	**1**	*e*P		**Pn**	**20 18 54.0**	**+0.4**
CHOS				*e*S		**Sn**	**20 19 27.7**	**-1.4**
CHOS	**Chios island**	**3.05**	**1**	P		**Pn**	**20 18 53.9**	**+0.3**
CHOS	**Chios island**	**3.05**	**1**	*e*P		**Pn**	**20 18 54.0**	**+0.4**
CHOS				*e*S		**Sn**	**20 19 27.7**	**-1.4**
VLY	**Voula,Athens**	**3.08**	**325**	*e*P		**Pn**	**20 18 54.2**	**+0.2**
VLY	**Voula,Athens**	**3.08**	**325**	P		**Pn**	**20 18 53.7**	**-0.3**
VLY	**Voula,Athens**	**3.08**	**325**	*e*P		**Pn**	**20 18 54.2**	**+0.2**
DID	**Didima**	**3.11**	**315**	*e*P		**Pn**	**20 18 54.7**	**+0.3**
DID				*e*S		**Sn**	**20 19 29.1**	**-1.4**
DID	**Didima**	**3.11**	**315**	P		**Pn**	**20 18 54.8**	**+0.4**
DID	**Didima**	**3.11**	**315**	*e*P		**Pn**	**20 18 54.7**	**+0.3**
DID				*e*S		**Sn**	**20 19 29.1**	**-1.4**
PTL	**Penteli**	**3.21**	**328**	*e*P		**Pn**	**20 18 55.6**	**-0.2**
PTL	**Penteli**	**3.21**	**328**	P		**Pn**	**20 18 56.4**	**+0.6**
PTL	**Penteli**	**3.21**	**328**	*e*P		**Pn**	**20 18 55.6**	**-0.2**
VLX	**Vlachokerasia**	**3.56**	**306**	*e*P		**Pn**	**20 19 01.7**	**+1.2**
VLX				*e*S		**Sn**	**20 19 40.2**	**-1.3**
VLX	**Vlachokerasia**	**3.56**	**306**	P		**Pn**	**20 19 00.2**	**-0.3**
VLX	**Vlachokerasia**	**3.56**	**306**	*e*P		**Pn**	**20 19 01.7**	**+1.2**
VLX				*e*S		**Sn**	**20 19 40.2**	**-1.3**
LTK	**Loutraki**	**3.63**	**319**	*e*P		**Pn**	**20 19 02.5**	**+1.0**
LTK	**Loutraki**	**3.63**	**319**	P		**Pn**	**20 19 01.9**	**+0.4**
LTK	**Loutraki**	**3.63**	**319**	*e*P		**Pn**	**20 19 02.5**	**+1.0**
ITM	**Ithomi**	**3.77**	**301**	*e*P		**Pn**	**20 19 04.9**	**+1.5**
ITM	**Ithomi**	**3.77**	**301**	P		**Pn**	**20 19 04.1**	**+0.7**
ITM	**Ithomi**	**3.77**	**301**	P		**Pn**	**20 19 04.1**	**+0.7**
PYL	**PYLOS**	**3.79**	**296**	P		**Pn**	**20 19 03.3**	**-0.3**
PYL	**PYLOS**	**3.79**	**296**	P		**Pn**	**20 19 03.3**	**-0.3**
SLUM		**3.88**	**190**	P		**Pn**	**20 19 05.1**	**+0.1**
	baz=196							
SLUM		**3.88**	**190**	P		**Pn**	**20 19 05.4**	**+0.5**
GUR	**Goura**	**3.93**	**313**	*e*P		**Pn**	**20 19 06.1**	**+0.6**
GUR	**Goura**	**3.93**	**313**	P		**Pn**	**20 19 05.5**	**0.0**
GUR	**Goura**	**3.93**	**313**	P		**Pn**	**20 19 05.5**	**0.0**
LKR	**Lokris**	**4.09**	**325**	*e*P		**Pn**	**20 19 08.8**	**+1.0**
LKR	**Lokris**	**4.09**	**325**	*e*P		**Pn**	**20 19 08.8**	**+1.0**
DSF	**Desfina**	**4.15**	**319**	P		**Pn**	**20 19 08.8**	**+0.3**
DSF	**Desfina**	**4.15**	**319**	P		**Pn**	**20 19 08.8**	**+0.3**
HMAT	**Matruh**	**4.32**	**167**	P		**Pn**	**20 19 09.8**	**-1.1**
	baz=170							
HMAT				AMP			20 19 00.0	
	comp=N,10μm,0.1s,logA/T=4.8,baz=170							
HMAT				S		**Sn**	**20 19 53.1**	**-6.9**
	baz=170							
HMAT	**Matruh**	**4.32**	**167**	P		**Pn**	**20 19 11.1**	**+0.2**
AGG	**Agios Georgios**	**4.71**	**323**	*e*P		**Pn**	**20 19 17.2**	**+1.0**
AGG	**Agios Georgios**	**4.71**	**323**	*e*P		**Pn**	**20 19 17.2**	**+1.0**
THL	**Klokotos Trika**	**5.29**	**324**	*e*P		**Pn**	**20 19 25.6**	**+1.6**
THL	**Klokotos Trika**	**5.29**	**324**	*e*P		**Pn**	**20 19 25.6**	**+1.6**
SWA2		**6.08**	**184**	P		**Pn**	**20 19 34.9**	**-0.1**
	baz=188							
SWA2				S		**Sn**	**20 20 37.9**	**-5.3**
	baz=188							
SWA2		**6.08**	**184**	P		**Pn**	**20 19 34.9**	**-0.1**
AWBH		**7.41**	**160**	P		**Pn**	**20 19 51.9**	**-1.2**
	baz=161							
AWBH		**7.41**	**160**	P		**Pn**	**20 19 52.5**	**-0.6**
AMAG	**Maghara**	**7.65**	**126**	P		**Pn**	**20 19 54.5**	**-1.8**
	baz=125							
AMAG				S		**Sn**	**20 21 13.3**	**-8.1**
	baz=125							
AMAG	**Maghara**	**7.65**	**126**	P		**Pn**	**20 19 54.5**	**-1.8**
SUZ		**7.95**	**132**	P		**Pn**	**20 19 59.0**	**-1.5**
	baz=131							
SUZ		**7.95**	**132**	P		**Pn**	**20 19 58.9**	**-1.5**
HFRF	**Wahat Farafira**	**8.39**	**166**	P		**Pn**	**20 20 06.2**	**-0.3**
	baz=167							
HFRF	**Wahat Farafira**	**8.39**	**166**	P		**Pn**	**20 20 06.5**	**0.0**
HNKL	**Nakhl**	**8.62**	**126**	P		**Pn**	**20 20 08.5**	**-1.1**
	baz=126							
HNKL	**Nakhl**	**8.62**	**126**	P		**Pn**	**20 20 08.2**	**-1.4**
HKAT	**Jabal Katrina**	**9.60**	**133**	P		**Pn**	**20 20 22.0**	**-0.9**
	baz=132							
HKAT	**Jabal Katrina**	**9.60**	**133**	P		**Pn**	**20 20 22.0**	**-0.9**

IDC 26 20:19:04.3±1.8, 3.41S×130.28E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/18, mbtmp3.5/4, ML3.0/1, Error ellipse: s-maj=110.7km s-min=26.0km az=71.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.91**	**167**	Pn		Pn	20 23 02.9	+0.5
	0.1nm,0.3s,baz=347,slow=11,SNR=5.8							
ASAR	**Alice Springs**	**20.45**	**170**	P		P	20 23 43.3	-0.1
	2.5nm,0.6s,baz=351,slow=11,SNR=51							
MKAR	**Makanchi Array**	**65.41**	**326**	P		P	20 29 49.0	+0.3
	0.2nm,0.6s,baz=117,slow=8.2,SNR=3.6							
KURK	**Kurchatov**	**69.62**	**328**	P		P	20 30 15.3	-0.1
	0.4nm,0.8s,baz=117,slow=5.6,SNR=3.9							

*IDC **26** 20:24:31.3±1.2, 6.20S×125.33E, h0km, mb3.4/3, mb1 4.0/6, mb1mx3.7/20, mbtmp3.8/6, ML4.2/3, MS2.7/1, Ms1 2.7/1, ms1mx2.2/20, Error ellipse: s-maj=105.6km s-min=21.7km az=69.0*
*NEIC **26** 20:24:32.5±0.7, 6.18S×125.54E, h10km, mb4.2/2, Error ellipse: s-maj=27.8km s-min=9.9km az=64.0*
*DJA **26** 20:24:34, 6.24S×125.13E, h10km, MLv4.1/6*
*ISCJB **26** 20:24:35.6±0.8, 6.44S±0.05×125.20E±0.05, h54km±12km, mb3.5/3, Error ellipse: s-maj=9.1km s-min=7.5km az=156.6*

ISC 26 20:24:37.0±0.7, 6.47S±0.04×125.21E±0.05, h49km±12km, n23, σ1§16/31, mb3.5/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BBSI	**Bau Bau**	**2.80**	**290**	P		**Pn**	**20 25 18.6**	**-0.7**
BBSI				S		**Sn**	**20 25 52.7**	**+0.9**
KDI	**Kendari**	**3.58**	**314**	P		**Pn**	**20 25 27.6**	**-2.5**
MMRI	**Maumere**	**3.65**	**234**	P		**Pn**	**20 25 32.4**	**+1.4**
NLAI	**Namlea**	**3.72**	**31**	P		**Pn**	**20 25 32.0**	**0.0**
NLAI				S		**Sn**	**20 26 15.4**	**+0.8**
BKSI	**Bulukumba**	**5.18**	**282**	P		**Pn**	**20 25 51.7**	**-0.4**
	0.1nm478nm41nm,0.8s							
LUWI	**Luwuk**	**5.91**	**336**	P		**Pn**	**20 25 58.9**	**-3.2**
SPSI	**Sidrap Palu**	**5.96**	**294**	P		**Pn**	**20 26 03.2**	**+0.5**
FITZ	**Fitzroy Crossi**	**11.57**	**178**	Pn		**Pn**	**20 27 20.9**	**+1.3**
	0.9nm,0.3s,baz=19,slow=10,SNR=23							
FITZ				Sn		**Sn**	**20 29 25.9**	**-1.5**
	0.7nm,0.3s,baz=239,slow=2.0,SNR=6.4							
FITZ				LR		LR	20 31 12.9	
	comp=Z,38nm,19.9s,baz=152,slow=34							
FITZ	**Fitzroy Crossi**	**11.57**	**178**	Pn		**Pn**	**20 27 20.9**	**+1.3**
FITZ				Sn		**Sn**	**20 29 25.9**	**-1.5**
WRAB	**Tennant Creek**	**16.06**	**147**	*e*P		**Pn**	**20 28 19.4**	**-0.3**
	5.0nm,0.6s							
WRA	**Warramunga Arr**	**16.07**	**147**	Pn		**Pn**	**20 28 19.2**	**-0.5**
	0.9nm,0.3s,baz=324,slow=13,SNR=27							
WRA				Sn		**Sn**	**20 31 12.2**	**-4.8**
	0.3nm,0.3s,baz=329,slow=23,SNR=14							
WRA	**Warramunga Arr**	**16.07**	**147**	Pn		**Pn**	**20 28 19.2**	**-0.5**
WRA				Sn		**Sn**	**20 31 12.2**	**-4.8**
WB2	**Warramunga Arr**	**16.07**	**147**	*e*P		**Pn**	**20 28 19.5**	**-0.3**
AS31	**Alice Springs**	**19.04**	**155**	*e*P		**Pn**	**20 28 59.7**	**+3.5**
ASAR	**Alice Springs**	**19.04**	**155**	P		**Pn**	**20 28 58.4**	**+2.1**
	1.1nm,0.3s,baz=326,slow=10,SNR=62							
ASAR				S		**S**	**20 32 24.3**	**-4.4**
	0.1nm,0.3s,baz=312,slow=22,SNR=4.3							
ASAR	**Alice Springs**	**19.04**	**155**	P		**Pn**	**20 28 58.4**	**+2.1**
ASAR				S		**S**	**20 32 24.3**	**-4.4**
COEN	**Coen**	**19.18**	**114**	*e*P		**Pn**	**20 28 53.9**	**-4.1**
	35nm,0.8s							
SONM	**Songino Array**	**56.56**	**345**	P		**P**	**20 34 14.1**	**-0.3**
	0.4nm,0.9s,mb3.5,baz=174,slow=5.4,SNR=3.4							
SONM	**Songino Array**	**56.56**	**345**	P		**P**	**20 34 14.1**	**-0.3**
MKAR	**Makanchi Array**	**65.25**	**329**	P		**P**	**20 35 13.7**	**+0.1**
	0.3nm,0.6s,mb3.5,baz=129,slow=7.4,SNR=4.6							
MKAR	**Makanchi Array**	**65.25**	**329**	P		**P**	**20 35 13.7**	**+0.1**
KURK	**Kurchatov**	**69.65**	**330**	P		**P**	**20 35 41.5**	**+0.2**
	0.4nm,0.8s,mb3.4,baz=146,slow=5.8,SNR=3.8							
KURK	**Kurchatov**	**69.65**	**330**	P		**P**	**20 35 41.5**	**+0.2**

GUC 26 20:37:06.9±0.7, 34.83S×72.75W, h16km±7km, ML3.5, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TALC	**Talca**	**1.08**	**122**	*i*P		Pb	20 37 25.8	-1.3
TALC				*i* S		Sb	20 37 40.0	-0.8
TALC				AML		AML	20 37 40.9	
	comp=N,5μm,0.3s							
NICH	**Los Niches**	**1.26**	**98**	*i*P		Pn	20 37 28.5	-1.3
NICH				*i* S		Sb	20 37 45.3	-1.0
COCH	**Cobquecura**	**1.30**	**181**	*e*P		Pn	20 37 29.4	-0.8
COCH				*i* S		Sb	20 37 45.9	-1.3
COCH				AML		AML	20 37 53.2	
	comp=E,284nm,0.6s							
LNCH	**Linares**	**1.38**	**137**	*i*P		Pn	20 37 30.8	-0.6
LNCH				*i* S		Sn	20 37 48.8	-0.5
LNCH				AML		AML	20 37 53.6	
	comp=N,2μm,0.4s							
LNV	**Longovilo**	**1.41**	**52**	*e*P		Pn	20 37 29.5	-2.4
LNV				*e*S		Sn	20 37 48.2	-1.9
CCHI	**Chillan**	**1.85**	**163**	*e*P		Pn	20 37 38.2	+0.3
CCHI				*e*S		Sn	20 38 01.8	+0.9
CCHI				AML		AML	20 38 11.5	
	comp=E,482nm,0.7s							
CACH	**El Canelo**	**1.92**	**69**	*e*P		Pn	20 37 38.3	-0.5
CACH				*e*S		Sn	20 38 03.8	+1.3
LMEL	**Las Melosas**	**2.33**	**66**	*e*P		Pn	20 37 45.4	+1.0
LMEL				*i* S		Sn	20 38 15.2	+2.5
LMEL				AML		AML	20 38 20.8	
	comp=E,429nm,0.6s							
CLCH	**Cerro Calan**	**2.33**	**53**	*e*P		Pn	20 37 45.7	+1.2
CLCH				*i* S		Sn	20 38 15.3	+2.5
CLCH				AML		AML	20 38 29.3	
	comp=N,351nm,0.4s							
PEL	**Peldehue**	**2.41**	**46**	*e*P		Pn	20 37 47.0	+1.4
PEL				*e*S		Sn	20 38 17.1	+2.5
PEL				AML		AML	20 38 29.1	
	comp=E,394nm,0.5s							

*IDC **26** 20:49:25.5±1.2, 17.62S×167.42E, h0km, mb4.3/13, mb1 4.5/14, mb1mx4.4/19, mbtmp4.4/14, ML5.1/1, MS3.6/9, Ms1 3.6/9, ms1mx3.4/26, Error ellipse: s-maj=35.4km s-min=18.3km az=142.0*
*LDG **26** 20:49:28.5±0.3, 17.46S×166.73E, h10km, Mb4.3/1, Error ellipse: s-maj=60.6km s-min=9.5km az=89.0*
*ISCJB **26** 20:49:29.3±0.6, 17.73S±0.04×167.32E±0.10, h33km, mb4.5/18, MS3.5/9, Error ellipse: s-maj=13.3km s-min=5.8km az=0.9*
*NEIC **26** 20:49:29.6±0.5, 17.66S×167.46E, h30km, mb4.6/5, Error ellipse: s-maj=12.8km s-min=10.8km az=169.0*

ISC 26 20:49:30.9±0.5, 17.69S±0.05×167.37E±0.09, h35km, n89, σ1§06/53, mb4.5/18, MS3.5/9, 3C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.45**	**191**	*e*Pn		**Pn**	**20 50 35.5**	**-0.3**
	30nm,0.2s							
DZM				*e*Sn		**Sn**	**20 51 26.4**	**+0.1**
	70nm,0.2s							
DZM				*e*LR		LR	20 51 35.8	
	325nm,25.6s							
DZM	**Mont Dzumac**	**4.45**	**191**	*e*P		**Pn**	**20 50 34.1**	**-1.7**
DZM				*e*S		**Sn**	**20 51 25.3**	**-1.1**
DZM	**Mont Dzumac**	**4.45**	**191**	*e*P		**Pn**	**20 50 34.5**	**-1.3**
NOUC	**Port Laguerre**	**4.50**	**193**	*e*P		**Pn**	**20 50 35.3**	**-1.3**
NOUC				*e*S		**Sn**	**20 51 27.5**	**-0.3**
MSVF	**Nonsavu**	**10.18**	**92**	*e*P		**Pn**	**20 51 51.0**	**-3.5**
	29nm,1.2s							
HNR	**Honiara**	**10.93**	**318**	Pn		**Pn**	**20 52 02.3**	**-2.5**
	14nm,0.3s,baz=85,slow=3.2,SNR=5.3							
HNR	**Honiara**	**10.93**	**318**	Pn		**Pn**	**20 52 02.3**	**-2.5**
CTA	**Charters Tower**	**20.12**	**260**	P		**P**	**20 54 02.5**	**+0.6**
	12nm,0.7s,baz=88,slow=11,SNR=20							
CTA				LR		LR	21 00 35.2	
	comp=Z,211nm,20.3s,MS3.5,baz=54,slow=33							
CTA	**Charters Tower**	**20.12**	**260**	*e*P		**P**	**20 54 03.5**	**+1.6**
	10nm,0.6s							
CTA	**Charters Tower**	**20.12**	**260**	P		**P**	**20 54 02.5**	**+0.6**
CTAO	**Charters Tower**	**20.12**	**260**	*e*P		**P**	**20 54 03.2**	**+1.2**
	13nm,0.7s							
AFI	**Afiamalu**	**20.41**	**82**	LR		LR	21 00 08.6	
	comp=Z,219nm,20.2s,MS3.5,baz=113,slow=32							
PMG	**Port Moresby**	**21.29**	**290**	P		**P**	**20 54 13.4**	**-1.2**
	3.3nm,0.3s,mb4.1,baz=191,slow=3.4,SNR=5.9							
PMG	**Port Moresby**	**21.29**	**290**	*e*P		**P**	**20 54 14.5**	**-0.1**
	6.9nm,0.8s,mb4.0							
URZ	**Urewera**	**22.20**	**159**	P		**P**	**20 54 29.3**	**+5.2**
	7.4nm,0.6s,mb4.3,baz=153,slow=2.3,SNR=3.5							
URZ				LR		LR	21 01 51.1	
	comp=Z,84nm,18.2s,MS3.2,baz=341,slow=34							
URZ	**Urewera**	**22.20**	**159**	P		**P**	**20 54 29.3**	**+5.2**
QLP	**Quilpie**	**23.16**	**243**	*e*P		**P**	**20 54 34.5**	**+0.1**
COEN	**Coen**	**23.57**	**276**	*e*P		**P**	**20 54 37.1**	**-1.4**
	69nm,1.1s,mb5.0							
CMSA	**Cobar Meteorol**	**23.99**	**231**	*e*P		**P**	**20 54 43.7**	**+1.4**
	80nm,0.8s,mb5.2							
STKA	**Stephens Creek**	**27.25**	**234**	P		**P**	**20 55 13.3**	**+1.5**
	20nm,0.8s,mb4.7,baz=66,slow=7.3,SNR=38							
STKA				LR		LR	21 05 02.4	
	comp=Z,94nm,20.5s,MS3.3,baz=29,slow=34							
STKA	**Stephens Creek**	**27.25**	**234**	*e*P		**P**	**20 55 13.1**	**+1.3**
	17nm,0.9s,mb4.6							
STKA	**Stephens Creek**	**27.25**	**234**	P		**P**	**20 55 13.3**	**+1.5**
WRA	**Warramunga Arr**	**31.32**	**261**	P		**P**	**20 55 47.0**	**-1.1**
	1.6nm,0.7s,mb3.9,baz=89,slow=8.9,SNR=17							
WRA				LR		LR	21 07 34.6	
	comp=Z,89nm,19.3s,MS3.5,baz=325,slow=35							
WRA	**Warramunga Arr**	**31.32**	**261**	P		**P**	**20 55 47.0**	**-1.1**
AS31	**Alice Springs**	**31.82**	**254**	*e*P		**P**	**20 55 51.9**	**-0.6**
ASAR	**Alice Springs**	**31.82**	**254**	P		**P**	**20 55 52.0**	**-0.5**
	2.9nm,0.6s,mb4.3,baz=80,slow=8.5,SNR=55							
ASAR	**Alice Springs**	**31.82**	**254**	P		**P**	**20 55 52.0**	**-0.5**
BBOO	**Buckleboo**	**31.93**	**236**	*e*P		**P**	**20 55 54.2**	**+0.9**
	73nm,0.9s,mb5.5							
GUMO	**Guam**	**38.20**	**323**	LR		LR	21 10 01.4	
	comp=Z,101nm,18.5s,MS3.7,baz=144,slow=32							
FITZ	**Fitzroy Crossi**	**39.66**	**263**	P		**P**	**20 56 59.6**	**-0.1**
	4.7nm,1.0s,mb4.2,baz=94,slow=11,SNR=11							
FITZ	**Fitzroy Crossi**	**39.66**	**263**	*e*P		**P**	**20 56 59.9**	**+0.2**
	6.3nm,0.8s,mb4.4							
FITZ	**Fitzroy Crossi**	**39.66**	**263**	*e*P		**P**	**20 57 00.2**	**+0.5**
	9.0nm,1.1s,mb4.4							
TBI	**Tubuai**	**40.71**	**105**	*e*LR		LR	21 08 29.4	
	160nm,28.8s							
PPT	**Papeete**	**40.96**	**97**	*e*LR		LR	21 08 27.2	
	244nm,27.8s							
MEEK	**Meekatharra**	**45.80**	**250**	*e*P		**P**	**20 57 49.6**	**+0.1**
	47nm,0.6s,mb5.6							
TAOE	**Nuku Hiva Isla**	**51.69**	**87**	*e*LR		LR	21 13 35.2	
	392nm,30.4s							
MJAR	**Matsushiro Arr**	**60.57**	**333**	P		**P**	**20 59 37.5**	**-0.4**
	1.5nm,0.8s,mb4.2,baz=175,slow=8.8,SNR=4.4							
MJAR	**Matsushiro Arr**	**60.57**	**333**	P		**P**	**20 59 37.5**	**-0.4**
KSRS	**Korea Array**	**66.24**	**326**	LR		LR	21 27 06.6	
	comp=Z,25nm,21.0s,MS3.4,baz=145,slow=34							
PETK	**Petropavlovsk-**	**71.00**	**354**	P		**P**	**21 00 44.9**	**+0.2**
	8.3nm,0.8s,mb4.7,baz=152,slow=9.9,SNR=6.8							
PETK	**Petropavlovsk-**	**71.00**	**354**	P		**P**	**21

h146km±2.0km**:pP-P,n77,**σ0s**91**/97**,mb4.3**/22**,Northeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
JMJ	**Miyako jima 2**	**0.99**	**162**	P		**20 57 29.3**	**+1.1**
JMJ				S		**20 57 46.1**	**+0.8**
JOGS	**Gusukube**	**1.08**	**158**	P		**20 57 30.4**	**+1.3**
JOGS				S		**20 57 47.8**	**+1.0**
JTJ	**Tarama**	**1.14**	**192**	P		**20 57 30.5**	**+0.8**
JTJ				S		**20 57 47.8**	**-0.1**
JIJ	**Ishigaki jima**	**1.58**	**208**	P		**20 57 34.4**	**-0.1**
JIJ				S		**20 57 54.6**	**-1.7**
JKE	**Kume jima 2**	**1.74**	**71**	P		**20 57 37.4**	**+1.1**
JKE				eS		**20 58 00.5**	**+0.8**
JKRS	**Kuro-shima**	**1.75**	**210**	P		**20 57 36.2**	**-0.2**
JKRS				eS		**20 57 58.9**	**-1.0**
IRIF	**Iriomote-Funau**	**1.81**	**218**	P		**20 57 37.1**	**-0.1**
IRIF				S		**20 58 00.1**	**-1.0**
HATJ	**Hateruma jima**	**1.99**	**212**	P		**20 57 39.5**	**0.0**
HATJ				S		**20 58 04.5**	**-0.7**
YOJ	**Yonaguni jima**	**2.19**	**234**	P		**20 57 42.6**	**+0.8**
YOJ				S		**20 58 09.6**	**+0.1**
JAGN	**Aguni-jima**	**2.21**	**68**	P		**20 57 42.7**	**+0.6**
JAGN				S		**20 58 09.9**	**-0.1**
NAH1	**Naha**	**2.50**	**79**	P		**20 57 46.8**	**+1.1**
NAH1				S		**20 58 16.6**	**+0.1**
JJT2	**Tamagusuku 2**	**2.54**	**81**	P		**20 57 47.4**	**+1.1**
JJT2				S		**20 58 18.1**	**+0.6**
JIH	**Iheya**	**2.98**	**64**	P		**20 57 52.6**	**+0.6**
JIH				S		**20 58 27.5**	**-0.1**
JOW	**Kunigami**	**3.16**	**70**	P		**20 57 54.5**	**+0.1**
	49nm,0.3s,baz=244,slow=4.0,SNR=284						
JOW				S		**20 58 30.1**	**-1.8**
	121nm,0.3s,baz=137,slow=26,SNR=27						
JOW	**Kunigami**	**3.16**	**70**	P		**20 57 54.5**	**+0.2**
JOW				S		**20 58 30.1**	**-1.8**
JOW	**Kunigami**	**3.16**	**70**	P		**20 57 54.4**	**+0.1**
JOW				S		**20 58 30.0**	**-1.9**
YHNB	**Yeheng**	**3.42**	**252**	eP		**20 57 59.8**	**+2.1**
NACB	**Ninganchiao**	**3.44**	**243**	eP		**20 57 57.6**	**-0.3**
YULB	**Yu-li**	**4.08**	**235**	eP		**20 58 04.7**	**-1.8**
JTK	**Tokunoshima**	**4.10**	**60**	P		**20 58 06.4**	**-0.3**
JTK				S		**20 58 51.3**	**-2.7**
SSLB	**Suanglung**	**4.14**	**242**	eP		**20 58 06.7**	**-0.5**
TWG	**Pinlang**	**4.60**	**231**	eP		**20 58 11.6**	**-1.8**
TPUB	**Ta-pu**	**4.64**	**239**	eP		**20 58 14.0**	**0.0**
JAM	**Amami Oshima**	**4.91**	**56**	P		**20 58 16.9**	**-0.7**
JAM				S		**20 59 10.1**	**-3.4**
JZK	**Kikaishima**	**5.14**	**59**	P		**20 58 20.6**	**-0.1**
JZK				S		**20 59 17.5**	**-1.5**
JMZ	**Minamidaito 2**	**5.65**	**88**	P		**20 58 25.2**	**-2.3**
JMZ				S		**20 59 24.6**	**-6.6**
KSAR	**Wonju Array Be**	**11.91**	**11**	P		**20 59 54.6**	**+3.2**
KSRS	**Korea Array**	**11.93**	**11**	P		**20 59 54.6**	**+3.0**
	0.4nm,0.3s,baz=185,slow=13,SNR=8.2						
ENH	**Enshi**	**14.38**	**292**	eP		**21 00 27.8**	**+4.4**
	6.5nm,1.0s						
MJAR	**Matsushiro Arr**	**15.61**	**43**	P		**21 00 39.7**	**+1.0**
	0.5nm,0.3s,baz=235,slow=11,SNR=10						
MJAR	**Matsushiro Arr**	**15.61**	**43**	P		**21 00 39.7**	**+1.0**
CMAR	**Chiang Mai Arr**	**25.14**	**258**	P		**21 02 19.4**	**+0.2**
	2.1nm,0.7s,mb3.6,baz=58,slow=7.6,SNR=12						
CMAR	**Chiang Mai Arr**	**25.14**	**258**	P		**21 02 19.4**	**+0.2**
SONM	**Songino Array**	**26.44**	**331**	P		**21 02 30.9**	**+0.3**
	1.2nm,0.5s,mb3.6,baz=150,slow=10,SNR=13						
SONM				pP		pP	21 03 01.6 +4.0
	2.1nm,0.8s,baz=148,slow=12,SNR=4.5						
SONM	**Songino Array**	**26.44**	**331**	P		**21 02 30.9**	**+0.3**
SONM				pP		pP	21 03 01.6 +4.0
LSA	**Lhasa**	**30.12**	**285**	eP		**21 03 04.7**	**+1.2**
	4.2nm,0.6s,mb4.2						
TAPN	**Taplejung**	**33.28**	**281**	eP		**21 03 31.9**	**+0.7**
	14nm,0.7s,mb4.9						
ODAN	**Odare**	**33.62**	**280**	eP		**21 03 34.5**	**+0.3**
	25nm,0.8s,mb5.1						
RAMN	**Ramite**	**34.30**	**281**	eP		**21 03 40.1**	**0.0**
JIRN	**Jiri**	**34.59**	**282**	eP		**21 03 43.2**	**+0.6**
GUN	**Gumba**	**34.84**	**282**	eP		**21 03 45.2**	**+0.5**
PKI	**Pulchoki**	**35.29**	**282**	eP		**21 03 48.7**	**+0.1**
	23nm,0.8s,mb5.0						
KKN	**Kakani**	**35.38**	**282**	eP		**21 03 49.5**	**+0.2**
DMN	**Daman**	**35.55**	**282**	eP		**21 03 50.9**	**+0.1**
	17nm,0.9s,mb5.0						
GKN	**Gorkha**	**35.92**	**283**	eP		**21 03 53.9**	**-0.1**
DANN	**Dangsing**	**36.66**	**283**	eP		**21 04 00.9**	**+0.7**
KOLN	**Koldanda**	**36.86**	**283**	eP		**21 04 02.2**	**+0.2**
PYUN	**Piuthan**	**37.36**	**283**	eP		**21 04 06.8**	**+0.6**
MK31	**Makanchi Array**	**39.68**	**313**	eP		**21 04 24.8**	**-0.5**
MKAR	**Makanchi Array**	**39.68**	**313**	P		**21 04 24.6**	**-0.6**
	2.1nm,0.5s,mb4.3,baz=101,slow=9.7,SNR=49						
MKAR				pP		pP	21 04 57.0 +3.5
	0.9nm,0.6s,baz=91,slow=11,SNR=2.9						
MKAR				PcP		PcP	21 06 29.5 0.0
	0.4nm,0.6s,baz=95,slow=3.5,SNR=3.1						
MKAR				ScP		ScP	21 10 06.4 -0.4
	0.2nm,0.6s,baz=126,slow=4.1,SNR=3.1						
MKAR	**Makanchi Array**	**39.68**	**313**	P		**21 04 24.6**	**-0.6**
MKAR				pP		pP	21 04 57.0 +3.5
MKAR				PcP		PcP	21 06 29.5 0.0
MKAR				ScP		ScP	21 10 06.3 -0.4
ZAA0	**Zalesovo Array**	**40.87**	**324**	eP		**21 04 33.8**	**-1.2**
ZALV	**Zalesovo Beam**	**40.87**	**324**	P		**21 04 34.0**	**-1.1**
	7.0nm,0.4s,mb4.8,baz=113,slow=8.7,SNR=59						
ZALV				ScP		ScP	21 10 09.7 -1.6
	0.9nm,0.6s,baz=127,slow=4.0,SNR=5.7						
ZALV	**Zalesovo Beam**	**40.87**	**324**	P		**21 04 34.0**	**-1.1**
ZALV				ScP		ScP	21 10 09.7 -1.6
KURK	**Kurchatov**	**43.16**	**318**	P		**21 04 53.1**	**-0.6**
	0.8nm,0.3s,mb3.9,baz=126,slow=3.3,SNR=23						
KURK				pP		pP	21 05 25.5 +3.3
	1.0nm,0.7s,baz=109,slow=8.7,SNR=3.7						
KURK				PcP		PcP	21 06 41.0 +0.1
	0.2nm,0.6s,baz=111,slow=4.0,SNR=4.0						
KURK				ScP		ScP	21 10 19.3 -1.1
	0.5nm,1.0s,baz=97,slow=3.1,SNR=2.7						
KURK	**Kurchatov**	**43.16**	**318**	eP		**21 04 52.8**	**-0.8**
	2.7nm,0.3s,mb4.5						
KURK				pP		pP	21 05 25.5 +3.3
KURK				PcP		PcP	21 06 41.0 +0.1
KURK				ScP		ScP	21 10 19.3 -1.1
COEN	**Coen**	**43.28**	**154**	eP		**21 04 55.4**	**+0.4**
	96nm,1.9s,mb5.2						
TKM2	**Tokmak 2**	**43.55**	**306**	eP		**21 04 57.7**	**+0.7**
	3.5nm,0.4s,mb4.4						
WRA	**Warramunga Arr**	**46.34**	**168**	P		**21 05 18.9**	**-0.1**
	2.5nm,0.6s,mb4.1,baz=350,slow=8.5,SNR=28						
WRA				pP		pP	21 05 50.7 +2.7
	0.9nm,0.7s,baz=350,slow=8.9,SNR=3.9						
WRA	**Warramunga Arr**	**46.34**	**168**	P		**21 05 18.9**	**-0.1**
WRA				pP		pP	21 05 50.7 +2.7
KKAR	**Karatay Array**	**47.28**	**306**	eP		**21 05 26.3**	**0.0**
KBL	**Kabul**	**48.61**	**294**	eP		**21 05 37.4**	**+0.7**
	2.6nm,0.5s,mb4.4						
BVAR	**Borovoye Array**	**48.68**	**319**	P		**21 05 36.2**	**-0.7**
	0.6nm,0.3s,mb4.0,baz=106,slow=8.8,SNR=10						
BVAR				PcP		PcP	21 06 59.1 -1.2
	0.7nm,0.5s,baz=119,slow=4.0,SNR=4.3						
BVAR	**Borovoye Array**	**48.68**	**319**	P		**21 05 36.2**	**-0.7**
BVAR				PcP		PcP	21 06 59.1 -1.2
ASAR	**Alice Springs**	**49.89**	**169**	P		**21 05 46.6**	**+0.3**
	0.9nm,0.5s,mb3.9,baz=338,slow=10.0,SNR=4.5						
ASAR				pP		pP	21 06 19.2 +3.5
	0.6nm,0.7s,baz=354,slow=8.3,SNR=3.1						
ASAR	**Alice Springs**	**49.89**	**169**	P		**21 05 46.6**	**+0.3**
ASAR				pP		pP	21 06 19.2 +3.5
ABKAR	**Akbulak array**	**54.82**	**313**	eP		**21 06 22.1**	**-0.5**
	3.7nm,0.6s,mb4.6						
AKTO	**Aktyubinsk**	**56.07**	**315**	P		**21 06 31.0**	**-0.4**
	0.5nm,0.3s,mb4.0,baz=100,slow=6.1,SNR=3.7						
AKTO	**Aktyubinsk**	**56.07**	**315**	P		**21 06 31.0**	**-0.4**
ILAR	**Eielson Array**	**66.23**	**28**	P		**21 07 39.0**	**-0.7**
	0.3nm,0.5s,mb3.4,baz=259,slow=4.9,SNR=10						
ILAR	**Eielson Array**	**66.23**	**28**	P		**21 07 39.0**	**-0.7**
FINES	**FINESS Array B**	**71.81**	**330**	P		**21 08 13.7**	**-0.5**
	6.9nm,1.1s,mb4.4,baz=52,slow=6.3,SNR=12						
FINES	**FINESS Array B**	**71.81**	**330**	P		**21 08 13.7**	**-0.5**
BRTR	**Keskin Array B**	**74.98**	**307**	P		**21 08 33.1**	**-0.1**
	0.4nm,0.5s,mb3.5,baz=105,slow=5.1,SNR=2.9						
BRTR	**Keskin Array B**	**74.98**	**307**	P		**21 08 33.1**	**-0.1**
YKA	**Yellowknife Ar**	**80.17**	**24**	P		**21 09 01.9**	**+0.2**
	0.5nm,0.7s,mb3.5,baz=300,slow=5.1,SNR=3.6						
YKA	**Yellowknife Ar**	**80.17**	**24**	P		**21 09 01.9**	**+0.2**

*ISK **26** 21:09:14.9,39˚.50N×33˚.13E,h2km,ML1.8*
*ISCJB **26** 21:09:16.8±0.5,39˚.46N±0˚.03×33˚.05E±0˚.04,h5km±4km, Error ellipse: s-maj=6.2km s-min=4.7km az=31.6*
*CSEM **26** 21:09:16.3±0.2,39˚.46N×33˚.05E,h5km,ML1.8,Error ellipse: s-maj=7.6km s-min=5.6km az=112.0*
*DDA **26** 21:09:16.5,39˚.44N×33˚.01E,h4km±1km,Md2.8*
ISC 26 21:09:17.0±0.5,**39˚.44N**±0˚.03×**33˚.06E**±0˚.05,**h4**km±4km, **n23,**σ1s**07/38,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
AFSR	**Afˇar-Bala (A**	**0.01**	**66**	ePg		**21 09 16.6**	**-1.0**
AFSR				eSg		**21 09 18.1**	**0.0**
AFSR	**Afˇar-Bala (A**	**0.01**	**66**	ePg		**21 09 16.6**	**-1.0**
AFSR				eSg		**21 09 18.1**	**0.0**
BBAL	**Bala**	**0.11**	**27**	*i* P		**21 09 19.4**	**+0.2**
BBAL				*i* S		**21 09 21.9**	**+1.2**
BBAL	**Bala**	**0.11**	**27**	*i* P		**21 09 19.4**	**+0.2**
BBAL				*i* S		**21 09 21.9**	**+1.1**
LOD	**Lodumlu**	**0.50**	**333**	ePG		**21 09 25.4**	**-1.2**
LOD				eSG		**21 09 32.9**	**-0.2**
LOD	**Lodumlu**	**0.50**	**333**	ePg		**21 09 25.4**	**-1.2**
LOD				eSg		**21 09 32.9**	**-0.2**
CDAG	**Cicekdag**	**1.03**	**79**	*i* P		**21 09 43.8**	**+7.0**
CDAG				*i* S		**21 09 59.4**	**+9.2**
KIZT	**Kizilcal**	**1.07**	**239**	ePN		**21 09 37.9**	**+0.4**
KIZT				eSN		**21 09 54.5**	**+3.0**
KIZT	**Kizilcal**	**1.07**	**239**	ePn		**21 09 37.9**	**+0.3**
KIZT				eSn		**21 09 54.5**	**+3.0**
ELDT	**Eldivan**	**1.08**	**15**	*i* P		**21 09 37.9**	**+0.1**
ELDT				*i* S		**21 09 53.2**	**+1.4**
ELDT	**Eldivan**	**1.08**	**15**	*i* P		**21 09 37.9**	**+0.1**
ELDT				*i* S		**21 09 53.2**	**+1.4**
KDHN	**Kadinhani**	**1.18**	**219**	*i* P		**21 09 38.8**	**-0.7**
KDHN				*i* S		**21 09 55.0**	**+0.2**
KDHN	**Kadinhani**	**1.18**	**219**	*i* P		**21 09 38.8**	**-0.7**
KDHN				*i* S		**21 09 55.0**	**+0.2**
SULT	**Sultanhani-AKS**	**1.29**	**164**	ePN		**21 09 41.7**	**-0.2**
SULT	**Sultanhani-AKS**	**1.29**	**164**	ePn		**21 09 41.7**	**-0.1**
CORM	**Corum**	**1.42**	**58**	ePN		**21 09 41.3**	**-2.2**
CORM	**Corum**	**1.42**	**58**	ePn		**21 09 41.3**	**-2.3**
AVNT	**Avonos**	**1.55**	**115**	*i* P		**21 09 46.4**	**+1.1**
AVNT				*i* S		**21 10 07.0**	**+1.1**
AVNT	**Avonos**	**1.55**	**115**	*i* P		**21 09 46.4**	**+1.1**
AVNT				*i* S		**21 10 07.0**	**+1.1**
KONT	**Konya--Tatoy**	**1.59**	**200**	ePN		**21 09 46.1**	**+0.1**
KONT	**Konya--Tatoy**	**1.59**	**200**	ePn		**21 09 46.1**	**+0.1**
YOZ	**Yozgat**	**1.76**	**83**	ePN		**21 09 46.5**	**-1.8**
YOZ	**Yozgat**	**1.76**	**83**	ePn		**21 09 46.5**	**-1.8**

DJA 26 21:10:59,10˚.92S×112˚.02E,h11km**,MLv3.7/6,South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
PCJI	**Pacitan**	**2.83**	**343**	P		21 11 43.4	-0.8
PWJI	**Pagerwojo**	**2.89**	**356**	P		21 11 44.3	-0.7
GMJI	**Gumukmas**	**2.98**	**28**	P		21 11 46.8	+0.5
GMJI				S		21 12 23.7	+1.7
SJI	**Sawahan**	**3.17**	**355**	P		21 11 48.6	-0.3
JAGI	**Jajag, Banyuwa**	**3.22**	**41**	P		21 11 50.1	+0.6
JAGI				S		21 12 28.4	+0.6
UGM	**Wanagama**	**3.33**	**334**	P		21 11 50.6	-0.5
UGM				S		21 12 32.8	+2.1

*OMAN **26** 21:25:28.0±6.8,30˚.30N×52˚.53E,h123km±20km, Error ellipse: s-maj=74.6km s-min=15.9km az=159.0*
*IDC **26** 21:25:51.2±0.6,28˚.19N×53˚.61E,h0km, mb4.1/24, mb1 4.2/26,mb1mx4.1/34,mbtmp4.1/26,ML4.0/2,MS3.3/7, Ms1 3.3/7,ms1mx2.9/43,Error ellipse: s-maj=14.9km s-min=12.8km az=161.0*
*ISCJB **26** 21:25:51.4±0.2,28˚.16N±0˚.02×53˚.53E±0˚.02,h10km, mb4.2/48,MS3.6/4,Error ellipse: s-maj=3.8km s-min=2.7km az=27.0*
*MOS **26** 21:25:54.4±1.1,28˚.23N×53˚.50E,h33km,mb4.4/11,Error ellipse: s-maj=10.5km s-min=7.3km az=69.8*
*BJI **26** 21:25:54.7,28˚.33N×53˚.14E,h61km,mB5.1/6,mb4.7/13, Ms4.4/1,Ms7 4.1/1*
*THR **26** 21:25:54.4±0.4,28˚.32N×53˚.54E,h18km±12km,ML4.3*
*NEIC **26** 21:25:55.4,28˚.11N×53˚.45E,h20km,mb4.1/7, ML4.3(THR),MN4.4(TEH),After TEH.*
*TEH **26** 21:25:55.8,28˚.14N×53˚.44E,h23km*
*CSEM **26** 21:25:57.3±0.1,28˚.25N×53˚.52E,h40km,mb4.3/15,Error ellipse: s-maj=4.6km s-min=3.4km az=50.0*
ISC 26 21:25:53.5±0.2,**28˚.18N**±0˚.02×**53˚.53E**±0˚.02,**h10**km,**n321,** σ1s**22**/333,**mb4.2**/48,**MS3.6**/4,**2C-14D,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
ISRV	**Sarvestan**	**1.26**	**343**	Pg		**21 26 18.7**	**+1.1**
ISRV				Sg		**21 26 36.4**	**+2.4**
ISRV	**Sarvestan**	**1.26**	**343**	ePg		**21 26 18.8**	**+1.2**
ISRV				eSg		**21 26 36.5**	**+2.5**
ISRV				*e*		21 26 41.5	
	comp=Z,60μm,0.2s						
ISRV	**Sarvestan**	**1.26**	**343**	ePg		**21 26 18.8**	**+1.2**
ISRV				eSg		**21 26 36.5**	**+2.5**
SHI	**Shiraz**	**1.71**	**329**	eSg		**21 26 49.6**	**+1.0**
SHI	**Shiraz**	**1.71**	**329**	eSg		**21 26 49.6**	**+1.0**
IPAR	**Pars**	**1.71**	**346**	Pn		**21 26 24.7**	**+1.3**
IPAR	**Pars**	**1.71**	**346**	ePn		**21 26 24.9**	**+1.5**
IPAR				eSg		**21 26 49.2**	**+0.6**
IPAR				*e*		21 26 57.5	
	comp=Z,37μm,0.4s						
IPAR	**Pars**	**1.71**	**346**	ePn		**21 26 24.9**	**+1.5**
IPAR				eSg		**21 26 49.2**	**+0.6**
IBND	**Bandar-abas**	**2.76**	**105**	ePn		**21 26 39.0**	**+1.2**
IBND				ePn		**21 26 39.3**	**+1.5**
IBND				eSg		**21 27 24.4**	**+2.2**
IBND				*e*		21 27 35.2	
	comp=Z,24μm,0.4s						
IBND				*e*		21 27 48.2	
	comp=Z,20μm,0.3s						
IBND	**Bandar-abas**	**2.76**	**105**	ePn		**21 26 39.0**	**+1.2**
BANOM	**Banah**	**3.33**	**132**	P		**21 26 47.9**	**+2.2**
	SNR=70						
BANOM	**Banah**	**3.33**	**132**	P		**21 26 47.9**	**+2.2**
	SNR=70						
IMEH	**Mehriz**	**3.34**	**16**	ePn		**21 26 47.7**	**+2.0**
IMEH				*e*		21 27 39.8	
	comp=Z,9μm,0.4s						
IMEH	**Mehriz**	**3.34**	**16**	ePn		**21 26 47.7**	**+2.0**
KRBR	**Kerman**	**3.35**	**57**	ePn		**21 26 47.3**	**+1.4**
KRBR				eSg		**21 27 36.4**	**-4.6**
KRBR	**Kerman**	**3.35**	**57**	ePn		**21 26 47.3**	**+1.4**
KRBR				eSg		**21 27 36.4**	**-4.6**
KRBR				AML	AML	21 27 40.4	
	comp=N,851nm,0.5s						
KRBR				AML	AML	21 27 40.5	
	comp=E,765nm,0.6s						
KRBR	**Kerman**	**3.35**	**57**	ePn		**21 26 47.3**	**+1.4**
KRBR				eSg		**21 27 36.4**	**-4.7**
NAZ	**Nazwa, Dubai**	**3.70**	**149**	P		**21 26 54.4**	**+3.6**
	SNR=9.7						
NAZ	**Nazwa, Dubai**	**3.70**	**149**	P		**21 26 54.4**	**+3.6**
	SNR=9.7						
ISAD	**Sadrabad**	**3.73**	**2**	ePn		**21 26 52.5**	**+1.4**
ISAD				*e*		21 27 59.7	
	comp=Z,8μm,0.3s						
ISAD	**Sadrabad**	**3.73**	**2**	ePn		**21 26 52.5**	**+1.4**
IBAF	**Bafgh**	**3.83**	**27**	ePn		**21 26 54.0**	**+1.5**
IBAF				*e*		21 26 54.2	
	comp=Z,3μm,0.2s						
IBAF	**Bafgh**	**3.83**	**27**	ePn		**21 26 54.0**	**+1.5**
ASUD	**Al Ashush, Dub**	**3.88**	**155**	P		**21 26 57.1**	**+3.8**
	SNR=102						
ASUD	**Al Ashush, Dub**	**3.88**	**155**	P		**21 26 57.1**	**+3.8**
	SNR=102						
HATD	**Hatta, Dubai**	**4.07**	**145**	P		**21 26 58.9**	**+3.1**
	SNR=19						
HATD	**Hatta, Dubai**	**4.07**	**145**	P		**21 26 58.9**	**+3.1**
	SNR=19						
ICHK	**Chekchek**	**4.12**	**10**	ePn		**21 26 57.8**	**+1.3**
ICHK				*e*		21 28 09.4	
	comp=Z,5μm,0.4s						
ICHK	**Chekchek**	**4.12**	**10**	ePn		**21 26 57.8**	**+1.3**
ASHO	**Ashiyiah**	**4.15**	**146**	P		**21 26 59.5**	**+2.5**
	SNR=74						
ASHO				P		21 26 59.6	
	SNR=22						
ASHO	**Ashiyiah**	**4.15**	**146**	P		**21 26 59.6**	**+2.7**
	SNR=22						
IGAR	**Gharneh**	**4.41**	**343**	ePn		**21 27 01.3**	**+0.9**
IGAR				*e*		21 27 20.1	
	comp=Z,2μm,0.3s						
NASN	**Na'in**	**4.65**	**352**	ePn		**21 27 04.6**	**+0.8**
NASN	**Na'in**	**4.65**	**352**	ePn		**21 27 04.6**	**+0.8**
NASN				AML	AML	21 27 59.3	
	comp=N,178nm,0.3s						
NASN	**Na'in**	**4.65**	**352**	ePn		**21 27 04.6**	**+0.8**
IZEF	**Zefreh**	**4.82**	**348**	Pn		**21 27 06.3**	**+0.2**
IZEF	**Zefreh**	**4.82**	**348**	ePn		**21 27 06.3**	**+0.2**
IZEF				*e*		21 28 01.4	
	comp=Z,1μm,0.2s						
IZEF	**Zefreh**	**4.82**	**348**	ePn		**21 27 06.3**	**+0.2**
QRN	**Al-Qurain**	**4.98**	**278**	eP		**21 27 09.1**	**+0.8**
KBD	**Kabd**	**5.23**	**282**	eP		**21 27 13.0**	**+1.3**
KBD				AML	AML	21 28 15.5	
	comp=Z,56nm,0.3s						
KBD	**Kabd**	**5.23**	**282**	eP		**21 27 13.0**	**+1.3**
UMR	**Umm Al-Rimmam**	**5.28**	**286**	eP		**21 27 14.0**	**+1.5**
UMR	**Umm Al-Rimmam**	**5.28**	**286**	eP		**21 27 14.0**	**+1.5**
RDF	**Al-Radifah**	**5.32**	**279**	eP		**21 27 13.8**	**+0.9**
RDF				AML	AML	21 28 14.9	
	comp=Z,61nm,0.3s						
RDF	**Al-Radifah**	**5.32**	**279**	eP		**21 27 13.9**	**+0.9**
IKLH	**Kolahrood**	**5.39**	**342**	Pn		**21 27 14.6**	**+0.6**
IKLH	**Kolahrood**	**5.39**	**342**	ePn		**21 27 14.7**	**+0.7**
IKLH				*e*		21 28 37.1	
	comp=Z,831nm,0.3s						
IKLH	**Kolahrood**	**5.39**	**342**	ePn		**21 27 14.7**	**+0.7**
NAY	**Al-Naaiem**	**5.63**	**282**	eP		**21 27 18.6**	**+1.4**
NAY				eS		**21 28 21.6**	**-0.3**
NAY				AML	AML	21 28 26.7	
	comp=Z,28nm,0.4s						
MIB	**Mutribah**	**5.66**	**288**	eP		**21 27 19.1**	**+1.4**
MIB				AML	AML	21 28 29.3	
	comp=Z,72nm,0.6s						
SHGR	**Shooshtar-Gavs**	**5.67**	**315**	eP		**21 27 19.0**	**+1.2**
SHGR	**Shooshtar-Gavs**	**5.67**	**315**	ePN5		21 27 18.8	
SHGR	**Shooshtar-Gavs**	**5.67**	**315**	eP		**21 27 19.0**	**+1.2**
HOQ	**Hoqain**	**5.70**	**143**	P		**21 27 21.2**	**+2.9**
	SNR=8.9						
HOQ	**Hoqain**	**5.70**	**143**	P		**21 27 21.2**	**+2.9**
	SNR=8.9						
TABS	**Tabas**	**6.26**	**29**	ePn		**21 27 26.2**	**+0.3**
BSY	**Bisya**	**6.34**	**148**	P		**21 27 29.2**	**+2.2**
	SNR=16						
IKOO	**Kooshah**	**6.35**	**47**	ePn		**21 27 28.1**	**+1.0**
IKOO				*e*		21 29 36.9	
	comp=Z,567nm,0.3s						
IKOO	**Kooshah**	**6.35**	**47**	ePn		**21 27 28.1**	**+1.0**
BSYO	**Bisya**	**6.37**	**147**	P		**21 27 29.2**	**+1.7**
	SNR=16						
ITEG	**Tejag**	**6.51**	**42**	ePn		**21 27 30.8**	**+1.5**
ITEG				*e*		21 29 42.9	
	comp=Z,477nm,0.4s						
ITEG	**Tejag**	**6.51**	**42**	ePn		**21 27 30.8**	**+1.5**
SMDO	**Samad**	**6.52**	**140**	P		**21 27 31.9**	**+2.3**
	SNR=16						
SMDO				P		21 27 32.4	
	SNR=7.7						
SMDO	**Samad**	**6.52**	**140**	P		**21 27 31.9**	**+2.3**
	SNR=16						
GHVR	**GHOM**	**6.57**	**344**	eP		**21 27 31.0**	**+0.8**
GHVR	**GHOM**	**6.57**	**344**	ePn		**21 27 31.0**	**+0.8**
GHVR	**GHOM**	**6.57**	**344**	eP		**21 27 31.0**	**+0.9**
ASAO	**Ashtian**	**7.02**	**336**	eP		**21 27 37.4**	**+1.0**
ASAO	**Ashtian**	**7.02**	**336**	ePn		**21 27 37.5**	**+1.1**
ASAO	**Ashtian**	**7.02**	**336**	eP		**21 27 37.4**	**+1.0**
IDAH	**Dahanechah**	**7.11**	**49**	ePn		**21 27 38.8**	**+1.2**
IDAH				*e*		21 30 03.0	
	comp=Z,368nm,0.4s						
IDAH	**Dahanechah**	**7.11**	**49**	ePn		**21 27 38.8**	**+1.2**
WBK	**Wadi Bani Khal**	**7.41**	**137**	P		**21 27 42.8**	**+1.1**
	SNR=30						
WBK	**Wadi Bani Khal**	**7.41**	**137**	P		**21 27 42.8**	**+1.1**
	SNR=30						
IKOM	**Komasi**	**7.90**	**321**	Pn		**21 27 43.6**	**-4.8**
IKOM	**Komasi**	**7.90**	**321**	ePn		**21 27 43.7**	**-4.7**
IKOM				*e*		21 27 56.4	
	comp=Z,669nm,0.1s						
IKOM	**Komasi**	**7.90**	**321**	ePn		**21 27 43.7**	**-4.7**
SHRT	**Shahrakht**	**7.96**	**45**	ePn		**21 27 50.3**	**+1.0**
IVIS	**Veis**	**8.53**	**320**	Pn		**21 27 57.5**	**+0.5**
IVIS	**Veis**	**8.53**	**320**	ePn		**21 27 56.5**	**-0.5**
IVIS				*e*		21 29 42.1	
	comp=Z,347nm,0.2s						
IVIS	**Veis**	**8.53**	**320**	ePn		**21 27 56.5**	**-0.5**
IGHG	**Ghaleghazi**	**8.55**	**318**	Pn		**21 27 57.2**	**-0.2**
IGHG	**Ghaleghazi**	**8.55**	**318

KIV					pmax	pmax				
	comp=Z,14nm,1.0s									
KIV	**Kislovodsk**	**18.00**	**334**	*e*Pn	**Pn**		**21**	**30**	**04.5**	**+0.8**
	comp=Z,15nm,1.0s									
KIV	**Kislovodsk**	**18.00**	**334**	*e*P	**Pn**		**21**	**30**	**06.1**	**+2.4**
	comp=Z,14nm,1.0s									
KIV				*e*S	**Sn**		**21**	**33**	**25.1**	**+0.7**
CSS	**Prodhromos**	**18.48**	**297**	*e*Pn	**Pn**		**21**	**30**	**11.8**	**+2.1**
	comp=Z,13nm,0.7s									
CSS	**Prodhromos**	**18.48**	**297**	*e*Pn	**Pn**		**21**	**30**	**11.8**	**+2.1**
	comp=Z,13nm,0.7s									
ATD	**Arta Tunnel**	**19.35**	**213**	LR	LR		21	38	06.3	
	comp=Z,64nm,18.7s,baz=63,slow=38									
BR131	**Keskin Array S**	**20.08**	**310**	*e*P	**P**		**21**	**30**	**26.8**	**-0.3**
	comp=Z,2.4nm,0.5s									
BR131	**Keskin Array S**	**20.08**	**310**	*e*P	**P**		**21**	**30**	**26.8**	**-0.3**
	comp=Z,2.4nm,0.5s									
BRTR	**Keskin Array B**	**20.08**	**310**	P	**P**		**21**	**30**	**27.9**	**+0.8**
	comp=Z,4.3nm,0.7s,baz=130,slow=13,SNR=18									
BRTR	**Keskin Array B**	**20.08**	**310**	P	**P**		**21**	**30**	**27.9**	**+0.8**
BRTR	**Keskin Array B**	**20.08**	**310**	*e*P	**P**		**21**	**30**	**31.5**	**+4.4**
BRTR	**Keskin Array B**	**20.08**	**310**	P	**P**		**21**	**30**	**27.9**	**+0.8**
KK31	**Karatay Array**	**20.24**	**38**	*i* P	**P**		**21**	**30**	**28.1**	**-0.7**
KK31				pmax	pmax					
	comp=Z,1.0nm,0.2s									
KK31	**Karatay Array**	**20.24**	**38**	*i* P	**P**		**21**	**30**	**28.1**	**-0.7**
	comp=Z,1.0nm,0.2s									
KKAR	**Karatay Array**	**20.24**	**38**	*e*P	**P**		**21**	**30**	**28.1**	**-0.7**
KKAR	**Karatay Array**	**20.24**	**38**	*e*P	**P**		**21**	**30**	**28.1**	**-0.7**
KKAR	**Karatay Array**	**20.24**	**38**	*e*P	**P**		**21**	**30**	**28.1**	**-0.7**
AB31	**Akbulak array**	**21.62**	**11**	*i* P	**P**		**21**	**30**	**42.7**	**-0.9**
AB31				pmax	pmax					
	comp=Z,1.0nm,0.2s,mb3.9									
AB31	**Akbulak array**	**21.62**	**11**	*i* P	**P**		**21**	**30**	**42.7**	**-0.9**
	comp=Z,1.0nm,0.2s,mb3.9									
ABKAR	**Akbulak array**	**21.62**	**11**	*e*P	**P**		**21**	**30**	**43.0**	**-0.6**
ABKAR	**Akbulak array**	**21.62**	**11**	*e*P	**P**		**21**	**30**	**43.0**	**-0.6**
KSH	**Kashi**	**21.74**	**53**	*e*P	**P**		**21**	**30**	**38.5**	**-6.5**
KSH				pmax	pmax					
	comp=Z,230nm,4.7s									
EKS2	**Erkin-Say**	**21.85**	**43**	*e*P	**P**		**21**	**30**	**45.8**	**-0.4**
	comp=Z,5.0nm,0.6s,mb4.1									
EKS2	**Erkin-Say**	**21.85**	**43**	*e*P	**P**		**21**	**30**	**45.8**	**-0.4**
EKS2				pmax	pmax					
	comp=Z,5.0nm,0.6s,mb4.1									
EKS2	**Erkin-Say**	**21.85**	**43**	*e*P	**P**		**21**	**30**	**45.8**	**-0.4**
	comp=Z,5.0nm,0.6s,mb4.1									
AAK	**Ala-Archa**	**22.28**	**44**	*e*P	**P**		**21**	**30**	**51.6**	**+0.9**
	comp=Z,20nm,0.7s,mb4.7									
AAK	**Ala-Archa**	**22.28**	**44**	*e*P	**P**		**21**	**30**	**51.9**	**+1.2**
AAK				pmax	pmax					
	comp=Z,9.0nm,1.0s,mb4.2									
AAK	**Ala-Archa**	**22.28**	**44**	*e*P	**P**		**21**	**30**	**51.7**	**+1.0**
	comp=Z,20nm,0.7s,mb4.7									
AKTK	**Aktyubinsk**	**22.49**	**8**	*i* P	**P**		**21**	**30**	**52.3**	**-0.6**
AKTO	**Aktyubinsk**	**22.49**	**8**	P	**P**		**21**	**30**	**51.4**	**-1.5**
	comp=Z,3.9nm,0.6s,mb4.0,baz=172,slow=12,SNR=13									
AKTO	**Aktyubinsk**	**22.49**	**8**	P	**P**		**21**	**30**	**51.4**	**-1.5**
AKTO	**Aktyubinsk**	**22.49**	**8**	*i* P	**P**		**21**	**30**	**52.3**	**-0.6**
AKTO	**Aktyubinsk**	**22.49**	**8**	P	**P**		**21**	**30**	**51.4**	**-1.5**
TKM2	**Tokmak 2**	**23.11**	**45**	*e*P	**P**		**21**	**31**	**00.1**	**+0.5**
	comp=Z,3.7nm,0.8s,mb3.9									
TKM2	**Tokmak 2**	**23.11**	**45**	*i* P	**P**		**21**	**30**	**58.5**	**-1.1**
TKM2				pmax	pmax					
	comp=Z,3.0nm,0.8s,mb3.8									
TKM2	**Tokmak 2**	**23.11**	**45**	*i* P	**P**		**21**	**30**	**58.5**	**-1.1**
	comp=Z,3.0nm,0.8s,mb3.8									
VSR	**Storozhevoye**	**25.44**	**339**	*e*P	**P**		**21**	**31**	**21.6**	**+0.3**
VSR				*e**PP	pP		21	31	32.5	+8.2
VSR				pmax	pmax					
	comp=E,10.0nm,0.8s									
VSR				pmax	pmax					
	comp=Z,4.0nm,0.8s,mb4.0									
VSR				pmax	pmax					
	comp=N,10.0nm,0.9s									
VSR	**Storozhevoye**	**25.44**	**339**	*e*P	**P**		**21**	**31**	**21.6**	**+0.3**
	comp=N,10.0nm,0.9s,mb4.3									
PYUN	**Piuthan**	**25.95**	**83**	*e*P	**P**		**21**	**31**	**25.3**	**-0.9**
KOLN	**Koldanda**	**26.53**	**84**	*e*P	**P**		**21**	**31**	**30.3**	**-1.1**
DANN	**Dangsing**	**26.59**	**82**	*e*P	**P**		**21**	**31**	**31.0**	**-1.0**
	comp=N,21nm,0.6s,mb4.8									
GKN	**Gorkha**	**27.41**	**83**	*e*P	**P**		**21**	**31**	**38.0**	**-1.3**
BVAR	**Borovoye Array**	**27.79**	**22**	P	**P**		**21**	**31**	**41.8**	**-0.7**
	comp=N,1.8nm,0.4s,mb4.0,baz=206,slow=8.8,SNR=23									
BVAR				PcP	PcP		21	34	57.8	-0.8
	comp=N,0.9nm,0.3s,baz=194,slow=2.8,SNR=9.3									
BVAR	**Borovoye Array**	**27.79**	**22**	P	**P**		**21**	**31**	**41.8**	**-0.7**
BVAR				PcP	PcP		21	34	57.8	-0.8
BVAR	**Borovoye Array**	**27.79**	**22**	P	**P**		**21**	**31**	**41.8**	**-0.6**
BVAR							21	34	57.8	
BVAR	**Borovoye Array**	**27.79**	**22**	P	**P**		**21**	**31**	**41.8**	**-0.6**
MLR	**Muntele Rosu**	**27.84**	**316**	P	**P**		**21**	**31**	**44.5**	**+1.4**
	comp=N,0.4nm,0.5s,mb3.3,baz=98,slow=18,SNR=8.9									
MLR	**Muntele Rosu**	**27.84**	**316**	P	**P**		**21**	**31**	**44.5**	**+1.4**
MLR	**Muntele Rosu**	**27.84**	**316**	P	**P**		**21**	**31**	**44.5**	**+1.5**
MLR	**Muntele Rosu**	**27.84**	**316**	‖ *i*P	**P**		**21**	**31**	**45.1**	**+2.1**
MLR	**Muntele Rosu**	**27.84**	**316**	P	**P**		**21**	**31**	**44.5**	**+1.5**
DMN	**Daman**	**27.87**	**84**	*e*P	**P**		**21**	**31**	**42.4**	**-1.1**
TESR		**27.93**	**318**	‖ *i*P	**P**		**21**	**31**	**42.7**	**-1.1**
TESR		**27.93**	**318**	‖ *i*P	**P**		**21**	**31**	**42.7**	**-1.1**
KKN	**Kakani**	**28.00**	**83**	*e*P	**P**		**21**	**31**	**43.5**	**-1.1**
GUN	**Gumba**	**28.51**	**83**	*e*P	**P**		**21**	**31**	**47.4**	**-1.8**
JIRN	**Jiri**	**28.82**	**83**	*e*P	**P**		**21**	**31**	**50.8**	**-1.1**
AKASG	**Malin Array Be**	**29.06**	**327**	P	**P**		**21**	**31**	**52.4**	**-1.4**
	comp=N,0.4nm,0.3s,mb3.6,baz=138,slow=7.7,SNR=4.3									
AKASG	**Malin Array Be**	**29.06**	**327**	P	**P**		**21**	**31**	**52.4**	**-1.4**
AKASG	**Malin Array Be**	**29.06**	**327**	P	**P**		**21**	**31**	**52.3**	**-1.5**
MK31	**Makanchi Array**	**29.18**	**43**	*e*P	**P**		**21**	**31**	**54.1**	**-0.8**
MK31	**Makanchi Array**	**29.18**	**43**	*i* P	**P**		**21**	**31**	**54.2**	**-0.8**
MK31				pmax	pmax					
	comp=Z,2.0nm,0.5s,mb4.1									
MK31	**Makanchi Array**	**29.18**	**43**	*i* P	**P**		**21**	**31**	**54.2**	**-0.8**
	comp=Z,2.0nm,0.5s,mb4.1									
MKAR	**Makanchi Array**	**29.18**	**43**	P	**P**		**21**	**31**	**54.3**	**-0.7**
	comp=Z,1.9nm,0.6s,mb4.0,baz=229,slow=8.8,SNR=25									
MKAR				PcP	PcP		21	35	00.8	-1.4
	comp=Z,0.4nm,0.4s,baz=244,slow=1.7,SNR=6.8									
MKAR	**Makanchi Array**	**29.18**	**43**	*e*P	**P**		**21**	**31**	**54.4**	**-0.6**
MKAR				PcP	PcP		21	35	00.8	-1.4
MKAR	**Makanchi Array**	**29.18**	**43**	*e*P	**P**		**21**	**31**	**54.2**	**-0.8**
MKAR				pmax	pmax					
	comp=Z,2.0nm,0.6s									
MKAR	**Makanchi Array**	**29.18**	**43**	*e*P	**P**		**21**	**31**	**54.2**	**-0.8**
	comp=Z,2.0nm,0.6s,mb4.0									
RAMN	**Ramite**	**29.29**	**85**	*e*P	**P**		**21**	**31**	**54.5**	**-1.7**
BURAR	**Bucovina Array**	**29.34**	**319**	‖ *i*P	**P**		**21**	**31**	**56.5**	**+0.1**
BURAR	**Bucovina Array**	**29.34**	**319**	‖ *i*P	**P**		**21**	**31**	**56.5**	**+0.1**
BUR08	**Bucovina Ar. S**	**29.37**	**319**	*e*P	**P**		**21**	**31**	**56.1**	**-0.5**
BUR08	**Bucovina Ar. S**	**29.37**	**319**	*e*P	**P**		**21**	**31**	**56.1**	**-0.5**
KURK	**Kurchatov**	**29.44**	**33**	P	**P**		**21**	**31**	**55.6**	**-1.5**
	comp=Z,1.6nm,0.8s,mb3.8,baz=232,slow=9.0,SNR=18									
KURK				PcP	PcP		21	35	01.6	-1.2
	comp=Z,0.4nm,0.4s,baz=232,slow=3.3,SNR=5.3									
KURK	**Kurchatov**	**29.44**	**33**	P	**P**		**21**	**31**	**55.6**	**-1.5**
KURK				PcP	PcP		21	35	01.6	-1.2
KURK	**Kurchatov**	**29.44**	**33**	*e*P	**P**		**21**	**31**	**55.3**	**-1.9**
KURK	**Kurchatov**	**29.44**	**33**	*e*P	**P**		**21**	**31**	**55.3**	**-1.9**
GZR	**Gura Zlata**	**29.79**	**314**	‖ *i*P	**P**		**21**	**32**	**02.3**	**+1.9**
DRGR		**30.44**	**316**	‖ *i*P	**P**		**21**	**32**	**07.3**	**+1.2**
DRGR		**30.44**	**316**	‖ *i*P	**P**		**21**	**32**	**07.3**	**+1.2**
BZS	**Buzias**	**30.62**	**313**	‖ *i*P	**P**		**21**	**32**	**08.8**	**+1.1**
BZS	**Buzias**	**30.62**	**313**	‖ *i*P	**P**		**21**	**32**	**08.8**	**+1.1**
ZAA0	**Zalesovo Array**	**34.43**	**33**	*e*P	**P**		**21**	**32**	**38.8**	**-2.1**
ZAA0	**Zalesovo Array**	**34.43**	**33**	*e*P	**P**		**21**	**32**	**38.8**	**-2.1**
ZALV	**Zalesovo Beam**	**34.43**	**33**	P	**P**		**21**	**32**	**39.7**	**-1.3**
	comp=Z,4.5nm,0.5s,mb4.7,baz=241,slow=9.5,SNR=37									
ZALV				PcP	PcP		21	35	14.3	-1.9
	comp=Z,0.5nm,0.4s,baz=222,slow=3.8,SNR=3.0									
ZALV	**Zalesovo Beam**	**34.43**	**33**	P	**P**		**21**	**32**	**39.7**	**-1.3**
ZALV				PcP	PcP		21	35	14.3	-1.9
ZALV	**Zalesovo Beam**	**34.43**	**33**	*e*P	**P**		**21**	**32**	**39.6**	**-1.3**
ZALV				pmax	pmax					
	comp=Z,5.0nm,0.5s,mb4.7									
ZALV	**Zalesovo Beam**	**34.43**	**33**	*e*P	**P**		**21**	**32**	**39.6**	**-1.3**
	comp=Z,5.0nm,0.5s,mb4.7									
ZALV	**Zalesovo Beam**	**34.43**	**33**	PcP	PcP		21	35	14.3	-1.9
MORC	**Moravsky Berou**	**34.84**	**318**	‖ *i*P	**P**		**21**	**32**	**45.5**	**+0.9**
MORC	**Moravsky Berou**	**34.84**	**318**	‖ *i*P	**P**		**21**	**32**	**45.5**	**+0.9**
VRAC	**Vranov**	**35.22**	**317**	‖ *i*P	**P**		**21**	**32**	**52.1**	**+4.3**
GERES	**GERESS Array B**	**36.82**	**315**	P	**P**		**21**	**33**	**00.2**	**-1.4**
	comp=Z,0.3nm,0.5s,mb3.4,baz=99,slow=8.2,SNR=4.8									
GERES				PcP	PcP		21	35	22.6	-0.8
	comp=Z,0.4nm,0.4s,baz=116,slow=2.3,SNR=3.2									
GERES	**GERESS Array B**	**36.82**	**315**	P	**P**		**21**	**33**	**00.2**	**-1.4**
GERES				PcP	PcP		21	35	22.6	-0.8
GERES	**GERESS Array B**	**36.82**	**315**	P	**P**		**21**	**33**	**00.2**	**-1.4**
GERES							21	35	22.6	
GERES	**GERESS Array B**	**36.82**	**315**	P	**P**		**21**	**33**	**00.2**	**-1.4**
KHC	**Kasperske Hory**	**37.00**	**315**	*e*P	**P**		**21**	**33**	**02.0**	**-1.0**
KHC	**Kasperske Hory**	**37.00**	**315**	*e*P	**P**		**21**	**33**	**02.0**	**-1.0**
KHC	**Kasperske Hory**	**37.00**	**315**	*e*P	**P**		**21**	**33**	**02.0**	**-1.0**
JOF	**Joensuu**	**37.66**	**344**	*e*P	**P**		**21**	**33**	**06.5**	**-2.0**
JOF				pmax	pmax					
	comp=Z,4.0nm,0.6s,mb4.3									
JOF	**Joensuu**	**37.66**	**344**	*e*p	**P**		**21**	**33**	**06.5**	**-2.0**
	comp=Z,4.1nm,0.6s,mb4.3									
JOF	**Joensuu**	**37.66**	**344**	*e*P	**P**		**21**	**33**	**06.5**	**-2.0**
	comp=Z,4.0nm,0.6s,mb4.3									
FINES	**FINESS Array B**	**37.97**	**339**	P	**P**		**21**	**33**	**10.0**	**-1.1**
	comp=Z,2.1nm,0.5s,mb4.1,baz=142,slow=10,SNR=16									
FINES	**FINESS Array B**	**37.97**	**339**	P	**P**		**21**	**33**	**10.0**	**-1.1**
FINES	**FINESS Array B**	**37.97**	**339**	P	**P**		**21**	**33**	**10.0**	**-1.1**
FINES	**FINESS Array B**	**37.97**	**339**	P	**P**		**21**	**33**	**10.0**	**-1.1**
MOTA	**Moosalm**	**38.05**	**312**	‖ *i*P	**P**		**21**	**33**	**10.6**	**-1.4**
	comp=Z,2.5nm,0.5s,mb4.2									
MOTA	**Moosalm**	**38.05**	**312**	P	**P**		**21**	**33**	**10.6**	**-1.4**
	comp=Z,2.5nm,0.5s,mb4.2									
CLL	**Collm**	**38.11**	**319**	*e*P	**P**		**21**	**33**	**17.0**	**+4.6**
CLL	**Collm**	**38.11**	**319**	*e*pP	pP		21	33	17.0	+1.5
FETA	**Feichten**	**38.21**	**311**	‖ *i*P	**P**		**21**	**33**	**12.6**	**-0.8**
	comp=Z,3.1nm,0.5s,mb4.3									
FETA	**Feichten**	**38.21**	**311**	P	**P**		**21**	**33**	**12.6**	**-0.8**
	comp=Z,3.1nm,0.5s,mb4.3									
KAF	**Kangasniemi**	**38.40**	**340**	*e*P	**P**		**21**	**33**	**11.4**	**-3.4**
KAF				pmax	pmax					
	comp=Z,2.0nm,0.4s,mb4.2									
KAF	**Kangasniemi**	**38.40**	**340**	*e*p	**P**		**21**	**33**	**11.4**	**-3.4**
	comp=Z,2.0nm,0.4s,mb4.2									
DAVA	**Damuels**	**38.84**	**311**	‖ *i*P	**P**		**21**	**33**	**17.5**	**-1.1**
	comp=Z,10nm,0.6s,mb4.8									
DAVA	**Damuels**	**38.84**	**311**	P	**P**		**21**	**33**	**17.5**	**-1.1**
	comp=Z,10nm,0.6s,mb4.8									
GTA	**Gaotai**	**39.67**	**61**	*e*P	**P**		**21**	**33**	**26.0**	**+0.3**
GTA				pmax	pmax					
	comp=Z,9.0nm,0.8s,mb4.5									
SBF	**Sospel**	**39.90**	**306**	*e*P	**P**		**21**	**33**	**28.1**	**+0.5**
MBDF	**Monbardon**	**40.49**	**307**	*e*P	**P**		**21**	**33**	**31.7**	**-0.7**
	comp=Z,9.2nm,0.4s,mb4.5									
LPG	**La Plagne**	**40.62**	**308**	*e*P	**P**		**21**	**33**	**32.5**	**-1.0**
LPL	**La Plagne**	**40.63**	**308**	*e*P	**P**		**21**	**33**	**32.1**	**-1.5**
CABF	**La Chapelle**	**41.25**	**310**	*e*P	**P**		**21**	**33**	**37.9**	**-0.8**
PAGF	**Fort de Pagny**	**41.84**	**312**	*e*P	**P**		**21**	**33**	**43.7**	**+0.2**
SFTF	**Sexfontaines**	**42.23**	**312**	*e*P	**P**		**21**	**33**	**47.0**	**+0.4**
MEZF	**Maizieres J'vi**	**42.27**	**312**	*e*P	**P**		**21**	**33**	**46.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**42.60**	**93**	P	**P**		**21**	**33**	**49.6**	**-0.5**
	comp=Z,1.2nm,0.6s,mb3.8,baz=282,slow=9.2,SNR=10.0									
CMAR	**Chiang Mai Arr**	**42.60**	**93**	P	**P**		**21**	**33**	**49.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**42.60**	**93**	P	**P**		**21**	**33**	**49.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**42.60**	**93**	P	**P**		**21**	**33**	**49.6**	**-0.5**
SMF	**Signal de Mont**	**42.78**	**309**	*e*P	**P**		**21**	**33**	**49.4**	**-1.8**
	comp=Z,8.8nm,0.7s,mb4.3									
LOR	**Lormes**	**42.86**	**310**	*e*P	**P**		**21**	**33**	**52.4**	**+0.6**
LZH	**Lanzhou**	**42.93**	**66**	*e*P	**P**		**21**	**33**	**52.5**	**-0.1**
LZH				pmax	pmax					
	comp=Z,18nm,1.4s,mb4.6									
SSF	**Saint Saulge**	**43.07**	**310**	*e*P	**P**		**21**	**33**	**52.7**	**-0.8**
	comp=Z,11nm,1.0s,mb4.2									
BAIF	**Baives**	**43.12**	**314**	*e*P	**P**		**21**	**33**	**54.0**	**+0.2**
	comp=Z,9.7nm,0.9s,mb4.2									
ZAK	**Zakamensk**	**43.44**	**45**	*e*P	**P**		**21**	**33**	**51.8**	**-4.7**
ZAK				pmax	pmax					
	comp=Z,1.0nm,1.0s,mb3.5									
TAM	**Tamanrasset**	**43.45**	**274**	*e*P	**P**		**21**	**33**	**55.8**	**-1.1**
	comp=Z,3.7nm,0.9s,mb4.1									
TAM	**Tamanrasset**	**43.45**	**274**	*e*P	**P**		**21**	**33**	**55.8**	**-1.1**
TAM				pmax	pmax					
	comp=Z,4.0nm,0.9s,mb4.2									
TAM	**Tamanrasset**	**43.45**	**274**	*e*P	**P**		**21**	**33**	**55.8**	**-1.1**
	comp=Z,4.0nm,0.9s,mb4.2									
TCF	**Toulx Ste Croi**	**43.86**	**309**	*e*P	**P**		**21**	**33**	**57.5**	**-2.4**
RJF	**Les Rejaudoux**	**44.26**	**307**	*e*P	**P**		**21**	**34**	**03.5**	**+0.4**
KEV	**Kevo**	**44.33**	**347**	*e*P	**P**		**21**	**34**	**01.8**	**-1.6**
KEV				pmax	pmax					
	comp=Z,5.0nm,0.6s,mb4.4									
KEV	**Kevo**	**44.33**	**347**	*e*p	**P**		**21**	**34**	**01.8**	**-1.6**
	comp=Z,4.7nm,0.6s,mb4.4									
KEV	**Kevo**	**44.33**	**347**	*e*P	**P**		**21**	**34**	**01.8**	**-1.6**
	comp=Z,5.0nm,0.6s,mb4.4									
ARCES	**ARCESS Array B**	**44.46**	**346**	P	**P**		**21**	**34**	**03.6**	**-0.7**
	comp=Z,5.9nm,1.1s,mb4.2,baz=150,slow=8.7,SNR=22									
ARCES	**ARCESS Array B**	**44.46**	**346**	P	**P**		**21**	**34**	**03.6**	**-0.7**
ARCES	**ARCESS Array B**	**44.46**	**346**	P	**P**		**21**	**34**	**03.7**	**-0.6**
ARCES	**ARCESS Array B**	**44.46**	**346**	P	**P**		**21**	**34**	**03.7**	**-0.6**
LFF	**La Frestale**	**44.78**	**307**	*e*P	**P**		**21**	**34**	**07.0**	**-0.3**
	comp=Z,11nm,0.6s,mb4.5									
SONM	**Songino Array**	**45.07**	**49**	P	**P**		**21**	**34**	**09.2**	**-0.4**
	comp=Z,2.5nm,0.8s,mb4.1,baz=267,slow=8.8,SNR=18									
SONM				LR	LR		21	56	00.6	
	comp=Z,44nm,20.2s,MS3.4,baz=45,slow=40									
SONM	**Songino Array**	**45.07**	**49**	P	**P**		**21**	**34**	**09.2**	**-0.4**
SONM	**Songino Array**	**45.07**	**49**	P	**P**		**21**	**34**	**09.2**	**-0.4**
SONM	**Songino Array**	**45.07**	**49**	P	**P**		**21**	**34**	**09.2**	**-0.4**
ULN	**Ulaanbaatar**	**45.52**	**49**	*e*P	**P**		**21**	**34**	**12.7**	**-0.4**
ULN	**Ulaanbaatar**	**45.52**	**49**	*e*P	**P**		**21**	**34**	**12.7**	**-0.4**
ULN	**Ulaanbaatar**	**45.52**	**49**	*e*P	**P**		**21**	**34**	**12.7**	**-0.4**
ETSF	**Etsaut**	**45.65**	**304**	*e*P	**P**		**21**	**34**	**14.5**	**+0.3**
SJPF	**Ste Jean**	**46.14**	**304**	*e*P	**P**		**21**	**34**	**18.0**	**-0.1**
	comp=Z,10.0nm,0.6s,mb4.7									
XAN	**Xi'an**	**47.30**	**68**	P	**P**		**21**	**34**	**25.8**	**-1.5**
XAN				pmax	pmax					
	comp=Z,3.0nm,0.7s,mb4.3									
ESDC	**Sonseca Array**	**48.33**	**299**	P	**P**		**21**	**34**	**35.0**	**-0.3**
	comp=Z,0.7nm,0.4s,mb4.0,baz=71,slow=7.2,SNR=9.0									
ESDC	**Sonseca Array**	**48.33**	**299**	P	**P**		**21**	**34**	**35.0**	**-0.3**
ESDC	**Sonseca Array**	**48.33**	**299**	P	**P**		**21**	**34**	**35.0**	**-0.3**
HHC	**Hu-ho-hao-te**	**48.65**	**59**	*e*P	**P**		**21**	**34**	**37.8**	**+0.1**
HHC				pP	pP		21	34	50.0	+9.2
HHC				sP	sP		21	34	55.3	+13
HHC				PcP	PcP		21	36	04.0	+1.0
HHC				PP	PP		21	36	30.8	+0.2
HHC				S	**S**		**21**	**41**	**34.5**	**-5.3**
HHC				ScS	ScS		21	44	23.3	-7.2
HHC				pmax	pmax					
	comp=Z,12nm,0.8s,mb5.0									
HHC				pmax	pmax					
	comp=Z,150nm,7.5s									
HHC				LR	LR					
	comp=N,100nm,15.0s,MS4.2									
HHC				LR	LR					
	comp=E,170nm,15.9s,MS4.2									
HHC				LR	LR					
	comp=Z,180nm,16.1s,MS4.2									
TORD	**Torodi Ar. Bea**	**50.39**	**264**	P	**P**		**21**	**34**	**50.7**	**-0.6**
	comp=Z,3.9nm,0.8s,mb4.5,baz=62,slow=7.7,SNR=41									
TORD				LR	LR		21	58	38.7	
	comp=Z,46nm,19.4s,MS3.5,baz=85,slow=39									
TORD	**Torodi Ar. Bea**	**50.39**	**264**	P	**P**		**21**	**34**	**50.7**	**-0.6**
TORD	**Torodi Ar. Bea**	**50.39**	**264**	P	**P**		**21**	**34**	**50.7**	**-0.6**
SPITS	**Spitsbergen Ar**	**52.79**	**351**	P	**P**		**21**	**35**	**08.1**	**-0.3**
	comp=Z,3.3nm,0.5s,mb4.5,baz=118,slow=12,SNR=8.1									
SPITS	**Spitsbergen Ar**	**52.79**	**351**	P	**P**		**21**	**35**	**08.1**	**-0.3**
SPITS	**Spitsbergen Ar**	**52.79**	**351**	P	**P**		**21**	**35**	**08.1**	**-0.3**
SPITS	**Spitsbergen Ar**	**52.79**	**351**	P	**P**		**21**	**35**	**08.1**	**-0.3**
DBIC	**Dimbokro**	**59.08**	**260**	P	**P**		**21**	**35**	**54.6**	**+0.3**
	comp=Z,5.5nm,0.8s,mb4.6,baz=35,slow=9.3,SNR=8.8									
DBIC	**Dimbokro**	**59.08**	**260**	P	**P**		**21**	**35**	**54.6**	**+0.3**
DBIC	**Dimbokro**	**59.08**	**260**	P	**P**		**21**	**35**	**54.6**	**+0.2**
DBIC	**Dimbokro**	**59.08**	**260**	P	**P**		**21**	**35**	**54.6**	**+0.2**
LBTB	**Lobatse**	**59.33**	**210**	P	**P**		**21**	**35**	**57.1**	**+1.4**
	comp=Z,2.9nm,0.7s,mb4.4,baz=37,slow=10.0,SNR=4.9									
LBTB	**Lobatse**	**59.33**	**210**	P	**P**		**21**	**35**	**57.1**	**+1.4**
LBTB	**Lobatse**	**59.33**	**210**	P	**P**		**21**	**35**	**57.2**	**+1.4**
LBTB	**Lobatse**	**59.33**	**210**	P	**P**		**21**	**35**	**57.2**	**+1.4**
KSAR	**Wonju Array Be**	**61.71**	**61**	P	**P**		**21**	**36**	**10.2**	**-1.8**
KSAR	**Wonju Array Be**	**61.71**	**61**	P	**P**		**21**	**36**	**10.3**	**-1.7**
KSAR	**Wonju Array Be**	**61.71**	**61**	P	**P**		**21**	**36**	**10.2**	**-1.8**
KSRS	**Korea Array**	**61.74**	**60**	P	**P**		**21**	**36**	**10.2**	**-2.0**
	comp=Z,1.5nm,0.8s,mb4.2,baz=290,slow=4.8,SNR=4.7									
KSRS	**Korea Array**	**61.74**	**60**	*e*P	**P**		**21**	**36**	**10.2**	**-2.0**
KSRS				pmax	pmax					
	comp=Z,2.0nm,0.8s,mb4.3									
KSRS	**Korea Array**	**61.74**	**60**	*e*P	**P**		**21**	**36**	**10.2**	**-2.0**
	comp=Z,2.0nm,0.8s,mb4.3									
BOSA	**Boshof**	**62.63**	**208**	P	**P**		**21**	**36**	**17.2**	**-0.9**
	comp=Z,1.3nm,0.8s,mb4.1,baz=63,slow=11,SNR=3.0									
BOSA	**Boshof**	**62.63**	**208**	P	**P**		**21**	**36**	**17.2**	**-0.9**
BOSA	**Boshof**	**62.63**	**208**	P	**P**		**21**	**36**	**17.2**	**-0.9**
BOSA	**Boshof**	**62.63**	**208**	P	**P**		**21**	**36**	**17.2**	**-0.9**
JOW	**Kunigami**	**65.26**	**72**	LR	LR		22	08	48.3	
	comp=

Error ellipse: s-maj=9.6km s-min=8.4km az=182.0
*BJI **26** 21:46:38.3, 17.60S×167.30E, h60km, mB5.0/2, mb4.8/7, Ms4.7/1, Ms7 4.3/1*

ISC 26 21:46:37.4±1.1, 17.66S±0.06×167.33E±0.06, h37km±11km, h33km±4.8km:pP-P, n102, σ0.99/59, mb4.7/25, MS3.8/7, 3C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.47**	**191**	*e*Pn	**Pn**	**21 47 41.1**	**-1.6**
	22nm,0.2s						
DZM				*e*Sn	**Sn**	**21 48 31.2**	**-2.3**
	26nm,0.2s						
DZM				*e*LR	LR	21 48 40.7	
	1μm,26.3s						
DZM	**Mont Dzumac**	**4.47**	**191**	*e*Pn	**Pn**	**21 47 41.0**	**-1.7**
DZM				*e*Sn	**Sn**	**21 48 36.6**	**+3.0**
MSVF	**Nonsavu**	**10.22**	**92**	*e*Pn	**Pn**	**21 49 03.0**	**+1.3**
HNR	**Honiara**	**10.87**	**318**	LR	LR	21 52 40.8	
	comp=Z,222nm,19.2s,baz=350,slow=34						
HNR	**Honiara**	**10.87**	**318**	*e*Pn	**Pn**	**21 49 10.6**	**-0.1**
	105nm,0.9s						
RMQ	**Roma**	**19.30**	**240**	*e*P	**Pn**	**21 51 01.5**	**+0.9**
	36nm,1.1s						
CTA	**Charters Tower**	**20.09**	**260**	P	**P**	**21 51 09.2**	**+1.2**
	11nm,0.8s,baz=87,slow=12,SNR=9.6						
CTA				LR	LR	21 57 59.8	
	comp=Z,411nm,18.3s,MS3.8,baz=67,slow=34						
CTA	**Charters Tower**	**20.09**	**260**	*e*P	**P**	**21 51 09.5**	**+1.5**
	9.7nm,0.9s						
CTA	**Charters Tower**	**20.09**	**260**	P	**P**	**21 51 09.2**	**+1.2**
CTAO	**Charters Tower**	**20.09**	**260**	*e*P	**P**	**21 51 08.3**	**+0.3**
	119nm,2.0s						
AFI	**Afiamalu**	**20.45**	**82**	LR	LR	21 57 14.2	
	comp=Z,366nm,21.4s,MS3.7,baz=19,slow=32						
PMG	**Port Moresby**	**21.24**	**290**	P	**P**	**21 51 20.7**	**+0.2**
	5.8nm,0.8s,mb4.0,baz=298,slow=18,SNR=8.2						
PMG	**Port Moresby**	**21.24**	**290**	*e*P	**P**	**21 51 21.3**	**+0.8**
	41nm,1.5s,mb4.5						
URZ	**Urewera**	**22.24**	**159**	P	**P**	**21 51 32.2**	**+1.2**
	6.2nm,0.8s,mb4.1,baz=180,slow=1.0,SNR=2.5						
URZ				LR	LR	21 58 56.5	
	comp=Z,163nm,20.8s,MS3.4,baz=351,slow=33						
URZ	**Urewera**	**22.24**	**159**	*e*P	**P**	**21 51 30.0**	**-1.1**
	14nm,1.0s,mb4.3						
QLP	**Quilpie**	**23.14**	**243**	*e*P	**P**	**21 51 40.3**	**-0.3**
COEN	**Coen**	**23.52**	**276**	*e*P	**P**	**21 51 43.8**	**-0.8**
	46nm,1.1s,mb4.8						
COEN	**Coen**	**23.52**	**276**	*e*P	**P**	**21 51 44.7**	**+0.1**
	177nm,1.3s,mb5.3						
CMSA	**Cobar Meteorol**	**23.98**	**231**	*e*P	**P**	**21 51 49.4**	**+0.8**
	137nm,1.0s,mb5.3						
CAN	**Canberra**	**23.98**	**219**	*e*P	**P**	**21 51 49.4**	**+0.8**
	94nm,1.6s,mb5.0						
STKA	**Stephens Creek**	**27.23**	**234**	P	**P**	**21 52 18.3**	**+0.2**
	22nm,0.8s,mb4.7,baz=61,slow=7.3,SNR=30						
STKA	**Stephens Creek**	**27.23**	**234**	*e*P	**P**	**21 52 18.1**	**0.0**
	22nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**27.23**	**234**	*e*P	**P**	**21 52 18.6**	**+0.5**
	9.5nm,1.1s,mb4.2						
RAR	**Rarotonga**	**31.20**	**102**	LR	LR	22 02 33.5	
	comp=Z,222nm,19.2s,MS3.8,baz=313,slow=31						
WB2	**Warramunga Arr**	**31.27**	**261**	*e*P	**P**	**21 52 53.2**	**-0.9**
WRA	**Warramunga Arr**	**31.29**	**261**	P	**P**	**21 52 53.4**	**-0.8**
	4.0nm,1.1s,mb4.2,baz=91,slow=8.7,SNR=12						
WRA				LR	LR	22 04 40.1	
	comp=Z,176nm,20.1s,MS3.7,baz=95,slow=35						
WRA	**Warramunga Arr**	**31.29**	**261**	P	**P**	**21 52 53.4**	**-0.8**
AS31	**Alice Springs**	**31.79**	**253**	*e*P	**P**	**21 52 57.5**	**-1.1**
ASAR	**Alice Springs**	**31.79**	**253**	P	**P**	**21 52 57.3**	**-1.3**
	2.7nm,0.7s,mb4.2,baz=82,slow=8.7,SNR=18						
ASAR	**Alice Springs**	**31.79**	**253**	P	**P**	**21 52 57.3**	**-1.3**
BBOO	**Buckleboo**	**31.91**	**236**	*e*P	**P**	**21 53 00.0**	**+0.4**
	95nm,0.9s,mb5.6						
TBI	**Tubuai**	**40.76**	**105**	*e*LR	LR	22 05 31.5	
	280nm,28.2s						
PPT	**Papeete**	**41.01**	**97**	*e*S	**S**	**22 00 21.7**	**-5.8**
	74nm,26.8s						
PPT				*e*LR	LR	22 05 35.8	
	452nm,27.5s						
MBWA	**Marble Bar**	**44.90**	**258**	*e*P	**P**	**21 54 49.9**	**+1.1**
	32nm,1.2s,mb5.0						
MEEK	**Meekatharra**	**45.77**	**250**	*e*P	**P**	**21 54 55.2**	**-0.5**
	80nm,1.0s,mb5.6						
RKT	**Rikitea**	**54.07**	**106**	*e*LR	LR	22 11 43.0	
	232nm,30.2s						
VNDA	**Vanda**	**59.95**	**181**	*e*P	**P**	**21 56 38.9**	**-0.6**
	7.0nm,1.5s,mb4.5						
MJAR	**Matsushiro Arr**	**60.52**	**333**	P	**P**	**21 56 42.0**	**-1.9**
	3.1nm,1.1s,mb4.4,baz=177,slow=11,SNR=5.4						
MJAR	**Matsushiro Arr**	**60.52**	**333**	P	**P**	**21 56 42.0**	**-1.9**
QIZ	**Qiongzhong**	**67.22**	**300**	P	**P**	**21 57 29.8**	**+1.4**
QIZ				pmax	pmax		
	comp=Z,34nm,2.5s,mb4.9						
QIZ				pmax	pmax		
	comp=Z,280nm,5.2s						
PETK	**Petropavlovsk-**	**70.96**	**354**	P	**P**	**21 57 49.9**	**-1.0**
	comp=Z,18nm,1.1s,mb4.9,baz=179,slow=8.7,SNR=7.6						
PETK				LR	LR	22 26 29.1	
	comp=Z,34nm,19.9s,MS3.6,baz=272,slow=34						
PETK	**Petropavlovsk-**	**70.96**	**354**	P	**P**	**21 57 49.9**	**-1.0**
QSPA	**South Pole Qui**	**72.39**	**180**	P	**P**	**21 58 00.0**	**+0.8**
	comp=Z,9.6nm,1.0s,mb4.7,baz=8.5,slow=2.3,SNR=12						
QSPA	**South Pole Qui**	**72.39**	**180**	*e*P	**P**	**21 57 59.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**76.20**	**295**	P	**P**	**21 58 23.4**	**+1.0**
	comp=Z,6.2nm,1.2s,mb4.4,baz=123,slow=4.6,SNR=14						
CMAR	**Chiang Mai Arr**	**76.20**	**295**	P	**P**	**21 58 23.4**	**+1.0**
CHTO	**Chiang Mai**	**76.34**	**295**	*e*P	**P**	**21 58 24.5**	**+1.3**
	comp=Z,19nm,1.4s,mb4.8						
HHC	**Hu-ho-hao-te**	**77.84**	**320**	*e*P	**P**	**21 58 34.5**	**+3.3**
HHC				S	S	22 08 18.8	-2.7
HHC				SKS		22 08 34.5	
HHC				ScS	ScS	22 08 41.8	-5.8
HHC				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
HHC				pmax	pmax		
	comp=Z,55nm,6.5s						
HHC				LR	LR		
	comp=N,140nm,15.6s,MS4.5						
HHC				LR	LR		
	comp=E,130nm,15.4s,MS4.5						
HHC				LR	LR		
	comp=Z,130nm,18.4s,MS4.3						
LZH	**Lanzhou**	**80.33**	**313**	*e*P	**P**	**21 58 45.0**	**+0.1**
LZH				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
GTA	**Gaotai**	**84.72**	**314**	*e*P	**P**	**21 59 07.5**	**-0.3**
GTA				pP	pP	21 59 20.3	+1.1
GTA				sP	sP	21 59 26.0	+2.6
GTA				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.4						
SONM	**Songino Array**	**84.87**	**324**	P	**P**	**21 59 07.9**	**-0.4**
	comp=Z,3.8nm,1.3s,mb4.4,baz=144,slow=2.8,SNR=8.6						
SONM	**Songino Array**	**84.87**	**324**	P	**P**	**21 59 07.9**	**-0.4**
SYO	**Syowa Base**	**85.93**	**197**↑	*e*P	**P**	**21 59 12.4**	**-1.0**
WDC	**Whiskeytown Da**	**87.05**	**46**	*e*P	**P**	**21 59 19.3**	**+0.1**
CMB	**Columbia Colle**	**87.47**	**49**	*e*P	**P**	**21 59 21.3**	**-0.1**
	comp=Z,7.8nm,1.3s,mb4.8						
NVAR	**Mina Array Bea**	**89.13**	**49**	P	**P**	**21 59 28.2**	**-1.0**
	comp=Z,1.9nm,1.0s,mb4.4,baz=223,slow=5.8,SNR=8.9						
NVAR	**Mina Array Bea**	**89.13**	**49**	P	**P**	**21 59 28.2**	**-1.0**
ILAR	**Eielson Array**	**89.28**	**18**	P	**P**	**21 59 28.5**	**-0.7**
	comp=Z,0.3nm,0.6s,mb3.8,baz=241,slow=5.0,SNR=3.2						
ILAR	**Eielson Array**	**89.28**	**18**	P	**P**	**21 59 28.5**	**-0.7**
SNAA	**Sanae**	**90.65**	**183**	*e*	**P**	**21 59 36.2**	**+0.4**
SNAA				*e*	pP	21 59 45.4	-1.9
SNAA	**Sanae**	**90.65**	**183**	*e*P	**P**	**21 59 35.5**	**-0.3**
VNA2	**Neumayer--Watz**	**91.58**	**182**	*e*	**P**	**21 59 41.4**	**+1.3**
VNA2				*e*	pP	21 59 49.8	-1.8
BRTR	**Keskin Array B**	**134.41**	**309**	PKP	PKPdf	22 05 53.0	+1.2
	comp=Z,1.0nm,1.1s,baz=144,slow=4.4,SNR=4.3						
BRTR	**Keskin Array B**	**134.41**	**309**	PKP	PKPdf	22 05 53.0	+1.2
GERES	**GERESS Array B**	**142.24**	**331**	PKhKP	PKPpre	22 06 01.7	
	comp=Z,0.3nm,0.6s,baz=12,slow=6.8,SNR=4.3						
GERES	**GERESS Array B**	**142.24**	**331**	PKPpre	PKPpre	22 06 01.7	
RUP	**Ruppelstein**	**144.29**	**338**	PKP	PKPdf	22 06 07.1	-2.4
FETA	**Feichten**	**144.94**	**332**⇑	*i*PKPdf	PKPdf	22 06 10.2	-0.5
	comp=Z,17nm,1.2s						
DAVA	**Damuels**	**145.11**	**333**⇑	*i*PKPab	PKPab	22 06 09.5	-1.1
	comp=Z,27nm,1.2s						
CDF	**Champ du Feu**	**145.28**	**336**	*e*PKP1	PKPbc	22 06 10.5	-0.5
	comp=Z,115nm,1.4s						
FELD	**Feldberg im Sc**	**145.43**	**335**	PKP	PKPdf	22 06 11.4	-0.1
ECH	**Echery**	**145.49**	**336**	PKP	PKPdf	22 06 11.8	+0.2
ECH	**Echery**	**145.49**	**336**	PKP	PKPdf	22 06 11.8	+0.2
DAVOX	**Davos/Dischmat**	**145.50**	**332**	PKPbc	PKPbc	22 06 12.7	+1.0
	comp=Z,5.3nm,0.5s,baz=70,slow=1.2,SNR=13						
DAVOX	**Davos/Dischmat**	**145.50**	**332**	PKPbc	PKPbc	22 06 12.7	+1.0
PAGF	**Fort de Pagny**	**145.73**	**338**	*e*PKP1	PKPbc	22 06 12.4	0.0
	comp=Z,52nm,1.5s						
MOF	**Molkenrain**	**145.79**	**336**	PKP	PKPdf	22 06 11.8	-0.3
MOF	**Molkenrain**	**145.79**	**336**	PKP	PKPdf	22 06 11.8	-0.3
THEF	**They Montfort**	**145.91**	**338**	PKP	PKPdf	22 06 13.5	+1.2
THEF	**They Montfort**	**145.91**	**338**	PKP	PKPdf	22 06 13.5	+1.2
HINF	**Hinteralfeld**	**145.93**	**336**	*e*PKP1	PKPbc	22 06 12.4	-0.7
	comp=Z,61nm,1.5s						
HAU	**Haudompre**	**145.97**	**337**	*e*PKP1	PKPbc	22 06 12.6	-0.6
	comp=Z,118nm,1.5s						
HAU				*e*R			
	comp=Z,47nm,20.0s						
MEZF	**Maizieres J'vi**	**146.01**	**339**	*e*PKP1	PKPbc	22 06 13.3	0.0
	comp=Z,144nm,1.4s						
SFTF	**Sexfontaines**	**146.27**	**338**	*e*PKP1	PKPbc	22 06 13.9	-0.2
	comp=Z,191nm,1.6s						
LOMF	**Lomont**	**146.32**	**336**	PKP	PKPdf	22 06 14.4	+1.4
LOMF	**Lomont**	**146.32**	**336**	PKP	PKPdf	22 06 14.4	+1.4
LOR	**Lormes**	**147.48**	**339**	*e*PKP1	PKPbc	22 06 17.1	-0.5
	comp=Z,81nm,1.7s						
LOR				*e*R			
	comp=Z,51nm,18.8s						
LDF	**La Druitiere**	**147.49**	**344**	*e*PKP1	PKPbc	22 06 16.6	-0.9
SSF	**Saint Saulge**	**147.78**	**339**	*e*PKP1	PKPbc	22 06 18.0	-0.4
	comp=Z,63nm,1.5s						
LPL	**La Plagne**	**147.85**	**334**	*e*PKP1	PKPbc	22 06 18.6	0.0
	comp=Z,54nm,1.5s						
LPG	**La Plagne**	**147.86**	**334**	*e*PKP1	PKPbc	22 06 18.7	+0.1
	comp=Z,48nm,1.4s						
GRR	**Gorron**	**147.87**	**345**	*e*PKP1	PKPbc	22 06 18.0	-0.6
	comp=Z,163nm,1.8s						
SMF	**Signal de Mont**	**148.03**	**338**	*e*PKP1	PKPbc	22 06 18.3	-0.7
	comp=Z,73nm,1.5s						
AVF	**Avril sur Loir**	**148.07**	**339**	*e*PKP1	PKPbc	22 06 18.4	-0.8
	comp=Z,49nm,1.4s						
BGF	**Bois d'Agland**	**148.44**	**339**	*e*PKP1	PKPbc	22 06 19.6	-0.5
	comp=Z,22nm,1.1s						
ORIF	**Oris-en-Rattie**	**148.69**	**334**	*e*PKP1	PKPbc	22 06 20.5	-0.3
	comp=Z,21nm,0.9s						
ORIF				*e*R			
	comp=Z,63nm,18.4s						
SBF	**Sospel**	**148.85**	**331**	*e*PKP1	PKPbc	22 06 20.7	-0.6
	comp=Z,70nm,1.0s						
TCF	**Toulx Ste Croi**	**148.89**	**340**	*e*PKP1	PKPbc	22 06 20.8	-0.5
	comp=Z,52nm,1.6s						
PGF	**Pioggiola**	**149.08**	**328**	*e*PKP1	PKPbc	22 06 21.3	-0.6
	comp=Z,142nm,1.2s						
MFF	**Saint Martin d**	**149.33**	**343**	*e*PKP1	PKPbc	22 06 21.7	-0.7
	comp=Z,51nm,1.4s						
TORD	**Torodi Ar. Bea**	**165.44**	**254**	PKP	PKPdf	22 06 37.6	-1.4
	comp=Z,0.6nm,0.8s,baz=288,slow=1.4,SNR=5.4						
TORD	**Torodi Ar. Bea**	**165.44**	**254**	PKP	PKPdf	22 06 37.6	-1.4

*ISCJB **26** 22:02:42.5±0.8, 36.13N±0.05×26.90E±0.06, h115km±7km, Error ellipse: s-maj=7.7km s-min=7.3km az=151.6*
*CSEM **26** 22:02:43.4±0.3, 36.14N×26.91E, h110km±3km, ML3.0/1, Error ellipse: s-maj=5.7km s-min=4.7km az=51.0*
*ATH **26** 22:02:44.1, 36.19N×26.86E, h96km±2km*
*THE **26** 22:02:45.9, 36.20N×26.83E, h98km±8km, ML3.0/1, Error ellipse: s-maj=9.1km s-min=1.1km az=148.0*
*HLW **26** 22:02:46.8, 35.82N×26.80E, h33km±23km, Md3.4*

ISC 26 22:02:43.6±0.8, 36.14N±0.04×26.90E±0.06, h109km±9km, n36, σ0.65/54, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.63**	**160**	*e*P	**Pn**	**22 03 02.0**	**+0.7**
KARP				*e*S	**Sn**	**22 03 14.3**	**-0.3**
KARP	**Karpathos**	**0.63**	**160**	P	**Pn**	**22 03 01.9**	**+0.6**
KARP				S	**Sn**	**22 03 14.4**	**-0.2**
KARP	**Karpathos**	**0.63**	**160**	P	**Pn**	**22 03 01.9**	**+0.6**
KARP				S	**Sn**	**22 03 14.4**	**-0.2**
ARG	**Arkhangelos**	**1.00**	**85**	*e*P	**Pn**	**22 03 05.3**	**+0.6**
ARG				*e*S	**Sn**	**22 03 20.8**	**+0.2**
ARG	**Arkhangelos**	**1.00**	**85**	P	**Pn**	**22 03 05.2**	**+0.5**
ARG				S	**Sn**	**22 03 20.1**	**-0.5**
ARG	**Arkhangelos**	**1.00**	**85**	P	**Pn**	**22 03 05.2**	**+0.5**
ARG				*e*S	**Sn**	**22 03 20.8**	**+0.2**
NPS	**Neapolis**	**1.36**	**231**	*e*P	**Pn**	**22 03 09.3**	**+0.5**
NPS				*e*S	**Sn**	**22 03 27.3**	**-0.5**
NPS	**Neapolis**	**1.36**	**231**	P	**Pn**	**22 03 09.3**	**+0.5**
NPS				S	**Sn**	**22 03 27.3**	**-0.5**
NPS	**Neapolis**	**1.36**	**231**	*e*P	**Pn**	**22 03 09.3**	**+0.5**
NPS				*e*S	**Sn**	**22 03 27.3**	**-0.5**
APE	**Apeiranthos**	**1.44**	**311**	P	**Pn**	**22 03 09.5**	**-0.2**
APE	**Apeiranthos**	**1.44**	**311**	P	**Pn**	**22 03 09.5**	**-0.2**
SMG	**Samos**	**1.57**	**358**	*e*P	**Pn**	**22 03 11.1**	**-0.1**
SMG				*e*S	**Sn**	**22 03 31.4**	**-0.8**
SMG	**Samos**	**1.57**	**358**	*e*P	**Pn**	**22 03 11.1**	**-0.1**
SMG				*e*S	**Sn**	**22 03 31.4**	**-0.8**
IDI	**Anoyia**	**1.84**	**243**	*e*P	**Pn**	**22 03 15.3**	**+0.7**
IDI				*e*S	**Sn**	**22 03 38.4**	**+0.2**
IDI	**Anoyia**	**1.84**	**243**	*e*P	**Pn**	**22 03 15.3**	**+0.7**
IDI				*e*S	**Sn**	**22 03 38.4**	**+0.2**
SIVA	**Sivas**	**2.04**	**237**	*e*P	**Pn**	**22 03 18.6**	**+1.6**
SIVA	**Sivas**	**2.04**	**237**	*e*P	**Pn**	**22 03 18.6**	**+1.6**
VAM	**Vamos**	**2.31**	**252**	*e*P	**Pn**	**22 03 21.6**	**+1.0**
VAM	**Vamos**	**2.31**	**252**	P	**Pn**	**22 03 21.2**	**+0.6**
VAM				S	**Sn**	**22 03 47.8**	**-1.1**
VAM	**Vamos**	**2.31**	**252**	P	**Pn**	**22 03 21.2**	**+0.6**
VAM				S	**Sn**	**22 03 47.8**	**-1.1**
KYTH	**Kithira**	**3.13**	**274**	P	**Pn**	**22 03 30.6**	**-0.6**
KYTH	**Kithira**	**3.13**	**274**	P	**Pn**	**22 03 30.6**	**-0.6**
DID	**Didima**	**3.24**	**296**	P	**Pn**	**22 03 32.6**	**-0.1**
DID	**Didima**	**3.24**	**296**	P	**Pn**	**22 03 32.6**	**-0.1**
VLI	**Veliai**	**3.25**	**281**	P	**Pn**	**22 03 33.0**	**+0.2**
VLI	**Veliai**	**3.25**	**281**	P	**Pn**	**22 03 33.0**	**+0.2**
ITM	**Ithomi**	**4.13**	**286**	P	**Pn**	**22 03 45.3**	**+0.6**
ITM	**Ithomi**	**4.13**	**286**	P	**Pn**	**22 03 45.3**	**+0.6**
SLUM		**4.84**	**197**	P	**Pn**	**22 03 53.1**	**-1.2**
	baz=198						
SLUM		**4.84**	**197**	P	**Pn**	**22 03 54.3**	**0.0**
HMAT	**Matruh**	**5.03**	**178**	P	**Pn**	**22 03 56.2**	**-0.7**
	baz=176						
HMAT				S	**Sn**	**22 04 47.7**	**-6.2**
	baz=176						
HMAT	**Matruh**	**5.03**	**178**	P	**Pn**	**22 03 56.2**	**-0.7**
SWA2		**6.98**	**190**	P	**Pn**	**22 04 22.6**	**-0.7**
	baz=191						
SWA2				S	**Sn**	**22 05 35.0**	**-6.2**
	baz=191						
SWA2		**6.98**	**190**	P	**Pn**	**22 04 22.6**	**-0.7**
HFRF	**Wahat Farafira**	**9.04**	**172**	P	**Pn**	**22 04 51.5**	**+0.2**
	baz=171						
HFRF				S	**Sn**	**22 06 25.6**	**-5.7**
	baz=171						
HFRF	**Wahat Farafira**	**9.04**	**172**	P	**Pn**	**22 04 50.9**	**-0.4**

MAN 26 22:06:12, 11.21N×124.75E, h24km, mb4.0, ML2.8, MS2.5, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.21**	**220**	*e*P	Pb	22 06 18.1	+0.4
OCLP				*e*S	Sb	22 06 20.4	-1.2
PLP	**Palo**	**0.23**	**102**⇓	*i*P	Pb	22 06 21.1	+3.1
PLP				*i* S	Sb	22 06 26.1	+4.1
MSLP	**Maasin**	**1.08**	**174**	*e*P	Pn	22 06 33.0	+1.4
MSLP				*e*S	Sb	22 06 45.5	-0.2
LLP	**Lapu-Lapu**	**1.18**	**221**	*e*P	Pn	22 06 32.9	0.0
LLP				*i* S	Sn	22 06 49.6	+1.4
RCP	**Roxas**	**1.99**	**280**⇑	*e*P	Pn	22 06 45.5	+1.3

*ISK **26** 22:17:54.4, 37.86N×27.37E, h3km, MD2.7*
*ISCJB **26** 22:17:55.8±0.4, 37.86N±0.02×27.43E±0.03, h10km, Error ellipse: s-maj=3.6km s-min=2.9km az=155.8*
*CSEM **26** 22:17:55.5±0.2, 37.87N×27.41E, h5km, MD2.9, Error ellipse: s-maj=3.5km s-min=2.9km az=77.0*
*DDA **26** 22:17:55.3, 37.88N×27.39E, h7km±3km, Md2.9*
*ATH **26** 22:17:55.1, 37.85N×27.46E, h4km, MD3.1/4*

ISC 26 22:17:55.9±0.4, 37.88N±0.02×27.41E±0.03, h3km±7km, n34, σ0.89/56, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYDN	**Tasoluk**	**0.43**	**120**	*i* P	**Pg**	**22 18 04.9**	**+0.8**
AYDN				*i* S	**Sg**	**22 18 10.6**	**+1.0**
AYDN	**Tasoluk**	**0.43**	**120**	*i* P	**Pg**	**22 18 04.9**	**+0.8**
AYDN				*i* S	**Sg**	**22 18 10.6**	**+1.0**
SMG	**Samos**	**0.49**	**250**	*e*PG	**Pg**	**22 18 04.7**	**-0.5**
SMG				*e*SG	**Sg**	**22 18 11.9**	**+0.4**
SMG	**Samos**	**0.49**	**250**	*e*Pg	**Pg**	**22 18 04.7**	**-0.5**
SMG				*e*Sg	**Sg**	**22 18 11.9**	**+0.4**
IZM	**Izmir**	**0.53**	**347**	*e*PG	**Pg**	**22 18 05.7**	**-0.4**
IZM				*e*SG	**Sg**	**22 18 13.9**	**+0.9**
IZM	**Izmir**	**0.53**	**347**	*e*Pg	**Pg**	**22 18 05.7**	**-0.4**
IZM				*e*Sg	**Sg**	**22 18 14.0**	**+1.0**
BLCB	**Balcova**	**0.58**	**330**	*e*PG	**Pg**	**22 18 06.6**	**-0.5**
BLCB	**Balcova**	**0.58**	**330**	*e*Pg	**Pg**	**22 18 06.6**	**-0.5**
MLSB	**Milas**	**0.65**	**154**	*e*PG	**Pg**	**22 18 07.7**	**-0.6**
MLSB				*e*SG	**Sg**	**22 18 17.5**	**+0.8**
MLSB	**Milas**	**0.65**	**154**	*e*Pg	**Pg**	**22 18 07.7**	**-0.6**
MLSB				*e*Sg	**Sg**	**22 18 17.5**	**+0.8**
BODT	**Bodrum**	**0.82**	**186**	*e*PG	**Pg**	**22 18 10.6**	**-1.0**
BODT				*e*SG	**Sg**	**22 18 22.5**	**+0.3**
BODT	**Bodrum**	**0.82**	**186**	*e*Pg	**Pg**	**22 18 10.6**	**-1.0**
BODT				*e*Sg	**Sg**	**22 18 22.5**	**+0.3**
YER	**Yerkesik**	**1.01**	**137**	*e*PG	**Pg**	**22 18 14.8**	**-0.6**
YER				*e*SG	**Sg**	**22 18 29.9**	**+1.4**
YER	**Yerkesik**	**1.01**	**137**	*e*Pg	**Pg**	**22 18 14.8**	**-0.5**
YER				*e*Sg	**Sg**	**22 18 29.9**	**+1.4**
AKHS	**Akhisar**	**1.05**	**17**	*i* P	**Pg**	**22 18 14.8**	**-1.1**
AKHS				*i* S	**Sg**	**22 18 31.0**	**+1.5**
AKHS	**Akhisar**	**1.05**	**17**	*i* P	**Pg**	**22 18 14.8**	**-1.2**
AKHS				*i* S	**Sg**	**22 18 31.0**	**+1.4**
AKS	**Akhisar**	**1.05**	**17**	*e*PG	**Pg**	**22 18 15.1**	**-0.9**
AKS	**Akhisar**	**1.05**	**17**	*e*Pg	**Pg**	**22 18 15.1**	**-0.9**
MANT	**Manisa**	**1.09**	**55**	*i* P	**Pg**	**22 18 16.6**	**-0.1**
MANT				*i* S	**Sg**	**22 18 30.1**	**-0.8**
MANT	**Manisa**	**1.09**	**55**	*i* P	**Pg**	**22 18 16.6**	**-0.2**
MANT				*i* S	**Sg**	**22 18 30.1**	**-0.8**
DAT	**Datca**	**1.15**	**173**	*e*PN	**Pn**	**22 18 16.9**	**-2.1**
DAT	**Datca**	**1.15**	**173**	*e*Pn	**Pn**	**22 18 16.9**	**-2.1**
KULA	**Kula-Manisa**	**1.17**	**57**	*e*PN	**Pn**	**22 18 18.8**	**-0.3**
KULA	**Kula-Manisa**	**1.17**	**57**	*e*Pn	**Pn**	**22 18 18.8**	**-0.4**
CHOS	**Chios island**	**1.19**	**296**	*e*PB	**Pb**	**22 18 18.3**	**-0.7**
CHOS				*e*SB	**Sb**	**22 18 35.4**	**+0.6**
CHOS	**Chios island**	**1.19**	**296**	*e*Pb	**Pb**	**22 18 18.3**	**-0.7**
CHOS				*e*Sb	**Sb**	**22 18 35.4**	**+0.6**
PRK	**Paraskevi**	**1.63**	**327**	*e*PB	**Pb**	**22 18 26.7**	**0.0**
PRK				*e*SB	**Sb**	**22 18 49.0**	**+1.3**
PRK	**Paraskevi**	**1.63**	**327**	*e*Pb	**Pb**	**22 18 26.7**	**0.0**
PRK				*e*Sb	**Sb**	**22 18 49.0**	**+1.3**
APE	**Apeiranthos**	**1.70**	**242**	*e*PN	**Pn**	**22 18 25.6**	**-0.9**
APE	**Apeiranthos**	**1.70**	**242**	*e*PB	**Pb**	**22 18 27.4**	**-0.4**
APE				*e*SB	**Sb**	**22 18 51.1**	**+1.5**
APE	**Apeiranthos**	**1.70**	**242**	*e*Pn	**Pn**	**22 18 25.6**	**-0.9**
APE	**Apeiranthos**	**1.70**	**242**	*e*Pb	**Pb**	**22 18 27.4**	**-0.4**
APE				*e*Sb	**Sb**	**22 18 51.1**	**+1.5**
DST	**Dursunbey**	**1.96**	**28**	*e*PN	**Pn**	**22 18 30.6**	**+0.4**
DST	**Dursunbey**	**1.96**	**28**	*e*Pn	**Pn**	**22 18 30.6**	**+0.5**

*IDC **26** 22:45:57.5±5.3, 54.82S×161.11E, h0km, mb4.2/4, mb1 4.3/4, mb1mx4.1/11, mbtmp4.2/4, MS3.2/2, Ms1 3.2/2, ms1mx2.6/16, Error ellipse: s-maj=268.5km s-min=26.2km az=68.0*
*ISCJB **26** 22:45:59.8±2.6, 54.94S±0.09×160.4E±0.2, h19km±18km, mb4.1/7, Error ellipse: s-maj=24.7km s-min=12.2km az=156.8*
*NEIC **26** 22:46:00.1±0.4, 55.01S×160.28E, h10km, mb3.9/2, Error ellipse: s-maj=11.8km s-min=5.7km az=61.0*

**ISC 26

Error ellipse: s-maj=10.9km s-min=4.2km az=63.0
IDC ***26*** *23:27:03.4±1.0,3°.63N×128°.34E,h32km±6km,mb4.0/8, mb1 4.2/8,mb1mx3.9/19,mbtmp4.0/8,MS3.1/4,Ms1 3.1/4, ms1mx2.8/32,Error ellipse: s-maj=53.4km s-min=13.9km az=69.0*

ISC 26 23:27:04.1±1.8,3°.65N±0°.07×128°.4E±0°.1,h40km±16km, h31km±1.4km:pP-P,n50,σ0s71/44,mb4.2/14,MS3.0/3, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.87**	**271**	P	**Pn**	**23 27 44.5**	**-2.9**
	832nm,0.6s						
MNI	**Manado**	**4.18**	**238**	P	**Pn**	**23 28 08.5**	**+3.0**
	7µm265nm,0.7s						
LBMI	**Labuha**	**4.36**	**192**	P	**Pn**	**23 28 12.5**	**+4.6**
	2µm121nm,0.8s						
DAV	**Davao City (W)**	**4.41**	**320**	Sn	**Sn**	**23 29 08.2**	**+9.5**
	36nm,0.3s,baz=104,slow=17,SNR=2.4						
DAV	**Davao City (W)**	**4.41**	**320**	*e*Pn	**Pn**	**23 28 07.5**	**-1.0**
DAV				Sn	**Sn**	**23 29 08.2**	**+9.5**
KMSI	**Cibinong**	**5.38**	**235**	P	**Pn**	**23 28 31.8**	**+10**
	7µm507nm,0.8s						
MRSI	**Marisa**	**7.19**	**244**	P	**Pn**	**23 28 46.7**	**-0.1**
	3µm222nm,0.5s						
LUWI	**Luwuk**	**7.31**	**230**	P	**Pn**	**23 28 54.2**	**+5.7**
	1µm119nm,0.7s						
KDI	**Kendari**	**9.52**	**217**	P	**Pn**	**23 29 18.6**	**-0.1**
	442nm42nm,0.8s						
TTSI	**Tana Toraja**	**10.86**	**232**	P	**Pn**	**23 29 38.0**	**+0.9**
KSM	**Kuching**	**18.21**	**264**	*e*Pn	**Pn**	**23 31 12.8**	**-1.3**
GUMO	**Guam**	**19.02**	**53**	LR	LR	23 37 38.9	
	comp=Z,87nm,19.2s,baz=77,slow=33						
FITZ	**Fitzroy Crossi**	**21.79**	**187**	P	**P**	**23 31 52.3**	**-0.5**
	3.8nm,0.7s,mb3.9,baz=348,slow=9.3,SNR=8.8						
FITZ				LR	LR	23 40 21.9	
	comp=Z,40nm,19.6s,MS2.8,baz=210,slow=37						
FITZ	**Fitzroy Crossi**	**21.79**	**187**	P	**P**	**23 31 52.3**	**-0.5**
COEN	**Coen**	**22.82**	**140**	*e*P	**P**	**23 32 03.9**	**+0.1**
	6.4nm,0.5s,mb4.3						
WRAB	**Tennant Creek**	**24.16**	**166**	*e*P	**P**	**23 32 16.6**	**-0.1**
	16nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**24.16**	**166**	P	**P**	**23 32 16.6**	**-0.2**
	14nm,0.6s,mb4.6,baz=345,slow=9.8,SNR=123						
WRA	**Warramunga Arr**	**24.16**	**166**	P	**P**	**23 32 16.6**	**-0.2**
WB2	**Warramunga Arr**	**24.17**	**166**	*e*P	**P**	**23 32 16.8**	**0.0**
MBWA	**Marble Bar**	**26.08**	**199**	*e*P	**P**	**23 32 34.1**	**-0.1**
	7.8nm,0.8s,mb4.3						
AS31	**Alice Springs**	**27.68**	**169**	*e*P	**P**	**23 32 47.8**	**-0.7**
ASAR	**Alice Springs**	**27.68**	**169**	P	**P**	**23 32 48.4**	**-0.2**
	1.8nm,0.5s,mb3.9,baz=355,slow=8.3,SNR=42						
ASAR	**Alice Springs**	**27.68**	**169**	P	**P**	**23 32 48.4**	**-0.2**
KULM	**Kulim**	**27.72**	**274**	*e*P	**P**	**23 32 48.5**	**-0.5**
ENH	**Enshi**	**31.95**	**328**	P	**P**	**23 33 26.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**32.36**	**299**	P	**P**	**23 33 30.2**	**+0.1**
	0.6nm,0.3s,mb3.9,baz=105,slow=6.4,SNR=5.8						
CMAR				pP	pP	23 33 38.5	-2.5
	0.9nm,0.3s,baz=131,slow=9.7,SNR=3.0						
CMAR	**Chiang Mai Arr**	**32.36**	**299**	P	**P**	**23 33 30.2**	**+0.1**
CMAR				pP	pP	23 33 38.5	-2.5
KSRS	**Korea Array**	**33.64**	**359**	LR	LR	23 48 45.6	
	comp=Z,20nm,18.1s,MS2.9,baz=187,slow=39						
STKA	**Stephens Creek**	**37.50**	**161**	P	**P**	**23 34 14.5**	**+0.3**
	7.9nm,0.7s,mb4.7,baz=329,slow=5.9,SNR=22						
STKA	**Stephens Creek**	**37.50**	**161**	*e*P	**P**	**23 34 14.2**	**0.0**
	1.1nm,0.5s,mb3.9						
ARMA	**Armidale**	**40.51**	**148**	*e*P	**P**	**23 34 39.6**	**+0.2**
ASAJ	**Asahikawa**	**42.20**	**15**	LR	LR	23 52 06.2	
	comp=Z,32nm,18.5s,MS3.2,baz=192,slow=36						
LSA	**Lhasa**	**43.75**	**310**	P	**P**	**23 35 06.4**	**+0.5**
SONM	**Songino Array**	**47.92**	**340**	P	**P**	**23 35 38.9**	**+0.4**
	0.3nm,0.5s,mb3.6,baz=152,slow=9.0,SNR=4.9						
SONM				pP	pP	23 35 47.9	-2.0
	1.2nm,0.8s,baz=153,slow=7.5,SNR=5.7						
SONM	**Songino Array**	**47.92**	**340**	P	**P**	**23 35 38.9**	**+0.4**
SONM				pP	pP	23 35 47.9	-2.0
MK31	**Makanchi Array**	**58.58**	**325**	*e*P	**P**	**23 36 57.1**	**+0.2**
MKAR	**Makanchi Array**	**58.58**	**325**	P	**P**	**23 36 57.4**	**+0.5**
	0.9nm,0.5s,mb4.1,baz=115,slow=8.3,SNR=29						
MKAR				pP	pP	23 37 06.9	-1.7
	2.4nm,0.5s,baz=116,slow=8.3,SNR=14						
MKAR	**Makanchi Array**	**58.58**	**325**	P	**P**	**23 36 57.4**	**+0.5**
MKAR				pP	pP	23 37 06.9	-1.7
ZALV	**Zalesovo Beam**	**61.42**	**332**	P	**P**	**23 37 16.4**	**+0.1**
	0.2nm,0.3s,mb3.7,baz=106,slow=9.1,SNR=3.0						
ZALV	**Zalesovo Beam**	**61.42**	**332**	P	**P**	**23 37 16.4**	**+0.1**
AAK	**Ala-Archa**	**61.54**	**317**	*e*P	**P**	**23 37 17.5**	**+0.2**
EKS2	**Erkin-Say**	**62.04**	**317**	*e*P	**P**	**23 37 21.2**	**+0.5**
	1.6nm,0.5s,mb4.4						
KURK	**Kurchatov**	**62.71**	**327**	*e*P	**P**	**23 37 25.8**	**+0.8**
	4.9nm,0.6s,mb4.8						
KBL	**Kabul**	**62.90**	**307**	*e*P	**P**	**23 37 25.9**	**-0.7**
BRVK	**Borovoye**	**68.37**	**327**	*e*P	**P**	**23 38 01.1**	**-0.4**
	3.6nm,0.8s,mb4.5						
ARU	**Arti**	**75.89**	**327**	*e*P	**P**	**23 38 46.2**	**-0.2**
ILAR	**Eielson Array**	**84.45**	**25**	pP	pP	23 39 42.4	-2.2
	0.8nm,1.0s,baz=239,slow=5.5,SNR=3.1						
ILAR	**Eielson Array**	**84.45**	**25**	pP	pP	23 39 42.4	-2.2
TORD	**Torodi Ar. Bea**	**124.53**	**289**	PKP	PKPdf	23 45 58.8	-1.4
	0.4nm,0.8s,baz=84,slow=2.2,SNR=2.5						
TORD				pPKP	pPKPdf	23 46 12.1	-0.8
	0.6nm,0.7s,baz=46,slow=2.2,SNR=4.3						
TORD	**Torodi Ar. Bea**	**124.53**	**289**	PKP	PKPdf	23 45 58.8	-1.4
TORD				pPKP	pPKPdf	23 46 12.1	-0.8

ISCJB ***26*** *23:28:13.9±2.4,26°.79N±0°.06×54°.59E±0°.06,h15km±19km, Error ellipse: s-maj=10.7km s-min=8.2km az=137.1*
KISR ***26*** *23:28:14.5±0.7,27°.42N×54°.31E,h34km±833km,ML3.2*
TEH ***26*** *23:28:14.3,26°.77N×54°.74E,h13km*
CSEM ***26*** *23:28:15.6±0.3,26°.93N×54°.80E,h40km,ML3.2,Error ellipse: s-maj=20.3km s-min=4.0km az=38.0*
OMAN ***26*** *23:28:17.0±99.0,26°.68N×55°.03E,h10km,Error ellipse: s-maj=111.1km s-min=12.5km az=326.0*

ISC 26 23:28:13.6±2.2,26°.81N±0°.05×54°.69E±0°.06,h11km±18km, n22,σ1s08/28,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**1.69**	**121**	P	**Pn**	**23 28 42.2**	**-0.9**
	SNR=73						
BANOM	**Banah**	**1.69**	**121**	P	**Pn**	**23 28 42.2**	**-0.9**
	SNR=73						
IBND	**Bandar-abas**	**1.77**	**68**	*e*Pn	**Pn**	**23 28 44.3**	**+0.2**
IBND				*e*Pn	**Pn**	**23 28 44.6**	**+0.5**
IBND				*e*Sg	**Sg**	**23 29 08.9**	**-1.6**
IBND				*e*		23 29 40.7	
	comp=Z,8µm,0.2s						
ASUD	**Al Ashush, Dub**	**2.25**	**165**	P	**Pn**	**23 28 51.8**	**+1.1**
	SNR=11						
ASUD	**Al Ashush, Dub**	**2.25**	**165**	P	**Pn**	**23 28 51.8**	**+1.1**
	SNR=11						
ASHO	**Ashiyiah**	**2.45**	**149**	P	**Pn**	**23 28 53.6**	**+0.1**
	SNR=11						
ASHO	**Ashiyiah**	**2.45**	**149**	P	**Pn**	**23 28 53.6**	**+0.1**
	SNR=11						
ISRV	**Sarvestan**	**2.92**	**332**	*e*Pn	**Pn**	**23 29 01.6**	**+1.7**
ISRV				*e*Sn	**Sn**	**23 29 36.1**	**+1.1**
ISRV				*e*		23 30 02.0	
	comp=Z,943nm,0.3s						
IPAR	**Pars**	**3.35**	**335**	*e*Pn	**Pn**	**23 29 07.2**	**+1.3**
IPAR				*e*		23 30 16.6	
	comp=Z,426nm,0.4s						
IMEH	**Mehriz**	**4.57**	**359**	*e*Pn	**Pn**	**23 29 22.3**	**-0.3**
IMEH				*e*		23 30 56.6	
	comp=Z,135nm,0.3s						
IBAF	**Bafgh**	**4.83**	**9**	*e*Pn	**Pn**	**23 29 26.4**	**+0.2**
IBAF				*e*		23 29 32.4	
	comp=Z,287nm,0.1s						
ISAD	**Sadrabad**	**5.16**	**350**	*e*Pn	**Pn**	**23 29 31.0**	**+0.2**
ISAD				*e*		23 29 39.1	
	comp=Z,124nm,0.2s						
ICHK	**Chekchek**	**5.42**	**357**	*e*Pn	**Pn**	**23 29 34.0**	**-0.4**
ICHK				*e*		23 29 51.0	
	comp=Z,104nm,0.2s						
QRN	**Al-Qurain**	**6.30**	**289**	*e*P	**Pn**	**23 29 46.9**	**+0.4**
QRN				*e*S	**Sn**	**23 30 56.2**	**-2.3**
QRN				AML	AML	23 30 57.7	
	comp=Z,15nm,0.5s						
KBD	**Kabd**	**6.62**	**292**	*e*P	**Pn**	**23 29 51.2**	**+0.4**
KBD	**Kabd**	**6.62**	**292**	*e*P	**Pn**	**23 29 51.2**	**+0.4**
RDF	**Al-Radifah**	**6.66**	**290**	*e*P	**Pn**	**23 29 51.5**	**+0.1**
RDF				*e*S	**Sn**	**23 31 05.2**	**-2.1**
RDF				AML	AML	23 31 05.9	
	comp=Z,6.6nm,0.4s						
RDF	**Al-Radifah**	**6.66**	**290**	*e*P	**Pn**	**23 29 51.5**	**+0.1**
NAY	**Al-Naaiem**	**7.02**	**292**	*e*P	**Pn**	**23 29 56.7**	**+0.4**
NAY				*e*S	**Sn**	**23 31 13.0**	**-3.0**
NAY				AML	AML	23 31 14.4	
	comp=Z,3.3nm,0.4s						
NAY	**Al-Naaiem**	**7.02**	**292**	*e*P	**Pn**	**23 29 56.7**	**+0.4**
MIB	**Mutribah**	**7.13**	**296**	*e*P	**Pn**	**23 29 57.9**	**+0.1**
MIB	**Mutribah**	**7.13**	**296**	*e*P	**Pn**	**23 29 57.9**	**0.0**

ISCJB ***26*** *23:37:44.2±0.8,38°.74N±0°.03×43°.19E±0°.05,h14km±12km, Error ellipse: s-maj=6.4km s-min=4.6km az=11.0*
CSEM ***26*** *23:37:44.3±0.2,38°.74N×43°.19E,h10km,MD2.8,Error ellipse: s-maj=4.7km s-min=3.5km az=81.0*
ISK ***26*** *23:37:44.0,38°.76N×43°.16E,h7km,MD2.5*
DDA ***26*** *23:37:45.4,38°.66N×43°.18E,h7km±4km,Md2.8*

ISC 26 23:37:44.6±0.8,38°.73N±0°.03×43°.20E±0°.05,h18km±10km, n18,σ0s72/32,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.20**	**133**	*e*PG	**Pg**	**23 37 49.5**	**0.0**
VANB	**Van**	**0.20**	**133**	*e*Pg	**Pg**	**23 37 49.5**	**0.0**
TVAN	**Van**	**0.26**	**141**	*i* P	**Pg**	**23 37 49.4**	**-1.0**
TVAN				*i* S	**Sg**	**23 37 54.2**	**-0.2**
TVAN	**Van**	**0.26**	**141**	*i* P	**Pg**	**23 37 49.4**	**-1.0**
TVAN				*i* S	**Sg**	**23 37 54.2**	**-0.1**
VANT	**Van**	**0.31**	**171**	*e*PG	**Pg**	**23 37 51.2**	**-0.1**
VANT				*e*SG	**Sg**	**23 37 56.7**	**+0.9**
VANT	**Van**	**0.31**	**171**	*e*Pg	**Pg**	**23 37 51.2**	**-0.1**
VANT				*e*Sg	**Sg**	**23 37 56.7**	**+0.8**
GEVA	**Gevas**	**0.43**	**195**	*i* P	**Pg**	**23 37 53.0**	**-0.4**
GEVA				*i* S	**Sg**	**23 38 00.3**	**+1.0**
GEVA	**Gevas**	**0.43**	**195**	*i* P	**Pg**	**23 37 53.0**	**-0.4**
GEVA				*i* S	**Sg**	**23 38 00.3**	**+1.0**
CLDR	**Caldiran**	**0.69**	**53**	*e*PG	**Pg**	**23 37 57.6**	**-0.6**
CLDR				*e*SG	**Sg**	**23 38 08.3**	**+0.9**
CLDR	**Caldiran**	**0.69**	**53**	*e*Pg	**Pg**	**23 37 57.7**	**-0.5**
CLDR				*e*Sg	**Sg**	**23 38 08.3**	**+0.8**
TUTA	**Tutak**	**0.73**	**336**	*i* P	**Pg**	**23 37 59.1**	**+0.1**
TUTA				*i* S	**Sg**	**23 38 10.2**	**+1.4**
TUTA	**Tutak**	**0.73**	**336**	*i* P	**Pg**	**23 37 59.1**	**+0.1**
TUTA				*i* S	**Sg**	**23 38 10.2**	**+1.4**
TATV	**Tatvan**	**0.76**	**253**	*i* P	**Pg**	**23 37 58.6**	**-0.9**
TATV				*i* S	**Sg**	**23 38 09.5**	**-0.2**
TATV	**Tatvan**	**0.76**	**253**	*i* P	**Pg**	**23 37 58.6**	**-0.9**
TATV				*i* S	**Sg**	**23 38 09.5**	**-0.2**
AGRB	**Hanur-Agry**	**0.86**	**349**	*e*PG	**Pg**	**23 38 00.4**	**-0.9**
AGRB				*e*SG	**Sg**	**23 38 12.2**	**-0.5**
AGRB	**Hanur-Agry**	**0.86**	**349**	*e*Pg	**Pg**	**23 38 00.4**	**-1.0**
AGRB				*e*Sg	**Sg**	**23 38 12.2**	**-0.5**
VRTB	**Varto-Mus**	**1.43**	**288**	*e*PN	**Pn**	**23 38 10.3**	**+0.7**
VRTB	**Varto-Mus**	**1.43**	**288**	*e*Pn	**Pn**	**23 38 10.3**	**+0.7**

ISCJB ***26*** *23:43:14.4±0.3,27°.10N±0°.05×127°.34E±0°.05, h100km±4km,mb3.8/12,Error ellipse: s-maj=9.7km s-min=4.8km az=138.2*
IDC ***26*** *23:43:15.1±1.0,27°.13N×127°.39E,h89km±11km,mb3.5/10, mb1 3.7/10,mb1mx3.5/24,mbtmp3.5/10,Error ellipse: s-maj=26.7km s-min=15.1km az=65.0*
NEIC ***26*** *23:43:15.2±0.5,27°.13N×127°.34E,h92km±6km,mb4.3/2, Error ellipse: s-maj=7.6km s-min=6.6km az=158.0*
JMA ***26*** *23:43:16.1±0.2,27°.13N×127°.35E,h89km±2km,M3.4*

ISC 26 23:43:15.5±0.3,27°.11N±0°.05×127°.35E±0°.05,h94km±4km, n43,σ0s65/54,mb3.8/12,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	**0.53**	**190**	P	**Pn**	**23 43 31.0**	**+0.1**
JAGN				*e*S	**Sn**	**23 43 42.7**	**+0.3**
JIH	**Iheya**	**0.56**	**97**	P	**Pn**	**23 43 31.4**	**+0.2**
JIH				*e*S	**Sn**	**23 43 42.3**	**-0.5**
JOW	**Kunigami**	**0.87**	**108**	P	**Pn**	**23 43 34.2**	**+0.1**
	65nm,0.3s,baz=282,slow=5.5,SNR=332						
JOW				S	**Sn**	**23 43 47.0**	**-1.1**
	422nm,0.3s,baz=180,slow=20,SNR=63						
JOW	**Kunigami**	**0.87**	**108**	P	**Pn**	**23 43 34.2**	**+0.1**
JOW				S	**Sn**	**23 43 47.0**	**-1.1**
JOW	**Kunigami**	**0.87**	**108**	P	**Pn**	**23 43 34.1**	**0.0**
JOW				*e*S	**Sn**	**23 43 47.3**	**-0.8**
JKE	**Kume jima 2**	**0.93**	**213**	P	**Pn**	**23 43 35.1**	**+0.4**
JKE				*e*S	**Sn**	**23 43 48.9**	**-0.2**
NAH1	**Naha**	**0.95**	**161**	P	**Pn**	**23 43 35.4**	**+0.4**
NAH1				*e*S	**Sn**	**23 43 49.5**	**-0.1**
JJT2	**Tamagusuku 2**	**1.03**	**159**	P	**Pn**	**23 43 36.8**	**+0.9**
JJT2				*e*S	**Sn**	**23 43 51.9**	**+0.7**
JTK	**Tokunoshima**	**1.58**	**64**	P	**Pn**	**23 43 42.8**	**+0.3**
JTK				*e*S	**Sn**	**23 44 02.0**	**-0.9**
JAM	**Amami Oshima**	**2.39**	**57**	P	**Pn**	**23 43 53.4**	**+0.4**
JAM				*e*S	**Sn**	**23 44 21.2**	**-0.4**
JZK	**Kikaishima**	**2.62**	**62**	*e*S	**Sn**	**23 44 28.0**	**+0.8**
JNN	**Nakanoshima**	**3.52**	**39**	*e*S	**Sn**	**23 44 50.4**	**+1.7**
JMZ	**Minamidaito 2**	**3.70**	**109**	P	**Pn**	**23 44 09.4**	**-1.2**
JMZ				*e*S	**Sn**	**23 44 47.2**	**-6.1**
TATO	**Taipei**	**5.68**	**249**	*e*Pn	**Pn**	**23 44 37.7**	**+0.2**
YHNB	**Yeheng**	**5.90**	**247**	*e*Pn	**Pn**	**23 44 40.1**	**-0.3**
NACB	**Ninganchiao**	**5.96**	**242**	*e*Pn	**Pn**	**23 44 40.9**	**-0.3**
SSLB	**Suanglung**	**6.66**	**242**	*e*Pn	**Pn**	**23 44 49.8**	**-0.9**
TWG	**Pinlang**	**7.11**	**234**	*e*Pn	**Pn**	**23 44 56.8**	**-0.1**
MDJ	**Mudanjiang**	**17.57**	**5**	*e*P	**Pn**	**23 47 12.8**	**-1.4**
YSS	**Yuzh-Sakhalins**	**23.24**	**27**	*e*P	**P**	**23 48 13.5**	**-0.9**
ULN	**Ulaanbaatar**	**26.10**	**328**	*e*P	**P**	**23 48 40.2**	**0.0**
SONM	**Songino Array**	**26.39**	**327**	P	**P**	**23 48 44.3**	**+1.4**
	1.3nm,0.4s,mb3.7,baz=141,slow=11,SNR=29						
SONM				pP	pP	23 49 04.9	+0.9
	0.7nm,0.8s,baz=144,slow=14,SNR=3.6						
SONM	**Songino Array**	**26.39**	**327**	P	**P**	**23 48 44.3**	**+1.4**
SONM				pP	pP	23 49 04.9	+0.9
MKAR	**Makanchi Array**	**40.36**	**311**	P	**P**	**23 50 43.7**	**-0.2**
	0.9nm,0.6s,mb3.8,baz=94,slow=11,SNR=15						
MKAR	**Makanchi Array**	**40.36**	**311**	P	**P**	**23 50 43.7**	**-0.2**
ZALV	**Zalesovo Beam**	**41.07**	**323**	P	**P**	**23 50 48.9**	**-0.8**
	0.5nm,0.5s,mb3.6,baz=119,slow=9.8,SNR=4.2						
ZALV	**Zalesovo Beam**	**41.07**	**323**	P	**P**	**23 50 48.9**	**-0.8**
COEN	**Coen**	**43.62**	**157**	*e*P	**P**	**23 51 10.7**	**0.0**
	8.4nm,0.8s,mb4.5						
KURK	**Kurchatov**	**43.64**	**316**	P	**P**	**23 51 11.1**	**+0.6**
	0.9nm,0.5s,mb3.8,baz=103,slow=8.7,SNR=4.6						
KURK	**Kurchatov**	**43.64**	**316**	P	**P**	**23 51 11.1**	**+0.6**
TKM2	**Tokmak 2**	**44.53**	**305**	*e*P	**P**	**23 51 17.8**	**+0.1**
	1.8nm,0.8s,mb3.9						
WRA	**Warramunga Arr**	**47.26**	**171**	P	**P**	**23 51 39.4**	**+0.1**
	2.1nm,0.7s,mb4.0,baz=353,slow=8.4,SNR=21						
WRA	**Warramunga Arr**	**47.26**	**171**	P	**P**	**23 51 39.4**	**+0.1**
ASAR	**Alice Springs**	**50.87**	**172**	P	**P**	**23 52 07.2**	**+0.4**
	0.7nm,0.6s,mb3.9,baz=356,slow=7.6,SNR=11						
ASAR	**Alice Springs**	**50.87**	**172**	P	**P**	**23 52 07.2**	**+0.4**
ILAR	**Eielson Array**	**64.04**	**28**	P	**P**	**23 53 38.6**	**-0.3**
	0.6nm,0.6s,mb3.6,baz=286,slow=9.9,SNR=13						
ILAR	**Eielson Array**	**64.04**	**28**	P	**P**	**23 53 38.6**	**-0.3**
FINES	**FINESS Array B**	**71.71**	**330**	P	**P**	**23 54 26.7**	**-0.3**
	1.3nm,0.7s,mb3.9,baz=74,slow=10,SNR=3.1						
FINES	**FINESS Array B**	**71.71**	**330**	P	**P**	**23 54 26.7**	**-0.3**
BRTR	**Keskin Array B**	**75.87**	**307**	P	**P**	**23 54 52.1**	**+0.3**
	0.7nm,0.8s,mb3.5,baz=111,slow=7.9,SNR=4.7						
BRTR	**Keskin Array B**	**75.87**	**307**	P	**P**	**23 54 52.1**	**+0.3**
YKA	**Yellowknife Ar**	**78.07**	**25**	P	**P**	**23 55 04.2**	**+0.6**
	0.5nm,0.7s,mb3.4,baz=304,slow=5.9,SNR=3.2						
YKA	**Yellowknife Ar**	**78.07**	**25**	P	**P**	**23 55 04.2**	**+0.6**

IDC ***26*** *23:44:31.6±4.7,31°.86S×179°.91W,h290km±38km,mb3.6/5, mb1 3.7/7,mb1mx3.5/17,mbtmp3.7/7,Error ellipse: s-maj=43.6km s-min=17.6km az=46.0*
NEIC ***26*** *23:44:32.9±3.8,31°.99S×179°.91W,h308km±28km,mb3.7/3, Error ellipse: s-maj=44.1km s-min=19.3km az=46.0*

ISC 26 23:44:41.9±1.0,32°.53S±0°.08×179°.4E±0°.1,h362km±8km, n66,σ1s01/70,mb3.6/6,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.11**	**190**	PN	**Pn**	**23 46 03.9**	**+0.8**
PUZ	**Puketiti**	**5.62**	**190**	*e*PN	**Pn**	**23 46 07.0**	**-1.6**
PUZ				SN	**S**	**23 47 18.7**	**-0.3**
MWZ	**Matawai**	**6.00**	**194**	PN	**Pn**	**23 46 11.7**	**-1.2**
MWZ				SN	**S**	**23 47 28.2**	**+1.3**
URZ	**Urewera**	**6.03**	**198**	P	**Pn**	**23 46 11.7**	**-1.5**
	7.1nm,0.3s,baz=276,slow=3.0,SNR=62						
URZ				S	**S**	**23 47 29.3**	**+1.8**
	21nm,0.3s,baz=90,slow=22,SNR=19						
URZ	**Urewera**	**6.03**	**198**	P	**Pn**	**23 46 11.7**	**-1.5**
URZ				S	**S**	**23 47 29.3**	**+1.8**
URZ	**Urewera**	**6.03**	**198**	PN	**Pn**	**23 46 11.6**	**-1.6**
URZ				SN	**S**	**23 47 28.8**	**+1.3**
CNGZ	**Carnagh Statio**	**6.03**	**189**	*e*PN	**Pn**	**23 46 12.6**	**-0.7**
PRGZ	**Paritu Road**	**6.50**	**191**	PN	**Pn**	**23 46 19.3**	**+0.6**
KNZ	**Kokohu**	**6.63**	**192**	PN	**Pn**	**23 46 19.8**	**-0.3**
RAHZ	**Arahi**	**6.66**	**196**	PN	**Pn**	**23 46 21.0**	**+0.6**
MHGZ	**Mahia Peninsul**	**6.73**	**190**	PN	**Pn**	**23 46 22.0**	**+0.8**
NMHZ	**Naumai**	**6.89**	**197**	PN	**Pn**	**23 46 24.1**	**+1.0**
BKZ	**Black Stump Fm**	**7.04**	**199**	PN	**Pn**	**23 46 24.1**	**-0.8**
MCHZ	**McNeill Hill**	**7.25**	**197**	PN	**Pn**	**23 46 28.0**	**+0.8**
MCHZ				SN	**S**	**23 47 54.8**	**+1.7**
CKHZ	**Cape Kidnapper**	**7.37**	**194**	PN	**Pn**	**23 46 28.9**	**+0.3**
TUVZ	**Tukino**	**7.39**	**203**	PN	**Pn**	**23 46 29.7**	**+0.8**
FWVZ	**Far West T-bar**	**7.41**	**204**	PN	**Pn**	**23 46 30.7**	**+1.6**
BHHZ	**Black Hill Sta**	**7.46**	**201**	PN	**Pn**	**23 46 30.5**	**+0.8**
WNVZ	**Wahianoa**	**7.46**	**204**	PN	**Pn**	**23 46 30.9**	**+1.2**
MOVZ	**Moawhango**	**7.49**	**202**	PN	**Pn**	**23 46 31.6**	**+1.6**
KAHZ	**Kahuranaki**	**7.54**	**195**	PN	**Pn**	**23 46 29.8**	**-0.8**
PXZ	**Pawanui**	**7.77**	**195**	PN	**Pn**	**23 46 33.3**	**0.0**
PNHZ	**Pukenui**	**7.82**	**199**	PN	**Pn**	**23 46 33.7**	**-0.2**
PNHZ				SN	**S**	**23 48 03.9**	**-1.5**
WPHZ	**Waipukurau**	**7.90**	**197**	PN	**Pn**	**23 46 35.6**	**+0.8**
PRHZ	**Porangahau**	**8.05**	**195**	PN	**Pn**	**23 46 35.9**	**-0.6**
WAZ	**Wanganui**	**8.06**	**205**	PN	**Pn**	**23 46 36.5**	**-0.1**
DVHZ	**Dannevirke**	**8.19**	**198**	PN	**Pn**	**23 46 38.0**	**-0.2**
BFZ	**Birch Farm**	**8.53**	**197**	PN	**Pn**	**23 46 41.2**	**-1.0**
BFZ				SN	**S**	**23 48 21.4**	**+0.8**
MRZ	**Mangatainoka R**	**8.69**	**200**	PN	**Pn**	**23 46 43.8**	**-0.3**
TIWZ	**Tintock**	**8.71**	**198**	PN	**Pn**	**23 46 43.8**	**-0.5**
HOWZ	**Holdsworth Sta**	**8.93**	**200**	PN	**Pn**	**23 46 45.6**	**-1.2**
OGWZ	**Otaki Gorge**	**8.95**	**201**	PN	**Pn**	**23 46 46.0**	**-1.2**
TMWZ	**Te Maipa**	**9.02**	**197**	PN	**Pn**	**23 46 48.3**	**+0.3**
KIW	**Kapiti Island**	**9.07**	**202**	PN	**Pn**	**23 46 48.6**	**-0.1**
MTW	**Mount Morrison**	**9.17**	**199**	PN	**Pn**	**23 46 49.5**	**-0.2**
CAW	**Cannon Point**	**9.25**	**201**	PN	**Pn**	**23 46 50.4**	**-0.3**
MSWZ	**Moikau Station**	**9.48**	**199**	PN	**Pn**	**23 46 53.6**	**+0.1**
TCW	**Tory Channel**	**9.60**	**204**	PN	**Pn**	**23 46 53.9**	**-0.9**
PLWZ	**Palliser**	**9.62**	**199**	PN	**Pn**	**23 46 54.8**	**-0.3**
TUWZ	**Tuamarina**	**9.91**	**205**	PN	**Pn**	**23 46 56.4**	**-2.1**
THZ	**Tophouse**	**10.58**	**208**	PN	**Pn**	**23 47 04.3**	**-2.2**
KHZ	**Kahutara**	**10.92**	**204**	*e*Pn	**Pn**	**23 47 09.7**	**-0.8**
	15nm,0.4s						
RPZ	**Rata Peaks**	**12.96**	**208**	P	**P**	**23 47 34.0**	**+0.6**
	0.9nm,0.3s,baz=63,slow=11,SNR=3.8						
RPZ				S	**S**	**23 49 53.9**	**-1.5**
	6.0nm,0.3s,baz=7.1,slow=24,SNR=10						
RPZ	**Rata Peaks**	**12.96**	**208**	P	**P**	**23 47 34.0**	**+0.6**
RPZ				S	**S**	**23 49 53.9**	**-1.5**
STKA	**Stephens Creek**	**31.92**	**261**	P	**P**	**23 50

PNIG				*i* S		**Sn**	**00 20 49.4**	**-2.0**
UTMO	**Huajuapan**	**5.25**	**308**	*i* P		**Pn**	**00 20 01.6**	**+0.7**
UTMO				*i* S		**Sn**	**00 20 59.1**	**-2.5**
TPIG	**Tehuac#an**	**5.32**	**316**	*e*P		**Pn**	**00 20 01.8**	**+0.1**
TPIG				*i* S		**Sn**	**00 21 01.8**	**-1.4**
PPM	**Popocatepetl**	**6.63**	**312**	*e*P		**Pn**	**00 20 22.4**	**+2.5**
PPM				*i* S		**Sn**	**00 21 35.6**	**0.0**
TEIG	**Tepich**	**7.43**	**41**	Pn		**Pn**	**00 20 31.3**	**+0.4**
	4.8nm,0.3s,baz=266,slow=0.4,SNR=23							
TEIG				Sn		**Sn**	**00 21 50.9**	**-4.3**
	9.6nm,0.3s,baz=346,slow=23,SNR=7.1							
TEIG	**Tepich**	**7.43**	**41**	Pn		**Pn**	**00 20 31.3**	**+0.4**
TEIG				Sn		**Sn**	**00 21 50.9**	**-4.3**
JCT	**Junction City**	**16.82**	**341**	*e*Pn		**Pn**	**00 22 38.5**	**+0.5**
	6.0nm,1.1s							
TXAR	**Lajitas Array**	**17.41**	**329**	P		**Pn**	**00 22 48.1**	**+2.7**
	0.1nm,0.3s,baz=154,slow=13,SNR=12							
TXAR	**Lajitas Array**	**17.41**	**329**	P		**Pn**	**00 22 48.1**	**+2.7**
MNTX	**Cornudas Mount**	**20.19**	**329**	*e*P		**P**	**00 23 18.3**	**+1.1**
	1.9nm,0.7s							
AMTX	**Amarillo**	**21.48**	**341**	*e*P		**P**	**00 23 32.3**	**+1.2**
	5.0nm,0.5s,mb4.1							
TKL	**Tuckaleechee C**	**22.66**	**21**	LR		LR	00 34 30.2	
	comp=Z,57nm,18.9s,MS3.0,baz=7.4,slow=42							
BNM	**Barren Site**	**22.80**	**331**	*e*P		**P**	**00 23 47.7**	**+2.6**
	2.8nm,0.9s,mb3.7							
PDAR	**Pinedale Array**	**31.27**	**337**	P		**P**	**00 25 05.4**	**+3.0**
	0.4nm,0.8s,mb3.3,baz=167,slow=8.3,SNR=2.7							
PDAR	**Pinedale Array**	**31.27**	**337**	P		**P**	**00 25 05.4**	**+3.0**
NVAR	**Mina Array Bea**	**32.30**	**322**	P		**P**	**00 25 13.8**	**+2.3**
	0.8nm,0.6s,mb3.7,baz=125,slow=8.9,SNR=5.5							
NVAR	**Mina Array Bea**	**32.30**	**322**	P		**P**	**00 25 13.8**	**+2.3**
YKA	**Yellowknife Ar**	**50.10**	**347**	P		**P**	**00 27 37.0**	**-0.2**
	0.8nm,0.6s,mb4.0,baz=153,slow=7.2,SNR=6.5							
YKA	**Yellowknife Ar**	**50.10**	**347**	P		**P**	**00 27 37.0**	**-0.2**
PLCA	**Paso Flores**	**59.04**	**160**	LR		LR	00 47 26.9	
	comp=Z,48nm,18.6s,MS3.6,baz=194,slow=29							
WRA	**Warramunga Arr**	**134.19**	**256**	PKP		PKPdf	00 37 59.4	-1.7
	0.2nm,0.6s,baz=83,slow=2.0,SNR=7.3							
WRA	**Warramunga Arr**	**134.19**	**256**	PKP		PKPdf	00 37 59.4	-1.7

IDC 27 00:22:28.7±2.3, 6°35S×129°59E, h0km, mb3.3/1, mb1 3.6/4, mb1mx3.4/16, mbtmp3.4/4, ML3.3/3, Error ellipse: s-maj=95.6km s-min=29.3km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.30**	**198**	Pn	Pn	00 25 27.0	+1.7
	0.1nm,0.3s,baz=29,slow=12,SNR=3.9						
FITZ				Sn	Sn	00 27 31.5	-12
	0.2nm,0.3s,baz=186,slow=16,SNR=5.5						
WRA	**Warramunga Arr**	**14.28**	**162**	Pn	Pn	00 25 51.0	-1.3
	0.1nm,0.3s,baz=336,slow=13,SNR=4.1						
WRA				Sn	Sn	00 28 19.6	-12
	0.2nm,0.3s,baz=342,slow=22,SNR=5.4						
ASAR	**Alice Springs**	**17.71**	**167**	P	Pn	00 26 36.5	-0.4
	0.2nm,0.3s,baz=3.6,slow=13,SNR=6.2						
MKAR	**Makanchi Array**	**67.46**	**327**	P	P	00 33 26.4	+0.1
	0.1nm,0.3s,baz=111,slow=7.8,SNR=4.1						

*ISCJB **27** 00:32:21.8±0.5, 50°.22N×012°.49E±0°.04, h12km±3km, Error ellipse: s-maj=4.7km s-min=3.9km az=150.5*
*WBNET **27** 00:32:22.8, 50°.22N×12°.45E, h8km, Ml1.0*
*PRU **27** 00:32:23.0, 50°.21N×12°.48E, h0km, West Bohemia Swarm*

ISC 27 00:32:22.5±0.8, 50°22N±0°.02×12°47E±0°.05, h9km±5km, n16, σ0°34/30, 5C-7D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.02**	**329**	*e*PG	**Pg**	**00 32 24.2**	**+0.1**
NKC				*e*SG	**Sg**	**00 32 24.7**	**-0.6**
	comp=Z,75nm,0.2s						
NKC	**Novy Kostel**	**0.02**	**329**	⇓P	**Pg**	**00 32 24.2**	**0.0**
NKC				S	**Sg**	**00 32 25.2**	**-0.1**
KVC	**Kvetna**	**0.03**	**106**	⇓P	**Pg**	**00 32 24.3**	**+0.1**
KVC				S	**Sg**	**00 32 25.3**	**-0.1**
STCW	**Studenec**	**0.06**	**39**	⇓P	**Pg**	**00 32 24.5**	**+0.1**
STCW				S	**Sg**	**00 32 25.6**	**-0.2**
LBCW	**Luby**	**0.06**	**326**	⇓P	**Pg**	**00 32 24.5**	**+0.1**
LBCW				S	**Sg**	**00 32 25.8**	**0.0**
VAC	**Vackov**	**0.06**	**290**	⇓P	**Pg**	**00 32 24.5**	**0.0**
VAC				S	**Sg**	**00 32 25.6**	**-0.2**
KACW	**Kace¯ov**	**0.08**	**155**	⇑P	**Pg**	**00 32 24.9**	**+0.3**
KACW				S	**Sg**	**00 32 26.5**	**+0.3**
SKC	**Skalna**	**0.08**	**236**	⇑P	**Pg**	**00 32 24.8**	**+0.1**
SKC				S	**Sg**	**00 32 26.2**	**-0.1**
POCW	**Po¯¸itky**	**0.11**	**347**	⇓P	**Pg**	**00 32 25.2**	**+0.1**
POCW				S	**Sg**	**00 32 26.9**	**0.0**
KRCW	**Kraslice**	**0.12**	**20**	⇑P	**Pg**	**00 32 25.5**	**+0.1**
KRCW				S	**Sg**	**00 32 27.3**	**-0.1**
KOCW	**Kopaniny**	**0.16**	**289**	⇓P	**Pg**	**00 32 25.9**	**0.0**
KOCW				S	**Sg**	**00 32 28.0**	**-0.2**
ZHC	**Zelena Hora**	**0.18**	**215**	⇑P	**Pg**	**00 32 26.4**	**+0.2**
ZHC				S	**Sg**	**00 32 28.9**	**+0.1**
LACW	**Lazy**	**0.19**	**148**	⇑P	**Pg**	**00 32 27.0**	**+0.4**
LACW				S	**Sg**	**00 32 29.8**	**+0.5**
CLL	**Collm**	**1.15**	**17**	*e*Pg	**Pg**	**00 32 44.0**	**-0.5**
CLL				*i* Sg	**Sg**	**00 33 00.0**	**+0.6**
KHC	**Kasperske Hory**	**1.30**	**146**	*e*SG	**Sg**	**00 33 03.2**	**-1.2**
PVCC	**Panska Ves**	**1.38**	**76**	*e*SG	**Sg**	**00 33 06.9**	**-0.1**
	comp=Z,4.7nm,0.2s						

*IPEC **27** 00:33:50.8±0.2, 50°.30N×18°.87E, h1km±1km, ML1.7/3, Error ellipse: s-maj=2.5km s-min=1.1km az=169.0*
*ISCJB **27** 00:33:50.2±0.5, 50°.26N±0°.04×18°.83E±0°.03, h0km, Error ellipse: s-maj=5.3km s-min=2.5km az=14.5*
*CSEM **27** 00:33:51.1±0.2, 50°.23N×18°.85E, h2km, ML2.6/6, Error ellipse: s-maj=4.8km s-min=2.4km az=5.0*
*WAR **27** 00:33:51.2, 50°.24N×18°.92E*
*PRU **27** 00:33:52.3, 50°.25N×18°.82E, h0km*
*VIE **27** 00:33:55.0±0.8, 49°.83N×18°.76E, h0km, mb1.8/2, ML2.0/3, Error ellipse: s-maj=5.2km s-min=4.3km az=162.0 36 km E of Ostrava Suspected Mining induced.*

ISC 27 00:33:51.4±0.5, 50°21N±0°.03×18°84E±0°.03, h0km, n32, σ1°05/53, 1D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.58**	**230**	*e*PG	**Pg**	**00 34 03.2**	**+0.6**
OKC				*e*SG	**Sg**	**00 34 09.4**	**-0.8**
	comp=Z,34nm,0.9s						
OKC	**Ostrava-Krasne**	**0.58**	**230**	Pg	**Pg**	**00 34 03.2**	**+0.6**
OKC				Sg	**Sg**	**00 34 09.4**	**-0.8**
	comp=Z,34nm,0.9s						
OJC	**Ojcow**	**0.61**	**89**	*e*Pg	**Pg**	**00 34 02.6**	**-0.6**
OJC				*e*Sg	**Sg**	**00 34 10.7**	**-0.4**
OJC	**Ojcow**	**0.61**	**89**	*e*Pg	**Pg**	**00 34 02.5**	**-0.7**
	baz=278						
OJC				*e*Sg	**Sg**	**00 34 10.7**	**-0.4**
MORC	**Moravsky Berou**	**0.95**	**243**	*e*Pg	**Pg**	**00 34 09.7**	**+0.2**
	baz=58						
MORC				*e*Sg	**Sg**	**00 34 22.5**	**+0.7**
	comp=Z,14nm,0.3s,baz=58						
LIKS	**Likavka**	**1.18**	**172**	*e*SN	**Sn**	**00 34 31.2**	**-0.6**
LIKS	**Likavka**	**1.18**	**172**	*e*Sn	**Sn**	**00 34 31.2**	**-0.6**
NIE	**Niedzica**	**1.24**	**129**	*e*Pg	**Pg**	**00 34 15.4**	**+0.2**
NIE				*e*Sg	**Sg**	**00 34 32.0**	**+0.8**
NIE	**Niedzica**	**1.24**	**129**	*e*Pg	**Pg**	**00 34 15.4**	**+0.2**
NIE				*e*Sg	**Sg**	**00 34 32.0**	**+0.8**
DPC	**Dobruska-Polom**	**1.62**	**276**	*e*PG	**Pn**	**00 34 20.5**	**-0.8**
DPC				*e*SG	**Sn**	**00 34 41.9**	**-0.9**
	comp=Z,14nm,0.4s						
DPC	**Dobruska-Polom**	**1.62**	**276**	*e*Pn	**Pn**	**00 34 20.6**	**-0.7**
	baz=91						
DPC				*e*Sg	**Sg**	**00 34 42.1**	**-1.4**
	baz=91						
KOLL	**Kolacno**	**1.66**	**190**	*e*PN	**Pg**	**00 34 24.4**	**+1.2**
KOLL				*e*SN	**Sn**	**00 34 45.0**	**+1.2**
KOLL	**Kolacno**	**1.66**	**190**	*e*Pn	**Pg**	**00 34 24.4**	**+1.2**
KOLL				*e*Sn	**Sn**	**00 34 45.0**	**+1.2**
VRAC	**Vranov**	**1.72**	**239**	*e*Pn	**Pn**	**00 34 22.7**	**+0.2**
	baz=55						
VRAC				*e*Sg	**Sg**	**00 34 46.4**	**-0.2**
	comp=Z,7.3nm,0.3s,baz=55						
KSP	**Ksiaz**	**1.75**	**292**	*e*Pn	**Pn**	**00 34 24.3**	**+1.3**
KSP				*e*Sn	**Sn**	**00 34 47.6**	**+1.8**
KSP	**Ksiaz**	**1.75**	**292**	*e*Pg	**Pg**	**00 34 24.4**	**-0.5**
KSP				*e*Sg	**Sg**	**00 34 47.5**	**0.0**
KSP	**Ksiaz**	**1.75**	**292**	*e*Pg	**Pg**	**00 34 24.4**	**-0.5**
KSP				*e*Sg	**Sg**	**00 34 47.5**	**0.0**
STHS	**Stebnicka Huta**	**1.75**	**116**	*e*PN	**Pg**	**00 34 24.0**	**-0.9**
STHS				*e*SN	**Sn**	**00 34 45.9**	**0.0**
KRUC	**Moravsky**	**1.96**	**235**	*e*Pn	**Pn**	**00 34 26.1**	**+0.2**
	baz=52						
KRUC				*e*Sn	**Sn**	**00 34 53.0**	**+1.8**
	comp=Z,3.4nm,0.3s,baz=52						
KECS	**Kecovo**	**2.04**	**148**	*e*	**Pb**	**00 34 30.1**	**+0.8**
KECS	**Kecovo**	**2.04**	**148**	*e*SN	**Sn**	**00 34 50.9**	**-2.1**
KECS	**Kecovo**	**2.04**	**148**	*e*Sn	**Sn**	**00 34 51.0**	**-2.0**
CRVS	**Cervenica-Dubn**	**2.15**	**127**	*e*PN	**Pb**	**00 34 31.5**	**+0.3**
CRVS				*e*SN	**Sb**	**00 35 00.3**	**+1.9**
CRVS	**Cervenica-Dubn**	**2.15**	**127**	*e*Pn	**Pb**	**00 34 31.5**	**+0.3**
CRVS				*e*Sn	**Sb**	**00 35 00.3**	**+1.9**
KOLS	**Kolonicke sedl**	**2.57**	**119**	*e*SN	**Sn**	**00 35 04.2**	**-2.1**
KOLS	**Kolonicke sedl**	**2.57**	**119**	*e*Sn	**Sn**	**00 35 04.2**	**-2.1**
BRG	**Berggiesshubel**	**3.19**	**284**	SG	**Sg**	**00 35 34.5**	**+0.5**
	comp=Z,3.2nm,0.6s						
KHC	**Kasperske Hory**	**3.59**	**254**	*e*PN	**Pn**	**00 34 49.0**	**+0.8**
KHC				*e*PG	**Pg**	**00 34 56.9**	**-3.2**
KHC				*e*SG	**Sg**	**00 35 45.4**	**-1.2**
	comp=Z,4.6nm,0.6s						
KHC	**Kasperske Hory**	**3.59**	**254**	Pn	**Pn**	**00 34 49.0**	**+0.8**
MOA	**Molln**	**3.83**	**234**	⇓*i* Sg	**Sg**	**00 35 52.8**	**-1.6**
	comp=Z,2.7nm,0.5s						
MOA	**Molln**	**3.83**	**234**	Sg	**Sg**	**00 35 52.8**	**-1.6**
	comp=Z,2.7nm,0.5s						
CLL	**Collm**	**3.87**	**289**	*e*Sg	**Sg**	**00 35 56.0**	**+0.4**

*IDC **27** 01:03:57.6±0.6, 13°.33N×120°.25E, h0km, mb4.3/16, mb1 4.4/16, mb1mx4.3/23, mbtmp4.3/16, MS3.6/12, Ms1 3.6/12, ms1mx3.3/41, Error ellipse: s-maj=15.0km s-min=10.9km az=123.0*
*MAN **27** 01:03:58, 13°.36N×120°.28E, h1km, mb5.1, ML4.1, MS4.3*
MAN INTENSITY III - PALUAN OCCIDENTAL MINDORO.
*MOS **27** 01:04:00.8±1.0, 13°.40N×120°.48E, h33km, mb4.9/17, Error ellipse: s-maj=17.1km s-min=7.7km az=120.6*
*ISCJB **27** 01:04:03.4±0.5, 13°.35N±0°.03×120°.41E±0°.04, h55km±5km, mb4.8/62, MS3.6/17, Error ellipse: s-maj=7.2km s-min=4.7km az=169.5*
*NEIC **27** 01:04:05.4±0.9, 13°.49N×120°.61E, h60km±8km, mb4.7/14, Error ellipse: s-maj=12.0km s-min=6.9km az=69.0*
NEIC Felt [III PIVS] at Paluan.
*BJI **27** 01:04:06.6, 13°.42N×120°.84E, h98km, mB4.8/18, mb4.6/28*
*TEH **27** 01:04:08.0, 13°.49N×120°.75E, h91km*

ISC 27 01:04:04.9±0.5, 13°35N±0°.03×120°41E±0°.04, h52km±5km, h97km±1.7km: pP-P, n174, σ1°08/180, mb4.8/62, MS3.6/17, 13C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.90**	**34**	Pg	**Pn**	**01 04 17.3**	**-4.1**
	1µm,0.3s,baz=185,slow=1.7,SNR=24						
TGY				Lg		01 04 32.6	
	1µm,0.3s,baz=154,slow=20,SNR=18						
TGY	**Tagaytay City**	**0.90**	**34**	Pg	**Pn**	**01 04 17.3**	**-4.1**
TGY				Lg		01 04 32.6	
TGY	**Tagaytay City**	**0.90**	**34**	P	**Pn**	**01 04 17.3**	**-4.1**
TGY						01 04 32.6	
TGY	**Tagaytay City**	**0.90**	**34**	⇑*e*P	**Pn**	**01 04 17.4**	**-4.0**
LQP	**Lukban**	**1.33**	**55**	⇑*e*P	**Pn**	**01 04 27.5**	**+0.4**
BUSP	**Coron**	**1.36**	**189**	*e*P	**Pn**	**01 04 25.3**	**-2.2**
BUSP				*e*S	**Sn**	**01 04 44.6**	**+0.2**
BOAC	**Boac**	**1.40**	**86**	*e*P	**Pn**	**01 04 26.7**	**-1.3**
BOAC				*e*S	**Sn**	**01 04 48.0**	**+2.7**
OTRP	**Odiongan**	**1.85**	**122**	*e*P	**Pn**	**01 04 34.3**	**+0.1**
POLP	**Polilio Island**	**2.02**	**47**	*e*P	**Pn**	**01 04 36.2**	**-0.3**
GQP	**Guinayangan**	**2.05**	**74**	⇑*e*P	**Pn**	**01 04 36.4**	**-0.6**
GQP				*i* S	**Sn**	**01 05 05.3**	**+3.9**
AUQP	**San Andres**	**2.20**	**91**	*e*P	**Pn**	**01 04 40.6**	**+1.6**
ENPP	**El Nido**	**2.34**	**204**	*e*P	**Pn**	**01 04 38.0**	**-2.9**
SCZP	**Santa Cruz**	**2.46**	**349**	*e*P	**Pn**	**01 04 40.4**	**-2.1**
CUYO	**Cuyo Island**	**2.56**	**167**	*e*P	**Pn**	**01 04 42.0**	**-1.8**
BALP	**Baler**	**2.63**	**25**	*e*P	**Pn**	**01 04 43.9**	**-0.9**
RCP	**Roxas**	**2.89**	**128**	⇑*e*P	**Pn**	**01 04 52.2**	**+3.7**
GUIM	**Jordan**	**3.45**	**142**	*e*P	**Pn**	**01 04 56.3**	**+0.2**
CAUP	**Cauayan**	**3.82**	**21**	*e*P	**Pn**	**01 05 00.6**	**-0.6**
DAV	**Davao City (W)**	**8.05**	**140**	LR	LR	01 09 32.1	
	comp=Z,362nm,21.7s,baz=323,slow=41						
KKM	**Kota Kinabalu**	**8.36**	**210**	*e*Pn	**Pn**	**01 06 09.2**	**+5.7**
SSLB	**Suanglung**	**10.39**	**3**	*e*Pn	**Pn**	**01 06 32.7**	**+1.4**
QIZ	**Qiongzhong**	**11.61**	**300**	P	**Pn**	**01 06 53.3**	**+5.3**
QIZ				S	**Sn**	**01 09 04.5**	**+8.3**
QIZ				pmax	pmax		
	comp=Z,450nm,5.7s						
QIZ				LR	LR		
	comp=Z,500nm,4.3s						
GYA	**Guiyang**	**18.34**	**317**	⇑*i*P	**Pn**	**01 08 18.3**	**+2.8**
GYA				pP	pP	01 08 33.5	+6.7
GYA				PP		01 08 39.5	
GYA				S	**S**	**01 11 38.3**	**-3.7**
GYA				sS	sS	01 12 06.3	+5.4
GYA				SS		01 12 09.0	
GYA				pmax	pmax		
	comp=Z,20nm,0.8s						
GYA				pmax	pmax		
	comp=Z,130nm,4.2s						
GYA				LR	LR		
	comp=N,790nm,15.5s						
GYA				LR	LR		
	comp=E,530nm,14.8s						
GYA				LR	LR		
	comp=Z,770nm,15.2s						
NJ2	**Nanjing**	**18.67**	**356**	*e*P	**Pn**	**01 08 20.8**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,200nm,0.8s						
KMI	**Kunming**	**20.36**	**308**	P	**P**	**01 08 42.3**	**+5.2**
KMI				pP		01 09 00.0	
KMI				S	**S**	**01 12 19.5**	**-3.0**
KMI				pmax	pmax		
	comp=Z,16nm,1.0s						
KMI				pmax	pmax		
	comp=Z,170nm,4.7s						
KMI				LR	LR		
	comp=N,210nm,13.2s						
KMI				LR	LR		
	comp=E,150nm,8.1s						
KMI				LR	LR		
	comp=Z,250nm,11.1s,MS3.8						
CM31	**Chiang Mai Arr**	**21.25**	**287**	*e*P	**P**	**01 08 48.5**	**+1.6**
	comp=Z,38nm,1.1s,mb4.6						
CMAR	**Chiang Mai Arr**	**21.25**	**287**	P	**P**	**01 08 45.5**	**-1.3**
	comp=Z,20nm,0.9s,mb4.4,baz=97,slow=9.4,SNR=32						
CMAR				LR	LR	01 16 08.4	
	comp=Z,76nm,19.8s,MS3.1,baz=130,slow=35						
CMAR	**Chiang Mai Arr**	**21.25**	**287**	P	**P**	**01 08 45.5**	**-1.3**
CMAR	**Chiang Mai Arr**	**21.25**	**287**	P	**P**	**01 08 45.6**	**-1.3**
CHTO	**Chiang Mai**	**21.32**	**288**	*e*P	**P**	**01 08 48.1**	**+0.5**
	comp=Z,16nm,1.2s,mb4.2						
CHTO	**Chiang Mai**	**21.32**	**288**	*e*P	**P**	**01 08 48.1**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.2						
CD2	**Chengdu**	**23.25**	**321**	P	**P**	**01 09 07.5**	**-0.5**
CD2				pP		01 09 27.5	
CD2				sP	sP	01 09 38.8	+12
CD2				PP		01 09 43.5	
CD2				S	**S**	**01 13 10.5**	**-5.6**
CD2				sS	sS	01 13 44.8	+6.6
CD2				SS		01 14 04.8	
CD2				pmax	pmax		
	comp=Z,60nm,1.2s,mb4.9						
CD2				pmax	pmax		
	comp=Z,240nm,5.4s						
CD2				LR	LR		
	comp=N,420nm,5.3s						
CD2				LR	LR		
	comp=Z,270nm,7.1s						
KSRS	**Korea Array**	**24.92**	**14**	LR	LR	01 21 36.8	
	comp=Z,115nm,18.1s,MS3.4,baz=205,slow=42						
BJI	**Beijing**	**26.84**	**353**	P	**P**	**01 09 39.8**	**-0.7**
BJI				S	**S**	**01 14 10.8**	**-2.4**
BJI				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.5						
BJI				LR	LR		
	comp=N,150nm,12.9s						
BJI				LR	LR		
	comp=E,190nm,18.5s						
BJI				LR	LR		
	comp=Z,73nm,23.6s						

LZH	**Lanzhou**	**27.10**	**330**	*e*P		**P**	**01 09 44.0**	**+1.2**
LZH				pP		pP	01 10 04.5	+8.5
LZH				pmax		pmax		
	comp=Z,14nm,1.2s,mb4.4							
HHC	**Hu-ho-hao-te**	**28.47**	**346**	*e*P		**P**	**01 09 56.5**	**+1.5**
HHC				pP		pP	01 10 18.5	+10
HHC				sP		sP	01 10 30.3	+16
HHC				PP		PP	01 10 52.3	-7.7
HHC				S		**S**	**01 14 36.0**	**-2.8**
HHC				ScS		ScS	01 20 29.0	-7.0
HHC				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.3							
HHC				pmax		pmax		
	comp=Z,84nm,5.0s							
CN2	**Changchun**	**30.65**	**7**	*e*P		**P**	**01 10 15.0**	**+0.8**
CN2				*es*P		sP	01 10 45.8	+12
CN2				*e*S		**S**	**01 15 08.5**	**-4.5**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.5s,mb4.9							
CN2				pmax		pmax		
	comp=Z,200nm,3.0s							
FITZ	**Fitzroy Crossi**	**31.68**	**171**	*e*P		**P**	**01 10 23.8**	**+0.3**
	comp=Z,19nm,0.9s,mb4.9							
GTA	**Gaotai**	**31.69**	**329**	*e*P		**P**	**01 10 26.3**	**+2.8**
GTA				pP		pP	01 10 48.8	+12
GTA				sP		sP	01 10 59.5	+17
GTA				pmax		pmax		
	comp=Z,6.0nm,1.6s,mb4.2							
MDJ	**Mudanjiang**	**32.13**	**12**	P		**P**	**01 10 25.5**	**-1.8**
MDJ				pP		pP	01 10 46.0	+5.4
MDJ				sP		sP	01 10 56.8	+10
MDJ				PP		PP	01 11 39.3	-1.3
MDJ				S		**S**	**01 15 30.0**	**-6.1**
MDJ				sS		sS	01 16 07.0	+8.3
MDJ				ScS		ScS	01 20 45.8	-7.7
MDJ				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.2							
MDJ				pmax		pmax		
	comp=Z,83nm,5.6s							
MDJ				LR		LR		
	comp=N,31nm,21.1s,MS3.3							
MDJ				LR		LR		
	comp=E,64nm,25.1s,MS3.3							
MDJ				LR		LR		
	comp=Z,55nm,18.1s							
TAPN	**Taplejung**	**33.55**	**300**	*e*P		**P**	**01 10 40.9**	**+0.9**
ODAN	**Odare**	**33.68**	**299**	*e*P		**P**	**01 10 41.7**	**+0.6**
	comp=Z,63nm,1.0s,mb5.5							
RAMN	**Ramite**	**34.38**	**298**	*e*P		**P**	**01 10 47.5**	**+0.3**
JIRN	**Jiri**	**34.93**	**299**	*e*P		**P**	**01 10 52.5**	**+0.6**
	comp=Z,12nm,0.8s,mb4.9							
GUN	**Gumba**	**35.27**	**300**	*e*P		**P**	**01 10 55.0**	**+0.2**
	comp=Z,47nm,0.9s,mb5.4							
COEN	**Coen**	**35.28**	**139**	*e*P		**P**	**01 10 53.3**	**-1.7**
	comp=Z,10nm,1.0s,mb4.7							
COEN	**Coen**	**35.28**	**139**	*e*P		**P**	**01 10 53.9**	**-1.1**
	comp=Z,229nm,2.5s,mb5.7							
PKI	**Pulchoki**	**35.57**	**299**	*e*P		**P**	**01 10 57.2**	**-0.2**
	comp=Z,23nm,0.8s,mb5.2							
KKN	**Kakani**	**35.74**	**299**	*e*P		**P**	**01 10 59.2**	**+0.3**
WRAB	**Tennant Creek**	**35.81**	**157**	*e*P		**P**	**01 10 59.0**	**-0.4**
	comp=Z,54nm,0.7s,mb5.6							
WRAB	**Tennant Creek**	**35.81**	**157**	*e*P		**P**	**01 10 59.1**	**-0.3**
WRA	**Warramunga Arr**	**35.81**	**157**	P		**P**	**01 10 59.5**	**0.0**
	comp=Z,32nm,0.8s,mb5.3,baz=335,slow=9.6,SNR=116							
WRA	**Warramunga Arr**	**35.81**	**157**	P		**P**	**01 10 59.5**	**0.0**
WRA	**Warramunga Arr**	**35.81**	**157**	P		**P**	**01 10 59.5**	**0.0**
WB2	**Warramunga Arr**	**35.82**	**157**	*e*P		**P**	**01 10 59.2**	**-0.3**
DMN	**Daman**	**35.84**	**299**	*e*P		**P**	**01 10 59.6**	**-0.1**
	comp=Z,43nm,1.0s,mb5.3							
ULN	**Ulaanbaatar**	**36.16**	**345**	*e*P		**P**	**01 11 01.7**	**-0.5**
	comp=Z,17nm,1.3s,mb4.8							
ULN	**Ulaanbaatar**	**36.16**	**345**	*e*P		**P**	**01 11 01.7**	**-0.5**
ULN				pmax		pmax		
	comp=Z,17nm,1.3s,mb4.8							
SONM	**Songino Array**	**36.31**	**344**	P		**P**	**01 11 02.9**	**-0.5**
	comp=Z,6.0nm,0.8s,mb4.5,baz=162,slow=10,SNR=38							
SONM				LR		LR	01 25 19.0	
	comp=Z,63nm,19.3s,MS3.4,baz=158,slow=35							
SONM	**Songino Array**	**36.31**	**344**	P		**P**	**01 11 02.9**	**-0.5**
SONM	**Songino Array**	**36.31**	**344**	P		**P**	**01 11 02.9**	**-0.5**
GKN	**Gorkha**	**36.35**	**299**	*e*P		**P**	**01 11 03.2**	**-0.9**
	comp=Z,33nm,1.0s,mb5.2							
DANN	**Dangsing**	**37.19**	**299**	*e*P		**P**	**01 11 10.7**	**-0.5**
	comp=Z,46nm,1.0s,mb5.3							
PYUN	**Piuthan**	**37.78**	**299**	*e*P		**P**	**01 11 15.4**	**-0.8**
	comp=Z,98nm,0.9s,mb5.5							
AS31	**Alice Springs**	**39.09**	**160**	*e*P		**P**	**01 11 27.6**	**+0.5**
ASAR	**Alice Springs**	**39.09**	**160**	P		**P**	**01 11 27.8**	**+0.6**
	comp=Z,27nm,0.8s,mb5.0,baz=338,slow=6.7,SNR=199							
ASAR	**Alice Springs**	**39.09**	**160**	P		**P**	**01 11 27.8**	**+0.6**
ASAR

	comp=Z,3.1nm,0.8s,mb4.4,baz=346,slow=8.4,SNR=6.1							
STKA	**Stephens Creek**	**49.34**	**156**	P		**P**	**01 12 49.1**	**+0.1**
STKA	**Stephens Creek**	**49.34**	**156**	P		**P**	**01 12 49.2**	**+0.1**
PETK	**Petropavlovsk-**	**49.46**	**29**	LR		LR	01 35 15.9	
	comp=Z,28nm,18.7s,MS3.3,baz=223,slow=38							
EKS2	**Erkin-Say**	**49.62**	**315**	*e*P		**P**	**01 12 52.2**	**+1.1**
	comp=Z,11nm,1.0s,mb4.8							
EKS2	**Erkin-Say**	**49.62**	**315**	*e*P		**P**	**01 12 52.2**	**+1.1**
EKS2				pmax		pmax		
	comp=Z,11nm,1.0s,mb4.8							
KURK	**Kurchatov**	**50.32**	**327**	P		**P**	**01 12 56.3**	**0.0**
	comp=Z,5.8nm,0.8s,mb4.6,baz=124,slow=7.9,SNR=21							
KURK				LR		LR	01 34 39.8	
	comp=Z,53nm,18.4s,MS3.6,baz=210,slow=37							
KURK	**Kurchatov**	**50.32**	**327**	*e*P		**P**	**01 12 55.9**	**-0.4**
	comp=Z,13nm,0.8s,mb5.0							
KURK	**Kurchatov**	**50.32**	**327**	*d i*P		**P**	**01 12 56.0**	**-0.3**
KURK				pmax		pmax		
	comp=Z,24nm,1.2s,mb5.1							
CMSA	**Cobar Meteorol**	**50.80**	**152**	*e*P		**P**	**01 13 02.6**	**+2.5**
	comp=Z,40nm,0.9s,mb5.3							
KKAR	**Karatay Array**	**52.02**	**315**	*e*P		**P**	**01 13 09.4**	**+0.3**
	comp=Z,1.2nm,0.4s,mb4.2							
KKAR	**Karatay Array**	**52.02**	**315**	*e*P		**P**	**01 13 09.5**	**+0.3**
KKAR				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.1							
BVAR	**Borovoye Array**	**55.90**	**326**	P		**P**	**01 13 37.3**	**0.0**
	comp=Z,2.2nm,0.6s,mb4.3,baz=125,slow=9.9,SNR=13							
BVAR	**Borovoye Array**	**55.90**	**326**	P		**P**	**01 13 37.3**	**0.0**
BVAR	**Borovoye Array**	**55.90**	**326**	P		**P**	**01 13 37.3**	**0.0**
BRVK	**Borovoye**	**55.97**	**326**	*e*P		**P**	**01 13 38.1**	**+0.3**
	comp=Z,17nm,1.0s,mb5.0							
BRVK	**Borovoye**	**55.97**	**326**	*e*P		**P**	**01 13 38.1**	**+0.3**
BRVK				pmax		pmax		
	comp=Z,17nm,1.0s,mb5.0							
IMYA	**Miami**	**58.36**	**305**	*e*P		**P**	**01 13 54.9**	**-0.1**
IMOG	**Moghan**	**58.94**	**304**	*e*P		**P**	**01 13 58.9**	**-0.2**
ITEG	**Tejag**	**59.16**	**300**	*e*P		**P**	**01 14 01.6**	**+1.0**
IPAY	**Payeh**	**59.26**	**305**	*e*P		**P**	**01 14 02.2**	**+1.0**
IKRD	**Kardeh**	**59.67**	**305**	*e*P		**P**	**01 13 58.4**	**-5.7**
ISFR	**Sfrayin**	**60.11**	**305**	*e*P		**P**	**01 14 08.0**	**+0.9**
ABKAR	**Akbulak array**	**60.81**	**319**	*e*P		**P**	**01 14 11.4**	**-0.2**
	comp=Z,2.5nm,0.7s,mb4.5							
BILL	**Bilibino**	**62.12**	**18**↑	*e*P		**P**	**01 14 18.3**	**-1.8**
BILL				*e*			01 16 37.0	
BILL				pmax		pmax		
	comp=Z,23nm,2.5s,mb4.9							
BILL				MLR		MLR		
	comp=Z,10μm,22.0s							
SVE	**Sverdlovsk**	**62.55**	**328**	*e*P		**P**	**01 14 23.0**	**-0.1**
IPAR	**Pars**	**63.95**	**297**	*e*P		**P**	**01 14 32.9**	**-0.1**
ISFB	**Sefidab**	**64.64**	**302**	*e*P		**P**	**01 14 37.5**	**+0.1**
IKLH	**Kolahrood**	**65.18**	**301**	*e*P		**P**	**01 14 41.9**	**+0.9**
RDF	**Al-Radifah**	**68.79**	**296**	*e*P		**P**	**01 15 03.5**	**-0.5**
RDF				AMb		AMB	01 15 04.8	
	comp=Z,67nm,1.4s,mb5.4							
MIB	**Mutribah**	**68.91**	**297**	*e*P		**P**	**01 15 04.2**	**-0.5**
MIB				AMb		AMB	01 15 08.1	
	comp=Z,25nm,1.0s,mb5.1							
NAY	**Al-Naaiem**	**69.03**	**296**	*e*P		**P**	**01 15 05.1**	**-0.4**
NAY				AMb		AMB	01 15 12.2	
	comp=Z,22nm,1.4s,mb4.9							
IVIS	**Veis**	**69.09**	**302**	*e*P		**P**	**01 15 04.7**	**-1.0**
IGHG	**Ghaleghazi**	**69.33**	**302**	*e*P		**P**	**01 15 05.6**	**-1.6**
ISHB	**Shabestar**	**69.97**	**306**	*e*P		**P**	**01 15 11.6**	**+0.5**
GNI	**Garni**	**70.61**	**308**	P		**P**	**01 15 15.1**	**+0.1**
	comp=Z,8.8nm,1.2s,mb4.6							
GNI	**Garni**	**70.61**	**308**	*e*P		**P**	**01 15 16.5**	**+1.6**
GNI				pmax		pmax		
	comp=Z,9.0nm,1.4s							
ZEI	**Tsey**	**71.19**	**311**	*e*P		**P**	**01 15 17.1**	**-1.3**
ZEI				pmax		pmax		
	comp=Z,4.0nm,1.3s,mb4.2							
KIV	**Kislovodsk**	**72.05**	**312**	*e*P		**P**	**01 15 24.1**	**+0.5**
	comp=Z,7.0nm,0.8s,mb4.6							
KIV	**Kislovodsk**	**72.05**	**312**	*e*P		**P**	**01 15 25.3**	**+1.7**
KIV				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.7							
KIV				MLR		MLR		
	comp=Z,42nm,18.0s,MS3.8							
KLMR	**Klimovskoe**	**74.01**	**330**	*e*P		**P**	**01 15 31.3**	**-3.5**
KLMR				pmax		pmax		
	comp=Z,20nm,1.1s,mb5.0							
OBN	**Obninsk**	**75.65**	**324**↑	*e*P		**P**	**01 15 43.2**	**-1.2**
OBN				*e*S		S	01 25 22.3	+0.6
OBN				pmax		pmax		
	comp=Z,42nm,2.5s,mb4.9							
OBN				MLR		MLR		
	comp=Z,100nm,15.0s,MS4.2							
BRTR	**Keskin Array B**	**79.14**	**308**	P		**P**	**01 16 04.1**	**-0.1**
	comp=Z,1.0nm,0.8s,mb3.8,baz=124,slow=7.6,SNR=6.8							
BRTR	**Keskin Array B**	**79.14**	**308**	P		**P**	**01 16 04.1**	**-0.1**
BRTR	**Keskin Array B**	**79.14**	**308**	P		**P**	**01 16 04.1**	**-0.2**
ILAR	**Eielson Array**	**79.18**	**26**	P		**P**	**01 16 03.0**	**-0.9**
	comp=Z,1.0nm,1.1s,baz=280,slow=3.7,SNR=4.4							
ILAR	**Eielson Array**	**79.18**	**26**	P		**P**	**01 16 03.0**	**-0.9**
ILAR	**Eielson Array**	**79.18**	**26**	P		**P**	**01 16 03.1**	**-0.9**
ARCES	**ARCESS Array B**	**79.31**	**339**	P		**P**	**01 16 05.7**	**+1.1**
	comp=Z,6.8nm,1.1s,mb4.5,baz=69,slow=4.9,SNR=4.9							
ARCES	**ARCESS Array B**	**79.31**	**339**	P		**P**	**01 16 05.7**	**+1.1**
ARCES	**ARCESS Array B**	**79.31**	**339**	P		**P**	**01 16 05.7**	**+1.1**
FINES	**FINESS Array B**	**80.45**	**331**	P		**P**	**01 16 10.0**	**-0.9**
	comp=Z,4.8nm,0.9s,mb4.4,baz=90,slow=0.4,SNR=5.5							
FINES	**FINESS Array B**	**80.45**	**331**	P		**P**	**01 16 10.0**	**-0.9**
FINES	**FINESS Array B**	**80.45**	**331**	P		**P**	**01 16 10.0**	**-0.9**
AKASG	**Malin Array Be**	**80.55**	**320**	P		**P**	**01 16 10.3**	**-1.3**
	comp=Z,0.3nm,0.3s,mb3.7,baz=60,slow=7.0,SNR=6.2							
AKASG				LR		LR	01 54 52.3	
	comp=Z,42nm,18.8s,MS3.8,baz=330,slow=38							
AKASG	**Malin Array Be**	**80.55**	**320**	P		**P**	**01 16 10.3**	**-1.3**
AKASG	**Malin Array Be**	**80.55**	**320**	P		**P**	**01 16 10.3**	**-1.3**
VRI	**Vrincioaia**	**83.08**	**315**	*i*P		**P**	**01 16 25.7**	**+0.6**
ISR	**Istrita**	**83.36**	**315**↑	*i*P		sP	01 16 53.9	+6.6
INK	**Inuvik**	**83.52**	**21**	P		**P**	**01 16 26.1**	**-0.8**
	comp=Z,1.3nm,0.9s,mb4.1,baz=3.6,slow=4.1,SNR=4.3							
INK	**Inuvik**	**83.52**	**21**	*e*P		**P**	**01 16 25.7**	**-1.2**
	comp=Z,3.1nm,1.2s,mb4.3							
INK	**Inuvik**	**83.52**	**21**	*e*P		**P**	**01 16 25.7**	**-1.2**
INK				pmax		pmax		
	comp=Z,3.0nm,1.2s							
MLR	**Muntele Rosu**	**83.70**	**315**↑	*i*P		**P**	**01 16 29.0**	**+0.8**
BURAR	**Bucovina Array**	**83.72**	**317**↑	*i*P		**P**	**01 16 28.5**	**+0.2**
BUR08	**Bucovina Ar. S**	**83.73**	**317**	*e*P		**P**	**01 16 28.2**	**-0.1**
KOLS	**Kolonicke sedl**	**85.32**	**319**	*e*P		**P**	**01 16 38.0**	**+1.6**
KOLS	**Kolonicke sedl**	**85.32**	**319**	*e*P		**P**	**01 16 38.0**	**+1.6**
UZH	**Uzhgorod**	**85.38**	**319**	*e*P		**P**	**01 16 34.7**	**-2.0**
DRGR		**85.58**	**317**↑	*i*P		**P**	**01 16 37.9**	**+0.2**
CRVS	**Cervenica-Dubn**	**85.84**	**319**	*e*P		**P**	**01 16 39.4**	**+0.4**
CRVS				pmax		pmax		
	comp=Z,11nm,1.2s,mb5.0							
CRVS	**Cervenica-Dubn**	**85.84**	**319**	*e*P		**P**	**01 16 39.4**	**+0.4**
GZR	**Gura Zlata**	**85.89**	**316**	*i*P		**P**	**01 16 42.4**	**+3.1**
KECS	**Kecovo**	**86.58**	**319**	*e*P		**P**	**01 16 42.5**	**-0.1**
KECS				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.5							
KECS	**Kecovo**	**86.58**	**319**	*e*P		**P**	**01 16 42.5**	**-0.1**
BZS	**Buzias**	**86.62**	**316**↑	*i*P		**P**	**01 16 42.8**	**-0.1**
NB2	**NORSAR Subarra**	**87.44**	**333**	P		**P**	**01 16 45.1**	**-1.4**
	comp=Z,7.5nm,1.0s,mb4.9,baz=69,slow=4.6							
NOA	**NORSAR Array B**	**87.44**	**333**	P		**P**	**01 16 45.3**	**-1.2**
	comp=Z,4.6nm,1.0s,mb4.7,baz=67,slow=4.8,SNR=4.0							
NOA				LR		LR	01 57 25.0	
	comp=Z,66nm,18.0s,MS4.1,baz=110,slow=37							
NOA	**NORSAR Array B**	**87.44**	**333**	P		**P**	**01 16 45.3**	**-1.2**
NOA	**NORSAR Array B**	**87.44**	**333**	P		**P**	**01 16 45.3**	**-1.2**
MORC	**Moravsky Berou**	**88.04**	**321**↑	*i*P		**P**	**01 16 50.3**	**+0.7**
VRAC	**Vranov**	**88.78**	**321**	LR		LR	02 01 07.5	
	comp=Z,53nm,18.3s,MS4.0,baz=193,slow=39							
BRG	**Berggiesshubel**	**89.84**	**323**	*e*P		**P**	**01 16 58.1**	**0.0**
	comp=Z,4.4nm,0.9s,mb4.8							
GERES	**GERESS Array B**	**90.72**	**321**	P		**P**	**01 17 01.6**	**-0.6**
	comp=Z,0.9nm,0.7s,mb4.2,baz=77,slow=7.0,SNR=7.3							
GERES	**GERESS Array B**	**90.72**	**321**	P		**P**	**01 17 01.6**	**-0.6**
GERES	**GERESS Array B**	**90.72**	**321**	P		**P**	**01 17 01.6**	**-0.6**
DAVOX	**Davos/Dischmat**	**93.89**	**320**	LR		LR	02 04 41.3	
	comp=Z,44nm,19.2s,MS3.9,baz=262,slow=39							

ISCJB ***27*** *01:11:16.1±0.3,36°.81N±0°.02×118°.44W±0°.02,h10km, Error ellipse: s-maj=2.8km s-min=2.5km az=3.4 NEIC* ***27*** *01:11:16.5,36°.81N×118°.47W,h6km, ML2.9(PAS), After PAS.*

ISC 27 01:11:16.8±0.3,36°.80N±0°.02×118°.46W±0°.02,h10km,n33,σ1s00/58,14C-21D,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TIN	**Tinemaha**	**0.32**	**36**	⇑P			**Pg**	**01 11 21.9**	**-1.1**
	baz=0.3,SNR=188								
TIN				⇓S			**Sg**	**01 11 26.7**	**-0.6**
	baz=0.3								
CWC	**Cottonwood Cre**	**0.47**	**140**	P			**Pg**	**01 11 24.7**	**-1.2**
	baz=0.5,SNR=54								
CWC				⇓S			**Sg**	**01 11 30.9**	**-1.2**
	baz=0.5								
RCTC	**Rector, Farmer**	**0.80**	**232**	⇑P			**Pg**	**01 11 30.5**	**-1.7**
	baz=0.8								
RCTC				⇑S			**Sg**	**01 11 41.8**	**-0.8**
	baz=0.8								
MLAC	**Mammoth Lakes**	**0.88**	**340**	⇓P			**Pg**	**01 11 32.4**	**-1.4**
	baz=0.9								
MLAC				⇑S			**Sg**	**01 11 43.7**	**-1.6**
	baz=0.9								
GRAC	**Grapevine Rang**	**0.90**	**77**	⇓P			**Pg**	**01 11 33.2**	**-0.8**
	baz=0.9,SNR=6.7								
GRAC				⇓S			**Sg**	**01 11 45.5**	**-0.2**
	baz=0.9								
MPMC	**Manual Prospec**	**1.07**	**133**	⇓P			**Pg**	**01 11 36.1**	**-1.3**
	baz=1.1,SNR=173								
MPMC				⇑S			**Sg**	**01 11 51.2**	**-0.2**
	baz=1.1								
VES	**Vestal, Richgr**	**1.08**	**208**	⇓S			**Sg**	**01 11 50.0**	**-1.7**
	baz=1.1								
ISA	**Isabella**	**1.14**	**181**	P			**Pb**	**01 11 36.9**	**-1.6**
	baz=1.1,SNR=47								
ISA				⇓S			**Sb**	**01 11 52.3**	**-1.0**
	baz=1.1								
ISA	**Isabella**	**1.14**	**181**	*e*Pg			**Pg**	**01 11 36.9**	**-1.7**
ISA				*e*S			**Sb**	**01 11 51.6**	**-1.7**
FURC	**Furnace Creek,**	**1.33**	**104**	⇓P			**Pn**	**01 11 40.7**	**-0.7**
	baz=1.3,SNR=11								
FURC				⇑S			**Sb**	**01 11 59.0**	**+0.2**
	baz=1.3								
LRMC	**Laurel Mountai**	**1.46**	**155**	P			**Pn**	**01 11 43.1**	**-0.1**
	baz=1.5,SNR=38								
LRMC				⇓S			**Sn**	**01 12 02.6**	**+0.2**
	baz=1.5								
ARVC	**Arvin**	**1.70**	**190**	⇓P			**Pn**	**01 11 47.0**	**+0.5**
	baz=1.7,SNR=22								
ARVC				⇑S			**Sn**	**01 12 09.4**	**+1.2**
	baz=1.7								
SMMC	**Simmler**	**1.94**	**221**	⇓P			**Pn**	**01 11 50.2**	**+0.3**
	baz=1.9,SNR=16								
SMMC				⇓Sb			**Sb**	**01 12 17.2**	**+0.7**
	baz=1.9								
EDW2	**Edwards Air Fo**	**1.95**	**169**	⇑P			**Pn**	**01 11 50.1**	**+0.1**
	baz=2.0								
EDW2				⇓S			**Sn**	**01 12 15.6**	**+1.0**
	baz=2.0								
CMB	**Columbia Colle**	**1.97**	**309**	*e*Pn			**Pn**	**01 11 50.8**	**+0.6**
CMB				*e*S			**Sn**	**01 12 16.6**	**+1.7**
SHOC	**Shoshone**	**1.97**	**116**	⇑Sg			**Sg**	**01 12 21.1**	**+0.9**
	baz=2.0								
GSC	**Goldstone**	**2.01**	**138**	⇑Sg			**Sg**	**01 12 22.2**	**+0.9**
	baz=2.0								
GSC	**Goldstone**	**2.01**	**138**	*e*Pn			**Pn**	**01 11 50.6**	**-0.1**
PKM	**Peak Mountain**	**2.20**	**211**	⇑S			**Sn**	**01 12 22.2**	**+1.6**
	baz=2.2								
SAO	**San Andreas Ge**	**2.40**	**270**	*e*Pn			**Pn**	**01 11 56.6**	**+0.5**
SAO				*e*S			**Sn**	**01 12 29.7**	**+4.2**
TUQ	**Turquoise Moun**	**2.46**	**123**	⇓P			**Pn**	**01 11 56.7**	**-0.3**
	baz=2.5,SNR=10.0								
TUQ				⇓Sb			**Sb**	**01 12 34.3**	**+2.8**
	baz=2.5								
DECC	**Green Verdugo**	**2.55**	**178**	⇓Sg			**Sg**	**01 12 39.2**	**+0.6**
	baz=2.6								
SBC	**Santa Barbara**	**2.57**	**204**	⇓Sb			**Sb**	**01 12 36.4**	**+1.9**
	baz=2.6								
MWC	**Mount Wilson**	**2.59**	**173**	*e*Pn			**Pn**	**01 11 59.2**	**+0.5**
MWC				*e*Pg			**Pg**	**01 12 07.0**	**+0.5**
MWC				*e*S			**Sn**	**01 12 40.8**	**+11**
WCN	**Washoe City**	**2.70**	**338**	⇑P			**Pn**	**01 12 00.8**	**+0.6**
	baz=2.7								
WCN				⇑Sg			**Sg**	**01 12 44.5**	**+1.0**
	baz=2.7								
WCN	**Washoe City**	**2.70**	**338**	*e*Pn			**Pn**	**01 12 01.1**	**+0.8**
WCN				*e*S			**Sn**	**01 12 39.0**	**+6.0**
R11A	**Troy Canyon, C**	**2.76**	**55**	⇓P			**Pn**	**01 12 01.4**	**+0.4**
	baz=2.8,SNR=13								
R11A				⇓Sb			**Sb**	**01 12 43.2**	**+3.2**
	baz=2.8								
GMRC	**Granite Mounta**	**3.04**	**131**	⇓P			**Pn**	**01 12 04.4**	**-0.5**
	baz=3.0								
LDFC	**Landfair**	**3.21**	**121**	*e*Pn			**Pn**	**01 12 06.6**	**-0.7**
BELC	**Belle Mtn. Jos**	**3.44**	**144**	⇑P			**Pn**	**01 12 10.5**	**0.0**
	baz=3.5,SNR=8.6								
PFO	**Pinyon Flat Ob**	**3.58**	**152**	*e*Pn			**Pn**	**01 12 11.9**	**-0.5**
PFO				*e*S			**Sg**	**01 13 11.6**	**-0.2**
ARUT	**Antelope Range**	**4.12**	**75**	*e*Pn			**Pn**	**01 12 20.5**	**+0.7**
ARUT				*e*Pg			**Pg**	**01 12 36.3**	**+0.5**
CCUT	**Cedar City**	**4.14**	**78**	*e*Pn			**Pn**	**01 12 19.8**	**-0.2**
CCUT				*e*Pg			**Pg**	**01 12 36.8**	**+0.8**
CCUT				*e*S			**Sb**	**01 13 20.3**	**+0.5**

IDC 27 01:23:58.4±0.9,48°.92S×123°.38E,h0km,mb4.0/6, mb1 4.2/6,mb1mx4.0/13,mbtmp4.0/6,MS3.3/5,Ms1 3.3/5, ms1mx2.9/24,Error ellipse: s-maj=49.7km s-min=18.6km az=107.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.62**	**342**	LR			LR	01 33 10.6	
	comp=Z,72nm,19.1s,baz=304,slow=33								
STKA	**Stephens Creek**	**21.87**	**46**	P			P	01 28 53.5	+1.0
	1.4nm,0.7s,baz=224,slow=12,SNR=4.0								
STKA				LR			LR	01 35 59.2	
	comp=Z,86nm,18.1s,baz=206,slow=33								
ASAR	**Alice Springs**	**26.54**	**22**	P			P	01 29 37.5	-0.2
	4.8nm,1.1s,baz=190,slow=8.8,SNR=17								
WRA	**Warramunga Arr**	**30.22**	**21**	P			P	01 30 09.6	-0.9
	0.2nm,0.7s,baz=180,slow=12,SNR=4.6								
FITZ	**Fitzroy Crossi**	**30.79**	**4**	LR			LR	01 41 38.2	
	comp=Z,70nm,20.1s,baz=12,slow=34								
CTA	**Charters Tower**	**34.12**	**41**	LR			LR	01 42 13.1	
	comp=Z,85nm,21.8s,baz=230,slow=32								
MAW	**Mawson**	**35.05**	**216**	LR			LR	01 42 55.3	
	comp=Z,28nm,18.3s,baz=295,slow=32								
QSPA	**South Pole Qui**	**41.21**	**180**	P			P	01 31 44.3	+0.1
	1.6nm,0.6s,baz=319,slow=5.9,SNR=6.3								
SNAA	**Sanae**	**53.87**	**198**	*e*			P	01 33 22.6	0.0
SNAA				*e*				01 33 28.6	
SNAA	**Sanae**	**53.87**	**198**	P			P	01 33 22.7	+0.1
	2.0nm,0.8s,baz=149,slow=8.3,SNR=15								
VNA2	**Neumayer--Watz**	**55.38**	**198**	*e*			P	01 33 33.7	+0.2
	baz=160,slow=4.6								
VNA2				*e*				01 33 39.2	
CMAR	**Chiang Mai Arr**	**70.51**	**335**	P			P	01 35 15.3	+0.5
	1.2nm,0.3s,baz=186,slow=5.4,SNR=8.3								
TORD	**Torodi Ar. Bea**	**120.49**	**254**	PKP			PKPdf	01 42 51.4	-0.6
	0.8nm,1.1s,baz=114,slow=1.2,SNR=3.7								
YKA	**Yellowknife Ar**	**145.90**	**45**	PKPbc			PKPbc	01 43 38.0	-0.3
	0.9nm,0.7s,baz=268,slow=3.4,SNR=5.6								

ISCJB ***27*** *01:32:24.7±0.6,24°.47N±0°.04×122°.49E±0°.02,h71km±7km, Error ellipse: s-maj=6.2km s-min=3.1km az=174.2 TAP* ***27*** *01:32:24.7,24°.49N×122°.46E,h79km,ML3.2,C JMA* ***27*** *01:32:24.4±0.1,24°.56N×122°.52E,h81km±1km,M2.4*

ISC 27 01:32:25.2±0.6,24°.48N±0°.04×122°.49E±0°.02,h70km±8km, n31,σ0s70/60,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.48**	**92**	P			**Pn**	**01 32 38.0**	**+0.3**
YOJ				S			**Sn**	**01 32 48.0**	**+1.1**
TWC	**Suao**	**0.60**	**283**	P			**Pn**	**01 32 38.6**	**-0.3**
	baz=285								
TWC				*e*S			**Sn**	**01 32 48.8**	**-0.3**
	baz=285								
ENA	**Nanau**	**0.68**	**266**	*e*P			**Pn**	**01 32 39.8**	**-0.1**
	baz=262								
ENA				*e*S			**Sn**	**01 32 51.1**	**+0.4**
	baz=262								
TWB1	**Santiao Chiao**	**0.70**	**319**	*e*P			**Pn**	**01 32 39.9**	**-0.1**
	baz=326								
TWB1				*e*S			**Sn**	**01 32 50.7**	**-0.3**
	baz=326								
TWE	**Neicheng**	**0.79**	**288**	*e*P			**Pn**	**01 32 41.0**	**0.0**
	baz=290								
TWE				*e*S			**Sn**	**01 32 52.4**	**-0.4**
	baz=290								
ENTT	**Nioudou**	**0.86**	**281**	P			**Pn**	**01 32 42.2**	**+0.4**
	baz=284								
ENTT				*e*S			**Sn**	**01 32 54.6**	**+0.4**
	baz=284								
NWF	**Wu-fen Shan**	**0.87**	**313**	P			**Pn**	**01 32 42.3**	**+0.2**
	baz=307								
NWF				*e*S			**Sn**	**01 32 54.6**	**0.0**
	baz=307								
TWD	**Chiawan**	**0.91**	**244**	*e*P			**Pn**	**01 32 41.4**	**-1.1**
	baz=235								
TWD				S			**Sn**	**01 32 55.0**	**-0.3**
	baz=235								
TWA	**Mucha**	**0.96**	**302**	*e*P			**Pn**	**01 32 42.7**	**-0.5**
	baz=302								
TWA				*e*S			**Sn**	**01 32 55.8**	**-0.7**
	baz=302								
NNS	**Nan Shan**	**1.02**	**268**	*e*P			**Pn**	**01 32 44.0**	**+0.2**
	baz=260								
NNS				*e*S			**Sn**	**01 32 57.8**	**+0.1**
	baz=260								
NSK	**Sanguang**	**1.05**	**281**	*e*P			**Pn**	**01 32 43.8**	**-0.4**
	baz=280								
NSK				S			**Sn**	**01 32 58.6**	**+0.2**
	baz=280								
TWY	**Chenhua**	**1.13**	**315**	*e*P			**Pn**	**01 32 45.6**	**+0.3**
	baz=305								
IRIF	**Iriomote-Funau**	**1.14**	**97**	P			**Pn**	**01 32 45.1**	**-0.3**
IRIF				S			**Sn**	**01 33 00.8**	**+0.3**
TWS1	**Kuangyinshan**	**1.16**	**303**	*e*P			**Pn**	**01 32 45.3**	**-0.3**
	baz=303								
TWS1				S			**Sn**	**01 33 00.6**	**-0.2**
	baz=303								
WHF	**Hehuan Shan**	**1.16**	**254**	*e*P			**Pn**	**01 32 45.8**	**+0.1**
	baz=259								
WHF				*e*S			**Sn**	**01 33 01.2**	**+0.2**
	baz=259								
HATJ	**Hateruma jima**	**1.27**	**109**	*e*S			**Sn**	**01 33 04.0**	**+0.4**
NSTT	**Nanjuang**	**1.36**	**277**	*e*P			**Pn**	**01 32 48.2**	**-0.1**
	baz=276								
NSTT				*e*S			**Sn**	**01 33 05.7**	**0.0**
	baz=276								
JKRS	**Kuro-shima**	**1.41**	**99**	P			**Pn**	**01 32 48.9**	**0.0**
JKRS				S			**Sn**	**01 33 07.2**	**+0.5**
EHY	**Hungye**	**1.44**	**228**	*e*P			**Pn**	**01 32 48.4**	**-1.0**
	baz=227								
EHY				*e*S			**Sn**	**01 33 05.6**	**-1.9**
	baz=227								
JIJ	**Ishigaki jima**	**1.51**	**94**	P			**Pn**	**01 32 49.8**	**-0.5**
JIJ				S			**Sn**	**01 33 08.6**	**-0.6**
TWF1	**Yuli**	**1.56**	**224**	*e*P			**Pn**	**01 32 50.1**	**-0.9**
	baz=232								
TWF1				*e*S			**Sn**	**01 33 08.9**	**-1.5**
	baz=232								
SMLT	**Sun Moon Lake**	**1.57**	**248**	*e*P			**Pn**	**01 32 52.0**	**+1.1**
	baz=243								
SMLT				*e*S			**Sn**	**01 33 10.5**	**0.0**
	baz=243								
TYC	**Yuchr**	**1.59**	**249**	*e*P			**Pn**	**01 32 51.8**	**+0.4**
	baz=244								
TYC				*e*S			**Sn**	**01 33 11.6**	**+0.4**
	baz=244								
YUS	**Yu-Shan**	**1.71**	**235**	*e*P			**Pn**	**01 32 53.1**	**+0.1**
	baz=229								
YUS				*e*S			**Sn**	**01 33 13.9**	**-0.1**
	baz=229								
ALS	**Alishan**	**1.82**	**238**	*e*P			**Pn**	**01 32 55.0**	**+0.7**
	baz=231								
ALS				*e*S			**Sn**	**01 33 17.3**	**+0.8**
	baz=231								
CHN5	**Tsauling**	**1.87**	**242**	*e*P			**Pn**	**01 32 56.1**	**+1.0**
	baz=234								
CHN5				*e*S

5.8nm,0.7s,mb4.3
GUN Gumba 47.99 307 *e*P **P 01 50 30.8 +1.3**
17nm,0.6s,mb4.8
GKN Gorkha 49.03 306 *e*P **P 01 50 38.2 +0.7**
ULN Ulaanbaatar 49.34 341 *e*P **P 01 50 40.2 +0.7**
5.5nm,0.6s,mb4.4
SONM Songino Array 49.53 341 P **P 01 50 41.3 +0.4**
4.2nm,0.7s,mb4.2,baz=152,slow=7.8,SNR=34
SONM PcP PcP 01 52 00.8 0.0
1.0nm,0.7s,baz=155,slow=3.9,SNR=5.7
SONM Songino Array 49.53 341 P **P 01 50 41.3 +0.4**
SONM PcP PcP 01 52 00.8 0.0
KOLN Koldanda 49.78 305 *e*P **P 01 50 44.4 +1.2**
18nm,0.6s,mb4.8
DANN Dangsing 49.88 306 *e*P **P 01 50 45.0 +1.1**
20nm,0.6s,mb4.9
PYUN Piuthan 50.41 306 *e*P **P 01 50 48.9 +1.0**
27nm,0.9s,mb4.9
MK31 Makanchi Array 59.91 325 *e*P **P 01 51 56.0 +0.3**
MKAR Makanchi Array 59.91 325 P **P 01 51 56.0 +0.2**
6.4nm,0.5s,mb4.7,baz=116,slow=8.3,SNR=83
MKAR PcP PcP 01 52 40.2 -0.5
0.8nm,0.6s,baz=134,slow=3.5,SNR=3.9
MKAR Makanchi Array 59.91 325 P **P 01 51 56.0 +0.2**
MKAR PcP PcP 01 52 40.2 -0.5
ZALV Zalesovo Beam 62.90 333 P **P 01 52 13.8 -1.9**
1.1nm,0.5s,mb3.9,baz=120,slow=8.7,SNR=7.7
ZALV Zalesovo Beam 62.90 333 P **P 01 52 13.8 -1.9**
EKS2 Erkin-Say 63.20 318 *e*P **P 01 52 18.1 +0.2**
1.3nm,0.8s,mb3.8
KURK Kurchatov 64.09 327 P **P 01 52 23.6 0.0**
9.3nm,0.6s,mb4.8,baz=127,slow=6.0,SNR=42
KURK Kurchatov 64.09 327 *e*P **P 01 52 23.1 -0.5**
BVAR Borovoye Array 69.67 327 P **P 01 52 58.1 -0.8**
2.9nm,0.7s,mb4.1,baz=126,slow=7.5,SNR=12
BVAR Borovoye Array 69.67 327 P **P 01 52 58.1 -0.8**
BRVK Borovoye 69.74 327 *e*P **P 01 52 59.0 -0.3**
4.3nm,0.8s,mb4.2
AKTO Aktyubinsk 76.02 322 P **P 01 53 36.0 -0.4**
1.9nm,0.8s,mb3.8,baz=91,slow=5.3,SNR=7.9
AKTO Aktyubinsk 76.02 322 P **P 01 53 36.0 -0.4**
ILAR Eielson Array 86.16 25 P **P 01 54 29.1 -0.6**
0.2nm,0.4s,baz=245,slow=5.0,SNR=8.9
ILAR Eielson Array 86.16 25 P **P 01 54 29.1 -0.6**
ARCES ARCESS Array B 92.69 340 P **P 01 54 58.8 -1.6**
1.9nm,0.6s,mb4.4,baz=84,slow=4.6,SNR=12
ARCES ARCESS Array B 92.69 340 P **P 01 54 58.8 -1.6**
FINES FINESS Array B 94.16 332 P **P 01 55 05.7 -1.5**
2.1nm,0.8s,mb4.3,baz=20,slow=6.3,SNR=5.3
FINES FINESS Array B 94.16 332 P **P 01 55 05.7 -1.6**
TXAR Lajitas Array 121.56 54 PKP PKPdf 02 00 42.2 -0.3
0.3nm,0.7s,baz=253,slow=2.1,SNR=3.7
TXAR Lajitas Array 121.56 54 PKP PKPdf 02 00 42.2 -0.3
TORD Torodi Ar. Bea 124.87 287 PKP PKPdf 02 00 48.2 -0.9
0.4nm,0.7s,baz=75,slow=2.5,SNR=4.3
TORD Torodi Ar. Bea 124.87 287 PKP PKPdf 02 00 48.2 -0.9

*IDC **27** 01:47:51.7±1.6, 0.°58N×122.°80E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/20, mbtmp3.5/4, ML3.8/1, Error ellipse: s-maj=133.4km s-min=23.0km az=64.0*
*ISCJB **27** 01:48:03.9±0.5, 0.°32N±0.°06×122.°50E±0.°06, h114km±5km, mb3.9/5, Error ellipse: s-maj=10.2km s-min=9.4km az=35.1*
*DJA **27** 01:48:04, 0.°48N×122.°42E, h102km, MLv4.2/4*
ISC 27 01:48:05.0±0.5, 0.°32N±0.°06×122.°50E±0.°06, h107km±5km, n19, σ0°80/22, mb3.9/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MRSI	**Marisa**	**0.58**	**285**	P		**Pn**	**01 48 21.9**	**-0.2**
MRSI				S		**Sn**	**01 48 34.1**	**-0.9**
LUWI	**Luwuk**	**1.38**	**169**	P		**Pn**	**01 48 30.4**	**+0.2**
LUWI				S		**Sn**	**01 48 53.2**	**+3.9**
KMSI	**Cibinong**	**1.50**	**80**	P		**Pn**	**01 48 31.4**	**-0.2**
KMSI				S		**Sn**	**01 48 53.6**	**+1.8**
MNI	**Manado**	**2.59**	**64**	P		**Pn**	**01 48 44.0**	**-1.5**
KDI	**Kendari**	**4.25**	**178**	P		**Pn**	**01 49 07.3**	**-0.4**
TTSI	**Tana Toraja**	**4.29**	**219**	P		**Pn**	**01 49 09.3**	**+1.1**
SPSI	**Sidrap Palu**	**5.06**	**213**	P		**Pn**	**01 49 18.8**	**+0.2**
FITZ	**Fitzroy Crossi**	**18.57**	**171**	P		**P**	**01 52 13.5**	**-0.1**
	0.2nm,0.3s,baz=336,slow=10.0,SNR=6.6							
WRA	**Warramunga Arr**	**23.25**	**151**	P		**P**	**01 53 00.9**	**-2.0**
	0.3nm,0.3s,mb3.0,baz=328,slow=11,SNR=9.7							
ASAR	**Alice Springs**	**26.29**	**156**	P		**P**	**01 53 30.6**	**-0.1**
	0.2nm,0.4s,mb2.9,baz=343,slow=15,SNR=4.4							
TAPN	**Taplejung**	**42.86**	**312**	*e*P		**P**	**01 55 53.0**	**+0.1**
RAMN	**Ramite**	**43.49**	**310**	*e*P		**P**	**01 55 58.9**	**+1.0**
JIRN	**Jiri**	**44.17**	**311**	*e*P		**P**	**01 56 03.5**	**+0.2**
GUN	**Gumba**	**44.53**	**311**	*e*P		**P**	**01 56 06.6**	**+0.3**
	12nm,0.4s,mb5.0							
GKN	**Gorkha**	**45.52**	**310**	*e*P		**P**	**01 56 14.5**	**+0.4**
KOLN	**Koldanda**	**46.20**	**310**	*e*P		**P**	**01 56 19.5**	**+0.1**
	4.2nm,0.3s,mb4.6							
DANN	**Dangsing**	**46.37**	**310**	*e*P		**P**	**01 56 20.6**	**-0.1**
PYUN	**Piuthan**	**46.83**	**310**	*e*P		**P**	**01 56 24.5**	**+0.2**
MKAR	**Makanchi Array**	**58.08**	**328**	P		**P**	**01 57 46.4**	**-0.6**
	0.5nm,0.4s,mb3.9,baz=129,slow=8.8,SNR=9.7							

WEL 27 01:58:57.8±0.6, 37.°08S×176.°74E, h246km±5km, ML3.9/7, Error ellipse: s-maj=5.0km s-min=4.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URZ	**Urewera**	**1.22**	**166**	PN		Pn	01 59 33.3	-0.2
URZ				SN		S	02 00 01.7	-0.2
MXZ	**Matakaoa Point**	**1.34**	**112**	PN		Pn	01 59 34.3	-0.1
MXZ				SN		S	02 00 02.4	-0.9
MWZ	**Matawai**	**1.41**	**154**	PN		Pn	01 59 35.2	+0.3
PUZ	**Puketiti**	**1.56**	**130**	PN		Pn	01 59 36.1	0.0
PUZ				SN		S	02 00 05.3	-1.0
CNGZ	**Carnagh Statio**	**1.83**	**141**	PN		Pn	01 59 38.8	+0.6
RAHZ	**Arahi**	**1.86**	**172**	PN		Pn	01 59 38.9	+0.3
NMHZ	**Naumai**	**2.02**	**179**	PN		Pn	01 59 40.8	+0.8
NMHZ				SN		S	02 00 14.3	+1.0
PRGZ	**Paritu Road**	**2.06**	**154**	PN		Pn	01 59 40.4	+0.1
KNZ	**Kokohu**	**2.08**	**159**	PN		Pn	01 59 40.4	-0.1
BKZ	**Black Stump Fm**	**2.10**	**185**	PN		Pn	01 59 40.5	-0.1
BKZ				SN		S	02 00 13.7	-0.9
TWVZ	**Taurewa**	**2.24**	**207**	PN		Pn	01 59 43.0	+1.0
OTVZ	**Oturere**	**2.25**	**202**	PN		Pn	01 59 43.0	+0.9
MHGZ	**Mahia Peninsul**	**2.27**	**156**	PN		Pn	01 59 42.9	+0.6
NGZ	**Ngauruhoe**	**2.28**	**203**	PN		Pn	01 59 43.2	+0.8
TUVZ	**Tukino**	**2.35**	**201**	PN		Pn	01 59 43.8	+0.7
MCHZ	**McNeill Hill**	**2.37**	**181**	PN		Pn	01 59 43.4	+0.2
FWVZ	**Far West T-bar**	**2.37**	**203**	PN		Pn	01 59 44.2	+1.0
WNVZ	**Wahianoa**	**2.42**	**201**	PN		Pn	01 59 44.3	+0.5
MOVZ	**Moawhango**	**2.46**	**198**	PN		Pn	01 59 44.1	0.0
CKHZ	**Cape Kidnapper**	**2.59**	**174**	PN		Pn	01 59 45.6	0.0
KAHZ	**Kahuranaki**	**2.72**	**178**	PN		Pn	01 59 46.8	0.0
PNHZ	**Pukenui**	**2.87**	**188**	PN		Pn	01 59 47.7	-0.8
PXZ	**Pawanui**	**2.95**	**178**	PN		Pn	01 59 48.5	-0.9
PXZ				SN		S	02 00 28.8	-1.5
WPHZ	**Waipukurau**	**3.00**	**184**	*e*Pn		Pn	01 59 49.4	-0.4
TSZ	**Takapari Road**	**3.04**	**191**	PN		Pn	01 59 49.3	-1.0
PRHZ	**Porangahau**	**3.19**	**181**	PN		Pn	01 59 51.1	-0.9
DVHZ	**Dannevirke**	**3.25**	**188**	PN		Pn	01 59 51.4	-1.2
POWZ	**Post Office Ro**	**3.40**	**193**	PN		Pn	01 59 53.5	-0.8
MRZ	**Mangatainoka R**	**3.69**	**194**	PN		Pn	01 59 55.9	-1.8
OGWZ	**Otaki Gorge**	**3.93**	**198**	PN		Pn	01 59 58.6	-1.8
HOWZ	**Holdsworth Sta**	**3.94**	**194**	PN		Pn	01 59 58.6	-1.8
KIW	**Kapiti Island**	**4.04**	**200**	PN		Pn	01 59 59.8	-1.9
CAW	**Cannon Point**	**4.23**	**197**	PN		Pn	02 00 01.7	-2.2
DUWZ	**D'Urville Isla**	**4.32**	**210**	*e*PN		Pn	02 00 02.7	-2.3
TRWZ	**Traveller**	**4.39**	**190**	*e*PN		Pn	02 00 03.8	-2.1
PAWZ	**Paruwai Farm**	**4.42**	**193**	SN		S	02 00 57.0	-3.8
MSWZ	**Moikau Station**	**4.49**	**194**	PN		Pn	02 00 04.3	-2.7
TCW	**Tory Channel**	**4.55**	**204**	PN		Pn	02 00 05.8	-2.1
PLWZ	**Palliser**	**4.63**	**194**	PN		Pn	02 00 06.4	-2.4
TUWZ	**Tuamarina**	**4.86**	**206**	PN		Pn	02 00 09.8	-1.8
NNZ	**Nelson**	**4.89**	**211**	PN		Pn	02 00 09.6	-2.4
NNZ				SN		S	02 01 06.9	-4.2
BSWZ	**Blackbirch Sta**	**5.14**	**205**	PN		Pn	02 00 12.7	-2.2
THZ	**Tophouse**	**5.54**	**211**	PN		Pn	02 00 17.9	-2.1
KHZ	**Kahutara**	**5.88**	**204**	PN		Pn	02 00 21.6	-2.5
MQZ	**McQueen's Vall**	**7.32**	**204**	SN		S	02 01 58.1	-8.2

*IDC **27** 01:59:37.3±4.2, 1.°50N×98.°85E, h0km, mb3.4/2, mb1 3.9/3, mb1mx3.4/23, mbtmp3.6/3, ML4.4/1, Error ellipse: s-maj=167.7km s-min=31.7km az=58.0*
*DJA **27** 01:59:42, 1.°72N×99.°12E, h10km, MLv3.5/7*
*ISCJB **27** 01:59:43.5±0.8, 1.°79N±0.°10×99.°0E±0.°1, h45km±12km, mb3.3/2, Error ellipse: s-maj=25.1km s-min=9.7km az=144.1*
ISC 27 01:59:45.1±0.8, 1.°7N±0.°1×99.°0E±0.°2, h43km±15km, n11, σ1°54/14, mb3.3/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SBSI	**Sibolga**	**0.20**	**211**	P		**Pn**	**01 59 48.3**	**-4.5**
SBSI				S		**Sn**	**01 59 57.0**	**-1.2**
PSI	**Prapat**	**1.07**	**356**	P		**Pn**	**02 00 00.1**	**-3.6**
MNSI	**Mandailing Nat**	**1.09**	**148**	P		**Pn**	**01 59 59.3**	**-4.7**
TPTI		**2.37**	**310**	P		**Pn**	**02 00 23.3**	**+1.8**
TPTI				S		**Sn**	**02 00 56.4**	**+7.0**
BKNI	**Bangkinang**	**2.47**	**124**	P		**Pn**	**02 00 21.6**	**-1.4**
BKNI				S		**Sn**	**02 00 54.8**	**+2.9**
PPI	**Padang Panjang**	**2.58**	**147**	P		**Pn**	**02 00 25.9**	**+1.4**
PDSI	**Padang**	**3.00**	**151**	P		**Pn**	**02 00 31.6**	**+1.3**
IPM	**Ipoh**	**3.40**	**36**	P		**Pn**	**02 00 40.9**	**+5.1**
CMAR	**Chiang Mai Arr**	**16.63**	**360**	Pn		**Pn**	**02 03 35.6**	**+0.5**
	0.5nm,0.3s,baz=190,slow=10,SNR=4.9							
WRA	**Warramunga Arr**	**40.81**	**124**	P		**P**	**02 07 20.8**	**-2.0**
	0.3nm,0.8s,mb3.0,baz=303,slow=9.2,SNR=4.6							
MKAR	**Makanchi Array**	**47.19**	**344**	P		**P**	**02 08 12.9**	**-0.6**
	0.5nm,0.6s,mb3.6,baz=155,slow=6.7,SNR=4.3							

IDC 27 02:05:34.0±3.2, 32.°71S×178.°59W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.8/14, mbtmp3.7/3, ML3.4/1, Error ellipse: s-maj=71.4km s-min=36.9km az=113.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
URZ	**Urewera**	**6.56**	**211**	Pn		Pn	02 07 12.5	+0.7
	0.8nm,0.3s,baz=262,slow=8.2,SNR=6.0							
URZ				Sn		Sn	02 08 26.1	-1.2
	0.9nm,0.3s,baz=273,slow=19,SNR=3.6							
ASAR	**Alice Springs**	**42.54**	**270**	P		P	02 13 31.8	+0.2
	0.8nm,0.8s,baz=110,slow=7.8,SNR=9.2							
WRA	**Warramunga Arr**	**43.74**	**275**	P		P	02 13 41.0	-0.3
	1.0nm,0.6s,baz=116,slow=7.5,SNR=12							
FINES	**FINESS Array B**	**147.12**	**338**	PKPbc		PKPbc	02 25 17.3	-0.9
	2.4nm,0.9s,baz=54,slow=3.5,SNR=4.3							

*DDA **27** 02:23:34.4, 39.°36N×37.°86E, h5km, Md2.8*
*CSEM **27** 02:23:37.3±0.4, 39.°52N×38.°35E, h15km, MD2.8, Error ellipse: s-maj=13.7km s-min=9.1km az=65.0*
*ISCJB **27** 02:23:38.1±1.0, 39.°57N±0.°06×38.°4E±0.°1, h27km±9km, Error ellipse: s-maj=13.8km s-min=9.5km az=155.4*
ISC 27 02:23:38.2±1.1, 39.°57N±0.°06×38.°4E±0.°1, h25km±10km, n11, σ0°83/21, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KEMA	**Kemaliye**	**0.31**	**164**	*i* P		**Pb**	**02 23 44.0**	**-1.4**
KEMA				*i* S		**Sb**	**02 23 50.7**	**+0.3**
KEMA	**Kemaliye**	**0.31**	**164**	*i* P		**Pb**	**02 23 44.0**	**-1.4**
KEMA				*i* S		**Sb**	**02 23 50.7**	**+0.3**
SUSE	**Susehri**	**0.65**	**348**	*i* P		**Pb**	**02 23 51.4**	**+0.5**
SUSE				*i* S		**Sb**	**02 24 07.0**	**+7.3**
SUSE	**Susehri**	**0.65**	**348**	*i* P		**Pb**	**02 23 51.4**	**+0.4**
PTK	**Pertek**	**1.04**	**131**	*e*PN		**Pn**	**02 23 57.6**	**+0.6**
PTK				*e*SN		**Sb**	**02 24 15.9**	**+5.3**
PTK	**Pertek**	**1.04**	**131**	*e*Pn		**Pn**	**02 23 57.7**	**+0.6**
PTK				*e*Sn		**Sb**	**02 24 15.9**	**+5.3**
ELZG	**Elazig**	**1.17**	**156**	*i* P		**Pn**	**02 23 57.6**	**-1.3**
ELZG				*i* S		**Sb**	**02 24 15.3**	**+0.9**
ELZG	**Elazig**	**1.17**	**156**	*i* P		**Pn**	**02 23 57.6**	**-1.3**
ELZG				*i* S		**Sb**	**02 24 15.4**	**+1.0**
AKCD	**Akcadag**	**1.32**	**196**	*i* P		**Pn**	**02 23 54.4**	**-6.7**
AKCD				*i* S		**Sn**	**02 24 12.4**	**-5.4**
SARI	**SarD1z-Kayseri**	**1.59**	**236**	*e*PN		**Pn**	**02 24 04.3**	**-0.3**
SARI				*e*SN		**Sn**	**02 24 24.8**	**+0.5**
SARI	**SarD1z-Kayseri**	**1.59**	**236**	*e*Pn		**Pn**	**02 24 04.3**	**-0.3**
SARI				*e*Sn		**Sn**	**02 24 24.8**	**+0.5**

*MOS **27** 03:04:51.4±0.9, 15.°76S×73.°48W, h33km, mb5.3/27, Error ellipse: s-maj=14.2km s-min=7.5km az=105.7*
*ISCJB **27** 03:04:55.5±0.2, 15.°87S±0.°03×73.°51W±0.°05, h75km, mb5.0/109, Error ellipse: s-maj=7.6km s-min=3.7km az=151.1*
*IDC **27** 03:04:57.2±0.4, 15.°83S×73.°43W, h74km±2km, mb4.7/21, mb1 4.8/23, mb1mx4.7/25, mbtmp4.7/23, MS3.8/20, Ms1 3.8/20, ms1mx3.8/28, Error ellipse: s-maj=14.2km s-min=9.0km az=56.0*
*BJI **27** 03:04:57.4, 15.°90S×73.°50W, h75km, mB5.3/20, Ms5.5/11, Ms7 5.2/13*
*NEIC **27** 03:04:57.3±0.2, 15.°87S×73.°45W, mb5.1/75, Error ellipse: s-maj=7.4km s-min=4.2km az=68.0*
NEIC Felt [IV] at Chala and [II] at Coracora. Also felt at Arequipa and Camana.
*LDG **27** 03:04:58.4±0.5, 15.°53S×73.°05W, h79km, Mb5.1/17, Ms4.0/9, Error ellipse: s-maj=30.6km s-min=11.7km az=45.0*
*GCMT **27** 03:05:00.6±0.3, 15.°94S×73.°49W, h80km±2km, MW5.0, Moment Tensor Solution. s54,c70; s73,c105; Moment tensor: Scale 10^{16}Nm; M_{rr}3.20±.18; $M_{\theta\theta}$-4.77±.14; $M_{\phi\phi}$1.57±.19; $M_{r\theta}$-1.80±.11; $M_{\theta\phi}$-1.27±.18; $M_{\phi r}$0.61±.13; Best double couple: $M_0$4.60000×10^{16} NP1:ϕ_s54.00000°, δ39.00000°, λ52.00000°. NP2:ϕ_s279.00000°, δ60.00000°, λ117.00000°. Principal axes: T 3.9200, Plg64.0000°, Azm237.0000°; N 1.4200, Plg23.0000°, Azm85.0000°; P -5.3400, Plg11.0000°, Azm351.0000°; Data Used: II IU CN IC G.*
ISC 27 03:04:57.5±0.2, 15.°88S±0.°03×73.°43W±0.°05, h77km, h77km±.5km: pP-P, n339, σ0°95/233, mb5.0/108, 6C-6D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ARCH	**Arica**	**3.96**	**131**	↓*i*P		**Pn**	**03 05 56.1**	**+0.2**
ARCH				*i* S		**Sn**	**03 06 39.8**	**-1.4**
NNA	**Nana**	**5.09**	**319**	P		**Pn**	**03 06 11.7**	**+0.3**
	48nm,0.3s,baz=164,slow=10,SNR=52							
NNA				S		**Sn**	**03 07 06.9**	**-2.1**
	168nm,0.3s,baz=356,slow=22,SNR=5.9							
NNA	**Nana**	**5.09**	**319**	*e*Pn		**Pn**	**03 06 09.3**	**-2.1**
	990nm,0.7s							
NNA				*e*Sn		**Sn**	**03 07 07.2**	**-1.8**
NNA	**Nana**	**5.09**	**319**	*e*P		**Pn**	**03 06 09.3**	**-2.1**
NNA				*e*			03 07 07.2	
NNA				pmax		pmax		
	comp=Z,990nm,0.7s							
NNA	**Nana**	**5.09**	**319**	Pn		**Pn**	**03 06 10.2**	**-1.2**
	comp=Z,7μm,0.6s,SNR=10							
LPAZ	**La Paz**	**5.11**	**95**	*e*Pn		**Pn**	**03 06 16.8**	**+5.2**
LPAZ	**La Paz**	**5.11**	**95**	*e*P		**Pn**	**03 06 16.8**	**+5.2**
MACH	**Maria Elena**	**7.18**	**152**	↑*i*P		**Pn**	**03 06 38.8**	**-1.0**
MACH				*i* S		**Sn**	**03 07 54.6**	**-5.2**
MECH	**Mejillones**	**7.71**	**159**	↓*i*P		**Pn**	**03 06 45.2**	**-1.9**
MECH				*e*S		**Sn**	**03 08 06.4**	**-6.6**
ANCH	**Antofagasta**	**8.26**	**160**	↓*i*P		**Pn**	**03 06 52.3**	**-2.4**
ANCH				*i* S		**Sn**	**03 08 18.9**	**-7.5**
ATAH	**Atahualpa**	**9.96**	**330**	P		**Pn**	**03 07 22.2**	**+4.4**
	comp=Z,7.8nm,0.3s,baz=163,slow=7.0,SNR=72							
ATAH				S		**Sn**	**03 09 16.1**	**+8.1**
	comp=Z,1.9nm,0.3s,baz=91,slow=14,SNR=4.0							
ATAH	**Atahualpa**	**9.96**	**330**	P		**Pn**	**03 07 22.2**	**+4.4**
ATAH				S		**Sn**	**03 09 16.1**	**+8.1**
LCO	**Las Campanas**	**13.31**	**170**	*e*Pn		**Pn**	**03 08 01.0**	**-2.1**
CFAA	**Coronel Fontan**	**16.35**	**164**	P		**Pn**	**03 08 42.7**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=338,slow=12,SNR=31							
CFAA				LR		LR	03 14 32.1	
	comp=Z,39nm,20.0s,baz=323,slow=35							
CFAA	**Coronel Fontan**	**16.35**	**164**	P		**Pn**	**03 08 42.7**	**+0.4**
OTAV	**Otavalo**	**16.77**	**342**	*e*Pn		**Pn**	**03 08 49.0**	**+1.4**
	comp=Z,145nm,1.3s							
CPUP	**Villa Florida**	**18.25**	**127**	P		**Pn**	**03 09 05.5**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=283,slow=11,SNR=15							
CPUP				LR		LR	03 17 01.5	
	comp=Z,234nm,19.0s,baz=289,slow=40							
CPUP	**Villa Florida**	**18.25**	**127**	*e*P		**Pn**	**03 09 04.2**	**-1.5**
	comp=Z,49nm,1.1s							
CPUP	**Villa Florida**	**18.25**	**127**	*e*P		**Pn**	**03 09 04.2**	**-1.4**
CPUP				pmax		pmax		
	comp=Z,49nm,1.1s							
ROSC	**El Rosal**	**20.62**	**357**	P		**P**	**03 09 32.1**	**+1.3**
	comp=Z,43nm,0.7s,baz=162,slow=1.2,SNR=30							
ROSC				LR		LR	03 18 14.6	
	comp=Z,743nm,19.8s,baz=189,slow=39							
ROSC	**El Rosal**	**20.62**	**357**	*e*P		**P**	**03 09 33.6**	**+2.8**
TRQA	**Tornquist**	**24.29**	**158**	*e*P		**P**	**03 10 07.2**	**-0.5**
	comp=Z,33nm,0.8s,mb4.7							
SDV	**Santo Domingo**	**24.77**	**7**	*e*P		**P**	**03 10 12.0**	**-0.2**
	comp=Z,57nm,1.0s,mb5.0							
PLCA	**Paso Flores**	**24.89**	**175**	P		**P**	**03 10 13.6**	**+0.5**
	comp=Z,32nm,0.8s,mb4.8,baz=345,slow=11,SNR=62							
PLCA				LR		LR	03 18 14.5	
	comp=Z,310nm,21.2s,baz=282,slow=32							
PLCA	**Paso Flores**	**24.89**	**175**	*e*P		**P**	**03 10 13.4**	**+0.4**
	comp=Z,92nm,1.0s,mb5.2							
PLCA	**Paso Flores**	**24.89**	**175**	*e*P		**P**	**03 10 13.4**	**+0.4**
PLCA				pmax		pmax		
	comp=Z,92nm,1.0s							
JTS	**JuntasAbangare**	**28.40**	**336**	LR		LR	03 22 31.4	
	comp=Z,181nm,20.3s,baz=182,slow=37							
CRPR	**Cabo Rojo, PR**	**34.25**	**11**	*e*P		**P**	**03 11 36.2**	**0.0**
	comp=Z,15nm,0.9s,mb4.8							
ICM	**Isla Caja Muer**	**34.25**	**12**	*e*P		**P**	**03 11 35.8**	**-0.4**
OBIP	**Obispado Ponce**	**34.38**	**12**	*e*P		**P**	**03 11 36.5**	**-0.8**
	comp=Z,69nm,1.3s,mb5.3							
MPR	**Mayaguez**	**34.44**	**11**	*e*P		**P**	**03 11 37.8**	**-0.1**
MPR				*e*pP		pP	03 11 57.3	+1.1
SJG	**San Juan**	**34.53**	**12**	P		**P**	**03 11 37.5**	**-1.1**
	comp=Z,24nm,0.7s,mb5.1,baz=156,slow=3.8,SNR=12							
SJG	**San Juan**	**34.53**	**12**	*e*P		**P**	**03 11 37.4**	**-1.3**
	comp=Z,15nm,0.6s,mb5.0							
SJG	**San Juan**	**34.53**	**12**	*e*P		**P**	**03 11 37.4**	**-1.3**
SJG				pmax		pmax		
	comp=Z,15nm,0.6s							
HUMP	**Col San Antoni**	**34.62**	**13**	*e*P		**P**	**03 11 38.4**	**-1.1**
	comp=Z,163nm,2.8s,mb5.4							
AOPR	**Arecibo Observ**	**34.64**	**11**	*e*P		**P**	**03 11 38.8**	**-0.8**
	comp=Z,23nm,0.6s,mb5.2							
RPN	**Rapa Nui**	**35.11**	**245**	P		**P**	**03 11 43.7**	**+0.1**
	comp=Z,145nm,1.0s,mb5.7,baz=84,slow=1.7,SNR=4.6							
RPN				LR		LR	03 22 48.6	
	comp=Z,147nm,21.4s,baz=248,slow=30							
RPN	**Rapa Nui**	**35.11**	**245**	*e*P		**P**	**03 11 43.3**	**-0.4**
	comp=Z,246nm,1.3s,mb5.9							
RPN	**Rapa Nui**	**35.11**	**245**	*e*P		**P**	**03 11 43.3**	**-0.4**
EFI	**East Falkland**	**37.76**	**164**	*e*P		**P**	**03 12 06.4**	**+0.6**
	comp=Z,86nm,0.9s,mb5.6							
EFI	**East Falkland**	**37.76**	**164**	P		**P**	**03 12 06.6**	**+0.8**
	comp=Z,543nm,1.2s,SNR=5.2							
EFI	**East Falkland**	**37.76**	**164**	*e*P		**P**	**03 12 06.4**	**+0.6**
EFI				pmax		pmax		
	comp=Z,86nm,0.9s,mb5.6							
RCBR	**Riachuelo**	**38.12**	**79**	P		**P**	**03 12 10.0**	**+0.5**
	comp=Z,19nm,0.9s,mb4.9,baz=336,slow=2.6,SNR=6.4							
RCBR	**Riachuelo**	**38.12**	**79**	*e*P		**P**	**03 12 09.4**	**0.0**
	comp=Z,22nm,0.9s,mb5.0							
TEIG	**Tepich**	**38.73**	**337**	P		**P**	**03 12 15.3**	**+1.0**
	comp=Z,14nm,0.9s,mb4.8,baz=149,slow=11,SNR=5.8							
TEIG				LR		LR	03 28 10.6	
	comp=Z,211nm,20.3s,baz=72,slow=36							
TEIG	**Tepich**	**38.73**	**337**	*e*P		**P**	**03 12 15.0**	**+0.6**
	comp=Z,14nm,1.0s,mb4.7							
CMIG	**Matias Romero**	**39.00**	**326**	P		**P**	**03 12 17.6**	**+0.9**
	comp=Z,4.2nm,0.9s,mb4.3,baz=120,slow=6.1,SNR=5.2							
CMIG				pP		pP	03 12 34.4	-0.8
	comp=Z,7.6nm,0.8s,baz=147,slow=6.8,SNR=6.4							
CMIG				PcP		PcP	03 14 26.1	+0.4
	comp=Z,5.6nm,0.8s,baz=91,slow=2.4,SNR=3.8							
CMIG	**Matias Romero**	**39.00**	**326**	P		**P**	**03 12 17.6**	**+0.9**
CMIG				pP		pP	03 12 34.4	-0.8
CMIG				PcP		PcP	03 14 26.1	+0.4
USHA	**Ushuaia**	**39.06**	**175**	P		**P**	**03 12 17.7**	**+1.0**
	comp=Z,45nm,0.9s,mb5.3,baz=349,slow=6.1,SNR=7.4							
USHA	**Ushuaia**	**39.06**	**175**	P		**P**	**03 12 17.7**	**+1.0**
NHSC	**New Hope**	**49.14**	**353**	*e*P		**P**	**03 13 37.9**	**+0.4**
	comp=Z,110n

FVM French Village 55.91 344 *e*P P **03 14 27.2 -0.3**
comp=Z,16nm,0.7s,mb5.2
FVM *e*pP pP 03 14 46.7 -0.3
FVM French Village 55.91 344 *e*P P **03 14 27.2 -0.3**
FVM pmax pmax
comp=Z,16nm,0.7s,mb5.2
OLIL Olney 56.04 346 *e*P P **03 14 27.3 -1.0**
comp=Z,14nm,0.8s,mb5.0
OLIL *e*pP pP 03 14 46.7 -1.2
MNTX Cornudas Mount 56.37 327 *e*P P **03 14 29.4 -1.5**
comp=Z,6.9nm,1.1s,mb4.6
MNTX *e*pP pP 03 14 49.6 -0.9
SSPA Standing Stone 56.38 356 *e*P P **03 14 28.4 -2.4**
comp=Z,12nm,1.0s,mb4.9
SSPA *e*pP pP 03 14 49.5 -0.8
SLM Saint Louis 56.47 344 *e*P P **03 14 31.2 -0.2**
comp=Z,14nm,0.9s,mb5.0
SLM *e*pP pP 03 14 50.0 -1.0
SLM Saint Louis 56.47 344 *e*P P **03 14 31.3 -0.1**
SLM *e**PP pP 03 14 50.0 -1.0
SLM pmax pmax
comp=Z,14nm,0.9s,mb5.0
CPRX Cap Rock 56.67 329 *e*P P **03 14 33.1 +0.1**
comp=Z,7.8nm,0.8s,mb4.8
CPRX *e*pP pP 03 14 52.9 +0.4
BINY Binghamton 57.84 358 *e*P P **03 14 41.5 +0.5**
comp=Z,421nm,2.6s,mb6.0
BINY *e*pP pP 03 15 01.6 +1.0
KSU1 Kansas State U 58.83 339 *e*P P **03 14 47.4 -0.6**
comp=Z,11nm,0.8s,mb5.0
LPM Los Pinos Moun 59.08 328 *e*P P **03 14 50.9 +1.1**
LPM *e*pP pP 03 15 09.4 -0.1
LAZ Ladron 59.41 328 *e*P P **03 14 52.6 +0.5**
comp=Z,17nm,1.5s,mb4.9
LAZ *e*pP pP 03 15 12.4 +0.6
ANMO Albuquerque 59.49 329 *e*P P **03 14 52.5 -0.2**
comp=Z,4.7nm,0.9s,mb4.5
ANMO *e*pP pP 03 15 11.6 -0.8
ANMO Albuquerque 59.49 329 *e*P P **03 14 52.5 -0.2**
ANMO pmax pmax
comp=Z,5.0nm,0.9s
CBKS Cedar Bluff 59.72 336 *e*P P **03 14 54.6 +0.5**
CBKS Cedar Bluff 59.72 336 *e*P P **03 14 54.7 +0.5**
TUC Tucson 59.80 324 *e*P P **03 14 54.8 -0.1**
TUC *e*pP pP 03 15 14.1 -0.4
TUC Tucson 59.80 324 *e*P P **03 14 54.8 0.0**
SDCO Great Sand Dun 61.27 331 *e*P P **03 15 04.7 0.0**
comp=Z,10.0nm,0.9s,mb4.8
SDCO *e*pP pP 03 15 24.4 -0.2
MVCO Mesa Verde 62.29 329 *e*P P **03 15 10.9 -0.6**
comp=Z,2.7nm,0.7s,mb4.4
MVCO *e*pP pP 03 15 30.7 -0.7
WUAZ Wupatki 62.50 326 *e*P P **03 15 14.2 +1.2**
comp=Z,6.5nm,0.9s,mb4.7
WUAZ *e*pP pP 03 15 33.1 +0.2
WUAZ *e*sP sP 03 15 41.0 -0.4
ECSD EROS Data Cent 63.01 341 *e*P P **03 15 15.3 -0.9**
comp=Z,15nm,1.0s,mb4.9
ECSD *e*pP pP 03 15 35.0 -1.2
SMCO Snowmass 63.11 331 *e*P P **03 15 17.6 +0.6**
comp=Z,10nm,0.9s,mb4.8
PFO Pinyon Flat Ob 64.07 321 *e*P P **03 15 24.1 +0.6**
comp=Z,13nm,1.4s,mb4.6
PFO *e*pP pP 03 15 42.6 -0.8
PFO *e*sP sP 03 15 52.1 +0.1
PFO *e*PcP PcP 03 15 59.0 +0.9
PFO Pinyon Flat Ob 64.07 321 *e*P P **03 15 24.1 +0.6**
PFO *e**PP pP 03 15 42.6 -0.8
PFO *e* 03 15 59.0
PFO pmax pmax
comp=Z,13nm,1.4s,mb4.6
SRU San Rafael 64.77 329 *e*P P **03 15 27.6 -0.3**
comp=Z,1.2nm,0.5s,mb4.0
SRU *e*pP pP 03 15 47.1 -0.8
SRU San Rafael 64.77 329 *e*P P **03 15 27.6 -0.3**
SRU pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
CCUT Cedar City 65.08 326 *e*P P **03 15 31.4 +1.4**
MSU Marysvale 65.16 327 *e*P P **03 15 31.3 +0.8**
MSU *e*pP pP 03 15 50.5 +0.1
MSU Marysvale 65.16 327 *e*P P **03 15 31.3 +0.9**
ARUT Antelope Range 65.29 326 *e*P P **03 15 32.2 +0.9**
comp=Z,7.1nm,0.8s,mb4.5
ARUT *e*pP pP 03 15 52.5 +1.2
ARUT Antelope Range 65.29 326 *e*P P **03 15 32.2 +0.9**
ARUT pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
RSSD Black Hills 65.93 336 *e*P P **03 15 35.7 +0.4**
RSSD Black Hills 65.93 336 *e*P P **03 15 35.7 +0.4**
ISA Isabella 66.68 321 *e*P P **03 15 41.0 +0.7**
ISA Isabella 66.68 321 *e*P P **03 15 41.0 +0.7**
VNA3 Neumayer Olymp 66.74 162 *e* P **03 15 40.7 +0.6**
VNA3 *e* pP 03 15 59.9 -0.3
VNA3 *e* 03 16 08.7
AGMN Agassiz Nation 66.95 344 *e*P P **03 15 41.1 -0.6**
comp=Z,10nm,0.8s,mb4.7
AGMN *e*pP pP 03 16 00.3 -1.5
VNA1 Neumayer--Stat 66.98 161 *e* P **03 15 42.5 +0.8**
VNA1 *e* pP 03 16 02.1 +0.4
VNA1 *e* 03 16 11.2
PDAR Pinedale Array 67.15 332 LR LR 03 44 21.3
comp=Z,85nm,20.1s,baz=154,slow=35
VNA2 Neumayer--Watz 67.33 161 *e* P **03 15 44.4 +0.5**
baz=286,slow=7.8
VNA2 *e* pP 03 16 03.9 -0.1
VNA2 *e* 03 16 13.7
NVAR Mina Array Bea 68.45 323 P P **03 15 51.9 +0.5**
comp=Z,0.8nm,0.6s,baz=146,slow=7.0,SNR=8.7
NVAR Mina Array Bea 68.45 323 P P **03 15 51.9 +0.5**
ULM Lac du Bonnet 68.75 345 P P **03 15 51.8 -1.1**
comp=Z,7.7nm,0.8s,mb4.6,baz=166,slow=6.4,SNR=9.8
ULM pP pP 03 16 12.1 -1.1
comp=Z,14nm,0.8s,baz=161,slow=5.5,SNR=7.7
ULM LR LR 03 44 35.2
comp=Z,133nm,21.4s,baz=48,slow=35
ULM Lac du Bonnet 68.75 345 *e*P P **03 15 51.5 -1.4**
comp=Z,8.7nm,0.9s,mb4.6
ULM *e*pP pP 03 16 11.7 -1.5
ULM Lac du Bonnet 68.75 345 *e*P P **03 15 51.5 -1.4**
ULM *e**PP pP 03 16 11.7 -1.4
ULM pmax pmax
comp=Z,9.0nm,0.9s
LAO LASA Array 68.92 336 *e*P P **03 15 53.4 -0.7**
comp=Z,15nm,1.0s,mb4.8
LAO *e*pP pP 03 16 13.6 -0.7
SNAA Sanae 68.95 161 *e* P **03 15 54.6 +0.6**
SNAA *e* pP 03 16 14.0 -0.2
SNAA *e* 03 16 24.3
SNAA Sanae 68.95 161 *e*P P **03 15 54.5 +0.5**
SNAA Sanae 68.95 161 *e*P P **03 15 54.5 +0.5**
DGMT Dagmar 69.68 339 *e*P P **03 15 59.4 +0.6**
DGMT *e*pP pP 03 16 18.8 -0.2
SCHQ Schefferville 70.66 4 P P **03 16 03.8 -0.8**
comp=Z,8.4nm,0.9s,mb4.6,baz=224,slow=8.2,SNR=5.8
SCHQ pP pP 03 16 24.2 -0.6
comp=Z,14nm,0.9s,baz=227,slow=6.1,SNR=4.8
SCHQ LR LR 03 44 59.3
comp=Z,158nm,21.3s,baz=58,slow=34
SCHQ Schefferville 70.66 4 P P **03 16 03.8 -0.8**
SCHQ pP pP 03 16 24.2 -0.6
DBIC Dimbokro 71.47 77 P P **03 16 10.0 -0.4**
comp=Z,29nm,0.8s,mb5.2,baz=224,slow=6.0,SNR=26
DBIC pP pP 03 16 29.6 -1.1
comp=Z,6.6nm,0.6s,baz=244,slow=9.2,SNR=3.6
DBIC LR LR 03 46 18.5
comp=Z,103nm,19.1s,baz=218,slow=35
DBIC Dimbokro 71.47 77 *e*P P **03 16 09.9 -0.6**
comp=Z,33nm,0.9s,mb5.2
DBIC pP pP 03 16 29.6 -1.1
DBIC Dimbokro 71.47 77 *e*P P **03 16 09.9 -0.6**
DBIC *PP pP 03 16 29.6 -1.1
DBIC pmax pmax
comp=Z,33nm,0.9s
MAIT Maitri 73.53 160 *e*P P **03 16 22.6 +1.0**
MAIT *e* pP 03 16 42.6 +0.5
QSPA South Pole Qui 74.28 180 *e*P P **03 16 27.0 +1.1**
comp=Z,71nm,0.9s,mb5.4
HOOD Mount Hood Mea 74.95 327 *e*P P **03 16 32.0 +1.7**
comp=Z,8.7nm,0.7s,mb4.6
TORD Torodi Ar. Bea 79.68 73 P P **03 16 57.2 -0.2**
comp=Z,65nm,0.7s,mb5.6,baz=254,slow=6.1,SNR=529
TORD pP pP 03 17 17.3 -0.7
comp=Z,35nm,0.9s,baz=257,slow=5.3,SNR=8.7
TORD LR LR 03 51 05.5
comp=Z,138nm,20.5s,baz=280,slow=35
TORD Torodi Ar. Bea 79.68 73 P P **03 16 57.2 -0.2**
TORD pP pP 03 17 17.3 -0.7
SBA Scott Base 80.53 191 *e*P P **03 17 02.7 +1.8**
comp=Z,23nm,1.1s,mb4.9
SBA Scott Base 80.53 191 *e*P P **03 17 02.7 +1.8**
SBA pmax pmax
comp=Z,23nm,1.1s,mb4.9
PNCL Nicolau / Gran 81.09 46 *e*P P **03 17 06.0 +1.6**
comp=Z,30nm,2.1s,mb4.8
PCVE Castro Verde 81.21 47 *e*P P **03 17 06.4 +1.3**
comp=Z,46nm,1.7s,mb5.0
VNDA Vanda 81.59 190 *e*P P **03 17 07.7 +1.2**
comp=Z,18nm,1.1s,mb4.8
VNDA Vanda 81.59 190 *e*P P **03 17 07.7 +1.2**
VNDA pmax pmax
comp=Z,18nm,1.1s
EVO Evora 81.65 46 *e*P P **03 17 06.3 -1.1**
comp=Z,27nm,1.0s,mb4.8
EVO *e*R
comp=Z,90nm,22.0s
EVO Evora 81.65 46 *e*P P **03 17 07.6 +0.2**
comp=Z,40nm,2.2s,mb4.9
PMTG Montargil 81.75 46 *e*P P **03 17 07.8 -0.1**
comp=Z,26nm,2.1s,mb4.7
PESTR Estremoz 82.10 46 *e*P P **03 17 11.6 +1.9**
comp=Z,34nm,1.8s,mb4.9
PBAR Barrancos 82.17 47 *e*P P **03 17 11.3 +1.2**
comp=Z,34nm,1.6s,mb4.9
MTE Manteigas 82.84 45 *e*P P **03 17 15.0 +1.5**
comp=Z,29nm,1.5s,mb4.9
SYO Syowa Base 83.22 160‖ *e*P P **03 17 13.6 -1.5**
MVO Moncorvo 83.54 44 P P **03 17 17.7 +0.6**
MVO Moncorvo 83.54 44 *e*P P **03 17 18.2 +1.1**
comp=Z,26nm,1.3s,mb4.9
EPLA Plasencia 83.68 45 P P **03 17 17.3 -0.6**
comp=Z,78nm,1.3s,mb5.4
EPLA Plasencia 83.68 45 P P **03 17 17.3 -0.6**
EPLA pmax pmax
comp=Z,78nm,1.3s,mb5.4
ELOJ Sierra Loja 83.77 49 P P **03 17 19.7 +1.3**
comp=Z,49nm,1.0s,mb5.3
ELOJ Sierra Loja 83.77 49 P P **03 17 19.7 +1.3**
ELOJ pmax pmax
comp=Z,49nm,1.0s,mb5.3
ELUQ Luque 83.86 48 P P **03 17 19.9 +1.0**
comp=Z,24nm,0.7s,mb5.1
ELUQ Luque 83.86 48 P P **03 17 19.9 +1.0**
ELUQ pmax pmax
comp=Z,24nm,0.7s,mb5.1
EADA Adamuz 83.90 48 P P **03 17 18.6 -0.4**
comp=Z,42nm,1.2s,mb5.1
ERON Agron 83.97 49 P P **03 17 20.2 +0.8**
comp=Z,18nm,0.8s,mb5.0
ERUA La Rua 84.03 43 P P **03 17 20.0 +0.4**
comp=Z,6.3nm,0.9s,mb4.5
ERUA La Rua 84.03 43 P P **03 17 20.0 +0.4**
ERUA pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
ECAL Calabor 84.09 44 P P **03 17 20.3 +0.4**
comp=Z,202nm,2.4s,mb5.5
YKA Yellowknife Ar 84.52 342 P P **03 17 20.8 -0.8**
comp=Z,4.2nm,0.5s,mb4.7,baz=143,slow=5.4,SNR=50
YKA pP pP 03 17 40.7 -1.7
comp=Z,9.8nm,0.9s,baz=137,slow=5.0,SNR=9.6
YKA LR LR 03 58 08.5
comp=Z,8.6nm,18.1s,baz=20,slow=38
YKA Yellowknife Ar 84.52 342 P P **03 17 20.8 -0.8**
YKA pP pP 03 17 40.8 -1.7
YKA Yellowknife Ar 84.52 342 P P **03 17 20.8 -0.8**
EBER Berja 84.58 49 P P **03 17 23.4 +0.8**
comp=Z,218nm,2.0s,mb5.7
PAB San Pablo 84.66 47 *e*P P **03 17 23.9 +1.1**
comp=Z,27nm,0.9s,mb5.2
PAB San Pablo 84.66 47 *e*P P **03 17 23.9 +1.1**
PAB pmax pmax
comp=Z,27nm,0.9s,mb5.2
EQES Quesada 84.83 49 P P **03 17 24.1 +0.4**
comp=Z,230nm,2.7s,mb5.6
ESDC Sonseca Array 84.98 47 P P **03 17 24.9 +0.5**
comp=Z,12nm,0.9s,mb4.9,baz=255,slow=5.1,SNR=46
ESDC pP pP 03 17 44.0 -1.3
comp=Z,3.3nm,0.6s,baz=250,slow=5.4,SNR=4.9
ESDC LR LR 03 52 21.3
comp=Z,76nm,18.3s,baz=105,slow=34
ESDC Sonseca Array 84.98 47 P P **03 17 25.2 +0.8**
ESDC pP pP 03 17 44.0 -1.3
ESLA Sonseca Array 84.98 47 *e*P P **03 17 24.7 +0.2**
comp=Z,6.9nm,1.1s,mb4.5
GUD Guadarrama 85.26 46 P P **03 17 25.5 -0.3**
comp=Z,25nm,1.4s,mb5.0
GUD Guadarrama 85.26 46 P P **03 17 25.5 -0.3**
GUD pmax pmax
comp=Z,25nm,1.4s,mb5.0
TSUM Tsumeb 85.83 109 *e*P P **03 17 29.8 +0.6**
comp=Z,20nm,0.8s,mb5.1
TSUM *e*pP pP 03 17 50.7 +0.7
EMUR La Murta 86.17 49 P P **03 17 32.0 +1.6**
comp=Z,153nm,1.7s,mb5.7
TAM Tamanrasset 86.25 65 *e*P P **03 17 32.8 +1.6**
comp=Z,30nm,1.1s,mb5.1
TAM Tamanrasset 86.25 65 *e*P P **03 17 32.8 +1.6**
TAM pmax pmax
comp=Z,30nm,1.1s,mb5.1
ETOB Tobarra 86.26 48 P P **03 17 32.7 +1.8**
comp=Z,306nm,2.6s,mb5.8
ETOR Torete 86.78 46 P P **03 17 32.8 -0.6**
comp=Z,93nm,2.7s,mb5.2
ETOR Torete 86.78 46 P P **03 17 32.8 -0.5**
ETOR pmax pmax
comp=Z,93nm,2.7s,mb5.2
EBEN Beniarda 87.24 49 P P **03 17 37.1 +1.5**
comp=Z,296nm,2.6s,mb5.8
DLBC Dease Lake 87.28 334 P P **03 17 35.8 +0.5**
comp=Z,21nm,0.8s,mb5.1,baz=135,slow=4.9,SNR=23
DLBC pP pP 03 17 56.5 +0.2
comp=Z,14nm,0.8s,baz=127,slow=4.8,SNR=6.0
DLBC Dease Lake 87.28 334 *e*P P **03 17 35.9 +0.6**
DLBC pP pP 03 17 56.5 +0.2
SJPF Ste Jean 88.27 44 *e*P P **03 17 39.6 -0.8**
comp=Z,90nm,1.6s,mb5.2
EBIE Bielsa 89.03 45 P P **03 17 44.1 +0.1**
comp=Z,92nm,1.6s,mb5.6
BOSA Boshof 89.90 120 P P **03 17 48.7 +0.1**
comp=Z,4.3nm,0.6s,mb4.7,baz=270,slow=8.8,SNR=10
BOSA LR LR 03 52 00.3
comp=Z,44nm,21.4s,baz=76,slow=31
BOSA Boshof 89.90 120 P P **03 17 48.7 +0.1**
BOSA Boshof 89.90 120 P P **03 17 48.7 +0.2**
LFF La Frestale 90.29 43 *e*P P **03 17 49.6 -0.2**
comp=Z,52nm,1.1s,mb5.3
LFF *e*pP pP 03 18 11.0 +0.2
MFF Saint Martin d 90.35 41 *e*P P **03 17 49.6 -0.5**
GRR Gorron 90.61 39 *e*P P **03 17 50.6 -0.6**
comp=Z,20nm,1.0s,mb4.9
MAW Mawson 90.88 165 P P **03 17 52.6 +0.3**
comp=Z,11nm,0.8s,mb5.1,baz=206,slow=6.1,SNR=15
MAW LR LR 03 56 14.6
comp=Z,89nm,20.6s,baz=39,slow=34
MAW Mawson 90.88 165 *e*P P **03 17 52.6 +0.3**
comp=Z,6.3nm,1.3s,mb4.6
MAW Mawson 90.88 165 *e*P P **03 17 52.6 +0.3**
MAW pmax pmax
comp=Z,6.0nm,1.3s
RJF Les Rejaudoux 90.94 43 *e*P P **03 17 52.3 -0.5**
comp=Z,20nm,1.1s,mb4.9
RJF *e*R
comp=Z,134nm,18.2s
LDF La Druitiere 91.14 39 *e*P P **03 17 53.0 -0.7**
comp=Z,4.6nm,0.7s,mb4.4
CAF Calviac 91.16 43 *e*P P **03 17 53.6 -0.3**
comp=Z,26nm,1.3s,mb4.9
CAF *e*pP pP 03 18 15.0 +0.1
SUMG Summit 91.25 10 *e*P P **03 17 54.4 +0.7**
comp=Z,46nm,1.1s,mb5.5
SUMG *e*pP pP 03 18 13.9 -0.8
SUMG Summit 91.25 10‖ *i*P P **03 17 54.8 +1.1**
SUMG pmax pmax
comp=Z,24nm,0.9s
SUMG Summit 91.25 10‖ *i*P P **03 17 54.8 +1.1**
comp=Z,24nm,0.9s,mb5.3
SUMG *i* pP 03 18 15.1 +0.4
TCF Toulx Ste Croi 91.75 42 *e*P P **03 17 55.9 -0.7**
comp=Z,9.2nm,1.0s,mb4.7
BGF Bois d'Agland 92.25 42 *e*P P **03 17 58.4 -0.5**
comp=Z,27nm,1.0s,mb5.1
BGF *e*pP pP 03 18 19.8 -0.1
HYF Humbligny 92.37 41 *e*P P **03 17 58.1 -1.3**
AVF Avril sur Loir 92.66 42 *e*P P **03 17 59.8 -1.0**
comp=Z,8.7nm,0.9s,mb4.8
AVF *e*pP pP 03 18 21.5 -0.3
SSF Saint Saulge 92.86 42 *e*P P **03 18 00.7 -1.0**
SMF Signal de Mont 92.93 42 *e*P P **03 18 01.4 -0.6**
comp=Z,32nm,1.2s,mb5.2
KEST Kesra 93.42 54 LR LR 03 57 40.9
comp=Z,46nm,21.7s,baz=220,slow=34
ORIF Oris-en-Rattie 93.70 44 *e*P P **03 18 06.1 +0.5**
ORIF *e*R
comp=Z,136nm,17.2s
SFTF Sexfontaines 94.22 41 *e*P P **03 18 07.3 -0.6**
comp=Z,19nm,0.9s,mb5.1
INK Inuvik 94.25 341 *e*P P **03 18 07.0 -0.5**
comp=Z,7.9nm,1.1s,mb5.0
INK Inuvik 94.25 341 *e*P P **03 18 07.1 -0.5**
INK pmax pmax
comp=Z,8.0nm,1.1s
CABF La Chapelle 94.38 43 *e*P P **03 18 08.3 -0.4**
LPG La Plagne 94.47 44 *e*P P **03 18 09.9 +0.8**
comp=Z,27nm,1.3s,mb5.1
LPG *e*pP pP 03 18 31.4 +1.2
GIVF Givet 94.70 39 *e*P P **03 18 10.0 -0.1**
PGF Pioggiola 95.14 47 *e*P P **03 18 11.0 -1.3**
CDF Champ du Feu 95.70 41 *e*P P **03 18 13.3 -1.4**
comp=Z,12nm,1.2s,mb4.9
ILAR Eielson Array 97.37 336 P P **03 18 20.6 -1.3**
comp=Z,1.2nm,0.8s,mb4.4,baz=155,slow=3.3,SNR=15
ILAR pP pP 03 18 41.4 -1.5
comp=Z,1.3nm,0.8s,baz=144,slow=3.1,SNR=6.6
ILAR LR LR 04 05 15.4
comp=Z,67nm,20.3s,baz=97,slow=37
ILAR Eielson Array 97.37 336 P P **03 18 20.6 -1.3**
ILAR pP pP 03 18 41.4 -1.5
ILAR Eielson Array 97.37 336 P P **03 18 20.6 -1.3**
MOTA Moosalm 97.88 43⇑ *i*P P **03 18 20.4 -4.2**
comp=Z,4.6nm,1.2s,mb4.9
WTTA Wattenberg 98.21 43⇓ *i*Pdiff P **03 18 27.2 +1.2**
comp=Z,17nm,1.7s,mb5.3
GERES GERESS Array B 99.93 42 P Pdif 03 18 33.2 -0.5
comp=Z,1.2nm,0.9s,baz=298,slow=2.9,SNR=5.9
GERES pP 03 18 54.0
comp=Z,0.8nm,0.7s,baz=236,slow=1.4,SNR=3.0
GERES LR LR 04 04 28.3
comp=Z,50nm,18.4s,baz=287,slow=36
GERES GERESS Array B 99.93 42 P Pdif 03 18 33.2 -0.5
GERES pP 03 18 54.0
GERES GERESS Array B 99.93 42 P Pdif 03 18 33.2 -0.5
UZH Uzhgorod 105.50 43 *e*P Pdif 03 18 58.7 +0.2
AKASG Malin Array Be 110.12 41 PKiKP PKiKP 03 23 19.6 -0.6
comp=Z,1.4nm,0.7s,baz=263,slow=3.0,SNR=5.8
AKASG Malin Array Be 110.12 41 PKiKP PKiKP 03 23 19.6 -0.6
AKASG Malin Array Be 110.12 41 PKiKP PKiKP 03 23 19.6 -0.6
BRTR Keskin Array B 113.02 53 PKiKP PKiKP 03 23 26.1 +0.1
comp=Z,1.8nm,0.9s,baz=82,slow=2.6,SNR=6.7
BRTR Keskin Array B 113.02 53 PKiKP PKiKP 03 23 26.1 +0.1
BRTR Keskin Array B 113.02 53 PKiKP PKiKP 03 23 26.2 +0.1
OBN Obninsk 114.31 36⇑ *i*PKIKP PKiKP 03 23 27.5 -0.5
OBN *e* 03 30 18.3
OBN pmax pmax
comp=Z,15nm,1.7s
ANN Anapa 115.79 48 *i* PKIKP PKPpre 03 23 24.2
KIV Kislovodsk 119.61 48 *i* PKIKP PKPdf 03 23 38.5 -0.1
KIV pmax pmax
comp=Z,6.0nm,1.1s
ZEI Tsey 120.62 49 *i* PKIKP PKPdf 03 23 40.5 -0.1
ZEI pmax pmax
comp=Z,7.0nm,1.1s
GNI Garni 121.53 52*d i*PKIKP PKPdf 03 23 43.4 +1.0
GNI pmax pmax
comp=Z,14nm,1.7s
STKA Stephens Creek 121.84 215 PKP PKPdf 03 23 43.1 -0.2
comp=Z,4.4nm,0.6s,baz=90,slow=1.6,SNR=15
STKA pPKP pPKPdf 03 24 04.0 -1.1
comp=Z,2.6nm,0.7s,baz=324,slow=3.7,SNR=3.5
STKA Stephens Creek 121.84 215 *e*PKP PKPdf 03 23 42.8 -0.6
comp=Z,3.6nm,0.6s
STKA Stephens Creek 121.84 215 PKP PKPdf 03 23 43.1 -0.2
STKA pPKP pPKPdf 03 24 04.0 -1.1
STKA Stephens Creek 121.84 215 PKIKP PKPdf 03 23 43.2 -0.2
SEY Seymchan 123.28 337 *i* PKIKP PKPdf 03 23 44.8 -0.2
PETK Petropavlovsk- 125.53 325 PKP PKPdf 03 23 50.0 +0.4
comp=Z,3.5nm,0.6s,baz=146,slow=4.0,SNR=4.0
PETK Petropavlovsk- 125.53 325 PKP PKPdf 03 23 50.0 +0.4
PETK Petropavlovsk- 125.53 325 PKIKP PKPdf 03 23 50.0 +0.3
ARU Arti 125.72 31 *i* PKIKP PKPdf 03 23 49.0 -0.9
ARU 03 25 40.7
ARU 03 30 47.1
CTA Charters Tower 127.10 229 PKP PKPdf 03 23 53.9 +0.2
comp=Z,8.5nm,0.9s,baz=128,slow=2.5,SNR=7.8
CTA pPKP pPKPdf 03 24 14.7 -0.8
comp=Z,5.9nm,0.9s,baz=167,slow=3.1,SNR=3.6
CTA Charters Tower 127.10 229 *e*PKP PKPdf 03 23 53.4 -0.3
comp=Z,4.7nm,0.6s
CTA Charters Tower 127.10 229 PKP PKPdf 03 23 53.9 +0.2
CTA pPKP pPKPdf 03 24 14.7 -0.8
CTA Charters Tower 127.10 229 PKIKP PKPdf 03 23 53.9 +0.2
FORT Forrest 129.21 204 *e*PKP PKPdf 03 23 56.7 -0.8
comp=Z,16nm,0.7s
ABKAR Akbulak array 129.68 38 *e*PKPdf PKPdf 03 23 58.7 +1.0
ASAR Alice Springs 132.47 215 PKP PKPdf 03 24 02.9 -1.0
comp=Z,4.6nm,0.5s,baz=127,slow=2.0,SNR=55
ASAR pPKP pPKPdf 03 24 24.5 -1.2
comp=Z,4.3nm,0.8s,baz=140,slow=2.4,SNR=6.4
ASAR Alice Springs 132.47 215 PKP PKPdf 03 24 02.9 -1.0
ASAR pPKP pPKPdf 03 24 24.5 -1.2
ASAR Alice Springs 132.47 215 PKIKP PKPdf 03 24 02.9 -1.0
AS31 Alice Springs 132.47 215 *e*PKPdf PKPdf 03 24 03.2 -0.7
PMG Port Moresby 132.60 241 *i* PKIKP PKPdf 03 24 04.6 +0.3
PMG pmax pmax
comp=Z,5.0nm,1.0s
COEN Coen 133.22 233 *e*PKP PKPdf 03 24 05.1 -0.3
comp=Z,29nm,0.9s
COEN Coen 133.22 233 *e*PKPdf PKPdf 03 24 05.6 +0.1
BRVK Borovoye 133.24 29 *i* PKIKP PKPdf 03 24 04.0 -0.3
BRVK pmax pmax
comp=Z,11nm,1.7s
BVAR Borovoye Array 133.31 29 PKP PKPdf 03 24 05.2 +0.8
comp=Z,1.9nm,0.5s,baz=241,slow=1.5,SNR=11
BVAR pPKP pPKPdf 03 24 26.4 +0.1
comp=Z,0.9nm,0.6s,baz=323,slow=0.7,SNR=3.0
BVAR Borovoye Array 133.31 29 PKP PKPdf 03 24 05.2 +0.8
BVAR pPKP pPKPdf 03 24 26.4 +0.1
BVAR Borovoye Array 133.31 29 PKIKP PKPdf 03 24 05.2 +0.7
WB2 Warramunga Arr 135.13 218 *e*PKPdf PKPdf 03 24 08.4 -0.6
WRA Warramunga Arr 135.14 218 PKhKP PKPpre 03 23 56.9
comp=Z,0.8nm,0.9s,baz=129,slow=2.8,SNR=6.8
WRA PKP PKPdf 03 24 08.5 -0.5
comp=Z,10nm,0.7s,baz=143,slow=1.9,SNR=57
WRA pPKP pPKPdf 03 24 29.6 -1.2
comp=Z,9.4nm,0.8s,baz=147,slow=1.4,SNR=8.8
WRA Warramunga Arr 135.14 218 PKPpre PKPpre 03 23 56.9
WRA PKP PKPdf 03 24 08.5 -0.5
WRA pPKP pPKPdf 03 24 29.6 -1.2
WRA Warramunga Arr 135.14 218 PKHKP PKPpre 03 23 56.9
WRA 03 24 08.5
WRAB Tennant Creek 135.14 218 *e*PKPdf PKPdf 03 24 08.6 -0.4
WRAB Tennant Creek 135.14 218 *e*PKIKP PKPdf 03 24 08.6 -0.3
ZAA0 Zalesovo Array 138.39 19 *e*PKPdf PKPdf 03 24 13.8 0.0
ZALV Zalesovo Beam 138.39 19 PKP PKPdf 03 24 13.1 -0.8
comp=Z,16nm,0.8s,baz=318,slow=1.2,SNR=12
ZALV pPKP pPKPdf 03 24 35.1 -0.6
comp=Z,7.3nm,0.7s,baz=299,slow=2.3,SNR=4.8
ZALV Zalesovo Beam 138.39 19 PKP PKPdf 03 24 13.1 -0.8
ZALV pPKP pPKPdf 03 24 35.1 -0.6
ZALV Zalesovo Beam 138.39 19 PKIKP PKPdf 03 24 13.1 -0.8
KURK Kurchatov 138.62 27 PKHKP PKPpre 03 24 05.0
KURK PKP PKPdf 03 24 13.6 -0.8
KURK *e*PKPdf PKPdf 03 24 14.1 -0.3
KURK pPKP pPKPdf 03 24 35.5 -0.8
KURK Kurchatov 138.62 27 PKHKP PKPpre 03 24 05.1
KURK *e* 03 24 14.1
KKAR Karatay Array 139.02 41 *e*PKPdf PKPdf 03 24 16.0 +0.6
KKAR Karatay Array 139.02 41 *e*PKIKP PKPdf 03 24 16.0 +0.6
EKS2 Erkin-Say 141.29 40 *e*PKPdf PKPdf 03 24 21.5 +1.9
EKS2 Erkin-Say 141.29 40 *e*PKIKP PKPdf 03 24 21.5 +2.0
FITZ Fitzroy Crossi 141.36 210 *e*PKP PKPpre 03 24 12.7

	comp=Z,12nm,0.6s								
AAK	**Ala-Archa**	**141.75**	**39**	*e*PKPdf	PKPdf	03 24 17.0	-3.4		
AAK	**Ala-Archa**	**141.75**	**39**	*e*PKIKP	PKPdf	03 24 17.0	-3.3		
MK31	**Makanchi Array**	**143.16**	**28**	*e*PKPdf	PKPdf	03 24 19.4	-3.3		
MK31	**Makanchi Array**	**143.16**	**28**	*e*PKIKP	PKPdf	03 24 19.4	-3.3		
MKAR	**Makanchi Array**	**143.16**	**28**	PKP	PKPdf	03 24 19.8	-2.9		
	comp=Z,5.0nm,0.8s,baz=311,slow=2.9,SNR=36								
MKAR				PKP	pPKPdf	03 24 44.1	-0.5		
	comp=Z,3.2nm,0.8s,baz=349,slow=2.5,SNR=4.4								
MKAR	**Makanchi Array**	**143.16**	**28**	PKP	PKPdf	03 24 19.8	-2.9		
MKAR				pPKP	pPKPdf	03 24 44.1	-0.5		
MKAR	**Makanchi Array**	**143.16**	**28**	PKIKP	PKPdf	03 24 19.8	-2.9		
KSH	**Kashi**	**144.40**	**43**	PKP	PKPdf	03 24 25.0	-0.1		
KSH				PKS		03 27 59.8			
KSH				SKS	SKSdf	03 31 24.0	-3.8		
KSH				AMB	AMB				
	comp=Z,160nm,4.6s								
KSH				LR	LR				
	comp=N,39nm,4.8s								
KSH				LR	LR				
	comp=E,42nm,5.1s								
KSH				LR	LR				
	comp=Z,110nm,4.3s								
HIA	**Hailar**	**145.01**	**345**	*e*PKPdf	PKPdf	03 24 24.0	-1.9		
HIA	**Hailar**	**145.01**	**345**	*e*PKIKP	PKPdf	03 24 24.0	-1.9		
MJAR	**Matsushiro Arr**	**145.19**	**312**	PKPbc	PKPbc	03 24 25.0	-1.3		
	comp=Z,16nm,0.9s,baz=128,slow=1.2,SNR=33								
MJAR				pPKPbc	pPKPbc	03 24 45.9	-1.9		
	comp=Z,8.3nm,0.9s,baz=160,slow=2.0,SNR=3.9								
MJAR	**Matsushiro Arr**	**145.19**	**312**	PKPbc	PKPbc	03 24 25.0	-1.3		
MJAR				pPKPbc	pPKPbc	03 24 45.9	-1.9		
MJAR	**Matsushiro Arr**	**145.19**	**312**	PKP2	PKPab	03 24 25.0	-1.4		
MAJO	**Matsushiro**	**145.19**	**312**	*e*PKPdf	PKPdf	03 24 25.6	-1.0		
MAJO	**Matsushiro**	**145.19**	**312**	*e*PKIKP	PKPdf	03 24 25.6	-1.0		
MAT	**Matsushiro**	**145.19**	**312**	PKP	PKPdf	03 24 24.8	-1.8		
MDJ	**Mudanjiang**	**145.38**	**331**	PKPbc	PKPbc	03 24 25.8	-0.9		
MDJ				AMB	AMB				
	comp=Z,89nm,5.3s								
MDJ	**Mudanjiang**	**145.38**	**331**	*e*PKPdf	PKPdf	03 24 25.8	-0.8		
ZAK	**Zakamensk**	**145.49**	**4**	↑*i*PKIKP	PKPdf	03 24 27.3	+0.7		
ZAK				pmax	pmax				
	comp=Z,24nm,1.1s								
WMQ	**Urumqi**	**147.86**	**26**	PKPbc	PKPbc	03 24 31.8	-2.1		
WMQ				AMB	AMB				
	comp=Z,140nm,4.9s								
WMQ				LR	LR				
	comp=N,46nm,22.6s								
WMQ				LR	LR				
	comp=E,75nm,31.7s								
WMQ				LR	LR				
	comp=Z,100nm,29.5s								
ULN	**Ulaanbaatar**	**148.11**	**359**	*e*PKPdf	PKPdf	03 24 32.2	+1.0		
ULN				*e*PKPbc	PKPbc	03 24 35.1	+0.7		
ULN	**Ulaanbaatar**	**148.11**	**359**	*e*PKIKP	PKPdf	03 24 32.2	+1.1		
ULN				*e*		03 24 35.1			
SONM	**Songino Array**	**148.14**	**0**	PKPbc	PKPbc	03 24 32.4	-2.1		
	comp=Z,22nm,0.9s,baz=333,slow=1.6,SNR=65								
SONM				pPKPbc	pPKPbc	03 24 55.6	-0.6		
	comp=Z,12nm,0.8s,baz=317,slow=1.7,SNR=6.9								
SONM	**Songino Array**	**148.14**	**0**	PKPbc	PKPbc	03 24 32.4	-2.1		
SONM				pPKPbc	pPKPbc	03 24 55.6	-0.6		
SONM	**Songino Array**	**148.14**	**0**	PKIKP	PKPdf	03 24 32.4	+1.2		
POO	**Poona**	**148.66**	**80**	*ex*	PKPbc	03 24 34.0	-2.7		
NDI	**New Delhi**	**150.09**	**60**	*e*PKP	PKPdf	03 24 33.0	-1.9		
DDI	**Dehra Dun**	**150.20**	**56**	*ex*	PKPdf	03 24 35.5	+0.4		
KSRS	**Korea Array**	**151.39**	**323**	PKP	PKPdf	03 24 37.5	+0.8		
	comp=Z,4.7nm,0.8s,baz=20,slow=1.5,SNR=12								
KSRS				PKPbc	PKPbc	03 24 43.3	+0.5		
	comp=Z,27nm,0.9s,baz=1.4,slow=1.5,SNR=39								
KSRS				PKPab	PKPab	03 24 50.4	-0.8		
	comp=Z,3.5nm,0.8s,baz=21,slow=3.0,SNR=4.8								
KSRS				pPKPbc	pPKPbc	03 25 02.9	-1.7		
	comp=Z,23nm,0.9s,baz=6.9,slow=1.1,SNR=9.1								
KSAR	**Wonju Array Be**	**151.42**	**323**	PKP	PKPdf	03 24 37.5	+0.7		
KSAR				PKPbc	PKPbc	03 24 43.3	+0.4		
KSAR				PKPab	PKPab	03 24 50.4	-0.9		
KSAR				pPKPbc	pPKPbc	03 25 02.9	-1.7		
KSAR	**Wonju Array Be**	**151.42**	**323**	PKIKP	PKPdf	03 24 37.5	+0.8		
KSAR						03 24 43.3			
KSAR						03 24 50.4			
JNU	**Nakatsue**	**152.11**	**312**	*e*PKPbc	PKPbc	03 24 43.8	-0.7		
BJI	**Beijing**	**154.51**	**343**	PKPbc	PKPbc	03 24 49.0	-0.6		
BJI				sPKP		03 25 10.0			
BJI				LR	LR				
	comp=Z,55nm,37.1s								
HHC	**Hu-ho-hao-te**	**154.75**	**351**	*e*PKPbc	PKPdf	03 24 38.5	-2.9		
HHC				pPKP	pPKPdf	03 25 01.3	-2.0		
HHC				PKS		03 28 11.5			
HHC				PP	PP	03 28 39.0	-0.9		
HHC				LR	LR				
	comp=N,160nm,17.8s								
HHC				LR	LR				
	comp=E,180nm,19.0s								
HHC				LR	LR				
	comp=Z,130nm,10.7s								
PYUN	**Piuthan**	**155.04**	**57**	*e*P	PKPdf	03 24 41.4	-0.8		
DANN	**Dangsing**	**155.55**	**56**	*e*P	PKPdf	03 24 43.8	+0.9		
GTA	**Gaotai**	**155.83**	**13**	*e*PKP	PKPdf	03 24 44.0	+1.1		
GKN	**Gorkha**	**156.40**	**56**	*e*P	PKPdf	03 24 44.3	+0.3		
DMN	**Daman**	**156.94**	**56**	*e*P	PKPdf	03 24 45.1	+0.3		
KKN	**Kakani**	**157.00**	**55**	*e*P	PKPdf	03 24 45.1	+0.3		
GUN	**Gumba**	**157.42**	**55**	*e*P	PKPdf	03 24 45.6	+0.3		
RAMN	**Ramite**	**158.43**	**56**	*e*P	PKPdf	03 24 46.7	+0.1		
	comp=Z,26nm,1.0s								
ODAN	**Odare**	**159.10**	**55**	*e*P	PKPdf	03 24 47.4	0.0		
	comp=Z,19nm,0.9s								
TAPN	**Taplejung**	**159.11**	**54**	*e*P	PKPdf	03 24 47.8	+0.4		
	comp=Z,8.9nm,0.8s								
LZH	**Lanzhou**	**159.73**	**6**	*e*PKP	PKPdf	03 24 45.5	-2.4		
NJ2	**Nanjing**	**160.40**	**327**	*e*PKP	PKPdf	03 24 49.0	+0.3		
XAN	**Xi'an**	**161.80**	**354**	PKP	PKPdf	03 24 50.5	+0.3		
XAN				AMB	AMB				
	comp=Z,15nm,3.9s								
CD2	**Chengdu**	**164.82**	**9**	PKP	PKPdf	03 24 52.5	-0.6		
CD2				PKPab	PKPab	03 25 50.5	+1.4		
CD2				PKS		03 28 24.0			
CD2				PP	PP	03 29 38.0	+3.6		
CD2				SKS	SKSdf	03 31 47.0	-3.9		
CD2				AMB	AMB				
	comp=Z,210nm,6.5s								
CD2				LR	LR				
	comp=E,390nm,5.9s								
CD2				LR	LR				
	comp=Z,200nm,6.5s								
GYA	**Guiyang**	**169.48**	**360**	PKP	PKPdf	03 24 55.0	-1.7		
GYA				PKPab	PKPab	03 26 10.5	+0.7		
GYA				PKS		03 28 26.0			
GYA				PP	PP	03 30 01.8	+3.6		
GYA				SKKS	SKKSac	03 36 39.0	-0.7		
GYA				AMB	AMB				
	comp=Z,140nm,8.0s								
GYA				LR	LR				
	comp=N,120nm,24.5s								
GYA				LR	LR				
	comp=E,130nm,22.8s								
GYA				LR	LR				
	comp=Z,110nm,25.2s								
CMAR	**Chiang Mai Arr**	**172.28**	**70**	PKP	PKPdf	03 24 57.9	-0.4		
	comp=Z,0.9nm,0.3s,baz=279,slow=1.6,SNR=10								
CMAR				PKPab	PKPab	03 26 23.1	+0.4		
	comp=Z,3.9nm,0.8s,baz=283,slow=6.1,SNR=12								
CMAR	**Chiang Mai Arr**	**172.28**	**70**	PKP	PKPdf	03 24 57.9	-0.4		
CMAR				PKPab	PKPab	03 26 23.1	+0.4		
CMAR	**Chiang Mai Arr**	**172.28**	**70**	PKIKP	PKPdf	03 24 57.9	-0.4		
CMAR						03 26 23.2			

*ISCJB **27** 03:14:16.5±0.2, 44°.09N±0°.01×114°.77W±0°.02, h10km, Error ellipse: s-maj=1.7km s-min=1.4km az=145.1*
*NEIC **27** 03:14:16.0, 44°.06N×114°.68W, h11km, ML3.6(BUT), After BUT.*

ISC 27 03:14:17.4±0.2, 44°.07N±0°.01×114°.72W±0°.02, h10km, n129, σ1s06/224, 72C-54D, Western Idaho

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I12A	**Atlanta**	**0.41**	**227**	↑P	**Pg**	**03 14 24.8**	**-0.5**
	baz=0.4,SNR=1000						
I12A				↑S	**Sg**	**03 14 30.7**	**0.0**
	baz=0.4						
I13A	**Wildhorse Cree**	**0.47**	**110**	↑P	**Pg**	**03 14 24.5**	**-2.0**
	baz=0.4,SNR=1000						
I13A				↑S	**Sg**	**03 14 30.0**	**-2.6**
	baz=0.4						
H12A	**Diamond D Ranc**	**0.48**	**349**	P	**Pg**	**03 14 26.5**	**-0.4**
	baz=0.5,SNR=1000						
H12A				↑S	**Sg**	**03 14 33.7**	**+0.4**
	baz=0.5						
HLID	**Hailey**	**0.56**	**156**	↓P	**Pg**	**03 14 26.4**	**-1.8**
	baz=0.5,SNR=1000						
HLID				↑S	**Sg**	**03 14 33.4**	**-2.2**
	baz=0.5						
HLID	**Hailey**	**0.56**	**156**	*e*Pg	**Pg**	**03 14 26.4**	**-1.8**
HLID				*e*Sg	**Sg**	**03 14 33.4**	**-2.2**
H13A	**Challis**	**0.59**	**34**	P	**Pg**	**03 14 27.8**	**-1.2**
	baz=0.6,SNR=1000						
H13A				↓S	**Sg**	**03 14 35.6**	**-1.1**
	baz=0.6						
J13A	**Cove Ranch, Pi**	**0.78**	**149**	P	**Pg**	**03 14 30.4**	**-2.1**
	baz=0.8,SNR=342						
J13A				↑S	**Sg**	**03 14 40.3**	**-2.4**
	baz=0.8						
I14A	**Mackay**	**0.93**	**99**	P	**Pg**	**03 14 32.8**	**-2.5**
	baz=0.9,SNR=1000						
I14A				↑S	**Sg**	**03 14 44.6**	**-2.8**
	baz=0.9						
MFID	**Camas Ranch**	**1.04**	**231**	P	**Pg**	**03 14 36.3**	**-1.0**
	baz=1.1,SNR=1000						
MFID				↓S	**Sg**	**03 14 50.8**	**0.0**
	baz=1.1						
MFID	**Camas Ranch**	**1.04**	**231**	*e*Pg	**Pg**	**03 14 36.4**	**-0.9**
MFID				*e*S	**Sg**	**03 14 50.5**	**-0.2**
G13A	**Cobalt**	**1.08**	**19**	P	**Pg**	**03 14 36.8**	**-1.3**
	baz=1.1,SNR=1000						
G13A				↓S	**Sg**	**03 14 51.7**	**-0.5**
	baz=1.1						
G12A	**Big Creek, Yel**	**1.14**	**338**	↑P	**Pb**	**03 14 38.2**	**-0.9**
	baz=1.2						
G12A				↓S	**Sb**	**03 14 54.6**	**+0.6**
	baz=1.2						
J14A	**Carey**	**1.15**	**130**	↑P	**Pb**	**03 14 37.4**	**-1.9**
	baz=1.1,SNR=1000						
J14A				↑S	**Sb**	**03 14 51.9**	**-2.4**
	baz=1.1						
G14A	**Jackson**	**1.48**	**37**	P	**Pn**	**03 14 43.5**	**-0.5**
	baz=1.5,SNR=282						
G14A				↓S	**Sn**	**03 15 03.4**	**0.0**
	baz=1.5						
MCMT	**McKenzie Canyo**	**1.54**	**60**	*e*Pn	**Pn**	**03 14 44.5**	**-0.3**
MCMT				*e*S	**Sn**	**03 15 05.2**	**+0.3**
H15A	**Lima**	**1.59**	**69**	↑P	**Pn**	**03 14 45.0**	**-0.6**
	baz=1.6,SNR=267						
H15A				↑S	**Sn**	**03 15 05.5**	**-0.6**
	baz=1.6						
I15A	**Monteview**	**1.62**	**92**	↑P	**Pn**	**03 14 45.0**	**-0.9**
	baz=1.6,SNR=80						
I15A				↓S	**Sn**	**03 15 06.3**	**-0.5**
	baz=1.6						
F12A	**Elk City**	**1.73**	**348**	↑P	**Pn**	**03 14 47.5**	**+0.1**
	baz=1.7,SNR=1000						
F12A				↓Sb	**Sb**	**03 15 12.6**	**+1.7**
	baz=1.7						
F13A	**Darby**	**1.74**	**9**	P	**Pn**	**03 14 47.3**	**-0.3**
	baz=1.7,SNR=582						
F13A				↑S	**Sn**	**03 15 10.4**	**+0.6**
	baz=1.7						
J15A	**Blackfoot**	**1.79**	**111**	↓P	**Pn**	**03 14 47.5**	**-0.8**
	baz=1.8,SNR=1000						
J15A				↓S	**Sn**	**03 15 10.5**	**-0.7**
	baz=1.8						
K14A	**Jones Ranch, D**	**1.90**	**143**	↓P	**Pn**	**03 14 48.9**	**-1.0**
	baz=1.9						
K14A				↑S	**Sn**	**03 15 13.1**	**-0.6**
	baz=1.9						
G15A	**Dillon**	**1.93**	**55**	↑P	**Pn**	**03 14 49.7**	**-0.6**
	baz=1.9,SNR=689						
G15A				↓Sb	**Sb**	**03 15 16.7**	**-0.2**
	baz=1.9						
F14A	**Wisdom**	**1.99**	**28**	↑P	**Pn**	**03 14 50.6**	**-0.5**
	baz=2.0,SNR=74						
F14A				↑Sb	**Sb**	**03 15 19.2**	**+0.8**
	baz=2.0						
DLMT	**Dillon**	**1.99**	**49**	*e*Pn	**Pn**	**03 14 50.6**	**-0.4**
DLMT				*e*S	**Sn**	**03 15 18.6**	**+2.6**
BMO	**Blue Mountains**	**2.01**	**294**	*e*Pn	**Pn**	**03 14 51.3**	**0.0**
BMO				*e*S	**Sn**	**03 15 20.6**	**+4.2**
K15A	**Arbon**	**2.12**	**130**	↓P	**Pn**	**03 14 52.2**	**-0.6**
	baz=2.1,SNR=44						
K15A				↑Sb	**Sb**	**03 15 21.1**	**-1.0**
	baz=2.1						
I16A	**Newdale**	**2.34**	**94**	↑P	**Pn**	**03 14 56.2**	**+0.3**
	baz=2.3						
I16A				↓Sb	**Sb**	**03 15 28.3**	**-0.4**
	baz=2.3						
F15A	**Butte**	**2.37**	**41**	P	**Pn**	**03 14 55.5**	**-0.8**
	baz=2.4,SNR=77						
F15A				↓Sb	**Sb**	**03 15 30.0**	**+0.5**
	baz=2.4						
LRM	**Limekiln Ridge**	**2.38**	**42**	*e*Pn	**Pn**	**03 14 55.6**	**-0.8**
G16A	**Moss Hill, Enn**	**2.38**	**60**	↑P	**Pn**	**03 14 56.1**	**-0.3**
	baz=2.4,SNR=206						
G16A				↑Sb	**Sb**	**03 15 30.0**	**+0.3**
	baz=2.4						
J16A	**Bone**	**2.40**	**108**	↑P	**Pn**	**03 14 56.8**	**+0.2**
	baz=2.4,SNR=84						
J16A				↑Sb	**Sb**	**03 15 29.6**	**-0.5**
	baz=2.4						
E13A	**Victor**	**2.40**	**9**	↑P	**Pn**	**03 14 56.2**	**-0.5**
	baz=2.4,SNR=84						
E13A				↓S	**Sn**	**03 15 26.8**	**+0.7**
	baz=2.4						
E12A	**Beaver Dam Sad**	**2.42**	**346**	↓P	**Pn**	**03 14 56.8**	**-0.2**
	baz=2.4,SNR=47						
E12A				↑Sb	**Sb**	**03 15 33.4**	**+2.6**
	baz=2.4						
QLMT	**Earthquake Lak**	**2.48**	**71**	*e*Pn	**Pn**	**03 14 58.1**	**+0.3**
QLMT				*e*S	**Sn**	**03 15 31.4**	**+3.4**
E14A	**Clinton**	**2.50**	**20**	↓P	**Pn**	**03 14 57.4**	**-0.7**
	baz=2.5,SNR=40						
E14A				↓S	**Sn**	**03 15 28.9**	**+0.3**
	baz=2.5						
H16A	**Russell Place,**	**2.57**	**75**	↑P	**Pn**	**03 14 59.4**	**+0.4**
	baz=2.5,SNR=137						
H16A				↓Sb	**Sb**	**03 15 35.3**	**+0.1**
	baz=2.5						
RRI2	**Red Ridge**	**2.57**	**105**	*e*Pn	**Pn**	**03 14 59.3**	**+0.2**
RRI2				*e*S	**Sn**	**03 15 35.4**	**+5.0**
K16A	**Soda Springs**	**2.60**	**117**	↑P	**Pn**	**03 15 00.4**	**+1.0**
	baz=2.6						
K16A				↑Sb	**Sb**	**03 15 35.3**	**-0.7**
	baz=2.6						
F10A	**Beach Ranch, E**	**2.60**	**318**	↓P	**Pn**	**03 15 00.2**	**+0.8**
	baz=2.6,SNR=52						
DCID1	**Drake Creek**	**2.60**	**99**	*e*Pn	**Pn**	**03 15 00.0**	**+0.5**
DCID1				*e*S	**Sn**	**03 15 36.0**	**+4.8**
L15A	**Malad City**	**2.69**	**140**	↑P	**Pn**	**03 15 00.7**	**0.0**
	baz=2.7,SNR=10						
L15A				↑Sb	**Sb**	**03 15 37.9**	**-0.6**
	baz=2.7						
HVU	**Hansel Valley**	**2.70**	**147**	*e*Pn	**Pn**	**03 15 01.1**	**+0.3**
HVU				*e*S	**Sn**	**03 15 37.9**	**+4.3**
BOZ	**Bozeman (W)**	**2.71**	**53**	P	**Pn**	**03 15 00.1**	**-0.8**
	baz=2.7,SNR=72						
BOZ				↑Sb	**Sb**	**03 15 39.4**	**+0.3**
	baz=2.7						
BOZ	**Bozeman (W)**	**2.71**	**53**	*e*Pn	**Pn**	**03 15 01.0**	**+0.1**
BOZ				*e*S	**Sn**	**03 15 40.0**	**+6.3**
IMW	**Indian Meadow**	**2.74**	**92**	*e*Pn	**Pn**	**03 15 01.9**	**+0.5**
IMW				*e*S	**Sn**	**03 15 39.3**	**+4.8**
YMR	**Madison River**	**2.76**	**76**	*e*Pn	**Pn**	**03 15 01.9**	**+0.3**
YMR				*e*S	**Sn**	**03 15 39.3**	**+4.3**
E15A	**Deer Lodge**	**2.77**	**31**	↑P	**Pn**	**03 15 00.6**	**-1.2**
	baz=2.8,SNR=27						
E15A				↑Sb	**Sb**	**03 15 42.4**	**+1.4**
	baz=2.8						
F16A	**Kennard Place,**	**2.79**	**51**	↓P	**Pn**	**03 15 01.5**	**-0.5**
	baz=2.8,SNR=15						
F16A				↑Sb	**Sb**	**03 15 42.2**	**+0.8**
	baz=2.8						
TPAW	**Teton Pass**	**2.79**	**101**	*e*Pn	**Pn**	**03 15 02.6**	**+0.5**
TPAW				*e*S	**Sn**	**03 15 41.6**	**+5.8**
MSO	**Missoula**	**2.81**	**11**	P	**Pn**	**03 15 01.9**	**-0.5**
	baz=2.8,SNR=42						
MSO				↑S	**Sn**	**03 15 35.3**	**-0.9**
	baz=2.8						
MSO	**Missoula**	**2.81**	**11**	*e*Pn	**Pn**	**03 15 01.6**	**-0.7**
MSO				*e*S	**Sn**	**03 15 35.2**	**-1.1**
J08A	**Circle Bar Ran**	**2.81**	**257**	↑P	**Pn**	**03 15 02.3**	**-0.1**
	baz=2.8,SNR=28						
J08A				↓S	**Sn**	**03 15 37.6**	**+1.3**
	baz=2.8						
YFT	**Old Faithful**	**2.82**	**81**	*e*Pn	**Pn**	**03 15 04.4**	**+1.9**
YFT				*e*S	**Sn**	**03 15 40.2**	**+3.7**
MOOW	**Moose Ponds**	**2.89**	**95**	*e*Pn	**Pn**	**03 15 03.9**	**+0.4**
MOOW				*e*S	**Sn**	**03 15 43.1**	**+4.8**
REDW	**Red Top Meadow**	**2.90**	**103**	*e*Pn	**Pn**	**03 15 04.0**	**+0.5**
REDW				*e*S	**Sn**	**03 15 45.0**	**+6.7**
FLWY	**Flagg Ranch**	**2.90**	**88**	*e*Pn	**Pn**	**03 15 04.5**	**+0.9**
FLWY				*e*S	**Sn**	**03 15 45.2**	**+6.7**
SNOW	**Snow King Moun**	**2.94**	**101**	*e*Pn	**Pn**	**03 15 06.1**	**+2.0**
SNOW				*e*S	**Sn**	**03 15 48.3**	**+8.9**
AHID	**Auburn Hatcher**	**2.95**	**115**	*e*Pn	**Pn**	**03 15 06.8**	**+2.6**
AHID				*e*S	**Sn**	**03 15 48.0**	**+8.4**
YNR	**Norris Junctio**	**2.97**	**76**	*e*Pn	**Pn**	**03 15 06.4**	**+1.8**
YNR				*e*S	**Sn**	**03 15 47.9**	**+7.7**
J17A	**Brown Place, J**	**2.99**	**102**	↑Sb	**Sb**	**03 15 46.9**	**-0.5**
	baz=3.0						
I17A	**Pilgrim Ck.**	**3.00**	**92**	↑P	**Pn**	**03 15 05.8**	**+0.9**
	baz=3.0						
I17A				↑Sb	**Sb**	**03 15 47.5**	**0.0**
	baz=3.0						
H17A	**Grant Village**	**3.00**	**82**	↓P	**Pn**	**03 15 06.3**	**+1.4**
	baz=3.0						
H17A				↓Sb	**Sb**	**03 15 48.0**	**+0.5**
	baz=3.0						
D12A	**Red Ives Fores**	**3.01**	**352**	↑P	**Pn**	**03 15 04.5**	**-0.6**
	baz=3.0						
D12A				↑S	**Sn**	**03 15 41.6**	**+0.4**
	baz=3.0						
LOHW	**Long Hollow**	**3.02**	**97**	*e*Pn	**Pn**	**03 15 05.7**	**+0.5**
CHMT	**Chamberlain Mo**	**3.02**	**20**	*e*Pn	**Pn**	**03 15 04.8**	**-0.5**
D13A	**Huson**	**3.03**	**3**	↑P	**Pn**	**03 15 05.1**	**-0.3**
	baz=3.0,SNR=91						
D13A				↑S	**Sn**	**03 15 41.6**	**0.0**
	baz=3.0						
K17A	**Gardner Place,**	**3.07**	**114**	↑Sb	**Sb**	**03 15 49.4**	**-0.2**
	baz=3.0						
LNOR	**Lincton Mounta**	**3.10**	**307**	*e*Pn	**Pn**	**03 15 07.0**	**+0.6**
LNOR				*e*S	**Sg**	**03 15 56.0**	**-1.0**
M15A	**Larsen Ranch,**	**3.10**	**147**	↑P	**Pn**	**03 15 08.6**	**+2.3**
	baz=3.1						
M15A				↑Sb	**Sb**	**03 15 50.0**	**-0.4**
	baz=3.1						
G17A	**Pierce Place,**	**3.10**	**65**	↓P	**Pn**	**03 15 07.4**	**+1.1**
	baz=3.1						
G17A				↑Sb	**Sb**	**03 15 51.1**	**+0.6**
	baz=3.1						
D14A	**Greenough**	**3.13**	**15**	P	**Pn**	**03 15 05.7**	**-1.0**
	baz=3.1,SNR=33						
D14A				↓S	**Sn**	**03 15 42.9**	**-1.2**
	baz=3.1						
LKWY	**Lake**	**3.14**	**80**	*e*Pn	**Pn**	**03 15 06.0**	**-0.9**
L16A	**Fish Haven**	**3.17**	**129**	↑Sb	**Sb**	**03 15 53.1**	**+0.7**
	baz=3.1						
G08A	**Pilot Rock**	**3.26**	**293**	↑P	**Pn**	**03 15 08.3**	**-0.2**
	baz=3.3,SNR=32						
G08A				↑S	**Sn**	**03 15 48.4**	**+1.1**
	baz=3.3						
E16A	**East Helena**	**3.27**	**40**	↓P	**Pn**	**03 15 07.8**	**-0.8**
	baz=3.3,SNR=20						
E16A				↑Sb	**Sb**	**03 15 56.9**	**+1.7**
	baz=3.3						
SLMT	**Seeley Lake**	**3.28**	**15**	*e*Pn	**Pn**	**03 15 07.9**	**-0.9**
SLMT				*e*S	**Sn**	**03 15 44.6**	**-3.3**
WVOR	**Wild Horse Val**	**3.29**	**242**	*e*Pn	**Pn**	**03 15 09.6**	**+0.6**
WVOR				*e*S	**Sn**	**03 15 58.2**	**+10**
HRY	**Holter Researc**	**3.33**	**37**	*e*Pn	**Pn**	**03 15 08.9**	**-0.6**
D15A	**Lincoln**	**3.35**	**27**	↓P	**Pn**	**03 15 08.6**	**-1.1**
	baz=3.3,SNR=72						
D15A				↑S	**Sn**	**03 15 49.7**	**+0.2**
	baz=3.3						
HWUT	**Hardware Ranch**	**3.39**	**136**	*e*Pn	**Pn**	**03 15 12.4**	**+2.1**
HWUT				*e*S	**Sn**	**03 15 59.9**	**+9.5**
F17A	**Fitzpatrick Pl**	**3.42**	**56**	↑P	**Pn**	**03 15 11.1**	**+0.4**
	baz=3.4,SNR=48						
F17A				↓Sb	**Sb**	**03 16 01.3**	**+1.8**
	baz=3.4						
E09A	**Wood Farm, Sta**	**3.43**	**316**	↑P	**Pn**	**03 15 11.3**	**+0.5**
	baz=3.5						
L17A	**Cokeville**	**3.44**	**124**	↓P	**Pn**	**03 15 15.1**	**+4.1**
	baz=3.4						
L17A				↑Sb	**Sb**	**03 16 01.0**	**+0.8**
	baz=3.4						
I07A	**Izee**	**3.44**	**272**	↑P	**Pn**	**03 15 11.4**	**+0.4**
	baz=3.5,SNR=159						
I07A				↑S	**Sn**	**03 15 54.3**	**+2.4**
	baz=3.5						
SWMT	**Swartz Lake**	**3.47**	**8**	*e*Pn	**Pn**	**03 15 11.1**	**-0.3**
SWMT				*e*S	**Sn**	**03 15 50.5**	**-2.1**
J18A	**Kendall Valley**	**3.52**	**103**	↑P	**Pn**	**03 15 16.0**	**+3.9**
	baz=3.5						
I18A	**Diamond G Ranc**	**3.57**	**94**	↓Sb	**Sb**	**03 16 03.3**	**-0.6**
	baz=3.5						
N15A	**Stansbury Isla**	**3.57**	**152**	↓Sb	**Sb**	**03 16 04.7**	**+

baz=4.4,SNR=9.5
B14A Marquette Ranc 4.41 13 ⇓P Pn 03 15 24.2 0.0
baz=4.4
F19A Roth Farm, Mol 4.47 65 ⇓P Pn 03 15 24.7 -0.4
baz=4.4
B15A Bradely Ranch, 4.50 19 ⇑P Pn 03 15 24.8 -0.7
baz=4.5,SNR=28
C17A Wharram Farm, 4.51 36 ⇑P Pn 03 15 24.4 -1.3
baz=4.5,SNR=14
NEW Newport 4.51 339 ⇓P Pn 03 15 25.5 -0.2
baz=4.5,SNR=11
NEW Newport 4.51 339 *e*Pn Pn 03 15 25.5 -0.1
NEW *e*S Sg 03 16 38.1 -4.0
MOD Modoc 4.63 244 *e*Pn Pn 03 15 30.2 +2.8
MOD *e*S Sg 03 16 41.3 -4.7
B16A M & M Farms, S 4.82 25 ⇑P Pn 03 15 29.2 -0.7
baz=4.8
A13A Flathead Natio 4.87 2 ⇓P Pn 03 15 30.6 +0.1
baz=4.9,SNR=9.1
A12A Yaak River Ran 4.90 353 ⇓P Pn 03 15 30.9 -0.2
baz=4.9,SNR=6.2
WALA Waterton Lakes 5.02 6 *e*Pn Pn 03 15 32.7 +0.1
WALA *e*S Sn 03 16 31.8 +1.1

KRSC 27 03:17:24.6±0.6, 53°32N×162°43E, h37km±36km, ML3.7, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.31**	**342**	*e*P	Pn	03 17 47.0	+0.7
MKZ				*i* S	Sn	03 18 03.6	+1.1
SPN	**Mys Shipunski**	**1.47**	**262**	*e*P	Pn	03 17 49.9	+1.4
SPN				*i* S	Sn	03 18 07.8	+1.4
NLC	**Nalytchevo**	**1.86**	**267**	*e*P	Pn	03 17 55.6	+1.7
NLC				*i* S	Sn	03 18 18.7	+2.6
SDLR	**Sedlovina**	**2.13**	**270**	*e*P	Pn	03 18 00.1	+2.5
SDLR				*i* S	Sn	03 18 26.3	+3.6
UGLR	**Uglovaya**	**2.17**	**269**	*e*P	Pn	03 18 00.9	+2.8
UGLR				*i* S	Sn	03 18 27.4	+3.7
AVH	**Avacha**	**2.22**	**270**	*e*P	Pn	03 18 01.5	+2.7
AVH				*i* S	Sn	03 18 28.7	+3.8
KOK	**Koryaka**	**2.28**	**271**	*e*P	Pn	03 18 02.2	+2.6
KOK				*i* S	Sn	03 18 29.9	+3.5
PET	**Petropavlovsk**	**2.29**	**264**	*e*P	Pn	03 18 02.5	+2.7
PET				*e*S	Sn	03 18 30.2	+3.4
RUS	**Russkaya**	**2.54**	**251**	*e*P	Pn	03 18 04.8	+1.6
RUS				*i* S	Sn	03 18 34.5	+1.7
GNL	**Ganaly**	**2.71**	**280**	*e*P	Pn	03 18 08.9	+3.4
KBTR	**Krutoberegovo**	**2.90**	**4**	*e*P	Pn	03 18 08.9	+0.7
MIPR	**Malaya Ipel'ka**	**3.60**	**255**	*e*P	Pn	03 18 21.0	+3.2

*ATH **27** 03:26:09.5, 40°.91N×22°.34E, h17km±1km, MD3.0/6*
*ISCJB **27** 03:26:11.1±0.4, 40°.81N±0°.03×22°.42E±0°.03, h11km±4km, Error ellipse: s-maj=4.3km s-min=3.7km az=158.8*
*THE **27** 03:26:11.6, 40°.80N×22°.43E, h14km±1km, ML2.0/8, Error ellipse: s-maj=1.4km s-min=0.8km az=289.0*
*CSEM **27** 03:26:11.6±0.3, 40°.82N×22°.44E, h19km, ML2.0/8, Error ellipse: s-maj=7.5km s-min=4.4km az=137.0*

ISC 27 03:26:11.7±0.4, 40°.81N±0°.03×22°.42E±0°.03, h13km±4km, n36, σ0°70/62, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRG	**Griva**	**0.14**	**355**	P	**Pg**	**03 26 15.6**	**+0.3**
GRG				S	**Sg**	**03 26 18.6**	**+0.7**
GRG	**Griva**	**0.14**	**355**	P	**Pg**	**03 26 15.6**	**+0.3**
GRG				S	**Sg**	**03 26 18.6**	**+0.7**
THE	**Thessaloniki**	**0.45**	**113**	P	**Pg**	**03 26 19.8**	**-0.8**
THE				S	**Sg**	**03 26 27.2**	**+0.6**
THE	**Thessaloniki**	**0.45**	**113**	P	**Pg**	**03 26 19.8**	**-0.8**
THE				S	**Sg**	**03 26 27.2**	**+0.6**
KNT	**Kendrikon**	**0.50**	**46**	P	**Pg**	**03 26 21.6**	**0.0**
KNT				S	**Sg**	**03 26 28.7**	**+0.4**
KNT	**Kendrikon**	**0.50**	**46**	P	**Pg**	**03 26 21.6**	**0.0**
KNT				S	**Sg**	**03 26 28.7**	**+0.4**
HORT	**Hortiatis**	**0.56**	**112**	P	**Pg**	**03 26 22.0**	**-0.6**
HORT				S	**Sg**	**03 26 31.0**	**+1.0**
HORT	**Hortiatis**	**0.56**	**112**	P	**Pg**	**03 26 22.0**	**-0.6**
HORT				S	**Sg**	**03 26 31.0**	**+1.0**
KZN	**Kozani**	**0.71**	**225**	*e*PN	**Pg**	**03 26 23.5**	**-1.9**
KZN				*e*SN	**Sg**	**03 26 34.6**	**-0.1**
KZN	**Kozani**	**0.71**	**225**	P	**Pg**	**03 26 25.3**	**-0.1**
KZN				S	**Sg**	**03 26 34.6**	**-0.1**
KZN	**Kozani**	**0.71**	**225**	*e*Pn	**Pg**	**03 26 23.5**	**-1.9**
KZN	**Kozani**	**0.71**	**225**	P	**Pg**	**03 26 25.3**	**-0.1**
KZN				S	**Sg**	**03 26 34.6**	**-0.1**
SOH	**Sokhos**	**0.71**	**89**	*e*PN	**Pg**	**03 26 24.7**	**-0.7**
SOH				*e*SN	**Sg**	**03 26 35.0**	**+0.2**
SOH	**Sokhos**	**0.71**	**89**	P	**Pg**	**03 26 24.6**	**-0.8**
SOH				S	**Sg**	**03 26 35.1**	**+0.3**
SOH	**Sokhos**	**0.71**	**89**	P	**Pg**	**03 26 24.6**	**-0.8**
SOH				*e*Sn	**Sg**	**03 26 35.0**	**+0.2**
LIT	**Litokhoron**	**0.71**	**176**	P	**Pg**	**03 26 24.9**	**-0.6**
LIT				S	**Sg**	**03 26 35.0**	**+0.1**
LIT	**Litokhoron**	**0.71**	**176**	P	**Pg**	**03 26 24.9**	**-0.6**
LIT				S	**Sg**	**03 26 35.0**	**+0.1**
PLG	**Polygyros**	**0.90**	**119**	*e*PN	**Pg**	**03 26 28.0**	**-1.0**
PLG				*e*SN	**Sg**	**03 26 41.7**	**+1.0**
PLG	**Polygyros**	**0.90**	**119**	P	**Pg**	**03 26 27.4**	**-1.6**
PLG				S	**Sg**	**03 26 41.8**	**+1.1**
PLG	**Polygyros**	**0.90**	**119**	P	**Pg**	**03 26 27.4**	**-1.6**
PLG	**Polygyros**	**0.90**	**119**	*e*Pn	**Pg**	**03 26 28.0**	**-1.0**
PLG				*e*Sn	**Sg**	**03 26 41.7**	**+1.0**
SRS	**Serrai**	**0.94**	**71**	P	**Pg**	**03 26 28.8**	**-1.0**
SRS				S	**Sg**	**03 26 41.7**	**-0.4**
SRS	**Serrai**	**0.94**	**71**	P	**Pg**	**03 26 28.8**	**-1.0**
SRS				S	**Sg**	**03 26 41.7**	**-0.4**
KRUS	**Krusevo**	**1.04**	**303**	*i* Pg	**Pg**	**03 26 31.5**	**-0.3**
KRUS				*i* Sg	**Sg**	**03 26 45.9**	**+0.4**
NVR	**Nevrokopi**	**1.22**	**63**	*e*PN	**Pn**	**03 26 32.9**	**-1.4**
NVR				*e*SN	**Sn**	**03 26 50.1**	**-0.5**
NVR	**Nevrokopi**	**1.22**	**63**	P	**Pn**	**03 26 34.3**	**0.0**
NVR				S	**Sb**	**03 26 50.4**	**+0.3**
NVR	**Nevrokopi**	**1.22**	**63**	*e*Pn	**Pn**	**03 26 32.9**	**-1.4**
NVR	**Nevrokopi**	**1.22**	**63**	P	**Pn**	**03 26 34.3**	**0.0**
NVR				*e*Sn	**Sn**	**03 26 50.1**	**-0.5**
NVR				S	**Sb**	**03 26 50.4**	**+0.3**
THL	**Klokotos Trika**	**1.28**	**194**	*e*PN	**Pn**	**03 26 35.3**	**+0.1**
THL	**Klokotos Trika**	**1.28**	**194**	*e*Pn	**Pn**	**03 26 35.3**	**+0.1**
AGG	**Agios Georgios**	**1.79**	**182**	*e*PN	**Pn**	**03 26 43.2**	**+1.0**
AGG	**Agios Georgios**	**1.79**	**182**	*e*Pn	**Pn**	**03 26 43.2**	**+1.0**
EVR	**Evrytania**	**1.95**	**194**	*e*PN	**Pn**	**03 26 45.3**	**+0.9**
EVR	**Evrytania**	**1.95**	**194**	*e*Pn	**Pn**	**03 26 45.3**	**+0.9**
ALN	**Alexandroupoli**	**2.75**	**87**	*e*PN	**Pn**	**03 26 56.0**	**+0.6**
ALN	**Alexandroupoli**	**2.75**	**87**	*e*Pn	**Pn**	**03 26 56.0**	**+0.6**

IDC 27 03:30:44.8±3.1, 30°.56S×178°.41W, h0km, mb3.9/2, mb1 4.0/3, mb1mx3.7/14, mbtmp3.9/3, ML3.3/1, Error ellipse: s-maj=70.7km s-min=36.7km az=109.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.52**	**205**	Pn	Pn	03 32 49.2	-0.3
	0.3nm,0.3s,baz=330,slow=18,SNR=3.2						
URZ				Sn	Sn	03 34 26.7	+0.4
	0.4nm,0.3s,baz=77,slow=14,SNR=5.8						
STKA	**Stephens Creek**	**34.10**	**257**	P	P	03 37 32.1	+0.9
	0.8nm,0.5s,baz=96,slow=10,SNR=4.1						
WRA	**Warramunga Arr**	**43.75**	**273**	P	P	03 38 51.6	-0.6
	0.5nm,0.3s,baz=110,slow=8.1,SNR=15						
FINES	**FINESS Array B**	**145.18**	**340**	PKPbc	PKPbc	03 50 22.4	-0.8
	4.7nm,1.1s,baz=50,slow=4.3,SNR=5.3						

*NIED **27** 03:30:00, 47°.10N×153°.00E, h35km, Mw4.2 Best double couple: M0 2.11000×10^15 NP1:φs312.00000°, δ80.00000°, λ33.00000°. NP2:φs216.00000°, δ58.00000°, λ168.00000°.*
*MOS **27** 03:30:47.8±1.0, 47°.19N×152°.61E, h40km, mb4.2/18, Error ellipse: s-maj=13.5km s-min=9.2km az=66.0*
*SKHL **27** 03:30:50.1±1.5, 46°.77N×153°.03E, h76km±13km, mb4.9/3*
*ISCJB **27** 03:30:50.2±0.8, 47°.08N±0°.07×152°.74E±0°.09, h66km±6km, mb4.2/34, Error ellipse: s-maj=14.7km s-min=4.9km az=140.6*
*NEIC **27** 03:30:52.4±0.8, 47°.02N×152°.74E, h73km±6km, mb4.4/3, Error ellipse: s-maj=11.5km s-min=5.6km az=146.0*
*BJI **27** 03:30:53.3, 47°.00N×152°.50E, h59km, mB4.7/5, mb4.5/7, Ms4.3/2, Ms7 4.0/1*
*IDC **27** 03:30:53.1±2.5, 47°.05N×152°.65E, h77km±22km, mb3.8/24, mb1 4.0/27, mb1mx3.9/32, mbtmp3.8/27, MS3.4/9, Ms1 3.4/9, ms1mx3.1/48, Error ellipse: s-maj=15.9km s-min=11.1km az=153.0*

ISC 27 03:30:52.0±0.7, 47°.06N±0°.07×152°.78E±0°.09, h66km±5km, n133, σ1°01/141, mb4.2/34, 6C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.87**	**244**	*e*PN	**Pn**	**03 31 49.0**	**0.0**
KUR				*e*S	**Sn**	**03 32 35.5**	**+2.4**
KUR				pmax	pmax		
	comp=Z,110nm,0.5s						
KUR				smax			
	comp=N,680nm,0.5s						
KUR				smax			
	comp=E,240nm,0.4s						
KUR	**Kuril'sk**	**3.87**	**244**	*e*P	**Pn**	**03 31 49.0**	**0.0**
KUR				AMB	AMB	03 31 49.0	
	comp=E,110nm,0.5s						
KUR				*e*S	**Sn**	**03 32 36.0**	**+2.9**
KUR				A		03 32 46.0	
	comp=E,680nm,0.5s						
KUR				A		03 32 46.0	
	comp=E,240nm,0.4s						
SKR	**Severo-Kuril's**	**4.25**	**30**	*e*PN	**Pn**	**03 31 54.0**	**-0.1**
SKR				*e*S	**Sn**	**03 32 40.9**	**-1.5**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,180nm,0.3s						
SKR				smax			
	comp=E,150nm,0.3s						
SKR				smax			
	comp=Z,80nm,0.5s						
SKR	**Severo-Kuril's**	**4.25**	**30**	*e*P	**Pn**	**03 31 54.0**	**-0.1**
SKR				AMB	AMB	03 31 55.0	
	comp=Z,80nm,0.5s						
SKR				*e*S	**Sn**	**03 32 40.9**	**-1.5**
SKR				A		03 32 48.3	
	comp=Z,180nm,0.3s						
SKR				A		03 32 48.3	
	comp=Z,150nm,0.3s						
SKR				A		03 32 48.3	
	comp=Z,80nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.72**	**241**	*i* PN	**Pn**	**03 32 12.9**	**-1.4**
YUK				*i* S	**Sn**	**03 33 18.0**	**-0.5**
YUK				pmax	pmax		
	comp=E,69nm,0.3s						
YUK				pmax	pmax		
	comp=N,96nm,0.4s						
YUK				pmax	pmax		
	comp=Z,182nm,0.4s						
YUK				pmax	pmax		
	comp=Z,759nm,1.6s						
YUK				smax			
	comp=N,1μm,1.9s						
YUK				smax			
	comp=E,1μm,1.9s						
YUK				smax			
	comp=N,129nm,0.7s						
YUK				smax			
	comp=E,478nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**5.72**	**241**	*i* P	**Pn**	**03 32 14.7**	**+0.4**
YUK				AMB	AMB	03 32 14.7	
	comp=E,160nm,0.3s						
YUK				AMB	AMB	03 32 14.7	
	comp=E,180nm,0.5s						
YUK				AMB	AMB	03 32 14.7	
	comp=E,200nm,0.5s						
YUK				*i* S	**Sn**	**03 33 18.0**	**-0.5**
YUK				A		03 33 37.8	
	comp=E,2μm,1.0s						
YUK				A		03 33 37.8	
	comp=E,2μm,1.0s						
YUK				A		03 33 38.8	
	comp=E,630nm,0.7s						
YUK				A		03 33 38.8	
	comp=E,420nm,0.5s						
YUK				AMS	AMS	03 34 04.5	
	comp=E,302nm,20.0s						
PEA0B	**Petropavlovsk-**	**6.84**	**26**	*e*Pn	**Pn**	**03 32 30.4**	**+0.9**
PETK	**Petropavlovsk-**	**6.84**	**26**	P	**Pn**	**03 32 30.8**	**+1.3**
	comp=E,1.2nm,0.3s,baz=189,slow=14,SNR=7.0						
PETK				S	**Sn**	**03 33 55.7**	**+10**
	comp=E,0.3nm,0.3s,baz=132,slow=15,SNR=2.6						
PETK				LR	LR	03 35 18.1	
	comp=E,92nm,18.9s,baz=8.6,slow=38						
PETK	**Petropavlovsk-**	**6.84**	**26**	P	**Pn**	**03 32 30.8**	**+1.3**
PETK				S	**Sn**	**03 33 55.7**	**+10**
PETK	**Petropavlovsk-**	**6.84**	**26**	PN	**Pn**	**03 32 30.8**	**+1.3**
PETK				S	**Sn**	**03 33 55.7**	**+10**
PETK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
YSS	**Yuzh-Sakhalins**	**6.85**	**273**	*e*Pn	**Pn**	**03 32 29.8**	**0.0**
YSS	**Yuzh-Sakhalins**	**6.85**	**273**	*e*PN	**Pn**	**03 32 32.0**	**+2.2**
YSS	**Yuzh-Sakhalins**	**6.85**	**273**	*e*P	**Pn**	**03 32 32.0**	**+2.2**
ASAJ	**Asahikawa**	**7.72**	**251**	P	**Pn**	**03 32 43.3**	**+1.6**
	comp=Z,3.4nm,0.3s,baz=69,slow=11,SNR=11						
ASAJ				LR	LR	03 35 17.5	
	comp=Z,202nm,20.3s,baz=340,slow=35						
ASAJ	**Asahikawa**	**7.72**	**251**	P	**Pn**	**03 32 43.3**	**+1.6**
ASAJ	**Asahikawa**	**7.72**	**251**	PN	**Pn**	**03 32 43.3**	**+1.6**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ERM	**Erimo**	**8.52**	**237**	*e*Pn	**Pn**	**03 32 52.1**	**-0.4**
ERM				*e*S	**Sn**	**03 34 25.1**	**-1.9**
ERM	**Erimo**	**8.52**	**237**	*e*PN	**Pn**	**03 32 49.3**	**-3.3**
ERM	**Erimo**	**8.52**	**237**	*e*P	**Pn**	**03 32 49.3**	**-3.3**
FX1	**Attu Island--F**	**14.34**	**59**	P	**Pn**	**03 34 09.9**	**-1.4**
	comp=Z,7.6nm,0.3s,baz=51,slow=9.4,SNR=14						
FX1				S	**Sn**	**03 36 37.9**	**-11**
	comp=Z,2.4nm,0.3s,baz=278,slow=2.1,SNR=4.8						
FX1	**Attu Island--F**	**14.34**	**59**	P	**Pn**	**03 34 09.9**	**-1.4**
FX1				S	**Sn**	**03 36 37.9**	**-11**
FX1	**Attu Island--F**	**14.34**	**59**	P	**Pn**	**03 34 09.9**	**-1.4**
FX1				pmax	pmax		
	comp=Z,8.0nm,0.3s						
MJA0	**Matsu Arr-Jizo**	**15.06**	**231**	*e*Pn	**Pn**	**03 34 20.9**	**0.0**
MJAR	**Matsushiro Arr**	**15.09**	**231**	P	**Pn**	**03 34 19.5**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=32,slow=9.9,SNR=4.5						
MJAR				LR	LR	03 39 41.2	
	comp=Z,67nm,19.3s,baz=230,slow=35						
MJAR	**Matsushiro Arr**	**15.09**	**231**	P	**Pn**	**03 34 19.5**	**-1.7**
MJAR	**Matsushiro Arr**	**15.09**	**231**	P	**Pn**	**03 34 19.5**	**-1.7**
KSRS	**Korea Array**	**20.67**	**251**	P	**P**	**03 35 27.2**	**+0.8**
	comp=Z,2.9nm,0.5s,baz=61,slow=9.7,SNR=11						
KSRS				LR	LR	03 42 28.2	
	comp=Z,46nm,19.6s,baz=168,slow=34						
KSRS	**Korea Array**	**20.67**	**251**	P	**P**	**03 35 27.2**	**+0.8**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.5s						
KSAR	**Wonju Array Be**	**20.70**	**251**	P	**P**	**03 35 27.2**	**+0.5**
KSAR	**Wonju Array Be**	**20.70**	**251**	P	**P**	**03 35 27.2**	**+0.5**
HHC	**Hu-ho-hao-te**	**30.04**	**273**	*e*P	**P**	**03 36 53.3**	**-1.3**
HHC				pP	pP	03 37 10.5	0.0
HHC				sP	sP	03 37 20.0	+1.8
HHC				PP	PP	03 37 52.5	-11
HHC				PcP	PcP	03 39 55.0	0.0
HHC				S	**S**	**03 41 43.0**	**-5.0**
HHC				SS	SS	03 43 23.5	-34
HHC				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.6						
HHC				pmax	pmax		
	comp=Z,78nm,6.1s						
HHC				LR	LR		
	comp=N,160nm,8.4s						
HHC				LR	LR		
	comp=E,230nm,7.8s						
HHC				LR	LR		
	comp=Z,150nm,9.5s						
SONM	**Songino Array**	**31.02**	**289**	P	**P**	**03 37 01.2**	**-1.9**
	comp=Z,0.3nm,0.6s,mb3.2,baz=56,slow=7.8,SNR=3.0						
SONM				LR	LR	03 50 15.7	
	comp=Z,102nm,21.1s,baz=188,slow=38						
SONM	**Songino Array**	**31.02**	**289**	P	**P**	**03 37 01.2**	**-1.9**
SONM	**Songino Array**	**31.02**	**289**	P	**P**	**03 37 01.2**	**-1.9**
SONM				MLR	MLR		
	comp=Z,102nm,21.1s						
COLA	**College**	**36.04**	**39**	*e*P	**P**	**03 37 47.4**	**+0.9**
	comp=Z,2.8nm,0.5s,mb4.5						
COLA	**College**	**36.04**	**39**	*e*P	**P**	**03 37 47.4**	**+0.9**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
ILAR	**Eielson Array**	**36.45**	**39**	P	**P**	**03 37 50.2**	**+0.2**
	comp=Z,1.0nm,0.7s,mb3.9,baz=263,slow=8.9,SNR=19						
ILAR	**Eielson Array**	**36.45**	**39**	P	**P**	**03 37 50.2**	**+0.2**
ILAR	**Eielson Array**	**36.45**	**39**	P	**P**	**03 37 50.2**	**+0.2**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**41.52**	**33**	P	**P**	**03 38 33.1**	**+0.8**
	comp=Z,2.7nm,0.5s,mb4.2,baz=306,slow=6.4,SNR=25						
INK	**Inuvik**	**41.52**	**33**	*e*P	**P**	**03 38 33.2**	**+0.9**
INK	**Inuvik**	**41.52**	**33**	*e*P	**P**	**03 38 33.2**	**+0.9**
ZALV	**Zalesovo Beam**	**42.25**	**305**	P	**P**	**03 38 37.2**	**-1.2**
	comp=Z,0.5nm,0.4s,mb3.6,baz=69,slow=8.0,SNR=3.1						
ZALV				PcP	PcP	03 40 30.7	-0.4
	comp=Z,0.8nm,0.4s,baz=54,slow=2.6,SNR=4.9						
ZALV				LR	LR	03 57 35.1	
	comp=Z,78nm,18.2s,baz=247,slow=38						
ZALV	**Zalesovo Beam**	**42.25**	**305**	P	**P**	**03 38 37.2**	**-1.2**
ZALV				PcP	PcP	03 40 30.7	-0.3
ZALV	**Zalesovo Beam**	**42.25**	**305**	P	**P**	**03 38 37.2**	**-1.2**
ZALV						03 40 30.7	
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
ZALV				MLR	MLR		
	comp=Z,79nm,18.2s						
MKAR	**Makanchi Array**	**46.60**	**297**	P	**P**	**03 39 12.3**	**-0.9**
	comp=Z,0.6nm,0.6s,mb3.5,baz=68,slow=7.4,SNR=8.8						
MKAR				PcP	PcP	03 40 45.9	-0.3
	comp=Z,0.7nm,0.5s,baz=86,slow=1.5,SNR=12						
MKAR				LR	LR	04 00 00.2	
	comp=Z,92nm,19.4s,baz=356,slow=38						
MKAR	**Makanchi Array**	**46.60**	**297**	P	**P**	**03 39 12.3**	**-0.9**
MKAR				PcP	PcP	03 40 45.9	-0.3
MKAR	**Makanchi Array**	**46.60**	**297**	*e*P	**P**	**03 39 12.2**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**47.00**	**303**	P	**P**	**03 39 14.7**	**-1.6**
	comp=Z,0.8nm,0.5s,mb3.7,baz=70,slow=8.6,SNR=8.8						
KURK				PcP	PcP	03 40 47.7	+0.2
	comp=Z,0.6nm,0.8s,baz=67,slow=3.3,SNR=4.4						
KURK				LR	LR	04 00 29.7	
	comp=Z,43nm,20.1s,baz=50,slow=38						
KURK	**Kurchatov**	**47.00**	**303**	P	**P**	**03 39 14.7**	**-1.6**
KURK				PcP	PcP	03 40 47.7	+0.2
KURK	**Kurchatov**	**47.00**	**303**	P	**P**	**03 39 14.7**	**-1.6**
KURK						03 40 47.7	
KURK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
KURK				MLR	MLR		
	comp=Z,43nm,20.1s						
BVAR	**Borovoye Array**	**50.49**	**309**	P	**P**	**03 39 42.6**	**-0.3**
	comp=Z,0.7nm,0.4s,mb4.0,baz=64,slow=6.6,SNR=5.5						
BVAR				PcP	PcP	03 40 59.6	-0.4
	comp=Z,1.6nm,0.4s,baz=86,slow=3.7,SNR=9.4						
BVAR	**Borovoye Array**	**50.49**	**309**	P	**P**	**03 39 42.6**	**-0.3**
BVAR				PcP	PcP	03 40 59.6	-0.4
BVAR	**Borovoye Array**	**50.49**	**309**	P	**P**	**03 39 42.6**	**-0.3**
BVAR						03 40 59.6	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	**Yellowknife Ar**	**50.82**	**37**	P	**P**	**03 39 46.0**	**+0.7**
	comp=Z,0.7nm,0.5s,mb4.0,baz=300,slow=7.1,SNR=6.2						
YKA				PcP	PcP	03 41 00.7	-0.4
	comp=Z,0.6nm,0.6s,baz=302,slow=3.7,SNR=4.9						
YKA	**Yellowknife Ar**	**50.82**	**37**	P	**P**	**03 39 46.0**	**+0.7**
YKA				PcP	PcP	03 41 00.7	-0.4
YKA	**Yellowknife Ar**	**50.82**	**37**	P	**P**	**03 39 46.0**	**+0.7**
YKA						03 41 00.7	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**52.22**	**256**	P	**P**	**03 39 57.0**	**+0.7**
	comp=Z,1.7nm,0.6s,mb4.3,baz=39,slow=7.8,SNR=7.9						
CMAR	**Chiang Mai Arr**	**52.22**	**256**	P	**P**	**03 39 57.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**52.22**	**256**	P	**P**	**03 39 57.0**	**+0.7**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TAPN	**Taplejung**	**53.85**	**273**	*e*P	**P**	**03 40 09.3**	**+1.1**
	comp=Z,4.8nm,0.4s,mb4.9						
ODAN	**Odare**	**54.38**	**273**	*e*P	**P**	**03 40 13.5**	**+1.4**
	comp=Z,5.4nm,0.4s,mb4.9						
JIRN	**Jiri**	**54.69**	**274**	*e*P	**P**	**03 40 15.0**	**+0.7**
GUN	**Gumba**	**54.74**	**275**	*e*P	**P**	**03 40 15.1**	**+0.4**
RAMN	**Ramite**	**54.87**	**273**	*e*P	**P**	**03 40 15.8**	**+0.2**
	comp=Z,15nm,0.5s,mb5.3						
DMN	**Daman**	**55.46**	**275**	*e*P	**P**	**03 40 20.9**	**+1.0**
GKN	**Gorkha**	**55.53**	**276**	*e*P	**P**	**03 40 20.6**	**+0.2**
	comp=Z,10nm,0.5s,mb5.1						
DANN	**Dangsing**	**55.91**	**276**	*e*P	**P**	**03 40 23.8**	**+0.7**
	comp=Z,11nm,0.5s,mb5.1						
KOLN	**Koldanda**	**56.39**	**276**	*e*P	**P**	**03 40 27.0**	**+0.5**
PYUN	**Piuthan**	**56.59**	**277**	*e*P	**P**	**03 40 29.4**	**+1.5**
ARCES	**ARCESS Array B**	**57.49**	**341**	P	**P**	**03 40 33.8**	**+0.2**
	comp=Z,2.8nm,0.8s,mb4.3,baz=27,slow=7.0,SNR=6.5						
ARCES	**ARCESS Array B**	**57.49**	**341**	P	**P**	**03 40 33.8**	**+0.2**
ARCES	**ARCESS Array B**	**57.49**	**341**	P	**P**	**03 40 33.8**	**+0.1**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ABKAR	**Akbulak array**	**58.05**	**310**	*e*P	**P**	**03 40 37.2**	**-0.7**
	comp=Z,0.7nm,0.4s,mb4.0						
JOF	**Joensuu**	**60.96**	**333**	*e*P	**P**	**03 40 57.6**	**-0.1**
JOF	**Joensuu**	**60.96**	**333**	*e*p	**P**	**03 40 57.6**	**-0.1**
	comp=Z,0.3nm,0.3s,mb3.8						
NVAR	**Mina Array Bea**	**62.50**	**62**	P	**P**	**03 41 09.6**	**+1.2**
	comp=Z,0.6nm,0.5s,mb3.9,baz=304,slow=6.4,SNR=6.3						
NVAR	**Mina Array Bea**	**62.50**	**62**	P	**P**	**03 41 09.6**	**+1.2**
KAF	**Kangasniemi**	**63.07**	**335**	*e*P	**P**	**03 41 10.5**	**-1.3**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
KAF	**Kangasniemi**	**63.07**	**335**	*e*p	**P**	**03 41 10.5**	**-1.3**
	comp=Z,1.6nm,0.5s,mb4.2						
FINES	**FINESS Array B**	**63.67**	**335**	P	**P**	**03 41 15

MLR	**Muntele Rosu**	**76.68**	**325**	P	**P**	**03 42 36.2**	**+0.6**
MLR	**Muntele Rosu**	**76.68**	**325**	P	**P**	**03 42 36.2**	**+0.6**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MLR	**Muntele Rosu**	**76.68**	**325** ⇑ *iP*		**P**	**03 42 36.7**	**+1.1**
VRAC	**Vranov**	**76.77**	**332**	P	**P**	**03 42 36.5**	**+0.5**
	comp=Z,0.8nm,0.4s,mb3.8,baz=72,slow=3.0,SNR=3.6						
VRAC	**Vranov**	**76.77**	**332**	P	**P**	**03 42 36.5**	**+0.5**
VRAC	**Vranov**	**76.77**	**332**	P	**P**	**03 42 36.5**	**+0.4**
VRAC				pmax	pmax		
	comp=Z,1.0nm,0.4s						
VRAC	**Vranov**	**76.77**	**332** ⇑ *iP*		**P**	**03 42 36.4**	**+0.3**
TXAR	**Lajitas Array**	**77.54**	**60**	P	**P**	**03 42 40.9**	**+0.2**
	comp=Z,1.0nm,0.4s,mb3.9,baz=300,slow=4.9,SNR=32						
TXAR	**Lajitas Array**	**77.54**	**60**	P	**P**	**03 42 40.9**	**+0.2**
TXAR	**Lajitas Array**	**77.54**	**60**	P	**P**	**03 42 40.9**	**+0.2**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BRTR	**Keskin Array B**	**78.01**	**316**	P	**P**	**03 42 43.8**	**+0.7**
	comp=Z,0.9nm,0.8s,mb3.5,baz=66,slow=3.1,SNR=5.7						
BRTR	**Keskin Array B**	**78.01**	**316**	P	**P**	**03 42 43.8**	**+0.7**
BRTR	**Keskin Array B**	**78.01**	**316**	*eP*	**P**	**03 42 43.8**	**+0.7**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	**GERESS Array B**	**78.08**	**334**	P	**P**	**03 42 43.2**	**-0.2**
	comp=Z,0.6nm,0.4s,mb3.6,baz=31,slow=6.1,SNR=8.4						
GERES	**GERESS Array B**	**78.08**	**334**	P	**P**	**03 42 43.2**	**-0.2**
GERES	**GERESS Array B**	**78.08**	**334**	P	**P**	**03 42 43.2**	**-0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TORD	**Torodi Ar. Bea**	**114.71**	**329**	PKP	PKiKP	03 49 23.5	-1.7
	comp=Z,0.1nm,0.4s,baz=36,slow=2.3,SNR=4.2						
TORD	**Torodi Ar. Bea**	**114.71**	**329**	PKP	PKiKP	03 49 23.5	-1.7
CPUP	**Villa Florida**	**148.51**	**60**	PKPbc	PKPbc	03 50 30.6	-0.5
	comp=Z,1.0nm,0.5s,baz=354,slow=2.3,SNR=5.5						
CPUP	**Villa Florida**	**148.51**	**60**	PKPbc	PKPbc	03 50 30.6	-0.5

BEO **27** *03:51:35.0±0.8, 43.°12N×17.°20E, h0km, ML3.1/8*
ISCJB **27** *03:51:38.6±0.4, 43.°23N±0.°03×17.°57E±0.°03, h10km, Error ellipse: s-maj=5.0km s-min=2.9km az=29.1*
CSEM **27** *03:51:38.6±0.2, 43.°24N×17.°58E, h2km, Ms3.5, Error ellipse: s-maj=6.3km s-min=3.4km az=39.0*
VIE **27** *03:51:40.7±0.6, 43.°28N×17.°45E, h10km, mb3.0/5, ML3.5/4, Ms3.5/1, Error ellipse: s-maj=6.2km s-min=4.0km az=126.0 84 km ESE of Split*
PRU **27** *03:51:46.6, 43.°98N×17.°93E, h0km*

ISC 27 03:51:39.7±0.9, 43°21N±0.°04×17°57E±0.°04, h11km±8km, n52, σ0§84/68, 3C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STON	**Ston**	**0.35**	**164**	*i*	Pg	**Pg**	**03 51 45.0**	**-1.6**
STON					Sg	**Sg**	**03 51 52.0**	**+0.6**
STON	**Ston**	**0.35**	**164**	*i*	Pg	**Pg**	**03 51 45.0**	**-1.7**
STON					Sg	**Sg**	**03 51 52.0**	**+0.6**
PDG	**Podgorica**	**1.47**	**122**	*eP*	**n**	**Pn**	**03 52 05.7**	**-0.4**
PDG					*eSn*	**Sg**	**03 52 27.8**	**+0.9**
PDG	**Podgorica**	**1.47**	**122**	*eP*	**n**	**Pn**	**03 52 05.7**	**-0.4**
PDG					*eSn*	**Sg**	**03 52 27.8**	**+0.9**
BBLS	**Lazići**	**1.49**	**63**	⇓	*iPn*	**Pn**	**03 52 05.4**	**-0.9**
BBLS					*eSn*	**Sg**	**03 52 29.5**	**+2.0**
BBLS	**Lazići**	**1.49**	**63**	⇓	*iPn*	**Pn**	**03 52 05.4**	**-0.9**
BLY	**Banja Luka**	**1.56**	**350**	*eP*	**n**	**Pn**	**03 52 05.8**	**-1.6**
BLY					*eSn*	**Sn**	**03 52 28.1**	**+0.5**
BLY	**Banja Luka**	**1.56**	**350**	*eP*	**n**	**Pn**	**03 52 05.8**	**-1.6**
BLY					*eSn*	**Sn**	**03 52 28.1**	**+0.5**
SJES	**Sjenica**	**1.76**	**88**	*eP*	**n**	**Pn**	**03 52 10.5**	**+0.4**
SJES					*eSn*	**Sg**	**03 52 37.4**	**+1.2**
IVAS	**Ivanjica**	**1.92**	**78**	*eP*	**n**	**Pn**	**03 52 12.7**	**+0.4**
IVAS					*eSn*	**Sg**	**03 52 40.6**	**-0.7**
IVAS	**Ivanjica**	**1.92**	**78**	*eP*	**n**	**Pn**	**03 52 12.7**	**+0.4**
DIVS	**Divibare**	**1.97**	**62**	*eP*	**n**	**Pn**	**03 52 13.0**	**0.0**
DIVS					*eSn*	**Sg**	**03 52 41.7**	**-1.2**
DIVS	**Divibare**	**1.97**	**62**	*eP*	**n**	**Pn**	**03 52 13.0**	**0.0**
TRUS	**Trudelj**	**2.29**	**63**	*eP*	**n**	**Pn**	**03 52 16.2**	**-1.2**
TRUS	**Trudelj**	**2.29**	**63**	*eP*	**n**	**Pn**	**03 52 16.2**	**-1.2**
NVLJ	**Novalja**	**2.37**	**306**	*i*	Pn	**Pn**	**03 52 18.6**	**+0.1**
NVLJ					Sn	**Sn**	**03 52 48.3**	**+0.7**
NVLJ	**Novalja**	**2.37**	**306**	*i*	Pn	**Pn**	**03 52 18.6**	**+0.1**
NVLJ					Sn	**Sn**	**03 52 48.2**	**+0.6**
GRUS	**Gruza**	**2.39**	**72**	*eP*	**n**	**Pn**	**03 52 19.0**	**+0.3**
GRUS	**Gruza**	**2.39**	**72**	*eP*	**n**	**Pn**	**03 52 19.0**	**+0.3**
SISC	**Sisak**	**2.42**	**340**	*eP*	**n**	**Pn**	**03 52 18.4**	**-0.7**
SISC					Sn	**Sn**	**03 52 48.2**	**-0.4**
SISC	**Sisak**	**2.42**	**340**	*eP*	**n**	**Pn**	**03 52 18.3**	**-0.8**
SISC					Sn	**Sn**	**03 52 48.2**	**-0.5**
FGSL	**Fruska Gora**	**2.53**	**39**	*eP*	**n**	**Pn**	**03 52 20.4**	**-0.2**
FRGS	**Fruska Gora**	**2.53**	**39**	*eP*	**n**	**Pn**	**03 52 20.4**	**-0.2**
BOJS	**Bojanci**	**2.83**	**325**	*i*	Pn	**Pn**	**03 52 25.1**	**+0.3**
BOJS	**Bojanci**	**2.83**	**325**	*i*	Pn	**Pn**	**03 52 25.1**	**+0.3**
CRES	**Cresnjev**	**3.02**	**331**	*i*	Pn	**Pn**	**03 52 27.4**	**0.0**
CRES	**Cresnjev**	**3.02**	**331**	*i*	Pn	**Pn**	**03 52 27.4**	**0.0**
PKSM	**Moragy**	**3.10**	**14**	*eP*	**n**	**Pn**	**03 52 27.0**	**-1.4**
PKSM	**Moragy**	**3.10**	**14**	*eP*	**n**	**Pn**	**03 52 27.0**	**-1.4**
CEY	**Cerknica**	**3.38**	**319**	*i*	Pn	**Pn**	**03 52 33.1**	**+0.8**
CEY	**Cerknica**	**3.38**	**319**	*i*	Pn	**Pn**	**03 52 33.2**	**+0.8**
PDKS	**Podkum**	**3.39**	**328**	*i*	Pn	**Pn**	**03 52 32.5**	**+0.1**
PDKS	**Podkum**	**3.39**	**328**	*i*	Pn	**Pn**	**03 52 32.5**	**0.0**
VOY	**Vojsko**	**3.85**	**318**	*eP*	**n**	**Pn**	**03 52 38.8**	**0.0**
VOY					*eSn*	**Sn**	**03 53 25.3**	**+1.3**
VOY	**Vojsko**	**3.85**	**318**	*eP*	**n**	**Pn**	**03 52 38.8**	**0.0**
VOY					*eSn*	**Sn**	**03 53 25.3**	**+1.3**
SOKA	**Soboth**	**3.91**	**333**	⇑	*iPn*	**Pn**	**03 52 39.4**	**-0.1**
SOKA	**Soboth**	**3.91**	**333**		Pn	**Pn**	**03 52 39.4**	**-0.2**
OBKA	**Obir**	**3.93**	**328**	⇓	*iPn*	**Pn**	**03 52 40.0**	**+0.1**
OBKA	**Obir**	**3.93**	**328**		Pn	**Pn**	**03 52 40.0**	**+0.1**
PKSG		**4.22**	**8**	*eP*	**n**	**Pn**	**03 52 45.6**	**+1.7**
ARSA	**Arzberg**	**4.29**	**341**	⇓	*iPn*	**Pn**	**03 52 43.9**	**-0.9**
ARSA	**Arzberg**	**4.29**	**341**		Pn	**Pn**	**03 52 43.9**	**-0.9**
SOP	**Sopron**	**4.53**	**351**	*e*		**Pn**	**03 52 52.2**	**+4.1**
SOP	**Sopron**	**4.53**	**351**	*eP*	**n**	**Pn**	**03 52 52.2**	**+4.1**
MOA	**Molln**	**5.18**	**335**	⇑	*iPn*	**Pn**	**03 52 57.3**	**+0.2**
MOA	**Molln**	**5.18**	**335**		Pn	**Pn**	**03 52 57.3**	**+0.2**
WTTA	**Wattenberg**	**5.83**	**316**	⇓	*iPn*	**Pn**	**03 53 06.1**	**+0.2**
WTTA	**Wattenberg**	**5.83**	**316**		Pn	**Pn**	**03 53 06.1**	**+0.2**
MOTA	**Moosalm**	**6.15**	**314**	⇑	*iPn*	**Pn**	**03 53 10.2**	**-0.2**
MOTA	**Moosalm**	**6.15**	**314**		Pn	**Pn**	**03 53 10.2**	**-0.2**
KHC	**Kasperske Hory**	**6.54**	**336**	*eP*	**N**	**Pn**	**03 53 15.8**	**+0.1**
KHC	**Kasperske Hory**	**6.54**	**336**		Pn	**Pn**	**03 53 15.8**	**+0.1**

ISCJB **27** *03:52:25.4±0.4, 43.°21N±0.°01×17.°37E±0.°02, h2km±2km, mb3.4/3, Error ellipse: s-maj=2.8km s-min=1.9km az=135.1*
CSEM **27** *03:52:27.8±0.1, 43.°24N×17.°48E, h2km, Ms3.5, Error ellipse: s-maj=3.9km s-min=2.5km az=43.0*
PDG **27** *03:52:27.9±0.4, 43.°18N×17.°50E, h4km±1km, MD3.5/9, ML3.5/8, Error ellipse: s-maj=0.9km s-min=1.2km az=0.0*
LDG **27** *03:52:27.8±0.1, 43.°14N×17.°48E, h10km, ML3.7/12, Error ellipse: s-maj=5.5km s-min=2.1km az=25.0*
BEO **27** *03:52:27.0±0.6, 43.°28N×17.°45E, h0km, ML3.4/1*
IDC **27** *03:52:28.1±1.1, 43.°23N×17.°65E, h0km, mb3.5/3, mb1 3.7/9, mb1mx3.5/28, mbtmp3.6/9, ML3.2/4, Error ellipse: s-maj=15.8km s-min=12.1km az=58.0*
NEIC **27** *03:52:29.4, 43.°15N×17.°60E, h1km, ML3.5(PDG), After PDG.*
PRU **27** *03:52:29.4, 43.°26N×17.°53E, h0km*
VIE **27** *03:52:29.5±0.5, 43.°35N×17.°67E, h10km, mb3.4/5, ML3.1/4, Ms3.5/1, Error ellipse: s-maj=5.2km s-min=3.6km az=55.0 81 km SW of Sarajevo*
THE **27** *03:52:30.6, 43.°13N×17.°38E, h32km±77km, ML3.2/2, Error ellipse: s-maj=77.1km s-min=2.7km az=0.0*

ISC 27 03:52:26.9±0.4, 43°22N±0.°02×17°42E±0.°02, h0km±3km, n227, σ1§27/335, mb3.5/3, 27C-22D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
STON	**Ston**	**0.40**	**149**	⇓	*iPg*	**Pg**	**03 52 34.7**	**+0.1**
STON					Sg	**Sg**	**03 52 41.4**	**+1.6**
BRY	**Bratogost**	**0.88**	**111**	⇑	*iPg*	**Pg**	**03 52 42.7**	**-1.1**
BRY					*eSg*	**Sg**	**03 52 55.2**	**0.0**
BRY	**Bratogost**	**0.88**	**111**	⇑	*iPg*	**Pg**	**03 52 42.7**	**-1.1**
BRY					*eSg*	**Sg**	**03 52 55.2**	**0.0**
UPM	**Unac-Piva**	**1.09**	**90**	*eP*	**g**	**Pg**	**03 52 46.9**	**-0.9**
UPM					*eSg*	**Sg**	**03 53 02.3**	**+0.4**
UPM	**Unac-Piva**	**1.09**	**90**	*eP*	**g**	**Pg**	**03 52 46.9**	**-0.9**
UPM					*eSg*	**Sg**	**03 53 02.3**	**+0.4**
HCY	**Herceg Novi**	**1.10**	**134**	⇑	*iPg*	**Pg**	**03 52 47.0**	**-1.1**
HCY					*eSg*	**Sg**	**03 53 03.2**	**+0.8**
HCY	**Herceg Novi**	**1.10**	**134**	⇑	*iPg*	**Pg**	**03 52 47.0**	**-1.1**
HCY					*eSg*	**Sg**	**03 53 03.2**	**+0.8**
NKY	**Niksic**	**1.23**	**109**	⇓	*iPg*	**Pn**	**03 52 49.3**	**-2.0**
NKY					*eSg*	**Sg**	**03 53 07.4**	**+1.1**
NKY	**Niksic**	**1.23**	**109**	⇓	*iPg*	**Pn**	**03 52 49.3**	**-2.0**
NKY					*eSg*	**Sg**	**03 53 07.4**	**+1.1**
BUM	**Brajici-Budva**	**1.42**	**130**	⇓	*iPg*	**Pn**	**03 52 52.9**	**-1.1**
BUM					*eSg*	**Sg**	**03 53 14.2**	**+1.6**
BUM	**Brajici-Budva**	**1.42**	**130**	⇓	*iPg*	**Pn**	**03 52 52.9**	**-1.1**
BUM					*eSg*	**Sg**	**03 53 14.2**	**+1.6**
PLE	**Pljevlja**	**1.45**	**85**	⇓	*iPg*	**Pn**	**03 52 53.7**	**-0.6**
PLE					*eSg*	**Sg**	**03 53 14.8**	**+1.5**
PLE	**Pljevlja**	**1.45**	**85**	⇓	*iPg*	**Pn**	**03 52 53.7**	**-0.6**
PLE					*eSg*	**Sg**	**03 53 14.8**	**+1.5**
BLY	**Banja Luka**	**1.54**	**354**	*ePn*		**Pn**	**03 52 55.9**	**+0.3**
BLY					*eSn*	**Sn**	**03 53 16.4**	**+0.1**
BLY	**Banja Luka**	**1.54**	**354**	*ePn*		**Pn**	**03 52 55.9**	**+0.3**
BLY					*eSn*	**Sn**	**03 53 16.4**	**+0.1**
PDG	**Podgorica**	**1.57**	**120**	*ePn*		**Pn**	**03 52 56.3**	**+0.4**
PDG					*eSn*	**Sg**	**03 53 17.8**	**+0.6**
PDG	**Podgorica**	**1.57**	**120**	⇓	*iPg*	**Pg**	**03 52 55.8**	**-1.1**
PDG	**Podgorica**	**1.57**	**120**	*ePn*		**Pn**	**03 52 56.3**	**+0.4**
PDG					*eSn*	**Sg**	**03 53 17.8**	**+0.6**
PDG					*eSg*	**Sg**	**03 53 18.3**	**+1.1**
TTG	**Podgorica**	**1.57**	**120**	⇓	*iPg*	**Pg**	**03 52 55.8**	**-1.1**
TTG					*eSg*	**Sg**	**03 53 18.3**	**+1.1**
BBLS	**Lazići**	**1.58**	**65**	⇑	*iPn*	**Pn**	**03 52 54.9**	**-1.3**
BBLS					*eSn*	**Sn**	**03 53 16.5**	**-0.8**
BBLS	**Lazići**	**1.58**	**65**	⇑	*iPn*	**Pn**	**03 52 54.9**	**-1.3**
BBLS					*eSn*	**Sn**	**03 53 16.5**	**-0.8**
ULC	**Ulcinj**	**1.84**	**132**	⇑	*iPn*	**Pn**	**03 53 00.3**	**+0.6**
ULC					*eSn*	**Sg**	**03 53 26.5**	**+0.4**
ULC	**Ulcinj**	**1.84**	**132**	⇑	*iPn*	**Pn**	**03 53 00.3**	**+0.6**
ULC					*eSn*	**Sg**	**03 53 26.5**	**+0.4**
BEY	**Berane**	**1.85**	**100**	⇑	*iPn*	**Pb**	**03 53 01.2**	**-0.3**
BEY					*eSn*	**Sg**	**03 53 25.8**	**-0.5**
IVA	**Berane**	**1.85**	**100**	⇑	*iPn*	**Pb**	**03 53 01.2**	**-0.3**
IVA					*eSn*	**Sg**	**03 53 25.8**	**-0.5**
SJES	**Sjenica**	**1.86**	**88**	⇑	*iPn*	**Pn**	**03 53 00.6**	**+0.5**
SJES					*eSn*	**Sn**	**03 53 24.2**	**-0.1**
PVY	**Plav**	**1.98**	**108**	⇑	*iPn*	**Pb**	**03 53 02.4**	**-1.3**
PVY					*eSn*	**Sg**	**03 53 29.5**	**-0.9**
PVY	**Plav**	**1.98**	**108**	⇑	*iPn*	**Pb**	**03 53 02.4**	**-1.3**
PVY					*eSn*	**Sg**	**03 53 29.5**	**-0.9**
IVAS	**Ivanjica**	**2.02**	**79**	*ePn*		**Pn**	**03 53 02.5**	**+0.3**
IVAS					*eSn*	**Sn**	**03 53 27.6**	**-0.6**
IVAS	**Ivanjica**	**2.02**	**79**	*ePn*		**Pn**	**03 53 02.5**	**+0.3**
IVAS					*eSn*	**Sn**	**03 53 27.6**	**-0.6**
DIVS	**Divibare**	**2.06**	**64**	*ePn*		**Pn**	**03 53 01.9**	**-0.9**
DIVS					*eSn*	**Sn**	**03 53 29.2**	**0.0**
DIVS	**Divibare**	**2.06**	**64**	P		**Pn**	**03 53 02.4**	**-0.4**
DIVS					S	**Sn**	**03 53 30.0**	**+0.8**
DIVS	**Divibare**	**2.06**	**64**	*ePn*		**Pn**	**03 53 01.9**	**-0.9**
DIVS	**Divibare**	**2.06**	**64**	P		**Pn**	**03 53 02.4**	**-0.4**
DIVS					*eSn*	**Sn**	**03 53 29.2**	**0.0**
DIVS					S	**Sn**	**03 53 30.0**	**+0.8**
BCI	**Bajram Curri**	**2.12**	**113**	*ePn*		**Pb**	**03 53 05.6**	**-0.7**
BCI				*i*	SN	**Sg**	**03 53 34.8**	**-0.4**
BCI	**Bajram Curri**	**2.12**	**113**	*ePn*		**Pb**	**03 53 05.6**	**-0.7**
BCI				*i*	SN	**Sg**	**03 53 34.8**	**-0.4**
BCI	**Bajram Curri**	**2.12**	**113**	*ePn*		**Pb**	**03 53 05.6**	**-0.7**
BCI				*i*	Sn	**Sg**	**03 53 34.8**	**-0.4**
BAI	**Bari**	**2.15**	**191**	*ePn*		**Pn**	**03 53 01.6**	**-2.3**
PUK	**Puka**	**2.17**	**122**	*ePN*		**Pb**	**03 53 06.4**	**-0.4**
PUK				*i*	SN	**Sb**	**03 53 34.4**	**0.0**
PUK	**Puka**	**2.17**	**122**	*ePN*		**Pb**	**03 53 06.6**	**-0.4**
PUK				*i*	SN	**Sb**	**03 53 34.4**	**0.0**
PUK	**Puka**	**2.17**	**122**	*ePN*		**Pb**	**03 53 06.6**	**-0.4**
PUK				*i*	Sn	**Sb**	**03 53 34.4**	**0.0**
NVLJ	**Novalja**	**2.28**	**307**	*ePn*		**Pg**	**03 53 10.0**	**-0.6**
NVLJ					Sn	**Sg**	**03 53 40.5**	**+0.3**
NVLJ	**Novalja**	**2.28**	**307**	*ePn*		**Pg**	**03 53 10.0**	**-0.6**
TRUS	**Trudelj**	**2.39**	**64**	*ePn*		**Pn**	**03 53 06.4**	**-0.8**
TRUS	**Trudelj**	**2.39**	**64**	*ePn*		**Pn**	**03 53 06.4**	**-0.8**
PE1	**Pezze di Greco**	**2.41**	**180**	*ePn*		**Pn**	**03 53 07.6**	**0.0**
GRUS	**Gruza**	**2.49**	**73**	*ePn*		**Pn**	**03 53 08.1**	**-0.5**
GRUS					*eSn*	**Sn**	**03 53 39.7**	**+0.1**
GRUS	**Gruza**	**2.49**	**73**	*ePn*		**Pn**	**03 53 08.1**	**-0.5**
GRUS					*eSn*	**Sn**	**03 53 39.7**	**+0.1**
TIR	**Tirane**	**2.60**	**135**	*ePN*		**Pn**	**03 53 12.2**	**+2.0**
TIR				*i*	SN	**Sn**	**03 53 43.6**	**+1.1**
TIR	**Tirane**	**2.60**	**135**	*ePN*		**Pn**	**03 53 12.2**	**+2.0**
TIR				*i*	SN	**Sn**	**03 53 43.6**	**+1.1**
TIR	**Tirane**	**2.60**	**135**	*ePN*		**Pn**	**03 53 11.4**	**+1.2**
TIR	**Tirane**	**2.60**	**135**	*ePn*		**Pn**	**03 53 11.0**	**+0.8**
TIR					*eS*	**Sn**	**03 53 45.3**	**+2.8**
TIR	**Tirane**	**2.60**	**135**	*ePn*		**Pn**	**03 53 11.0**	**+0.8**
TIR					*i* Sn	**Sn**	**03 53 43.6**	**+1.1**
TIR					*eS*	**Sn**	**03 53 45.3**	**+2.8**
TAR1	**Taranto**	**2.69**	**182**	*ePn*		**Pn**	**03 53 10.6**	**-0.8**
SELS	**Selova**	**2.70**	**89**	*ePn*		**Pn**	**03 53 11.1**	**-0.5**
AQU	**L'Aquila**	**3.08**	**255**	*ePn*		**Pn**	**03 53 15.9**	**-0.9**
AQU	**L'Aquila**	**3.08**	**255**	*ePn*		**Pn**	**03 53 15.9**	**-0.9**
PKSM	**Moragy**	**3.12**	**16**	*ePn*		**Pn**	**03 53 16.1**	**-1.2**
PKSM	**Moragy**	**3.12**	**16**	⇑	*iP*	**Pn**	**03 53 15.7**	**-1.6**
PKSM	**Moragy**	**3.12**	**16**	⇑	*iP*	**Pn**	**03 53 15.7**	**-1.6**
PKSM	**Moragy**	**3.12**	**16**	*ePn*		**Pn**	**03 53 16.1**	**-1.2**
SKO	**Skopje**	**3.22**	**111**	*ePn*		**Pn**	**03 53 20.2**	**+1.5**
SKO	**Skopje**	**3.22**	**111**	*ePn*		**Pn**	**03 53 20.1**	**+1.5**
BEHE	**Becsehely**	**3.28**	**352**	*ePn*		**Pn**	**03 53 20.5**	**+0.5**
KRUS	**Krusevo**	**3.39**	**122**	*ePn*		**Pn**	**03 53 21.3**	**+0.3**
KRUS	**Krusevo**	**3.39**	**122**	*ePn*		**Pn**	**03 53 21.2**	**+0.2**
CUC	**Castrocucco**	**3.44**	**201**	*ePn*		**Pn**	**03 53 25.0**	**+3.3**
CUC					*eS*	**Sn**	**03 54 04.5**	**+1.4**
CUC	**Castrocucco**	**3.44**	**201**	*ePn*		**Pn**	**03 53 25.0**	**+3.3**
CUC					*eS*	**Sn**	**03 54 04.5**	**+1.4**
TRI	**Trieste**	**3.61**	**315**	*ePn*		**Pn**	**03 53 21.6**	**-2.5**
TRI					*eS*	**Sn**	**03 54 11.0**	**+3.6**
TRI	**Trieste**	**3.61**	**315**	*ePn*		**Pn**	**03 53 21.6**	**-2.5**
TRI					*eS*	**Sn**	**03 54 11.0**	**+3.6**
ZAPS	**Zavoj**	**3.81**	**87**	*ePn*		**Pn**	**03 53 27.4**	**+0.6**
ZAPS					*eSn*	**Sn**	**03 54 11.8**	**-0.4**
BZS	**Buzias**	**3.84**	**50**	⇓	*iP*	**Pg**	**03 53 38.5**	**-2.1**
SOKA	**Soboth**	**3.85**	**335**	⇓	*iPn*	**Pn**	**03 53 28.1**	**+0.7**
SOKA				⇑	*iSn*	**Sn**	**03 54 13.7**	**+0.4**
SOKA	**Soboth**	**3.85**	**335**		Pn	**Pn**	**03 53 28.1**	**+0.7**
SOKA					Sn	**Sn**	**03 54 13.7**	**+0.4**
NEST	**Nestorio**	**3.90**	**135**		P	**Pn**	**03 53 28.5**	**+0.9**
NEST					S	**Sn**	**03 54 14.1**	**-0.3**
NEST	**Nestorio**	**3.90**	**135**		P	**Pn**	**03 53 28.5**	**+0.5**
NEST					S	**Sn**	**03 54 14.1**	**-0.3**
KEK	**Kerkira**	**3.93**	**152**	*eP*	**N**	**Pn**	**03 53 26.6**	**-1.9**
KEK	**Kerkira**	**3.93**	**152**	P		**Pn**	**03 53 29.0**	**+0.5**
KEK					S	**Sn**	**03 54 12.1**	**-3.2**
KEK	**Kerkira**	**3.93**	**152**	P		**Pn**	**03 53 29.0**	**+0.5**
KEK					S	**Sn**	**03 54 12.1**	**-3.2**
ARSA	**Arzberg**	**4.25**	**342**	⇑	*iPn*	**Pn**	**03 53 33.5**	**+0.7**
ARSA	**Arzberg**	**4.25**	**342**	⇓	*iPn*	**Pn**	**03 53 33.4**	**+0.6**
ARSA				⇑	*iSn*	**Sn**	**03 54 23.3**	**+0.2**
ARSA	**Arzberg**	**4.25**	**342**		Pn	**Pn**	**03 53 33.4**	**+0.6**
ARSA					Sn	**Sn**	**03 54 23.3**	**+0.2**
IGT	**Igoumenitsa**	**4.28**	**148**		P	**Pn**	**03 53 34.0**	**+0.7**
IGT					S	**Sn**	**03 54 21.4**	**-2.6**
IGT	**Igoumenitsa**	**4.28**	**148**		P	**Pn**	**03 53 34.0**	**+0.7**
IGT					S	**Sn**	**03 54 21.4**	**-2.6**
VTS	**Vitosha**	**4.30**	**96**		P	**Pn**	**03 53 34.6**	**+1.1**
VTS					S	**Sn**	**03 54 23.1**	**-1.2**
VTS	**Vitosha**	**4.30**	**96**	⇓	*iP*	**Pn**	**03 53 34.8**	**+1.3**
VTS	**Vitosha**	**4.30**	**96**		P	**Pn**	**03 53 34.6**	**+1.1**
VTS					S	**Sn**	**03 54 23.1**	**-1.2**
GRG	**Griva**	**4.34**	**120**		P	**Pn**	**03 53 35.5**	**+1.4**
GRG	**Griva**	**4.34**	**120**		P	**Pn**	**03 53 35.5**	**+1.4**
KZN	**Kozani**	**4.36**	**130**	*eP*	**N**	**Pn**	**03 53 36.1**	**+1.7**
KZN	**Kozani**	**4.36**	**130**	P		**Pn**	**03 53 35.7**	**+1.3**
KZN					S	**Sn**	**03 54 25.6**	**-0.3**
KZN	**Kozani**	**4.36**	**130**	P		**Pn**	**03 53 35.7**	**+1.3**
KZN					S	**Sn**	**03 54 25.6**	**-0.3**
JAN	**Janina**	**4.39**	**143**	*ePN*		**Pn**	**03 53 34.3**	**-0.5**
BUD	**Budapest**	**4.41**	**14**	⇑	*ePn*	**Pn**	**03 53 37.3**	**+2.2**
BUD	**Budapest**	**4.41**	**14**	⇑	*ePn*	**Pn**	**03 53 37.3**	**+2.2**
GZR	**Gura Zlata**	**4.42**	**59**	⇓	*iP*	**Pn**	**03 53 34.2**	**-0.9**
GZR	**Gura Zlata**	**4.42**	**59**	⇓	*iP*	**Pn**	**03 53 34.2**	**-0.9**
MEV	**Metsovon**	**4.46**	**139**		P	**Pn**	**03 53 37.7**	**+1.9**
MEV	**Metsovon**	**4.46**	**139**		P	**Pn**	**03 53 37.7**	**+1.9**
KNT	**Kendrikon**	**4.56**	**115**		P	**Pn**	**03 53 38.6**	**+1.5**
KNT	**Kendrikon**	**4.56**	**115**		P	**Pn**	**03 53 38.6**	**+1.5**
CONA	**Conrad Observa**	**4.84**	**347**	⇑	*iPn*	**Pn**	**03 53 41.5**	**+0.6**
CONA				⇓	*iSn*	**Sn**	**03 54 37.0**	**-0.5**
CONA	**Conrad Observa**	**4.84**	**347**		Pn	**Pn**	**03 53 41.5**	**+0.6**
CONA					Sn	**Sn**	**03 54 37.0**	**-0.5**
LIT	**Litokhoron**	**4.91**	**128**		P	**Pn**	**03 53 42.9**	**+1.0**
LIT	**Litokhoron**	**4.91**	**128**		P	**Pn**	**03 53 42.9**	**+1.0**
ZST	**Bratislava**	**4.98**	**358**	*ePn*		**Pn**	**03 53 43.3**	**+0.4**
ZST					*eSN*	**Sn**	**03 54 37.2**	**-4.0**
ZST	**Bratislava**	**4.98**	**358**	*ePn*		**Pn**	**03 53 43.3**	**+0.4**
ZST					*eSn*	**Sn**	**03 54 37.2**	**-4.0**
PSZ	**Piszkesteto**	**5.01**	**19**	*ePn*		**Pn**	**03 53 43.0**	**-0.2**
	18nm,0.7s							
PSZ	**Piszkesteto**	**5.01**	**19**	*ePn*		**Pn**	**03 53 39.9**	**-3.4**
PSZ	**Piszkesteto**	**5.01**	**19**	⇑	*iP*	**Pn**	**03 53 39.8**	**-3.5**
PSZ	**Piszkesteto**	**5.01**	**19**	⇑	*iP*	**Pn**	**03 53 39.8**	**-3.5**
PSZ	**Piszkesteto**	**5.01**	**19**	*ePn*		**Pn**	**03 53 43.0**	**-0.3**
	18nm,0.7s							
THL	**Klokotos Trika**	**5.03**	**135**	*ePN*		**Pn**	**03 53 44.0**	**+0.5**
THL	**Klokotos Trika**	**5.03**	**135**	P		**Pn**	**03 53 43.

CDF	**Champ du Feu**	**8.78**	**310**	*e*Pn	**Pn**	03 54 33.9	**-1.1**
CDF				*e*Sn	**Sn**	03 56 08.2	**-6.4**
	1.6nm,0.4s						
CDF	**Champ du Feu**	**8.78**	**310**	*e*Pn	**Pn**	03 54 33.9	**-1.1**
HAU	**Haudompre**	**9.12**	**305**	*e*Pn	**Pn**	03 54 37.4	**-2.2**
HAU				*e*Sn	**Sn**	03 56 15.4	**-7.4**
	14nm,0.7s						
VIVF	**Saint-Julien-l**	**9.33**	**284**	*e*Pn	**Pn**	03 54 41.1	**-1.4**
VIVF				*e*Sn	**Sn**	03 56 19.8	**-8.3**
	1.6nm,0.4s						
KEST	**Kesra**	**9.73**	**223**	Pn	**Pn**	03 54 50.7	**+2.6**
	0.1nm,0.3s,baz=354,slow=10,SNR=5.0						
KEST	**Kesra**	**9.73**	**223**	Pn	**Pn**	03 54 50.7	**+2.6**
KEST	**Kesra**	**9.73**	**223**	Pn	**Pn**	03 54 50.7	**+2.6**
SMF	**Signal de Mont**	**10.22**	**294**	*e*Pn	**Pn**	03 54 52.9	**-1.8**
SMF				*e*Sn	**Sn**	03 56 41.3	**-8.7**
	11nm,0.7s						
LOR	**Lormes**	**10.38**	**298**	*e*Pn	**Pn**	03 54 57.1	**+0.1**
	baz=112						
LOR				*e*Sn	**Sn**	03 56 48.1	**-5.9**
	5.1nm,0.5s						
LOR	**Lormes**	**10.38**	**298**	*e*Pn	**Pn**	03 54 57.1	**+0.1**
	baz=112						
SSF	**Saint Saulge**	**10.55**	**296**	*e*Pn	**Pn**	03 54 58.0	**-1.3**
SSF	**Saint Saulge**	**10.55**	**296**	*e*Pn	**Pn**	03 54 58.0	**-1.3**
BGF	**Bois d'Agland**	**10.87**	**293**	*e*Sn	**Sn**	03 56 56.7	**-9.1**
	8.0nm,0.7s						
FINES	**FINESS Array B**	**18.97**	**13**	P	**Pn**	03 56 50.0	**-0.1**
	0.2nm,0.3s,baz=191,slow=9.1,SNR=4.7						
FINES	**FINESS Array B**	**18.97**	**13**	P	**Pn**	03 56 50.0	**-0.1**
FINES	**FINESS Array B**	**18.97**	**13**	P	**Pn**	03 56 50.0	**-0.1**
TORD	**Torodi Ar. Bea**	**32.89**	**209**	P	**P**	03 59 03.9	**+1.1**
	0.5nm,0.9s,mb3.4,baz=13,slow=9.4,SNR=3.0						
TORD	**Torodi Ar. Bea**	**32.89**	**209**	P	**P**	03 59 03.8	**+1.1**
TORD	**Torodi Ar. Bea**	**32.89**	**209**	P	**P**	03 59 03.8	**+1.1**
KURK	**Kurchatov**	**41.36**	**57**	P	**P**	04 00 15.6	**+1.3**
	0.4nm,0.5s,mb3.4,baz=287,slow=9.8,SNR=5.8						
KURK	**Kurchatov**	**41.36**	**57**	P	**P**	04 00 15.6	**+1.3**
KURK	**Kurchatov**	**41.36**	**57**	P	**P**	04 00 15.6	**+1.3**
ZALV	**Zalesovo Beam**	**44.24**	**51**	P	**P**	04 00 39.2	**+1.6**
	0.3nm,0.3s,mb3.5,baz=276,slow=9.6,SNR=3.8						
ZALV	**Zalesovo Beam**	**44.24**	**51**	P	**P**	04 00 39.2	**+1.6**
ZALV	**Zalesovo Beam**	**44.24**	**51**	P	**P**	04 00 39.2	**+1.6**

IDC 27 03:58:19.1±20.0,**17˚56N**×**145˚91E**,**h397**km±232km, **mb3.0**/7,**mb1 3.3**/7,**mb1mx3.0**/23,**mbtmp3.0**/7,**Error ellipse: s-maj=41.6km s-min=27.8km az=44.0,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**40.67**	**210**	P	P	04 05 22.6	-0.4
	2.4nm,1.2s,baz=34,slow=7.3,SNR=3.2						
CMAR	**Chiang Mai Arr**	**44.58**	**279**	P	P	04 05 54.8	+0.7
	1.3nm,0.6s,baz=74,slow=6.5,SNR=5.1						
MKAR	**Makanchi Array**	**59.39**	**314**	P	P	04 07 41.5	+0.1
	0.3nm,0.5s,baz=92,slow=8.3,SNR=5.8						
KURK	**Kurchatov**	**62.25**	**318**	P	P	04 08 00.1	-0.2
	0.4nm,0.4s,baz=98,slow=6.5,SNR=7.8						
ILAR	**Eielson Array**	**64.57**	**26**	P	P	04 08 15.1	0.0
	0.6nm,0.5s,baz=249,slow=5.9,SNR=24						
YKA	**Yellowknife Ar**	**78.89**	**28**	P	P	04 09 39.3	-0.1
	0.4nm,0.4s,baz=286,slow=5.2,SNR=4.5						
NVAR	**Mina Array Bea**	**83.68**	**52**	P	P	04 10 06.1	+1.3
	0.1nm,0.3s,baz=253,slow=6.8,SNR=3.8						

*IDC **27** 03:58:37.1±2.1,7˚65S×106˚52E,h0km,mb3.8/8, mb1 3.9/8,mb1mx3.7/21,mbtmp3.8/8,Error ellipse: s-maj=111.5km s-min=16.6km az=51.0*
*NEIC **27** 03:58:42.0±1.3,7˚74S×106˚51E,h35km,mb3.9/2,Error ellipse: s-maj=73.8km s-min=11.5km az=49.0*
*ISCJB **27** 03:58:45.5±0.6,7˚74S±0˚08×106˚86E±0˚06,h75km±6km, mb3.8/8,Error ellipse: s-maj=14.2km s-min=6.5km az=31.1*
*DJA **27** 03:58:45,7˚80S×106˚90E,h26km,MLv4.4/14*
ISC 27 03:58:46.8±0.6,**7˚70S**±0˚08×**106˚85E**±0˚06,**h71**km±6km, **n38**,σ**1s18**/36,**mb3.7**/9,**Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKJI	**Sukabumi**	**0.75**	**337**	P	**Pn**	03 59 01.6	**-0.8**
SKJI				S	**Sn**	03 59 13.0	**-0.8**
CISI	**Cisompet, Garu**	**0.96**	**81**	P	**Pn**	03 59 02.7	**-2.2**
CISI				S	**Sn**	03 59 13.8	**-4.5**
DBJI	**Dramaga**	**1.15**	**355**	P	**Pn**	03 59 07.4	**+0.2**
LEM	**Lembang**	**1.16**	**41**	P	**Pn**	03 59 07.2	**-0.1**
CGJI	**Cibinong**	**1.58**	**313**	P	**Pn**	03 59 13.0	**+0.2**
SBJI	**Serang**	**1.73**	**335**	P	**Pn**	03 59 16.0	**+1.2**
CLJI	**Cilicap**	**2.14**	**91**	P	**Pn**	03 59 20.0	**-0.4**
RBSI	**Rajabasa**	**2.15**	**329**	P	**Pn**	03 59 21.3	**+0.8**
BJII	**Banjamegara**	**2.86**	**83**	P	**Pn**	03 59 31.5	**+1.5**
XMIS	**Chrístmas Isla**	**3.00**	**203**	P	**Pn**	03 59 30.7	**-1.4**
UGM	**Wanagama**	**3.64**	**94**	P	**Pn**	03 59 39.9	**-0.9**
KLSI		**3.66**	**325**	P	**Pn**	03 59 43.3	**+2.2**
MDSI	**Maura Dua**	**4.16**	**320**	P	**Pn**	03 59 48.0	**+0.2**
PCJI	**Pacitan**	**4.31**	**97**	P	**Pn**	03 59 49.3	**-0.6**
PWJI	**Pagerwojo**	**4.92**	**94**	P	**Pn**	03 59 57.6	**-0.6**
MNAI	**Manna**	**5.10**	**310**	P	**Pn**	04 00 01.9	**+1.1**
JAGI	**Jajag, Banyuwa**	**7.27**	**97**	P	**Pn**	04 00 32.1	**+1.8**
FITZ	**Fitzroy Crossi**	**21.00**	**121**	P	**P**	04 03 26.9	**+2.3**
	1.6nm,0.7s,mb3.5,baz=292,slow=11,SNR=3.5						
FITZ	**Fitzroy Crossi**	**21.00**	**121**	P	**P**	**04 03 26.9**	**+2.3**
WRA	**Warramunga Arr**	**29.27**	**117**	P	**P**	**04 04 43.3**	**+0.8**
	0.7nm,0.7s,mb3.4,baz=291,slow=10,SNR=9.8						
WRA	**Warramunga Arr**	**29.27**	**117**	P	**P**	04 04 43.3	**+0.8**
ASAR	**Alice Springs**	**30.41**	**125**	P	**P**	**04 04 52.6**	**+0.1**
	0.2nm,0.3s,mb3.2,baz=221,slow=38,SNR=3.3						
ASAR	**Alice Springs**	**30.41**	**125**	P	**P**	04 04 52.6	**+0.1**
STKA	**Stephens Creek**	**40.28**	**131**	P	**P**	**04 06 19.4**	**+2.2**
	2.2nm,0.5s,mb4.3,baz=301,slow=7.8,SNR=14						
STKA	**Stephens Creek**	**40.28**	**131**	*e*P	**P**	**04 06 17.6**	**+0.5**
	0.4nm,0.6s,mb3.4						
SONM	**Songino Array**	**55.30**	**360**	P	**P**	**04 08 12.5**	**-0.4**
	0.2nm,0.5s,mb3.4,baz=171,slow=9.4,SNR=2.7						
SONM				PcP	PcP	04 09 13.4	+0.6
	1.3nm,0.5s,baz=174,slow=3.7,SNR=18						
SONM	**Songino Array**	**55.30**	**360**	P	**P**	**04 08 12.5**	**-0.4**
SONM				PcP	PcP	04 09 13.4	+0.6
MKAR	**Makanchi Array**	**58.49**	**340**	P	**P**	**04 08 33.5**	**-2.1**
	0.4nm,0.4s,mb3.8,baz=161,slow=8.1,SNR=7.9						
MKAR	**Makanchi Array**	**58.49**	**340**	P	**P**	**04 08 33.5**	**-2.1**
KURK	**Kurchatov**	**63.11**	**340**	P	**P**	**04 09 04.5**	**-2.3**
	0.5nm,0.5s,mb3.7,baz=152,slow=6.0,SNR=6.4						
KURK	**Kurchatov**	**63.11**	**340**	P	**P**	**04 09 04.5**	**-2.3**
ABKAR	**Akbulak array**	**69.94**	**329**	*e*P	**P**	**04 09 50.0**	**-0.4**
	3.0nm,0.5s,mb4.4						
ARCES	**ARCESS Array B**	**94.14**	**340**	P	**P**	**04 11 56.5**	**-0.7**
	1.5nm,0.7s,mb4.4,baz=104,slow=5.1,SNR=5.8						
ARCES	**ARCESS Array B**	**94.14**	**340**	P	**P**	**04 11 56.5**	**-0.7**
TXAR	**Lajitas Array**	**144.14**	**49**	PKP	PKPdf	04 18 14.6	-0.6
	0.1nm,0.5s,baz=322,slow=2.6,SNR=3.7						
TXAR	**Lajitas Array**	**144.14**	**49**	PKP	PKPdf	04 18 14.6	-0.6
TKL	**Tuckaleechee C**	**150.52**	**18**	PKPbc	PKPbc	04 18 31.9	+0.9
	0.9nm,0.4s,baz=110,slow=7.4,SNR=4.5						
TKL	**Tuckaleechee C**	**150.52**	**18**	PKPbc	PKPbc	04 18 31.9	+0.9

*ISCJB **27** 04:37:10.9±0.5,25˚12S±0˚03×178˚35E±0˚06,h600km±7km, mb4.5/37,Error ellipse: s-maj=8.9km s-min=4.9km az=176.9*
*NEIC **27** 04:37:11.3±0.8,25˚06S×178˚44E,h591km±8km,mb4.7/18, Error ellipse: s-maj=9.1km s-min=7.1km az=98.0*
*IDC **27** 04:37:11.8±1.2,25˚04S×178˚30E,h589km±12km, mb4.0/19,mb1 4.1/20,mb1mx4.0/22,mbtmp4.0/20,Error ellipse: s-maj=11.6km s-min=9.6km az=145.0*
ISC 27 04:37:11.1±0.6,**25˚15S**±0˚04×**178˚43E**±0˚06,**h589**km±7km, **h589**km±9.9km:**pP-P**,**n206**,**s1911**/118,**mb4.5**/36,**30C-11D**, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.22**	**142**	*e*P	**P**	**04 38 50.1**	**+5.1**
	5μm,0.3s						
RAO				*e*S	**S**	**04 40 12.5**	**+11**
MSVF	**Nonsavu**	**7.39**	**357**	*e*Pn	**P**	**04 39 03.0**	**-1.3**
	54nm,0.6s						
MSVF				*e*S	**S**	**04 40 36.0**	**-1.0**
DZM	**Mont Dzumac**	**11.41**	**283**	*e*P	**P**	**04 39 43.4**	**-0.5**
DZM	**Mont Dzumac**	**11.41**	**283**	*e*P	**P**	**04 39 45.1**	**+1.3**
	107nm,0.8s						
DZM				*e*S	**S**	**04 41 51.1**	**+1.7**

NOUC	**Port Laguerre**	**11.53**	**283**	*e*P	**P**	**04 39 44.4**	**-0.6**
URZ	**Urewera**	**13.12**	**185**	P	**P**	**04 39 58.8**	**-2.0**
	5.9nm,0.3s,baz=14,slow=3.1,SNR=39						
URZ				S	**S**	**04 42 15.2**	**-5.3**
	2.0nm,0.3s,baz=63,slow=21,SNR=8.5						
URZ	**Urewera**	**13.12**	**185**	P	**P**	**04 39 58.8**	**-2.0**
URZ				S	**S**	**04 42 15.2**	**-5.3**
URZ	**Urewera**	**13.12**	**185**	PN	**P**	**04 39 58.3**	**-2.6**
URZ				SN	**S**	**04 42 13.0**	**-7.4**
BHHZ	**Black Hill Sta**	**14.44**	**187**	PN	**P**	**04 40 11.8**	**-2.4**
BHHZ				SN	**S**	**04 42 41.4**	**-2.5**
AFI	**Afiamalu**	**14.49**	**41**	P	**P**	**04 40 10.4**	**-4.7**
	9.6nm,0.3s,baz=32,slow=10,SNR=9.2						
AFI				S	**S**	**04 42 37.3**	**-8.1**
	5.4nm,0.3s,baz=48,slow=18,SNR=6.1						
AFI	**Afiamalu**	**14.49**	**41**	P	**P**	**04 40 10.4**	**-4.7**
AFI				S	**S**	**04 42 37.3**	**-8.1**
MRZ	**Mangatainoka R**	**15.65**	**188**	PN	**P**	**04 40 23.2**	**-2.2**
MRZ				SN	**S**	**04 42 59.7**	**-4.2**
KIW	**Kapiti Island**	**15.94**	**190**	PN	**P**	**04 40 27.2**	**-0.9**
CAW	**Cannon Point**	**16.16**	**189**	PN	**P**	**04 40 29.0**	**-1.1**
CAW				SN	**S**	**04 43 12.1**	**-0.2**
TCW	**Tory Channel**	**16.39**	**191**	PN	**P**	**04 40 32.4**	**+0.2**
TCW				SN	**S**	**04 43 15.7**	**-0.3**
QRZ	**Quartz Range**	**16.39**	**196**	PN	**P**	**04 40 33.7**	**+1.5**
SNZO	**South Karori**	**16.41**	**190**	*e*P	**P**	**04 40 33.2**	**+0.8**
	74nm,0.6s						
NNZ	**Nelson**	**16.57**	**193**	PN	**P**	**04 40 34.0**	**+0.2**
NNZ				SN	**S**	**04 43 18.2**	**-0.8**
THZ	**Tophouse**	**17.19**	**194**	PN	**P**	**04 40 40.0**	**+0.4**
THZ				SN	**S**	**04 43 26.1**	**-3.1**
KHZ	**Kahutara**	**17.69**	**192**	*e*P	**P**	**04 40 43.9**	**-0.2**
	55nm,0.7s						
KHZ				*e*S	**S**	**04 43 38.4**	**+1.2**
KHZ	**Kahutara**	**17.69**	**192**	PN	**P**	**04 40 43.3**	**-0.8**
WVZ	**Waitaha Valley**	**18.97**	**198**	*e*PN	**P**	**04 40 56.3**	**+0.6**
RPZ	**Rata Peaks**	**19.48**	**196**	P	**P**	**04 41 00.7**	**+0.4**
	2.4nm,0.3s,baz=37,slow=3.8,SNR=8.2						
RPZ	**Rata Peaks**	**19.48**	**196**	*e*P	**P**	**04 41 00.7**	**+0.4**
	18nm,0.5s						
JCZ	**Jackson Bay**	**20.46**	**200**	*e*PN	**P**	**04 41 10.0**	**+0.9**
ARMA	**Armidale**	**24.26**	**251**	*e*P	**P**	**04 41 45.4**	**+2.1**
EIDS	**Eidsvold**	**24.73**	**264**	*e*P	**P**	**04 41 48.3**	**+0.9**
	34nm,0.5s,mb5.2						
EIDS	**Eidsvold**	**24.73**	**264**	*e*P	**P**	**04 41 48.6**	**+1.1**
	4.7nm,0.6s,mb4.3						
CNB	**Canberra Magne**	**27.00**	**241**	*e*P	**P**	**04 42 09.1**	**+1.8**
	37nm,0.6s,mb5.2						
CMSA	**Cobar Meteorol**	**29.44**	**250**	*e*P	**P**	**04 42 29.5**	**+1.0**
	86nm,0.6s,mb5.6						
CTA	**Charters Tower**	**30.09**	**273**	P	**P**	**04 42 34.5**	**+0.2**
	15nm,0.3s,mb5.0,baz=92,slow=11,SNR=39						
CTA	**Charters Tower**	**30.09**	**273**	P	**P**	**04 42 34.5**	**+0.2**
CTAO	**Charters Tower**	**30.09**	**273**	*e*P	**P**	**04 42 35.5**	**+1.3**
	11nm,0.3s,mb5.0						
TOO	**Toolangi**	**30.58**	**238**	*e*P	**P**	**04 42 39.9**	**+1.7**
	62nm,0.6s,mb5.4						
STKA	**Stephens Creek**	**32.94**	**250**	P	**P**	**04 42 59.5**	**+1.1**
	12nm,0.4s,mb4.8,baz=94,slow=10,SNR=58						
STKA				S	**S**	**04 47 35.4**	**-0.5**
	4.6nm,0.8s,baz=260,slow=17,SNR=9.4						
STKA	**Stephens Creek**	**32.94**	**250**	*e*P	**P**	**04 42 59.5**	**+1.1**
	9.1nm,0.4s,mb4.8						
STKA				*e*S	**S**	**04 47 35.3**	**-0.6**
STKA	**Stephens Creek**	**32.94**	**250**	*e*P	**P**	**04 42 59.2**	**+0.8**
STKA				S	**S**	**04 47 35.4**	**-0.5**
PMG	**Port Moresby**	**33.60**	**292**	P	**P**	**04 43 04.0**	**-0.1**
	51nm,0.8s,mb5.2,baz=108,slow=5.7,SNR=27						
PMG	**Port Moresby**	**33.60**	**292**	*e*P	**P**	**04 43 04.0**	**-0.1**
	51nm,0.8s,mb5.2						
COEN	**Coen**	**34.94**	**282**	*e*P	**P**	**04 43 15.9**	**+0.6**
	86nm,0.6s,mb5.5						
COEN	**Coen**	**34.94**	**282**	*e*P	**P**	**04 43 15.9**	**+0.7**
	106nm,0.8s,mb5.5						
BBOO	**Buckleboo**	**37.65**	**248**	*e*P	**P**	**04 43 37.3**	**0.0**
	31nm,0.6s,mb5.0						
BBOO				*e*S	**S**	**04 48 44.5**	**-1.6**
BBOO	**Buckleboo**	**37.65**	**248**	*e*P	**P**	**04 43 37.4**	**+0.1**
	212nm,0.8s,mb5.7						
AS31	**Alice Springs**	**40.44**	**262**	*e*P	**P**	**04 44 00.3**	**+0.5**
ASAR	**Alice Springs**	**40.44**	**262**	P	**P**	**04 44 00.2**	**+0.4**
	4.9nm,0.6s,mb4.2,baz=101,slow=8.2,SNR=60						
ASAR				pP	pP	04 45 40.2	-0.9
	1.3nm,0.7s,baz=97,slow=9.9,SNR=2.4						
ASAR				ScP	ScP	04 48 43.5	+1.6
	1.1nm,0.8s,baz=106,slow=5.0,SNR=4.0						
ASAR				S	**S**	**04 49 25.8**	**-1.3**
	2.7nm,0.7s,baz=98,slow=17,SNR=14						
ASAR	**Alice Springs**	**40.44**	**262**	P	**P**	**04 44 00.2**	**+0.4**
ASAR				pP	pP	04 45 40.2	-0.9
ASAR				ScP	ScP	04 48 43.5	+1.6
ASAR				S	**S**	**04 49 25.8**	**-1.3**
WB2	**Warramunga Arr**	**40.91**	**268**	*e*P	**P**	**04 44 03.4**	**-0.2**
WB2				*e*S	**S**	**04 49 30.5**	**-3.4**
WRAB	**Tennant Creek**	**40.91**	**268**	*e*P	**P**	**04 44 03.3**	**-0.3**
	16nm,0.7s,mb4.7						
WRAB				*e*S	**S**	**04 49 32.1**	**-1.8**
WRA	**Warramunga Arr**	**40.92**	**268**	P	**P**	**04 44 03.5**	**-0.1**
	18nm,0.6s,mb4.8,baz=103,slow=8.1,SNR=53						
WRA				PcP	PcP	04 45 49.4	-0.3
	2.9nm,0.9s,baz=100,slow=3.2,SNR=5.1						
WRA				ScP	ScP	04 48 45.5	+1.6
	2.1nm,0.9s,baz=102,slow=4.1,SNR=6.3						
WRA				S	**S**	**04 49 31.0**	**-3.1**
	4.9nm,1.0s,baz=102,slow=14,SNR=12						
WRA	**Warramunga Arr**	**40.92**	**268**	P	**P**	**04 44 03.5**	**-0.1**
WRA				PcP	PcP	04 45 49.4	-0.3
WRA				ScP	ScP	04 48 45.5	+1.6
WRA				S	**S**	**04 49 31.0**	**-3.1**
FORT	**Forrest**	**44.55**	**251**	*e*P	**P**	**04 44 31.6**	**-0.2**
	16nm,0.5s,mb4.8						
FITZ	**Fitzroy Crossi**	**49.33**	**267**	*e*P	**P**	**04 45 07.7**	**-0.1**
	24nm,0.6s,mb4.8						
FITZ				*e*S	**S**	**04 51 30.1**	**-1.7**
GUMO	**Guam**	**50.53**	**316**	P	**P**	**04 45 15.5**	**-1.1**
	37nm,0.4s,mb5.1,baz=209,slow=15,SNR=4.5						
GUMO	**Guam**	**50.53**	**316**	P	**P**	**04 45 15.5**	**-1.1**
VNDA	**Vanda**	**53.02**	**184**	*e*P	**P**	**04 45 35.3**	**+1.8**
	1.0nm,0.5s,mb3.4						
MBWA	**Marble Bar**	**53.76**	**261**	*e*P	**P**	**04 45 39.1**	**-0.6**
	3.7nm,0.5s,mb4.0						
CASY	**Casey**	**58.37**	**206**	*e*P	**P**	**04 46 10.9**	**+0.5**
	26nm,1.0s,mb4.3						
QSPA	**South Pole Qui**	**64.94**	**180**	P	**P**	**04 46 55.0**	**+2.0**
	16nm,0.6s,mb4.6,baz=20,slow=1.1,SNR=116						
QSPA	**South Pole Qui**	**64.94**	**180**	*e*P	**P**	**04 46 55.0**	**+2.0**
QSPA				*e*pP	pP	04 48 53.4	+3.6
KKM	**Kota Kinabalu**	**67.92**	**288**	*e*P	**P**	**04 47 11.4**	**-1.1**
	5.5nm,0.5s,mb4.2						
JOW	**Kunigami**	**70.79**	**313**	P	**P**	**04 47 27.9**	**-1.4**
	27nm,0.8s,mb4.8,baz=159,slow=5.4,SNR=5.9						
JOW	**Kunigami**	**70.79**	**313**	P	**P**	**04 47 27.9**	**-1.4**
KSM	**Kuching**	**70.93**	**281**	*e*P	**P**	**04 47 29.7**	**-0.7**
	35nm,0.9s,mb4.9						
MJAR	**Matsushiro Arr**	**72.14**	**327**	P	**P**	**04 47 36.3**	**-0.7**
	15nm,1.0s,mb4.5,baz=168,slow=5.8,SNR=23						
MJAR	**Matsushiro Arr**	**72.14**	**327**	P	**P**	**04 47 36.3**	**-0.7**
MAJO	**Matsushiro**	**72.14**	**327**	*e*P	**P**	**04 47 36.1**	**-0.8**
	4.8nm,0.5s,mb4.3						
MAT	**Matsushiro**	**72.14**	**327**	P	**P**	**04 47 35.7**	**-1.2**
MAW	**Mawson**	**76.08**	**201**	P	**P**	**04 47 59.6**	**+0.9**
	4.5nm,0.6s,mb4.1,baz=136,slow=6.2,SNR=8.5						
MAW	**Mawson**	**76.08**	**201**	*e*P	**P**	**04 47 59.5**	**+0.9**
	0.8nm,0.5s,mb3.4						
ASAJ	**Asahikawa**	**76.35**	**334**	P	**P**	**04 48 01.1**	**+0.7**
	6.3nm,0.3s,mb4.5,baz=207,slow=4.5,SNR=5.0						
ASAJ	**Asahikawa**	**76.35**	**334**	P	**P**	**04 48 01.1**	**+0.7**
KSRS	**Korea Array**	**78.30**	**321**	P	**P**	**04 48 11.6**	**+0.4**
	8.3nm,0.7s,mb4.3,baz=136,slow=5.5,SNR=22						
KSAR	**Wonju Array Be**	**78.32**	**321**	P	**P**	**04 48 11.6**	**+0.3**
PETK	**Petropavlovsk-**	**79.99**	**347**	P	**P**	**04 48 19.5**	**-0.1**
	11nm,0.6s,mb4.3,baz=135,slow=7.1,SNR=14						
PETK	**Petropavlovsk-**	**79.99**	**347**	P	**P**	**04 48 19.5**	**-0.1**
SYO	**Syowa Base**	**81.47**	**194**	*e*P	**P**	**04 48 25.5**	**-1.7**
SNAA	**Sanae**	**83.44**	**180**	*e*	**P**	**04 48 37.2**	**+0.1**
SNAA				*e*	pP	04 50 47.8	+5.5
SNAA	**Sanae**	**83.44**	**180**	*e*P	**P**	**04 48 37.3**	**+0.2**
	3.6nm,0.6s,mb4.1						
VNA3	**Neumayer Olymp**	**83.70**	**177**	*e*	**P**	**04 48 38.6**	**+0.2**
VNA3				*e*		04 50 38.1	
VNA2	**Neumayer--Watz**	**84.10**	**178**	*e*	**P**	**04 48 40.4**	**+0.1**
	baz=182,slow=4.8						
VNA2				*e*	pP	04 50 45.4	-0.4
ISA	**Isabella**	**84.91**	**47**	*e*P	**P**	**04 48 45.9**	**+1.0**
	4.1nm,0.9s,mb4.1						

NVAR	**Mina Array Bea**	**86.64**	**45**	P	**P**	**04 48 54.1**	**+1.2**
	2.2nm,0.7s,mb4.0,baz=222,slow=8.8,SNR=24						
NVAR				PP	PP	04 52 30.6	+3.8
	0.7nm,0.9s,baz=238,slow=10,SNR=3.7						
NVAR	**Mina Array Bea**	**86.64**	**45**	P	**P**	**04 48 54.1**	**+1.2**
NVAR				PP	PP	04 52 30.6	+3.8
CMAR	**Chiang Mai Arr**	**88.63**	**291**	P	**P**	**04 49 04.3**	**+1.6**
	4.1nm,0.8s,mb4.3,baz=138,slow=3.5,SNR=21						
CMAR	**Chiang Mai Arr**	**88.63**	**291**	P	**P**	**04 49 04.3**	**+1.6**
CHTO	**Chiang Mai**	**88.79**	**291**	*e*P	**P**	**04 49 04.6**	**+1.1**
	3.1nm,0.6s,mb4.3						
TXAR	**Lajitas Array**	**92.30**	**59**	P	**P**	**04 49 20.8**	**+1.3**
	1.4nm,0.8s,mb4.1,baz=213,slow=6.4,SNR=23						
TXAR				PKKPbc	PKKPbc	05 06 30.9	+0.1
	0.2nm,0.5s,baz=342,slow=0.4,SNR=4.7						
TXAR	**Lajitas Array**	**92.30**	**59**	P	**P**	**04 49 20.8**	**+1.3**
TXAR				PKKPbc	PKKPbc	05 06 30.9	+0.1
ILAR	**Eielson Array**	**93.58**	**14**	P	**P**	**04 49 23.2**	**-1.2**
	0.7nm,0.6s,mb4.0,baz=226,slow=4.9,SNR=13						
ILAR	**Eielson Array**	**93.58**	**14**	P	**P**	**04 49 23.2**	**-1.2**
SONM	**Songino Array**	**97.12**	**320**	P	**P**	**04 49 40.3**	**-0.6**
	0.3nm,0.5s,mb3.8,baz=134,slow=5.6,SNR=4.0						
SONM	**Songino Array**	**97.12**	**320**	P	**P**	**04 49 40.3**	**-0.6**
INK	**Inuvik**	**99.62**	**16**	P	Pdif	04 49 50.5	-1.7
	0.9nm,0.8s,baz=243,slow=4.5,SNR=3.7						
INK	**Inuvik**	**99.62**	**16**	P	Pdif	04 49 50.5	-1.7
MK31	**Makanchi Array**	**111.95**	**313**	*e*PKPdf	PKiKP	04 54 39.2	-0.6
MKAR	**Makanchi Array**	**111.95**	**313**	Pdiff	Pdif	04 50 49.3	+2.4
	0.3nm,0.5s,baz=95,slow=7.2,SNR=4.6						
MKAR					PKiKP	PKiKP	04 54 38.9	-1.0
	0.5nm,0.5s,baz=174,slow=1.9,SNR=5.4						
MKAR	**Makanchi Array**	**111.95**	**313**	Pdif	Pdif	04 50 49.3	+2.4
MKAR					PKiKP	PKiKP	04 54 38.9	-1.0
ZALV	**Zalesovo Beam**	**112.00**	**320**	PKiKP	PKiKP	04 54 38.5	-1.2
	0.4nm,0.3s,baz=23,slow=1.7,SNR=4.2						
ZALV	**Zalesovo Beam**	**112.00**	**320**	PKiKP	PKiKP	04 54 38.5	-1.2
KURK	**Kurchatov**	**115.12**	**316**	PKP	PKPdf	04 54 44.9	-0.9
	1.8nm,0.7s,baz=106,slow=2.0,SNR=14						
KURK				PP	PP	04 55 52.5	-5.0
	1.0nm,0.8s,baz=98,slow=7.5,SNR=5.7						
KURK	**Kurchatov**	**115.12**	**316**	PKP	PKPdf	04 54 44.9	-0.9
KURK				PP	PP	04 55 52.5	-5.0
KKAR	**Karatay Array**	**119.47**	**307**	*e*PKPdf	PKPdf	04 54 53.9	-0.5
BVAR	**Borovoye Array**	**120.43**	**318**	PKP	PKPdf	04 54 55.2	-0.7
	5.1nm,0.5s,baz=105,slow=2.3,SNR=23						

KHC			*e*PKPAB	PKPab	04 56 18.2	+0.2
CONA	**Conrad Observa**	**153.42 333**	⇑*i*PKPab	PKPab	04 56 19.1	+0.5
	comp=Z,7.1nm,0.7s					
PKSM	**Moragy**	**153.47 328**	⇑*i*P	PKPbc	04 56 03.2	-0.2
GERES	**GERESS Array B**	**153.49 337**	PKPbc	PKPbc	04 56 03.4	0.0
	comp=Z,1.4nm,0.7s,baz=45,slow=2.1,SNR=11					
GERES			PKPab	PKPab	04 56 18.5	-0.3
	comp=Z,2.2nm,0.6s,baz=42,slow=6.1,SNR=13					
GERES	**GERESS Array B**	**153.49 337**	PKPbc	PKPbc	04 56 03.4	0.0
GERES			PKPab	PKPab	04 56 18.5	-0.3
GIVF	**Givet**	**154.60 350**	*e*PKP2	PKPab	04 56 23.1	-0.4
BAIF	**Baives**	**154.73 351**	⇑*i*PKP2	PKPab	04 56 23.9	-0.2
	comp=Z,8.7nm,0.7s					
SOKA	**Soboth**	**154.76 333**	⇑*i*PKPab	PKPab	04 56 24.2	-0.1
	comp=Z,7.8nm,0.9s					
CDF	**Champ du Feu**	**155.76 346**	⇑*i*PKP2	PKPab	04 56 28.3	-0.3
	comp=Z,9.1nm,0.8s					
PAGF	**Fort de Pagny**	**155.95 348**	⇑*i*PKP2	PKPab	04 56 29.2	-0.2
	comp=Z,3.5nm,0.6s					
FETA	**Feichten**	**156.08 339**	⇑*i*PKPab	PKPab	04 56 30.3	+0.3
	comp=Z,4.6nm,1.0s					
MEZF	**Maizieres J'vi**	**156.12 349**	*e*PKP2	PKPab	04 56 29.7	-0.4
HAU	**Haudompre**	**156.35 347**	⇑*i*PKP2	PKPab	04 56 30.7	-0.4
	comp=Z,13nm,0.7s					
SFTF	**Sexfontaines**	**156.41 349**	*e*PKP2	PKPab	04 56 31.0	-0.4
FLN	**La Foliniere**	**156.42 358**	*e*PKP2	PKPab	04 56 29.7	-1.7
HINF	**Hinteralfeld**	**156.42 346**	*e*PKP2	PKPab	04 56 31.5	+0.1
DAVOX	**Davos/Dischmat**	**156.56 340**	PKPab	PKPab	04 56 32.6	+0.5
	comp=Z,4.8nm,0.6s,baz=111,slow=3.6,SNR=9.8					
DAVOX	**Davos/Dischmat**	**156.56 340**	PKPab	PKPab	04 56 32.6	+0.5
LDF	**La Druitiere**	**156.57 358**	⇑*i*PKP2	PKPab	04 56 30.6	-1.5
	comp=Z,4.7nm,0.5s					
CABF	**La Chapelle**	**157.73 346**	*e*PKP2	PKPab	04 56 37.2	+0.1
BGF	**Bois d'Agland**	**158.35 352**	⇑*i*PKP2	PKPab	04 56 39.3	-0.5
	comp=Z,6.2nm,0.7s					
MFF	**Saint Martin d**	**158.56 357**	*e*PKP2	PKPab	04 56 40.0	-0.8
TCF	**Toulx Ste Croi**	**158.69 353**	⇑*i*PKP2	PKPab	04 56 40.9	-0.4
	comp=Z,14nm,0.8s					
RJF	**Les Rejaudoux**	**159.74 354**	*e*PKP2	PKPab	04 56 45.4	-0.5
CAF	**Calviac**	**160.05 352**	⇑*i*PKP2	PKPab	04 56 47.3	0.0
	comp=Z,17nm,1.0s					
LFF	**La Frestale**	**160.17 355**	⇑*i*PKP2	PKPab	04 56 47.2	-0.6
	comp=Z,10nm,0.7s					
SMRF	**Simiane la Rot**	**160.34 345**	*e*PKP2	PKPab	04 56 49.1	+0.5
	comp=Z,76nm,1.5s					
MTLF	**Montolieu**	**161.59 351**	*e*PKP2	PKPab	04 56 53.7	-0.4
ESDC	**Sonseca Array**	**165.38 7**	PKPab	PKPab	04 57 10.6	-0.3
	comp=Z,0.1nm,0.3s,baz=346,slow=4.7,SNR=4.7					
ESDC	**Sonseca Array**	**165.38 7**	PKPab	PKPab	04 57 10.6	-0.3
KEST	**Kesra**	**165.88 321**	PKPab	PKPab	04 57 13.2	-0.2
	comp=Z,2.4nm,0.9s,baz=226,slow=2.6,SNR=6.4					
KEST	**Kesra**	**165.88 321**	PKPab	PKPab	04 57 13.2	-0.2
TORD	**Torodi Ar. Bea**	**167.67 195**	PKP	PKPdf	04 56 10.3	-0.9
	comp=Z,0.6nm,0.6s,baz=300,slow=0.7,SNR=7.6					
TORD			PKPab	PKPab	04 57 21.9	+0.4
	comp=Z,2.7nm,0.6s,baz=166,slow=4.4,SNR=40					
TORD	**Torodi Ar. Bea**	**167.67 195**	PKP	PKPdf	04 56 10.3	-0.9
TORD			PKPab	PKPab	04 57 21.9	+0.4

*IDC **27** 04:49:49.6±1.3, 15°.27N×123°.74E, h0km, mb3.6/6, mb1 3.8/7, mb1mx3.5/24, mbtmp3.7/7, ML4.4/1, Error ellipse: s-maj=49.7km s-min=19.7km az=63.0*
*MAN **27** 04:49:55, 15°.13N×122°.92E, h29km, mb4.6, ML3.5, MS3.4*
*ISCJB **27** 04:49:56.4±0.8, 15°.08N±0°.06×122°.89E±0°.07, h63km±9km, mb3.6/6, Error ellipse: s-maj=14.1km s-min=7.0km az=139.9*

ISC 27 04:49:57.2±0.8, 15°.08N±0°.06×122°.90E±0°.07, h52km±9km, n15,σ1ᵎ03/20, mb3.6/6, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
POLP	**Polilio Island**	**0.99**	**249**	*e*P	**Pn**	**04 50 14.1**	**-0.8**
POLP				*e*S	**Sn**	**04 50 28.7**	**+0.9**
GQP	**Guinayangan**	**1.25**	**200**	⇑*i*P	**Pn**	**04 50 18.2**	**-0.1**
GQP				*e*S	**Sn**	**04 50 34.6**	**+0.5**
BALP	**Baler**	**1.43**	**297**	*e*P	**Pn**	**04 50 19.4**	**-1.4**
BALP				*e*S	**Sn**	**04 50 37.5**	**-1.0**
BOAC	**Boac**	**1.91**	**212**	*e*P	**Pn**	**04 50 28.2**	**+0.8**
PVCP	**Virac**	**1.92**	**140**	*e*P	**Pn**	**04 50 26.9**	**-0.6**
PVCP				*e*S	**Sn**	**04 50 51.2**	**+0.8**
CAUP	**Cauayan**	**2.12**	**331**	*e*P	**Pn**	**04 50 30.8**	**+0.6**
TGY	**Tagaytay City**	**2.13**	**243**	Pn	**Pn**	**04 50 38.7**	**+8.3**
	58nm,0.3s,baz=36,slow=13,SNR=4.2						
TGY				Sn	**Sn**	**04 51 02.4**	**+6.7**
	100nm,0.3s,baz=160,slow=23,SNR=9.0						
LUBP	**Lubang**	**2.90**	**243**	*e*P	**Pn**	**04 50 45.8**	**+5.0**
CNP	**Catarman**	**3.08**	**146**	*e*P	**Pn**	**04 50 43.5**	**+0.2**
CNP				*e*S	Px	04 51 01.0	
FITZ	**Fitzroy Crossi**	**33.08**	**175**	P	**P**	**04 56 27.5**	**-0.7**
	1.2nm,0.7s,mb3.9,baz=0.0,slow=13,SNR=2.4						
WRA	**Warramunga Arr**	**36.58**	**162**	P	**P**	**04 56 56.4**	**-1.9**
	0.2nm,0.5s,mb3.2,baz=342,slow=9.3,SNR=2.8						
ASAR	**Alice Springs**	**39.98**	**164**	P	**P**	**04 57 26.1**	**-0.7**
	0.2nm,0.5s,mb3.1,baz=16,slow=12,SNR=4.7						
MKAR	**Makanchi Array**	**46.23**	**322**	P	**P**	**04 58 19.2**	**+2.1**
	0.6nm,0.8s,mb3.6,baz=113,slow=11,SNR=3.6						
STKA	**Stephens Creek**	**50.02**	**159**	P	**P**	**04 58 46.2**	**-0.2**
	0.8nm,0.7s,mb3.8,baz=333,slow=11,SNR=3.4						
KURK	**Kurchatov**	**50.26**	**325**	P	**P**	**04 58 49.9**	**+1.8**
	0.5nm,0.5s,mb3.8,baz=120,slow=8.1,SNR=5.6						

*NEIC **27** 05:28:41.9±1.4, 31°.24S×179°.69W, h364km±14km, mb4.6/3, Error ellipse: s-maj=18.2km s-min=13.5km az=97.0*
*IDC **27** 05:28:45.5±2.0, 31°.43S×179°.91W, h394km±20km, mb3.3/6, mb1 3.6/8, mb1mx3.4/17, mbtmp3.4/8, Error ellipse: s-maj=24.9km s-min=16.2km az=173.0*

ISC 27 05:28:44.9±0.7, 31°.52S±0°.06×179°.8W±0°.2, h399km±8km, n103,σ1ᵎ21/102, mb3.6/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**6.24**	**194**	*e*PN	**Pn**	**05 30 19.9**	**0.0**
MXZ				SN	**S**	**05 31 39.6**	**+2.1**
KUZ	**Kuaotunu**	**6.41**	**214**	PN	**Pn**	**05 30 26.4**	**+4.5**
PUZ	**Puketiti**	**6.74**	**193**	PN	**Pn**	**05 30 25.2**	**-0.3**
PUZ				SN	**S**	**05 31 49.3**	**+1.6**
CNGZ	**Carnagh Statio**	**7.15**	**193**	*e*PN	**Pn**	**05 30 30.5**	**+0.4**
MWZ	**Matawai**	**7.15**	**197**	PN	**Pn**	**05 30 29.6**	**-0.6**
URZ	**Urewera**	**7.20**	**200**	P	**Pn**	**05 30 29.9**	**-0.7**
	9.3nm,0.3s,baz=333,slow=2.9,SNR=62						
URZ				S	**S**	**05 31 57.2**	**+0.1**
	40nm,0.3s,baz=99,slow=23,SNR=12						
URZ	**Urewera**	**7.20**	**200**	P	**Pn**	**05 30 29.9**	**-0.7**
URZ				S	**S**	**05 31 57.2**	**+0.1**
URZ	**Urewera**	**7.20**	**200**	PN	**Pn**	**05 30 29.8**	**-0.8**
URZ				SN	**S**	**05 31 56.5**	**-0.5**
TARZ	**Mount Tarawera**	**7.37**	**203**	PN	**Pn**	**05 30 35.3**	**+2.8**
PRGZ	**Paritu Road**	**7.63**	**194**	*e*PN	**Pn**	**05 30 38.1**	**+2.5**
KNZ	**Kokohu**	**7.77**	**195**	PN	**Pn**	**05 30 36.1**	**-1.0**
KNZ				SN	**S**	**05 32 10.2**	**+1.1**
RAHZ	**Arahi**	**7.82**	**198**	PN	**Pn**	**05 30 37.0**	**-0.6**
RAHZ				SN	**S**	**05 32 10.9**	**+0.9**
MHGZ	**Mahia Peninsul**	**7.85**	**193**	PN	**Pn**	**05 30 40.7**	**+2.7**
NMHZ	**Naumai**	**8.06**	**199**	*e*PN	**Pn**	**05 30 39.9**	**-0.5**
BKZ	**Black Stump Fm**	**8.22**	**201**	PN	**Pn**	**05 30 41.1**	**-1.1**
BKZ				SN	**S**	**05 32 18.7**	**+0.3**
HIZ	**Hauiti**	**8.25**	**211**	PN	**Pn**	**05 30 44.9**	**+2.3**
MCHZ	**McNeill Hill**	**8.42**	**199**	PN	**Pn**	**05 30 44.6**	**+0.1**
MCHZ				SN	**S**	**05 32 24.9**	**+2.3**
OTVZ	**Oturere**	**8.49**	**205**	PN	**Pn**	**05 30 45.3**	**-0.1**
TWVZ	**Taurewa**	**8.49**	**206**	PN	**Pn**	**05 30 46.0**	**+0.7**
CKHZ	**Cape Kidnapper**	**8.52**	**197**	PN	**Pn**	**05 30 47.2**	**+1.5**
CKHZ				SN	**S**	**05 32 25.2**	**+0.4**
WPVZ	**Whakapapa**	**8.57**	**205**	PN	**Pn**	**05 30 47.9**	**+1.7**
TUVZ	**Tukino**	**8.59**	**204**	*e*PN	**Pn**	**05 30 46.2**	**-0.3**
FWVZ	**Far West T-bar**	**8.61**	**205**	PN	**Pn**	**05 30 46.8**	**+0.1**
BHHZ	**Black Hill Sta**	**8.65**	**202**	PN	**Pn**	**05 30 46.3**	**-0.9**
BHHZ				SN	**S**	**05 32 27.0**	**-0.4**
TRVZ	**Turoa**	**8.65**	**205**	PN	**Pn**	**05 30 47.3**	**+0.1**
WNVZ	**Wahianoa**	**8.66**	**205**	PN	**Pn**	**05 30 46.4**	**-0.9**
MOVZ	**Moawhango**	**8.68**	**204**	PN	**Pn**	**05 30 46.2**	**-1.3**
KAHZ	**Kahuranaki**	**8.70**	**197**	PN	**Pn**	**05 30 48.6**	**+0.9**
PXZ	**Pawanui**	**8.93**	**197**	*e*PN	**Pn**	**05 30 49.1**	**-1.2**
PNHZ	**Pukenui**	**8.99**	**200**	PN	**Pn**	**05 30 49.3**	**-1.9**
WPHZ	**Waipukurau**	**9.07**	**199**	PN	**Pn**	**05 30 53.0**	**+1.0**
TSZ	**Takapari Road**	**9.20**	**201**	SN	**S**	**05 32 39.3**	**+0.2**
PRHZ	**Porangahau**	**9.20**	**197**	*e*PN	**Pn**	**05 30 53.9**	**+0.3**
PRHZ				SN	**S**	**05 32 38.4**	**-0.9**
WAZ	**Wanganui**	**9.26**	**206**	PN	**Pn**	**05 30 55.3**	**+1.1**
ANWZ	**Angora Road**	**9.43**	**198**	PN	**Pn**	**05 30 56.6**	**+0.5**
POWZ	**Post Office Ro**	**9.56**	**201**	PN	**Pn**	**05 30 58.1**	**+0.4**
PRWZ	**Pori Road**	**9.65**	**200**	PN	**Pn**	**05 30 59.0**	**+0.3**
BFZ	**Birch Farm**	**9.69**	**198**	*e*PN	**Pn**	**05 30 57.7**	**-1.6**
MRZ	**Mangatainoka R**	**9.87**	**201**	*e*PN	**Pn**	**05 30 58.3**	**-2.9**
TIWZ	**Tintock**	**9.88**	**200**	*e*PN	**Pn**	**05 31 02.4**	**+1.0**
HOWZ	**Holdsworth Sta**	**10.10**	**201**	PN	**Pn**	**05 31 02.3**	**-1.6**
OGWZ	**Otaki Gorge**	**10.14**	**202**	PN	**Pn**	**05 31 02.6**	**-1.8**
OGWZ				SN	**S**	**05 32 57.5**	**-0.9**
TMWZ	**Te Maipa**	**10.19**	**199**	PN	**Pn**	**05 31 04.3**	**-0.7**
KIW	**Kapiti Island**	**10.26**	**203**	*e*PN	**Pn**	**05 31 04.7**	**-1.2**
MTW	**Mount Morrison**	**10.35**	**200**	*e*PN	**Pn**	**05 31 07.1**	**+0.3**
MTW				SN	**S**	**05 33 01.0**	**-1.7**
CAW	**Cannon Point**	**10.43**	**202**	PN	**Pn**	**05 31 06.5**	**-1.3**
TRWZ	**Traveller**	**10.52**	**199**	PN	**Pn**	**05 31 08.6**	**-0.1**
DUWZ	**D'Urville Isla**	**10.57**	**207**	PN	**Pn**	**05 31 08.5**	**-0.9**
PAWZ	**Paruwai Farm**	**10.57**	**200**	PN	**Pn**	**05 31 09.3**	**-0.1**
MSWZ	**Moikau Station**	**10.66**	**201**	PN	**Pn**	**05 31 09.6**	**-0.8**
BHW	**Baring Head**	**10.77**	**202**	PN	**Pn**	**05 31 11.1**	**-0.5**
TCW	**Tory Channel**	**10.80**	**205**	*e*PN	**Pn**	**05 31 10.3**	**-1.7**
PLWZ	**Palliser**	**10.80**	**200**	*e*PN	**Pn**	**05 31 11.5**	**-0.5**
TUWZ	**Tuamarina**	**11.11**	**205**	*e*PN	**Pn**	**05 31 13.8**	**-1.8**
NNZ	**Nelson**	**11.14**	**208**	PN	**Pn**	**05 31 13.6**	**-2.3**
QRZ	**Quartz Range**	**11.17**	**212**	*e*PN	**Pn**	**05 31 16.4**	**0.0**
BSWZ	**Blackbirch Sta**	**11.38**	**205**	*e*PN	**Pn**	**05 31 18.9**	**+0.2**
THZ	**Tophouse**	**11.79**	**208**	PN	**Pn**	**05 31 21.7**	**-1.8**
KHZ	**Kahutara**	**12.12**	**204**	*e*P	**P**	**05 31 25.4**	**-0.4**
	65nm,0.5s						
KHZ	**Kahutara**	**12.12**	**204**	PN	**Pn**	**05 31 25.1**	**-2.2**
DSZ	**Denniston Nort**	**12.24**	**211**	PN	**Pn**	**05 31 28.2**	**-0.5**
LTZ	**Lake Taylor**	**12.90**	**207**	PN	**P**	**05 31 36.3**	**+2.0**
MQZ	**McQueen's Vall**	**13.56**	**204**	*e*PN	**P**	**05 31 43.5**	**+2.0**
MQZ				SN	**S**	**05 34 08.6**	**+0.9**
MSVF	**Nonsavu**	**13.86**	**351**	*e*P	**P**	**05 31 40.4**	**-4.8**
	17nm,0.8s						
RPZ	**Rata Peaks**	**14.17**	**208**	P	**P**	**05 31 50.7**	**+2.5**
	1.1nm,0.3s,baz=24,slow=19,SNR=4.2						
RPZ				S	**S**	**05 34 21.6**	**+1.8**
	2.5nm,0.3s,baz=242,slow=22,SNR=12						
RPZ	**Rata Peaks**	**14.17**	**208**	*e*P	**P**	**05 31 51.1**	**+2.9**
RPZ				*e*S	**S**	**05 34 19.9**	**0.0**
RPZ				S	**S**	**05 34 21.6**	**+1.8**
ODZ	**Otahua Downs**	**15.44**	**206**	PN	**P**	**05 32 08.0**	**+6.0**
ODZ				SN	**S**	**05 34 52.4**	**+7.3**
CTA	**Charters Tower**	**32.50**	**282**	P	**P**	**05 34 42.0**	**+1.5**
	2.5nm,0.4s,mb3.9,baz=112,slow=11,SNR=7.3						
CTA	**Charters Tower**	**32.50**	**282**	P	**P**	**05 34 42.0**	**+1.5**
STKA	**Stephens Creek**	**32.75**	**259**	P	**P**	**05 34 44.5**	**+2.0**
	2.5nm,0.7s,mb3.6,baz=103,slow=7.9,SNR=7.1						
STKA	**Stephens Creek**	**32.75**	**259**	P	**P**	**05 34 44.5**	**+2.0**
ASAR	**Alice Springs**	**41.54**	**269**	P	**P**	**05 35 55.5**	**0.0**
	0.4nm,0.3s,mb3.2,baz=107,slow=7.6,SNR=7.1						
ASAR				ScP	ScP	05 40 58.9	+3.5
	0.6nm,0.7s,baz=106,slow=4.1,SNR=5.6						
ASAR	**Alice Springs**	**41.54**	**269**	P	**P**	**05 35 55.5**	**0.0**
ASAR				ScP	ScP	05 40 58.9	+3.5
WB2	**Warramunga Arr**	**42.62**	**274**	*e*P	**P**	**05 36 04.2**	**0.0**
WRA	**Warramunga Arr**	**42.63**	**274**	P	**P**	**05 36 04.1**	**-0.1**
	1.0nm,0.3s,mb3.6,baz=110,slow=8.1,SNR=28						
WRA				S	**S**	**05 41 55.1**	**-1.8**
	0.4nm,1.0s,baz=109,slow=12,SNR=4.0						
WRA	**Warramunga Arr**	**42.63**	**274**	P	**P**	**05 36 04.1**	**-0.1**
WRA				S	**S**	**05 41 55.1**	**-1.8**
FITZ	**Fitzroy Crossi**	**50.84**	**272**	P	**P**	**05 37 07.6**	**+0.5**
	1.5nm,0.5s,mb3.5,baz=195,slow=11,SNR=3.9						
FITZ	**Fitzroy Crossi**	**50.84**	**272**	P	**P**	**05 37 07.6**	**+0.5**
QSPA	**South Pole Qui**	**58.60**	**180**	*e*P	**P**	**05 38 07.6**	**+6.6**
	3.9nm,0.6s,mb3.9						
NVAR	**Mina Array Bea**	**90.09**	**44**	P	**P**	**05 41 02.2**	**+1.6**
	0.6nm,0.8s,mb3.5,baz=226,slow=8.2,SNR=4.2						
NVAR	**Mina Array Bea**	**90.09**	**44**	P	**P**	**05 41 02.2**	**+1.6**
MKAR	**Makanchi Array**	**117.31**	**310**	PKP	PKPdf	05 46 43.3	+0.1
	0.1nm,0.5s,baz=88,slow=2.4,SNR=4.1						
MKAR	**Makanchi Array**	**117.31**	**310**	PKP	PKPdf	05 46 43.3	+0.1
KURK	**Kurchatov**	**120.71**	**314**	PKP	PKPdf	05 46 49.9	+0.3
BVAR	**Borovoye Array**	**126.12**	**315**	PKP	PKPdf	05 47 00.8	+0.9
	0.7nm,0.4s,baz=143,slow=3.7,SNR=4.3						
BVAR	**Borovoye Array**	**126.12**	**315**	PKP	PKPdf	05 47 00.8	+0.9
ARCES	**ARCESS Array B**	**139.34**	**347**	PKhKP	PKPpre	05 47 18.5	
	4.0nm,1.0s,baz=41,slow=1.8,SNR=8.0						
ARCES	**ARCESS Array B**	**139.34**	**347**	PKPpre	PKPpre	05 47 18.5	
JOF	**Joensuu**	**142.87**	**337**	*e*pkp	PKPdf	05 47 27.0	-3.8
KAF	**Kangasniemi**	**145.06**	**339**	*e*pkp	PKPdf	05 47 33.5	-1.1
FINES	**FINESS Array B**	**145.64**	**338**	PKPbc	PKPbc	05 47 36.6	-0.1
	7.2nm,0.4s,baz=45,slow=4.1,SNR=52						
FINES	**FINESS Array B**	**145.64**	**338**	PKPbc	PKPbc	05 47 36.6	-0.1
NOA	**NORSAR Array B**	**149.59**	**349**	PKPbc	PKPbc	05 47 47.6	+0.4
	2.0nm,0.6s,baz=13,slow=4.1,SNR=5.6						
NOA	**NORSAR Array B**	**149.59**	**349**	PKPbc	PKPbc	05 47 47.6	+0.4
MMAI	**Mount Meron Ar**	**150.29**	**282**	PKPbc	PKPbc	05 47 51.2	+1.5
	1.7nm,0.5s,baz=82,slow=1.2,SNR=4.5						
MMAI	**Mount Meron Ar**	**150.29**	**282**	PKPbc	PKPbc	05 47 51.2	+1.5
AKASG	**Malin Array Be**	**151.22**	**320**	PKPbc	PKPbc	05 47 51.6	+0.3
	0.7nm,0.4s,baz=52,slow=3.3,SNR=5.5						
AKASG	**Malin Array Be**	**151.22**	**320**	PKPbc	PKPbc	05 47 51.6	+0.3
BRTR	**Keskin Array B**	**151.75**	**296**	PKPbc	PKPbc	05 47 52.6	-0.2
	0.9nm,0.5s,baz=108,slow=2.7,SNR=4.2						
BRTR				PKPab	PKPab	05 48 02.6	-1.0
	1.1nm,0.8s,baz=116,slow=2.9,SNR=4.4						
BRTR	**Keskin Array B**	**151.75**	**296**	PKPbc	PKPbc	05 47 52.6	-0.2
BRTR				PKPab	PKPab	05 48 02.6	-1.0
TORD	**Torodi Ar. Bea**	**161.67**	**185**	PKPab	PKPab	05 48 49.3	+2.5
	0.3nm,0.5s,baz=164,slow=5.0,SNR=4.6						
TORD	**Torodi Ar. Bea**	**161.67**	**185**	PKPab	PKPab	05 48 49.3	+2.6

*IDC **27** 05:31:23.4±1.1, 56°.29S×27°.65W, h0km, mb4.5/3, mb1 4.4/3, mb1mx3.9/12, mbtmp4.4/3, MS3.4/2, Ms1 3.3/2, ms1mx2.9/13, Error ellipse: s-maj=55.4km s-min=42.5km az=152.0*
*NEIC **27** 05:31:29.9±4.7, 56°.31S×27°.47W, h42km±40km, mb4.2/2, Error ellipse: s-maj=22.8km s-min=19.1km az=223.0*
*ISCJB **27** 05:31:32.3±6.6, 56°.2S±0°.2×27°.5W±0°.4, h73km±63km, mb4.3/4, Error ellipse: s-maj=38.8km s-min=30.6km az=36.5*

ISC 27 05:31:35.4±6.0, 56°.3S±0°.2×27°.5W±0°.4, h88km±58km, n25,σ0ᵎ26/11, mb4.3/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**16.85**	**160**	*e*P	**Pn**	**05 35 33.6**	**+8.3**
VNA2	**Neumayer--Watz**	**17.06**	**157**	*e*P	**Pn**	**05 35 28.0**	**+0.1**
	baz=317,slow=14						
SNAA	**Sanae**	**18.62**	**156**	*e*P	**Pn**	**05 35 41.8**	**-4.9**
SNAA	**Sanae**	**18.62**	**156**	*e*P	**Pn**	**05 35 42.7**	**-4.1**
	15nm,1.4s						
PLCA	**Paso Flores**	**31.89**	**281**	LR	LR	05 48 50.1	
	comp=Z,52nm,20.8s,baz=2.6,slow=33						
BOSA	**Boshof**	**46.16**	**76**	P	**P**	**05 39 51.0**	**0.0**
	4.7nm,1.0s,mb4.2,baz=298,slow=8.7,SNR=3.1						
BOSA				LR	LR	05 54 50.2	
	comp=Z,60nm,21.0s,baz=171,slow=30						
BOSA	**Boshof**	**46.16**	**76**	P	**P**	**05 39 51.0**	**0.0**
LPAZ	**La Paz**	**50.38**	**306**	*e*P	**P**	**05 40 23.5**	**0.0**
	3.3nm,0.9s,mb4.3						
TORD	**Torodi Ar. Bea**	**73.30**	**30**	P	**P**	**05 42 57.2**	**0.0**
	2.2nm,0.5s,mb4.3,baz=201,slow=6.6,SNR=38						
TORD	**Torodi Ar. Bea**	**73.30**	**30**	P	**P**	**05 42 57.2**	**0.0**
ASAR	**Alice Springs**	**98.84**	**163**	P	**P**	**05 45 05.5**	**0.0**
	1.1nm,1.1s,mb4.3,baz=180,slow=4.5,SNR=5.0						
ASAR	**Alice Springs**	**98.84**	**163**	P	**P**	**05 45 05.5**	**0.0**
NVAR	**Mina Array Bea**	**121.34**	**293**	PKP	PKPdf	05 50 19.0	+1.5
	0.2nm,0.5s,baz=173,slow=2.9,SNR=3.5						
NVAR	**Mina Array Bea**	**121.34**	**293**	PKP	PKPdf	05 50 19.0	+1.5
FINES	**FINESS Array B**	**124.63**	**28**	PKP	PKPdf	05 50 23.4	+0.4
	1.6nm,0.8s,baz=163,slow=2.0,SNR=3.4						
FINES	**FINESS Array B**	**124.63**	**28**	PKP	PKPdf	05 50 23.4	+0.4
YKA	**Yellowknife Ar**	**136.22**	**318**	PKP	PKPdf	05 50 44.8	-0.1
	0.6nm,0.8s,baz=131,slow=2.1,SNR=7.3						
YKA	**Yellowknife Ar**	**136.23**	**318**	PKP	PKPdf	05 50 44.9	-0.1
INK	**Inuvik**	**145.87**	**320**	*e*PKPbc	PKPbc	05 51 03.2	+0.2
ILAR	**Eielson Array**	**150.14**	**311**	PKPbc	PKPbc	05 51 13.3	-1.0
	5.8nm,0.8s,baz=135,slow=1.8,SNR=21						
ILAR	**Eielson Array**	**150.14**	**311**	PKPbc	PKPbc	05 51 13.3	-1.0
MCK	**McKinley**	**150.79**	**309**	*e*PKPbc	PKPbc	05 51 16.3	+0.3
SONM	**Songino Array**	**150.88**	**87**	PKPbc	PKPbc	05 51 15.7	-1.0
	1.0nm,0.9s,baz=209,slow=3.9,SNR=6.1						
SONM	**Songino Array**	**150.88**	**87**	PKPbc	PKPbc	05 51 15.7	-1.0
BPAW	**Bear Paw Mtn.**	**151.75**	**309**	*e*PKPbc	PKPbc	05 51 19.0	+0.8

IDC 27 05:41:35.7±3.9, 10°.74N×40°.76W, h0km, mb4.3/5, mb1 4.3/5, mb1mx3.8/22, mbtmp4.3/5, MS3.4/9, Ms1 3.4/9, ms1mx3.2/26, Error ellipse: s-maj=114.1km s-min=32.6km az=29.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**17.15**	**163**	LR	LR	05 50 36.1	
	comp=Z,33nm,19.3s,baz=48,slow=32						
BBTS	**Babate**	**23.95**	**78**	LR	LR	05 54 02.4	
	comp=Z,63nm,18.9s,baz=322,slow=31						
SJG	**San Juan**	**25.64**	**290**	LR	LR	05 55 47.9	
	comp=Z,80nm,18.1s,baz=91,slow=33						
ROSC	**El Rosal**	**33.75**	**263**	LR	LR	06 02 31.0	
	comp=Z,60nm,18.8s,baz=18,slow=37						
DBIC	**Dimbokro**	**35.70**	**93**	P	P	05 48 36.2	-0.1
	3.0nm,0.6s,baz=276,slow=13,SNR=6.9						
DBIC				LR	LR	05 59 10.3	
	comp=Z,71nm,20.8s,baz=248,slow=30						
CPUP	**Villa Florida**	**40.21**	**203**	LR	LR	06 05 42.8	
	comp=Z,32nm,19.2s,baz=143,slow=36						
TORD	**Torodi Ar. Bea**	**41.57**	**82**	P	P	05 49 25.4	-0.1
	2.7nm,0.8s,baz=276,slow=7.9,SNR=14						
PDAR	**Pinedale Array**	**67.24**	**312**	LR	LR	06 18 56.6	
	comp=Z,61nm,21.1s,baz=74,slow=33						
FINES	**FINESS Array B**	**69.63**	**28**	P	P	05 52 47.2	+0.5
	9.2nm,1.1s,baz=205,slow=4.0,SNR=4.3						
ARCES	**ARCESS Array B**	**71.80**	**20**	P	P	05 52 59.6	-0.1
	1.3nm,0.7s,baz=275,slow=9.9,SNR=2.8						
NVAR	**Mina Array Bea**	**73.68**	**307**	LR	LR	06 23 27.5	
	comp=Z,87nm,21.0s,baz=265,slow=34						
BOSA	**Boshof**	**74.75**	**124**	LR	LR	06 18 49.0	
	comp=Z,41nm,18.4s,baz=162,slow=30						
ILAR	**Eielson Array**	**87.12**	**336**	P	P	05 54 23.2	0.0
	1.2nm,1

*ISCJB **27** 06:26:05.6±0.8, 1.°04S±0.°06×127.°2E±0.°1, h58km±10km, mb3.5/3, Error ellipse: s-maj=19.3km s-min=10.7km az=1.0*

ISC 27 06:26:06.8±0.8, 1.°06S±0.°06×127.°2E±0.°1, h48km±11km, n8, σ0s91/10, mb3.5/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.53**	**37**	P	**Pn**	**06 26 16.7**	**-1.5**
LBMI				S	**Sn**	**06 26 27.4**	**+0.9**
TNTI	**Ternate**	**1.83**	**6**	P	**Pn**	**06 26 40.1**	**+4.3**
NLAI	**Namlea**	**2.17**	**182**	P	**Pn**	**06 26 41.2**	**+0.8**
NLAI				S	**Sn**	**06 27 06.4**	**+0.3**
GTOI	**Gorontalo**	**4.50**	**292**	P	**Pn**	**06 27 11.8**	**-0.6**
WRA	**Warramunga Arr**	**20.03**	**160**	P	**P**	**06 30 34.7**	**-1.1**
	0.1nm,0.3s,baz=338,slow=11,SNR=4.0						
ASAR	**Alice Springs**	**23.40**	**164**	P	**P**	**06 31 11.9**	**+0.4**
	0.5nm,0.6s,mb3.1,baz=346,slow=11,SNR=5.7						
STKA	**Stephens Creek**	**33.54**	**157**	P	**P**	**06 32 41.5**	**-0.5**
	1.8nm,0.9s,mb4.0,baz=342,slow=6.4,SNR=3.5						
MKAR	**Makanchi Array**	**61.75**	**327**	P	**P**	**06 36 21.4**	**+1.2**
	0.3nm,0.7s,mb3.5,baz=120,slow=7.5,SNR=3.5						

*CSEM **27** 06:51:05.6, 37.°76N×25.°33W, h0km, ML1.7, After PDA*

PDA 27 06:51:05.6±0.6, 37.°76N±25.°33W, h0km±1km, MD3.6, ML1.7, Error ellipse: s-maj=8.9km s-min=1.0km az=179.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BART	**Pico Bartolome**	**0.12**	**84**	*i* P	Pg	06 51 09.4	+1.4
BART				*e*S	Sg	06 51 11.8	+2.2
BART				A		06 51 13.7	
	127nm,0.3s						
GRON	**Grota Negra**	**0.17**	**271**	*e*P	Pg	06 51 07.2	-1.6
GRON				*e*S	Sg	06 51 08.4	-2.5
GRON				A		06 51 10.3	
	1µm,0.2s						
PDA	**Ponta Delgada**	**0.27**	**266**	*e*P	Pg	06 51 11.6	+0.9
PDA				*e*S	Sg	06 51 16.2	+2.0
PDA				A		06 51 17.1	
	65nm,0.2s						
PDA	**Ponta Delgada**	**0.27**	**266**	*e*P	Pg	06 51 11.6	+0.9
PDA				*e*S	Sg	06 51 16.2	+2.0
PSET	**Sete Cidades**	**0.32**	**281**	*e*P	Pg	06 51 12.7	+1.0
PSET				*e*S	Sg	06 51 17.8	+1.9
PSET				A		06 51 18.5	
	9.8nm,0.1s						
PSET	**Sete Cidades**	**0.32**	**281**	*e*P	Pg	06 51 12.7	+1.0
PSET				*e*S	Sg	06 51 17.8	+1.9

*ISCJB **27** 06:56:03.6±1.7, 23.°1S±0.°2×179.°9W±0.°1, h540km±25km, mb4.1/8, Error ellipse: s-maj=28.6km s-min=14.8km az=150.1*

*NEIC **27** 06:56:03.8±1.2, 23.°12S×179.°83W, h534km±17km, mb4.3/2, Error ellipse: s-maj=21.3km s-min=11.1km az=149.0*

*IDC **27** 06:56:04.1±2.0, 23.°10S×179.°85W, h535km±24km, mb3.4/7, mb1 3.7/9, mb1mx3.5/18, mbtmp3.4/9, Error ellipse: s-maj=40.9km s-min=14.6km az=156.0*

ISC 27 06:56:03.8±1.5, 23.°1S±0.°2×179.°9W±0.°1, h532km±22km, n20, σ0s62/20, mb4.1/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.93**	**41**	P	**P**	**06 58 41.4**	**-0.4**
	1.3nm,0.3s,baz=61,slow=23,SNR=4.1						
AFI	**Afiamalu**	**11.93**	**41**	P	**P**	**06 58 41.4**	**-0.4**
URZ	**Urewera**	**15.31**	**189**	P	**P**	**06 59 16.9**	**+0.3**
	0.6nm,0.3s,baz=14,slow=3.3,SNR=6.6						
URZ	**Urewera**	**15.31**	**189**	P	**P**	**06 59 16.9**	**+0.3**
CTA	**Charters Tower**	**31.62**	**269**	P	**P**	**07 01 44.4**	**+1.0**
	18nm,0.4s,mb5.0,baz=95,slow=11,SNR=52						
CTA	**Charters Tower**	**31.62**	**269**	P	**P**	**07 01 44.4**	**+1.0**
PMG	**Port Moresby**	**34.38**	**288**	*e*P	**P**	**07 02 07.6**	**+0.8**
	14nm,1.0s,mb4.5						
STKA	**Stephens Creek**	**35.15**	**247**	P	**P**	**07 02 12.9**	**0.0**
	1.9nm,0.6s,mb3.8,baz=72,slow=10,SNR=6.3						
STKA	**Stephens Creek**	**35.15**	**247**	P	**P**	**07 02 12.9**	**0.0**
ASAR	**Alice Springs**	**42.30**	**260**	P	**P**	**07 03 10.7**	**-0.3**
	6.9nm,0.8s,mb4.2,baz=95,slow=8.1,SNR=57						
ASAR	**Alice Springs**	**42.30**	**260**	P	**P**	**07 03 10.7**	**-0.3**
WRA	**Warramunga Arr**	**42.60**	**265**	P	**P**	**07 03 12.7**	**-0.7**
	3.4nm,0.4s,mb4.3,baz=92,slow=8.5,SNR=74						
WRA				ScP	ScP	07 07 52.7	-1.1
	0.2nm,0.7s,baz=90,slow=3.8,SNR=5.0						
WRA	**Warramunga Arr**	**42.60**	**265**	P	**P**	**07 03 12.7**	**-0.7**
WRA				ScP	ScP	07 07 52.7	-1.1
MBWA	**Marble Bar**	**55.65**	**259**	*e*P	**P**	**07 04 48.7**	**-1.1**
	5.3nm,0.6s,mb4.0						
NVAR	**Mina Array Bea**	**84.10**	**44**	P	**P**	**07 07 39.2**	**+0.5**
	0.1nm,0.3s,baz=231,slow=5.7,SNR=3.2						
NVAR	**Mina Array Bea**	**84.10**	**44**	P	**P**	**07 07 39.2**	**+0.5**
TXAR	**Lajitas Array**	**89.90**	**58**	P	**P**	**07 08 06.7**	**+0.3**
	0.7nm,0.7s,mb3.6,baz=218,slow=5.6,SNR=9.7						
TXAR	**Lajitas Array**	**89.90**	**58**	P	**P**	**07 08 06.7**	**+0.3**
PDAR	**Pinedale Array**	**92.03**	**44**	P	**P**	**07 08 15.5**	**-0.4**
	0.4nm,0.8s,mb3.5,baz=215,slow=4.0,SNR=2.9						
PDAR	**Pinedale Array**	**92.03**	**44**	P	**P**	**07 08 15.5**	**-0.3**

IDC 27 07:08:33.0±52.0, 17.°47S×177.°25W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/16, mbtmp3.9/3, Error ellipse: s-maj=956.7km s-min=164.6km az=79.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.80**	**241**	P	P	07 16 08.7	+0.6
	0.8nm,0.3s,baz=86,slow=9.9,SNR=5.7						
WRA	**Warramunga Arr**	**45.80**	**259**	P	P	07 16 56.4	-0.5
	0.4nm,0.5s,baz=95,slow=8.2,SNR=5.1						
ASAR	**Alice Springs**	**45.97**	**254**	P	P	07 16 58.0	-0.3
	2.1nm,0.4s,baz=90,slow=8.5,SNR=35						

*IDC **27** 07:10:41.4±3.1, 33.°29N×106.°54E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/25, mbtmp3.6/4, MS3.0/2, Ms1 3.0/2, ms1mx2.5/32, Error ellipse: s-maj=418.5km s-min=22.0km az=52.0*

*BJI **27** 07:10:45.2, 32.°71N×105.°76E, h29km, mB4.6/3, mb4.0/4, ML3.6/11, Ms3.6/5, Ms7 3.3/6*

ISC 27 07:10:43.8±1.0, 32.°67N±0.°04×105.°85E±0.°05, h7km±8km, n10, σ1s00/19, mb3.6/4, MS2.9/2, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.50**	**226**	Pn	**Pb**	**07 11 28.8**	**-0.2**
CD2				Pg	**Pg**	**07 11 32.5**	**+0.8**
CD2				Sn	**Sn**	**07 11 56.0**	**+0.5**
CD2				Sg	**Sb**	**07 12 00.0**	**+0.1**
CD2				smax			
	comp=N,1µm,0.9s						
CD2				smax			
	comp=E,690nm,0.8s						
XAN	**Xi'an**	**2.91**	**61**	Pn	**Pb**	**07 11 34.0**	**-2.1**
XAN				Pg	**Pg**	**07 11 39.8**	**+0.1**
XAN				Sg	**Sg**	**07 12 18.0**	**+0.6**
XAN				smax			
	comp=N,280nm,0.4s						
XAN				smax			
	comp=E,130nm,0.6s						
LZH	**Lanzhou**	**3.79**	**335**	*e*Pn	**Pn**	**07 11 43.3**	**+0.8**
LZH				Pg	**Pb**	**07 11 51.3**	**+0.3**
LZH				Sn	**Sn**	**07 12 29.0**	**+1.7**
LZH				Sg	**Sb**	**07 12 37.5**	**+0.5**
LZH				smax			
	comp=N,440nm,0.5s						
LZH				smax			
	comp=E,500nm,0.6s						
LZH				LR	LR		
	comp=N,510nm,5.4s						
LZH				LR	LR		
	comp=E,300nm,7.3s						
LZH				LR	LR		
	comp=Z,340nm,7.3s						
GTA	**Gaotai**	**8.31**	**326**	*e*P	**Pn**	**07 12 43.0**	**-1.6**
GTA				S	**Sn**	**07 14 17.8**	**-0.9**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GTA				LR	LR		
	comp=N,180nm,8.3s						
GTA				LR	LR		
	comp=E,110nm,8.1s						
GTA				LR	LR		
	comp=Z,170nm,9.3s						
HHC	**Hu-ho-hao-te**	**9.36**	**28**	*e*P	**Pn**	**07 12 59.0**	**0.0**
HHC				S	**Sn**	**07 14 45.5**	**+1.0**
HHC				sS		07 14 54.3	
HHC				PcS	PcS	07 22 48.3	-3.3
HHC				pmax	pmax		
	comp=Z,19nm,0.7s						
HHC				pmax	pmax		
	comp=Z,100nm,6.3s						
HHC				LR	LR		
	comp=N,140nm,5.7s						
HHC				LR	LR		
	comp=E,170nm,5.2s						
HHC				LR	LR		
	comp=Z,84nm,6.0s						
MKAR	**Makanchi Array**	**22.84**	**315**	P	**P**	**07 15 44.9**	**-2.5**
	comp=Z,0.8nm,0.6s,mb3.4,baz=118,slow=12,SNR=5.6						
MJAR	**Matsushiro Arr**	**26.85**	**73**	LR	LR	07 28 22.1	
	comp=Z,36nm,18.6s,MS3.0,baz=100,slow=41						
KURK	**Kurchatov**	**26.94**	**320**	P	**P**	**07 16 24.6**	**-1.0**
	comp=Z,0.4nm,0.6s,mb3.1,baz=139,slow=8.3,SNR=4.3						
KURK				LR	LR	07 27 38.1	
	comp=Z,30nm,18.8s,MS2.9,baz=290,slow=38						
WRA	**Warramunga Arr**	**58.99**	**148**	P	**P**	**07 20 44.5**	**+0.4**
	comp=Z,0.9nm,0.6s,mb4.0,baz=342,slow=7.2,SNR=10						
ASAR	**Alice Springs**	**62.10**	**151**	P	**P**	**07 21 05.9**	**+0.6**
	comp=Z,0.4nm,0.4s,mb3.9,baz=340,slow=7.2,SNR=7.2						

IDC 27 07:20:34.9±53.0, 15.°47S×167.°99E, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.9/16, mbtmp4.3/3, Error ellipse: s-maj=905.8km s-min=106.5km az=67.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.07**	**231**	P	P	07 26 36.7	-0.3
	2.3nm,0.4s,baz=54,slow=8.8,SNR=10						
WRA	**Warramunga Arr**	**32.34**	**257**	P	P	07 27 06.5	+0.4
	1.2nm,0.5s,baz=88,slow=9.0,SNR=25						
ASAR	**Alice Springs**	**33.08**	**250**	P	P	07 27 12.6	0.0
	2.0nm,0.5s,baz=77,slow=9.2,SNR=46						

*IDC **27** 07:25:14.5±2.1, 8.°95N×82.°34W, h0km, mb3.6/7, mb1 4.0/9, mb1mx3.9/20, mbtmp3.7/9, ML4.1/2, MS3.1/5, Ms1 3.1/5, ms1mx2.9/30, Error ellipse: s-maj=70.7km s-min=26.6km az=26.0*

*NEIC **27** 07:25:17.4, 8.°26N×82.°81W, h25km, MD4.5(CASC), After CASC.*

NEIC Felt at Puerto Armuelles, Panama.

*ISCJB **27** 07:25:18.1±0.8, 8.°4N±0.°1×82.°81W±0.°10, h52km±7km, mb3.5/7, Error ellipse: s-maj=23.9km s-min=7.9km az=39.8*

*CASC **27** 07:25:19.7±2.7, 8.°40N×82.°85W, h35km±8km, MD4.3*

ISC 27 07:25:18.8±1.1, 8.°3N±0.°1×82.°84W±0.°07, h34km±6km, n50, σ1s11/55, mb3.5/7, 4C-4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	**Cerro Adams**	**0.48**	**317**	*i* P	**Pb**	**07 25 27.8**	**-1.4**
ACR	**Cerro Adams**	**0.48**	**317**	*i* P	**Pb**	**07 25 27.8**	**-1.4**
ACR				*e*S	**Sb**	**07 25 35.9**	**-0.3**
BUS	**Buena Vista**	**1.54**	**324**	*i* P	**Pn**	**07 25 43.8**	**-0.2**
BUS	**Buena Vista**	**1.54**	**324**	*i* P	**Pn**	**07 25 43.8**	**-0.2**
QCR	**Quepos**	**1.72**	**310**	*e* P	**Pn**	**07 25 46.5**	**+0.1**
QCR				*e*S	**Sn**	**07 26 07.2**	**-0.1**
QCR	**Quepos**	**1.72**	**310**	*i* P	**Pn**	**07 25 46.5**	**+0.1**
QCR				*e*S	**Sn**	**07 26 05.2**	**-2.1**
OCM	**Ochomogo**	**1.93**	**325**	*e*P	**Pn**	**07 25 47.4**	**-1.9**
SJS	**Escuela Geolog**	**2.02**	**324**	*e*P	**Pn**	**07 25 51.2**	**+0.6**
SJS				*e*S	**Sn**	**07 26 15.5**	**+0.8**
PRS1	**Puriscal**	**2.21**	**319**	*e* P	**Pn**	**07 25 53.2**	**0.0**
PRS1	**Puriscal**	**2.21**	**319**	*i* P	**Pn**	**07 25 53.2**	**-0.1**
CGA2	**Cerro Gallo 2**	**2.34**	**317**	*e*P	**Pn**	**07 25 55.6**	**+0.6**
CGA2				*e*S	**Sn**	**07 26 24.5**	**+1.9**
CGA2	**Cerro Gallo 2**	**2.34**	**317**	*e*P	**Pn**	**07 25 55.5**	**+0.5**
CGA2				*e*S	**Sn**	**07 26 20.9**	**-1.7**
CAO	**Cobano**	**2.63**	**302**	*e*P	**Pn**	**07 25 58.4**	**-0.6**
JCR	**Jicaral**	**2.72**	**305**	*e*P	**Pn**	**07 26 00.5**	**+0.3**
JCR	**Jicaral**	**2.72**	**305**	*e*P	**Pn**	**07 26 00.2**	**0.0**
JCR				*e*S	**Sn**	**07 26 31.9**	**0.0**
JTS	**JuntasAbangare**	**2.87**	**314**	Pn	**Pn**	**07 26 02.3**	**0.0**
	53nm,0.3s,baz=6.3,slow=21,SNR=119						
JTS				Sn	**Sn**	**07 26 36.0**	**+0.3**
	134nm,0.3s,baz=333,slow=21,SNR=23						
JTS				LR	LR	07 27 24.2	
	comp=Z,289nm,19.2s,baz=178,slow=45						
JTS	**JuntasAbangare**	**2.87**	**314**	*e*Pn	**Pn**	**07 26 02.2**	**-0.1**
JTS				*e*Sn	**Sn**	**07 26 35.7**	**0.0**
JTS				Sn	**Sn**	**07 26 36.0**	**+0.3**
JTS	**JuntasAbangare**	**2.87**	**314**	*e*P	**Pn**	**07 26 03.7**	**+1.4**
BCIP	**Isla Barro Col**	**3.09**	**74**	*e*Pn	**Pn**	**07 26 06.1**	**+0.9**
BCIP	**Isla Barro Col**	**3.09**	**74**	*e*P	**Pb**	**07 26 13.8**	**+0.7**
UPIG		**3.34**	**78**	*e*P	**Pn**	**07 26 15.0**	**+6.4**
UPIG				*e*S	**Sn**	**07 26 55.4**	**+8.2**
NY14	**Universidad de**	**3.54**	**311**	*i* P	**Pn**	**07 26 12.3**	**+0.9**
LAPC	**Finca la Perla**	**3.54**	**314**	*i* P	**Pn**	**07 26 11.8**	**+0.4**
GBS2	**Las Lilas**	**3.60**	**315**	*i* P	**Pn**	**07 26 12.9**	**+0.5**
GBS2				*i* S	**Sn**	**07 26 55.0**	**+1.2**
CRZC	**La Cruz**	**3.79**	**314**	*e*P	**Pn**	**07 26 16.8**	**+2.0**
ROSC	**El Rosal**	**9.12**	**112**	LR	LR	07 30 49.7	
	comp=Z,58nm,21.9s,baz=16,slow=38						
OTAV	**Otavalo**	**9.13**	**151**	*e*Pn	**Pn**	**07 27 30.4**	**+2.2**
	1.9nm,0.6s						
OTAV	**Otavalo**	**9.13**	**151**	*e*P	**Pn**	**07 27 32.4**	**+4.2**
TEIG	**Tepich**	**12.97**	**337**	LR	LR	07 33 50.0	
	comp=Z,93nm,19.0s,baz=307,slow=41						
CMIG	**Matias Romero**	**14.63**	**308**	Pn	**Pn**	**07 28 43.5**	**0.0**
	0.4nm,0.3s,baz=118,slow=11,SNR=6.2						
CMIG	**Matias Romero**	**14.63**	**308**	Pn	**Pn**	**07 28 43.5**	**0.0**
ATAH	**Atahualpa**	**15.96**	**164**	LR	LR	07 34 43.5	
	comp=Z,82nm,18.2s,baz=31,slow=35						
TXAR	**Lajitas Array**	**28.65**	**320**	P	**P**	**07 31 12.1**	**-0.4**
	0.1nm,0.6s,mb2.7,baz=129,slow=7.2,SNR=2.4						
TXAR				PcP	PcP	07 34 23.1	+0.2
	0.2nm,0.6s,baz=154,slow=4.7,SNR=3.9						
TXAR	**Lajitas Array**	**28.65**	**320**	P	**P**	**07 31 12.1**	**-0.4**
TXAR				PcP	PcP	07 34 23.1	+0.2
PDAR	**Pinedale Array**	**41.58**	**330**	P	**P**	**07 33 02.5**	**-0.9**
	0.6nm,0.7s,mb3.4,baz=141,slow=9.6,SNR=4.7						
PDAR	**Pinedale Array**	**41.58**	**330**	P	**P**	**07 33 02.5**	**-0.9**
ULM	**Lac du Bonnet**	**43.20**	**348**	P	**P**	**07 33 13.2**	**-3.2**
	2.7nm,0.6s,mb4.1,baz=185,slow=8.4,SNR=5.2						
ULM				LR	LR	07 52 52.8	
	comp=Z,68nm,20.9s,baz=16,slow=39						
ULM	**Lac du Bonnet**	**43.20**	**348**	P	**P**	**07 33 13.2**	**-3.2**
NVAR	**Mina Array Bea**	**43.79**	**319**	P	**P**	**07 33 22.4**	**+0.9**
	0.8nm,0.7s,mb3.6,baz=124,slow=6.5,SNR=7.7						
NVAR				PcP	PcP	07 35 08.2	+0.5
	0.3nm,0.7s,baz=129,slow=4.0,SNR=3.8						
NVAR	**Mina Array Bea**	**43.79**	**319**	P	**P**	**07 33 22.4**	**+0.9**
NVAR				PcP	PcP	07 35 08.2	+0.5
YKA	**Yellowknife Ar**	**58.82**	**343**	P	**P**	**07 35 11.0**	**-2.7**
	0.4nm,0.7s,mb3.6,baz=136,slow=7.0,SNR=4.5						
YKA	**Yellowknife Ar**	**58.82**	**343**	P	**P**	**07 35 11.0**	**-2.7**
ILAR	**Eielson Array**	**71.62**	**336**	P	**P**	**07 36 33.5**	**-3.1**
	0.5nm,0.6s,mb3.6,baz=104,slow=4.9,SNR=13						
ILAR	**Eielson Array**	**71.62**	**336**	P	**P**	**07 36 33.5**	**-3.1**
TORD	**Torodi Ar. Bea**	**82.86**	**78**	P	**P**	**07 37 39.3**	**-1.4**
	0.4nm,0.8s,mb3.5,baz=246,slow=7.2,SNR=2.7						
TORD	**Torodi Ar. Bea**	**82.86**	**78**	P	**P**	**07 37 39.3**	**-1.4**
ASAR	**Alice Springs**	**141.67**	**242**	PKhKP	PKPpre	07 44 40.3	
	0.2nm,0.6s,baz=99,slow=3.4,SNR=4.0						
ASAR	**Alice Springs**	**141.67**	**242**	PKPpre	PKPpre	07 44 40.3	
WRA	**Warramunga Arr**	**142.23**	**248**	PKhKP	PKPpre	07 44 42.4	
	0.5nm,0.7s,baz=93,slow=2.9,SNR=7.2						
WRA	**Warramunga Arr**	**142.23**	**248**	PKPpre	PKPpre	07 44 42.4	

KRSC 27 07:31:52.3±1.2, 50.°84N×156.°12E, h208km±41km, ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**1.49**	**15**	*e*P	Pn	07 32 25.3	-1.2
RUS	**Russkaya**	**2.18**	**42**	*e*P	Pn	07 32 34.6	+1.4
RUS				*i* S	Sn	07 33 05.2	0.0
UGLR	**Uglovaya**	**2.90**	**34**	*e*P	Pn	07 32 43.9	+2.8
KOK	**Koryaka**	**2.91**	**31**	*e*P	Pn	07 32 43.5	+2.4
AVH	**Avacha**	**2.92**	**33**	*e*P	Pn	07 32 43.8	+2.6
SDLR	**Sedlovina**	**2.98**	**34**	*e*P	Pn	07 32 44.5	+2.5
NLC	**Nalytchevo**	**3.07**	**39**	*e*P	Pn	07 32 43.8	+0.8
NLC				*i* S	Sn	07 33 20.7	-2.2
GNL	**Ganaly**	**3.07**	**21**	*e*P	Pn	07 32 44.2	+1.2
SPN	**Mys Shipunski**	**3.31**	**45**	*e*P	Pn	07 32 47.2	+1.4
SPN				*i* S	Sn	07 33 26.8	-1.1
MKZ	**Mys Kozlova**	**5.05**	**40**	*e*P	Pn	07 33 08.3	+1.0
MKZ				*i* S	Sn	07 34 05.2	-1.5
KBTR	**Krutoberegovo**	**6.70**	**34**	*e*P	Pn	07 33 29.3	+0.9

*ISCJB **27** 07:40:59.1±0.6, 33.°23N±0.°06×92.°37E±0.°10, h10km, mb3.6/5, Error ellipse: s-maj=12.0km s-min=8.3km az=8.8*

*IDC **27** 07:40:59.6±1.2, 33.°10N×92.°03E, h0km, mb3.7/6, mb1 4.0/9, mb1mx3.7/28, mbtmp3.8/9, ML3.9/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/35, Error ellipse: s-maj=55.7km s-min=17.7km az=65.0*

*NEIC **27** 07:41:01.0±0.7, 33.°09N×92.°08E, h10km, mb3.3/1, Error ellipse: s-maj=20.9km s-min=10.2km az=74.0*

ISC 27 07:41:01.3±0.7, 33.°29N±0.°06×92.°42E±0.°10, h10km, n26, σ1s10/26, mb3.6/5, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.74**	**197**	Pn	**Pn**	**07 41 54.8**	**-4.3**
GUN	**Gumba**	**7.78**	**228**	*e*P	**Pn**	**07 42 56.9**	**+2.4**
	13nm,0.7s						
RAMN	**Ramite**	**8.08**	**220**	*e*P	**Pn**	**07 42 57.1**	**-1.6**
	8.3nm,0.4s						
GKN	**Gorkha**	**8.52**	**234**	*e*P	**Pn**	**07 43 05.8**	**+1.0**
	17nm,0.5s						
DANN	**Dangsing**	**8.92**	**239**	*e*P	**Pn**	**07 43 11.3**	**+1.0**
	8.6nm,0.4s						
KOLN	**Koldanda**	**9.38**	**236**	*e*P	**Pn**	**07 43 16.2**	**-0.4**
	5.7nm,0.4s						
PYUN	**Piuthan**	**9.62**	**240**	*e*P	**Pn**	**07 43 18.8**	**-1.0**
MKAR	**Makanchi Array**	**15.54**	**333**	Pn	**Pn**	**07 44 39.3**	**-1.0**
	0.1nm,0.3s,baz=134,slow=12,SNR=5.2						
MKAR	**Makanchi Array**	**15.54**	**333**	Pn	**Pn**	**07 44 39.3**	**-1.0**
CMAR	**Chiang Mai Arr**	**15.89**	**157**	Pn	**Pn**	**07 44 43.5**	**-1.6**
	0.6nm,0.3s,baz=335,slow=12,SNR=4.1						
CMAR	**Chiang Mai Arr**	**15.89**	**157**	Pn	**Pn**	**07 44 43.5**	**-1.6**
SONM	**Songino Array**	**17.95**	**32**	P	**Pn**	**07 45 15.6**	**+4.8**
	0.3nm,0.3s,baz=213,slow=11,SNR=6.0						
SONM	**Songino Array**	**17.95**	**32**	P	**Pn**	**07 45 15.6**	**+4.8**
KKAR	**Karatay Array**	**19.76**	**306**	*e*P	**Pn**	**07 45 32.7**	**-0.1**
	0.9nm,0.6s						
KURK	**Kurchatov**	**20.15**	**334**	P	**P**	**07 45 35.0**	**-0.4**
	1.2nm,0.6s,baz=144,slow=12,SNR=11						
KURK	**Kurchatov**	**20.15**	**334**	P	**P**	**07 45 35.0**	**-0.4**
ZALV	**Zalesovo Beam**	**21.34**	**348**	P	**P**	**07 45 48.5**	**+0.1**
	0.8nm,0.3s,mb3.6,baz=161,slow=11,SNR=5.1						
ZALV	**Zalesovo Beam**	**21.34**	**348**	P	**P**	**07 45 48.5**	**+0.1**
BVAR	**Borovoye Array**	**25.26**	**328**	P	**P**	**07 46 27.3**	**-0.1**
	1.3nm,0.8s,mb3.5,baz=150,slow=12,SNR=4.3						
BVAR				LR	LR	07 57 34.4	
	comp=Z,34nm,20.3s,baz=305,slow=39						
BVAR	**Borovoye Array**	**25.26**	**328**	P	**P**	**07 46 27.3**	**-0.2**
WRA	**Warramunga Arr**	**66.36**	**137**	P	**P**	**07 51 50.1**	**-0.2**
	0.9nm,0.8s,mb3.9,baz=328,slow=7.1,SNR=7.4						
WRA	**Warramunga Arr**	**66.36**	**137**	P	**P**	**07 51 50.1**	**-0.2**
ASAR	**Alice Springs**	**69.07**	**139**	P	**P**	**07 52 08.8**	**+1.3**
	1.2nm,0.6s,mb4.0,baz=324,slow=6.5,SNR=31						
ASAR	**Alice Springs**	**69.07**	**139**	P	**P**	**07 52 08.8**	**+1.3**
ILAR	**Eielson Array**	**71.92**	**23**	P	**P**	**07 52 25.8**	**+1.4**
	0.3nm,0.8s,mb3.3,baz=307,slow=4.6,SNR=5.2						
ILAR	**Eielson Array**	**71.92**	**23**	P	**P**	**07 52 25.8**	**+1.4**

OTT 27 08:11:17.6±0.6, 72.°66N×80.°01W, h18km, MN3.7/8, 67km west from Pond Inlet, Nu Eastern Arctic Background Seismic Zone., Baffin Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRLN	**Sarcpa Lake, N**	**4.27**	**197**	PN	Pn	08 12 22.6	+1.0
SRLN				SN	Sn	08 13 08.2	-2.5
SRLN				LG		08 13 29.3	
SRLN				Trac		08 13 39.2	
	comp=Z,33nm,0.2s						
RES	**Resolute Bay**	**4.66**	**303**	PN	Pn	08 12 27.5	+0.6
RES				SN	Sn	08 13 17.1	-3.3
RES				LG		08 13 49.6	
RES				Trac		08 13 52.0	
	comp=Z,19nm,0.4s						
KUGN	**Kugaaruk Camp,**	**5.69**	**221**	PN	Pn	08 12 40.7	-0.3
KUGN				SN	Sn	08 13 42.6	-3.2
KUGN				LG		08 14 16.1	
KUGN				Trac		08 14 17.6	
	comp=Z,89nm,0.5s						
QILN	**Qililugaq Expl**	**6.42**	**203**	PN	Pn	08 12 51.0	0.0
QILN				SN	Sn	08 13 59.4	-4.4
QILN				LG		08 14 35.8	
QILN				Trac		08 14 44.9	
	comp=Z,96nm,0.9s						
WAGN	**Wager Bay**	**7.57**	**211**	PN	Pn	08 13 05.5	-1.3
WAGN				SN	Sn	08 14 26.3	-5.8
WAGN				LG		08 15 15.8	
WAGN				Trac		08 15 23.2	
	comp=Z,38nm,0.3s						
EUNU	**Eureka**	**7.58**	**352**	PN	Pn	08 13 06.5	-0.4
EUNU				SN	Sn	08 14 25.6	-6.7
EUNU	

*DDA **27** 08:14:11.4, 40˚.58N×37˚.15E, h10km±1km, Md3.5*
*ISCJB **27** 08:14:12.4±0.4, 40˚.58N±0˚.02×37˚.14E±0˚.03, h10km, Error ellipse: s-maj=3.7km s-min=2.6km az=22.5*
*CSEM **27** 08:14:12.3±0.2, 40˚.60N×37˚.13E, h2km, MD3.1, Error ellipse: s-maj=4.5km s-min=3.0km az=9.0*
*ISK **27** 08:14:12.2, 40˚.56N×37˚.09E, h5km, MD3.1*

ISC 27 08:14:12.6±0.5, 40˚.61N±0˚.03×37˚.13E±0˚.03, h2km±5km, n51, σ0s90/76, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
RSDY	**Resadiye-TOKAT**	**0.26**	**145**		PG	**Pg**	**08 14 17.4**	**-0.2**
RSDY					eSG	**Sg**	**08 14 21.5**	**+0.4**
RSDY	**Resadiye-TOKAT**	**0.26**	**145**	*i* Pg		**Pg**	**08 14 17.4**	**-0.2**
RSDY					eSg	**Sg**	**08 14 21.5**	**+0.4**
ERBA	**Erbaa**	**0.29**	**284**	*i* P		**Pg**	**08 14 18.3**	**+0.2**
ERBA					*i* S	**Sg**	**08 14 22.9**	**+0.9**
ERBA	**Erbaa**	**0.29**	**284**	*i* P		**Pg**	**08 14 18.3**	**+0.1**
ERBA					*i* S	**Sg**	**08 14 22.9**	**+1.0**
TOKT	**Tokat**	**0.53**	**237**	*e*PG		**Pg**	**08 14 22.0**	**-0.8**
TOKT	**Tokat**	**0.53**	**237**	*e*Pg		**Pg**	**08 14 22.0**	**-0.7**
TOKA	**Tokat**	**0.57**	**240**	*i* P		**Pg**	**08 14 22.5**	**-1.1**
TOKA					*i* S	**Sg**	**08 14 30.9**	**0.0**
TOKA	**Tokat**	**0.57**	**240**	*i* P		**Pg**	**08 14 22.5**	**-1.0**
TOKA					*i* S	**Sg**	**08 14 30.9**	**-0.1**
SCER	**sogukcermik**	**0.75**	**180**	*i* P		**Pg**	**08 14 25.4**	**-1.6**
SCER					*i* S	**Sg**	**08 14 37.4**	**+0.7**
SCER	**sogukcermik**	**0.75**	**180**	*i* P		**Pg**	**08 14 25.4**	**-1.5**
SCER					*i* S	**Sg**	**08 14 37.4**	**+0.7**
SUSE	**Susehri**	**0.92**	**116**	*i* P		**Pg**	**08 14 28.5**	**-1.6**
SUSE					*i* S	**Sg**	**08 14 42.2**	**+0.2**
SUSE	**Susehri**	**0.92**	**116**	*i* P		**Pg**	**08 14 28.5**	**-1.6**
SUSE					*i* S	**Sg**	**08 14 42.2**	**+0.2**
GRSN	**GIRESUNGRSN**	**0.92**	**70**	*i* P		**Pg**	**08 14 28.9**	**-1.4**
GRSN					*i* S	**Sg**	**08 14 42.2**	**0.0**
GRSN	**GIRESUNGRSN**	**0.92**	**70**	*i* P		**Pg**	**08 14 28.9**	**-1.3**
GRSN					*i* S	**Sg**	**08 14 42.2**	**0.0**
KVT	**Kavak**	**0.94**	**300**	*e*PG		**Pg**	**08 14 30.6**	**-0.1**
KVT					*e*SG	**Sg**	**08 14 44.3**	**+1.5**
KVT	**Kavak**	**0.94**	**300**	*e*Pg		**Pg**	**08 14 30.6**	**-0.1**
KVT					*e*Sg	**Sg**	**08 14 44.3**	**+1.4**
ESPY	**Espiye-Giresun**	**1.25**	**75**	*e*PN		**Pn**	**08 14 35.5**	**-1.5**
ESPY	**Espiye-Giresun**	**1.25**	**75**	*e*Pn		**Pn**	**08 14 35.5**	**-1.6**
YOZ	**Yozgat**	**1.69**	**236**	*e*PN		**Pb**	**08 14 42.6**	**-1.8**
YOZ					*e*SN	**Sb**	**08 15 04.2**	**-1.8**
YOZ	**Yozgat**	**1.69**	**236**	*e*Pn		**Pb**	**08 14 42.6**	**-1.8**
YOZ					*e*Sn	**Sb**	**08 15 04.3**	**-1.8**
KEMA	**Kemaliye**	**1.71**	**142**	*i* P		**Pn**	**08 14 42.9**	**-0.3**
KEMA					*i* S	**Sg**	**08 15 08.3**	**+1.0**
KEMA	**Kemaliye**	**1.71**	**142**	*i* P		**Pn**	**08 14 42.9**	**-0.4**
KEMA					*i* S	**Sg**	**08 15 08.3**	**+1.0**
DARE	**Darende-Malaty**	**1.74**	**162**	*e*PN		**Pg**	**08 14 47.5**	**+1.6**
DIKM	**Dikmen**	**1.75**	**307**	*e*PN		**Pn**	**08 14 44.1**	**+0.2**
DIKM	**Dikmen**	**1.75**	**307**	*e*Pn		**Pn**	**08 14 44.1**	**+0.2**
GUMT	**Gumushane**	**1.80**	**94**	*e*PN		**Pn**	**08 14 45.1**	**+0.5**
GUMT	**Gumushane**	**1.80**	**94**	*e*Pn		**Pn**	**08 14 45.1**	**+0.5**
EZC	**Erzincan**	**1.91**	**116**	*e*PN		**Pn**	**08 14 46.5**	**+0.4**
EZC	**Erzincan**	**1.91**	**116**	*e*Pn		**Pn**	**08 14 46.5**	**+0.4**
CORM	**Corum**	**1.96**	**258**	*e*PN		**Pn**	**08 14 45.9**	**-0.8**
CORM	**Corum**	**1.96**	**258**	*e*Pn		**Pn**	**08 14 45.9**	**-0.8**
SARI	**SarD1z-Kayseri**	**1.96**	**190**	*e*PN		**Pg**	**08 14 50.4**	**+0.3**
BYBT	**Boyabat**	**1.98**	**296**	*e*PN		**Pn**	**08 14 47.5**	**+0.4**
BYBT	**Boyabat**	**1.98**	**296**	*e*Pn		**Pn**	**08 14 47.5**	**+0.4**
PINB	**Pinarbasi**	**2.01**	**196**	*i* P		**Pn**	**08 14 47.8**	**+0.3**
PINB					*i* S	**Sg**	**08 15 18.6**	**+1.4**
PINB	**Pinarbasi**	**2.01**	**196**	*i* P		**Pn**	**08 14 47.8**	**+0.3**
BNN	**Bunyan**	**2.02**	**210**	*e*PN		**Pn**	**08 14 46.9**	**-0.7**
BNN	**Bunyan**	**2.02**	**210**	*e*Pn		**Pn**	**08 14 46.9**	**-0.7**
MACK	**Trabzon**	**2.03**	**80**	*i* P		**Pn**	**08 14 48.9**	**+1.1**
MACK					*i* S	**Sn**	**08 15 17.6**	**+3.9**
MACK	**Trabzon**	**2.03**	**80**	*i* P		**Pn**	**08 14 48.9**	**+1.1**
MACK					*i* S	**Sn**	**08 15 17.6**	**+3.9**
TOS	**Tosya**	**2.39**	**281**	*e*PN		**Pn**	**08 14 52.9**	**+0.2**
TOS	**Tosya**	**2.39**	**281**	*e*Pn		**Pn**	**08 14 52.9**	**+0.2**
AKCD	**Akcadag**	**2.40**	**165**	*i* P		**Pn**	**08 14 52.9**	**+0.2**
AKCD					*i* S	**Sg**	**08 15 29.6**	**+0.1**
AKCD	**Akcadag**	**2.40**	**165**	*i* P		**Pn**	**08 14 52.9**	**+0.1**
AVNT	**Avonos**	**2.53**	**224**	*i* P		**Pn**	**08 14 54.6**	**-0.1**
AVNT					*i* S	**Sn**	**08 15 32.8**	**+6.7**
AVNT	**Avonos**	**2.53**	**224**	*i* P		**Pn**	**08 14 54.6**	**-0.1**
ELZG	**Elazig**	**2.55**	**145**	*i* P		**Pn**	**08 14 55.8**	**+0.8**
ELZG					*i* S	**Sg**	**08 15 33.8**	**-0.8**
ELZG	**Elazig**	**2.55**	**145**	*i* P		**Pn**	**08 14 55.8**	**+0.8**
CANT	**Cankiri**	**2.67**	**271**	*e*PN		**Pn**	**08 14 56.9**	**+0.3**
GULE	**Gulek**	**3.79**	**210**	*i* P		**Pn**	**08 15 13.2**	**+1.2**
GULE					*i* S	**Sg**	**08 16 14.4**	**-0.1**
GULE	**Gulek**	**3.79**	**210**	*i* P		**Pn**	**08 15 13.2**	**+1.2**

*ISCJB **27** 09:02:39.7±1.0, 17˚.7S×178˚.4W×0˚.1, h542km±15km, mb3.8/10, Error ellipse: s-maj=31.5km s-min=12.2km az=148.7*
*IDC **27** 09:02:40.4±1.6, 17˚.82S×178˚.25W, h542km±20km, mb3.3/8, mb1 3.5/9, mb1mx3.4/17, mbtmp3.3/9, Error ellipse: s-maj=32.4km s-min=13.1km az=140.0*
*NEIC **27** 09:02:42.1±0.9, 17˚.76S×178˚.29W, h566km±10km, mb4.0/3, Error ellipse: s-maj=25.2km s-min=13.0km az=148.0*

ISC 27 09:02:40.2±0.9, 17˚.7S±0˚.2×178˚.4W±0˚.1, h536km±14km, n32, σ0s87/28, mb3.8/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
MSVF	**Nonsavu**	**3.42**	**269**	*e*P		**P**	**09 04 03.6**	**+6.8**
AFI	**Afiamalu**	**7.37**	**60**	P		**P**	**09 04 32.5**	**+1.1**
	2.3nm,0.3s,baz=74,slow=7.4,SNR=4.9							
AFI					S	**S**	**09 06 01.7**	**-0.7**
	1.2nm,0.3s,baz=112,slow=19,SNR=2.6							
AFI	**Afiamalu**	**7.37**	**60**	P		**P**	**09 04 32.5**	**+1.1**
AFI					S	**S**	**09 06 01.7**	**-0.7**
URZ	**Urewera**	**20.88**	**190**	P		**P**	**09 06 42.6**	**-2.1**
	2.7nm,0.5s,baz=45,slow=2.9,SNR=6.9							
URZ	**Urewera**	**20.88**	**190**	P		**P**	**09 06 42.6**	**-2.1**
CMSA	**Cobar Meteorol**	**35.30**	**240**	*e*P		**P**	**09 08 50.9**	**+0.5**
	20nm,0.6s,mb4.8							
STKA	**Stephens Creek**	**38.77**	**241**	P		**P**	**09 09 19.6**	**+0.7**
	3.0nm,0.5s,mb4.1,baz=84,slow=9.5,SNR=11							
STKA	**Stephens Creek**	**38.77**	**241**	*e*P		**P**	**09 09 19.9**	**+1.0**
	2.8nm,0.6s,mb4.0							
STKA	**Stephens Creek**	**38.77**	**241**	P		**P**	**09 09 19.6**	**+0.7**
BBOO	**Buckleboo**	**43.55**	**241**	*e*P		**P**	**09 09 56.9**	**+0.1**
	20nm,0.3s							
WB2	**Warramunga Arr**	**44.70**	**259**	*e*P		**P**	**09 10 05.3**	**-0.5**
WRAB	**Tennant Creek**	**44.70**	**259**	*e*P		**P**	**09 10 05.3**	**-0.5**
	5.0nm,0.7s,mb4.2							
WRA	**Warramunga Arr**	**44.71**	**259**	PcP		PcP	09 11 36.1	-0.8
	0.3nm,0.4s,baz=90,slow=3.5,SNR=3.6							
WRA	**Warramunga Arr**	**44.71**	**259**	PcP		PcP	09 11 36.1	-0.8
AS31	**Alice Springs**	**44.89**	**254**	*e*P		**P**	**09 10 07.4**	**+0.2**
ASAR	**Alice Springs**	**44.89**	**254**	P		**P**	**09 10 07.5**	**+0.2**
	12nm,0.5s,mb4.7,baz=88,slow=8.3,SNR=236							
ASAR					PcP	PcP	09 11 36.2	-1.3
	1.1nm,0.8s,baz=96,slow=5.3,SNR=4.3							
ASAR	**Alice Springs**	**44.89**	**254**	P		**P**	**09 10 07.5**	**+0.2**
ASAR					PcP	PcP	09 11 36.2	-1.3
QSPA	**South Pole Qui**	**72.36**	**180**	*e*P		**P**	**09 13 12.3**	**+1.1**
	2.2nm,0.8s,mb3.6							
NVAR	**Mina Array Bea**	**79.24**	**44**	P		**P**	**09 13 50.4**	**+0.4**
	0.6nm,0.6s,mb3.1,baz=236,slow=7.5,SNR=6.6							
NVAR	**Mina Array Bea**	**79.24**	**44**	P		**P**	**09 13 50.4**	**+0.4**
MAW	**Mawson**	**84.08**	**200**	P		**P**	**09 14 14.0**	**-0.2**
	2.3nm,0.7s,mb3.8,baz=124,slow=7.3,SNR=4.6							
MAW	**Mawson**	**84.08**	**200**	P		**P**	**09 14 14.0**	**-0.2**
ILAR	**Eielson Array**	**85.66**	**13**	P		**P**	**09 14 20.2**	**-1.5**
	0.3nm,0.4s,mb3.3,baz=216,slow=5.6,SNR=2.4							
ILAR	**Eielson Array**	**85.66**	**13**	P		**P**	**09 14 20.2**	**-1.6**
TXAR	**Lajitas Array**	**85.84**	**58**	P		**P**	**09 14 24.6**	**+1.2**
	0.7nm,0.8s,mb3.4,baz=209,slow=7.2,SNR=9.7							
TXAR	**Lajitas Array**	**85.84**	**58**	P		**P**	**09 14 24.6**	**+1.2**
PDAR	**Pinedale Array**	**87.16**	**43**	P		**P**	**09 14 29.0**	**-0.4**
	0.4nm,0.5s,mb3.3,baz=224,slow=3.8,SNR=3.5							
PDAR	**Pinedale Array**	**87.16**	**43**	P		**P**	**09 14 28.9**	**-0.4**
BRTR	**Keskin Array B**	**144.66**	**315**	PKP		PKPdf	09 21 15.9	-0.2
	0.8nm,0.5s,baz=125,slow=4.1,SNR=3.2							
BRTR	**Keskin Array B**	**144.66**	**315**	PKP		PKPdf	09 21 15.9	-0.2
GERES	**GERESS Array B**	**147.41**	**345**	PKPbc		PKPbc	09 21 22.8	-1.0
	1.3nm,0.6s,baz=17,slow=3.6,SNR=7.4							
GERES	**GERESS Array B**	**147.41**	**345**	PKPbc		PKPbc	09 21 22.8	-1.0

*ISCJB **27** 09:05:06.1±2.0, 6˚.36S±0˚.09×155˚.4E±0˚.1, h205km±17km, mb3.9/13, Error ellipse: s-maj=25.3km s-min=12.4km az=23.0*
*IDC **27** 09:05:09.5±4.6, 6˚.51S×155˚.41E, h228km±40km, mb3.6/11, mb1 3.8/13, mb1mx3.7/17, mbtmp3.6/13, Error ellipse: s-maj=35.2km s-min=17.3km az=103.0*
*NEIC **27** 09:05:10.9±3.2, 6˚.44S×155˚.29E, h238km±28km, mb4.3/1, Error ellipse: s-maj=30.8km s-min=14.4km az=97.0*

ISC 27 09:05:08.3±1.8, 6˚.43S±0˚.09×155˚.5E±0˚.1, h216km±14km, n34, σ1s01/38, mb3.9/13, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PMG	**Port Moresby**	**8.81**	**250**	P		**Pn**	**09 07 12.3**	**+0.2**
	1.3nm,0.3s,baz=9.6,slow=3.4,SNR=6.6							
PMG					S	**S**	**09 08 53.0**	**+1.5**
	0.4nm,0.3s,baz=86,slow=19,SNR=4.4							
PMG	**Port Moresby**	**8.81**	**250**	P		**Pn**	**09 07 12.3**	**+0.2**
PMG					S	**S**	**09 08 53.0**	**+1.5**
MTSU	**Mount Surprise**	**15.98**	**222**	*e*P		**Pn**	**09 08 41.3**	**-0.4**
	16nm,0.7s							
CTA	**Charters Tower**	**16.30**	**213**	P		**P**	**09 08 44.2**	**-0.4**
	0.3nm,0.3s,baz=26,slow=15,SNR=7.2							
CTA	**Charters Tower**	**16.30**	**213**	*e*P		**P**	**09 08 45.3**	**+0.7**
	3.7nm,0.6s							
CTA	**Charters Tower**	**16.30**	**213**	P		**P**	**09 08 44.2**	**-0.4**
QLP	**Quilpie**	**22.76**	**207**	*e*P		**P**	**09 09 51.4**	**-0.7**
WRA	**Warramunga Arr**	**24.59**	**235**	P		**P**	**09 10 05.7**	**-3.1**
	4.4nm,0.6s,mb4.3,baz=64,slow=9.7,SNR=48							
WRA					S	**S**	**09 14 14.5**	**+0.8**
	0.3nm,0.8s,baz=58,slow=16,SNR=2.8							
WRA	**Warramunga Arr**	**24.59**	**235**	P		**P**	**09 10 05.7**	**-3.1**
WRA					S	**S**	**09 14 14.6**	**+0.8**
ASAR	**Alice Springs**	**26.95**	**228**	P		**P**	**09 10 28.7**	**-1.3**
	2.3nm,0.6s,mb4.0,baz=60,slow=9.1,SNR=3.2							
ASAR					S	**S**	**09 14 51.6**	**+0.5**
	0.4nm,0.7s,baz=57,slow=16,SNR=4.2							
ASAR	**Alice Springs**	**26.95**	**228**	P		**P**	**09 10 28.7**	**-1.3**
ASAR					S	**S**	**09 14 51.6**	**+0.5**
FITZ	**Fitzroy Crossi**	**31.38**	**246**	*e*P		**P**	**09 11 07.4**	**-1.8**
	12nm,0.6s,mb4.7							
FITZ	**Fitzroy Crossi**	**31.38**	**246**	*e*P		**P**	**09 11 07.6**	**-1.6**
	6.6nm,0.8s,mb4.3							
MJAR	**Matsushiro Arr**	**45.73**	**340**	P		**P**	**09 13 06.9**	**-1.1**
	1.7nm,0.6s,mb3.5,baz=164,slow=9.2,SNR=5.8							
MJAR	**Matsushiro Arr**	**45.73**	**340**	P		**P**	**09 13 06.9**	**-1.1**
KSRS	**Korea Array**	**50.70**	**332**	P		**P**	**09 13 45.5**	**-0.5**
	0.6nm,0.6s,mb3.2,baz=134,slow=6.1,SNR=4.3							
KSAR	**Wonju Array Be**	**50.70**	**331**	P		**P**	**09 13 45.5**	**-0.5**
SONM	**Songino Array**	**69.16**	**327**	P		**P**	**09 15 52.5**	**+1.2**
	3.9nm,0.8s,mb4.1,baz=130,slow=6.3,SNR=22							
SONM	**Songino Array**	**69.16**	**327**	P		**P**	**09 15 52.5**	**+1.2**
ILAR	**Eielson Array**	**82.65**	**21**	P		**P**	**09 17 06.6**	**-0.5**
	1.4nm,1.1s,mb3.6,baz=246,slow=4.8,SNR=8.1							
ILAR	**Eielson Array**	**82.65**	**21**	P		**P**	**09 17 06.6**	**-0.5**
MKAR	**Makanchi Array**	**83.34**	**319**	P		**P**	**09 17 11.4**	**+0.4**
	0.6nm,0.6s,mb3.5,baz=102,slow=4.9,SNR=6.3							
MKAR	**Makanchi Array**	**83.34**	**319**	P		**P**	**09 17 11.4**	**+0.4**
QSPA	**South Pole Qui**	**83.55**	**180**	*e*P		**P**	**09 17 12.8**	**+1.3**
	7.3nm,1.1s,mb4.3							
ZALV	**Zalesovo Beam**	**84.02**	**326**	P		**P**	**09 17 14.4**	**+0.1**
	0.6nm,0.4s,mb3.6,baz=149,slow=6.7,SNR=3.2							
ZALV	**Zalesovo Beam**	**84.02**	**326**	P		**P**	**09 17 14.4**	**+0.1**
MAW	**Mawson**	**85.13**	**203**	P		**P**	**09 17 19.9**	**+0.2**
	1.4nm,0.6s,mb3.9,baz=96,slow=9.2,SNR=7.8							
MAW	**Mawson**	**85.13**	**203**	P		**P**	**09 17 19.9**	**+0.2**
NVAR	**Mina Array Bea**	**90.94**	**52**	P		**P**	**09 17 49.6**	**+1.7**
	0.6nm,0.9s,mb3.5,baz=268,slow=6.0,SNR=4.5							
NVAR	**Mina Array Bea**	**90.94**	**52**	P		**P**	**09 17 49.6**	**+1.7**
YKA	**Yellowknife Ar**	**95.58**	**28**	P		**P**	**09 18 09.3**	**+0.7**
	0.5nm,0.6s,mb4.0,baz=267,slow=4.5,SNR=8.6							
YKA	**Yellowknife Ar**	**95.58**	**28**	P		**P**	**09 18 09.3**	**+0.7**
TORD	**Torodi Ar. Bea**	**153.39**	**287**	PKP		PKPdf	09 24 34.5	+0.4
	0.3nm,0.7s,baz=331,slow=0.9,SNR=2.7							
TORD				PKPbc		PKPbc	09 24 41.5	-0.4
	0.7nm,0.6s,baz=69,slow=2.3,SNR=4.7							
TORD	**Torodi Ar. Bea**	**153.39**	**287**	PKP		PKPdf	09 24 34.5	+0.4
TORD				PKPbc		PKPbc	09 24 41.5	-0.4

*ISCJB **27** 09:06:48.1±2.2, 27˚.0N±0˚.2×55˚.6E±0˚.2, h10km, Error ellipse: s-maj=39.0km s-min=6.5km az=41.2*
*KISR **27** 09:06:48.5±0.9, 26˚.84N×55˚.39E, h15km±999km, ML3.3*
*CSEM **27** 09:06:49.5±1.6, 26˚.99N×55˚.84E, h20km, ML3.3, Error ellipse: s-maj=62.1km s-min=11.2km az=46.0*
*OMAN **27** 09:06:58.0±99.0, 26˚.42N×56˚.05E, h25km, Error ellipse: s-maj=1294.0km s-min=12.2km az=11.0*

ISC 27 09:06:51.0±2.5, 26˚.8N±0˚.2×55˚.5E±0˚.2, h10km, n12, σ0s75/18, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
BANOM	**Banah**	**1.13**	**143**	P		**Pb**	**09 07 08.7**	**-3.8**
	SNR=390							
BANOM	**Banah**	**1.13**	**143**	P		**Pb**	**09 07 08.7**	**-3.9**
	SNR=390							
ASHO	**Ashiyiah**	**2.19**	**168**	P		**Pn**	**09 07 26.7**	**-0.7**
	SNR=12							
ASHO	**Ashiyiah**	**2.19**	**168**	P		**Pn**	**09 07 26.7**	**-0.7**
	SNR=12							
ASUD	**Al Ashush, Dub**	**2.20**	**185**	P		**Pn**	**09 07 28.7**	**+1.1**
	SNR=13							
ASUD	**Al Ashush, Dub**	**2.20**	**185**	P		**Pn**	**09 07 28.7**	**+1.1**
	SNR=13							
RDF	**Al-Radifah**	**7.38**	**288**	*e*P		**Pn**	**09 08 38.6**	**-0.1**
RDF				*e*S		**Sn**	**09 10 02.0**	**-0.5**
RDF	**Al-Radifah**	**7.38**	**288**	*e*P		**Pn**	**09 08 38.6**	**-0.1**
RDF				*e*S		**Sn**	**09 10 02.0**	**-0.5**
NAY	**Al-Naaiem**	**7.72**	**290**	*e*P		**Pn**	**09 08 44.5**	**+1.0**
NAY				*e*S		**Sn**	**09 10 10.7**	**-0.3**
NAY				AML		AML	09 10 16.0	
	comp=Z,3.0nm,0.6s							
NAY	**Al-Naaiem**	**7.72**	**290**	*e*P		**Pn**	**09 08 44.5**	**+1.0**
NAY				*e*S		**Sn**	**09 10 10.7**	**-0.3**
MIB	**Mutribah**	**7.81**	**294**	*e*P		**Pn**	**09 08 45.3**	**+0.6**
MIB				*e*S		**Sn**	**09 10 12.9**	**-0.4**
MIB				AML		AML	09 10 15.1	
	comp=Z,3.5nm,0.4s							
MIB	**Mutribah**	**7.81**	**294**	*e*P		**Pn**	**09 08 45.3**	**+0.5**
MIB				*e*S		**Sn**	**09 10 12.9**	**-0.4**

IDC 27 09:16:21.8±5.5, 13˚.12S×167˚.60E, h0km, mb3.4/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.4/3, Error ellipse: s-maj=269.4km s-min=33.2km az=141.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
WRA	**Warramunga Arr**	**32.56**	**253**	P		P	09 22 54.8	-0.1
	0.3nm,0.6s,baz=85,slow=9.2,SNR=3.1							
ASAR	**Alice Springs**	**33.57**	**247**	P		P	09 23 04.0	+0.2
	0.4nm,0.5s,baz=75,slow=9.0,SNR=13							
ILAR	**Eielson Array**	**84.91**	**18**	P		P	09 28 58.2	+0.1
	0.2nm,0.4s,baz=228,slow=4.7,SNR=6.3							

*BJI **27** 09:17:41.8, 42˚.20S×84˚.35E, h10km, mB5.3/30, mb5.2/43, Ms5.3/32, Ms7 4.9/33*
*ISCJB **27** 09:17:46.2±0.2, 41˚.65S±0˚.04×85˚.06E±0˚.06, h10km, mb5.2/74, MS4.8/41, Error ellipse: s-maj=6.5km s-min=6.3km az=26.9*
*IDC **27** 09:17:46.1±0.5, 41˚.63S×85˚.13E, h0km, mb4.8/21, mb1 4.9/21, mb1mx4.8/24, mbtmp4.8/21, MS4.7/25, Ms1 4.7/25, ms1mx4.6/32, Error ellipse: s-maj=18.2km s-min=13.9km az=152.0*
*MOS **27** 09:17:46.2±0.9, 41˚.63S×85˚.13E, h10km, mb5.4/15, MS4.9/4, Error ellipse: s-maj=14.6km s-min=11.1km az=82.3*
*DJA **27** 09:17:48, 41˚.67S×85˚.16E, h10km, mb5.0/10*
*NEIC **27** 09:17:48.1±0.2, 41˚.61S×85˚.10E, h10km, mb5.2/23, Error ellipse: s-maj=8.1km s-min=6.2km az=170.0*
*GCMT **27** 09:17:52.1±0.2, 41˚.47S×85˚.06E, h12km, MW5.3, Moment Tensor Solution. s68,c97; s98,c165; Moment tensor: Scale 10^17^Nm; Mrr=0.02±.02; Mθθ 1.08±.02; Mϕϕ -1.06±.02; Mrθ 0.07±.05; Mθϕ 0.08±.02; Mϕr 0.02±.05; Best double couple: M₀1.10000×10^17^ NP1:ϕs133.00000°, δ87.00000°, λ2.00000°. NP2:ϕs43.00000°, δ88.00000°, λ177.00000°. Principal axes: T 1.0900, Plg4.0000°, Azm358.0000°; N -0.0300, Plg86.0000°, Azm191.0000°; P -1.0600,*
Plg1.0000°, Azm88.0000°; Data Used: II IU IC G CN.

ISC 27 09:17:48.1±0.2, 41˚.64S±0˚.04×85˚.04E±0˚.06, h10km, (h15km±1.0km:pP-P), n216, σ0s91/173, mb5.2/74, MS4.8/41, 3C-3D, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
NWAO	**Narrogin (SRO)**	**26.93**	**82**	P		**P**	**09 23 28.2**	**-1.2**
	8.9nm,0.9s,mb4.3,baz=245,slow=11,SNR=3.0							
NWAO					LR	LR	09 31 47.0	
	comp=Z,2μm,20.4s,MS4.8,baz=238,slow=31							
NWAO	**Narrogin (SRO)**	**26.93**	**82**	P		**P**	**09 23 28.2**	**-1.2**
NWAO	**Narrogin (SRO)**	**26.93**	**82**	P		**P**	**09 23 28.3**	**-1.2**
MAW	**Mawson**	**28.66**	**198**	P		**P**	**09 23 43.5**	**-1.1**
	20nm,1.1s,mb4.8,baz=30,slow=12,SNR=20							
MAW					LR	LR	09 32 33.1	
	comp=Z,2μm,22.0s,MS4.6,baz=35,slow=31							
MAW	**Mawson**	**28.66**	**198**	*e*P		**P**	**09 23 43.7**	**-0.9**
	15nm,1.2s,mb4.6							
MAW					*e*S	**S**	**09 28 30.0**	**-3.1**
MAW	**Mawson**	**28.66**	**198**	P		**P**	**09 23 43.5**	**-1.1**
MAW	**Mawson**	**28.66**	**198**	P		**P**	**09 23 43.5**	**-1.1**
KMBL	**Kambalda**	**31.14**	**83**	*e*P		**P**	**09 24 05.6**	**-1.3**
	118nm,1.0s,mb5.7							
MBWA	**Marble Bar**	**35.63**	**66**	*e*P		**P**	**09 24 45.1**	**-1.1**
MBWA	**Marble Bar**	**35.63**	**66**	*e*P		**P**	**09 24 45.3**	**-0.8**
	34nm,1.0s,mb5.2							
MBWA	**Marble Bar**	**35.63**	**66**	P		**P**	**09 24 45.3**	**-0.9**
	45nm,1.1s,mb5.3							
FORT	**Forrest**	**36.03**	**87**	*e*P		**P**	**09 24 49.4**	**-0.1**
	25nm,0.9s,mb5.2							
FORT	**Forrest**	**36.03**	**87**	*e*P		**P**	**09 24 49.5**	**0.0**
	42nm,1.0s,mb5.3							
SYO	**Syowa Base**	**36.20**	**206**	ǁ*e*X		**P**	**09 24 48.0**	**-2.5**
DRV	**Dumont d'Urvil**	**38.87**	**149**	S		**S**	**09 31 13.0**	**+2.2**
DRV				L			09 34 00.0	
DRV				R			09 36 00.0	
BBOO	**Buckleboo**	**41.06**	**95**	*e*P		**P**	**09 25 31.0**	**-0.7**
	142nm,1.1s,mb5.5							
BBOO					*e*S	**S**	**09 31 45.3**	**+1.0**
BBOO	**Buckleboo**	**41.06**	**95**	*e*P		**P**	**09 25 31.4**	**-0.3**
	1μm,1.4s							
FITZ	**Fitzroy Crossi**	**41.78**	**68**	P		**P**	**09 25 36.9**	**-0.9**
	37nm,1.1s,mb4.9,baz=207,slow=11,SNR=19							
FITZ					LR	LR	09 40 33.3	
	comp=Z,2μm,19.9s,MS4.9,baz=238,slow=33							
FITZ	**Fitzroy Crossi**	**41.78**	**68**	*e*P		**P**	**09 25 37.0**	**-0.8**
	51nm,1.0s,mb5.1							
FITZ	**Fitzroy Crossi**	**41.78**	**68**	*e*P		**P**	**09 25 37.7**	**-0.1**
	40nm,1.1s,mb5.0							
IGBI	**Denpasar**	**42.13**	**48**	P		**P**	**09 25 50.1**	**+9.5**
ASAR	**Alice Springs**	**44.25**	**82**	P		**P**	**09 25 56.8**	**-1.0**
	19nm,0.9s,mb4.8,baz=230,slow=8.3,SNR=91							
ASAR					PcP	PcP	09 27 40.4	-1.8
	2.5nm,0.9s,baz=224,slow=3.1,SNR=4.3							
ASAR	**Alice Springs**	**44.25**	**82**	P		**P**	**09 25 56.8**	**-1

comp=Z,2μmcomp=Z,161nm,1.2s,mb5.9
COEN Coen 57.13 79 *e*P P **09 27 34.7 -0.3**
comp=Z,36nm,1.0s,mb5.3
KMBO Kilima Mbogo 58.90 300 *e*P P **09 27 47.5 +0.1**
comp=Z,8.5nm,1.2s,mb4.7
KMBO Kilima Mbogo 58.90 300 *e*P P **09 27 47.6 +0.1**
KMBO pmax pmax
comp=Z,9.0nm,1.2s
HYB Hyderabad 59.06 353 *i* P P **09 27 48.5 +0.2**
RPZ Rata Peaks 60.42 124 LR LR 09 47 37.8
comp=Z,321nm,19.1s,MS4.5,baz=55,slow=30
TSUM Tsumeb 60.79 270 *e*P P **09 28 00.5 +0.1**
comp=Z,16nm,1.1s,mb5.1
CM31 Chiang Mai Arr 61.16 15 *e*P P **09 28 03.8 +1.0**
CMAR Chiang Mai Arr 61.16 15 P P **09 28 02.0 -0.7**
comp=Z,11nm,0.9s,mb5.0,baz=209,slow=6.9,SNR=30
CMAR LR LR 09 53 56.3
comp=Z,410nm,18.1s,MS4.6,baz=199,slow=36
CMAR Chiang Mai Arr 61.16 15 P P **09 28 02.0 -0.7**
CMAR Chiang Mai Arr 61.16 15 P P **09 28 02.1 -0.7**
CHTO Chiang Mai 61.51 15 P P **09 28 05.1 0.0**
PMG Port Moresby 63.05 78 P P **09 28 16.0 +0.4**
comp=Z,8.7nm,0.8s,mb4.9,baz=264,slow=3.2,SNR=7.5
PMG Port Moresby 63.05 78 *e*P P **09 28 15.8 +0.2**
comp=Z,14nm,1.0s,mb5.0
PMG Port Moresby 63.05 78 *e*P P **09 28 15.8 +0.2**
PMG pmax pmax
comp=Z,14nm,1.0s
QIZ Qiongzhong 64.59 26 P P **09 28 25.3 -0.3**
QIZ S S **09 37 07.5 +2.4**
QIZ pmax pmax
comp=Z,310nm,4.6s
QIZ LR LR
comp=Z,700nm,16.9s,MS4.9
ODAN Odare 68.19 2 *e*P P **09 28 48.3 -0.2**
RAMN Ramite 68.26 2 *e*P P **09 28 48.7 -0.2**
comp=Z,98nm,1.2s,mb5.7
KMI Kunming 68.42 17 P P **09 28 51.3 +1.3**
KMI pP pP 09 28 55.0 +1.8
KMI PP PP 09 31 26.5 +5.1
KMI S S 09 37 53.3 +1.9
KMI SS SS 09 42 22.8 +7.1
KMI pmax pmax
comp=Z,22nm,1.5s,mb5.0
KMI pmax pmax
comp=Z,170nm,3.1s
KMI LR LR
comp=N,600nm,14.8s,MS5.0
KMI LR LR
comp=E,400nm,14.3s,MS5.0
KMI LR LR
comp=Z,750nm,18.4s,MS5.0
TAPN Taplejung 68.69 3 *e*P P **09 28 51.4 -0.2**
comp=Z,142nm,1.1s,mb5.8
PKI Pulchoki 68.86 0 *e*P P **09 28 52.1 -0.6**
DMN Daman 68.90 0 *e*P P **09 28 52.3 -0.6**
comp=Z,69nm,1.0s,mb5.6
JIRN Jiri 68.96 1 *e*P P **09 28 53.1 -0.2**
KOLN Koldanda 69.07 359 *e*P P **09 28 53.1 -0.9**
comp=Z,56nm,1.1s,mb5.4
KKN Kakani 69.08 0 *e*P P **09 28 53.4 -0.6**
comp=Z,49nm,0.9s,mb5.4
GUN Gumba 69.21 1 *e*P P **09 28 54.6 -0.2**
comp=Z,167nm,1.3s,mb5.8
GKN Gorkha 69.29 360 *e*P P **09 28 54.5 -0.8**
comp=Z,62nm,1.0s,mb5.5
PYUN Piuthan 69.42 358 *e*P P **09 28 55.1 -1.0**
comp=Z,130nm,1.0s,mb5.8
DZM Mont Dzumac 69.44 102 *e*S S 09 38 11.9 +7.9
comp=Z,144nm,33.5s
DZM *e*SS SS 09 42 36.4 +5.4
comp=Z,172nm,29.3s
DZM *e*LR LR 09 50 01.4
comp=Z,1μm,21.9s
DANN Dangsing 69.65 359 *e*P P **09 28 56.6 -0.9**
comp=Z,84nm,0.9s,mb5.7
GYA Guiyang 70.66 20 P P **09 29 07.0 +3.3**
GYA PP PP 09 31 45.5 +4.9
GYA S S 09 38 21.8 +4.1
GYA SS SS 09 42 55.5 +5.3
GYA pmax pmax
comp=Z,20nm,1.0s,mb5.0
GYA pmax pmax
comp=Z,130nm,5.2s
GYA LR LR
comp=N,720nm,19.5s,MS5.0
GYA LR LR
comp=E,530nm,20.8s,MS5.0
GYA LR LR
comp=Z,610nm,18.2s,MS4.9
LSA Lhasa 71.21 6 P P **09 29 06.5 -0.5**
LSA Lhasa 71.21 6 *e*P P **09 29 08.6 +1.5**
comp=Z,24nm,1.0s,mb5.1
LSA Lhasa 71.21 6 *e*P P **09 29 08.6 +1.6**
LSA pmax pmax
comp=Z,24nm,1.0s,mb5.1
CD2 Chengdu 74.23 17 P P **09 29 24.5 -0.5**
CD2 pP pP 09 29 29.3 +1.1
CD2 PP PP 09 32 13.0 +1.8
CD2 S S 09 38 58.5 +0.1
CD2 SS SS 09 43 47.5 +2.7
CD2 pmax pmax
comp=Z,50nm,1.0s,mb5.4
CD2 pmax pmax
comp=Z,160nm,5.4s
CD2 LR LR
comp=N,690nm,19.0s
CD2 LR LR
comp=Z,390nm,18.4s,MS4.7
WHN Wuhan 76.75 26 ⇓P P **09 29 40.5 +1.0**
WHN S S 09 39 19.0 -7.4
WHN LR LR
comp=N,840nm,20.4s,MS5.1
WHN LR LR
comp=E,640nm,24.9s,MS5.1
WHN LR LR
comp=Z,1μm,23.7s,MS5.2
KBL Kabul 77.22 347 *e*P P **09 29 42.4 +0.4**
comp=Z,65nm,1.2s,mb5.4
KBL Kabul 77.22 347 *e*P P **09 29 42.4 +0.4**
KBL pmax pmax
comp=Z,65nm,1.2s,mb5.4
XAN Xi'an 78.45 20 P P **09 29 48.0 -0.8**
XAN pP pP 09 29 52.8 +0.7
XAN PP PP 09 32 46.8 +0.1
XAN S S 09 39 41.0 -3.6
XAN SKS 09 39 56.5
XAN pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
XAN pmax pmax
comp=Z,36nm,4.1s
XAN LR LR
comp=N,310nm,18.9s,MS4.7
XAN LR LR
comp=E,110nm,17.4s,MS4.7
XAN LR LR
comp=Z,210nm,19.5s,MS4.5
JOW Kunigami 79.00 39 LR LR 10 01 30.2
comp=Z,298nm,18.6s,MS4.7,baz=82,slow=33
LZH Lanzhou 79.25 15 *e*P P **09 29 54.0 +0.8**
LZH pP pP 09 29 59.5 +3.0
LZH sP sP 09 30 03.0 +5.3
LZH pmax pmax
comp=Z,33nm,1.1s,mb5.2
LZH pmax pmax
comp=Z,160nm,5.0s
LZH LR LR
comp=N,240nm,10.2s,MS4.9
LZH LR LR
comp=E,270nm,13.8s,MS4.9
LZH LR LR
comp=Z,430nm,14.8s,MS4.9
NJ2 Nanjing 79.68 29 *e*P P **09 29 56.0 +0.4**
NJ2 pmax pmax
comp=Z,20nm,0.8s,mb5.1
KSH Kashi 81.20 353 P P **09 29 59.5 -4.1**
KSH PP PP 09 33 03.8 -5.7
KSH S S 09 40 02.5 -11
KSH SKS 09 40 11.8
KSH pmax pmax
comp=Z,14nm,1.0s,mb4.8
KSH pmax pmax
comp=Z,110nm,3.8s
KSH LR LR
comp=N,140nm,5.5s
KSH LR LR
comp=E,190nm,4.8s
KSH LR LR
comp=Z,200nm,5.0s
GTA Gaotai 81.78 12 ⇑P P **09 30 07.0 +0.3**
GTA pP pP 09 30 12.0 +2.0
GTA sP sP 09 30 14.0 +2.8
GTA S S 09 40 20.5 +1.0
GTA SS SS 09 45 44.0 +5.6
GTA pmax pmax
comp=Z,34nm,1.6s,mb5.0
GTA pmax pmax
comp=Z,130nm,4.0s
GTA LR LR
comp=N,300nm,17.1s,MS4.9
GTA LR LR
comp=E,270nm,16.4s,MS4.9
GTA LR LR
comp=Z,320nm,16.1s,MS4.8
KZA Kyzart 83.80 353 P P **09 30 18.6 +1.4**
SNR=6.6
ULHL Ulahol 83.88 353 P P **09 30 18.7 +1.2**
SNR=13
AAK Ala-Archa 84.43 352 *e*P P **09 30 19.9 -0.4**
comp=Z,51nm,1.1s,mb5.6
AAK Ala-Archa 84.43 352 *d* *i*P P **09 30 20.1 -0.2**
AAK pmax pmax
comp=Z,37nm,1.3s,mb5.3
EKS2 Erkin-Say 84.53 352 P P **09 30 20.6 -0.2**
SNR=8.6
EKS2 Erkin-Say 84.53 352 *e*P P **09 30 20.9 +0.1**
comp=Z,15nm,1.0s,mb5.1
EKS2 Erkin-Say 84.53 352 *e*P P **09 30 20.9 +0.1**
EKS2 pmax pmax
comp=Z,15nm,1.0s,mb5.1
FRU Bishkek 84.61 352 *e*P P **09 30 22.0 +0.8**
FRU pmax pmax
comp=Z,80nm,2.0s,mb5.5
EIL Elat 84.69 318 LR LR 10 02 25.1
comp=Z,360nm,19.8s,MS4.8,baz=305,slow=32
CHMS Chumysh 84.77 352 P P **09 30 22.7 +0.7**
SNR=6.5
BTO Baotou 84.94 19 *e*P P **09 30 21.8 -1.2**
USP Ospenovka 85.06 352 P P **09 30 23.9 +0.5**
SNR=5.4
WMQ Urumqi 85.11 2 P P **09 30 24.5 +0.8**
WMQ pP pP 09 30 29.5 +2.5
WMQ sP sP 09 30 31.5 +3.3
WMQ PP PP 09 33 43.5 +1.9
WMQ S S 09 40 52.3 -0.6
WMQ pmax pmax
comp=Z,19nm,1.5s,mb5.0
WMQ pmax pmax
comp=Z,160nm,3.6s
WMQ LR LR
comp=N,350nm,10.3s,MS5.1
WMQ LR LR
comp=E,180nm,10.3s,MS5.1
WMQ LR LR
comp=Z,350nm,17.5s
HHC Hu-ho-hao-te 85.56 20 *e*P P **09 30 26.3 +0.3**
HHC PP PP 09 33 49.0 +3.8
HHC SKS 09 40 49.0
HHC S S 09 40 58.5 +1.0
HHC SS SS 09 46 39.5 +5.2
HHC pmax pmax
comp=Z,29nm,0.9s,mb5.5
HHC pmax pmax
comp=Z,120nm,5.6s
HHC LR LR
comp=N,720nm,17.8s,MS5.2
HHC LR LR
comp=E,310nm,16.7s,MS5.2
HHC LR LR
comp=Z,790nm,20.2s,MS5.1
ASF Jabal al Asfar 85.79 321 LR LR 10 02 01.9
comp=Z,65nm,19.1s,MS4.0,baz=194,slow=31
BJI Beijing 86.08 23 P P **09 30 28.5 -0.1**
BJI S S 09 41 05.5 +2.8
BJI SS SS 09 46 44.5 +2.5
BJI pmax pmax
comp=Z,25nm,1.3s,mb5.3
BJI LR LR
comp=N,340nm,20.0s,MS4.9
BJI LR LR
comp=E,410nm,22.6s,MS4.9
BJI LR LR
comp=Z,550nm,22.6s,MS4.9
MMAI Mount Meron Ar 87.20 320 LR LR 10 01 41.7
comp=Z,93nm,21.4s,MS4.2,baz=220,slow=30
KSAR Wonju Array Be 87.90 33 P P **09 30 37.9 +0.3**
KSAR Wonju Array Be 87.90 33 P P **09 30 37.9 +0.3**
KSRS Korea Array 87.93 33 P P **09 30 37.9 +0.2**
comp=Z,6.6nm,0.9s,mb4.9,baz=219,slow=5.1,SNR=13
MKAR Makanchi Array 88.08 358 P P **09 30 37.4 -0.8**
comp=Z,5.0nm,1.0s,mb4.7,baz=176,slow=3.8,SNR=9.7
MKAR LR LR 10 07 23.9
comp=Z,784nm,20.3s,MS5.1,baz=180,slow=34
MKAR Makanchi Array 88.08 358 P P **09 30 37.4 -0.8**
MKAR Makanchi Array 88.08 358 P P **09 30 37.4 -0.8**
MAK Makhachkala 90.75 333 P P **09 30 49.5 -1.3**
MAK *e*PPP 09 36 24.2
MAK *e*S SKSac 09 41 22.5 +0.4
MAK *e* 09 41 48.6
MAK MLR MLR
comp=Z,147nm,7.0s
SONM Songino Array 91.08 14 P P **09 30 52.2 0.0**
comp=Z,7.4nm,1.0s,mb5.0,baz=204,slow=4.4,SNR=28
SONM LR LR 10 13 46.0
comp=Z,452nm,18.2s,MS5.0,baz=352,slow=37
SONM Songino Array 91.08 14 P P **09 30 52.2 0.0**
SONM Songino Array 91.08 14 P P **09 30 52.2 0.0**
ULN Ulaanbaatar 91.23 15 *e*P P **09 30 53.5 +0.6**
comp=Z,13nm,1.1s,mb5.2
ULN Ulaanbaatar 91.23 15 *e*P P **09 30 53.5 +0.6**
ULN pmax pmax
comp=Z,13nm,1.1s,mb5.2
MAT Matsushiro 91.75 40 P P **09 30 54.7 -0.9**
MAT *e*S S 09 41 51.0 -5.2
MJAR Matsushiro Arr 91.75 40 P P **09 30 55.3 -0.3**
comp=Z,6.7nm,1.1s,mb4.9,baz=210,slow=6.3,SNR=11
MJAR LR LR 10 14 57.4
comp=Z,158nm,18.6s,MS4.5,baz=190,slow=37
MJAR Matsushiro Arr 91.75 40 P P **09 30 55.4 -0.3**
MJAR Matsushiro Arr 91.75 40 P P **09 30 55.4 -0.2**
ZEI Tsey 91.84 331 *e*P P **09 30 56.3 +0.4**
ZEI pmax pmax
comp=Z,11nm,1.8s,mb4.9
KURK Kurchatov 92.15 356 LR LR 10 09 01.7
comp=Z,240nm,21.6s,MS4.6,baz=190,slow=33
CN2 Changchun 92.48 28 *e*P P **09 30 59.8 +1.0**
CN2 *es*P sP 09 31 06.0 +2.6
CN2 *e*S S 09 42 01.3 -1.1
CN2 pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
CN2 pmax pmax
comp=Z,300nm,5.0s
CN2 LR LR
comp=N,400nm,20.0s,MS4.9
CN2 LR LR
comp=E,200nm,20.0s,MS4.9
CN2 LR LR
comp=Z,500nm,21.0s,MS4.9
ZAK Zakamensk 93.03 12 *e*P P **09 30 59.9 -1.2**
ZAK pmax pmax
comp=Z,2.0nm,1.3s,mb4.4
ABKAR Akbulak array 93.17 344 *e*P P **09 31 01.6 -0.3**
comp=Z,1.5nm,0.9s,mb4.4
KIV Kislovodsk 93.31 331 *e*P P **09 31 03.6 +1.0**
KIV *e* 09 41 38.0
KIV pmax pmax
comp=Z,81nm,3.6s
KIV pmax pmax
comp=Z,15nm,1.1s,mb5.3
BR131 Keskin Array S 93.48 323 *e*P P **09 31 05.2 +1.6**
comp=Z,9.8nm,1.1s,mb5.2
BRTR Keskin Array B 93.48 323 P P **09 31 04.3 +0.8**
comp=Z,1.8nm,1.0s,mb4.5,baz=134,slow=6.2,SNR=5.3
BRTR LR LR 10 09 28.0
comp=Z,252nm,21.4s,MS4.6,baz=136,slow=33
BRTR Keskin Array B 93.48 323 P P **09 31 04.3 +0.8**
BRTR Keskin Array B 93.48 323 P P **09 31 04.4 +0.9**
TORD Torodi Ar. Bea 93.72 284 P P **09 31 04.7 -0.5**
comp=Z,3.6nm,1.0s,mb4.8,baz=134,slow=4.8,SNR=15
TORD LR LR 10 12 15.2
comp=Z,432nm,18.2s,MS5.0,baz=120,slow=35
TORD Torodi Ar. Bea 93.72 284 P P **09 31 04.7 -0.5**
DBIC Dimbokro 94.30 275 LR LR 10 08 55.7
comp=Z,809nm,19.2s,MS5.2,baz=115,slow=32
AKTO Aktyubinsk 94.70 343 P P **09 31 08.4 -0.4**
comp=Z,2.1nm,0.7s,mb4.7,baz=172,slow=3.5,SNR=7.2
AKTO LR LR 10 13 14.6
comp=Z,299nm,18.5s,MS4.8,baz=155,slow=35
AKTO Aktyubinsk 94.70 343 P P **09 31 08.4 -0.4**
AKTO Aktyubinsk 94.70 343 P P **09 31 08.4 -0.4**
MDJ Mudanjiang 94.70 30 P P **09 31 10.3 +1.3**
MDJ pP pP 09 31 13.5 +1.2
MDJ PP PP 09 34 59.8 +1.9
MDJ S S 09 42 25.3 +3.4
MDJ sS sS 09 42 31.5 +4.1
MDJ SS SS 09 48 49.3 +2.7
MDJ pmax pmax
comp=Z,9.0nm,2.3s,mb4.8
MDJ pmax pmax
comp=Z,83nm,3.7s
MDJ LR LR
comp=N,210nm,13.3s,MS5.0
MDJ LR LR
comp=E,300nm,16.4s,MS5.0
MDJ LR LR
comp=Z,310nm,18.4s,MS4.8
PLCA Paso Flores 95.07 198 LR LR 10 14 04.6
comp=Z,763nm,19.9s,MS5.2,baz=184,slow=36
BVAR Borovoye Array 95.14 351 LR LR 10 11 22.2
comp=Z,872nm,18.8s,MS5.2,baz=169,slow=34
ZALV Zalesovo Beam 95.21 360 P P **09 31 09.0 -2.1**
comp=Z,1.1nm,0.6s,mb4.5,baz=186,slow=2.9,SNR=4.8
ZALV PP PP 09 35 05.5 +3.7
comp=Z,0.6nm,0.5s,baz=193,slow=5.9,SNR=3.8
ZALV LR LR 10 11 20.2
comp=Z,399nm,21.6s,MS4.8,baz=230,slow=34
ZALV Zalesovo Beam 95.21 360 P P **09 31 09.0 -2.1**
ZALV PP PP 09 35 05.5 +3.7
ZALV Zalesovo Beam 95.21 360 P P **09 31 09.0 -2.1**
ZALV 09 35 05.5
TBI Tubuai 98.00 131 *e*LR LR 10 03 17.3
comp=Z,211nm,22.0s
ASAJ Asahikawa 99.77 38 LR LR 10 19 25.5
comp=Z,141nm,19.3s,MS4.5,baz=184,slow=37
HABR Khabarovsk 100.00 31 *e*P Pdif 09 31 31.9 -1.6
HABR *e**PP 09 31 34.7
HABR PPP 09 37 46.0
HABR *e*S SKSac 09 42 10.6 -0.5
HABR S S 09 43 07.1 +0.1
HABR *e**SS sS 09 43 12.1 -0.5
HABR *e*PS PS 09 44 36.7 -0.3
HABR *e*SS SS 09 50 00.6 -0.6
HABR *e*SSS 09 53 50.6
HABR pmax pmax
comp=E,137nm,2.6s
HABR pmax pmax
comp=Z,96nm,2.2s,mb5.8
HABR pmax pmax
comp=N,122nm,3.3s
HABR MLR MLR
comp=Z,278nm,20.0s,MS4.8
OBN Obninsk 104.85 334 ⇑*e*P Pdif 09 31 53.7 -1.3
OBN *e* 09 36 12.8
OBN *e*SS SS 09 51 24.5 +16
OBN pmax pmax
comp=Z,18nm,1.0s
OBN MLR MLR
comp=Z,400nm,21.0s,MS4.9
RKT Rikitea 105.67 142 *e*LR LR 10 06 42.2
comp=Z,333nm,26.0s
FINES FINESS Array B 113.25 333 Pdiff Pdif 09 32 33.5 +1.1
comp=Z,4.3nm,0.9s,baz=144,slow=12,SNR=3.7
FINES FINESS Array B 113.25 333 Pdif Pdif 09 32 33.5 +1.1
FINES FINESS Array B 113.25 333 P Pdif 09 32 33.5 +1.1
TAOE Nuku Hiva Isla 114.89 129 *e*LR LR 10 11 06.8
comp=Z,170nm,24.1s
APA Apatity 115.64 341 ⇑*i*PKIKP PKPdf 09 36 32.0 +2.8
APA MLR MLR
comp=Z,700nm,20.0s,MS5.3
OTAV Otavalo 136.16 204 *e*PKPdf PKPdf 09 37 12.1 +1.9
ILAR Eielson Array 142.77 34 PKhKP PKPpre 09 37 15.1
comp=Z,0.5nm,0.6s,baz=288,slow=3.7,SNR=2.0
ILAR Eielson Array 142.77 34 PKPpre PKPpre 09 37 15.1
ILAR Eielson Array 142.77 34 PKHKP PKPpre 09 37 15.1
EGAK Eagle 145.13 33 *e*PKPbc PKPbc 09 37 24.6 +0.4
MTP Monte Pirata 145.63 236 *e*PKPdf PKPdf 09 37 27.1 +0.2
SJG San Juan 146.01 235 *e*PKPdf PKPdf 09 37 29.0 +1.5
SJG San Juan 146.01 235 *e*PKP2 PKPab 09 37 29.0 +0.1
ICM Isla Caja Muer 146.07 234 *e*PKPdf PKPdf 09 37 28.6 +0.9
DAWY Dawson 146.09 33 *e*PKPdf PKPab 09 37 28.9 +1.0
OBIP Obispado Ponce 146.24 234 *e*PKPbc PKPbc 09 37 29.4 +0.4
CELP Cerrillos 146.24 234 *e*PKPbc PKPab 09 37 29.2 +0.2
INK Inuvik 146.35 25 *e*PKPbc PKPbc 09 37 27.9 0.0
INK Inuvik 146.35 25 *e*PKP2 PKPbc 09 37 27.9 0.0
CRPR Cabo Rojo, PR 146.51 234 *e*PKPbc PKPbc 09 37 30.2 +0.4
LRS Lares 146.57 234 *e*PKPbc PKPbc 09 37 29.9 -0.1
RES Resolute Bay 146.86 360 *e*PKPbc PKPab 09 37 30.4 -0.2
RES Resolute Bay 146.86 360 *e*PKP2 PKPab 09 37 30.4 -0.2
TGUH Tegucigalpa,Un 151.71 196 *e*PKPdf PKPdf 09 37 37.0 +0.1
TGUH *e*PKPbc PKPbc 09 37 43.2 0.0
TGUH *e*PKPab PKPab 09 37 52.0 +0.2
YKA Yellowknife Ar 156.07 23 PKPab PKPab 09 38 07.9 -1.2
comp=Z,2.5nm,0.9s,baz=319,slow=2.8,SNR=7.9
YKA Yellowknife Ar 156.07 23 PKPab PKPab 09 38 07.9 -1.2
YKA Yellowknife Ar 156.07 23 PKP2 PKPab 09 38 07.9 -1.2
NVAR Mina Array Bea 161.85 92 PKP PKPdf 09 37 47.5 -1.7
comp=Z,0.2nm,0.7s,baz=318,slow=3.6,SNR=2.2
NVAR PKPab PKPab 09 38 34.1 -0.9
comp=Z,1.8nm,0.8s,baz=243,slow=4.0,SNR=7.6
NVAR Mina Array Bea 161.85 92 PKP PKPdf 09 37 47.5 -1.7
NVAR PKPab PKPab 09 38 34.1 -0.9
TXAR Lajitas Array 165.83 147 PKP PKPdf 09 37 53.9 +0.8
comp=Z,1.1nm,1.1s,baz=322,slow=2.6,SNR=5.5
TXAR Lajitas Array 165.83 147 PKP PKPdf 09 37 53.9 +0.8
TXAR Lajitas Array 165.83 147 PKIKP PKPdf 09 37 53.9 +0.8
MNTX Cornudas Mount 167.03 137 *e*PKPdf PKPdf 09 37 55.0 +1.0
PDAR Pinedale Array 169.11 79 PKP PKPdf 09 37 56.6 +1.6
comp=Z,1.5nm,1.1s,baz=336,slow=2.0,SNR=3.6
PDAR PKPab PKPab 09 39 05.6 -1.3
comp=Z,4.5nm,1.1s,baz=266,slow=2.7,SNR=7.9
PDAR Pinedale Array 169.11 79 PKP PKPdf 09 37 56.6 +1.6
PDAR PKPab PKPab 09 39 05.6 -1.3

ISCJB ***27*** *09:28:33.7±0.5, 0.02S±0.06×123.48E±0.06, h127km±6km, mb4.4/19, Error ellipse: s-maj=12.6km s-min=7.0km az=136.4*
DJA ***27*** *09:28:35, 0.09S×123.42E, h106km, MLv4.6/7*
IDC ***27*** *09:28:39.8±5.6, 0.01N×123.66E, h177km±57km, mb3.7/10, mb1 3.9/11, mb1mx3.7/19, mbtmp3.7/11, Error ellipse: s-maj=27.3km s-min=12.7km az=67.0*
NEIC ***27*** *09:28:41.0±4.8, 0.02S×123.64E, h192km±49km, mb4.3/2, Error ellipse: s-maj=27.5km s-min=11.5km az=65.0*

ISC 27 09:28:34.7±0.5, 0.05S±0.06×123.48E±0.06, h121km±6km, n50, σ1.502/47, mb4.4/19, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**0.82**	**325**	P	**Pn**	**09 28 56.1**	**+0.9**
LUWI	**Luwuk**	**1.22**	**215**	P	**Pn**	**09 28 57.7**	**-1.4**
MRSI	**Marisa**	**1.62**	**289**	P	**Pn**	**09 29 02.2**	**-1.5**
KDI	**Kendari**	**3.98**	**192**	P	**Pn**	**09 29 32.8**	**-1.3**
LBMI	**Labuha**	**4.07**	**98**	P	**Pn**	**09 29 35.3**	**+0.1**
TTSI	**Tana Toraja**	**4.72**	**231**	P	**Pn**	**09 29 44.6**	**+0.7**
NLAI	**Namlea**	**4.81**	**131**	P	**Pn**	**09 29 45.4**	**+0.2**
SPSI	**Sidrap Palu**	**5.37**	**224**	P	Px	09 30 05.5	
AAI	**Ambon**	**5.94**	**128**	P	**Pn**	**09 30 01.6**	**+1.2**
	179nm,0.5s						
MSAI	**Masohi**	**6.36**	**121**	P	**Pn**	**09 30 07.9**	**+1.8**
FITZ	**Fitzroy Crossi**	**18.07**	**173**	P	**P**	**09 32 37.1**	**+0.2**
	0.7nm,0.3s,baz=0.1,slow=9.4,SNR=18						
FITZ	**Fitzroy Crossi**	**18.07**	**173**	P	**P**	**09 32 37.1**	**+0.2**
WRAB	**Tennant Creek**	**22.45**	**152**	*e*P	**P**	**09 33 23.1**	**-0.9**
	5.0nm,0.8s,mb3.9						
WRA	**Warramunga Arr**	**22.45**	**152**	P	**P**	**09 33 23.1**	**-1.0**
	3.6nm,0.4s,mb4.0,baz=335,slow=10,SNR=55						
WRA	**Warramunga Arr**	**22.45**	**152**	P	**P**	**09 33 23.1**	**-1.0**
WB2	**Warramunga Arr**	**22.46**	**152**	*e*P	**P**	**09 33 23.3**	**-0.9**
AS31	**Alice Springs**	**25.57**	**157**	*e*P	**P**	**09 33 54.1**	**+1.5**
ASAR	**Alice Springs**	**25.57**	**157**	P	**P**	**09 33 52.9**	**+0.4**
	0.7nm,0.4s,mb3.5,baz=333,slow=7.5,SNR=21						
ASAR	**Alice Springs**	**25.57**	**157**	P	**P**	**09 33 52.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**30.32**	**309**	P	**P**	**09 34 37.2**	**+2.3**
	1.1nm,0.3s,mb3.9,baz=129,slow=6.4,SNR=9.9						
CMAR	**Chiang Mai Arr**	**30.32**	**309**	P	**P**	**09 34 37.2**	**+2.3**

STKA	**Stephens Creek**	**36.00**	**153**	P	**P**	**09 35 24.3**	**+0.1**
	1.9nm,0.5s,mb4.3,baz=323,slow=9.8,SNR=10						
STKA	**Stephens Creek**	**36.00**	**153**	P	**P**	**09 35 24.3**	**+0.1**
MJAR	**Matsushiro Arr**	**38.89**	**19**	P	**P**	**09 35 46.5**	**-1.9**
	3.8nm,0.7s,mb4.3,baz=194,slow=9.4,SNR=11						
MJAR	**Matsushiro Arr**	**38.89**	**19**	P	**P**	**09 35 46.5**	**-1.9**
ODAN	**Odare**	**43.82**	**311**	*e*P	**P**	**09 36 29.6**	**+0.7**
	13nm,0.6s,mb4.8						
TAPN	**Taplejung**	**43.83**	**311**	*e*P	**P**	**09 36 29.6**	**+0.6**
	9.9nm,0.8s,mb4.6						
RAMN	**Ramite**	**44.47**	**310**	*e*P	**P**	**09 36 34.8**	**+0.8**
	20nm,0.7s,mb5.0						
JIRN	**Jiri**	**45.14**	**311**	*e*P	**P**	**09 36 39.9**	**+0.5**
GUN	**Gumba**	**45.51**	**311**	*e*P	**P**	**09 36 42.7**	**+0.4**
	20nm,0.7s,mb5.0						
KKN	**Kakani**	**45.90**	**310**	*e*P	**P**	**09 36 45.9**	**+0.5**
DMN	**Daman**	**45.94**	**310**	*e*P	**P**	**09 36 46.3**	**+0.6**
GKN	**Gorkha**	**46.50**	**310**	*e*P	**P**	**09 36 50.2**	**+0.1**
KOLN	**Koldanda**	**47.18**	**309**	*e*P	**P**	**09 36 56.0**	**+0.6**
	24nm,0.7s,mb5.0						
DANN	**Dangsing**	**47.34**	**310**	*e*P	**P**	**09 36 57.0**	**+0.4**
	25nm,0.7s,mb5.0						
PYUN	**Piuthan**	**47.81**	**309**	*e*P	**P**	**09 37 00.9**	**+0.6**
	44nm,0.7s,mb5.4						
SONM	**Songino Array**	**49.95**	**345**	P	**P**	**09 37 15.6**	**-0.6**
	4.1nm,0.7s,mb4.5,baz=162,slow=8.7,SNR=22						
SONM	**Songino Array**	**49.95**	**345**	P	**P**	**09 37 15.6**	**-0.6**
MK31	**Makanchi Array**	**58.90**	**328**	*e*P	**P**	**09 38 20.1**	**-0.9**
MKAR	**Makanchi Array**	**58.90**	**328**	P	**P**	**09 38 19.8**	**-1.2**
	1.2nm,0.5s,mb4.2,baz=122,slow=8.8,SNR=22						
MKAR	**Makanchi Array**	**58.90**	**328**	P	**P**	**09 38 19.8**	**-1.2**
PETK	**Petropavlovsk-**	**60.14**	**23**	P	**P**	**09 38 29.1**	**-0.3**
	6.0nm,0.8s,mb4.7,baz=189,slow=5.4,SNR=5.5						
PETK	**Petropavlovsk-**	**60.14**	**23**	P	**P**	**09 38 29.1**	**-0.3**
ZALV	**Zalesovo Beam**	**62.55**	**335**	P	**P**	**09 38 44.2**	**-1.4**
	1.3nm,0.5s,mb4.1,baz=136,slow=5.3,SNR=6.2						
ZALV	**Zalesovo Beam**	**62.55**	**335**	P	**P**	**09 38 44.2**	**-1.4**
KURK	**Kurchatov**	**63.25**	**330**	*e*P	**P**	**09 38 45.9**	**-4.4**
	4.7nm,0.8s,mb4.5						
ILAR	**Eielson Array**	**89.89**	**25**	P	**P**	**09 41 17.3**	**-2.4**
	0.4nm,0.5s,mb3.8,baz=253,slow=4.9,SNR=15						
ILAR	**Eielson Array**	**89.89**	**25**	P	**P**	**09 41 17.3**	**-2.4**
TORD	**Torodi Ar. Bea**	**120.88**	**285**	PKP	PKPdf	09 47 11.5	-2.3
	0.2nm,0.5s,baz=93,slow=1.3,SNR=2.9						
TORD	**Torodi Ar. Bea**	**120.88**	**285**	PKP	PKPdf	09 47 11.5	-2.3

CSEM ***27*** *09:45:41.0, 62.79N×22.92E, h0km, ML1.4, Mining explosion. After HEL*

HEL 27 09:45:41.0±0.4, 62.79N×22.92E, h0km, ML1.4, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VAF	**Ylistaro**	**0.28**	**336**	PG	Pg	09 45 46.9	+0.6
	baz=157						
VAF				SG	Sg	09 45 48.3	-1.6
VAF				RG		09 45 51.0	
VAF	**Ylistaro**	**0.28**	**336**	Pg	Pg	09 45 46.9	+0.6
VAF				Sg	Sg	09 45 48.3	-1.6
VAF				Rg		09 45 51.0	
KEF	**Keuruu**	**1.10**	**124**	PG	Pg	09 46 01.8	-0.2
KEF				SG	Sg	09 46 16.6	+0.3
KEF				RG		09 46 18.5	
KEF	**Keuruu**	**1.10**	**124**	Pg	Pg	09 46 01.8	-0.3
KEF				Sg	Sg	09 46 16.6	+0.3
KEF				Rg		09 46 18.5	
SUF	**Sumiainen**	**1.49**	**91**	PG	Pg	09 46 08.6	-0.9
SUF				SG	Sg	09 46 28.1	-0.7
SUF				MSG		09 46 28.1	
	comp=Z,1.9nm,0.4s						
SUF	**Sumiainen**	**1.49**	**91**	Pg	Pg	09 46 08.6	-0.9
SUF				Sg	Sg	09 46 28.1	-0.7
RAF	**Rauma**	**1.85**	**198**	PN	Pn	09 46 15.4	+1.4
	baz=20						
RAF				SG	Sg	09 46 39.7	-0.8
RAF				MSG		09 46 39.7	
	comp=Z,1.4nm,0.1s						
RAF	**Rauma**	**1.85**	**198**	Pn	Pn	09 46 15.3	+1.3
RAF				Sg	Sg	09 46 39.7	-0.8
FIA0	**FINESS Array S**	**2.01**	**131**	PN	Pn	09 46 16.8	+0.7
	baz=321						
FIA0				SG	Sg	09 46 42.1	-3.3
FIA0				MSG		09 46 42.1	
	comp=Z,2.7nm,0.4s						
FIA0				RG		09 46 54.3	
FIA0	**FINESS Array S**	**2.01**	**131**	Pn	Pn	09 46 16.8	+0.7
FIA0				Sg	Sg	09 46 42.1	-3.3
FIA0				Rg		09 46 54.3	
OUL	**Oulu**	**2.65**	**28**	SG	Sg	09 47 03.1	-3.1
OUL				MSG		09 47 03.1	
	comp=Z,1.0nm,0.4s						
OUL	**Oulu**	**2.65**	**28**	Sg	Sg	09 47 03.1	-3.1

HEL 27 09:45:47.4±1.4, 59.29N×27.70E, h0km, ML1.5, Explosion, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**1.26**	**357**	PG	Pg	09 46 11.2	-0.3
VJF				SG	Sg	09 46 28.7	+0.9
VJF				MSG		09 46 28.7	
	comp=Z,1.8nm,0.1s						
MEF	**Metsahovi**	**1.92**	**301**	PN	Pn	09 46 22.9	+1.7
MEF				SG	Sg	09 46 48.1	-0.8
MEF				MSG		09 46 48.1	
	comp=Z,1.1nm,0.1s						
MTSE	**Matsula**	**2.09**	**256**	PN	Pn	09 46 24.1	+0.5
MTSE				SG	Sg	09 46 51.3	-3.2
FIA0	**FINESS Array S**	**2.31**	**340**	PN	Pn	09 46 28.2	+1.6
	baz=159						

ISCJB ***27*** *09:56:48.7±0.6, 38.63N±0.04×39.10E±0.06, h7km±9km, Error ellipse: s-maj=9.2km s-min=5.1km az=43.6*
CSEM ***27*** *09:56:48.7±0.1, 38.62N×39.11E, h5km, MD2.9, Error ellipse: s-maj=3.0km s-min=2.2km az=145.0*
DDA ***27*** *09:56:49.0, 38.63N×39.07E, h7km, Nm2.9*
ISK ***27*** *09:56:48.1, 38.62N×39.09E, h6km, MD2.7*

ISC 27 09:56:48.7±0.8, 38.62N±0.04×39.11E±0.05, h13km±8km, n12, σ0 9 41/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ELZG	**Elazig**	**0.15**	**220**	*i* P	**Pg**	**09 56 52.3**	**-0.1**
ELZG				*i* S	**Sg**	**09 56 54.9**	**-0.1**
ELZG	**Elazig**	**0.15**	**220**	*i* P	**Pg**	**09 56 52.3**	**-0.1**
ELZG				*i* S	**Sg**	**09 56 54.9**	**-0.1**
SVRC	**Sivrice-ELAZID**	**0.28**	**147**	*e*PG	**Pg**	**09 56 54.4**	**-0.1**
SVRC				*e*SG	**Sg**	**09 56 59.1**	**+0.6**
SVRC	**Sivrice-ELAZID**	**0.28**	**147**	*e*Pg	**Pg**	**09 56 54.4**	**-0.2**
SVRC				*e*Sg	**Sg**	**09 56 59.1**	**+0.6**
PTK	**Pertek**	**0.35**	**39**	*e*PG	**Pg**	**09 56 55.4**	**-0.5**
PTK				*e*SG	**Sg**	**09 57 01.0**	**+0.3**
PTK	**Pertek**	**0.35**	**39**	*e*Pg	**Pg**	**09 56 55.4**	**-0.5**
PTK				*e*Sg	**Sg**	**09 57 01.0**	**+0.3**
MYA	**Malataya**	**0.61**	**242**	*e*PG	**Pg**	**09 57 00.6**	**0.0**
MYA	**Malataya**	**0.61**	**242**	*e*Pg	**Pg**	**09 57 00.6**	**0.0**
MALT	**Malatya**	**0.61**	**241**	*e*PG	**Pg**	**09 57 00.6**	**0.0**
MALT				*e*SG	**Sg**	**09 57 08.7**	**-0.1**
MALT	**Malatya**	**0.61**	**241**	*e*Pg	**Pg**	**09 57 00.6**	**-0.1**
MALT				*e*Sg	**Sg**	**09 57 08.7**	**-0.1**
KEMA	**Kemaliye**	**0.81**	**324**	*i* P	**Pg**	**09 57 04.0**	**-0.4**
KEMA				*i* S	**Sg**	**09 57 15.6**	**+0.6**
AKCD	**Akcadag**	**0.98**	**251**	*i* P	**Pb**	**09 57 06.8**	**-0.7**
AKCD				*i* S	**Sb**	**09 57 21.1**	**+0.7**

RSPR 27 10:15:30.8, 18.23N×69.04W, h131km±13km, MD3.7/3, 3C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRPR	**Cabo Rojo, PR**	**1.85**	**96**	*e*S	Sn	10 16 27.4	-0.2
CRPR	**Cabo Rojo, PR**	**1.85**	**96**	*e*P	Pn	10 16 03.5	+0.5
CBYP	**Canovanas**	**3.02**	**89**	*e*P	Pn	10 16 17.2	-0.6
MTP	**Monte Pirata**	**3.32**	**92**	*e*P	Pn	10 16 21.3	-0.3
MTP	**Monte Pirata**	**3.32**	**92**	*e*S	Sn	10 17 02.0	+1.2

ISCJB ***27*** *10:52:53.1±0.7, 57.76N±0.06×142.81W±0.06, h10km, mb3.7/5, Error ellipse: s-maj=9.1km s-min=4.3km az=17.0*
IDC ***27*** *10:52:55.2±1.2, 57.83N×142.75W, h0km, mb3.7/5, mb1 3.9/10, mb1mx3.7/27, mbtmp3.7/10, ML3.3/4, MS2.9/2, Ms1 2.9/2, ms1mx2.7/45, Error ellipse: s-maj=23.1km s-min=15.5km az=27.0*
PGC ***27*** *10:52:56.1±2.6, 57.61N×142.56W, h10km, ML3.7/3, 259km Wsw of Yakutat, Ak Gulf Of Alaska*
NEIC ***27*** *10:52:58.2, 57.58N×142.95W, h12km, ML3.5(AEIC), After AEIC.*

ISC 27 10:52:54.2±0.5, 57.67N±0.05×142.76W±0.06, h10km, n47, σ1 9 42/61, mb3.7/5, 4D, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNL	**Peninsula**	**2.66**	**40**	*e*Pn	**Pn**	**10 53 37.6**	**+0.5**
EYAK	**Cordova Ski Ar**	**3.27**	**333**	P	**Pn**	**10 53 44.8**	**-0.6**
BMRM	**Bremner River**	**3.44**	**345**	*e*Pn	**Pn**	**10 53 47.5**	**-0.2**
DIV	**Divide**	**3.79**	**337**	*e*Pn	**Pn**	**10 53 55.1**	**+2.5**
PLBC	**Pleasant Camp**	**3.80**	**59**	Pn	**Pn**	**10 53 53.2**	**+0.6**
PLBC				⇓Sn	**Sn**	**10 54 35.4**	**-1.9**
KLU	**Klutina**	**4.15**	**339**	P	**Pn**	**10 53 57.1**	**-0.4**
HYT	**Haines Junctio**	**4.16**	**38**	⇑Pn	**Pn**	**10 53 58.8**	**+1.2**
SEW	**Seward**	**4.24**	**308**	*e*Pn	**Pn**	**10 53 58.0**	**-0.7**
SEW				*e*Sn	**Sn**	**10 54 45.1**	**-3.1**
SKAG	**Skagway**	**4.29**	**62**	*e*Pn	**Pn**	**10 53 59.9**	**+0.6**
SKAG				*e*Sn	**Sn**	**10 54 55.5**	**+6.1**
SLKM	**Skilak Lake**	**4.78**	**310**	*e*Pn	**Pn**	**10 54 05.6**	**-0.5**
SLKM				*e*Sn	**Sn**	**10 55 00.4**	**-1.2**
RC01	**Rabbit Creek A**	**4.94**	**317**	*e*Pn	**Pn**	**10 54 07.5**	**-1.0**
RC01				*e*Sn	**Sn**	**10 55 02.5**	**-3.1**
SML	**Sawmill**	**5.01**	**328**	*e*Pn	**Pn**	**10 54 10.7**	**+1.4**
	6.0nm,0.3s						
SML				*e*Sn	**Sn**	**10 55 06.1**	**-1.1**
WHY	**Whitehorse**	**5.04**	**50**	Pn	**Pn**	**10 54 10.8**	**+1.1**
WHY				⇑Sn	**Sn**	**10 55 06.4**	**-1.5**
PMR	**Palmer**	**5.09**	**323**	*e*Pn	**Pn**	**10 54 10.7**	**+0.3**
	13nm,0.3s						
PMR				*e*Sn	**Sn**	**10 55 09.8**	**+0.7**
KDAK	**Kodiak Island**	**5.27**	**275**	Pn	**Pn**	**10 54 12.2**	**-0.6**
	20nm,0.3s,baz=78,slow=8.2,SNR=203						
KDAK				Sn	**Sn**	**10 55 09.3**	**-4.2**
	baz=253,slow=19,SNR=2.9						
KDAK	**Kodiak Island**	**5.27**	**275**	Pn	**Pn**	**10 54 12.2**	**-0.6**
KDAK				Sn	**Sn**	**10 55 09.3**	**-4.2**
RSO	**Redoubt South**	**5.86**	**303**	*e*Pn	**Pn**	**10 54 21.3**	**+0.3**
	34nm,0.4s						
DAWY	**Dawson**	**6.62**	**13**	*e*Pn	**Pn**	**10 54 33.3**	**+1.9**
DAWY	**Dawson**	**6.62**	**13**	⇑Pn	**Pn**	**10 54 32.8**	**+1.4**
DAWY				⇓Sn	**Sn**	**10 55 44.0**	**-2.8**
NDB	**Naden**	**6.67**	**120**	⇑Pn	**Pn**	**10 54 30.6**	**-1.5**
MCK	**McKinley**	**6.79**	**336**	*e*Pn	**Pn**	**10 54 35.7**	**+2.0**
	13nm,0.9s						
DLBC	**Dease Lake**	**6.80**	**78**	Pn	**Pn**	**10 54 36.0**	**+2.1**
	0.5nm,0.3s,baz=253,slow=11,SNR=20						
DLBC				Sn	**Sn**	**10 55 46.2**	**-5.1**
	0.7nm,0.3s,baz=119,slow=19,SNR=3.8						
DLBC	**Dease Lake**	**6.80**	**78**	Pn	**Pn**	**10 54 36.0**	**+2.1**
DLBC				Sn	**Sn**	**10 55 46.2**	**-5.1**
DLBC	**Dease Lake**	**6.80**	**78**	⇑Pn	**Pn**	**10 54 34.3**	**+0.4**
DLBC				⇓Sn	**Sn**	**10 55 46.0**	**-5.4**
TRF	**Thorofare Moun**	**6.88**	**331**	*e*Pn	**Pn**	**10 54 36.0**	**+1.1**
	11nm,0.3s						
DIB	**Dawson Inlet,**	**7.37**	**123**	⇓Pn	**Pn**	**10 54 40.2**	**-1.4**
ILAR	**Eielson Array**	**7.39**	**346**	Pn	**Pn**	**10 54 40.8**	**-1.2**
	0.3nm,0.3s,baz=169,slow=13,SNR=19						
ILAR				LR	LR	10 57 42.6	
	comp=Z,141nm,21.5s,baz=273,slow=40						
ILAR	**Eielson Array**	**7.39**	**346**	Pn	**Pn**	**10 54 40.8**	**-1.2**
BPAW	**Bear Paw Mtn.**	**7.59**	**332**	*e*Pn	**Pn**	**10 54 44.8**	**+0.2**
	5.8nm,0.3s						
MOBC	**Moresby Island**	**7.63**	**122**	Pn	**Pn**	**10 54 44.2**	**-1.1**
BNB	**Barry Inlet**	**8.11**	**124**	⇑Pn	**Pn**	**10 54 50.2**	**-1.7**
INK	**Inuvik**	**11.45**	**18**	Pn	**Pn**	**10 55 37.6**	**+0.1**
	0.2nm,0.3s,baz=196,slow=5.3,SNR=7.3						
INK	**Inuvik**	**11.45**	**18**	Pn	**Pn**	**10 55 37.6**	**+0.1**
YKA	**Yellowknife Ar**	**14.78**	**59**	Pn	**Pn**	**10 56 21.7**	**-1.2**
	0.1nm,0.3s,baz=261,slow=13,SNR=6.8						
YKA				LR	LR	11 01 30.7	
	comp=Z,25nm,18.6s,baz=10.0,slow=35						
YKA	**Yellowknife Ar**	**14.78**	**59**	Pn	**Pn**	**10 56 21.7**	**-1.2**
ETW	**Entiat**	**16.86**	**117**	*e*Pn	**Pn**	**10 56 53.9**	**+3.9**
	19nm,1.2s						
SLMT	**Seeley Lake**	**20.50**	**108**	*e*P	**P**	**10 57 38.5**	**+6.4**
RES	**Resolute Bay**	**24.65**	**28**	P	**P**	**10 58 17.0**	**+2.6**
	4.7nm,0.8s,mb4.1,baz=257,slow=12,SNR=12						
RES	**Resolute Bay**	**24.65**	**28**	P	**P**	**10 58 17.0**	**+2.6**
NVAR	**Mina Array Bea**	**25.02**	**130**	P	**P**	**10 58 21.5**	**+3.5**
	1.5nm,0.8s,mb3.5,baz=315,slow=8.9,SNR=10						
NVAR	**Mina Array Bea**	**25.02**	**130**	P	**P**	**10 58 21.5**	**+3.5**
PDAR	**Pinedale Array**	**25.62**	**111**	P	**P**	**10 58 26.8**	**+3.2**
	0.4nm,0.7s,mb3.1,baz=333,slow=7.5,SNR=3.4						
PDAR	**Pinedale Array**	**25.62**	**111**	P	**P**	**10 58 26.8**	**+3.2**
SONM	**Songino Array**	**60.37**	**314**	P	**P**	**11 03 05.8**	**+2.8**
	0.9nm,1.0s,mb3.8,baz=45,slow=4.3,SNR=3.6						
SONM	**Songino Array**	**60.37**	**314**	P	**P**	**11 03 05.8**	**+2.8**
ZALV	**Zalesovo Beam**	**62.22**	**330**	P	**P**	**11 03 17.8**	**+2.3**
	0.4nm,0.3s,mb4.0,baz=28,slow=6.5,SNR=3.9						
ZALV	**Zalesovo Beam**	**62.22**	**330**	P	**P**	**11 03 17.8**	**+2.3**

IDC ***27*** *11:22:21.3±2.5, 2.42S×100.27E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/20, mbtmp3.9/5, Error ellipse: s-maj=121.1km s-min=21.0km az=54.0*
NEIC ***27*** *11:22:28.1±0.9, 2.26S×100.50E, h45km±5km, Error ellipse: s-maj=33.7km s-min=8.8km az=60.0*
ISCJB ***27*** *11:22:29.5±1.9, 2.2S±0.1×100.4E±0.2, h79km±13km, mb3.9/4, Error ellipse: s-maj=35.7km s-min=8.6km az=145.4*
DJA ***27*** *11:22:29, 2.17S×100.35E, h17km, MLv4.0/6*

ISC 27 11:22:29.5±2.0, 2.2S±0.1×100.3E±0.2, h62km±16km, n28, σ0 8 86/24, mb3.9/4, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRJI	**Kerinci**	**1.13**	**82**	P	**Pn**	**11 22 49.1**	**-0.1**
KRJI				S	**Sn**	**11 23 04.3**	**+0.3**
PDSI	**Padang**	**1.32**	**5**	P	**Pn**	**11 22 50.7**	**-1.2**
PDSI				S	**Sn**	**11 23 08.1**	**-0.6**
SDSI	**Sungai Dareh**	**1.69**	**40**	P	**Pn**	**11 22 57.1**	**+0.3**
PPI	**Padang Panjang**	**1.77**	**2**	P	**Pn**	**11 22 58.5**	**+0.6**
BKNI	**Bangkinang**	**2.64**	**15**	P	**Pn**	**11 23 17.2**	**+7.5**
KSI	**Kapahiang**	**2.65**	**122**	P	**Pn**	**11 23 13.4**	**+3.6**
MDSI	**Maura Dua**	**4.43**	**120**	P	**Pn**	**11 23 34.9**	**+0.7**
MYKOM	**Kota Tinggi**	**5.32**	**41**	P	**Pn**	**11 23 47.2**	**+0.8**
KULM	**Kulim**	**7.49**	**2**	Pn	**Pn**	**11 24 14.9**	**-1.1**
CMAR	**Chiang Mai Arr**	**20.61**	**356**	P	**P**	**11 27 04.2**	**+0.5**
	0.5nm,0.3s,baz=195,slow=9.0,SNR=4.7						
CMAR	**Chiang Mai Arr**	**20.61**	**356**	P	**P**	**11 27 04.2**	**+0.5**
WRA	**Warramunga Arr**	**37.58**	**120**	P	**P**	**11 29 37.1**	**-1.1**
	1.0nm,0.5s,mb3.8,baz=300,slow=9.1,SNR=17						
WRA	**Warramunga Arr**	**37.58**	**120**	P	**P**	**11 29 37.1**	**-1.1**
WRAB	**Tennant Creek**	**37.58**	**120**	*e*P	**P**	**11 29 37.7**	**-0.5**
WB2	**Warramunga Arr**	**37.59**	**120**	*e*P	**P**	**11 29 37.5**	**-0.8**
ASAR	**Alice Springs**	**38.83**	**126**	P	**P**	**11 29 48.4**	**-0.3**
	1.0nm,0.6s,mb3.7,baz=301,slow=7.9,SNR=27						
ASAR	**Alice Springs**	**38.83**	**126**	P	**P**	**11 29 48.4**	**-0.3**
MKAR	**Makanchi Array**	**51.35**	**344**	P	**P**	**11 31 29.0**	**+1.4**
	0.1nm,0.3s,mb3.2,baz=156,slow=7.9,SNR=3.7						
MKAR				pP	pP	11 31 41.0	-2.8
	0.9nm,0.8s,baz=148,slow=6.7,SNR=4.3						
MKAR	**Makanchi Array**	**51.35**	**344**	P	**P**	**11 31 29.0**	**+1.4**
MKAR				pP	pP	11 31 41.0	-2.8
KURK	**Kurchatov**	**55.93**	**343**	pP	pP	11 32 14.9	-2.5
	0.3nm,0.2s,baz=165,slow=7.4,SNR=1.9						
KURK	**Kurchatov**	**55.93**	**343**	pP	pP	11 32 14.9	-2.5
ARMA	**Armidale**	**55.98**	**126**	P	**P**	**11 32 01.0**	**-0.8**
ZALV	**Zalesovo Beam**	**57.47**	**349**	pP	pP	11 32 25.4	-2.9
	0.6nm,0.5s,baz=168,slow=7.4,SNR=1.6						
ZALV	**Zalesovo Beam**	**57.47**	**349**	pP	pP	11 32 25.4	-2.9
ARCES	**ARCESS Array B**	**86.81**	**340**	P	**P**	**11 35 07.9**	**+1.2**
	5.1nm,0.9s,mb4.7,baz=90,slow=6.3,SNR=4.0						
ARCES	**ARCESS Array B**	**86.81**	**340**	P	**P**	**11 35 07.9**	**+1.2**
TXAR	**Lajitas Array**	**144.68**	**38**	PKP	PKPdf	11 42 00.1	+0.2
	0.6nm,0.6s,baz=278,slow=0.9,SNR=10						
TXAR				pPKP	pPKPdf	11 42 13.7	-4.4
	0.4nm,0.7s,baz=281,slow=1.4,SNR=4.3						
TXAR	**Lajitas Array**	**144.68**	**38**	PKP	PKPdf	11 42 00.1	+0.2
TXAR				pPKP	pPKPdf	11 42 13.7	-4.4

IDC 27 11:38:30.1±9.8, 1.48N×127.45E, h104km±94km, mb3.6/6, mb1 3.6/6, mb1mx3.4/18, mbtmp3.6/6, Error ellipse: s-maj=118.2km s-min=18.5km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.33**	**163**	P	P	11 43 19.3	-0.2
	0.7nm,0.5s,baz=340,slow=11,SNR=11						
ASAR	**Alice Springs**	**25.77**	**166**	P	P	11 43 52.2	+0.8
	0.3nm,0.5s,baz=353,slow=8.3,SNR=10						
ASAR				PcP	PcP	11 47 17.6	-1.1
	0.2nm,0.6s,baz=354,slow=2.0,SNR=4.8						
STKA	**Stephens Creek**	**35.78**	**159**	P	P	11 45 19.1	-0.2
	1.5nm,0.4s,baz=343,slow=11,SNR=2.8						
SONM	**Songino Array**	**49.65**	**341**	P	P	11 47 10.5	-0.6
	0.6nm,0.5s,baz=156,slow=7.4,SNR=4.9						
MKAR	**Makanchi Array**	**59.81**	**326**	P	P	11 48 25.0	+0.5
	2.0nm,0.4s,baz=119,slow=8.3,SNR=29						
KURK	**Kurchatov**	**64.02**	**328**	P	P	11 48 52.6	0.0
	2.6nm,0.6s,baz=131,slow=5.2,SNR=22						

ISCJB ***27*** *11:43:46.3±3.3, 22.45S±0.2×170.27E±0.07, h20km±26km, mb3.8/7, Error ellipse: s-maj=36.9km s-min=8.3km az=9.2*
IDC ***27*** *11:43:46.8±3.2, 22.24S×170.10E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.9/16, mbtmp3.9/7, Error ellipse: s-maj=88.7km s-min=33.5km az=137.0*
NOU ***27*** *11:43:46.7±1.1, 20.61S×170.14E, h30km, MD3.1, ML3.1*
NEIC ***27*** *11:43:50.4±0.8, 22.47S×170.29E, h35km, Error ellipse: s-maj=27.1km s-min=11.9km az=16.0*

ISC 27 11:43:48.3±3.7, 22.4S±0.2×170.25E±0.08, h18km±26km, n25, σ0 8 75/27, mb3.8/7, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAYA	**Yate Dam**	**3.12**	**274**	*e*S	**Sn**	**11 45 13.7**	**+0.3**
LASL	**Noumea**	**3.44**	**272**	*e*S	**Sn**	**11 45 21.3**	**+0.2**
NORM	**Noumea**	**3.49**	**272**	*e*P	**Pn**	**11 44 41.4**	**-0.2**
NORM				*e*S	**Sn**	**11 45 21.7**	**-0.8**
DZM	**Mont Dzumac**	**3.54**	**275**	*e*P	**Pn**	**11 44 42.0**	**-0.4**
DZM				*e*S	**Sn**	**11 45 22.9**	**-0.8**
DZM				AMP		11 45 26.0	
	comp=Z,564nm,1.7s						
DZM	**Mont Dzumac**	**3.54**	**275**	*e*Pn	**Pn**	**11 44 42.5**	**+0.2**
DZM				*e*Sn	**Sn**	**11 45 24.1**	**+0.4**
NOUC	**Port Laguerre**	**3.67**	**274**	*e*P	**Pn**	**11 44 44.1**	**0.0**
NOUC				*e*S	**Sn**	**11 45 26.4**	**-0.4**
NOUC				AMP		11 45 32.3	
	comp=Z,21nm,2.5s						
RAO	**Raoul Island**	**12.64**	**125**	Pn	**Pn**	**11 46 46.4**	**-0.8**
CTA	**Charters Tower**	**22.48**	**271**	P	**P**	**11 48 48.4**	**+1.8**
	comp=Z,1.7nm,0.5s,mb3.8,baz=84,slow=9.2,SNR=3.0						
CTA	**Charters Tower**	**22.48**	**271**	P	**P**	**11 48 48.4**	**+1.8**
CTAO	**Charters Tower**	**22.48**	**271**	P	**P**	**11 48 47.3**	**+0.6**
STKA	**Stephens Creek**	**27.11**	**244**	P	**P**	**11 49 31.2**	**+1.1**
	comp=Z,2.2nm,0.6s,mb3.9,baz=99,slow=10,SNR=5.5						
STKA	**Stephens Creek**	**27.11**	**244**	P	**P**	**11 49 31.2**	**+1.1**
ASAR	**Alice Springs**	**33.41**	**261**	P	**P**	**11 50 26.1**	**+0.1**
	comp=Z,1.4nm,0.7s,mb4.0,baz=84,slow=9.2,SNR=28						
ASAR	**Alice Springs**	**33.41**	**261**	P	**P**	**11 50 26.1**	**+0.1**
WRAB	**Tennant Creek**	**33.52**	**267**	*e*P	**P**	**11 50 26.8**	**-0.2**
WRA	**Warramunga Arr**	**33.52**	**267**	P	**P**	**11 50 26.2**	**-0.8**
	comp=Z,0.9nm,0.5s,mb4.0,baz=99,slow=8.5,SNR=23						
WRA	**Warramunga Arr**	**33.52**	**267**	P	**P**	**11 50 26.2**	**-0.8**
FITZ	**Fitzroy Crossi**	**41.95**	**268**	P	**P**	**11 51 38.1**	**-0.2**
	comp=Z,1.7nm,0.8s,mb3.7,baz=96,slow=9.2,SNR=5.3						
FITZ	**Fitzroy Crossi**	**41.95**	**268**	P	P	**11 51 38.1**	**-0.2**
MJAR	**Matsushiro Arr**	**65.99**	**332**	P	P	**11 54 32.6**	**-0.9**
	comp=Z,0.4nm,0.4s,mb3.8,baz=156,slow=7.4,SNR=3.7						
MJAR	**Matsushiro Arr**	**65.99**	**332**	P	**P**	**11 54

ellipse: s-maj=6.8km s-min=5.4km az=13.0
*DDA **27** 12:21:55.1,39.89N×40.94E, h7km,3km, Md3.1*
*ISK **27** 12:21:55.1,39.87N×40.92E, h9km, MD2.9*

ISC 27 12:21:55.9±0.4, 39.88N±0.03×40.95E±0.03, h13km±4km, n28, σ0.88/46, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZM	**Erzurum**	**0.32**	**86**	*e*PG	**Pg**	**12 22 02.3**	**-0.2**
EZM				*e*SG	**Sg**	**12 22 07.6**	**+0.7**
ERZM	**Erzurum**	**0.32**	**86**	*i* P	**Pg**	**12 22 01.1**	**-1.4**
ERZM				*i* S	**Sg**	**12 22 06.7**	**-0.2**
ERZM	**Erzurum**	**0.32**	**86**	*i* P	**Pg**	**12 22 01.1**	**-1.4**
ERZM				*i* S	**Sg**	**12 22 06.7**	**-0.2**
KOPT	**Kop Dagi**	**0.37**	**292**	*i* P	**Pg**	**12 22 03.3**	**0.0**
KOPT				*e*S	**Sg**	**12 22 10.6**	**+2.3**
KOPT	**Kop Dagi**	**0.37**	**292**	*i* P	**Pg**	**12 22 03.3**	**0.0**
KOPT				*e*S	**Sg**	**12 22 10.6**	**+2.3**
HOMI	**Horasan**	**0.76**	**77**	*i* P	**Pg**	**12 22 10.1**	**-0.4**
HOMI				*i* S	**Sg**	**12 22 21.5**	**+1.1**
BAYT	**Ayd¯–ntepe-Bay**	**0.80**	**310**	*e*PG	**Pg**	**12 22 10.9**	**-0.5**
BAYT				*e*SG	**Sg**	**12 22 22.4**	**+0.6**
BAYT	**Ayd¯–ntepe-Bay**	**0.80**	**310**	*e*Pg	**Pg**	**12 22 10.9**	**-0.5**
BAYT				*e*Sg	**Sg**	**12 22 22.4**	**+0.5**
VRTB	**Varto-Mus**	**0.82**	**151**	*e*PG	**Pg**	**12 22 11.7**	**-0.1**
VRTB	**Varto-Mus**	**0.82**	**151**	*e*Pg	**Pg**	**12 22 11.7**	**-0.1**
BNGB	**Bing¯¶l**	**0.91**	**193**	*e*PG	**Pg**	**12 22 12.8**	**-0.8**
BNGB				*e*SG	**Sg**	**12 22 25.4**	**0.0**
BNGL	**BINGOL**	**0.94**	**170**	*i* P	**Pg**	**12 22 13.2**	**-0.9**
BNGL				*i* S	**Sg**	**12 22 27.2**	**+0.8**
ERZN	**Erzincan**	**0.99**	**253**	*e*PG	**Pg**	**12 22 13.0**	**-1.9**
ERZN				*e*SG	**Sg**	**12 22 28.1**	**+0.3**
DDEM	**Demirkent**	**1.18**	**31**	*i* P	**Pn**	**12 22 17.2**	**-0.8**
DDEM				*i* S	**Sb**	**12 22 34.2**	**+0.9**
DDEM	**Demirkent**	**1.18**	**31**	*i* P	**Pn**	**12 22 17.2**	**-0.9**
DDEM				*i* S	**Sb**	**12 22 34.2**	**+0.9**
DBAD	**Bademkaya**	**1.27**	**27**	*i* P	**Pn**	**12 22 18.8**	**-0.5**
DBAD				*i* S	**Sb**	**12 22 34.5**	**-1.3**
DBAD	**Bademkaya**	**1.27**	**27**	*i* P	**Pn**	**12 22 18.8**	**-0.5**
DBAD				*i* S	**Sb**	**12 22 34.5**	**-1.4**
DAGI	**Agillar**	**1.40**	**31**	*i* P	**Pn**	**12 22 21.2**	**+0.1**
DAGI				*i* S	**Sn**	**12 22 38.9**	**-0.6**
TUTA	**Tutak**	**1.52**	**108**	*i* P	**Pn**	**12 22 23.9**	**+1.2**
TUTA				*i* S	**Sn**	**12 22 46.0**	**+3.7**
TUTA	**Tutak**	**1.52**	**108**	*i* P	**Pn**	**12 22 23.9**	**+1.1**
TUTA				*i* S	**Sn**	**12 22 46.0**	**+3.6**
PTK	**Pertek**	**1.56**	**231**	*e*PN	**Pn**	**12 22 23.1**	**-0.1**
PTK	**Pertek**	**1.56**	**231**	*e*Pn	**Pn**	**12 22 23.2**	**-0.1**
AGRB	**Hanur-Agry**	**1.61**	**100**	*e*PN	**Pn**	**12 22 24.4**	**+0.4**
AGRB	**Hanur-Agry**	**1.61**	**100**	*e*Pn	**Pn**	**12 22 24.4**	**+0.4**
BCA	**Borcka**	**1.64**	**18**	*e*PN	**Pn**	**12 22 25.2**	**+0.8**
BCA	**Borcka**	**1.64**	**18**	*e*Pn	**Pn**	**12 22 25.2**	**+0.8**
SVRC	**Sivrice-ELAZID**	**1.97**	**221**	*e*PN	**Pn**	**12 22 29.3**	**+0.4**
SVRC	**Sivrice-ELAZID**	**1.97**	**221**	*e*Pn	**Pn**	**12 22 29.3**	**+0.4**

*IDC **27** 12:22:47.1±2.1, 2.19S×99.95E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/21, mbtmp4.0/7, Error ellipse: s-maj=77.2km s-min=19.1km az=59.0*
*ISCJB **27** 12:22:50.8±1.7, 2.28S±0.08×99.7E±0.1, h50km±12km, mb4.1/6, Error ellipse: s-maj=21.4km s-min=10.7km az=151.8*
*DJA **27** 12:22:51, 2.09S×99.80E, h10km, MLv4.0/9*
*NEIC **27** 12:22:52.1±1.0, 2.23S×99.90E, h35km, Error ellipse: s-maj=25.4km s-min=10.3km az=61.0*

ISC 27 12:22:52.5±1.6, 2.26S±0.08×99.8E±0.1, h44km±12km, n30, σ0.97/29, mb4.1/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDSI	**Padang**	**1.49**	**26**	P	**Pn**	**12 23 15.6**	**-1.3**
PDSI				S	**Sn**	**12 23 34.8**	**-0.4**
KRJI	**Kerinci**	**1.67**	**84**	P	Px	12 23 36.4	
PPI	**Padang Panjang**	**1.89**	**18**	P	**Pn**	**12 23 21.8**	**-0.5**
PPI				S	**Sn**	**12 23 46.6**	**+1.7**
SDSI	**Sungai Dareh**	**2.09**	**51**	P	**Pn**	**12 23 25.9**	**+0.7**
BKNI	**Bangkinang**	**2.85**	**26**	P	**Pn**	**12 23 39.2**	**+3.6**
MNSI	**Mandailing Nat**	**3.04**	**356**	P	**Pn**	**12 23 37.6**	**-0.6**
MDSI	**Maura Dua**	**4.90**	**117**	P	**Pn**	**12 24 10.3**	**+6.6**
PSI	**Prapat**	**5.10**	**350**	P	**Pn**	**12 24 07.4**	**+0.9**
KLSI		**5.48**	**116**	P	**Pn**	**12 24 12.9**	**+1.2**
KULM	**Kulim**	**7.55**	**6**	*e*Pn	**Pn**	**12 24 39.0**	**-1.0**
KKM	**Kota Kinabalu**	**18.35**	**63**	P	**Pn**	**12 27 02.4**	**-1.4**
CMAR	**Chiang Mai Arr** 1.8nm,0.8s,baz=186,slow=9.8,SNR=11	**20.60**	**358**	P	**P**	**12 27 26.7**	**-1.4**
CMAR	**Chiang Mai Arr**	**20.60**	**358**	P	**P**	**12 27 26.7**	**-1.4**
WRA	**Warramunga Arr** 1.5nm,0.8s,mb3.8,baz=303,slow=9.1,SNR=15	**38.04**	**120**	P	**P**	**12 30 06.7**	**-0.3**
WRA	**Warramunga Arr**	**38.04**	**120**	P	**P**	**12 30 06.7**	**-0.3**
WRAB	**Tennant Creek**	**38.04**	**120**	*e*P	**P**	**12 30 06.4**	**-0.6**
ASAR	**Alice Springs** 0.8nm,0.7s,mb3.5,baz=304,slow=7.9,SNR=8.5	**39.26**	**126**	P	**P**	**12 30 17.1**	**-0.1**
ASAR	**Alice Springs**	**39.26**	**126**	P	**P**	**12 30 17.1**	**-0.1**
KSAR	**Wonju Array Be**	**47.31**	**31**	P	**P**	**12 31 21.4**	**-0.5**
KSRS	**Korea Array** 1.5nm,0.8s,mb4.0,baz=218,slow=8.0,SNR=5.3	**47.34**	**31**	P	**P**	**12 31 21.4**	**-0.7**
SONM	**Songino Array** 3.6nm,0.8s,mb4.5,baz=186,slow=9.3,SNR=25	**50.22**	**6**	P	**P**	**12 31 44.6**	**+0.7**
SONM	**Songino Array**	**50.22**	**6**	P	**P**	**12 31 44.6**	**+0.7**
MKAR	**Makanchi Array** 3.1nm,0.7s,mb4.4,baz=147,slow=8.4,SNR=27	**51.22**	**345**	P	**P**	**12 31 52.3**	**+0.7**
MKAR	**Makanchi Array**	**51.22**	**345**	P	**P**	**12 31 52.3**	**+0.7**
MAJO	**Matsushiro**	**52.60**	**39**	*e*P	**P**	**12 32 03.9**	**+1.9**
ZAA0	**Zalesovo Array**	**57.38**	**350**	*e*P	**P**	**12 32 36.6**	**+0.3**
ZALV	**Zalesovo Beam** 2.3nm,0.7s,mb4.3,baz=178,slow=5.8,SNR=13	**57.38**	**350**	P	**P**	**12 32 36.6**	**+0.4**
ZALV	**Zalesovo Beam**	**57.38**	**350**	P	**P**	**12 32 36.6**	**+0.4**
TXAR	**Lajitas Array** 1.5nm,0.7s,baz=296,slow=1.2,SNR=26	**145.03**	**37**	PKP	PKPdf	12 42 26.5	+0.7
TXAR	**Lajitas Array**	**145.03**	**37**	PKP	PKPdf	12 42 26.5	+0.7

IDC 27 12:22:59.0±3.5, 10.83N×91.56E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/24, mbtmp3.6/6, Error ellipse: s-maj=144.1km s-min=21.0km az=64.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=172,slow=8.7,SNR=3.6	**36.69**	**349**	P	P	12 30 07.6	-0.1
SONM	**Songino Array** 0.4nm,0.7s,baz=210,slow=8.3,SNR=3.0	**38.94**	**16**	P	P	12 30 26.2	-0.4
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=157,slow=7.8,SNR=2.2	**43.34**	**354**	P	P	12 31 02.9	+0.1
FITZ	**Fitzroy Crossi** 1.6nm,0.9s,baz=331,slow=10,SNR=7.2	**44.25**	**130**	P	P	12 31 10.4	-0.2
WRA	**Warramunga Arr** 0.4nm,0.3s,baz=301,slow=9.9,SNR=20	**52.05**	**126**	P	P	12 32 10.8	-0.1
ASAR	**Alice Springs** 0.2nm,0.4s,baz=310,slow=6.9,SNR=4.4	**53.76**	**130**	P	P	12 32 24.0	+0.5

*ISCJB **27** 12:47:29.0±0.6, 50.14N±0.05×19.02E±0.03, h0km, Error ellipse: s-maj=6.7km s-min=2.9km az=4.6*
*IPEC **27** 12:47:29.7±0.2, 50.18N×19.04E, h0km, ML2.1/3, Error ellipse: s-maj=2.7km s-min=1.1km az=167.0*
*CSEM **27** 12:47:30.0±0.3, 50.12N×19.03E, h2km, ML2.8/5, Error ellipse: s-maj=7.8km s-min=3.1km az=1.0*
*PRU **27** 12:47:30.4, 50.17N×19.02E, h0km*

ISC 27 12:47:29.8±0.6, 50.13N±0.05×19.02E±0.03, h0km, n24, σ1.9/00/39, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.51**	**79**	*e*Pg	**Pg**	**12 47 39.2**	**-0.4**
OJC				*e*Sg	**Sg**	**12 47 46.1**	**-0.1**
OJC	**Ojcow** baz=266	**0.51**	**79**	*e*Pg	**Pg**	**12 47 39.1**	**-0.5**
OJC				*e*Sg	**Sg**	**12 47 46.1**	**-0.1**
OKC	**Ostrava-Krasne**	**0.63**	**243**	*e*PG	**Pg**	**12 47 42.2**	**+0.3**
OKC				*e*SG	**Sg**	**12 47 51.0**	**+0.9**
OKC	**Ostrava-Krasne** comp=Z,24nm,0.4s	**0.63**	**243**	Pg	**Pg**	**12 47 42.2**	**+0.3**
OKC				Sg	**Sg**	**12 47 51.0**	**+0.9**
MORC	**Moravsky Berou** baz=67	**1.01**	**250**	*e*Pg	**Pg**	**12 47 49.4**	**+0.2**
MORC				*e*Sg	**Sg**	**12 48 02.7**	**+0.3**
NIE	**Niedzica**	**1.10**	**130**	*e*Pg	**Pg**	**12 47 49.5**	**-1.4**
NIE				*e*Sg	**Sg**	**12 48 05.5**	**+0.4**
NIE				e		12 48 06.0	
NIE	**Niedzica**	**1.10**	**130**	*e*Pg	**Pg**	**12 47 49.5**	**-1.4**
NIE				*e*Sg	**Sg**	**12 48 05.5**	**+0.4**
KOLL	**Kolacno**	**1.60**	**195**	*e*	**Pn**	**12 47 59.3**	**0.0**
KOLL	**Kolacno**	**1.60**	**195**	*e*SN	**Sn**	**12 48 19.2**	**-1.5**
KOLL	**Kolacno**	**1.60**	**195**	*e*Sn	**Sn**	**12 48 19.2**	**-1.5**
STHS	**Stebnicka Huta**	**1.61**	**115**	*e*PN	**Pn**	**12 48 00.0**	**+0.6**
STHS	**Stebnicka Huta**	**1.61**	**115**	*e*Pn	**Pn**	**12 48 00.0**	**+0.6**
DPC	**Dobruska-Polom**	**1.74**	**278**	*e*PG	**Pg**	**12 48 01.5**	**-1.7**
DPC	comp=Z,19nm,0.4s			*e*SG	**Sg**	**12 48 25.4**	**-0.4**
DPC	**Dobruska-Polom** baz=94	**1.74**	**278**	*e*Pn	**Pn**	**12 48 01.3**	**0.0**
DPC	comp=Z,19nm,0.4s			Sg	**Sg**	**12 48 25.4**	**-0.4**
VRAC	**Vranov** baz=60	**1.77**	**243**	*e*Pn	**Pn**	**12 48 02.2**	**+0.5**
VRAC	comp=Z,16nm,0.5s,baz=60			*e*Sg	**Sg**	**12 48 26.3**	**-0.5**
KECS	**Kecovo**	**1.91**	**149**	*e*PN	**Pn**	**12 48 02.4**	**-1.1**
KECS				*e*SN	**Sn**	**12 48 26.9**	**-1.3**
KECS	**Kecovo**	**1.91**	**149**	*e*Pn	**Pn**	**12 48 02.4**	**-1.1**
KECS				*e*Sn	**Sn**	**12 48 26.9**	**-1.3**
UPC	**Upice**	**1.96**	**282**	*e*SG	**Sg**	**12 48 33.2**	**+0.4**
UPC	**Upice**	**1.96**	**282**	Sg	**Sg**	**12 48 33.2**	**+0.4**
CRVS	**Cervenica-Dubn**	**2.01**	**127**	*e*PN	**Pn**	**12 48 06.5**	**+1.5**
CRVS				*e*SN	**Sn**	**12 48 33.2**	**+2.4**
CRVS	**Cervenica-Dubn**	**2.01**	**127**	*e*Pn	**Pn**	**12 48 06.5**	**+1.5**
CRVS				*e*Sn	**Sn**	**12 48 33.2**	**+2.4**
KRUC	**Moravsky** baz=56	**2.01**	**239**	*e*Pn	**Pn**	**12 48 05.7**	**+0.7**
KRUC	comp=Z,10nm,0.4s,baz=56			*e*Sn	**Sn**	**12 48 32.8**	**+2.0**
KHC	**Kasperske Hory**	**3.67**	**256**	*e*SG	**Sg**	**12 49 26.7**	**-1.1**
KHC	**Kasperske Hory**	**3.67**	**256**	Sg	**Sg**	**12 49 26.7**	**-1.1**

*DJA **27** 12:47:20, 5.29N×127.00E, h241km, mb3.9/3*
*ISCJB **27** 12:47:41.5±1.4, 3.2N±0.1×126.78E±0.10, h33km, mb3.5/4, Error ellipse: s-maj=17.0km s-min=14.2km az=3.5*
*IDC **27** 12:47:41.1±1.7, 2.82N×126.53E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, Error ellipse: s-maj=132.8km s-min=26.4km az=75.0*

ISC 27 12:47:43.4±1.4, 3.2N±0.1×126.7E±0.1, h35km, n9, σ1.5/24/9, mb3.5/4, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.31**	**293**	P	**Pn**	**12 48 04.3**	**-0.9**
KMSI	**Cibinong**	**3.77**	**227**	P	**Sn**	**12 49 23.8**	**+1.5**
LBMI	**Labuha** 18nm,1.0s	**3.86**	**169**	P	**Pn**	**12 48 47.3**	**+7.1**
GTOI	**Gorontalo** 36nm,1.4s	**4.50**	**236**	P	**Pn**	**12 48 49.8**	**+0.8**
MRSI	**Marisa**	**5.49**	**241**	P	**Pn**	**12 49 00.5**	**-2.2**
FITZ	**Fitzroy Crossi** 1.8nm,1.0s,mb3.4,baz=2.3,slow=14,SNR=2.9	**21.16**	**183**	P	**P**	**12 52 24.3**	**-1.4**
WRA	**Warramunga Arr** 0.7nm,0.3s,mb3.6,baz=340,slow=11,SNR=19	**24.15**	**162**	P	**P**	**12 52 56.1**	**-0.2**
ASAR	**Alice Springs** 0.2nm,0.3s,mb3.2,baz=338,slow=7.3,SNR=5.7	**27.57**	**166**	P	**P**	**12 53 28.2**	**+0.9**
SONM	**Songino Array** 0.3nm,0.5s,mb3.6,baz=163,slow=5.6,SNR=2.3	**47.83**	**342**	P	**P**	**12 56 22.3**	**+4.8**

*DDA **27** 13:06:14.7, 37.20N×37.33E, h7km±5km, Md2.7*

ISC 27 13:06:12.8±4.3, 37.1N±0.3×37.36E±0.09, h10km, n5, σ0.49/7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.15**	**309**	*e*PG	**Pg**	**13 06 16.0**	**-0.2**
GAZ				*e*SG	**Sg**	**13 06 18.1**	**-0.3**
GZT	**Gaziantep**	**0.32**	**31**	*i* P	**Pg**	**13 06 19.7**	**+0.5**
KMRS	**Kahramanmaras**	**0.56**	**320**	*e*PG	**Pg**	**13 06 23.8**	**+0.1**
ANDN	**Andirin**	**0.95**	**302**	*i* P	**Pg**	**13 06 31.6**	**+0.6**
ANDN				*i* S	**Sg**	**13 06 43.7**	**+0.3**
SARI	**SarD1z-Kayseri**	**1.68**	**342**	*e*PN	**Pn**	**13 06 41.3**	**-0.9**

IDC 27 13:09:19.0±27.0, 24.93S×174.68W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/15, mbtmp4.0/4, Error ellipse: s-maj=500.1km s-min=143.1km az=81.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**14.92**	**204**	PN	Pn	13 13 23.5	+32
URZ	**Urewera**	**15.01**	**206**	PN	Pn	13 13 23.0	+31
BKZ	**Black Stump Fm**	**16.04**	**206**	*e*PN	Pn	13 13 34.1	+28
CTA	**Charters Tower** 2.6nm,0.4s,baz=91,slow=9.9,SNR=5.6	**36.33**	**270**	P	P	13 16 25.8	+1.1
STKA	**Stephens Creek** 1.5nm,0.5s,baz=79,slow=16,SNR=5.4	**38.88**	**250**	P	P	13 16 45.5	-0.7
ASAR	**Alice Springs** 0.8nm,0.4s,baz=90,slow=8.1,SNR=57	**46.65**	**260**	P	P	13 17 49.4	-0.1
WRA	**Warramunga Arr** 0.5nm,0.5s,baz=104,slow=8.0,SNR=16	**47.17**	**265**	P	P	13 17 53.2	-0.3

*ISCJB **27** 14:36:29.8±0.2, 32.66N±0.02×105.56E±0.03, h10km, mb4.5/37, MS3.5/5, Error ellipse: s-maj=3.7km s-min=3.3km az=10.4*
*IDC **27** 14:36:30.1±0.6, 32.72N×105.43E, h0km, mb4.3/17, mb1 4.4/20, mb1mx4.3/29, mbtmp4.2/20, ML3.8/3, MS3.2/6, Ms1 3.2/6, ms1mx2.8/45, Error ellipse: s-maj=20.1km s-min=12.4km az=53.0*
*BJI **27** 14:36:30.4, 32.75N×105.64E, h9km, mB4.8/9, mb4.5/14, ML4.0/19, Ms4.0/13, Ms7 3.8/13*
*NEIC **27** 14:36:31.2±3.2, 32.72N×105.38E, h7km±20km, mb4.4/6, Error ellipse: s-maj=8.2km s-min=5.0km az=53.0*
*MOS **27** 14:36:33.1±1.1, 32.70N×105.48E, h33km, mb4.8/19, Error ellipse: s-maj=11.7km s-min=7.3km az=108.6*

ISC 27 14:36:31.9±0.2, 32.69N±0.02×105.52E±0.03, h10km, n132, σ0.97/150, mb4.5/37, MS3.5/5, 2C-5D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.32**	**221**	Pn	**Pn**	**14 37 11.3**	**+1.1**
CD2				Pg	**Pg**	**14 37 14.8**	**-1.6**
CD2				Sn	**Sn**	**14 37 42.0**	**+3.2**
CD2				Sg	**Sg**	**14 37 46.5**	**0.0**
CD2	comp=N,10μm,0.7s			smax			
CD2	comp=E,4μm,0.8s			smax			
XAN	**Xi'an**	**3.15**	**64**	Pn	**Pn**	**14 37 22.5**	**+1.0**
XAN				Pg	**Pb**	**14 37 28.3**	**+0.4**
XAN				Sn	**Sn**	**14 38 00.0**	**+0.9**
XAN				Sg	**Sg**	**14 38 08.8**	**-4.2**
XAN	comp=N,490nm,0.8s			smax			
XAN	comp=E,560nm,0.8s			smax			
XAN	comp=N,420nm,7.2s			LR	LR		
XAN	comp=E,470nm,8.9s			LR	LR		
XAN	comp=Z,400nm,7.2s			LR	LR		
LZH	**Lanzhou**	**3.66**	**338**	*e*Pn	**Pn**	**14 37 30.0**	**+1.4**
LZH				Pg	**Pb**	**14 37 35.8**	**-0.9**
LZH				Sn	**Sn**	**14 38 15.0**	**+3.1**
LZH				Sg	**Sb**	**14 38 21.3**	**+0.1**
LZH	comp=N,1μm,1.1s			smax			
LZH	comp=E,2μm,1.2s			smax			
LZH	comp=N,2μm,4.8s			LR	LR		
LZH	comp=E,3μm,4.4s			LR	LR		
LZH	comp=Z,2μm,5.4s			LR	LR		
ENH	**Enshi**	**4.16**	**124**	*e*Pn	**Pn**	**14 37 37.7**	**+2.3**
GYA	**Guiyang**	**6.29**	**171**	*i*Pn	**Pn**	**14 38 06.0**	**+1.3**
GYA				Pg	**Pg**	**14 38 26.8**	**-5.5**
GYA				Sn	**Sn**	**14 39 17.3**	**+0.8**
GYA				Sg	**Sg**	**14 39 50.0**	**-3.7**
GYA	comp=N,230nm,0.8s			smax			
GYA	comp=E,150nm,0.8s			smax			
WHN	**Wuhan**	**7.83**	**104**	Pn	**Pn**	**14 38 25.5**	**-0.3**
WHN				Sn	**Sn**	**14 39 53.3**	**-1.2**
WHN	comp=N,890nm,14.0s			LR	LR		
WHN	comp=E,870nm,15.5s			LR	LR		
WHN	comp=Z,900nm,14.1s			LR	LR		
GTA	**Gaotai**	**8.14**	**327**	||P	**Pn**	**14 38 29.5**	**-0.6**
GTA				pP		14 38 32.8	
GTA				sP		14 38 35.5	
GTA				S	**Sn**	**14 40 02.5**	**+0.3**
GTA	comp=Z,19nm,0.8s			pmax	pmax		
GTA	comp=N,210nm,8.1s			LR	LR		
GTA	comp=E,250nm,6.4s			LR	LR		
GTA	comp=Z,190nm,9.5s			LR	LR		
BTO	**Baotou**	**8.69**	**23**	*e*P	**Pn**	**14 38 37.0**	**-0.6**
HHC	**Hu-ho-hao-te**	**9.48**	**29**	*e*P	**Pn**	**14 38 48.0**	**-0.4**
HHC				sP		14 38 54.5	
HHC				S	**Sn**	**14 40 35.0**	**+0.1**
HHC				sS		14 40 39.8	
HHC				PcS	PcS	14 48 37.8	-1.5
HHC	comp=Z,9.0nm,0.7s			pmax	pmax		
HHC	comp=Z,100nm,5.1s			pmax	pmax		
HHC	comp=N,360nm,7.9s			LR	LR		
HHC	comp=E,350nm,5.2s			LR	LR		
HHC	comp=Z,260nm,8.0s			LR	LR		
NJ2	**Nanjing**	**11.29**	**90**	*e*P	**Pn**	**14 39 10.5**	**-2.8**
NJ2	comp=Z,10.0nm,0.5s			pmax	pmax		
QIZ	**Qiongzhong**	**14.14**	**163**	P	**Pn**	**14 39 45.5**	**-6.8**
QIZ				S	**Sn**	**14 42 27.5**	**-1.9**
QIZ	comp=Z,590nm,3.7s			pmax	pmax		
SONM	**Songino Array** comp=Z,0.2nm,0.3s,baz=189,slow=15,SNR=7.7	**15.14**	**2**	Pn	**Pn**	**14 40 03.6**	**-2.2**
SONM	comp=Z,0.2nm,0.3s,baz=169,slow=24,SNR=2.9			Lg		14 44 30.4	
SONM	comp=Z,150nm,18.8s,baz=48,slow=39			LR	LR	14 46 18.4	
SONM	**Songino Array**	**15.14**	**2**	Pn	**Pn**	**14 40 03.6**	**-2.2**
SONM				Lg		14 44 30.4	
SONM	**Songino Array**	**15.14**	**2**	P	**Pn**	**14 40 03.6**	**-2.2**
ULN	**Ulaanbaatar** comp=Z,5.4nm,0.8s	**15.21**	**4**	*e*Pn	**Pn**	**14 39 59.3**	**-7.3**
ULN	**Ulaanbaatar** comp=Z,5.0nm,0.8s	**15.21**	**4**	*e*P	**Pn**	**14 39 59.3**	**-7.3**
ULN				pmax	pmax		
CMAR	**Chiang Mai Arr** comp=Z,0.1nm,0.3s,baz=17,slow=12,SNR=7.6	**15.36**	**204**	Pn	**Pn**	**14 40 07.7**	**-1.0**
CMAR	comp=Z,87nm,19.7s,baz=5.0,slow=40			LR	LR	14 46 47.5	
CMAR	**Chiang Mai Arr**	**15.36**	**204**	Pn	**Pn**	**14 40 07.7**	**-1.0**
CMAR	**Chiang Mai Arr**	**15.36**	**204**	P	**Pn**	**14 40 07.7**	**-1.0**
TAPN	**Taplejung**	**16.31**	**256**	*e*P	**Pn**	**14 40 21.2**	**+0.1**
ODAN	**Odare**	**16.77**	**254**	*e*P	**Pn**	**14 40 26.5**	**-0.4**
RAMN	**Ramite** comp=Z,21nm,0.9s	**17.38**	**256**	*e*P	**Pn**	**14 40 34.0**	**-0.5**
JIRN	**Jiri**	**17.45**	**258**	*e*P	**Pn**	**14 40 36.2**	**+0.9**
GUN	**Gumba** comp=Z,42nm,0.9s	**17.61**	**259**	*e*P	**Pn**	**14 40 38.8**	**+1.4**
ZAK	**Zakamensk**	**17.76**	**355**	*e*P	**Pn**	**14 40 38.7**	**-0.3**
ZAK	comp=Z,2.0nm,1.0s			pmax	pmax		
WMQ	**Urumqi**	**17.84**	**314**	P	**Pn**	**14 40 42.5**	**+2.4**
PKI	**Pulchoki**	**18.12**	**259**	*e*P	**Pn**	**14 40 44.1**	**+0.4**
KKN	**Kakani**	**18.15**	**260**	*e*P	**Pn**	**14 40 43.8**	**-0.3**
DMN	**Daman**	**18.36**	**259**	*e*P	**Pn**	**14 40 46.5**	**-0.1**
GKN	**Gorkha**	**18.61**	**261**	*e*P	**Pn**	**14 40 49.1**	**-0.6**
KSAR	**Wonju Array Be**	**18.90**	**69**	P	**Pn**	**14 40 54.5**	**+1.4**
KSAR	**Wonju Array Be**	**18.90**	**69**	P	**Pn**	**14 40 54.5**	**+1.4**
KSRS	**Korea Array** comp=Z,0.6nm,0.3s,baz=251,slow=10,SNR=26	**18.93**	**69**	P	**Pn**	**14 40 54.5**	**+1.0**
KSRS	comp=Z,52nm,19.6s,baz=9.4,slow=39			LR	LR	14 48 50.0	
KSRS	**Korea Array**	**18.93**	**69**	P	**Pn**	**14 40 54.5**	**+1.0**
KSRS	comp=Z,1.0nm,0.3s			pmax	pmax		
TLY	**Talaya**	**19.03**	**356**	*e*P	**Pn**	**14 40 45.4**	**-9.2**
TLY	comp=Z,3.0nm,1.0s			pmax	pmax		
DANN	**Dangsing**	**19.23**	**263**	*e*P	**Pn**	**14 40 57.0**	**-0.2**
KOLN	**Koldanda**	**19.56**	**261**	*e*P	**Pn**	**14 41 00.6**	**-0.5**
MK31	**Makanchi Array**	**22.64**	**315**	*e*P	**P**	**14 41 31.5**	**-1.4**
MK31	**Makanchi Array**	**22.64**	**315**	*e*P	**P**	**14 41 31.5**	**-1.4**
MKAR	**Makanchi Array** comp=Z,4.6nm,0.8s,mb4.0,baz=121,slow=12,SNR=26	**22.64**	**315**	P	**P**	**14 41 32.4**	**-0.5**
MKAR	**Makanchi Array**	**22.64**	**315**	P	**P**	**14 41 32.4**	**-0.5**
MKAR	comp=Z,5.0nm,0.8s			pmax	pmax		
KLR	**Kul'dur**	**25.61**	**42**	*e*P	**P**	**14 41 58.8**	**-2.4**
KLR	comp=E,24nm,1.4s			pmax	pmax		
KLR	comp=Z,48nm,1.4s,mb4.8			pmax	pmax		
KLR	comp=Z,1μm,12.5s,MS4.5			MLR	MLR		
ZAA0	**Zalesovo Array**	**25.87**	**331**	*e*P	**P**	**14 42 02.7**	**-0.8**
ZALV	**Zalesovo Beam** comp=Z,3.7nm,0.8s,mb4.0,baz=134,slow=10.0,SNR=12	**25.87**	**331**	P	**P**	**14 42 02.6**	**-0.9**
ZALV	**Zalesovo Beam**	**25.87**	**331**	P	**P**	**14 42 02.6**	**-0.9**
ZALV	comp=Z,4.0nm,0.8s,mb4.0			pmax	pmax		
AAK	**Ala-Archa** comp=Z,8.8nm,0.8s,mb4.3	**26.36**	**301**	*e*P	**P**	**14 42 07.4**	**-0.8**
AAK	**Ala-Archa** comp=Z,22nm,2.8s,mb4.2	**26.36**	**301**	*i* P	**P**	**14 42 10.2**	**+2.1**
AAK	comp=Z,104nm,14.0s,MS3.5			pmax	pmax		
KURK	**Kurchatov** comp=Z,4.4nm,0.8s,mb4.0,baz=131,slow=9.1,SNR=46	**26.75**	**320**	P	**P**	**14 42 11.3**	**-0.2**
KURK	**Kurchatov**	**26.75**	**320**	P	**P**	**14 42 11.3**	**-0.2**
KURK	**Kurchatov**	**26.75**	**320**	||*e*P	**P**	**14 42 12.2**	**+0.7**

BILL				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.5						
MIB	**Mutribah**	**49.29**	**283**	*e*P	**P**	**14 45 21.1**	**0.0**
MIB				AMb	AMB	14 45 22.1	
	comp=Z,21nm,0.8s,mb5.2						
RDF	**Al-Radifah**	**49.41**	**282**	*e*P	**P**	**14 45 22.8**	**+0.8**
NAY	**Al-Naaiem**	**49.55**	**282**	*e*P	**P**	**14 45 23.1**	**0.0**
NAY				AMb	AMB	14 45 24.1	
	comp=Z,17nm,0.7s,mb5.2						
KLMR	**Klimovskoe**	**50.47**	**325**	*e*P	**P**	**14 45 28.7**	**-0.8**
KLMR				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
OBN	**Obninsk**	**52.13**	**317**⇓	*e*P	**P**	**14 45 42.8**	**+0.7**
OBN				*e*		14 47 40.9	
OBN				*e*S	**S**	**14 53 06.2**	**+0.1**
OBN				pmax	pmax		
	comp=Z,39nm,2.5s,mb4.9						
FITZ	**Fitzroy Crossi**	**54.05**	**156**	P	**P**	**14 45 56.3**	**-0.2**
	comp=Z,1.7nm,0.8s,mb4.0,baz=354,slow=9.2,SNR=2.8						
FITZ	**Fitzroy Crossi**	**54.05**	**156**	P	**P**	**14 45 56.3**	**-0.3**
JOF	**Joensuu**	**54.34**	**327**	*e*P	**P**	**14 45 57.8**	**-0.5**
JOF				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
JOF	**Joensuu**	**54.34**	**327**	*e*p	**P**	**14 45 57.8**	**-0.5**
	comp=Z,7.8nm,0.7s,mb4.8						
ARCES	**ARCESS Array B**	**56.32**	**335**	P	**P**	**14 46 12.2**	**-0.2**
	comp=Z,2.3nm,0.8s,mb4.3,baz=84,slow=9.2,SNR=3.8						
ARCES	**ARCESS Array B**	**56.32**	**335**	P	**P**	**14 46 12.2**	**-0.2**
ARCES	**ARCESS Array B**	**56.32**	**335**	P	**P**	**14 46 12.3**	**-0.1**
KAF	**Kangasniemi**	**56.73**	**326**	*e*P	**P**	**14 46 14.1**	**-1.4**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
KAF	**Kangasniemi**	**56.73**	**326**	*e*p	**P**	**14 46 14.1**	**-1.4**
	comp=Z,5.9nm,0.7s,mb4.7						
FINES	**FINESS Array B**	**56.94**	**326**	P	**P**	**14 46 16.5**	**-0.4**
	comp=Z,6.6nm,0.6s,mb4.8,baz=94,slow=7.1,SNR=17						
FINES	**FINESS Array B**	**56.94**	**326**	P	**P**	**14 46 16.5**	**-0.4**
FINES	**FINESS Array B**	**56.94**	**326**	P	**P**	**14 46 16.5**	**-0.4**
FINES				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BRTR	**Keskin Array B**	**57.02**	**299**	P	**P**	**14 46 18.1**	**+0.3**
	comp=Z,1.2nm,0.7s,mb4.0,baz=100,slow=7.5,SNR=5.2						
BRTR	**Keskin Array B**	**57.02**	**299**	P	**P**	**14 46 18.1**	**+0.3**
BRTR	**Keskin Array B**	**57.02**	**299**	P	**P**	**14 46 18.2**	**+0.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**57.19**	**313**	P	**P**	**14 46 18.3**	**-0.6**
	comp=Z,4.5nm,0.6s,mb4.7,baz=70,slow=6.2,SNR=11						
AKASG	**Malin Array Be**	**57.19**	**313**	P	**P**	**14 46 18.3**	**-0.6**
AKASG	**Malin Array Be**	**57.19**	**313**	P	**P**	**14 46 18.3**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.6s						
WRAB	**Tennant Creek**	**59.14**	**148**	*e*P	**P**	**14 46 32.2**	**-0.6**
	comp=Z,8.2nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**59.14**	**148**	*e*P	**P**	**14 46 32.2**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**59.15**	**148**	P	**P**	**14 46 33.3**	**+0.4**
	comp=Z,6.3nm,0.8s,mb4.7,baz=342,slow=7.2,SNR=38						
WRA	**Warramunga Arr**	**59.15**	**148**	P	**P**	**14 46 33.3**	**+0.4**
WRA	**Warramunga Arr**	**59.15**	**148**	P	**P**	**14 46 33.3**	**+0.4**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
WB2	**Warramunga Ar**	**59.15**	**148**	*e*P	**P**	**14 46 33.4**	**+0.5**
AS31	**Alice Springs**	**62.24**	**150**	*e*P	**P**	**14 46 54.5**	**+0.6**
ASAR	**Alice Springs**	**62.24**	**150**	P	**P**	**14 46 54.5**	**+0.6**
	comp=Z,3.6nm,0.7s,mb4.6,baz=332,slow=6.6,SNR=70						
ASAR	**Alice Springs**	**62.24**	**150**	P	**P**	**14 46 54.5**	**+0.6**
ASAR	**Alice Springs**	**62.24**	**150**	P	**P**	**14 46 54.5**	**+0.6**
ASAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
NB2	**NORSAR Subarra**	**63.98**	**327**	P	**P**	**14 47 03.8**	**-1.2**
	comp=Z,6.4nm,0.7s,mb4.8,baz=72,slow=6.9						
NOA	**NORSAR Array B**	**63.98**	**327**	P	**P**	**14 47 03.9**	**-1.1**
	comp=Z,6.9nm,0.8s,mb4.7,baz=71,slow=6.7,SNR=12						
NOA	**NORSAR Array B**	**63.98**	**327**	P	**P**	**14 47 03.9**	**-1.1**
NOA	**NORSAR Array B**	**63.98**	**327**	P	**P**	**14 47 03.9**	**-1.1**
NOA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KRLC	**Kraliky**	**64.98**	**315**	*e*P	**P**	**14 47 12.1**	**+0.3**
DPC	**Dobruska-Polom**	**65.15**	**315**	*e*P	**P**	**14 47 13.8**	**+0.9**
DPC	**Dobruska-Polom**	**65.15**	**315**	*e*P	**P**	**14 47 13.8**	**+0.9**
UPC	**Upice**	**65.28**	**315**	*e*P	**P**	**14 47 14.1**	**+0.4**
UPC	**Upice**	**65.28**	**315**	*e*P	**P**	**14 47 14.1**	**+0.4**
TREC	**Trest**	**66.05**	**314**	*e*P	**P**	**14 47 12.1**	**-6.6**
KHC	**Kasperske Hory**	**67.27**	**315**	*e*P	**P**	**14 47 26.5**	**0.0**
KHC	**Kasperske Hory**	**67.27**	**315**	*e*P	**P**	**14 47 26.5**	**0.0**
GERES	**GERESS Array B**	**67.31**	**314**	P	**P**	**14 47 25.4**	**-1.3**
	comp=Z,1.6nm,0.7s,mb4.2,baz=87,slow=4.5,SNR=11						
GERES	**GERESS Array B**	**67.31**	**314**	P	**P**	**14 47 25.4**	**-1.3**
GERES	**GERESS Array B**	**67.31**	**314**	P	**P**	**14 47 25.4**	**-1.3**
GERES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
COLA	**College**	**67.48**	**26**	*e*P	**P**	**14 47 28.1**	**+0.6**
	comp=Z,12nm,1.1s,mb4.8						
COLA	**College**	**67.48**	**26**	*e*P	**P**	**14 47 28.1**	**+0.5**
COLA				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
ILAR	**Eielson Array**	**67.89**	**26**	P	**P**	**14 47 29.1**	**-1.1**
	comp=Z,1.5nm,1.0s,mb4.0,baz=265,slow=3.8,SNR=12						
ILAR	**Eielson Array**	**67.89**	**26**	P	**P**	**14 47 29.1**	**-1.1**
ILAR	**Eielson Array**	**67.89**	**26**	P	**P**	**14 47 29.1**	**-1.1**
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
STKA	**Stephens Creek**	**72.70**	**148**	P	**P**	**14 48 00.5**	**+0.6**
	comp=Z,0.9nm,0.7s,mb3.8,baz=358,slow=8.9,SNR=3.5						
STKA	**Stephens Creek**	**72.70**	**148**	P	**P**	**14 48 00.5**	**+0.6**
STKA	**Stephens Creek**	**72.70**	**148**	P	**P**	**14 48 00.5**	**+0.6**
STKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LPG	**La Plagne**	**73.05**	**313**	*e*P	**P**	**14 48 02.9**	**+0.9**
	comp=Z,17nm,0.8s,mb4.8						
LPL	**La Plagne**	**73.05**	**313**	*e*P	**P**	**14 48 02.8**	**+0.8**
	comp=Z,21nm,0.8s,mb4.8						
PGF	**Pioggiola**	**73.06**	**310**	*e*P	**P**	**14 48 01.9**	**-0.3**
SBF	**Sospel**	**73.42**	**312**	*e*P	**P**	**14 48 04.9**	**+0.7**
	comp=Z,66nm,1.0s,mb5.2						
AVF	**Avril sur Loir**	**74.43**	**316**	*e*P	**P**	**14 48 09.8**	**-0.3**
	comp=Z,31nm,1.1s,mb4.8						
LDF	**La Druitiere**	**75.47**	**319**	*e*P	**P**	**14 48 15.8**	**-0.2**
FLN	**La Foliniere**	**75.57**	**319**	*e*P	**P**	**14 48 16.8**	**+0.1**
CAF	**Calviac**	**76.18**	**315**	*e*P	**P**	**14 48 19.9**	**-0.3**
	comp=Z,13nm,1.0s,mb4.5						
YKA	**Yellowknife Ar**	**79.83**	**18**	P	**P**	**14 48 39.9**	**-0.2**
	comp=Z,1.4nm,0.8s,mb4.0,baz=329,slow=4.9,SNR=11						
YKA				LR	LR	15 28 34.9	
	comp=Z,10nm,19.9s,MS3.2,baz=320,slow=39						
YKA	**Yellowknife Ar**	**79.83**	**18**	P	**P**	**14 48 39.9**	**-0.2**
YKA	**Yellowknife Ar**	**79.83**	**18**	P	**P**	**14 48 39.9**	**-0.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						

IDC 27 14:46:57.4±18.0,**19°.85S**×**177°.74W**,**h611**km±164km, **mb3.1**/4,**mb1 3.3**/5,**mb1mx3.0**/18,**mbtmp3.2**/5,**Error ellipse: s-maj=273.6km s-min=54.8km az=52.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**18.88**	**193**	P		14 50 40.4	0.0
	0.5nm,0.3s,baz=290,slow=7.2,SNR=3.9						
CTA	**Charters Tower**	**33.80**	**263**	P		14 52 51.0	+0.1
	3.7nm,0.4s,baz=102,slow=9.4,SNR=10						
STKA	**Stephens Creek**	**38.29**	**243**	P		14 53 27.6	0.0
	1.8nm,0.8s,baz=77,slow=18,SNR=4.1						
ASAR	**Alice Springs**	**44.91**	**256**	P		14 54 19.6	+0.1
	1.8nm,0.7s,baz=86,slow=8.6,SNR=18						
WRA	**Warramunga Arr**	**44.93**	**261**	P		14 54 19.4	-0.4
	1.3nm,0.5s,baz=100,slow=8.2,SNR=5.5						

*IDC **27** 14:47:26.0±1.9,5°.74S×130°.63E, h0km, mb3.8/3, mb1 4.0/6, mb1mx3.8/16, mbtmp3.9/6, ML4.1/3, Error ellipse: s-maj=76.2km s-min=24.4km az=75.0*
*NEIC **27** 14:47:31.7±1.0,5°.81S×130°.44E, h35km, Error ellipse: s-maj=37.4km s-min=10.5km az=76.0*
*ISCJB **27** 14:47:35.2±0.6,6°.11S±0°.06×130°.54E±0°.07, h102km±11km, mb3.7/3, Error ellipse: s-maj=14.3km s-min=7.6km az=141.3*
*DJA **27** 14:47:39, 5°.54S×130°.80E, h125km, MLv3.6/6*
ISC 27 14:47:35.7±0.6,**6°.15S**±0°.06×**130°.55E**±0°.07,**h94**km±11km, **n20,**σ0**.95**/29,**mb3.7**/3,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.74**	**338**	P		**Pn**	**14 48 05.8**	**+1.0**
TLE	**Tual**	**2.23**	**77**	P		**Pn**	**14 48 13.4**	**+2.3**
TLE				S		**Sn**	**14 48 37.6**	**-0.6**
MSAI	**Masohi**	**3.22**	**330**	P		**Pn**	**14 48 24.2**	**-0.2**
MSAI				S		**Sn**	**14 49 00.6**	**-1.3**
AAI	**Ambon**	**3.39**	**316**	P		**Pn**	**14 48 27.1**	**+0.4**
SWI	**Sorong**	**5.30**	**8**	P		**Pn**	**14 48 48.6**	**-3.9**
SWI				S		**Sn**	**14 49 42.1**	**-10**
FITZ	**Fitzroy Crossi**	**12.81**	**202**	Pn		**Pn**	**14 50 35.0**	**+0.6**
	0.5nm,0.3s,baz=25,slow=11,SNR=17							
FITZ				Sn		**Sn**	**14 52 49.3**	**-5.9**
	1.1nm,0.3s,baz=321,slow=22,SNR=7.4							
FITZ	**Fitzroy Crossi**	**12.81**	**202**	Pn		**Pn**	**14 50 35.0**	**+0.6**
FITZ				Sn		**Sn**	**14 52 49.3**	**-5.9**
WRAB	**Tennant Creek**	**14.19**	**165**	*e*Pn		**Pn**	**14 50 52.5**	**+0.1**
	3.0nm,0.3s							
WRA	**Warramunga Arr**	**14.19**	**165**	Pn		**Pn**	**14 50 52.0**	**-0.4**
	1.0nm,0.3s,baz=348,slow=14,SNR=31							
WRA				Sn		**Sn**	**14 53 21.4**	**-7.4**
	0.4nm,0.3s,baz=356,slow=22,SNR=5.2							
WRA	**Warramunga Arr**	**14.19**	**165**	Pn		**Pn**	**14 50 52.0**	**-0.4**
WRA				Sn		**Sn**	**14 53 21.4**	**-7.4**
WB2	**Warramunga Ar**	**14.20**	**165**	*e*Pn		**Pn**	**14 50 52.1**	**-0.4**
AS31	**Alice Springs**	**17.71**	**170**	*e*Pn		**Pn**	**14 51 40.2**	**+3.9**
ASAR	**Alice Springs**	**17.71**	**170**	P		**Pn**	**14 51 40.1**	**+3.8**
	0.7nm,0.3s,baz=348,slow=9.0,SNR=88							
ASAR				S		**S**	**14 54 53.0**	**-1.1**
	0.2nm,0.3s,baz=357,slow=28,SNR=7.3							
ASAR	**Alice Springs**	**17.71**	**170**	P		**Pn**	**14 51 40.1**	**+3.8**
ASAR				S		**S**	**14 54 53.0**	**-1.1**
CMAR	**Chiang Mai Arr**	**39.62**	**309**	P		**P**	**14 54 58.3**	**-0.1**
	0.5nm,0.5s,mb3.6,baz=137,slow=6.8,SNR=5.5							
CMAR	**Chiang Mai Arr**	**39.62**	**309**	P		**P**	**14 54 58.3**	**-0.1**
MKAR	**Makanchi Array**	**67.82**	**326**	P		**P**	**14 58 24.1**	**+0.4**
	0.6nm,0.4s,mb3.6,baz=113,slow=8.1,SNR=16							
MKAR	**Makanchi Array**	**67.82**	**326**	P		**P**	**14 58 24.1**	**+0.4**
KURK	**Kurchatov**	**72.09**	**328**	P		**P**	**14 58 49.9**	**+0.2**
	0.5nm,0.5s,mb3.6,baz=126,slow=5.9,SNR=8.1							
KURK	**Kurchatov**	**72.09**	**328**	P		**P**	**14 58 49.9**	**+0.2**

IDC 27 14:53:31.5±2.0,**4°.74N**×**126°.84E**,**h0**km,**mb3.4**/4, **mb1 3.5**/4,**mb1mx3.4**/20,**mbtmp3.4**/4,**Error ellipse: s-maj=182.3km s-min=22.6km az=67.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.61**	**163**	P		14 59 03.3	+0.6
	0.3nm,0.4s,baz=343,slow=10,SNR=3.7						
ASAR	**Alice Springs**	**29.06**	**167**	P		14 59 33.4	-0.3
	0.4nm,1.1s,baz=347,slow=6.9,SNR=2.7						
MKAR	**Makanchi Array**	**56.80**	**325**	P		15 03 18.5	+0.9
	0.5nm,0.6s,baz=130,slow=7.5,SNR=4.5						
KURK	**Kurchatov**	**60.96**	**327**	P		15 03 45.7	-0.7
	0.4nm,0.5s,baz=122,slow=7.5,SNR=7.2						

*IDC **27** 14:59:01.8±11.0, 21°.12S×68°.50W, h102km±97km, mb3.7/3, mb1 3.7/4, mb1mx3.5/14, mbtmp3.6/4, ML4.2/1, Error ellipse: s-maj=54.3km s-min=36.7km az=111.0*
*ISCJB **27** 14:59:03.1±1.8, 21°.3S±0°.1×68°.4W±0°.4, h127km±20km, mb3.8/3, Error ellipse: s-maj=57.8km s-min=16.9km az=178.2*
*NEIC **27** 14:59:04.4±1.2, 21°.21S×68°.45W, h127km±11km, mb3.5/2, Error ellipse: s-maj=33.3km s-min=10.5km az=90.0*
ISC 27 14:59:04.6±1.7,**21°.2S**±0°.1×**68°.4W**±0°.4,**h127**km±19km,**n19,** σ0**.71**/10,**mb3.8**/3,**Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.93**	**2**	*e*Pn		**Pn**	**15 00 16.9**	**+0.2**
TRQA	**Tornquist**	**17.64**	**163**	P		**Pn**	**15 03 01.4**	**-0.9**
	2.6nm,0.8s							
PLCA	**Paso Flores**	**19.53**	**185**	P		**P**	**15 03 22.5**	**+0.5**
	0.2nm,0.3s,baz=15,slow=12,SNR=3.1							
PLCA	**Paso Flores**	**19.53**	**185**	*e*P		**P**	**15 03 22.5**	**+0.5**
	0.6nm,0.3s							
TORD	**Torodi Ar. Bea**	**76.77**	**70**	P		**P**	**15 10 42.8**	**+0.1**
	1.1nm,0.8s,mb3.7,baz=246,slow=5.6,SNR=6.9							
TORD	**Torodi Ar. Bea**	**76.77**	**70**	P		**P**	**15 10 42.8**	**+0.1**
MAW	**Mawson**	**84.43**	**163**	P		**P**	**15 11 23.5**	**+1.0**
	0.8nm,0.5s,mb3.8,baz=204,slow=6.6,SNR=7.4							
MAW	**Mawson**	**84.43**	**163**	P		**P**	**15 11 23.5**	**+1.0**
YKA	**Yellowknife Ar**	**91.11**	**340**	P		**P**	**15 11 53.4**	**-0.9**
	0.6nm,0.8s,mb3.8,baz=133,slow=4.2,SNR=6.4							
YKA	**Yellowknife Ar**	**91.11**	**340**	P		**P**	**15 11 53.5**	**-0.9**
ASAR	**Alice Springs**	**130.39**	**207**	PKP	PKPdf	15 18 00.1	-0.6
	0.1nm,0.5s,baz=128,slow=1.5,SNR=7.0							
ASAR	**Alice Springs**	**130.39**	**207**	PKP	PKPdf	15 18 00.1	-0.6
WRA	**Warramunga Arr**	**133.45**	**210**	PKP	PKPdf	15 18 06.2	-0.4
	0.3nm,0.5s,baz=153,slow=1.8,SNR=6.3							
WRA	**Warramunga Arr**	**133.45**	**210**	PKP	PKPdf	15 18 06.2	-0.4
ZALV	**Zalesovo Beam**	**141.49**	**25**	PKP	PKPdf	15 18 20.4	+0.1
	0.6nm,0.5s,baz=338,slow=2.1,SNR=3.3							
ZALV	**Zalesovo Beam**	**141.49**	**25**	PKP	PKPdf	15 18 20.4	+0.1
MK31	**Makanchi Array**	**145.11**	**36**	*e*PKP	PKPdf	15 18 27.2	+0.3
MKAR	**Makanchi Array**	**145.11**	**36**	PKPbc	PKPbc	15 18 27.2	+0.5
	1.0nm,0.6s,baz=315,slow=3.3,SNR=9.4							
MKAR	**Makanchi Array**	**145.11**	**36**	PKPbc	PKPbc	15 18 27.2	+0.5

*CSEM **27** 15:23:00.5±0.2, 37°.95N×21°.39E, h20km, MD3.0, Error ellipse: s-maj=5.8km s-min=3.6km az=178.0*
*ATH **27** 15:23:00.4, 37°.93N×21°.36E, h17km±2km, MD3.0/8*
*ISCJB **27** 15:23:01.1±0.6, 37°.98N±0°.06×21°.37E±0°.03, h18km±7km, Error ellipse: s-maj=10.1km s-min=4.6km az=177.5*
*THE **27** 15:23:01.2, 38°.12N×21°.37E, h23km±4km, ML2.1/3, Error ellipse: s-maj=4.7km s-min=0.4km az=344.0*
ISC 27 15:23:01.0±0.6,**37°.98N**±0°.06×**21°.37E**±0°.03,**h17**km±5km, **n26,**σ0**.95**/44,**2C,Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.11**	**43**⇑	*i*PB		**Pg**	**15 23 05.0**	**+0.4**
RLS				*e*SB		**Sg**	**15 23 07.8**	**+0.8**
RLS	**Riolos of Patr**	**0.11**	**43**⇑	*i*Pb		**Pg**	**15 23 05.0**	**+0.4**
RLS				*e*Sb		**Sg**	**15 23 07.8**	**+0.8**
UPR	**University Cam**	**0.45**	**47**	*e*PB		**Pg**	**15 23 09.6**	**-0.4**
UPR				*e*SB		**Sg**	**15 23 16.8**	**+0.7**
UPR	**University Cam**	**0.45**	**47**	*e*Pb		**Pg**	**15 23 09.6**	**-0.4**
UPR				*e*Sb		**Sg**	**15 23 16.8**	**+0.7**
KFL	**Anninata**	**0.48**	**286**	P		**Pg**	**15 23 10.7**	**+0.1**
KFL				S		**Sg**	**15 23 17.4**	**+0.3**
KFL	**Anninata**	**0.48**	**286**	P		**Pg**	**15 23 10.7**	**+0.1**
KFL				S		**Sg**	**15 23 17.4**	**+0.3**
LAKA	**Lakka**	**0.55**	**61**	P		**Pg**	**15 23 11.1**	**-0.7**
LAKA				S		**Sg**	**15 23 18.9**	**-0.2**
LAKA	**Lakka**	**0.55**	**61**	P		**Pg**	**15 23 11.1**	**-0.7**
LAKA				S		**Sg**	**15 23 18.9**	**-0.2**
VLS	**Valsamata**	**0.65**	**288**	*e*PN		**Pg**	**15 23 12.9**	**-0.8**
VLS				*e*SN		**Sg**	**15 23 23.1**	**+0.7**
VLS	**Valsamata**	**0.65**	**288**	P		**Pg**	**15 23 12.9**	**-0.8**
VLS				S		**Sg**	**15 23 22.2**	**-0.2**
VLS	**Valsamata**	**0.65**	**288**	P		**Pg**	**15 23 12.9**	**-0.8**
VLS				S		**Sg**	**15 23 22.2**	**-0.2**
VLS				*e*Sn		**Sg**	**15 23 23.1**	**+0.7**
KALE	**Kalithea**	**0.73**	**55**	P		**Pg**	**15 23 14.0**	**-1.3**
KALE				S		**Sg**	**15 23 23.4**	**-1.6**
KALE	**Kalithea**	**0.73**	**55**	P		**Pg**	**15 23 14.0**	**-1.3**
KALE				S		**Sg**	**15 23 23.4**	**-1.6**
GUR	**Goura**	**0.77**	**93**	*e*PN		**Pg**	**15 23 16.0**	**0.0**
GUR				*e*SN		**Sg**	**15 23 26.4**	**+0.3**
GUR	**Goura**	**0.77**	**93**	P		**Pg**	**15 23 15.9**	**-0.1**
GUR				S		**Sg**	**15 23 27.2**	**+1.1**
GUR	**Goura**	**0.77**	**93**	*e*Pn		**Pg**	**15 23 16.0**	**0.0**
GUR				*e*Sn		**Sg**	**15 23 26.4**	**+0.3**
GUR				S		**Sg**	**15 23 27.2**	**+1.1**
EVR	**Evrytania**	**1.00**	**20**	*e*PN		**Pn**	**15 23 19.9**	**-0.3**
EVR	**Evrytania**	**1.00**	**20**	*e*Pn		**Pn**	**15 23 19.9**	**-0.3**
VLX	**Vlachokerasia**	**1.00**	**127**	*e*PN		**Pn**	**15 23 19.3**	**-1.0**
VLX	**Vlachokerasia**	**1.00**	**127**	*e*Pn		**Pn**	**15 23 19.3**	**-1.0**
PYL	**PYLOS**	**1.12**	**165**	*e*PN		**Pn**	**15 23 20.6**	**-1.3**
PYL	**PYLOS**	**1.12**	**165**	*e*Pn		**Pn**	**15 23 20.6**	**-1.3**
LTK	**Loutraki**	**1.26**	**87**	*e*PN		**Pn**	**15 23 25.5**	**+1.7**
AGG	**Agios Georgios**	**1.28**	**36**	*e*PN		**Pn**	**15 23 25.1**	**+0.9**
AGG	**Agios Georgios**	**1.28**	**36**	*e*Pn		**Pn**	**15 23 25.1**	**+0.9**
DID	**Didima**	**1.55**	**107**	*e*PN		**Pn**	**15 23 29.9**	**+2.1**

*ISCJB **27** 15:32:03.8±0.9, 26°.96N±0°.08×92°.4E±0°.2, h33km, mb3.3/4, Error ellipse: s-maj=26.9km s-min=10.3km az=9.5*
*IDC **27** 15:32:03.5±3.9, 27°.77N×94°.04E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.2/26, mbtmp3.3/4, Error ellipse: s-maj=396.2km s-min=23.0km az=59.0*
ISC 27 15:32:06.0±0.9,**26°.91N**±0°.07×**92°.3E**±0°.2,**h35**km,**n5,** σ0**.61**/6,**mb3.3**/4,**Northeastern India**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**1.39**	**196**	*i* PG		**Pn**	**15 32 29.0**	**+0.1**
SHL				*i* SG		**Sn**	**15 32 46.0**	**0.0**
MKAR	**Makanchi Array**	**21.36**	**341**	P		**P**	**15 36 50.8**	**+0.7**
	0.5nm,0.5s,mb3.1,baz=147,slow=10,SNR=6.9							
KURK	**Kurchatov**	**25.96**	**340**	P		**P**	**15 37 34.2**	**-0.8**
	0.2nm,0.3s,mb3.1,baz=151,slow=11,SNR=3.4							
WRA	**Warramunga Arr**	**61.88**	**134**	P		**P**	**15 42 22.1**	**+0.1**
	0.2nm,0.3s,mb3.7,baz=327,slow=6.8,SNR=7.9							
WRA				pP		pP	15 42 34.6	+1.9
	0.4nm,0.6s,baz=324,slow=6.9,SNR=3.9							
ASAR	**Alice Springs**	**64.37**	**138**	P		**P**	**15 42 38.5**	**0.0**
	0.2nm,0.6s,mb3.4,baz=320,slow=7.0,SNR=7.0							
ASAR				pP		pP	15 42 50.3	+1.1
	0.2nm,0.6s,baz=320,slow=6.4,SNR=2.5							

*IDC **27** 15:49:45.9±0.6, 39°.44N×74°.01E, h0km, mb4.4/16, mb1 4.5/21, mb1mx4.4/30, mbtmp4.3/21, ML3.7/5, MS3.3/8, Ms1 3.3/8, ms1mx3.0/33, Error ellipse: s-maj=13.8km s-min=12.3km az=9.0*
*LDG **27** 15:49:45.2±0.2, 39°.49N×74°.00E, h10km, Mb4.5/9, Ms3.3/3, Error ellipse: s-maj=7.3km s-min=5.9km az=11.0*
*BJI **27** 15:49:45.6, 39°.59N×73°.73E, h13km, mB5.0/8, mb4.3/13, ML4.3/6, Ms4.2/4, Ms7 3.8/4*
*ISCJB **27** 15:49:45.6±0.2, 39°.38N±0°.02×73°.91E±0°.03, h10km, mb4.5/52, MS3.6/8, Error ellipse: s-maj=3.8km s-min=2.6km az=166.6*
*MOS **27** 15:49:49.3±1.4, 39°.51N×73°.99E, h33km, mb4.7/30, Error ellipse: s-maj=9.0km s-min=5.0km az=94.7*
*NNC **27** 15:49:50.8±1.8, 39°.75N×73°.89E, h0km, mb4.6, mpv4.7, Error ellipse: s-maj=16.3km s-min=8.0km az=5.0*
*NEIC **27** 15:49:52.7±0.8, 39°.66N×74°.02E, h48km±7km, mb4.4/18, Error ellipse: s-maj=8.0km s-min=6.2km az=165.0*
ISC 27 15:49:47.5±0.2,**39°.42N**±0°.02×**73°.95E**±0°.03,**h10**km,**n221,** σ1**.26**/246,**mb4.5**/52,**MS3.6**/7,**17C-10D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**1.57**	**86**⇓	*i* Pg		**Pn**	**15 50 11.0**	**-4.4**
KSH				Sg		**Sn**	**15 50 29.5**	**-6.3**
KSH				smax				
	comp=N,3μm,0.5s							
KSH				smax				
	comp=E,4μm,0.7s							
AML	**Almayashu**	**2.71**	**356**	P		**Pn**	**15 50 32.1**	**+1.0**
	SNR=687							
KZA	**Kyzart**	**2.83**	**20**	P		**Pn**	**15 50 34.1**	**+1.4**
	SNR=56							
UCH	**Uchtor**	**2.84**	**9**	P		**Pn**	**15 50 34.6**	**+1.8**
	SNR=190							
AAK	**Ala-Archa**	**3.24**	**7**	P		**Pn**	**15 50 40.2**	**+2.0**
	SNR=315							
AAK	**Ala-Archa**	**3.24**	**7**	*e*Pn		**Pn**	**15 50 39.8**	**+1.5**
AAK				*e*Sn		**Sn**	**15 51 19.3**	**+2.5**
AAK	**Ala-Archa**	**3.24**	**7**	*i* PN		**Pn**	**15 50 40.2**	**+1.9**
EKS2	**Erkin-Say**	**3.24**	**358**	P	

KURBB **Kurchatov Arra 11.66 15** ⇑Pn **Pn** **15 52 32.5 -1.3**
comp=Z,0.8nm,0.7s
KURBB ⇑Lg 15 55 50.1
comp=Z,12nm,0.9s
KURK Kurchatov 11.76 15 ⇓Pn **Pn** **15 52 34.8 -0.4**
comp=Z,6.5nm,1.1s
KURK ⇓Lg 15 55 53.6
comp=Z,96nm,1.2s
KURK Kurchatov 11.76 15 Pn **Pn** **15 52 31.2 -3.9**
comp=Z,0.1nm,0.3s,baz=204,slow=12,SNR=14
KURK Sn **Sn** **15 54 48.3 +1.8**
comp=Z,0.1nm,0.3s,baz=202,slow=26,SNR=4.7
KURK Lg 15 55 45.3
comp=Z,0.1nm,0.3s,baz=205,slow=29,SNR=4.5
KURK Kurchatov 11.76 15 Pn **Pn** **15 52 31.2 -3.9**
KURK Sn **Sn** **15 54 48.3 +1.8**
KURK Lg 15 55 45.3
KURK Kurchatov 11.76 15 *i* P **Pn** **15 52 33.3 -1.9**
AGRA Agra 12.61 163 *ex* **Pn** **15 52 49.4 +2.6**
AGRA eS **Sn** **15 55 03.3 -3.9**
AGRA AML AML 15 55 17.4
comp=N,78nm,0.3s
AGRA AML AML 15 55 17.8
comp=E,71nm,0.3s
VOSK Vostochnaya 13.46 352 ⇑Pn **Pn** **15 52 56.3 -2.1**
comp=E,9.6nm,0.8s
VOSK ⇑Lg 15 56 46.9
comp=E,60nm,1.1s
DANN Dangsing 13.71 141 *e*P **Pn** **15 53 02.2 +0.3**
BVA0 Borovoye Array 13.83 351 ⇑Pn **Pn** **15 53 03.0 -0.4**
comp=E,2.7nm,0.7s,baz=177,slow=15,SNR=49
BVA0 ⇓Lg 15 56 58.9
comp=E,8.8nm,1.0s,baz=163,slow=28,SNR=5.3
BVA0 Borovoye Array 13.83 351 *i* P **Pn** **15 53 04.5 +1.2**
BVA0 pmax pmax
comp=Z,4.0nm,0.7s
BVAR Borovoye Array 13.83 351 Pn **Pn** **15 53 01.2 -2.1**
comp=Z,0.9nm,0.3s,baz=153,slow=13,SNR=21
BVAR Sn **Sn** **15 55 33.8 -3.0**
comp=Z,0.3nm,0.3s,baz=159,slow=21,SNR=2.7
BVAR Lg 15 56 55.6
comp=Z,0.3nm,0.3s,baz=164,slow=29,SNR=3.7
BVAR LR LR 15 58 31.8
comp=Z,87nm,20.6s,baz=161,slow=38
BVAR Borovoye Array 13.83 351 Pn **Pn** **15 53 01.2 -2.1**
BVAR Sn **Sn** **15 55 33.8 -3.0**
BVAR Lg 15 56 55.5
BVAR Borovoye Array 13.83 351 P **Pn** **15 53 01.2 -2.1**
BVAR 15 55 33.8
BVAR pmax pmax
comp=Z,1.0nm,0.3s
AB31 Akbulak array 14.02 319 ⇑P **Pn** **15 53 03.7 -2.3**
comp=Z,19nm,0.9s,baz=128,slow=13,SNR=137
AB31 ⇑S **Sn** **15 55 33.9 -7.6**
comp=Z,13nm,0.8s,baz=122,slow=24,SNR=6.2
AB31 Akbulak array 14.02 319 *i* P **Pn** **15 53 04.4 -1.6**
AB31 pmax pmax
comp=Z,9.0nm,0.5s
ABKAR Akbulak array 14.02 319 *e*Pn **Pn** **15 53 03.6 -2.3**
comp=Z,11nm,0.6s
KOLN Koldanda 14.12 142 *e*P **Pn** **15 53 08.4 +0.9**
GKN Gorkha 14.44 139 *e*P **Pn** **15 53 11.2 -0.6**
KKN Kakani 14.94 138 *e*P **Pn** **15 53 18.8 +0.1**
DMN Daman 15.00 138 *e*P **Pn** **15 53 18.6 -0.8**
GUN Gumba 15.16 136 *e*P **Pn** **15 53 21.2 -0.5**
PKI Pulchoki 15.18 138 *e*P **Pn** **15 53 21.2 -0.7**
JIRN Jiri 15.53 135 *e*P **Pn** **15 53 25.4 -1.1**
AKTO Aktyubinsk 15.73 320 ⇓P **Pn** **15 53 27.4 -1.5**
comp=Z,4.2nm,1.3s
AKTO Aktyubinsk 15.73 320 Pn **Pn** **15 53 27.6 -1.4**
comp=Z,0.7nm,0.3s,baz=137,slow=11,SNR=16
AKTO Sn **Sn** **15 56 17.6 -5.5**
comp=Z,0.3nm,0.3s,baz=350,slow=18,SNR=3.7
AKTO LR LR 15 59 42.8
comp=Z,151nm,18.6s,baz=37,slow=38
AKTO Aktyubinsk 15.73 320 Pn **Pn** **15 53 27.6 -1.4**
AKTO Sn **Sn** **15 56 17.6 -5.5**
AKTO Aktyubinsk 15.73 320 *i* P **Pn** **15 53 28.1 -0.8**
AKTO pmax pmax
comp=Z,3.0nm,0.9s
ZAA0 Zalesovo Array 16.30 23 *e*Pn **Pn** **15 53 33.9 -2.4**
ZALV Zalesovo Beam 16.30 23 Pn **Pn** **15 53 34.8 -1.6**
comp=Z,0.6nm,0.3s,baz=209,slow=12,SNR=20
ZALV Sn **Sn** **15 56 43.3 +6.2**
comp=Z,0.1nm,0.3s,baz=209,slow=20,SNR=2.9
ZALV Lg 15 58 10.9
comp=Z,0.1nm,0.3s,baz=217,slow=22,SNR=3.2
ZALV LR LR 16 00 06.9
comp=Z,31nm,21.6s,baz=83,slow=38
ZALV Zalesovo Beam 16.30 23 Pn **Pn** **15 53 34.8 -1.6**
ZALV Sn **Sn** **15 56 43.3 +6.2**
ZALV Lg 15 58 10.9
ZALV Zalesovo Beam 16.30 23 P **Pn** **15 53 34.8 -1.5**
ZALV 15 56 43.3
ZALV pmax pmax
comp=Z,1.0nm,0.3s
RAMN Ramite 16.31 136 *e*P **Pn** **15 53 35.3 -1.3**
comp=Z,45nm,0.9s
TAPN Taplejung 16.62 132 *e*P **Pn** **15 53 39.8 -0.7**
NVS Novosibirsk 16.65 19 *e*P **Pn** **15 53 40.9 +0.3**
NVS pmax pmax
comp=Z,39nm,1.3s
NVS pmax pmax
comp=N,28nm,1.4s
NVS pmax pmax
comp=E,5.0nm,0.8s
ODAN Odare 16.82 134 *e*P **Pn** **15 53 42.1 -0.9**
LSA Lhasa 17.14 119 Pn **Pn** **15 53 53.4 +6.3**
comp=E,9.3nm,0.8s
LSA Lhasa 17.14 119 P **Pn** **15 53 53.4 +6.3**
LSA pmax pmax
comp=Z,9.0nm,0.8s
SVE Sverdlovsk 19.49 338 *e*P **Pn** **15 54 17.3 +1.7**
ARU Arti 19.82 334 *e*P **Pn** **15 54 17.3 -2.2**
comp=Z,9.4nm,0.6s
ARU Arti 19.82 334 *c i*P **Pn** **15 54 18.3 -1.2**
ARU S **Sn** **15 57 58.2 -3.8**
ARU pmax pmax
comp=Z,17nm,1.4s
GTA Gaotai 19.97 82 *e*P **Pn** **15 54 21.0 -0.4**
GTA pP pP 15 54 24.8 +2.2
GTA sP sP 15 54 27.0 +3.1
GTA pmax pmax
comp=Z,4.0nm,1.4s
GTA pmax pmax
comp=Z,110nm,5.2s
GTA LR LR
comp=N,120nm,14.0s
GTA LR LR
comp=E,170nm,17.1s
GTA LR LR
comp=Z,180nm,15.4s
HYB Hyderabad 22.29 168 *i* P **P** **15 54 47.5 +2.6**
MOY Mondy 22.41 48 *e*P **P** **15 54 48.9 +3.0**
GNI Garni 22.42 281 P **P** **15 54 49.2 +3.1**
comp=Z,3.0nm,0.5s,mb4.0,baz=24,slow=3.7,SNR=5.6
GNI Garni 22.42 281 *e*P **P** **15 54 46.7 +0.6**
comp=Z,19nm,0.8s,mb4.6
GNI Garni 22.42 281 ⇑*i*P **P** **15 54 48.9 +2.8**
GNI pmax pmax
comp=Z,13nm,1.0s
ZEI Tsey 22.83 288 *e*P **P** **15 54 52.0 +1.5**
ZEI pmax pmax
comp=Z,6.0nm,0.6s,mb4.2
ZAK Zakamensk 23.34 52 *e*P **P** **15 54 53.3 -2.5**
ZAK pmax pmax
comp=Z,2.0nm,0.8s,mb3.6
KIV Kislovodsk 23.70 291 *e*P **P** **15 54 59.5 +0.1**
comp=Z,13nm,0.8s,mb4.4
KIV Kislovodsk 23.70 291 *e*P **P** **15 55 00.5 +1.1**
KIV pmax pmax
comp=Z,9.0nm,1.0s,mb4.2
LZH Lanzhou 23.82 89 *e*P **P** **15 54 54.5 -6.1**
LZH pP 15 55 03.3
LZH sP sP 15 55 08.0 +3.1
LZH pmax pmax
comp=Z,14nm,1.0s,mb4.3
MIB Mutribah 23.84 254 *e*P **P** **15 55 03.1 +2.3**
MIB AMb AMB 15 55 05.3
comp=Z,23nm,1.4s,mb4.4
TLY Talaya 23.96 49 *e*P **P** **15 55 01.4 -0.3**
comp=Z,18nm,1.5s,mb4.3
TLY Talaya 23.96 49 *e*P **P** **15 55 01.4 -0.3**
TLY pmax pmax
comp=Z,18nm,1.5s,mb4.3

NAY Al-Naaiem 24.20 253 *e*P **P** **15 55 06.5 +2.5**
NAY AMb AMB 15 55 07.8
comp=Z,18nm,0.9s,mb4.5
SONM Songino Array 24.80 60 P **P** **15 55 09.7 +0.3**
comp=Z,2.7nm,0.7s,mb3.9,baz=263,slow=7.7,SNR=9.0
SONM LR LR 16 05 48.1
comp=Z,116nm,18.5s,MS3.4,baz=152,slow=39
SONM Songino Array 24.80 60 P **P** **15 55 09.7 +0.3**
SONM Songino Array 24.80 60 P **P** **15 55 09.7 +0.3**
SONM pmax pmax
comp=Z,3.0nm,0.7s
SONM MLR MLR
comp=Z,116nm,18.5s
ULN Ulaanbaatar 25.25 60 *e*P **P** **15 55 12.7 -0.7**
comp=Z,5.6nm,0.9s,mb4.1
ULN Ulaanbaatar 25.25 60 *e*P **P** **15 55 12.7 -0.8**
ULN pmax pmax
comp=Z,6.0nm,0.9s,mb4.1
VSR Storozhevoye 26.89 308 *e*P **P** **15 55 26.7 -1.6**
VSR pmax pmax
comp=Z,4.0nm,0.6s,mb4.1
VSR pmax pmax
comp=N,9.0nm,1.4s
VSR pmax pmax
comp=E,20nm,1.2s
HHC Hu-ho-hao-te 28.65 75 *e*P **P** **15 55 45.0 +0.8**
HHC PP PP 15 56 37.0 -12
HHC PcP PcP 15 58 56.5 +1.7
HHC S **S** **16 00 33.3 +0.5**
HHC SS SS 16 01 58.0 -36
HHC ScP ScP 16 02 37.8 +1.8
HHC ScS ScS 16 06 29.5 +0.2
HHC pmax pmax
comp=Z,12nm,0.6s,mb4.8
HHC pmax pmax
comp=Z,150nm,4.9s
HHC LR LR
comp=N,200nm,8.4s
HHC LR LR
comp=E,220nm,7.9s
HHC LR LR
comp=Z,130nm,10.7s,MS3.8
OBN Obninsk 29.39 315 ⇓*e*P **P** **15 55 45.9 -4.7**
OBN pmax pmax
comp=Z,19nm,1.5s,mb4.6
OBN MLR MLR
comp=Z,100nm,14.0s,MS3.6
CMAR Chiang Mai Arr 30.07 127 P **P** **15 55 57.9 +0.9**
comp=Z,0.9nm,0.7s,mb3.6,baz=310,slow=9.2,SNR=6.0
CMAR Chiang Mai Arr 30.07 127 P **P** **15 55 57.9 +0.9**
CMAR Chiang Mai Arr 30.07 127 P **P** **15 55 57.9 +1.0**
CMAR pmax pmax
comp=Z,1.0nm,0.7s
BR131 Keskin Array S 30.89 284 *e*P **P** **15 56 05.8 +1.8**
comp=Z,1.8nm,0.6s,mb4.1
BRTR Keskin Array B 30.89 284 P **P** **15 56 06.0 +2.0**
comp=Z,2.2nm,0.8s,mb4.1,baz=89,slow=7.8,SNR=8.4
BRTR Keskin Array B 30.89 284 P **P** **15 56 06.0 +2.0**
BRTR Keskin Array B 30.89 284 P **P** **15 56 06.0 +2.0**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 33.06 305 P **P** **15 56 22.7 -0.2**
comp=Z,5.6nm,0.6s,mb4.7,baz=83,slow=7.3,SNR=20
AKASG Malin Array Be 33.06 305 P **P** **15 56 22.7 -0.2**
AKASG Malin Array Be 33.06 305 P **P** **15 56 22.7 -0.3**
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKBB Malin Array Si 33.06 305 *e*P **P** **15 56 17.0 -5.9**
AKBB Malin Array Si 33.06 305 *e*P **P** **15 56 17.0 -6.0**
KIEV Kiev 33.07 305 *e*P **P** **15 56 22.2 -0.8**
comp=Z,6.3nm,0.6s,mb4.7
KIEV Kiev 33.07 305 *e*P **P** **15 56 22.2 -0.8**
KIEV pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
WHN Wuhan 34.03 92 P **P** **15 56 28.0 -3.7**
JOF Joensuu 34.60 327 *e*P **P** **15 56 35.2 -1.0**
JOF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
JOF Joensuu 34.60 327 *ep* **P** **15 56 35.2 -1.0**
comp=Z,6.0nm,0.7s,mb4.6
BUR08 Bucovina Ar. S 35.78 300 *e*P **P** **15 56 46.0 -0.5**
FINES FINESS Array B 36.45 323 P **P** **15 56 52.1 0.0**
comp=Z,4.4nm,0.4s,mb4.7,baz=114,slow=9.8,SNR=40
FINES FINESS Array B 36.45 323 P **P** **15 56 52.1 0.0**
FINES FINESS Array B 36.45 323 P **P** **15 56 52.1 0.0**
FINES pmax pmax
comp=Z,4.0nm,0.4s
KAF Kangasniemi 36.53 324 *e*P **P** **15 56 51.8 -0.9**
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
KAF Kangasniemi 36.53 324 *ep* **P** **15 56 51.8 -0.9**
comp=Z,2.6nm,0.6s,mb4.2
NJ2 Nanjing 36.88 87 *e*P **P** **15 56 56.8 +0.7**
NJ2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
QIZ Qiongzhong 37.00 113 P **P** **15 56 58.0 +0.7**
QIZ S **S** **16 02 41.0 -1.8**
QIZ pmax pmax
comp=Z,400nm,5.7s
ARCES ARCESS Array B 39.40 336 P **P** **15 57 16.6 -0.2**
comp=Z,10nm,1.0s,mb4.5,baz=105,slow=7.2,SNR=13
ARCES LR LR 16 15 48.3
comp=Z,92nm,18.0s,MS3.7,baz=165,slow=40
ARCES ARCESS Array B 39.40 336 P **P** **15 57 16.6 -0.2**
ARCES ARCESS Array B 39.40 336 P **P** **15 57 16.7 -0.2**
ARCES pmax pmax
comp=Z,10.0nm,1.0s
ARCES MLR MLR
comp=Z,92nm,18.0s
ARE0 ARCESS Array S 39.40 336 P **P** **15 57 16.2 -0.7**
YAK Yakutsk 40.24 37 *e*P **P** **15 57 20.4 -3.6**
comp=Z,20nm,0.9s,mb4.8
YAK Yakutsk 40.24 37 *e*P **P** **15 57 20.4 -3.5**
YAK pmax pmax
comp=Z,20nm,0.9s,mb4.8
MORC Moravsky Berou 40.59 304 *e*P **P** **15 57 26.6 -0.4**
comp=Z,2.6nm,0.6s,mb4.0
MORC Moravsky Berou 40.59 304 *e*P **P** **15 57 26.6 -0.4**
MORC pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
BRG Berggiesshubel 42.72 306 *e*P **P** **15 57 45.1 +0.6**
comp=Z,5.4nm,0.6s,mb4.5
GERES GERESS Array B 43.22 303 P **P** **15 57 49.8 +1.3**
comp=Z,4.0nm,0.6s,mb4.3,baz=64,slow=8.0,SNR=30
GERES LR LR 16 18 12.8
comp=Z,78nm,18.1s,MS3.6,baz=277,slow=40
GERES GERESS Array B 43.22 303 P **P** **15 57 49.8 +1.3**
GERES GERESS Array B 43.22 303 P **P** **15 57 49.8 +1.3**
GERES pmax pmax
comp=Z,4.0nm,0.6s
GERES MLR MLR
comp=Z,78nm,18.1s
CLL Collm 43.24 307 *e*P **P** **15 57 49.0 +0.3**
CLL pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
CLL Collm 43.24 307 *e*P **P** **15 57 49.0 +0.3**
comp=Z,5.0nm,0.6s,mb4.4
NB2 NORSAR Subarra 43.51 321 P **P** **15 57 50.2 -0.5**
comp=Z,4.8nm,0.6s,mb4.4,baz=91,slow=7.9
NOA NORSAR Array B 43.51 321 P **P** **15 57 50.3 -0.4**
comp=Z,7.0nm,0.7s,mb4.5,baz=91,slow=8.0,SNR=19
NOA LR LR 16 18 54.1
comp=Z,38nm,20.6s,MS3.3,baz=295,slow=40
NOA NORSAR Array B 43.51 321 P **P** **15 57 50.3 -0.4**
NOA NORSAR Array B 43.51 321 P **P** **15 57 50.3 -0.4**
NOA pmax pmax
comp=Z,7.0nm,0.7s
NAO01 NORSAR Array S 43.67 321 *e*P **P** **15 57 49.1 -2.9**
CDF Champ du Feu 47.47 304 *e*P **P** **15 58 22.6 +0.4**
comp=Z,5.0nm,0.6s,mb4.3
PGF Pioggiola 48.05 296 *e*P **P** **15 58 27.8 +1.0**
HAU Haudompre 48.18 304 *e*P **P** **15 58 27.9 +0.2**
comp=Z,5.8nm,0.5s,mb4.6
LPG La Plagne 48.64 300 *e*P **P** **15 58 32.5 +1.1**
comp=Z,12nm,0.8s,mb4.7
SBF Sospel 48.70 298 *e*P **P** **15 58 32.0 +0.2**
CABF La Chapelle 48.75 302 *e*P **P** **15 58 32.7 +0.6**
MBDF Montbardon 48.87 299 *e*P **P** **15 58 33.2 +0.1**
comp=Z,15nm,0.9s,mb4.7
MJAR Matsushiro Arr 49.77 72 P **P** **15 58 39.4 -0.8**
comp=Z,5.6nm,1.0s,mb4.5,baz=287,slow=9.6,SNR=8.1
MJAR Matsushiro Arr 49.77 72 P **P** **15 58 39.4 -0.8**
MJAR Matsushiro Arr 49.77 72 P **P** **15 58 39.4 -0.7**
MJAR pmax pmax
comp=Z,6.0nm,1.0s
LOR Lormes 50.00 303 *e*P **P** **15 58 40.7 -1.0**

SMF Signal de Mont 50.21 303 *e*P **P** **15 58 43.4 +0.1**
VIVF Saint-Julien-l 50.24 300 *e*P **P** **15 58 44.0 +0.4**
SSF Saint Saulge 50.30 303 *e*P **P** **15 58 43.6 -0.3**
AVF Avril sur Loir 50.48 303 *e*P **P** **15 58 45.4 0.0**
comp=Z,10nm,0.7s,mb4.7
TCF Toulx Ste Croi 51.39 303 *e*P **P** **15 58 51.3 -0.9**
LDF La Druitiere 52.11 306 *e*P **P** **15 58 57.3 -0.3**
comp=Z,5.3nm,0.5s,mb4.5
RJF Les Rejaudoux 52.19 302 *e*P **P** **15 58 58.9 +0.7**
KMBO Kilima Mbogo 52.51 229 *e*P **P** **15 59 03.5 +2.6**
comp=Z,3.1nm,1.0s,mb4.2
KMBO Kilima Mbogo 52.51 229 *e*P **P** **15 59 03.5 +2.6**
KMBO pmax pmax
comp=Z,3.0nm,1.0s
GRR Gorron 52.64 306 *e*P **P** **15 59 01.2 -0.3**
MFF Saint Martin d 52.81 304 *e*P **P** **15 59 02.5 -0.3**
SGMF Saint Gilles 53.75 306 *e*P **P** **15 59 09.6 -0.1**
ROSF Rostrenen 54.17 307 *e*P **P** **15 59 12.5 -0.2**
BILL Bilibino 54.96 27 ⇑*e*P **P** **15 59 17.7 -0.4**
BILL *e* 16 01 17.2
BILL *e*S **S** **16 06 53.9 -5.6**
BILL pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
BILL MLR MLR
comp=Z,100nm,20.0s,MS3.9
ESDC Sonseca Array 58.17 297 P **P** **15 59 41.5 +0.1**
comp=Z,1.7nm,0.7s,mb4.2,baz=59,slow=7.9,SNR=5.9
ESDC Sonseca Array 58.17 297 P **P** **15 59 41.5 +0.1**
TAM Tamanrasset 59.57 276 *e*P **P** **15 59 52.5 +1.1**
TAM Tamanrasset 59.57 276 *e*P **P** **15 59 52.5 +1.1**
RES Resolute Bay 65.94 357 *e*P **P** **16 00 31.8 -1.2**
comp=Z,2.2nm,0.9s,mb4.2
RES Resolute Bay 65.94 357 *e*P **P** **16 00 31.8 -1.3**
RES pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
TORD Torodi Ar. Bea 68.10 269 P **P** **16 00 47.6 -0.1**
comp=Z,5.2nm,0.6s,mb4.7,baz=47,slow=5.7,SNR=46
TORD Torodi Ar. Bea 68.10 269 P **P** **16 00 47.6 -0.1**
COLD Coldfoot 68.52 17 *e*P **P** **16 00 48.6 -0.9**
comp=Z,10nm,0.9s,mb4.8
INK Inuvik 70.64 10 *e*P **P** **16 01 01.4 -1.2**
comp=Z,11nm,1.0s,mb4.8
INK Inuvik 70.64 10 *e*P **P** **16 01 01.4 -1.2**
INK pmax pmax
comp=Z,11nm,1.0s
COLA College 71.01 18 *e*P **P** **16 01 03.6 -1.3**
comp=Z,11nm,0.9s,mb4.8
COLA College 71.01 18 *e*P **P** **16 01 03.6 -1.3**
COLA pmax pmax
comp=Z,11nm,0.9s,mb4.8
ILAR Eielson Array 71.32 17 P **P** **16 01 05.0 -1.8**
comp=Z,4.5nm,0.8s,mb4.5,baz=320,slow=5.0,SNR=54
ILAR Eielson Array 71.32 17 P **P** **16 01 05.0 -1.8**
ILAR Eielson Array 71.32 17 P **P** **16 01 05.0 -1.8**
ILAR pmax pmax
comp=Z,5.0nm,0.8s
SML Sawmill 73.48 19 *e*P **P** **16 01 18.4 -1.3**
comp=Z,4.1nm,0.8s,mb4.4
SML Sawmill 73.48 19 *e*P **P** **16 01 18.4 -1.3**
SML pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
DAWY Dawson 73.53 15 *e*P **P** **16 01 18.6 -1.4**
KDAK Kodiak Island 75.61 24 *i* P **P** **16 01 31.9 -0.2**
DBIC Dimbokro 77.15 268 P **P** **16 01 41.9 +0.3**
comp=Z,4.8nm,0.7s,mb4.5,baz=23,slow=7.2,SNR=6.1
DBIC Dimbokro 77.15 268 *e*P **P** **16 01 41.7 +0.1**
DBIC Dimbokro 77.15 268 P **P** **16 01 41.9 +0.3**
DBIC pmax pmax
comp=Z,5.0nm,0.7s
YKA Yellowknife Ar 78.20 4 P **P** **16 01 45.8 -0.8**
comp=Z,3.3nm,0.6s,mb4.4,baz=349,slow=5.7,SNR=36
YKA Yellowknife Ar 78.20 4 P **P** **16 01 45.9 -0.8**
YKA Yellowknife Ar 78.20 4 P **P** **16 01 45.9 -0.8**
LBTB Lobatse 78.40 224 *e*P **P** **16 01 48.0 -0.1**
LBTB Lobatse 78.40 224 *e*P **P** **16 01 48.1 -0.1**
BOSA Boshof 81.47 222 P **P** **16 02 06.1 +1.4**
BOSA Boshof 81.47 222 P **P** **16 02 06.1 +1.3**
WRA Warramunga Arr 81.63 124 P **P** **16 02 06.0 +0.2**
comp=Z,5.0nm,0.6s,mb4.6,baz=325,slow=5.0,SNR=68
WRA Warramunga Arr 81.63 124 P **P** **16 02 06.0 +0.2**
WRA Warramunga Arr 81.63 124 P **P** **16 02 06.0 +0.2**
WRA pmax pmax
comp=Z,5.0nm,0.6s
WRAB Tennant Creek 81.63 124 *e*P **P** **16 02 05.8 0.0**
comp=Z,5.4nm,0.6s,mb4.7
WRAB Tennant Creek 81.63 124 *e*P **P** **16 02 05.8 0.0**
WRAB pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
WB2 Warramunga Arr 81.64 124 *e*P **P** **16 02 05.8 0.0**
AS31 Alice Springs 84.08 127 *e*P **P** **16 02 17.3 -1.1**
ASAR Alice Springs 84.08 127 P **P** **16 02 18.6 +0.1**
comp=Z,3.0nm,0.6s,mb4.6,baz=316,slow=5.0,SNR=64
ASAR Alice Springs 84.08 127 P **P** **16 02 18.6 +0.1**
ASAR Alice Springs 84.08 127 P **P** **16 02 18.6 +0.2**
ASAR pmax pmax
comp=Z,3.0nm,0.6s
FFC Flin Flon 86.16 358 P **P** **16 02 27.2 -1.3**
FFC Flin Flon 86.16 358 P **P** **16 02 27.2 -1.3**
JCW Jim Creek 91.63 11 *e*P **P** **16 02 53.9 -0.7**
comp=Z,24nm,1.2s,mb5.4
CHMT Chamberlain Mo 93.81 5 *e*P **P** **16 03 03.9 -0.7**
comp=Z,1.6nm,0.9s,mb4.5
CPUP Villa Florida 137.53 273 PKP PKPdf 16 09 11.5 -0.2
comp=Z,0.4nm,0.4s,baz=45,slow=2.9,SNR=3.8
CPUP Villa Florida 137.53 273 PKP PKPdf 16 09 11.5 -0.2
CPUP Villa Florida 137.53 273 PKIKP PKPdf 16 09 11.5 -0.1

IDC 27 15:50:44.8±2.5, 15°35S×173°91W, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.8/17, mbtmp4.0/4, Error ellipse: s-maj=214.3km s-min=26.9km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.51**	**56**	Pn		Pn	15 51 26.9	+0.1
	11nm,0.3s,baz=191,slow=23,SNR=34							
AFI				Sn		Sn	15 51 45.2	-13
	21nm,0.3s,baz=158,slow=12,SNR=10.0							
STKA	**Stephens Creek**	**43.64**	**240**	P		P	15 58 51.3	0.0
	1.8nm,1.0s,baz=99,slow=13,SNR=2.8							
WRA	**Warramunga Arr**	**49.38**	**257**	P		P	15 59 36.4	-0.1
	0.6nm,0.5s,baz=85,slow=7.5,SNR=23							
ASAR	**Alice Springs**	**49.66**	**252**	P		P	15 59 38.5	-0.1
	4.5nm,0.6s,baz=89,slow=7.9,SNR=144							

*ISCJB **27** 15:57:03.7±0.4, 24°.29N±0°.01×121°.86E±0°.02, h8km±2km, Error ellipse: s-maj=3.7km s-min=2.1km az=13.0*
*TAP **27** 15:57:04.2,24°.32N×121°.78E, h22km, ML4.2, B*
*NEIC **27** 15:57:04.2,24°.33N×121°.75E, h22km, After TAP.*
NEIC Recorded [5 TAP] in I-lan, [3 TAP] in Hua-lien and [1 TAP] in Nan-t'ou and T'ao-yuan.
*BJI **27** 15:57:11.8,24.62N×121.05E, h10km, mb3.8/3, ML3.4/2, Ms4.2/1, Ms7.3/7.1*

ISC 27 15:57:04.3±0.4, 24°30N±0°.01×121°84E±0°.02, h12km±2km, n68, σ1s00/115, 10C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EHP	**Heping Village**	**0.09**	**276**	*i* P		**Pg**	**15 57 08.1**	**+1.1**
	baz=246							
EHP				*i* S		**Sg**	**15 57 11.3**	**+2.3**
	baz=246							
ENA	**Nanau**	**0.16**	**325**	⇑*i*P		**Pg**	**15 57 08.7**	**+0.8**
	baz=343							
ENA				S		**Sg**	**15 57 12.2**	**+1.7**
	baz=343							
NACB	**Ninganchiao**	**0.26**	**241**	*e*Pg		**Pg**	**15 57 09.5**	**-0.2**
TWD	**Chiawan**	**0.31**	**225**	⇓*i*P		**Pg**	**15 57 11.0**	**+0.4**
	baz=219							
TWD				*i* S		**Sg**	**15 57 16.3**	**+1.4**
	baz=219							
HWA	**Hwalien**	**0.39**	**214**	P		**Pg**	**15 57 12.9**	**+0.9**
	baz=212							
ENTT	**Nioudou**	**0.42**	**324**	⇑*i*P		**Pg**	**15 57 12.4**	**-0.2**
	baz=327							
NNS	**Nan Shan**	**0.45**	**288**	⇑*i*P		**Pg**	**15 57 12.9**	**-0.2**
	baz=286							
NNS				S		**Sg**	**15 57 18.5**	**-0.6**
	baz=286							
TWE	**Neicheng**	**0.45**	**339**	⇑*i*P		**Pg**	**15 57 13.2**	**0.0**
	baz=347							
TWE				S		**Sg**	**15 57 19.2**	**+0.1**
	baz=347							
ILA	**Ilan**	**0.47**	**350**	⇑P		**Pg**	**15 57 14.0**	**+0.4**

	baz=356						
ILA				S	Sg	15 57 21.2	+1.3
	baz=356						
ESF	**Shoufeng Towns**	**0.52**	**215**	*e*P	Pg	15 57 14.9	+0.4
	baz=217						
WHF	**Hehuan Shan**	**0.55**	**254**⇓	*i*P	Pg	15 57 14.8	-0.2
	baz=256						
WHF				S	Sg	15 57 22.4	+0.1
	baz=256						
YHNB	**Yeheng**	**0.56**	**311**	*e*Pg	Pg	15 57 14.3	-1.0
YHNB				*e*Sg	Sg	15 57 21.1	-1.6
NSK	**Sanguang**	**0.58**	**311**⇑	*i*P	Pg	15 57 15.1	-0.5
	baz=311						
NSK				*i* S	Sg	15 57 22.4	-0.8
	baz=311						
TWT	**Tachien**	**0.61**	**266**	P	Pg	15 57 16.1	-0.1
	baz=257						
TWT				S	Sg	15 57 24.0	-0.1
	baz=257						
ESL	**Shilin**	**0.61**	**218**	P	Pg	15 57 15.6	-0.7
	baz=216						
ESL				*e*S	Sg	15 57 25.7	+1.4
	baz=216						
TEGC	**Jichi Village**	**0.65**	**205**	*e*P	Pg	15 57 18.7	+1.8
	baz=186						
TWA	**Mucha**	**0.72**	**341**⇑	*i*P	Pg	15 57 17.9	-0.3
	baz=344						
TWA				S	Sg	15 57 26.9	-0.7
	baz=344						
TWB1	**Santiao Chiao**	**0.72**	**11**	P	Pg	15 57 18.4	+0.2
	baz=16						
TWB1				S	Sg	15 57 27.7	0.0
	baz=16						
TATO	**Taipei**	**0.74**	**335**	*e*Pg	Pg	15 57 17.9	-0.9
TATO				*e*Sg	Sg	15 57 27.7	-0.8
NWF	**Wu-fen Shan**	**0.77**	**356**⇑	*i*P	Pg	15 57 19.3	+0.1
	baz=351						
NWF				*i* S	Sg	15 57 30.3	+0.9
	baz=351						
TAP1	**Taipei**	**0.79**	**339**	*e*P	Pg	15 57 19.4	-0.3
	baz=340						
TAP1				*e*S	Sg	15 57 30.1	+0.1
	baz=340						
NSTT	**Nanjuang**	**0.83**	**293**	P	Pg	15 57 19.5	-0.9
	baz=292						
NSTT				S	Sg	15 57 30.5	-0.8
	baz=292						
TWS1	**Kuangyinshan**	**0.89**	**334**	*i* P	Pg	15 57 21.2	-0.2
	baz=336						
TWS1				S	Sg	15 57 34.0	+1.0
	baz=336						
NCU	**National Centr**	**0.89**	**318**	P	Pg	15 57 21.6	0.0
	baz=319						
NCU				S	Sg	15 57 34.5	+1.2
	baz=319						
EHY	**Hungye**	**0.92**	**211**	*e*P	Pg	15 57 19.9	-2.2
	baz=207						
HSN	**Hsinchu**	**0.94**	**302**	P	Pg	15 57 21.9	-0.5
	baz=296						
HSN				S	Sg	15 57 35.1	+0.4
	baz=296						
SMLT	**Sun Moon Lake**	**0.95**	**244**	P	Pb	15 57 21.8	-1.0
	baz=241						
SSLB	**Suanglung**	**0.96**	**238**	*e*Pg	Pg	15 57 20.7	-2.1
SSLB				*e*Sg	Sg	15 57 31.7	-3.6
TWQ1	**Liyutan**	**0.97**	**273**⇓	*i*P	Pb	15 57 22.9	-0.2
	baz=271						
TWQ1				S	Sg	15 57 35.2	-0.6
	baz=271						
TYC	**Yuchr**	**0.98**	**246**⇓	*i*P	Pb	15 57 22.0	-1.2
	baz=237						
TYC				*e*S	Sb	15 57 34.7	-1.4
	baz=237						
NSY	**Sanyi**	**0.99**	**277**	P	Pb	15 57 23.5	+0.1
	baz=275						
NSY				S	Sb	15 57 36.2	-0.2
	baz=275						
TWY	**Chenhua**	**1.00**	**347**	*e*P	Pb	15 57 23.0	-0.5
	baz=336						
TWY				*e*S	Sb	15 57 37.2	+0.6
	baz=336						
YULB	**Yu-li**	**1.03**	**209**	*e*Pg	Pg	15 57 21.3	-2.9
YULB				*e*Sg	Sg	15 57 35.9	-1.7
TWF1	**Yuli**	**1.07**	**208**	*e*P	Pb	15 57 21.9	-2.8
	baz=216						
TCU	**Taichung**	**1.07**	**262**	P	Pb	15 57 24.9	+0.1
	baz=259						
TCU				*e*S	Sb	15 57 39.9	+1.1
	baz=259						
YOJ	**Yonaguni jima**	**1.08**	**81**⇓	P	Pb	15 57 24.8	-0.1
	baz=75						
YOJ				*e*S	Sb	15 57 40.6	+1.6
	baz=75						
WNT	**Mingjian**	**1.14**	**249**⇓	*i*P	Pb	15 57 25.6	-0.3
	baz=244						
WNT				*e*S	Sb	15 57 41.5	+0.8
	baz=244						
YUS	**Yu-Shan**	**1.15**	**225**	*e*P	Pb	15 57 24.9	-1.2
	baz=211						
YUS				*e*S	Sb	15 57 41.2	+0.4
	baz=211						
ALS	**Alishan**	**1.23**	**231**	P	Pn	15 57 26.4	-0.9
	baz=215						
CHKT	**Chengkung**	**1.27**	**200**	*e*P	Pn	15 57 26.6	-1.3
	baz=183						
CHN5	**Tsauling**	**1.27**	**237**	P	Pn	15 57 27.7	-0.2
	baz=234						
CHN5				*e*S	Sb	15 57 44.5	-0.1
	baz=234						
WGK	**Gukeng**	**1.32**	**243**	*e*P	Pn	15 57 28.5	-0.1
	baz=240						
WGK				*e*S	Sb	15 57 47.1	+1.2
	baz=240						
ELDTW	**Lidau**	**1.34**	**214**	*e*P	Pn	15 57 26.4	-2.4
	baz=199						
CHN2	**Minshiung**	**1.46**	**239**	*e*P	Pn	15 57 31.4	+0.8
	baz=236						
CHN2				*e*S	Sn	15 57 51.8	+2.1
	baz=236						
CHN4	**Tsaushan**	**1.48**	**231**	*e*P	Pn	15 57 31.2	+0.4
	baz=228						
TPUB	**Ta-pu**	**1.49**	**228**	*e*Pn	Pn	15 57 30.2	-0.7
TPUB				*e*Sn	Sn	15 57 50.2	-0.1
WTCT	**Ta-ch'eng**	**1.49**	**253**	*e*P	Pn	15 57 29.6	-1.3
	baz=251						
WTCT				*e*S	Sn	15 57 50.7	+0.5
	baz=251						
STYT	**Tauyuan**	**1.50**	**221**	*e*P	Pn	15 57 30.8	-0.4
	baz=218						
STYT				*e*S	Sn	15 57 50.5	-0.1
	baz=218						
CHY	**Chiayi**	**1.52**	**239**	*e*P	Pn	15 57 31.7	+0.3
	baz=236						
CHY				*e*S	Sn	15 57 52.0	+0.9
	baz=236						
WTP	**Ta-pu**	**1.54**	**227**⇑	P	Pn	15 57 31.8	+0.2
	baz=224						
WTP				*e*S	Sn	15 57 51.6	+0.1
	baz=224						
WSF	**Szhu**	**1.62**	**246**	*e*P	Pn	15 57 31.5	-1.2
	baz=251						
WSF				*e*S	Sn	15 57 54.4	+0.9
	baz=251						
TWG	**Pinlang**	**1.63**	**206**	*e*Pn	Pn	15 57 30.1	-2.7
TWG	**Pinlang**	**1.63**	**206**	*e*P	Pn	15 57 30.0	-2.9
	baz=189						
CHN1	**Nanshi**	**1.64**	**228**	*e*P	Pn	15 57 33.0	0.0
	baz=225						
CHN1				*e*S	Sn	15 57 54.6	+0.7
	baz=225						
SGST	**Jiashian**	**1.67**	**224**⇑	*e*P	Pn	15 57 33.9	+0.5
	baz=221						
CHN8	**Yiju**	**1.77**	**238**	*e*P	Pn	15 57 35.3	+0.6
	baz=221						
CHN8				*e*S	Sn	15 57 58.5	+1.3
	baz=221						
CHN3	**Shinhua**	**1.82**	**228**	*e*P	Pn	15 57 36.2	+0.8
	baz=226						
CHN3				*e*S	Sn	15 58 01.0	+2.6
	baz=226						
SCLT	**Jiali**	**1.88**	**234**	*e*P	Pn	15 57 36.8	+0.6
	baz=216						
SCLT				*e*S	Sn	15 58 01.6	+1.8
	baz=216						
ECL	**Taimali**	**1.88**	**206**	*e*P	Pn	15 57 33.5	-2.8
	baz=191						
SSD	**Sandimen**	**1.90**	**216**	*e*P	Pn	15 57 36.5	-0.1
	baz=223						
SSD				*e*S	Sn	15 58 00.7	+0.2
	baz=223						
TWM1	**Shoushan**	**1.96**	**222**	*e*P	Pn	15 57 38.3	+0.9
	baz=219						
EAST	**Anshuo**	**2.12**	**206**	*e*P	Pn	15 57 39.4	-0.1
	baz=194						
PNG	**Penghu**	**2.21**	**251**	*e*P	Pn	15 57 39.6	-1.3
	baz=249						
SCZT	**Fangliau**	**2.22**	**211**	*e*P	Pn	15 57 40.8	-0.2
	baz=208						
SCZT				*e*S	Sn	15 58 08.3	-0.1
	baz=208						
TWK1	**Hengchun**	**2.53**	**202**	*e*P	Pn	15 57 46.4	+1.1
	baz=192						
QZH	**Quanzhou**	**3.02**	**283**	Pn	Pn	15 57 48.0	-4.0
QZH				Sn	Sn	15 58 22.5	-5.7
QZH				smax			
	comp=N,390nm,1.0s						
QZH				smax			
	comp=E,220nm,0.9s						
KNM	**Kinmen**	**3.11**	**273**	*e*P	Pn	15 57 53.1	0.0
	baz=270						
HHC	**Hu-ho-hao-te**	**18.61**	**335**	*e*P	Pn	16 01 23.0	+1.2
HHC				PP		16 01 38.5	
HHC				S	Sn	16 04 48.8	-1.0
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC				LR	LR		
	comp=N,170nm,6.2s						
HHC				LR	LR		
	comp=E,220nm,6.0s						
HHC				LR	LR		
	comp=Z,120nm,7.3s						

*ISCJB **27** 16:01:32.9±0.7,5.9N±0.1×125.9E±0.2,h154km±10km, mb3.4/5,Error ellipse: s-maj=25.4km s-min=17.4km az=176.0*

*IDC **27** 16:01:33.4±1.9,6.18N×126.36E,h154km±14km,mb3.2/5, mb1 3.4/5,mb1mx3.1/21,mbtmp3.2/5,Error ellipse: s-maj=95.0km s-min=19.4km az=66.0*

ISC 27 16:01:34.1±0.7,5.9N±0.1×125.9E±0.1,h148km±10km,n11, σ0961/15,mb3.4/5,1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**0.95**	**281**	*e*P	**Sn**	**16 02 15.8**	**-0.8**
MATI	**Mati**	**1.09**	**20**	*e*P	**Pn**	**16 01 58.5**	**-0.9**
MATI				*e*S	**Sn**	**16 02 04.5**	**-14**
DAV	**Davao City (W)**	**1.19**	**345**	P	**Pn**	**16 02 00.7**	**+0.4**
	29nm,0.3s,baz=148,slow=9.5,SNR=3.2						
DAV				S	**Sn**	**16 02 20.5**	**0.0**
	120nm,0.3s,baz=274,slow=15,SNR=12						
KCP	**Kidapawan**	**1.35**	**324**⇓	*e*P	**Pn**	**16 02 02.6**	**+0.8**
KCP				*i* S	**Sn**	**16 02 29.3**	**+6.2**
CTBH	**Cotabato--PC H**	**2.09**	**309**⇑	*i*P	**Pn**	**16 02 10.5**	**+0.4**
BUKP	**Musuan**	**2.12**	**337**	*e*P	**Pn**	**16 02 11.1**	**+0.6**
BUKP				*e*S	**Sn**	**16 02 26.5**	**-12**
FITZ	**Fitzroy Crossi**	**23.86**	**181**	P	**P**	**16 06 34.5**	**+0.5**
	1.0nm,0.6s,mb3.5,baz=19,slow=8.9,SNR=6.6						
WRA	**Warramunga Arr**	**27.00**	**162**	P	**P**	**16 07 01.9**	**-0.5**
	0.3nm,0.5s,mb3.2,baz=349,slow=9.7,SNR=12						
ASAR	**Alice Springs**	**30.42**	**165**	P	**P**	**16 07 33.0**	**+0.4**
	0.9nm,0.4s,mb3.8,baz=336,slow=7.1,SNR=27						
STKA	**Stephens Creek**	**40.45**	**159**	P	**P**	**16 08 58.2**	**0.0**
	1.1nm,0.5s,mb3.7,baz=348,slow=9.1,SNR=4.5						
MKAR	**Makanchi Array**	**55.30**	**325**	P	**P**	**16 10 51.2**	**-1.0**
	0.1nm,0.4s,mb2.9,baz=114,slow=7.6,SNR=4.8						

IDC 27 16:05:30.3±4.5,4.15S×101.49E,h0km,mb3.2/4, mb1 3.5/4,mb1mx3.3/20,mbtmp3.3/4,Error ellipse: s-maj=188.5km s-min=25.3km az=56.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**22.60**	**354**	P	P	16 10 33.7	+1.0
	0.5nm,0.4s,baz=186,slow=8.4,SNR=4.1						
WRA	**Warramunga Arr**	**35.64**	**119**	P	P	16 12 28.7	-1.6
	0.2nm,0.5s,baz=308,slow=9.5,SNR=2.7						
ASAR	**Alice Springs**	**36.80**	**125**	P	P	16 12 41.5	+1.4
	0.3nm,0.7s,baz=299,slow=7.2,SNR=3.5						
MKAR	**Makanchi Array**	**53.49**	**344**	P	P	16 14 51.5	-0.8
	0.6nm,0.8s,baz=144,slow=9.0,SNR=4.1						
TXAR	**Lajitas Array**	**145.42**	**41**	PKPbc	PKPbc	16 25 10.4	-0.5
	0.1nm,0.5s,baz=230,slow=2.1,SNR=3.0						

*IDC **27** 16:05:46.6±2.5, 16.31S×173.08W, h0km, mb4.0/6, mb1 4.3/6, mb1mx4.1/17, mbtmp4.0/6, MS3.3/2, Ms1 3.3/2, ms1mx3.0/18, Error ellipse: s-maj=127.7km s-min=24.0km az=143.0*

*ISCJB **27** 16:05:49.0±0.8, 15.7S±0.2×173.3W±0.2, h33km, mb4.0/7, Error ellipse: s-maj=40.5km s-min=8.5km az=136.3*

*NEIC **27** 16:05:48.7±0.7, 16.06S×173.32W, h10km, mb3.9/2, Error ellipse: s-maj=32.1km s-min=15.3km az=140.0*

ISC 27 16:05:50.8±0.9,15.7S±0.2×173.2W±0.2,h35km,n22, σ0996/18,mb4.0/7,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.23**	**39**	Pn	**Pn**	**16 06 24.8**	**-0.5**
	26nm,0.3s,baz=355,slow=3.4,SNR=45						
AFI				Sn	**Sn**	**16 06 51.2**	**-0.5**
	99nm,0.3s,baz=72,slow=22,SNR=15						
AFI				LR	LR	16 07 30.6	
	comp=Z,326nm,21.4s,baz=158,slow=38						
AFI				T		16 08 56.8	
	26nm,0.3s,baz=177,slow=18,SNR=3.8						
AFI	**Afiamalu**	**2.23**	**39**	Pn	**Pn**	**16 06 24.8**	**-0.5**
AFI				Sn	**Sn**	**16 06 51.2**	**-0.5**
AFI				TT		16 08 56.8	
HNR	**Honiara**	**26.88**	**280**	LR	LR	16 20 30.6	
	comp=Z,131nm,20.2s,baz=122,slow=33						
STKA	**Stephens Creek**	**44.05**	**240**	P	**P**	**16 13 55.2**	**-0.2**
	1.4nm,0.5s,mb4.2,baz=77,slow=4.9,SNR=4.9						
STKA	**Stephens Creek**	**44.05**	**240**	*e*P	**P**	**16 13 55.0**	**-0.5**
	0.5nm,0.8s,mb3.3						
WRA	**Warramunga Arr**	**49.94**	**257**	P	**P**	**16 14 41.2**	**-0.4**
	0.3nm,0.3s,mb3.8,baz=92,slow=6.7,SNR=13						
WRA	**Warramunga Arr**	**49.94**	**257**	P	**P**	**16 14 41.2**	**-0.4**
AS31	**Alice Springs**	**50.18**	**252**	*e*P	**P**	**16 14 43.0**	**-0.4**
ASAR	**Alice Springs**	**50.18**	**252**	P	**P**	**16 14 43.6**	**+0.2**
	4.0nm,0.8s,mb4.5,baz=92,slow=7.2,SNR=51						
ASAR	**Alice Springs**	**50.18**	**252**	P	**P**	**16 14 43.6**	**+0.2**
QSPA	**South Pole Qui**	**74.40**	**180**	*e*P	**P**	**16 17 24.3**	**-0.3**
	4.1nm,1.1s,mb4.3						
PDAR	**Pinedale Array**	**82.34**	**42**	P	**P**	**16 18 12.3**	**+3.2**
	0.7nm,0.8s,mb3.6,baz=194,slow=3.1,SNR=4.8						
PDAR	**Pinedale Array**	**82.34**	**42**	P	**P**	**16 18 12.3**	**+3.2**
ILAR	**Eielson Array**	**82.66**	**11**	P	**P**	**16 18 13.5**	**+3.3**
	1.4nm,0.7s,mb4.1,baz=229,slow=6.0,SNR=23						
ILAR	**Eielson Array**	**82.66**	**11**	P	**P**	**16 18 13.5**	**+3.3**
CMAR	**Chiang Mai Arr**	**92.84**	**288**	P	**P**	**16 19 05.2**	**+4.6**
	1.2nm,0.8s,mb4.4,baz=87,slow=2.8,SNR=8.8						
CMAR	**Chiang Mai Arr**	**92.84**	**288**	P	**P**	**16 19 05.2**	**+4.6**
GERES	**GERESS Array B**	**146.41**	**352**	PKPbc	PKPbc	16 25 31.9	+3.9
	0.2nm,0.3s,baz=38,slow=7.1,SNR=4.3						
GERES	**GERESS Array B**	**146.41**	**352**	PKPbc	PKPbc	16 25 31.9	+3.9
BR131	**Keskin Array S**	**146.45**	**321**	*e*PKPdf	PKPdf	16 25 30.0	+2.9
BRTR	**Keskin Array B**	**146.45**	**321**	PKPbc	PKPbc	16 25 32.5	+4.0
	2.6nm,0.8s,baz=125,slow=2.1,SNR=12						
BRTR	**Keskin Array B**	**146.45**	**321**	PKPbc	PKPbc	16 25 32.5	+4.0

*ISCJB **27** 17:04:34.2±0.5, 38.12N±0.03×21.33E±0.03, h10km, Error ellipse: s-maj=4.1km s-min=3.4km az=172.6*

*CSEM **27** 17:04:34.6±0.3, 38.10N×21.36E, h20km, MD3.1, Error ellipse: s-maj=7.2km s-min=5.2km az=170.0*

*THE **27** 17:04:34.2, 38.06N×21.38E, h20km±2km, ML2.5/3, Error ellipse: s-maj=2.1km s-min=0.6km az=359.0*

*ATH **27** 17:04:34.8, 38.13N×21.30E, h5km±3km, MD3.1/10*

ISC 27 17:04:34.9±0.6,38.11N±0.03×21.33E±0.03,h7km±6km, n39,σ1909/69,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.12**	**116**	*e*PG	**Pg**	**17 04 37.9**	**+0.4**
RLS				*e*SG	**Sg**	**17 04 40.6**	**+1.4**
RLS	**Riolos of Patr**	**0.12**	**116**	*e*Pg	**Pg**	**17 04 37.9**	**+0.4**
RLS				*e*Sg	**Sg**	**17 04 40.6**	**+1.4**
UPR	**University Cam**	**0.40**	**64**	*e*PB	**Pg**	**17 04 43.0**	**+0.4**
UPR				*e*SB	**Sg**	**17 04 49.0**	**+1.1**
UPR	**University Cam**	**0.40**	**64**	P	**Pg**	**17 04 42.3**	**-0.3**
UPR				S	**Sg**	**17 04 48.4**	**+0.5**
UPR	**University Cam**	**0.40**	**64**	P	**Pg**	**17 04 42.3**	**-0.3**
UPR	**University Cam**	**0.40**	**64**	*e*Pb	**Pg**	**17 04 43.0**	**+0.4**
UPR				S	**Sg**	**17 04 48.4**	**+0.5**
UPR				*e*Sb	**Sg**	**17 04 49.0**	**+1.1**
KFL	**Anninata**	**0.43**	**270**	P	**Pg**	**17 04 43.7**	**+0.4**
KFL	**Anninata**	**0.43**	**270**	P	**Pg**	**17 04 43.7**	**+0.4**
LAKA	**Lakka**	**0.52**	**75**	P	**Pg**	**17 04 43.9**	**-1.1**
LAKA				S	**Sg**	**17 04 51.5**	**-0.4**
LAKA	**Lakka**	**0.52**	**75**	P	**Pg**	**17 04 43.9**	**-1.1**
LAKA				S	**Sg**	**17 04 51.5**	**-0.4**
EFP	**Efpalio**	**0.55**	**55**	P	**Pg**	**17 04 44.6**	**-0.9**
EFP				S	**Sg**	**17 04 53.5**	**+0.8**
EFP	**Efpalio**	**0.55**	**55**	P	**Pg**	**17 04 44.6**	**-0.9**
EFP				S	**Sg**	**17 04 53.5**	**+0.8**
VLS	**Valsamata**	**0.59**	**277**	*e*PB	**Pg**	**17 04 45.9**	**-0.4**
VLS				*e*SB	**Sg**	**17 04 54.5**	**+0.5**
VLS	**Valsamata**	**0.59**	**277**	P	**Pg**	**17 04 45.8**	**-0.5**
VLS	**Valsamata**	**0.59**	**277**	*e*Pb	**Pg**	**17 04 45.9**	**-0.4**
VLS				*e*Sb	**Sg**	**17 04 54.5**	**+0.5**
KALE	**Kalithea**	**0.69**	**66**	P	**Pg**	**17 04 46.7**	**-1.6**
KALE				S	**Sg**	**17 04 57.0**	**-0.3**
KALE	**Kalithea**	**0.69**	**66**	P	**Pg**	**17 04 46.7**	**-1.6**
KALE				S	**Sg**	**17 04 57.0**	**-0.3**
GUR	**Goura**	**0.81**	**102**	*e*PB	**Pg**	**17 04 49.9**	**-0.7**
GUR				*e*SB	**Sb**	**17 05 01.8**	**-0.7**
GUR	**Goura**	**0.81**	**102**	P	**Pg**	**17 04 48.8**	**-1.8**
GUR				S	**Sg**	**17 04 59.9**	**-1.3**
GUR	**Goura**	**0.81**	**102**	*e*Pb	**Pg**	**17 04 49.0**	**-1.6**
GUR				S	**Sg**	**17 04 59.9**	**-1.3**
GUR				*e*Sb	**Sb**	**17 05 01.8**	**-0.7**
EVR	**Evrytania**	**0.89**	**25**	*e*PG	**Pg**	**17 04 51.1**	**-0.9**
EVR				*e*SB	**Sg**	**17 05 04.3**	**+0.8**
EVR	**Evrytania**	**0.89**	**25**	P	**Pg**	**17 04 51.2**	**-0.8**
EVR	**Evrytania**	**0.89**	**25**	P	**Pg**	**17 04 51.2**	**-0.8**
EVR				*e*Sb	**Sg**	**17 05 04.3**	**+0.8**
DSF	**Desfina**	**0.99**	**72**	P	**Pg**	**17 04 51.8**	**-2.1**
DSF	**Desfina**	**0.99**	**72**	P	**Pg**	**17 04 51.8**	**-2.1**
DESF	**Desfina**	**0.99**	**72**	P	**Pg**	**17 04 52.0**	**-1.9**
DESF	**Desfina**	**0.99**	**72**	P	**Pg**	**17 04 52.0**	**-1.9**
ITM	**Ithomi**	**1.04**	**153**	*e*PN	**Pg**	**17 04 55.0**	**+0.1**
ITM	**Ithomi**	**1.04**	**153**	*e*Pn	**Pg**	**17 04 55.0**	**+0.1**
VLX	**Vlachokerasia**	**1.11**	**131**	*e*PB	**Pg**	**17 04 57.4**	**+1.2**
VLX				*e*SB	**Sg**	**17 05 12.9**	**+2.3**
VLX	**Vlachokerasia**	**1.11**	**131**	*e*Pb	**Pg**	**17 04 57.4**	**+1.2**
VLX				*e*Sb	**Sg**	**17 05 12.9**	**+2.3**
AGG	**Agios Georgios**	**1.20**	**40**	*e*PN	**Pg**	**17 04 57.1**	**-0.8**
AGG				*e*SB	**Sb**	**17 05 14.6**	**+1.0**
AGG	**Agios Georgios**	**1.20**	**40**	*e*Pn	**Pg**	**17 04 57.1**	**-0.8**
AGG				*e*Sb	**Sb**	**17 05 14.6**	**+1.0**
LTK	**Loutraki**	**1.29**	**93**	*e*PG	**Pg**	**17 04 59.2**	**-0.5**
LTK				*e*SB	**Sb**	**17 05 17.9**	**+1.7**
LTK	**Loutraki**	**1.29**	**93**	*e*Pg	**Pg**	**17 04 59.2**	**-0.5**
LTK				*e*Sb	**Sb**	**17 05 17.9**	**+1.7**
LKR	**Lokris**	**1.42**	**67**	*e*PG	**Pg**	**17 05 01.7**	**-0.4**
LKR				*e*SB	**Sg**	**17 05 22.0**	**+1.6**
LKR	**Lokris**	**1.42**	**67**	*e*Pg	**Pg**	**17 05 01.7**	**-0.4**
LKR				*e*Sb	**Sg**	**17 05 22.0**	**+1.6**
THL	**Klokotos Trika**	**1.55**	**20**	*e*PB	**Pg**	**17 05 04.8**	**+0.2**
THL				*e*SB	**Sg**	**17 05 26.4**	**+1.7**
THL	**Klokotos Trika**	**1.55**	**20**	*e*Pb	**Pg**	**17 05 04.8**	**+0.2**
THL				*e*Sb	**Sg**	**17 05 26.4**	**+1.7**

*IPEC **27** 17:07:09.5±0.2,50.37N×19.21E, h0km,ML2.5/3,Error ellipse: s-maj=3.1km s-min=1.3km az=174.0*

*ISCJB **27** 17:07:09.5±0.5,50.28N±0.03×19.15E±0.03,h0km,Error ellipse: s-maj=4.9km s-min=2.2km az=10.0*

*CSEM **27** 17:07:10.4±0.3,50.28N×19.14E,h2km,ML3.2/9,Ms3.5, Error ellipse: s-maj=7.8km s-min=3.3km az=7.0*

*WAR **27** 17:07:10.2,50.27N×19.26E*

*NEIC **27** 17:07:10.7±0.7,50.53N×18.98E,h5km,ML2.6(CSEM), Error ellipse: s-maj=11.9km s-min=7.9km az=137.0*

*VIE **27** 17:07:12.1±0.7,50.03N×19.15E,h0km,mb2.4/2,ML2.5/4, Ms3.5/1,Error ellipse: s-maj=7.0km s-min=3.6km az=166.0 26 km S of Sosnowice Suspected Mining induced.*

*PRU **27** 17:07:13.2,50.37N×19.00E,h0km*

*IDC **27** 17:07:14.7±0.8,50.62N×18.39E,h0km,mb1 3.4/4, mb1mx3.1/23,mbtmp3.2/4,ML3.0/4,Error ellipse: s-maj=19.9km s-min=7.6km az=140.0*

ISC 27 17:07:09.7±0.4,50.31N±0.03×19.19E±0.03,h0km,n64, σ1917/103,1C-4D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.40**	**103**	*i* Pg	**Pg**	**17 07 17.3**	**-0.1**
OJC				*i* Sg	**Sg**	**17 07 22.8**	**+0.1**
OJC	**Ojcow**	**0.40**	**103**	*e*Pg	**Pg**	**17 07 17.2**	**-0.2**
	baz=292						
OJC				*i* Sg	**Sg**	**17 07 22.8**	**+0.1**
OKC	**Ostrava-Krasne**	**0.82**	**235**	*e*PG	**Pg**	**17 07 25.8**	**+0.3**
OKC				*e*SG	**Sg**	**17 07 36.1**	**0.0**
	comp=Z,63nm,0.8s						
OKC	**Ostrava-Krasne**	**0.82**	**235**	*e*Pg	**Pg**	**17 07 25.8**	**+0.3**
	baz=52						
OKC				Sg	**Sg**	**17 07 36.1**	**0.0**
	comp=Z,63nm,0.8s						
NIE	**Niedzica**	**1.15**	**140**	*e*Pg	**Pg**	**17 07 32.0**	**+0.2**
NIE				*e*Sg	**Sg**	**17 07 47.9**	**+1.1**
NIE	**Niedzica**	**1.15**	**140**	*e*Pg	**Pg**	**17 07 32.0**	**+0.2**
NIE				*e*Sg	**Sg**	**17 07 47.9**	**+1.1**
MORC	**Moravsky Berou**	**1.19**	**244**	*e*P	**Pn**	**17 07 31.9**	**-1.7**
MORC	**Moravsky Berou**	**1.19**	**244**	*e*P	**Pn**	**17 07 31.9**	**-1.7**
MORC	**Moravsky Berou**	**1.19**	**244**	*e*Pg	**Pg**	**17 07 32.6**	**+0.1**
	baz=61						
MORC				*e*Sg	**Sg**	**17 07 48.1**	**+0.2**
	comp=Z,48nm,0.3s,baz=61						
LIKS	**Likavka**	**1.27**	**182**	*e*SN	**Sn**	**17 07 50.4**	**-1.9**
LIKS	**Likavka**	**1.27**	**182**	*e*Sn	**Sn**	**17 07 50.4**	**-1.9**
KRC	**Kraliky**	**1.56**	**262**	*e*PG	**Pn**	**17 07 38.1**	**-0.6**
KRLC	**Kraliky**	**1.56**	**262**	Pg	**Pn**	**17 07 38.1**	**-0.6**
STHS	**Stebnicka Huta**	**1.60

KRUC	**Moravsky**	**2.20**	**236**	*e*Pn		**Pn**	**17 07 47.8**	**+0.3**
	baz=53								
KRUC				*e*Sn		**Sn**	**17 08 17.2**	**+1.8**
	comp=Z,29nm,0.7s,baz=53								
KWP	**Kalwaria Pacla**	**2.37**	**105**	*e*Pn		**Pb**	**17 07 52.9**	**-0.4**
KWP				*e*Sn		**Sb**	**17 08 24.2**	**+1.2**
KWP				*e*Sg		**Sg**	**17 08 31.9**	**+6.0**
KWP	**Kalwaria Pacla**	**2.37**	**105**	*e*P		**Pb**	**17 07 52.7**	**-0.6**
KWP	**Kalwaria Pacla**	**2.37**	**105**	*e*P		**Pb**	**17 07 52.7**	**-0.6**
KWP				*e*Sn		**Sb**	**17 08 24.2**	**+1.1**
PSZ	**Piszkesteto**	**2.44**	**169**	*e*P		**Pb**	**17 07 54.8**	**+0.4**
PSZ	**Piszkesteto**	**2.44**	**169**	*e*PB		**Pb**	**17 07 56.0**	**+1.5**
PSZ				*e*SB		**Sg**	**17 08 33.7**	**+5.6**
PSZ	**Piszkesteto**	**2.44**	**169**	*e*P		**Pb**	**17 07 54.8**	**+0.3**
TREC	**Trest**	**2.60**	**248**	*e*SG		**Sg**	**17 08 31.6**	**-1.8**
	comp=Z,18nm,0.5s								
TREC	**Trest**	**2.60**	**248**	Sg		**Sg**	**17 08 31.6**	**-1.8**
	comp=Z,18nm,0.5s								
PVCC	**Panska Ves**	**2.96**	**276**	*e*SG		**Sg**	**17 08 43.7**	**-1.1**
	comp=Z,27nm,0.4s								
PVCC	**Panska Ves**	**2.96**	**276**	Sg		**Sg**	**17 08 43.7**	**-1.1**
	comp=Z,27nm,0.4s								
CONA	**Conrad Observa**	**3.23**	**224**	⇓*i*Pn		**Pn**	**17 08 01.1**	**-0.6**
CONA				⇑*i*Pg		**Pg**	**17 08 09.6**	**-2.1**
CONA				⇓*i*Sn		**Sn**	**17 08 39.4**	**-1.5**
CONA	**Conrad Observa**	**3.23**	**224**	Pn		**Pn**	**17 08 01.1**	**-0.6**
BRG	**Berggiesshubel**	**3.39**	**282**	PG		**Pg**	**17 08 14.2**	**-0.4**
BRG				SG		**Sg**	**17 08 57.0**	**-1.5**
	comp=Z,9.2nm,0.5s								
KHC	**Kasperske Hory**	**3.83**	**254**	*e*P		**Pn**	**17 08 09.4**	**-0.5**
KHC	**Kasperske Hory**	**3.83**	**254**	*e*PN		**Pn**	**17 08 10.0**	**+0.2**
KHC				*ex*		x	17 08 16.5	
KHC				*e*SN		**Sn**	**17 08 57.0**	**+1.5**
KHC				*e*SG		**Sg**	**17 09 10.3**	**-2.3**
	comp=Z,16nm,0.6s								
KHC	**Kasperske Hory**	**3.83**	**254**	*e*P		**Pn**	**17 08 09.4**	**-0.4**
KHC	**Kasperske Hory**	**3.83**	**254**	Pn		**Pn**	**17 08 10.0**	**+0.2**
KHC				Sg		**Sg**	**17 09 10.3**	**-2.3**
	comp=Z,16nm,0.6s								
GERES	**GERESS Array B**	**3.86**	**250**	Pn		**Pn**	**17 08 11.2**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=70,slow=14,SNR=9.7								
GERES				Pg		**Pg**	**17 08 18.4**	**-5.2**
	comp=Z,0.3nm,0.3s,baz=58,slow=13,SNR=6.2								
GERES				Lg			17 09 09.6		
	comp=Z,2.2nm,0.3s,baz=55,slow=33,SNR=10								
GERES	**GERESS Array B**	**3.86**	**250**	Pn		**Pn**	**17 08 11.2**	**+0.9**
GERES				Pg		**Pg**	**17 08 18.4**	**-5.3**
GERES				Lg			17 09 09.6		
GERES	**GERESS Array B**	**3.86**	**250**	Pn		**Pn**	**17 08 11.2**	**+0.9**
CLL	**Collm**	**4.05**	**287**	*e*(Pg)		**Pg**	**17 08 26.0**	**-1.2**
CLL				*e*Sg		**Sg**	**17 09 23.0**	**+3.3**
	comp=Z,31nm,1.3s								
MOA	**Molln**	**4.07**	**235**	⇓*i*Sg		**Sg**	**17 09 20.7**	**+0.3**
	comp=Z,7.9nm,0.6s								
MOA	**Molln**	**4.07**	**235**	Sg		**Sg**	**17 09 20.7**	**+0.4**
	comp=Z,7.9nm,0.6s								
BUR08	**Bucovina Ar. S**	**4.78**	**122**	*e*P		**Pn**	**17 08 23.0**	**+0.2**
BUR08	**Bucovina Ar. S**	**4.78**	**122**	*e*P		**Pn**	**17 08 23.0**	**+0.1**
AKASG	**Malin Array Be**	**6.42**	**83**	Pn		**Pn**	**17 08 53.4**	**+8.0**
	comp=Z,1.0nm,0.3s,baz=272,slow=12,SNR=9.5								
AKASG	**Malin Array Be**	**6.42**	**83**	Pn		**Pn**	**17 08 53.4**	**+8.0**
FETA	**Feichten**	**6.50**	**243**	⇓*i*Sg		**Sg**	**17 10 42.0**	**+3.7**
	comp=Z,1.7nm,0.5s								
FINES	**FINESS Array B**	**11.80**	**16**	Pn		**Pn**	**17 09 56.7**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=200,slow=12,SNR=9.6								
FINES	**FINESS Array B**	**11.80**	**16**	Pn		**Pn**	**17 09 56.7**	**-2.4**
ARCES	**ARCESS Array B**	**19.52**	**7**	Pn		**Pn**	**17 11 37.5**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=192,slow=12,SNR=9.8								
ARCES	**ARCESS Array B**	**19.52**	**7**	Pn		**Pn**	**17 11 37.5**	**-1.9**

IDC ***27*** *17:31:15.1±6.8, 1°.21N×97°.19E, h0km, mb4.0/4, mb1 4.0/5, mb1mx3.7/23, mbtmp4.0/5, ML3.9/1, Error ellipse: s-maj=129.8km s-min=65.7km az=7.0*

ISCJB ***27*** *17:31:16.6±1.2, 1°.09N±0°.10×97°.0E±0°.1, h33km, mb4.1/5, Error ellipse: s-maj=16.5km s-min=11.6km az=137.6*

DJA ***27*** *17:31:16, 1°.14N×96°.87E, h99km, MLv3.9/6*

NEIC ***27*** *17:31:21.1±2.4, 1°.34N×97°.20E, h35km, mb4.2/1, Error ellipse: s-maj=44.5km s-min=18.7km az=172.0*

ISC 27 17:31:19.5±1.2, 1°.2N±0°.1×97°.1E±0°.1, h35km, n18, σ1s00/20, mb4.1/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TPTI		**2.06**	**4**	P			**Pn**	**17 31 50.8**	**-0.9**
TPTI				S			**Sn**	**17 32 18.2**	**+2.0**
PSI	**Prapat**	**2.46**	**49**	P			**Pn**	**17 31 57.0**	**-0.2**
MNSI	**Mandailing Nat**	**2.56**	**99**	P			**Pn**	**17 31 57.7**	**-0.8**
BSI	**Banda Aceh**	**4.63**	**338**	P			**Pn**	**17 32 25.6**	**-1.4**
BSI				S			**Sn**	**17 33 16.3**	**-3.2**
IPM	**Ipoh**	**5.14**	**50**	*e*P			**Pn**	**17 32 33.7**	**-0.4**
IPM	**Ipoh**	**5.14**	**50**	P			**Pn**	**17 34 5.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**17.26**	**6**	P			**Pn**	**17 35 17.4**	**-0.5**
	0.1nm,0.3s,baz=199,slow=12,SNR=8.9								
CMAR	**Chiang Mai Arr**	**17.26**	**6**	P			**Pn**	**17 35 17.4**	**-0.5**
KSAR	**Wonju Array Be**	**45.91**	**35**	P			**P**	**17 39 39.0**	**+0.1**
KSRS	**Korea Array**	**45.94**	**35**	P			**P**	**17 39 39.0**	**-0.1**
	2.9nm,0.8s,mb4.2,baz=219,slow=9.9,SNR=6.6								
SONM	**Songino Array**	**47.17**	**9**	P			**P**	**17 39 48.1**	**-0.4**
	0.6nm,0.5s,mb3.8,baz=208,slow=8.1,SNR=2.8								
SONM	**Songino Array**	**47.17**	**9**	P			**P**	**17 39 48.1**	**-0.4**
MKAR	**Makanchi Array**	**47.22**	**346**	P			**P**	**17 39 50.2**	**+1.3**
	1.2nm,0.6s,mb4.0,baz=161,slow=9.0,SNR=16								
MKAR	**Makanchi Array**	**47.22**	**346**	P			**P**	**17 39 50.2**	**+1.3**
ZAA0	**Zalesovo Array**	**53.55**	**351**	*e*P			**P**	**17 40 37.6**	**+0.9**
ZALV	**Zalesovo Beam**	**53.55**	**351**	P			**P**	**17 40 37.6**	**+0.9**
	1.4nm,0.4s,mb4.3,baz=178,slow=5.5,SNR=16								
ZALV	**Zalesovo Beam**	**53.55**	**351**	P			**P**	**17 40 37.6**	**+0.9**
ABKAR	**Akbulak array**	**57.46**	**332**	*e*P			**P**	**17 41 05.5**	**+0.6**
	1.8nm,0.8s,mb4.2								

NOU ***27*** *17:31:26.5±0.8, 17°.63S×167°.67E, h30km, MD4.1, ML3.1*

ISCJB ***27*** *17:31:26.2±0.1, 17°.85S±0°.03×167°.57E±0°.02, h10km, mb5.4/143, MS5.2/197, Error ellipse: s-maj=4.5km s-min=3.0km az=164.0*

IDC ***27*** *17:31:26.1±0.5, 17°.80S×167°.61E, h0km, mb5.1/20, mb1 5.2/21, mb1mx5.2/22, mbtmp5.1/21, ML5.2/1, MS5.0/20, Ms1 5.0/20, ms1mx4.9/24, Error ellipse: s-maj=15.2km s-min=14.0km az=131.0*

NEIC ***27*** *17:31:27.5±0.2, 17°.80S×167°.59E, h10km, mb5.5/56, MS5.3/158, Error ellipse: s-maj=5.7km s-min=4.8km az=143.0*

DJA ***27*** *17:31:28, 17°.91S×167°.80E, h10km, Mw5.7/39*

LDG ***27*** *17:31:29.1±0.2, 17°.71S×166°.73E, h10km, Mb5.5/3, Ms5.1/10, Error ellipse: s-maj=24.0km s-min=5.5km az=87.0*

MOS ***27*** *17:31:30.2±1.3, 17°.75S×167°.53E, h33km, mb5.5/49, MS5.1/42, Error ellipse: s-maj=8.5km s-min=7.5km az=43.3*

GCMT ***27*** *17:31:32.0±0.1, 17°.99S×167°.48E, h13km, MW5.5, Moment Tensor Solution. s89,c155; s17,c19; Moment tensor: Scale 10^17 Nm; Mrr-1.07±.03; Mθθ 1.34±.03; Mφφ-0.27±.03; Mrθ-1.80±.12; Mθφ-0.90±.02; Mφr-0.28±.07; Best double couple: M0 2.40000×10^17 NP1:φs326.00000°, δ29.00000°, λ-34.00000°. NP2:φs86.00000°, δ74.00000°, λ-115.00000°. Principal axes: T 2.4700, Plg25.0000°, Azm196.0000°; N -0.2000, Plg24.0000°, Azm93.0000°; P -2.2700, Plg54.0000°, Azm326.0000°; Data Used: II IU IC G CN. Surface waves: sta=105, comp=183, per= 50.*

BJI ***27*** *17:31:33.8, 17°.15S×167°.58E, h48km, mB5.8/44, mb5.2/50, Ms5.5/52, Ms7 5.1/53*

ISC 27 17:31:26.2±1.3, 17°.84S±0°.03×167°.64E±0°.02, h1km±8km, n858, σ0s81/474, mb5.5/142, MS5.2/197, 72C-91D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**4.35**	**189**	*e*P			**Pn**	**17 32 32.7**	**-0.8**
BAYA					AMP			17 33 40.9	
	comp=Z,29nm,2.8s								
DZM	**Mont Dzumac**	**4.35**	**195**	*e*Pn			**Pn**	**17 32 33.3**	**-0.3**
	comp=Z,100nm,0.3s								
DZM				*e*Sn			**Sn**	**17 33 21.6**	**-3.5**
	comp=Z,170nm,0.2s								
DZM				*e*LR		LR		17 33 29.4	
	comp=Z,48μm,27.0s								
DZM	**Mont Dzumac**	**4.35**	**195**	*e*P			**Pn**	**17 32 31.9**	**-1.7**
DZM				*e*S			**Sn**	**17 33 21.2**	**-3.8**
DZM	**Mont Dzumac**	**4.35**	**195**	*e*P			**Pn**	**17 32 31.9**	**-1.7**
NOUC	**Port Laguerre**	**4.42**	**196**	*e*P			**Pn**	**17 32 33.4**	**-1.1**
NOUC				*e*S			**Sn**	**17 33 22.8**	**-3.9**
NOUC					AMP			17 33 34.8	
	comp=Z,197nm,1.7s								
MSVF	**Nonsavu**	**9.92**	**91**	*e*Pn			**Pn**	**17 33 52.6**	**+2.4**
	comp=Z,970nm,1.5s								
MSVF	**Nonsavu**	**9.92**	**91**	*e*P			**Pn**	**17 33 52.6**	**+2.5**
MSVF					pmax	pmax			
	comp=Z,970nm,1.5s								
MSVF	**Nonsavu**	**9.92**	**91**	Pn			**Pn**	**17 33 56.6**	**+6.5**
	comp=Z,1μm,1.4s,SNR=16								
HNR	**Honiara**	**11.21**	**317**	Pn			**Pn**	**17 34 07.6**	**-0.2**
	comp=Z,15nm,0.3s,baz=234,slow=1.5,SNR=22								
HNR					LR	LR		17 37 25.8	
	comp=Z,4μm,20.4s,baz=254,slow=32								
HNR	**Honiara**	**11.21**	**317**	Pn			**Pn**	**17 34 07.6**	**-0.2**
HNR	**Honiara**	**11.21**	**317**	P			**Pn**	**17 34 07.6**	**-0.2**
HNR					pmax	pmax			
	comp=Z,15nm,0.3s								
EIDS	**Eidsvold**	**17.11**	**241**	⇑*e*Pn			**Pn**	**17 35 27.7**	**+0.9**
	comp=Z,397nm,1.6s								
OUZ	**Omahuta**	**18.11**	**164**	*e*P			**Pn**	**17 35 40.2**	**+1.1**
	comp=Z,447nm,1.7s								
ARMA	**Armidale**	**19.21**	**226**	*e*P			**Pn**	**17 35 53.8**	**+1.2**
ARMA				*e*S			**Sn**	**17 39 36.0**	**+7.5**
ARMA	**Armidale**	**19.21**	**226**	⇑*e*P			**Pn**	**17 35 54.5**	**+1.8**
	comp=Z,800nm,2.0s								
AFI	**Afiamalu**	**20.18**	**82**	P			**P**	**17 36 03.7**	**+1.2**
	comp=Z,40nm,1.1s,baz=274,slow=18,SNR=6.3								
AFI					S		**S**	**17 39 52.4**	**+2.4**
	comp=Z,8.6nm,0.6s,baz=297,slow=22,SNR=1.9								
AFI	**Afiamalu**	**20.18**	**82**	P			**P**	**17 36 03.7**	**+1.2**
AFI					S		**S**	**17 39 52.4**	**+2.5**
AFI	**Afiamalu**	**20.18**	**82**	P			**P**	**17 36 03.7**	**+1.2**
AFI					S		**S**	**17 39 52.4**	**+2.4**
AFI					pmax	pmax			
	comp=Z,40nm,1.1s								
AFI					smax				
	comp=N,9.0nm,0.6s								
CTA	**Charters Tower**	**20.34**	**260**	P			**P**	**17 36 05.8**	**+1.5**
	comp=N,48nm,0.9s,baz=82,slow=13,SNR=30								
CTA					S		**S**	**17 39 51.5**	**-1.6**
	comp=N,4.0nm,0.9s,baz=92,slow=17,SNR=2.2								
CTA					LR	LR		17 42 34.6	
	comp=N,5μm,19.0s,MS4.9,baz=79,slow=33								
CTA	**Charters Tower**	**20.34**	**260**	*e*P			**P**	**17 36 05.8**	**+1.6**
	comp=N,101nm,1.5s								
CTA				*e*S			**S**	**17 39 56.8**	**+3.6**
CTA	**Charters Tower**	**20.34**	**260**	P			**P**	**17 36 05.8**	**+1.5**
CTA				S			**S**	**17 39 51.5**	**-1.6**
CTA	**Charters Tower**	**20.34**	**260**	P			**P**	**17 36 05.8**	**+1.6**
CTA				S			**S**	**17 39 51.6**	**-1.6**
CTA					pmax	pmax			
	comp=Z,48nm,0.9s								
CTA					smax				
	comp=N,4.0nm,0.9s								
CTA					MLR	MLR			
	comp=Z,5μm,19.0s								
CTAO	**Charters Tower**	**20.34**	**260**	*e*P			**P**	**17 36 04.9**	**+0.6**
	comp=Z,477nm,1.5s								
CTAO					LR	LR			
	comp=Z,6μm,19.0s,MS5.0								
CTAO	**Charters Tower**	**20.34**	**260**	*e*P			**P**	**17 36 04.9**	**+0.7**
CTAO					pmax	pmax			
	comp=Z,477nm,1.5s								
CTAO					MLR	MLR			
	comp=Z,6μm,19.0s,MS5.0								
PMG	**Port Moresby**	**21.58**	**290**	P			**P**	**17 36 18.6**	**+1.0**
	comp=Z,29nm,0.9s,mb4.7,baz=122,slow=6.7,SNR=19								
PMG	**Port Moresby**	**21.58**	**290**	*e*P			**P**	**17 36 17.5**	**-0.1**
	comp=Z,105nm,1.1s,mb5.2								
PMG					LR	LR			
	comp=Z,10μm,20.0s,MS5.2								
PMG	**Port Moresby**	**21.58**	**290**	*d*iP			**P**	**17 36 18.2**	**+0.6**
PMG					pmax	pmax			
	comp=Z,177nm,1.7s								
PMG					MLR	MLR			
	comp=Z,14μm,15.0s								
URZ	**Urewera**	**21.97**	**160**	P			**P**	**17 36 23.4**	**+1.8**
	comp=Z,93nm,0.9s,mb5.2,baz=358,slow=5.3,SNR=21								
URZ					LR	LR		17 43 40.3	
	comp=Z,5μm,21.7s,MS4.9,baz=255,slow=33								
URZ	**Urewera**	**21.97**	**160**	*e*P			**P**	**17 36 22.2**	**+0.6**
	comp=Z,1μm,1.7s,mb6.1								
YNG	**Young**	**23.75**	**223**	*e*P			**P**	**17 36 41.7**	**+1.4**
	comp=Z,116nm,1.2s,mb5.3								
YNG				*e*S			**S**	**17 40 58.3**	**+1.9**
CNB	**Canberra Magne**	**23.80**	**219**	*e*P			**P**	**17 36 38.6**	**-2.2**
	comp=Z,1μm,1.4s,mb6.2								
CNB				*e*S			**S**	**17 40 59.2**	**+1.9**
COEN	**Coen**	**23.83**	**276**	*e*P			**P**	**17 36 39.2**	**-2.0**
	comp=Z,2μm,1.6s,mb6.3								
CAN	**Canberra**	**24.03**	**220**	*e*P			**P**	**17 36 43.7**	**+0.8**
	comp=Z,299nm,1.2s,mb5.7								
CAN					LR	LR			
	comp=Z,7μm,19.0s,MS5.2								
CAN	**Canberra**	**24.03**	**220**	*e*P			**P**	**17 36 43.7**	**+0.9**
CAN					pmax	pmax			
	comp=Z,299nm,1.2s,mb5.7								
CAN					MLR	MLR			
	comp=Z,7μm,19.0s,MS5.2								
SNZO	**South Karori**	**24.16**	**167**	PFAKE				17 37 00.0	+16
SNZO					LR	LR			
	comp=Z,8μm,20.0s,MS5.2								
KHZ	**Kahutara**	**25.01**	**170**	*e*P			**P**	**17 36 51.0**	**-0.7**
	comp=Z,242nm,1.5s,mb5.7								
RPZ	**Rata Peaks**	**25.96**	**174**	P			**P**	**17 37 00.4**	**+0.1**
	comp=Z,21nm,0.8s,mb4.8,baz=270,slow=3.0,SNR=10.0								
RPZ					LR	LR		17 45 54.1	
	comp=Z,4μm,18.1s,MS5.0,baz=218,slow=33								
RPZ	**Rata Peaks**	**25.96**	**174**	*e*P			**P**	**17 37 00.6**	**+0.4**
	comp=Z,97nm,1.2s,mb5.3								
STKA	**Stephens Creek**	**27.36**	**234**	P			**P**	**17 37 13.6**	**+0.5**
	comp=Z,66nm,0.9s,mb5.4,baz=63,slow=8.2,SNR=81								
STKA					PcP	PcP		17 40 32.4	-0.1
	comp=Z,4.6nm,0.7s,baz=63,slow=2.3,SNR=3.9								
STKA					LR	LR		17 48 00.7	
	comp=Z,5μm,18.3s,MS5.1,baz=59,slow=36								
STKA	**Stephens Creek**	**27.36**	**234**	*e*P			**P**	**17 37 13.5**	**+0.4**
	comp=Z,80nm,1.1s,mb5.4								
STKA				*e*S			**S**	**17 41 58.9**	**+4.9**
STKA	**Stephens Creek**	**27.36**	**234**	*e*P			**P**	**17 37 13.3**	**+0.2**
	comp=Z,54nm,1.4s,mb5.1								
STKA					PcP	PcP		17 40 32.4	-0.1
STKA	**Stephens Creek**	**27.36**	**234**	*e*P			**P**	**17 37 13.3**	**+0.2**
STKA								17 40 32.4	
STKA					pmax	pmax			
	comp=Z,54nm,1.4s								
TOO	**Toolangi**	**27.64**	**220**	*e*P			**P**	**17 37 16.4**	**+0.9**
	comp=Z,131nm,1.1s,mb5.7								
TOO				*e*S			**S**	**17 41 59.8**	**+1.5**
TAU	**Tasmania Unive**	**30.36**	**210**	PFAKE				17 37 50.0	+10
TAU					LR	LR			
	comp=Z,7μm,19.0s,MS5.3								
RAR	**Rarotonga**	**30.87**	**102**	LR		LR		17 47 22.0	
	comp=Z,1μm,18.2s,MS4.6,baz=269,slow=31								
WB2	**Warramunga Arr**	**31.53**	**261**	*e*P			**P**	**17 37 48.9**	**-1.4**
WRAB	**Tennant Creek**	**31.53**	**261**	*e*P			**P**	**17 37 48.3**	**-2.0**
	comp=Z,79nm,1.4s,mb5.5								
WRAB					LR	LR			
	comp=Z,5μm,21.0s,MS5.2								
WRAB	**Tennant Creek**	**31.53**	**261**	*e*P			**P**	**17 37 48.3**	**-2.0**
WRAB					pmax	pmax			
	comp=Z,79nm,1.4s,mb5.5								
WRAB					MLR	MLR			
	comp=Z,5μm,21.0s,MS5.2								
WRAB	**Tennant Creek**	**31.53**	**261**	P			**P**	**17 37 48.9**	**-1.4**
	comp=Z,203nm,1.1s,mb6.0,SNR=16								
WRAB	**Tennant Creek**	**31.53**	**261**	P			**P**	**17 37 49.0**	**-1.3**
	comp=Z,84nm,1.5s,mb5.5								
WRA	**Warramunga Arr**	**31.54**	**261**	P			**P**	**17 37 48.8**	**-1.6**
	comp=Z,16nm,0.8s,mb5.0,baz=91,slow=9.1,SNR=78								
WRA					PcP	PcP		17 40 43.1	-0.2
	comp=Z,6.0nm,1.1s,baz=91,slow=2.0,SNR=4.5								
WRA					LR	LR		17 48 50.6	
	comp=Z,2μm,21.3s,MS4.8,baz=80,slow=33								
WRA					P3KPbc			18 09 28.8	
	comp=Z,3.0nm,0.9s,baz=284,slow=2.9,SNR=9.6								
WRA	**Warramunga Arr**	**31.54**	**261**	P			**P**	**17 37 48.8**	**-1.6**
WRA					PcP	PcP		17 40 43.1	-0.2
WRA				*e*				18 09 28.8	
WRA	**Warramunga Arr**	**31.54**	**261**	P			**P**	**17 37 48.8**	**-1.6**
WRA								17 40 43.1	
WRA					pmax	pmax			
	comp=Z,16nm,0.8s								
WRA					MLR	MLR			
	comp=Z,2μm,21.3s								
AS31	**Alice Springs**	**32.02**	**254**	*e*P			**P**	**17 37 53.2**	**-1.3**
ASAR	**Alice Springs**	**32.02**	**254**	P			**P**	**17 37 53.2**	**-1.3**
	comp=Z,32nm,0.8s,mb5.3,baz=82,slow=7.9,SNR=256								
ASAR					P3KPbc			18 09 26.2	
	comp=Z,0.4nm,1.0s,baz=258,slow=4.2,SNR=4.6								
ASAR	**Alice Springs**	**32.02**	**254**	P			**P**	**17 37 53.2**	**-1.3**
ASAR				*e*				18 09 26.2	
ASAR	**Alice Springs**	**32.02**	**254**	P			**P**	**17 37 53.3**	**-1.2**
ASAR					pmax	pmax			
	comp=Z,32nm,0.8s								
BBOO	**Buckleboo**	**32.05**	**236**	*e*P			**P**	**17 37 54.4**	**-0.3**
	comp=Z,280nm,0.8s,mb6.2								
BBOO				*e*S			**S**	**17 43 04.1**	**-3.6**
BBOO	**Buckleboo**	**32.05**	**236**	*e*P			**P**	**17 37 55.0**	**+0.3**
	comp=Z,3μm,1.4s								
SMPI	**Sarmi**	**32.47**	**296**	P			**P**	**17 37 59.2**	**+0.6**
	comp=Z,2μmcomp=Z,85nm,2.0s,mb5.3								
SMPI	**Sarmi**	**32.47**	**296**	P			**P**	**17 37 59.9**	**+1.3**
	comp=Z,2μmcomp=Z,85nm,2.0s,mb5.3								
TLE	**Tual**	**36.18**	**285**	P			**P**	**17 38 29.9**	**-0.8**
	comp=Z,3μmcomp=Z,116nm,1.5s,mb5.5								
WAKE	**Wake Island**	**36.91**	**358**	PFAKE				17 38 50.0	+13
WAKE					LR	LR			
	comp=Z,4μm,22.0s,MS5.1								
FAKI	**Fak Fak**	**37.73**	**289**	P			**P**	**17 38 43.3**	**-0.6**
	comp=Z,2μmcomp=Z,118nm,1.5s,mb5.4								
FORT	**Forrest**	**38.10**	**243**	*e*P			**P**	**17 38 46.2**	**-0.7**
	comp=Z,54nm,0.6s,mb5.5								
FORT	**Forrest**	**38.10**	**243**	*e*P			**P**	**17 38 45.7**	**-1.3**
	comp=Z,78nm,0.7s,mb5.5								
GUMO	**Guam**	**38.47**	**323**	LR		LR		17 52 49.5	
	comp=Z,2μm,21.4s,MS4.8,baz=131,slow=33								
BNDI	**Bandanaira**	**39.21**	**285**	P			**P**	**17 39 04.2**	**+7.8**
	comp=Z,5μmcomp=Z,361nm,1.8s,mb5.7								
SWI	**Sorong**	**39.52**	**291**	P			**P**	**17 38 58.1**	**-0.9**
	comp=Z,2μmcomp=Z,84nm,2.0s,mb5.0								
SWI	**Sorong**	**39.52**	**291**	P			**P**	**17 38 58.4**	**-0.6**
	comp=Z,2μmcomp=Z,84nm,2.0s,mb5.0								
FITZ	**Fitzroy Crossi**	**39.88**	**263**	P			**P**	**17 39 01.6**	**-0.4**
	comp=Z,126nm,1.1s,mb5.5,baz=97,slow=8.5,SNR=79								
FITZ					S		**S**	**17 45 05.6**	**-2.4**
	comp=Z,1.5nm,0.9s,baz=320,slow=18,SNR=3.2								
FITZ	**Fitzroy Crossi**	**39.88**	**263**	*e*P			**P**	**17 39 01.0**	**-1.0**
	comp=Z,184nm,1.1s,mb5.6								
FITZ				*e*S			**S**	**17 45 05.0**	**-3.0**
FITZ	**Fitzroy Crossi**	**39.88**	**263**	*e*P			**P**	**17 39 01.3**	**-0.8**
	comp=Z,261nm,1.4s,mb5.7								
FITZ					S		**S**	**17 45 05.6**	**-2.4**
FITZ	**Fitzroy Crossi**	**39.88**	**263**	P			**P**	**17 39 01.4**	**-0.6**
	comp=Z,2μmcomp=Z,158nm,1.4s,mb5.5								
TBI	**Tubuai**	**40.43**	**105**	*e*S			**S**	**17 45 15.6**	**-0.4**
	comp=Z,824nm,25.2s								
TBI				*e*LQ				17 48 33.2	
	comp=Z,10μm,25.2s								
TBI				*e*LR		LR		17 50 15.5	
	comp=Z,3μm,28.8s,baz=273								
AAI	**Ambon**	**41.10**	**285**	P			**P**	**17 39 11.3**	**-0.8**
	comp=Z,1μmcomp=Z,72nm,1.2s,mb5.3								
AAI	**Ambon**	**41.10**	**285**	P			**P**	**17 39 12.1**	**0.0**
	comp=Z,1μmcomp=Z,72nm,1.2s,mb5.3								
TNTI	**Ternate**	**43.73**	**291**	P			**P**	**17 39 33.7**	**+0.2**
	comp=Z,3μmcomp=Z,123nm,2.1s,mb5.3								
TNTI	**Ternate**	**43.73**	**291**	P			**P**	**17 39 35.5**	**+2.0**
	comp=Z,3μmcomp=Z,123nm,2.1s,mb5.3								
MMRI	**Mamere**	**45.03**	**276**	P			**P**	**17 39 41.7**	**-2.3**
	comp=Z,2μmcomp=Z,88nm,2.1s,mb5.3								
MMRI	**Maumere**	**45.03**	**

JAGI	**Jajag, Banyuwa**	**52.75 273**	P		**P**	**17 40 42.6**	**-0.7**
	comp=Z,85nm,1.5s,mb5.5							
JAGI	**Jajag, Banyuwa**	**52.75 273**	P		**P**	**17 40 43.5**	**+0.2**
	comp=Z,101nm,1.4s,mb5.5							
BLJI	**Banyuglugur**	**53.48 274**	P		**P**	**17 40 48.1**	**-0.6**
	comp=Z,64nm,1.7s,mb5.3							
BLJI	**Banyuglugur**	**53.48 274**	P		**P**	**17 40 51.3**	**+2.6**
	comp=Z,79nm,0.9s,mb5.6							
MYLDM	**Lahad Datu**	**53.60 291**	P		**P**	**17 40 51.7**	**+2.1**
MYLDM	**Lahad Datu**	**53.60 291**	P		**P**	**17 40 51.4**	**+1.8**
	comp=Z,2µmcomp=Z,68nm,1.2s,mb5.5							
MYLDM	**Lahad Datu**	**53.60 291**	P		**P**	**17 40 51.5**	**+1.9**
	comp=Z,2µmcomp=Z,117nm,1.4s,mb5.7							
BBKI	**Banjar Baru**	**53.62 279**	P		**P**	**17 40 50.5**	**+0.8**
	comp=Z,2µmcomp=Z,148nm,1.5s,mb5.8							
BBKI	**Banjar Baru**	**53.62 279**	P		**P**	**17 40 50.5**	**+0.8**
	comp=Z,2µmcomp=Z,148nm,1.5s,mb5.8							
RKT	**Rikitea**	**53.74 106**	*e*S		**S**	**17 48 27.4**	**+1.3**
RKT	comp=Z,940nm,29.0s		*e*LR		LR	17 56 24.9		
	comp=Z,2µm,29.8s,baz=269							
TSM	**Tawau**	**53.78 289**	P		**P**	**17 40 52.4**	**+1.5**
SDKM	**Sandakan**	**54.97 290**	P		**P**	**17 41 00.6**	**+1.0**
SJI	**Sawahan**	**55.22 273**	P		**P**	**17 41 01.9**	**+0.5**
	comp=Z,85nm,1.7s,mb5.5							
SJI	**Sawahan**	**55.22 273**	P		**P**	**17 41 02.1**	**+0.7**
	comp=Z,118nm,1.8s,mb5.6							
PCJI	**Pacitan**	**55.66 272**	P		**P**	**17 41 07.8**	**+3.2**
	comp=Z,161nm,1.7s,mb5.8							
KDM	**Kudat**	**55.86 292**	P		**P**	**17 41 07.6**	**+1.6**
TGY	**Tagaytay City**	**55.94 302**	P		**P**	**17 41 05.8**	**-0.6**
	comp=Z,83nm,0.2s,mb6.3,baz=94,slow=5.7,SNR=7.3							
TGY	**Tagaytay City**	**55.94 302**	P		**P**	**17 41 05.8**	**-0.6**
TGY	**Tagaytay City**	**55.94 302**	P		**P**	**17 41 05.8**	**-0.7**
KKM	**Kota Kinabalu**	**56.02 290**	P		**P**	**17 41 06.7**	**-0.5**
KKM	**Kota Kinabalu**	**56.02 290**	*e*P		**P**	**17 41 05.1**	**-2.1**
	comp=Z,156nm,1.4s,mb5.8							
KKM				LR	LR			
	comp=Z,882nm,21.0s,MS4.8							
KKM	**Kota Kinabalu**	**56.02 290**	P		**P**	**17 41 06.4**	**-0.7**
	comp=Z,2µmcomp=Z,95nm,1.6s,mb5.6							
KKM	**Kota Kinabalu**	**56.02 290**	P		**P**	**17 41 08.2**	**+1.1**
	comp=Z,2µmcomp=Z,95nm,1.6s,mb5.6							
SMRI	**Semarang**	**56.68 273**	P		**P**	**17 41 12.7**	**+0.8**
	comp=Z,108nm,1.8s,mb5.6							
SMRI	**Semarang**	**56.68 273**	P		**P**	**17 41 14.7**	**+2.8**
	comp=Z,100nm,1.5s,mb5.6							
PBKI	**Pangkalan Bun**	**56.85 279**	P		**P**	**17 41 13.9**	**+0.8**
	comp=Z,83nm,1.1s,mb5.7							
PBKI	**Pangkalan Bun**	**56.85 279**	P		**P**	**17 41 16.7**	**+3.6**
	comp=Z,82nm,1.1s,mb5.7							
BTM	**Bintulu**	**57.68 286**	P		**P**	**17 41 20.4**	**+1.5**
STKI	**Sintang**	**57.99 282**	P		**P**	**17 41 22.0**	**+0.9**
	comp=Z,94nm,1.4s,mb5.6							
SBUM	**Sibu**	**58.18 285**	P		**P**	**17 41 23.4**	**+1.0**
SBUM	**Sibu**	**58.18 285**	P		**P**	**17 41 22.6**	**+0.1**
	comp=Z,1µmcomp=Z,42nm,2.2s,mb5.1							
SBUM	**Sibu**	**58.18 285**	P		**P**	**17 41 23.5**	**+1.0**
	comp=Z,1µmcomp=Z,42nm,2.2s,mb5.1							
CISI	**Cisompet, Garu**	**59.03 272**	P		**P**	**17 41 28.1**	**-0.3**
	comp=Z,3µmcomp=Z,157nm,1.9s,mb5.7							
CISI	**Cisompet, Garu**	**59.03 272**	P		**P**	**17 41 28.1**	**-0.3**
	comp=Z,3µmcomp=Z,157nm,1.9s,mb5.7							
LEM	**Lembang**	**59.43 273**	P		**P**	**17 41 31.3**	**+0.1**
	comp=Z,3µmcomp=Z,169nm,1.6s,mb5.8							
LEM	**Lembang**	**59.43 273**	P		**P**	**17 41 31.7**	**+0.5**
	comp=Z,3µmcomp=Z,169nm,1.6s,mb5.8							
KSM	**Kuching**	**59.59 283**	P		**P**	**17 41 32.8**	**+0.5**
KSM	**Kuching**	**59.59 283**	*e*P		**P**	**17 41 31.9**	**-0.3**
	comp=Z,196nm,1.5s,mb5.9							
KSM				LR	LR			
	comp=Z,638nm,20.0s,MS4.8							
KSM	**Kuching**	**59.59 283**	P		**P**	**17 41 32.1**	**-0.1**
	comp=Z,1µmcomp=Z,95nm,1.5s,mb5.6							
KSM	**Kuching**	**59.59 283**	P		**P**	**17 41 32.2**	**0.0**
	comp=Z,1µmcomp=Z,95nm,1.5s,mb5.6							
VNDA	**Vanda**	**59.78 181**	*e*P		**P**	**17 41 32.4**	**-0.1**
	comp=Z,124nm,1.9s,mb5.6							
VNDA				LR	LR			
	comp=Z,939nm,20.0s,MS4.9							
VNDA	**Vanda**	**59.78 181**	*e*P		**P**	**17 41 32.4**	**-0.1**
VNDA				pmax	pmax			
	comp=Z,124nm,1.9s							
VNDA				MLR	MLR			
	comp=Z,939nm,20.0s							
SBA	**Scott Base**	**60.04 180**	*e*P		**P**	**17 41 35.3**	**+0.9**
	comp=Z,119nm,1.5s,mb5.7							
SBA				LR	LR			
	comp=Z,951nm,20.0s,MS4.9							
SBA	**Scott Base**	**60.04 180**	*e*P		**P**	**17 41 35.3**	**+0.9**
SBA				pmax	pmax			
	comp=Z,119nm,1.5s,mb5.7							
SBA				MLR	MLR			
	comp=Z,951nm,20.0s,MS4.9							
CBJI	**Citeko**	**60.27 273**	P		**P**	**17 41 36.1**	**-0.9**
	comp=Z,5µmcomp=Z,317nm,1.5s,mb6.1							
DBJI	**Dramaga**	**60.33 273**	P		**P**	**17 41 37.8**	**+0.4**
	comp=Z,3µmcomp=Z,216nm,1.6s,mb5.9							
DBJI	**Dramaga**	**60.33 273**	P		**P**	**17 41 37.3**	**-0.1**
	comp=Z,3µmcomp=Z,243nm,1.0s,mb6.2							
CASY	**Casey**	**60.80 203**	*e*P		**P**	**17 41 39.6**	**-0.1**
CASY			*e*S		S	17 49 28.4	-29	
CASY	**Casey**	**60.80 203**	*e*P		**P**	**17 41 39.6**	**-0.1**
	comp=Z,68nm,1.3s,mb5.6							
CASY				LR	LR			
	comp=Z,2µm,21.0s,MS5.2							
MJAR	**Matsushiro Arr**	**60.82 333**	P		**P**	**17 41 39.5**	**-0.6**
	comp=Z,17nm,1.1s,mb5.1,baz=170,slow=6.8,SNR=17							
MJAR				LR	LR	18 06 37.1		
	comp=Z,662nm,18.4s,MS4.8,baz=200,slow=35							
MJAR	**Matsushiro Arr**	**60.82 333**	P		**P**	**17 41 39.5**	**-0.6**
MJAR	**Matsushiro Arr**	**60.82 333**	P		**P**	**17 41 39.5**	**-0.7**
MJAR	comp=Z,17nm,1.1s			pmax	pmax			
MJAR				MLR	MLR			
	comp=Z,662nm,18.4s							
MAJO	**Matsushiro**	**60.82 333**	*e*P		**P**	**17 41 39.7**	**-0.5**
	comp=Z,25nm,1.0s,mb5.3							
MAJO				LR	LR			
	comp=Z,1µm,19.0s,MS5.0							
MAJO	**Matsushiro**	**60.82 333**	*e*P		**P**	**17 41 39.7**	**-0.5**
MAJO				pmax	pmax			
	comp=Z,25nm,1.0s,mb5.3							
MAJO				MLR	MLR			
	comp=Z,1µm,19.0s,MS5.0							
MAT	**Matsushiro**	**60.82 333**	P		**P**	**17 41 39.1**	**-1.1**
MAT			S		**S**	**17 49 55.0**	**-3.6**
SBJI	**Serang**	**61.05 273**	P		**P**	**17 41 43.8**	**+1.5**
	comp=Z,8µmcomp=Z,277nm,1.6s,mb6.1							
CGJI	**Cibinong**	**61.32 272**	P		**P**	**17 41 43.1**	**-1.0**
	comp=Z,170nm,1.5s,mb6.0							
YHNB	**Yeheng**	**61.79 312**	*e*P		**P**	**17 41 44.7**	**-2.3**
	comp=Z,89nm,1.1s,mb5.9							
YHNB				LR	LR			
	comp=Z,1µm,19.0s,MS5.0							
TATO	**Taipei**	**61.90 312**	PFAKE			17 42 00.0	+12	
TATO				LR	LR			
	comp=Z,1µm,19.0s,MS5.1							
PPBI	**Pangkal Pinang**	**62.25 277**	P		**P**	**17 41 51.0**	**+0.6**
	comp=Z,1µmcomp=Z,34nm,1.4s,mb5.4							
KLSI		**62.80 274**	P		**P**	**17 41 53.0**	**-1.1**
	comp=Z,48nm,1.8s,mb5.3							
KLSI		**62.80 274**	P		**P**	**17 41 54.0**	**-0.1**
	comp=Z,69nm,1.6s,mb5.5							
LWLI	**Liwa**	**63.34 273**	P		**P**	**17 41 56.7**	**-1.0**
	comp=Z,2µmcomp=Z,119nm,1.5s,mb5.8							
LWLI	**Liwa**	**63.34 273**	P		**P**	**17 41 56.9**	**-0.8**
	comp=Z,2µmcomp=Z,119nm,1.5s,mb5.8							
MDSI	**Maura Dua**	**63.38 274**	P		**P**	**17 41 56.4**	**-1.6**
	comp=Z,1µmcomp=Z,41nm,1.9s,mb5.2							
MDSI	**Maura Dua**	**63.38 274**	P		**P**	**17 41 56.3**	**-1.7**
	comp=Z,1µmcomp=Z,48nm,1.6s,mb5.4							
ERM	**Erimo**	**63.71 340**	PFAKE			17 42 10.0	+11	
ERM				LR	LR			
	comp=Z,1µm,20.0s,MS5.1							
ERM	**Erimo**	**63.71 340**	*i* P		**P**	**17 42 00.1**	**+0.7**
YUK	**Yuzh-Kuril'sk**	**64.72 343**	*c i* P		**P**	**17 42 05.7**	**-0.3**
YUK			*e*SSS			17 57 40.3		
KSI	**Kapahiang**	**65.14 274**	P		**P**	**17 42 08.5**	**-1.0**
	comp=Z,66nm,2.1s,mb5.5							
KSI	**Kapahiang**	**65.14 274**	P		**P**	**17 42 10.5**	**+1.0**
MYKOM	**Kota Tinggi**	**65.73 280**	P		**P**	**17 42 14.5**	**+1.2**
SSE	**Sheshan**	**66.02 317**	*e*P		**P**	**17 42 15.5**	**+0.8**
SSE			pP			17 42 28.5		
SSE			PcP		PcP	17 42 47.0	+1.6	
SSE			PP		PP	17 44 38.3	-1.9	
SSE			S		S	17 50 56.3	-7.5	
SSE				pmax	pmax			
	comp=Z,16nm,0.8s,mb5.3							
SSE				pmax	pmax			
	comp=Z,530nm,8.3s							
SSE				LR	LR			
	comp=N,160nm,17.7s,MS5.1							
SSE				LR	LR			
	comp=E,1µm,17.7s,MS5.1							
SSE				LR	LR			
	comp=Z,1µm,20.7s,MS5.1							
KGM	**Kluang**	**66.30 280**	P		**P**	**17 42 17.6**	**+0.6**
KSRS	**Korea Array**	**66.50 326**	P		**P**	**17 42 17.5**	**-0.2**
	comp=Z,5.7nm,1.1s,mb4.7,baz=131,slow=6.8,SNR=6.5							
KSRS				LR	LR	18 07 46.2		
	comp=Z,630nm,18.8s,MS4.8,baz=133,slow=33							
KSRS	**Korea Array**	**66.50 326**	P		**P**	**17 42 17.5**	**-0.2**
KSRS				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.7							
KSRS				MLR	MLR			
	comp=Z,630nm,18.8s,MS4.8							
KSAR	**Wonju Array Be**	**66.51 326**	P		**P**	**17 42 17.5**	**-0.3**
KSAR	**Wonju Array Be**	**66.51 326**	P		**P**	**17 42 17.5**	**-0.3**
GZH	**Guangzhou**	**66.84 306**	P		**P**	**17 42 21.3**	**+1.1**
GZH				pmax	pmax			
	comp=Z,1µm,5.5s							
SDSI	**Sungai Dareh**	**67.10 277**	P		**P**	**17 42 20.7**	**-1.4**
	comp=Z,17nm,1.7s,mb5.0							
QIZ	**Qiongzhong**	**67.57 300**	P		**P**	**17 42 24.0**	**-0.9**
QIZ			*s*P		*s*P	17 42 41.0	+16	
QIZ			S		S	17 51 17.5	-5.5	
QIZ			SS		SS	17 55 37.3	-6.6	
QIZ				pmax	pmax			
	comp=Z,890nm,12.6s							
QIZ				LR	LR			
	comp=Z,810nm,16.5s,MS5.0							
QIZ	**Qiongzhong**	**67.57 300**	PFAKE			17 42 40.0	+15	
QIZ				LR	LR			
	comp=Z,947nm,20.0s,MS5.0							
BKNI	**Bangkinang**	**67.88 278**	P		**P**	**17 42 27.2**	**+0.2**
	comp=Z,2µmcomp=Z,127nm,1.4s,mb6.0							
NJ2	**Nanjing**	**68.15 317**	*e*P		**P**	**17 42 28.5**	**+0.2**
NJ2			pP			17 42 41.5		
NJ2			PP		PP	17 45 00.8	+2.0	
NJ2			S		S	17 51 27.0	-2.5	
NJ2				pmax	pmax			
	comp=Z,20nm,0.5s,mb5.6							
NJ2				pmax	pmax			
	comp=Z,420nm,10.6s							
NJ2				LR	LR			
	comp=N,550nm,15.2s,MS5.1							
NJ2				LR	LR			
	comp=E,780nm,19.6s,MS5.1							
NJ2				LR	LR			
	comp=Z,650nm,13.5s							
COCO	**West Island**	**68.28 264**	PFAKE			17 42 40.0	+11	
COCO				LR	LR			
	comp=Z,2µm,20.0s,MS5.3							
YSS	**Yuzh-Sakhalins**	**68.28 342**	*e*P		**P**	**17 42 25.8**	**-3.0**
	comp=Z,66nm,1.1s,mb5.8							
YSS				LR	LR			
	comp=Z,600nm,21.0s,MS4.8							
YSS	**Yuzh-Sakhalins**	**68.28 342**	*c e*P		**P**	**17 42 29.0**	**+0.3**
YSS			*e*			17 42 37.0		
YSS			*e**PP			17 42 45.0		
YSS			*e*			17 44 56.0		
YSS			*i* S		S	17 51 33.0	+2.6	
YSS			*e*PS			17 51 48.0		
YSS				pmax	pmax			
	comp=Z,2µm,6.0s							
YSS				smax				
	comp=N,2µm,8.0s							
YSS				smax				
	comp=E,2µm,8.0s							
YSS				MLR	MLR			
	comp=Z,2µm,18.0s,MS5.3							
YSS				MLR	MLR			
	comp=N,2µm,16.0s,MS5.3							
YSS				MLR	MLR			
	comp=E,600nm,16.0s,MS5.3							
VLA	**Vladivostok**	**68.98 333**	⇓ *i* P		**P**	**17 42 33.5**	**+0.3**
VLA			*e*			17 45 03.7		
VLA			*e*S		S	17 51 32.4	-6.5	
VLA				pmax	pmax			
	comp=Z,19nm,1.3s,mb5.2							
IPM	**Ipoh**	**69.31 282**	P		**P**	**17 42 36.3**	**+0.4**
IPM	**Ipoh**	**69.31 282**	*e*P		**P**	**17 42 35.2**	**-0.7**
	comp=Z,33nm,1.0s,mb5.5							
IPM	**Ipoh**	**69.31 282**	P		**P**	**17 42 36.1**	**+0.2**
	comp=Z,50nm,1.7s,mb5.5							
UBT	**Ubonrachathani**	**69.92 294**	⇑ P		**P**	**17 42 41.4**	**+1.8**
WHN	**Wuhan**	**70.29 313**	P		**P**	**17 42 40.5**	**-1.1**
WHN			S		S	17 51 54.3	-0.6	
WHN				pmax	pmax			
	comp=Z,67nm,1.1s,mb5.7							
WHN				LR	LR			
	comp=N,2µm,19.0s,MS5.5							
WHN				LR	LR			
	comp=E,2µm,21.4s,MS5.5							
WHN				LR	LR			
	comp=Z,2µm,13.6s							
FX1	**Attu Island--F**	**70.59 4**	LR		LR	18 09 04.5		
	comp=Z,3µm,19.4s,MS5.5,baz=196,slow=32							
PSI	**Prapat**	**70.69 280**	P		**P**	**17 42 43.6**	**-0.9**
	comp=Z,937nmcomp=Z,56nm,1.3s,mb5.5							
DL2	**Dalian**	**70.99 324**	P		**P**	**17 42 45.0**	**-0.7**
DL2			S		S	17 51 55.5	-7.2	
DL2				pmax	pmax			
	comp=Z,30nm,1.4s,mb5.2							
DL2				pmax	pmax			
	comp=Z,420nm,8.4s							
DL2				LR	LR			
	comp=N,410nm,15.0s,MS4.9							
DL2				LR	LR			
	comp=E,390nm,19.8s,MS4.9							
DL2				LR	LR			
	comp=Z,600nm,14.7s							
PET	**Petropavlovsk**	**71.00 354**	*e*P		**P**	**17 42 45.6**	**+0.2**
	comp=Z,71nm,1.1s,mb5.7							
PET				LR	LR			
	comp=Z,2µm,19.0s,MS5.3							
PET	**Petropavlovsk**	**71.00 354**	*e*P		**P**	**17 42 45.8**	**+0.4**
PET			*e*S		S	17 51 59.1	-3.0	
PET				pmax	pmax			
	comp=Z,92nm,1.5s,mb5.7							
PET				pmax	pmax			
	comp=Z,800nm,12.4s							
PET				MLR	MLR			
	comp=Z,2µm,17.0s,MS5.4							
PEA0B	**Petropavlovsk-**	**71.17 354**	*e*P		**P**	**17 42 47.1**	**+0.7**
PETK	**Petropavlovsk-**	**71.17 354**	P		**P**	**17 42 47.2**	**+0.7**
	comp=Z,100nm,1.1s,mb5.9,baz=149,slow=6.8,SNR=23							
PETK				LR	LR	18 11 29.4		
	comp=Z,954nm,18.4s,MS5.1,baz=152,slow=34							
PETK	**Petropavlovsk-**	**71.17 354**	P		**P**	**17 42 47.2**	**+0.7**
PETK	**Petropavlovsk-**	**71.17 354**	P		**P**	**17 42 47.2**	**+0.7**
PETK				pmax	pmax			
	comp=Z,100nm,1.1s,mb5.9							
PETK				MLR	MLR			
	comp=Z,954nm,18.4s,MS5.1							
MDJ	**Mudanjiang**	**71.18 332**	P		**P**	**17 42 47.5**	**+0.8**
MDJ			PP		PP	17 45 25.5	+0.7	
MDJ			S		S	17 52 02.5	-2.2	
MDJ				pmax	pmax			
	comp=Z,26nm,1.1s,mb5.3							
MDJ				pmax	pmax			
	comp=Z,1µm,6.8s							
MDJ				LR	LR			
	comp=N,810nm,16.1s,MS5.2							
MDJ				LR	LR			
	comp=E,600nm,17.3s,MS5.2							
MDJ				LR	LR			
	comp=Z,1µm,20.9s,MS5.1							
MDJ	**Mudanjiang**	**71.18 332**	*e*P		**P**	**17 42 46.2**	**-0.5**
	comp=Z,28nm,1.0s,mb5.3							
MDJ				LR	LR			
	comp=Z,1µm,19.0s,MS5.2							
HABR	**Khabarovsk**	**72.13 338**	*c i* P		**P**	**17 42 50.7**	**-1.7**
HABR			*e**PP			17 43 04.9		
HABR			*e**SP		*s*P	17 43 10.9	+18	
HABR			*e*			17 45 30.6		
HABR			*e*PPP			17 47 15.0		
HABR			S		S	17 52 09.7	-5.8	
HABR			*e*			17 52 52.2		
HABR			*e*SS		SS	17 56 47.9	-5.4	
HABR				pmax	pmax			
	comp=Z,181nm,2.0s,mb5.9							
HABR				pmax	pmax			
	comp=E,107nm,2.5s							
HABR				pmax	pmax			
	comp=N,53nm,2.0s							
HABR				MLR	MLR			
	comp=Z,367nm,18.0s,MS4.7							
QSPA	**South Pole Qui**	**72.20 180**	*e*P		**P**	**17 42 52.7**	**+0.3**
	comp=Z,69nm,1.0s,mb5.7							
QSPA				LR	LR			
	comp=Z,1µm,20.0s,MS5.2							
CN2	**Changchun**	**72.48 329**	*e*P		**P**	**17 42 55.0**	**+0.4**
CN2			*e*S		S	17 52 15.5	-4.2	
CN2				pmax	pmax			
	comp=Z,20nm,1.0s,mb5.2							
CN2				pmax	pmax			
	comp=Z,900nm,8.0s							
CN2				LR	LR			
	comp=N,700nm,17.0s,MS5.2							
CN2				LR	LR			
	comp=E,800nm,17.0s,MS5.2							
CN2				LR	LR			
	comp=Z,900nm,19.0s,MS5.1							
ENH	**Enshi**	**73.61 310**	*e*P		**P**	**17 43 01.5**	**-0.1**
	comp=Z,60nm,1.2s,mb5.5							
ENH				LR	LR			
	comp=Z,962nm,22.0s,MS5.0							
GYA	**Guiyang**	**73.78 305**	⇑ *i* P		**P**	**17 43 02.8**	**+0.2**
GYA				PP	PP	17 45 51.0	+3.6	
GYA				S	S	17 52 29.8	-5.3	
GYA				SKS		17 53 02.3		
GYA				SS	SS	17 57 16.0	-3.2	
GYA				pmax	pmax			
	comp=Z,40nm,1.0s,mb5.4							
GYA				pmax	pmax			
	comp=Z,180nm,6.2s							
GYA				LR	LR			
	comp=N,5µm,19.8s,MS5.8							
GYA				LR	LR			
	comp=E,3µm,20.5s,MS5.8							
GYA				LR	LR			
	comp=Z,5µm,18.9s,MS5.8							
KLR	**Kul'dur**	**73.98 336**	*e*P		**P**	**17 43 00.0**	**-3.3**
KLR			*e*S		S	17 52 35.5	-1.0	
KLR				pmax	pmax			
	comp=Z,130nm,1.8s,mb5.7							
KLR				pmax	pmax			
	comp=Z,2µm,11.5s							
NST	**Nakhon Sawan**	**74.38 292**	P		**P**	**17 43 07.5**	**+1.2**
BJT	**Baijiatuao**	**74.89 322**	PFAKE			17 43 20.0	+11	
BJT				LR	LR			
	comp=Z,1µm,19.0s,MS5.2							
BJI	**Beijing**	**74.90 322**	P		**P**	**17 43 09.0**	**+0.1**
BJI			S		S	17 52 46.0	-1.2	
BJI				pmax	pmax			
	comp=Z,30nm,1.2s,mb5.2							
BJI				pmax	pmax			
	comp=Z,1µm,8.2s							
BJI				LR	LR			
	comp=N,560nm,22.2s,MS5.2							
BJI				LR	LR			
	comp=E,1µm,17.4s,MS5.2							
BJI				LR	LR			
	comp=Z,720nm,19.1s,MS5.0							
BSI	**Banda Aceh**	**75.01 281**	P		**P**	**17 43 09.7**	**-0.4**
	comp=Z,1µmcomp=Z,70nm,1.4s,mb5.5							
TIY	**Taiyuan**	**75.78 318**	*e*P		**P**	**17 43 14.3**	**+0.3**
TIY			pP			17 43 26.5		
TIY				pmax	pmax			
	comp=Z,940nm,6.7s							
TIY				LR	LR			
	comp=N,2µm,23.3s							
TIY				LR	LR			
	comp=E,700nm,12.6s							
TIY				LR	LR			
	comp=Z,590nm,12.6s							
BDT	**Bhumibol Dam**	**76.00 293**	P		**P**	**17 43 17.0**	**+1.3**
	comp=Z,13nm,1.0s,mb5.0							
XAN	**Xi'an**	**76.05 313**	P		**P**	**17 43 15.5**	**-0.1**
XAN			pP			17 43 29.0		
XAN			PP		PP	17 46 10.8	+4.3	
XAN			S		S	17 52 59.3	-0.9	
XAN				pmax	pmax			
	comp=Z,8.0nm,1.1s,mb4.8							
XAN				pmax	pmax			
	comp=Z,240nm,8.4s							
XAN				LR	LR			
	comp=N,590nm,17.8s,MS5.0							
XAN				LR	LR			
	comp=E,170nm,15.9s,MS5.0							
XAN				LR	LR			
	comp=Z,200nm,18.7s,MS4.5							
KMI	**Kunming**	**76.25 302**	⇓ P		**P**	**17 43 18.3**	**+1.4**
KMI			SKS			17 53 20.0		
KMI				pmax	pmax			
	comp=Z,62nm,1.2s,mb5.6							
KMI				pmax	pmax			
	comp=Z,790nm,4.6s							
KMI				LR	LR			
	comp=N,620nm,17.1s,MS5.1							
KMI				LR	LR			
	comp=E,520nm,18.6s,MS5.1							
KMI				LR	LR			
	comp=Z,610nm,25.6s							
CHRT	**Chiangrai**	**76.40 296**	⇓ P		**P**	**17 43 18.0**	**+0.1**
	comp=Z,342nm,1.0s,mb6.4							
CM31	**Chiang Mai Arr**	**76.54 295**	*e*P		**P**	**17 43 19.6**	**+0.9**
	comp=Z,59nm,1.1s,mb5.6							
CMAR	**Chiang Mai Arr**	**76.54 295**	P		**P**	**17 43 19.8**	**+1.1**
	comp=Z,26nm,1.0s,mb5.3,baz=126,slow=4.2,SNR=105							
CMAR				LR	LR	18 14 56.4		
	comp=Z,379nm,19.7s,MS4.7,baz=251,slow=34							
CMAR	**Chiang Mai Arr**	**76.54 295**	P		**P**	**17 43 19.8**	**+1.1**
CMAR	**Chiang Mai Arr**	**76.54 295**	P		**P**	**17 43 19.8**	**+1.1**
CMAR				pmax	pmax			
	comp=Z,27nm,1.0s							
CMAR				MLR	MLR			
	comp=Z,379nm,19.7s							
CHG	**Chiang Mai**	**76.69 295**	⇓ P		**P**	**17 43 20.6**	**+1.0**
	comp=Z,12nm,1.2s,mb4.9							
CHTO	**Chiang Mai**	**76.69 295**	*e*P		**P**	**17 43 20.3**	**+0.8**
	comp=Z,75nm,1.4s,mb5.6							
CHTO				LR	LR			
	comp=Z,450nm,20.0s,MS4.8							
CHTO	**Chiang Mai**	**76.69 295**	*e*P		**P**	**17 43 20.3**	**+0.7**
CHTO				pmax	pmax			
	comp=Z,75nm,1.4s,mb5.6							
CHTO				MLR	MLR			
	comp=Z,450nm,20.0s,MS4.8							
CHTO	**Chiang Mai**	**76.69 295**	P		**P**	**17 43 20.6**	**+1.0**
HHC	**Hu-ho-hao-te**	**78.18 320**	*e*P		**P**	**17 43 28.8**	**+1.4**
HHC			SKS			17 53 34.0		
HHC				pmax	pmax			
	comp=Z,24nm,0.9s,mb5.3							
HHC				pmax	pmax			
	comp=Z,850nm,7.6s							
HHC				LR	LR			
	comp=N,780nm,17.8s,MS5.2							
HHC				LR	LR			
	comp=E,700nm,17.8s,MS5.2							
HHC				LR	LR			
	comp=Z,850nm,21.4s,MS5.0							

MAW eS S 17 53 30.8 -2.0
MAW Mawson 79.15 202 eP **P 17 43 32.8 +0.4**
comp=Z,18nm,1.5s,mb4.9
MAW Mawson 79.15 202 eP **P 17 43 32.8 +0.4**
MAW pmax pmax
comp=Z,18nm,1.5s
LZH Lanzhou 80.67 313 eP **P 17 43 42.5 +1.4**
LZH PP PP 17 46 47.3 +2.2
LZH eS S 17 53 44.3 -5.5
LZH sS sS 17 54 03.5 +13
LZH pmax pmax
comp=Z,47nm,1.0s,mb5.5
LZH pmax pmax
comp=Z,330nm,5.0s
LZH LR LR
comp=N,880nm,15.8s
LZH LR LR
comp=E,330nm,8.8s
LZH LR LR
comp=Z,960nm,17.2s,MS5.2
SEY Seymchan 81.39 353 ⇓eP **P 17 43 44.0 -0.4**
CLNS Chul'man 82.53 338 eP **P 17 43 51.1 +0.7**
CLNS pmax pmax
comp=Z,50nm,1.1s,mb5.7
CLNS pmax pmax
comp=E,11nm,1.2s
CLNS pmax pmax
comp=N,23nm,1.2s
IMP Imphal 83.34 299 ex **P 17 43 56.0 +0.6**
RSO Redoubt South 84.31 19 eP **P 17 43 57.5 -2.0**
comp=N,113nm,1.0s,mb6.0
ULN Ulaanbaatar 84.84 324 eP **P 17 44 02.7 +0.1**
comp=N,74nm,1.4s,mb5.7
ULN LR LR
comp=Z,442nm,20.0s,MS4.8
ULN Ulaanbaatar 84.84 324 eP **P 17 44 02.7 +0.1**
ULN pmax pmax
comp=Z,74nm,1.4s,mb5.7
ULN MLR MLR
comp=Z,442nm,20.0s,MS4.8
GTA Gaotai 85.06 314 ⇓P **P 17 44 04.0 +0.1**
GTA S S 17 54 29.5 -4.9
GTA pmax pmax
comp=Z,23nm,1.4s,mb5.2
GTA pmax pmax
comp=Z,760nm,5.2s
GTA LR LR
comp=N,850nm,18.0s,MS5.3
GTA LR LR
comp=E,890nm,20.4s,MS5.3
GTA LR LR
comp=Z,1μm,19.0s,MS5.2
YAK Yakutsk 85.09 343 eP **P 17 44 03.2 -0.3**
comp=Z,238nm,1.4s,mb6.2
YAK LR LR
comp=Z,930nm,19.0s,MS5.2
YAK Yakutsk 85.09 343 *d iP **P 17 44 03.2 -0.3**
YAK *e*PP 17 44 10.5
YAK *e* 17 47 17.6
YAK eS S 17 54 23.8 -10
YAK pmax pmax
comp=Z,61nm,1.0s,mb5.8
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.1s
YAK pmax pmax
comp=Z,210nm,3.2s
YAK pmax pmax
comp=E,161nm,2.6s
YAK pmax pmax
comp=N,323nm,3.7s
YAK smax
comp=E,243nm,9.4s
YAK smax
comp=N,1μm,13.0s
YAK MLR MLR
comp=N,719nm,16.0s,MS5.2
YAK MLR MLR
comp=Z,864nm,18.0s,MS5.2
YAK MLR MLR
comp=E,244nm,13.0s,MS5.2
SLKM Skilak Lake 85.13 19 eP **P 17 44 03.4 -0.3**
SLKM Skilak Lake 85.13 19 eP **P 17 44 03.4 -0.3**
TNA Tin City 85.19 10 eP **P 17 44 03.0 -0.9**
comp=E,83nm,1.6s,mb5.7
SONM Songino Array 85.20 324 P **P 17 44 04.9 +0.5**
comp=E,27nm,1.3s,mb5.3,baz=141,slow=4.4,SNR=23
SONM LR LR 18 18 15.8
comp=E,715nm,20.2s,MS5.0,baz=322,slow=33
SONM Songino Array 85.20 324 P **P 17 44 04.9 +0.5**
SONM Songino Array 85.20 324 P **P 17 44 04.9 +0.6**
SONM pmax pmax
comp=Z,27nm,1.3s
SONM MLR MLR
comp=Z,715nm,20.2s
SHL Shillong 85.35 299 *i* P **P 17 44 06.0 +0.3**
SHL *i* x x 17 54 32.0
BILL Bilibino 85.64 359 eP **P 17 44 05.8 -0.3**
comp=Z,226nm,1.3s,mb6.1
BILL LR LR
comp=Z,1μm,20.0s,MS5.3
BILL Bilibino 85.64 359 ⇓eP **P 17 44 06.0 -0.1**
BILL *e* 17 47 30.3
BILL *i* S S 17 54 33.0 -5.9
BILL pmax pmax
comp=Z,266nm,1.7s,mb6.1
SYO Syowa Base 85.84 197 ⇑eP **P 17 44 05.6 -1.7**
SYO Syowa Base 85.84 197 ⇓*i* PcP PcP 17 44 09.4 -0.7
PKM Peak Mountain 86.48 52 ⇓P **P 17 44 10.7 -0.3**
baz=87
FMP Fort Macarthur 87.15 53 ⇑P **P 17 44 14.4 +0.1**
baz=87
CAL Calcutta 87.28 295 *i* P **P 17 44 16.2 +1.0**
CAL *ex* x 17 54 42.3
CAL *ex* x 17 55 05.0
ARVC Arvin 87.31 52 ⇑P **P 17 44 15.1 0.0**
baz=88
CMB Columbia Colle 87.37 49 eP **P 17 44 14.6 -0.7**
comp=Z,22nm,1.1s,mb5.3
CMB Columbia Colle 87.37 49 eP **P 17 44 14.6 -0.7**
CMB pmax pmax
comp=Z,22nm,1.1s,mb5.3
VES Vestal, Richgr 87.41 51 ⇓P **P 17 44 15.4 -0.2**
baz=88
LSA Lhasa 87.50 302 P **P 17 44 16.3 +0.2**
LSA pmax pmax
comp=Z,20nm,1.2s,mb5.3
LSA Lhasa 87.50 302 eP **P 17 44 16.7 +0.6**
comp=Z,34nm,1.4s,mb5.5
LSA LR LR
comp=Z,380nm,19.0s,MS4.8
LSA Lhasa 87.50 302 eP **P 17 44 16.7 +0.6**
LSA pmax pmax
comp=Z,34nm,1.4s,mb5.5
LSA MLR MLR
comp=Z,380nm,19.0s,MS4.8
ISA Isabella 87.80 52 ⇑P **P 17 44 17.3 -0.1**
baz=88,SNR=12
ISA Isabella 87.80 52 eP **P 17 44 17.3 -0.1**
comp=Z,47nm,1.6s,mb5.6
ISA Isabella 87.80 52 eP **P 17 44 17.3 -0.1**
ISA pmax pmax
comp=Z,47nm,1.6s,mb5.6
BFSC Mount Baldy Ra 87.84 53 ⇓P **P 17 44 17.4 -0.3**
baz=88
EDW2 Edwards Air Fo 87.85 52 ⇓P **P 17 44 17.4 -0.3**
baz=88,SNR=8.9
MURC Murrieta 87.95 54 ⇓P **P 17 44 18.1 0.0**
baz=88
MCK McKinley 87.99 18 eP **P 17 44 15.0 -2.6**
comp=Z,25nm,1.3s,mb5.4
MCK McKinley 87.99 18 eP **P 17 44 15.0 -2.6**
MCK pmax pmax
comp=Z,25nm,1.3s,mb5.4
MONP Monument Peak 88.28 55 ⇓P **P 17 44 19.4 -0.4**
baz=88
ZAK Zakamensk 88.28 325 eP **P 17 44 18.7 -0.6**
ZAK *e* 17 47 52.4
ZAK pmax pmax
comp=Z,10.0nm,1.4s,mb5.0
LRMC Laurel Mountai 88.31 52 ⇓P **P 17 44 19.7 -0.2**
baz=88
WCN Washoe City 88.35 48 ⇑P **P 17 44 20.1 +0.2**
baz=89
CWC Cottonwood Cre 88.40 51 ⇓P **P 17 44 19.9 -0.3**
baz=89,SNR=6.4
PFO Pinyon Flat Ob 88.52 54 ⇓P **P 17 44 20.7 -0.2**
baz=89
PFO Pinyon Flat Ob 88.52 54 PFAKE 17 44 30.0 +9.1
PFO LR LR
comp=Z,1μm,19.0s,MS5.4
MPMC Manual Prospec 88.69 51 ⇓P **P 17 44 21.4 -0.3**
baz=89,SNR=7.0
DAC Darwin (Calif) 88.69 51 PFAKE 17 44 30.0 +8.3
DAC LR LR
comp=Z,2μm,21.0s,MS5.4
IRK Irkutsk 88.72 327 eP **P 17 44 20.1 -1.2**
IRK pmax pmax
comp=Z,38nm,2.6s,mb5.2
TLY Talaya 88.75 326 PFAKE 17 44 30.0 +8.5
TLY LR LR
comp=Z,520nm,20.0s,MS5.0
TLY Talaya 88.75 326 eP **P 17 44 21.0 -0.5**
TLY pmax pmax
comp=Z,12nm,1.0s,mb5.1
TLY MLR MLR
comp=Z,417nm,18.0s,MS4.9
SWSC Sam W. Stewart 88.78 55 ⇓P **P 17 44 21.8 -0.4**
baz=89
GSC Goldstone 88.91 52 ⇓P **P 17 44 22.6 -0.1**
baz=89
E03A Lebam 89.00 40 ⇑P **P 17 44 23.0 +0.2**
baz=89
K05A Sumner Lake 89.02 44 ⇑P **P 17 44 23.0 0.0**
baz=89
BELC Belle Mtn. Jos 89.03 54 ⇑P **P 17 44 22.9 -0.4**
baz=89,SNR=8.3
NVAR Mina Array Bea 89.03 49 P **P 17 44 23.6 +0.4**
comp=Z,9.0nm,1.1s,mb4.9,baz=229,slow=7.3,SNR=28
NVAR LR LR 18 19 15.6
comp=Z,2μm,19.0s,MS5.5,baz=117,slow=32
NVAR Mina Array Bea 89.03 49 P **P 17 44 23.6 +0.4**
HEC Hector,Ludlow 89.08 53 ⇓P **P 17 44 23.3 -0.3**
baz=89
GRAC Grapevine Rang 89.14 51 ⇑P **P 17 44 23.5 -0.2**
baz=89
COLA College 89.16 17 eP **P 17 44 21.2 -1.9**
comp=Z,9.6nm,0.8s,mb5.1
COLA LR LR
comp=Z,1μm,21.0s,MS5.4
COLA College 89.16 17 eP **P 17 44 21.2 -1.9**
COLA pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
COLA MLR MLR
comp=Z,1μm,21.0s,MS5.4
NLWA Neilton Lookou 89.21 39 PFAKE 17 44 30.0 +6.2
NLWA LR LR
comp=Z,1μm,21.0s,MS5.3
FURC Furnace Creek, 89.31 51 ⇑P **P 17 44 24.5 0.0**
baz=90
BC3 Big Chuckawall 89.32 54 ⇑P **P 17 44 24.4 -0.2**
baz=90,SNR=5.2
WRAK Wrangell Islan 89.35 29 PFAKE 17 44 40.0 +16
WRAK LR LR
comp=Z,2μm,19.0s,MS5.6
ILAR Eielson Array 89.36 18 P **P 17 44 22.2 -1.9**
comp=Z,5.5nm,0.7s,mb4.9,baz=238,slow=4.4,SNR=38
ILAR LR LR 18 21 33.2
comp=Z,2μm,18.5s,MS5.5,baz=244,slow=34
ILAR Eielson Array 89.36 18 P **P 17 44 22.2 -1.9**
ILAR Eielson Array 89.36 18 P **P 17 44 22.2 -1.9**
ILAR pmax pmax
comp=Z,6.0nm,0.7s
ILAR MLR MLR
comp=Z,2μm,18.5s
SHOC Shoshone 89.53 52 ⇑P **P 17 44 25.3 -0.3**
baz=90
GMRC Granite Mounta 89.58 53 ⇓P **P 17 44 25.6 -0.3**
baz=90,SNR=5.3
GLA Glamis 89.58 55 ⇑P **P 17 44 25.8 -0.1**
baz=90,SNR=5.6
GLA Glamis 89.58 55 eP **P 17 44 26.4 +0.5**
comp=Z,40nm,1.4s,mb5.5
GLA Glamis 89.58 55 eP **P 17 44 26.4 +0.5**
GLA pmax pmax
comp=Z,40nm,1.4s,mb5.5
TUQ Turquoise Moun 89.62 53 ⇓P **P 17 44 25.9 -0.1**
baz=90,SNR=8.5
TPH Tonopah 89.67 50 PFAKE 17 44 40.0 +14
TPH LR LR
comp=Z,1μm,19.0s,MS5.3
IRM Iron Mountain 89.74 54 ⇑P **P 17 44 26.6 0.0**
baz=90,SNR=7.4
NVL N'lazarevskaya 90.03 188 eP **P 17 44 28.1 +0.7**
NVL *e*PP 17 44 38.4
NVL *e*SP sP 17 44 42.4 +15
NVL pmax pmax
comp=Z,30nm,0.9s,mb5.5
MAIT Maitri 90.04 188 eP **P 17 44 27.5 +0.1**
Y12C Blythe 90.07 55 ⇓P **P 17 44 28.1 -0.1**
baz=90,SNR=6.8
LDFC Landfair 90.11 53 eP **P 17 44 28.8 +0.5**
comp=Z,46nm,1.3s,mb5.5
MOY Mondy 90.17 325 eP **P 17 44 28.5 +0.3**
G06A Carlson Farm, 90.26 42 ⇓P **P 17 44 28.9 +0.2**
baz=90
D05A Enumclaw 90.26 40 ⇑P **P 17 44 29.1 +0.4**
baz=90
113A Mohawk Valley, 90.31 56 ⇓P **P 17 44 29.1 -0.2**
baz=90,SNR=6.5
NEE2 Needles Airpor 90.37 54 ⇓P **P 17 44 29.4 -0.2**
baz=91
WVOR Wild Horse Val 90.41 45 eP **P 17 44 29.5 0.0**
comp=Z,14nm,1.0s,mb5.1
WVOR LR LR
comp=Z,2μm,21.0s,MS5.5
WVOR Wild Horse Val 90.41 45 eP **P 17 44 29.5 0.0**
WVOR pmax pmax
comp=Z,14nm,1.0s,mb5.2
WVOR MLR MLR
comp=Z,2μm,21.0s,MS5.5
SNAA Sanae 90.48 183 *e* **P 17 44 29.4 0.0**
SNAA Sanae 90.48 183 eP **P 17 44 29.2 -0.3**
comp=Z,85nm,1.4s,mb5.8
SNAA Sanae 90.48 183 eP **P 17 44 29.2 -0.2**
I07A Izee 90.50 44 ⇓P **P 17 44 30.1 +0.2**
baz=91,SNR=10
Z13A Yuma Proving G 90.55 55 ⇑P **P 17 44 30.4 0.0**
baz=91,SNR=8.8
PDMCI Parker Dam,Lak 90.57 54 ⇑P **P 17 44 30.4 -0.1**
baz=91,SNR=7.3
BMN Battle Mountai 90.59 48 eP **P 17 44 30.8 +0.4**
comp=Z,18nm,1.2s,mb5.3
BMN LR LR
comp=Z,2μm,20.0s,MS5.5
BMN Battle Mountai 90.59 48 eP **P 17 44 30.8 +0.4**
BMN pmax pmax
comp=Z,18nm,1.2s,mb5.3
BMN MLR MLR
comp=Z,2μm,20.0s,MS5.5
JCW Jim Creek 90.74 39 eP **P 17 44 30.8 -0.2**
comp=Z,18nm,1.1s,mb5.3
214A Organ Pipe Nat 90.78 57 ⇓P **P 17 44 31.1 -0.5**
baz=91
J08A Circle Bar Ran 90.89 44 ⇓P **P 17 44 31.7 0.0**
baz=91
J08A ⇑P 17 44 31.8
baz=91,SNR=8.8
R11A Troy Canyon, C 90.97 50 ⇓P **P 17 44 31.8 -0.4**
baz=91
114A Black Gap (USA 91.00 56 ⇓P **P 17 44 31.8 -0.7**
baz=91
W13A Hualapai Mount 91.05 53 ⇑P **P 17 44 32.5 -0.2**
baz=91,SNR=9.9
EGAK Eagle 91.11 20 PFAKE 17 44 40.0 +7.7
EGAK LR LR
comp=Z,1μm,19.0s,MS5.4
VNA3 Neumayer Olymp 91.13 181 *e* **P 17 44 32.2 -0.3**
Z14A Wintersburg 91.16 55 ⇑P **P 17 44 32.9 -0.4**
baz=91
E07A Sunnyside 91.31 41 ⇑P **P 17 44 33.8 +0.2**
baz=92,SNR=7.7
Y14A Wickenburg 91.32 55 ⇑P **P 17 44 33.7 -0.3**
baz=92
G08A Pilot Rock 91.36 43 ⇑P **P 17 44 33.9 0.0**
baz=92,SNR=14
VNA2 Neumayer--Watz 91.40 182 *e* **P 17 44 33.8 +0.1**
baz=162,slow=3.8
RSW Rattlesnake Hi 91.41 41 eP **P 17 44 34.6 +0.5**
comp=Z,7.6nm,0.6s,mb5.2
HAWA Hanford 91.44 41 PFAKE 17 44 50.0 +16
HAWA LR LR
comp=Z,794nm,20.0s,MS5.2
ETW Entiat 91.45 40 eP **P 17 44 33.8 -0.4**
comp=Z,10nm,0.8s,mb5.2
VNA1 Neumayer--Stat 91.69 181 *e* **P 17 44 31.4 -3.7**
Z15A Gila River Ind 91.76 56 ⇑P **P 17 44 35.7 -0.3**
baz=92
E08A Dider Farm, El 91.78 41 ⇓P **P 17 44 35.8 0.0**
baz=92
Y15A Casa Rosa Ranc 91.85 55 ⇓P **P 17 44 36.6 +0.2**
baz=92,SNR=19
116A Eloy 91.87 56 ⇓P **P 17 44 36.6 0.0**
baz=92,SNR=5.8
R13A O'Grain Ranch, 92.09 51 ⇑P **P 17 44 37.4 0.0**
baz=92
BMO Blue Mountains 92.26 43 eP **P 17 44 36.4 -1.7**
comp=Z,2.5nm,0.6s,mb4.7
BMO LR LR
comp=Z,1μm,21.0s,MS5.2
BMO Blue Mountains 92.26 43 eP **P 17 44 36.4 -1.6**
BMO pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
BMO MLR MLR
comp=Z,1μm,21.0s,MS5.2
217A Green Valley 92.31 57 ⇓P **P 17 44 38.8 +0.1**
baz=92,SNR=9.3
ARUT Antelope Range 92.34 51 P **P 17 44 38.7 +0.1**
comp=Z,19nm,1.6s,mb5.2
ARUT Antelope Range 92.34 51 P **P 17 44 38.7 +0.1**
ARUT pmax pmax
comp=Z,19nm,1.6s,mb5.2
Z16A Peralta Trail, 92.35 56 ⇓P **P 17 44 38.7 -0.1**
baz=92
OD2 Odessa Site #2 92.37 41 eP **P 17 44 37.8 -0.7**
comp=Z,5.2nm,0.9s,mb4.9
E09A Wood Farm, Sta 92.37 42 ⇓P **P 17 44 38.7 +0.2**
baz=93
Y16A Circle Bar Ran 92.49 55 ⇑P **P 17 44 39.7 +0.3**
baz=93,SNR=15
TUC Tucson 92.52 57 eP **P 17 44 40.0 +0.5**
comp=Z,16nm,1.3s,mb5.3
TUC LR LR
comp=Z,1μm,19.0s,MS5.3
TUC Tucson 92.52 57 eP **P 17 44 40.0 +0.4**
TUC pmax pmax
comp=Z,16nm,1.3s,mb5.3
TUC MLR MLR
comp=Z,1μm,19.0s,MS5.3
117A Oracle 92.64 57 ⇑P **P 17 44 39.9 -0.2**
baz=93,SNR=9.4
DGAR Diego Garcia 92.65 261 PFAKE 17 44 50.0 +9.3
DGAR LR LR
comp=Z,866nm,19.0s,MS5.2
X16A Lo Mia Camp, P 92.70 55 ⇑P **P 17 44 40.6 +0.3**
baz=93,SNR=15
F10A Beach Ranch, E 92.74 42 ⇑P **P 17 44 40.0 -0.3**
baz=93
318A Bisbee 92.87 58 ⇓P **P 17 44 41.3 +0.1**
baz=93,SNR=7.5
Y17A Roosevelt 92.93 56 ⇓P **P 17 44 41.4 0.0**
baz=93,SNR=8.2
218A Dragoon 93.00 58 ⇑P **P 17 44 41.9 +0.1**
baz=93,SNR=9.3
Z17A San Carlos Hig 93.09 56 ⇑P **P 17 44 42.9 +0.7**
baz=93
WUAZ Wupatki 93.12 54 ⇓P **P 17 44 42.1 -0.2**
baz=93,SNR=6.8
WUAZ Wupatki 93.12 54 eP **P 17 44 42.3 0.0**
comp=Z,8.5nm,1.0s,mb5.1
WUAZ LR LR
comp=Z,951nm,20.0s,MS5.2
X17A Forest Lakes 93.17 55 ⇓P **P 17 44 42.5 -0.1**
baz=93,SNR=13
118A Homack Ranch, 93.27 57 ⇑P **P 17 44 42.8 -0.3**
baz=94,SNR=7.9
319A Douglas 93.42 58 ⇑P **P 17 44 43.7 0.0**
baz=94,SNR=7.4
MVU Marysvale 93.50 51 PFAKE 17 45 00.0 +16
MVU LR LR
comp=Z,2μm,21.0s,MS5.5
U16A Tuba City 93.52 53 ⇑P **P 17 44 44.3 +0.2**
baz=94,SNR=8.5
Y18A Canyon Day Jun 93.59 56 ⇑P **P 17 44 44.7 +0.2**
baz=94,SNR=8.6
V17A Tonalea, Kykot 93.60 54 ⇑P **P 17 44 44.6 +0.1**
baz=94,SNR=7.4
219A White Tail Can 93.64 58 ⇓P **P 17 44 44.6 -0.2**
baz=94,SNR=13
DUG Dugway 93.64 49 ⇓P **P 17 44 44.7 +0.2**
baz=94
DUG Dugway 93.64 49 PFAKE 17 45 00.0 +15
DUG LR LR
comp=Z,1μm,19.0s,MS5.4
S16A Weppner Ranch, 93.69 52 ⇓P **P 17 44 44.9 0.0**
baz=94
NEW Newport 93.69 40 ⇓P **P 17 44 45.0 +0.5**
baz=94
NEW Newport 93.69 40 PFAKE 17 45 00.0 +15
NEW LR LR
comp=Z,658nm,20.0s,MS5.1
HLID Hailey 93.70 45 PFAKE 17 45 00.0 +15
HLID LR LR
comp=Z,2μm,20.0s,MS5.5
119A Ashpeak Ranch, 93.85 57 ⇑P **P 17 44 45.6 -0.1**
baz=94,SNR=5.6
X18A Snowflake 93.90 55 ⇓P **P 17 44 46.0 +0.1**
baz=94,SNR=5.2
R16A Teasdale 93.96 51 ⇓P **P 17 44 46.2 +0.1**
baz=94
L14A Malta 93.97 47 ⇑P **P 17 44 46.2 +0.1**
baz=94
320A Kipp Ranch, An 94.02 59 ⇓P **P 17 44 46.8 +0.3**
baz=94,SNR=7.6
U17A Shonto 94.02 53 ⇓P **P 17 44 46.7 +0.3**
baz=94
T17A Navajo Res., N 94.05 53 ⇓P **P 17 44 46.7 +0.2**
baz=94,SNR=7.3
C11A Tepee Creek (N 94.07 41 ⇑P **P 17 44 46.7 +0.4**
baz=94
Y19A Nutrioso 94.26 56 ⇓P **P 17 44 47.7 +0.1**
baz=94
V18A Ganado 94.29 54 ⇓P **P 17 44 47.8 +0.1**
baz=94
120A U Bar Ranch, L 94.31 57 ⇓P **P 17 44 47.9 0.0**
baz=94
M15A Larsen Ranch, 94.33 48 ⇓P **P 17 44 47.7 0.0**
baz=94
HYB Hyderabad 94.36 287 *i* P **P 17 44 48.5 +0.1**
HYB Hyderabad 94.36 287 *i* P **P 17 44 48.5 +0.1**
HYB *e*SKS 17 55 28.0
HYB *e* 17 56 06.0
X19A St. Johns 94.38 55 ⇓P **P 17 44 48.1 0.0**
baz=95
Z20A Nine Sixteen R 94.52 57 ⇑P **P 17 44 48.6 -0.2**
baz=95
L15A Malad City 94.56 47 ⇓P **P 17 44 49.0 +0.2**
baz=95
U18A Rough Rock, Ch 94.57 53 ⇑P **P 17 44 49.0 +0.1**
baz=95
R17A Hanksville Air 94.58 51 ⇓P **P 17 44 48.8 -0.1**
baz=95
T18A Mexican Hat 94.79 53 ⇑P **P 17 44 49.9 0.0**
baz=95,SNR=9.1
221A Mesquite Ranch 94.83 58 ⇓P **P 17 44 50.6 +0.4**
baz=95
S18A Hurst Farm, Bl 94.88 52 ⇑P **P 17 44 50.5 +0.2**
baz=95
Y20A Horse Springs, 94.94 56 ⇓P **P 17 44 50.8 +0.1**
baz=95
HWUT Hardware Ranch 95.00 48 PFAKE 17 45 00.0 +9.2
HWUT LR LR
comp=Z,1μm,20.0s,MS5.4
U19A Dine' College, 95.03 54 ⇑P **P 17 44 51.2 +0.2**
baz=95
X20A Quemado 95.04 55 ⇑P **P 17 44 51.3 +0.2**
baz=95
O17A Robinson Place 95.14 50 ⇑P **P 17 44 51.3 -0.1**
baz=95
WMQ Urumqi 95.14 314 P **P 17 44 51.5 +0.1**
WMQ pP 17 45 05.0
WMQ PP PP 17 48 43.0 +1.7
WMQ S S 17 55 59.3 -8.3
WMQ pmax pmax
comp=Z,15nm,1.4s,mb5.2
WMQ LR LR
comp=N,490nm,18.5s
WMQ LR LR
comp=E,290nm,25.4s

WMQ LR LR
comp=Z,470nm,22.9s,MS4.9
R18A Canyonlands Na 95.18 51 ⇓P **P 17 44 51.5 -0.2**
baz=95,SNR=6.6
W20A Ramah 95.22 55 ⇓P **P 17 44 51.8 -0.1**
baz=95
Z21A St. Cloud Mine 95.32 57 ⇑P **P 17 44 52.3 -0.1**
baz=96
T19A Beclabito 95.34 53 ⇓P **P 17 44 52.9 +0.5**
baz=96
J16A Bone 95.52 46 ⇑P **P 17 44 53.3 +0.2**
baz=96
S19A Harvey Farm, M 95.54 52 ⇑P **P 17 44 53.1 -0.2**
baz=96
M17A Scullys Gap (B 95.60 48 ⇓P **P 17 44 53.5 0.0**
baz=96
R19A Curley Farm, L 95.62 52 ⇑P **P 17 44 53.6 -0.1**
baz=96
AHID Auburn Hatcher 95.71 47 PFAKE 17 45 10.0 +16
AHID LR LR
comp=Z,1μm,19.0s,MS5.5
RRI2 Red Ridge 95.75 46 *e*P **P 17 44 55.1 +0.9**
Q19A Hogan Spring (95.82 51 ⇓P **P 17 44 54.4 -0.2**
baz=96
MVCO Mesa Verde 95.86 53 PFAKE 17 45 10.0 +15
MVCO LR LR
comp=Z,1μm,20.0s,MS5.3
Z22A Elephant Butte 95.87 57 ⇓P **P 17 44 54.7 -0.2**
baz=96
S20A Disappointment 96.15 52 ⇓P **P 17 44 55.0 -1.1**
baz=96
U21A Nageezi 96.27 54 ⇓P **P 17 44 56.5 -0.2**
baz=96
BOZ Bozeman (W) 96.28 44 PFAKE 17 45 10.0 +13
BOZ LR LR
comp=Z,1μm,21.0s,MS5.4
O19A Miners Draw (B 96.34 50 ⇑P **P 17 44 56.8 -0.2**
baz=96
S21A Coal Bank Pass 96.53 53 ⇓P **P 17 44 57.6 -0.2**
baz=97
324A Moseley Ranch, 96.53 59 ⇑P **P 17 44 57.1 -0.9**
baz=97
J18A Kendall Valley 96.60 47 ⇓P **P 17 44 57.5 -0.5**
baz=97
224A Cornudas Mount 96.68 59 ⇑P **P 17 44 58.9 +0.3**
baz=97
MNTX Cornudas Mount 96.69 59 ⇓P **P 17 44 58.7 0.0**
baz=97
MNTX Cornudas Mount 96.69 59 PFAKE 17 45 10.0 +11
MNTX LR LR
comp=Z,559nm,19.0s,MS5.1
L19A Farson 96.72 48 ⇓P **P 17 44 59.4 +0.8**
baz=97
ANMO Albuquerque 96.76 56 PFAKE 17 45 10.0 +11
ANMO LR LR
comp=Z,732nm,19.0s,MS5.2
LKWY Lake 96.76 45 PFAKE 17 45 10.0 +11
LKWY LR LR
comp=Z,2μm,20.0s,MS5.5
BW06 Boulder Array 96.79 47 PFAKE 17 45 10.0 +11
BW06 LR LR
comp=Z,877nm,20.0s,MS5.2
PDAR Pinedale Array 96.79 47 LR LR 18 20 25.4
comp=Z,593nm,20.0s,MS5.1,baz=281,slow=30
626A Big Bend Ranch 97.11 61 ⇑P **P 17 45 00.6 -0.1**
baz=97
526A Mary Lane Ranc 97.29 61 ⇑P **P 17 45 01.4 -0.1**
baz=98
TXAR Lajitas Array 97.44 62 P **P 17 45 02.2 +0.1**
comp=Z,1.7nm,1.0s,mb4.6,baz=211,slow=4.4,SNR=9.9
TXAR LR LR 18 24 47.8
comp=Z,470nm,19.1s,MS5.0,baz=120,slow=33
TXAR Lajitas Array 97.44 62 P **P 17 45 02.2 +0.1**
TXAR Lajitas Array 97.44 62 P **P 17 45 02.2 0.0**
TXAR pmax pmax
comp=Z,2.0nm,1.0s
TXAR MLR MLR
comp=Z,470nm,19.1s
426A McDonald Obser 97.51 60 ⇓P **P 17 45 02.2 -0.3**
baz=98
Q22A Crested Butte, 97.55 52 ⇑P **P 17 45 02.6 +0.2**
baz=98
N21A Black Mountain 97.64 50 ⇓P **P 17 45 03.7 +0.9**
baz=98
RLMT Red Lodge 97.70 45 ⇑P **P 17 45 02.6 -0.3**
baz=98
RLMT Red Lodge 97.70 45 PFAKE 17 45 10.0 +7.1
RLMT LR LR
comp=Z,2μm,20.0s,MS5.6
627A Terlingua Ranc 97.71 62 ⇓P **P 17 45 02.8 -0.5**
baz=98
527A Woodward Ranch 97.71 61 ⇑P **P 17 45 03.1 -0.3**
baz=98
H19A Powell 97.76 46 ⇑P **P 17 45 03.3 +0.1**
baz=98
Y25A Mesa, Roswell 97.87 57 ⇑P **P 17 45 04.0 0.0**
baz=98
M21A Separation Pea 98.00 49 ⇓P **P 17 45 03.9 -0.4**
baz=98
628A Black Gap, Mar 98.14 62 ⇓Pdiff **P 17 45 05.4 +0.1**
baz=98
EGMT Eagleton 98.25 42 PFAKE 17 45 20.0 +15
EGMT LR LR
comp=Z,726nm,19.0s,MS5.2
SDCO Great Sand Dun 98.30 53 PFAKE 17 45 20.0 +14
SDCO LR LR
comp=Z,927nm,21.0s,MS5.2
V25A Rancho No Teng 98.46 55 ⇑Pdiff **P 17 45 06.4 -0.2**
baz=99
ISCO Idaho Springs 98.78 51 PFAKE 17 45 20.0 +12
ISCO LR LR
comp=Z,1μm,21.0s,MS5.4
Z27A Tatum 98.90 58 ⇑Pdiff **P 17 45 08.6 -0.1**
baz=99
MKAR Makanchi Array 99.68 316 P Pdif 17 45 11.8 0.0
comp=Z,1.6nm,0.9s,baz=97,slow=8.7,SNR=7.9
MKAR PP PP 17 49 11.3 -4.9
comp=Z,1.3nm,1.1s,baz=122,slow=11,SNR=4.7
MKAR LR LR 18 33 21.1
comp=Z,284nm,19.2s,MS4.8,baz=252,slow=37
MKAR Makanchi Array 99.68 316 P Pdif 17 45 11.8 0.0
MKAR PP PP 17 49 11.2 -4.9
MKAR Makanchi Array 99.68 316 P Pdif 17 45 11.8 0.0
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR MLR MLR
comp=Z,284nm,19.2s
ZAA0 Zalesovo Array 100.09 323 *e*Pdif Pdif 17 45 12.3 -1.3
ZALV Zalesovo Beam 100.09 323 P Pdif 17 45 12.0 -1.6
comp=Z,2.1nm,0.9s,baz=129,slow=4.0,SNR=11
ZALV Zalesovo Beam 100.09 323 P Pdif 17 45 12.0 -1.6
ZALV Zalesovo Beam 100.09 323 P Pdif 17 45 12.0 -1.6
ZALV pmax pmax
comp=Z,2.0nm,0.9s
YKA Yellowknife Ar 100.13 27 P Pdif 17 45 12.6 -1.2
comp=Z,2.6nm,0.9s,baz=254,slow=4.7,SNR=14
YKA PP PP 17 49 20.8 +1.7
comp=Z,0.8nm,0.9s,baz=251,slow=7.0,SNR=3.8
YKA Yellowknife Ar 100.13 27 P Pdif 17 45 12.6 -1.2
YKA PP PP 17 49 20.8 +1.7
YKA Yellowknife Ar 100.13 27 P Pdif 17 45 12.6 -1.2
YKA 17 49 20.8
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA pmax pmax
comp=Z,1.0nm,0.9s
EFI East Falkland 100.14 153 PFAKE 17 45 20.0 +6.2
EFI LR LR
comp=Z,601nm,20.0s,MS5.1
LAO LASA Array 100.18 44 PFAKE 17 45 30.0 +16
LAO LR LR
comp=Z,1μm,20.0s,MS5.3
AMTX Amarillo 100.53 57 PFAKE 17 45 30.0 +14
AMTX LR LR
comp=Z,723nm,20.0s,MS5.2
PLCA Paso Flores 100.58 139 PFAKE 17 45 30.0 +14
PLCA LR LR
comp=Z,483nm,19.0s,MS5.0
JCT Junction City 100.98 61 PFAKE 17 45 30.0 +12
JCT LR LR
comp=Z,577nm,20.0s,MS5.1
NVS Novosibirsk 101.22 324 *e*P Pdif 17 45 16.1 -2.5
OGNE Ogallala 101.71 51 PFAKE 17 45 30.0 +9.2
OGNE LR LR
comp=Z,1μm,19.0s,MS5.3
KVTX Kingsville 101.89 65 PFAKE 17 45 30.0 +8.4
KVTX LR LR

comp=Z,471nm,19.0s,MS5.0
DGMT Dagmar 101.95 43 PFAKE 17 45 30.0 +8.2
DGMT LR LR
comp=Z,718nm,20.0s,MS5.2
WMOK Wichita Mounta 102.81 57 PFAKE 17 45 40.0 +14
WMOK LR LR
comp=Z,793nm,19.0s,MS5.3
CBKS Cedar Bluff 102.96 53 PFAKE 17 45 40.0 +14
CBKS LR LR
comp=Z,795nm,19.0s,MS5.3
KURK Kurchatov 102.98 319 PFAKE 17 45 40.0 +14
KURK LR LR
comp=Z,814nm,20.0s,MS5.2
NIL Nilore 103.22 301 PFAKE 17 45 40.0 +13
NIL LR LR
comp=Z,65nm,20.0s,MS4.2
TKM2 Tokmak 2 103.39 311 PFAKE 17 45 40.0 +12
TKM2 LR LR
comp=Z,504nm,21.0s,MS5.0
AAK Ala-Archa 104.12 311 PFAKE 17 45 40.0 +8.5
AAK LR LR
comp=Z,777nm,22.0s,MS5.2
FFC Flin Flon 104.58 37 PFAKE 17 45 40.0 +6.4
FFC LR LR
comp=Z,1μm,19.0s,MS5.5
KSU1 Kansas State U 105.40 53 PFAKE 17 50 00.0 +8.7
KSU1 LR LR
comp=Z,1μm,21.0s,MS5.4
NATX Nacogdoches 105.56 61 PFAKE 17 50 00.0 +8.2
NATX LR LR
comp=Z,900nm,19.0s,MS5.3
ECSD EROS Data Cent 106.20 49 PFAKE 17 50 00.0 +7.4
ECSD LR LR
comp=Z,1μm,21.0s,MS5.5
LCO Las Campanas 106.92 129 PFAKE 17 50 10.0 +16
LCO LR LR
comp=Z,513nm,19.0s,MS5.1
MIAR Mount Ida 106.98 59 PFAKE 17 50 10.0 +16
MIAR LR LR
comp=Z,822nm,19.0s,MS5.3
AGMN Agassiz Nation 107.38 44 PFAKE 17 50 10.0 +15
AGMN LR LR
comp=Z,1μm,20.0s,MS5.4
TRQA Tornquist 107.47 141 PFAKE 17 50 10.0 +15
TRQA LR LR
comp=Z,556nm,19.0s,MS5.1
ULM Lac du Bonnet 107.61 42 PFAKE 17 50 10.0 +15
ULM LR LR
comp=Z,999nm,19.0s,MS5.4
TGUH Tegucigalpa,Un 108.31 81 PFAKE 17 50 10.0 +13
TGUH LR LR
comp=Z,390nm,21.0s,MS5.0
SCIA State Center 108.40 51 PFAKE 17 50 10.0 +13
SCIA LR LR
comp=Z,1μm,21.0s,MS5.4
BRVK Borovoye 108.44 321 PFAKE 17 50 10.0 +14
BRVK LR LR
comp=Z,751nm,19.0s,MS5.3
TEIG Tepich 108.81 74 PFAKE 17 50 10.0 +12
TEIG LR LR
comp=Z,345nm,19.0s,MS4.9
VBMS Vicksburg 109.11 61 PFAKE 17 50 10.0 +12
VBMS LR LR
comp=Z,642nm,19.0s,MS5.2
MSEY Mahe Island 109.47 258 PFAKE 17 50 10.0 +10
MSEY LR LR
comp=Z,600nm,19.0s,MS5.2
JTS JuntasAbangare 109.55 85 PFAKE 17 50 10.0 +10
JTS LR LR
comp=Z,549nm,21.0s,MS5.1
NNA Nana 109.80 110 PFAKE 17 50 10.0 +10
NNA LR LR
comp=Z,609nm,21.0s,MS5.2
EYMN Ely 110.25 45 PFAKE 17 50 10.0 +10
EYMN LR LR
comp=Z,1μm,21.0s,MS5.4
OXF Oxford 110.37 59 PFAKE 17 50 10.0 +9.3
OXF LR LR
comp=Z,691nm,20.0s,MS5.2
JFWS Jewell Farm 110.70 50 PFAKE 17 50 10.0 +9.0
JFWS LR LR
comp=Z,2μm,21.0s,MS5.6
ABPO Ambohimpanom 110.95 241 PFAKE 17 50 10.0 +7.7
ABPO LR LR
comp=Z,1μm,20.0s,MS5.4
HDIL Hopedale 111.18 53 PFAKE 17 50 10.0 +8.0
HDIL LR LR
comp=Z,1μm,21.0s,MS5.4
PLAL Pickwick Lake 111.52 59 PFAKE 17 50 10.0 +7.2
PLAL LR LR
comp=Z,726nm,20.0s,MS5.3
COWI Conover 111.74 47 PFAKE 17 50 10.0 +7.1
COWI LR LR
comp=Z,1μm,21.0s,MS5.5
BRAL Brewton 111.84 63 PFAKE 17 50 10.0 +6.4
BRAL LR LR
comp=Z,452nm,19.0s,MS5.1
OTAV Otavalo 112.79 97 PFAKE 17 50 20.0 +14
OTAV LR LR
comp=Z,381nm,20.0s,MS5.0
GLMI Grayling 114.87 48 PFAKE 17 50 20.0 +11
GLMI LR LR
comp=Z,2μm,21.0s,MS5.6
ARU Arti 115.22 325 PFAKE 17 50 20.0 +11
ARU LR LR
comp=Z,674nm,21.0s,MS5.2
ARU Arti 115.22 325 *i* PKIKP PKiKP 17 50 08.0 -1.2
ARU 17 51 08.4
ARU 17 56 51.6
LPAZ La Paz 115.45 118 PFAKE 17 50 20.0 +9.1
LPAZ LR LR
comp=Z,491nm,20.0s,MS5.1
AAM Ann Arbor 115.52 51 PFAKE 17 50 20.0 +10
AAM LR LR
comp=Z,1μm,19.0s,MS5.5
ACSO Alum Creek Sta 115.97 53 PFAKE 17 50 20.0 +8.8
ACSO LR LR
comp=Z,825nm,20.0s,MS5.3
KBS Kingsbay 117.81 355 PFAKE 17 50 20.0 +6.3
KBS LR LR
comp=Z,928nm,19.0s,MS5.4
NHSC New Hope 117.87 62 PFAKE 17 50 30.0 +15
NHSC LR LR
comp=Z,646nm,19.0s,MS5.3
BLA Blacksburg 117.88 57 PFAKE 17 50 30.0 +15
BLA LR LR
comp=Z,781nm,21.0s,MS5.3
CPUP Villa Florida 118.07 134 PFAKE 17 50 30.0 +14
CPUP LR LR
comp=Z,97nm,19.0s,MS4.5
ERPA Erie 118.25 51 PFAKE 17 50 30.0 +14
ERPA LR LR
comp=Z,985nm,21.0s,MS5.4
CNNC Cliffs of the 119.86 59 PFAKE 17 50 30.0 +11
CNNC LR LR
comp=Z,788nm,19.0s,MS5.4
CBN Corbin 120.30 56 PFAKE 17 50 30.0 +10
CBN LR LR
comp=Z,937nm,22.0s,MS5.4
SUR Sutherland 120.82 213 PFAKE 17 50 30.0 +9.1
SUR LR LR
comp=Z,1μm,20.0s,MS5.6
GTBY Guantanamo Bay 120.90 77 PFAKE 17 50 30.0 +8.7
GTBY LR LR
comp=Z,295nm,20.0s,MS4.9
BINY Binghamton 121.22 51 PFAKE 17 50 30.0 +8.8
BINY LR LR
comp=Z,779nm,19.0s,MS5.4
BOSA Boshof 121.22 219 PKP PKPdf 17 50 19.6 -2.1
comp=Z,7.9nm,0.9s,baz=136,slow=4.3,SNR=5.6
BOSA Boshof 121.22 219 PKP PKPdf 17 50 19.6 -2.1
BOSA LR LR
comp=Z,1μm,20.0s,MS5.5
BOSA Boshof 121.22 219 PKIKP PKPdf 17 50 19.7 -2.0
BOSA pmax pmax
comp=Z,8.0nm,0.9s
LVZ Lovozero 121.85 341 PFAKE 17 50 30.0 +8.3
LVZ LR LR
comp=Z,1μm,20.0s,MS5.6
LONY Lake Ozonia 122.02 48 PFAKE 17 50 30.0 +7.3
LONY LR LR
comp=Z,2μm,21.0s,MS5.6
APA Apatity 122.42 341 ⇑*i*PKIKP PKPdf 17 50 22.4 -0.4
APA pmax pmax
comp=Z,32nm,1.2s

APA MLR MLR
comp=Z,2μm,26.0s,MS5.7
SDV Santo Domingo 122.80 91 PFAKE 17 50 40.0 +15
SDV LR LR
comp=Z,131nm,22.0s,MS4.5
ARCES ARCESS Array B 123.33 345 PKP PKPdf 17 50 23.9 -0.6
comp=Z,8.2nm,0.8s,baz=51,slow=0.9,SNR=14
ARCES ARCESS Array B 123.33 345 PKP PKPdf 17 50 23.9 -0.6
ARCES ARCESS Array B 123.33 345 PKIKP PKPdf 17 50 23.9 -0.6
ARCES pmax pmax
comp=Z,8.0nm,0.9s
LBTB Lobatse 123.59 222 PKP PKPdf 17 50 26.8 +0.4
comp=Z,7.2nm,0.9s,baz=172,slow=6.0,SNR=5.9
LBTB Lobatse 123.59 222 PKP PKPdf 17 50 26.8 +0.4
LBTB LR LR
comp=Z,737nm,21.0s,MS5.3
LBTB Lobatse 123.59 222 PKIKP PKPdf 17 50 26.8 +0.4
LBTB pmax pmax
comp=Z,7.0nm,1.0s
KLMR Klimovskoe 123.60 332 *e*PKIKP PKPdf 17 50 20.6 -4.6
KLMR pmax pmax
comp=Z,45nm,1.5s
MAK Makhachkala 123.90 310 *e*PKIKP PKPdf 17 50 26.5 +0.1
MAK *e* 17 50 36.1
MAK *e* 17 50 40.5
MAK *i* 17 52 12.3
MAK *e* 17 57 35.0
MAK *e*PS PS 18 02 06.7 -1.2
MAK *e*SS SS 18 09 07.7 +7.2
MAK *e*SSS 18 13 24.6
MAK pmax pmax
comp=Z,15nm,0.3s
LBNH Lisbon 123.96 48 PFAKE 17 50 40.0 +14
LBNH LR LR
comp=Z,2μm,19.0s,MS5.8
SDDR Presa de Saban 124.31 79 PFAKE 17 50 40.0 +12
SDDR LR LR
comp=Z,387nm,19.0s,MS5.1
RDF Al-Radifah 124.41 293 *e*P PKPdf 17 50 27.1 -0.7
RDF AMb AMB 17 50 32.3
comp=Z,98nm,1.5s
MIB Mutribah 124.63 294 *e*P PKPdf 17 50 27.2 -0.9
MIB AMb AMB 17 50 29.7
comp=Z,53nm,1.2s
SCHQ Schefferville 124.66 35 PFAKE 17 50 40.0 +13
SCHQ LR LR
comp=Z,3μm,21.0s,MS5.9
NAY Al-Naaiem 124.69 294 *e*P PKPdf 17 50 27.0 -1.3
NAY AMb AMB 17 50 31.8
comp=Z,24nm,1.4s
TRIS Tristan da Cun 125.39 180 PFAKE 17 50 40.0 +10
TRIS LR LR
comp=Z,485nm,20.0s,MS5.2
PKME Peaks-Kenny Pk 125.64 47 PFAKE 17 50 40.0 +10
PKME LR LR
comp=Z,1μm,22.0s,MS5.5
PQI Presque Isle 126.22 45 *e*PKPdf PKPdf 17 50 28.9 -1.8
GNI Garni 126.31 307 *e*PKPdf PKPdf 17 50 31.8 +0.7
GNI LR LR
comp=Z,330nm,20.0s,MS5.0
GNI Garni 126.31 307 *i* PKIKP PKPdf 17 50 31.3 +0.2
ZEI Tsey 126.55 310 *i* PKIKP PKPdf 17 50 31.2 -0.2
ZEI pmax pmax
comp=Z,21nm,2.0s
MOS Moscow 126.69 327 *e*PKHKP PKPpre 17 50 11.2
MOS *e* 17 50 29.9
BHD Baghdad 127.15 298 *ex* x 17 50 30.0
BHD *ex* x 17 53 52.0
BHD *ex* x 17 57 36.0
BHD *ex* x 17 59 19.0
KIV Kislovodsk 127.21 312 PFAKE 17 50 40.0 +7.3
KIV LR LR
comp=Z,446nm,20.0s,MS5.1
KIV Kislovodsk 127.21 312 *i* PKIKP PKPdf 17 50 31.9 -0.8
KIV *e* 17 52 30.9
KIV *e* 17 57 32.7
KIV *e*PS PS 18 02 34.9 -2.1
KIV *e*SS SS 18 09 38.6 -3.3
KIV pmax pmax
comp=Z,10.0nm,1.1s
KIV MLR MLR
comp=Z,352nm,20.0s,MS5.0
HAKT HAKKARI 127.40 304 *i* P PKPdf 17 50 31.9 -1.3
OBN Obninsk 127.50 327 PFAKE 17 50 40.0 +7.2
OBN LR LR
comp=Z,914nm,19.0s,MS5.5
OBN Obninsk 127.50 327 ⇑*i*PKIKP PKPdf 17 50 32.9 +0.1
OBN *e* 17 52 32.3
OBN *e* 17 57 41.3
OBN *e*PS PS 18 02 40.9 +1.9
OBN *i* SS SS 18 09 37.7 -6.8
OBN pmax pmax
comp=Z,17nm,1.2s
KMBO Kilima Mbogo 127.67 254 *e*PKPdf PKPdf 17 50 33.7 -0.8
KMBO LR LR
comp=Z,860nm,19.0s,MS5.5
KMBO Kilima Mbogo 127.67 254 *e*PKIKP PKPdf 17 50 33.7 -0.8
KMBO MLR MLR
comp=Z,860nm,19.0s
TUTA Tutak 127.87 306 *i* P PKPdf 17 50 35.2 +1.1
LSZ Lusaka 128.22 233 *e*PKPdf PKPdf 17 50 35.9 +0.4
LSZ LR LR
comp=Z,859nm,22.0s,MS5.4
LSZ Lusaka 128.22 233 *e*PKIKP PKPdf 17 50 35.9 +0.5
LSZ MLR MLR
comp=Z,859nm,22.0s,MS5.4
FINES FINESS Array B 128.72 337 PKP PKPdf 17 50 35.0 0.0
comp=Z,9.8nm,1.1s,baz=72,slow=4.5,SNR=5.3
FINES FINESS Array B 128.72 337 PKP PKPdf 17 50 35.0 0.0
FINES FINESS Array B 128.72 337 PKIKP PKPdf 17 50 35.0 0.0
FINES pmax pmax
comp=Z,10.0nm,1.1s
MARD Mardin 129.74 304 *i* P PKPdf 17 50 34.9 -2.8
KEMA Kemaliye 131.20 307 *i* P PKPdf 17 50 40.5 +0.1
MALT Malatya 131.43 306 PFAKE 17 50 50.0 +9.1
MALT LR LR
comp=Z,3μm,20.0s,MS5.9
GZT Gaziantep 132.27 305 *i* P PKPdf 17 50 40.8 -1.7
TSUM Tsumeb 132.88 220 PFAKE 17 51 00.0 +16
TSUM LR LR
comp=Z,668nm,19.0s,MS5.4
ANWB Willy Bob 133.05 82 PFAKE 17 51 00.0 +16
ANWB LR LR
comp=Z,711nm,20.0s,MS5.4
FDF Fort de France 133.17 86 PFAKE 17 51 00.0 +15
FDF LR LR
comp=Z,387nm,19.0s,MS5.1
ANDN Andirin 133.18 305 *i* P PKPdf 17 50 44.6 +0.4
AKASG Malin Array Be 133.47 324 PKP PKPdf 17 50 43.7 -0.6
comp=Z,4.6nm,1.0s,baz=62,slow=2.1,SNR=12
AKASG Malin Array Be 133.47 324 PKP PKPdf 17 50 43.7 -0.6
AKASG Malin Array Be 133.47 324 PKIKP PKPdf 17 50 43.7 -0.6
AKASG pmax pmax
comp=Z,5.0nm,1.0s
KIEV Kiev 133.49 324 PFAKE 17 51 00.0 +16
KIEV LR LR
comp=Z,417nm,19.0s,MS5.2
NOA NORSAR Array B 133.70 344 PKP PKPdf 17 50 45.5 +1.1
comp=Z,1.7nm,0.9s,baz=40,slow=1.6,SNR=3.3
NOA NORSAR Array B 133.70 344 PKP PKPdf 17 50 45.5 +1.1
NOA NORSAR Array B 133.70 344 PKIKP PKPdf 17 50 45.5 +1.1
NOA pmax pmax
comp=Z,2.0nm,0.9s
MBAR Mbarara 133.81 251 PFAKE 17 51 00.0 +14
MBAR LR LR
comp=Z,512nm,19.0s,MS5.3
YURE YUREGIR 133.88 304 *i* P PKPdf 17 50 45.6 +0.1
BRTR Keskin Array B 134.76 309 PKP PKPdf 17 50 47.9 +0.8
comp=Z,0.9nm,0.7s,baz=142,slow=6.3,SNR=4.8
BRTR Keskin Array B 134.76 309 PKP PKPdf 17 50 47.9 +0.8
BRTR Keskin Array B 134.76 309 PKIKP PKPdf 17 50 47.9 +0.8
BRTR pmax pmax
comp=Z,1.0nm,0.7s
KIS Kishinev 135.45 320 *e* PP 17 53 22.0 -2.7
KIS LRM 18 51 06.0
comp=Z,900nm,22.0s
CSS Prodhromos 136.07 302 PFAKE 17 51 00.0 +10
CSS LR LR
comp=Z,637nm,19.0s,MS5.4
ISP Isparta 137.61 307 PFAKE 17 51 00.0 +7.5
ISP LR LR
comp=Z,456nm,19.0s,MS5.2
KORT Korkueli 137.97 306 *i* P PKPdf 17 50 52.8 -0.3
UZH Uzhgorod 138.39 325 *e*PKIKP PKPdf 17 50 52.9 -0.6

CRVS	Cervenica-Dubn	138.67 326	ePKIKP	PKPdf	17 50 55.1	+1.1	
CRVS	Cervenica-Dubn	138.67 326	ePKP	PKPdf	17 50 55.1	+1.1	
KECS	Kecovo	139.44 326	ePKIKP	PKPdf	17 50 55.9	+0.4	
KECS	Kecovo	139.44 326	ePKP	PKPdf	17 50 55.9	+0.4	
MORC	Moravsky Berou	140.10 330	ePKPpre	PKPpre	17 50 51.6		
MORC	Moravsky Berou	140.10 330	ePKIKP	PKPpre	17 50 51.6		
PSZ	Piszkesteto	140.10 326	ePKPdf	PKPdf	17 50 56.5	-0.2	
PSZ			LR	LR			
	comp=Z,982nm,20.0s,MS5.5						
PSZ	Piszkesteto	140.10 326	ePKIKP	PKPdf	17 50 56.5	-0.2	
PSZ			MLR	MLR			
	comp=Z,982nm,20.0s,MS5.5						
PSZ	Piszkesteto	140.10 326	ePKP	PKPpre	17 50 52.4		
KRLC	Kraliky	140.25 331	ePKPdf	PKPdf	17 50 58.0	+1.1	
DPC	Dobruska-Polom	140.28 331	ePKHKP	PKPpre	17 50 48.8		
DPC			e		17 50 57.2		
DPC			MLR	MLR			
	comp=Z,1μm,19.9s,MS6.6						
DPC	Dobruska-Polom	140.28 331	ePKPpre	PKPpre	17 50 48.8		
DPC			ePKPdf	PKPdf	17 50 57.2	+0.3	
DPC			AMS	AMS	18 54 20.0		
	comp=Z,1μm,19.9s						
UPC	Upice	140.31 332	ePKIKP	PKPdf	17 50 57.2	+0.2	
UPC	Upice	140.31 332	ePKPdf	PKPdf	17 50 57.2	+0.2	
UPC			epPKP	pPKPdf	17 51 00.1	+2.9	
KOLL	Kolacno	140.46 328	ePKIKP	PKPdf	17 50 56.7	-0.6	
KOLL	Kolacno	140.46 328	ePKP	PKPdf	17 50 56.7	-0.6	
PVCC	Panska Ves	140.93 333	ePKIKP	PKPdf	17 50 59.0	+0.9	
PVCC	Panska Ves	140.93 333	ePKPdf	PKPdf	17 50 59.0	+0.9	
BRG	Berggiesshubel	140.95 334	ePKP	PKPdf	17 50 57.7	-0.4	
	comp=Z,34nm,1.8s						
BRG			i		17 54 07.0		
BRG			i		17 54 41.0		
BRG			SS	SS	18 13 05.0	+39	
BRG							
	comp=N,583nm,16.9s						
BRG							
	comp=E,469nm,13.9s						
BRG							
	comp=Z,830nm,21.1s						
BRG	Berggiesshubel	140.95 334	ePKPdf	PKPdf	17 50 57.9	-0.2	
CLL	Collm	141.01 335	ePKPdf	PKPdf	17 50 57.4	-0.8	
CLL	Collm	141.01 335	ePKIKP	PKPdf	17 50 58.0	-0.2	
CLL			pmax	pmax			
	comp=Z,33nm,2.0s						
CLL			MLR	MLR			
	comp=Z,800nm,18.6s,MS5.5						
CLL	Collm	141.01 335	ePKPdf	PKPdf	17 50 58.0	-0.2	
	comp=Z,33nm,2.0s						
CLL			ePKiKP	PKiKP	17 51 01.0	+0.1	
	comp=Z,20nm,1.4s						
CLL			e		17 51 11.0		
CLL			ePP	PP	17 53 57.0	-1.7	
CLL			ePKSbc		17 54 40.0		
CLL			ePPPP		17 59 36.0		
CLL			eSKKSac	SKKSac	18 00 54.0	+0.1	
CLL			ePSKS		18 04 06.0		
CLL			ePPS		18 06 18.0		
CLL			eSS	SS	18 12 24.0	-2.9	
CLL			e		18 13 42.0		
CLL			eSSS		18 18 00.0		
CLL			Lm		18 59 00.0		
	comp=N,400nm,18.6s						
CLL			Lm		18 59 00.0		
	comp=E,500nm,18.4s						
CLL			Lm		18 59 00.0		
	comp=Z,800nm,18.6s						
FBE	Freiberg	141.16 334	ePKPdf	PKPdf	17 50 58.0	-0.5	
ZST	Bratislava	141.37 328	ePKIKP	PKPdf	17 51 00.4	+1.4	
ZST	Bratislava	141.37 328	ePKP	PKPdf	17 51 00.3	+1.3	
TREC	Trest	141.40 331	ePKIKP	PKPdf	17 50 58.0	-1.0	
TREC	Trest	141.40 331	ePKPdf	PKPdf	17 50 58.9	-0.1	
TREC			AMS	AMS	18 53 10.0		
	comp=Z,800nm,17.7s						
TANN	Tannenbergstha	141.92 334	ePKPdf	PKPdf	17 50 58.6	-1.3	
WERD	Werda	141.96 334	ePKPdf	PKPdf	17 51 00.1	+0.2	
SOP	Sopron	141.98 328	epPKP	pPKPdf	17 51 05.7	+5.4	
NKC	Novy Kostel	142.06 334	ePKIKP	PKPdf	17 51 00.0	-0.1	
NKC	Novy Kostel	142.06 334	ePKPdf	PKPdf	17 51 00.0	-0.1	
NKC			epPKP	pPKPdf	17 51 04.1	+3.7	
KHC	Kasperske Hory	142.39 332	ePKPpre	PKPpre	17 50 56.9		
KHC	Kasperske Hory	142.39 332	ePKIKP	PKPpre	17 50 56.5		
KHC			e		17 51 09.7		
KHC			MLR	MLR			
	comp=Z,800nm,21.1s,MS5.5						
KHC	Kasperske Hory	142.39 332	ePKPpre	PKPpre	17 50 56.5		
KHC			ePKPdf	PKPdf	17 51 00.6	-0.2	
KHC			ex	x	17 51 09.7		
KHC			AMS	AMS	18 58 10.0		
	comp=Z,800nm,21.1s						
GEC2	GERESS Array S	142.55 331	ePKPdf	PKPdf	17 50 57.2	-3.9	
GEC2	GERESS Array S	142.55 331	ePKIKP	PKPdf	17 50 57.2	-3.9	
GERES	GERESS Array B	142.55 331	PKP	PKPdf	17 50 58.5	-2.6	
	comp=Z,6.1nm,1.0s,baz=62,slow=3.2,SNR=21						
GERES	GERESS Array B	142.55 331	PKP	PKPdf	17 50 58.5	-2.6	
GERES	GERESS Array B	142.55 331	PKIKP	PKPdf	17 50 58.5	-2.6	
GERES			pmax	pmax			
	comp=Z,6.0nm,1.0s						
KOGS	Kog	142.95 327	ePKPdf	PKPdf	17 50 58.0	-3.9	
GRF	Grafenberg Arr	142.98 334	eL		18 55 10.0		
	comp=N,499nm,22.0s						
PERS	Pernice	143.41 328	ePKPdf	PKPdf	17 50 59.8	-2.9	
SOKA	Soboth	143.43 328	iPKPdf	PKPdf	17 50 59.2	-3.5	
	comp=N,15nm,1.3s						
TNS	Taunus Mts	143.64 337	ePKPdf	PKPdf	17 51 00.8	-2.1	
TNS	Taunus Mts	143.64 337	ePKIKP	PKPdf	17 51 00.8	-2.1	
RJOB	Jochberg	143.77 331	ePKPdf	PKPdf	17 51 01.1	-2.1	
TIR	Tirane	143.81 317	PFAKE		17 51 10.0	+6.5	
TIR			LR	LR			
	comp=Z,829nm,21.0s,MS5.5						
KBA	Koelnbreinsper	143.98 330	iPKPdf	PKPdf	17 51 01.1	-2.6	
	comp=Z,38nm,1.2s						
MOZS	Mozjanca	143.99 328	ePKPdf	PKPdf	17 51 01.2	-2.5	
TOD	Tromm	144.01 336	PKP	PKPdf	17 51 00.5	-3.1	
TOD	Tromm	144.01 336	PKIKP	PKPdf	17 51 00.5	-3.1	
BOJS	Bojanci	144.10 326	ePKPdf	PKPdf	17 51 02.5	-1.4	
BEBN	Eben Emael	144.11 340	PKP	PKPdf	17 51 01.9	-1.8	
LJU	Ljubljana	144.12 327	ePKPdf	PKPdf	17 51 02.4	-1.6	
MYKA	Terra Mystica	144.16 329	iPKPdf	PKPdf	17 51 00.7	-3.3	
	comp=Z,43nm,1.5s						
MEM	Membach	144.16 340	PKP	PKPdf	17 51 02.3	-1.5	
STON	Ston	144.34 321	P	PKPdf	17 51 00.7	-3.7	
CADS	Cadrg	144.39 328	ePKPdf	PKPdf	17 51 02.5	-1.9	
VOY	Vojsko	144.45 328	ePKPdf	PKPdf	17 51 02.9	-1.6	
VOY			e		17 51 23.8		
VOY			e		17 51 58.8		
STU	Stuttgart	144.53 335	ePKPdf	PKPdf	17 51 03.4	-1.1	
STU	Stuttgart	144.53 335	ePKPdf	PKPdf	17 51 03.7	-0.9	
STU	Stuttgart	144.53 335	ePKIKP	PKPdf	17 51 03.7	-0.8	
BCLA	Clavier	144.55 340	PKP	PKPdf	17 51 03.2	-1.3	
RUP	Ruppelstein	144.57 338	PKP	PKPdf	17 51 02.7	-1.9	
RUP	Ruppelstein	144.57 338	PKIKP	PKPdf	17 51 02.7	-1.9	
ABTA	Abfaltersbach	144.62 330	iPKPdf	PKPdf	17 51 02.4	-2.4	
	comp=Z,73nm,1.2s						
WATA	Walderalm	144.62 332	iPKPdf	PKPdf	17 51 03.2	-1.5	
	comp=Z,28nm,1.2s						
WTTA	Wattenberg	144.65 331	iPKPdf	PKPdf	17 51 03.3	-1.5	
	comp=Z,62nm,1.5s						
TRI	Trieste	144.73 328	PFAKE		17 51 20.0	+15	
TRI			LR	LR			
	comp=Z,548nm,20.0s,MS5.3						
SNF	Seneffe	144.79 342	PKP	PKPdf	17 51 03.9	-1.1	
MOTA	Moosalm	144.83 332	iPKPdf	PKPdf	17 51 04.0	-1.1	
	comp=Z,65nm,1.1s						
RETA	Reutte	144.87 332	iPKPdf	PKPdf	17 51 04.3	-0.9	
	comp=Z,60nm,1.2s						
LANF	Langenberg	144.90 337	PKP	PKPdf	17 51 04.4	-0.8	
LANF	Langenberg	144.90 337	PKIKP	PKPdf	17 51 04.4	-0.8	
LANF	Langenberg	144.90 337	PKP	PKPdf	17 51 04.4	-0.8	
NVLJ	Novalja	144.92 325	P	PKPdf	17 51 03.4	-1.9	
WLF	Walferdange	144.92 339	PKP	PKPdf	17 51 04.8	-0.4	
WLF	Walferdange	144.92 339	ePKPdf	PKPdf	17 51 05.1	-0.1	
WLF	Walferdange	144.92 339	ePKPdf	PKPdf	17 51 05.3	+0.2	
WLF			LR	LR			
	comp=Z,743nm,21.0s,MS5.4						
WLF	Walferdange	144.92 339	ePKIKP	PKPdf	17 51 05.3	+0.1	
WLF			MLR	MLR			
	comp=Z,743nm,21.0s,MS5.4						
GIVF	Givet	144.98 341	ePKP1	PKPdf	17 51 04.2	-1.1	
	comp=Z,265nm,1.6s						
DOU	Dourbes	145.06 341	PKP	PKPdf	17 51 05.4	0.0	
BAIF	Baives	145.21 341	ePKP1	PKPbc	17 51 05.1	-0.2	
	comp=Z,286nm,1.6s						
BFO	Black Forest	145.23 336	PFAKE		17 51 20.0	+15	
BFO			LR	LR			
	comp=Z,783nm,19.0s,MS5.5						
SPAK	Spaichingen-Ko	145.23 335	PKP	PKPdf	17 51 04.4	-1.4	
FETA	Feichten	145.24 332	iPKPdf	PKPdf	17 51 05.4	-0.4	
	comp=Z,126nm,1.1s						
DAVA	Damuels	145.41 333	iPKPdf	PKPdf	17 51 06.3	+0.2	
	comp=Z,139nm,1.1s						
CDF	Champ du Feu	145.57 337	ePKP1	PKPbc	17 51 06.4	-0.1	
	comp=Z,494nm,1.3s						
LIBD	Limburg	145.66 336	PKP	PKPdf	17 51 07.0	+0.5	
LIBD	Limburg	145.66 336	PKP2	PKPab	17 51 07.0	0.0	
FELD	Feldberg im Sc	145.72 335	PKP	PKPdf	17 51 07.4	+0.8	
ECH	Echery	145.77 337	PKP	PKPdf	17 51 07.2	+0.5	
ECH			LR	LR			
	comp=Z,533nm,19.0s,MS5.3						
ECH	Echery	145.77 337	PKP2	PKPab	17 51 07.2	-0.3	
ECH			MLR	MLR			
	comp=Z,533nm,19.0s,MS5.3						
ECH	Echery	145.77 337	PKP	PKPdf	17 51 07.2	+0.5	
SHEL	Horse Pasture	145.79 191	PFAKE		17 51 20.0	+12	
SHEL			LR	LR			
	comp=Z,514nm,21.0s,MS5.3						
PAGF	Fort de Pagny	146.01 338	ePKP1	PKPbc	17 51 08.2	+0.4	
	comp=Z,342nm,1.8s						
MOF	Molkenrain	146.08 336	PKP	PKPbc	17 51 08.1	0.0	
MOF	Molkenrain	146.08 336	PKP2	PKPbc	17 51 08.1	0.0	
MOF	Molkenrain	146.08 336	PKP	PKPbc	17 51 08.1	0.0	
THEF	They Montfort	146.20 338	PKP	PKPbc	17 51 08.5	+0.1	
THEF	They Montfort	146.20 338	PKP2	PKPbc	17 51 08.5	+0.1	
THEF	They Montfort	146.20 338	PKP	PKPbc	17 51 08.5	+0.1	
HINF	Hinteralfeld	146.22 336	ePKP1	PKPbc	17 51 08.0	-0.5	
	comp=Z,151nm,1.2s						
HAU	Haudompre	146.25 337	ePKP1	PKPbc	17 51 08.3	-0.3	
	comp=Z,252nm,1.4s						
HAU			eR				
	comp=Z,417nm,19.8s						
BBS	Basel-Blauen	146.25 335	PKP	PKPdf	17 51 07.2	-0.3	
BBS	Basel-Blauen	146.25 335	PKP2	PKPdf	17 51 07.2	-0.3	
TUE	Stuetta	146.27 333	ePKPbc	PKPbc	17 51 09.1	+0.3	
TUE			LR	LR			
	comp=Z,971nm,19.0s,MS5.6						
MEZF	Maizieres J'vi	146.29 339	ePKP1	PKPbc	17 51 08.9	+0.2	
	comp=Z,641nm,1.6s						
SFTF	Sexfontaines	146.55 339	ePKP1	PKPbc	17 51 09.5	0.0	
	comp=Z,351nm,1.3s						
LOMF	Lomont	146.61 336	PKP	PKPbc	17 51 09.4	-0.3	
LOMF	Lomont	146.61 336	PKP2	PKPbc	17 51 09.4	-0.3	
LOMF	Lomont	146.61 336	PKP	PKPbc	17 51 09.4	-0.3	
RCBR	Riachuelo	146.94 133	PFAKE		17 51 20.0	+10	
RCBR			LR	LR			
	comp=Z,676nm,19.0s,MS5.5						
CUC	Castrocucco	147.14 318	ePKPdf	PKPdf	17 51 09.4	+0.1	
CUC			LR	LR			
	comp=Z,432nm,22.0s,MS5.2						
AQU	L'Aquila	147.17 324	ePKPdf	PKPdf	17 51 09.3	0.0	
AQU			LR	LR			
	comp=Z,1μm,22.0s,MS5.6						
AQU	L'Aquila	147.17 324	ePKIKP	PKPdf	17 51 09.3	0.0	
AQU			MLR	MLR			
	comp=Z,1μm,22.0s,MS5.6						
CABF	La Chapelle	147.51 336	ePKP1	PKPbc	17 51 12.5	+0.3	
	comp=Z,186nm,1.2s						
FLN	La Foliniere	147.68 345	ePKP1	PKPbc	17 51 12.1	-0.5	
	comp=Z,202nm,1.4s						
FLN			eR				
	comp=Z,809nm,21.0s						
LDF	La Druitiere	147.75 345	ePKP1	PKPbc	17 51 12.1	-0.7	
	comp=Z,33nm,1.2s						
LOR	Lormes	147.76 339	ePKP1	PKPbc	17 51 12.7	-0.2	
	comp=Z,274nm,1.3s						
LOR			eR				
	comp=Z,513nm,19.8s						
CEL	Celeste	148.02 315	PFAKE		17 51 20.0	+9.2	
CEL			LR	LR			
	comp=Z,455nm,21.0s,MS5.2						
RSL	Roselend	148.05 334	PKP	PKPbc	17 51 13.6	-0.1	
RSL	Roselend	148.05 334	PKP2	PKPbc	17 51 13.6	-0.1	
RSL	Roselend	148.05 334	PKP	PKPbc	17 51 13.6	-0.1	
SSF	Saint Saulge	148.06 339	ePKP1	PKPbc	17 51 13.6	-0.1	
	comp=Z,154nm,1.1s						
GRR	Gorron	148.12 345	ePKP1	PKPbc	17 51 13.5	-0.3	
	comp=Z,242nm,1.3s						
LPL	La Plagne	148.15 334	ePKP1	PKPbc	17 51 14.2	+0.2	
	comp=Z,134nm,1.3s						
LPG	La Plagne	148.15 334	ePKP1	PKPbc	17 51 14.4	+0.4	
	comp=Z,170nm,1.4s						
HYF	Humbligny	148.16 340	ePKP1	PKPbc	17 51 14.0	0.0	
SMF	Signal de Mont	148.31 339	ePKP1	PKPbc	17 51 13.9	-0.5	
	comp=Z,143nm,1.1s						
AVF	Avril sur Loir	148.35 339	ePKP1	PKPbc	17 51 13.9	-0.6	
	comp=Z,120nm,1.0s						
BNI	Bardonecchia	148.54 334	PFAKE		17 51 20.0	+8.6	
BNI			LR	LR			
	comp=Z,858nm,19.0s,MS5.6						
SGMF	Saint Gilles	148.63 347	ePKP1	PKPbc	17 51 14.4	-0.7	
	comp=Z,154nm,1.2s						
GDM	Grand'Maison	148.65 334	PKP	PKPbc	17 51 15.8	+0.5	
GDM	Grand'Maison	148.65 334	PKP	PKPbc	17 51 15.8	+0.5	
ROSF	Rostrenen	148.69 348	ePKP1	PKPbc	17 51 14.7	-0.6	
	comp=Z,92nm,1.4s						
BGF	Bois d'Agland	148.72 340	ePKP1	PKPbc	17 51 15.2	-0.2	
	comp=Z,118nm,1.1s						
MBDF	Montbardon	148.76 333	ePKP1	PKPbc	17 51 15.2	-0.4	
	comp=Z,157nm,1.7s						
GRN	Grenoble	148.77 335	PKP	PKPbc	17 51 16.1	+0.5	
GRN	Grenoble	148.77 335	PKP2	PKPbc	17 51 16.1	+0.5	
GRN	Grenoble	148.77 335	PKP	PKPbc	17 51 16.1	+0.5	
SURF	Saint Ours	148.94 333	PKP	PKPbc	17 51 16.7	+0.6	
SURF	Saint Ours	148.94 333	PKP	PKPbc	17 51 16.7	+0.6	
PLDF	La Plantade	148.97 338	PKP	PKPbc	17 51 16.5	+0.4	
PLDF	La Plantade	148.97 338	PKP2	PKPbc	17 51 16.5	+0.4	
PLDF	La Plantade	148.97 338	PKP	PKPbc	17 51 16.5	+0.4	
ORIF	Oris-en-Rattie	148.98 334	ePKP1	PKPbc	17 51 16.1	-0.1	
ORIF			eR				
	comp=Z,588nm,22.5s						
SAOF	Saorge	149.00 331	PKP	PKPbc	17 51 15.9	-0.3	
SAOF	Saorge	149.00 331	PKP2	PKPbc	17 51 15.9	-0.3	
SAOF	Saorge	149.00 331	PKP	PKPbc	17 51 15.9	-0.3	
AUTN	L'Aution	149.05 332	PKP	PKPbc	17 51 16.5	+0.1	
AUTN	L'Aution	149.05 332	PKP2	PKPbc	17 51 16.5	+0.1	
AUTN	L'Aution	149.05 332	PKP	PKPbc	17 51 16.5	+0.1	
AGO	Saint Agoulin	149.07 339	PKP	PKPbc	17 51 16.5	+0.2	
AGO	Saint Agoulin	149.07 339	PKP	PKPbc	17 51 16.5	+0.2	
QUIF	Quistinic	149.07 348	ePKP1	PKPbc	17 51 15.5	-0.8	
	comp=Z,267nm,1.6s						
TOUF	Mont Tournerai	149.12 332	PKP	PKPbc	17 51 15.6	-0.9	
TOUF	Mont Tournerai	149.12 332	PKP2	PKPbc	17 51 15.6	-0.9	
TOUF	Mont Tournerai	149.12 332	PKP	PKPbc	17 51 15.6	-0.9	
SBF	Sospel	149.15 331	ePKP1	PKPbc	17 51 15.8	-0.8	
	comp=Z,274nm,1.4s						
LUCF	Luceram	149.17 332	PKP	PKPbc	17 51 15.6	-1.1	
LUCF	Luceram	149.17 332	PKP	PKPbc	17 51 15.6	-1.1	
TCF	Toulx Ste Croi	149.17 340	ePKP1	PKPbc	17 51 16.3	-0.3	
	comp=Z,180nm,1.3s						
SSB	Saint Sauveur	149.22 336	ePKPbc	PKPbc	17 51 17.0	+0.3	
SSB			LR	LR			
	comp=Z,515nm,20.0s,MS5.3						
SSB	Saint Sauveur	149.22 336	ePKP2	PKPbc	17 51 17.0	+0.3	
SSB			MLR	MLR			
	comp=Z,515nm,20.0s,MS5.3						
MVIF	Mont Vial	149.25 332	PKP	PKPbc	17 51 17.0	+0.1	
MVIF	Mont Vial	149.25 332	PKP2	PKPbc	17 51 17.0	+0.1	
MVIF	Mont Vial	149.25 332	PKP	PKPbc	17 51 17.0	+0.1	
REVF	Revere	149.28 331	PKP	PKPbc	17 51 16.9	0.0	
REVF	Revere	149.28 331	PKP2	PKPbc	17 51 16.9	0.0	
REVF	Revere	149.28 331	PKP	PKPbc	17 51 16.9	0.0	
PYM	Petit Puy Mans	149.37 339	PKP	PKPbc	17 51 17.5	+0.4	
PYM	Petit Puy Mans	149.37 339	PKP2	PKPbc	17 51 17.5	+0.4	
PYM	Petit Puy Mans	149.37 339	PKP	PKPbc	17 51 17.5	+0.4	
PGF	Pioggiola	149.39 328	ePKP1	PKPbc	17 51 16.9	-0.4	
	comp=Z,384nm,1.4s						
CALN	Calern	149.48 332	PKP	PKPbc	17 51 17.7	+0.2	
CALN	Calern	149.48 332	PKP2	PKPbc	17 51 17.7	+0.2	
CALN	Calern	149.48 332	PKP	PKPbc	17 51 17.7	+0.2	
VIVF	Saint-Julien-l	149.52 336	ePKP1	PKPbc	17 51 17.4	-0.1	
	comp=Z,127nm,1.4s						
VERF	Verneugheol	149.55 339	PKP	PKPbc	17 51 18.0	+0.4	
VERF	Verneugheol	149.55 339	PKP	PKPbc	17 51 18.0	+0.4	
MFF	Saint Martin d	149.59 343	ePKP1	PKPbc	17 51 17.2	-0.4	
	comp=Z,240nm,1.3s						
STOF	St-Etienne Org	149.72 333	PKP	PKPbc	17 51 18.5	+0.5	
LBL	Lubilhac	149.74 338	PKP	PKPbc	17 51 18.7	+0.7	
FRF	La Foret Royal	149.74 332	ePKP1	PKPbc	17 51 17.5	-0.6	
	comp=Z,93nm,1.1s						
SMRF	Simiane la Rot	149.88 334	ePKP1	PKPbc	17 51 18.5	+0.1	
	comp=Z,371nm,1.7s						
VILF	Villemus	149.92 333	PKP	PKPbc	17 51 18.7	+0.2	
VILF	Villemus	149.92 333	PKP	PKPbc	17 51 18.7	+0.2	
LMR	La Mourre	149.98 332	ePKP1	PKPbc	17 51 18.2	-0.5	
	comp=Z,214nm,1.4s						
RJF	Les Rejaudoux	150.26 340	ePKP1	PKPbc	17 51 19.2	-0.1	
	comp=Z,132nm,1.2s						
RJF			eR				
	comp=Z,717nm,20.2s						
CAF	Calviac	150.42 339	ePKP1	PKPbc	17 51 19.7	0.0	
	comp=Z,131nm,1.2s						
LASF	Ste Croix	150.49 336	ePKP1	PKPbc	17 51 19.9	0.0	
	comp=Z,124nm,1.1s						
LFF	La Frestale	150.84 341	ePKP1	PKPbc	17 51 20.5	-0.2	
	comp=Z,168nm,1.2s						
MTLF	Montolieu	151.74 337	ePKP1	PKPbc	17 51 22.5	-0.3	
	comp=Z,95nm,1.2s						
EPF	Esparros	152.67 339	ePKP1	PKPbc	17 51 24.5	-0.5	
	comp=Z,61nm,1.4s						
ETSF	Etsaut	153.08 341	ePKP1	PKPbc	17 51 25.9	0.0	
	comp=Z,87nm,1.3s						
SJPF	Ste Jean	153.09 342	ePKP1	PKPbc	17 51 25.4	-0.5	
	comp=Z,97nm,1.5s						
PGAV	Gavieira, Arco	155.70 353	ePKPdf	PKPdf	17 51 23.8	+1.6	
PGAV	Gavieira, Arco	155.70 353	ePKPab	PKPab	17 51 47.4	-0.9	
PCAB	Cabril	155.92 352	ePKPab	PKPab	17 51 50.5	+1.2	
POLO	Lamas de Olo	156.22 351	ePKPdf	PKPdf	17 51 22.8	-0.1	
POLO	Lamas de Olo	156.22 351	ePKPab	PKPab	17 51 47.7	-2.9	
MVO	Moncorvo	156.31 350	ePKPab	PKPab	17 51 50.3	-0.6	
PVIS	Viseu	156.88 351	ePKPab	PKPab	17 51 54.0	+0.6	
ESDC	Sonseca Array	157.06 343	PKP	PKPdf	17 51 24.3	+0.2	
	comp=Z,0.3nm,0.3s,baz=326,slow=2.1,SNR=4.4						
ESDC			PKPab	PKPab	17 51 53.0	-1.3	
	comp=Z,1.1nm,0.5s,baz=29,slow=3.2,SNR=6.1						
ESDC	Sonseca Array	157.06 343	PKP	PKPdf	17 51 24.3	+0.2	
ESDC			PKPab	PKPab	17 51 53.0	-1.3	
ESLA	Sonseca Array	157.06 343	PFAKE		17 51 30.0	+5.9	
ESLA			LR	LR			
	comp=Z,3μm,20.0s,MS6.2						
MTE	Manteigas	157.14 350	PFAKE		17 51 30.0	+5.9	
MTE			LR	LR			
	comp=Z,673nm,20.0s,MS5.5						
PAB	San Pablo	157.28 344	PFAKE		17 51 40.0	+16	
PAB			LR	LR			
	comp=Z,779nm,20.0s,MS5.5						
PCBR	Castelo Branco	157.67 350	ePKPab	PKPab	17 51 56.9	+0.1	
PMRV	Marv??o	158.06 350	ePKPab	PKPab	17 51 58.3	-0.2	
PMTG	Montargil	158.54 351	ePKPab	PKPab	17 52 01.1	+0.5	
LIS	Lisbon	159.01 353	eP	PKPdf	17 51 24.5	-1.9	
LIS			AMS	AMS	18 58 34.2		
	comp=E,1μm,25.4s						
LIS	Lisbon	159.01 353	ePKIKP	PKPdf	17 51 24.5	-2.0	
EVO	Evora	159.04 350	ePKP2	PKPab	17 52 02.8	0.0	
	comp=E,43nm,1.4s						
EVO			eR				
	comp=E,718nm,19.8s						
EVO	Evora	159.04 350	ePKPab	PKPab	17 52 02.2	-0.6	
PBAR	Barrancos	159.21 348	ePKPab	PKPab	17 52 04.1	+0.5	
PBEJ	Beja	159.51 350	ePKPab	PKPab	17 52 05.5	+0.7	
PNCL	Nicolau / Gran	159.53 351	ePKPab	PKPab	17 52 05.4	+0.5	
MESJ	Messejana	159.75 350	eP	PKPdf	17 51 25.6	-1.7	
MESJ			e		17 51 37.3		
	baz=158,slow=6.9						
MESJ			eSS	SS	18 15 54.1	-0.4	
MESJ			eSS	SS	18 15 55.0	+0.5	
MESJ			AMS	AMS	18 59 14.1		
	comp=Z,452nm,24.2s,MS5.2						
MESJ	Messejana	159.75 350	ePKIKP	PKPdf	17 51 25.6	-1.8	
MESJ			eSS	SS	18 15 54.1	-0.4	
PCVE	Castro Verde	159.92 350	ePKPab	PKPab	17 52 07.0	+0.3	
MORF	Marmelete	160.34 351	ePKIKP	PKPdf	17 51 26.1	-1.9	
SFS	San Fernando	160.67 345	PFAKE		17 51 40.0	+12	
SFS			LR	LR			
	comp=Z,2μm,21.0s						
TAM	Tamanrasset	162.52 289	PFAKE		17 51 40.0	+9.2	
TAM			LR	LR			
	comp=Z,654nm,19.0s						
TORD	Torodi Ar. Bea	165.67 253	PKP	PKPdf	17 51 33.0	-0.8	
	comp=Z,8.0nm,1.0s,baz=59,slow=1.2,SNR=31						
TORD			PKPab	PKPab	17 52 32.2	-0.5	
	comp=Z,13nm,1.1s,baz=103,slow=4.3,SNR=10						
TORD			PP	PP	17 56 17.1	-2.8	
	comp=Z,3.6nm,1.2s,baz=155,slow=3.8,SNR=5.8						
TORD	Torodi

KSAR	**Wonju Array Be**	**66.48 326**	P	**P**	**17 48 36.8 +0.9**			
PETK	**Petropavlovsk-**	**71.15 354**	P	**P**	**17 49 04.2 -0.5**			
	14nm,1.0s,mb4.8,baz=140,slow=4.2,SNR=7.0							
PETK	**Petropavlovsk-**	**71.15 354**	P	**P**	**17 49 04.2 -0.5**			
QSPA	**South Pole Qui**	**72.23 180**	*eP*	**P**	**17 49 10.4 -0.5**			
ENH	**Enshi**	**73.58 310**	*eP*	**P**	**17 49 19.7 0.0**			
	8.1nm,0.9s,mb4.7							
CMAR	**Chiang Mai Arr**	**76.52 295**	P	**P**	**17 49 38.6 +1.8**			
	7.1nm,1.1s,mb4.5,baz=131,slow=5.2,SNR=17							
CMAR	**Chiang Mai Arr**	**76.52 295**	P	**P**	**17 49 38.6 +1.8**			
MAW	**Mawson**	**79.16 202**	P	**P**	**17 49 51.2 +0.4**			
	4.1nm,1.1s,mb4.3,baz=117,slow=5.5,SNR=3.9							
MAW	**Mawson**	**79.16 202**	P	**P**	**17 49 51.2 +0.4**			
ULN	**Ulaanbaatar**	**84.81 324**	*eP*	**P**	**17 50 21.3 +0.6**			
SONM	**Songino Array**	**85.17 324**	P	**P**	**17 50 23.4 +0.9**			
	3.4nm,1.0s,mb4.5,baz=132,slow=5.8,SNR=8.9							
SONM	**Songino Array**	**85.17 324**	P	**P**	**17 50 23.4 +0.9**			
BILL	**Bilibino**	**85.62 359**	*eP*	**P**	**17 50 24.2 -0.1**			
	30nm,1.3s,mb5.4							
NVAR	**Mina Array Bea**	**89.03 49**	P	**P**	**17 50 41.0 -0.5**			
	1.3nm,1.0s,mb4.2,baz=237,slow=6.6,SNR=4.0							
NVAR	**Mina Array Bea**	**89.03 49**	P	**P**	**17 50 41.0 -0.5**			
ILAR	**Eielson Array**	**89.35 18**	P	**P**	**17 50 41.2 -1.1**			
	0.8nm,0.7s,mb4.2,baz=242,slow=5.2,SNR=8.8							
ILAR	**Eielson Array**	**89.35 18**	P	**P**	**17 50 41.2 -1.1**			
SNAA	**Sanae**	**90.50 183**	*e*	**P**	**17 50 47.5 -0.3**			
SNAA	**Sanae**	**90.50 183**	*eP*	**P**	**17 50 45.9 -2.0**			
ARCES	**ARCESS Array B**	**123.31 345**	PKP	PKPdf	17 56 42.7 0.0			
	2.9nm,0.8s,baz=48,slow=3.6,SNR=4.6							
ARCES	**ARCESS Array B**	**123.31 345**	PKP	PKPdf	17 56 42.7 0.0			
CLL	**Collm**	**140.99 335**	*e*PKPdf	PKPdf	17 57 15.0 -1.5			
GERES	**GERESS Array B**	**142.52 331**	PKP	PKPdf	17 57 19.6 +0.4			
	0.2nm,0.3s,baz=56,slow=6.0,SNR=4.2							
GERES	**GERESS Array B**	**142.52 331**	PKP	PKPdf	17 57 19.6 +0.4			
GIVF	**Givet**	**144.95 341**	*e*PKP1	PKPdf	17 57 22.3 -1.2			
BAIF	**Baives**	**145.18 341**	*e*PKP1	PKPbc	17 57 23.3 -0.2			
BFO	**Black Forest**	**145.20 336**	*eP*	PKPbc	17 57 23.7 +0.1			
CDF	**Champ du Feu**	**145.54 337**	*e*PKP1	PKPbc	17 57 24.6 -0.1			
	69nm,1.2s							
PAGF	**Fort de Pagny**	**145.98 338**	*e*PKP1	PKPbc	17 57 26.2 +0.2			
	13nm,1.2s							
HINF	**Hinteralfeld**	**146.19 336**	*e*PKP1	PKPbc	17 57 26.1 -0.6			
	10nm,0.9s							
HAU	**Haudompre**	**146.22 337**	*e*PKP1	PKPbc	17 57 26.4 -0.4			
MEZF	**Maizieres J'vi**	**146.26 339**	*e*PKP1	PKPbc	17 57 27.1 +0.2			
SFTF	**Sexfontaines**	**146.52 339**	*e*PKP1	PKPbc	17 57 27.7 0.0			
	17nm,0.8s							
CABF	**La Chapelle**	**147.48 336**	*e*PKP1	PKPbc	17 57 30.6 +0.2			
	84nm,1.5s							
FLN	**La Foliniere**	**147.65 345**	*e*PKP1	PKPbc	17 57 30.2 -0.6			
	43nm,1.1s							
LDF	**La Druitiere**	**147.72 345**	*e*PKP1	PKPbc	17 57 30.3 -0.7			
LOR	**Lormes**	**147.73 339**	*e*PKP1	PKPbc	17 57 30.8 -0.3			
	27nm,1.2s							
SSF	**Saint Saulge**	**148.03 339**	*e*PKP1	PKPbc	17 57 31.7 -0.2			
	24nm,1.0s							
GRR	**Gorron**	**148.09 345**	*e*PKP1	PKPbc	17 57 31.4 -0.6			
	73nm,1.3s							
LPL	**La Plagne**	**148.12 334**	*e*PKP1	PKPbc	17 57 32.4 +0.2			
LPG	**La Plagne**	**148.12 334**	*e*PKP1	PKPbc	17 57 32.5 +0.3			
	35nm,1.3s							
SMF	**Signal de Mont**	**148.28 339**	*e*PKP1	PKPbc	17 57 32.1 -0.5			
	48nm,1.3s							
AVF	**Avril sur Loir**	**148.32 339**	*e*PKP1	PKPbc	17 57 31.9 -0.8			
	16nm,1.0s							
SGMF	**Saint Gilles**	**148.60 347**	*e*PKP1	PKPbc	17 57 32.8 -0.6			
ROSF	**Rostrenen**	**148.67 348**	*e*PKP1	PKPbc	17 57 32.9 -0.6			
BGF	**Bois d'Agland**	**148.69 340**	*e*PKP1	PKPbc	17 57 33.4 -0.3			
	19nm,1.0s							
MBDF	**Montbardon**	**148.73 333**	*e*PKP1	PKPbc	17 57 32.9 -0.9			
	20nm,1.1s							
ORIF	**Oris-en-Rattie**	**148.95 334**	*e*PKP1	PKPbc	17 57 34.3 -0.1			
	22nm,1.0s							
QUIF	**Quistinic**	**149.05 348**	*e*PKP1	PKPbc	17 57 34.0 -0.5			
	74nm,1.5s							
SBF	**Sospel**	**149.12 331**	*e*PKP1	PKPbc	17 57 34.1 -0.7			
	31nm,0.9s							
TCF	**Toulx Ste Croi**	**149.14 340**	*e*PKP1	PKPbc	17 57 34.5 -0.3			
	34nm,1.3s							
PGF	**Pioggiola**	**149.36 328**	*e*PKP1	PKPbc	17 57 35.2 -0.3			
VIVF	**Saint-Julien-l**	**149.49 336**	*e*PKP1	PKPbc	17 57 35.5 -0.2			
MFF	**Saint Martin d**	**149.56 343**	*e*PKP1	PKPbc	17 57 35.5 -0.3			
	129nm,1.8s							
FRF	**La Foret Royal**	**149.71 332**	*e*PKP1	PKPbc	17 57 35.7 -0.6			
	113nm,1.6s							
SMRF	**Simiane la Rot**	**149.85 334**	*e*PKP1	PKPbc	17 57 36.5 -0.1			
LMR	**La Mourre**	**149.95 332**	*e*PKP1	PKPbc	17 57 36.2 -0.7			
RJF	**Les Rejaudoux**	**150.24 340**	*e*PKP1	PKPbc	17 57 37.2 -0.3			
	76nm,1.6s							
LASF	**Ste Croix**	**150.46 336**	*e*PKP1	PKPbc	17 57 37.9 -0.2			
	28nm,1.1s							
LFF	**La Frestale**	**150.81 341**	*e*PKP1	PKPbc	17 57 38.5 -0.4			
MTLF	**Montolieu**	**151.71 337**	*e*PKP1	PKPbc	17 57 40.7 -0.4			
	26nm,1.2s							
EPF	**Esparros**	**152.65 339**	*e*PKP1	PKPbc	17 57 42.5 -0.7			
	28nm,1.2s							
ETSF	**Etsaut**	**153.06 341**	*e*PKP1	PKPbc	17 57 43.7 -0.4			
TORD	**Torodi Ar. Bea**	**165.66 253**	PKPab	PKPab	17 58 49.2 -1.8			
	2.2nm,1.1s,baz=81,slow=2.0,SNR=3.6							
TORD	**Torodi Ar. Bea**	**165.66 253**	PKPab	PKPab	17 58 49.2 -1.8			

CRAAG ***27*** *17:38:20.4,36.55N×5.02E,Ml4.0*
CSEM ***27*** *17:38:23.0±0.2,36.66N×5.21E,h2km,ML4.0,Error ellipse: s-maj=4.6km s-min=3.5km az=37.0*
NEIC ***27*** *17:38:23.7±0.5,36.64N×5.23E,h10km,ML3.5(ALG), Error ellipse: s-maj=7.2km s-min=5.5km az=47.0*
LDG ***27*** *17:38:30.8±0.3,37.13N×4.53E,h10km,Ml3.6/10,Error ellipse: s-maj=5.9km s-min=3.3km az=150.0*

MDD 27 17:38:23.5±0.4,36.59N×5.11E,h0km,mb4.1/32,Error ellipse: s-maj=7.2km s-min=3.6km az=43.0,PRIMO, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET	**Setif**	**0.45**	**149**	P	Pg	17 38 32.0	-0.2
SET	**Setif**	**0.45**	**149**	P	Pg	17 38 32.0	-0.2
SET	**Setif**	**0.45**	**149**	P	Pg	17 38 32.0	-0.2
CKHR	**Kef el Ahmar**	**0.66**	**151**	P	Pg	17 38 35.0	-1.1
CKHR	**Kef el Ahmar**	**0.66**	**151**	P	Pg	17 38 35.0	-1.1
CKHR	**Kef el Ahmar**	**0.66**	**151**	P	Pg	17 38 35.0	-1.1
CKHR	**Kef el Ahmar**	**0.66**	**151**	P	Pg	17 38 35.0	-1.1
CASM	**Ain Smara**	**1.16**	**106**	P	Pg	17 38 45.0	-0.7
CASM	**Ain Smara**	**1.16**	**106**	P	Pg	17 38 45.0	-0.7
CASM	**Ain Smara**	**1.16**	**106**	P	Pg	17 38 45.0	-0.7
CTEI	**Djebel Teioual**	**1.17**	**116**	P	Pg	17 38 46.0	+0.1
CTEI	**Djebel Teioual**	**1.17**	**116**	P	Pg	17 38 46.0	+0.1
CTEI	**Djebel Teioual**	**1.17**	**116**	P	Pg	17 38 46.0	+0.1
CKFL	**Kef-Lekhel**	**1.31**	**98**	P	Pg	17 38 52.0	+3.4
CKFL	**Kef-Lekhel**	**1.31**	**98**	P	Pg	17 38 52.0	+3.4
CKFL	**Kef-Lekhel**	**1.31**	**98**	P	Pg	17 38 52.0	+3.4
ABMS	**Boumerdes**	**1.32**	**277**	P	Pg	17 38 46.5	-2.4
ABMS	**Boumerdes**	**1.32**	**277**	P	Pg	17 38 46.5	-2.4
ABMS	**Boumerdes**	**1.32**	**277**	P	Pg	17 38 46.5	-2.4
CAEH	**'Ain El Ouahch**	**1.41**	**82**	P	Pn	17 38 48.0	-2.4
CAEH	**'Ain El Ouahch**	**1.41**	**82**	P	Pn	17 38 49.8	-0.6
CAEH	**'Ain El Ouahch**	**1.41**	**82**	P	Pn	17 38 48.0	-2.4
CAEH	**'Ain El Ouahch**	**1.41**	**82**	P	Pn	17 38 48.0	-2.4
ABA	**Alger-Bouzarea**	**1.68**	**278**	P	Pn	17 38 52.4	-1.8
ABA	**Alger-Bouzarea**	**1.68**	**278**	P	Pn	17 38 52.4	-1.8
ABA	**Alger-Bouzarea**	**1.68**	**278**	P	Pn	17 38 52.4	-1.8
EMHD	**Djebel Mahouad**	**1.79**	**258**	P	Pn	17 39 01.3	+5.7
EMHD	**Djebel Mahouad**	**1.79**	**258**	P	Pn	17 39 01.3	+5.7
EMHD	**Djebel Mahouad**	**1.79**	**258**	P	Pn	17 39 01.3	+5.7
CMAH	**Djebel Manchou**	**1.85**	**88**	P	Pn	17 38 52.3	-4.2
CMAH	**Djebel Manchou**	**1.85**	**88**	P	Pn	17 38 52.3	-4.2
CMAH	**Djebel Manchou**	**1.85**	**88**	P	Pn	17 38 52.3	-4.2
EBNR	**Beni Rached**	**2.91**	**265**	P	Pn	17 39 23.4	+12
EBNR	**Beni Rached**	**2.91**	**265**	P	Pn	17 39 23.4	+12
EANR	**'Ain N'Sour**	**3.31**	**260**	P	Pn	17 39 21.0	+4.5
EANR	**'Ain N'Sour**	**3.31**	**260**	P	Pn	17 39 21.0	+4.5
EANR	**'Ain N'Sour**	**3.31**	**260**	P	Pn	17 39 21.0	+4.5
ETRT	**Tiaret**	**3.32**	**250**	P	Pn	17 39 17.1	+0.4
ETRT	**Tiaret**	**3.32**	**250**	P	Pn	17 39 17.1	+0.4
ETRT	**Tiaret**	**3.32**	**250**	P	Pn	17 39 17.1	+0.4
ETOS	**Mallorca**	**3.65**	**331**	P	Pn	17 39 19.9	-1.3
ETOS				S	Sn	17 39 58.8	-6.3
ETOS	**Mallorca**	**3.65**	**331**	P	Pn	17 39 19.9	-1.3
	15nm,0.3s,SNR=16						
ETOS				S	Sn	17 40 02.2	-2.8
	34nm,0.4s,SNR=4.8						
ETOS	**Mallorca**	**3.65**	**331**	P	Pn	17 39 19.9	-1.3
	15nm,0.3s,SNR=16						
ETOS				S	Sn	17 39 58.8	-6.2
	34nm,0.4s,SNR=4.8						
EIBI	**Ibiza**	**3.85**	**310**	P	Pn	17 39 23.5	-0.4
EIBI				S	Sn	17 40 04.5	-5.4
EIBI	**Ibiza**	**3.85**	**310**	P	Pn	17 39 23.5	-0.4
	5.8nm,0.3s,SNR=7.9						
EIBI				S	Sn	17 40 05.6	-4.3
	61nm,1.1s,SNR=7.9						
EIBI	**Ibiza**	**3.85**	**310**	P	Pn	17 39 23.5	-0.5
	5.8nm,0.3s,SNR=7.9						
EIBI				S	Sn	17 40 04.5	-5.4
	61nm,1.1s,SNR=7.9						
EBEN	**Beniarda**	**4.73**	**298**	P	Pn	17 39 35.5	-0.6
EBEN				S	Sn	17 40 26.7	-5.0
EBEN	**Beniarda**	**4.73**	**298**	P	Pn	17 39 34.7	-1.4
	4.5nm,0.4s,SNR=14						
EBEN				S	Sn	17 40 26.7	-5.0
	92nm,1.5s						
EBEN	**Beniarda**	**4.73**	**298**	P	Pn	17 39 35.5	-0.6
	4.5nm,0.4s,SNR=14						
EBEN				S	Sn	17 40 26.7	-5.0
	92nm,1.5s						
EMUR	**La Murta**	**5.22**	**286**	P	Pn	17 39 42.8	-0.1
EMUR				S	Sn	17 40 39.7	-4.1
EMUR	**La Murta**	**5.22**	**286**	P	Pn	17 39 42.6	-0.2
	2.9nm,0.2s,SNR=5.9						
EMUR				S	Sn	17 40 37.5	-6.3
	11nm,0.6s						
EMUR	**La Murta**	**5.22**	**286**	P	Pn	17 39 42.8	0.0
	2.9nm,0.2s,SNR=5.9						
EMUR				S	Sn	17 40 39.7	-4.1
	11nm,0.6s						
CFON	**Fontmartina**	**5.57**	**339**	P	Pn	17 39 45.5	-2.0
CFON				S	Sn	17 40 44.1	-8.1
CFON	**Fontmartina**	**5.57**	**339**	P	Pn	17 39 45.5	-2.0
	5.4nm,0.2s,SNR=9.8						
CFON				S	Sn	17 40 44.1	-8.1
	36nm,1.0s						
CFON	**Fontmartina**	**5.57**	**339**	P	Pn	17 39 45.5	-2.0
	5.4nm,0.2s,SNR=9.8						
CFON				S	Sn	17 40 44.1	-8.1
	36nm,1.0s						
ECHE	**Chera**	**5.65**	**304**	P	Pn	17 39 48.7	0.0
ECHE	**Chera**	**5.65**	**304**	P	Pn	17 39 48.7	0.0
	7.7nm,0.3s,SNR=8.3						
ECHE	**Chera**	**5.65**	**304**	P	Pn	17 39 48.7	-0.1
	7.7nm,0.3s,SNR=8.3						
ETOB	**Tobarra**	**5.67**	**293**	P	Pn	17 39 49.1	+0.1
ETOB				S	Sn	17 40 49.8	-5.0
ETOB	**Tobarra**	**5.67**	**293**	P	Pn	17 39 48.5	-0.5
	3.4nm,0.3s,SNR=15						
ETOB				S	Sn	17 40 49.8	-5.0
	34nm,1.3s						
ETOB	**Tobarra**	**5.67**	**293**	P	Pn	17 39 49.2	+0.2
ETOB				S	Sn	17 40 49.8	-5.0
	34nm,1.3s						
EPOB	**Poblet**	**5.70**	**328**	P	Pn	17 39 47.8	-1.5
EPOB				S	Sn	17 40 47.6	-7.8
EPOB	**Poblet**	**5.70**	**328**	P	Pn	17 39 47.8	-1.5
	5.1nm,0.2s,SNR=15						
EPOB				S	Sn	17 40 47.6	-7.8
	6.5nm,0.4s						
EPOB	**Poblet**	**5.70**	**328**	P	Pn	17 39 47.8	-1.6
	5.1nm,0.2s,SNR=15						
EPOB				S	Sn	17 40 47.6	-7.9
	6.5nm,0.4s						
ERTA	**Horta de San J**	**5.74**	**321**	P	Pn	17 39 49.6	-0.3
ERTA				S	Sn	17 40 49.3	-7.2
ERTA	**Horta de San J**	**5.74**	**321**	P	Pn	17 39 49.6	-0.3
	4.7nm,0.4s,SNR=7.9						
ERTA				S	Sn	17 40 50.5	-6.0
	24nm,1.3s,SNR=7.9						
ERTA	**Horta de San J**	**5.74**	**321**	P	Pn	17 39 49.6	-0.3
	4.7nm,0.4s,SNR=7.9						
ERTA				S	Sn	17 40 49.3	-7.2
	24nm,1.3s,SNR=7.9						
EMOS	**Mosqueruela**	**5.78**	**312**	P	Pn	17 39 50.6	+0.1
EMOS				S	Sn	17 40 50.5	-6.9
EMOS	**Mosqueruela**	**5.78**	**312**	P	Pn	17 39 50.6	+0.1
	0.2nm,0.2s,SNR=7.7						
EMOS				S	Sn	17 40 51.5	-5.9
	151nm,2.0s						
EMOS	**Mosqueruela**	**5.78**	**312**	P	Pn	17 39 50.6	+0.1
	0.2nm,0.2s,SNR=7.7						
EMOS				S	Sn	17 40 50.5	-6.9
	151nm,2.0s						
EMIR	**Miracle**	**6.00**	**333**	P	Pn	17 39 53.1	-0.4
EMIR				S	Sn	17 40 55.2	-7.7
EMIR	**Miracle**	**6.00**	**333**	P	Pn	17 39 53.1	-0.4
	3.8nm,0.2s,SNR=20						
EMIR				S	Sn	17 40 57.8	-5.1
	69nm,1.3s,SNR=7.9						
EMIR	**Miracle**	**6.00**	**333**	P	Pn	17 39 53.1	-0.4
	3.8nm,0.2s,SNR=20						
EMIR				S	Sn	17 40 55.2	-7.7
	69nm,1.3s,SNR=7.9						
EJON	**La Jonquera**	**6.10**	**344**	P	Pn	17 39 53.4	-1.5
EJON				S	Sn	17 40 57.4	-7.9
EJON	**La Jonquera**	**6.10**	**344**	P	Pn	17 39 52.5	-2.4
	1.4nm,0.3s,SNR=7.9						
EJON				S	Sn	17 41 00.4	-4.9
	39nm,1.3s,SNR=7.9						
EJON	**La Jonquera**	**6.10**	**344**	P	Pn	17 39 53.3	-1.5
	1.4nm,0.3s,SNR=7.9						
EJON				S	Sn	17 40 57.4	-7.9
	39nm,1.3s,SNR=7.9						
CLLI	**Llivia**	**6.36**	**339**	P	Pn	17 39 57.2	-1.2
CLLI				S	Sn	17 41 03.3	-8.5
CLLI	**Llivia**	**6.36**	**339**	P	Pn	17 39 57.2	-1.2
	1.5nm,0.2s,SNR=9.9						
CLLI				S	Sn	17 41 05.3	-6.4
	23nm,0.9s						
CLLI	**Llivia**	**6.36**	**339**	P	Pn	17 39 57.2	-1.2
	1.5nm,0.2s,SNR=9.9						
CLLI				S	Sn	17 41 03.3	-8.4
	23nm,0.9s						
EVIA	**Vianos**	**6.38**	**291**	P	Pn	17 39 58.6	-0.2
EVIA				S	Sn	17 41 06.8	-5.5
EVIA	**Vianos**	**6.38**	**291**	P	Pn	17 39 58.4	-0.3
	13nm,0.5s,SNR=4.7						
EVIA				S	Sn	17 41 06.1	-6.2
	18nm,1.0s,SNR=7.9						
EVIA	**Vianos**	**6.38**	**291**	P	Pn	17 39 58.6	-0.2
	13nm,0.5s,SNR=4.7						
EVIA				S	Sn	17 41 06.8	-5.5
	18nm,1.0s,SNR=7.9						
EBER	**Berja**	**6.43**	**275**	P	Pn	17 40 00.8	+1.3
EBER				S	Sn	17 41 10.2	-3.5
EBER	**Berja**	**6.43**	**275**	P	Pn	17 39 56.9	-2.5
	0.4nm,0.1s,SNR=7.9						
EBER				S	Sn	17 41 09.0	-4.6
	466nm,1.9s,SNR=7.9						
EBER	**Berja**	**6.43**	**275**	P	Pn	17 40 00.8	+1.3
	0.4nm,0.1s,SNR=7.9						
EBER				S	Sn	17 41 10.1	-3.5
	466nm,1.9s,SNR=7.9						
CSOR	**Sort**	**6.54**	**333**	P	Pn	17 39 59.8	-1.2
CSOR				S	Sn	17 41 07.8	-8.5
CSOR	**Sort**	**6.54**	**333**	P	Pn	17 39 59.8	-1.2
	1.6nm,0.2s,SNR=15						
CSOR				S	Sn	17 41 10.5	-5.8
	11nm,0.4s,SNR=6.2						
CSOR	**Sort**	**6.54**	**333**	P	Pn	17 39 59.8	-1.2
	1.6nm,0.2s,SNR=15						
CSOR				S	Sn	17 41 07.8	-8.5
	11nm,0.4s,SNR=6.2						
EQES	**Quesada**	**6.64**	**283**	P	Pn	17 40 03.8	+1.5
EQES				S	Sn	17 41 13.8	-4.9
EQES	**Quesada**	**6.64**	**283**	P	Pn	17 40 03.8	+1.4
	1.2nm,0.4s,SNR=12						
EQES				S	Sn	17 41 13.9	-4.9
	5.5nm,0.6s						
EQES	**Quesada**	**6.64**	**283**	P	Pn	17 40 03.8	+1.4
	1.2nm,0.4s,SNR=12						
EQES				S	Sn	17 41 13.9	-4.9
	5.5nm,0.6s						
PGF	**Pioggiola**	**6.66**	**26**	*e*Pn	Pn	17 40 03.1	+0.5
PGF				*e*Sn	Sn	17 41 11.5	-7.7
	6.7nm,0.3s						
PGF	**Pioggiola**	**6.66**	**26**	P	Pn	17 40 03.1	+0.5
PGF				S	Sn	17 41 11.5	-7.7
	3.3nm,0.3s						
PGF	**Pioggiola**	**6.66**	**26**	*e*Pn	Pn	17 40 03.1	+0.5
ESAC	**San Caprasio**	**6.71**	**321**	P	Pn	17 40 02.5	-0.8
ESAC				S	Sn	17 41 12.7	-7.7
ESAC	**San Caprasio**	**6.71**	**321**	P	Pn	17 40 02.5	-0.8
	4.3nm,0.2s,SNR=7.9						
ESAC				S	Sn	17 41 15.4	-5.0
	84nm,1.1s,SNR=7.9						
ESAC	**San Caprasio**	**6.71**	**321**	P	Pn	17 40 02.5	-0.8
	4.3nm,0.2s,SNR=7.9						
ESAC				S	Sn	17 41 12.7	-7.7
	84nm,1.1s,SNR=7.9						
LMR	**La Mourre**	**6.82**	**9**	*e*Pn	Pn	17 40 02.0	-2.7
LMR				*e*Sn	Sn	17 41 12.4	-11
	5.1nm,0.2s						
LMR	**La Mourre**	**6.82**	**9**	P	Pn	17 40 02.0	-2.7
LMR				S	Sn	17 41 12.4	-11
	2.6nm,0.2s						
LMR	**La Mourre**	**6.82**	**9**	*e*Pn	Pn	17 40 02.0	-2.7
EQUE	**Quentar**	**6.88**	**278**	P	Pn	17 40 07.4	+1.8
	0.8nm,0.2s,SNR=7.9						
EQUE				S	Sn	17 41 20.1	-4.5
	4.2nm,0.6s,SNR=7.9						
ECOG	**Cogollos-Vega**	**6.99**	**278**	P	Pn	17 40 08.7	+1.7
ECOG				S	Sn	17 41 21.8	-5.4
ECOG	**Cogollos-Vega**	**6.99**	**278**	P	Pn	17 40 08.7	+1.6
	4.3nm,0.4s,SNR=7.9						
ECOG				S	Sn	17 41 21.8	-5.4
	12nm,0.7s,SNR=7.9						
ETOR	**Torete**	**7.02**	**309**	P	Pn	17 40 06.6	-0.8
ETOR				S	Sn	17 41 19.4	-8.5
ETOR	**Torete**	**7.02**	**309**	P	Pn	17 40 06.6	-0.8
	1.5nm,0.3s,SNR=5.7						
ETOR				S	Sn	17 41 20.9	-7.0
	10nm,0.5s,SNR=7.9						
ETOR	**Torete**	**7.02**	**309**	P	Pn	17 40 06.6	-0.9
	1.5nm,0.3s,SNR=5.7						
ETOR				S	Sn	17 41 19.4	-8.5
	10nm,0.5s,SNR=7.9						
FRF	**La Foret Royal**	**7.06**	**9**	*e*Pn	Pn	17 40 04.7	-3.3
FRF				*e*Sn	Sn	17 41 18.5	-10
	18nm,0.6s						
FRF	**La Foret Royal**	**7.06**	**9**	P	Pn	17 40 04.7	-3.3
FRF				S	Sn	17 41 18.5	-10
	8.9nm,0.6s						
MTLF	**Montolieu**	**7.10**	**343**	*e*Pn	Pn	17 40 06.8	-1.8
MTLF				*e*Sn	Sn	17 41 13.3	-17
	9.6nm,0.5s						
MTLF	**Montolieu**	**7.10**	**343**	P	Pn	17 40 06.8	-1.8
MTLF				S	Sn	17 41 13.3	-17
	4.8nm,0.5s						
MTLF	**Montolieu**	**7.10**	**343**	*e*Pn	Pn	17 40 06.8	-1.8
EBIE	**Bielsa**	**7.19**	**329**	P	Pn	17 40 09.7	-0.2
EBIE				S	Sn	17 41 22.8	-9.4
EBIE	**Bielsa**	**7.19**	**329**	P	Pn	17 40 09.7	-0.2
	3.3nm,0.3s,SNR=7.9						
EBIE				S	Sn	17 41 27.6	-4.7
	7.5nm,0.9s,SNR=7.9						
EBIE	**Bielsa**	**7.19**	**329**	P	Pn	17 40 09.7	-0.2
	3.3nm,0.3s,SNR=7.9						
EBIE				S	Sn	17 41 22.8	-9.4
	7.5nm,0.9s,SNR=7.9						
SMRF	**Simiane la Rot**	**7.38**	**3**	*e*Pn	Pn	17 40 09.2	-3.3
SMRF	**Simiane la Rot**	**7.38**	**3**	P	Pn	17 40 09.2	-3.3
SMRF	**Simiane la Rot**	**7.38**	**3**	*e*Pn	Pn	17 40 09.2	-3.3
EPF	**Esparros**	**7.41**	**332**	*eP*	Pn	17 40 12.4	-0.4
EPF				*e*Sn	Sn	17 41 19.8	-18
	26nm,0.6s						
EPF	**Esparros**	**7.41**	**332**	P	Pn	17 40 12.4	-0.4
EPF				S	Sn	17 41 19.8	-18
	13nm,0.6s						
EPF	**Esparros**	**7.41**	**332**	*eP*	Pn	17 40 12.4	-0.4
SBF	**Sospel**	**7.48**	**13**	*e*Pn	Pn	17 40 11.5	-2.3
SBF				*e*Sn	Sn	17 41 28.4	-11
	23nm,0.5s						
SBF	**Sospel**	**7.48**	**13**	P	Pn	17 40 11.5	-2.3
SBF				S	Sn	17 41 28.4	-11
	12nm,0.5s						
SBF	**Sospel**	**7.48**	**13**	*e*Pn	Pn	17 40 11.5	-2.3
LASF	**Ste Croix**	**7.54**	**353**	*e*Pn	Pn	17 40 11.4	-3.2
LASF				*e*Sn	Sn	17 41 25.5	-15
	4.5nm,0.3s						
LASF	**Ste Croix**	**7.54**	**353**	P	Pn	17 40 11.4	-3.2
LASF				S	Sn	17

GUD				S	Sn	17 41 51.5	-8.1
	4.2nm,0.6s,SNR=7.9						
EALK	**Alkurruntz**	**8.35**	**324**	P	Pn	17 40 25.0	-0.7
EALK				S	Sn	17 41 51.5	-9.1
EALK	**Alkurruntz**	**8.35**	**324**	P	Pn	17 40 25.0	-0.7
	1.7nm,0.2s,SNR=9.1						
EALK				S	Sn	17 41 54.0	-6.6
	3.9nm,0.4s,SNR=5.4						
EALK	**Alkurruntz**	**8.35**	**324**	P	Pn	17 40 25.0	-0.7
	1.7nm,0.2s,SNR=9.1						
EALK				S	Sn	17 41 51.5	-9.1
	3.9nm,0.4s,SNR=5.4						
CAF	**Calviac**	**8.64**	**345**	*e*Pn	Pn	17 40 27.5	-2.2
CAF	**Calviac**	**8.64**	**345**	P	Pn	17 40 27.5	-2.2
CAF	**Calviac**	**8.64**	**345**	*e*Pn	Pn	17 40 27.5	-2.2
LFF	**La Frestale**	**8.97**	**340**	*e*Pn	Pn	17 40 28.6	-5.7
LFF	**La Frestale**	**8.97**	**340**	*e*P	Pn	17 40 33.9	-0.4
LFF	**La Frestale**	**8.97**	**340**	P	Pn	17 40 33.9	-0.4
LFF	**La Frestale**	**8.97**	**340**	*e*P	Pn	17 40 33.9	-0.4
LPG	**La Plagne**	**8.98**	**7**	*e*Pn	Pn	17 40 32.9	-1.5
LPG	**La Plagne**	**8.98**	**7**	P	Pn	17 40 32.9	-1.5
LPG	**La Plagne**	**8.98**	**7**	*e*Pn	Pn	17 40 32.9	-1.5
LPL	**La Plagne**	**9.00**	**7**	*e*Pn	Pn	17 40 33.8	-0.8
LPL	**La Plagne**	**9.00**	**7**	P	Pn	17 40 33.8	-0.8
LPL	**La Plagne**	**9.00**	**7**	*e*Pn	Pn	17 40 33.8	-0.8
ELAN	**Lanestosa**	**9.33**	**318**	P	Pn	17 40 39.0	-0.2
ELAN				S	Sn	17 42 15.0	-10
ELAN	**Lanestosa**	**9.33**	**318**	P	Pn	17 40 39.0	-0.2
	0.8nm,0.3s,SNR=6.6						
ELAN				S	Sn	17 42 15.0	-10
	6.9nm,0.9s,SNR=7.9						
ELAN	**Lanestosa**	**9.33**	**318**	P	Pn	17 40 39.0	-0.2
	0.8nm,0.3s,SNR=6.6						
ELAN				S	Sn	17 42 15.0	-10
	6.9nm,0.9s,SNR=7.9						
EARI	**Arriondas**	**10.37**	**313**	P	Pn	17 40 53.0	-0.5
	0.1nm,0.4s,SNR=7.9						
EARI				S	Sn	17 42 40.3	-10
	6.1nm,1.0s,SNR=7.9						
EARI	**Arriondas**	**10.37**	**313**	P	Pn	17 40 53.0	-0.5
	0.1nm,0.4s,SNR=7.9						
EARI				S	Sn	17 42 40.3	-10
	6.1nm,1.0s,SNR=7.9						
MVO	**Moncorvo**	**10.51**	**299**	P	Pn	17 40 54.9	-0.5
	1.1nm,0.3s,SNR=7.9						
MVO	**Moncorvo**	**10.51**	**299**	P	Pn	17 40 54.8	-0.5
	1.1nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**10.62**	**304**	P	Pn	17 40 56.5	-0.5
	4.4nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**10.62**	**304**	P	Pn	17 40 56.9	0.0
	4.4nm,0.3s,SNR=7.9						

NEIC ***27*** *17:58:33.9±0.9, 4.83N×94.26E, h35km, mb4.0/3, Error ellipse: s-maj=30.3km s-min=12.9km az=61.0*
ISCJB ***27*** *17:58:36.1±2.5, 5.2N±0.2×94.7E±0.2, h60km±19km, mb3.8/8, Error ellipse: s-maj=43.8km s-min=14.4km az=150.0*
DJA ***27*** *17:58:37, 5.26N×94.72E, h30km, MLv3.8/3*
IDC ***27*** *17:58:50.4±16.0, 5.46N×95.12E, h171km±145km, mb3.3/5, mb1 3.5/6, mb1mx3.2/24, mbtmp3.3/6, ML4.1/1, Error ellipse: s-maj=140.8km s-min=16.5km az=56.0*

ISC 27 17:58:37.4±2.8, 5.3N±0.1×94.7E±0.2, h55km±23km, n18, σ0≤66/19, mb3.8/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**0.61**	**66**	P	**Pn**	**17 58 49.5**	**-0.8**
BSI				S	**Sn**	**17 58 59.2**	**-0.4**
LHMI	**Lhok Sumawe**	**2.20**	**90**	P	**Pn**	**17 59 13.5**	**+1.9**
TPTI		**3.13**	**129**	P	**Pn**	**17 59 24.4**	**0.0**
CMAR	**Chiang Mai Arr**	**13.76**	**17**	P	**Pn**	**18 01 54.9**	**+5.0**
	0.3nm,0.3s,baz=208,slow=11,SNR=9.9						
CMAR	**Chiang Mai Arr**	**13.76**	**17**	P	**Pn**	**18 01 54.9**	**+5.0**
MKAR	**Makanchi Array**	**42.77**	**347**	P	**P**	**18 06 29.6**	**+0.1**
	0.7nm,0.6s,mb3.6,baz=165,slow=8.0,SNR=12						
MKAR	**Makanchi Array**	**42.77**	**347**	P	**P**	**18 06 29.6**	**+0.1**
WRA	**Warramunga Arr**	**46.28**	**124**	P	**P**	**18 06 57.6**	**-0.3**
	0.5nm,0.7s,mb3.5,baz=304,slow=9.1,SNR=6.7						
WRA	**Warramunga Arr**	**46.28**	**124**	P	**P**	**18 06 57.6**	**-0.3**
WRAB	**Tennant Creek**	**46.29**	**124**	*e*P	**P**	**18 06 57.4**	**-0.6**
	1.3nm,0.7s,mb4.0						
KURK	**Kurchatov**	**47.29**	**346**	*e*P	**P**	**18 07 05.6**	**+0.3**
	3.2nm,0.9s,mb4.2						
ASAR	**Alice Springs**	**47.80**	**129**	P	**P**	**18 07 09.4**	**-0.3**
	0.4nm,0.5s,mb3.7,baz=296,slow=8.0,SNR=7.3						
ASAR	**Alice Springs**	**47.80**	**129**	P	**P**	**18 07 09.4**	**-0.3**
ZALV	**Zalesovo Beam**	**49.22**	**352**	P	**P**	**18 07 20.1**	**-0.1**
	2.2nm,0.5s,mb4.4,baz=180,slow=7.3,SNR=15						
ZALV	**Zalesovo Beam**	**49.22**	**352**	P	**P**	**18 07 20.1**	**-0.1**
ABKAR	**Akbulak array**	**52.81**	**332**	*e*P	**P**	**18 07 46.8**	**-0.4**
	0.5nm,0.4s,mb3.8						
GERES	**GERESS Array B**	**80.17**	**319**	P	**P**	**18 10 42.5**	**+0.6**
	0.3nm,0.7s,mb3.3,baz=96,slow=4.0,SNR=4.1						
GERES	**GERESS Array B**	**80.17**	**319**	P	**P**	**18 10 42.5**	**+0.6**

DJA 27 17:59:43, 1.04S×99.96E, h10km, MLv3.6/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**0.52**	**76**	P	Pg	17 59 52.6	-0.5
PDSI				S	Sg	18 00 00.2	+0.3
PPI	**Padang Panjang**	**0.73**	**37**	P	Pg	17 59 57.2	+0.2
PPI				S	Sg	18 00 06.8	+0.3
SISI	**Saibi**	**0.92**	**252**	P	Pg	17 59 59.9	-0.8
SDSI	**Sungai Dareh**	**1.47**	**86**	P	Pn	18 00 09.6	0.0
BKNI	**Bangkinang**	**1.73**	**39**	P	Pn	18 00 13.7	+0.5
MNSI	**Mandailing Nat**	**1.86**	**348**	P	Pn	18 00 15.7	+0.7

MEX 27 18:02:00.8±0.3, 17.41N×97.18W, h68km±4km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**0.54**	**128**	*i* P	Pn	18 02 12.8	-1.0
VHO				*i* S	Sn	18 02 21.9	-1.5
UTMO	**Huajuapan**	**0.73**	**305**	*i* P	Pn	18 02 14.7	-1.2
UTMO				*i* S	Sn	18 02 25.6	-1.4
PNIG	**Pinotepa**	**1.36**	**222**	*i* P	Pn	18 02 22.4	-1.5
PNIG				*i* S	Sn	18 02 39.4	-1.8
HUIG	**Huatulco**	**1.93**	**148**	*i* P	Pn	18 02 30.8	-0.7
HUIG				*i* S	Sn	18 02 52.8	-1.9
CMIG	**Matias Romero**	**2.21**	**98**	*i* P	Pn	18 02 33.8	-1.5
CMIG				*i* S	Sn	18 02 59.2	-2.4

JMA 27 18:03:09.0, 35.93N×136.34E, h9km±1km, M2.7, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKG	**Kaga**	**0.35**	**359**	P	Pg	18 03 16.0	+0.2
JKG				S	Sg	18 03 20.9	+0.4
JGM	**Miyama**	**0.38**	**127**	P	Pg	18 03 16.4	-0.1
JGM				S	Sg	18 03 21.9	+0.3
MAT	**Matsushiro**	**1.63**	**67**	P	Pn	18 03 39.5	+1.7
MAT				S	Sn	18 04 02.7	+3.8

IDC 27 18:16:03.5±1.7, 49.11S×8.05W, h0km, mb4.1/3, mb1 4.1/3, mb1mx3.8/14, mbtmp4.1/3, 1C, Error ellipse: s-maj=54.5km s-min=35.5km az=74.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SYO	**Syowa Base**	**30.38**	**148**⇑	*e*P	P	18 22 15.2	-1.5
BOSA	**Boshof**	**32.65**	**63**	P	P	18 22 36.9	-0.1
	5.8nm,0.9s,baz=221,slow=7.9,SNR=4.2						
MAW	**Mawson**	**38.87**	**145**	P	P	18 23 30.0	0.0
	4.0nm,1.1s,baz=258,slow=7.9,SNR=4.4						
TORD	**Torodi Ar. Bea**	**62.58**	**11**	P	P	18 26 29.5	+0.3
	0.7nm,0.9s,baz=195,slow=8.0,SNR=4.3						
ILAR	**Eielson Array**	**153.26**	**321**	PKPbc	PKPbc	18 36 01.7	-0.2
	0.6nm,0.7s,baz=35,slow=0.5,SNR=8.2						

IDC 27 18:31:47.0±8.3, 6.93S×126.60E, h401km±104km, mb2.9/3, mb1 2.9/6, mb1mx2.7/17, mbtmp2.8/6, Error ellipse: s-maj=109.7km s-min=31.4km az=51.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.14**	**185**	P	P	18 34 17.6	+0.4
	0.1nm,0.3s,baz=12,slow=12,SNR=4.8						
WRA	**Warramunga Arr**	**14.96**	**151**	P	P	18 34 58.4	-0.7
	0.4nm,0.3s,baz=325,slow=11,SNR=22						
ASAR	**Alice Springs**	**18.06**	**158**	P	P	18 35 32.1	0.0
	0.9nm,0.3s,baz=342,slow=12,SNR=70						
STKA	**Stephens Creek**	**28.49**	**153**	P	P	18 37 07.7	+0.2
	0.5nm,0.4s,baz=333,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	**66.36**	**328**	P	P	18 41 54.8	+0.6
	0.2nm,0.5s,baz=115,slow=9.7,SNR=3.4						
ZALV	**Zalesovo Beam**	**70.07**	**335**	P	P	18 42 16.4	-0.4
	0.7nm,0.6s,baz=98,slow=4.4,SNR=2.9						

IDC 27 18:33:04.6±2.1, 6.96S×129.01E, h0km, mb3.5/1, mb1 3.7/4, mb1mx3.5/16, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=69.5km s-min=26.3km az=80.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.55**	**196**	Pn	Pn	18 35 52.8	+1.8
	0.3nm,0.3s,baz=21,slow=8.8,SNR=7.1						
FITZ				Sn	Sn	18 38 01.0	+0.2
	0.2nm,0.3s,baz=120,slow=20,SNR=3.8						
WRA	**Warramunga Arr**	**13.90**	**159**	Pn	Pn	18 36 21.1	-1.9
	0.2nm,0.3s,baz=336,slow=13,SNR=9.1						
WRA				Sn	Sn	18 38 54.1	-4.2
	0.3nm,0.3s,baz=334,slow=22,SNR=5.0						
ASAR	**Alice Springs**	**17.26**	**165**	P	Pn	18 37 07.6	+0.4
	0.3nm,0.3s,baz=345,slow=10,SNR=14						
MKAR	**Makanchi Array**	**67.66**	**327**	P	P	18 44 03.5	0.0
	2.4nm,1.2s,baz=115,slow=8.1,SNR=5.0						

ISCJB ***27*** *18:37:12.8±0.5, 24.30N±0.01×121.88E±0.03, h13km±3km, Error ellipse: s-maj=4.5km s-min=2.4km az=11.0*
TAP ***27*** *18:37:12.9, 24.32N×121.78E, h22km, ML3.8, B*

ISC 27 18:37:13.2±0.4, 24.31N±0.02×121.84E±0.02, h13km±2km, n53, σ0≤90/89, 7C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.09**	**269**	P	**Pg**	**18 37 16.7**	**+0.6**
	baz=254						
EHP				S	**Sg**	**18 37 19.7**	**+1.5**
	baz=254						
ENA	**Nanau**	**0.15**	**322**⇑	*i* P	**Pg**	**18 37 17.4**	**+0.5**
	baz=345						
ENA				*i* S	**Sg**	**18 37 20.8**	**+1.3**
	baz=345						
TWD	**Chiawan**	**0.32**	**224**	*i* P	**Pg**	**18 37 19.6**	**-0.2**
	baz=220						
TWD				*i* S	**Sg**	**18 37 24.6**	**+0.4**
	baz=220						
HWA	**Hwalien**	**0.40**	**213**	*e*P	**Pg**	**18 37 20.8**	**-0.4**
	baz=212						
ENTT	**Nioudou**	**0.41**	**323**⇑	*i* P	**Pg**	**18 37 21.1**	**-0.4**
	baz=328						
ENTT				S	**Sg**	**18 37 26.9**	**-0.1**
	baz=328						
TWE	**Neicheng**	**0.44**	**339**⇑	*i* P	**Pg**	**18 37 21.8**	**-0.1**
	baz=347						
TWE				*i* S	**Sg**	**18 37 27.9**	**0.0**
	baz=347						
NNS	**Nan Shan**	**0.44**	**287**⇑	*i* P	**Pg**	**18 37 21.6**	**-0.4**
	baz=287						
NNS				*i* S	**Sg**	**18 37 27.3**	**-0.7**
	baz=287						
ILA	**Ilan**	**0.46**	**350**	*i* P	**Pg**	**18 37 22.6**	**+0.3**
	baz=357						
ILA				S	**Sg**	**18 37 30.0**	**+1.4**
	baz=357						
ESF	**Shoufeng Towns**	**0.53**	**215**	*e*P	**Pg**	**18 37 25.2**	**+1.5**
	baz=217						
WHF	**Hehuan Shan**	**0.55**	**253**	*i* P	**Pg**	**18 37 23.5**	**-0.5**
	baz=257						
WHF				*i* S	**Sg**	**18 37 31.1**	**-0.3**
	baz=257						
NSK	**Sanguang**	**0.57**	**310**⇑	*i* P	**Pg**	**18 37 23.8**	**-0.6**
	baz=312						
NSK				*i* S	**Sg**	**18 37 31.1**	**-0.9**
	baz=312						
TWT	**Tachien**	**0.61**	**265**	*i* P	**Pg**	**18 37 24.8**	**-0.3**
	baz=258						
TWT				*i* S	**Sg**	**18 37 33.0**	**-0.2**
	baz=258						
ESL	**Shilin**	**0.62**	**217**	⇑P	**Pg**	**18 37 24.5**	**-0.8**
	baz=217						
ESL				*e*S	**Sg**	**18 37 34.0**	**+0.5**
	baz=217						
TWA	**Mucha**	**0.71**	**341**	P	**Pg**	**18 37 27.3**	**+0.4**
	baz=345						
TWA				S	**Sg**	**18 37 36.1**	**-0.2**
	baz=345						
TWB1	**Santiao Chiao**	**0.71**	**11**	*e*P	**Pg**	**18 37 26.9**	**-0.1**
	baz=16						
TWB1				*e*S	**Sg**	**18 37 36.0**	**-0.3**
	baz=16						
NWF	**Wu-fen Shan**	**0.76**	**356**	*i* P	**Pg**	**18 37 27.9**	**0.0**
	baz=352						
NWF				*e*S	**Sg**	**18 37 37.4**	**-0.5**
	baz=352						
TAP1	**Taipei**	**0.78**	**338**	P	**Pg**	**18 37 28.1**	**-0.2**
	baz=340						
TAP1				S	**Sg**	**18 37 38.5**	**-0.1**
	baz=340						
NSTT	**Nanjuang**	**0.83**	**293**	⇑P	**Pg**	**18 37 28.5**	**-0.8**
	baz=293						
NSTT				*i* S	**Sg**	**18 37 39.6**	**-0.6**
	baz=293						
TWS1	**Kuangyinshan**	**0.88**	**334**	P	**Pg**	**18 37 29.8**	**-0.4**
	baz=336						
TWS1				S	**Sg**	**18 37 42.0**	**+0.4**
	baz=336						
NCU	**National Centr**	**0.89**	**318**	P	**Pg**	**18 37 30.1**	**-0.3**
	baz=319						
NCU				S	**Sg**	**18 37 43.2**	**+1.3**
	baz=319						
EHY	**Hungye**	**0.93**	**211**	*e*P	**Pb**	**18 37 28.9**	**-2.3**
	baz=217						
HSN	**Hsinchu**	**0.93**	**302**	*i* P	**Pb**	**18 37 31.0**	**-0.2**
	baz=305						
HSN				S	**Sg**	**18 37 43.6**	**+0.2**
	baz=305						
SMLT	**Sun Moon Lake**	**0.96**	**244**	*e*P	**Pb**	**18 37 30.4**	**-1.3**
	baz=234						
SMLT				*e*S	**Sb**	**18 37 43.4**	**-0.9**
	baz=234						
TWQ1	**Liyutan**	**0.97**	**272**	P	**Pb**	**18 37 31.5**	**-0.4**
	baz=271						
TWQ1				S	**Sb**	**18 37 44.1**	**-0.6**
	baz=271						
TWY	**Chenhua**	**0.98**	**347**	*e*P	**Pb**	**18 37 31.7**	**-0.5**
	baz=335						
TYC	**Yuchr**	**0.98**	**246**	P	**Pb**	**18 37 30.6**	**-1.5**
	baz=237						
TYC				*e*S	**Sb**	**18 37 44.5**	**-0.5**
	baz=237						
NSY	**Sanyi**	**0.99**	**276**	P	**Pb**	**18 37 32.4**	**+0.2**
	baz=275						
NSY				S	**Sb**	**18 37 45.5**	**+0.4**
	baz=275						
TCU	**Taichung**	**1.07**	**262**	P	**Pb**	**18 37 33.6**	**-0.1**
	baz=260						
TCU				*e*S	**Sb**	**18 37 48.7**	**+1.1**
	baz=260						
TWF1	**Yuli**	**1.08**	**208**	*e*P	**Pb**	**18 37 31.0**	**-2.7**
	baz=216						
YOJ	**Yonaguni jima**	**1.08**	**82**	*e*P	**Pb**	**18 37 33.3**	**-0.4**
	baz=75						
YOJ				S	**Sb**	**18 37 49.7**	**+2.0**
	baz=75						
WNT	**Mingjian**	**1.14**	**248**	*e*P	**Pb**	**18 37 34.1**	**-0.6**
	baz=244						
WNT				*e*S	**Sb**	**18 37 51.7**	**+2.2**
	baz=244						
YUS	**Yu-Shan**	**1.15**	**225**	*e*P	**Pb**	**18 37 33.6**	**-1.4**
	baz=211						
YUS				*e*S	**Sb**	**18 37 49.9**	**0.0**
	baz=211						
ALS	**Alishan**	**1.24**	**230**	*e*P	**Pn**	**18 37 35.4**	**-0.8**
	baz=215						
CHN5	**Tsauling**	**1.28**	**236**	P	**Pn**	**18 37 36.2**	**-0.5**
	baz=234						
CHN5				*e*S	**Sb**	**18 37 53.7**	**+0.2**
	baz=234						
CHKT	**Chengkung**	**1.28**	**200**	*e*P	**Pn**	**18 37 34.4**	**-2.4**
	baz=183						
WGK	**Gukeng**	**1.32**	**242**	*e*P	**Pn**	**18 37 36.7**	**-0.7**
	baz=240						
WGK				*e*S	**Sb**	**18 37 55.6**	**+0.9**
	baz=240						
ELDTW	**Lidau**	**1.35**	**214**	*e*P	**Pn**	**18 37 35.6**	**-2.1**
	baz=199						
CHN2	**Minshiung**	**1.47**	**238**	*e*P	**Pn**	**18 37 39.7**	**+0.3**
	baz=236						
CHN2				*e*S	**Sn**	**18 38 00.5**	**+2.0**
	baz=236						
CHN4	**Tsaushan**	**1.49**	**230**	*e*P	**Pn**	**18 37 41.1**	**+1.4**
	baz=217						
CHN4				S	**Sn**	**18 38 00.5**	**+1.6**
	baz=217						
WTCT	**Ta-ch'eng**	**1.49**	**253**	*e*P	**Pn**	**18 37 39.7**	**0.0**
	baz=251						
STYT	**Tauyuan**	**1.51**	**221**	*e*P	**Pn**	**18 37 39.4**	**-0.6**
	baz=218						
STYT				*e*S	**Sn**	**18 37 59.3**	**-0.2**
	baz=218						
CHY	**Chiayi**	**1.53**	**238**	*e*P	**Pn**	**18 37 41.0**	**+0.8**
	baz=224						
WTP	**Ta-pu**	**1.54**	**227**	*e*P	**Pn**	**18 37 40.8**	**+0.4**
	baz=224						
WTP				*e*S	**Sn**	**18 38 00.7**	**+0.4**
	baz=224						
TWG	**Pinlang**	**1.64**	**206**	*e*P	**Pn**	**18 37 41.8**	**0.0**
	baz=189						
CHN1	**Nanshi**	**1.64**	**227**	*e*P	**Pn**	**18 37 42.1**	**+0.3**
	baz=225						
CHN1				*e*S	**Sn**	**18 38 03.7**	**+0.9**
	baz=225						
CHN8	**Yiju**	**1.77**	**238**	*e*P	**Pn**	**18 37 43.6**	**+0.1**
	baz=220						
CHN3	**Shinhua**	**1.83**	**228**	*e*P	**Pn**	**18 37 45.1**	**+0.8**
	baz=226						
ECL	**Taimali**	**1.89**	**206**	*e*P	**Pn**	**18 37 44.6**	**-0.6**
	baz=191						
SSD	**Sandimen**	**1.91**	**216**	*e*P	**Pn**	**18 37 46.0**	**+0.6**
	baz=213						
TWM1	**Shoushan**	**1.97**	**222**	*e*P	**Pn**	**18 37 49.1**	**+2.9**
	baz=219						
EAST	**Anshuo**	**2.12**	**206**	*e*P	**Pn**	**18 37 49.0**	**+0.6**
	baz=194						
SCZT	**Fangliau**	**2.23**	**210**	*e*P	**Pn**	**18 37 50.0**	**+0.2**
	baz=207						
SCZT				*e*S	**Sn**	**18 38 17.5**	**+0.2**
	baz=207						
QZH	**Quanzhou**	**3.02**	**283**	Pn	**Pn**	**18 37 57.0**	**-3.7**
QZH				Sn	**Sn**	**18 38 31.5**	**-5.3**
QZH				smax			
	comp=N,140nm,1.0s						
QZH				smax			
	comp=E,110nm,0.9s						

JMA ***27*** *18:39:12.9±0.4, 25.16N×121.86E, h14km, M2.9*
TAP ***27*** *18:39:14.9, 24.31N×121.79E, h23km, ML3.6, B*
ISCJB ***27*** *18:39:15.7±0.3, 24.29N±0.02×121.82E±0.02, h16km±4km, Error ellipse: s-maj=3.6km s-min=2.5km az=30.0*

ISC 27 18:39:15.6±0.3, 24.30N±0.02×121.82E±0.02, h14km±2km, n48, σ0≤86/81, 6C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EHP	**Heping Village**	**0.07**	**277**	P	**Pg**	**18 39 18.9**	**+0.5**
	baz=259						
EHP				S	**Sg**	**18 39 21.9**	**+1.6**
	baz=259						
ENA	**Nanau**	**0.14**	**332**⇑	*i* P	**Pg**	**18 39 19.6**	**+0.3**
	baz=343						
ENA				*i* S	**Sg**	**18 39 23.0**	**+1.1**
	baz=343						
TWD	**Chiawan**	**0.30**	**222**	*i* P	**Pg**	**18 39 21.7**	**0.0**
	baz=220						
TWD				*i* S	**Sg**	**18 39 26.9**	**+1.0**
	baz=220						
HWA	**Hwalien**	**0.38**	**211**	*e*P	**Pg**	**18 39 22.9**	**-0.3**
	baz=212						
ENTT	**Nioudou**	**0.41**	**326**⇑	*i* P	**Pg**	**18 39 23.3**	**-0.5**
	baz=328						
ENTT				*i* S	**Sg**	**18 39 29.4**	**+0.1**
	baz=328						
NNS	**Nan Shan**	**0.43**	**289**⇑	*i* P	**Pg**	**18 39 23.7**	**-0.3**
	baz=287						
NNS				*i* S	**Sg**	**18 39 29.6**	**-0.2**
	baz=287						
TWE	**Neicheng**	**0.44**	**342**⇑	*i* P	**Pg**	**18 39 24.0**	**-0.3**
	baz=346						
TWE				*i* S	**Sg**	**18 39 30.5**	**+0.3**
	baz=346						
ILA	**Ilan**	**0.47**	**352**	*e*P	**Pg**	**18 39 25.9**	**+1.1**
	baz=356						
ILA				*e*S	**Sg**	**18 39 31.6**	**+0.5**
	baz=356						
WHF	**Hehuan Shan**	**0.53**	**253**	*i* P	**Pg**	**18 39 25.6**	**-0.3**
	baz=257						
WHF				S	**Sg**	**18 39 33.1**	**+0.1**
	baz=257						
NSK	**Sanguang**	**0.56**	**312**⇑	*i* P	**Pg**	**18 39 25.9**	**-0.7**
	baz=312						
NSK				*i* S	**Sg**	**18 39 33.3**	**-0.8**
	baz=312						
TWT	**Tachien**	**0.58**	**265**	P	**Pg**	**18 39 27.0**	**-0.1**
	baz=258						
TWT				*i* S	**Sg**	**18 39 34.8**	**0.0**
	baz=258						
ESL	**Shilin**	**0.60**	**216**	⇑P	**Pg**	**18 39 26.5**	**-0.7**
	baz=217						
ESL				*e*S	**Sg**	**18 39 36.3**	**+1.1**
	baz=217						
TWA	**Mucha**	**0.71**	**343**	*e*P	**Pg**	**18 39 28.8**	**-0.6**
	baz=344						
TWA				S	**Sg**	**18 39 38.3**	**-0.5**
	baz=344						
TWB1	**Santiao Chiao**	**0.72**	**13**	*e*P	**Pg**	**18 39 29.0**	**-0.6**
	baz=15						
TWB1				*e*S	**Sg**	**18 39 38.3**	**-0.8**
	baz=15						
NWF	**Wu-fen Shan**	**0.77**	**358**	P	**Pg**	**18 39 30.2**	**-0.3**
	baz=351						
NWF				*i* S	**Sg**	**18 39 40.6**	**0.0**
	baz=351						
TAP1	**Taipei**	**0.78**	**340**	P	**Pg**	**18 39 30.3**	**-0.5**
	baz=340						
TAP1				S	**Sg**	**18 39 41.0**	**0.0**
	baz=340						
NSTT	**Nanjuang**	**0.81**	**294**	P	**Pg**	**18 39 30.6**	**-0.7**
	baz=293						
NSTT				S	**Sg**	**18 39 41.4**	**-0.5**
	baz=293						
TWS1	**Kuangyinshan**	**0.87**	**336**	P	**Pg**	**18 39 32.3**	**-0.3**
	baz=336						
TWS1				S	**Sg**	**18 39 44.5**	**+0.6**
	baz=336						
NCU	**National Centr**	**0.88**	**319**	P	**Pg**	**18 39 32.6**	**0.0**
	baz=319						
NCU				S	**Sg**	**18 39 45.4**	**+1.3**
	baz=319						
EHY	**Hungye**	**0.91**	**210**	*e*P	**Pb**	**18 39 32.2**	**-0.9**
	baz=207						
HSN	**Hsinchu**	**0.92**	**303**	*e*P	**Pb**	**18 39 33.2**	**-0.1**
	baz=305						
HSN				*e*S	**Sg**	**18 39 46.2**	**+0.8**
	baz=305						
SMLT	**Sun Moon Lake**	**

YOJ	**Yonaguni jima**	**1.10**	**81**	*e*P		**Pb**	**18 39 35.2**	**-1.3**
	baz=75								
YOJ				*e*S		**Sb**	**18 39 52.2**	**+1.5**
	baz=75								
YOJ	**Yonaguni jima**	**1.10**	**81**	P		**Pb**	**18 39 35.6**	**-0.8**
YOJ				S		**Sb**	**18 39 52.1**	**+1.4**
WNT	**Mingjian**	**1.12**	**248**	*e*P		**Pb**	**18 39 35.8**	**-0.9**
	baz=244								
WNT				*e*S		**Sb**	**18 39 54.0**	**+2.9**
	baz=244								
YUS	**Yu-Shan**	**1.13**	**225**	*e*P		**Pb**	**18 39 34.8**	**-2.1**
	baz=222								
ALS	**Alishan**	**1.21**	**230**	*e*P		**Pn**	**18 39 37.1**	**-1.0**
	baz=215								
CHN5	**Tsauling**	**1.25**	**236**	P		**Pn**	**18 39 38.1**	**-0.6**
	baz=234								
CHN5				*e*S		**Sb**	**18 39 56.5**	**+1.5**
	baz=234								
CHKT	**Chengkung**	**1.27**	**199**	*e*P		**Pn**	**18 39 39.3**	**+0.5**
	baz=183								
WGK	**Gukeng**	**1.30**	**242**	*e*P		**Pn**	**18 39 38.8**	**-0.5**
	baz=240								
ELDTW	**Lidau**	**1.33**	**214**	*e*P		**Pn**	**18 39 37.5**	**-2.2**
	baz=199								
CHN2	**Minshiung**	**1.45**	**238**	*e*P		**Pn**	**18 39 41.5**	**+0.2**
	baz=223								
CHN4	**Tsaushan**	**1.47**	**230**	*e*P		**Pn**	**18 39 41.6**	**0.0**
	baz=217								
CHN4				*e*S		**Sn**	**18 40 02.0**	**+1.4**
	baz=217								
STYT	**Tauyuan**	**1.49**	**221**	*e*P		**Pn**	**18 39 42.1**	**+0.2**
	baz=218								
STYT				*e*S		**Sn**	**18 40 01.6**	**+0.4**
	baz=218								
WTP	**Ta-pu**	**1.52**	**227**	*e*P		**Pn**	**18 39 42.5**	**+0.1**
	baz=224								
CHN1	**Nanshi**	**1.62**	**227**	*e*P		**Pn**	**18 39 44.7**	**+1.0**
	baz=225								
CHN1				*e*S		**Sn**	**18 40 05.8**	**+1.4**
	baz=225								
TWG	**Pinlang**	**1.62**	**205**	*e*P		**Pn**	**18 39 43.4**	**-0.4**
	baz=190								
IRIF	**Iriomote-Funau**	**1.75**	**89**	P		**Pn**	**18 39 45.7**	**+0.2**
IRIF				S		**Sn**	**18 40 08.3**	**+0.7**
ECL	**Taimali**	**1.87**	**205**	*e*P		**Pn**	**18 39 47.2**	**0.0**
	baz=191								
SSD	**Sandimen**	**1.89**	**215**	*e*P		**Pn**	**18 39 46.8**	**-0.7**
	baz=223								
SSD				*e*S		**Sn**	**18 40 12.1**	**+1.0**
	baz=223								
JKRS	**Kuro-shima**	**2.00**	**91**	P		**Pn**	**18 39 48.8**	**-0.2**
JKRS				*e*S		**Sn**	**18 40 15.5**	**+1.6**
JIJ	**Ishigaki jima**	**2.12**	**88**	P		**Pn**	**18 39 49.9**	**-0.8**
JIJ				S		**Sn**	**18 40 17.5**	**+0.6**

*ISCJB **27** 18:45:37.7±0.7,30.°72N±0.°10×83.°3E±0.°1,h10km, mb3.7/12, Error ellipse: s-maj=17.5km s-min=9.6km az=135.5*
*IDC **27** 18:45:37.5±0.9,30.°66N×83.°28E,h0km,mb3.8/12, mb1 3.9/14,mb1mx3.8/29,mbtmp3.8/14,ML3.2/2, Error ellipse: s-maj=29.5km s-min=16.3km az=54.0*
*NEIC **27** 18:45:39.8±0.7,30.°73N×83.°25E,h10km,mb3.5/2, Error ellipse: s-maj=17.6km s-min=9.2km az=220.0*

ISC 27 18:45:39.7±0.6,30.°76N±0.°07×83.°38E±0.°08,h10km,n35, σ1§07/36,mb3.7/12,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTH	**Pithoragarh**	**2.99**	**247**	*e*PKP	**Pb**	**18 46 34.9**	**+1.9**
PTH				*e*S	**Sb**	**18 47 14.8**	**+5.2**
NDI	**New Delhi**	**5.74**	**250**	*e*PKP	**Pg**	**18 47 26.5**	**-3.2**
	4.0nm,1.0s						
LSA	**Lhasa**	**6.81**	**97**	*e*P	**Pn**	**18 47 24.1**	**+4.5**
	14nm,0.8s						
KBL	**Kabul**	**12.65**	**291**	*e*P	**Pn**	**18 48 40.7**	**+1.0**
	3.7nm,0.8s						
AAK	**Ala-Archa**	**13.82**	**332**	*e*P	**Pn**	**18 48 56.5**	**+1.0**
	50nm,1.6s						
KKAR	**Karatay Array**	**16.03**	**324**	*e*P	**Pn**	**18 49 23.8**	**-1.3**
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**16.04**	**357**	Pn	**Pn**	**18 49 25.1**	**0.0**
	0.1nm,0.3s,baz=177,slow=11,SNR=7.9						
MKAR	**Makanchi Array**	**16.04**	**357**	Pn	**Pn**	**18 49 25.1**	**0.0**
CMAR	**Chiang Mai Arr**	**18.69**	**127**	P	**Pn**	**18 49 59.3**	**+0.8**
	0.0nm,0.3s,baz=310,slow=11,SNR=10						
CMAR	**Chiang Mai Arr**	**18.69**	**127**	P	**Pn**	**18 49 59.3**	**+0.8**
KURK	**Kurchatov**	**20.25**	**351**	P	**P**	**18 50 14.8**	**-0.2**
	0.8nm,0.8s,baz=170,slow=10,SNR=4.5						
KURK	**Kurchatov**	**20.25**	**351**	P	**P**	**18 50 14.8**	**-0.2**
ZALV	**Zalesovo Beam**	**23.20**	**2**	P	**P**	**18 50 45.9**	**-0.7**
	1.7nm,0.6s,mb3.7,baz=189,slow=9.2,SNR=11						
ZALV	**Zalesovo Beam**	**23.20**	**2**	P	**P**	**18 50 45.9**	**-0.7**
BVAR	**Borovoye Array**	**24.18**	**341**	P	**P**	**18 50 55.5**	**-0.5**
	0.7nm,0.6s,mb3.3,baz=140,slow=12,SNR=6.0						
BVAR	**Borovoye Array**	**24.18**	**341**	P	**P**	**18 50 55.5**	**-0.5**
SONM	**Songino Array**	**24.52**	**39**	P	**P**	**18 51 01.1**	**+2.1**
	1.4nm,0.8s,mb3.6,baz=233,slow=9.8,SNR=8.2						
SONM	**Songino Array**	**24.52**	**351**	P	**P**	**18 51 01.1**	**+2.1**
ABKAR	**Akbulak array**	**25.59**	**323**	*e*P	**P**	**18 51 10.3**	**+1.5**
	1.1nm,0.5s,mb3.6						
AKASG	**Malin Array Be**	**44.50**	**313**	P	**P**	**18 53 49.9**	**-1.1**
	0.6nm,0.5s,mb3.6,baz=82,slow=7.5,SNR=5.2						
AKASG	**Malin Array Be**	**44.50**	**313**	P	**P**	**18 53 49.9**	**-1.1**
FINES	**FINESS Array B**	**47.95**	**327**	P	**P**	**18 54 17.6**	**-0.5**
	1.2nm,0.6s,mb4.1,baz=125,slow=9.7,SNR=6.0						
FINES	**FINESS Array B**	**47.95**	**327**	P	**P**	**18 54 17.6**	**-0.5**
ARCES	**ARCESS Array B**	**50.40**	**337**	P	**P**	**18 54 37.2**	**+0.4**
	3.9nm,1.0s,mb4.4,baz=89,slow=7.9,SNR=4.4						
ARCES	**ARCESS Array B**	**50.40**	**337**	P	**P**	**18 54 37.2**	**+0.4**
NOA	**NORSAR Array B**	**55.05**	**326**	P	**P**	**18 55 11.2**	**0.0**
	2.0nm,1.1s,mb4.1,baz=104,slow=5.0,SNR=2.7						
NOA	**NORSAR Array B**	**55.05**	**326**	P	**P**	**18 55 11.2**	**0.0**
WRA	**Warramunga Arr**	**70.27**	**129**	P	**P**	**18 56 53.0**	**-0.4**
	0.9nm,0.6s,mb3.9,baz=323,slow=6.3,SNR=12						
WRA	**Warramunga Arr**	**70.27**	**129**	P	**P**	**18 56 53.0**	**-0.4**
ASAR	**Alice Springs**	**72.62**	**132**	P	**P**	**18 57 06.0**	**-1.5**
	0.4nm,0.7s,mb3.4,baz=325,slow=6.8,SNR=4.5						
ASAR	**Alice Springs**	**72.62**	**132**	P	**P**	**18 57 06.0**	**-1.5**
TORD	**Torodi Ar. Bea**	**76.33**	**277**	P	**P**	**18 57 29.4**	**0.0**
	1.0nm,0.8s,mb3.8,baz=47,slow=5.1,SNR=5.5						
TORD	**Torodi Ar. Bea**	**76.33**	**277**	P	**P**	**18 57 29.4**	**0.0**
ILAR	**Eielson Array**	**77.06**	**20**	P	**P**	**18 57 31.9**	**-0.7**
	0.6nm,0.9s,mb3.5,baz=297,slow=4.3,SNR=6.7						
ILAR	**Eielson Array**	**77.06**	**20**	P	**P**	**18 57 31.9**	**-0.7**

IDC 27 18:45:39.1±30.0,23.°82S×179.°73W,h418km±275km, mb3.2/5,mb1 3.3/5,mb1mx3.1/16,mbtmp3.2/5,Error ellipse: s-maj=175.3km s-min=93.4km az=91.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**31.72**	**270**	P	P	**18 51 27.5**	**+0.8**
	7.5nm,0.3s,baz=101,slow=12,SNR=20						
STKA	**Stephens Creek**	**34.98**	**248**	P	P	18 51 54.7	+0.3
	0.7nm,0.4s,baz=99,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**42.29**	**260**	P	P	18 52 54.0	-0.3
	0.5nm,0.4s,baz=96,slow=7.5,SNR=21						
WRA	**Warramunga Arr**	**42.66**	**266**	P	P	18 52 56.5	-0.8
	0.7nm,0.3s,baz=102,slow=8.5,SNR=64						
FITZ	**Fitzroy Crossi**	**51.08**	**265**	P	P	18 54 01.2	-0.3
	1.9nm,0.9s,baz=127,slow=10,SNR=3.4						
AKASG	**Malin Array Be**	**145.04**	**328**	PKPbc	PKPbc	19 04 27.2	-0.6
	0.3nm,0.3s,baz=47,slow=4.1,SNR=4.4						

*ISCJB **27** 18:53:27.0±0.4,6.°18N±0.°05×125.°87E±0.°09,h160km±4km, mb4.1/18, Error ellipse: s-maj=15.4km s-min=7.9km az=161.0*
*MAN **27** 18:53:27,6.°25N×126.°01E,h154km,mb5.0,ML3.9,MS4.0*
*NEIC **27** 18:53:28.0±0.8,6.°20N×125.°87E,h154km±8km,mb4.1/3, Error ellipse: s-maj=18.9km s-min=7.3km az=71.0*
*IDC **27** 18:53:28.5±0.5,6.°21N×125.°83E,h157km±4km,mb3.9/14, mb1 4.0/14,mb1mx3.7/25,mbtmp3.9/14,Error ellipse: s-maj=22.1km s-min=9.1km az=74.0*

ISC 27 18:53:28.1±0.5,6.°19N±0.°05×125.°89E±0.°09,h153km±4km, n51,σ0§76/56,mb4.1/18,2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.84**	**26**	*e*P	**Pn**	**18 53 50.6**	**-1.3**
DAV	**Davao City (W)**	**0.93**	**341**	P	**Pn**	**18 53 52.4**	**-0.2**
	376nm,0.3s,baz=197,slow=1.6,SNR=46						
DAV				S	**Sn**	**18 54 12.6**	**+1.1**
	400nm,0.3s,baz=153,slow=21,SNR=9.9						
DAV	**Davao City (W)**	**0.93**	**341**	P	**Pn**	**18 53 52.4**	**-0.2**
DAV				S	**Sn**	**18 54 12.6**	**+1.1**
GSPH	**General Santos**	**0.94**	**264**	*e*P	**Pn**	**18 53 51.7**	**-1.0**
GSPH				*i* S	**Sn**	**18 54 10.9**	**-0.5**
KCP	**Kidapawan**	**1.14**	**316**	↑*i*P	**Pn**	**18 53 54.4**	**0.0**
KCP				*i* S	**Sn**	**18 54 15.2**	**+0.6**
BUKP	**Musuan**	**1.87**	**334**	*e*P	**Pn**	**18 54 02.4**	**+0.5**
BUKP				*e*S	**Sn**	**18 54 18.4**	**-1.0**
CTBH	**Cotabato--PC H**	**1.93**	**302**	↑*i*P	**Pn**	**18 54 02.6**	**0.0**
CTBH				*i* S	**Sn**	**18 54 29.0**	**-0.2**
CGP	**Cagayan de Oro**	**2.55**	**332**	*e*P	**Pn**	**18 54 09.5**	**-0.5**
CGP				*i* S	**Sn**	**18 54 43.0**	**+0.7**
PAGZ	**Pagadian**	**2.99**	**304**	*e*P	**Pn**	**18 54 16.2**	**+0.8**
MSLP	**Maasin**	**4.05**	**345**	*e*P	**Pn**	**18 54 28.7**	**-0.5**
FITZ	**Fitzroy Crossi**	**24.13**	**181**	P	**P**	**18 58 30.7**	**+0.7**
	8.5nm,0.7s,mb4.4,baz=11,slow=7.3,SNR=30						
FITZ	**Fitzroy Crossi**	**24.13**	**181**	*e*P	**P**	**18 58 30.4**	**+0.5**
	14nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**24.13**	**181**	P	**P**	**18 58 30.7**	**+0.7**
COEN	**Coen**	**26.36**	**139**	*e*P	**P**	**18 58 49.6**	**-0.5**
	9.4nm,0.4s,mb4.8						
COEN	**Coen**	**26.36**	**139**	*e*P	**P**	**18 58 49.6**	**-0.5**
WRAB	**Tennant Creek**	**27.25**	**162**	*e*P	**P**	**18 58 57.2**	**-0.9**
	1.4nm,0.4s,mb3.9						
WRA	**Warramunga Arr**	**27.26**	**162**	P	**P**	**18 58 57.4**	**-0.8**
	0.8nm,0.3s,mb3.8,baz=332,slow=10,SNR=34						
WRA	**Warramunga Arr**	**27.26**	**162**	P	**P**	**18 58 57.4**	**-0.8**
WB2	**Warramunga Arr**	**27.26**	**162**	*e*P	**P**	**18 58 57.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**28.96**	**297**	P	**P**	**18 59 14.0**	**+0.7**
	0.5nm,0.7s,mb3.3,baz=105,slow=5.7,SNR=3.6						
CMAR	**Chiang Mai Arr**	**28.96**	**297**	P	**P**	**18 59 14.0**	**+0.7**
ASAR	**Alice Springs**	**30.68**	**165**	P	**P**	**18 59 28.6**	**+0.2**
	2.2nm,0.4s,mb4.3,baz=343,slow=7.2,SNR=42						
ASAR				PcP	PcP	19 02 23.0	+0.2
	0.5nm,0.5s,baz=335,slow=2.9,SNR=5.5						
ASAR	**Alice Springs**	**30.68**	**165**	P	**P**	**18 59 28.6**	**+0.2**
ASAR				PcP	PcP	19 02 23.0	+0.2
CTA	**Charters Tower**	**32.91**	**143**	P	**P**	**18 59 49.7**	**+1.8**
	2.6nm,0.3s,mb4.4,baz=322,slow=4.5,SNR=6.6						
CTA	**Charters Tower**	**32.91**	**143**	*e*P	**P**	**18 59 50.8**	**+2.9**
	2.7nm,0.3s,mb4.5						
CTA	**Charters Tower**	**32.91**	**143**	P	**P**	**18 59 49.7**	**+1.8**
NWAO	**Narrogin (SRO)**	**39.76**	**191**	P	**P**	**19 00 46.4**	**+0.6**
	9.5nm,0.8s,mb4.5,baz=11,slow=9.9,SNR=14						
NWAO	**Narrogin (SRO)**	**39.76**	**191**	*e*P	**P**	**19 00 46.8**	**+0.9**
	5.8nm,0.6s,mb4.4						
BBOO	**Buckleboo**	**39.97**	**167**	*e*P	**P**	**19 00 47.9**	**+0.3**
	33nm,0.2s						
STKA	**Stephens Creek**	**40.70**	**159**	P	**P**	**19 00 54.3**	**+0.6**
	6.1nm,0.6s,mb4.4,baz=335,slow=8.8,SNR=19						
STKA	**Stephens Creek**	**40.70**	**159**	*e*P	**P**	**19 00 54.3**	**+0.6**
	4.0nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**40.70**	**159**	P	**P**	**19 00 54.3**	**+0.6**
SONM	**Songino Array**	**44.72**	**341**	P	**P**	**19 01 26.7**	**+0.9**
	0.2nm,0.4s,mb3.1,baz=152,slow=6.4,SNR=2.4						
SONM	**Songino Array**	**44.72**	**341**	P	**P**	**19 01 26.7**	**+0.9**
ARPS	**Mount Arapiles**	**45.26**	**162**	*e*P	**P**	**19 01 31.1**	**+0.8**
	10.0nm,0.4s,mb4.8						
PETK	**Petropavlovsk-**	**53.50**	**23**	P	**P**	**19 02 32.8**	**+0.3**
	5.3nm,1.0s,mb4.2,baz=186,slow=8.7,SNR=4.4						
PETK	**Petropavlovsk-**	**53.50**	**23**	P	**P**	**19 02 32.8**	**+0.3**
MKAR	**Makanchi Array**	**55.08**	**325**	P	**P**	**19 02 43.5**	**-0.5**
	4.3nm,0.3s,mb4.6,baz=114,slow=7.6,SNR=17						
MKAR	**Makanchi Array**	**55.08**	**325**	P	**P**	**19 02 43.5**	**-0.5**
KURK	**Kurchatov**	**59.24**	**327**	P	**P**	**19 03 12.0**	**-1.1**
	0.6nm,0.4s,mb3.7,baz=128,slow=7.3,SNR=14						
KURK	**Kurchatov**	**59.24**	**327**	*e*P	**P**	**19 03 11.9**	**-1.3**
	1.2nm,0.5s,mb4.0						
BVAR	**Borovoye Array**	**64.82**	**327**	P	**P**	**19 03 49.6**	**-0.7**
	0.3nm,0.5s,mb3.4,baz=96,slow=4.2,SNR=4.3						
BVAR	**Borovoye Array**	**64.82**	**327**	P	**P**	**19 03 49.6**	**-0.7**
KDAK	**Kodiak Island**	**80.28**	**33**	P	**P**	**19 05 22.2**	**+0.6**
	8.6nm,0.8s,mb4.5,baz=0.0,slow=3.0,SNR=3.8						
KDAK	**Kodiak Island**	**80.28**	**33**	P	**P**	**19 05 22.2**	**+0.6**
ILAR	**Eielson Array**	**83.26**	**26**	P	**P**	**19 05 36.8**	**-0.3**
	0.3nm,0.5s,mb3.3,baz=247,slow=4.4,SNR=11						
ILAR	**Eielson Array**	**83.26**	**26**	P	**P**	**19 05 36.8**	**-0.3**
FINES	**FINESS Array B**	**89.29**	**332**	P	**P**	**19 06 05.2**	**-1.4**
	6.4nm,1.1s,mb4.5,baz=48,slow=5.7,SNR=3.4						
FINES	**FINESS Array B**	**89.29**	**332**	P	**P**	**19 06 05.2**	**-1.4**
SFJD	**Kangerlussuaq**	**106.96**	**359**	*e*PKiKP	PKiKP	19 11 35.0	-0.2
LAZ	**Ladron**	**115.74**	**47**	*e*Pdif	Pdif	19 08 06.4	+0.8

*GUC **27** 18:57:41.4±1.0,23.°55S×71.°31W,h25km±5km,ML5.0*
*ISCJB **27** 18:57:45.0±0.4,23.°47S±0.°04×71.°05W±0.°07,h10km, mb4.3/15, Error ellipse: s-maj=10.3km s-min=4.8km az=23.0*
*NEIC **27** 18:57:48.7±3.2,23.°45S×70.°73W,h22km±22km,mb4.6/8, Error ellipse: s-maj=17.0km s-min=10.0km az=86.0*
*IDC **27** 18:57:50.1±0.8,23.°41S×70.°64W,h28km±5km,mb4.1/9, mb1 4.1/11,mb1mx4.1/17,mbtmp4.0/11,ML3.9/2,MS3.9/2, Ms1 3.9/2,ms1mx3.2/23,Error ellipse: s-maj=24.3km s-min=17.4km az=62.0*

ISC 27 18:57:47.1±0.4,23.°46S±0.°04×70.°91W±0.°07,h10km,n65, σ1§38/50,mb4.3/15,4C,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB04	**Plate Boundary**	**1.77**	**48**	↑*i*P	**Pn**	**18 58 09.8**	**-8.0**
PB04				*e*S	**Sn**	**18 58 30.1**	**-10**
PB04				AML	AML	18 58 36.9	
	comp=N,10μm,0.8s						
PB07	**Plate Boundary**	**1.96**	**29**	↑*i*P	**Pn**	**18 58 18.9**	**-1.5**
PB07				*e*S	**Sb**	**18 58 48.2**	**+0.7**
PB07				AML	AML	18 59 00.4	
	comp=E,10μm,0.6s						
PB09	**Plate Boundary**	**2.26**	**43**	↑*e*P	**Pn**	**18 58 24.1**	**-0.4**
PB09				*e*S	**Sb**	**18 58 56.1**	**+0.2**
PB09				AML	AML	18 59 01.3	
	comp=E,38μm,0.6s						
SPCH	**San Pedro de A**	**2.55**	**78**	*e*P	**Pb**	**18 58 34.9**	**+1.9**
SPCH				*e*S	**Sb**	**18 59 11.6**	**+7.1**
PB01	**Plate Boundary**	**2.74**	**29**	↑*e*P	**Pn**	**18 58 29.6**	**-1.6**
PB01				*e*S	**Sn**	**18 59 06.5**	**+2.2**
PB01				AML	AML	18 59 18.5	
	comp=E,3μm,0.5s						
PSGC	**Pisagua**	**3.91**	**11**	*e*P	**Pn**	**18 58 45.5**	**-1.7**
LCO	**Las Campanas**	**5.53**	**178**	*e*Pn	**Pn**	**18 59 08.9**	**-0.7**
	comp=E,66nm,0.6s						
LPAZ	**La Paz**	**7.60**	**21**	*e*Pn	**Pn**	**18 59 39.6**	**+1.8**
	comp=E,27nm,0.7s						
CFAA	**Coronel Fontan**	**8.45**	**164**	Pn	**Pn**	**18 59 49.5**	**-0.1**
	comp=E,0.1nm,0.3s,baz=4.7,slow=13,SNR=4.8						
CFAA				Sn	**Sn**	**19 01 44.0**	**+19**
	comp=E,0.6nm,0.3s,baz=165,slow=16,SNR=20						
CFAA	**Coronel Fontan**	**8.45**	**164**	Pn	**Pn**	**18 59 49.5**	**-0.1**
CFAA				Sn	**Sn**	**19 01 44.0**	**+19**
CPUP	**Villa Florida**	**12.65**	**106**	Pn	**Pn**	**19 00 44.4**	**-2.8**
	comp=E,0.2nm,0.3s,baz=302,slow=7.1,SNR=5.2						
CPUP				LR	LR	19 06 04.1	
	comp=E,904nm,20.1s,baz=266,slow=40						
CPUP	**Villa Florida**	**12.65**	**106**	Pn	**Pn**	**19 00 44.4**	**-2.8**
PLCA	**Paso Flores**	**17.23**	**179**	P	**Pn**	**19 01 48.8**	**+1.0**
	comp=E,0.1nm,0.3s,baz=0.0,slow=10,SNR=2.0						
PLCA				LR	LR	19 08 12.0	
	comp=E,217nm,20.3s,baz=7.6,slow=36						
PLCA	**Paso Flores**	**17.23**	**179**	P	**Pn**	**19 01 48.8**	**+1.0**
RCBR	**Riachuelo**	**37.98**	**68**	P	**P**	**19 05 05.2**	**-0.2**
	comp=E,12nm,0.9s,mb4.6,baz=225,slow=16,SNR=3.7						
RCBR	**Riachuelo**	**37.98**	**68**	P	**P**	**19 05 05.2**	**-0.2**
VNA3	**Neumayer Olymp**	**58.84**	**161**	*e*	**P**	**19 07 45.8**	**+0.4**
VNA2	**Neumayer--Watz**	**59.44**	**160**	*e*	**P**	**19 07 49.5**	**-0.1**
	baz=289,slow=5.9						
TKL	**Tuckaleechee C**	**60.04**	**348**	*e*P	**P**	**19 07 53.2**	**-0.9**
SWET	**Sewanee**	**60.07**	**346**	*e*P	**P**	**19 07 52.9**	**-1.4**
	comp=E,9.9nm,0.9s,mb4.8						
PLAL	**Pickwick Lake**	**60.36**	**344**	P	**P**	**19 07 53.6**	**-2.7**
	comp=E,3.5nm,0.9s,mb4.4						
SNAA	**Sanae**	**61.05**	**160**	*e*	**P**	**19 08 01.0**	**+0.4**
SNAA	**Sanae**	**61.05**	**160**	P	**P**	**19 08 01.2**	**+0.6**
	comp=E,1.7nm,1.0s,mb4.2,baz=301,slow=5.8,SNR=11						
SNAA	**Sanae**	**61.05**	**160**	*e*P	**P**	**19 08 00.6**	**0.0**
	comp=E,5.1nm,0.9s,mb4.7						
TXAR	**Lajitas Array**	**61.22**	**327**	P	**P**	**19 08 03.2**	**+0.9**
	comp=E,0.3nm,0.7s,mb3.5,baz=141,slow=8.1,SNR=3.8						
TXAR	**Lajitas Array**	**61.22**	**327**	P	**P**	**19 08 03.2**	**+0.9**
WVT	**Waverly**	**61.39**	**344**	*e*P	**P**	**19 08 01.0**	**-2.2**
	comp=E,6.4nm,0.8s,mb4.8						
QSPA	**South Pole Qui**	**66.74**	**180**	*e*P	**P**	**19 08 39.4**	**+1.4**
	comp=E,8.3nm,1.1s,mb4.7						

DBIC	**Dimbokro**	**71.06**	**74**	P		**P**	**19 09 03.4**	**-2.5**
	comp=E,6.4nm,0.8s,mb4.6,baz=198,slow=9.8,SNR=5.8								
DBIC	**Dimbokro**	**71.06**	**74**	P		**P**	**19 09 03.4**	**-2.5**
MSU	**Marysvale**	**72.78**	**327**	*e*P		**P**	**19 09 16.7**	**+1.1**
ARUT	**Antelope Range**	**72.86**	**326**	*e*P		**P**	**19 09 18.8**	**+2.6**
	comp=E,7.0nm,1.1s,mb4.5								
PDAR	**Pinedale Array**	**74.91**	**332**	P		**P**	**19 09 30.7**	**+2.7**
	comp=E,0.3nm,0.9s,mb3.2,baz=116,slow=4.1,SNR=3.2								
PDAR	**Pinedale Array**	**74.91**	**332**	P		**P**	**19 09 30.7**	**+2.7**
NVAR	**Mina Array Bea**	**75.92**	**323**	P		**P**	**19 09 35.6**	**+1.6**
	comp=E,0.9nm,0.8s,mb3.7,baz=116,slow=6.8,SNR=4.6								
NVAR	**Mina Array Bea**	**75.92**	**323**	P		**P**	**19 09 35.6**	**+1.6**
TORD	**Torodi Ar. Bea**	**79.75**	**71**	P		**P**	**19 09 55.0**	**-0.8**
	comp=E,13nm,0.8s,mb4.9,baz=251,slow=5.1,SNR=52								
TORD	**Torodi Ar. Bea**	**79.75**	**71**	P		**P**	**19 09 55.0**	**-0.8**
TSUM	**Tsumeb**	**81.24**	**107**	*e*P		**P**	**19 10 04.3**	**+0.4**
	comp=E,2.8nm,0.8s,mb4.2								
MAW	**Mawson**	**82.98**	**164**	P		**P**	**19 10 12.5**	**+0.4**
	comp=E,5.3nm,0.8s,mb4.6,baz=222,slow=7.1,SNR=10								
MAW	**Mawson**	**82.98**	**164**	*e*P		**P**	**19 10 12.2**	**+0.1**
	comp=E,1.1nm,0.9s,mb3.9								
YKA	**Yellowknife Ar**	**92.42**	**341**	P		**P**	**19 10 56.7**	**-0.8**
	comp=E,1.0nm,0.8s,mb4.2,baz=134,slow=4.9,SNR=8.9								
YKA				pP	pP	19 11 06.1	+5.3		
	comp=E,1.5nm,0.8s,baz=131,slow=4.6,SNR=10								
YKA	**Yellowknife Ar**	**92.42**	**341**	P		**P**	**19 10 56.7**	**-0.8**	
YKA				pP	pP	19 11 06.1	+5.3		
ASAR	**Alice Springs**	**127.32**	**209**	PKP	PKPdf	19 16 53.0	+0.3		
	comp=E,0.9nm,0.9s,baz=162,slow=3.9,SNR=7.1								
ASAR				pPKP	pPKPdf	19 17 01.9	+5.8		
	comp=E,1.9nm,0.8s,baz=136,slow=2.1,SNR=12								
ASAR	**Alice Springs**	**127.32**	**209**	PKP	PKPdf	19 16 53.0	+0.3		
ASAR				pPKP	pPKPdf	19 17 01.9	+5.8		
WRA	**Warramunga Arr**	**130.33**	**212**	PKP	PKPdf	19 16 58.2	-0.3		
	comp=E,1.0nm,1.0s,baz=154,slow=1.5,SNR=5.8								
WRA				pPKP	pPKPdf	19 17 08.2	+6.3		
	comp=E,1.7nm,0.8s,baz=158,slow=1.6,SNR=9.6								
WRA	**Warramunga Arr**	**130.33**	**212**	PKP	PKPdf	19 16 58.2	-0.3		
WRA				pPKP	pPKPdf	19 17 08.2	+6.3		
BVAR	**Borovoye Array**	**138.45**	**35**	PKP	PKPdf	19 17 13.4	+0.9		
	comp=E,0.8nm,0.8s,baz=318,slow=2.0,SNR=5.2								
BVAR				pPKP	pPKPdf	19 17 22.7	+6.7		
	comp=E,0.9nm,0.6s,baz=262,slow=3.7,SNR=5.6								
BVAR	**Borovoye Array**	**138.45**	**35**	PKP	PKPdf	19 17 13.4	+0.9		
BVAR				pPKP	pPKPdf	19 17 22.7	+6.7		
ZAA0	**Zalesovo Array**	**144.50**	**25**	*e*PKPdf	PKPdf	19 17 21.5	-1.9		
ZALV	**Zalesovo Beam**	**144.50**	**25**	PKP	PKPdf	19 17 22.2	-1.2		
	comp=E,2.9nm,0.8s,baz=316,slow=4.1,SNR=16								
ZALV	**Zalesovo Beam

KALE	**Kalithea**	**1.33**	**83**	P		**Pn**	19 09 15.0	-1.5
JAN	**Janina**	**1.44**	**12**	*e*PB		**Pb**	19 09 19.0	+0.4
JAN				*e*SB		**Sg**	19 09 38.8	+1.1
JAN	**Janina**	**1.44**	**12**	*e*Pb		**Pb**	19 09 19.0	+0.4
JAN				*e*Sb		**Sg**	19 09 38.8	+1.1
GUR	**Goura**	**1.52**	**101**	*e*PB		**Pb**	19 09 20.2	+0.2
GUR				*e*SB		**Sg**	19 09 41.3	+1.0
GUR	**Goura**	**1.52**	**101**	P		**Pn**	19 09 18.7	-0.4
GUR	**Goura**	**1.52**	**101**	P		**Pn**	19 09 18.7	-0.4
GUR	**Goura**	**1.52**	**101**	*e*Pb		**Pb**	19 09 20.2	+0.2
GUR				*e*Sb		**Sg**	19 09 41.3	+1.0
KEK	**Kerkira**	**1.55**	**341**	*e*PG		**Pn**	19 09 19.7	+0.2
KEK				*e*SB		**Sn**	19 09 40.8	+0.9
KEK	**Kerkira**	**1.55**	**341**	*e*Pg		**Pn**	19 09 19.7	+0.2
KEK				*e*Sb		**Sn**	19 09 40.8	+0.9
ITM	**Ithomi**	**1.58**	**132**	*e*PB		**Pb**	19 09 21.7	+0.7
ITM	**Ithomi**	**1.58**	**132**	*e*Pb		**Pb**	19 09 21.7	+0.7
AGG	**Agios Georgios**	**1.66**	**62**	*e*PG		**Pg**	19 09 22.5	-0.7
AGG				*e*SB		**Sg**	19 09 45.7	+0.9
AGG	**Agios Georgios**	**1.66**	**62**	*e*Pg		**Pg**	19 09 22.5	-0.7
AGG				*e*Sb		**Sg**	19 09 45.7	+0.9
PYL	**PYLOS**	**1.69**	**142**	*e*PG		**Pn**	19 09 23.0	+1.5
PYL				*e*SN		**Sb**	19 09 47.1	+2.6
PYL	**PYLOS**	**1.69**	**142**	*e*Pg		**Pn**	19 09 23.0	+1.5
PYL				*e*Sn		**Sb**	19 09 47.1	+2.6
VLX	**Vlachokerasia**	**1.76**	**119**	*e*PN		**Pg**	19 09 25.0	-0.1
VLX	**Vlachokerasia**	**1.76**	**119**	*e*Pn		**Pg**	19 09 25.0	-0.1
THL	**Klokotos Trika**	**1.79**	**42**	*e*PG		**Pg**	19 09 24.9	-0.9
THL				*e*SN		**Sg**	19 09 49.4	+0.4
THL	**Klokotos Trika**	**1.79**	**42**	*e*Pg		**Pg**	19 09 24.9	-0.9
THL				*e*Sn		**Sg**	19 09 49.4	+0.4
LTK	**Loutraki**	**2.00**	**96**	*e*PN		**Pb**	19 09 27.6	-0.4
LTK				*e*SN		**Sb**	19 09 54.3	+1.2
LTK	**Loutraki**	**2.00**	**96**	*e*Pn		**Pb**	19 09 27.6	-0.4
LTK				*e*Sn		**Sb**	19 09 54.3	+1.2
LKR	**Lokris**	**2.04**	**78**	*e*PB		**Pb**	19 09 27.4	-1.4
LKR	**Lokris**	**2.04**	**78**	*e*Pb		**Pb**	19 09 27.4	-1.4
DID	**Didima**	**2.32**	**108**	*e*PN		**Pb**	19 09 33.5	-0.2
DID				*e*SN		**Sb**	19 10 02.8	+0.2
DID	**Didima**	**2.32**	**108**	*e*Pn		**Pb**	19 09 33.5	-0.2
DID				*e*Sn		**Sb**	19 10 02.8	+0.2
NEO	**Neokhori**	**2.41**	**63**	*e*PN		**Pn**	19 09 33.4	+2.1
NEO	**Neokhori**	**2.41**	**63**	*e*Pn		**Pn**	19 09 33.4	+2.1
VLI	**Veliai**	**2.50**	**127**	*e*PN		**Pn**	19 09 35.1	+2.6
VLI	**Veliai**	**2.50**	**127**	*e*Pg		**Pg**	19 09 37.9	-1.3
PLG	**Polygyros**	**3.15**	**47**	*e*PB		**Pb**	19 09 44.7	-3.0
PLG	**Polygyros**	**3.15**	**47**	*e*Pb		**Pb**	19 09 44.7	-3.0
SOH	**Sokhos**	**3.41**	**40**	*e*PB		**Pb**	19 09 49.7	-2.5
SOH	**Sokhos**	**3.41**	**40**	*e*Pb		**Pb**	19 09 49.7	-2.5
STON	**Ston**	**5.07**	**336**	*e*PN		**Pn**	19 10 05.4	-2.4
STON				Sn		**Sn**	19 11 01.1	-5.6
STON	**Ston**	**5.07**	**336**	*e*Pn		**Pn**	19 10 05.4	-2.5
NVLJ	**Novalja**	**7.58**	**328**	*i* Pn		**Pn**	19 10 41.4	-0.8
NVLJ				Sn		**Sn**	19 12 02.9	-5.5
NVLJ	**Novalja**	**7.58**	**328**	*i* Pn		**Pn**	19 10 41.4	-0.8

IDC 27 19:20:44.5±6.7, 31°09S×179°60W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.6/13, mbtmp3.5/2, Error ellipse: s-maj=270.1km s-min=60.4km az=157.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**41.70**	**268**	P	P	19 28 35.0	-0.2
	0.4nm,0.5s,baz=108,slow=7.6,SNR=9.6						
WRA	**Warramunga Arr**	**42.75**	**274**	P	P	19 28 43.9	+0.1
	0.3nm,0.4s,baz=114,slow=7.7,SNR=7.7						
FINES	**FINESS Array B**	**145.30**	**339**	PKPbc	PKPbc	19 40 22.4	-0.8
	2.0nm,0.8s,baz=70,slow=6.5,SNR=4.2						

*IDC **27** 19:23:13.3±6.5, 36°.21N×82°.11E, h0km, mb3.3/1, mb1 3.6/5, mb1mx3.3/28, mbtmp3.6/5, ML3.4/4, MS3.7/1, Ms1 3.7/1, ms1mx2.5/24, Error ellipse: s-maj=85.6km s-min=45.4km az=34.0*

*NEIC **27** 19:23:14.3±4.1, 36°.17N×82°.08E, h10km, Error ellipse: s-maj=54.0km s-min=22.7km az=189.0*

ISC 27 19:23:15.5±1.8, 36°.3N±0°.1×82°.1E±0°.2, h10km, n14, σ1§11/16, 1C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**8.64**	**320**	Pn	**Pn**	19 25 20.3	**-0.2**
	13nm,0.6s						
MK31	**Makanchi Array**	**10.50**	**1**	P	**Pn**	19 25 46.9	**+0.8**
	6.0nm,0.8s,baz=184,slow=13,SNR=50						
MK31				⇑S	**Sn**	19 27 42.6	**-1.1**
	1.8nm,0.7s,baz=183,slow=22,SNR=6.6						
MK31	**Makanchi Array**	**10.50**	**1**	*e*Pn	**Pn**	19 25 47.1	**+1.0**
MKAR	**Makanchi Array**	**10.50**	**1**	Pn	**Pn**	19 25 47.3	**+1.3**
	0.9nm,0.3s,baz=182,slow=13,SNR=47						
MKAR				Sn	**Sn**	19 27 44.6	**+0.9**
	0.4nm,0.3s,baz=185,slow=23,SNR=8.2						
MKAR	**Makanchi Array**	**10.50**	**1**	Pn	**Pn**	19 25 47.3	**+1.3**
MKAR				Sn	**Sn**	19 27 44.6	**+0.9**
KURK	**Kurchatov**	**14.64**	**351**	Pn	**Pn**	19 26 39.3	**-3.2**
	0.0nm,0.3s,baz=171,slow=12,SNR=4.1						
KURK	**Kurchatov**	**14.64**	**351**	Pn	**Pn**	19 26 39.3	**-3.2**
ZALV	**Zalesovo Beam**	**17.77**	**5**	P	**Pn**	19 27 21.2	**-1.5**
	0.2nm,0.3s,baz=187,slow=12,SNR=12						
ZALV	**Zalesovo Beam**	**17.77**	**5**	P	**Pn**	19 27 21.2	**-1.5**
BVAR	**Borovoye Array**	**18.65**	**337**	P	**Pn**	19 27 34.2	**+0.6**
	0.1nm,0.3s,baz=141,slow=9.7,SNR=5.4						
BVAR	**Borovoye Array**	**18.65**	**337**	P	**Pn**	19 27 34.2	**+0.6**
SONM	**Songino Array**	**21.33**	**50**	P	**P**	19 28 02.5	**0.0**
	1.3nm,0.8s,baz=242,slow=12,SNR=6.6						
SONM	**Songino Array**	**21.33**	**50**	P	**P**	19 28 02.5	**0.0**
PETK	**Petropavlovsk-**	**53.77**	**46**	LR	LR	19 54 59.4	
	comp=Z,68nm,19.2s,baz=189,slow=35						

*ISCJB **27** 19:29:53.9±1.4, 48°.3N±0°.2×153°.3E±0°.2, h119km±11km, mb3.6/7, Error ellipse: s-maj=28.6km s-min=11.8km az=150.6*

*MOS **27** 19:29:53.8±1.0, 48°.35N×153°.29E, h117km, mb3.9/3, Error ellipse: s-maj=29.4km s-min=15.9km az=60.8*

*IDC **27** 19:29:54.6±3.6, 48°.38N×153°.29E, h104km±41km, mb3.3/7, mb1 3.6/9, mb1mx3.3/27, mbtmp3.4/9, Error ellipse: s-maj=57.7km s-min=18.4km az=176.0*

*NEIC **27** 19:29:55.2±1.4, 48°.19N×153°.38E, h118km±11km, Error ellipse: s-maj=26.6km s-min=10.8km az=155.0*

ISC 27 19:29:55.1±1.3, 48°.3N±0°.2×153°.4E±0°.2, h113km±10km, n31, σ0§95/34, mb3.6/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.03**	**35**	*e*PN	**Pn**	19 30 41.2	**-0.3**
SKR				*e*S	**Sn**	19 31 16.9	**-0.4**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,200nm,0.3s						
SKR				smax			
	comp=E,140nm,0.3s						
PEA0B	**Petropavlovsk-**	**5.59**	**28**	*e*P	**Pn**	19 31 17.5	**+1.7**
PETK	**Petropavlovsk-**	**5.59**	**28**	P	**Pn**	19 31 16.7	**+0.8**
	comp=E,0.3nm,0.3s,baz=216,slow=12,SNR=4.2						
PETK	**Petropavlovsk-**	**5.59**	**28**	P	**Pn**	19 31 16.7	**+0.8**
PETK	**Petropavlovsk-**	**5.59**	**28**	*e*PN	**Pn**	19 31 14.4	**-1.4**
ASAJ	**Asahikawa**	**8.53**	**245**	P	**Pn**	19 31 55.9	**+0.1**
	comp=E,0.5nm,0.3s,baz=86,slow=11,SNR=4.7						
ASAJ	**Asahikawa**	**8.53**	**245**	P	**Pn**	19 31 55.9	**+0.1**
ASAJ	**Asahikawa**	**8.53**	**245**	PN	**Pn**	19 31 55.9	**+0.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FX1	**Attu Island--F**	**13.40**	**62**	P	**Pn**	19 32 58.6	**-1.9**
	comp=Z,1.0nm,0.3s,baz=242,slow=8.2,SNR=5.6						
FX1				S	**Sn**	19 35 16.6	**-11**
	comp=Z,2.8nm,0.3s,baz=197,slow=19,SNR=6.2						
FX1	**Attu Island--F**	**13.40**	**62**	P	**Pn**	19 32 58.6	**-1.9**
FX1				S	**Sn**	19 35 16.6	**-11**
FX1	**Attu Island--F**	**13.40**	**62**	PN	**Pn**	19 32 58.7	**-1.9**
FX1				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ILAR	**Eielson Array**	**35.28**	**40**	P	**P**	19 36 39.4	**+0.9**
	comp=Z,0.2nm,0.5s,mb3.2,baz=251,slow=6.1,SNR=4.3						
ILAR	**Eielson Array**	**35.28**	**40**	P	**P**	19 36 39.4	**+0.9**
ILAR	**Eielson Array**	**35.28**	**40**	P	**P**	19 36 39.4	**+0.9**
MKAR	**Makanchi Array**	**46.41**	**296**	P	**P**	19 38 09.8	**-0.1**
	comp=Z,0.7nm,0.6s,mb3.5,baz=70,slow=8.6,SNR=6.1						
MKAR	**Makanchi Array**	**46.41**	**296**	*e*P	**P**	19 38 09.8	**-0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**46.68**	**303**	P	**P**	19 38 12.7	**+0.7**
	comp=Z,0.6nm,0.6s,mb3.5,baz=70,slow=8.5,SNR=5.3						
KURK	**Kurchatov**	**46.68**	**303**	P	**P**	19 38 12.7	**+0.7**
KURK	**Kurchatov**	**46.68**	**303**	P	**P**	19 38 12.7	**+0.7**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
BVAR	**Borovoye Array**	**50.04**	**309**	P	**P**	19 38 36.4	**-1.4**
	comp=Z,0.3nm,0.3s,mb3.6,baz=56,slow=7.1,SNR=4.0						
BVAR	**Borovoye Array**	**50.04**	**309**	P	**P**	19 38 36.4	**-1.4**
BVAR	**Borovoye Array**	**50.04**	**309**	P	**P**	19 38 36.4	**-1.3**
NVAR	**Mina Array Bea**	**61.60**	**63**	P	**P**	19 40 01.2	**+0.9**
	comp=Z,0.5nm,0.8s,mb3.6,baz=298,slow=4.7,SNR=3.6						
NVAR	**Mina Array Bea**	**61.60**	**63**	P	**P**	19 40 01.2	**+0.9**
FINES	**FINESS Array B**	**62.75**	**335**	P	**P**	19 40 06.9	**-0.7**
	comp=Z,3.8nm,1.0s,mb4.3,baz=44,slow=8.2,SNR=6.3						
FINES	**FINESS Array B**	**62.75**	**335**	P	**P**	19 40 06.9	**-0.7**
FINES	**FINESS Array B**	**62.75**	**335**	P	**P**	19 40 06.9	**-0.8**
FINES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TXAR	**Lajitas Array**	**76.61**	**61**	P	**P**	19 41 33.5	**+0.3**
	comp=Z,0.3nm,0.5s,mb3.3,baz=321,slow=5.2,SNR=6.2						
TXAR	**Lajitas Array**	**76.61**	**61**	P	**P**	19 41 33.5	**+0.3**
TXAR	**Lajitas Array**	**76.61**	**61**	P	**P**	19 41 33.5	**+0.3**

WEL 27 20:29:25.5±0.6, 38°.38S×175°.81E, h203km±5km, ML3.5/7, Error ellipse: s-maj=6.7km s-min=4.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUVZ	**Tukino**	**0.90**	**188**	PN	Pn	20 29 55.0	+0.2
WNVZ	**Wahianoa**	**0.96**	**190**	PN	Pn	20 29 55.4	+0.3
MOVZ	**Moawhango**	**1.03**	**183**	PN	Pn	20 29 55.4	-0.2
BHHZ	**Black Hill Sta**	**1.13**	**170**	PN	Pn	20 29 56.2	-0.1
BHHZ				SN	Sn	20 30 19.5	-0.9
PNHZ	**Pukenui**	**1.56**	**169**	PN	Pn	20 29 59.9	0.0
PNHZ				SN	Sn	20 30 26.3	-0.5
KAHZ	**Kahuranaki**	**1.64**	**150**	PN	Pn	20 30 00.8	+0.2
TSZ	**Takapari Road**	**1.68**	**176**	PN	Pn	20 30 01.2	+0.2
WPHZ	**Waipukurau**	**1.75**	**164**	PN	Pn	20 30 01.7	+0.1
WPHZ				SN	Sn	20 30 29.5	-0.5
DVHZ	**Dannevirke**	**1.94**	**172**	PN	Pn	20 30 03.4	-0.1
DVHZ				SN	Sn	20 30 32.1	-1.2
PRHZ	**Porangahau**	**1.99**	**162**	PN	Pn	20 30 03.9	-0.1
MRZ	**Mangatainoka R**	**2.29**	**184**	PN	Pn	20 30 06.8	-0.2
BFZ	**Birch Farm**	**2.32**	**172**	PN	Pn	20 30 07.3	-0.2
TIWZ	**Tintock**	**2.40**	**179**	PN	Pn	20 30 08.2	-0.1
OGWZ	**Otaki Gorge**	**2.49**	**191**	PN	Pn	20 30 09.3	0.0
HOWZ	**Holdsworth Sta**	**2.53**	**185**	PN	Pn	20 30 09.3	-0.5
KIW	**Kapiti Island**	**2.58**	**195**	PN	Pn	20 30 09.9	-0.4
TMWZ	**Te Maipa**	**2.73**	**179**	PN	Pn	20 30 11.5	-0.4
CAW	**Cannon Point**	**2.79**	**192**	PN	Pn	20 30 12.4	-0.3
MTW	**Mount Morrison**	**2.79**	**185**	PN	Pn	20 30 11.9	-0.8
TCW	**Tory Channel**	**3.07**	**202**	PN	Pn	20 30 15.5	-0.4
PLWZ	**Palliser**	**3.22**	**187**	PN	Pn	20 30 16.9	-0.8
TUWZ	**Tuamarina**	**3.37**	**205**	PN	Pn	20 30 19.0	-0.5
NNZ	**Nelson**	**3.40**	**213**	PN	Pn	20 30 19.4	-0.4
QRZ	**Quartz Range**	**3.52**	**225**	PN	Pn	20 30 20.1	-1.2
THZ	**Tophouse**	**4.05**	**212**	PN	Pn	20 30 27.6	-0.2
LTZ	**Lake Taylor**	**5.16**	**210**	PN	Pn	20 30 40.7	-1.1

MAN 27 20:41:17, 7°.01N×124°.23E, h19km, mb3.7, ML2.5, MS2.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.21**	**5**	⇑*i*P	Pg	20 41 23.9	+1.7
CTBH				*i* S	Sg	20 41 32.2	+6.3
PAGZ	**Pagadian**	**1.19**	**315**	*e*P	Pn	20 41 41.8	+3.3
PAGZ				*e*S	Sb	20 41 53.4	-0.5
BUKP	**Musuan**	**1.20**	**44**	*e*P	Pn	20 41 38.5	-0.2
IPIL	**Ipil**	**1.82**	**295**	*e*P	Pn	20 41 47.7	+0.4

*ISCJB **27** 20:43:46.2±0.2, 7°.22S±0°.03×126°.57E±0°.03, h456km±3km, mb4.6/31, Error ellipse: s-maj=4.9km s-min=4.0km az=40.0*

*DJA **27** 20:43:46.4±0.2, 7°.S±2°×12°.7E±°, h440km±3km, M4.7/4, mb4.9/44, mB5.2/24, MLv5.1/11, Mw(mB)4.6/24*

*NEIC **27** 20:43:46.4±0.7, 7°.20S×126°.56E, h440km±9km, mb4.5/13, Error ellipse: s-maj=10.4km s-min=5.5km az=64.0*

*IDC **27** 20:43:47.2±1.6, 7°.20S×126°.57E, h445km±20km, mb3.8/8, mb1 4.2/12, mb1mx3.9/18, mbtmp4.1/12, Error ellipse: s-maj=22.1km s-min=7.8km az=68.0*

ISC 27 20:43:46.9±0.2, 7°.26S±0°.03×126°.55E±0°.03, h445km±3km, n133, σ1§03/149, mb4.5/31, 1C-2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**3.91**	**25**	P	**P**	20 45 01.5	**+0.5**
AAI				S	**S**	20 46 01.2	**0.0**
BNDI	**Bandanaira**	**4.31**	**51**	P	**P**	20 45 04.2	**-0.4**
BNDI				S	**S**	20 46 08.0	**+0.4**
BBSI	**Bau Bau**	**4.33**	**294**	P	**P**	20 45 07.1	**+2.3**
BBSI				S	**S**	20 46 06.2	**-1.8**
MMRI	**Maumere**	**4.48**	**252**	P	**P**	20 45 06.7	**+0.6**
MMRI				S	**S**	20 46 08.2	**-2.4**
MSAI	**Masohi**	**4.56**	**31**	P	**P**	20 45 07.3	**+0.4**
MSAI				S	**S**	20 46 07.1	**-4.8**
KDI	**Kendari**	**5.11**	**310**	P	**P**	20 45 12.2	**+0.1**
	0.3nm1μm110nm,0.9s						
KDI				S	**S**	20 46 21.1	**-0.4**
	0.3nm1μm110nm,0.9s						
TLE	**Tual**	**6.36**	**76**	P	**P**	20 45 23.3	**-1.5**
	4.0nm1μm,0.8s						
TLE				S	**S**	20 46 42.0	**-2.8**
	4.0nm1μm,0.8s						
WSI	**Waingapu**	**6.63**	**248**	P	**P**	20 45 32.6	**+5.0**
WSI				S	**S**	20 46 44.0	**-6.0**
BKSI	**Bulukumba**	**6.67**	**286**	P	**P**	20 45 29.1	**+1.0**
	0.6nm2μm181nm,0.8s						
BKSI				S	**S**	20 46 50.4	**-0.5**
	0.6nm2μm181nm,0.8s						
LUWI	**Luwuk**	**7.24**	**328**	P	**P**	20 45 35.1	**+1.0**
	3.5nm8μm962nm,0.9s						
LUWI				S	**S**	20 47 01.8	**-0.1**
	3.5nm8μm962nm,0.9s						
SPSI	**Sidrap Palu**	**7.50**	**296**	P	**P**	20 45 37.5	**+0.5**
	439nm33nm,0.7s						
SPSI				S	**S**	20 47 07.5	**+0.4**
	439nm33nm,0.7s						
MSSI	**Masamba**	**7.77**	**307**	P	**P**	20 45 41.4	**+1.6**
	0.5nm7μm73nm,0.9s						
SWI	**Sorong**	**7.91**	**37**	P	**P**	20 45 41.4	**+0.1**
	3μm276nm,0.6s						
SWI				S	**S**	20 47 09.7	**-5.4**
	3μm276nm,0.6s						
TTSI	**Tana Toraja**	**7.91**	**302**	P	**P**	20 45 46.8	**+5.5**
TNTI	**Ternate**	**8.02**	**6**	P	**P**	20 45 40.9	**-1.7**
	2μm180nm,0.9s						
TNTI				S	**S**	20 47 18.1	**+0.7**
	2μm180nm,0.9s						
KMSI	**Cibinong**	**8.20**	**342**	P	**P**	20 45 44.5	**0.0**
	5μm484nm,0.8s						
GTOI	**Gorontalo**	**8.61**	**336**	P	**P**	20 45 51.3	**+2.4**
	7μm984nm,0.7s						
GTOI				S	**S**	20 47 31.8	**+2.7**
	7μm984nm,0.7s						
MNI	**Manado**	**8.82**	**349**	P	**P**	20 45 51.2	**0.0**
	4μm478nm,0.7s						
MRSI	**Marisa**	**8.96**	**329**	P	**P**	20 45 53.2	**+0.4**
	3μm323nm,0.6s						
MTNI	**Mataram**	**10.37**	**262**	P	**P**	20 46 07.0	**-1.2**
	120nm,0.7s						
FITZ	**Fitzroy Crossi**	**10.81**	**185**	P	**P**	20 46 13.5	**+0.6**
	17nm,0.3s,baz=18,slow=8.6,SNR=417						
FITZ				S	**S**	20 48 11.3	**-1.9**
	1.9nm,0.3s,baz=175,slow=10,SNR=4.9						
FITZ	**Fitzroy Crossi**	**10.81**	**185**	*e*P	**P**	20 46 13.5	**+0.6**
	146nm,0.4s						
FITZ	**Fitzroy Crossi**	**10.81**	**185**	P	**P**	20 46 13.5	**+0.6**
FITZ				S	**S**	20 48 11.3	**-1.9**
FITZ	**Fitzroy Crossi**	**10.81**	**185**	P	**P**	20 46 13.2	**+0.3**
	1μm122nm,0.7s						
KHKI	**Kahang-Kahang**	**10.90**	**264**	P	**P**	20 46 12.1	**-1.8**
	112nm,0.7s						
KBKI	**Kotabaru**	**11.06**	**290**	P	**P**	20 46 16.2	**+0.5**
	784nm54nm,0.8s						
SRBI	**Singaraja**	**11.27**	**265**	P	**P**	20 46 22.9	**+5.0**
BBKI	**Banjar Baru**	**12.25**	**287**	P	**P**	20 46 31.2	**+2.5**
	3μm303nm,1.3s						
KMMI	**Kalianget**	**12.49**	**270**	P	**P**	20 46 34.9	**+3.7**
	227nm,1.5s						
BLJI	**Banyuglugur**	**12.85**	**267**	P	**P**	20 46 35.4	**+0.2**
	3μm366nm,0.7s						
GMJI	**Gumukmas**	**13.03**	**265**	P	**P**	20 46 44.5	**+7.4**
SMPI	**Sarmi**	**13.20**	**67**	P	**P**	20 46 40.0	**+1.0**
	113nm,0.8s						
MATI	**Mati**	**14.12**	**359**	*e*P	**P**	20 46 48.8	**-0.1**
MATI				*e*S	Px	20 46 56.7	
KCP	**Kidapawan**	**14.25**	**354**	⇑*e*P	**P**	20 46 49.8	**-0.5**
KCP				*i* S	Px	20 46 53.1	
DAV	**Davao City (W)**	**14.27**	**356**	P	**P**	20 46 49.0	**-1.5**
	95nm,0.3s,baz=230,slow=3.9,SNR=6.1						
DAV	**Davao City (W)**	**14.27**	**356**	P	**P**	20 46 49.0	**-1.5**
CTBH	**Cotabato--PC H**	**14.57**	**351**	⇓*i*P	**P**	20 46 52.9	**-0.8**
PWJI	**Pagerwojo**	**14.63**	**266**	P	**P**	20 46 58.8	**+4.4**
	67nm,0.9s						
SJI	**Sawahan**	**14.66**	**267**	P	**P**	20 46 53.9	**-0.8**
	65nm,0.8s						
WRAB	**Tennant Creek**	**14.69**	**150**	*e*P	**P**	20 46 54.9	**-0.1**
	113nm,0.6s						
WRAB	**Tennant Creek**	**14.69**	**150**	P	**P**	20 46 54.7	**-0.2**
	3μm232nm,1.2s						
WRA	**Warramunga Arr**	**14.70**	**150**	P	**P**	20 46 55.3	**+0.3**
	26nm,0.3s,baz=325,slow=12,SNR=144						
WRA				S	**S**	20 49 28.7	**-1.6**
	1.2nm,0.3s,baz=316,slow=21,SNR=7.7						
WRA	**Warramunga Arr**	**14.70**	**150**	P	**P**	20 46 55.3	**+0.3**
WRA				S	**S**	20 49 28.7	**-1.6**
WB2	**Warramunga Arr**	**14.70**	**150**	*e*P	**P**	20 46 54.9	**-0.1**
MYLDM	**Lahad Datu**	**14.74**	**327**	P	**P**	20 46 55.6	**+0.1**
JAY	**Jayapura**	**14.87**	**72**	P	**P**	20 46 59.7	**+2.8**
	6μm33nm,0.8s						
BUKP	**Musuan**	**15.12**	**354**	*e*P	**P**	20 46 58.9	**-0.6**
BUKP				*e*S	Px	20 47 14.6	
MBWA	**Marble Bar**	**15.31**	**205**	*e*P	**P**	20 47 01.7	**+0.2**
MBWA	**Marble Bar**	**15.31**	**205**	*e*P	**P**	20 47 01.4	**-0.1**
	16nm,0.4s						
MBWA	**Marble Bar**	**15.31**	**205**	P	**P**	20 47 02.1	**+0.6**
	34nm,1.4s						
CGP	**Cagayan de Oro**	**15.72**	**353**	*e*P	**P**	20 47 05.0	**-1.1**
SDKM	**Sandakan**	**15.86**	**324**	P	**P**	20 47 07.5	**0.0**
STKI	**Sintang**	**16.70**	**295**	P	**P**	20 47 19.8	**+3.4**
	49nm,0.8s						
BTM	**Bintulu**	**16.99**	**307**	P	**P**	20 47 19.5	**+0.1**
SBUM	**Sibu**	**17.25**	**304**	P	**P**	20 47 25.2	**+3.0**
	70nm,0.8s						
COEN	**Coen**	**17.64**	**114**	*e*P	**P**	20 47 25.5	**-0.6**
	85nm,0.5s						
COEN	**Coen**	**17.64**	**114**	*e*P	**P**	20 47 25.1	**-1.0**
	165nm,0.9s						
COEN	**Coen**	**17.64**	**114**	P	**P**	20 47 25.5	**-0.6**
	26nm,0.7s						
ASAR	**Alice Springs**	**17.77**	**157**	P	**P**	20 47 27.6	**+0.1**
	30nm,0.3s,baz=336,slow=8.5,SNR=542						
ASAR				S	**S**	20 50 29.3	**+0.1**
	0.6nm,0.3s,baz=345,slow=22,SNR=16						
ASAR	**Alice Springs**	**17.77**	**157**	P	**P**	20 47 27.6	**+0.1**
ASAR				S	**S**	20 50 29.3	**+0.1**
QIS	**Mount Isa**	**18.29**	**138**	⇓*i*P	**P**	20 47 32.6	**-0.3**
KSM	**Kuching**	**18.38**	**298**	P	**P**	20 47 34.2	**+0.2**
KSM	**Kuching**	**18.38**	**298**	*e*P	**P**	20 47 33.7	**-0.2**
	71nm,0.9s						
KSM	**Kuching**	**18.38**	**298**	P	**P**	20 47 35.4	**+1.4**
	756nm80nm,0.8s						
CISI	**Cisompet, Garu**	**18.58**	**268**	P	**P**	20 47 35.6	**-0.2**
	2μm312nm,0.9s						
LEM	**Lembang**	**18.80**	**270**	P	**P**	20 47 36.8	**-1.0**
	196nm,0.9s						
CBJI	**Citeko**	**19.58**	**271**	P	**P**	20 47 42.4	**-2.5**
	5μm583nm,0.8s						
DBJI	**Dramaga**	**19.67**	**271**	P	**P**	20 47 44.5

KOLN	**Koldanda**	**54.18**	**312**	*e*P		**P**	**20 52 29.3**	**-0.1**
	28nm,0.6s,mb4.7							
DANN	**Dangsing**	**54.38**	**313**	*e*P		**P**	**20 52 30.6**	**-0.2**
	25nm,0.6s,mb4.6							
PYUN	**Piuthan**	**54.81**	**312**	*e*P		**P**	**20 52 33.7**	**-0.2**
SONM	**Songino Array**	**57.68**	**344**	P		**P**	**20 52 53.7**	**+0.4**
	0.6nm,0.4s,baz=158,slow=6.6,SNR=8.9							
SONM	**Songino Array**	**57.68**	**344**	P		**P**	**20 52 53.7**	**+0.4**
MK31	**Makanchi Array**	**66.61**	**329**	*e*P		**P**	**20 53 51.5**	**-0.3**
MKAR	**Makanchi Array**	**66.61**	**329**	P		**P**	**20 53 51.8**	**0.0**
	2.8nm,0.8s,mb3.9,baz=125,slow=7.4,SNR=24							
MKAR	**Makanchi Array**	**66.61**	**329**	P		**P**	**20 53 51.8**	**0.0**
ZAA0	**Zalesovo Array**	**70.35**	**335**	*e*P		**P**	**20 54 13.1**	**-1.3**
ZALV	**Zalesovo Beam**	**70.35**	**335**	P		**P**	**20 54 13.6**	**-0.8**
	6.1nm,0.5s,mb4.4,baz=139,slow=5.5,SNR=37							
ZALV	**Zalesovo Beam**	**70.35**	**335**	P		**P**	**20 54 13.6**	**-0.8**
KURK	**Kurchatov**	**71.00**	**330**	*e*P		**P**	**20 54 17.8**	**-0.6**
	9.9nm,0.9s,mb4.3							
BRVK	**Borovoye**	**76.56**	**329**	*e*P		**P**	**20 54 49.0**	**-1.1**
	4.5nm,0.8s,mb4.2							
ABKAR	**Akbulak array**	**80.61**	**322**	*e*P		**P**	**20 55 10.9**	**-1.1**
	1.3nm,0.6s,mb3.8							
PDAR	**Pinedale Array**	**119.50**	**45**	PKP		PKPdf	21 01 45.8	+0.6
	0.2nm,0.4s,baz=46,slow=2.2,SNR=1.9							
PDAR	**Pinedale Array**	**119.50**	**45**	PKP		PKPdf	21 01 45.8	+0.6
TORD	**Torodi Ar. Bea**	**125.50**	**281**	PKP		PKPdf	21 01 56.8	-0.8
	0.8nm,0.6s,baz=43,slow=2.7,SNR=12							
TORD	**Torodi Ar. Bea**	**125.50**	**281**	PKP		PKPdf	21 01 56.8	-0.8
CPUP	**Villa Florida**	**146.40**	**174**	PKPbc		PKPbc	21 02 38.6	+0.8
	1.1nm,0.4s,baz=119,slow=1.6,SNR=4.9							
CPUP	**Villa Florida**	**146.40**	**174**	PKPbc		PKPbc	21 02 38.6	+0.8

ISCJB ***27*** *20:56:56.0±2.4,20°.5S±0°.1×68°.6W±0°.3,h136km±21km, mb3.6/2, Error ellipse: s-maj=50.6km s-min=17.7km az=158.9*
NEIC ***27*** *20:56:57.6±1.7,20°.46S×68°.48W,h133km±14km,mb3.6/1, Error ellipse: s-maj=34.7km s-min=11.7km az=68.0*
IDC ***27*** *20:56:58.2±10.0,20°.57S×68°.51W,h139km±99km, mb3.6/2, mb1 3.8/3, mb1mx3.4/15, mbtmp3.6/3, ML4.4/1, Error ellipse: s-maj=141.8km s-min=53.1km az=14.0*

ISC 27 20:56:57.8±2.3,20°.5S±0°.2×68°.5W±0°.3,h136km±20km,n12, σ0°17/8,mb3.6/2,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**4.17**	**5**	*e*P	**Pn**	**20 58 00.1**	**0.0**
CPUP	**Villa Florida**	**11.79**	**122**	P	**Pn**	**20 59 41.6**	**-0.1**
	0.6nm,0.3s,baz=280,slow=11,SNR=9.5						
CPUP	**Villa Florida**	**11.79**	**122**	P	**Pn**	**20 59 41.6**	**-0.1**
TRQA	**Tornquist**	**18.41**	**164**	*e*P	**P**	**21 01 02.6**	**+0.1**
	2.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**76.64**	**70**	P	**P**	**21 08 34.3**	**+0.1**
	0.4nm,0.4s,mb3.4,baz=250,slow=5.7,SNR=16						
TORD				pP	pP	21 09 04.6	-3.3
	0.6nm,0.6s,baz=248,slow=5.5,SNR=4.7						
TORD	**Torodi Ar. Bea**	**76.64**	**70**	P	**P**	**21 08 34.3**	**+0.1**
TORD				pP	pP	21 09 04.6	-3.3
YKA	**Yellowknife Ar**	**90.35**	**340**	P	**P**	**21 09 42.9**	**-0.2**
	0.6nm,0.5s,mb3.8,baz=131,slow=4.5,SNR=7.4						
YKA	**Yellowknife Ar**	**90.35**	**340**	P	**P**	**21 09 42.9**	**-0.2**
MKAR	**Makanchi Array**	**144.57**	**35**	PKP	PKPdf	21 16 18.2	+0.1
	0.1nm,0.4s,baz=294,slow=3.8,SNR=5.3						
MKAR	**Makanchi Array**	**144.57**	**35**	PKP	PKPdf	21 16 18.2	+0.1
SONM	**Songino Array**	**152.39**	**7**	PKPbc	PKPbc	21 16 38.5	+0.7
	0.3nm,0.4s,baz=305,slow=1.2,SNR=4.3						
SONM	**Songino Array**	**152.39**	**7**	PKPbc	PKPbc	21 16 38.5	+0.7

IGQ 27 21:14:32.9,1°.24S×80°.79W,h50km±4km,Mb4.0,Ms3.8, 4C-3D,Error ellipse: s-maj=11.6km s-min=4.1km az=166.1,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHIS	**Cerro-Chispas-**	**0.20**	**18**	⇑S	Sn	21 14 46.7	-0.4
CHIS	**Cerro-Chispas-**	**0.20**	**18**	⇑P	Pn	21 14 41.2	-0.1
PECV	**Mancha de Ca P**	**0.87**	**58**	P	Pn	21 14 46.0	-3.0
IGUA	**Igualata**	**2.16**	**97**	P	Pn	21 15 07.2	+0.7
BMAS	**Trigal station**	**2.32**	**96**	⇓P	Pn	21 15 09.6	+0.9
JUI6	**Juive**	**2.33**	**94**	P	Pn	21 15 09.8	+1.1
ARRY	**Arrayan**	**2.35**	**96**	⇑S	Sn	21 15 36.4	-0.3
ARRY	**Arrayan**	**2.35**	**96**	⇑P	Pn	21 15 09.9	+0.9
PAT1	**Patacocha**	**2.37**	**96**	P	Pn	21 15 10.5	+1.2
BRUN	**Tungurahua Vol**	**2.38**	**94**	P	Pn	21 15 10.7	+1.2
BULB	**Ulba Tungurahu**	**2.39**	**95**	⇓P	Pn	21 15 10.7	+1.1
JUA2	**San Juan 2**	**2.41**	**65**	P	Pn	21 15 11.9	+2.0
PINO	**Pino**	**2.43**	**64**	P	Pn	21 15 11.3	+1.1
GGP	**Refugio Guagua**	**2.44**	**64**	P	Pn	21 15 11.1	+0.8
PITA	**Cotopaxi Volc**	**2.45**	**74**	P	Pn	21 15 12.9	+2.5
VC1	**Cotopaxi 1**	**2.46**	**76**	P	Pn	21 15 12.5	+1.9
YANA	**Yana**	**2.48**	**63**	P	Pn	21 15 10.8	-0.1
COV1	**Cotopaxi Volc**	**2.51**	**77**	P	Pn	21 15 13.8	+2.5
ANTI	**Antisana**	**2.74**	**73**	P	Pn	21 15 16.6	+2.2
OTAV	**Otavalo**	**2.76**	**58**	⇓P	Pn	21 15 16.1	+1.4
MACE	**Macas**	**2.78**	**111**	P	Pn	21 15 16.2	+1.2
CAYA	**Cayambe**	**3.09**	**65**	P	Pn	21 15 23.0	+3.8

CSEM ***27*** *21:23:26.3±0.3,36°.97N×7°.09W,h22km±2km,ML2.5/19, Error ellipse: s-maj=5.0km s-min=2.7km az=12.0*
INMG ***27*** *21:23:27.2±1.3,36°.92N×7°.13W,h18km±3km,ML1.7, Error ellipse: s-maj=3.6km s-min=2.3km az=9.0*
MDD ***27*** *21:23:27.0±0.8,36°.92N×7°.15W,h21km±2km,mbLg1.9/10, Error ellipse: s-maj=7.4km s-min=4.2km az=22.0,PRIMO*

ISC 27 21:23:27.2±0.8,36°.95N±0°.04×7°.12W±0°.03,h33km±7km, n55,σ0°66/92,1C,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EGRO	**El Granado**	**0.65**	**334**	Pg	**Pn**	**21 23 40.1**	**0.0**
	1.9nm,0.0s,SNR=31						
EGRO				Lg		21 23 48.0	
	39nm,0.1s,SNR=49						
EGRO	**El Granado**	**0.65**	**334**	Pg	**Pn**	**21 23 40.1**	**0.0**
	1.9nm,0.0s,SNR=31						
PVAQ	**Vaqueiros**	**0.65**	**314**	⇑*e*P	**Pn**	**21 23 40.1**	**-0.1**
PVAQ				*e*S	**Sb**	**21 23 48.8**	**-0.4**
PVAQ				A		21 23 49.4	
	87nm,0.3s						
PBDV	**Barranco-do-Ve**	**0.71**	**294**	*e*P	**Pn**	**21 23 40.9**	**0.0**
PBDV				*e*S	**Sb**	**21 23 50.3**	**-0.4**
	11nm,0.2s						
PBDV	**Barranco-do-Ve**	**0.71**	**294**	*e*P	**Pn**	**21 23 40.9**	**0.0**
PBDV				*e*S	**Sb**	**21 23 50.3**	**-0.4**
PBDV				A		21 23 51.7	
	11nm,0.2s						
EMIN	**Mina Concepcio**	**0.89**	**24**	Pg	**Pn**	**21 23 43.8**	**+0.4**
	4.8nm,0.1s,SNR=75						
EMIN				Lg		21 23 55.4	
	7.7nm,0.1s,SNR=26						
EMIN	**Mina Concepcio**	**0.89**	**24**	Pg	**Pn**	**21 23 43.8**	**+0.4**
	4.8nm,0.1s,SNR=75						
PCVE	**Castro Verde**	**1.00**	**313**	*e*P	**Pn**	**21 23 45.0**	**+0.1**
PCVE				*e*S	**Sn**	**21 23 58.5**	**+0.7**
	7.5nm,0.1s						
PCVE	**Castro Verde**	**1.00**	**313**	*e*P	**Pn**	**21 23 45.0**	**+0.1**
PCVE				*e*S	**Sn**	**21 23 58.5**	**+0.7**
PCVE				A		21 24 00.9	
	7.5nm,0.1s						
ESPR	**Espera**	**1.02**	**94**	Pg	**Pn**	**21 23 45.6**	**+0.4**
	0.6nm,0.1s,SNR=11						
ESPR				Lg		21 23 59.9	
	2.1nm,0.2s,SNR=6.2						
ESPR	**Espera**	**1.02**	**94**	Pg	**Pn**	**21 23 45.6**	**+0.4**
	0.6nm,0.1s,SNR=11						
PBAR	**Barrancos**	**1.22**	**3**	*e*P	**Pn**	**21 23 48.1**	**+0.1**
PBAR				*e*S	**Sn**	**21 24 04.8**	**+1.4**
	4.8nm,0.1s						
PBAR	**Barrancos**	**1.22**	**3**	*e*P	**Pn**	**21 23 48.1**	**+0.1**
PBAR				*e*S	**Sn**	**21 24 04.8**	**+1.4**
PBAR				A		21 24 06.9	
	4.8nm,0.1s						
PBEJ	**Beja**	**1.23**	**331**	*e*S	**Sn**	**21 24 04.9**	**+1.4**
	5.9nm,0.2s						
PBEJ	**Beja**	**1.23**	**331**	*e*S	**Sn**	**21 24 04.9**	**+1.4**
PBEJ				A		21 24 06.3	
	5.9nm,0.2s						
MORF	**Marmelete**	**1.27**	**287**	*e*Pn	**Pn**	**21 23 48.6**	**-0.1**
MORF				*e*Sn	**Sn**	**21 24 04.7**	**+0.1**
	4.2nm,0.4s						
MORF	**Marmelete**	**1.27**	**287**	*e*Pn	**Pn**	**21 23 48.6**	**-0.1**
MORF				*e*Sn	**Sn**	**21 24 04.7**	**+0.1**
MORF				A		21 24 20.8	
	4.2nm,0.4s						
PFVI	**Vila Bisbo**	**1.38**	**278**	Pn	**Pn**	**21 23 49.8**	**-0.3**
	0.8nm,0.3s,SNR=6.1						
PFVI				Sn	**Sn**	**21 24 06.3**	**-0.9**
	5.1nm,0.4s,SNR=7.9						
PFVI				Lg		21 24 08.7	
	22nm,1.1s,SNR=8.3						
PFVI	**Vila Bisbo**	**1.38**	**278**	*e*Pn	**Pn**	**21 23 50.0**	**-0.1**
PFVI				Sn	**Sn**	**21 24 06.3**	**-0.8**
	5.1nm,0.4s,SNR=7.9						
PFVI	**Vila Bisbo**	**1.38**	**278**	*e*Pn	**Pn**	**21 23 50.0**	**-0.1**
PFVI				*e*Sn	**Sn**	**21 24 06.0**	**-1.1**
PFVI				A		21 24 09.1	
	6.8nm,0.5s						
PTEO	**Sao Teotonio**	**1.41**	**295**	*e*Pn	**Pn**	**21 23 50.9**	**+0.3**
PTEO				*e*Sn	**Sn**	**21 24 08.3**	**+0.3**
	1.6nm,0.1s						
PTEO	**Sao Teotonio**	**1.41**	**295**	*e*Pn	**Pn**	**21 23 50.9**	**+0.3**
PTEO				*e*Sn	**Sn**	**21 24 08.3**	**+0.3**
PTEO				A		21 24 14.1	
	1.6nm,0.1s						
PNCL	**Nicolau / Gran**	**1.61**	**316**	*e*Pn	**Pn**	**21 23 53.5**	**+0.2**
PNCL				*e*Sn	**Sn**	**21 24 11.8**	**-1.1**
	6.8nm,0.6s						
PNCL	**Nicolau / Gran**	**1.61**	**316**	*e*Pn	**Pn**	**21 23 53.5**	**+0.2**
PNCL				*e*Sn	**Sn**	**21 24 11.8**	**-1.1**
PNCL				A		21 24 22.5	
	6.8nm,0.6s						
EVO	**Evora**	**1.73**	**336**	*e*Sn	**Sn**	**21 24 16.5**	**+0.6**
	8.1nm,0.1s						
EVO	**Evora**	**1.73**	**336**	*e*Sn	**Sn**	**21 24 16.5**	**+0.6**
EVO				A		21 24 23.5	
	8.1nm,0.1s						
EBAD	**Badajoz**	**1.80**	**3**	Pn	**Pn**	**21 23 55.9**	**-0.1**
	0.5nm,0.2s						
EBAD				Pg	**Pn**	**21 23 59.2**	**+3.2**
	0.2nm,0.2s,SNR=5.9						
EBAD				Sn	**Sn**	**21 24 18.3**	**+0.6**
	6.7nm,0.6s,SNR=7.9						
EBAD				Lg		21 24 24.5	
	1.0nm,0.3s,SNR=12						
EBAD	**Badajoz**	**1.80**	**3**	Pn	**Pn**	**21 23 55.9**	**-0.1**
	0.5nm,0.2s						
EMIJ	**Mijas**	**1.93**	**101**	Pn	**Pn**	**21 23 57.6**	**-0.1**
	0.1nm,0.3s,SNR=7.9						
EMIJ				Lg		21 24 26.9	
	29nm,0.9s,SNR=7.9						
EMIJ	**Mijas**	**1.93**	**101**	Pn	**Pn**	**21 23 57.6**	**-0.1**
	0.1nm,0.3s,SNR=7.9						
PESTR	**Estremoz**	**1.95**	**349**	*e*Sn	**Sn**	**21 24 21.4**	**+0.1**
	3.1nm,0.4s						
PESTR	**Estremoz**	**1.95**	**349**	*e*Sn	**Sn**	**21 24 21.4**	**+0.1**
PESTR				A		21 24 30.4	
	3.1nm,0.4s						
PMTG	**Montargil**	**2.29**	**338**	*e*Pn	**Pn**	**21 24 02.8**	**+0.2**
PMTG				*e*Sn	**Sn**	**21 24 29.8**	**+0.2**
	3.3nm,0.4s						
PMTG	**Montargil**	**2.29**	**338**	*e*Pn	**Pn**	**21 24 02.8**	**+0.2**
PMTG				*e*Sn	**Sn**	**21 24 29.8**	**+0.2**
PMTG				A		21 24 42.8	
	3.3nm,0.4s						
EADA	**Adamuz**	**2.36**	**58**	Pg	**Pn**	**21 24 09.1**	**+5.4**
	0.1nm,0.4s,SNR=7.9						
EADA				Sn	**Sn**	**21 24 32.1**	**+0.6**
	2.4nm,0.8s,SNR=7.9						
EADA				Lg		21 24 41.4	
	7.6nm,1.4s,SNR=7.9						
EADA	**Adamuz**	**2.36**	**58**	Pg	**Pn**	**21 24 09.1**	**+5.5**
	0.1nm,0.4s,SNR=7.9						
EADA				Sn	**Sn**	**21 24 32.1**	**+0.7**
	2.4nm,0.8s,SNR=7.9						
ELUQ	**Luque**	**2.36**	**74**	Sn	**Sn**	**21 24 31.7**	**+0.3**
	13nm,1.0s,SNR=7.9						
ELUQ				Lg		21 24 41.2	
	10.0nm,1.1s,SNR=7.9						
ELUQ	**Luque**	**2.36**	**74**	Sn	**Sn**	**21 24 31.7**	**+0.3**
	13nm,1.0s,SNR=7.9						
PMAFR	**Mafra**	**2.63**	**320**	Sn	**Sn**	**21 24 36.9**	**-1.2**
	15nm,0.5s,SNR=7.9						
PMAFR				Lg		21 24 48.3	
	72nm,0.9s,SNR=7.9						
PMAFR	**Mafra**	**2.63**	**320**	Sn	**Sn**	**21 24 36.9**	**-1.2**
	15nm,0.5s,SNR=7.9						
PCBR	**Castelo Branco**	**2.90**	**355**	*e*Pn	**Pn**	**21 24 11.1**	**+0.1**
PCBR				*e*Sn	**Sn**	**21 24 44.0**	**-0.7**
	0.6nm,0.1s						
PCBR	**Castelo Branco**	**2.90**	**355**	*e*Pn	**Pn**	**21 24 11.1**	**+0.1**
PCBR				*e*Sn	**Sn**	**21 24 44.0**	**-0.7**
PCBR				A		21 24 45.4	
	0.6nm,0.1s						
EQUE	**Quentar**	**2.96**	**84**	Pn	**Pn**	**21 24 11.8**	**0.0**
	0.1nm,0.3s,SNR=7.9						
EQUE				Sn	**Sn**	**21 24 46.2**	**0.0**
	4.6nm,1.0s,SNR=7.9						
EQUE	**Quentar**	**2.96**	**84**	Pn	**Pn**	**21 24 11.8**	**0.0**
	0.1nm,0.3s,SNR=7.9						
EQUE				Sn	**Sn**	**21 24 46.2**	**0.0**
	4.6nm,1.0s,SNR=7.9						
EPLA	**Plasencia**	**3.21**	**14**	Pn	**Pn**	**21 24 16.2**	**+0.8**
	0.2nm,0.4s,SNR=7.9						
EPLA				Sn	**Sn**	**21 24 52.2**	**-0.3**
	1.5nm,0.7s,SNR=7.9						
EPLA	**Plasencia**	**3.21**	**14**	Pn	**Pn**	**21 24 16.2**	**+0.8**
	0.2nm,0.4s,SNR=7.9						
EPLA				Sn	**Sn**	**21 24 52.2**	**-0.3**
	1.5nm,0.7s,SNR=7.9						
EQES	**Quesada**	**3.34**	**74**	Pn	**Pn**	**21 24 17.6**	**+0.5**
	0.3nm,0.4s,SNR=7.9						
EQES				Sn	**Sn**	**21 24 55.1**	**-0.5**
	4.3nm,1.0s,SNR=7.9						
EQES				Lg		21 25 10.4	
	3.5nm,0.9s,SNR=7.9						
EQES	**Quesada**	**3.34**	**74**	Pn	**Pn**	**21 24 17.6**	**+0.5**
	0.3nm,0.4s,SNR=7.9						
EQES				Sn	**Sn**	**21 24 55.1**	**-0.5**
	4.3nm,1.0s,SNR=7.9						
EHUE	**Huescar**	**3.71**	**75**	Pn	**Pn**	**21 24 22.5**	**+0.3**
	0.3nm,0.2s,SNR=7.9						
EHUE				Sn	**Sn**	**21 25 04.4**	**-0.4**
	1.7nm,0.7s,SNR=7.9						
EHUE	**Huescar**	**3.71**	**75**	Pn	**Pn**	**21 24 22.5**	**+0.3**
	0.3nm,0.2s,SNR=7.9						
EHUE				Sn	**Sn**	**21 25 04.4**	**-0.4**
	1.7nm,0.7s,SNR=7.9						
MVO	**Moncorvo**	**4.21**	**1**	Pn	**Pn**	**21 24 29.2**	**+0.2**
	0.2nm,0.3s,SNR=7.9						
MVO				Sn	**Sn**	**21 25 15.7**	**-1.3**
	5.5nm,0.8s,SNR=7.9						
MVO	**Moncorvo**	**4.21**	**1**	Pn	**Pn**	**21 24 29.2**	**+0.2**
	0.2nm,0.3s,SNR=7.9						
MVO				Sn	**Sn**	**21 25 15.7**	**-1.3**
	5.5nm,0.8s,SNR=7.9						
GUD	**Guadarrama**	**4.36**	**31**	Pg	**Pn**	**21 24 43.9**	**+13**
	0.1nm,0.4s,SNR=7.9						
GUD				Sn	**Sn**	**21 25 19.5**	**-1.1**
	14nm,1.1s,SNR=7.9						
ETOB	**Tobarra**	**4.73**	**67**	Pn	**Pn**	**21 24 36.5**	**+0.3**
	0.8nm,0.5s,SNR=7.9						
ETOB				Sn	**Sn**	**21 25 27.9**	**-1.9**
	4.6nm,1.2s,SNR=7.9						
ETOB	**Tobarra**	**4.73**	**67**	Pn	**Pn**	**21 24 36.5**	**+0.3**
	0.8nm,0.5s,SNR=7.9						
ETOB				Sn	**Sn**	**21 25 27.9**	**-2.0**
	4.6nm,1.2s,SNR=7.9						

IDC ***27*** *21:53:54.7±22.0,5°.56S×147°.83E,h170km±192km, mb2.8/1,mb1 3.2/3,mb1mx3.0/15,mbtmp3.1/3,ML4.1/2, Error ellipse: s-maj=150.3km s-min=91.5km az=166.0*
ISCJB ***27*** *21:53:57.9±2.2,5°.6S±0°.2×147°.7E±0°.3,h221km±24km, Error ellipse: s-maj=45.1km s-min=23.9km az=28.5*
NEIC ***27*** *21:53:58.4±1.7,5°.64S×147°.77E,h211km±17km,mb4.0/2, Error ellipse: s-maj=24.4km s-min=15.5km az=115.0*

ISC 27 21:53:58.7±2.1,5°.6S±0°.2×147°.8E±0°.2,h215km±23km,n16, σ0°66/15,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.81**	**189**	S	**S**	**21 55 47.8**	**+1.8**
	4.4nm,0.3s,baz=198,slow=20,SNR=10						
PMG	**Port Moresby**	**3.81**	**189**	Pn	**Pn**	**21 54 58.4**	**-0.3**
PMG				S	**S**	**21 55 45.5**	**-0.5**
CTA	**Charters Tower**	**14.45**	**186**	P	**Pn**	**21 57 13.4**	**-0.3**
	1.3nm,0.3s,baz=57,slow=15,SNR=7.3						
CTA	**Charters Tower**	**14.45**	**186**	P	**Pn**	**21 57 13.4**	**-0.3**
	3.1nm,0.4s						
CTAO	**Charters Tower**	**14.45**	**186**	*e*P	**Pn**	**21 57 13.0**	**-0.7**
	3.1nm,0.4s						
WRAB	**Tennant Creek**	**19.30**	**221**	*e*P	**P**	**21 58 07.3**	**-0.4**
	3.8nm,0.9s						
WB2	**Warramunga Arr**	**19.30**	**221**	*e*P	**P**	**21 58 07.1**	**-0.6**
WRA	**Warramunga Arr**	**19.31**	**221**	P	**P**	**21 58 07.3**	**-0.5**
	0.3nm,0.3s,baz=49,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**19.31**	**221**	P	**P**	**21 58 07.3**	**-0.5**
ASAR	**Alice Springs**	**22.36**	**215**	P	**P**	**21 58 40.2**	**+1.2**
	0.6nm,0.6s,baz=54,slow=7.0,SNR=6.0						
ASAR	**Alice Springs**	**22.36**	**215**	P	**P**	**21 58 40.2**	**+1.2**
COCO	**West Island**	**50.67**	**259**	*e*P	**P**	**22 02 37.3**	**+0.5**
ENH	**Enshi**	**51.16**	**317**	P	**P**	**22 02 40.1**	**0.0**
PMR	**Palmer**	**82.54**	**25**	P	**P**	**22 05 57.2**	**0.0**
TORD	**Torodi Ar. Bea**	**145.73**	**285**	PKPbc	PKPbc	22 13 13.9	+0.5
	0.4nm,0.9s,baz=77,slow=2.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**145.73**	**285**	PKPbc	PKPbc	22 13 13.9	+0.4

GUC 27 22:07:17.5±0.4,32°.68S×71°.07W,h5km±1km,MD3.5, ML2.1,3C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROCH	**El Roble**	**0.30**	**171**	⇑*i*P	Pg	22 07 24.2	+0.9
ROCH				*i* S	Sg	22 07 29.4	+2.1
ROCH				AML	AML	22 07 29.8	
	comp=N,176nm,0.4s						
JACH	**Jahuel**	**0.40**	**91**	⇓*i*P	Pg	22 07 26.0	+0.8
JACH				*i* S	Sg	22 07 32.2	+1.8
PEL	**Peldehue**	**0.57**	**146**	*e*P	Pg	22 07 29.0	+0.6
PEL				*e*S	Sg	22 07 38.0	+2.2
PEL				AML	AML	22 07 38.6	
	comp=E,242nm,0.3s						
RCDM	**Rinconada Maip**	**0.84**	**165**	*e*P	Pg	22 07 33.7	0.0
RCDM				AML	AML	22 07 54.6	
	comp=E,204nm,0.2s						
CLCH	**Cerro Calan**	**0.84**	**148**	*e*P	Pg	22 07 33.9	+0.2
CLCH				*i* S	Sg	22 07 46.5	+1.8
CLCH				AML	AML	22 07 47.9	
	comp=E,78nm,0.3s						
CHNG	**Los Chungos**	**0.87**	**335**	⇑*i*P	Pg	22 07 33.0	-1.2
CHNG				*i* S	Sg	22 07 44.4	-1.1
PCH	**Pirque**	**1.05**	**154**	⇑*i*P	Pg	22 07 37.5	-0.1
PCH				*i* S	Sg	22 07 52.5	+1.2
LMEL	**Las Melosas**	**1.37**	**149**	*e*P	Pn	22 07 42.7	-0.6
LMEL				*e*S	Sb	22 08 01.6	+0.1
LMEL				AML	AML	22 08 02.8	
	comp=N,171nm,0.2s						

IDC ***27*** *22:29:06.9±4.1,18°.52N×68°.23W,h0km,mb3.5/4, mb1 3.9/4,mb1mx3.6/20,mbtmp3.5/4, Error ellipse: s-maj=107.8km s-min=59.3km az=97.0*
ISCJB ***27*** *22:29:25.1±0.5,18°.9N±0°.1×69°.43W±0°.05,h118km±5km, mb3.5/4,Error ellipse: s-maj=23.6km s-min=5.4km az=16.9*
NEIC ***27*** *22:29:25.2,19°.20N×69°.36W,h125km,MD4.1(RSPR), After RSPR.*
RSPR ***27*** *22:29:25.2,19°.20N×69°.36W,h125km±4km,MD4.1/17*

ISC 27 22:29:26.2±0.5,18°.9N±0°.1×69°.44W±0°.05,h110km±5km, n47,σ0°95/57,mb3.5/4,11C-9D,Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMN1	**Samana, DR**	**0.35**	**27**	⇑*e*P	Pn	**22 29 41.8**	**-0.5**
SMN1				*e*S	**Sn**	**22 29 54.4**	**+0.2**
IMO	**Isla Mona**	**1.64**	**117**	⇓*e*P	**Pn**	**22 29 55.5**	**+0.7**
IMO	**Isla Mona**	**1.64**	**117**	⇓*e*P	**Pn**	**22 29 55.5**	**+0.7**
SDDR	**Presa de Saban**	**1.75**	**274**	*i* P	**Pn**	**22 29 56.3**	**+0.2**
SDDR				*e*S	**Sn**	**22 30 19.1**	**+0.2**
AGP	**Aguadilla**	**2.23**	**102**	*e*Pn	**Pn**	**22 30 02.3**	**+0.2**
AGP				*e*Sn	**Sn**	**22 30 31.8**	**+2.0**
AGPR	**Aguadilla, PR**	**2.25**	**100**	⇑*e*P	**Pn**	**22 30 02.0**	**-0.3**
AGPR	**Aguadilla, PR**	**2.25**	**100**	*e*S	**Sn**	**22 30 32.8**	**+2.7**
AGPR	**Aguadilla, PR**	**2.25**	**100**	*e*Pg	**Pn**	**22 30 02.0**	**-0.4**
AGPR				*e*Sg	**Sn**	**22 30 32.3**	**+2.2**
MPR	**Mayaguez**	**2.28**	**106**	*e*Pn	**Pn**	**22 30 02.1**	**-0.7**
MPR				*e*Sn	**Sn**	**22 30 30.7**	**-0.2**
LSP	**Las Mesas**	**2.34**	**107**	⇓*e*P	**Pn**	**22 30 03.6**	**0.0**
LSP	**Las Mesas**	**2.34**	**107**	*e*Pg	**Pn**	**22 30 03.6**	**0.0**
LSP				*e*Sn	**Sn**	**22 30 20.3**	**-12**
CRPR	**Cabo Rojo, PR**	**2.38**	**111**	⇑*e*P	**Pn**	**22 30 03.6**	**-0.4**
CRPR	**Cabo Rojo, PR

JAN	**Janina**	**0.24**	**8**	*e*PB	**Pb**	**23 00 37.4**	**+0.1**
JAN				*e*SB	**Sb**	**23 00 42.1**	**+0.9**
JAN	**Janina**	**0.24**	**8**	P	**Pb**	**23 00 37.3**	**0.0**
JAN				S	**Sb**	**23 00 42.2**	**+1.0**
JAN	**Janina**	**0.24**	**8**	*e*Pb	**Pb**	**23 00 37.4**	**+0.1**
JAN				S	**Sb**	**23 00 42.2**	**+1.0**
RGA	**Parga**	**0.36**	**254**	P	**Pb**	**23 00 39.1**	**-0.1**
RGA	**Parga**	**0.36**	**254**	P	**Pb**	**23 00 39.1**	**-0.1**
DSL	**Palaion Diasel**	**0.36**	**142**	P	**Pb**	**23 00 37.8**	**-1.4**
DSL				S	**Sb**	**23 00 43.3**	**-1.2**
DSL	**Palaion Diasel**	**0.36**	**142**	P	**Pb**	**23 00 37.8**	**-1.4**
DSL				S	**Sb**	**23 00 43.3**	**-1.2**
IGT	**Igoumenitsa**	**0.38**	**287**	P	**Pb**	**23 00 39.2**	**-0.4**
IGT				S	**Sb**	**23 00 46.1**	**+1.0**
IGT	**Igoumenitsa**	**0.38**	**287**	P	**Pb**	**23 00 39.2**	**-0.4**
IGT				S	**Sb**	**23 00 46.1**	**+1.0**
MEV	**Metsovon**	**0.49**	**42**	P	**Pb**	**23 00 41.0**	**-0.4**
MEV	**Metsovon**	**0.49**	**42**	P	**Pb**	**23 00 41.0**	**-0.4**
LKD2	**Lefkada island**	**0.64**	**190**	P	**Pb**	**23 00 43.0**	**-0.9**
LKD2				S	**Sb**	**23 00 52.4**	**0.0**
LKD2	**Lefkada island**	**0.64**	**190**	P	**Pb**	**23 00 43.0**	**-0.9**
LKD2				S	**Sb**	**23 00 52.4**	**0.0**
KEK	**Kerkira**	**0.83**	**291**	*e*PN	**Pn**	**23 00 47.3**	**-0.6**
KEK				*e*SN	**Sn**	**23 00 58.4**	**-1.2**
KEK	**Kerkira**	**0.83**	**291**	P	**Pb**	**23 00 47.6**	**+0.4**
KEK	**Kerkira**	**0.83**	**291**	*e*Pn	**Pn**	**23 00 47.3**	**-0.6**
KEK	**Kerkira**	**0.83**	**291**	P	**Pb**	**23 00 47.6**	**+0.4**
KEK				*e*Sn	**Sn**	**23 00 58.4**	**-1.2**
EVR	**Evrytania**	**0.93**	**122**	*e*PN	**Pn**	**23 00 49.0**	**-0.2**
EVR	**Evrytania**	**0.93**	**122**	*e*Pn	**Pn**	**23 00 49.0**	**-0.2**
THL	**Klokotos Trika**	**0.95**	**81**	*e*PN	**Pn**	**23 00 48.3**	**-1.2**
THL				*e*SN	**Sn**	**23 01 01.6**	**-0.8**
THL	**Klokotos Trika**	**0.95**	**81**	*e*Pn	**Pn**	**23 00 48.3**	**-1.2**
THL				*e*Sn	**Sn**	**23 01 01.6**	**-0.8**
AGG	**Agios Georgios**	**1.25**	**108**	*e*PB	**Pb**	**23 00 53.8**	**-0.5**
AGG				*e*SN	**Sn**	**23 01 11.8**	**+2.0**
AGG	**Agios Georgios**	**1.25**	**108**	*e*Pb	**Pb**	**23 00 53.8**	**-0.5**
VLS	**Valsamata**	**1.25**	**188**	*e*PN	**Pn**	**23 00 56.9**	**+3.2**
EFP	**Efpalio**	**1.31**	**139**	*e*PB	**Pb**	**23 00 57.1**	**+1.7**
EFP				*e*SN	**Sn**	**23 01 15.7**	**+4.3**
EFP	**Efpalio**	**1.31**	**139**	*e*Pb	**Pb**	**23 00 57.1**	**+1.7**
RLS	**Riolos of Patr**	**1.46**	**159**	*e*PN	**Pn**	**23 00 58.7**	**+2.2**
GUR	**Goura**	**1.91**	**140**	*e*PB	**Pb**	**23 01 05.9**	**+0.3**
GUR	**Goura**	**1.91**	**140**	*e*Pb	**Pb**	**23 01 05.9**	**+0.3**

*ISCJB **27** 23:34:21.7±0.4, 11.44N±0.09×85.8W±0.1, h188km±3km, mb3.7/8, Error ellipse: s-maj=23.4km s-min=5.0km az=140.9*
*NEIC **27** 23:34:22.5±0.7, 11.52N×85.74W, h180km±7km, mb4.3/1, Error ellipse: s-maj=19.5km s-min=11.8km az=56.0*
*CASC **27** 23:34:22.9±2.2, 11.35N×85.83W, h178km±7km, MD3.7, mb4.3(NEIC)*
*IDC **27** 23:34:22.2±0.7, 11.55N×85.63W, h176km±18km, mb3.4/7, mb1 3.7/8, mb1mx3.5/21, mbtmp3.4/8, Error ellipse: s-maj=34.6km s-min=24.7km az=30.0*

ISC 27 23:34:22.7±0.4, 11.44N±0.09×85.8W±0.1, h184km±3km, n54, σ0^{s}74/66, mb3.7/8, 6C-2D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
GBS2	**Las Lilas**	**0.68**	**152**	*i* P		**Pn**	**23 34 48.8**	**0.0**
GBS2				*i* S		**Sn**	**23 35 08.3**	**-0.5**
GB1A	**Borinquen Arri**	**0.72**	**149**	*i* P		**Pn**	**23 34 49.2**	**+0.3**
GB1A				*i* S		**Sn**	**23 35 09.3**	**0.0**
GBS3	**Finca Las Im¯¡**	**0.73**	**154**	⇑*i*P		**Pn**	**23 34 48.8**	**-0.2**
GBS3				*i* S		**Sn**	**23 35 08.3**	**-1.0**
TICN	**Ticuantepe**	**0.74**	**323**	*e*P		**Pn**	**23 34 49.4**	**+0.4**
TICN				*e*S		**Sn**	**23 35 10.0**	**+0.5**
LAPC	**Finca la Perla**	**0.75**	**153**	*i* P		**Pn**	**23 34 48.8**	**-0.3**
LAPC				*i* S		**Sn**	**23 35 08.4**	**-1.1**
GPS3	**Bodega del ICE**	**0.79**	**149**	*i* P		**Pn**	**23 34 49.3**	**-0.1**
NY14	**Universidad de**	**0.82**	**163**	*i* P		**Pn**	**23 34 49.7**	**+0.1**
NY14				*i* S		**Sn**	**23 35 09.7**	**-0.6**
MGAN	**Managua**	**0.84**	**327**	*e*P		**Pn**	**23 34 49.8**	**+0.1**
MGAN				*e*S		**Sn**	**23 35 10.4**	**-0.1**
TISN	**Laguna Tiscapa**	**0.85**	**325**	*e*P		**Pn**	**23 34 49.7**	**0.0**
XAVN	**Gruta Xavier**	**0.89**	**323**	*e*P		**Pn**	**23 34 50.2**	**+0.3**
MESS	**Mesas**	**0.90**	**141**	⇑*i*P		**Pn**	**23 34 50.3**	**+0.2**
MESS				*i* S		**Sn**	**23 35 11.1**	**-0.1**
CSAN		**0.97**	**319**	*e*P		**Pn**	**23 34 49.4**	**-1.1**
HUEN		**0.97**	**336**	*e*P		**Pn**	**23 34 50.8**	**+0.3**
CUI	**Cuipilapa**	**0.98**	**142**	*i* P		**Pn**	**23 34 51.1**	**+0.4**
CUI				*i* S		**Sn**	**23 35 12.9**	**+0.7**
COPN	**Copaltepe**	**1.08**	**313**	*e*P		**Pn**	**23 34 51.6**	**+0.3**
COPN				*e*S		**Sn**	**23 35 14.7**	**+1.1**
AMAS	**Alto Masis**	**1.13**	**137**	*i* P		**Pn**	**23 34 52.1**	**+0.4**
CHPA	**Chiripa**	**1.31**	**139**	*i* P		**Pn**	**23 34 53.8**	**+0.6**
JTS	**JuntasAbangare**	**1.40**	**145**	P		**Pn**	**23 34 54.0**	**0.0**
	108nm,0.3s,baz=329,slow=13,SNR=314							
JTS				S		**Sn**	**23 35 16.8**	**-1.5**
	179nm,0.3s,baz=171,slow=20,SNR=9.7							
JTS	**JuntasAbangare**	**1.40**	**145**	*i* Pn		**Pn**	**23 34 54.0**	**0.0**
JTS	**JuntasAbangare**	**1.40**	**145**	*e*P		**Pn**	**23 34 53.9**	**-0.1**
TEL3	**Telica 3**	**1.54**	**317**	*e*P		**Pn**	**23 34 55.1**	**-0.2**
JCR	**Jicaral**	**1.71**	**158**	⇑*e*P		**Pn**	**23 34 57.2**	**+0.2**
JCR				*e*S		**Sn**	**23 35 24.1**	**+0.5**
CGA2	**Cerro Gallo 2**	**1.91**	**138**	⇓*e*P		**Pn**	**23 34 60.0**	**+0.9**
CGA2				*e*S		**Sn**	**23 35 26.7**	**-0.6**
PRS1	**Puriscal**	**2.04**	**135**	⇑*e*P		**Pn**	**23 35 02.1**	**+1.6**
LAJ	**Bijagual**	**2.26**	**134**	⇑*e*P		**Pn**	**23 35 01.8**	**-1.1**
LAJ				*e*S		**Sn**	**23 35 28.6**	**-5.4**
QCR	**Quepos**	**2.56**	**142**	⇓*e*P		**Pn**	**23 35 07.0**	**+0.8**
QCR				*e*S		**Sn**	**23 35 38.7**	**-1.3**
BUS	**Buena Vista**	**2.73**	**133**	⇑*e*P		**Pn**	**23 35 09.6**	**+1.3**
BUS				*e*S		**Sn**	**23 35 44.4**	**+0.7**
TGUH	**Tegucigalpa,Un**	**2.98**	**331**	*e*P		**Pn**	**23 35 10.5**	**-0.8**
ACR	**Cerro Adams**	**3.78**	**137**	*e*P		**Pn**	**23 35 21.9**	**+0.7**
CMIG	**Matias Romero**	**10.46**	**304**	P		**Pn**	**23 36 47.5**	**-0.7**
	1.6nm,0.3s,baz=135,slow=11,SNR=9.2							
CMIG	**Matias Romero**	**10.46**	**304**	P		**Pn**	**23 36 47.5**	**-0.7**
SWET	**Sewanee**	**23.67**	**360**	*e*P		**P**	**23 39 17.6**	**+0.2**
	6.5nm,0.6s,mb4.3							
CPCT	**Cooper Cave**	**23.93**	**3**	*e*P		**P**	**23 39 19.3**	**-0.6**
TKL	**Tuckaleechee C**	**24.18**	**4**	P		**P**	**23 39 22.9**	**+0.9**
	2.7nm,0.5s,mb4.0,baz=159,slow=13,SNR=7.7							
TKL	**Tuckaleechee C**	**24.18**	**4**	P		**P**	**23 39 22.9**	**+0.9**
TXAR	**Lajitas Array**	**24.40**	**319**	P		**P**	**23 39 25.3**	**+1.1**
	2.8nm,0.7s,mb3.9,baz=141,slow=10,SNR=37							
TXAR	**Lajitas Array**	**24.40**	**319**	P		**P**	**23 39 25.3**	**+1.1**
ACSO	**Alum Creek Sta**	**28.78**	**4**	*e*P		**P**	**23 39 59.2**	**-4.1**
TMUT	**Trail Mountain**	**35.77**	**325**	P		**P**	**23 41 03.8**	**-0.3**
MPU	**Maple Canyon**	**36.51**	**326**	*e*P		**P**	**23 41 18.0**	**+7.6**
PDAR	**Pinedale Array**	**37.44**	**331**	P		**P**	**23 41 18.3**	**+0.2**
	0.3nm,0.5s,mb3.2,baz=128,slow=12,SNR=2.3							
PDAR	**Pinedale Array**	**37.44**	**331**	P		**P**	**23 41 18.4**	**+0.2**
NVAR	**Mina Array Bea**	**39.54**	**318**	P		**P**	**23 41 36.7**	**+1.0**
	1.0nm,0.6s,mb3.6,baz=131,slow=7.7,SNR=7.5							
NVAR				PcP		PcP	23 43 40.9	+1.4
	0.5nm,0.6s,baz=133,slow=4.0,SNR=3.4							
NVAR	**Mina Array Bea**	**39.54**	**318**	P		**P**	**23 41 36.7**	**+1.0**
NVAR				PcP		PcP	23 43 40.9	+1.4
SCHQ	**Schefferville**	**45.79**	**15**	P		**P**	**23 42 24.4**	**-1.4**
	4.1nm,0.5s,mb4.3,baz=221,slow=5.1,SNR=11							
SCHQ	**Schefferville**	**45.79**	**15**	P		**P**	**23 42 24.4**	**-1.4**
YKA	**Yellowknife Ar**	**55.02**	**344**	P		**P**	**23 43 33.7**	**-1.1**
	0.2nm,0.3s,mb3.3,baz=140,slow=7.1,SNR=7.1							
YKA	**Yellowknife Ar**	**55.02**	**344**	P		**P**	**23 43 33.7**	**-1.1**
ILAR	**Eielson Array**	**67.60**	**336**	P		**P**	**23 44 58.1**	**-1.0**
	0.3nm,0.6s,mb3.2,baz=126,slow=4.6,SNR=8.8							
ILAR	**Eielson Array**	**67.60**	**336**	P		**P**	**23 44 58.1**	**-1.0**
ASAR	**Alice Springs**	**140.40**	**247**	PKP	PKPdf		23 53 31.1	+0.5
	0.4nm,0.5s,baz=100,slow=1.7,SNR=4.7							
ASAR	**Alice Springs**	**140.40**	**247**	PKP	PKPdf		23 53 31.1	+0.5
WRA	**Warramunga Arr**	**140.55**	**253**	PKP	PKPdf		23 53 32.0	+1.0
	0.4nm,0.5s,baz=92,slow=2.8,SNR=1.8							
WRA	**Warramunga Arr**	**140.55**	**253**	PKP	PKPdf		23 53 32.0	+1.0

IDC 27 23:44:42.6±5.2, 21.32N×92.13E, h0km, mb3.3/2, mb1 3.2/3, mb1mx3.1/25, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=117.4km s-min=37.0km az=44.0, Myanmar-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SHL	**Shillong**	**4.23**	**357**	*e*PKP		Pn	23 45 54.0	+5.7
SHL				*i* S		Sn	23 46 43.0	+4.5
CMAR	**Chiang Mai Arr**	**7.02**	**113**	Pn		Pn	23 46 27.5	+0.9
	0.2nm,0.3s,baz=287,slow=14,SNR=4.2							
MKAR	**Makanchi Array**	**26.64**	**345**	P		P	23 50 23.6	+0.7
	0.1nm,0.5s,baz=160,slow=9.4,SNR=3.8							
MKAR				pP			23 50 34.4	
	0.6nm,0.8s,baz=167,slow=10.0,SNR=4.7							
SONM	**Songino Array**	**28.84**	**20**	P		P	23 50 41.7	-0.9
	0.3nm,0.6s,baz=194,slow=8.5,SNR=4.0							

*IDC **27** 23:46:36.1±0.9, 15.33S×172.97W, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.9/18, mbtmp3.8/7, MS2.6/1, Ms1 2.6/1, ms1mx2.5/21, Error ellipse: s-maj=43.8km s-min=22.3km az=142.0*
*NEIC **27** 23:46:37.3±0.5, 15.38S×172.98W, h10km, mb4.2/2, Error ellipse: s-maj=18.9km s-min=12.0km az=160.0*
*ISCJB **27** 23:46:39.8±0.6, 15.05S±0.2×173.4W±0.2, h33km, mb3.8/9, Error ellipse: s-maj=33.3km s-min=12.2km az=144.3*

ISC 27 23:46:41.8±0.7, 15.1S±0.2×173.3W±0.2, h35km, n25, σ0^{s}53/20, mb3.8/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MSVF	**Nonsavu**	**8.74**	**252**	*e*Pn		**Pn**	**23 48 44.9**	**-0.9**
RAR	**Rarotonga**	**14.17**	**117**	LR		LR	23 54 14.0	
	comp=Z,27nm,19.4s,baz=50,slow=33							
RAR	**Rarotonga**	**14.17**	**117**	*e*Pn		**Pn**	**23 49 52.4**	**-7.6**
URZ	**Urewera**	**24.57**	**198**	P		**P**	**23 51 58.5**	**+0.1**
	6.6nm,0.5s,mb4.4,baz=15,slow=1.7,SNR=2.1							
URZ	**Urewera**	**24.57**	**198**	P		**P**	**23 51 58.5**	**+0.1**
WRA	**Warramunga Arr**	**50.05**	**257**	P		**P**	**23 55 34.0**	**+0.6**
	0.1nm,0.3s,mb3.3,baz=92,slow=7.4,SNR=1.2							
WRA	**Warramunga Arr**	**50.05**	**257**	P		**P**	**23 55 34.0**	**+0.6**
ASAR	**Alice Springs**	**50.33**	**252**	P		**P**	**23 55 36.0**	**+0.6**
	0.7nm,0.4s,mb4.0,baz=88,slow=8.1,SNR=9.8							
ASAR	**Alice Springs**	**50.33**	**252**	P		**P**	**23 55 36.0**	**+0.6**
NVAR	**Mina Array Bea**	**74.02**	**42**	P		**P**	**23 58 15.1**	**+1.1**
	0.5nm,0.7s,mb3.6,baz=223,slow=9.7,SNR=3.6							
NVAR	**Mina Array Bea**	**74.02**	**42**	P		**P**	**23 58 15.1**	**+1.1**
TUC	**Tucson**	**76.10**	**51**	*e*P		**P**	**23 58 25.8**	**-0.4**
	2.7nm,1.0s,mb4.1							
CRAG	**Craig**	**78.03**	**22**	P		**P**	**23 58 35.9**	**-0.5**
TXAR	**Lajitas Array**	**80.34**	**56**	P		**P**	**23 58 49.5**	**-0.2**
	0.7nm,1.0s,mb3.5,baz=243,slow=8.3,SNR=5.0							
TXAR	**Lajitas Array**	**80.34**	**56**	P		**P**	**23 58 49.5**	**-0.2**
PDAR	**Pinedale Array**	**81.96**	**42**	P		**P**	**23 58 58.1**	**+0.2**
	0.7nm,1.0s,mb3.5,baz=256,slow=5.6,SNR=4.1							
PDAR	**Pinedale Array**	**81.96**	**42**	P		**P**	**23 58 58.1**	**+0.2**
SMCO	**Snowmass**	**82.01**	**46**	P		**P**	**23 58 58.5**	**+0.1**
	1.3nm,0.9s,mb3.9							
ILAR	**Eielson Array**	**82.14**	**11**	P		**P**	**23 58 58.4**	**0.0**
	0.5nm,0.7s,mb3.5,baz=223,slow=5.6,SNR=6.1							
ILAR	**Eielson Array**	**82.14**	**11**	P		**P**	**23 58 58.4**	**0.0**
FFC	**Flin Flon**	**91.79**	**33**	*e*P		**P**	**23 59 45.1**	**-0.6**
BRTR	**Keskin Array B**	**146.03**	**321**	PKPbc	PKPbc		00 06 20.2	+2.0
	0.9nm,0.6s,baz=76,slow=3.2,SNR=4.7							
BRTR	**Keskin Array B**	**146.03**	**321**	PKPbc	PKPbc		00 06 20.2	+2.0
TORD	**Torodi Ar. Bea**	**174.72**	**111**	PKPab	PKPab		00 08 19.1	-3.8
	0.4nm,1.0s,baz=224,slow=4.0,SNR=2.6							
TORD	**Torodi Ar. Bea**	**174.72**	**111**	PKPab	PKPab		00 08 19.1	-3.8

IDC 28 00:11:04.4±7.9, 18.80S×178.55W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.7/16, mbtmp3.6/3, Error ellipse: s-maj=346.6km s-min=37.2km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
WRA	**Warramunga Arr**	**44.35**	**260**	P		P	00 19 17.2	+0.4
	0.4nm,0.3s,baz=96,slow=7.7,SNR=3.4							
ASAR	**Alice Springs**	**44.43**	**255**	P		P	00 19 16.9	-0.5
	0.7nm,0.6s,baz=90,slow=7.9,SNR=6.9							
ILAR	**Eielson Array**	**86.77**	**13**	P		P	00 23 50.0	0.0
	0.3nm,0.6s,baz=229,slow=5.4,SNR=7.0							

*IDC **28** 00:29:57.5±1.6, 30.38S×177.31W, h0km, mb4.4/4, mb1 4.4/5, mb1mx4.1/16, mbtmp4.3/5, ML3.5/1, Error ellipse: s-maj=56.1km s-min=30.8km az=151.0*
*ISCJB **28** 00:30:01.9±1.1, 30.36S±0.05×177.7W±0.2, h33km, mb4.3/4, Error ellipse: s-maj=23.9km s-min=7.4km az=5.3*
*NEIC **28** 00:30:02.7±1.1, 30.37S×177.43W, h35km, mb3.6/1, Error ellipse: s-maj=27.6km s-min=14.7km az=102.0*

ISC 28 00:30:03.3±1.2, 30.27S±0.06×177.5W±0.2, h35km, n25, σ1^{s}05/19, mb4.3/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
RAO	**Raoul Island**	**1.06**	**342**	*e*P		**Pn**	**00 30 21.2**	**-0.4**
RAO				*e*S		**Sn**	**00 30 34.1**	**-1.0**
URZ	**Urewera**	**9.12**	**208**	Pn		**Pn**	**00 32 10.9**	**-1.4**
	0.5nm,0.3s,baz=135,slow=19,SNR=5.8							
URZ				Sn		**Sn**	**00 33 47.4**	**-6.2**
	3.0nm,0.3s,baz=189,slow=19,SNR=8.8							
URZ	**Urewera**	**9.12**	**208**	*e*P		**Pn**	**00 32 09.6**	**-2.7**
URZ				S		**Sn**	**00 33 52.3**	**-1.3**
SNZO	**South Karori**	**12.68**	**208**	Sn		**Sn**	**00 35 08.9**	**-12**
CTA	**Charters Tower**	**34.17**	**279**	P		**P**	**00 36 47.3**	**+2.0**
	5.5nm,0.5s,mb4.7,baz=102,slow=11,SNR=14							
CTA	**Charters Tower**	**34.17**	**279**	P		**P**	**00 36 47.3**	**+2.0**
STKA	**Stephens Creek**	**34.89**	**257**	P		**P**	**00 36 52.5**	**+1.1**
	2.3nm,0.5s,mb4.3,baz=95,slow=11,SNR=9.7							
STKA	**Stephens Creek**	**34.89**	**257**	*e*P		**P**	**00 36 52.6**	**+1.1**
	0.4nm,0.5s,mb3.6							
STKA				*e*PP		PP	00 38 12.7	+1.8
ASAR	**Alice Springs**	**43.51**	**267**	P		**P**	**00 38 03.8**	**+0.2**
	1.1nm,0.4s,mb3.9,baz=104,slow=7.5,SNR=14							
ASAR	**Alice Springs**	**43.51**	**267**	P		**P**	**00 38 03.8**	**+0.2**
WB2	**Warramunga Arr**	**44.48**	**272**	*e*P		**P**	**00 38 10.8**	**-0.5**
WRA	**Warramunga Arr**	**44.49**	**272**	P		**P**	**00 38 12.0**	**+0.6**
	2.7nm,0.3s,mb4.5,baz=110,slow=7.8,SNR=25							
WRA	**Warramunga Arr**	**44.49**	**272**	P		**P**	**00 38 12.0**	**+0.6**
QSPA	**South Pole Qui**	**59.84**	**180**	*e*P		**P**	**00 40 14.3**	**+10**
VNA3	**Neumayer Olymp**	**78.41**	**176**	*e*		**P**	**00 42 00.6**	**+0.8**
VNA3				*e*		pP	00 42 08.4	-2.4
VNA2	**Neumayer--Watz**	**78.85**	**177**	*e*		**P**	**00 42 01.9**	**-0.3**
	baz=189,slow=5.1							
VNA2				*e*		pP	00 42 11.4	-1.8
KURK	**Kurchatov**	**121.24**	**314**	PKP		PKPdf	00 48 52.1	0.0
	0.5nm,0.6s,baz=112,slow=1.7,SNR=7.0							
KURK	**Kurchatov**	**121.24**	**314**	PKP		PKPdf	00 48 52.1	0.0
BVAR	**Borovoye Array**	**126.58**	**316**	PKP		PKPdf	00 49 02.2	0.0
	0.5nm,0.5s,baz=173,slow=1.2,SNR=4.2							
BVAR	**Borovoye Array**	**126.58**	**316**	PKP		PKPdf	00 49 02.2	0.0
KAF	**Kangasniemi**	**144.55**	**341**	*ep*		PKPdf	00 49 34.1	-1.1
FINES	**FINESS Array B**	**145.15**	**340**	PKPbc		PKPbc	00 49 36.2	+0.3
	4.9nm,0.6s,baz=40,slow=3.4,SNR=28							
FINES	**FINESS Array B**	**145.15**	**340**	PKPbc		PKPbc	00 49 36.2	+0.3
AKASG	**Malin Array Be**	**151.43**	**323**	PKPbc		PKPbc	00 49 53.1	+0.1
	1.0nm,0.5s,baz=45,slow=2.5,SNR=7.7							
AKASG	**Malin Array Be**	**151.43**	**323**	PKPbc		PKPbc	00 49 53.1	+0.1

GUC 28 00:38:47.7±0.8, 31.66S×71.38W, h26km±4km, MD4.0, ML3.2, 2C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CHNG	**Los Chungos**	**0.24**	**206**	⇑*i*P		Pb	00 38 53.9	-0.2
CHNG				*i* S		Sb	00 38 58.7	+0.3
CHNG				AML	AML		00 38 59.2	
	comp=N,6μm,0.2s							
OVCH	**Ovalle**	**1.06**	**8**	*e*P		Pn	00 39 06.4	-0.4
OVCH				*e*S		Sn	00 39 20.9	+0.2
OVCH				AML	AML		00 39 24.8	
	comp=N,1μm,0.2s							
JACH	**Jahuel**	**1.22**	**147**	*e*P		Pn	00 39 09.6	+0.6
ROCH	**El Roble**	**1.34**	**167**	*e*P		Pn	00 39 11.2	+0.4
ROCH				*i* S		Sn	00 39 29.5	+1.7
ROCH				AML	AML		00 39 34.7	
	comp=E,666nm,0.5s							
TLL	**Tololo Astrono**	**1.57**	**18**	*e*P		Pn	00 39 14.7	+0.9
TLL				*i* S		Sn	00 39 36.0	+2.8
TLL				AML	AML		00 39 40.8	
	comp=E,572nm,0.6s							
LSCH	**La Serena**	**1.75**	**4**	*e*P		Pn	00 39 17.1	+0.7
LSCH				*i* S		Sn	00 39 39.4	+1.6
CLCH	**Cerro Calan**	**1.87**	**158**	*e*P		Pn	00 39 19.6	+1.6
CLCH				*e*S		Sn	00 39 43.1	+2.4
CLCH				AML	AML		00 39 56.5	
	comp=E,473nm,0.5s							
RCDM	**Rinconada Maip**	**1.89**	**165**	*e*P		Pn	00 39 19.7	+1.5
RCDM				*i* S		Sn	00 39 44.1	+3.0
RCDM				AML	AML		00 39 47.5	
	comp=E,499nm,0.0s							

FCH	**Farellones**	**1.90**	**151**	*e*P		Pn	00 39 18.9	+0.5
FCH				*i* S		Sn	00 39 44.2	+2.8
FCH				AML	AML		00 39 49.5	
	comp=N,236nm,0.2s							
PCH	**Pirque**	**2.08**	**160**	⇑*i*P		Pn	00 39 22.5	+1.6
LNV	**Longovilo**	**2.29**	**181**	*e*P		Pn	00 39 22.2	-1.6
CHCH	**Chadas Angostu**	**2.35**	**165**	*e*P		Pn	00 39 25.8	+1.3
CHCH				*i* S		Sn	00 39 55.8	+3.3
CACH	**El Canelo**	**2.53**	**165**	*e*P		Pn	00 39 28.4	+1.2
VACH	**Vallenar**	**3.12**	**10**	*i* S		Sn	00 40 13.5	+1.9

*KRSC **28** 00:52:30.7±0.6, 52.43N×153.93E, h543km±18km, ML4.7*
*MOS **28** 00:52:33.8±0.9, 53.01N×153.19E, h487km, mb4.0/6, Error ellipse: s-maj=19.1km s-min=14.6km az=64.5*
*ISCJB **28** 00:52:34.2±0.4, 52.99N±0.10×153.3E±0.1, h490km±6km, mb3.4/13, Error ellipse: s-maj=17.1km s-min=9.2km az=147.3*
*IDC **28** 00:52:35.0±1.3, 52.98N×153.23E, h486km±17km, mb2.9/12, mb1 3.1/15, mb1mx2.9/29, mbtmp2.9/15, Error ellipse: s-maj=14.6km s-min=12.6km az=142.0*
*NEIC **28** 00:52:35.1±0.4, 53.01N×153.19E, h487km±6km, mb4.1/2, Error ellipse: s-maj=11.4km s-min=6.7km az=146.0*

ISC 28 00:52:35.2±0.4, 52.97N±0.10×153.3E±0.1, h489km±7km, n68, σ0^{s}92/74, mb3.4/13, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MIPR	**Malaya Ipel'ka**	**2.21**	**107**	*e*P		**P**	**00 53 41.1**	**+0.9**
PEA0B	**Petropavlovsk-**	**2.65**	**85**	*e*P		**P**	**00 53 43.5**	**+0.8**
PETK	**Petropavlovsk-**	**2.65**	**85**	P		**P**	**00 53 42.5**	**-0.2**
	2.3nm,0.3s,baz=301,slow=2.1,SNR=23							
PETK	**Petropavlovsk-**	**2.65**	**85**	P		**P**	**00 53 42.5**	**-0.2**
PETK	**Petropavlovsk-**	**2.65**	**85**	PN		**P**	**00 53 42.6**	**-0.1**
PETK				pmax	pmax			
	comp=Z,2.0nm,0.3s							
GNL	**Ganaly**	**2.87**	**73**	*e*P		**P**	**00 53 45.4**	**+1.3**
RUS	**Russkaya**	**3.21**	**98**	*e*P		**P**	**00 53 45.9**	**-0.6**
RUS				*e*S		**S**	**00 54 42.6**	**-2.2**
RUS	**Russkaya**	**3.21**	**98**	PN		**P**	**00 53 45.9**	**-0.6**
RUS				S		**S**	**00 54 42.6**	**-2.2**
KOK	**Koryaka**	**3.22**	**82**	*e*P		**P**	**00 53 47.4**	**+0.8**
PET	**Petropavlovsk**	**3.22**	**87**	*e*P		**P**	**00 53 47.1**	**+0.5**
PET	**Petropavlovsk**	**3.22**	**87**	*e*PN		**P**	**00 53 46.8**	**+0.2**
PET				pmax	pmax			
	comp=Z,51nm,0.4s							
AVH	**Avacha**	**3.28**	**83**	*e*P		**P**	**00 53 47.5**	**+0.5**
UGLR	**Uglovaya**	**3.33**	**84**	*e*P		**P**	**00 53 48.4**	**+1.0**
SDLR	**Sedlovina**	**3.37**	**82**	*e*P		**P**

	comp=E,1.5nm,0.6s									
TKM2					⇓Lg				01 01 42.7	
	comp=E,3.6nm,0.8s									
KURBB	**Kurchatov Arra**	**9.54**	**337**		Lg				01 03 32.9	
	comp=E,0.6nm,0.7s									
KURK	**Kurchatov**	**9.60**	**338**		⇑Lg				01 03 29.6	
	comp=E,2.4nm,0.7s									

NIED ***28*** *01:13:00,37°.90N×141°.80E,h56km,Mw4.0 Best double couple: M₀1.07000×10¹⁵ NP1:φs=207.00000°,δ56.00000°, λ91.00000°. NP2:φs=26.00000°,δ34.00000°,λ88.00000°.*
ISCJB ***28*** *01:13:33.6±0.8,37°.87N±0°.04×141°.88E±0°.07,h58km±7km, mb4.0/18, Error ellipse: s-maj=10.0km s-min=5.8km az=15.4*
JMA ***28*** *01:13:34.6±0.1,37°.88N×141°.81E,h53km±1km,M4.2*
JMA Felt II J1.
IDC ***28*** *01:13:34.4±2.2,37°.89N×141°.80E,h50km±21km,mb3.7/14, mb1 3.9/17,mb1mx3.8/26,mbtmp3.8/17,ML3.5/3, Error ellipse: s-maj=19.6km s-min=13.9km az=96.0*
NEIC ***28*** *01:13:35.3±1.1,37°.95N×141°.84E,h57km±10km,mb4.2/5, Error ellipse: s-maj=11.6km s-min=8.7km az=117.0*
NEIC Recorded [2 JMA] in Fukushima and [1 JMA] in Miyagi.

ISC 28 01:13:34.6±0.8,**37.89N**±0°.04×**141.87E**±0°.07,**h50**km±7km, **n54**,σ0**86**/68,**mb4.0**/18,**1C-9D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JMM	**Marumori**	**0.85**	**269**	⇓P		**Pn**	**01 13 50.0**	**-0.3**
JMM				S		**Sn**	**01 14 00.9**	**-0.9**
JFK	**Kawauchi**	**0.94**	**237**	⇑P		**Pn**	**01 13 51.1**	**-0.5**
JFK				S		**Sn**	**01 14 02.7**	**-1.3**
JOU	**Okura**	**1.06**	**297**	⇓P		**Pn**	**01 13 53.0**	**-0.2**
JOU				S		**Sn**	**01 14 06.5**	**-0.4**
JMK	**Ichinoseki**	**1.18**	**335**	⇓P		**Pn**	**01 13 54.9**	**+0.2**
JMK				S		**Sn**	**01 14 09.6**	**-0.1**
JFT	**Otama**	**1.27**	**254**	⇓P		**Pn**	**01 13 56.1**	**+0.1**
JFT				S		**Sn**	**01 14 12.1**	**+0.2**
JYS	**Shirataka**	**1.46**	**284**	⇓P		**Pn**	**01 13 58.6**	**0.0**
JYS				S		**Sn**	**01 14 16.7**	**+0.1**
JYK	**Kaneyama**	**1.57**	**311**	⇓P		**Pn**	**01 14 00.0**	**0.0**
JYK				eS		**Sn**	**01 14 18.8**	**-0.4**
JOM	**Ohasama**	**1.65**	**344**	⇓P		**Pn**	**01 14 01.3**	**+0.2**
JOM				S		**Sn**	**01 14 21.6**	**+0.5**
JFY	**Yanaizu**	**1.78**	**255**	⇓P		**Pn**	**01 14 03.1**	**+0.1**
JFY				S		**Sn**	**01 14 24.4**	**0.0**
JYA	**Atsumi**	**1.83**	**293**	⇓P		**Pn**	**01 14 03.7**	**0.0**
JYA				eS		**Sn**	**01 14 26.2**	**+0.5**
MJAR	**Matsushiro Arr**	**3.21**	**246**	P		**Pn**	**01 14 23.3**	**+0.7**
	4.7nm,0.3s,baz=60,slow=10.0,SNR=17							
MJAR				S		**Sn**	**01 15 05.7**	**+6.1**
	7.4nm,0.3s,baz=12,slow=26,SNR=5.2							
MJAR	**Matsushiro Arr**	**3.21**	**246**	P		**Pn**	**01 14 23.3**	**+0.7**
MJAR				S		**Sn**	**01 15 05.7**	**+6.1**
MAJO	**Matsushiro**	**3.22**	**246**	eP		**Pn**	**01 14 23.7**	**+1.1**
MAT	**Matsushiro**	**3.22**	**246**	P		**Pn**	**01 14 23.5**	**+0.9**
MAT				S		**Sn**	**01 15 02.9**	**+3.2**
JHJ	**Hachijo jima 2**	**5.05**	**200**	P		**Pn**	**01 14 46.6**	**-1.2**
	8.8nm,0.3s,baz=78,slow=20,SNR=2.6							
JHJ				S		**Sn**	**01 15 40.8**	**-4.1**
	46nm,0.3s,baz=73,slow=20,SNR=6.6							
ASAJ	**Asahikawa**	**6.25**	**5**	P		**Pn**	**01 15 02.0**	**-2.1**
	1.0nm,0.3s,baz=217,slow=10,SNR=3.9							
ASAJ	**Asahikawa**	**6.25**	**5**	P		**Pn**	**01 15 02.0**	**-2.1**
KSRS	**Korea Array**	**11.06**	**272**	P		**Pn**	**01 16 13.1**	**+2.9**
	0.4nm,0.3s,baz=84,slow=14,SNR=3.9							
KSAR	**Wonju Array Be**	**11.10**	**272**	P		**Pn**	**01 16 13.1**	**+2.5**
SONM	**Songino Array**	**27.62**	**303**	P		**P**	**01 19 17.0**	**-0.2**
	0.7nm,0.4s,mb3.7,baz=97,slow=8.3,SNR=6.9							
SONM	**Songino Array**	**27.62**	**303**	P		**P**	**01 19 17.0**	**-0.2**
ZALV	**Zalesovo Beam**	**41.61**	**312**	P		**P**	**01 21 16.7**	**-0.7**
	1.3nm,0.6s,mb3.8,baz=83,slow=7.4,SNR=7.3							
ZALV	**Zalesovo Beam**	**41.61**	**312**	P		**P**	**01 21 16.7**	**-0.7**
MK31	**Makanchi Array**	**43.98**	**301**	eP		**P**	**01 21 37.1**	**+0.3**
MKAR	**Makanchi Array**	**43.98**	**301**	P		**P**	**01 21 36.5**	**-0.2**
	0.6nm,0.4s,mb3.6,baz=82,slow=9.9,SNR=13							
MKAR	**Makanchi Array**	**43.98**	**301**	P		**P**	**01 21 36.5**	**-0.2**
KURK	**Kurchatov**	**45.70**	**308**	eP		**P**	**01 21 49.8**	**-0.6**
	2.9nm,0.6s,mb4.4							
ILAR	**Eielson Array**	**48.58**	**33**	P		**P**	**01 22 13.0**	**+0.4**
	0.6nm,0.6s,mb3.8,baz=264,slow=6.0,SNR=14							
ILAR	**Eielson Array**	**48.58**	**33**	P		**P**	**01 22 13.0**	**+0.4**
COEN	**Coen**	**51.58**	**178**	eP		**P**	**01 22 36.2**	**+0.4**
INK	**Inuvik**	**53.46**	**27**	eP		**P**	**01 22 49.8**	**+0.7**
	0.7nm,0.6s,mb3.8							
ABKAR	**Akbulak array**	**57.67**	**310**	eP		**P**	**01 23 17.9**	**-1.8**
	1.0nm,0.4s,mb4.2							
WRA	**Warramunga Array**	**57.95**	**188**	P		**P**	**01 23 21.1**	**-0.8**
	3.8nm,0.6s,mb4.6,baz=6.2,slow=7.3,SNR=38							
WRA	**Warramunga Arr**	**57.95**	**188**	P		**P**	**01 23 21.1**	**-0.8**
ASAR	**Alice Springs**	**61.68**	**188**	P		**P**	**01 23 47.2**	**-0.1**
	1.3nm,0.7s,mb4.1,baz=10,slow=6.8,SNR=14							
ASAR	**Alice Springs**	**61.68**	**188**	P		**P**	**01 23 47.2**	**-0.1**
YKA	**Yellowknife Ar**	**62.89**	**30**	P		**P**	**01 23 54.6**	**-0.5**
	0.6nm,0.6s,mb3.9,baz=304,slow=6.9,SNR=4.1							
YKA	**Yellowknife Ar**	**62.89**	**30**	P		**P**	**01 23 54.6**	**-0.5**
FINES	**FINESS Array B**	**68.23**	**332**	P		**P**	**01 24 28.9**	**-0.7**
	8.2nm,1.1s,mb4.7,baz=51,slow=11,SNR=3.7							
FINES	**FINESS Array B**	**68.23**	**332**	P		**P**	**01 24 28.9**	**-0.7**
STKA	**Stephens Creek**	**69.41**	**180**	P		**P**	**01 24 36.6**	**-0.4**
	1.1nm,0.6s,mb4.0,baz=344,slow=7.4,SNR=3.9							
STKA	**Stephens Creek**	**69.41**	**180**	P		**P**	**01 24 36.6**	**-0.4**
HFS	**Hagfors**	**73.46**	**336**	P		**P**	**01 25 00.8**	**-0.5**
	2.6nm,0.8s,mb4.2,baz=59,slow=8.6,SNR=3.6							
HFS	**Hagfors**	**73.46**	**336**	P		**P**	**01 25 00.8**	**-0.5**
AKASG	**Malin Array Be**	**73.84**	**322**	P		**P**	**01 25 02.8**	**-0.9**
	0.5nm,0.3s,mb3.9,baz=47,slow=5.8,SNR=4.8							
AKASG	**Malin Array Be**	**73.84**	**322**	P		**P**	**01 25 02.8**	**-0.9**
NVAR	**Mina Array Bea**	**74.19**	**54**	P		**P**	**01 25 07.1**	**+1.1**
	0.5nm,0.7s,mb3.6,baz=282,slow=6.4,SNR=4.1							
NVAR	**Mina Array Bea**	**74.19**	**54**	P		**P**	**01 25 07.1**	**+1.1**
TPAW	**Teton Pass**	**75.56**	**46**	eP		**P**	**01 25 15.4**	**+1.5**
	1.0nm,0.7s,mb3.9							
PDAR	**Pinedale Array**	**76.81**	**46**	P		**P**	**01 25 21.9**	**+0.9**
	0.7nm,0.6s,mb3.7,baz=298,slow=1.9,SNR=7.5							
PDAR	**Pinedale Array**	**76.81**	**46**	P		**P**	**01 25 21.9**	**+0.9**
CLL	**Collm**	**80.54**	**330**	eP		**P**	**01 25 41.0**	**-0.2**
TXAR	**Lajitas Array**	**89.32**	**53**	P		**P**	**01 26 26.3**	**+0.6**
	0.6nm,0.5s,mb4.2,baz=310,slow=3.4,SNR=16							
TXAR	**Lajitas Array**	**89.32**	**53**	P		**P**	**01 26 26.3**	**+0.6**

ISCJB ***28*** *01:17:01.3±1.0, 14°.18N±0°.07×92°.12W±0°.05,h51km±12km, Error ellipse: s-maj=14.4km s-min=4.7km az=32.1*
CASC ***28*** *01:17:02.7±1.5,14°.30N×92°.02W,h54km±10km,MD3.6*
MEX ***28*** *01:17:06.1±1.1, 14°.28N×92°.46W,h16km±147km,MD4.0*

ISC 28 01:17:02.1±1.0,**14°.18N**±0°.08×**92°.13W**±0°.05,**h42**km±21km, **n15**,σ0**76**/29,**Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.49**	**74**	eP		**Pn**	**01 17 14.0**	**+1.1**
JAT				eS		**Sn**	**01 17 20.2**	**-0.2**
THIG		**0.73**	**349**	*i* P		**Pn**	**01 17 16.2**	**+0.1**
THIG				*i* S		**Sn**	**01 17 25.7**	**-0.4**
FG6		**1.26**	**73**	eP		**Pn**	**01 17 23.1**	**-0.2**
FG6				eS		**Sn**	**01 17 38.5**	**-0.6**
FUG	**Fuego 3**	**1.27**	**78**	eP		**Pn**	**01 17 22.6**	**-0.8**
FUG				eS		**Sn**	**01 17 38.5**	**-0.8**
PCG	**Pacaya**	**1.48**	**82**	eP		**Pn**	**01 17 25.9**	**-0.5**
PCG				eS		**Sn**	**01 17 44.6**	**0.0**
IXG	**Ixpaco**	**1.62**	**90**	eP		**Pn**	**01 17 27.8**	**-0.4**
IXG				eS		**Sn**	**01 17 48.4**	**+0.5**
NBG	**Las Nubes**	**1.77**	**77**	eP		**Pn**	**01 17 31.2**	**+1.0**
NBG				eS		**Sn**	**01 17 50.7**	**-0.8**
PCIG		**1.84**	**325**	*i* P		**Pn**	**01 17 31.1**	**-0.2**
PCIG				*i* S		**Sn**	**01 17 48.3**	**-5.2**
CCIG	**Comitan**	**2.09**	**360**	eP		**Pn**	**01 17 35.7**	**+1.0**
CCIG				eS		**Sn**	**01 18 01.2**	**+1.8**
RTR	**El Retiro**	**2.42**	**96**	eP		**Pn**	**01 17 38.8**	**-0.4**
SBLS	**San Blas**	**2.45**	**98**	*i* P		**Pn**	**01 17 39.3**	**-0.4**
SBLS				eS		**Sn**	**01 18 09.0**	**+0.6**
TGIG		**2.75**	**340**	eP		**Pn**	**01 17 44.7**	**+0.9**
TGIG				*i* S		**Sn**	**01 18 15.1**	**-0.8**
BOQS	**Boqueron**	**2.80**	**99**	eP		**Pn**	**01 17 45.4**	**+0.9**
BOQS				eS		**Sn**	**01 18 17.4**	**+0.5**
LFRS	**El Faro**	**3.03**	**100**	*i* P		**Pn**	**01 17 47.6**	**+0.1**
LFRS				eS		**Sn**	**01 18 22.2**	**-0.4**
CMIG	**Matias Romero**	**3.93**	**318**	eP		**Pn**	**01 17 59.6**	**-0.3**
CMIG				*i* S		**Sn**	**01 18 41.5**	**-3.3**

IDC ***28*** *01:17:08.0±3.0,31°.53S×178°.26W,h0km,mb4.1/2, mb1 4.3/3,mb1mx3.9/14,mbtmp4.1/3,ML3.0/1, Error ellipse: s-maj=67.8km s-min=35.9km az=112.0*

ISC 28 01:17:14.2±1.4,**31°.55S**±0°.1×**178°.4W**±0°.2,**h35**km,**n6,** σ0**73**/6,**mb4.0**/2,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.65**	**208**	Pn		**Pn**	**01 19 02.1**	**-1.0**
	0.2nm,0.3s,baz=153,slow=11,SNR=5.0							
URZ				Sn		**Sn**	**01 20 29.0**	**+0.4**
	1.3nm,0.3s,baz=120,slow=20,SNR=7.7							
ASAR	**Alice Springs**	**42.71**	**268**	P		**P**	**01 25 08.2**	**+0.3**
	0.9nm,0.4s,mb3.9,baz=104,slow=7.5,SNR=8.5							
WRA	**Warramunga Arr**	**43.81**	**274**	P		**P**	**01 25 16.7**	**-0.1**
	1.8nm,0.4s,mb4.2,baz=114,slow=7.9,SNR=21							
VNA3	**Neumayer Olymp**	**77.20**	**176**	*e*		**P**	**01 29 03.8**	**-0.2**
VNA3				*e*			01 29 09.2	
VNA2	**Neumayer--Watz**	**77.63**	**177**	*e*		**P**	**01 29 06.9**	**+0.5**
	baz=199,slow=3.8							
VNA2				*e*			01 29 11.7	
FINES	**FINESS Array B**	**146.08**	**339**	PKPbc		PKPbc	01 36 48.4	-1.3
	4.7nm,0.9s,baz=57,slow=3.8,SNR=7.5							

NNC ***28*** *01:20:53.7±3.4,39°.04N×69°.96E,h0km,mb3.8,mpv3.4, Error ellipse: s-maj=25.9km s-min=22.6km az=14.0*

ISC 28 01:20:51.7±2.1,**38°.6N**±0°.1×**70°.0E**±0°.1,**h10**km,**n10,** σ0**56**/13,**3C-4D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.49**	**38**	P		**Pn**	**01 21 59.3**	**-0.4**
	SNR=12							
KK31	**Karatay Array**	**4.49**	**5**	Pn		**Pn**	**01 22 00.3**	**+0.6**
	0.5nm,0.2s,baz=170,slow=11,SNR=13							
KK31				⇑Sn		**Sn**	**01 22 52.2**	**+0.3**
	1.9nm,0.3s							
KK31				⇑Lg			01 23 06.5	
	10nm,0.6s							
AAK	**Ala-Archa**	**5.25**	**39**	P		**Pn**	**01 22 10.3**	**+0.1**
	SNR=5.9							
KZA	**Kyzart**	**5.28**	**48**	P		**Pn**	**01 22 10.9**	**+0.4**
	SNR=9.1							
KBK	**Karagaybulak**	**5.50**	**41**	P		**Pn**	**01 22 14.6**	**+1.1**
	SNR=10.0							
USP	**Ospenovka**	**5.74**	**35**	P		**Pn**	**01 22 16.6**	**-0.3**
	SNR=6.2							
TKM2	**Tokmak 2**	**6.03**	**43**	P		**Pn**	**01 22 20.5**	**-0.3**
	SNR=16							
TKM2	**Tokmak 2**	**6.03**	**43**	⇓Pn		**Pn**	**01 22 20.3**	**-0.5**
	5.8nm,0.4s							
TKM2				⇓Sn		**Sn**	**01 23 29.1**	**-0.6**
	2.1nm,0.5s							
TKM2				⇑Lg			01 23 52.9	
	2.7nm,0.7s							
TKM2	**Tokmak 2**	**6.03**	**43**	eP		**Pn**	**01 22 20.2**	**-0.6**
	9.8nm,0.4s							
AB31	**Akbulak array**	**12.86**	**329**	⇓Pn		**Pn**	**01 23 53.6**	**-0.7**
	0.8nm,0.5s,baz=156,slow=11,SNR=10							
AB31				⇓Sn		**Sn**	**01 26 09.8**	**-7.6**
	1.1nm,0.7s,baz=146,slow=22,SNR=4.1							

IDC ***28*** *01:33:56.0±0.5,22°.58S×175°.27W,h0km,mb5.0/20, mb1 5.1/21,mb1mx5.1/21,mbtmp4.9/21,ML4.5/1,MS4.6/8, Ms1 4.7/8,ms1mx4.4/19,Error ellipse: s-maj=19.2km s-min=14.1km az=135.0*
ISCJB ***28*** *01:33:59.7±0.1,22°.78S±0°.04×175°.25W±0°.04,h33km, mb5.2/121,MS4.9/26,Error ellipse: s-maj=6.9km s-min=3.6km az=147.2*
SZGRF ***28*** *01:34:00.1,21°.38S×176°.73W,h33km,Fiji Islands region*
NEIC ***28*** *01:34:01.6±0.2,22°.76S×175°.24W,h35km,mb5.2/88, Error ellipse: s-maj=8.3km s-min=5.0km az=143.0*
GCMT ***28*** *01:34:01.1±0.2,22.83S×174°.51W,h16km,MW5.3, Moment Tensor Solution. s64,c98; s91,c163; Moment tensor: Scale 10¹⁷Nm; Mrr0.00; Mθθ 0.00; Mφφ 0.00; Mrθ0.00; Mrφ0.00; Mθφ0.00; Best double couple: M₀1.10000×10¹⁷ NP1:φs=192.00000°,δ24.00000°, λ83.00000°. NP2:φs20.00000°,δ67.00000°,λ93.00000°. Principal axes: T 1.0600, Plg68.0000°, Azm295.0000°; N 0.0200, Plg3.0000°, Azm198.0000°; P -1.0800, Plg21.0000°, Azm107.0000°; Data Used: II IU IC G CN.*
BJI ***28*** *01:34:04.8,22°.63S×174°.92W,h77km,mB5.6/27, mb5.4/36,Ms5.3/30,Ms7 5.0/30*
DJA ***28*** *01:34:05,22°.92S×175°.15W,h78km,mb5.1/18*
MOS ***28*** *01:34:10.8±1.9,22°.45S×175°.50W,h112km,mb5.1/26, MS5.0/10,Error ellipse: s-maj=10.4km s-min=9.1km az=48.4*

ISC 28 01:33:59.0±4.6,**22°.74S**±0°.05×**175°.20W**±0°.04, **h17**km±28km,**h31**km±4.9km:**pP-P,n826,**σ0**75**/590, **mb5.2**/121,**MS4.9**/26,**223C-162D,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.93**	**200**	ePn		**Pn**	**01 35 38.6**	**-1.1**
RAO				eSn		**Sn**	**01 36 55.9**	**-2.3**
RAO	**Raoul Island**	**6.93**	**200**	eP		**Pn**	**01 35 39.0**	**-0.7**
MSVF	**Nonsavu**	**8.06**	**307**	⇑*i* Pn		**Pn**	**01 36 01.6**	**+6.3**
MSVF	**Nonsavu**	**8.06**	**307**	eP		**Pn**	**01 36 02.5**	**+7.2**
MSVF	**Nonsavu**	**8.06**	**307**	Pn		**Pn**	**01 36 02.0**	**+6.7**
	2μm,0.9s,SNR=25							
AFI	**Afiamalu**	**9.36**	**21**	Pn		**Pn**	**01 36 06.1**	**-7.1**
	12nm,0.3s,baz=228,slow=14,SNR=11							
AFI				Sn		**Sn**	**01 37 44.7**	**-13**
	15nm,0.3s,baz=198,slow=20,SNR=2.9							
AFI	**Afiamalu**	**9.36**	**21**	Pn		**Pn**	**01 36 06.1**	**-7.1**
AFI				Sn		**Sn**	**01 37 44.7**	**-13**
AFI	**Afiamalu**	**9.36**	**21**	P		**Pn**	**01 36 06.1**	**-7.1**
RAR	**Rarotonga**	**14.39**	**87**	Pn		**Pn**	**01 37 10.7**	**-11**
	10nm,0.3s,baz=261,slow=11,SNR=16							
RAR				Sn		Sn	01 39 33.4	-28
	10nm,0.3s,baz=58,slow=19,SNR=4.6							
RAR				LR		LR	01 41 54.1	
	comp=Z,4μm,19.8s,baz=283,slow=33							
RAR	**Rarotonga**	**14.39**	**87**	Pn		**Pn**	**01 37 10.7**	**-11**
RAR				Sn		Sn	01 39 33.4	-28
URZ	**Urewera**	**16.82**	**201**	Pn		**Pn**	**01 37 55.5**	**+1.9**
	1.5nm,0.3s,baz=8.0,slow=8.9,SNR=6.2							
URZ				Sn		**Sn**	**01 40 45.8**	**-14**
	0.7nm,0.3s,baz=127,slow=20,SNR=2.6							
URZ	**Urewera**	**16.82**	**201**	eP		**Pn**	**01 37 55.4**	**+1.8**
	36nm,1.0s							
DZM	**Mont Dzumac**	**16.99**	**269**	ePn		**Pn**	**01 38 03.8**	**+7.9**
	2.3nm,0.3s							
DZM				eLQ			01 41 19.1	
DZM				eLR		LR	01 42 18.8	
	3μm,24.7s							
DZM	**Mont Dzumac**	**16.99**	**269**	eP		**Pn**	**01 37 60.0**	**+4.1**
DZM	**Mont Dzumac**	**16.99**	**269**	ePn		**Pn**	**01 37 59.6**	**+3.7**
	75nm,1.0s							
NOUC	**Port Laguerre**	**17.12**	**269**	eP		**Pn**	**01 38 04.0**	**+6.5**
NOUC	**Port Laguerre**	**17.12**	**269**	P		**Pn**	**01 38 04.0**	**+6.5**
SNZO	**South Karori**	**20.37**	**202**	eP		**P**	**01 38 35.2**	**+0.6**
	42nm,0.9s							
KHZ	**Kahutara**	**21.76**	**203**	eP		**P**	**01 38 49.7**	**+0.1**
	41nm,1.0s,mb4.8							
TBI	**Tubuai**	**23.68**	**97**	eP		**P**	**01 39 05.2**	**-4.8**
	527nm,1.1s,mb5.9							
TBI				eLQ			01 43 28.7	
	2μm,24.5s							
TBI				eLR		LR	01 44 38.0	
	3μm,30.2s,baz=266							
RPZ	**Rata Peaks**	**23.81**	**205**	P		**P**	**01 39 09.9**	**-1.0**
	13nm,0.9s,mb4.4,baz=208,slow=6.5,SNR=3.8							
RPZ	**Rata Peaks**	**23.81**	**205**	eP		**P**	**01 39 09.6**	**-1.3**
	17nm,0.7s,mb4.6							
PAE	**Paea**	**24.55**	**83**	eP		**P**	**01 39 13.6**	**-4.4**
	41nm,1.1s,mb4.8							
PPT2	**Papeete2**	**24.58**	**83**	eP		**P**	**01 39 14.5**	**-3.7**
	107nm,1.1s,mb5.3							
PPT	**Papeete**	**24.58**	**83**	eLQ			01 43 49.0	
	3μm,25.0s							
PPT				eLR		LR	01 44 42.6	
	4μm,29.0s,baz=255							
TIAR	**Tiarei**	**24.80**	**83**	eP		**P**	**01 39 15.4**	**-4.8**
WHZ	**Wether Hill Ro**	**26.86**	**207**	eP		**P**	**01 39 41.6**	**+3.0**
PMOR	**Pomariorio Ree**	**26.93**	**78**	eP		**P**	**01 39 36.7**	**-2.8**
	110nm,1.2s,mb5.3							
ARMA	**Armidale**	**30.55**	**248**	eP		**P**	**01 40 12.8**	**+1.1**
ARMA	**Armidale**	**30.55**	**248**	eP		**P**	**01 40 11.9**	**+0.2**
	16nm,0.9s,mb4.9							

EIDS	**Eidsvold**	**30.86**	**258**	eP		**P**	**01 40 14.8**	**+0.4**
	45nm,1.2s,mb5.2							
CTA	**Charters Tower**	**35.92**	**267**	P		**P**	**01 40 58.0**	**-0.6**
	7.9nm,0.4s,mb5.0,baz=103,slow=12,SNR=5.4							
CTA	**Charters Tower**	**35.92**	**267**	eP		**P**	**01 40 58.8**	**+0.2**
	18nm,0.8s,mb5.0							
CTA	**Charters Tower**	**35.92**	**267**	P		**P**	**01 40 58.0**	**-0.6**
CTA	**Charters Tower**	**35.92**	**267**	P		**P**	**01 40 58.0**	**-0.6**
CTAO	**Charters Tower**	**35.92**	**267**	eP		**P**	**01 40 59.0**	**+0.4**
	36nm,1.0s,mb5.3							
CTAO	**Charters Tower**	**35.92**	**267**	eP		**P**	**01 40 59.0**	**+0.4**
CTAO				pmax		pmax		
	comp=Z,36nm,1.0s,mb5.3							
CTAO	**Charters Tower**	**35.92**	**267**	P		**P**	**01 40 59.3**	**+0.7**
	comp=Z,40nm,1.3s,mb5.2							
TAOE	**Nuku Hiva Isla**	**36.33**	**73**	eLR		LR	01 50 05.4	
	comp=Z,2μm,29.7s							
TOO	**Toolangi**	**36.78**	**237**	eP		**P**	**01 41 06.4**	**+0.6**
	comp=Z,88nm,1.0s,mb5.5							
RKT	**Rikitea**	**36.97**	**99**	eS		**S**	**01 46 46.7**	**-5.5**
	comp=Z,327nm,26.0s							
RKT				eLR		LR	01 50 29.2	
	comp=Z,2μm,31.5s,baz=262							
PMG	**Port Moresby**	**38.40**	**284**	P		**P**	**01 41 19.0**	**-0.7**
	comp=Z,53nm,0.9s,mb5.3,baz=83,slow=5.3,SNR=17							
PMG	**Port Moresby**	**38.40**	**284**	eP		**P**	**01 41 19.7**	**0.0**
	comp=Z,76nm,1.0s,mb5.4							
PMG	**Port Moresby**	**38.40**	**284**	*c* *i* P		**P**	**01 41 18.8**	**-0.9**
PMG				pmax		pmax		
	comp=Z,101nm,1.2s							
PMG				MLR		MLR		
	comp=Z,2μm,16.0s							
PMG	**Port Moresby**	**38.40**	**284**	P		**P**	**01 41 19.9**	**+0.2**
	comp=Z,840nmcomp=Z,87nm,1.1s,mb5.4							
STKA	**Stephens Creek**	**39.24**	**247**	P		**P**	**01 41 25.1**	**-1.5**
	comp=Z,7.1nm,0.6s,mb4.6,baz=94,slow=8.6,SNR=17							
STKA				LR		LR	01 57 11.9	
	comp=Z,2μm,18.3s,MS4.9,baz=71,slow=36							
STKA	**Stephens Creek**	**39.24**	**247**	eP		**P**	**01 41 25.9**	**-0.7**
	comp=Z,6.7nm,0.5s,mb4.6							
STKA	**Stephens Creek**	**39.24**	**247**	eP		**P**	**01 41 26.0**	**-0.6**
	comp=Z,7.8nm,1.5s,mb4.2							
STKA	**Stephens Creek**	**39.24**	**247**	eP		**P**	**01 41 26.0**	**-0.6**
COEN	**Coen**	**40.35**	**275**	eP		**P**	**01 41 36.5**	**+0.5**
	comp=Z,314nm,1.4s,mb5.8							
COEN	**Coen**	**40.35**	**275**	P		**P**	**01 41 36.9**	**+0.9**
	comp=Z,31nm,1.4s,mb4.8							
AS31	**Alice Springs**	**46.58**	**258**	eP		**P**	**01 42 25.6**	**-0.7**
ASAR	**Alice Springs**	**46.59**	**258**	P		**P**	**01 42 25.1**	**-1.1**
	comp=Z,40nm,0.8s,mb5.4,baz=95,slow=8.1,SNR=237							
ASAR				S		**S**		
	comp=Z,0.5nm,0.8s,baz=111,slow=13,SNR=2.9							
ASAR	**Alice Springs**	**46.59**	**258**	P		**P**	**01 42 25.1**	**-1.1**
ASAR				S		**S**	**01 49 08.6**	**-5.9**
ASAR	**Alice Springs**	**46.59**	**258**	P		**P**	**01 42 25.2**	**-1.0**
ASAR				S		**S**	**01 49 08.6**	**-6.0**
WB2	**Warramunga Arr**	**46.90**	**263**	eP		**P**	**01 42 27.4**	**-1.3**
WRAB	**Tennant Creek**	**46.90**	**264**	eP		**P**	**01 42 26.9**	**-1.8**
	comp=Z,65nm,1.1s,mb5.5							
WRAB	**Tennant Creek**	**46.90**	**264**	P		**P**	**01 42 26.9**	**-1.8**
WRAB				pmax		pmax		
	comp=Z,65nm,1.1s,mb5.5							
WRAB	**Tennant Creek**	**46.90**	**264**	P		**P**	**01 42 27.5**	**-1.2**
	comp=Z,156nm,1.1s,mb5.8,SNR=11							
WRAB	**Tennant Creek**	**46.90**	**264**	P		**P**	**01 42 27.6**	**-1.1**
	comp=Z,65nm,1.2s,mb5.4							
WRA	**Warramunga Arr**	**46.91**	**263**	P		**P**	**01 42 26.8**	**-1.9**
	comp=Z,16nm,0.9s,mb5.0,baz=99,slow=7.8,SNR=77							
WRA				S		**S**	**01 49 12.4**	**-6.9**
	comp=

PETK LR LR 02 15 49.1
comp=Z,183nm,20.8s,MS4.4,baz=341,slow=32
PETK Petropavlovsk- 79.12 344 P **P** **01 46 01.9 -0.2**
PETK Petropavlovsk- 79.12 344 P **P** **01 46 01.9 -0.2**
PFO Pinyon Flat Ob 79.16 47 ⇑P **P** **01 46 03.1 +0.2**
baz=80
PFO Pinyon Flat Ob 79.16 47 *e*P **P** **01 46 06.1 +3.2**
comp=Z,8.2nm,1.0s,mb4.6
PFO Pinyon Flat Ob 79.16 47 *e*P **P** **01 46 06.1 +3.2**
PFO pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
SWSC Sam W. Stewart 79.21 47 ⇑P **P** **01 46 03.5 +0.3**
baz=80
KHMM Horse Mountain 79.31 37 *e*P **P** **01 46 07.6 +4.1**
comp=Z,38nm,1.4s,mb5.1
CMB Columbia Colle 79.38 41 *e*P **P** **01 46 03.8 -0.2**
comp=Z,15nm,1.0s,mb4.9
CMB Columbia Colle 79.38 41 *e*P **P** **01 46 03.8 -0.2**
CMB pmax pmax
comp=Z,15nm,1.0s,mb4.9
LRMC Laurel Mountai 79.47 44 ⇓P **P** **01 46 04.6 0.0**
baz=80
OHCM Honcut 79.57 39 *e*P **P** **01 46 07.2 +2.2**
BELC Belle Mtn. Jos 79.70 46 ⇑P **P** **01 46 05.2 -0.6**
baz=80,SNR=6.1
WDC Whiskeytown Da 79.78 38 *e*P **P** **01 46 06.4 +0.3**
comp=Z,24nm,1.3s,mb5.0
WDC Whiskeytown Da 79.78 38 *e*P **P** **01 46 06.4 +0.3**
WDC pmax pmax
comp=Z,24nm,1.3s,mb5.0
CWC Cottonwood Cre 79.81 43 ⇓P **P** **01 46 06.1 -0.2**
baz=80
BC3 Big Chuckawall 79.86 47 ⇑P **P** **01 46 06.7 0.0**
baz=80,SNR=8.7
GLA Glamis 79.94 48 ⇓P **P** **01 46 07.2 +0.1**
baz=80
GLA Glamis 79.94 48 *e*P **P** **01 46 09.3 +2.2**
comp=Z,28nm,1.4s,mb5.0
GLA Glamis 79.94 48 *e*P **P** **01 46 09.3 +2.2**
GLA pmax pmax
comp=Z,28nm,1.4s,mb5.0
GSC Goldstone 79.94 45 ⇓P **P** **01 46 06.2 -0.9**
baz=80
GSC Goldstone 79.94 45 *e*P **P** **01 46 06.9 -0.2**
comp=Z,39nm,1.6s,mb5.1
GSC Goldstone 79.94 45 *e*P **P** **01 46 06.9 -0.2**
GSC pmax pmax
comp=Z,39nm,1.6s,mb5.1
MPMC Manual Prospec 79.96 44 ⇑P **P** **01 46 07.0 -0.1**
baz=80,SNR=11
HEC Hector,Ludlow 79.97 46 ⇓P **P** **01 46 07.2 -0.1**
baz=80,SNR=9.8
MLAC Mammoth Lakes 80.08 42 ⇓P **P** **01 46 07.7 -0.1**
baz=80
TIN Tinemaha 80.10 43 ⇑P **P** **01 46 07.6 -0.3**
baz=80
KSRS Korea Array 80.29 317 P **P** **01 46 09.9 +0.9**
comp=Z,6.8nm,1.0s,mb4.5,baz=140,slow=6.0,SNR=9.2
KSRS LR LR 02 20 28.2
comp=Z,365nm,18.4s,MS4.8,baz=129,slow=35
KSAR Wonju Array Be 80.30 317 P **P** **01 46 09.9 +0.9**
KSAR Wonju Array Be 80.30 317 P **P** **01 46 09.9 +0.9**
MAW Mawson 80.33 199 P **P** **01 46 09.8 +1.0**
comp=Z,53nm,1.1s,mb5.4,baz=134,slow=6.3,SNR=16
MAW LR LR 02 23 31.6
comp=Z,829nm,18.4s,MS5.1,baz=114,slow=37
MAW Mawson 80.33 199 *e*P **P** **01 46 08.9 +0.1**
comp=Z,29nm,1.0s,mb5.2
MAW *e*S S 01 56 16.9 +3.5
MAW Mawson 80.33 199 *e*P **P** **01 46 10.3 +1.5**
comp=Z,13nm,1.1s,mb4.8
MAW Mawson 80.33 199 *e*P **P** **01 46 10.3 +1.5**
MAW pmax pmax
comp=Z,13nm,1.1s
KEBM Edson Butte 80.34 35 *e*P **P** **01 46 15.7 +6.7**
comp=Z,65nm,1.3s,mb5.4
IRM Iron Mountain 80.36 47 ⇑P **P** **01 46 09.7 +0.3**
baz=81,SNR=6.1
GMRC Granite Mounta 80.39 46 ⇑P **P** **01 46 09.6 +0.1**
baz=81
YBH Yreka Blue Hor 80.45 37 *e*P **P** **01 46 10.3 +0.6**
comp=Z,209nm,2.8s,mb5.6
YBH Yreka Blue Hor 80.45 37 *e*P **P** **01 46 10.3 +0.6**
113A Mohawk Valley, 80.51 49 ⇑P **P** **01 46 10.1 -0.1**
baz=81
Y12C Blythe 80.55 47 ⇑P **P** **01 46 10.0 -0.4**
baz=81
WCN Washoe City 80.57 40 ⇑P **P** **01 46 10.1 -0.2**
baz=81,SNR=7.6
WCN Washoe City 80.57 40 *e*P **P** **01 46 10.7 +0.3**
comp=Z,18nm,1.1s,mb4.9
WCN Washoe City 80.57 40 *e*P **P** **01 46 10.7 +0.3**
WCN pmax pmax
comp=Z,17nm,1.1s,mb4.9
TUQ Turquoise Moun 80.60 45 ⇓P **P** **01 46 10.4 -0.3**
baz=81
GRAC Grapevine Rang 80.61 43 ⇓P **P** **01 46 10.6 0.0**
baz=81
FURC Furnace Creek, 80.61 44 ⇓P **P** **01 46 10.7 0.0**
baz=81
SHOC Shoshone 80.64 45 ⇑P **P** **01 46 11.0 +0.1**
baz=81
214A Organ Pipe Nat 80.72 50 ⇑P **P** **01 46 11.4 +0.1**
baz=81
Z13A Yuma Proving G 80.83 48 ⇓P **P** **01 46 11.4 -0.5**
baz=81
HUMO Hull Mountain 80.90 36 *e*P **P** **01 46 14.3 +2.3**
comp=Z,19nm,1.3s,mb4.9
NVAR Mina Array Bea 80.90 42 P **P** **01 46 11.8 -0.4**
comp=Z,12nm,0.9s,mb4.8,baz=232,slow=5.6,SNR=26
NVAR Mina Array Bea 80.90 42 P **P** **01 46 11.8 -0.4**
PDMCI Parker Dam,Lak 81.13 47 ⇑P **P** **01 46 13.4 0.0**
baz=81
Z14A Wintersburg 81.41 49 ⇑P **P** **01 46 14.9 -0.1**
baz=82
Y14A Wickenburg 81.69 48 ⇓P **P** **01 46 16.8 +0.3**
baz=82,SNR=5.6
W13A Hualapai Mount 81.76 47 ⇓P **P** **01 46 17.3 +0.5**
baz=82,SNR=7.1
116A Eloy 81.83 50 ⇑P **P** **01 46 17.8 +0.5**
baz=82
MOD Modoc 81.92 38 *e*P **P** **01 46 17.6 +0.1**
comp=Z,50nm,1.8s,mb5.1
217A Green Valley 82.04 51 ⇑P **P** **01 46 18.6 +0.3**
baz=82
K05A Summer Lake 82.12 37 ⇑P **P** **01 46 18.3 -0.2**
baz=82
Y15A Casa Rosa Ranc 82.17 48 ⇑P **P** **01 46 19.4 +0.4**
baz=82,SNR=18
TUC Tucson 82.35 50 *e*P **P** **01 46 20.1 +0.1**
TUC *es*P sP 01 46 37.0 +9.1
TUC Tucson 82.35 50 *e*P **P** **01 46 20.1 +0.1**
318A Bisbee 82.45 52 ⇑P **P** **01 46 20.9 +0.3**
baz=83
Z16A Peralta Trail, 82.46 49 ⇓P **P** **01 46 20.9 +0.4**
baz=83
117A Oracle 82.52 50 ⇓P **P** **01 46 20.8 -0.1**
baz=83
R11A Troy Canyon, C 82.55 43 ⇑P **P** **01 46 21.0 +0.1**
baz=83,SNR=5.8
218A Dragoon 82.69 51 ⇓P **P** **01 46 22.2 +0.5**
baz=83,SNR=8.1
H04A Detroit Lake 82.71 35 ⇑P **P** **01 46 21.4 -0.1**
baz=83
Y16A Circle Bar Ran 82.72 49 ⇑P **P** **01 46 22.5 +0.6**
baz=83,SNR=11
BMN Battle Mountai 82.80 41 *e*P **P** **01 46 25.7 +3.6**
comp=Z,30nm,1.5s,mb5.1
BMN Battle Mountai 82.80 41 *e*P **P** **01 46 25.7 +3.6**
BMN pmax pmax
comp=Z,30nm,1.5s,mb5.1
319A Douglas 82.93 52 ⇑P **P** **01 46 22.9 -0.1**
baz=83
X16A Lo Mia Camp, P 83.04 48 ⇓P **P** **01 46 23.6 +0.1**
baz=83,SNR=15
Y17A Roosevelt 83.06 49 ⇑P **P** **01 46 24.0 +0.4**
baz=83,SNR=7.0
Z17A San Carlos Hig 83.10 50 ⇓P **P** **01 46 24.8 +0.9**
baz=83
118A Homack Ranch, 83.11 51 ⇑P **P** **01 46 24.5 +0.6**
baz=83,SNR=6.6
WVOR Wild Horse Val 83.21 38 *e*P **P** **01 46 23.8 -0.4**
comp=Z,19nm,1.2s,mb5.0
WVOR Wild Horse Val 83.21 38 *e*P **P** **01 46 23.8 -0.4**
WVOR pmax pmax
comp=Z,19nm,1.2s,mb5.0
219A White Tail Can 83.27 51 ⇑P **P** **01 46 25.0 +0.2**
baz=84
NJ2 Nanjing 83.31 309 *e*P **P** **01 46 25.5 +0.5**
NJ2 SKS 01 56 39.0
NJ2 S S 01 56 41.0 -4.1
NJ2 pmax pmax
comp=Z,40nm,1.1s,mb5.4
NJ2 pmax pmax
comp=Z,310nm,5.2s
NJ2 LR LR
comp=N,420nm,25.3s,MS4.8
NJ2 LR LR
comp=E,280nm,27.4s,MS4.8
NJ2 LR LR
comp=Z,620nm,24.6s,MS4.9
BMW Boistfort Moun 83.38 33 *e*P **P** **01 46 25.4 +0.5**
BMW Boistfort Moun 83.38 33 *e*P **P** **01 46 25.5 +0.5**
HOOD Mount Hood Mea 83.42 35 *e*P **P** **01 46 30.3 +5.1**
comp=Z,19nm,1.1s,mb5.0
X17A Forest Lakes 83.43 49 ⇓P **P** **01 46 25.9 +0.4**
baz=84,SNR=5.4
320A Kipp Ranch, An 83.46 52 ⇓P **P** **01 46 26.1 +0.3**
baz=84,SNR=7.0
R13A O'Grain Ranch, 83.48 44 ⇓P **P** **01 46 26.1 +0.4**
baz=84,SNR=7.8
CCUT Cedar City 83.51 45 *e*P **P** **01 46 26.7 +0.9**
comp=Z,28nm,1.3s,mb5.2
ARUT Antelope Range 83.59 45 *e*P **P** **01 46 26.6 +0.3**
comp=Z,40nm,1.5s,mb5.3
ARUT Antelope Range 83.59 45 *e*P **P** **01 46 26.6 +0.3**
ARUT pmax pmax
comp=Z,39nm,1.5s,mb5.3
119A Ashpeak Ranch, 83.65 51 ⇑P **P** **01 46 27.2 +0.5**
baz=84
Y18A Canyon Day Jun 83.67 50 ⇑P **P** **01 46 27.6 +0.8**
baz=84,SNR=15
HABR Khabarovsk 83.68 329 *ce*P **P** **01 46 28.3 +1.8**
HABR *e*S S 01 56 42.7 -5.4
HABR *e*SS SS 02 02 09.9 -5.8
HABR pmax pmax
comp=E,55nm,1.1s
HABR pmax pmax
comp=N,44nm,1.4s
HABR pmax pmax
comp=Z,123nm,1.5s,mb5.8
HABR MLR MLR
comp=Z,515nm,17.0s,MS5.0
WUAZ Wupatki 83.69 47 ⇓P **P** **01 46 28.2 +1.3**
baz=84,SNR=7.6
WUAZ Wupatki 83.69 47 *e*P **P** **01 46 28.1 +1.2**
comp=Z,20nm,1.2s,mb5.1
220A Playas Peak, P 83.75 52 ⇑P **P** **01 46 27.8 +0.5**
baz=84,SNR=12
I07A Izee 83.77 37 ⇓P **P** **01 46 26.9 -0.1**
baz=84
MDJ Mudanjiang 83.85 324 P **P** **01 46 29.0 +1.6**
MDJ PP PP 01 49 45.5 +4.3
MDJ S S 01 56 49.8 -0.2
MDJ pmax pmax
comp=Z,44nm,1.0s,mb5.5
MDJ pmax pmax
comp=Z,340nm,5.8s
MDJ LR LR
comp=N,300nm,17.2s,MS4.8
MDJ LR LR
comp=E,260nm,20.8s,MS4.8
MDJ LR LR
comp=Z,550nm,19.4s,MS5.0
MDJ Mudanjiang 83.85 324 *e*P **P** **01 46 28.8 +1.4**
comp=Z,46nm,1.1s,mb5.5
J08A Circle Bar Ran 83.89 38 ⇓P **P** **01 46 27.5 -0.2**
baz=84
G06A Carlson Farm, 83.90 35 ⇑P **P** **01 46 27.3 -0.4**
baz=84,SNR=11
120A U Bar Ranch, L 84.01 51 ⇓P **P** **01 46 29.3 +0.8**
baz=84,SNR=6.6
X18A Snowflake 84.13 49 ⇓P **P** **01 46 29.3 +0.2**
baz=84,SNR=5.9
QIZ Qiongzhong 84.14 293 P **P** **01 46 30.3 +0.8**
QIZ PP PP 01 49 46.5 +2.4
QIZ S S 01 56 51.8 -2.2
QIZ pmax pmax
comp=Z,540nm,5.4s
V17A Tonalea, Kykot 84.14 48 ⇑P **P** **01 46 29.9 +0.7**
baz=84,SNR=18
U16A Tuba City 84.20 47 ⇑P **P** **01 46 29.6 +0.2**
baz=84,SNR=8.6
LON Longmire 84.29 34 *e*P **P** **01 46 30.9 +1.3**
comp=Z,188nm,2.8s,mb5.7
LON Longmire 84.29 34 *e*P **P** **01 46 30.9 +1.3**
LON pmax pmax
comp=Z,188nm,2.8s,mb5.7
Y19A Nutrioso 84.31 50 ⇑P **P** **01 46 30.6 +0.6**
baz=85,SNR=13
Z20A Nine Sixteen R 84.34 51 ⇓P **P** **01 46 31.1 +0.9**
baz=85,SNR=9.5
D05A Enumclaw 84.49 33 ⇑P **P** **01 46 30.3 -0.3**
baz=85
X19A St. Johns 84.54 49 ⇑P **P** **01 46 31.8 +0.6**
baz=85,SNR=13
121A Cookes Peak, D 84.62 52 ⇓P **P** **01 46 31.7 0.0**
baz=85
F07A Phinny Hill Vi 84.71 35 ⇑P **P** **01 46 31.6 -0.1**
baz=85
S16A Weppner Ranch, 84.76 46 ⇓P **P** **01 46 31.9 -0.3**
baz=85
U17A Shonto 84.76 47 ⇓P **P** **01 46 32.5 +0.2**
baz=85,SNR=14
V18A Ganado 84.78 48 ⇑P **P** **01 46 32.6 +0.3**
baz=85,SNR=27
MSU Marysvale 84.82 45 *e*P **P** **01 46 33.5 +1.0**
MSU Marysvale 84.82 45 *e*P **P** **01 46 33.5 +1.0**
W19A Sanders 84.83 49 ⇓P **P** **01 46 33.0 +0.3**
baz=85,SNR=7.1
G08A Pilot Rock 84.84 36 ⇓P **P** **01 46 32.1 -0.3**
baz=85,SNR=24
T17A Navajo Res., N 84.89 46 ⇑P **P** **01 46 33.5 +0.6**
baz=85,SNR=19
Y20A Horse Springs, 84.91 50 ⇑P **P** **01 46 33.7 +0.6**
baz=85,SNR=22
Z21A St. Cloud Mine 85.10 51 ⇓P **P** **01 46 35.1 +1.0**
baz=85,SNR=11
SYO Syowa Base 85.11 192 ⇑*i*P **P** **01 46 32.3 -1.2**
R16A Teasdale 85.15 45 ⇑P **P** **01 46 34.4 +0.3**
baz=85
X20A Quemado 85.15 50 ⇑P **P** **01 46 35.1 +0.8**
baz=85,SNR=18
E07A Sunnyside 85.18 35 ⇓P **P** **01 46 33.8 -0.3**
baz=86,SNR=11
U18A Rough Rock, Ch 85.20 47 ⇓P **P** **01 46 34.9 +0.4**
baz=86,SNR=9.1
S17A Black Ridge (B 85.24 46 ⇑P **P** **01 46 34.9 +0.3**
baz=86,SNR=7.1
HAWA Hanford 85.24 35 *e*P **P** **01 46 34.7 +0.3**
comp=Z,32nm,1.4s,mb5.2
122A Conniff Cattle 85.27 52 ⇓P **P** **01 46 35.5 +0.6**
baz=86
P15A Leamington 85.36 44 ⇑P **P** **01 46 35.5 +0.3**
baz=86
DUG Dugway 85.37 43 ⇑P **P** **01 46 35.4 +0.2**
baz=86
DUG Dugway 85.37 43 *e*P **P** **01 46 36.6 +1.4**
comp=Z,8.5nm,1.2s,mb4.8
DUG *ep*P pP 01 46 50.2 +9.2
DUG Dugway 85.37 43 *e*P **P** **01 46 36.6 +1.4**
V19A Window Rock 85.39 48 ⇑P **P** **01 46 35.6 +0.2**
baz=86
MFID Camas Ranch 85.44 39 ⇑P **P** **01 46 35.2 -0.3**
baz=86
MFID Camas Ranch 85.44 39 *e*P **P** **01 46 35.3 -0.2**
comp=Z,14nm,1.3s,mb4.9
W20A Ramah 85.46 49 ⇓P **P** **01 46 36.1 +0.3**
baz=86,SNR=43
Y21A Point of Rocks 85.46 50 ⇑P **P** **01 46 36.6 +0.8**
baz=86,SNR=16
BMO Blue Mountains 85.48 37 *e*P **P** **01 46 35.4 -0.3**
comp=Z,22nm,1.7s,mb5.0
BMO Blue Mountains 85.48 37 *e*P **P** **01 46 35.4 -0.2**
BMO pmax pmax
comp=Z,22nm,1.7s,mb5.0
E08A Dider Farm, El 85.55 35 ⇑P **P** **01 46 35.6 -0.3**
baz=86
Z22A Elephant Butte 85.58 51 ⇓P **P** **01 46 36.9 +0.4**
baz=86,SNR=12
T18A Mexican Hat 85.59 47 ⇑P **P** **01 46 36.6 +0.2**
baz=86,SNR=39
U19A Dine' College, 85.59 48 ⇑P **P** **01 46 36.8 +0.4**
baz=86,SNR=12
X21A Alamocita Cree 85.61 50 ⇓P **P** **01 46 37.0 +0.5**
baz=86,SNR=15
ETW Entiat 85.61 34 *e*P **P** **01 46 36.5 +0.3**
O15A The Old Anders 85.64 43 ⇑P **P** **01 46 36.8 +0.2**
baz=86
CN2 Changchun 85.66 321 ⇑P **P** **01 46 37.5 +0.9**
CN2 *e*S S 01 57 05.0 -3.1
CN2 pmax pmax
comp=Z,50nm,1.3s,mb5.6
CN2 pmax pmax
comp=Z,300nm,3.0s
CN2 LR LR
comp=N,400nm,16.0s,MS5.2
CN2 LR LR
comp=E,700nm,16.0s,MS5.2
CN2 LR LR
comp=Z,400nm,16.0s,MS4.9
SNAA Sanae 85.69 178 *e* **P** **01 46 37.9 +1.5**
SNAA *e* 01 46 45.6
SNAA Sanae 85.69 178 *e*P **P** **01 46 37.6 +1.2**
SNAA Sanae 85.69 178 *e*P **P** **01 46 37.6 +1.2**
Q16A Castle Valley 85.70 45 ⇑P **P** **01 46 37.2 +0.3**
baz=86,SNR=5.8
R17A Hanksville Air 85.73 45 ⇑P **P** **01 46 37.2 +0.2**
baz=86,SNR=10
VNA3 Neumayer Olymp 85.73 175 *e* **P** **01 46 35.8 -0.8**
VNA3 *e* pP 01 46 41.2 -1.2
VNA3 *e* 01 46 48.3
324A Moseley Ranch, 85.75 54 ⇓P **P** **01 46 37.4 0.0**
baz=86
KLR Kul'dur 85.78 328 *e*P **P** **01 46 34.2 -2.9**
KLR *e*S S 01 57 04.5 -4.5
KLR pmax pmax
comp=Z,62nm,1.6s,mb5.6
425A Indio Mountain 85.80 54 ⇑P **P** **01 46 37.7 +0.1**
baz=86,SNR=11
S18A Hurst Farm, Bl 85.81 46 ⇓P **P** **01 46 37.2 -0.3**
baz=86
V20A Brimhall 85.83 48 ⇑P **P** **01 46 37.5 -0.2**
baz=86
626A Big Bend Ranch 85.85 56 ⇓P **P** **01 46 37.5 -0.3**
baz=86,SNR=13
WHN Wuhan 85.86 305 P **P** **01 46 39.0 +1.1**
WHN S S 01 57 10.8 +0.1
WHN LR LR
comp=N,840nm,17.2s,MS5.3
WHN LR LR
comp=E,720nm,15.3s,MS5.3
WHN LR LR
comp=Z,1μm,22.5s
TMUT Trail Mountain 85.89 44 *e*P **P** **01 46 38.0 +0.2**
comp=Z,28nm,1.2s,mb5.4
Y22A Socorro 85.93 51 ⇓P **P** **01 46 38.1 -0.1**
baz=86
N15A Stansbury Isla 85.95 42 ⇑P **P** **01 46 37.5 -0.6**
baz=86
MNTX Cornudas Mount 85.95 53 ⇓P **P** **01 46 38.2 -0.2**
baz=86,SNR=16
MNTX Cornudas Mount 85.95 53 *e*P **P** **01 46 38.0 -0.4**
comp=Z,23nm,1.5s,mb5.2
IPM Ipoh 85.99 277 *e*P **P** **01 46 39.8 +0.8**
comp=Z,43nm,1.0s,mb5.6
T19A Beclabito 86.00 47 ⇑P **P** **01 46 38.1 -0.4**
baz=86,SNR=8.6
LENM Lemitar 86.04 51 *e*P **P** **01 46 37.7 -1.0**
224A Cornudas Mount 86.04 53 ⇑P **P** **01 46 38.8 0.0**
baz=86,SNR=7.2
E09A Wood Farm, Sta 86.06 36 ⇓P **P** **01 46 37.8 -0.7**
baz=86
I12A Atlanta 86.07 39 ⇑P **P** **01 46 38.1 -0.6**
baz=86,SNR=10
325A Bean Ranch, Si 86.10 54 ⇑P **P** **01 46 39.1 +0.1**
baz=86,SNR=9.7
TXAR Lajitas Array 86.10 56 P **P** **01 46 38.6 -0.6**
comp=Z,13nm,1.1s,mb5.1,baz=207,slow=7.1,SNR=32
TXAR PP PP 01 50 02.7 +2.8
comp=Z,0.8nm,1.0s,baz=275,slow=5.1,SNR=3.8
TXAR LR LR 02 20 57.9
comp=Z,523nm,18.8s,MS5.0,baz=355,slow=33
TXAR Lajitas Array 86.10 56 P **P** **01 46 38.6 -0.6**
TXAR PP PP 01 50 02.7 +2.8
TXAR Lajitas Array 86.10 56 P **P** **01 46 38.6 -0.5**
TXAR 01 50 02.7
U20A Newcomb 86.10 48 ⇑P **P** **01 46 39.0 +0.1**
baz=86,SNR=9.9
Z23A Rita Site, Whi 86.11 52 ⇑P **P** **01 46 39.1 0.0**
baz=86,SNR=5.4
526A Mary Lane Ranc 86.12 55 ⇓P **P** **01 46 39.1 -0.1**
baz=86,SNR=13
X22A Bernardo 86.18 50 ⇓P **P** **01 46 39.5 0.0**
baz=86
VNA2 Neumayer--Watz 86.20 176 *e* **P** **01 46 38.8 -0.2**
baz=196,slow=2.5
VNA2 *e* pP 01 46 45.7 +1.0
VNA2 *e* 01 46 48.7
F10A Beach Ranch, E 86.22 36 ⇓P **P** **01 46 38.5 -0.8**
baz=86,SNR=6.3
SRU San Rafael 86.23 45 *e*P **P** **01 46 40.1 +0.6**
comp=Z,13nm,1.0s,mb5.1
SRU San Rafael 86.23 45 *e*P **P** **01 46 40.1 +0.6**
SRU pmax pmax
comp=Z,13nm,1.0s,mb5.1
R18A Canyonlands Na 86.25 46 ⇑P **P** **01 46 39.5 -0.2**
baz=86,SNR=14
BNM Barren Site 86.28 51 *e*P **P** **01 46 41.0 +1.1**
comp=Z,18nm,1.5s,mb5.1
P17A Butcher Ranch, 86.29 44 ⇓P **P** **01 46 39.6 -0.2**
baz=87,SNR=7.4
HVU Hansel Valley 86.30 42 *e*P **P** **01 46 43.0 +3.2**
comp=Z,25nm,1.7s,mb5.2
HVU Hansel Valley 86.30 42 *e*P **P** **01 46 43.0 +3.2**
HVU pmax pmax
comp=Z,25nm,1.7s,mb5.2
OD2 Odessa Site #2 86.31 35 *e*P **P** **01 46 39.8 +0.1**
M15A Larsen Ranch, 86.32 42 ⇑P **P** **01 46 39.0 -0.9**
baz=87
HLID Hailey 86.35 39 ⇓P **P** **01 46 38.7 -1.3**
baz=87
HLID Hailey 86.35 39 *e*P **P** **01 46 41.8 +1.8**
comp=Z,33nm,2.1s,mb5.2
627A Terlingua Ranc 86.37 56 ⇑P **P** **01 46 40.5 +0.1**
baz=87,SNR=23
124A Stringfield Ra 86.40 52 ⇑P **P** **01 46 40.4 -0.1**
baz=87,SNR=8.1
S19A Harvey Farm, M 86.41 47 ⇑P **P** **01 46 39.9 -0.5**
baz=87
VNA1 Neumayer--Stat 86.41 176 *e* **P** **01 46 40.3 +0.3**
V21A Milan 86.41 49 ⇑P **P** **01 46 40.2 -0.3**
baz=87,SNR=11
JLU Jordanelle 86.46 43 *e*P **P** **01 46 42.2 +1.6**
comp=Z,31nm,1.8s,mb5.2
426A McDonald Obser 86.46 55 ⇑P **P** **01 46 41.0 +0.1**
baz=87,SNR=15
DAU Daniels Canyon 86.48 43 *e*P **P** **01 46 44.5 +3.8**
DAU Daniels Canyon 86.48 43 *e*P **P** **01 46 44.5 +3.8**
Q18A Rafter H Ranch 86.48 45 ⇓P **P** **01 46 40.4 -0.3**
baz=87
K14A Jones Ranch, D 86.50 41 ⇑P **P** **01 46 40.3 -0.5**
baz=87
527A Woodward Ranch 86.53 55 ⇓P **P** **01 46 40.8 -0.4**
baz=87
MVCO Mesa Verde 86.56 47 ⇓P **P** **01 46 41.0 -0.1**
baz=87
Y23A Lovelace Mesa, 86.58 51 ⇑P **P** **01 46 41.3 0.0**
baz=87,SNR=9.8
NVL N'lazarevskaya 86.62 182 *e*P **P** **01 46 45.2 +4.2**
NVL *e*S SKSac 01 56 59.5 -7.1
NVL pmax pmax
comp=Z,6.0nm,0.6s,mb5.0
NVL MLR MLR
comp=Z,771nm,19.0s,MS5.1
N16A Rees Ranch, Co 86.63 43 ⇑P **P** **01 46 41.2 -0.3**
baz=87
KULM Kulim 86.65 277 *e*P **P** **01 46 42.5 +0.3**
comp=Z,86nm,1.6s,mb5.7
L15A Malad City 86.67 42 ⇓P **P** **01 46 41.3 -0.3**
baz=87
H12A Diamond D Ranc 86.68 38 ⇑P **P** **01 46 41.0 -0.6**
baz=87
O17A Robinson Place 86.69 44 ⇑P **P** **01 46 41.9 +0.1**
baz=87,SNR=24
P18A Preston Nutter 86.69 44 ⇓P **P** **01 46 41.3 -0.4**
baz=87
U21A Nageezi 86.72 48 ⇓P **P** **01 46 42.1 +0.1**
baz=87,SNR=17
I13A Wildhorse Cree 86.73 39 ⇓P **P** **01 46 41.0 -0.9**
baz=87

J14A	**Carey**	86.74	40	⇓P		P	01 46 41.4	-0.5
	baz=87								
M16A	**Huntsville**	86.75	43	⇓P		P	01 46 41.3	-0.7
	baz=87								
G12A	**Big Creek, Yel**	86.76	38	⇑P		P	01 46 41.5	-0.5
	baz=87								
628A	**Black Gap, Mar**	86.77	56	⇑P		P	01 46 42.8	+0.3
	baz=87,SNR=9.3								
ANMO	**Albuquerque**	86.80	50	P		P	01 46 42.5	0.0
	comp=Z,10nm,1.1s,mb5.0,baz=221,slow=6.4,SNR=20								
ANMO	**Albuquerque**	86.80	50	eP		P	01 46 42.5	+0.1
	comp=Z,18nm,1.2s,mb5.2								
ANMO	**Albuquerque**	86.80	50	eP		P	01 46 42.5	+0.1
ANMO				pmax		pmax			
	comp=Z,18nm,1.2s								
C09A	**Chrisman Ranch**	86.80	34	⇑P		P	01 46 41.4	-0.7
	baz=87								
X23A	**Hourglass Bar**	86.81	50	⇑P		P	01 46 42.5	+0.1
	baz=87,SNR=5.3								
326A	**Caldwell Ranch**	86.81	54	⇓P		P	01 46 42.5	-0.1
	baz=87								
PV04	**Paradox Valley**	86.91	46	eP		P	01 46 45.4	+2.5
125A	**Gardner Draw,**	86.96	53	⇑P		P	01 46 43.5	+0.2
	baz=87,SNR=6.4								
K15A	**Arbon**	86.97	41	⇓P		P	01 46 42.5	-0.6
	baz=87								
Q19A	**Hogan Spring (**	86.97	45	⇑P		P	01 46 43.0	-0.2
	baz=87								
S20A	**Disappointment**	86.97	47	⇓P		P	01 46 42.9	-0.3
	baz=87								
V22A	**San Miguel Ran**	86.97	49	⇑P		P	01 46 43.1	-0.2
	baz=87								
PV01	**Paradox Valley**	86.99	46	eP		P	01 46 44.2	+0.9
	comp=Z,775nm,1.3s								
Y24A	**Capitan**	87.02	51	⇑P		P	01 46 43.8	+0.2
	baz=87,SNR=22								
427A	**Hayter Ranch,**	87.02	55	⇓P		P	01 46 43.5	-0.1
	baz=87,SNR=28								
H13A	**Challis**	87.03	39	⇓P		P	01 46 42.6	-0.8
	baz=87								
N17A	**Moffit Pass**	87.04	43	⇓P		P	01 46 43.1	-0.4
	baz=87								
226A	**Malaga, Loving**	87.08	54	⇓P		P	01 46 44.3	+0.5
	baz=87								
T21A	**Navajo Lake**	87.10	48	⇑P		P	01 46 43.4	-0.4
	baz=87								
W23A	**Werner Place,**	87.13	50	⇑P		P	01 46 44.7	+0.7
	baz=87,SNR=6.5								
I14A	**Mackay**	87.13	40	⇓P		P	01 46 43.5	-0.4
	baz=87								
R20A	**Redvale**	87.15	46	⇓P		P	01 46 44.0	-0.1
	baz=87								
528A	**Cox Ranch, San**	87.16	56	⇑P		P	01 46 44.5	+0.2
	baz=87,SNR=8.9								
F12A	**Elk City**	87.17	37	⇓P		P	01 46 43.2	-0.8
	baz=88								
Z25A	**Roswell**	87.22	52	⇑P		P	01 46 44.8	+0.3
	baz=88,SNR=11								
U22A	**Llaves**	87.25	49	⇓P		P	01 46 44.2	-0.4
	baz=88								
L16A	**Fish Haven**	87.26	42	⇑P		P	01 46 44.5	0.0
	baz=88,SNR=6.1								
S21A	**Coal Bank Pass**	87.27	47	⇓P		P	01 46 44.5	-0.2
	baz=88,SNR=6.5								
G13A	**Cobalt**	87.36	38	⇓P		P	01 46 44.9	0.0
	baz=88								
E12A	**Beaver Dam Sad**	87.40	37	⇑P		P	01 46 45.2	+0.1
	baz=88								
V23A	**Ortiz Mt. (NFS**	87.40	49	⇓P		P	01 46 46.0	+0.7
	baz=88,SNR=8.4								
126A	**Clayton Basin,**	87.42	53	⇑P		P	01 46 46.0	+0.4
	baz=88								
J15A	**Blackfoot**	87.43	40	⇓P		P	01 46 45.1	-0.2
	baz=88								
M17A	**Scullys Gap (B**	87.44	43	⇓P		P	01 46 45.0	-0.4
	baz=88								
428A	**Kincaid Ranch,**	87.51	55	⇑P		P	01 46 46.5	+0.6
	baz=88,SNR=8.0								
P19A	**Cripple Cowboy**	87.52	45	⇓P		P	01 46 45.7	-0.1
	baz=88								
T22A	**Edith**	87.54	48	⇑P		P	01 46 45.8	-0.1
	baz=88								
Y25A	**Mesa, Roswell**	87.55	52	⇓P		P	01 46 46.1	0.0
	baz=88,SNR=11								
Q20A	**Ridgley Place,**	87.61	46	⇓P		P	01 46 46.2	0.0
	baz=88								
K16A	**Soda Springs**	87.62	41	⇓P		P	01 46 45.9	-0.3
	baz=88								
L17A	**Cokeville**	87.65	42	⇓P		P	01 46 46.3	-0.1
	baz=88								
W24A	**Lazy 6 Ranch,**	87.68	50	⇑P		P	01 46 46.6	0.0
	baz=88,SNR=7.7								
U23A	**El Rito**	87.69	49	⇑P		P	01 46 46.6	-0.1
	baz=88,SNR=5.9								
NEW	**Newport**	87.69	35	⇑P		P	01 46 45.8	-0.6
	baz=88								
F13A	**Darby**	87.71	38	⇑P		P	01 46 45.8	-0.8
	baz=88								
328A	**Wristen Ranch,**	87.72	55	⇓P		P	01 46 46.8	-0.2
	baz=88								
Z26A	**Caprock**	87.76	53	⇑P		P	01 46 47.1	-0.1
	baz=88,SNR=9.3								
O19A	**Miners Draw (B**	87.78	44	⇓P		P	01 46 46.9	-0.2
	baz=88								
M18A	**Lyman**	87.79	43	⇑P		P	01 46 46.7	-0.3
	baz=88								
N18A	**Larsen Ranch,**	87.79	44	⇑P		P	01 46 46.8	-0.3
	baz=88								
R21A	**Cimarron**	87.80	47	⇑P		P	01 46 47.0	-0.2
	baz=88,SNR=6.5								
J16A	**Bone**	87.86	41	⇑P		P	01 46 47.3	0.0
	baz=88								
AHID	**Auburn Hatcher**	87.88	42	eP		P	01 46 50.9	+3.4
	comp=Z,9.7nm,1.3s,mb4.9								
C11A	**Tepee Creek (N**	87.89	35	⇓P		P	01 46 47.6	+0.3
	baz=88								
D12A	**Red Ives Fores**	87.90	36	⇓P		P	01 46 47.9	+0.5
	baz=88								
127A	**Arkansas Junct**	87.93	53	⇓P		P	01 46 47.9	0.0
	baz=88								
S22A	**4UR Ranch, Cre**	87.97	48	⇓P		P	01 46 47.9	-0.1
	baz=88,SNR=5.6								
K17A	**Gardner Place,**	87.98	42	⇑P		P	01 46 48.6	+0.6
	baz=88								
H15A	**Lima**	88.00	39	⇑P		P	01 46 48.3	+0.3
	baz=88								
MCMT	**McKenzie Canyo**	88.00	39	eP		P	01 46 49.6	+1.6
	comp=Z,0.7nm,0.7s,mb4.0								
Q21A	**Lamborn Mesa,**	88.03	46	⇑P		P	01 46 48.1	-0.2
	baz=88								
V24A	**Rampart Ranch,**	88.03	50	⇓P		P	01 46 48.4	+0.1
	baz=88								
N19A	**John Jarvie Ra**	88.06	44	⇓P		P	01 46 48.0	-0.4
	baz=88								
RRI2	**Red Ridge**	88.07	41	eP		P	01 46 52.0	+3.6
	comp=Z,125nm,2.9s,mb5.6								
L18A	**Fontenelle, Gr**	88.08	43	⇑P		P	01 46 48.1	-0.3
	baz=88								
TRF	**Thorofare Moun**	88.11	11	eP		P	01 46 47.9	-0.2
	comp=Z,205nm,2.1s,mb6.0								
SKAG	**Skagway**	88.20	19	eP		P	01 46 49.8	+1.2
C12B	**Naegeli Ranch,**	88.23	36	⇓P		P	01 46 48.5	-0.5
	baz=88								
R22A	**Saguache, Gunn**	88.26	47	⇓P		P	01 46 49.9	+0.5
	baz=88,SNR=5.6								
O20A	**White River Ci**	88.27	45	⇑P		P	01 46 48.9	-0.5
	baz=89								
I16A	**Newdale**	88.27	40	⇓P		P	01 46 48.5	-0.8
	baz=89								
Z27A	**Tatum**	88.34	53	⇑P		P	01 46 50.2	+0.3
	baz=89								
W25A	**X Bar L Ranch,**	88.36	51	⇓P		P	01 46 49.4	-0.5
	baz=89,SNR=12								
REDW	**Red Top Meadow**	88.36	41	eP		P	01 46 53.8	+4.0
	comp=Z,146nm,3.0s								
TPAW	**Teton Pass**	88.38	41	eP		P	01 46 50.8	+1.0
	comp=Z,109nm,3.0s								
M19A	**Rock Springs**	88.41	43	⇑P		P	01 46 49.7	-0.3
	baz=89								
G15A	**Dillon**	88.41	39	⇓P		P	01 46 49.2	-0.7
	baz=89								
J17A	**Brown Place, J**	88.45	41	⇓P		P	01 46 49.9	-0.2
	baz=89								
K18A	**Toltan Ranch,**	88.46	42	⇓P		P	01 46 50.3	0.0
	baz=89,SNR=7.4								
P21A	**Newcastle**	88.47	46	⇓P		P	01 46 49.7	-0.6
	baz=89								
SNOW	**Snow King Moun**	88.48	41	eP		P	01 46 54.7	+4.4
	comp=Z,160nm,2.8s,mb5.8								
Q22A	**Crested Butte,**	88.48	47	⇓P		P	01 46 49.9	-0.5
	baz=89								
X26A	**CR and CF Fran**	88.50	51	⇓P		P	01 46 50.3	-0.3
	baz=89								
V25A	**Rancho No Teng**	88.55	50	⇑P		P	01 46 50.9	+0.1
	baz=89,SNR=5.9								
E14A	**Clifton**	88.55	38	⇑P		P	01 46 49.8	-0.7
	baz=89								
L19A	**Farson**	88.60	43	⇓P		P	01 46 50.2	-0.7
	baz=89								
MCK	**McKinley**	88.61	11	eP		P	01 46 50.4	0.0
	comp=Z,177nm,2.2s,mb6.0								
MCK	**McKinley**	88.61	11	eP		P	01 46 50.4	0.0
N20A	**Spence Gulch,**	88.62	44	⇓P		P	01 46 51.0	0.0
	baz=89,SNR=9.4								
Y27A	**Causey**	88.65	52	⇑P		P	01 46 51.3	0.0
	baz=89,SNR=6.1								
BSMT	**Bassoo Peak**	88.69	36	eP		P	01 46 53.1	+1.9
	comp=Z,4.5nm,1.3s,mb4.6								
C13A	**Hot Springs**	88.70	36	⇓P		P	01 46 50.2	-1.0
	baz=89								
J18A	**Kendall Valley**	88.79	42	⇑P		P	01 46 51.4	-0.3
	baz=89								
F15A	**Butte**	88.79	38	⇓P		P	01 46 51.5	-0.2
	baz=89								
LRM	**Limekiln Ridge**	88.80	38	eP		P	01 46 52.8	+1.0
PD01	**Pinedale Array**	88.82	42	eP		P	01 46 53.2	+1.3
BW06	**Boulder Array**	88.83	42	⇑P		P	01 46 51.3	-0.7
	baz=89								
BW06	**Boulder Array**	88.83	42	eP		P	01 46 54.6	+2.7
	comp=Z,6.1nm,1.2s,mb4.8								
BW06				epP		pP	01 47 03.9	+6.1
PDAR	**Pinedale Array**	88.83	42	P		P	01 46 50.9	-1.0
	comp=Z,3.4nm,1.1s,mb4.6,baz=226,slow=4.8,SNR=11								
PDAR	**Pinedale Array**	88.83	42	P		P	01 46 50.9	-1.0
PD02	**Pinedale Array**	88.83	42	eP		P	01 46 53.5	+1.6
I17A	**Pilgrim Ck.**	88.84	41	⇑P		P	01 46 52.0	0.0
	baz=89								
G16A	**Moss Hill, Enn**	88.84	39	⇑P		P	01 46 51.5	-0.4
	baz=89								
T24A	**Torres, Weston**	88.85	49	⇑P		P	01 46 51.8	-0.4
	baz=89								
FLWY	**Flagg Ranch**	88.86	41	eP		P	01 46 52.2	+0.2
	comp=Z,9.6nm,1.4s,mb4.9								
H16A	**Russell Place,**	88.87	40	⇑P		P	01 46 51.6	-0.5
	baz=89								
A12A	**Yaak River Ran**	88.88	35	⇓P		P	01 46 51.4	-0.6
	baz=89								
R23A	**Moffat**	88.88	48	⇓P		P	01 46 52.4	+0.1
	baz=89								
SDCO	**Great Sand Dun**	88.88	48	⇓P		P	01 46 52.4	+0.1
	baz=89								
SDCO	**Great Sand Dun**	88.88	48	eP		P	01 46 52.4	+0.1
D14A	**Greenough**	88.93	37	⇑P		P	01 46 51.2	-1.1
	baz=89								
MENT	**Mentasta**	88.95	14	eP		P	01 46 51.8	-0.2
P22A	**Eagle**	88.96	46	⇑P		P	01 46 52.8	+0.2
	baz=89								
MSTX	**Muleshoe**	88.97	52	⇓P		P	01 46 52.1	-0.8
	baz=89,SNR=5.4								
CHMT	**Chamberlain Mo**	88.98	37	eP		P	01 46 54.0	+1.4
	comp=Z,4.2nm,1.2s,mb4.6								
M20A	**Sweetwater, Wa**	89.02	44	⇑P		P	01 46 52.6	-0.3
	baz=89								
S24A	**Houchin Ranch,**	89.02	48	⇑P		P	01 46 52.5	-0.5
	baz=89								
E15A	**Deer Lodge**	89.04	38	⇓P		P	01 46 52.6	-0.2
	baz=89								
N21A	**Black Mountain**	89.06	45	⇑P		P	01 46 53.0	-0.1
	baz=89,SNR=7.1								
V26A	**Tequesquite Ra**	89.12	50	⇓P		P	01 46 53.4	-0.1
	baz=89								
SEY	**Seymchan**	89.16	346	⇑eP		P	01 46 53.1	+0.1
B13A	**Whitefish**	89.17	36	⇑P		P	01 46 53.6	+0.2
	baz=90								
BOZ	**Bozeman (W)**	89.18	39	⇓P		P	01 46 52.8	-0.7
	baz=90								
BOZ	**Bozeman (W)**	89.18	39	eP		P	01 46 53.3	-0.2
	comp=Z,22nm,1.9s,mb5.2								
BOZ	**Bozeman (W)**	89.18	39	eP		P	01 46 53.3	-0.2
BOZ				pmax		pmax			
	comp=Z,22nm,1.9s,mb5.2								
L20A	**Wamsutter**	89.19	43	⇑P		P	01 46 53.3	-0.4
	baz=90,SNR=8.9								
W27A	**Bow Ranch, En**	89.28	51	⇓P		P	01 46 54.5	+0.2
	baz=90								
K19A	**Absolon Red Bu**	89.31	42	⇑P		P	01 46 54.3	+0.1
	baz=90								
BJI	**Beijing**	89.31	314		P	P	01 46 54.8	+0.5
BJI					S	S	01 57 35.5	-7.8
BJI					pmax	pmax			
	comp=Z,27nm,1.6s,mb5.3								
BJI					LR	LR			
	comp=N,250nm,15.2s,MS5.0								
BJI					LR	LR			
	comp=E,290nm,14.1s,MS5.0								
BJI					LR	LR			
	comp=Z,170nm,25.1s								
T25A	**Trinidad**	89.33	49	⇓P		P	01 46 54.3	-0.2
	baz=90								
R24A	**Sanders Place,**	89.39	48	⇓P		P	01 46 54.2	-0.5
	baz=90								
O22A	**Kremmling**	89.39	46	⇑P		P	01 46 54.0	-0.7
	baz=90,SNR=7.0								
J19A	**Crowheart**	89.41	42	⇓P		P	01 46 54.3	-0.3
	baz=90								
U26A	**Atchley Ranch,**	89.44	50	⇑P		P	01 46 54.8	-0.1
	baz=90								
ENH	**Enshi**	89.44	303	eP		P	01 46 56.1	+0.9
	comp=Z,170nm,1.4s,mb6.2								
D15A	**Lincoln**	89.46	37	⇓P		P	01 46 54.4	-0.4
	baz=90								
P23A	**Jefferson**	89.46	47	⇓P		P	01 46 54.9	-0.2
	baz=90								
DOT	**Dot Lake**	89.50	13	eP		P	01 46 55.0	+0.4
	comp=Z,9.8nm,1.1s,mb5.0								
G17A	**Pierce Place,**	89.52	40	⇑P		P	01 46 54.3	-0.8
	baz=90								
A13A	**Flathead Natio**	89.53	35	⇓P		P	01 46 54.3	-0.8
	baz=90								
K20A	**Yellowstone Ra**	89.53	43	⇓P		P	01 46 54.2	-1.0
	baz=90								
S25A	**Robets Cordova**	89.57	49	⇓P		P	01 46 55.0	-0.6
	baz=90								
JCT	**Junction City**	89.60	57	⇓P		P	01 46 55.2	-0.7
	baz=90								
M21A	**Separation Pea**	89.60	44	⇑P		P	01 46 54.7	-0.9
	baz=90								
E16A	**East Helena**	89.65	38	⇑P		P	01 46 54.8	-0.9
	baz=90								
HRY	**Holter Researc**	89.66	38	eP		P	01 46 56.2	+0.5
N22A	**Wattenberg Ran**	89.78	45	⇓P		P	01 46 56.4	-0.1
	baz=90								
L21A	**Rawlins**	89.78	44	⇑P		P	01 46 55.8	-0.6
	baz=90								
H18A	**Shoshone NF, C**	89.80	40	⇓P		P	01 46 56.0	-0.5
	baz=90								
B14A	**Marquette Ranc**	89.81	36	⇑P		P	01 46 55.5	-0.9
	baz=90								
ISCO	**Idaho Springs**	89.83	46	⇑P		P	01 46 56.5	-0.2
	baz=90								
O23A	**Lake Granby, G**	89.83	46	⇑P		P	01 46 56.7	-0.1
	baz=90								
C15A	**Salmond Ranch,**	89.83	37	⇑P		P	01 46 55.4	-1.1
	baz=90								
COLA	**College**	89.85	11	eP		P	01 46 55.1	-1.1
	comp=Z,40nm,1.5s,mb5.5								
COLA	**College**	89.85	11	eP		P	01 46 55.1	-1.1
COLA				pmax		pmax			
	comp=Z,40nm,1.5s,mb5.5								
I19A	**Meetse**	89.86	41	⇑P		P	01 46 56.4	-0.3
	baz=90								
F17A	**Fitzpatrick Pl**	89.89	39	⇓P		P	01 46 56.6	-0.2
	baz=90								
R25A	**Fountain Ranch**	89.91	48	⇓P		P	01 46 56.6	-0.6
	baz=90								
ILAR	**Eielson Array**	89.94	12	P		P	01 46 55.4	-1.3
	comp=Z,9.1nm,1.1s,mb5.0,baz=220,slow=5.4,SNR=26								
ILAR	**Eielson Array**	89.94	12	P		P	01 46 55.4	-1.3
ILAR	**Eielson Array**	89.94	12	P		P	01 46 55.4	-1.2
D16A	**Dana Ranch, Ca**	90.00	38	⇑P		P	01 46 56.6	-0.7
	baz=90								
GYA	**Guiyang**	90.01	299	⇑P		P	01 46 58.3	+0.4
GYA					PP	PP	01 50 33.8	+2.4
GYA					SKS		01 57 23.0	
GYA					S	S	01 57 46.0	-4.4
GYA					SS	SS	02 03 47.5	-1.8
GYA					pmax	pmax			
	comp=Z,20nm,1.0s,mb5.4								
GYA					pmax	pmax			
	comp=Z,140nm,5.8s								
GYA					LR	LR			
	comp=N,560nm,20.8s,MS5.1								
GYA					LR	LR			
	comp=E,480nm,21.5s,MS5.1								
GYA					LR	LR			
	comp=Z,540nm,20.9s,MS5.0								
J20A	**Shoshoni**	90.06	42	⇓P		P	01 46 56.6	-1.1
	baz=90								
E17A	**Martinsdale**	90.08	39	⇑P		P	01 46 56.8	-0.9
	baz=90								
A14A	**Double T Ranch**	90.08	35	⇑P		P	01 46 56.6	-1.0
	baz=90								
N23A	**Red Feather La**	90.16	45	⇓P		P	01 46 58.4	+0.2
	baz=90								
B15A	**Bradely Ranch,**	90.17	36	⇓P		P	01 46 57.1	-1.0
	baz=90								
K21A	**Alcova**	90.20	43	⇓P		P	01 46 58.7	+0.3
	baz=90								
H19A	**Powell**	90.21	41	⇑P		P	01 46 58.0	-0.4
	baz=90								
G18A	**Lazy EL Ranch,**	90.21	40	⇑P		P	01 46 57.6	-0.8
	baz=90								
RLMT	**Red Lodge**	90.28	40	⇑P		P	01 46 58.1	-0.6
	baz=91								
RLMT	**Red Lodge**	90.28	40	eP		P	01 46 56.4	-2.3
	comp=Z,23nm,1.8s,mb5.2								
C16A	**Fuhringer Ranc**	90.33	37	⇓P		P	01 46 58.5	-0.4
	baz=91								
I20A	**Worland**	90.34	42	⇑P		P	01 46 58.8	-0.2
	baz=91								
GCMT	**Greycliff**	90.40	40	eP		P	01 46 58.1	-1.1
	comp=Z,6.1nm,1.3s,mb4.8								
L22A	**Ellis Ranch, M**	90.42	44	⇑P		P	01 46 59.3	-0.1
	baz=91								
F18A	**Big Timber**	90.44	39	⇓P		P	01 46 59.2	-0.2
	baz=91								
J21A	**Lysite**	90.45	42	⇓P		P	01 46 59.5	0.0
	baz=91								
A15A	**Johnson Ranch,**	90.45	36	⇑P		P	01 46 58.5	-0.9
	baz=91								
D17A	**Six Diamond Ra**	90.56	38	⇑P		P	01 46 59.7	-0.2
	baz=91								
E18A	**Harlowton**	90.68	39	⇑P		P	01 46 59.8	-0.7
	baz=91								
H20A	**Greybull**	90.71	41	⇑P		P	01 47 00.5	-0.1
	baz=91								
C17A	**Wharram Farm,**	90.78	38	⇑P		P	01 47 00.6	-0.3
	baz=91								
I21A	**Big Trails, Te**	90.79	42	⇑P		P	01 47 00.5	-0.6
	baz=91								
F19A	**Roth Farm, Mol**	90.86	40	⇓P		P	01 47 01.0	-0.4
	baz=91								
L23A	**Garrett**	90.93	44	⇑P		P	01 47 01.6	-0.2
	baz=91								
LCO	**Las Campanas**	90.97	122	eP		P	01 47 05.3	+2.8
	comp=Z,24nm,1.2s,mb5.4								
J22A	**Midwest**	91.09	43	⇑P		P	01 47 01.5	-1.0
	baz=91								
EGAK	**Eagle**	91.12	14	eP		P	01 47 02.6	+0.5
	comp=Z,16nm,1.0s,mb5.3								
B17A	**L&G Farms, Che**	91.13	37	⇓P		P	01 47 01.8	-0.7
	baz=91								
E19A	**Rath Farm, Rou**	91.28	39	⇓P		P	01 47 03.0	-0.3
	baz=92								
BILL	**Bilibino**	91.54	353	eP		P	01 47 02.6	-1.4
	comp=Z,7.9nm,0.9s,mb5.0								
BILL	**Bilibino**	91.54	353	eP		P	01 47 04.4	+0.4
BILL				eS		SKSac	01 57 22.6	-13
BILL				pmax		pmax			
	comp=Z,17nm,1.6s,mb5.1								
A17A	**Triple J Farms**	91.54	37	⇓P		P	01 47 04.4	-0.1
	baz=92								
XAN	**Xi'an**	91.56	306	P		P	01 47 06.0	+1.1
XAN				pmax		pmax			
	comp=Z,17nm,1.2s,mb5.2								
XAN				pmax		pmax			
	comp=Z,56nm,5.4s								
EGMT	**Eagleton**	91.56	38	eP		P	01 47 10.9	+6.4
	comp=Z,149nm,2.8s,mb5.8								
D19A	**Cripps Ranch,**	91.60	39	⇓P		P	01 47 04.6	-0.2
	baz=92								
COLD	**Coldfoot**	91.62	9	eP		P	01 47 05.3	+0.9
	comp=Z,12nm,1.2s,mb5.1								
COLD				epP		pP	01 47 17.2	+7.0
E20A	**Meyer Farm, Mu**	91.69	40	⇓P		P	01 47 04.5	-0.7
	baz=92								
B18A	**Beardsley Farm**	91.75	37	⇑P		P	01 47 05.3	-0.1
	baz=92								
C19A	**Slack Wire Ran**	91.81	38	⇑P		P	01 47 05.7	0.0
	baz=92								
D20A	**Manuel Ranch,**	91.99	39	⇓P		P	01 47 06.1	-0.5
	baz=92								
A18A	**Metzger Ranch,**	92.00	37	⇓P		P	01 47 05.8	-0.7
	baz=92								
WMOK	**Wichita Mounta**	92.26	53	eP		P	01 47 08.8	+0.6
	comp=Z,3.1nm,1.1s,mb4.5								
WMOK	**Wichita Mounta**	92.26	53	eP		P	01 47 10.6	+2.4
WMOK				pmax		pmax			
	comp=Z,12nm,1.5s,mb5.0								
E21A	**Keefer Ranch,**	92.33	40	⇓P		P	01 47 07.5	-0.6
	baz=93								
C20A	**Veseth Ranch,**	92.40	39	⇓P		P	01 47 08.1	-0.3
	baz=93								
D21A	**La Casta Ranch**	92.65	39	⇑P		P	01 47 08.6	-1.0
	baz=93								
KMI	**Kunming**	92.68	296	⇑P		P	01 47 12.0	+1.7
KMI				PP		PP	01 50 55.3	+2.8
KMI				SKS			01 57 39.5	
KMI				S		S	01 58 08.5	-6.2

CHG	Chiang Mai	93.44	289	P		P		01 47 15.5	+1.5
CHTO	Chiang Mai	93.44	289	*e*P		P		01 47 15.3	+1.3
	comp=Z,35nm,1.2s,mb5.7								
CHTO	Chiang Mai	93.44	289	*e*P		P		01 47 16.0	+2.0
K27A	Flueckinger Fa	93.46	45	⇓P		P		01 47 13.4	-0.1
	baz=94								
F24A	Ekalaka	93.56	41	⇓P		P		01 47 13.5	-0.3
	baz=94								
A21A	Bergtoll Ranch	93.67	38	⇑P		P		01 47 14.3	0.0
	baz=94								
B22A	Reddig Ranch S	93.86	39	⇑P		P		01 47 15.2	0.0
	baz=94								
C23A	Lambert	94.08	39	⇑P		P		01 47 16.1	-0.1
	baz=94								
JTS	JuntasAbangare	94.14	81	LR		LR		02 17 02.8	
	comp=Z,53nm,20.7s,MS4.0,baz=127,slow=28								
JTS	JuntasAbangare	94.14	81	*e*P		P		01 47 19.1	+1.8
	comp=Z,28nm,1.1s,mb5.6								
JTS	JuntasAbangare	94.14	81	*e*P		P		01 47 19.1	+1.8
A22A	Carney Farms,	94.25	38	⇓P		P		01 47 17.3	+0.3
	baz=94								
D24A	Glendive	94.25	40	⇑P		P		01 47 17.0	0.0
	baz=94								
DGMT	Dagmar	94.98	39	⇓P		P		01 47 20.7	+0.3
	baz=95								
DGMT	Dagmar	94.98	39	*e*P		P		01 47 23.8	+3.4
	comp=Z,22nm,1.0s,mb5.5								
INK	Invuk	95.77	14	P		P		01 47 22.3	-1.2
	comp=Z,2.8nm,0.9s,mb4.7,baz=201,slow=4.7,SNR=7.4								
INK	Inuvik	95.77	14	*e*P		P		01 47 22.8	-0.7
	comp=Z,4.4nm,0.9s,mb4.9								
INK	Inuvik	95.77	14	*e*P		P		01 47 22.8	-0.6
INK				pmax		pmax			
	comp=Z,4.0nm,0.9s								
LZH	Lanzhou	96.19	306	*e*P		P		01 47 28.0	+1.8
LZH				pmax		pmax			
	comp=Z,24nm,1.1s,mb5.5								
LZH				pmax		pmax			
	comp=Z,95nm,4.3s								
LZH				LR		LR			
	comp=N,230nm,12.0s,MS5.2								
LZH				LR		LR			
	comp=E,550nm,15.6s,MS5.2								
LZH				LR		LR			
	comp=Z,610nm,18.6s,MS5.1								
YKA	Yellowknife Ar	97.47	24	P		P		01 47 29.7	-1.6
	comp=Z,1.1nm,0.9s,mb4.8,baz=238,slow=4.6,SNR=5.4								
YKA	Yellowknife Ar	97.47	24	P		P		01 47 29.6	-1.6
YKA	Yellowknife Ar	97.47	24	P		P		01 47 29.7	-1.6
ECSD	EROS Data Cent	97.60	46	*e*P		P		01 47 31.4	-1.0
	comp=Z,20nm,1.5s,mb5.4								
ULN	Ulaanbaatar	98.76	318	*e*P		P		01 47 37.0	-0.5
ULN	Ulaanbaatar	98.76	318	*e*P		P		01 47 37.0	-0.4
LPAZ	La Paz	98.81	112	*e*P		P		01 47 40.5	+2.0
	comp=Z,36nm,2.4s,mb5.5								
LPAZ	La Paz	98.81	112	*e*P		P		01 47 40.5	+2.0
SONM	Songino Array	99.15	318	P		P		01 47 39.3	+0.2
	comp=Z,0.4nm,0.8s,mb4.0,baz=133,slow=6.2,SNR=6.1								
SONM	Songino Array	99.15	318	P		P		01 47 39.3	+0.2
SONM	Songino Array	99.15	318	P		P		01 47 39.3	+0.1
GTA	Gaotai	100.40	308	P		Pdif		01 47 46.3	+1.4
GTA				PP		PP		01 51 56.0	+4.1
GTA				S		Sdif		01 59 15.5	-4.8
GTA				SS		SS		02 06 15.5	-1.1
GTA				pmax		pmax			
	comp=Z,6.0nm,1.6s								
GTA				pmax		pmax			
	comp=Z,160nm,6.0s								
GTA				LR		LR			
	comp=N,230nm,18.0s,MS5.0								
GTA				LR		LR			
	comp=E,350nm,20.4s,MS5.0								
GTA				LR		LR			
	comp=Z,350nm,20.4s,MS4.9								
ZALV	Zalesovo Beam	113.87	320	PKiKP		PKiKP		01 52 34.6	-1.8
	comp=Z,0.8nm,0.7s,baz=122,slow=1.9,SNR=5.3								
ZALV	Zalesovo Beam	113.87	320	PKiKP		PKiKP		01 52 34.6	-1.8
ZALV	Zalesovo Beam	113.87	320	PKiKP		PKiKP		01 52 34.6	-1.8
MKAR	Makanchi Array	114.62	312	PKP		PKiKP		01 52 36.3	-1.8
	comp=Z,0.8nm,0.7s,baz=109,slow=1.2,SNR=5.4								
MKAR	Makanchi Array	114.62	312	PKP		PKiKP		01 52 36.3	-1.8
MKAR	Makanchi Array	114.62	312	PKiKP		PKiKP		01 52 36.3	-1.8
KURK	Kurchatov	117.40	317	PKP		PKPdf		01 52 41.5	-1.8
	comp=Z,1.6nm,0.7s,baz=99,slow=1.9,SNR=11								
KURK	Kurchatov	117.40	317	PKP		PKPdf		01 52 41.5	-1.8
KURK				*e*PKPdf		PKPdf		01 52 42.0	-1.4
KURK	Kurchatov	117.40	317	⇑*i*PKIKP		PKPdf		01 52 42.4	-0.9
KURK				pmax		pmax			
	comp=Z,11nm,2.5s								
KURK				MLR		MLR			
	comp=Z,209nm,19.0s,MS4.8								
TKM2	Tokmak 2	118.94	308	*e*PKPdf		PKPdf		01 52 45.8	-0.8
TKM2	Tokmak 2	118.94	308	*e*PKIKP		PKPdf		01 52 45.8	-0.8
AAK	Ala-Archa	119.72	307	*e*PKPdf		PKPdf		01 52 47.7	-0.4
AAK	Ala-Archa	119.72	307	⇑*i*PKIKP		PKPdf		01 52 48.5	+0.4
AAK				pmax		pmax			
	comp=Z,8.0nm,1.0s								
AAK				MLR		MLR			
	comp=Z,568nm,22.0s,MS5.2								
BVAR	Borovoye Array	122.47	319	PKP		PKPdf		01 52 51.8	-1.2
	comp=Z,2.3nm,0.8s,baz=82,slow=2.2,SNR=14								
BVAR	Borovoye Array	122.47	319	PKP		PKPdf		01 52 51.8	-1.2
BVAR	Borovoye Array	122.47	319	PKIKP		PKPdf		01 52 51.8	-1.2
BRVK	Borovoye	122.53	319	*e*PKPdf		PKPdf		01 52 52.1	-1.0
BRVK	Borovoye	122.53	319	⇑*i*PKIKP		PKPdf		01 52 52.4	-0.7
BRVK				pmax		pmax			
	comp=Z,13nm,2.5s								
BRVK				MLR		MLR			
	comp=Z,314nm,20.0s,MS5.0								
KBL	Kabul	123.24	297	*e*PKPdf		PKPdf		01 52 55.2	+0.1
KBL	Kabul	123.24	297	*e*PKIKP		PKPdf		01 52 55.2	+0.1
ARU	Arti	128.52	325	*e*PKPdf		PKPdf		01 53 04.5	0.0
ARU	Arti	128.52	325	*i* PKIKP		PKPdf		01 53 04.8	+0.3
ARU								01 55 08.2	
ARU								02 00 08.3	
ARU				SS		SS		02 12 11.9	-14
ARU				MLR		MLR			
	comp=Z,331nm,19.0s,MS5.0								
ABKAR	Akbulak array	129.50	316	*e*PKPdf		PKPdf		01 53 05.8	-0.7
AKTO	Aktyubinsk	130.47	318	PKP		PKPdf		01 53 08.9	+0.5
	comp=Z,1.9nm,0.8s,baz=95,slow=1.2,SNR=7.0								
AKTO	Aktyubinsk	130.47	318	PKP		PKPdf		01 53 08.9	+0.6
AKTO	Aktyubinsk	130.47	318	PKIKP		PKPdf		01 53 08.9	+0.5
ARCES	ARCESS Array B	131.57	350	PKP		PKPdf		01 53 09.4	-0.5
	comp=Z,4.2nm,0.9s,baz=8.5,slow=1.8,SNR=3.9								
ARCES	ARCESS Array B	131.57	350	PKP		PKPdf		01 53 09.4	-0.5
ARCES	ARCESS Array B	131.57	350	PKIKP		PKPdf		01 53 09.4	-0.5
APA	Apatity	131.76	346	⇓*i*PKIKP		PKPdf		01 53 11.6	+1.3
APA				MLR		MLR			
	comp=Z,2μm,27.0s,MS5.6								
LSZ	Lusaka	135.82	213	*e*PKPdf		PKPdf		01 53 20.1	+0.5
LSZ	Lusaka	135.82	213	*e*PKIKP		PKPdf		01 53 20.1	+0.5
TSUM	Tsumeb	136.48	198	*e*PKPdf		PKPdf		01 53 21.2	+0.5
FINES	FINESS Array B	138.63	345	PKP		PKPdf		01 53 26.4	+3.1
	comp=Z,4.3nm,0.9s,baz=80,slow=3.4,SNR=4.6								
FINES	FINESS Array B	138.63	345	PKP		PKPdf		01 53 26.4	+3.1
FINES	FINESS Array B	138.63	345	PKIKP		PKPdf		01 53 26.4	+3.1
OBN	Obninsk	139.95	332	*i* PKIKP		PKPdf		01 53 25.4	-0.5
OBN				*e*				01 56 25.4	
OBN				pmax		pmax			
	comp=Z,10.0nm,1.5s								
KMBO	Kilima Mbogo	140.48	237	*e*PKPdf		PKPdf		01 53 29.1	+0.9
KMBO	Kilima Mbogo	140.48	237	*e*PKIKP		PKPdf		01 53 29.1	+0.9
NOA	NORSAR Array B	141.47	355	PKP		PKPdf		01 53 29.4	+0.9
	comp=Z,1.8nm,0.8s,baz=5.5,slow=4.0,SNR=3.7								
NOA	NORSAR Array B	141.47	355	PKP		PKPdf		01 53 29.4	+0.9
NOA	NORSAR Array B	141.47	355	PKIKP		PKPdf		01 53 29.4	+0.9
KIV	Kislovodsk	142.38	313	*i* PKIKP		PKPdf		01 53 27.9	-2.7
KIV				pmax		pmax			
	comp=Z,9.0nm,1.2s								
CLDR	Caldiran	143.00	305	*e*P		PKPdf		01 53 28.1	-3.8
AGRB	Hanur-Agry	143.58	306	*e*P		PKPdf		01 53 30.7	-2.2
CUKT	Cukurca	143.68	302	*e*P		PKPdf		01 53 28.4	-4.8
BHD	Baghdad	143.71	296	*i* x		x		01 53 23.0	
BHD				*i* x		x		01 57 19.0	
BCA	Borcka	144.00	310	*e*P		PKPdf		01 53 29.4	-4.2
EZM	Erzurum	144.69	308	*e*P		PKPdf		01 53 35.2	+0.4
BAYT	Ayd¯ntepe-Bay	145.41	309	*e*P		PKPbc		01 53 36.5	+0.5
ANN	Anapa	145.43	317	*i* PKP2		PKPbc		01 53 34.4	-1.5
ANN				pmax		pmax			
	comp=Z,186nm,1.5s								
BNGB	Bing¯ll	145.47	306	*e*P		PKPdf		01 53 36.7	+0.5
SUW	Suwalki	145.83	341	*e*PKP		PKPdf		01 53 37.2	+0.8
SUW	Suwalki	145.83	341	*e*PKPbc		PKPbc		01 53 36.4	-0.5
SUW	Suwalki	145.83	341	*e*PKP2		PKPab		01 53 37.2	-0.1
EZC	Erzincan	146.20	308	*e*P		PKPab		01 53 39.6	+0.4
AKASG	Malin Array Be	146.22	332	PKPbc		PKPbc		01 53 36.9	-1.3
	comp=Z,18nm,0.8s,baz=38,slow=3.8,SNR=42								
AKASG	Malin Array Be	146.22	332	PKPbc		PKPbc		01 53 36.9	-1.3
AKASG	Malin Array Si	146.22	332	PKP2		PKPbc		01 53 36.9	-1.3
AKBB	Malin Array Si	146.22	332	*e*PKPpre		PKPpre		01 53 32.3	
AKBB	Malin Array Si	146.22	332	*e*PKHKP		PKPpre		01 53 32.3	
KIEV	Kiev	146.23	332	*e*PKPbc		PKPbc		01 53 37.1	-1.1
KIEV	Kiev	146.23	332	*e*PKP2		PKPbc		01 53 37.1	-1.1
PTK	Pertek	146.45	307	*e*P		PKPdf		01 53 39.4	+1.5
SVRC	Sivrice-ELAZID	146.68	306	*e*P		PKPbc		01 53 41.2	+1.2
MYA	Malataya	147.35	306	*e*P		PKPbc		01 53 42.9	+1.1
SIM	Simferopol'	147.38	320	*e*PKP2		PKPbc		01 53 41.3	-0.4
SIM				pmax		pmax			
	comp=Z,40nm,0.9s								
RSDY	Resadiye-TOKAT	147.41	310	*e*P		PKPbc		01 53 42.1	+0.1
DARE	Darende-Malaty	147.60	308	*e*P		PKPbc		01 53 43.2	+0.7
BEL	Belsk	148.44	341	*e*PKP		PKPbc		01 53 44.8	+0.5
BEL	Belsk	148.44	341	*e*PKP2		PKPbc		01 53 44.8	+0.5
BSEG	Bad Segeberg	148.57	354	*e*PKPbc		PKPbc		01 53 44.4	-0.2
BSEG	Bad Segeberg	148.57	354	*e*PKP2		PKPbc		01 53 44.4	-0.2
GAZ	Gaziantep	148.63	305	*e*P		PKPbc		01 53 44.8	-0.5
KMRS	Kahramanmaras	148.76	305	*e*P		PKPbc		01 53 45.7	+0.1
KIS	Kishinev	149.03	327	*e*PKP		PKPbc		01 53 46.0	0.0
KIS	Kishinev	149.03	327	*e*PKP2		PKPbc		01 53 46.0	0.0
LVV	L'vov	149.03	336	*e*PKP2		PKPbc		01 53 45.8	-0.1
BNN	Bunyan	149.06	308	*e*P		PKPdf		01 53 42.9	+0.7
CORM	Corum	149.38	312	*e*P		PKPbc		01 53 47.0	-0.1
KOZT	Kozan	149.57	306	*e*P		PKPbc		01 53 48.0	+0.4
LEOM	Leova	149.67	327	⇑PKP2		PKPbc		01 53 47.5	-0.1
LEOM	Leova	149.67	327	⇑*i*P		PKPbc		01 53 47.5	-0.1
KWP	Kalwaria Pacla	149.68	337	*e*PKP		PKPbc		01 53 48.0	+0.5
KWP	Kalwaria Pacla	149.68	337	*e*PKPbc		PKPbc		01 53 46.9	-0.6
KWP	Kalwaria Pacla	149.68	337	*e*PKP2		PKPbc		01 53 48.0	+0.5
KWP	Kalwaria Pacla	149.68	337	⇑*i*P		PKPbc		01 53 47.7	+0.2
NRDL	Niedersach Rie	150.02	354	*e*PKPbc		PKPbc		01 53 48.0	-0.2
OJC	Ojcow	150.16	340	*e*PKP		PKPbc		01 53 48.5	-0.1
OJC	Ojcow	150.16	340	*e*PKP2		PKPbc		01 53 48.5	-0.1
TLCR		150.24	325	⇑PKIKP		PKPdf		01 53 42.4	-1.5
TLCR		150.24	325	⇑*i*P		PKPdf		01 53 42.4	-1.5
BUR08	Bucovina Ar. S	150.26	332	*e*PKPbc		PKPbc		01 53 49.5	+0.6
BR131	Keskin Array S	150.27	311	*e*PKPbc		PKPbc		01 53 49.3	+0.1
BRTR	Keskin Array B	150.27	311	PKPbc		PKPbc		01 53 49.1	-0.2
	comp=Z,9.1nm,0.9s,baz=121,slow=3.0,SNR=32								
BRTR	Keskin Array B	150.27	311	PKPbc		PKPbc		01 53 49.1	-0.2
BRTR	Keskin Array B	150.27	311	PKP2		PKPbc		01 53 49.1	-0.2
BURAR	Bucovina Array	150.27	332	⇑PKP2		PKPbc		01 53 50.0	+1.0
BURAR	Bucovina Array	150.27	332	⇑*i*P		PKPbc		01 53 50.0	+1.0
GHRR		150.38	327	⇑*i*P		PKPbc		01 53 50.0	+0.7
STHS	Stebnicka Huta	150.38	338	*e*PKIKP		PKPbc		01 53 48.1	-1.1
STHS	Stebnicka Huta	150.38	338	*e*PKP		PKPbc		01 53 48.1	-1.1
STHS				*e*				01 54 07.5	
TESR		150.43	329	⇓*i*P		PKPbc		01 53 49.3	-0.1
KSP	Ksiaz	150.55	345	*e*PKP		PKPbc		01 53 50.0	+0.5
CFR	Carcaliu	150.60	325	⇑PKIKP		PKPbc		01 53 49.5	-0.4
CFR	Carcaliu	150.60	325	⇑*i*P		PKPbc		01 53 49.5	-0.4
CLZ	Clausthal	150.63	353	*e*PKPbc		PKPbc		01 53 49.9	+0.2
CLZ	Clausthal	150.63	353	*e*PKIKP		PKPbc		01 53 49.9	+0.2
UZH	Uzhgorod	150.66	336	⇓*i*PKIKP		PKPbc		01 53 49.5	-0.4
UZH				*e*				01 53 55.9	
NIE	Niedzica	150.69	339	*e*PKP		PKPbc		01 53 50.7	+0.8
NIE	Niedzica	150.69	339	*e*PKIKP		PKPbc		01 53 50.7	+0.8
CRVS	Cervenica-Dubn	150.74	337	*e*PKIKP		PKPbc		01 53 50.1	0.0
CRVS	Cervenica-Dubn	150.74	337	*e*PKP		PKPbc		01 53 50.1	0.0
CLL	Collm	150.78	349	*e*PKPbc		PKPbc		01 53 49.7	-0.4
CLL	Collm	150.78	349	⇑*i*PKIKP		PKPbc		01 53 49.5	-0.6
CLL				*i*				01 53 57.0	
CLL				pmax		pmax			
	comp=Z,29nm,1.1s								
CLL				pmax		pmax			
	comp=Z,24nm,1.0s								
CLL	Collm	150.78	349	⇑*i*PKPbc		PKPbc		01 53 49.5	-0.6
	comp=Z,29nm,1.1s								
CLL				*i* PKPab		PKPab		01 53 57.0	-0.1
	comp=Z,24nm,1.0s								
CLL				*e*PKPbc		pPKPbc		01 54 02.0	+6.0
CLL				*i* sPKPbc				01 54 06.0	
CLL				*e*SSS				02 22 12.0	
VRI	Vrincioaia	150.85	328	⇑PKIKP		PKPbc		01 53 50.4	0.0
VRI	Vrincioaia	150.85	328	⇑*i*P		PKPbc		01 53 50.4	0.0
PLOR	Plostina	150.90	328	⇑PKIKP		PKPbc		01 53 49.3	-1.3
PLOR	Plostina	150.90	328	⇑*i*P		PKPbc		01 53 49.3	-1.3
UPC	Upice	150.93	345	*e*PKIKP		PKPbc		01 53 50.8	+0.3
UPC				*e*				01 53 56.2	
UPC	Upice	150.93	345	⇑*e*PKP		PKPbc		01 53 50.8	+0.3
UPC				*e*PKPAB		PKPab		01 53 56.2	-1.6
TRPA	Tarpa	150.98	335	⇓*i*P		PKPbc		01 53 50.2	-0.5
OKC	Ostrava-Krasne	150.99	342	*e*PKIKP		PKPbc		01 53 50.3	-0.3
OKC				*e*				01 53 56.8	
OKC	Ostrava-Krasne	150.99	342	⇑*e*PKP		PKPbc		01 53 50.3	-0.3
OKC				*e*PKPAB		PKPab		01 53 56.8	-1.2
DPC	Dobruska-Polom	151.00	345	*e*PKIKP		PKPbc		01 53 51.2	+0.6
DPC				*e*				01 53 58.3	
DPC	Dobruska-Polom	151.00	345	⇑*e*PKP		PKPbc		01 53 51.2	+0.6
DPC				*e*PKPAB		PKPab		01 53 58.3	+0.2
BRG	Berggiesshubel	151.03	348	*e*PKP		PKPbc		01 53 50.7	0.0
	comp=Z,21nm,1.1s								
BRG				*i*				01 54 06.5	
	comp=Z,33nm,1.2s								
BRG				*e*				01 57 24.1	
	comp=Z,14nm,1.4s								
BRG	Berggiesshubel	151.03	348	*e*PKPbc		PKPbc		01 53 50.5	-0.2
BRG	Berggiesshubel	151.03	348	*e*PKIKP		PKPbc		01 53 50.7	0.0
BRG				*e*				01 57 24.1	
BRG				pmax		pmax			
	comp=Z,21nm,1.1s								
MORC	Moravsky Berou	151.21	343	*e*PKPbc		PKPbc		01 53 51.6	+0.5
MORC	Moravsky Berou	151.21	343	*e*PKIKP		PKPbc		01 53 51.6	+0.5
MORC	Moravsky Berou	151.21	343	⇓*i*P		PKPbc		01 53 51.3	+0.2
PVCC	Panska Ves	151.23	347	*e*PKIKP		PKPbc		01 53 51.2	0.0
PVCC	Panska Ves	151.23	347	⇑*e*PKP		PKPbc		01 53 51.2	0.0
KECS	Kecovo	151.44	338	*e*PKIKP		PKPbc		01 53 52.6	+0.9
KECS				*e*				01 54 00.9	
KECS	Kecovo	151.44	338	*e*PKP		PKPbc		01 53 52.6	+0.9
KECS				*e*				01 54 00.9	
ISR	Istrita	151.47	327	⇓PKIKP		PKPbc		01 53 52.5	+0.6
ISR	Istrita	151.47	327	⇓*i*P		PKPbc		01 53 52.5	+0.6
MLR	Muntele Rosu	151.50	328	⇓PKIKP		PKPbc		01 53 51.3	-0.7
MLR	Muntele Rosu	151.50	328	⇓*i*P		PKPbc		01 53 51.3	-0.7
MOX	Moxa	151.64	351	*e*PKPbc		PKPbc		01 53 51.9	-0.2
MOX	Moxa	151.64	351	*e*PKIKP		PKPbc		01 53 51.9	-0.2
TANN	Tannenbergstha	151.73	350	*e*PKPbc		PKPbc		01 53 52.1	-0.2
VRAC	Vranov	151.89	344	⇑PKIKP		PKPbc		01 53 53.0	+0.3
VRAC	Vranov	151.89	344	⇑*i*P		PKPbc		01 53 53.0	+0.3
NKC	Novy Kostel	151.91	350	*e*PKIKP		PKPbc		01 53 53.1	+0.4
NKC				*e*				01 54 01.8	
NKC	Novy Kostel	151.91	350	⇑*e*PKP		PKPbc		01 53 53.1	+0.4
NKC				*e*PKPAB		PKPab		01 54 01.8	-0.1
DRGR		151.99	333	⇑PKIKP		PKPbc		01 53 52.8	-0.2
DRGR		151.99	333	⇑*i*P		PKPbc		01 53 52.8	-0.2
KOLL	Kolacno	152.04	341	*e*PKIKP		PKPbc		01 53 53.9	+0.8
KOLL	Kolacno	152.04	341	*e*PKP		PKPbc		01 53 53.9	+0.8
PSZ	Piszkesteto	152.13	338	*e*PKPbc		PKPbc		01 53 52.5	-0.8
PSZ	Piszkesteto	152.13	338	⇑PKIKP		PKPbc		01 53 52.9	-0.4
PSZ	Piszkesteto	152.13	338	⇓*e*PKP		PKPbc		01 53 50.5	-2.8
PSZ	Piszkesteto	152.13	338	⇑*i*P		PKPbc		01 53 52.9	-0.4
TREC	Trest	152.18	345	*e*PKIKP		PKPbc		01 53 53.5	+0.1
TREC	Trest	152.18	345	⇑*e*PKP		PKPbc		01 53 53.5	+0.1
TREC				*e*PKPAB		PKPab		01 54 06.0	+3.0
CSS	Prodhromos	152.30	302	*e*PKPbc		PKPbc		01 53 53.5	-0.7
SMOL	Smolenice	152.39	342	*e*PKIKP		PKPbc		01 53 55.0	+1.1
SMOL	Smolenice	152.39	342	*e*PKP		PKPbc		01 53 55.0	+1.1
SMOL				*e*				01 54 05.6	
DEV	Deva	152.62	332	⇑PKIKP		PKPdf		01 53 50.5	+3.0
DEV	Deva	152.62	332	⇑*i*P		PKPdf		01 53 50.5	+3.0
GIVF	Givet	152.69	360	*e*PKP2		PKPab		01 54 04.8	-0.3
GIVF	Givet	152.69	360	*e*PKPab		PKPab		01 54 04.8	-0.3
BAIF	Baives	152.73	1	*e*PKP2		PKPab		01 54 04.9	-0.4
	comp=Z,36nm,1.0s								
BAIF	Baives	152.73	1	*e*PKPab		PKPab		01 54 04.9	-0.4
KHC	Kasperske Hory	152.76	347	*e*PKPbc		PKPbc		01 53 53.9	-0.8
KHC				*e*PKPab		PKPab		01 54 05.3	-0.1
KHC	Kasperske Hory	152.76	347	*e*PKIKP		PKPbc		01 53 54.5	-0.2
KHC				*e*				01 54 05.7	
KHC	Kasperske Hory	152.76	347	⇑*e*PKP		PKPbc		01 53 54.5	-0.2
KHC				*e*PKPAB		PKPab		01 54 05.7	+0.2
ZST	Bratislava	152.77	342	*e*PKIKP		PKPbc		01 53 55.6	+0.9
ZST				*e*				01 54 06.8	
ZST	Bratislava	152.77	342	*e*PKP		PKPbc		01 53 55.5	+0.8
ZST				*e*				01 54 06.8	
BUD	Budapest	152.80	339	⇓*e*PKP		pPKPdf		01 53 55.1	+1.5
WET	Wettzell	152.88	348	*e*PKPbc		PKPbc		01 53 54.9	-0.1
WET	Wettzell	152.88	348	*e*PKIKP		PKPbc		01 53 54.9	-0.1
GEC2	GERESS Array S	153.01	347	*e*PKPbc		PKPbc		01 53 55.1	-0.1
GEC2	GERESS Array S	153.01	347	*e*PKIKP		PKPbc		01 53 55.1	-0.1
GERES	GERESS Array B	153.01	347	PKPbc		PKPbc		01 53 54.8	-0.4
	comp=Z,1.6nm,0.9s,baz=41,slow=3.1,SNR=10								
GERES	GERESS Array B	153.01	347	PKPbc		PKPbc		01 53 54.8	-0.4
GERES	GERESS Array B	153.01	347	PKIKP		PKPbc		01 53 54.8	-0.4
GZR	Gura Zlata	153.06	331	⇑PKIKP		PKPbc		01 53 55.7	+0.2
GZR	Gura Zlata	153.06	331	⇑*i*P		PKPbc		01 53 55.7	+0.2
WLF	Walferdange	153.11	358	*e*PKPab		PKPbc		01 54 07.3	+0.4
WLF	Walferdange	153.11	358	*e*PKP2		PKPab		01 54 07.3	+0.4
CONA	Conrad Observa	153.35	343	⇓*i*PKiKP		PKiKP		01 53 56.4	+0.3
	comp=Z,16nm,1.9s								
CONA				⇑*i*PKPab		PKPab		01 54 09.9	+1.9
	comp=Z,29nm,1.2s								
BZS	Buzias	153.38	333	⇑PKIKP		PKPbc		01 53 55.7	-0.5
BZS	Buzias	153.38	333	⇑*i*P		PKPbc		01 53 55.7	-0.5
SOP	Sopron	153.39	342	⇓*es*PKP/F				01 54 01.9	
ROSF	Rostrenen	153.66	12	*e*PKP2		PKPab		01 54 08.4	-0.9
	comp=Z,75nm,1.2s								
ROSF	Rostrenen	153.66	12	*e*PKPab		PKPab		01 54 08.4	-0.9
FLN	La Foliniere	153.69	8	*e*PKP2		PKPab		01 54 08.7	-0.7
FLN	La Foliniere	153.69	8	*e*PKPab		PKPab		01 54

comp=N,137nm,0.2s
KUBR Kubataba 0.73 173 *i*PG Pg 01 36 36.8 +0.3
KUBR *i* S Sg 01 36 47.5 +1.4
KUBR Kubataba 0.73 173 *i* Pg Pg 01 36 36.8 +0.3
KUBR *i* Sg Sg 01 36 47.5 +1.4
SHAR Shatzhatmas 0.90 210 ⇓*i*PG Pg 01 36 40.0 +0.3
SHAR *i* S Sg 01 36 52.6 +1.2
SHAR Shatzhatmas 0.90 210 *i* Pg Pg 01 36 40.0 +0.3
SHAR *i* Sg Sg 01 36 52.6 +1.2
PRTR Priterechnaya 1.05 137 ⇓*i*PG Pg 01 36 42.6 -0.1
PRTR *i* S Sb 01 36 57.8 +1.8
PRTR Priterechnaya 1.05 137 *i* Pg Pg 01 36 42.6 -0.1
PRTR *i* Sg Sg 01 36 57.8 +1.3
LSNR Lesken 1.31 163 ⇑*i*PG Pg 01 36 46.4 -1.1
LSNR *e*S Sb 01 37 05.6 +2.3
LSNR Lesken 1.31 163 *i* Pg Pg 01 36 46.4 -1.1
LSNR *e*Sg Sg 01 37 05.6 +1.1
TRKR Terskaya 1.31 127 ⇑*i*PG Pg 01 36 46.2 -1.5
TRKR *i* S Sb 01 37 05.0 +1.5
TRKR Terskaya 1.31 127 *i* Pg Pg 01 36 46.2 -1.5
TRKR *i* Sg Sg 01 37 05.0 +0.2
KMSR Komsomolskaya 1.36 147 ⇑*i*PG Pg 01 36 47.5 -1.1
KMSR *e*S Sn 01 37 06.8 +2.0
KMSR Komsomolskaya 1.36 147 *i* Pg Pg 01 36 47.5 -1.1
KMSR *e*Sg Sg 01 37 06.8 +0.5
BTKR Batakoyurt 1.47 141 ⇑*i*PG Pg 01 36 48.7 -1.9
BTKR *e*S Sn 01 37 09.3 +2.0
BTKR Batakoyurt 1.47 141 *i* Pg Pg 01 36 48.7 -1.9
BTKR *e*Sg Sg 01 37 09.3 -0.3
KORR Kora 1.54 158 *e*PG Pg 01 36 50.2 -1.8
KORR *e*S Sn 01 37 11.9 +2.6
KORR Kora 1.54 158 *e*Pg Pg 01 36 50.2 -1.8
KORR *e*Sg Sg 01 37 11.9 -0.2
DIGR Digorskoe uzhe 1.64 172 ⇑*i*PN Pn 01 36 51.4 +0.7
DIGR *i* S Sn 01 37 13.0 +1.5
DIGR Digorskoe uzhe 1.64 172 *i* Pn Pn 01 36 51.4 +0.7
DIGR *i* Sg Sg 01 37 13.0 -2.0
VLKR Vladikavkaz 1.79 145 *e*PN Pn 01 36 52.8 0.0
VLKR *e*S Sn 01 37 17.6 +2.3
VLKR Vladikavkaz 1.79 145 *e*Pn Pn 01 36 52.8 0.0
VLKR *e*Sg Sg 01 37 17.6 -2.3
ZEI Tsey 1.81 165 ⇓*i*PN Pn 01 36 53.3 +0.2
ZEI *i* S Sn 01 37 17.6 +1.8
ZEI Tsey 1.81 165 *i* Pn Pn 01 36 53.3 +0.2
ZEI *i* Sg Sg 01 37 17.6 -2.9
SNJR Sundja 1.83 142 *e*PN Pn 01 36 54.0 +0.7
SNJR Sundja 1.83 142 *e*Pn Pn 01 36 54.0 +0.7
LACR Lac 1.85 156 ⇑*i*PN Pn 01 36 54.4 +0.8
LACR Lac 1.85 156 *i* Pn Pn 01 36 54.4 +0.8

ISCJB ***28*** *01:38:34.3±0.7, 14.7°S±0.2×172.9°W±0.2, h33km, mb4.3/6, MS5.0/2, Error ellipse: s-maj=34.6km s-min=8.2km az=140.6*
IDC ***28*** *01:38:34.9±1.6, 15.12°S×173.25°W, h0km, mb4.3/6, mb1 4.3/6, mb1mx4.0/18, mbtmp4.3/6, MS4.9/2, Ms1 4.9/2, ms1mx4.0/22, Error ellipse: s-maj=49.3km s-min=31.7km az=103.0*
NEIC ***28*** *01:38:39.6±0.9, 15.07°S×173.23°W, h35km, Error ellipse: s-maj=30.5km s-min=17.3km az=104.0*
ISC 28 01:38:36.0±0.7, 14.7°S±0.2×172.8°W±0.2, h35km, n22, σ0.9s53/16, mb4.3/6, MS5.0/2, Samoa Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.29**	**51**	Pn	**Pn**	**01 38 57.5**	**0.0**
	60nm,0.3s,baz=218,slow=19,SNR=5.7						
AFI				Sn	**Sn**	**01 39 13.4**	**-0.1**
	165nm,0.3s,baz=49,slow=19,SNR=14						
AFI	**Afiamalu**	**1.29**	**51**	Pn	**Pn**	**01 38 57.5**	**0.0**
AFI				Sn	**Sn**	**01 39 13.4**	**-0.1**
URZ	**Urewera**	**25.09**	**199**	P	**P**	**01 43 56.7**	**-0.6**
	8.8nm,0.4s,mb4.6,baz=82,slow=7.7,SNR=7.1						
URZ	**Urewera**	**25.09**	**199**	P	**P**	**01 43 56.7**	**-0.6**
RPZ	**Rata Peaks**	**32.02**	**202**	P	**P**	**01 44 59.2**	**+0.1**
	5.0nm,0.5s,mb4.6,baz=34,slow=3.6,SNR=2.8						
RPZ	**Rata Peaks**	**32.02**	**202**	P	**P**	**01 44 59.2**	**+0.1**
STKA	**Stephens Creek**	**44.87**	**239**	P	**P**	**01 46 46.4**	**-0.8**
	0.8nm,0.5s,mb3.8,baz=90,slow=11,SNR=3.3						
STKA	**Stephens Creek**	**44.87**	**239**	P	**P**	**01 46 46.4**	**-0.8**
WRA	**Warramunga Arr**	**50.55**	**256**	P	**P**	**01 47 31.4**	**0.0**
	0.7nm,0.8s,mb3.7,baz=90,slow=7.1,SNR=3.5						
WRA	**Warramunga Arr**	**50.55**	**256**	P	**P**	**01 47 31.4**	**0.0**
ASAR	**Alice Springs**	**50.86**	**251**	P	**P**	**01 47 34.1**	**+0.4**
	1.7nm,0.5s,mb4.3,baz=87,slow=8.2,SNR=10						
ASAR	**Alice Springs**	**50.86**	**251**	P	**P**	**01 47 34.1**	**+0.4**
MAW	**Mawson**	**88.61**	**198**	P	**P**	**01 51 26.1**	**+1.0**
	2.7nm,0.9s,mb4.6,baz=146,slow=3.6,SNR=4.6						
MAW	**Mawson**	**88.61**	**198**	P	**P**	**01 51 26.1**	**+1.0**
ULM	**Lac du Bonnet**	**93.05**	**39**	LR	LR	02 29 05.9	
	comp=Z,735nm,18.5s,MS5.2,baz=287,slow=32						
TKL	**Tuckaleechee C**	**97.66**	**55**	LR	LR	02 34 19.4	
	comp=Z,381nm,18.3s,MS4.9,baz=116,slow=34						
KHC	**Kasperske Hory**	**145.29**	**353**	*e*P	PKPbc	01 58 15.0	+5.2
GERES	**GERESS Array B**	**145.55**	**352**	PKPbc	PKPbc	01 58 15.6	+4.9
	0.3nm,0.5s,baz=38,slow=3.7,SNR=3.1						
GERES	**GERESS Array B**	**145.55**	**352**	PKPbc	PKPbc	01 58 15.6	+4.9
BR131	**Keskin Array S**	**145.98**	**322**	*e*PKPbc	PKPbc	01 58 15.4	+3.2
BRTR	**Keskin Array B**	**145.98**	**322**	PKPbc	PKPbc	01 58 17.0	+4.7
	1.4nm,0.8s,baz=67,slow=2.9,SNR=4.7						
BRTR	**Keskin Array B**	**145.98**	**322**	PKPbc	PKPbc	01 58 17.0	+4.7

IDC ***28*** *01:44:11.3±1.9, 13.64°N×125.31°E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, Error ellipse: s-maj=209.9km s-min=21.5km az=70.0*
ISCJB ***28*** *01:44:12.0±1.3, 13.42°N±0.06×124.39°E±0.08, h7km±8km, mb3.6/4, Error ellipse: s-maj=14.6km s-min=7.6km az=142.0*
MAN ***28*** *01:44:13, 13.36°N×124.19°E, h1km, mb4.5, ML3.4, MS3.3*
ISC 28 01:44:13.0±1.0, 13.40°N±0.06×124.35°E±0.08, h4km±7km, n8, σ0.9s96/12, mb3.6/4, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**0.27**	**316**	*e*P	**Pg**	**01 44 18.1**	**-0.2**
PVCP				*e*S	**Sg**	**01 44 21.0**	**-0.8**
CNP	**Catarman**	**0.94**	**161**	*e*P	**Pg**	**01 44 32.2**	**+1.2**
CNP				*e*S	**Sg**	**01 44 43.4**	**+0.2**
GQP	**Guinayangan**	**1.91**	**285**	⇑*e*P	**Pn**	**01 44 46.1**	**-0.2**
GQP				*i* S	**Sn**	**01 45 12.3**	**+1.5**
RCP	**Roxas**	**2.41**	**221**	⇑*e*P	**Pn**	**01 44 53.3**	**+0.1**
RCP				*e*S	**Sn**	**01 45 22.2**	**-0.8**
WRA	**Warramunga Arr**	**34.56**	**163**	P	**P**	**01 51 01.0**	**-1.9**
	0.3nm,0.3s,mb3.7,baz=345,slow=9.1,SNR=4.5						
SONM	**Songino Array**	**37.45**	**340**	P	**P**	**01 51 27.1**	**-0.2**
	0.4nm,0.7s,mb3.4,baz=142,slow=7.2,SNR=3.3						
ASAR	**Alice Springs**	**38.01**	**166**	P	**P**	**01 51 31.8**	**-0.5**
	0.5nm,0.5s,mb3.5,baz=345,slow=7.1,SNR=5.9						
KURK	**Kurchatov**	**52.44**	**325**	P	**P**	**01 53 28.3**	**+1.7**
	0.6nm,0.6s,mb3.7,baz=120,slow=7.9,SNR=3.3						

CSEM ***28*** *01:52:24.0, 42.52°N×44.80°E, h0km, ML1.7, After TIF*
TIF 28 01:52:24.0, 42.52°N×44.80°E, h10km, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GOR	**Gori**	**0.74**	**224**	P	Pg	01 52 41.3	+2.9
GOR				S	Sg	01 52 52.7	+4.6
GOR	**Gori**	**0.74**	**224**	P	Pg	01 52 41.3	+2.9
GOR				S	Sg	01 52 52.7	+4.6
TBLG	**Delisi**	**0.79**	**184**	P	Pg	01 52 40.5	+1.2
TBLG				S	Sg	01 52 51.5	+1.9
TBLG	**Delisi**	**0.79**	**184**	P	Pg	01 52 40.5	+1.2
TBLG				S	Sg	01 52 51.5	+1.9
MTA	**Mtatsminda**	**0.83**	**181**	P	Pg	01 52 40.7	+0.8
MTA				S	Sg	01 52 52.5	+1.8
MTA	**Mtatsminda**	**0.83**	**181**	P	Pg	01 52 40.7	+0.8
MTA				S	Sg	01 52 52.5	+1.8
ONI	**Oni**	**1.00**	**274**	P	Sg	01 53 03.7	+7.4
ONI	**Oni**	**1.00**	**274**	S	Sg	01 53 03.7	+7.4
DGRG	**David-gareji**	**1.15**	**158**	P	Pb	01 52 45.3	-0.7
DGRG				S	Sb	01 53 02.2	+1.2
DGRG	**David-gareji**	**1.15**	**158**	P	Pb	01 52 45.3	-0.7
DGRG				S	Sb	01 53 02.2	+1.2
AKH	**Akhalkalaki**	**1.48**	**222**	P	Sg	01 53 13.0	+1.4
AKH	**Akhalkalaki**	**1.48**	**222**	S	Sn	01 53 13.0	+2.9

ISCJB ***28*** *02:02:48.7±2.1, 6.1°S±0.2×154.77°E±0.05, h104km±21km, mb3.8/10, Error ellipse: s-maj=25.8km s-min=8.9km az=178.9*
IDC ***28*** *02:02:50.4±2.6, 6.16°S×154.77°E, h108km±25km, mb3.7/10, mb1 3.9/12, mb1mx3.7/19, mbtmp3.7/12, Error ellipse: s-maj=24.8km s-min=14.4km az=172.0*
NEIC ***28*** *02:02:50.3±1.5, 6.21°S×154.79°E, h108km±15km, mb4.1/1, Error ellipse: s-maj=20.8km s-min=11.5km az=169.0*
ISC 28 02:02:50.5±1.7, 6.16°S±0.2×154.78°E±0.06, h108km±17km, n28, σ1.9s05/30, mb3.8/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.08**	**123**	P	**Pn**	**02 04 16.7**	**-1.3**
	5.6nm,0.3s,baz=239,slow=10,SNR=3.4						
HNR				S	**Sn**	**02 05 27.5**	**+1.1**
	7.1nm,0.3s,baz=30,slow=20,SNR=6.3						
HNR	**Honiara**	**6.08**	**123**	P	**Pn**	**02 04 16.8**	**-1.3**
HNR				S	**Sn**	**02 05 27.5**	**+1.1**
PMG	**Port Moresby**	**8.22**	**246**	P	**Pn**	**02 04 45.9**	**-1.2**
	4.1nm,0.3s,baz=53,slow=10.0,SNR=20						
PMG				S	**Sn**	**02 06 20.2**	**+1.9**
	0.9nm,0.3s,baz=270,slow=20,SNR=3.8						
PMG	**Port Moresby**	**8.22**	**246**	*e*Pn	**Pn**	**02 04 47.2**	**+0.1**
PMG				S	**Sn**	**02 06 20.2**	**+1.9**
COEN	**Coen**	**13.81**	**235**	*e*Pn	**Pn**	**02 06 00.6**	**-1.3**
WRA	**Warramunga Arr**	**24.14**	**233**	P	**P**	**02 07 56.7**	**0.0**
	2.9nm,0.7s,mb3.7,baz=56,slow=9.6,SNR=19						
WRA	**Warramunga Arr**	**24.14**	**233**	P	**P**	**02 07 56.7**	**0.0**
ASAR	**Alice Springs**	**26.59**	**227**	P	**P**	**02 08 18.0**	**-0.8**
	1.1nm,0.5s,mb3.7,baz=59,slow=8.8,SNR=15						
ASAR	**Alice Springs**	**26.59**	**227**	P	**P**	**02 08 18.0**	**-0.8**
CMAR	**Chiang Mai Arr**	**60.22**	**295**	P	**P**	**02 12 48.4**	**+0.7**
	3.4nm,0.8s,mb4.5,baz=121,slow=5.3,SNR=8.3						
CMAR	**Chiang Mai Arr**	**60.22**	**295**	P	**P**	**02 12 48.4**	**+0.7**
MK31	**Makanchi Array**	**82.61**	**319**	*e*P	**P**	**02 15 01.3**	**-0.5**
MKAR	**Makanchi Array**	**82.61**	**319**	P	**P**	**02 15 02.6**	**+0.9**
	0.5nm,0.5s,mb3.7,baz=102,slow=6.3,SNR=5.7						
MKAR	**Makanchi Array**	**82.61**	**319**	P	**P**	**02 15 02.6**	**+0.9**
ILAR	**Eielson Array**	**82.65**	**22**	P	**P**	**02 15 01.5**	**-0.1**
	0.9nm,1.0s,mb3.5,baz=244,slow=5.0,SNR=12						
ILAR	**Eielson Array**	**82.65**	**22**	P	**P**	**02 15 01.5**	**-0.1**
ZALV	**Zalesovo Beam**	**83.34**	**326**	P	**P**	**02 15 04.4**	**-1.0**
	0.6nm,0.4s,mb3.8,baz=101,slow=5.6,SNR=4.0						
ZALV	**Zalesovo Beam**	**83.34**	**326**	P	**P**	**02 15 04.4**	**-1.0**
MAW	**Mawson**	**85.11**	**203**	P	**P**	**02 15 13.8**	**-0.3**
	1.9nm,0.5s,mb4.2,baz=109,slow=7.0,SNR=7.3						
MAW	**Mawson**	**85.11**	**203**	P	**P**	**02 15 13.8**	**-0.3**
KURK	**Kurchatov**	**86.02**	**322**	P	**P**	**02 15 18.9**	**0.0**
	0.3nm,0.5s,mb3.5,baz=98,slow=5.7,SNR=3.6						
KURK	**Kurchatov**	**86.02**	**322**	*e*P	**P**	**02 15 20.2**	**+1.3**
	0.9nm,0.4s,mb4.0						
NVAR	**Mina Array Bea**	**91.36**	**52**	P	**P**	**02 15 46.6**	**+2.1**
	0.4nm,0.7s,mb3.7,baz=242,slow=7.0,SNR=3.4						
NVAR	**Mina Array Bea**	**91.36**	**52**	P	**P**	**02 15 46.6**	**+2.1**
BVAR	**Borovoye Array**	**91.47**	**323**	P	**P**	**02 15 43.7**	**-1.0**
	0.5nm,0.5s,mb3.9,baz=116,slow=6.6,SNR=3.8						
BVAR	**Borovoye Array**	**91.47**	**323**	P	**P**	**02 15 43.7**	**-1.0**
TORD	**Torodi Ar. Bea**	**152.58**	**287**	PKPbc	PKPbc	02 22 34.7	-0.7
	0.3nm,0.4s,baz=72,slow=2.0,SNR=5.0						
TORD	**Torodi Ar. Bea**	**152.58**	**287**	PKPbc	PKPbc	02 22 34.7	-0.7

IDC ***28*** *02:15:45.5±2.0, 40.02°N×78.46°E, h0km, mb3.4/2, mb1 3.5/6, mb1mx3.4/29, mbtmp3.5/6, ML3.4/4, Error ellipse: s-maj=34.3km s-min=22.3km az=122.0*
ISCJB ***28*** *02:15:46.8±0.4, 40.09°N±0.03×78.80°E±0.04, h10km, mb3.3/2, Error ellipse: s-maj=4.9km s-min=3.5km az=38.1*
NEIC ***28*** *02:15:47.1±1.8, 39.94°N×78.70°E, h10km, Error ellipse: s-maj=24.8km s-min=12.5km az=167.0*
BJI ***28*** *02:15:48.3, 40.22°N×78.70°E, h8km, ML3.3/8*
NNC ***28*** *02:15:59.1±6.5, 40.87°N×79.59°E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=59.4km s-min=22.4km az=160.0*
ISC 28 02:15:48.6±0.4, 40.09°N±0.03×78.68°E±0.04, h10km, n43, σ1.9s33/57, mb3.3/2, 7C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.17**	**255**	Pn	**Pg**	**02 16 30.5**	**+0.4**
KSH				Sn	**Sg**	**02 17 04.0**	**+5.9**
KSH				smax			
	comp=N,830nm,0.4s						
KSH				smax			
	comp=E,1μm,0.6s						
ULHL	**Ulahol**	**2.83**	**320**	P	**Pn**	**02 16 35.1**	**+1.3**
	SNR=156						
KZA	**Kyzart**	**3.27**	**308**	P	**Pn**	**02 16 40.4**	**+0.6**
	SNR=12						
KNDC	**Almaty**	**3.38**	**338**	⇑Pn	**Pn**	**02 16 44.4**	**+3.1**
	comp=E,46nm,0.5s						
KNDC				⇑Lg		02 17 31.5	
	comp=E,104nm,0.6s						
TKM2	**Tokmak 2**	**3.65**	**322**	P	**Pb**	**02 16 52.5**	**-0.6**
	SNR=5.5						
TKM2	**Tokmak 2**	**3.65**	**322**	⇑Pn	**Pn**	**02 16 46.0**	**+0.9**
TKM2				⇑Sn	**Sb**	**02 17 37.6**	**+0.1**
	comp=E,35nm,0.6s						
TKM2	**Tokmak 2**	**3.65**	**322**	*e*Pn	**Pn**	**02 16 45.9**	**+0.8**
TKM2				*e*Sn	**Sn**	**02 17 28.9**	**+0.6**
TKM2				*e*Sg	**Sg**	**02 17 41.0**	**-4.9**
KBK	**Karagaybulak**	**3.80**	**314**	P	**Pb**	**02 16 54.0**	**-1.7**
	SNR=29						
UCH	**Uchtor**	**3.80**	**305**	P	**Pb**	**02 16 53.7**	**-2.0**
	SNR=8.6						
AAK	**Ala-Archa**	**4.05**	**310**	P	**Pb**	**02 16 57.6**	**-2.2**
	SNR=28						
AAK	**Ala-Archa**	**4.05**	**310**	*e*Pn	**Pn**	**02 16 51.3**	**+0.8**
AAK				*e*Sg	**Sb**	**02 17 50.1**	**+1.3**
CHMS	**Chumysh**	**4.14**	**316**	P	**Pb**	**02 16 59.4**	**-2.0**
	SNR=22						
AML	**Almayashu**	**4.28**	**300**	P	**Pn**	**02 16 55.5**	**+1.8**
	SNR=14						
USP	**Ospenovka**	**4.46**	**317**	P	**Pb**	**02 17 04.8**	**-2.0**
	SNR=35						
EKS2	**Erkin-Say**	**4.50**	**306**	P	**Pb**	**02 17 06.9**	**-0.6**
	SNR=17						
EKS2	**Erkin-Say**	**4.50**	**306**	*e*Pn	**Pn**	**02 16 57.5**	**+0.9**
EKS2				*e*Sg	**Sb**	**02 18 04.1**	**+2.4**
KK31	**Karatay Array**	**6.82**	**299**	Pn	**Pb**	**02 17 47.7**	**+0.5**
	comp=E,2.9nm,0.5s,baz=116,slow=16,SNR=21						
KK31				⇓Sn	**Sb**	**02 19 15.7**	**+7.0**
	comp=E,9.0nm,0.8s,baz=101,slow=28,SNR=5.4						
KKAR	**Karatay Array**	**6.82**	**299**	*e*Pn	**Pn**	**02 17 28.9**	**+0.3**
	comp=E,3.8nm,0.5s						
KKAR				*e*Pg	**Pb**	**02 17 47.6**	**+0.4**
KKAR				*e*Sg	**Sb**	**02 19 15.6**	**+7.0**
MK31	**Makanchi Array**	**7.19**	**20**	⇑Pn	**Pn**	**02 17 34.1**	**+0.5**
	comp=E,0.9nm,0.4s,baz=199,slow=13,SNR=40						
MK31				⇓Sn	**Sn**	**02 18 52.9**	**-2.5**
	comp=E,2.3nm,0.6s						
MK31				⇑Lg		02 19 18.2	
	comp=E,3.0nm,0.7s,baz=203,slow=26						
MK31	**Makanchi Array**	**7.19**	**20**	*e*Pn	**Pn**	**02 17 34.3**	**+0.6**
MKAR	**Makanchi Array**	**7.19**	**20**	Pn	**Pn**	**02 17 34.2**	**+0.5**
	comp=E,1.3nm,0.3s,baz=200,slow=13,SNR=45						
MKAR				Sn	**Sn**	**02 18 56.5**	**+1.1**
	comp=E,0.8nm,0.3s,baz=194,slow=20,SNR=3.7						
MKAR	**Makanchi Array**	**7.19**	**20**	Pn	**Pn**	**02 17 34.2**	**+0.5**
MKAR				Sn	**Sn**	**02 18 56.5**	**+1.1**
WMQ	**Urumqi**	**7.68**	**58**	*e*Pn	**Pn**	**02 17 45.0**	**+4.6**
WMQ				Sg	**Sn**	**02 19 08.8**	**+1.4**
WMQ				smax			
	comp=N,18nm,0.4s						
WMQ				smax			
	comp=E,18nm,0.4s						
KURBB	**Kurchatov Arra**	**10.53**	**359**	⇑Pn	**Pn**	**02 18 19.5**	**+0.1**
	comp=E,0.4nm,1.1s						
KURK	**Kurchatov**	**10.62**	**360**	Pn	**Pn**	**02 18 17.6**	**-3.0**
	comp=E,0.1nm,0.3s,baz=188,slow=12,SNR=8.8						
KURK				Lg		02 21 19.2	
	comp=E,0.1nm,0.3s,baz=187,slow=29,SNR=7.1						
KURK	**Kurchatov**	**10.62**	**360**	*e*Pn	**Pn**	**02 18 20.9**	**+0.2**
	comp=E,3.3nm,1.0s						
KURK				Lg		02 21 19.2	
DANN	**Dangsing**	**12.44**	**159**	*e*P	**Pn**	**02 18 45.2**	**-0.5**
	comp=E,4.0nm,0.2s						
PYUN	**Piuthan**	**12.48**	**162**	*e*P	**Pn**	**02 18 45.5**	**-0.7**
	comp=E,9.8nm,0.4s						
KOLN	**Koldanda**	**12.95**	**160**	*e*P	**Pn**	**02 18 51.9**	**-0.7**
	comp=E,4.5nm,0.3s						
GUN	**Gumba**	**13.53**	**152**	*e*P	**Pn**	**02 19 01.4**	**+0.9**
	comp=E,14nm,0.3s						
PKI	**Pulchoki**	**13.68**	**154**	*e*P	**Pn**	**02 19 02.0**	**-0.5**
	comp=E,12nm,0.5s						
JIRN	**Jiri**	**13.87**	**151**	*e*P	**Pn**	**02 19 06.6**	**+1.4**
	comp=E,3.5nm,0.4s						
BVAR	**Borovoye Array**	**14.12**	**339**	Pn	**Pn**	**02 19 05.6**	**-2.9**
	comp=E,0.2nm,0.3s,baz=158,slow=14,SNR=12						
BVAR				Lg		02 23 06.1	
	comp=E,0.1nm,0.3s,baz=155,slow=29,SNR=3.0						
BVAR	**Borovoye Array**	**14.12**	**339**	Pn	**Pn**	**02 19 05.6**	**-2.9**
BVAR				Lg		02 23 06.1	
BRVK	**Borovoye**	**14.18**	**339**	*e*Pn	**Pn**	**02 19 06.7**	**-2.5**
	comp=E,3.0nm,0.8s						
ZALV	**Zalesovo Beam**	**14.47**	**15**	Pn	**Pn**	**02 19 11.8**	**-1.3**
	comp=E,0.1nm,0.3s,baz=205,slow=13,SNR=3.2						
ZALV	**Zalesovo Beam**	**14.47**	**15**	Pn	**Pn**	**02 19 11.8**	**-1.3**
RAMN	**Ramite**	**14.67**	**151**	*e*P	**Pn**	**02 19 16.0**	**0.0**
SONM	**Songino Array**	**21.31**	**60**	P	**P**	**02 20 36.6**	**+1.3**
	comp=E,1.4nm,0.8s,mb3.3,baz=258,slow=10,SNR=9.4						
SONM	**Songino Array**	**21.31**	**60**	P	**P**	**02 20 36.6**	**+1.3**
HHC	**Hu-ho-hao-te**	**24.95**	**78**	*e*P	**P**	**02 21 13.0**	**+1.1**
HHC				sP	sP	02 21 22.0	+5.8
HHC				PP		02 21 50.0	
HHC				PcP	PcP	02 24 50.0	+2.9
HHC				S	**S**	**02 25 33.3**	**-2.1**
HHC				SS		02 26 29.3	
HHC				ScP	ScP	02 28 27.3	+1.2
HHC				ScS	ScS	02 32 14.0	-0.2
TORD	**Torodi Ar. Bea**	**71.75**	**272**	P	**P**	**02 27 08.3**	**-2.9**
	comp=E,0.2nm,0.5s,mb3.3,baz=53,slow=5.9,SNR=5.7						
TORD	**Torodi Ar. Bea**	**71.75**	**272**	P	**P**	**02 27 08.3**	**-2.9**

IGQ 28 02:19:04.6, 0.65°N×77.44°W, h9km±2km, Mb4.1, Ms3.9, 7C-3D, Error ellipse: s-maj=2.1km s-min=1.3km az=145.7, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CONE	**Cono NE Rev Vo**	**0.75**	**196**	⇑P	Pg	02 19 19.1	+0.1
LAV4	**Lava4-Reventad**	**0.76**	**195**	⇑P	Pg	02 19 19.3	0.0
CHAR	**Charly**	**0.77**	**198**	⇑S	Sg	02 19 31.2	+1.7
CHAR	**Charly**	**0.77**	**198**	⇑P	Pg	02 19 19.8	+0.3
CAYA	**Cayambe**	**0.80**	**224**	⇑P	Pg	02 19 20.3	+0.3
LITE	**Lita**	**0.94**	**279**	⇓P	Pg	02 19 22.5	-0.2
OTAV	**Otavalo**	**1.10**	**248**	⇓S	Sg	02 19 41.5	+1.5
OTAV	**Otavalo**	**1.10**	**248**	⇓P	Pg	02 19 25.4	-0.3
ANTI	**Antisana**	**1.31**	**214**	P	Pn	02 19 29.5	+0.5
ANTI	**Antisana**	**1.31**	**214**	S	Sb	02 19 48.0	+1.7
YANA	**Yana**	**1.37**	**236**	P	Pn	02 19 30.8	+1.0
GGP	**Refugio Guagua**	**1.42**	**235**	P	Pn	02 19 32.0	+1.5
PINO	**Pino**	**1.42**	**236**	S	Sn	02 19 50.8	+1.4
PINO	**Pino**	**1.42**	**236**	P	Pn	02 19 32.0	+1.5
TERV	**Terraza Guagua**	**1.43**	**235**	S	Sn	02 19 53.4	+3.9
TERV	**Terraza Guagua**	**1.43**	**235**	P	Pn	02 19 32.2	+1.6
JUA2	**San Juan 2**	**1.45**	**234**	P	Pn	02 19 32.1	+1.2
PITA	**Cotopaxi Volc**	**1.56**	**220**	P	Pn	02 19 34.9	+2.4
COV1	**Cotopaxi Volc**	**1.59**	**215**	P	Pn	02 19 36.7	+3.8
VC1	**Cotopaxi 1**	**1.61**	**217**	P	Pn	02 19 35.5	+2.3
TAMB	**Tambo**	**1.63**	**215**	P	Pn	02 19 36.8	+3.3
MOV1	**Cotopaxi Vol s**	**1.69**	**217**	P	Pn	02 19 37.0	+2.8
GOLV	**Golondrinas**	**1.76**	**256**	P	Pn	02 19 36.4	+1.3
PISA	**Pisayambo**	**1.95**	**209**	P	Pn	02 19 41.1	+3.3
PISA	**Pisayambo**	**1.95**	**209**	S	Sn	02 20 08.6	+6.3
BRUN	**Tungurahua Vol**	**2.28**	**205**	⇑S	Sn	02 20 18.1	+7.6
BRUN	**Tungurahua Vol**	**2.28**	**205**	⇑P	Pn	02 19 47.0	+4.7
BULB	**Ulba Tungurahu**	**2.29**	**205**	P	Pn	02 19 46.2	+3.6
PAT1	**Patacocha**	**2.37**	**205**	P	Pn	02 19 47.5	+4.0
ARRY	**Arrayan**	**2.37**	**205**	S	Sn	02 20 19.5	+6.6
ARRY	**Arrayan**	**2.37**	**205**	P	Pn	02 19 47.2	+3.6
BMAS	**Trigal station**	**2.38**	**206**	P	Pn	02 19 45.9	+2.1

IDC ***28*** *02:21:01.1±0.9, 18.02°N×145.75E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/22, mbtmp3.8/8, MS2.7/1, Ms1 2.7/1, ms1mx2.2/40, Error ellipse: s-maj=34.7km s-min=19.3km az=93.0*
ISCJB ***28*** *02:21:07.7±2.9, 18.0°N±0.1×145.6°E±0.2, h64km±27km, mb3.8/11, Error ellipse: s-maj=33.2km s-min=19.7km az=179.7*
NEIC ***28*** *02:21:09.6±2.4, 17.99°N×145.60E, h65km±23km, mb3.8/3, Error ellipse: s-maj=25.4km s-min=15.5km az

PYUN	Piuthan	13.40	96	*e*P		Pn	02 56 24.6	-0.4
	18nm,0.5s							
TKM2	Tokmak 2	13.99	24	*e*Pn		Pn	02 56 31.7	-1.3
	10nm,0.9s							
DANN	Dangsing	14.01	94	*e*P		Pn	02 56 32.6	-0.7
	22nm,0.7s							
KKN	Kakani	15.44	95	*e*P		Pn	02 56 52.1	-0.6
GUN	Gumba	15.93	94	*e*P		Pn	02 56 57.0	-2.0
	78nm,0.9s							
JIRN	Jiri	16.25	95	*e*P		Pn	02 57 03.0	-0.2
	3.6nm,0.4s							
RAMN	Ramite	16.79	97	*e*P		Pn	02 57 11.6	+1.6
	23nm,0.5s							
ODAN	Odare	17.49	97	*e*P		Pn	02 57 20.0	+1.2
	19nm,0.8s							
ABKAR	Akbulak array	19.82	345	*e*P		Pn	02 57 44.5	-2.4
	5.6nm,1.1s							
MK31	Makanchi Array	19.87	30	*e*P		Pn	02 57 46.5	-1.1
MKAR	Makanchi Array	19.87	30	P		Pn	02 57 46.5	-1.0
	1.0nm,0.6s,baz=207,slow=10,SNR=11							
MKAR	Makanchi Array	19.87	30	P		Pn	02 57 46.5	-1.0
KURK	Kurchatov	21.88	19	P		P	02 58 07.0	-0.6
	2.8nm,0.8s,mb3.7,baz=209,slow=9.5,SNR=6.5							
KURK	Kurchatov	21.88	19	*e*P		P	02 58 08.4	+0.7
	4.5nm,1.1s,mb3.8							
BVAR	Borovoye Array	22.74	4	P		P	02 58 16.7	0.0
	1.3nm,0.7s,mb3.5,baz=171,slow=10,SNR=5.7							
BVAR	Borovoye Array	22.74	4	P		P	02 58 16.7	0.0
ZALV	Zalesovo Beam	26.59	23	P		P	02 58 53.7	+0.8
	1.6nm,0.6s,mb3.8,baz=220,slow=8.5,SNR=9.9							
ZALV	Zalesovo Beam	26.59	23	P		P	02 58 53.7	+0.8
TORD	Torodi Ar. Bea	63.01	270	P		P	03 03 35.2	-7.0
	0.5nm,0.7s,mb3.8,baz=67,slow=5.2,SNR=4.4							
TORD	Torodi Ar. Bea	63.01	270	P		P	03 03 35.2	-7.0
ILAR	Eielson Array	81.39	14	P		P	03 05 32.1	+0.8
	0.2nm,0.8s,mb3.1,baz=330,slow=3.4,SNR=3.3							
ILAR	Eielson Array	81.39	14	P		P	03 05 32.1	+0.8
ASAR	Alice Springs	83.04	122	P		P	03 05 42.2	+1.7
	0.2nm,0.3s,mb3.6,baz=311,slow=4.7,SNR=3.7							
ASAR	Alice Springs	83.04	122	P		P	03 05 42.2	+1.7
YKA	Yellowknife Ar	87.47	1	P		P	03 06 01.9	-0.3
	0.8nm,0.7s,mb4.1,baz=353,slow=5.2,SNR=4.8							
YKA	Yellowknife Ar	87.47	1	P		P	03 06 01.9	-0.3

TRN 28 03:05:33.5, 14.89N×60.58W, h43km, MD3.5, M3.4(FDF), **7C, Windward Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DWS	Wesley	0.98	314	*e*P		Pn	03 05 53.2	+2.4
DWS				*e*S		Sn	03 06 06.4	+2.9
SLB	Belfond	1.14	203	↑*e*P		Pn	03 05 55.1	+2.0
SLB				*e*S		Sn	03 06 10.2	+2.6
MCLT	Moule a Chique	1.22	197	*e*P		Pn	03 05 56.1	+1.9
MCLT				*e*S		Sn	03 06 11.4	+2.0
MGG	Marie-Galante	1.25	326	↑*i*P		Pn	03 05 55.1	+0.6
TBG	Guadaloupe-3	1.40	313	↑*i*P		Pn	03 05 57.8	+1.1
DEG	La Desirade	1.49	342	*e*P		Pn	03 05 57.5	-0.4
DOG	Dongo Capester	1.51	319	↑*i*P		Pn	03 05 59.3	+1.2
PHG	Guadaloupe-2	1.52	318	↑*i*P		Pn	03 05 59.6	+1.4
HMG	Houelmont	1.53	315	↑*i*P		Pn	03 05 59.8	+1.4
SCG	Saint Claude	1.55	317	↑*i*P		Pn	03 06 00.0	+1.3
BCG	Bois Riant Cap	1.55	320	*e*P		Pn	03 05 59.9	+1.1
SSV	Crater Summit	1.66	201	*e*P		Pn	03 06 01.9	+1.7
SSV				*e*S		Sn	03 06 21.7	+1.5
BHS	Barnard House	1.67	199	*e*P		Pn	03 06 02.6	+2.4
BHS				*e*S		Sn	03 06 22.4	+2.0
SVV	Soufriere Volc	1.68	202	*e*P		Pn	03 06 02.6	+2.2
SVV				*e*S		Sn	03 06 22.3	+1.6
LZG	Guadaloupe-1	1.69	317	*e*P		Pn	03 06 02.0	+1.4
SVB	Belmont	1.73	202	*e*P		Pn	03 06 03.4	+2.3
SVB				*e*S		Sn	03 06 24.5	+2.4
FCV	Fort Charlotte	1.83	201	*e*P		Pn	03 06 04.7	+2.1
FCV				*e*S		Sn	03 06 26.7	+2.1
SKI	Saint Kitts	3.19	320	*e*P		Pn	03 06 23.6	+2.4
SKI				*e*S		Sn	03 07 00.3	+2.2
TOSP	Speyside	3.57	179	*e*P		Pn	03 06 28.5	+2.1
TOSP				*e*S		Sn	03 07 07.9	+0.6

IDC ***28*** *03:11:41.3±0.6, 22.76S×175.20W, h0km, mb4.6/14, mb1 4.8/15, mb1mx4.8/16, mbtmp4.6/15, ML3.8/1, MS4.3/14, Ms1 4.3/14, ms1mx4.1/24, Error ellipse: s-maj=23.2km s-min=17.8km az=147.0*

ISCJB ***28*** *03:11:45.2±0.2, 22.92S±0.07×175.25W±0.05, h33km, mb4.8/45, MS4.5/18, Error ellipse: s-maj=10.5km s-min=5.0km az=154.5*

NEIC ***28*** *03:11:48.4±1.7, 22.99S×175.13W, h55km±14km, mb4.8/24, Error ellipse: s-maj=11.9km s-min=8.5km az=137.0*

BJI ***28*** *03:11:50.4, 22.91S×174.50W, h93km, mb5.0/20, mb5.0/25*

ISC 28 03:11:46.9±0.2, 22.93S±0.07×175.22W±0.05, h35km, n286, σ0.67/222, mb4.8/45, **MS4.5**/18, **90C-68D, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	Nonsavu	8.16	308	*e*Pn		Pn	03 13 47.3	+4.4
AFI	Afiamalu	9.55	21	Pn		Pn	03 13 51.9	-10
	9.3nm,0.3s,baz=180,slow=8.1,SNR=9.7							
AFI				Sn		Sn	03 15 28.5	-20
	4.9nm,0.3s,baz=260,slow=18,SNR=3.4							
AFI	Afiamalu	9.55	21	Pn		Pn	03 13 51.9	-10
AFI				Sn		Sn	03 15 28.5	-20
RAR	Rarotonga	14.43	86	Pn		Pn	03 14 56.5	-12
	6.5nm,0.3s,baz=255,slow=8.7,SNR=7.4							
RAR				Sn		Sn	03 17 16.2	-31
	baz=309,slow=19,SNR=2.7							
RAR				LR		LR	03 19 40.2	
	comp=Z,1μm,20.6s,baz=269,slow=33							
RAR	Rarotonga	14.43	86	Pn		Pn	03 14 56.5	-12
RAR				Sn		Sn	03 17 16.2	-31
URZ	Urewera	16.63	202	Pn		Pn	03 15 36.3	-1.0
	0.3nm,0.3s,baz=294,slow=20,SNR=1.9							
URZ				Sn		Sn	03 18 28.9	-12
	0.3nm,0.3s,baz=357,slow=19,SNR=3.7							
URZ	Urewera	16.63	202	Pn		Pn	03 15 36.3	-1.0
URZ				Sn		Sn	03 18 28.9	-12
DZM	Mont Dzumac	16.97	269	*e*LR		LR	03 19 34.5	
	970nm,23.8s							
DZM	Mont Dzumac	16.97	269	*e*P		Pn	03 15 46.7	+5.0
	23nm,0.7s							
TBI	Tubuai	23.68	96	*e*LQ			03 21 15.7	
	862nm,26.8s							
TBI				*e*LR		LR	03 22 08.3	
	866nm,30.5s,baz=271							
PAE	Paea	24.60	82	*e*T			03 42 11.8	
	7.7nm,0.3s							
PPT2	Papeete2	24.62	82	*e*T			03 42 14.0	
	8.6nm,0.4s							
PPT	Papeete	24.63	82	*e*LQ			03 21 48.3	
	1μm,24.8s							
PPT				*e*LR		LR	03 22 30.9	
	621nm,22.5s,baz=260							
MEH	Mehetia	25.93	84	*e*T			03 43 52.1	
	46nm,0.3s							
ARMA	Armidale	30.46	249	*e*P		P	03 17 58.3	+1.8
ARMA	Armidale	30.46	249	*e*P		P	03 17 57.2	+0.7
	11nm,0.8s,mb4.7							
CTA	Charters Tower	35.89	267	*e*P		P	03 18 44.0	+0.1
	9.1nm,0.7s,mb4.8							
CTAO	Charters Tower	35.89	267	*e*P		P	03 18 43.5	-0.4
	12nm,0.8s,mb4.9							
TAOE	Nuku Hiva Isla	36.40	73	*e*LR		LR	03 28 08.5	
	338nm,21.3s							
QLP	Quilpie	36.89	256	*e*P		P	03 18 52.9	+0.5
RKT	Rikitea	36.96	98	*e*LR		LR	03 28 17.1	
	481nm,29.8s							
PMG	Port Moresby	38.42	284	P		P	03 19 05.2	-0.2
	23nm,0.8s,mb5.0,baz=88,slow=5.7,SNR=10							
PMG	Port Moresby	38.42	284	*e*P		P	03 19 05.0	-0.5
	20nm,0.8s,mb4.9							
STKA	Stephens Creek	39.15	247	P		P	03 19 11.1	-0.3
	4.5nm,0.7s,mb4.3,baz=97,slow=11,SNR=8.4							
STKA				LR		LR	03 34 48.5	
	comp=Z,555nm,18.9s,MS4.4,baz=312,slow=35							
STKA	Stephens Creek	39.15	247	*e*P		P	03 19 11.2	-0.2
	3.3nm,0.6s,mb4.2							
STKA	Stephens Creek	39.15	247	*e*P		P	03 19 11.5	+0.2
	11nm,2.3s,mb4.2							
AS31	Alice Springs	46.52	259	*e*P		P	03 20 10.8	-0.4
ASAR	Alice Springs	46.53	259	P		P	03 20 10.5	-0.8
	19nm,0.7s,mb5.1,baz=98,slow=7.8,SNR=158							
ASAR	Alice Springs	46.53	259	P		P	03 20 10.5	-0.8
WB2	Warramunga Arr	46.85	264	*e*P		P	03 20 12.5	-1.3
WRAB	Tennant Creek	46.86	264	*e*P		P	03 20 12.7	-1.2
	14nm,0.9s,mb4.9							
WRA	Warramunga Arr	46.86	264	P		P	03 20 12.4	-1.6
	7.2nm,0.7s,mb4.7,baz=102,slow=7.9,SNR=87							
WRA				LR		LR	03 39 45.1	
	comp=Z,396nm,18.6s,MS4.4,baz=95,slow=36							
WRA	Warramunga Arr	46.86	264	P		P	03 20 12.4	-1.6
FORT	Forrest	50.75	248	*e*P		P	03 20 42.8	-0.9
	22nm,0.6s,mb5.3							
FORT	Forrest	50.75	248	*e*P		P	03 20 42.8	-0.9
	31nm,0.7s,mb5.3							
GUMO	Guam	53.33	309	LR		LR	03 40 33.1	
	comp=Z,158nm,21.7s,MS4.0,baz=103,slow=32							
FITZ	Fitzroy Crossi	55.29	263	LR		LR	03 45 16.0	
	comp=Z,477nm,18.4s,MS4.6,baz=93,slow=36							
FITZ	Fitzroy Crossi	55.29	263	*e*P		P	03 21 16.9	-0.4
	7.8nm,0.6s,mb4.9							
KLBR	Kellerberrin	59.40	246	*e*P		P	03 21 46.1	0.0
	17nm,0.9s,mb5.1							
NWAO	Narrogin (SRO)	59.62	244	LR		LR	03 47 14.6	
	comp=Z,258nm,18.2s,MS4.4,baz=67,slow=36							
MBWA	Marble Bar	59.87	258	*e*P		P	03 21 48.3	-1.1
	7.8nm,0.7s,mb4.8							
QSPA	South Pole Qui	67.15	180	P		P	03 22 38.1	+1.4
	5.3nm,0.9s,mb4.6,baz=39,slow=5.3,SNR=7.4							
QSPA	South Pole Qui	67.15	180	P		P	03 22 38.1	+1.4
MJAR	Matsushiro Arr	73.69	322	P		P	03 23 15.9	-1.3
	5.8nm,0.7s,mb4.7,baz=164,slow=6.5,SNR=15							
MJAR				LR		LR	03 49 25.8	
	comp=Z,64nm,21.4s,MS3.9,baz=55,slow=31							
MJAR	Matsushiro Arr	73.69	322	P		P	03 23 15.9	-1.3
MAJO	Matsushiro	73.70	322	*e*P		P	03 23 16.0	-1.1
	8.5nm,0.7s,mb4.8							
ASAJ	Asahikawa	77.10	330	*e*P		P	03 23 36.9	+0.3
	5.4nm,0.8s,mb4.5							
EDW2	Edwards Air Fo	79.06	45	⇓P		P	03 23 47.5	-0.2
	baz=79							
YSS	Yuzh-Sakhalins	79.23	332	*e*P		P	03 23 48.6	+0.4
PETK	Petropavlovsk-	79.23	344	P		P	03 23 47.6	-0.8
	10.0nm,0.8s,mb4.8,baz=140,slow=9.1,SNR=7.8							
PETK				LR		LR	03 53 35.0	
	comp=Z,96nm,19.5s,MS4.1,baz=327,slow=32							
PETK	Petropavlovsk-	79.29	344	P		P	03 23 47.6	-0.8
LRMC	Laurel Mountai	79.62	44	↑P		P	03 23 50.4	-0.3
	baz=80							
BELC	Belle Mtn. Jos	79.85	46	↑P		P	03 23 51.4	-0.6
	baz=80							
GSC	Goldstone	80.09	45	↑P		P	03 23 53.4	+0.1
	baz=80							
MPMC	Manual Prospec	80.11	44	⇓P		P	03 23 53.2	-0.2
	baz=80							
HEC	Hector,Ludlow	80.12	46	⇓P		P	03 23 53.1	-0.3
	baz=80							
MAW	Mawson	80.15	199	LR		LR	04 01 08.0	
	comp=Z,262nm,18.2s,MS4.6,baz=126,slow=37							
MAW	Mawson	80.15	199	*e*P		P	03 23 55.1	+2.0
	3.1nm,0.8s,mb4.3							
KSRS	Korea Array	80.41	317	P		P	03 23 55.0	+0.1
	1.8nm,0.7s,mb4.1,baz=136,slow=7.1,SNR=4.6							
KSRS				LR		LR	03 56 11.5	
	comp=Z,127nm,18.5s,MS4.3,baz=308,slow=33							
KSAR	Wonju Array Be	80.43	317	P		P	03 23 55.0	0.0
IRM	Iron Mountain	80.51	47	↑P		P	03 23 55.5	0.0
	baz=81							
GMRC	Granite Mounta	80.53	46	↑P		P	03 23 55.3	-0.3
	baz=79							
YBH	Yreka Blue Hor	80.62	37	*e*P		P	03 23 54.9	-1.0
	6.8nm,1.1s,mb4.5							
113A	Mohawk Valley,	80.65	49	⇓P		P	03 23 55.6	-0.7
	baz=81							
Y12C	Blythe	80.69	47	↑P		P	03 23 56.0	-0.6
	baz=81							
WCN	Washoe City	80.73	40	⇓P		P	03 23 56.8	+0.3
	baz=81							
WCN	Washoe City	80.73	40	*e*P		P	03 23 55.0	-1.6
	5.6nm,1.1s,mb4.4							
TUQ	Turquoise Moun	80.75	45	↑P		P	03 23 56.6	-0.1
	baz=81							
GRAC	Grapevine Rang	80.76	43	↑P		P	03 23 56.8	0.0
	baz=81							
NVAR	Mina Array Bea	81.06	42	P		P	03 23 57.7	-0.6
	2.6nm,0.8s,mb4.2,baz=220,slow=8.2,SNR=16							
NVAR	Mina Array Bea	81.06	42	P		P	03 23 57.7	-0.6
Z14A	Wintersburg	81.55	48	⇓P		P	03 24 01.1	0.0
	baz=82							
Y14A	Wickenburg	81.84	48	↑P		P	03 24 02.7	+0.1
	baz=82							
W13A	Hualapai Mount	81.90	47	↑P		P	03 24 03.3	+0.4
	baz=82							
MOD	Modoc	82.08	38	*e*P		P	03 24 01.8	-1.8
	89nm,3.0s							
217A	Green Valley	82.17	51	⇓P		P	03 24 04.3	-0.1
	baz=82							
K05A	Summer Lake	82.28	37	⇓P		P	03 24 05.8	+1.1
	baz=82							
Y15A	Casa Rosa Ranc	82.31	48	⇓P		P	03 24 05.3	+0.2
	baz=82							
318A	Bisbee	82.58	52	⇓P		P	03 24 06.3	-0.3
	baz=83							
117A	Oracle	82.66	50	↑P		P	03 24 06.8	-0.1
	baz=83							
R11A	Troy Canyon, C	82.70	43	↑P		P	03 24 07.0	0.0
	baz=83							
Y16A	Circle Bar Ran	82.86	49	⇓P		P	03 24 07.6	-0.3
	baz=83							
319A	Douglas	83.06	52	⇓P		P	03 24 08.7	-0.3
	baz=83							
X16A	Lo Mia Camp, P	83.18	48	⇓P		P	03 24 09.9	+0.3
	baz=83,SNR=6.9							
Y17A	Roosevelt	83.20	49	↑P		P	03 24 09.7	0.0
	baz=83							
118A	Homack Ranch,	83.24	50	↑P		P	03 24 10.0	0.0
	baz=83							
219A	White Tail Can	83.41	51	⇓P		P	03 24 10.8	-0.1
	baz=84							
NJ2	Nanjing	83.41	309	*e*P		P	03 24 12.3	+1.5
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.7s,mb5.0							
X17A	Forest Lakes	83.57	49	⇓P		P	03 24 12.4	+0.8
	baz=84							
320A	Kipp Ranch, An	83.59	52	↑P		P	03 24 11.0	-0.7
	baz=84							
R13A	O'Grain Ranch,	83.63	44	↑P		P	03 24 12.2	+0.4
	baz=84							
CCUT	Cedar City	83.66	45	*e*P		P	03 24 11.8	-0.1
	comp=Z,4.2nm,1.0s,mb4.5							
ARUT	Antelope Range	83.74	45	*e*P		P	03 24 12.4	0.0
	comp=Z,5.8nm,0.9s,mb4.7							
Y18A	Canyon Day Jun	83.81	50	↑P		P	03 24 13.2	+0.3
	baz=84							
WUAZ	Wupatki	83.83	47	⇓P		P	03 24 13.4	+0.5
	baz=84							
220A	Playas Peak, P	83.89	52	⇓P		P	03 24 13.3	0.0
	baz=84							
I07A	Izee	83.94	37	⇓P		P	03 24 14.3	+1.1
	baz=84							
MDJ	Mudanjiang	83.99	324	P		P	03 24 15.3	+1.8
MDJ				PP		PP	03 27 31.0	+3.1
MDJ				SS		SS	03 40 07.0	+2.6
MDJ				pmax		pmax		
	comp=Z,13nm,1.0s,mb5.0							
MDJ				pmax		pmax		
	comp=Z,120nm,6.0s							
MDJ				LR		LR		
	comp=N,74nm,19.8s,MS4.2							
MDJ				LR		LR		
	comp=E,63nm,19.8s,MS4.2							
MDJ				LR		LR		
	comp=Z,150nm,17.6s,MS4.4							
MDJ	Mudanjiang	83.99	324	*e*P		P	03 24 13.9	+0.4
	comp=Z,19nm,1.0s,mb5.2							
J08A	Circle Bar Ran	84.05	38	⇓P		P	03 24 14.7	+0.9
	baz=84							
G06A	Carlson Farm,	84.07	35	↑P		P	03 24 14.9	+1.1
	baz=84							
120A	U Bar Ranch, L	84.15	51	⇓P		P	03 24 14.7	+0.1
	baz=84							
V17A	Tonalea, Kykot	84.28	48	↑P		P	03 24 15.5	+0.3
	baz=84,SNR=5.9							
U16A	Tuba City	84.34	47	⇓P		P	03 24 16.0	+0.5
	baz=84							
Y19A	Nutrioso	84.45	50	↑P		P	03 24 16.6	+0.5
	baz=85,SNR=5.1							
Z20A	Nine Sixteen R	84.47	51	↑P		P	03 24 16.5	+0.2
	baz=85							
X19A	St. Johns	84.68	49	⇓P		P	03 24 17.3	+0.1
	baz=85							
S16A	Weppner Ranch,	84.91	46	↑P		P	03 24 18.4	+0.1
	baz=85							
U17A	Shonto	84.91	47	↑P		P	03 24 18.5	+0.2
	baz=85							
SYO	Syowa Base	84.91	192	⇓*e*P		P	03 24 17.0	-0.9
SYO	Syowa Base	84.91	192	⇓*e*pP		pP	03 24 36.4	+7.4
V18A	Ganado	84.92	48	↑P		P	03 24 18.8	+0.4
	baz=85,SNR=5.0							
MSU	Marysvale	84.97	45	*e*P		P	03 24 18.6	0.0
G08A	Pilot Rock	85.01	36	⇓P		P	03 24 18.9	+0.4
	baz=85							
T17A	Navajo Res., N	85.03	46	↑P		P	03 24 18.9	-0.1
	baz=85							
Y20A	Horse Springs,	85.05	50	⇓P		P	03 24 18.7	-0.4
	baz=85							
Z21A	St. Cloud Mine	85.23	51	↑P		P	03 24 19.8	-0.3
	baz=85							
X20A	Quemado	85.29	50	↑P		P	03 24 20.7	+0.4
	baz=86,SNR=6.3							
R16A	Teasdale	85.30	45	⇓P		P	03 24 20.6	+0.3
	baz=86							
E07A	Sunnyside	85.34	35	↑P		P	03 24 20.9	+0.7
	baz=86							
U18A	Rough Rock, Ch	85.35	47	↑P		P	03 24 20.7	+0.2
	baz=86							
S17A	Black Ridge (B	85.39	46	⇓P		P	03 24 20.3	-0.4
	baz=86							
SNAA	Sanae	85.50	178	*e*		P	03 24 21.5	+0.7
SNAA				*e*			03 24 24.4	
SNAA	Sanae	85.50	178	LR		LR	03 59 39.1	
	comp=Z,160nm,19.5s,MS4.4,baz=208,slow=34							
SNAA	Sanae	85.50	178	*e*P		P	03 24 21.0	+0.2
	comp=Z,7.6nm,1.0s,mb4.9							
VNA3	Neumayer Olymp	85.54	175	*e*		P	03 24 21.0	0.0
VNA3				*e*			03 24 24.3	
Y21A	Point of Rocks	85.60	50	↑P		P	03 24 22.1	+0.2
	baz=86							
W20A	Ramah	85.60	49	↑P		P	03 24 22.0	+0.2
	baz=86,SNR=9.5							
MFID	Camas Ranch	85.60	39	↑P		P	03 24 22.2	+0.6
	baz=86							
Z22A	Elephant Butte	85.72	51	⇓P		P	03 24 22.4	-0.1
	baz=86							
E08A	Dider Farm, El	85.72	35	↑P		P	03 24 23.5	+1.4
	baz=86							
U19A	Dine' College,	85.73	48	↑P		P	03 24 22.8	+0.3
	baz=86,SNR=6.0							
T18A	Mexican Hat	85.73	47	↑P		P	03 24 22.8	+0.4
	baz=86,SNR=9.1							
X21A	Alamocita Cree	85.74	50	⇓P		P	03 24 23.1	+0.5
	baz=86							
O15A	The Old Anders	85.79	43	↑P		P	03 24 23.6	+0.9
	baz=86							
CN2	Changchun	85.80	321	*e*P		P	03 24 22.8	+0.2
CN2				*e*S		S	03 34 54.5	+1.5
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s,mb5.2							
CN2				pmax		pmax		
	comp=Z,300nm,4.0s							
CN2				LR		LR		
	comp=N,400nm,16.0s,MS5.1							
CN2				LR		LR		
	comp=E,400nm,16.0s,MS5.1							
CN2				LR		LR		
	comp=Z,300nm,17.0s,MS4.8							
R17A	Hanksville Air	85.88	45	↑P		P	03 24 24.0	+0.9
	baz=86							
324A	Moseley Ranch,	85.88	54	↑P		P	03 24 23.2	-0.1
	baz=86							
425A	Indio Mountain	85.93	54	⇓P		P	03 24 23.4	-0.2
	baz=86							
626A	Big Bend Ranch	85.97	56	⇓P		P	03 24 23.1	-0.7
	baz=86,SNR=5.4							
IPM	Ipoh	85.99	277	*e*P		P	03 24 23.8	-0.5
	comp=Z,13nm,0.8s,mb5.2							
VNA2	Neumayer--Watz	86.01	176	*e*		P	03 24 23.7	+0.4
	baz=195,slow=3.7							
VNA2				*e*			03 24 28.7	
VNA2				*e*			03 45 25.7	
Y22A	Socorro	86.06	51	↑P		P	03 24 24.2	+0.1
	baz=86							
MNTX	Cornudas Mount	86.09	53	↑P		P	03 24 24.1	-0.2
	baz=86							
T19A	Beclabito	86.14	47	⇓P		P	03 24 24.7	+0.2
	baz=86							
224A	Cornudas Mount	86.17	53	↑P		P	03 24 24.6	-0.1
	baz=86							
LAZ	Ladron	86.18	50	*e*P		P	03 24 22.7	-2.0
	comp=Z,2.2nm,1.2s,mb4.3							
VNA1	Neumayer--Stat	86.22	176	*e*		P	03 24 24.9	+0.5
VNA1				*e*			03 24 28.2	
E09A	Wood Farm, Sta	86.22	36	⇓P		P	03 24 25.5	+0.9
	baz=86							
TXAR	Lajitas Array	86.22	56	P		P	03 24 24.2	-0.8
	comp=Z,3.3nm,1.0s,mb4.5,baz=216,slow=5.4,SNR=19							
TXAR				LR		LR	03 58 43.0	
	comp=Z,180nm,18.1s,MS4.5,baz=175,slow=33							
TXAR	Lajitas Array	86.22	56	P		P	03 24 24.2	-0.8
325A	Bean Ranch, Si	86.23	54	⇓P		P	03 24 24.7	-0.3
	baz=86							
526A	Mary Lane Ranc	86.25	55	↑P		P	03 24 25.0	-0.2
	baz=86							
X22A	Bernardo	86.32	50	↑P		P	03 24 25.7	+0.2
	baz=86							
F10A	Beach Ranch, E	86.38	36	↑P		P	03 24 25.1	-0.3
	baz=87							

	baz=88										
J15A	**Blackfoot**	**87.59**	**40**	⇑P		**P**		**03 24 31.5**	**+0.2**		
	baz=88										
428A	**Kincaid Ranch,**	**87.63**	**55**	⇑P		**P**		**03 24 31.6**	**-0.3**		
	baz=88										
P19A	**Cripple Cowboy**	**87.67**	**45**	⇑P		**P**		**03 24 31.4**	**-0.4**		
	baz=88										
Y25A	**Mesa, Roswell**	**87.69**	**52**	⇓P		**P**		**03 24 31.9**	**-0.2**		
	baz=88										
W24A	**Lazy 6 Ranch,**	**87.81**	**50**	⇑P		**P**		**03 24 32.8**	**+0.2**		
	baz=88										
328A	**Wristen Ranch,**	**87.85**	**55**	⇓P		**P**		**03 24 32.4**	**-0.5**		
	baz=88										
R21A	**Cimarron**	**87.95**	**47**	⇓P		**P**		**03 24 33.2**	**0.0**		
	baz=88										
C11A	**Tepee Creek (N**	**88.06**	**35**	⇓P		**P**		**03 24 34.3**	**+0.8**		
	baz=88										
S22A	**4UR Ranch, Cre**	**88.11**	**48**	⇑P		**P**		**03 24 34.4**	**+0.4**		
	baz=88										
TRF	**Thorofare Moun**	**88.31**	**11**	*e*P		**P**		**03 24 33.1**	**-1.2**		
	comp=Z,12nm,0.8s,mb5.2										
R22A	**Saguache, Gunn**	**88.41**	**47**	⇓P		**P**		**03 24 35.7**	**+0.3**		
	baz=89										
W25A	**X Bar L Ranch,**	**88.49**	**51**	⇓P		**P**		**03 24 36.1**	**+0.3**		
	baz=89										
G15A	**Dillon**	**88.57**	**39**	⇓P		**P**		**03 24 36.3**	**+0.4**		
	baz=89										
P21A	**Newcastle**	**88.61**	**46**	⇑P		**P**		**03 24 36.2**	**-0.1**		
	baz=89										
K18A	**Toltan Ranch,**	**88.62**	**42**	⇓P		**P**		**03 24 36.6**	**+0.3**		
	baz=89										
Q22A	**Crested Butte,**	**88.63**	**47**	⇓P		**P**		**03 24 35.9**	**-0.5**		
	baz=89										
V25A	**Rancho No Teng**	**88.69**	**50**	⇑P		**P**		**03 24 36.6**	**-0.2**		
	baz=89										
N20A	**Spence Gulch,**	**88.77**	**44**	⇑P		**P**		**03 24 36.8**	**-0.2**		
	baz=89										
Y27A	**Causey**	**88.78**	**52**	⇓P		**P**		**03 24 36.4**	**-0.8**		
	baz=89										
MCK	**McKinley**	**88.81**	**11**	*e*P		**P**		**03 24 35.7**	**-0.9**		
	comp=Z,5.3nm,0.8s,mb4.9										
J18A	**Kendall Valley**	**88.95**	**42**	⇑P		**P**		**03 24 38.1**	**+0.3**		
	baz=89										
BW06	**Boulder Array**	**88.99**	**42**	⇑P		**P**		**03 24 38.5**	**+0.5**		
	baz=89										
PDAR	**Pinedale Array**	**88.99**	**42**	P		**P**		**03 24 36.7**	**-1.3**		
	comp=Z,1.2nm,0.9s,mb4.2,baz=215,slow=3.0,SNR=4.8										
PDAR				LR		LR		03 59 51.3			
	comp=Z,176nm,19.2s,MS4.5,baz=296,slow=32										
PDAR	**Pinedale Array**	**88.99**	**42**	P		**P**		**03 24 36.7**	**-1.3**		
SDCO	**Great Sand Dun**	**89.02**	**48**	⇑P		**P**		**03 24 38.2**	**0.0**		
	baz=89										
P22A	**Eagle**	**89.11**	**46**	⇑P		**P**		**03 24 38.6**	**0.0**		
	baz=89										
N21A	**Black Mountain**	**89.21**	**45**	⇓P		**P**		**03 24 38.8**	**-0.3**		
	baz=89										
L20A	**Wamsutter**	**89.34**	**43**	⇑P		**P**		**03 24 39.6**	**0.0**		
	baz=90										
F16A	**Kennard Place,**	**89.42**	**39**	⇓P		**P**		**03 24 40.2**	**+0.3**		
	baz=90										
BJI	**Beijing**	**89.43**	**314**	P		**P**		**03 24 40.0**	**-0.1**		
BJI				pmax		pmax					
	comp=Z,13nm,0.9s,mb5.3										
T25A	**Trinidad**	**89.47**	**49**	⇑P		**P**		**03 24 39.9**	**-0.5**		
	baz=90										
R24A	**Sanders Place,**	**89.53**	**48**	⇑P		**P**		**03 24 40.8**	**+0.1**		
	baz=90										
O22A	**Kremmling**	**89.54**	**46**	⇓P		**P**		**03 24 41.0**	**+0.4**		
	baz=90										
U26A	**Atchley Ranch,**	**89.57**	**50**	⇓P		**P**		**03 24 40.5**	**-0.4**		
	baz=90										
COLA	**College**	**90.04**	**11**	*e*P		**P**		**03 24 41.1**	**-1.3**		
	comp=Z,3.7nm,0.8s,mb4.8										
GYA	**Guiyang**	**90.08**	**299**	P		**P**		**03 24 44.8**	**+1.3**		
GYA				PP		PP		03 28 22.0	+4.6		
GYA				S		S		03 35 34.5	-0.1		
GYA				SS		SS		03 41 40.0	+5.7		
GYA				pmax		pmax					
	comp=Z,10.0nm,1.0s,mb5.1										
GYA				pmax		pmax					
	comp=Z,110nm,5.9s										
GYA				LR		LR					
	comp=N,460nm,22.8s,MS5.0										
GYA				LR		LR					
	comp=E,380nm,21.5s,MS5.0										
GYA				LR		LR					
	comp=Z,440nm,23.9s,MS4.8										
ILAR	**Eielson Array**	**90.13**	**12**	P		**P**		**03 24 40.9**	**-1.9**		
	comp=Z,1.7nm,0.9s,mb4.4,baz=215,slow=5.5,SNR=9.6										
ILAR	**Eielson Array**	**90.13**	**12**	P		**P**		**03 24 40.9**	**-1.9**		
XAN	**Xi'an**	**91.65**	**306**	P		**P**		**03 24 51.5**	**+0.9**		
XAN				pmax		pmax					
	comp=Z,5.0nm,0.7s,mb5.0										
XAN				pmax		pmax					
	comp=Z,16nm,4.0s										
BILL	**Bilibino**	**91.73**	**353**	*e*P		**P**		**03 24 49.5**	**-0.7**		
KMI	**Kunming**	**92.74**	**296**	P		**P**		**03 24 57.5**	**+1.6**		
KMI				PP		PP		03 28 43.5	+5.0		
KMI				S		S		03 35 56.0	-2.8		
KMI				pmax		pmax					
	comp=Z,17nm,0.7s,mb5.6										
KMI				pmax		pmax					
	comp=Z,120nm,3.1s										
KMI				LR		LR					
	comp=N,260nm,11.6s,MS5.1										
KMI				LR		LR					
	comp=E,310nm,10.5s,MS5.1										
KMI				LR		LR					
	comp=Z,160nm,11.2s,MS4.7										
HHC	**Hu-ho-hao-te**	**92.89**	**313**	*e*P		**P**		**03 24 58.0**	**+1.8**		
HHC				PP		PP		03 28 45.0	+5.7		
HHC				S		S		03 36 01.0	+1.6		
HHC				pmax		pmax					
	comp=Z,12nm,0.7s,mb5.4										
HHC				pmax		pmax					
	comp=Z,110nm,7.0s										
HHC				LR		LR					
	comp=N,140nm,14.9s,MS5.0										
HHC				LR		LR					
	comp=E,410nm,14.0s,MS5.0										
HHC				LR		LR					
	comp=Z,160nm,17.2s,MS4.5										
CMAR	**Chiang Mai Arr**	**93.35**	**289**	P		**P**		**03 25 00.3**	**+1.5**		
	comp=Z,4.7nm,0.7s,mb5.0,baz=135,slow=3.2,SNR=14										
CMAR				LR		LR		04 05 53.5			
	comp=Z,96nm,19.1s,MS4.3,baz=90,slow=35										
CMAR	**Chiang Mai Arr**	**93.35**	**289**	P		**P**		**03 25 00.3**	**+1.5**		
CHTO	**Chiang Mai**	**93.48**	**289**	*e*P		**P**		**03 25 00.5**	**+1.1**		
	comp=Z,5.9nm,0.7s,mb5.1										
CD2	**Chengdu**	**94.26**	**302**	P		**P**		**03 25 03.3**	**+0.5**		
CD2				pmax		pmax					
	comp=Z,20nm,0.5s,mb5.8										
CD2				pmax		pmax					
	comp=Z,140nm,9.0s										
SONM	**Songino Array**	**99.28**	**318**	P		**P**		**03 25 26.0**	**+0.9**		
	comp=Z,0.4nm,0.8s,mb4.0,baz=126,slow=7.3,SNR=3.1										
SONM	**Songino Array**	**99.28**	**318**	P		**P**		**03 25 26.0**	**+0.9**		
WMQ	**Urumqi**	**110.46**	**310**	PKP		PKiKP		03 30 13.5	-2.0		
WMQ				LR		LR					
	comp=N,37nm,16.3s										
WMQ				LR		LR					
	comp=E,64nm,29.4s										
WMQ				LR		LR					
	comp=Z,67nm,22.8s										
MKAR	**Makanchi Array**	**114.74**	**312**	PKP		PKiKP		03 30 22.2	-1.3		
	comp=Z,0.6nm,0.7s,baz=80,slow=1.8,SNR=4.3										
MKAR	**Makanchi Array**	**114.74**	**312**	PKP		PKiKP		03 30 22.2	-1.3		
KURK	**Kurchatov**	**117.53**	**316**	PKP		PKPdf		03 30 27.6	-1.2		
	comp=Z,0.8nm,0.7s,baz=94,slow=1.8,SNR=7.4										
KURK	**Kurchatov**	**117.53**	**316**	PKP		PKPdf		03 30 27.6	-1.2		
BVAR	**Borovoye Array**	**122.60**	**319**	PKP		PKPdf		03 30 37.5	-0.9		
	comp=Z,1.1nm,0.8s,baz=349,slow=1.5,SNR=4.0										
BVAR	**Borovoye Array**	**122.60**	**319**	PKP		PKPdf		03 30 37.5	-0.9		
KBL	**Kabul**	**123.31**	**297**	*e*PKPdf		PKPdf		03 30 40.2	-0.3		
BHD	**Baghdad**	**143.77**	**295**	*i* x		x		03 31 11.0			
BHD				*i* x		x		03 38 32.0			
SUW	**Suwalki**	**146.00**	**341**	*e*PKPbc		PKPbc		03 31 22.2	-0.4		
AKASG	**Malin Array Be**	**146.38**	**332**	PKPbc		PKPbc		03 31 22.6	-1.3		
	comp=Z,12nm,0.7s,baz=38,slow=3.7,SNR=40										
AKASG	**Malin Array Be**	**146.38**	**332**	PKPbc		PKPbc		03 31 22.6	-1.3		
KIEV	**Kiev**	**146.39**	**332**	*e*PKPbc		PKPbc		03 31 22.0	-1.9		
MALT	**Malatya**	**147.45**	**306**	⇓*i*P		pPKPab		03 31 40.0	-0.6		
LEOM	**Leova**	**149.82**	**327**	⇑*i*P		PKPbc		03 31 32.9	-0.3		
KWP	**Kalwaria Pacla**	**149.85**	**337**	⇑*i*P		PKPdf		03 31 30.5	+2.2		
BR131	**Keskin Array S**	**150.38**	**311**	*e*PKPbc		PKPbc		03 31 34.2	-0.6		
BRTR	**Keskin Array B**	**150.38**	**311**	PKPbc		PKPbc		03 31 34.1	-0.6		
	comp=Z,3.5nm,0.7s,baz=90,slow=2.9,SNR=16										
BRTR	**Keskin Array B**	**150.38**	**311**	PKPbc		PKPbc		03 31 34.1	-0.6		
BUR08	**Bucovina Ar. S**	**150.42**	**331**	*e*PKPbc		PKPbc		03 31 35.8	+1.3		
BURAR	**Bucovina Array**	**150.43**	**331**	⇓*i*P		PKPbc		03 31 35.9	+1.3		
GHRR		**150.53**	**327**	⇑*i*P		PKPdf		03 31 31.9	+2.4		
TESR		**150.58**	**328**	⇑*i*P		PKPbc		03 31 34.6	-0.4		
NIE	**Niedzica**	**150.86**	**339**	*e*P		PKPbc		03 31 35.9	+0.3		
CRVS	**Cervenica-Dubn**	**150.91**	**337**	*e*PKP		PKPbc		03 31 36.2	+0.5		
CLL	**Collm**	**150.96**	**349**	*e*PKPbc		PKPbc		03 31 35.0	-0.7		
	comp=Z,6.0nm,0.9s										
CLL				*i* PKPab		PKPab		03 31 42.1	-1.1		
CLL				*i* (pPKPbc)				03 31 47.5			
	comp=Z,13nm,0.9s										
VRI	**Vrincioaia**	**151.00**	**327**	⇑*i*P		PKPbc		03 31 33.5	-2.5		
PLOR	**Plostina**	**151.05**	**327**	⇑*i*P		PKPab		03 31 47.2	+3.5		
TIRR	**Tirgusor**	**151.07**	**324**	⇑*i*P		PKPbc		03 31 35.3	-0.9		
UPC	**Upice**	**151.11**	**345**	⇑*e*PKP		PKPbc		03 31 36.2	+0.1		
UPC				*ep*PKP		pPKPdf		03 31 48.5	+6.8		
TRPA	**Tarpa**	**151.14**	**335**	⇑*i*P		PKPbc		03 31 38.0	+1.7		
DPC	**Dobruska-Polom**	**151.18**	**345**	⇑*e*PKP		PKPbc		03 31 36.5	+0.2		
DPC				*ep*PKP		pPKPdf		03 31 48.2	+6.4		
BRG	**Berggiesshubel**	**151.21**	**348**	*e*P		PKPbc		03 31 35.8	-0.5		
	comp=Z,7.2nm,0.8s										
BRG				*e*				03 31 48.0			
	comp=Z,10nm,0.7s										
MMAI	**Mount Meron Ar**	**151.24**	**297**	PKPbc		PKPbc		03 31 37.6	+0.6		
	comp=Z,4.9nm,0.7s,baz=102,slow=3.4,SNR=7.1										
MMAI				PKPab		PKPab		03 31 46.2	+1.2		
	comp=Z,7.0nm,0.7s,baz=69,slow=4.8,SNR=8.4										
MMAI	**Mount Meron Ar**	**151.24**	**297**	PKPbc		PKPbc		03 31 37.6	+0.6		
MMAI				PKPab		PKPab		03 31 46.2	+1.2		
MORC	**Moravsky Berou**	**151.39**	**343**	*e*PKPbc		PKPbc		03 31 36.2	-0.6		
MORC	**Moravsky Berou**	**151.39**	**343**	⇑*i*P		PKPbc		03 31 37.0	+0.2		
PVCC	**Panska Ves**	**151.41**	**347**	⇑*e*PKP		PKPbc		03 31 36.9	+0.1		
PVCC				*ep*PKP		pPKPdf		03 31 48.8	+6.6		
KECS	**Kecovo**	**151.61**	**338**	*e*PKP		PKPbc		03 31 37.8	+0.5		
MLR	**Muntele Rosu**	**151.66**	**328**	PKPbc		PKPbc		03 31 38.6	+1.1		
	comp=Z,1.1nm,0.8s,baz=352,slow=12,SNR=8.3										
MLR	**Muntele Rosu**	**151.66**	**328**	PKPbc		PKPbc		03 31 38.6	+1.1		
MLR	**Muntele Rosu**	**151.66**	**328**	⇑*i*P		PKPbc		03 31 37.4	-0.1		
DRGR		**152.15**	**333**	⇑*i*P		PKPbc		03 31 38.6	0.0		
PSZ	**Piszkesteto**	**152.29**	**338**	⇓*i*P		PKPbc		03 31 43.6	+4.7		
KHC	**Kasperske Hory**	**152.94**	**347**	*e*PKPDF		PKPdf		03 31 35.0	+2.0		
KHC				*i* PKPAB		PKPab		03 31 49.1	-2.4		
GERES	**GERESS Array B**	**153.19**	**347**	PKPbc		PKPbc		03 31 40.8	-0.1		
	comp=Z,0.5nm,0.7s,baz=45,slow=1.9,SNR=5.7										
GERES	**GERESS Array B**	**153.19**	**347**	PKPbc		PKPbc		03 31 40.8	-0.1		
GZR	**Gura Zlata**	**153.22**	**331**	⇓*i*P		PKPdf		03 31 37.1	+3.5		
CONA	**Conrad Observa**	**153.53**	**343**	⇓*i*pPKPdf		PKPbc		03 31 47.7	+6.0		
	comp=Z,5.5nm,0.8s										
BZS	**Buzias**	**153.54**	**333**	⇑*i*P		PKPbc		03 31 40.9	-0.8		
TORD	**Torodi Ar. Bea**	**169.84**	**163**	PKP		PKPdf		03 31 51.1	-0.6		
	comp=Z,0.4nm,0.9s,baz=190,slow=2.6,SNR=2.5										
TORD				PKPab		PKPab		03 33 07.8	+2.0		
	comp=Z,1.3nm,0.7s,baz=192,slow=3.1,SNR=9.1										
TORD	**Torodi Ar. Bea**	**169.84**	**163**	PKP		PKPdf		03 31 51.1	-0.6		
TORD				PKPab		PKPab		03 33 07.8	+2.0		

*ISCJB **28** 03:21:18.6±0.5,36.07N±0.03×69.37E±0.07,h132km±7km, mb3.5/3,Error ellipse: s-maj=8.8km s-min=4.4km az=171.3*
*MOS **28** 03:21:18.9±1.0,36.14N×69.24E,h116km,mb4.1/2,Error ellipse: s-maj=26.5km s-min=8.1km az=80.5*
*NEIC **28** 03:21:19.6±0.9,36.09N×69.19E,h115km±12km,mb3.8/3, Error ellipse: s-maj=17.7km s-min=11.2km az=114.0*
*NNC **28** 03:21:24.6±5.4,36.60N×69.00E,h107km±68km,mb3.4, mpv4.1,Error ellipse: s-maj=40.1km s-min=27.7km az=18.0*
*IDC **28** 03:21:29.6±14.0,36.29N×69.16E,h218km±138km, mb3.3/3,mb1 3.3/6,mb1mx3.0/28,mbtmp3.3/6,Error ellipse: s-maj=89.8km s-min=26.1km az=174.0*

ISC 28 03:21:19.7±0.5,36.06N±0.03×69.36E±0.07,h129km±6km, n76,σ1s28/90,mb3.5/3,12C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.53**	**190**	*e*Pn		**Pn**		**03 21 48.2**	**+0.1**
KBL				*e*Sn		**Sn**		**03 22 09.7**	**0.0**
KBL	**Kabul**	**1.53**	**190**	*e*PN		**Pn**		**03 21 48.2**	**+0.1**
KBL				*e*				03 22 09.7	
CEP	**Cherat**	**3.06**	**136**	⇓P		**Pn**		**03 22 08.0**	**+1.0**
CEP				S		**Sn**		**03 22 46.0**	**+2.5**
THW	**Thamme Wali**	**3.80**	**148**	P		**Pn**		**03 22 17.8**	**+1.0**
CHCP	**Chirah Chowk**	**4.00**	**126**	⇑P		**Pn**		**03 22 20.8**	**+1.4**
SARP	**Sargodha**	**4.96**	**145**	P		**Pn**		**03 22 32.2**	**0.0**
KSH	**Kashi**	**6.27**	**55**	Pn		**Pn**		**03 22 46.3**	**-3.5**
KSH				Sn		**Sn**		**03 23 52.5**	**-7.6**
KSH				smax					
	comp=N,110nm,0.6s								
KSH				smax					
	comp=E,100nm,0.6s								
AML	**Almayashu**	**6.94**	**28**	P		**Pn**		**03 22 58.9**	**+0.1**
	SNR=46								
KK31	**Karatay Array**	**7.09**	**7**	⇑P		**Pn**		**03 22 59.9**	**-0.9**
	comp=E,3.3nm,0.1s,baz=204,slow=16,SNR=81								
KK31				⇑S		**Sn**		**03 24 14.5**	**-5.5**
	comp=E,5.6nm,0.3s,baz=194,slow=23,SNR=7.2								
KK31	**Karatay Array**	**7.09**	**7**	*ce*PN		**Pn**		**03 23 00.1**	**-0.8**
KK31				pmax		pmax			
	comp=Z,3.0nm,0.1s								
KKAR	**Karatay Array**	**7.09**	**7**	*e*Pn		**Pn**		**03 22 60.0**	**-0.9**
	comp=Z,16nm,0.7s								
KKAR				*e*Sn		**Sn**		**03 24 15.3**	**-4.7**
KKAR	**Karatay Array**	**7.09**	**7**	*e*PN		**Pn**		**03 23 00.0**	**-0.9**
KKAR				pmax		pmax			
	comp=Z,16nm,0.7s								
EKS2	**Erkin-Say**	**7.43**	**26**	P		**Pn**		**03 23 05.6**	**+0.2**
	SNR=14								
EKS2	**Erkin-Say**	**7.43**	**26**	*e*Pn		**Pn**		**03 23 05.2**	**-0.2**
	comp=Z,3.0nm,0.5s								
EKS2				*e*Sn		**Sn**		**03 24 27.1**	**-1.0**
EKS2	**Erkin-Say**	**7.43**	**26**	*e*PN		**Pn**		**03 23 05.2**	**-0.2**
EKS2				pmax		pmax			
	comp=Z,3.0nm,0.5s								
KZA	**Kyzart**	**7.56**	**36**	P		**Pn**		**03 23 08.9**	**+1.8**
	SNR=5.5								
AAK	**Ala-Archa**	**7.68**	**30**	P		**Sn**		**03 24 36.4**	**+2.4**
	SNR=5.7								
AAK	**Ala-Archa**	**7.68**	**30**	*e*Pn		**Pn**		**03 23 09.5**	**+0.8**
	comp=Z,37nm,0.4s								
AAK				*e*Sn		**Sn**		**03 24 34.5**	**+0.5**
AAK	**Ala-Archa**	**7.68**	**30**	⇑*e*PN		**Pn**		**03 23 09.1**	**+0.4**
AAK				pmax		pmax			
	comp=Z,18nm,0.8s								
CHMS	**Chumysh**	**8.09**	**29**	P		**Sn**		**03 24 42.9**	**-1.1**
	SNR=8.0								
USP	**Ospenovka**	**8.22**	**27**	P		**Pn**		**03 23 15.7**	**-0.3**
	SNR=7.7								
TKM2	**Tokmak 2**	**8.38**	**33**	P		**Pn**		**03 23 18.5**	**+0.4**
	SNR=8.2								
TKM2	**Tokmak 2**	**8.38**	**33**	⇑P		**Pn**		**03 23 17.8**	**-0.3**
	comp=Z,2.8nm,0.5s								
TKM2				⇓S		**Sn**		**03 24 49.0**	**-2.0**
	comp=Z,8.5nm,0.8s								
TKM2	**Tokmak 2**	**8.38**	**33**	*e*Pn		**Pn**		**03 23 17.9**	**-0.3**
	comp=Z,4.0nm,0.5s								
TKM2	**Tokmak 2**	**8.38**	**33**	*i* PN		**Pn**		**03 23 18.5**	**+0.3**
KKR	**Kurukshetra**	**8.72**	**132**	*e*PKP		**Pn**		**03 23 22.7**	**-0.2**
KHET	**Khetri**	**9.65**	**144**	*e*PKP		**Pn**		**03 23 34.5**	**-0.9**
KHET				*eS*		**Sn**		**03 25 16.1**	**-6.0**
BHGR	**Bahadurgarh**	**9.74**	**137**	*ex*		**Pn**		**03 23 41.8**	**+5.2**
KUDL	**Kundal**	**9.93**	**141**	*ex*		**Pn**		**03 23 36.2**	**-3.0**
KUDL				*eS*		**Sn**		**03 25 21.4**	**-7.4**
KUDL				AML		AML		03 25 25.1	
	comp=E,8.7nm,0.5s								
KUDL				AML		AML		03 25 27.6	
	comp=N,6.7nm,0.3s								
AYAN	**Aya Nagar**	**10.01**	**137**	*e*PKP		**Pn**		**03 23 40.4**	**+0.3**
AYAN				*eS*		**Sn**		**03 25 21.9**	**-8.7**
BISR	**Bishrakh**	**10.12**	**135**	*ex*		**Pn**		**03 23 43.7**	**+2.1**
SONA	**Sohna**	**10.16**	**138**	*e*PKP		**Pn**		**03 23 40.9**	**-1.4**
SONA				*eS*		**Sn**		**03 25 26.6**	**-7.9**
AGRA	**Agra**	**11.43**	**138**	*eS*		**Sn**		**03 25 55.7**	**-9.5**
AGRA				AML		AML		03 26 31.9	
	comp=N,42nm,0.4s								
AGRA				AML		AML		03 26 32.8	
	comp=E,40nm,0.2s								
PYUN	**Piuthan**	**14.01**	**121**	*e*P		**Pn**		**03 24 30.7**	**-1.8**
	comp=E,9.3nm,0.3s								
DANN	**Dangsing**	**14.40**	**118**	*e*P		**Pn**		**03 24 36.3**	**-1.2**
	comp=E,6.6nm,0.3s								
MK31	**Makanchi Array**	**14.44**	**38**	⇑P		**Pn**		**03 24 43.3**	**+5.5**
	comp=E,6.8nm,0.8s,baz=224,slow=14,SNR=24								
MK31	**Makanchi Array**	**14.44**	**38**	*e*Pn		**Pn**		**03 24 43.5**	**+5.7**
MK31	**Makanchi Array**	**14.44**	**38**	*ce*P		**Pn**		**03 24 43.2**	**+5.4**
MK31				pmax		pmax			
	comp=Z,11nm,0.8s								
MKAR	**Makanchi Array**	**14.44**	**38**	P		**Pn**		**03 24 43.3**	**+5.4**
	comp=Z,0.6nm,0.3s,baz=218,slow=11,SNR=26								
MKAR	**Makanchi Array**	**14.44**	**38**	P		**Pn**		**03 24 43.3**	**+5.4**
MKAR	**Makanchi Array**	**14.44**	**38**	P		**Pn**		**03 24 43.3**	**+5.5**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
KOLN	**Koldanda**	**14.63**	**120**	*e*P		**Pn**		**03 24 38.3**	**-2.1**
	comp=Z,11nm,0.6s								
AB31	**Akbulak array**	**14.88**	**335**	P		**Pn**		**03 24 41.8**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=159,slow=12,SNR=72								
AB31				S		**Sn**		**03 27 17.6**	**-10**
	comp=Z,1.2nm,0.4s,baz=156,slow=24,SNR=9.5								
AB31	**Akbulak array**	**14.88**	**335**	*ce*P		**Pn**		**03 24 41.8**	**-1.6**
AB31				pmax		pmax			
	comp=Z,2.0nm,0.2s								
ABKAR	**Akbulak array**	**14.88**	**335**	*e*Pn		**Pn**		**03 24 41.6**	**-1.7**
	comp=Z,2.2nm,0.4s								
GKN	**Gorkha**	**15.23**	**118**	*e*P		**Pn**		**03 24 46.6**	**-1.3**
	comp=Z,8.8nm,0.3s								
KKN	**Kakani**	**15.82**	**117**	*e*P		**Pn**		**03 24 55.3**	**+0.1**
KURBB	**Kurchatov Arra**	**15.99**	**22**	P		**Pn**		**03 25 00.5**	**+3.3**
	comp=Z,1.7nm,0.6s								
PKI	**Pulchoki**	**16.04**	**117**	*e*P		**Pn**		**03 24 56.6**	**-1.3**
	comp=Z,8.0nm,0.4s								
KURK	**Kurchatov**	**16.10**	**22**	P		**Pn**		**03 25 00.7**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=210,slow=10,SNR=56								
KURK	**Kurchatov**	**16.10**	**22**	*e*P		**Pn**		**03 25 00.5**	**+2.0**
	comp=Z,10nm,1.0s								
KURK	**Kurchatov**	**16.10**	**22**	⇑*e*P		**Pn**		**03 25 01.3**	**+2.8**
KURK				pmax		pmax			
	comp=Z,11nm,1.0s								
GUN	**Gumba**	**16.18**	**115**	*e*P		**Pn**		**03 25 00.4**	**+0.7**
	comp=Z,8.2nm,0.4s								
AKTO	**Aktyubinsk**	**16.55**	**334**	⇓P		**Pn**		**03 25 04.3**	**+0.3**
	comp=Z,0.7nm,0.9s								
AKTO				⇑S		**Sn**		**03 27 57.3**	**-11**
	comp=Z,0.3nm,0.8s								
AKTO	**Aktyubinsk**	**16.55**	**334**	P		**Pn**		**03 25 05.8**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=158,slow=11,SNR=11								
AKTO	**Aktyubinsk**	**16.55**	**334**	P		**Pn**		**03 25 05.8**	**+1.8**
AKTO	**Aktyubinsk**	**16.55**	**334**	*i* P		**Pn**		**03 25 04.3**	**+0.3**
AKTO				pmax		pmax			
	comp=Z,1.0nm,0.9s								
JIRN	**Jiri**	**16.55**	**116**	*e*P		**Pn**		**03 25 03.7**	**-0.5**
	comp=Z,4.1nm,0.4s		

AS31				*e*Sn		**Sn**	03 35 38.7	-10
ASAR	**Alice Springs**	**17.52**	**148**	P		**Pn**	03 32 34.7	+0.2
	0.8nm,0.3s,baz=328,slow=12,SNR=32							
ASAR				S		**S**	03 35 38.2	-17
	0.8nm,0.3s,baz=313,slow=18,SNR=13							
ASAR	**Alice Springs**	**17.52**	**148**	P		**Pn**	03 32 34.7	+0.2
ASAR				S		**S**	03 35 38.2	-17
COEN	**Coen**	**19.48**	**107**	*e*P		**Pn**	03 32 59.1	+0.5
	34nm,0.8s							
FORT	**Forrest**	**22.13**	**171**	*e*P		**P**	03 33 25.8	+0.2
	14nm,0.6s,mb4.6							
NWAO	**Narrogin (SRO)**	**24.74**	**194**	P		**P**	03 33 50.8	-0.4
	3.5nm,0.4s,mb4.3,baz=27,slow=9.4,SNR=6.7							
NWAO	**Narrogin (SRO)**	**24.74**	**194**	P		**P**	03 33 50.8	-0.4
STKA	**Stephens Creek**	**28.14**	**147**	P		**P**	03 34 23.9	+2.0
	0.8nm,0.4s,mb3.7,baz=325,slow=9.8,SNR=3.2							
STKA	**Stephens Creek**	**28.14**	**147**	P		**P**	03 34 23.9	+2.0
SONM	**Songino Array**	**58.56**	**346**	P		**P**	03 38 25.8	-0.2
	0.2nm,0.5s,mb3.4,baz=162,slow=8.1,SNR=2.5							
SONM	**Songino Array**	**58.56**	**346**	P		**P**	03 38 25.8	-0.2
MK31	**Makanchi Array**	**66.69**	**330**	*e*P		**P**	03 39 19.8	-0.5
MKAR	**Makanchi Array**	**66.69**	**330**	P		**P**	03 39 20.0	-0.2
	1.1nm,0.8s,mb4.0,baz=136,slow=8.7,SNR=6.5							
MKAR	**Makanchi Array**	**66.69**	**330**	P		**P**	03 39 20.0	-0.2
TKM2	**Tokmak 2**	**67.78**	**324**	*e*P		**P**	03 39 28.3	+1.1
	2.5nm,0.7s,mb4.3							
KURK	**Kurchatov**	**71.14**	**331**	P		**P**	03 39 47.4	-0.5
	0.4nm,0.3s,mb3.8,baz=141,slow=5.0,SNR=5.4							
KURK	**Kurchatov**	**71.14**	**331**	*e*P		**P**	03 39 46.5	-1.4
	0.9nm,0.6s,mb3.9							
SNAA	**Sanae**	**92.41**	**195**	*e*P		**P**	03 41 40.0	+0.3
	1.3nm,0.8s,mb4.3							
CPUP	**Villa Florida**	**144.99**	**178**	PKPbc	PKPdf		03 48 06.4	-1.0
	1.7nm,0.5s,baz=197,slow=1.0,SNR=8.8							
CPUP	**Villa Florida**	**144.99**	**178**	PKPbc	PKPdf		03 48 06.4	-1.0

*IDC **28** 03:32:40.9±0.8,22°.73S×175°.27W,h0km,mb4.3/13, mb1 4.5/13,mb1mx4.4/17,mbtmp4.3/13,MS3.9/2, Ms1 3.9/2,ms1mx3.3/29,Error ellipse: s-maj=30.4km s-min=18.8km az=153.0*

*ISCJB **28** 03:32:45.0±0.5,22°.8S±0°.1×175°.4W±0°.1,h33km,mb4.4/22, Error ellipse: s-maj=17.6km s-min=12.0km az=152.6*

*NEIC **28** 03:32:54.5±2.5,22°.78S×175°.41W,h104km,20km, mb4.4/13,Error ellipse: s-maj=17.7km s-min=12.9km az=138.0*

ISC 28 03:32:46.8±0.5,22°.8S±0°.1×175°.37W±0°.10,h35km,n61, σ0s98/45,mb4.4/22,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.94**	**308**	*e*Pn	**Pn**	**03 34 47.1**	**+7.3**
	41nm,0.8s						
AFI	**Afiamalu**	**9.43**	**22**	Pn	**Pn**	**03 34 53.4**	**-6.8**
	10nm,0.3s,baz=152,slow=22,SNR=4.7						
AFI				Sn	**Sn**	**03 36 25.2**	**-20**
	3.6nm,0.3s,baz=225,slow=20,SNR=2.3						
AFI	**Afiamalu**	**9.43**	**22**	Pn	**Pn**	**03 34 53.4**	**-6.8**
AFI				Sn	**Sn**	**03 36 25.2**	**-20**
RAR	**Rarotonga**	**14.55**	**87**	Pn	**Pn**	**03 35 54.6**	**-16**
	3.0nm,0.3s,baz=240,slow=7.8,SNR=5.3						
RAR				LR	LR	03 40 31.3	
	comp=Z,268nm,20.4s,baz=275,slow=32						
RAR	**Rarotonga**	**14.55**	**87**	Pn	**Pn**	**03 35 54.6**	**-16**
DZM	**Mont Dzumac**	**16.83**	**269**	*e*P	**Pn**	**03 36 45.6**	**+5.8**
	13nm,0.8s						
TBI	**Tubuai**	**23.84**	**97**	*e*LR	LR	03 43 13.3	
	197nm,29.8s						
PAE	**Paea**	**24.71**	**83**	*e*T		04 03 06.3	
	2.6nm,0.3s						
PPT2	**Papeete2**	**24.74**	**83**	*e*T		04 03 08.7	
	3.5nm,0.4s						
PPT	**Papeete**	**24.74**	**83**	*e*LR	LR	03 43 30.8	
	135nm,22.5s						
CTA	**Charters Tower**	**35.76**	**267**	P	**P**	**03 39 42.6**	**-0.1**
	5.0nm,0.7s,mb4.5,baz=96,slow=12,SNR=5.8						
CTA	**Charters Tower**	**35.76**	**267**	P	**P**	**03 39 42.6**	**-0.1**
CTAO	**Charters Tower**	**35.76**	**267**	*e*P	**P**	**03 39 42.3**	**-0.3**
	24nm,1.3s,mb5.0						
PMG	**Port Moresby**	**38.24**	**284**	P	**P**	**03 40 04.4**	**+0.6**
	7.0nm,0.7s,mb4.5,baz=108,slow=3.2,SNR=4.2						
PMG	**Port Moresby**	**38.24**	**284**	*e*P	**P**	**03 40 04.3**	**+0.5**
	11nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**39.09**	**247**	P	**P**	**03 40 10.7**	**-0.1**
	2.3nm,0.7s,mb4.0,baz=90,slow=9.1,SNR=3.6						
STKA	**Stephens Creek**	**39.09**	**247**	P	**P**	**03 40 10.7**	**-0.1**
AS31	**Alice Springs**	**46.42**	**258**	*e*P	**P**	**03 41 09.7**	**-0.7**
ASAR	**Alice Springs**	**46.43**	**258**	P	**P**	**03 41 09.5**	**-0.8**
	7.7nm,0.8s,mb4.7,baz=103,slow=7.2,SNR=53						
ASAR	**Alice Springs**	**46.43**	**258**	P	**P**	**03 41 09.6**	**-0.8**
WRA	**Warramunga Arr**	**46.75**	**264**	P	**P**	**03 41 11.9**	**-1.0**
	3.0nm,0.7s,mb4.4,baz=102,slow=7.9,SNR=17						
WRA	**Warramunga Arr**	**46.75**	**264**	P	**P**	**03 41 11.9**	**-1.0**
FITZ	**Fitzroy Crossi**	**55.17**	**263**	P	**P**	**03 42 16.3**	**-0.1**
	2.4nm,0.7s,mb4.3,baz=116,slow=5.2,SNR=6.0						
FITZ	**Fitzroy Crossi**	**55.17**	**263**	P	**P**	**03 42 16.3**	**-0.1**
VNDA	**Vanda**	**55.92**	**186**	*e*P	**P**	**03 42 22.2**	**+1.5**
	4.1nm,1.1s,mb4.4						
QSPA	**South Pole Qui**	**67.33**	**180**	*e*P	**P**	**03 43 37.9**	**+0.1**
	4.8nm,1.0s,mb4.5						
MJAR	**Matsushiro Arr**	**73.46**	**323**	P	**P**	**03 44 14.9**	**-0.8**
	3.1nm,0.7s,mb4.3,baz=164,slow=6.6,SNR=7.0						
MJAR	**Matsushiro Arr**	**73.46**	**323**	P	**P**	**03 44 14.9**	**-0.8**
JOW	**Kunigami**	**73.47**	**309**	LR	LR	04 14 27.6	
	comp=Z,138nm,18.3s,baz=258,slow=34						
PETK	**Petropavlovsk-**	**79.08**	**344**	P	**P**	**03 44 47.5**	**+0.3**
	5.0nm,0.8s,mb4.5,baz=151,slow=9.7,SNR=3.9						
PETK	**Petropavlovsk-**	**79.08**	**344**	P	**P**	**03 44 47.5**	**+0.3**
MAW	**Mawson**	**80.28**	**199**	P	**P**	**03 44 54.1**	**+0.4**
	1.3nm,0.6s,mb4.0,baz=146,slow=7.3,SNR=3.6						
MAW	**Mawson**	**80.28**	**199**	P	**P**	**03 44 54.1**	**+0.4**
NVAR	**Mina Array Bea**	**81.01**	**42**	P	**P**	**03 44 56.8**	**-1.2**
	1.3nm,0.9s,mb3.9,baz=224,slow=6.3,SNR=7.0						
NVAR	**Mina Array Bea**	**81.01**	**42**	P	**P**	**03 44 56.8**	**-1.2**
MSU	**Marysvale**	**84.94**	**45**	*e*P	**P**	**03 45 18.7**	**+0.4**
	4.5nm,1.3s,mb4.4						
SNAA	**Sanae**	**85.69**	**178**	*e*P	**P**	**03 45 20.2**	**-1.4**
	6.7nm,1.1s,mb4.8						
IPM	**Ipoh**	**85.83**	**277**	*e*P	**P**	**03 45 24.0**	**+0.6**
	8.4nm,0.7s,mb5.1						
MNTX	**Cornudas Mount**	**86.09**	**53**	*e*P	**P**	**03 45 25.7**	**+1.5**
	1.3nm,0.9s,mb4.2						
TXAR	**Lajitas Array**	**86.24**	**56**	P	**P**	**03 45 22.8**	**-2.2**
	1.3nm,1.1s,mb4.1,baz=231,slow=6.7,SNR=6.5						
TXAR	**Lajitas Array**	**86.24**	**56**	P	**P**	**03 45 22.8**	**-2.2**
ANMO	**Albuquerque**	**86.93**	**50**	*e*P	**P**	**03 45 27.4**	**-0.8**
	1.5nm,0.9s,mb4.2						
HWUT	**Hardware Ranch**	**87.06**	**42**	*e*P	**P**	**03 45 29.4**	**+0.6**
	1.5nm,0.9s,mb4.2						
ILAR	**Eielson Array**	**89.98**	**12**	P	**P**	**03 45 43.1**	**+1.1**
	0.5nm,0.8s,mb3.9,baz=225,slow=3.3,SNR=5.1						
ILAR	**Eielson Array**	**89.98**	**12**	P	**P**	**03 45 43.1**	**+1.1**
CMAR	**Chiang Mai Arr**	**93.16**	**289**	P	**P**	**03 45 59.8**	**+2.0**
	2.0nm,0.6s,mb4.7,baz=150,slow=3.9,SNR=8.3						
CMAR	**Chiang Mai Arr**	**93.16**	**289**	P	**P**	**03 45 59.8**	**+2.0**
CHTO	**Chiang Mai**	**93.29**	**289**	*e*P	**P**	**03 45 59.1**	**+0.6**
	2.7nm,0.7s,mb4.8						
AKASG	**Malin Array Be**	**146.15**	**332**	PKPbc	PKPbc	03 52 21.3	-1.8
	4.1nm,0.7s,baz=40,slow=4.1,SNR=16						
AKASG	**Malin Array Be**	**146.15**	**332**	PKPbc	PKPbc	03 52 21.3	-1.8
KIEV	**Kiev**	**146.16**	**332**	*e*PKPbc	PKPbc	03 52 21.8	-1.3
BR131	**Keskin Array S**	**150.15**	**311**	*e*PKPdf	PKPdf	03 52 29.5	+0.4
BR131				*e*PKPbc	PKPbc	03 52 34.0	-0.1
BRTR	**Keskin Array B**	**150.15**	**311**	PKPbc	PKPbc	03 52 33.5	-0.7
	1.4nm,0.8s,baz=138,slow=2.9,SNR=5.2						
BRTR	**Keskin Array B**	**150.15**	**311**	PKPbc	PKPbc	03 52 33.5	-0.7
BUR08	**Bucovina Ar. S**	**150.19**	**331**	*e*PKPbc	PKPbc	03 52 34.0	+0.1
CLL	**Collm**	**150.76**	**349**	*e*PKPbc	PKPbc	03 52 36.0	+0.9
CLL				*i* PKPab	PKPab	03 52 46.5	+4.3
	comp=Z,15nm,1.1s						
BRG	**Berggiesshubel**	**151.00**	**348**	*e*P	PKPab	03 52 46.6	+3.3
	comp=Z,7.7nm,1.1s						
GERES	**GERESS Array B**	**152.98**	**347**	PKPbc	PKPbc	03 52 42.0	+1.7
	comp=Z,0.5nm,0.9s,baz=56,slow=2.5,SNR=3.5						
GERES	**GERESS Array B**	**152.98**	**347**	PKPbc	PKPbc	03 52 42.0	+1.7
TORD	**Torodi Ar. Bea**	**170.06**	**163**	PKPab	PKPab	03 54 06.6	-0.2
	comp=Z,0.9nm,0.8s,baz=182,slow=3.7,SNR=5.2						
TORD	**Torodi Ar. Bea**	**170.06**	**163**	PKPab	PKPab	03 54 06.5	-0.2

*ISCJB **28** 03:37:14.3±0.5,7°.8S±0°.1×107°.82E±0°.05,h133km±7km, mb4.0/3,Error ellipse: s-maj=18.8km s-min=7.2km az=16.4*

*DJA **28** 03:37:15,7°.76S×107°.83E,h116km,MLv4.0/13*

*IDC **28** 03:37:16.1±7.7,7°.02S×108°.28E,h139km±114km,mb3.6/4, mb1 3.7/4,mb1mx3.2/20,mbtmp3.6/4,Error ellipse: s-maj=209.4km s-min=54.3km az=26.0*

ISC 28 03:37:15.4±0.5,7°.8S±0°.1×107°.82E±0°.05,h127km±7km, n20,σ0s31/24,mb3.9/3,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.19**	**358**	P	**Pn**	**03 37 33.2**	**+0.3**
CISI				S	**Sn**	**03 37 46.6**	**+0.5**
CISI	**Cisompet, Garu**	**0.19**	**358**	P	**Pn**	**03 37 32.6**	**-0.3**
LEM	**Lembang**	**0.94**	**348**	P	**Pn**	**03 37 37.6**	**+0.1**
LEM	**Lembang**	**0.94**	**348**	P	**Pn**	**03 37 37.2**	**-0.3**
SKJI	**Sukabumi**	**1.46**	**300**	P	**Pn**	**03 37 42.6**	**-0.2**
SKJI				S	**Sn**	**03 38 03.5**	**-0.2**
DBJI	**Dramaga**	**1.59**	**318**	P	**Pn**	**03 37 44.2**	**-0.2**
DBJI	**Dramaga**	**1.59**	**318**	P	**Pn**	**03 37 43.8**	**-0.6**
SBJI	**Serang**	**2.33**	**314**	P	**Pn**	**03 37 53.7**	**+0.3**
CGJI	**Cibinong**	**2.39**	**298**	P	**Pn**	**03 37 54.0**	**-0.2**
CGJI	**Cibinong**	**2.39**	**298**	P	**Pn**	**03 37 54.0**	**-0.2**
UGM	**Wanagama**	**2.68**	**94**	P	**Pn**	**03 37 57.8**	**0.0**
UGM				S	**Sn**	**03 38 30.4**	**-0.1**
RBSI	**Rajabasa**	**2.80**	**312**	P	**Pn**	**03 37 59.8**	**+0.4**
PCJI	**Pacitan**	**3.35**	**98**	P	**Pn**	**03 38 06.2**	**-0.4**
XMIS	**Christmas Isla**	**3.46**	**218**	P	**Pn**	**03 38 07.8**	**-0.2**
PWJI	**Pagerwojo**	**3.96**	**94**	P	**Pn**	**03 38 14.5**	**0.0**
GMJI	**Gumukmas**	**5.59**	**96**	P	**Pn**	**03 38 36.5**	**0.0**
FITZ	**Fitzroy Crossi**	**20.17**	**122**	P	**P**	**03 41 39.8**	**-0.2**
	1.1nm,0.6s,baz=323,slow=10,SNR=5.0						
FITZ				S	**S**	**03 45 19.9**	**+0.4**
	1.4nm,0.8s,baz=180,slow=20,SNR=3.2						
WRA	**Warramunga Arr**	**28.40**	**118**	P	**P**	**03 42 57.7**	**-0.4**
	0.4nm,0.3s,mb3.4,baz=310,slow=8.8,SNR=5.1						
ASAR	**Alice Springs**	**29.59**	**125**	P	**P**	**03 43 09.2**	**+0.6**
	0.8nm,0.6s,mb3.5,baz=304,slow=9.1,SNR=6.0						
STKA	**Stephens Creek**	**39.54**	**132**	P	**P**	**03 44 34.4**	**+0.3**
	6.0nm,0.4s,mb4.8,baz=307,slow=8.6,SNR=31						

DJA 28 03:45:14,1°.22N×121°.87E,h10km,MLv3.9/4,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.74**	**175**	P	Pg	03 45 28.2	-0.1
MRSI				S	Sg	03 45 39.9	+1.9
GTOI	**Gorontalo**	**1.28**	**117**	P	Pn	03 45 36.0	-1.9
GTOI				S	Sb	03 45 55.5	+0.8
KMSI	**Cibinong**	**2.21**	**107**	P	Pn	03 45 53.6	+2.9
LUWI	**Luwuk**	**2.42**	**158**	P	Pn	03 45 55.0	+1.3
LUWI				S	Sn	03 46 26.2	+2.8

*CSEM **28** 04:05:51.6,35°.26N×32°.47E,h41km,ML3.3,After NIC*
*NIC **28** 04:05:51.6±0.3,35°.26N×32°.47E,h41km,ML3.3,MW3.0*
*ISCJB **28** 04:05:52.9±1.4,35°.20N±0°.09×32°.5E±0°.1,h40km±11km, Error ellipse: s-maj=18.0km s-min=11.3km az=140.2*

ISC 28 04:05:52.9±1.3,35°.20N±0°.09×32°.5E±0°.1,h40km±11km, n11,σ0s73/17,4D,Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALFC	**Alevga**	**0.09**	**116**	⇓P	**Pn**	**04 05 59.1**	**-0.4**
	51nm,0.2s						
ALFC				S	**Sn**	**04 06 04.1**	**0.0**
ALFC	**Alevga**	**0.09**	**116**	⇓*i*P	**Pn**	**04 05 59.1**	**-0.4**
	51nm,0.2s						
ALFC				S	**Sn**	**04 06 04.1**	**0.0**
PPCY	**Paphos**	**0.34**	**202**	⇓P	**Pn**	**04 06 01.4**	**-0.2**
PPCY	**Paphos**	**0.34**	**202**	⇓*i*P	**Pn**	**04 06 01.4**	**-0.2**
SZAC	**Souni-Zanaja**	**0.54**	**144**	P	**Pn**	**04 06 03.5**	**-0.7**
SZAC				S	**Sn**	**04 06 13.5**	**+1.3**
SZAC	**Souni-Zanaja**	**0.54**	**144**	P	**Pn**	**04 06 03.5**	**-0.7**
SZAC				S	**Sn**	**04 06 13.5**	**+1.3**
MAMC	**Mammari**	**0.59**	**92**	P	**Pn**	**04 06 04.1**	**-0.7**
MAMC	**Mammari**	**0.59**	**92**	P	**Pn**	**04 06 04.1**	**-0.7**
CSS	**Prodhromos**	**0.72**	**109**	P	**Pn**	**04 06 05.8**	**-0.8**
	9.2nm,0.1s						
CSS				S	**Sn**	**04 06 16.9**	**+0.4**
CSS	**Prodhromos**	**0.72**	**109**	P	**Pn**	**04 06 05.8**	**-0.8**
	9.2nm,0.1s						
CSS				S	**Sn**	**04 06 16.9**	**+0.4**
GAZI	**Gazipasa**	**1.04**	**352**	*i* P	**Pn**	**04 06 12.1**	**+1.1**

JMA 28 04:16:45.0,35°.09N×136°.63E,h11km±1km,M2.5, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEG	**Eigenji**	**0.20**	**283**	P	Pg	04 16 49.4	+0.1
JEG				S	Sg	04 16 52.5	+0.3
TSUJ	**Tsu 2**	**0.42**	**205**	P	Pg	04 16 53.0	-0.2
TSUJ				S	Sg	04 16 58.6	-0.2
JGM	**Miyama**	**0.61**	**7**	P	Pg	04 16 57.4	+0.5
JGM				S	Sg	04 17 05.7	+0.7
JIE	**Ise**	**0.70**	**175**	P	Pg	04 16 57.8	-0.7
JHE	**Heguri**	**0.89**	**241**	P	Pg	04 17 01.3	-0.9
JHE				*e*S	Sg	04 17 13.5	-0.3
JKN2	**Miekihoku**	**0.90**	**199**	P	Pg	04 17 01.8	-0.5
JKN2				*e*S	Sg	04 17 13.3	-0.7
JWT	**Wachi**	**1.02**	**281**	P	Pg	04 17 03.9	-0.8
JWT				*e*S	Sg	04 17 17.3	-0.8
MAT	**Matsushiro**	**1.94**	**41**	P	Pn	04 17 19.2	+1.4
MAT				S	Sn	04 17 44.5	+2.4

*ISCJB **28** 04:18:38.8±0.2,10°.84N±0°.02×62°.32W±0°.02,h91km±2km, mb4.0/26,Error ellipse: s-maj=3.7km s-min=2.7km az=136.3*

*FUNV **28** 04:18:39.9,10°.85N×62°.15W,h72km,MW3.8*
*IDC **28** 04:18:39.3±2.1,10°.96N×62°.47W,h78km±17km,mb3.7/15, mb1 4.0/17,mb1mx3.9/23,mbtmp3.8/17,MS3.0/3, Ms1 3.0/3,ms1mx2.7/43,Error ellipse: s-maj=16.4km s-min=12.7km az=148.0*
*NEIC **28** 04:18:40.4±0.4,10°.87N×62°.34W,h90km±4km,mb4.1/14, MD4.0(TRN),Error ellipse: s-maj=6.6km s-min=5.1km az=223.0*
NEIC Felt at Port-of-Spain, Trinidad.
*TRN **28** 04:18:40.9,10°.84N×62°.23W,h85km,MD4.0*

ISC 28 04:18:39.9±0.2,10°.83N±0°.02×62°.31W±0°.02,h84km±2km, n123,σ1s04/155,mb4.0/26,7C-10D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.20**	**156**	⇓*e*P	**Pn**	**04 18 51.3**	**-0.8**
GUIV				*e*S	**Sn**	**04 18 58.9**	**-2.3**
ALNG	**Atlantic LNG**	**0.88**	**136**	*e*P	**Pn**	**04 18 58.8**	**+1.0**
ALNG	**Atlantic LNG**	**0.88**	**136**	*e*P	**Pn**	**04 18 58.8**	**+1.0**
ALNG				*e*S	**Sn**	**04 19 11.6**	**+0.3**
TRN	**Trinidad (W)**	**0.90**	**101**	*e*P	**Pn**	**04 18 58.5**	**+0.4**
TRN				*e*S	**Sn**	**04 19 10.8**	**-0.8**
TRN	**Trinidad (W)**	**0.90**	**101**	*e*P	**Pn**	**04 18 58.5**	**+0.4**
TRN				*e*S	**Sn**	**04 19 10.8**	**-0.8**
GUNV	**Guanoco**	**0.91**	**224**	⇑*e*P	**Pn**	**04 18 58.5**	**+0.4**
GUNV				*e*S	**Sn**	**04 19 12.4**	**+0.6**
CRUV	**Carupano**	**0.93**	**261**	*e*P	**Pn**	**04 18 58.0**	**-0.3**
BUAY	**Buenos Aires**	**0.94**	**139**	*e*P	**Pn**	**04 18 59.4**	**+1.0**
BUAY	**Buenos Aires**	**0.94**	**139**	*e*P	**Pn**	**04 18 59.4**	**+1.0**
TPP	**Pointe-a-Pierr**	**0.98**	**121**	⇑*e*P	**Pn**	**04 19 00.3**	**+1.4**
TPP	**Pointe-a-Pierr**	**0.98**	**121**	⇑*e*P	**Pn**	**04 19 00.3**	**+1.4**
TPP				*e*S	**Sn**	**04 19 12.7**	**-0.5**
SIPA	**Siparia**	**1.04**	**131**	*e*P	**Pn**	**04 19 00.3**	**+0.7**
TBH	**Brigand Hill**	**1.26**	**105**	⇓*e*P	**Pn**	**04 19 03.3**	**+0.9**
TBH	**Brigand Hill**	**1.26**	**105**	⇓*e*P	**Pn**	**04 19 03.3**	**+0.9**
TBH				*e*S	**Sn**	**04 19 18.2**	**-1.0**
GRGR	**Grenville**	**1.45**	**26**	*e*Pn	**Pn**	**04 19 04.0**	**-0.7**
GRGR				*e*Sn	**Sn**	**04 19 21.3**	**-2.1**
GRW	**Mount Saint Ca**	**1.47**	**25**	*e*P	**Pn**	**04 19 05.7**	**+0.8**
GRW	**Mount Saint Ca**	**1.47**	**25**	*e*P	**Pn**	**04 19 05.7**	**+0.8**
GRW				*e*S	**Sn**	**04 19 24.1**	**+0.2**
GRHS	**Sauteurs**	**1.53**	**25**	⇑*e*P	**Pn**	**04 19 06.1**	**+0.3**
GRHS				*e*S	**Sn**	**04 19 24.9**	**-0.5**
TPR	**Prospect**	**1.54**	**76**	⇓*e*P	**Pn**	**04 19 07.0**	**+1.1**
TPR				*e*S	**Sn**	**04 19 24.9**	**-0.7**
TPR	**Prospect**	**1.54**	**76**	⇓*e*P	**Pn**	**04 19 07.0**	**+1.1**
TPR				*e*S	**Sn**	**04 19 24.9**	**-0.7**
BOT	**Bacolet**	**1.59**	**78**	⇓*e*P	**Pn**	**04 19 07.5**	**+0.9**
BOT	**Bacolet**	**1.59**	**78**	⇓*e*P	**Pn**	**04 19 07.5**	**+0.9**
BOT				*e*S	**Sn**	**04 19 26.1**	**-0.6**
TOSP	**Speyside**	**1.80**	**75**	*e*P	**Pn**	**04 19 08.7**	**-0.5**
TOSP				*e*S	**Sn**	**04 19 29.9**	**-1.7**
ORIV	**Oritupano**	**2.06**	**212**	⇓*i*P	**Pn**	**04 19 13.2**	**+0.6**
PCRV	**Puerto La Cruz**	**2.38**	**254**	*e*P	**Pn**	**04 19 18.0**	**+1.1**
IBAV	**Isla La Blanqu**	**2.44**	**294**	⇓*i*P	**Pn**	**04 19 17.8**	**+0.1**
IBAV				*e*S	**Sn**	**04 19 46.7**	**-0.1**
FCV	**Fort Charlotte**	**2.54**	**24**	*e*P	**Pn**	**04 19 19.8**	**+0.7**
FCV				*e*S	**Sn**	**04 19 48.5**	**-0.7**
SVB	**Belmont**	**2.64**	**23**	*e*P	**Pn**	**04 19 20.2**	**-0.2**
SVB	**Belmont**	**2.64**	**23**	*e*P	**Pn**	**04 19 20.2**	**-0.2**
SVB				*e*S	**Sn**	**04 19 51.1**	**-0.5**
SVV	**Soufriere Volc**	**2.70**	**23**	*e*P	**Pn**	**04 19 22.2**	**+1.0**
SVV				*e*S	**Sn**	**04 19 52.1**	**-0.8**
BHS	**Barnard House**	**2.71**	**25**	*e*P	**Pn**	**04 19 21.3**	**-0.1**
BHS				*e*S	**Sn**	**04 19 51.7**	**-1.6**
SSV	**Crater Summit**	**2.71**	**24**	*e*P	**Pn**	**04 19 22.3**	**+0.8**
SSV				*e*S	**Sn**	**04 19 52.9**	**-0.4**
RIOV	**Rio Grande**	**2.78**	**170**	*e*P	**Pn**	**04 19 21.8**	**-0.5**
RIOV				*e*S	**Sn**	**04 19 52.1**	**-2.9**
GURV	**El Guri**	**3.14**	**194**	⇓*e*P	**Pn**	**04 19 26.7**	**-0.5**
MCLT	**Moule a Chique**	**3.16**	**25**	*e*P	**Pn**	**04 19 27.5**	**0.0**
MCLT				*e*S	**Sn**	**04 20 02.8**	**-1.4**
SLB	**Belfond**	**3.23**	**22**	⇑*e*P	**Pn**	**04 19 29.4**	**+1.0**
SLB				*e*S	**Sn**	**04 20 05.3**	**-0.5**
CUPV	**Cœpira**	**3.51**	**258**	*e*P	**Pn**	**04 19 33.6**	**+1.5**
CUPV				*e*S	**Sn**	**04 20 12.5**	**-0.2**
BBGH	**Gun Hill**	**3.54**	**49**	*e*Pn	**Pn**	**04 19 35.0**	**+2.4**
BIRV	**Birongo**	**3.91**	**265**	*e*P	**Pn**	**04 19 38.8**	**+1.1**
BIRV				*e*S	**Sn**	**04 20 21.8**	**-0.7**
ORCV	**Isla La Orchil**	**3.94**	**285**	⇑*e*P	**Pn**	**04 19 38.5**	**+0.5**
FDF	**Fort de France**	**4.04**	**16**	*e*Pn	**Pn**	**04 19 39.3**	**-0.1**
FDF				*e*Sn	**Sn**	**04 20 21.9**	**-3.8**
MERV	**Las Mercedes**	**4.23**	**249**	*e*P	**Pn**	**04 19 42.2**	**+0.3**
MERV				*e*S	**Sn**	**04 20 29.8**	**-0.5**
LUEV	**Luepa**	**5.02**	**170**	⇓*e*P	**Pn**	**04 19 51.2**	**-1.6**
TBG	**Guadaloupe-3**	**5.04**	**7**	*e*P	**Pn**	**04 19 53.9**	**+0.9**
MGG	**Marie-Galante**	**5.15**	**11**	*e*P	**Pn**	**04 19 56.2**	**+1.6**
HMG	**Houelmont**	**5.16**	**6**	*e*P	**Pn**	**04 19 55.6**	**+1.0**
SCG	**Saint Claude**	**5.21**	**7**	*e*P	**Pn**	**04 19 55.7**	**+0.4**
BCG	**Bois Riant Cap**	**5.27**	**7**	*e*P	**Pn**	**04 19 58.6**	**+2.4**
LZG	**Guadaloupe-1**	**5.31**	**6**	*e*P	**Pn**	**04 19 57.5**	**+0.9**
LZG				*e*S	**Sn**	**04 20 56.9**	**+0.4**
TURV	**Turiamo**	**5.45**	**267**	*e*P	**Pn**	**04 19 59.5**	**+0.9**
BAUV	**El Baul**	**5.95**	**252**	*e*P	**Pn**	**04 20 04.9**	**-0.6**
BAUV				*e*S	**Sn**	**04 21 09.6**	**-2.7**
MAPV	**Macapo**	**6.13**	**261**	*e*P	**Pn**	**04 20 07.8**	**-0.2**
SKI	**Saint Kitts**	**6.48**	**356**	*e*P	**Pn**	**04 20 14.0**	**+1.3**
TEPV	**Terepaima**	**6.83**	**263**	*e*P	**Pn**	**04 20 17.4**	**0.0**
SIQV	**Siquisique**	**7.38**	**269**	*e*P	**Pn**	**04 20 25.2**	**+0.3**
CURV	**Curarigua**	**7.57**	**265**	*e*P	**Pn**	**04 20 27.9**	**+0.3**
MONV	**Montecano**	**7.60**	**279**	*e*P	**Pn**	**04 20 27.7**	**-0.2**
MTP

BRTR	**Keskin Array B**	**87.69**	**50**	P		**P**		**04 31 20.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**145.52**	**33**	PKPbc		PKPbc		04 38 09.2	-0.2
	comp=Z,1.4nm,0.4s,baz=309,slow=6.0,SNR=5.6								
CMAR	**Chiang Mai Arr**	**145.52**	**33**	PKPbc		PKPbc		04 38 09.2	-0.2

MAN 28 04:26:29,10′.30N×125°.25E,h15km,mb4.3,ML3.2,MS3.0, 1C,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.42**	**247**	*e*P	Pg	04 26 39.0	+1.5
MSLP				*e*S	Sg	04 26 45.6	+2.5
PLP	**Palo**	**0.90**	**343**	*i*P	Pb	04 26 46.0	-0.3
PLP				*i*S	Sb	04 26 58.0	-0.1
OCLP	**Ormoc**	**0.98**	**320**	*e*P	Pb	04 26 48.2	+0.6
OCLP				*e*S	Sb	04 26 57.2	-3.1
TBP	**Tagbilaran**	**1.50**	**246**	*e*P	Pn	04 26 52.6	-2.7
TBP				*e*S	Sn	04 27 09.8	-4.8
TBP	**Tagbilaran**	**1.50**	**246**	*e*P	Pn	04 26 57.1	+1.8
TBP				*e*S	Sn	04 27 14.8	+0.3

*FUNV **28** 04:32:30.9,6°.66N×73°.21W,h170km,MW3.8*
*ISCJB **28** 04:32:32.0±0.4,6°.78N±0°.05×72°.90W±0°.04,h175km±4km, mb3.6/23, Error ellipse: s-maj=9.0km s-min=5.0km az=136.6*
*IDC **28** 04:32:31.9±1.6,6°.77N×72°.87W,h159km±17km,mb3.4/10, mb1 3.7/12,mb1mx3.5/22,mbtmp3.5/12, Error ellipse: s-maj=21.6km s-min=18.7km az=77.0*
*NEIC **28** 04:32:32.8±0.5,6°.72N×72°.90W,h171km±5km,mb3.7/16, Error ellipse: s-maj=7.1km s-min=5.3km az=87.0*
ISC 28 04:32:32.9±0.4,6°.76N±0°.04×72°.88W±0°.04,h169km±4km, n61,σ0°.83/70,mb3.6/23,1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.23**	**27**	*i*P	**Pn**	**04 33 01.8**	**+0.4**
CAPV				*e*S	**Sn**	**04 33 23.9**	**+0.5**
ROSC	**El Rosal**	**2.38**	**217**	P	**Pn**	**04 33 13.6**	**0.0**
	117nm,0.3s,baz=293,slow=19,SNR=211						
ROSC				S	**Sn**	**04 33 44.2**	**-0.8**
	36nm,0.3s,baz=110,slow=20,SNR=6.5						
ROSC	**El Rosal**	**2.38**	**217**	P	**Pn**	**04 33 13.6**	**0.0**
ROSC				S	**Sn**	**04 33 44.2**	**-0.8**
SOCV	**Socops**	**2.51**	**53**	*e*P	**Pn**	**04 33 16.5**	**+1.3**
SOCV				*e*S	**Sn**	**04 33 48.7**	**+0.9**
VIGV	**El Vigia**	**2.55**	**36**	*e*P	**Pn**	**04 33 16.3**	**+0.7**
VIGV				*e*S	**Sn**	**04 33 49.5**	**+0.8**
SDV	**Santo Domingo**	**3.07**	**46**	*e*Pn	**Pn**	**04 33 23.2**	**+1.3**
SDV				*e*Sn	**Sn**	**04 34 00.1**	**+0.1**
VIRV	**Villa del Rosa**	**3.75**	**7**	*e*P	**Pn**	**04 33 28.6**	**-1.8**
VIRV				*e*S	**Sn**	**04 34 11.7**	**-3.6**
SANV	**Sanarito**	**4.29**	**50**	*e*P	**Pn**	**04 33 38.2**	**+0.9**
SANV				*e*S	**Sn**	**04 34 28.5**	**+0.8**
CURV	**Curarigua**	**4.33**	**42**	*e*P	**Pn**	**04 33 38.5**	**+0.5**
CURV				*e*S	**Sn**	**04 34 27.5**	**-1.3**
DABV	**Dabajuro**	**4.69**	**28**	*e*P	**Pn**	**04 33 42.2**	**-0.4**
DABV				*e*S	**Sn**	**04 34 35.8**	**-1.4**
TEPV	**Terepaima**	**4.84**	**49**	*e*P	**Pn**	**04 33 45.7**	**+1.1**
TEPV				*e*S	**Sn**	**04 34 40.7**	**0.0**
SIQV	**Siquisique**	**4.91**	**38**	*e*P	**Pn**	**04 33 45.5**	**0.0**
SIQV				*e*S	**Sn**	**04 34 41.3**	**-1.1**
BAUV	**El Baul**	**5.26**	**65**	*e*P	**Pn**	**04 33 49.9**	**-0.2**
BAUV				*e*S	**Sn**	**04 34 49.7**	**-0.8**
MAPV	**Macapo**	**5.33**	**55**	*e*P	**Pn**	**04 33 51.8**	**+0.7**
MAPV				*e*S	**Sn**	**04 34 50.6**	**-1.7**
MONV	**Montecano**	**5.90**	**29**	*e*P	**Pn**	**04 33 57.8**	**-0.7**
BCIP	**Isla Barro Col**	**7.29**	**290**	*e*Pn	**Pn**	**04 34 15.8**	**-1.1**
OTAV	**Otavalo**	**8.54**	**221**	*e*Pn	**Pn**	**04 34 33.5**	**+0.2**
	3.2nm,0.8s						
MTDJ	**Mount Denham**	**12.27**	**339**	*e*Pn	**Pn**	**04 35 23.9**	**+1.8**
SJG	**San Juan**	**13.05**	**30**	P	**Pn**	**04 35 31.2**	**-0.9**
	1.8nm,0.3s,baz=215,slow=13,SNR=8.6						
SJG	**San Juan**	**13.05**	**30**	P	**Pn**	**04 35 31.2**	**-0.9**
NNA	**Nana**	**19.04**	**192**	*e*P	**P**	**04 36 40.1**	**-2.1**
	15nm,1.2s						
TEIG	**Tepich**	**20.05**	**313**	P	**P**	**04 36 53.9**	**+0.7**
	5.7nm,0.5s,baz=175,slow=20,SNR=8.6						
TEIG	**Tepich**	**20.05**	**313**	P	**P**	**04 36 53.9**	**+0.7**
LPAZ	**La Paz**	**23.38**	**168**	*e*P	**P**	**04 37 27.8**	**+1.3**
	1.5nm,0.9s,mb3.4						
WVT	**Waverly**	**32.28**	**337**	*e*P	**P**	**04 38 45.4**	**-0.2**
	2.7nm,0.5s,mb4.2						
CPUP	**Villa Florida**	**36.19**	**156**	*e*P	**P**	**04 39 18.7**	**-0.7**
	2.8nm,0.7s,mb4.0						
WMOK	**Wichita Mounta**	**36.67**	**323**	*e*P	**P**	**04 39 22.5**	**-1.0**
	2.2nm,0.7s,mb3.9						
TXAR	**Lajitas Array**	**36.68**	**312**	P	**P**	**04 39 23.5**	**-0.1**
	0.6nm,0.6s,mb3.4,baz=125,slow=8.7,SNR=13						
TXAR	**Lajitas Array**	**36.68**	**312**	P	**P**	**04 39 23.5**	**-0.1**
MNTX	**Cornudas Mount**	**39.19**	**314**	*e*P	**P**	**04 39 44.4**	**-0.2**
	1.0nm,0.6s,mb3.6						
SDCO	**Great Sand Dun**	**42.74**	**321**	*e*P	**P**	**04 40 14.4**	**+0.8**
	1.0nm,0.8s,mb3.5						
RSSD	**Black Hills**	**46.11**	**329**	*e*P	**P**	**04 40 40.1**	**-0.1**
	1.8nm,0.9s,mb3.7						
ULM	**Lac du Bonnet**	**47.42**	**340**	P	**P**	**04 40 49.5**	**-0.7**
	2.4nm,0.3s,mb4.2,baz=148,slow=8.0,SNR=5.1						
ULM	**Lac du Bonnet**	**47.42**	**340**	P	**P**	**04 40 49.5**	**-0.7**
SCHQ	**Schefferville**	**48.18**	**5**	P	**P**	**04 40 56.6**	**+0.7**
	7.1nm,1.1s,mb4.2,baz=206,slow=8.0,SNR=5.4						
SCHQ	**Schefferville**	**48.18**	**5**	P	**P**	**04 40 56.6**	**+0.7**
PDAR	**Pinedale Array**	**48.27**	**324**	P	**P**	**04 40 57.0**	**+0.1**
	0.7nm,0.6s,mb3.5,baz=125,slow=9.9,SNR=6.6						
PDAR	**Pinedale Array**	**48.27**	**324**	P	**P**	**04 40 57.0**	**+0.1**
BW06	**Boulder Array**	**48.27**	**324**	*e*P	**P**	**04 40 56.7**	**-0.1**
	0.6nm,0.6s,mb3.4						
DUG	**Dugway**	**48.81**	**319**	*e*P	**P**	**04 41 01.1**	**+0.1**
	1.3nm,0.8s,mb3.6						
LOHW	**Long Hollow**	**49.39**	**324**	*e*P	**P**	**04 41 06.0**	**+0.7**
	1.0nm,0.6s,mb3.6						
TPAW	**Teton Pass**	**49.52**	**324**	*e*P	**P**	**04 41 06.7**	**+0.3**
	0.9nm,0.5s,mb3.7						
MOOW	**Moose Ponds**	**49.55**	**324**	*e*P	**P**	**04 41 06.8**	**+0.2**
	0.8nm,0.8s,mb3.4						
HLID	**Hailey**	**51.63**	**322**	*e*P	**P**	**04 41 22.4**	**+0.2**
	0.8nm,0.6s,mb3.5						
NVAR	**Mina Array Bea**	**51.70**	**315**	P	**P**	**04 41 23.4**	**+0.7**
	0.4nm,0.6s,mb3.2,baz=128,slow=8.2,SNR=5.0						
NVAR	**Mina Array Bea**	**51.70**	**315**	P	**P**	**04 41 23.4**	**+0.7**
WVOR	**Wild Horse Val**	**53.73**	**319**	*e*P	**P**	**04 41 37.7**	**+0.1**
	0.8nm,0.5s,mb3.7						
YKA	**Yellowknife Ar**	**63.40**	**340**	P	**P**	**04 42 44.0**	**-0.1**
	1.6nm,0.6s,mb4.1,baz=132,slow=6.6,SNR=15						
YKA	**Yellowknife Ar**	**63.40**	**340**	P	**P**	**04 42 44.0**	**-0.1**
INK	**Inuvik**	**73.17**	**340**	P	**P**	**04 43 45.0**	**+0.3**
	0.3nm,0.5s,mb3.3,baz=103,slow=3.7,SNR=4.8						
INK	**Inuvik**	**73.17**	**340**	P	**P**	**04 43 45.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**73.52**	**78**	P	**P**	**04 43 47.9**	**+0.1**
	0.2nm,0.6s,mb3.1,baz=280,slow=6.9,SNR=6.1						
TORD	**Torodi Ar. Bea**	**73.52**	**78**	P	**P**	**04 43 47.9**	**+0.1**
TAM	**Tamanrasset**	**76.74**	**68**	*e*P	**P**	**04 44 06.0**	**-0.2**
ILAR	**Eielson Array**	**77.12**	**335**	P	**P**	**04 44 07.0**	**-0.4**
	0.2nm,0.6s,mb2.9,baz=105,slow=3.8,SNR=3.5						
ILAR	**Eielson Array**	**77.12**	**335**	P	**P**	**04 44 07.0**	**-0.4**
ASAR	**Alice Springs**	**149.27**	**234**	PKPbc	PKPbc	04 52 02.5	0.0
	0.3nm,0.3s,baz=117,slow=3.6,SNR=4.6						
ASAR	**Alice Springs**	**149.27**	**234**	PKPbc	PKPbc	04 52 02.5	0.0
WB2	**Warramunga Arr**	**150.51**	**241**	*e*PKPbc	PKPbc	04 52 05.3	-0.2
WRA	**Warramunga Arr**	**150.52**	**241**	PKPbc	PKPbc	04 52 06.1	+0.6
	0.3nm,0.3s,baz=103,slow=2.9,SNR=5.2						
WRA	**Warramunga Arr**	**150.52**	**241**	PKPbc	PKPbc	04 52 06.1	+0.6

IDC 28 04:52:38.5±54.0,21°.08S×179°.19W,h0km,mb4.2/3, mb1 4.3/3,mb1mx3.9/14,mbtmp4.2/3,Error ellipse: s-maj=977.9km s-min=146.3km az=83.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.53**	**245**	P	P	04 59 45.3	-0.6
	1.9nm,0.5s,baz=74,slow=9.3,SNR=9.4						
ASAR	**Alice Springs**	**43.30**	**257**	P	P	05 00 42.3	-0.1
	2.8nm,0.7s,baz=92,slow=8.1,SNR=30						
WRA	**Warramunga Arr**	**43.42**	**263**	P	P	05 00 43.8	+0.5
	1.4nm,0.3s,baz=96,slow=8.4,SNR=18						

*ISCJB **28** 04:56:03.6±0.4,32°.28N±0°.03×48°.80E±0°.03,h10km, mb3.6/11,Error ellipse: s-maj=4.8km s-min=3.9km az=8.3*
*IDC **28** 04:56:04.0±2.0,32°.54N×48°.81E,h0km,mb3.7/9,*
mb1 3.8/10,mb1mx3.6/28,mbtmp3.7/10,ML3.4/1,Error ellipse: s-maj=41.8km s-min=21.9km az=166.0
*SGS **28** 04:56:05.8,32°.65N×48°.83E,h28km*
*THR **28** 04:56:06.9±0.6,32°.40N×48°.84E,h28km±3km,ML3.5*
*NEIC **28** 04:56:06.9,32°.40N×48°.84E,h20km,mb3.5/3, ML3.5(THR),MN3.4(TEH),After THR.*
*CSEM **28** 04:56:08.1±0.2,32°.35N×48°.82E,h40km,ML3.5,Error ellipse: s-maj=5.4km s-min=4.5km az=14.0*
*TEH **28** 04:56:09.7,32°.40N×48°.90E,h33km*
ISC 28 04:56:05.6±0.3,32°.39N±0°.03×48°.80E±0°.03,h10km,n116, σ1°.36/133,mb3.6/11,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.28**	**179**	Pg	**Pg**	**04 56 14.0**	**+2.7**
SHGR				Sg	**Sg**	**04 56 19.0**	**+4.0**
SHGR	**Shooshtar-Gavs**	**0.28**	**179**	*e*Pg	**Pg**	**04 56 14.2**	**+2.9**
SHGR				*e*Sg	**Sg**	**04 56 19.5**	**+4.5**
SHGR	**Shooshtar-Gavs**	**0.28**	**179**	*e*Pg	**Pg**	**04 56 14.2**	**+2.9**
SHGR				*e*Sg	**Sg**	**04 56 19.5**	**+4.5**
IPIR	**Pirpir**	**1.79**	**80**	*e*Pn	**Pn**	**04 56 37.6**	**+1.0**
IPIR				*e*Sg	**Sg**	**04 57 03.2**	**-0.1**
IPIR	**Pirpir**	**1.79**	**80**	*e*Pn	**Pn**	**04 56 37.6**	**+1.0**
IPIR				*e*Sg	**Sg**	**04 57 03.2**	**-0.1**
IKOM	**Komasi**	**2.08**	**329**	Pn	**Pn**	**04 56 41.9**	**+1.3**
IKOM	**Komasi**	**2.08**	**329**	*e*Pn	**Pn**	**04 56 41.9**	**+1.3**
IKOM				*e*Sg	**Sg**	**04 57 17.2**	**+4.6**
IKOM				*e*		04 57 18.2	
	comp=N,6μm,0.3s						
IKOM	**Komasi**	**2.08**	**329**	*e*Pn	**Pn**	**04 56 41.9**	**+1.3**
IKOM				*e*Sg	**Sg**	**04 57 17.2**	**+4.6**
ASAO	**Ashtian**	**2.38**	**25**	Pn	**Pn**	**04 56 45.0**	**+0.2**
ASAO				Sg	**Sg**	**04 57 19.0**	**-3.3**
ASAO	**Ashtian**	**2.38**	**25**	*e*Pn	**Pn**	**04 56 46.0**	**+1.2**
ASAO				*e*Sg	**Sg**	**04 57 19.6**	**-2.7**
ASAO				AML	AML	04 57 24.8	
	comp=N,278nm,0.6s						
ASAO	**Ashtian**	**2.38**	**25**	*e*Pn	**Pn**	**04 56 46.0**	**+1.2**
IKLH	**Kolahrood**	**2.52**	**68**	Pn	**Pn**	**04 56 47.8**	**+1.2**
IKLH	**Kolahrood**	**2.52**	**68**	*e*Pn	**Pn**	**04 56 47.4**	**+0.8**
IKLH				*e*		04 57 30.3	
	comp=Z,2μm,0.2s						
IKLH	**Kolahrood**	**2.52**	**68**	*e*Pn	**Pn**	**04 56 47.4**	**+0.8**
IVIS	**Veis**	**2.68**	**323**	Pn	**Pn**	**04 56 50.9**	**+2.1**
IVIS	**Veis**	**2.68**	**323**	*e*Pn	**Pn**	**04 56 50.9**	**+2.1**
IVIS				*e*		04 57 39.5	
	comp=Z,592nm,0.3s						
IVIS	**Veis**	**2.68**	**323**	*e*Pn	**Pn**	**04 56 50.9**	**+2.1**
IGHG	**Ghaleghazi**	**2.69**	**317**	Pn	**Pn**	**04 56 50.7**	**+1.8**
IGHG	**Ghaleghazi**	**2.69**	**317**	*e*Pn	**Pn**	**04 56 50.8**	**+1.9**
IGHG				*e*		04 57 51.5	
	comp=Z,2μm,0.3s						
IGHG	**Ghaleghazi**	**2.69**	**317**	Pn	**Pn**	**04 56 50.7**	**+1.8**
IGAR	**Gharneh**	**2.74**	**89**	*e*Pn	**Pn**	**04 56 51.1**	**+1.4**
IGAR				*e*Sn	**Sn**	**04 57 20.2**	**-2.7**
IGAR				*e*		04 57 26.4	
	comp=Z,2μm,0.1s						
GHVR	**GHOM**	**2.95**	**44**	Pn	**Pn**	**04 56 53.0**	**+0.5**
GHVR	**GHOM**	**2.95**	**44**	*e*Pn	**Pn**	**04 56 53.3**	**+0.8**
GHVR				AML	AML	04 57 38.6	
	comp=E,192nm,0.6s						
GHVR				AML	AML	04 57 41.0	
	comp=N,137nm,0.6s						
GHVR	**GHOM**	**2.95**	**44**	Pn	**Pn**	**04 56 53.0**	**+0.5**
ILIN	**Lien**	**2.95**	**329**	Pn	**Pn**	**04 56 54.1**	**+1.6**
ILIN	**Lien**	**2.95**	**329**	*e*Pn	**Pn**	**04 56 54.2**	**+1.7**
ILIN				*e*		04 57 45.6	
	comp=Z,815nm,0.2s						
ILIN	**Lien**	**2.95**	**329**	*e*Pn	**Pn**	**04 56 54.2**	**+1.7**
SNGE	**Sanandaj**	**2.96**	**336**	Pn	**Pn**	**04 56 54.0**	**+1.4**
SNGE	**Sanandaj**	**2.96**	**336**	*e*Pn	**Pn**	**04 56 54.2**	**+1.6**
SNGE	**Sanandaj**	**2.96**	**336**	*e*Pn	**Pn**	**04 56 54.2**	**+1.6**
IZEF	**Zefreh**	**3.02**	**79**	Pn	**Pn**	**04 56 54.2**	**+0.7**
IZEF	**Zefreh**	**3.02**	**79**	*e*Pn	**Pn**	**04 56 54.2**	**+0.7**
IZEF				*e*		04 57 43.3	
	comp=Z,775nm,0.1s						
IZEF	**Zefreh**	**3.02**	**79**	*e*Pn	**Pn**	**04 56 54.2**	**+0.7**
IDHR	**Dehrash**	**3.06**	**320**	Pn	**Pn**	**04 56 55.7**	**+1.7**
IDHR	**Dehrash**	**3.06**	**320**	*e*Pn	**Pn**	**04 56 55.7**	**+1.7**
IDHR				*e*		04 57 47.6	
	comp=N,2μm,0.2s						
IDHR	**Dehrash**	**3.06**	**320**	*e*Pn	**Pn**	**04 56 55.7**	**+1.7**
IRAZ	**Razeghan**	**3.15**	**17**	Pn	**Pn**	**04 56 56.7**	**+1.4**
IRAZ				Sn	**Sn**	**04 57 30.8**	**-2.2**
IRAZ	**Razeghan**	**3.15**	**17**	*e*Pn	**Pn**	**04 56 56.8**	**+1.5**
IRAZ				*e*		04 57 49.0	
	comp=Z,1μm,0.4s						
IRAZ	**Razeghan**	**3.15**	**17**	Pn	**Pn**	**04 56 56.7**	**+1.4**
IRAZ				Sn	**Sn**	**04 57 30.8**	**-2.2**
NASN	**Na'in**	**3.41**	**82**	Pn	**Pn**	**04 57 00.0**	**+1.2**
NASN	**Na'in**	**3.41**	**82**	*e*Pn	**Pn**	**04 57 00.1**	**+1.2**
NASN	**Na'in**	**3.41**	**82**	Pn	**Pn**	**04 57 00.0**	**+1.2**
ISFB	**Sefidab**	**3.48**	**55**	Pn	**Pn**	**04 57 00.0**	**+0.2**
ISFB	**Sefidab**	**3.48**	**55**	*e*Pn	**Pn**	**04 57 00.0**	**+0.2**
ISFB				*e*		04 57 59.7	
	comp=Z,863nm,0.3s						
ISFB	**Sefidab**	**3.48**	**55**	*e*Pn	**Pn**	**04 57 00.0**	**+0.2**
IVRN	**Varamin**	**3.57**	**42**	Pn	**Pn**	**04 57 01.2**	**+0.2**
IVRN	**Varamin**	**3.57**	**42**	*e*Pn	**Pn**	**04 57 01.3**	**+0.3**
IVRN				*e*Pn	**Pn**	**04 57 01.6**	**+0.6**
IVRN				*e*		04 58 09.0	
	comp=Z,861nm,0.3s						
IVRN	**Varamin**	**3.57**	**42**	*e*Pn	**Pn**	**04 57 01.3**	**+0.3**
IR3	**Iran Long-Peri**	**3.59**	**30**	*e*Pn	**Pn**	**04 57 01.9**	**+0.5**
IR3	**Iran Long-Peri**	**3.59**	**30**	*e*Pn	**Pn**	**04 57 01.9**	**+0.5**
THKV	**Tehran--Karaj**	**3.92**	**26**	*e*Pn	**Pn**	**04 57 07.8**	**+2.0**
IPAR	**Pars**	**4.44**	**124**	Pn	**Pn**	**04 57 13.6**	**+0.5**
IPAR	**Pars**	**4.44**	**124**	*e*Pn	**Pn**	**04 57 13.6**	**+0.5**
IPAR				*e*		04 58 51.3	
	comp=Z,384nm,0.4s						
IPAR	**Pars**	**4.44**	**124**	*e*Pn	**Pn**	**04 57 13.6**	**+0.5**
IFIR	**Firoozkooh**	**4.62**	**44**	Pn	**Pn**	**04 57 15.6**	**+0.2**
IFIR	**Firoozkooh**	**4.62**	**44**	*e*Pn	**Pn**	**04 57 15.2**	**-0.2**
IFIR				*e*		04 57 16.8	
	comp=Z,286nm,0.2s						
IFIR	**Firoozkooh**	**4.62**	**44**	Pn	**Pn**	**04 57 15.6**	**+0.2**
ICHK	**Chekchek**	**4.75**	**90**	*e*Pn	**Pn**	**04 57 18.4**	**+1.1**
ICHK				*e*		04 58 18.4	
	comp=N,471nm,0.3s						
ICHK	**Chekchek**	**4.75**	**90**	*e*Pn	**Pn**	**04 57 18.4**	**+1.1**
IPRN	**Peran**	**4.83**	**36**	Pn	**Pn**	**04 57 18.7**	**+0.3**
IPRN	**Peran**	**4.83**	**36**	*e*Pn	**Pn**	**04 57 18.2**	**-0.2**
IPRN				*e*		04 58 42.0	
	comp=Z,636nm,0.4s						
IALA	**Alasht**	**4.96**	**41**	Pn	**Pn**	**04 57 20.7**	**+0.5**
IALA				Sn	**Sn**	**04 58 13.8**	**-3.8**
IALA	**Alasht**	**4.96**	**41**	*e*Pn	**Pn**	**04 57 20.6**	**+0.4**
IALA				*e*		04 58 14.4	
	comp=Z,323nm,0.2s						
IALA	**Alasht**	**4.96**	**41**	Pn	**Pn**	**04 57 20.7**	**+0.5**
IALA				Sn	**Sn**	**04 58 13.8**	**-3.8**
IBAF	**Bafgh**	**5.81**	**96**	Pn	**Pn**	**04 57 31.0**	**-0.8**
IBAF	**Bafgh**	**5.81**	**96**	*e*Pn	**Pn**	**04 57 31.6**	**-0.2**
IBAF				*e*		04 57 44.8	
	comp=Z,97nm,0.2s						
IBAF	**Bafgh**	**5.81**	**96**	Pn	**Pn**	**04 57 31.0**	**-0.8**
IHRS	**Heris**	**6.09**	**347**	*e*Pn	**Pn**	**04 57 36.5**	**+0.9**
IHRS				*e*		04 57 59.1	
	comp=Z,73nm,0.2s						
IHRS	**Heris**	**6.09**	**347**	*e*Pn	**Pn**	**04 57 36.5**	**+0.9**
ASYS		**6.22**	**220**	P	**Pn**	**04 57 37.8**	**+0.4**
ASYS		**6.22**	**220**	P	**Pn**	**04 57 37.8**	**+0.4**
ASYS				S	**Sn**	**04 58 46.5**	**-2.1**
BTHS		**8.51**	**167**	P	**Pn**	**04 58 08.2**	**-0.6**
BTHS		**8.51**	**167**	P	**Pn**	**04 58 08.2**	**-0.7**
BTHS				S	**Sn**	**04 59 40.6**	**-4.4**
HRDDS		**9.44**	**176**	P	**Pn**	**04 58 22.2**	**+0.4**
CSS	**Prodhromos**	**13.14**	**285**	*e*Pn	**Pn**	**04 59 11.2**	**-1.0**
CSS	**Prodhromos**	**13.14**	**285**	*e*Pn	**Pn**	**04 59 11.2**	**-1.0**
ABKAR	**Akbulak array**	**18.81**	**23**	*e*P	**Pn**	**05 00 22.4**	**-3.2**
	comp=Z,0.6nm,0.6s						
ABKAR	**Akbulak array**	**18.81**	**23**	*e*P	**Pn**	**05 00 22.5**	**-3.1**
	comp=Z,0.6nm,0.6s						
AKTO	**Aktyubinsk**	**19.28**	**18**	P	**Pn**	**05 00 28.8**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=228,slow=12,SNR=3.8						
AKTO	**Aktyubinsk**	**19.28**	**18**	P	**Pn**	**05 00 28.8**	**-2.5**
AKTO	**Aktyubinsk**	**19.28**	**18**	P	**Pn**	**05 00 28.8**	**-2.6**
GVD	**Gavdhos**	**20.71**	**284**	*e*P	**P**	**05 00 44.5**	**-1.6**
	comp=Z,80nm,0.8s						
GVD	**Gavdhos**	**20.71**	**284**	*e*P	**P**	**05 00 44.5**	**-1.6**
	comp=Z,80nm,0.8s						
MLR	**Muntele Rosu**	**21.98**	**313**	P	**P**	**05 01 00.2**	**+0.6**
	comp=Z,0.6nm,1.0s,mb3.0,baz=356,slow=20,SNR=5.1						
MLR	**Muntele Rosu**	**21.98**	**313**	P	**P**	**05 01 00.2**	**+0.6**
MLR	**Muntele Rosu**	**21.98**	**313**	P	**P**	**05 01 00.2**	**+0.6**
EKS2	**Erkin-Say**	**22.23**	**55**	*e*P	**P**	**05 01 01.4**	**-1.0**
	comp=Z,1.1nm,0.6s,mb3.5						
EKS2	**Erkin-Say**	**22.23**	**55**	*e*P	**P**	**05 01 01.4**	**-1.0**
	comp=Z,1.1nm,0.6s,mb3.5						
AKASG	**Malin Array Be**	**23.31**	**327**	P	**P**	**05 01 12.2**	**-1.5**
	comp=Z,0.3nm,0.4s,mb3.1,baz=129,slow=9.7,SNR=4.6						
AKASG	**Malin Array Be**	**23.31**	**327**	P	**P**	**05 01 12.2**	**-1.5**
AKASG	**Malin Array Be**	**23.31**	**327**	P	**P**	**05 01 12.2**	**-1.5**
KIEV	**Kiev**	**23.32**	**327**	*e*P	**P**	**05 01 12.6**	**-1.2**
KIEV	**Kiev**	**23.32**	**327**	*e*P	**P**	**05 01 12.6**	**-1.1**
BVAR	**Borovoye Array**	**25.84**	**31**	P	**P**	**05 01 35.6**	**-1.4**
	comp=Z,0.6nm,0.5s,mb3.4,baz=256,slow=9.8,SNR=4.0						
BVAR	**Borovoye Array**	**25.84**	**31**	P	**P**	**05 01 35.6**	**-1.4**
BVAR	**Borovoye Array**	**25.84**	**31**	P	**P**	**05 01 35.6**	**-1.4**
KURK	**Kurchatov**	**28.58**	**41**	*e*P	**P**	**05 01 59.0**	**-2.7**
	comp=Z,0.9nm,0.5s,mb3.8						
KURK	**Kurchatov**	**28.58**	**41**	*e*P	**P**	**05 01 59.0**	**-2.7**
	comp=Z,0.9nm,0.5s,mb3.8						
MKAR	**Makanchi Array**	**29.29**	**51**	P	**P**	**05 02 07.5**	**-0.6**
	comp=Z,0.5nm,0.8s,mb3.3,baz=249,slow=9.7,SNR=3.6						
MKAR	**Makanchi Array**	**29.29**	**51**	P	**P**	**05 02 07.5**	**-0.6**
MKAR	**Makanchi Array**	**29.29**	**51**	P	**P**	**05 02 07.5**	**-0.5**
FINES	**FINESS Array B**	**32.59**	**340**	P	**P**	**05 02 35.3**	**-1.7**
	comp=Z,5.7nm,1.0s,mb4.5,baz=134,slow=6.0,SNR=3.3						
FINES	**FINESS Array B**	**32.59**	**340**	P	**P**	**05 02 35.3**	**-1.7**
FINES	**FINESS Array B**	**32.59**	**340**	P	**P**	**05 02 35.3**	**-1.7**
ZALV	**Zalesovo Beam**	**33.44**	**39**	P	**P**	**05 02 43.3**	**-1.1**
	comp=Z,0.4nm,0.3s,mb3.8,baz=245,slow=8.9,SNR=3.3						
ZALV	**Zalesovo Beam**	**33.44**	**39**	P	**P**	**05 02 43.3**	**-1.1**
ZALV	**Zalesovo Beam**	**33.44**	**39**	P	**P**	**05 02 43.3**	**-1.1**
HFS	**Hagfors**	**36.10**	**331**	P	**P**	**05 03 06.0**	**-1.4**
	comp=Z,2.9nm,0.5s,mb4.5,baz=124,slow=9.5,SNR=15						
HFS	**Hagfors**	**36.10**	**331**	P	**P**	**05 03 06.0**	**-1.4**
HFS	**Hagfors**	**36.10**	**331**	P	**P**	**05 03 06.0**	**-1.4**
NOA	**NORSAR Array B**	**37.63**	**331**	P	**P**	**05 03 18.3**	**-2.0**
	comp=Z,1.8nm,0.8s,mb3.8,baz=122,slow=8.3,SNR=3.9						
NOA	**NORSAR Array B**	**37.63**	**331**	P	**P**	**05 03 18.3**	**-2.0**
NOA	**NORSAR Array B**	**37.63**	**331**	P	**P**	**05 03 18.3**	**-2.0**
TORD	**Torodi Ar. Bea**	**47.04**	**257**	P	**P**	**05 04 37.7**	**+0.1**
	comp=Z,0.5nm,0.7s,mb3.6,baz=57,slow=6.8,SNR=5.3						
TORD	**Torodi Ar. Bea**	**47.04**	**257**	P	**P**	**05 04 37.7**	**+0.1**
TORD	**Torodi Ar. Bea**	**47.04**	**257**	P	**P**	**05 04 37.7**	**+0.1**

SIGR				S		Sg	05 24 50.2	+0.1
SIGR	**SIGRI**	**0.29**	**115**	P		Pg	05 24 45.7	-0.2
SIGR				S		Sg	05 24 50.2	+0.1
PRK	**Paraskevi**	**0.59**	**98**	P		Pg	05 24 51.4	-0.1
PRK				S		Sg	05 24 59.8	+0.4
PRK	**Paraskevi**	**0.59**	**98**	P		Pg	05 24 51.4	-0.1
PRK				S		Sg	05 24 59.8	+0.4
LIA	**Limnos Island**	**0.62**	**336**	P		Pg	05 24 52.1	+0.1
LIA				S		Sg	05 25 00.5	+0.3
LIA	**Limnos Island**	**0.62**	**336**	P		Pg	05 24 52.1	+0.1
LIA				S		Sg	05 25 00.5	+0.3
BOZC	**Bozcaada**	**0.66**	**39**	*i* P		Pg	05 24 52.1	-0.5
BOZC				*i* S		Sg	05 25 01.5	+0.2
EZN	**Ezine**	**0.80**	**52**	*e*PG		Pg	05 24 54.1	-1.1
EZN				*e*SG		Sg	05 25 06.4	+0.7
EZN	**Ezine**	**0.80**	**52**	*e*Pg		Pg	05 24 54.1	-1.2
EZN				*e*Sg		Sg	05 25 06.4	+0.7
GADA	**Gvkgeada**	**0.91**	**19**	*e*PG		Pg	05 24 57.1	-0.3
GADA				*e*SG		Sg	05 25 09.5	+0.3
GADA	**Gvkgeada**	**0.91**	**19**	*e*Pg		Pg	05 24 57.1	-0.3
GADA				*e*Sg		Sg	05 25 09.5	+0.3
AYVA	**Ayvalik**	**0.91**	**91**	*i* P		Pg	05 24 57.0	-0.5
AYVA				*i* S		Sg	05 25 10.4	+1.0
AYVA	**Ayvalik**	**0.91**	**91**	*i* P		Pg	05 24 57.0	-0.5
AYVA				*i* S		Sg	05 25 10.4	+1.0
CHOS	**Chios island**	**1.04**	**156**	P		Pg	05 24 59.3	-0.5
CHOS				S		Sg	05 25 13.1	-0.2
CHOS	**Chios island**	**1.04**	**156**	P		Pg	05 24 59.3	-0.5
CHOS				S		Sg	05 25 13.1	-0.2
AOS	**Alonnisos**	**1.28**	**263**	P		Pn	05 25 03.1	0.0
AOS				S		Sb	05 25 20.9	+1.0
AOS	**Alonnisos**	**1.28**	**263**	P		Sb	05 25 03.1	0.0
AOS				S		Sb	05 25 20.9	+1.0
GELI	**Tayfur-Gelibol**	**1.29**	**34**	*e*PN		Pn	05 25 03.1	-0.2
GELI				*e*SN		Sn	05 25 20.9	+0.6
GELI	**Tayfur-Gelibol**	**1.29**	**34**	*e*Pn		Pn	05 25 03.1	-0.2
GELI				*e*Sn		Sn	05 25 20.9	+0.6
LPK	**Lapseki**	**1.41**	**42**	*e*PN		Pn	05 25 04.4	-0.5
LPK				*e*SN		Sn	05 25 23.8	+0.5
LPK	**Lapseki**	**1.41**	**42**	*e*Pn		Pn	05 25 04.4	-0.5
LPK				*e*Sn		Sn	05 25 23.8	+0.5
ENEZ	**Enez**	**1.48**	**19**	*e*PN		Pn	05 25 05.6	-0.4
ENEZ	**Enez**	**1.48**	**19**	*e*Pn		Pn	05 25 05.6	-0.3
BLCB	**Balcova**	**1.52**	**128**	*e*PN		Pn	05 25 06.4	-0.1
BLCB	**Balcova**	**1.52**	**128**	*e*Pn		Pn	05 25 06.4	-0.1
ERIK	**Erikli-Kesan**	**1.54**	**30**	*e*PN		Pn	05 25 06.4	-0.3
ERIK	**Erikli-Kesan**	**1.54**	**30**	*e*Pn		Pn	05 25 06.4	-0.3
ALN	**Alexandroupoli**	**1.61**	**14**	P		Pn	05 25 07.6	-0.1
ALN				S		Sn	05 25 27.0	-1.2
ALN	**Alexandroupoli**	**1.61**	**14**	P		Pn	05 25 07.6	-0.1
ALN				S		Sn	05 25 27.0	-1.2
BALY	**Balya**	**1.68**	**75**	*i* P		Pn	05 25 08.7	+0.1
BALY				*i* S		Sn	05 25 29.8	0.0
BALY	**Balya**	**1.68**	**75**	*i* P		Pn	05 25 08.7	+0.1
BALY				*i* S		Sn	05 25 29.8	0.0
KRBG	**Karabiga-Canak**	**1.73**	**52**	*e*PN		Pn	05 25 09.0	-0.4
KRBG	**Karabiga-Canak**	**1.73**	**52**	*e*Pn		Pn	05 25 09.0	-0.3
GONE	**Gonen-Balikesi**	**1.82**	**66**	*e*PN		Pn	05 25 10.5	-0.1
GONE	**Gonen-Balikesi**	**1.82**	**66**	*e*Pn		Pn	05 25 10.5	0.0
KAVA	**Kavala**	**1.83**	**335**	P		Pn	05 25 10.6	-0.1
KAVA	**Kavala**	**1.83**	**335**	P		Pn	05 25 10.6	-0.1
BALB	**Balikesir**	**1.85**	**80**	*e*PN		Pn	05 25 10.9	-0.1
BALB	**Balikesir**	**1.85**	**80**	*e*Pn		Pn	05 25 10.9	-0.1
RKY	**Sarkoy-Tekirda**	**1.86**	**43**	*e*PN		Pn	05 25 10.8	-0.3
RKY	**Sarkoy-Tekirda**	**1.86**	**43**	*e*Pn		Pn	05 25 10.8	-0.3
MFT	**Murefte**	**1.98**	**42**	*e*PN		Pn	05 25 12.9	+0.1
MFT	**Murefte**	**1.98**	**42**	*e*Pn		Pn	05 25 12.9	+0.1
MRMT	**Marmara Adasi**	**2.04**	**51**	*e*PN		Pn	05 25 13.7	+0.1
MRMT	**Marmara Adasi**	**2.04**	**51**	*e*Pn		Pn	05 25 13.7	+0.1
NVR	**Nevrokopi**	**2.38**	**328**	P		Pn	05 25 18.4	+0.2
NVR	**Nevrokopi**	**2.38**	**328**	P		Pn	05 25 18.4	+0.2
KULA	**Kula-Manisa**	**2.59**	**107**	*e*PN		Pn	05 25 21.4	+0.3
KULA	**Kula-Manisa**	**2.59**	**107**	*e*Pn		Pn	05 25 21.4	+0.3
EDRB	**Edirne**	**2.68**	**20**	*e*PN		Pn	05 25 22.6	+0.2
EDRB	**Edirne**	**2.68**	**20**	*e*Pn		Pn	05 25 22.6	+0.2
YLV	**Yalova**	**3.21**	**66**	*e*PN		Pn	05 25 30.7	+1.0
YLV	**Yalova**	**3.21**	**66**	*e*Pn		Pn	05 25 30.7	+1.0

TRN 28 05:27:41.6, 15.83N×61.58W, h22km, MD3.6, M3.1 (FDF), 10C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBG	**Guadaloupe-3**	**0.07**	**289**	⇓*i*P	Pb	05 27 45.9	+0.3
HMG	**Houelmont**	**0.19**	**322**	⇑*i*P	Pb	05 27 47.9	+1.0
PHG	**Guadaloupe-2**	**0.19**	**341**	⇑*i*P	Pb	05 27 48.3	+1.4
DOG	**Dongo Capester**	**0.20**	**349**	⇑*i*P	Pb	05 27 48.4	+1.3
SCG	**Saint Claude**	**0.22**	**333**	⇑*i*P	Pb	05 27 48.5	+1.3
BCG	**Bois Riant Cap**	**0.26**	**351**	⇑*i*P	Pb	05 27 49.1	+1.4
MGG	**Marie-Galante**	**0.27**	**71**	⇑*i*P	Pb	05 27 50.1	+2.2
LZG	**Guadaloupe-1**	**0.36**	**328**	⇑*i*P	Pb	05 27 50.7	+1.3
DWS	**Wesley**	**0.37**	**135**	⇑*i*P	Pb	05 27 51.8	+2.1
DWS				*i* S	Sb	05 27 57.0	+4.2
MDN	**Morne-Daniel**	**0.54**	**161**	⇑*i*P	Pb	05 27 55.3	+2.9
MDN				*e*S	Sb	05 28 03.3	+3.6
SFG	**Saint Francois**	**0.56**	**41**	*e*P	Pb	05 27 54.2	+1.5
DBCT	**Belle View Cho**	**0.60**	**158**	⇓*i*P	Pb	05 27 56.4	+3.0
DSHT	**Scott's Head**	**0.64**	**162**	⇑*i*P	Pb	05 27 57.0	+2.9
DSHT				*e*S	Sb	05 28 06.7	+3.9
DEG	**La Desirade**	**0.69**	**46**	*e*P	Pb	05 27 56.4	+1.3
BPA	**Boggy Peak**	**1.24**	**348**	*e*P	Pn	05 28 06.0	+2.4
BPA				*e*S	Sn	05 28 22.2	+2.6
SLB	**Belfond**	**2.06**	**165**	*e*P	Pn	05 28 17.5	+2.6
SLB				*e*S	Sn	05 28 42.1	+2.2
MCLT	**Moule a Chique**	**2.20**	**164**	*e*P	Pn	05 28 18.8	+2.0
MCLT				*e*S	Sn	05 28 45.6	+2.3
SVV	**Soufriere Volc**	**2.52**	**172**	*e*P	Pn	05 28 22.9	+1.7
SVV				*e*S	Sn	05 28 53.4	+2.0

IDC 28 05:55:17.0±1.8, 6.03S×130.22E, h0km, mb4.0/2, mb1 3.9/4, mb1mx3.7/14, mbtmp3.8/4, ML3.8/2, Error ellipse: s-maj=130.2km s-min=28.3km az=72.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.40**	**164**	Pn	Pn	05 58 41.9	-0.3
	0.4nm,0.3s,baz=347,slow=13,SNR=7.6						
WRA				Sn	Sn	06 01 10.2	-13
	1.6nm,0.3s,baz=330,slow=25,SNR=11						
ASAR	**Alice Springs**	**17.89**	**169**	P	Pn	05 59 27.6	+0.1
	0.3nm,0.3s,baz=347,slow=10,SNR=20						
ASAR				S	Sn	06 02 36.1	-11
	0.4nm,0.3s,baz=360,slow=26,SNR=5.9						
SONM	**Songino Array**	**57.60**	**341**	P	P	06 05 08.9	+0.3
	0.5nm,0.4s,baz=165,slow=6.9,SNR=4.6						
MKAR	**Makanchi Array**	**67.54**	**327**	P	P	06 06 15.2	+0.1
	1.2nm,0.4s,baz=117,slow=7.6,SNR=13						

*IDC **28** 05:55:18.5±0.8, 15.70S×173.07W, h0km, mb4.4/8, mb1 4.7/9, mb1mx4.4/18, mbtmp4.4/9, MS3.7/6, Ms1 3.7/6, ms1mx3.4/26, Error ellipse: s-maj=45.4km s-min=15.6km az=139.0*

*ISCJB **28** 05:55:20.4±4.1, 15.5S±0.1×173.3W±0.1, h21km±29km, mb4.5/22, MS3.8/6, Error ellipse: s-maj=30.4km s-min=8.2km az=137.7*

*NEIC **28** 05:55:23.7±0.2, 15.66S×173.13W, h35km, mb4.6/15, Error ellipse: s-maj=16.6km s-min=5.1km az=140.0*

ISC 28 05:55:19.7±6.3, 15.56S±0.2×173.2W±0.1, h8km±39km, n54, σ0s42/41, mb4.5/22, MS3.8/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.18**	**38**	Pn	**Pn**	**05 55 56.3**	**0.0**
	118nm,0.3s,baz=355,slow=1.0,SNR=109						
AFI				Sn	**Sn**	**05 56 19.2**	**-4.3**
	385nm,0.3s,baz=36,slow=23,SNR=19						
AFI	**Afiamalu**	**2.18**	**38**	Pn	**Pn**	**05 55 56.3**	**0.0**
AFI				Sn	**Sn**	**05 56 19.2**	**-4.3**
MSVF	**Nonsavu**	**8.68**	**255**	*e*Pn	**Pn**	**05 57 37.3**	**+12**
RAR	**Rarotonga**	**13.85**	**116**	Pn	**Pn**	**05 58 29.0**	**-7.5**
	3.1nm,0.3s,baz=260,slow=3.7,SNR=8.0						
RAR	**Rarotonga**	**13.85**	**116**	Pn	**Pn**	**05 58 29.0**	**-7.5**
DZM	**Mont Dzumac**	**20.33**	**249**	*e*LR	LR	06 04 53.7	
	474nm,26.8s						
PAE	**Paea**	**22.67**	**98**	*e*T		06 23 28.1	
	1.6nm,0.3s						
PPT	**Papeete**	**22.68**	**98**	*e*LR	LR	06 05 22.0	
	317nm,27.2s,baz=271						
PPT2	**Papeete2**	**22.68**	**98**	*e*T		06 23 28.5	
	3.6nm,0.4s						
OUZ	**Omahuta**	**22.83**	**209**	*e*P	**P**	**06 00 23.0**	**-0.3**
	17nm,0.9s,mb4.5						
TBI	**Tubuai**	**23.59**	**113**	*e*LR	LR	06 05 52.4	
	282nm,27.0s,baz=289						
TBI				*e*T		06 24 31.1	
	5.9nm,0.2s						
URZ	**Urewera**	**24.11**	**199**	P	**P**	**06 00 36.1**	**+0.1**
	12nm,0.6s,mb4.5,baz=125,slow=3.0,SNR=10						
URZ	**Urewera**	**24.11**	**199**	*e*P	**P**	**06 00 36.4**	**+0.4**
	13nm,0.5s,mb4.6						
HNR	**Honiara**	**26.95**	**280**	LR	LR	06 10 33.8	
	comp=Z,158nm,19.4s,MS3.6,baz=320,slow=34						
KHZ	**Kahutara**	**29.03**	**201**	*e*P	**P**	**06 01 24.9**	**+4.6**
	26nm,1.0s,mb4.9						
TAOE	**Nuku Hiva Isla**	**32.92**	**82**	*e*T		06 36 23.6	
	35nm,0.2s						
RKT	**Rikitea**	**36.70**	**108**	*e*LR	LR	06 11 54.1	
	188nm,28.2s						
RKT				*e*T		06 40 54.8	
	2.6nm,0.2s						
STKA	**Stephens Creek**	**44.12**	**240**	P	**P**	**06 03 29.0**	**+0.1**
	6.7nm,0.7s,mb4.5,baz=83,slow=7.2,SNR=14						
STKA				LR	LR	06 18 43.1	
	comp=Z,70nm,21.9s,MS3.5,baz=24,slow=32						
STKA	**Stephens Creek**	**44.12**	**240**	*e*P	**P**	**06 03 28.8**	**-0.1**
	1.2nm,0.8s,mb3.7						
WB2	**Warramunga Arr**	**50.01**	**257**	*e*P	**P**	**06 04 14.8**	**-0.2**
WRAB	**Tennant Creek**	**50.01**	**257**	*e*P	**P**	**06 04 14.6**	**-0.5**
	6.6nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**50.02**	**257**	P	**P**	**06 04 15.6**	**+0.4**
	5.0nm,0.8s,mb4.6,baz=90,slow=7.5,SNR=14						
WRA				LR	LR	06 24 12.4	
	comp=Z,89nm,20.0s,MS3.8,baz=295,slow=35						
WRA	**Warramunga Arr**	**50.02**	**257**	P	**P**	**06 04 15.6**	**+0.4**
AS31	**Alice Springs**	**50.26**	**252**	*e*P	**P**	**06 04 17.6**	**+0.7**
ASAR	**Alice Springs**	**50.26**	**252**	P	**P**	**06 04 16.8**	**-0.2**
	11nm,0.6s,mb5.0,baz=84,slow=8.8,SNR=48						
ASAR	**Alice Springs**	**50.26**	**252**	P	**P**	**06 04 16.8**	**-0.2**
FORT	**Forrest**	**55.52**	**243**	*e*P	**P**	**06 04 55.2**	**-0.5**
	18nm,0.7s,mb5.2						
FITZ	**Fitzroy Crossi**	**58.39**	**258**	LR	LR	06 27 11.7	
	comp=Z,79nm,20.2s,MS3.8,baz=92,slow=33						
CMB	**Columbia Colle**	**72.79**	**41**	*e*P	**P**	**06 06 48.9**	**+0.1**
	4.0nm,1.0s,mb4.3						
NVAR	**Mina Array Bea**	**74.35**	**42**	P	**P**	**06 06 58.5**	**+0.4**
	3.7nm,0.7s,mb4.4,baz=229,slow=9.7,SNR=28						
NVAR	**Mina Array Bea**	**74.35**	**42**	P	**P**	**06 06 58.5**	**+0.4**
ARUT	**Antelope Range**	**77.21**	**45**	*e*P	**P**	**06 07 14.2**	**-0.2**
	3.4nm,1.0s,mb4.2						
MSU	**Marysvale**	**78.43**	**44**	*e*P	**P**	**06 07 22.3**	**+1.1**
	7.2nm,1.1s,mb4.5						
ETW	**Entiat**	**78.66**	**33**	*e*P	**P**	**06 07 22.6**	**+0.3**
	20nm,1.6s,mb4.8						
PV10	**Paradox Valley**	**80.51**	**46**	*e*P	**P**	**06 07 32.5**	**-0.1**
	79nm,0.9s,mb5.6						
TXAR	**Lajitas Array**	**80.55**	**56**	P	**P**	**06 07 33.0**	**-0.1**
	1.0nm,0.7s,mb3.9,baz=218,slow=8.0,SNR=13						
TXAR				LR	LR	06 40 19.3	
	comp=Z,58nm,18.2s,MS4.0,baz=255,slow=34						
TXAR	**Lajitas Array**	**80.55**	**56**	P	**P**	**06 07 33.0**	**-0.1**
PV04	**Paradox Valley**	**80.61**	**46**	*e*P	**P**	**06 07 33.3**	**+0.2**
PV01	**Paradox Valley**	**80.72**	**46**	*e*P	**P**	**06 07 33.6**	**-0.1**
	195nm,0.7s						
ANMO	**Albuquerque**	**80.78**	**50**	*e*P	**P**	**06 07 34.0**	**0.0**
	3.0nm,1.1s,mb4.1						
BSMT	**Bassoo Peak**	**81.82**	**35**	*e*P	**P**	**06 07 39.1**	**-0.2**
	9.5nm,1.4s,mb4.5						
CPRX	**Cap Rock**	**81.90**	**53**	*e*P	**P**	**06 07 40.2**	**+0.1**
	6.6nm,0.8s,mb4.6						
PDAR	**Pinedale Array**	**82.29**	**42**	P	**P**	**06 07 41.7**	**-0.2**
	2.5nm,0.8s,mb4.2,baz=216,slow=3.1,SNR=22						
PDAR	**Pinedale Array**	**82.29**	**42**	P	**P**	**06 07 41.7**	**-0.2**
ILAR	**Eielson Array**	**82.64**	**11**	P	**P**	**06 07 43.4**	**+0.2**
	0.9nm,0.8s,mb3.9,baz=227,slow=6.0,SNR=17						
ILAR	**Eielson Array**	**82.64**	**11**	P	**P**	**06 07 43.4**	**+0.2**
SDCO	**Great Sand Dun**	**82.70**	**48**	*e*P	**P**	**06 07 44.1**	**-0.1**
	1.4nm,0.6s,mb4.2						
AMTX	**Amarillo**	**84.31**	**52**	*e*P	**P**	**06 07 51.5**	**-1.0**
	9.3nm,0.9s,mb4.9						
ROSC	**El Rosal**	**99.78**	**88**	LR	LR	06 47 46.9	
	comp=Z,35nm,19.5s,MS3.9,baz=38,slow=32						
KHC	**Kasperske Hory**	**146.15**	**352**	*e*PKP	PKPbc	06 15 02.0	+1.5
GERES	**GERESS Array B**	**146.41**	**352**	PKPbc	PKPbc	06 15 01.6	+0.3
	0.2nm,0.4s,baz=31,slow=3.4,SNR=4.2						
GERES	**GERESS Array B**	**146.41**	**352**	PKPbc	PKPbc	06 15 01.6	+0.3
BRTR	**Keskin Array B**	**146.49**	**321**	PKPbc	PKPbc	06 15 03.1	+1.2
	2.6nm,1.0s,baz=113,slow=1.9,SNR=5.6						
BRTR	**Keskin Array B**	**146.49**	**321**	PKPbc	PKPbc	06 15 03.1	+1.2

IDC 28 06:12:16.6±1.4, 48.88N×151.53E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/23, mbtmp3.4/4, Error ellipse: s-maj=40.4km s-min=32.1km az=116.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ILAR	**Eielson Array**	**35.58**	**40**	P	P	06 19 15.0	-0.2
	0.3nm,0.8s,baz=260,slow=8.2,SNR=5.5						
MKAR	**Makanchi Array**	**45.05**	**295**	P	P	06 20 33.4	-0.4
	0.2nm,0.8s,baz=62,slow=7.2,SNR=2.7						
FINES	**FINESS Array B**	**61.66**	**334**	P	P	06 22 36.2	+0.5
	4.1nm,1.1s,baz=38,slow=7.0,SNR=3.5						
ASAR	**Alice Springs**	**73.91**	**197**	P	P	06 23 53.5	+0.2
	0.3nm,0.5s,baz=21,slow=7.7,SNR=6.1						

IDC 28 06:15:54.9±1.2, 19.56N×147.42E, h0km, mb3.7/6, mb1 4.0/6, mb1mx3.8/20, mbtmp3.7/6, Error ellipse: s-maj=35.9km s-min=30.5km az=88.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.30**	**199**	P	P	06 23 42.1	-0.1
	1.4nm,0.9s,baz=24,slow=9.4,SNR=5.2						
SONM	**Songino Array**	**43.51**	**320**	P	P	06 23 59.2	-0.9
	0.6nm,0.7s,baz=128,slow=6.9,SNR=4.5						
ZALV	**Zalesovo Beam**	**58.33**	**322**	P	P	06 25 51.3	-0.3
	0.8nm,0.6s,baz=103,slow=6.5,SNR=4.1						
MKAR	**Makanchi Array**	**59.05**	**313**	P	P	06 25 58.0	+1.2
	0.5nm,0.6s,baz=75,slow=6.1,SNR=4.5						
YKA	**Yellowknife Ar**	**76.47**	**28**	P	P	06 27 46.7	+0.4
	1.3nm,0.7s,baz=282,slow=5.9,SNR=4.2						
NVAR	**Mina Array Bea**	**81.33**	**52**	P	P	06 28 13.7	+0.2
	0.3nm,0.7s,baz=271,slow=7.1,SNR=3.4						

DJA 28 06:19:17, 3.56S×127.23E, h20km, MLv3.7/6, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.34**	**338**	P	Pb	06 19 23.9	-0.6
NLAI				S	Sb	06 19 29.5	0.0
AAI	**Ambon**	**0.97**	**97**	P	Pb	06 19 34.8	-0.3
MSAI	**Masohi**	**1.71**	**83**	P	Pn	06 19 45.1	-0.6
BNDI	**Bandanaira**	**2.83**	**110**	P	Pn	06 20 03.9	+2.7
LBMI	**Labuha**	**2.92**	**5**	P	Pn	06 20 04.4	+2.1
LBMI				S	Sn	06 20 40.8	+4.1

*NEIC **28** 06:26:53.7, 19.22N×63.32W, h70km, MD3.7(RSPR), After RSPR.*

RSPR 28 06:26:53.7, 19.22N×63.32W, h70km±9km, MD3.7/3, 9C-4D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STVI	**Saint Thomas**	**1.77**	**241**	⇑*e*P	Pn	06 27 21.6	-0.7
STVI	**Saint Thomas**	**1.77**	**241**	⇑*e*P	Pn	06 27 21.6	-0.7
STVI				*e*S	Sn	06 27 43.4	-0.6
STVI	**Saint Thomas**	**1.77**	**241**	⇑*e*P	Pn	06 27 21.6	-0.7
STVI				*e*S	Sn	06 27 43.4	-0.6
MTP	**Monte Pirata**	**2.39**	**242**	⇓*e*P	Pn	06 27 30.0	-0.7
MTP	**Monte Pirata**	**2.39**	**242**	⇓*e*P	Pn	06 27 30.0	-0.7
MTP				*e*S	Sn	06 27 58.7	-0.2
MTP	**Monte Pirata**	**2.39**	**242**	⇓*e*P	Pn	06 27 30.0	-0.7
MTP				*e*S	Sn	06 27 58.7	-0.2
CBYP	**Canovanas**	**2.58**	**249**	⇑*e*P	Pn	06 27 32.6	-0.6
CBYP	**Canovanas**	**2.58**	**249**	⇑*e*P	Pn	06 27 32.6	-0.6
CBYP				*e*S	Sn	06 28 03.2	-0.3
CBYP	**Canovanas**	**2.58**	**249**	⇑*e*P	Pn	06 27 32.6	-0.6
CBYP				*e*S	Sn	06 28 03.2	-0.3
CPD	**Cerro la Pandu**	**2.73**	**245**	⇑*e*P	Pn	06 27 35.0	-0.2
CPD	**Cerro la Pandu**	**2.73**	**245**	⇑*e*P	Pn	06 27 35.0	-0.2
CPD				*e*S	Sn	06 28 06.5	-0.6
CPD	**Cerro la Pandu**	**2.73**	**245**	⇑*e*P	Pn	06 27 35.2	0.0
CPD				*e*S	Sn	06 28 06.5	-0.6
BCG	**Bois Riant Cap**	**3.52**	**152**	*e*P	Pn	06 27 47.1	+1.1
DOG	**Dongo Capester**	**3.57**	**153**	*e*P	Pn	06 27 46.1	-0.5
TBG	**Guadaloupe-3**	**3.72**	**154**	⇓*i*P	Pn	06 27 43.6	-5.1

IDC 28 06:27:44.1±10.0, 5.91S×153.48E, h162km±91km, mb3.0/4, mb1 3.3/4, mb1mx3.1/16, mbtmp3.0/4, MS3.1/1, Ms1 3.1/1, ms1mx2.7/9, Error ellipse: s-maj=81.5km s-min=37.3km az=125.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.30**	**119**	LR	LR	06 31 41.6	
	comp=Z,141nm,19.4s,baz=316,slow=32						
WRA	**Warramunga Arr**	**23.25**	**231**	P	P	06 32 37.0	-0.2
	0.4nm,0.6s,baz=57,slow=9.3,SNR=5.9						
WRA				PcP	PcP	06 36 19.6	-0.5
	0.9nm,0.7s,baz=58,slow=2.2,SNR=12						
ASAR	**Alice Springs**	**25.82**	**225**	P	P	06 33 01.3	+0.8
	0.3nm,0.5s,baz=58,slow=9.5,SNR=4.8						
ASAR				PcP	PcP	06 36 25.7	-0.1
	0.1nm,0.3s,baz=70,slow=1.9,SNR=5.1						
FITZ	**Fitzroy Crossi**	**29.75**	**244**	P	P	06 33 35.0	-0.5
	1.6nm,0.9s,baz=79,slow=5.2,SNR=3.7						
ILAR	**Eielson Array**	**82.93**	**22**	P	P	06 39 50.5	+0.1
	0.3nm,0.8s,baz=247,slow=4.6,SNR=5.0						
TORD	**Torodi Ar. Bea**	**151.28**	**287**	PKPbc	PKPbc	06 47 18.9	-0.5
	0.7nm,0.4s,baz=64,slow=2.2,SNR=8.9						
TORD				PKPab	PKPab	06 47 28.5	+0.4
	0.6nm,0.6s,baz=86,slow=3.5,SNR=4.3						

IDC 28 06:41:46.1±5.5, 29.07S×177.56W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.7/12, mbtmp3.8/2, Error ellipse: s-maj=271.0km s-min=83.0km az=164.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.58**	**265**	P	P	06 49 51.6	-0.5
	0.7nm,0.5s,baz=104,slow=7.4,SNR=11						
WRA	**Warramunga Arr**	**44.45**	**271**	P	P	06 49 59.5	+0.4
	0.5nm,0.4s,baz=110,slow=7.5,SNR=8.3						
FINES	**FINESS Array B**	**144.03**	**341**	PKP	PKPdf	07 01 22.5	-0.4
	3.4nm,0.9s,baz=20,slow=4.4,SNR=6.0						

MEX 28 07:11:02.9±0.7, 16.73N×99.74W, h15km±3km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.18**	**321**	*i* P	Pg	07 11 07.1	-0.2
ACX				*i* S	Sg	07 11 10.7	+0.5
CAIG	**El Cayaco**	**0.60**	**302**	*i* P	Pg	07 11 13.2	-1.4
CAIG				*i* S	Sg	07 11 20.2	-2.4
MEIG	**Mezcala**	**1.20**	**5**	*i* P	Pn	07 11 22.0	-3.1
MEIG				*i* S	Sb	07 11 35.6	-5.0
PNIG	**Pinotepa**	**1.58**	**102**	*i* P	Pn	07 11 26.8	-3.6
PNIG				*i* S	Sn	07 11 45.8	-4.8
UTMO	**Huajuapan**	**2.15**	**59**	*e*P	Pn	07 11 34.9	-3.3
UTMO				*i* S	Sn	07 12 00.4	-4.3
MZVM		**2.50**	**11**	*e*P	Pn	07 11 40.2	-2.8
MZVM				*i* S	Sn	07 12 09.8	-3.4
PPM	**Popocatepetl**	**2.56**	**24**	*e*P	Pn	07 11 44.6	+0.8
PPM				*i* S	Sn	07 12 15.8	+1.1

*ISCJB **28** 07:11:20.4±1.3, 43.7N±0.1×74.24E±0.06, h10km, Error ellipse: s-maj=18.4km s-min=6.6km az=1.7*

*NNC **28** 07:11:21.3±5.

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.62**	**306**	P	**Pg**	**07 35 42.0**	**+0.1**
	baz=311						
ENA				*e*S	**Sg**	**07 35 50.4**	**+0.2**
	baz=311						
TWD	**Chiawan**	**0.64**	**272**	*e*P	**Pg**	**07 35 42.2**	**+0.1**
	baz=268						
TWD				S	**Sg**	**07 35 51.4**	**+0.7**
	baz=268						
YOJ	**Yonaguni jima**	**0.77**	**59**	P	**Pb**	**07 35 43.8**	**-0.6**
YOJ				S	**Sb**	**07 35 54.6**	**+0.1**
ESL	**Shilin**	**0.82**	**253**	*e*P	**Pb**	**07 35 44.5**	**-0.9**
	baz=250						
ESL				*e*S	**Sb**	**07 35 55.8**	**-0.5**
	baz=250						
TWE	**Neicheng**	**0.87**	**319**	P	**Pb**	**07 35 46.0**	**-0.2**
	baz=323						
TWE				S	**Sb**	**07 35 57.2**	**-0.3**
	baz=323						
ENTT	**Nioudou**	**0.88**	**311**	P	**Pb**	**07 35 46.1**	**-0.3**
	baz=317						
ENTT				*e*S	**Sb**	**07 35 57.7**	**0.0**
	baz=317						
NNS	**Nan Shan**	**0.92**	**294**	*e*P	**Pb**	**07 35 46.6**	**-0.4**
	baz=292						
NNS				*e*S	**Sb**	**07 35 59.2**	**+0.3**
	baz=292						
WHF	**Hehuan Shan**	**0.94**	**275**	P	**Pb**	**07 35 47.2**	**-0.3**
	baz=273						
WHF				*e*S	**Sb**	**07 35 59.9**	**+0.2**
	baz=273						
TWB1	**Santiao Chiao**	**0.98**	**344**	P	**Pb**	**07 35 47.7**	**-0.4**
	baz=342						
TWB1				*e*S	**Sb**	**07 36 00.9**	**+0.1**
	baz=342						
EHY	**Hungye**	**1.05**	**238**	*e*P	**Pb**	**07 35 48.7**	**-0.6**
	baz=249						
EHY				*e*S	**Sb**	**07 36 02.2**	**-0.5**
	baz=249						
NSK	**Sanguang**	**1.05**	**306**	*e*P	**Pb**	**07 35 48.8**	**-0.4**
	baz=293						
NSK				*e*S	**Sb**	**07 36 02.6**	**-0.1**
	baz=293						
NWF	**Wu-fen Shan**	**1.11**	**335**	P	**Pn**	**07 35 49.7**	**-0.5**
	baz=333						
NWF				S	**Sb**	**07 36 04.2**	**-0.1**
	baz=333						
TWA	**Mucha**	**1.12**	**325**	*e*P	**Pn**	**07 35 52.3**	**+1.9**
	baz=339						
TWF1	**Yuli**	**1.16**	**232**	*e*P	**Pn**	**07 35 49.7**	**-1.2**
	baz=246						
TWF1				*e*S	**Sb**	**07 36 05.2**	**-0.5**
	baz=246						
SMLT	**Sun Moon Lake**	**1.29**	**262**	P	**Pn**	**07 35 52.6**	**-0.1**
	baz=252						
SMLT				*e*S	**Sn**	**07 36 09.3**	**-0.2**
	baz=252						
TYC	**Yuchr**	**1.32**	**263**	P	**Pn**	**07 35 53.2**	**0.0**
	baz=262						
TYC				S	**Sn**	**07 36 10.0**	**-0.4**
	baz=262						
IRIF	**Iriomote-Funau**	**1.34**	**78**	P	**Pn**	**07 35 53.2**	**-0.3**
IRIF				S	**Sn**	**07 36 10.4**	**-0.4**
YUS	**Yu-Shan**	**1.35**	**245**	P	**Pn**	**07 35 53.9**	**+0.2**
	baz=244						
YUS				*e*S	**Sn**	**07 36 10.5**	**-0.7**
	baz=244						
HATJ	**Hateruma jima**	**1.38**	**90**	*e*S	**Sn**	**07 36 13.8**	**+1.9**
ELDTW	**Lidau**	**1.46**	**234**	*e*P	**Pn**	**07 35 53.8**	**-1.3**
	baz=221						
ELDTW				*e*S	**Sn**	**07 36 12.1**	**-1.6**
	baz=221						
ALS	**Alishan**	**1.47**	**248**	P	**Pn**	**07 35 55.6**	**+0.3**
	baz=247						
ALS				S	**Sn**	**07 36 14.1**	**+0.1**
	baz=247						
CHN5	**Tsauling**	**1.55**	**253**	*e*P	**Pn**	**07 35 56.8**	**+0.4**
	baz=243						
CHN5				*e*S	**Sn**	**07 36 16.8**	**+0.8**
	baz=243						
JKRS	**Kuro-shima**	**1.58**	**83**	*e*S	**Sn**	**07 36 17.3**	**+0.6**
TWG	**Pinlang**	**1.67**	**222**	*e*P	**Pn**	**07 35 58.5**	**+0.5**
	baz=233						
TWG				*e*S	**Sn**	**07 36 16.3**	**-2.6**
	baz=233						
JIJ	**Ishigaki jima**	**1.72**	**80**	P	**Pn**	**07 35 58.0**	**-0.6**
JIJ				S	**Sn**	**07 36 19.1**	**-1.0**
WTP	**Ta-pu**	**1.74**	**242**	*e*P	**Pn**	**07 35 59.5**	**+0.5**
	baz=242						
WTP				*e*S	**Sn**	**07 36 21.6**	**+0.8**
	baz=242						
CHN1	**Nanshi**	**1.84**	**242**	*e*P	**Pn**	**07 36 01.1**	**+0.8**
	baz=242						
CHN1				*e*S	**Sn**	**07 36 23.8**	**+0.6**
	baz=242						
SGST	**Jiashian**	**1.85**	**238**	*e*P	**Pn**	**07 36 01.8**	**+1.3**
	baz=238						
SGST				*e*S	**Sn**	**07 36 25.0**	**+1.6**
	baz=238						
SSD	**Sandimen**	**2.01**	**230**	*e*P	**Pn**	**07 36 04.2**	**+1.5**
	baz=221						
EAST	**Anshuo**	**2.14**	**219**	*e*P	**Pn**	**07 36 04.4**	**0.0**
	baz=219						
SCZT	**Fangliau**	**2.28**	**223**	*e*P	**Pn**	**07 36 07.3**	**+0.9**
	baz=218						

JMA 28 07:47:44.7±0.1, 39°.26N×142°.17E, h21km±1km, M0.8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.42**	**319**	P	Pb	07 47 53.1	-0.3
MIYJ				S	Sb	07 47 59.0	-0.3
OFUJ	**Ofunato**	**0.43**	**245**	P	Pb	07 47 53.4	-0.2
OFUJ				S	Sb	07 47 59.3	-0.3
JOM	**Ohasama**	**0.71**	**288**	P	Pb	07 47 58.3	-0.1
JOM				S	Sb	07 48 08.1	+0.3

NIED ***28*** *07:59:00, 47°.90N×155°.70E, h11km, Mw5.0 Best double couple: M0 3.43000×10^16 NP1:φs55.00000°, δ53.00000°, λ119.00000°. NP2:φs192.00000°, δ45.00000°, λ57.00000°.*

IDC ***28*** *07:59:35.6±0.5, 48°.09N×154°.95E, h0km, mb4.5/28, mb1 4.7/31, mb1mx4.6/34, mbtmp4.5/31, ML4.2/3, MS4.5/19, Ms1 4.5/19, ms1mx4.2/41, Error ellipse: s-maj=16.4km s-min=10.1km az=157.0*

ISCJB ***28*** *07:59:35.1±0.9, 48°.03N×0°.03×155°.10E±0°.02, h8km±5km, mb5.0/194, MS4.7/40, Error ellipse: s-maj=5.1km s-min=2.1km az=162.8*

BJI ***28*** *07:59:37.5, 48°.28N×155°.18E, h32km, mB5.0/34, mb4.8/46, Ms4.9/42, Ms7 4.8/42*

SKHL ***28*** *07:59:39.0±0.7, 47°.89N×155°.52E, h54km±17km, mb5.9/3, Ms4.9/6, msh5.3/3*

MOS ***28*** *07:59:40.0±1.1, 48°.16N×155°.05E, h38km, mb5.1/56, MS4.5/30, Error ellipse: s-maj=7.3km s-min=4.9km az=93.8*

NEIC ***28*** *07:59:40.1±1.6, 48°.10N×155°.00E, h28km±11km, mb4.9/89, Error ellipse: s-maj=7.0km s-min=3.6km az=156.0*

GCMT ***28*** *07:59:44.6±0.2, 48°.10N×155°.42E, h26km, MW5.1, Moment Tensor Solution. s53,c73; s82,c139; Moment tensor: Scale 10^16Nm; Mrr4.55±.18; Mθθ-1.17±.11; Mφφ-3.38±.12; Mrθ1.92±.23; Mθφ-2.28±.07; Mφr2.30±.21; Best double couple: M0 5.60000×10^16 NP1:φs207.00000°, δ29.00000°, λ82.00000°. NP2:φs36.00000°, δ61.00000°, λ94.00000°. Principal axes: T 5.4400, Plg73.0000°, Azm317.0000°; N 0.2300, Plg4.0000°, Azm214.0000°; P -5.6700, Plg16.0000°, Azm123.0000°; Data Used: II IU IC G CN.*

SZGRF ***28*** *08:00:04.0, 51°.18N×152°.99E, h48km, mb5.4, MS4.8, Northwest of Kuril Islands, Russia*

ISC 28 07:59:39.3±0.8, 48°.10N±0°.03×155°.03E±0°.02, h21km±6km, h37km±2.0km:pP-P, n801, σ0.973/823, mb5.0/194, MS4.7/39, 181C-187D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.69**	**15**	*e*PN	**Pn**	**08 00 21.0**	**-0.2**
SKR				*i* S	**Sn**	**08 00 52.0**	**-1.1**
SKR				pmax	pmax		
	comp=N,170nm,0.5s						
SKR				pmax	pmax		
	comp=Z,280nm,0.5s						
SKR				pmax	pmax		
	comp=Z,2μm,2.0s						
SKR				pmax	pmax		
	comp=N,3μm,4.0s						
SKR				pmax	pmax		
	comp=E,3μm,4.0s						
SKR				smax			
	comp=N,2μm,0.5s						
SKR				smax			
	comp=E,540nm,0.5s						
SKR				smax			
	comp=N,13μm,10.0s						
SKR				smax			
	comp=E,10μm,10.0s						
SKR				MLR	MLR		
	comp=Z,16μm,10.0s						
SKR				MLR	MLR		
	comp=N,14μm,14.0s						
SKR				MLR	MLR		
	comp=E,14μm,14.0s						
SKR	**Severo-Kuril's**	**2.69**	**15**	*e*P	**Pn**	**08 00 21.0**	**-0.2**
SKR				AMB	AMB	08 00 26.0	
	comp=E,2μm,2.0s						
SKR				AMB	AMB	08 00 26.0	
	comp=E,3μm,4.0s						
SKR				AMB	AMB	08 00 26.0	
	comp=E,170nm,0.5s						
SKR				AMB	AMB	08 00 26.0	
	comp=E,280nm,0.5s						
SKR				⇑*i* S	**Sn**	**08 00 52.0**	**-1.1**
SKR				A		08 01 06.5	
	comp=E,740nm,0.7s						
SKR				A		08 01 06.5	
	comp=E,12μm,10.0s						
SKR				A		08 01 06.5	
	comp=E,10μm,10.0s						
SKR				A		08 01 06.5	
	comp=E,13μm,10.0s						
SKR				A		08 01 06.5	
	comp=E,10μm,10.0s						
SKR				A		08 01 06.5	
	comp=E,2μm,0.5s						
SKR				A		08 01 06.5	
	comp=E,540nm,0.5s						
SKR				AMS	AMS	08 01 48.0	
	comp=E,14μm,14.0s						
SKR				AMS	AMS	08 01 48.0	
	comp=E,16μm,10.0s						
SKR				AMS	AMS	08 01 48.0	
	comp=E,12μm,14.0s						
SKR				AMS	AMS	08 01 48.0	
	comp=E,16μm,10.0s						
PEA0B	**Petropavlovsk-**	**5.30**	**18**	*e*Pn	**Pn**	**08 00 57.9**	**+0.8**
PETK	**Petropavlovsk-**	**5.30**	**18**	Pn	**Pn**	**08 00 57.6**	**+0.5**
	comp=E,5.1nm,0.3s,baz=170,slow=13,SNR=80						
PETK				Sn	**Sn**	**08 02 09.1**	**+12**
	baz=169,slow=18,SNR=1.9						
PETK				LR	LR	08 03 23.5	
	comp=E,5μm,19.2s,baz=204,slow=43						
PETK	**Petropavlovsk-**	**5.30**	**18**	Pn	**Pn**	**08 00 57.6**	**+0.5**
PETK				Sn	**Sn**	**08 02 09.1**	**+12**
PETK	**Petropavlovsk-**	**5.30**	**18**	PN	**Pn**	**08 00 57.6**	**+0.5**
PETK						08 02 09.1	
PETK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
PET	**Petropavlovsk**	**5.45**	**24**	*e*Pn	**Pn**	**08 00 58.7**	**-0.4**
PET	**Petropavlovsk**	**5.45**	**24**	*e*PN	**Pn**	**08 00 58.3**	**-0.8**
PET				MLR	MLR		
	comp=Z,5μm,12.0s						
PET				MLR	MLR		
	comp=Z,5μm,16.0s						
KUR	**Kuril'sk**	**5.70**	**243**	*e*PN	**Pn**	**08 01 04.6**	**+2.0**
KUR				*e*S	**Sn**	**08 02 12.0**	**+4.6**
KUR				pmax	pmax		
	comp=N,210nm,0.5s						
KUR				pmax	pmax		
	comp=Z,760nm,0.5s						
KUR				pmax	pmax		
	comp=E,100nm,0.7s						
KUR				pmax	pmax		
	comp=N,2μm,3.0s						
KUR				pmax	pmax		
	comp=E,4μm,3.0s						
KUR				pmax	pmax		
	comp=Z,4μm,3.0s						
KUR				smax			
	comp=N,10μm,4.0s						
KUR				smax			
	comp=E,8μm,3.0s						
KUR				smax			
	comp=N,650nm,0.8s						
KUR				smax			
	comp=E,1μm,0.8s						
KUR				MLR	MLR		
	comp=N,16μm,16.0s						
KUR				MLR	MLR		
	comp=E,11μm,16.0s						
KUR				MLR	MLR		
	comp=Z,11μm,16.0s						
KUR	**Kuril'sk**	**5.70**	**243**	*e*P	**Pn**	**08 01 05.0**	**+2.4**
KUR				AMB	AMB	08 01 06.0	
	comp=Z,100nm,0.7s						
KUR				AMB	AMB	08 01 06.0	
	comp=Z,210nm,0.5s						
KUR				AMB	AMB	08 01 06.0	
	comp=Z,760nm,0.5s						
KUR				AMB	AMB	08 01 07.0	
	comp=Z,2μm,3.0s						
KUR				AMB	AMB	08 01 07.0	
	comp=Z,3μm,3.0s						
KUR				AMB	AMB	08 01 07.0	
	comp=Z,3μm,3.0s						
KUR				*e*S	**Sn**	**08 02 10.0**	**+2.6**
KUR				A		08 02 31.0	
	comp=Z,4μm,5.0s						
KUR				A		08 02 31.0	
	comp=Z,10μm,4.0s						
KUR				A		08 02 41.0	
	comp=Z,910nm,0.8s						
KUR				A		08 02 41.0	
	comp=Z,1μm,0.8s						
KUR				AMS	AMS	08 03 24.0	
	comp=Z,9μm,14.0s						
KUR				AMS	AMS	08 03 24.0	
	comp=Z,11μm,16.0s						
KUR				AMS	AMS	08 03 24.0	
	comp=Z,15μm,13.0s						
YUK	**Yuzh-Kuril'sk**	**7.56**	**241**	*i* PN	**Pn**	**08 01 29.5**	**+1.4**
YUK				pmax	pmax		
	comp=E,222nm,0.5s						
YUK				pmax	pmax		
	comp=Z,667nm,0.5s						
YUK				pmax	pmax		
	comp=Z,409nm,0.5s						
YUK				pmax	pmax		
	comp=N,351nm,0.5s						
YUK				MLR	MLR		
	comp=N,2μm,16.0s						
YUK				MLR	MLR		
	comp=E,6μm,16.0s						
YUK				MLR	MLR		
	comp=Z,5μm,16.0s						
YUK	**Yuzh-Kuril'sk**	**7.56**	**241**	⇓*i* P	**Pn**	**08 01 29.6**	**+1.5**
YUK				AMB	AMB	08 01 33.5	
	comp=Z,580nm,0.5s						
YUK				AMB	AMB	08 01 33.5	
	comp=Z,500nm,0.5s						
YUK				AMB	AMB	08 01 33.5	
	comp=Z,770nm,0.5s						
YUK				*i* S	**Sn**	**08 02 57.2**	**+4.1**
YUK				A		08 03 19.2	
	comp=Z,630nm,0.7s						
YUK				A		08 03 19.2	
	comp=Z,700nm,0.7s						
YUK				AMS	AMS	08 04 38.5	
	comp=Z,3μm,15.0s						
YUK				AMS	AMS	08 04 38.5	
	comp=Z,9μm,15.0s						
YUK				AMS	AMS	08 04 38.5	
	comp=Z,11μm,14.0s						
NEM2	**Nemuro 2**	**8.04**	**237**	P	**Pn**	**08 01 33.6**	**-1.1**
NEM2				*e*S	**Sn**	**08 03 00.0**	**-4.8**
JRA	**Rausu**	**8.05**	**243**	P	**Pn**	**08 01 36.3**	**+1.4**
YSS	**Yuzh-Sakhalins**	**8.39**	**267**	*e*Pn	**Pn**	**08 01 44.2**	**+4.7**
YSS	**Yuzh-Sakhalins**	**8.39**	**267**	⇑*i*PN	**Pn**	**08 01 44.2**	**+4.7**
YSS				pmax	pmax		
	comp=N,90nm,0.7s						
YSS				pmax	pmax		
	comp=E,120nm,0.7s						
YSS				pmax	pmax		
	comp=Z,160nm,0.7s						
YSS				MLR	MLR		
	comp=E,3μm,16.0s						
YSS				MLR	MLR		
	comp=Z,4μm,16.0s						
YSS				MLR	MLR		
	comp=N,900nm,15.0s						
YSS	**Yuzh-Sakhalins**	**8.39**	**267**	⇑*e*P	**Pn**	**08 01 44.2**	**+4.7**
YSS				⇑*i*P		08 01 44.2	
YSS				AMB	AMB	08 01 45.2	
	comp=N,160nm,0.7s						
YSS				AMB	AMB	08 01 45.2	
	comp=N,90nm,0.7s						
YSS				AMB	AMB	08 01 45.2	
	comp=N,120nm,0.7s						
YSS				*e*S	**Sn**	**08 03 14.1**	**+0.6**
YSS				A		08 03 18.1	
	comp=N,90nm,1.0s						
YSS				*e*LQ		08 03 44.0	
YSS				AMS	AMS	08 04 48.0	
	comp=N,3μm,16.0s						
YSS				AMS	AMS	08 04 48.0	
	comp=N,4μm,16.0s						
YSS				AMS	AMS	08 04 48.0	
	comp=N,900nm,15.0s						
JNK	**Nakash**	**8.49**	**242**	P	**Pn**	**08 01 41.9**	**+0.9**
TYV	**Tymovskoe**	**8.52**	**294**	*e*P	**Pn**	**08 01 46.0**	**+4.7**
TYV				AMB	AMB	08 01 48.0	
	comp=N,20nm,0.8s						
TYV				AMB	AMB	08 01 48.0	
	comp=N,33nm,0.8s						
TYV				AMB	AMB	08 01 48.0	
	comp=N,46nm,0.8s						
UGL	**Uglegorsk**	**8.65**	**281**	*e*P	**Pn**	**08 01 48.5**	**+5.4**
UGL				AMB	AMB	08 01 50.0	
	comp=N,150nm,0.7s						
UGL				*e*L		08 03 42.0	
UGL				AMS	AMS	08 05 40.0	
	comp=N,1μm,14.0s						
UGL				AMS	AMS	08 05 40.0	
	comp=N,4μm,14.0s						
JTKR	**Abashiri--Toko**	**8.77**	**246**	P	**Pn**	**08 01 46.3**	**+1.6**
JAK	**Akkeshi**	**8.86**	**239**	P	**Pn**	**08 01 45.2**	**-0.8**
JAK				*e*S	**Sn**	**08 03 19.8**	**-5.4**
JMP	**Maruseppu**	**9.09**	**248**	P	**Pn**	**08 01 51.6**	**+2.5**
JSE	**Soyaes**	**9.14**	**255**	P	**Pn**	**08 01 55.5**	**+5.7**
JAR	**Ashorobuto**	**9.22**	**243**	P	**Pn**	**08 01 51.9**	**+0.9**
JAR				*e*S	**Sn**	**08 03 32.9**	**-1.1**
JOB	**Onbets**	**9.42**	**241**	P	**Pn**	**08 01 53.7**	**+0.1**
JOB				*e*S	**Sn**	**08 03 35.7**	**-3.1**
JWK2	**Keihoku**	**9.44**	**258**	P	**Pn**	**08 02 00.5**	**+6.5**
ASAJ	**Asahikawa**	**9.51**	**250**	Pn	**Pn**	**08 01 58.5**	**+3.7**
	comp=N,10nm,0.3s,baz=79,slow=14,SNR=96						
ASAJ				Sn	**Sn**	**08 03 36.6**	**-4.4**
	baz=45,slow=22,SNR=1.3						
ASAJ				LR	LR	08 05 23.7	
	comp=N,3μm,19.1s,baz=68,slow=37						
ASAJ	**Asahikawa**	**9.51**	**250**	*e*Pn	**Pn**	**08 01 56.3**	**+1.5**
ASAJ	**Asahikawa**	**9.51**	**250**	P	**Pn**	**08 01 58.6**	**+3.7**
JKK2	**Kamakawa 2**	**9.54**	**248**	P	**Pn**	**08 01 58.2**	**+3.0**
JCH	**Churui**	**9.87**	**241**	P	**Pn**	**08 01 59.1**	**-0.7**
JCH				*e*S	**Sn**	**08 03 43.5**	**-6.4**
JFR	**Furan**	**10.01**	**245**	P	**Pn**	**08 02 03.7**	**+2.0**
JAB	**Ashibetsu**	**10.05**	**248**	P	**Pn**	**08 02 05.2**	**+2.9**
JHR	**Hokuryu**	**10.24**	**250**	P	**Pn**	**08 02 08.5**	**+3.6**
JEM	**Erimo**	**10.36**	**238**	P	**Pn**	**08 02 05.9**	**-0.7**
JEM				*e*S	**Sn**	**08 03 57.5**	**-4.5**
ERM	**Erimo**	**10.36**	**238**	*e*Pn	**Pn**	**08 02 05.9**	**-0.7**
ERM	**Erimo**	**10.36**	**238**	⇓*i*PN	**Pn**	**08 02 05.8**	**-0.8**
JBT2	**Biratori 2**	**10.37**	**244**	P	**Pn**	**08 02 06.7**	**+0.1**
NKL	**Nikolayevsk**	**10.42**	**304**	*e*P	**Pn**	**08 02 05.0**	**-2.3**
NKL				AMB	AMB	08 02 08.5	
	comp=N,140nm,1.5s						
NKL				AMB	AMB	08 02 09.0	
	comp=N,500nm,4.0s						
NKL				*e*L		08 05 07.0	
NKL				AMS	AMS	08 07 18.0	
	comp=N,4μm,15.0s						
NKL				AMS	AMS	08 07 18.0	
	comp=N,2μm,15.0s						
NKL				AMS	AMS	08 07 18.0	
	comp=N,6μm,15.0s						
JNBK	**Urakawa-nobuka**	**10.43**	**241**	P	**Pn**	**08 02 05.5**	**-2.0**
JNBK				*e*S	**Sn**	**08 03 56.2**	**-7.5**
JEW	**Eniwo**	**10.88**	**246**	P	**Pn**	**08 02 15.2**	**+1.5**
JSK	**Shakotan**	**11.22**	**250**	P	**Pn**	**08 02 21.6**	**+3.3**
JNB	**Noboribetsu**	**11.34**	**245**	P	**Pn**	**08 02 18.9**	**-1.1**
JNB				*e*S	**Sn**	**08 04 22.2**	**-3.8**
JKB	**Kayabe**	**11.69**	**243**	P	**Pn**	**08 02 22.4**	**-2.3**
JKB				*e*S	**Sn**	**08 04 26.5**	**-7.9**
JSH	**Shimam**	**11.86**	**248**	P	**Pn**	**08 02 27.4**	**+0.3**
JYM2	**Yakumo 2**	**11.95**	**245**	P	**Pn**	**08 02 27.8**	**-0.5**
JTM	**Tenmabayashi**	**12.36**	**239**	P	**Pn**	**08 02 30.0**	**-3.8**
JANG	**Nango**	**12.38**	**236**	P	**Pn**	**08 02 29.7**	**-4.4**
JANG				*e*S	**Sn**	**08 04 38.4**	**-13**
FX1	**Attu Island--F**	**12.49**	**61**	Pn	**Pn**	**08 02 32.6**	**-3.0**
	comp=N,5.9nm,0.3s,baz=224,slow=17,SNR=30						
FX1				Sn	**Sn**	**08 04 40.2**	**-14**
	comp=N,11nm,0.3s,baz=64,slow=21,SNR=8.2						
FX1				LR	LR	08 06 52.1	
	comp=N,606nm,20.9s,baz=285,slow=35						
FX1	**Attu Island--F**	**12.49**	**61**	*e*Pn	**Pn**	**08 02 34.9**	**-0.7**
FX1				Sn	**Sn**	**08 04 40.2**	**-14**
FX1	**Attu Island--F**	**12.49**	**61**	*e*PN	**Pn**	**08 02 34.9**	**-0.7**
JOSM	**Okushiri--Mats**	**12.52**	**247**	P	**Pn**	**08 02 35.4**	**-0.7**
TEY	**Ternei**	**13.04**	**263**	*e*P	**Pn**	**08 02 51.0**	**+7.8**
TEY				*e*LR	LR	08 06 34.0	
TEY				AMS	AMS	08 06 44.6	
	comp=N,2μm,20.0s						
TEY				AMS	AMS	08 06 44.6	
	comp=N,2μm,20.0s						
OFUJ	**Ofunato**	**13.21**	**232**	P	**Pn**	**08 02 40.2**	**-5.3**
HABR	**Khabarovsk**	**13.31**	**279**	*ce*PN	**Pn**	**08 02 50.7**	**+3.9**
HABR				*e*		08 05 19.9	
HABR				pmax	pmax		
	comp=Z,217nm,2.5s						
HABR				pmax	pmax		
	comp=E,209nm,2.5s						
HABR				pmax	pmax		
	comp=N,39nm,1.9s						
HABR				MLR	MLR		
	comp=Z,3μm,16.0s						
JRG	**Rokugo**	**13.54**	**235**	P	**Pn**	**08 02 46.8**	**-3.3**
JRG				*e*S	**Sn**	**08 05 08.1**	**-12**
SEY	**Seymchan**	**14.95**	**355**	⇑*e*P	**Pn**	**08 03 08.8**	**-0.2**
KLR	**Kul'dur**	**15.42**	**283**	*e*P	**Pn**	**08 03 15.1**	**-0.2**
KLR				pmax	pmax		
	comp=E,80nm,1.6s						
KLR				pmax	pmax		
	comp=Z,100nm,1.6s						
KLR				MLR	MLR		
	comp=E,2μm,12.5s						
KLR				MLR	MLR		
	comp=Z,20μm,12.5s						
JFY	**Yanaizu**	**15.49**	**232**	P	**Pn**	**08 03 12.8**	**-3.5**
VLA	**Vladivostok**	**16.91**	**261**	⇓*e*P	**Pn**	**08 03 34.4**	**-0.1**
VLA				S	**Sn**	**08 06 41.4**	**-0.3**
VLA				pmax	pmax		
	comp=Z,13nm,0.7s						
MJAR	**Matsushiro Arr**	**16.93**	**233**	Pn	**Pn**	**08 03 32.2**	**-2.6**
	comp=Z,1.0nm,0.3s,baz=28,slow=14,SNR=14						
MJAR				LR	LR	08 11 36.1	
	comp=Z,1μm,18.0s,baz=50,slow=43						
MJAR	**Matsushiro Arr**	**16.93**	**233**	Pn	**Pn**	**08 03 32.2**	**-2.6**
MJAR	**Matsushiro Arr**	**16.93**	**233**	P	**Pn**	**08 03 32.2**	**-2.5**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,1μm,18.0s						
MAJO	**Matsushiro**	**16.93**	**233**	*e*P	**Pn**	**08 03 31.8**	**-3.0**
	comp=Z,371nm,2.0s						
MAJO	**Matsushiro**	**16.93**	**233**	*e*P	**Pn**	**08 03 31.8**	**-2.9**
MAJO				pmax	pmax		
	comp=Z,371nm,2.0s						
MAT	**Matsushiro**	**16.93**	**233**	P	**Pn**	**08 03 32.2**	**-2.5**
MAT				S	**Sn**	**08 06 43.0**	**+0.8**
MDJ	**Mudanjiang**	**17.87**	**268**	P	**Pn**	**08 03 46.5**	**+0.1**
MDJ				pP	pP	08 03 54.8	+2.0
MDJ				sP	sP	08 03 59.0	+3.5

MDJ S **Sn** **08 07 04.0 -1.0**
MDJ PcP PcP 08 08 20.3 -1.7
MDJ ScP ScP 08 11 55.3 -0.5
MDJ PcS PcS 08 11 59.5 +1.2
MDJ ScS ScS 08 15 34.3 -1.8
MDJ pmax pmax
comp=Z,8.0nm,1.1s
MDJ pmax pmax
comp=Z,290nm,5.7s
MDJ LR LR
comp=N,570nm,12.7s
MDJ LR LR
comp=E,1μm,14.8s
MDJ LR LR
comp=Z,2μm,16.9s
MDJ Mudanjiang 17.87 268 *e*P **Pn** **08 03 47.0 +0.6**
comp=Z,12nm,0.8s
ZEA Zeya 18.33 298 *e*P **Pn** **08 03 50.6 -1.4**
ZEA AMB AMB 08 03 52.0
comp=Z,140nm,1.4s
ZEA *e*S **Sn** **08 07 24.0 +8.1**
ZEA A 08 07 38.0
comp=Z,400nm,14.0s
YAK Yakutsk 19.95 324 *e*P **Pn** **08 04 09.3 -2.0**
comp=Z,20nm,0.4s
YAK Yakutsk 19.95 324 *e*P **Pn** **08 04 08.7 -2.6**
YAK *e*S **Sn** **08 07 49.6 -5.1**
YAK *e*S **Sn** **08 07 49.6 -5.1**
YAK pmax pmax
comp=Z,20nm,1.2s
YAK pmax pmax
comp=E,13nm,1.4s
YAK pmax pmax
comp=N,7.0nm,1.4s
YAK smax
comp=E,368nm,17.7s
YAK smax
comp=N,225nm,15.5s
YAK MLR MLR
comp=Z,2μm,14.0s
YAK MLR MLR
comp=E,758nm,13.0s
YAK MLR MLR
comp=N,1μm,14.0s
CLNS Chul'man 20.19 307 *e*P **P** **08 04 15.4 +3.1**
CLNS *e* 08 04 30.9
CLNS *e*S **S** **08 07 54.7 -3.0**
CLNS *e*SS 08 08 23.8
CLNS pmax pmax
comp=Z,90nm,1.5s
CLNS pmax pmax
comp=E,27nm,1.3s
CLNS pmax pmax
comp=N,47nm,1.3s
CLNS pmax pmax
comp=N,73nm,1.3s
CLNS pmax pmax
comp=Z,89nm,1.3s
CLNS pmax pmax
comp=E,55nm,1.3s
CLNS smax
comp=E,218nm,13.5s
CLNS smax
comp=N,81nm,12.3s
CLNS MLR MLR
comp=Z,2μm,16.0s,MS4.6
CLNS MLR MLR
comp=N,2μm,15.0s,MS4.6
CLNS MLR MLR
comp=E,1μm,15.0s,MS4.6
BILL Bilibino 20.80 12 *e*P **P** **08 04 15.8 -2.9**
comp=E,12μm,1.9s
BILL Bilibino 20.80 12*c i*P **P** **08 04 16.3 -2.4**
BILL *i* 08 04 35.1
BILL pmax pmax
comp=Z,19nm,1.2s
BILL MLR MLR
comp=Z,2μm,17.0s,MS4.6
CN2 Changchun 20.95 269 *e*P **P** **08 04 18.5 -2.0**
CN2 epP 08 04 27.5
CN2 esP sP 08 04 31.8 +2.7
CN2 *e*S **S** **08 08 04.3 -8.6**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,2μm,14.0s,MS4.7
CN2 LR LR
comp=E,1μm,14.0s,MS4.7
CN2 LR LR
comp=Z,2μm,14.0s,MS4.7
KSRS Korea Array 22.45 252 P **P** **08 04 37.6 +1.0**
comp=Z,23nm,0.7s,mb4.7,baz=52,slow=11,SNR=31
KSRS LR LR 08 12 48.4
comp=Z,959nm,18.1s,MS4.3,baz=59,slow=35
KSRS Korea Array 22.45 252 P **P** **08 04 37.7 +1.0**
KSRS pmax pmax
comp=Z,23nm,0.7s,mb4.7
KSRS MLR MLR
comp=Z,959nm,18.2s,MS4.3
KSAR Wonju Array Be 22.48 252 P **P** **08 04 37.6 +0.6**
KSAR Wonju Array Be 22.48 252 P **P** **08 04 37.7 +0.7**
SNY Shenyang 23.01 266 ⇑P **P** **08 04 42.0 -0.6**
SNY S **S** **08 08 53.5 +1.5**
SNY pmax pmax
comp=Z,15nm,1.0s,mb4.4
SNY pmax pmax
comp=Z,1μm,2.6s,mb5.9
SNY LR LR
comp=E,2μm,15.3s
SNY LR LR
comp=Z,2μm,16.5s,MS4.5
TNA Tin City 26.19 35 *e*P **P** **08 05 14.2 +2.3**
comp=Z,29nm,0.9s,mb4.8
BJI Beijing 28.81 268 P **P** **08 05 34.8 -0.8**
BJI pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
BJI LR LR
comp=N,760nm,18.4s,MS4.7
BJI LR LR
comp=E,1μm,15.5s,MS4.7
BJI LR LR
comp=Z,730nm,17.1s,MS4.3
HHC Hu-ho-hao-te 31.51 273 *e*P **P** **08 05 59.5 0.0**
HHC pP pP 08 06 09.3 +3.4
HHC sP sP 08 06 13.0 +4.5
HHC PcP PcP 08 08 52.3 +0.3
HHC S **S** **08 11 04.3 -2.2**
HHC ScS ScS 08 16 27.8 -3.6
HHC pmax pmax
comp=Z,24nm,1.1s,mb4.9
HHC pmax pmax
comp=Z,140nm,3.2s
HHC LR LR
comp=N,930nm,14.3s,MS4.8
HHC LR LR
comp=E,1μm,14.3s,MS4.8
HHC LR LR
comp=Z,2μm,14.3s,MS4.9
NJ2 Nanjing 31.64 253 *e*P **P** **08 06 03.0 +2.3**
NJ2 pP pP 08 06 12.5 +5.4
NJ2 sP sP 08 06 16.5 +6.8
NJ2 PP PP 08 07 08.0 -4.2
NJ2 S **S** **08 11 08.5 -0.2**
NJ2 sS sS 08 11 24.5 +5.4
NJ2 pmax pmax
comp=Z,20nm,0.6s,mb5.1
NJ2 pmax pmax
comp=Z,220nm,5.1s
NJ2 LR LR
comp=N,2μm,17.8s,MS4.9
NJ2 LR LR
comp=E,1μm,15.4s,MS4.9
NJ2 LR LR
comp=Z,2μm,14.8s,MS4.8
ULN Ulaanbaatar 31.70 288 *e*P **P** **08 05 60.0 -1.2**
comp=Z,3.4nm,0.6s,mb4.3
ULN Ulaanbaatar 31.70 288 *e*P **P** **08 06 00.0 -1.2**
ULN pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
SONM Songino Array 32.13 288 P **P** **08 06 04.1 -0.8**
comp=Z,1.9nm,0.7s,mb4.0,baz=67,slow=8.1,SNR=14
SONM PcP PcP 08 08 53.5 -0.1
comp=Z,0.5nm,0.5s,baz=39,slow=2.2,SNR=3.6
SONM LR LR 08 20 14.9
comp=Z,2μm,18.2s,MS4.9,baz=272,slow=39
SONM Songino Array 32.13 288 P **P** **08 06 04.1 -0.8**
SONM PcP PcP 08 08 53.5 -0.1
SONM Songino Array 32.13 288 P **P** **08 06 04.1 -0.8**
SONM 08 08 53.5
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM MLR MLR
comp=Z,2μm,18.2s
KDAK Kodiak Island 32.25 53 P **P** **08 06 07.0 +1.2**
comp=Z,12nm,0.9s,mb4.8,baz=284,slow=4.6,SNR=3.2
KDAK Kodiak Island 32.25 53 P **P** **08 06 07.0 +1.2**
KDAK Kodiak Island 32.25 53 P **P** **08 06 07.0 +1.2**
KDAK pmax pmax
comp=Z,13nm,0.9s,mb4.8
COLD Coldfoot 33.48 35 *e*P **P** **08 06 14.5 -2.0**
comp=Z,60nm,2.1s,mb5.2
MCK McKinley 33.78 42 *e*P **P** **08 06 18.6 -0.5**
comp=Z,13nm,1.1s,mb4.8
MCK McKinley 33.78 42 *e*P **P** **08 06 18.6 -0.5**
MCK pmax pmax
comp=Z,13nm,1.1s,mb4.8
SML Sawmill 34.10 45 *e*P **P** **08 06 21.7 -0.2**
comp=Z,8.1nm,0.9s,mb4.7
SML Sawmill 34.10 45 *e*P **P** **08 06 21.7 -0.2**
SML pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
COLA College 34.27 40 *e*P **P** **08 06 22.4 -1.0**
comp=Z,82nm,1.0s,mb5.6
COLA College 34.27 40 *e*P **P** **08 06 22.4 -1.0**
COLA pmax pmax
comp=Z,82nm,1.0s,mb5.6
ILAR Eielson Array 34.68 40 P **P** **08 06 26.4 -0.5**
comp=Z,2.4nm,1.0s,mb4.1,baz=251,slow=6.9,SNR=13
ILAR Eielson Array 34.68 40 P **P** **08 06 26.4 -0.5**
ILAR Eielson Array 34.68 40 P **P** **08 06 26.4 -0.5**
WHN Wuhan 35.53 255 P **P** **08 06 32.5 -2.1**
WHN pP pP 08 06 46.5 +5.5
WHN LR LR
comp=N,2μm,22.2s,MS5.0
WHN LR LR
comp=E,2μm,19.5s,MS5.0
WHN LR LR
comp=Z,2μm,15.3s,MS4.9
YULB Yu-li 36.38 239 *e*P **P** **08 06 43.3 +1.4**
comp=Z,22nm,0.9s,mb5.1
XAN Xi'an 36.93 265 P **P** **08 06 46.0 -0.6**
XAN pP pP 08 06 55.5 +2.5
XAN sP sP 08 06 59.5 +4.0
XAN PP PP 08 08 11.0 +0.3
XAN S **S** **08 12 25.8 -4.5**
XAN pmax pmax
comp=Z,3.0nm,1.2s,mb4.0
XAN pmax pmax
comp=Z,19nm,7.2s
XAN LR LR
comp=N,690nm,14.6s,MS4.5
XAN LR LR
comp=E,190nm,17.4s,MS4.5
XAN LR LR
comp=Z,320nm,15.1s,MS4.2
EGAK Eagle 37.13 40 *e*P **P** **08 06 47.7 -0.2**
comp=Z,116nm,2.3s,mb5.3
ENH Enshi 38.89 260 *e*P **P** **08 07 03.4 +0.2**
comp=Z,11nm,0.5s,mb4.9
LZH Lanzhou 39.15 271 *e*P **P** **08 07 06.8 +1.5**
LZH pP pP 08 07 16.8 +5.1
LZH sP sP 08 07 20.0 +5.7
LZH pmax pmax
comp=Z,37nm,1.1s,mb5.0
LZH pmax pmax
comp=Z,300nm,4.9s
LZH LR LR
comp=N,750nm,14.0s,MS4.9
LZH LR LR
comp=E,890nm,14.0s,MS4.9
LZH LR LR
comp=Z,840nm,14.2s,MS4.7
INK Inuvik 39.81 33 P **P** **08 07 10.8 +0.4**
comp=Z,4.3nm,0.8s,mb4.2,baz=284,slow=8.0,SNR=14
INK LR LR 08 23 13.8
comp=Z,238nm,21.7s,MS4.0,baz=125,slow=36
INK Inuvik 39.81 33 *e*P **P** **08 07 10.3 -0.1**
comp=Z,8.0nm,1.0s,mb4.4
INK Inuvik 39.81 33 P **P** **08 07 10.8 +0.4**
INK pmax pmax
comp=Z,4.0nm,0.9s
INK MLR MLR
comp=Z,238nm,21.7s
GTA Gaotai 40.05 279 P **P** **08 07 12.5 -0.2**
GTA pP pP 08 07 22.5 +3.3
GTA sP sP 08 07 26.5 +4.8
GTA PP PP 08 08 48.3 +3.5
GTA S **S** **08 13 15.8 -1.6**
GTA sS sS 08 13 32.3 +4.4
GTA pmax pmax
comp=Z,9.0nm,1.4s,mb4.3
GTA pmax pmax
comp=Z,68nm,4.0s
GTA LR LR
comp=N,820nm,15.7s,MS5.0
GTA LR LR
comp=E,1μm,16.1s,MS5.0
GTA LR LR
comp=Z,2μm,16.6s,MS5.0
CD2 Chengdu 42.29 265 P **P** **08 07 31.3 +0.1**
CD2 pP pP 08 07 40.5 +2.8
CD2 sP sP 08 07 44.5 +4.3
CD2 PP PP 08 09 12.5 +3.3
CD2 S **S** **08 13 49.0 -1.8**
CD2 sS sS 08 14 04.5 +3.1
CD2 SS SS 08 16 51.5 -7.8
CD2 pmax pmax
comp=Z,40nm,1.0s,mb5.0
CD2 pmax pmax
comp=Z,150nm,5.3s
CD2 LR LR
comp=E,670nm,10.2s
CD2 LR LR
comp=Z,910nm,14.4s,MS4.8
ZALV Zalesovo Beam 42.89 305 P **P** **08 07 35.3 -0.5**
comp=Z,3.4nm,0.5s,mb4.3,baz=78,slow=4.9,SNR=5.1
ZALV PcP PcP 08 09 26.4 +0.1
comp=Z,2.1nm,0.5s,baz=95,slow=3.1,SNR=4.8
ZALV LR LR 08 26 23.6
comp=Z,499nm,19.0s,MS4.4,baz=322,slow=38
ZALV Zalesovo Beam 42.89 305 P **P** **08 07 35.3 -0.5**
ZALV PcP PcP 08 09 26.4 +0.1
ZALV Zalesovo Beam 42.89 305 P **P** **08 07 35.3 -0.5**
ZALV 08 09 26.4
ZALV pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
ZALV MLR MLR
comp=Z,499nm,19.0s,MS4.4
GYA Guiyang 43.27 258⇑*i*P **P** **08 07 39.0 -0.3**
GYA pP pP 08 07 49.5 +3.8
GYA sP sP 08 07 54.5 +6.2
GYA PP PP 08 09 22.3 +2.4
GYA PcP PcP 08 09 31.0 +2.9
GYA ScP ScP 08 13 16.5 -1.4
GYA sS sS 08 14 18.5 +2.5
GYA SS SS 08 17 09.8 -9.0
GYA pmax pmax
comp=Z,20nm,0.7s,mb5.0
GYA pmax pmax
comp=Z,120nm,5.1s
GYA LR LR
comp=N,530nm,17.8s,MS4.6
GYA LR LR
comp=E,490nm,18.5s,MS4.6
GYA LR LR
comp=Z,500nm,17.9s,MS4.5
DLBC Dease Lake 43.72 47 *e*P **P** **08 07 42.7 +0.3**
WMQ Urumqi 45.66 291 P **P** **08 07 58.8 +0.7**
KMI Kunming 46.77 260 P **P** **08 08 07.8 +0.8**
KMI pP pP 08 08 17.5 +4.0
KMI sP sP 08 08 21.3 +5.2
KMI PP PP 08 09 57.8 +0.9
KMI S **S** **08 14 55.0 -0.9**
KMI pmax pmax
comp=Z,21nm,1.3s,mb4.9
KMI pmax pmax
comp=Z,160nm,3.1s
KMI LR LR
comp=N,800nm,20.1s
KMI LR LR
comp=E,480nm,15.1s
KMI LR LR
comp=Z,440nm,23.1s,MS4.3
MK31 Makanchi Array 47.48 297 *e*P **P** **08 08 11.7 -0.7**
MK31 Makanchi Array 47.48 297 *i* P **P** **08 08 11.5 -0.9**
MK31 pmax pmax
comp=Z,15nm,0.6s,mb5.1
MKAR Makanchi Array 47.48 297 P **P** **08 08 11.7 -0.7**
comp=Z,10nm,0.6s,mb5.0,baz=67,slow=7.9,SNR=74
MKAR LR LR 08 29 39.6
comp=Z,528nm,21.0s,MS4.5,baz=250,slow=38
MKAR Makanchi Array 47.48 297 *e*P **P** **08 08 11.7 -0.7**
MKAR Makanchi Array 47.48 297 P **P** **08 08 11.7 -0.7**
MKAR pmax pmax
comp=Z,10.0nm,0.6s
MKAR MLR MLR
comp=Z,528nm,21.0s
KURK Kurchatov 47.71 303 P **P** **08 08 14.0 -0.1**
comp=Z,31nm,0.6s,mb5.5,baz=67,slow=8.4,SNR=94
KURK Kurchatov 47.71 303 *e*P **P** **08 08 13.2 -0.8**
comp=Z,31nm,0.6s,mb5.5
KURK Kurchatov 47.71 303*c i*P **P** **08 08 12.3 -1.8**
KURK pmax pmax
comp=Z,60nm,1.2s,mb5.5
YKA Yellowknife Ar 49.06 38 P **P** **08 08 24.0 -0.3**
comp=Z,6.9nm,1.0s,mb4.6,baz=298,slow=7.4,SNR=9.1
YKA Yellowknife Ar 49.06 38 P **P** **08 08 24.1 -0.3**
YKA Yellowknife Ar 49.06 38 P **P** **08 08 24.1 -0.2**
RES Resolute Bay 49.14 19 P **P** **08 08 25.1 +0.3**
comp=Z,2.5nm,0.5s,mb4.5,baz=278,slow=9.9,SNR=21
RES LR LR 08 32 26.8
comp=Z,296nm,18.7s,MS4.3,baz=261,slow=40
RES Resolute Bay 49.14 19 *e*P **P** **08 08 24.9 +0.1**
comp=Z,39nm,1.5s,mb5.2
RES Resolute Bay 49.14 19 P **P** **08 08 25.1 +0.3**
RES pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
RES MLR MLR
comp=Z,296nm,18.7s,MS4.3
BVA0 Borovoye Array 51.01 309 *i* P **P** **08 08 38.1 -1.1**
BVAR Borovoye Array 51.01 309 P **P** **08 08 38.2 -1.0**
comp=Z,9.3nm,0.5s,mb5.0,baz=62,slow=7.6,SNR=48
BVAR Borovoye Array 51.01 309 P **P** **08 08 38.2 -1.0**
BVAR Borovoye Array 51.01 309 P **P** **08 08 38.2 -1.0**
BVAR pmax pmax
comp=Z,9.0nm,0.5s
BRVK Borovoye 51.05 309 *e*P **P** **08 08 39.0 -0.6**
comp=Z,11nm,0.6s,mb5.0
BRVK Borovoye 51.05 309*d i*P **P** **08 08 38.7 -0.8**
BRVK pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
LSA Lhasa 51.50 273 P **P** **08 08 45.0 +1.8**
LSA LR LR
comp=E,660nm,24.4s
LSA LR LR
comp=Z,650nm,16.7s
LSA Lhasa 51.50 273 *e*P **P** **08 08 45.6 +2.4**
comp=Z,7.3nm,0.5s,mb4.9
LSA Lhasa 51.50 273 *e*P **P** **08 08 45.7 +2.5**
LSA pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
SPITS Spitsbergen Ar 51.52 350 P **P** **08 08 40.2 -2.5**
comp=Z,14nm,1.0s,mb4.8,baz=57,slow=6.3,SNR=6.7
SPITS LR LR 08 34 03.6
comp=Z,321nm,18.1s,MS4.4,baz=40,slow=40
SPITS Spitsbergen Ar 51.52 350 P **P** **08 08 40.2 -2.5**
SPITS Spitsbergen Ar 51.52 350 P **P** **08 08 40.2 -2.5**
SPITS pmax pmax
comp=Z,15nm,1.0s
SPITS MLR MLR
comp=Z,321nm,18.1s
ULHL Ulahol 53.57 295 P **P** **08 08 57.9 -0.5**
SNR=8.0
TKM2 Tokmak 2 53.58 296 P **P** **08 08 58.1 -0.3**
SNR=5.1
TKM2 Tokmak 2 53.58 296 *e*P **P** **08 08 58.0 -0.4**
comp=Z,10nm,1.1s,mb4.7
TKM2 Tokmak 2 53.58 296 *i* P **P** **08 08 58.1 -0.3**
CHG Chiang Mai 53.69 257 ⇓P **P** **08 09 00.4 +0.8**
comp=Z,16nm,0.8s,mb5.0
CHTO Chiang Mai 53.69 257 *e*P **P** **08 08 53.0 -6.5**
comp=Z,81nm,1.5s,mb5.4
CHTO Chiang Mai 53.69 257 *e*P **P** **08 08 53.0 -6.6**
CHTO pmax pmax
comp=Z,81nm,1.5s,mb5.4
SHL Shillong 53.70 269 *e*PKP **P** **08 08 59.6 0.0**
ETW Entiat 53.94 56 *e*P **P** **08 09 00.5 -0.5**
comp=Z,27nm,1.4s,mb5.0
CMAR Chiang Mai Arr 53.95 257 P **P** **08 08 58.9 -2.6**
comp=Z,2.2nm,0.4s,mb4.5,baz=19,slow=15,SNR=12
CMAR LR LR 08 32 56.3
comp=Z,500nm,19.9s,MS4.6,baz=54,slow=37
CMAR Chiang Mai Arr 53.95 257 P **P** **08 08 58.9 -2.6**
CMAR Chiang Mai Arr 53.95 257 P **P** **08 08 58.9 -2.5**
CMAR pmax pmax
comp=Z,2.0nm,0.4s
CMAR MLR MLR
comp=Z,500nm,19.9s
USP Ospenovka 54.03 297 P **P** **08 09 01.8 0.0**
SNR=17
FRU Bishkek 54.21 297 *e*P **P** **08 09 02.0 -1.1**
KZA Kyzart 54.27 296 P **P** **08 09 04.5 +1.0**
SNR=7.2
AAK Ala-Archa 54.40 296 *e*P **P** **08 09 03.9 -0.6**
comp=Z,35nm,0.6s,mb5.5
AAK Ala-Archa 54.40 296*c i*P **P** **08 09 03.9 -0.6**
AAK pmax pmax
comp=Z,15nm,0.6s,mb5.1
E07A Sunnyside 54.80 57 ⇓P **P** **08 09 06.6 -0.7**
baz=55
EKS2 Erkin-Say 54.82 297 P **P** **08 09 07.6 +0.1**
SNR=11
EKS2 Erkin-Say 54.82 297 *e*P **P** **08 09 07.0 -0.5**
comp=Z,7.9nm,0.7s,mb4.8
EKS2 Erkin-Say 54.82 297 *e*P **P** **08 09 07.0 -0.5**
EKS2 pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
ARU Arti 54.90 318 *e*P **P** **08 09 06.7 -1.2**
comp=Z,22nm,1.3s,mb5.0
ARU Arti 54.90 318 *e*P **P** **08 09 06.7 -1.2**
ARU pmax pmax
comp=Z,22nm,1.3s,mb5.0
OD2 Odessa Site #2 54.96 56 *e*P **P** **08 09 07.2 -1.2**
comp=Z,5.5nm,0.9s,mb4.6
TAPN Taplejung 55.32 274 *e*P **P** **08 09 12.0 +0.7**
NEW Newport 55.33 54 ⇓P **P** **08 09 10.1 -0.9**
baz=55
KSH Kashi 55.34 293 *e*P **P** **08 09 14.8 +3.5**
KSH pP pP 08 09 24.0 +6.1
KSH sP sP 08 09 28.8 +8.3
KSH PcP PcP 08 10 14.8 +3.1
KSH PP PP 08 11 20.0 +5.2
KSH ScP ScP 08 14 09.5 +0.4
KSH PcS PcS 08 14 13.5 +1.8
KSH S **S** **08 16 54.8 +0.6**
KSH sS sS 08 17 12.0 +6.9
KSH ScS ScS 08 18 57.8 -1.3
KSH SS SS 08 20 40.0 +1.7
KSH pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
KSH pmax pmax
comp=Z,110nm,6.6s
KSH LR LR
comp=N,210nm,10.6s,MS4.8
KSH LR LR
comp=E,370nm,12.1s,MS4.8
KSH LR LR
comp=Z,320nm,7.4s
A12A Yaak River Ran 55.73 53 ⇑P **P** **08 09 13.5 -0.5**
baz=56
E09A Wood Farm, Sta 55.78 56 ⇑P **P** **08 09 13.8 -0.6**
baz=56
ODAN Odare 55.86 273 *e*P **P** **08 09 15.2 0.0**
comp=Z,10nm,0.4s,mb5.2
YBH Yreka Blue Hor 55.97 64 *e*P **P** **08 09 16.2 +0.4**
comp=Z,81nm,2.6s,mb5.3
YBH Yreka Blue Hor 55.97 64 *e*P **P** **08 09 16.2 +0.4**
YBH pmax pmax
comp=Z,81nm,2.6s
G08A Pilot Rock 56.05 58 ⇓P **P** **08 09 15.5 -0.8**
baz=56
C11A Tepee Creek (N 56.05 54 ⇓P **P** **08 09 15.9 -0.3**
baz=56
JIRN Jiri 56.13 275 *e*P **P** **08 09 17.8 +0.7**
comp=Z,7.0nm,0.4s,mb5.0

GUN **Gumba** 56.17 275 *e*P P 08 09 18.0 +0.5
comp=Z,20nm,0.4s,mb5.5
RAMN **Ramite** 56.33 274 *e*P P 08 09 18.9 +0.4
comp=Z,43nm,0.6s,mb5.6
A13A **Flathead Natio** 56.39 52 ⇓P P 08 09 18.2 -0.5
baz=56
I07A **Izee** 56.45 60 ⇑P P 08 09 19.3 +0.1
baz=56
K05A **Summer Lake** 56.45 62 ⇑P P 08 09 19.0 -0.3
baz=56
KKAR **Karatay Array** 56.49 299 *e*P P 08 09 19.2 -0.2
KKAR **Karatay Array** 56.49 299 *e*P P 08 09 19.3 -0.2
C12B **Naegeli Ranch,** 56.55 54 ⇑P P 08 09 19.6 -0.2
baz=56
WALA **Waterton Lakes** 56.58 52 *e*P P 08 09 20.0 0.0
comp=Z,0.3nm,1.1s
APA **Apatity** 56.61 337⇑ *e*P P 08 09 22.0 +2.0
APA pmax pmax
comp=Z,43nm,1.4s,mb5.3
APA MLR MLR
comp=Z,1μm,17.0s,MS5.1
F10A **Beach Ranch, E** 56.62 57 ⇑P P 08 09 19.4 -1.0
baz=56
KKN **Kakani** 56.65 276 *e*P P 08 09 21.8 +0.9
comp=Z,24nm,0.5s,mb5.5
B13A **Whitefish** 56.70 53 ⇓P P 08 09 20.0 -0.9
baz=56,SNR=8.0
PKI **Pulchoki** 56.71 275 *e*P P 08 09 22.0 +0.7
comp=Z,14nm,0.4s,mb5.3
WDC **Whiskeytown Da** 56.76 65 *e*P P 08 09 22.2 +0.7
comp=Z,47nm,2.1s,mb5.2
WDC **Whiskeytown Da** 56.76 65 *e*P P 08 09 22.2 +0.7
WDC pmax pmax
comp=Z,47nm,2.1s,mb5.2
BSMT **Bassoo Peak** 56.84 54 *e*P P 08 09 22.6 +0.7
comp=Z,6.9nm,1.1s,mb4.6
DMN **Daman** 56.89 276 *e*P P 08 09 23.6 +1.1
comp=Z,42nm,0.7s,mb5.6
A14A **Double T Ranch** 56.89 52 ⇑P P 08 09 21.8 -0.5
baz=57
GKN **Gorkha** 56.94 276 *e*P P 08 09 23.7 +0.8
comp=Z,53nm,0.5s,mb5.8
ARCES **ARCESS Array B** 57.01 341 P P 08 09 21.2 -1.5
comp=Z,3.7nm,0.7s,mb4.5,baz=31,slow=6.2,SNR=11
ARCES LR LR 08 38 07.9
comp=Z,840nm,18.5s,MS4.9,baz=29,slow=41
ARCES **ARCESS Array B** 57.01 341 P P 08 09 21.2 -1.5
ARCES **ARCESS Array B** 57.01 341 P P 08 09 21.3 -1.4
ARCES pmax pmax
comp=Z,4.0nm,0.7s
ARCES MLR MLR
comp=Z,840nm,18.5s
D12A **Red Ives Fores** 57.01 55 ⇑P P 08 09 22.6 -0.5
baz=57
C13A **Hot Springs** 57.05 54 ⇑P P 08 09 23.1 -0.4
baz=57
BMO **Blue Mountains** 57.25 58 *e*P P 08 09 25.1 +0.3
comp=Z,9.2nm,1.4s,mb4.6
A15A **Johnson Ranch,** 57.25 52 ⇑P P 08 09 24.0 -0.7
baz=57
E12A **Beaver Dam Sad** 57.27 55 ⇓P P 08 09 24.8 -0.2
baz=57
DANN **Dangsing** 57.30 277 *e*P P 08 09 26.7 +1.3
comp=Z,95nm,0.5s,mb6.1
MOD **Modoc** 57.30 62 *e*P P 08 09 25.6 +0.3
comp=Z,8.6nm,1.1s,mb4.7
B14A **Marquette Ranc** 57.34 52 ⇓P P 08 09 24.8 -0.6
baz=57
C14A **Swan Lake** 57.45 53 ⇓P P 08 09 25.8 -0.4
baz=57
SWMT **Swartz Lake** 57.47 54 *e*P P 08 09 25.4 -1.0
comp=Z,2.4nm,0.8s,mb4.3
D13A **Huson** 57.47 54 ⇓P P 08 09 26.0 -0.4
baz=57
J08A **Circle Bar Ran** 57.49 60 ⇓P P 08 09 26.5 -0.1
baz=57
B15A **Bradely Ranch,** 57.75 52 ⇓P P 08 09 27.8 -0.5
baz=58
KOLN **Koldanda** 57.79 277 *e*P P 08 09 29.8 +0.9
comp=Z,25nm,0.4s,mb5.6
F12A **Elk City** 57.85 56 ⇑P P 08 09 28.7 -0.3
baz=58,SNR=6.7
A16A **West Butte Ran** 57.86 51 ⇓P P 08 09 28.5 -0.6
baz=58
SLMT **Seeley Lake** 57.90 54 *e*P P 08 09 29.6 +0.2
PYUN **Piuthan** 57.98 278 *e*P P 08 09 30.9 +0.7
comp=Z,23nm,0.6s,mb5.4
D14A **Greenough** 57.99 54 ⇑P P 08 09 29.4 -0.6
baz=58,SNR=7.7
E13A **Victor** 58.02 55 ⇓P P 08 09 30.1 -0.1
baz=58
C15A **Salmond Ranch,** 58.05 53 ⇑P P 08 09 30.1 -0.4
baz=58,SNR=7.5
G12A **Big Creek, Yel** 58.19 56 ⇑P P 08 09 31.3 -0.2
baz=58
A17A **Triple J Farms** 58.33 51 ⇓P P 08 09 31.9 -0.5
baz=58
F13A **Darby** 58.34 55 ⇓P P 08 09 32.0 -0.5
baz=58
E14A **Clinton** 58.41 54 ⇑P P 08 09 32.2 -0.7
baz=58
C16A **Fuhringer Ranc** 58.49 52 ⇑P P 08 09 33.3 -0.3
baz=58
D15A **Lincoln** 58.55 53 ⇑P P 08 09 33.4 -0.5
baz=58
AB31 **Akbulak array** 58.56 310 *i* P P 08 09 33.1 -0.9
AB31 pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
ABKAR **Akbulak array** 58.56 310 *e*P P 08 09 32.8 -1.2
comp=Z,7.2nm,0.6s,mb4.9
B17A **L&G Farms, Che** 58.69 51 ⇓P P 08 09 34.2 -0.6
baz=58
A18A **Metzger Ranch,** 58.79 50 ⇑P P 08 09 35.0 -0.5
baz=58
H12A **Diamond D Ranc** 58.81 57 ⇑P P 08 09 35.4 -0.5
baz=59
G13A **Cobalt** 58.82 56 ⇑P P 08 09 35.3 -0.6
baz=59,SNR=12
E15A **Deer Lodge** 58.87 54 ⇑P P 08 09 35.8 -0.4
baz=59
FFC **Flin Flon** 58.87 41 *e*P P 08 09 36.4 +0.3
comp=Z,15nm,1.0s,mb5.0
FFC **Flin Flon** 58.87 41 *i* P P 08 09 36.5 +0.5
D16A **Dana Ranch, Ca** 59.08 53 ⇓P P 08 09 37.6 0.0
baz=59
C17A **Wharram Farm,** 59.12 52 ⇓P P 08 09 37.7 -0.1
baz=59
HRY **Holter Researc** 59.13 53 *e*P P 08 09 38.7 +0.7
comp=Z,4.8nm,0.9s,mb4.5
I12A **Atlanta** 59.13 58 ⇓P P 08 09 37.7 -0.3
baz=59
H13A **Challis** 59.14 56 ⇓P P 08 09 37.6 -0.5
baz=59
B18A **Beardsley Farm** 59.15 51 ⇓P P 08 09 37.7 -0.4
baz=59
WCN **Washoe City** 59.24 64 ⇓P P 08 09 38.8 0.0
baz=59
SUMG **Summit** 59.26 5 *e*P P 08 09 39.1 +0.6
comp=Z,87nm,1.2s,mb5.7
SUMG **Summit** 59.26 5⇑ *i*P P 08 09 39.3 +0.8
SUMG pmax pmax
comp=Z,30nm,1.0s
SUMG **Summit** 59.26 5⇑ *i*P P 08 09 39.3 +0.8
comp=Z,30nm,1.0s,mb5.3
F15A **Butte** 59.31 54 ⇓P P 08 09 39.1 -0.1
baz=59
E16A **East Helena** 59.32 53 ⇑P P 08 09 39.2 -0.1
baz=59
LRM **Limekiln Ridge** 59.35 54 *e*P P 08 09 40.7 +1.2
EGMT **Eagleton** 59.40 51 ⇑P P 08 09 39.3 -0.5
baz=59
EGMT **Eagleton** 59.40 51 *e*P P 08 09 40.6 +0.8
comp=Z,9.4nm,1.0s,mb4.8
D17A **Six Diamond Ra** 59.46 52 ⇓P P 08 09 39.9 -0.4
baz=59
B19A **Brinkman Farms** 59.55 50 ⇑P P 08 09 40.3 -0.5
baz=59,SNR=5.7
KLMR **Klimovskoe** 59.62 329 *e*P P 08 09 38.3 -2.8
KLMR pmax pmax
comp=Z,19nm,1.4s,mb4.9
KLMR MLR MLR
comp=Z,1μm,16.0s,MS5.2
I13A **Wildhorse Cree** 59.63 57 ⇑P P 08 09 41.5 0.0
baz=59,SNR=11
CMB **Columbia Colle** 59.65 66 *e*P P 08 09 40.9 -0.8
comp=Z,7.6nm,1.3s,mb4.6
CMB **Columbia Colle** 59.65 66 *e*P P 08 09 40.9 -0.8
CMB pmax pmax
comp=Z,8.0nm,1.3s,mb4.6
HLID **Hailey** 59.68 57 ⇓P P 08 09 41.6 -0.2
baz=59
HLID **Hailey** 59.68 57 *e*P P 08 09 41.9 +0.1
comp=Z,7.0nm,1.3s,mb4.5
G15A **Dillon** 59.74 55 ⇑P P 08 09 42.1 -0.1
baz=60
MCMT **McKenzie Canyo** 59.76 55 *e*P P 08 09 42.3 0.0
comp=Z,1.5nm,0.8s,mb4.1
A20A **Cobblestone Ra** 59.80 49 ⇑P P 08 09 42.7 +0.2
baz=60
E17A **Martinsdale** 59.80 53 ⇑P P 08 09 42.7 +0.1
baz=60
F16A **Kennard Place,** 59.82 54 ⇓P P 08 09 42.7 0.0
baz=60
D18A **Linhart Farms,** 59.90 52 ⇓P P 08 09 43.0 -0.3
baz=60
BOZ **Bozeman (W)** 59.91 54 ⇓P P 08 09 43.2 -0.1
baz=60,SNR=12
BOZ **Bozeman (W)** 59.91 54 *e*P P 08 09 43.6 +0.3
comp=Z,72nm,2.3s,mb5.3
BOZ **Bozeman (W)** 59.91 54 *e*P P 08 09 43.6 +0.3
BOZ pmax pmax
comp=Z,72nm,2.3s,mb5.3
J13A **Cove Ranch, Pi** 59.92 57 ⇑P P 08 09 43.3 -0.2
baz=60
C19A **Slack Wire Ran** 59.95 51 ⇓P P 08 09 43.5 -0.1
baz=60
I14A **Mackay** 59.99 57 ⇓P P 08 09 44.1 +0.2
baz=60,SNR=10
H15A **Lima** 60.00 55 ⇑P P 08 09 43.9 -0.1
baz=60
G16A **Moss Hill, Enn** 60.08 55 ⇑P P 08 09 44.5 0.0
baz=60,SNR=9.4
A21A **Bergtoll Ranch** 60.23 49 ⇓P P 08 09 45.2 -0.3
baz=60
E18A **Harlowton** 60.24 52 ⇑P P 08 09 45.6 0.0
baz=60
F17A **Fitzpatrick Pl** 60.27 53 ⇑P P 08 09 46.0 +0.2
baz=60
J14A **Carey** 60.34 57 ⇑P P 08 09 46.9 +0.5
baz=60,SNR=8.7
D19A **Cripps Ranch,** 60.40 51 ⇓P P 08 09 46.9 +0.2
baz=60
C20A **Veseth Ranch,** 60.50 50 ⇑P P 08 09 47.6 +0.2
baz=60,SNR=5.9
QLMT **Earthquake Lak** 60.53 55 *e*P P 08 09 48.5 +0.9
G17A **Pierce Place,** 60.59 54 ⇓P P 08 09 48.2 +0.1
baz=60
NVAR **Mina Array Bea** 60.66 64 P P 08 09 49.3 +0.7
comp=Z,1.6nm,0.8s,mb4.2,baz=287,slow=7.9,SNR=12
NVAR **Mina Array Bea** 60.66 64 P P 08 09 49.3 +0.7
JOF **Joensuu** 60.70 334 *e*P P 08 09 48.0 -0.5
JOF **Joensuu** 60.70 334 *e*p P 08 09 48.0 -0.5
H16A **Russell Place,** 60.72 55 ⇓P P 08 09 49.1 +0.3
baz=60,SNR=6.0
A22A **Carney Farms,** 60.74 48 ⇓P P 08 09 49.0 +0.1
baz=60,SNR=6.3
F18A **Big Timber** 60.77 53 ⇑P P 08 09 49.4 +0.1
baz=60
D20A **Manuel Ranch,** 60.84 51 ⇓P P 08 09 50.0 +0.3
baz=61,SNR=6.2
YMR **Madison River** 60.89 55 *e*P P 08 09 51.2 +1.1
comp=Z,7.7nm,0.9s,mb4.8
J15A **Blackfoot** 60.90 56 ⇑P P 08 09 50.8 +0.6
baz=61
C21A **Desert Coulee** 60.90 50 ⇓P P 08 09 50.3 +0.2
baz=61
E19A **Rath Farm, Rou** 60.91 52 ⇑P P 08 09 50.3 +0.1
baz=61
K14A **Jones Ranch, D** 61.03 58 ⇓P P 08 09 51.3 +0.3
baz=61
I16A **Newdale** 61.12 56 ⇑P P 08 09 51.6 0.0
baz=61
B22A **Reddig Ranch S** 61.15 49 ⇑P P 08 09 51.8 +0.1
baz=61
F19A **Roth Farm, Mol** 61.22 52 ⇑P P 08 09 52.4 +0.1
baz=61,SNR=5.6
E20A **Meyer Farm, Mu** 61.22 51 ⇓P P 08 09 52.4 +0.1
baz=61
G18A **Lazy EL Ranch,** 61.23 53 ⇓P P 08 09 52.8 +0.4
baz=61
H17A **Grant Village** 61.28 55 ⇓P P 08 09 53.2 +0.5
baz=61
K15A **Arbon** 61.30 57 ⇑P P 08 09 53.4 +0.5
baz=61
IMW **Indian Meadow** 61.40 55 *e*P P 08 09 55.0 +1.4
comp=Z,11nm,1.4s,mb4.8
NDI **New Delhi** 61.40 282 *e*PKP P 08 09 52.2 -1.5
FLWY **Flagg Ranch** 61.42 55 *e*P P 08 09 55.1 +1.4
comp=Z,8.8nm,1.1s,mb4.8
J16A **Bone** 61.44 56 ⇓P P 08 09 53.6 -0.2
baz=61
D21A **La Casta Ranch** 61.45 50 ⇓P P 08 09 53.7 -0.2
baz=61
RLMT **Red Lodge** 61.52 53 ⇓P P 08 09 53.7 -0.6
baz=61
RLMT **Red Lodge** 61.52 53 *e*P P 08 09 52.2 -2.1
comp=Z,5.7nm,1.0s,mb4.7
B23A **Brockton** 61.55 48 ⇓P P 08 09 54.2 -0.3
baz=61
RRI2 **Red Ridge** 61.55 56 *e*P P 08 09 55.9 +1.3
comp=Z,7.6nm,0.8s,mb4.9
C22A **Vida** 61.57 49 ⇑P P 08 09 54.3 -0.3
baz=61
H18A **Shoshone NF, C** 61.59 54 ⇓P P 08 09 54.5 -0.4
baz=61
MOOW **Moose Ponds** 61.61 55 *e*P P 08 09 56.0 +1.0
comp=Z,34nm,2.3s,mb5.1
TPAW **Teton Pass** 61.66 56 *e*P P 08 09 57.4 +2.0
comp=Z,24nm,1.5s,mb5.1
F20A **Billings** 61.67 52 ⇓P P 08 09 55.2 -0.1
baz=61
A24A **Westby** 61.73 47 ⇓P P 08 09 55.6 -0.1
baz=61
K16A **Soda Springs** 61.73 56 ⇑P P 08 09 55.7 -0.1
baz=62
E21A **Keefer Ranch,** 61.75 51 ⇓P P 08 09 56.1 +0.2
baz=62
LOHW **Long Hollow** 61.77 55 *e*P P 08 09 57.3 +1.2
comp=Z,20nm,1.6s,mb5.0
SNOW **Snow King Moun** 61.79 55 *e*P P 08 09 57.6 +1.5
comp=Z,12nm,1.3s,mb4.8
REDW **Red Top Meadow** 61.80 56 *e*P P 08 09 56.9 +0.7
comp=Z,24nm,1.5s,mb5.1
D22A **Cohagen** 61.81 50 ⇓P P 08 09 56.4 +0.1
baz=62
L15A **Malad City** 61.82 58 ⇑P P 08 09 56.7 +0.3
baz=62
VES **Veal, Richgr** 61.86 67 ⇓P P 08 09 57.3 +0.5
baz=62
J17A **Brown Place, J** 61.88 56 ⇓P P 08 09 57.3 +0.5
baz=62,SNR=7.6
C23A **Lambert** 61.89 49 ⇓P P 08 09 57.0 +0.2
baz=62
DGMT **Dagmar** 61.94 48 ⇓P P 08 09 56.8 -0.3
baz=62
DGMT **Dagmar** 61.94 48 *e*P P 08 09 56.4 -0.7
comp=Z,14nm,0.9s,mb5.1
H19A **Powell** 61.97 54 ⇑P P 08 09 57.6 +0.2
baz=62
G20A **Bridger** 62.02 53 ⇓P P 08 09 57.2 -0.5
baz=62
AHID **Auburn Hatcher** 62.05 56 *e*P P 08 09 59.1 +1.1
comp=Z,11nm,1.4s,mb4.8
LAO **LASA Array** 62.09 50 ⇑P P 08 09 58.5 +0.3
baz=62,SNR=6.0
LAO **LASA Array** 62.09 50 *e*P P 08 09 59.1 +0.9
comp=Z,26nm,1.3s,mb5.2
M15A **Larsen Ranch,** 62.14 58 ⇑P P 08 09 58.4 -0.2
baz=62,SNR=5.6
I18A **Diamond G Ranc** 62.15 55 ⇓P P 08 09 58.6 0.0
baz=62
K17A **Gardner Place,** 62.16 56 ⇓P P 08 09 58.7 0.0
baz=62
D23A **Lindsay** 62.29 49 ⇑P P 08 09 59.8 +0.3
baz=62
R11A **Troy Canyon, C** 62.34 63 ⇑P P 08 09 60.0 0.0
baz=62
J18A **Kendall Valley** 62.36 55 ⇑P P 08 10 00.4 +0.4
baz=62
I19A **Meeteetse** 62.38 54 ⇓P P 08 09 59.6 -0.5
baz=62
E22A **Miles City** 62.40 50 ⇑P P 08 10 00.1 -0.2
baz=62
N15A **Stansbury Isla** 62.48 59 ⇓P P 08 10 00.7 -0.1
baz=62
HWUT **Hardware Ranch** 62.55 58 *e*P P 08 10 01.5 +0.2
comp=Z,12nm,1.4s,mb4.8
L17A **Cokeville** 62.62 57 ⇑P P 08 10 01.8 0.0
baz=62
F22A **Rosebud** 62.68 51 ⇓P P 08 10 01.6 -0.5
baz=62
E23A **Ismay** 62.69 50 ⇓P P 08 10 01.8 -0.4
baz=62
MPMC **Manual Prospec** 62.69 66 ⇑P P 08 10 02.4 0.0
baz=62
M16A **Huntsville** 62.70 58 ⇑P P 08 10 01.8 -0.6
baz=62
K18A **Toltan Ranch,** 62.72 56 ⇑P P 08 10 03.1 +0.6
baz=62,SNR=6.5
DUG **Dugway** 62.76 59 ⇓P P 08 10 02.7 -0.1
baz=62
DUG **Dugway** 62.76 59 *e*P P 08 10 02.6 -0.2
comp=Z,8.1nm,1.1s,mb4.8
DUG **Dugway** 62.76 59 *e*P P 08 10 02.6 -0.1
DUG pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
KAF **Kangasniemi** 62.76 336 *e*P P 08 10 01.4 -1.0
KAF **Kangasniemi** 62.76 336 *e*p P 08 10 01.4 -1.0
KBL **Kabul** 62.77 292 *e*P P 08 10 01.5 -1.4
comp=Z,13nm,1.0s,mb5.0
KBL **Kabul** 62.77 292 *e*P P 08 10 01.5 -1.4
KBL pmax pmax
comp=Z,13nm,1.0s,mb5.0
D24A **Glendive** 62.78 49 ⇑P P 08 10 02.6 -0.2
baz=62
FURC **Furnace Creek,** 62.81 65 ⇑P P 08 10 03.5 +0.4
baz=63
J19A **Crowheart** 62.85 55 ⇑P P 08 10 03.6 +0.3
baz=63
I20A **Worland** 62.90 54 ⇓P P 08 10 03.9 +0.2
baz=63
BW06 **Boulder Array** 62.91 55 ⇑P P 08 10 03.7 0.0
baz=63,SNR=8.2
BW06 **Boulder Array** 62.91 55 *e*P P 08 10 03.1 -0.6
comp=Z,15nm,1.4s,mb4.9
PDAR **Pinedale Array** 62.91 55 P P 08 10 04.0 +0.4
comp=Z,4.1nm,1.0s,mb4.5,baz=304,slow=2.7,SNR=19
PDAR **Pinedale Array** 62.91 55 P P 08 10 04.0 +0.4
H21A **Big Horn, Sher** 63.03 53 ⇑P P 08 10 04.8 +0.4
baz=63
M17A **Scullys Gap (B** 63.14 57 ⇓P P 08 10 05.2 -0.1
baz=63
F23A **Volborg** 63.16 51 ⇓P P 08 10 05.4 +0.1
baz=63
EDW2 **Edwards Air Fo** 63.16 67 ⇓P P 08 10 05.2 -0.3
baz=63
L18A **Fontenelle, Gr** 63.20 56 ⇑P P 08 10 05.5 -0.1
baz=63
K19A **Absolon Red Bu** 63.26 55 ⇓P P 08 10 06.0 0.0
baz=63
J20A **Shoshoni** 63.32 54 ⇓P P 08 10 06.8 +0.4
baz=63
FINES **FINESS Array B** 63.37 335 P P 08 10 05.5 -0.9
comp=Z,2.8nm,0.5s,mb4.7,baz=44,slow=7.7,SNR=14
FINES LR LR 08 40 10.3
comp=Z,882nm,20.3s,MS4.9,baz=186,slow=38
FINES **FINESS Array B** 63.37 335 P P 08 10 05.5 -0.9
FINES **FINESS Array B** 63.37 335 P P 08 10 05.6 -0.8
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES MLR MLR
comp=Z,882nm,20.3s
N17A **Moffit Pass** 63.40 58 ⇑P P 08 10 07.4 +0.4
baz=63
R13A **O'Grain Ranch,** 63.41 62 ⇑P P 08 10 07.2 +0.1
baz=63
H22A **Clearmont** 63.42 52 ⇑P P 08 10 06.9 -0.1
baz=63
I21A **Big Trails, Te** 63.45 53 ⇓P P 08 10 07.2 0.0
baz=63,SNR=5.2
P15A **Leamington** 63.48 60 ⇑P P 08 10 07.4 -0.2
baz=63
O16A **Springville** 63.51 59 ⇓P P 08 10 08.1 +0.4
baz=63
F24A **Ekalaka** 63.58 50 ⇑P P 08 10 08.0 0.0
baz=63
GSC **Goldstone** 63.61 66 ⇑P P 08 10 07.8 -0.7
baz=63
GSC **Goldstone** 63.61 66 *e*P P 08 10 13.7 +5.2
comp=Z,40nm,2.3s,mb5.0
GSC **Goldstone** 63.61 66 *e*P P 08 10 13.7 +5.2
GSC pmax pmax
comp=Z,40nm,2.3s,mb5.0
J21A **Lysite** 63.67 54 ⇑P P 08 10 08.9 +0.1
baz=63
I22A **9 Mile Ranch,** 63.82 53 ⇓P P 08 10 09.7 0.0
baz=64
O17A **Robinson Place** 63.95 58 ⇓P P 08 10 10.1 -0.6
baz=64
N18A **Larsen Ranch,** 64.03 57 ⇓P P 08 10 11.1 -0.1
baz=64
MOS **Moscow** 64.06 326 *e*P Px 08 10 25.3
TUQ **Turquoise Moun** 64.06 65 ⇑P P 08 10 10.9 -0.5
baz=64
L20A **Wamsutter** 64.08 55 ⇓P P 08 10 11.4 -0.1
baz=64
CCUT **Cedar City** 64.19 62 *e*P P 08 10 12.8 +0.5
comp=Z,9.5nm,1.3s,mb4.7
HEC **Hector,Ludlow** 64.22 66 ⇓P P 08 10 12.5 0.0
baz=64
K21A **Alcova** 64.26 54 ⇑P P 08 10 12.6 0.0
baz=64
H24A **Dirks Ranch, A** 64.27 51 ⇓P P 08 10 12.6 0.0
baz=64
O18A **Roosevelt** 64.32 58 ⇓P P 08 10 13.2 +0.2
baz=64
P17A **Butcher Ranch,** 64.43 59 ⇑P P 08 10 13.7 -0.1
baz=64
MURC **Murrieta** 64.50 68 ⇑P P 08 10 14.5 +0.2
baz=64
M20A **Sweetwater, Wa** 64.52 56 ⇓P P 08 10 14.2 -0.1
baz=64,SNR=5.1
Q16A **Castle Valley** 64.56 60 ⇓P P 08 10 14.3 -0.3
baz=64
P18A **Preston Nutter** 64.61 58 ⇑P P 08 10 14.9 -0.1
baz=64
K22A **Casper** 64.64 54 ⇓P P 08 10 14.9 -0.2
baz=64
L21A **Rawlins** 64.65 55 ⇓P P 08 10 15.0 -0.1
baz=64
ULM **Lac du Bonnet** 64.65 42 P P 08 10 14.8 -0.2
comp=Z,2.7nm,0.7s,mb4.4,baz=290,slow=7.2,SNR=5.4
ULM LR LR 08 42 11.9
comp=Z,292nm,18.9s,MS4.5,baz=337,slow=40
ULM **Lac du Bonnet** 64.65 42 P P 08 10 14.8 -0.2
ULM **Lac du Bonnet** 64.65 42 P P 08 10 14.9 -0.1
ULM pmax pmax
comp=Z,3.0nm,0.7s
ULM MLR MLR
comp=Z,292nm,18.9s
GMRC **Granite Mounta** 64.66 66 ⇑P P 08 10 15.5 +0.1
baz=64
LDFC **Landfair** 64.80 65 *e*P P 08 10 15.9 -0.4
comp=Z,10nm,0.5s,mb5.1
O19A **Miners Draw (B** 64.80 57 ⇑P P 08 10 16.3 +0.2
baz=64
SRU **San Rafael** 64.80 59 *e*P P 08 10 16.6 +0.4
comp=Z,9.5nm,0.9s,mb4.8
SRU **San Rafael** 64.80 59 *e*P P 08 10 16.6 +0.4
SRU pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
R16A **Teasdale** 64.80 60 ⇓P P 08 10 16.6 +0.3
baz=65
I24A **Kuemmerle Ranc** 64.83 52 ⇓P P 08 10 15.9 -0.4
baz=65
N20A **Spence Gulch,** 64.92 56 ⇑P P 08 10 17.2 +0.3
baz=65
OBN **Obninsk** 64.93 326 *e*P P 08 10 16.6 -0.1
OBN *e* 08 10 48.7
OBN *i* S S 08 18 48.3 -8.5
OBN pmax pmax
comp=Z,12nm,0.9s,mb4.9
OBN MLR MLR
comp=Z,800nm,20.0s,MS4.9
BHPL **Bhopal** 64.94 277 *e*PKP P 08 10 16.6 -0.8
RSSD **Black Hills** 64.96 51 *e*P P 08 10 16.7 -0.4
comp=Z,13nm,1.1s,mb4.9
RSSD **Black Hills** 64.96 51 *e*P P 08 10 16.7 -0.5
RSSD pmax pmax
comp=Z,13nm,1.1s,mb4.9
Q18A **Rafter H Ranch** 65.03 59 ⇓P P 08 10 17.9 +0.2
baz=65
L22A **Ellis Ranch, M** 65.11 54 ⇑P P 08 10 18.2 0.0
baz=65

S16A **Weppner Ranch,** 65.11 61 ⇓P P 08 10 18.5 +0.2
baz=65
R17A **Hanksville Air** 65.16 60 ⇑P P 08 10 18.4 -0.2
baz=65
J24A **Dixon Ranch, L** 65.18 52 ⇓P P 08 10 18.4 -0.1
baz=65
NGP **Nagpur** 65.31 275 *e*PKP P 08 10 18.2 -1.5
P19A **Cripple Cowboy** 65.33 58 ⇓P P 08 10 19.9 +0.3
baz=65
N21A **Black Mountain** 65.38 56 ⇓P P 08 10 20.0 0.0
baz=65
IRM **Iron Mountain** 65.39 66 ⇑P P 08 10 20.2 +0.1
baz=65
O20A **White River Ci** 65.41 57 ⇑P P 08 10 20.3 +0.2
baz=65
M22A **Cedar Creek Ra** 65.45 55 ⇑P P 08 10 20.7 +0.3
baz=65
W13A **Hualapai Mount** 65.52 64 ⇓P P 08 10 21.2 +0.3
baz=65
BC3 **Big Chuckawall** 65.54 66 ⇓P P 08 10 20.9 -0.2
baz=65
Q19A **Hogan Spring (** 65.63 58 ⇓P P 08 10 21.1 -0.4
baz=65,SNR=5.9
S17A **Black Ridge (B** 65.64 60 ⇓P P 08 10 21.5 -0.2
baz=65,SNR=7.3
R18A **Canyonlands Na** 65.65 59 ⇓P P 08 10 21.4 -0.3
baz=65
O21A **Pagoda** 65.78 56 ⇓P P 08 10 22.7 +0.2
baz=66
M23A **Laramie** 65.89 54 ⇑P P 08 10 23.4 +0.3
baz=66
N22A **Wattenberg Ran** 65.94 55 ⇓P P 08 10 23.8 +0.3
baz=66
Y12C **Blythe** 66.05 66 ⇑P P 08 10 24.5 +0.2
baz=66
AGMN **Agassiz Nation** 66.06 44 *e*P P 08 10 23.9 -0.3
comp=Z,15nm,1.1s,mb4.9
S18A **Hurst Farm, Bl** 66.07 60 ⇓P P 08 10 24.8 +0.3
baz=66
T17A **Navajo Res., N** 66.07 61 ⇑P P 08 10 24.0 -0.4
baz=66
R19A **Curley Farm, L** 66.08 59 ⇑P P 08 10 24.3 -0.2
baz=66
PV10 **Paradox Valley** 66.15 59 *e*P P 08 10 25.4 +0.5
comp=Z,160nm,0.8s,mb6.1
N23A **Red Feather La** 66.16 55 ⇓P P 08 10 25.0 0.0
baz=66
Q20A **Ridgley Place,** 66.18 58 ⇓P P 08 10 25.3 +0.2
baz=66
PV04 **Paradox Valley** 66.22 59 *e*P P 08 10 25.6 +0.3
P21A **Newcastle** 66.27 57 ⇑P P 08 10 25.8 +0.2
baz=66
O22A **Kremmling** 66.33 56 ⇓P P 08 10 26.2 +0.2
baz=66
GLA **Glamis** 66.33 66 ⇑P P 08 10 26.5 +0.3
baz=66
M24A **Cheyenne** 66.37 54 ⇓P P 08 10 26.6 +0.3
baz=66
U16A **Tuba City** 66.46 62 ⇑P P 08 10 27.1 +0.1
baz=66
T18A **Mexican Hat** 66.52 60 ⇓P P 08 10 27.3 0.0
baz=66
S19A **Harvey Farm, M** 66.53 59 ⇓P P 08 10 27.3 -0.1
baz=66,SNR=6.7
P22A **Eagle** 66.61 56 ⇑P P 08 10 27.6 -0.2
baz=66
O23A **Lake Granby, G** 66.65 55 ⇓P P 08 10 28.1 0.0
baz=66
R20A **Redvale** 66.66 58 ⇑P P 08 10 28.5 +0.3
baz=66
Q21A **Lamborn Mesa,** 66.67 58 ⇑P P 08 10 28.4 +0.2
baz=66,SNR=7.2
WUAZ **Wupatki** 66.74 62 ⇓P P 08 10 29.0 +0.2
baz=66
SMCO **Snowmass** 66.77 57 *e*P P 08 10 28.6 -0.3
comp=Z,6.0nm,1.1s,mb4.5
Y14A **Wickenburg** 66.84 65 ⇓P P 08 10 29.4 -0.1
baz=67
K27A **Flueckinger Fa** 66.89 51 ⇑P P 08 10 29.4 -0.1
baz=67
S20A **Disappointment** 66.92 59 ⇓P P 08 10 29.5 -0.3
baz=67
Z13A **Yuma Proving G** 66.95 66 ⇓P P 08 10 30.1 -0.1
baz=67
AKL **Akola** 66.98 276 *ex* P 08 10 26.9 -3.6
AKL AMb AMB 08 10 32.1
comp=Z,50nm,2.0s,mb5.2
R21A **Cimarron** 67.01 58 ⇑P P 08 10 30.7 +0.3
baz=67,SNR=7.9
U18A **Rough Rock, Ch** 67.01 61 ⇑P P 08 10 30.4 0.0
baz=67
V17A **Tonalea, Kykot** 67.02 62 ⇑P P 08 10 30.3 -0.3
baz=67
Q22A **Crested Butte,** 67.03 57 ⇑P P 08 10 30.7 +0.2
baz=67
ISCO **Idaho Springs** 67.10 56 ⇓P P 08 10 31.3 +0.3
baz=67,SNR=7.2
ISCO **Idaho Springs** 67.10 56 *e*P P 08 10 31.8 +0.8
comp=Z,10nm,1.2s,mb4.7
ISCO **Idaho Springs** 67.10 56 *e*P P 08 10 31.8 +0.8
ISCO pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
Y15A **Casa Rosa Ranc** 67.24 64 ⇓P P 08 10 32.0 0.0
baz=67
MVCO **Mesa Verde** 67.26 59 ⇓P P 08 10 32.4 +0.3
baz=67
S21A **Coal Bank Pass** 67.36 59 ⇑P P 08 10 33.0 +0.3
baz=67
NB2 **NORSAR Subarra** 67.36 342 P P 08 10 31.7 -0.6
comp=Z,3.8nm,0.6s,mb4.6,baz=26,slow=6.5
NOA **NORSAR Array B** 67.36 342 P P 08 10 32.0 -0.3
comp=Z,4.1nm,0.5s,mb4.7,baz=26,slow=6.4,SNR=21
NOA LR LR 08 44 54.7
comp=Z,482nm,18.3s,MS4.8,baz=25,slow=40
NOA **NORSAR Array B** 67.36 342 P P 08 10 32.0 -0.3
NOA **NORSAR Array B** 67.36 342 P P 08 10 32.0 -0.3
NOA pmax pmax
comp=Z,4.0nm,0.5s
NOA MLR MLR
comp=Z,482nm,18.3s
X16A **Lo Mia Camp, P** 67.46 63 ⇓P P 08 10 33.2 -0.1
baz=67
V18A **Ganado** 67.46 61 ⇑P P 08 10 33.6 +0.2
baz=67
U19A **Dine' College,** 67.49 60 ⇑P P 08 10 33.7 +0.2
baz=67
R22A **Saguache, Gunn** 67.55 58 ⇑P P 08 10 34.5 +0.7
baz=67,SNR=7.3
S22A **4UR Ranch, Cre** 67.85 58 ⇑P P 08 10 36.4 +0.7
baz=68,SNR=7.8
X17A **Forest Lakes** 67.89 63 ⇑P P 08 10 35.6 -0.5
baz=68
V19A **Window Rock** 67.98 61 ⇑P P 08 10 36.6 0.0
baz=68
R23A **Moffat** 68.10 57 ⇑P P 08 10 37.6 +0.3
baz=68
Z16A **Peralta Trail,** 68.21 64 ⇓P P 08 10 37.9 -0.2
baz=68
OGNE **Ogallala** 68.24 53 ⇑P P 08 10 38.3 +0.1
baz=68
OGNE **Ogallala** 68.24 53 *e*P P 08 10 39.0 +0.9
comp=Z,28nm,0.9s,mb5.3
V20A **Brimhall** 68.26 60 ⇑P P 08 10 38.1 -0.3
baz=68
U21A **Nageezi** 68.29 59 ⇑P P 08 10 38.3 -0.3
baz=68
Y17A **Roosevelt** 68.31 63 ⇑P P 08 10 38.6 -0.1
baz=68
T22A **Edith** 68.32 59 ⇓P P 08 10 38.9 +0.2
baz=68
S23A **Nye Farm, Mont** 68.34 57 ⇓P P 08 10 39.3 +0.4
baz=68
Q25A **Bedland, Calha** 68.47 55 ⇓P P 08 10 39.7 0.0
baz=68
R24A **Sanders Place,** 68.48 57 ⇓P P 08 10 40.0 +0.3
baz=68
SDCO **Great Sand Dun** 68.60 57 ⇓P P 08 10 40.2 -0.2
baz=68
SDCO **Great Sand Dun** 68.60 57 *e*P P 08 10 40.7 +0.3
comp=Z,1.1nm,1.1s
W20A **Ramah** 68.71 61 ⇑P P 08 10 40.7 -0.5
baz=68
X19A **St. Johns** 68.73 62 ⇓P P 08 10 41.3 0.0
baz=68
V21A **Milan** 68.74 60 ⇓P P 08 10 41.3 0.0
baz=68
Y18A **Canyon Day Jun** 68.74 63 ⇑P P 08 10 41.5 +0.1
baz=68

U22A **Llaves** 68.79 59 ⇑P P 08 10 41.6 0.0
baz=68
S24A **Houchin Ranch,** 68.83 57 ⇑P P 08 10 41.7 -0.2
baz=69
LATR **Latur** 68.89 274 *e*PKP P 08 10 42.3 -0.2
LATR AMb AMB 08 10 58.2
comp=Z,37nm,1.4s,mb5.1
ECSD **EROS Data Cent** 69.02 47 *e*P P 08 10 41.5 -1.4
comp=Z,14nm,1.3s,mb4.8
Y19A **Nutrioso** 69.08 62 ⇓P P 08 10 43.5 0.0
baz=69
V22A **San Miguel Ran** 69.08 59 ⇓P P 08 10 43.3 -0.2
baz=69
216A **Three Points,** 69.12 65 ⇑P P 08 10 43.7 -0.1
baz=69
X20A **Quemado** 69.12 61 ⇓P P 08 10 44.0 +0.2
baz=69,SNR=6.1
117A **Oracle** 69.16 64 ⇑P P 08 10 43.4 -0.6
baz=69
U23A **El Rito** 69.20 59 ⇓P P 08 10 44.7 +0.4
baz=69,SNR=5.7
X21A **Alamocita Cree** 69.60 61 ⇑P P 08 10 47.6 +0.9
baz=69,SNR=6.8
V23A **Ortiz Mt. (NFS** 69.62 59 ⇑P P 08 10 47.1 +0.3
baz=69
Y20A **Horse Springs,** 69.63 62 ⇓P P 08 10 47.3 +0.4
baz=69
T25A **Trinidad** 69.64 57 ⇑P P 08 10 47.1 +0.2
baz=69
SPMN **St. Paul** 69.74 44 ⇓P P 08 10 47.8 +0.4
baz=69
119A **Ashpeak Ranch,** 69.89 63 ⇓P P 08 10 48.4 -0.1
baz=70
Y21A **Point of Rocks** 69.98 61 ⇓P P 08 10 49.5 +0.5
baz=70
218A **Dragon** 69.99 64 ⇑P P 08 10 49.3 +0.2
baz=70
LAZ **Ladron** 70.01 61 *e*P P 08 10 49.5 +0.2
comp=Z,1.5nm,0.9s,mb3.9
ANMO **Albuquerque** 70.02 60 *e*P P 08 10 49.1 -0.2
comp=Z,4.1nm,1.1s,mb4.3
ANMO **Albuquerque** 70.02 60 *e*P P 08 10 49.1 -0.2
ANMO pmax pmax
comp=Z,4.0nm,1.1s
Z20A **Nine Sixteen R** 70.06 63 ⇑P P 08 10 49.7 +0.1
baz=70
V24A **Rampart Ranch,** 70.16 59 ⇑P P 08 10 50.4 +0.3
baz=70
U25A **Circle Dot Ran** 70.17 57 ⇓P P 08 10 50.7 +0.6
baz=70,SNR=8.0
WRAB **Tennant Creek** 70.21 201 *e*P P 08 10 49.5 -0.8
comp=Z,17nm,1.1s,mb4.9
WRAB **Tennant Creek** 70.21 201 *e*P P 08 10 49.6 -0.8
WRAB pmax pmax
comp=Z,17nm,1.1s,mb4.9
WB2 **Warramunga Arr** 70.22 201 *e*P P 08 10 49.9 -0.6
WRA **Warramunga Arr** 70.22 201 P P 08 10 49.7 -0.8
comp=Z,2.4nm,1.0s,mb4.1,baz=19,slow=6.7,SNR=14
WRA **Warramunga Arr** 70.22 201 P P 08 10 49.7 -0.8
WRA **Warramunga Arr** 70.22 201 P P 08 10 49.7 -0.8
WRA pmax pmax
comp=Z,2.0nm,1.0s
318A **Bisbee** 70.40 65 ⇑P P 08 10 51.7 +0.1
baz=70
120A **U Bar Ranch, L** 70.44 63 ⇓P P 08 10 51.9 0.0
baz=70
W24A **Lazy 6 Ranch,** 70.44 59 ⇑P P 08 10 52.5 +0.6
baz=70,SNR=6.9
V25A **Rancho No Teng** 70.45 58 ⇓P P 08 10 52.0 +0.1
baz=70
219A **White Tail Can** 70.45 64 ⇑P P 08 10 52.1 +0.2
baz=70
Z21A **St. Cloud Mine** 70.47 62 ⇓P P 08 10 52.2 +0.1
baz=70
U26A **Atchley Ranch,** 70.55 57 ⇓P P 08 10 52.8 +0.3
baz=70
DZM **Mont Dzumac** 70.59 169 *e*LR LR 08 32 20.3
comp=Z,344nm,23.6s
POO **Poona** 70.62 276 *e*PKP P 08 10 50.7 -2.4
KIV **Kislovodsk** 70.78 315 *ci*P P 08 10 53.7 -0.1
KIV *i* 08 11 15.3
KIV *e*S S 08 20 32.4 +25
KIV pmax pmax
comp=Z,12nm,1.3s,mb4.7
319A **Douglas** 70.88 64 ⇓P P 08 10 55.0 +0.4
baz=71
Z22A **Elephant Butte** 70.93 61 ⇑P P 08 10 54.7 -0.1
baz=71
FITZ **Fitzroy Crossi** 70.95 210 *e*P P 08 10 54.8 -0.1
comp=Z,15nm,1.2s,mb4.8
V26A **Tequesquite Ra** 70.95 58 ⇑P P 08 10 54.8 -0.2
baz=71
220A **Playas Peak, P** 70.96 63 ⇑P P 08 10 55.0 -0.1
baz=71
Y23A **Lovelace Mesa,** 70.98 60 ⇓P P 08 10 55.3 +0.1
baz=71,SNR=5.5
W25A **X Bar L Ranch,** 70.98 58 ⇑P P 08 10 55.2 +0.1
baz=71,SNR=7.3
CBKS **Cedar Bluff** 71.00 53 ⇑P P 08 10 54.6 -0.6
baz=71
AKASG **Malin Array Be** 71.14 327 P P 08 10 55.2 -0.6
comp=Z,4.0nm,0.5s,mb4.6,baz=32,slow=5.7,SNR=15
AKASG **Malin Array Be** 71.14 327 P P 08 10 55.3 -0.5
AKASG pmax pmax
comp=Z,4.0nm,0.5s
KAD **Karad** 71.26 275 *e*PKP P 08 10 56.0 -1.1
122A **Conniff Cattle** 71.30 62 ⇑P P 08 10 57.4 +0.3
baz=71
Y24A **Capitan** 71.34 60 ⇓P P 08 10 57.4 0.0
baz=71,SNR=6.8
320A **Kipp Ranch, An** 71.36 64 ⇑P P 08 10 57.5 0.0
baz=71
X25A **Clemmons Ranch** 71.36 59 ⇓P P 08 10 57.6 +0.1
baz=71,SNR=7.0
W26A **Owens Ranch, T** 71.47 58 ⇓P P 08 10 58.3 +0.2
baz=71
SCHQ **Schefferville** 71.56 24 P P 08 10 58.0 -0.3
comp=Z,2.0nm,0.4s,mb4.4,baz=81,slow=11,SNR=10
SCHQ LR LR 08 48 15.6
comp=Z,197nm,18.1s,MS4.4,baz=324,slow=41
SCHQ **Schefferville** 71.56 24 *e*P P 08 10 58.1 -0.2
comp=Z,15nm,1.2s,mb4.8
Y25A **Mesa, Roswell** 71.78 59 ⇓P P 08 10 59.8 -0.1
baz=72,SNR=6.0
X26A **CR and CF Fran** 71.83 58 ⇓P P 08 11 00.0 -0.3
baz=72,SNR=5.8
W27A **Bowe Ranch, En** 71.89 58 ⇑P P 08 11 00.8 +0.2
baz=72
124A **Stringfield Ra** 72.21 61 ⇑P P 08 11 02.6 0.0
baz=72
Z25A **Roswell** 72.22 60 ⇓P P 08 11 02.3 -0.4
baz=72
Y26A **Elida** 72.28 59 ⇓P P 08 11 02.7 -0.3
baz=72
ANN **Anapa** 72.54 319 *e*P P 08 11 01.0 -3.4
ANN *e**PP pP 08 11 12.1 +0.9
ANN *e* 08 11 19.5
ANN *e* 08 13 42.6
ANN *e*PPP 08 15 26.9
ANN *e*S S 08 20 23.6 -3.9
ANN *e*SS SS 08 25 05.1 -0.3
ANN pmax pmax
comp=Z,79nm,1.7s,mb5.4
224A **Cornudas Mount** 72.62 61 ⇓P P 08 11 04.7 -0.4
baz=72
Z26A **Caprock** 72.66 59 ⇓P P 08 11 05.0 -0.3
baz=72,SNR=9.7
Y27A **Causey** 72.68 59 ⇓P P 08 11 05.5 +0.1
baz=72,SNR=9.0
125A **Gardner Draw,** 72.71 60 ⇑P P 08 11 04.9 -0.6
baz=72
GKP **Gorka Klasztor** 72.84 335 *e*P P 08 11 06.0 0.0
GKP LMZ 08 45 49.1
comp=Z,800nm,20.1s
GKP **Gorka Klasztor** 72.84 335 *e*P P 08 11 06.0 0.0
GKP MLR MLR
comp=Z,800nm,20.1s,MS5.0
MSTX **Muleshoe** 72.84 58 ⇑P P 08 11 06.1 -0.3
baz=73
CPRX **Cap Rock** 72.90 60 *e*P P 08 11 06.7 0.0
comp=Z,9.1nm,0.8s,mb4.8
MNTX **Cornudas Mount** 72.97 62 ⇓P P 08 11 06.6 -0.6
baz=73
MNTX **Cornudas Mount** 72.97 62 *e*P P 08 11 07.2 0.0
comp=Z,7.2nm,1.4s,mb4.4
BEL **Belsk** 73.04 332 *e*P P 08 11 07.7 +0.5

BEL LMZ 08 46 60.0
comp=Z,700nm,17.6s
BEL **Belsk** 73.04 332 *e*P P 08 11 07.7 +0.5
BEL MLR MLR
comp=Z,700nm,17.6s,MS5.0
Z27A **Tatum** 73.07 59 ⇑P P 08 11 07.2 -0.5
baz=73,SNR=9.1
324A **Moseley Ranch,** 73.10 62 ⇓P P 08 11 07.3 -0.6
baz=73
325A **Bean Ranch, Si** 73.45 61 ⇓P P 08 11 09.5 -0.5
baz=73
226A **Malaga, Loving** 73.46 60 ⇓P P 08 11 09.5 -0.5
baz=73
LVV **L'vov** 73.71 329 *e*P P 08 11 09.4 -1.8
425A **Indio Mountain** 73.87 62 ⇑P P 08 11 12.2 -0.2
baz=74,SNR=7.0
AS31 **Alice Springs** 73.91 200 *e*P P 08 11 12.7 +0.2
ASAR **Alice Springs** 73.91 200 P P 08 11 12.8 +0.4
comp=Z,1.4nm,0.6s,mb4.1,baz=14,slow=5.4,SNR=16
ASAR **Alice Springs** 73.91 200 P P 08 11 12.8 +0.4
ASAR **Alice Springs** 73.91 200 P P 08 11 12.9 +0.4
ASAR pmax pmax
comp=Z,1.0nm,0.6s
BSEG **Bad Segeberg** 74.05 339 *e*P P 08 11 13.1 0.0
comp=Z,52nm,1.2s,mb5.3
BSEG **Bad Segeberg** 74.05 339 *e*P P 08 11 13.1 0.0
BSEG pmax pmax
comp=Z,52nm,1.2s,mb5.3
326A **Caldwell Ranch** 74.07 61 ⇑P P 08 11 13.2 -0.5
baz=74,SNR=5.8
KWP **Kalwaria Pacla** 74.32 330 *e*P P 08 11 15.5 +0.7
KWP LMZ 08 48 44.5
comp=Z,1μm,15.8s
KWP **Kalwaria Pacla** 74.32 330 *e*P P 08 11 14.7 -0.1
comp=Z,50nm,0.4s,mb5.8
KWP **Kalwaria Pacla** 74.32 330 *e*P P 08 11 15.5 +0.7
KWP MLR MLR
comp=Z,1μm,15.8s,MS5.2
426A **McDonald Obser** 74.52 61 ⇑P P 08 11 15.9 -0.3
baz=74
328A **Wristen Ranch,** 74.71 60 ⇓P P 08 11 17.0 -0.4
baz=74,SNR=6.6
427A **Hayter Ranch,** 74.75 61 ⇑P P 08 11 17.1 -0.5
baz=74
OJC **Ojcow** 74.76 332 *e*P P 08 11 17.6 +0.3
OJC **Ojcow** 74.76 332 *e*P P 08 11 17.4 +0.1
comp=Z,91nm,1.5s,mb5.5
OJC **Ojcow** 74.76 332 *e*P P 08 11 17.6 +0.3
526A **Mary Lane Ranc** 74.92 62 ⇓P P 08 11 18.5 -0.1
baz=75
HDIL **Hopedale** 74.97 45 *e*P P 08 11 17.6 -1.1
comp=Z,40nm,1.1s,mb5.3
527A **Woodward Ranch** 75.14 61 ⇓P P 08 11 19.4 -0.5
baz=75
BUR08 **Bucovina Ar. S** 75.15 328 *e*P P 08 11 19.7 +0.1
BURAR **Bucovina Array** 75.17 327 ⇓P P 08 11 20.0 +0.3
BURAR **Bucovina Array** 75.17 327 ⇓*i*P P 08 11 20.0 +0.3
TUL1 **Tulsa** 75.25 52 ⇑P P 08 11 19.8 -0.6
baz=75
428A **Kincaid Ranch,** 75.26 60 ⇑P P 08 11 20.5 0.0
baz=75
KSP **Ksiaz** 75.27 334 *e*P P 08 11 20.4 +0.2
KSP LMZ 08 47 24.2
comp=Z,600nm,18.7s
626A **Big Bend Ranch** 75.27 62 ⇓P P 08 11 20.1 -0.4
baz=75,SNR=6.9
NIE **Niedzica** 75.29 331 *e*P P 08 11 21.4 +1.0
NIE **Niedzica** 75.29 331 *e*P P 08 11 21.4 +1.0
UZH **Uzhgorod** 75.32 330 *e*P P 08 11 19.6 -1.0
UZH *e* 08 11 27.8
CRVS **Cervenica-Dubn** 75.36 330 *e*P P 08 11 21.2 +0.4
CRVS pmax pmax
comp=Z,40nm,1.9s,mb5.0
CRVS **Cervenica-Dubn** 75.36 330 *e*P P 08 11 21.2 +0.4
NRDL **Niedersach Rie** 75.42 339 *e*P P 08 11 21.1 0.0
comp=Z,35nm,1.5s,mb5.1
TESR 75.57 326 ⇓*i*P P 08 11 22.1 +0.1
OKC **Ostrava-Krasne** 75.60 333 *e*P P 08 11 22.5 +0.3
OKC **Ostrava-Krasne** 75.60 333 *e*P P 08 11 22.5 +0.3
UPC **Upice** 75.65 334 *e*P P 08 11 22.8 +0.4
UPC **Upice** 75.65 334 *e*P P 08 11 22.8 +0.4
TRPA **Tarpa** 75.67 329 ⇓*i*P P 08 11 23.2 +0.6
DPC **Dobruska-Polom** 75.70 334 *e*P P 08 11 23.4 +0.7
comp=Z,69nm,1.3s,mb5.4
DPC **Dobruska-Polom** 75.70 334 *e*P P 08 11 23.4 +0.7
DPC pmax pmax
comp=Z,69nm,1.3s,mb5.4
DPC **Dobruska-Polom** 75.70 334 *e*P P 08 11 23.2 +0.5
DPC AMS AMS 08 48 40.0
comp=Z,700nm,16.1s
TXAR **Lajitas Array** 75.70 62 P P 08 11 22.7 -0.4
comp=Z,5.1nm,0.7s,mb4.6,baz=299,slow=4.3,SNR=49
TXAR **Lajitas Array** 75.70 62 P P 08 11 22.7 -0.4
TXAR **Lajitas Array** 75.70 62 P P 08 11 22.7 -0.4
TXAR pmax pmax
comp=Z,5.0nm,0.7s
CLL **Collm** 75.77 337 *e*P P 08 11 22.7 -0.3
comp=Z,66nm,1.4s,mb5.4
CLL **Collm** 75.77 337 ⇑*i*P P 08 11 22.5 -0.5
CLL pmax pmax
comp=Z,67nm,1.4s,mb5.4
CLL MLR MLR
comp=Z,500nm,20.0s,MS4.8
CLL **Collm** 75.77 337 ⇑*i*P P 08 11 22.5 -0.5
comp=Z,67nm,1.4s,mb5.4
CLL *es*P sP 08 11 36.0 +3.7
CLL *e*(SS) 08 26 36.0
CLL LV 08 47 00.0
comp=Z,500nm,20.0s
627A **Terlingua Ranc** 75.78 62 ⇑P P 08 11 23.0 -0.6
baz=76,SNR=6.8
TLCR 75.85 324 ⇓P P 08 11 23.9 +0.3
TLCR 75.85 324 ⇓*i*P P 08 11 23.9 +0.3
BRG **Berggiesshubel** 75.90 336 *e*P P 08 11 23.4 -0.4
comp=Z,26nm,1.2s,mb5.0
BRG *e* 08 11 36.8
comp=Z,17nm,1.4s
BRG **Berggiesshubel** 75.90 336 *e*P P 08 11 23.5 -0.3
comp=Z,26nm,1.2s,mb5.0
BRG **Berggiesshubel** 75.90 336 *e*P P 08 11 23.4 -0.4
BRG *e* 08 11 36.8
BRG pmax pmax
comp=Z,26nm,1.3s,mb5.0
CLZ **Clausthal** 75.95 338 *e*P P 08 11 24.6 +0.5
comp=Z,106nm,1.6s,mb5.5
CLZ **Clausthal** 75.95 338 *e*P P 08 11 24.6 +0.5
CLZ pmax pmax
comp=Z,106nm,1.6s,mb5.5
SADO **Sadowa** 76.04 37 LR LR 08 46 40.4
comp=Z,207nm,19.1s,MS4.5,baz=356,slow=37
PVCC **Panska Ves** 76.04 335 *e*P P 08 11 24.9 +0.3
PVCC MLR MLR
comp=Z,900nm,21.3s,MS5.0
PVCC **Panska Ves** 76.04 335 *e*P P 08 11 24.9 +0.3
PVCC AMS AMS 08 47 30.0
comp=Z,900nm,21.3s
KECS **Kecovo** 76.05 331 *e*P P 08 11 24.9 +0.2
KECS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KECS **Kecovo** 76.05 331 *e*P P 08 11 24.9 +0.2
628A **Black Gap, Mar** 76.05 61 ⇑P P 08 11 24.9 -0.2
baz=76
VRI **Vrincioaia** 76.08 326 ⇑P P 08 11 25.0 0.0
VRI **Vrincioaia** 76.08 326 ⇑*i*P P 08 11 25.0 0.0
CFR **Carcaliu** 76.12 324 ⇑P P 08 11 25.4 +0.2
CFR **Carcaliu** 76.12 324 ⇑*i*P P 08 11 25.4 +0.2
PLOR **Plostina** 76.13 326 ⇓P P 08 11 25.7 +0.5
PLOR **Plostina** 76.13 326 ⇓*i*P P 08 11 25.7 +0.5
SFIN **Scholer Farm** 76.15 44 ⇓P P 08 11 24.4 -1.1
baz=76
VRAC **Vranov** 76.54 333 ⇓P P 08 11 28.6 +1.1
VRAC **Vranov** 76.54 333 ⇓*i*P P 08 11 28.5 +1.0
TIRR **Tirgusor** 76.61 324 *e*P P 08 11 28.3 +0.3
TIRR **Tirgusor** 76.61 324 *e*P P 08 11 28.3 +0.3
TIRR **Tirgusor** 76.61 324 ⇓*i*P P 08 11 28.2 +0.2
MLR **Muntele Rosu** 76.70 326 ⇓P P 08 11 29.6 +1.1
MLR **Muntele Rosu** 76.70 326 ⇓*i*P P 08 11 29.5 +1.0
TANN **Tannenbergstha** 76.72 336 *e*P P 08 11 28.7 +0.2
comp=Z,21nm,1.4s,mb4.9
MOX **Moxa** 76.73 337 *e*P P 08 11 28.7 +0.1
comp=Z,33nm,1.4s,mb5.1
MOX *ep*P pP 08 11 42.6 +7.2
MOX **Moxa** 76.73 337 *e*P P 08 11 28.7 +0.1
MOX *e**PP pP 08 11 42.6 +7.2
MOX pmax pmax

comp=Z,33nm,1.4s,mb5.1
PSZ Piszkesteto 76.74 331 *e*P **P** 08 11 29.4 +0.7
comp=Z,6.3nm,0.6s,mb4.7
PSZ Piszkesteto 76.74 331 ⇓P **P** 08 11 29.6 +1.0
PSZ Piszkesteto 76.74 331⇑*e*P **P** 08 11 28.7 +0.1
PSZ Piszkesteto 76.74 331 ⇓*i*P **P** 08 11 29.6 +1.0
DRGR 76.76 329 ⇓P **P** 08 11 29.0 +0.2
DRGR 76.76 329 ⇓*i*P **P** 08 11 29.0 +0.2
ISR Istrita 76.78 325 ⇑P **P** 08 11 29.8 +0.8
ISR Istrita 76.78 325 ⇑*i*P **P** 08 11 29.8 +0.8
TREC Trest 76.88 334 *e*P **P** 08 11 30.1 +0.7
TREC Trest 76.88 334 *e*P **P** 08 11 30.1 +0.7
NKC Novy Kostel 76.89 336 *e*P **P** 08 11 29.7 +0.3
NKC Novy Kostel 76.89 336 *e*P **P** 08 11 29.7 +0.3
UBBA Unterbreizbach 76.99 338 *e*P **P** 08 11 30.0 0.0
comp=Z,46nm,1.5s,mb5.2
BUG Bochum--Univer 77.07 340 *e*P **P** 08 11 30.6 +0.2
comp=Z,47nm,1.3s,mb5.3
VOIR 77.08 326 ⇓P **P** 08 11 31.1 +0.5
VOIR 77.08 326 ⇓*i*P **P** 08 11 31.1 +0.5
JCT Junction City 77.11 59 ⇓P **P** 08 11 30.4 -0.6
baz=77,SNR=6.6
JCT Junction City 77.11 59 *e*P **P** 08 11 30.8 -0.3
comp=Z,8.9nm,0.9s,mb4.7
JCT Junction City 77.11 59 *e*P **P** 08 11 30.8 -0.2
JCT pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
ROTZ Rotzenmuhle 77.38 336 *e*P **P** 08 11 32.8 +0.6
comp=Z,55nm,1.6s,mb5.2
ZST Bratislava 77.38 333 *e*P **P** 08 11 33.2 +1.0
ZST pmax pmax
comp=Z,41nm,1.6s,mb5.1
ZST Bratislava 77.38 333 *e*P **P** 08 11 33.2 +1.0
BUD Budapest 77.40 331⇑*e*P **P** 08 11 31.7 -0.7
MIAR Mount Ida 77.47 52 *e*P **P** 08 11 32.7 -0.3
comp=Z,13nm,1.1s,mb4.8
MIAR Mount Ida 77.47 52 *e*P **P** 08 11 32.7 -0.3
MIAR pmax pmax
comp=Z,13nm,1.1s,mb4.8
LOT Lotru 77.54 327⇑*i*P **P** 08 11 34.3 +1.1
KHC Kasperske Hory 77.58 335 *e*P **P** 08 11 33.9 +0.5
comp=Z,118nm,1.7s,mb5.5
KHC Kasperske Hory 77.58 335 *e*P **P** 08 11 33.9 +0.6
KHC pmax pmax
comp=Z,118nm,1.7s,mb5.5
KHC Kasperske Hory 77.58 335 *e*P **P** 08 11 33.8 +0.5
KHC *ex* x 08 11 52.0
KHC AMS AMS 08 48 40.0
comp=Z,1μm,18.6s
GRF Grafenberg Arr 77.71 337 *e*P **P** 08 11 34.6 +0.5
comp=Z,113nm,1.6s,mb5.5
GRF *e*pP pP 08 11 48.4 +7.5
GRF *e*L 08 49 11.9
comp=Z,453nm,20.0s
GRF Grafenberg Arr 77.71 337 *e*P **P** 08 11 34.6 +0.5
GRF *e**PP pP 08 11 48.4 +7.5
GRF pmax pmax
comp=Z,113nm,1.6s,mb5.5
GRF MLR MLR
comp=Z,500nm,20.0s,MS4.8
GRFO Grafenberg 77.71 337 *e*P **P** 08 11 34.8 +0.7
comp=Z,26nm,0.9s,mb5.2
GRFO Grafenberg 77.71 337 *e*P **P** 08 11 34.8 +0.7
GRFO pmax pmax
comp=Z,26nm,0.9s,mb5.2
WET Wettzell 77.76 336 *e*P **P** 08 11 35.0 +0.6
comp=Z,84nm,1.6s,mb5.4
WET Wettzell 77.76 336 *e*P **P** 08 11 35.0 +0.6
WET pmax pmax
comp=Z,84nm,1.6s,mb5.4
USIN University of 77.79 46 *e*P **P** 08 11 35.1 +0.4
comp=Z,8.2nm,0.7s,mb4.8
GEC2 GERESS Array S 77.80 335 *e*P **P** 08 11 34.8 +0.2
comp=Z,48nm,1.6s,mb5.2
GEC2 GERESS Array S 77.80 335 *e*P **P** 08 11 34.8 +0.2
GEC2 pmax pmax
comp=Z,48nm,1.6s,mb5.2
GERES GERESS Array B 77.80 335 P **P** 08 11 35.0 +0.4
comp=Z,3.4nm,0.6s,mb4.5,baz=33,slow=5.4,SNR=41
GERES LR LR 08 49 29.7
comp=Z,681nm,19.6s,MS5.0,baz=15,slow=38
GERES GERESS Array B 77.80 335 P **P** 08 11 35.0 +0.4
GERES GERESS Array B 77.80 335 P **P** 08 11 35.0 +0.4
GERES pmax pmax
comp=Z,3.0nm,0.6s
GERES MLR MLR
comp=Z,681nm,19.6s
TNS Taunus Mts 77.92 339 *e*P **P** 08 11 35.5 +0.3
comp=Z,47nm,1.6s,mb5.2
TNS Taunus Mts 77.92 339 *e*P **P** 08 11 35.5 +0.3
TNS pmax pmax
comp=Z,47nm,1.6s,mb5.2
GZR Gura Zlata 77.94 328 ⇓P **P** 08 11 35.5 +0.1
GZR Gura Zlata 77.94 328 ⇓*i*P **P** 08 11 35.5 +0.1
CONA Conrad Observa 78.00 333⇑*i*P **P** 08 11 36.8 +1.1
comp=Z,38nm,1.5s,mb5.1
SOP Sopron 78.00 333⇑*e*P **P** 08 11 36.8 +1.1
MEM Membach 78.13 340 P **P** 08 11 37.0 +0.6
comp=Z,27nm,1.9s,mb4.8
BZS Buzias 78.16 329 ⇓P **P** 08 11 36.7 +0.1
BZS Buzias 78.16 329 ⇓*i*P **P** 08 11 36.7 +0.1
WCI Wyandotte Cave 78.23 45 *e*P **P** 08 11 36.9 -0.2
comp=Z,16nm,1.0s,mb4.9
WCI Wyandotte Cave 78.23 45 *e*P **P** 08 11 36.9 -0.3
WCI pmax pmax
comp=Z,16nm,1.0s,mb4.9
BR131 Keskin Array S 78.29 318 *e*P **P** 08 11 37.9 +0.5
comp=Z,4.3nm,0.3s,mb4.9
BRTR Keskin Array B 78.29 318 P **P** 08 11 38.0 +0.6
comp=Z,6.6nm,0.8s,mb4.6,baz=60,slow=3.4,SNR=21
BRTR Keskin Array B 78.29 318 P **P** 08 11 38.0 +0.6
BRTR Keskin Array B 78.29 318 P **P** 08 11 38.1 +0.7
BRTR pmax pmax
comp=Z,7.0nm,0.9s
BCLA Clavier 78.47 341 P **P** 08 11 38.8 +0.6
comp=Z,26nm,1.7s,mb4.9
MOA Molln 78.54 334⇑*i*P **P** 08 11 39.0 +0.3
comp=Z,111nm,0.9s,mb4.8
SNF Seneffe 78.60 341 P **P** 08 11 39.4 +0.4
ARSA Arzberg 78.70 333⇑*i*P **P** 08 11 40.1 +0.5
comp=Z,22nm,1.4s,mb4.9
GIVF Givet 78.87 341 *e*P **P** 08 11 40.3 -0.2
comp=Z,49nm,1.1s,mb5.1
DOU Dourbes 78.92 341 P **P** 08 11 41.9 +1.1
UMR Umm Al-Rimmam 79.03 302 *e*P **P** 08 11 41.7 -0.1
UMR AMb AMB 08 11 43.8
comp=Z,65nm,1.3s,mb5.4
BAIF Baives 79.04 341 *e*P **P** 08 11 41.6 +0.2
comp=Z,62nm,1.5s,mb5.0
MIB Mutribah 79.06 302 *e*P **P** 08 11 41.6 -0.3
MIB AMb AMB 08 11 43.0
comp=Z,66nm,1.6s,mb5.3
RJOB Jochberg 79.06 335 *e*P **P** 08 11 42.3 +0.7
comp=Z,22nm,1.4s,mb4.9
WVT Waverly 79.16 47 *e*P **P** 08 11 42.1 -0.2
WVT Waverly 79.16 47 *e*P **P** 08 11 42.1 -0.2
KBD Kabd 79.33 302 *e*P **P** 08 11 43.3 0.0
KBD AMb AMB 08 11 47.3
comp=Z,33nm,0.8s,mb5.3
SOKA Soboth 79.37 333⇑*i*P **P** 08 11 43.6 +0.4
comp=Z,38nm,1.4s,mb5.2
KBA Koelnbreinsper 79.50 334⇑*i*P **P** 08 11 44.9 +0.9
comp=Z,41nm,1.0s,mb5.3
QRN Al-Qurain 79.53 301 *e*P **P** 08 11 44.4 0.0
QRN AMb AMB 08 11 46.7
comp=Z,78nm,1.4s,mb5.4
NAY Al-Naaiem 79.53 302 *e*P **P** 08 11 44.1 -0.4
NAY AMb AMB 08 11 46.4
comp=Z,44nm,1.2s,mb5.3
RDF Al-Radifah 79.60 302 *e*P **P** 08 11 45.3 +0.5
RDF AMb AMB 08 11 48.0
comp=Z,129nm,1.3s,mb5.7
OXF Oxford 79.65 49 *e*P **P** 08 11 44.1 -0.9
comp=Z,16nm,1.0s,mb4.9
OXF Oxford 79.65 49 *e*P **P** 08 11 44.1 -0.9
OXF pmax pmax
comp=Z,16nm,1.0s,mb4.9
BFO Black Forest 79.71 338 *e*P **P** 08 11 45.3 +0.2
BFO Black Forest 79.71 338 *e*P **P** 08 11 45.3 +0.2
WATA Walderalm 79.77 336⇑*i*P **P** 08 11 46.2 +0.8
comp=Z,34nm,1.1s,mb5.2
WTTA Wattenberg 79.82 336⇑*i*P **P** 08 11 46.8 +1.1
comp=Z,69nm,1.4s,mb5.4
CDF Champ du Feu 79.89 339 *e*P **P** 08 11 46.2 +0.1
comp=Z,112nm,1.6s,mb5.2

MOTA Moosalm 79.89 336⇑*i*P **P** 08 11 46.9 +0.9
comp=Z,56nm,1.4s,mb5.3
PLAL Pickwick Lake 79.95 48 *e*P **P** 08 11 46.0 -0.7
comp=Z,7.7nm,1.1s,mb4.5
ABTA Abfaltersbach 80.04 335⇑*i*P **P** 08 11 47.9 +1.0
comp=Z,16nm,1.3s,mb4.8
PAGF Fort de Pagny 80.12 340 *e*P **P** 08 11 47.8 +0.5
comp=Z,28nm,1.3s,mb4.7
VTS Vitosha 80.20 326 ⇓P **P** 08 11 48.2 +0.4
VTS Vitosha 80.20 326 ⇓*i*P **P** 08 11 48.2 +0.4
DAVA Damuels 80.27 337⇑*i*P **P** 08 11 48.9 +0.7
comp=Z,23nm,1.4s,mb4.9
FETA Feichten 80.29 336 ⇓*i*P **P** 08 11 49.2 +0.9
comp=Z,29nm,1.5s,mb5.0
TAOE Nuku Hiva Isla 80.31 115 *e*LR LR 08 36 49.1
comp=Z,399nm,24.0s
MEZF Maizieres J'vi 80.33 340 *e*P **P** 08 11 48.8 +0.4
HAU Haudompre 80.49 339 *e*P **P** 08 11 49.2 -0.1
comp=Z,84nm,1.6s,mb5.1
HAU *e*R
comp=Z,470nm,20.0s
HINF Hinteralfeld 80.55 339 *e*P **P** 08 11 49.3 -0.3
comp=Z,87nm,1.6s,mb5.1
SFTF Sexfontaines 80.61 340 *e*P **P** 08 11 50.0 +0.1
SWET Sewanee 80.82 46 *e*P **P** 08 11 50.9 -0.4
comp=Z,11nm,1.0s,mb4.7
TUE Stuetta 81.17 337 *e*P **P** 08 11 54.1 +1.2
comp=Z,21nm,1.0s,mb5.0
CPCT Cooper Cave 81.31 45 *e*P **P** 08 11 52.6 -1.3
SKO Skopje 81.39 327 *i*P **P** 08 11 55.9 +1.7
GRR Gorron 81.65 344 *e*P **P** 08 11 55.6 +0.1
comp=Z,192nm,1.6s,mb5.5
LOR Lormes 81.76 341 *e*P **P** 08 11 56.0 -0.1
comp=Z,150nm,1.8s,mb5.3
LOR *e*R
comp=Z,686nm,19.5s
CABF La Chapelle 81.86 339 *e*P **P** 08 11 57.2 +0.6
comp=Z,158nm,1.9s,mb5.3
PPT Papeete 81.92 128 *e*LR LR 08 37 34.4
comp=Z,281nm,22.0s,baz=315
SSF Saint Saulge 82.03 341 *e*P **P** 08 11 57.6 +0.1
comp=Z,15nm,0.9s,mb4.6
AVF Avril sur Loir 82.32 341 *e*P **P** 08 11 59.2 +0.2
comp=Z,143nm,1.8s,mb5.3
SMF Signal de Mont 82.35 340 *e*P **P** 08 11 59.3 +0.1
comp=Z,83nm,1.3s,mb5.2
BGF Bois d'Agland 82.65 341 *e*P **P** 08 12 00.8 0.0
LPL La Plagne 82.73 338 *e*P **P** 08 12 02.1 +0.9
comp=Z,202nm,1.8s,mb5.5
LPG La Plagne 82.74 338 *e*P **P** 08 12 02.5 +1.3
comp=Z,81nm,1.2s,mb5.3
ASF Jabal al Asfar 82.81 311 P **P** 08 12 02.1 +0.3
comp=Z,5.6nm,1.0s,mb4.6,baz=74,slow=1.2,SNR=4.5
ASF Jabal al Asfar 82.81 311 P **P** 08 12 02.1 +0.3
ASF Jabal al Asfar 82.81 311 P **P** 08 12 02.1 +0.2
ASF pmax pmax
comp=Z,6.0nm,1.0s
MMAI Mount Meron Ar 82.88 313 P **P** 08 12 02.8 +0.6
comp=Z,3.3nm,0.4s,mb4.7,baz=44,slow=7.3,SNR=6.7
MMAI Mount Meron Ar 82.88 313 P **P** 08 12 02.8 +0.6
TCF Toulx Ste Croi 83.05 341 *e*P **P** 08 12 03.0 +0.2
KMSC Kings Mountain 83.06 43 ⇓P **P** 08 12 02.5 -0.6
baz=83
ORIF Oris-en-Rattie 83.50 338 *e*P **P** 08 12 05.5 +0.3
comp=Z,150nm,1.7s,mb5.4
ORIF *e*R
comp=Z,303nm,20.5s
VIVF Saint-Julien-l 83.85 339 *e*P **P** 08 12 07.0 0.0
SBF Sospel 84.09 337 *e*P **P** 08 12 07.9 -0.3
comp=Z,123nm,1.1s,mb5.7
LASF Ste Croix 84.78 340 *e*P **P** 08 12 11.5 -0.2
comp=Z,195nm,1.6s,mb5.7
EPF Esparros 86.55 342 *e*P **P** 08 12 21.4 +0.9
TBI Tubuai 86.76 131 *e*LR LR 08 39 38.3
comp=Z,388nm,21.8s,baz=320
TORD Torodi Ar. Bea 114.58 331 PKP PKiKP 08 18 16.8 -1.2
comp=Z,0.2nm,0.6s,baz=12,slow=2.2,SNR=3.0
TORD Torodi Ar. Bea 114.58 331 PKP PKiKP 08 18 16.8 -1.2
MAW Mawson 134.03 212 *e*PKPdf PKPdf 08 18 53.3 -0.1
MAW Mawson 134.03 212 *e*PKIKP PKPdf 08 18 53.3 -0.2
QSPA South Pole Qui 137.83 180 *e*PKPdf PKPdf 08 19 00.6 +0.3
CPUP Villa Florida 146.67 61 PKPbc PKPbc 08 19 17.8 -1.4
comp=Z,3.0nm,0.7s,baz=306,slow=3.7,SNR=8.9
CPUP Villa Florida 146.67 61 PKPbc PKPbc 08 19 17.8 -1.4
CPUP Villa Florida 146.67 61 PKP2 PKPbc 08 19 17.8 -1.4
CPUP pmax pmax
comp=Z,3.0nm,0.7s
NVL N'lazarevskaya 151.40 205 *e*PKIKP PKPbc 08 19 30.0 +0.1
NVL pmax pmax
comp=Z,2.0nm,0.4s
SNAA Sanae 154.21 196 *e* PKPbc 08 19 33.9 -2.2
VNA2 Neumayer--Watz 155.63 194 *e* PKPdf 08 19 25.3 -4.5

ATH 28 08:05:19.4,39.52N×19.91E,h10km,MD3.5/3,
Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEK	**Kerkira**	**0.21**	**336**	*e*PG	Pg	08 05 23.9	+0.1
THL	**Klokotos Trika**	**1.63**	**88**	*e*PB	Pb	08 05 50.1	+0.6
AGG	**Agios Georgios**	**1.94**	**104**	*e*PN	Pn	08 05 54.4	+2.0

*MOS **28** 08:05:56.8±1.2,48.17N×154.97E,h48km,mb4.2/9, Error ellipse: s-maj=14.7km s-min=8.8km az=62.9*
*ISCJB **28** 08:05:58.0±1.1,48.17N±0.07×155.0E±0.1,h56km±9km, mb3.9/18, Error ellipse: s-maj=16.3km s-min=6.4km az=44.5*
*NEIC **28** 08:05:57.8±0.5,48.20N×154.95E,h35km,mb4.7/3, Error ellipse: s-maj=14.4km s-min=8.9km az=147.0*
*IDC **28** 08:05:59.5±3.1,48.17N×154.94E,h55km±28km,mb3.6/15, mb1 3.7/17,mb1mx3.7/29,mbtmp3.6/17,ML3.8/2, Error ellipse: s-maj=21.0km s-min=13.7km az=143.0*
ISC 28 08:05:59.8±0.9,48.19N±0.07×155.0E±0.1,h55km±8km, n66,σ1ᵠ10/72,mb3.9/18,3C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.60**	**16**	*e*PN	**Pn**	**08 06 39.5**	**+0.2**
SKR				*e*S	**Sn**	**08 07 10.6**	**+1.0**
SKR				pmax	pmax		
	comp=Z,110nm,0.5s						
SKR				smax			
	comp=N,230nm,0.5s						
SKR				smax			
	comp=E,150nm,0.5s						
PETK	**Petropavlovsk-**	**5.22**	**18**	P	**Pn**	**08 07 14.1**	**-1.0**
	comp=E,2.0nm,0.3s,baz=203,slow=14,SNR=16						
PETK				S	**Sn**	**08 08 28.5**	**+15**
	baz=192,slow=22,SNR=2.4						
PETK	**Petropavlovsk-**	**5.22**	**18**	P	**Pn**	**08 07 14.1**	**-1.0**
PETK				S	**Sn**	**08 08 28.5**	**+15**
PETK	**Petropavlovsk-**	**5.22**	**18**	PN	**Pn**	**08 07 14.1**	**-1.0**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PET	**Petropavlovsk**	**5.37**	**24**	*e*PN	**Pn**	**08 07 14.2**	**-3.0**
KUR	**Kuril'sk**	**5.72**	**241**	*e*PN	**Pn**	**08 07 20.5**	**-1.5**
KUR				S	**Sn**	**08 08 28.5**	**+2.3**
KUR				pmax	pmax		
	comp=Z,130nm,0.7s						
KUR				smax			
	comp=N,110nm,0.8s						
KUR				smax			
	comp=E,260nm,1.0s						
YUK	**Yuzh-Kuril'sk**	**7.58**	**240**	*i*PN	**Pn**	**08 07 47.8**	**+0.3**
YUK				pmax	pmax		
	comp=E,82nm,0.5s						
YUK				pmax	pmax		
	comp=Z,87nm,0.3s						
YUK				pmax	pmax		
	comp=N,56nm,0.4s						
YSS	**Yuzh-Sakhalins**	**8.36**	**266**	*e*PN	**Pn**	**08 08 00.0**	**+1.8**
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
ASAJ	**Asahikawa**	**9.51**	**249**	P	**Pn**	**08 08 14.8**	**+0.9**
	comp=Z,1.2nm,0.3s,baz=86,slow=14,SNR=9.8						
ASAJ	**Asahikawa**	**9.51**	**249**	*e*Pn	**Pn**	**08 08 14.4**	**+0.5**
ASAJ	**Asahikawa**	**9.51**	**249**	PN	**Pn**	**08 08 14.8**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	**Erimo**	**10.39**	**238**	*ce*PN	**Pn**	**08 08 23.1**	**-2.8**
FX1	**Attu Island--F**	**12.47**	**61**	P	**Pn**	**08 08 48.1**	**-6.1**
	comp=Z,1.0nm,0.3s,baz=260,slow=19,SNR=4.4						
FX1				S	**Sn**	**08 10 50.8**	**-21**
	comp=Z,0.7nm,0.3s,baz=287,slow=19,SNR=4.8						
FX1	**Attu Island--F**	**12.47**	**61**	P	**Pn**	**08 08 48.1**	**-6.1**
FX1				S	**Sn**	**08 10 50.8**	**-21**
FX1	**Attu Island--F**	**12.47**	**61**	PN	**Pn**	**08 08 48.1**	**-6.2**
FX1				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KSRS	**Korea Array**	**22.45**	**251**	P	**P**	**08 10 54.0**	**+0.1**
	comp=Z,2.8nm,0.8s,mb3.7,baz=47,slow=10,SNR=5.9						
KSRS	**Korea Array**	**22.45**	**251**	*e*P	**P**	**08 10 57.8**	**+3.9**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.8						
KSAR	**Wonju Array Be**	**22.48**	**251**	P	**P**	**08 10 54.0**	**-0.2**
KSAR	**Wonju Array Be**	**22.48**	**251**	P	**P**	**08 10 54.1**	**-0.2**
SONM	**Songino Array**	**32.08**	**288**	P	**P**	**08 12 20.8**	**-0.4**
	comp=Z,0.3nm,0.4s,mb3.5,baz=64,slow=9.8,SNR=3.7						
SONM	**Songino Array**	**32.08**	**288**	P	**P**	**08 12 20.8**	**-0.4**
SONM	**Songino Array**	**32.08**	**288**	P	**P**	**08 12 20.8**	**-0.4**
ILAR	**Eielson Array**	**34.63**	**40**	P	**P**	**08 12 43.1**	**-0.1**
	comp=Z,0.2nm,0.9s,mb3.1,baz=272,slow=6.2,SNR=3.5						
ILAR				pP	pP	08 12 56.4	-0.7
	comp=Z,0.6nm,0.8s,baz=269,slow=7.2,SNR=4.1						
ILAR	**Eielson Array**	**34.63**	**40**	P	**P**	**08 12 43.1**	**-0.1**
ILAR				pP	pP	08 12 56.4	-0.7
ILAR	**Eielson Array**	**34.63**	**40**	P	**P**	**08 12 43.1**	**-0.1**
ILAR				*PP	pP	08 12 56.4	-0.7
INK	**Inuvik**	**39.75**	**33**	P	**P**	**08 13 26.7**	**+0.2**
	comp=Z,1.5nm,1.1s,mb3.6,baz=282,slow=3.7,SNR=4.0						
INK	**Inuvik**	**39.75**	**33**	P	**P**	**08 13 26.7**	**+0.2**
INK	**Inuvik**	**39.75**	**33**	P	**P**	**08 13 26.7**	**+0.2**
INK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ZALV	**Zalesovo Beam**	**42.81**	**305**	P	**P**	**08 13 49.7**	**-2.1**
	comp=Z,0.5nm,0.4s,mb3.6,baz=60,slow=8.5,SNR=3.0						
ZALV	**Zalesovo Beam**	**42.81**	**305**	P	**P**	**08 13 49.7**	**-2.1**
ZALV	**Zalesovo Beam**	**42.81**	**305**	P	**P**	**08 13 49.7**	**-2.1**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
MKAR	**Makanchi Array**	**47.41**	**297**	P	**P**	**08 14 27.8**	**-0.6**
	comp=Z,1.8nm,0.6s,mb4.2,baz=63,slow=7.7,SNR=9.3						
MKAR	**Makanchi Array**	**47.41**	**297**	P	**P**	**08 14 27.8**	**-0.6**
MKAR	**Makanchi Array**	**47.41**	**297**	*e*P	**P**	**08 14 27.7**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**47.63**	**303**	P	**P**	**08 14 29.9**	**-0.1**
	comp=Z,5.1nm,0.6s,mb4.7,baz=68,slow=8.3,SNR=22						
KURK	**Kurchatov**	**47.63**	**303**	*e*P	**P**	**08 14 29.4**	**-0.6**
	comp=Z,5.3nm,0.6s,mb4.8						
KURK	**Kurchatov**	**47.63**	**303**	*ce*P	**P**	**08 14 29.1**	**-0.9**
RES	**Resolute Bay**	**49.06**	**19**	P	**P**	**08 14 42.5**	**+1.7**
	comp=Z,1.1nm,0.6s,mb4.1,baz=301,slow=5.9,SNR=5.1						
RES	**Resolute Bay**	**49.06**	**19**	P	**P**	**08 14 42.5**	**+1.7**
RES	**Resolute Bay**	**49.06**	**19**	P	**P**	**08 14 42.5**	**+1.8**
RES				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
STCH	**Steam Cracks**	**49.29**	**108**	*e*P	**P**	**08 14 44.5**	**+1.3**
BVAR	**Borovoye Array**	**50.93**	**309**	P	**P**	**08 14 54.5**	**-0.6**
	comp=Z,1.4nm,0.5s,mb4.2,baz=65,slow=7.4,SNR=6.3						
BVAR	**Borovoye Array**	**50.93**	**309**	P	**P**	**08 14 54.5**	**-0.6**
BVAR	**Borovoye Array**	**50.93**	**309**	P	**P**	**08 14 54.5**	**-0.6**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**53.94**	**257**	P	**P**	**08 15 18.2**	**+0.4**
	comp=Z,0.9nm,0.4s,mb4.1,baz=25,slow=5.7,SNR=4.0						
CMAR	**Chiang Mai Arr**	**53.94**	**257**	P	**P**	**08 15 18.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**53.94**	**257**	P	**P**	**08 15 18.2**	**+0.4**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AAK	**Ala-Archa**	**54.33**	**296**⇑*e*P		**P**	**08 15 19.8**	**-0.6**
AAK				pmax	pmax		
	comp=Z,8.0nm,2.0s,mb4.3						
SUMG	**Summit**	**59.17**	**5**	*e*P	**P**	**08 15 55.3**	**+1.0**
	comp=Z,3.7nm,0.4s,mb4.8						
SUMG	**Summit**	**59.17**	**5**	*e*P	**P**	**08 15 55.3**	**+1.1**
SUMG				pmax	pmax		
	comp=Z,4.0nm,0.4s						
HWUT	**Hardware Ranch**	**62.52**	**58**	*e*P	**P**	**08 16 18.0**	**+0.6**
	comp=Z,1.5nm,0.5s,mb4.3						
NOA	**NORSAR Array B**	**67.27**	**342**	P	**P**	**08 16 48.3**	**+0.3**
	comp=Z,1.4nm,0.7s,mb4.1,baz=26,slow=6.3,SNR=4.1						
NOA	**NORSAR Array B**	**67.27**	**342**	P	**P**	**08 16 48.3**	**+0.3**
NOA	**NORSAR Array B**	**67.27**	**342**	P	**P**	**08 16 48.3**	**+0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**70.30**	**201**	P	**P**	**08 17 06.2**	**-1.0**
	comp=Z,0.1nm,0.4s,mb3.1,baz=18,slow=6.5,SNR=4.9						
WRA	**Warramunga Arr**	**70.30**	**201**	P	**P**	**08 17 06.2**	**-1.0**
WRA	**Warramunga Arr**	**70.30**	**201**	P	**P**	**08 17 06.2**	**-1.0**
ASAR	**Alice Springs**	**73.99**	**200**	P	**P**	**08 17 28.8**	**-0.5**
	comp=Z,0.2nm,0.5s,mb3.3,baz=16,slow=6.0,SNR=3.3						
ASAR	**Alice Springs**	**73.99**	**200**	P	**P**	**08 17 28.8**	**-0.5**
ASAR	**Alice Springs**	**73.99**	**200**	P	**P**	**08 17 28.8**	**-0.4**
TXAR	**Lajitas Array**	**75.69**	**62**	P	**P**	**08 17 39.0**	**-0.2**
	comp=Z,0.6nm,0.5s,mb3.8,baz=296,slow=5.0,SNR=11						
TXAR	**Lajitas Array**	**75.69**	**62**	P	**P**	**08 17 39.0**	**-0.2**
TXAR	**Lajitas Array**	**75.69**	**62**	P	**P**	**08 17 39.0**	**-0.2**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**78.19**	**318**	P	**P**	**08 17 53.9**	**+0.7**
	comp=Z,1.5nm,0.9s,mb3.9,baz=56,slow=3.1,SNR=3.9						
BRTR	**Keskin Array B**	**78.19**	**318**	P	**P**	**08 17 53.9**	**+0.7**
BRTR	**Keskin Array B**	**78.19**	**318**	*e*P	**P**	**08 17 54.3**	**+1.2**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.9s						

MEX 28 08:25:23.6±0.6,16.06N×97.14W,h8km±6km,MD3.7,
Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ISC	Time	Res
				Op		h m s	ISC
PNIG	**Pinotepa**	**1.00**	**289**	*i*P	Pg	08 25 40.0	-2.8
PNIG				*i*S	Sg	08 25 53.0	-2.9
HUIG	**Huatulco**	**1.04**	**106**	*i*P	Pg	08 25 40.5	-3.0
HUIG				*i*S	Sg	08 25 54.1	-2.9
VHO	**Vista Hermosa**	**1.08**	**21**	*i*P	Pg	08 25 41.2	-3.2
VHO				*i*S	Sg	08 25 54.6	-3.8
OXX	**Oaxaca**	**1.09**	**22**	*i*P	Pg	08 25 41.7	-2.9
OXX				*i*S	Sg	08 25 55.9	-3.0
UTMO	**Huajuapan**	**1.87**	**340**	*i*P	Pn	08 25 53.4	-2.6
UTMO				*i*S	Sn	08 26 15.9	-3.9
TPIG	**Tehuac#an**	**2.36**	**355**	*e*P	Pn	08 26 00.0	-2.6
TPIG				*i*S	Sn	08 26 27.9	-3.8
CMIG	**Matias Romero**	**2.40**	**64**	*i*P	Pn	08 26 00.2	-3.0
CMIG				*i*S	Sn	08 26 29.4	-3.3
ACX	**Acapulco**	**2.73**	**288**	*i*P	Pn	08 26 05.7	-2.1
ACX				*i*S	Sn	08 26 38.4	-2.5
TGIG		**3.92**	**79**	*i*P	Pn	08 26 22.8	-1.4
TGIG				*i*S	Sn	08 27 07.1	-3.3

*SZGRF **28** 08:50:42.8,4.28S×104.73E,h33km,mb5.7,MS5.8, Southern Sumatera, Indonesia*
*IDC **28** 08:50:43.6±0.4,4.76S×101.73E,h0km,mb5.4/29, mb1 5.4/29,mb1mx5.3/30,mbtmp5.4/29,MS5.7/22, Ms1 5.7/22,ms1mx5.5/33,Error ellipse: s-maj=16.7km s-min=11.3km az=58.0*
*BJI **28** 08:50:43.6,5.33S×101.79E,h41km,mB6.1/54,mb5.9/61, Ms6.2/76,Ms7 6.1/71*
*DJA **28** 08:50:47.3±0.6,5.5S±2.2×10.2E±.2°,h19km±5km,M5.9/2, mB6.2/76,mb5.8/82,MLv6.3/29,Mw(mB)5.9/76*
*ISCJB **28** 08:50:47.7±0.4,4.77S±0.02×101.72E±0.02,h36km±3km, mb5.7/194,MS5.9/227,Error ellipse: s-maj=4.3km s-min=2.7km az=35.0*
*NEIC **28** 08:50:47.9±0.1,4.76S×101.76E,h25km,mb5.8/84,ME5.9, MS5.9/164,MW5.8,MW5.8,Error ellipse: s-maj=5.5km s-min=3.9km az=56.0 Broadband fault plane solution: P waves. NP1:ϕs120.00000°,δ80.00000°,λ90.00000°. NP2:ϕs300.00000°,δ10.00000°,λ90.00000°. Principal axes: T Plg55.0000°, Azm30.0000°; N Plg0.0000°, Azm0.0000°; P

*MOS **28** 08:50:48.2±1.1,4.°55S×101.°82E,h33km,mb5.9/73, MS5.8/61 Error ellipse: s-maj=8.3km s-min=4.7km az=111.9*

*TEH **28** 08:50:49.0,4.°86S×101.°62E,h35km*

*GCMT **28** 08:50:51.6±0.1,5.°09S×101.°55E,h23km,MW5.9,Moment Tensor Solution. s103,c198; s62,c72; Moment tensor: Scale 10[17]Nm; Mrr4.64±.07; Mθθ-2.92±.05; Mφφ-1.72±.07; Mrθ7.22±.11; Mθφ2.62±.04; Mφr-3.78±.11; Best double couple: Mo9.50000×10[17] NP1:φs319.00000°,δ16.00000°, λ109.00000°. NP2:φs119.00000°,δ75.00000°,λ85.00000°. Principal axes: T 9.3600, Plg60.0000°, Azm21.0000°; N 0.2200, Plg5.0000°, Azm120.0000°; P -9.5900, Plg30.0000°, Azm213.0000°; Data Used: II IU IC G CN. Surface waves: sta= 93, comp=155, per= 50.*

ISC 28 08:50:50.2±0.3,4.76S±0.°02×101.74E±0.°02,h42km±2km, h36km±1.2km:pP-P,n1360,σ1φ04/674,mb5.7/194, **MS5.9**/227**,281C-230D,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**1.27**	**72**	P	**Pn**	**08 51 11.8**	**+0.3**
KSI	**Kapahiang**	**1.39**	**38**	P	**Pn**	**08 51 13.5**	**+0.3**
KSI				S	**Sn**	**08 51 38.4**	**+8.1**
LWLI	**Liwa**	**2.32**	**96**	P	**Pn**	**08 51 26.7**	**+0.7**
LWLI				S	**Sn**	**08 51 59.5**	**+6.2**
MDSI	**Maura Dua**	**2.44**	**84**	P	**Pn**	**08 51 28.4**	**+0.8**
KRJI	**Kerinci**	**2.67**	**354**	P	**Pn**	**08 51 34.1**	**+3.4**
KLSI		**2.98**	**89**	P	**Pn**	**08 51 35.9**	**+0.9**
KLI	**Kotabumi**	**3.11**	**92**	P	**Pn**	**08 51 37.8**	**+1.1**
BLSI	**Bandar Lampung**	**3.54**	**100**	P	**Pn**	**08 51 43.5**	**+0.8**
JMBI	**JAMBI**	**3.64**	**31**	P	Px	08 51 56.1	
SDSI	**Sungai Dareh**	**3.82**	**355**	P	**Pn**	**08 51 45.7**	**-0.8**
PDSI	**Padang**	**4.03**	**341**	P	**Pn**	**08 51 48.3**	**-1.1**
RBSI	**Rajabasa**	**4.13**	**105**	P	**Pn**	**08 51 51.0**	**+0.2**
SISI	**Saibi**	**4.32**	**322**	P	**Pn**	**08 51 51.7**	**-1.7**
CGJI	**Cibinong**	**4.34**	**115**	P	Px	08 52 06.0	
RGRI	**Rengat**	**4.42**	**8**	P	**Pn**	**08 51 56.6**	**+1.8**
PPI	**Padang Panjang**	**4.48**	**343**	P	**Pn**	**08 51 55.1**	**-0.5**
SBJI	**Serang**	**4.57**	**107**	P	**Pn**	**08 51 57.7**	**+0.8**
TNG	**Tangerang** 30nm5µm,1.4s	**5.08**	**106**	P	**Pn**	**08 52 04.5**	**+0.6**
TNG	46nm7µm,1.5s			P		08 52 04.5	
PPBI	**Pangkal Pinang** 14nm790nm,0.9s	**5.09**	**60**	P	**Pn**	**08 52 04.6**	**+0.6**
BKNI	**Bangkinang** 41nm3µm,1.2s	**5.10**	**352**	P	**Pn**	**08 52 03.5**	**-0.7**
SKJI	**Sukabumi** 30nm3µm,1.1s	**5.28**	**115**	P	**Pn**	**08 52 07.7**	**+1.0**
DBJI	**Dramaga** 24nm3µm,1.2s	**5.29**	**110**	P	**Pn**	**08 52 07.2**	**+0.4**
MNSI	**Mandailing Nat** 7.7nm1µm,1.2s	**5.93**	**339**	P	**Pn**	**08 52 14.1**	**-1.4**
LEM	**Lembang** 17nm3µm,1.5s	**6.20**	**110**	P	**Pn**	**08 52 20.8**	**+1.6**
CISI	**Cisompet, Garu** 14nm2µm,0.6s	**6.65**	**115**	P	**Pn**	**08 52 23.8**	**-1.6**
MYKOM	**Kota Tinggi**	**6.84**	**18**	P	**Pn**	**08 52 31.5**	**+3.4**
MYKOM	**Kota Tinggi** 13nm998nm,1.4s	**6.84**	**18**	P	**Pn**	**08 52 28.6**	**+0.6**
XMIS	**Christmas Isla**	**6.88**	**146**	*e*Pn	**Pn**	**08 52 20.7**	**-7.8**
XMIS	**Christmas Isla** 12nm586nm,1.0s	**6.88**	**146**	P	**Pn**	**08 52 24.7**	**-3.9**
KGM	**Kluang**	**6.91**	**13**	P	**Pn**	**08 52 31.6**	**+2.6**
CLJI	**Cilicap** 10.0nm2µm,1.1s	**7.80**	**112**	P	**Pn**	**08 52 42.1**	**+0.8**
PSI	**Prapat** 3.3nm7µm280nm,1.3s	**8.02**	**339**	P	**Pn**	**08 52 41.0**	**-3.3**
TSI	**Tuntungan** 704nm,1.0s	**8.80**	**339**	P	**Pn**	**08 52 54.1**	**-0.8**
COCO	**West Island**	**8.83**	**213**	*e*Pn	**Pn**	**08 52 49.6**	**-5.7**
COCO				*e*Sn	**Sn**	**08 54 32.5**	**-1.2**
COCO	**West Island** 11µm,1.1s,SNR=14	**8.83**	**213**	Pn	**Pn**	**08 52 50.9**	**-4.5**
COCO	**West Island**	**8.83**	**213**	*i* P	**Pn**	**08 52 51.9**	**-3.5**
COCO	**West Island** 2µm,1.0s	**8.83**	**213**	P	**Pn**	**08 52 50.4**	**-5.0**
SMRI	**Semarang** 839nm,0.9s	**8.95**	**105**	P	**Pn**	**08 52 57.0**	**0.0**
TPTI	224nm,1.0s	**9.18**	**330**	P	**Pn**	**08 52 58.9**	**-1.2**
IPM	**Ipoh**	**9.21**	**356**	P	**Pn**	**08 53 03.1**	**+2.5**
IPM	**Ipoh**	**9.21**	**356**	*e*Pn	**Pn**	**08 53 00.6**	**+0.1**
IPM	**Ipoh** 5µm277nm,1.0s	**9.21**	**356**	P	**Pn**	**08 53 01.9**	**+1.4**
UGM	**Wanagama**	**9.27**	**110**	*e*Pn	**Pn**	**08 52 59.9**	**-1.5**
UGM	**Wanagama** 1µm,0.9s	**9.27**	**110**	P	**Pn**	**08 53 00.7**	**-0.7**
PCJI	**Pacitan** 7µm607nm,1.2s	**9.98**	**110**	P	**Pn**	**08 53 09.6**	**-1.5**
KULM	**Kulim**	**10.04**	**354**	P	**Pn**	**08 53 12.5**	**+0.6**
KULM	**Kulim**	**10.04**	**354**	*e*Pn	**Pn**	**08 53 12.2**	**+0.2**
KULM	**Kulim** 5µm368nm,1.2s	**10.04**	**354**	P	**Pn**	**08 53 12.1**	**+0.1**
PBKI	**Pangkalan Bun** 8µm425nm,1.1s	**10.12**	**79**	P	**Pn**	**08 53 17.9**	**+4.9**
SJI	**Sawahan** 665nm,0.8s	**10.39**	**107**	P	**Pn**	**08 53 16.2**	**-0.6**
PWJI	**Pagerwojo** 7µm664nm,0.7s	**10.51**	**108**	P	**Pn**	**08 53 16.9**	**-1.5**
KSM	**Kuching**	**10.56**	**54**	P	**Pn**	**08 53 23.1**	**+4.0**
KSM	**Kuching**	**10.56**	**54**	*e*Pn	**Pn**	**08 53 20.0**	**+0.8**
KSM				*e*Sn	Sx	08 55 37.3	
KSM	**Kuching** 5µm203nm,1.6s	**10.56**	**54**	P	**Pn**	**08 53 22.3**	**+3.2**
STKI	**Sintang** 413nm,0.9s	**10.84**	**64**	P	**Pn**	**08 53 27.5**	**+4.6**
LHMI	**Lhok Sumawe** 7µm551nm,1.1s	**11.02**	**334**	P	**Pn**	**08 53 24.3**	**-1.0**
KRKI	**Karangkates** 834nm,0.8s	**11.16**	**108**	P	**Pn**	**08 53 26.0**	**-1.3**
BSI	**Banda Aceh** 4µm395nm,1.0s	**12.05**	**328**	P	**Pn**	**08 53 36.4**	**-3.1**
GMJI	**Gumukmas** 4µm345nm,1.0s	**12.14**	**107**	P	**Pn**	**08 53 42.0**	**+1.3**
BLJI	**Banyuglugur** 8µm247nm,1.3s	**12.15**	**105**	P	**Pn**	**08 53 40.2**	**-0.6**
KMMI	**Kalianget** 437nm,1.2s	**12.37**	**101**	P	**Pn**	**08 53 44.8**	**+1.0**
PLKI	**Palangkaraya**	**12.44**	**79**	P	**Pn**	**08 53 52.3**	**+7.5**
SBUM	**Sibu**	**12.69**	**56**	P	**Pn**	**08 53 52.2**	**+4.1**
SBUM	**Sibu** 300nm,2.0s	**12.69**	**56**	P	**Pn**	**08 53 51.9**	**+3.8**
JAGI	**Jajag, Banyuwa** 7µm592nm,1.1s	**12.87**	**107**	P	**Pn**	**08 53 50.7**	**+0.1**
BYJI	**Banyuwangi** 852nm,1.5s	**12.99**	**106**	P	**Pn**	**08 53 55.4**	**+3.0**
BBKI	**Banjar Baru** 9µm549nm,1.9s	**13.13**	**85**	P	**Pn**	**08 53 55.9**	**+1.7**
NBBI	**Negara**	**13.29**	**106**	P	Px	08 54 10.2	
SRBI	**Singaraja** 6µm408nm,0.7s	**13.79**	**105**	P	**Pn**	**08 54 05.2**	**+2.0**
BTM	**Bintulu**	**13.82**	**55**	P	**Pn**	**08 54 07.0**	**+3.4**
IGBI	**Denpasar** 5µm259nm,0.9s	**13.91**	**108**	P	**Pn**	**08 54 09.1**	**+4.3**
KHKI	**Kahang-Kahang** 4µm282nm,0.8s	**14.23**	**105**	P	**Pn**	**08 54 09.5**	**+0.2**
KBKI	**Kotabaru** 5µm290nm,1.0s	**14.46**	**85**	P	**Pn**	**08 54 13.3**	**+0.9**
MTNI	**Mataram** 458nm,0.9s	**14.84**	**106**	P	**Pn**	**08 54 14.5**	**-2.8**
SMKI	**Samarinda** 640nm,1.6s	**16.03**	**75**	P	**Pn**	**08 54 36.8**	**+4.0**
MJSI	**Majene** 1µm,1.6s	**17.24**	**87**	P	**Pn**	**08 54 50.6**	**+2.6**
BMNI	**Bima** 5µm203nm,1.4s	**17.25**	**103**	P	**Pn**	**08 54 47.7**	**-0.4**
NNT	**Nongplab**	**17.35**	**353**	P	**Pn**	**08 54 47.0**	**-2.4**
SPSI	**Sidrap Palu** 9µm248nm,3.0s	**17.99**	**88**	P	**Pn**	**08 54 56.1**	**-1.2**
KKM	**Kota Kinabalu**	**18.00**	**54**	P	**Pn**	**08 54 58.1**	**+0.7**
KKM	**Kota Kinabalu** 2µm,2.0s	**18.00**	**54**	*e*P	**Pn**	**08 54 57.8**	**+0.4**
KKM	**Kota Kinabalu** 384nm,0.8s	**18.00**	**54**	P	**Pn**	**08 54 57.6**	**+0.2**
TTSI	**Tana Toraja** 360nm,1.4s	**18.12**	**85**	P	**Pn**	**08 54 58.9**	**+0.1**
BKSI	**Bulukumba** 5µm309nm,1.1s	**18.32**	**93**	P	**Pn**	**08 54 59.0**	**-2.3**
TSM	**Tawau**	**18.45**	**61**	P	**Pn**	**08 55 03.7**	**+0.8**
SDKM	**Sandakan**	**18.57**	**56**	P	**Pn**	**08 55 04.6**	**+0.3**
KDM	**Kudat**	**19.01**	**53**	P	**Pn**	**08 55 10.1**	**+0.4**
WSI	**Waingapu** 1µm,0.8s	**19.04**	**106**	P	**Pn**	**08 55 15.0**	**+5.0**
MYLDM	**Lahad Datu**	**19.43**	**60**	P	**Pn**	**08 55 15.4**	**+0.7**
MYLDM	**Lahad Datu** 750nm,0.9s	**19.43**	**60**	P	**Pn**	**08 55 14.8**	**+0.1**
UBT	**Ubonrachathani**	**20.14**	**9**	P	Px	08 55 47.0	
NST	**Nakhon Sawan**	**20.36**	**356**	P	Px	08 55 47.0	
MMRI	**Maumere** 5µm282nm,0.8s	**20.71**	**102**	P	**P**	**08 55 25.0**	**-2.2**
BBSI	**Bau Bau** 5µm220nm,1.2s	**20.76**	**93**	P	**P**	**08 55 34.0**	**+6.3**
KDI	**Kendari** 8µm359nm,0.9s	**20.83**	**89**	P	**P**	**08 55 28.3**	**-0.2**
MRSI	**Marisa** 8µm699nm,0.8s	**20.84**	**76**	P	**P**	**08 55 28.5**	**-0.1**
KKTK	**Khon Kaen**	**20.99**	**3**	P	Px	08 55 47.0	
LUWI	**Luwuk** 627nm,2.1s,mb5.6	**21.32**	**81**	P	**P**	**08 55 35.4**	**+1.6**
GTOI	**Gorontalo** 8µm509nm,1.2s,mb5.8	**21.91**	**76**	P	**P**	**08 55 38.0**	**-2.1**
CM31	**Chiang Mai Arr** 120nm,1.0s,mb5.3	**23.23**	**353**	*e*P	**P**	**08 55 54.0**	**0.0**
CM31	comp=Z,28µm,20.0s,MS5.7			LR	LR		
CMAR	**Chiang Mai Arr** comp=Z,57nm,0.8s,mb5.0,baz=183,slow=8.1,SNR=51	**23.23**	**353**	P	**P**	**08 55 51.7**	**-2.3**
CMAR	comp=Z,22nm,1.1s,baz=212,slow=3.3,SNR=6.6			PcP	PcP	08 59 41.9	+1.0
CMAR	comp=Z,32µm,19.4s,MS5.8,baz=188,slow=40			LR	LR	09 06 13.0	
CMAR	**Chiang Mai Arr**	**23.23**	**353**	P	**P**	**08 55 51.7**	**-2.3**
CMAR				PcP	PcP	08 59 41.9	+1.0
CMAR	**Chiang Mai Arr**	**23.23**	**353**	P	**P**	**08 55 51.7**	**-2.3**
CMAR						08 59 41.9	
CMAR	comp=Z,57nm,0.9s			pmax	pmax		
CMAR	comp=Z,32µm,19.4s			MLR	MLR		
CHTO	**Chiang Mai** comp=Z,731nm,2.1s,mb5.7	**23.59**	**353**	*e*P	**P**	**08 55 55.2**	**-2.1**
CHTO	comp=Z,29µm,19.0s,MS5.8			LR	LR		
CHTO	**Chiang Mai** comp=Z,731nm,2.1s,mb5.7	**23.59**	**353**	*e*P	**P**	**08 55 55.2**	**-2.1**
CHTO	comp=Z,29µm,19.0s,MS5.8			pmax	pmax		
CHTO	comp=Z,29µm,19.0s,MS5.8			MLR	MLR		
CHTO	**Chiang Mai** comp=Z,4µmcomp=Z,158nm,1.5s,mb5.2	**23.59**	**353**	P	**P**	**08 55 56.3**	**-1.0**
CHTO	**Chiang Mai** SNR=35	**23.59**	**353**	P	**P**	**08 55 57.2**	**-0.1**
MNI	**Manado**	**23.89**	**76**	P	**P**	**08 56 08.3**	**+8.1**
MBWA	**Marble Bar** comp=Z,126nm,1.1s,mb5.3	**23.89**	**135**	*e*P	**P**	**08 55 59.3**	**-0.8**
MBWA	comp=Z,18µm,20.0s,MS5.5			LR	LR		
MBWA	**Marble Bar** comp=Z,4µmcomp=Z,140nm,2.0s,mb5.0	**23.89**	**135**	P	**P**	**08 56 01.1**	**+1.0**
MBWA	**Marble Bar** SNR=13	**23.89**	**135**	P	**P**	**08 56 01.3**	**+1.2**
CHRT	**Chiangrai**	**24.55**	**356**	⇑P	Px	08 56 47.0	
QIZ	**Qiongzhong**	**24.95**	**18**	P	**P**	**08 56 07.3**	**-2.5**
QIZ				S	**S**	**09 00 36.0**	**+5.3**
QIZ	comp=N,22µm,16.4s			LR	LR		
QIZ	comp=Z,34µm,17.3s,MS5.9			LR	LR		
QIZ	**Qiongzhong** comp=Z,450nm,1.7s,mb5.7	**24.95**	**18**	*e*P	**P**	**08 56 10.2**	**+0.4**
QIZ	comp=Z,22µm,19.0s,MS5.7			LR	LR		
NLAI	**Namlea** comp=Z,3µmcomp=Z,164nm,0.8s,mb5.6	**25.34**	**88**	P	**P**	**08 56 15.5**	**+2.0**
CTBH	**Cotabato--PC H**	**25.42**	**62**	⇓*e*P	**P**	**08 56 14.4**	**+0.3**
LBMI	**Labuha** comp=Z,7µmcomp=Z,469nm,1.0s,mb6.0	**26.05**	**82**	P	**P**	**08 56 20.9**	**+1.0**
TNTI	**Ternate** comp=Z,4µmcomp=Z,179nm,2.1s,mb5.2	**26.18**	**79**	P	**P**	**08 56 22.6**	**+1.5**
RCP	**Roxas**	**26.45**	**52**	⇓*e*P	**P**	**08 56 24.1**	**+0.7**
DAV	**Davao City (W)** comp=Z,188nm,0.3s,mb6.1,baz=246,slow=12,SNR=2.4	**26.54**	**64**	P	**P**	**08 56 21.1**	**-3.2**
DAV	comp=Z,21µm,19.1s,MS5.7,baz=324,slow=39			LR	LR	09 07 52.2	
DAV	**Davao City (W)**	**26.54**	**64**	P	**P**	**08 56 21.1**	**-3.2**
TGY	**Tagaytay City** comp=Z,222nm,0.3s,mb6.2,baz=180,slow=13,SNR=4.9	**26.72**	**45**	P	**P**	**08 56 25.8**	**-0.1**
TGY	comp=Z,75nm,21.2s,baz=42,slow=37			LR	LR	09 07 19.0	
TGY	**Tagaytay City**	**26.72**	**45**	P	**P**	**08 56 25.8**	**-0.1**
TGY	**Tagaytay City**	**26.72**	**45**	P	**P**	**08 56 25.8**	**-0.1**
TGY	comp=Z,222nm,0.3s			pmax	pmax		
FITZ	**Fitzroy Crossi** comp=Z,56nm,0.9s,mb5.1,baz=307,slow=5.9,SNR=53	**26.86**	**121**	P	**P**	**08 56 26.4**	**-0.8**
FITZ	**Fitzroy Crossi** comp=Z,206nm,1.0s,mb5.6	**26.86**	**121**	*e*P	**P**	**08 56 26.4**	**-0.8**
FITZ				*e*S	**S**	**09 00 59.5**	**-1.6**
FITZ				*e*SCS	ScS	09 07 16.1	-1.0
FITZ	**Fitzroy Crossi** comp=Z,140nm,1.0s,mb5.5	**26.86**	**121**	*e*P	**P**	**08 56 26.5**	**-0.7**
FITZ	**Fitzroy Crossi** comp=Z,2µmcomp=Z,161nm,1.0s,mb5.5	**26.86**	**121**	P	**P**	**08 56 26.3**	**-0.9**
TRD	**Trivandrum**	**28.01**	**298**	*e*PKP	**P**	**08 56 36.1**	**-1.4**
TRD				*e*S	**S**	**09 01 20.5**	**+1.3**
DGAR	**Diego Garcia**	**29.24**	**263**	PFAKE		08 57 00.0	+12
DGAR	comp=Z,11µm,20.0s,MS5.5			LR	LR		
BWNR	**Bhubaneshwar**	**29.41**	**328**	*ex*	**P**	**08 56 42.0**	**-7.8**
HKC	**Hong Kong Obse**	**29.52**	**24**	⇑*i*P	PP	08 57 52.0	-6.0
KMI	**Kunming**	**29.72**	**2**	⇑P	**P**	**08 56 53.5**	**+1.0**
KMI				PP	PP	08 57 52.8	-7.4
KMI				S	**S**	**09 01 48.8**	**+3.0**
KMI				SS	SS	09 03 24.3	-29
KMI				PcS	PcS	09 03 38.3	-1.0
KMI				ScS	ScS	09 07 28.5	-1.3
KMI	comp=Z,77nm,1.7s,mb5.2			pmax	pmax		
KMI	comp=Z,2µm,5.4s			pmax	pmax		
KMI	comp=N,28µm,14.9s,MS6.2			LR	LR		
KMI	comp=E,30µm,15.9s,MS6.2			LR	LR		
KMI	comp=Z,25µm,13.9s,MS6.0			LR	LR		
SWI	**Sorong** comp=Z,2µmcomp=Z,95nm,1.2s,mb5.4	**29.73**	**83**	P	**P**	**08 56 54.7**	**+1.9**
GZH	**Guangzhou**	**29.91**	**22**	P	**P**	**08 56 58.5**	**+4.3**
GZH	comp=Z,2µm,5.3s			pmax	pmax		
GZH	comp=N,19µm,22.1s,MS6.0			LR	LR		
GZH	comp=E,29µm,17.9s,MS6.0			LR	LR		
GZH	comp=Z,46µm,21.0s,MS6.1			LR	LR		
CAL	**Calcutta**	**30.14**	**335**	*ex*	**P**	**08 56 58.8**	**+2.6**
CAL				*ex*	x	09 01 57.8	
AGT	**Agartala**	**30.25**	**341**	*e*PKP	**P**	**08 56 57.0**	**-0.2**
AGT				*ex*	x	08 57 29.0	
IMP	**Imphal**	**30.33**	**346**	*e*PKP	**P**	**08 56 56.0**	**-1.9**
FAKI	**Fak Fak** comp=Z,3µmcomp=Z,124nm,0.9s,mb5.7	**30.49**	**88**	P	**P**	**08 56 57.7**	**-1.9**
KLBR	**Kellerberrin** comp=Z,26nm,0.8s,mb5.1	**30.63**	**152**	*e*P	**P**	**08 57 00.3**	**-0.2**
TLE	**Tual** comp=Z,142nm,0.9s,mb5.8	**30.88**	**93**	P	**P**	**08 57 01.8**	**-1.2**
GYA	**Guiyang**	**31.40**	**8**	⇑*i*P	**P**	**08 57 07.0**	**-0.3**
GYA				PP	PP	08 58 13.8	-5.1
GYA				S	**S**	**09 02 19.0**	**+6.9**
GYA				ScP	ScP	09 03 40.0	-0.2
GYA				SS	SS	09 04 04.3	-24
GYA	comp=Z,80nm,0.9s,mb5.5			pmax	pmax		
GYA	comp=Z,5µm,6.9s			pmax	pmax		
GYA	comp=N,20µm,14.6s,MS6.0			LR	LR		
GYA	comp=E,13µm,14.9s,MS6.0			LR	LR		
GYA	comp=Z,27µm,15.6s,MS6.0			LR	LR		
NWAO	**Narrogin (SRO)** comp=Z,63nm,0.9s,mb5.4,baz=323,slow=10,SNR=13	**31.54**	**155**	P	**P**	**08 57 07.6**	**-0.9**
NWAO	comp=Z,21µm,21.2s,MS5.8,baz=329,slow=33			LR	LR	09 08 14.0	
NWAO	**Narrogin (SRO)** comp=Z,53nm,0.9s,mb5.4	**31.54**	**155**	*e*P	**P**	**08 57 07.5**	**-0.9**
NWAO	**Narrogin (SRO)** comp=Z,63nm,0.9s	**31.54**	**155**	P	**P**	**08 57 07.6**	**-0.9**
NWAO	comp=Z,21µm,19.1s,MS5.7,baz=324,slow=39			pmax	pmax		
SHL	**Shillong**	**31.63**	**343**	*i* P	**P**	**08 57 09.5**	**+0.1**
SHL				*ex*	x	09 02 14.5	
HYB	**Hyderabad**	**31.78**	**314**	*i* P	**P**	**08 57 11.0**	**+0.2**
HYB				*e*	pP	08 57 21.0	-1.3
HYB				*e*		08 58 12.0	
HYB				*e*S	**S**	**09 02 20.0**	**+1.7**
HYB	comp=Z,9.6nm,18.0s			LR	LR	09 09 36.0	
TWG	**Pinlang** comp=Z,79nm,1.0s,mb5.6	**33.29**	**34**	*e*P	**P**	**08 57 24.4**	**+0.5**
TPUB	**Ta-pu** comp=Z,106nm,1.0s,mb5.7	**33.44**	**33**	*e*P	**P**	**08 57 25.5**	**+0.2**
QZH	**Quanzhou**	**33.77**	**28**	⇑*i*P	**P**	**08 57 25.8**	**-2.3**
QZH				PP	PP	08 58 46.0	+0.8
QZH	comp=Z,2µm,3.8s			pmax	pmax		
QZH	comp=N,12µm,14.2s,MS6.2			LR	LR		
QZH	comp=E,38µm,17.0s,MS6.2			LR	LR		
QZH	comp=Z,33µm,17.2s,MS6.1			LR	LR		
LATR	**Latur**	**33.86**	**314**	*e*PKP	**P**	**08 57 29.4**	**+0.4**
YULB	**Yu-li** comp=Z,34nm,0.8s,mb5.3	**33.87**	**33**	*e*P	**P**	**08 57 29.9**	**+0.9**
SSLB	**Suanglung** comp=Z,58nm,0.9s,mb5.5	**34.00**	**33**	*e*P	**P**	**08 57 30.0**	**-0.1**
NGP	**Nagpur**	**34.03**	**320**	*e*PKP	**P**	**08 57 28.9**	**-1.6**
NGP				*ex*	x	08 57 41.3	
NGP	comp=Z,177nm,1.2s,baz=200,slow=12			*ex*	x	09 02 50.4	
ODAN	**Odare** comp=Z,234nm,0.7s,mb6.2	**34.36**	**337**	*e*P	**P**	**08 57 33.9**	**+0.7**
ODAN	**Odare** comp=Z,234nm,0.7s,mb6.2	**34.36**	**337**	*e*P	**P**	**08 57 33.9**	**+0.7**
NACB	**Ninganchiao** comp=Z,76nm,0.8s,mb5.7	**34.66**	**33**	*e*P	**P**	**08 57 36.0**	**+0.1**
TAPN	**Taplejung** comp=Z,1µm,1.1s,mb6.7	**34.68**	**338**	*e*P	**P**	**08 57 37.2**	**+1.2**
TAPN	**Taplejung** comp=Z,1µm,1.1s,mb6.7	**34.68**	**338**	*e*P	**P**	**08 57 37.2**	**+1.2**
RAMN	**Ramite** comp=Z,180nm,0.6s,mb6.2	**34.76**	**336**	*e*P	**P**	**08 57 37.9**	**+1.2**
RAMN	**Ramite** comp=Z,180nm,0.6s,mb6.2	**34.76**	**336**	*e*P	**P**	**08 57 37.9**	**+1.2**
YHNB	**Yeheng** comp=Z,66nm,0.8s,mb5.6	**34.94**	**32**	*e*P	**P**	**08 57 37.9**	**-0.3**
YHNB	comp=Z,9µm,20.0s,MS5.5			LR	LR		
KAD	**Karad**	**34.95**	**310**	*e*PKP	**P**	**08 57 38.3**	**-0.2**
AKL	**Akola**	**35.06**	**317**	*e*PKP	**P**	**08 57 40.0**	**+0.7**
WRA	**Warramunga Arr** comp=Z,35nm,0.8s,mb5.3,baz=295,slow=9.3,SNR=89	**35.13**	**118**	P	**P**	**08 57 39.0**	**-1.0**
WRA	comp=Z,7.5nm,1.0s,baz=295,slow=16,SNR=5.2			S	**S**	**09 03 11.3**	**+1.0**
WRA	comp=Z,5µm,19.7s,MS5.3,baz=295,slow=38			LR	LR	09 12 42.9	
WRA	**Warramunga Arr**	**35.13**	**118**	P	**P**	**08 57 39.0**	**-1.0**
WRA				S	**S**	**09 03 11.3**	**+1.0**
WRA	**Warramunga Arr**	**35.13**	**118**	P	**P**	**08 57 39.0**	**-1.0**
WRA				S	**S**	**09 03 11.3**	**+1.0**
WRA	comp=Z,35nm,0.8s			pmax	pmax		
WRA	comp=N,8.0nm,1.0s			smax			
WRA	comp=Z,5µm,19.7s			MLR	MLR		
WRAB	**Tennant Creek** comp=Z,60nm,0.8s,mb5.6	**35.14**	**118**	*e*P	**P**	**08 57 39.0**	**-1.1**
WRAB	comp=Z,8µm,22.0s,MS5.4			LR	LR		
WRAB	**Tennant Creek** comp=Z,60nm,0.8s,mb5.6	**35.14**	**118**	*e*P	**P**	**08 57 39.0**	**-1.1**
WRAB	comp=Z,8µm,22.0s,MS5.4			pmax	pmax		
WRAB	comp=Z,394nm,0.7s,mb6.5,SNR=28			MLR	MLR		
WRAB	**Tennant Creek**	**35.14**	**118**	P	**P**	**08 57 39.0**	**-1.1**
WRAB	**Tennant Creek** comp=Z,3µmcomp=Z,113nm,0.8s,mb5.8	**35.14**	**118**	P	**P**	**08 57 39.2**	**-0.9**
WB2	**Warramunga Arr**	**35.14**	**118**	*e*P	**P**	**08 57 38.9**	**-1.3**
TATO	**Taipei**	**35.25**	**32**	PFAKE		08 57 50.0	+9.1
TATO	comp=Z,7µm,20.0s,MS5.4			LR	LR		
CD2	**Chengdu**	**35.52**	**3**	P	**P**	**08 57 42.3**	**-0.9**
CD2				PP	PP	08 59 04.0	-0.5
CD2				PcP	PcP	09 00 09.5	-2.3
CD2				S	**S**	**09 03 16.5**	**+0.6**
CD2				SS	SS	09 05 39.0	-13
CD2	comp=Z,130nm,1.2s,mb5.7			pmax	pmax		
CD2	comp=Z,2µm,7.1s			pmax	pmax		
CD2	comp=E,38µm,20.4s			LR	LR		
CD2	comp=Z,43µm,20.4s,MS6.2			LR	LR		
JIRN	**Jiri** comp=Z,240nm,1.0s,mb6.1	**35.56**	**336**	*e*P	**P**	**08 57 44.7**	**+1.2**
JIRN	**Jiri** comp=Z,240nm,1.0s,mb6.1	**35.56**	**336**	*e*P	**P**	**08 57 44.7**	**+1.2**
ALBI	**Allahabad**	**35.61**	**328**	*e*PKP	**P**	**08 57 42.0**	**-2.0**
ENH	**Enshi** comp=Z,147nm,1.1s,mb5.8	**35.61**	**12**	*e*P	**P**	**08 57 42.7**	**-1.2**
ENH	comp=Z,19µm,20.0s,MS5.9			LR	LR		
LSA	**Lhasa**	**35.74**	**344**	P	**P**	**08 57 45.8**	**+0.8**
LSA				sP	sP	08 58 01.3	-0.3
LSA				S	**S**	**09 03 14.5**	**-4.8**
LSA	comp=N,8µm,25.6s,MS5.7			LR	LR		
LSA	comp=E,13µm,25.6s,MS5.7			LR	LR		
LSA	comp=Z,11µm,26.6s,MS5.5			LR	LR		
LSA	**Lhasa** comp=Z,243nm,1.2s,mb6.0	**35.74**	**344**	*e*P	**P**	**08 57 45.7**	**+0.7**
LSA	comp=Z,8µm,19.0s,MS5.5			LR	LR		
LSA	**Lhasa**	**35.74**	**344**	*e*P	**P**	**08 57 45.7**	**+0.7**
LSA	comp=Z,243nm,1.2s,mb6.0			pmax	pmax		
LSA	comp=Z,8µm,19.0s,MS5.5			MLR	MLR		
PKI	**Pulchoki** comp=Z,717nm,1.5s,mb6.4	**35.80**	**335**	*e*P	**P**	**08 57 46.4**	**+0.8**
PKI	**Pulchoki** comp=Z,717nm,1.5s,mb6.4	**35.80**	**335**	*e*P	**P**	**08 57 46.4**	**+0.8**
FORT	**Forrest** comp=Z,64nm,0.7s,mb5.7	**35.83**	**139**	*e*P	**P**	**08 57 45.8**	**0.0**
FORT	**Forrest** comp=Z,66nm,0.7s,mb5.7	**35.83**	**139**	*e*P	**P**	**08 57 45.5**	**-0.4**
GUN	**Gumba** comp=Z,808nm,0.9s,mb6.7	**35.90**	**336**	*e*P	**P**	**08 57 47.6**	**+1.1**
GUN	**Gumba** comp=Z,808nm,0.9s,mb6.7	**35.90**	**336**	*e*P	**P**	**08 57 47.6**	**+1.1**
POO	**Poona**	**35.94**	**311**	*e*PKP	**P**	**08 57 46.9**	**0.0**
POO				⇓*ex*	x	09 03 18.4	
DMN	**Daman** comp=Z,537nm,1.0s,mb6.4	**35.97**	**334**

BHPL Bhopal 36.58 321 ⇑*i*P **P 08 57 52.0 -0.4**
KOLN Koldanda 36.77 333 *e*P **P 08 57 55.0 +1.1**
comp=N,405nm,0.8s,mb6.3
KOLN Koldanda 36.77 333 *e*P **P 08 57 55.0 +1.1**
comp=N,405nm,0.8s,mb6.3
SMPI Sarmi 37.00 87 P **P 08 57 54.7 -1.4**
comp=N,3μmcomp=N,124nm,1.6s,mb5.5
WHN Wuhan 37.12 18 ⇑P **P 08 57 57.3 +0.5**
WHN PP PP 08 59 27.0 +4.9
WHN LR LR
comp=N,32μm,20.5s,MS6.4
WHN LR LR
comp=E,56μm,18.5s,MS6.4
WHN LR LR
comp=Z,61μm,16.4s,MS6.5
DANN Dangsing 37.20 333 *e*P **P 08 57 58.5 +1.0**
comp=Z,1μm,1.0s,mb6.7
DANN Dangsing 37.20 333 *e*P **P 08 57 58.5 +1.0**
comp=Z,1μm,1.0s,mb6.7
PYUN Piuthan 37.34 332 *e*P **P 08 57 59.7 +1.0**
comp=Z,1μm,1.0s,mb6.8
PYUN Piuthan 37.34 332 *e*P **P 08 57 59.7 +1.0**
comp=Z,1μm,1.0s,mb6.8
JAY Jayapura 38.95 88 P **P 08 58 12.0 -0.5**
comp=Z,70nm,0.9s,mb5.4
XAN Xi'an 39.18 9 P **P 08 58 13.3 -0.8**
XAN pmax pmax
comp=Z,49nm,1.4s,mb5.0
XAN pmax pmax
comp=Z,470nm,8.4s
XAN LR LR
comp=N,13μm,14.6s,MS5.9
XAN LR LR
comp=E,8μm,15.7s,MS5.9
XAN LR LR
comp=Z,7μm,14.6s,MS5.6
PTH Pithoragarh 39.88 330 *e*PKP **P 08 58 21.2 +1.2**
PTH *ex* x 09 04 28.3
NJ2 Nanjing 40.07 23 *e*P **P 08 58 22.5 +0.9**
NJ2 S **S 09 04 28.0 +3.2**
NJ2 pmax pmax
comp=Z,20nm,0.7s,mb5.0
NJ2 pmax pmax
comp=Z,1μm,10.7s
NJ2 LR LR
comp=N,26μm,18.5s,MS6.2
NJ2 LR LR
comp=E,12μm,18.8s,MS6.2
NJ2 LR LR
comp=Z,28μm,17.1s,MS6.2
SSE Sheshan 40.20 26 ⇑P **P 08 58 23.3 +0.6**
SSE pP pP 08 58 32.8 -1.6
SSE PP PP 08 59 56.0 +0.2
SSE PcP PcP 09 00 27.0 +0.7
SSE S **S 09 04 27.5 +0.7**
SSE pmax pmax
comp=Z,130nm,0.9s,mb5.7
SSE pmax pmax
comp=Z,1μm,6.8s
SSE LR LR
comp=N,5μm,19.5s,MS5.8
SSE LR LR
comp=E,12μm,19.6s,MS5.8
SSE LR LR
comp=Z,14μm,17.9s,MS5.9
JOW Kunigami 40.56 38 P **P 08 58 25.2 -0.5**
comp=Z,38nm,0.5s,mb5.3,baz=262,slow=5.7,SNR=4.3
JOW Kunigami 40.56 38 *e*P **P 08 58 25.6 -0.1**
comp=Z,19nm,0.8s,mb4.8
LZH Lanzhou 40.68 3 *e*P **P 08 58 27.3 +0.8**
LZH pP pP 08 58 36.8 -1.4
LZH PP PP 09 00 02.3 +1.3
LZH pmax pmax
comp=Z,280nm,1.2s,mb5.8
LZH pmax pmax
comp=Z,2μm,5.2s
LZH LR LR
comp=N,30μm,14.5s,MS6.3
LZH LR LR
comp=E,15μm,17.6s,MS6.3
LZH LR LR
comp=Z,39μm,16.6s,MS6.3
NDI New Delhi 40.77 326 *e*PKP **P 08 58 25.3 -2.1**
NDI AMb AMB 08 58 28.6
comp=Z,257nm,1.7s,mb5.6
DDI Dehra Dun 41.61 328 *e*PKP **P 08 58 32.0 -2.3**
DDI *ex* x 09 05 15.0
COEN Coen 41.83 106 *e*P **P 08 58 34.1 -2.3**
comp=Z,495nm,1.0s,mb6.1
COEN Coen 41.83 106 P **P 08 58 34.5 -1.8**
comp=Z,2μmcomp=Z,80nm,1.1s,mb5.3
BBOO Buckleboo 42.47 135 *e*P **P 08 58 40.9 -0.4**
comp=Z,624nm,0.9s,mb6.2
SMLA Simla 42.71 328 *i*P **P 08 58 41.9 -1.3**
SDNR Sundarnagar 43.10 328 *e*PKP **P 08 58 46.0 -0.4**
SDNR *ex* x 09 05 10.0
TIA Tai'an 43.23 18 ⇑P **P 08 58 46.0 -1.4**
TIA S **S 09 05 16.5 +5.0**
TIA pmax pmax
comp=Z,120nm,1.0s,mb5.6
TIA LR LR
comp=N,27μm,7.3s
TIA LR LR
comp=E,9μm,17.8s
TIA LR LR
comp=Z,24μm,21.4s,MS6.1
BHK Bhakra 43.33 328 *e*PKP **P 08 58 47.2 -1.1**
TIY Taiyuan 43.41 12 *e*P **P 08 58 47.8 -1.0**
TIY PP PP 09 00 32.3 +1.9
TIY PcS PcS 09 04 28.8 -0.5
TIY S **S 09 05 11.8 -2.3**
TIY pmax pmax
comp=Z,2μm,5.4s
TIY LR LR
comp=N,12μm,13.5s,MS6.1
TIY LR LR
comp=E,12μm,15.3s,MS6.1
TIY LR LR
comp=Z,15μm,17.7s,MS6.0
GTA Gaotai 43.99 358 ⇑P **P 08 58 54.0 +0.6**
GTA PcP PcP 09 00 40.5 +1.9
GTA S **S 09 05 25.5 +3.1**
GTA pmax pmax
comp=Z,180nm,1.0s,mb5.8
GTA pmax pmax
comp=Z,2μm,5.2s
GTA LR LR
comp=N,27μm,18.5s,MS6.3
GTA LR LR
comp=E,19μm,18.7s,MS6.3
GTA LR LR
comp=Z,36μm,18.7s,MS6.3
PMG Port Moresby 45.28 98 S **S 09 05 40.3 -1.7**
comp=Z,15nm,0.9s,baz=137,slow=16,SNR=7.0
PMG Port Moresby 45.28 98 *e*P **P 08 59 02.8 -1.4**
comp=Z,137nm,0.9s,mb5.8
PMG S **S 09 05 40.3 -1.7**
PMG LR LR
comp=Z,8μm,22.0s,MS5.6
PMG Port Moresby 45.28 98 *c i*P **P 08 59 02.9 -1.3**
PMG pmax pmax
comp=Z,201nm,1.2s
PMG Port Moresby 45.28 98 P **P 08 59 03.2 -1.0**
comp=Z,3μmcomp=Z,190nm,1.4s,mb5.7
BTO Baotou 45.78 9 *e*P **P 08 59 08.3 +0.7**
CTA Charters Tower 45.88 113 S **S 09 05 50.3 -0.3**
comp=Z,5.4nm,0.9s,baz=150,slow=17,SNR=5.6
CTA LR LR 09 19 48.0
comp=Z,12μm,20.5s,MS5.8,baz=284,slow=38
CTA Charters Tower 45.88 113 *e*P **P 08 59 08.6 -0.3**
comp=Z,80nm,1.0s,mb5.6
CTA *e*S **S 09 05 51.0 +0.4**
CTA *e*SCS ScS 09 09 03.8 +2.0
CTA Charters Tower 45.88 113 S **S 09 05 50.3 -0.3**
CTAO Charters Tower 45.88 113 *e*P **P 08 59 08.4 -0.5**
comp=Z,178nm,1.1s,mb5.9
CTAO LR LR
comp=Z,10μm,20.0s,MS5.8
CTAO Charters Tower 45.88 113 *e*P **P 08 59 08.4 -0.5**
CTAO pmax pmax
comp=Z,178nm,1.1s,mb5.9
CTAO MLR MLR
comp=Z,10μm,20.0s,MS5.8
CTAO Charters Tower 45.88 113 P **P 08 59 08.7 -0.2**
comp=Z,2μmcomp=Z,141nm,1.2s,mb5.8
STKA Stephens Creek 46.03 131 P **P 08 59 09.5 -0.4**
comp=Z,25nm,0.8s,mb5.2,baz=298,slow=7.7,SNR=38
STKA LR LR 09 18 27.5
comp=Z,15μm,21.8s,MS5.9,baz=297,slow=36
STKA Stephens Creek 46.03 131 *e*P **P 08 59 09.5 -0.4**
comp=Z,63nm,0.7s,mb5.7
STKA *e*S **S 09 05 51.5 -0.9**
STKA Stephens Creek 46.03 131 *e*P **P 08 59 09.5 -0.4**
comp=Z,13nm,0.7s,mb5.0
STKA Stephens Creek 46.03 131 P **P 08 59 09.5 -0.4**
STKA pmax pmax
comp=Z,25nm,0.8s
STKA MLR MLR
comp=Z,15μm,21.8s
MSEY Mahe Island 46.10 268 PFAKE 08 59 20.0 +9.3
MSEY LR LR
comp=Z,8μm,20.0s,MS5.7
HHC Hu-ho-hao-te 46.27 10 *e*P **P 08 59 12.5 +1.0**
HHC pP pP 08 59 23.3 -0.1
HHC PcP PcP 09 00 46.5 0.0
HHC PP PP 09 01 02.0 +1.2
HHC S **S 09 05 58.0 +2.5**
HHC ScS ScS 09 09 01.3 -2.1
HHC SS SS 09 09 16.5 -5.1
HHC pmax pmax
comp=Z,270nm,0.9s,mb6.2
HHC pmax pmax
comp=Z,2μm,4.9s
HHC LR LR
comp=N,19μm,16.6s,MS6.2
HHC LR LR
comp=E,14μm,16.7s,MS6.2
HHC LR LR
comp=Z,19μm,16.7s,MS6.1
BJT Baijiatuau 46.49 15 *e*P **P 08 59 13.3 0.0**
comp=Z,114nm,0.6s,mb6.0
BJT LR LR
comp=Z,19μm,20.0s,MS6.0
BJT Baijiatuau 46.49 15 *e*P **P 08 59 13.3 0.0**
BJT pmax pmax
comp=Z,115nm,0.6s
BJT MLR MLR
comp=Z,19μm,20.0s
BJI Beijing 46.52 15 P **P 08 59 13.5 0.0**
BJI PcP PcP 09 00 47.8 +0.4
BJI PP PP 09 01 05.5 +2.1
BJI S **S 09 06 01.8 +2.8**
BJI pmax pmax
comp=Z,210nm,1.1s,mb6.0
BJI pmax pmax
comp=Z,2μm,7.3s
BJI LR LR
comp=N,28μm,16.8s,MS6.3
BJI LR LR
comp=E,5μm,15.7s,MS6.3
BJI LR LR
comp=Z,18μm,17.1s,MS6.1
GUMO Guam 46.53 66 PFAKE 08 59 20.0 +6.0
GUMO LR LR
comp=Z,4μm,22.0s,MS5.3
JNU Nakatsue 46.71 34 *e*P **P 08 59 14.0 -1.1**
comp=Z,56nm,1.0s,mb5.5
DL2 Dalian 47.18 21 ⇑*i*P **P 08 59 18.8 +0.1**
DL2 PP PP 09 01 11.3 +1.3
DL2 S **S 09 06 17.0 +8.4**
DL2 pmax pmax
comp=Z,80nm,1.1s,mb5.6
DL2 pmax pmax
comp=Z,940nm,7.3s
DL2 LR LR
comp=N,9μm,18.6s,MS5.8
DL2 LR LR
comp=E,4μm,16.0s,MS5.8
DL2 LR LR
comp=Z,9μm,17.6s,MS5.8
RER Riviere de l'E 47.48 246 PFAKE 08 59 30.0 +8.6
RER LR LR
comp=Z,7μm,20.0s,MS5.6
INCN Inchon 47.99 27 *e*P **P 08 59 23.8 -1.2**
comp=Z,141nm,1.4s,mb5.8
INCN LR LR
comp=Z,6μm,20.0s,MS5.6
KSAR Wonju Array Be 48.53 28 P **P 08 59 29.1 -0.1**
KSAR Wonju Array Be 48.53 28 P **P 08 59 29.1 -0.1**
KSRS Korea Array 48.56 28 P **P 08 59 29.1 -0.4**
comp=Z,90nm,0.8s,mb5.8,baz=217,slow=7.7,SNR=157
KSRS Korea Array 48.56 28 P **P 08 59 29.1 -0.3**
KSRS pmax pmax
comp=Z,90nm,0.8s,mb5.8
KBL Kabul 49.77 324 *e*P **P 08 59 37.5 -1.2**
comp=Z,69nm,1.2s,mb5.6
KBL Kabul 49.77 324 *e*P **P 08 59 37.5 -1.2**
KBL pmax pmax
comp=Z,69nm,1.2s,mb5.6
WMQ Urumqi 49.99 347 P **P 08 59 41.8 +1.6**
WMQ pP pP 08 59 51.8 -0.4
WMQ PP PP 09 01 37.8 +2.2
WMQ S **S 09 06 49.5 +1.6**
WMQ ScS ScS 09 09 27.3 -0.8
WMQ pmax pmax
comp=Z,240nm,0.9s,mb6.2
WMQ pmax pmax
comp=Z,3μm,4.9s
WMQ LR LR
comp=N,6μm,18.9s,MS5.8
WMQ LR LR
comp=E,8μm,19.7s,MS5.8
WMQ LR LR
comp=Z,9μm,24.8s
KSH Kashi 50.06 334 ⇑*i*P **P 08 59 39.5 -1.3**
KSH PcP PcP 09 01 01.0 +0.9
KSH PP PP 09 01 34.5 -1.8
KSH PcS PcS 09 04 56.5 -0.6
KSH S **S 09 06 44.8 -4.3**
KSH ScS ScS 09 09 26.5 -2.2
KSH pmax pmax
comp=Z,120nm,1.0s,mb5.9
KSH pmax pmax
comp=Z,1μm,3.0s
KSH LR LR
comp=N,4μm,15.0s,MS5.7
KSH LR LR
comp=E,5μm,16.8s,MS5.7
KSH LR LR
comp=Z,4μm,14.9s,MS5.5
SMDO Samad 50.83 305 P **P 08 59 48.3 +1.4**
SNR=7.0
BSY Bisya 51.39 304 P **P 08 59 52.6 +1.4**
SNR=11
EIDS Eidsvold 51.50 119 *e*P **P 08 59 51.7 -0.3**
comp=Z,130nm,1.4s,mb5.7
HOQ Hoqain 51.67 305 P **P 08 59 54.6 +1.4**
SNR=7.6
PAF Port-aux-Franc 51.84 206 PFAKE 09 00 00.0 +6.0
PAF LR LR
comp=Z,11μm,19.0s,MS5.9
RBK Rabkut 51.87 297 P **P 08 59 57.1 +2.3**
SNR=9.3
ULHL Ulahol 52.22 336 P **P 08 59 57.3 +0.3**
SNR=82
KZA Kyzart 52.48 335 P **P 08 59 59.8 +0.9**
SNR=122
SONM Songino Array 52.53 4 P **P 09 00 00.1 +0.9**
comp=Z,285nm,0.9s,mb6.2,baz=182,slow=7.7,SNR=834
SONM Songino Array 52.53 4 P **P 09 00 00.1 +0.9**
SONM Songino Array 52.53 4 P **P 09 00 00.1 +0.9**
SONM pmax pmax
comp=Z,285nm,0.9s
ULN Ulaanbaatar 52.61 4 *e*P **P 09 00 00.4 +0.6**
comp=Z,200nm,0.9s,mb6.0
ULN LR LR
comp=Z,13μm,20.0s,MS6.0
ULN Ulaanbaatar 52.61 4 *e*P **P 09 00 00.4 +0.7**
ULN pmax pmax
comp=Z,200nm,0.9s,mb6.0
ULN MLR MLR
comp=Z,13μm,20.0s,MS6.0
ULN Ulaanbaatar 52.61 4 P **P 09 00 00.1 +0.4**
comp=Z,4μmcomp=Z,299nm,1.0s,mb6.2
ULN Ulaanbaatar 52.61 4 P **P 09 00 00.9 +1.1**
SNR=79
ABTO Aybut 52.63 296 P **P 09 00 01.2 +0.7**
SNR=14
CN2 Changchun 52.85 21 ⇑P **P 09 00 01.0 -0.6**
CN2 PcP PcP 09 01 09.5 -0.9
CN2 PP PP 09 02 02.0 +0.5
CN2 *e*S **S 09 07 27.5 +0.1**
CN2 SS SS 09 11 06.0 -1.0
CN2 pmax pmax
comp=Z,300nm,0.8s,mb6.3
CN2 pmax pmax
comp=Z,2μm,4.0s
CN2 LR LR
comp=N,10μm,17.0s,MS6.2
CN2 LR LR
comp=E,18μm,17.0s,MS6.2
CN2 LR LR
comp=Z,12μm,18.0s,MS6.0
UCH Uchtor 52.92 335 P **P 09 00 03.0 +0.9**
SNR=10
TKM2 Tokmak 2 53.04 336 P **P 09 00 03.2 +0.2**
SNR=205
TKM2 Tokmak 2 53.04 336 *e*P **P 09 00 03.1 +0.1**
comp=Z,202nm,1.0s,mb6.0
TKM2 LR LR
comp=Z,10μm,21.0s,MS5.8
TKM2 Tokmak 2 53.04 336 *i*P **P 09 00 03.2 +0.2**
KBK Karagaybulak 53.09 335 P **P 09 00 04.1 +0.7**
SNR=44
CAN Canberra 53.09 131 PFAKE 09 00 10.0 +6.4
CAN LR LR
comp=Z,14μm,21.0s,MS6.0
AML Almayashu 53.19 334 P **P 09 00 04.8 +0.7**
SNR=134
HATD Hatta, Dubai 53.20 306 P **P 09 00 06.6 +2.1**
SNR=5.5
AAK Ala-Archa 53.26 335 P **P 09 00 05.3 +0.6**
SNR=59
AAK Ala-Archa 53.26 335 *e*P **P 09 00 04.9 +0.3**
comp=Z,79nm,1.0s,mb5.6
AAK LR LR
comp=Z,6μm,20.0s,MS5.6
AAK Ala-Archa 53.26 335 *c i*P **P 09 00 05.2 +0.6**
AAK pmax pmax
comp=Z,493nm,2.2s,mb6.0
AAK Ala-Archa 53.26 335 P **P 09 00 04.8 +0.2**
comp=Z,509nm,0.9s,mb6.5
AAK Ala-Archa 53.26 335 P **P 09 00 05.0 +0.4**
comp=Z,403nm,1.1s,mb6.3,SNR=45
AAK Ala-Archa 53.26 335 P **P 09 00 05.5 +0.9**
SNR=50
FRU Bishkek 53.37 335 ⇑*i*P **P 09 00 06.0 +0.5**
FRU *i*S **S 09 07 36.0 +1.5**
FRU pmax pmax
comp=Z,570nm,2.2s,mb6.1
FRU smax
comp=E,2μm,5.0s
FRU MLR MLR
comp=E,11μm,21.0s
MAJO Matsushiro 53.38 37 *e*P **P 09 00 03.6 -2.0**
comp=E,136nm,1.0s,mb5.8
MAJO LR LR
comp=Z,4μm,21.0s,MS5.4
MAJO Matsushiro 53.38 37 *e*P **P 09 00 03.6 -2.0**
MAJO pmax pmax
comp=Z,136nm,1.0s,mb5.8
MAJO MLR MLR
comp=Z,4μm,21.0s,MS5.4
MAT Matsushiro 53.38 37 P **P 09 00 03.8 -1.8**
MAT S **S 09 07 35.0 +0.2**
MJAR Matsushiro Arr 53.38 37 P **P 09 00 04.0 -1.6**
comp=Z,80nm,0.8s,mb5.7,baz=220,slow=7.9,SNR=130
MJAR ScP ScP 09 05 09.2 +2.1
comp=Z,3.5nm,1.0s,baz=207,slow=4.8,SNR=4.7
MJAR LR LR 09 22 55.3
comp=Z,4μm,20.4s,MS5.4,baz=235,slow=36
MJAR Matsushiro Arr 53.38 37 P **P 09 00 04.0 -1.6**
MJAR ScP ScP 09 05 09.2 +2.1
MJAR Matsushiro Arr 53.38 37 P **P 09 00 04.0 -1.6**
MJAR pmax pmax
comp=Z,80nm,0.8s
MJAR MLR MLR
comp=Z,4μm,20.4s
ARMA Armidale 53.40 125 *e*P **P 09 00 07.2 +1.2**
ARMA *e*S **S 09 07 40.5 +5.0**
ARMA Armidale 53.40 125 *e*P **P 09 00 06.8 +0.8**
comp=Z,62nm,1.2s,mb5.4
CHMS Chumysh 53.45 336 P **P 09 00 06.0 -0.1**
SNR=39
EKS2 Erkin-Say 53.58 335 P **P 09 00 07.8 +0.7**
SNR=252
EKS2 Erkin-Say 53.58 335 *e*P **P 09 00 07.6 +0.6**
comp=Z,226nm,0.9s,mb6.1
EKS2 LR LR
comp=Z,5μm,19.0s,MS5.6
EKS2 Erkin-Say 53.58 335 *e*P **P 09 00 07.6 +0.6**
EKS2 pmax pmax
comp=Z,225nm,0.9s,mb6.1
EKS2 MLR MLR
comp=Z,5μm,19.0s,MS5.6
USP Ospenovka 53.78 336 P **P 09 00 08.4 0.0**
SNR=63
MK31 Makanchi Array 54.14 344 *e*P **P 09 00 10.6 -0.4**
MK31 Makanchi Array 54.14 344 *ce*P **P 09 00 10.7 -0.3**
MK31 pmax pmax
comp=Z,132nm,0.7s,mb6.0
MKAR Makanchi Array 54.14 344 P **P 09 00 10.8 -0.2**
comp=Z,116nm,0.9s,mb5.8,baz=149,slow=7.7,SNR=253
MKAR S **S 09 07 46.0 +1.2**
comp=Z,2.2nm,1.1s,baz=174,slow=17,SNR=2.5
MKAR LR LR 09 28 46.5
comp=Z,5μm,20.8s,MS5.6,baz=159,slow=42
MKAR Makanchi Array 54.14 344 P **P 09 00 10.8 -0.2**
MKAR S **S 09 07 46.0 +1.2**
MKAR Makanchi Array 54.14 344 P **P 09 00 10.8 -0.2**
MKAR S **S 09 07 46.0 +1.2**
MKAR pmax pmax
comp=Z,116nm,0.9s
MKAR smax
comp=N,2.0nm,1.1s
IDAH Dahanechah 54.48 316 *e*P **P 09 00 13.6 -0.1**
IMON Monand 54.87 317 *e*P **P 09 00 16.6 0.0**
VLA Vladivostok 54.91 27 ⇓*i*P **P 09 00 16.3 -0.4**
VLA *e*S **S 09 07 54.1 -1.2**
VLA pmax pmax
comp=Z,256nm,1.0s,mb6.2
ZAK Zakamensk 54.94 1 *e*P **P 09 00 16.6 -0.1**
ZAK *e* 09 02 25.0
ZAK pmax pmax
comp=Z,24nm,0.9s,mb5.2
ABPO Ambohimpanom 54.97 250 *e*P **P 09 00 17.7 +0.1**
comp=Z,26nm,1.0s,mb5.2
ABPO LR LR
comp=Z,5μm,19.0s,MS5.6
ABPO Ambohimpanom 54.97 250 *e*P **P 09 00 17.7 +0.1**
ABPO pmax pmax
comp=Z,26nm,1.0s,mb5.2
ABPO MLR MLR
comp=Z,5μm,19.0s,MS5.6
MDJ Mudanjiang 55.14 24 P **P 09 00 18.3 0.0**
MDJ PcP PcP 09 01 19.5 +0.4
MDJ PP PP 09 02 19.8 -2.3
MDJ PcS PcS 09 05 18.8 -0.1
MDJ S **S 09 08 03.3 +5.0**
MDJ SS SS 09 11 47.0 +4.0
MDJ pmax pmax
comp=Z,140nm,0.8s,mb6.0
MDJ pmax pmax
comp=Z,1μm,7.1s
MDJ LR LR
comp=N,5μm,16.6s,MS5.9
MDJ LR LR
comp=E,8μm,16.1s,MS5.9
MDJ LR LR
comp=Z,11μm,18.6s,MS6.0
MDJ Mudanjiang 55.14 24 *e*P **P 09 00 17.8 -0.5**
comp=Z,141nm,0.9s,mb6.0
MDJ LR LR
comp=Z,12μm,20.0s,MS6.0
TAU Tasmania Unive 55.36 140 PFAKE 09 00 30.0 +10
TAU LR LR
comp=Z,7μm,20.0s,MS5.7
KK31 Karatay Array 55.39 333 *ce*P **P 09 00 19.1 -1.0**
KK31 pmax pmax
comp=Z,52nm,0.8s,mb5.6
KKAR Karatay Array 55.39 333 *e*P **P 09 00 18.7 -1.4**
comp=Z,23nm,0.7s,mb5.3
KKAR Karatay Array 55.39 333 *e*P **P 09 00 18.7 -1.4**
KKAR pmax pmax
comp=Z,23nm,0.7s,mb5.3
HIA Hailar 56.04 14 *e*P **P 09 00 23.7 -1.0**
comp=Z,106nm,0.9s,mb5.9
HIA LR LR

comp=Z,23µm,20.0s,MS6.2
HIA Hailar 56.04 14 *e*P **P 09 00 23.7 -1.0**
HIA pmax pmax
comp=Z,106nm,0.9s
HIA MLR MLR
comp=Z,23µm,20.0s
MOY Mondy 56.21 359 *e*P **P 09 00 26.3 +0.5**
MOY pmax pmax
comp=Z,283nm,2.5s,mb5.8
TLY Talaya 56.24 1 P **P 09 00 27.3 +1.2**
comp=Z,648nm,0.9s,mb6.7,SNR=24
IMYA Miami 56.45 320 *e*P **P 09 00 27.9 +0.1**
IMOG Moghan 56.80 319 *e*P **P 09 00 29.5 -0.9**
IRK Irkutsk 56.83 2 *e*P **P 09 00 31.3 +1.1**
IRK *e*S **S 09 08 27.3 +6.9**
IRK pmax pmax
comp=Z,377nm,2.0s,mb6.1
IBAF Bafgh 56.91 313 *e*P **P 09 00 30.5 -0.7**
IAKL Akhelmad 57.47 319 *e*P **P 09 00 34.9 -0.2**
IKRD Kardeh 57.73 319 *e*P **P 09 00 32.1 -4.8**
HNR Honiara 57.89 98 LR LR 09 25 42.2
comp=Z,1µm,19.3s,MS5.0,baz=53,slow=36
IPAR Pars 57.94 310 *e*P **P 09 00 39.2 +0.6**
IEMG Emamgholi 58.02 320 *e*P **P 09 00 39.2 +0.3**
ISFR Sfrayin 58.23 319 *e*P **P 09 00 39.7 -0.7**
ABKT Ailbek 58.67 320 P **P 09 00 43.7 +0.3**
comp=Z,352nm,0.9s,mb6.4,SNR=19
KURK Kurchatov 58.73 343 *e*P **P 09 00 43.0 -0.7**
comp=Z,172nm,1.0s,mb6.0
KURK LR LR
comp=Z,7µm,19.0s,MS5.8
KURK Kurchatov 58.73 343 *e*P **P 09 00 43.0 -0.6**
KURK pmax pmax
comp=Z,172nm,1.0s,mb6.0
KURK MLR MLR
comp=Z,7µm,19.0s,MS5.8
KURK Kurchatov 58.73 343 P **P 09 00 43.0 -0.6**
comp=Z,878nm,1.1s,mb6.7
KLR Kul'dur 59.77 22 ⇓ *i*P **P 09 00 46.9 -3.9**
KLR *e*S **S 09 08 58.0 -0.9**
KLR pmax pmax
comp=E,170nm,1.8s
KLR pmax pmax
comp=Z,600nm,1.8s,mb6.3
KLR pmax pmax
comp=Z,2µm,7.5s
KLR MLR MLR
comp=N,6µm,13.5s,MS6.1
KLR MLR MLR
comp=E,6µm,13.5s,MS6.1
KLR MLR MLR
comp=Z,33µm,13.5s,MS6.6
ERM Erimo 59.87 35 *e*P **P 09 00 51.2 -0.5**
comp=Z,146nm,1.0s,mb6.0
ERM LR LR
comp=Z,4µm,20.0s,MS5.5
ERM Erimo 59.87 35 P **P 09 00 51.1 -0.6**
comp=Z,828nm,0.9s,mb6.8,SNR=5.6
ERM Erimo 59.87 35 *de*P **P 09 00 51.0 -0.7**
ERM pmax pmax
comp=Z,156nm,1.0s,mb6.0
IANJ Anjilo 60.10 316 *e*P **P 09 00 52.1 -1.3**
ZAA0 Zalesovo Array 60.19 349 *e*P **P 09 00 53.0 -0.7**
ZALV Zalesovo Beam 60.19 349 P **P 09 00 53.1 -0.5**
comp=Z,250nm,0.8s,mb6.3,baz=168,slow=4.8,SNR=442
ZALV S **S 09 09 04.7 +0.5**
comp=Z,5.3nm,1.0s,baz=159,slow=9.3,SNR=7.9
ZALV LR LR 09 30 33.8
comp=Z,7µm,20.3s,MS5.8,baz=168,slow=40
ZALV Zalesovo Beam 60.19 349 P **P 09 00 53.1 -0.5**
ZALV S **S 09 09 04.7 +0.5**
ZALV Zalesovo Beam 60.19 349 P **P 09 00 53.1 -0.5**
ZALV S **S 09 09 04.7 +0.5**
ZALV pmax pmax
comp=Z,250nm,0.9s,mb6.2
ZALV smax
comp=N,5.0nm,1.0s
ZALV MLR MLR
comp=Z,7µm,20.3s,MS5.8
HABR Khabarovsk 60.48 25 *c i*P **P 09 00 55.2 -0.5**
HABR *e**PP pP 09 01 05.0 -3.0
HABR *e**SP sP 09 01 09.2 -3.6
HABR *e* 09 01 38.9
HABR *e*PPP 09 04 32.0
HABR *e*S **S 09 09 09.6 +1.5**
HABR *e* 09 09 21.2
HABR *e* 09 09 25.9
HABR *e* 09 10 42.9
HABR *e*SS SS 09 13 08.7 +1.8
HABR pmax pmax
comp=Z,685nm,2.1s,mb6.3
HABR pmax pmax
comp=Z,363nm,2.0s,mb6.1
HABR pmax pmax
comp=N,45nm,0.8s
HABR pmax pmax
comp=E,88nm,0.8s
HABR MLR MLR
comp=E,8µm,16.0s,MS6.0
HABR MLR MLR
comp=Z,10µm,19.0s,MS6.0
HABR MLR MLR
comp=N,6µm,16.0s,MS6.0
IKIA Kiasar 60.64 316 *e*P **P 09 00 58.3 +1.2**
ISFB Sefidab 60.71 314 *e*P **P 09 00 57.3 -0.3**
ASAJ Asahikawa 60.94 33 *e*P **P 09 00 57.9 -1.0**
comp=N,34nm,0.8s,mb5.5
IALA Alasht 61.18 316 *e*P **P 09 01 00.7 -0.1**
NVS Novosibirsk 61.35 348 ⇑ *i*P **P 09 01 00.8 -0.7**
NVS *e*S **S 09 09 13.9 -5.1**
NVS pmax pmax
comp=Z,125nm,0.9s,mb6.0
NVS pmax pmax
comp=N,56nm,0.6s
NVS pmax pmax
comp=E,19nm,0.4s
NVS smax
comp=N,41nm,0.9s
NVS smax
comp=E,71nm,1.1s
IDMV Damavand 61.47 315 *e*P **P 09 01 02.3 -0.4**
QRN Al-Qurain 61.50 306 *e*P **P 09 01 02.0 -1.1**
QRN AMb AMB 09 01 06.5
comp=Z,154nm,1.5s,mb5.9
RAYN Ar Rayn 61.60 300 P **P 09 01 03.4 -0.4**
comp=Z,1µm,1.0s,mb7.0,SNR=6.6
KBD Kabd 61.85 307 *e*P **P 09 01 04.9 -0.5**
KBD AMb AMB 09 01 09.2
comp=Z,87nm,1.3s,mb5.7
RDF Al-Radifah 61.87 306 *e*P **P 09 01 05.1 -0.4**
RDF AMb AMB 09 01 09.9
comp=Z,162nm,1.2s,mb6.0
UMR Umm Al-Rimmam 61.99 307 *e*P **P 09 01 06.0 -0.3**
UMR AMb AMB 09 01 10.0
comp=Z,185nm,1.1s,mb6.1
IR3 Iran Long-Peri 62.13 314 *e*P **P 09 01 07.4 +0.2**
NAY Al-Naaiem 62.24 306 *e*P **P 09 01 07.1 -1.0**
NAY AMb AMB 09 01 11.5
comp=Z,75nm,0.9s,mb5.8
MIB Mutribah 62.39 307 *e*P **P 09 01 08.4 -0.6**
MIB AMb AMB 09 01 12.8
comp=Z,157nm,1.1s,mb6.0
YUK Yuzh-Kuril'sk 62.68 34 *i* P **P 09 01 10.1 -0.6**
YUK *e* 09 01 45.9
YUK *i* 09 03 33.3
YUK PPP 09 05 00.3
YUK *e*S **S 09 09 49.7 +13**
YUK pmax pmax
comp=Z,2µm,2.3s,mb6.8
YUK pmax pmax
comp=N,173nm,0.9s
YUK pmax pmax
comp=E,76nm,0.6s
YUK pmax pmax
comp=Z,695nm,1.9s,mb6.5
IRAZ Razeghan 62.88 314 *e*P **P 09 01 12.7 +0.5**
VOSK Vostochnaya 62.91 340 P **P 09 01 10.8 -1.2**
VOSK pmax pmax
comp=Z,121nm,1.5s,mb5.8
YSS Yuzh-Sakhalins 62.93 30 *e*P **P 09 01 11.8 -0.5**
comp=Z,244nm,0.9s,mb6.3
YSS LR LR
comp=Z,1µm,19.0s,MS5.1
YSS Yuzh-Sakhalins 62.93 30 ⇑ *i*P **P 09 01 11.7 -0.6**
YSS *e**PP pP 09 01 21.0 -3.5
YSS *e*S **S 09 09 38.0 -1.2**
YSS *e*PS 09 09 56.0
YSS pmax pmax
comp=N,90nm,1.0s
YSS pmax pmax
comp=E,120nm,1.0s
YSS pmax pmax
comp=Z,290nm,1.0s,mb6.4
YSS pmax pmax
comp=Z,1µm,10.0s
YSS MLR MLR
comp=Z,4µm,17.0s,MS5.6
YSS MLR MLR
comp=N,6µm,18.0s,MS5.8
YSS MLR MLR
comp=E,2µm,16.0s,MS5.8
BVA0 Borovoye Array 63.36 339 *i* P **P 09 01 14.0 -1.0**
BVA0 pmax pmax
comp=Z,17nm,1.0s,mb5.1
BVAR Borovoye Array 63.36 339 P **P 09 01 14.1 -0.8**
comp=Z,75nm,0.8s,mb5.9,baz=142,slow=7.5,SNR=158
BVAR Borovoye Array 63.36 339 P **P 09 01 14.1 -0.8**
BVAR Borovoye Array 63.36 339 P **P 09 01 14.1 -0.9**
BVAR pmax pmax
comp=Z,75nm,0.8s
BRVK Borovoye 63.42 339 *e*P **P 09 01 14.5 -0.9**
comp=Z,85nm,0.9s,mb5.9
BRVK LR LR
comp=Z,4µm,20.0s,MS5.6
BRVK Borovoye 63.42 339 P **P 09 01 14.5 -0.9**
comp=Z,493nm,0.7s,mb6.8,SNR=29
BRVK Borovoye 63.42 339 *c i*P **P 09 01 14.4 -1.0**
BRVK pmax pmax
comp=Z,71nm,0.8s,mb5.8
BRVK Borovoye 63.42 339 P **P 09 01 14.9 -0.5**
SNR=39
CLNS Chul'man 64.23 14 *e*P **P 09 01 20.6 0.0**
CLNS *e**PP pP 09 01 29.6 -3.3
CLNS *e* 09 03 49.7
CLNS *e*S **S 09 10 05.9 +11**
CLNS *e* 09 11 05.9
CLNS pmax pmax
comp=Z,76nm,0.9s,mb5.7
CLNS pmax pmax
comp=N,50nm,1.0s
CLNS pmax pmax
comp=E,40nm,1.1s
CLNS pmax pmax
comp=E,10.0nm,0.9s
CLNS pmax pmax
comp=Z,15nm,1.0s,mb5.0
CLNS pmax pmax
comp=N,24nm,1.8s
CLNS smax
comp=E,269nm,17.7s
CLNS smax
comp=N,956nm,18.7s
CLNS MLR MLR
comp=Z,11µm,17.0s,MS6.1
CLNS MLR MLR
comp=N,8µm,16.0s,MS6.1
CLNS MLR MLR
comp=E,4µm,15.0s,MS6.1
KMBO Kilima Mbogo 64.48 271 *e*P **P 09 01 24.8 +1.6**
comp=E,24nm,1.4s,mb5.0
KMBO LR LR
comp=Z,4µm,20.0s,MS5.6
KMBO Kilima Mbogo 64.48 271 *e*P **P 09 01 24.8 +1.6**
KMBO pmax pmax
comp=Z,24nm,1.4s
KMBO MLR MLR
comp=Z,4µm,20.0s
DZM Mont Dzumac 64.80 112 *e*P **P 09 01 24.7 -0.4**
comp=Z,89nm,1.3s,mb5.6
DZM *e*S **S 09 10 01.3 -2.0**
comp=Z,6µm,26.6s
DZM *e*SS SS 09 14 14.8 -0.5
comp=Z,4µm,26.9s
DZM *e*LR LR 09 20 55.6
comp=Z,11µm,24.1s
DZM Mont Dzumac 64.80 112 *e*P **P 09 01 24.6 -0.5**
DZM Mont Dzumac 64.80 112 *e*P **P 09 01 25.0 -0.1**
comp=Z,23nm,0.8s,mb5.3
AB31 Akbulak array 64.88 331 *ce*P **P 09 01 24.2 -0.8**
AB31 pmax pmax
comp=Z,244nm,0.9s,mb6.2
ABKAR Akbulak array 64.88 331 *e*P **P 09 01 24.3 -0.7**
comp=Z,138nm,0.8s,mb6.0
IDHR Dehrash 65.16 312 *e*P **P 09 01 26.3 -0.9**
BHD Baghdad 66.09 309 *i* x x 09 01 29.0
BHD *i* x x 09 01 40.0
BHD *i* x x 09 10 14.0
BHD *i* x x 09 10 28.0
IHRS Heris 66.29 315 *e*P **P 09 01 34.8 +0.4**
AKTO Aktyubinsk 66.60 331 P **P 09 01 35.4 -0.7**
comp=Z,56nm,0.9s,mb5.6,baz=136,slow=4.1,SNR=76
AKTO Aktyubinsk 66.60 331 P **P 09 01 35.4 -0.7**
AKTO Aktyubinsk 66.60 331 P **P 09 01 35.4 -0.7**
AKTO pmax pmax
comp=Z,56nm,0.9s,mb5.6
DRV Dumont d'Urvil 67.21 164 P **P 09 01 42.0 +2.3**
DRV S S 09 10 14.0 -17
DRV SS SS 09 14 57.0 +5.9
DRV R 09 21 00.0
ISHB Shabestar 67.28 315 *e*P **P 09 01 41.0 +0.3**
IMRD Marand 67.41 315 *e*P **P 09 01 41.7 +0.2**
MAW Mawson 68.07 195 P **P 09 01 44.2 -0.9**
comp=Z,13nm,0.9s,mb5.0,baz=38,slow=8.3,SNR=18
MAW LR LR 09 26 16.8
comp=Z,16µm,19.9s,MS6.2,baz=33,slow=31
MAW Mawson 68.07 195 *e*P **P 09 01 44.6 -0.5**
comp=Z,12nm,0.9s,mb4.9
MAW *e*S S 09 10 45.1 +3.7
MAW Mawson 68.07 195 *e*P **P 09 01 44.5 -0.6**
comp=Z,38nm,1.9s,mb5.1
MAW Mawson 68.07 195 *e*P **P 09 01 44.5 -0.6**
MAW pmax pmax
comp=Z,38nm,1.9s
WAKE Wake Island 68.16 67 PFAKE 09 02 00.0 +13
WAKE LR LR
comp=Z,3µm,20.0s,MS5.5
MAK Makhachkala 68.19 320 *e*P **P 09 01 46.3 0.0**
MAK *e* 09 02 05.6
MAK *e* 09 04 18.2
MAK *e*PPP 09 06 02.3
MAK *i* S S 09 10 44.7 +1.1
MAK *e* 09 11 44.0
MAK pmax pmax
comp=Z,2µm,5.0s
MAK pmax pmax
comp=E,342nm,2.0s
MAK pmax pmax
comp=Z,481nm,1.7s,mb6.2
MAK pmax pmax
comp=N,278nm,1.5s
MAK smax
comp=E,5µm,8.2s
MAK smax
comp=N,7µm,9.5s
GNI Garni 68.71 316 *e*P **P 09 01 49.4 -0.3**
comp=N,68nm,1.1s,mb5.5
GNI LR LR
comp=Z,3µm,21.0s,MS5.5
GNI Garni 68.71 316 *c i*P **P 09 01 49.9 +0.3**
GNI pmax pmax
comp=Z,37nm,1.0s
GNI Garni 68.71 316 P **P 09 01 51.6 +2.0**
SNR=7.2
DGRG David-gareji 68.86 318 P **P 09 01 49.9 -0.6**
DGRG S S 09 10 53.3 +1.6
MTA Mtatsminda 69.36 318 P **P 09 01 53.5 -0.1**
MTA S S 09 10 59.0 +1.4
TBLG Delisi 69.42 318 P **P 09 01 53.8 -0.2**
SVE Sverdlovsk 69.88 337 *d i*P **P 09 01 56.6 +0.1**
SVE *e*PPP 09 06 14.3
SVE *e*S S 09 11 03.2 +0.1
SVE pmax pmax
comp=Z,286nm,1.1s,mb6.1
SVE MLR MLR
comp=Z,7µm,22.0s,MS5.9
YAK Yakutsk 69.98 14 *e*P **P 09 01 55.5 -1.5**
comp=Z,333nm,0.8s,mb6.3
YAK LR LR
comp=Z,10µm,19.0s,MS6.1
YAK Yakutsk 69.98 14 *c i*P **P 09 01 55.6 -1.4**
YAK *e**PP pP 09 02 07.5 -1.9
YAK *e* 09 02 23.9
YAK *e*PPP 09 06 09.5
YAK *e*S S 09 10 58.5 -5.5
YAK *e* 09 11 50.0
YAK pmax pmax
comp=Z,302nm,0.9s,mb6.2
YAK pmax pmax
comp=E,25nm,0.9s
YAK pmax pmax
comp=N,51nm,1.0s
YAK smax
comp=N,1µm,18.7s
YAK smax
comp=E,443nm,20.2s
YAK MLR MLR
comp=Z,12µm,21.0s,MS6.1
YAK MLR MLR
comp=N,9µm,23.0s,MS6.0
YAK MLR MLR
comp=E,5µm,22.0s,MS6.0
AKH Akhalkalaki 70.11 317 P **P 09 01 57.4 -0.9**
ARU Arti 70.42 336 *e*P **P 09 01 59.4 -0.4**
comp=E,142nm,1.0s,mb5.8
ARU LR LR
comp=Z,7µm,21.0s,MS5.9
ARU Arti 70.42 336 *c i*P **P 09 01 59.3 -0.5**
ARU *e* 09 02 22.1
ARU *e* 09 04 32.2
ARU PPP 09 06 14.9
ARU S S 09 11 10.1 +0.7
ARU pmax pmax
comp=Z,281nm,1.7s,mb5.9
ARU MLR MLR
comp=Z,8µm,23.0s,MS5.9
ARU Arti 70.42 336 P **P 09 01 59.3 -0.5**
comp=Z,793nm,1.1s,mb6.6,SNR=7.4
ZEI Tsey 70.44 319 *e*P **P 09 02 00.3 +0.1**
ZEI *e* 09 02 21.6
ZEI *e*S S 09 11 11.6 +1.4
ZEI *e* 09 11 59.8
ZEI pmax pmax
comp=Z,44nm,0.9s,mb5.4
ONI Oni 70.65 318 P **P 09 02 01.8 +0.2**
ONI S S 09 11 13.4 +0.7
TARA Tarawa 71.37 87 PFAKE 09 02 20.0 +13
TARA LR LR
comp=Z,2µm,21.0s,MS5.4
ASF Jabal al Asfar 71.60 306 LR LR 09 35 41.1
comp=Z,5µm,18.4s,MS5.8,baz=334,slow=38
KIV Kislovodsk 71.75 319 *e*P **P 09 02 08.3 +0.1**
comp=Z,44nm,0.9s,mb5.4
KIV LR LR
comp=Z,3µm,20.0s,MS5.6
KIV Kislovodsk 71.75 319 *c i*P **P 09 02 07.7 -0.5**
KIV *i* 09 02 30.8
KIV *i* 09 04 46.4
KIV *i* S S 09 11 27.5 +2.1
KIV pmax pmax
comp=Z,58nm,1.0s,mb5.5
KIV MLR MLR
comp=Z,4µm,22.0s,MS5.6
KIV Kislovodsk 71.75 319 P **P 09 02 09.0 +0.9**
SNR=7.0
RPZ Rata Peaks 71.82 134 *e*P **P 09 02 10.5 +1.8**
comp=Z,34nm,1.0s,mb5.2
SKR Severo-Kuril's 72.20 33 *e*P **P 09 02 10.5 -0.2**
SKR *e* 09 12 20.0
SKR pmax pmax
comp=Z,270nm,1.0s,mb6.1
EIL Elat 72.47 303 LR LR 09 34 40.1
comp=Z,6µm,18.2s,MS5.9,baz=114,slow=36
MALT Malatya 72.47 313 PFAKE 09 02 20.0 +7.4
MALT LR LR
comp=Z,8µm,21.0s,MS6.0
MALT Malatya 72.47 313 P **P 09 02 18.4 +5.8**
comp=Z,603nm,1.0s,mb6.5
LSZ Lusaka 72.91 256 *e*P **P 09 02 15.1 -0.5**
comp=Z,12nm,0.8s,mb4.9
LSZ LR LR
comp=Z,6µm,21.0s,MS5.9
LSZ Lusaka 72.91 256 *e*P **P 09 02 15.1 -0.6**
LSZ pmax pmax
comp=Z,12nm,0.8s,mb4.9
LSZ MLR MLR
comp=Z,6µm,21.0s,MS5.9
MMAI Mount Meron Ar 73.06 306 LR LR 09 36 49.6
comp=Z,6µm,18.2s,MS5.9,baz=125,slow=38
SOKR Solikamsk 73.26 338 *c i*P **P 09 02 16.9 +0.1**
SOKR S S 09 11 43.1 +1.2
SOKR pmax pmax
comp=Z,140nm,0.9s,mb5.9
SOKR MLR MLR
comp=Z,10µm,24.0s,MS6.0
SOC Sochi 73.56 318 *e*P **P 09 02 17.1 -1.8**
SOC *e**PP pP 09 02 27.3 -4.1
SOC *e* 09 04 58.4
SOC *e*PPP 09 06 49.0
SOC *e*S S 09 11 43.3 -2.6
SOC *e*SS SS 09 16 29.1 -0.6
SOC pmax pmax
comp=Z,79nm,0.9s,mb5.6
SOC MLR MLR
comp=Z,3µm,21.0s,MS5.6
SNZO South Karori 74.09 131 PFAKE 09 02 30.0 +7.9
SNZO LR LR
comp=Z,9µm,22.0s,MS6.0
PEA0B Petropavlovsk- 74.30 31 *e*P **P 09 02 21.8 -1.2**
PETK Petropavlovsk- 74.30 31 P **P 09 02 22.2 -0.9**
comp=Z,59nm,0.9s,mb5.5,baz=206,slow=5.6,SNR=34
PETK LR LR 09 39 36.2
comp=Z,3µm,18.5s,MS5.6,baz=254,slow=40
PETK Petropavlovsk- 74.30 31 P **P 09 02 22.2 -0.9**
PETK Petropavlovsk- 74.30 31 P **P 09 02 22.2 -0.8**
PETK pmax pmax
comp=Z,59nm,0.9s,mb5.5
PETK MLR MLR
comp=Z,3µm,18.5s,MS5.6
PET Petropavlovsk 74.75 32 *e*P **P 09 02 24.9 -0.8**
comp=Z,180nm,0.9s,mb6.0
PET LR LR
comp=Z,5µm,20.0s,MS5.8
PET Petropavlovsk 74.75 32 ⇑ *i*P **P 09 02 24.8 -0.9**
PET *e* 09 05 15.2
PET *e*S S 09 11 58.0 -1.0
PET *e*SS SS 09 16 51.0 +3.5
PET pmax pmax
comp=Z,241nm,0.9s,mb6.1
PET pmax pmax
comp=Z,2µm,6.5s
PET pmax pmax
comp=Z,1µm,12.5s
PET pmax pmax
comp=Z,700nm,6.0s
PET MLR MLR
comp=Z,5µm,19.0s,MS5.9
PET MLR MLR
comp=Z,4µm,16.0s
CSS Prodhromos 75.28 308 *e*P **P 09 02 28.4 -0.7**
comp=Z,85nm,1.3s,mb5.5
CSS LR LR
comp=Z,5µm,20.0s,MS5.8
LBTB Lobatse 75.45 246 *e*P **P 09 02 31.9 +1.5**
comp=Z,13nm,0.9s,mb4.8
LBTB LR LR
comp=Z,9µm,20.0s,MS6.1
LBTB Lobatse 75.45 246 *e*P **P 09 02 31.9 +1.6**
LBTB pmax pmax
comp=Z,13nm,0.9s,mb4.9
LBTB MLR MLR
comp=Z,9µm,20.0s,MS6.1
MSVF Nonsavu 75.54 107 PFAKE 09 02 40.0 +9.1
MSVF LR LR
comp=Z,5µm,20.0s,MS5.9
ANN Anapa 75.54 319 *e**PP **P 09 02 29.0 -1.4**
ANN *e* 09 02 37.7
ANN pmax pmax
comp=Z,67nm,1.2s,mb5.5
ANN MLR MLR
comp=N,876nm,22.0s,MS5.4
ANN MLR MLR
comp=E,2µm,22.0s,MS5.4
ANN MLR MLR
comp=Z,2µm,22.0s,MS5.4
SYO Syowa Base 75.84 199 ⇓ *i*P **P 09 02 33.4 +1.7**
BOSA Boshof 75.87 242 P **P 09 02 32.3 -0.4**
comp=Z,6.8nm,1.0s,mb4.5,baz=94,slow=5.4,SNR=5.0

BOSA LR LR 09 31 18.3
comp=Z,10µm,18.7s,MS6.1,baz=92,slow=32
BOSA Boshof 75.87 242 *eP* **P 09 02 31.8 -0.9**
comp=Z,24nm,1.0s,mb5.1
BOSA Boshof 75.87 242 P **P 09 02 32.3 -0.4**
BR131 Keskin Array S 76.46 313 *eP* **P 09 02 34.4 -1.3**
comp=Z,22nm,0.8s,mb5.1
BR131 LR LR
comp=Z,3µm,19.0s,MS5.6
BRTR Keskin Array B 76.46 313 P **P 09 02 34.8 -1.0**
comp=Z,19nm,0.8s,mb5.1,baz=130,slow=6.7,SNR=51
BRTR Keskin Array B 76.46 313 P **P 09 02 34.8 -1.0**
BRTR Keskin Array B 76.46 313 P **P 09 02 34.8 -0.9**
BRTR pmax pmax
comp=Z,19nm,0.8s
FUNA Funafuti 76.92 98 PFAKE 09 02 50.0 +11
FUNA LR LR
comp=Z,5µm,22.0s,MS5.8
VSR Storozhevoye 77.02 325 *eP* **P 09 02 37.3 -1.3**
VSR *e**PP pP 09 02 49.7 -1.5
VSR *e**SP sP 09 02 56.0 0.0
VSR *eS* S 09 12 22.2 -1.9
VSR *eSS* SS 09 17 22.8 +0.9
VSR pmax pmax
comp=Z,70nm,1.1s,mb5.5
VSR pmax pmax
comp=N,8.0nm,0.5s
VSR pmax pmax
comp=E,40nm,0.9s
VSR smax
comp=N,1µm,5.5s
VSR smax
comp=Z,710nm,4.6s
VSR smax
comp=E,830nm,5.0s
VSR MLR MLR
comp=Z,2µm,18.0s,MS5.6
VSR MLR MLR
comp=N,3µm,25.0s
VSR MLR MLR
comp=E,2µm,24.0s
SEY Seymchan 77.54 21⇑ *iP* **P 09 02 40.9 -0.4**
SIM Simferopol' 77.80 318 *ceP* **P 09 02 42.7 -0.4**
SIM S S 09 12 31.3 -1.5
SIM pmax pmax
comp=Z,59nm,0.8s,mb5.6
SIM pmax pmax
comp=Z,620nm,16.0s
ISP Isparta 78.24 310 PFAKE 09 03 00.0 +14
ISP LR LR
comp=Z,3µm,21.0s,MS5.6
VNDA Vanda 79.14 169 *eP* **P 09 02 50.9 +1.0**
comp=Z,50nm,1.5s,mb5.2
VNDA LR LR
comp=Z,3µm,20.0s,MS5.7
VNDA Vanda 79.14 169 *eP* **P 09 02 50.9 +0.9**
VNDA pmax pmax
comp=Z,50nm,1.5s
VNDA MLR MLR
comp=Z,3µm,20.0s
RAO Raoul Island 79.27 119 PFAKE 09 03 00.0 +8.3
RAO LR LR
comp=Z,3µm,21.0s,MS5.7
MOS Moscow 79.74 329 *eP* **P 09 02 50.5 -3.1**
MOS *e* 09 05 49.9
MOS *eS* S 09 12 50.6 -2.5
MOS *e* 09 13 04.4
MOS pmax pmax
comp=Z,700nm,1.9s,mb6.3
MOS pmax pmax
comp=Z,351nm,1.6s,mb6.0
MOS MLR MLR
comp=Z,5µm,22.0s,MS5.8
SUR Sutherland 79.81 238 *eP* **P 09 02 55.4 +0.8**
comp=Z,158nm,1.6s,mb5.7
SUR LR LR
comp=Z,4µm,19.0s,MS5.8
OBN Obninsk 80.04 328 *eP* **P 09 02 54.5 -0.7**
comp=Z,335nm,1.5s,mb6.0
OBN LR LR
comp=Z,4µm,20.0s,MS5.8
OBN Obninsk 80.04 328⇑ *iP* **P 09 02 54.9 -0.3**
OBN *i* pP 09 03 05.9 -2.0
OBN *i* 09 05 58.3
OBN *i SS* SS 09 18 01.9 -5.2
OBN pmax pmax
comp=Z,240nm,1.6s,mb5.9
SBA Scott Base 80.23 169 PFAKE 09 03 10.0 +14
SBA LR LR
comp=Z,2µm,19.0s,MS5.6
KLMR Klimovskoe 81.06 334 *c iP* **P 09 02 58.7 -1.8**
KLMR *e* 09 06 01.5
KLMR S S 09 13 13.8 +7.2
KLMR pmax pmax
comp=Z,200nm,1.4s,mb5.8
KLMR pmax pmax
comp=Z,703nm,5.7s
KLMR MLR MLR
comp=Z,4µm,23.0s,MS5.7
TLCR 81.45 317⇑ *iP* **P 09 03 03.4 +0.4**
TLCR 81.45 317⇑ *iP* **P 09 03 03.3 +0.3**
TIRR Tirgusor 81.53 316 *eP* **P 09 03 03.0 -0.5**
comp=Z,40nm,1.0s,mb5.3
TIRR Tirgusor 81.53 316 P **P 09 03 03.9 +0.5**
TIRR Tirgusor 81.53 316⇑ *iP* **P 09 03 03.0 -0.4**
PRD Provadia 81.92 315 *eP* **P 09 03 05.0 -0.5**
PRD Provadia 81.92 315 *eP* **P 09 03 05.0 -0.5**
KIS Kishinev 81.94 319 *eP* **P 09 03 06.0 +0.5**
comp=Z,900nm,8.0s
KIS LRM 09 45 40.0
comp=Z,2µm,20.0s
KIS Kishinev 81.94 319 *eP* **P 09 03 06.0 +0.5**
KIS *e* 09 13 14.0
KIS *e* 09 18 44.0
KIS pmax pmax
comp=Z,900nm,8.0s
IDI Anoyia 82.06 306 *eP* **P 09 03 07.1 +0.6**
comp=Z,46nm,0.9s,mb5.4
LEOM Leova 82.18 318 P **P 09 03 07.0 +0.2**
LEOM Leova 82.18 318⇑ *iP* **P 09 03 07.7 +0.9**
JMB Yambol 82.33 314 *eP* **P 09 03 03.3 -4.4**
JMB Yambol 82.33 314 *eP* **P 09 03 03.3 -4.4**
AKASG Malin Array Be 82.72 322 P **P 09 03 08.6 -0.9**
comp=Z,19nm,0.9s,mb5.1,baz=88,slow=4.9,SNR=34
AKASG PP PP 09 06 17.6 -2.2
comp=Z,5.2nm,0.9s,baz=97,slow=6.2,SNR=4.1
AKASG LR LR 09 46 25.1
comp=Z,2µm,19.9s,MS5.4,baz=105,slow=40
AKASG Malin Array Be 82.72 322 P **P 09 03 08.6 -0.9**
AKASG PP PP 09 06 17.6 -2.2
AKASG Malin Array Be 82.72 322 P **P 09 03 08.6 -0.9**
AKASG 09 06 17.7
AKASG pmax pmax
comp=Z,19nm,0.9s
AKASG pmax pmax
comp=Z,5.0nm,0.9s
KIEV Kiev 82.72 322 *eP* **P 09 03 08.1 -1.4**
comp=Z,19nm,0.8s,mb5.2
KIEV LR LR
comp=Z,3µm,22.0s,MS5.6
KIEV Kiev 82.72 322 *eP* **P 09 03 08.1 -1.4**
KIEV pmax pmax
comp=Z,19nm,0.8s,mb5.2
KIEV MLR MLR
comp=Z,3µm,22.0s,MS5.6
TSUM Tsumeb 82.94 251 *eP* **P 09 03 13.0 +1.7**
comp=Z,12nm,0.8s,mb5.0
TSUM LR LR
comp=Z,5µm,20.0s,MS5.9
KDZ Kurdzhali 82.99 313 *eP* **P 09 03 09.3 -1.8**
KDZ Kurdzhali 82.99 313 *eP* **P 09 03 09.3 -1.8**
VRI Vrincioaia 83.04 317 ‖P **P 09 03 11.8 +0.5**
VRI Vrincioaia 83.04 317 ‖*iP* **P 09 03 11.8 +0.5**
PLOR Plostina 83.09 317 ‖P **P 09 03 12.5 +0.9**
PLOR Plostina 83.09 317 ‖*iP* **P 09 03 12.5 +0.9**
TESR 83.25 318⇑ *iP* **P 09 03 12.5 +0.1**
MLR Muntele Rosu 83.49 317 P **P 09 03 13.9 +0.3**
comp=Z,14nm,0.9s,mb5.0,baz=152,slow=4.1,SNR=47
MLR Muntele Rosu 83.49 317 P **P 09 03 13.9 +0.3**
MLR pmax pmax
comp=Z,14nm,0.9s
MLR Muntele Rosu 83.49 317 ‖*iP* **P 09 03 14.4 +0.8**
VOIR 84.09 316⇑P **P 09 03 16.1 -0.6**
VOIR 84.09 316⇑ *iP* **P 09 03 16.1 -0.6**

MMB Musomiste 84.22 312 *eP* **P 09 03 16.2 -1.2**
MMB Musomiste 84.22 312 *eP* **P 09 03 16.2 -1.2**
BURAR Bucovina Array 84.47 319⇑P **P 09 03 19.7 +1.2**
BURAR Bucovina Array 84.47 319⇑ *iP* **P 09 03 19.7 +1.2**
BUR08 Bucovina Ar. S 84.48 319 *eP* **P 09 03 19.5 +0.8**
MICGM Minsk 84.57 326⇑ *eP* pP 09 03 32.0 +0.4
MNK Minsk 84.60 326‖ *eP* pP 09 03 32.0 +0.2
MNK *e* 09 13 40.0
MNK pmax pmax
comp=Z,280nm,1.0s,mb6.3
VTS Vitosha 84.80 313⇑P **P 09 03 20.0 -0.3**
VTS Vitosha 84.80 313⇑ *iP* **P 09 03 20.0 -0.3**
VTS Vitosha 84.80 313 *eP* **P 09 03 19.5 -0.8**
VTS Vitosha 84.80 313 *eP* **P 09 03 19.5 -0.8**
PUL Pulkovo 84.86 331⇑ *eP* **P 09 03 21.6 +1.4**
PUL pmax pmax
comp=Z,105nm,0.4s,mb6.3
BILL Bilibino 85.13 20 *eP* **P 09 03 20.5 -0.9**
comp=Z,319nm,2.1s,mb6.1
BILL LR LR
comp=Z,4µm,19.0s,MS5.9
BILL Bilibino 85.13 20 *c iP* **P 09 03 20.3 -1.2**
BILL *i* 09 06 39.3
BILL *i S* S 09 13 43.2 -4.6
BILL pmax pmax
comp=Z,126nm,2.5s,mb5.6
QSPA South Pole Qui 85.22 180 *eP* **P 09 03 21.1 -0.6**
comp=Z,46nm,1.3s,mb5.5
QSPA LR LR
comp=Z,4µm,19.0s,MS5.8
NACGM Naroch 85.29 326 *eP* **P 09 03 19.0 -3.5**
JOF Joensuu 85.44 334 *eP* **P 09 03 23.3 +0.2**
JOF pmax pmax
comp=Z,40nm,0.8s,mb5.6
JOF Joensuu 85.44 334 *ep* **P 09 03 23.3 +0.2**
comp=Z,40nm,0.8s,mb5.6
NVL N'lazarevskaya 85.51 199 *eP* **P 09 03 25.7 +2.4**
NVL *e**SP sP 09 03 36.3 -4.6
NVL pmax pmax
comp=Z,18nm,0.9s,mb5.3
BMR Baia Mare 85.61 318 P **P 09 03 25.8 +1.5**
BMR Baia Mare 85.61 318‖ *iP* **P 09 03 26.1 +1.8**
GZR Gura Zlata 85.65 316‖P **P 09 03 25.6 +1.1**
GZR Gura Zlata 85.65 316‖ *iP* **P 09 03 25.6 +1.1**
DEV Deva 85.65 317‖P **P 09 03 26.1 +1.6**
DEV Deva 85.65 317‖ *iP* **P 09 03 26.1 +1.6**
IIGN Ignalina 85.72 326 *eP* **P 09 03 24.7 +0.1**
IIGN AMB AMB 09 03 28.6
comp=Z,49nm,1.0s,mb5.7
LVV L'vov 85.72 321 *eP* **P 09 03 24.2 -0.6**
IZAR Zarasai 85.81 327 *eP* **P 09 03 25.0 -0.1**
IZAR AMB AMB 09 03 28.9
comp=Z,24nm,1.2s,mb5.3
ISAL Salakas 85.83 327 *eP* **P 09 03 25.2 +0.1**
ISAL AMB AMB 09 03 29.1
comp=Z,30nm,1.1s,mb5.5
LVZ Lovozero 85.96 340 *eP* **P 09 03 24.8 -0.8**
comp=Z,172nm,1.5s,mb6.1
LVZ LR LR
comp=Z,6µm,20.0s,MS6.0
LVZ Lovozero 85.96 340⇑ *eP* **P 09 03 24.9 -0.6**
LVZ pmax pmax
comp=Z,85nm,1.2s,mb5.8
DRGR 85.96 317⇑P **P 09 03 26.3 +0.3**
DRGR 85.96 317⇑ *iP* **P 09 03 26.3 +0.3**
SKO Skopje 85.97 313 *eP* pP 09 03 42.7 +3.8
APA Apatity 86.27 339‖ *iP* **P 09 03 26.8 -0.3**
APA *eS* S 09 13 58.0 -0.9
APA *i* PS 09 15 00.0
APA pmax pmax
comp=Z,130nm,1.5s,mb5.9
APA MLR MLR
comp=Z,7µm,19.0s,MS6.1
TRPA Tarpa 86.34 319⇑ *iP* **P 09 03 29.0 +1.1**
BZS Buzias 86.49 316⇑P **P 09 03 28.6 -0.1**
BZS Buzias 86.49 316⇑ *iP* **P 09 03 28.6 -0.1**
KWP Kalwaria Pacla 86.52 320 *eP* **P 09 03 28.7 -0.1**
KWP *e*PcP PcP 09 03 31.4 +0.3
KWP *e*SKSac SKSac 09 13 53.7 +1.8
KWP *eS* S 09 14 04.4 +2.3
KWP LMZ 09 48 04.7
comp=Z,3µm,22.4s
KWP Kalwaria Pacla 86.52 320 PFAKE 09 03 40.0 +11
KWP LR LR
comp=Z,3µm,19.0s,MS5.7
KWP Kalwaria Pacla 86.52 320 *eP* **P 09 03 28.7 0.0**
KWP *e* 09 13 53.7
KWP *eS* S 09 14 04.4 +2.3
UZH Uzhgorod 86.59 319⇑ *eP* **P 09 03 30.6 +1.5**
UZH *e* 09 03 37.2
UZH *e* 09 06 48.2
UZH *e* 09 08 44.6
UZH *e* 09 13 50.0
UZH *eS* S 09 14 03.2 +0.4
UZH *e* 09 19 45.8
TIR Tirane 87.03 312 PFAKE 09 03 40.0 +8.6
TIR LR LR
comp=Z,4µm,20.0s,MS5.8
SUW Suwalki 87.13 325 *eP* **P 09 03 31.6 0.0**
SUW *e*PcP PcP 09 03 33.6 -0.1
SUW *ep*P pP 09 03 43.7 -0.6
SUW *e*PP PP 09 06 53.6 -2.0
SUW *eS* S 09 14 09.9 +2.2
SUW LMZ 09 49 31.6
comp=Z,3µm,21.2s
SUW Suwalki 87.13 325 *eP* **P 09 03 31.3 -0.3**
comp=Z,328nm,1.1s,mb6.5
SUW Suwalki 87.13 325 *eP* **P 09 03 31.6 0.0**
SUW *e**PP pP 09 03 43.7 -0.7
SUW *e* 09 06 53.6
SUW *eS* S 09 14 09.9 +2.1
CRVS Cervenica-Dubn 87.19 319 *eP* **P 09 03 32.4 +0.4**
CRVS pmax pmax
comp=Z,189nm,2.7s,mb5.8
CRVS Cervenica-Dubn 87.19 319 *eP* **P 09 03 32.4 +0.4**
FINES FINESS Array B 87.35 332 P **P 09 03 32.3 -0.2**
comp=Z,33nm,0.9s,mb5.6,baz=102,slow=8.0,SNR=23
FINES LR LR 09 52 17.7
comp=Z,4µm,19.1s,MS5.9,baz=111,slow=42
FINES FINESS Array B 87.35 332 P **P 09 03 32.3 -0.2**
FINES FINESS Array B 87.35 332 P **P 09 03 32.3 -0.2**
FINES pmax pmax
comp=Z,33nm,0.9s
KAF Kangasniemi 87.42 333 *eP* **P 09 03 33.3 +0.5**
KAF pmax pmax
comp=Z,61nm,0.9s,mb5.8
KAF Kangasniemi 87.42 333 *ep* **P 09 03 33.3 +0.5**
comp=Z,61nm,0.9s,mb5.8
STHS Stebnicka Huta 87.42 320 *eP* **P 09 03 34.4 +1.3**
STHS pmax pmax
comp=Z,23nm,1.0s,mb5.4
STHS Stebnicka Huta 87.42 320 *eP* **P 09 03 34.4 +1.3**
KECS Kecovo 87.75 319 *eP* **P 09 03 35.4 +0.7**
KECS pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
KECS Kecovo 87.75 319 *eP* **P 09 03 35.4 +0.7**
MSKU Masuku 88.00 269 LR LR 09 40 34.6
comp=Z,7µm,18.9s,MS6.1,baz=101,slow=34
NIE Niedzica 88.02 320 *eP* **P 09 03 36.4 +0.4**
NIE Niedzica 88.02 320 *eP* **P 09 03 36.4 +0.4**
PSZ Piszkesteto 88.05 318 *eP* **P 09 03 35.9 -0.2**
comp=Z,40nm,1.1s,mb5.6
PSZ LR LR
comp=Z,2µm,21.0s,MS5.6
PSZ Piszkesteto 88.05 318 *eP* **P 09 03 35.9 -0.2**
PSZ pmax pmax
comp=Z,40nm,1.1s,mb5.6
PSZ MLR MLR
comp=Z,2µm,21.0s,MS5.6
PSZ Piszkesteto 88.05 318‖ *e*PcP PcP 09 03 37.7 -0.2
PSZ Piszkesteto 88.05 318‖ *iP* **P 09 03 36.8 +0.7**
BEL Belsk 88.13 322 *eP* **P 09 03 35.4 -1.1**
BEL *e*PcP PcP 09 03 39.3 +1.2
BEL *e*SKSac SKSac 09 14 03.1 +1.4
BEL *eS* S 09 14 18.4 +0.9
BEL LMZ 09 47 16.3
comp=Z,4µm,23.6s
BEL Belsk 88.13 322 *eP* **P 09 03 35.3 -1.1**
BEL *e* 09 14 03.1
BEL *eS* S 09 14 18.4 +0.9
OJC Ojcow 88.48 320 *eP* **P 09 03 37.7 -0.4**
OJC *eS* S 09 14 22.0 +1.2
OJC Ojcow 88.48 320 *eP* **P 09 03 37.7 -0.4**

OJC *eS* S 09 14 22.0 +1.2
BUD Budapest 88.56 318‖ *e*PcP PcP 09 03 40.1 -0.1
PKSM Moragy 88.64 316 ‖P **P 09 03 39.3 +0.3**
PKSM Moragy 88.64 316 ‖ *iP* **P 09 03 39.3 +0.3**
KOLL Kolacno 89.13 319 *eP* **P 09 03 42.1 +0.9**
KOLL Kolacno 89.13 319 *eP* **P 09 03 42.1 +0.9**
KEV Kevo 89.19 340 PFAKE 09 03 50.0 +8.9
KEV LR LR
comp=Z,5µm,22.0s,MS5.9
KEV Kevo 89.19 340 *eP* **P 09 03 41.2 +0.1**
KEV pmax pmax
comp=Z,48nm,0.9s,mb5.8
KEV Kevo 89.19 340 *ep* **P 09 03 41.2 +0.1**
comp=Z,48nm,0.9s,mb5.8
OKC Ostrava-Krasne 89.47 320 *eP* **P 09 03 43.4 +0.6**
OKC *e* 09 03 51.8
OKC *e* 09 14 30.9
OKC MLR MLR
comp=Z,3µm,21.6s,MS5.6
OKC Ostrava-Krasne 89.47 320 *eP* **P 09 03 43.4 +0.6**
OKC *ep*P pP 09 03 51.8 -3.8
OKC *eS* S 09 14 30.9 +0.7
OKC AMS AMS 09 53 10.0
comp=Z,3µm,21.6s
ARCES ARCESS Array B 89.64 340 P **P 09 03 43.3 +0.2**
comp=Z,42nm,0.8s,mb5.8,baz=86,slow=3.8,SNR=39
ARCES LR LR 09 48 19.2
comp=Z,5µm,21.9s,MS5.9,baz=109,slow=38
ARCES ARCESS Array B 89.64 340 P **P 09 03 43.3 +0.2**
ARCES ARCESS Array B 89.64 340 P **P 09 03 43.3 +0.1**
ARCES pmax pmax
comp=Z,42nm,0.8s
ARE0 ARCESS Array S 89.64 340 *eP* **P 09 03 43.8 +0.6**
ARE0 ARCESS Array S 89.64 340 *eP* **P 09 03 43.8 +0.6**
CEL Celeste 89.66 308 *eP* **P 09 03 44.3 +0.4**
comp=Z,88nm,1.2s,mb6.0
CEL LR LR
comp=Z,1µm,19.0s,MS5.4
MORC Moravsky Berou 89.85 320 *eP* **P 09 03 44.3 -0.3**
comp=Z,23nm,0.9s,mb5.5
MORC Moravsky Berou 89.85 320 *eP* **P 09 03 44.3 -0.3**
MORC pmax pmax
comp=Z,23nm,0.9s,mb5.5
MORC Moravsky Berou 89.85 320‖ *iP* **P 09 03 45.5 +0.9**
CUC Castrocucco 89.91 310 PFAKE 09 04 00.0 +15
CUC LR LR
comp=Z,3µm,22.0s,MS5.6
ZST Bratislava 89.94 318 *eP* **P 09 03 46.7 +1.7**
ZST pmax pmax
comp=Z,29nm,0.9s,mb5.6
ZST Bratislava 89.94 318 *eP* **P 09 03 46.7 +1.7**
SNAA Sanae 90.07 198 *e* **P 09 03 46.2 +1.0**
SNAA *e* 09 03 48.8
SNAA Sanae 90.07 198 *eP* **P 09 03 46.2 +1.0**
comp=Z,39nm,1.3s,mb5.6
SNAA Sanae 90.07 198 *eP* **P 09 03 46.2 +1.0**
SNAA pmax pmax
comp=Z,39nm,1.3s
SOP Sopron 90.24 318‖ *eP* **P 09 03 45.6 -0.8**
KTK1 Kautokeino 90.31 339 *eP* **P 09 03 46.2 -0.1**
KTK1 AMS AMS 09 49 18.9
comp=Z,10µm,13.6s,MS6.4
VRAC Vranov 90.41 319 P **P 09 03 47.6 +0.5**
comp=Z,2.2nm,0.4s,mb4.8,baz=126,slow=9.5,SNR=4.7
VRAC Vranov 90.41 319 P **P 09 03 47.6 +0.5**
VRAC Vranov 90.41 319 P **P 09 03 47.6 +0.4**
VRAC pmax pmax
comp=Z,2.0nm,0.4s
GKP Gorka Klasztor 90.49 323 *eP* **P 09 03 47.3 -0.2**
GKP *e*PcP PcP 09 03 49.5 +0.9
GKP LMZ 09 52 31.7
comp=Z,4µm,20.7s
GKP Gorka Klasztor 90.49 323 *eP* **P 09 03 47.3 -0.2**
WDD Wield Dalam 90.50 306 PFAKE 09 04 00.0 +12
WDD LR LR
comp=Z,4µm,19.0s,MS5.8
DPC Dobruska-Polom 90.70 320 *eP* **P 09 03 49.5 +1.0**
DPC *e* pP 09 04 00.2 -1.2
DPC *e* 09 14 39.3
DPC MLR MLR
comp=Z,4µm,21.3s,MS5.8
DPC Dobruska-Polom 90.70 320 *eP* **P 09 03 49.5 +1.0**
DPC *ep*P pP 09 04 00.2 -1.2
DPC *eS* S 09 14 39.3 -2.2
DPC AMS AMS 09 53 10.0
comp=Z,4µm,21.3s
KSP Ksiaz 90.78 321 *eP* **P 09 03 49.0 +0.2**
KSP *e*PcP PcP 09 03 52.9 +3.0
KSP *eS* S 09 14 41.8 -0.4
KSP LMZ 09 53 38.0
comp=Z,3µm,21.0s
ARSA Arzberg 90.89 317⇑ *i*PcP PcP 09 03 50.0 -0.5
comp=Z,26nm,1.1s
BOJS Bojanci 90.90 315 *i* P **P 09 03 50.3 +0.7**
BOJS *i* pP 09 04 00.7 -1.7
BOJS Bojanci 90.90 315 P **P 09 03 50.3 +0.7**
UPC Upice 90.92 320 *eP* **P 09 03 50.5 +1.0**
UPC *e* pP 09 04 02.5 +0.1
UPC Upice 90.92 320 *eP* **P 09 03 50.5 +1.0**
UPC *es*P sP 09 04 02.5 -4.6
TREC Trest 91.13 319 *eP* **P 09 03 51.2 +0.7**
TREC *e* pP 09 04 03.7 +0.3
TREC MLR MLR
comp=Z,3µm,20.0s,MS5.8
TREC Trest 91.13 319 *eP* **P 09 03 51.2 +0.7**
TREC *es*P sP 09 04 03.7 -4.4
TREC AMS AMS 09 54 10.0
comp=Z,3µm,20.0s
SOKA Soboth 91.17 317⇑ *i*PcP PcP 09 03 51.4 -0.3
comp=Z,29nm,1.2s
VISS Visnje 91.22 316 *i* P **P 09 03 51.6 +0.6**
VISS Visnje 91.22 316 *i* P **P 09 03 51.6 +0.6**
OBKA Obir 91.48 316⇑ *iP* **P 09 03 52.3 0.0**
comp=Z,16nm,1.1s,mb5.3
VNA2 Neumayer--Watz 91.69 198 *e* **P 09 03 55.8 +3.0**
baz=92,slow=3.9
JAVS Javornik 91.76 316 *i* P **P 09 03 53.5 0.0**
JAVS Javornik 91.76 316 *i* P **P 09 03 53.5 -0.1**
PVCC Panska Ves 91.84 320 *eP* **P 09 03 51.9 -1.9**
PVCC MLR MLR
comp=Z,3µm,19.8s,MS5.7
PVCC Panska Ves 91.84 320 *eP* **P 09 03 51.9 -1.9**
PVCC AMS AMS 09 52 10.0
comp=Z,3µm,19.8s
TRO Tromso 91.92 340 *eP* **P 09 03 53.8 0.0**
TRO *e*SKS 09 14 22.1
TRO *eSS* SS 09 21 03.4 +2.7
TRO AMS AMS 09 50 10.8
comp=Z,5µm,15.5s,MS6.0
AQU L'Aquila 91.94 312 PFAKE 09 04 00.0 +5.5
AQU LR LR
comp=Z,4µm,20.0s,MS5.8
TRI Trieste 91.96 316 PFAKE 09 04 00.0 +5.5
TRI LR LR
comp=Z,2µm,21.0s,MS5.5
VNA1 Neumayer--Stat 92.06 198 *e* **P 09 03 58.9 +4.5**
GEC2 GERESS Array S 92.26 319 *eP* **P 09 03 56.8 +1.0**
comp=Z,333nm,2.7s,mb6.2
GEC2 GERESS Array S 92.26 319 *eP* **P 09 03 56.8 +1.0**
GERES GERESS Array B 92.26 319 P **P 09 03 56.0 +0.3**
comp=Z,8.4nm,0.9s,mb5.1,baz=98,slow=4.0,SNR=31
GERES GERESS Array B 92.26 319 P **P 09 03 56.0 +0.3**
GERES GERESS Array B 92.26 319 P **P 09 03 56.0 +0.2**
GERES pmax pmax
comp=Z,8.0nm,0.9s
BRG Berggiesshubel 92.27 321 *eP* **P 09 03 56.0 +0.2**
comp=Z,64nm,1.8s,mb5.6
BRG *i* 09 03 59.1
comp=Z,35nm,1.3s
BRG PP PP 09 07 34.0 -2.6
BRG S S 09 14 59.0 +3.4
BRG SS SS 09 21 09.0 +2.4
BRG Berggiesshubel 92.27 321 *eP* **P 09 03 56.5 +0.7**
comp=Z,136nm,2.2s,mb5.9
BRG Berggiesshubel 92.27 321 *eP* **P 09 03 56.0 +0.2**
BRG 09 07 34.0
BRG S S 09 14 59.0 +3.4
BRG SS SS 09 21 09.0 +2.4
BRG pmax pmax
comp=Z,64nm,1.8s,mb5.7
KHC Kasperske Hory 92.36 319 *eP* **P 09 03 56.0 -0.2**
KHC *e* 09 04 12.0
KHC *e* 09 14 57.1
KHC MLR MLR

comp=Z,4µm,20.0s,MS5.8
KHC Kasperske Hory 92.36 319 *e*P **P** **09 03 56.0 -0.2**
KHC *e*x x 09 04 12.0
KHC *e*S S 09 14 57.1 +0.5
KHC AMS AMS 09 54 50.0
comp=Z,4µm,20.0s
BJO Bjornoya 92.56 345 *e*P **P** **09 04 00.5 +3.9**
BJO AMS AMS 09 52 22.5
comp=Z,7µm,16.2s,MS6.2
RJOB Jochberg 92.78 317 *e*P **P** **09 03 59.4 +1.2**
comp=Z,10.0nm,1.0s,mb5.2
WET Wettzell 92.82 319 *e*P **P** **09 03 59.4 +1.0**
comp=Z,28nm,1.3s,mb5.5
WET Wettzell 92.82 319 *e*P **P** **09 03 59.4 +1.0**
WET pmax pmax
comp=Z,28nm,1.3s,mb5.5
CLL Collm 92.89 321 *e*P **P** **09 03 59.4 +0.8**
comp=Z,152nm,2.6s,mb6.0
CLL Collm 92.89 321 *e*P **P** **09 03 59.0 +0.4**
CLL *e* 09 14 31.0
CLL *e*S S 09 15 01.0 -0.2
CLL MLR MLR
comp=Z,3µm,20.0s,MS5.8
CLL Collm 92.89 321 *e*P **P** **09 03 59.0 +0.4**
CLL *e*PP PP 09 07 47.0 +5.5
CLL *e*PPP 09 09 45.0
CLL *e*SKSac SKSac 09 14 31.0 +1.9
CLL *e*S S 09 15 01.0 -0.2
CLL *e*PS PS 09 16 16.0 -2.5
CLL *e*SS SS 09 21 30.0 +15
CLL *e* 09 22 48.0
CLL *e*SSS 09 24 42.0
CLL *e*SSSS 09 28 18.0
CLL Lm 09 55 00.0
comp=Z,3µm,20.0s
CLL LmV(360 11 24 00.0
comp=Z,300nm,19.3s
STEI Steigen 93.06 338 *e*P **P** **09 03 59.8 +0.7**
HFS Hagfors 93.12 330 P **P** **09 03 59.5 0.0**
comp=Z,24nm,0.8s,mb5.7,baz=126,slow=2.6,SNR=13
HFS Hagfors 93.12 330 P **P** **09 03 59.5 0.0**
HFS Hagfors 93.12 330 P **P** **09 03 59.5 0.0**
HFS pmax pmax
comp=Z,24nm,0.9s
NKC Novy Kostel 93.17 320 *e*P **P** **09 03 58.8 -1.2**
NKC *e* 09 15 03.9
NKC MLR MLR
comp=Z,3µm,23.7s,MS5.7
NKC Novy Kostel 93.17 320 *e*P **P** **09 03 58.8 -1.2**
NKC *e*S S 09 15 03.9 +0.2
NKC AMS AMS 09 53 00.0
comp=Z,3µm,23.7s
ROTZ Rotzenmuhle 93.30 319 *e*P **P** **09 04 01.3 +0.8**
comp=Z,34nm,1.6s,mb5.5
SPITS Spitsbergen Ar 93.67 348 P **P** **09 04 00.8 -1.0**
comp=Z,25nm,0.9s,mb5.6,baz=101,slow=8.6,SNR=7.5
SPITS Spitsbergen Ar 93.67 348 P **P** **09 04 00.8 -1.0**
SPITS Spitsbergen Ar 93.67 348 P **P** **09 04 00.8 -0.9**
SPITS pmax pmax
comp=Z,25nm,0.9s
MOX Moxa 93.72 320 *e*P **P** **09 04 02.6 +0.1**
comp=Z,88nm,2.3s,mb5.8
MOX Moxa 93.72 320 *e*P **P** **09 04 02.6 +0.1**
MOX pmax pmax
comp=Z,88nm,2.3s,mb5.8
GRF Grafenberg Arr 93.93 319 *e*P **P** **09 04 04.7 +1.2**
comp=Z,27nm,1.0s,mb5.6
GRF *e*PP PP 09 07 55.8 +6.1
GRF *e*S S 09 15 15.0 +4.6
GRF *e*SS SS 09 21 11.1 -19
GRF *e*L 09 56 04.0
comp=Z,3µm,21.2s
GRF Grafenberg Arr 93.93 319 *e*P **P** **09 04 04.7 +1.2**
GRF *e* 09 07 55.8
GRF *e*S S 09 15 15.0 +4.6
GRF pmax pmax
comp=Z,27nm,1.0s,mb5.6
NSS Namsos 94.17 334 *e*P **P** **09 04 03.7 -0.5**
NSS AMS AMS 09 53 49.4
comp=Z,5µm,13.6s,MS6.2
VLC Villacollemand 94.25 314 PFAKE 09 04 20.0 +15
VLC LR LR
comp=Z,4µm,22.0s,MS5.9
NB2 NORSAR Subarra 94.39 331 P **P** **09 04 04.7 -0.6**
comp=Z,45nm,1.7s,mb5.6,baz=91,slow=4.8
NOA NORSAR Array B 94.39 331 P **P** **09 04 04.6 -0.7**
comp=Z,5.3nm,0.9s,mb5.0,baz=93,slow=4.7,SNR=8.7
NOA PP PP 09 07 55.0 +2.2
comp=Z,7.4nm,0.9s,baz=89,slow=7.6,SNR=6.4
NOA LR LR 09 53 23.4
comp=Z,4µm,21.4s,MS5.8,baz=95,slow=40
NOA NORSAR Array B 94.39 331 P **P** **09 04 04.6 -0.7**
NOA PP PP 09 07 55.0 +2.2
NOA NORSAR Array B 94.39 331 P **P** **09 04 04.6 -0.7**
NOA 09 07 55.1
NOA pmax pmax
comp=Z,5.0nm,0.9s
NOA pmax pmax
comp=Z,7.0nm,0.9s
CLZ Clausthal 94.56 322 *e*P **P** **09 04 06.6 +0.3**
comp=Z,35nm,1.5s,mb5.6
CLZ Clausthal 94.56 322 *e*P **P** **09 04 06.6 +0.3**
CLZ pmax pmax
comp=Z,35nm,1.5s,mb5.6
KBS Kingsbay 94.60 349 *e*P **P** **09 04 11.6 +5.7**
KBS *e*SKS 09 14 37.6
KBS AMS AMS 09 53 43.4
comp=Z,5µm,16.0s,MS6.1
KBS Kingsbay 94.60 349 PFAKE 09 04 20.0 +14
KBS LR LR
comp=Z,6µm,20.0s,MS6.0
KEST Kesra 94.69 305 P **P** **09 04 08.9 +1.6**
comp=Z,5.1nm,0.9s,mb4.9,baz=295,slow=8.7,SNR=5.2
KEST LR LR 09 49 15.2
comp=Z,1µm,18.3s,MS5.4,baz=179,slow=37
KEST Kesra 94.69 305 P **P** **09 04 08.9 +1.6**
DAVOX Davos/Dischmat 94.71 316 P **P** **09 04 07.7 +0.6**
comp=Z,4.2nm,0.7s,mb5.0,baz=359,slow=14,SNR=4.5
DAVOX Davos/Dischmat 94.71 316 P **P** **09 04 07.7 +0.6**
DAVOX Davos/Dischmat 94.71 316 P **P** **09 04 07.7 +0.6**
NRDL Niedersach Rie 94.74 322 *e*P **P** **09 04 07.6 +0.5**
UBBA Unterbreizbach 94.76 320 *e*P **P** **09 04 07.7 +0.5**
TUE Stuetta 95.07 316 PFAKE 09 04 20.0 +11
TUE LR LR
comp=Z,2µm,21.0s,MS5.6
KONO Kongsberg 95.16 329 *e*P **P** **09 04 04.5 -4.4**
KONO *e*PP PP 09 07 56.5 -2.5
KONO *e* 09 15 28.8
KONO Kongsberg 95.16 329 PFAKE 09 04 20.0 +11
KONO LR LR
comp=Z,4µm,21.0s,MS5.9
TNS Taunus Mts 95.74 320 *e*P **P** **09 04 12.4 +0.7**
TNS Taunus Mts 95.74 320 *e*P **P** **09 04 12.4 +0.7**
BFO Black Forest 95.80 318 PFAKE 09 04 20.0 +8.0
BFO LR LR
comp=Z,2µm,20.0s,MS5.7
RAR Rarotonga 96.17 112 PFAKE 09 04 20.0 +5.6
RAR LR LR
comp=Z,3µm,21.0s,MS5.7
ECH Echery 96.58 318 PFAKE 09 04 30.0 +14
ECH LR LR
comp=Z,3µm,21.0s,MS5.7
BNI Bardonecchia 96.92 315 PFAKE 09 04 30.0 +13
BNI LR LR
comp=Z,4µm,21.0s,MS5.9
WLF Walferdange 97.22 319 PFAKE 09 04 30.0 +12
WLF LR LR
comp=Z,3µm,20.0s,MS5.7
TAM Tamanrasset 97.55 292 PFAKE 09 04 30.0 +9.4
TAM LR LR
comp=Z,2µm,20.0s,MS5.7
SSB Saint Sauveur 98.43 315 PFAKE 09 04 30.0 +6.0
SSB LR LR
comp=Z,2µm,20.0s,MS5.5
TORD Torodi Ar. Bea 100.83 282 P Pdif 09 04 36.4 +1.8
comp=Z,0.2nm,0.6s,baz=64,slow=3.4,SNR=3.5
TORD PP PP 09 08 52.0 +8.2
comp=Z,0.5nm,0.9s,baz=67,slow=8.0,SNR=3.0
TORD PKKPbc PKKPbc 09 20 46.3 -1.8
comp=Z,0.7nm,0.7s,baz=311,slow=3.6,SNR=3.9
TORD Torodi Ar. Bea 100.83 282 P Pdif 09 04 36.4 +1.8
TORD PP PP 09 08 52.0 +8.2
TORD PKKPbc PKKPbc 09 20 46.3 -1.8
DAG Danmarks Havn 101.32 348 *i* P Pdif 09 04 34.5 -2.2
DAG pmax pmax
comp=Z,4.0nm,0.9s
DAG MLR MLR
comp=Z,4µm,18.0s,MS6.0
DAG Danmarks Havn 101.32 348 *i* P Pdif 09 04 34.5 -2.2
comp=Z,4.5nm,0.9s
DAG
comp=Z,4µm,18.0s
KDAK Kodiak Island 102.35 32 PFAKE 09 04 50.0 +8.7
KDAK LR LR
comp=Z,4µm,21.0s,MS5.9
ESK Eskdalemuir 102.39 326 PFAKE 09 04 50.0 +8.6
ESK LR LR
comp=Z,3µm,20.0s,MS5.8
MCK McKinley 102.74 26 *e*Pdif Pdif 09 04 42.6 -0.4
MCK McKinley 102.74 26 *e*P Pdif 09 04 42.6 -0.4
COLA College 102.88 24 PFAKE 09 04 50.0 +6.4
COLA LR LR
comp=Z,3µm,19.0s,MS5.8
ILAR Eielson Array 103.31 24 Pdiff Pdif 09 04 43.6 -1.9
comp=Z,0.4nm,0.8s,baz=276,slow=4.3,SNR=4.1
ILAR PP PP 09 08 44.5 -16
comp=Z,1.1nm,0.9s,baz=294,slow=7.4,SNR=4.1
ILAR PKKP PKKPbc 09 20 52.1 +10
comp=Z,0.4nm,0.7s,baz=136,slow=2.2,SNR=5.4
ILAR Eielson Array 103.31 24 Pdif Pdif 09 04 43.6 -1.9
ILAR PP PP 09 08 44.5 -16
ILAR PKKP PKKPbc 09 20 52.1 +10
ILAR Eielson Array 103.31 24 P Pdif 09 04 43.6 -1.9
ILAR pmax pmax
comp=Z,1.0nm,0.9s
ESLA Sonseca Array 105.11 310 PFAKE 09 09 20.0 +12
ESLA LR LR
comp=Z,9µm,19.0s,MS6.3
TBI Tubuai 105.23 116 *e*Pdif Pdif 09 04 53.1 -1.0
TBI Tubuai 105.23 116 *e*PP PP 09 09 12.1 -4.2
comp=Z,231nm,25.8s
TBI *e*Sdif Sdif 09 16 43.1 -2.7
comp=Z,2µm,28.8s
TBI Tubuai 105.23 116 *e*PS PS 09 18 32.7 +0.3
comp=Z,424nm,28.2s
TBI *e*SS SS 09 24 13.0 +3.5
comp=Z,3µm,28.0s
TBI *e*LR LR 09 39 37.0
comp=Z,5µm,23.0s
SHEL Horse Pasture 105.40 252 PFAKE 09 09 20.0 +10
SHEL LR LR
comp=Z,2µm,20.0s,MS5.7
PAB San Pablo 105.42 310 PFAKE 09 09 20.0 +11
PAB LR LR
comp=Z,2µm,21.0s,MS5.6
EGAK Eagle 105.61 23 PFAKE 09 09 20.0 +12
EGAK LR LR
comp=Z,3µm,19.0s,MS5.9
TRIS Tristan da Cun 105.99 229 PFAKE 09 09 20.0 +10
TRIS LR LR
comp=Z,3µm,21.0s,MS5.8
PPT Papeete 106.25 110 *e*Pdif Pdif 09 05 00.3 +1.7
PPT Papeete 106.25 110 *e*PP PP 09 09 24.0 0.0
comp=Z,315nm,26.0s
PPT *e*Sdif Sdif 09 16 50.7 -3.7
comp=Z,2µm,25.8s
PPT Papeete 106.25 110 *e*PS PS 09 18 43.9 +0.8
comp=Z,801nm,26.8s
PPT *e*SS SS 09 24 21.4 -2.3
comp=Z,1µm,24.0s
PPT *e*LR LR 09 40 10.9
comp=Z,4µm,24.0s
DBIC Dimbokro 106.99 275 PFAKE 09 09 20.0 +7.4
DBIC LR LR
comp=Z,3µm,20.0s,MS5.9
SFS San Fernando 107.24 307 PFAKE 09 09 20.0 +7.6
SFS LR LR
comp=Z,3µm,20.0s,MS5.8
MTE Manteigas 107.73 311 PFAKE 09 09 20.0 +6.8
MTE LR LR
comp=Z,2µm,22.0s,MS5.6
MESJ Messejana 108.65 308 *e*PP PP 09 09 40.0 -1.0
MESJ *e*SS SS 09 24 55.2 -0.1
MESJ AMS AMS 09 59 36.5
comp=N,1µm,18.4s
LIS Lisbon 109.23 309 *e*PP PP 09 09 44.3 -1.0
LIS *e*SS SS 09 25 03.4 +0.3
LIS AMS AMS 09 55 57.1
comp=E,2µm,20.4s
PMSA Palmer Station 109.85 186 PFAKE 09 09 30.0 +14
PMSA LR LR
comp=Z,8µm,19.0s,MS6.3
WRAK Wrangell Islan 113.17 29 PFAKE 09 09 30.0 +7.1
WRAK LR LR
comp=Z,3µm,19.0s,MS5.9
SFJD Kangerlussuaq 115.01 348 PFAKE 09 09 40.0 +14
SFJD LR LR
comp=Z,4µm,21.0s,MS6.0
YKA Yellowknife Ar 116.47 18 PKP PKPdf 09 09 28.3 -0.8
comp=Z,6.9nm,1.1s,baz=334,slow=2.4,SNR=5.8
YKA Yellowknife Ar 116.47 18 PKP PKPdf 09 09 28.3 -0.8
YKA Yellowknife Ar 116.47 18 PKIKP PKPdf 09 09 28.3 -0.8
YKA pmax pmax
comp=Z,7.0nm,1.1s
TAOE Nuku Hiva Isla 116.84 102 *e*PP PP 09 10 42.3 +2.1
comp=Z,556nm,26.6s
TAOE Nuku Hiva Isla 116.84 102 *e*PS PS 09 20 25.4 +1.2
comp=Z,471nm,25.6s
TAOE *e*LR LR 09 45 01.3
comp=Z,4µm,23.2s
RKT Rikitea 118.12 119 *e*PS PS 09 20 34.7 -0.7
comp=Z,765nm,27.2s
RKT *e*SS SS 09 26 59.9 -1.2
comp=Z,2µm,28.2s
RKT *e*LR LR 09 45 36.5
comp=Z,4µm,22.2s
EFI East Falkland 121.19 195 PFAKE 09 09 50.0 +11
EFI LR LR
comp=Z,3µm,22.0s,MS5.8
NLWA Neilton Lookou 122.29 35 PFAKE 09 09 50.0 +9.2
NLWA LR LR
comp=Z,2µm,19.0s,MS5.9
A05A Maple Falls 122.38 33 ⇑PKiKP PKiKP 09 09 40.7 -0.3
baz=122
GNW Green Mountain 122.79 34 *e*PKPdf PKPdf 09 09 41.9 +0.2
E03A Lebam 122.92 36 ⇓PKiKP PKiKP 09 09 42.6 +0.4
baz=123
JCW Jim Creek 122.93 33 *e*PKPdf PKPdf 09 09 42.3 +0.3
D05A Emmclaw 123.47 34 ⇑PKiKP PKiKP 09 09 43.5 +0.2
baz=123
ETW Entiat 124.15 33 *e*PKPdf PKPdf 09 09 43.5 -0.9
H04A Detroit Lake 124.74 37 ⇑PKiKP PKiKP 09 09 46.1 +0.2
baz=125
E07A Sunnyside 125.03 34 ⇓PKiKP PKiKP 09 09 46.8 +0.4
baz=125
C09A Chrisman Ranch 125.13 32 ⇑PKiKP PKiKP 09 09 46.9 +0.4
baz=125
OD2 Odessa Site #2 125.15 33 *e*PKPdf PKPdf 09 09 46.1 -0.2
RSW Rattlesnake Hi 125.27 34 *e*PKPdf PKPdf 09 09 47.2 +0.7
HAWA Hanford 125.31 34 *e*PKPdf PKPdf 09 09 46.9 +0.3
HAWA LR LR
comp=Z,2µm,20.0s,MS5.8
G06A Carlson Farm, 125.35 36 ⇑PKiKP PKiKP 09 09 47.2 +0.2
baz=125
HUMO Hull Mountain 125.35 40 *e*PKPdf PKPdf 09 09 47.5 +0.7
F07A Phinny Hill Vi 125.38 35 ⇓PKiKP PKiKP 09 09 47.4 +0.3
baz=125
NEW Newport 125.44 31 ⇑PKiKP PKiKP 09 09 47.5 +0.4
baz=125
NEW Newport 125.44 31 *e*PKPdf PKPdf 09 09 48.1 +1.3
NEW LR LR
comp=Z,2µm,19.0s,MS5.9
NEW Newport 125.44 31 *e*PKIKP PKPdf 09 09 48.1 +1.3
NEW MLR MLR
comp=Z,2µm,19.0s
E08A Dider Farm, El 125.51 34 ⇓PKiKP PKiKP 09 09 47.0 -0.4
baz=125
KHMM Horse Mountain 125.71 42 *e*PKPdf PKPdf 09 09 48.6 +1.1
A12A Yaak River Ran 125.74 30 ⇑PKiKP PKiKP 09 09 47.2 -0.5
baz=126
E09A Wood Farm, Sta 126.00 33 ⇑PKiKP PKiKP 09 09 48.0 -0.3
baz=126
B12A Libby 126.08 30 ⇓PKiKP PKiKP 09 09 48.5 0.0
baz=126
C11A Tepee Creek (N 126.16 31 ⇓PKiKP PKiKP 09 09 48.3 -0.3
baz=126
G08A Pilot Rock 126.28 35 ⇑PKiKP PKiKP 09 09 48.9 -0.1
baz=126
LNOR Lincton Mounta 126.31 34 *e*PKPdf PKPdf 09 09 47.6 -0.9
LNOR Lincton Mounta 126.31 34 *e*PKIKP PKPdf 09 09 47.7 -0.8
A13A Flathead Natio 126.34 29 ⇑PKiKP PKiKP 09 09 48.4 -0.6
baz=126
K05A Summer Lake 126.58 38 ⇑PKiKP PKiKP 09 09 49.5 -0.2
baz=126
FFC Flin Flon 126.61 17 *e*PKPdf PKPdf 09 09 48.4 -0.5
FFC LR LR
comp=Z,4µm,22.0s,MS6.0
FFC Flin Flon 126.61 17 *e*PKIKP PKPdf 09 09 48.4 -0.4
FFC MLR MLR
comp=Z,4µm,22.0s,MS6.0
C12B Naegeli Ranch, 126.64 31 ⇑PKiKP PKiKP 09 09 49.1 -0.5
baz=126
WDC Whiskeytown Da 126.64 42 *e*PKPdf PKPdf 09 09 49.4 0.0
WDC Whiskeytown Da 126.64 42 *e*PKIKP PKPdf 09 09 49.4 +0.1
I07A Izee 126.67 36 ⇓PKiKP PKiKP 09 09 49.2 -0.6
baz=127
B13A Whitefish 126.70 29 ⇑PKiKP PKiKP 09 09 49.1 -0.6
baz=127
A14A Double T Ranch 126.79 28 ⇓PKiKP PKiKP 09 09 49.4 -0.5
baz=127
F10A Beach Ranch, E 126.83 33 ⇓PKiKP PKiKP 09 09 49.5 -0.5
baz=127
BSMT Bassoo Peak 126.89 30 *e*PKPdf PKPdf 09 09 49.7 +0.1
A15A Johnson Ranch, 127.11 28 ⇑PKiKP PKiKP 09 09 49.4 -1.1
baz=127
C13A Hot Springs 127.12 30 ⇓PKiKP PKiKP 09 09 50.0 -0.5
baz=127
D12A Red Ives Fores 127.14 31 ⇑PKiKP PKiKP 09 09 49.5 -1.1
baz=127
B14A Marquette Ranc 127.29 29 ⇑PKiKP PKiKP 09 09 50.2 -0.7
baz=127
MOD Modoc 127.40 39 *e*PKPdf PKPdf 09 09 51.7 +0.9
E12A Beaver Dam Sad 127.44 32 ⇑PKiKP PKiKP 09 09 50.6 -0.6
baz=127
C14A Swan Lake 127.47 30 ⇑PKiKP PKiKP 09 09 50.5 -0.7
baz=127
BMO Blue Mountains 127.48 34 *e*PKPdf PKPdf 09 09 51.5 +0.7
BMO LR LR
comp=Z,3µm,20.0s,MS5.9
BMO Blue Mountains 127.48 34 *e*PKIKP PKPdf 09 09 51.6 +0.8
BMO MLR MLR
comp=Z,2µm,20.0s,MS5.8
SWMT Swartz Lake 127.52 30 *e*PKPdf PKPdf 09 09 50.4 -0.3
SWMT *e*PP PP 09 11 50.9 -0.2
D13A Huson 127.57 31 ⇓PKiKP PKiKP 09 09 50.7 -0.7
baz=128
A16A West Butte Ran 127.65 27 ⇑PKiKP PKiKP 09 09 51.0 -0.6
baz=128
B15A Bradely Ranch, 127.66 28 ⇓PKiKP PKiKP 09 09 50.7 -0.9
baz=128
J08A Circle Bar Ran 127.70 37 ⇓PKiKP PKiKP 09 09 51.8 0.0
baz=128
SLMT Seeley Lake 127.95 30 *e*PKPdf PKPdf 09 09 51.0 -0.6
SLMT *e*PP PP 09 11 54.0 +0.1
B16A M & M Farms, S 127.99 28 ⇓PKiKP PKiKP 09 09 51.5 -0.8
baz=128
C15A Salmond Ranch, 128.01 29 ⇑PKiKP PKiKP 09 09 51.8 -0.5
baz=128
F12A Elk City 128.03 32 ⇓PKiKP PKiKP 09 09 51.6 -0.8
baz=128
D14A Greenough 128.06 30 ⇑PKiKP PKiKP 09 09 51.9 -0.5
baz=128
A17A Triple J Farms 128.06 27 ⇑PKiKP PKiKP 09 09 51.9 -0.5
baz=128
WVOR Wild Horse Val 128.13 38 *e*PKPdf PKPdf 09 09 52.9 +0.8
WVOR LR LR
comp=Z,3µm,21.0s,MS5.9
WVOR Wild Horse Val 128.13 38 *e*PKIKP PKPdf 09 09 52.9 +0.8
WVOR MLR MLR
comp=Z,3µm,21.0s,MS5.9
E13A Victor 128.14 31 ⇑PKiKP PKiKP 09 09 51.7 -1.0
baz=128
CHMT Chamberlain Mo 128.30 30 *e*PKPdf PKPdf 09 09 52.2 -0.1
G12A Big Creek, Yel 128.40 33 ⇑PKiKP PKiKP 09 09 52.6 -0.6
baz=128
C16A Fuhringer Ranc 128.41 28 ⇑PKiKP PKiKP 09 09 52.6 -0.5
baz=128
A18A Metzger Ranch, 128.46 26 ⇑PKiKP PKiKP 09 09 53.2 0.0
baz=128
B17A L&G Farms, Che 128.50 27 ⇑PKiKP PKiKP 09 09 53.6 +0.3
baz=128
F13A Darby 128.50 32 ⇑PKiKP PKiKP 09 09 53.5 +0.1
baz=128
E14A Clinton 128.51 31 ⇑PKiKP PKiKP 09 09 53.5 +0.1
baz=128
D15A Lincoln 128.57 30 ⇑PKiKP PKiKP 09 09 53.9 +0.4
baz=128
B18A Beardsley Farm 128.88 27 ⇑PKiKP PKiKP 09 09 54.6 +0.5
baz=129
A19A Klindworth Far 128.93 25 ⇑PKiKP PKiKP 09 09 54.9 +0.8
baz=129
E15A Deer Lodge 128.94 30 ⇓PKiKP PKiKP 09 09 55.3 +1.0
baz=129
F14A Wisdom 128.99 31 ⇓PKiKP PKiKP 09 09 55.6 +1.3
baz=129
C17A Wharram Farm, 128.99 28 ⇑PKiKP PKiKP 09 09 55.1 +0.8
baz=129
G13A Cobalt 129.01 32 ⇑PKiKP PKiKP 09 09 55.4 +1.0
baz=129
H12A Diamond D Ranc 129.03 33 ⇑PKiKP PKiKP 09 09 54.9 +0.4
baz=129
D16A Dana Ranch, Ca 129.05 29 ⇑PKiKP PKiKP 09 09 55.3 +0.9
baz=129
WCN Washoe City 129.14 42 ⇓PKiKP PKiKP 09 09 55.6 +0.7
baz=129
WCN Washoe City 129.14 42 *e*PKPdf PKPdf 09 09 55.8 +1.7
WCN Washoe City 129.14 42 *e*PKIKP PKPdf 09 09 55.8 +1.7
HRY Holter Researc 129.14 29 *e*PKPdf PKPdf 09 09 54.4 +0.5
EGMT Eagleton 129.17 27 ⇓PKiKP PKiKP 09 09 55.1 +0.5
baz=129
EGMT Eagleton 129.17 27 *e*PKPdf PKPdf 09 09 53.7 -0.2
EGMT LR LR
comp=Z,2µm,20.0s,MS5.9
B19A Brinkman Farms 129.20 26 ⇓PKiKP PKiKP 09 09 55.7 +1.0
baz=129
MFID Camas Ranch 129.20 35 ⇑PKiKP PKiKP 09 09 56.3 +1.5
baz=129
MFID Camas Ranch 129.20 35 *e*PKPdf PKPdf 09 09 55.0 +0.8
SCHQ Schefferville 129.23 351 PKP PKPdf 09 09 54.0 +0.2
comp=Z,11nm,0.8s,baz=199,slow=3.3,SNR=7.6
SCHQ Schefferville 129.23 351 PKP PKPdf 09 09 54.0 +0.2
SCHQ LR LR
comp=Z,4µm,20.0s,MS6.1
A20A Cobblestone Ra 129.32 25 ⇓PKiKP PKiKP 09 09 55.5 +0.6
baz=129
G14A Jackson 129.32 32 ⇓PKiKP PKiKP 09 09 55.8 +0.8
baz=129
E16A East Helena 129.34 29 ⇑PKiKP PKiKP 09 09 55.9 +0.9
baz=129
H13A Challis 129.35 33 ⇑PKiKP PKiKP 09 09 55.9 +0.8
baz=129
I12A Atlanta 129.36 34 ⇓PKiKP PKiKP 09 09 55.7 +0.5
baz=129
CMB Columbia Colle 129.36 43 *e*PKPdf PKPdf 09 09 56.0 +1.3
CMB Columbia Colle 129.36 43 *e*PKIKP PKPdf 09 09 56.0 +1.4
D17A Six Diamond Ra 129.37 28 ⇓PKiKP PKiKP 09 09 55.8 +0.7
baz=129
F15A Butte 129.41 31 ⇓PKiKP PKiKP 09 09 55.9 +0.7
baz=129
LRM Limekiln Ridge 129.45 31 *e*PKPdf PKPdf 09 09 55.1 +0.6
B20A Solberg Farm, 129.62 25 ⇓PKiKP PKiKP 09 09 56.1 +0.6
baz=130
A21A Bergtoll Ranch 129.64 24 ⇓PKiKP PKiKP 09 09 56.1 +0.6
baz=130
DLMT Dillon 129.69 31 *e*PKPdf PKPdf 09 09 56.0 +1.0
C19A Slack Wire Ran 129.70 27 ⇑PKiKP PKiKP 09 09 56.2 +0.5
baz=130
D18A Linhart Farms, 129.75 28 ⇑PKiKP PKiKP 09 09 56.5 +0.7
baz=130
E17A Martinsdale 129.79 29 ⇑PKiKP PKiKP 09 09 56.9 +0.9
baz=130
I13A Wildhorse Cree 129.85 33 ⇓PKiKP PKiKP 09 09 57.0 +0.9
baz=130
G15A Dillon 129.88 31 ⇑PKiKP PKiKP 09 09 57.3 +1.2
baz=130
F16A Kennard Place, 129.89 30 ⇑PKiKP PKiKP 09 09 56.9 +0.8
baz=130
HLID Hailey 129.91 34 ⇓PKiKP PKiKP 09 09 57.0 +0.7
baz=130
HLID Hailey 129.91 34 *e*PKPdf PKPdf 09 09 56.5 +1.0
HLID *e*SKPdf SKPdf 09 13 32.8 +5.2
HLID LR LR
comp=Z,3µm,20.0s,MS6.0
MCMT McKenzie Canyo 129.92 32 *e*PKPdf PKPdf 09 09 57.5 +2.0
BOZ Bozeman (W) 129.99 30 ⇑PKiKP PKiKP 09 09 56.8 +0.5
baz=130
BOZ Bozeman (W) 129.99 30 *e*PKPdf PKPdf 09 09 56.1 +0.6
BOZ LR LR

comp=Z,2µm,22.0s,MS5.8
BOZ Bozeman (W) 129.99 30 *e*PKIKP PKPdf 09 09 56.2 +0.7
BOZ MLR MLR

comp=Z,2µm,22.0s,MS5.8
B21A Ellsworth Farm 130.05 25 ⇓PKiKP PKiKP 09 09 56.6 +0.2
baz=130
A22A Carney Farms, 130.05 24 ⇓PKiKP PKiKP 09 09 56.9 +0.5
baz=130
J13A Cove Ranch, Pi 130.15 34 ⇓PKiKP PKiKP 09 09 57.8 +1.1
baz=130
BMN Battle Mountai 130.15 39 PFAKE 09 10 10.0 +14
BMN LR LR

comp=Z,2µm,21.0s,MS5.7
E18A Harlowton 130.16 28 ⇑PKiKP PKiKP 09 09 56.6 -0.1
baz=130
H15A Lima 130.17 32 ⇑PKiKP PKiKP 09 09 58.0 +1.3
baz=130
G16A Moss Hill, Enn 130.19 31 ⇑PKiKP PKiKP 09 09 57.5 +0.7
baz=130
I14A Mackay 130.20 33 ⇓PKiKP PKiKP 09 09 57.6 +0.8
baz=130
D19A Cripps Ranch, 130.20 27 ⇓PKiKP PKiKP 09 09 57.3 +0.6
baz=130
F17A Fitzpatrick Pl 130.28 29 ⇓PKiKP PKiKP 09 09 58.2 +1.3
baz=130
C21A Desert Coulee 130.48 25 ⇑PKiKP PKiKP 09 09 58.0 +0.7
baz=130
A23A Redstone 130.48 23 ⇓PKiKP PKiKP 09 09 57.6 +0.3
baz=130
NVAR Mina Array Bea 130.56 42 PKP PKPdf 09 09 57.6 +0.8
comp=Z,2.5nm,0.7s,baz=224,slow=5.1,SNR=3.9
NVAR SKPab 09 13 20.1
comp=Z,5.7nm,0.9s,baz=273,slow=4.5,SNR=7.7
NVAR Mina Array Bea 130.56 42 PKP PKPdf 09 09 57.6 +0.8
NVAR SKPab 09 13 20.1
J14A Carey 130.56 34 ⇑PKiKP PKiKP 09 09 59.3 +1.7
baz=130
B22A Reddig Ranch S 130.57 24 ⇑PKiKP PKiKP 09 09 58.3 +0.9
baz=130
D20A Manuel Ranch, 130.59 27 ⇓PKiKP PKiKP 09 09 59.3 +1.8
baz=130
MLAC Mammoth Lakes 130.62 43 ⇓PKiKP PKiKP 09 09 58.9 +1.1
baz=130
QLMT Earthquake Lak 130.66 31 *e*PKPdf PKPdf 09 09 59.0 +2.2
QLMT *e*SKPbc SKPbc 09 13 19.6 +2.3
G17A Pierce Place, 130.66 30 ⇑PKiKP PKiKP 09 09 59.5 +1.8
baz=130
I15A Monteview 130.67 32 ⇑PKiKP PKiKP 09 09 58.6 +0.8
baz=131
F18A Big Timber 130.74 29 ⇑PKiKP PKiKP 09 09 58.1 +0.2
baz=131
E19A Rath Farm, Rou 130.77 28 ⇑PKiKP PKiKP 09 09 58.5 +0.6
baz=131
H16A Russell Place, 130.84 31 ⇓PKiKP PKiKP 09 09 58.9 +0.8
baz=131
B23A Brockton 130.84 23 ⇓PKiKP PKiKP 09 09 58.8 +0.8
baz=131
A24A Westby 130.85 22 ⇓PKiKP PKiKP 09 09 58.5 +0.5
baz=131
SMMC Simmler 130.97 46 ⇓PKiKP PKiKP 09 09 59.5 +0.8
baz=131
YMR Madison River 131.01 31 *e*PKPdf PKPdf 09 09 59.3 +1.8
YMR *e*SKPbc SKPbc 09 13 20.9 +2.2
RCTC Rector, Farmer 131.02 45 ⇓PKiKP PKiKP 09 09 59.1 +0.4
baz=131
E20A Meyer Farm, Mu 131.04 27 ⇓PKiKP PKiKP 09 09 59.2 +0.8
baz=131
C22A Vida 131.05 25 ⇑PKiKP PKiKP 09 09 59.3 +0.9
baz=131
J15A Blackfoot 131.10 33 ⇓PKiKP PKiKP 09 09 59.3 +0.7
baz=131
D21A La Casta Ranch 131.11 26 ⇓PKiKP PKiKP 09 09 59.2 +0.6
baz=131
YNR Norris Junctio 131.12 30 *e*PKPdf PKPdf 09 10 01.9 +4.2
YNR *e*SKPbc SKPbc 09 13 23.7 +4.6
F19A Roth Farm, Mol 131.15 28 ⇑PKiKP PKiKP 09 09 59.0 +0.3
baz=131
DGMT Dagmar 131.15 23 ⇑PKiKP PKiKP 09 09 59.4 +0.8
baz=131
DGMT Dagmar 131.15 23 *e*PKPdf PKPdf 09 09 58.2 +0.5
DGMT *e*SKPbc SKPbc 09 13 19.7 +0.6
DGMT *e*SKPdf SKPdf 09 13 36.4 +6.7
DGMT LR LR

comp=Z,3µm,21.0s,MS6.0
YFT Old Faithful 131.22 31 *e*PKPdf PKPdf 09 10 01.4 +3.4
YFT *e*SKPbc SKPbc 09 13 24.7 +5.2
G18A Lazy EL Ranch, 131.24 29 ⇑PKiKP PKiKP 09 09 59.2 +0.3
baz=131
K14A Jones Ranch, D 131.26 34 ⇓PKiKP PKiKP 09 09 59.4 +0.4
baz=131
I16A Newdale 131.29 32 ⇓PKiKP PKiKP 09 09 59.7 +0.7
baz=131
PKM Peak Mountain 131.29 47 ⇓PKiKP PKiKP 09 09 59.4 +0.1
baz=131
C23A Lambert 131.29 24 ⇓PKiKP PKiKP 09 09 59.8 +0.9
baz=131
TIN Tinemaha 131.34 43 ⇓PKiKP PKiKP 09 09 59.6 +0.2
baz=131
VES Vestal, Richgr 131.36 45 ⇑PKiKP PKiKP 09 09 59.5 +0.1
baz=131
LKWY Lake 131.37 30 PFAKE 09 10 10.0 +12
LKWY LR LR

comp=Z,5µm,19.0s,MS6.2
H17A Grant Village 131.40 31 ⇑PKiKP PKiKP 09 09 59.6 +0.4
baz=131
D22A Cohagen 131.40 25 ⇓PKiKP PKiKP 09 09 59.4 +0.3
baz=131
TPH Tonopah 131.47 41 PFAKE 09 10 10.0 +11
TPH LR LR

comp=Z,2µm,22.0s,MS5.8
E21A Keefer Ranch, 131.48 26 ⇑PKiKP PKiKP 09 09 59.9 +0.5
baz=131
K15A Arbon 131.53 34 ⇑PKiKP PKiKP 09 10 00.2 +0.7
baz=131
RLMT Red Lodge 131.53 29 ⇑PKiKP PKiKP 09 09 60.0 +0.5
baz=131
RLMT Red Lodge 131.53 29 *e*PKPdf PKPdf 09 09 59.8 +1.3
RLMT *e*PP PP 09 12 18.2 +1.0
RLMT *e*SKPbc SKPbc 09 13 22.8 +2.2
RLMT LR LR

comp=Z,3µm,20.0s,MS6.0
F20A Billings 131.56 28 ⇓PKiKP PKiKP 09 10 00.1 +0.6
baz=131
IMW Indian Meadow 131.56 31 *e*PKPdf PKPdf 09 09 59.7 +1.1
IMW *e*SKPbc SKPbc 09 13 24.4 +3.7
SBC Santa Barbara 131.59 47 ⇑PKiKP PKiKP 09 10 00.8 +0.8
baz=132
J16A Bone 131.63 32 ⇑PKiKP PKiKP 09 10 00.9 +1.2
baz=132
H18A Shoshone NF, C 131.65 30 ⇓PKiKP PKiKP 09 10 01.1 +1.3
baz=132
I17A Pilgrim Ck. 131.73 31 ⇑PKiKP PKiKP 09 10 01.1 +1.2
baz=132
RRI2 Red Ridge 131.74 32 *e*PKPdf PKPdf 09 09 60.0 +1.0
RRI2 *e*SKPbc SKPbc 09 13 24.7 +3.2
LAO LASA Array 131.74 26 ⇑PKiKP PKiKP 09 10 00.9 +1.1
baz=132
LAO LASA Array 131.74 26 *e*PKPdf PKPdf 09 09 60.0 +1.1
LAO *e*SKPbc SKPbc 09 13 23.2 +1.9
LAO LR LR

comp=Z,3µm,19.0s,MS6.0
D23A Lindsay 131.79 24 ⇑PKiKP PKiKP 09 10 01.1 +1.2
baz=132
C24A Savage 131.82 24 ⇑PKiKP PKiKP 09 10 00.1 +0.1
baz=132
TPAW Teton Pass 131.83 32 *e*PKPdf PKPdf 09 10 00.2 +1.1
TPAW *e*PP PP 09 12 20.0 +0.8
TPAW *e*SKPbc SKPbc 09 13 24.9 +3.2
BSC Santa Cruz Isl 131.85 47 ⇓PKiKP PKiKP 09 10 00.8 +0.4
baz=132
ISA Isabella 131.88 45 ⇓PKiKP PKiKP 09 10 00.9 +0.4
baz=132
ARVC Arvin 131.89 46 ⇑PKiKP PKiKP 09 10 01.0 +0.5
baz=132
LOHW Long Hollow 131.93 31 *e*PKPdf PKPdf 09 09 59.6 +0.3
LOHW *e*PP PP 09 12 26.0 +6.2
LOHW *e*SKPbc SKPbc 09 13 25.4 +3.2
K16A Soda Springs 131.94 33 ⇓PKiKP PKiKP 09 10 01.1 +0.7
baz=132
GRAC Grapevine Rang 131.95 43 ⇑PKiKP PKiKP 09 10 01.4 +0.8
baz=132
SNOW Snow King Moun 131.96 32 *e*PKPdf PKPdf 09 10 00.1 +0.8
G20A Bridger 131.96 28 ⇑PKiKP PKiKP 09 10 00.8 +0.4
baz=132
REDW Red Top Meadow 131.97 32 *e*PKPdf PKPdf 09 09 59.7 +0.3
REDW *e*SKPbc SKPbc 09 13 25.5 +3.2

HVU Hansel Valley 131.98 35 *e*PKPdf PKPdf 09 10 01.0 +1.6
HVU *e*SKPbc SKPbc 09 13 24.3 +2.0
HVU Hansel Valley 131.98 35 *e*PKIKP PKPdf 09 10 01.0 +1.5
H19A Powell 131.99 29 ⇓PKiKP PKiKP 09 10 01.3 +0.8
baz=132
F21A Absaloka Mine, 132.01 27 ⇓PKiKP PKiKP 09 10 00.5 0.0
baz=132
J17A Brown Place, J 132.05 32 ⇑PKiKP PKiKP 09 10 01.1 +0.5
baz=132
E22A Mills City 132.05 26 ⇓PKiKP PKiKP 09 10 01.2 +0.7
baz=132
L15A Malad City 132.06 34 ⇓PKiKP PKiKP 09 10 01.3 +0.6
baz=132
D24A Glendive 132.19 24 ⇓PKiKP PKiKP 09 10 01.5 +0.7
baz=132
BLG Laguna Peak 132.22 47 ⇑PKiKP PKiKP 09 10 00.6 -0.6
baz=132
AHID Auburn Hatcher 132.25 33 *e*PKPdf PKPdf 09 10 01.2 +1.3
AHID *e*PP PP 09 12 22.6 +0.7
AHID *e*SKPbc SKPbc 09 13 26.7 +3.4
AHID LR LR

comp=Z,2µm,19.0s,MS5.9
I18A Diamond G Ranc 132.27 31 ⇑PKiKP PKiKP 09 10 01.2 +0.2
baz=132
E23A Ismay 132.28 25 ⇑PKiKP PKiKP 09 10 01.5 +0.6
baz=132
ULM Lac du Bonnet 132.30 15 PKP PKPdf 09 09 59.5 -0.3
comp=Z,15nm,0.8s,baz=344,slow=4.0,SNR=17
ULM SKPbc SKPbc 09 13 23.9 +0.7
comp=Z,5.0nm,0.7s,baz=28,slow=3.9,SNR=5.7
ULM Lac du Bonnet 132.30 15 PKP PKPdf 09 09 59.5 -0.3
ULM *e*PKPdf PKPdf 09 09 59.6 -0.1
ULM *e*SKPbc SKPbc 09 13 23.3 +0.2
ULM SKPbc SKPbc 09 13 23.9 +0.7
ULM LR LR

comp=Z,7µm,22.0s,MS6.3
ULM Lac du Bonnet 132.30 15 PKIKP PKPdf 09 09 59.5 -0.3
ULM pmax pmax

comp=Z,15nm,0.8s
ULM pmax pmax

comp=N,5.0nm,0.7s
K17A Gardner Place, 132.36 33 ⇓PKiKP PKiKP 09 10 01.3 0.0
baz=132
MPMC Manual Prospec 132.36 44 ⇓PKiKP PKiKP 09 10 01.2 -0.2
baz=132
M15A Larsen Ranch, 132.38 35 ⇑PKiKP PKiKP 09 10 01.5 +0.2
baz=132
R11A Troy Canyon, C 132.38 40 ⇓PKiKP PKiKP 09 10 01.4 0.0
baz=132
G21A Lodge Grass 132.43 28 ⇓PKiKP PKiKP 09 10 01.2 -0.1
baz=132
F22A Rosebud 132.43 26 ⇓PKiKP PKiKP 09 10 00.7 -0.6
baz=132
I19A Meeteetse 132.45 30 ⇓PKiKP PKiKP 09 10 00.7 -0.6
baz=132
J18A Kendall Valley 132.51 31 ⇓PKiKP PKiKP 09 10 01.3 -0.2
baz=132
LRMC Laurel Mountai 132.53 45 ⇓PKiKP PKiKP 09 10 01.9 +0.2
baz=132
FURC Furnace Creek, 132.58 43 ⇓PKiKP PKiKP 09 10 02.2 +0.3
baz=132
L16A Fish Haven 132.58 34 ⇑PKiKP PKiKP 09 10 01.7 0.0
baz=132
H20A Greybull 132.61 29 ⇓PKiKP PKiKP 09 10 01.7 0.0
baz=132
EDW2 Edwards Air Fo 132.61 46 ⇑PKiKP PKiKP 09 10 02.7 +0.7
baz=132
E24A Baker 132.65 24 ⇑PKiKP PKiKP 09 10 02.3 +0.6
baz=132
DECC Green Verdugo 132.68 46 ⇓PKiKP PKiKP 09 10 02.4 +0.3
baz=133
N15A Stansbury Isla 132.71 36 ⇓PKiKP PKiKP 09 10 02.5 +0.5
baz=133
HWUT Hardware Ranch 132.78 34 *e*PKPdf PKPdf 09 10 00.9 0.0
HWUT *e*SKPbc SKPbc 09 13 28.0 +2.9
HWUT LR LR

comp=Z,2µm,20.0s,MS5.8
L17A Cokeville 132.83 33 ⇑PKiKP PKiKP 09 10 02.7 +0.5
baz=133
F23A Volborg 132.85 26 ⇑PKiKP PKiKP 09 10 02.4 +0.3
baz=133
K18A Toltan Ranch, 132.91 32 ⇑PKiKP PKiKP 09 10 02.7 +0.4
baz=133
M16A Huntsville 132.94 34 ⇑PKiKP PKiKP 09 10 02.8 +0.3
baz=133
I20A Worland 132.94 29 ⇑PKiKP PKiKP 09 10 02.5 +0.1
baz=133
H21A Big Horn, Sher 132.95 28 ⇓PKiKP PKiKP 09 10 02.9 +0.5
baz=133
FMP Fort Macarthur 132.97 47 ⇓PKiKP PKiKP 09 10 03.1 +0.4
baz=133
J19A Crowheart 132.97 31 ⇑PKiKP PKiKP 09 10 03.0 +0.5
baz=133
DUG Dugway 132.98 36 ⇑PKiKP PKiKP 09 10 03.4 +0.9
baz=133
DUG Dugway 132.98 36 *e*PKPdf PKPdf 09 10 03.1 +1.7
DUG *e*SKPbc SKPbc 09 13 29.1 +3.2
DUG LR LR

comp=Z,2µm,20.0s,MS5.9
DUG Dugway 132.98 36 *e*PKIKP PKPdf 09 10 03.1 +1.7
DUG MLR MLR

comp=Z,2µm,20.0s,MS5.9
CIS Catalina Islan 133.03 48 ⇓PKiKP PKiKP 09 10 03.6 +0.7
baz=133
PD01 Pinedale Array 133.05 32 *e*PKPdf PKPdf 09 10 02.1 +0.7
PD01 *e*PP PP 09 12 25.1 -1.9
PD01 *e*SKPbc SKPbc 09 13 26.6 +0.6
PD02 Pinedale Array 133.06 32 *e*PKPdf PKPdf 09 10 00.7 -0.7
PD02 *e*PP PP 09 12 25.1 -1.9
PD02 *e*SKPbc SKPbc 09 13 27.6 +1.6
BW06 Boulder Array 133.07 32 ⇑PKiKP PKiKP 09 10 03.1 +0.5
baz=133
BW06 Boulder Array 133.07 32 PFAKE 09 10 10.0 +8.5
BW06 LR LR

comp=Z,2µm,20.0s,MS5.9
PDAR Pinedale Array 133.07 32 PKhKP PKPpre 09 09 51.4
comp=Z,1.0nm,1.0s,baz=79,slow=0.8,SNR=4.8
PDAR PKP PKPdf 09 10 01.4 -0.1
comp=Z,0.9nm,0.6s,baz=74,slow=1.8,SNR=6.9
PDAR SKPbc SKPbc 09 13 29.8 +3.7
comp=Z,1.4nm,0.7s,baz=74,slow=2.1,SNR=4.2
PDAR Pinedale Array 133.07 32 PKPpre PKPpre 09 09 51.4
PDAR PKP PKPdf 09 10 01.4 -0.1
PDAR SKPbc SKPbc 09 13 29.8 +3.7
NOQ North Oquirrh 133.09 35 *e*PKPdf PKPdf 09 10 03.4 +1.9
O15A The Old Anders 133.13 36 ⇓PKiKP PKiKP 09 10 03.8 +1.0
baz=133
SCI San Clemente I 133.13 48 ⇓PKiKP PKiKP 09 10 03.5 +0.4
baz=133
F24A Ekalaka 133.16 25 ⇑PKiKP PKiKP 09 10 03.0 +0.3
baz=133
BFSC Mount Baldy Ra 133.17 46 ⇓PKiKP PKiKP 09 10 03.9 +0.7
baz=133
GSC Goldstone 133.23 44 ⇑PKiKP PKiKP 09 10 03.5 +0.3
baz=133
GSC Goldstone 133.23 44 *e*PKPdf PKPdf 09 10 03.2 +1.2
GSC *e*SKPbc SKPbc 09 13 30.2 +3.3
GSC Goldstone 133.23 44 *e*PKIKP PKPdf 09 10 03.2 +1.2
SHOC Shoshone 133.28 43 ⇑PKiKP PKiKP 09 10 03.6 +0.3
baz=133
H22A Clearmont 133.30 28 ⇑PKiKP PKiKP 09 10 03.6 +0.5
baz=133
RRX Edison Barstow 133.32 45 ⇑PKiKP PKiKP 09 10 03.7 +0.3
baz=133
N16A Rees Ranch, Co 133.33 35 ⇑PKiKP PKiKP 09 10 03.7 +0.4
baz=133
MDND Maddock 133.33 20 ⇑PKiKP PKiKP 09 10 02.6 -0.4
baz=133
M17A Scullys Gap (B 133.37 34 ⇑PKiKP PKiKP 09 10 03.6 +0.3
baz=133
K19A Absolon Red Bu 133.40 31 ⇑PKiKP PKiKP 09 10 03.2 -0.1
baz=133
J20A Shoshoni 133.40 30 ⇓PKiKP PKiKP 09 10 03.5 +0.2
baz=133
L18A Fontenelle, Gr 133.40 33 ⇓PKiKP PKiKP 09 10 03.5 +0.1
baz=133
I21A Big Trails, Te 133.45 29 ⇑PKiKP PKiKP 09 10 03.6 +0.2
baz=133
JLU Jordanelle 133.51 35 *e*PKPdf PKPdf 09 10 04.4 +2.1
R13A O'Grain Ranch, 133.51 39 ⇓PKiKP PKiKP 09 10 03.9 +0.2
baz=133
N17A Moffit Pass 133.63 34 ⇑PKiKP PKiKP 09 10 03.8 -0.1
baz=134
L19A Farson 133.64 32 ⇓PKiKP PKiKP 09 10 03.5 -0.3
baz=134
BBRC Big Bear Solar 133.69 46 ⇑PKiKP PKiKP 09 10 04.7 +0.5
baz=134

P15A Leamington 133.69 37 ⇓PKiKP PKiKP 09 10 03.8 -0.2
baz=134
J21A Lysite 133.72 29 ⇓PKiKP PKiKP 09 10 03.5 -0.5
baz=134
M18A Lyman 133.73 33 ⇑PKiKP PKiKP 09 10 04.4 +0.3
baz=134
O16A Springville 133.74 36 ⇓PKiKP PKiKP 09 10 04.4 +0.3
baz=134
H23A Clabaugh Cattl 133.76 27 ⇑PKiKP PKiKP 09 10 03.7 -0.3
baz=134
I22A 9 Mile Ranch, 133.77 28 ⇓PKiKP PKiKP 09 10 04.2 +0.1
baz=134
K20A Yellowstone Ra 133.77 31 ⇑PKiKP PKiKP 09 10 04.2 +0.1
baz=134
TUQ Turquoise Moun 133.77 44 ⇑PKiKP PKiKP 09 10 05.0 +0.6
baz=134
HEC Hector,Ludlow 133.81 45 ⇓PKiKP PKiKP 09 10 04.5 +0.1
baz=134
MURC Murrieta 133.82 47 ⇑PKiKP PKiKP 09 10 04.2 -0.3
baz=134
H24A Dirks Ranch, A 133.99 26 ⇑PKiKP PKiKP 09 10 04.7 +0.2
baz=134
P16A Fountain Green 134.03 36 ⇓PKiKP PKiKP 09 10 04.5 -0.2
baz=134
AGMN Agassiz Nation 134.08 16 PFAKE 09 10 10.0 +6.8
AGMN LR LR

comp=Z,5µm,22.0s,MS6.2
J22A Midwest 134.14 29 ⇑PKiKP PKiKP 09 10 04.4 -0.4
baz=134
M19A Rock Springs 134.17 33 ⇓PKiKP PKiKP 09 10 05.1 +0.1
baz=134
O17A Robinson Place 134.19 35 ⇑PKiKP PKiKP 09 10 05.5 +0.5
baz=134
I23A Meade Ranch, G 134.20 27 ⇑PKiKP PKiKP 09 10 04.4 -0.5
baz=134
109C Camp Elliot, M 134.24 47 ⇑PKiKP PKiKP 09 10 06.0 +0.6
baz=134
L20A Wamsutter 134.24 31 ⇑PKiKP PKiKP 09 10 05.6 +0.6
baz=134
N18A Larsen Ranch, 134.25 33 ⇑PKiKP PKiKP 09 10 05.7 +0.5
baz=134
GMRC Granite Mounta 134.31 44 ⇑PKiKP PKiKP 09 10 05.7 +0.2
baz=134
K21A Alcova 134.34 30 ⇑PKiKP PKiKP 09 10 05.2 0.0
baz=134
PFO Pinyon Flat Ob 134.35 46 ⇑PKiKP PKiKP 09 10 05.5 0.0
baz=134
PFO Pinyon Flat Ob 134.35 46 PFAKE 09 10 10.0 +5.8
PFO LR LR

comp=Z,1µm,20.0s,MS5.5
MVU Marysvale 134.41 38 PFAKE 09 10 10.0 +5.9
MVU LR LR

comp=Z,2µm,21.0s,MS5.9
MSU Marysvale 134.42 38 *e*PKPdf PKPdf 09 10 06.7 +2.5
MSU *e*SKPbc SKPbc 09 13 33.8 +3.0
MSU Marysvale 134.42 38 *e*PKIKP PKPdf 09 10 06.7 +2.5
BELC Belle Mtn. Jos 134.48 45 ⇓PKiKP PKiKP 09 10 05.9 +0.1
baz=134
O18A Roosevelt 134.55 34 ⇓PKiKP PKiKP 09 10 06.3 +0.6
baz=134
N19A John Jarvie Ra 134.58 33 ⇑PKiKP PKiKP 09 10 05.8 0.0
baz=134
J23A Dilts Ranch, B 134.58 28 ⇓PKiKP PKiKP 09 10 05.5 -0.2
baz=134
I24A Kuemmerle Ranc 134.66 27 ⇓PKiKP PKiKP 09 10 05.9 +0.1
baz=134
P17A Butcher Ranch, 134.66 36 ⇓PKiKP PKiKP 09 10 06.0 0.0
baz=135
K22A Casper 134.69 29 ⇑PKiKP PKiKP 09 10 06.1 +0.1
baz=135
M20A Sweetwater, Wa 134.69 32 ⇑PKiKP PKiKP 09 10 06.4 +0.5
baz=135
RSSD Black Hills 134.71 26 *e*PKPpre PKPpre 09 09 57.1
RSSD *e*PKPdf PKPdf 09 10 05.8 +1.3
RSSD *e*SKPbc SKPbc 09 13 33.5 +2.0
RSSD Black Hills 134.71 26 *e*PKIKP PKPpre 09 09 57.1
RSSD *e* 09 10 05.8
MONP Monument Peak 134.74 47 ⇑PKiKP PKiKP 09 10 06.4 0.0
baz=135
Q16A Castle Valley 134.77 37 ⇓PKiKP PKiKP 09 10 06.5 +0.3
baz=135
L21A Rawlins 134.77 31 ⇓PKiKP PKiKP 09 10 06.6 +0.5
baz=135
TRQA Tornquist 134.79 198 PFAKE 09 10 20.0 +15
TRQA LR LR

comp=Z,2µm,20.0s,MS5.8
P18A Preston Nutter 134.84 35 ⇑PKiKP PKiKP 09 10 06.8 +0.4
baz=135
R16A Teasdale 134.99 38 ⇓PKiKP PKiKP 09 10 07.0 +0.4
baz=135
IRM Iron Mountain 134.99 45 ⇑PKiKP PKiKP 09 10 07.0 +0.2
baz=135
O19A Miners Draw (B 135.02 34 ⇓PKiKP PKiKP 09 10 07.0 +0.3
baz=135
SRU San Rafael 135.03 36 *e*PKPdf PKPdf 09 10 06.8 +1.6
SRU *e*PP PP 09 12 39.9 +0.1
SRU *e*SKPbc SKPbc 09 13 35.3 +2.6
SRU San Rafael 135.03 36 *e*PKIKP PKPdf 09 10 06.8 +1.5
SRU *e* 09 12 39.9
NEE2 Needles Airpor 135.03 44 ⇓PKiKP PKiKP 09 10 07.0 +0.1
baz=135
M21A Separation Pea 135.04 31 ⇓PKiKP PKiKP 09 10 06.9 +0.2
baz=135
K23A Bowen Ranch, D 135.04 29 ⇓PKiKP PKiKP 09 10 07.1 +0.4
baz=135
BC3 Big Chuckawall 135.04 46 ⇑PKiKP PKiKP 09 10 07.2 +0.2
baz=135
J24A Dixon Ranch, L 135.05 27 ⇓PKiKP PKiKP 09 10 07.4 +0.7
baz=135
RWWY Rawlins 135.06 31 *e*PKPdf PKPdf 09 10 05.9 +0.6
RWWY *e*SKPbc SKPbc 09 13 35.3 +2.7
DVTC Desert V Tower 135.09 47 ⇓PKiKP PKiKP 09 10 08.1 +1.1
baz=135
N20A Spence Gulch, 135.12 33 ⇑PKiKP PKiKP 09 10 07.8 +0.9
baz=135
SWSC Sam W. Stewart 135.17 47 ⇓PKiKP PKiKP 09 10 07.6 +0.3
baz=135
L22A Ellis Ranch, M 135.19 30 ⇓PKiKP PKiKP 09 10 07.6 +0.7
baz=135
Q18A Rafter H Ranch 135.26 36 ⇓PKiKP PKiKP 09 10 07.8 +0.6
baz=135
S16A Weppner Ranch, 135.27 38 ⇓PKiKP PKiKP 09 10 08.0 +0.7
baz=135
W13A Hualapai Mount 135.35 43 ⇓PKiKP PKiKP 09 10 08.2 +0.7
baz=135
R17A Hanksville Air 135.37 37 ⇑PKiKP PKiKP 09 10 08.1 +0.7
baz=135
K24A Andeson Ranch 135.45 28 ⇓PKiKP PKiKP 09 10 07.0 -0.5
baz=135
L23A Garrett 135.49 29 ⇑PKiKP PKiKP 09 10 07.5 -0.1
baz=135
EYMN Ely 135.50 13 *e*PKPdf PKPdf 09 10 07.2 +1.3
EYMN LR LR

comp=Z,3µm,21.0s,MS6.0
P19A Cripple Cowboy 135.56 34 ⇑PKiKP PKiKP 09 10 08.1 +0.3
baz=135
N21A Black Mountain 135.57 32 ⇑PKiKP PKiKP 09 10 08.6 +0.8
baz=135
M22A Cedar Creek Ra 135.58 31 ⇓PKiKP PKiKP 09 10 08.8 +1.0
baz=136
PDMCI Parker Dam,Lak 135.62 44 ⇑PKiKP PKiKP 09 10 08.6 +0.5
baz=136
O20A White River Ci 135.62 33 ⇓PKiKP PKiKP 09 10 08.9 +1.0
baz=136
Y12C Blythe 135.65 45 ⇓PKiKP PKiKP 09 10 08.7 +0.5
baz=136
GLA Glamis 135.81 46 ⇑PKiKP PKiKP 09 10 09.1 +0.6
baz=136
GLA Glamis 135.81 46 *e*PKPdf PKPdf 09 10 08.2 +1.3
GLA Glamis 135.81 46 *e*PKIKP PKPdf 09 10 08.2 +1.3
S17A Black Ridge (B 135.82 38 ⇑PKiKP PKiKP 09 10 09.1 +0.7
baz=136
Q19A Hogan Spring (135.86 35 ⇓PKiKP PKiKP 09 10 09.2 +0.7
baz=136
R18A Canyonlands Na 135.87 36 ⇑PKiKP PKiKP 09 10 08.9 +0.4
baz=136
L24A Wheatland 135.92 29 ⇑PKiKP PKiKP 09 10 09.1 +0.6
baz=136
M23A Laramie 135.97 30 ⇑PKiKP PKiKP 09 10 09.2 +0.6
baz=136
K25A Mack Ranch, Ha 135.97 27 ⇑PKiKP PKiKP 09 10 09.3 +0.8
baz=136
O21A Pagoda 135.98 33 ⇓PKiKP PKiKP 09 10 08.9 +0.2
baz=136
N22A Wattenberg Ran 136.09 31 ⇑PKiKP PKiKP 09 10 09.6 +0.7
baz=136
K26A Motz Farm, Whi 136.22 27 ⇑PKiKP PKiKP 09 10 09.1 0.0

baz=136
T17A Navajo Res., N 136.22 38 ⇑PKiKP PKiKP 09 10 09.6 +0.3
baz=136
PHWY Pilot Hill 136.22 30 ℯPKPdf PKPdf 09 10 07.1 -0.4
S18A Hurst Farm, Bl 136.27 37 ⇓PKiKP PKiKP 09 10 09.5 +0.2
baz=136
N23A Red Feather La 136.28 31 ⇑PKiKP PKiKP 09 10 09.5 +0.3
baz=136
R19A Curley Farm, L 136.31 36 ⇑PKiKP PKiKP 09 10 09.0 -0.4
baz=136
RPN Rapa Nui 136.33 138 PFAKE 09 10 20.0 +12
RPN LR LR
comp=Z,2μm,19.0s,MS5.8
M24A Cheyenne 136.41 29 ⇑PKiKP PKiKP 09 10 09.1 -0.4
baz=136
Q20A Ridgley Place, 136.41 34 ⇓PKiKP PKiKP 09 10 09.4 -0.2
baz=136
RCBR Riachuelo 136.42 256 PFAKE 09 10 20.0 +11
RCBR LR LR
comp=Z,3μm,19.0s,MS6.1
PV04 Paradox Valley 136.45 36 ℯPKPdf PKPdf 09 10 09.8 +1.8
PV04 ℯSKPbc SKPbc 09 13 41.3 +4.2
P21A Newcastle 136.49 33 ⇓PKiKP PKiKP 09 10 09.1 -0.6
baz=136
BRSD Miller 136.50 22 ⇑PKiKP PKiKP 09 10 09.7 +0.1
baz=136
O22A Kremmling 136.51 32 ⇑PKiKP PKiKP 09 10 10.8 +1.1
baz=136
U16A Tuba City 136.55 40 ⇑PKiKP PKiKP 09 10 10.9 +1.0
baz=136
U17A Shonto 136.56 39 ⇑PKiKP PKiKP 09 10 11.1 +1.1
baz=136
Z13A Yuma Proving G 136.56 45 ⇓PKiKP PKiKP 09 10 11.0 +0.9
baz=136
Y14A Wickenburg 136.60 44 ⇓PKiKP PKiKP 09 10 10.6 +0.4
baz=136
T18A Mexican Hat 136.70 38 ⇑PKiKP PKiKP 09 10 10.7 +0.5
baz=137
113A Mohawk Valley, 136.71 46 ⇑PKiKP PKiKP 09 10 10.9 +0.5
baz=137
S19A Harvey Farm, M 136.75 36 ⇓PKiKP PKiKP 09 10 11.3 +1.0
baz=137
WUAZ Wupatki 136.77 41 ⇑PKiKP PKiKP 09 10 10.7 +0.3
baz=137
WUAZ Wupatki 136.77 41 ℯPKPdf PKPdf 09 10 10.7 +2.1
WUAZ ℯSKPbc SKPbc 09 13 41.6 +3.5
WUAZ LR LR
comp=Z,2μm,21.0s,MS5.9
O23A Lake Granby, G 136.80 31 ⇓PKiKP PKiKP 09 10 11.0 +0.7
baz=137
M25A Palm-Egli Farm 136.81 29 ⇓PKiKP PKiKP 09 10 10.7 +0.4
baz=137
P22A Eagle 136.81 33 ⇑PKiKP PKiKP 09 10 10.2 -0.1
baz=137
PV01 Paradox Valley 136.82 36 ℯPKPdf PKPdf 09 10 11.3 +2.7
PV01 ℯSKPbc SKPbc 09 13 41.3 +3.0
N24A Carr 136.87 30 ⇓PKiKP PKiKP 09 10 11.0 +0.6
baz=137
R20A Redvale 136.89 35 ⇓PKiKP PKiKP 09 10 11.1 +0.5
baz=137
Q21A Lamborn Mesa, 136.90 34 ⇑PKiKP PKiKP 09 10 10.8 +0.2
baz=137
Z14A Wintersburg 136.97 44 ⇓PKiKP PKiKP 09 10 11.1 +0.3
baz=137
SMCO Snowmass 136.99 33 ℯPKPdf PKPdf 09 10 04.9 -4.0
SMCO ℯPP PP 09 12 51.9 0.0
SMCO ℯSKPbc SKPbc 09 13 42.5 +3.8
Y15A Casa Rosa Ranc 137.06 43 ⇓PKiKP PKiKP 09 10 11.0 0.0
baz=137
V17A Tonalea, Kykot 137.08 40 ⇑PKiKP PKiKP 09 10 10.8 -0.2
baz=137
S20A Disappointment 137.14 36 ⇑PKiKP PKiKP 09 10 11.4 +0.3
baz=137
U18A Rough Rock, Ch 137.16 38 ⇑PKiKP PKiKP 09 10 11.4 +0.3
baz=137
R21A Cimarron 137.24 35 ⇑PKiKP PKiKP 09 10 11.2 -0.1
baz=137
Q22A Crested Butte, 137.25 33 ⇑PKiKP PKiKP 09 10 11.7 +0.4
baz=137
ISCO Idaho Springs 137.26 31 ⇑PKiKP PKiKP 09 10 12.4 +1.2
baz=137
ISCO Idaho Springs 137.26 31 ℯPKPdf PKPdf 09 10 10.1 +0.6
ISCO LR LR
comp=Z,3μm,21.0s,MS6.0
ISCO Idaho Springs 137.26 31 ℯPKIKP PKPdf 09 10 10.1 +0.7
ISCO MLR MLR
comp=Z,3μm,21.0s,MS6.0
N25A Grover 137.27 29 ⇓PKiKP PKiKP 09 10 12.3 +1.1
baz=137
O24A Longmont 137.30 31 ⇑PKiKP PKiKP 09 10 12.8 +1.4
baz=137
114A Black Gap (USA 137.35 45 ⇓PKiKP PKiKP 09 10 13.2 +1.6
baz=137
X16A Lo Mia Camp, P 137.39 42 ⇓PKiKP PKiKP 09 10 13.3 +1.6
baz=137
T19A Beclabito 137.42 37 ⇑PKiKP PKiKP 09 10 13.2 +1.5
baz=137
P23A Jefferson 137.46 32 ⇓PKiKP PKiKP 09 10 13.4 +1.7
baz=137
W17A Winslow 137.47 41 ⇓PKiKP PKiKP 09 10 13.9 +2.0
baz=137
MVCO Mesa Verde 137.48 37 ⇓PKiKP PKiKP 09 10 13.4 +1.6
baz=137
MVCO Mesa Verde 137.48 37 ℯPKPdf PKPdf 09 10 11.9 +2.1
MVCO ℯSKPbc SKPbc 09 13 43.6 +3.4
MVCO LR LR
comp=Z,2μm,21.0s,MS5.9
V18A Ganado 137.57 39 ⇓PKiKP PKiKP 09 10 13.2 +1.2
baz=138
S21A Coal Bank Pass 137.59 35 ⇓PKiKP PKiKP 09 10 13.2 +1.2
baz=138
U19A Dine' College, 137.66 38 ⇓PKiKP PKiKP 09 10 13.5 +1.3
baz=138
Y16A Circle Bar Ran 137.68 43 ⇑PKiKP PKiKP 09 10 13.7 +1.4
baz=138
SPMN St. Paul 137.74 15 ⇓PKiKP PKiKP 09 10 13.2 +1.1
baz=138
R22A Saguache, Gunn 137.78 34 ⇑PKiKP PKiKP 09 10 13.5 +1.2
baz=138
O25A Wiggins 137.79 30 ⇑PKiKP PKiKP 09 10 14.1 +1.8
baz=138
Q23A Hartsel 137.80 33 ⇓PKiKP PKiKP 09 10 13.1 +0.7
baz=138
214A Organ Pipe Nat 137.83 46 ⇓PKiKP PKiKP 09 10 12.7 0.0
baz=138
115A Sonoran Desert 137.84 45 ⇑PKiKP PKiKP 09 10 13.6 +0.9
baz=138
X17A Forest Lakes 137.86 42 ⇓PKiKP PKiKP 09 10 14.1 +1.5
baz=138
ECSD EROS Data Cent 137.94 20 ℯPKPpre PKPpre 09 10 01.2
ECSD ℯPKPdf PKPdf 09 10 10.9 +0.4
ECSD ℯPP PP 09 12 53.5 -4.0
ECSD LR LR
comp=Z,4μm,21.0s,MS6.1
U20A Newcomb 138.02 37 ⇑PKiKP PKiKP 09 10 14.7 +1.8
baz=138
Z16A Peralta Trail, 138.03 43 ⇑PKiKP PKiKP 09 10 14.7 +1.7
baz=138
W18A Petrified Fore 138.07 40 ⇓PKiKP PKiKP 09 10 12.5 -0.6
baz=138
S22A 4UR Ranch, Cre 138.08 35 ⇓PKiKP PKiKP 09 10 12.7 -0.3
baz=138
O26A Horse Wrangler 138.09 29 ⇓PKiKP PKiKP 09 10 14.8 +1.9
baz=138
Q24A Divide 138.12 32 ⇓PKiKP PKiKP 09 10 12.5 -0.6
baz=138
V19A Window Rock 138.13 39 ⇑PKiKP PKiKP 09 10 12.8 -0.4
baz=138
OGNE Ogallala 138.13 27 PFAKE 09 10 20.0 +9.0
OGNE LR LR
comp=Z,4μm,20.0s,MS6.2
T21A Navajo Lake 138.20 36 ⇓PKiKP PKiKP 09 10 13.0 -0.2
baz=138
Y17A Roosevelt 138.21 42 ⇑PKiKP PKiKP 09 10 13.1 -0.3
baz=138
P25A Willow Gulch B 138.22 30 ⇓PKiKP PKiKP 09 10 12.8 -0.5
baz=138
116A Eloy 138.28 44 ⇓PKiKP PKiKP 09 10 13.2 -0.3
baz=138
W19A Sanders 138.30 40 ⇓PKiKP PKiKP 09 10 12.5 -1.0
baz=138
X18A Snowflake 138.30 41 ⇑PKiKP PKiKP 09 10 13.1 -0.4
baz=138
R23A Moffat 138.32 33 ⇑PKiKP PKiKP 09 10 13.4 -0.1
baz=138
V20A Brimhall 138.43 38 ⇑PKiKP PKiKP 09 10 12.9 -0.9
baz=138
U21A Nageezi 138.50 37 ⇑PKiKP PKiKP 09 10 13.6 -0.3
baz=138
T22A Edith 138.55 35 ⇓PKiKP PKiKP 09 10 13.4 -0.6
baz=138
S23A Nye Farm, Mont 138.57 34 ⇑PKiKP PKiKP 09 10 12.7 -1.3
baz=138
Q25A Bedland, Calha 138.63 31 ⇑PKiKP PKiKP 09 10 13.6 -0.5
baz=138
R24A Sanders Place, 138.68 33 ⇑PKiKP PKiKP 09 10 13.2 -1.0
baz=139
Z17A San Carlos Hig 138.70 43 ⇑PKiKP PKiKP 09 10 13.9 -0.5
baz=139
Y18A Canyon Day Jun 138.70 42 ⇓PKiKP PKiKP 09 10 14.1 -0.3
baz=139
216A Three Points, 138.76 45 ⇓PKiKP PKiKP 09 10 14.0 -0.6
baz=139
X19A St. Johns 138.79 40 ⇑PKiKP PKiKP 09 10 14.4 -0.1
baz=139
SDCO Great Sand Dun 138.82 33 ⇑PKiKP PKiKP 09 10 14.2 -0.4
baz=139
SDCO Great Sand Dun 138.82 33 PFAKE 09 10 20.0 +7.7
SDCO LR LR
comp=Z,2μm,20.0s,MS5.9
W20A Ramah 138.85 39 ⇑PKiKP PKiKP 09 10 14.7 0.0
baz=139
PKME Peaks-Kenny Pk 138.90 350 PFAKE 09 10 20.0 +7.8
PKME LR LR
comp=Z,6μm,20.0s,MS6.3
V21A Milan 138.93 37 ⇑PKiKP PKiKP 09 10 14.0 -0.8
baz=139
117A Oracle 138.94 44 ⇑PKiKP PKiKP 09 10 14.1 -0.8
baz=139
U22A Llaves 139.01 36 ⇑PKiKP PKiKP 09 10 14.5 -0.4
baz=139
T23A Casias Ranch, 139.03 35 ⇓PKiKP PKiKP 09 10 15.2 +0.3
baz=139
S24A Hohnin Ranch, 139.06 33 ⇑PKiKP PKiKP 09 10 15.1 +0.1
baz=139
TUC Tucson 139.06 44 ℯPKPpre PKPpre 09 10 07.4
TUC LR LR
comp=Z,2μm,19.0s,MS5.8
TUC Tucson 139.06 44 ℯPKIKP PKPpre 09 10 07.4
TUC MLR MLR
comp=Z,2μm,19.0s,MS5.8
Y19A Nutrioso 139.11 41 ⇑PKiKP PKiKP 09 10 16.0 +0.8
baz=139
Z18A Geronimo 139.12 42 ⇓PKiKP PKiKP 09 10 16.0 +0.7
baz=139
R25A Fountain Ranch 139.18 32 ⇓PKiKP PKiKP 09 10 15.5 +0.3
baz=139
X20A Quemado 139.22 40 ⇑PKiKP PKiKP 09 10 16.1 +0.6
baz=139
V22A San Miguel Ran 139.30 37 ⇑PKiKP PKiKP 09 10 14.8 -0.7
baz=139
217A Green Valley 139.34 45 ⇑PKiKP PKiKP 09 10 16.7 +0.9
baz=139
W21A San Fidel 139.38 38 ⇑PKiKP PKiKP 09 10 15.0 -0.8
baz=139
118A Homack Ranch, 139.43 43 ⇓PKiKP PKiKP 09 10 14.3 -1.6
baz=139
U23A El Rito 139.43 36 ⇓PKiKP PKiKP 09 10 15.2 -0.6
baz=139
S25A Robets Cordova 139.46 33 ⇓PKiKP PKiKP 09 10 14.2 -1.6
baz=139
Z19A T-Link Ranch, 139.51 42 ⇑PKiKP PKiKP 09 10 14.9 -1.2
baz=139
T24A Torres, Weston 139.55 34 ⇓PKiKP PKiKP 09 10 15.5 -0.6
baz=139
Y20A Horse Springs, 139.70 40 ⇑PKiKP PKiKP 09 10 15.8 -0.6
baz=140
GLMI Grayling 139.71 7 PFAKE 09 10 20.0 +6.3
GLMI LR LR
comp=Z,4μm,20.0s,MS6.2
X21A Alamocita Cree 139.74 39 ⇓PKiKP PKiKP 09 10 15.7 -0.8
baz=140
218A Dragoon 139.76 44 ⇓PKiKP PKiKP 09 10 16.3 -0.3
baz=140
119A Ashpeak Ranch, 139.80 42 ⇓PKiKP PKiKP 09 10 16.0 -0.7
baz=140
V23A Ortiz Mt. (NFS 139.84 36 ⇓PKiKP PKiKP 09 10 16.2 -0.5
baz=140
T25A Trinidad 139.86 33 ⇑PKiKP PKiKP 09 10 15.7 -1.0
baz=140
W22A Albuquerque 139.89 38 ⇑PKiKP PKiKP 09 10 15.4 -1.4
baz=140
U24A Moreno Valley 139.90 35 ⇑PKiKP PKiKP 09 10 15.6 -1.1
baz=140
Z20A Nine Sixteen R 140.06 41 ⇑PKiKP PKiKP 09 10 15.6 -1.6
baz=140
Y21A Point of Rocks 140.09 39 ⇓PKiKP PKiKP 09 10 16.2 -1.0
baz=140
318A Bisbee 140.11 45 ⇓PKiKP PKiKP 09 10 16.3 -1.1
baz=140
LAZ Ladron 140.17 39 ℯPKPdf PKPdf 09 10 16.8 +1.9
LAZ ℯPP PP 09 13 06.6 -5.3
LONY Lake Ozonia 140.17 356 PFAKE 09 10 20.0 +5.4
LONY LR LR
comp=Z,4μm,21.0s,MS6.1
X22A Bernardo 140.18 38 ⇑PKiKP PKiKP 09 10 15.8 -1.6
baz=140
ANMO Albuquerque 140.22 37 ℯPKPpre PKPpre 09 10 09.0
ANMO ℯSKPdf SKPdf 09 13 50.6 +4.0
ANMO LR LR
comp=Z,3μm,20.0s,MS6.0
ANMO Albuquerque 140.22 37 ℯPKHKP PKPpre 09 10 09.0
ANMO MLR MLR
comp=Z,3μm,20.0s
W23A Werner Place, 140.26 37 ⇑PKiKP PKiKP 09 10 16.0 -1.5
baz=140
LBNH Lisbon 140.29 353 PFAKE 09 10 20.0 +5.2
LBNH LR LR
comp=Z,3μm,19.0s,MS6.1
219A White Tail Can 140.29 43 ⇓PKiKP PKiKP 09 10 16.5 -1.2
baz=140
120A U Bar Ranch, L 140.38 42 ⇑PKiKP PKiKP 09 10 16.7 -1.1
baz=140
V24A Rampart Ranch, 140.39 35 ⇓PKiKP PKiKP 09 10 17.1 -0.7
baz=140
U25A Circle Dot Ran 140.40 34 ⇑PKiKP PKiKP 09 10 17.0 -0.8
baz=140
LENM Lemitar 140.43 39 ℯPKPdf PKPdf 09 10 17.2 +1.8
LENM ℯSKPdf SKPdf 09 13 51.1 +4.1
Y22D IRIS PASSCAL I 140.52 39 ⇓PKiKP PKiKP 09 10 17.2 -0.9
baz=140
Z21A Cloud Mine 140.54 40 ⇓PKiKP PKiKP 09 10 17.3 -0.9
baz=140
JFWS Jewell Farm 140.54 14 ℯPKPdf PKPdf 09 10 15.1 -0.2
JFWS LR LR
comp=Z,3μm,21.0s,MS6.0
JFWS Jewell Farm 140.54 14 ℯPKIKP PKPdf 09 10 15.1 -0.2
JFWS MLR MLR
comp=Z,3μm,21.0s,MS6.0
Y22A Socorro 140.58 39 ⇓PKiKP PKiKP 09 10 17.4 -0.9
baz=140
X23A Hourglass Bar 140.63 38 ⇑PKiKP PKiKP 09 10 17.1 -1.2
baz=140
319A Douglas 140.64 44 ⇓PKiKP PKiKP 09 10 17.6 -0.8
baz=141
BNM Barren Site 140.65 38 ℯPKPdf PKPdf 09 10 17.3 +1.5
BNM ℯSKPdf SKPdf 09 13 52.2 +4.9
MDV Middlebury 140.67 354 ℯPKPdf PKPdf 09 10 15.4 -0.1
MDV ℯPP PP 09 13 12.5 -1.5
W24A Lazy 6 Ranch, 140.67 36 ⇑PKiKP PKiKP 09 10 17.6 -0.7
baz=141
SCIA State Center 140.68 18 PFAKE 09 10 30.0 +14
SCIA LR LR
comp=Z,3μm,20.0s,MS6.0
V25A Rancho No Teng 140.68 35 ⇑PKiKP PKiKP 09 10 17.7 -0.7
baz=141
U26A Atchley Ranch, 140.77 33 ⇓PKiKP PKiKP 09 10 17.8 -0.7
baz=141
220A Playas Peak, P 140.84 43 ⇑PKiKP PKiKP 09 10 17.9 -1.0
baz=141
CBKS Cedar Bluff 140.89 27 ⇓PKiKP PKiKP 09 10 18.6 -0.1
baz=141
CBKS Cedar Bluff 140.89 27 ℯPKPpre PKPpre 09 10 10.4
CBKS LR LR
comp=Z,3μm,20.0s,MS6.0
CBKS Cedar Bluff 140.89 27 ℯPKHKP PKPpre 09 10 10.4
CBKS MLR MLR
comp=Z,3μm,20.0s,MS6.0
121A Cookes Peak, D 140.95 41 ⇓PKiKP PKiKP 09 10 18.3 -0.7
baz=141
Z22A Elephant Butte 141.03 40 ⇓PKiKP PKiKP 09 10 18.9 -0.3
baz=141
X24A Lazy VL Ranch, 141.10 37 ⇓PKiKP PKiKP 09 10 18.2 -1.1
baz=141
Y23A Lovelace Mesa, 141.15 38 ⇑PKiKP PKiKP 09 10 19.2 -0.2
baz=141
V26A Tequesquite Ra 141.18 34 ⇑PKiKP PKiKP 09 10 19.9 +0.5
baz=141
320A Kipp Ranch, An 141.18 43 ⇓PKiKP PKiKP 09 10 19.3 -0.2
baz=141
W25A X Bar L Ranch, 141.21 35 ⇓PKiKP PKiKP 09 10 18.9 -0.6
baz=141
221A Mesquite Ranch 141.28 42 ⇓PKiKP PKiKP 09 10 18.8 -1.0
baz=141
122A Conniff Cattle 141.36 40 ⇓PKiKP PKiKP 09 10 18.6 -1.2
baz=141
Z23A Rita Site, Whi 141.49 39 ⇓PKiKP PKiKP 09 10 18.7 -1.4
baz=141
Y24A Capitan 141.53 38 ⇑PKiKP PKiKP 09 10 19.2 -1.0
baz=141
X25A Clemmons Ranch 141.58 36 ⇓PKiKP PKiKP 09 10 18.9 -1.4
baz=142
222A Williams Famil 141.67 41 ⇑PKiKP PKiKP 09 10 19.1 -1.4
baz=142
W26A Owens Ranch, T 141.70 35 ⇑PKiKP PKiKP 09 10 18.8 -1.7
baz=142
123A Bell Site, Whi 141.88 40 ⇑PKiKP PKiKP 09 10 19.6 -1.4
baz=142
KSU1 Kansas State U 141.98 23 ℯPKPpre PKPpre 09 10 15.1
KSU1 LR LR
comp=Z,4μm,20.0s,MS6.1
Y25A Mesa, Roswell 141.99 37 ⇓PKiKP PKiKP 09 10 17.7 -3.4
baz=142
X26A CR and CF Fran 142.06 35 ⇑PKiKP PKiKP 09 10 18.3 -3.0
baz=142
W27A Bowe Ranch, En 142.12 34 ⇑PKiKP PKiKP 09 10 19.1 -2.3
baz=142
223A Chaparral, Ant 142.18 41 ⇓PKiKP PKiKP 09 10 17.0 -4.6
baz=142
AAM Ann Arbor 142.31 7 PFAKE 09 10 30.0 +11
AAM LR LR
comp=Z,5μm,20.0s,MS6.2
124A Stringfield Ra 142.35 39 ⇓PKiKP PKiKP 09 10 18.6 -3.3
baz=142
X27A F and S Farms, 142.40 35 ⇓PKiKP PKiKP 09 10 18.7 -3.2
baz=142
Z25A Roswell 142.41 38 ⇑PKiKP PKiKP 09 10 19.4 -2.6
baz=142
Y26A Elida 142.50 36 ⇑PKiKP PKiKP 09 10 19.6 -2.6
baz=142
BINY Binghamton 142.67 357 ℯPKPdf PKPdf 09 10 16.9 -2.3
BINY ℯPP PP 09 13 25.6 -0.6
BINY LR LR
comp=Z,5μm,20.0s,MS6.3
224A Cornudas Mount 142.72 40 ⇓PKiKP PKiKP 09 10 19.6 -3.1
baz=143
ERPA Erie 142.77 2 PFAKE 09 10 30.0 +11
ERPA LR LR
comp=Z,4μm,20.0s,MS6.2
Z26A Caprock 142.87 37 ⇑PKiKP PKiKP 09 10 20.8 -2.1
baz=143
125A Gardner Draw, 142.87 38 ⇓PKiKP PKiKP 09 10 18.6 -4.4
baz=143
Y27A Causey 142.91 36 ⇑PKiKP PKiKP 09 10 19.0 -4.0
baz=143
HDIL Hopedale 143.00 14 ℯPKPpre PKPpre 09 10 16.3
HDIL LR LR
comp=Z,4μm,21.0s,MS6.2
AMTX Amarillo 143.01 33 ⇑PKiKP PKiKP 09 10 18.9 -4.2
baz=143
AMTX Amarillo 143.01 33 ℯPKPpre PKPpre 09 10 17.0
AMTX LR LR
comp=Z,3μm,20.0s,MS6.1
CPUP Villa Florida 143.03 212 PKP PKPdf 09 10 20.1 -0.1
comp=Z,0.7nm,0.3s,baz=209,slow=6.5,SNR=3.5
CPUP Villa Florida 143.03 212 PKP PKPdf 09 10 20.1 -0.1
CPUP LR LR
comp=Z,362nm,19.0s,MS5.2
CPUP Villa Florida 143.03 212 PKIKP PKPdf 09 10 20.2 -0.1
MNTX Cornudas Mount 143.05 40 ⇑PKiKP PKPpre 09 10 18.8
baz=143
MNTX Cornudas Mount 143.05 40 ℯPKPpre PKPpre 09 10 17.1
MNTX LR LR
comp=Z,2μm,20.0s,MS6.0
MSTX Muleshoe 143.08 35 ⇓PKiKP PKiKP 09 10 19.9 -3.5
baz=143
CPRX Cap Rock 143.10 37 ℯPKPdf PKPdf 09 10 21.3 +1.1
225A Deer Hill, Car 143.14 39 ⇓PKiKP PKiKP 09 10 19.5 -4.0
baz=143
324A Moseley Ranch, 143.15 41 ⇓PKiKP PKiKP 09 10 18.5 -5.0
baz=143
126A Clayton Basin, 143.27 38 ⇓PKiKP PKiKP 09 10 18.9 -4.9
baz=143
Z27A Tatum 143.29 36 ⇓PKiKP PKiKP 09 10 18.9 -4.9
baz=143
325A Bean Ranch, Si 143.53 40 ⇓PKiKP PKiKP 09 10 18.9 -5.4
baz=143
CLNB Carlsbad 143.62 38 ℯPKPdf PKPdf 09 10 19.3 -1.8
226A Malaga, Loving 143.62 39 ⇓PKiKP PKiKP 09 10 19.6 -4.9
baz=144
127A Arkansas Junct 143.65 37 ⇓PKiKP PKiKP 09 10 20.0 -4.6
baz=144
SFIN Scholer Farm 143.66 11 ⇑PKiKP PKiKP 09 10 19.1 -5.2
baz=144
PAL Palisades 143.70 354 ℯPKPdf PKPdf 09 10 18.0 -3.0
PAL Palisades 143.70 354 ℯPKIKP PKPdf 09 10 18.0 -3.0
425A Indio Mountain 143.90 41 ⇑PKiKP PKiKP 09 10 20.1 -5.0
baz=144
227A Bennet, Jal 144.16 38 ⇑PKiKP PKiKP 09 10 20.7 -4.9
baz=144
326A Caldwell Ranch 144.20 39 ⇑PKiKP PKiKP 09 10 20.6 -5.1
baz=144
SSPA Standing Stone 144.28 360 ℯPKPdf PKPdf 09 10 19.7 -2.3
ACSO Alum Creek Sta 144.43 6 ℯPKPdf PKPdf 09 10 20.0 -2.3
ACSO LR LR
comp=Z,4μm,19.0s,MS6.2
327A Balmorhea Ranc 144.47 39 ⇑PKiKP PKiKP 09 10 21.6 -4.7
baz=144
TLL Tololo Astrono 144.54 191 ℯP PKPdf 09 10 23.6 +0.7
SLM Saint Louis 144.57 16 ℯPKPdf PKPdf 09 10 20.4 -2.2
SLM Saint Louis 144.57 16 ℯPKIKP PKPdf 09 10 20.4 -2.2
426A McDonald Obser 144.60 40 ⇑PKiKP PKiKP 09 10 22.1 -4.4
baz=144
WMOK Wichita Mounta 144.63 30 ℯPKPdf PKPdf 09 10 20.8 -2.0
WMOK LR LR
comp=Z,3μm,20.0s,MS6.1
WMOK Wichita Mounta 144.63 30 ℯPKIKP PKPdf 09 10 20.8 -2.0
WMOK MLR MLR
comp=Z,3μm,20.0s,MS6.1
427A Hayter Ranch, 144.88 39 ⇓PKiKP PKiKP 09 10 22.9 -4.2
baz=145
328A Wristen Ranch, 144.89 38 ⇑PKiKP PKiKP 09 10 22.9 -4.2
baz=145
BLO Bloomington 144.94 11 ℯPKPdf PKPdf 09 10 21.9 -1.3
BLO Bloomington 144.94 11 ℯPKIKP PKPdf 09 10 22.0 -1.2
526A Mary Lane Ranc 144.96 41 ⇓PKiKP PKiKP 09 10 23.6 -3.7
baz=145
OLIL Olney 145.02 13 ℯPKPdf PKPdf 09 10 22.3 -1.1
TUL1 Tulsa 145.04 25 ⇓PKiKP PKiKP 09 10 22.7 -4.6
baz=145
FVM French Village 145.12 17 ℯPKPdf PKPdf 09 10 22.1 -1.5
FVM French Village 145.12 17 ℯPKIKP PKPdf 09 10 22.1 -1.5
527A Woodward Ranch 145.22 41 ⇑PKiKP PKiKP 09 10 24.3 -3.6
baz=145
626A Big Bend Ranch 145.26 42 ⇓PKiKP PKiKP 09 10 24.5 -3.5
baz=145
428A Kincaid Ranch, 145.42 39 ⇓PKiKP PKiKP 09 10 25.5 -2.8
baz=145
SDMD Soldier's Deli 145.48 358 ℯPKPdf PKPdf 09 10 23.4 -0.8
LCO Las Campanas 145.65 192 ℯPKPdf PKPdf 09 10 27.6 +2.9
LCO LR LR
comp=Z,3μm,20.0s,MS6.1
SIUC Southern Illin 145.71 16 ℯPKPdf PKPdf 09 10 24.4 -0.1
TXAR Lajitas Array 145.71 42 PKPbc PKPbc 09 10 25.6 +0.3
comp=Z,98nm,0.9s,baz=290,slow=1.3,SNR=458
TXAR Lajitas Array 145.71 42 PKPbc PKPbc 09 10 25.6 +0.3
TXAR Lajitas Array 145.71 42 PKP2 PKPbc 09 10 25.6 +0.4
TXAR pmax pmax
comp=Z,98nm,0.9s
627A Terlingua Ranc 145.82 41 ⇑PKiKP PKiKP 09 10 26.5 -2.6
baz=146
USIN University of 145.85 13 ℯPKPdf PKPdf 09 10 24.9 0.0
WCI Wyandotte Cave 145.89 11 ℯPKPdf PKPdf 09 10 25.0 +0.1
WCI Wyandotte Cave 145.89 11 ℯPKP2 PKPab 09 10 25.0 -0.9
628A Black Gap, Mar 146.12 41 ⇓PKiKP PKPab 09 10 26.7 -0.4
baz=146
PARMO Parma 146.54 17 ℯPKPbc PKPbc 09 10 27.0 -0.5
CBN Corbin 146.70 359 ℯPKPbc PKPbc 09 10 28.6 +0.7
CBN LR LR
comp=Z,4μm,21.0s,MS6.2

PVMO	**Portageville**	**146.79**	**17**	*e*PKPbc	PKPbc	09 10 27.9	-0.3
GLAT	**Glass**	**147.04**	**17**	*e*PKPbc	PKPbc	09 10 30.5	+1.6
RFTA	**Plano**	**147.05**	**29**	*e*PKPdf	PKPdf	09 10 28.2	+1.2
UTMT	**University of**	**147.09**	**16**	*e*PKPbc	PKPbc	09 10 28.1	-0.9
MIAR	**Mount Ida**	**147.14**	**24**	*e*PKPdf	PKPdf	09 10 27.5	+0.4
MIAR				*e*PKPbc	PKPbc	09 10 29.4	+0.2
MIAR				LR	LR		
	comp=Z,3µm,20.0s,MS6.1						
MIAR	**Mount Ida**	**147.14**	**24**	*e*PKP2	PKPdf	09 10 27.5	+0.4
MIAR				MLR	MLR		
	comp=Z,3µm,20.0s,MS6.1						
HBAR	**Harrisburg**	**147.29**	**19**	*e*PKPbc	PKPbc	09 10 29.8	+0.2
JCT	**Junction City**	**147.34**	**36**	⇓PKiKP	PKPbc	09 10 30.0	+0.1
	baz=147						
JCT	**Junction City**	**147.34**	**36**	*e*PKPdf	PKPdf	09 10 28.1	+0.6
JCT				*e*PKPbc	PKPbc	09 10 30.4	+0.4
JCT				LR	LR		
	comp=Z,3µm,20.0s,MS6.0						
JCT	**Junction City**	**147.34**	**36**	*e*PKIKP	PKPdf	09 10 28.1	+0.6
JCT				*e*		09 10 30.4	
JCT				MLR	MLR		
	comp=Z,3µm,20.0s,MS6.0						
HALT	**Halls**	**147.36**	**17**	*e*PKPbc	PKPbc	09 10 29.4	-0.4
UALR	**University of**	**147.41**	**22**	*e*PKPdf	PKPdf	09 10 27.6	+0.1
UALR				*e*PKPbc	PKPbc	09 10 30.1	+0.1
WVT	**Waverly**	**147.56**	**15**	*e*PKPdf	PKPdf	09 10 27.3	-0.5
WVT				*e*PKPbc	PKPbc	09 10 30.2	-0.2
WVT	**Waverly**	**147.56**	**15**	*e*PKIKP	PKPdf	09 10 27.3	-0.5
WVT				*e*		09 10 30.2	
ELN	**Prospectdale**	**147.61**	**4**	*e*PKPdf	PKPdf	09 10 28.6	+0.8
BLA	**Blacksburg**	**147.64**	**3**	*e*PKPdf	PKPdf	09 10 28.5	+0.6
BLA				LR	LR		
	comp=Z,3µm,20.0s,MS6.1						
BLA	**Blacksburg**	**147.64**	**3**	*e*PKIKP	PKPdf	09 10 28.5	+0.6
BLA				MLR	MLR		
	comp=Z,3µm,20.0s,MS6.1						
TZTN	**Tazewell**	**148.00**	**8**	*e*PKPbc	PKPbc	09 10 30.9	-0.7
PLAL	**Pickwick Lake**	**148.59**	**16**	*e*PKPdf	PKPdf	09 10 28.7	-0.8
PLAL				*e*PKPbc	PKPbc	09 10 31.4	-1.7
PLAL				LR	LR		
	comp=Z,4µm,21.0s,MS6.2						
OXF	**Oxford**	**148.64**	**18**	*e*PKPdf	PKPdf	09 10 29.6	+0.1
OXF				*e*PKPbc	PKPbc	09 10 32.8	-0.5
OXF				LR	LR		
	comp=Z,3µm,21.0s,MS6.1						
OXF	**Oxford**	**148.64**	**18**	*e*PKIKP	PKPdf	09 10 29.6	0.0
OXF				*e*		09 10 32.8	
OXF				MLR	MLR		
	comp=Z,3µm,21.0s,MS6.1						
TKL	**Tuckaleechee C**	**148.84**	**9**	*e*PKPbc	PKPbc	09 10 32.9	-0.9
TKL	**Tuckaleechee C**	**148.84**	**9**	*e*PKP2	PKPbc	09 10 32.9	-0.9
SWET	**Sewanee**	**148.88**	**12**	*e*PKPdf	PKPdf	09 10 29.9	-0.1
SWET				*e*PKPbc	PKPbc	09 10 32.8	-1.1
CPCT	**Cooper Cave**	**148.92**	**10**	*e*PKPdf	PKPdf	09 10 28.9	-1.1
CPCT				*e*PKPbc	PKPbc	09 10 32.5	-1.5
NATX	**Nacogdoches**	**149.05**	**28**	*e*PKPdf	PKPdf	09 10 30.5	+0.2
NATX				*e*PKPbc	PKPbc	09 10 34.7	+0.3
NATX				LR	LR		
	comp=Z,5µm,22.0s,MS6.3						
KMSC	**Kings Mountain**	**149.63**	**5**	⇓PKiKP	PKPbc	09 10 34.2	-1.6
	baz=150						
CNNC	**Cliffs of the**	**149.67**	**359**	*e*PKPbc	PKPbc	09 10 35.0	-0.9
CNNC				LR	LR		
	comp=Z,4µm,20.0s,MS6.3						
BBSR	**BB Station**	**149.74**	**337**	*e*PKPbc	PKPbc	09 10 36.3	+0.2
BBSR				LR	LR		
	comp=Z,3µm,21.0s,MS6.0						
HKT	**Hockley**	**149.94**	**32**	*e*PKPdf	PKPdf	09 10 32.8	+1.0
HKT				*e*PKPbc	PKPbc	09 10 37.6	+0.9
HKT	**Hockley**	**149.94**	**32**	*e*PKHKP	PKPdf	09 10 32.8	+1.0
HKT				*e*		09 10 37.6	
VBMS	**Vicksburg**	**150.37**	**21**	*e*PKPbc	PKPbc	09 10 37.8	+0.2
VBMS				LR	LR		
	comp=Z,5µm,20.0s,MS6.3						
JSC	**Jenkinsville**	**150.50**	**5**	*e*PKPdf	PKPdf	09 10 33.9	+1.4
JSC				*e*PKPbc	PKPbc	09 10 37.8	-0.1
JSC	**Jenkinsville**	**150.50**	**5**	*e*PKIKP	PKPdf	09 10 33.9	+1.4
KVTX	**Kingsville**	**150.62**	**37**	*e*PKPbc	PKPbc	09 10 40.2	+1.8
KVTX				LR	LR		
	comp=Z,4µm,19.0s,MS6.2						
COW	**Cow Castle Cre**	**151.43**	**4**	*e*PKPbc	PKPbc	09 10 40.2	+0.1
NHSC	**New Hope**	**151.74**	**3**	*e*PKPbc	PKPbc	09 10 40.8	0.0
NHSC				LR	LR		
	comp=Z,4µm,22.0s,MS6.2						
BRAL	**Brewton**	**152.61**	**17**	*e*PKPdf	PKPdf	09 10 36.4	+0.6
BRAL				*e*PKPbc	PKPbc	09 10 43.0	+0.1
BRAL				*e*PKPab	PKPab	09 10 53.5	+0.2
BRAL				LR	LR		
	comp=Z,3µm,22.0s,MS6.1						
DWPF	**Disney**	**156.58**	**7**	*e*PKPab	PKPab	09 11 09.6	-0.6
LPAZ	**La Paz**	**156.81**	**205**	*e*PKPdf	PKPdf	09 10 43.1	+1.1
LPAZ				LR	LR		
	comp=Z,3µm,20.0s,MS6.1						
LPAZ	**La Paz**	**156.81**	**205**	*e*PKIKP	PKPdf	09 10 43.1	+1.1
LPAZ				MLR	MLR		
	comp=Z,3µm,20.0s						
ANWB	**Willy Bob**	**159.40**	**310**	PFAKE		09 11 00.0	+15
ANWB				LR	LR		
	comp=Z,2µm,21.0s,MS6.0						
BBGH	**Gun Hill**	**159.75**	**296**	PFAKE		09 11 00.0	+14
BBGH				LR	LR		
	comp=Z,4µm,19.0s,MS6.3						
FDF	**Fort de France**	**160.46**	**302**	PFAKE		09 11 00.0	+14
FDF				LR	LR		
	comp=Z,3µm,21.0s						
TEIG	**Tepich**	**161.80**	**32**	PFAKE		09 11 00.0	+12
TEIG				LR	LR		
	comp=Z,4µm,21.0s						
GRGR	**Grenville**	**162.03**	**295**	PFAKE		09 11 00.0	+12
GRGR				LR	LR		
	comp=Z,2µm,21.0s						
SJG	**San Juan**	**162.22**	**319**	PFAKE		09 11 00.0	+12
SJG				LR	LR		
	comp=Z,2µm,20.0s						
NNA	**Nana**	**163.30**	**185**	PFAKE		09 11 00.0	+11
NNA				LR	LR		
	comp=Z,2µm,19.0s						
SDDR	**Presa de Saban**	**164.31**	**335**	PFAKE		09 11 00.0	+10
SDDR				LR	LR		
	comp=Z,3µm,21.0s						
GTBY	**Guantanamo Bay**	**164.62**	**349**	PFAKE		09 11 00.0	+10
GTBY				LR	LR		
	comp=Z,3µm,20.0s						
MTDJ	**Mount Denham**	**166.60**	**357**	PFAKE		09 11 00.0	+8.0
MTDJ				LR	LR		
	comp=Z,4µm,20.0s						
PAYG	**Puerto Ayora**	**166.83**	**114**	PFAKE		09 11 00.0	+7.6
PAYG				LR	LR		
	comp=Z,2µm,20.0s						
TGUH	**Tegucigalpa,Un**	**167.18**	**43**	*e*PKPab	PKPab	09 11 58.1	+1.1
TGUH				LR	LR		
	comp=Z,3µm,19.0s						
JTS	**JuntasAbangare**	**171.39**	**50**	PFAKE		09 11 10.0	+15
JTS				LR	LR		
	comp=Z,3µm,22.0s						
SDV	**Santo Domingo**	**171.39**	**299**	PFAKE		09 11 10.0	+15
SDV				LR	LR		
	comp=Z,1µm,20.0s						
BCIP	**Isla Barro Col**	**175.35**	**20**	PFAKE		09 11 10.0	+13
BCIP				LR	LR		
	comp=Z,2µm,21.0s						
OTAV	**Otavalo**	**175.50**	**178**	*e*PKPdf	PKPdf	09 10 57.4	+0.6
OTAV				LR	LR		
	comp=Z,2µm,20.0s						
ROSC	**El Rosal**	**176.08**	**272**	PKP	PKPdf	09 10 56.4	-0.5
	comp=Z,1.6nm,0.3s,baz=274,slow=22,SNR=3.8						
ROSC	**El Rosal**	**176.08**	**272**	PKP	PKPdf	09 10 56.4	-0.5

*BEO **28** 08:51:59.0±1.5, 44°.37N×15°.72E, h7km±8km, ML2.8/5*
*ISCJB **28** 08:52:00.6±0.8, 43°.90N±0°.07×15°.87E±0°.08, h10km, Error ellipse: s-maj=12.5km s-min=3.0km az=38.6*
*CSEM **28** 08:52:00.2±0.4, 43°.92N×15°.79E, h2km, ML2.8, Error ellipse: s-maj=16.4km s-min=4.1km az=36.0*
ISC 28 08:52:00.4±1.0, 43°.90N±0°.07×15°.79E±0°.08, h3km±6km, n27, σ0°95/45, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVLJ	**Novalja**	**0.94**	**316**	*e*Pg	**Pg**	**08 52 17.0**	**-1.4**
NVLJ				Sg	**Sg**	**08 52 32.7**	**+2.0**
NVLJ	**Novalja**	**0.94**	**316**	*e*Pg	**Pg**	**08 52 17.0**	**-1.5**
NVLJ				Sg	**Sg**	**08 52 32.7**	**+2.0**
BLY	**Banja Luka**	**1.31**	**49**	*e*Pg	**Pn**	**08 52 19.6**	**-6.1**
BLY				*e*Sg	**Sn**	**08 52 34.7**	**-9.1**
BOJS	**Bojanci**	**1.66**	**347**	*i* Pn	**Pn**	**08 52 28.7**	**-1.7**
BOJS				*i* Sn	**Sn**	**08 52 49.8**	**-2.4**
BOJS							
	comp=Z,21nm,0.3s						
BOJS	**Bojanci**	**1.66**	**347**	*i* Pn	**Pn**	**08 52 28.7**	**-1.7**
BOJS				*i* Sn	**Sn**	**08 52 49.8**	**-2.4**
	comp=Z,21nm,0.3s						
STON	**Ston**	**1.73**	**126**	*e*Pn	**Pn**	**08 52 31.1**	**-0.3**
STON				Sn	**Sg**	**08 52 56.1**	**+0.2**
STON	**Ston**	**1.73**	**126**	*e*Pn	**Pn**	**08 52 31.1**	**-0.3**
STON				Sn	**Sg**	**08 52 56.0**	**+0.1**
GBRS	**Gornja Briga**	**1.78**	**337**	*i* Pn	**Pn**	**08 52 31.7**	**-0.4**
GBRS				*i* Sn	**Sn**	**08 52 55.9**	**+0.6**
KNDS	**Knezji Dol**	**1.92**	**329**	*e*Sn	**Sg**	**08 53 01.5**	**-0.6**
KNDS	**Knezji Dol**	**1.92**	**329**	*e*Sn	**Sg**	**08 53 01.5**	**-0.6**
VISS	**Visnje**	**2.02**	**341**	*i* Pn	**Pn**	**08 52 35.0**	**-0.5**
VISS				*i* Sn	**Sn**	**08 53 01.3**	**0.0**
VISS							
	comp=Z,13nm,0.2s						
VISS	**Visnje**	**2.02**	**341**	*i* Pn	**Pn**	**08 52 35.0**	**-0.5**
VISS				*i* Sn	**Sn**	**08 53 01.3**	**0.0**
	comp=Z,13nm,0.2s						
SKDS	**Skadanscina**	**2.08**	**323**	*i* Pn	**Pn**	**08 52 35.8**	**-0.5**
SKDS				*e*Sn	**Sn**	**08 53 03.9**	**+1.2**
SKDS							
	comp=Z,24nm,0.3s						
SKDS	**Skadanscina**	**2.08**	**323**	*i* Pn	**Pn**	**08 52 35.8**	**-0.5**
SKDS				*e*Sn	**Sn**	**08 53 03.9**	**+1.2**
	comp=Z,24nm,0.3s						
CEY	**Cerknica**	**2.08**	**333**	*i* Pn	**Pn**	**08 52 36.7**	**+0.4**
CEY				*e*Sn	**Sb**	**08 53 05.1**	**-0.1**
CEY							
	comp=Z,46nm,0.3s						
CEY	**Cerknica**	**2.08**	**333**	*i* Pn	**Pn**	**08 52 36.7**	**+0.4**
CEY				*e*Sn	**Sb**	**08 53 05.1**	**-0.1**
	comp=Z,46nm,0.3s						
VOY	**Vojsko**	**2.53**	**328**	*e*Pn	**Pn**	**08 52 43.5**	**+1.1**
VOY				*e*Sn	**Sb**	**08 53 19.2**	**+1.3**
VOY	**Vojsko**	**2.53**	**328**	*e*Pn	**Pn**	**08 52 43.5**	**+1.1**
BBLS	**Lazići**	**2.61**	**89**	*e*Pn	**Pn**	**08 52 43.4**	**-0.2**
BBLS				*e*Sg	**Sg**	**08 53 25.1**	**+0.7**
BBLS	**Lazići**	**2.61**	**89**	*e*Pn	**Pn**	**08 52 43.4**	**-0.2**
BBLS				*e*Sg	**Sg**	**08 53 25.1**	**+0.7**
DIVS	**Divibare**	**3.04**	**85**	*e*Pn	**Pn**	**08 52 49.0**	**-0.4**
DIVS	**Divibare**	**3.04**	**85**	*e*Pn	**Pn**	**08 52 49.0**	**-0.4**
SJES	**Sjenica**	**3.10**	**100**	*e*Pn	**Pn**	**08 52 50.6**	**+0.3**
SJES				*e*Sn	**Sn**	**08 53 29.6**	**+1.7**
SELS	**Selova**	**3.93**	**98**	*e*Pn	**Pn**	**08 53 01.3**	**-0.4**
BARS	**Barje**	**4.52**	**102**	*e*Pn	**Pn**	**08 53 09.3**	**-0.5**
BARS	**Barje**	**4.52**	**102**	*e*Pn	**Pn**	**08 53 09.3**	**-0.5**
ZAPS	**Zavoj**	**5.01**	**95**	*e*Pn	**Pn**	**08 53 16.2**	**-0.3**

*CSEM **28** 09:09:20.2, 45°.54N×13°.82E, h0km, ML0.8, Suspected Mining explosion. After LJU*
LJU 28 09:09:20.0, 45°.54N×13°.82E, h0km, ML0.8, 2C Artificial, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKDS	**Skadanscina**	**0.14**	**87⇑**	*i*Pg	Pg	09 09 22.9	+0.2
SKDS				*i* Sg	Sg	09 09 24.8	+0.3
SKDS							
	comp=Z,11nm,0.1s						
SKDS	**Skadanscina**	**0.14**	**87⇑**	*i*Pg	Pg	09 09 22.9	+0.2
SKDS				*i* Sg	Sg	09 09 24.8	+0.3
	comp=Z,11nm,0.1s						
JAVS	**Javornik**	**0.40**	**26**	*i* Pg	Pg	09 09 27.7	+0.1
JAVS				*i* Sg	Sg	09 09 33.5	+0.7
JAVS	**Javornik**	**0.40**	**26**	*i* Pg	Pg	09 09 27.7	+0.1
JAVS				*i* Sg	Sg	09 09 33.5	+0.8
KNDS	**Knezji Dol**	**0.40**	**91**	*i* Sg	Sg	09 09 34.0	+1.2
KNDS	**Knezji Dol**	**0.40**	**91**	*i* Sg	Sg	09 09 34.0	+1.2
CRNS	**Crni Vrh**	**0.63**	**30**	*i* Pg	Pg	09 09 31.6	-0.4
CRNS				*i* Sg	Sg	09 09 41.0	+0.9
CRNS							
	comp=Z,3.0nm,0.2s						
GBRS	**Gornja Briga**	**0.70**	**90**	*i* Pg	Pg	09 09 33.5	+0.1
GBRS				*i* Sg	Sg	09 09 44.0	+1.5

*JMA **28** 09:28:34.8±0.6, 44°.38N×149°.31E, h30km, M3.9*
*ISCJB **28** 09:28:37.4±1.6, 44°.0N±0°.2×149°.1E±0°.1, h55km±16km, mb4.0/11, Error ellipse: s-maj=37.1km s-min=15.4km az=164.3*
*IDC **28** 09:28:41.8±4.5, 44°.30N×149°.03E, h70km±43km, mb3.5/8, mb1 3.7/9, mb1mx3.5/23, mbtmp3.5/9, ML2.8/1, Error ellipse: s-maj=85.1km s-min=25.4km az=176.0*
*NEIC **28** 09:28:42.9±2.1, 44°.60N×149°.02E, h65km±22km, mb4.1/1, Error ellipse: s-maj=53.8km s-min=15.3km az=175.0*
ISC 28 09:28:38.8±1.6, 44°.1N±0°.2×149°.1E±0°.2, h48km±17km, n34, σ0°85/38, mb4.0/11, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**2.52**	**255**	P	**Pn**	**09 29 15.9**	**-1.4**
NEM2				*e*S	**Sn**	**09 29 46.6**	**-0.2**
JNK	**Nakash**	**3.20**	**263**	P	**Pn**	**09 29 25.9**	**-0.6**
JAK	**Akkeshi**	**3.37**	**253**	P	**Pn**	**09 29 27.9**	**-0.9**
JTKR	**Asashiri--Toko**	**3.74**	**270**	P	**Pn**	**09 29 34.4**	**+0.5**
JAR	**Ashoro**	**3.93**	**261**	P	**Pn**	**09 29 36.8**	**+0.2**
JMP	**Maruseppu**	**4.13**	**271**	P	**Pn**	**09 29 40.0**	**+0.7**
JCH	**Churui**	**4.42**	**253**	P	**Pn**	**09 29 43.2**	**-0.1**
JCH				*e*S	**Sn**	**09 30 33.5**	**+0.1**
ASAJ	**Asahikawa**	**4.68**	**273**	P	**Pn**	**09 29 48.8**	**+2.0**
	0.4nm,0.3s,baz=75,slow=12,SNR=4.3						
ASAJ				S	**Sn**	**09 30 57.2**	**+18**
	0.5nm,0.3s,baz=289,slow=18,SNR=2.5						
ASAJ	**Asahikawa**	**4.68**	**273**	*e*Pn	**Pn**	**09 29 50.3**	**+3.5**
ASAJ				S	**Sn**	**09 30 57.2**	**+18**
JEM	**Erimo**	**4.80**	**247**	P	**Pn**	**09 29 49.6**	**+1.0**
JNBK	**Urakawa-nobuka**	**4.96**	**251**	P	**Pn**	**09 29 50.1**	**-0.7**
JBT2	**Biratori 2**	**5.06**	**258**	P	**Pn**	**09 29 52.6**	**+0.5**
JNB	**Nobotbetsu**	**6.09**	**258**	P	**Pn**	**09 30 06.2**	**0.0**
JKB	**Kayabe**	**6.30**	**253**	P	**Pn**	**09 30 08.6**	**-0.4**
SONM	**Songino Array**	**29.64**	**293**	P	**P**	**09 34 39.9**	**+0.5**
	0.4nm,0.6s,mb3.4,baz=93,slow=8.7,SNR=3.4						
SONM	**Songino Array**	**29.64**	**293**	P	**P**	**09 34 40.0**	**+0.5**
ILAR	**Eielson Array**	**40.40**	**36**	P	**P**	**09 36 11.6**	**-0.1**
	0.8nm,1.1s,mb3.4,baz=274,slow=8.0,SNR=3.7						
ILAR	**Eielson Array**	**40.40**	**36**	P	**P**	**09 36 11.6**	**-0.1**
MKAR	**Makanchi Array**	**45.68**	**298**	P	**P**	**09 36 54.5**	**-0.1**
	0.8nm,0.6s,mb3.8,baz=80,slow=8.0,SNR=5.3						
MKAR	**Makanchi Array**	**45.68**	**298**	P	**P**	**09 36 54.5**	**-0.1**
ABKAR	**Akbulak array**	**57.95**	**309**	*e*P	**P**	**09 38 25.9**	**0.0**
	0.9nm,0.5s,mb4.1						
NIL	**Nilore**	**58.04**	**288**	*e*P	**P**	**09 38 28.9**	**+2.1**
	7.2nm,0.6s,mb4.9						
FINES	**FINESS Array B**	**65.22**	**334**	P	**P**	**09 39 12.9**	**-1.8**
	3.5nm,0.8s,mb4.4,baz=98,slow=10.0,SNR=3.7						
FINES	**FINESS Array B**	**65.22**	**334**	P	**P**	**09 39 12.9**	**-1.8**
YMR	**Madison River**	**66.63**	**50**	*e*P	**P**	**09 39 25.2**	**+1.1**
	8.7nm,0.4s,mb5.1						
NB2	**NORSAR Subarra**	**69.81**	**340**	P	**P**	**09 39 43.0**	**-0.6**
	comp=Z,1.9nm,0.8s,mb4.1,baz=32,slow=6.5						
NOA	**NORSAR Array B**	**69.81**	**340**	P	**P**	**09 39 42.9**	**-0.7**
	comp=Z,1.5nm,0.8s,mb4.0,baz=30,slow=6.2,SNR=5.6						
NOA	**NORSAR Array B**	**69.81**	**340**	P	**P**	**09 39 42.9**	**-0.7**
AKASG	**Malin Array Be**	**72.15**	**325**	P	**P**	**09 39 56.9**	**-1.1**
	comp=Z,0.6nm,0.5s,mb3.8,baz=37,slow=6.1,SNR=3.9						
AKASG	**Malin Array Be**	**72.15**	**325**	P	**P**	**09 39 56.9**	**-1.1**
GERES	**GERESS Array B**	**79.56**	**332**	P	**P**	**09 40 40.5**	**+0.2**
	comp=Z,0.4nm,0.5s,mb3.6,baz=355,slow=4.3,SNR=3.5						
GERES	**GERESS Array B**	**79.56**	**332**	P	**P**	**09 40 40.5**	**+0.2**
TXAR	**Lajitas Array**	**81.31**	**58**	P	**P**	**09 40 50.0**	**0.0**
	comp=Z,0.4nm,0.6s,mb3.5,baz=296,slow=4.9,SNR=7.2						
TXAR				pP	pP	09 41 02.6	-1.4
	comp=Z,0.4nm,0.7s,baz=314,slow=3.1,SNR=3.7						
TXAR	**Lajitas Array**	**81.31**	**58**	P	**P**	**09 40 50.0**	**0.0**
TXAR				pP	pP	09 41 02.6	-1.4

*SZGRF **28** 09:38:09.2, 22°.85N×46°.99W, h33km, mb5.3, Northern Mid-Atlantic Ridge*
*MOS **28** 09:38:12.7±1.0, 22°.57N×45°.02W, h10km, mb5.3/54, MS5.1/5, Error ellipse: s-maj=7.4km s-min=5.9km az=150.1*
*ISCJB **28** 09:38:12.6±0.2, 22°.50N±0°.05×44°.99W±0°.02, h10km, mb5.0/193, MS5.0/17, Error ellipse: s-maj=7.3km s-min=2.2km az=172.1*
*IDC **28** 09:38:12.1±0.5, 22°.54N×45°.08W, h0km, mb4.6/23, mb1 4.7/23, mb1mx4.6/28, mbtmp4.6/23, MS4.9/8, Ms1 4.9/8, ms1mx4.4/26, Error ellipse: s-maj=16.2km s-min=12.1km az=173.0*
*GCMT **28** 09:38:13.7±0.3, 22.62N×44°.95W, h12km±1km, MW5.2, Moment Tensor Solution. s30,c31; s88,c142; Moment tensor: Scale 10^{16}Nm; M_{rr}=8.92±.52; $M_{\theta\theta}$1.01±.31; $M_{\phi\phi}$7.92±.36; $M_{r\theta}$1.54±1.06; $M_{r\phi}$2.67±.21; $M_{\theta r}$-1.83±.86; Best double couple: $M_0$9.20000×10^{16} NP1:ϕ_s211.00000°, δ42.00000°,λ-72.00000°. NP2:ϕ_s7.00000°,δ50.00000°, λ-106.00000°. Principal axes: T 8.9200, Plg4.0000°, Azm108.0000°; N 0.5300, Plg12.0000°, Azm17.0000°; P -9.4400, Plg77.0000°, Azm216.0000°; Data Used: II IU G IC CN.*
*NEIC **28** 09:38:14.7±0.2, 22°.48N×45°.02W, h10km, mb5.1/110 Error ellipse: s-maj=7.7km s-min=3.4km az=171.0*
*BJI **28** 09:38:14.8, 22°.50N×45°.00W, h10km, mB5.5/5, mb5.2/1, Ms5.4/10, Ms7 5.0/8*
ISC 28 09:38:14.6±0.2, 22°.47N±0°.05×44°.96W±0°.02, h10km, (h15km±2.8km: pP-P), n712, σ0°75/689, mb5.0/193, MS5.0/17, 196C-166D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANWB	**Willy Bob**	**16.51**	**256**	*e*P	**Pn**	**09 42 08.6**	**+2.3**
	59nm,0.7s						
GRGR	**Grenville**	**18.95**	**240**	*e*P	**Pn**	**09 42 35.8**	**-0.8**
	565nm,1.4s						
STVI	**Saint Thomas**	**19.18**	**261**	*e*P	**Pn**	**09 42 37.5**	**-1.9**
	50nm,1.4s						
MTP	**Monte Pirata**	**19.80**	**261**	*e*P	**Pn**	**09 42 45.4**	**-1.4**
	392nm,1.5s						
CBYP	**Canovanas**	**20.03**	**262**	*e*P	**P**	**09 42 47.6**	**-0.1**
	180nm,1.6s						
SJG	**San Juan**	**20.34**	**262**	P	**P**	**09 42 50.2**	**-0.9**
	53nm,1.1s,baz=66,slow=6.4,SNR=10.0						
SJG				LR	LR	09 48 56.4	
	comp=Z,2µm,21.5s,MS4.5,baz=92,slow=32						
SJG	**San Juan**	**20.34**	**262**	*e*P	**P**	**09 42 50.0**	**-1.2**
	218nm,1.5s						
SJG	**San Juan**	**20.34**	**262**	*e*P	**P**	**09 42 50.0**	**-1.1**
SJG				pmax	pmax		
	comp=Z,218nm,1.5s						
ICM	**Isla Caja Muer**	**20.74**	**261**	*e*P	**P**	**09 42 53.7**	**-1.8**
CELP	**Cerrillos**	**20.74**	**262**	*e*P	**P**	**09 42 54.3**	**-1.2**
OBIP	**Obispado Ponce**	**20.78**	**262**	*e*P	**P**	**09 42 54.3**	**-1.6**
	comp=Z,291nm,1.4s						
AOPR	**Arecibo Observ**	**20.83**	**263**	*e*P	**P**	**09 42 54.9**	**-1.5**
	comp=Z,70nm,1.1s						
LRS	**Lares**	**20.93**	**263**	*e*P	**P**	**09 42 55.9**	**-1.6**
LSP	**Las Mesas**	**21.18**	**262**	*e*P	**P**	**09 42 59.2**	**-1.1**
MPR	**Mayaguez**	**21.22**	**263**	*e*P	**P**	**09 42 59.1**	**-1.6**
	comp=Z,283nm,1.5s,mb5.4						
CRPR	**Cabo Rojo, PR**	**21.25**	**262**	*e*P	**P**	**09 42 59.7**	**-1.2**
	comp=Z,61nm,1.4s,mb4.7						
SDDR	**Presa de Saban**	**24.86**	**267**	*e*P	**P**	**09 43 37.8**	**+0.3**
	comp=Z,92nm,1.4s,mb5.1						
CHIE	**El Hierro**	**24.98**	**72**	⇑P	**P**	**09 43 41.0**	**+2.6**
	comp=Z,341nm,1.9s,mb5.5						
PMOZ	**Porto Moniz, M**	**26.59**	**61**	*e*LR	LR	09 50 17.2	
	comp=Z,1µm,20.0s						
SDV	**Santo Domingo**	**28.10**	**245**	*e*P	**P**	**09 44 07.1**	**+0.3**
	comp=Z,28nm,1.3s,mb4.7						
MVL	**Millersville**	**31.81**	**311**	*e*P	**P**	**09 44 38.8**	**-0.5**
	comp=Z,26nm,1.1s,mb5.0						
FRNY	**Flat Rock**	**32.36**	**320**	*e*P	**P**	**09 44 43.5**	**-0.7**
	comp=Z,168nm,2.5s,mb5.4						
BLA	**Blacksburg**	**33.87**	**304**	*e*P	**P**	**09 44 56.9**	**-0.5**
	comp=Z,32nm,1.3s,mb5.1						
BLA	**Blacksburg**	**33.87**	**304**	*e*P	**P**	**09 44 56.9**	**-0.5**
BLA				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.1						
KMSC	**Kings Mountain**	**34.09**	**300**	⇓P	**P**	**09 44 59.2**	**-0.2**
	baz=34						
ELN	**Prospectdale**	**34.13**	**304**	*e*P	**P**	**09 44 58.8**	**-0.8**
PFVI	**Vila Bisbo**	**34.36**	**57**	*e*LR	LR	09 54 09.4	
	comp=Z,1µm,20.0s						
PMAFR	**Mafra**	**34.53**	**53**	*e*LR	LR	09 54 06.1	
	comp=Z,1µm,20.0s						
MORF	**Marmelete**	**34.54**	**56**	*e*P	**P**	**09 45 04.0**	**+0.7**
MORF				*e*S	**S**	**09 50 34.1**	**+1.9**
MORF	**Marmelete**	**34.54**	**56**	*e*LR	LR	09 53 06.4	
	comp=Z,2µm,20.0s						
PNCL	**Nicolau / Gran**	**34.85**	**55**	*e*P	**P**	**09 45 06.2**	**+0.3**
	comp=Z,31nm,1.7s,mb5.0						
PNC

comp=Z,1µm,20.0s
ERUA La Rua 37.20 49 P **P** 09 45 26.1 +0.2
comp=Z,30nm,1.1s,mb5.0
ERUA La Rua 37.20 49 P **P** 09 45 26.1 +0.2
ERUA pmax pmax
comp=Z,30nm,1.1s,mb5.0
PBRG Braganca 37.28 50 *e*P **P** 09 45 26.8 +0.2
comp=Z,54nm,1.8s,mb5.1
SWET Sewanee 37.82 299 *e*P **P** 09 45 30.5 -0.8
comp=Z,27nm,1.6s,mb4.7
ELOJ Sierra Loja 38.01 58 P **P** 09 45 34.5 +1.6
comp=Z,22nm,1.0s,mb4.8
ELOJ Sierra Loja 38.01 58 P **P** 09 45 34.5 +1.6
ELOJ pmax pmax
comp=Z,22nm,1.0s,mb4.8
BRAL Brewton 38.36 292 *e*P **P** 09 45 34.0 -1.9
comp=Z,52nm,1.1s,mb5.2
PAB San Pablo 38.38 54 *e*P **P** 09 45 37.1 +1.1
comp=Z,43nm,1.5s,mb5.0
PAB San Pablo 38.38 54 *e*P **P** 09 45 37.1 +1.1
PAB pmax pmax
comp=Z,43nm,1.5s,mb5.0
ECOG Cogollos-Vega 38.49 58 P **P** 09 45 37.9 +0.9
comp=Z,34nm,1.0s,mb5.0
ECOG Cogollos-Vega 38.49 58 P **P** 09 45 37.9 +0.9
ECOG pmax pmax
comp=Z,34nm,1.0s,mb5.0
WCI Wyandotte Cave 38.63 304 *e*P **P** 09 45 37.4 -0.8
comp=Z,15nm,1.1s,mb4.6
WCI Wyandotte Cave 38.63 304 *e*P **P** 09 45 37.4 -0.7
WCI pmax pmax
comp=Z,15nm,1.1s,mb4.6
ESDC Sonseca Array 38.70 54 P **P** 09 45 38.4 -0.3
comp=Z,12nm,1.1s,mb4.5,baz=257,slow=7.9,SNR=17
ESDC PcP PcP 09 47 50.0 -0.4
comp=Z,0.2nm,0.2s,baz=299,slow=3.1,SNR=5.3
ESDC Sonseca Array 38.70 54 P **P** 09 45 38.4 -0.3
comp=Z,8.0nm,0.9s,mb4.5
ESDC PcP PcP 09 47 50.0 -0.4
GUD Guadarrama 38.80 53 P **P** 09 45 41.3 +1.8
comp=Z,270nm,4.6s
GUD Guadarrama 38.80 53 P **P** 09 45 41.3 +1.8
GUD pmax pmax
comp=Z,270nm,4.6s
EHUE Huescar 39.35 57 P **P** 09 45 45.2 +1.1
comp=Z,51nm,1.2s,mb5.1
EHUE Huescar 39.35 57 P **P** 09 45 45.2 +1.0
EHUE pmax pmax
comp=Z,51nm,1.2s,mb5.1
OTAV Otavalo 39.38 240 *e*P **P** 09 45 45.9 +1.2
comp=Z,34nm,1.7s,mb4.8
WVT Waverly 39.48 300 *e*P **P** 09 45 43.9 -1.3
comp=Z,12nm,0.9s,mb4.6
WVT Waverly 39.48 300 *e*P **P** 09 45 43.9 -1.3
WVT pmax pmax
comp=Z,12nm,0.9s,mb4.6
ENIJ Nijar 39.51 59 P **P** 09 45 46.6 +1.1
comp=Z,114nm,1.2s,mb5.5
ENIJ Nijar 39.51 59 P **P** 09 45 46.6 +1.1
ENIJ pmax pmax
comp=Z,114nm,1.2s,mb5.5
PLAL Pickwick Lake 39.53 298 *e*P **P** 09 45 44.7 -1.0
EVIA Vianos 39.58 56 P **P** 09 45 45.7 -0.4
comp=Z,42nm,1.2s,mb5.0
EVIA Vianos 39.58 56 P **P** 09 45 45.7 -0.3
EVIA pmax pmax
comp=Z,42nm,1.2s,mb5.0
USIN University of 39.64 303 *e*P **P** 09 45 47.2 +0.6
comp=Z,20nm,1.0s,mb4.6
SFIN Scholer Farm 39.72 307 ⇓P **P** 09 45 46.7 -0.4
baz=40
ELAN Lanestosa 40.05 49 ⇑P **P** 09 45 49.9 0.0
comp=Z,68nm,1.1s,mb5.3
JTS JuntasAbangare 40.11 259⇓*e*P **P** 09 45 48.6 -2.1
OLIL Olney 40.12 304 *e*P **P** 09 45 50.2 -0.3
comp=Z,85nm,1.9s,mb5.2
ETOB Tobarra 40.31 56 P **P** 09 45 54.3 +2.2
comp=Z,887nm,2.8s,mb6.0
ETOR Torete 40.39 53 P **P** 09 45 56.8 +4.0
comp=Z,22nm,0.9s,mb4.9
ETOR Torete 40.39 53 P **P** 09 45 56.8 +4.1
ETOR pmax pmax
comp=Z,22nm,0.9s,mb4.9
OXF Oxford 40.57 297 *e*P **P** 09 45 54.9 +0.5
comp=Z,36nm,1.3s,mb4.8
OXF Oxford 40.57 297 *e*P **P** 09 45 54.9 +0.5
OXF pmax pmax
comp=Z,36nm,1.3s,mb4.8
TGUH Tegucigalpa,Un 40.93 266 *e*P **P** 09 45 59.6 +2.1
comp=Z,104nm,1.4s,mb5.3
SJPF Ste Jean 41.56 50 *e*P **P** 09 46 02.0 -0.4
comp=Z,90nm,1.2s,mb5.0
DBIC Dimbokro 41.70 106 P **P** 09 46 04.0 +0.2
comp=Z,7.2nm,0.9s,mb4.3,baz=267,slow=9.3,SNR=5.6
DBIC LR LR 10 01 20.0
comp=Z,2µm,18.0s,MS5.0,baz=9.6,slow=33
DBIC Dimbokro 41.70 106 *e*P **P** 09 46 00.5 -3.4
comp=Z,18nm,1.1s,mb4.6
DBIC Dimbokro 41.70 106 *e*P **P** 09 46 00.5 -3.4
DBIC pmax pmax
comp=Z,18nm,1.1s
ESAC San Caprasio 41.76 52 P **P** 09 46 07.6 +3.6
comp=Z,36nm,0.8s,mb5.1
FVM French Village 41.80 302 *e*P **P** 09 46 04.0 -0.4
comp=Z,13nm,0.8s,mb4.6
FVM French Village 41.80 302 *e*P **P** 09 46 04.0 -0.4
FVM pmax pmax
comp=Z,13nm,0.8s,mb4.6
QUIF Quistinic 41.83 42 *e*P **P** 09 46 03.4 -1.1
comp=Z,209nm,1.7s,mb5.2
ROSF Rostrenen 41.93 42 *e*P **P** 09 46 04.3 -1.0
comp=Z,160nm,1.5s,mb5.1
ETSF Etsaut 41.98 50 *e*P **P** 09 46 05.7 -0.1
comp=Z,118nm,1.2s,mb5.1
SGMF Saint Gilles 42.34 42 *e*P **P** 09 46 08.0 -0.6
comp=Z,224nm,1.5s,mb5.3
EBIE Bielsa 42.43 51 P **P** 09 46 10.0 +0.5
comp=Z,23nm,1.0s,mb4.8
EPF Esparros 42.65 50 *e*P **P** 09 46 11.1 -0.2
comp=Z,162nm,1.7s,mb5.2
UALR University of 43.00 297 *e*P **P** 09 46 13.2 -1.0
comp=Z,145nm,2.4s,mb5.3
MFF Saint Martin d 43.31 45 *e*P **P** 09 46 16.0 -0.5
comp=Z,119nm,1.2s,mb5.2
LFF La Frestale 43.42 48 *e*P **P** 09 46 16.6 -0.9
comp=Z,54nm,0.8s,mb5.0
GRR Gorron 43.44 42 *e*P **P** 09 46 16.7 -0.9
comp=Z,99nm,1.3s,mb5.1
CLLI Llivia 43.70 51 P **P** 09 46 23.2 +3.4
FLN La Foliniere 43.81 42 *e*P **P** 09 46 19.5 -1.0
comp=Z,78nm,1.3s,mb5.0
LDF La Druitiere 43.97 42 *e*P **P** 09 46 20.6 -1.3
comp=Z,26nm,1.2s,mb4.6
MIAR Mount Ida 44.00 297 *e*P **P** 09 46 21.9 -0.5
comp=Z,60nm,1.9s,mb5.0
MIAR Mount Ida 44.00 297 *e*P **P** 09 46 21.9 -0.4
MIAR pmax pmax
comp=Z,60nm,1.9s,mb5.0
ATAH Atahualpa 44.02 232 P **P** 09 46 22.6 0.0
comp=Z,14nm,1.0s,mb4.6,baz=100,slow=2.9,SNR=6.4
ATAH Atahualpa 44.02 232 P **P** 09 46 22.6 0.0
RJF Les Rejaudoux 44.05 47 *e*P **P** 09 46 21.2 -1.3
comp=Z,194nm,1.9s,mb5.2
MTLF Montolieu 44.06 50 *e*P **P** 09 46 21.7 -0.9
comp=Z,106nm,1.3s,mb5.1
CAF Calviac 44.32 48 *e*P **P** 09 46 23.7 -1.0
comp=Z,95nm,1.4s,mb5.0
TCF Toulx Ste Croi 44.77 46 *e*P **P** 09 46 27.5 -0.8
comp=Z,83nm,1.2s,mb5.1
SPMN St. Paul 44.96 312 ⇑P **P** 09 46 29.5 -0.3
baz=45
TORD Torodi Ar. Bea 45.22 94 P **P** 09 46 32.0 -0.3
comp=Z,6.8nm,0.8s,mb4.5,baz=295,slow=7.0,SNR=31
TORD LR LR 10 03 23.7
comp=Z,2µm,20.4s,MS5.1,baz=245,slow=33
TORD Torodi Ar. Bea 45.22 94 P **P** 09 46 32.0 -0.3
BGF Bois d'Agland 45.27 46 *e*P **P** 09 46 31.4 -0.9
comp=Z,72nm,1.3s,mb5.0
LASF Ste Croix 45.38 50 *e*P **P** 09 46 32.7 -0.5
comp=Z,135nm,1.4s,mb5.3
AVF Avril sur Loir 45.67 46 *e*P **P** 09 46 34.5 -0.9
comp=Z,133nm,1.3s,mb5.4
SSF Saint Saulge 45.84 46 *e*P **P** 09 46 35.7 -1.1
comp=Z,100nm,1.2s,mb5.3
TUL1 Tulsa 45.88 299 ⇑P **P** 09 46 36.3 -1.0
baz=46
HKT Hockley 45.95 290 *e*P **P** 09 46 37.9 0.0
comp=Z,104nm,2.4s,mb5.3
HKT Hockley 45.95 290 *e*P **P** 09 46 37.9 0.0
HKT pmax pmax
comp=Z,104nm,2.4s,mb5.3
SMF Signal de Mont 45.96 46 *e*P **P** 09 46 36.9 -0.8
comp=Z,149nm,1.6s,mb5.4
VIVF Saint-Julien-l 46.11 49 *e*P **P** 09 46 38.9 0.0
comp=Z,74nm,1.3s,mb5.2
LOR Lormes 46.13 45 *e*P **P** 09 46 38.2 -0.8
comp=Z,52nm,1.3s,mb5.0
TAM Tamanrasset 46.41 79 *e*P **P** 09 46 44.2 +2.6
comp=Z,36nm,1.4s,mb5.1
TAM Tamanrasset 46.41 79 *e*P **P** 09 46 44.2 +2.6
TAM pmax pmax
comp=Z,35nm,1.4s,mb5.1
SMRF Simiane la Rot 46.57 50 *e*P **P** 09 46 43.0 +0.4
comp=Z,424nm,1.9s,mb5.8
KSU1 Kansas State U 46.74 303 *e*P **P** 09 46 43.4 -0.6
comp=Z,19nm,0.9s,mb5.0
ORIF Oris-en-Rattie 46.97 49 *e*P **P** 09 46 44.9 -0.7
comp=Z,56nm,1.3s,mb5.0
BAIF Baives 47.13 42 *e*P **P** 09 46 45.5 -1.3
comp=Z,57nm,1.3s,mb5.0
SFTF Sexfontaines 47.14 44 *e*P **P** 09 46 45.8 -1.1
comp=Z,173nm,1.2s,mb5.5
MEZF Maizieres J'vi 47.22 44 *e*P **P** 09 46 46.6 -1.0
comp=Z,237nm,1.3s,mb5.7
CABF La Chapelle 47.45 47 *e*P **P** 09 46 48.9 -0.5
comp=Z,110nm,1.2s,mb5.4
GIVF Givet 47.52 42 *e*P **P** 09 46 48.5 -1.4
comp=Z,65nm,1.2s,mb5.2
MBDF Montbardon 47.55 49 *e*P **P** 09 46 50.6 +0.4
comp=Z,217nm,1.6s,mb5.6
PAGF Fort de Pagny 47.67 44 *e*P **P** 09 46 50.0 -1.1
comp=Z,41nm,1.4s,mb5.0
LPL La Plagne 47.67 48 *e*P **P** 09 46 51.4 +0.3
comp=Z,101nm,1.4s,mb5.3
LPG La Plagne 47.68 48 *e*P **P** 09 46 51.7 +0.5
comp=Z,100nm,1.4s,mb5.3
AGMN Agassiz Nation 47.75 316 *e*P **P** 09 46 50.9 -0.8
comp=Z,24nm,1.3s,mb5.1
HAU Haudompre 47.94 45 *e*P **P** 09 46 51.9 -1.3
comp=Z,48nm,1.1s,mb5.1
BGNE Belgrade 48.14 306 ⇓P **P** 09 46 53.9 -1.0
baz=48
HINF Hinteralfeld 48.23 45 *e*P **P** 09 46 53.8 -1.6
comp=Z,49nm,1.3s,mb5.1
ULM Lac du Bonnet 48.26 318 P **P** 09 46 54.3 -1.3
comp=Z,9.8nm,1.1s,mb4.8,baz=56,slow=9.2,SNR=4.5
ULM Lac du Bonnet 48.26 318 *e*P **P** 09 46 55.4 -0.2
comp=Z,24nm,1.4s,mb5.0
ULM Lac du Bonnet 48.26 318 *e*P **P** 09 46 55.4 -0.2
ULM pmax pmax
comp=Z,24nm,1.4s
WMOK Wichita Mounta 48.30 297 *e*P **P** 09 46 55.7 -0.5
comp=Z,25nm,1.3s,mb5.1
WMOK Wichita Mounta 48.30 297 *e*P **P** 09 46 55.7 -0.5
WMOK pmax pmax
comp=Z,25nm,1.3s,mb5.1
CDF Champ du Feu 48.64 45 *e*P **P** 09 46 57.3 -1.3
comp=Z,93nm,1.5s,mb5.3
KEST Kesra 48.70 62 P **P** 09 46 60.0 +0.7
comp=Z,14nm,0.9s,mb5.0,baz=266,slow=3.9,SNR=12
KEST Kesra 48.70 62 *e*P **P** 09 47 00.8 +1.6
BRSD Miller 49.11 310 ⇓P **P** 09 47 01.8 -0.4
baz=49
CBKS Cedar Bluff 49.16 302 ⇑P **P** 09 47 01.6 -1.1
baz=49
CBKS Cedar Bluff 49.16 302 *e*P **P** 09 47 02.5 -0.2
comp=Z,27nm,1.4s,mb5.1
CBKS Cedar Bluff 49.16 302 *e*P **P** 09 47 02.5 -0.2
CBKS pmax pmax
comp=Z,27nm,1.4s,mb5.1
BFO Black Forest 49.31 45 *e*P **P** 09 47 03.6 -0.1
comp=Z,33nm,1.2s,mb5.2
BFO Black Forest 49.31 45 *e*P **P** 09 47 03.6 -0.1
BFO pmax pmax
comp=Z,33nm,1.2s,mb5.2
JCT Junction City 49.34 291 ⇓P **P** 09 47 02.9 -1.4
baz=49
JCT Junction City 49.34 291 *e*P **P** 09 47 02.7 -1.5
comp=Z,91nm,2.5s,mb5.4
JCT Junction City 49.34 291 *e*P **P** 09 47 02.7 -1.5
JCT pmax pmax
comp=Z,91nm,2.5s,mb5.4
TUE Stuetta 49.64 47 *e*P **P** 09 47 07.5 +1.3
SCO Scoresbysund 49.91 10 *i*P **P** 09 47 09.1 +1.2
SCO pmax pmax
comp=Z,11nm,0.9s,mb4.9
CPUP Villa Florida 49.97 195 P **P** 09 47 07.6 -1.3
comp=Z,6.0nm,1.0s,mb4.6,baz=360,slow=11,SNR=5.3
CPUP Villa Florida 49.97 195 *e*P **P** 09 47 08.4 -0.4
CPUP Villa Florida 49.97 195 *e*P **P** 09 47 08.4 -0.5
DAVOX Davos/Dischmat 50.05 47 P **P** 09 47 10.2 +0.8
comp=Z,9.4nm,0.8s,mb4.8,baz=278,slow=9.8,SNR=9.1
DAVOX Davos/Dischmat 50.05 47 P **P** 09 47 10.2 +0.8
DAVOX Davos/Dischmat 50.05 47 P **P** 09 47 10.2 +0.8
MDND Maddock 50.10 314 ⇓P **P** 09 47 08.5 -1.3
baz=50
DAVA Damuels 50.13 46⇑*i*P **P** 09 47 09.4 -0.6
comp=Z,35nm,1.0s,mb5.3
SUMG Summit 50.27 3 *e*P **P** 09 47 09.8 -0.8
SUMG Summit 50.27 3 *i*P **P** 09 47 09.6 -1.0
SUMG pmax pmax
comp=Z,12nm,1.0s
SUMG MLR MLR
comp=Z,4µm,19.0s
FETA Feichten 50.66 47⇓*i*P **P** 09 47 14.5 +0.5
comp=Z,40nm,1.1s,mb5.2
AMTX Amarillo 50.68 297 ⇑P **P** 09 47 13.8 -0.5
baz=51,SNR=6.9
AMTX Amarillo 50.68 297 *e*P **P** 09 47 14.8 +0.4
comp=Z,32nm,0.9s,mb5.2
MOTA Moosalm 50.97 47⇑*i*P **P** 09 47 16.6 +0.3
comp=Z,22nm,1.1s,mb5.0
OGNE Ogallala 51.03 305 ⇑P **P** 09 47 16.1 -0.8
baz=51
OGNE Ogallala 51.03 305 *e*P **P** 09 47 17.6 +0.7
comp=Z,305nm,2.9s,mb5.7
WTTA Wattenberg 51.31 47⇑*i*P **P** 09 47 18.9 +0.1
comp=Z,36nm,1.0s,mb5.3
GRF Grafenberg Arr 51.44 44 *e*P **P** 09 47 18.6 -1.2
comp=Z,64nm,1.6s,mb5.3
GRF Grafenberg Arr 51.44 44 *e*P **P** 09 47 18.6 -1.2
GRF pmax pmax
comp=Z,64nm,1.6s,mb5.3
MSTX Muleshoe 51.62 296 ⇓P **P** 09 47 21.1 -0.3
baz=52,SNR=8.9
428A Kincaid Ranch, 51.79 292 ⇓P **P** 09 47 22.4 -0.4
baz=52,SNR=12
W27A Bowe Ranch, En 51.81 298 ⇑P **P** 09 47 22.2 -0.7
baz=52,SNR=5.2
328A Wristen Ranch, 51.84 293 ⇑P **P** 09 47 22.1 -1.0
baz=52
X27A F and S Farms, 51.86 297 ⇓P **P** 09 47 22.5 -0.7
baz=52
Y27A Causey 51.95 296 ⇑P **P** 09 47 23.6 -0.3
baz=52,SNR=23
O26A Horse Wrangler 51.98 304 ⇑P **P** 09 47 23.8 -0.2
baz=52
K26A Motz Farm, Whi 51.98 307 ⇑P **P** 09 47 23.9 -0.1
baz=52
Z27A Tatum 52.03 295 ⇑P **P** 09 47 23.6 -0.9
baz=52
628A Black Gap, Mar 52.10 291 ⇓P **P** 09 47 24.4 -0.6
baz=52,SNR=8.8
227A Bennet, Jal 52.19 294 ⇓P **P** 09 47 24.9 -0.8
baz=52
127A Arkansas Junct 52.20 295 ⇑P **P** 09 47 25.0 -0.7
baz=52
NKC Novy Kostel 52.32 43 *e*P **P** 09 47 24.9 -1.4
NKC Novy Kostel 52.32 43 *e*P **P** 09 47 24.9 -1.4
U26A Atchley Ranch, 52.32 299 ⇓P **P** 09 47 26.3 -0.3
baz=52
V26A Tequesquite Ra 52.37 299 ⇓P **P** 09 47 26.7 -0.3
baz=52,SNR=5.4
W26A Owens Ranch, T 52.39 298 ⇑P **P** 09 47 26.8 -0.3
baz=52
427A Hayter Ranch, 52.40 292 ⇑P **P** 09 47 26.4 -0.9
baz=52
KBA Koelnbreinsper 52.44 47⇑*i*P **P** 09 47 27.0 -0.4
comp=Z,35nm,1.3s,mb5.1
X26A CR and CF Fran 52.45 297 ⇓P **P** 09 47 27.3 -0.3
baz=52,SNR=13
K25A Mack Ranch, Ha 52.49 307 ⇑P **P** 09 47 27.4 -0.4
baz=52
Y26A Elida 52.50 296 ⇑P **P** 09 47 27.0 -0.9
baz=52
627A Terlingua Ranc 52.54 291 ⇑P **P** 09 47 27.9 -0.4
baz=52
M25A Palm-Egli Farm 52.57 306 ⇓P **P** 09 47 28.4 0.0
baz=52
N25A Grover 52.58 305 ⇑P **P** 09 47 28.5 +0.1
baz=52
O25A Wiggins 52.59 304 ⇑P **P** 09 47 28.5 -0.1
baz=52,SNR=8.8
MYKA Terra Mystica 52.59 48⇑*i*P **P** 09 47 28.4 0.0
comp=Z,38nm,1.0s,mb5.3
CPRX Cap Rock 52.60 295 *e*P **P** 09 47 28.8 +0.1
comp=Z,26nm,1.3s,mb5.0
P25A Willow Gulch B 52.62 303 ⇓P **P** 09 47 28.2 -0.6
baz=52
527A Woodward Ranch 52.65 291 ⇑P **P** 09 47 28.7 -0.5
baz=52,SNR=15
CLNB Carlsbad 52.67 294 *e*P **P** 09 47 29.7 +0.4
comp=Z,4.0nm,1.2s,mb4.2
Z26A Caprock 52.67 295 ⇓P **P** 09 47 28.8 -0.5
baz=52,SNR=11
Q25A Bedland, Calha 52.68 302 ⇑P **P** 09 47 29.0 -0.2
baz=52
R25A Fountain Ranch 52.71 302 ⇑P **P** 09 47 29.1 -0.4
baz=53
126A Clayton Basin, 52.76 295 ⇓P **P** 09 47 29.1 -0.8
baz=53
TXAR Lajitas Array 52.79 290 P **P** 09 47 28.3 -1.9
comp=Z,2.4nm,1.0s,mb4.1,baz=98,slow=7.7,SNR=16
TXAR Lajitas Array 52.79 290 P **P** 09 47 28.3 -1.9
TXAR Lajitas Array 52.79 290 P **P** 09 47 28.3 -1.9
T25A Trinidad 52.83 300 ⇓P **P** 09 47 30.3 -0.1
baz=53
326A Caldwell Ranch 52.84 293 ⇑P **P** 09 47 30.1 -0.5
baz=53
S25A Robets Cordova 52.84 301 ⇑P **P** 09 47 29.9 -0.5
baz=53
U25A Circle Dot Ran 52.85 299 ⇑P **P** 09 47 30.7 +0.1
baz=53,SNR=8.4
CLL Collm 52.85 42 *i*P **P** 09 47 29.8 -0.5
CLL *i* 09 47 36.3
CLL pmax pmax
comp=Z,28nm,1.4s,mb5.0
KHC Kasperske Hory 52.87 45 *e*P **P** 09 47 30.1 -0.3
comp=Z,27nm,1.4s,mb5.0
KHC Kasperske Hory 52.87 45 *e*P **P** 09 47 30.2 -0.2
KHC *e* 09 47 36.4
KHC Kasperske Hory 52.87 45 *e*P **P** 09 47 30.2 -0.2
KHC *e*pP pP 09 47 36.4 +2.8
GERES GERESS Array B 52.91 45 P **P** 09 47 30.0 -0.8
comp=Z,15nm,1.2s,mb4.8,baz=258,slow=5.2,SNR=24
GERES GERESS Array B 52.91 45 P **P** 09 47 30.0 -0.8
GERES GERESS Array B 52.91 45 P **P** 09 47 30.0 -0.7
W25A X Bar L Ranch, 52.95 298 ⇓P **P** 09 47 30.5 -0.8
baz=53
426A McDonald Obser 52.95 292 ⇓P **P** 09 47 31.1 -0.2
baz=53
FFC Flin Flon 53.01 322 *e*P **P** 09 47 30.6 -0.8
comp=Z,42nm,1.8s,mb5.1
FFC Flin Flon 53.01 322*ce*P **P** 09 47 31.2 -0.2
V25A Rancho No Teng 53.05 299 ⇑P **P** 09 47 31.8 -0.2
baz=53,SNR=7.3
526A Mary Lane Ranc 53.07 291 ⇑P **P** 09 47 32.3 0.0
baz=53,SNR=12
J24A Dixon Ranch, L 53.10 308 ⇑P **P** 09 47 31.8 -0.5
baz=53
H24A Dirks Ranch, A 53.12 310 ⇑P **P** 09 47 31.9 -0.4
baz=53
F24A Ekalaka 53.13 311 ⇑P **P** 09 47 33.1 +0.7
baz=53
M24A Cheyenne 53.15 306 ⇑P **P** 09 47 33.0 +0.3
baz=53,SNR=5.6
MOA Molln 53.15 46⇑*i*P **P** 09 47 32.0 -0.6
comp=Z,27nm,1.3s,mb5.0
626A Big Bend Ranch 53.17 291 ⇑P **P** 09 47 33.1 +0.1
baz=53
D24A Glendive 53.17 313 ⇑P **P** 09 47 32.7 0.0
baz=53
N24A Carr 53.18 305 ⇑P **P** 09 47 32.7 -0.2
baz=53
P24A Kohler Place, 53.19 303 ⇑P **P** 09 47 33.0 0.0
baz=53
OBKA Obir 53.20 48⇑*i*P **P** 09 47 33.0 0.0
comp=Z,57nm,1.3s,mb5.3
Y25A Mesa, Roswell 53.22 296 ⇑P **P** 09 47 33.4 +0.1
baz=53,SNR=8.0
L24A Wheatland 53.25 306 ⇑P **P** 09 47 33.1 -0.3
baz=53
Z25A Roswell 53.29 295 ⇑P **P** 09 47 34.4 +0.5
baz=53
125A Gardner Draw, 53.29 295 ⇑P **P** 09 47 33.4 -0.5
baz=53,SNR=9.7
O24A Longmont 53.32 304 ⇓P **P** 09 47 33.9 -0.1
baz=53
T24A Torres, Weston 53.35 300 ⇓P **P** 09 47 34.3 +0.1
baz=53
R24A Sanders Place, 53.36 302 ⇓P **P** 09 47 34.4 +0.1
baz=53
BRG Berggiesshubel 53.37 43 *e*P **P** 09 47 33.4 -0.7
BRG pmax pmax
comp=Z,24nm,1.7s,mb4.8
BRG MLR MLR
comp=N,2µm,20.1s,MS5.4
BRG MLR MLR
comp=E,2µm,17.6s,MS5.4
BRG MLR MLR
comp=Z,2µm,19.1s,MS5.2
Q24A Divide 53.38 303 ⇓P **P** 09 47 34.7 +0.3
baz=53
S24A Houchin Ranch, 53.46 301 ⇓P **P** 09 47 35.0 0.0
baz=53
225A Deer Hill, Car 53.48 294 ⇑P **P** 09 47 35.1 -0.1
baz=53
V24A Rampart Ranch, 53.58 299 ⇓P **P** 09 47 36.1 +0.2
baz=53,SNR=6.2
PHWY Pilot Hill 53.63 305 *e*P **P** 09 47 36.7 +0.5
comp=Z,16nm,1.4s,mb4.8
325A Bean Ranch, Si 53.68 293 ⇑P **P** 09 47 36.6 -0.1
baz=54,SNR=7.6
SDCO Great Sand Dun 53.68 301 ⇓P **P** 09 47 36.9 +0.2
baz=54
SDCO Great Sand Dun 53.68 301 *e*P **P** 09 47 37.4 +0.8
comp=Z,11nm,1.6s,mb4.5
PVCC Panska Ves 53.71 43 *e*P **P** 09 47 36.2 -0.4
PVCC Panska Ves 53.71 43 *e*P **P** 09 47 36.2 -0.4
H23A Clabaugh Cattl 53.71 310 ⇑P **P** 09 47 36.6 -0.1
baz=54
W24A Lazy 6 Ranch, 53.72 298 ⇓P **P** 09 47 37.2 +0.2
baz=54
ISCO Idaho Springs 53.74 304 ⇓P **P** 09 47 37.2 +0.2
baz=54
ISCO Idaho Springs 53.74 304 *e*P **P** 09 47 37.6 +0.6
comp=Z,42nm,2.1s,mb5.0
ISCO Idaho Springs 53.74 304 *e*P **P** 09 47 37.6 +0.6
ISCO pmax pmax
comp=Z,42nm,2.1s,mb5.0
425A Indio Mountain 53.76 292 ⇓P **P** 09 47 37.5 +0.3
baz=54,SNR=10.0
B23A Brockton 53.76 314 ⇑P **P** 09 47 36.9 -0.1
baz=54
D23A Lindsay 53.77 313 ⇑P **P** 09 47 37.1 0.0
baz=54
F23A Volborg 53.79 311 ⇓P **P** 09 47 36.8 -0.4
baz=54
K23A Bowen Ranch, D 53.79 307 ⇑P **P** 09 47 36.9 -0.4
baz=54
X24A Lazy VL Ranch, 53.79 297 ⇑P **P** 09 47 37.6 +0.2
baz=54
L23A Garrett 53.83 306 ⇓P **P** 09 47 37.0 -0.7
baz=54
M23A Laramie 53.83 306 ⇓P **P** 09 47 37.8 +0.2
baz=54
Y24A Capitan 53.84 296 ⇑P **P** 09 47 38.4 +0.5
baz=54,SNR=7.1
P23A Jefferson 53.91 303 ⇑P **P** 09 47 39.3 +1.0
baz=54,SNR=9.2
Q23A Hartsel 53.92 302 ⇓P **P** 09 47 39.4 +1.0
baz=54
R23A Moffat 53.93 302 ⇓P **P** 09 47 39.7 +1.2
baz=54
ARSA Arzberg 53.94 47⇑*i*P **P** 09 47 36.7 -1.6
comp=Z,25nm,1.1s,mb5.0
124A Stringfield Ra 53.96 295 ⇑P **P** 09 47 39.1 +0.4
baz=54
O23A Lake Granby, G 53.97 304 ⇓P **P** 09 47 39.1 +0.4
baz=54
N23A Red Feather La 53.99 305 ⇓P **P** 09 47 39.1 +0.3
baz=54

MNTX Cornudas Mount 53.99 294 ⇓P P 09 47 38.5 -0.5
baz=54
MNTX Cornudas Mount 53.99 294 eP P 09 47 38.6 -0.4
comp=Z,38nm,2.5s,mb4.9
224A Cornudas Mount 54.07 294 ⇑P P 09 47 39.2 -0.4
baz=54
S23A Nye Farm, Mont 54.08 301 ⇑P P 09 47 40.1 +0.5
baz=54
324A Moseley Ranch, 54.11 293 ⇓P P 09 47 40.7 +0.9
baz=54,SNR=9.9
T23A Casias Ranch, 54.14 300 ⇑P P 09 47 40.9 +1.0
baz=54,SNR=6.5
E22A Miles City 54.22 312 ⇓P P 09 47 41.2 +0.8
baz=54
CONA Conrad Observa 54.23 46 ⇑iP P 09 47 40.0 -0.5
comp=Z,17nm,1.2s,mb4.9
C22A Vida 54.28 313 ⇓P P 09 47 40.5 -0.4
baz=54
U23A El Rito 54.30 299 ⇑P P 09 47 42.0 +0.8
baz=54,SNR=13
V23A Ortiz Mt. (NFS 54.32 299 ⇑P P 09 47 42.4 +1.1
baz=54,SNR=11
W23A Werner Place, 54.33 298 ⇑P P 09 47 42.1 +0.7
baz=54
Y23A Lovelace Mesa, 54.35 296 ⇑P P 09 47 41.9 +0.3
baz=54,SNR=9.0
NB2 NORSAR Subarra 54.37 30 P P 09 47 40.6 -0.6
comp=Z,19nm,1.0s,mb5.0,baz=251,slow=7.9
NOA NORSAR Array B 54.37 30 P P 09 47 40.9 -0.3
comp=Z,7.6nm,0.9s,mb4.6,baz=251,slow=7.4,SNR=9.3
NOA LR LR 10 05 18.3
comp=Z,765nm,20.4s,MS4.8,baz=30,slow=30
NOA NORSAR Array B 54.37 30 P P 09 47 40.9 -0.3
NOA NORSAR Array B 54.37 30 P P 09 47 40.9 -0.3
L22A Ellis Ranch, M 54.37 306 ⇑P P 09 47 42.3 +0.7
baz=54
N22A Wattenberg Ran 54.38 305 ⇓P P 09 47 42.3 +0.7
baz=54
F22A Rosebud 54.39 311 ⇓P P 09 47 41.5 -0.2
baz=54
H22A Clearmont 54.39 310 ⇑P P 09 47 41.7 0.0
baz=54
X23A Hourglass Bar 54.41 297 ⇑P P 09 47 42.4 +0.4
baz=54,SNR=9.4
B22A Reddig Ranch S 54.41 314 ⇓P P 09 47 42.8 +1.0
baz=54
A22A Carney Farms, 54.43 315 ⇓P P 09 47 41.4 -0.5
baz=54
D22A Cohagen 54.43 313 ⇓P P 09 47 41.4 -0.5
baz=54
J22A Midwest 54.43 308 ⇓P P 09 47 41.4 -0.6
baz=54
K22A Casper 54.45 307 ⇑P P 09 47 41.7 -0.4
baz=54
O22A Kremmling 54.45 304 ⇑P P 09 47 42.7 +0.5
baz=54,SNR=8.4
I22A 9 Mile Ranch, 54.45 309 ⇓P P 09 47 42.3 +0.1
baz=54
M22A Cedar Creek Ra 54.48 306 ⇑P P 09 47 42.3 -0.2
baz=54
Z23A Rita Site, Whi 54.55 296 ⇑P P 09 47 43.4 +0.3
baz=54,SNR=9.5
ANMO Albuquerque 54.60 298 eP P 09 47 44.3 +0.9
comp=Z,49nm,2.1s,mb5.2
ANMO Albuquerque 54.60 298 eP P 09 47 44.3 +0.9
ANMO pmax pmax
comp=Z,49nm,2.1s
UPC Upice 54.62 43 eP P 09 47 43.3 +0.1
UPC Upice 54.62 43 eP P 09 47 43.3 +0.1
P22A Eagle 54.62 303 ⇑P P 09 47 44.1 +0.6
baz=54,SNR=8.7
123A Bell Site, Whi 54.64 295 ⇑P P 09 47 43.4 -0.3
baz=54
R22A Saguache, Gunn 54.66 302 ⇓P P 09 47 44.6 +0.9
baz=54,SNR=11
S22A 4UR Ranch, Cre 54.74 301 ⇑P P 09 47 45.1 +0.7
baz=55,SNR=11
Q22A Crested Butte, 54.76 302 ⇓P P 09 47 44.8 +0.4
baz=55,SNR=9.5
DPC Dobruska-Polom 54.79 43 eP P 09 47 45.0 +0.5
comp=Z,104nm,2.2s,mb5.5
DPC Dobruska-Polom 54.79 43 eP P 09 47 45.0 +0.5
DPC pmax pmax
comp=Z,104nm,2.2s,mb5.5
DPC Dobruska-Polom 54.79 43 eP P 09 47 44.7 +0.2
DPC epP pP 09 47 50.8 +3.1
SMCO Snowmass 54.80 303 eP P 09 47 45.8 +1.0
comp=Z,12nm,1.3s,mb4.8
BNM Barren Site 54.80 297 eP P 09 47 46.1 +1.2
comp=Z,14nm,1.2s,mb4.9
U22A Llaves 54.83 299 ⇓P P 09 47 46.3 +1.3
baz=55,SNR=6.0
T22A Edith 54.83 300 ⇓P P 09 47 46.1 +1.1
baz=55,SNR=21
223A Chaparral, Ant 54.85 294 ⇑P P 09 47 45.2 0.0
baz=55
V22A San Miguel Ran 54.90 299 ⇓P P 09 47 46.1 +0.6
baz=55
W22A Albuquerque 54.93 298 ⇑P P 09 47 46.6 +0.8
baz=55
RWWY Rawlins 54.95 306 eP P 09 47 45.8 0.0
comp=Z,45nm,1.6s,mb5.2
D21A La Casta Ranch 54.98 312 ⇓P P 09 47 46.3 +0.3
baz=55
K21A Alcova 54.98 307 ⇓P P 09 47 45.6 -0.4
baz=55
F21A Absaloka Mine, 54.99 311 ⇓P P 09 47 45.6 -0.4
baz=55
E21A Keefer Ranch, 55.00 312 ⇑P P 09 47 46.2 +0.1
baz=55
G21A Lodge Grass 55.02 310 ⇑P P 09 47 46.4 +0.2
baz=55
I21A Big Trails, Te 55.03 309 ⇓P P 09 47 45.9 -0.5
baz=55,SNR=7.3
L21A Rawlins 55.07 306 ⇓P P 09 47 46.3 -0.3
baz=55,SNR=6.8
LENM Lemitar 55.09 297 eP P 09 47 48.2 +1.2
B21A Ellsworth Farm 55.10 314 ⇓P P 09 47 46.5 -0.2
baz=55
Y22A Socorro 55.10 296 ⇑P P 09 47 47.3 +0.3
baz=55,SNR=7.0
C21A Desert Coulee 55.10 313 ⇑P P 09 47 46.6 -0.3
baz=55
J21A Lysite 55.14 308 ⇓P P 09 47 46.4 -0.8
baz=55
P21A Newcastle 55.16 303 ⇑P P 09 47 47.7 +0.4
baz=55
Z22A Elephant Butte 55.16 296 ⇓P P 09 47 47.9 +0.4
baz=55,SNR=20
N21A Black Mountain 55.19 305 ⇑P P 09 47 47.7 +0.2
baz=55
LAZ Ladron 55.20 297 eP P 09 47 49.2 +1.5
comp=Z,8.5nm,1.4s,mb4.6
Q21A Lamborn Mesa, 55.28 302 ⇓P P 09 47 48.7 +0.5
baz=55
R21A Cimarron 55.28 302 ⇑P P 09 47 48.7 +0.5
baz=55,SNR=11
T21A Navajo Lake 55.34 300 ⇑P P 09 47 49.1 +0.5
baz=55
222A Williams Famil 55.40 294 ⇑P P 09 47 49.4 +0.1
baz=55
U21A Nageezi 55.47 300 ⇑P P 09 47 50.0 +0.3
baz=55,SNR=8.9
V21A Milan 55.50 299 ⇓P P 09 47 50.4 +0.6
baz=55,SNR=7.0
S21A Coal Bank Pass 55.50 301 ⇑P P 09 47 50.6 +0.7
baz=55,SNR=13
MORC Moravsky Berou 55.51 44 eP P 09 47 49.1 -0.6
comp=Z,63nm,2.1s,mb5.3
MORC Moravsky Berou 55.51 44 eP P 09 47 49.1 -0.6
MORC pmax pmax
comp=Z,63nm,2.1s,mb5.3
H20A Greybull 55.56 309 ⇓P P 09 47 50.7 +0.5
baz=55
W21A San Fidel 55.56 298 ⇑P P 09 47 51.1 +0.8
baz=55
J20A Shoshoni 55.60 308 ⇓P P 09 47 50.6 +0.1
baz=56,SNR=7.2
I20A Worland 55.64 309 ⇓P P 09 47 51.1 +0.4
baz=56,SNR=6.0
M20A Sweetwater, Wa 55.68 306 ⇑P P 09 47 51.3 +0.2
baz=56,SNR=5.1
Y21A Point of Rocks 55.68 297 ⇑P P 09 47 51.9 +0.7
baz=56
F20A Billings 55.71 311 ⇓P P 09 47 51.4 +0.2
baz=56
E20A Meyer Farm, Mu 55.73 312 ⇑P P 09 47 51.8 +0.4
baz=56,SNR=9.3
X21A Alamocita Cree 55.73 297 ⇑P P 09 47 52.1 +0.5
baz=56,SNR=14
G20A Bridger 55.73 310 ⇓P P 09 47 51.6 +0.2
baz=56,SNR=9.7
N20A Spence Gulch, 55.75 305 ⇓P P 09 47 51.7 +0.2
baz=56
Z21A St. Cloud Mine 55.75 296 ⇓P P 09 47 52.2 +0.5
baz=56,SNR=9.9
O20A White River Ci 55.75 304 ⇑P P 09 47 52.1 +0.5
baz=56
D20A Manuel Ranch, 55.76 312 ⇑P P 09 47 51.8 +0.2
baz=56,SNR=6.6
B20A Solberg Farm, 55.77 314 ⇓P P 09 47 51.5 -0.1
baz=56
K20A Yellowstone Ra 55.79 307 ⇓P P 09 47 51.2 -0.7
baz=56
L20A Wamsutter 55.79 306 ⇑P P 09 47 51.5 -0.3
baz=56
Q20A Ridgley Place, 55.84 303 ⇑P P 09 47 52.6 +0.4
baz=56
121A Cookes Peak, D 55.93 295 ⇓P P 09 47 53.5 +0.5
baz=56,SNR=12
R20A Redvale 55.94 302 ⇓P P 09 47 53.7 +0.7
baz=56,SNR=9.2
S20A Disappointment 55.94 301 ⇓P P 09 47 53.9 +0.9
baz=56
221A Mesquite Ranch 55.98 294 ⇓P P 09 47 53.9 +0.5
baz=56
MVCO Mesa Verde 56.09 301 ⇑P P 09 47 54.7 +0.6
baz=56,SNR=7.0
MVCO Mesa Verde 56.09 301 eP P 09 47 55.3 +1.2
comp=Z,20nm,1.3s,mb5.0
PV01 Paradox Valley 56.09 302 eP P 09 47 55.4 +1.3
comp=Z,619nm,1.1s
K19A Absolon Red Bu 56.16 307 ⇑P P 09 47 53.7 -0.8
baz=56,SNR=7.1
U20A Newcomb 56.17 300 ⇑P P 09 47 54.7 +0.1
baz=56
V20A Brimhall 56.17 299 ⇓P P 09 47 54.4 -0.3
baz=56
E19A Rath Farm, Rou 56.18 312 ⇓P P 09 47 54.6 +0.1
baz=56
W20A Ramah 56.26 298 ⇓P P 09 47 55.5 +0.2
baz=56,SNR=8.2
F19A Roth Farm, Mol 56.27 311 ⇑P P 09 47 55.2 0.0
baz=56
I19A Meeteetse 56.27 309 ⇑P P 09 47 54.9 -0.4
baz=56
H19A Powell 56.27 310 ⇓P P 09 47 55.0 -0.2
baz=56
Y20A Horse Springs, 56.27 297 ⇓P P 09 47 55.7 +0.3
baz=56,SNR=14
A19A Klindworth Far 56.28 315 ⇑P P 09 47 54.7 -0.5
baz=56
J19A Crowheart 56.31 308 ⇑P P 09 47 55.5 0.0
baz=56
X20A Quemado 56.31 297 ⇓P P 09 47 56.4 +0.7
baz=56,SNR=12
P19A Cripple Cowboy 56.34 303 ⇑P P 09 47 55.8 0.0
baz=56
C19A Slack Wire Ran 56.41 313 ⇑P P 09 47 56.3 +0.1
baz=56
O19A Miners Draw (B 56.42 304 ⇑P P 09 47 56.3 -0.1
baz=56,SNR=5.3
N19A John Jarvie Ra 56.44 305 ⇑P P 09 47 56.3 -0.2
baz=56
RLMT Red Lodge 56.48 310 ⇓P P 09 47 56.5 -0.2
baz=56
RLMT Red Lodge 56.48 310 eP P 09 47 57.5 +0.8
comp=Z,41nm,1.8s,mb5.2
Z20A Nine Sixteen R 56.54 296 ⇓P P 09 47 57.1 -0.2
baz=56
T19A Beclabito 56.54 300 ⇓P P 09 47 57.4 +0.1
baz=56,SNR=7.3
L19A Farson 56.55 306 ⇓P P 09 47 57.1 -0.2
baz=56
S19A Harvey Farm, M 56.56 301 ⇓P P 09 47 56.9 -0.5
baz=56
Q19A Hogan Spring (56.59 303 ⇓P P 09 47 57.9 +0.3
baz=56,SNR=18
R19A Curley Farm, L 56.62 302 ⇑P P 09 47 58.5 +0.6
baz=56,SNR=7.1
220A Playas Peak, P 56.63 294 ⇓P P 09 47 58.7 +0.6
baz=56,SNR=6.9
120A U Bar Ranch, L 56.64 295 ⇓P P 09 47 58.7 +0.6
baz=56,SNR=12
BW06 Boulder Array 56.68 307 ⇓P P 09 47 58.9 +0.7
baz=56,SNR=9.8
BW06 Boulder Array 56.68 307 eP P 09 47 57.7 -0.5
comp=Z,17nm,1.3s,mb4.9
PDAR Pinedale Array 56.68 307 P P 09 47 56.9 -1.4
comp=Z,5.6nm,1.1s,mb4.5,baz=96,slow=7.6,SNR=19
PDAR Pinedale Array 56.68 307 P P 09 47 56.9 -1.4
G18A Lazy EL Ranch, 56.69 310 ⇑P P 09 47 58.2 0.0
baz=57
PD02 Pinedale Array 56.69 307 eP P 09 47 58.1 -0.1
PD01 Pinedale Array 56.70 307 eP P 09 47 57.8 -0.5
320A Kipp Ranch, An 56.70 294 ⇑P P 09 47 59.4 +0.9
baz=57,SNR=7.5
U19A Dine' College, 56.73 300 ⇑P P 09 47 59.2 +0.6
baz=57,SNR=6.0
H18A Shoshone NF, C 56.75 310 ⇓P P 09 47 58.6 -0.1
baz=57
F18A Big Timber 56.81 311 ⇑P P 09 47 59.3 +0.3
baz=57
I18A Diamond G Ranc 56.86 308 ⇓P P 09 47 59.5 0.0
baz=57
D18A Linhart Farms, 56.90 313 ⇑P P 09 47 59.6 -0.1
baz=57
EGMT Eagleton 56.90 314 ⇑P P 09 47 59.9 +0.2
baz=57
EGMT Eagleton 56.90 314 eP P 09 48 01.5 +1.9
comp=Z,45nm,1.4s,mb5.3
B18A Beardsley Farm 56.93 314 ⇓P P 09 47 59.9 0.0
baz=57
E18A Harlowton 56.96 312 ⇓P P 09 48 00.5 +0.4
baz=57
X19A St. Johns 56.97 297 ⇓P P 09 48 01.2 +0.8
baz=57,SNR=5.8
Y19A Nutrioso 56.99 297 ⇓P P 09 48 01.6 +1.0
baz=57,SNR=12
A18A Metzger Ranch, 57.01 315 ⇑P P 09 48 00.1 -0.3
baz=57
J18A Kendall Valley 57.02 308 ⇓P P 09 48 00.2 -0.4
baz=57
K18A Toltan Ranch, 57.04 307 ⇓P P 09 48 00.5 -0.3
baz=57
L18A Fontenelle, Gr 57.06 306 ⇑P P 09 48 00.7 -0.2
baz=57
O18A Roosevelt 57.10 304 ⇑P P 09 48 01.7 +0.5
baz=57,SNR=12
R18A Canyonlands Na 57.12 302 ⇓P P 09 48 02.0 +0.6
baz=57,SNR=9.2
119A Ashpeak Ranch, 57.17 295 ⇓P P 09 48 01.6 -0.2
baz=57
T18A Mexican Hat 57.19 301 ⇑P P 09 48 02.4 +0.5
baz=57,SNR=7.7
219A Wide Tail Can 57.23 294 ⇑P P 09 48 02.8 +0.5
baz=57,SNR=7.5
S18A Hurst Farm, Bl 57.24 301 ⇑P P 09 48 02.3 0.0
baz=57
U18A Rough Rock, Ch 57.25 300 ⇑P P 09 48 02.8 +0.4
baz=57,SNR=6.5
Q18A Rafter H Ranch 57.26 303 ⇓P P 09 48 02.7 +0.4
baz=57,SNR=11
NIE Niedzica 57.28 45 eP P 09 48 02.9 +0.5
P18A Preston Nutter 57.31 304 ⇓P P 09 48 03.1 +0.4
baz=57,SNR=8.6
319A Douglas 57.34 294 ⇑P P 09 48 03.6 +0.5
baz=57
V18A Ganado 57.37 299 ⇑P P 09 48 03.4 +0.2
baz=57
LOHW Long Hollow 57.44 308 eP P 09 48 03.4 -0.1
comp=Z,66nm,2.6s,mb5.2
F17A Fitzpatrick Pl 57.47 311 ⇓P P 09 48 04.0 +0.3
baz=57
FLWY Flagg Ranch 57.50 309 eP P 09 48 04.7 +0.8
comp=Z,92nm,2.1s,mb5.4
D17A Six Diamond Ra 57.50 312 ⇑P P 09 48 04.3 +0.3
baz=57
J17A Brown Place, J 57.52 308 ⇑P P 09 48 04.3 +0.2
baz=57
G17A Pierce Place, 57.52 310 ⇓P P 09 48 04.9 +0.8
baz=57
MOOW Moose Ponds 57.53 308 eP P 09 48 03.7 -0.5
comp=Z,9.5nm,1.5s,mb4.6
M17A Scullys Gap (B 57.54 306 ⇓P P 09 48 03.9 -0.4
baz=57
SNOW Snow King Moun 57.55 308 eP P 09 48 04.4 0.0
SRU San Rafael 57.56 303 eP P 09 48 04.9 +0.4
comp=Z,18nm,1.2s,mb5.0
SRU San Rafael 57.56 303 eP P 09 48 04.9 +0.4
SRU pmax pmax
comp=Z,18nm,1.2s,mb5.0
E17A Martinsdale 57.61 312 ⇑P P 09 48 05.2 +0.5
baz=58
B17A L&G Farms, Che 57.61 314 ⇑P P 09 48 04.5 -0.2
baz=58
REDW Red Top Meadow 57.62 308 eP P 09 48 05.6 +0.8
Y18A Canyon Day Jun 57.66 297 ⇑P P 09 48 05.9 +0.7
baz=58,SNR=10
O17A Robinson Place 57.66 304 ⇑P P 09 48 05.7 +0.5
baz=58,SNR=6.1
IMW Indian Meadow 57.67 309 eP P 09 48 05.2 0.0
comp=Z,24nm,1.5s,mb5.0
YMR Madison River 57.68 310 eP P 09 48 05.9 +0.6
comp=Z,38nm,1.6s,mb5.2
K17A Gardner Place, 57.69 307 ⇑P P 09 48 05.0 -0.3
baz=58
TPAW Teton Pass 57.69 308 eP P 09 48 05.2 -0.1
comp=Z,16nm,1.4s,mb4.8
N17A Moffit Pass 57.69 305 ⇓P P 09 48 05.2 -0.2
baz=58
P17A Butcher Ranch, 57.70 303 ⇓P P 09 48 05.6 +0.1
baz=58
118A Homack Ranch, 57.75 295 ⇑P P 09 48 06.6 +0.6
baz=58,SNR=8.3
R17A Hanksville Air 57.75 302 ⇓P P 09 48 06.2 +0.4
baz=58,SNR=8.6
AHID Auburn Hatcher 57.82 307 eP P 09 48 05.9 -0.4
comp=Z,10nm,1.4s,mb4.7
DCID1 Drake Creek 57.86 308 eP P 09 48 09.2 +2.7
comp=Z,12nm,1.1s,mb4.8
S17A Black Ridge (B 57.89 301 ⇑P P 09 48 07.4 +0.6
baz=58,SNR=8.8
218A Dragoon 57.90 295 ⇓P P 09 48 07.5 +0.5
baz=58,SNR=5.6
318A Bisbee 57.93 294 ⇓P P 09 48 07.4 +0.1
baz=58
T17A Navajo Res., N 57.95 300 ⇑P P 09 48 08.0 +0.7
baz=58,SNR=8.8
RRI2 Red Ridge 57.96 308 eP P 09 48 07.3 +0.1
QLMT Earthquake Lak 58.01 310 eP P 09 48 09.0 +1.4
CRVS Cervenica-Dubn 58.02 45 eP P 09 48 08.2 +0.7
CRVS pmax pmax
comp=Z,20nm,1.2s,mb5.0
DAU Daniels Canyon 58.04 305 eP P 09 48 08.6 +0.8
comp=Z,22nm,1.4s,mb5.0
DAU Daniels Canyon 58.04 305 eP P 09 48 08.6 +0.7
DAU pmax pmax
comp=Z,22nm,1.4s,mb5.0
I16A Newdale 58.07 309 ⇑P P 09 48 08.5 +0.5
baz=58
V17A Tonalea, Kykot 58.07 299 ⇑P P 09 48 08.7 +0.6
baz=58,SNR=13
Q16A Castle Valley 58.08 303 ⇓P P 09 48 08.2 +0.1
baz=58
BZS Buzias 58.08 49 ⇓P P 09 48 08.9 +0.9
Z17A San Carlos Hig 58.08 296 ⇑P P 09 48 08.9 +0.7
baz=58
L16A Fish Haven 58.09 306 ⇓P P 09 48 07.9 -0.3
baz=58
F16A Kennard Place, 58.14 311 ⇓P P 09 48 08.2 -0.2
baz=58
BOZ Bozeman (W) 58.15 311 ⇓P P 09 48 08.6 +0.1
baz=58
BOZ Bozeman (W) 58.15 311 eP P 09 48 08.3 -0.2
comp=Z,15nm,1.8s,mb4.7
BOZ Bozeman (W) 58.15 311 eP P 09 48 08.3 -0.2
BOZ pmax pmax
comp=Z,15nm,1.8s,mb4.7
N16A Rees Ranch, Co 58.15 305 ⇓P P 09 48 08.7 0.0
baz=58
A16A West Butte Ran 58.16 315 ⇑P P 09 48 08.1 -0.4
baz=58
E16A East Helena 58.17 312 ⇑P P 09 48 08.7 0.0
baz=58
K16A Soda Springs 58.17 307 ⇓P P 09 48 09.1 +0.3
baz=58
J16A Bone 58.18 308 ⇓P P 09 48 08.8 +0.1
baz=58,SNR=7.0
JLU Jordanelle 58.18 305 eP P 09 48 09.3 +0.5
comp=Z,32nm,1.5s,mb5.1
CFAA Coronel Fontan 58.21 203 P P 09 48 08.3 -0.7
comp=Z,0.4nm,0.9s,baz=39,slow=4.3,SNR=5.1
CFAA Coronel Fontan 58.21 203 P P 09 48 08.3 -0.7
HWUT Hardware Ranch 58.21 306 eP P 09 48 08.5 -0.5
comp=Z,7.8nm,1.0s,mb4.7
X17A Forest Lakes 58.23 297 ⇓P P 09 48 10.1 +0.8
baz=58,SNR=5.5
C16A Fuhringer Ranc 58.23 313 ⇓P P 09 48 08.5 -0.5
baz=58
O16A Springville 58.24 304 ⇓P P 09 48 09.2 -0.1
baz=58
G16A Moss Hill, Enn 58.27 310 ⇑P P 09 48 09.4 0.0
baz=58
M16A Huntsville 58.27 306 ⇓P P 09 48 09.3 -0.2
baz=58
HRY Holter Researc 58.28 312 eP P 09 48 09.0 -0.5
U16A Tuba City 58.29 299 ⇑P P 09 48 10.1 +0.4
baz=58,SNR=5.5
Y17A Roosevelt 58.34 297 ⇑P P 09 48 10.1 0.0
baz=58,SNR=7.9
MPU Maple Canyon 58.35 304 eP P 09 48 10.7 +0.6
comp=Z,14nm,1.1s,mb4.9
R16A Teasdale 58.37 302 ⇑P P 09 48 10.3 +0.1
baz=58,SNR=6.1
117A Oracle 58.40 295 ⇑P P 09 48 10.5 0.0
baz=58
P16A Fountain Green 58.40 304 ⇓P P 09 48 10.3 -0.1
baz=58
TUC Tucson 58.47 295 eP P 09 48 12.0 +1.0
TUC Tucson 58.47 295 eP P 09 48 12.0 +1.0
S16A Weppner Ranch, 58.51 301 ⇑P P 09 48 11.0 -0.2
baz=58
WUAZ Wupatki 58.55 299 ⇑P P 09 48 12.2 +0.7
baz=58,SNR=6.6
UZH Uzhgorod 58.56 46 eP P 09 48 11.0 -0.3
UZH e 09 48 16.2
217A Green Valley 58.58 294 ⇑P P 09 48 11.6 -0.1
baz=58
X16A Lo Mia Camp, P 58.74 298 ⇓P P 09 48 13.5 +0.7
baz=59,SNR=9.5
F15A Butte 58.75 311 ⇑P P 09 48 12.8 +0.1
baz=59
G15A Dillon 58.76 310 ⇑P P 09 48 12.6 -0.1
baz=59
J15A Blackfoot 58.77 308 ⇓P P 09 48 13.0 +0.1
baz=59
B15A Bradely Ranch, 58.79 314 ⇓P P 09 48 12.9 0.0
baz=59
L15A Malad City 58.80 306 ⇓P P 09 48 12.7 -0.4
baz=59,SNR=8.2
C15A Salmond Ranch, 58.81 313 ⇑P P 09 48 12.8 -0.3
baz=59
DLMT Dillon 58.83 310 eP P 09 48 16.1 +2.8
comp=Z,28nm,1.8s,mb5.0
DRGR 58.83 48 ⇓P P 09 48 13.6 +0.4
Y16A Circle Bar Ran 58.84 297 ⇓P P 09 48 13.2 -0.3
baz=59
E15A Deer Lodge 58.84 312 ⇓P P 09 48 13.0 -0.3
baz=59
KWP Kalwaria Pacla 58.85 45 eP P 09 48 14.1 +0.8
comp=Z,49nm,1.4s,mb5.3
KWP Kalwaria Pacla 58.85 45 eP P 09 48 14.1 +0.8
KWP pmax pmax
comp=Z,49nm,1.4s,mb5.3
M15A Larsen Ranch, 58.88 306 ⇓P P 09 48 13.6 -0.1
baz=59,SNR=11
MSU Marysvale 58.89 302 eP P 09 48 14.6 +0.8
MSU Marysvale 58.89 302 eP P 09 48 14.6 +0.8
GZR Gura Zlata 58.90 50 ⇑P P 09 48 13.9 +0.2
A15A Johnson Ranch, 58.91 315 ⇓P P 09 48 13.5 -0.3
baz=59
116A Eloy 59.21 295 ⇑P P 09 48 16.0 -0.1
baz=59
DUG Dugway 59.24 304 ⇑P P 09 48 16.0 -0.2
baz=59,SNR=11
DUG Dugway 59.24 304 eP P 09 48 16.4 +0.2
comp=Z,22nm,1.3s,mb5.0
DUG Dugway 59.24 304 eP P 09 48 16.4 +0.2
DUG pmax pmax
comp=Z,22nm,1.3s,mb5.0
SLMT Seeley Lake 59.42 313 eP P 09 48 18.0 +0.7
G14A Jackson 59.44 310 ⇓P P 09 48 17.5 0.0

baz=59
Z15A Gila River Ind 59.48 296 ⇑P P 09 48 18.3 +0.3
baz=59
I14A Mackay 59.49 309 ⇑P P 09 48 18.1 +0.2
baz=59
Y15A Casa Rosa Ranc 59.53 297 ⇑P P 09 48 18.6 +0.3
baz=59
J14A Carey 59.57 308 ⇑P P 09 48 17.5 -0.9
baz=59
C14A Swan Lake 59.58 313 ⇑P P 09 48 19.0 +0.6
baz=59
SWMT Swartz Lake 59.76 313 eP P 09 48 19.9 +0.2
E13A Victor 59.91 312 ⇑P P 09 48 20.8 0.0
baz=60
CCUT Cedar City 59.92 301 eP P 09 48 21.7 +0.8
comp=Z,16nm,1.2s,mb4.9
JTMT Jette 59.95 313 eP P 09 48 23.1 +2.1
comp=Z,14nm,1.9s,mb4.7
ARUT Antelope Range 59.96 302 eP P 09 48 22.2 +1.0
comp=Z,18nm,1.2s,mb5.0
ARUT Antelope Range 59.96 302 eP P 09 48 22.2 +1.0
ARUT pmax pmax
comp=Z,19nm,1.2s,mb5.0
I13A Wildhorse Cree 59.97 309 ⇓P P 09 48 21.0 -0.2
baz=60
G13A Cobalt 59.99 310 ⇑P P 09 48 21.1 -0.3
baz=60
A13A Flathead Natio 60.02 315 ⇑P P 09 48 20.8 -0.7
baz=60
H13A Challis 60.03 309 ⇓P P 09 48 21.0 -0.6
baz=60
F13A Darby 60.03 311 ⇑P P 09 48 21.1 -0.5
baz=60
J13A Cove Ranch, Pi 60.04 308 ⇑P P 09 48 21.9 +0.2
baz=60
Y14A Wickenburg 60.09 297 ⇓P P 09 48 22.6 +0.4
baz=60,SNR=8.5
114A Black Gap (USA 60.16 296 ⇓P P 09 48 23.1 +0.4
baz=60
HLID Hailey 60.20 308 ⇑P P 09 48 22.9 +0.1
baz=60,SNR=5.4
HLID Hailey 60.20 308 eP P 09 48 22.7 -0.1
comp=Z,19nm,1.9s,mb4.8
214A Organ Pipe Nat 60.23 295 ⇑P P 09 48 23.5 +0.4
baz=60
BSMT Bassoo Peak 60.28 313 eP P 09 48 25.5 +2.2
comp=Z,7.6nm,1.5s,mb4.5
R13A O'Grain Ranch, 60.33 302 ⇑P P 09 48 23.8 +0.1
baz=60
H12A Diamond D Ranc 60.46 309 ⇑P P 09 48 24.8 +0.2
baz=60
BUR08 Bucovina Ar. S 60.51 47 eP P 09 48 26.1 +1.3
W13A Hualapai Mount 60.65 299 ⇓P P 09 48 26.3 +0.3
baz=60
F12A Elk City 60.68 311 ⇑P P 09 48 26.3 +0.3
baz=60
D12A Red Ives Fores 60.69 312 ⇑P P 09 48 26.2 +0.2
baz=60
I12A Atlanta 60.71 309 ⇓P P 09 48 26.2 0.0
baz=61
Z13A Yuma Proving G 60.74 296 ⇓P P 09 48 26.8 +0.2
baz=61
C12B Naegeli Ranch, 60.75 313 ⇑P P 09 48 26.5 +0.1
baz=61
G12A Big Creek, Yel 60.76 310 ⇑P P 09 48 26.7 +0.1
baz=61
B12A Libby 60.80 314 ⇓P P 09 48 27.1 +0.3
baz=61
E12A Beaver Dam Sad 60.87 312 ⇓P P 09 48 27.5 +0.3
baz=61
113A Mohawk Valley, 60.90 296 ⇓P P 09 48 27.7 0.0
baz=61
YKA Yellowknife Ar 60.93 330 P P 09 48 24.8 -2.5
comp=Z,4.0nm,0.8s,mb4.6,baz=98,slow=7.7,SNR=9.6
YKA Yellowknife Ar 60.93 330 P P 09 48 24.8 -2.6
YKA Yellowknife Ar 60.93 330 P P 09 48 24.8 -2.6
PDMCI Parker Dam,Lak 60.97 298 ⇓P P 09 48 27.8 -0.3
baz=61
MLR Muntele Rosu 61.12 49 ⇓P P 09 48 28.7 -0.3
MFID Camas Ranch 61.24 308 ⇓P P 09 48 29.6 -0.3
baz=61
MFID Camas Ranch 61.24 308 eP P 09 48 29.8 0.0
comp=Z,18nm,1.4s,mb5.0
C11A Tepee Creek (N 61.27 313 ⇑P P 09 48 29.8 -0.2
baz=61
Y12C Blythe 61.37 297 ⇑P P 09 48 31.0 +0.2
baz=61
FINES FINESS Array B 61.46 31 LR LR 10 11 41.4
comp=Z,1μm,18.9s,MS5.1,baz=129,slow=33
R11A Troy Canyon, C 61.57 302 ⇑P P 09 48 32.2 0.0
baz=61
GLA Glamis 61.73 296 eP P 09 48 34.0 +0.6
comp=Z,11nm,0.4s,mb5.3
GLA Glamis 61.73 296 eP P 09 48 34.0 +0.7
GLA pmax pmax
comp=Z,11nm,0.4s,mb5.3
IRM Iron Mountain 61.81 298 ⇑P P 09 48 33.9 0.0
baz=62
NEW Newport 61.83 314 ⇑P P 09 48 34.8 +1.0
baz=62
NEW Newport 61.83 314 eP P 09 48 33.1 -0.7
comp=Z,47nm,1.6s,mb5.4
NEW Newport 61.83 314 eP P 09 48 33.1 -0.7
NEW pmax pmax
comp=Z,47nm,1.6s
GMRC Granite Mounta 62.13 299 ⇓P P 09 48 36.7 +0.7
baz=62
BC3 Big Chuckawall 62.15 297 ⇓P P 09 48 35.9 -0.2
baz=62
TUQ Turquoise Moun 62.24 299 ⇓P P 09 48 36.5 -0.3
baz=62
ARCES ARCESS Array B 62.32 22 P P 09 48 35.2 -1.5
comp=Z,9.6nm,0.9s,mb4.9,baz=249,slow=6.0,SNR=7.5
ARCES ARCESS Array B 62.32 22 P P 09 48 35.2 -1.5
ARCES ARCESS Array B 62.32 22 P P 09 48 35.2 -1.5
C09A Chrisman Ranch 62.63 313 ⇑P P 09 48 38.8 -0.3
baz=62
E09A Wood Farm, Sta 62.64 312 ⇓P P 09 48 40.2 +1.0
baz=62
FURC Furnace Creek, 62.84 301 ⇑P P 09 48 41.2 +0.5
baz=63
PFO Pinyon Flat Ob 62.98 297 ⇓P P 09 48 41.8 +0.1
baz=63
GSC Goldstone 62.98 299 ⇑P P 09 48 41.6 -0.1
baz=63
KIEV Kiev 63.02 43 eP P 09 48 40.2 -1.4
comp=Z,29nm,1.5s,mb5.2
KIEV Kiev 63.02 43 eP P 09 48 40.2 -1.4
KIEV pmax pmax
comp=Z,29nm,1.5s,mb5.2
AKASG Malin Array Be 63.02 43 P P 09 48 40.4 -1.3
comp=Z,8.9nm,0.9s,mb4.9,baz=270,slow=6.1,SNR=17
AKASG Malin Array Be 63.02 43 P P 09 48 40.4 -1.3
AKASG Malin Array Be 63.02 43 P P 09 48 40.4 -1.3
MONP Monument Peak 63.08 297 ⇓P P 09 48 42.3 -0.1
baz=63
GRAC Grapevine Rang 63.16 301 ⇑P P 09 48 43.3 +0.4
baz=63
J08A Circle Bar Ran 63.17 308 ⇓P P 09 48 42.6 -0.2
baz=63
E08A Dider Farm, El 63.27 312 ⇑P P 09 48 42.4 -1.0
baz=63
G08A Pilot Rock 63.31 311 ⇑P P 09 48 43.0 -0.8
baz=63
MPMC Manual Prospec 63.41 300 ⇓P P 09 48 44.6 +0.1
baz=63
MURC Murrieta 63.59 297 ⇑P P 09 48 45.9 +0.1
baz=63
HAWA Hanford 63.60 312 eP P 09 48 45.5 -0.1
comp=Z,40nm,1.5s,mb5.2
NVAR Mina Array Bea 63.68 303 P P 09 48 44.4 -1.9
comp=Z,1.7nm,0.9s,mb4.1,baz=88,slow=6.2,SNR=10.0
NVAR LR LR 10 14 21.6
comp=Z,2μm,20.5s,MS5.3,baz=10,slow=34
NVAR Mina Array Bea 63.68 303 P P 09 48 44.4 -1.9
E07A Sunnyside 63.81 312 ⇑P P 09 48 46.7 -0.2
baz=64
CWC Cottonwood Cre 63.81 301 ⇓P P 09 48 47.9 +0.7
baz=64
I07A Izee 63.83 309 ⇑P P 09 48 47.5 +0.3
baz=64
BFSC Mount Baldy Ra 63.85 298 ⇓P P 09 48 47.5 +0.1
baz=64
EDW2 Edwards Air Fo 64.01 299 ⇑P P 09 48 49.1 +0.6
baz=64
MLAC Mammoth Lakes 64.22 302 ⇑P P 09 48 50.4 +0.6
baz=64
ISA Isabella 64.26 300 ⇑P P 09 48 50.7 +0.6
baz=64
ISA Isabella 64.26 300 eP P 09 48 51.2 +1.0
comp=Z,14nm,1.3s,mb4.8
ISA Isabella 64.26 300 eP P 09 48 51.2 +1.1
ISA pmax pmax
comp=Z,14nm,1.3s,mb4.8
G06A Carlson Farm, 64.50 311 ⇓P P 09 48 51.5 0.0
baz=64
WCN Washoe City 64.66 304 ⇑P P 09 48 53.0 +0.2
baz=64
MOD Modoc 64.69 307 eP P 09 48 53.0 +0.2
comp=Z,158nm,3.0s
RCTC Rector, Farmer 64.76 301 ⇓P P 09 48 53.5 +0.1
baz=65
K05A Summer Lake 65.00 308 ⇓P P 09 48 55.4 +0.6
baz=65
APA Apatity 65.01 25⇑ eP P 09 48 53.0 -1.4
APA MLR MLR
comp=Z,1μm,25.0s,MS5.0
A05A Maple Falls 65.06 315 ⇑P P 09 48 55.9 +0.8
baz=65
HOOD Mount Hood Mea 65.20 311 eP P 09 48 57.3 +1.3
OHCM Honcut 65.98 304 eP P 09 49 01.6 +0.4
YBH Yreka Blue Hor 66.49 307 eP P 09 49 03.6 -0.9
YBH Yreka Blue Hor 66.49 307 eP P 09 49 03.6 -0.9
WDC Whiskeytown Da 66.56 306 eP P 09 49 04.0 -1.0
WDC Whiskeytown Da 66.56 306 eP P 09 49 04.0 -1.0
OBN Obninsk 67.09 38 i/P P 09 49 08.1 +0.1
OBN i 09 49 35.8
OBN pmax pmax
comp=Z,19nm,1.2s,mb5.0
BR131 Keskin Array S 67.48 55 eP P 09 49 11.2 +0.3
comp=Z,7.1nm,1.1s,mb4.6
BRTR Keskin Array B 67.48 55 P P 09 49 10.4 -0.4
comp=Z,2.7nm,0.8s,mb4.3,baz=270,slow=4.9,SNR=9.8
BRTR Keskin Array B 67.48 55 P P 09 49 10.4 -0.4
BRTR Keskin Array B 67.48 55 P P 09 49 10.5 -0.3
KLMR Klimovskoe 67.98 32 eP P 09 49 09.0 -4.6
KLMR pmax pmax
comp=Z,47nm,1.4s,mb5.3
VSR Storozhevoye 69.21 42 eP P 09 49 19.3 -2.1
VSR pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
VSR pmax pmax
comp=N,10.0nm,1.5s
VSR pmax pmax
comp=E,10.0nm,1.3s
ANN Anapa 69.27 49 eP P 09 49 20.3 -1.6
ANN e*PP pP 09 49 23.3 -1.9
ANN e 09 49 45.8
ANN e 09 51 53.4
ANN ePPP 09 53 34.1
ANN eS S 09 58 27.7 -0.6
ANN eSS SS 10 02 55.5 +1.0
ANN pmax pmax
comp=Z,107nm,1.8s,mb5.5
ANN MLR MLR
comp=N,1μm,18.0s,MS5.2
ANN MLR MLR
comp=E,435nm,18.0s,MS5.2
ANN MLR MLR
comp=Z,793nm,18.0s,MS5.0
MALT Malatya 71.43 56 eP P 09 49 33.6 -1.7
comp=Z,851nm,0.8s
MALT Malatya 71.43 56 eP P 09 49 33.6 -1.7
KIV Kislovodsk 73.12 49 eP P 09 49 45.8 +0.5
comp=Z,39nm,1.2s,mb5.2
KIV Kislovodsk 73.12 49 c i/P P 09 49 46.2 +0.9
KIV i 09 50 06.9
KIV pmax pmax
comp=Z,43nm,1.2s,mb5.2
KIV MLR MLR
comp=Z,500nm,18.0s,MS4.8
ZEI Tsey 74.29 50 eP P 09 49 51.6 -0.6
ZEI pmax pmax
comp=Z,15nm,1.2s,mb4.8
ILAR Eielson Array 74.85 334 P P 09 49 53.4 -1.6
comp=Z,6.1nm,0.9s,mb4.5,baz=70,slow=4.2,SNR=31
ILAR Eielson Array 74.85 334 P P 09 49 53.4 -1.6
ILAR Eielson Array 74.85 334 P P 09 49 53.4 -1.6
RAGM Ragged Mountai 75.39 330 eP P 09 49 57.8 -0.4
GNI Garni 75.65 52 eP P 09 50 01.1 +1.0
comp=Z,54nm,1.5s,mb5.3
GNI Garni 75.65 52 d i/P P 09 50 00.7 +0.6
GNI pmax pmax
comp=Z,38nm,1.7s
RSO Redoubt South 79.05 331 eP P 09 50 16.8 -1.9
LSZ Lusaka 80.83 111 eP P 09 50 30.5 +1.4
comp=Z,32nm,1.4s,mb5.1
LSZ Lusaka 80.83 111 eP P 09 50 30.5 +1.4
LSZ pmax pmax
comp=Z,33nm,1.4s,mb5.1
ABKAR Akbulak array 82.46 40 eP P 09 50 37.4 +0.2
LBTB Lobatse 83.13 120 P P 09 50 40.9 -0.2
comp=Z,17nm,1.2s,mb5.0,baz=268,slow=6.9,SNR=6.5
LBTB Lobatse 83.13 120 eP P 09 50 41.8 +0.8
LBTB Lobatse 83.13 120 eP P 09 50 41.8 +0.8
KMBO Kilima Mbogo 83.23 94 eP P 09 50 44.8 +2.9
KMBO Kilima Mbogo 83.23 94 eP P 09 50 44.8 +3.0
BOSA Boshof 84.59 124 P P 09 50 48.4 0.0
comp=Z,11nm,1.1s,mb4.9,baz=336,slow=4.2,SNR=7.2
BOSA LR LR 10 25 20.1
comp=Z,487nm,18.1s,MS4.9,baz=358,slow=33
BOSA Boshof 84.59 124 P P 09 50 48.4 0.0
BOSA Boshof 84.59 124 P P 09 50 48.4 0.0
BILL Bilibino 86.87 349 eP P 09 50 58.1 -1.0
BILL pmax pmax
comp=Z,6.0nm,1.2s,mb4.7
KURK Kurchatov 91.83 32 d i/P P 09 51 21.8 -1.0
KURK pmax pmax
comp=Z,7.0nm,1.5s,mb4.8
ZALV Zalesovo Beam 92.48 27 P P 09 51 24.8 -1.0
comp=Z,1.3nm,0.8s,mb4.3,baz=318,slow=4.2,SNR=7.3
ZALV Zalesovo Beam 92.48 27 P P 09 51 24.8 -1.0
ZALV Zalesovo Beam 92.48 27 P P 09 51 24.8 -0.9
AAK Ala-Archa 94.54 40⇓ eP P 09 51 35.5 0.0
AAK pmax pmax
comp=Z,7.0nm,1.2s,mb5.0
MKAR Makanchi Array 96.23 33 LR LR 10 32 47.6
comp=Z,365nm,21.2s,MS4.8,baz=74,slow=34
KSH Kashi 97.29 42 eP P 09 51 48.8 +0.7
KSH pP pP 09 51 53.5 +2.1
KSH sP sP 09 51 55.5 +2.9
KSH PP PP 09 55 47.5 +3.5
KSH SKS 10 02 24.0
KSH S S 10 03 07.5 -4.7
KSH SS SS 10 09 49.5 +0.5
KSH pmax pmax
comp=Z,5.0nm,1.1s,mb4.9
KSH pmax pmax
comp=Z,58nm,3.1s
KSH LR LR
comp=N,120nm,5.3s
KSH LR LR
comp=E,130nm,9.1s
KSH LR LR
comp=Z,210nm,5.9s
WMQ Urumqi 101.04 33 P Pdif 09 52 05.8 +1.3
WMQ LR LR
comp=N,320nm,23.7s,MS4.8
WMQ LR LR
comp=E,170nm,22.4s,MS4.8
WMQ LR LR
comp=Z,310nm,23.7s,MS4.7
HHC Hu-ho-hao-te 113.33 19 ePKP PKiKP 09 56 47.8 -5.0
HHC PKS 10 00 23.3
HHC AMB AMB
comp=Z,380nm,10.7s
HHC LR LR
comp=N,550nm,16.6s,MS5.3
HHC LR LR
comp=E,440nm,17.8s,MS5.3
CN2 Changchun 113.47 8 ePKP PKiKP 09 56 48.0 -5.0
CN2 LR LR
comp=N,300nm,18.0s,MS5.1
CN2 LR LR
comp=E,300nm,18.0s,MS5.1
CD2 Chengdu 119.03 31 PKP PKPdf 09 57 02.8 -1.3
CD2 PP PP 09 58 26.3 +3.9
CD2 SKS SKSdf 10 04 12.5 -4.0
CD2 SKKS SKKSac 10 05 17.0 -7.2
CD2 SS SS 10 14 41.0 -1.2
CD2 LR LR
comp=E,350nm,10.8s
CD2 LR LR
comp=Z,410nm,12.6s,MS5.3
KMI Kunming 123.25 35 PKP PKPdf 09 57 12.8 +0.4
NJ2 Nanjing 123.62 17 ePKP PKPdf 09 57 08.8 -4.1
GYA Guiyang 124.14 31 ePdif Pdif 09 53 47.0 -0.2
GYA PKP PKPdf 09 57 12.8 -1.2
GYA PP PP 09 59 00.5 +3.3
GYA PKS 10 00 47.8
GYA SKKS SKKSac 10 05 52.0 -5.5
GYA SS SS 10 15 47.0 -0.5
GYA AMB AMB
comp=Z,120nm,7.9s
GYA LR LR
comp=N,150nm,20.8s,MS4.7
GYA LR LR
comp=E,120nm,21.5s,MS4.7
GYA LR LR
comp=Z,140nm,20.9s,MS4.6
CMAR Chiang Mai Arr 126.15 44 PKP PKPdf 09 57 17.0 -1.0
comp=Z,2.1nm,0.8s,baz=304,slow=3.7,SNR=12
CMAR Chiang Mai Arr 126.15 44 PKP PKPdf 09 57 17.0 -1.0
CMAR Chiang Mai Arr 126.15 44 PKiKP PKPdf 09 57 17.0 -1.0
KKM Kota Kinabalu 146.20 35 eP PKPdf 09 57 55.6 +0.5
WRA Warramunga Arr 177.40 15 PKP PKPdf 09 58 23.8 -2.2
comp=Z,1.3nm,1.1s,baz=304,slow=0.8,SNR=4.1
WRA Warramunga Arr 177.40 15 PKP PKPdf 09 58 23.8 -2.2
WRA Warramunga Arr 177.40 15 PKiKP PKPdf 09 58 23.8 -2.2
ASAR Alice Springs 178.41 139 PKP PKPdf 09 58 24.9 -1.1
comp=Z,1.7nm,1.1s,baz=75,slow=1.1,SNR=7.0
ASAR Alice Springs 178.41 139 PKP PKPdf 09 58 24.9 -1.1
ASAR Alice Springs 178.41 139 PKiKP PKPdf 09 58 24.9 -1.1

*BJI **28** 09:53:03.9, 12°.55N×143°.73E, h118km, mB5.2/21, mb4.9/38*
*ISCJB **28** 09:53:07.3±0.6, 12°.82N±0°.03×143°.53E±0°.06, h126km±7km, mb4.9/65, Error ellipse: s-maj=9.5km s-min=5.4km az=174.7*
*IDC **28** 09:53:08.6±1.1, 12°.83N×143°.59E, h126km±10km, mb4.3/20, mb1 4.4/21, mb1mx4.3/27, mbtmp4.3/21, Error ellipse: s-maj=15.0km s-min=10.0km az=85.0*
*NEIC **28** 09:53:08.6±0.2, 12°.82N×143°.52E, mb4.9/17, Error ellipse: s-maj=8.1km s-min=4.7km az=80.0*
NEIC Felt at Barrigada and Hagatna.
*DJA **28** 09:53:09, 13°.03N×143°.58E, h134km, mb5.1/23*

ISC 28 09:53:08.7±0.6, 12°.82N±0°.03×143°.53E±0°.06, h122km±7km, h116km±3.4km; pP-P, n130, c0°81/131, mb4.9/65, 1C-5D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	1.51	59	P	Pn	09 53 36.0	-0.3
	695nm,0.3s,baz=199,slow=7.1,SNR=278						
GUMO				S	Sn	09 53 56.5	-0.8
	1μm,0.3s,baz=304,slow=23,SNR=27						
GUMO	Guam	1.51	59	ePn	Pn	09 53 35.9	-0.4
GUMO				S	Sn	09 53 56.5	-0.9
GUMO				eSn	Sn	09 53 57.0	-0.4
GUMO	Guam	1.51	59	P	Pn	09 53 36.2	-0.1
GUMO				S	Sn	09 53 57.6	+0.2
CBIJ	Chichi jima	14.26	355	P	Pn	09 56 26.2	+1.2
	13nm,0.3s,baz=280,slow=21,SNR=5.6						
CBIJ	Chichi jima	14.26	355	P	Pn	09 56 26.2	+1.2
SMPI	Sarmi	15.47	198	P	Pn	09 56 40.4	0.0
	4μm159nm,1.3s						
JAY	Jayapura	15.49	191	P	Pn	09 56 43.6	+3.0
	92nm,1.2s						
WAMI	Wamena	17.27	196	P	Pn	09 57 05.6	+3.1
	173nm,1.0s						
FAKI	Fak Fak	19.24	216	P	P	09 57 24.4	+0.8
	2μm240nm,1.1s						
JOW	Kunigami	19.98	317	P	P	09 57 32.7	+1.2
	47nm,0.5s,baz=145,slow=10,SNR=10						
JOW	Kunigami	19.98	317	P	P	09 57 32.7	+1.2
MSAI	Masohi	21.64	223	P	P	09 57 50.2	+0.8
	921nm29nm,0.8s,mb4.7						
TGY	Tagaytay City	22.01	276	P	P	09 57 54.0	+0.7
	122nm,0.4s,mb5.6,baz=124,slow=8.9,SNR=10						
TGY	Tagaytay City	22.01	276	P	P	09 57 54.0	+0.7
PMG	Port Moresby	22.37	171	P	P	09 57 56.2	-0.9
	16nm,0.6s,mb4.5,baz=360,slow=3.9,SNR=9.9						
PMG				pP		09 58 20.3	
	32nm,0.8s,baz=42,slow=6.9,SNR=4.4						
PMG	Port Moresby	22.37	171	P	P	09 57 56.2	-0.9
PMG				pP		09 58 20.3	
AAI	Ambon	22.39	224	P	P	09 57 56.5	-0.7
	144nm,0.7s,mb5.4						
YULB	Yu-li	23.57	300	eP	P	09 58 08.0	-0.3
	41nm,0.8s,mb4.8						
GTOI	Gorontalo	23.67	241	P	P	09 58 09.4	+0.1
	42nm,1.0s,mb4.7						
SSLB	Suanglung	24.02	300	eP	P	09 58 11.8	-0.5
	61nm,0.8s,mb5.0						
MJAR	Matsushiro Arr	24.10	349	P	P	09 58 11.3	-1.6
	1.8nm,0.3s,mb3.8,baz=170,slow=9.2,SNR=14						
MJAR				ScP	ScP	10 05 17.8	-0.7
	6.1nm,1.1s,baz=176,slow=3.7,SNR=4.1						
MJAR	Matsushiro Arr	24.10	349	P	P	09 58 11.3	-1.6
MJAR				ScP	ScP	10 05 17.8	-0.7
MRSI	Marisa	24.67	242	P	P	09 58 19.0	+0.6
	1μm116nm,1.0s,mb5.2						
LUWI	Luwuk	24.78	238	P	P	09 58 19.5	+0.1
	164nm,1.1s,mb5.4						
COEN	Coen	26.61	181	eP	P	09 58 35.4	-0.3
	226nm,0.8s,mb5.8						
COEN	Coen	26.61	181	P	P	09 58 35.9	+0.2
	53nm,1.0s,mb5.0						
KSRS	Korea Array	28.23	333	P	P	09 58 49.9	-0.1
	3.7nm,0.6s,mb4.1,baz=140,slow=9.0,SNR=11						
KSAR	Wonju Array Be	28.23	333	P	P	09 58 49.9	-0.2
ASAJ	Asahikawa	31.20	359	P	P	09 59 16.0	-0.2
	4.1nm,0.6s,mb4.3,baz=184,slow=9.8,SNR=3.0						
ASAJ	Asahikawa	31.20	359	P	P	09 59 16.0	-0.2
WHN	Wuhan	32.20	308	P	P	09 59 24.5	-0.7
SBUM	Sibu	32.66	254	P	P	09 59 29.2	-0.2
	14nm,1.4s,mb4.6						
CTA	Charters Tower	32.81	175	i/P	P	09 59 31.1	+0.6
	27nm,0.8s,mb5.1						
CTAO	Charters Tower	32.81	175	eP	P	09 59 31.2	+0.6
	44nm,0.9s,mb5.3						
CTAO	Charters Tower	32.81	175	P	P	09 59 31.4	+0.9
	64nm,1.3s,mb5.3						
WRAB	Tennant Creek	33.78	196	eP	P	09 59 38.5	-0.5
	186nm,0.5s						
WB2	Warramunga Arr	33.79	196	eP	P	09 59 38.8	-0.3
WRA	Warramunga Arr	33.79	196	P	P	09 59 38.6	-0.4
	71nm,0.6s,mb5.7,baz=21,slow=9.6,SNR=245						
WRA	Warramunga Arr	33.79	196	P	P	09 59 38.6	-0.4
MDJ	Mudanjiang	33.86	342	P	P	09 59 39.8	+0.4
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.5						
MDJ				pmax	pmax		
	comp=Z,330nm,13.5s						
CN2	Changchun	34.57	337	eP	P	09 59 47.3	+1.7
CN2				eS	S	10 05 07.3	+1.7
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.8						
CN2				pmax	pmax		
	comp=Z,300nm,4.0s						
CN2				LR	LR		
	comp=N,400nm,12.0s						
CN2				LR	LR		
	comp=E,400nm,12.0s						
CN2				LR	LR		
	comp=Z,600nm,15.0s						
FITZ	Fitzroy Crossi	35.44	210	i/P	P	09 59 52.5	-0.8
	comp=Z,26nm,0.8s,mb5.1						
FITZ	Fitzroy Crossi	35.44	210	eP	P	09 59 52.6	-0.7
	comp=Z,12nm,0.8s,mb4.8						
FITZ	Fitzroy Crossi	35.44	210	P	P	09 59 52.6	-0.7
	comp=Z,22nm,0.9s,mb5.0						
ENH	Enshi	35.93	304	eP	P	09 59 57.5	+0.1
	comp=Z,25nm,1.0s,mb5.1						
BJT	Baijiatuau	36.25	323	eP	P	10 00 00.1	0.0
	comp=Z,18nm,0.8s,mb5.1						
BJI	Beijing	36.26	323	P	P	10 00 00.0	-0.1
BJI				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
GYA	Guiyang	37.14	297	P	P	10 00 07.8	+0.1
GYA				pP	pP	10 00 33.5	-1.4
GYA				PP	PP	10 01 37.5	+2.7
GYA				PcP	PcP	10 02 25.3	-0.3
GYA				S	S	10 05 45.5	+0.2
GYA				ScP	ScP	10 06 02.3	+0.8
GYA				PcS	PcS	10 06 15.0	+0.9

GYA				ScS	ScS	10 10 09.0	-0.6	
GYA				pmax	pmax			
	comp=Z,20nm,0.8s,mb5.1							
GYA				pmax	pmax			
	comp=Z,110nm,5.0s							
AS31	**Alice Springs**	**37.46**	**195**	*eP*	**P**	**10 00 10.4**	**0.0**	
ASAR	**Alice Springs**	**37.46**	**195**	P	**P**	**10 00 10.3**	**-0.1**	
	comp=Z,25nm,0.7s,mb5.3,baz=20,slow=12,SNR=409							
ASAR				PcP	PcP	10 02 26.9	+0.4	
	comp=Z,2.2nm,0.6s,baz=48,slow=1.9,SNR=4.8							
ASAR	**Alice Springs**	**37.46**	**195**	P	**P**	**10 00 10.3**	**-0.1**	
ASAR				PcP	PcP	10 02 26.9	+0.4	
EIDS	**Eidsvold**	**38.66**	**169**	*eP*	**P**	**10 00 20.3**	**-0.2**	
	comp=Z,20nm,1.0s,mb4.9							
HHC	**Hu-ho-hao-te**	**39.52**	**321**	*eP*	**P**	**10 00 28.5**	**+1.0**	
HHC				pP	pP	10 00 54.3	-0.6	
HHC				PP	PP	10 02 05.5	+4.8	
HHC				PcP	PcP	10 02 34.0	+1.3	
HHC				S	**S**	**10 06 22.5**	**+1.6**	
HHC				ScS	ScS	10 10 22.8	0.0	
HHC				pmax	pmax			
	comp=Z,10.0nm,0.5s,mb4.9							
HHC				pmax	pmax			
	comp=Z,300nm,5.8s							
HHC				LR	LR			
	comp=N,490nm,16.6s							
HHC				LR	LR			
	comp=E,320nm,16.6s							
HHC				LR	LR			
	comp=Z,420nm,16.7s							
KMI	**Kunming**	**40.32**	**294**	P	**P**	**10 00 35.0**	**+0.7**	
KMI				pP	pP	10 01 01.3	-0.5	
KMI				PP	PP	10 02 11.5	+1.9	
KMI				S	**S**	**10 06 33.5**	**+0.3**	
KMI				SS	SS	10 09 29.5	-7.2	
KMI				pmax	pmax			
	comp=Z,11nm,1.2s,mb4.6							
KMI				pmax	pmax			
	comp=Z,430nm,13.8s							
KMI				LR	LR			
	comp=N,550nm,14.1s							
KMI				LR	LR			
	comp=E,480nm,12.8s							
KMI				LR	LR			
	comp=Z,450nm,14.5s							
MYKOM	**Kota Tinggi**	**40.79**	**258**	P	**P**	**10 00 39.0**	**+0.7**	
	comp=Z,39nm,1.0s,mb5.2							
CD2	**Chengdu**	**40.80**	**303**	P	**P**	**10 00 38.3**	**+0.1**	
CD2				pP	pP	10 01 04.0	-1.7	
CD2				PP	PP	10 02 17.3	+2.6	
CD2				PcP	PcP	10 02 38.3	+1.2	
CD2				S	**S**	**10 06 40.0**	**-0.2**	
CD2				SS	SS	10 09 40.0	-6.1	
CD2				pmax	pmax			
	comp=Z,60nm,0.7s,mb5.5							
CD2				pmax	pmax			
	comp=Z,530nm,6.6s							
CD2				LR	LR			
	comp=E,640nm,10.8s							
CD2				LR	LR			
	comp=Z,560nm,16.8s							
MBWA	**Marble Bar**	**41.07**	**215**	*eP*	**P**	**10 00 39.3**	**-1.2**	
	comp=Z,14nm,0.6s,mb5.0							
MBWA	**Marble Bar**	**41.07**	**215**	P	**P**	**10 00 39.7**	**-0.8**	
	comp=Z,26nm,1.0s,mb5.0							
DZM	**Mont Dzumac**	**41.32**	**147**	*eP*	**P**	**10 00 44.5**	**+2.0**	
	comp=Z,47nm,0.6s,mb5.5							
LZH	**Lanzhou**	**42.50**	**310**	*eP*	**P**	**10 00 52.0**	**0.0**	
LZH				pP	pP	10 01 18.0	-1.7	
LZH				pmax	pmax			
	comp=Z,27nm,1.2s,mb4.8							
LZH				pmax	pmax			
	comp=Z,230nm,4.5s							
IPM	**Ipoh**	**42.78**	**263**	*eP*	**P**	**10 00 54.1**	**-0.4**	
	comp=Z,22nm,0.8s,mb5.0							
IPM	**Ipoh**	**42.78**	**263**	P	**P**	**10 00 54.5**	**0.0**	
	comp=Z,36nm,1.0s,mb5.1							
KULM	**Kulim**	**42.95**	**264**	P	**P**	**10 00 56.6**	**+0.6**	
	comp=Z,65nm,1.3s,mb5.2							
CMAR	**Chiang Mai Arr**	**43.22**	**283**	P	**P**	**10 00 58.3**	**+0.3**	
	comp=Z,11nm,0.8s,mb4.7,baz=86,slow=6.2,SNR=39							
CMAR	**Chiang Mai Arr**	**43.22**	**283**	P	**P**	**10 00 58.3**	**+0.3**	
ARMA	**Armidale**	**43.69**	**170**	*eP*	**P**	**10 01 02.1**	**+0.6**	
ARMA	**Armidale**	**43.69**	**170**	*eP*	**P**	**10 01 01.9**	**+0.4**	
	comp=Z,32nm,1.1s,mb5.0							
STKA	**Stephens Creek**	**44.48**	**182**	P	**P**	**10 01 06.8**	**-0.9**	
	comp=Z,34nm,0.7s,mb5.2,baz=350,slow=8.1,SNR=67							
STKA	**Stephens Creek**	**44.48**	**182**	⇓*iP*	**P**	**10 01 07.1**	**-0.7**	
	comp=Z,30nm,0.9s,mb5.0							
STKA	**Stephens Creek**	**44.48**	**182**	*eP*	**P**	**10 01 07.1**	**-0.7**	
	comp=Z,8.2nm,0.9s,mb4.5							
PDSI	**Padang**	**44.85**	**256**	P	**P**	**10 01 09.4**	**-1.7**	
	comp=Z,66nm,0.7s,mb5.5							
PSI	**Prapat**	**45.23**	**261**	P	**P**	**10 01 14.0**	**-0.1**	
FORT	**Forrest**	**45.83**	**199**	⇓*iP*	**P**	**10 01 18.6**	**+0.1**	
	comp=Z,68nm,0.9s,mb5.4							
FORT	**Forrest**	**45.83**	**199**	*eP*	**P**	**10 01 18.7**	**+0.2**	
	comp=Z,110nm,1.0s,mb5.5							
BBOO	**Buckleboo**	**45.93**	**189**	*eP*	**P**	**10 01 19.0**	**-0.2**	
	comp=Z,1μm,1.0s							
ULN	**Ulaanbaatar**	**46.28**	**326**	*eP*	**P**	**10 01 22.4**	**+0.6**	
SONM	**Songino Array**	**46.62**	**326**	P	**P**	**10 01 25.0**	**+0.5**	
	comp=Z,3.8nm,0.5s,mb4.4,baz=146,slow=7.7,SNR=30							
SONM				ScP	ScP	10 06 37.9	-1.0	
	comp=Z,1.4nm,0.9s,baz=141,slow=3.3,SNR=5.8							
SONM	**Songino Array**	**46.62**	**326**	P	**P**	**10 01 25.0**	**+0.5**	
SONM				ScP	ScP	10 06 37.9	-1.0	
GTA	**Gaotai**	**46.72**	**313**	⇑P	**P**	**10 01 25.8**	**+0.3**	
GTA				pP	pP	10 01 51.5	-2.1	
GTA				S	**S**	**10 08 06.0**	**-0.1**	
GTA				SS	SS	10 11 28.3	-5.6	
GTA				pmax	pmax			
	comp=Z,16nm,0.8s,mb4.8							
GTA				pmax	pmax			
	comp=Z,120nm,4.3s							
GTA				LR	LR			
	comp=N,410nm,16.4s							
GTA				LR	LR			
	comp=E,350nm,16.6s							
GTA				LR	LR			
	comp=Z,350nm,17.3s							
CNB	**Canberra Magne**	**48.19**	**174**	*eP*	**P**	**10 01 36.0**	**-0.7**	
	comp=Z,52nm,0.8s,mb5.4							
TOO	**Toolangi**	**50.15**	**178**	*eP*	**P**	**10 01 52.9**	**+1.3**	
	comp=Z,87nm,1.1s,mb5.6							
KLBR	**Kellerberrin**	**50.61**	**209**	⇓*iP*	**P**	**10 01 54.4**	**-0.8**	
	comp=Z,24nm,0.6s,mb5.4							
TAPN	**Taplejung**	**53.98**	**295**	*eP*	**P**	**10 02 20.1**	**-0.2**	
	comp=Z,13nm,0.8s,mb5.0							
ODAN	**Odare**	**54.23**	**294**	*eP*	**P**	**10 02 21.8**	**-0.3**	
RAMN	**Ramite**	**54.94**	**294**	*eP*	**P**	**10 02 27.0**	**-0.3**	
	comp=Z,20nm,0.9s,mb5.2							
JIRN	**Jiri**	**55.34**	**295**	*eP*	**P**	**10 02 30.2**	**+0.1**	
	comp=Z,5.0nm,0.5s,mb4.8							
GUN	**Gumba**	**55.63**	**295**	*eP*	**P**	**10 02 32.1**	**-0.1**	
	comp=Z,47nm,0.9s,mb5.5							
PKI	**Pulchoki**	**56.03**	**295**	*eP*	**P**	**10 02 34.3**	**-0.8**	
KKN	**Kakani**	**56.16**	**295**	*eP*	**P**	**10 02 35.3**	**-0.7**	
DMN	**Daman**	**56.30**	**295**	*eP*	**P**	**10 02 36.4**	**-0.6**	
WMQ	**Urumqi**	**56.73**	**314**	P	**P**	**10 02 41.0**	**+1.3**	
WMQ				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.7							
WMQ				pmax	pmax			
	comp=Z,63nm,4.2s							
WMQ				LR	LR			
	comp=N,380nm,26.0s							
WMQ				LR	LR			
	comp=E,370nm,26.0s							
WMQ				LR	LR			
	comp=Z,320nm,21.4s							
GKN	**Gorkha**	**56.74**	**295**	*eP*	**P**	**10 02 39.4**	**-0.7**	
DANN	**Dangsing**	**57.53**	**295**	*eP*	**P**	**10 02 45.2**	**-0.4**	
	comp=Z,22nm,0.5s,mb5.4							
KOLN	**Koldanda**	**57.64**	**295**	*eP*	**P**	**10 02 45.9**	**-0.5**	
	comp=Z,12nm,0.6s,mb5.1							
PYUN	**Piuthan**	**58.20**	**295**	*eP*	**P**	**10 02 49.7**	**-0.6**	
	comp=Z,30nm,0.8s,mb5.4							
MKAR	**Makanchi Array**	**61.15**	**317**	P	**P**	**10 03 10.2**	**0.0**	
	comp=Z,3.9nm,0.5s,mb4.7,baz=91,slow=8.1,SNR=21							
MKAR	**Makanchi Array**	**61.15**	**317**	P	**P**	**10 03 10.2**	**0.0**	
ZALV	**Zalesovo Beam**	**61.50**	**325**	P	**P**	**10 03 12.7**	**+0.4**	
	comp=Z,2.5nm,0.5s,mb4.5,baz=111,slow=6.8,SNR=9.8							
ZALV	**Zalesovo Beam**	**61.50**	**325**	P	**P**	**10 03 12.7**	**+0.4**	
KURK	**Kurchatov**	**64.34**	**320**	P	**P**	**10 03 31.0**	**-0.3**	
	comp=Z,3.8nm,0.4s,mb4.6,baz=106,slow=6.8,SNR=9.9							
KURK				pP	pP	10 04 02.5	+1.5	
	comp=Z,9.2nm,0.8s,baz=102,slow=6.6,SNR=4.2							
KURK	**Kurchatov**	**64.34**	**320**	P	**P**	**10 03 31.0**	**-0.3**	
KURK				pP	pP	10 04 02.5	+1.5	
KKAR	**Karatay Array**	**68.98**	**311**	*eP*	**P**	**10 04 00.8**	**-0.1**	
	comp=Z,3.0nm,0.8s,mb4.2							
BVAR	**Borovoye Array**	**69.73**	**322**	P	**P**	**10 04 04.5**	**-0.8**	
	comp=Z,4.5nm,0.3s,mb4.7,baz=102,slow=7.9,SNR=23							
BVAR	**Borovoye Array**	**69.73**	**322**	P	**P**	**10 04 04.5**	**-0.8**	
BRVK	**Borovoye**	**69.79**	**322**	*eP*	**P**	**10 04 06.1**	**+0.4**	
	comp=Z,5.1nm,0.5s,mb4.6							
ILAR	**Eielson Array**	**69.82**	**25**	P	**P**	**10 04 03.1**	**-2.4**	
	comp=Z,2.8nm,0.5s,mb4.3,baz=252,slow=5.8,SNR=48							
ILAR	**Eielson Array**	**69.82**	**25**	P	**P**	**10 04 03.1**	**-2.4**	
ABKAR	**Akbulak array**	**76.24**	**318**	*eP*	**P**	**10 04 42.7**	**-1.0**	
	comp=Z,2.4nm,0.6s,mb4.1							
AKTO	**Aktyubinsk**	**77.39**	**319**	P	**P**	**10 04 49.4**	**-0.8**	
	comp=Z,0.6nm,0.3s,mb3.8,baz=46,slow=22,SNR=3.7							
AKTO	**Aktyubinsk**	**77.39**	**319**	P	**P**	**10 04 49.4**	**-0.8**	
YKA	**Yellowknife Ar**	**84.14**	**27**	P	**P**	**10 05 25.8**	**0.0**	
	comp=Z,2.8nm,0.4s,mb4.4,baz=286,slow=5.2,SNR=18							
YKA	**Yellowknife Ar**	**84.14**	**27**	P	**P**	**10 05 25.8**	**0.0**	
ARCES	**ARCESS Array B**	**87.41**	**342**	P	**P**	**10 05 40.8**	**-1.0**	
	comp=Z,1.5nm,0.5s,mb4.2,baz=72,slow=7.9,SNR=11							
ARCES	**ARCESS Array B**	**87.41**	**342**	P	**P**	**10 05 40.8**	**-1.0**	
BSMT	**Bassoo Peak**	**88.28**	**41**	*eP*	**P**	**10 05 47.6**	**+1.2**	
NVAR	**Mina Array Bea**	**88.41**	**51**	P	**P**	**10 05 48.4**	**+1.2**	
	comp=Z,5.3nm,0.7s,mb4.7,baz=263,slow=6.0,SNR=43							
NVAR	**Mina Array Bea**	**88.41**	**51**	P	**P**	**10 05 48.4**	**+1.2**	
FINES	**FINESS Array B**	**91.31**	**335**	P	**P**	**10 05 58.0**	**-2.2**	
	comp=Z,3.0nm,0.4s,mb4.8,baz=76,slow=4.2,SNR=17							
FINES	**FINESS Array B**	**91.31**	**335**	P	**P**	**10 05 58.0**	**-2.2**	
PDAR	**Pinedale Array**	**93.43**	**45**	P	**P**	**10 06 11.8**	**+1.3**	
	comp=Z,0.1nm,0.3s,baz=262,slow=5.2,SNR=2.9							
PDAR	**Pinedale Array**	**93.43**	**45**	P	**P**	**10 06 11.8**	**+1.3**	
SNAA	**Sanae**	**117.78**	**191**	*e*	PKPdf	10 11 39.6	-0.3	
VNA2	**Neumayer--Watz**	**119.24**	**191**	*e*	PKPdf	10 11 42.1	-0.6	
	baz=249,slow=1.1							
VNA3	**Neumayer Olymp**	**119.36**	**190**	*e*	PKPdf	10 11 42.1	-0.9	
TORD	**Torodi Ar. Bea**	**134.21**	**303**	PKP	PKPdf	10 12 13.0	0.0	
	comp=Z,0.3nm,0.5s,baz=36,slow=2.5,SNR=4.7							
TORD				SKPbc	SKPbc	10 15 30.1	-1.4	
	comp=Z,0.5nm,0.6s,baz=44,slow=4.2,SNR=4.4							
TORD	**Torodi Ar. Bea**	**134.21**	**303**	PKP	PKPdf	10 12 13.0	0.0	
TORD				SKPbc	SKPbc	10 15 30.1	-1.4	
DBIC	**Dimbokro**	**143.10**	**300**	PKhKP	PKPpre	10 12 25.5		
	comp=Z,2.9nm,0.7s,baz=34,slow=5.2,SNR=4.3							
DBIC	**Dimbokro**	**143.10**	**300**	PKPpre	PKPpre	10 12 25.5		
LCO	**Las Campanas**	**144.36**	**122**	*e*PKPdf	PKPdf	10 12 31.1	+0.1	
LPAZ	**La Paz**	**149.18**	**100**	*e*PKPdf	PKPdf	10 12 41.7	+2.3	
LPAZ				*e*PKPbc	PKPbc	10 12 45.8	+2.0	
LPAZ				*e*PKPab	PKPab	10 12 49.5	+1.0	

***DJA* 28 10:04:44,1°18N×122°04E,h10km,MLv3.4/5,Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.70**	**188**	P	Pg	10 04 57.5	-0.2
MRSI				S	Sg	10 05 07.4	+0.5
GTOI	**Gorontalo**	**1.11**	**119**	P	Pb	10 05 04.5	-0.8
GTOI				S	Sg	10 05 19.9	+0.1
LUWI	**Luwuk**	**2.33**	**162**	P	Pn	10 05 24.0	+1.7
LUWI				S	Sn	10 05 56.8	+5.8
SGSI	**Sangihe**	**4.28**	**54**	P	Pn	10 05 51.5	+2.2
KDI	**Kendari**	**5.14**	**174**	P	Pn	10 06 01.2	+0.2

ISCJB ***28*** *10:07:18.3±0.5,38°.84N±0°.02×23°.62E±0°.04,h9km±4km, Error ellipse: s-maj=5.0km s-min=3.3km az=165.4*
CSEM ***28*** *10:07:18.4±0.2,38°.83N×23°.63E,h10km,ML2.4/6, Error ellipse: s-maj=3.5km s-min=2.7km az=73.0*
ATH ***28*** *10:07:18.2,38°.85N×23°.60E,h23km±1km, ML2.8*
THE ***28*** *10:07:19.0,38°.85N×23°.60E,h7km±1km, ML2.4/6, Error ellipse: s-maj=1.5km s-min=0.4km az=59.0*

ISC 28 10:07:18.8±0.4,38°.84N±0°.02×23°.62E±0°.04,h11km±4km, n48,σ0°.49/74,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKA	**Markates**	**0.14**	**189**	P	**Pg**	**10 07 21.9**	**-0.2**
MRKA				S	**Sg**	**10 07 24.5**	**+0.2**
MRKA	**Markates**	**0.14**	**189**	P	**Pg**	**10 07 21.9**	**-0.2**
MRKA				S	**Sg**	**10 07 24.5**	**+0.2**
SKIA	**Skiathos**	**0.34**	**340**	P	**Pg**	**10 07 25.9**	**+0.2**
SKIA				S	**Sg**	**10 07 30.8**	**+0.5**
SKIA	**Skiathos**	**0.34**	**340**	P	**Pg**	**10 07 25.9**	**+0.2**
SKIA				S	**Sg**	**10 07 30.8**	**+0.5**
AOS	**Alonnisos**	**0.39**	**32**	P	**Pg**	**10 07 26.1**	**-0.3**
AOS				S	**Sg**	**10 07 31.8**	**+0.2**
AOS	**Alonnisos**	**0.39**	**32**	P	**Pg**	**10 07 26.1**	**-0.3**
AOS				S	**Sg**	**10 07 31.8**	**+0.2**
ATAL	**Atalanti**	**0.49**	**252**	P	**Pg**	**10 07 27.9**	**-0.5**
ATAL				S	**Sg**	**10 07 35.5**	**+0.6**
ATAL	**Atalanti**	**0.49**	**252**	P	**Pg**	**10 07 27.9**	**-0.5**
ATAL				S	**Sg**	**10 07 35.5**	**+0.6**
LKR	**Lokris**	**0.52**	**248**	*e*PN	**Pg**	**10 07 28.8**	**-0.2**
LKR				*e*SN	**Sg**	**10 07 35.8**	**0.0**
LKR	**Lokris**	**0.52**	**248**	P	**Pg**	**10 07 28.6**	**-0.4**
LKR				S	**Sg**	**10 07 36.2**	**+0.4**
LKR	**Lokris**	**0.52**	**248**	P	**Pg**	**10 07 28.6**	**-0.4**
LKR				S	**Sg**	**10 07 36.2**	**+0.4**
NEO	**Neokhori**	**0.55**	**327**	*e*PN	**Pg**	**10 07 29.7**	**+0.1**
NEO				*e*SN	**Sg**	**10 07 36.7**	**-0.2**
NEO	**Neokhori**	**0.55**	**327**	P	**Pg**	**10 07 29.5**	**-0.1**
NEO				S	**Sg**	**10 07 36.9**	**0.0**
NEO	**Neokhori**	**0.55**	**327**	*e*PN	**Pg**	**10 07 29.7**	**+0.1**
NEO				S	**Sg**	**10 07 36.9**	**0.0**
AXAR	**Agios Charalam**	**0.75**	**264**	P	**Pg**	**10 07 33.0**	**-0.4**
AXAR	**Agios Charalam**	**0.75**	**264**	P	**Pg**	**10 07 33.0**	**-0.4**
PTL	**Penteli**	**0.82**	**166**	*e*PN	**Pg**	**10 07 34.3**	**-0.3**
PTL				*e*SN	**Sg**	**10 07 45.5**	**+0.3**
PTL	**Penteli**	**0.82**	**166**	*e*Pn	**Pg**	**10 07 34.3**	**-0.3**
PTL				*e*Sn	**Sg**	**10 07 45.5**	**+0.3**
ATH	**Athens Observa**	**0.87**	**175**	*e*PN	**Pg**	**10 07 35.8**	**+0.1**
ATH				*e*SN	**Sg**	**10 07 47.3**	**+0.3**
ATH	**Athens Observa**	**0.87**	**175**	P	**Pg**	**10 07 35.6**	**-0.1**
ATH				S	**Sg**	**10 07 48.0**	**+1.0**
ATH	**Athens Observa**	**0.87**	**175**	*e*Pn	**Pg**	**10 07 35.8**	**+0.1**
ATH				*e*Sn	**Sg**	**10 07 47.3**	**+0.3**
ATH				S	**Sg**	**10 07 48.0**	**+1.0**
DSF	**Desfina**	**0.96**	**243**	P	**Pg**	**10 07 36.6**	**-0.6**
DSF	**Desfina**	**0.96**	**243**	P	**Pg**	**10 07 36.6**	**-0.6**
LTK	**Loutraki**	**0.97**	**212**	*e*PN	**Pg**	**10 07 37.0**	**-0.4**
LTK	**Loutraki**	**0.97**	**212**	P	**Pg**	**10 07 36.8**	**-0.6**
LTK	**Loutraki**	**0.97**	**212**	P	**Pg**	**10 07 36.8**	**-0.6**
VLY	**Voula,Athens**	**1.00**	**172**	*e*PN	**Pg**	**10 07 38.0**	**-0.1**
VLY				*e*SN	**Sg**	**10 07 51.2**	**+0.1**
VLY	**Voula,Athens**	**1.00**	**172**	P	**Pg**	**10 07 38.0**	**-0.1**
VLY	**Voula,Athens**	**1.00**	**172**	P	**Pg**	**10 07 38.0**	**-0.1**
VLY				*e*Sn	**Sg**	**10 07 51.2**	**+0.1**
AGG	**Agios Georgios**	**1.02**	**280**	P	**Pg**	**10 07 37.2**	**-1.2**
AGG				S	**Sg**	**10 07 52.9**	**+1.2**
AGG	**Agios Georgios**	**1.02**	**280**	P	**Pg**	**10 07 37.2**	**-1.2**
AGG				S	**Sg**	**10 07 52.9**	**+1.2**
NAIG	**Nisos Aigina**	**1.09**	**185**	*e*PN	**Pg**	**10 07 39.5**	**-0.2**
NAIG	**Nisos Aigina**	**1.09**	**185**	*e*Pn	**Pg**	**10 07 39.5**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.17**	**279**	P	**Pb**	**10 07 40.3**	**-0.8**
MAKR	**Makrakomi, Fth**	**1.17**	**279**	P	**Pb**	**10 07 40.3**	**-0.8**
KALE	**Kalithea**	**1.24**	**249**	P	**Pn**	**10 07 42.0**	**-0.2**
KALE	**Kalithea**	**1.24**	**249**	P	**Pn**	**10 07 42.0**	**-0.2**
GUR	**Goura**	**1.35**	**228**	*e*PN	**Pn**	**10 07 43.5**	**-0.1**
GUR	**Goura**	**1.35**	**228**	*e*Pn	**Pn**	**10 07 43.5**	**-0.1**
DID	**Didima**	**1.37**	**193**	*e*PN	**Pn**	**10 07 43.6**	**-0.3**
DID				*e*SN	**Sn**	**10 08 02.2**	**+0.2**
DID	**Didima**	**1.37**	**193**	P	**Pn**	**10 07 43.6**	**-0.3**
DID	**Didima**	**1.37**	**193**	P	**Pn**	**10 07 43.6**	**-0.3**
DID				*e*Sn	**Sn**	**10 08 02.2**	**+0.2**
THL	**Klokotos Trika**	**1.44**	**301**	*e*PN	**Pn**	**10 07 45.5**	**+0.6**
THL	**Klokotos Trika**	**1.44**	**301**	*e*Pn	**Pn**	**10 07 45.5**	**+0.6**
VLX	**Vlachokerasia**	**1.77**	**214**	*e*PN	**Pn**	**10 07 50.0**	**+0.6**
VLX	**Vlachokerasia**	**1.77**	**214**	*e*Pn	**Pn**	**10 07 50.0**	**+0.6**
APE	**Apeiranthos**	**2.33**	**139**	*e*PN	**Pn**	**10 07 57.4**	**+0.3**
APE	**Apeiranthos**	**2.33**	**139**	*e*Pn	**Pn**	**10 07 57.4**	**+0.3**

ISCJB ***28*** *10:11:44.2±0.6,41°.04N±0°.03×34°.58E±0°.03,h15km±10km, Error ellipse: s-maj=5.0km s-min=3.5km az=150.4*
CSEM ***28*** *10:11:44.5±0.2,41°.04N×34°.58E,h10km,MD2.7, Error ellipse: s-maj=4.0km s-min=2.8km az=135.0*

DDA ***28*** *10:11:44.3,41°.07N×34°.58E,h7km±5km,Md2.6*
ISK ***28*** *10:11:44.3,41°.05N×34°.57E,h11km,MD2.7*

ISC 28 10:11:45.0±0.6,41°.05N±0°.03×34°.57E±0°.03,h14km±11km, n26,σ0°80/43,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOS	**Tosya**	**0.41**	**269**	*e*PG	**Pg**	**10 11 52.5**	**-0.8**
TOS				*e*SG	**Sg**	**10 11 59.3**	**+0.4**
TOS	**Tosya**	**0.41**	**269**	*e*Pg	**Pg**	**10 11 52.5**	**-0.8**
TOS				*e*Sg	**Sg**	**10 11 59.3**	**+0.4**
BYBT	**Boyabat**	**0.45**	**19**	*e*PG	**Pg**	**10 11 53.5**	**-0.4**
BYBT				*e*SG	**Sg**	**10 12 00.3**	**+0.4**
BYBT	**Boyabat**	**0.45**	**19**	*e*Pg	**Pg**	**10 11 53.5**	**-0.4**
BYBT				*e*Sg	**Sg**	**10 12 00.3**	**+0.4**
BOYT	**Boyabat**	**0.45**	**34**	*e*P	**Pg**	**10 11 52.1**	**-1.8**
BOYT				*i* S	**Sg**	**10 12 01.1**	**+1.1**
BOYT	**Boyabat**	**0.45**	**34**	*e*P	**Pg**	**10 11 52.1**	**-1.8**
BOYT				*i* S	**Sg**	**10 12 01.1**	**+1.1**
CTKT	**Corum**	**0.46**	**159**	*i* P	**Pg**	**10 11 53.3**	**-0.8**
CTKT				*i* S	**Sg**	**10 11 60.0**	**-0.2**
CTKT	**Corum**	**0.46**	**159**	*i* P	**Pg**	**10 11 53.3**	**-0.7**
CTKT				*i* S	**Sg**	**10 12 00.0**	**-0.2**
ILGA	**Ilgaz**	**0.65**	**271**	*i* P	**Pg**	**10 11 56.7**	**-0.9**
ILGA				*i* S	**Sg**	**10 12 06.5**	**+0.3**
ILGA	**Ilgaz**	**0.65**	**271**	*i* P	**Pg**	**10 11 56.7**	**-0.9**
ILGA				*i* S	**Sg**	**10 12 06.5**	**+0.3**
DIKM	**Dikmen**	**0.79**	**40**	*e*PG	**Pg**	**10 12 00.0**	**-0.4**
DIKM				*e*SG	**Sg**	**10 12 11.5**	**+0.7**
DIKM	**Dikmen**	**0.79**	**40**	*e*Pg	**Pg**	**10 12 00.0**	**-0.4**
DIKM				*e*Sg	**Sg**	**10 12 11.5**	**+0.7**
CANT	**Cankiri**	**0.85**	**239**	*e*PG	**Pg**	**10 12 00.9**	**-0.4**
CANT				*e*SG	**Sg**	**10 12 13.3**	**+0.8**
CORM	**Corum**	**0.87**	**177**	*e*PG	**Pg**	**10 12 01.6**	**-0.2**
CORM	**Corum**	**0.87**	**177**	*e*Pg	**Pg**	**10 12 01.6**	**-0.2**
BZK	**Bozkurt**	**1.01**	**335**	*e*PG	**Pg**	**10 12 04.2**	**-0.2**
BZK	**Bozkurt**	**1.01**	**335**	*e*Pg	**Pg**	**10 12 04.2**	**-0.2**
ELDT	**Eldivan**	**1.03**	**238**	*i* P	**Pg**	**10 12 04.7**	**-0.3**
ELDT				*i* S	**Sg**	**10 12 19.8**	**+1.4**
ELDT	**Eldivan**	**1.03**	**238**	*i* P	**Pg**	**10 12 04.7**	**-0.2**
ELDT				*i* S	**Sg**	**10 12 19.8**	**+1.4**
KVT	**Kavak**	**1.12**	**88**	*e*PN	**Pg**	**10 12 06.0**	**-0.5**
KVT	**Kavak**	**1.12**	**88**	*e*Pn	**Pg**	**10 12 06.1**	**-0.4**
CDAG	**Cicekdag**	**1.43**	**186**	*i* P	**Pg**	**10 12 20.0**	**+7.5**
CDAG				*i* S	**Sg**	**10 12 41.4**	**+10**
SAFT	**Safranbolu**	**1.44**	**278**	*e*PN	**Pn**	**10 12 10.8**	**+0.3**
SAFT	**Safranbolu**	**1.44**	**278**	*e*Pn	**Pn**	**10 12 10.8**	**+0.3**
ERBA	**Erbaa**	**1.70**	**102**	*i* P	**Pg**	**10 12 17.1**	**-0.4**
ERBA				*i* S	**Sg**	**10 12 41.4**	**+1.8**
ERBA	**Erbaa**	**1.70**	**102**	*i* P	**Pg**	**10 12 17.1**	**-0.5**

ISK ***28*** *10:22:40.6,38°.32N×26°.59E,h8km,MD2.8*
ISCJB ***28*** *10:22:41.8±0.7,38°.19N±0°.03×26°.68E±0°.05,h10km±5km, Error ellipse: s-maj=6.2km s-min=5.4km az=162.8*
CSEM ***28*** *10:22:41.5±0.3,38°.24N×26°.65E,h10km,MD2.9, Error ellipse: s-maj=6.7km s-min=5.3km az=87.0*
DDA ***28*** *10:22:41.8,38°.18N×26°.75E,h7km±5km,Md2.9*

ISC 28 10:22:41.9±0.7,38°.19N±0°.03×26°.68E±0°.05,h11km±4km, n30,σ1°01/47,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.18**	**339**	*i* P	**Pg**	**10 22 45.5**	**-0.4**

Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.47**	**316**	*e*P	**Pn**	**11 04 03.5**	**-5.8**
LUBP				*e*S	**Sn**	**11 04 08.0**	**-11**
TGY	**Tagaytay City**	**0.78**	**26**	P	**Pn**	**11 04 11.6**	**-0.8**
	11μm,0.3s,baz=223,slow=2.1,SNR=425						
TGY				S	**Sn**	**11 04 24.9**	**+0.4**
	14μm,0.3s,baz=336,slow=20,SNR=61						
TGY	**Tagaytay City**	**0.78**	**26**	P	**Pn**	**11 04 11.6**	**-0.8**
TGY				S	**Sn**	**11 04 24.9**	**+0.4**
TGY	**Tagaytay City**	**0.78**	**26**	P	**Pn**	**11 04 11.6**	**-0.9**
TGY	**Tagaytay City**	**0.78**	**26**	||*i*P	**Pn**	**11 04 11.8**	**-0.6**
LQP	**Lukban**	**1.17**	**53**	*e*P	**Pn**	**11 04 18.4**	**+1.3**
BOAC	**Boac**	**1.23**	**87**	*e*P	**Pn**	**11 04 18.1**	**+0.3**
POLP	**Polilio Island**	**1.87**	**45**	*e*P	**Pn**	**11 04 26.9**	**+0.7**
GQP	**Guinayangan**	**1.88**	**74**	⇑*i*P	**Sn**	**11 04 54.4**	**+5.0**
RCP	**Roxas**	**2.79**	**131**	||*e*P	**Pn**	**11 04 38.6**	**-0.1**
RCP				*e*S	**Sn**	**11 05 09.6**	**-1.7**
BCPH	**Baguio City Da**	**2.97**	**0**	⇑*i*P	**Pn**	**11 04 39.3**	**-1.7**
SNPH	**Sibulan**	**4.80**	**147**	||*e*P	**Pn**	**11 05 06.8**	**+0.8**
SNPH				*e*S	**Sn**	**11 06 00.2**	**-0.1**
TBP	**Tagbilaran**	**4.89**	**139**	*e*P	**Pn**	**11 05 08.9**	**+1.7**
DAV	**Davao City (W)**	**7.98**	**141**	LR	LR	11 09 30.5	
	comp=Z,502nm,21.0s,baz=218,slow=42						
MYLDM	**Lahad Datu**	**8.42**	**194**	P	**Pn**	**11 05 55.3**	**-0.1**
KKM	**Kota Kinabalu**	**8.48**	**211**	*e*Pn	**Pn**	**11 05 54.6**	**-1.6**
KKM				*e*Sn	**Sn**	**11 07 19.9**	**-10**
KKM	**Kota Kinabalu**	**8.48**	**211**	P	**Pn**	**11 06 04.7**	**+8.5**
KKM	**Kota Kinabalu**	**8.48**	**211**	P	**Pn**	**11 06 04.7**	**+8.5**
	58nm,0.8s						
QIZ	**Qiongzhong**	**11.73**	**300**	*e*Pn	**Pn**	**11 06 36.8**	**-3.8**
QIZ				*e*Sn	**Sn**	**11 08 39.1**	**-11**
GTOI	**Gorontalo**	**12.90**	**169**	P	**Pn**	**11 07 05.5**	**+8.9**
	3μm136nm,0.8s						
GTOI	**Gorontalo**	**12.90**	**169**	P	**Pn**	**11 07 05.6**	**+9.0**
	3μm136nm,0.8s						
MRSI	**Marisa**	**12.91**	**174**	P	**Pn**	**11 06 57.0**	**+0.4**
	3μm50nm,0.7s						
MRSI	**Marisa**	**12.91**	**174**	P	**Pn**	**11 06 57.8**	**+1.2**
KMSI	**Cibinong**	**13.18**	**165**	P	Px	11 07 22.3	
SBUM	**Sibu**	**13.66**	**218**	P	**Pn**	**11 07 13.8**	**+7.2**
	21nm,1.0s						
SBUM	**Sibu**	**13.66**	**218**	P	**Pn**	**11 07 13.6**	**+7.0**
	21nm,1.0s						
PCI	**Palu**	**14.23**	**183**	P	**Pn**	**11 07 20.0**	**+6.0**
	4μm260nm,0.9s						
LUWI	**Luwuk**	**14.51**	**171**	P	**Pn**	**11 07 23.9**	**+6.2**
LUWI	**Luwuk**	**14.51**	**171**	P	**Pn**	**11 07 24.0**	**+6.3**
	5μm207nm,1.0s						
JOW	**Kunigami**	**15.19**	**27**	LR	LR	11 12 42.2	
	comp=Z,201nm,21.2s,baz=275,slow=35						
WHN	**Wuhan**	**18.01**	**342**	P	**Pn**	**11 08 03.0**	**+1.7**
WHN				LR	LR		
	comp=N,1μm,41.4s						
WHN				LR	LR		
	comp=E,770nm,25.0s						
WHN				LR	LR		
	comp=Z,1μm,32.4s						
GYA	**Guiyang**	**18.42**	**317**	P	**Pn**	**11 08 06.5**	**+0.2**
GYA				pP	pP	11 08 17.5	-3.2
GYA				S	**S**	**11 11 27.5**	**-4.3**
GYA				SS		11 11 53.8	
GYA				pmax	pmax		
	comp=Z,20nm,0.7s						
GYA				pmax	pmax		
	comp=Z,120nm,4.6s						
GYA				LR	LR		
	comp=N,650nm,14.8s						
GYA				LR	LR		
	comp=E,520nm,15.5s						
GYA				LR	LR		
	comp=Z,540nm,13.9s						
MSAI	**Masohi**	**18.58**	**153**	P	**Pn**	**11 08 13.1**	**+4.7**
	comp=Z,530nmcomp=Z,27nm,0.9s						
NJ2	**Nanjing**	**18.64**	**355**	*e*P	**Pn**	**11 08 08.5**	**-0.4**
NJ2				pP	pP	11 08 20.0	-3.1
NJ2				S	**S**	**11 11 30.0**	**-6.1**
NJ2				pmax	pmax		
	comp=Z,50nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,250nm,5.1s						
NJ2				LR	LR		
	comp=N,290nm,23.0s						
NJ2				LR	LR		
	comp=E,320nm,25.0s						
NJ2				LR	LR		
	comp=Z,380nm,26.9s						
ENH	**Enshi**	**19.68**	**330**	*e*P	**Pn**	**11 08 20.1**	**-1.1**
	comp=Z,48nm,1.0s						
FAKI	**Fak Fak**	**19.92**	**144**	P	**Pn**	**11 08 24.1**	**-0.1**
	comp=Z,46nm,1.1s						
KMI	**Kunming**	**20.46**	**307**	P	**P**	**11 08 29.0**	**+1.4**
KMI				pP		11 08 45.0	
KMI				PP		11 08 52.5	
KMI				S	**S**	**11 12 12.0**	**-0.6**
KMI				SS		11 12 44.3	
KMI				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KMI				pmax	pmax		
	comp=Z,140nm,5.0s						
KMI				LR	LR		
	comp=N,390nm,15.4s						
KMI				LR	LR		
	comp=E,370nm,17.2s						
KMI				LR	LR		
	comp=Z,300nm,19.9s						
BAKI	**Biak**	**21.14**	**132**	P	**P**	**11 08 39.2**	**+4.1**
	comp=Z,92nm,1.3s,mb5.0						
IPM	**Ipoh**	**21.23**	**247**	*e*P	**P**	**11 08 35.5**	**-0.5**
	comp=Z,5.4nm,0.6s,mb4.0						
CM31	**Chiang Mai Arr**	**21.40**	**286**	*e*P	**P**	**11 08 37.4**	**-0.4**
	comp=Z,28nm,1.3s,mb4.4						
CMAR	**Chiang Mai Arr**	**21.40**	**286**	P	**P**	**11 08 37.4**	**-0.4**
	comp=Z,3.5nm,0.8s,baz=98,slow=9.1,SNR=20						
CMAR	**Chiang Mai Arr**	**21.40**	**286**	P	**P**	**11 08 37.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**21.40**	**286**	P	**P**	**11 08 37.4**	**-0.4**
XAN	**Xi'an**	**23.12**	**335**	P	**P**	**11 08 54.3**	**-1.4**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2						
CD2	**Chengdu**	**23.32**	**321**	P	**P**	**11 08 57.8**	**+0.2**
CD2				pP		11 09 12.5	
CD2				PP		11 09 31.5	
CD2				PcP	PcP	11 12 44.3	+1.6
CD2				S	**S**	**11 13 02.5**	**-2.0**
CD2				SS		11 13 53.8	
CD2				pmax	pmax		
	comp=Z,70nm,1.0s,mb5.0						
CD2				pmax	pmax		
	comp=Z,190nm,4.8s						
CD2				LR	LR		
	comp=N,380nm,9.6s						
CD2				LR	LR		
	comp=Z,270nm,14.4s						
SMPI	**Sarmi**	**23.60**	**129**	P	**P**	**11 09 02.4**	**+2.0**
	comp=Z,98nm,1.3s,mb5.0						
GUMO	**Guam**	**23.62**	**87**	LR	LR	11 18 57.5	
	comp=Z,134nm,18.2s,baz=91,slow=38						
CBIJ	**Chichi jima**	**24.37**	**53**	LR	LR	11 19 02.1	
	comp=Z,183nm,18.2s,baz=264,slow=37						
KSAR	**Wonju Array Be**	**24.82**	**14**	P	**P**	**11 09 10.0**	**-1.2**
KSAR	**Wonju Array Be**	**24.82**	**14**	P	**P**	**11 09 10.0**	**-1.2**
KSRS	**Korea Array**	**24.84**	**14**	P	**P**	**11 09 10.0**	**-1.4**
	comp=Z,3.3nm,0.8s,mb3.8,baz=194,slow=10.0,SNR=9.1						
KSRS				LR	LR	11 20 39.7	
	comp=Z,224nm,19.2s,baz=195,slow=40						
BJT	**Baijiatuan**	**26.80**	**352**	*e*P	**P**	**11 09 29.0**	**-0.1**
	comp=Z,40nm,0.3s,mb5.4						
BJT	**Baijiatuan**	**26.80**	**352**	*e*P	**P**	**11 09 29.0**	**-0.1**
BJT				pmax	pmax		
	comp=Z,40nm,0.3s						
BJI	**Beijing**	**26.82**	**352**	P	**P**	**11 09 29.0**	**-0.3**
BJI				pmax	pmax		
	comp=Z,67nm,0.5s,mb5.4						
BJI				LR	LR		
	comp=N,340nm,16.0s						
BJI				LR	LR		
	comp=E,350nm,23.2s						
BJI				LR	LR		
	comp=Z,160nm,21.1s						
LZH	**Lanzhou**	**27.14**	**329**	*e*P	**P**	**11 09 32.5**	**+0.3**
LZH				pmax	pmax		
	comp=Z,47nm,1.1s,mb4.9						
LZH				pmax	pmax		
	comp=Z,190nm,5.4s						
LZH				LR	LR		
	comp=N,160nm,7.9s						
LZH				LR	LR		
	comp=E,290nm,13.4s						
LZH				LR	LR		
	comp=Z,490nm,19.8s						
MJAR	**Matsushiro Arr**	**27.95**	**31**	P	**P**	**11 09 41.3**	**+1.9**
	comp=Z,2.2nm,1.1s,baz=226,slow=9.6,SNR=4.3						
MJAR	**Matsushiro Arr**	**27.95**	**31**	P	**P**	**11 09 41.3**	**+1.9**
MJAR	**Matsushiro Arr**	**27.95**	**31**	P	**P**	**11 09 41.3**	**+1.9**
HHC	**Hu-ho-hao-te**	**28.47**	**346**	*e*P	**P**	**11 09 44.3**	**+0.4**
HHC				pP	pP	11 09 59.5	-2.3
HHC				PP	PP	11 10 38.3	-11
HHC				PcP	PcP	11 12 55.0	+0.7
HHC				S	**S**	**11 14 27.8**	**+1.9**
HHC				SS	SS	11 15 57.0	-32
HHC				ScS	ScS	11 20 22.0	+0.1
HHC				pmax	pmax		
	comp=Z,45nm,0.8s,mb5.0						
HHC				pmax	pmax		
	comp=Z,120nm,4.2s						
HHC				LR	LR		
	comp=N,120nm,15.5s						
HHC				LR	LR		
	comp=E,400nm,16.7s						
HHC				LR	LR		
	comp=Z,150nm,16.7s						
CN2	**Changchun**	**30.59**	**7**	*e*P	**P**	**11 10 03.8**	**+1.1**
CN2				*e*S	**S**	**11 15 00.0**	**+0.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.7						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,12.0s						
CN2				LR	LR		
	comp=E,400nm,12.0s						
CN2				LR	LR		
	comp=Z,300nm,21.0s						
LSA	**Lhasa**	**31.69**	**306**	P	**P**	**11 10 13.0**	**+0.4**
FITZ	**Fitzroy Crossi**	**31.69**	**171**	*e*P	**P**	**11 10 12.9**	**+0.3**
	comp=Z,14nm,1.4s,mb4.5						
GTA	**Gaotai**	**31.73**	**329**	P	**P**	**11 10 13.0**	**+0.2**
GTA				pP	pP	11 10 27.8	-3.0
GTA				S	**S**	**11 15 18.0**	**+0.8**
GTA				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.5						
GTA				pmax	pmax		
	comp=Z,120nm,4.7s						
GTA				LR	LR		
	comp=N,270nm,16.4s						
GTA				LR	LR		
	comp=E,270nm,18.5s						
GTA				LR	LR		
	comp=Z,340nm,19.9s						
MDJ	**Mudanjiang**	**32.05**	**12**	P	**P**	**11 10 15.3**	**-0.3**
MDJ				pP	pP	11 10 30.3	-3.2
MDJ				PP	PP	11 11 27.5	-1.8
MDJ				PcP	PcP	11 13 03.3	-0.2
MDJ				S	**S**	**11 15 23.8**	**+1.8**
MDJ				ScP	ScP	11 16 41.0	+0.5
MDJ				PcS	PcS	11 16 47.3	-0.9
MDJ				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.3						
MDJ				pmax	pmax		
	comp=Z,100nm,5.4s						
MDJ				LR	LR		
	comp=N,170nm,13.6s						
MDJ				LR	LR		
	comp=E,220nm,14.7s						
MDJ				LR	LR		
	comp=Z,230nm,16.4s						
TAPN	**Taplejung**	**33.67**	**299**	*e*P	**P**	**11 10 30.0**	**0.0**
	comp=Z,19nm,0.8s,mb5.0						
ODAN	**Odare**	**33.80**	**298**	*e*P	**P**	**11 10 31.0**	**-0.1**
	comp=Z,40nm,0.8s,mb5.3						
RAMN	**Ramite**	**34.50**	**298**	*e*P	**P**	**11 10 37.3**	**+0.1**
	comp=Z,30nm,0.7s,mb5.2						
JIRN	**Jiri**	**35.05**	**299**	*e*P	**P**	**11 10 42.3**	**+0.4**
COEN	**Coen**	**35.21**	**140**	*e*P	**P**	**11 10 41.7**	**-1.6**
	comp=Z,15nm,0.7s,mb4.9						
GUN	**Gumba**	**35.39**	**300**	*e*P	**P**	**11 10 45.0**	**+0.2**
	comp=Z,90nm,0.9s,mb5.6						
PKI	**Pulchoki**	**35.69**	**299**	*e*P	**P**	**11 10 47.0**	**-0.4**
	comp=Z,56nm,0.9s,mb5.5						
WRAB	**Tennant Creek**	**35.78**	**157**	*e*P	**P**	**11 10 48.2**	**+0.1**
	comp=Z,51nm,0.8s,mb5.5						
WRAB	**Tennant Creek**	**35.78**	**157**	*e*P	**P**	**11 10 48.2**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,51nm,0.8s,mb5.5						
WRAB	**Tennant Creek**	**35.78**	**157**	P	**P**	**11 10 48.0**	**-0.1**
	comp=Z,74nm,0.7s,mb5.7						
WRA	**Warramunga Arr**	**35.79**	**158**	P	**P**	**11 10 48.2**	**0.0**
	comp=Z,26nm,0.6s,mb5.4,baz=336,slow=9.6,SNR=222						
WRA				S	**S**	**11 16 18.6**	**-1.6**
	comp=Z,1.0nm,0.9s,baz=345,slow=16,SNR=4.6						
WRA	**Warramunga Arr**	**35.79**	**158**	P	**P**	**11 10 48.2**	**0.0**
WRA				S	**S**	**11 16 18.6**	**-1.6**
WRA	**Warramunga Arr**	**35.79**	**158**	P	**P**	**11 10 48.2**	**0.0**
WRA				S	**S**	**11 16 18.6**	**-1.6**
WB2	**Warramunga Arr**	**35.79**	**157**	*e*P	**P**	**11 10 48.3**	**+0.1**
KKN	**Kakani**	**35.86**	**299**	*e*P	**P**	**11 10 48.5**	**-0.3**
	comp=Z,44nm,0.9s,mb5.4						
DMN	**Daman**	**35.96**	**299**	*e*P	**P**	**11 10 49.5**	**-0.2**
	comp=Z,53nm,0.9s,mb5.5						
ULN	**Ulaanbaatar**	**36.17**	**345**	*e*P	**P**	**11 10 51.2**	**+0.1**
	comp=Z,41nm,0.6s,mb5.5						
ULN	**Ulaanbaatar**	**36.17**	**345**	*e*P	**P**	**11 10 51.2**	**+0.1**
ULN				pmax	pmax		
	comp=Z,41nm,0.6s,mb5.5						
ULN	**Ulaanbaatar**	**36.17**	**345**	P	**P**	**11 10 51.0**	**-0.1**
	comp=Z,698nmcomp=Z,71nm,0.8s,mb5.7						
SONM	**Songino Array**	**36.31**	**344**	P	**P**	**11 10 52.3**	**-0.1**
	comp=Z,60nm,0.6s,mb5.7,baz=164,slow=9.8,SNR=420						
SONM				LR	LR	11 26 18.2	
	comp=Z,294nm,19.1s,baz=167,slow=37						
SONM	**Songino Array**	**36.31**	**344**	P	**P**	**11 10 52.3**	**-0.1**
SONM	**Songino Array**	**36.31**	**344**	P	**P**	**11 10 52.3**	**-0.1**
GKN	**Gorkha**	**36.47**	**299**	*e*P	**P**	**11 10 53.4**	**-0.6**
KLR	**Kul'dur**	**36.90**	**12**	*e*P	**P**	**11 10 52.3**	**-5.0**
HABR	**Khabarovsk**	**36.98**	**16**	*e*P	Px	11 11 08.7	
HABR				*e*		11 12 18.6	
HABR				*e*		11 13 14.6	
HABR				*e*S	**S**	**11 16 34.4**	**-3.3**
HABR				SS	SS	11 19 11.7	-8.7
HABR				*e*		11 21 03.5	
HABR				pmax	pmax		
	comp=E,74nm,2.3s						
HABR				pmax	pmax		
	comp=Z,37nm,2.3s,mb4.9						
HABR				pmax	pmax		
	comp=N,35nm,2.3s						
HABR				MLR	MLR		
	comp=Z,105nm,18.0s						
KOLN	**Koldanda**	**37.29**	**298**	*e*P	**P**	**11 11 00.7**	**-0.3**
	comp=Z,30nm,0.7s,mb5.3						
DANN	**Dangsing**	**37.31**	**299**	*e*P	**P**	**11 11 00.8**	**-0.3**
	comp=Z,64nm,0.8s,mb5.6						
YUK	**Yuzh-Kuril'sk**	**37.43**	**30**	*d*iP	**P**	**11 11 09.5**	**+7.6**
YUK				MLR	MLR		
	comp=N,114nm,20.0s						
YUK				MLR	MLR		
	comp=E,368nm,20.0s						
YUK				MLR	MLR		
	comp=Z,189nm,20.0s						
PYUN	**Piuthan**	**37.90**	**299**	*e*P	**P**	**11 11 06.0**	**-0.1**
	comp=Z,94nm,0.9s,mb5.6						
PYUN	**Piuthan**	**37.90**	**299**	*e*P	PcP	11 13 21.6	+0.7
	comp=Z,15nm,0.6s						
AS31	**Alice Springs**	**39.07**	**160**	*e*P	**P**	**11 11 16.6**	**+0.7**
ASAR	**Alice Springs**	**39.07**	**160**	P	**P**	**11 11 16.7**	**+0.8**
	comp=Z,14nm,0.7s,mb4.9,baz=337,slow=6.9,SNR=232						
ASAR	**Alice Springs**	**39.07**	**160**	P	**P**	**11 11 16.7**	**+0.8**
ASAR	**Alice Springs**	**39.07**	**160**	P	**P**	**11 11 16.7**	**+0.8**
ZAK	**Zakamensk**	**39.49**	**343**	⇑*i*P	**P**	**11 11 18.7**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.8						
WMQ	**Urumqi**	**41.38**	**324**	P	**P**	**11 11 35.8**	**+1.0**
WMQ				pP	pP	11 11 51.0	-2.3
WMQ				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.7						
WMQ				pmax	pmax		
	comp=Z,250nm,4.4s						
WMQ				LR	LR		
	comp=N,170nm,23.2s						
WMQ				LR	LR		
	comp=E,180nm,21.0s						
WMQ				LR	LR		
	comp=Z,220nm,22.1s						
CTAO	**Charters Tower**	**41.78**	**142**	*e*P	**P**	**11 11 35.5**	**-2.8**
	comp=Z,21nm,1.3s,mb4.7						
CTAO	**Charters Tower**	**41.78**	**142**	*e*P	**P**	**11 11 35.5**	**-2.8**
CTAO				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.7						
MK31	**Makanchi Array**	**46.21**	**324**	*e*P	**P**	**11 12 13.8**	**+0.4**
MK31	**Makanchi Array**	**46.21**	**324**	*e*P	**P**	**11 12 13.8**	**+0.4**
MKAR	**Makanchi Array**	**46.21**	**324**	P	**P**	**11 12 13.9**	**+0.4**
	comp=Z,13nm,0.8s,mb4.7,baz=130,slow=9.0,SNR=49						
MKAR				PP	PP	11 14 09.7	+6.6
	comp=Z,2.7nm,0.7s,baz=107,slow=4.2,SNR=4.2						
MKAR	**Makanchi Array**	**46.21**	**324**	*e*P	**P**	**11 12 13.9**	**+0.5**
MKAR				PP	PP	11 14 09.7	+6.6
MKAR	**Makanchi Array**	**46.21**	**324**	*e*P	**P**	**11 12 14.0**	**+0.6**
MKAR						11 14 09.7	
KSH	**Kashi**	**47.01**	**312**	*e*P	**P**	**11 12 22.0**	**+2.1**
KSH				pP	pP	11 12 37.5	-1.2
KSH				PcP	PcP	11 13 50.0	-1.1
KSH				PP	PP	11 14 13.0	+1.8
KSH				ScP	ScP	11 17 40.3	+2.0
KSH				PcS	PcS	11 17 47.0	+0.9
KSH				S	**S**	**11 19 08.3**	**+2.3**
KSH				ScS	ScS	11 22 07.8	+0.7
KSH				SS	SS	11 22 30.5	-3.2
KSH				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
KSH				pmax	pmax		
	comp=Z,140nm,4.9s						
KSH				LR	LR		
	comp=N,110nm,4.5s						
KSH				LR	LR		
	comp=E,180nm,6.4s						
KSH				LR	LR		
	comp=Z,230nm,5.8s						
ULHL	**Ulahol**	**47.85**	**316**	P	**P**	**11 12 27.6**	**+1.2**
	SNR=18						
KZA	**Kyzart**	**48.47**	**315**	P	**P**	**11 12 32.8**	**+1.7**
	SNR=15						
TKM2	**Tokmak 2**	**48.56**	**316**	P	**P**	**11 12 32.7**	**+0.9**
	SNR=12						
TKM2	**Tokmak 2**	**48.56**	**316**	*e*P	**P**	**11 12 31.6**	**-0.2**
	comp=Z,8.5nm,0.6s,mb4.8						
TKM2	**Tokmak 2**	**48.56**	**316**	*i* P	**P**	**11 12 32.6**	**+0.8**
KBK	**Karagaybulak**	**48.90**	**316**	P	**P**	**11 12 35.7**	**+1.4**
	SNR=5.0						
YAK	**Yakutsk**	**49.00**	**6**	*e*P	**P**	**11 12 33.0**	**-1.8**
YAK				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
YAK				pmax	pmax		
	comp=N,2.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.4s						
CHMS	**Chumysh**	**49.16**	**316**	P	**P**	**11 12 36.9**	**+0.5**
	SNR=5.6						
AAK	**Ala-Archa**	**49.20**	**315**	*e*P	**P**	**11 12 37.7**	**+1.1**
	comp=E,36nm,1.0s,mb5.3						
AAK	**Ala-Archa**	**49.20**	**315**	*d*iP	**P**	**11 12 37.9**	**+1.2**
AAK				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
AAK	**Ala-Archa**	**49.20**	**315**	P	**P**	**11 12 37.7**	**+1.0**
	comp=Z,43nm,0.9s,mb5.4						
ZAA0	**Zalesovo Array**	**49.27**	**333**	*e*P	**P**	**11 12 36.2**	**-0.8**
ZALV	**Zalesovo Beam**	**49.27**	**333**	P	**P**	**11 12 36.5**	**-0.6**
	comp=Z,19nm,0.6s,mb5.2,baz=124,slow=6.6,SNR=61						
ZALV	**Zalesovo Beam**	**49.27**	**333**	P	**P**	**11 12 36.5**	**-0.6**
ZALV	**Zalesovo Beam**	**49.27**	**333**	P	**P**	**11 12 36.5**	**-0.5**
STKA	**Stephens Creek**	**49.32**	**156**	P	**P**	**11 12 38.2**	**+0.6**
	comp=Z,1.4nm,0.5s,mb4.2,baz=346,slow=7.4,SNR=4.7						
STKA	**Stephens Creek**	**49.32**	**156**	P	**P**	**11 12 38.2**	**+0.6**
STKA	**Stephens Creek**	**49.32**	**156**	P	**P**	**11 12 38.2**	**+0.6**
PETK	**Petropavlovsk-**	**49.35**	**29**	P	**P**	**11 12 37.2**	**-0.4**
	comp=Z,5.2nm,0.8s,mb4.5,baz=146,slow=2.1,SNR=8.2						
PETK				PP	PP	11 14 32.1	0.0
	comp=Z,13nm,1.1s,baz=104,slow=3.8,SNR=3.6						
PETK	**Petropavlovsk-**	**49.35**	**29**	P	**P**	**11 12 37.2**	**-0.4**
PETK				PP	PP	11 14 32.1	0.0
PETK	**Petropavlovsk-**	**49.35**	**29**	P	**P**	**11 12 37.3**	**-0.3**
PETK						11 14 32.2	
USP	**Ospenovka**	**49.44**	**316**	P	**P**	**11 12 38.8**	**+0.4**
	SNR=9.2						
AML	**Almayashu**	**49.56**	**314**	P	**P**	**11 12 40.8**	**+1.3**
	SNR=16						
EKS2	**Erkin-Say**	**49.70**	**315**	P	**P**	**11 12 41.4**	**+0.9**
	SNR=9.2						
EKS2	**Erkin-Say**	**49.70**	**315**	*e*P	**P**	**11 12 41.5**	**+1.1**
	comp=Z,10.0nm,0.8s,mb4.8						
EKS2	**Erkin-Say**	**49.70**	**315**	*e*P	**P**	**11 12 41.5**	**+1.0**
EKS2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
KURK	**Kurchatov**	**50.38**	**327**	*e*P	**P**	**11 12 45.7**	**+0.2**
	comp=Z,101nm,0.8s,mb5.8						
KURK	**Kurchatov**	**50.38**	**327**	*e*P	**P**	**11 12 45.7**	**+0.2**
KURK				pmax	pmax		
	comp=Z,101nm,0.8s,mb5.8						
NVS	**Novosibirsk**	**50.56**	**333**	⇑*i*P	**P**	**11 12 44.6**	**-2.2**
NVS				pmax	pmax		
	comp=N,17nm,1.0s						
NVS				pmax	pmax		
	comp=E,21nm,1.0s						
NVS				pmax	pmax		
	comp=Z,34nm,1.0s,mb5.3						
KBL	**Kabul**	**50.98**	**304**	*e*P	**P**	**11 12 50.5**	**+0.2**
	comp=Z,8.9nm,0.7s,mb4.9						
KBL	**Kabul**	**50.98**	**304**	*e*P	**P**	**11 12 50.5**	**+0.2**
KBL				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
KK31	**Karatay Array**	**52.10**	**315**	*i* P	**P**	**11 12 58.6**	**+0.1**
KK31				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
KKAR	**Karatay Array**	**52.10**	**315**	*e*P	**P**	**11 12 59.0**	**+0.4**
KKAR	**Karatay Array**	**52.10**	**315**	*e*P	**P**	**11 12 59.0**	**+0.5**
SEY	**Seymchan**	**54.34**	**17**	||*e*P	**P**	**11 13 14.1**	**-0.4**
BVA0	**Borovoye Array**	**55.96**	**326**	*i* P	**P**	**11 13 26.2**	**-0.2**
BVAR	**Borovoye Array**	**55.96**	**326**	LR	LR	11 39 05.4	
	comp=Z,358nm,20.9s,baz=15,slow=38						
BRVK	**Borovoye**	**56.03**	**326**	*e*P	**P**	**11 13 27.2**	**+0.3**
	comp=Z,71nm,1.1s,mb5.6						
BRVK	**Borovoye**	**56.03**	**326**	*c* iP	**P**	**11 13 27.1**	**+0.2**
AB31	**Akbulak array**	**60.88**	**319**	*i* P	**P**	**11 14 00.4**	**-0.4**
AB31				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
BILL	**Bilibino**	**62.03**	**18**	*e*P	**P**	**11 14 07.5**	**-0.7**
	comp=Z,12nm,0.7s,mb5.0						
BILL	**Bilibino**	**62.03**	**18**	*c* iP	**P**	**11 14 07

KIV pmax pmax
comp=Z,15nm,0.8s,mb4.9
KLMR Klimovskoe 74.05 330 *eP* **P 11 15 20.6 -3.0**
OBN Obninsk 75.71 324 *d i*P **P 11 15 32.5 -0.8**
OBN *i* 11 15 46.2
OBN pmax pmax
comp=Z,44nm,1.6s,mb4.9
JOF Joensuu 77.86 332 *eP* **P 11 15 44.3 -0.9**
JOF pmax pmax
comp=Z,12nm,0.5s,mb4.9
KEV Kevo 78.77 339 *eP* **P 11 15 49.6 -0.5**
ILAR Eielson Array 79.07 26 P **P 11 15 49.9 -2.0**
comp=Z,0.6nm,0.8s,baz=276,slow=3.5,SNR=6.9
ILAR Eielson Array 79.07 26 P **P 11 15 49.9 -2.0**
ILAR Eielson Array 79.07 26 P **P 11 15 49.9 -2.0**
BRTR Keskin Array B 79.25 308 P **P 11 15 53.1 -0.2**
comp=Z,2.0nm,0.8s,mb4.0,baz=91,slow=4.6,SNR=9.4
BRTR Keskin Array B 79.25 308 P **P 11 15 53.1 -0.2**
BRTR Keskin Array B 79.25 308 P **P 11 15 53.1 -0.2**
ARCES ARCESS Array B 79.33 339 P **P 11 15 52.7 -0.5**
comp=Z,5.3nm,0.5s,mb4.7,baz=82,slow=7.5,SNR=60
ARCES ARCESS Array B 79.33 339 P **P 11 15 52.7 -0.5**
ARCES ARCESS Array B 79.33 339 P **P 11 15 52.7 -0.5**
EIL Elat 79.75 298 P **P 11 15 56.2 -0.1**
comp=Z,5.3nm,0.8s,mb4.4,baz=65,slow=8.2,SNR=4.1
EIL Elat 79.75 298 P **P 11 15 56.2 -0.1**
KAF Kangasniemi 80.27 332 *eP* **P 11 15 57.9 -0.5**
FINES FINESS Array B 80.49 331 P **P 11 15 59.2 -0.4**
comp=Z,7.3nm,0.8s,mb4.6,baz=44,slow=5.7,SNR=15
FINES FINESS Array B 80.49 331 P **P 11 15 59.2 -0.4**
FINES FINESS Array B 80.49 331 P **P 11 15 59.2 -0.4**
AKASG Malin Array Be 80.62 320 P **P 11 15 59.6 -0.9**
comp=Z,5.3nm,0.7s,mb4.5,baz=70,slow=4.6,SNR=22
AKASG Malin Array Be 80.62 320 P **P 11 15 59.6 -0.9**
AKASG Malin Array Be 80.62 320 P **P 11 15 59.7 -0.8**
AKBB Malin Array Si 80.62 320 *eP* **P 11 15 59.5 -1.0**
AKBB Malin Array Si 80.62 320 *eP* **P 11 15 59.5 -1.0**
KIEV Kiev 80.63 320 *eP* **P 11 15 59.7 -0.8**
comp=Z,6.9nm,0.9s,mb4.5
KIEV Kiev 80.63 320 *eP* **P 11 15 59.7 -0.9**
KIEV pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
TIRR Tirgusor 82.28 314 *eP* **P 11 16 09.4 -0.1**
comp=Z,9.2nm,1.0s,mb4.6
TIRR Tirgusor 82.28 314 *eP* **P 11 16 09.4 0.0**
TIRR pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
VRI Vrincioaia 83.17 315 ⇑P **P 11 16 15.1 +1.1**
MLR Muntele Rosu 83.78 315 ⇓P **P 11 16 17.9 +0.7**
BURAR Bucovina Array 83.80 317 ⇓P **P 11 16 17.7 +0.5**
BUR08 Bucovina Ar. S 83.81 317 *eP* **P 11 16 17.3 +0.1**
LVV L'vov 84.06 320 *eP* **P 11 16 18.2 -0.3**
UZH Uzhgorod 85.46 319 ⇑*i*P **P 11 16 26.0 +0.5**
UZH *e* 11 16 32.4
UZH *e* pP 11 16 44.8 -1.4
DRGR 85.66 317 ⇓P **P 11 16 27.0 +0.4**
CRVS Cervenica-Dubn 85.92 319 *eP* **P 11 16 28.4 +0.6**
CRVS pmax pmax
comp=Z,28nm,1.0s,mb5.2
VTS Vitosha 86.39 313 ⇑P **P 11 16 30.3 0.0**
OJC Ojcow 86.59 321 *eP* **P 11 16 31.3 +0.2**
KECS Kecovo 86.65 319 *eP* **P 11 16 31.7 +0.3**
KECS pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
PSZ Piszkesteto 87.19 319 ⇓P **P 11 16 34.1 0.0**
NB2 NORSAR Subarra 87.47 333 P **P 11 16 34.2 -0.9**
comp=Z,10nm,0.9s,mb4.8,baz=71,slow=5.3
NOA NORSAR Array B 87.47 333 P **P 11 16 33.6 -1.5**
comp=Z,5.4nm,0.9s,mb4.5,baz=70,slow=4.9,SNR=8.4
NOA LR LR 11 56 46.5
comp=Z,70nm,18.1s,baz=300,slow=36
NOA NORSAR Array B 87.47 333 P **P 11 16 33.6 -1.5**
NOA NORSAR Array B 87.47 333 P **P 11 16 33.7 -1.4**
OKC Ostrava-Krasne 87.72 321 *eP* **P 11 16 36.2 -0.3**
OKC Ostrava-Krasne 87.72 321 *eP* **P 11 16 36.2 -0.3**
MORC Moravsky Berou 88.11 321 ⇓P **P 11 16 38.8 +0.4**
DPC Dobruska-Polom 88.67 322 *eP* **P 11 16 41.5 +0.5**
DPC Dobruska-Polom 88.67 322 *eP* **P 11 16 41.5 +0.5**
UPC Upice 88.80 322 *eP* **P 11 16 41.9 +0.3**
UPC Upice 88.80 322 *eP* **P 11 16 41.9 +0.3**
VRAC Vranov 88.85 321 P **P 11 16 41.3 -0.5**
comp=Z,3.8nm,0.6s,mb4.6,baz=71,slow=5.5,SNR=4.3
VRAC Vranov 88.85 321 P **P 11 16 41.3 -0.5**
VRAC Vranov 88.85 321 P **P 11 16 41.3 -0.6**
PVCC Panska Ves 89.66 322 *eP* **P 11 16 45.9 +0.2**
PVCC Panska Ves 89.66 322 *eP* **P 11 16 45.9 +0.2**
BRG Berggiesshubel 89.91 323 *eP* **P 11 16 47.0 +0.2**
BRG pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
CLL Collm 90.30 323 *eP* **P 11 16 49.0 +0.4**
KHC Kasperske Hory 90.76 321 *eP* **P 11 16 50.9 +0.1**
KHC Kasperske Hory 90.76 321 *eP* **P 11 16 50.9 +0.1**
GERES GERESS Array B 90.79 321 P **P 11 16 50.7 -0.3**
comp=Z,3.3nm,0.8s,mb4.5,baz=75,slow=5.7,SNR=19
GERES pP pP 11 17 08.7 -3.1
comp=Z,1.3nm,0.9s,baz=69,slow=8.7,SNR=2.8
GERES PP PP 11 20 31.7 +4.6
comp=Z,0.2nm,0.4s,baz=30,slow=6.2,SNR=3.8
GERES GERESS Array B 90.79 321 P **P 11 16 50.7 -0.3**
GERES pP pP 11 17 08.7 -3.1
GERES PP PP 11 20 31.7 +4.6
GERES GERESS Array B 90.79 321 P **P 11 16 50.7 -0.3**
GERES *PP pP 11 17 08.7 -3.1
GERES 11 20 31.7
ABTA Abfaltersbach 92.31 319 ⇑*i*P **P 11 16 54.8 -3.3**
comp=Z,11nm,1.3s,mb4.9
DAVOX Davos/Dischmat 93.97 320 P **P 11 17 06.0 +0.4**
comp=Z,10nm,0.9s,mb5.2,baz=0.0,slow=4.0,SNR=7.6
DAVOX Davos/Dischmat 93.97 320 P **P 11 17 06.0 +0.4**
DAVOX Davos/Dischmat 93.97 320 P **P 11 17 06.1 +0.4**
TXAR Lajitas Array 119.77 45 PKP PKPdf 11 22 38.4 +0.2
comp=Z,0.4nm,0.6s,baz=235,slow=1.8,SNR=6.6
TXAR Lajitas Array 119.77 45 PKP PKPdf 11 22 38.4 +0.2
TXAR Lajitas Array 119.77 45 PKIKP PKPdf 11 22 38.4 +0.2

*ISCJB **28** 11:14:45.4±1.8,22.2°S×0.2×179.1°E±0.1,h542km±28km, mb4.1/12, Error ellipse: s-maj=26.8km s-min=13.8km az=151.7*
*IDC **28** 11:14:45.3±3.4,22.66°S×178.96°E,h520km±45km, mb3.3/6, mb1 3.6/7, mb1mx3.3/16, mbtmp3.4/7, Error ellipse: s-maj=35.1km s-min=17.9km az=155.0*
*NEIC **28** 11:14:45.6±1.7,22.805°S×179.05°E,h533km±25km, mb3.8/4, Error ellipse: s-maj=25.0km s-min=13.6km az=154.0*

ISC 28 11:14:46.0±1.7,22.8°S×179.1°E±0.1,h535km±25km, n27,σ0°93/26,mb4.1/12,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**12.40**	**46**	P	**P**	**11 17 28.2**	**-0.6**
	2.8nm,0.3s,baz=270,slow=1.0,SNR=7.0						
AFI	**Afiamalu**	**12.40**	**46**	P	**P**	**11 17 28.2**	**-0.6**
RPZ	**Rata Peaks**	**21.87**	**196**	P	**P**	**11 19 00.7**	**+1.3**
	6.1nm,0.6s,mb4.4,baz=29,slow=13,SNR=4.0						
RPZ	**Rata Peaks**	**21.87**	**196**	P	**P**	**11 19 00.7**	**+1.3**
ARMA	**Armidale**	**25.63**	**247**	*eP*	**P**	**11 19 34.4**	**+1.3**
CNB	**Canberra Magne**	**28.69**	**238**	*eP*	**P**	**11 20 00.2**	**+0.4**
	51nm,0.8s						
CTA	**Charters Tower**	**30.63**	**269**	*eP*	**P**	**11 20 18.5**	**+1.6**
	10nm,0.3s,mb4.8						
TOO	**Toolangi**	**32.34**	**235**	*eP*	**P**	**11 20 30.8**	**-0.4**
	24nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**34.35**	**247**	P	**P**	**11 20 47.5**	**-0.7**
	2.0nm,0.5s,mb4.0,baz=101,slow=10,SNR=7.3						
STKA	**Stephens Creek**	**34.35**	**247**	*eP*	**P**	**11 20 47.9**	**-0.4**
	1.4nm,0.4s,mb3.8						
STKA	**Stephens Creek**	**34.35**	**247**	*eP*	**P**	**11 20 48.2**	**-0.1**
	0.4nm,0.4s,mb3.3						
AS31	**Alice Springs**	**41.38**	**260**	*eP*	**P**	**11 21 45.7**	**0.0**
ASAR	**Alice Springs**	**41.38**	**260**	P	**P**	**11 21 45.6**	**0.0**
	2.4nm,0.5s,mb4.0,baz=101,slow=6.5,SNR=38						
ASAR	**Alice Springs**	**41.38**	**260**	P	**P**	**11 21 45.6**	**0.0**
WB2	**Warramunga Arr**	**41.63**	**265**	*eP*	**P**	**11 21 47.5**	**-0.2**
WRAB	**Tennant Creek**	**41.63**	**265**	*eP*	**P**	**11 21 47.4**	**-0.3**
	4.0nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**41.64**	**265**	P	**P**	**11 21 47.5**	**-0.3**
	2.0nm,0.3s,mb4.1,baz=96,slow=8.4,SNR=181						
WRA	**Warramunga Arr**	**41.64**	**265**	P	**P**	**11 21 47.5**	**-0.3**
FORT	**Forrest**	**45.90**	**249**	*eP*	**P**	**11 22 19.3**	**-1.4**
	12nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**50.07**	**265**	*eP*	**P**	**11 22 51.8**	**-0.2**
	1.6nm,0.4s,mb3.8						
FITZ	**Fitzroy Crossi**	**50.07**	**265**	*eP*	**P**	**11 22 50.1**	**-1.8**
	1.0nm,0.4s,mb3.6						
QSPA	**South Pole Qui**	**67.26**	**180**	*eP*	**P**	**11 24 45.0**	**-1.7**
	3.5nm,0.9s,mb3.9						
NVAR	**Mina Array Bea**	**84.57**	**44**	P	**P**	**11 26 23.1**	**+0.3**
	0.7nm,0.7s,mb3.3,baz=217,slow=7.5,SNR=4.4						
NVAR	**Mina Array Bea**	**84.57**	**44**	P	**P**	**11 26 23.1**	**+0.3**
TXAR	**Lajitas Array**	**90.59**	**58**	P	**P**	**11 26 52.7**	**+1.3**
	0.6nm,0.8s,mb3.6,baz=210,slow=6.8,SNR=6.8						
TXAR	**Lajitas Array**	**90.59**	**58**	P	**P**	**11 26 52.7**	**+1.3**
CLL	**Collm**	**149.57**	**343**	*e*PKPbc	PKPbc	11 33 36.0	+1.2

DJA 28 11:21:25.5±87.5S×104.12E,h10km,MLv3.8/5,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LWLI	**Liwa**	**0.85**	**356**	P	Pg	11 21 41.0	-0.4
LWLI				S	Sg	11 21 53.4	+0.9
BLSI	**Bandar Lampung**	**1.23**	**66**	P	Pn	11 21 46.7	-1.5
BLSI				S	Sb	11 22 04.3	+0.1
KLI	**Kotabumi**	**1.24**	**36**	P	Pn	11 21 48.4	0.0
KLI				S	Sb	11 22 05.1	+0.5
KLSI		**1.32**	**27**	P	Pn	11 21 49.1	-0.4
KLSI				S	Sb	11 22 07.3	+0.4
MDSI	**Maura Dua**	**1.38**	**2**	P	Pn	11 21 49.7	-0.6
MDSI				S	Sb	11 22 08.2	-0.3

DDA 28 11:25:04.0,37.25N×37.23E,h7km±3km,Md2.5,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAZ	**Gaziantep**	**0.07**	**193**	Pg	Pg	11 25 04.4	-1.4
GAZ				*e*SG	Sg	11 25 06.3	-0.8
KUZU	**Kuzuini**	**0.49**	**195**	*i* P	Pg	11 25 11.4	-2.0
KUZU				*i* S	Sg	11 25 20.5	+0.8
AKCD	**Akcadag**	**1.18**	**27**	*i* P	Pg	11 25 26.4	-0.3
AKCD				*i* S	Sg	11 25 43.9	+1.9
MYA	**Malataya**	**1.43**	**41**	*e*PG	Pg	11 25 30.6	-0.9
MYA				*e*SG	Sg	11 25 49.6	-0.5

IGQ 28 11:49:44.7,11.91S×78.04W,h173km±3km,Mb4.0,Ms3.8, 1C-13D,Error ellipse: s-maj=8.0km s-min=2.4km az=177.3,Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MACE	**Macas**	**0.38**	**205**	⇓P	Pn	11 50 08.4	+0.2
PAT1	**Patacocha**	**0.57**	**315**	⇓S	Sn	11 50 28.4	+0.8
PAT1	**Patacocha**	**0.57**	**315**	⇓P	Pn	11 50 09.7	+0.7
ARRY	**Arrayan**	**0.58**	**314**	⇓S	Pn	11 50 09.5	+0.4
ARRY	**Arrayan**	**0.58**	**314**	⇓S	Sn	11 50 26.8	-0.9
BMAS	**Trigal station**	**0.60**	**312**	⇓P	Pn	11 50 09.7	+0.5
BMAS	**Trigal station**	**0.60**	**312**	⇓S	Sn	11 50 27.7	-0.2
BULB	**Ulba Tungurahu**	**0.60**	**322**	⇓S	Sn	11 50 27.0	-0.9
BULB	**Ulba Tungurahu**	**0.60**	**322**	⇓P	Pn	11 50 09.6	+0.4
RETU	**Refugio**	**0.61**	**318**	P	Pn	11 50 09.9	+0.7
BRUN	**Tungurahua Vol**	**0.61**	**322**	⇓P	Pn	11 50 09.7	+0.5
RUN5	**Runtun**	**0.62**	**322**	P	Pn	11 50 09.8	+0.5
BBIL	**Ulba Tungurahu**	**0.64**	**315**	⇓P	Pn	11 50 10.1	+0.8
JUI6	**Juive**	**0.65**	**318**	P	Pn	11 50 09.8	+0.4
IGUA	**Igualata**	**0.73**	**305**	P	Pn	11 50 10.9	+1.0
PISA	**Pisayambo**	**0.91**	**338**	P	Pn	11 50 12.1	+1.0
TAMB	**Tambo**	**1.25**	**345**	P	Pn	11 50 15.2	+1.4
MOV1	**Cotopaxi Vol s**	**1.25**	**341**	P	Pn	11 50 15.1	+1.3
COV1	**Cotopaxi Volc**	**1.28**	**346**	⇑P	Pn	11 50 16.2	+2.1
VC1	**Cotopaxi 1**	**1.31**	**344**	⇓P	Pn	11 50 15.7	+1.3
PITA	**Cotopaxi Volc**	**1.40**	**344**	P	Pn	11 50 16.9	+1.7
ANTI	**Antisana**	**1.46**	**355**	⇓P	Pn	11 50 16.7	+1.0
GGP	**Refugio Guagua**	**1.81**	**342**	P	Pn	11 50 20.7	+1.4
PINO	**Pino**	**1.83**	**342**	P	Pn	11 50 20.5	+1.0
CAYA	**Cayambe**	**1.97**	**1**	P	Pn	11 50 22.4	+1.4
OTAV	**Otavalo**	**2.17**	**349**	P	Pn	11 50 24.1	+0.8

MEX 28 12:00:51.9±0.6,16.70N×95.02W,h94km±6km,MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.41**	**19**	*i* P	Pn	12 01 05.0	-1.4
CMIG				*i* S	Sn	12 01 15.7	-1.6
HUIG	**Huatulco**	**1.40**	**228**	*i* P	Pn	12 01 15.0	-1.6
HUIG				*i* S	Sn	12 01 34.0	-1.3
VHO	**Vista Hermosa**	**1.68**	**283**	*i* P	Pn	12 01 19.9	-0.2
VHO				*i* S	Sn	12 01 40.3	-1.3
TGIG		**1.82**	**87**	*i* P	Pn	12 01 20.6	-1.3
TGIG				*i* S	Sn	12 01 43.5	-1.3
PCIG		**2.00**	**120**	*i* P	Pn	12 01 23.9	-0.3
PCIG				*i* S	Sn	12 01 48.0	-0.8
CCIG	**Comitan**	**2.80**	**98**	*i* P	Pn	12 01 34.4	-0.4
CCIG				*i* S	Sn	12 02 06.8	-1.0
UTMO	**Huajuapan**	**2.89**	**293**	*e*P	Pn	12 01 35.3	-0.7
UTMO				*i* S	Sn	12 02 08.9	-1.0
PNIG	**Pinotepa**	**3.00**	**265**	*i* P	Pn	12 01 36.7	-0.7
PNIG				*i* S	Sn	12 02 10.5	-2.1
TEIG	**Tepich**	**7.29**	**60**	*e*P	Pn	12 02 34.8	-1.0
TEIG				*i* S	Sn	12 03 50.6	-6.5

MAN 28 12:11:26,8.90N×126.44E,h34km,mb4.5,ML3.3,MS3.2, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**1.70**	**233**	*e*P	Pn	12 11 55.8	+2.6
BUKP				*e*S	Sn	12 12 09.1	-4.6
CGP	**Cagayan de Oro**	**1.78**	**256**	⇑*i*P	Pn	12 11 55.6	+1.2
CGP				*i* S	Sn	12 12 16.0	+0.2
MATI	**Mati**	**1.95**	**185**	*e*P	Pn	12 11 57.5	+0.8
MATI				*e*S	Sn	12 12 08.1	-12

KRSC 28 12:22:28.7±0.3,51.03N×157.08E,h175km±13km,ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIPR	**Malaya Ipel'ka**	**1.26**	**351**	*e*P	Pn	12 22 57.9	-0.1
MIPR				*i* S	Sn	12 23 19.2	-1.5
RUS	**Russkaya**	**1.66**	**32**	*e*P	Pn	12 23 04.3	+2.5
RUS				*i* S	Sn	12 23 29.8	+2.4
PET	**Petropavlovsk**	**2.22**	**25**	*e*P	Pn	12 23 09.9	+2.1
PET				*i* S	Sn	12 23 40.9	+2.8
UGLR	**Uglovaya**	**2.43**	**26**	*e*P	Pn	12 23 13.5	+3.3
UGLR				*i* S	Sn	12 23 46.2	+3.7
KOK	**Koryaka**	**2.46**	**22**	*e*P	Pn	12 23 13.7	+3.2
AVH	**Avacha**	**2.46**	**24**	*e*P	Pn	12 23 13.5	+3.0
AVH				*i* S	Sn	12 23 47.3	+4.2
SDLR	**Sedlovina**	**2.51**	**26**	*e*P	Pn	12 23 14.0	+2.9
NLC	**Nalytchevo**	**2.56**	**32**	*e*P	Pn	12 23 13.6	+1.9
NLC				*i* S	Sn	12 23 45.4	+0.3
GNL	**Ganaly**	**2.72**	**11**	*e*P	Pn	12 23 14.1	+0.5
SPN	**Mys Shipunski**	**2.75**	**40**	*e*P	Pn	12 23 17.0	+3.0
SPN				*i* S	Sn	12 23 51.0	+1.7
MKZ	**Mys Kozlova**	**4.52**	**37**	*e*P	Pn	12 23 38.0	+1.8
MKZ				*i* S	Sn	12 24 28.7	-0.3
KBTR	**Krutoberegovo**	**6.21**	**31**	*e*P	Pn	12 23 59.2	+1.0

*ISCJB **28** 12:56:41.6±0.7,0.21N±0.05×119.43E±0.05,h54km±7km, mb4.0/14, MS3.7/2, Error ellipse: s-maj=8.7km s-min=7.4km az=150.8*
*DJA **28** 12:56:41,0.10N×119.46E,h10km,MLv4.9/12*
*IDC **28** 12:56:42.0±0.8,0.13N×119.36E,h41km±5km, mb3.8/12, mb1 3.9/13, mb1mx3.8/22, mbtmp3.8/13, ML3.6/1, MS3.5/3, Ms1 3.4/3, ms1mx2.8/33, Error ellipse: s-maj=34.1km s-min=12.1km az=59.0*
*NEIC **28** 12:56:42.4±0.8,0.18N×119.40E,h42km±9km, mb4.5/2, Error ellipse: s-maj=25.3km s-min=7.6km az=63.0*
NEIC Felt [III] at Kasimbar and Parigi.

ISC 28 12:56:43.2±0.6,0.20N±0.05×119.43E±0.05,h50km±7km, h42km±5.4km:pP-P,n59,σ1918/56,mb4.0/14,MS3.7/2, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMKI	**Samarinda**	**2.31**	**254**	P	**Pn**	**12 57 18.6**	**-0.3**
MRSI	**Marisa**	**2.52**	**84**	P	**Pn**	**12 57 21.6**	**-0.2**
MSSI	**Masamba**	**2.88**	**162**	P	**Pn**	**12 57 28.3**	**+1.6**
TTSI	**Tana Toraja**	**3.25**	**173**	P	**Pn**	**12 57 31.6**	**-0.1**
TTSI				S	**Sn**	**12 58 12.4**	**+3.2**
LUWI	**Luwuk**	**3.56**	**110**	P	**Pn**	**12 57 37.9**	**+1.9**
LUWI				S	**Sn**	**12 58 22.5**	**+5.6**
GTOI	**Gorontalo**	**3.61**	**83**	P	**Pn**	**12 57 35.7**	**-0.9**
MJSI	**Majene**	**3.75**	**187**	P	**Pn**	**12 57 37.1**	**-1.6**
SPSI	**Sidrap Palu**	**4.15**	**175**	P	**Pn**	**12 57 43.5**	**-0.6**
KMSI	**Cibinong**	**4.56**	**85**	P	**Pn**	**12 57 50.8**	**+1.0**
KBKI	**Kotaparu**	**4.77**	**223**	P	**Pn**	**12 57 55.4**	**+2.8**
MYLDM	**Lahad Datu**	**5.03**	**349**	P	**Pn**	**12 58 01.2**	**+5.0**
	0.6nm206nm,0.9s						
KAPI	**Kappang**	**5.19**	**176**	*e*Pn	**Pn**	**12 57 57.5**	**-0.9**
	47nm,0.5s						
KDI	**Kendari**	**5.22**	**142**	P	**Pn**	**12 57 58.1**	**-0.7**
	0.4nm1µm89nm,1.0s						
BKSI	**Bulukumba**	**5.53**	**173**	P	**Pn**	**12 58 02.0**	**-1.1**
	0.3nm824nm69nm,0.6s						
BBSI	**Bau Bau**	**6.46**	**151**	P	**Pn**	**12 58 17.0**	**+1.1**
	0.4nm961nm68nm,1.1s						
KKM	**Kota Kinabalu**	**6.63**	**331**	*e*Pn	**Pn**	**12 58 18.0**	**-0.2**
KKM				*e*Sn	**Sn**	**12 59 40.0**	**+7.6**
LBMI	**Labuha**	**8.11**	**96**	P	**Pn**	**12 58 47.3**	**+8.8**
NLAI	**Namlea**	**8.39**	**114**	P	**Pn**	**12 58 42.6**	**+0.3**
	1µm90nm,0.9s						
AAI	**Ambon**	**9.57**	**114**	P	Px	12 59 11.0	
TLE	**Tual**	**14.50**	**114**	P	**Pn**	**13 00 03.8**	**-1.8**
FITZ	**Fitzroy Crossi**	**19.19**	**162**	P	**Pn**	**13 01 01.1**	**-3.2**
	0.1nm,0.3s,baz=285,slow=11,SNR=8.9						
FITZ				LR	LR	13 10 49.7	
	comp=Z,45nm,18.2s,baz=207,slow=44						
FITZ	**Fitzroy Crossi**	**19.19**	**162**	*e*P	**Pn**	**13 01 03.0**	**-1.2**
	6.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.19**	**162**	P	**Pn**	**13 01 01.1**	**-3.1**
MBWA	**Marble Bar**	**21.23**	**179**	P	**P**	**13 01 26.4**	**+1.3**
WRAB	**Tennant Creek**	**24.78**	**145**	*e*P	**P**	**13 01 59.9**	**-0.7**
	6.1nm,1.0s,mb4.1						
WRA	**Warramunga Arr**	**24.78**	**145**	P	**P**	**13 01 59.9**	**-0.6**
	3.8nm,0.9s,mb3.9,baz=334,slow=9.4,SNR=33						
WRA	**Warramunga Arr**	**24.78**	**145**	P	**P**	**13 01 59.9**	**-0.6**
WB2	**Warramunga Arr**	**24.79**	**145**	*e*P	**P**	**13 02 00.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**27.09**	**313**	P	**P**	**13 02 19.4**	**-2.1**
	0.7nm,0.8s,mb3.2,baz=126,slow=6.1,SNR=2.5						
CMAR	**Chiang Mai Arr**	**27.09**	**313**	P	**P**	**13 02 19.4**	**-2.1**
COEN	**Coen**	**27.40**	**122**	*e*P	**P**	**13 02 25.7**	**+1.4**
	27nm,0.8s,mb4.8						
AS31	**Alice Springs**	**27.58**	**150**	*e*P	**P**	**13 02 28.4**	**+2.7**
ASAR	**Alice Springs**	**27.58**	**150**	P	**P**	**13 02 25.5**	**-0.3**
	1.3nm,0.6s,mb3.7,baz=324,slow=7.4,SNR=23						
ASAR	**Alice Springs**	**27.58**	**150**	P	**P**	**13 02 25.5**	**-0.3**
PMG	**Port Moresby**	**29.21**	**110**	P	**P**	**13 02 39.1**	**-1.3**
	16nm,0.8s,mb4.8,baz=300,slow=6.1,SNR=5.7						
PMG	**Port Moresby**	**29.21**	**110**	P	**P**	**13 02 39.1**	**-1.3**
CTA	**Charters Tower**	**33.12**	**129**	P	**P**	**13 03 15.0**	**+0.2**
	4.4nm,0.8s,mb4.4,baz=315,slow=11,SNR=4.9						
CTA	**Charters Tower**	**33.12**	**129**	P	**P**	**13 03 15.0**	**+0.2**
STKA	**Stephens Creek**	**38.18**	**149**	P	**P**	**13 03 58.1**	**0.0**
	1.8nm,0.7s,mb3.9,baz=340,slow=10,SNR=4.4						
STKA				LR	LR	13 22 12.4	
	comp=Z,84nm,19.6s,MS3.6,baz=208,slow=40						
STKA	**Stephens Creek**	**38.18**	**149**	*e*P	**P**	**13 03 58.5**	**+0.4**
	3.4nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**38.18**	**149**	P	**P**	**13 03 58.1**	**0.0**
MJAR	**Matsushiro Arr**	**40.13**	**24**	P	**P**	**13 04 13.8**	**-0.5**
	2.4nm,0.9s,mb3.9,baz=174,slow=8.0,SNR=3.9						
MJAR	**Matsushiro Arr**	**40.13**	**24**	P	**P**	**13 04 13.8**	**-0.5**
SONM	**Songino Array**	**48.78**	**348**	P	**P**	**13 05 25.0**	**+1.9**
	0.4nm,0.6s,mb3.6,baz=162,slow=8.6,SNR=5.5						
SONM				pP	pP	13 05 35.8	-0.8
	0.9nm,0.7s,baz=172,slow=8.3,SNR=5.2						
SONM	**Songino Array**	**48.78**	**348**	P	**P**	**13 05 25.0**	**+1.9**
SONM				pP	pP	13 05 35.8	-0.8
MK31	**Makanchi Array**	**56.62**	**330**	*e*P	**P**	**13 06 21.4**	**+0.4**
MKAR	**Makanchi Array**	**56.62**	**330**	P	**P**	**13 06 20.9**	**-0.1**
	0.6nm,0.5s,mb3.9,baz=128,slow=6.6,SNR=5.0						
MKAR				pP	pP	13 06 32.5	-2.3
	1.9nm,1.0s,baz=126,slow=8.9,SNR=4.2						
MKAR	**Makanchi Array**	**56.62**	**330**	P	**P**	**13 06 20.9**	**-0.1**
MKAR				pP	pP	13 06 32.5	-2.3
ZALV	**Zalesovo Beam**	**60.70**	**337**	P	**P**	**13 06 50.0**	**+0.7**
	0.3nm,0.4s,mb3.8,baz=136,slow=4.8,SNR=5.2						
ZALV				pP	pP	13 07 00.6	-2.7
	1.0nm,0.4s,baz=155,slow=6.5,SNR=4.4						
ZALV	**Zalesovo Beam**	**60.70**	**337**	P	**P**	**13 06 50.0**	**+0.7**
ZALV				pP	pP	13 07 00.6	-2.7
KURK	**Kurchatov**	**61.06**	**332**	P	**P**	**13 06 52.8**	**+0.9**
	0.6nm,0.3s,mb4.2,baz=142,slow=6.5,SNR=4.6						
KURK				pP	pP	13 07 02.8	-3.0
	0.6nm,0.3s,baz=141,slow=6.0,SNR=1.6						
KURK	**Kurchatov**	**61.06**	**332**	P	**P**	**13 06 52.8**	**+0.9**
KURK				pP	pP	13 07 02.8	-3.0
RPZ	**Rata Peaks**	**63.40**	**141**	LR	LR	13 35 52.0	
	comp=Z,64nm,19.7s,MS3.8,baz=45,slow=37						
BRTR	**Keskin Array B**	**86.63**	**310**	pP	pP	13 09 34.8	-1.4
	0.9nm,0.8s,baz=88,slow=3.1,SNR=3.3					

UPC					Sg	Sg	13 05 57.9	-0.6
KECS	**Kecovo**	**1.94**	**135**	*e*PN	Pn	Pn	13 05 37.4	-1.2
KECS				*e*SN	Sn	Sn	13 06 00.5	-3.2
KECS	**Kecovo**	**1.94**	**135**	*e*Pn	Pn	Pn	13 05 37.4	-1.2
KECS				*e*Sn	Sn	Sn	13 06 00.5	-3.2
CRVS	**Cervenica-Dubn**	**2.20**	**115**	*e*PN	Pn	Pn	13 05 44.2	+1.9
CRVS				*e*SN	Sn	Sn	13 06 11.8	+1.6
CRVS	**Cervenica-Dubn**	**2.20**	**115**	*e*Pn	Pn	Pn	13 05 44.3	+2.0
CRVS				*e*Sn	Sn	Sn	13 06 11.8	+1.6
KHC	**Kasperske Hory**	**3.26**	**259**	*e*PG	Pg	Pg	13 06 04.0	-2.9
KHC				*e*SG	Sg	Sg	13 06 48.9	-0.2
KHC	**Kasperske Hory**	**3.26**	**259**	Pg	Pg	Pg	13 06 04.0	-2.9
KHC				Sg	Sg	Sg	13 06 48.9	-0.2

ISK ***28*** *13:12:01.0, 38˚.44N×37˚.11E, h8km, ML2.0*
ISCJB ***28*** *13:12:02.6±0.6, 38˚.35N±0˚.05×37˚.18E±0˚.04, h10km, Error ellipse: s-maj=7.7km s-min=4.2km az=18.6*
CSEM ***28*** *13:12:02.3±0.3, 38˚.40N×37˚.15E, h5km, ML2.0, Error ellipse: s-maj=9.4km s-min=6.8km az=172.0*
DDA ***28*** *13:12:03.3, 38˚.46N×37˚.08E, h7km±4km, Md3.1*
ISC 28 13:12:03.0±0.6, 38˚.33N±0˚.05×37˚.17E±0˚.04, h4km±12km, n20, σ1§05/32, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SARI	**SarD1z-Kayseri**	**0.51**	**313**		*e*PG		**Pg**	**13 12 11.2**	**-1.5**
SARI					*e*SG		**Sg**	**13 12 20.3**	**+1.0**
SARI	**SarD1z-Kayseri**	**0.51**	**313**		*e*Pg		**Pg**	**13 12 11.2**	**-1.5**
SARI					*e*Sg		**Sg**	**13 12 20.3**	**+1.0**
AKCD	**Akcadag**	**0.60**	**93**		*e*P		**Pg**	**13 12 14.3**	**-0.1**
AKCD					*e*S		**Sg**	**13 12 26.5**	**+4.3**
AKCD	**Akcadag**	**0.60**	**93**		*e*P		**Pg**	**13 12 14.3**	**-0.1**
AKCD					*e*S		**Sg**	**13 12 26.5**	**+4.3**
PINB	**Pinarbasi**	**0.69**	**300**		*e*P		**Pg**	**13 12 14.4**	**-1.8**
PINB					*e*S		**Sg**	**13 12 26.6**	**+1.4**
PINB	**Pinarbasi**	**0.69**	**300**		*e*P		**Pg**	**13 12 14.4**	**-1.9**
PINB					*e*S		**Sg**	**13 12 26.6**	**+1.4**
DARE	**Darende-Malaty**	**0.80**	**39**		*e*PG		**Pg**	**13 12 08.7**	**-10**
DARE	**Darende-Malaty**	**0.80**	**39**		*e*Pg		**Pg**	**13 12 08.7**	**-10**
KMRS	**Kahramanmaras**	**0.85**	**194**		*e*PG		**Pg**	**13 12 19.8**	**+0.4**
KMRS	**Kahramanmaras**	**0.85**	**194**		*e*Pg		**Pg**	**13 12 19.8**	**+0.5**
MYA	**Malataya**	**0.99**	**90**		*e*PG		**Pg**	**13 12 20.9**	**-1.1**
MYA					*e*SG		**Sg**	**13 12 36.3**	**+1.5**
MYA	**Malataya**	**0.99**	**90**		*e*Pg		**Pg**	**13 12 20.9**	**-1.1**
MYA					*e*Sg		**Sg**	**13 12 36.3**	**+1.5**
MALT	**Malatya**	**0.99**	**91**		*e*PG		**Pg**	**13 12 21.4**	**-0.6**
MALT	**Malatya**	**0.99**	**91**		*e*Pg		**Pg**	**13 12 21.5**	**-0.5**
ANDN	**Andirin**	**0.99**	**221**		*e*P		**Pg**	**13 12 22.4**	**+0.4**
ANDN					*e*S		**Sg**	**13 12 39.3**	**+4.4**
ANDN	**Andirin**	**0.99**	**221**		*e*P		**Pg**	**13 12 22.4**	**+0.4**
ANDN					*e*S		**Sg**	**13 12 39.3**	**+4.4**
GAZ	**Gaziantep**	**1.16**	**178**		*e*PN		**Pn**	**13 12 25.6**	**-0.3**
GAZ	**Gaziantep**	**1.16**	**178**		*e*Pn		**Pn**	**13 12 25.6**	**-0.3**
KEMA	**Kemaliye**	**1.40**	**48**		*e*P		**Pn**	**13 12 29.6**	**+0.4**
KEMA					*e*S		**Sb**	**13 12 52.4**	**+4.6**
KEMA	**Kemaliye**	**1.40**	**48**		*e*P		**Pn**	**13 12 29.6**	**+0.4**
KEMA					*e*S		**Sb**	**13 12 52.4**	**+4.7**

MAN 28 13:22:21, 17˚.54N×120˚.74E, h33km, mb4.1, ML2.9, MS2.7, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.11**	**345**		*e*P		Pb	13 22 28.4	+1.6
APYP	**Conner**	**0.57**	**56**		*e*P		Pb	13 22 33.2	+0.4
APYP					*e*S		Sb	13 22 40.3	-0.6
BCPH	**Baguio City Da**	**1.16**	**188**	↑	*i*P		Pn	13 22 39.9	-1.0
CAUP	**Cauayan**	**1.19**	**120**		*e*P		Pn	13 22 42.7	+1.4

ECX ***28*** *13:31:52.7±0.6, 32˚.50N×115˚.33W, h6km, MD3.2, ML3.3*
NEIC 28 13:31:52.7, 32˚.50N×115˚.33W, h6km, ML3.4(ECX), **ML2.9**(PAS), **10C-9D, After ECX., California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SGL	**Mount Signal**	**0.36**	**294**	↑	*i*P		Pg	13 31 59.1	-0.6
SGL	**Mount Signal**	**0.36**	**294**	↑	*i*P		Pg	13 31 59.1	-0.6
ERPC	**Ernies Place**	**0.37**	**311**	↓	*i*P		Pg	13 31 59.8	-0.1
SNR	**Schaffner Ranc**	**0.37**	**346**	↓	*i*P		Pg	13 31 60.0	+0.1
SNR	**Schaffner Ranc**	**0.37**	**346**	↓	*i*P		Pg	13 31 60.0	+0.1
COK	**Cook Ranch**	**0.48**	**316**		*e*P		Pg	13 32 01.4	-0.6
COK	**Cook Ranch**	**0.48**	**316**		*e*P		Pg	13 32 01.4	-0.6
YUH	**Yuha Desert**	**0.52**	**286**	↓	*i*P		Pg	13 32 01.6	-1.1
YUH	**Yuha Desert**	**0.52**	**286**	↓	*i*P		Pg	13 32 01.6	-1.1
RMX	**La Rumorosa**	**0.64**	**279**	↑	*e*P		Pg	13 32 04.0	-1.1
RMX					*e*S		Sg	13 32 12.9	-0.5
RMX	**La Rumorosa**	**0.64**	**279**	↑	*e*P		Pg	13 32 04.0	-1.1
RMX					*e*S		Sg	13 32 12.9	-0.5
CRR	**Carrizo Plain**	**0.66**	**306**		*e*P		Pg	13 32 04.2	-1.3
YMD	**Yuma Desert**	**0.67**	**85**	↑	*i*P		Pg	13 32 03.7	-1.8
GLA	**Glamis**	**0.69**	**38**		*e*Pg		Pg	13 32 04.3	-1.7
GLA					*e*Sg		Sg	13 32 13.7	-1.4
RDX	**Rancho Dawling**	**0.77**	**222**	↑	*e*P		Pg	13 32 06.1	-1.4
RDX					*e*S		Sg	13 32 16.3	-1.2
RDX				↓	*e*			13 32 17.9	
	comp=N,998nm,0.3s								
RDX	**Rancho Dawling**	**0.77**	**222**	↑	*e*P		Pg	13 32 06.1	-1.4
RDX					*e*S		Sg	13 32 16.3	-1.2
ECBX	**El Chinero**	**1.05**	**167**		*e*P		Pg	13 32 11.4	-1.5
ECBX					*e*S		Sg	13 32 24.9	-1.6
ECBX				↑	*e*			13 32 27.8	
	comp=N,561nm,0.9s								
ECBX	**El Chinero**	**1.05**	**167**	↓	*e*P		Pg	13 32 16.1	+3.2
ECBX					*e*S		Sg	13 32 24.7	-1.9
CBX	**Cerro Bola**	**1.14**	**261**	↑	*e*P		Pg	13 32 12.8	-1.8
CBX					*e*S		Sg	13 32 28.1	-1.3
BAR	**Barrett**	**1.15**	**279**		*e*P		Pg	13 32 11.9	-2.8
BAR					*e*Sg		Sg	13 32 27.7	-1.9
ECNX	**Esteban Cantu**	**1.37**	**232**	↓	*e*P		Pn	13 32 16.1	-2.2
ECNX					*e*P			13 32 14.8	
ECNX					*e*S		Sb	13 32 32.8	-3.6
ECNX					*e*S		Sb	13 32 34.7	-1.7
PBX	**Punta Banda**	**1.41**	**238**	↓	*e*P		Pn	13 32 16.6	-2.2
PBX					*e*S		Sb	13 32 35.8	-1.7
PBX	**Punta Banda**	**1.41**	**238**		*e*P		Pn	13 32 16.6	-2.2
PBX					*e*S		Sb	13 32 35.8	-1.7
PFO	**Pinyon Flat Ob**	**1.45**	**320**		*e*Pn		Pn	13 32 15.3	-4.2
SPX	**San Pedro Mart**	**1.46**	**185**		*e*P		Pn	13 32 18.2	-1.3
SPX					*e*S		Sn	13 32 38.0	-0.9
SPX				↑	*e*			13 32 41.4	
	comp=N,174nm,0.4s								
LDFC	**Landfair**	**2.58**	**4**		Pg		Pg	13 32 40.7	-1.4
MWC	**Mount Wilson**	**2.86**	**308**		Pn		Pn	13 32 38.0	-0.8
GSC	**Goldstone**	**3.05**	**337**		*e*Pg		Pg	13 32 53.0	+1.9
TUC	**Tucson**	**3.85**	**92**		*e*Pn		Pn	13 32 47.6	-4.9
TUC					*e*Pg		Pg	13 33 03.5	-2.9
WUAZ	**Wupatki**	**4.45**	**46**		Pn		Pn	13 32 57.6	-3.2
WUAZ					*e*Pg		Pg	13 33 17.2	-0.8
WUAZ					*e*Sg		Sg	13 34 15.7	-0.1
ARUT	**Antelope Range**	**5.50**	**16**		*e*Pn		Pn	13 33 14.6	-0.5
	comp=N,3.3nm,0.7s								
ARUT					*e*Pg		Pg	13 33 37.2	-0.8

MOS ***28*** *13:42:17.8±1.2, 40˚.40N×126˚.88W, h10km, mb5.5/35, MS5.5/39, Error ellipse: s-maj=5.4km s-min=5.0km az=26.5*
ISCJB ***28*** *13:42:18.9±0.6, 40˚.55N±0˚.01×126˚.87W±0˚.02, h10km±4km, mb5.2/156, MS5.4/199, Error ellipse: s-maj=3.0km s-min=2.3km az=150.8*
NEIC ***28*** *13:42:18.7±0.2, 40˚.35N×126˚.98W, h10km, mb5.4/95, MS5.5/149, MW5.9, MW5.8, Error ellipse: s-maj=4.0km s-min=2.9km az=42.0, Moment Tensor Solution. s34 Moment tensor: Scale 10¹⁷Nm; Mrr 0.35; Mθθ-0.22; Mφφ-0.13; Mrθ 1.02; Mθφ-6.81; Mφr 0.95; Best double couple: Mo 7.00000×10¹⁷ NP1:φs 180.0000°, δ82.00000°, λ-7.00000°. NP2:φs 271.00000°, δ83.00000°, λ-172.00000°. Principal axes: T 6.6300, Plg0.0000°, Azm45.0000°; N 0.6100, Plg79.0000°, Azm312.0000°; P -7.2400, Plg10.0000°, Azm135.0000°;*
NEIC Felt at Littleriver and Redway.
BJI ***28*** *13:42:18.4, 40˚.30N×127˚.00W, h10km, mB5.5/23, mb5.1/27, Ms5.6/22, Ms7 5.2/22*
IDC ***28*** *13:42:19.3±0.8, 40˚.56N×126˚.80W, h0km, mb4.6/23, mb1 4.7/27, mb1mx4.7/32, mbtmp4.6/27, ML4.0/4, MS5.2/30, Ms1 5.2/30, ms1mx5.1/39, Error ellipse: s-maj=21.2km s-min=10.2km az=33.0*
GCMT ***28*** *13:42:23.5±0.1, 40˚.35N×127˚.04W, h23km, MW5.9, Moment Tensor Solution. s102, c221; s79, c117; Moment tensor: Scale 10¹⁸Nm; Mrr-0.15±.01; Mθθ 0.06±.01; Mφφ 0.08±.01; Mrθ-0.09±.01; Mθφ-1.02±.01; Mφr 0.10±.02; Best double couple: Mo 1.00000×10¹⁸ NP1:φs 270.00000°, δ85.00000°, λ 176.00000°. NP2: φs 0.00000°, δ86.00000°, λ 5.00000°. Principal axes: T 1.1100, Plg6.0000°, Azm225.0000°; N -0.1600, Plg84.0000°, Azm41.0000°; P -0.9500, Plg0.0000°, Azm135.0000°; Data Used: II IU IC G CN. Surface waves: sta=122, comp=282, per= 50.*
SZGRF ***28*** *13:42:31.6, 42˚.10N×129˚.60W, h33km, mb5.8, MS5.6, Off coast of Oregon, United States*
ISC 28 13:42:21.6±0.6, 40˚.46N±0˚.01×126˚.96W±0˚.03, h21km±4km, h19km±1.5km: pP-P, n991, σ1§25/904, mb5.2/156, MS5.4/199, 220C-215D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**2.49**	**79**	↑	*e*Pn		**Pn**	**13 42 57.9**	**-2.9**
KHMM					*e*Sn		**Sn**	**13 43 27.3**	**-3.2**
KRMB	**Red Mountain**	**2.54**	**64**	↑	*i*Pn		**Pn**	**13 42 58.8**	**-2.7**
KRMB					*e*Sn		**Sn**	**13 43 27.9**	**-3.8**
KBO	**Bosley Butte**	**2.70**	**49**	↑	*e*Pn		**Pn**	**13 43 00.8**	**-2.8**
KBO					*e*Sn		**Sn**	**13 43 34.0**	**-1.6**
KCPM	**Cahto Peak**	**2.70**	**106**		*e*Pn		**Pn**	**13 43 01.0**	**-2.8**
KCPM					*e*Sn		**Sn**	**13 43 32.8**	**-3.0**
KIPM	**Iron Peak**	**2.74**	**103**		*e*Pn		**Pn**	**13 43 01.6**	**-2.6**
KEBM	**Edson Butte**	**3.11**	**38**		*e*Pn		**Pn**	**13 43 06.6**	**-2.6**
HOPS	**Hopland**	**3.34**	**115**		*e*Pn		**Pn**	**13 43 09.5**	**-2.9**
HOPS					*e*Sn		**Sn**	**13 43 47.1**	**-4.3**
WDC	**Whiskeytown Da**	**3.37**	**87**		*e*Pn		**Pn**	**13 43 10.3**	**-2.5**
WDC					*e*Sn		**Sn**	**13 43 48.0**	**-4.2**
WDC	**Whiskeytown Da**	**3.37**	**87**		*e*P		**Pn**	**13 43 10.3**	**-2.6**
WDC					*e*			13 43 48.0	
YBH	**Yreka Blue Hor**	**3.45**	**67**		*e*Pn		**Pn**	**13 43 12.7**	**-1.3**
YBH					*e*Sn		**Sn**	**13 43 53.1**	**-1.1**
YBH	**Yreka Blue Hor**	**3.45**	**67**		*e*P		**Pn**	**13 43 12.7**	**-1.3**
YBH					*e*			13 43 53.1	
HUMO	**Hull Mountain**	**3.69**	**53**		*e*Pn		**Pn**	**13 43 15.8**	**-1.5**
HUMO					*e*Sn		**Sn**	**13 44 00.6**	**+0.5**
MCCM	**Marconi Confer**	**3.92**	**125**		*e*Pn		**Pn**	**13 43 16.7**	**-3.8**
MCCM					*e*Sn		**Sn**	**13 44 03.3**	**-2.5**
OHCM	**Honcut**	**4.36**	**103**		*e*Pn		**Pn**	**13 43 23.4**	**-3.1**
SAC	**San Andreas**	**4.56**	**128**		*e*Pn		**Pn**	**13 43 25.3**	**-3.9**
SAC					*e*Sn		**Sn**	**13 44 16.2**	**-5.4**
SAC	**San Andreas**	**4.56**	**128**		*e*P		**Pn**	**13 43 25.3**	**-3.9**
SAC					*e*			13 44 16.2	
COR	**Corvallis**	**4.92**	**32**		*e*Pn		**Pn**	**13 43 32.8**	**-1.5**
COR	**Corvallis**	**4.92**	**32**		*e*P		**Pn**	**13 43 32.8**	**-1.5**
K05A	**Summer Lake**	**5.08**	**62**	↑	P		**Pn**	**13 43 35.0**	**-1.3**
	baz=5.4								
K05A				↑	S		**Sn**	**13 44 36.9**	**+2.6**
	baz=5.4								
MOD	**Modoc**	**5.22**	**72**		*e*Pn		**Pn**	**13 43 36.6**	**-1.7**
MOD					*e*Sn		**Sn**	**13 44 29.9**	**-8.0**
HEBO	**Mount Hebo**	**5.30**	**25**		*e*Pn		**Pn**	**13 43 38.9**	**-0.5**
HEBO					*e*Sn		**Sn**	**13 44 40.4**	**+0.6**
H04A	**Detroit Lake**	**5.49**	**38**	↑	P		**Pn**	**13 43 40.9**	**-1.2**
	baz=5.8								
H04A				↑	S		**Sn**	**13 44 48.4**	**+3.8**
	baz=5.8								
CMB	**Columbia Colle**	**5.65**	**113**		Pn		**Pn**	**13 43 43.0**	**-1.2**
CMB					*e*Sn		**Sn**	**13 44 43.7**	**-4.7**
CMB	**Columbia Colle**	**5.65**	**113**		P		**Pn**	**13 43 43.0**	**-1.2**
CMB					*e*			13 44 43.7	
WCN	**Washoe City**	**5.66**	**100**	↓	P		**Pn**	**13 43 43.5**	**-0.9**
	baz=6.0								
WCN				↓	S		**Sn**	**13 44 48.8**	**+0.2**
	baz=6.0								
WCN	**Washoe City**	**5.66**	**100**		*e*Pn		**Pn**	**13 43 43.5**	**-0.8**
WCN	**Washoe City**	**5.66**	**100**		*e*P		**Pn**	**13 43 43.5**	**-0.9**
SAO	**San Andreas Ge**	**5.68**	**129**		*e*Pn		**Pn**	**13 43 40.5**	**-4.2**
SAO					*e*Sn		**Sn**	**13 44 45.5**	**-3.7**
SAO	**San Andreas Ge**	**5.68**	**129**		*e*P		**Pn**	**13 43 40.5**	**-4.2**
SAO					*e*			13 44 45.5	
HOOD	**Mount Hood Mea**	**6.22**	**37**		*e*Pn		**Pn**	**13 43 52.8**	**+0.8**
WVOR	**Wild Horse Val**	**6.55**	**70**		*e*Pn		**Pn**	**13 43 54.7**	**-1.9**
WVOR	**Wild Horse Val**	**6.55**	**70**		*e*P		**Pn**	**13 43 54.7**	**-1.9**
E03A	**Lebam**	**6.56**	**21**	↑	P		**Pn**	**13 43 56.4**	**-0.3**
	baz=6.8								
E03A				↑	S		**Sn**	**13 45 09.7**	**-1.1**
	baz=6.8								
BMW	**Boistfort Moun**	**6.59**	**23**		*e*Pn		**Pn**	**13 43 57.1**	**0.0**
BMW	**Boistfort Moun**	**6.59**	**23**		*e*P		**Pn**	**13 43 57.1**	**0.0**
I07A	**Izee**	**6.60**	**54**	↑	P		**Pn**	**13 43 56.1**	**-1.2**
	baz=7.0								
G06A	**Carlson Farm,**	**6.66**	**42**	↑	P		**Pn**	**13 43 57.2**	**-0.8**
	baz=7.0								
MLAC	**Mammoth Lakes**	**6.92**	**112**	↓	P		**Pn**	**13 44 01.8**	**+0.1**
	baz=7.2								
J08A	**Circle Bar Ran**	**6.96**	**63**	↓	P		**Pn**	**13 44 01.0**	**-1.2**
	baz=7.3								
NVAR	**Mina Array Bea**	**7.00**	**104**		Pn		**Pn**	**13 44 02.5**	**-0.3**
	18nm,0.3s,baz=286,slow=14,SNR=178								
NVAR							LR	LR	13 46 47.5
	comp=Z,51μm,19.5s,baz=73,slow=38								
NVAR	**Mina Array Bea**	**7.00**	**104**		Pn		**Pn**	**13 44 02.5**	**-0.3**
NLWA	**Neilton Lookou**	**7.27**	**17**		*e*Pn		**Pn**	**13 44 06.7**	**+0.1**
NLWA					*e*Sn		**Sn**	**13 45 31.8**	**+3.4**
LON	**Longmire**	**7.31**	**29**		*e*Pn		**Pn**	**13 44 06.8**	**-0.1**
LON					*e*Sg		Sx	13 46 13.0	
LON	**Longmire**	**7.31**	**29**		*e*P		**Pn**	**13 44 06.8**	**-0.2**
RCTC	**Rector, Farmer**	**7.34**	**122**	↓	P		**Pn**	**13 44 04.8**	**-2.7**
	baz=7.5								
RCTC				↑	S		**Sn**	**13 45 26.3**	**-3.9**
	baz=7.5								
BMN	**Battle Mountai**	**7.42**	**87**		*e*Pn		**Pn**	**13 44 07.9**	**-0.7**
BMN	**Battle Mountai**	**7.42**	**87**		*e*P		**Pn**	**13 44 07.9**	**-0.7**
F07A	**Phinny Hill Vi**	**7.47**	**41**	↑	P		**Pn**	**13 44 08.6**	**-0.6**
	baz=7.8								
SMMC	**Simmler**	**7.53**	**131**	↓	P		**Pn**	**13 44 06.0**	**-4.1**
	baz=7.7								
SMMC				↓	S		**Sn**	**13 45 31.2**	**-3.6**
	baz=7.7								
G08A	**Pilot Rock**	**7.60**	**48**	↓	P		**Pn**	**13 44 10.7**	**-0.3**
	baz=7.9								
D05A	**Enumclaw**	**7.62**	**26**	↑	P		**Pn**	**13 44 11.1**	**-0.1**
	baz=7.9								
TIN	**Tinemaha**	**7.62**	**114**	↓	P		**Pn**	**13 44 12.0**	**+0.7**
	baz=7.9								
GNW	**Green Mountain**	**7.70**	**21**		*e*Pn		**Pn**	**13 44 12.4**	**+0.1**
GNW					*e*Sn		**Sn**	**13 45 37.5**	**-1.3**
VES	**Vestal, Richgr**	**7.73**	**124**	↑	P		**Pn**	**13 44 09.5**	**-3.3**
	baz=7.9								
VES				↓	S		**Sn**	**13 45 38.7**	**-1.0**
	baz=7.9								
PKM	**Peak Mountain**	**7.93**	**132**	↓	P		**Pn**	**13 44 12.4**	**-3.2**
	baz=8.1								
PKM				↑	S		**Sn**	**13 45 41.1**	**-3.6**
	baz=8.1								
E07A	**Sunnyside**	**7.98**	**38**	↑	P		**Pn**	**13 44 15.8**	**-0.4**
	baz=8.3								
RSW	**Rattlesnake Hi**	**7.99**	**40**		*e*Pn		**Pn**	**13 44 16.6**	**+0.3**
HAWA	**Hanford**	**8.02**	**40**		*e*Pn		**Pn**	**13 44 17.0**	**+0.3**
CWC	**Cottonwood Cre**	**8.04**	**117**	↓	P		**Pn**	**13 44 16.3**	**-0.7**
	baz=8.3								
ISA	**Isabella**	**8.23**	**123**	↑	P		**Pn**	**13 44 16.9**	**-2.8**
	baz=8.4,SNR=1000								
ISA				↓	S		**Sn**	**13 45 50.3**	**-1.6**
	baz=8.4								
ISA	**Isabella**	**8.23**	**123**		*e*Pn		**Pn**	**13 44 18.5**	**-1.2**
ISA					*e*Sn		**Sn**	**13 45 50.5**	**-1.5**
ISA	**Isabella**	**8.23**	**123**		*e*P		**Pn**	**13 44 18.5**	**-1.1**
ISA					*e*			13 45 50.5	
GRAC	**Grapevine Rang**	**8.25**	**112**	↓	P		**Pn**	**13 44 19.2**	**-0.7**
	baz=8.5								
E08A	**Dider Farm, El**	**8.32**	**41**	↑	P		**Pn**	**13 44 20.3**	**-0.6**
	baz=8.7								
SBC	**Santa Barbara**	**8.32**	**134**	↑	P		**Pn**	**13 44 17.6**	**-3.3**
	baz=8.5								
SBC				↓	S		**Sn**	**13 45 52.5**	**-1.8**
	baz=8.5								
LNOR	**Lincton Mounta**	**8.33**	**47**		*e*Pn		**Pn**	**13 44 20.4**	**-0.5**
LNOR	**Lincton Mounta**	**8.33**	**47**		*e*P		**Pn**	**13 44 20.5**	**-0.4**
ARVC	**Arvin**	**8.35**	**127**	↓	P		**Pn**	**13 44 17.4**	**-3.9**
	baz=8.5,SNR=94								
ARVC				↓	S		**Sn**	**13 45 52.0**	**-3.0**
	baz=8.5								
JCW	**Jim Creek**	**8.52**	**23**		*e*Pn		**Pn**	**13 44 24.5**	**+0.8**
PGC	**Sidney**	**8.56**	**16**		*e*Pn		**Pn**	**13 44 24.9**	**+0.8**
ETW	**Entiat**	**8.58**	**32**		*e*Pn		**Pn**	**13 44 24.5**	**+0.1**
MPMC	**Manual Prospec**	**8.64**	**118**	↓	P		**Pn**	**13 44 23.6**	**-1.8**
	baz=8.9								
BSC	**Santa Cruz Isl**	**8.70**	**136**	↓	P		**Pn**	**13 44 23.0**	**-3.1**
	baz=8.8								
BSC				↑	S		**Sn**	**13 46 02.5**	**-1.2**
	baz=8.8								
MFID	**Camas Ranch**	**8.80**	**67**	↑	P		**Pn**	**13 44 27.7**	**+0.2**
	baz=9.2								
MFID				↑	S		**Sn**	**13 46 04.2**	**-1.8**
	baz=9.2								
MFID	**Camas Ranch**	**8.80**	**67**		*e*Pn		**Pn**	**13 44 26.7**	**-0.8**
E09A	**Wood Farm, Sta**	**8.80**	**44**	↓	P		**Pn**	**13 44 26.6**	**-0.9**
	baz=9.1								
LRMC	**Laurel Mountai**	**8.85**	**121**	↓	P		**Pn**	**13 44 26.8**	**-1.3**
	baz=9.1,SNR=6.9								
FURC	**Furnace Creek,**	**8.87**	**114**	↑	P		**Pn**	**13 44 27.5**	**-0.8**
	baz=9.1								
BLG	**Laguna Peak**	**8.93**	**133**	↑	P		**Pn**	**13 44 25.7**	**-3.5**
	baz=9.1								
BLG				↓	S		**Sn**	**13 46 06.1**	**-3.1**
	baz=9.1								
F10A	**Beach Ranch, E**	**8.98**	**49**	↑	P		**Pn**	**13 44 30.1**	**+0.1**
	baz=9.3								
EDW2	**Edwards Air Fo**	**9.03**	**125**		P		**Pn**	**13 44 28.4**	**-2.2**
	baz=9.2,SNR=201								
R11A	**Troy Canyon, C**	**9.05**	**100**	↓	P		**Pn**	**13 44 30.1**	**-0.8**
	baz=9.3								
R11A				↑	S		**Sn**	**13 46 08.6**	**-3.6**
	baz=9.3								
OD2	**Odessa Site #2**	**9.12**	**38**		*e*Pn		**Pn**	**13 44 31.7**	**-0.2**
A05A	**Maple Falls**	**9.21**	**20**	↓	P		**Pn**	**13 44 33.8**	**+0.8**
	baz=9.5								
A05A				↑	S		**Sn**	**13 46 17.9**	**+2.0**
	baz=9.5								
DECC	**Green Verdugo**	**9.25**	**129**	↑	P		**Pn**	**13 44 31.2**	**-2.5**
	baz=9.4								
DECC				↓	S		**Sn**	**13 46 15.6**	**-1.4**
	baz=9.4								
PASC	**Pasadena Art C**	**9.39**	**129**		*e*Pn		**Pn**	**13 44 32.9**	**-2.7**
PASC					*e*Sn		**Sn**	**13 46 16.8**	**-3.8**
I12A	**Atlanta**	**9.39**	**65**	↑	P		**Pn**	**13 44 35.1**	**-0.5**
	baz=9.7								
I12A				↓	S		**Sn**	**13 46 21.4**	**+0.9**
	baz=9.7								
MWC	**Mount Wilson**	**9.43**	**129**		*e*Pn		**Pn**	**13 44 33.3**	**-2.8**
MWC	**Mount Wilson**	**9.43**	**129**		*e*P		**Pn**	**13 44 33.3**	**-2.8**
GSC	**Goldstone**	**9.53**	**119**	↓	P		**Pn**	**13 44 35.6**	**-2.0**
	baz=9.7,SNR=12								
GSC	**Goldstone**	**9.53**	**119**		*e*Pn		**Pn**	**13 44 35.8**	**-1.8**
GSC	**Goldstone**	**9.53**	**119**		*e*P		**Pn**	**13 44 35.8**	**-1.7**
SHOC	**Shoshone**	**9.56**	**115**	↓	P		**Pn**	**13 44 37.1**	**-0.8**
	baz=9.8								
C09A	**Chrisman Ranch**	**9.62**	**37**	↓	P		**Pn**	**13 44 37.4**	**-1.3**
	baz=9.9								
FMP	**Fort Macarthur**	**9.65**	**132**	↑	S		**Sn**	**13 46 23.2**	**-3.8**
	baz=9.8								
RRX	**Edison Barstow**	**9.66**	**122**	↑	P		**Pn**	**13 44 37.4**	**-1.

baz=12
IRM Iron Mountain 11.31 120 ⇑P Pn 13 44 59.8 -2.0
baz=12,SNR=42
NEE2 Needles Airpor 11.31 116 ⇓P Pn 13 45 00.8 -1.1
baz=12,SNR=21
BAR Barrett 11.34 130 ePn Pn 13 44 58.6 -3.7
BAR eSn Sn 13 47 02.6 -5.6
MONP Monument Peak 11.34 128 P Pn 13 45 00.9 -1.4
baz=12,SNR=38
H15A Lima 11.34 64 ⇑P Pn 13 45 02.5 +0.2
baz=12
B12A Libby 11.39 42 ⇑P Pn 13 45 02.9 0.0
baz=12
BC3 Big Chuckawall 11.42 123 P Pn 13 45 00.8 -2.6
baz=12,SNR=27
BSMT Bassoo Peak 11.43 46 ePn Pn 13 45 02.9 -0.6
E14A Clinton 11.45 54 ⇓P Pn 13 45 04.5 +0.8
baz=12
C13A Hot Springs 11.45 47 ⇑P Pn 13 45 03.2 -0.6
baz=12
MSU Marysvale 11.59 95 ePn Pn 13 45 07.2 +1.5
MSU Marysvale 11.59 95 eP Pn 13 45 07.2 +1.6
DLMT Dillon 11.61 60 ePn Pn 13 45 05.9 +0.1
G15A Dillon 11.62 61 ⇑P Pn 13 45 06.1 +0.1
baz=12
M16A Huntsville 11.64 81 ⇓P Pn 13 45 07.1 +0.8
baz=12
W13A Hualapai Mount 11.64 113 ⇑P Pn 13 45 07.3 +0.9
baz=12,SNR=6.3
JTMT Jette 11.65 47 ePn Pn 13 45 05.8 -0.7
A12A Yaak River Ran 11.67 40 ⇓P Pn 13 45 07.6 +0.9
baz=12
SWSC Sam W. Stewart 11.68 126 ⇓P Pn 13 45 06.1 -0.9
baz=12
SWMT Swartz Lake 11.68 49 ePn Pn 13 45 06.3 -0.6
DVTC Desert V Tower 11.69 128 ⇑P Pn 13 45 06.9 -0.1
baz=12
MPU Maple Canyon 11.72 87 ePn Pn 13 45 09.5 +2.0
BBB Bella Bella 11.75 357 LR LR 13 49 00.5
comp=Z,49nm,20.7s,baz=179,slow=34
D14A Greenough 11.75 51 ⇑P Pn 13 45 07.9 0.0
baz=12
BLMT Blacktail Moun 11.76 46 ePn Pn 13 45 07.6 -0.3
P16A Fountain Green 11.76 89 ⇓P Pn 13 45 08.5 +0.5
baz=12
J16A Bone 11.78 71 ⇓P Pn 13 45 09.7 +1.4
baz=12
L16A Fish Haven 11.79 77 ⇑P Pn 13 45 09.5 +1.0
baz=12
N16A Rees Ranch, Co 11.80 83 ⇑P Pn 13 45 09.7 +1.2
baz=12
O16A Springville 11.80 86 ⇓P Pn 13 45 09.1 +0.6
baz=12
JLU Jordanelle 11.80 84 ePn Pn 13 45 10.3 +1.7
CHMT Chamberlain Mo 11.82 52 ePn Pn 13 45 09.0 +0.2
SLMT Seeley Lake 11.84 51 ePn Pn 13 45 09.4 +0.4
F15A Butte 11.85 58 ⇑P Pn 13 45 09.2 0.0
baz=12
LRM Limekiln Ridge 11.87 58 ePn Pn 13 45 10.1 +0.6
YBMT Yellow Bay 11.87 47 ePn Pn 13 45 09.6 +0.2
B13A Whitefish 11.92 44 ⇓P Pn 13 45 10.5 +0.5
baz=12
C14A Swan Lake 11.97 48 ⇑P Pn 13 45 10.9 +0.1
baz=12
DAU Daniels Canyon 11.97 85 ePn Pn 13 45 13.6 +2.8
DAU Daniels Canyon 11.97 85 eP Pn 13 45 13.6 +2.8
Y12C Blythe 11.97 120 P Pn 13 45 08.9 -2.0
baz=12,SNR=34
I16A Newdale 11.97 68 ⇓P Pn 13 45 12.5 +1.6
baz=12
E15A Deer Lodge 11.98 55 ⇑P Pn 13 45 11.0 0.0
baz=12
RRI2 Red Ridge 12.00 71 ePn Pn 13 45 13.2 +1.9
AHID Auburn Hatcher 12.09 74 ePn Pn 13 45 14.0 +1.5
G16A Moss Hill, Enn 12.09 62 ⇓P Pn 13 45 12.3 -0.2
baz=12
DCID1 Drake Creek 12.14 70 ePn Pn 13 45 15.7 +2.5
TMUT Trail Mountain 12.16 90 ePn Pn 13 45 17.1 +3.6
R16A Teasdale 12.17 95 ⇓P Pn 13 45 14.7 +1.0
baz=12
GLA Glamis 12.21 123 ⇑P Pn 13 45 11.3 -2.9
baz=12
GLA Glamis 12.21 123 Pn Pn 13 45 11.5 -2.7
GLA Glamis 12.21 123 P Pn 13 45 11.5 -2.7
L17A Cokeville 12.21 77 ⇑P Pn 13 45 15.1 +0.9
baz=12
K17A Gardner Place, 12.22 74 ⇓P Pn 13 45 15.2 +0.9
baz=13
QLMT Earthquake Lak 12.23 64 ePn Pn 13 45 15.9 +1.5
S16A Weppner Ranch, 12.25 98 ⇓P Pn 13 45 15.0 +0.3
baz=12
N17A Moffit Pass 12.25 83 ⇑P Pn 13 45 16.2 +1.5
baz=13
Q16A Castle Valley 12.26 92 ⇓P Pn 13 45 16.4 +1.5
baz=13
A13A Flathead Natio 12.29 42 ⇓P Pn 13 45 14.9 -0.3
baz=13
TPAW Teton Pass 12.29 71 ePn Pn 13 45 15.7 +0.5
D15A Lincoln 12.33 53 ⇑P Pn 13 45 14.8 -0.9
baz=13
H16A Russell Place, 12.33 65 ⇓P Pn 13 45 16.3 +0.6
baz=13
REDW Red Top Meadow 12.34 71 ePn Pn 13 45 17.5 +1.6
M17A Scullys Gap (B 12.36 80 ⇑P Pn 13 45 17.7 +1.5
baz=13
IMW Indian Meadow 12.37 69 ePn Pn 13 45 17.6 +1.4
O17A Robinson Place 12.38 86 ⇑P Pn 13 45 18.0 +1.4
baz=13
F16A Kennard Place, 12.39 60 ⇓P Pn 13 45 16.2 -0.4
baz=13
SNOW Snow King Moun 12.43 71 ePn Pn 13 45 17.8 +0.7
J17A Brown Place, J 12.44 71 ⇑P Pn 13 45 18.6 +1.2
baz=13
MOOW Moose Ponds 12.48 69 ePn Pn 13 45 18.7 +0.9
P17A Butcher Ranch, 12.48 89 ⇓P Pn 13 45 19.9 +2.0
baz=13
YMR Madison River 12.51 65 ePn Pn 13 45 18.8 +0.5
YFT Old Faithful 12.55 66 ePn Pn 13 45 21.2 +2.5
B14A Marquette Ranc 12.56 47 ⇓P Pn 13 45 17.9 -0.9
baz=13
LOHW Long Hollow 12.56 70 ePn Pn 13 45 19.4 +0.5
FLWY Flagg Ranch 12.57 68 ePn Pn 13 45 20.1 +1.1
HRY Holter Researc 12.61 55 ePn Pn 13 45 19.4 -0.2
WALA Waterton Lakes 12.62 43 ePn Pn 13 45 20.4 +0.7
C15A Salmond Ranch, 12.63 50 ⇓P Pn 13 45 19.5 -0.3
baz=13
I17A Pilgrim Ck. 12.63 69 ⇑P Pn 13 45 21.4 +1.6
baz=13
E16A East Helena 12.64 56 ⇓P Pn 13 45 19.4 -0.5
baz=13
SRU San Rafael 12.71 91 Pn Pn 13 45 19.9 -1.2
SRU San Rafael 12.71 91 P Pn 13 45 19.9 -1.2
H17A Grant Village 12.72 67 ⇑P Pn 13 45 23.8 +2.6
baz=13
YNR Norris Junctio 12.72 65 ePn Pn 13 45 23.9 +2.8
R17A Hanksville Air 12.73 94 ⇑P Pn 13 45 23.3 +2.1
baz=13
M18A Lyman 12.81 80 ⇑P Pn 13 45 23.3 +0.9
baz=13
L18A Fontenelle, Gr 12.83 78 ⇓P Pn 13 45 23.0 +0.4
baz=13
P18A Preston Nutter 12.84 88 ⇓P Pn 13 45 24.2 +1.5
baz=13
G17A Pierce Place, 12.84 62 ⇑P Pn 13 45 22.7 0.0
baz=13
K18A Toltan Ranch, 12.86 75 ⇑P Pn 13 45 24.3 +1.4
baz=13
S17A Black Ridge (B 12.87 97 ⇓P Pn 13 45 24.7 +1.5
baz=13
Z13A Yuma Proving G 12.88 120 ⇑P Pn 13 45 20.9 -2.4
baz=13,SNR=31
Y14A Wickenburg 12.88 116 ⇓P Pn 13 45 23.0 -0.4
baz=13,SNR=11
D16A Dana Ranch, Ca 12.92 54 ⇑P Pn 13 45 23.1 -0.7
baz=13
J18A Kendall Valley 12.93 72 ⇓P Pn 13 45 23.3 -0.6
baz=13
B15A Bradely Ranch, 12.93 48 ⇓P Pn 13 45 23.7 -0.2
baz=13
O18A Roosevelt 12.93 85 ⇑P Pn 13 45 23.8 -0.2
baz=13
Q18A Rafter H Ranch 13.02 91 ⇓P Pn 13 45 27.5 +2.3
baz=13
F17A Fitzpatrick Pl 13.07 60 ⇓P Pn 13 45 25.5 -0.4
baz=13
T17A Navajo Res., N 13.08 100 ⇑P Pn 13 45 26.7 +0.6
baz=13
E17A Martinsdale 13.13 58 ⇓P Pn 13 45 25.9 -0.8
baz=14
I18A Diamond G Ranc 13.14 70 ⇑P Pn 13 45 27.5 +0.8
baz=14
C16A Fuhringer Ranc 13.15 51 ⇑P Pn 13 45 25.8 -1.1
baz=14
U16A Tuba City 13.16 104 ⇓P Pn 13 45 29.1 +2.1
baz=13
PD01 Pinedale Array 13.21 74 ePn Pn 13 45 28.0 +0.3
PD02 Pinedale Array 13.22 74 ePn Pn 13 45 27.8 -0.1
PDAR Pinedale Array 13.22 74 Pn Pn 13 45 28.7 +0.8
0.1nm,0.3s,baz=260,slow=8.9,SNR=38
PDAR LR LR 13 50 32.2
comp=Z,17µm,21.9s,baz=266,slow=38
PDAR Pinedale Array 13.22 74 Pn Pn 13 45 28.7 +0.8
WUAZ Wupatki 13.24 107 ⇓P Pn 13 45 29.9 +1.6
baz=14
WUAZ Wupatki 13.24 107 ePn Pn 13 45 32.1 +3.8
Z14A Wintersburg 13.25 118 ⇓P Pn 13 45 27.7 -0.8
baz=14,SNR=12
U17A Shonto 13.33 102 ⇑P Pn 13 45 30.6 +1.2
baz=14
Y15A Casa Rosa Ranc 13.34 115 ⇓P Pn 13 45 31.4 +1.8
baz=14,SNR=35
L19A Farson 13.34 77 ⇑P Pn 13 45 30.3 +0.8
baz=14
R18A Canyonlands Na 13.36 93 ⇑P Pn 13 45 31.4 +1.6
baz=14
H18A Shoshone NF, C 13.42 66 ⇓P Pn 13 45 31.5 +0.9
baz=14
S18A Hurst Farm, Bl 13.47 96 ⇓P Pn 13 45 33.6 +2.3
baz=14
D17A Six Diamond Ra 13.51 55 ⇓P Pn 13 45 30.8 -1.0
baz=14
N19A John Jarvie Ra 13.51 82 ⇓P Pn 13 45 33.4 +1.6
baz=14
O19A Miners Draw (B 13.60 85 ⇓P Pn 13 45 33.9 +0.8
baz=14
V17A Tonalea, Kykot 13.62 106 ⇑P Pn 13 45 36.8 +3.4
baz=14
J19A Crowheart 13.63 72 ⇑P Pn 13 45 34.0 +0.4
baz=14
G18A Lazy EL Ranch, 13.64 63 ⇑P Pn 13 45 33.1 -0.5
baz=14
C17A Wharram Farm, 13.66 53 ⇓P Pn 13 45 33.7 -0.2
baz=14
114A Black Gap (USA 13.67 120 P Pn 13 45 33.1 -1.0
baz=14,SNR=12
GCMT Greycliff 13.70 61 ePn Pn 13 45 34.1 -0.3
F18A Big Timber 13.70 61 ⇓P Pn 13 45 34.2 -0.2
baz=14
Q19A Hogan Spring (13.71 91 ⇑P Pn 13 45 36.9 +2.3
baz=14
X16A Lo Mia Camp, P 13.72 111 ⇑P Pn 13 45 36.1 +1.3
baz=14
T18A Mexican Hat 13.73 99 ⇓P Pn 13 45 35.7 +0.7
baz=14
K19A Absolon Red Bu 13.75 74 ⇑P Pn 13 45 35.2 +0.1
baz=14
I19A Meeteetse 13.78 69 ⇓P Pn 13 45 36.2 +0.8
baz=14
E18A Harlowton 13.78 58 ⇑P Pn 13 45 35.4 -0.1
baz=14
RLMT Red Lodge 13.79 64 ePn Pn 13 45 36.7 +1.0
P19A Cripple Cowboy 13.80 88 ⇑P Pn 13 45 36.6 +0.7
baz=14
A16A West Butte Ran 13.81 47 ⇓P Pn 13 45 35.2 -0.7
baz=14
Z15A Gila River Ind 13.83 117 ⇑P Pn 13 45 36.6 +0.3
baz=14
R19A Curley Farm, L 13.86 93 ⇓P Pn 13 45 38.0 +1.3
baz=14
H19A Powell 13.89 66 ⇑P Pn 13 45 38.4 +1.4
baz=14
W17A Winslow 13.92 108 ⇑P Pn 13 45 39.4 +1.9
baz=14
B17A L&G Farms, Che 13.94 50 ⇓P Pn 13 45 36.8 -0.8
baz=14
Y16A Circle Bar Ran 13.97 113 ⇑P Pn 13 45 39.5 +1.3
baz=14
U18A Rough Rock, Ch 13.99 101 ⇑P Pn 13 45 41.1 +2.7
baz=14
D18A Linhart Farms, 14.08 56 ⇓P Pn 13 45 38.8 -0.8
baz=14
L20A Wamsutter 14.10 78 ⇓P Pn 13 45 38.9 -1.0
baz=14
S19A Harvey Farm, M 14.10 95 ⇓P Pn 13 45 40.7 +0.7
baz=14
PV04 Paradox Valley 14.11 93 ePn Pn 13 45 41.2 +1.2
K20A Yellowstone Ra 14.11 75 ⇓P Pn 13 45 38.4 -1.7
baz=14
115A Sonoran Desert 14.13 119 ⇓P Pn 13 45 39.4 -1.0
baz=14
F19A Roth Farm, Mol 14.20 62 ⇓P Pn 13 45 40.5 -0.8
baz=14
N20A Spence Gulch, 14.20 82 ⇓P Pn 13 45 41.9 +0.6
baz=14
X17A Forest Lakes 14.21 110 ⇑P Pn 13 45 44.1 +2.6
baz=14
214A Organ Pipe Nat 14.22 122 ⇓P Pn 13 45 40.1 -1.5
baz=14
V18A Gando 14.22 104 ⇓P Pn 13 45 44.2 +2.7
baz=14
M20A Sweetwater, Wa 14.22 80 ⇑P Pn 13 45 41.2 -0.3
baz=14
O20A White River Ci 14.29 85 ⇑P Pn 13 45 43.3 +0.8
baz=15
Z16A Peralta Trail, 14.30 115 ⇓P Pn 13 45 41.8 -1.0
baz=14
J20A Shoshoni 14.35 72 ⇑P Pn 13 45 42.9 -0.4
baz=15
I20A Worland 14.38 70 ⇑P Pn 13 45 44.5 +0.7
baz=15
PV01 Paradox Valley 14.43 93 ePn Pn 13 45 46.5 +2.1
EGMT Eagleton 14.44 53 ⇑P Pn 13 45 43.6 -0.9
baz=15
EGMT Eagleton 14.44 53 ePn Pn 13 45 44.5 -0.1
Q20A Ridgley Place, 14.45 90 ⇓P Pn 13 45 45.1 +0.4
baz=15
T19A Beclabito 14.47 99 ⇑P Pn 13 45 46.8 +1.7
baz=15
E19A Rath Farm, Rou 14.48 60 ⇑P Pn 13 45 44.2 -0.9
baz=15
Y17A Roosevelt 14.52 113 ⇑P Pn 13 45 47.2 +1.5
baz=15,SNR=34
U19A Dine' College, 14.53 101 ⇑P Pn 13 45 47.8 +1.9
baz=15
G20A Bridger 14.54 65 ⇑P Pn 13 45 45.6 -0.4
baz=15
H20A Greybull 14.55 68 ⇑P Pn 13 45 46.4 +0.3
baz=15
R20A Redvale 14.56 93 ⇑P Pn 13 45 47.3 +1.1
baz=15
116A Eloy 14.57 118 P Pn 13 45 46.5 +0.1
baz=15,SNR=15
B18A Beardsley Farm 14.59 51 ⇓P Pn 13 45 45.4 -1.1
baz=15
W18A Petrified Fore 14.62 106 ⇓P Pn 13 45 49.2 +2.1
baz=15
D19A Cripps Ranch, 14.65 57 ⇑P Pn 13 45 45.3 -2.1
baz=15
S20A Disappointment 14.67 94 ⇓P Pn 13 45 48.4 +0.7
baz=15
F20A Billings 14.72 63 ⇑P Pn 13 45 46.6 -1.8
baz=15
X18A Snowflake 14.73 108 ⇑P Pn 13 45 49.7 +1.1
baz=15
MVCO Mesa Verde 14.75 97 ⇑P Pn 13 45 49.8 +1.0
baz=15
MVCO Mesa Verde 14.75 97 Pn Pn 13 45 47.6 -1.1
MVCO e 13 45 51.4
C19A Slack Wire Ran 14.76 55 ⇑P Pn 13 45 48.1 -0.8
baz=15
N21A Black Mountain 14.77 83 ⇑P Pn 13 45 49.1 +0.1
baz=15
A18A Metzger Ranch, 14.79 49 ⇑P Pn 13 45 48.0 -1.3
baz=15
J21A Lysite 14.81 72 ⇑P Pn 13 45 49.2 -0.4
baz=15
L21A Rawlins 14.82 78 ⇑P Pn 13 45 49.2 -0.6
baz=15
M21A Separation Pea 14.83 79 ⇑P Pn 13 45 48.3 -1.6
baz=15
O21A Pagoda 14.87 85 ⇑P Pn 13 45 50.6 +0.3
baz=15
V19A Window Rock 14.88 103 ⇑P Pn 13 45 52.2 +1.6
baz=15
W19A Sanders 14.88 105 ⇓P Pn 13 45 51.0 +0.4
baz=15
K21A Alcova 14.91 75 ⇑P Pn 13 45 49.3 -1.7
baz=15
E20A Meyer Farm, Mu 14.93 60 ⇓P Pn 13 45 49.4 -1.7
baz=15
RWWY Rawlins 14.95 79 ePn Pn 13 45 50.5 -0.9
I21A Big Trails, Te 14.96 71 ⇑P Pn 13 45 50.9 -0.8
baz=15
P21A Newcastle 14.98 87 ⇑P Pn 13 45 53.7 +1.7
baz=15
Z17A San Carlos Hig 14.99 113 ⇑P Pn 13 45 53.5 +1.3
baz=15
Q21A Lamborn Mesa, 15.02 90 ⇓P Pn 13 45 52.9 +0.4
baz=15
Y18A Canyon Day Jun 15.05 111 ⇓P Pn 13 45 53.7 +0.8
baz=15
216A Three Points, 15.07 119 ⇓P Pn 13 45 52.8 -0.4
baz=15
D20A Manuel Ranch, 15.11 58 ⇓P Pn 13 45 51.4 -2.1
baz=15
B19A Brinkman Farms 15.12 52 ⇑P Pn 13 45 52.5 -1.1
baz=15
R21A Cimarron 15.15 92 ⇑P Pn 13 45 54.8 +0.7
baz=15
S21A Coal Bank Pass 15.15 94 ⇓P Pn 13 45 55.3 +1.1
baz=15
117A Oracle 15.22 116 P Pn 13 45 56.9 +1.8
baz=15,SNR=13
G21A Lodge Grass 15.24 65 ⇑P Pn 13 45 53.9 -1.3
baz=16
H21A Big Horn, Sher 15.25 68 ⇑P Pn 13 45 54.5 -0.9
baz=16
X19A St. Johns 15.26 108 ⇓P Pn 13 45 57.6 +2.0
baz=16
V20A Brimhall 15.27 102 ⇓P Pn 13 45 57.8 +2.0
baz=16
TUC Tucson 15.34 117 ePn Pn 13 45 56.5 -0.3
TUC Tucson 15.34 117 eP Pn 13 45 56.5 -0.2
SMCO Snowmass 15.41 88 ePn Pn 13 45 59.1 +1.5
109nm,1.4s
Z18A Geronimo 15.42 113 ⇑P Pn 13 45 58.3 +0.7
baz=16
M22A Cedar Creek Ra 15.42 80 ⇓P Pn 13 45 55.1 -2.6
baz=16
F21A Absaloka Mine, 15.42 63 ⇑P Pn 13 45 56.4 -1.3
baz=16
A19A Klindworth Far 15.44 51 ⇓P Pn 13 45 55.8 -2.1
baz=16
K22A Casper 15.45 75 ⇓P Pn 13 45 56.4 -1.7
baz=16
P22A Eagle 15.50 87 ⇑P Pn 13 45 59.0 +0.3
baz=16
L22A Ellis Ranch, M 15.52 78 ⇓P Pn 13 45 56.7 -2.2
baz=16
Y19A Nutrioso 15.52 109 ⇓P Pn 13 46 00.7 +1.7
baz=16
J22A Midwest 15.52 72 ⇑P Pn 13 45 57.9 -1.1
baz=16
Q22A Crested Butte, 15.52 89 ⇑P Pn 13 45 59.8 +0.7
baz=16
W20A Ramah 15.53 104 ⇓P Pn 13 46 01.4 +2.3
baz=16
T21A Navajo Lake 15.55 97 ⇑P Pn 13 45 59.3 0.0
baz=16
I22A 9 Mile Ranch, 15.55 71 ⇓P Pn 13 45 58.4 -1.0
baz=16
N22A Wattenberg Ran 15.57 82 ⇓P Pn 13 45 59.1 -0.6
baz=16
O22A Kremmling 15.57 84 ⇓P Pn 13 45 58.5 -1.2
baz=16
E21A Keefer Ranch, 15.63 61 ⇓P Pn 13 45 58.7 -1.7
baz=16
217A Green Valley 15.64 119 ⇑P Pn 13 45 59.3 -1.4
baz=16
U21A Nageezi 15.64 99 ⇑P Pn 13 46 01.0 +0.3
baz=16
118A Homack Ranch, 15.71 114 ⇓P Pn 13 46 01.7 +0.2
baz=16,SNR=19
H22A Clearmont 15.73 68 ⇓P Pn 13 46 01.0 -0.7
baz=16
R22A Saguache, Gunn 15.79 92 ⇓P Pn 13 46 02.7 +0.2
baz=16
X20A Quemado 15.79 106 ⇑P Pn 13 46 04.2 +1.7
baz=16
D21A La Casta Ranch 15.84 59 ⇑P Pn 13 46 01.2 -1.9
baz=16
S22A 4UR Ranch, Cre 15.86 93 ⇑P Pn 13 46 05.2 +1.8
baz=16
V21A Milan 15.89 101 ⇑P Pn 13 46 04.5 +0.7
baz=16
A20A Cobblestone Ra 15.91 52 ⇓P Pn 13 46 02.3 -1.6
baz=16
N23A Red Feather La 15.95 82 ⇑P Pn 13 46 03.5 -1.1
baz=16
F22A Rosebud 16.00 64 ⇑P Pn 13 46 03.4 -1.8
baz=16
C21A Desert Coulee 16.02 56 ⇑P Pn 13 46 03.8 -1.6
baz=16
T22A Edith 16.02 96 ⇑P Pn 13 46 04.9 -0.6
baz=16
218A Dragoon 16.04 117 ⇓P Pn 13 46 06.3 +0.4
baz=16
L23A Garrett 16.06 77 ⇓P Pn 13 46 03.5 -2.5
baz=16
M23A Laramie 16.07 79 ⇓P Pn 13 46 04.1 -2.0
baz=16
119A Ashpeak Ranch, 16.11 113 ⇑P Pn 13 46 04.8 -1.8
baz=16
K23A Bowen Ranch, D 16.12 75 ⇓P Pn 13 46 04.5 -2.2
baz=16
W21A San Fidel 16.16 103 ⇑P Pn 13 46 09.4 +2.0
baz=16
Y20A Horse Springs, 16.18 108 ⇑P Pn 13 46 09.2 +1.7
baz=16
J23A Dilts Ranch, B 16.19 73 ⇓P Pn 13 46 05.3 -2.3
baz=16
P23A Jefferson 16.24 87 ⇓P Pn 13 46 08.8 +0.5
baz=16
U22A Llaves 16.27 98 ⇓P Pn 13 46 09.0 +0.3
baz=16
PHWY Pilot Hill 16.28 80 ePn Pn 13 46 07.3 -1.5
166nm,1.6s
PHWY eS Sn 13 49 13.3 +4.6
B21A Ellsworth Farm 16.28 54 ⇓P Pn 13 46 07.0 -1.7
baz=17
Q23A Hartsel 16.34 89 ⇓P Pn 13 46 10.3 +0.8
baz=17
ISCO Idaho Springs 16.34 85 ⇑P Pn 13 46 09.6 +0.1
baz=17
ISCO Idaho Springs 16.34 85 ePn Pn 13 46 09.1 -0.5
810nm,2.9s
ISCO Idaho Springs 16.34 85 eP Pn 13 46 09.1 -0.4
ISCO pmax pmax
comp=Z,810nm,2.9s
X21A Alamocita Cree 16.35 105 ⇑P Pn 13 46 12.1 +2.3
baz=17
E22A Miles City 16.36 62 ⇑P Pn 13 46 08.3 -1.5
baz=17
D22A Cohagen 16.39 59 ⇑P Pn 13 46 08.6 -1.6
baz=17
V22A San Miguel Ran 16.40 100 ⇑P Pn 13 46 10.6 +0.3
baz=17
318A Bisbee 16.41 118 ⇓P Pn 13 46 09.7 -0.7
baz=17
Z20A Nine Sixteen R 16.42 111 ⇓P Pn 13 46 11.9 +1.2
baz=17
S23A Nye Farm, Mont 16.50 93 ⇑P Pn 13 46 13.8 +2.2
baz=17
R23A Moffat 16.51 91 ⇑P Pn 13 46 13.7 +2.0
baz=17
A21A Bergtoll Ranch 16.55 52 ⇑P Pn 13 46 10.3 -1.9
baz=17
219A White Tail Can 16.57 115 ⇑P Pn 13 46 14.0 +1.5
baz=17
F23A Volborg 16.58 64 ⇑P Pn 13 46 10.2 -2.3
baz=17
L24A Wheatland 16.64 77 ⇓P Pn 13 46 11.3 -2.0
baz=17
Y21A Point of Rocks 16.64 107 ⇑P Pn 13 46 15.4 +2.0
baz=17
T23A Casias Ranch, 16.67 95 ⇑P Pn 13 46 15.2 +1.4
baz=17
120A U Bar Ranch, L 16.70 112 ⇓P Pn 13 46 15.4 +1.2
baz=17,SNR=6.3
O24A Longmont 16.70 84 ⇓P Pn 13 46 14.2 +0.1
baz=17
M24A Cheyenne 16.75 79 ⇓P Pn 13 46 13.2 -1.5

baz=17
N24A **Carr** 16.76 82 ⇑P Pn 13 46 14.3 -0.6
baz=17
W22A **Albuquerque** 16.76 102 ⇑P Pn 13 46 15.9 +1.0
baz=17
C22A **Vida** 16.76 57 ⇓P Pn 13 46 12.3 -2.6
baz=17
U23A **El Rito** 16.79 98 ⇑P Pn 13 46 15.6 +0.4
baz=17
E23A **Ismay** 16.81 62 ⇑P Pn 13 46 13.0 -2.5
baz=17
J24A **Dixon Ranch, L** 16.84 73 ⇑P Pn 13 46 13.5 -2.3
baz=17
Q24A **Divide** 16.84 88 ⇓P Pn 13 46 16.3 +0.3
baz=17
LAZ **Ladron** 16.85 105 *e*P Pn 13 46 19.6 +3.5
comp=Z,210nm,1.7s
SDCO **Great Sand Dun** 16.87 92 *e*P Pn 13 46 18.1 +1.8
comp=Z,138nm,1.3s
B22A **Reddig Ranch S** 16.87 55 ⇓P Pn 13 46 14.7 -1.5
baz=17
I24A **Kuemmerle Ranc** 16.89 71 ⇑P Pn 13 46 14.5 -2.0
baz=17
X22A **Bernardo** 16.90 104 ⇓P Pn 13 46 18.2 +1.5
baz=17
P24A **Kohler Place,** 16.92 86 ⇓P Pn 13 46 18.3 +1.3
baz=17
319A **Douglas** 16.92 117 ⇑P Pn 13 46 18.0 +1.0
baz=17
Z21A **St. Cloud Mine** 16.98 109 ⇓P Pn 13 46 18.4 +0.7
baz=17
V23A **Ortiz Mt. (NFS** 17.01 99 ⇓P Pn 13 46 19.6 +1.6
baz=17
H24A **Dirks Ranch, A** 17.03 68 ⇓P Pn 13 46 14.7 -3.5
baz=17
D23A **Lindsay** 17.04 60 ⇓P Pn 13 46 16.2 -2.2
baz=17
R24A **Sanders Place,** 17.04 90 ⇑P Pn 13 46 19.5 +1.1
baz=17
LENM **Lemitar** 17.08 105 *e*P Pn 13 46 22.9 +3.9
ANMO **Albuquerque** 17.12 102 Pn Pn 13 46 19.9 +0.5
comp=Z,0.2nm,0.3s,baz=301,slow=12,SNR=26
ANMO LR LR 13 53 13.5
comp=Z,12μm,18.4s,baz=297,slow=38
ANMO **Albuquerque** 17.12 102 *e*P Pn 13 46 21.1 +1.7
comp=Z,915nm,2.8s
ANMO **Albuquerque** 17.12 102 *e*P Pn 13 46 21.1 +1.7
ANMO pmax pmax
comp=Z,915nm,2.8s
S24A **Houchin Ranch,** 17.12 92 ⇑P Pn 13 46 20.7 +1.3
baz=17
220A **Playas Peak, P** 17.13 114 ⇓P Pn 13 46 20.9 +1.2
baz=17
Y22D **IRIS PASSCAL I** 17.16 105 ⇑P Pn 13 46 20.3 +0.3
baz=17
A22A **Carney Farms,** 17.17 53 ⇓P Pn 13 46 18.0 -1.9
baz=18
Y22A **Socorro** 17.19 106 ⇓P Pn 13 46 21.5 +1.1
baz=17
C23A **Lambert** 17.23 58 ⇑P Pn 13 46 18.9 -1.8
baz=18
W23A **Werner Place,** 17.26 101 ⇑P Pn 13 46 22.5 +1.3
baz=18
F24A **Ekalaka** 17.26 64 ⇓P Pn 13 46 18.1 -3.1
baz=18
LPM **Los Pinos Moun** 17.27 104 *e*P Pn 13 46 22.8 +1.5
121A **Cookes Peak, D** 17.31 111 ⇑P Pn 13 46 21.8 0.0
baz=18
M25A **Palm-Egli Farm** 17.32 79 ⇓P Pn 13 46 20.7 -1.3
baz=18
RSSD **Black Hills** 17.34 70⇑ *e*Pn Pn 13 46 19.3 -2.8
comp=Z,138nm,1.6s
RSSD **Black Hills** 17.34 70⇑ *e*P Pn 13 46 19.3 -2.8
RSSD pmax pmax
comp=Z,138nm,1.6s
BNM **Barren Site** 17.34 105 *e*P Pn 13 46 24.2 +2.0
comp=Z,646nm,1.8s
N25A **Grover** 17.36 81 ⇑P Pn 13 46 20.8 -1.6
baz=18
T24A **Torres, Weston** 17.41 94 ⇓P Pn 13 46 24.5 +1.4
baz=18
K25A **Mack Ranch, Ha** 17.41 75 ⇑P Pn 13 46 21.3 -1.7
baz=18
O25A **Wiggins** 17.42 84 ⇓P Pn 13 46 22.8 -0.4
baz=18
U24A **Moreno Valley** 17.45 96 ⇓P Pn 13 46 25.1 +1.5
baz=18
320A **Kipp Ranch, An** 17.46 116 ⇑P Pn 13 46 24.7 +1.0
baz=18
X23A **Hourglass Bar** 17.48 103 ⇓P Pn 13 46 24.7 +0.8
baz=18
P25A **Willow Gulch B** 17.49 86 ⇓P Pn 13 46 23.3 -0.7
baz=18
E24A **Baker** 17.49 62 ⇑P Pn 13 46 22.3 -1.8
baz=18
Z22A **Elephant Butte** 17.52 108 ⇑P Pn 13 46 26.3 +1.8
baz=18
Q25A **Bedland, Calha** 17.54 88 ⇓P Pn 13 46 25.5 +0.8
baz=18
B23A **Brockton** 17.56 56 ⇓P Pn 13 46 23.5 -1.3
baz=18
221A **Mesquite Ranch** 17.60 113 ⇑P Pn 13 46 27.6 +2.2
baz=18
D24A **Glendive** 17.61 60 ⇓P Pn 13 46 24.5 -0.9
baz=18
C24A **Savage** 17.65 59 ⇓P Pn 13 46 24.8 -1.1
baz=18
R25A **Fountain Ranch** 17.69 90 ⇑P Pn 13 46 27.3 +0.8
baz=18
V24A **Rampart Ranch,** 17.70 99 ⇓P Pn 13 46 27.6 +0.9
baz=18
S25A **Robets Cordova** 17.71 92 ⇑P Pn 13 46 28.0 +1.2
baz=18
122A **Conniff Cattle** 17.78 110 ⇑P Pn 13 46 29.0 +1.4
baz=18
W24A **Lazy 6 Ranch,** 17.80 100 ⇓P Pn 13 46 27.7 -0.2
baz=18
Y23A **Lovelace Mesa,** 17.86 105 ⇓P Pn 13 46 30.1 +1.4
baz=18
T25A **Trinidad** 17.88 93 ⇓P Pn 13 46 29.7 +0.9
baz=18
K26A **Motz Farm, Whi** 17.92 75 ⇑P Pn 13 46 27.9 -1.4
baz=18
O26A **Horse Wrangler** 18.02 83 ⇓P Pn 13 46 30.2 -0.3
baz=18
Z23A **Rita Site, Whi** 18.05 107 ⇓P Pn 13 46 31.2 +0.2
baz=18
DGMT **Dagmar** 18.06 56 ⇑P Pn 13 46 29.5 -1.6
baz=18
DGMT **Dagmar** 18.06 56 *e*Pn Pn 13 46 30.6 -0.5
comp=Z,543nm,1.3s
DLBC **Dease Lake** 18.10 355 P Pn 13 46 32.7 +1.3
comp=Z,0.2nm,0.3s,baz=203,slow=11,SNR=12
DLBC **Dease Lake** 18.10 355 *e*P Pn 13 46 33.1 +1.8
U25A **Circle Dot Ran** 18.11 96 ⇑P Pn 13 46 33.3 +1.5
baz=18
V25A **Rancho No Teng** 18.15 98 ⇑P Pn 13 46 33.9 +1.6
baz=18
Y24A **Capitan** 18.32 104 ⇑P Pn 13 46 36.0 +1.7
baz=19
A24A **Westby** 18.33 55 ⇓P Pn 13 46 32.7 -1.5
baz=19
123A **Bell Site, Whi** 18.34 109 ⇑P Pn 13 46 36.2 +1.6
baz=19
W25A **X Bar L Ranch,** 18.51 99 ⇓P Pn 13 46 38.0 +1.5
baz=19
U26A **Atchley Ranch,** 18.62 95 ⇓P Pn 13 46 39.2 +1.2
baz=19
X25A **Clemmons Ranch** 18.64 101 ⇓P Pn 13 46 39.8 +1.7
baz=19
V26A **Tequesquite Ra** 18.80 97 ⇓P Pn 13 46 41.4 +1.3
baz=19
Y25A **Mesa, Roswell** 18.88 103 ⇓P Pn 13 46 42.5 +1.4
baz=19
OGNE **Ogallala** 18.89 80 ⇓P Pn 13 46 40.4 -0.8
baz=19
OGNE **Ogallala** 18.89 80 *e*Pn Pn 13 46 40.1 -1.1
comp=Z,446nm,1.6s
124A **Stringfield Ra** 18.90 107 ⇓P Pn 13 46 42.0 +0.7
baz=19
W26A **Owens Ranch, T** 19.08 99 ⇓P Pn 13 46 43.9 +0.4
baz=19
Z25A **Roswell** 19.16 105 ⇑P Pn 13 46 44.0 -0.4
baz=19
224A **Cornudas Mount** 19.17 109 ⇑P Pn 13 46 44.6 +0.1
baz=19
X26A **CR and CF Fran** 19.27 100 ⇑P Pn 13 46 45.7 0.0
baz=20

125A **Gardner Draw,** 19.50 106 ⇑P Pn 13 46 48.3 -0.3
baz=20
Y26A **Elida** 19.52 102 ⇓P Pn 13 46 48.5 -0.3
baz=20
324A **Moseley Ranch,** 19.54 111 ⇑P Pn 13 46 48.9 -0.1
baz=20
W27A **Bowe Ranch, En** 19.62 98 ⇓P Pn 13 46 50.0 0.0
baz=20
225A **Deer Hill, Car** 19.66 108 ⇓P Pn 13 46 50.3 -0.1
baz=20
Z26A **Caprock** 19.70 104 ⇑P Pn 13 46 50.2 -0.7
baz=20
SKAG **Skagway** 19.73 347 P Pn 13 46 51.2 +0.2
comp=Z,71nm,1.4s
X27A **F and S Farms,** 19.76 99 ⇓P Pn 13 46 51.9 +0.3
baz=20
CPRX **Cap Rock** 19.90 105 *e*P Pn 13 46 53.9 +0.6
comp=Z,299nm,1.6s
325A **Bean Ranch, Si** 19.94 110 ⇑P Pn 13 46 53.1 -0.7
baz=20
126A **Clayton Basin,** 19.97 106 ⇑P Pn 13 46 53.4 -0.7
baz=20
Y27A **Causey** 20.03 102 ⇑P P 13 46 54.4 +1.3
baz=20
226A **Malaga, Loving** 20.21 107 ⇑P P 13 46 56.0 +1.0
baz=20
Z27A **Tatum** 20.25 103 ⇑P P 13 46 56.0 +0.6
baz=20
425A **Indio Mountain** 20.26 112 ⇓P P 13 46 56.6 +1.1
baz=20
CLNB **Carlsbad** 20.27 107 *e*P P 13 46 57.5 +1.9
comp=Z,91nm,1.6s
MSTX **Muleshoe** 20.29 101 ⇓P P 13 46 55.6 -0.2
baz=20
127A **Arkansas Junct** 20.45 105 ⇑P P 13 46 57.8 +0.3
baz=21
326A **Caldwell Ranch** 20.69 109 ⇓P P 13 47 00.7 +0.5
baz=21
AMTX **Amarillo** 20.73 97 *e*P P 13 47 02.8 +2.2
comp=Z,211nm,1.1s
AMTX LR LR
comp=Z,18μm,22.0s,MS5.4
227A **Bennet, Jal** 20.82 106 ⇑P P 13 47 02.2 +0.5
baz=21
MDND **Maddock** 20.89 60 ⇓P P 13 47 02.9 +0.6
baz=21
BRSD **Miller** 20.99 70 ⇓P P 13 47 03.2 -0.1
baz=21
426A **McDonald Obser** 21.00 111 ⇑P P 13 47 04.3 +0.7
baz=21
327A **Balmorhea Ranc** 21.01 108 ⇑P P 13 47 04.4 +0.8
baz=21
526A **Mary Lane Ranc** 21.31 112 ⇓P P 13 47 07.5 +0.7
baz=22
427A **Sayter Ranch,** 21.36 109 ⇓P P 13 47 07.8 +0.4
baz=22
328A **Wristen Ranch,** 21.50 107 ⇓P P 13 47 09.2 +0.3
baz=22
626A **Big Bend Ranch** 21.57 113 ⇑P P 13 47 10.3 +0.6
baz=22
527A **Woodward Ranch** 21.60 111 ⇓P P 13 47 10.4 +0.4
baz=22
BGNE **Belgrade** 21.75 78 ⇓P P 13 47 11.9 +0.4
baz=22
FFC **Flin Flon** 21.91 41⇑ *e*P P 13 47 12.1 -1.0
comp=Z,1μm,1.8s,mb6.0
FFC *e*S S 13 51 14.2 +0.3
FFC LR LR
comp=Z,12μm,20.0s,MS5.3
FFC **Flin Flon** 21.91 41⇑ *e*P P 13 47 12.1 -1.0
FFC *e*S S 13 51 14.3 +0.3
FFC pmax pmax
comp=Z,1μm,1.8s,mb6.0
FFC MLR MLR
comp=Z,12μm,20.0s,MS5.3
FFC **Flin Flon** 21.91 41 *i*P P 13 47 13.5 +0.4
428A **Kincaid Ranch,** 21.94 109 ⇓P P 13 47 13.9 +0.3
baz=22
TXAR **Lajitas Array** 22.03 113 P P 13 47 16.4 +1.9
comp=Z,28nm,1.0s,mb4.7,baz=298,slow=2.7,SNR=55
TXAR LR LR 13 55 31.4
comp=Z,5μm,20.7s,MS4.9,baz=30,slow=36
TXAR **Lajitas Array** 22.03 113 P P 13 47 16.4 +1.9
TXAR **Lajitas Array** 22.03 113 P P 13 47 16.5 +1.9
627A **Terlingua Ranc** 22.16 112 ⇓P P 13 47 16.8 +0.8
baz=22
628A **Black Gap, Mar** 22.49 112 ⇑P P 13 47 19.8 +0.3
baz=23
ECSD **EROS Data Cent** 22.69 72 *e*P P 13 47 20.8 -0.7
comp=Z,182nm,1.0s,mb5.5
ECSD *e*S S 13 51 28.2 -0.8
ECSD LR LR
comp=Z,6μm,19.0s,MS5.0
WMOK **Wichita Mounta** 22.99 95 *e*P P 13 47 25.2 +0.4
comp=Z,334nm,1.9s,mb5.4
WMOK LR LR
comp=Z,16μm,20.0s,MS5.5
WMOK **Wichita Mounta** 22.99 95 *e*P P 13 47 25.2 +0.4
WMOK pmax pmax
comp=Z,334nm,1.9s,mb5.4
WMOK MLR MLR
comp=Z,16μm,20.0s,MS5.5
YKA **Yellowknife Ar** 23.28 15 P P 13 47 27.7 +0.2
comp=Z,18nm,0.9s,mb4.5,baz=201,slow=11,SNR=11
YKA **Yellowknife Ar** 23.28 15 P P 13 47 27.8 +0.2
YKA **Yellowknife Ar** 23.28 15 P P 13 47 27.8 +0.3
KSU1 **Kansas State U** 23.31 83 *e*P P 13 47 28.3 +0.2
comp=Z,221nm,1.2s,mb5.5
KSU1 LR LR
comp=Z,7μm,21.0s,MS5.1
AGMN **Agassiz Nation** 23.44 60⇑ *e*P P 13 47 28.8 -0.6
comp=Z,146nm,1.0s,mb5.4
AGMN *e*S S 13 51 50.4 +9.3
AGMN LR LR
comp=Z,24μm,20.0s,MS5.7
DIV **Divide** 23.69 337 P P 13 47 29.2 -2.4
comp=Z,71nm,1.3s,mb4.9
ULM **Lac du Bonnet** 23.78 55 P P 13 47 33.0 +0.5
comp=Z,63nm,0.9s,mb5.1,baz=261,slow=9.9,SNR=45
ULM LR LR 13 57 06.5
comp=Z,23μm,18.8s,MS5.7,baz=262,slow=38
ULM **Lac du Bonnet** 23.78 55 *e*P P 13 47 30.5 -2.0
comp=Z,240nm,1.4s,mb5.4
ULM *e*S S 13 51 50.7 +4.1
ULM LR LR
comp=Z,26μm,19.0s,MS5.7
ULM **Lac du Bonnet** 23.78 55 *e*P P 13 47 30.5 -2.0
ULM *e*S S 13 51 50.7 +4.2
ULM pmax pmax
comp=Z,240nm,1.4s
ULM MLR MLR
comp=Z,26μm,19.0s
KDAK **Kodiak Island** 23.88 325 P P 13 47 34.8 +1.4
comp=Z,21nm,1.1s,mb4.5,baz=197,slow=9.5,SNR=2.3
KDAK LR LR 13 54 26.5
comp=Z,8μm,20.9s,MS5.2,baz=114,slow=30
KDAK **Kodiak Island** 23.88 325 P P 13 47 34.8 +1.4
KDAK **Kodiak Island** 23.88 325 P P 13 47 34.8 +1.4
JCT **Junction City** 24.17 106 ⇓P P 13 47 36.3 0.0
baz=24
JCT **Junction City** 24.17 106 *e*P P 13 47 36.1 -0.1
comp=Z,356nm,1.6s,mb5.5
JCT LR LR
comp=Z,16μm,20.0s,MS5.5
JCT **Junction City** 24.17 106 *e*P P 13 47 36.2 -0.1
JCT pmax pmax
comp=Z,356nm,1.6s,mb5.5
JCT MLR MLR
comp=Z,16μm,20.0s,MS5.5
MENT **Mentasta** 24.63 342 *e*P P 13 47 40.7 +0.6
SLKM **Skilak Lake** 24.69 332 P P 13 47 39.5 -1.2
SLKM **Skilak Lake** 24.69 332 P P 13 47 39.5 -1.2
DAWY **Dawson** 24.74 347 *e*P P 13 47 41.5 +0.4
TUL1 **Tulsa** 24.84 90 ⇓P P 13 47 42.7 +0.4
baz=25
SML **Sawmill** 25.00 336 *e*P P 13 47 42.5 -1.0
comp=Z,16nm,1.0s,mb4.5
SML **Sawmill** 25.00 336 *e*P P 13 47 42.5 -1.0
SML pmax pmax
comp=Z,16nm,1.0s,mb4.5
PMR **Palmer** 25.09 335 *e*P P 13 47 44.2 -0.1
comp=Z,52nm,1.1s,mb5.0
PMR **Palmer** 25.09 335 *e*P P 13 47 44.3 -0.1
PMR pmax pmax
comp=Z,52nm,1.1s,mb5.0
RFTA **Plano** 25.28 97 P P 13 47 46.8 +0.4
SCIA **State Center** 25.34 76 *e*P P 13 47 47.8 +0.9

comp=Z,216nm,1.4s,mb5.5
SCIA LR LR
comp=Z,10μm,20.0s,MS5.3
SPMN **St. Paul** 25.37 68 ⇑P P 13 47 46.5 -0.5
baz=26
RSO **Redoubt South** 25.59 330 P P 13 47 48.8 -0.1
comp=Z,103nm,1.1s,mb5.3
EGAK **Eagle** 25.71 346 P P 13 47 49.5 -0.4
comp=Z,36nm,1.2s,mb4.8
EGAK LR LR
comp=Z,5μm,21.0s,MS5.0
EYMN **Ely** 26.32 62 *e*P P 13 47 56.1 +0.4
comp=Z,303nm,1.6s,mb5.6
EYMN *e*S S 13 52 25.1 -2.0
EYMN LR LR
comp=Z,24μm,20.0s,MS5.7
ILAR **Eielson Array** 26.94 341 P P 13 48 00.1 -0.9
comp=Z,4.7nm,0.9s,mb4.0,baz=157,slow=7.8,SNR=21
ILAR LR LR 13 56 44.1
comp=Z,3μm,19.8s,MS4.8,baz=342,slow=32
ILAR **Eielson Array** 26.94 341 P P 13 48 00.1 -0.9
ILAR **Eielson Array** 26.94 341 P P 13 48 00.1 -0.9
MIAR **Mount Ida** 27.03 92 *e*P P 13 48 02.4 +0.3
comp=Z,286nm,1.7s,mb5.5
MIAR LR LR
comp=Z,17μm,21.0s,MS5.6
MIAR **Mount Ida** 27.03 92 *e*P P 13 48 02.4 +0.2
MIAR pmax pmax
comp=Z,286nm,1.7s,mb5.5
MIAR MLR MLR
comp=Z,17μm,21.0s,MS5.6
PPLA **Purkeypile** 27.03 335 *e*P P 13 47 59.7 -2.2
comp=Z,87nm,1.2s,mb5.2
KVTX **Kingsville** 27.19 109 PFAKE 13 48 10.0 +6.4
KVTX LR LR
comp=Z,15μm,19.0s,MS5.6
COLA **College** 27.27 341 P P 13 48 03.5 -0.5
comp=Z,49nm,1.8s,mb4.7
COLA LR LR
comp=Z,4μm,22.0s,MS4.9
COLA **College** 27.27 341 P P 13 48 03.5 -0.5
COLA pmax pmax
comp=Z,49nm,1.8s,mb4.7
COLA MLR MLR
comp=Z,4μm,22.0s,MS4.9
NATX **Nacogdoches** 27.38 98 *e*P P 13 48 07.5 +2.2
comp=Z,152nm,1.4s,mb5.3
NATX LR LR
comp=Z,20μm,19.0s,MS5.7
HKT **Hockley** 27.38 103 *e*P P 13 48 05.3 -0.1
comp=Z,261nm,1.5s,mb5.5
HKT *e*S S 13 52 49.6 +5.3
HKT **Hockley** 27.38 103 *e*P P 13 48 05.3 -0.1
HKT *e*S S 13 52 49.6 +5.3
HKT pmax pmax
comp=Z,261nm,1.5s,mb5.5
JFWS **Jewell Farm** 27.39 73 *e*P P 13 48 05.6 +0.3
comp=Z,403nm,1.5s,mb5.7
JFWS LR LR
comp=Z,16μm,22.0s,MS5.5
JFWS **Jewell Farm** 27.39 73 *e*P P 13 48 05.6 +0.3
JFWS pmax pmax
comp=Z,403nm,1.5s,mb5.7
JFWS MLR MLR
comp=Z,16μm,22.0s,MS5.5
BPAW **Bear Paw Mtn.** 27.53 337 P P 13 48 02.8 -3.5
comp=Z,36nm,1.4s,mb4.8
UALR **University of** 27.88 91 P P 13 48 09.1 -0.7
comp=Z,49nm,1.4s,mb4.9
INK **Inuvik** 28.13 355 P P 13 48 12.3 +0.7
comp=Z,8.8nm,1.1s,mb4.3,baz=181,slow=10.0,SNR=5.7
INK LR LR 13 58 36.0
comp=Z,8μm,18.1s,MS5.4,baz=171,slow=35
INK **Inuvik** 28.13 355 P P 13 48 12.3 +0.6
INK **Inuvik** 28.13 355 P P 13 48 12.3 +0.7
SLM **Saint Louis** 28.25 82 *e*P P 13 48 13.1 +0.1
comp=Z,59nm,0.9s,mb5.2
SLM **Saint Louis** 28.25 82 *e*P P 13 48 13.1 +0.1
SLM pmax pmax
comp=Z,59nm,0.9s,mb5.2
FVM **French Village** 28.28 83 *e*P P 13 48 12.3 -1.0
comp=Z,42nm,1.1s,mb5.0
FVM **French Village** 28.28 83 *e*P P 13 48 12.4 -0.9
FVM pmax pmax
comp=Z,42nm,1.1s,mb5.0
HDIL **Hopedale** 28.50 77 *e*P P 13 48 14.0 -1.2
comp=Z,84nm,1.1s,mb5.3
HDIL LR LR
comp=Z,1μm,22.0s,MS4.5
PARMO **Parma** 29.20 85 P P 13 48 22.5 +1.0
SIUC **Southern Illin** 29.28 83 P P 13 48 21.2 -1.0
comp=Z,84nm,1.1s,mb5.4
HALT **Halls** 29.76 87 P P 13 48 25.9 -0.6
OLIL **Olney** 29.83 81 P P 13 48 25.4 -1.7
comp=Z,60nm,1.4s,mb5.1
UTMT **University of** 29.98 85 P P 13 48 28.3 -0.1
comp=Z,172nm,1.2s,mb5.7
OXF **Oxford** 30.22 89 *e*P P 13 48 31.2 +0.7
comp=Z,133nm,1.4s,mb5.5
OXF LR LR
comp=Z,7nm,19.0s,MS5.3
OXF **Oxford** 30.22 89 *e*P P 13 48 31.2 +0.7
OXF pmax pmax
comp=Z,133nm,1.4s,mb5.5
OXF MLR MLR
comp=Z,7μm,19.0s,MS5.3
VBMS **Vicksburg** 30.32 94 *e*P P 13 48 31.7 +0.3
comp=Z,156nm,1.7s,mb5.5
VBMS LR LR
comp=Z,11μm,21.0s,MS5.5
USIN **University of** 30.38 82 *e*P P 13 48 31.2 -0.7
comp=Z,140nm,1.4s,mb5.5
WVT **Waverly** 30.84 85 *e*P P 13 48 36.4 +0.4
comp=Z,28nm,1.1s,mb5.0
WVT **Waverly** 30.84 85 *e*P P 13 48 36.4 +0.4
WVT pmax pmax
comp=Z,28nm,1.1s,mb5.0
BLO **Bloomington** 30.90 79 *e*P P 13 48 36.4 -0.1
comp=Z,63nm,1.3s,mb5.3
BLO **Bloomington** 30.90 79 *e*P P 13 48 36.4 -0.1
BLO pmax pmax
comp=Z,63nm,1.3s,mb5.3
PLAL **Pickwick Lake** 31.06 88 *e*P P 13 48 38.2 +0.2
comp=Z,88nm,1.3s,mb5.4
PLAL LR LR
comp=Z,8μm,20.0s,MS5.4
GLMI **Grayling** 31.19 68 P P 13 48 38.8 -0.1
comp=Z,463nm,1.6s,mb6.1
GLMI LR LR
comp=Z,12μm,19.0s,MS5.6
WCI **Wyandotte Cave** 31.33 81 *e*P P 13 48 40.5 +0.2
comp=Z,139nm,1.8s,mb5.5
WCI **Wyandotte Cave** 31.33 81 *e*P P 13 48 40.5 +0.2
WCI pmax pmax
comp=Z,139nm,1.8s,mb5.5
AAM **Ann Arbor** 32.28 72 P P 13 48 46.7 -1.9
comp=Z,141nm,2.0s,mb5.5
AAM LR LR
comp=Z,10μm,21.0s,MS5.5
AAM **Ann Arbor** 32.28 72 P P 13 48 46.7 -2.0
AAM pmax pmax
comp=Z,141nm,2.0s,mb5.5
AAM MLR MLR
comp=Z,10μm,21.0s,MS5.5
KIP **Kipapa** 32.47 244 PFAKE 13 49 00.0 +10
KIP LR LR
comp=Z,6μm,21.0s,MS5.3
SWET **Sewanee** 32.60 86 *e*P P 13 48 50.2 -1.4
comp=Z,53nm,1.6s,mb5.2
ACSO **Alum Creek Sta** 33.26 76 *e*P P 13 48 56.8 -0.3
comp=Z,48nm,1.1s,mb5.3
ACSO LR LR
comp=Z,16μm,22.0s,MS5.7
BRAL **Brewton** 33.49 94 *e*P P 13 48 58.5 -0.8
comp=Z,197nm,1.4s,mb5.8
BRAL LR LR
comp=Z,20μm,19.0s,MS5.8
CPCT **Cooper Cave** 33.59 85 *e*P P 13 48 59.2 -0.9
TZTN **Tazewell** 33.94 82 *e*P P 13 49 03.0 -0.2
comp=Z,83nm,1.5s,mb5.4
TKL **Tuckaleechee C** 34.08 84 P P 13 49 04.4 0.0
comp=Z,9.1nm,1.0s,mb4.7,baz=270,slow=2.3,SNR=8.1
TKL **Tuckaleechee C** 34.08 84 *e*P P 13 49 04.3 -0.1
TKL **Tuckaleechee C** 34.08 84 *e*P P 13 49 04.3 -0.1
ALLY **Alegheny Colle** 34.98 72 P P 13 49 08.5 -3.6
comp=Z,119nm,1.4s,mb5.6
ERPA **Erie** 34.98 72 PFAKE 13 49 20.0 +7.8

ERPA LR LR
comp=Z,8µm,19.0s,MS5.5
SADO Sadowa 35.05 67 P **P 13 49 12.5 -0.2**
comp=Z,23nm,0.8s,mb5.2,baz=295,slow=8.6,SNR=8.5
SADO Sadowa 35.05 67 P **P 13 49 12.5 -0.1**
ELN Prospectdale 35.82 80 *e*P **P 13 49 19.6 +0.2**
BLA Blacksburg 36.07 80 *e*P **P 13 49 20.4 -1.2**
comp=Z,272nm,1.8s,mb5.9
BLA *e*PP PP 13 50 41.5 -2.1
BLA LR LR
comp=Z,8µm,19.0s,MS5.5
BLA Blacksburg 36.07 80 *e*P **P 13 49 20.4 -1.2**
BLA *e* 13 50 41.5
BLA pmax pmax
comp=Z,272nm,1.8s,mb5.9
BLA MLR MLR
comp=Z,8µm,19.0s,MS5.5
KMSC Kings Mountain 36.13 84 ⇓P **P 13 49 22.3 +0.2**
baz=36
CMIG Matias Romero 36.18 121 P **P 13 49 22.7 0.0**
comp=Z,12nm,0.7s,mb4.9,baz=321,slow=8.0,SNR=18
CMIG Matias Romero 36.18 121 P **P 13 49 22.7 0.0**
JSC Jenkinsville 36.52 85 *e*P **P 13 49 24.9 -0.5**
JSC Jenkinsville 36.52 85 *e*P **P 13 49 24.9 -0.5**
SSPA Standing Stone 36.89 73 *e*P **P 13 49 28.4 -0.1**
comp=Z,104nm,1.4s,mb5.5
RES Resolute Bay 37.34 13 P **P 13 49 32.9 +1.0**
comp=Z,22nm,0.8s,mb5.0,baz=231,slow=11,SNR=11
RES Resolute Bay 37.34 13 *e*P **P 13 49 32.5 +0.6**
comp=Z,24nm,0.8s,mb5.1
RES Resolute Bay 37.34 13 *e*P **P 13 49 32.6 +0.7**
RES pmax pmax
comp=Z,24nm,0.8s,mb5.1
NHSC New Hope 37.82 86 PFAKE 13 49 50.0 +14
NHSC LR LR
comp=Z,7µm,19.0s,MS5.5
BINY Binghamton 37.85 70 *e*P **P 13 49 36.7 +0.1**
comp=Z,187nm,1.3s,mb5.7
BINY LR LR
comp=Z,10µm,19.0s,MS5.7
MSNY Massena 37.99 65 P **P 13 49 37.6 -0.1**
comp=Z,684nm,1.4s,mb6.2
CBN Corbin 38.02 77 PFAKE 13 49 50.0 +12
CBN LR LR
comp=Z,15µm,22.0s,MS5.8
SDMD Soldier's Deli 38.02 75 *e*P **P 13 49 37.1 -1.0**
comp=Z,158nm,1.7s,mb5.5
LONY Lake Ozonia 38.27 66 P **P 13 49 39.9 -0.2**
comp=Z,41nm,1.2s,mb5.0
TEIG Tepich 38.60 110 P **P 13 49 43.4 +0.3**
comp=Z,15nm,0.7s,mb4.8,baz=272,slow=6.4,SNR=9.1
TEIG Tepich 38.60 110 *e*P **P 13 49 41.9 -1.3**
comp=Z,21nm,0.9s,mb4.9
TEIG LR LR
comp=Z,4µm,19.0s,MS5.3
CNNC Cliffs of the 38.69 82 P **P 13 49 43.1 -0.7**
comp=Z,92nm,1.6s,mb5.3
CNNC LR LR
comp=Z,7µm,20.0s,MS5.5
FRNY Flat Rock 38.91 65 *e*P **P 13 49 44.8 -0.7**
comp=Z,21nm,1.0s,mb4.8
ACCN Adirondack Com 39.20 68 *e*P **P 13 49 47.8 -0.2**
comp=Z,50nm,1.3s,mb5.1
MDV Middlebury 39.39 67 P **P 13 49 50.3 +0.8**
comp=Z,17µm,1.2s
HNH Hanover 40.09 67 *e*P **P 13 49 55.4 0.0**
comp=Z,195nm,1.5s,mb5.6
LBNH Lisbon 40.20 66 *e*P **P 13 49 56.6 +0.3**
comp=Z,49nm,1.0s,mb5.2
LBNH LR LR
comp=Z,20µm,19.0s,MS6.0
LBNH Lisbon 40.20 66 *e*P **P 13 49 56.6 +0.3**
LBNH pmax pmax
comp=Z,49nm,1.0s,mb5.2
LBNH MLR MLR
comp=Z,20µm,19.0s,MS6.0
FRB Frobisher Bay 40.82 35 P **P 13 50 00.8 -0.4**
comp=Z,8.6nm,0.6s,mb4.6,baz=247,slow=8.5,SNR=7.9
FRB Frobisher Bay 40.82 35 P **P 13 50 00.8 -0.4**
FRB Frobisher Bay 40.82 35 P **P 13 50 00.8 -0.3**
SCHQ Schefferville 41.66 49 P **P 13 50 07.3 -0.7**
comp=Z,21nm,1.0s,mb4.7,baz=276,slow=8.1,SNR=8.1
SCHQ LR LR 14 07 20.0
comp=Z,8µm,19.2s,MS5.6,baz=273,slow=36
SCHQ Schefferville 41.66 49 *e*P **P 13 50 07.5 -0.6**
comp=Z,133nm,1.6s,mb5.3
SCHQ LR LR
comp=Z,10µm,20.0s,MS5.7
PKME Peaks-Kenny Pk 41.77 64 P **P 13 50 08.5 -0.6**
comp=Z,133nm,2.0s,mb5.2
PKME LR LR
comp=Z,10µm,22.0s,MS5.7
TGUH Tegucigalpa,Un 43.46 116 P **P 13 50 21.8 -1.4**
comp=Z,88nm,1.4s,mb5.3
TGUH LR LR
comp=Z,4µm,20.0s,MS5.4
BILL Bilibino 44.59 331 *e*P **P 13 50 30.8 -0.8**
comp=Z,42nm,1.4s,mb5.1
BILL LR LR
comp=Z,3µm,19.0s,MS5.3
BILL Bilibino 44.59 331 ⇑*i*P **P 13 50 33.7 +2.1**
BILL *i* S **S 13 57 09.9 +3.9**
BILL pmax pmax
comp=Z,34nm,1.2s,mb5.0
BILL MLR MLR
comp=Z,3µm,17.0s,MS5.3
XMAS Kiritimati 47.16 224 PFAKE 13 51 00.0 +7.5
XMAS LR LR
comp=Z,6µm,22.0s,MS5.5
JTS JuntasAbangare 47.73 117 P **P 13 50 56.5 -0.4**
comp=Z,19nm,0.8s,mb5.2
JTS LR LR
comp=Z,3µm,21.0s,MS5.2
JTS JuntasAbangare 47.73 117 ⇓*e*P **P 13 50 56.0 -1.0**
MTDJ Mount Denham 47.73 103 PFAKE 13 51 10.0 +13
MTDJ LR LR
comp=Z,3µm,21.0s,MS5.3
SFJD Kangerlussuaq 48.30 31 PFAKE 13 51 10.0 +9.3
SFJD LR LR
comp=Z,3µm,21.0s,MS5.3
SFJD Kangerlussuaq 48.30 31 *i*P **P 13 51 04.4 +3.7**
SFJD MLR MLR
comp=Z,6µm,16.0s,MS5.7
SFJD Kangerlussuaq 48.30 31 *i*P **P 13 51 04.4 +3.7**
SFJD
comp=Z,6µm,16.0s
GTBY Guantanamo Bay 48.51 99 P **P 13 51 00.8 -2.2**
comp=Z,62nm,1.3s,mb5.5
GTBY LR LR
comp=Z,5µm,20.0s,MS5.5
BBSR BB Station 49.84 79 PFAKE 13 51 20.0 +7.0
BBSR LR LR
comp=Z,5µm,21.0s,MS5.5
PET Petropavlovsk 50.27 311 PFAKE 13 51 30.0 +14
PET LR LR
comp=Z,1µm,20.0s,MS4.9
PET Petropavlovsk 50.27 311 *e*P **P 13 51 12.1 -3.9**
PET *e*S **S 13 58 20.2 -6.9**
PET pmax pmax
comp=Z,200nm,15.3s
PET MLR MLR
comp=Z,700nm,18.0s,MS4.7
TAOE Nuku Hiva Isla 50.56 197 *e*S **S 13 58 25.3 -6.5**
comp=Z,1µm,27.1s
TAOE *e*LQ 14 03 06.0
comp=Z,6µm,25.9s
TAOE *e*LR LR 14 05 35.4
comp=Z,8µm,27.3s,baz=23
PETK Petropavlovsk- 50.79 311 P **P 13 51 19.4 -0.6**
comp=Z,9.5nm,0.8s,mb4.8,baz=88,slow=11,SNR=5.2
PETK LR LR 14 08 46.8
comp=Z,639nm,19.9s,MS4.6,baz=264,slow=31
PETK Petropavlovsk- 50.79 311 P **P 13 51 19.4 -0.6**
PETK Petropavlovsk- 50.79 311 P **P 13 51 19.4 -0.6**
SEY Seymchan 50.84 324 ⇓*e*P **P 13 51 19.4 -0.8**
SUMG Summit 51.51 23 *e*P **P 13 51 25.4 +0.3**
comp=Z,141nm,1.9s,mb5.6
SUMG Summit 51.51 23 *i*P **P 13 51 26.2 +1.1**
SUMG pmax pmax
comp=Z,25nm,0.8s
SUMG MLR MLR
comp=Z,5µm,16.0s
SUMG Summit 51.51 23 *i*P **P 13 51 26.2 +1.1**
comp=Z,25nm,0.8s,mb5.2
SUMG
comp=Z,5µm,16.0s
SDDR Presa de Saban 51.96 97 P **P 13 51 28.9 -0.2**
comp=Z,21nm,0.9s,mb5.1
SDDR LR LR
comp=Z,7µm,22.0s,MS5.7
PAYG Puerto Ayora 52.82 131 PFAKE 13 51 50.0 +14
PAYG LR LR
comp=Z,2µm,19.0s,MS5.1
DAG Danmarks Havn 54.98 15 *i*P **P 13 51 51.1 +0.6**
DAG pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
DAG MLR MLR
comp=Z,4µm,13.0s,MS5.7
DAG Danmarks Havn 54.98 15 *i*P **P 13 51 51.1 +0.6**
comp=Z,12nm,0.8s,mb5.0
DAG
comp=Z,4µm,13.0s
SJG San Juan 56.38 94 P **P 13 51 58.9 -2.5**
comp=Z,57nm,1.1s,mb5.5
SJG LR LR
comp=Z,4µm,21.0s,MS5.5
SJG San Juan 56.38 94 P **P 13 51 58.9 -2.5**
SJG pmax pmax
comp=Z,57nm,1.1s
SJG MLR MLR
comp=Z,4µm,21.0s
MTP Monte Pirata 56.84 94 P **P 13 52 02.1 -2.6**
comp=Z,73nm,1.1s,mb5.6
SCO Scoresbysund 57.15 23 *i*P **P 13 52 15.7 +10**
SCO pmax pmax
comp=Z,13nm,1.0s,mb4.9
KBS Kingsbay 58.46 9 PFAKE 13 52 30.0 +15
KBS LR LR
comp=Z,2µm,19.0s,MS5.3
SDV Santo Domingo 58.85 106 *e*P **P 13 52 18.2 -0.6**
comp=Z,86nm,2.1s,mb5.4
SDV LR LR
comp=Z,485nm,20.0s,MS4.6
ROSC El Rosal 58.95 112 LR LR 14 22 45.4
comp=Z,1µm,18.3s,MS5.0,baz=350,slow=41
ROSC El Rosal 58.95 112 P **P 13 52 20.0 +0.5**
OTAV Otavalo 59.46 120 *e*P **P 13 52 20.2 -2.8**
comp=Z,61nm,1.6s,mb5.4
OTAV LR LR
comp=Z,1µm,21.0s,MS5.0
SPITS Spitsbergen Ar 59.58 8 P **P 13 52 22.8 -0.2**
comp=Z,28nm,1.0s,mb5.3,baz=64,slow=4.5,SNR=3.2
SPITS Spitsbergen Ar 59.58 8 P **P 13 52 22.8 -0.2**
SPITS Spitsbergen Ar 59.58 8 P **P 13 52 22.8 -0.2**
WAKE Wake Island 59.94 270 PFAKE 13 52 40.0 +14
WAKE LR LR
comp=Z,2µm,21.0s,MS5.3
ANWB Willy Bob 59.97 92 PFAKE 13 52 40.0 +13
ANWB LR LR
comp=Z,5µm,22.0s,MS5.6
BORG Borgarnes 60.28 28 PFAKE 13 52 40.0 +12
BORG LR LR
comp=Z,12µm,19.0s,MS6.0
YAK Yakutsk 60.86 328 *e*P **P 13 52 30.6 -1.3**
comp=Z,27nm,0.8s,mb5.4
YAK LR LR
comp=Z,2µm,20.0s,MS5.3
YAK Yakutsk 60.86 328 *e*P **P 13 52 36.9 +4.9**
YAK *e**PP pP 13 52 45.6 +6.9
YAK *e* 13 53 14.4
YAK *e*S **S 14 00 49.4 +1.3**
YAK *e*SSS 14 07 30.8
YAK pmax pmax
comp=Z,37nm,1.1s,mb5.4
YAK pmax pmax
comp=E,17nm,1.5s
YAK smax
comp=E,309nm,4.2s
YAK smax
comp=N,295nm,3.2s
PPT Papeete 61.45 205 *e*S **S 14 00 50.2 -6.3**
comp=N,9µm,27.2s
PPT *e*LQ 14 07 45.1
comp=N,4µm,26.8s
PPT *e*LR LR 14 10 33.3
comp=N,11µm,28.2s,baz=19
YUK Yuzh-Kuril'sk 61.65 305 *c i*P **P 13 52 38.2 +0.6**
YUK *e*S **S 14 01 08.1 +9.4**
YUK MLR MLR
comp=E,692nm,21.0s
YUK MLR MLR
comp=Z,601nm,21.0s,MS4.7
YSS Yuzh-Sakhalins 62.08 309 PFAKE 13 52 50.0 +10
YSS LR LR
comp=Z,332nm,20.0s,MS4.5
YSS Yuzh-Sakhalins 62.08 309 *e*P **P 13 52 40.0 -0.4**
YSS *e* pP 13 52 48.0 +0.8
YSS *e*S **S 14 01 08.0 +4.0**
FDF Fort de France 62.23 94 PFAKE 13 52 50.0 +8.1
FDF LR LR
comp=Z,5µm,22.0s,MS5.6
GRGR Grenville 63.47 97 PFAKE 13 53 00.0 +10
GRGR LR LR
comp=Z,4µm,20.0s,MS5.6
RKT Rikitea 63.69 188 *e*S **S 14 01 17.2 -7.3**
comp=Z,2µm,30.5s
RKT *e*LQ 14 08 54.7
comp=Z,17µm,32.0s
RKT *e*LR LR 14 11 37.1
comp=Z,4µm,30.0s,baz=5.4
ERM Erimo 64.39 304 PFAKE 13 53 10.0 +14
ERM LR LR
comp=Z,906nm,19.0s,MS5.0
BBGH Gun Hill 64.42 94 PFAKE 13 53 10.0 +14
BBGH LR LR
comp=Z,5µm,22.0s,MS5.7
HABR Khabarovsk 65.67 314 P **P 13 53 03.2 -0.9**
HABR *e**SP sP 13 53 07.6 -5.9
HABR 13 53 35.2
HABR 13 55 27.7
HABR *e*PPP 13 57 00.6
HABR *e*S S 14 01 50.0 +1.4
HABR *e* 14 02 59.0
HABR *e*SS SS 14 06 04.9 +2.8
HABR pmax pmax
comp=E,79nm,3.1s
HABR pmax pmax
comp=N,26nm,1.9s
HABR pmax pmax
comp=Z,122nm,2.3s,mb5.5
HABR MLR MLR
comp=Z,360nm,18.0s,MS4.6
CLNS Chul'man 65.83 325 *e*P **P 13 53 07.3 +2.4**
CLNS pmax pmax
comp=Z,11nm,1.1s,mb4.8
CLNS pmax pmax
comp=N,7.0nm,1.0s
TARA Tarawa 66.72 251 PFAKE 13 53 20.0 +8.7
TARA LR LR
comp=Z,982nm,21.0s,MS5.0
TBI Tubuai 66.85 202 *e*S S 14 01 56.2 -7.0
comp=Z,3µm,28.2s
TBI *e*LQ 14 10 03.0
comp=Z,5µm,34.0s
TBI *e*LR LR 14 13 01.4
comp=Z,7µm,29.2s,baz=15
KLR Kul'dur 67.03 316 *e*P **P 13 53 15.7 +2.9**
KLR *e* 13 53 16.0
KLR *e*S S 14 02 04.5 -0.6
KLR pmax pmax
comp=Z,100nm,2.2s,mb5.5
KLR smax
comp=N,600nm,1.4s
KLR smax
comp=E,700nm,1.4s
KEV Kevo 68.45 9 PFAKE 13 53 30.0 +8.7
KEV LR LR
comp=Z,2µm,20.0s,MS5.4
ARCES ARCESS Array B 68.46 10 P **P 13 53 23.2 +1.8**
comp=Z,10.0nm,0.8s,mb4.9,baz=347,slow=5.0,SNR=4.5
ARCES LR LR 14 25 02.5
comp=Z,2µm,18.0s,MS5.3,baz=338,slow=38
ARCES ARCESS Array B 68.46 10 P **P 13 53 23.2 +1.8**
ARCES ARCESS Array B 68.46 10 P **P 13 53 23.3 +1.9**
RAR Rarotonga 68.55 213 PFAKE 13 53 30.0 +7.5
RAR LR LR
comp=Z,3µm,19.0s,MS5.5
FUNA Funafuti 69.51 238 PFAKE 13 53 40.0 +11
FUNA LR LR
comp=Z,6µm,21.0s,MS5.8
NNA Nana 69.80 127 PFAKE 13 53 40.0 +10
NNA LR LR
comp=Z,1µm,20.0s,MS5.1
VLA Vladivostok 70.60 310 ⇓*e*P **P 13 53 36.0 +0.9**
VLA pmax pmax
comp=Z,47nm,2.5s,mb5.0
MJAR Matsushiro Arr 70.64 302 P **P 13 53 34.5 -1.0**
comp=Z,3.4nm,1.0s,mb4.2,baz=31,slow=3.4,SNR=3.7
MJAR LR LR 14 19 04.9
comp=Z,784nm,21.0s,MS4.9,baz=40,slow=31
MJAR Matsushiro Arr 70.64 302 P **P 13 53 34.5 -1.0**
MJAR Matsushiro Arr 70.64 302 P **P 13 53 34.5 -1.0**
MAJO Matsushiro 70.64 302 PFAKE 13 53 50.0 +15
MAJO LR LR
comp=Z,981nm,20.0s,MS5.1
MDJ Mudanjiang 70.99 313 P **P 13 53 34.8 -2.6**
MDJ PcP PcP 13 53 55.5 -2.3
MDJ S S 14 02 49.8 -2.3
MDJ ScS ScS 14 03 38.3 -1.9
MDJ SS SS 14 07 24.5 +0.2
MDJ pmax pmax
comp=Z,7.0nm,2.7s,mb4.1
MDJ pmax pmax
comp=Z,150nm,5.0s
MDJ LR LR
comp=N,1µm,31.2s,MS5.0
MDJ LR LR
comp=E,1µm,33.3s,MS5.0
MDJ LR LR
comp=Z,2µm,37.4s,MS5.0
MDJ Mudanjiang 70.99 313 PFAKE 13 53 50.0 +13
MDJ LR LR
comp=Z,982nm,22.0s,MS5.0
LVZ Lovozero 71.07 7 PFAKE 13 53 50.0 +12
LVZ LR LR
comp=Z,2µm,22.0s,MS5.2
APA Apatity 71.27 8 ⇑*e*P **P 13 53 44.0 +5.3**
APA *e* 14 03 30.0
APA MLR MLR
comp=Z,3µm,16.0s,MS5.7
HIA Hailar 73.10 321 PFAKE 13 54 00.0 +10
HIA LR LR
comp=Z,1µm,20.0s,MS5.3
ESK Eskdalemuir 73.26 30 PFAKE 13 54 00.0 +9.2
ESK LR LR
comp=Z,4µm,22.0s,MS5.7
NB2 NORSAR Subarra 73.26 20 P **P 13 53 51.9 +1.2**
comp=Z,18nm,0.8s,mb5.0,baz=330,slow=5.9
NOA NORSAR Array B 73.26 20 P **P 13 53 51.8 +1.1**
comp=Z,10nm,0.8s,mb4.8,baz=330,slow=5.7,SNR=18
NOA LR LR 14 24 52.6
comp=Z,2µm,20.8s,MS5.3,baz=325,slow=35
NOA NORSAR Array B 73.26 20 P **P 13 53 51.8 +1.1**
NOA NORSAR Array B 73.26 20 P **P 13 53 51.8 +1.1**
NAO01 NORSAR Array S 73.34 20 P **P 13 53 48.8 -2.4**
comp=Z,22nm,0.8s,mb5.1
CN2 Changchun 73.81 314 *e*P **P 13 53 50.3 -4.0**
CN2 *es*P sP 13 53 57.0 -6.7
CN2 *e*S S 14 03 19.0 -5.3
CN2 SS SS 14 08 04.5 -2.9
CN2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
CN2 pmax pmax
comp=Z,300nm,4.0s
CN2 LR LR
comp=N,800nm,19.0s,MS5.2
CN2 LR LR
comp=E,900nm,19.0s,MS5.2
CN2 LR LR
comp=Z,2µm,25.0s
KONO Kongsberg 74.00 21 PFAKE 13 54 10.0 +15
KONO LR LR
comp=Z,3µm,19.0s,MS5.6
FINES FINESS Array B 76.10 13 P **P 13 54 06.9 -0.3**
comp=Z,10nm,0.9s,mb4.8,baz=91,slow=8.0,SNR=5.1
FINES LR LR 14 28 17.5
comp=Z,2µm,19.1s,MS5.4,baz=341,slow=36
FINES FINESS Array B 76.10 13 P **P 13 54 06.9 -0.3**
FINES FINESS Array B 76.10 13 P **P 13 54 06.9 -0.3**
KSRS Korea Array 76.52 308 P **P 13 54 10.5 +0.5**
comp=Z,1.6nm,1.0s,baz=46,slow=5.8,SNR=3.0
KSRS LR LR 14 23 45.9
comp=Z,466nm,19.7s,MS4.8,baz=55,slow=32
KSAR Wonju Array Be 76.55 308 P **P 13 54 10.5 +0.3**
KSAR Wonju Array Be 76.55 308 P **P 13 54 10.5 +0.3**
MSVF Nonsavu 77.20 233 PFAKE 13 54 20.0 +6.0
MSVF LR LR
comp=Z,3µm,22.0s,MS5.5
INCN Inchon 77.28 309 PFAKE 13 54 30.0 +16
INCN LR LR
comp=Z,864nm,22.0s,MS5.0
KLMR Klimovskoe 78.43 7 *e*P **P 13 54 21.5 +1.3**
KLMR pmax pmax
comp=Z,96nm,1.7s,mb5.5
LPAZ La Paz 78.52 123 *e*P **P 13 54 20.1 -1.2**
comp=Z,15nm,1.1s,mb4.8
LPAZ LR LR
comp=Z,1µm,21.0s,MS5.2
LPAZ La Paz 78.52 123 *e*P **P 13 54 20.1 -1.2**
LPAZ pmax pmax
comp=Z,15nm,1.1s
LPAZ MLR MLR
comp=Z,1µm,21.0s
ZAK Zakamensk 79.39 330 *e*P **P 13 54 32.8 +7.1**
GRR Gorron 79.50 33 *e*P **P 13 54 27.4 +1.1**
LDF La Druitiere 79.64 33 *e*P **P 13 54 27.7 +0.6**
ULN Ulaanbaatar 79.86 326 *e*P **P 13 54 25.7 -2.6**
comp=Z,98nm,2.4s,mb5.3
ULN LR LR
comp=Z,2µm,22.0s,MS5.4
ULN Ulaanbaatar 79.86 326 *e*P **P 13 54 25.7 -2.6**
ULN pmax pmax
comp=Z,98nm,2.4s,mb5.3
ULN MLR MLR
comp=Z,2µm,22.0s,MS5.4
GUMO Guam 79.95 279 LR LR 14 21 57.7
comp=Z,905nm,22.0s,MS5.1,baz=205,slow=30
SONM Songino Array 80.16 327 P **P 13 54 31.0 +1.1**
comp=Z,4.8nm,1.0s,mb4.4,baz=62,slow=3.3,SNR=9.2
SONM LR LR 14 29 35.4
comp=Z,2µm,21.6s,MS5.4,baz=20,slow=35
SONM Songino Array 80.16 327 P **P 13 54 31.0 +1.1**
SONM Songino Array 80.16 327 P **P 13 54 31.0 +1.1**
BAIF Baives 80.18 30 *e*P **P 13 54 31.0 +1.0**
comp=Z,47nm,1.0s,mb5.1
BCLA Clavier 80.29 29 P **P 13 54 34.1 +3.5**
comp=Z,34nm,2.2s,mb4.9
DOU Dourbes 80.30 29 P **P 13 54 34.2 +3.6**
GIVF Givet 80.38 29 *e*P **P 13 54 31.9 +0.9**
PGAV Gavieira, Arco 80.94 41 *e*LQ 14 18 01.1
PGAV *e*LR LR 14 20 34.2
comp=Z,4µm,20.0s
MFF Saint Martin d 81.20 34 *e*P **P 13 54 36.4 +0.9**
comp=Z,75nm,1.3s,mb5.2
WLF Walferdange 81.22 29 PFAKE 13 54 50.0 +14
WLF LR LR
comp=Z,3µm,19.0s,MS5.7
BJI Beijing 81.40 316 P **P 13 54 34.5 -2.2**
BJI SS SS 14 10 11.3 +9.5
BJI pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
BJI LR LR
comp=N,920nm,23.2s,MS5.1
BJI LR LR
comp=E,720nm,26.9s,MS5.1
BJI LR LR
comp=Z,2µm,31.2s,MS5.2
BJT Baijiatuau 81.42 316 PFAKE 13 54 50.0 +13
BJT LR LR
comp=Z,711nm,20.0s,MS5.0
NVS Novosibirsk 81.61 343 *e*P **P 13 54 35.8 -1.7**
NVS *e* 13 59 37.7
NVS pmax pmax
comp=Z,24nm,1.2s,mb5.0
NVS pmax pmax
comp=N,7.0nm,1.4s
NVS pmax pmax
comp=E,9.0nm,1.4s
POLO Lamas de Olo 81.61 42 *e*P **P 13 54 39.0 +1.2**
POLO Lamas de Olo 81.61 42 *e*LR LR 14 20 31.8
comp=E,2µm,22.0s
MEZF Maizieres J'vi 81.77 30 *e*P **P 13 54 39.2 +0.7**
PBRG Braganca 81.82 41 *e*LR LR 14 20 59.9
comp=E,2µm,18.0s
HYF Humbligny 81.83 32 *e*P **P 13 54 39.8 +1.0**
PAGF Fort de Pagny 81.98 30 *e*P **P 13 54 40.7 +1.1**
comp=E,6.5nm,0.8s,mb4.3
SFTF Sexfontaines 82.01 30 *e*P **P 13 54 40.4 +0.6**
ZAA0 Zalesovo Array 82.07 342 *e*P **P 13 54 39.4 -0.5**

ZALV **Zalesovo Beam** 82.07 342 P P 13 54 39.6 -0.4
comp=E,0.6nm,0.6s,baz=0.0,slow=5.9,SNR=5.2
ZALV LR LR 14 31 19.5
comp=E,806nm,21.5s,MS5.0,baz=6.5,slow=36
ZALV Zalesovo Beam 82.07 342 P P 13 54 39.6 -0.4
ZALV Zalesovo Beam 82.07 342 P P 13 54 39.6 -0.4
CLL Collm 82.15 24 *eP* **P 13 54 44.0 +3.6**
CLL *e* pP 13 54 49.0 +1.6
CLL *e*S S 14 05 00.0 +6.1
CLL MLR MLR
comp=Z,4µm,20.6s,MS5.7
CLL Collm 82.15 24 *e*(P) **P 13 54 44.0 +3.6**
CLL *e*pPcP pP 13 54 49.0 +1.6
CLL *e*PP PP 13 57 50.0 +2.1
CLL *e*PPPP 14 01 12.0
CLL *e*S S 14 05 00.0 +6.1
CLL *e*SP 14 05 49.0
CLL *e*SS SS 14 10 18.0 +5.8
CLL *e* 14 10 50.0
CLL *e* 14 14 35.0
CLL *e*SSSS 14 16 24.0
CLL LmV 14 31 00.0
comp=Z,4µm,20.6s
MVO Moncorvo 82.16 41 *eP* **P 13 54 36.7 -4.0**
comp=Z,57nm,1.7s,mb5.2
MVO Moncorvo 82.16 41 *e*LR LR 14 21 07.2
comp=Z,3µm,22.0s
LOR Lormes 82.31 31 *eP* **P 13 54 42.3 +0.9**
comp=Z,72nm,1.0s,mb5.2
LOR *e*R
comp=Z,5µm,21.5s
SSF Saint Saulge 82.34 32 *eP* **P 13 54 42.3 +0.8**
comp=Z,35nm,0.9s,mb5.0
TCF Toulx Ste Croi 82.44 33 *eP* **P 13 54 42.6 +0.6**
comp=Z,33nm,1.0s,mb4.9
PMOZ Porto Moniz, M 82.44 53 *e*LR LR 14 21 07.9
comp=Z,2µm,18.0s
MTE Manteigas 82.46 42 PFAKE 13 54 50.0 +7.7
MTE LR LR
comp=Z,3µm,20.0s,MS5.7
MTE Manteigas 82.46 42 *e*LR LR 14 21 14.7
comp=Z,3µm,20.0s
BGF Bois d'Agland 82.48 32 *eP* **P 13 54 42.9 +0.6**
comp=Z,113nm,1.3s,mb5.3
AVF Avril sur Loir 82.50 32 *eP* **P 13 54 42.9 +0.5**
comp=Z,43nm,0.9s,mb5.2
PTOM Tomar 82.59 43 *eP* **P 13 54 42.8 -0.2**
PMAFR Mafra 82.62 44 *e*LR LR 14 21 09.0
comp=Z,2µm,18.0s
HAU Haudompre 82.67 30 *eP* **P 13 54 44.1 +0.9**
HAU *e*R
comp=Z,3µm,20.8s
CDF Champ du Feu 82.68 29 *eP* **P 13 54 44.2 +0.9**
comp=Z,33nm,1.1s,mb5.0
ECH Echery 82.80 29 PFAKE 13 54 50.0 +6.1
ECH LR LR
comp=Z,2µm,19.0s,MS5.6
SMF Signal de Mont 82.81 32 *eP* **P 13 54 44.3 +0.3**
comp=Z,16nm,0.7s,mb4.9
BRG Berggiesshubel 82.82 24 *eP* **P 13 54 48.2 +4.3**
comp=Z,49nm,1.8s,mb5.2
BRG *i* PCP PcP 13 54 51.8 +3.0
comp=Z,19nm,0.9s
BRG PP PP 13 57 59.0 +5.6
BRG SS SS 14 10 30.0 +7.8
BRG
comp=N,4µm,26.7s
BRG
comp=E,2µm,25.6s
BRG
comp=Z,4µm,20.4s
BRG Berggiesshubel 82.82 24 *eP* **P 13 54 48.2 +4.3**
BRG *i* 13 54 51.8
BRG 13 57 59.0
BRG SS SS 14 10 30.0 +7.8
BRG pmax pmax
comp=Z,49nm,1.8s,mb5.2
BRG MLR MLR
comp=N,4µm,26.7s,MS5.7
BRG MLR MLR
comp=E,2µm,25.6s,MS5.7
BRG MLR MLR
comp=Z,4µm,20.4s
LIS Lisbon 82.86 44 *e*PP PP 13 57 53.0 -1.1
LIS *e*S S 14 05 02.9 +1.2
LIS AMS AMS 14 27 44.1
comp=N,2µm,22.1s
SVE Sverdlovsk 82.86 356 *eP* **P 13 54 47.4 +3.3**
SVE *e* 13 57 54.6
SVE *e*PPP 13 59 49.9
SVE *e*S S 14 05 07.9 +6.9
SVE pmax pmax
comp=Z,15nm,1.2s,mb4.9
LFF La Frestale 82.89 34 *eP* **P 13 54 45.3 +0.9**
NKC Novy Kostel 82.91 25 *eP* **P 13 54 51.3 +6.9**
NKC MLR MLR
comp=Z,5µm,19.0s,MS5.9
NKC Novy Kostel 82.91 25 *e*pP pP 13 54 51.3 -0.1
NKC AMS AMS 14 31 50.0
comp=Z,5µm,19.0s
PCBR Castelo Branco 82.91 42 *eP* **P 13 54 44.9 +0.3**
comp=Z,45nm,1.3s,mb5.3
RJF Les Rejaudoux 82.94 34 *eP* **P 13 54 45.0 +0.3**
comp=Z,39nm,1.1s,mb5.1
RJF *e*R
comp=Z,8µm,20.8s
GRF Grafenberg Arr 82.97 26 *eP* **P 13 54 48.7 +3.9**
comp=Z,209nm,2.5s,mb5.7
GRF *e*S S 14 05 13.8 +11
GRF *e*L 14 31 12.6
comp=Z,3µm,21.9s
GRF Grafenberg Arr 82.97 26 *eP* **P 13 54 48.7 +3.9**
GRF pmax pmax
comp=Z,209nm,2.5s,mb5.7
GRF MLR MLR
comp=Z,3µm,21.9s,MS5.6
HINF Hinteralfeld 83.02 29 *eP* **P 13 54 45.8 +0.8**
comp=Z,26nm,1.0s,mb4.9
PMTG Montargil 83.09 43 *e*LR LR 14 21 42.9
comp=Z,3µm,20.0s
BFO Black Forest 83.13 28 P **P 13 54 45.4 -0.2**
comp=Z,42nm,1.5s,mb5.2
BFO LR LR
comp=Z,3µm,19.0s,MS5.7
BFO Black Forest 83.13 28 P **P 13 54 45.4 -0.2**
BFO pmax pmax
comp=Z,42nm,1.5s,mb5.2
BFO MLR MLR
comp=Z,3µm,19.0s,MS5.7
HHC Hu-ho-hao-te 83.17 319 *eP* **P 13 54 44.8 -1.2**
HHC PP PP 13 57 58.3 +1.7
HHC S S 14 05 01.8 -2.9
HHC SS SS 14 10 29.3 +1.3
HHC pmax pmax
comp=Z,11nm,0.6s,mb5.1
HHC pmax pmax
comp=Z,120nm,5.7s
HHC LR LR
comp=N,470nm,21.4s,MS5.4
HHC LR LR
comp=E,2µm,21.4s,MS5.4
HHC LR LR
comp=Z,900nm,19.0s,MS5.2
PMRV Marv??o 83.26 43 *eP* **P 13 54 46.8 +0.3**
comp=Z,80nm,1.7s,mb5.5
PMRV Marv??o 83.26 43 *e*LQ 14 18 06.3
PMRV *e*LR LR 14 22 05.6
comp=Z,3µm,22.0s
MOS Moscow 83.27 9 *eP* **P 13 54 48.8 +2.6**
MOS MLR MLR
comp=Z,1µm,18.0s,MS5.3
JOW Kunigami 83.31 300 LR LR 14 29 17.0
comp=Z,651nm,19.0s,MS5.0,baz=269,slow=34
PVCC Panska Ves 83.31 24 *eP* **P 13 54 50.2 +3.7**
PVCC MLR MLR
comp=Z,4µm,24.8s,MS5.7
PVCC Panska Ves 83.31 24 *eP* **P 13 54 50.2 +3.7**
PVCC AMS AMS 14 29 00.0
comp=Z,4µm,24.8s
ARU Arti 83.36 357 PFAKE 13 55 00.0 +13
ARU LR LR
comp=Z,1µm,22.0s,MS5.3
ARU Arti 83.36 357 P **P 13 54 46.3 -0.3**
ARU 13 57 57.4
ARU S S 14 05 06.9 +0.8
ARU MLR MLR
comp=Z,1µm,22.0s,MS5.3
CAF Calviac 83.47 34 *eP* **P 13 54 48.0 +0.6**
comp=Z,60nm,1.2s,mb5.2
HNR Honiara 83.47 252 LR LR 14 23 22.9
comp=Z,919nm,21.4s,MS5.1,baz=55,slow=30
PESTR Estremoz 83.58 43 *eP* **P 13 54 48.2 +0.1**
comp=Z,87nm,1.7s,mb5.6
PESTR Estremoz 83.58 43 *e*LR LR 14 21 07.7
comp=Z,3µm,20.0s
EVO Evora 83.60 44 *eP* **P 13 54 48.0 -0.2**
comp=Z,185nm,1.6s,mb5.7
EVO *e*R
comp=Z,4µm,21.2s
PNCL Nicolau / Gran 83.64 44 *eP* **P 13 54 45.7 -2.7**
comp=Z,81nm,1.5s,mb5.6
PNCL Nicolau / Gran 83.64 44 *e*LR LR 14 21 48.9
comp=Z,2µm,20.0s
PRA Prague 83.68 24 AMS AMS 14 30 00.0
OBN Obninsk 83.76 9 PFAKE 13 55 00.0 +11
OBN LR LR
comp=Z,2µm,22.0s,MS5.4
OBN Obninsk 83.76 9 *eP* **P 13 54 50.4 +1.7**
OBN *e* 13 58 02.2
OBN *i* S S 14 05 15.0 +4.9
OBN *i* SS SS 14 10 42.3 +6.6
OBN pmax pmax
comp=Z,16nm,0.7s,mb5.3
OBN MLR MLR
comp=Z,2µm,20.0s,MS5.4
UPC Upice 83.77 23 *eP* **P 13 54 52.7 +3.9**
UPC Upice 83.77 23 *eP* **P 13 54 52.7 +3.9**
ETSF Etsaut 83.93 36 *eP* **P 13 54 51.0 +1.2**
comp=Z,48nm,1.0s,mb5.3
RAO Raoul Island 83.93 223 PFAKE 13 55 00.0 +10
RAO LR LR
comp=Z,2µm,20.0s,MS5.5
DPC Dobruska-Polom 84.00 23 *eP* **P 13 54 51.7 +1.7**
DPC *e* pP 13 54 57.3 +0.3
DPC *e* 14 05 21.2
DPC *e* 14 06 12.2
DPC MLR MLR
comp=Z,4µm,21.8s,MS5.7
DPC Dobruska-Polom 84.00 23 *eP* **P 13 54 51.7 +1.7**
DPC *ex* x 13 54 57.3
DPC *e*S S 14 05 21.2 +8.5
DPC *e*PS 14 06 12.2
DPC AMS AMS 14 28 50.0
comp=Z,4µm,21.8s
MESJ Messejana 84.00 44 *e* **P 13 54 48.4 -1.9**
baz=185,slow=5.3
MESJ *e*P 13 54 49.2
MESJ *e*PP PP 13 58 02.2 -1.3
MESJ *e*S S 14 05 12.5 -0.8
MESJ AMS AMS 14 27 49.8
comp=N,2µm,21.6s
MESJ Messejana 84.00 44 *eP* **P 13 54 49.1 -1.2**
MESJ *e* 13 58 02.2
MESJ *e*S S 14 05 12.4 -0.8
MORF Marmelete 84.17 45 *eP* **P 13 54 49.9 -1.2**
MORF *e* 13 58 03.4
MORF *e*S S 14 05 11.8 -3.1
MORF Marmelete 84.17 45 *eP* **P 13 54 53.4 +2.3**
comp=N,115nm,1.7s,mb5.7
MORF Marmelete 84.17 45 *e*LR LR 14 22 55.9
comp=N,2µm,20.0s
PFVI Vila Bisbo 84.20 45 *e*LQ 14 17 17.8
PFVI *e*LR LR 14 22 21.3
comp=N,2µm,18.0s
SSB Saint Sauveur 84.21 32 PFAKE 13 55 00.0 +8.8
SSB LR LR
comp=Z,2µm,19.0s,MS5.6
KHC Kasperske Hory 84.23 25 P **P 13 54 50.7 -0.5**
comp=Z,16nm,1.3s,mb5.0
KHC Kasperske Hory 84.23 25 *eP* **P 13 54 53.7 +2.5**
KHC *e* pP 13 55 02.0 +3.8
KHC *e* 14 05 21.9
KHC *e* 14 06 08.6
KHC MLR MLR
comp=Z,5µm,18.6s,MS5.9
KHC Kasperske Hory 84.23 25 *eP* **P 13 54 53.7 +2.5**
KHC *ex* x 13 55 02.0
KHC *e*S S 14 05 21.9 +6.8
KHC *e*PS 14 06 08.6
KHC AMS AMS 14 32 30.0
comp=Z,5µm,18.6s
PCVE Castro Verde 84.25 44 *eP* **P 13 54 54.6 +3.0**
comp=Z,60nm,1.3s,mb5.6
PCVE Castro Verde 84.25 44 *e*LR LR 14 22 38.2
comp=Z,1µm,20.0s
PBAR Barrancos 84.38 43 *eP* **P 13 54 55.8 +3.6**
comp=Z,56nm,1.4s,mb5.5
PBAR Barrancos 84.38 43 *e*LR LR 14 22 21.1
comp=Z,3µm,20.0s
GERES GERESS Array B 84.52 25 P **P 13 54 55.8 +3.1**
comp=Z,4.5nm,0.8s,mb4.7,baz=332,slow=4.5,SNR=14
GERES LR LR 14 34 18.9
comp=Z,5µm,19.1s,MS5.9,baz=330,slow=37
GERES GERESS Array B 84.52 25 P **P 13 54 55.8 +3.1**
GERES GERESS Array B 84.52 25 P **P 13 54 55.8 +3.1**
PVAQ Vaqueiros 84.59 44 *eP* **P 13 54 52.6 -0.7**
comp=Z,62nm,1.4s,mb5.5
PBDV Barranco-do-Ve 84.60 45 *e*LR LR 14 22 46.5
comp=Z,1µm,18.0s
VIVF Saint-Julien-l 84.61 32 *eP* **P 13 54 53.4 +0.2**
comp=Z,118nm,1.5s,mb5.5
TREC Trest 84.68 24 AMS AMS 14 30 10.0
comp=Z,4µm,20.7s
PAB San Pablo 84.72 41 PFAKE 13 55 00.0 +6.1
PAB LR LR
comp=Z,3µm,21.0s,MS5.7
ESDC Sonseca Array 84.81 41 P **P 13 54 57.9 +3.6**
comp=Z,4.2nm,0.8s,mb4.6,baz=305,slow=4.1,SNR=8.6
ESDC LR LR 14 29 18.2
comp=Z,2µm,19.8s,MS5.5,baz=310,slow=33
ESDC Sonseca Array 84.81 41 P **P 13 54 57.9 +3.6**
ESLA Sonseca Array 84.81 41 PFAKE 13 55 10.0 +16
ESLA LR LR
comp=Z,16µm,21.0s,MS6.4
LPL La Plagne 84.89 31 *eP* **P 13 54 56.4 +1.8**
comp=Z,38nm,1.0s,mb5.2
SSE Sheshan 84.92 307 *eP* **P 13 54 52.3 -2.8**
SSE S S 14 05 20.5 -2.1
SSE ScS ScS 14 05 30.8 -2.7
SSE pmax pmax
comp=Z,44nm,0.6s,mb5.8
SSE pmax pmax
comp=Z,52nm,3.5s
SSE LR LR
comp=N,1µm,25.4s,MS5.1
SSE LR LR
comp=E,180nm,25.4s,MS5.1
SSE LR LR
comp=Z,350nm,26.1s,MS4.6
OKC Ostrava-Krasne 84.98 22 *eP* **P 13 54 57.1 +2.1**
OKC *e* pP 13 55 02.0 0.0
OKC *e* 14 05 30.2
OKC *e* 14 06 24.1
OKC MLR MLR
comp=Z,2µm,21.5s,MS5.6
OKC Ostrava-Krasne 84.98 22 *eP* **P 13 54 57.1 +2.1**
OKC *e*pP pP 13 55 02.0 0.0
OKC *e*S S 14 05 30.2 +7.6
OKC *e*PS 14 06 24.1
OKC AMS AMS 14 30 30.0
comp=Z,2µm,21.5s
ORIF Oris-en-Rattie 85.05 32 *eP* **P 13 54 56.5 +1.1**
comp=Z,67nm,1.0s,mb5.4
ORIF *e*R
comp=Z,4µm,21.8s
TUE Stuetta 85.07 29 PFAKE 13 55 10.0 +14
TUE LR LR
comp=Z,4µm,20.0s,MS5.8
FETA Feichten 85.10 28 ⇑ *i*SP SP 13 55 00.6 -4.6
comp=Z,18nm,0.9s
BNI Bardonecchia 85.25 31 P **P 13 54 55.6 -0.8**
comp=Z,141nm,1.7s,mb5.8
BNI LR LR
comp=Z,5µm,20.0s,MS5.9
BNI Bardonecchia 85.25 31 P **P 13 54 55.6 -0.9**
BNI pmax pmax
comp=Z,141nm,1.7s,mb5.8
BNI MLR MLR
comp=Z,5µm,20.0s,MS5.9
MBDF Montbardon 85.56 31 *eP* **P 13 54 59.6 +1.6**
comp=Z,97nm,1.0s,mb5.7
NJ2 Nanjing 85.65 309 *eP* **P 13 55 00.0 +1.3**
NJ2 pP pP 13 55 05.0 -0.7
NJ2 sP sP 13 55 07.0 -1.2
NJ2 PP PP 13 58 21.0 +3.9
NJ2 SKS 14 05 20.5
NJ2 S S 14 05 30.5 +0.7
NJ2 sS sS 14 05 39.0 -2.3
NJ2 pmax pmax
comp=Z,20nm,0.5s,mb5.6
NJ2 pmax pmax
comp=Z,320nm,6.5s
NJ2 LR LR
comp=N,2µm,27.0s,MS5.3
NJ2 LR LR
comp=E,640nm,26.7s,MS5.3
NJ2 LR LR
comp=Z,610nm,26.8s,MS4.9
BRVK Borovoye 85.67 350 *eP* **P 13 54 57.4 -0.9**
comp=Z,25nm,1.3s,mb5.3
BRVK LR LR
comp=Z,2µm,22.0s,MS5.4
BRVK Borovoye 85.67 350⇓ *eP* **P 13 54 57.4 -1.0**
BRVK pmax pmax
comp=Z,17nm,2.5s,mb4.8
SFS San Fernando 86.10 44 PFAKE 13 55 10.0 +9.2
SFS LR LR
comp=Z,3µm,20.0s,MS5.7
ZST Bratislava 86.15 23 *eP* sP 13 55 13.1 +2.7
ZST Bratislava 86.15 23 *e* sP 13 55 13.0 +2.6
KWP Kalwaria Pacla 86.39 19 PFAKE 13 55 10.0 +8.0
KWP LR LR
comp=Z,3µm,20.0s,MS5.7
KURK Kurchatov 86.47 344 *eP* **P 13 54 59.9 -2.5**
comp=Z,16nm,1.2s,mb5.1
KURK LR LR
comp=Z,982nm,20.0s,MS5.2
KURK Kurchatov 86.47 344⇑ *eP* **P 13 55 01.7 -0.7**
KURK pmax pmax
comp=Z,7.0nm,1.6s,mb4.6
ARSA Arzberg 86.50 25 P **P 13 55 10.8 +8.2**
comp=Z,7.7nm,0.8s,mb5.0
LCO Las Campanas 86.60 133 P **P 13 55 02.6 -0.6**
comp=Z,16nm,0.8s,mb5.3
LCO *e* 13 55 11.8
LCO LR LR
comp=Z,1µm,20.0s,MS5.2
AKASG Malin Array Be 86.85 15 P **P 13 55 05.0 +0.8**
comp=Z,0.6nm,0.3s,mb4.4,baz=333,slow=3.8,SNR=11
AKASG LR LR 14 34 25.1
comp=Z,2µm,21.4s,MS5.5,baz=325,slow=36
AKASG Malin Array Be 86.85 15 P **P 13 55 05.0 +0.8**
AKASG Malin Array Be 86.85 15 P **P 13 55 05.0 +0.8**
KIEV Kiev 86.85 15 PFAKE 13 55 10.0 +5.8
KIEV LR LR
comp=Z,2µm,22.0s,MS5.5
KECS Kecovo 86.86 21 *eP* **P 13 55 13.5 +9.2**
KECS Kecovo 86.86 21 *e* **P 13 55 13.5 +9.2**
UZH Uzhgorod 87.21 20 *eP* sP 13 55 18.5 +3.0
UZH *e* Px 13 55 26.2
UZH *e* 14 05 49.4
UZH *e* 14 07 20.0
UZH MLR MLR
comp=N,2µm,16.0s,MS5.6
UZH MLR MLR
comp=E,1µm,16.0s,MS5.6
UZH MLR MLR
comp=Z,1µm,16.0s,MS5.5
PSZ Piszkesteto 87.21 22 PFAKE 13 55 20.0 +14
PSZ LR LR
comp=Z,2µm,19.0s,MS5.6
TRI Trieste 87.28 26 PFAKE 13 55 20.0 +14
TRI LR LR
comp=Z,4µm,21.0s,MS5.8
VLC Villacollemand 87.42 29 PFAKE 13 55 20.0 +13
VLC LR LR
comp=Z,3µm,21.0s,MS5.7
DZM Mont Dzumac 87.73 238 *e*S S 14 05 44.5 -5.4
comp=Z,3µm,34.6s
DZM *e*LR LR 14 22 45.5
comp=Z,5µm,22.7s,baz=49
VSR Storozhevoye 87.90 9 *eP* **P 13 55 16.3 +7.0**
VSR pmax pmax
comp=Z,20nm,1.3s,mb5.2
VSR pmax pmax
comp=N,6.0nm,0.5s
VSR pmax pmax
comp=E,3.0nm,0.6s
TATO Taipei 89.02 302 PFAKE 13 55 30.0 +15
TATO LR LR
comp=Z,942nm,20.0s,MS5.2
MKAR Makanchi Array 89.30 340 P **P 13 55 18.5 +2.5**
comp=Z,0.5nm,0.8s,baz=30,slow=4.5,SNR=3.2
MKAR LR LR 14 35 52.7
comp=Z,1µm,21.1s,MS5.3,baz=11,slow=36
MKAR Makanchi Array 89.30 340 P **P 13 55 18.5 +2.5**
MKAR Makanchi Array 89.30 340 P **P 13 55 18.5 +2.5**
YHNB Yeheng 89.31 302 PFAKE 13 55 30.0 +14
YHNB LR LR
comp=Z,717nm,20.0s,MS5.1
WHN Wuhan 89.38 311 P **P 13 55 23.8 +7.1**
WHN S S 14 06 10.8 +5.2
WHN SS SS 14 12 05.0 +5.5
WHN LR LR
comp=Z,1µm,17.6s,MS5.4
XAN Xi'an 89.73 317 P **P 13 55 25.5 +7.3**
XAN pP pP 13 55 30.3 +5.0
XAN sP sP 13 55 33.3 +5.5
XAN PP PP 13 59 06.8 +17
XAN SKS 14 05 55.3
XAN S S 14 06 17.0 +8.2
XAN SS SS 14 12 31.0 +27
XAN pmax pmax
comp=Z,4.0nm,1.5s,mb4.5
XAN pmax pmax
comp=Z,32nm,3.7s
XAN LR LR
comp=N,790nm,28.8s,MS5.0
XAN LR LR
comp=E,380nm,30.5s,MS5.0
XAN LR LR
comp=Z,310nm,30.5s,MS4.5
GTA Gaotai 89.78 326 *eP* **P 13 55 21.8 +3.4**
GTA pP pP 13 55 26.8 +1.4
GTA sP sP 13 55 29.0 +1.1
GTA S S 14 06 09.3 +0.3
GTA sS sS 14 06 17.3 -3.4
GTA SS SS 14 12 07.8 +3.2
GTA pmax pmax
comp=Z,5.0nm,1.7s,mb4.6
GTA pmax pmax
comp=Z,100nm,4.5s
GTA LR LR
comp=N,1µm,19.9s,MS5.5
GTA LR LR
comp=E,1µm,19.5s,MS5.5
GTA LR LR
comp=Z,2µm,20.6s,MS5.5
AQU L'Aquila 90.09 28 PFAKE 13 55 30.0 +10
AQU LR LR
comp=Z,4µm,20.0s,MS5.8
KIS Kishinev 90.28 16 *eP* **P 13 55 30.0 +9.4**
KIS LRM 14 34 46.0
comp=Z,1µm,19.0s
KIS Kishinev 90.28 16 *eP* **P 13 55 30.0 +9.4**
KIS *e* 14 07 20.0
KIS MLR MLR
comp=Z,2µm,20.0s,MS5.5
KIS MLR MLR
comp=E,1µm,19.0s
ABKAR Akbulak array 90.45 355 *eP* **P 13 55 20.7 -0.7**
comp=E,5.2nm,0.8s,mb4.9
WMQ Urumqi 90.47 336 P **P 13 55 25.3 +3.8**
WMQ pP pP 13 55 30.0 +1.4
WMQ sP sP 13 55 32.3 +1.2
WMQ PP PP 13 59 02.5 +7.3
WMQ S S 14 06 18.0 +2.7
WMQ pmax pmax
comp=Z,19nm,1.1s,mb5.3
WMQ pmax pmax
comp=Z,250nm,5.2s
WMQ LR LR
comp=N,750nm,21.0s
WMQ LR LR
comp=E,2µm,26.2s
WMQ LR LR

comp=Z,2µm,26.2s
LZH Lanzhou 90.66 321 *e*P **P 13 55 26.5 +3.9**
LZH pP pP 13 55 31.5 +1.9
LZH sP sP 13 55 33.3 +1.2
LZH pmax pmax
comp=Z,14nm,1.2s,mb5.2
LZH LR LR
comp=N,620nm,19.8s,MS5.5
LZH LR LR
comp=E,1µm,18.7s,MS5.5
LZH LR LR
comp=Z,2µm,20.0s,MS5.5
VSL Villasalto 91.01 32 PFAKE 13 55 30.0 +5.9
VSL LR LR
comp=Z,3µm,21.0s,MS5.7
ENH Enshi 92.33 314 P **P 13 55 29.5 -0.8**
comp=Z,18nm,1.1s,mb5.3
ENH LR LR
comp=Z,840nm,21.0s,MS5.2
CPUP Villa Florida 92.68 123 LR LR 14 41 14.5
comp=Z,374nm,18.4s,MS4.9,baz=319,slow=38
CPUP Villa Florida 92.68 123 P **P 13 55 31.2 -0.6**
comp=Z,11nm,0.8s,mb5.3
CPUP *e* 13 55 40.3
CPUP Villa Florida 92.68 123 P **P 13 55 31.2 -0.7**
CPUP *e* 13 55 40.3
CPUP pmax pmax
comp=Z,11nm,0.8s
PMG Port Moresby 92.92 260 PFAKE 13 55 40.0 +6.7
PMG LR LR
comp=Z,2µm,21.0s,MS5.4
CUC Castrococco 93.03 28 PFAKE 13 55 40.0 +6.5
CUC LR LR
comp=Z,2µm,20.0s,MS5.6
TIR Tirane 93.17 24 PFAKE 13 55 40.0 +5.9
TIR LR LR
comp=Z,5µm,21.0s,MS6.0
KEST Kesra 94.19 34 LR LR 14 35 17.7
comp=Z,1µm,21.7s,MS5.2,baz=92,slow=34
TKM2 Tokmak 2 94.53 344 PFAKE 13 55 50.0 +10
TKM2 LR LR
comp=Z,775nm,21.0s,MS5.2
RCBR Riachuelo 94.54 94 PFAKE 13 55 50.0 +9.2
RCBR LR LR
comp=Z,2µm,19.0s,MS5.5
CEL Celeste 94.60 28 PFAKE 13 55 50.0 +9.3
CEL LR LR
comp=Z,3µm,22.0s,MS5.7
CD2 Chengdu 94.86 318 P **P 13 55 40.5 -1.5**
CD2 pP pP 13 55 45.5 -3.6
CD2 sP sP 13 55 47.5 -4.1
CD2 PP PP 13 59 31.3 +1.1
CD2 SKS 14 06 14.5
CD2 S S 14 06 50.8 -4.1
CD2 SS SS 14 13 18.0 -0.1
CD2 pmax pmax
comp=Z,10.0nm,0.5s,mb5.5
CD2 pmax pmax
comp=Z,150nm,4.8s
CD2 LR LR
comp=E,870nm,22.8s
CD2 LR LR
comp=Z,900nm,22.8s,MS5.2
AAK Ala-Archa 95.04 344 *e*P **P 13 55 42.3 -0.3**
comp=Z,77nm,2.3s,mb5.7
AAK LR LR
comp=Z,737nm,20.0s,MS5.2
AAK Ala-Archa 95.04 344 *e*P **P 13 55 42.3 -0.3**
AAK pmax pmax
comp=Z,77nm,2.3s,mb5.7
AAK MLR MLR
comp=Z,737nm,20.0s,MS5.2
KIV Kislovodsk 95.45 7 PFAKE 13 56 00.0 +16
KIV LR LR
comp=Z,1µm,22.0s,MS5.3
KIV Kislovodsk 95.45 7 *e*P **P 13 55 44.9 +0.5**
KIV *i* 13 59 36.1
KIV *i* PS PS 14 08 16.6 -2.1
KIV *i* SS SS 14 13 32.3 +7.1
KIV pmax pmax
comp=Z,4.0nm,1.3s,mb4.7
KIV MLR MLR
comp=Z,900nm,18.0s,MS5.3
PLCA Paso Flores 95.70 140 LR LR 14 30 48.3
comp=Z,714nm,19.0s,MS5.2,baz=332,slow=30
WDD Wield Dalam 96.19 31 PFAKE 13 56 00.0 +12
WDD LR LR
comp=Z,1µm,20.0s,MS5.3
GYA Guiyang 96.85 313↑ *i*P **P 13 55 49.0 -2.1**
GYA PP PP 13 59 45.5 -0.2
GYA S S 14 07 08.5 -3.7
GYA SS SS 14 13 45.0 -1.5
GYA pmax pmax
comp=Z,40nm,1.0s,mb5.8
GYA pmax pmax
comp=Z,180nm,6.2s
GYA LR LR
comp=N,750nm,22.8s,MS5.2
GYA LR LR
comp=E,620nm,25.5s,MS5.2
GYA LR LR
comp=Z,940nm,23.9s,MS5.2
SNZO South Karori 97.09 220 PFAKE 13 56 00.0 +8.4
SNZO LR LR
comp=Z,2µm,22.0s,MS5.6
TRQA Tornquist 98.17 134 PFAKE 13 56 10.0 +13
TRQA LR LR
comp=Z,958nm,21.0s,MS5.3
BR131 Keskin Array S 98.25 15 PFAKE 13 56 10.0 +13
BR131 LR LR
comp=Z,982nm,21.0s,MS5.3
BRTR Keskin Array B 98.25 15 LR LR 14 45 54.8
comp=Z,993nm,20.6s,MS5.3,baz=352,slow=39
DAV Davao City (W) 98.52 287 LR LR 14 33 21.6
comp=Z,738nm,20.0s,MS5.2,baz=182,slow=31
ISP Isparta 99.40 18 PFAKE 13 56 10.0 +7.6
ISP LR LR
comp=Z,2µm,19.0s,MS5.5
GNI Garni 99.41 6 PFAKE 13 56 10.0 +7.6
GNI LR LR
comp=Z,869nm,20.0s,MS5.2
KMI Kunming 100.05 315 P Pdif 13 56 05.0 -0.3
KMI PP PP 14 00 11.0 +0.9
KMI SKS 14 06 41.5
KMI S Sdif 14 07 34.3 -4.6
KMI SS SS 14 14 30.5 -0.8
KMI pmax pmax
comp=Z,5.0nm,0.5s
KMI pmax pmax
comp=Z,120nm,4.6s
KMI LR LR
comp=N,680nm,17.3s
KMI LR LR
comp=E,710nm,22.8s
KMI LR LR
comp=Z,1µm,38.0s
CTAO Charters Tower 100.40 253 PFAKE 13 56 20.0 +13
CTAO LR LR
comp=Z,748nm,19.0s,MS5.2
MALT Malatya 100.47 12 PFAKE 13 56 20.0 +13
MALT LR LR
comp=Z,11µm,21.0s,MS6.3
QIZ Qiongzhong 100.70 306 P Pdif 13 56 05.0 -3.2
QIZ S Sdif 14 07 42.0 -2.4
QIZ pmax pmax
comp=Z,32nm,2.0s
QIZ pmax pmax
comp=Z,200nm,4.0s
QIZ LR LR
comp=N,960nm,28.3s
QIZ LR LR
comp=Z,690nm,21.3s
QIZ Qiongzhong 100.70 306 PFAKE 13 56 20.0 +12
QIZ LR LR
comp=Z,759nm,20.0s,MS5.2
LSA Lhasa 101.75 327 PFAKE 13 56 20.0 +7.1
LSA LR LR
comp=Z,2µm,22.0s,MS5.5
CSS Prodhromos 102.78 17 PFAKE 13 56 30.0 +13
CSS LR LR
comp=Z,1µm,21.0s,MS5.4
TAM Tamanrasset 103.09 44 PFAKE 13 56 30.0 +11
TAM LR LR
comp=Z,2µm,20.0s,MS5.6
KKM Kota Kinabalu 105.95 293 PFAKE 14 00 50.0 +5.7
KKM LR LR
comp=Z,779nm,22.0s,MS5.2
CHTO Chiang Mai 107.20 315 PFAKE 14 01 00.0 +14
CHTO LR LR
comp=Z,689nm,21.0s,MS5.2
CM31 Chiang Mai Arr 107.49 314 PFAKE 14 01 00.0 +13
CM31 LR LR
comp=Z,513nm,20.0s,MS5.1
CAN Canberra 107.90 239 PFAKE 14 01 00.0 +13
CAN LR LR
comp=Z,1µm,20.0s,MS5.5
WRAB Tennant Creek 109.12 260 PFAKE 14 01 00.0 +10
WRAB LR LR
comp=Z,1µm,22.0s,MS5.4
DBIC Dimbokro 109.16 63 PFAKE 14 01 00.0 +10
DBIC LR LR
comp=Z,2µm,19.0s,MS5.6
EFI East Falkland 109.56 142 PFAKE 14 01 00.0 +10
EFI LR LR
comp=Z,986nm,20.0s,MS5.4
KSM Kuching 113.32 294 PFAKE 14 01 10.0 +12
KSM LR LR
comp=Z,312nm,22.0s,MS4.9
TAU Tasmania Unive 113.37 233 PFAKE 14 01 10.0 +13
TAU LR LR
comp=Z,2µm,19.0s,MS5.7
PMSA Palmer Station 115.80 155 PFAKE 14 01 10.0 +8.8
PMSA LR LR
comp=Z,2µm,19.0s,MS5.7
KULM Kulim 116.94 304 PFAKE 14 01 20.0 +15
KULM LR LR
comp=Z,620nm,19.0s,MS5.2
MBWA Marble Bar 120.92 268 PFAKE 14 01 20.0 +7.6
MBWA LR LR
comp=Z,908nm,21.0s,MS5.4
SHEL Horse Pasture 123.84 82 PFAKE 14 01 30.0 +12
SHEL LR LR
comp=Z,1µm,20.0s,MS5.6
SBA Scott Base 124.53 194 PFAKE 14 01 30.0 +12
SBA LR LR
comp=Z,970nm,22.0s,MS5.4
VNDA Vanda 125.27 195 PFAKE 14 01 30.0 +11
VNDA LR LR
comp=Z,484nm,20.0s,MS5.2
DRV Dumont d'Urvil 127.52 210 PP PP 14 03 16.0 -9.2
DRV SKKS SS 14 20 27.0 -7.4
DRV R 14 44 00.0
NWAO Narrogin (SRO) 128.98 257 PFAKE 14 01 40.0 +12
NWAO LR LR
comp=Z,624nm,20.0s,MS5.3
TRIS Tristan da Cun 129.97 108 PFAKE 14 01 40.0 +11
TRIS LR LR
comp=Z,926nm,20.0s,MS5.5
QSPA South Pole Qui 130.27 180 *e*PKPdf PKPdf 14 01 29.7 +1.1
QSPA LR LR
comp=Z,757nm,19.0s,MS5.4
KMBO Kilima Mbogo 138.30 24 PFAKE 14 02 00.0 +14
KMBO LR LR
comp=Z,905nm,19.0s,MS5.5
DGAR Diego Garcia 142.80 327 PFAKE 14 02 00.0 +6.2
DGAR LR LR
comp=Z,870nm,19.0s,MS5.5
TSUM Tsumeb 143.00 66 *e*PKPdf PKPdf 14 01 53.1 -0.8
TSUM LR LR
comp=Z,2µm,20.0s,MS5.8
MSEY Mahe Island 144.30 356 PFAKE 14 02 10.0 +14
MSEY LR LR
comp=Z,766nm,22.0s,MS5.4
LSZ Lusaka 146.87 48 *e*PKPdf PKPdf 14 02 00.9 +0.2
LSZ LR LR
comp=Z,2µm,21.0s,MS5.8
MAW Mawson 152.27 188 PKPbc PKPbc 14 02 16.7 +2.2
comp=Z,3.7nm,0.8s,baz=253,slow=3.0,SNR=5.1
MAW Mawson 152.27 188 PKPdf PKPdf 14 02 07.5 -0.2
MAW PKPbc PKPbc 14 02 16.7 +2.2
MAW LR LR
comp=Z,2µm,20.0s,MS5.9
MAW Mawson 152.27 188 PKIKP PKPdf 14 02 07.5 -0.2
MAW MLR MLR
comp=Z,2µm,20.0s
LBTB Lobatse 152.39 64 *e*PKPbc PKPbc 14 02 15.8 -0.2
LBTB *e*PKPab PKPab 14 02 24.6 -1.6
LBTB LR LR
comp=Z,2µm,20.0s,MS5.8
SUR Sutherland 152.95 83 PFAKE 14 02 20.0 +10
SUR LR LR
comp=Z,1µm,22.0s,MS5.7
BOSA Boshof 154.35 71 PKPbc PKPbc 14 02 23.9 +3.6
comp=Z,4.3nm,0.9s,baz=278,slow=5.4,SNR=3.2
BOSA Boshof 154.35 71 PKPbc PKPbc 14 02 23.9 +3.6
BOSA LR LR
comp=Z,1µm,20.0s,MS5.8
ABPO Ambohimpanom 158.05 15 PFAKE 14 02 30.0 +13
ABPO LR LR
comp=Z,2µm,22.0s,MS5.8
PAF Port-aux-Franc 164.96 228 PFAKE 14 02 30.0 +6.7
PAF LR LR
comp=Z,1µm,19.0s

IDC 28 13:50:14.6±3.4, 20°09S×178°49W, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.7/15, mbtmp3.5/4, Error ellipse: s-maj=186.4km s-min=26.9km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.17**	**256**	P	P		13 58 25.0	-0.4
	0.3nm,0.6s,baz=91,slow=8.4,SNR=11							
WRA	**Warramunga Arr**	**44.20**	**262**	P	P		13 58 25.8	+0.1
	0.1nm,0.3s,baz=94,slow=8.2,SNR=12							
NVAR	**Mina Array Bea**	**81.04**	**44**	P	P		14 02 31.2	-0.2
	0.3nm,0.6s,baz=230,slow=7.0,SNR=3.2							
ILAR	**Eielson Array**	**88.02**	**13**	P	P		14 03 07.1	+1.0
	0.2nm,0.5s,baz=228,slow=6.8,SNR=6.9							

IDC 28 13:55:40.8±32.0, 21°38S×177°11W, h624km±343km, mb2.9/4, mb1 3.1/4, mb1mx2.8/16, mbtmp2.9/4, Error ellipse: s-maj=320.2km s-min=78.1km az=129.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.24**	**265**	P	P		14 01 37.3	+0.1
	2.4nm,0.4s,baz=94,slow=13,SNR=8.0							
ASAR	**Alice Springs**	**45.14**	**257**	P	P		14 03 03.1	-0.7
	0.5nm,0.5s,baz=94,slow=7.0,SNR=21							
WRA	**Warramunga Arr**	**45.31**	**263**	P	P		14 03 06.0	+0.8
	0.9nm,0.3s,baz=97,slow=8.3,SNR=44							
ILAR	**Eielson Array**	**88.99**	**12**	P	P		14 07 30.0	0.0
	0.1nm,0.5s,baz=200,slow=5.3,SNR=4.6							

*IDC **28** 14:00:18.1±1.6, 8.°01S×111.°56E, h0km, mb4.3/7, mb1 4.4/7, mb1mx4.1/17, mbtmp4.3/7, Error ellipse: s-maj=70.5km s-min=16.7km az=56.0*
*NEIC **28** 14:00:27.4±3.2, 8.°17S×111.°46E, h81km±30km, mb4.2/5, Error ellipse: s-maj=22.1km s-min=11.9km az=67.0*
*ISCJB **28** 14:00:32.5±0.3, 8.°52S±0.°06×111.°59E±0.°03, h122km±4km, mb4.2/11, Error ellipse: s-maj=10.5km s-min=3.9km az=7.2*
*DJA **28** 14:00:34, 8.°54S×111.°63E, h100km, MLv4.6/25*
ISC 28 14:00:33.6±0.3, 8.°51S±0.°06×111.°60E±0.°02, h117km±5km, n64, σ0°91/79, mb4.2/11, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PCJI	**Pacitan**	**0.52**	**307**	P		**Pn**	**14 00 52.2**	**+0.8**
PCJI				S		**Sn**	**14 01 05.3**	**+0.6**
PWJI	**Pagerwojo**	**0.53**	**23**	P		**Pn**	**14 00 51.2**	**-0.2**
PWJI				S		**Sn**	**14 01 04.9**	**+0.1**
SJI	**Sawahan**	**0.79**	**12**	P		**Pn**	**14 00 53.4**	**0.0**
SJI				S		**Sn**	**14 01 08.7**	**+0.3**
KRKI	**Karangkates**	**0.92**	**68**	P		**Pn**	**14 00 55.6**	**+1.0**
NGJI	**Ngawi**	**1.14**	**353**	P		**Pn**	**14 00 57.0**	**+0.1**
UGM	**Wanagama**	**1.22**	**299**	P		**Pn**	**14 00 57.1**	**-0.6**
GRJI	**Gresik**	**1.81**	**29**	S		**Sn**	**14 01 27.4**	**-0.8**
GMJI	**Gumukmas**	**1.84**	**83**	P		**Pn**	**14 01 05.5**	**+0.5**
SMRI	**Semarang**	**1.85**	**322**	P		**Pn**	**14 01 04.2**	**-0.9**
SMRI				S		**Sn**	**14 01 28.9**	**-0.2**
BLJI	**Banyuglugur**	**2.12**	**69**	P		**Pn**	**14 01 09.0**	**+0.6**
JAGI	**Jajag, Banyuwa**	**2.53**	**89**	P		**Pn**	**14 01 14.2**	**+0.6**
JAGI				S		**Sn**	**14 01 44.0**	**-0.4**
CLJI	**Cilicap**	**2.67**	**287**	P		**Pn**	**14 01 15.8**	**+0.2**
CLJI				S		**Sn**	**14 01 48.5**	**+0.7**
BYJI	**Banyuwangi**	**2.75**	**84**	P		**Pn**	**14 01 16.8**	**+0.3**
BYJI				S		**Sn**	**14 01 50.8**	**+1.3**
KMMI	**Kalianget**	**2.76**	**58**	P		**Pn**	**14 01 16.2**	**-0.5**
TGJI	**Tegal**	**2.95**	**303**	P		**Pn**	**14 01 22.7**	**+3.6**
SRBI	**Singaraja**	**3.60**	**84**	P		**Pn**	**14 01 27.7**	**-0.1**
SRBI				S		**Sn**	**14 02 08.8**	**-0.9**
CISI	**Cisompet, Garu**	**3.86**	**284**	P		**Pn**	**14 01 30.2**	**-1.1**
CISI				S		**Sn**	**14 02 11.0**	**-5.0**
KHKI	**Kahang-Kahang**	**3.97**	**88**	P		**Pn**	**14 01 32.2**	**-0.5**
KHKI				S		**Sn**	**14 02 14.9**	**-3.6**
LEM	**Lembang**	**4.28**	**293**	P		**Pn**	**14 01 37.0**	**+0.1**
MTNI	**Mataram**	**4.53**	**92**	P		**Pn**	**14 01 39.2**	**-0.9**
MTNI				S		**Sn**	**14 02 28.5**	**-3.3**
SKJI	**Sukabumi**	**5.21**	**286**	P		**Pn**	**14 01 50.3**	**+0.9**
	1.1nm160nm,0.5s							
BBKI	**Banjar Baru**	**5.96**	**33**	P		**Pn**	**14 01 59.0**	**-0.6**
	0.4nm2µm125nm,0.8s							
CGJI	**Cibinong**	**6.15**	**287**	P		**Pn**	**14 02 02.0**	**-0.1**
	1.2nm4µm273nm,0.5s							
XMIS	**Christmas Isla**	**6.18**	**251**	*e*P		**Pn**	**14 02 00.8**	**-1.7**
	679nm,0.3s							
XMIS				*e*S		**Sn**	**14 03 01.3**	**-11**
XMIS	**Christmas Isla**	**6.18**	**251**	P		**Pn**	**14 02 00.4**	**-2.1**
	3.8nm235nm,1.0s							
BMNI	**Bima**	**7.02**	**91**	P		**Pn**	**14 02 12.2**	**-1.6**
	0.4nm1µm29nm,1.2s							
KLSI		**7.81**	**299**	P		**Pn**	**14 02 24.4**	**-0.1**
	0.2nm28nm,2.5s							
PPBI	**Pangkal Pinang**	**8.32**	**319**	P		**Pn**	**14 02 31.6**	**0.0**
	2µm33nm,0.8s							
MDSI	**Maura Dua**	**8.38**	**298**	P		**Pn**	**14 02 33.6**	**+1.2**
	9.3nm,1.4s							
SPSI	**Sidrap Palu**	**9.29**	**61**	P		**Pn**	**14 02 44.8**	**+0.1**
	22nm,0.8s							
TTSI	**Tana Toraja**	**9.82**	**57**	P		**Pn**	**14 02 53.7**	**+1.9**
	21nm,1.4s							
KSI	**Kapahiang**	**10.17**	**298**	P		**Pn**	**14 02 55.1**	**-1.4**
	89nm,0.7s							
MMRI	**Maumere**	**10.52**	**91**	P		**Pn**	**14 03 00.1**	**-1.2**
	39nm,1.6s							
MBWA	**Marble Bar**	**14.82**	**149**	*e*Pn		**Pn**	**14 03 56.5**	**-0.8**
	15nm,0.3s							
MBWA				*e*Sn		**Sn**	**14 06 31.9**	**-9.3**
MBWA	**Marble Bar**	**14.82**	**149**	P		**Pn**	**14 03 58.2**	**+0.9**
	22nm,0.6s							
NLAI	**Namlea**	**16.28**	**72**	P		**Pn**	**14 04 17.2**	**+1.6**
	23nm,0.5s							
FITZ	**Fitzroy Crossi**	**16.65**	**126**	Pn		**Pn**	**14 04 20.9**	**+0.8**
	1.5nm,0.3s,baz=299,slow=4.3,SNR=30							
FITZ				Sn		**Sn**	**14 07 14.8**	**-11**
	0.8nm,0.3s,baz=198,slow=19,SNR=4.2							
FITZ	**Fitzroy Crossi**	**16.65**	**126**	*e*P		**Pn**	**14 04 21.1**	**+1.0**
	6.2nm,0.4s							
FITZ				*e*S		**S**	**14 07 14.6**	**-11**
FITZ	**Fitzroy Crossi**	**16.65**	**126**	Pn		**Pn**	**14 04 20.9**	**+0.8**
FITZ				Sn		**Sn**	**14 07 14.8**	**-11**
FITZ	**Fitzroy Crossi**	**16.65**	**126**	P		**Pn**	**14 04 20.5**	**+0.4**
	9.0nm,1.0s							
AAI	**Ambon**	**17.18**	**75**	P		**Pn**	**14 04 27.2**	**+0.6**
	1µm48nm,1.2s							
WRA	**Warramunga Arr**	**24.76**	**120**	P		**P**	**14 05 44.2**	**-0.3**
	4.0nm,0.5s,mb4.1,baz=294,slow=11,SNR=54							
WRA				S		S	14 10 27.9	+29
	0.5nm,0.5s,baz=287,slow=23,SNR=5.3							
WRA	**Warramunga Arr**	**24.76**	**120**	P		**P**	**14 05 44.2**	**-0.3**
WRA				S		S	14 10 27.9	+29
WRAB	**Tennant Creek**	**24.77**	**120**	*e*P		**P**	**14 05 43.3**	**-1.3**
	4.6nm,0.6s,mb4.1							
WRAB				*e*S		S	14 10 26.5	+28
WRAB	**Tennant Creek**	**24.77**	**120**	P		**P**	**14 05 44.9**	**+0.3**
	13nm,0.7s,mb4.5							
AS31	**Alice Springs**	**26.14**	**128**	*e*P		**P**	**14 05 57.1**	**+0.2**
ASAR	**Alice Springs**	**26.14**	**128**	P		**P**	**14 05 57.1**	**+0.2**
	1.9nm,0.7s,mb3.7,baz=304,slow=8.4,SNR=43							
ASAR				S		S	14 10 52.2	+32
	0.3nm,0.7s,baz=298,slow=20,SNR=3.3							
ASAR	**Alice Springs**	**26.14**	**128**	P		**P**	**14 05 57.1**	**+0.2**
ASAR				S		S	14 10 52.2	+32
FORT	**Forrest**	**26.97**	**147**	*e*P		sP	14 06 41.2	-2.1
	11nm,0.5s							
COEN	**Coen**	**31.42**	**103**	P		**P**	**14 06 45.1**	**+1.1**
STKA	**Stephens Creek**	**36.29**	**134**	P		**P**	**14 07 27.1**	**+1.2**
	3.8nm,0.5s,mb4.6,baz=311,slow=7.8,SNR=24							
STKA	**Stephens Creek**	**36.29**	**134**	*e*P		**P**	**14 07 27.0**	**+1.1**
	3.4nm,0.5s,mb4.5							
STKA	**Stephens Creek**	**36.29**	**134**	*e*P		**P**	**14 07 26.8**	**+0.9**
MJAR	**Matsushiro Arr**	**51.31**	**28**	P		**P**	**14 09 20.8**	**-5.0**
	1.7nm,0.8s,mb4.1,baz=219,slow=9.3,SNR=3.1							
MJAR	**Matsushiro Arr**	**51.31**	**28**	P		**P**	**14 09 20.8**	**-5.0**
SONM	**Songino Array**	**56.29**	**356**	P		**P**	**14 09 57.9**	**-3.9**
	2.1nm,0.4s,mb4.5,baz=171,slow=9.1,SNR=23							
SONM	**Songino Array**	**56.29**	**356**	P		**P**	**14 09 57.9**	**-3.9**
MKAR	**Makanchi Array**	**60.93**	**337**	P		**P**	**14 10 29.9**	**-4.2**
	3.3nm,0.4s,mb4.7,baz=151,slow=7.4,SNR=84							
MKAR	**Makanchi Array**	**60.93**	**337**	P		**P**	**14 10 29.9**	**-4.2**
ZALV	**Zalesovo Beam**	**66.21**	**343**	P		**P**	**14 11 03.7**	**-4.9**
	2.0nm,0.4s,mb4.3,baz=157,slow=4.4,SNR=12							
ZALV	**Zalesovo Beam**	**66.21**	**343**	P		**P**	**14 11 03.7**	**-4.9**
MAW	**Mawson**	**67.31**	**198**	P		**P**	**14 11 14.4**	**-1.0**
	0.3nm,0.9s,mb3.1							
ABKAR	**Akbulak array**	**73.08**	**328**	*e*P		**P**	**14 11 46.5**	**-4.4**
	8.1nm,0.6s,mb4.7							
QSPA	**South Pole Qui**	**81.48**	**180**	*e*P		**P**	**14 12 38.0**	**+0.7**
	1.2nm,0.8s,mb3.8							

*IDC **28** 14:18:53.1±1.3, 12.°29N×147.°38E, h0km, mb3.4/4, mb1 3.7/5, mb1mx3.5/22, mbtmp3.5/5, MS4.4/1, Ms1 4.6/1, ms1mx3.3/19, Error ellipse: s-maj=38.8km s-min=23.7km az=95.0*
*ISCJB **28** 14:18:56.1±1.0, 12.°3N±0.°1×147.°3E±0.°1, h33km, mb3.6/5, Error ellipse: s-maj=22.1km s-min=10.1km az=139.3*
*NEIC **28** 14:18:58.3±0.8, 12.°26N×147.°33E, h35km, mb4.5/1, Error ellipse: s-maj=21.9km s-min=12.0km az=75.0*
ISC 28 14:18:58.5±1.0, 12.°3N±0.°1×147.°3E±0.°1, h35km, n13, σ0°49/14, mb3.6/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GUMO	**Guam**		**2.67**	**300**	Pn	**Pn**	**14 19 39.6**	**+0.6**
	63nm,0.3s,baz=143,slow=10,SNR=53							
GUMO					Sn	**Sn**	**14 20 09.6**	**-0.7**
	118nm,0.3s,baz=225,slow=23,SNR=11							
GUMO	**Guam**		**2.67**	**300**	*e*Pn	**Pn**	**14 19 39.5**	**+0.5**
GUMO					*e*Sn	**Sn**	**14 20 09.9**	**-0.4**
CTAO	**Charters Tower**	**32.16**	**182**	P		**P**	**14 25 22.8**	**-0.3**
	7.6nm,1.1s,mb4.4							
CTAO				*e*		pP	14 25 33.0	-0.1
WB2	**Warramunga Arr**	**34.43**	**202**	*e*P		**P**	**14 25 42.6**	**-0.3**
WRA	**Warramunga Arr**	**34.44**	**202**	P		**P**	**14 25 43.1**	**+0.2**
	0.8nm,0.8s,mb3.7,baz=23,slow=7.9,SNR=5.8							
WRA	**Warramunga Arr**	**34.44**	**202**	P		**P**	**14 25 43.1**	**+0.2**
ASAR	**Alice Springs**	**38.02**	**200**	P		**P**	**14 26 13.6**	**+0.1**
	0.2nm,0.8s,mb2.9,baz=25,slow=6.7,SNR=7.1							
ASAR	**Alice Springs**	**38.02**	**200**	P		**P**	**14 26 13.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**46.88**	**284**	LR		LR	14 47 53.0	
	comp=Z,386nm,19.9s,baz=14,slow=37							
MKAR	**Makanchi Array**	**64.05**	**316**	P		**P**	**14 29 29.7**	**+0.9**
	0.6nm,0.9s,mb3.6,baz=82,slow=7.9,SNR=3.5							
MKAR	**Makanchi Array**	**64.05**	**316**	P		**P**	**14 29 29.7**	**+0.9**
ILAR	**Eielson Array**	**68.78**	**25**	P		**P**	**14 29 58.1**	**-0.6**
	0.2nm,0.5s,mb3.3,baz=240,slow=5.0,SNR=3.9							
ILAR	**Eielson Array**	**68.78**	**25**	P		**P**	**14 29 58.1**	**-0.6**

*IDC **28** 14:35:21.2±2.5, 30.°81N×83.°22E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.5/27, mbtmp3.6/6, ML3.6/1, Error ellipse: s-maj=77.1km s-min=22.2km az=73.0*
*ISCJB **28** 14:35:22.7±0.5, 30.°86N±0.°07×83.°55E±0.°06, h10km, mb3.5/6, Error ellipse: s-maj=10.4km s-min=6.6km az=164.3*
*NEIC **28** 14:35:24.3±0.8, 30.°87N×83.°51E, h10km, mb3.9/2, Error ellipse: s-maj=20.4km s-min=10.8km az=47.0*
ISC 28 14:35:24.6±0.6, 30.°90N±0.°07×83.°60E±0.°06, h10km, n22, σ1°24/23, mb3.5/6, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**3.23**	**246**	*e*PKP		**Pg**	**14 36 25.3**	**-1.1**
PTH				*e*S		**Sg**	**14 37 09.2**	**+1.0**
DDI	**Dehra Dun**	**4.82**	**265**	*ex*		**Pn**	**14 36 41.0**	**+3.8**
LSA	**Lhasa**	**6.63**	**98**	*e*Pn		**Pn**	**14 37 05.2**	**+3.0**

KBL	Kabul	12.79	290	P	Pn	14 38 27.1	+0.7
MK31	Makanchi Array	15.90	357	P	Pn	14 39 12.2	+3.8
MKAR	Makanchi Array	15.90	357	Pn	Pn	14 39 10.2	+1.9
	0.2nm,0.3s,baz=185,slow=12,SNR=8.9						
MKAR	Makanchi Array	15.90	357	Pn	Pn	14 39 10.2	+1.9
CMAR	Chiang Mai Arr	18.62	128	P	Pn	14 39 43.2	+0.7
	0.1nm,0.3s,baz=320,slow=9.4,SNR=3.5						
CMAR	Chiang Mai Arr	18.62	128	P	Pn	14 39 43.2	+0.7
KURK	Kurchatov	20.14	351	P	P	14 39 57.3	-1.4
	3.1nm,0.6s,baz=172,slow=10,SNR=21						
KURK	Kurchatov	20.14	351	P	P	14 39 57.3	-1.4
ZALV	Zalesovo Beam	23.05	2	P	P	14 40 28.2	-1.7
	0.6nm,0.5s,mb3.3,baz=183,slow=9.2,SNR=3.9						
ZALV	Zalesovo Beam	23.05	2	P	P	14 40 28.2	-1.7
SONM	Songino Array	24.28	39	P	P	14 40 42.8	+0.9
	1.0nm,0.6s,mb3.4,baz=227,slow=9.6,SNR=11						
SONM	Songino Array	24.28	39	P	P	14 40 42.8	+0.9
ABKAR	Akbulak array	25.59	323	*e*P	P	14 40 52.9	-0.9
	1.2nm,0.7s,mb3.5						
WRA	Warramunga Arr	70.21	129	P	P	14 46 37.7	-0.2
	0.5nm,0.8s,mb3.5,baz=322,slow=6.3,SNR=7.7						
WRA	Warramunga Arr	70.21	129	P	P	14 46 37.7	-0.2
WRAB	Tennant Creek	70.21	129	P	P	14 46 37.9	0.0
	1.2nm,0.8s,mb3.9						
WB2	Warramunga Arr	70.22	129	*e*P	P	14 46 37.0	-0.9
ASAR	Alice Springs	72.57	132	P	P	14 46 50.9	-1.2
	0.5nm,1.0s,mb3.4,baz=325,slow=8.0,SNR=4.8						
ASAR	Alice Springs	72.57	132	P	P	14 46 50.9	-1.2

DDA ***28*** *14:39:37.3, 37.28N×26.46E, h7km±5km, Md2.9*
ATH ***28*** *14:39:38.6, 37.31N×26.61E, h31km±2km, MD3.1/3*
CSEM ***28*** *14:39:39.7±0.3, 37.36N×26.50E, h20km, MD2.9, Error ellipse: s-maj=8.3km s-min=5.1km az=159.0*
ISCJB ***28*** *14:39:40.7±0.8, 37.38N±0.06×26.52E±0.05, h29km±8km, Error ellipse: s-maj=10.1km s-min=5.9km az=161.0*

ISC 28 14:39:40.8±0.8,37.38N±0.06×26.52E±0.05,h27km±9km,
n13,σ0°96/24,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMG	Samos	0.41	38	*e*PB	Pb	14 39 48.5	-1.2
SMG				*e*SB	Sb	14 39 55.4	-0.3
SMG	Samos	0.41	38	*e*Pb	Pb	14 39 48.5	-1.2
SMG				*e*Sb	Sb	14 39 55.4	-0.3
GCAM	G?zelcaml?	0.65	61	*i* P	Pb	14 39 52.5	-1.1
GCAM				*i* S	Sb	14 40 02.9	+0.5
GCAM	G?zelcaml?	0.65	61	*i* P	Pb	14 39 52.5	-1.1
GCAM				*i* S	Sb	14 40 02.8	+0.5
APE	Apeiranthos	0.85	249	*e*PN	Pb	14 39 56.1	-0.8
APE				*e*SN	Sb	14 40 09.0	+1.1
APE	Apeiranthos	0.85	249	*e*Pn	Pb	14 39 56.1	-0.8
APE				*e*Sn	Sb	14 40 09.0	+1.1
URLA	Izmir	0.98	4	*i* P	Pn	14 39 57.5	-1.3
URLA				*i* S	Sb	14 40 13.1	+1.4
URLA	Izmir	0.98	4	*i* P	Pn	14 39 57.5	-1.3
URLA				*i* S	Sb	14 40 13.1	+1.4
CHOS	Chios island	1.07	340	*e*PN	Pb	14 40 00.4	+0.3
CHOS	Chios island	1.07	340	*e*Pn	Pn	14 40 00.4	+0.3
AYDN	Tasoluk	1.12	75	*i* P	Pn	14 40 00.5	-0.2
AYDN				*i* S	Sb	14 40 16.6	+0.9
AYDN	Tasoluk	1.12	75	*i* P	Pn	14 40 00.5	-0.2
AYDN				*i* S	Sb	14 40 16.5	+0.9
TURN	Turunc	1.74	106	*i* P	Pn	14 40 05.5	-3.8
TURN				*i* S	Sn	14 40 31.3	+0.7

NNC ***28*** *15:09:19.3±2.7, 39.03N×72.68E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=21.5km s-min=13.9km az=2.0*

ISC 28 15:09:19.0±2.3,38.6N±0.2×73.0E±0.2,h136km±36km,n12,
σ0°73/16,5C-3D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	Kashi	2.48	67	⇓*i* Pg	Pn	15 09 50.5	-8.6
KSH				Sg	Sn	15 10 17.5	-12
KSH				smax			
	comp=N,630nm,0.5s						
KSH				smax			
	comp=E,330nm,0.5s						
AML	Almayashu	3.57	8	P	Pn	15 10 13.2	+0.2
	SNR=60						
UCH	Uchtor	3.80	17	P	Sn	15 11 01.2	+0.7
	SNR=16						
KZA	Kyzart	3.87	25	P	Pn	15 10 16.6	-0.5
	SNR=9.8						
EKS2	Erkin-Say	4.10	8	P	Pn	15 10 20.6	+0.6
	SNR=40						
AAK	Ala-Archa	4.18	15	P	Pn	15 10 21.8	+0.6
	SNR=14						
KBK	Karagaybulak	4.31	19	P	Pn	15 10 23.6	+0.8
	SNR=8.0						
ULHL	Ulahol	4.40	33	P	Pn	15 10 23.2	-0.8
	SNR=13						
TKM2	Tokmak 2	4.74	24	⇑Pn	Pn	15 10 28.1	-0.5
	comp=E,2.3nm,0.6s						
TKM2				⇓Sn	Sn	15 11 22.4	-0.4
	comp=E,6.8nm,0.7s						
KK31	Karatay Array	4.88	338	⇑Pn	Pn	15 10 30.5	0.0
	comp=E,3.1nm,0.3s,baz=155,slow=13,SNR=88						
KK31				⇑Sn	Sn	15 11 25.8	-0.5
	comp=E,15nm,0.4s,baz=148,slow=22,SNR=19						
AB31	Akbulak array	14.20	323	⇓Pn	Pn	15 12 32.3	-1.4
	comp=E,1.3nm,0.5s,baz=132,slow=14,SNR=31						
AB31				⇑Sn	Sn	15 15 04.6	-6.0
	comp=E,0.5nm,0.5s,baz=130,slow=24,SNR=4.4						
AKTO	Aktyubinsk	15.91	323	⇑Pn	Pn	15 12 56.5	+1.4
	comp=E,0.8nm,0.8s						

IDC ***28*** *15:31:42.8±7.9, 11.83N×143.86E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.7/24, mbtmp3.9/6, Error ellipse: s-maj=216.7km s-min=46.1km az=179.0*
ISCJB ***28*** *15:31:47.3±1.0, 12.0N±0.1×143.8E±0.2, h33km, mb3.8/7, Error ellipse: s-maj=30.2km s-min=10.7km az=37.7*
NEIC ***28*** *15:31:49.4±0.9, 12.10N×143.92E, h35km, mb3.8/1, Error ellipse: s-maj=29.6km s-min=16.3km az=118.0*

ISC 28 15:31:49.4±1.0,12.1N±0.1×143.9E±0.2,h35km,n14,
σ0°86/15,mb3.8/7,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	1.80	33	*e*Pn	Pn	15 32 16.4	-1.5
GUMO				*e*Sn	Sn	15 32 40.2	+0.7
WRAB	Tennant Creek	33.15	197	*e*P	P	15 38 22.8	+0.2
	1.1nm,0.7s,mb3.9						
SONM	Songino Array	47.43	326	P	P	15 40 20.4	-0.1
	0.2nm,0.4s,mb3.4,baz=134,slow=10,SNR=4.2						
SONM	Songino Array	47.43	326	P	P	15 40 20.4	-0.1
KURK	Kurchatov	65.13	320	P	P	15 42 26.7	+0.1
	0.4nm,0.4s,mb3.9,baz=104,slow=6.8,SNR=5.6						
KURK	Kurchatov	65.13	320	P	P	15 42 26.7	+0.1
ILAR	Eielson Array	70.35	25	P	P	15 42 58.8	-0.5
	0.2nm,0.6s,mb3.2,baz=251,slow=5.7,SNR=6.8						
ILAR	Eielson Array	70.35	25	P	P	15 42 58.8	-0.5
BVAR	Borovoye Array	70.52	322	P	P	15 43 01.1	+0.6
	0.8nm,0.4s,mb4.0,baz=107,slow=7.7,SNR=7.0						
BVAR	Borovoye Array	70.52	322	P	P	15 43 01.1	+0.6
INK	Inuvik	76.14	22	P	P	15 43 35.0	+1.6
	1.5nm,1.0s,mb3.9,baz=232,slow=3.4,SNR=3.2						
INK	Inuvik	76.14	22	P	P	15 43 35.0	+1.6
FINES	FINESS Array B	92.12	335	P	P	15 44 54.0	-1.0
	2.6nm,0.8s,mb4.6,baz=57,slow=7.0,SNR=3.6						
FINES	FINESS Array B	92.12	335	P	P	15 44 54.0	-1.0

JMA ***28*** *15:36:12.6±0.6, 44.39N×149.26E, h30km, M3.8*
ISCJB ***28*** *15:36:15.5±1.1, 44.01N±0.07×149.02E±0.10, h62km±9km, mb3.7/8, Error ellipse: s-maj=15.1km s-min=7.3km az=135.7*
MOS ***28*** *15:36:16.8±1.4, 44.15N×148.95E, h70km, mb4.1/1, Error ellipse: s-maj=16.2km s-min=13.8km az=44.0*
IDC ***28*** *15:36:20.8±4.0, 44.29N×148.95E, h81km±28km, mb3.3/7, mb1 3.5/9, mb1mx3.3/26, mbtmp3.3/9, Error ellipse: s-maj=63.5km s-min=20.3km az=167.0*
NEIC ***28*** *15:36:20.1±2.4, 44.15N×148.97E, h83km±12km, mb4.2/1, Error ellipse: s-maj=38.2km s-min=11.3km az=161.0*

ISC 28 15:36:17.4±1.0,44.05N±0.07×149.00E±0.10,h59km±8km,
n55,σ1°04/62,mb3.7/8,1C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	Kuril'sk	1.44	326	*e*PN	Pn	15 36 38.6	-2.5
KUR				S	Sn	15 36 58.0	-1.0
KUR				pmax	pmax		
	comp=N,170nm,0.5s						
KUR				pmax	pmax		
	comp=E,200nm,0.5s						
KUR				pmax	pmax		
	comp=Z,460nm,0.5s						
KUR				smax			
	comp=N,610nm,0.5s						
KUR				smax			
	comp=E,240nm,0.4s						
YUK	Yuzh-Kuril'sk	2.26	271	*i* PN	Pn	15 36 51.5	-0.8
YUK				*i* S	Sn	15 37 19.4	+0.4
YUK				pmax	pmax		
	comp=E,90nm,0.6s						
YUK				pmax	pmax		
	comp=N,49nm,0.3s						
YUK				pmax	pmax		
	comp=Z,136nm,0.5s						
YUK				smax			
	comp=E,332nm,0.5s						
YUK				smax			
	comp=N,285nm,0.5s						
NEM2	Nemuro 2	2.46	255	P	Pn	15 36 53.6	-1.4
NEM2				*e*S	Sn	15 37 23.1	-0.7
JRA	Rausu	2.80	269	P	Pn	15 36 59.7	+0.1
JNK	Nakash	3.13	263	P	Pn	15 37 03.4	-0.8
JAK	Akkeshi	3.30	253	P	Pn	15 37 05.2	-1.3
JTKR	Abashiri--Toko	3.67	271	P	Pn	15 37 11.7	+0.1
JAR	Ashorobuto	3.87	261	P	Pn	15 37 14.3	+0.1
JOB	Onbets	3.93	255	P	Pn	15 37 14.8	-0.3
JOB				*e*S	Sn	15 38 00.4	+0.5
JMP	Maruseppu	4.07	271	P	Pn	15 37 17.3	+0.3
JCH	Churui	4.35	253	P	Pn	15 37 21.2	+0.3
JCH				*e*S	Sn	15 38 12.2	+1.9
ASAJ	Asahikawa	4.61	273	P	Pn	15 37 26.6	+2.1
	comp=N,0.6nm,0.3s,baz=103,slow=18,SNR=6.2						
ASAJ	Asahikawa	4.61	273	P	Pn	15 37 26.6	+2.1
ASAJ	Asahikawa	4.61	273	PN	Pn	15 37 26.6	+2.1
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ERM	Erimo	4.74	247	⇑*e*PN	Pn	15 37 27.2	+1.0
JNBK	Urakawa-nobuka	4.90	251	P	Pn	15 37 28.0	-0.4
JBT2	Biratori 2	5.00	258	P	Pn	15 37 30.3	-0.4
YSS	Yuzh-Sakhalins	5.26	306	*e*Pn	Pn	15 37 35.5	+2.2
YSS	Yuzh-Sakhalins	5.26	306	*e*PN	Pn	15 37 35.6	+2.2
JEW	Eniwo	5.63	260	P	Pn	15 37 40.4	+2.1
JNB	Noboribetsu	6.02	258	P	Pn	15 37 43.7	-0.1
JNB				*e*S	Sn	15 38 52.2	+0.9
JKB	Kayabe	6.23	252	P	Pn	15 37 46.1	-0.5
JKB				*e*S	Sn	15 38 54.9	-1.5
JYM2	Yakumo 2	6.61	256	P	Pn	15 37 52.1	+0.4
JANG	Nango	6.66	239	*e*S	Sn	15 39 02.0	-4.9
JTM	Tenmabayashi	6.71	244	P	Pn	15 37 52.4	-0.8
JTH	Tanohata	6.71	235	*e*S	Sn	15 39 03.0	-5.3
JOSM	Okushiri--Mats	7.25	258	P	Pn	15 38 00.7	+0.2
JRG	Rokugo	7.79	236	*e*S	Sn	15 39 30.9	-3.8
PETK	Petropavlovsk-	10.74	29	P	Pn	15 38 49.7	+1.6
	comp=Z,0.2nm,0.3s,baz=207,slow=16,SNR=4.6						
PETK	Petropavlovsk-	10.74	29	P	Pn	15 38 49.7	+1.6
PETK	Petropavlovsk-	10.74	29	*e*PN	Pn	15 38 49.6	+1.5
SONM	Songino Array	29.59	293	P	P	15 42 17.0	+0.6
	comp=Z,0.3nm,0.5s,mb3.2,baz=96,slow=10,SNR=3.6						
SONM	Songino Array	29.59	293	P	P	15 42 17.0	+0.6
SONM	Songino Array	29.59	293	P	P	15 42 17.0	+0.5
INK	Inuvik	45.47	31	P	P	15 44 29.3	-0.7
	comp=Z,0.7nm,0.7s,mb3.6,baz=265,slow=12,SNR=3.5						
INK	Inuvik	45.47	31	P	P	15 44 29.3	-0.7
INK	Inuvik	45.47	31	P	P	15 44 29.3	-0.7
MK31	Makanchi Array	45.63	298	P	P	15 44 30.1	-1.5
MK31	Makanchi Array	45.63	298	P	P	15 44 30.1	-1.5
MKAR	Makanchi Array	45.63	298	P	P	15 44 31.9	+0.3
	comp=Z,0.9nm,1.0s,mb3.6,baz=74,slow=8.5,SNR=6.9						
MKAR	Makanchi Array	45.63	298	P	P	15 44 31.9	+0.3
MKAR	Makanchi Array	45.63	298	P	P	15 44 31.9	+0.3
KURK	Kurchatov	46.47	304	P	P	15 44 39.4	+1.3
	comp=Z,0.2nm,0.3s,mb3.5,baz=77,slow=8.8,SNR=3.0						
KURK	Kurchatov	46.47	304	P	P	15 44 39.4	+1.2
KURK	Kurchatov	46.47	304	P	P	15 44 39.4	+1.3
ABKAR	Akbulak array	57.91	309	*e*P	P	15 46 02.9	-0.2
	comp=Z,0.9nm,0.4s,mb4.2						
FINES	FINESS Array B	65.21	334	P	P	15 46 50.8	-1.2
	comp=Z,2.2nm,0.8s,mb4.2,baz=39,slow=7.3,SNR=5.0						
FINES	FINESS Array B	65.21	334	P	P	15 46 50.8	-1.2
FINES	FINESS Array B	65.21	334	P	P	15 46 50.8	-1.1
NOA	NORSAR Array B	69.80	340	P	P	15 47 20.4	-0.5
	comp=Z,0.6nm,0.5s,mb3.8,baz=30,slow=6.2,SNR=5.7						
NOA	NORSAR Array B	69.80	340	P	P	15 47 20.4	-0.5
NOA	NORSAR Array B	69.80	340	P	P	15 47 20.4	-0.5
TXAR	Lajitas Array	81.37	57	P	P	15 48 28.4	+0.8
	comp=Z,0.2nm,0.6s,mb3.2,baz=280,slow=5.3,SNR=3.2						
TXAR	Lajitas Array	81.37	57	P	P	15 48 28.4	+0.8
TXAR	Lajitas Array	81.37	57	P	P	15 48 28.4	+0.8

IDC ***28*** *16:07:05.5±1.0, 22.80S×175.18W, h0km, mb4.3/13, mb1 4.5/13, mb1mx4.3/18, mbtmp4.3/13, Error ellipse: s-maj=37.5km s-min=18.9km az=150.0*
ISCJB ***28*** *16:07:09.3±0.7, 22.28S±0.2×175.35W±0.1, h33km, mb4.3/16, Error ellipse: s-maj=22.7km s-min=13.6km az=157.6*
NEIC ***28*** *16:07:11.1±0.6, 22.77S×175.29W, h35km, mb4.4/4, Error ellipse: s-maj=20.6km s-min=12.2km az=157.0*

ISC 28 16:07:11.2±0.7,22.8S±0.2×175.3W±0.1,h35km,n45,
σ0°98/40,mb4.3/16,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	8.01	308	*e*Pn	Pn	16 09 11.8	+6.7
AFI	Afiamalu	9.43	21	Pn	Pn	16 09 16.9	-7.8
	3.1nm,0.3s,baz=226,slow=23,SNR=8.6						
AFI				Sn	Sn	16 10 49.2	-20
	2.0nm,0.3s,baz=65,slow=19,SNR=2.8						
AFI	Afiamalu	9.43	21	Pn	Pn	16 09 16.9	-7.8
AFI				Sn	Sn	16 10 49.2	-20
RAR	Rarotonga	14.49	87	Pn	Pn	16 10 20.0	-14
	3.1nm,0.3s,baz=284,slow=9.5,SNR=6.5						
RAR	Rarotonga	14.49	87	Pn	P	16 10 20.0	-14
URZ	Urewera	16.75	201	Sn	Sn	16 13 54.0	-14
	0.4nm,0.3s,baz=307,slow=20,SNR=4.6						
DZM	Mont Dzumac	16.89	269	*e*Pn	Pn	16 11 05.4	+0.4
	18nm,0.9s						
CTA	Charters Tower	35.82	267	P	P	16 14 08.4	+0.8
	3.0nm,0.4s,mb4.6,baz=101,slow=13,SNR=9.0						
CTA	Charters Tower	35.82	267	*e*P	P	16 14 08.0	+0.4
	3.0nm,0.4s,mb4.6						
CTA	Charters Tower	35.82	267	P	P	16 14 08.4	+0.8
PMG	Port Moresby	38.31	284	P	P	16 14 29.8	+1.0
	14nm,0.9s,mb4.7,baz=146,slow=13,SNR=4.7						
PMG	Port Moresby	38.31	284	P	P	16 14 29.8	+1.0
STKA	Stephens Creek	39.14	247	P	P	16 14 35.1	-0.5
	1.8nm,0.4s,mb4.1,baz=88,slow=9.5,SNR=8.7						
STKA	Stephens Creek	39.14	247	*e*P	P	16 14 34.8	-0.8
AS31	Alice Springs	46.48	258	*e*P	P	16 15 34.9	-0.3
ASAR	Alice Springs	46.48	258	P	P	16 15 34.9	-0.4
	11nm,0.9s,mb4.8,baz=102,slow=6.5,SNR=99						
ASAR	Alice Springs	46.48	258	P	P	16 15 34.9	-0.4
WB2	Warramunga Arr	46.80	264	*e*P	P	16 15 36.1	-1.5
WRAB	Tennant Creek	46.80	264	*e*P	P	16 15 36.5	-1.2
	4.0nm,0.8s,mb4.4						
WRA	Warramunga Arr	46.81	264	P	P	16 15 36.8	-1.0
	2.3nm,0.5s,mb4.4,baz=92,slow=8.2,SNR=67						
WRA	Warramunga Arr	46.81	264	P	P	16 15 36.8	-1.0
FITZ	Fitzroy Crossi	55.23	263	P	P	16 16 40.9	-0.3
	1.9nm,0.7s,mb4.3,baz=118,slow=15						
FITZ	Fitzroy Crossi	55.23	263	*e*P	P	16 16 41.0	-0.2
	4.2nm,0.9s,mb4.5						
FITZ	Fitzroy Crossi	55.23	263	P	P	16 16 40.9	-0.3
QSPA	South Pole Qui	67.30	180	*e*P	P	16 18 03.1	+1.2
	3.6nm,1.0s,mb4.4						
MJAR	Matsushiro Arr	73.53	322	P	P	16 18 40.2	-0.3
	1.5nm,0.6s,mb4.1,baz=165,slow=7.3,SNR=4.2						
MJAR	Matsushiro Arr	73.53	322	P	P	16 18 40.2	-0.3
PETK	Petropavlovsk-	79.12	344	P	P	16 19 12.9	+1.1
	4.2nm,0.8s,mb4.4,baz=145,slow=11,SNR=4.4						
PETK	Petropavlovsk-	79.12	344	P	P	16 19 12.9	+1.1
MAW	Mawson	80.27	199	P	P	16 19 19.1	+1.1
	1.5nm,0.7s,mb4.1,baz=152,slow=7.5,SNR=6.1						
MAW	Mawson	80.27	199	P	P	16 19 19.1	+1.1
NVAR	Mina Array Bea	81.00	42	P	P	16 19 21.6	-0.8
	0.9nm,0.8s,mb3.7,baz=225,slow=8.4,SNR=5.6						
NVAR	Mina Array Bea	81.00	42	P	P	16 19 21.6	-0.8
TXAR	Lajitas Array	86.20	56	P	P	16 19 47.8	-1.5
	1.1nm,1.1s,mb4.0,baz=216,slow=5.9,SNR=5.2						
TXAR	Lajitas Array	86.20	56	P	P	16 19 47.8	-1.5
ENH	Enshi	89.38	303	*e*P	P	16 20 05.2	+0.8
	10nm,1.1s,mb5.1						
ILAR	Eielson Array	90.00	12	P	P	16 20 06.6	+0.1
	0.5nm,0.8s,mb3.9,baz=206,slow=6.0,SNR=4.2						
ILAR	Eielson Array	90.00	12	P	P	16 20 06.6	+0.1
CMAR	Chiang Mai Arr	93.23	289	P	P	16 20 24.8	+2.2
	2.5nm,0.9s,mb4.7,baz=111,slow=2.8,SNR=16						
CMAR	Chiang Mai Arr	93.23	289	P	P	16 20 24.8	+2.2
AKASG	Malin Array Be	146.21	332	PKPbc	PKPbc	16 26 47.0	-0.7
	4.3nm,0.7s,baz=39,slow=4.1,SNR=11						
AKASG	Malin Array Be	146.21	332	PKPbc	PKPbc	16 26 47.0	-0.7
BRTR	Keskin Array B	150.22	311	PKPbc	PKPbc	16 26 58.6	-0.1
	1.3nm,0.8s,baz=171,slow=4.0,SNR=6.7						
BRTR	Keskin Array B	150.22	311	PKPbc	PKPbc	16 26 58.6	-0.1
BUR08	Bucovina Ar. S	150.25	331	*e*PKPbc	PKPbc	16 26 58.3	-0.1

IDC ***28*** *16:17:29.6±1.1, 3.55N×126.98E, h0km, mb4.1/8, mb1 4.2/8, mb1mx4.0/20, mbtmp4.1/8, MS3.5/1, Ms1 3.5/1, ms1mx2.4/27, Error ellipse: s-maj=65.9km s-min=14.9km az=68.0*
NEIC ***28*** *16:17:34.8±0.6, 3.52N×126.94E, h35km, mb4.7/2, Error ellipse: s-maj=36.5km s-min=7.6km az=67.0*
ISCJB ***28*** *16:17:37.3±1.2, 3.4N±0.1×126.8E±0.2, h76km±13km, mb4.3/14, Error ellipse: s-maj=36.1km s-min=8.8km az=152.0*
MAN ***28*** *16:17:55, 4.81N×126.21E, h120km, mb4.8, ML3.7, MS3.7*

ISC 28 16:17:38.5±1.1,3.4N±0.1×126.8E±0.2,h70km±12km,n34,
σ0°43/33,mb4.3/14,1C,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	Mati	3.54	352	*e*P	Pn	16 18 31.4	+0.2
MATI				*e*S	Px	16 18 58.6	
CTBH	Cotabato--PC H	4.54	327	⇑*i* P	Pn	16 18 45.0	+0.2
BUKP	Musuan	4.75	339	*e*P	Pn	16 18 48.0	+0.3
PAGZ	Pagadian	5.54	323	*e*P	Pn	16 18 57.7	-0.8
FITZ	Fitzroy Crossi	21.41	183	P	P	16 22 20.7	-0.1
	1.5nm,0.4s,mb3.6,baz=16,slow=8.3,SNR=16						
FITZ	Fitzroy Crossi	21.41	183	P	P	16 22 20.7	-0.1
WRAB	Tennant Creek	24.37	162	*e*P	P	16 22 50.1	-0.2
	14nm,0.8s,mb4.4						
WRA	Warramunga Arr	24.37	163	P	P	16 22 50.2	0.0
	10nm,0.6s,mb4.3,baz=343,slow=10,SNR=63						
WRA	Warramunga Arr	24.37	163	P	P	16 22 50.2	0.0
WB2	Warramunga Arr	24.38	162	*e*P	P	16 22 49.9	-0.4
AS31	Alice Springs	27.80	166	*e*P	P	16 23 21.4	+0.2
ASAR	Alice Springs	27.80	166	P	P	16 23 21.5	+0.3
	0.7nm,0.3s,mb3.6,baz=346,slow=12,SNR=26						
ASAR	Alice Springs	27.80	166	P	P	16 23 21.5	+0.3
CMAR	Chiang Mai Arr	31.06	301	P	P	16 23 51.0	+0.8
	0.8nm,0.4s,mb3.8,baz=120,slow=7.5,SNR=8.2						
CMAR	Chiang Mai Arr	31.06	301	P	P	16 23 51.0	+0.8
NWAO	Narrogin (SRO)	37.25	193	LR	LR	16 40 10.8	
	comp=Z,62nm,19.4s,baz=120,slow=36						
STKA	Stephens Creek	37.82	159	P	P	16 24 48.4	0.0
	3.2nm,0.7s,mb4.3,baz=322,slow=7.2,SNR=11						
STKA	Stephens Creek	37.82	159	*e*P	P	16 24 48.7	+0.3
TAPN	Taplejung	44.23	307	*e*P	P	16 25 41.2	0.0
	2.9nm,0.4s,mb4.4						
ODAN	Odare	44.28	306	*e*P	P	16 25 41.2	-0.4
RAMN	Ramite	44.96	305	*e*P	P	16 25 47.0	0.0
GUN	Gumba	45.94	306	*e*P	P	16 25 54.8	+0.1
	5.4nm,0.4s,mb4.6						
KKN	Kakani	46.37	306	*e*P	P	16 25 58.1	0.0
GKN	Gorkha	46.98	306	*e*P	P	16 26 02.7	-0.2
SONM	Songino Array	47.61	341	P	P	16 26 08.1	+0.7
	0.6nm,0.4s,mb3.8,baz=166,slow=8.4,SNR=7.7						
SONM	Songino Array	47.61	341	P	P	16 26 08.1	+0.7
KOLN	Koldanda	47.73	305	*e*P	P	16 26 08.8	+0.1
	6.9nm,0.3s,mb5.0						
DANN	Dangsing	47.83	306	*e*P	P	16 26 09.3	-0.2
	12nm,0.5s,mb5.0						
PYUN	Piuthan	48.36	305	*e*P	P	16 26 14.1	+0.6
MKAR	Makanchi Array	57.83	325	P	P	16 27 23.1	+0.2
	1.7nm,0.4s,mb4.4,baz=123,slow=8.2,SNR=14						
MKAR	Makanchi Array	57.83	325	P	P	16 27 23.1	+0.2
ZALV	Zalesovo Beam	60.88	333	P	P	16 27 42.5	-1.3
	0.6nm,0.4s,mb4.0,baz=144,slow=4.8,SNR=3.0						
ZALV	Zalesovo Beam	60.88	333	P	P	16 27 42.5	-1.3
KURK	Kurchatov	62.02	328	*e*P	P	16 27 51.2	-0.4
	4.2nm,0.6s

MKAR	**Makanchi Array**	**43.45**	**298**	P		**P**	**17 27 01.5**	**-0.2**
ILAR	**Eielson Array**	**44.41**	**35**	P		**P**	**17 27 10.0**	**+0.8**
	0.3nm,0.7s,mb3.2,baz=278,slow=8.0,SNR=5.8							
ILAR	**Eielson Array**	**44.41**	**35**	P		**P**	**17 27 10.0**	**+0.8**
TXAR	**Lajitas Array**	**85.66**	**54**	P		**P**	**17 31 38.3**	**+0.7**
	0.1nm,0.6s,mb3.2,baz=312,slow=5.6,SNR=4.7							
TXAR	**Lajitas Array**	**85.66**	**54**	P		**P**	**17 31 38.3**	**+0.8**

BEO ***28*** *17:28:47.0±0.6, 43.82N×17.32E, h0km, ML2.6/6*
ISCJB ***28*** *17:28:48.7±0.7, 43.92N±0.05×17.44E±0.05, h10km, Error ellipse: s-maj=8.4km s-min=4.0km az=22.4*
CSEM ***28*** *17:28:48.6±0.3, 43.85N×17.39E, h2km, ML2.6, Error ellipse: s-maj=8.4km s-min=4.2km az=35.0*

ISC 28 17:28:49.1±0.7, 43.86N±0.05×17.42E±0.05, h10km, n15, σ0s97/27, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.91**	**350**	*e*Pg		**Pg**		**17 29 05.1**	**-1.5**
BLY				*e*Sg		**Sg**		**17 29 18.2**	**-0.2**
BLY	**Banja Luka**	**0.91**	**350**	*e*Pg		**Pg**		**17 29 05.1**	**-1.5**
BLY				*e*Sg		**Sg**		**17 29 18.2**	**-0.2**
STON	**Ston**	**1.01**	**168**	*e*Pg		**Pg**		**17 29 01.8**	**-6.6**
STON				Sg		**Sg**		**17 29 16.1**	**-5.4**
BBLS	**Lazići**	**1.44**	**89**	*e*Pg		**Pn**		**17 29 14.8**	**-0.4**
BBLS				*e*Sg		**Sg**		**17 29 35.1**	**-0.3**
DIVS	**Divibare**	**1.88**	**82**	*e*Pn		**Pn**		**17 29 21.9**	**+0.7**
DIVS				*e*Sn		**Sg**		**17 29 48.0**	**-1.4**
DIVS	**Divibare**	**1.88**	**82**	*e*Pn		**Pn**		**17 29 21.9**	**+0.7**
DIVS				*e*Sn		**Sg**		**17 29 48.0**	**-1.4**
SJES	**Sjenica**	**1.95**	**107**	*e*Pn		**Pn**		**17 29 23.3**	**+1.0**
SJES				*e*Sn		**Sn**		**17 29 48.1**	**+1.3**
NVLJ	**Novalja**	**1.96**	**292**	*e*Pn		**Pn**		**17 29 23.0**	**+0.6**
NVLJ				Sg		**Sg**		**17 29 51.9**	**-0.3**
NVLJ	**Novalja**	**1.96**	**292**	*e*Pn		**Pn**		**17 29 22.9**	**+0.5**
NVLJ				Sg		**Sg**		**17 29 51.8**	**-0.3**
PDG	**Podgorica**	**1.96**	**136**	*e*Pn		**Pn**		**17 29 23.0**	**+0.6**
PDG				*e*Sg		**Sg**		**17 29 50.1**	**-2.1**
PDG	**Podgorica**	**1.96**	**136**	*e*Pn		**Pn**		**17 29 23.0**	**+0.6**
PDG				*e*Sg		**Sg**		**17 29 50.1**	**-2.1**
TRUS	**Trudelj**	**2.19**	**79**	*e*Pn		**Pn**		**17 29 26.8**	**+1.3**
TRUS				*e*Sg		**Sg**		**17 30 00.0**	**+0.6**
TRUS	**Trudelj**	**2.19**	**79**	*e*Pn		**Pn**		**17 29 26.8**	**+1.3**
BARS	**Barje**	**3.37**	**106**	*e*Pn		**Pn**		**17 29 42.1**	**+0.3**
BARS	**Barje**	**3.37**	**106**	*e*Pn		**Pn**		**17 29 42.1**	**+0.3**

IDC ***28*** *17:30:17.8±2.5, 3.87S×135.16E, h0km, mb3.5/2, mb1 3.7/5, mb1mx3.6/14, mbtmp3.6/5, ML3.4/3, MS3.2/1, Ms1 3.1/1, ms1mx2.5/16, Error ellipse: s-maj=109.5km s-min=25.4km az=86.0*
ISCJB ***28*** *17:30:20.4±0.9, 3.96S±0.09×135.1E±0.1, h33km, mb3.5/2, Error ellipse: s-maj=18.1km s-min=12.8km az=170.9*
NEIC ***28*** *17:30:22.8±0.9, 4.00S×135.07E, h35km, Error ellipse: s-maj=17.4km s-min=12.6km az=79.0*

ISC 28 17:30:22.8±0.9, 4.00S±0.09×135.1E±0.1, h35km, n16, σ0s86/19, mb3.5/2, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**13.12**	**115**	P		**Pn**		**17 33 27.1**	**+0.4**
WRAB	**Tennant Creek**	**15.85**	**183**	*e*Pn		**Pn**		**17 34 03.1**	**-0.2**
WB2	**Warramunga Arr**	**15.86**	**183**	*e*Pn		**Pn**		**17 34 03.0**	**-0.4**
WRA	**Warramunga Arr**	**15.86**	**183**	Pn		**Pn**		**17 34 02.8**	**-0.7**
	0.1nm,0.3s,baz=4.1,slow=13,SNR=5.0								
WRA				Sn		**Sn**		**17 36 52.6**	**-5.7**
	0.1nm,0.3s,baz=12,slow=22,SNR=4.3								
WRA	**Warramunga Arr**	**15.86**	**183**	Pn		**Pn**		**17 34 02.8**	**-0.7**
WRA				Sn		**Sn**		**17 36 52.6**	**-5.7**
FITZ	**Fitzroy Crossi**	**16.80**	**213**	Pn		**Pn**		**17 34 14.9**	**-0.5**
	0.1nm,0.3s,baz=334,slow=21,SNR=6.1								
FITZ				Sn		**Sn**		**17 37 10.9**	**-10**
	0.1nm,0.3s,baz=115,slow=19,SNR=4.1								
FITZ	**Fitzroy Crossi**	**16.80**	**213**	Pn		**Pn**		**17 34 14.9**	**-0.5**
FITZ				Sn		**Sn**		**17 37 10.9**	**-10**
CTAO	**Charters Tower**	**19.33**	**147**	*e*P		**Pn**		**17 34 45.3**	**-1.1**
AS31	**Alice Springs**	**19.58**	**183**	*e*P		**Pn**		**17 34 51.4**	**+2.0**
ASAR	**Alice Springs**	**19.59**	**183**	P		**Pn**		**17 34 50.5**	**+1.1**
	0.4nm,0.3s,baz=6.9,slow=11,SNR=29								
ASAR	**Alice Springs**	**19.59**	**183**	P		**Pn**		**17 34 50.5**	**+1.1**
STKA	**Stephens Creek**	**28.39**	**168**	LR		LR		17 48 08.3	
	comp=Z,49nm,20.6s,baz=261,slow=38								
SONM	**Songino Array**	**57.43**	**337**	P		**P**		**17 40 07.6**	**-0.4**
	0.2nm,0.4s,mb3.5,baz=152,slow=7.8,SNR=4.8								
SONM	**Songino Array**	**57.43**	**337**	P		**P**		**17 40 07.6**	**-0.4**
MKAR	**Makanchi Array**	**68.66**	**324**	P		**P**		**17 41 22.9**	**+0.3**
	0.3nm,0.5s,mb3.4,baz=123,slow=6.0,SNR=4.2								
MKAR	**Makanchi Array**	**68.66**	**324**	P		**P**		**17 41 22.9**	**+0.3**

ISCJB ***28*** *17:37:11.4±2.4, 19.0N±0.1×145.1E±0.3, h261km±22km, mb3.6/7, Error ellipse: s-maj=50.8km s-min=23.0km az=7.4*
IDC ***28*** *17:37:11.2±3.3, 19.10N×145.21E, h246km±31km, mb3.4/6, mb1 3.6/7, mb1mx3.2/24, mbtmp3.4/7, Error ellipse: s-maj=44.2km s-min=19.6km az=97.0*
NEIC ***28*** *17:37:11.6±1.9, 19.06N×145.22E, h252km±18km, mb3.7/1, Error ellipse: s-maj=38.0km s-min=17.2km az=97.0*

ISC 28 17:37:11.7±2.3, 19.1N±0.1×145.2E±0.3, h251km±21km, n16, σ0s69/16, mb3.6/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.44**	**183**	P		**Pn**		**17 38 32.9**	**-0.1**
	2.1nm,0.3s,baz=3.4,slow=14,SNR=3.8								
GUMO	**Guam**	**5.44**	**183**	P		**Pn**		**17 38 32.9**	**-0.1**
WRAB	**Tennant Creek**	**40.17**	**196**	*e*P		**P**		**17 44 23.6**	**-0.2**
	2.1nm,0.6s,mb3.7								
WRA	**Warramunga Arr**	**40.18**	**196**	P		**P**		**17 44 24.3**	**+0.4**
	1.1nm,0.5s,mb3.5,baz=18,slow=9.0,SNR=25								
WRA	**Warramunga Arr**	**40.18**	**196**	P		**P**		**17 44 24.3**	**+0.4**
FITZ	**Fitzroy Crossi**	**41.61**	**209**	P		**P**		**17 44 36.2**	**+0.6**
	2.3nm,0.8s,mb3.7,baz=33,slow=12,SNR=11								
FITZ	**Fitzroy Crossi**	**41.61**	**209**	P		**P**		**17 44 36.2**	**+0.6**
ASAR	**Alice Springs**	**43.86**	**195**	P		**P**		**17 44 53.7**	**+0.2**
	0.9nm,0.6s,mb3.3,baz=16,slow=7.4,SNR=28								
ASAR	**Alice Springs**	**43.86**	**195**	P		**P**		**17 44 53.7**	**+0.2**
STKA	**Stephens Creek**	**50.75**	**184**	P		**P**		**17 45 45.3**	**-1.0**
BVAR	**Borovoye Array**	**65.89**	**320**	P		**P**		**17 47 31.1**	**+0.6**
	0.5nm,0.4s,mb3.5,baz=96,slow=8.3,SNR=4.9								
BVAR	**Borovoye Array**	**65.89**	**320**	P		**P**		**17 47 31.1**	**+0.6**
NVAR	**Mina Array Bea**	**83.31**	**52**	P		**P**		**17 49 11.3**	**+0.7**
	0.4nm,0.6s,mb3.3,baz=261,slow=7.4,SNR=5.5								
NVAR	**Mina Array Bea**	**83.31**	**52**	P		**P**		**17 49 11.3**	**+0.7**
FINES	**FINESS Array B**	**86.36**	**335**	P		**P**		**17 49 23.9**	**-1.4**
	3.9nm,0.9s,mb4.1,baz=59,slow=4.8,SNR=7.0								
FINES	**FINESS Array B**	**86.36**	**335**	P		**P**		**17 49 23.9**	**-1.4**

ISCJB ***28*** *18:04:15.3±2.1, 6.1S±0.1×154.12E±0.08, h63km±20km, mb3.8/11, Error ellipse: s-maj=22.4km s-min=12.8km az=168.3*
NEIC ***28*** *18:04:17.7±1.8, 6.15S×154.08E, h70km±17km, mb4.2/5, Error ellipse: s-maj=19.0km s-min=13.7km az=161.0*
IDC ***28*** *18:04:18.8±6.4, 6.17S×154.03E, h78km±50km, mb3.3/7, mb1 3.5/8, mb1mx3.4/17, mbtmp3.4/8, ML3.2/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/14, Error ellipse: s-maj=48.9km s-min=24.4km az=103.0*

ISC 28 18:04:17.9±1.7, 6.2S±0.1×154.12E±0.09, h71km±16km, n28, σ1s15/29, mb3.7/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.62**	**120**	LR		LR		18 08 28.1	
	comp=Z,176nm,18.1s,baz=153,slow=37								
HNR	**Honiara**	**6.62**	**120**	*e*Pn		**Pn**		**18 05 52.6**	**-0.2**
HNR				*e*Sn		**Sn**		**18 06 55.8**	**-11**
PMG	**Port Moresby**	**7.61**	**245**	P		**Pn**		**18 06 04.8**	**-1.4**
	2.1nm,0.3s,baz=22,slow=6.4,SNR=9.1								
PMG				S		**Sn**		**18 07 33.6**	**+2.7**
	3.0nm,0.3s,baz=290,slow=17,SNR=10								
PMG	**Port Moresby**	**7.61**	**245**	P		**Pn**		**18 06 04.8**	**-1.4**
PMG				*e*Pn		**Pn**		**18 06 05.0**	**-1.1**
PMG				*e*Sn		**Sn**		**18 07 26.3**	**-4.6**
PMG				S		**Sn**		**18 07 33.6**	**+2.7**
CTA	**Charters Tower**	**15.81**	**208**	P		**Pn**		**18 07 59.0**	**+2.8**
	0.3nm,0.3s,baz=25,slow=17,SNR=3.4								
CTA	**Charters Tower**	**15.81**	**208**	P		**Pn**		**18 07 59.0**	**+2.8**
CTAO	**Charters Tower**	**15.81**	**208**	*e*Pn		**Pn**		**18 07 58.5**	**+2.2**
	2.7nm,0.8s								
WRAB	**Tennant Creek**	**23.58**	**233**	*e*P		**P**		**18 09 23.0**	**+0.6**
	6.4nm,1.2s,mb3.8								
WRA	**Warramunga Arr**	**23.59**	**233**	P		**P**		**18 09 21.9**	**-0.5**
	0.5nm,0.4s,mb3.2,baz=57,slow=9.7,SNR=12								
WRA				PcP		PcP		18 13 06.2	+0.4
	1.4nm,0.7s,baz=60,slow=2.4,SNR=13								
WRA	**Warramunga Arr**	**23.59**	**233**	P		**P**		**18 09 21.9**	**-0.5**
WRA				PcP		PcP		18 13 06.2	+0.4
ASAR	**Alice Springs**	**26.09**	**226**	P		**P**		**18 09 45.1**	**0.0**
	0.6nm,0.6s,mb3.2,baz=54,slow=8.9,SNR=14								
ASAR				PcP		PcP		18 13 11.8	+0.5
	0.4nm,0.5s,baz=50,slow=3.1,SNR=8.5								
ASAR	**Alice Springs**	**26.09**	**226**	P		**P**		**18 09 45.1**	**0.0**
ASAR				PcP		PcP		18 13 11.8	+0.5
STKA	**Stephens Creek**	**28.13**	**203**	P		**P**		**18 10 02.2**	**-1.1**
	0.7nm,0.5s,mb3.4,baz=36,slow=14,SNR=2.6								
STKA	**Stephens Creek**	**28.13**	**203**	P		**P**		**18 10 02.2**	**-1.1**
FITZ	**Fitzroy Crossi**	**30.21**	**244**	P		**P**		**18 10 21.1**	**-0.9**
	1.4nm,0.7s,mb3.7,baz=77,slow=8.1,SNR=6.3								
FITZ	**Fitzroy Crossi**	**30.21**	**244**	P		**P**		**18 10 21.1**	**-0.9**
DAV	**Davao City (W)**	**31.36**	**294**	LR		LR		18 21 17.4	
	comp=Z,75nm,18.4s,baz=271,slow=33								
KSM	**Kuching**	**44.39**	**278**	P		**P**		**18 12 21.2**	**-0.7**
	5.6nm,0.8s,mb4.3								
SONM	**Songino Array**	**68.17**	**328**	P		**P**		**18 15 10.3**	**-0.3**
	0.5nm,0.6s,mb3.5,baz=121,slow=4.8,SNR=4.2								
SONM	**Songino Array**	**68.17**	**328**	P		**P**		**18 15 10.3**	**-0.3**
LSA	**Lhasa**	**70.09**	**304**	*e*P		**P**		**18 15 24.2**	**+1.3**
	3.9nm,0.7s,mb4.3								
ILAR	**Eielson Array**	**82.93**	**22**	P		**P**		**18 16 36.7**	**+2.0**
	0.4nm,0.7s,mb3.3,baz=254,slow=5.3,SNR=4.3								
ILAR	**Eielson Array**	**82.93**	**22**	P		**P**		**18 16 36.7**	**+2.0**
ZALV	**Zalesovo Beam**	**83.01**	**326**	P		**P**		**18 16 34.2**	**-1.1**
	0.2nm,0.3s,mb3.4,baz=116,slow=3.4,SNR=2.6								
ZALV	**Zalesovo Beam**	**83.01**	**326**	P		**P**		**18 16 34.2**	**-1.1**
QSPA	**South Pole Qui**	**83.80**	**180**	*e*P		**P**		**18 16 38.8**	**-0.2**
	2.8nm,0.9s,mb4.1								
TORD	**Torodi Ar. Bea**	**151.96**	**286**	PKPbc		PKPbc		18 24 04.9	-1.0
	0.8nm,0.3s,baz=102,slow=1.6,SNR=14								
TORD	**Torodi Ar. Bea**	**151.96**	**286**	PKPbc		PKPbc		18 24 04.9	-1.0

NEIC ***28*** *18:49:25.2±2.1, 4.41S×144.27E, h58km±21km, mb3.9/3, Error ellipse: s-maj=19.0km s-min=11.2km az=119.0*
ISCJB ***28*** *18:49:26.2±3.3, 4.4S±0.1×144.0E±0.2, h75km±31km, mb3.7/11, Error ellipse: s-maj=27.8km s-min=17.8km az=23.5*
IDC ***28*** *18:49:28.7±3.6, 4.41S×144.07E, h84km±34km, mb3.5/10, mb1 3.7/12, mb1mx3.6/17, mbtmp3.5/12, Error ellipse: s-maj=29.6km s-min=18.4km az=105.0*

ISC 28 18:49:28.9±2.8, 4.4S±0.1×144.0E±0.2, h86km±28km, n30, σ0s65/28, mb3.7/11, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.82**	**148**	P		**Pn**		**18 50 53.1**	**+0.3**
	1.0nm,0.3s,baz=325,slow=5.3,SNR=7.8								
PMG	**Port Moresby**	**5.82**	**148**	*e*Pn		**Pn**		**18 50 47.3**	**-5.5**
WRAB	**Tennant Creek**	**18.06**	**211**	*e*P		**Pn**		**18 53 34.2**	**-0.1**
	7.0nm,1.0s								
WB2	**Warramunga Arr**	**18.07**	**211**	*e*P		**Pn**		**18 53 33.6**	**-0.8**
WRA	**Warramunga Arr**	**18.08**	**211**	P		**Pn**		**18 53 34.3**	**-0.1**
	0.3nm,0.3s,baz=26,slow=12,SNR=24								
WRA				PcP		PcP		18 58 05.3	+0.7
	0.1nm,0.3s,baz=13,slow=2.0,SNR=5.3								
WRA	**Warramunga Arr**	**18.08**	**211**	P		**Pn**		**18 53 34.3**	**-0.1**
WRA				PcP		PcP		18 58 05.3	+0.7
AS31	**Alice Springs**	**21.47**	**206**	*e*P		**P**		**18 54 11.2**	**+0.6**
ASAR	**Alice Springs**	**21.47**	**206**	P		**P**		**18 54 11.2**	**+0.6**
	1.1nm,0.6s,mb3.4,baz=35,slow=8.5,SNR=32								
ASAR				PcP		PcP		18 58 10.2	-0.5
	0.5nm,0.8s,baz=44,slow=1.6,SNR=4.2								
ASAR	**Alice Springs**	**21.47**	**206**	P		**P**		**18 54 11.2**	**+0.6**
ASAR				PcP		PcP		18 58 10.2	-0.5
FITZ	**Fitzroy Crossi**	**22.55**	**232**	P		**P**		**18 54 21.5**	**-0.6**
	2.9nm,0.6s,mb3.8,baz=45,slow=9.0,SNR=27								
FITZ	**Fitzroy Crossi**	**22.55**	**232**	P		**P**		**18 54 21.5**	**-0.6**
CMAR	**Chiang Mai Arr**	**49.92**	**299**	P		**P**		**18 58 14.7**	**+0.3**
	1.0nm,0.4s,mb3.5,baz=120,slow=6.3,SNR=4.1								
CMAR	**Chiang Mai Arr**	**49.92**	**299**	P		**P**		**18 58 14.7**	**+0.3**
PETK	**Petropavlovsk-**	**58.48**	**10**	P		**P**		**18 59 16.6**	**+0.7**
	1.2nm,0.6s,mb4.1,baz=171,slow=8.6,SNR=4.9								
PETK	**Petropavlovsk-**	**58.48**	**10**	P		**P**		**18 59 16.6**	**+0.7**
SONM	**Songino Array**	**61.64**	**332**	P		**P**		**18 59 38.4**	**+0.8**
	0.1nm,0.3s,mb3.3,baz=123,slow=7.6,SNR=3.8								
SONM	**Songino Array**	**61.64**	**332**	P		**P**		**18 59 38.4**	**+0.8**
MKAR	**Makanchi Array**	**74.44**	**321**	P		**P**		**19 00 57.9**	**+0.1**
	0.2nm,0.5s,mb3.1,baz=95,slow=9.8,SNR=6.5								
MKAR	**Makanchi Array**	**74.44**	**321**	P		**P**		**19 00 57.9**	**+0.1**
ZALV	**Zalesovo Beam**	**76.14**	**328**	P		**P**		**19 01 06.5**	**-1.0**
	0.8nm,0.6s,mb3.6,baz=115,slow=6.2,SNR=4.5								
ZALV	**Zalesovo Beam**	**76.14**	**328**	P		**P**		**19 01 06.5**	**-1.0**
MAW	**Mawson**	**82.55**	**202**	P		**P**		**19 01 42.7**	**+0.7**
	1.0nm,0.3s,mb4.2,baz=45,slow=23,SNR=10								
MAW	**Mawson**	**82.55**	**202**	*e*P		**P**		**19 01 42.5**	**+0.5**
	0.5nm,0.6s,mb3.5								
BVAR	**Borovoye Array**	**83.79**	**324**	P		**P**		**19 01 48.9**	**+0.2**
	1.7nm,0.6s,mb4.1,baz=117,slow=8.5,SNR=9.4								
BVAR	**Borovoye Array**	**83.79**	**324**	P		**P**		**19 01 48.9**	**+0.2**
ILAR	**Eielson Array**	**85.23**	**24**	P		**P**		**19 01 54.1**	**-1.5**
	0.9nm,0.8s,mb3.8,baz=261,slow=4.8,SNR=11								
ILAR	**Eielson Array**	**85.23**	**24**	P		**P**		**19 01 54.1**	**-1.5**
QSPA	**South Pole Qui**	**85.52**	**180**	*e*P		**P**		**19 01 56.7**	**-0.2**
	3.6nm,0.6s,mb4.5								
DBIC	**Dimbokro**	**148.97**	**276**	PKPbc		PKPbc		19 09 07.5	-0.6
	0.9nm,0.4s,baz=210,slow=3.0,SNR=6.0								
DBIC	**Dimbokro**	**148.97**	**276**	PKPbc		PKPbc		19 09 07.5	-0.6

TAP ***28*** *18:50:50.8, 24.41N×121.85E, h17km, ML3.3, B*
JMA ***28*** *18:50:50.4±0.2, 24.60N×121.79E, h45km, M2.5*

ISC 28 18:50:50.3±0.4, 24.39N±0.02×121.94E±0.02, h3km±3km, n55, σ0s92/88, 3C-10D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.18**	**283**	⇑*i*P		**Pg**		**18 50 54.5**	**+0.6**
	baz=284								
ENA				*e*S		**Sg**		**18 50 56.7**	**+0.3**
	baz=284								
EHP	**Heping Village**	**0.20**	**247**	*i* P		**Pg**		**18 50 54.9**	**+0.7**
	baz=224								
EHP				*i* S		**Sg**		**18 50 57.8**	**+1.1**
	baz=224								
TWC	**Suao**	**0.24**	**340**	⇓*i*P		**Pg**		**18 50 55.8**	**+0.9**
	baz=9.0								
TWC				*i* S		**Sg**		**18 50 58.9**	**+0.8**
	baz=9.0								
ILA	**Ilan**	**0.41**	**335**	⇓*i*P		**Pg**		**18 50 59.1**	**+0.7**
	baz=348								
ILA				*i* S		**Sg**		**18 51 04.6**	**+0.8**
	baz=348								
TWE	**Neicheng**	**0.41**	**324**	⇓*i*P		**Pg**		**18 50 58.4**	**+0.1**
	baz=335								
TWE				S		**Sg**		**18 51 03.7**	**-0.1**
	baz=335								
ENTT	**Nioudou**	**0.42**	**307**	⇓*i*P		**Pg**		**18 50 58.4**	**-0.1**
	baz=314								
ENTT				S		**Sg**		**18 51 03.3**	**-0.7**
	baz=314								
TWD	**Chiawan**	**0.44**	**226**	*i* P		**Pg**		**18 50 58.9**	**+0.2**
	baz=219								
TWD				S		**Sg**		**18 51 04.3**	**-0.1**
	baz=219								
HWA	**Hwalien**	**0.51**	**217**	⇓P		**Pg**		**18 51 01.1**	**+1.0**
	baz=213								
NNS	**Nan Shan**	**0.52**	**276**	⇑*i*P		**Pg**		**18 50 59.8**	**-0.5**
	baz=276								
NNS				S		**Sg**		**18 51 05.6**	**-1.4**
	baz=276								
NSK	**Sanguang**	**0.60**	**299**	⇓*i*P		**Pg**		**18 51 01.4**	**-0.5**
	baz=303								
NSK				S		**Sg**		**18 51 08.0**	**-1.7**
	baz=303								
TWB1	**Santiao Chiao**	**0.62**	**4**	P		**Pg**		**18 51 02.8**	**+0.5**
	baz=13								
TWB1				S		**Sg**		**18 51 10.5**	**+0.1**
	baz=13								
WHF	**Hehuan Shan**	**0.66**	**249**	⇑*i*P		**Pg**		**18 51 02.6**	**-0.4**
	baz=252								
WHF				S		**Sg**		**18 51 10.7**	**-0.8**
	baz=252								
TWA	**Mucha**	**0.67**	**331**	P		**Pg**		**18 51 03.2**	**-0.1**
	baz=327								
TWA				*e*S		**Sg**		**18 51 11.5**	**-0.5**
	baz=327								
NWF	**Wu-fen Shan**	**0.70**	**348**	*e*P		**Pg**		**18 51 03.5**	**-0.3**
	baz=347								
NWF				S		**Sg**		**18 51 13.0**	**+0.2**
	baz=347								
TWT	**Tachien**	**0.71**	**259**	*e*P		**Pg**		**18 51 03.3**	**-0.6**
	baz=257								
TWT				*e*S		**Sg**		**18 51 12.1**	**-1.1**
	baz=257								
ESL	**Shilin**	**0.73**	**219**	*e*P		**Pg**		**18 51 03.9**	**-0.5**
	baz=219								
TAP1	**Taipei**	**0.75**	**330**	*e*P		**Pg**		**18 51 04.7**	**-0.1**
	baz=327								
TAP1				S		**Sg**		**18 51 14.4**	**-0.2**
	baz=327								
TWS1	**Kuangyinshan**	**0.85**	**326**	⇓*i*P		**Pg**		**18 51 07.0**	**+0.3**
	baz=332								
TWS1				S		**Sg**		**18 51 18.6**	**+0.7**
	baz=332								
NSTT	**Nanjuang**	**0.89**	**286**	*e*P		**Pg**		**18 51 07.0**	**-0.3**
	baz=279								
NSTT				*e*S		**Sg**		**18 51 17.1**	**-1.9**
	baz=279								
NCU	**National Centr**	**0.90**	**311**	*e*P		**Pg**		**18 51 08.0**	**+0.4**
	baz=322								
NCU				*e*S		**Sg**		**18 51 19.4**	**+0.1**
	baz=322								
TWY	**Chenhua**	**0.94**	**341**	⇓*i*P		**Pg**		**18 51 08.9**	**+0.5**
	baz=347								
TWY				*e*S		**Sg**		**18 51 20.6**	**+0.1**
	baz=347								
HSN	**Hsinchu**	**0.97**	**295**	*e*P		**Pg**		**18 51 09.3**	**+0.2**
	baz=299								
YOJ	**Yonaguni jima**	**0.98**	**85**	*e*P		**Pg**		**18 51 09.8**	**+0.6**
	baz=277								
YOJ	**Yonaguni jima**	**0.98**	**85**	P		**Pg**		**18 51 09.9**	**+0.7**
YOJ				*e*S		**Sg**		**18 51 24.3**	**+2.4**
EHY	**Hungye**	**1.04**	**213**	*e*P		**Pg**		**18 51 08.9**	**-1.5**
	baz=219								
TWQ1	**Liyutan**	**1.06**	**268**	*e*P		**Pg**		**18 51 11.1**	**+0.4**
	baz=276								
SMLT	**Sun Moon Lake**	**1.07**	**242**	⇓P		**Pg**		**18 51 10.2**	**-0.7**
	baz=239								
NSY	**Sanyi**	**1.07**	**272**	*e*P		**Pg**		**18 51 11.6**	**+0.6**
	baz=271								
TYC	**Yuchr**	**1.10**	**244**	*e*P		**Pg**		**18 51 10.4**	**-1.0**
	baz=241								
TCU	**Taichung**	**1.18**	**259**	⇓P		**Pg**		**18 51 13.5**	**+0.6**
	baz=257								
TWF1	**Yuli**	**1.19**	**210**	*e*P		**Pg**		**18 51 09.8**	**-3.3**
	baz=219								
WNT	**Mingjian**	**1.25**	**246**	*e*P		**Pg**		**18 51 13.8**	**-0.6**
	baz=243								
WNT				*e*S		**Sg**		**18 51 33.9**	**+3.2**
	baz=243								
YUS	**Yu-Shan**	**1.27**	**226**	*e*P		**Pg**		**18 51 13.6**	**-1.1**
	baz=211								
YUS				*e*S		**Sg**		**18 51 31.5**	**+0.4**
	baz=211								
ALS	**Alishan**	**1.35**	**230**	*e*P		**Pn**		**18 51 15.3**	**-0.9**
	baz=220								
ALS				*e*S		**Sg**		**18 51 35.5**	**+1.7**
	baz=220								
CHKT	**Chengkung**	**1.38**	**202**	*e*P		**Pn**		**18 51 14.6**	**-2.0**
	baz=183								
CHN5	**Tsauling**	**1.40**	**236**	*e*P		**Pn**		**18 51 16.4**	**-0.4**
	baz=235								
CHN5				*e*S		**Sg**		**18 51 36.7**	**+1.5**
	baz=235								

		270nm,0.2s,SNR=18								
EBER					Lg			18 58 21.0		
		582nm,0.4s,SNR=7.9								
EQUE	**Quentar**		**0.82**	**255**	Pg	**Pg**		**18 58 16.2**	**0.0**	
		27nm,0.2s,SNR=110								
EQUE					Lg			18 58 28.0		
		115nm,0.2s,SNR=26								
EQUE	**Quentar**		**0.82**	**255**	Pg	**Pg**		**18 58 16.2**	**+0.1**	
		27nm,0.2s,SNR=110								
EQUE					Lg			18 58 28.0		
		115nm,0.2s,SNR=26								
ECOG	**Cogollos-Vega**		**0.91**	**261**	Pg	**Pg**		**18 58 17.8**	**+0.1**	
		8.7nm,0.1s,SNR=20								
ECOG					Lg			18 58 30.3		
		163nm,0.3s,SNR=7.9								
ECOG	**Cogollos-Vega**		**0.91**	**261**	Pg	**Pg**		**18 58 17.8**	**+0.1**	
		8.7nm,0.1s,SNR=20								
ECOG					Lg			18 58 30.3		
		163nm,0.3s,SNR=7.9								
EMUR	**La Murta**		**1.04**	**66**	Pg	**Pg**		**18 58 20.4**	**+0.1**	
		36nm,0.3s,SNR=110								
EMUR					Lg			18 58 34.8		
		197nm,0.5s,SNR=6.1								
EMUR	**La Murta**		**1.04**	**66**	Pg	**Pg**		**18 58 20.4**	**+0.1**	
		36nm,0.3s,SNR=110								
EMUR					Lg			18 58 34.8		
		197nm,0.5s,SNR=6.1								
EGUA	**Guajares**		**1.07**	**237**	Pg	**Pg**		**18 58 20.4**	**-0.5**	
		238nm,0.2s,SNR=7.9								
EGUA					Lg			18 58 35.8		
		450nm,0.4s,SNR=7.9								
EGUA	**Guajares**		**1.07**	**237**	Pg	**Pg**		**18 58 20.4**	**-0.5**	
		238nm,0.2s,SNR=7.9								
EGUA					Lg			18 58 35.8		
		450nm,0.4s,SNR=7.9								
CART	**Cartagena**		**1.16**	**82**	Pg	**Pg**		**18 58 21.1**	**-1.5**	
CART					Lg			18 58 34.2		
CART	**Cartagena**		**1.16**	**82**	*i* P	**Pg**		**18 58 21.1**	**-1.5**	
CART					*e*S	**Sg**		**18 58 34.2**	**-3.4**	
ERON	**Agron**		**1.16**	**250**	Pg	**Pg**		**18 58 21.9**	**-0.7**	
		15nm,0.3s,SNR=7.9								
ERON	**Agron**		**1.16**	**250**	Pg	**Pg**		**18 58 21.9**	**-0.7**	
		15nm,0.3s,SNR=7.9								
EVIA	**Vianos**		**1.21**	**358**	Pg	**Pg**		**18 58 24.3**	**+0.7**	
		25nm,0.2s,SNR=54								
EVIA					Lg			18 58 43.3		
		197nm,0.3s,SNR=7.9								
EVIA	**Vianos**		**1.21**	**358**	Pg	**Pg**		**18 58 24.3**	**+0.7**	
		25nm,0.2s,SNR=54								
EVIA					Lg			18 58 43.3		
		197nm,0.3s,SNR=7.9								
ELOJ	**Sierra Loja**		**1.39**	**259**	Pg	**Pg**		**18 58 27.6**	**+0.5**	
		15nm,0.2s,SNR=7.9								
ELOJ					Lg			18 58 49.0		
		70nm,0.6s,SNR=7.9								
ELOJ	**Sierra Loja**		**1.39**	**259**	Pn	**Pn**		**18 58 27.1**	**+0.2**	
		1.2nm,0.2s,SNR=7.9								
ELOJ	**Sierra Loja**		**1.39**	**259**	Pg	**Pg**		**18 58 29.8**	**+2.8**	
		SNR=7.9								
ELOJ					Lg			18 58 49.3		
		70nm,0.6s,SNR=7.9								
ETOB	**Tobarra**		**1.41**	**30**	Pg	**Pg**		**18 58 27.6**	**+0.2**	
		1.3nm,0.2s,SNR=73								
ETOB					Lg			18 58 47.1		
		35nm,0.2s,SNR=7.9								
ETOB	**Tobarra**		**1.41**	**30**	Pn	**Pn**		**18 58 27.6**	**+0.4**	
		1.3nm,0.2s,SNR=73								
ETOB	**Tobarra**		**1.41**	**30**	Pg	**Pg**		**18 58 28.6**	**+1.2**	
		4.9nm,0.2s,SNR=7.9								
ETOB					Sn	**Sn**		**18 58 47.1**	**+0.7**	
		35nm,0.2s,SNR=7.9								
ELUQ	**Luque**		**1.46**	**276**	Pg	**Pg**		**18 58 29.6**	**+1.3**	
		53nm,0.2s,SNR=7.9								
ELUQ					Lg			18 58 50.3		
		274nm,0.3s,SNR=7.9								
ELUQ	**Luque**		**1.46**	**276**	Pg	**Pg**		**18 58 29.6**	**+1.3**	
		53nm,0.2s,SNR=7.9								
ELUQ					Lg			18 58 50.3		
		274nm,0.3s,SNR=7.9								
EMAL	**Malaga-Limoner**		**1.72**	**248**	Pg	**Pg**		**18 58 31.5**	**-1.8**	
EMAL					Lg			18 58 54.6		
EMAL	**Malaga-Limoner**		**1.72**	**248**	*i* P	**Pn**		**18 58 31.5**	**+0.1**	
EMAL					*e*S	**Sn**		**18 58 54.6**	**+0.6**	
EADA	**Adamuz**		**1.84**	**294**	Pn	**Pn**		**18 58 33.1**	**-0.1**	
		6.3nm,0.3s,SNR=32								
EADA					Lg			18 59 01.8		
		89nm,0.3s,SNR=7.9								
EADA	**Adamuz**		**1.84**	**294**	Pn	**Pn**		**18 58 33.1**	**-0.1**	
		6.3nm,0.3s,SNR=32								
EADA					Lg			18 59 01.8		
		89nm,0.3s,SNR=7.9								
EMIJ	**Mijas**		**2.05**	**246**	Pn	**Pn**		**18 58 33.3**	**-2.7**	
		3.8nm,0.2s,SNR=12								
EMIJ					Pg	**Pg**		**18 58 36.9**	**-2.8**	
		2.4nm,0.3s,SNR=7.9								
EMIJ					Lg			18 59 07.2		
		54nm,0.6s,SNR=7.9								
EMIJ	**Mijas**		**2.05**	**246**	Pn	**Pn**		**18 58 36.0**	**0.0**	
		3.8nm,0.2s,SNR=12								
EMIJ	**Mijas**		**2.05**	**246**	Pg	**Pg**		**18 58 40.5**	**+0.8**	
		SNR=7.9								
EMIJ					Lg			18 59 07.2		
		54nm,0.6s,SNR=7.9								
EBEN	**Beniarda**		**2.17**	**53**	Pn	**Pn**		**18 58 36.2**	**-1.4**	
		1.8nm,0.3s,SNR=6.0								
EBEN	**Beniarda**		**2.17**	**53**	Pn	**Pn**		**18 58 36.2**	**-1.4**	
		1.8nm,0.3s,SNR=6.0								
LIJA	**Lijar**		**2.42**	**259**	Pg	**Pn**		**18 58 43.0**	**+1.9**	
LIJA					Lg			18 59 19.0		
LIJA	**Lijar**		**2.42**	**259**	*e*P	**Pn**		**18 58 43.0**	**+1.9**	
ECHE	**Chera**		**2.45**	**28**	Pg	**Pg**		**18 58 47.5**	**+0.2**	
		3.4nm,0.3s,SNR=7.9								
ECHE					Lg			18 59 20.4		
		3.2nm,0.2s,SNR=7.9								
ECHE	**Chera**		**2.45**	**28**	Pg	**Pg**		**18 58 47.5**	**+0.1**	
		SNR=7.9								
ECHE					Lg			18 59 20.4		
		SNR=7.9								
ESDC	**Sonseca Array**		**2.54**	**333**	Pn	**Pn**		**18 58 43.3**	**+0.6**	
		0.9nm,0.2s,baz=148,slow=13,SNR=9.3								
ESDC					Pg	**Pg**		**18 58 48.8**	**-0.3**	
		2.8nm,0.3s,baz=151,slow=17,SNR=24								
ESDC	**Sonseca Array**		**2.54**	**333**	Pn	**Pn**		**18 58 43.3**	**+0.6**	
		0.9nm,0.2s,baz=148,slow=13,SNR=9.3								
EJIF	**Jimena Fronter**		**2.61**	**249**	Pg	**Pg**		**18 58 51.3**	**+0.9**	
		SNR=7.9								
ESPR	**Espera**		**2.78**	**260**	Pn	**Pn**		**18 58 47.3**	**+1.3**	
		0.3nm,0.1s,SNR=7.9								
ESPR					Pg	**Pg**		**18 58 50.6**	**-3.1**	
		1.8nm,0.2s,SNR=7.9								
ESPR					Sn	**Sn**		**18 59 18.6**	**-1.7**	
		3.4nm,0.2s,SNR=7.9								
ESPR					Lg			18 59 25.9		
		6.9nm,0.2s,SNR=7.9								
EMOS	**Mosqueruela**		**3.31**	**27**	Pn	**Pn**		**18 58 52.9**	**-0.4**	
		0.6nm,0.2s,SNR=7.9								
EMOS					Pg	**Pg**		**18 59 02.0**	**-1.9**	
		0.6nm,0.3s,SNR=7.9								
EMOS					Lg			18 59 47.5		
		0.9nm,0.2s,SNR=7.9								
EMOS	**Mosqueruela**		**3.31**	**27**	Lg			18 59 48.0		
		SNR=7.9								
EMIN	**Mina Concepcio**		**3.38**	**277**	Pn	**Pn**		**18 58 54.1**	**-0.1**	
		1.7nm,0.4s,SNR=23								
EMIN					Sn	**Sn**		**18 59 33.1**	**-1.8**	
		2.7nm,0.2s,SNR=7.9								
EMIN					Lg			18 59 48.4		
		26nm,0.6s,SNR=7.9								
EMIN	**Mina Concepcio**		**3.38**	**277**	Pn	**Pn**		**18 58 54.1**	**-0.1**	
		1.7nm,0.4s,SNR=23								
EMIN					Sn	**Sn**		**18 59 34.0**	**-0.9**	
		SNR=7.9								
EMIN					Lg			18 59 48.4		
		26nm,0.6s,SNR=7.9								
EIBI	**Ibiza**		**3.38**	**61**	Pn	**Pn**		**18 58 53.8**	**-0.5**	
		12nm,0.2s,SNR=7.9								
EIBI	**Ibiza**		**3.38**	**61**	Pn	**Pn**		**18 58 53.8**	**-0.5**	
		12nm,0.2s,SNR=7.9								
ETOR	**Torete**		**3.40**	**5**	Pn	**Pn**		**18 58 54.9**	**+0.3**	
		9.5nm,0.2s,SNR=15								
ETOR					Pg	**Pg**		**18 59 04.2**	**-1.3**	
		5.3nm,0.1s,SNR=7.9								
ETOR					Sn	**Sn**		**18 59 34.5**	**-1.0**	
		54nm,0.4s,SNR=6.7								
ETOR					Lg			18 59 51.2		
		106nm,0.4s,SNR=9.2								
ETOR	**Torete**		**3.40**	**5**	Pn	**Pn**		**18 58 54.9**	**+0.3**	
		9.5nm,0.2s,SNR=15								
ETOR	**Torete**		**3.40**	**5**	Pg	**Pg**		**18 59 05.8**	**+0.2**	
		SNR=7.9								
ETOR					Sn	**Sn**		**18 59 34.5**	**-1.1**	
		54nm,0.4s,SNR=6.7								
ETOR					Lg			18 59 51.2		
		106nm,0.4s,SNR=9.2								
GUD	**Guadarrama**		**3.48**	**338**	Pn	**Pn**		**18 58 56.8**	**+1.2**	
		0.8nm,0.2s,SNR=7.9								
GUD					Pg	**Pg**		**18 59 06.5**	**-0.5**	
		1.8nm,0.2s,SNR=7.9								
GUD					Lg			18 59 51.7		
		36nm,0.3s,SNR=7.9								
GUD	**Guadarrama**		**3.48**	**338**	Pn	**Pn**		**18 58 56.8**	**+1.2**	
		SNR=7.9								
PBAR	**Barrancos**		**3.72**	**283**	*e*Pn	**Pn**		**18 58 59.1**	**+0.2**	
PBAR					*e*Sn	**Sn**		**18 59 43.4**	**+0.1**	
		25nm,0.6s								
PBAR	**Barrancos**		**3.72**	**283**	*e*Pn	**Pn**		**18 58 59.1**	**+0.2**	
PBAR					*e*Sn	**Sn**		**18 59 43.4**	**+0.1**	
PBAR					A			19 00 02.8		
		25nm,0.6s								
EBAD	**Badajoz**		**3.84**	**292**	Pn	**Pn**		**18 59 00.2**	**-0.4**	
		1.7nm,0.3s,SNR=7.9								
EBAD					Sn	**Sn**		**18 59 43.9**	**-2.5**	
		6.9nm,0.2s,SNR=7.9								
EBAD					Lg			19 00 04.6		
		16nm,0.2s,SNR=7.9								
EBAD	**Badajoz**		**3.84**	**292**	Pn	**Pn**		**18 59 00.2**	**-0.4**	
		1.7nm,0.3s,SNR=7.9								
EBAD					Sn	**Sn**		**18 59 45.6**	**-0.8**	
		SNR=7.9								
EBAD					Lg			19 00 04.6		
		16nm,0.2s,SNR=7.9								
EPLA	**Plasencia**		**3.88**	**314**	Pn	**Pn**		**18 58 59.9**	**-1.2**	
		4.1nm,0.8s,SNR=6.2								
EPLA					Lg			19 00 02.9		
		44nm,0.5s,SNR=7.3								
EPLA	**Plasencia**		**3.88**	**314**	Pn	**Pn**		**18 58 59.9**	**-1.2**	
		4.1nm,0.8s,SNR=6.2								
EPLA					Lg			19 00 02.9		
		44nm,0.5s,SNR=7.3								
EGRO	**El Granado**		**4.01**	**273**	Pn	**Pn**		**18 59 03.0**	**+0.1**	
		4.3nm,0.4s,SNR=7.4								
EGRO					Sn	**Sn**		**18 59 49.3**	**-1.3**	
		6.8nm,0.3s,SNR=4.8								
EGRO					Lg			19 00 08.6		
		2.7nm,0.2s,SNR=7.9								
EGRO	**El Granado**		**4.01**	**273**	Pn	**Pn**		**18 59 03.0**	**+0.1**	
		4.3nm,0.4s,SNR=7.4								
EGRO					Sn	**Sn**		**18 59 50.0**	**-0.6**	
		6.8nm,0.3s,SNR=4.8								
EGRO					Lg			19 00 08.6		
		SNR=7.9								
ERTA	**Horta de San J**		**4.13**	**31**	Pn	**Pn**		**18 59 06.4**	**+1.8**	
		11nm,0.7s,SNR=6.8								
ERTA	**Horta de San J**		**4.13**	**31**	Pn	**Pn**		**18 59 06.4**	**+1.8**	
		11nm,0.7s,SNR=6.8								
PVAQ	**Vaqueiros**		**4.20**	**271**	*e*Pn	**Pn**		**18 59 05.8**	**+0.3**	
PVAQ					*e*Sn	**Sn**		**18 59 54.5**	**-0.7**	
		14nm,0.6s								
PVAQ	**Vaqueiros**		**4.20**	**271**	*e*Pn	**Pn**		**18 59 05.8**	**+0.3**	
PVAQ					*e*Sn	**Sn**		**18 59 54.5**	**-0.7**	
PVAQ					A			19 00 23.2		
		14nm,0.6s								
PESTR	**Estremoz**		**4.30**	**291**	*e*Pn	**Pn**		**18 59 06.3**	**-0.7**	
PESTR					*e*Sn	**Sn**		**18 59 58.8**	**+1.0**	
PESTR					*e*Sg	**Sg**		**19 00 21.1**	**+2.5**	
		20nm,0.7s								
PESTR	**Estremoz**		**4.30**	**291**	*e*Pn	**Pn**		**18 59 06.3**	**-0.7**	
PESTR					*e*Sn	**Sn**		**18 59 58.8**	**+1.0**	
PESTR					*e*Sg	**Sg**		**19 00 21.1**	**+2.5**	
PESTR					A			19 00 27.6		
		20nm,0.7s								
PMRV	**Marv??o**		**4.37**	**299**	*e*Pn	**Pn**		**18 59 09.0**	**+1.1**	
PMRV					*e*Sn	**Sn**		**18 59 59.9**	**+0.5**	
PMRV					*e*Sg	**Sg**		**19 00 21.0**	**+0.3**	
		46nm,0.6s								
PMRV	**Marv??o**		**4.37**	**299**	*e*Pn	**Pn**		**18 59 09.0**	**+1.1**	
PMRV					*e*Sn	**Sn**		**18 59 59.9**	**+0.5**	
PMRV					*e*Sg	**Sg**		**19 00 21.0**	**+0.3**	
PMRV					A			19 00 27.6		
		46nm,0.6s								
PBDV	**Barranco-do-Ve**		**4.38**	**269**	*e*Pn	**Pn**		**18 59 08.5**	**+0.5**	
PBDV					*e*Sn	**Sn**		**18 59 59.4**	**-0.2**	
		15nm,0.5s								
PBDV	**Barranco-do-Ve**		**4.38**	**269**	*e*Pn	**Pn**		**18 59 08.5**	**+0.5**	
PBDV					*e*Sn	**Sn**		**18 59 59.4**	**-0.2**	
PBDV					A			19 00 04.9		
		15nm,0.5s								
PCVE	**Castro Verde**		**4.45**	**274**	*e*Pn	**Pn**		**18 59 10.0**	**+1.0**	
PCVE					*e*Sn	**Sn**		**19 00 01.6**	**+0.1**	
		16nm,0.5s								
PCVE	**Castro Verde**		**4.45**	**274**	*e*Pn	**Pn**		**18 59 10.0**	**+1.0**	
PCVE					*e*Sn	**Sn**		**19 00 01.6**	**+0.1**	
PCVE					A			19 00 27.0		
		16nm,0.5s								
EVO	**Evora**		**4.54**	**286**	*e*Pn	**Pn**		**18 59 11.0**	**+0.8**	
EVO	**Evora**		**4.54**	**286**	*e*Pg	**Pg**		**18 59 27.2**	**-0.1**	
EVO					*e*Sn	**Sn**		**19 00 02.0**	**-1.5**	
EVO					*e*Sg	**Sg**		**19 00 27.5**	**+1.4**	
		44nm,0.6s								
ESAC	**San Caprasio**		**4.55**	**19**	Lg			19 00 28.9		
		SNR=7.9								
ESAC	**San Caprasio**		**4.55**	**19**	Lg			19 00 29.8		
		SNR=7.9								
PCBR	**Castelo Branco**		**4.62**	**303**	*e*Pn	**Pn**		**18 59 11.6**	**+0.3**	
PCBR					*e*Sn	**Sn**		**19 00 05.2**	**-0.4**	
PCBR					*e*Sg	**Sg**		**19 00 28.3**	**-0.5**	
		24nm,0.6s								
PCBR	**Castelo Branco**		**4.62**	**303**	*e*Pn	**Pn**		**18 59 11.6**	**+0.3**	
PCBR					*e*Sn	**Sn**		**19 00 05.2**	**-0.4**	
PCBR					*e*Sg	**Sg**		**19 00 28.3**	**-0.5**	
PCBR					A			19 00 36.5		
		24nm,0.6s								
EVOP	**Sao Brissos**		**4.62**	**286**	*e*Pn	**Pn**		**18 59 11.0**	**-0.3**	
EVOP	**Sao Brissos**		**4.62**	**286**	*e*Pg	**Pg**		**18 59 27.2**	**-1.7**	
EVOP					*e*Sn	**Sn**		**19 00 02.0**	**-3.6**	
EVOP					*e*Sg	**Sg**		**19 00 27.5**	**-1.3**	
		22nm,0.6s								
PMTG	**Montargil**		**4.84**	**292**	*e*Pn	**Pn**		**18 59 15.2**	**+0.9**	
PMTG					*e*Sn	**Sn**		**19 00 10.2**	**-0.8**	
		27nm,0.7s								
PMTG	**Montargil**		**4.84**	**292**	*e*Pn	**Pn**		**18 59 15.2**	**+0.9**	
PMTG					*e*Sn	**Sn**		**19 00 10.2**	**-0.8**	
PMTG					A			19 00 49.6		
		27nm,0.7s								
PNCL	**Nicolau / Gran**		**4.87**	**280**	*e*Pn	**Pn**		**18 59 15.7**	**+1.0**	
PNCL					*e*Sn	**Sn**		**19 00 11.3**	**-0.5**	
		10nm,0.8s								
PNCL	**Nicolau / Gran**		**4.87**	**280**	*e*Pn	**Pn**		**18 59 15.7**	**+1.0**	
PNCL					*e*Sn	**Sn**		**19 00 11.3**	**-0.5**	
PNCL					A			19 00 45.1		
		10nm,0.8s								
MORF	**Marmelete**		**4.95**	**270**	*e*Pn	**Pn**		**18 59 16.5**	**+0.7**	
MORF					*e*Sn	**Sn**		**19 00 13.8**	**+0.2**	
		9.0nm,0.2s								
MORF	**Marmelete**		**4.95**	**270**	*e*Pn	**Pn**		**18 59 16.5**	**+0.7**	
MORF					*e*Sn	**Sn**		**19 00 13.8**	**+0.2**	
MORF					A			19 00 15.3		
		9.0nm,0.2s								
MTE	**Manteigas**		**4.96**	**308**	*e*Sg	**Sg**		**19 00 39.2**	**-0.6**	
		31nm,0.5s								
MTE	**Manteigas**		**4.96**	**308**	*e*Sg	**Sg**		**19 00 39.2**	**-0.6**	
MTE					A			19 00 46.8		
		31nm,0.5s								
PFVI	**Vila Bisbo**		**5.10**	**269**	Sn	**Sn**		**19 00 15.2**	**-2.2**	
		5.7nm,0.2s,SNR=7.9								
PFVI	**Vila Bisbo**		**5.10**	**269**	*e*Pn	**Pn**		**18 59 18.6**	**+0.7**	
PFVI					*e*Sn	**Sn**		**19 00 17.1**	**-0.3**	
		13nm,0.7s								
PFVI	**Vila Bisbo**		**5.10**	**269**	*e*Pn	**Pn**		**18 59 18.6**	**+0.7**	
PFVI					*e*Sn	**Sn**		**19 00 17.1**	**-0.3**	
PFVI					A			19 00 21.6		
		13nm,0.7s								
MVO	**Moncorvo**		**5.16**	**318**	Sn	**Sn**		**19 00 18.0**	**-0.8**	
		2.0nm,0.2s,SNR=7.9								
MVO					Lg			19 00 48.1		
		2.8nm,0.3s,SNR=7.9								
MVO	**Moncorvo**		**5.16**	**318**	Sn	**Sn**		**19 00 18.0**	**-0.8**	
		SNR=7.9								
MVO					Lg			19 00 49.3		
		SNR=7.9								
IZUN	**Zunzarren**		**5.48**	**8**	Pn	**Pn**		**18 59 25.9**	**+2.7**	
		0.9nm,0.2s,SNR=7.9								
IZUN	**Zunzarren**		**5.48**	**8**	Pn	**Pn**		**18 59 26.0**	**+2.9**	
		SNR=7.9								
PBRG	**Braganca**		**5.49**	**324**	*e*Pn	**Pn**		**18 59 24.5**	**+1.3**	
		13nm,0.5s								
PBRG	**Braganca**		**5.49**	**324**	*e*Pn	**Pn**		**18 59 24.5**	**+1.3**	
PBRG					A			19 01 04.1		
		13nm,0.5s								
EORO	**Oroz-Betelu**		**5.53**	**9**	Pn	**Pn**		**18 59 26.9**	**+3.1**	
		2.7nm,0.3s,SNR=6.5								
EORO	**Oroz-Betelu**		**5.53**	**9**	Pn	**Pn**		**18 59 26.9**	**+3.1**	
		2.7nm,0.3s,SNR=6.5								
EBIE	**Bielsa**		**5.62**	**20**	Pn	**Pn**		**18 59 26.5**	**+1.5**	
		3.4nm,0.5s,SNR=8.9								
EBIE	**Bielsa**		**5.62**	**20**	Pn	**Pn**		**18 59 28.0**	**+3.0**	
		3.4nm,0.5s,SNR=8.9								
ETSF	**Etsaut**		**5.65**	**14**	*e*Pn	**Pn**		**18 59 25.5**	**0.0**	
ETSF					*e*Sg	**Sg**		**19 01 01.4**	**-0.5**	
		9.7nm,0.8s								
ETSF	**Etsaut**		**5.65**	**14**	Pn	**Pn**		**18 59 25.5**	**0.0**	
ETSF					Lg			19 01 01.4		
		4.8nm,0.8s								
ETSF	**Etsaut**		**5.65**	**14**	*e*Pn	**Pn**		**18 59 25.5**	**0.0**	
ETSF					*e*Sg	**Sg**		**19 01 01.4**	**-0.5**	
		4.8nm,0.8s								
CSOR	**Sort**		**5.66**	**28**	Pn	**Pn**		**18 59 27.4**	**+1.9**	
		6.2nm,0.6s,SNR=9.0								
CSOR	**Sort**		**5.66**	**28**	Pn	**Pn**		**18 59 27.4**	**+1.9**	
		6.2nm,0.6s,SNR=9.0								
SJPF	**Ste Jean**		**5.76**	**9**	*e*Pn	**Pn**		**18 59 27.2**	**+0.3**	
SJPF					*e*Sg	**Sg**		**19 01 04.4**	**-0.8**	
		31nm,1.0s								
SJPF	**Ste Jean**		**5.76**	**9**	Pn	**Pn**		**18 59 27.2**	**+0.3**	
SJPF					Lg			19 01 04.4		
		15nm,1.0s								
SJPF	**Ste Jean**		**5.76**	**9**	*e*Pn	**Pn**		**18 59 27.2**	**+0.3**	
SJPF					*e*Sg	**Sg**		**19 01 04.4**	**-0.8**	
		15nm,1.0s								
EALK	**Alkurruntz**		**5.83**	**7**	Pn	**Pn**		**18 59 30.7**	**+2.8**	
		6.8nm,0.4s,SNR=6.0								
EALK					Sn	**Sn**		**19 00 32.2**	**-3.3**	
		2.2nm,0.3s,SNR=7.9								
EALK	**Alkurruntz**		**5.83**	**7**	Pn	**Pn**		**18 59 30.8**	**+2.9**	
		6.8nm,0.4s,SNR=6.0								
EPF	**Esparros**		**5.99**	**20**	*e*Pn	**Pn**		**18 59 30.1**	**0.0**	
EPF					*e*Sg	**Sg**		**19 01 11.8**	**-0.9**	
		14nm,0.8s								
EPF	**Esparros**		**5.99**	**20**	Pn	**Pn**		**18 59 30.1**	**0.0**	
EPF					Lg			19 01 11.8		
		7.2nm,0.8s								
EPF	**Esparros**		**5.99**	**20**	*e*Pn	**Pn**		**18 59 30.1**	**0.0**	
EPF					*e*Sg	**Sg**		**19 01 11.8**	**-0.9**	
		7.2nm,0.8s								
LFF	**La Frestale**		**7.88**	**17**	*e*Pn	**Pn**		**18 59 55.9**	**-0.2**	
LFF					*e*Sn	**Sn**		**19 01 21.3**	**-4.6**	
		2.1nm,0.4s								
LFF	**La Frestale**		**7.88**	**17**	Pn	**Pn**		**18 59 55.9**	**-0.2**	
LFF					Sn	**Sn**		**19 01 21.3**	**-4.6**	
		1.1nm,0.4s								
LFF	**La Frestale**		**7.88**	**17**	*e*Pn	**Pn**		**18 59 55.9**	**-0.2**	
CAF	**Calviac**		**8.23**	**23**	*e*Pn	**Pn**		**19 00 00.5**	**-0.3**	
CAF					*e*Sn	**Sn**		**19 01 29.5**	**-4.9**	
		1.3nm,0.4s								
CAF	**Calviac**		**8.23**	**23**	Pn	**Pn**		**19 00 00.5**	**-0.3**	
CAF					Sn	**Sn**		**19 01 29.5**	**-4.9**	
		0.6nm,0.4s								
CAF	**Calviac**		**8.23**	**23**	*e*Pn	**Pn**		**19 00 00.5**	**-0.3**	
RJF	**Les Rejaudoux**		**8.41**	**19**	*e*Pn	**Pn**		**19 00 03.2**	**-0.2**	
RJF					*e*Sn	**Sn**		**19 01 33.9**	**-5.1**	
		2.6nm,0.6s								
RJF	**Les Rejaudoux**		**8.41**	**19**	Pn	**Pn**		**19 00 03.2**	**-0.2**	
RJF					Sn	**Sn**		**19 01 33.9**	**-5.1**	
		1.3nm,0.6s								
RJF	**Les Rejaudoux**		**8.41**	**19**	*e

AFSR	**Af˙ar-Bala (A**	**0.07**	**324**	*e*Pg	**Pg**	**19 36 06.3**	**-1.5**
BBAL	**Bala**	**0.15**	**0**	*i* P	**Pg**	**19 36 09.5**	**+0.4**
BBAL				*i* S	**Sg**	**19 36 11.6**	**+0.4**
BBAL	**Bala**	**0.15**	**0**	*i* P	**Pg**	**19 36 09.5**	**+0.4**
BBAL				*i* S	**Sg**	**19 36 11.6**	**+0.4**
LOD	**Lodumlu**	**0.57**	**331**	*e*PG	**Pg**	**19 36 15.5**	**-1.3**
LOD				*e*SG	**Sg**	**19 36 23.8**	**-0.5**
LOD	**Lodumlu**	**0.57**	**331**	*e*Pg	**Pg**	**19 36 15.5**	**-1.4**
LOD				*e*Sg	**Sg**	**19 36 23.8**	**-0.5**
KIZT	**Kizilcal**	**1.09**	**243**	*e*PN	**Pg**	**19 36 27.2**	**+0.4**
KIZT				*e*SN	**Sg**	**19 36 44.2**	**+3.1**
KIZT	**Kizilcal**	**1.09**	**243**	*e*Pn	**Pg**	**19 36 27.3**	**+0.4**
KIZT				*e*Sn	**Sg**	**19 36 44.2**	**+3.2**
ELDT	**Eldivan**	**1.12**	**12**	*i* P	**Pg**	**19 36 28.2**	**+0.8**
ELDT				*i* S	**Sg**	**19 36 43.2**	**+1.2**
ELDT	**Eldivan**	**1.12**	**12**	*i* P	**Pg**	**19 36 28.2**	**+0.8**
ELDT				*i* S	**Sg**	**19 36 43.2**	**+1.2**
KDHN	**Kadinhani**	**1.17**	**222**	*i* P	**Pb**	**19 36 28.2**	**-0.1**
KDHN				*i* S	**Sg**	**19 36 43.4**	**-0.2**
KDHN	**Kadinhani**	**1.17**	**222**	*i* P	**Pb**	**19 36 28.2**	**-0.2**
KDHN				*i* S	**Sg**	**19 36 43.4**	**-0.1**
CORM	**Corum**	**1.40**	**55**	*e*PN	**Pn**	**19 36 30.9**	**-0.9**
CORM				*e*SN	**Sn**	**19 36 50.5**	**+0.1**
CORM	**Corum**	**1.40**	**55**	*e*Pn	**Pn**	**19 36 30.9**	**-0.8**
CORM				*e*Sn	**Sn**	**19 36 50.5**	**+0.1**

NIED ***28*** *19:45:00,32˚.60N×141˚.40E,h11km,Mw4.8 Best double couple: M₀1.91000×10¹⁸ NP1:φs31.00000°,δ77.00000°, λ109.00000°. NP2:φs153.00000°,δ23.00000°,λ35.00000°.*

ISCJB ***28*** *19:45:18.9±0.9,32˚.37N±0˚.02×141˚.19E±0˚.02,h27km±5km, mb5.0/144,MS4.3/39,Error ellipse: s-maj=4.1km s-min=3.0km az=9.0*

IDC ***28*** *19:45:18.8±4.1,32˚.36N×141˚.28E,h20km±25km,mb4.5/20, mb1 4.6/22,mb1mx4.6/26,mbtmp4.5/22,ML4.3/2,MS4.2/28, Ms1 4.2/28,ms1mx4.0/47,Error ellipse: s-maj=15.9km s-min=11.5km az=75.0*

BJI ***28*** *19:45:18.7,32˚.45N×141˚.41E,h39km,mB4.9/35,mb4.8/53, Ms4.6/49,Ms7 4.3/49*

JMA ***28*** *19:45:19.6±0.3,32˚.55N×141˚.40E,h42km,M4.6*

SZGRF ***28*** *19:45:19.3,33˚.25N×141˚.85E,h33km,mb5.3,Off east coast of Honshu, Japan*

MOS ***28*** *19:45:19.6±1.1,32˚.35N×141˚.18E,h33km,mb5.2/46,Error ellipse: s-maj=9.5km s-min=4.9km az=112.0*

NEIC ***28*** *19:45:21.6±0.6,32˚.39N×141˚.21E,h38km±5km,mb4.9/68, MW4.8(NIED),Error ellipse: s-maj=4.8km s-min=4.2km az=129.0*

TEH ***28*** *19:45:22.0,32˚.50N×141˚.18E,h35km*

GCMT ***28*** *19:45:25.0±0.4,32˚.34N×141˚.40E,h29km±1km,MW4.9, Moment Tensor Solution. s25,c34; s61,c92; Moment tensor: Scale 10¹⁶Nm; Mrr2.38±.19; Mθθ0.55±.11; Mφφ-2.93±.12; Mrθ0.53±.18; Mrφ0.07±.08; Mθφ1.74±.17; Best double couple: M₀3.20000×10¹⁸ NP1:φs165.00000°, δ30.00000°,λ67.00000°. NP2:φs11.00000°,δ63.00000°, λ103.00000°. Principal axes: T 3.0100, Plg70.0000°, Azm307.0000°; N 0.4400, Plg11.0000°, Azm185.0000°; P -3.4500, Plg17.0000°, Azm91.0000°; Data Used: II IC IU G CN.*

ISC 28 19:45:20.9±0.9,32˚40N±0˚02×141˚22E±0˚02,h30km±6km, h33km±13km:pP-P,n628,σ0s88/632,mb5.0/144,MS4.3/39, 125C-96D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ2	**Mitsune**	**1.38**	**302**	⇓P	**Pn**	**19 45 44.1**	**-0.1**
JHJ2				*e*S	**Sn**	**19 46 01.5**	**+0.1**
JHJ	**Hachijo jima 2**	**1.41**	**301**	Pn	**Pn**	**19 45 44.3**	**-0.3**
	465nm,0.3s,baz=168,slow=11,SNR=182						
JHJ				Sn	**Sn**	**19 46 08.6**	**+6.5**
	1μm,0.3s,baz=75,slow=21,SNR=13						
JMY	**Miyakejima3**	**2.20**	**320**	P	**Pn**	**19 45 54.9**	**-0.5**
BSO1	**Boso 1**	**2.26**	**355**	P	**Pn**	**19 45 53.8**	**-2.5**
BSO2	**Boso 2**	**2.38**	**351**	*e*S	**Sn**	**19 46 23.3**	**-2.8**
BSO3	**Boso 3**	**2.47**	**346**	P	**Pn**	**19 45 56.9**	**-2.3**
JKO	**Kozu shima**	**2.50**	**316**	P	**Pn**	**19 45 59.7**	**+0.2**
JKO				*e*S	**Sn**	**19 46 28.1**	**-0.8**
JIM2	**Oshima 3**	**2.75**	**328**	P	**Pn**	**19 46 01.9**	**-1.2**
TKO2	**Tokai 2**	**3.29**	**299**	P	**Pn**	**19 46 11.2**	**+0.8**
JOD2	**Odawara 2**	**3.37**	**329**	P	**Pn**	**19 46 10.6**	**-0.8**
JYN	**Shimob**	**3.81**	**325**	P	**Pn**	**19 46 18.5**	**+0.9**
TTO1	**TONANKAI O.B.S**	**3.92**	**289**	P	**Pn**	**19 46 21.5**	**+2.4**
JRY	**Ryogami san**	**4.09**	**333**	P	**Pn**	**19 46 21.7**	**+0.3**
JRY				*e*S	**Sn**	**19 47 08.6**	**+0.3**
JIE	**Ise**	**4.27**	**299**	P	**Pn**	**19 46 20.6**	**-3.2**
JAG	**Ashikaga**	**4.28**	**341**	P	**Pn**	**19 46 24.0**	**0.0**
JWZ	**Kozaga**	**4.76**	**285**	P	**Pn**	**19 46 32.9**	**+2.2**
MJAR	**Matsushiro Arr**	**4.83**	**330**	Pn	**Pn**	**19 46 31.6**	**+0.1**
	9.4nm,0.3s,baz=162,slow=12,SNR=104						
MJAR				Sn	**Sn**	**19 47 26.6**	**+0.2**
	4.3nm,0.3s,baz=158,slow=12,SNR=4.3						
MJAR				LR	LR	19 47 39.4	
	comp=Z,316nm,20.6s,baz=95,slow=29						
MJAR	**Matsushiro Arr**	**4.83**	**330**	Pn	**Pn**	**19 46 31.6**	**+0.1**
MJAR				Sn	**Sn**	**19 47 26.6**	**+0.2**
MJAR	**Matsushiro Arr**	**4.83**	**330**	P	**Pn**	**19 46 31.6**	**+0.1**
MJAR						19 47 26.6	
MAJO	**Matsushiro**	**4.83**	**330**	*e*Pn	**Pn**	**19 46 31.8**	**+0.3**
MAJO	**Matsushiro**	**4.83**	**330**	*e*P	**Pn**	**19 46 31.8**	**+0.3**
MAT	**Matsushiro**	**4.83**	**330**	P	**Pn**	**19 46 32.1**	**+0.6**
MAT				S	**Sn**	**19 47 28.0**	**+1.6**
MAT	**Matsushiro**	**4.83**	**330**	P	**Pn**	**19 46 32.1**	**+0.6**
JGM	**Miyama**	**4.98**	**313**	P	**Pn**	**19 46 36.2**	**+2.5**
JWY	**Kouya**	**5.05**	**293**	P	**Pn**	**19 46 36.9**	**+2.3**
CBIJ	**Chichi jima**	**5.35**	**171**	Pn	**Pn**	**19 46 37.3**	**-1.4**
	27nm,0.3s,baz=163,slow=22,SNR=16						
CBIJ				Sn	**Sn**	**19 47 35.7**	**-3.6**
	73nm,0.3s,baz=282,slow=21,SNR=7.1						
CBIJ				LR	LR	19 48 53.2	
	comp=Z,2μm,18.8s,baz=348,slow=40						
CBIJ	**Chichi jima**	**5.35**	**171**	Pn	**Pn**	**19 46 37.3**	**-1.4**
CBIJ				Sn	**Sn**	**19 47 35.7**	**-3.6**
CBIJ	**Chichi jima**	**5.35**	**171**	P	**Pn**	**19 46 37.0**	**-1.7**
CBIJ				*e*S	**Sn**	**19 47 35.0**	**-4.3**
JMM	**Marumori**	**5.47**	**356**	P	**Pn**	**19 46 37.7**	**-2.6**
JMM				*e*S	**Sn**	**19 47 36.3**	**-5.9**
JNS	**Sasagawa**	**5.63**	**344**	P	**Pn**	**19 46 42.5**	**-0.1**
JWT	**Wachi**	**5.63**	**302**	P	**Pn**	**19 46 44.6**	**+2.0**
JNU	**Nakatsue**	**8.74**	**278**	*e*Pn	**Pn**	**19 47 27.2**	**+1.9**
ERM	**Erimo**	**9.72**	**9**	Pn	**Pn**	**19 47 34.7**	**-4.0**
	402nm,1.3s,SNR=5.4						
ERM	**Erimo**	**9.72**	**9**	*ce*P	**Pn**	**19 47 36.2**	**-2.5**
ASAJ	**Asahikawa**	**11.75**	**5**	Pn	**Pn**	**19 48 01.9**	**-4.6**
	3.1nm,0.3s,baz=215,slow=10,SNR=21						
ASAJ				Sn	**Sn**	**19 50 04.5**	**-12**
	1.2nm,0.3s,baz=155,slow=19,SNR=3.2						
ASAJ	**Asahikawa**	**11.75**	**5**	*e*Pn	**Pn**	**19 48 01.3**	**-5.1**
ASAJ				Sn	**Sn**	**19 50 04.5**	**-12**
ASAJ	**Asahikawa**	**11.75**	**5**	P	**Pn**	**19 48 01.9**	**-4.6**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KSRS	**Korea Array**	**12.02**	**298**	Pn	**Pn**	**19 48 16.1**	**+5.9**
	comp=Z,0.4nm,0.3s,baz=112,slow=14,SNR=16						
KSRS				LR	LR	19 53 02.1	
	comp=Z,2μm,18.4s,baz=110,slow=38						
KSRS	**Korea Array**	**12.02**	**298**	P	**Pn**	**19 48 16.1**	**+5.9**
KSRS				MLR	MLR		
	comp=Z,2μm,18.4s						
KSAR	**Wonju Array Be**	**12.04**	**298**	Pn	**Pn**	**19 48 16.1**	**+5.6**
KSAR	**Wonju Array Be**	**12.04**	**298**	P	**Pn**	**19 48 16.1**	**+5.6**
YUK	**Yuzh-Kuril'sk**	**12.18**	**16**	*i* P	**Pn**	**19 48 07.6**	**-4.7**
YUK				*i* S	**Sn**	**19 50 21.8**	**-5.1**
YUK				pmax	pmax		
	comp=N,86nm,0.7s						
YUK				pmax	pmax		
	comp=E,82nm,0.7s						
YUK				pmax	pmax		
	comp=Z,77nm,0.7s						
YUK				smax			
	comp=E,121nm,0.6s						
YUK				smax			
	comp=N,180nm,0.6s						
YUK				MLR	MLR		
	comp=N,227nm,16.0s						
YUK				MLR	MLR		
	comp=Z,261nm,16.0s						
JOW	**Kunigami**	**12.55**	**247**	LR	LR	19 52 50.6	
	comp=Z,2μm,19.5s,baz=262,slow=36						
YSS	**Yuzh-Sakhalins**	**14.59**	**4**	*e*Pn	**Pn**	**19 48 41.6**	**-3.5**
YSS	**Yuzh-Sakhalins**	**14.59**	**4**	*e*P	**Pn**	**19 48 41.0**	**-4.1**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS				MLR	MLR		
	comp=Z,500nm,16.0s						
YSS				MLR	MLR		
	comp=E,500nm,14.0s						
MDJ	**Mudanjiang**	**15.20**	**327**	P	**Pn**	**19 48 53.0**	**-0.4**
MDJ				S	**Sn**	**19 51 40.0**	**-0.7**
MDJ				PcP	PcP	19 53 58.0	-0.5
MDJ				ScP	ScP	19 57 30.5	+0.1
MDJ				PcS	PcS	19 57 34.3	+0.7
MDJ				pmax	pmax		
	comp=Z,43nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,92nm,3.6s						
MDJ				LR	LR		
	comp=N,670nm,21.1s						
MDJ				LR	LR		
	comp=E,340nm,16.6s						
MDJ				LR	LR		
	comp=Z,690nm,27.9s						
MDJ	**Mudanjiang**	**15.20**	**327**	*e*Pn	**Pn**	**19 48 53.4**	**+0.1**
	comp=Z,31nm,0.8s						
HABR	**Khabarovsk**	**16.72**	**346**	*c i*P	**Pn**	**19 49 14.6**	**+1.7**
HABR				S	**Sn**	**19 52 22.4**	**+4.8**
HABR				pmax	pmax		
	comp=Z,279nm,1.5s						
HABR				pmax	pmax		
	comp=N,129nm,1.6s						
HABR				pmax	pmax		
	comp=E,47nm,1.0s						
HABR				MLR	MLR		
	comp=Z,323nm,15.0s						
CN2	**Changchun**	**16.81**	**317**	*e*P	**Pn**	**19 49 13.8**	**-0.2**
CN2				*ep*P	pP	19 49 21.5	-2.3
CN2				*e*S	**Sn**	**19 52 17.0**	**-2.8**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,900nm,13.0s						
CN2				LR	LR		
	comp=E,600nm,13.0s						
CN2				LR	LR		
	comp=Z,800nm,17.0s						
SNY	**Shenyang**	**16.90**	**309**	⇑P	**Pn**	**19 49 17.0**	**+1.8**
SNY				S	**Sn**	**19 52 28.8**	**+6.7**
SNY				pmax	pmax		
	comp=Z,26nm,0.9s						
SNY				LR	LR		
	comp=N,970nm,14.0s						
SNY				LR	LR		
	comp=E,730nm,17.9s						
SNY				LR	LR		
	comp=Z,890nm,18.6s						
SSE	**Sheshan**	**17.09**	**271**	*e*P	**Pn**	**19 49 17.3**	**-0.3**
SSE				pP	pP	19 49 25.0	-2.0
SSE				sP	sP	19 49 28.5	-2.3
SSE				S	**Sn**	**19 52 27.3**	**+0.5**
SSE				sS	sS	19 52 38.0	-10
SSE				pmax	pmax		
	comp=Z,24nm,0.7s						
SSE				pmax	pmax		
	comp=Z,140nm,5.1s						
SSE				LR	LR		
	comp=N,84nm,21.8s						
SSE				LR	LR		
	comp=E,470nm,21.8s						
SSE				LR	LR		
	comp=Z,560nm,22.2s						
KLR	**Kul'dur**	**18.25**	**340**	*e*P	**Pn**	**19 49 25.7**	**-6.1**
KLR				pmax	pmax		
	comp=E,38nm,1.4s						
KLR				pmax	pmax		
	comp=Z,62nm,1.4s						
KLR				MLR	MLR		
	comp=E,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,2μm,13.0s						
TATO	**Taipei**	**18.81**	**252**	*e*P	**Pn**	**19 49 39.3**	**+0.5**
	comp=Z,68nm,0.8s						
NJ2	**Nanjing**	**18.93**	**275**	*e*P	**Pn**	**19 49 40.0**	**-0.1**
NJ2				pP	pP	19 49 48.0	+0.7
NJ2				sP	sP	19 49 52.5	+1.5
NJ2				PP		19 49 56.8	
NJ2				S	**Sn**	**19 53 07.0**	**-4.2**
NJ2				sS	sS	19 53 19.0	-6.4
NJ2				pmax	pmax		
	comp=Z,30nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,380nm,5.6s						
NJ2				LR	LR		
	comp=N,540nm,25.0s						
NJ2				LR	LR		
	comp=E,640nm,24.6s						
NJ2				LR	LR		
	comp=Z,850nm,23.8s						
GUMO	**Guam**	**19.02**	**169**	P	**Pn**	**19 49 42.2**	**+0.9**
	comp=Z,8.8nm,0.3s,baz=156,slow=7.7,SNR=6.4						
GUMO				LR	LR	19 56 12.6	
	comp=Z,247nm,18.8s,baz=224,slow=34						
GUMO	**Guam**	**19.02**	**169**	P	**Pn**	**19 49 42.2**	**+0.9**
GUMO	**Guam**	**19.02**	**169**	P	**Pn**	**19 49 42.2**	**+0.9**
YHNB	**Yeheng**	**19.04**	**251**	*e*P	**Pn**	**19 49 40.7**	**-0.8**
	comp=Z,43nm,0.9s						
NACB	**Ninganchiao**	**19.11**	**250**	*e*P	**Pn**	**19 49 38.5**	**-3.9**
	comp=Z,26nm,0.9s						
YULB	**Yu-li**	**19.74**	**248**	*e*P	**Pn**	**19 49 49.1**	**-0.8**
	comp=Z,53nm,1.1s						
SSLB	**Suanglung**	**19.80**	**249**	*e*P	**Pn**	**19 49 50.0**	**-0.7**
	comp=Z,115nm,1.3s						
TWG	**Pinlang**	**20.21**	**247**	*e*P	**P**	**19 49 54.0**	**+0.6**
	comp=Z,100nm,1.3s						
TPUB	**Ta-pu**	**20.31**	**249**	*e*P	**P**	**19 49 55.6**	**+1.1**
	comp=Z,98nm,1.2s						
BJI	**Beijing**	**21.55**	**298**	P	**P**	**19 50 08.5**	**+0.7**
BJI				S	**S**	**19 54 04.5**	**-0.5**
BJI				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.6						
BJI				LR	LR		
	comp=N,640nm,15.8s,MS4.3						
BJI				LR	LR		
	comp=E,1μm,20.3s,MS4.3						
BJI				LR	LR		
	comp=Z,880nm,21.5s,MS4.1						
BJT	**Baijiatuao**	**21.55**	**298**	*e*P	**P**	**19 50 07.4**	**-0.5**
	comp=Z,20nm,0.6s,mb4.7						
BJT	**Baijiatuao**	**21.55**	**298**	*e*P	**P**	**19 50 07.4**	**-0.4**
BJT				pmax	pmax		
	comp=Z,20nm,0.6s						
WHN	**Wuhan**	**22.97**	**273**	P	**P**	**19 50 22.5**	**-0.5**
WHN				pmax	pmax		
	comp=Z,88nm,1.2s,mb5.1						
WHN				LR	LR		
	comp=N,920nm,13.4s,MS4.6						
WHN				LR	LR		
	comp=E,2μm,17.7s,MS4.6						
WHN				LR	LR		
	comp=Z,2μm,19.7s,MS4.5						
HIA	**Hailar**	**23.28**	**323**	*e*P	**P**	**19 50 24.2**	**-1.9**
	comp=Z,23nm,0.8s,mb4.7						
HIA	**Hailar**	**23.28**	**323**	*e*P	**P**	**19 50 24.2**	**-1.9**
HIA				pmax	pmax		
	comp=Z,23nm,0.8s						
PETK	**Petropavlovsk-**	**23.87**	**25**	LR	LR	20 01 37.9	
	comp=Z,153nm,18.3s,MS3.5,baz=229,slow=41						
HHC	**Hu-ho-hao-te**	**25.16**	**298**	*e*P	**P**	**19 50 44.3**	**+0.8**
HHC				pP	pP	19 50 54.5	+2.4
HHC				sP	sP	19 50 58.0	+2.3
HHC				PP		19 51 23.0	
HHC				PcP	PcP	19 54 19.0	+2.1
HHC				S	**S**	**19 55 03.0**	**-3.7**
HHC				sS	sS	19 55 19.8	-1.0
HHC				SS		19 56 03.8	
HHC				pmax	pmax		
	comp=Z,29nm,0.7s,mb4.9						
HHC				pmax	pmax		
	comp=Z,190nm,5.7s						
HHC				LR	LR		
	comp=N,370nm,15.5s,MS4.3						
HHC				LR	LR		
	comp=E,750nm,16.7s,MS4.3						
HHC				LR	LR		
	comp=Z,960nm,17.8s,MS4.4						
CLNS	**Chul'man**	**26.92**	**340**	*e*P	**P**	**19 50 58.6**	**-0.6**
CLNS				*e**PP	pP	19 51 07.9	+0.1
CLNS				*e*PPP		19 51 58.0	
CLNS				*e*S	**S**	**19 55 36.7**	**+2.6**
CLNS				*e*SS		19 56 51.9	
CLNS				pmax	pmax		
	comp=Z,55nm,1.2s,mb5.0						
CLNS				pmax	pmax		
	comp=E,10.0nm,1.0s						
CLNS				pmax	pmax		
	comp=N,38nm,1.5s						
CLNS				smax			
	comp=N,245nm,14.4s						
CLNS				smax			
	comp=E,159nm,12.7s						
CLNS				MLR	MLR		
	comp=N,256nm,16.0s,MS4.0						
CLNS				MLR	MLR		
	comp=Z,209nm,16.0s,MS3.8						
CLNS				MLR	MLR		
	comp=E,151nm,14.0s,MS4.0						
XAN	**Xi'an**	**27.01**	**282**	P	**P**	**19 50 59.3**	**-1.0**
XAN				pP	pP	19 51 09.0	+0.1
XAN				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.0						
XAN				pmax	pmax		
	comp=Z,27nm,6.0s						
XAN				LR	LR		
	comp=N,310nm,13.8s,MS4.0						
XAN				LR	LR		
	comp=E,170nm,17.1s,MS4.0						
XAN				LR	LR		
	comp=Z,170nm,17.1s,MS3.7						
ENH	**Enshi**	**27.14**	**274**	*e*P	**P**	**19 51 00.0**	**-1.5**
	comp=Z,12nm,0.7s,mb4.5						
ULN	**Ulaanbaatar**	**30.05**	**311**	*e*P	**P**	**19 51 28.9**	**+1.6**
	comp=Z,22nm,1.0s,mb4.8						
ULN	**Ulaanbaatar**	**30.05**	**311**	*e*P	**P**	**19 51 28.9**	**+1.6**
ULN				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.8						
ULN	**Ulaanbaatar**	**30.05**	**311**	P	**P**	**19 51 29.5**	**+2.2**
	SNR=8.2						
SONM	**Songino Array**	**30.47**	**311**	P	**P**	**19 51 31.3**	**+0.4**
	comp=Z,9.8nm,0.7s,mb4.7,baz=114,slow=7.4,SNR=64						
SONM				PcP	PcP	19 54 29.6	0.0
	comp=Z,1.6nm,0.9s,baz=135,slow=2.2,SNR=4.1						
SONM				ScP	ScP	19 58 10.3	+0.2
	comp=Z,0.5nm,0.9s,baz=112,slow=0.8,SNR=3.5						
SONM				LR	LR	20 04 21.2	
	comp=Z,1μm,18.1s,MS4.5,baz=281,slow=37						
SONM	**Songino Array**	**30.47**	**311**	P	**P**	**19 51 31.3**	**+0.4**
SONM				PcP	PcP	19 54 29.6	0.0
SONM				ScP	ScP	19 58 10.3	+0.2
SONM	**Songino Array**	**30.47**	**311**	P	**P**	**19 51 31.3**	**+0.4**
SONM						19 54 29.7	
SONM						19 58 10.3	
YAK	**Yakutsk**	**30.57**	**349**	*e*P	**P**	**19 51 30.3**	**-1.3**
	comp=Z,118nm,1.6s,mb5.5						
YAK	**Yakutsk**	**30.57**	**349**	*e*P	**P**	**19 51 29.7**	**-1.9**
YAK				*e**PP	pP	19 51 40.9	+0.6
YAK				*e*PPP		19 52 43.5	
YAK				*e*		19 54 28.1	
YAK				*e*S	**S**	**19 56 27.3**	**-4.1**
YAK				pmax	pmax		
	comp=Z,31nm,1.2s,mb5.0						
YAK				pmax	pmax		
	comp=E,8.0nm,1.5s						
YAK				pmax	pmax		
	comp=N,22nm,1.4s						
YAK				smax			
	comp=E,49nm,10.6s						
YAK				MLR	MLR		
	comp=Z,377nm,23.0s,MS4.0						
YAK				MLR	MLR		
	comp=N,280nm,21.0s						
GYA	**Guiyang**	**30.58**	**268**	⇑*i*P	**P**	**19 51 33.5**	**+1.3**
GYA				pP	pP	19 51 42.8	+2.0
GYA				PP	PP	19 52 34.0	-7.4
GYA				PcP	PcP	19 54 31.5	+1.1
GYA				S	**S**	**19 56 30.0**	**-2.4**
GYA				sS	sS	19 56 47.5	+0.9
GYA				ScP	ScP	19 58 09.8	-1.0
GYA				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.2						
GYA				pmax	pmax		
	comp=Z,140nm,4.9s						
GYA				LR	LR		
	comp=N,570nm,16.6s,MS4.4						
GYA				LR	LR		
	comp=E,480nm,17.9s,MS4.4						
GYA				LR	LR		
	comp=Z,520nm,15.6s,MS4.3						
LZH	**Lanzhou**	**30.99**	**287**	*e*P	**P**	**19 51 36.5**	**+0.8**
LZH				pP	pP	19 51 45.3	+1.0
LZH				sP	sP	19 51 48.5	+0.6
LZH				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.7						
LZH				LR	LR		
	comp=N,320nm,14.5s,MS4.6						
LZH				LR	LR		
	comp=E,900nm,14.2s,MS4.6						
LZH				LR	LR		
	comp=Z,980nm,14.9s,MS4.6						
QIZ	**Qiongzhong**	**31.12**	**252**	P	**P**	**19 51 41.5**	**+4.6**
QIZ				S	**S**	**19 56 43.5**	**+2.7**
QIZ				pmax	pmax		
	comp=Z,38nm,1.9s,mb4.9						
QIZ				pmax	pmax		
	comp=Z,330nm,5.6s						
QIZ				LR	LR		
	comp=Z,510nm,24.7s,MS4.1						
SEY	**Seymchan**	**31.37**	**10**	⇑*e*P	**P**	**19 51 38.5**	**-0.2**
CD2	**Chengdu**	**31.82**	**277**	P	**P**	**19 51 42.0**	**-1.0**
CD2				pP	pP	19 51 51.8	+0.1
CD2				sP	sP	19 51 56.0	+0.7
CD2				PP	PP	19 52 47.5	-7.6
CD2				S	**S**	**19 56 48.0**	**-3.6**
CD2				SS	SS	19 58 39.3	-29
CD2				pmax	pmax		
	comp=Z,30nm,0.6s,mb5.3						
CD2				pmax	pmax		
	comp=Z,250nm,6.0s						
CD2				LR	LR		
	comp=E,750nm,15.0s						
CD2				LR	LR		
	comp=Z,1μm,15.6s,MS4.7						
ZAK	**Zakamensk**	**33.20**	**314**	*e*P	**P**	**19 51 56.1**	**+1.2**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.5						
GTA	**Gaotai**	**34.03**	**294**	P	**P**	**19 52 02.0**	**-0.3**
GTA				pP	pP	19 52 11.8	+0.9
GTA				sP	sP	19 52 15.8	+1.3
GTA				S	**S**	**19 57 24.5**	**-1.3**
GTA				sS	sS	19 57 40.3	+0.2
GTA				SS	SS	19 59 33.0	-20
GTA				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
GTA				pmax	pmax		
	comp=Z,60nm,4.0s						
GTA				LR	LR		
	comp=N,380nm,18.5s,MS4.6						
GTA				LR	LR		
	comp=E,870nm,16.4s,MS4.6						
GTA				LR	LR		
	comp=Z,670nm,15.2s,MS4.5						
KMI	**Kunming**	**34.36**	**268**	P	**P**	**19 52 06.8**	**+1.5**
KMI				pP	pP	19 52 17.0	+3.0
KMI				sP	sP	19 52 21.0	+3.4
KMI				PP	PP	19 53 25.0	+1.6
KMI				S	**S**	**19 57 31.0**	**-0.2**
KMI				sS	sS	19 57 47.8	+2.3
KMI				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
KMI				pmax	pmax		
	comp=Z,94nm,4.2s						
KMI				LR	LR		
	comp=N,370nm,13.8s,MS4.5						
KMI				LR	LR		
	comp=E,470nm,15.8s,MS4.5						
KMI				LR	LR		
	comp=Z,470nm

CHTO **Chiang Mai** 40.20 261 *e*P P 19 52 53.3 -1.5
comp=Z,24nm,1.7s,mb4.6
CHTO *e* 19 53 03.7
CHTO Chiang Mai 40.20 261 *e*P **P** **19 52 53.3 -1.5**
CHTO *e* 19 53 03.7
CHTO pmax pmax
comp=Z,24nm,1.7s,mb4.7
CMAR Chiang Mai Arr 40.36 260 P P **19 52 54.5 -1.8**
comp=Z,1.3nm,0.6s,mb3.9,baz=50,slow=7.5,SNR=8.0
CMAR PcP PcP 19 55 00.6 +1.4
comp=Z,3.0nm,1.0s,baz=23,slow=2.2,SNR=7.2
CMAR LR LR 20 09 34.0
comp=Z,216nm,19.5s,MS4.0,baz=69,slow=36
CMAR Chiang Mai Arr 40.36 260 P P **19 52 54.5 -1.8**
CMAR PcP PcP 19 55 00.6 +1.4
CMAR Chiang Mai Arr 40.36 260 P P **19 52 54.5 -1.7**
CMAR 19 55 00.6
LSA Lhasa 42.67 280 P P **19 53 15.5 +0.5**
LSA Lhasa 42.67 280 *e*P P **19 53 15.3 +0.3**
comp=Z,9.8nm,0.6s,mb4.7
LSA Lhasa 42.67 280 *e*P P **19 53 15.3 +0.3**
LSA pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
WMQ Urumqi 42.95 301 P P **19 53 18.0 +0.9**
WMQ pP pP 19 53 27.8 +1.9
WMQ sP sP 19 53 31.8 +2.3
WMQ PP PP 19 55 00.3 +3.3
WMQ S **S** **19 59 40.5 +0.2**
WMQ pmax pmax
comp=Z,24nm,1.8s,mb4.6
WMQ pmax pmax
comp=Z,210nm,5.2s
WMQ LR LR
comp=N,170nm,10.0s
WMQ LR LR
comp=E,400nm,18.4s
WMQ LR LR
comp=Z,300nm,18.4s
TNA Tin City 45.01 27 *e*P P **19 53 35.1 +1.8**
comp=Z,2.4nm,0.8s,mb4.1
ZAA0 Zalesovo Array 45.02 316 *e*P P **19 53 32.5 -1.1**
ZAA0 *e*PcP PcP 19 55 13.0 -1.2
ZALV Zalesovo Beam 45.02 316 P P **19 53 32.7 -0.9**
comp=Z,1.5nm,0.4s,mb4.2,baz=109,slow=8.0,SNR=17
ZALV PcP PcP 19 55 13.8 -0.4
comp=Z,8.3nm,0.8s,baz=96,slow=2.8,SNR=11
ZALV LR LR 20 13 09.2
comp=Z,205nm,18.9s,MS4.1,baz=117,slow=37
ZALV Zalesovo Beam 45.02 316 P P **19 53 32.7 -0.9**
ZALV PcP PcP 19 55 13.8 -0.4
ZALV Zalesovo Beam 45.02 316 P P **19 53 32.7 -0.9**
ZALV 19 55 13.8
NVS Novosibirsk 46.02 317 *e*P P **19 53 39.7 -1.8**
NVS *e*S **S** **20 00 31.2 +6.6**
NVS pmax pmax
comp=E,8.0nm,1.1s
NVS pmax pmax
comp=Z,13nm,1.1s,mb4.8
NVS pmax pmax
comp=N,9.0nm,0.8s
NVS smax
comp=N,7.0nm,2.2s
NVS smax
comp=E,12nm,2.2s
COEN Coen 46.13 177 *e*P P **19 53 43.4 +0.8**
comp=E,136nm,1.1s,mb5.8
TAPN Taplejung 46.28 278⇑ *i*P P **19 53 43.8 -0.1**
comp=E,26nm,0.5s,mb5.5
KULM Kulim 46.47 243 *e*P P **19 53 44.1 -1.4**
comp=E,13nm,0.9s,mb4.9
MK31 Makanchi Array 46.58 306 *e*P P **19 53 45.8 -0.1**
MK31 *e*PcP PcP 19 55 18.3 -1.4
MK31 Makanchi Array 46.58 306 *e*P P **19 53 45.8 -0.1**
MK31 *e* 19 55 18.3
MKAR Makanchi Array 46.58 306 P P **19 53 46.1 +0.2**
comp=E,14nm,0.6s,mb5.1,baz=88,slow=10.0,SNR=178
MKAR PcP PcP 19 55 19.8 +0.1
comp=E,3.6nm,0.6s,baz=82,slow=6.8,SNR=5.5
MKAR LR LR 20 14 04.3
comp=E,371nm,20.0s,MS4.3,baz=96,slow=37
MKAR Makanchi Array 46.58 306 P P **19 53 46.1 +0.2**
MKAR PcP PcP 19 55 19.8 +0.1
MKAR Makanchi Array 46.58 306 P P **19 53 46.1 +0.2**
MKAR 19 55 19.8
ODAN Odare 46.71 278⇑ *i*P P **19 53 47.1 -0.2**
comp=E,41nm,0.5s,mb5.6
RAMN Ramite 47.34 278⇑ *i*P P **19 53 52.1 -0.1**
comp=E,126nm,0.9s,mb5.8
JIRN Jiri 47.44 279⇑ *i*P P **19 53 53.5 +0.5**
comp=E,38nm,0.6s,mb5.5
GUN Gumba 47.62 280⇑ *i*P P **19 53 54.7 +0.3**
comp=E,99nm,0.7s,mb5.9
PKI Pulchoki 48.13 280⇑ *i*P P **19 53 58.1 -0.2**
comp=E,68nm,1.0s,mb5.6
KKN Kakani 48.16 280⇑ *i*P P **19 53 58.5 0.0**
comp=E,95nm,0.9s,mb5.8
DMN Daman 48.37 280⇑ *i*P P **19 53 59.9 -0.2**
comp=E,57nm,1.0s,mb5.6
GKN Gorkha 48.62 280⇑ *i*P P **19 54 02.0 -0.1**
comp=E,102nm,0.9s,mb5.8
KURK Kurchatov 48.77 311 LR LR 20 15 40.9
comp=E,618nm,18.5s,MS4.6,baz=105,slow=37
KURK Kurchatov 48.77 311 *e*P P **19 54 02.5 -0.4**
comp=E,16nm,0.8s,mb5.1
KURK Kurchatov 48.77 311 *c i*P P **19 54 02.3 -0.6**
KURK pmax pmax
comp=Z,28nm,1.2s,mb5.2
KURK Kurchatov 48.77 311 P P **19 54 02.2 -0.7**
comp=Z,125nm,0.8s,mb6.0,SNR=12
KURK Kurchatov 48.77 311 P P **19 54 03.2 +0.3**
SNR=8.4
DANN Dangsing 49.23 281⇑ *i*P P **19 54 07.3 +0.5**
comp=Z,131nm,0.9s,mb6.0
KOLN Koldanda 49.56 281⇑ *i*P P **19 54 09.4 +0.1**
PYUN Piuthan 49.96 281 *e*P P **19 54 12.6 +0.3**
comp=Z,96nm,0.5s,mb6.1
KDAK Kodiak Island 50.72 39 P P **19 54 18.1 +0.5**
comp=Z,4.4nm,0.7s,mb4.5,baz=353,slow=14,SNR=4.5
KDAK LR LR 20 13 49.7
comp=Z,274nm,21.5s,MS4.2,baz=145,slow=34
KDAK Kodiak Island 50.72 39 P P **19 54 18.1 +0.5**
KDAK Kodiak Island 50.72 39 P P **19 54 18.1 +0.5**
TKM2 Tokmak 2 51.81 302 P P **19 54 26.3 +0.3**
SNR=12
TKM2 Tokmak 2 51.81 302 *e*P P **19 54 26.1 +0.1**
comp=Z,52nm,1.8s,mb5.2
TKM2 Tokmak 2 51.81 302 *i* P P **19 54 26.2 +0.2**
KZA Kyzart 52.23 301 P P **19 54 30.6 +1.4**
SNR=6.3
KSH Kashi 52.27 297 P P **19 54 33.3 +3.8**
KSH pP pP 19 54 43.3 +4.8
KSH sP sP 19 54 47.3 +5.3
KSH PcP PcP 19 55 44.0 +3.4
KSH PP PP 19 56 33.0 +5.0
KSH ScP ScP 19 59 37.0 +1.4
KSH PcS PcS 19 59 41.0 +2.1
KSH S **S** **20 01 54.8 +2.1**
KSH ScS ScS 20 04 17.3 -0.1
KSH SS SS 20 05 32.0 +1.7
KSH pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KSH LR LR
comp=N,160nm,4.8s
KSH LR LR
comp=E,100nm,4.0s
KSH LR LR
comp=Z,180nm,5.1s
KBK Karagaybulak 52.33 301 P P **19 54 30.4 +0.5**
SNR=10
FITZ Fitzroy Crossi 52.38 199 *e*P P **19 54 30.2 -0.2**
comp=Z,7.9nm,0.6s,mb4.8
FITZ Fitzroy Crossi 52.38 199 *e*P P **19 54 30.2 -0.2**
comp=Z,7.6nm,0.9s,mb4.6
CTA Charters Tower 52.41 174 P P **19 54 30.3 -0.3**
comp=Z,4.3nm,1.0s,mb4.3,baz=6.7,slow=12,SNR=3.4
CTA LR LR 20 16 10.0
comp=Z,123nm,19.7s,MS4.0,baz=9.8,slow=35
CTA Charters Tower 52.41 174 P P **19 54 30.3 -0.3**
CTA Charters Tower 52.41 174 P P **19 54 30.3 -0.3**
CTAO Charters Tower 52.41 174 *e*P P **19 54 26.9 -3.7**
CTAO Charters Tower 52.41 174 *e*P P **19 54 26.9 -3.7**
WRAB Tennant Creek 52.45 188 *e*P P **19 54 29.1 -1.8**
comp=Z,45nm,1.0s,mb5.3
WRAB Tennant Creek 52.45 188 *e*P P **19 54 29.1 -1.8**
WRAB pmax pmax
comp=Z,45nm,1.0s,mb5.3
WRAB Tennant Creek 52.45 188 P P **19 54 30.0 -0.9**
comp=Z,156nm,1.0s,mb5.9,SNR=9.1
WB2 Warramunga Arr 52.45 188 *e*P P **19 54 29.7 -1.2**
WRA Warramunga Arr 52.46 188 P P **19 54 29.9 -1.0**
comp=Z,17nm,0.8s,mb5.0,baz=7.0,slow=7.8,SNR=67
WRA ScP ScP 19 59 36.4 0.0
comp=Z,2.2nm,0.9s,baz=4.3,slow=4.3,SNR=6.0
WRA Warramunga Arr 52.46 188 P P **19 54 29.9 -1.0**
WRA ScP ScP 19 59 36.4 0.0
WRA Warramunga Arr 52.46 188 P P **19 54 29.9 -1.0**
PMR Palmer 52.49 34 *e*P P **19 54 31.3 +0.6**
comp=Z,24nm,1.4s,mb4.9
PMR Palmer 52.49 34 *e*P P **19 54 31.3 +0.5**
PMR pmax pmax
comp=Z,24nm,1.4s,mb4.9
USP Ospenovka 52.53 302 P P **19 54 31.9 +0.6**
SNR=5.5
FRU Bishkek 52.53 302 *e*P P **19 54 29.0 -2.4**
MCK McKinley 52.61 32 *e*P P **19 54 31.1 -0.5**
comp=Z,13nm,1.1s,mb4.8
MCK McKinley 52.61 32 *e*P P **19 54 31.1 -0.6**
MCK pmax pmax
comp=Z,13nm,1.1s,mb4.8
AAK Ala-Archa 52.66 301 *e*P P **19 54 31.8 -0.6**
comp=Z,38nm,1.1s,mb5.2
AAK *e*PcP PcP 19 55 40.3 -1.7
AAK Ala-Archa 52.66 301 ⇓ *i*P P **19 54 32.9 +0.5**
AAK pmax pmax
comp=Z,14nm,0.7s,mb5.0
SML Sawmill 52.87 34 P P **19 54 35.2 +1.6**
comp=Z,14nm,1.5s,mb4.7
SML Sawmill 52.87 34 P P **19 54 35.2 +1.6**
SML pmax pmax
comp=Z,14nm,1.5s,mb4.7
COLA College 53.12 30 *e*P P **19 54 35.2 -0.1**
comp=Z,6.3nm,0.8s,mb4.6
COLA College 53.12 30 *e*P P **19 54 35.2 -0.2**
COLA pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
EKS2 Erkin-Say 53.17 302 *e*P P **19 54 37.8 +1.7**
comp=Z,5.6nm,0.9s,mb4.5
EKS2 Erkin-Say 53.17 302 *e*P P **19 54 37.8 +1.7**
EKS2 pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
AML Almayashu 53.35 301 P P **19 54 38.3 +0.9**
SNR=28
ILAR Eielson Array 53.53 30 P P **19 54 37.1 -1.3**
comp=Z,7.1nm,1.0s,mb4.6,baz=266,slow=6.5,SNR=22
ILAR Eielson Array 53.53 30 P P **19 54 37.1 -1.3**
ILAR Eielson Array 53.53 30 P P **19 54 37.2 -1.2**
BVAR Borovoye Array 53.65 315 LR LR 20 18 35.0
comp=Z,266nm,18.0s,MS4.3,baz=266,slow=37
BRVK Borovoye 53.71 315 *e*P P **19 54 39.1 -0.7**
comp=Z,12nm,1.1s,mb4.7
BRVK *e*PcP PcP 19 55 45.1 -0.6
BRVK Borovoye 53.71 315 *c i*P P **19 54 39.7 -0.2**
BRVK pmax pmax
comp=Z,16nm,1.2s,mb4.8
BRVK Borovoye 53.71 315 P P **19 54 40.2 +0.4**
SNR=5.7
DOT Dot Lake 54.78 32 *e*P P **19 54 44.5 -3.1**
comp=Z,3.9nm,0.9s,mb4.4
KKAR Karatay Array 55.41 303 *e*P P **19 54 52.7 +0.3**
KKAR Karatay Array 55.41 303 *e*P P **19 54 52.7 +0.3**
AS31 Alice Springs 56.18 188 *e*P P **19 54 56.9 -1.1**
ASAR Alice Springs 56.18 188 P P **19 54 56.9 -1.1**
comp=Z,3.8nm,0.8s,mb4.5,baz=9.2,slow=5.4,SNR=35
ASAR Alice Springs 56.18 188 P P **19 54 56.9 -1.1**
ASAR Alice Springs 56.18 188 P P **19 54 56.9 -1.1**
MBWA Marble Bar 57.08 204 *e*P P **19 55 03.3 -1.2**
comp=Z,21nm,1.1s,mb5.1
HYB Hyderabad 58.03 271 *i* P P **19 55 11.0 -0.4**
SVE Sverdlovsk 58.57 321 ⇓ *e*P P **19 55 14.6 +0.1**
SVE pmax pmax
comp=Z,32nm,1.0s,mb5.3
INK Inuvik 58.60 26 LR LR 20 19 45.7
comp=Z,154nm,19.3s,MS4.1,baz=315,slow=35
INK Inuvik 58.60 26 *e*P P **19 55 13.5 -1.1**
comp=Z,8.8nm,1.0s,mb4.7
INK Inuvik 58.60 26 *e*P P **19 55 13.5 -1.1**
INK pmax pmax
comp=Z,9.0nm,1.0s
KBL Kabul 59.02 294 *e*P P **19 55 17.6 -0.5**
comp=Z,69nm,2.1s,mb5.3
KBL Kabul 59.02 294 *e*P P **19 55 17.6 -0.5**
KBL pmax pmax
comp=Z,69nm,2.1s,mb5.3
DZM Mont Dzumac 59.29 153 *e*LR LR 20 13 16.1
comp=Z,244nm,25.2s
ARU Arti 59.77 320 *e*P P **19 55 22.1 -0.7**
comp=Z,30nm,0.9s,mb5.3
ARU Arti 59.77 320 *c i*P P **19 55 22.1 -0.8**
ARU S S **20 03 32.0 +0.1**
ARU SS SS 20 07 23.9 -3.7
ARU pmax pmax
comp=Z,35nm,1.0s,mb5.3
SIT Sitka 60.05 39 P P **19 55 21.7 -3.0**
SIT Sitka 60.05 39 P P **19 55 21.7 -3.1**
ABKAR Akbulak array 60.87 312 *e*P P **19 55 30.2 -0.3**
POO Poona 61.49 275 *ex* P **19 55 33.0 -2.2**
AKTO Aktyubinsk 61.71 314 LR LR 20 24 32.2
comp=Z,160nm,18.1s,MS4.2,baz=49,slow=38
ARMA Armidale 63.25 170 *e*P P **19 55 47.4 +0.9**
STKA Stephens Creek 63.93 180 P P **19 55 49.5 -1.5**
comp=Z,6.3nm,1.0s,mb4.6,baz=17,slow=4.0,SNR=6.0
STKA LR LR 20 22 54.0
comp=Z,163nm,19.1s,MS4.2,baz=24,slow=35
STKA Stephens Creek 63.93 180 *e*P P **19 55 50.8 -0.2**
comp=Z,6.1nm,0.9s,mb4.6
STKA Stephens Creek 63.93 180 P P **19 55 49.5 -1.5**
STKA *e* 19 56 01.8
STKA Stephens Creek 63.93 180 P P **19 55 49.5 -1.5**
STKA *e* 19 56 01.8
FORT Forrest 64.06 193 *e*P P **19 55 52.5 +0.6**
comp=Z,19nm,0.6s,mb5.3
FORT Forrest 64.06 193 *e*P P **19 55 51.4 -0.5**
comp=Z,22nm,0.6s,mb5.4
SPITS Spitsbergen Ar 65.04 349 LR LR 20 25 08.3
comp=Z,146nm,19.7s,MS4.2,baz=180,slow=37
IMYA Miami 65.16 298 *e*P P **19 55 59.9 +0.6**
IMOG Moghan 65.82 299 *e*P P **19 56 04.0 +0.5**
IKRD Kardeh 66.17 299 *e*P P **19 56 02.1 -3.6**
ISFR Sfrayin 66.43 300 *e*P P **19 56 08.4 +1.0**
ISHV Shirvan 66.46 301 *e*P P **19 56 09.0 +1.4**
IDAH Dahanechah 66.78 295 *e*P P **19 56 10.8 +1.0**
APA Apatity 66.86 337 ⇑ *e*P P **19 56 11.8 +2.2**
APA MLR MLR
comp=Z,2μm,24.0s,MS5.2
RES Resolute Bay 67.13 14 *e*P P **19 56 10.4 -0.8**
comp=Z,14nm,1.1s,mb4.9
RES Resolute Bay 67.13 14 *e*P P **19 56 10.4 -0.8**
RES pmax pmax
comp=Z,14nm,1.1s,mb4.9
KLBR Kellerberrin 67.40 202 *e*P P **19 56 13.0 -0.4**
comp=Z,19nm,1.2s,mb5.0
ITEG Tejag 67.57 296 *e*P P **19 56 15.4 +0.6**
IKOO Kooshah 67.58 295 *e*P P **19 56 15.9 +1.1**
YKA Yellowknife Ar 67.91 29 P P **19 56 14.9 -1.5**
comp=Z,3.0nm,0.8s,mb4.4,baz=300,slow=6.3,SNR=3.7
YKA Yellowknife Ar 67.91 29 P P **19 56 14.8 -1.5**
YKA Yellowknife Ar 67.91 29 P P **19 56 14.9 -1.5**
ARCES ARCESS Array B 68.28 340 P P **19 56 18.4 -0.2**
comp=Z,2.8nm,0.7s,mb4.4,baz=61,slow=7.5,SNR=7.0
ARCES LR LR 20 28 47.5
comp=Z,261nm,18.7s,MS4.5,baz=191,slow=38
ARCES ARCESS Array B 68.28 340 P P **19 56 18.4 -0.2**
ARCES ARCESS Array B 68.28 340 P P **19 56 18.4 -0.2**
NWAO Narrogin (SRO) 68.80 202 *e*P P **19 56 22.1 -0.1**
comp=Z,22nm,1.1s,mb5.0
NWAO Narrogin (SRO) 68.80 202 *e*P P **19 56 22.1 -0.1**
NWAO pmax pmax
comp=Z,23nm,1.1s
JOF Joensuu 69.99 333 *e*P P **19 56 29.5 +0.3**
JOF Joensuu 69.99 333 *e*p P **19 56 29.5 +0.3**
DAG Danmarks Havn 70.37 355 *i* P P **19 56 31.0 -0.4**
DAG Danmarks Havn 70.37 355 *i* P P **19 56 31.0 -0.4**
comp=Z,5.1nm,0.8s,mb4.5
IBAF Bafgh 70.57 296 *e*P P **19 56 34.0 +0.6**
MOS Moscow 70.90 324 *e*P P **19 56 34.3 -0.6**
MOS pmax pmax
comp=Z,51nm,1.0s,mb5.4
IMEH Mehriz 71.39 296 *e*P P **19 56 38.0 -0.3**
OBN Obninsk 71.73 324 *e*P P **19 56 39.0 -0.9**
comp=Z,16nm,0.7s,mb5.1
OBN Obninsk 71.73 324 *e*P P **19 56 39.2 -0.8**
OBN *i* 19 56 54.2
OBN pmax pmax
comp=Z,31nm,1.2s,mb5.1
OBN MLR MLR
comp=Z,300nm,18.0s,MS4.6
VSR Storozhevoye 72.34 320 *c i*P P **19 56 43.1 -0.6**
VSR pmax pmax
comp=Z,20nm,0.7s,mb5.2
VSR pmax pmax
comp=N,20nm,1.4s
VSR pmax pmax
comp=E,10.0nm,1.0s
KAF Kangasniemi 72.36 333 *e*P P **19 56 43.2 -0.4**
KAF pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
KAF Kangasniemi 72.36 333 *e*p P **19 56 43.2 -0.4**
comp=Z,9.1nm,0.5s,mb5.0
IKLH Kolahrood 72.78 299 *e*P P **19 56 47.3 +0.6**
FINES FINESS Array B 72.85 333 P P **19 56 46.0 -0.6**
comp=Z,7.6nm,0.6s,mb4.8,baz=60,slow=5.9,SNR=54
FINES LR LR 20 29 08.8
comp=Z,160nm,18.2s,MS4.3,baz=324,slow=36
FINES FINESS Array B 72.85 333 P P **19 56 46.0 -0.6**
FINES FINESS Array B 72.85 333 P P **19 56 46.0 -0.5**
HOQ Hoqain 72.87 287 P P **19 56 48.5 +1.1**
SNR=6.1
IRAZ Razeghan 73.02 301 *e*P P **19 56 48.8 +0.7**
IPAR Pars 73.30 295 *e*P P **19 56 49.6 -0.2**
BSY Bisya 73.36 287 P P **19 56 51.4 +1.1**
SNR=5.1
ISRV Sarvestan 73.46 295 *e*P P **19 56 50.9 +0.1**
IPIR Pirpir 73.59 298 *e*P P **19 56 52.6 +1.1**
NEW Newport 73.59 43 ⇓ P P **19 56 51.6 +0.4**
baz=73
NEW Newport 73.59 43 *e*P P **19 56 51.4 +0.2**
comp=Z,16nm,1.3s,mb4.8
NEW Newport 73.59 43 *e*P P **19 56 51.4 +0.2**
NEW pmax pmax
comp=Z,16nm,1.3s
ZEI Tsey 73.66 310 *e*P P **19 56 50.6 -1.1**
ZEI pmax pmax
comp=Z,25nm,1.0s,mb5.1
IHRS Heris 73.69 305 *e*P P **19 56 52.0 0.0**
KIV Kislovodsk 73.85 312 *e*P P **19 56 52.3 -0.5**
comp=Z,50nm,0.8s,mb5.5
KIV Kislovodsk 73.85 312 *c i*P P **19 56 53.1 +0.3**
KIV *i* 19 56 59.0
KIV *i* 19 57 08.4
KIV pmax pmax
comp=Z,84nm,1.2s,mb5.5
KIV MLR MLR
comp=Z,100nm,18.0s,MS4.2
KIV Kislovodsk 73.85 312 P P **19 56 53.7 +0.9**
SNR=9.7
E09A Wood Farm, Sta 73.87 45 ⇑ P P **19 56 53.7 +0.8**
baz=74
G08A Pilot Rock 73.99 46 ⇓ P P **19 56 54.0 +0.4**
baz=74
K05A Summer Lake 74.04 49 ⇑ P P **19 56 54.4 +0.5**
baz=74
A12A Yaak River Ran 74.09 42 ⇑ P P **19 56 55.2 +1.1**
baz=74
GNI Garni 74.38 308 LR LR 20 32 32.9
comp=Z,230nm,18.9s,MS4.5,baz=328,slow=38
GNI Garni 74.38 308 *e*P P **19 56 56.2 +0.3**
comp=Z,26nm,1.0s,mb5.1
GNI Garni 74.38 308 *c i*P P **19 56 57.2 +1.3**
GNI pmax pmax
comp=Z,47nm,1.7s
IMRD Marand 74.43 306 *e*P P **19 56 56.9 +0.7**
ISHB Shabestar 74.69 306 *e*P P **19 56 58.3 +0.5**
A13A Flathead Natio 74.79 41 ⇓ P P **19 56 57.1 -1.1**
baz=74
MOD Modoc 74.83 50 *e*P P **19 56 59.8 +1.3**
comp=Z,4.8nm,0.9s,mb4.4
B13A Whitefish 75.05 42 ⇑ P P **19 56 57.2 -2.5**
baz=75
BSMT Bassoo Peak 75.15 43 *e*P P **19 57 00.5 +0.3**
comp=Z,3.3nm,1.0s,mb4.2
BMO Blue Mountains 75.22 46 *e*P P **19 57 01.1 +0.4**
comp=Z,33nm,2.3s,mb4.8
D12A Red Ives Fores 75.24 43 ⇑ P P **19 56 59.4 -1.4**
baz=75
J08A Circle Bar Ran 75.27 48 ⇑ P P **19 57 00.5 -0.5**
baz=75
SUMG Summit 75.31 360 *e*P P **19 57 01.5 +0.8**
SUMG Summit 75.31 360 *e*P P **19 57 01.5 +0.7**
SUMG Summit 75.31 360 *i* P P **19 57 01.4 +0.6**
comp=Z,7.8nm,0.8s,mb4.7
C13A Hot Springs 75.36 43 ⇓ P P **19 57 00.4 -1.1**
baz=75
B14A Marquette Ranc 75.73 42 ⇓ P P **19 57 01.8 -1.8**
baz=75
SWMT Swartz Lake 75.78 43 *e*P P **19 57 03.8 -0.1**
IDHR Dehrash 75.91 302 *e*P P **19 57 04.3 -0.6**
IGHG Ghaleghazi 75.96 302 *e*P P **19 57 05.0 -0.2**
F12A Elk City 75.98 45 ⇓ P P **19 57 04.4 -0.7**
baz=76
B15A Bradely Ranch, 76.16 41 ⇓ P P **19 57 05.9 -0.1**
baz=76
SLMT Seeley Lake 76.22 43 *e*P P **19 57 06.8 +0.4**
IZAR Zarasai 76.24 328 *e*P P **19 57 06.1 -0.2**
IZAR AMB AMB 19 57 08.0
comp=Z,8.1nm,0.9s,mb4.7
G12A Big Creek, Yel 76.28 45 ⇑ P P **19 57 05.8 -1.0**
baz=76
ISAL Salakas 76.41 328 *e*P P **19 57 07.0 -0.3**
ISAL AMB AMB 19 57 08.9
comp=Z,7.0nm,1.1s,mb4.5
C15A Salmond Ranch, 76.43 42 ⇑ P P **19 57 08.3 +0.8**
baz=76
IIGN Ignalina 76.50 328 *e*P P **19 57 07.5 -0.3**
IIGN AMB AMB 19 57 08.5
comp=Z,5.0nm,0.8s,mb4.5
F13A Darby 76.51 44 ⇓ P P **19 57 08.1 +0.1**
baz=76
B16A M & M Farms, S 76.58 41 ⇓ P P **19 57 08.8 +0.4**
baz=76
ANN Anapa 76.65 315 *e*P P **19 57 06.4 -2.5**
ANN *e* 20 00 05.1
ANN *e*S S 20 06 50.4 -3.0
ANN pmax pmax
comp=Z,97nm,1.4s,mb5.5
CMB Columbia Colle 76.73 53 *e*P P **19 57 10.0 +0.6**
comp=Z,5.5nm,0.9s,mb4.5
CMB Columbia Colle 76.73 53 *e*P P **19 57 10.0 +0.6**
CMB pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
H12A Diamond D Ranc 76.87 45 ⇑ P P **19 57 09.4 -0.7**
baz=77,SNR=7.8
MFID Camas Ranch 76.88 47 ⇑ P P **19 57 09.9 -0.3**
baz=77
MFID Camas Ranch 76.88 47 *e*P P **19 57 10.8 +0.6**
comp=Z,7.6nm,1.0s,mb4.6
C16A Fuhringer Ranc 76.90 41 ⇓ P P **19 57 09.5 -0.7**
baz=77
G13A Cobalt 76.95 45 ⇓ P P **19 57 09.6 -1.0**
baz=77,SNR=7.1
I12A Atlanta 77.11 46 ⇑ P P **19 57 10.4 -1.0**
baz=77
B17A L&G Farms, Che 77.15 41 ⇑ P P **19 57 10.9 -0.7**
baz=77
E15A Deer Lodge 77.15 43 ⇑ P P **19 57 11.3 -0.3**
baz=77
H13A Challis 77.22 45 ⇓ P P **19 57 11.9 -0.2**
baz=77,SNR=7.8
C17A Wharram Farm, 77.54 41 ⇑ P P **19 57 13.8 0.0**
baz=77
F15A Butte 77.56 43 ⇓ P P **19 57 14.0 0.0**
baz=77
LRM Limekiln Ridge 77.60 43 *e*P P **19 57 14.1 -0.1**
MIB Mutribah 77.65 297 *e*P P **19 57 14.1 -0.7**
MIB AMb AMB 19 57 14.9
comp=Z,43nm,0.7s,mb5.5
B18A Beardsley Farm 77.65 40 ⇓ P P **19 57 14.8 +0.4**
baz=77
I13A Wildhorse Cree 77.66 46 ⇑ P P **19 57 14.6 0.0**
baz=77,SNR=6.7
HLID Hailey 77.67 46 ⇓ P P **19 57 14.9 +0.3**
baz=77
HLID Hailey 77.67 46 *e*P P **19 57 15.2 +0.5**
comp=Z,4.5nm,1.1s,mb4.3
KBD Kabd 77.70 297 *e*P P **19 57 14.7 -0.4**
KBD AMb AMB 19 57 15.4
comp=Z,31nm,0.8s,mb5.3
FFC Flin Flon 77.70 32 *e*P P **19 57 13.3 -1.3**

comp=Z,126nm,2.6s,mb5.4
FFC Flin Flon 77.70 32 *i* P **P** 19 57 15.2 +0.6
QRN Al-Qurain 77.74 296 *e*P **P** 19 57 14.9 -0.3
QRN AMb AMB 19 57 15.6
comp=Z,59nm,0.8s,mb5.5
AKASG Malin Array Be 77.88 323 P **P** 19 57 15.1 -0.6
comp=Z,4.2nm,0.4s,mb4.7,baz=48,slow=5.6,SNR=26
AKASG LR LR 20 34 25.7
comp=Z,317nm,19.0s,MS4.7,baz=20,slow=38
AKASG Malin Array Be 77.88 323 P **P** 19 57 15.1 -0.6
AKASG Malin Array Be 77.88 323 P **P** 19 57 15.1 -0.5
AKBB Malin Array Si 77.88 323 *e*P **P** 19 57 15.0 -0.7
AKBB Malin Array Si 77.88 323 *e*P **P** 19 57 15.0 -0.6
KIEV Kiev 77.89 323 *e*P **P** 19 57 15.2 -0.5
comp=Z,47nm,1.4s,mb5.2
KIEV Kiev 77.89 323 *e*P **P** 19 57 15.2 -0.5
KIEV pmax pmax
comp=Z,47nm,1.4s,mb5.2
A19A Klindworth Far 77.90 39 ⇓P **P** 19 57 16.5 +0.7
baz=78
J13A Cove Ranch, Pi 77.91 46 ⇓P **P** 19 57 15.6 -0.3
baz=78
NVAR Mina Array Bea 77.92 52 P **P** 19 57 15.8 -0.4
comp=Z,3.7nm,0.7s,mb4.4,baz=286,slow=5.6,SNR=19
NVAR Mina Array Bea 77.92 52 P **P** 19 57 15.8 -0.4
RDF Al-Radifah 77.93 297 *e*P **P** 19 57 16.5 +0.2
RDF AMb AMB 19 57 17.6
comp=Z,64nm,0.8s,mb5.6
G15A Dillon 77.94 44 ⇑P **P** 19 57 16.1 0.0
baz=78
NAY Al-Naaiem 78.00 297 *e*P **P** 19 57 15.9 -0.9
NAY AMb AMB 19 57 17.4
comp=Z,34nm,1.2s,mb5.2
I14A Mackay 78.05 45 ⇑P **P** 19 57 16.8 0.0
baz=78,SNR=13
F16A Kennard Place, 78.10 43 ⇑P **P** 19 57 16.2 -0.7
baz=78
E17A Martinsdale 78.15 42 ⇑P **P** 19 57 17.6 +0.4
baz=78
BOZ Bozeman (W) 78.17 43 ⇓P **P** 19 57 17.8 +0.4
baz=78
BOZ Bozeman (W) 78.17 43 *e*pP pP 19 57 29.0 +2.2
BOZ Bozeman (W) 78.17 43 *e*P pP 19 57 29.0 +2.3
HFS Hagfors 78.25 336 LR LR 20 33 17.7
comp=Z,244nm,18.1s,MS4.6,baz=168,slow=37
J14A Carey 78.35 46 ⇓P **P** 19 57 18.3 -0.1
baz=78,SNR=6.9
NB2 NORSAR Subarra 78.40 338 P **P** 19 57 17.8 -0.5
comp=Z,6.0nm,0.6s,mb4.7,baz=41,slow=5.6
NOA NORSAR Array B 78.40 338 P **P** 19 57 17.8 -0.6
comp=Z,9.9nm,0.7s,mb4.8,baz=41,slow=5.5,SNR=35
NOA LR LR 20 33 18.3
comp=Z,124nm,19.4s,MS4.2,baz=75,slow=37
NOA NORSAR Array B 78.40 338 P **P** 19 57 17.8 -0.6
NOA NORSAR Array B 78.40 338 P **P** 19 57 17.8 -0.5
SUW Suwalki 78.71 328 *e*P **P** 19 57 20.1 -0.1
SUW Suwalki 78.71 328 *e*P **P** 19 57 19.6 -0.6
comp=Z,30nm,0.9s,mb5.2
SUW Suwalki 78.71 328 *e*P **P** 19 57 19.6 -0.6
SUW pmax pmax
comp=Z,30nm,0.9s,mb5.2
H16A Russell Place, 78.93 44 ⇑P **P** 19 57 22.7 +1.1
baz=79
J15A Blackfoot 78.96 45 ⇓P **P** 19 57 21.8 0.0
baz=79
K14A Jones Ranch, D 78.99 46 ⇓P **P** 19 57 21.6 -0.3
baz=79
I16A Newdale 79.26 45 ⇓P **P** 19 57 23.8 +0.4
baz=79
ISA Isabella 79.27 55 ⇓P **P** 19 57 23.4 -0.2
baz=79
GRAC Grapevine Rang 79.31 53 ⇑P **P** 19 57 23.6 -0.2
baz=79
A22A Carney Farms, 79.36 38 ⇓P **P** 19 57 24.5 +0.7
baz=79
J16A Bone 79.53 45 ⇓P **P** 19 57 25.6 +0.8
baz=79
IMW Indian Meadow 79.57 44 *e*P **P** 19 57 29.4 +4.4
comp=Z,5.6nm,1.0s,mb4.5
RRI2 Red Ridge 79.66 45 *e*P **P** 19 57 25.2 -0.4
comp=Z,78nm,2.8s,mb5.1
HVU Hansel Valley 79.66 47 *e*P **P** 19 57 26.6 +1.0
comp=Z,4.5nm,0.8s,mb4.5
HVU Hansel Valley 79.66 47 *e*P **P** 19 57 26.6 +1.0
HVU pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
MPMC Manual Prospec 79.73 54 ⇑P **P** 19 57 25.5 -0.6
baz=80
R11A Troy Canyon, C 79.77 51 ⇑P **P** 19 57 26.1 -0.2
baz=80
L15A Malad City 79.78 47 ⇓P **P** 19 57 25.6 -0.7
baz=80
RLMT Red Lodge 79.83 43 ⇑P **P** 19 57 27.2 +0.7
baz=80
H18A Shoshone NF, C 79.87 43 ⇑P **P** 19 57 28.2 +1.5
baz=80
LRMC Laurel Mountai 79.91 54 ⇓P **P** 19 57 28.4 +1.3
baz=80
FURC Furnace Creek, 79.94 53 ⇓P **P** 19 57 28.1 +0.9
baz=80
EDW2 Edwards Air Fo 80.02 55 ⇑P **P** 19 57 28.2 +0.5
baz=80
B23A Brockton 80.17 38 ⇓P **P** 19 57 28.2 0.0
baz=80
HWUT Hardware Ranch 80.51 47 *e*P **P** 19 57 30.4 +0.2
comp=Z,7.7nm,1.1s,mb4.5
J18A Kendall Valley 80.51 45 ⇑P **P** 19 57 28.4 -1.8
baz=80
DUG Dugway 80.53 48 ⇑P **P** 19 57 30.0 -0.3
baz=80
DUG Dugway 80.53 48 *e*P **P** 19 57 30.4 +0.1
comp=Z,7.6nm,1.0s,mb4.6
DUG Dugway 80.53 48 *e*P **P** 19 57 30.4 0.0
DUG pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
LVV L'vov 81.03 324 *e*P **P** 19 57 31.2 -1.6
PDAR Pinedale Array 81.05 45 P **P** 19 57 32.6 -0.5
comp=Z,1.2nm,0.7s,mb3.9,baz=303,slow=3.4,SNR=8.4
PDAR Pinedale Array 81.05 45 P **P** 19 57 32.6 -0.5
TUQ Turquoise Moun 81.14 54 ⇓P **P** 19 57 34.6 +0.9
baz=81
HEC Hector,Ludlow 81.19 54 ⇑P **P** 19 57 34.5 +0.5
baz=81
E23A Ismay 81.22 40 ⇑P **P** 19 57 33.8 0.0
baz=81
P15A Leamington 81.22 49 ⇓P **P** 19 57 34.1 +0.1
baz=81
N17A Moffit Pass 81.34 47 ⇑P **P** 19 57 33.2 -1.4
baz=81
O16A Springville 81.35 48 ⇓P **P** 19 57 34.0 -0.7
baz=81
K19A Absolon Red Bu 81.44 44 ⇑P **P** 19 57 35.5 +0.4
baz=81
M18A Lyman 81.53 46 ⇑P **P** 19 57 36.4 +0.8
baz=81
CCUT Cedar City 81.67 51 *e*P **P** 19 57 37.5 +1.0
comp=Z,51nm,2.4s,mb5.0
GMRC Granite Mounta 81.68 54 ⇓P **P** 19 57 36.7 +0.1
baz=81
I21A Big Trails, Te 81.75 43 ⇑P **P** 19 57 37.1 +0.4
baz=82
PFO Pinyon Flat Ob 81.78 55 ⇑P **P** 19 57 36.9 -0.2
baz=82
PFO Pinyon Flat Ob 81.78 55 *e*P **P** 19 57 36.5 -0.6
comp=Z,7.2nm,0.9s,mb4.6
PFO Pinyon Flat Ob 81.78 55 *e*P **P** 19 57 36.5 -0.6
PFO pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
TESR 81.80 321 ⇓*i*P **P** 19 57 37.1 +0.1
KWP Kalwaria Pacla 81.81 325 *e*P **P** 19 57 37.4 +0.5
KWP Kalwaria Pacla 81.81 325 *e*P **P** 19 57 37.4 +0.5
BR131 Keskin Array S 81.82 312 *e*P **P** 19 57 37.2 +0.1
comp=Z,15nm,0.8s,mb5.0
BRTR Keskin Array B 81.82 312 P **P** 19 57 37.5 +0.4
comp=Z,19nm,0.8s,mb5.1,baz=110,slow=4.1,SNR=89
BRTR LR LR 20 37 28.0
comp=Z,91nm,18.5s,MS4.2,baz=246,slow=38
BRTR Keskin Array B 81.82 312 P **P** 19 57 37.5 +0.4
BRTR Keskin Array B 81.82 312 P **P** 19 57 37.6 +0.4
O17A Robinson Place 81.83 47 ⇓P **P** 19 57 37.3 0.0
baz=82
BUR08 Bucovina Ar. S 81.84 322 *e*P **P** 19 57 37.4 +0.2
BURAR Bucovina Array 81.86 322 ⇑P **P** 19 57 37.5 +0.3
BURAR Bucovina Array 81.86 322 ⇑*i*P **P** 19 57 37.5 +0.3
BELC Belle Mtn. Jos 81.88 55 ⇑P **P** 19 57 37.4 -0.2
baz=82
MSU Marysvale 81.89 49 *e*P **P** 19 57 38.5 +0.9
MSU Marysvale 81.89 49 *e*P **P** 19 57 38.5 +0.9
TIRR Tirgusor 82.11 318 *e*P **P** 19 57 38.1 -0.5
comp=Z,21nm,1.5s,mb4.8
TIRR Tirgusor 82.11 318 ⇑P **P** 19 57 38.4 -0.2
TIRR Tirgusor 82.11 318 ⇑*i*P **P** 19 57 38.4 -0.2
VRI Vrincioaia 82.16 320 ⇑P **P** 19 57 40.3 +1.4
VRI Vrincioaia 82.16 320 ⇑*i*P **P** 19 57 40.3 +1.4
MONP Monument Peak 82.20 56 ⇑P **P** 19 57 38.7 -0.6
baz=82
PLOR Plostina 82.21 320 ⇓P **P** 19 57 39.7 +0.6
PLOR Plostina 82.21 320 ⇓*i*P **P** 19 57 39.7 +0.6
L20A Wansutter 82.22 45 ⇓P **P** 19 57 39.7 +0.4
baz=82
O18A Roosevelt 82.25 47 ⇓P **P** 19 57 39.1 -0.3
baz=82
P17A Butcher Ranch, 82.25 48 ⇑P **P** 19 57 39.2 -0.3
baz=82
IRM Iron Mountain 82.38 54 ⇑P **P** 19 57 40.0 -0.2
baz=82
N19A John Jarvie Ra 82.39 46 ⇓P **P** 19 57 39.4 -0.7
baz=82
BC3 Big Chuckawall 82.45 55 ⇑P **P** 19 57 42.2 +1.6
baz=82
J22A Midwest 82.46 43 ⇓P **P** 19 57 40.1 -0.4
baz=82
P18A Preston Nutter 82.47 48 ⇑P **P** 19 57 42.1 +1.5
baz=82
R16A Teasdale 82.47 49 ⇓P **P** 19 57 41.1 +0.4
baz=82
K21A Alcova 82.49 44 ⇑P **P** 19 57 40.7 0.0
baz=82
PMOR Pomariorio Ree 82.50 113 *e*T 21 28 10.0
SRU San Rafael 82.60 48 *e*P **P** 19 57 41.3 0.0
comp=Z,9.7nm,1.0s,mb4.8
SRU San Rafael 82.60 48 *e*P **P** 19 57 41.3 0.0
SRU pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
M20A Sweetwater, Wa 82.63 45 ⇓P **P** 19 57 40.7 -0.7
baz=82
UZH Uzhgorod 82.67 324 ⇑*i*P **P** 19 57 41.8 +0.3
PPT Papeete 82.73 116 *e*LR LR 20 23 30.7
comp=Z,238nm,25.8s,baz=298
ISR Istrita 82.73 320 ⇑P **P** 19 57 43.2 +1.3
ISR Istrita 82.73 320 ⇑*i*P **P** 19 57 43.2 +1.3
OJC Ojcow 82.80 326 *e*P **P** 19 57 42.3 +0.2
OJC Ojcow 82.80 326 *e*P **P** 19 57 42.2 +0.1
OJC Ojcow 82.80 326 *e*P **P** 19 57 42.3 +0.2
MLR Muntele Rosu 82.83 320 LR LR 20 40 59.2
comp=Z,33nm,19.4s,MS3.7,baz=82,slow=40
MLR Muntele Rosu 82.83 320 ⇑P **P** 19 57 42.7 +0.4
MLR Muntele Rosu 82.83 320 ⇑*i*P **P** 19 57 42.7 +0.4
L21A Rawlins 82.83 44 ⇓P **P** 19 57 42.8 +0.4
baz=82
TRPA Tarpa 82.89 324 ⇓*i*P **P** 19 57 43.4 +0.8
R17A Hanksville Air 82.89 49 ⇑P **P** 19 57 42.7 -0.1
baz=83
CRVS Cervenica-Dubn 82.90 325 *e*P **P** 19 57 43.0 +0.3
CRVS pmax pmax
comp=Z,38nm,1.8s,mb5.1
CRVS Cervenica-Dubn 82.90 325 *e*P **P** 19 57 43.0 +0.3
K22A Casper 82.90 43 ⇓P **P** 19 57 42.8 0.0
baz=83
N20A Spence Gulch, 82.98 46 ⇓P **P** 19 57 43.5 +0.2
baz=83,SNR=5.0
Y12C Blythe 83.04 54 ⇓P **P** 19 57 42.7 -1.0
baz=83
NIE Niedzica 83.11 326 *e*P **P** 19 57 44.3 +0.6
NIE Niedzica 83.11 326 *e*P **P** 19 57 44.3 +0.6
P19A Cripple Cowboy 83.26 47 ⇓P **P** 19 57 44.8 +0.1
baz=83,SNR=7.2
S17A Black Ridge (B 83.29 49 ⇓P **P** 19 57 45.7 +0.8
baz=83
MDND Maddock 83.32 36 ⇓P **P** 19 57 45.2 +0.3
baz=83
VOIR 83.34 320 ⇑P **P** 19 57 45.9 +0.9
VOIR 83.34 320 ⇑*i*P **P** 19 57 45.9 +0.9
O20A White River Ci 83.41 46 ⇑P **P** 19 57 45.1 -0.4
baz=83
R18A Canyonlands Na 83.42 48 ⇓P **P** 19 57 45.6 0.0
baz=83
N21A Black Mountain 83.47 45 ⇓P **P** 19 57 45.8 0.0
baz=83
Q19A Hogan Spring (83.48 48 ⇑P **P** 19 57 45.5 -0.3
baz=83
T17A Navajo Res., N 83.66 50 ⇓P **P** 19 57 47.2 +0.4
baz=83
KECS Kecovo 83.66 325 *e*P **P** 19 57 46.7 +0.1
KECS pmax pmax
comp=Z,6.0nm,1.1s,mb4.6
KECS Kecovo 83.66 325 *e*P **P** 19 57 46.7 +0.1
DRGR 83.69 323 ⇑P **P** 19 57 47.1 +0.3
DRGR 83.69 323 ⇑*i*P **P** 19 57 47.1 +0.3
L23A Garrett 83.72 44 ⇑P **P** 19 57 47.4 +0.3
baz=83
S18A Hurst Farm, Bl 83.77 49 ⇑P **P** 19 57 46.7 -0.7
baz=84
O21A Pagoda 83.83 46 ⇓P **P** 19 57 47.3 -0.4
baz=84
OKC Ostrava-Krasne 83.83 327 *e*P **P** 19 57 47.2 -0.2
OKC Ostrava-Krasne 83.83 327 *e*P **P** 19 57 47.2 -0.2
R19A Curley Farm, L 83.88 48 ⇑P **P** 19 57 48.0 0.0
baz=84
Z13A Yuma Proving G 83.94 54 ⇑P **P** 19 57 48.8 +0.5
baz=84
U16A Tuba City 83.95 51 ⇑P **P** 19 57 49.1 +0.8
baz=84
KSP Ksiaz 83.96 328 *e*P **P** 19 57 48.2 +0.2
Y14A Wickenburg 83.97 54 ⇓P **P** 19 57 48.6 +0.1
baz=84
U17A Shonto 83.98 50 ⇓P **P** 19 57 49.3 +0.8
baz=84
LOT Lotru 84.02 321 ⇑*i*P **P** 19 57 49.0 +0.5
PV04 Paradox Valley 84.05 48 *e*P **P** 19 57 49.4 +0.6
Q20A Ridgley Place, 84.09 47 ⇑P **P** 19 57 49.0 0.0
baz=84,SNR=8.4
M23A Laramie 84.11 44 ⇑P **P** 19 57 48.3 -0.8
baz=84
113A Mohawk Valley, 84.11 55 ⇓P **P** 19 57 49.4 +0.1
baz=84
BSEG Bad Segeberg 84.12 333 *e*P **P** 19 57 48.2 -0.6
comp=Z,40nm,1.3s,mb5.4
BSEG Bad Segeberg 84.12 333 *e*P **P** 19 57 48.2 -0.6
BSEG pmax pmax
comp=Z,40nm,1.3s,mb5.4
WUAZ Wupatki 84.15 51 ⇓P **P** 19 57 49.4 +0.1
baz=84
WUAZ Wupatki 84.15 51 *e*P **P** 19 57 50.3 +0.9
comp=Z,6.6nm,1.0s,mb4.7
MORC Moravsky Berou 84.16 327 *e*P **P** 19 57 49.1 0.0
comp=Z,30nm,1.4s,mb5.2
MORC Moravsky Berou 84.16 327 ⇓P **P** 19 57 49.4 +0.3
MORC Moravsky Berou 84.16 327 ⇓*i*P **P** 19 57 49.4 +0.3
T18A Mexican Hat 84.18 49 ⇑P **P** 19 57 50.2 +0.8
baz=84
DPC Dobruska-Polom 84.30 328 *e*P **P** 19 57 50.3 +0.5
comp=Z,19nm,0.8s,mb5.3
DPC Dobruska-Polom 84.30 328 *e*P **P** 19 57 50.3 +0.5
DPC *e* pP 19 57 58.6 -0.7
DPC Dobruska-Polom 84.30 328 *e*P **P** 19 57 50.3 +0.5
DPC *e*pP pP 19 57 58.6 -0.7
UPC Upice 84.32 328 *e*P **P** 19 57 50.2 +0.3
UPC Upice 84.32 328 *e*P **P** 19 57 50.2 +0.3
N23A Red Feather La 84.33 45 ⇓P **P** 19 57 51.2 +1.1
baz=84
PSZ Piszkesteto 84.34 325 *e*P **P** 19 57 50.3 +0.2
PSZ Piszkesteto 84.34 325 ⇓P **P** 19 57 50.7 +0.6
PSZ Piszkesteto 84.34 325 ⇓*e*P **P** 19 57 50.2 +0.1
PSZ Piszkesteto 84.34 325 ⇓*i*P **P** 19 57 50.7 +0.6
PV01 Paradox Valley 84.41 48 *e*P **P** 19 57 50.2 -0.5
comp=Z,527nm,1.0s
Y15A Casa Rosa Ranc 84.42 53 ⇓P **P** 19 57 51.6 +0.8
baz=84
O22A Kremmling 84.42 45 ⇑P **P** 19 57 50.6 0.0
baz=84
V17A Tonalea, Kykot 84.47 51 ⇑P **P** 19 57 51.0 0.0
baz=84
R20A Redvale 84.50 48 ⇑P **P** 19 57 52.2 +1.1
baz=84
GZR Gura Zlata 84.58 322 ⇑P **P** 19 57 51.9 +0.6
GZR Gura Zlata 84.58 322 ⇑*i*P **P** 19 57 51.9 +0.6
KOLL Kolacno 84.60 326 *e*P **P** 19 57 51.7 +0.3
KOLL Kolacno 84.60 326 *e*P **P** 19 57 51.7 +0.3
U18A Rough Rock, Ch 84.61 50 ⇑P **P** 19 57 52.1 +0.4
baz=84
Q21A Lamborn Mesa, 84.61 47 ⇑P **P** 19 57 52.0 +0.4
baz=84
M24A Cheyenne 84.63 44 ⇓P **P** 19 57 52.0 +0.3
baz=84
P22A Eagle 84.64 46 ⇑P **P** 19 57 51.9 +0.1
baz=84,SNR=8.4
114A Black Gap (USA 84.73 54 ⇓P **P** 19 57 53.2 +0.9
baz=84
X16A Lo Mia Camp, P 84.75 52 ⇑P **P** 19 57 53.2 +0.8
baz=84
K26A Motz Farm, Whi 84.79 42 ⇑P **P** 19 57 52.4 0.0
baz=84
T19A Beclabito 84.91 49 ⇓P **P** 19 57 52.8 -0.3
baz=85
R21A Cimarron 84.91 47 ⇓P **P** 19 57 53.4 +0.2
baz=85,SNR=8.1
VRAC Vranov 84.92 327 ⇓P **P** 19 57 53.7 +0.7
VRAC Vranov 84.92 327 ⇓*i*P **P** 19 57 53.7 +0.7
PVCC Panska Ves 84.94 329 *e*P **P** 19 57 53.0 -0.1
PVCC Panska Ves 84.94 329 *e*P **P** 19 57 53.0 -0.1
BRG Berggiesshubel 84.96 330 *i*P **P** 19 57 52.6 -0.5
comp=Z,14nm,0.8s,mb5.1
BRG Berggiesshubel 84.96 330 *e*P **P** 19 57 52.7 -0.4
comp=Z,14nm,0.8s,mb5.1
BRG Berggiesshubel 84.96 330 *i*P **P** 19 57 52.6 -0.5
BRG pmax pmax
comp=Z,14nm,0.8s,mb5.1
Q22A Crested Butte, 85.00 47 ⇓P **P** 19 57 54.1 +0.5
baz=85,SNR=8.1
MVCO Mesa Verde 85.01 49 ⇑P **P** 19 57 55.5 +1.9
baz=85
CLL Collm 85.03 330 *e*P **P** 19 57 52.9 -0.6
comp=Z,29nm,1.0s,mb5.4
CLL Collm 85.03 330 ⇑*i*P **P** 19 57 53.0 -0.5
CLL *e* pP 19 58 01.0 -2.0
CLL pmax pmax
comp=Z,29nm,1.0s,mb5.4
CLL MLR MLR
comp=Z,200nm,18.3s,MS4.5
CLL Collm 85.03 330 ⇑*i*P **P** 19 57 53.0 -0.5
comp=Z,29nm,1.0s,mb5.4
CLL *e*(pP) pP 19 58 01.0 -2.0
CLL LmV 20 49 00.0
comp=Z,200nm,18.3s
Y16A Circle Bar Ran 85.04 53 ⇓P **P** 19 57 53.6 -0.3
baz=85
SMOL Smolenice 85.10 326 *e*P **P** 19 57 54.6 +0.7
SMOL Smolenice 85.10 326 *e*P **P** 19 57 54.6 +0.7
U19A Dine' College, 85.11 50 ⇑P **P** 19 57 54.6 +0.4
baz=85
S21A Coal Bank Pass 85.19 48 ⇓P **P** 19 57 55.3 +0.8
baz=85
115A Sonoran Desert 85.21 54 ⇓P **P** 19 57 54.1 -0.6
baz=85
X17A Forest Lakes 85.22 52 ⇑P **P** 19 57 54.5 -0.3
baz=85
214A Organ Pipe Nat 85.24 55 ⇑P **P** 19 57 55.0 +0.1
baz=85
O24A Longmont 85.33 45 ⇑P **P** 19 57 55.2 0.0
baz=85
Z16A Peralta Trail, 85.39 53 ⇑P **P** 19 57 56.5 +0.8
baz=85
ZST Bratislava 85.48 326 *e*P **P** 19 57 56.5 +0.7
ZST pmax pmax
comp=Z,25nm,1.5s,mb5.1
ZST Bratislava 85.48 326 *e*P **P** 19 57 56.5 +0.7
R22A Saguache, Gunn 85.49 47 ⇓P **P** 19 57 56.5 +0.5
baz=85,SNR=6.7
Y17A Roosevelt 85.57 53 ⇓P **P** 19 57 56.3 -0.3
baz=85
Q23A Hartsel 85.63 46 ⇓P **P** 19 57 58.6 +1.8
baz=85
116A Eloy 85.65 54 ⇑P **P** 19 57 58.2 +1.2
baz=85
X18A Snowflake 85.68 52 ⇑P **P** 19 57 56.7 -0.3
baz=85
W19A Sanders 85.70 51 ⇑P **P** 19 57 57.2 +0.1
baz=85
CLZ Clausthal 85.70 332 *e*P **P** 19 57 56.6 -0.2
comp=Z,32nm,1.3s,mb5.4
CLZ Clausthal 85.70 332 *e*P **P** 19 57 56.6 -0.2
CLZ pmax pmax
comp=Z,32nm,1.3s,mb5.4
S22A 4UR Ranch, Cre 85.74 48 ⇑P **P** 19 57 56.6 -0.7
baz=86
U21A Nageezi 86.02 49 ⇓P **P** 19 57 59.1 +0.4
baz=86
Z17A San Carlos Hig 86.06 53 ⇓P **P** 19 57 59.4 +0.5
baz=86
Y18A Canyon Day Jun 86.07 52 ⇓P **P** 19 57 57.6 -1.4
baz=86
NKC Novy Kostel 86.07 330 *e*P **P** 19 57 58.6 -0.1
NKC Novy Kostel 86.07 330 *e*P **P** 19 57 58.6 -0.1
R23A Moffat 86.08 47 ⇑P **P** 19 57 58.6 -0.4
baz=86
216A Three Points, 86.15 54 ⇑P **P** 19 57 59.9 +0.5
baz=86
X19A St. Johns 86.17 51 ⇑P **P** 19 57 59.6 +0.1
baz=86
W20A Ramah 86.27 50 ⇓P **P** 19 58 00.0 0.0
baz=86
TBI Tubuai 86.30 120 *e*LR LR 20 25 54.5
comp=Z,204nm,24.5s
117A Oracle 86.31 54 ⇓P **P** 19 57 58.5 -1.7
baz=86
IBBN Ibbenburen 86.36 333 *e*P **P** 19 57 59.2 -0.8
comp=Z,31nm,0.8s,mb5.6
KHC Kasperske Hory 86.41 329 *e*P **P** 19 58 00.2 -0.2
KHC *e* pP 19 58 09.0 -0.8
KHC Kasperske Hory 86.41 329 *e*P **P** 19 58 00.2 -0.2
KHC *e*pP pP 19 58 09.0 -0.8
Y19A Nutrioso 86.48 52 ⇑P **P** 19 58 01.3 +0.3
baz=86
ROTZ Rotzenmuhle 86.53 330 *e*P **P** 19 58 00.7 -0.2
comp=Z,23nm,1.7s,mb5.1
GERES GERESS Array B 86.56 328 P **P** 19 58 00.4 -0.8
comp=Z,0.5nm,0.4s,mb4.1,baz=52,slow=6.9,SNR=6.7
GERES LR LR 20 39 51.6
comp=Z,138nm,18.6s,MS4.4,baz=284,slow=38
GERES GERESS Array B 86.56 328 P **P** 19 58 00.4 -0.8
GERES GERESS Array B 86.56 328 P **P** 19 58 00.4 -0.7
Q25A Bedland, Calha 86.59 45 ⇑P **P** 19 58 01.1 -0.4
baz=86
T23A Casias Ranch, 86.67 48 ⇓P **P** 19 58 03.8 +1.8
baz=86
GRF Grafenberg Arr 87.00 330 *e*P **P** 19 58 02.9 -0.4
comp=Z,49nm,1.6s,mb5.5
GRF Grafenberg Arr 87.00 330 *e*P **P** 19 58 02.9 -0.4
GRF pmax pmax
comp=Z,49nm,1.6s,mb5.5
218A Dragoon 87.13 54 ⇑P **P** 19 58 04.0 -0.3
baz=87
BUG Bochum--Univer 87.23 333 *e*P **P** 19 58 03.5 -0.8
Z20A Nine Sixteen R 87.43 52 ⇑P **P** 19 58 07.2 +1.5
baz=87
Y21A Point of Rocks 87.49 51 ⇓P **P** 19 58 07.8 +1.9
baz=87
ECSD EROS Data Cent 87.66 38 *e*P **P** 19 58 05.9 -0.7
comp=Z,10nm,0.9s,mb5.1
ANMO Albuquerque 87.70 50 *e*P **P** 19 58 08.6 +1.7
comp=Z,4.6nm,1.4s,mb4.5
ANMO Albuquerque 87.70 50 *e*P **P** 19 58 08.6 +1.7
U25A Circle Dot Ran 88.09 47 ⇑P **P** 19 58 07.3 -1.5
baz=88
CDF Champ du Feu 89.63 331 *e*P **P** 19 58 15.2 -0.6
HINF Hinteralfeld 90.28 331 *e*P **P** 19 58 17.9 -0.9
HAU Haudompre 90.33 332 *e*P **P** 19 58 17.9 -1.1
comp=Z,5.7nm,0.7s,mb4.7
HAU *e*R
comp=Z,164nm,20.0s
SFTF Sexfontaines 90.69 332 *e*P **P** 19 58 20.3 -0.4
425A Indio Mountain 91.27 52 ⇓P **P** 19 58 24.5 +0.8
baz=91
CABF La Chapelle 91.55 331 *e*P **P** 19 58 24.1 -0.6
426A McDonald Obser 91.98 52 ⇓P **P** 19 58 28.2 +1.1
baz=92
LPL La Plagne 92.16 330 *e*P **P** 19 58 27.3 -0.3
comp=Z,8.0nm,0.5s,mb5.0
LPG La Plagne 92.17 330 *e*P **P** 19 58 27.5 -0.1
comp=Z,14nm,0.6s,mb5.2
SSF Saint Saulge 92.22 333 *e*P **P** 19 58 27.2 -0.6
comp=Z,25nm,1.1s,mb5.2
FLN La Foliniere 92.27 336 *e*P **P** 19 58 27.0 -1.0
FLN *e*R
comp=Z,213nm,19.8s
LDF La Druitiere 92.28 335 *e*P **P** 19 58 27.1 -1.0
comp=Z,3.1nm,0.5s,mb4.6
328A Wristen Ranch, 92.33 50 ⇑P **P** 19 58 30.1 +1.4
baz=92

526A	**Mary Lane Ranc**	**92.33**	**52**	⇓P		**P**		**19 58 29.4**	**+0.7**
	baz=92									
SMF	**Signal de Mont**	**92.43**	**332**	*e*P		**P**		**19 58 28.2**	**-0.6**
	comp=Z,32nm,1.2s,mb5.2									
AVF	**Avril sur Loir**	**92.50**	**333**	*e*P		**P**		**19 58 28.6**	**-0.5**
	comp=Z,26nm,0.8s,mb5.4									
626A	**Big Bend Ranch**	**92.62**	**52**	⇓P		**P**		**19 58 29.7**	**-0.4**
	baz=92									
WMOK	**Wichita Mounta**	**92.63**	**46**	*e*P		**P**		**19 58 29.5**	**-0.5**
WMOK	**Wichita Mounta**	**92.63**	**46**	*e*P		**P**		**19 58 29.5**	**-0.5**
WMOK					pmax		pmax			
	comp=Z,52nm,2.7s,mb5.5									
GRR	**Gorron**	**92.72**	**336**	*e*P		**P**		**19 58 29.5**	**-0.6**
MBDF	**Montbardon**	**92.77**	**329**	*e*P		**P**		**19 58 29.4**	**-1.0**
	comp=Z,16nm,0.7s,mb5.3									
428A	**Kincaid Ranch,**	**92.83**	**51**	⇓P		**P**		**19 58 30.9**	**0.0**
	baz=93									
BGF	**Bois d'Agland**	**92.89**	**333**	*e*P		**P**		**19 58 29.5**	**-1.4**
ORIF	**Oris-en-Rattie**	**93.00**	**330**	*e*P		**P**		**19 58 30.9**	**-0.6**
	comp=Z,22nm,0.8s,mb5.3									
ORIF					*e*R					
	comp=Z,195nm,18.5s									
TXAR	**Lajitas Array**	**93.08**	**52**	P		**P**		**19 58 32.2**	**+0.1**
	comp=Z,4.0nm,0.9s,mb4.8,baz=298,slow=2.7,SNR=19									
TXAR					LR		LR	20 41 25.6		
	comp=Z,108nm,18.5s,MS4.3,baz=355,slow=36									
TXAR	**Lajitas Array**	**93.08**	**52**	P		**P**		**19 58 32.2**	**+0.1**
TXAR	**Lajitas Array**	**93.08**	**52**	P		**P**		**19 58 32.3**	**+0.2**
SBF	**Sospel**	**93.17**	**328**	*e*P		**P**		**19 58 31.4**	**-0.9**
627A	**Terlingua Ranc**	**93.19**	**52**	⇓P		**P**		**19 58 33.0**	**+0.3**
	baz=93									
TCF	**Toulx Ste Croi**	**93.36**	**333**	*e*P		**P**		**19 58 32.6**	**-0.5**
	comp=Z,18nm,1.0s,mb5.2									
628A	**Black Gap, Mar**	**93.50**	**52**	⇓P		**P**		**19 58 34.0**	**0.0**
	baz=93									
VIVF	**Saint-Julien-l**	**93.56**	**331**	*e*P		**P**		**19 58 33.5**	**-0.5**
	comp=Z,16nm,0.8s,mb5.2									
FRF	**La Foret Royal**	**93.75**	**329**	*e*P		**P**		**19 58 34.5**	**-0.5**
MFF	**Saint Martin d**	**93.98**	**334**	*e*P		**P**		**19 58 35.6**	**-0.3**
RJF	**Les Rejaudoux**	**94.45**	**333**	*e*P		**P**		**19 58 37.9**	**-0.2**
	comp=Z,9.3nm,0.7s,mb5.0									
RJF					*e*R					
	comp=Z,198nm,21.5s									
LASF	**Ste Croix**	**94.53**	**331**	*e*P		**P**		**19 58 38.1**	**-0.4**
CAF	**Calviac**	**94.55**	**332**	*e*P		**P**		**19 58 37.9**	**-0.7**
JCT	**Junction City**	**94.86**	**49**	⇑P		**P**		**19 58 41.7**	**+1.4**
	baz=95									
SFIN	**Scholer Farm**	**94.92**	**35**	⇓P		**P**		**19 58 41.9**	**+1.5**
	baz=95									
MIAR	**Mount Ida**	**95.83**	**43**	*e*P		**P**		**19 58 43.5**	**-1.2**
	comp=Z,6.7nm,1.1s,mb5.0									
MIAR	**Mount Ida**	**95.83**	**43**	*e*P		**P**		**19 58 43.5**	**-1.2**
MIAR					pmax		pmax			
	comp=Z,7.0nm,1.1s,mb5.0									
RKT	**Rikitea**	**97.13**	**113**	*e*LR		LR		20 30 13.3		
	comp=Z,186nm,24.0s									
TORD	**Torodi Ar. Bea**	**120.42**	**313**	PKP		PKPdf		20 04 08.9	-1.1	
	comp=Z,1.1nm,0.6s,baz=23,slow=1.4,SNR=9.6									
TORD	**Torodi Ar. Bea**	**120.42**	**313**	PKP		PKPdf		20 04 08.9	-1.1	
BOSA	**Boshof**	**125.43**	**256**	PKP		PKPdf		20 04 19.9	+0.7	
	comp=Z,2.7nm,0.9s,baz=0.0,slow=0.0,SNR=3.3									
BOSA	**Boshof**	**125.43**	**256**	PKP		PKPdf		20 04 19.9	+0.7	
BOSA	**Boshof**	**125.43**	**256**	PKIKP		PKPdf		20 04 19.9	+0.7	
DBIC	**Dimbokro**	**129.48**	**314**	PKP		PKPdf		20 04 26.9	-0.6	
	comp=Z,5.8nm,1.1s,baz=42,slow=6.3,SNR=2.9									
DBIC	**Dimbokro**	**129.48**	**314**	PKP		PKPdf		20 04 26.9	-0.6	
DBIC	**Dimbokro**	**129.48**	**314**	PKIKP		PKPdf		20 04 26.9	-0.6	
LPAZ	**La Paz**	**148.96**	**66**	*e*PKPdf		PKPdf		20 05 03.0	+0.6	
LPAZ					*e*PKPbc		PKPbc	20 05 07.0	+0.6	
LPAZ	**La Paz**	**148.96**	**66**	*e*PKIKP		PKPdf		20 05 03.0	+0.6	
LPAZ					*e*			20 05 07.0		
PLCA	**Paso Flores**	**153.27**	**117**	PKPbc		PKPbc		20 05 15.3	-0.6	
	comp=Z,2.1nm,0.8s,baz=180,slow=1.0,SNR=2.8									
PLCA	**Paso Flores**	**153.27**	**117**	PKPbc		PKPbc		20 05 15.3	-0.6	

*ISCJB **28** 19:51:10.8±3.1, 11°.74S±0°.09×166°.5E±0°.1, h99km±23km, mb4.3/26, Error ellipse: s-maj=22.1km s-min=14.6km az=1.6*

*NEIC **28** 19:51:12.5±2.2, 11°.69S×166°.48E, h102km±17km, mb4.3/13, Error ellipse: s-maj=16.3km s-min=9.8km az=106.0*

*IDC **28** 19:51:13.3±4.4, 11°.69S×166°.49E, h107km±35km, mb3.8/12, mb1 3.9/13, mb1mx3.8/18, mbtmp3.8/13, MS3.0/2, Ms1 3.0/2, ms1mx2.6/25, Error ellipse: s-maj=27.0km s-min=16.7km az=99.0*

ISC 28 19:51:13.2±2.7, 11°.71S±0°.09×166°.5E±0°.1, h106km±20km, n61, σ0°.74/56, mb4.3/26, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**6.80**	**289**	P		**Pn**	**19 52 50.5**	**0.0**
	baz=189,slow=13,SNR=3.1							
HNR				S		**Sn**	**19 54 08.1**	**+1.7**
	23nm,0.3s,baz=161,slow=22,SNR=6.1							
HNR				LR		LR	19 54 46.0	
	comp=Z,79nm,20.4s,baz=110,slow=31							
HNR	**Honiara**	**6.80**	**289**	*e*Pn		**Pn**	**19 52 49.5**	**-1.0**
	84nm,0.9s							
HNR				P			19 52 50.5	
HNR				*e*Sn		**Sn**	**19 54 03.9**	**-2.5**
HNR				S		**Sn**	**19 54 08.1**	**+1.7**
PMG	**Port Moresby**	**19.12**	**275**	*e*P		**P**	**19 55 28.5**	**+0.4**
	11nm,0.9s							
CTA	**Charters Tower**	**21.13**	**244**	P		**P**	**19 55 51.1**	**+1.3**
	2.9nm,0.7s,mb3.7,baz=64,slow=12,SNR=2.9							
CTA	**Charters Tower**	**21.13**	**244**	P		**P**	**19 55 51.1**	**+1.3**
CTAO	**Charters Tower**	**21.13**	**244**	P		**P**	**19 55 49.7**	**-0.1**
	7.0nm,0.9s,mb4.0							
AFI	**Afiamalu**	**21.33**	**98**	LR		LR	20 02 28.3	
	comp=Z,61nm,20.3s,baz=18,slow=32							
STKA	**Stephens Creek**	**30.46**	**225**	P		**P**	**19 57 16.4**	**+0.4**
	1.3nm,0.6s,mb3.8,baz=42,slow=8.6,SNR=3.6							
STKA				PcP		PcP	20 00 12.9	-0.1
	1.6nm,0.7s,baz=66,slow=10.0,SNR=2.9							
STKA	**Stephens Creek**	**30.46**	**225**	*e*P		**P**	**19 57 15.2**	**-0.8**
	0.9nm,0.8s,mb3.5							
STKA				PcP		PcP	20 00 12.9	-0.1
WRAB	**Tennant Creek**	**31.92**	**251**	*e*P		**P**	**19 57 28.1**	**-0.9**
	1.6nm,0.7s,mb3.9							
WRA	**Warramunga Arr**	**31.93**	**251**	P		**P**	**19 57 28.4**	**-0.7**
	0.8nm,0.8s,mb3.5,baz=83,slow=8.8,SNR=3.0							
WRA				PcP		PcP	20 00 17.6	+0.4
	1.2nm,0.6s,baz=76,slow=3.6,SNR=11							
WRA	**Warramunga Arr**	**31.93**	**251**	P		**P**	**19 57 28.4**	**-0.7**
WRA				PcP		PcP	20 00 17.6	+0.4
ASAR	**Alice Springs**	**33.14**	**245**	P		**P**	**19 57 38.9**	**-0.7**
	0.8nm,0.7s,mb3.6,baz=74,slow=9.2,SNR=4.4							
ASAR				PcP		PcP	20 00 20.1	-0.4
	1.1nm,0.6s,baz=83,slow=2.6,SNR=8.5							
ASAR	**Alice Springs**	**33.14**	**245**	P		**P**	**19 57 38.9**	**-0.7**
ASAR				PcP		PcP	20 00 20.1	-0.4
MBWA	**Marble Bar**	**45.66**	**252**	*e*P		**P**	**19 59 23.2**	**-0.4**
	10nm,0.8s,mb4.6							
NWAO	**Narrogin (SRO)**	**49.69**	**237**	P		**P**	**19 59 54.3**	**-0.3**
	6.9nm,0.8s,mb4.6							
MJAR	**Matsushiro Arr**	**54.88**	**332**	P		**P**	**20 00 31.5**	**-1.4**
	2.2nm,1.0s,mb4.2,baz=164,slow=9.6,SNR=3.8							
MJAR	**Matsushiro Arr**	**54.88**	**332**	P		**P**	**20 00 31.5**	**-1.4**
KSRS	**Korea Array**	**60.82**	**325**	P		**P**	**20 01 14.9**	**+0.6**
	2.0nm,0.6s,mb4.3,baz=128,slow=7.6,SNR=6.0							
KSAR	**Wonju Array Be**	**60.83**	**325**	P		**P**	**20 01 14.9**	**+0.5**
VNDA	**Vanda**	**65.85**	**181**	*e*P		**P**	**20 01 47.5**	**+0.6**
	2.0nm,0.6s,mb4.1							
KULM	**Kulim**	**67.60**	**281**	P		**P**	**20 01 58.9**	**-0.3**
ENH	**Enshi**	**68.86**	**309**	*e*P		**P**	**20 02 06.3**	**-0.4**
	9.6nm,0.9s,mb4.6							
CM31	**Chiang Mai Arr**	**73.02**	**294**	P		**P**	**20 02 33.5**	**+1.4**
	8.1nm,0.8s,mb4.6							
CMAR	**Chiang Mai Arr**	**73.02**	**294**	P		**P**	**20 02 33.5**	**+1.4**
	5.3nm,0.8s,mb4.5,baz=124,slow=4.6,SNR=29							
CMAR	**Chiang Mai Arr**	**73.02**	**294**	P		**P**	**20 02 33.5**	**+1.4**
CHTO	**Chiang Mai**	**73.14**	**294**	*e*P		**P**	**20 02 33.5**	**+0.7**
	1.3nm,0.9s,mb3.8							
QSPA	**South Pole Qui**	**78.30**	**180**	P		**P**	**20 03 01.5**	**+0.3**
	11nm,0.8s,mb4.6,baz=14,slow=1.3,SNR=34							
QSPA	**South Pole Qui**	**78.30**	**180**	P		**P**	**20 03 01.5**	**+0.3**
ULN	**Ulaanbaatar**	**79.25**	**324**	*e*P		**P**	**20 03 07.2**	**+0.4**
	5.6nm,1.1s,mb4.3							
BILL	**Bilibino**	**79.53**	**360**	*e*P		**P**	**20 03 07.3**	**-0.6**
	1.6nm,0.7s,mb4.0							
SONM	**Songino Array**	**79.61**	**324**	P		**P**	**20 03 08.1**	**-0.6**
	1.0nm,0.7s,mb3.8,baz=141,slow=5.2,SNR=12							
SONM	**Songino Array**	**79.61**	**324**	P		**P**	**20 03 08.1**	**-0.6**
LSA	**Lhasa**	**83.30**	**302**	*e*P		**P**	**20 03 28.1**	**-0.6**
ILAR	**Eielson Array**	**83.91**	**18**	P		**P**	**20 03 30.7**	**-0.3**
	0.5nm,0.5s,mb3.6,baz=248,slow=4.7,SNR=16							
ILAR	**Eielson Array**	**83.91**	**18**	P		**P**	**20 03 30.7**	**-0.3**
TAPN	**Taplejung**	**85.54**	**299**	*e*P		**P**	**20 03 40.6**	**+0.6**
ODAN	**Odare**	**85.69**	**298**	*e*P		**P**	**20 03 41.1**	**+0.4**
NVAR	**Mina Array Bea**	**85.91**	**50**	P		**P**	**20 03 42.6**	**+1.0**
	0.4nm,0.5s,mb3.6,baz=240,slow=7.2,SNR=3.3							
NVAR	**Mina Array Bea**	**85.91**	**50**	P		**P**	**20 03 42.6**	**+1.0**
RAMN	**Ramite**	**86.39**	**298**	*e*P		**P**	**20 03 44.0**	**-0.2**
JIRN	**Jiri**	**86.92**	**299**	*e*P		**P**	**20 03 47.4**	**+0.6**
GUN	**Gumba**	**87.25**	**299**	*e*P		**P**	**20 03 48.9**	**+0.5**
PKI	**Pulchoki**	**87.57**	**299**	*e*P		**P**	**20 03 50.2**	**+0.3**
KKN	**Kakani**	**87.74**	**299**	*e*P		**P**	**20 03 50.7**	**0.0**
DMN	**Daman**	**87.84**	**299**	*e*P		**P**	**20 03 51.6**	**+0.4**
	16nm,0.7s,mb5.2							
GKN	**Gorkha**	**88.34**	**299**	*e*P		**P**	**20 03 53.2**	**-0.4**
DANN	**Dangsing**	**89.18**	**299**	*e*P		**P**	**20 03 57.2**	**-0.3**
	12nm,0.7s,mb5.1							
KOLN	**Koldanda**	**89.18**	**298**	*e*P		**P**	**20 03 56.9**	**-0.6**
	6.2nm,0.5s,mb4.9							
PYUN	**Piuthan**	**89.78**	**299**	*e*P		**P**	**20 03 59.5**	**-0.8**
	13nm,1.0s,mb5.0							
MKAR	**Makanchi Array**	**94.48**	**317**	P		**P**	**20 04 21.7**	**+0.1**
	4.4nm,0.6s,mb5.0,baz=87,slow=6.1,SNR=54							
MKAR	**Makanchi Array**	**94.48**	**317**	P		**P**	**20 04 21.7**	**+0.1**
ZALV	**Zalesovo Beam**	**94.50**	**324**	P		**P**	**20 04 20.0**	**-1.5**
	0.9nm,0.6s,mb4.4,baz=105,slow=2.0,SNR=6.0							
ZALV	**Zalesovo Beam**	**94.50**	**324**	P		**P**	**20 04 20.0**	**-1.5**
ARCES	**ARCESS Array B**	**117.15**	**346**	PKP		PKPdf	20 09 44.5	-0.9
	4.0nm,0.9s,baz=74,slow=1.9,SNR=10							
ARCES	**ARCESS Array B**	**117.15**	**346**	PKP		PKPdf	20 09 44.5	-0.9
BOSA	**Boshof**	**125.11**	**222**	PKP		PKPdf	20 10 01.7	-0.2
	2.6nm,0.9s,baz=132,slow=9.8,SNR=6.1							
BOSA	**Boshof**	**125.11**	**222**	PKP		PKPdf	20 10 01.7	-0.2
LSZ	**Lusaka**	**130.75**	**238**	*e*P		PKPdf	20 10 13.2	+0.2
TORD	**Torodi Ar. Bea**	**165.06**	**277**	PKP		PKPdf	20 11 05.4	-0.6
	0.3nm,0.7s,baz=56,slow=1.3,SNR=2.8							
TORD					PKPab	PKPab	20 12 02.7	-0.7
	0.8nm,0.9s,baz=71,slow=4.0,SNR=3.6							
TORD	**Torodi Ar. Bea**	**165.06**	**277**	PKP		PKPdf	20 11 05.4	-0.6
TORD					PKPab	PKPab	20 12 02.7	-0.7

*THR **28** 20:16:31.8±0.3, 28°.23N×51°.53E, h15km, ML4.2*

*BJI **28** 20:16:31.3, 27°.46N×51°.81E, h13km, mB4.9/2, mb4.3/5, Ms4.5/1, Ms7 3.9/1*

*IDC **28** 20:16:31.7±0.6, 28°.26N×51°.55E, h0km, mb4.3/26, mb1 4.3/31, mb1mx4.3/37, mbtmp4.2/31, ML3.6/4, MS3.3/4, Ms1 3.3/4, ms1mx2.9/39, Error ellipse: s-maj=15.3km s-min=12.1km az=8.0*

*ISCJB **28** 20:16:31.4±0.2, 28°.18N±0°.03×51°.50E±0°.02, h10km, mb4.3/57, MS3.8/2, Error ellipse: s-maj=3.9km s-min=2.9km az=19.3*

*MOS **28** 20:16:34.7±1.4, 28°.14N×51°.50E, h33km, mb4.6/13, Error ellipse: s-maj=8.5km s-min=6.5km az=94.9*

*NEIC **28** 20:16:34.0, 28°.16N×51°.51E, h13km, mb4.4/19, ML4.2(THR), MN4.0(TEH), After TEH.*

*TEH **28** 20:16:34.7, 28°.16N×51°.51E, h13km*

*OMAN **28** 20:16:34.8±71.0, 28°.03N×51°.28E, h30km, Error ellipse: s-maj=19.3km s-min=2.5km az=324.0*

*CSEM **28** 20:16:35.9±0.1, 28°.21N×51°.51E, h30km, mb4.4/32, Error ellipse: s-maj=4.3km s-min=3.3km az=28.0*

ISC 28 20:16:33.3±0.2, 28°.18N±0°.03×51°.49E±0°.02, h10km, n364, σ1°06/366, mb4.3/57, MS3.8/2, 4C-3D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ISRV	**Sarvestan**	**1.86**	**49**	Pn		**Pn**	**20 17 06.6**	**+1.3**
ISRV	**Sarvestan**	**1.86**	**49**	*e*Sg		**Sg**	**20 17 32.7**	**-0.5**
ISRV				*e*Pn		**Pn**	**20 17 06.7**	**+1.4**
ISRV				*e*			20 17 55.3	
	comp=Z,31μm,0.6s							
IPAR	**Pars**	**2.15**	**39**	Pn		**Pn**	**20 17 10.5**	**+1.3**
IPAR	**Pars**	**2.15**	**39**	*e*Pn		**Pn**	**20 17 10.5**	**+1.3**
IPAR				*e*			20 17 43.3	
	comp=Z,7μm,0.4s							
IPAR	**Pars**	**2.15**	**39**	*e*Pn		**Pn**	**20 17 10.5**	**+1.3**
RDF	**Al-Radifah**	**3.55**	**283**	*e*P		**Pn**	**20 17 30.6**	**+2.2**
RDF	**Al-Radifah**	**3.55**	**283**	*e*P		**Pn**	**20 17 30.6**	**+2.1**
NAY	**Al-Naaiem**	**3.88**	**287**	*e*P		**Pn**	**20 17 34.6**	**+1.5**
NAY				*e*S		**Sn**	**20 18 20.6**	**+1.8**
NAY	**Al-Naaiem**	**3.88**	**287**	*e*P		**Pn**	**20 17 34.6**	**+1.5**
NAY				*e*S		**Sn**	**20 18 20.5**	**+1.8**
MIB	**Mutribah**	**3.98**	**295**	*e*P		**Pn**	**20 17 36.3**	**+1.8**
MIB	**Mutribah**	**3.98**	**295**	*e*P		**Pn**	**20 17 36.3**	**+1.8**
ISAD	**Sadrabad**	**4.18**	**27**	Pn		**Pn**	**20 17 38.3**	**+1.1**
ISAD	**Sadrabad**	**4.18**	**27**	*e*Pn		**Pn**	**20 17 38.3**	**+1.1**
ISAD				*e*			20 18 29.9	
	comp=Z,2μm,0.3s							
ISAD	**Sadrabad**	**4.18**	**27**	*e*Pn		**Pn**	**20 17 38.3**	**+1.1**
IMEH	**Mehriz**	**4.20**	**40**	Pn		**Pn**	**20 17 38.3**	**+0.9**
IMEH	**Mehriz**	**4.20**	**40**	*e*Pn		**Pn**	**20 17 38.4**	**+1.0**
IMEH				*e*			20 17 42.3	
	comp=Z,4μm,0.2s							
IMEH	**Mehriz**	**4.20**	**40**	Pn		**Pn**	**20 17 38.3**	**+0.9**
IPIR	**Pirpir**	**4.52**	**354**	*e*Pn		**Pn**	**20 17 42.9**	**+1.0**
IPIR				*e*			20 19 19.7	
	comp=Z,1μm,0.4s							
IPIR	**Pirpir**	**4.52**	**354**	*e*Pn		**Pn**	**20 17 42.9**	**+1.0**
IBND	**Bandar-abas**	**4.53**	**98**	*e*Pn		**Pn**	**20 17 41.8**	**-0.2**
IBND				*e*			20 19 37.0	
	comp=Z,5μm,0.4s							
IBND	**Bandar-abas**	**4.53**	**98**	*e*Pn		**Pn**	**20 17 41.8**	**-0.2**
SHGR	**Shooshtar-Gavs**	**4.56**	**330**	Pn		**Pn**	**20 17 42.0**	**-0.4**
SHGR	**Shooshtar-Gavs**	**4.56**	**330**	*e*Pn		**Pn**	**20 17 42.0**	**-0.3**
SHGR					AML	AML	20 19 21.8	
	comp=E,299nm,0.7s							
SHGR					AML	AML	20 19 24.6	
	comp=N,203nm,0.6s							
SHGR	**Shooshtar-Gavs**	**4.56**	**330**	*e*Pn		**Pn**	**20 17 42.0**	**-0.4**
NASN	**Na'in**	**4.74**	**14**	Pn		**Pn**	**20 17 44.0**	**-0.9**
NASN	**Na'in**	**4.74**	**14**	*e*Pn		**Pn**	**20 17 44.4**	**-0.5**
NASN	**Na'in**	**4.74**	**14**	*e*Pn		**Pn**	**20 17 44.4**	**-0.5**
IZEF	**Zefreh**	**4.76**	**9**	Pn		**Pn**	**20 17 46.1**	**+1.0**
IZEF	**Zefreh**	**4.76**	**9**	*e*Pn		**Pn**	**20 17 46.1**	**+1.0**
IZEF				*e*			20 18 39.3	
	comp=Z,784nm,0.6s							
IZEF	**Zefreh**	**4.76**	**9**	*e*Pn		**Pn**	**20 17 46.1**	**+1.0**
ICHK	**Chekchek**	**4.77**	**31**	Pn		**Pn**	**20 17 45.7**	**+0.4**
ICHK	**Chekchek**	**4.77**	**31**	*e*Pn		**Pn**	**20 17 45.8**	**+0.5**
ICHK				*e*			20 18 51.2	
	comp=Z,780nm,0.3s							
ICHK	**Chekchek**	**4.77**	**31**	*e*Pn		**Pn**	**20 17 45.8**	**+0.5**
BANOM	**Banah**	**4.84**	**117**	⇓P		**Pn**	**20 17 47.0**	**+0.7**
BANOM	**Banah**	**4.84**	**117**	P		**Pn**	**20 17 47.0**	**+0.8**
IBAF	**Bafgh**	**4.91**	**45**	Pn		**Pn**	**20 17 47.8**	**+0.6**
IBAF	**Bafgh**	**4.91**	**45**	*e*Pn		**Pn**	**20 17 47.9**	**+0.7**
IBAF				*e*			20 17 50.5	
	comp=Z,1μm,0.3s							
IBAF	**Bafgh**	**4.91**	**45**	Pn		**Pn**	**20 17 47.8**	**+0.6**
ASUD	**Al Ashush, Dub**	**4.93**	**135**	P		**Pn**	**20 17 49.3**	**+1.8**
	SNR=34							
ASUD	**Al Ashush, Dub**	**4.93**	**135**	P		**Pn**	**20 17 49.3**	**+1.7**
	SNR=34							
KRBR	**Kerman**	**4.95**	**67**	Pn		**Pn**	**20 17 47.0**	**-0.7**
KRBR	**Kerman**	**4.95**	**67**	*e*Pn		**Pn**	**20 17 47.4**	**-0.4**
KRBR					AML	AML	20 18 50.8	
	comp=N,240nm,0.6s							
KRBR					AML	AML	20 18 51.6	
	comp=E,323nm,0.6s							
KRBR	**Kerman**	**4.95**	**67**	*e*Pn		**Pn**	**20 17 47.4**	**-0.3**
IKLH	**Kolahrood**	**5.12**	**1**	Pn		**Pn**	**20 17 51.0**	**+0.8**
IKLH	**Kolahrood**	**5.12**	**1**	*e*Pn		**Pn**	**20 17 51.3**	**+1.1**
IKLH				*e*			20 19 37.0	
	comp=Z,1μm,0.6s							
IKLH	**Kolahrood**	**5.12**	**1**	Pn		**Pn**	**20 17 51.0**	**+0.8**
HATD	**Hatta, Dubai**	**5.33**	**128**	P		**Pn**	**20 17 55.4**	**+2.4**
	SNR=7.8							
HATD	**Hatta, Dubai**	**5.33**	**128**	P		**Pn**	**20 17 55.4**	**+2.4**
	SNR=7.8							
ASHO	**Ashiyiah**	**5.37**	**129**	P		**Pn**	**20 17 54.4**	**+0.8**
	SNR=48							
ASHO	**Ashiyiah**	**5.37**	**129**	P		**Pn**	**20 17 54.4**	**+0.8**
	SNR=48							
ISFB	**Sefidab**	**6.19**	**6**	*e*Pn		**Pn**	**20 18 05.4**	**+0.6**
ISFB				*e*			20 19 23.5	
	comp=Z,310nm,0.5s							
ISFB	**Sefidab**	**6.19**	**6**	*e*Pn		**Pn**	**20 18 05.4**	**+0.6**
GHVR	**GHOM**	**6.29**	**359**	Pn		**Pn**	**20 18 05.0**	**-1.1**
GHVR	**GHOM**	**6.29**	**359**	*e*Pn		**Pn**	**20 18 05.7**	**-0.4**
GHVR					AML	AML	20 19 34.0	
	comp=N,36nm,0.6s							
GHVR					AML	AML	20 19 42.5	
	comp=E,34nm,0.7s							
GHVR	**GHOM**	**6.29**	**359**	*e*Pn		**Pn**	**20 18 05.7**	**-0.4**
ASAO	**Ashtian**	**6.47**	**349**	Pn		**Pn**	**20 18 08.0**	**-0.7**
ASAO	**Ashtian**	**6.47**	**349**	*e*Pn		**Pn**	**20 18 08.5**	**-0.2**
ASAO	**Ashtian**	**6.47**	**349**	*e*Pn		**Pn**	**20 18 08.5**	**-0.2**
IVRN	**Varamin**	**6.80**	**2**	*e*Pn		**Pn**	**20 18 13.3**	**+0.1**
IVRN	**Varamin**	**6.80**	**2**	*e*Pn		**Pn**	**20 18 13.3**	**+0.1**
IKOM	**Komasi**	**6.88**	**331**	*e*Pn		**Pn**	**20 18 15.0**	**+0.7**
IKOM				*e*			20 20 55.7	
	comp=Z,1μm,0.5s							
IKOM	**Komasi**	**6.88**	**331**	*e*Pn		**Pn**	**20 18 15.0**	**+0.7**
HOQ	**Hoqain**	**6.96**	**130**	⇑P		**Pn**	**20 18 15.8**	**+0.4**
HOQ	**Hoqain**	**6.96**	**130**	P		**Pn**	**20 18 15.8**	**+0.5**
IRAZ	**Razeghan**	**7.33**	**350**	*e*Pn		**Pn**	**20 18 21.1**	**+0.7**
IRAZ				*e*			20 20 06.9	
	comp=Z,347nm,0.4s							
IRAZ	**Razeghan**	**7.33**	**350**	*e*Pn		**Pn**	**20 18 21.1**	**+0.7**
IGHG	**Ghaleghazi**	**7.44**	**327**	*e*Pn		**Pn**	**20 18 22.6**	**+0.7**
IGHG				*e*			20 19 52.9	
	comp=Z,952nm,0.4s							
IGHG	**Ghaleghazi**	**7.44**	**327**	*e*Pn		**Pn**	**20 18 22.6**	**+0.7**
DAMV	**Damavand**	**7.44**	**3**	Pn		**Pn**	**20 18 21.0**	**-1.0**
DAMV	**Damavand**	**7.44**	**3**	*e*Pn		**Pn**	**20 18 21.7**	**-0.3**
DAMV	**Damavand**	**7.44**	**3**	*e*Pn		**Pn**	**20 18 21.7**	**-0.3**
IVIS	**Veis**	**7.47**	**329**	*e*Pn		**Pn**	**20 18 22.6**	**+0.2**
IVIS	**Veis**	**7.47**	**329**	*e*Pn		**Pn**	**20 18 22.6**	**+0.2**
BSY	**Bisya**	**7.47**	**135**	⇑P		**Pn**	**20 18 23.2**	**+0.8**
BSYO	**Bisya**	**7.51**	**135**	P		**Pn**	**20 18 23.2**	**+0.3**
IFIR	**Firoozkooh**	**7.52**	**8**	Pn		**Pn**	**20 18 23.6**	**+0.6**
IFIR	**Firoozkooh**	**7.52**	**8**	*e*Pn		**Pn**	**20 18 23.7**	**+0.7**
IFIR	**Firoozkooh**	**7.52**	**8**	Pn		**Pn**	**20 18 23.6**	**+0.6**
IANJ	**Anjilo**	**7.55**	**15**	Pn		**Pn**	**20 18 23.9**	**+0.4**
IANJ	**Anjilo**	**7.55**	**15**	*e*Pn		**Pn**	**20 18 23.9**	**+0.4**
IANJ				*e*			20 19 09.3	
	comp=Z,153nm,0.3s							
IANJ	**Anjilo**	**7.55**	**15**	*e*Pn		**Pn**	**20 18 23.9**	**+0.4**
IKOO	**Kooshah**	**7.75**	**55**	*e*Pn		**Pn**	**20 18 26.9**	**+0.7**
IKOO				*e*			20 21

comp=Z,5.0nm,0.7s,mb4.0
EKS2 Erkin-Say 23.11 45 *e*P **P 20 21 41.7 +2.2**
comp=Z,5.0nm,0.7s,mb4.0
KSH Kashi 23.19 54 P **P 20 21 37.8 -2.5**
KSH pmax pmax
comp=Z,260nm,6.3s
DDI Dehra Dun 23.26 78 *ex* **P 20 21 40.0 -1.1**
AAK Ala-Archa 23.55 46 *e*P **P 20 21 45.7 +1.6**
comp=Z,15nm,0.6s,mb4.6
AAK Ala-Archa 23.55 46 *e*P **P 20 21 45.7 +1.6**
AAK pmax pmax
comp=Z,15nm,0.6s,mb4.6
AAK Ala-Archa 23.55 46 *e*P **P 20 21 45.7 +1.6**
comp=Z,15nn,0.6s,mb4.6
IDI Anoyia 23.67 294 *e*P **P 20 21 46.7 +1.5**
comp=Z,22nn,0.8s,mb4.6
IDI Anoyia 23.67 294 *e*P **P 20 21 46.7 +1.5**
comp=Z,22nn,0.8s,mb4.6
TKM2 Tokmak 2 24.40 47 *e*P **P 20 21 53.0 +1.2**
comp=Z,1.7nm,0.8s,mb3.5
TKM2 Tokmak 2 24.40 47 *e*P **P 20 21 53.0 +1.2**
TKM2 Tokmak 2 24.40 47 *e*P **P 20 21 53.0 +1.2**
comp=Z,1.7nm,0.8s,mb3.5
MLR Muntele Rosu 26.60 317 P **P 20 22 15.0 +3.3**
comp=Z,0.6nn,0.6s,mb3.3,baz=237,slow=8.1,SNR=3.3
MLR Muntele Rosu 26.60 317 P **P 20 22 15.0 +3.3**
MLR Muntele Rosu 26.60 317 P **P 20 22 15.0 +3.3**
AKASG Malin Array Be 28.11 329 P **P 20 22 24.2 -1.0**
comp=Z,0.8nm,0.5s,mb3.6,baz=121,slow=8.7,SNR=4.3
AKASG Malin Array Be 28.11 329 P **P 20 22 24.2 -1.0**
AKASG Malin Array Be 28.11 329 P **P 20 22 24.3 -0.9**
AKASG Malin Array Be 28.11 329 P **P 20 22 24.3 -0.9**
BUR08 Bucovina Ar. S 28.20 321 *e*P **P 20 22 25.4 -0.7**
BUR08 Bucovina Ar. S 28.20 321 *e*P **P 20 22 25.4 -0.7**
BRVK Borovoye 28.48 24 *e*P **P 20 22 29.3 +0.8**
comp=Z,3.0nm,0.6s,mb4.1
BRVK Borovoye 28.48 24 *e*P **P 20 22 29.3 +0.8**
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
BRVK Borovoye 28.48 24 *e*P **P 20 22 29.3 +0.8**
comp=Z,3.0nn,0.6s,mb4.1
BVAR Borovoye Array 28.49 24 P **P 20 22 28.9 +0.3**
comp=Z,4.3nn,0.6s,mb4.2,baz=215,slow=7.1,SNR=23
BVAR PcP PcP 20 25 40.9 +0.7
comp=Z,0.6nn,0.4s,baz=178,slow=4.3,SNR=4.4
BVAR Borovoye Array 28.49 24 P **P 20 22 28.9 +0.3**
BVAR PcP PcP 20 25 40.9 +0.7
BVAR Borovoye Array 28.49 24 P **P 20 22 28.9 +0.3**
BVAR 20 25 40.9
BVAR Borovoye Array 28.49 24 P **P 20 22 28.9 +0.3**
BVAR Borovoye Array 28.49 24 PcP PcP 20 25 40.9 +0.7
MK31 Makanchi Array 30.42 44 *e*P **P 20 22 45.5 -0.3**
MK31 Makanchi Array 30.42 44 *e*P **P 20 22 45.5 -0.3**
MK31 Makanchi Array 30.42 44 *e*P **P 20 22 45.5 -0.3**
MKAR Makanchi Array 30.42 44 P **P 20 22 45.4 -0.4**
comp=Z,1.6nm,0.7s,mb3.9,baz=230,slow=7.8,SNR=10
MKAR PcP PcP 20 25 44.5 -0.7
comp=Z,0.4nn,0.6s,baz=242,slow=3.1,SNR=4.0
MKAR LR LR 20 36 52.8
comp=Z,94nn,18.0s,MS3.5,baz=355,slow=40
MKAR Makanchi Array 30.42 44 P **P 20 22 45.4 -0.4**
MKAR PcP PcP 20 25 44.5 -0.7
MKAR Makanchi Array 30.42 44 P **P 20 22 45.4 -0.4**
MKAR 20 25 44.6
MKAR Makanchi Array 30.42 44 P **P 20 22 45.4 -0.4**
MKAR Makanchi Array 30.42 44 PcP PcP 20 25 44.5 -0.7
KURK Kurchatov 30.45 35 P **P 20 22 44.8 -1.2**
comp=Z,2.3nn,0.8s,mb4.0,baz=236,slow=9.2,SNR=27
KURK Kurchatov 30.45 35 P **P 20 22 44.8 -1.2**
KURK Kurchatov 30.45 35 P **P 20 22 44.8 -1.2**
KURK Kurchatov 30.45 35 P **P 20 22 44.8 -1.2**
KWP Kalwaria Pacla 30.69 322 *e*P **P 20 22 48.5 +0.4**
comp=Z,4.9nn,0.7s,mb4.5
KWP Kalwaria Pacla 30.69 322 *e*P **P 20 22 48.5 +0.4**
KWP pmax pmax
comp=Z,5.0nn,0.7s,mb4.5
KWP Kalwaria Pacla 30.69 322 *e*P **P 20 22 48.5 +0.4**
comp=Z,5.0nn,0.7s,mb4.5
PSZ Piszkesteto 31.42 317 P **P 20 22 57.1 +2.6**
PSZ Piszkesteto 31.42 317 P **P 20 22 57.1 +2.5**
MORC Moravsky Berou 33.65 319 P **P 20 23 14.4 +0.3**
MORC Moravsky Berou 33.65 319 P **P 20 23 14.4 +0.3**
MORC Moravsky Berou 33.65 319 P **P 20 23 14.4 +0.3**
LSA Lhasa 34.62 78 P **P 20 23 23.0 +0.2**
LSA Lhasa 34.62 78 *e*P **P 20 23 22.8 0.0**
comp=Z,7.7nn,0.8s,mb4.7
LSA Lhasa 34.62 78 *e*P **P 20 23 22.8 0.0**
LSA pmax pmax
comp=Z,8.0nn,0.8s,mb4.7
LSA Lhasa 34.62 78 *e*P **P 20 23 22.8 0.0**
comp=Z,8.0nn,0.8s,mb4.7
ZAA0 Zalesovo Array 35.42 34 *e*P **P 20 23 28.2 -1.2**
ZAA0 Zalesovo Array 35.42 34 *e*P **P 20 23 28.2 -1.2**
ZALV Zalesovo Beam 35.42 34 P **P 20 23 28.3 -1.1**
comp=Z,4.0nn,0.7s,mb4.5,baz=240,slow=9.1,SNR=21
ZALV Zalesovo Beam 35.42 34 P **P 20 23 28.3 -1.1**
ZALV Zalesovo Beam 35.42 34 P **P 20 23 28.3 -1.1**
ZALV Zalesovo Beam 35.42 34 P **P 20 23 28.3 -1.1**
GERES GERESS Array B 35.56 316 P **P 20 23 30.2 -0.4**
comp=Z,0.3nn,0.5s,mb3.5,baz=126,slow=9.8,SNR=2.4
GERES PcP PcP 20 25 58.5 -1.0
comp=Z,0.8nn,0.5s,baz=111,slow=5.4,SNR=7.8
GERES GERESS Array B 35.56 316 P **P 20 23 30.2 -0.4**
GERES PcP PcP 20 25 58.5 -1.0
GERES GERESS Array B 35.56 316 P **P 20 23 30.2 -0.4**
GERES 20 25 58.5
GERES GERESS Array B 35.56 316 P **P 20 23 30.2 -0.4**
JOF Joensuu 37.16 345 *e*P **P 20 23 44.9 +0.8**
JOF Joensuu 37.16 345 *ep* **P 20 23 44.9 +0.8**
JOF Joensuu 37.16 345 *e*P **P 20 23 44.9 +0.8**
FINES FINESS Array B 37.34 340 P **P 20 23 45.0 -0.6**
comp=Z,4.4nn,0.6s,mb4.5,baz=137,slow=8.4,SNR=23
FINES FINESS Array B 37.34 340 P **P 20 23 45.0 -0.6**
FINES FINESS Array B 37.34 340 P **P 20 23 45.0 -0.6**
FINES FINESS Array B 37.34 340 P **P 20 23 45.0 -0.6**
DAVOX Davos/Dischmat 37.36 311 P **P 20 23 46.0 -0.1**
comp=Z,4.3nn,0.7s,mb4.4,baz=122,slow=15,SNR=5.5
DAVOX Davos/Dischmat 37.36 311 P **P 20 23 46.0 -0.1**
DAVOX Davos/Dischmat 37.36 311 P **P 20 23 46.0 0.0**
DAVOX Davos/Dischmat 37.36 311 P **P 20 23 46.0 0.0**
KAF Kangasniemi 37.80 341 *e*P **P 20 23 50.1 +0.6**
KAF Kangasniemi 37.80 341 *ep* **P 20 23 50.1 +0.6**
KAF Kangasniemi 37.80 341 *e*P **P 20 23 50.1 +0.6**
MBDF Montbardon 39.05 307 *e*P **P 20 23 59.5 -0.8**
comp=Z,12nn,0.6s,mb4.5
MBDF Montbardon 39.05 307 *e*P **P 20 23 59.5 -0.8**
comp=Z,6.2nn,0.6s,mb4.5
LPG La Plagne 39.20 308 *e*P **P 20 24 01.1 -0.4**
comp=Z,15nn,1.0s,mb4.4
LPG La Plagne 39.20 308 *e*P **P 20 24 01.1 -0.4**
comp=Z,7.7nn,1.0s,mb4.4
LPL La Plagne 39.22 308 *e*P **P 20 24 00.5 -1.2**
comp=Z,15nn,0.9s,mb4.4
LPL La Plagne 39.22 308 *e*P **P 20 24 00.5 -1.2**
comp=Z,7.4nn,0.9s,mb4.4
HINF Hinteralfeld 39.61 312 *e*P **P 20 24 04.3 -0.6**
HINF Hinteralfeld 39.61 312 *e*P **P 20 24 04.3 -0.6**
CABF La Chapelle 39.86 310 *e*P **P 20 24 06.2 -0.9**
CABF La Chapelle 39.86 310 *e*P **P 20 24 06.2 -0.9**
HAU Haudompre 39.99 312 *e*P **P 20 24 06.2 -1.8**
HAU Haudompre 39.99 312 *e*P **P 20 24 06.2 -1.8**
PAGF Fort de Pagny 40.52 313 *e*P **P 20 24 11.6 -0.8**
comp=Z,3.5nn,0.9s,mb3.7
PAGF Fort de Pagny 40.52 313 *e*P **P 20 24 11.6 -0.8**
comp=Z,1.8nn,0.9s,mb3.7
VIVF Saint-Julien-l 40.55 307 *e*P **P 20 24 11.8 -0.9**
VIVF Saint-Julien-l 40.55 307 *e*P **P 20 24 11.8 -0.9**
HFS Hagfors 40.90 332 P **P 20 24 15.0 -0.5**
comp=Z,5.0nn,0.7s,mb4.2,baz=127,slow=9.5,SNR=24
HFS Hagfors 40.90 332 P **P 20 24 15.0 -0.5**
HFS Hagfors 40.90 332 P **P 20 24 15.0 -0.5**
HFS Hagfors 40.90 332 P **P 20 24 15.0 -0.5**
MEZF Maizieres J'vi 40.94 313 *e*P **P 20 24 15.2 -0.7**
comp=Z,7.5nn,0.6s,mb4.2
MEZF Maizieres J'vi 40.94 313 *e*P **P 20 24 15.2 -0.7**
comp=Z,3.8nn,0.6s,mb4.2
GTA Gaotai 41.25 61 *e*P **P 20 24 19.3 +0.6**
GTA pmax pmax
comp=Z,7.0nn,1.4s,mb4.1
SMF Signal de Mont 41.39 310 *e*P **P 20 24 18.8 -0.9**
comp=Z,9.1nn,0.8s,mb4.2
SMF Signal de Mont 41.39 310 *e*P **P 20 24 18.8 -0.9**
comp=Z,4.6nn,0.8s,mb4.2
LOR Lormes 41.49 311 *e*P **P 20 24 19.5 -0.9**
comp=Z,3.5nn,0.6s,mb3.9
LOR Lormes 41.49 311 *e*P **P 20 24 19.5 -0.9**
comp=Z,1.8nn,0.6s,mb3.9
TAM Tamanrasset 41.65 273 *e*P **P 20 24 23.7 +1.6**
comp=Z,2.7nn,0.8s,mb3.9
TAM Tamanrasset 41.65 273 *e*P **P 20 24 23.7 +1.6**
TAM pmax pmax
comp=Z,3.0nn,0.8s,mb4.0
TAM Tamanrasset 41.65 273 *e*P **P 20 24 23.7 +1.6**
comp=Z,3.0nn,0.8s,mb4.0
SSF Saint Saulge 41.69 310 *e*P **P 20 24 21.4 -0.7**
comp=Z,10nn,1.0s,mb4.1
SSF Saint Saulge 41.69 310 *e*P **P 20 24 21.4 -0.7**
comp=Z,5.1nn,1.0s,mb4.1
AVF Avril sur Loir 41.75 310 *e*P **P 20 24 21.1 -1.5**
AVF Avril sur Loir 41.75 310 *e*P **P 20 24 21.1 -1.5**
BAIF Baives 41.83 315 *e*P **P 20 24 22.4 -0.8**
BAIF Baives 41.83 315 *e*P **P 20 24 22.4 -0.8**
BGF Bois d'Agland 42.06 309 *e*P **P 20 24 24.4 -0.7**
BGF Bois d'Agland 42.06 309 *e*P **P 20 24 24.4 -0.7**
NB2 NORSAR Subarra 42.43 332 P **P 20 24 26.6 -1.3**
comp=Z,1.5nn,0.5s,mb3.9,baz=122,slow=8.6
NB2 NORSAR Subarra 42.43 332 P **P 20 24 26.6 -1.3**
comp=Z,1.5nn,0.5s,mb3.9,baz=122,slow=8.2,SNR=8.2
NOA NORSAR Array B 42.43 332 P **P 20 24 26.8 -1.1**
comp=Z,1.3nn,0.5s,mb3.8,baz=122,slow=8.3,SNR=8.2
NOA NORSAR Array B 42.43 332 P **P 20 24 26.8 -1.1**
NOA NORSAR Array B 42.43 332 P **P 20 24 26.8 -1.1**
NOA NORSAR Array B 42.43 332 P **P 20 24 26.8 -1.1**
TCF Toulx Ste Croi 42.46 309 *e*P **P 20 24 27.6 -0.8**
comp=Z,10nn,0.9s,mb4.2
TCF Toulx Ste Croi 42.46 309 *e*P **P 20 24 27.6 -0.8**
comp=Z,5.1nn,0.9s,mb4.2
RJF Les Rejaudoux 42.82 307 *e*P **P 20 24 31.1 -0.3**
comp=Z,33nn,1.3s,mb4.6
RJF Les Rejaudoux 42.82 307 *e*P **P 20 24 31.1 -0.3**
comp=Z,16nn,1.3s,mb4.6
LFF La Frestale 43.33 307 *e*P **P 20 24 34.2 -1.3**
comp=Z,35nn,0.9s,mb4.8
LFF La Frestale 43.33 307 *e*P **P 20 24 34.2 -1.3**
comp=Z,17nn,0.9s,mb4.8
EPF Esparros 43.49 304 *e*P **P 20 24 36.1 -0.8**
comp=Z,11nn,1.0s,mb4.2
EPF Esparros 43.49 304 *e*P **P 20 24 36.1 -0.8**
comp=Z,5.4nn,1.0s,mb4.2
ARCES ARCESS Array B 44.04 347 P **P 20 24 40.3 -0.6**
comp=Z,6.2nn,1.0s,mb4.3,baz=141,slow=6.2,SNR=7.4
ARCES PcP PcP 20 26 27.0 +0.9
comp=Z,12nn,1.1s,baz=175,slow=3.2,SNR=3.9
ARCES ARCESS Array B 44.04 347 P **P 20 24 40.3 -0.6**
ARCES PcP PcP 20 26 27.0 +0.8
ARCES ARCESS Array B 44.04 347 P **P 20 24 40.3 -0.6**
ARCES 20 26 27.0
ARCES ARCESS Array B 44.04 347 P **P 20 24 40.3 -0.6**
ARCES ARCESS Array B 44.04 347 PcP PcP 20 26 27.0 +0.9
ARE0 ARCESS Array S 44.04 347 P **P 20 24 38.0 -2.8**
ARE0 ARCESS Array S 44.04 347 P **P 20 24 38.0 -2.9**
CHTO Chiang Mai 44.27 91 P **P 20 24 43.9 +0.5**
CHTO Chiang Mai 44.27 91 P **P 20 24 43.9 +0.5**
CHTO Chiang Mai 44.27 91 P **P 20 24 43.9 +0.5**
LDF La Druitiere 44.34 312 *e*P **P 20 24 42.5 -1.0**
comp=Z,2.8nn,0.7s,mb3.8
LDF La Druitiere 44.34 312 *e*P **P 20 24 42.5 -1.0**
comp=Z,1.4nn,0.7s,mb3.8
CMAR Chiang Mai Arr 44.40 92 P **P 20 24 44.6 +0.2**
comp=Z,0.5nn,0.4s,mb3.6,baz=288,slow=8.7,SNR=5.6
CMAR PcP PcP 20 26 28.5 +0.2
comp=Z,1.1nn,0.7s,baz=292,slow=5.3,SNR=6.9
CMAR Chiang Mai Arr 44.40 92 P **P 20 24 44.6 +0.2**
CMAR PcP PcP 20 26 28.5 +0.2
CMAR Chiang Mai Arr 44.40 92 P **P 20 24 44.7 +0.3**
CMAR 20 26 28.5
CMAR Chiang Mai Arr 44.40 92 P **P 20 24 44.7 +0.3**
CMAR Chiang Mai Arr 44.40 92 PcP PcP 20 26 28.5 +0.2
LZH Lanzhou 44.58 66 *e*P **P 20 24 46.5 +0.8**
LZH pP pP 20 24 51.0 +2.2
LZH sP sP 20 24 53.8 +3.7
LZH pmax pmax
comp=Z,21nn,1.4s,mb4.8
FLN La Foliniere 44.60 312 *e*P **P 20 24 44.8 -0.8**
FLN La Foliniere 44.60 312 *e*P **P 20 24 44.8 -0.8**
SJPF Ste Jean 44.64 304 *e*P **P 20 24 45.6 -0.5**
comp=Z,15nn,0.7s,mb4.7
SJPF Ste Jean 44.64 304 *e*P **P 20 24 45.6 -0.5**
comp=Z,7.3nn,0.7s,mb4.6
SONM Songino Array 46.44 50 P **P 20 24 58.9 -1.3**
comp=Z,1.3nn,0.7s,mb4.0,baz=276,slow=10,SNR=4.1
SONM Songino Array 46.44 50 P **P 20 24 58.9 -1.3**
SONM Songino Array 46.44 50 P **P 20 24 58.9 -1.3**
SONM Songino Array 46.44 50 P **P 20 24 58.9 -1.3**
ESDC Sonseca Array 46.76 299 P **P 20 25 03.5 +0.6**
comp=Z,0.8nn,0.7s,mb3.8,baz=58,slow=6.9,SNR=3.9
ESDC Sonseca Array 46.76 299 P **P 20 25 03.5 +0.6**
ESDC Sonseca Array 46.76 299 P **P 20 25 03.5 +0.6**
ULN Ulaanbaatar 46.88 50 P **P 20 25 03.1 -0.6**
ULN Ulaanbaatar 46.88 50 P **P 20 25 03.1 -0.6**
ULN Ulaanbaatar 46.88 50 P **P 20 25 03.1 -0.6**
TORD Torodi Ar. Bea 48.60 263 P **P 20 25 18.1 +0.7**
comp=Z,5.4nn,0.7s,mb4.7,baz=58,slow=7.3,SNR=52
TORD Torodi Ar. Bea 48.60 263 P **P 20 25 18.1 +0.7**
TORD Torodi Ar. Bea 48.60 263 P **P 20 25 18.1 +0.6**
HHC Hu-ho-hao-te 50.20 59 *e*P **P 20 25 28.0 -1.3**
HHC sP sP 20 25 35.0 +1.3
HHC PcP PcP 20 26 48.3 -0.2
HHC PP PP 20 27 24.0 -0.5
HHC ScP ScP 20 30 41.5 -3.0
HHC S **S** **20 32 37.8 -3.5**
HHC ScS ScS 20 35 15.0 -5.8
HHC pmax pmax
comp=Z,9.0nn,0.6s,mb5.0
HHC pmax pmax
comp=Z,140nn,5.6s
HHC LR LR
comp=N,110nn,13.7s,MS4.3
HHC LR LR
comp=E,190nn,12.3s,MS4.3
HHC LR LR
comp=Z,88nn,14.2s,MS3.9
DBIC Dimbokro 57.31 259 P **P 20 26 22.4 +0.6**
comp=Z,17nn,0.9s,mb5.1,baz=52,slow=7.0,SNR=18
DBIC Dimbokro 57.31 259 *e*P **P 20 26 22.0 +0.3**
comp=Z,14nn,0.8s,mb5.1
DBIC Dimbokro 57.31 259 *e*P **P 20 26 22.0 +0.2**
DBIC pmax pmax
comp=Z,15nn,0.8s
DBIC Dimbokro 57.31 259 *e*P **P 20 26 22.0 +0.2**
comp=Z,15nn,0.8s,mb5.1
TSUM Tsumeb 57.40 219 *e*P **P 20 26 23.1 +0.9**
comp=Z,2.7nn,0.9s,mb4.3
TSUM Tsumeb 57.40 219 *e*P **P 20 26 23.1 +0.9**
comp=Z,2.7nn,0.9s,mb4.3
LBTB Lobatse 58.47 208 *e*P **P 20 26 30.9 +1.3**
comp=Z,9.3nn,1.0s,mb4.8
LBTB Lobatse 58.47 208 *e*P **P 20 26 30.9 +1.3**
LBTB pmax pmax
comp=Z,9.0nn,1.0s,mb4.8
LBTB Lobatse 58.47 208 *e*P **P 20 26 30.9 +1.3**
comp=Z,9.0nn,1.0s,mb4.8
BOSA Boshof 61.81 206 P **P 20 26 53.9 +1.5**
comp=Z,1.9nn,0.8s,mb4.3,baz=40,slow=14,SNR=4.8
BOSA Boshof 61.81 206 *e*P **P 20 26 53.5 +1.1**
comp=Z,4.0nn,0.9s,mb4.5
BOSA Boshof 61.81 206 *e*P **P 20 26 53.5 +1.1**
BOSA pmax pmax
comp=Z,4.0nn,0.9s,mb4.5
BOSA Boshof 61.81 206 *e*P **P 20 26 53.5 +1.1**
comp=Z,4.0nn,0.9s,mb4.5
KSAR Wonju Array Be 63.28 60 P **P 20 27 00.8 -1.6**
KSAR Wonju Array Be 63.28 60 P **P 20 27 00.8 -1.6**
KSAR Wonju Array Be 63.28 60 P **P 20 27 00.8 -1.6**
KSRS Korea Array 63.30 60 P **P 20 27 00.8 -1.8**
comp=Z,1.3nn,0.7s,mb4.2,baz=282,slow=6.7,SNR=5.2
KSRS Korea Array 63.30 60 P **P 20 27 00.8 -1.7**
KSRS pmax pmax
comp=Z,1.0nn,0.7s,mb4.0
KSRS Korea Array 63.30 60 P **P 20 27 00.8 -1.7**
comp=Z,1.0nn,0.7s,mb4.0
SUMG Summit 63.37 340 *e*P **P 20 27 01.7 -0.7**
comp=Z,6.3nn,0.8s,mb4.8
SUMG Summit 63.37 340 *e*P **P 20 27 01.7 -0.7**
SUMG pmax pmax
comp=Z,6.0nn,0.8s
SUMG Summit 63.37 340 *i* P **P 20 27 03.6 +1.2**
comp=Z,6.5nn,1.0s,mb4.7
SUMG Summit 63.37 340 *e*P **P 20 27 01.7 -0.7**
comp=Z,6.0nn,0.8s,mb4.8
YSS Yuzh-Sakhalins 70.80 46 P **P 20 27 47.6 -2.4**
YSS Yuzh-Sakhalins 70.80 46 P **P 20 27 47.6 -2.4**
YSS Yuzh-Sakhalins 70.80 46 P **P 20 27 47.6 -2.4**
FRB Frobisher Bay 77.05 337 P **P 20 28 24.0 -2.3**
comp=Z,13nn,0.9s,mb4.9,baz=72,slow=9.3,SNR=3.0
FRB Frobisher Bay 77.05 337 P **P 20 28 24.0 -2.3**
FRB Frobisher Bay 77.05 337 P **P 20 28 24.0 -2.3**
FRB Frobisher Bay 77.05 337 P **P 20 28 24.0 -2.3**
SCHQ Schefferville 81.91 329 P **P 20 28 51.2 -1.7**
comp=Z,4.9nn,0.8s,mb4.5,baz=18,slow=9.6,SNR=6.4
SCHQ Schefferville 81.91 329 P **P 20 28 51.2 -1.7**
SCHQ Schefferville 81.91 329 P **P 20 28 51.2 -1.7**
FITZ Fitzroy Crossi 85.16 113 P **P 20 29 09.9 -0.3**
comp=Z,3.4nn,0.7s,mb4.6,baz=286,slow=3.8,SNR=11
FITZ Fitzroy Crossi 85.16 113 P **P 20 29 09.9 -0.3**
FITZ Fitzroy Crossi 85.16 113 P **P 20 29 09.9 -0.3**
ILAR Eielson Array 86.25 8 P **P 20 29 13.7 -1.2**
comp=Z,0.6nn,0.7s,mb3.9,baz=328,slow=4.4,SNR=5.7
ILAR Eielson Array 86.25 8 P **P 20 29 13.7 -1.2**
ILAR Eielson Array 86.25 8 P **P 20 29 13.7 -1.2**
ILAR Eielson Array 86.25 8 P **P 20 29 13.7 -1.2**
YKA Yellowknife Ar 88.96 354 P **P 20 29 27.6 -0.3**
comp=Z,6.7nn,0.9s,mb5.0,baz=13,slow=5.4,SNR=6.8
YKA Yellowknife Ar 88.96 354 P **P 20 29 27.6 -0.3**
YKA Yellowknife Ar 88.96 354 P **P 20 29 27.6 -0.3**
YKA pmax pmax
comp=Z,7.0nn,0.9s
YKA Yellowknife Ar 88.96 354 P **P 20 29 27.6 -0.3**
comp=Z,7.0nn,0.9s,mb5.0
WRA Warramunga Arr 93.20 111 P **P 20 29 48.9 +0.6**
comp=Z,0.6nn,0.8s,mb4.1,baz=314,slow=4.3,SNR=5.6
WRA Warramunga Arr 93.20 111 P **P 20 29 48.9 +0.6**
WRA Warramunga Arr 93.20 111 P **P 20 29 48.9 +0.6**
WRA Warramunga Arr 93.20 111 P **P 20 29 48.9 +0.6**
ASAR Alice Springs 94.62 114 P **P 20 29 53.8 -1.0**
comp=Z,1.7nn,0.6s,mb4.7,baz=305,slow=4.4,SNR=29
ASAR Alice Springs 94.62 114 P **P 20 29 53.8 -1.0**
ASAR Alice Springs 94.62 114 P **P 20 29 53.8 -1.0**
ASAR Alice Springs 94.62 114 P **P 20 29 53.8 -1.0**

NIED ***28*** *20:18:00,41.80N×144.00E,h23km,Mw4.3 Best double couple: M₀3.01000×10¹⁵ NP1:φ₈190.00000°,δ73.00000°, λ-142.00000°. NP2:φ₈87.00000°,δ54.00000°, λ-21.00000°.*
IDC ***28*** *20:18:31.0±0.6,41.73N×143.94E,h0km,mb4.3/22, mb1 4.4/24,mb1mx4.3/33,mbtmp4.3/24,ML3.6/3,MS3.3/5, Ms1 3.3/5,ms1mx3.1/36,Error ellipse: s-maj=16.4km s-min=13.3km az=158.0*
NEIC ***28*** *20:18:32.4±2.4,41.81N×143.97E,h10km±14km,mb4.5/21, MW4.3(NIED),Error ellipse: s-maj=9.0km s-min=5.8km az=144.0*
MOS ***28*** *20:18:33.8±1.2,41.71N×143.97E,h36km,mb4.7/21,Error ellipse: s-maj=7.9km s-min=6.1km az=88.7*
ISCJB ***28*** *20:18:33.7±0.9,41.70N±0.03×144.03E±0.05,h33km±6km, mb4.5/56,MS4.0/2,Error ellipse: s-maj=7.3km s-min=4.2km az=39.3*
BJI ***28*** *20:18:34.9,41.85N×143.92E,h32km,mB5.1/11,mb4.5/19, Ms4.3/4,Ms7 3.9/4*
JMA ***28*** *20:18:35.0±0.2,41.76N×143.99E,h37km±4km,M4.4*
ISC 28 20:18:34.7±1.0,41.76N±0.03×143.99E±0.05,h24km±6km, n164,σ1°$04/172,mb4.5/56,MS4.0/2,6C-3D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERM	**Erimo**	**0.67**	**292**	Pg	**Pb**	**20 18 47.7**	**0.0**
ERM				*e*Sg	**Sb**	**20 18 58.6**	**+2.0**
ERM	**Erimo**	**0.67**	**292**	*c i*P	**Pb**	**20 18 47.8**	**+0.1**
JEM	**Erimo**	**0.67**	**292**	P	**Pb**	**20 18 47.7**	**0.0**
JCH	**Churui**	**0.97**	**331**	⇓P	**Pb**	**20 18 52.6**	**-0.2**
JCH				*e*S	**Sb**	**20 19 06.5**	**+1.3**
JNBK	**Urakawa-nobuka**	**1.06**	**300**	⇓P	**Pn**	**20 18 54.6**	**+0.6**
JOB	**Onbets**	**1.15**	**354**	P	**Pn**	**20 18 55.5**	**+0.3**
JAK	**Akkeshi**	**1.34**	**23**	⇑P	**Pn**	**20 18 57.4**	**-0.5**
JAR	**Ashorobuto**	**1.54**	**354**	⇑P	**Pn**	**20 19 00.3**	**-0.4**
JAR				*e*S	**Sn**	**20 19 19.7**	**-0.2**
JBT2	**Biratori 2**	**1.58**	**311**	P	**Pn**	**20 19 00.5**	**-0.7**
JFR	**Furan**	**1.74**	**324**	P	**Pn**	**20 19 02.8**	**-0.6**
ASAJ	**Asahikawa**	**2.56**	**337**	Pn	**Pn**	**20 19 15.4**	**+0.7**
ASAJ	6.7nm,0.3s,baz=202,slow=14,SNR=55			LR	LR	20 20 35.6	
	comp=Z,1μm,18.5s,baz=176,slow=48						
ASAJ	**Asahikawa**	**2.56**	**337**	Pn	**Pn**	**20 19 15.4**	**+0.7**
ASAJ	**Asahikawa**	**2.56**	**337**	P	**Pn**	**20 19 15.4**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,7.0nn,0.3s						
YUK	**Yuzh-Kuril'sk**	**2.65**	**31**	*i* P	**Pn**	**20 19 15.9**	**0.0**
YUK				*i* S	**Sn**	**20 19 49.1**	**+1.8**
YUK				pmax	pmax		
	comp=N,128nn,0.2s						
YUK				pmax	pmax		
	comp=E,77nn,0.3s						
YUK				pmax	pmax		
	comp=Z,319nn,0.3s						
YUK				pmax	pmax		
	comp=Z,88nn,0.4s						
YUK				smax			
	comp=N,992nn,0.6s						
YUK				smax			
	comp=E,1μm,0.6s						
YUK				smax			
	comp=N,1μm,0.6s						
YUK				smax			
	comp=E,2μm,1.2s						
YUK				MLR	MLR		
	comp=N,378nn,16.0s						
YUK				MLR	MLR		
	comp=E,543nn,16.0s						
YUK				MLR	MLR		
	comp=Z,1μm,16.0s						
KUR	**Kuril'sk**	**4.47**	**38**	*e*P	**Pn**	**20 19 41.2**	**+0.3**
KUR				*e*S	**Sn**	**20 20 34.2**	**+2.1**
KUR				pmax	pmax		
	comp=N,110nn,0.6s						
KUR				pmax	pmax		
	comp=Z,320nn,0.6s						
KUR				pmax	pmax		
	comp=E,80nn,0.5s						
KUR				smax			
	comp=N,220nn,0.8s						
KUR				smax			
	comp=E,90nn,0.6s						
YSS	**Yuzh-Sakhalins**	**5.26**	**351**	*e*Pn	**Pn**	**20 19 49.9**	**-1.9**
YSS	**Yuzh-Sakhalins**	**5.26**	**351**	*e*P	**Pn**	**20 19 55.0**	**+3.2**
YSS				*e*S	**Sn**	**20 20 51.8**	**+0.1**
YSS				MLR	MLR		
	comp=E,400nn,14.0s						
YSS				MLR	MLR		
	comp=Z,500nn,14.0s						
MAJO	**Matsushiro**	**6.88**	**223**	Pn	**Pn**	**20 20 14.8**	**+0.7**
	comp=Z,16nn,0.6s						
MAJO	**Matsushiro**	**6.88**	**223**	P	**Pn**	**20 20 14.8**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,16nn,0.6s						
MAT	**Matsushiro**	**6.88**	**223**	P	**Pn**	**20 20 14.6**	**+0.5**
MAT				*e*S	**Sn**	**20 21 32.3**	**+0.7**
MJAR	**Matsushiro Arr**	**6.88**	**223**	Pn	**Pn**	**20 20 14.9**	**+0.9**
	comp=Z,2.0nn,0.3s,baz=27,slow=14,SNR=30						
MJAR				LR	LR	20 23 28.1	
	comp=Z,626nn,19.7s,baz=65,slow=44						
MJAR	**Matsushiro Arr**	**6.88**	**223**	Pn	**Pn**	**20 20 14.9**	**+0.9**
MJAR	**Matsushiro Arr**	**6.88**	**223**	P	**Pn**	**20 20 14.9**	**+0.9**
VLA	**Vladivostok**	**9.05**	**283**	*ce*P	**Pn**	**20 20 46.5**	**+2.7**
HABR	**Khabarovsk**	**9.21**	**320**	P	**Pn**	**20 20 43.8**	**-2.2**
HABR				*e*		20 22 26.0	
HABR				pmax	pmax		
	comp=N,20nn,1.6s						
HABR				pmax	pmax		
	comp=Z,22nn,1.6s						
HABR				pmax	pmax		
	comp=E,23nn,1.6s						
JHJ	**Hachijo jima 2**	**9.25**	**203**	Pn	**Pn**	**20 20 42.2**	**-4.4**
	comp=E,12nn,0.3s,baz=81,slow=23,SNR=6.7						
JHJ				Sn	**Sn**	**20 22 21.6**	**-8.3**
	comp=E,20nn,0.3s,baz=249,slow=23,SNR=12						
JHJ				LR	LR	20 24 07.9	
	comp=E,30nn,19.1s,baz=80,slow=37						
MDJ	**Mudanjiang**	**10.89**	**290**	*e*Pn	**Pn**	**20 21 06.5**	**-2.5**
KLR	**Kul'dur**	**11.37**	**315**	*e*P	**Pn**	**20 21 19.6**	**+4.1**
SKR	**Severo-Kuril's**

KSRS	**Korea Array**	**13.12**	**256**	Pn		**Pn**	**20 21 38.5**	**-0.9**
	comp=E,0.2nm,0.3s,baz=68,slow=13,SNR=5.3							
KSRS	**Korea Array**	**13.12**	**256**	P		**Pn**	**20 21 38.5**	**-0.9**
KSAR	**Wonju Array Be**	**13.15**	**256**	Pn		**Pn**	**20 21 38.5**	**-1.3**
KSAR	**Wonju Array Be**	**13.15**	**256**	P		**Pn**	**20 21 38.5**	**-1.3**
CN2	**Changchun**	**13.77**	**285**	*e*P		**Pn**	**20 21 47.8**	**-0.5**
CN2				pmax	pmax			
	comp=Z,10.0nm,1.1s							
CN2				pmax	pmax			
	comp=Z,200nm,3.0s							
CN2				LR	LR			
	comp=N,600nm,15.0s							
CN2				LR	LR			
	comp=E,400nm,15.0s							
CN2				LR	LR			
	comp=Z,600nm,17.0s							
INCN	**Inchon**	**14.04**	**258**	Pn		**Pn**	**20 21 49.5**	**-2.5**
PETK	**Petropavlovsk-**	**14.63**	**34**	Pn		**Pn**	**20 21 57.8**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=196,slow=11,SNR=7.0							
PETK				LR	LR		20 27 44.0	
	comp=Z,123nm,18.4s,baz=37,slow=38							
PETK	**Petropavlovsk-**	**14.63**	**34**	P		**Pn**	**20 21 57.8**	**-2.1**
PETK	**Petropavlovsk-**	**14.63**	**34**	P		**Pn**	**20 21 57.8**	**-2.1**
PET	**Petropavlovsk**	**14.98**	**36**	*e*Pn		**Pn**	**20 22 01.9**	**-2.8**
	comp=Z,82nm,1.3s							
PET	**Petropavlovsk**	**14.98**	**36**	*e*P		**Pn**	**20 22 01.9**	**-2.8**
PET				pmax	pmax			
	comp=Z,81nm,1.3s							
HIA	**Hailar**	**18.52**	**302**	*e*P		**Pn**	**20 22 46.6**	**-2.8**
	comp=Z,25nm,1.2s							
HIA	**Hailar**	**18.52**	**302**	*e*P		**Pn**	**20 22 46.6**	**-2.9**
HIA				pmax	pmax			
	comp=Z,25nm,1.2s							
BJI	**Beijing**	**21.07**	**275**	P		**P**	**20 23 22.5**	**+5.5**
BJI				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb3.8							
BJI				LR	LR			
	comp=N,250nm,15.1s,MS4.1							
BJI				LR	LR			
	comp=E,500nm,14.6s,MS4.1							
BJI				LR	LR			
	comp=Z,190nm,16.0s,MS3.6							
BJT	**Baijiatuan**	**21.07**	**275**	P		**P**	**20 23 14.3**	**-2.8**
	comp=Z,20nm,0.9s,mb4.4							
BJT	**Baijiatuan**	**21.07**	**275**	P		**P**	**20 23 14.3**	**-2.8**
BJT				pmax	pmax			
	comp=Z,20nm,0.9s							
YAK	**Yakutsk**	**22.04**	**342**	*e*P		**P**	**20 23 22.2**	**-5.0**
	comp=Z,14nm,0.6s,mb4.6							
YAK	**Yakutsk**	**22.04**	**342**	*e*P		**P**	**20 23 22.2**	**-5.0**
YAK				pmax	pmax			
	comp=Z,14nm,0.6s,mb4.6							
FX1	**Attu Island--F**	**22.53**	**50**	P		**P**	**20 23 31.6**	**-0.9**
	comp=Z,24nm,0.8s,mb4.7,baz=270,slow=7.1,SNR=2.3							
FX1	**Attu Island--F**	**22.53**	**50**	P		**P**	**20 23 31.6**	**-0.9**
FX1	**Attu Island--F**	**22.53**	**50**	P		**P**	**20 23 31.6**	**-0.9**
WHN	**Wuhan**	**26.30**	**254**	P		**P**	**20 24 08.3**	**-0.1**
WHN				pmax	pmax			
	comp=Z,40nm,0.6s,mb5.1							
WHN				LR	LR			
	comp=N,450nm,20.1s,MS4.2							
WHN				LR	LR			
	comp=E,600nm,21.2s,MS4.2							
WHN				LR	LR			
	comp=Z,620nm,15.5s							
ULN	**Ulaanbaatar**	**26.72**	**296**	*e*P		**P**	**20 24 11.9**	**-0.1**
	comp=Z,13nm,1.1s,mb4.4							
ULN	**Ulaanbaatar**	**26.72**	**296**	*e*P		**P**	**20 24 11.9**	**-0.1**
ULN				pmax	pmax			
	comp=Z,13nm,1.1s,mb4.4							
SONM	**Songino Array**	**27.16**	**296**	P		**P**	**20 24 16.1**	**+0.1**
	comp=Z,3.5nm,0.5s,mb4.1,baz=80,slow=8.7,SNR=36							
SONM	**Songino Array**	**27.16**	**296**	P		**P**	**20 24 16.1**	**+0.1**
SONM	**Songino Array**	**27.16**	**296**	P		**P**	**20 24 16.1**	**+0.1**
BILL	**Bilibino**	**28.93**	**17**	*e*P		**P**	**20 24 32.1**	**+0.6**
BILL				pmax	pmax			
	comp=Z,3.0nm,1.6s,mb3.8							
ZAK	**Zakamensk**	**29.21**	**301**	*e*P		**P**	**20 24 33.3**	**-1.0**
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.2s,mb3.9							
ENH	**Enshi**	**29.98**	**259**	*e*P		**P**	**20 24 37.0**	**-4.2**
	comp=Z,7.4nm,0.8s,mb4.5							
GTA	**Gaotai**	**33.36**	**281**	*e*P		**P**	**20 25 11.8**	**+0.9**
GTA				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.3							
ZAA0	**Zalesovo Array**	**40.37**	**308**	*e*P		**P**	**20 26 09.4**	**-0.9**
ZALV	**Zalesovo Beam**	**40.37**	**308**	P		**P**	**20 26 10.3**	**0.0**
	comp=Z,3.0nm,0.5s,mb4.3,baz=90,slow=8.2,SNR=18							
ZALV	**Zalesovo Beam**	**40.37**	**308**	P		**P**	**20 26 10.3**	**0.0**
ZALV	**Zalesovo Beam**	**40.37**	**308**	P		**P**	**20 26 10.3**	**0.0**
KDAK	**Kodiak Island**	**42.30**	**45**	P		**P**	**20 26 26.4**	**+0.3**
	comp=Z,7.2nm,0.6s,mb4.5,baz=266,slow=23,SNR=6.0							
KDAK	**Kodiak Island**	**42.30**	**45**	P		**P**	**20 26 26.4**	**+0.3**
KDAK	**Kodiak Island**	**42.30**	**45**	P		**P**	**20 26 26.4**	**+0.3**
MK31	**Makanchi Array**	**43.46**	**298**	*e*P		**P**	**20 26 34.6**	**-1.1**
MK31	**Makanchi Array**	**43.46**	**298**	*e*P		**P**	**20 26 34.6**	**-1.1**
MKAR	**Makanchi Array**	**43.46**	**298**	P		**P**	**20 26 35.4**	**-0.3**
	comp=Z,1.3nm,0.4s,mb4.0,baz=82,slow=9.7,SNR=22							
MKAR	**Makanchi Array**	**43.46**	**298**	P		**P**	**20 26 35.4**	**-0.3**
MKAR	**Makanchi Array**	**43.46**	**298**	P		**P**	**20 26 35.4**	**-0.3**
MCK	**McKinley**	**43.62**	**36**	*e*P		**P**	**20 26 36.5**	**-0.2**
	comp=Z,9.1nm,1.1s,mb4.4							
MCK	**McKinley**	**43.62**	**36**	*e*P		**P**	**20 26 36.5**	**-0.2**
MCK				pmax	pmax			
	comp=Z,9.0nm,1.1s,mb4.4							
LSA	**Lhasa**	**43.92**	**272**	P		**P**	**20 26 40.8**	**+1.2**
LSA	**Lhasa**	**43.92**	**272**	*e*P		**P**	**20 26 40.9**	**+1.3**
	comp=Z,5.7nm,0.9s,mb4.3							
LSA	**Lhasa**	**43.92**	**272**	*e*P		**P**	**20 26 40.9**	**+1.3**
LSA				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.3							
COLA	**College**	**44.04**	**35**	*e*P		**P**	**20 26 39.1**	**-0.9**
	comp=Z,7.0nm,0.9s,mb4.4							
COLA	**College**	**44.04**	**35**	*e*P		**P**	**20 26 39.1**	**-0.9**
COLA				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.4							
ILAR	**Eielson Array**	**44.46**	**35**	P		**P**	**20 26 43.2**	**-0.2**
	comp=Z,3.5nm,0.9s,mb4.1,baz=269,slow=6.0,SNR=37							
ILAR	**Eielson Array**	**44.46**	**35**	P		**P**	**20 26 43.2**	**-0.2**
ILAR	**Eielson Array**	**44.46**	**35**	P		**P**	**20 26 43.2**	**-0.2**
CMAR	**Chiang Mai Arr**	**44.72**	**253**	P		**P**	**20 26 45.5**	**-0.5**
	comp=Z,0.4nm,0.5s,mb3.5,baz=44,slow=8.1,SNR=3.2							
CMAR	**Chiang Mai Arr**	**44.72**	**253**	P		**P**	**20 26 45.5**	**-0.5**
CMAR	**Chiang Mai Arr**	**44.72**	**253**	P		**P**	**20 26 45.5**	**-0.6**
KURK	**Kurchatov**	**44.73**	**305**	P		**P**	**20 26 46.2**	**+0.5**
	comp=Z,6.7nm,0.4s,mb4.8,baz=73,slow=9.0,SNR=32							
KURK	**Kurchatov**	**44.73**	**305**	*e*P		**P**	**20 26 44.9**	**-0.9**
	comp=Z,6.6nm,0.7s,mb4.6							
KURK	**Kurchatov**	**44.73**	**305**	*e*P		**P**	**20 26 44.7**	**-1.1**
KURK				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.4							
TAPN	**Taplejung**	**47.73**	**271**	*e*P		**P**	**20 27 10.9**	**+1.2**
	comp=Z,13nm,0.4s,mb5.3							
ODAN	**Odare**	**48.23**	**271**	*e*P		**P**	**20 27 14.4**	**+0.8**
	comp=Z,8.2nm,0.5s,mb5.0							
JIRN	**Jiri**	**48.70**	**272**	*e*P		**P**	**20 27 18.1**	**+1.0**
	comp=Z,3.5nm,0.4s,mb4.6							
RAMN	**Ramite**	**48.78**	**271**	*e*P		**P**	**20 27 18.5**	**+0.8**
	comp=Z,31nm,0.6s,mb5.5							
GUN	**Gumba**	**48.80**	**273**	*e*P		**P**	**20 27 18.9**	**+1.0**
	comp=Z,74nm,0.4s							
BVAR	**Borovoye Array**	**48.98**	**310**	P		**P**	**20 27 19.2**	**+0.3**
	comp=Z,2.7nm,0.4s,mb4.7,baz=81,slow=9.5,SNR=10							
BVAR	**Borovoye Array**	**48.98**	**310**	P		**P**	**20 27 19.2**	**+0.3**
BVAR	**Borovoye Array**	**48.98**	**310**	P		**P**	**20 27 19.2**	**+0.3**
BRVK	**Borovoye**	**49.03**	**310**	*e*P		**P**	**20 27 19.0**	**-0.3**
BRVK	**Borovoye**	**49.03**	**310**	*e*P		**P**	**20 27 19.2**	**-0.1**
BRVK				pmax	pmax			
	comp=Z,5.0nm,1.5s,mb4.3							
TKM2	**Tokmak 2**	**49.26**	**296**	*e*P		**P**	**20 27 21.7**	**+0.4**
	comp=Z,4.4nm,0.5s,mb4.7							
TKM2	**Tokmak 2**	**49.26**	**296**	*e*P		**P**	**20 27 21.7**	**+0.4**
TKM2				pmax	pmax			
	comp=Z,4.0nm,0.5s,mb4.7							
INK	**Inuvik**	**49.28**	**29**	P		**P**	**20 27 21.5**	**+0.4**
	comp=Z,2.0nm,0.3s,mb4.6,baz=304,slow=6.3,SNR=29							
INK	**Inuvik**	**49.28**	**29**	*e*P		**P**	**20 27 21.1**	**0.0**
	comp=Z,6.7nm,0.9s,mb4.7							
INK	**Inuvik**	**49.28**	**29**	*e*P		**P**	**20 27 21.1**	**+0.1**
INK				pmax	pmax			
	comp=Z,7.0nm,0.9s							
KKN	**Kakani**	**49.31**	**273**	*e*P		**P**	**20 27 22.4**	**+0.6**
	comp=Z,20nm,0.6s,mb5.3							
PKI	**Pulchoki**	**49.33**	**273**	*e*P		**P**	**20 27 22.4**	**+0.4**
	comp=Z,10.0nm,0.4s,mb5.2							
DMN	**Daman**	**49.54**	**273**	*e*P		**P**	**20 27 24.3**	**+0.7**
	comp=Z,16nm,0.6s,mb5.2							
GKN	**Gorkha**	**49.68**	**274**	*e*P		**P**	**20 27 25.1**	**+0.5**
	comp=Z,14nm,0.5s,mb5.3							
AAK	**Ala-Archa**	**50.12**	**296**	*e*P		**P**	**20 27 27.8**	**0.0**
	comp=Z,7.8nm,0.5s,mb5.0							
AAK	**Ala-Archa**	**50.12**	**296**	*e*P		**P**	**20 27 27.8**	**0.0**
AAK				pmax	pmax			
	comp=Z,8.0nm,0.5s,mb5.0							
DANN	**Dangsing**	**50.15**	**275**	*e*P		**P**	**20 27 29.4**	**+1.2**
	comp=Z,45nm,0.5s							
KOLN	**Koldanda**	**50.58**	**274**	*e*P		**P**	**20 27 32.3**	**+0.9**
	comp=Z,18nm,0.6s,mb5.2							
EKS2	**Erkin-Say**	**50.59**	**296**	*e*P		**P**	**20 27 30.2**	**-1.2**
	comp=Z,1.8nm,0.6s,mb4.2							
EKS2	**Erkin-Say**	**50.59**	**296**	*e*P		**P**	**20 27 30.2**	**-1.2**
EKS2				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2							
PYUN	**Piuthan**	**50.85**	**275**	*e*P		**P**	**20 27 34.3**	**+0.8**
	comp=Z,26nm,0.7s,mb5.2							
KKAR	**Karatay Array**	**52.59**	**298**	*e*P		**P**	**20 27 45.8**	**-0.5**
	comp=Z,2.7nm,0.6s,mb4.3							
KKAR	**Karatay Array**	**52.59**	**298**	*e*P		**P**	**20 27 45.8**	**-0.4**
KKAR				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.4							
SVE	**Sverdlovsk**	**53.00**	**317**	*e*P		**P**	**20 27 49.6**	**+0.5**
SVE				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8							
ARU	**Arti**	**54.21**	**317**	*e*P		**P**	**20 27 56.2**	**-1.7**
	comp=Z,7.8nm,1.0s,mb4.6							
ARU	**Arti**	**54.21**	**317**	P		**P**	**20 27 56.1**	**-1.8**
ABKAR	**Akbulak array**	**56.49**	**309**	*e*P		**P**	**20 28 14.2**	**-0.3**
	comp=Z,1.7nm,0.4s,mb4.4							
AKTO	**Aktyubinsk**	**57.06**	**311**	P		**P**	**20 28 18.2**	**-0.4**
	comp=Z,0.8nm,0.6s,mb3.9,baz=62,slow=15,SNR=3.8							
AKTO	**Aktyubinsk**	**57.06**	**311**	P		**P**	**20 28 18.2**	**-0.4**
AKTO	**Aktyubinsk**	**57.06**	**311**	P		**P**	**20 28 18.2**	**-0.4**
RES	**Resolute Bay**	**57.52**	**16**	P		**P**	**20 28 21.0**	**-0.5**
	comp=Z,2.2nm,0.4s,mb4.5,baz=316,slow=8.1,SNR=12							
RES	**Resolute Bay**	**57.52**	**16**	*e*P		**P**	**20 28 20.5**	**-1.0**
	comp=Z,3.8nm,0.8s,mb4.5							
RES	**Resolute Bay**	**57.52**	**16**	P		**P**	**20 28 21.0**	**-0.4**
RES				pmax	pmax			
	comp=Z,2.0nm,0.4s,mb4.5							
KBL	**Kabul**	**57.66**	**289**	*e*P		**P**	**20 28 21.3**	**-1.8**
	comp=Z,3.6nm,1.0s,mb4.4							
KBL	**Kabul**	**57.66**	**289**	*e*P		**P**	**20 28 21.3**	**-1.7**
KBL				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.4							
ARCES	**ARCESS Array B**	**60.29**	**339**	P		**P**	**20 28 40.8**	**+0.1**
	comp=Z,9.1nm,1.1s,mb4.7,baz=38,slow=6.3,SNR=5.0							
ARCES	**ARCESS Array B**	**60.29**	**339**	P		**P**	**20 28 40.8**	**+0.1**
ARCES	**ARCESS Array B**	**60.29**	**339**	P		**P**	**20 28 40.8**	**+0.1**
WRAB	**Tennant Creek**	**62.03**	**190**	*e*P		**P**	**20 28 52.2**	**-0.8**
	comp=Z,6.0nm,1.1s,mb4.6							
WRAB	**Tennant Creek**	**62.03**	**190**	*e*P		**P**	**20 28 52.2**	**-0.8**
WRAB				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.6							
WRA	**Warramunga Arr**	**62.04**	**190**	P		**P**	**20 28 52.3**	**-0.8**
	comp=Z,1.5nm,0.8s,mb4.2,baz=13,slow=7.4,SNR=11							
WRA	**Warramunga Arr**	**62.04**	**190**	P		**P**	**20 28 52.3**	**-0.8**
WRA	**Warramunga Arr**	**62.04**	**190**	P		**P**	**20 28 52.3**	**-0.8**
FINES	**FINESS Array B**	**65.57**	**332**	P		**P**	**20 29 15.9**	**+0.1**
	comp=Z,2.9nm,0.6s,mb4.5,baz=51,slow=7.6,SNR=13							
FINES	**FINESS Array B**	**65.57**	**332**	P		**P**	**20 29 15.9**	**+0.1**
FINES	**FINESS Array B**	**65.57**	**332**	P		**P**	**20 29 16.0**	**+0.1**
ASAR	**Alice Springs**	**65.76**	**190**	P		**P**	**20 29 17.8**	**+0.2**
	comp=Z,0.6nm,0.7s,mb3.7,baz=12,slow=5.4,SNR=9.9							
ASAR	**Alice Springs**	**65.76**	**190**	P		**P**	**20 29 17.8**	**+0.2**
ASAR	**Alice Springs**	**65.76**	**190**	P		**P**	**20 29 17.8**	**+0.3**
FFC	**Flin Flon**	**68.67**	**35**	*e*P		**P**	**20 29 33.9**	**-1.8**
	comp=Z,6.3nm,1.1s,mb4.5							
FFC	**Flin Flon**	**68.67**	**35**	*e*P		**P**	**20 29 33.9**	**-1.8**
FFC				pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.4							
KIV	**Kislovodsk**	**69.33**	**311**	*e*P		**P**	**20 29 41.5**	**+1.5**
	comp=Z,7.4nm,0.8s,mb4.7							
KIV	**Kislovodsk**	**69.33**	**311**	*e*P		**P**	**20 29 40.8**	**+0.8**
KIV				*i*			20 29 59.8	
KIV				pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.5							
NB2	**NORSAR Subarra**	**70.59**	**338**	P		**P**	**20 29 47.4**	**0.0**
	comp=Z,1.9nm,0.8s,mb4.1,baz=45,slow=5.9							
NOA	**NORSAR Array B**	**70.59**	**338**	P		**P**	**20 29 47.9**	**+0.5**
	comp=Z,0.5nm,0.5s,mb3.7,baz=34,slow=6.5,SNR=3.5							
NOA	**NORSAR Array B**	**70.59**	**338**	P		**P**	**20 29 47.9**	**+0.5**
NOA	**NORSAR Array B**	**70.59**	**338**	P		**P**	**20 29 47.9**	**+0.5**
HFS	**Hagfors**	**70.59**	**336**	P		**P**	**20 29 47.6**	**+0.1**
	comp=Z,1.6nm,0.6s,mb4.1,baz=52,slow=5.8,SNR=7.3							
HFS	**Hagfors**	**70.59**	**336**	P		**P**	**20 29 47.6**	**+0.1**
HFS	**Hagfors**	**70.59**	**336**	P		**P**	**20 29 47.6**	**+0.1**
NVAR	**Mina Array Bea**	**70.61**	**56**	P		**P**	**20 29 49.5**	**+1.6**
	comp=Z,2.1nm,0.7s,mb4.2,baz=289,slow=6.4,SNR=14							
NVAR	**Mina Array Bea**	**70.61**	**56**	P		**P**	**20 29 49.5**	**+1.6**
AKASG	**Malin Array Be**	**71.77**	**323**	P		**P**	**20 29 54.3**	**-0.4**
	comp=Z,0.6nm,0.4s,mb3.9,baz=42,slow=5.7,SNR=5.3							
AKASG	**Malin Array Be**	**71.77**	**323**	P		**P**	**20 29 54.3**	**-0.4**
AKASG	**Malin Array Be**	**71.77**	**323**	P		**P**	**20 29 54.3**	**-0.5**
ANMO	**Albuquerque**	**80.05**	**52**	P		**P**	**20 30 44.0**	**+1.6**
	comp=Z,0.8nm,0.7s,mb3.8,baz=346,slow=8.3,SNR=5.1							
ANMO	**Albuquerque**	**80.05**	**52**	P		**P**	**20 30 44.0**	**+1.6**
ANMO	**Albuquerque**	**80.05**	**52**	P		**P**	**20 30 44.0**	**+1.7**
TXAR	**Lajitas Array**	**85.69**	**54**	P		**P**	**20 31 12.9**	**+1.3**
	comp=Z,3.2nm,0.7s,mb4.7,baz=295,slow=3.4,SNR=40							
TXAR	**Lajitas Array**	**85.69**	**54**	P		**P**	**20 31 12.9**	**+1.3**
TXAR	**Lajitas Array**	**85.69**	**54**	P		**P**	**20 31 12.9**	**+1.2**

*IDC **28** 20:20:43.8±2.5, 41.72N×144.11E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.7/25, mbtmp3.8/8, Error ellipse: s-maj=60.5km s-min=24.2km az=176.0*
*ISCJB **28** 20:20:47.4±1.0, 41.75N±0.08×144.1E±0.1, h33km, mb3.7/7, Error ellipse: s-maj=12.4km s-min=11.2km az=152.2*
*JMA **28** 20:20:47.4±0.2, 41.75N×143.98E, h36km±3km, M3.4*

ISC 28 20:20:49.2±1.0, 41.80N±0.08×144.0E±0.1, h35km, n13, σ0s94/15, mb3.7/7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**0.66**	**289**	P	**Pn**	**20 21 00.2**	**-1.9**
JCH	**Churui**	**0.94**	**330**	P	**Pn**	**20 21 05.2**	**-0.7**
JCH				*e*S	**Sn**	**20 21 18.7**	**+0.6**
JNBK	**Urakawa-nobuka**	**1.04**	**298**	P	**Pn**	**20 21 07.1**	**-0.2**
JAK	**Akkeshi**	**1.30**	**23**	P	**Pn**	**20 21 10.1**	**-0.8**
JAR	**Ashoroubuto**	**1.50**	**354**	P	**Pn**	**20 21 12.9**	**-0.7**
JAR				*e*S	**Sn**	**20 21 32.2**	**+0.2**
ASAJ	**Asahikawa**	**2.53**	**336**	Pn	**Pn**	**20 21 28.5**	**+0.7**
	baz=190,slow=19,SNR=1.3						
SONM	**Songino Array**	**27.15**	**296**	P	**P**	**20 26 29.5**	**+0.6**
	0.5nm,0.5s,mb3.3,baz=76,slow=7.9,SNR=6.0						
MKAR	**Makanchi Array**	**43.45**	**298**	P	**P**	**20 28 49.3**	**+0.8**
	0.7nm,0.9s,mb3.4,baz=76,slow=7.7,SNR=2.6						
ILAR	**Eielson Array**	**44.42**	**35**	P	**P**	**20 28 56.3**	**+0.2**
	0.7nm,0.9s,mb3.4,baz=277,slow=7.2,SNR=5.1						
KURK	**Kurchatov**	**44.71**	**305**	P	**P**	**20 29 01.3**	**+2.6**
	1.0nm,0.5s,mb3.9,baz=75,slow=9.1,SNR=5.8						
INK	**Inuvik**	**49.24**	**29**	P	**P**	**20 29 33.8**	**0.0**
	0.9nm,0.7s,mb3.9,baz=315,slow=8.6,SNR=2.5						
FINES	**FINESS Array B**	**65.53**	**332**	P	**P**	**20 31 27.3**	**-1.3**
	3.2nm,1.0s,mb4.3,baz=20,slow=4.4,SNR=3.2						
TXAR	**Lajitas Array**	**85.67**	**54**	P	**P**	**20 33 24.9**	**+0.5**
	0.5nm,0.7s,mb3.9,baz=280,slow=5.4,SNR=4.1						

*ISCJB **28** 20:39:59.7±1.0, 39.45N±0.03×25.94E±0.07, h1km±6km, Error ellipse: s-maj=9.2km s-min=5.1km az=168.5*
*CSEM **28** 20:39:59.9±0.5, 39.44N×25.91E, h2km, MD2.8, Error ellipse: s-maj=10.3km s-min=4.6km az=77.0*
*DDA **28** 20:39:59.3, 39.44N×26.00E, h7km±6km, Md2.7*
*ISK **28** 20:40:00.6, 39.51N×26.02E, h3km, MD2.8*

ISC 28 20:39:59.9±1.0, 39.44N±0.03×25.92E±0.07, h0km±5km, n43, σ0s82/62, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.41**	**14**	*i* P	**Pg**	**20 40 08.0**	**+0.1**
BOZC				*i* S	**Sg**	**20 40 13.5**	**+0.3**
EZN	**Ezine**	**0.50**	**39**	*e*PG	**Pg**	**20 40 09.5**	**+0.1**
EZN				*e*SG	**Sg**	**20 40 16.3**	**+0.5**
EZN	**Ezine**	**0.50**	**39**	*e*Pg	**Pg**	**20 40 09.5**	**+0.1**
EZN				*e*Sg	**Sg**	**20 40 16.3**	**+0.5**
AYVA	**Ayvalik**	**0.61**	**102**	*i* P	**Pg**	**20 40 12.0**	**+0.5**
AYVA	**Ayvalik**	**0.61**	**102**	*i* P	**Pg**	**20 40 12.0**	**+0.5**
GADA	**Gvkgeada**	**0.75**	**359**	*e*PG	**Pg**	**20 40 15.0**	**+0.7**
GADA				*e*SG	**Sg**	**20 40 25.8**	**+1.8**
GADA	**Gvkgeada**	**0.75**	**359**	*e*Pg	**Pg**	**20 40 15.0**	**+0.7**
GADA				*e*Sg	**Sg**	**20 40 25.8**	**+1.8**
GELI	**Tayfur-Gelibol**	**1.05**	**24**	*e*PG	**Pg**	**20 40 19.6**	**-0.4**
GELI				*e*SG	**Sg**	**20 40 33.3**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.05**	**24**	*e*Pg	**Pg**	**20 40 19.6**	**-0.4**
GELI				*e*Sg	**Sg**	**20 40 33.3**	**-0.2**
LPK	**Lapseki**	**1.13**	**34**	*e*PG	**Pg**	**20 40 20.3**	**-1.3**
LPK				*e*SG	**Sg**	**20 40 36.3**	**0.0**
LPK	**Lapseki**	**1.13**	**34**	*e*Pg	**Pg**	**20 40 20.3**	**-1.3**
LPK				*e*Sg	**Sg**	**20 40 36.3**	**0.0**
URLA	**Izmir**	**1.20**	**154**	*i* P	**Pg**	**20 40 21.2**	**-1.6**
URLA				*i* S	**Sg**	**20 40 38.4**	**+0.1**
URLA	**Izmir**	**1.20**	**154**	*i* P	**Pg**	**20 40 21.2**	**-1.6**
URLA				*i* S	**Sg**	**20 40 38.4**	**+0.1**
ENEZ	**Enez**	**1.31**	**8**	*e*PN	**Pn**	**20 40 24.8**	**-0.5**
ENEZ				*e*SN	**Sn**	**20 40 42.2**	**-1.2**
ENEZ	**Enez**	**1.31**	**8**	*e*Pn	**Pn**	**20 40 24.8**	**-0.5**
ENEZ				*e*Sn	**Sn**	**20 40 42.2**	**-1.3**
ERIK	**Erikli-Kesan**	**1.31**	**20**	*e*PN	**Pn**	**20 40 24.9**	**-0.5**
ERIK	**Erikli-Kesan**	**1.31**	**20**	*e*Pn	**Pn**	**20 40 24.9**	**-0.5**
BALY	**Balya**	**1.35**	**77**	*i* P	**Pg**	**20 40 25.0**	**-0.6**
BALY				*i* S	**Sg**	**20 40 42.7**	**-0.4**
BALY	**Balya**	**1.35**	**77**	*i* P	**Pg**	**20 40 25.0**	**-0.7**
BALY				*i* S	**Sg**	**20 40 42.7**	**-0.4**
BLCB	**Balcova**	**1.37**	**140**	*e*PN	**Pn**	**20 40 27.6**	**+1.4**
BLCB	**Balcova**	**1.37**	**140**	*e*Pn	**Pn**	**20 40 27.6**	**+1.5**
KRBG	**Karabiga-Canak**	**1.42**	**48**	*e*PN	**Pn**	**20 40 26.6**	**-0.4**
KRBG	**Karabiga-Canak**	**1.42**	**48**	*e*Pn	**Pn**	**20 40 26.6**	**-0.3**
GONE	**Gonen-Balikesi**	**1.49**	**65**	*e*PN	**Pn**	**20 40 28.3**	**+0.5**
GONE	**Gonen-Balikesi**	**1.49**	**65**	*e*Pn	**Pn**	**20 40 28.3**	**+0.5**
BALB	**Balikesir**	**1.53**	**82**	*e*PN	**Pn**	**20 40 29.2**	**+0.9**
BALB	**Balikesir**	**1.53**	**82**	*e*Pn	**Pn**	**20 40 29.2**	**+0.9**
RKY	**Sarkoy-Tekirda**	**1.58**	**37**	*e*PN	**Pn**	**20 40 28.2**	**-0.8**
RKY	**Sarkoy-Tekirda**	**1.58**	**37**	*e*Pn	**Pn**	**20 40 28.2**	**-0.8**
SART	**Tekirdag**	**1.58**	**37**	*i* P	**Pn**	**20 40 27.0**	**-2.1**
SART				*i* S	**Sn**	**20 40 44.8**	**-5.3**
SART	**Tekirdag**	**1.58**	**37**	*i* P	**Pn**	**20 40 27.0**	**-2.0**
SART				*i* S	**Sn**	**20 40 44.8**	**-5.3**
MFT	**Murefte**	**1.70**	**37**	*e*PN	**Pn**	**20 40 30.4**	**-0.3**
MFT	**Murefte**	**1.70**	**37**	*e*Pn	**Pn**	**20 40 30.4**	**-0.3**
**MRMT

ISC 28 21:25:36.4±0.7, **2.72N**±0.08×**129.2E**±0.2, **h35**km, **n19**, σ**0.59**/20, **mb3.9**/8, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.99**	**190**	*eP*	**P**	**21 30 16.2**	**-0.7**
	1.0nm,0.4s,baz=17,slow=8.8,SNR=9.1						
FITZ	**Fitzroy Crossi**	**20.99**	**190**	*eP*	**P**	**21 30 16.6**	**-0.3**
	1.3nm,0.7s						
FITZ				*eS*	**S**	**21 34 12.7**	**+3.7**
PMG	**Port Moresby**	**21.56**	**124**	*eP*	**P**	**21 30 22.8**	**-0.3**
	21nm,1.4s,mb4.4						
WRAB	**Tennant Creek**	**23.07**	**168**	*eP*	**P**	**21 30 39.8**	**+0.7**
	3.7nm,0.7s,mb3.9						
WRA	**Warramunga Arr**	**23.08**	**168**	P	**P**	**21 30 39.6**	**+0.5**
	3.8nm,0.7s,mb4.0,baz=344,slow=11,SNR=44						
WRA	**Warramunga Arr**	**23.08**	**168**	P	**P**	**21 30 39.6**	**+0.5**
WB2	**Warramunga Arr**	**23.08**	**168**	*eP*	**P**	**21 30 39.0**	**-0.1**
AS31	**Alice Springs**	**26.62**	**170**	*eP*	**P**	**21 31 11.4**	**-0.4**
ASAR	**Alice Springs**	**26.62**	**170**	P	**P**	**21 31 11.5**	**-0.3**
	1.0nm,0.5s,mb3.6,baz=354,slow=7.9,SNR=34						
ASAR	**Alice Springs**	**26.62**	**170**	P	**P**	**21 31 11.5**	**-0.3**
STKA	**Stephens Creek**	**36.36**	**162**	P	**P**	**21 32 37.3**	**0.0**
	1.0nm,0.3s,mb4.2,baz=3.3,slow=15,SNR=5.2						
STKA	**Stephens Creek**	**36.36**	**162**	P	**P**	**21 32 37.3**	**0.0**
SONM	**Songino Array**	**49.07**	**340**	P	**P**	**21 34 21.2**	**+1.1**
	0.4nm,0.6s,mb3.7,baz=148,slow=6.6,SNR=3.5						
SONM	**Songino Array**	**49.07**	**340**	P	**P**	**21 34 21.2**	**+1.1**
MKAR	**Makanchi Array**	**59.80**	**324**	P	**P**	**21 35 37.1**	**-1.0**
	0.8nm,0.4s,mb4.1,baz=113,slow=8.1,SNR=22						
MKAR	**Makanchi Array**	**59.80**	**324**	P	**P**	**21 35 37.1**	**-1.0**
PPLA	**Purkeypile**	**82.39**	**27**	*eP*	**P**	**21 37 54.7**	**+0.1**
ILAR	**Eielson Array**	**84.94**	**25**	P	**P**	**21 38 07.7**	**0.0**
	0.2nm,0.5s,mb3.5,baz=241,slow=5.3,SNR=4.5						
ILAR	**Eielson Array**	**84.94**	**25**	P	**P**	**21 38 07.7**	**0.0**

NEIC ***28*** *21:48:53.8±1.0, 10.46N×85.21W, h205km±8km, mb4.3/1, Error ellipse: s-maj=28.5km s-min=15.3km az=217.0*

ISCJB ***28*** *21:48:55.1±0.4, 10.93N±0.09×85.12W±0.09, h190km±5km, mb3.8/7, Error ellipse: s-maj=19.8km s-min=6.2km az=41.1*

IDC ***28*** *21:48:55.5±0.5, 11.06N×84.92W, h178km±11km, mb3.5/7, mb1 3.7/8, mb1mx3.4/21, mbtmp3.5/8, Error ellipse: s-maj=32.0km s-min=26.9km az=24.0*

CASC ***28*** *21:48:56.5±2.0, 10.87N×85.14W, h182km±6km, MD3.7, ML3.3*

ISC 28 21:48:56.0±0.4, **10.92N**±0.09×**85.11W**±0.08, **h186**km±4km, **n56**, σ**0.94**/69, **mb3.8**/7, **11C-4D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MESS	**Mesas**	**0.20**	**204**	*iP*	**Pn**	**21 49 20.2**	**-0.5**
MESS				*i* S	**Sn**	**21 49 40.7**	**+0.9**
LIM1	**Limonal**	**0.26**	**212**	*i* P	**Pn**	**21 49 20.2**	**-0.6**
LIM1				*i* S	**Sn**	**21 49 39.6**	**-0.3**
CUI	**Cuipilapa**	**0.27**	**191**	*i* P	**Pn**	**21 49 20.4**	**-0.5**
COLC	**Colonia**	**0.27**	**200**	*i* P	**Pn**	**21 49 20.2**	**-0.6**
GPS1	**Guardaparques**	**0.28**	**238**	*i* P	**Pn**	**21 49 20.1**	**-0.7**
GPS1				*i* S	**Sn**	**21 49 40.0**	**+0.1**
GPS2	**Hotel Rinc˜‡n**	**0.29**	**235**	*i* P	**Pn**	**21 49 20.1**	**-0.8**
GPS2				*i* S	**Sn**	**21 49 39.8**	**-0.2**
GB1A	**Boringuen Arri**	**0.30**	**250**	*i* P	**Pn**	**21 49 20.3**	**-0.6**
AMAS	**Alto Masis**	**0.33**	**159**	*i* P	**Pn**	**21 49 21.8**	**+0.8**
GBS2	**Las Lilas**	**0.34**	**256**	*iP*	**Pn**	**21 49 20.1**	**-0.9**
LAPC	**Finca la Perla**	**0.35**	**244**	*i* P	**Pn**	**21 49 19.9**	**-1.1**
GBS3	**Finca Las Im˜¡**	**0.36**	**248**	*i* P	**Pn**	**21 49 20.1**	**-1.0**
GBS3				*i* S	**Sn**	**21 49 39.7**	**-0.6**
NY14	**Universidad de**	**0.49**	**237**	*iP*	**Pn**	**21 49 20.7**	**-0.8**
NY14				*i* S	**Sn**	**21 49 40.6**	**-0.6**
CHPA	**Chiripa**	**0.52**	**157**	*iP*	**Pn**	**21 49 21.5**	**-0.1**
CASO	**Castillo**	**0.61**	**142**	*i* P	**Pn**	**21 49 21.9**	**-0.1**
A494	**Palo Verde**	**0.62**	**202**	*iP*	**Pn**	**21 49 21.5**	**-0.5**
A494				*i* S	**Sn**	**21 49 42.1**	**-0.1**
A495	**El Viejo**	**0.62**	**213**	*iP*	**Pn**	**21 49 21.3**	**-0.8**
JTS	**JuntasAbangare**	**0.65**	**166**	P	**Pn**	**21 49 22.5**	**+0.2**
	490nm,0.3s,baz=41,slow=4.3,SNR=2045						
JTS				S	**Sn**	**21 49 42.1**	**-0.4**
	599nm,0.3s,baz=317,slow=22,SNR=36						
JTS	**JuntasAbangare**	**0.65**	**166**	*i* Pn	**Pn**	**21 49 22.4**	**+0.2**
JTS				*e*Sn	**Sn**	**21 49 42.6**	**+0.2**
JTS	**JuntasAbangare**	**0.65**	**166**	*eP*	**Pn**	**21 49 22.4**	**+0.2**
A490	**San Lazaro**	**0.73**	**208**	*iP*	**Pn**	**21 49 22.7**	**+0.1**
A490				*i* S	**Sn**	**21 49 43.7**	**+0.5**
A492	**Arado**	**0.85**	**214**	*iP*	**Pn**	**21 49 23.2**	**-0.1**
A492				*i* S	**Sn**	**21 49 44.4**	**-0.1**
JCR	**Jicaral**	**1.06**	**180**	*iP*	**Pn**	**21 49 25.0**	**+0.2**
JCR				*e*S	**Sn**	**21 49 48.9**	**+1.7**
CGA2	**Cerro Gallo 2**	**1.10**	**145**	*iP*	**Pn**	**21 49 25.9**	**+0.7**
CGA2				*e*S	**Sn**	**21 49 47.0**	**-0.6**
PRS1	**Puriscal**	**1.22**	**140**	*eP*	**Pn**	**21 49 27.1**	**+1.1**
SJS	**Escuela Geolog**	**1.43**	**133**	*eP*	**Pn**	**21 49 29.1**	**+1.2**
SJS				*e*S	**Sn**	**21 49 54.2**	**+1.8**
LAJ	**Bijagual**	**1.43**	**137**	*eP*	**Pn**	**21 49 27.6**	**-0.3**
LAJ				*e*S	**Sn**	**21 49 51.8**	**-0.7**
QCR	**Quepos**	**1.75**	**148**	*eP*	**Pn**	**21 49 32.5**	**+1.5**
QCR				*e*S	**Sn**	**21 49 57.1**	**-1.1**
APYN	**Apoyeque**	**1.78**	**317**	*eP*	**Pn**	**21 49 33.0**	**+1.7**
CSAN		**1.79**	**314**	*eP*	**Pn**	**21 49 32.4**	**+1.0**
BUS	**Buena Vista**	**1.90**	**135**	*eP*	**Pn**	**21 49 34.1**	**+1.6**
COPN	**Copaltepe**	**1.92**	**311**	*eP*	**Pn**	**21 49 34.0**	**+1.3**
CRIN	**San Cristobal**	**2.59**	**313**	AML	AML	21 50 19.6	
	comp=E,481nm,0.2s						
ACR	**Cerro Adams**	**2.96**	**139**	*eP*	**Pn**	**21 49 45.5**	**+1.0**
ACR				*e*S	**Sn**	**21 50 21.9**	**-0.4**
TGUH	**Tegucigalpa,Un**	**3.76**	**326**	P	**Pn**	**21 49 54.6**	**+0.3**
TGUH				S	**Sn**	**21 50 45.3**	**+5.2**
BCIP	**Isla Barro Col**	**5.48**	**108**	*eP*	**Pn**	**21 50 13.5**	**-2.8**
CMIG	**Matias Romero**	**11.29**	**304**	P	**Pn**	**21 51 32.2**	**0.0**
	comp=E,0.7nm,0.3s,baz=132,slow=9.7,SNR=6.8						
CMIG	**Matias Romero**	**11.29**	**304**	P	**Pn**	**21 51 32.2**	**0.0**
CPCT	**Cooper Cave**	**24.42**	**1**	*eP*	**P**	**21 53 59.8**	**+2.4**
TKL	**Tuckaleechee C**	**24.66**	**3**	P	**P**	**21 53 60.0**	**+0.4**
	comp=E,3.1nm,0.4s,mb4.2,baz=144,slow=22,SNR=8.4						
TKL	**Tuckaleechee C**	**24.66**	**3**	P	**P**	**21 53 60.0**	**+0.4**
TXAR	**Lajitas Array**	**25.21**	**319**	P	**P**	**21 54 04.9**	**+0.3**
	comp=E,0.2nm,0.4s,mb3.0,baz=148,slow=9.0,SNR=7.9						
TXAR				PcP	PcP	21 57 33.9	+0.6
	comp=E,0.2nm,0.4s,baz=151,slow=5.0,SNR=5.4						
TXAR	**Lajitas Array**	**25.21**	**319**	P	**P**	**21 54 04.9**	**+0.3**
TXAR				PcP	PcP	21 57 33.9	+0.6
ULM	**Lac du Bonnet**	**40.20**	**349**	P	**P**	**21 56 12.4**	**-1.7**
	comp=E,3.0nm,0.5s,mb4.1,baz=173,slow=5.1,SNR=4.0						
ULM	**Lac du Bonnet**	**40.20**	**349**	P	**P**	**21 56 12.4**	**-1.7**
NVAR	**Mina Array Bea**	**40.36**	**318**	P	**P**	**21 56 17.1**	**+1.5**
	comp=E,0.4nm,0.6s,mb3.3,baz=129,slow=7.1,SNR=3.0						
NVAR				PcP	PcP	21 58 16.9	+1.8
	comp=E,0.4nm,0.6s,baz=118,slow=5.6,SNR=5.4						
NVAR	**Mina Array Bea**	**40.36**	**318**	P	**P**	**21 56 17.1**	**+1.5**
NVAR				PcP	PcP	21 58 16.9	+1.8
SCHQ	**Schefferville**	**46.12**	**15**	P	**P**	**21 57 00.4**	**-1.0**
	comp=E,4.6nm,0.4s,mb4.5,baz=194,slow=5.6,SNR=25						
SCHQ	**Schefferville**	**46.12**	**15**	*eP*	**P**	**21 57 00.2**	**-1.2**
	comp=E,5.4nm,0.4s,mb4.5						
ILAR	**Eielson Array**	**68.34**	**336**	P	**P**	**21 59 36.0**	**-0.8**
	comp=E,0.2nm,0.6s,mb3.0,baz=110,slow=5.7,SNR=4.8						
ILAR	**Eielson Array**	**68.34**	**336**	P	**P**	**21 59 36.0**	**-0.8**
ARCES	**ARCESS Array B**	**86.87**	**19**	P	**P**	**22 01 17.5**	**-1.7**
	comp=E,4.1nm,1.0s,mb4.2,baz=305,slow=5.2,SNR=2.5						
ARCES	**ARCESS Array B**	**86.87**	**19**	P	**P**	**22 01 17.5**	**-1.7**
ASAR	**Alice Springs**	**140.79**	**246**	PKhKP	PKPpre	22 07 58.7	
	comp=E,0.1nm,0.4s,baz=107,slow=3.8,SNR=3.5						
ASAR	**Alice Springs**	**140.79**	**246**	PKPpre	PKPpre	22 07 58.7	
WRA	**Warramunga Arr**	**141.01**	**252**	PKhKP	PKPpre	22 07 59.0	
	comp=E,0.5nm,0.6s,baz=93,slow=2.6,SNR=4.7						
WRA				PKP	PKPdf	22 08 05.0	+0.2
	comp=E,0.8nm,0.9s,baz=92,slow=2.7,SNR=6.0						
WRA	**Warramunga Arr**	**141.01**	**252**	PKPpre	PKPpre	22 07 59.0	
WRA				PKP	PKPdf	22 08 05.0	+0.2

ISCJB ***28*** *21:55:01.1±0.7, 50.99N±0.05×158.04E±0.07, h53km±6km, mb4.2/20, Error ellipse: s-maj=9.8km s-min=5.1km az=138.8*

KRSC ***28*** *21:55:01.2±1.0, 51.16N×158.19E, h10km±10km, ML4.3*

MOS ***28*** *21:55:01.4±1.1, 51.06N×157.89E, h41km, mb4.4/4, Error ellipse: s-maj=14.9km s-min=6.8km az=73.9*

IDC ***28*** *21:55:02.1±0.7, 50.95N×157.89E, h51km±6km, mb3.6/14, mb1 3.9/16, mb1mx3.7/30, mbtmp3.7/16, Error ellipse: s-maj=13.2km s-min=8.9km az=101.0*

NEIC ***28*** *21:55:02.4±0.8, 51.04N×157.88E, h52km±8km, mb4.2/3,*

Error ellipse: s-maj=10.6km s-min=6.9km az=150.0

ISC 28 21:55:02.7±0.7, **51.02N**±0.05×**158.01E**±0.07, **h46**km±6km, **h48**km±.7km:**pP-P, n90**, σ**1.27**/109, **mb4.2**/20, **3C-1D, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.24**	**255**	*ePN*	**Pn**	**21 55 22.4**	**-1.2**
SKR				*i* S	**Sn**	**21 55 37.0**	**-2.1**
SKR				pmax	pmax		
	comp=N,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,150nm,0.5s						
SKR				pmax	pmax		
	comp=Z,230nm,0.5s						
SKR				smax			
	comp=N,8µm,0.5s						
SKR				smax			
	comp=E,600nm,0.5s						
SKR				smax			
	comp=N,12µm,1.0s						
SKR				smax			
	comp=E,8µm,1.0s						
RUS	**Russkaya**	**1.45**	**12**	*eP*	**Pn**	**21 55 25.4**	**-1.0**
RUS				*i* S	**Sn**	**21 55 42.9**	**-1.2**
RUS	**Russkaya**	**1.45**	**12**	PN	**Pn**	**21 55 25.4**	**-1.0**
RUS				S	**Sn**	**21 55 42.9**	**-1.2**
MIPR	**Malaya Ipel'ka**	**1.48**	**329**	*eP*	**Pn**	**21 55 26.8**	**+0.1**
MIPR				*i* S	**Sn**	**21 55 45.8**	**+0.9**
GRL	**Gorelyy**	**1.53**	**2**	*eP*	**Pn**	**21 55 27.5**	**0.0**
GRL				*i* S	**Sn**	**21 55 46.6**	**+0.4**
PET	**Petropavlovsk**	**2.04**	**11**	*eP*	**Pn**	**21 55 34.4**	**-0.1**
PET				*i* S	**Sn**	**21 55 58.6**	**-0.2**
PET	**Petropavlovsk**	**2.04**	**11**	*ePn*	**Pn**	**21 55 34.1**	**-0.4**
PET				*e*Sn	**Sn**	**21 55 58.2**	**-0.6**
PET	**Petropavlovsk**	**2.04**	**11**	*ePN*	**Pn**	**21 55 34.2**	**-0.3**
PET				*e*S	**Sn**	**21 55 58.6**	**-0.2**
PET				pmax	pmax		
	comp=Z,94nm,0.5s						
PET				smax			
	comp=N,983nm,0.6s						
PEA0B	**Petropavlovsk-**	**2.10**	**355**	*ePn*	**Pn**	**21 55 35.5**	**+0.2**
PEA0B				*e*Sn	**Sn**	**21 55 59.1**	**-1.0**
PETK	**Petropavlovsk-**	**2.10**	**355**	P	**Pn**	**21 55 35.6**	**+0.3**
	comp=N,21nm,0.3s,baz=146,slow=17,SNR=183						
PETK				S	**Sn**	**21 56 03.1**	**+3.0**
	comp=N,18nm,0.3s,baz=205,slow=26,SNR=6.5						
PETK	**Petropavlovsk-**	**2.10**	**355**	P	**Pn**	**21 55 35.6**	**+0.3**
PETK				S	**Sn**	**21 56 03.1**	**+3.0**
PETK	**Petropavlovsk-**	**2.10**	**355**	*ePN*	**Pn**	**21 55 35.5**	**+0.2**
PETK				pmax	pmax		
	comp=Z,21nm,0.3s						
UGLR	**Uglovaya**	**2.25**	**13**	*eP*	**Pn**	**21 55 37.8**	**+0.5**
AVH	**Avacha**	**2.29**	**11**	*eP*	**Pn**	**21 55 38.8**	**+0.9**
NLC	**Nalytchevo**	**2.31**	**20**	*eP*	**Pn**	**21 55 36.7**	**-1.4**
NLC				*i* S	**Sn**	**21 56 02.4**	**-2.8**
NLC	**Nalytchevo**	**2.31**	**20**	PN	**Pn**	**21 55 36.7**	**-1.4**
NLC				S	**Sn**	**21 56 02.4**	**-2.8**
KOK	**Koryaka**	**2.31**	**9**	*eP*	**Pn**	**21 55 39.3**	**+1.2**
SDLR	**Sedlovina**	**2.32**	**13**	*eP*	**Pn**	**21 55 38.3**	**0.0**
SPN	**Mys Shipunski**	**2.42**	**30**	*eP*	**Pn**	**21 55 39.9**	**+0.2**
SPN				*i* S	**Sn**	**21 56 08.3**	**+0.2**
SPN	**Mys Shipunski**	**2.42**	**30**	PN	**Pn**	**21 55 39.9**	**+0.2**
SPN				S	**Sn**	**21 56 08.3**	**+0.2**
GNL	**Ganaly**	**2.68**	**359**	*eP*	**Pn**	**21 55 44.3**	**+1.1**
MKZ	**Mys Kozlova**	**4.20**	**31**	*eP*	**Pn**	**21 56 04.0**	**-0.1**
MKZ				*i* S	**Sn**	**21 56 50.0**	**-1.8**
MKZ	**Mys Kozlova**	**4.20**	**31**	PN	**Pn**	**21 56 04.0**	**-0.1**
MKZ				S	**Sn**	**21 56 50.0**	**-1.8**
TUMR	**Tumrok**	**4.46**	**16**	*eP*	**Pn**	**21 56 09.3**	**+1.7**
ESO	**Esso**	**4.93**	**5**	*eP*	**Pn**	**21 56 16.6**	**+2.5**
ESO	**Esso**	**4.93**	**5**	PN	**Pn**	**21 56 16.6**	**+2.5**
KBTR	**Krutoberegovo**	**5.93**	**27**	*eP*	**Pn**	**21 56 29.4**	**+1.6**
KBTR	**Krutoberegovo**	**5.93**	**27**	PN	**Pn**	**21 56 29.4**	**+1.6**
FX1	**Attu Island--F**	**9.55**	**73**	P	**Pn**	**21 57 17.5**	**+0.2**
	comp=Z,2.8nm,0.3s,baz=193,slow=5.3,SNR=12						
FX1				S	**Sn**	**21 58 55.7**	**-7.4**
	comp=Z,9.7nm,0.3s,baz=182,slow=17,SNR=12						
FX1	**Attu Island--F**	**9.55**	**73**	P	**Pn**	**21 57 17.5**	**+0.2**
FX1				S	**Sn**	**21 58 55.7**	**-7.4**
FX1	**Attu Island--F**	**9.55**	**73**	PN	**Pn**	**21 57 17.5**	**+0.2**
ASAJ	**Asahikawa**	**12.48**	**242**	P	**Pn**	**21 57 57.6**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=69,slow=13,SNR=3.4						
ASAJ	**Asahikawa**	**12.48**	**242**	P	**Pn**	**21 57 55.0**	**-2.4**
ASAJ	**Asahikawa**	**12.48**	**242**	PN	**Pn**	**21 57 57.7**	**+0.3**
ERM	**Erimo**	**13.60**	**234**	*eP*	**Pn**	**21 58 14.3**	**+1.5**
BILL	**Bilibino**	**17.55**	**10**	*eP*	**Pn**	**21 59 04.6**	**+1.1**
BILL				pmax	pmax		
	comp=Z,11nm,2.5s						
YAK	**Yakutsk**	**18.94**	**316**	*eP*	**Pn**	**21 59 18.0**	**-2.5**
	comp=Z,11nm,0.4s						
YAK	**Yakutsk**	**18.94**	**316**	*eP*	**Pn**	**21 59 18.0**	**-2.5**
YAK				pmax	pmax		
	comp=Z,11nm,0.4s						
VLA	**Vladivostok**	**19.39**	**256**	*eP*	**Pn**	**21 59 22.7**	**-3.3**
VLA				pmax	pmax		
	comp=Z,55nm,1.7s						
MJAR	**Matsushiro Arr**	**20.25**	**232**	P	**P**	**21 59 33.5**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=29,slow=7.0,SNR=3.2						
MJAR	**Matsushiro Arr**	**20.25**	**232**	P	**P**	**21 59 33.5**	**-0.4**
MJAR	**Matsushiro Arr**	**20.25**	**232**	P	**P**	**21 59 33.5**	**-0.4**
ILAR	**Eielson Array**	**31.20**	**43**	P	**P**	**22 01 16.0**	**-1.1**
	comp=Z,1.0nm,0.8s,mb3.7,baz=263,slow=7.0,SNR=12						
ILAR	**Eielson Array**	**31.20**	**43**	P	**P**	**22 01 16.0**	**-1.1**
ILAR	**Eielson Array**	**31.20**	**43**	P	**P**	**22 01 16.0**	**-1.1**
SONM	**Songino Array**	**33.16**	**285**	P	**P**	**22 01 32.8**	**-1.5**
	comp=Z,0.5nm,0.5s,mb3.7,baz=71,slow=7.7,SNR=8.4						
SONM	**Songino Array**	**33.16**	**285**	P	**P**	**22 01 32.8**	**-1.5**
SONM	**Songino Array**	**33.16**	**285**	P	**P**	**22 01 32.8**	**-1.6**
INK	**Inuvik**	**36.30**	**36**	P	**P**	**22 02 00.8**	**-0.5**
	comp=Z,1.5nm,0.7s,mb4.0,baz=288,slow=5.9,SNR=6.7						
INK	**Inuvik**	**36.30**	**36**	*eP*	**P**	**22 02 00.6**	**-0.7**
	comp=Z,2.1nm,0.8s,mb4.1						
INK	**Inuvik**	**36.30**	**36**	P	**P**	**22 02 00.8**	**-0.5**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**47.74**	**302**	P	**P**	**22 03 32.4**	**-2.2**
	comp=Z,1.2nm,0.5s,mb4.2,baz=61,slow=7.5,SNR=16						
KURK	**Kurchatov**	**47.74**	**302**	*eP*	**P**	**22 03 33.5**	**-1.2**
	comp=Z,1.6nm,0.6s,mb4.2						
KURK	**Kurchatov**	**47.74**	**302**	*eP*	**P**	**22 03 32.1**	**-2.6**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.3						
MKAR	**Makanchi Array**	**47.90**	**296**	P	**P**	**22 03 33.8**	**-2.2**
	comp=Z,0.6nm,0.5s,mb3.9,baz=55,slow=6.3,SNR=18						
MKAR	**Makanchi Array**	**47.90**	**296**	P	**P**	**22 03 33.8**	**-2.2**
MKAR	**Makanchi Array**	**47.90**	**296**	*eP*	**P**	**22 03 35.7**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**50.67**	**309**	P	**P**	**22 03 54.4**	**-2.6**
	comp=Z,0.9nm,0.5s,mb4.0,baz=38,slow=7.5,SNR=7.2						
BVAR	**Borovoye Array**	**50.67**	**309**	P	**P**	**22 03 54.4**	**-2.6**
BVAR	**Borovoye Array**	**50.67**	**309**	P	**P**	**22 03 54.4**	**-2.6**
BRVK	**Borovoye**	**50.71**	**309**	*eP*	**P**	**22 03 54.7**	**-2.5**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb4.0						
CMAR	**Chiang Mai Arr**	**56.48**	**258**	P	**P**	**22 04 38.9**	**-1.1**
	comp=Z,0.9nm,0.5s,mb4.0,baz=21,slow=6.4,SNR=6.2						
CMAR	**Chiang Mai Arr**	**56.48**	**258**	P	**P**	**22 04 38.9**	**-1.1**
CMAR	**Chiang Mai Arr**	**56.48**	**258**	P	**P**	**22 04 38.9**	**-1.1**
TAPN	**Taplejung**	**57.06**	**274**	*eP*	**P**	**22 04 45.1**	**+1.1**
	comp=Z,5.5nm,0.5s,mb4.9						
ODAN	**Odare**	**57.61**	**274**	*eP*	**P**	**22 04 49.5**	**+1.6**
NVAR	**Mina Array Bea**	**57.70**	**67**	P	**P**	**22 04 46.9**	**-1.4**
	comp=Z,0.4nm,0.4s,mb3.8,baz=302,slow=6.9,SNR=3.5						
NVAR	**Mina Array Bea**	**57.70**	**67**	P	**P**	**22 04 46.9**	**-1.4**
JIRN	**Jiri**	**57.80**	**275**	*eP*	**P**	**22 04 50.8**	**+1.6**
	comp=Z,2.0nm,0.5s,mb4.4						
GUN	**Gumba**	**57.82**	**276**	*eP*	**P**	**22 04 50.7**	**+1.4**
	comp=Z,7.7nm,0.4s,mb5.0						
RAMN	**Ramite**	**58.04**	**274**	*eP*	**P**	**22 04 51.7**	**+0.8**
	comp=Z,27nm,0.6s						
KKN	**Kakani**	**58.28**	**276**	*eP*	**P**	**22 04 54.2**	**+1.6**
DMN	**Daman**	**58.52**	**276**	*eP*	**P**	**22 04 55.7**	**+1.5**
	comp=Z,8.7nm,0.6s,mb5.0						
GKN	**Gorkha**	**58.54**	**277**	*eP*	**P**	**22 04 55.3**	**+1.0**
DANN	**Dangsing**	**58.84**	**278**	*eP*	**P**	**22 04 58.0**	**+1.5**
KOLN	**Koldanda**	**59.35**	**277**	*eP*	**P**	**22 05 00.5**	**+0.5**
	comp=Z,3.1nm,0.5s,mb4.6						
PYUN	**Piuthan**	**59.50**	**278**	*eP*	**P**	**22 05 02.0**	**+1.0**
	comp=Z,14nm,1.1s,mb4.9						
PDAR	**Pinedale Array**	**59.69**	**58**	P	**P**	**22 05 02.5**	**+0.5**
	comp=Z,1.3nm,0.8s,mb4.0,baz=344,slow=1.3,SNR=9.3						
PDAR	**Pinedale Array**	**59.69**	**58**	P	**P**	**22 05 02.5**	**+0.5**
TXAR	**Lajitas Array**	**72.66**	**65**	P	**P**	**22 06 25.7**	**+0.3**
	comp=Z,1.6nm,0.6s,mb4.1,baz=296,slow=5.2,SNR=23						
TXAR				pP	pP	22 06 39.2	+0.5
	comp=Z,0.5nm,0.6s,baz=302,slow=4.5,SNR=6.4						
TXAR	**Lajitas Array**	**72.66**	**65**	P	**P**	**22 06 25.7**	**+0.3**
TXAR				pP	pP	22 06 39.2	+0.5
TXAR	**Lajitas Array**	**72.66**	**65**	P	**P**	**22 06 25.7**	**+0.3**
TXAR				*PP	pP	22 06 39.2	+0.5
WRA	**Warramunga Arr**	**73.66**	**203**	P	**P**	**22 06 30.2**	**-1.0**
	comp=Z,0.6nm,0.5s,mb3.8,baz=18,slow=6.1,SNR=12						
WRA				pP	pP	22 06 43.3	-1.1
	comp=Z,0.5nm,0.5s,baz=19,slow=6.2,SNR=5.4						
WRA	**Warramunga Arr**	**73.66**	**203**	P	**P**	**22 06 30.2**	**-1.0**
WRA				pP	pP	22 06 43.3	-1.1
WRA	**Warramunga Arr**	**73.66**	**203**	P	**P**	**22 06 30.2**	**-1.0**
WRA				*PP	pP	22 06 43.3	-1.2
ASAR	**Alice Springs**	**77.34**	**203**	P	**P**	**22 06 52.3**	**+0.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=17,slow=5.3,SNR=7.5						
ASAR				pP	pP	22 07 05.7	+0.1
	comp=Z,0.5nm,0.6s,baz=16,slow=5.7,SNR=4.8						
ASAR	**Alice Springs**	**77.34**	**203**	P	**P**	**22 06 52.3**	**+0.1**
ASAR				pP	pP	22 07 05.7	+0.1
ASAR	**Alice Springs**	**77.34**	**203**	*eP*	**P**	**22 06 52.3**	**+0.1**
MMAI	**Mount Meron Ar**	**82.27**	**314**	P	**P**	**22 07 17.6**	**-1.4**
	comp=Z,1.7nm,0.6s,mb4.1,baz=58,slow=5.6,SNR=4.4						
MMAI	**Mount Meron Ar**	**82.27**	**314**	P	**P**	**22 07 17.6**	**-1.4**

IDC 28 21:59:44.1±12.0, **40.07N**×**14.55E**, **h388**km±47km, **mb3.2**/4, **mb1 3.1**/6, **mb1mx2.7**/26, **mbtmp3.0**/6, **Error ellipse: s-maj=194.0km s-min=40.7km az=36.0, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GERES	**GERESS Array B**	**8.80**	**356**	P	Pn	22 01 48.0	+0.2
	0.1nm,0.3s,baz=188,slow=13,SNR=3.4						
BRTR	**Keskin Array B**	**14.66**	**85**	P	P	22 02 53.6	+0.4
	0.2nm,0.3s,baz=264,slow=9.7,SNR=6.4						
HFS	**Hagfors**	**20.10**	**359**	P	P	22 03 49.4	-0.4
	3.8nm,0.6s,baz=170,slow=9.8,SNR=15						
NOA	**NORSAR Array B**	**21.10**	**355**	P	P	22 03 59.6	+0.7
	2.2nm,0.9s,baz=172,slow=9.5,SNR=3.5						
FINES	**FINESS Array B**	**22.54**	**15**	P	P	22 04 12.4	+0.4
	1.3nm,0.5s,baz=185,slow=9.2,SNR=12						
ARCES	**ARCESS Array B**	**30.10**	**8**	P	P	22 05 18.3	-0.7
	2.9nm,0.9s,baz=192,slow=8.7,SNR=7.3						

ISCJB ***28*** *22:08:35.6±0.

ALN	**Alexandroupoli**	**2.22**	**97**	*e*PB	**Pb**	**22 09 12.7**	**-3.6**
ALN				*e*SN	**Sn**	**22 09 41.4**	**+1.0**
ALN	**Alexandroupoli**	**2.22**	**97**	P	**Pn**	**22 09 12.5**	**-0.4**
ALN	**Alexandroupoli**	**2.22**	**97**	P	**Pn**	**22 09 12.5**	**-0.4**
ALN				*e*Sn	**Sn**	**22 09 41.4**	**+1.0**
AGG	**Agios Georgios**	**2.27**	**196**	*e*PN	**Pn**	**22 09 13.7**	**+0.1**
AGG	**Agios Georgios**	**2.27**	**196**	*e*Pn	**Pn**	**22 09 13.7**	**+0.1**

RSPR 28 22:26:28.0, 18.02N×65.72W, h12km, 6C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTP	**Monte Pirata**	**0.18**	**63**	⇑*e*P	Pg	22 26 32.2	+0.2
MTP	**Monte Pirata**	**0.18**	**63**	⇑*e*P	Pg	22 26 32.1	+0.1
MTP				*e*S	Sg	22 26 35.1	+0.4
CBYP	**Canovanas**	**0.28**	**333**	⇑*e*P	Pg	22 26 34.0	+0.1
CBYP	**Canovanas**	**0.28**	**333**	⇑*e*P	Pg	22 26 34.0	+0.1
CBYP				*e*S	Sg	22 26 38.5	+0.7
SJG	**San Juan**	**0.42**	**283**	⇑*e*P	Pg	22 26 36.4	0.0
SJG	**San Juan**	**0.42**	**283**	⇑*e*P	Pg	22 26 36.4	0.0
SJG				*e*S	Sg	22 26 42.3	+0.3
STVI	**Saint Thomas**	**0.80**	**65**	*e*S	Sg	22 26 52.8	-1.2
STVI	**Saint Thomas**	**0.80**	**65**	*e*S	Sg	22 26 52.8	-1.2

*ISCJB **28** 22:36:21.7±0.5, 24.40N±0.02×121.90E±0.03, h2km±3km, Error ellipse: s-maj=4.3km s-min=2.6km az=24.5*
*TAP **28** 22:36:21.9, 24.40N×121.85E, h18km, ML3.3, B*
*NEIC **28** 22:37:11.3, 24.32N×121.79E, h20km, ML4.1(TAP), After TAP.*
NEIC Recorded [4 TAP] in I-lan and [2 TAP] in Hua-lien.

ISC 28 22:36:22.0±0.4, 24.39N±0.02×121.90E±0.02, h0km±3km, n48, σ0.91/79, 4C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.15**	**285**	⇑*i*P	**Pg**	**22 36 25.6**	**+0.7**
ENA	baz=285			S	**Sg**	**22 36 27.8**	**+0.9**
EHP	**Heping Village**	**0.17**	**242**	*i*P	**Pg**	**22 36 26.0**	**+0.9**
EHP	baz=224			*i*S	**Sg**	**22 36 28.9**	**+1.6**
TWC	**Suao**	**0.22**	**348**	⇓*i*P	**Pg**	**22 36 27.0**	**+0.7**
TWC	baz=9.0			*i*S	**Sg**	**22 36 30.0**	**+0.7**
NACB	**Ninganchiao**	**0.35**	**233**	*e*P	**Pg**	**22 36 28.6**	**-0.2**
NACB				*e*S	**Sg**	**22 36 33.6**	**+0.3**
TWE	**Neicheng**	**0.39**	**327**	⇓*i*P	**Pg**	**22 36 29.6**	**+0.1**
TWE	baz=335			S	**Sg**	**22 36 34.7**	**0.0**
ENTT	**Nioudou**	**0.39**	**309**	⇓*i*P	**Pg**	**22 36 29.5**	**0.0**
ENTT	baz=314			S	**Sg**	**22 36 34.4**	**-0.2**
ILA	**Ilan**	**0.40**	**340**	⇓P	**Pg**	**22 36 30.2**	**+0.5**
ILA	baz=348			*i*S	**Sg**	**22 36 35.7**	**+0.8**
TWD	**Chiawan**	**0.41**	**222**	⇑*i*P	**Pg**	**22 36 29.9**	**0.0**
TWD	baz=219			S	**Sg**	**22 36 36.1**	**+0.8**
NNS	**Nan Shan**	**0.48**	**276**	⇑*i*P	**Pg**	**22 36 31.1**	**-0.2**
NNS	baz=276			S	**Sg**	**22 36 36.6**	**-0.9**
HWA	**Hwalien**	**0.49**	**213**	*e*P	**Pg**	**22 36 32.0**	**+0.6**
TWA	baz=213			*e*S	**Sg**	**22 36 43.2**	**+0.1**
YHNB	**Yeheng**	**0.55**	**300**	*e*P	**Pg**	**22 36 32.2**	**-0.4**
YHNB				*e*S	**Sg**	**22 36 38.8**	**-1.1**
NSK	**Sanguang**	**0.57**	**300**	⇓*i*P	**Pg**	**22 36 32.5**	**-0.4**
NSK	baz=303			*i*S	**Sg**	**22 36 39.3**	**-1.1**
TWB1	**Santiao Chiao**	**0.62**	**7**	*e*P	**Pg**	**22 36 34.7**	**+0.7**
TWB1	baz=13			S	**Sg**	**22 36 41.7**	**-0.3**
WHF	**Hehuan Shan**	**0.63**	**247**	⇑*i*P	**Pg**	**22 36 33.7**	**-0.4**
WHF	baz=252			*i*S	**Sg**	**22 36 41.8**	**-0.4**
TWA	**Mucha**	**0.66**	**334**	*e*P	**Pg**	**22 36 34.7**	**+0.1**
TWA	baz=328			*e*S	**Sg**	**22 36 43.2**	**+0.1**
TWT	**Tachien**	**0.68**	**259**	P	**Pg**	**22 36 34.5**	**-0.4**
TWT	baz=257			S	**Sg**	**22 36 43.5**	**-0.2**
NWF	**Wu-fen Shan**	**0.69**	**351**	⇓P	**Pg**	**22 36 35.4**	**+0.2**
NWF	baz=347			*i*S	**Sg**	**22 36 44.1**	**0.0**
TATO	**Taipei**	**0.69**	**327**	*e*P	**Pg**	**22 36 34.2**	**-1.1**
ESL	**Shilin**	**0.71**	**217**	*e*P	**Pg**	**22 36 35.1**	**-0.6**
ESL	baz=219			*e*S	**Sg**	**22 36 47.2**	**+2.2**
TAP1	**Taipei**	**0.73**	**332**	*e*P	**Pg**	**22 36 36.2**	**+0.1**
TWS1	**Kuangyinshan**	**0.83**	**328**	P	**Pg**	**22 36 38.2**	**+0.2**
TWS1	baz=332			S	**Sg**	**22 36 49.8**	**+0.9**
NSTT	**Nanjuang**	**0.85**	**287**	*e*P	**Pg**	**22 36 39.0**	**+0.7**
NSTT	baz=279			*e*S	**Sg**	**22 36 48.0**	**-1.5**
TWY	**Chenhua**	**0.92**	**343**	P	**Pg**	**22 36 39.8**	**0.0**
TWY	baz=347			*e*S	**Sg**	**22 36 51.9**	**+0.1**
YOJ	**Yonaguni jima**	**1.01**	**86**	*e*P	**Pg**	**22 36 41.6**	**+0.1**
YOJ	baz=75			*e*S	**Sg**	**22 36 56.0**	**+1.4**
EHY	**Hungye**	**1.03**	**211**	*e*P	**Pg**	**22 36 40.4**	**-1.2**
TWQ1	**Liyutan**	**1.03**	**268**	*e*P	**Pg**	**22 36 41.7**	**0.0**
TWQ1	baz=269			*e*S	**Sg**	**22 36 55.4**	**+0.4**
NSY	**Sanyi**	**1.04**	**272**	*e*P	**Pg**	**22 36 42.2**	**+0.3**
SMLT	**Sun Moon Lake**	**1.04**	**241**	*e*P	**Pg**	**22 36 41.1**	**-0.9**
SSLB	**Suanglung**	**1.05**	**236**	*e*P	**Pg**	**22 36 41.0**	**-1.2**
SSLB				*e*S	**Sg**	**22 36 56.2**	**+0.4**
TYC	**Yuchr**	**1.07**	**243**	P	**Pg**	**22 36 41.4**	**-1.1**
YULB	**Yu-li**	**1.14**	**209**	*e*P	**Pg**	**22 36 41.9**	**-1.9**
TCU	**Taichung**	**1.14**	**258**	*e*P	**Pg**	**22 36 45.0**	**+1.0**
TWF1	**Yuli**	**1.17**	**208**	*e*P	**Pg**	**22 36 41.8**	**-2.6**
YUS	**Yu-Shan**	**1.25**	**224**	*e*P	**Pg**	**22 36 45.0**	**-0.9**
YUS	baz=211			*e*S	**Sg**	**22 37 03.1**	**+1.0**
ALS	**Alishan**	**1.33**	**229**	*e*P	**Pg**	**22 36 46.7**	**-0.8**
CHN5	**Tsauling**	**1.37**	**235**	P	**Pn**	**22 36 47.4**	**-0.9**
CHN5	baz=235			S	**Sg**	**22 37 08.1**	**+2.1**
WGK	**Gukeng**	**1.41**	**241**	*e*P	**Pn**	**22 36 48.5**	**-0.3**
ELDTW	**Lidau**	**1.44**	**214**	*e*P	**Pn**	**22 36 46.9**	**-2.4**
CHN2	**Minshiung**	**1.56**	**237**	*e*P	**Pn**	**22 36 51.4**	**+0.5**
TPUB	**Ta-pu**	**1.59**	**227**	*e*P	**Pn**	**22 36 50.7**	**-0.6**
TPUB				*e*S	**Sn**	**22 37 14.3**	**+1.7**
STYT	**Tauyuan**	**1.61**	**221**	*e*P	**Pn**	**22 36 49.9**	**-1.7**
STYT	baz=221			*e*S	**Sn**	**22 37 13.3**	**+0.3**
CHY	**Chiayi**	**1.62**	**237**	*e*P	**Pn**	**22 36 51.2**	**-0.5**
WTP	**Ta-pu**	**1.64**	**226**	*e*P	**Pn**	**22 36 51.2**	**-0.8**
WTP	baz=226			*e*S	**Sn**	**22 37 15.2**	**+1.4**
TWG	**Pinlang**	**1.74**	**206**	*e*P	**Pn**	**22 36 52.0**	**-1.4**
CHN1	**Nanshi**	**1.74**	**227**	*e*P	**Pn**	**22 36 53.2**	**-0.2**
CHN1	baz=228			*e*S	**Sn**	**22 37 17.5**	**+1.3**
SGST	**Jiashian**	**1.77**	**223**	*e*P	**Pn**	**22 36 53.6**	**-0.3**
SGST	baz=215			*e*S	**Sn**	**22 37 18.7**	**+1.6**
SSD	**Sandimen**	**2.01**	**216**	*e*P	**Pn**	**22 36 57.4**	**+0.3**
SSD	baz=227			*e*S	**Sn**	**22 37 22.6**	**-0.3**
EAST	**Anshuo**	**2.22**	**206**	*e*P	**Pn**	**22 37 00.3**	**+0.3**

IDC 28 23:17:46.6±2.0, 1.97N×126.93E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.4/18, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=116.3km s-min=24.4km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.99**	**184**	P	Pn	23 22 21.2	-1.3
	0.1nm,0.3s,baz=14,slow=12,SNR=3.1						
WRA	**Warramunga Arr**	**22.96**	**162**	P	P	23 22 52.0	-0.8
	1.2nm,0.6s,baz=340,slow=11,SNR=16						
ASAR	**Alice Springs**	**26.37**	**165**	P	P	23 23 25.4	+0.7
	1.2nm,1.0s,baz=345,slow=7.2,SNR=4.2						
MKAR	**Makanchi Array**	**59.10**	**326**	P	P	23 27 48.9	+0.1
	0.3nm,0.5s,baz=120,slow=7.9,SNR=5.8						

IDC 28 23:31:45.8±1.8, 16.04S×176.51W, h358km±51km, mb3.4/5, mb1 3.6/6, mb1mx3.3/18, mbtmp3.5/6, Error ellipse: s-maj=150.8km s-min=22.5km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.04**	**66**	P	Pn	23 33 06.4	+0.2
	12nm,0.3s,baz=286,slow=15,SNR=16						
AFI				S	S	23 34 11.8	+0.6
	3.4nm,0.3s,baz=221,slow=20,SNR=2.1						
STKA	**Stephens Creek**	**41.13**	**240**	P	P	23 38 56.5	0.0
	1.5nm,0.6s,baz=87,slow=11,SNR=3.1						
WRA	**Warramunga Arr**	**46.79**	**258**	P	P	23 39 40.8	-0.4
	1.3nm,0.5s,baz=92,slow=7.1,SNR=26						
ASAR	**Alice Springs**	**47.07**	**252**	P	P	23 39 43.0	-0.2
	11nm,0.5s,baz=89,slow=7.9,SNR=192						
FITZ	**Fitzroy Crossi**	**55.15**	**259**	P	P	23 40 43.1	+0.3
	0.8nm,0.5s,baz=106,slow=7.4,SNR=3.8						
ILAR	**Eielson Array**	**83.67**	**12**	P	P	23 43 34.6	0.0
	0.4nm,0.6s,baz=219,slow=5.3,SNR=9.1						

*DJA **28** 23:36:04, 1.01N×95.65E, h10km, MLv4.6/7*
*IDC **28** 23:36:18.4±1.1, 1.25N×97.44E, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.9/24, mbtmp4.0/9, ML4.2/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/28, Error ellipse: s-maj=39.2km s-min=17.7km az=56.0*
*NEIC **28** 23:36:23.1±0.5, 1.15N×97.28E, h35km, mb4.1/9, Error ellipse: s-maj=12.1km s-min=8.1km az=57.0*
*ISCJB **28** 23:36:28.4±1.6, 1.36N±0.10×97.6E±0.1, h96km±11km, mb4.0/16, Error ellipse: s-maj=25.0km s-min=8.3km az=143.1*

ISC 28 23:36:28.6±1.8, 1.3N±0.1×97.6E±0.1, h81km±13km, n39, σ0.91/40, mb4.0/16, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPTI		**1.98**	**348**	P	**Pn**	**23 36 50.5**	**-10**
TPTI				S	**Sn**	**23 37 25.1**	**+0.8**
PSI	**Prapat**	**2.00**	**42**	P	**Pn**	**23 37 00.8**	**+0.3**
MNSI	**Mandailing Nat**	**2.07**	**104**	P	**Pn**	**23 37 01.0**	**-0.4**
MNSI				S	**Sn**	**23 37 23.6**	**-2.8**
PPI	**Padang Panjang**	**3.32**	**122**	P	**Pn**	**23 37 22.4**	**+4.1**
BKNI	**Bangkinang**	**3.60**	**106**	P	**Pn**	**23 37 28.8**	**+6.7**
	1.1nm2µm146nm,0.9s						
IPM	**Ipoh**	**4.67**	**47**	*e*Pn	**Pn**	**23 37 37.5**	**+0.8**
	25nm,0.8s						
IPM	**Ipoh**	**4.67**	**47**	P	**Pn**	**23 37 37.7**	**+1.1**
	1µm42nm,1.0s						
KULM	**Kulim**	**5.00**	**38**	*e*Pn	**Pn**	**23 37 40.6**	**-0.7**
	48nm,0.9s						
KULM	**Kulim**	**5.00**	**38**	P	**Pn**	**23 37 41.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**17.09**	**4**	P	**Pn**	**23 40 20.9**	**-1.5**
	0.3nm,0.3s,baz=196,slow=11,SNR=9.8						
CMAR	**Chiang Mai Arr**	**17.09**	**4**	P	**Pn**	**23 40 20.9**	**-1.5**
CHTO	**Chiang Mai**	**17.45**	**4**	*e*P	**Pn**	**23 40 26.2**	**-0.6**
	2.1nm,0.8s						
LSA	**Lhasa**	**28.89**	**348**	*e*P	**P**	**23 42 21.2**	**+1.4**
	1.9nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**41.77**	**122**	P	**P**	**23 44 10.9**	**+0.5**
	1.0nm,0.7s,mb3.7,baz=301,slow=9.1,SNR=11						
WRA	**Warramunga Arr**	**41.77**	**122**	P	**P**	**23 44 10.9**	**+0.5**
ASAR	**Alice Springs**	**43.16**	**127**	P	**P**	**23 44 22.4**	**+0.9**
	0.4nm,0.6s,mb3.3,baz=311,slow=8.2,SNR=6.5						
ASAR	**Alice Springs**	**43.16**	**127**	P	**P**	**23 44 22.4**	**+0.9**
KSAR	**Wonju Array Be**	**45.52**	**34**	P	**P**	**23 44 39.6**	**-0.5**
KSRS	**Korea Array**	**45.55**	**34**	P	**P**	**23 44 39.6**	**-0.7**
	4.2nm,0.8s,mb4.2,baz=216,slow=9.9,SNR=8.4						
KSRS				LR	LR	00 03 41.5	
	comp=Z,44nm,18.6s,baz=151,slow=36						
TKM2	**Tokmak 2**	**45.86**	**337**	*e*P	**P**	**23 44 42.6**	**-0.2**
	1.2nm,0.6s,mb3.8						
AAK	**Ala-Archa**	**46.05**	**336**	*e*P	**P**	**23 44 44.8**	**+0.6**
	4.0nm,0.7s,mb4.3						
EKS2	**Erkin-Say**	**46.37**	**336**	*e*P	**P**	**23 44 46.2**	**-0.5**
	1.8nm,0.8s,mb3.9						
SONM	**Songino Array**	**46.97**	**8**	P	**P**	**23 44 52.6**	**+1.3**
	0.8nm,0.5s,mb3.7,baz=189,slow=9.9,SNR=12						
SONM				PcP	PcP	23 46 23.3	+0.7
	0.5nm,0.9s,baz=190,slow=4.3,SNR=3.0						
SONM	**Songino Array**	**46.97**	**8**	P	**P**	**23 44 52.6**	**+1.3**
SONM				PcP	PcP	23 46 23.3	+0.7
ULN	**Ulaanbaatar**	**47.10**	**9**	*e*P	**P**	**23 44 53.3**	**+1.0**
	0.7nm,0.4s,mb3.7						
MK31	**Makanchi Array**	**47.23**	**346**	*e*P	**P**	**23 44 53.4**	**0.0**
MKAR	**Makanchi Array**	**47.23**	**346**	P	**P**	**23 44 53.4**	**0.0**
	1.2nm,0.6s,mb3.8,baz=162,slow=9.0,SNR=24						
MKAR	**Makanchi Array**	**47.23**	**346**	P	**P**	**23 44 53.4**	**0.0**
COEN	**Coen**	**47.65**	**110**	*e*P	**P**	**23 44 58.5**	**+1.3**
	15nm,0.8s,mb4.9						
KURK	**Kurchatov**	**51.78**	**345**	*e*P	**P**	**23 45 27.1**	**-0.9**
	3.3nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**53.15**	**132**	P	**P**	**23 45 37.6**	**-0.8**
	1.0nm,0.7s,mb4.0,baz=315,slow=8.6,SNR=3.1						
STKA	**Stephens Creek**	**53.15**	**132**	P	**P**	**23 45 37.6**	**-0.8**
ZAA0	**Zalesovo Array**	**53.51**	**351**	*e*P	**P**	**23 45 40.5**	**-0.1**
ZALV	**Zalesovo Beam**	**53.51**	**351**	P	**P**	**23 45 40.8**	**+0.2**
	2.4nm,0.5s,mb4.5,baz=179,slow=7.3,SNR=17						
ZALV	**Zalesovo Beam**	**53.51**	**351**	P	**P**	**23 45 40.8**	**+0.2**
ABKAR	**Akbulak array**	**57.60**	**332**	*e*P	**P**	**23 46 08.3**	**-1.7**
	2.3nm,0.8s,mb4.3						
EIL	**Elat**	**65.72**	**302**	P	**P**	**23 47 04.8**	**-0.3**
	2.0nm,0.5s,mb4.2,baz=90,slow=7.1,SNR=3.9						
EIL	**Elat**	**65.72**	**302**	P	**P**	**23 47 04.8**	**-0.3**
JCT	**Junction City**	**144.31**	**26**	*e*PKPdf	PKPdf	23 55 56.6	+0.6

*CSEM **28** 23:39:20.9±0.2, 37.63N×13.83E, h10km, ML4.2, Error ellipse: s-maj=4.8km s-min=2.7km az=29.0*
*ISCJB **28** 23:39:22.0±0.2, 37.65N±0.03×13.80E±0.03, h50km±4km, mb3.8/7, MS3.2/5, Error ellipse: s-maj=4.7km s-min=2.8km az=30.8*
*NEIC **28** 23:39:21.0, 37.54N×13.69E, h35km, ML4.2(ROM), After ROM.*
NEIC Felt at Palermo and Ragusa.
*ROM **28** 23:39:22.2±0.2, 37.62N×13.82E, h35km±2km, MI4.2/24, Error ellipse: s-maj=4.2km s-min=2.5km az=43.0*
*LDG **28** 23:39:23.9±0.1, 37.50N×13.83E, h25km, MI3.4/22, Error ellipse: s-maj=4.0km s-min=1.7km az=24.0*
*IDC **28** 23:39:24.8±2.3, 37.68N×13.76E, h56km±28km, mb3.5/7, mb1 3.5/15, mb1mx3.4/32, mbtmp3.4/15, ML3.9/7, MS3.3/8, Ms1 3.4/8, ms1mx2.9/34, Error ellipse: s-maj=21.7km s-min=12.7km az=122.0*

ISC 28 23:39:23.3±0.2, 37.65N±0.02×13.83E±0.02, h36km±5km, n163, σ0.99/209, mb3.8/7, MS3.2/5, 2C-16D, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALJA	**Alia**	**0.12**	**329**	⇓*i*Pg	**Pn**	**23 39 28.1**	**-1.5**
ALJA	26µm,0.3s			Sg	**Sn**	**23 39 33.5**	**-0.4**
ALJA	**Alia**	**0.12**	**329**	⇓*i*Pg	**Pn**	**23 39 28.1**	**-1.5**
ALJA	26µm,0.3s			Sg	**Sn**	**23 39 33.5**	**-0.4**
GIB	**Gibilmanna**	**0.38**	**24**	Pg	**Pn**	**23 39 33.3**	**+1.0**
GIB	**Gibilmanna**	**0.38**	**24**	Pg	**Pn**	**23 39 33.3**	**+1.0**
FAVR	**Favara**	**0.40**	**199**	Pg	**Pn**	**23 39 33.3**	**+0.7**
FAVR	**Favara**	**0.40**	**199**	Pg	**Pn**	**23 39 33.3**	**+0.7**
CORL	**Corleone**	**0.49**	**301**	⇓*i*Pg	**Pn**	**23 39 33.3**	**-0.5**
CORL	9µm,0.6s **Corleone**	**0.49**	**301**	⇓*i*Pg	**Pn**	**23 39 33.3**	**-0.5**
GALF	9µm,0.6s **Gagliano Caste**	**0.59**	**83**	⇓*i*Pg	**Pn**	**23 39 34.3**	**-0.9**
GALF	6µm,0.6s **Gagliano Caste**	**0.59**	**83**	⇓*i*Pg	**Pn**	**23 39 34.3**	**-0.9**
RAFF	6µm,0.6s **Raffo Rosso**	**0.60**	**135**	Pg	**Pn**	**23 39 33.6**	**-1.7**
RAFF	15µm,1.0s			Sg	**Sn**	**23 39 44.6**	**+0.8**
RAFF	**Raffo Rosso**	**0.60**	**135**	Pg	**Pn**	**23 39 33.6**	**-1.7**
RAFF	15µm,1.0s			Sg	**Sn**	**23 39 44.6**	**+0.8**
ECNV	**Catenanuova**	**0.70**	**94**	⇑*i*Pg	**Pn**	**23 39 36.8**	**+0.1**
ECNV	6µm,0.4s **Catenanuova**	**0.70**	**94**	⇑*i*Pg	**Pn**	**23 39 36.8**	**+0.1**
HVZN	6µm,0.4s **Vizzini**	**0.84**	**123**	⇓*i*Pg	**Pn**	**23 39 37.4**	**-1.3**
HVZN	29µm,0.5s			Sg	**Sn**	**23 39 50.5**	**+0.6**
HVZN	**Vizzini**	**0.84**	**123**	⇓*i*Pg	**Pn**	**23 39 37.4**	**-1.3**
HVZN				Sg	**Sn**	**23 39 50.5**	**+0.6**
ESLN	**Serra La Nave**	**0.91**	**87**	Pg	**Pn**	**23 39 39.7**	**+0.1**
ESLN	10µm,1.0s **Serra La Nave**	**0.91**	**87**	Pg	**Pn**	**23 39 39.7**	**+0.1**
IACL	10µm,1.0s **Alicudi**	**0.98**	**25**	Pg	**Pn**	**23 39 39.9**	**-0.7**
IACL	4µm,0.4s **Alicudi**	**0.98**	**25**	Pg	**Pn**	**23 39 39.9**	**-0.7**
HCRL	4µm,0.4s **Carlentini**	**1.02**	**110**	⇓*i*Pg	**Pn**	**23 39 39.7**	**-1.4**
HCRL	6µm,0.3s			Sg	**Sn**	**23 39 54.6**	**+0.4**
HCRL	**Carlentini**	**1.02**	**110**	⇓*i*Pg	**Pn**	**23 39 39.7**	**-1.4**
HCRL	6µm,0.3s			Sg	**Sn**	**23 39 54.6**	**+0.4**
HMDC	**Modica**	**1.02**	**132**	Pg	**Pn**	**23 39 39.9**	**-1.3**
HMDC	8µm,0.3s			Sg	**Sn**	**23 39 54.8**	**+0.5**
HMDC	**Modica**	**1.02**	**132**	Pg	**Pn**	**23 39 39.9**	**-1.3**
HMDC				Sg	**Sn**	**23 39 54.8**	**+0.5**
ERC	**Erice**	**1.06**	**292**	Pg	**Pn**	**23 39 42.3**	**+0.6**
ERC	**Erice**	**1.06**	**292**	Pg	**Pn**	**23 39 42.3**	**+0.6**
IFIL	**Filicudi I Eol**	**1.08**	**32**	Pg	**Pn**	**23 39 41.3**	**-0.7**
IFIL	4µm,0.4s			Sg	**Sn**	**23 39 57.9**	**+2.1**
IFIL	**Filicudi I Eol**	**1.08**	**32**	Pg	**Pn**	**23 39 41.3**	**-0.7**
IFIL				Sg	**Sn**	**23 39 57.9**	**+2.1**
SSY	**Sortino**	**1.10**	**116**	⇓*i*Pg	**Pn**	**23 39 41.2**	**-1.1**
SSY	22µm,0.5s			Sg	**Sn**	**23 39 57.0**	**+0.7**
SSY	**Sortino**	**1.10**	**116**	⇓*i*Pg	**Pn**	**23 39 41.2**	**-1.1**
SSY	22µm,0.5s			Sg	**Sn**	**23 39 57.0**	**+0.7**
HAGA	**Augusta**	**1.11**	**108**	⇓*i*Pg	**Pn**	**23 39 41.1**	**-1.3**
HAGA	23µm,1.3s			Sg	**Sn**	**23 39 56.8**	**+0.3**
HAGA	**Augusta**	**1.11**	**108**	⇓*i*Pg	**Pn**	**23 39 41.1**	**-1.3**
HAGA	23µm,1.3s			Sg	**Sn**	**23 39 56.8**	**+0.3**
AGST	**Augusta-Monte**	**1.18**	**109**	⇓*i*Pg	**Pn**	**23 39 42.1**	**-1.2**
AGST	15µm,0.6s			Sg	**Sn**	**23 39 58.5**	**+0.4**
AGST	**Augusta-Monte**	**1.18**	**109**	⇓*i*Pg	**Pn**	**23 39 42.1**	**-1.2**
AGST				Sg	**Sn**	**23 39 58.5**	**+0.4**
USI	**Ustica**	**1.18**	**334**	Pg	**Pn**	**23 39 42.8**	**-0.5**
USI				Sg	**Sn**	**23 39 58.6**	**+0.5**
USI	**Ustica**	**1.18**	**334**	Pg	**Pn**	**23 39 42.8**	**-0.5**
USI				Sg	**Sn**	**23 39 58.6**	**+0.5**
LLI	**Lipari**	**1.19**	**48**	Pg	**Pn**	**23 39 43.4**	**-0.1**
LLI	12µm,0.7s **Lipari**	**1.19**	**48**	Pg	**Pn**	**23 39 43.4**	**-0.1**
HAVL	12µm,0.7s **Avola**	**1.24**	**123**	Pg	**Pn**	**23 39 43.2**	**-0.9**
HAVL	18µm,0.6s **Avola**	**1.24**	**123**	Pg	**Pn**	**23 39 43.2**	**-0.9**
MILZ	18µm,0.6s **Milazzo**	**1.27**	**60**	Pg	**Pn**	**23 39 45.5**	**+0.9**
MILZ	3µm,0.8s **Milazzo**	**1.27**	**60**	Pg	**Pn**	**23 39 45.5**	**+0.9**
MSRU	3µm,0.8s **Castanea**	**1.46**	**65**	Pg	**Pn**	**23 39 47.6**	**+0.4**
MSRU	3µm,1.1s **Castanea**	**1.46**	**65**	Pg	**Pn**	**23 39 47.6**	**+0.4**
MTTG	3µm,1.1s **Motta San Giov**	**1.52**	**76**	Pg	**Pn**	**23 39 48.8**	**+0.8**
MTTG	**Motta San Giov**	**1.52**	**76**	Pg	**Pn**	**23 39 48.8**	**+0.8**
CEL	**Celeste**	**1.74**	**69**	*e*Pn	**Pn**	**23 39 51.9**	**+0.9**
CEL	**Celeste**	**1.74**	**69**	Pg	**Pn**	**23 39 51.8**	**+0.8**
CEL	823nm,0.9s **Celeste**	**1.74**	**69**	*e*Pn	**Pn**	**23 39 51.9**	**+0.8**
WDD	**Wield Dalam**	**1.86**	**162**	*e*Pn	**Pn**	**23 39 52.7**	**0.0**
WDD				*e*Sn	**Sn**	**23 40 15.9**	**+1.0**
WDD	**Wield Dalam**	**1.86**	**162**	Pg	**Pn**	**23 39 51.9**	**-0.8**
WDD	**Wield Dalam**	**1.86**	**162**	Pg	**Pn**	**23 39 51.9**	**-0.8**
WDD	**Wield Dalam**	**1.86**	**162**	*e*Pn	**Pn**	**23 39 52.7**	**0.0**
WDD				*e*Sn	**Sn**	**23 40 15.9**	**+1.0**
JOPP	**Joppolo**	**1.88**	**59**	Pg	**Pn**	**23 39 52.7**	**-0.3**
JOPP	228nm,0.5s **Joppolo**	**1.88**	**59**	Pg	**Pn**	**23 39 52.7**	**-0.3**
GRI	228nm,0.5s **Girifalco**	**2.35**	**59**	Pg	**Pn**	**23 40 00.1**	**+0.7**
GRI	278nm,0.7s **Girifalco**	**2.35**	**59**	Pg	**Pn**	**23 40 00.1**	**+0.7**
CARO	278nm,0.7s **Carolei**	**2.47**	**49**	Pg	**Pn**	**23 40 01.1**	**+0.1**
CARO	671nm,0.7s **Carolei**	**2.47**	**49**	Pg	**Pn**	**23 40 01.1**	**+0.1**
CUC	671nm,0.7s **Castrocucco**	**2.81**	**33**	*e*Pn	**Pn**	**23 40 06.0**	**+0.3**
CUC	**Castrocucco**	**2.81**	**33**	Pg	**Pn**	**23 40 06.0**	**+0.3**
CUC	161nm,0.5s **Castrocucco**	**2.81**	**33**	Pg	**Pn**	**23 40 06.0**	**+0.3**
TAR1	161nm,0.5s **Taranto**	**3.94**	**42**	*e*Pn	**Pn**	**23 40 21.8**	**+0.6**
VSL	**Villasalto**	**3.95**	**299**	*e*Pn	**Pn**	**23 40 21.7**	**+0.3**
VSL				*e*Sn	**Sn**	**23 41 06.5**	**0.0**
VSL	**Villasalto**	**3.95**	**299**	Pg	**Pn**	**23 40 22.3**	**+0.9**
VSL	259nm,0.5s **Villasalto**	**3.95**	**299**	*e*Pn	**Pn**	**23 40 21.7**	**+0.3**
VSL	**Villasalto**	**3.95**	**299**	Pg	**Pn**	**23 40 22.3**	**+0.9**
VSL	259nm,0.5s			*e*Sn	**Sn**	**23 41 06.5**	**0.0**
KEST	**Kesra**	**4.08**	**

SBF	**Sospel**	**7.88**	**324**	*e*Pn		**Pn**	**23 41 15.8**	**+0.5**
VLY	**Voula.Athens**	**7.90**	**85**	*e*P		**Pn**	**23 41 14.6**	**-1.0**
PTL	**Penteli**	**7.95**	**84**	*e*P		**Pn**	**23 41 16.0**	**-0.3**
DIVS	**Divibare**	**7.96**	**34**	*e*Pn		**Pn**	**23 41 17.8**	**+1.4**
LMR	**La Mourre**	**7.96**	**318**	*e*Pn		**Pn**	**23 41 16.9**	**+0.4**
LMR				*e*Sn		**Sn**	**23 42 41.8**	**-3.4**
	7.4nm,0.5s							
LMR	**La Mourre**	**7.96**	**318**	*e*Pn		**Pn**	**23 41 16.9**	**+0.4**
BARS	**Barje**	**8.00**	**47**	*e*Pn		**Pn**	**23 41 18.5**	**+1.6**
FRF	**La Foret Royal**	**8.05**	**319**	*e*Pn		**Pn**	**23 41 18.2**	**+0.6**
FRF				*e*Sn		**Sn**	**23 42 44.0**	**-3.3**
	6.4nm,0.5s							
GRUS	**Gruza**	**8.13**	**38**	*e*Pn		**Pn**	**23 41 19.9**	**+1.1**
MBDF	**Montbardon**	**8.85**	**325**	*e*Pn		**Pn**	**23 41 29.5**	**+0.9**
MBDF				*e*Sn		**Sn**	**23 43 03.4**	**-3.6**
	14nm,0.9s							
MBDF	**Montbardon**	**8.85**	**325**	*e*Pn		**Pn**	**23 41 29.5**	**+0.9**
SMRF	**Simiane la Rot**	**8.89**	**318**	*e*Pn		**Pn**	**23 41 29.7**	**+0.5**
SMRF				*e*Sn		**Sn**	**23 43 04.2**	**-3.9**
	2.2nm,0.5s							
SMRF	**Simiane la Rot**	**8.89**	**318**	*e*Pn		**Pn**	**23 41 29.7**	**+0.5**
APE	**Apeiranthos**	**9.33**	**90**	*e*P		**Pn**	**23 41 33.2**	**-2.1**
ORIF	**Oris-en-Rattie**	**9.41**	**323**	*e*Pn		**Pn**	**23 41 36.7**	**+0.4**
ORIF				*e*Sn		**Sn**	**23 43 16.7**	**-4.0**
	1.2nm,0.4s							
ORIF	**Oris-en-Rattie**	**9.41**	**323**	*e*Pn		**Pn**	**23 41 36.7**	**+0.4**
LPG	**La Plagne**	**9.47**	**328**	*e*Pn		**Pn**	**23 41 37.8**	**+0.7**
LPG				*e*Sn		**Sn**	**23 43 18.5**	**-3.7**
	1.8nm,0.6s							
LPG	**La Plagne**	**9.47**	**328**	*e*Pn		**Pn**	**23 41 37.8**	**+0.7**
LPL	**La Plagne**	**9.49**	**328**	*e*Pn		**Pn**	**23 41 38.1**	**+0.7**
LPL				*e*Sn		**Sn**	**23 43 18.9**	**-3.8**
	0.6nm,0.2s							
LPL	**La Plagne**	**9.49**	**328**	*e*Pn		**Pn**	**23 41 38.1**	**+0.7**
DAVOX	**Davos/Dischmat**	**9.59**	**343**	P		**Pn**	**23 41 40.3**	**+1.6**
	baz=172,slow=14							
DAVOX				LR		LR	23 45 48.0	
	comp=Z,153nm,20.3s,baz=134,slow=40							
DAVOX	**Davos/Dischmat**	**9.59**	**343**	P		**Pn**	**23 41 40.3**	**+1.6**
DAVOX	**Davos/Dischmat**	**9.59**	**343**	P		**Pn**	**23 41 40.3**	**+1.6**
LASF	**Ste Croix**	**9.91**	**314**	*e*Pn		**Pn**	**23 41 43.5**	**+0.3**
LASF				*e*Sn		**Sn**	**23 43 28.2**	**-4.9**
	2.3nm,0.3s							
LASF	**Ste Croix**	**9.91**	**314**	*e*Pn		**Pn**	**23 41 43.5**	**+0.3**
VIVF	**Saint-Julien-l**	**9.97**	**319**	*e*Pn		**Pn**	**23 41 44.4**	**+0.5**
VIVF				*e*Sn		**Sn**	**23 43 29.6**	**-4.8**
	1.2nm,0.5s							
VIVF	**Saint-Julien-l**	**9.97**	**319**	*e*Pn		**Pn**	**23 41 44.4**	**+0.5**
MTLF	**Montolieu**	**10.51**	**306**	*e*Pn		**Pn**	**23 41 51.6**	**+0.2**
MTLF				*e*Sn		**Sn**	**23 43 42.3**	**-5.5**
	2.3nm,0.4s							
CABF	**La Chapelle**	**10.64**	**330**	*e*Pn		**Pn**	**23 41 53.9**	**+0.8**
CABF				*e*Sn		**Sn**	**23 43 46.3**	**-4.6**
	0.6nm,0.3s							
CABF	**La Chapelle**	**10.64**	**330**	*e*Pn		**Pn**	**23 41 53.9**	**+0.8**
GERES	**GERESS Array B**	**11.20**	**360**	P		**Pn**	**23 42 01.6**	**+0.9**
	0.3nm,0.3s,baz=173,slow=14,SNR=3.9							
GERES				LR		LR	23 47 11.4	
	comp=Z,150nm,19.5s,baz=146,slow=42							
GERES	**GERESS Array B**	**11.20**	**360**	P		**Pn**	**23 42 01.6**	**+0.9**
GERES	**GERESS Array B**	**11.20**	**360**	P		**Pn**	**23 42 01.6**	**+0.9**
HINF	**Hinteralfeld**	**11.38**	**335**	*e*Pn		**Pn**	**23 42 04.2**	**+0.9**
HINF				*e*Sn		**Sn**	**23 44 04.0**	**-5.0**
	2.4nm,0.6s							
HINF	**Hinteralfeld**	**11.38**	**335**	*e*Pn		**Pn**	**23 42 04.2**	**+0.9**
CAF	**Calviac**	**11.45**	**313**	*e*Pn		**Pn**	**23 42 04.2**	**0.0**
CAF				*e*Sn		**Sn**	**23 44 04.6**	**-6.1**
	2.0nm,0.4s							
CAF	**Calviac**	**11.45**	**313**	*e*Pn		**Pn**	**23 42 04.2**	**0.0**
EPF	**Esparros**	**11.61**	**302**	*e*Pn		**Pn**	**23 42 06.4**	**-0.1**
EPF				*e*Sn		**Sn**	**23 44 08.5**	**-6.3**
	1.0nm,0.3s							
SMF	**Signal de Mont**	**11.65**	**324**	*e*Pn		**Pn**	**23 42 07.0**	**+0.1**
SMF				*e*Sn		**Sn**	**23 44 09.8**	**-5.7**
	0.9nm,0.3s							
SMF	**Signal de Mont**	**11.65**	**324**	*e*Pn		**Pn**	**23 42 07.0**	**+0.1**
RJF	**Les Rejaudoux**	**11.98**	**314**	*e*Pn		**Pn**	**23 42 11.7**	**+0.2**
RJF				*e*Sn		**Sn**	**23 44 17.8**	**-6.0**
	1.3nm,0.5s							
RJF	**Les Rejaudoux**	**11.98**	**314**	*e*Pn		**Pn**	**23 42 11.7**	**+0.2**
BGF	**Bois d'Agland**	**12.07**	**321**	*e*Pn		**Pn**	**23 42 13.1**	**+0.5**
BGF				*e*Sn		**Sn**	**23 44 19.9**	**-5.9**
	5.1nm,0.7s							
BGF	**Bois d'Agland**	**12.07**	**321**	*e*Pn		**Pn**	**23 42 13.1**	**+0.5**
ETSF	**Etsaut**	**12.18**	**300**	*e*Pn		**Pn**	**23 42 13.9**	**-0.3**
ETSF				*e*Sn		**Sn**	**23 44 21.9**	**-6.6**
	2.1nm,0.6s							
LFF	**La Frestale**	**12.24**	**311**	*e*Pn		**Pn**	**23 42 15.0**	**0.0**
LFF				*e*Sn		**Sn**	**23 44 23.7**	**-6.4**
	1.7nm,0.4s							
LFF	**La Frestale**	**12.24**	**311**	*e*Pn		**Pn**	**23 42 15.0**	**0.0**
CLL	**Collm**	**13.67**	**358**	*e*(pP)			23 42 38.0	
CLL				*e*			23 42 46.0	
CLL				L			23 48 00.0	
	comp=Z,100nm,18.0s							
ESDC	**Sonseca Array**	**14.05**	**284**	P		**Pn**	**23 42 41.4**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=96,slow=13,SNR=3.1							
ESDC				LR		LR	23 48 10.1	
	comp=Z,163nm,18.2s,baz=355,slow=38							
ESDC	**Sonseca Array**	**14.05**	**284**	P		**Pn**	**23 42 41.4**	**+1.6**
ESDC	**Sonseca Array**	**14.05**	**284**	P		**Pn**	**23 42 41.4**	**+1.6**
BRTR	**Keskin Array B**	**15.61**	**76**	P		**Pn**	**23 43 02.7**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=292,slow=13,SNR=3.5							
BRTR	**Keskin Array B**	**15.61**	**76**	P		**Pn**	**23 43 02.7**	**+2.2**
AKASG	**Malin Array Be**	**17.05**	**35**	P		**Pn**	**23 43 18.5**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=228,slow=11,SNR=6.5							
AKASG	**Malin Array Be**	**17.05**	**35**	P		**Pn**	**23 43 18.5**	**-0.2**
MMAI	**Mount Meron Ar**	**18.19**	**98**	P		**Pn**	**23 43 34.0**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=286,slow=10,SNR=6.6							
MMAI	**Mount Meron Ar**	**18.19**	**98**	P		**Pn**	**23 43 34.0**	**+1.1**
MMAI	**Mount Meron Ar**	**18.19**	**98**	P		**Pn**	**23 43 34.0**	**+1.1**
EIL	**Elat**	**19.27**	**108**	P		**Pn**	**23 43 45.5**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=298,slow=6.9,SNR=6.3							
EIL	**Elat**	**19.27**	**108**	P		**Pn**	**23 43 45.5**	**-0.5**
HFS	**Hagfors**	**22.51**	**360**	P		**P**	**23 44 18.2**	**-1.3**
	comp=Z,1.4nm,0.6s,mb3.6,baz=189,slow=18,SNR=4.2							
HFS				LR		LR	23 54 55.8	
	comp=Z,108nm,18.1s,MS3.3,baz=257,slow=41							
HFS	**Hagfors**	**22.51**	**360**	P		**P**	**23 44 18.2**	**-1.3**
NOA	**NORSAR Array B**	**23.47**	**357**	P		**P**	**23 44 29.6**	**+0.1**
	comp=Z,1.0nm,0.9s,mb3.3,baz=172,slow=12,SNR=3.2							
NOA				LR		LR	23 54 48.6	
	comp=Z,53nm,19.0s,MS3.0,baz=180,slow=39							
NOA	**NORSAR Array B**	**23.47**	**357**	P		**P**	**23 44 29.6**	**+0.1**
NOA	**NORSAR Array B**	**23.47**	**357**	P		**P**	**23 44 29.6**	**+0.1**
FINES	**FINESS Array B**	**25.02**	**14**	P		**P**	**23 44 42.8**	**-0.8**
	comp=Z,1.1nm,1.2s,mb4.2,baz=198,slow=11,SNR=5.3							
FINES	**FINESS Array B**	**25.02**	**14**	P		**P**	**23 44 42.8**	**-0.8**
FINES	**FINESS Array B**	**25.02**	**14**	P		**P**	**23 44 42.8**	**-0.8**
TORD	**Torodi Ar. Bea**	**26.69**	**207**	P		**P**	**23 44 59.3**	**+0.1**
	comp=Z,0.8nm,0.7s,mb3.4,baz=15,slow=9.7,SNR=5.0							
TORD				LR		LR	23 57 17.6	
	comp=Z,49nm,19.8s,MS3.1,baz=355,slow=40							
TORD	**Torodi Ar. Bea**	**26.69**	**207**	P		**P**	**23 44 59.3**	**+0.1**
TORD	**Torodi Ar. Bea**	**26.69**	**207**	P		**P**	**23 44 59.3**	**+0.2**
ARCES	**ARCESS Array B**	**32.57**	**8**	P		**P**	**23 45 50.8**	**+0.1**
	comp=Z,4.1nm,0.9s,mb4.3,baz=208,slow=9.2,SNR=2.3							
ARCES				LR		LR	00 00 00.2	
	comp=Z,80nm,20.8s,MS3.4,baz=197,slow=38							
ARCES	**ARCESS Array B**	**32.57**	**8**	P		**P**	**23 45 50.8**	**+0.1**
ARCES	**ARCESS Array B**	**32.57**	**8**	P		**P**	**23 45 50.8**	**+0.1**
MSKU	**Masuku**	**39.10**	**180**	LR		LR	00 05 14.8	
	comp=Z,46nm,18.2s,MS3.4,baz=40,slow=40							
MKAR	**Makanchi Array**	**50.05**	**56**	P		**P**	**23 48 13.0**	**-1.3**
	comp=Z,0.4nm,0.6s,mb3.6,baz=287,slow=7.8,SNR=5.5							
MKAR	**Makanchi Array**	**50.05**	**56**	P		**P**	**23 48 13.0**	**-1.3**
BOSA	**Boshof**	**66.78**	**169**	P		**P**	**23 50 10.9**	**0.0**
	comp=Z,1.4nm,0.8s,mb4.1,baz=6.6,slow=8.6,SNR=4.1							
BOSA	**Boshof**	**66.78**	**169**	P		**P**	**23 50 10.9**	**0.0**
BOSA	**Boshof**	**66.78**	**169**	P		**P**	**23 50 10.9**	**0.0**

*MOS **28** 23:42:48.6±1.7,52.87N×160.09E,h41km,mb4.2/1, Error ellipse: s-maj=18.7km s-min=11.7km az=92.0*
*ISCJB **28** 23:42:50.7±0.7,52.84N±0.05×159.95E±0.07,h60km±5km, mb4.0/7, Error ellipse: s-maj=9.6km s-min=5.0km az=137.7*
*KRSC **28** 23:42:51.6±1.1,52.84N×159.93E,h45km±35km,ML4.0*
*NEIC **28** 23:42:54.2±1.7,53.05N×159.53E,h75km±16km,mb3.9/1, Error ellipse: s-maj=55.4km s-min=25.9km az=182.0*
*IDC **28** 23:42:54.8±3.1,53.37N×159.67E,h64km±33km,mb3.6/6, mb1 3.7/6,mb1mx3.3/26,mbtmp3.6/6, Error ellipse: s-maj=42.1km s-min=29.3km az=17.0*

ISC 28 23:42:51.6±0.7,52.84N±0.05×159.94E±0.07,h53km±5km, n50,σ1926/72,mb4.0/7,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.26**	**11**	*e*P	**Pn**	**23 42 59.9**	**-0.8**
SPN				*i* S	**Sn**	**23 43 06.0**	**-1.3**
SPN	**Mys Shipunski**	**0.26**	**11**	PN	**Pn**	**23 42 59.9**	**-0.8**
SPN				S	**Sn**	**23 43 06.0**	**-1.3**
NLC	**Nalytchevo**	**0.49**	**313**	*e*P	**Pn**	**23 43 02.1**	**-0.8**
NLC				*i* S	**Sn**	**23 43 10.0**	**-1.1**
NLC	**Nalytchevo**	**0.49**	**313**	PN	**Pn**	**23 43 02.1**	**-0.8**
NLC				S	**Sn**	**23 43 10.0**	**-1.1**
UGLR	**Uglovaya**	**0.77**	**299**	*e*P	**Pn**	**23 43 06.3**	**-0.1**
SDLR	**Sedlovina**	**0.77**	**305**	*e*P	**Pn**	**23 43 06.2**	**-0.2**
SDLR				*i* S	**Sn**	**23 43 17.1**	**-0.1**
PET	**Petropavlovsk**	**0.80**	**284**	*e*P	**Pn**	**23 43 06.3**	**-0.5**
PET				*i* S	**Sn**	**23 43 17.3**	**-0.5**
PET	**Petropavlovsk**	**0.80**	**284**	*e*Pn	**Pn**	**23 43 06.7**	**-0.1**
PET				*e*Sn	**Sn**	**23 43 17.1**	**-0.8**
PET	**Petropavlovsk**	**0.80**	**284**	*e*PN	**Pn**	**23 43 06.3**	**-0.5**
PET				*e*S	**Sn**	**23 43 17.4**	**-0.4**
PET				pmax	pmax		
	comp=Z,142nm,0.4s						
PET				smax			
	comp=N,2μm,0.4s						
PET				smax			
	comp=E,2μm,0.6s						
AVH	**Avacha**	**0.84**	**301**	*e*P	**Pn**	**23 43 07.4**	**+0.1**
AVH				*i* S	**Sn**	**23 43 19.2**	**+0.4**
KOK	**Koryaka**	**0.91**	**300**	*e*P	**Pn**	**23 43 08.1**	**-0.1**
KOK				*i* S	**Sn**	**23 43 20.2**	**-0.1**
RUS	**Russkaya**	**0.96**	**245**	*e*P	**Pn**	**23 43 08.1**	**-0.7**
RUS				*i* S	**Sn**	**23 43 20.5**	**-1.0**
RUS	**Russkaya**	**0.96**	**245**	PN	**Pn**	**23 43 08.1**	**-0.7**
RUS				S	**Sn**	**23 43 20.5**	**-1.0**
GRL	**Gorelyy**	**1.17**	**257**	*e*P	**Pn**	**23 43 12.1**	**+0.4**
GRL				*i* S	**Sn**	**23 43 27.0**	**+0.4**
KII	**Karymskiy**	**1.23**	**346**	*e*P	**Pn**	**23 43 12.7**	**+0.2**
KII				*i* S	**Sn**	**23 43 28.5**	**+0.4**
PEA0B	**Petropavlovsk-**	**1.38**	**282**	*e*Pn	**Pn**	**23 43 14.6**	**0.0**
PEA0B				*e*Sn	**Sn**	**23 43 29.7**	**-1.9**
PETK	**Petropavlovsk-**	**1.38**	**282**	P	**Pn**	**23 43 15.1**	**+0.6**
	comp=E,36nm,0.3s,baz=111,slow=14,SNR=847						
PETK				S	**Sn**	**23 43 31.6**	**-0.1**
	comp=E,76nm,0.3s,baz=73,slow=22,SNR=36						
PETK	**Petropavlovsk-**	**1.38**	**282**	P	**Pn**	**23 43 15.1**	**+0.6**
PETK				S	**Sn**	**23 43 31.6**	**-0.1**
PETK	**Petropavlovsk-**	**1.38**	**282**	PN	**Pn**	**23 43 15.1**	**+0.6**
PETK				S	**Sn**	**23 43 31.6**	**-0.1**
GNL	**Ganaly**	**1.48**	**306**	*e*P	**Pn**	**23 43 17.1**	**+1.3**
GNL				*i* S	**Sn**	**23 43 36.0**	**+2.1**
MKZ	**Mys Kozlova**	**2.02**	**31**	*e*P	**Pn**	**23 43 22.5**	**-0.7**
MKZ				*i* S	**Sn**	**23 43 45.0**	**-2.3**
MKZ	**Mys Kozlova**	**2.02**	**31**	PN	**Pn**	**23 43 22.5**	**-0.7**
MKZ				S	**Sn**	**23 43 45.0**	**-2.3**
MIPR	**Malaya Ipel'ka**	**2.02**	**255**	*e*P	**Pn**	**23 43 24.4**	**+1.2**
TUMR	**Tumrok**	**2.45**	**3**	*e*P	**Pn**	**23 43 31.0**	**+1.9**
KMNR	**Kamenistaya**	**2.93**	**3**	*e*P	**Pn**	**23 43 38.1**	**+2.5**
ESO	**Esso**	**3.18**	**347**	*e*P	**Pn**	**23 43 40.8**	**+1.8**
ESO	**Esso**	**3.18**	**347**	PN	**Pn**	**23 43 40.8**	**+1.8**
SKR	**Severo-Kuril's**	**3.21**	**229**	*e*PN	**Pn**	**23 43 42.5**	**+3.0**
SKR				*e*S	**Sn**	**23 44 17.6**	**+1.1**
SKR				smax			
	comp=E,100nm,0.5s						
SKR				smax			
	comp=Z,50nm,0.5s						
SKR				smax			
	comp=N,110nm,0.3s						
SMKR	**Semkarok**	**3.85**	**13**	*e*P	**Pn**	**23 43 50.6**	**+2.3**
SRKR	**Sorokina**	**3.89**	**10**	P	**Pn**	**23 43 51.2**	**+2.5**
SPITS	**Spitsbergen Ar**	**47.37**	**350**	P	**P**	**23 51 16.4**	**-3.2**
	comp=N,12nm,1.0s,mb4.8,baz=69,slow=6.5,SNR=6.3						
SPITS	**Spitsbergen Ar**	**47.37**	**350**	P	**P**	**23 51 16.4**	**-3.2**
SPITS	**Spitsbergen Ar**	**47.37**	**350**	P	**P**	**23 51 16.4**	**-3.2**
MKAR	**Makanchi Array**	**48.18**	**296**	P	**P**	**23 51 24.0**	**-2.2**
	comp=N,0.2nm,0.5s,mb3.4,baz=55,slow=6.7,SNR=6.3						
MKAR	**Makanchi Array**	**48.18**	**296**	P	**P**	**23 51 24.0**	**-2.2**
MKAR	**Makanchi Array**	**48.18**	**296**	P	**P**	**23 51 24.0**	**-2.2**
TKM2	**Tokmak 2**	**54.31**	**296**	*e*P	**P**	**23 52 09.4**	**-2.8**
	comp=N,0.9nm,0.6s,mb3.9						
TKM2	**Tokmak 2**	**54.31**	**296**	*e*P	**P**	**23 52 09.4**	**-2.8**
TKM2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
FINES	**FINESS Array B**	**60.32**	**336**	P	**P**	**23 52 53.5**	**-0.7**
	comp=Z,2.1nm,0.9s,mb4.2,baz=36,slow=5.2,SNR=5.1						
FINES	**FINESS Array B**	**60.32**	**336**	P	**P**	**23 52 53.5**	**-0.7**
FINES	**FINESS Array B**	**60.32**	**336**	P	**P**	**23 52 53.5**	**-0.7**
NOA	**NORSAR Array B**	**63.76**	**344**	P	**P**	**23 53 16.5**	**-0.8**
	comp=Z,1.0nm,0.8s,mb3.9,baz=14,slow=5.8,SNR=3.9						
NOA	**NORSAR Array B**	**63.76**	**344**	P	**P**	**23 53 16.5**	**-0.8**
NOA	**NORSAR Array B**	**63.76**	**344**	P	**P**	**23 53 16.5**	**-0.8**
HFS	**Hagfors**	**64.16**	**342**	P	**P**	**23 53 19.0**	**-0.9**
	comp=Z,2.4nm,1.0s,mb4.2,baz=47,slow=6.3,SNR=4.9						
HFS	**Hagfors**	**64.16**	**342**	P	**P**	**23 53 19.0**	**-0.9**
HFS	**Hagfors**	**64.16**	**342**	P	**P**	**23 53 19.0**	**-0.9**
TXAR	**Lajitas Array**	**70.82**	**67**	P	**P**	**23 54 04.0**	**+1.5**
	comp=Z,2.0nm,0.5s,mb3.3,baz=301,slow=4.7,SNR=4.2						
TXAR	**Lajitas Array**	**70.82**	**67**	P	**P**	**23 54 04.0**	**+1.5**
TXAR	**Lajitas Array**	**70.82**	**67**	P	**P**	**23 54 04.0**	**+1.5**

*ISK **28** 23:46:46.5,39.91N×32.42E,h6km,MD2.8*
*ISCJB **28** 23:46:47.3±0.4,39.95N±0.04×32.42E±0.03,h10km, Error ellipse: s-maj=5.4km s-min=3.3km az=22.7*
*CSEM **28** 23:46:47.1±0.2,39.96N×32.41E,h5km,MD2.8, Error ellipse: s-maj=5.1km s-min=3.4km az=14.0*
*DDA **28** 23:46:47.5,39.99N×32.42E,h7km±3km,Md2.8*

ISC 28 23:46:47.6±0.5,39.96N±0.03×32.42E±0.03,h7km±6km, n25,σ097/41,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LOD	**Lodumlu**	**0.27**	**105**	PG	**Pg**	**23 46 52.2**	**-0.8**
LOD				*e*SG	**Sg**	**23 46 56.6**	**0.0**
LOD	**Lodumlu**	**0.27**	**105**	*i* Pg	**Pg**	**23 46 52.2**	**-0.8**
LOD				*e*Sg	**Sg**	**23 46 56.6**	**0.0**
SGKT	**Sivrigoynuk**	**0.68**	**336**	*i* P	**Pg**	**23 46 59.9**	**-0.7**
SGKT				*i* S	**Sg**	**23 47 09.0**	**-0.4**
SGKT	**Sivrigoynuk**	**0.68**	**336**	*i* P	**Pg**	**23 46 59.9**	**-0.7**
SGKT				*i* S	**Sg**	**23 47 09.0**	**-0.4**
BBAL	**Bala**	**0.68**	**127**	*i* P	**Pg**	**23 47 01.2**	**+0.5**
BBAL				*i* S	**Sg**	**23 47 11.6**	**+2.0**
BBAL	**Bala**	**0.68**	**127**	*i* P	**Pg**	**23 47 01.2**	**+0.5**
BBAL				*i* S	**Sg**	**23 47 11.6**	**+2.0**
AFSR	**Af˙ar-Bala (A**	**0.71**	**135**	*e*PG	**Pg**	**23 47 01.0**	**-0.4**
AFSR				*e*SG	**Sg**	**23 47 10.1**	**-0.6**
AFSR	**Af˙ar-Bala (A**	**0.71**	**135**	*e*Pg	**Pg**	**23 47 01.0**	**-0.4**
AFSR				*e*Sg	**Sg**	**23 47 10.1**	**-0.6**
SVRH	**Sivrihisar-ESK**	**0.86**	**234**	*e*PG	**Pg**	**23 47 02.7**	**-1.5**
SVRH	**Sivrihisar-ESK**	**0.86**	**234**	*e*Pg	**Pg**	**23 47 02.7**	**-1.5**
ELDT	**Eldivan**	**0.93**	**55**	*i* P	**Pg**	**23 47 05.0**	**-0.5**
ELDT				*i* S	**Sg**	**23 47 18.9**	**+1.2**
ELDT	**Eldivan**	**0.93**	**55**	*i* P	**Pg**	**23 47 05.0**	**-0.6**
ELDT				*i* S	**Sg**	**23 47 18.9**	**+1.2**
MDU	**Mudurnu**	**1.05**	**299**	*e*PG	**Pg**	**23 47 07.7**	**-0.2**
MDU				*e*SG	**Sg**	**23 47 22.9**	**+1.4**
MDU	**Mudurnu**	**1.05**	**299**	*e*Pg	**Pg**	**23 47 07.7**	**-0.2**
MDU				*e*Sg	**Sg**	**23 47 22.9**	**+1.3**
CANT	**Cankiri**	**1.12**	**54**	*e*PN	**Pn**	**23 47 08.8**	**-1.0**
ESKT	**Eskisehir**	**1.29**	**251**	*i* P	**Pn**	**23 47 10.4**	**-1.7**
ESKT				*i* S	**Sg**	**23 47 29.9**	**+0.8**
SEYT	**Eskypehyr**	**1.29**	**251**	*i* P	**Pn**	**23 47 10.4**	**-1.7**
SEYT				*i* S	**Sg**	**23 47 29.9**	**+0.8**
SAFT	**Safranbolu**	**1.29**	**9**	*e*PN	**Pn**	**23 47 12.3**	**+0.2**
SAFT	**Safranbolu**	**1.29**	**9**	*e*Pn	**Pn**	**23 47 12.4**	**+0.2**
BORA	**Eskisehir**	**1.52**	**268**	*i* P	**Pn**	**23 47 15.8**	**+0.5**
BORA				*i* S	**Sn**	**23 47 38.5**	**+3.3**
BORA	**Eskisehir**	**1.52**	**268**	*i* P	**Pn**	**23 47 15.8**	**+0.6**
BORA				*i* S	**Sn**	**23 47 38.5**	**+3.3**
GULT	**Gulveren**	**1.54**	**289**	*e*PN	**Pn**	**23 47 15.1**	**-0.4**
GULT	**Gulveren**	**1.54**	**289**	*e*Pn	**Pn**	**23 47 15.1**	**-0.4**
CORM	**Corum**	**1.71**	**82**	*e*PN	**Pn**	**23 47 18.3**	**+0.5**
CORM	**Corum**	**1.71**	**82**	*e*Pn	**Pn**	**23 47 18.3**	**+0.5**

MEX 29 00:07:53.9±0.7,17.31N×96.36W,h84km±7km,MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VHO	**Vista Hermosa**	**0.43**	**237**	*i* P	Pn	00 08 06.7	-0.8
VHO				*i* S	Sn	00 08 16.3	-1.4
CMIG	**Matias Romero**	**1.42**	**99**	*e*P	Pn	00 08 17.3	-1.1
CMIG				*i* S	Sn	00 08 35.0	-2.0
UTMO	**Huajuapan**	**1.47**	**291**	*i* P	Pn	00 08 17.4	-1.7
UTMO				*i* S	Sn	00 08 36.5	-1.5
HUIG	**Huatulco**	**1.55**	**171**	*i* P	Pn	00 08 19.4	-0.7
HUIG				*i* S	Sn	00 08 37.9	-2.0
PNIG	**Pinotepa**	**1.93**	**242**	*i* P	Pn	00 08 23.2	-1.8
PNIG				*i* S	Sn	00 08 46.9	-1.7

IDC 29 00:09:37.6±1.3,3.82N×126.85E,h0km,mb3.5/6, mb1 3.7/6,mb1mx3.6/20,mbtmp3.6/6,Error ellipse: s-maj=102.3km s-min=19.4km az=71.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.82**	**183**	P	P	00 14 31.6	0.0
	0.6nm,0.6s,baz=0.0,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**24.73**	**163**	P	P	00 15 01.4	+0.5
	2.0nm,0.4s,baz=344,slow=10.0,SNR=26						
ASAR	**Alice Springs**	**28.17**	**166**	P	P	00 15 31.3	-0.6
	0.2nm,0.4s,baz=353,slow=6.7,SNR=3.5						
STKA	**Stephens Creek**	**38.17**	**159**	P	P	00 16 59.3	+0.4
	0.8nm,0.3s,baz=327,slow=8.9,SNR=3.2						
SONM	**Songino Array**	**47.25**	**341**	P	P	00 18 13.3	+0.8
	0.3nm,0.7s,baz=148,slow=8.5,SNR=2.6						
MKAR	**Makanchi Array**	**57.55**	**325**	P	P	00 19 28.5	-0.5
	0.3nm,0.6s,baz=118,slow=7.4,SNR=8.0						

*NEIC **29** 00:22:30.7±2.2,32.01S×179.78E,h394km±19km,mb4.3/3, Error ellipse: s-maj=26.3km s-min=14.2km az=46.0*
*ISCJB **29** 00:22:31.4±1.2,32.18S±0.09×179.5E±0.1,h401km±10km, mb4.0/7, Error ellipse: s-maj=18.9km s-min=14.5km az=163.9*
*IDC **29** 00:22:31.2±2.2,32.03S×179.64E,h396km±20km,mb3.7/6, mb1 3.8/7,mb1mx3.5/17,mbtmp3.7/7, Error ellipse: s-maj=22.3km s-min=15.2km az=30.0*

ISC 29 00:22:33.9±1.0,32.33S±0.08×179.4E±0.1,h405km±7km, n58,σ089/51,mb4.0/7,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**5.81**	**189**	*e*PN	**Pn**	**00 24 05.0**	**+0.6**
PUZ				*e*SN	**S**	**00 25 17.0**	**-1.3**
MWZ	**Matawai**	**6.18**	**194**	*e*PN	**Pn**	**00 24 09.4**	**+0.9**
URZ	**Urewera**	**6.20**	**197**

IPM	**Ipoh**	**3.27**	**38**	*e*Pn	**Pn**	**00 42 25.6**	**-1.4**
IPM				*e*Sn	**Sn**	**00 43 05.4**	**+0.7**
IPM	**Ipoh**	**3.27**	**38**	P	**Pn**	**00 42 25.8**	**-1.2**
KULM	**Kulim**	**3.75**	**26**	*e*Pn	**Pn**	**00 42 31.5**	**-2.1**
KULM				*e*Sn	**Sn**	**00 43 30.7**	**+14**
KULM	**Kulim**	**3.75**	**26**	P	**Pn**	**00 42 32.1**	**-1.5**
CMAR	**Chiang Mai Arr**	**16.46**	**360**	Pn	**Pn**	**00 45 26.2**	**+0.6**
	0.2nm,0.3s,baz=188,slow=12,SNR=2.6						
CMAR	**Chiang Mai Arr**	**16.46**	**360**	Pn	**Pn**	**00 45 26.2**	**+0.6**
FITZ	**Fitzroy Crossi**	**32.92**	**128**	LR	LR	01 02 24.9	
	comp=Z,50nm,19.2s,MS3.2,baz=314,slow=38						
WRA	**Warramunga Arr**	**40.91**	**124**	P	**P**	**00 49 12.6**	**-2.8**
	1.4nm,0.7s,mb3.7,baz=301,slow=9.1,SNR=18						
WRA				PcP	PcP	00 51 16.4	+1.1
	0.6nm,1.0s,baz=325,slow=2.8,SNR=4.7						
WRA	**Warramunga Arr**	**40.91**	**124**	P	**P**	**00 49 12.7**	**-2.8**
WRA				PcP	PcP	00 51 16.4	+1.1
ASAR	**Alice Springs**	**42.41**	**129**	P	**P**	**00 49 26.7**	**-1.0**
	0.3nm,0.7s,mb3.1,baz=297,slow=7.2,SNR=5.0						
ASAR				PcP	PcP	00 51 20.1	-0.1
	0.2nm,0.7s,baz=306,slow=3.8,SNR=2.8						
ASAR	**Alice Springs**	**42.41**	**129**	P	**P**	**00 49 26.7**	**-1.0**
ASAR				PcP	PcP	00 51 20.1	-0.1
KBL	**Kabul**	**42.82**	**323**	*e*P	**P**	**00 49 31.6**	**+0.7**
	1.3nm,0.5s,mb3.9						
TKM2	**Tokmak 2**	**45.88**	**336**	*e*P	**P**	**00 49 55.6**	**+0.4**
	1.2nm,0.8s,mb3.9						
SONM	**Songino Array**	**46.20**	**7**	P	**P**	**00 49 57.9**	**+0.2**
	0.3nm,0.6s,mb3.4,baz=187,slow=7.3,SNR=3.8						
SONM	**Songino Array**	**46.20**	**7**	P	**P**	**00 49 57.9**	**+0.2**
MK31	**Makanchi Array**	**47.03**	**344**	*e*P	**P**	**00 50 04.6**	**+0.5**
MKAR	**Makanchi Array**	**47.03**	**344**	P	**P**	**00 50 04.5**	**+0.4**
	0.8nm,0.7s,mb3.8,baz=158,slow=6.6,SNR=6.5						
MKAR	**Makanchi Array**	**47.03**	**344**	P	**P**	**00 50 04.5**	**+0.4**
ZALV	**Zalesovo Beam**	**53.18**	**350**	P	**P**	**00 50 50.1**	**-0.5**
	1.6nm,0.5s,mb4.2,baz=172,slow=7.7,SNR=9.7						
ZALV	**Zalesovo Beam**	**53.18**	**350**	P	**P**	**00 50 50.1**	**-0.5**
ABKAR	**Akbulak array**	**57.76**	**331**	*e*P	**P**	**00 51 24.0**	**+0.4**
	0.9nm,0.6s,mb4.0						
BR131	**Keskin Array S**	**69.97**	**312**	*e*P	**P**	**00 52 43.0**	**-1.2**
	0.7nm,0.6s,mb3.8						
BRTR	**Keskin Array B**	**69.97**	**312**	P	**P**	**00 52 43.9**	**-0.3**
	0.6nm,0.7s,mb3.6,baz=126,slow=7.4,SNR=3.6						
BRTR	**Keskin Array B**	**69.97**	**312**	P	**P**	**00 52 43.9**	**-0.3**
BUR08	**Bucovina Ar. S**	**77.71**	**318**	*e*P	**P**	**00 53 29.9**	**+0.6**
URZ	**Urewera**	**81.86**	**129**	LR	LR	01 33 59.9	
	comp=Z,53nm,18.4s,MS3.9,baz=5.2,slow=38						

GUC 29 01:03:26.5±0.3, 36°22S×72°18W, h97km±2km, MD3.1, ML3.5, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCHI	**Chillan**	**0.39**	**168**	⇓*i*P	Pn	01 03 39.1	-2.0
CCHI				*i* S	Sn	01 03 48.9	-3.2
CCHI				AML	AML	01 03 49.6	
	comp=E,4μm,0.5s						
COCH	**Cobquecura**	**0.50**	**280**	⇓*i*P	Pn	01 03 40.0	-1.9
COCH				*i* S	Sn	01 03 50.0	-3.4
COCH				AML	AML	01 03 51.5	
	comp=N,985nm,0.5s						
CNCO	**Chanco**	**0.56**	**329**	⇑*i*P	Pn	01 03 40.4	-2.0
CNCO				*i* S	Sn	01 03 50.6	-3.7
LNCH	**Linares**	**0.59**	**52**	⇓*i*P	Pn	01 03 39.6	-3.0
LNCH				*i* S	Sn	01 03 50.2	-4.5
LNCH				AML	AML	01 03 50.9	
	comp=E,2μm,0.4s						
TALC	**Talca**	**0.93**	**28**	*i* P	Pn	01 03 43.5	-2.4
TALC				*i* S	Sn	01 03 56.2	-4.2
NICH	**Los Niches**	**1.44**	**33**	⇓*i*P	Pn	01 03 49.8	-2.0
NICH				*i* S	Sn	01 04 06.8	-4.2
LMEL	**Las Melosas**	**2.87**	**35**	⇑*e*P	Pn	01 04 09.8	-0.6
LMEL				*i* S	Sn	01 04 40.2	-3.9
LMEL				AML	AML	01 04 49.3	
	comp=N,144nm,0.1s						
ROCH	**El Roble**	**3.38**	**17**	AML	AML	01 04 55.3	
	comp=N,242nm,0.4s						

*PGC **29** 01:13:18.2±2.4, 47°.36N×128°.89W, h10km, ML3.5/9, Mw4.1,296km Wsw of Tofino, Bc Off Coast Of Washington*
*ISCJB **29** 01:13:19.0±0.7, 47°.60N±0°.03×128°.72W±0°.07, h10km, mb3.8/5, MS3.7/2, Error ellipse: s-maj=7.5km s-min=4.4km az=157.8*
*NEIC **29** 01:13:19.9±1.0, 47°.53N×128°.79W, h10km, mb4.0/10, MW4.1(PGC), Error ellipse: s-maj=14.5km s-min=6.0km az=56.0*
*IDC **29** 01:13:21.8±2.3, 47°.70N×128°.65W, h0km, mb3.6/3, mb1 4.0/8, mb1mx3.7/25, mbtmp3.7/8, ML3.3/4, MS3.7/3, Ms1 3.7/3, ms1mx3.0/28, Error ellipse: s-maj=47.7km s-min=13.8km az=64.0*

ISC 29 01:13:20.8±0.7, 47°.67N±0°.04×128°.77W±0°.08, h10km, n87, σ1§12/97, mb3.8/5, MS3.7/2, 5D, Off coast of Washington

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OZB	**Mount Ozzard**	**2.54**	**58**	Pn	**Pn**	**01 14 01.0**	**-1.0**
OZB				Sn	**Sn**	**01 14 32.6**	**-0.3**
OZB	**Mount Ozzard**	**2.54**	**58**	⇑Pn	**Pn**	**01 14 01.0**	**-1.0**
OZB				⇑Sn	**Sn**	**01 14 32.6**	**-0.3**
BMSB	**Bamfield Mari**	**2.69**	**63**	⇑Pn	**Pn**	**01 14 03.2**	**-0.9**
GDR	**Gold River**	**2.78**	**40**	Pn	**Pn**	**01 14 05.4**	**0.0**
GDR	**Gold River**	**2.78**	**40**	⇓Pn	**Pn**	**01 14 05.4**	**0.0**
BTB	**Buttle Lake**	**2.81**	**49**	Pn	**Pn**	**01 14 05.3**	**-0.4**
BTB				Sn	**Sn**	**01 14 39.8**	**+0.2**
BTB	**Buttle Lake**	**2.81**	**49**	Pn	**Pn**	**01 14 05.3**	**-0.4**
BTB				⇓Sn	**Sn**	**01 14 39.8**	**+0.2**
WOSB	**Woss**	**2.89**	**29**	Pn	**Pn**	**01 14 07.3**	**+0.6**
WOSB	**Woss**	**2.89**	**29**	⇑Pn	**Pn**	**01 14 07.3**	**+0.6**
MAYB	**Maynard**	**2.93**	**20**	⇑Pn	**Pn**	**01 14 07.5**	**+0.1**
HOLB	**Holberg**	**3.01**	**8**	Pn	**Pn**	**01 14 08.4**	**0.0**
HOLB	**Holberg**	**3.01**	**8**	⇑Pn	**Pn**	**01 14 08.4**	**0.0**
MGB	**Mount Grey**	**3.03**	**62**	Pn	**Pn**	**01 14 07.8**	**-0.9**
MGB				Sn	**Sn**	**01 14 44.9**	**0.0**
MGB	**Mount Grey**	**3.03**	**62**	⇓Pn	**Pn**	**01 14 07.8**	**-0.9**
MGB				⇑Sn	**Sn**	**01 14 44.9**	**0.0**
PFB	**Port Renfrew**	**3.04**	**71**	⇓Pn	**Pn**	**01 14 07.1**	**-1.7**
ALB	**Alberni**	**3.07**	**57**	⇑Pn	**Pn**	**01 14 08.5**	**-0.8**
PHC	**Port Hardy**	**3.17**	**16**	Pn	**Pn**	**01 14 10.0**	**-0.6**
PHC	**Port Hardy**	**3.17**	**16**	⇓Pn	**Pn**	**01 14 10.0**	**-0.6**
CBB	**Campbell River**	**3.26**	**42**	Pn	**Pn**	**01 14 12.6**	**+0.6**
CBB				Sn	**Sn**	**01 14 51.8**	**+1.0**
CBB	**Campbell River**	**3.26**	**42**	⇑Pn	**Pn**	**01 14 12.6**	**+0.6**
CBB				⇑Sn	**Sn**	**01 14 51.8**	**+1.0**
NCRB	**Newcastle Ridg**	**3.27**	**32**	⇑Pn	**Pn**	**01 14 13.1**	**+1.1**
NLWA	**Neilton Lookou**	**3.33**	**93**	*e*Pn	**Pn**	**01 14 12.0**	**-0.9**
LZB	**Mount Lazard**	**3.44**	**72**	⇑Pn	**Pn**	**01 14 13.3**	**-1.1**
PGC	**Sidney**	**3.69**	**73**	*e*Pn	**Pn**	**01 14 16.6**	**-1.3**
GNW	**Green Mountain**	**4.02**	**89**	*e*Pn	**Pn**	**01 14 22.1**	**-0.2**
BBB	**Bella Bella**	**4.54**	**5**	Pn	**Pn**	**01 14 30.2**	**+0.7**
	36nm,0.3s,baz=196,slow=12,SNR=131						
BBB				Sn	**Sn**	**01 15 22.1**	**-0.3**
	baz=230,slow=7.9,SNR=1.6						
BBB	**Bella Bella**	**4.54**	**5**	Pn	**Pn**	**01 14 30.2**	**+0.7**
BBB				Sn	**Sn**	**01 15 22.1**	**-0.3**
JCW	**Jim Creek**	**4.63**	**81**	*e*Pn	**Pn**	**01 14 30.6**	**-0.1**
LON	**Longmire**	**4.83**	**98**	*e*Pn	**Pn**	**01 14 33.7**	**+0.3**
HOOD	**Mount Hood Mea**	**5.44**	**113**	*e*Pn	**Pn**	**01 14 43.0**	**+1.1**
	46nm,0.7s						
HOOD				*e*Sn	**Sn**	**01 15 46.5**	**+2.0**
ETW	**Entiat**	**5.70**	**88**	*e*Pn	**Pn**	**01 14 46.1**	**+0.6**
	26nm,0.5s						
RSW	**Rattlesnake Hi**	**6.40**	**98**	*e*Pn	**Pn**	**01 14 56.4**	**+1.4**
	12nm,0.5s						
HAWA	**Hanford**	**6.44**	**98**	*e*Pn	**Pn**	**01 14 56.6**	**+1.1**
	8.2nm,0.6s						
LNOR	**Lincton Mounta**	**7.42**	**100**	*e*Pn	**Pn**	**01 15 09.1**	**+0.1**
	7.7nm,0.6s						
NEW	**Newport**	**7.84**	**81**	*e*Pn	**Pn**	**01 15 14.9**	**+0.2**
	9.7nm,0.6s						
BMO	**Blue Mountains**	**8.43**	**105**	*e*Pn	**Pn**	**01 15 23.9**	**+1.1**
	4.6nm,0.8s						
WVOR	**Wild Horse Val**	**8.87**	**122**	*e*Pn	**Pn**	**01 15 24.9**	**-4.1**
BSMT	**Bassoo Peak**	**9.42**	**84**	*e*Pn	**Pn**	**01 15 36.5**	**0.0**
	3.4nm,0.7s						
JTMT	**Jette**	**9.77**	**84**	*e*Pn	**Pn**	**01 15 40.9**	**-0.3**
	4.4nm,0.6s						
SWMT	**Swartz Lake**	**9.98**	**85**	*e*Pn	**Pn**	**01 15 44.0**	**-0.2**
	3.0nm,0.8s						
MSO	**Missoula**	**10.12**	**89**	*e*Pn	**Pn**	**01 15 46.0**	**-0.1**
	3.5nm,0.7s						
SLMT	**Seeley Lake**	**10.36**	**87**	*e*Pn	**Pn**	**01 15 48.6**	**-0.7**
	4.3nm,0.7s						
CHMT	**Chamberlain Mo**	**10.57**	**88**	*e*Pn	**Pn**	**01 15 52.6**	**+0.4**
	1.8nm,0.5s						
DLBC	**Dease Lake**	**10.82**	**356**	Pn	**Pn**	**01 15 59.5**	**+4.0**
	0.1nm,0.3s,baz=198,slow=13,SNR=3.3						
DLBC	**Dease Lake**	**10.82**	**356**	Pn	**Pn**	**01 15 59.5**	**+4.0**
HLID	**Hailey**	**10.86**	**107**	*e*Pn	**Pn**	**01 15 56.1**	**0.0**
	6.6nm,1.2s						
DLMT	**Dillon**	**11.38**	**96**	*e*Pn	**Pn**	**01 16 04.3**	**+1.0**
	7.1nm,0.9s						
MCMT	**McKenzie Canyo**	**11.38**	**99**	*e*Pn	**Pn**	**01 16 04.2**	**+0.9**
	2.7nm,0.7s						
BOZ	**Bozeman (W)**	**11.95**	**93**	*e*Pn	**Pn**	**01 16 11.3**	**+0.2**
	1.3nm,0.6s						
NVAR	**Mina Array Bea**	**11.98**	**137**	Pn	**Pn**	**01 16 16.6**	**+5.1**
	0.1nm,0.3s,baz=312,slow=12,SNR=10						
NVAR				LR	LR	01 19 57.3	
	comp=Z,169nm,18.1s,baz=298,slow=33						
NVAR	**Mina Array Bea**	**11.98**	**137**	Pn	**Pn**	**01 16 16.6**	**+5.1**
EGMT	**Eagleton**	**12.78**	**81**	*e*Pn	**Pn**	**01 16 21.9**	**-0.5**
	15nm,0.8s						
RRI2	**Red Ridge**	**12.97**	**103**	*e*Pn	**Pn**	**01 16 23.6**	**-1.4**
	3.0nm,0.8s						
IMW	**Indian Meadow**	**13.00**	**100**	*e*Pn	**Pn**	**01 16 28.0**	**+2.6**
	10nm,0.9s						
TPAW	**Teton Pass**	**13.15**	**102**	*e*Pn	**Pn**	**01 16 24.5**	**-3.0**
	4.5nm,0.8s						
MOOW	**Moose Ponds**	**13.19**	**101**	*e*Pn	**Pn**	**01 16 28.9**	**+1.0**
	4.6nm,1.0s						
LOHW	**Long Hollow**	**13.34**	**101**	*e*Pn	**Pn**	**01 16 27.8**	**-2.2**
HWUT	**Hardware Ranch**	**13.65**	**110**	*e*Pn	**Pn**	**01 16 32.2**	**-2.1**
	6.3nm,1.4s						
DUG	**Dugway**	**13.69**	**117**	*e*Pn	**Pn**	**01 16 31.3**	**-3.6**
	14nm,1.6s						
RLMT	**Red Lodge**	**13.70**	**94**	*e*Pn	**Pn**	**01 16 36.6**	**+1.8**
	4.0nm,0.9s						
JLU	**Jordanelle**	**14.28**	**113**	*e*Pn	**Pn**	**01 16 41.1**	**-1.8**
	7.0nm,1.0s						
PD01	**Pinedale Array**	**14.37**	**103**	*e*Pn	**Pn**	**01 16 47.8**	**+3.7**
PD02	**Pinedale Array**	**14.38**	**103**	*e*Pn	**Pn**	**01 16 47.6**	**+3.4**
BW06	**Boulder Array**	**14.39**	**103**	*e*Pn	**Pn**	**01 16 42.5**	**-1.8**
	9.1nm,1.3s						
PDAR	**Pinedale Array**	**14.39**	**103**	Pn	**Pn**	**01 16 49.2**	**+4.9**
	0.0nm,0.3s,baz=300,slow=11,SNR=15						
PDAR	**Pinedale Array**	**14.39**	**103**	Pn	**Pn**	**01 16 49.2**	**+4.9**
MSU	**Marysvale**	**15.16**	**121**	*e*Pn	**Pn**	**01 16 53.6**	**-1.2**
	4.9nm,1.2s						
SRU	**San Rafael**	**15.75**	**116**	*e*Pn	**Pn**	**01 16 59.9**	**-2.7**
	7.1nm,0.9s						
PV04	**Paradox Valley**	**17.18**	**115**	*e*Pn	**Pn**	**01 17 21.9**	**+1.1**
RSSD	**Black Hills**	**17.55**	**93**	*e*P	**Pn**	**01 17 26.2**	**+0.8**
PHWY	**Pilot Hill**	**17.77**	**102**	*e*P	**Pn**	**01 17 26.8**	**-1.3**
	12nm,1.1s						
FFC	**Flin Flon**	**18.14**	**57**	*e*P	**Pn**	**01 17 33.4**	**+0.9**
	57nm,1.4s						
SDCO	**Great Sand Dun**	**19.70**	**112**	*e*P	**Pn**	**01 17 46.9**	**-4.6**
	1.3nm,0.9s						
ILAR	**Eielson Array**	**19.75**	**337**	P	**Pn**	**01 17 51.3**	**-0.6**
	0.0nm,0.3s,baz=142,slow=9.5,SNR=3.3						
ILAR	**Eielson Array**	**19.75**	**337**	P	**Pn**	**01 17 51.3**	**-0.6**
INK	**Inuvik**	**20.84**	**355**	P	**P**	**01 18 07.5**	**+5.3**
	3.1nm,1.1s,baz=163,slow=9.7,SNR=3.0						
INK				LR	LR	01 25 39.8	
	comp=Z,157nm,19.1s,MS3.4,baz=174,slow=36						
INK	**Inuvik**	**20.84**	**355**	P	**P**	**01 18 07.5**	**+5.3**
ANMO	**Albuquerque**	**20.94**	**119**	P	**P**	**01 18 05.8**	**+2.2**
	2.2nm,1.1s,baz=322,slow=9.8,SNR=5.0						
ANMO	**Albuquerque**	**20.94**	**119**	*e*P	**P**	**01 18 03.1**	**-0.5**
	8.8nm,1.5s						
ULM	**Lac du Bonnet**	**21.65**	**71**	P	**P**	**01 18 12.7**	**+1.5**
	1.5nm,0.4s,mb3.8,baz=279,slow=9.3,SNR=3.4						
ULM	**Lac du Bonnet**	**21.65**	**71**	*e*P	**P**	**01 18 11.4**	**+0.2**
	9.1nm,1.1s,mb4.1						
COLD	**Coldfoot**	**22.52**	**338**	*e*P	**P**	**01 18 20.9**	**+0.7**
	5.6nm,1.5s,mb3.8						
AMTX	**Amarillo**	**23.89**	**112**	*e*P	**P**	**01 18 33.0**	**-1.5**
	3.9nm,0.6s,mb4.0						
WMOK	**Wichita Mounta**	**25.82**	**109**	*e*P	**P**	**01 18 52.8**	**+0.8**
	12nm,1.5s,mb4.2						
TXAR	**Lajitas Array**	**26.66**	**124**	P	**P**	**01 19 01.9**	**+2.2**
	0.9nm,1.0s,mb3.3,baz=304,slow=8.8,SNR=6.1						
TXAR	**Lajitas Array**	**26.66**	**124**	P	**P**	**01 19 01.9**	**+2.2**
SADO	**Sadowa**	**33.99**	**76**	LR	LR	01 34 18.9	
	comp=Z,223nm,19.1s,MS3.9,baz=270,slow=37						

IDC 29 01:21:55.2±4.2, 7°.34S×155°.84E, h0km, mb3.9/6, mb1 3.9/6, mb1mx3.8/16, mbtmp3.9/6, Error ellipse: s-maj=129.5km s-min=28.2km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.32**	**237**	P	P	01 27 15.7	+1.0
	0.5nm,0.4s,baz=62,slow=9.5,SNR=8.2						
ASAR	**Alice Springs**	**26.58**	**230**	P	P	01 27 34.8	-0.4
	0.2nm,0.5s,baz=49,slow=11,SNR=3.1						
SONM	**Songino Array**	**70.08**	**327**	P	P	01 33 10.5	+1.4
	1.0nm,0.8s,baz=138,slow=6.5,SNR=7.1						
MKAR	**Makanchi Array**	**84.22**	**319**	P	P	01 34 28.9	+0.3
	2.1nm,0.7s,baz=100,slow=6.2,SNR=13						
ZALV	**Zalesovo Beam**	**84.94**	**326**	P	P	01 34 31.3	-0.8
	2.2nm,0.5s,baz=115,slow=5.6,SNR=7.7						
BVAR	**Borovoye Array**	**93.08**	**323**	P	P	01 35 09.2	-1.6
	0.3nm,0.6s,baz=81,slow=6.0,SNR=3.6						

MEX 29 01:26:47.2±0.4, 18°.09N×100°.80W, h66km±8km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.80**	**233**	*e*P	Pn	01 27 01.5	-1.5
ZIIG				*i* S	Sn	01 27 12.9	-1.7
MEIG	**Mezcala**	**1.13**	**98**	*e*P	Pn	01 27 06.1	-1.1
MEIG				*e*S	Sn	01 27 20.4	-1.7
CAIG	**El Cayaco**	**1.15**	**154**	*e*P	Pn	01 27 06.0	-1.4
CAIG				*e*S	Sn	01 27 20.7	-1.8

IDC 29 01:37:35.3±4.8, 4°.36S×138°.04E, h0km, mb4.1/1, mb1 3.9/3, mb1mx3.6/12, mbtmp3.7/3, ML4.0/1, Error ellipse: s-maj=203.6km s-min=30.5km az=85.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.90**	**193**	Pn	Pn	01 41 19.7	-0.8
	0.6nm,0.3s,baz=14,slow=11,SNR=18						
WRA				Sn	Sn	01 44 11.1	-6.5
	0.4nm,0.3s,baz=10,slow=22,SNR=5.4						
ASAR	**Alice Springs**	**19.60**	**191**	P	Pn	01 42 05.7	-0.8
	0.4nm,0.3s,baz=17,slow=9.1,SNR=23						
MKAR	**Makanchi Array**	**70.69**	**323**	P	P	01 48 53.1	+0.1
	1.3nm,0.6s,baz=106,slow=7.8,SNR=15						

RSPR 29 01:44:20.0, 18°.18N×68°.72W, h167km±2km, MD3.7/10, 9C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRPR	**Cabo Rojo, PR**	**1.54**	**96**	⇑*e*P	Pn	01 44 51.4	+0.1
CRPR	**Cabo Rojo, PR**	**1.54**	**96**	*e*S	Sn	01 45 15.4	+0.2
AGPR	**Aguadilla, PR**	**1.55**	**79**	⇑*e*P	Pn	01 44 52.1	+0.8
GBPR	**Guanica, Bosqu**	**1.76**	**96**	⇓*i*P	Pn	01 44 53.9	+0.3
GBPR				*e*S	Sn	01 45 19.8	+0.5
LRS	**Lares**	**1.78**	**86**	⇑*e*P	Pn	01 44 53.9	+0.1
AOPR	**Arecibo Observ**	**1.87**	**85**	⇑*e*P	Pn	01 44 54.7	-0.1
AOPR	**Arecibo Observ**	**1.87**	**85**	*e*S	Sn	01 45 22.4	+0.9
OBIP	**Obispado Ponce**	**2.01**	**94**	⇑*e*P	Pn	01 44 56.4	+0.1
OBIP	**Obispado Ponce**	**2.01**	**94**	*e*S	Sn	01 45 25.3	+1.0
CELP	**Cerrillos**	**2.04**	**93**	⇑*i*P	Pn	01 44 56.6	+0.1
CELP				*e*S	Sn	01 45 25.6	+0.9
ICM	**Isla Caja Muer**	**2.11**	**97**	⇑*e*P	Pn	01 44 57.3	-0.1
ICM	**Isla Caja Muer**	**2.11**	**97**	*e*S	Sn	01 45 26.2	0.0
SJG	**San Juan**	**2.44**	**91**	⇑*e*P	Pn	01 45 01.6	+0.3
SJG				*e*S	Sn	01 45 33.1	0.0
SJG	**San Juan**	**2.44**	**91**	⇑*e*P	Pn	01 45 01.4	+0.2
CPD	**Cerro la Pandu**	**2.67**	**93**	⇑*e*P	Pn	01 45 03.8	-0.1
CPD	**Cerro la Pandu**	**2.67**	**93**	*e*S	Sn	01 45 39.2	+1.2

BJI 29 01:50:59.2, 33°.22N×93°.68E, h10km, mb3.7/1, ML2.8/1, Ms3.3/1, Ms7 3.2/1, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**4.12**	**212**	Pn	Pn	01 52 04.3	+2.1
GTA	**Gaotai**	**7.92**	**37**	*e*P	Pn	01 52 57.5	+3.2
GTA				pP		01 53 01.3	
GTA				sP		01 53 03.5	
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						

*CSEM **29** 01:53:36.4±0.1, 41°.95N×23°.11E, h5km, MD2.6, Error ellipse: s-maj=3.6km s-min=2.6km az=61.0*
*SOF **29** 01:53:37.0, 41°.98N×23°.24E, h5km, MD2.6*
*THE **29** 01:53:37.1, 41°.91N×23°.10E, h2km±3km, ML2.6/7, Error ellipse: s-maj=3.9km s-min=1.7km az=273.0*
*BEO **29** 01:53:37.0±0.7, 41°.96N×23°.13E, h8km±6km, ML2.3/6*
*SKO **29** 01:53:37.1, 41°.93N×23°.15E, h9km, MD2.0, ML2.3*
*ATH **29** 01:53:38.1, 41°.87N×23°.20E, h4km±3km, MD3.0/7*

ISC 29 01:53:36.6±0.3, 41°.94N±0°.02×23°.11E±0°.03, h3km±4km, n62, σ0§88/99, 1C-2D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KKB	**Krupnik**	**0.08**	**197**	*i* Pg	**Pg**	**01 53 40.3**	**+2.1**
KKB	**Krupnik**	**0.08**	**197**	*i* Pg	**Pg**	**01 53 40.3**	**+2.1**
MMB	**Musomiste**	**0.58**	**127**	*i* P	**Pg**	**01 53 48.5**	**+0.8**
MMB	**Musomiste**	**0.58**	**127**	*i* P	**Pg**	**01 53 48.5**	**+0.8**
VTS	**Vitosha**	**0.66**	**6**	⇑*i*Pg	**Pg**	**01 53 49.6**	**+0.4**
VTS				*e*Sg	**Sg**	**01 53 58.3**	**+0.6**
VTS	**Vitosha**	**0.66**	**6**	P	**Pg**	**01 53 49.6**	**+0.4**
VTS				S	**Sg**	**01 53 58.2**	**+0.5**
VTS	**Vitosha**	**0.66**	**6**	*i* P	**Pg**	**01 53 49.6**	**+0.4**
VTS	**Vitosha**	**0.66**	**6**	*i* P	**Pg**	**01 53 49.6**	**+0.4**
VTS				S	**Sg**	**01 53 58.2**	**+0.5**
VAY	**Valandovo**	**0.74**	**214**	*i* Pg	**Pg**	**01 53 51.0**	**+0.2**
VAY				*i* Sg	**Sg**	**01 54 01.1**	**+0.6**
VAY				*e*Lg		01 54 01.3	
	comp=E,87nm,0.4s						
VAY				*e*Lg		01 54 01.3	
	comp=N,87nm,0.4s						
VAY	**Valandovo**	**0.74**	**214**	*i* Pg	**Pg**	**01 53 50.9**	**+0.1**
VAY				*i* Sg	**Sg**	**01 54 01.0**	**+0.6**
VAY				*e*Lg		01 54 01.3	
	comp=N,87nm,0.4s						
KNT	**Kendrikon**	**0.79**	**192**	P	**Pg**	**01 53 52.2**	**+0.4**
KNT				S	**Sg**	**01 54 02.2**	**+0.1**
KNT	**Kendrikon**	**0.79**	**192**	P	**Pg**	**01 53 52.2**	**+0.4**
NVR	**Nevrokopi**	**0.81**	**136**	*e*PB	**Pg**	**01 53 52.2**	**0.0**
NVR				*e*SG	**Sg**	**01 54 01.3**	**-1.5**
NVR	**Nevrokopi**	**0.81**	**136**	P	**Pg**	**01 53 52.0**	**-0.2**
NVR				S	**Sg**	**01 54 03.1**	**+0.3**
NVR	**Nevrokopi**	**0.81**	**136**	*e*Pb	**Pg**	**01 53 52.2**	**0.0**
NVR				*e*Sg	**Sg**	**01 54 01.3**	**-1.5**
NVR				S	**Sg**	**01 54 03.1**	**+0.3**
SRS	**Serrai**	**0.90**	**156**	P	**Pg**	**01 53 53.8**	**0.0**
SRS				S	**Sg**	**01 54 05.5**	**+0.1**
SRS	**Serrai**	**0.90**	**156**	P	**Pg**	**01 53 53.8**	**0.0**
SRS				S	**Sg**	**01 54 05.5**	**+0.1**
PGB	**Panagyurishte**	**0.99**	**52**	*i* P	**Pg**	**01 53 54.7**	**-0.9**
PGB	**Panagyurishte**	**0.99**	**52**	*i* P	**Pg**	**01 53 54.7**	**-0.9**
GRG	**Griva**	**1.12**	**209**	P	**Pg**	**01 53 58.0**	**-0.1**
GRG				S	**Sg**	**01 54 12.7**	**+0.1**
GRG	**Griva**	**1.12**	**209**	P	**Pg**	**01 53 58.0**	**-0.1**
GRG				S	**Sg**	**01 54 12.7**	**+0.1**
SOH	**Sokhos**	**1.13**	**171**	*e*PG	**Pg**	**01 53 58.7**	**-0.2**
SOH				*e*SG	**Sg**

ellipse: s-maj=4.4km s-min=2.8km az=163.0
LDG ***29*** *02:17:10.5±0.2,51°.64N×6°.97E,h1km,Md3.7/2,Ml3.3/34, Error ellipse: s-maj=2.7km s-min=2.4km az=26.0, Suspected Mining induced.*
BUG ***29*** *02:17:11.8,51°.55N×6°.91E,h1km,ML2.5*
BGR ***29*** *02:17:11.6±0.7,51°.67N×6°.90E,h1km,ML3.3/8,Error ellipse: s-maj=6.7km s-min=4.4km az=142.0*
BNS ***29*** *02:17:12.1±1.2,51°.58N×6°.81E,h1km,ML2.8*
PRU ***29*** *02:17:13.2,51°.51N×6°.97E,h0km*
STR ***29*** *02:17:16.4±0.3,51°.34N×7°.04E,h10km,Ml3.3,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 29 02:17:09.6±0.3,51°.59N±0'.02×6°.79E±0'.02,h0km,n154, σ1§**30**/264,**1D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRHE	**Rheinberg**	**0.15**	**241**	Pg	**Pg**	**02 17 15.1**	**+2.6**
BRHE				Sg	**Sg**	**02 17 18.8**	**+4.3**
BRHE	**Rheinberg**	**0.15**	**241**	Pg	**Pg**	**02 17 15.1**	**+2.6**
LAUG	**Laupendahl**	**0.26**	**157**	*e*Pg	**Pg**	**02 17 16.8**	**+2.3**
LAUG				*e*Sg	**Sg**	**02 17 20.7**	**+2.8**
	765nm,0.7s						
LAUG	**Laupendahl**	**0.26**	**157**	Pg	**Pg**	**02 17 16.8**	**+2.3**
BUG	**Bochum--Univer**	**0.34**	**116**⇓	*e*Pg	**Pg**	**02 17 17.6**	**+1.6**
BUG				Sg	**Sg**	**02 17 21.8**	**+1.4**
BD03	**Millendorf**	**0.62**	**194**	*e*Pg	**Pg**	**02 17 24.1**	**+2.7**
BNS	**Bensberg**	**0.67**	**159**	*e*Pg	**Pg**	**02 17 24.5**	**+2.0**
BNS				*e*Sg	**Sg**	**02 17 34.1**	**+3.0**
	512nm,0.4s						
BNS	**Bensberg**	**0.67**	**159**	Pg	**Pg**	**02 17 24.5**	**+2.0**
BA05	**Sindorf**	**0.68**	**187**	*e*Pg	**Pg**	**02 17 25.0**	**+2.4**
HOBG	**Hohbusch**	**0.70**	**150**	*e*Pg	**Pg**	**02 17 25.0**	**+2.0**
HOBG				*e*Sg	**Sg**	**02 17 34.1**	**+2.1**
	633nm,0.3s						
HOBG	**Hohbusch**	**0.70**	**150**	Pg	**Pg**	**02 17 25.0**	**+2.1**
HOBG				Sg	**Sg**	**02 17 34.1**	**+2.1**
	633nm,0.3s						
KLL	**Kalltalsperre**	**0.99**	**198**	*e*Pg	**Pg**	**02 17 30.6**	**+2.1**
KLL				*e*Sg	**Sg**	**02 17 44.6**	**+3.2**
	218nm,0.4s						
KLL	**Kalltalsperre**	**0.99**	**198**	Pg	**Pg**	**02 17 30.6**	**+2.1**
DREG	**Dreilaegerbach**	**0.99**	**201**	*e*Pg	**Pg**	**02 17 30.7**	**+2.2**
DREG				*e*Sg	**Sg**	**02 17 44.7**	**+3.3**
	351nm,0.3s						
DREG	**Dreilaegerbach**	**0.99**	**201**	Pg	**Pg**	**02 17 30.7**	**+2.1**
STB	**Steinbach**	**1.00**	**178**	*e*Pg	**Pg**	**02 17 30.5**	**+1.8**
STB				*e*Sg	**Sg**	**02 17 44.0**	**+2.4**
STB	**Steinbach**	**1.00**	**178**	Pg	**Pg**	**02 17 30.5**	**+1.8**
STB				Sg	**Sg**	**02 17 44.0**	**+2.4**
BEBN	**Eben Emael**	**1.06**	**222**	P	**Pg**	**02 17 31.7**	**+1.9**
MEM	**Membach**	**1.10**	**207**	P	**Pg**	**02 17 31.9**	**+1.3**
MEM	**Membach**	**1.10**	**207**	P	**Pg**	**02 17 31.9**	**+1.3**
HILG	**Hillesheim**	**1.30**	**183**	*e*Pg	**Pg**	**02 17 35.9**	**+1.4**
HILG				*e*Sg	**Sg**	**02 17 53.7**	**+2.4**
HILG	**Hillesheim**	**1.30**	**183**	Pg	**Pg**	**02 17 35.9**	**+1.4**
HILG				Sg	**Sg**	**02 17 53.7**	**+2.3**
KOE	**Koeppel**	**1.31**	**153**	*e*Pg	**Pg**	**02 17 35.6**	**+0.9**
KOE				*e*Sg	**Sg**	**02 17 53.5**	**+1.8**
	259nm,0.5s						
KOE	**Koeppel**	**1.31**	**153**	Pg	**Pg**	**02 17 35.6**	**+0.9**
KOE				Sg	**Sg**	**02 17 53.5**	**+1.9**
	259nm,0.5s						
BGG	**Burgeitz**	**1.43**	**166**	*e*Pg	**Pg**	**02 17 37.5**	**+0.5**
BGG				*e*Sg	**Sg**	**02 17 57.2**	**+1.7**
	104nm,0.2s						
BGG	**Burgeitz**	**1.43**	**166**	Pg	**Pg**	**02 17 37.5**	**+0.6**
BGG				Sg	**Sg**	**02 17 57.2**	**+1.7**
	104nm,0.2s						
BCLA	**Clavier**	**1.50**	**219**	P	**Pn**	**02 17 38.2**	**+0.5**
BCLA	**Clavier**	**1.50**	**219**	P	**Pn**	**02 17 38.1**	**+0.4**
ABH	**Alteburg**	**1.78**	**164**	Pn	**Pn**	**02 17 42.0**	**+0.5**
ABH				Sg	**Sg**	**02 18 04.8**	**-1.9**
RUP	**Ruppelstein**	**1.90**	**175**	Pn	**Pn**	**02 17 43.2**	**0.0**
RUP	**Ruppelstein**	**1.90**	**175**	Pg	**Pg**	**02 17 47.0**	**+1.1**
RUP				Sg	**Sg**	**02 18 10.8**	**+0.3**
SNF	**Seneffe**	**1.92**	**237**	P	**Pn**	**02 17 44.4**	**+1.0**
SNF	**Seneffe**	**1.92**	**237**	P	**Pn**	**02 17 44.4**	**+1.0**
GIVF	**Givet**	**1.94**	**221**	*e*Pn	**Pn**	**02 17 44.8**	**+1.1**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**02 18 09.6**	**+0.8**
	152nm,0.4s,SNR=1.0						
GIVF	**Givet**	**1.94**	**221**	*e*Pn	**Pn**	**02 17 44.8**	**+1.1**
	SNR=1.0						
GIVF				*e*Sn	**Sn**	**02 18 09.6**	**+0.8**
	76nm,0.4s,SNR=1.0						
WLF	**Walferdange**	**1.97**	**192**	P	**Pn**	**02 17 45.8**	**+1.7**
WLF	**Walferdange**	**1.97**	**192**	P	**Pn**	**02 17 45.8**	**+1.7**
GTTG	**Gvttingen**	**1.98**	**90**	*e*Pg	**Pg**	**02 17 48.0**	**+0.4**
GTTG				*e*Sg	**Sg**	**02 18 12.2**	**-1.0**
GTTG	**Gvttingen**	**1.98**	**90**	Pg	**Pg**	**02 17 48.0**	**+0.4**
GTTG				Sg	**Sg**	**02 18 12.2**	**-1.1**
DOU	**Dourbes**	**2.04**	**224**	P	**Pn**	**02 17 45.9**	**+0.8**
DOU	**Dourbes**	**2.04**	**224**	P	**Pn**	**02 17 45.9**	**+0.8**
BAIF	**Baives**	**2.24**	**228**	*e*Pn	**Pn**	**02 17 48.8**	**+0.9**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**02 18 17.1**	**+0.9**
	84nm,0.5s						
BAIF	**Baives**	**2.24**	**228**	*e*Pn	**Pn**	**02 17 48.8**	**+0.9**
	SNR=1.0						
BAIF				*e*Sn	**Sn**	**02 18 17.1**	**+0.9**
	42nm,0.5s						
CLZ	**Clausthal**	**2.25**	**82**	*e*Pn	**Pn**	**02 17 47.1**	**-0.8**
CLZ				*e*Pg	**Pg**	**02 17 51.9**	**-0.6**
CLZ				*e*Sg	**Sg**	**02 18 21.1**	**-0.6**
CLZ	**Clausthal**	**2.25**	**82**	Pn	**Pn**	**02 17 47.1**	**-0.8**
TOD	**Tromm**	**2.37**	**146**	Pn	**Pn**	**02 17 49.9**	**+0.3**
TOD				Sg	**Sg**	**02 18 23.9**	**-1.7**
KTD	**Kalmit**	**2.42**	**159**	Pn	**Pn**	**02 17 51.1**	**+0.8**
LANF	**Langenberg**	**2.69**	**166**	Pn	**Pn**	**02 17 54.2**	**+0.1**
LANF	**Langenberg**	**2.69**	**166**	Pn	**Pn**	**02 17 54.2**	**+0.1**
PAGF	**Fort de Pagny**	**3.12**	**193**	*e*Pn	**Pn**	**02 17 59.6**	**-0.3**
	baz=16						
PAGF	**Fort de Pagny**	**3.12**	**193**	*e*Pg	**Pg**	**02 18 09.4**	**+0.2**
	baz=19						
PAGF				*e*Sg	**Sg**	**02 18 50.2**	**+0.6**
	13nm,0.6s,baz=7.7						
PAGF	**Fort de Pagny**	**3.12**	**193**	*e*Pn	**Pn**	**02 17 59.6**	**-0.3**
	baz=16						
PAGF	**Fort de Pagny**	**3.12**	**193**	*e*Pg	**Pg**	**02 18 09.4**	**+0.2**
	baz=19						
PAGF				*e*Sg	**Sg**	**02 18 50.2**	**+0.6**
	6.6nm,0.6s,baz=7.7						
NEUB	**Neuenburg**	**3.15**	**95**	*e*Sg	**Sg**	**02 18 49.6**	**-1.1**
NEUB	**Neuenburg**	**3.15**	**95**	Sg	**Sg**	**02 18 49.6**	**-1.1**
MOX	**Moxa**	**3.19**	**105**	*e*Pn	**Pn**	**02 18 01.7**	**+0.8**
MOX				*e*Sg	**Sg**	**02 18 50.0**	**-1.9**
MOX	**Moxa**	**3.19**	**105**	Pn	**Pn**	**02 18 01.7**	**+0.8**
MOX				Sg	**Sg**	**02 18 50.0**	**-1.9**
CDF	**Champ du Feu**	**3.20**	**174**	*e*Pn	**Pn**	**02 18 01.2**	**+0.2**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**02 18 50.8**	**-1.4**
	29nm,0.5s						
CDF	**Champ du Feu**	**3.20**	**174**	*e*Pn	**Pn**	**02 18 01.2**	**+0.2**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**02 18 50.8**	**-1.4**
	14nm,0.5s						
STU	**Stuttgart**	**3.22**	**150**	*e*Pn	**Pn**	**02 18 02.7**	**+1.4**
STU				*e*Sn	**Sn**	**02 18 39.7**	**-0.6**
STU	**Stuttgart**	**3.22**	**150**	Pn	**Pn**	**02 18 02.7**	**+1.4**
STU				Sn	**Sn**	**02 18 39.7**	**-0.6**
MEZF	**Maizieres J'vi**	**3.29**	**201**	*e*Pn	**Pn**	**02 18 02.7**	**+0.4**
	baz=24,SNR=1.0						
MEZF	**Maizieres J'vi**	**3.29**	**201**	*e*Pg	**Pg**	**02 18 12.9**	**+0.4**
	baz=19						
MEZF				*e*Sg	**Sg**	**02 18 56.0**	**+0.9**
	40nm,0.5s,SNR=1.0						
MEZF	**Maizieres J'vi**	**3.29**	**201**	*e*Pn	**Pn**	**02 18 02.7**	**+0.4**
	baz=24,SNR=1.0						
MEZF	**Maizieres J'vi**	**3.29**	**201**	*e*Pg	**Pg**	**02 18 12.9**	**+0.4**
	baz=19						
MEZF				*e*Sg	**Sg**	**02 18 56.0**	**+0.9**
	20nm,0.5s,SNR=1.0						
ECH	**Echery**	**3.39**	**176**	Pn	**Pn**	**02 18 04.0**	**+0.4**
ECH				Sg	**Sg**	**02 18 58.5**	**+0.2**
ECH	**Echery**	**3.39**	**176**	Pn	**Pn**	**02 18 04.0**	**+0.4**
ECH				Sg	**Sg**	**02 18 58.5**	**+0.2**
GRA1	**Grafenberg Arr**	**3.40**	**122**	Pn	**Pn**	**02 18 04.6**	**+0.7**
GRA1				Sg	**Sg**	**02 18 59.2**	**+0.3**
GRF	**Grafenberg Arr**	**3.40**	**122**	*e*Pn	**Pn**	**02 18 04.6**	**+0.8**
GRF				*e*Sg	**Sg**	**02 18 59.2**	**+0.3**
THEF	**They Montfort**	**3.41**	**189**	Pn	**Pn**	**02 18 04.8**	**+0.9**
THEF	**They Montfort**	**3.41**	**189**	Pn	**Pn**	**02 18 04.8**	**+0.9**
BFO	**Black Forest**	**3.41**	**162**	*e*Pn	**Pn**	**02 18 04.6**	**+0.6**
BFO				*e*Sn	**Sn**	**02 18 43.7**	**-1.4**
BFO	**Black Forest**	**3.41**	**162**	Pn	**Pn**	**02 18 04.6**	**+0.6**
BFO				Sn	**Sn**	**02 18 43.7**	**-1.4**
SFTF	**Sexfontaines**	**3.57**	**199**	*e*Pn	**Pn**	**02 18 06.1**	**-0.1**
	baz=14						
SFTF	**Sexfontaines**	**3.57**	**199**	*e*Pg	**Pg**	**02 18 18.0**	**0.0**
	baz=21						
SFTF				*e*Sg	**Sg**	**02 19 04.9**	**+0.6**
	25nm,0.4s						
SFTF	**Sexfontaines**	**3.57**	**199**	*e*Pn	**Pn**	**02 18 06.1**	**-0.1**
	baz=14						
SFTF	**Sexfontaines**	**3.57**	**199**	*e*Pg	**Pg**	**02 18 18.0**	**0.0**
	baz=21						
SFTF				*e*Sg	**Sg**	**02 19 04.9**	**+0.6**
	12nm,0.4s						
HAU	**Haudompre**	**3.60**	**185**	*e*Pn	**Pn**	**02 18 05.9**	**-0.6**
HAU	**Haudompre**	**3.60**	**185**	*e*Pg	**Pg**	**02 18 17.8**	**-0.7**
HAU				*e*Sg	**Sg**	**02 19 04.4**	**-0.8**
	46nm,0.7s						
HAU	**Haudompre**	**3.60**	**185**	*e*Pn	**Pn**	**02 18 05.9**	**-0.6**
HAU	**Haudompre**	**3.60**	**185**	*e*Pg	**Pg**	**02 18 17.8**	**-0.7**
HAU				*e*Sg	**Sg**	**02 19 04.4**	**-0.8**
	23nm,0.7s						
MOF	**Molkenrain**	**3.75**	**176**	Pn	**Pn**	**02 18 08.7**	**+0.1**
MOF	**Molkenrain**	**3.75**	**176**	Pn	**Pn**	**02 18 08.7**	**+0.1**
HINF	**Hinteralfeld**	**3.78**	**179**	*e*Pn	**Pn**	**02 18 08.1**	**-0.9**
	SNR=1.0						
HINF	**Hinteralfeld**	**3.78**	**179**	*e*Pg	**Pg**	**02 18 20.8**	**-1.1**
HINF				*e*Sg	**Sg**	**02 19 09.2**	**-1.7**
	18nm,0.5s,SNR=1.0						
HINF	**Hinteralfeld**	**3.78**	**179**	*e*Pn	**Pn**	**02 18 08.1**	**-0.9**
	SNR=1.0						
HINF	**Hinteralfeld**	**3.78**	**179**	*e*Pg	**Pg**	**02 18 20.8**	**-1.1**
HINF				*e*Sg	**Sg**	**02 19 09.2**	**-1.7**
	8.8nm,0.5s,SNR=1.0						
FELD	**Feldberg im Sc**	**3.80**	**168**	Pn	**Pn**	**02 18 09.8**	**+0.5**
NKC	**Novy Kostel**	**3.83**	**109**	*e*PN	**Pn**	**02 18 10.6**	**+0.9**
NKC				*e*SG	**Sg**	**02 19 09.8**	**-2.8**
	comp=Z,18nm,0.5s						
NKC	**Novy Kostel**	**3.83**	**109**	Pn	**Pn**	**02 18 10.6**	**+0.9**
NKC				Sg	**Sg**	**02 19 09.8**	**-2.8**
	comp=Z,18nm,0.5s						
CLL	**Collm**	**3.90**	**92**	*e*Pn	**Pn**	**02 18 12.0**	**+1.3**
CLL				*e*Pg	**Pg**	**02 18 24.0**	**-0.3**
CLL				*i* Sg	**Sg**	**02 19 12.9**	**-1.9**
	comp=Z,22nm,1.0s						
BBS	**Basel-Blauen**	**4.16**	**173**	Pn	**Pn**	**02 18 14.1**	**-0.1**
LOMF	**Lomont**	**4.24**	**180**	Pn	**Pn**	**02 18 16.3**	**+0.9**
LOMF	**Lomont**	**4.24**	**180**	Pn	**Pn**	**02 18 16.3**	**+0.9**
BRG	**Berggiesshubel**	**4.55**	**96**	PG	**Pg**	**02 18 38.4**	**+1.6**
BRG				SG	**Sg**	**02 19 34.5**	**-1.3**
	comp=Z,14nm,0.8s						
LOR	**Lormes**	**4.73**	**205**	*e*Pn	**Pn**	**02 18 22.2**	**+0.1**
	baz=29,SNR=1.0						
LOR				*e*Sn	**Sn**	**02 19 15.1**	**-2.4**
	baz=23						
LOR				*e*Sg	**Sg**	**02 19 41.4**	**0.0**
	comp=Z,25nm,0.5s,baz=18						
LOR	**Lormes**	**4.73**	**205**	*e*Pn	**Pn**	**02 18 22.2**	**+0.1**
	baz=29,SNR=1.0						
LOR				*e*Sn	**Sn**	**02 19 15.1**	**-2.4**
	baz=23						
LOR				*e*Sg	**Sg**	**02 19 41.4**	**0.0**
	comp=Z,12nm,0.5s,baz=18						
KHC	**Kasperske Hory**	**5.00**	**117**	*e*PN	**Pn**	**02 18 27.5**	**+1.8**
KHC				*ex*	x	02 18 43.5	
KHC				*e*SN	**Sn**	**02 19 23.5**	**-0.6**
KHC				*e*SG	**Sg**	**02 19 48.3**	**-1.7**
	comp=Z,22nm,1.3s						
KHC	**Kasperske Hory**	**5.00**	**117**	Pn	**Pn**	**02 18 27.5**	**+1.8**
KHC				Sg	**Sg**	**02 19 48.3**	**-1.7**
	comp=Z,22nm,1.3s						
CABF	**La Chapelle**	**5.00**	**186**	*e*Pn	**Pn**	**02 18 25.4**	**-0.5**
	SNR=1.0						
CABF	**La Chapelle**	**5.00**	**186**	*e*Pg	**Pg**	**02 18 44.2**	**-1.2**
CABF				*e*Sn	**Sn**	**02 19 20.4**	**-4.0**
CABF				*e*Sg	**Sg**	**02 19 48.3**	**-2.0**
	comp=Z,37nm,0.8s						
CABF	**La Chapelle**	**5.00**	**186**	*e*Pn	**Pn**	**02 18 25.4**	**-0.5**
	SNR=1.0						
CABF	**La Chapelle**	**5.00**	**186**	*e*Pg	**Pg**	**02 18 44.2**	**-1.2**
CABF				*e*Sn	**Sn**	**02 19 20.4**	**-4.0**
CABF				*e*Sg	**Sg**	**02 19 48.3**	**-2.0**
	comp=Z,18nm,0.8s						
SSF	**Saint Saulge**	**5.01**	**207**	*e*Pn	**Pn**	**02 18 25.9**	**-0.1**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**02 19 22.1**	**-2.5**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**02 19 50.7**	**+0.1**
	comp=Z,41nm,0.8s						
SSF	**Saint Saulge**	**5.01**	**207**	*e*Pn	**Pn**	**02 18 25.9**	**-0.1**
	SNR=1.0						
SSF				*e*Sn	**Sn**	**02 19 22.1**	**-2.5**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**02 19 50.7**	**+0.1**
	comp=Z,20nm,0.8s						
PVCC	**Panska Ves**	**5.02**	**99**	*e*SG	**Sg**	**02 19 49.1**	**-1.7**
PVCC	**Panska Ves**	**5.02**	**99**	Sg	**Sg**	**02 19 49.1**	**-1.7**
HYF	**Humbligny**	**5.10**	**214**	*e*Pn	**Pn**	**02 18 27.4**	**+0.2**
HYF				*e*Sn	**Sn**	**02 19 24.8**	**-1.9**
HYF				*e*Sg	**Sg**	**02 19 53.9**	**+0.5**
HYF	**Humbligny**	**5.10**	**214**	*e*Pn	**Pn**	**02 18 27.4**	**+0.2**
HYF				*e*Sn	**Sn**	**02 19 24.8**	**-1.9**
HYF				*e*Sg	**Sg**	**02 19 53.9**	**+0.5**
AVF	**Avril sur Loir**	**5.30**	**206**	*e*Pn	**Pn**	**02 18 29.5**	**-0.5**
	SNR=1.0						
AVF	**Avril sur Loir**	**5.30**	**206**	*e*Pg	**Pg**	**02 18 50.2**	**-1.0**
AVF				*e*Sn	**Sn**	**02 19 29.0**	**-2.7**
AVF				*e*Sg	**Sg**	**02 19 59.8**	**-0.1**
	comp=Z,15nm,0.6s						
AVF	**Avril sur Loir**	**5.30**	**206**	*e*Pn	**Pn**	**02 18 29.5**	**-0.5**
	SNR=1.0						
AVF	**Avril sur Loir**	**5.30**	**206**	*e*Pg	**Pg**	**02 18 50.2**	**-1.0**
AVF				*e*Sn	**Sn**	**02 19 29.0**	**-2.7**
AVF				*e*Sg	**Sg**	**02 19 59.8**	**-0.1**
	comp=Z,7.4nm,0.6s						
SMF	**Signal de Mont**	**5.31**	**202**	*e*Pn	**Pn**	**02 18 30.0**	**-0.1**
	SNR=1.0						
SMF	**Signal de Mont**	**5.31**	**202**	*e*Pg	**Pg**	**02 18 50.4**	**-0.9**
SMF				*e*Sn	**Sn**	**02 19 29.3**	**-2.6**
SMF				*e*Sg	**Sg**	**02 19 59.5**	**-0.7**
	comp=Z,28nm,0.6s,SNR=1.0						
SMF	**Signal de Mont**	**5.31**	**202**	*e*Pn	**Pn**	**02 18 30.0**	**-0.1**
	SNR=1.0						
SMF	**Signal de Mont**	**5.31**	**202**	*e*Pg	**Pg**	**02 18 50.4**	**-0.9**
SMF				*e*Sn	**Sn**	**02 19 29.3**	**-2.6**
SMF				*e*Sg	**Sg**	**02 19 59.5**	**-0.7**
	comp=Z,14nm,0.6s,SNR=1.0						
LDF	**La Druitiere**	**5.36**	**239**	*e*Pn	**Pn**	**02 18 31.2**	**+0.4**
	SNR=1.0						
LDF				*e*Sn	**Sn**	**02 19 28.6**	**-4.6**
	comp=Z,11nm,0.4s,SNR=1.0						
LDF	**La Druitiere**	**5.36**	**239**	*e*Pn	**Pn**	**02 18 31.2**	**+0.4**
	SNR=1.0						
LDF				*e*Sn	**Sn**	**02 19 28.6**	**-4.6**
	comp=Z,5.6nm,0.4s,SNR=1.0						
FLN	**La Foliniere**	**5.46**	**242**	*e*Pn	**Pn**	**02 18 32.6**	**+0.5**
	baz=62,SNR=1.0						
FLN				*e*Sn	**Sn**	**02 19 32.8**	**-2.7**
	comp=Z,10.0nm,0.5s,SNR=1.0						
FLN	**La Foliniere**	**5.46**	**242**	*e*Pn	**Pn**	**02 18 32.6**	**+0.5**
	baz=62,SNR=1.0						
FLN				*e*Sn	**Sn**	**02 19 32.8**	**-2.7**
	comp=Z,5.0nm,0.5s,SNR=1.0						
BGF	**Bois d'Agland**	**5.66**	**209**	*e*Pn	**Pn**	**02 18 34.0**	**-0.9**
	SNR=1.0						
BGF				*e*Sn	**Sn**	**02 19 34.2**	**-6.3**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**02 20 10.8**	**-0.6**
	comp=Z,45nm,0.5s						
BGF	**Bois d'Agland**	**5.66**	**209**	*e*Pn	**Pn**	**02 18 34.0**	**-0.9**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**02 20 10.8**	**-0.6**
	comp=Z,22nm,0.5s						
GRR	**Gorron**	**5.88**	**240**	*e*Pn	**Pn**	**02 18 38.1**	**+0.2**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**02 19 42.5**	**-3.4**
	comp=Z,21nm,0.3s						
GRR	**Gorron**	**5.88**	**240**	*e*Pn	**Pn**	**02 18 38.1**	**+0.2**
	SNR=1.0						
LPL	**La Plagne**	**6.08**	**180**	*e*Pn	**Pn**	**02 18 40.0**	**-0.6**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**02 19 45.8**	**-5.0**
	comp=Z,0.4nm,0.2s						
LPL	**La Plagne**	**6.08**	**180**	*e*Pn	**Pn**	**02 18 40.0**	**-0.6**
	SNR=1.0						
LPG	**La Plagne**	**6.10**	**180**	*e*Pn	**Pn**	**02 18 42.5**	**+1.6**
	SNR=1.0						
LPG				*e*Sn	**Sn**	**02 19 46.3**	**-5.0**
	comp=Z,1.4nm,0.5s						
LPG	**La Plagne**	**6.10**	**180**	*e*Pn	**Pn**	**02 18 42.5**	**+1.6**
	SNR=1.0						
TCF	**Toulx Ste Croi**	**6.10**	**211**	*e*Pn	**Pn**	**02 18 41.1**	**+0.2**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**02 19 48.6**	**-2.8**
TCF				*e*Sg	**Sg**	**02 20 25.1**	**-0.4**
	comp=Z,23nm,0.9s						
TCF	**Toulx Ste Croi**	**6.10**	**211**	*e*Pn	**Pn**	**02 18 41.1**	**+0.2**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**02 19 48.6**	**-2.8**
TCF				*e*Sg	**Sg**	**02 20 25.1**	**-0.4**
	comp=Z,12nm,0.9s						
DPC	**Dobruska-Polom**	**6.15**	**98**	*e*SG	**Sg**	**02 20 25.1**	**-1.9**
	comp=Z,11nm,0.8s						
ORIF	**Oris-en-Rattie**	**6.71**	**186**	*e*Pn	**Pn**	**02 18 48.5**	**-0.7**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**02 20 01.0**	**-5.2**
	comp=Z,0.7nm,0.3s						
ORIF	**Oris-en-Rattie**	**6.71**	**186**	*e*Pn	**Pn**	**02 18 48.5**	**-0.7**
	SNR=1.0						
MFF	**Saint Martin d**	**6.75**	**225**	*e*Pn	**Pn**	**02 18 50.0**	**+0.1**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**02 20 02.8**	**-4.6**
	comp=Z,7.9nm,0.5s,SNR=1.0						
MFF	**Saint Martin d**	**6.75**	**225**	*e*Pn	**Pn**	**02 18 50.0**	**+0.1**
	SNR=1.0						
MBDF	**Montbardon**	**6.87**	**180**	*e*Pn	**Pn**	**02 18 50.0**	**-1.4**
MBDF				*e*Sn	**Sn**	**02 20 04.4**	**-5.8**
	comp=Z,0.7nm,0.2s						
MBDF	**Montbardon**	**6.87**	**180**	*e*Pn	**Pn**	**02 18 50.0**	**-1.4**
VIVF	**Saint-Julien-l**	**6.88**	**193**	*e*Pn	**Pn**	**02 18 51.5**	**-0.2**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**02 20 47.5**	**-3.1**
	comp=Z,2.0nm,0.5s						
VIVF	**Saint-Julien-l**	**6.88**	**193**	*e*Pn	**Pn**	**02 18 51.5**	**-0.2**
	SNR=1.0						
SGMF	**Saint Gilles**	**6.89**	**245**	*e*Pn	**Pn**	**02 18 50.9**	**-0.9**
SGMF				*e*Sn	**Sn**	**02 20 08.2**	**-2.6**
	comp=Z,5.8nm,0.7s						
SGMF	**Saint Gilles**	**6.89**	**245**	*e*Pn	**Pn**	**02 18 50.9**	**-0.9**
SGMF				*e*Sn	**Sn**	**02 20 08.2**	**-2.6**
	comp=Z,2.9nm,0.7s						
RJF	**Les Rejaudoux**	**7.20**	**211**	*e*Pn	**Pn**	**02 18 55.8**	**-0.2**
RJF				*e*Sg	**Sg**	**02 20 59.2**	**-1.4**
	comp=Z,9.3nm,0.7s						
RJF	**Les Rejaudoux**	**7.20**	**211**	*e*Pn	**Pn**	**02 18 55.8**	**-0.2**
RJF				*e*Sg	**Sg**	**02 20 59.2**	**-1.4**
	comp=Z,4.7nm,0.7s						
CAF	**Calviac**	**7.37**	**207**	*e*Pn	**Pn**	**02 18 58.0**	**-0.4**
CAF				*e*Sg	**Sg**	**02 21 04.2**	**-2.1**
	comp=Z,14nm,0.7s						
CAF	**Calviac**	**7.37**	**207**	*e*Pn	**Pn**	**02 18 58.0**	**-0.4**
QUIF	**Quistinic**	**7.42**	**244**	*e*Pn	**Pn**	**02 18 58.0**	**-1.0**
	SNR=1.0						
QUIF				*e*Sn	**Sn**	**02 20 21.6**	**-2.2**
	comp=Z,9.1nm,0.7s						
QUIF	**Quistinic**	**7.42**	**244**	*e*Pn	**Pn**	**02 18 58.0**	**-1.0**
	SNR=1.0						
QUIF				*e*Sn	**Sn**	**02 20 21.6**	**-2.2**
	comp=Z,4.6nm,0.7s						
LASF	**Ste Croix**	**7.77**	**196**	*e*Pn	**Pn**	**02 19 03.1**	**-0.7**
LASF				*e*Sg	**Sg**	**02 21 15.7**	**-3.3**
	comp=Z,0.4nm,0.2s						
LASF	**Ste Croix**	**7.77**	**196**	*e*Pn	**Pn**	**02 19 03.1**	**-0.7**
LFF	**La Frestale**	**7.78**	**214**	*e*Pn	**Pn**	**02 19 03.7**	**-0.2**
LFF				*e*Sg	**Sg**	**02 21 17.6**	**-1.6**
	comp=Z,85nm,1.2s						
LFF	**La Frestale**	**7.78**	**214**	*e*Pn	**P

WRA Warramunga Arr 29.57 165 P **P** 02 47 02.6 -0.7
0.5nm,0.6s,mb3.4,baz=348,slow=9.3,SNR=7.4
WRA Warramunga Arr 29.57 165 P **P** 02 47 02.6 -0.7
ASAR Alice Springs 33.05 167 P **P** 02 47 34.5 +0.6
0.3nm,0.3s,mb3.6,baz=352,slow=6.1,SNR=6.1
ASAR PcP PcP 02 50 16.5 +0.3
0.7nm,0.6s,baz=350,slow=2.4,SNR=7.0
ASAR ScP ScP 02 53 53.9 -0.4
0.2nm,0.5s,baz=343,slow=2.9,SNR=3.5
ASAR Alice Springs 33.05 167 P **P** 02 47 34.5 +0.6
ASAR PcP PcP 02 50 16.5 +0.3
ASAR ScP ScP 02 53 53.9 -0.4
FORT Forrest 39.34 178 *eP* **P** 02 48 28.3 +0.9
13nm,0.6s,mb4.9
TAPN Taplejung 40.92 302 *eP* **P** 02 48 40.5 -0.2
14nm,0.8s,mb4.9
ODAN Odare 41.03 301 *eP* **P** 02 48 41.7 +0.1
RAMN Ramite 41.73 301 *eP* **P** 02 48 47.7 +0.3
13nm,0.7s,mb4.8
ULN Ulaanbaatar 42.28 341 *eP* **P** 02 48 51.3 -0.2
2.0nm,0.8s,mb3.9
JIRN Jiri 42.30 302 *eP* **P** 02 48 52.0 0.0
3.9nm,0.6s,mb4.3
SONM Songino Array 42.47 340 P **P** 02 48 54.8 +1.8
0.2nm,0.4s,mb3.2,baz=125,slow=7.2,SNR=4.1
SONM Songino Array 42.47 340 P **P** 02 48 54.8 +1.8
GUN Gumba 42.64 302 *eP* **P** 02 48 55.1 +0.3
17nm,0.8s,mb4.8
STKA Stephens Creek 42.94 161 P **P** 02 48 57.5 +0.5
1.2nm,0.5s,mb3.9,baz=325,slow=11,SNR=3.9
STKA Stephens Creek 42.94 161 P **P** 02 48 57.5 +0.5
KOLN Koldanda 44.52 301 *eP* **P** 02 49 09.4 -0.5
17nm,0.8s,mb4.8
DANN Dangsing 44.56 302 *eP* **P** 02 49 09.9 -0.2
PYUN Piuthan 45.13 301 *eP* **P** 02 49 15.3 +0.6
30nm,1.0s,mb5.0
PETK Petropavlovsk- 50.97 24 P **P** 02 50 00.0 +0.7
1.8nm,0.6s,mb4.3,baz=219,slow=11,SNR=2.4
PETK Petropavlovsk- 50.97 24 P **P** 02 50 00.0 +0.7
MK31 Makanchi Array 53.30 323 *eP* **P** 02 50 16.7 0.0
MKAR Makanchi Array 53.30 323 P **P** 02 50 16.1 -0.6
3.8nm,0.8s,mb4.5,baz=129,slow=7.4,SNR=15
MKAR PcP PcP 02 51 23.3 -0.2
1.0nm,0.6s,baz=119,slow=5.5,SNR=3.5
MKAR Makanchi Array 53.30 323 P **P** 02 50 16.1 -0.6
MKAR PcP PcP 02 51 23.3 -0.2
TKM2 Tokmak 2 55.83 317 *eP* **P** 02 50 35.9 +0.8
2.6nm,0.9s,mb4.3
ZALV Zalesovo Beam 56.00 332 P **P** 02 50 34.4 -1.8
1.0nm,0.6s,mb4.0,baz=109,slow=6.8,SNR=7.1
ZALV PcP PcP 02 51 31.2 -2.6
0.5nm,0.4s,baz=147,slow=3.4,SNR=2.8
ZALV Zalesovo Beam 56.00 332 P **P** 02 50 34.4 -1.8
ZALV PcP PcP 02 51 31.2 -2.6
EKS2 Erkin-Say 56.98 316 *eP* **P** 02 50 45.3 +1.9
1.8nm,0.7s,mb4.2
KURK Kurchatov 57.38 326 *eP* **P** 02 50 44.4 -1.6
4.3nm,0.8s,mb4.5
KBL Kabul 58.28 305 *eP* **P** 02 50 53.1 +0.4
6.3nm,0.8s,mb4.7
BRVK Borovoye 63.04 326 *eP* **P** 02 51 23.8 -0.9
3.2nm,0.8s,mb4.3
URZ Urewera 66.46 138 P **P** 02 51 45.7 -1.5
9.3nm,1.0s,mb4.6,baz=319,slow=9.3,SNR=3.1
URZ Urewera 66.46 138 P **P** 02 51 45.7 -1.4
MCK McKinley 79.86 27 *eP* **P** 02 53 06.0 +0.4
3.0nm,0.7s,mb4.2
ILAR Eielson Array 80.75 26 P **P** 02 53 10.3 -0.2
0.5nm,0.6s,mb3.5,baz=252,slow=4.6,SNR=4.5
ILAR Eielson Array 80.75 26 P **P** 02 53 10.3 -0.2
JOF Joensuu 84.58 333 *ep* **P** 02 53 28.0 -2.3
2.5nm,0.6s,mb4.3
ARCES ARCESS Array B 85.65 340 P **P** 02 53 34.9 -0.6
1.9nm,0.8s,mb4.1,baz=72,slow=5.8,SNR=4.2
ARCES ARCESS Array B 85.65 340 P **P** 02 53 34.9 -0.6
BRTR Keskin Array B 86.57 309 P **P** 02 53 42.2 +1.4
0.4nm,0.5s,mb3.6,baz=100,slow=7.9,SNR=2.6
BRTR Keskin Array B 86.57 309 P **P** 02 53 42.2 +1.4
FINES FINESS Array B 87.27 332 P **P** 02 53 42.0 -1.7
2.0nm,0.8s,mb4.1,baz=72,slow=6.0,SNR=15
FINES FINESS Array B 87.27 332 P **P** 02 53 42.0 -1.7
BUR08 Bucovina Ar. S 91.05 318 *eP* **P** 02 54 01.0 -0.7
TORD Torodi Ar. Bea 120.92 291 PKP PKPdf 02 59 49.3 -1.0
0.4nm,0.7s,baz=54,slow=1.6,SNR=4.2
TORD Torodi Ar. Bea 120.92 291 PKP PKPdf 02 59 49.3 -1.1
PLCA Paso Flores 144.78 157 PKP PKPdf 03 00 35.1 +1.0
2.0nm,0.9s,baz=195,slow=1.6,SNR=3.6
PLCA Paso Flores 144.78 157 PKP PKPdf 03 00 35.1 +1.0

*ISCJB **29** 02:41:12.9±0.4,29°.83N±0°.06×139°.5E±0°.2, h390km±8km, mb3.3/10, Error ellipse: s-maj=23.3km s-min=5.8km az=162.9*
*NEIC **29** 02:41:13.8±0.8,30°.07N×139°.99E, h397km±11km, mb3.5/2, Error ellipse: s-maj=32.2km s-min=10.1km az=74.0*
*IDC **29** 02:41:13.0±0.9,30°.06N×140°.06E, h387km±14km, mb3.1/8, mb1 3.2/10, mb1mx3.0/24, mbtmp3.1/10, Error ellipse: s-maj=35.9km s-min=12.4km az=77.0*
*JMA **29** 02:41:14.0±0.1,29°.85N×139°.74E, h382km, M3.4*
ISC 29 02:41:13.7±0.4,**29°.84N**±0°.06×**139°.5E**±0°.2,**h378**km±8km,
n35,σ0s88/41,mb3.3/10,1D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.59**	**139**	P	**Pn**	**02 42 20.7**	**+0.1**
	27nm,0.3s,baz=297,slow=16,SNR=4.6						
CBIJ				S	**S**	**02 43 13.3**	**-1.3**
	38nm,0.3s,baz=287,slow=19,SNR=6.2						
CBIJ	**Chichi jima**	**3.59**	**139**	P	**Pn**	**02 42 20.7**	**+0.1**
CBIJ				S	**S**	**02 43 13.3**	**-1.3**
CBIJ	**Chichi jima**	**3.59**	**139**	P	**Pn**	**02 42 19.8**	**-0.8**
JHHJ	**Haha-jima-NKT**	**3.96**	**143**	P	**Pn**	**02 42 24.3**	**+0.2**
JHHJ				*e*S	**S**	**02 43 20.1**	**-0.9**
BSO1	**Boso 1**	**4.96**	**14**	P	**Pn**	**02 42 35.1**	**+1.1**
BSO1				*e*S	**S**	**02 43 39.2**	**-0.1**
BSO3	**Boso 3**	**5.02**	**9**	P	**Pn**	**02 42 35.6**	**+0.9**
BSO3				S	**S**	**02 43 40.2**	**-0.3**
JIE	**Ise**	**5.13**	**333**	P	**Pn**	**02 42 37.5**	**+1.6**
JIE				*e*S	**S**	**02 43 42.3**	**-0.4**
JNY	**Yasuok**	**5.68**	**346**	P	**Pn**	**02 42 43.5**	**+1.6**
JRY	**Ryogami san**	**6.18**	**355**	P	**Pn**	**02 42 48.1**	**+0.7**
JRY				*e*S	**S**	**02 44 03.5**	**-0.2**
MJAR	**Matsushiro Arr**	**6.78**	**351**	P	**Pn**	**02 42 53.2**	**-0.9**
	1.2nm,0.3s,baz=165,slow=10,SNR=6.7						
MJAR	**Matsushiro Arr**	**6.78**	**351**	P	**Pn**	**02 42 53.2**	**-0.9**
MAJO	**Matsushiro**	**6.78**	**351**	*e*Pn	**Pn**	**02 42 54.0**	**-0.1**
JHO	**Hitachi**	**6.81**	**7**	S	**S**	**02 44 12.8**	**-3.8**
GUMO	**Guam**	**16.91**	**162**	P	**P**	**02 44 50.0**	**+2.2**
PETK	**Petropavlovsk-**	**26.79**	**25**	P	**P**	**02 46 13.9**	**-6.5**
	3.1nm,0.9s,mb3.5,baz=223,slow=9.9,SNR=2.7						
PETK	**Petropavlovsk-**	**26.79**	**25**	P	**P**	**02 46 13.9**	**-6.5**
SONM	**Songino Array**	**31.13**	**315**	P	**P**	**02 46 58.2**	**-0.4**
	0.5nm,0.4s,mb3.1,baz=129,slow=9.4,SNR=6.5						
SONM	**Songino Array**	**31.13**	**315**	P	**P**	**02 46 58.2**	**-0.4**
ZALV	**Zalesovo Beam**	**45.89**	**318**	P	**P**	**02 48 59.2**	**-0.5**
	0.5nm,0.4s,mb3.0,baz=81,slow=8.9,SNR=2.8						
ZALV	**Zalesovo Beam**	**45.89**	**318**	P	**P**	**02 48 59.2**	**-0.5**
MK31	**Makanchi Array**	**46.94**	**308**	*e*P	**P**	**02 49 06.3**	**-1.6**
MKAR	**Makanchi Array**	**46.94**	**308**	P	**P**	**02 49 07.1**	**-0.8**
	0.6nm,0.7s,mb3.0,baz=91,slow=9.7,SNR=3.8						
MKAR	**Makanchi Array**	**46.94**	**308**	P	**P**	**02 49 07.1**	**-0.8**
WRAB	**Tennant Creek**	**49.73**	**186**	*e*P	**P**	**02 49 29.0**	**-0.2**
	1.0nm,0.4s,mb3.4						
WB2	**Warramunga Arr**	**49.74**	**186**	*e*P	**P**	**02 49 29.5**	**+0.3**
WRA	**Warramunga Arr**	**49.74**	**186**	P	**P**	**02 49 29.5**	**+0.2**
	0.8nm,0.4s,mb3.3,baz=1.8,slow=7.8,SNR=14						
WRA	**Warramunga Arr**	**49.74**	**186**	P	**P**	**02 49 29.5**	**+0.2**
TKM2	**Tokmak 2**	**51.95**	**303**	⇓Lg		02 49 41.4	
	1.8nm,0.7s						
ASAR	**Alice Springs**	**53.47**	**186**	P	**P**	**02 49 57.4**	**+0.9**
	0.2nm,0.7s,mb2.6,baz=1.4,slow=7.5,SNR=5.4						
ASAR	**Alice Springs**	**53.47**	**186**	P	**P**	**02 49 57.4**	**+0.9**
ABKAR	**Akbulak array**	**61.52**	**313**	*e*P	**P**	**02 50 51.1**	**-0.7**
	0.8nm,0.5s,mb3.5						
FINES	**FINESS Array B**	**74.46**	**333**	P	**P**	**02 52 11.0**	**-0.2**
	2.6nm,0.9s,mb4.0,baz=60,slow=4.6,SNR=6.1						
FINES	**FINESS Array B**	**74.46**	**333**	P	**P**	**02 52 11.0**	**-0.2**
NOA	**NORSAR Array B**	**80.20**	**337**	P	**P**	**02 52 42.7**	**+0.1**
	0.5nm,0.7s,mb3.3,baz=49,slow=7.5,SNR=2.6						
NOA	**NORSAR Array B**	**80.20**	**337**	P	**P**	**02 52 42.7**	**+0.1**

*ISCJB **29** 02:50:50.5±1.3,37°.42N±0°.06×38°.65E±0°.07, h10km, Error ellipse: s-maj=11.0km s-min=5.1km az=137.6*
*CSEM **29** 02:50:50.3±0.4,37°.39N×38°.61E, h5km, MD3.2, Error ellipse: s-maj=8.6km s-min=4.0km az=130.0*
*ISK **29** 02:50:51.7,37°.49N×38°.55E, h13km, MD2.8*
*DDA **29** 02:50:53.6,37°.42N×38°.45E, h7km±6km, Md3.2*
ISC 29 02:50:50.2±1.9,**37°.37N**±0°.09×**38°.64E**±0°.07,**h1**km±12km,
n17,σ0s98/28,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAB	**Bozova**	**0.29**	**291**	*e*P	**Pg**	**02 50 56.2**	**+0.4**
ATAB				*e*S	**Sg**	**02 50 60.0**	**+0.4**
ATAB	**Bozova**	**0.29**	**291**	*e*P	**Pg**	**02 50 56.2**	**+0.4**
ATAB				*e*S	**Sg**	**02 51 00.0**	**+0.4**
MALT	**Malatya**	**0.96**	**350**	*e*PG	**Pg**	**02 51 08.0**	**-0.6**
MALT				*e*SG	**Sg**	**02 51 19.9**	**-1.2**
MALT	**Malatya**	**0.96**	**350**	*e*Pg	**Pg**	**02 51 08.0**	**-0.6**
MALT				*e*Sg	**Sg**	**02 51 19.9**	**-1.2**
MYA	**Malatya**	**0.97**	**350**	*e*PG	**Pg**	**02 51 08.1**	**-0.8**
MYA	**Malatya**	**0.97**	**350**	*e*Pg	**Pg**	**02 51 08.1**	**-0.8**
AKCD	**Akcadag**	**1.09**	**329**	*e*P	**Pg**	**02 51 11.2**	**+0.1**
AKCD				*e*S	**Sg**	**02 51 25.6**	**+0.5**
AKCD	**Akcadag**	**1.09**	**329**	*e*P	**Pg**	**02 51 11.1**	**0.0**
AKCD				*e*S	**Sg**	**02 51 25.6**	**+0.4**
SVRC	**Sivrice-ELAZID**	**1.14**	**27**	*e*PG	**Pg**	**02 51 12.6**	**+0.5**
SVRC				*e*SG	**Sg**	**02 51 28.0**	**+1.1**
SVRC	**Sivrice-ELAZID**	**1.14**	**27**	*e*Pg	**Pg**	**02 51 12.6**	**+0.5**
SVRC				*e*Sg	**Sg**	**02 51 28.0**	**+1.1**
GAZ	**Gaziantep**	**1.15**	**261**	*e*PN	**Pn**	**02 51 12.6**	**-0.8**
GAZ				*e*SN	**Sn**	**02 51 29.6**	**-0.3**
GAZ	**Gaziantep**	**1.15**	**261**	*e*Pn	**Pn**	**02 51 12.6**	**-0.9**
GAZ				*e*Sn	**Sn**	**02 51 29.6**	**-0.2**
KMRS	**Kahramanmaras**	**1.39**	**276**	*e*PN	**Pn**	**02 51 16.1**	**-0.6**
KMRS	**Kahramanmaras**	**1.39**	**276**	*e*Pn	**Pn**	**02 51 16.1**	**-0.6**
DARE	**Darende-Malaty**	**1.71**	**338**	*e*PN	**Pn**	**02 51 16.8**	**-4.3**
DARE	**Darende-Malaty**	**1.71**	**338**	*e*Pn	**Pn**	**02 51 16.8**	**-4.4**
ANDN	**Andirin**	**1.84**	**277**	*e*P	**Pn**	**02 51 26.2**	**+3.4**
ANDN				*e*S	**Sn**	**02 51 49.6**	**+3.0**

*IDC **29** 02:52:55.3±2.4, 9°.48S×116°.99E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=116.1km s-min=25.0km az=57.0*
*DJA **29** 02:52:55, 9°.02S×116°.93E, h12km, MLv3.8/10*
ISC 29 02:52:52.8±1.5,**9°.19S**±0°.08×**116°.92E**±0°.04,**h4**km±10km,
n15,σ1s02/20,mb3.5/2,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MTNI	**Mataram**	**0.93**	**307**	P	**Pg**	**02 53 10.2**	**-0.4**
MTNI				S	**Sg**	**02 53 22.2**	**-0.4**
KHKI	**Kahang-Kahang**	**1.54**	**302**	P	**Pn**	**02 53 20.5**	**-0.4**
KHKI				S	**Sn**	**02 53 40.5**	**-0.9**
IGBI	**Denpasar**	**1.79**	**282**	P	**Pn**	**02 53 25.1**	**+0.6**
IGBI				S	**Sn**	**02 53 47.1**	**-0.6**
BMNI	**Bima**	**1.86**	**70**	P	**Pn**	**02 53 26.0**	**+0.5**
BMNI				S	**Sn**	**02 53 49.4**	**0.0**
SRBI	**Singaraja**	**2.02**	**303**	P	**Pn**	**02 53 29.7**	**+2.2**
NBBI	**Negara**	**2.42**	**290**	P	**Pn**	**02 53 37.0**	**+3.9**
BYJI	**Banyuwangi**	**2.72**	**291**	P	**Pn**	**02 53 38.5**	**+1.3**
JAGI	**Jajag, Banyuwa**	**2.83**	**284**	P	**Pn**	**02 53 38.6**	**-0.1**
GMJI	**Gumukmas**	**3.56**	**285**	P	**Pn**	**02 53 53.1**	**+4.3**
BKSI	**Bulukumba**	**4.99**	**40**	P	**Pn**	**02 54 07.2**	**-1.2**
MMRI	**Maumere**	**5.28**	**84**	P	**Pn**	**02 54 13.7**	**+1.2**
FITZ	**Fitzroy Crossi**	**12.25**	**137**	Pn	**Pn**	**02 55 46.7**	**-1.4**
	0.1nm,0.3s,baz=334,slow=13,SNR=5.3						
FITZ				Sn	**Sn**	**02 57 57.5**	**-7.6**
	0.1nm,0.3s,baz=170,slow=19,SNR=2.9						
WRA	**Warramunga Arr**	**19.94**	**124**	P	**Pn**	**02 57 26.1**	**-1.4**
	0.1nm,0.3s,baz=296,slow=10,SNR=5.8						
ASAR	**Alice Springs**	**21.70**	**134**	P	**P**	**02 57 45.8**	**+0.9**
	1.4nm,0.5s,mb3.6,baz=312,slow=9.3,SNR=17						
ASAR				PcP	PcP	03 01 49.9	+3.7
	0.3nm,0.6s,baz=318,slow=1.7,SNR=4.5						
SONM	**Songino Array**	**57.54**	**352**	P	**P**	**03 02 48.2**	**+5.0**
	0.2nm,0.4s,mb3.5,baz=154,slow=7.3,SNR=3.1						

NNC 29 03:02:40.1±3.4,**37°.32N**×**70°.67E,h0km,mb3.8,mpv3.8, 4C-3D,Error ellipse: s-maj=26.4km s-min=26.0km az=89.0,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**5.78**	**359**	⇓Pn	Pn	03 04 09.7	+2.7
	3.7nm,0.3s,baz=183,slow=13,SNR=156						
KK31				⇑Sn	Sn	03 05 21.0	+7.0
	2.0nm,0.5s,baz=184,slow=24,SNR=5.3						
TKM2	**Tokmak 2**	**6.75**	**32**	⇑Pn	Pn	03 04 22.4	+2.0
	3.1nm,0.5s						
TKM2				⇑Sn	Sn	03 05 37.8	-0.1
	3.5nm,1.1s						
AB31	**Akbulak array**	**14.24**	**330**	P	Pn	03 06 02.2	-0.7
	0.4nm,0.3s,baz=166,slow=11,SNR=12						
AB31				⇑S	Sn	03 08 41.9	+0.4
	0.7nm,0.7s,baz=160,slow=21,SNR=4.4						
AKTO	**Aktyubinsk**	**15.94**	**329**	⇓P	Pn	03 06 24.3	-1.2
	0.9nm,1.2s						
AKTO				⇓S	Sn	03 09 24.2	+1.4
	0.2nm,0.8s						

*ISK **29** 03:07:08.1,39°.24N×43°.39E, h12km, ML1.8*
*ISCJB **29** 03:07:09.5±0.6,39°.32N±0°.04×43°.43E±0°.04, h12km±9km, Error ellipse: s-maj=6.5km s-min=5.0km az=24.9*
*CSEM **29** 03:07:09.2±0.2,39°.33N×43°.45E, h10km, MD2.8, Error ellipse: s-maj=5.3km s-min=4.0km az=31.0*
*DDA **29** 03:07:09.7, 39°.34N×43°.39E, h7km±3km, Md2.8*
ISC 29 03:07:09.7±0.6,**39°.33N**±0°.04×**43°.43E**±0°.04,**h14**km±8km,
n14,σ0s81/24,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DYDN	**Diyadin**	**0.29**	**43**	*e*P	**Pg**	**03 07 15.7**	**-0.2**
DYDN				*e*S	**Sg**	**03 07 21.1**	**+1.1**
DYDN	**Diyadin**	**0.29**	**43**	*e*P	**Pg**	**03 07 15.6**	**-0.2**
DYDN				*e*S	**Sg**	**03 07 21.0**	**+1.1**
CLDR	**Caldiran**	**0.42**	**116**	*e*PG	**Pg**	**03 07 16.7**	**-1.4**
CLDR				*e*SG	**Sg**	**03 07 23.2**	**-0.5**
CLDR	**Caldiran**	**0.42**	**116**	*e*Pg	**Pg**	**03 07 16.7**	**-1.4**
CLDR				*e*Sg	**Sg**	**03 07 23.2**	**-0.5**
AGRB	**Hanur-Agry**	**0.42**	**306**	*e*PG	**Pg**	**03 07 17.8**	**-0.4**
AGRB				*e*SG	**Sg**	**03 07 24.3**	**+0.5**
AGRB	**Hanur-Agry**	**0.42**	**306**	*e*Pg	**Pg**	**03 07 17.8**	**-0.3**
AGRB				*e*Sg	**Sg**	**03 07 24.3**	**+0.5**
TUTA	**Tutak**	**0.48**	**279**	*e*P	**Pg**	**03 07 19.2**	**-0.1**
TUTA				*e*S	**Sg**	**03 07 25.2**	**-0.6**
TUTA	**Tutak**	**0.48**	**279**	*e*P	**Pg**	**03 07 19.2**	**-0.1**
TUTA				*e*S	**Sg**	**03 07 25.2**	**-0.6**
TVAN	**Van**	**0.80**	**181**	*e*P	**Pg**	**03 07 24.8**	**-0.4**
TVAN				*e*S	**Sg**	**03 07 37.6**	**+1.9**
TVAN	**Van**	**0.80**	**181**	*e*P	**Pg**	**03 07 24.8**	**-0.4**
TVAN				*e*S	**Sg**	**03 07 37.6**	**+1.9**
GNI	**Garni**	**1.30**	**51**	*e*PN	**Pn**	**03 07 34.0**	**+0.5**
GNI	**Garni**	**1.30**	**51**	*e*Pn	**Pn**	**03 07 34.0**	**+0.5**
KARS	**Kars**	**1.32**	**348**	*e*PN	**Pn**	**03 07 33.7**	**-0.1**
KARS	**Kars**	**1.32**	**348**	*e*Pn	**Pn**	**03 07 33.7**	**-0.1**

*ISCJB **29** 04:02:50.0±0.4,57°.95S±0°.06×25°.5W±0°.1, h53km, mb4.7/18, MS3.9/8, Error ellipse: s-maj=11.4km s-min=7.9km az=146.7*
*IDC **29** 04:02:51.8±0.5,57°.97S×25°.65W, h54km±4km, mb4.4/11, mb1 4.4/12, mb1mx4.3/16, mbtmp4.4/12, MS3.8/10, Ms1 3.8/10, ms1mx3.7/14, Error ellipse: s-maj=15.9km s-min=14.1km az=35.0*
*NEIC **29** 04:02:52.2±1.5,57°.91S×25°.52W, h58km±13km, mb4.7/12, Error ellipse: s-maj=8.4km s-min=6.2km az=206.0*
ISC 29 04:02:51.9±0.4,**58°.00S**±0°.06×**25°.5W**±0°.1,**h55**km,
h55km±1.9km:**pP-P,n110,σ0s96/45,mb4.7/18,MS3.9/8,**
South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**14.65**	**157**	*e*P	**Pn**	**04 06 14.6**	**-0.9**
VNA3	**Neumayer Olymp**	**14.85**	**160**	*e*P	**Pn**	**04 06 16.8**	**-1.3**
VNA3				*e*S	**Sn**	**04 08 45.8**	**-15**
VNA2	**Neumayer--Watz**	**15.04**	**157**	*e*P	**Pn**	**04 06 19.7**	**-1.0**
	baz=320,slow=14						
VNA2				*e*S	**S**	**04 08 54.9**	**-26**
SNAA	**Sanae**	**16.59**	**155**	*e*P	**Pn**	**04 06 40.9**	**+0.6**
SNAA				*e*S	S	04 09 28.1	-24
SNAA	**Sanae**	**16.59**	**155**	P	**Pn**	**04 06 41.1**	**+0.8**
	1.5nm,0.3s,baz=320,slow=15,SNR=100						
SNAA				S	**S**	**04 09 32.6**	**-20**
	0.2nm,0.3s,baz=357,slow=19,SNR=4.2						
SNAA				PcP	PcP	04 11 27.8	+0.5
	0.0nm,0.3s,baz=270,slow=6.1,SNR=3.4						
SNAA				LR	LR	04 11 34.2	
	comp=Z,99nm,21.6s,baz=29,slow=31						
SNAA	**Sanae**	**16.59**	**155**	P	**Pn**	**04 06 41.1**	**+0.8**
SNAA				S	**S**	**04 09 32.6**	**-20**
SNAA				PcP	PcP	04 11 27.8	+0.5
	1.0nm,0.3s,baz=122,slow=13,SNR=5.6						
PMSA				LR	LR	04 13 34.4	
	comp=Z,344nm,21.3s,baz=250,slow=33						
PMSA	**Palmer Station**	**19.39**	**234**	*e*P	**Pn**	**04 07 14.9**	**+0.5**
	38nm,0.8s						
USHA	**Ushuaia**	**23.65**	**259**	P	**P**	**04 07 58.3**	**+0.5**
	10.0nm,0.8s,mb4.3,baz=125,slow=7.2,SNR=4.6						
USHA				PcP	PcP	04 11 41.5	+1.0
	8.9nm,0.9s,baz=349,slow=5.2,SNR=2.8						
USHA				LR	LR	04 15 00.5	
	comp=Z,501nm,20.3s,MS4.0,baz=46,slow=31						
USHA	**Ushuaia**	**23.65**	**259**	P	**P**	**04 07 58.3**	**+0.5**
USHA				PcP	PcP	04 11 41.5	+1.0
QSPA	**South Pole Qui**	**32.25**	**180**	P	**P**	**04 09 16.0**	**+1.6**
	14nm,0.6s,mb5.0,baz=206,slow=6.2,SNR=131						
QSPA				PcP	PcP	04 12 01.9	+0.7
	3.9nm,0.8s,baz=276,slow=3.8,SNR=3.3						
QSPA	**South Pole Qui**	**32.25**	**180**	P	**P**	**04 09 16.0**	**+1.6**
QSPA				PcP	PcP	04 12 01.9	+0.7
PLCA	**Paso Flores**	**33.26**	**281**	P	**P**	**04 09 23.1**	**-0.4**
	3.6nm,0.4s,mb4.7,baz=157,slow=7.3,SNR=5.9						
PLCA				LR	LR	04 22 16.6	
	comp=Z,165nm,18.4s,MS3.8,baz=169,slow=35						
PLCA	**Paso Flores**	**33.26**	**281**	*e*P	**P**	**04 09 23.6**	**0.0**
	7.0nm,0.8s,mb4.6						
MAW	**Mawson**	**38.05**	**142**	P	**P**	**04 10 03.9**	**-0.4**
	4.5nm,0.8s,mb4.2,baz=255,slow=12,SNR=6.9						
MAW				LR	LR	04 23 06.1	
	comp=Z,121nm,21.9s,MS3.7,baz=253,slow=32						
MAW	**Mawson**	**38.05**	**142**	P	**P**	**04 10 03.9**	**-0.4**
CPUP	**Villa Florida**	**38.78**	**311**	P	**P**	**04 10 09.7**	**-1.2**
	1.5nm,0.4s,mb4.0,baz=141,slow=12,SNR=10						
CPUP				PcP	PcP	04 12 20.7	-0.6
	1.1nm,0.5s,baz=142,slow=3.6,SNR=3.4						
CPUP				LR	LR	04 23 43.3	
	comp=Z,104nm,18.9s,MS3.7,baz=127,slow=32						
CPUP	**Villa Florida**	**38.78**	**311**	*e*P	**P**	**04 10 09.2**	**-1.7**
	22nm,0.8s,mb5.0						
CPUP				PcP	PcP	04 12 20.7	-0.6
CFAA	**Coronel Fontan**	**39.17**	**294**	P	**P**	**04 10 11.8**	**-2.3**
	0.2nm,0.4s,baz=150,slow=6.8,SNR=8.4						
CFAA				PcP	PcP	04 12 21.4	-1.1
	0.5nm,0.5s,baz=154,slow=4.2,SNR=9.6						
CFAA	**Coronel Fontan**	**39.17**	**294**	P	**P**	**04 10 11.8**	**-2.3**
CFAA				PcP	PcP	04 12 21.4	-1.1
VNDA	**Vanda**	**44.66**	**182**	*e*P	**P**	**04 11 00.1**	**+1.8**
	20nm,0.9s,mb4.9						
BOSA	**Boshof**	**45.63**	**72**	P	**P**	**04 11 06.7**	**+0.1**
	3.9nm,0.9s,mb4.3,baz=215,slow=10,SNR=7.7						
BOSA				PcP	PcP	04 12 45.0	+1.0
	3.8nm,0.9s,baz=264,slow=7.6,SNR=3.7						
BOSA				LR	LR	04 26 08.1	
	comp=Z,226nm,19.4s,MS4.1,baz=166,slow=31						
BOSA	**Boshof**	**45.63**	**72**	*e*P	**P**	**04 11 06.5**	**-0.1**
	3.6nm,0.8s,mb4.3						
BOSA				PcP	PcP	04 12 45.0	+1.0
LBTB	**Lobatse**	**48.76**	**70**	P	**P**	**04 11 30.8**	**-0.3**
	2.6nm,0.8s,mb4.3,baz=235,slow=7.9,SNR=6.9						
LBTB				PcP	PcP	04 12 56.5	+1.3
	3.1nm,1.1s,baz=240,slow=3.8,SNR=3.8						
LBTB	**Lobatse**	**48.76**	**70**	P	**P**	**04 11 30.8**	**-0.3**
LBTB				PcP	PcP	04 12 56.5	+1.3
LPAZ	**La Paz**	**52.24**	**305**	*e*P	**P**	**04 11 57.0**	**-0.3**
	4.8nm,0.7s,mb4.5						
LSZ	**Lusaka**	**58.28**	**66**	*e*P	**P**	**04 12 40.9**	**+0.2**
	6.2nm,0.8s,mb4.7						
DBIC	**Dimbokro**	**66.59**	**22**	P	**P**	**04 13 36.4**	**+0.2**
	15nm,0.8s,mb5.1,baz=169,slow=7.4,SNR=18						
DBIC				LR	LR	04 34 19.3	
	comp=Z,88nm,20.1s,MS4.0,baz=242,slow=28						
DBIC	**Dimbokro**	**66.59**	**22**	*e*P	**P**	**04 13 36.1**	**0.0**
	13nm,0.9s,mb5.0						
DBIC				*e*pP	pP	04 13 50.7	-0.6
OTAV	**Otavalo**	**71.48**	**303**	*e*P	**P**	**04 14 07.9**	**+1.3**
	8.4nm,1.1s,mb4.6						
ROSC	**El Rosal

HRY	**Holter Researc**	**126.19**	**302**	*e*PKPdf	PKPdf	04 21 47.7	+0.8
HRY				*ep*PKPdf	pPKPdf	04 22 01.7	-1.6
EGMT	**Eagleton**	**126.25**	**304**	*e*PKPdf	PKPdf	04 21 47.6	+0.6
KAF	**Kangasniemi**	**126.32**	**27**	*ep*	PKPdf	04 21 45.1	-1.6
	3.0nm,0.7s						
CHMT	**Chamberlain Mo**	**126.99**	**301**	*e*PKPdf	PKPdf	04 21 49.3	+0.9
MSO	**Missoula**	**127.24**	**300**	*e*PKPdf	PKPdf	04 21 49.5	+0.6
MSO				*ep*PKPdf	pPKPdf	04 22 04.6	-0.7
SLMT	**Seeley Lake**	**127.35**	**301**	*e*PKPdf	PKPdf	04 21 49.3	+0.2
BMO	**Blue Mountains**	**127.35**	**297**	*e*PKPdf	PKPdf	04 21 49.1	-0.1
ABKAR	**Akbulak array**	**127.72**	**56**	*e*PKPdf	PKPdf	04 21 49.4	-0.3
KKAR	**Karatay Array**	**128.12**	**68**	*e*PKPdf	PKPdf	04 21 50.4	-0.4
JOF	**Joensuu**	**128.26**	**29**	*ep*	PKPdf	04 21 50.0	-0.4
	6.9nm,0.7s						
EKS2	**Erkin-Say**	**129.42**	**70**	*e*PKPdf	PKPdf	04 21 53.3	+0.1
AAK	**Ala-Archa**	**129.76**	**71**	*e*PKPdf	PKPdf	04 21 54.1	+0.2
NEW	**Newport**	**129.76**	**300**	*e*PKPdf	PKPdf	04 21 53.5	-0.1
TKM2	**Tokmak 2**	**130.53**	**71**	*e*PKPdf	PKPdf	04 21 55.4	+0.1
ARCES	**ARCESS Array B**	**132.42**	**22**	PKP	PKPdf	04 21 57.7	-0.4
	4.5nm,1.0s,baz=270,slow=1.6,SNR=11						
ARCES	**ARCESS Array B**	**132.42**	**22**	PKP	PKPdf	04 21 57.7	-0.4
BRVK	**Borovoye**	**135.02**	**58**	*e*PKPdf	PKPdf	04 22 03.1	-0.3
MKAR	**Makanchi Array**	**136.63**	**72**	PKP	PKPdf	04 22 08.0	+1.4
	1.8nm,0.8s,baz=204,slow=1.0,SNR=4.7						
MKAR	**Makanchi Array**	**136.63**	**72**	PKP	PKPdf	04 22 08.0	+1.4
KURK	**Kurchatov**	**137.40**	**66**	*e*PKPdf	PKPdf	04 22 07.2	-0.8
YKA	**Yellowknife Ar**	**138.22**	**316**	PKP	PKPdf	04 22 09.2	+0.1
	4.7nm,0.6s,baz=136,slow=1.9,SNR=15						
YKA				pPKP	pPKPdf	04 22 24.7	-0.7
	9.4nm,0.8s,baz=122,slow=2.0,SNR=7.9						
YKA	**Yellowknife Ar**	**138.22**	**316**	PKP	PKPdf	04 22 09.2	+0.1
YKA				pPKP	pPKPdf	04 22 24.7	-0.8
RES	**Resolute Bay**	**140.00**	**337**	*e*PKPdf	PKPdf	04 22 11.6	-0.5
ZALV	**Zalesovo Beam**	**142.39**	**65**	PKhKP	PKPpre	04 22 12.3	
	1.0nm,0.5s,baz=241,slow=3.2,SNR=5.4						
ZALV	**Zalesovo Beam**	**142.39**	**65**	PKPpre	PKPpre	04 22 12.3	
INK	**Inuvik**	**147.87**	**318**	*e*PKPbc	PKPbc	04 22 28.4	-0.6
SONM	**Songino Array**	**149.90**	**89**	PKP	PKPdf	04 22 29.7	-0.1
	6.9nm,0.6s,baz=170,slow=2.0,SNR=4.3						
SONM				PKPbc	PKPbc	04 22 34.4	-0.3
	13nm,0.7s,baz=226,slow=3.1,SNR=79						
SONM	**Songino Array**	**149.90**	**89**	PKP	PKPdf	04 22 29.7	-0.1
SONM				PKPbc	PKPbc	04 22 34.4	-0.3
ULN	**Ulaanbaatar**	**150.27**	**89**	*e*PKPbc	PKPbc	04 22 35.1	-0.5
SML	**Sawmill**	**151.87**	**302**	*e*PKPbc	PKPbc	04 22 39.4	+0.5
ILAR	**Eielson Array**	**152.07**	**309**	PKPbc	PKPbc	04 22 39.3	+0.1
	30nm,0.9s,baz=138,slow=4.2,SNR=187						
ILAR				pPKPbc	pPKPbc	04 22 55.0	-0.6
	18nm,0.8s,baz=135,slow=4.3,SNR=13						
ILAR	**Eielson Array**	**152.07**	**309**	PKPbc	PKPbc	04 22 39.3	+0.1
ILAR				pPKPbc	pPKPbc	04 22 55.0	-0.6
PMR	**Palmer**	**152.16**	**301**	*e*PKPbc	PKPbc	04 22 39.8	+0.3
COLA	**College**	**152.49**	**309**	*e*PKPdf	PKPdf	04 22 33.2	-0.1
COLA				*e*PKPbc	PKPbc	04 22 39.9	-0.3
COLA				*e*PKPab	PKPab	04 22 50.6	-0.2
MCK	**McKinley**	**152.68**	**306**	*e*PKPdf	PKPdf	04 22 33.9	+0.4
MCK				*e*PKPbc	PKPbc	04 22 40.8	+0.1
KSAR	**Wonju Array Be**	**153.06**	**128**	PKPbc	PKPbc	04 22 41.5	-0.8
KSRS	**Korea Array**	**153.08**	**128**	PKPbc	PKPbc	04 22 41.5	-0.9
	0.8nm,0.6s,baz=153,slow=1.8,SNR=4.9						
TRF	**Thorofare Moun**	**153.20**	**305**	*e*PKPbc	PKPbc	04 22 41.9	+0.1
TRF				*e*PKPab	PKPab	04 22 53.1	-0.8
PPLA	**Purkeypile**	**153.90**	**303**	*e*PKPbc	PKPbc	04 22 43.5	+0.2

ISCJB ***29*** *04:08:15.1±0.9, 17.°6S±0.°2×178.°8W±0.°1, h568km±11km, mb3.8/9, Error ellipse: s-maj=27.4km s-min=16.2km az=149.3*

NEIC ***29*** *04:08:15.7±0.7, 17.°70S×178.°69W, h559km±7km, mb3.9/1, Error ellipse: s-maj=18.4km s-min=12.1km az=143.0*

IDC ***29*** *04:08:15.1±2.1, 17.°63S×178.°77W, h546km±25km, mb3.3/7, mb1 3.4/8, mb1mx3.2/18, mbtmp3.3/8, Error ellipse: s-maj=21.2km s-min=16.0km az=124.0*

ISC 29 04:08:15.9±0.9, 17.°6S±0.°2×178.°7W±0.°1, h564km±11km, n28, σ0°75/23, mb3.8/9, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.06**	**268**	*e*Pn	**P**	**04 09 32.9**	**+0.4**
AFI	**Afiamalu**	**7.65**	**62**	P	**P**	**04 10 09.9**	**-0.9**
	2.1nm,0.3s,baz=227,slow=10,SNR=5.5						
AFI				S	**S**	**04 11 36.3**	**-8.5**
	1.4nm,0.3s,baz=246,slow=20,SNR=3.0						
AFI	**Afiamalu**	**7.65**	**62**	P	**P**	**04 10 09.9**	**-0.9**
AFI				S	**S**	**04 11 36.3**	**-8.5**
STKA	**Stephens Creek**	**38.49**	**241**	P	**P**	**04 14 51.1**	**+0.6**
	2.6nm,0.6s,mb4.0,baz=83,slow=8.1,SNR=7.9						
STKA	**Stephens Creek**	**38.49**	**241**	P	**P**	**04 14 51.1**	**+0.6**
WRA	**Warramunga Arr**	**44.38**	**259**	P	**P**	**04 15 36.4**	**-0.8**
	0.2nm,0.3s,mb3.1,baz=94,slow=7.4,SNR=9.1						
WRA	**Warramunga Arr**	**44.38**	**259**	P	**P**	**04 15 36.4**	**-0.8**
ASAR	**Alice Springs**	**44.57**	**254**	P	**P**	**04 15 38.8**	**+0.2**
	2.3nm,0.6s,mb3.9,baz=88,slow=8.2,SNR=54						
ASAR				S	**S**	**04 21 32.3**	**-1.6**
	0.7nm,0.8s,baz=98,slow=16,SNR=6.7						
ASAR	**Alice Springs**	**44.57**	**254**	P	**P**	**04 15 38.8**	**+0.2**
ASAR				S	**S**	**04 21 32.3**	**-1.6**
FORT	**Forrest**	**49.84**	**244**	*e*P	**P**	**04 16 17.9**	**-0.2**
	8.9nm,0.8s,mb4.2						
MJAR	**Matsushiro Arr**	**67.50**	**323**	P	**P**	**04 18 16.4**	**0.0**
	2.6nm,0.5s,mb4.0,baz=161,slow=5.5,SNR=7.2						
MJAR	**Matsushiro Arr**	**67.50**	**323**	P	**P**	**04 18 16.4**	**0.0**
QSPA	**South Pole Qui**	**72.42**	**180**	P	**P**	**04 18 46.1**	**+1.2**
	6.5nm,0.8s,mb4.1,baz=6.9,slow=1.3,SNR=23						
QSPA	**South Pole Qui**	**72.42**	**180**	P	**P**	**04 18 46.1**	**+1.2**
PETK	**Petropavlovsk-**	**73.33**	**345**	P	**P**	**04 18 51.6**	**+1.2**
	3.1nm,0.6s,mb3.9,baz=148,slow=8.4,SNR=4.6						
PETK	**Petropavlovsk-**	**73.33**	**345**	P	**P**	**04 18 51.6**	**+1.2**
ILAR	**Eielson Array**	**85.69**	**13**	P	**P**	**04 19 54.9**	**-0.2**
	0.4nm,0.4s,mb3.4,baz=226,slow=5.2,SNR=21						
ILAR	**Eielson Array**	**85.69**	**13**	P	**P**	**04 19 54.9**	**-0.2**
SNAA	**Sanae**	**90.88**	**179**	*e*P	**P**	**04 20 18.7**	**-0.7**
	0.7nm,0.5s,mb3.9						
BUR08	**Bucovina Ar. S**	**144.21**	**332**	*e*PKPdf	PKPdf	04 26 49.6	+1.6
BR131	**Keskin Array S**	**144.37**	**315**	*e*PKPdf	PKPdf	04 26 49.2	+0.7
BRTR	**Keskin Array B**	**144.37**	**315**	PKP	PKPdf	04 26 49.5	+1.0
	1.0nm,0.6s,baz=31,slow=3.4,SNR=6.2						
BRTR	**Keskin Array B**	**144.37**	**315**	PKP	PKPdf	04 26 49.5	+1.0
CLL	**Collm**	**145.13**	**347**	*i*	PKPbc	04 26 51.7	+1.3
GERES	**GERESS Array B**	**147.26**	**345**	PKPbc	PKPbc	04 26 57.7	+1.3
	0.9nm,0.6s,baz=33,slow=3.8,SNR=8.6						
GERES	**GERESS Array B**	**147.26**	**345**	PKPbc	PKPbc	04 26 57.7	+1.3
TORD	**Torodi Ar. Bea**	**175.52**	**185**	PKPab	PKPab	04 29 03.2	-0.4
	0.5nm,1.1s,baz=184,slow=5.4,SNR=3.1						
TORD	**Torodi Ar. Bea**	**175.52**	**185**	PKPab	PKPab	04 29 03.2	-0.4

IDC 29 04:25:40.5±1.1, 5.°53N×126.°57E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/20, mbtmp3.5/4, Error ellipse: s-maj=67.5km s-min=24.8km az=80.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.82**	**327**	Sn	Sn	04 26 52.3	+15
	72nm,0.3s,baz=55,slow=22,SNR=4.0						
FITZ	**Fitzroy Crossi**	**23.50**	**182**	P	P	04 30 52.2	0.0
	0.9nm,0.7s,baz=0.4,slow=9.7,SNR=4.9						
WRA	**Warramunga Arr**	**26.44**	**163**	P	P	04 31 18.9	-0.3
	0.6nm,0.7s,baz=343,slow=10.0,SNR=5.4						
MKAR	**Makanchi Array**	**56.00**	**325**	P	P	04 35 20.3	-0.6
	0.3nm,0.4s,baz=114,slow=7.8,SNR=4.2						
ILAR	**Eielson Array**	**83.56**	**26**	P	P	04 38 10.3	+0.1
	0.1nm,0.5s,baz=256,slow=4.5,SNR=5.2						
TORD	**Torodi Ar. Bea**	**122.20**	**289**	PKP	PKPdf	04 44 38.9	+0.5
	1.1nm,1.2s,baz=40,slow=1.2,SNR=3.0						

IDC 29 05:15:32.6±3.1, 30.°63N×83.°27E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/26, mbtmp3.5/4, Error ellipse: s-maj=90.9km s-min=29.7km az=73.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**16.16**	**358**	Pn	Pn	05 19 22.9	+2.0
	0.1nm,0.3s,baz=178,slow=12,SNR=4.6						
KURK	**Kurchatov**	**20.36**	**351**	P	P	05 20 08.6	-1.9
	1.7nm,0.7s,baz=172,slow=9.9,SNR=6.4						
ZALV	**Zalesovo Beam**	**23.33**	**2**	P	P	05 20 43.0	+0.8
	0.3nm,0.3s,baz=201,slow=7.7,SNR=3.6						
SONM	**Songino Array**	**24.67**	**39**	P	P	05 20 55.4	+0.4
	0.3nm,0.8s,baz=240,slow=12,SNR=3.4						
WRA	**Warramunga Arr**	**70.26**	**129**	P	P	05 26 47.8	0.0
	0.4nm,0.7s,baz=327,slow=6.5,SNR=5.2						

IDC 29 05:19:33.1±27.0, 20.°43S×172.°40W, h0km, mb4.3/4, mb1 4.4/4, mb1mx4.0/18, mbtmp4.3/4, Error ellipse: s-maj=499.4km s-min=162.3km az=74.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**38.72**	**263**	P	P	05 26 59.4	+0.2
	1.9nm,0.6s,baz=89,slow=11,SNR=9.6						
STKA	**Stephens Creek**	**42.56**	**245**	P	P	05 27 30.6	-0.3
	0.8nm,0.4s,baz=72,slow=9.7,SNR=5.2						
ASAR	**Alice Springs**	**49.64**	**256**	P	P	05 28 27.1	+0.3
	1.9nm,0.7s,baz=98,slow=7.0,SNR=28						
WRA	**Warramunga Arr**	**49.80**	**261**	P	P	05 28 27.6	-0.5
	2.5nm,0.5s,baz=97,slow=8.2,SNR=9.9						

MEX 29 05:21:30.8±1.2, 14.°96N×93.°96W, h18km±28km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.03**	**44**	*e*P	Pb	05 21 46.5	-3.7
PCIG				*i* S	Sb	05 21 58.6	-4.8
THIG		**1.64**	**92**	*i* P	Pn	05 21 55.1	-3.7
THIG				*i* S	Sn	05 22 14.3	-5.2
TGIG		**1.98**	**24**	*e*P	Pn	05 22 01.6	-1.9
TGIG				*i* S	Sn	05 22 24.1	-3.8
CCIG	**Comitan**	**2.20**	**53**	*e*P	Pn	05 22 05.0	-1.5
CCIG				*i* S	Sn	05 22 30.0	-3.2
CMIG	**Matias Romero**	**2.30**	**337**	*e*P	Pn	05 22 04.4	-3.4
CMIG				*i* S	Sn	05 22 31.3	-4.4

BJI ***29*** *05:59:12.9, 18.°31S×177.°32W, h356km, mB5.4/31, mb5.5/61*

ISCJB ***29*** *05:59:14.3±0.1, 18.°79S±0.°02×177.°69W±0.°02, h375km, mb5.7/267, Error ellipse: s-maj=3.3km s-min=2.3km az=32.5*

DJA ***29*** *05:59:14, 18.°81S×177.°52W, h377km, Mw6.0/16*

BGS ***29*** *05:59:14.7±7.2, 18.°70S×177.°72W, h386km, mb5.7(NEIC)*

MOS ***29*** *05:59:14.9±1.2, 18.°74S×177.°61W, h386km, mb5.9/66, Error ellipse: s-maj=11.6km s-min=9.8km az=152.9*

IDC ***29*** *05:59:15.0±0.6, 18.°82S×177.°61W, h373km±5km, mb5.3/27, mb1 5.3/29, mb1mx5.3/29, mbtmp5.3/29, Error ellipse: s-maj=8.7km s-min=7.9km az=117.0*

NEIC ***29*** *05:59:16.6±0.1, 18.°70S×177.°72W, h386km, mb5.7/210, MW5.9, MW5.9, Error ellipse: s-maj=4.8km s-min=2.9km az=146.0, Moment Tensor Solution. s32 Moment tensor: Scale 10^17 Nm; Mrr 2.89; Mθθ -5.39; Mϕϕ 2.50; Mrθ -5.90; Mθϕ -2.56; Mϕr 4.06; Best double couple: M0 8.90000×10^17 NP1: ϕ293.00000°, δ79.00000°, λ123.00000°. NP2: ϕ 39.00000°, δ 34.00000°, λ 20.00000°. Principal axes: T 9.3200, Plg46.0000°, Azm235.0000°; N -0.8400, Plg31.0000°, Azm105.0000°; P -8.4700, Plg26.0000°, Azm357.0000°;*

SZGRF ***29*** *05:59:17.7, 18.°41S×177.°20W, h384km, Fiji Islands region*

GCMT ***29*** *05:59:19.6±0.1, 18.°72S×177.°52W, h397km, MW6.0, Moment Tensor Solution. s113, c247; s84, c118; Moment tensor: Scale 10^18 Nm; Mrr 0.00; Mθθ 0.00; Mϕϕ 0.00; Mrθ 0.00; Mθϕ 0.00; Mϕr 0.00; Best double couple: M0 1.20000×10^18 NP1: ϕ 30.00000°, δ 42.00000°, λ 17.00000°. NP2: ϕ 288.00000°, δ 79.00000°, λ 131.00000°. Principal axes: T 1.2000, Plg41.0000°, Azm236.0000°; N -0.0900, Plg40.0000°, Azm98.0000°; P -1.1100, Plg23.0000°, Azm348.0000°; Data Used: II IU CN IC G.*

ISC 29 05:59:15.6±0.1, 18.°84S±0.°02×177.°64W±0.°02, h377km, h377km±.7km: pP-P, n1089, σ0°95/557, mb5.7/265, 61C-35D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.24**	**284**	*e*Pn	**Pn**	**06 00 31.0**	**+2.4**
MSVF	**Nonsavu**	**4.24**	**284**	*e*P	**Pn**	**06 00 31.0**	**+2.3**
MSVF	**Nonsavu**	**4.24**	**284**	Pn	**Pn**	**06 00 32.0**	**+3.3**
	5μm,0.7s,SNR=56						
AFI	**Afiamalu**	**7.46**	**50**	P	**Pn**	**06 00 58.1**	**-6.0**
	453nm,0.3s,baz=233,slow=20,SNR=381						
AFI				S	**S**	**06 02 17.2**	**-15**
	129nm,0.3s,baz=39,slow=19,SNR=6.5						
AFI	**Afiamalu**	**7.46**	**50**	P	**Pn**	**06 00 58.1**	**-6.0**
AFI				S	**S**	**06 02 17.2**	**-15**
AFI	**Afiamalu**	**7.46**	**50**	P	**Pn**	**06 00 58.1**	**-6.0**
RAO	**Raoul Island**	**10.37**	**181**	*e*Pn	**Pn**	**06 01 36.8**	**-1.1**
RAO				*e*Sn	**S**	**06 03 33.9**	**-1.0**
RAO	**Raoul Island**	**10.37**	**181**	*e*P	**Pn**	**06 01 36.8**	**-1.1**
RAO				*e*		06 03 33.9	
FUNA	**Funafuti**	**10.70**	**343**	*e*Pn	**Pn**	**06 01 39.0**	**-3.0**
BAYA	**Yate Dam**	**14.87**	**255**	*e*P	**P**	**06 02 30.9**	**+3.2**
DZM	**Mont Dzumac**	**15.26**	**255**	*e*P	**P**	**06 02 33.4**	**+1.5**
	3μm,1.1s						
DZM	**Mont Dzumac**	**15.26**	**255**	*e*P	**P**	**06 02 32.9**	**+1.0**
DZM	**Mont Dzumac**	**15.26**	**255**	*e*P	**P**	**06 02 33.4**	**+1.5**
	1μm,0.8s						
DZM				*e*ScP	ScP	06 10 11.8	+1.7
NOUC	**Port Laguerre**	**15.39**	**255**	*e*P	**P**	**06 02 34.4**	**+1.0**
RAR	**Rarotonga**	**16.96**	**101**	P	**P**	**06 02 49.7**	**-0.6**
	4.7nm,0.3s,baz=252,slow=9.7,SNR=14						
RAR				S	**S**	**06 05 47.6**	**-0.4**
	baz=319,slow=20,SNR=1.5						
RAR	**Rarotonga**	**16.96**	**101**	*e*P	**P**	**06 02 50.5**	**+0.3**
	260nm,1.0s						
RAR	**Rarotonga**	**16.96**	**101**	P	**P**	**06 02 49.7**	**-0.5**
RAR				S	**S**	**06 05 47.6**	**-0.4**
RAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
OUZ	**Omahuta**	**18.07**	**204**	*e*P	**P**	**06 03 05.2**	**+3.3**
	comp=Z,512nm,0.6s						
OUZ	**Omahuta**	**18.07**	**204**	PN	**P**	**06 03 04.3**	**+2.4**
WCZ	**Waipu Caves**	**18.45**	**201**	*e*PN	**P**	**06 03 08.6**	**+2.7**
WCZ				*e*P		06 04 10.4	
KUZ	**Kuaotunu**	**18.77**	**197**	*e*PN	**P**	**06 03 09.9**	**+0.7**
MXZ	**Matakaoa Point**	**18.99**	**190**	*e*PN	**P**	**06 03 10.1**	**-1.5**
MXZ				*e*SN	**S**	**06 06 23.2**	**-2.9**
MKAZ	**Moumakai**	**19.27**	**198**	*e*PN	**P**	**06 03 15.4**	**+0.9**
PUZ	**Puketiti**	**19.50**	**190**	*e*PN	**P**	**06 03 14.7**	**-2.1**
OPRZ	**Ohinepanea**	**19.61**	**194**	*e*PN	**P**	**06 03 17.0**	**-0.9**
MWZ	**Matawai**	**19.88**	**191**	*e*PN	**P**	**06 03 19.8**	**-0.6**
URZ	**Urewera**	**19.89**	**192**	P	**P**	**06 03 18.6**	**-1.9**
	comp=Z,36nm,0.3s,baz=12,slon=6.9,SNR=166						
URZ				S	**S**	**06 06 38.7**	**-2.1**
	comp=Z,3.3nm,0.3s,baz=232,slow=19,SNR=6.2						
URZ	**Urewera**	**19.89**	**192**	*e*P	**P**	**06 03 19.9**	**-0.6**
	comp=Z,864nm,0.9s						
URZ	**Urewera**	**19.89**	**192**	*e*PN	**P**	**06 03 17.7**	**-2.7**
URZ				SN	**S**	**06 06 38.0**	**-2.7**
OMRZ	**Omania**	**19.90**	**194**	*e*PN	**P**	**06 03 20.3**	**-0.2**
TARZ	**Mount Tarawera**	**19.99**	**194**	*e*PN	**P**	**06 03 21.2**	**-0.2**
KNZ	**Kokohu**	**20.52**	**190**	*e*PN	**P**	**06 03 26.2**	**-0.1**
KNZ				*e*SN	**S**	**06 06 49.9**	**-1.2**
RAHZ	**Arahi**	**20.52**	**192**	*e*PN	**P**	**06 03 24.9**	**-1.4**
MHGZ	**Mahia Peninsul**	**20.61**	**190**	*e*PN	**P**	**06 03 27.4**	**+0.4**
HIZ	**Hauiti**	**20.66**	**197**	*e*PN	**P**	**06 03 30.5**	**+2.9**
RATZ	**Rangitukua**	**20.76**	**195**	*e*PN	**P**	**06 03 28.3**	**-0.1**
OTVZ	**Oturere**	**21.07**	**195**	*e*PN	**P**	**06 03 30.7**	**-0.6**
MCHZ	**McNeill Hill**	**21.11**	**192**	*e*PN	**P**	**06 03 30.4**	**-1.2**
TUVZ	**Tukino**	**21.17**	**195**	PN	**P**	**06 03 32.1**	**-0.1**
VRZ	**Vera Road**	**21.26**	**196**	*e*PN	**P**	**06 03 34.2**	**+1.2**
RAEZ	**Rainy Point**	**21.52**	**197**	*e*PN	**P**	**06 03 37.7**	**+2.4**
NEZ	**North Egmont**	**21.58**	**198**	*e*PN	**P**	**06 03 38.4**	**+2.5**
TSZ	**Takapari Road**	**21.86**	**193**	*e*PN	**P**	**06 03 37.2**	**-1.2**
PRHZ	**Porangahau**	**21.92**	**192**	*e*PN	**P**	**06 03 38.7**	**-0.3**
MRZ	**Mangatainoka R**	**22.52**	**194**	*e*PN	**P**	**06 03 43.1**	**-1.3**
MRZ				*e*SN	**S**	**06 07 21.1**	**-2.0**
OGWZ	**Otaki Gorge**	**22.76**	**194**	*e*PN	**P**	**06 03 45.6**	**-1.0**
KIW	**Kapiti Island**	**22.86**	**195**	*e*PN	**P**	**06 03 46.5**	**-1.0**
CAW	**Cannon Point**	**23.06**	**194**	*e*PN	**P**	**06 03 48.5**	**-0.8**
SNZO	**South Karori**	**23.34**	**195**	*e*P	**P**	**06 03 51.8**	**0.0**
	comp=Z,328nm,0.8s,mb5.6						
SNZO				*e*S	**S**	**06 07 35.5**	**-0.5**
TCW	**Tory Channel**	**23.35**	**196**	*e*PN	**P**	**06 03 51.2**	**-0.7**
QRZ	**Quartz Range**	**23.48**	**199**	*e*PN	**P**	**06 03 53.4**	**+0.2**
NNZ	**Nelson**	**23.59**	**197**	*e*PN	**P**	**06 03 53.7**	**-0.4**
HNR	**Honiara**	**23.63**	**290**	P	**P**	**06 03 53.5**	**-1.4**
	comp=Z,242nm,0.7s,mb5.5,baz=162,slow=1.4,SNR=26						
HNR	**Honiara**	**23.63**	**290**	*e*P	**P**	**06 03 53.9**	**-1.0**
	comp=Z,335nm,1.0s,mb5.5						
HNR	**Honiara**	**23.63**	**290**	*e*P	**P**	**06 03 53.9**	**-1.0**
HNR				pmax	pmax		
	comp=Z,335nm,1.0s,mb5.5						
TUWZ	**Tuamarina**	**23.64**	**196**	*e*PN	**P**	**06 03 54.9**	**+0.3**
THZ	**Tophouse**	**24.23**	**197**	*e*PN	**P**	**06 03 59.6**	**-0.3**
THZ				*e*SN	**S**	**06 07 46.7**	**-3.5**
KHZ	**Kahutara**	**24.67**	**196**	*e*P	**P**	**06 04 03.2**	**-0.6**
	comp=Z,399nm,0.7s,mb5.8						
KHZ				*e*S	**S**	**06 07 56.1**	**-1.0**
KHZ	**Kahutara**	**24.67**	**196**	*e*PN	**P**	**06 04 03.0**	**-0.8**
LTZ	**Lake Taylor**	**25.35**	**198**	*e*PN	**P**	**06 04 08.1**	**-1.7**
WVZ	**Waitaha Valley**	**26.08**	**200**	*e*PN	**P**	**06 04 15.4**	**-0.9**
MQZ	**McQueen's Vall**	**26.11**	**196**	*e*PN	**P**	**06 04 16.1**	**-0.4**
RPZ	**Rata Peaks**	**26.56**	**199**	P	**P**	**06 04 21.2**	**+0.6**
	comp=Z,110nm,0.6s,mb5.3,baz=357,slow=5.2,SNR=33						
RPZ				ScP	ScP	06 10 37.6	+0.2
	comp=Z,15nm,0.8s,baz=289,slow=4.0,SNR=3.1						
RPZ	**Rata Peaks**	**26.56**	**199**	*e*P	**P**	**06 04 21.4**	**+0.8**
	comp=Z,229nm,0.9s,mb5.4						
RPZ				ScP	ScP	06 10 37.6	+0.2
PAE	**Paea**	**26.67**	**92**	*e*P	**P**	**06 04 21.1**	**-0.8**
	comp=Z,34nm,1.0s,mb4.5						
PPT2	**Papeete2**	**26.68**	**92**	*e*P	**P**	**06 04 22.6**	**+0.6**
	comp=Z,174nm,1.1s,mb5.2						
FOZ	**Fox Glacier**	**26.86**	**201**	*e*PN	**P**	**06 04 21.8**	**-1.4**
TIAR	**Tiarei**	**26.90**	**92**	*e*P	**P**	**06 04 23.6**	**-0.4**
	comp=Z,163nm,0.9s,mb5.3						
LBZ	**Lake Benmore**	**27.44**	**199**	*e*PN	**P**	**06 04 27.0**	**-1.4**
JCZ	**Jackson Bay**	**27.63**	**201**	*e*PN	**P**	**06 04 30.1**	**0.0**
JCZ				*e*SN	**S**	**06 08 40.7**	**-2.8**
ODZ	**Otahua Downs**	**27.89**	**198**	*e*P	**P**	**06 04 31.2**	**-1.2**
	comp=Z,6μm,2.8s,mb6.3						
ODZ				*e*		06 05 50.3	
ODZ	**Otahua Downs**	**27.89**	**198**	*e*PN	**P**	**06 04 32.1**	**-0.3**
ODZ				pP		06 05 50.2	
PMOR	**Pomariorio Ree**	**28.70**	**87**	*e*P	**P**	**06 04 40.2**	**+0.4**
	comp=Z,762nm,1.1s,mb5.8						
XMAS	**Kiritimati**	**28.73**	**46**	*e*P	**P**	**06 04 38.8**	**-1.3**
	comp=Z,234nm,0.8s,mb5.5						
MLZ	**Mavora Lakes**	**28.95**	**201**	*e*PN	**P**	**06 04 42.3**	**+0.7**
EIDS	**Eidsvold**	**29.55**	**252**	*e*P	**P**	**06 04 48.6**	**+0.5**
	comp=Z,255nm,0.8s,mb5.5						
ARMA	**Armidale**	**30.12**	**242**	↑*i* P	**P**	**06 04 54.4**	**+2.2**
ARMA				*e*PP	PP	06 06 13.6	+3.8
ARMA				*e*ScS	ScS	06 14 52.5	+7.1
ARMA	**Armidale**	**30.12**	**242**	*e*P	**P**	**06 04 54.5**	**+2.3**
	comp=Z,394nm,0.6s,mb5.8						
PYZ	**Puysegur Point**	**30.17**	**202**	*e*PN	**P**	**06 04 51.0**	**-1.4**
APZ	**The Paps**	**30.32**	**200**	*e*PN	**P**	**06 04 54.4**	**+0.8**
KWAJ	**Kwajalein Atol**	**31.08**	**331**	*e*P	**P**	**06 05 00.5**	**-0.1**
	comp=Z,832nm,0.8s,mb6.0						
KWAJ	**Kwajalein Atol**	**31.08**	**331**	*e*P	**P**	**06 05 00.5**	**-0.1**
KWAJ				pmax	pmax		
	comp=Z,832nm,0.8s,mb6.0						
RIV	**Riverview**	**31.55**	**236

KIP **Kipapa** 44.39 27 eP P 06 06 49.5 -1.0
comp=Z,237nm,0.7s,mb5.4
KIP **Kipapa** 44.39 27d iP P 06 06 49.1 -1.5
OPA **Opana** 44.62 26 eP P 06 06 51.8 -0.6
OPA **Opana** 44.62 26 eP P 06 06 51.8 -0.6
WB2 **Warramunga Arr** 45.17 260 eP P 06 06 55.5 -1.3
WB2 ePcP PcP 06 08 30.6 +0.7
WB2 eS S 06 13 08.6 +0.8
WRAB **Tennant Creek** 45.18 260 eP P 06 06 55.8 -1.1
comp=Z,121nm,0.6s,mb5.2
WRAB **Tennant Creek** 45.18 260 eP P 06 06 55.8 -1.1
WRAB pmax pmax
comp=Z,121nm,0.6s,mb5.2
WRAB **Tennant Creek** 45.18 260 P P 06 06 56.0 -0.9
comp=Z,1µm,0.6s,mb6.3
WRAB **Tennant Creek** 45.18 260 P P 06 06 55.6 -1.3
WRA **Warramunga Arr** 45.19 260 P P 06 06 55.8 -1.2
comp=Z,131nm,0.7s,mb5.2,baz=95,slow=7.4,SNR=738
WRA PcP PcP 06 08 30.1 +0.2
comp=Z,114nm,0.6s,baz=93,slow=3.5,SNR=15
WRA ScP ScP 06 11 48.1 +2.2
comp=Z,6.8nm,0.8s,baz=86,slow=4.2,SNR=6.9
WRA S S 06 13 03.8 -4.2
comp=Z,5.6nm,0.8s,baz=96,slow=14,SNR=2.9
WRA ScS ScS 06 16 07.9 -4.3
comp=Z,18nm,1.2s,baz=97,slow=6.0,SNR=9.1
WRA P4KPbc 06 44 43.7
comp=Z,0.9nm,0.7s,baz=91,slow=4.2,SNR=9.0
WRA **Warramunga Arr** 45.19 260 P P 06 06 55.8 -1.2
WRA PcP PcP 06 08 30.1 +0.2
WRA ScP ScP 06 11 48.1 +2.2
WRA S S 06 13 03.8 -4.1
WRA ScS ScS 06 16 07.9 -4.3
WRA e 06 44 43.7
WRA **Warramunga Arr** 45.19 260 P P 06 06 55.8 -1.1
WRA 06 08 30.1
WRA S S 06 13 03.8 -4.1
WRA 06 16 07.9
AS31 **Alice Springs** 45.25 255 eP P 06 06 56.8 -0.6
AS31 ePcP PcP 06 08 30.9 +0.8
ASAR **Alice Springs** 45.25 255 P P 06 06 57.0 -0.4
comp=Z,1µm,0.6s,mb6.2,baz=89,slow=8.5,SNR=5168
ASAR PcP PcP 06 08 30.6 +0.5
comp=Z,140nm,0.6s,baz=99,slow=4.2,SNR=13
ASAR ScP ScP 06 11 49.8 +3.7
comp=Z,18nm,0.8s,baz=84,slow=4.2,SNR=6.4
ASAR S S 06 13 06.8 -1.9
comp=Z,15nm,0.8s,baz=94,slow=14,SNR=9.2
ASAR ScS ScS 06 16 09.2 -3.4
comp=Z,7.4nm,1.0s,baz=97,slow=5.8,SNR=8.6
ASAR P4KPbc 06 44 44.6
comp=Z,1.4nm,0.7s,baz=98,slow=5.0,SNR=25
ASAR **Alice Springs** 45.25 255 P P 06 06 57.0 -0.4
ASAR PcP PcP 06 08 30.6 +0.5
ASAR ScP ScP 06 11 49.8 +3.7
ASAR S S 06 13 06.8 -1.9
ASAR ScS ScS 06 16 09.2 -3.4
ASAR e 06 44 44.6
ASAR **Alice Springs** 45.25 255 P P 06 06 57.0 -0.4
ASAR 06 08 30.6
ASAR S S 06 13 06.8 -1.9
ASAR 06 16 09.2
SMPI **Sarmi** 45.90 286 P P 06 07 02.5 0.0
comp=Z,1µm,1.0s,mb5.9
MIDW **Midway** 46.78 0 eP P 06 07 07.3 -1.6
comp=Z,453nm,1.4s,mb5.5
BAKI **Biak** 48.59 286 P P 06 07 23.6 +0.5
comp=Z,2µm,0.8s,mb6.3
GUMO **Guam** 49.02 308 P P 06 07 25.3 -0.9
comp=Z,850nm,0.8s,mb6.0,baz=161,slow=7.8,SNR=24
GUMO **Guam** 49.02 308 eP P 06 07 26.1 -0.1
comp=Z,1µm,0.9s,mb6.1
GUMO **Guam** 49.02 308 eP P 06 07 26.1 -0.1
GUMO pmax pmax
comp=Z,1µm,0.9s,mb6.1
GUMO **Guam** 49.02 308 P P 06 07 26.5 +0.3
comp=Z,2µm,1.1s,mb6.2
TLE **Tual** 50.06 279 P P 06 07 34.2 +0.1
comp=Z,1µm,1.1s,mb6.0
FORT **Forrest** 50.27 245 iP P 06 07 35.0 -0.4
comp=Z,1µm,0.7s,mb6.2
FORT e 06 08 08.3
FORT eS S 06 14 17.8 -0.8
FORT eSCS ScS 06 16 51.3 +5.3
FORT **Forrest** 50.27 245 eP P 06 07 35.3 -0.1
comp=Z,974nm,0.7s,mb6.1
FORT eS S 06 14 17.6 -1.0
FAKI **Fak Fak** 51.48 282 P P 06 07 43.8 -0.7
comp=Z,7µmcomp=Z,575nm,1.4s,mb5.6
FITZ **Fitzroy Crossi** 53.60 261 S S 06 15 01.2 -2.6
comp=Z,4.0nm,0.7s,baz=126,slow=19,SNR=3.4
FITZ **Fitzroy Crossi** 53.60 261 eP P 06 07 59.6 -0.2
comp=Z,344nm,0.6s,mb5.9
FITZ ePP PP 06 10 01.2 -4.0
FITZ e 06 15 03.3
FITZ eSCS ScS 06 17 12.0 +2.3
FITZ **Fitzroy Crossi** 53.60 261 eP P 06 07 59.8 0.0
comp=Z,232nm,0.8s,mb5.6
FITZ S S 06 15 01.2 -2.5
MSAI **Masohi** 54.41 280 P P 06 08 05.1 -0.6
comp=Z,2µmcomp=Z,132nm,0.7s,mb5.4
AAI **Ambon** 54.98 279 P P 06 08 09.4 -0.3
comp=Z,10µmcomp=Z,815nm,1.0s,mb6.0
DRV **Dumont d'Urvil** 55.02 199 P P 06 08 09.0 -0.1
DRV **Dumont d'Urvil** 55.02 199 PP PP 06 10 10.0 -6.9
DRV S S 06 15 23.0 +1.8
DRV SS SS 06 19 12.0 +0.9
DRV L 06 22 00.0
NLAI **Namlea** 56.16 279 P P 06 08 17.9 -0.1
comp=Z,7µmcomp=Z,443nm,1.7s,mb5.5
MBWA **Marble Bar** 58.56 256 eP P 06 08 34.2 -0.3
comp=Z,520nm,0.6s,mb6.1
MBWA **Marble Bar** 58.56 256 P P 06 08 34.1 -0.4
MBWA **Marble Bar** 58.56 256 P P 06 08 34.4 -0.1
SNR=66
MMRI **Maumere** 59.04 271 P ScS 06 17 55.3 +5.7
KLBR **Kellerberrin** 59.07 244 eP P 06 08 37.4 -0.4
comp=Z,734nm,0.6s,mb6.3
KLBR eS S 06 16 13.2 -1.6
NWAO **Narrogin (SRO)** 59.42 242 eP P 06 08 40.8 +0.6
comp=Z,264nm,0.7s,mb5.8
NWAO **Narrogin (SRO)** 59.42 242 eP P 06 08 40.8 +0.6
NWAO pmax pmax
comp=Z,264nm,0.7s
SBA **Scott Base** 59.54 184 eP P 06 08 43.8 +3.6
comp=Z,1µm,1.5s,mb6.1
SBA **Scott Base** 59.54 184 eP P 06 08 43.8 +3.6
SBA pmax pmax
comp=Z,1µm,1.5s,mb6.1
VNDA **Vanda** 59.59 185 eP P 06 08 42.9 +2.4
comp=Z,301nm,1.2s,mb5.6
VNDA **Vanda** 59.59 185 eP P 06 08 42.9 +2.4
VNDA pmax pmax
comp=Z,301nm,1.2s
CBIJ **Chichi jima** 60.02 318 P P 06 08 43.8 -0.4
comp=Z,228nm,0.8s,mb5.6,baz=126,slow=8.7,SNR=4.5
CBIJ **Chichi jima** 60.02 318 P P 06 08 43.8 -0.4
DAV **Davao City (W)** 61.59 289 P P 06 08 55.1 +0.2
comp=Z,336nm,0.6s,mb6.0,baz=93,slow=6.6,SNR=12
DAV S S 06 16 47.7 +0.8
comp=Z,143nm,0.3s,baz=58,slow=15,SNR=5.6
DAV **Davao City (W)** 61.59 289 eP P 06 08 55.1 +0.2
comp=Z,299nm,0.6s,mb6.0
DAV S S 06 16 47.7 +0.8
DAV **Davao City (W)** 61.59 289 eP P 06 08 55.4 +0.4
BUTP **Butuan** 62.39 291 eP P 06 08 59.6 -0.6
BUKP **Musuan** 62.40 290 eP P 06 09 00.8 +0.5
KAPI **Kappang** 62.48 274 eP P 06 08 59.5 -1.4
comp=Z,88nm,0.8s,mb5.3
KAPI **Kappang** 62.48 274 P P 06 08 59.9 -1.0
SNR=27
CTBH **Cotabato--PC H** 62.85 289 iP P 06 09 03.4 +0.2
MSLP **Maasin** 63.58 292 eP P 06 09 08.1 +0.1
PAGZ **Pagadian** 63.89 289 eP P 06 09 10.3 +0.3
OCLP **Ormoc** 64.21 293 eP P 06 09 03.0 -9.0
TBP **Tagbilaran** 64.26 291 eP P 06 09 11.2 -1.1
MTNI **Mataram** 64.79 269 P S 06 17 23.3 -2.9
CNP **Catarman** 64.83 294 eP P 06 09 15.8 -0.2
KHKI **Kahang-Kahang** 65.40 269 P S 06 17 41.1 +7.5
IGBI **Denpasar** 65.70 269 P S 06 17 36.6 -0.7
JHJ **Hachijo jima 2** 65.75 321 P P 06 09 19.9 -1.5
comp=Z,398nm,0.4s,mb6.5,baz=160,slow=9.4,SNR=12
PVCP **Virac** 65.78 295 eP P 06 09 22.4 +0.5
RCP **Roxas** 66.07 292 eP P 06 09 23.4 -0.4
MYLDM **Lahad Datu** 67.24 284 P P 06 09 32.8 +1.6

BLJI **Banyuglugur** 67.48 269 P S 06 17 57.2 -1.2
TSM **Tawau** 67.48 283 P P 06 09 33.5 +0.8
BUSP **Coron** 68.50 292 eP P 06 09 39.0 +0.1
SDKM **Sandakan** 68.62 284 P P 06 09 39.7 0.0
TGY **Tagaytay City** 68.78 294 P P 06 09 40.5 -0.1
comp=Z,211nm,0.3s,mb6.3,baz=109,slow=12,SNR=3.3
TGY **Tagaytay City** 68.78 294 P P 06 09 40.5 -0.1
TGY **Tagaytay City** 68.78 294 P P 06 09 40.5 -0.1
ENPP **El Nido** 68.84 290 eP P 06 09 41.4 +0.4
MJAR **Matsushiro Arr** 69.08 323 P P 06 09 41.1 -0.9
comp=Z,79nm,0.8s,mb5.5,baz=151,slow=5.8,SNR=78
MJAR **Matsushiro Arr** 69.08 323 P P 06 09 41.1 -0.9
MJAR **Matsushiro Arr** 69.08 323 P P 06 09 41.1 -0.9
MAJO **Matsushiro** 69.08 323 eP P 06 09 41.5 -0.5
comp=Z,131nm,0.9s,mb5.7
MAJO **Matsushiro** 69.08 323 eP P 06 09 41.5 -0.5
MAJO pmax pmax
comp=Z,131nm,0.9s,mb5.7
MAT **Matsushiro** 69.08 323 P P 06 09 41.0 -1.0
MAT S S 06 18 14.0 -2.2
PWJI **Pagerwojo** 69.10 268 P S 06 18 18.1 +0.7
comp=Z,54nm,2.1s,comp=Z,0.3nm
SJI **Sawahan** 69.22 269 P S 06 18 19.2 +0.5
comp=Z,76nm,1.4s,comp=Z,3µmcomp=Z,0.3nm
LUBP **Lubang** 69.22 293 eP P 06 09 42.3 -1.0
BATP **Bataraza** 69.30 287 eP P 06 09 44.3 +0.5
CAUP **Cauayan** 69.33 297 eP P 06 09 44.7 +0.8
JOW **Kunigami** 69.37 309 P P 06 09 44.8 +0.9
comp=Z,58nm,0.9s,mb5.3,baz=140,slow=10.0,SNR=10
JOW **Kunigami** 69.37 309 eP P 06 09 44.4 +0.4
comp=Z,156nm,1.5s,mb5.5
KDM **Kudat** 69.44 285 P P 06 09 45.4 +0.7
PCJI **Pacitan** 69.64 268 P S 06 18 24.3 +0.6
comp=Z,150nm,1.5s,comp=Z,0.6nm
KKM **Kota Kinabalu** 69.67 284 P P 06 09 46.9 +0.8
KKM **Kota Kinabalu** 69.67 284 eP P 06 09 46.5 +0.4
comp=Z,168nm,0.7s,mb5.9
UGM **Wanagama** 70.34 268 P S 06 18 33.7 +2.0
comp=Z,183nm,1.8s,comp=Z,0.8nm
ERM **Erimo** 70.55 330 iP P 06 09 52.7 +1.9
ERM pmax pmax
comp=Z,140nm,1.7s,mb5.4
SMRI **Semarang** 70.68 269 P S 06 18 36.8 +1.2
YUK **Yuzh-Kuril'sk** 70.92 333 iP P 06 09 47.3 -5.6
YUK iS S 06 18 32.7 -4.4
YUK pmax pmax
comp=E,640nm,0.7s
YUK pmax pmax
comp=N,211nm,1.4s
YUK pmax pmax
comp=Z,542nm,1.4s,mb6.1
YUK pmax pmax
comp=Z,820nm,1.7s,mb6.2
YUK smax
comp=E,3µm,3.6s
YUK smax
comp=N,1µm,3.7s
YUK MLR MLR
comp=Z,170nm,19.0s
QSPA **South Pole Qui** 71.22 180 S S 06 18 39.9 +0.3
comp=Z,7.8nm,1.2s,baz=37,slow=17,SNR=3.3
JNU **Nakatsue** 71.31 316 eP P 06 09 55.4 -0.1
comp=Z,61nm,1.3s,mb5.2
BTM **Bintulu** 71.53 280 P P 06 09 58.4 +1.2
NIKO **Nikolski** 71.91 6 eP P 06 09 56.7 -1.9
comp=Z,364nm,1.2s,mb6.0
SBUM **Sibu** 72.07 279 P P 06 10 01.5 +1.1
ASAJ **Asahikawa** 72.44 331 P P 06 10 03.0 +1.2
comp=Z,128nm,0.8s,mb5.7,baz=182,slow=4.4,SNR=21
ASAJ **Asahikawa** 72.44 331 eP P 06 10 02.9 +1.1
comp=Z,61nm,0.8s,mb5.4
ASAJ **Asahikawa** 72.44 331 P P 06 10 03.0 +1.2
ASAJ pmax pmax
comp=Z,128nm,0.8s
MIR **Mirnyy** 72.63 205 iP P 06 10 04.8 +2.1
MIR i *PP PcP 06 10 25.0 +7.1
MIR e 06 12 12.0
MIR eS S 06 18 58.0 +2.1
MIR e*SS SKSac 06 19 33.0 +2.5
MIR eSS SS 06 23 44.0 +0.4
MIR pmax pmax
comp=Z,2µm,2.0s,mb6.5
MIR pmax pmax
comp=Z,1µm,1.6s,mb6.4
MIR pmax pmax
comp=E,1µm,2.0s
MIR smax
comp=E,707nm,3.0s
MIR smax
comp=N,1µm,10.0s
TWG **Pinlang** 72.78 302 eP P 06 10 02.4 -1.9
comp=N,63nm,0.6s,mb5.5
YULB **Yu-li** 72.88 303 eP P 06 10 03.6 -1.3
comp=N,49nm,0.6s,mb5.4
SKR **Severo-Kuril's** 72.97 343 eP P 06 10 05.0 +0.2
UNV **Unalaska Valle** 73.02 7 eP P 06 10 03.0 -1.9
comp=N,124nm,0.7s,mb5.8
SSLB **Suanglung** 73.35 303 eP P 06 10 06.5 -1.1
comp=N,97nm,0.6s,mb5.7
TPUB **Ta-pu** 73.37 302 eP P 06 10 05.9 -1.9
comp=N,333nm,0.7s,mb6.2
AKUT **Akutan** 73.39 7 eP P 06 10 05.1 -2.0
comp=N,93nm,0.6s,mb5.7
YHNB **Yeheng** 73.45 304 eP P 06 10 07.3 -0.9
comp=N,411nm,1.4s,mb6.0
TATO **Taipei** 73.52 304 eP P 06 10 07.9 -0.7
comp=N,182nm,1.1s,mb5.7
KSM **Kuching** 73.53 277 P P 06 10 09.9 +1.0
KSM **Kuching** 73.53 277 eP P 06 10 09.2 +0.3
comp=N,525nm,0.8s,mb6.3
PET **Petropavlovsk** 74.45 345 eP P 06 10 11.8 -1.4
comp=N,34nm,0.6s,mb5.2
PET **Petropavlovsk** 74.45 345 eP P 06 10 12.5 -0.7
PET eS S 06 19 14.7 -1.5
PET eSS SS 06 24 13.4 +0.8
PET pmax pmax
comp=Z,85nm,0.8s,mb5.5
PET pmax pmax
comp=Z,400nm,8.3s
PET pmax pmax
comp=Z,600nm,7.3s
YSS **Yuzh-Sakhalins** 74.57 333 eP P 06 10 14.7 +0.7
comp=Z,233nm,1.1s,mb5.8
YSS **Yuzh-Sakhalins** 74.57 333 eP P 06 10 13.0 -1.1
YSS e 06 10 22.2
YSS e 06 13 04.0
YSS ePPP 06 14 50.0
YSS i S S 06 19 19.0 +1.2
YSS e 06 19 48.0
YSS eSS SS 06 24 12.0 -2.6
YSS pmax pmax
comp=Z,600nm,4.0s
YSS pmax pmax
comp=Z,210nm,1.1s,mb5.8
YSS smax
comp=E,3µm,7.0s
PEA0B **Petropavlovsk-** 74.76 345 eP P 06 10 14.2 -0.8
PETK **Petropavlovsk-** 74.76 345 P P 06 10 13.8 -1.2
comp=E,93nm,0.7s,mb5.6,baz=131,slow=8.4,SNR=100
PETK **Petropavlovsk-** 74.76 345 P P 06 10 13.8 -1.2
PETK **Petropavlovsk-** 74.76 345 P P 06 10 13.8 -1.2
SDPT **Sand Point** 75.32 10 eP P 06 10 15.4 -2.7
comp=E,389nm,0.8s,mb6.2
QZH **Quanzhou** 75.79 303 iP P 06 10 20.3 -1.2
QZH S S 06 19 31.0 -1.0
QZH pmax pmax
comp=Z,320nm,0.7s,mb6.2
QZH pmax pmax
comp=Z,860nm,5.8s
KSRS **Korea Array** 75.88 318 P P 06 10 22.4 +0.8
comp=Z,20nm,1.0s,mb4.8,baz=134,slow=6.2,SNR=23
KSRS **Korea Array** 75.88 318 P P 06 10 22.5 +0.8
KSAR **Wonju Array Be** 75.89 318 P P 06 10 22.4 +0.7
KSAR **Wonju Array Be** 75.89 318 P P 06 10 22.5 +0.7
SAC **San Andreas** 76.45 42 eP P 06 10 25.1 +0.3
comp=Z,336nm,1.2s,mb6.0
SAC **San Andreas** 76.45 42 eP P 06 10 25.1 +0.2
SAC pmax pmax
comp=Z,335nm,1.2s,mb6.0
CHGN **Chignik** 76.58 11 eP P 06 10 23.6 -1.6
SAO **San Andreas Ge** 76.59 43 eP P 06 10 26.0 +0.3
comp=Z,264nm,1.3s,mb5.8
SAO e pP 06 11 50.6 +0.2
SAO **San Andreas Ge** 76.59 43 eP P 06 10 26.0 +0.3
SAO e pP 06 11 50.6 +0.2

SAO pmax pmax
comp=Z,265nm,1.3s,mb5.8
SSE **Sheshan** 76.89 309 eP P 06 10 28.0 +0.5
SSE PcP PcP 06 10 36.8 0.0
SSE pP pP 06 11 50.3 -2.0
SSE S S 06 19 44.8 +1.1
SSE sS sS 06 22 07.0 -7.2
SSE pmax pmax
comp=Z,47nm,1.1s,mb5.1
SSE pmax pmax
comp=Z,82nm,5.7s
SSE LR LR
comp=N,1µm,30.6s
SSE LR LR
comp=E,950nm,30.6s
SSE LR LR
comp=Z,350nm,24.7s
HOPS **Hopland** 76.90 41 eP P 06 10 27.8 +0.5
comp=Z,297nm,1.3s,mb5.9
KCPM **Cahto Peak** 77.01 40 eP P 06 10 29.0 +1.1
comp=Z,166nm,1.4s,mb5.6
VLA **Vladivostok** 77.12 325 eP P 06 10 29.2 +0.7
VLA pmax pmax
comp=Z,67nm,0.8s,mb5.4
KIPM **Iron Peak** 77.14 40 eP P 06 10 28.3 -0.3
comp=Z,310nm,1.3s,mb5.9
PASC **Pasadena Art C** 77.31 47 eP P 06 10 29.8 +0.1
comp=Z,244nm,1.3s,mb5.8
PASC e pP 06 11 54.3 -0.3
MWC **Mount Wilson** 77.43 47 eP P 06 10 30.4 0.0
comp=Z,367nm,1.4s,mb5.9
MWC e pP 06 11 55.7 +0.4
MWC **Mount Wilson** 77.43 47 eP P 06 10 30.4 0.0
MWC e pP 06 11 55.7 +0.4
MWC pmax pmax
comp=Z,367nm,1.4s,mb5.9
BAR **Barrett** 77.58 49 eP P 06 10 31.2 0.0
comp=Z,234nm,1.6s,mb5.7
BAR e pP 06 11 55.7 -0.5
KHMM **Horse Mountain** 77.65 39 eP P 06 10 32.1 +0.7
comp=Z,176nm,1.2s,mb5.7
KHMM e pP 06 11 58.0 +1.6
ISA **Isabella** 77.94 46 eP P 06 10 33.2 +0.1
comp=Z,321nm,1.3s,mb5.9
ISA e pP 06 11 58.6 +0.4
ISA **Isabella** 77.94 46 eP P 06 10 33.2 +0.1
ISA e pP 06 11 58.6 +0.4
ISA pmax pmax
comp=Z,321nm,1.3s,mb5.9
KRMB **Red Mountain** 77.95 38 eP P 06 10 33.5 +0.5
comp=Z,354nm,1.4s,mb5.9
KRMB e pP 06 11 57.9 -0.2
CMB **Columbia Colle** 78.02 43 eP P 06 10 33.4 -0.1
comp=Z,160nm,1.1s,mb5.7
CMB e pP 06 11 57.8 -0.8
CMB **Columbia Colle** 78.02 43 eP P 06 10 33.4 -0.1
CMB e pP 06 11 57.8 -0.8
CMB pmax pmax
comp=Z,160nm,1.1s,mb5.7
WDC **Whiskeytown Da** 78.19 40 eP P 06 10 34.1 -0.2
comp=Z,274nm,1.4s,mb5.8
WDC e pP 06 11 59.3 -0.2
WDC **Whiskeytown Da** 78.19 40 eP P 06 10 34.2 -0.1
WDC e pP 06 11 59.3 -0.1
WDC pmax pmax
comp=Z,275nm,1.4s,mb5.8
PFO **Pinyon Flat Ob** 78.22 48 eP P 06 10 35.0 +0.3
comp=Z,175nm,1.3s,mb5.6
PFO e pP 06 11 59.5 -0.4
PFO **Pinyon Flat Ob** 78.22 48 eP P 06 10 35.0 +0.3
PFO e pP 06 11 59.5 -0.3
PFO pmax pmax
comp=Z,175nm,1.3s,mb5.6
PFO **Pinyon Flat Ob** 78.22 48 P P 06 10 35.8 +1.1
comp=Z,491nm,1.1s,mb6.2,SNR=9.8
OHAK **Old Harbor** 78.46 13 eP P 06 10 34.6 -0.8
comp=Z,194nm,0.7s,mb5.9
KEBM **Edson Butte** 78.55 37 eP P 06 10 37.0 +0.7
comp=Z,350nm,1.6s,mb5.8
YBH **Yreka Blue Hor** 78.79 39 eP P 06 10 38.0 +0.4
comp=Z,194nm,1.3s,mb5.7
YBH e pP 06 12 03.6 +0.7
YBH **Yreka Blue Hor** 78.79 39 eP P 06 10 38.0 +0.4
YBH e pP 06 12 03.6 +0.8
YBH pmax pmax
comp=Z,194nm,1.3s
GSC **Goldstone** 78.88 47 eP P 06 10 38.2 -0.1
comp=Z,235nm,1.4s,mb5.7
GSC e pP 06 12 03.2 -0.2
GSC **Goldstone** 78.88 47 eP P 06 10 38.2 0.0
GSC e pP 06 12 03.3 -0.2
GSC pmax pmax
comp=Z,235nm,1.4s,mb5.7
NJ2 **Nanjing** 79.09 309 eP P 06 10 40.5 +1.1
NJ2 pP pP 06 12 01.5 -3.2
NJ2 S S 06 20 09.0 +2.1
NJ2 ScS ScS 06 20 28.5 +2.0
NJ2 pmax pmax
comp=Z,150nm,1.0s,mb5.7
NJ2 pmax pmax
comp=Z,230nm,6.5s
NJ2 LR LR
comp=N,1µm,26.6s
NJ2 LR LR
comp=E,900nm,22.9s
NJ2 LR LR
comp=Z,540nm,14.4s
GLA **Glamis** 79.09 50 eP P 06 10 40.0 +0.5
comp=Z,430nm,1.4s,mb6.0
GLA e pP 06 12 04.3 -0.5
GLA **Glamis** 79.09 50 eP P 06 10 40.0 +0.6
GLA e pP 06 12 04.3 -0.5
GLA pmax pmax
comp=Z,430nm,1.4s,mb6.0
KDAK **Kodiak Island** 79.13 13 eP P 06 10 38.4 -0.6
comp=Z,161nm,0.6s,mb5.9
KDAK **Kodiak Island** 79.13 13 iP P 06 10 38.1 -0.9
KDAK **Kodiak Island** 79.13 13 P P 06 10 38.0 -1.0
comp=Z,2µm,0.7s,mb6.9,SNR=60
WCN **Washoe City** 79.15 42 eP P 06 10 39.8 +0.3
comp=Z,177nm,1.1s,mb5.7
WCN e pP 06 12 04.8 -0.2
WCN ePP PP 06 13 43.7 -1.7
WCN **Washoe City** 79.15 42 eP P 06 10 39.8 +0.2
WCN e pP 06 12 04.8 -0.1
WCN e 06 13 43.7
WCN pmax pmax
comp=Z,177nm,1.1s,mb5.7
HABR **Khabarovsk** 79.17 330 dP P 06 10 38.7 -0.8
HABR e 06 10 44.6
HABR e 06 13 41.3
HABR ePPP 06 15 32.4
HABR eS S 06 20 07.8 +0.7
HABR e 06 20 25.3
HABR eSS SS 06 25 22.4 -1.2
HABR eSSS 06 28 49.5
HABR pmax pmax
comp=Z,295nm,1.1s,mb5.9
HABR pmax pmax
comp=Z,343nm,1.3s,mb5.9
HABR pmax pmax
comp=N,72nm,1.3s
HABR pmax pmax
comp=E,104nm,1.0s
HABR MLR MLR
comp=Z,146nm,17.0s
HUMO **Hull Mountain** 79.18 38 eP P 06 10 39.7 +0.1
comp=Z,186nm,1.1s,mb5.7
HUMO e pP 06 12 05.4 +0.4
MDJ **Mudanjiang** 79.36 325 P P 06 10 41.5 +0.9
MDJ pP pP 06 12 01.0 -5.0
MDJ sP sP 06 12 38.3 -7.3
MDJ S S 06 20 12.3 +3.1
MDJ ScS ScS 06 20 31.0 +2.9
MDJ pmax pmax
comp=Z,89nm,1.2s,mb5.4
MDJ pmax pmax
comp=Z,270nm,3.7s
MDJ **Mudanjiang** 79.36 325 eP P 06 10 40.6 0.0
comp=Z,132nm,0.9s,mb5.7
NVAR **Mina Array Bea** 79.59 43 P P 06 10 42.2 +0.3
comp=Z,82nm,0.7s,mb5.5,baz=225,slow=7.2,SNR=237
NVAR pP pP 06 12 07.7 +0.3
comp=Z,14nm,1.0s,baz=225,slow=9.2,SNR=3.4
NVAR S S 06 20 09.1 -2.8

comp=Z,0.8nm,0.8s,baz=222,slow=7.9,SNR=4.3
NVAR PKKPbc PKKPbc 06 29 28.4 -0.2
comp=Z,2.1nm,0.7s,baz=74,slow=3.9,SNR=7.7
NVAR PKPPKP 06 37 35.6
comp=Z,0.9nm,0.6s,baz=76,slow=3.8,SNR=5.2
NVAR Mina Array Bea 79.59 43 P P 06 10 42.2 +0.3
NVAR pP pP 06 12 07.7 +0.3
NVAR S S 06 20 09.1 -2.8
NVAR PKKPbc PKKPbc 06 29 28.4 -0.2
NVAR P'P' 06 37 35.6
LDFC Landfair 79.94 48 *e*P **P 06 10 44.7 +0.8**
comp=Z,466nm,1.1s,mb6.1
LDFC *e* pP 06 12 09.5 +0.1
COR Corvallis 80.21 36 *e*P **P 06 10 45.6 +0.6**
comp=Z,354nm,1.4s,mb5.9
COR Corvallis 80.21 36 *e*P **P 06 10 45.6 +0.5**
COR pmax pmax
comp=Z,354nm,1.4s,mb5.9
MOD Modoc 80.33 40 *e*P **P 06 10 45.9 +0.1**
comp=Z,108nm,0.7s,mb5.7
MOD *e* pP 06 12 12.0 +0.6
HEBO Mount Hebo 80.36 35 *e*P **P 06 10 46.1 +0.2**
comp=Z,309nm,1.1s,mb6.0
QIZ Qiongzhong 80.49 294 P **P 06 10 48.0 +0.9**
QIZ pP pP 06 12 06.8 -6.0
QIZ sP sP 06 12 44.5 -7.8
QIZ S S 06 20 26.8 +4.9
QIZ pmax pmax
comp=Z,75nm,1.9s,mb5.1
QIZ pmax pmax
comp=Z,520nm,8.6s
DL2 Dalian 80.76 316 P **P 06 10 49.3 +1.2**
DL2 pP pP 06 12 15.5 +1.7
DL2 S S 06 20 25.5 +1.6
DL2 pmax pmax
comp=Z,30nm,1.2s,mb4.9
SNY Shenyang 81.16 320 ⇓*i*P **P 06 10 50.5 +0.4**
SNY pP pP 06 12 08.0 -8.0
SNY S S 06 20 28.0 +0.1
SNY pmax pmax
comp=Z,25nm,1.3s,mb4.8
CN2 Changchun 81.20 322 *e*P **P 06 10 50.0 -0.3**
CN2 *e*S S 06 20 27.0 -1.1
CN2 pmax pmax
comp=Z,100nm,1.1s,mb5.5
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,400nm,19.0s
CN2 LR LR
comp=E,200nm,19.0s
CN2 LR LR
comp=Z,400nm,16.0s
KLR Kul'dur 81.28 329 ⇓*i*P **P 06 10 48.0 -2.5**
KLR *e*S S 06 20 27.0 -1.7
KLR *e* 06 25 54.0
KLR pmax pmax
comp=E,48nm,1.4s
KLR pmax pmax
comp=Z,110nm,1.4s,mb5.4
KLR smax
comp=N,3μm,9.0s
KLR smax
comp=E,1μm,9.0s
BMN Battle Mountai 81.40 42 *e*P **P 06 10 51.5 +0.1**
comp=E,389nm,1.3s,mb6.0
BMN *e* pP 06 12 18.6 +1.3
BMN Battle Mountai 81.40 42 *e*P **P 06 10 51.5 +0.1**
BMN *e* pP 06 12 18.6 +1.3
BMN pmax pmax
comp=Z,389nm,1.3s,mb6.0
RSO Redoubt South 81.55 12 *e*P **P 06 10 50.5 -1.2**
comp=Z,247nm,0.6s,mb6.2
HOOD Mount Hood Mea 81.59 36 *e*P **P 06 10 52.7 +0.4**
comp=Z,311nm,1.2s,mb6.0
WVOR Wild Horse Val 81.64 40 *e*P **P 06 10 52.7 0.0**
comp=Z,306nm,1.2s,mb6.0
WVOR Wild Horse Val 81.64 40 *e*P **P 06 10 52.7 +0.1**
WVOR pmax pmax
comp=Z,306nm,1.2s,mb6.0
NLWA Neilton Lookou 81.67 34 *e*P **P 06 10 53.4 +0.8**
comp=Z,333nm,1.3s,mb6.0
TUC Tucson 81.69 52 *e*P **P 06 10 54.2 +1.1**
comp=Z,331nm,1.3s,mb6.0
TUC *e* pP 06 12 19.3 +0.2
TUC Tucson 81.69 52 *e*P **P 06 10 54.2 +1.1**
TUC *e* pP 06 12 19.3 +0.2
TUC pmax pmax
comp=Z,331nm,1.3s,mb6.0
WHN Wuhan 81.74 306 P **P 06 10 54.0 +0.6**
WHN S S 06 20 36.3 +2.1
WHN pmax pmax
comp=Z,240nm,1.0s,mb6.0
WHN LR LR
comp=Z,760nm,22.3s
SEW Seward 81.93 14 *e*P **P 06 10 52.9 -0.8**
comp=Z,122nm,1.0s,mb5.7
SEW *e* pP 06 12 18.0 -1.6
COCO West Island 81.97 260 *e*P **P 06 10 56.7 +1.7**
comp=Z,287nm,1.3s,mb5.9
COCO West Island 81.97 260 *e*P **P 06 10 56.7 +1.7**
COCO pmax pmax
comp=Z,287nm,1.3s,mb5.9
SLKM Skilak Lake 82.12 13 *e*P **P 06 10 53.8 -0.8**
SLKM *e* pP 06 12 20.5 -0.2
SLKM Skilak Lake 82.12 13 *e*P **P 06 10 53.8 -0.8**
SLKM *e* pP 06 12 20.5 -0.2
GNW Green Mountain 82.33 34 *e*P **P 06 10 56.1 0.0**
comp=Z,111nm,1.1s,mb5.6
LON Longmire 82.37 35 *e*P **P 06 10 55.7 -0.6**
comp=Z,62nm,0.8s,mb5.5
LON Longmire 82.37 35 *e*P **P 06 10 55.7 -0.6**
LON pmax pmax
comp=Z,62nm,0.8s,mb5.5
CCUT Cedar City 82.42 46 *e*P **P 06 10 57.5 +0.8**
comp=Z,109nm,0.9s,mb5.7
CCUT *e* pP 06 12 22.6 -0.2
GAMB Gambell 82.47 3 *e*P **P 06 10 56.3 -0.1**
comp=Z,74nm,0.9s,mb5.5
ARUT Antelope Range 82.49 46 *e*P **P 06 10 57.7 +0.6**
comp=Z,181nm,1.2s,mb5.8
ARUT Antelope Range 82.49 46 *e*P **P 06 10 57.7 +0.6**
ARUT pmax pmax
comp=Z,181nm,1.2s,mb5.8
PMSA Palmer Station 82.67 157 *e*P **P 06 10 58.6 +1.0**
comp=Z,548nm,1.8s,mb6.1
PGC Sidney 82.69 33 *e*P **P 06 10 58.0 +0.2**
comp=Z,18nm,1.2s,mb4.8
WUAZ Wupatki 82.80 49 *e*P **P 06 10 59.4 +0.7**
comp=Z,276nm,1.3s,mb5.9
WUAZ *e* pP 06 12 25.1 +0.2
CRAG Craig 83.07 24 *e*P **P 06 10 59.3 -0.2**
comp=Z,96nm,1.1s,mb5.5
JCW Jim Creek 83.20 34 *e*P **P 06 11 00.1 -0.3**
comp=Z,309nm,1.2s,mb6.0
JCW *e* pP 06 12 27.5 +0.8
MAW Mawson 83.23 200 P **P 06 11 00.9 +0.5**
comp=Z,66nm,0.7s,mb5.6,baz=146,slow=5.3,SNR=38
MAW Mawson 83.23 200 *e*P **P 06 11 01.5 +1.1**
comp=Z,88nm,1.2s,mb5.5
MAW *e*S S 06 20 45.3 -2.7
MAW Mawson 83.23 200 *e*P **P 06 11 01.3 +0.9**
comp=Z,60nm,1.2s,mb5.3
MAW Mawson 83.23 200 *e*P **P 06 11 01.3 +0.9**
MAW pmax pmax
comp=Z,60nm,1.2s
IPM Ipoh 83.26 277 *e*P **P 06 11 02.2 +0.6**
comp=Z,244nm,0.7s,mb6.1
PMR Palmer 83.33 13 *e*P **P 06 10 59.1 -1.6**
comp=Z,152nm,1.0s,mb5.8
PMR Palmer 83.33 13 *e*P **P 06 10 59.1 -1.7**
PMR pmax pmax
comp=Z,152nm,1.0s,mb5.8
RSW Rattlesnake Hi 83.38 36 *e*P **P 06 11 02.1 +0.7**
comp=Z,472nm,1.1s,mb6.2
RSW *e* pP 06 12 28.9 +1.2
RSW *e*PP PP 06 14 18.2 -1.6
HAWA Hanford 83.42 36 *e*P **P 06 11 01.4 -0.2**
comp=Z,354nm,1.1s,mb6.1
HAWA *e* pP 06 12 29.4 +1.4
HAWA *e*PP PP 06 14 17.5 -2.7
ETW Entiat 83.69 35 *e*P **P 06 11 02.9 -0.1**
comp=Z,268nm,0.7s,mb6.2
ETW *e* pP 06 12 29.1 -0.3
SML Sawmill 83.70 14 *e*P **P 06 11 01.5 -1.1**
comp=Z,27nm,1.1s,mb5.0
SML Sawmill 83.70 14 *e*P **P 06 11 01.5 -1.1**
SML pmax pmax
comp=Z,27nm,1.1s,mb5.0
DIV Divide 83.70 15 *e*P **P 06 11 01.9 -0.7**
comp=Z,388nm,1.1s,mb6.2
DIV *e* pP 06 12 29.9 +0.8
MSU Marysvale 83.71 46 *e*P **P 06 11 04.2 +0.9**
comp=Z,206nm,1.2s,mb5.8
MSU *e* pP 06 12 28.1 -1.6
MSU *e*PP PP 06 14 19.8 -2.9
MSU Marysvale 83.71 46 *e*P **P 06 11 04.2 +0.9**
MSU *e* 06 14 19.8
MSU pmax pmax
comp=Z,206nm,1.2s,mb5.8
BMO Blue Mountains 83.81 38 *e*P **P 06 11 03.2 -0.3**
comp=Z,201nm,1.4s,mb5.8
BMO *e* pP 06 12 29.9 -0.2
BMO *e*PP PP 06 14 19.4 -3.9
LNOR Lincton Mounta 83.82 37 *e*P **P 06 11 03.7 +0.1**
comp=Z,78nm,1.1s,mb5.5
LNOR Lincton Mounta 83.82 37 *e*P **P 06 11 03.7 +0.1**
LNOR pmax pmax
comp=Z,78nm,1.1s,mb5.5
BMRM Bremner River 83.85 16 *e*P **P 06 11 02.5 -0.9**
comp=Z,382nm,1.2s,mb6.1
KULM Kulim 83.88 278 *e*P **P 06 11 05.5 +0.8**
comp=Z,81nm,0.6s,mb5.7
PPLA Purkeypile 83.89 11 *e*P **P 06 11 01.7 -1.8**
comp=Z,38nm,0.8s,mb5.3
MFID Camas Ranch 83.91 40 *e*P **P 06 11 04.2 +0.1**
comp=Z,332nm,1.3s,mb6.0
WRAK Wrangell Islan 84.07 23 *e*P **P 06 11 04.9 +0.3**
comp=Z,29nm,0.8s,mb5.2
DUG Dugway 84.13 44 *e*P **P 06 11 05.2 -0.1**
comp=Z,116nm,1.4s,mb5.5
DUG Dugway 84.13 44 *e*P **P 06 11 05.2 -0.1**
DUG pmax pmax
comp=Z,116nm,1.4s,mb5.5
PNL Peninsula 84.20 18 *e*P **P 06 11 04.7 -0.5**
comp=Z,117nm,0.8s,mb5.8
OD2 Odessa Site #2 84.46 36 *e*P **P 06 11 06.6 -0.1**
comp=Z,750nm,1.7s,mb6.2
OD2 *e* pP 06 12 33.7 +0.4
OD2 *e*PP PP 06 14 22.8 -5.7
TNA Tin City 84.46 4 *e*P **P 06 11 05.7 -0.6**
comp=Z,98nm,0.9s,mb5.6
TNA *e* pP 06 12 34.7 +1.8
TNA *e*PP PP 06 14 25.2 -2.9
TMUT Trail Mountain 84.76 46 *e*P **P 06 11 09.9 +1.5**
comp=Z,166nm,0.9s,mb5.9
TMUT *e* pP 06 12 36.4 +1.3
TRF Thorofare Moun 84.76 12 *e*P **P 06 11 06.6 -1.3**
comp=Z,224nm,0.8s,mb6.0
NOQ North Oquirrh 84.82 44 *e*P **P 06 11 09.2 +0.5**
comp=Z,262nm,1.5s,mb5.8
NOQ *e* pP 06 12 36.9 +1.5
MPU Maple Canyon 84.83 45 *e*P **P 06 11 09.4 +0.7**
comp=Z,62nm,1.0s,mb5.4
MPU *e* pP 06 12 35.7 +0.3
SEY Seymchan 84.84 347 *c i*P **P 06 11 07.8 -0.5**
HLID Hailey 84.85 41 *e*P **P 06 11 09.2 +0.4**
comp=Z,83nm,0.8s,mb5.6
HLID *e* pP 06 12 35.4 0.0
HLID *e*PP PP 06 14 29.1 -2.7
BJT Baijiatuau 84.95 315 *e*P **P 06 11 10.0 +0.7**
comp=Z,169nm,1.1s,mb5.8
BJT Baijiatuau 84.95 315 *e*P **P 06 11 10.0 +0.6**
BJT pmax pmax
comp=Z,169nm,1.1s
BJI Beijing 84.95 315 P **P 06 11 10.0 +0.6**
BJI pP pP 06 12 33.8 -2.3
BJI PP PP 06 14 31.0 -1.7
BJI SKS 06 20 56.5
BJI S S 06 21 08.5 +2.7
BJI SS SS 06 26 48.8 -0.4
BJI pmax pmax
comp=Z,130nm,1.1s,mb5.7
HVU Hansel Valley 84.96 43 *e*P **P 06 11 09.4 0.0**
comp=Z,216nm,1.4s,mb5.8
HVU *e* pP 06 12 36.0 -0.1
HVU *e*PP PP 06 14 30.0 -2.7
HVU Hansel Valley 84.96 43 *e*P **P 06 11 09.4 0.0**
HVU *e* pP 06 12 36.0 -0.1
HVU *e* 06 14 30.0
HVU pmax pmax
comp=Z,216nm,1.4s,mb5.8
SRU San Rafael 85.13 46 *e*P **P 06 11 10.4 +0.1**
comp=Z,107nm,0.9s,mb5.7
SRU *e* pP 06 12 37.7 +0.7
SRU San Rafael 85.13 46 *e*P **P 06 11 10.4 +0.1**
SRU *e* pP 06 12 37.7 +0.7
SRU pmax pmax
comp=Z,107nm,0.9s,mb5.7
BPAW Bear Paw Mtn. 85.22 11 *e*P **P 06 11 08.2 -1.9**
comp=Z,111nm,1.2s,mb5.6
JLU Jordanelle 85.24 44 *e*P **P 06 11 11.5 +0.7**
comp=Z,244nm,1.8s,mb5.7
JLU *e* pP 06 12 37.1 -0.4
DAU Daniels Canyon 85.27 45 *e*P **P 06 11 11.8 +0.8**
comp=Z,30nm,0.9s,mb5.1
DAU Daniels Canyon 85.27 45 *e*P **P 06 11 11.8 +0.9**
DAU pmax pmax
comp=Z,30nm,0.9s,mb5.1
MCK McKinley 85.28 12 *e*P **P 06 11 09.5 -1.0**
comp=Z,346nm,1.1s,mb6.1
MCK *e* pP 06 12 37.4 +0.2
MCK *e*PP PP 06 14 30.8 -4.0
MCK McKinley 85.28 12 *e*P **P 06 11 09.5 -0.9**
MCK *e* pP 06 12 37.4 +0.2
MCK *e* 06 14 30.8
MCK pmax pmax
comp=Z,346nm,1.1s,mb6.1
SKAG Skagway 85.31 20 *e*P **P 06 11 11.0 +0.3**
comp=Z,366nm,1.5s,mb6.0
SKAG *e* pP 06 12 39.4 +1.9
LAZ Ladron 85.36 51 *e*P **P 06 11 12.5 +1.0**
comp=Z,85nm,1.6s,mb5.3
LAZ *e* pP 06 12 38.8 +0.5
PAX Paxson 85.37 14 *e*P **P 06 11 09.6 -1.3**
comp=Z,230nm,1.4s,mb5.8
PAX Paxson 85.37 14 *e*P **P 06 11 09.6 -1.3**
PAX pmax pmax
comp=Z,230nm,1.4s,mb5.8
LENM Lemitar 85.38 52 *e*P **P 06 11 12.5 +0.8**
comp=Z,95nm,1.3s,mb5.5
LENM *e* pP 06 12 39.8 +1.4
ENH Enshi 85.39 304 *e*P **P 06 11 12.5 +0.7**
comp=Z,625nm,1.3s,mb6.3
MNTX Cornudas Mount 85.52 55 *e*P **P 06 11 13.0 +0.6**
comp=Z,169nm,1.2s,mb5.8
MNTX *e* pP 06 12 39.0 -0.2
MNTX *e*PP PP 06 14 35.2 -2.2
BNM Barren Site 85.63 52 *e*P **P 06 11 13.4 +0.6**
comp=Z,90nm,1.3s,mb5.4
BNM *e* pP 06 12 40.5 +0.8
MVCO Mesa Verde 85.64 48 *e*P **P 06 11 13.3 +0.5**
comp=Z,46nm,1.4s,mb5.1
HWUT Hardware Ranch 85.66 43 *e*P **P 06 11 12.4 -0.4**
comp=Z,250nm,2.0s,mb5.7
HWUT *e* pP 06 12 38.2 -1.5
HWUT *e*PP PP 06 14 34.9 -3.5
LPM Los Pinos Moun 85.70 52 *e*P **P 06 11 13.3 +0.1**
comp=Z,99nm,1.3s,mb5.5
LPM *e* pP 06 12 40.8 +0.8
MENT Mentasta 85.75 15 *e*P **P 06 11 11.7 -1.0**
PV10 Paradox Valley 85.81 47 *e*P **P 06 11 13.9 +0.3**
comp=Z,1μm,0.7s,mb6.8
NEW Newport 85.83 36 *e*P **P 06 11 12.8 -0.6**
comp=Z,125nm,1.3s,mb5.6
NEW Newport 85.83 36 *e*P **P 06 11 12.9 -0.6**
NEW pmax pmax
comp=Z,125nm,1.3s
TXAR Lajitas Array 85.88 57 P **P 06 11 15.4 +1.2**
comp=Z,148nm,0.9s,mb5.8,baz=216,slow=5.6,SNR=655
TXAR pP pP 06 12 42.7 +1.7
comp=Z,13nm,1.1s,baz=228,slow=3.4,SNR=2.8
TXAR ScS ScS 06 21 24.3 +1.8
comp=Z,0.3nm,0.8s,baz=207,slow=7.1,SNR=3.5
TXAR PKKP PKKPbc 06 29 08.7 -4.7
comp=Z,0.8nm,0.7s,baz=72,slow=2.9,SNR=6.5
TXAR PKPPKP 06 37 09.9
comp=Z,0.3nm,1.0s,baz=74,slow=4.6,SNR=3.8
TXAR Lajitas Array 85.88 57 P **P 06 11 15.4 +1.2**
TXAR pP pP 06 12 42.7 +1.7
TXAR ScS ScS 06 21 24.3 +1.8
TXAR PKKP PKKPbc 06 29 08.7 -4.7
TXAR P'P' 06 37 09.9
TXAR Lajitas Array 85.88 57 P **P 06 11 15.4 +1.2**
TXAR *PP pP 06 12 42.7 +1.6
PV04 Paradox Valley 85.91 47 *e*P **P 06 11 14.3 +0.2**
PV04 *e* pP 06 12 40.9 -0.1
PV04 *e*PP PP 06 14 39.5 -0.9
PV01 Paradox Valley 86.02 48 *e*P **P 06 11 14.7 0.0**
comp=Z,5μm,0.9s
PV01 *e* pP 06 12 42.8 +1.2
ANMO Albuquerque 86.11 51 *e*P **P 06 11 15.5 +0.3**
comp=Z,96nm,1.1s,mb5.5
ANMO *e* pP 06 12 42.5 +0.4
ANMO Albuquerque 86.11 51 *e*P **P 06 11 15.5 +0.4**
ANMO *e* pP 06 12 42.5 +0.4
ANMO pmax pmax
comp=Z,97nm,1.1s
GYA Guiyang 86.12 299 ⇑*i*P **P 06 11 16.3 +0.9**
GYA pP pP 06 12 39.0 -3.4
GYA sP sP 06 13 16.3 -5.3
GYA PP PP 06 14 44.0 +1.6
GYA SKS 06 21 05.8
GYA SS SS 06 27 09.5 +2.7
GYA pmax pmax
comp=Z,60nm,1.0s,mb5.4
GYA pmax pmax
comp=Z,180nm,5.2s
GYA LR LR
comp=N,970nm,20.6s
GYA LR LR
comp=E,780nm,20.9s
GYA LR LR
comp=Z,820nm,21.6s
DOT Dot Lake 86.28 14 *e*P **P 06 11 14.5 -0.7**
comp=Z,96nm,1.2s,mb5.5
DOT *e* pP 06 12 43.0 +0.7
DLBC Dease Lake 86.40 23 *e*P **P 06 11 16.0 +0.1**
MCMT McKenzie Canyo 86.47 40 *e*P **P 06 11 17.2 +0.6**
comp=Z,109nm,1.1s,mb5.6
MCMT *e* pP 06 12 44.2 +0.5
MCMT *e*PP PP 06 14 41.2 -3.6
COLA College 86.52 12 *e*P **P 06 11 14.9 -1.5**
comp=Z,156nm,0.8s,mb5.9
COLA *e* pP 06 12 43.2 -0.3
COLA College 86.52 12 *e*P **P 06 11 14.9 -1.5**
COLA *e* pP 06 12 43.2 -0.3
COLA pmax pmax
comp=Z,156nm,0.8s,mb5.9
AHID Auburn Hatcher 86.53 43 *e*P **P 06 11 17.2 +0.2**
comp=Z,110nm,1.3s,mb5.5
AHID *e* pP 06 12 44.7 +0.6
ILAR Eielson Array 86.63 13 P **P 06 11 15.5 -1.4**
comp=Z,118nm,1.1s,mb5.6,baz=222,slow=4.9,SNR=487
ILAR pP pP 06 12 44.2 +0.2
comp=Z,33nm,1.1s,baz=220,slow=5.3,SNR=6.4
ILAR PP PP 06 14 40.5 -5.0
comp=Z,6.2nm,0.9s,baz=220,slow=6.3,SNR=4.1
ILAR S SKSac 06 21 04.3 -2.0
comp=Z,1.1nm,0.8s,baz=230,slow=6.5,SNR=7.5
ILAR PKKP PKKPbc 06 29 08.0 -5.6
comp=Z,1.4nm,0.7s,baz=353,slow=2.5,SNR=4.7
ILAR PKPPKP 06 37 14.9
comp=Z,0.4nm,0.7s,baz=309,slow=3.0,SNR=6.3
ILAR Eielson Array 86.63 13 P **P 06 11 15.5 -1.4**
ILAR pP pP 06 12 44.2 +0.2
ILAR PP PP 06 14 40.5 -5.0
ILAR S SKSac 06 21 04.3 -2.0
ILAR PKKP PKKPbc 06 29 08.0 -5.6
ILAR P'P' 06 37 14.9
ILAR Eielson Array 86.63 13 P **P 06 11 15.5 -1.4**
ILAR *PP pP 06 12 44.2 +0.2
ILAR 06 14 40.5
ILAR S SKSac 06 21 04.3 -2.0
RRI2 Red Ridge 86.68 42 *e*P **P 06 11 17.9 +0.2**
comp=Z,183nm,1.2s,mb5.8
RRI2 *e* pP 06 12 45.0 +0.2
RRI2 *e*PP PP 06 14 43.8 -2.7
MSO Missoula 86.86 38 *e*P **P 06 11 17.4 -1.1**
comp=Z,46nm,1.1s,mb5.2
MSO *e* pP 06 12 44.5 -1.1
MSO *e*PP PP 06 14 44.7 -3.1
DCID1 Drake Creek 86.89 42 *e*P **P 06 11 19.4 +0.7**
comp=Z,56nm,0.9s,mb5.4
DLMT Dillon 86.90 40 *e*P **P 06 11 19.0 +0.3**
comp=Z,295nm,1.2s,mb6.0
DLMT *e* pP 06 12 47.5 +1.7
CLNB Carlsbad 86.91 55 *e*P **P 06 11 20.0 +0.9**
comp=Z,62nm,1.6s,mb5.2
CLNB *e* pP 06 12 46.5 +0.3
BSMT Bassoo Peak 86.92 37 *e*P **P 06 11 18.3 -0.4**
comp=Z,45nm,0.7s,mb5.4
BSMT *e* pP 06 12 46.4 +0.5
BSMT *e*PP PP 06 14 46.3 -1.9
REDW Red Top Meadow 86.98 42 *e*P **P 06 11 19.4 +0.3**
comp=Z,184nm,1.3s,mb5.8
REDW *e* pP 06 12 46.7 +0.4
TPAW Teton Pass 86.98 42 *e*P **P 06 11 19.6 +0.5**
comp=Z,142nm,1.4s,mb5.6
TPAW *e* pP 06 12 47.8 +1.5
TPAW *e*PP PP 06 14 46.9 -1.9
SNOW Snow King Moun 87.09 42 *e*P **P 06 11 20.2 +0.6**
comp=Z,131nm,1.1s,mb5.7
SNOW *e* pP 06 12 47.1 +0.2
COYC Coyhaique 87.14 137 *e*P **P 06 11 19.7 -0.3**
JTMT Jette 87.15 37 *e*P **P 06 11 19.2 -0.5**
comp=Z,23nm,0.7s,mb5.1
SWMT Swartz Lake 87.19 37 *e*P **P 06 11 19.1 -0.8**
comp=Z,38nm,1.3s,mb5.1
IMW Indian Meadow 87.19 42 *e*P **P 06 11 20.5 +0.4**
comp=Z,163nm,1.1s,mb5.8
IMW *e* pP 06 12 48.6 +1.3
IMW *e*PP PP 06 14 48.5 -2.0
LRM Limekiln Ridge 87.22 39 *e*P **P 06 11 20.5 +0.4**
comp=Z,797nm,1.0s,mb6.5
LRM *e* pP 06 12 49.0 +1.6
LRM *e*PP PP 06 14 48.4 -2.3
CPRX Cap Rock 87.24 54 *e*P **P 06 11 21.5 +0.9**
comp=Z,100nm,1.1s,mb5.6
MOOW Moose Ponds 87.24 42 *e*P **P 06 11 20.8 +0.5**
comp=Z,348nm,2.1s,mb5.8
MOOW *e* pP 06 12 47.5 0.0
MOOW *e*PP PP 06 14 48.2 -2.7
BLMT Blacktail Moun 87.24 37 *e*P **P 06 11 19.9 -0.3**
comp=Z,122nm,1.6s,mb5.5
LOHW Long Hollow 87.26 42 *e*P **P 06 11 20.5 0.0**
comp=Z,315nm,1.8s,mb5.8
LOHW *e* pP 06 12 47.6 -0.1
LOHW *e*PP PP 06 14 48.3 -2.8
CHMT Chamberlain Mo 87.31 38 *e*P **P 06 11 20.5 -0.1**
comp=Z,40nm,0.8s,mb5.3
CHMT *e* pP 06 12 47.9 +0.1
CHMT *e*PP PP 06 14 48.6 -2.8
SLMT Seeley Lake 87.34 38 *e*P **P 06 11 19.9 -0.8**
comp=Z,115nm,1.4s,mb5.5
QLMT Earthquake Lak 87.34 41 *e*P **P 06 11 22.2 +1.4**
comp=Z,30nm,0.9s,mb5.1
QLMT *e* pP 06 12 50.5 +2.4
QLMT *e*PP PP 06 14 49.8 -2.0
YBMT Yellow Bay 87.36 37 *e*P **P 06 11 20.3 -0.5**
comp=Z,13nm,0.7s,mb4.9
XAN Xi'an 87.40 307 P **P 06 11 22.0 +0.7**
XAN pmax pmax
comp=Z,79nm,1.2s,mb5.4
XAN pmax pmax
comp=Z,76nm,4.6s
XAN LR LR
comp=N,2μm,16.0s
XAN LR LR
comp=E,1μm,12.2s
XAN LR LR
comp=Z,230nm,7.2s
BILL Bilibino 87.42 354 *e*P **P 06 11 19.8 -0.8**
comp=Z,70nm,1.0s,mb5.4
BILL *e* pP 06 12 49.8 +1.9
BILL Bilibino 87.42 354 ⇑*i*P **P 06 11 20.1 -0.5**
BILL *i* *PP pP 06 12 49.9 +2.0
BILL *e* 06 14 51.1
BILL pmax pmax
comp=Z,53nm,1.0s,mb5.3
FLWY Flagg Ranch 87.43 42 *e*P **P 06 11 22.0 +0.8**
comp=Z,170nm,1.0s,mb5.8
FLWY *e* pP 06 12 48.4 -0.1
FLWY *e*PP PP 06 14 51.5 -0.9
PD01 Pinedale Array 87.51 43 *e*P **P 06 11 21.3 -0.3**

PD01 e pP 06 12 49.5 +0.5
PD01 ePP PP 06 14 50.1 -3.0
BW06 Boulder Array 87.53 43 *eP* **P 06 11 21.3 -0.4**
comp=Z,107nm,1.3s,mb5.5
BW06 e pP 06 12 48.5 -0.5
PD02 Pinedale Array 87.53 43 *eP* **P 06 11 21.4 -0.3**
PD02 e pP 06 12 49.1 +0.1
PD02 ePP PP 06 14 50.0 -3.2
PDAR Pinedale Array 87.53 43 P **P 06 11 21.8 +0.1**
comp=Z,36nm,0.8s,mb5.2,baz=212,slow=3.2,SNR=199
PDAR pP pP 06 12 49.1 +0.2
comp=Z,8.6nm,0.9s,baz=220,slow=3.9,SNR=4.7
PDAR PP PP 06 14 48.3 -4.9
comp=Z,2.4nm,0.8s,baz=255,slow=7.2,SNR=5.4
PDAR PKKP PKKPbc 06 29 04.8 -5.5
comp=Z,1.4nm,0.6s,baz=73,slow=3.0,SNR=4.0
PDAR PKPPKP 06 37 14.6
comp=Z,1.2nm,1.0s,baz=111,slow=3.3,SNR=7.0
PDAR Pinedale Array 87.53 43 P **P 06 11 21.8 +0.1**
PDAR pP pP 06 12 49.1 +0.2
PDAR PP PP 06 14 48.3 -4.9
PDAR PKKP PKKPbc 06 29 04.8 -5.5
PDAR P'P' 06 37 14.6
YFT Old Faithful 87.53 41 *eP* **P 06 11 24.0 +2.3**
comp=Z,146nm,1.0s,mb5.8
YFT e pP 06 12 50.7 +1.8
HIA Hailar 87.54 324 *eP* **P 06 11 22.0 +0.4**
comp=Z,20nm,0.9s,mb5.0
HIA Hailar 87.54 324 *eP* **P 06 11 22.0 +0.4**
HIA pmax pmax
comp=Z,20nm,0.9s
YMR Madison River 87.55 41 *eP* **P 06 11 23.0 +1.2**
comp=Z,172nm,0.9s,mb5.9
YMR e pP 06 12 48.9 -0.2
YMR ePP PP 06 14 52.0 -1.4
SMCO Snowmass 87.61 47 *eP* **P 06 11 22.7 +0.5**
comp=Z,38nm,0.7s,mb5.3
SMCO e pP 06 12 50.0 +0.5
SMCO ePP PP 06 14 48.3 -5.6
BOZ Bozeman (W) 87.63 40 *eP* **P 06 11 22.2 +0.1**
comp=Z,155nm,1.1s,mb5.8
BOZ e pP 06 12 50.0 +0.6
BOZ ePP PP 06 14 51.3 -2.7
BOZ Bozeman (W) 87.63 40 *eP* **P 06 11 22.2 +0.1**
BOZ e pP 06 12 50.0 +0.6
BOZ e 06 14 51.3
BOZ pmax pmax
comp=Z,155nm,1.1s,mb5.8
YNR Norris Junctio 87.75 41 *eP* **P 06 11 24.1 +1.4**
comp=Z,146nm,1.3s,mb5.7
YNR e pP 06 12 51.8 +1.7
DAWY Dawson 87.78 16 *eP* **P 06 11 22.0 -0.4**
LKWY Lake 87.86 41 *eP* **P 06 11 25.1 +1.9**
comp=Z,84nm,0.9s,mb5.6
LKWY Lake 87.86 41 *eP* **P 06 11 25.1 +1.9**
LKWY pmax pmax
comp=Z,84nm,0.9s,mb5.6
NST Nakhon Sawan 87.86 287 P **P 06 11 25.0 +1.1**
EGAK Eagle 87.92 15 *eP* **P 06 11 22.5 -0.5**
comp=Z,165nm,1.3s,mb5.7
EGAK e pP 06 12 51.5 +1.0
SDCO Great Sand Dun 88.02 49 *eP* **P 06 11 24.0 -0.1**
comp=Z,40nm,1.0s,mb5.2
SDCO e pP 06 12 50.9 -0.6
SDCO ePP PP 06 14 55.3 -1.9
HRY Holter Researc 88.04 39 *eP* **P 06 11 24.5 +0.5**
comp=Z,106nm,0.8s,mb5.7
HRY e pP 06 12 52.8 +1.3
WALA Waterton Lakes 88.05 36 *eP* **P 06 11 23.8 -0.2**
comp=Z,2.5nm,1.1s
COLD Coldfoot 88.19 10 *eP* **P 06 11 23.8 -0.4**
comp=Z,54nm,0.8s,mb5.4
COLD e pP 06 12 51.8 +0.1
SYO Syowa Base 88.41 193 ⇓*i*P **P 06 11 24.0 -1.5**
SYO Syowa Base 88.41 193 ⇑*i*PcP PcP 06 11 26.6 -0.2
HHC Hu-ho-hao-te 88.44 314 *eP* **P 06 11 27.3 +1.3**
HHC pP pP 06 12 49.5 -4.0
HHC sP sP 06 13 25.0 -7.6
HHC PP PP 06 15 02.5 +2.0
HHC SKS 06 21 20.3
HHC S S 06 21 40.5 +1.6
HHC sS sS 06 24 04.8 -9.4
HHC pmax pmax
comp=Z,76nm,1.1s,mb5.4
HHC pmax pmax
comp=Z,120nm,4.5s
HHC LR LR
comp=N,360nm,16.2s
HHC LR LR
comp=E,300nm,18.1s
HHC LR LR
comp=Z,260nm,21.1s
RWWY Rawlins 88.57 45 *eP* **P 06 11 26.3 -0.4**
comp=Z,209nm,1.5s,mb5.7
ISCO Idaho Springs 88.83 47 *eP* **P 06 11 28.3 +0.4**
comp=Z,41nm,1.4s,mb5.1
ISCO e pP 06 12 55.7 +0.3
ISCO ePP PP 06 15 00.9 -2.7
ISCO Idaho Springs 88.83 47 *eP* **P 06 11 28.3 +0.4**
ISCO e pP 06 12 55.7 +0.3
ISCO e 06 15 00.9
ISCO pmax pmax
comp=Z,41nm,1.4s,mb5.1
RLMT Red Lodge 88.83 41 *eP* **P 06 11 28.4 +0.6**
comp=Z,154nm,1.1s,mb5.7
RLMT e pP 06 12 54.6 -0.7
RLMT eS S 06 21 45.0 +2.8
KMI Kunming 88.90 297 P **P 06 11 29.8 +1.2**
KMI PP PP 06 15 09.8 +5.3
KMI S S 06 21 44.3 +0.5
KMI SS SS 06 27 51.5 +4.4
KMI pmax pmax
comp=Z,96nm,1.5s,mb5.4
KMI pmax pmax
comp=Z,580nm,3.5s
KMI LR LR
comp=N,260nm,22.3s
KMI LR LR
comp=E,390nm,17.8s
KMI LR LR
comp=Z,360nm,19.5s
CLNS Chul'man 89.32 332 *eP* **P 06 11 29.4 -0.3**
CLNS e 06 15 01.2
CLNS eS SKSac 06 21 23.1 +0.4
CLNS e 06 21 48.4
CLNS e*SS 06 23 29.7
CLNS pmax pmax
comp=Z,57nm,1.2s,mb5.3
CLNS pmax pmax
comp=E,19nm,1.3s
CLNS pmax pmax
comp=N,40nm,1.4s
CLNS pmax pmax
comp=Z,16nm,1.4s,mb4.7
CLNS pmax pmax
comp=N,10.0nm,1.5s
CLNS pmax pmax
comp=E,6.0nm,1.0s
CLNS smax
comp=N,16nm,1.3s
CLNS smax
comp=E,39nm,1.7s
BTO Baotou 89.39 313 *eP* **P 06 11 31.5 +1.1**
JCT Junction City 89.41 58 *eP* **P 06 11 30.9 0.0**
comp=E,65nm,0.9s,mb5.5
JCT e pP 06 12 58.3 -0.1
JCT Junction City 89.41 58 *eP* **P 06 11 30.9 +0.1**
JCT e pP 06 12 58.3 -0.2
JCT pmax pmax
comp=Z,65nm,0.9s,mb5.5
BDT Bhumibol Dam 89.42 288 ⇓P **P 06 11 32.0 +0.9**
comp=Z,42nm,1.0s,mb5.2
PHWY Pilot Hill 89.58 46 *eP* **P 06 11 31.6 +0.2**
comp=Z,21nm,0.8s,mb5.1
CHRT Chiangrai 89.61 291 P **P 06 11 32.0 0.0**
comp=Z,395nm,0.9s,mb6.3
AMTX Amarillo 89.65 53 *eP* **P 06 11 31.4 -0.4**
comp=Z,108nm,1.0s,mb5.7
SNAA Sanae 89.65 178 *e* **P 06 11 31.2 0.0**
SNAA e 06 11 32.6
SNAA Sanae 89.65 178 *eP* **P 06 11 30.7 -0.5**
comp=Z,50nm,0.9s,mb5.4
SNAA Sanae 89.65 178 *eP* **P 06 11 30.7 -0.5**
SNAA pmax pmax
comp=Z,50nm,0.9s

VNA3 Neumayer Olymp 89.77 176 *e* **P 06 11 31.1 -0.7**
CM31 Chiang Mai Arr 89.88 289 *eP* **P 06 11 34.6 +1.3**
comp=Z,9.7nm,0.4s,mb5.1
CMAR Chiang Mai Arr 89.88 289 P **P 06 11 34.4 +1.1**
comp=Z,44nm,1.0s,mb5.4,baz=125,slow=2.8,SNR=136
CMAR PP PP 06 15 06.2 -6.1
comp=Z,2.7nm,0.7s,baz=117,slow=5.2,SNR=3.0
CMAR S SKSac 06 21 31.1 +3.5
comp=Z,0.7nm,0.3s,baz=107,slow=5.0,SNR=4.8
CMAR PKKPbc PKKPbc 06 29 02.1 -1.1
comp=Z,1.3nm,0.6s,baz=291,slow=4.5,SNR=5.6
CMAR Chiang Mai Arr 89.88 289 P **P 06 11 34.4 +1.1**
CMAR PP PP 06 15 06.2 -6.1
CMAR S SKSac 06 21 31.1 +3.5
CMAR PKKPbc PKKPbc 06 29 02.1 -1.1
CMAR Chiang Mai Arr 89.88 289 P **P 06 11 34.4 +1.2**
CMAR 06 15 06.2
CMAR S SKSac 06 21 31.1 +3.5
KVTX Kingsville 89.89 61 *eP* **P 06 11 35.0 +2.0**
comp=Z,104nm,1.1s,mb5.7
EGMT Eagleton 89.92 38 *eP* **P 06 11 32.9 +0.2**
comp=Z,212nm,1.7s,mb5.8
CHG Chiang Mai 90.00 290 ⇑P **P 06 11 35.0 +1.2**
comp=Z,84nm,0.9s,mb5.7
CHTO Chiang Mai 90.00 290 *eP* **P 06 11 34.9 +1.1**
comp=Z,108nm,1.2s,mb5.7
CHTO Chiang Mai 90.00 290 *eP* **P 06 11 34.9 +1.1**
CHTO pmax pmax
comp=Z,108nm,1.2s,mb5.7
PLCA Paso Flores 90.17 133 P **P 06 11 35.1 +0.9**
comp=Z,22nm,1.1s,mb5.0,baz=238,slow=6.6,SNR=26
PLCA PKKPbc PKKPbc 06 29 02.3 -0.6
comp=Z,1.0nm,0.6s,baz=57,slow=1.0,SNR=3.0
PLCA Paso Flores 90.17 133 *eP* **P 06 11 35.7 +1.4**
comp=Z,73nm,1.5s,mb5.4
PLCA *e* pP 06 13 08.1 +6.2
PLCA PKKPbc PKKPbc 06 29 02.3 -0.6
PLCA Paso Flores 90.17 133 *eP* **P 06 11 35.7 +1.5**
PLCA *e* pP 06 13 08.1 +6.2
PLCA pmax pmax
comp=Z,73nm,1.5s
CD2 Chengdu 90.18 303 P **P 06 11 36.0 +1.6**
CD2 pP pP 06 12 59.8 -2.3
CD2 sP sP 06 13 36.0 -5.1
CD2 PP PP 06 15 17.3 +2.8
CD2 SKS 06 21 31.0
CD2 S S 06 21 56.3 +1.0
CD2 sS sS 06 24 24.0 -7.3
CD2 SS SS 06 28 08.8 +3.5
CD2 pmax pmax
comp=Z,60nm,1.2s,mb5.4
CD2 pmax pmax
comp=Z,380nm,7.5s
VNA2 Neumayer--Watz 90.22 177 *e* **P 06 11 33.4 -0.4**
baz=191,slow=2.9
VNA2 *e* 06 11 35.1
MAIT Maitri 90.38 183 *eP* **P 06 11 34.9 +0.3**
NVL N'lazarevskaya 90.39 183 *eP* **P 06 11 35.4 +0.8**
NVL pmax pmax
comp=Z,103nm,0.6s,mb5.9
VNA1 Neumayer--Stat 90.44 176 *e* **P 06 11 34.8 -0.1**
VNA1 *e* 06 11 36.3
YAK Yakutsk 90.71 338 *eP* **P 06 11 34.8 -1.3**
YAK Yakutsk 90.71 338 *eP* **P 06 11 34.1 -1.9**
YAK pmax pmax
comp=Z,35nm,1.5s,mb5.1
LAO LASA Array 91.44 41 *eP* **P 06 11 40.8 +1.1**
comp=Z,475nm,1.4s,mb6.2
LAO *e* pP 06 13 08.4 +0.8
RSSD Black Hills 91.73 44 *eP* **P 06 11 41.4 +0.2**
comp=Z,156nm,1.1s,mb5.8
RSSD Black Hills 91.73 44 *eP* **P 06 11 41.4 +0.2**
RSSD pmax pmax
comp=Z,156nm,1.1s,mb5.8
OGNE Ogallala 91.79 47 *eP* **P 06 11 41.6 0.0**
comp=Z,57nm,1.4s,mb5.3
WMOK Wichita Mounta 91.80 54 *eP* **P 06 11 40.9 -0.9**
comp=Z,50nm,1.3s,mb5.3
WMOK Wichita Mounta 91.80 54 *eP* **P 06 11 40.9 -0.9**
WMOK pmax pmax
comp=Z,50nm,1.3s,mb5.3
LZH Lanzhou 92.03 307 *eP* **P 06 11 44.5 +1.7**
LZH pP pP 06 13 04.0 -6.6
LZH PP PP 06 15 28.5 -0.4
LZH *e*S S 06 22 11.3 -0.3
LZH sS sS 06 24 38.5 -10
LZH SS SS 06 28 33.0 +1.4
LZH pmax pmax
comp=Z,190nm,1.0s,mb6.0
LZH pmax pmax
comp=Z,450nm,5.8s
HKT Hockley 92.42 59 *eP* **P 06 11 45.6 +0.9**
comp=Z,106nm,1.5s,mb5.5
HKT *e* pP 06 13 12.7 +0.1
HKT ePP PP 06 15 29.5 -2.6
HKT Hockley 92.42 59 *eP* **P 06 11 45.6 +0.8**
HKT *e* pP 06 13 12.7 +0.1
HKT *e* 06 15 29.5
HKT pmax pmax
comp=Z,106nm,1.5s,mb5.5
INK Inuvik 92.59 15 *eP* **P 06 11 43.4 -1.2**
comp=Z,165nm,1.1s,mb6.0
INK Inuvik 92.59 15 *eP* **P 06 11 43.4 -1.2**
INK pmax pmax
comp=Z,165nm,1.1s
CBKS Cedar Bluff 92.60 50 *eP* **P 06 11 45.3 -0.1**
comp=Z,210nm,1.3s,mb6.0
CBKS ePP PP 06 15 29.6 -3.6
CBKS Cedar Bluff 92.60 50 *eP* **P 06 11 45.3 -0.1**
CBKS *e* 06 15 29.6
CBKS pmax pmax
comp=Z,210nm,1.3s,mb6.0
RFTA Plano 92.80 56 *eP* **P 06 11 46.8 +0.4**
RFTA *e* pP 06 13 14.8 +0.5
DGMT Dagmar 93.44 40 *eP* **P 06 11 49.3 +0.4**
comp=Z,305nm,0.9s,mb6.3
DGMT *e* pP 06 13 17.4 +0.5
DGMT ePP PP 06 15 35.3 -4.2
NATX Nacogdoches 93.99 58 *eP* **P 06 11 52.7 +0.8**
comp=Z,91nm,1.4s,mb5.6
NATX *e* pP 06 13 20.4 +0.6
ULN Ulaanbaatar 94.33 319 *eP* **P 06 11 52.9 -0.2**
comp=Z,21nm,0.8s,mb5.2
ULN Ulaanbaatar 94.33 319 *eP* **P 06 11 52.9 -0.2**
ULN pmax pmax
comp=Z,21nm,0.8s,mb5.2
SONM Songino Array 94.73 319 P **P 06 11 54.7 -0.1**
comp=Z,9.1nm,0.8s,mb4.9,baz=119,slow=3.5,SNR=58
SONM PP PP 06 15 42.2 -7.3
comp=Z,3.3nm,0.8s,baz=120,slow=6.5,SNR=5.5
SONM S SKSac 06 21 52.9 -0.1
comp=Z,1.3nm,0.9s,baz=117,slow=1.7,SNR=6.5
SONM PKKPbc PKKPbc 06 28 48.8 -3.4
comp=Z,1.0nm,0.8s,baz=245,slow=1.9,SNR=4.1
SONM Songino Array 94.73 319 P **P 06 11 54.7 -0.1**
SONM PP PP 06 15 42.2 -7.3
SONM S SKSac 06 21 52.9 -0.1
SONM PKKPbc PKKPbc 06 28 48.8 -3.4
SONM Songino Array 94.73 319 P **P 06 11 54.7 -0.2**
SONM S SKSac 06 21 52.9 -0.2
YKA Yellowknife Ar 94.87 25 P **P 06 11 54.0 -1.2**
comp=Z,19nm,0.7s,mb5.2,baz=236,slow=4.6,SNR=54
YKA Yellowknife Ar 94.87 25 P **P 06 11 54.0 -1.2**
YKA Yellowknife Ar 94.87 25 P **P 06 11 54.0 -1.2**
KSU1 Kansas State U 94.98 50 *eP* **P 06 11 56.9 +0.7**
comp=Z,116nm,0.9s,mb5.9
LCO Las Campanas 94.98 123 *eP* **P 06 11 57.1 +0.5**
comp=Z,32nm,1.4s,mb5.2
LCO *e* pP 06 13 29.2 +4.7
MIAR Mount Ida 95.76 56 *eP* **P 06 11 59.4 -0.5**
comp=Z,13nm,1.1s,mb5.0
MIAR *e* pP 06 13 27.1 -0.8
MIAR Mount Ida 95.76 56 *eP* **P 06 11 59.4 -0.5**
MIAR *e* pP 06 13 27.1 -0.8
MIAR pmax pmax
comp=Z,13nm,1.1s,mb5.0
JTS JuntasAbangare 95.78 81 *eP* **P 06 12 00.7 +0.3**
comp=Z,30nm,1.2s,mb5.3
JTS *e* pP 06 13 29.9 +1.5
JTS JuntasAbangare 95.78 81 *d*/*P* **P 06 11 59.5 -1.0**
GTA Gaotai 96.18 309 ⇑P **P 06 12 02.3 +0.6**
GTA sP sP 06 14 00.5 -8.2
GTA PP PP 06 16 02.8 +1.9
GTA SKS 06 22 03.3

GTA S S 06 22 47.8 +0.3
GTA sS sS 06 25 14.0 -11
GTA pmax pmax
comp=Z,31nm,1.0s,mb5.4
GTA pmax pmax
comp=Z,160nm,4.3s
GTA LR LR
comp=N,680nm,19.0s
GTA LR LR
comp=E,410nm,19.9s
GTA LR LR
comp=Z,310nm,19.7s
ECSD EROS Data Cent 96.55 46 *eP* **P 06 12 02.0 -1.2**
comp=Z,99nm,1.3s,mb5.8
ECSD *e* pP 06 13 31.1 -0.2
ECSD ePP PP 06 15 59.0 -4.5
UALR University of 96.80 56 *eP* **P 06 12 05.2 +0.6**
comp=Z,9.2nm,0.9s,mb4.9
UALR *e* pP 06 13 33.1 +0.5
UALR ePP PP 06 16 03.1 -2.6
ZAK Zakamensk 97.56 321 *eP* **P 06 12 07.0 -0.6**
SCIA State Center 98.33 49 *eP* **P 06 12 11.8 +0.5**
comp=Z,153nm,1.8s,mb5.9
SCIA *e* pP 06 13 40.3 +0.9
SCIA ePP PP 06 16 14.8 -2.4
AGMN Agassiz Nation 98.54 42 *eP* Pdif 06 12 10.1 -2.0
comp=Z,22nm,1.4s
AGMN *e* 06 13 41.0
ULM Lac du Bonnet 99.15 40 P Pdif 06 12 13.3 -1.5
comp=Z,10nm,1.1s,baz=259,slow=5.9,SNR=5.7
ULM Lac du Bonnet 99.15 40 P Pdif 06 12 13.3 -1.5
ULM Lac du Bonnet 99.15 40 P Pdif 06 12 13.3 -1.5
JFWS Jewell Farm 100.73 48 *e*Pdif Pdif 06 12 22.4 +0.5
comp=Z,23nm,0.9s
JFWS Jewell Farm 100.73 48 *eP* Pdif 06 12 22.4 +0.6
JFWS pmax pmax
comp=Z,23nm,0.9s
LPAZ La Paz 102.38 112 *e*Pdif Pdif 06 12 33.9 +4.7
comp=Z,18nm,1.7s
LPAZ La Paz 102.38 112 *eP* Pdif 06 12 33.9 +4.7
LPAZ pmax pmax
comp=Z,18nm,1.7s
TAPN Taplejung 102.41 295 *eP* PKiKP 06 16 47.5 -1.8
comp=Z,51nm,1.1s
ODAN Odare 102.56 294 *eP* PKiKP 06 16 48.0 -1.5
RAMN Ramite 103.27 294 *eP* PKiKP 06 16 50.1 -0.7
comp=Z,108nm,1.4s
JIRN Jiri 103.80 295 *eP* PKiKP 06 16 51.7 -0.1
comp=Z,8.2nm,0.6s
GUN Gumba 104.12 295 *eP* PKiKP 06 16 52.0 -0.4
comp=Z,74nm,1.1s
ROSC El Rosal 104.14 90 PKKPbc PKKPbc 06 28 25.8 +1.5
comp=Z,7.5nm,0.5s,baz=101,slow=7.5,SNR=9.4
ROSC El Rosal 104.14 90 PKKPbc PKKPbc 06 28 25.8 +1.5
PKI Pulchoki 104.45 294 *eP* PKiKP 06 16 52.8 -0.2
comp=Z,17nm,0.6s
KKN Kakani 104.61 295 *eP* PKiKP 06 16 52.6 -0.7
DMN Daman 104.72 294 *eP* PKiKP 06 16 52.2 -1.3
GKN Gorkha 105.21 295 *eP* PKiKP 06 16 53.2 -1.2
DANN Dangsing 106.05 295 *eP* PKiKP 06 16 55.4 -0.5
comp=Z,28nm,0.6s
KOLN Koldanda 106.05 294 *eP* PKiKP 06 16 55.1 -0.8
comp=Z,17nm,0.6s
WMQ Urumqi 106.09 311 P Pdif 06 12 47.0 +1.3
WMQ LR LR
comp=N,870nm,27.2s
WMQ LR LR
comp=E,280nm,22.2s
WMQ LR LR
comp=Z,340nm,22.2s
RES Resolute Bay 106.12 16 PKKPbc PKKPbc 06 28 17.1 -3.4
comp=Z,2.5nm,0.7s,baz=46,slow=11,SNR=6.9
RES Resolute Bay 106.12 16 *e*PKPdf PKiKP 06 16 53.1 -1.6
RES ePP PP 06 17 09.2 -4.9
RES PKKPbc PKKPbc 06 28 17.1 -3.4
PYUN Piuthan 106.65 295 *eP* PKiKP 06 16 55.9 -1.1
comp=Z,17nm,0.6s
CPUP Villa Florida 106.70 126 PKKPbc PKKPbc 06 28 15.5 -1.5
comp=Z,1.6nm,0.7s,baz=194,slow=9.2,SNR=3.4
CPUP Villa Florida 106.70 126 PKKPbc PKKPbc 06 28 15.5 -1.5
ZAA0 Zalesovo Array 109.41 322 *e*PKPdf PKiKP 06 16 59.3 -2.1
ZALV Zalesovo Beam 109.41 322 Pdiff Pdif 06 12 59.9 -0.5
comp=Z,0.6nm,0.4s,baz=98,slow=5.8,SNR=6.6
ZALV PKiKP PKiKP 06 16 59.5 -1.9
comp=Z,6.7nm,0.6s,baz=129,slow=0.6,SNR=21
ZALV PP PP 06 17 37.6 -0.9
comp=Z,5.4nm,0.8s,baz=99,slow=4.5,SNR=6.5
ZALV Zalesovo Beam 109.41 322 Pdif Pdif 06 12 59.9 -0.5
ZALV PKiKP PKiKP 06 16 59.5 -1.9
ZALV PP PP 06 17 37.6 -0.9
ZALV Zalesovo Beam 109.41 322 P Pdif 06 12 59.9 -0.6
ZALV 06 17 37.6
MK31 Makanchi Array 110.30 314 *e*PKPdf PKiKP 06 17 01.6 -1.7
MK31 Makanchi Array 110.30 314 *e*PKIKP PKiKP 06 17 01.6 -1.7
MKAR Makanchi Array 110.30 314 Pdiff Pdif 06 13 04.9 +0.5
comp=Z,1.6nm,0.6s,baz=104,slow=4.5,SNR=13
MKAR PKiKP PKiKP 06 17 02.0 -1.3
comp=Z,10nm,0.6s,baz=95,slow=0.5,SNR=59
MKAR PKKPbc PKKPbc 06 28 04.4 -2.0
comp=Z,1.2nm,0.6s,baz=252,slow=3.7,SNR=8.5
MKAR Makanchi Array 110.30 314 Pdif Pdif 06 13 05.0 +0.5
MKAR PKiKP PKiKP 06 17 02.0 -1.3
MKAR PKKPbc PKKPbc 06 28 04.4 -2.0
MKAR Makanchi Array 110.30 314 P Pdif 06 13 05.0 +0.6
NVS Novosibirsk 110.41 322 *e*PKIKP PKiKP 06 17 00.1 -3.1
NVS *e*S SKSac 06 23 03.0 -3.0
NVS pmax pmax
comp=Z,11nm,1.0s
NVS pmax pmax
comp=N,2.0nm,0.5s
NVS pmax pmax
comp=E,2.0nm,0.5s
NVS smax
comp=N,8.0nm,2.5s
NVS smax
comp=E,31nm,1.9s
KURK Kurchatov 113.00 318 Pdiff Pdif 06 13 18.2 +1.8
comp=E,0.3nm,0.3s,baz=102,slow=3.1,SNR=2.4
KURK PKiKP PKiKP 06 17 06.5 -1.8
comp=E,14nm,0.6s,baz=95,slow=1.7,SNR=68
KURK PP PP 06 17 54.8 -9.3
comp=E,6.3nm,0.9s,baz=92,slow=5.7,SNR=7.5
KURK PKKPbc PKKPbc 06 27 55.4 -2.3
comp=E,1.1nm,0.6s,baz=275,slow=3.1,SNR=6.3
KURK Kurchatov 113.00 318 Pdif Pdif 06 13 18.2 +1.8
KURK *e*PKPdf PKiKP 06 17 06.4 -1.9
KURK PKiKP PKiKP 06 17 06.5 -1.8
KURK PP PP 06 17 54.8 -9.3
KURK PKKPbc PKKPbc 06 27 55.4 -2.3
KURK Kurchatov 113.00 318 P Pdif 06 13 18.2 +1.8
KURK *e* 06 17 06.4
KSH Kashi 114.21 306 PKP PKiKP 06 17 11.5 +0.5
KSH sPKP 06 19 12.8
KSH PKS 06 20 46.8
KSH SKS SKSdf 06 23 48.5 +1.9
KSH AMB AMB
comp=Z,240nm,4.7s
KSH LR LR
comp=N,490nm,9.2s
KSH LR LR
comp=E,190nm,7.2s
KSH LR LR
comp=Z,150nm,6.0s
ULHL Ulahol 114.22 309 P PKiKP 06 17 10.7 -0.2
SNR=12
TKM2 Tokmak 2 114.73 309 P PKiKP 06 17 11.1 -0.8
SNR=29
TKM2 Tokmak 2 114.73 309 *e*PKPdf PKiKP 06 17 10.8 -1.1
TKM2 Tokmak 2 114.73 309 *e*PKIKP PKiKP 06 17 10.8 -1.1
KBK Karagaybulak 115.20 309 P PKPdf 06 17 12.3 -0.5
SNR=10
CHMS Chumysh 115.36 309 P PKPdf 06 17 12.2 -0.9
SNR=12
AAK Ala-Archa 115.53 309 P PKPdf 06 17 12.8 -0.6
SNR=8.5
AAK Ala-Archa 115.53 309 *e*PKPdf PKPdf 06 17 12.4 -1.0
AAK Ala-Archa 115.53 309 ⇑*i*PKIKP PKPdf 06 17 12.7 -0.7
AML Almayashu 116.10 308 P PKPdf 06 17 14.6 +0.1
SNR=24
SCHQ Schefferville 117.16 37 PKP PKPdf 06 17 14.4 -1.7
comp=Z,7.7nm,0.7s,baz=297,slow=2.3,SNR=3.9
SCHQ Schefferville 117.16 37 PKP PKPdf 06 17 14.4 -1.7
BVAR Borovoye Array 118.02 321 PKP PKPdf 06 17 16.6 -1.3
comp=Z,20nm,0.7s,baz=96,slow=1.4,SNR=56
BVAR Borovoye Array 118.02 321 PKP PKPdf 06 17 16.6 -1.3

BVAR	**Borovoye Array**	**118.02**	**321**	PKIKP	PKPdf	06 17 16.6	-1.3	
BRVK	**Borovoye**	**118.08**	**321**	*e*PKPdf	PKPdf	06 17 17.0	-1.0	
BRVK	**Borovoye**	**118.08**	**321**	*e*PKIKP	PKPdf	06 17 17.0	-1.0	
KKAR	**Karatay Array**	**118.47**	**309**	*e*PKPdf	PKPdf	06 17 17.6	-1.4	
KKAR	**Karatay Array**	**118.47**	**309**	*e*PKIKP	PKPdf	06 17 17.6	-1.5	
KBL	**Kabul**	**119.38**	**300**	*e*PKPdf	PKPdf	06 17 20.9	-0.2	
KBL	**Kabul**	**119.38**	**300**	*e*PKIKP	PKPdf	06 17 20.9	-0.2	
SPA0	**Spitsbergen Ar**	**120.23**	**357**	*e*P	PKPdf	06 17 20.1	-1.4	
SPB4	**Spitsbergen Ar**	**120.23**	**357**	*e*PKPdf	PKPdf	06 17 20.2	-1.3	
DAG	**Danmarks Havn**	**121.06**	**6**	*i* PKIKP	PKPdf	06 17 20.9	-2.2	
DAG				*i*		06 18 54.4		
DAG				pmax	pmax			
	comp=Z,4.0nm,0.7s							
DAG	**Danmarks Havn**	**121.06**	**6**	*i* P	PKPdf	06 17 20.9	-2.2	
	comp=Z,6.3nm,0.7s							
DAG				*i*		06 18 54.4		
SFJD	**Kangerlussuaq**	**121.28**	**22**	*i* PKIKP	PKPdf	06 17 22.0	-1.8	
SFJD				pmax	pmax			
	comp=Z,9.0nm,0.6s							
SFJD	**Kangerlussuaq**	**121.28**	**22**	*i* P	PKPdf	06 17 22.0	-1.8	
	comp=Z,8.8nm,0.6s							
SFJD				*e*		06 19 12.7		
SUMG	**Summit**	**121.47**	**13**	*e*PKPdf	PKPdf	06 17 23.2	-0.7	
SUMG				*e*		06 18 55.0		
SUMG	**Summit**	**121.47**	**13**	*i* PKIKP	PKPdf	06 17 24.4	+0.4	
SUMG				*i*		06 18 57.6		
SUMG				pmax	pmax			
	comp=Z,9.0nm,0.9s							
SUMG	**Summit**	**121.47**	**13**	*i* P	PKPdf	06 17 24.4	+0.4	
	comp=Z,8.7nm,0.9s							
SUMG				*i*		06 18 57.6		
SVE	**Sverdlovsk**	**122.81**	**326**	*e*PKIKP	PKPdf	06 17 26.5	-0.5	
SVE				*e*		06 19 08.5		
SVE				pmax	pmax			
	comp=Z,38nm,1.0s							
ARU	**Arti**	**124.02**	**326**	*e*PKPdf	PKPdf	06 17 28.6	-0.8	
ARU	**Arti**	**124.02**	**326**	*i* PKIKP	PKPdf	06 17 28.4	-0.9	
ARU						06 23 54.3		
ABKAR	**Akbulak array**	**125.11**	**317**	*e*PKPdf	PKPdf	06 17 30.6	-1.0	
AKTO	**Aktyubinsk**	**126.05**	**319**	PKP	PKPdf	06 17 33.1	-0.3	
	comp=Z,16nm,0.7s,baz=48,slow=3.8,SNR=52							
AKTO				PP	PP	06 19 30.6	-2.1	
	comp=Z,1.3nm,0.4s,baz=88,slow=16,SNR=3.7							
AKTO	**Aktyubinsk**	**126.05**	**319**	PKP	PKPdf	06 17 33.1	-0.3	
AKTO				PP	PP	06 19 30.6	-2.1	
AKTO	**Aktyubinsk**	**126.05**	**319**	PKIKP	PKPdf	06 17 33.1	-0.3	
AKTO						06 19 30.7		
SUR	**Sutherland**	**126.09**	**199**	PP	PP	06 19 31.8	-0.2	
	comp=Z,34nm,0.9s,baz=157,slow=7.9,SNR=9.4							
SUR	**Sutherland**	**126.09**	**199**	*e*PKPdf	PKPdf	06 17 34.2	0.0	
SUR				PP	PP	06 19 31.8	-0.2	
SUR				*e*PP	PP	06 19 32.5	+0.4	
NRS	**Narsarsuaq**	**126.11**	**26**	*i* P	PKPdf	06 17 32.5	-0.7	
	comp=Z,13nm,0.8s							
SCO	**Scoresbysund**	**126.33**	**10**	*i* PKIKP	PKPdf	06 17 32.5	-0.8	
SCO				pmax	pmax			
	comp=Z,13nm,0.8s							
KEV	**Kevo**	**126.91**	**350**	*e*PKIKP	PKPdf	06 17 32.6	-1.9	
KEV	**Kevo**	**126.91**	**350**	*e*pkp	PKPdf	06 17 32.6	-1.9	
ARCES	**ARCESS Array B**	**127.35**	**350**	PKP	PKPdf	06 17 34.4	-0.9	
	comp=Z,27nm,0.6s,baz=23,slow=1.2,SNR=50							
ARCES				PKKPab		06 27 05.5		
	comp=Z,1.9nm,0.6s,baz=223,slow=1.8,SNR=6.6							
ARCES	**ARCESS Array B**	**127.35**	**350**	PKP	PKPdf	06 17 34.4	-0.9	
ARCES				PKKPab		06 27 05.5		
ARCES	**ARCESS Array B**	**127.35**	**350**	PKIKP	PKPdf	06 17 34.4	-0.9	
ARE0	**ARCESS Array S**	**127.35**	**350**	*e*P	PKPdf	06 17 35.4	0.0	
ARE0	**ARCESS Array S**	**127.35**	**350**	*e*PKPdf	PKPdf	06 17 34.5	-0.8	
APA	**Apatity**	**127.43**	**346**	⇓*i* PKIKP	PKPdf	06 17 34.8	-0.7	
APA				pmax	pmax			
	comp=Z,22nm,0.6s							
BOSA	**Boshof**	**127.89**	**206**	PKP	PKPdf	06 17 38.6	+0.9	
	comp=Z,13nm,0.7s,baz=168,slow=1.4,SNR=32							
BOSA				PP	PP	06 19 42.2	-1.8	
	comp=Z,9.9nm,0.9s,baz=145,slow=7.9,SNR=4.6							
BOSA				SKPbc		06 20 21.7		
	comp=Z,20nm,1.1s,baz=194,slow=3.3,SNR=5.0							
BOSA	**Boshof**	**127.89**	**206**	*e*PKPdf	PKPdf	06 17 38.0	+0.3	
BOSA				PKP	PKPdf	06 17 38.6	+0.9	
BOSA				PP	PP	06 19 42.2	-1.8	
BOSA				*e*PP	PP	06 19 44.0	0.0	
BOSA				SKPbc		06 20 21.7		
BOSA	**Boshof**	**127.89**	**206**	PKIKP	PKPdf	06 17 38.6	+0.9	
BOSA						06 19 42.2		
BOSA				pmax	pmax			
	comp=Z,13nm,0.7s							
BOSA				pmax	pmax			
	comp=Z,10.0nm,0.9s							
KTK1	**Kautokeino**	**128.19**	**351**	*e*P	PKPdf	06 17 35.4	-1.5	
TRO	**Tromso**	**128.20**	**353**	*e*P	PKPdf	06 17 38.5	+1.6	
HATD	**Hatta, Dubai**	**129.99**	**287**	⇑P	PKPdf	06 17 41.2	-0.5	
ASHO	**Ashiyiah**	**130.04**	**287**	⇓P	PKPdf	06 17 41.3	-0.5	
STEI	**Steigen**	**130.25**	**354**	*e*P	PKPdf	06 17 41.5	+0.7	
KLMR	**Klimovskoe**	**130.49**	**337**	*e*PKIKP	PKPdf	06 17 39.7	-1.8	
KLMR				*e*		06 19 54.4		
KLMR				pmax	pmax			
	comp=Z,92nm,1.5s							
RBK	**Rabkut**	**130.87**	**277**	⇑P	PKPdf	06 17 44.0	+0.4	
LBTB	**Lobatse**	**130.89**	**208**	PKP	PKPdf	06 17 43.5	+0.1	
	comp=Z,6.8nm,0.6s,baz=193,slow=3.7,SNR=5.0							
LBTB				PP	PP	06 20 04.0	+0.4	
	comp=Z,8.2nm,0.7s,baz=174,slow=6.7,SNR=5.3							
LBTB				SKPbc	SKPbc	06 20 32.8	+0.9	
	comp=Z,69nm,1.0s,baz=148,slow=5.2,SNR=18							
LBTB	**Lobatse**	**130.89**	**208**	PKP	PKPdf	06 17 43.5	+0.1	
LBTB				*e*PKPdf	PKPdf	06 17 44.1	+0.7	
LBTB				PP	PP	06 20 04.0	+0.4	
LBTB				SKPbc	SKPbc	06 20 32.8	+0.9	
LBTB	**Lobatse**	**130.89**	**208**	PKIKP	PKPdf	06 17 43.6	+0.1	
LBTB						06 20 04.0		
JOF	**Joensuu**	**131.66**	**343**	*e*PKIKP	PKPdf	06 17 41.4	-2.3	
JOF	**Joensuu**	**131.66**	**343**	*e*pkp	PKPdf	06 17 41.4	-2.3	
ABTO	**Aybut**	**131.69**	**277**	⇑P	PKPdf	06 17 45.7	+0.6	
KAF	**Kangasniemi**	**133.65**	**345**	*e*PKIKP	PKPdf	06 17 45.2	-2.2	
KAF	**Kangasniemi**	**133.65**	**345**	*e*pkp	PKPdf	06 17 45.2	-2.2	
NSS	**Namsos**	**133.88**	**354**	*e*P	PKPpre	06 17 37.3		
FINES	**FINESS Array B**	**134.28**	**344**	PKhKP	PKPpre	06 17 35.9		
	comp=Z,5.1nm,0.9s,baz=46,slow=4.0,SNR=11							
FINES				PKP	PKPdf	06 17 47.1	-1.5	
	comp=Z,15nm,0.6s,baz=55,slow=3.1,SNR=16							
FINES				SKPbc	SKPbc	06 20 41.9	-0.3	
	comp=Z,15nm,0.8s,baz=60,slow=3.4,SNR=8.9							
FINES				SKKPbc		06 29 51.9		
	comp=Z,1.8nm,0.7s,baz=142,slow=6.9,SNR=4.1							
FINES	**FINESS Array B**	**134.28**	**344**	PKP	PKPdf	06 17 47.1	-1.5	
FINES				SKPbc	SKPbc	06 20 41.9	-0.3	
FINES				SKKPbc		06 29 51.9		
FINES	**FINESS Array B**	**134.28**	**344**	*i* PKHKP	PKPpre	06 17 35.9		
FINES						06 17 47.1		
FINES				pmax	pmax			
	comp=Z,5.0nm,0.9s							
FINES				pmax	pmax			
	comp=Z,15nm,0.6s							
MOS	**Moscow**	**134.59**	**333**	*e*PKIKP	PKPdf	06 17 47.5	-1.9	
MAK	**Makhachkala**	**135.10**	**313**	*e*PKIKP	PKPdf	06 17 48.1	-2.6	
MAK				*e*		06 19 17.4		
MAK				*e*PS	PS	06 30 58.0	-0.6	
MAK				*e*SS	SS	06 37 50.1	-4.6	
MAK				pmax	pmax			
	comp=Z,78nm,0.8s							
MAK				MLR	MLR			
	comp=Z,83nm,6.0s							
OBN	**Obninsk**	**135.45**	**333**	*e*PKPdf	PKPdf	06 17 52.0	+1.0	
OBN	**Obninsk**	**135.45**	**333**	⇑*i* PKIKP	PKPdf	06 17 50.7	-0.3	
OBN				*i*		06 19 20.3		
OBN				*i* SS	SS	06 37 54.0	-3.6	
OBN				pmax	pmax			
	comp=Z,22nm,0.6s							
VSR	**Storozhevoye**	**136.59**	**327**	*e*PKIKP	PKPdf	06 17 52.0	-1.2	
VSR				pmax	pmax			
	comp=Z,40nm,1.0s							
VSR				pmax	pmax			
	comp=N,10.0nm,1.1s							
VSR				pmax	pmax			
	comp=E,20nm,1.2s							
NOA	**NORSAR Array B**	**137.38**	**354**	PKhKP	PKPpre	06 17 45.5		
	comp=E,6.9nm,0.7s,baz=25,slow=2.0,SNR=31							
NOA				PKP	PKPdf	06 17 55.8	+1.4	
	comp=E,3.9nm,0.6s,baz=20,slow=3.5,SNR=18							
NOA				SKPbc	SKPbc	06 20 51.4	-0.2	
	comp=E,7.0nm,1.1s,baz=8.8,slow=4.1,SNR=6.4							
NOA	**NORSAR Array B**	**137.38**	**354**	PKPpre	PKPpre	06 17 45.5		
NOA				PKP	PKPdf	06 17 55.8	+1.4	
NOA				SKPbc	SKPbc	06 20 51.4	-0.2	
NOA	**NORSAR Array B**	**137.38**	**354**	PKHKP	PKPpre	06 17 45.5		
NOA						06 17 55.8		
NOA						06 20 51.4		
NAO01	**NORSAR Array S**	**137.60**	**354**	*e*PKPpre	PKPpre	06 17 46.1		
NC602	**NORSAR Array S**	**137.64**	**353**	*e*P	PKPpre	06 17 45.9		
ZEI	**Tsey**	**137.66**	**314**	*i* PKIKP	PKPdf	06 17 56.6	+1.1	
ZEI				pmax	pmax			
	comp=Z,10.0nm,0.6s							
RDF	**Al-Radifah**	**137.69**	**292**	*e*P	PKPpre	06 17 44.8		
RDF				AMb	AMB	06 17 49.5		
	comp=Z,60nm,0.8s							
MIB	**Mutribah**	**137.82**	**294**	*e*P	PKPpre	06 17 44.2		
MIB				AMb	AMB	06 17 47.7		
	comp=Z,56nm,0.8s							
GNI	**Garni**	**137.93**	**310**	PKP	PKPdf	06 17 55.7	-0.3	
	comp=Z,8.8nm,0.5s,baz=345,slow=8.5,SNR=3.9							
GNI	**Garni**	**137.93**	**310**	PKP	PKPdf	06 17 55.8	-0.3	
GNI				*e*PKPdf	PKPdf	06 17 59.2	+3.1	
GNI	**Garni**	**137.93**	**310**	PKIKP	PKPdf	06 17 55.7	-0.4	
GNI				pmax	pmax			
	comp=Z,9.0nm,0.5s							
NAY	**Al-Naaiem**	**137.94**	**293**	*e*P	PKPpre	06 17 44.6		
NAY				AMb	AMB	06 17 48.5		
	comp=Z,19nm,0.9s							
KIV	**Kislovodsk**	**138.03**	**316**	*e*PKPdf	PKPdf	06 17 55.7	-0.4	
KIV	**Kislovodsk**	**138.03**	**316**	⇓*i* PKIKP	PKPdf	06 17 56.0	-0.1	
KIV				*i*		06 19 24.9		
KIV				*e*		06 20 53.5		
KIV				pmax	pmax			
	comp=Z,19nm,0.9s							
KONO	**Kongsberg**	**138.91**	**354**	*e*P	PKPpre	06 17 48.9		
TSUM	**Tsumeb**	**139.35**	**202**	*e*PKPpre	PKPpre	06 17 51.9		
TSUM				*e*PKPdf	PKPdf	06 18 00.7	+1.3	
TSUM				*e*PP	PP	06 20 55.1	-1.2	
MICGM	**Minsk**	**139.40**	**337**	*e*	PKPpre	06 17 48.0		
MNIK	**Minsk**	**139.41**	**337**	*e*PKHKP	PKPpre	06 17 48.0		
NACGM	**Nanoch**	**139.47**	**338**	*e*	PKPpre	06 17 50.0		
ATD	**Arta Tunnel**	**140.32**	**265**	PKhKP	PKPpre	06 17 55.7		
	comp=Z,15nm,0.4s,baz=107,slow=23,SNR=4.9							
ATD	**Arta Tunnel**	**140.32**	**265**	PKPpre	PKPpre	06 17 55.7		
KMBO	**Kilima Mbogo**	**140.39**	**244**	*e*PKPpre	PKPpre	06 17 55.6		
KMBO				*e*		06 21 03.4		
KMBO	**Kilima Mbogo**	**140.39**	**244**	*e*PKHKP	PKPpre	06 17 55.6		
KMBO				*e*		06 21 03.4		
SNART	**Snartemo**	**140.39**	**356**	*e*P	PKPpre	06 17 52.1		
MVH1	**Achvaich**	**140.67**	**6**	*e*P	PKPdf	06 17 52.5	-8.0	
KAC	**Achnashellach**	**140.98**	**7**	*e*P	PKPdf	06 17 54.4	-6.7	
ANN	**Anapa**	**141.01**	**319**	*i* PKIKP	PKPdf	06 18 02.4	+0.9	
ANN				pmax	pmax			
	comp=Z,66nm,1.4s							
MCD	**Coleburn Disti**	**141.09**	**5**	*e*P	PKPdf	06 17 53.3	-8.0	
KPL	**Plockton**	**141.10**	**7**	*e*P	PKPdf	06 17 54.2	-7.1	
MDO	**Dochfour**	**141.13**	**6**	*e*P	PKPdf	06 17 54.6	-6.7	
SUW	**Suwalki**	**141.40**	**340**	*e*PKP	PKPdf	06 17 57.5	-4.4	
SUW	**Suwalki**	**141.40**	**340**	*e*PKIKP	PKPdf	06 17 57.5	-4.4	
AKASG	**Malin Array Be**	**141.72**	**332**	PKhKP	PKPpre	06 17 56.2		
	comp=Z,15nm,0.5s,baz=43,slow=4.1,SNR=121							
AKASG				SKPbc	SKPbc	06 21 02.4	-1.3	
	comp=Z,4.0nm,0.6s,baz=34,slow=3.1,SNR=5.5							
AKASG				SKKPbc		06 29 25.1		
	comp=Z,0.7nm,0.5s,baz=229,slow=3.5,SNR=6.5							
AKASG	**Malin Array Be**	**141.72**	**332**	PKPpre	PKPpre	06 17 56.2		
AKASG				SKPbc	SKPbc	06 21 02.4	-1.2	
AKASG				SKKPbc		06 29 25.1		
AKASG	**Malin Array Be**	**141.72**	**332**	PKHKP	PKPpre	06 17 56.2		
AKBB	**Malin Array Si**	**141.72**	**332**	*e*PKPpre	PKPpre	06 17 56.5		
AKBB	**Malin Array Si**	**141.72**	**332**	*e*PKHKP	PKPpre	06 17 56.5		
KIEV	**Kiev**	**141.73**	**332**	*e*PKPpre	PKPpre	06 17 56.8		
KIEV	**Kiev**	**141.73**	**332**	*e*PKHKP	PKPpre	06 17 56.8		
MARD	**Mardin**	**141.75**	**307**	*i* P	PKPdf	06 17 56.2	-6.9	
MUD	**Monsted U'grnd**	**142.10**	**354**	*i* PKIKP	PKPdf	06 17 59.0	-4.1	
MUD				pmax	pmax			
	comp=Z,25nm,0.8s							
MUD	**Monsted U'grnd**	**142.10**	**354**	*i* P	PKPdf	06 17 59.0	-4.1	
	comp=Z,25nm,0.8s							
EAB	**Aberfoyle**	**142.37**	**6**	*e*P	PKPdf	06 17 58.2	-5.4	
EBH	**Black Hill**	**142.39**	**5**	*e*P	PKPdf	06 17 58.9	-4.7	
BSD	**Bornholm Skovb**	**142.54**	**348**	*i* PKIKP	PKPdf	06 18 01.3	-2.6	
BSD				pmax	pmax			
	comp=Z,52nm,0.8s							
PGBU	**Glenifferbraes**	**142.73**	**6**	*e*P	PKPdf	06 17 59.8	-4.4	
EDI	**Edinburgh**	**142.74**	**5**	*e*P	PKPdf	06 17 59.4	-4.8	
KEMA	**Kemaliye**	**142.76**	**311**	*i* P	PKPdf	06 18 01.3	-3.5	
ESY	**Stoneypath**	**142.79**	**5**	*e*P	PKPdf	06 17 59.8	-4.5	
EAU	**Auchinoon**	**142.79**	**5**	*e*P	PKPdf	06 17 59.9	-4.4	
LLD	**Lille Linde**	**142.81**	**351**	*i* P	PKPdf	06 18 01.3	-3.1	
	comp=Z,52nm,0.8s							
EBL	**Broad Law**	**142.90**	**5**	*e*P	PKPdf	06 18 00.4	-4.1	
SIM	**Simferopol'**	**142.92**	**322**	*e*PKIKP	PKPdf	06 18 02.3	-2.6	
SIM				pmax	pmax			
	comp=Z,66nm,0.7s							
ESK	**Eskdalemuir**	**143.34**	**5**	*e*P	PKPdf	06 18 00.0	-5.3	
ESK	**Eskdalemuir**	**143.34**	**5**	*e*PKPdf	PKPdf	06 18 01.2	-4.2	
ESK	**Eskdalemuir**	**143.34**	**5**	*e*PKIKP	PKPdf	06 18 01.2	-4.1	
FURI	**Furi**	**143.45**	**259**	*e*P	PKPdf	06 18 06.6	-0.2	
FURI				S	SKPbc	06 21 12.3	+3.3	
ECK	**Cauldkaine Hil**	**143.48**	**5**	*e*P	PKPdf	06 18 01.7	-3.8	
SCER	**sogukcermik**	**143.49**	**312**	*i* P	PKPdf	06 18 04.2	-1.9	
AKCD	**Akcadag**	**143.54**	**310**	*i* P	PKPdf	06 18 04.6	-1.6	
ATAB	**Bozova**	**143.57**	**308**	*i* P	PKPdf	06 18 03.9	-2.4	
GAL1	**Galloway**	**143.63**	**7**	*e*P	PKPdf	06 18 01.8	-4.0	
GKP	**Gorka Klasztor**	**143.75**	**345**	*e*PKP	PKPdf	06 18 04.0	-2.1	
GKP				*e*		06 18 06.0		
GKP	**Gorka Klasztor**	**143.75**	**345**	*e*PKIKP	PKPdf	06 18 04.0	-2.1	
XAL	**Allendale**	**143.87**	**4**	*e*PKP	PKPdf	06 18 03.2	-3.1	
BEL	**Belsk**	**144.02**	**340**	*e*PKP	PKPdf	06 18 05.8	-0.8	
BEL				*e*		06 18 08.0		
BEL	**Belsk**	**144.02**	**340**	*e*PKIKP	PKPdf	06 18 05.8	-0.8	
KESW	**Keswick, Cumbr**	**144.07**	**5**	*e*P	PKPdf	06 18 04.0	-2.6	
GMM	**Mts of Mourne**	**144.09**	**8**	*e*P	PKPdf	06 18 04.4	-2.2	
XDE	**Dent Fell**	**144.12**	**6**	*e*P	PKPdf	06 18 04.0	-2.7	
BOYT	**Boyabat**	**144.29**	**316**	*i* P	PKPdf	06 18 06.6	-0.8	
PINB	**Pinarbasi**	**144.49**	**311**	*i* P	PKPdf	06 18 07.5	-0.4	
SHEL	**Horse Pasture**	**144.51**	**166**	*e*PKPdf	PKPdf	06 18 09.2	+0.6	
SHEL	**Horse Pasture**	**144.51**	**166**	*e*PKIKP	PKPdf	06 18 09.2	+0.6	
KIS	**Kishinev**	**144.52**	**328**	⇑*i* PKP	PKPdf	06 18 07.0	-0.7	
KIS				M		06 18 08.0		
	comp=Z,800nm,2.0s							
KIS	**Kishinev**	**144.52**	**328**	⇑*i* PKIKP	PKPdf	06 18 07.0	-0.7	
KIS				*e*		06 19 40.0		
KIS				pmax	pmax			
	comp=Z,800nm,2.0s							
KIS				pmax	pmax			
	comp=Z,1μm,2.0s							
LVV	**L'vov**	**144.55**	**336**	*e*PKIKP	PKPdf	06 18 06.4	-1.2	
KUZU	**Kuzuini**	**144.72**	**308**	*i* P	PKPdf	06 18 08.0	-0.4	
CTKT	**Corum**	**144.75**	**315**	*i* P	PKPdf	06 18 07.7	-0.5	
DLF	**Lyons Farm**	**144.92**	**9**	*e*P	PKPdf	06 18 06.2	-1.9	
ANDN	**Andirin**	**144.97**	**309**	*i* P	PKPdf	06 18 07.4	-1.3	
DSB	**Dublin**	**145.00**	**9**	*e*PKPdf	PKPdf	06 18 08.0	-0.3	
LEOM	**Leova**	**145.17**	**328**	⇑PKP2	PKPab	06 18 09.1	-0.8	
LEOM	**Leova**	**145.17**	**328**	⇑*i*P	PKPdf	06 18 09.1	+0.3	
KWP	**Kalwaria Pacla**	**145.21**	**337**	*e*PKP	PKPdf	06 18 08.9	+0.2	
KWP				*e*		06 18 11.1		
KWP	**Kalwaria Pacla**	**145.21**	**337**	*e*PKPdf	PKPdf	06 18 08.5	-0.2	
KWP	**Kalwaria Pacla**	**145.21**	**337**	*e*PKP2	PKPab	06 18 08.9	-1.0	
KWP	**Kalwaria Pacla**	**145.21**	**337**	⇑*i*P	PKPdf	06 18 08.9	+0.2	
BALT	**Daday**	**145.22**	**317**	*i* P	PKPdf	06 18 08.5	-0.5	
ILGA	**Ilgaz**	**145.25**	**316**	*i* P	PKPdf	06 18 09.6	+0.5	
RUE	**Ruedersdorf**	**145.26**	**348**	*e*PKPbc	PKPbc	06 18 09.0	-0.3	
RUE	**Ruedersdorf**	**145.26**	**348**	*e*PKPdf	PKPdf	06 18 09.0	+0.2	
COBT	**Iskenderun**	**145.43**	**308**	*i* P	PKPdf	06 18 09.8	+0.2	
KBI1	**Birley Grange**	**145.52**	**4**	*e*P	PKPdf	06 18 08.9	-0.2	
AVNT	**Avonos**	**145.54**	**312**	*i* P	PKPdf	06 18 10.8	+1.1	
STNC	**Stoke**	**145.63**	**5**	*e*P	PKPdf	06 18 09.1	-0.3	
YAYL	**Yayladag**	**145.72**	**307**	*i* P	PKPdf	06 18 11.5	+1.5	
ELDT	**Eldivan**	**145.72**	**316**	*i* P	PKPdf	06 18 10.3	+0.4	
OJC	**Ojcow**	**145.73**	**340**	*e*PKP	PKPdf	06 18 08.9	-0.7	
OJC	**Ojcow**	**145.73**	**340**	*e*PKIKP	PKPdf	06 18 08.9	-0.7	
KWE	**Weaver Farm**	**145.73**	**5**	*e*P	PKPdf	06 18 09.8	+0.3	
FOEL	**Foel Wylfa**	**145.74**	**6**	*e*P	PKPdf	06 18 08.1	-1.5	
TLCR		**145.75**	**326**	⇑PKP2	PKPab	06 18 11.0	-1.1	
TLCR		**145.75**	**326**	⇑*i*P	PKPdf	06 18 11.0	+1.2	
BUR08	**Bucovina Ar. S**	**145.76**	**332**	*e*PKPbc	PKPbc	06 18 11.8	+0.8	
BURAR	**Bucovina Array**	**145.77**	**332**	⇓PKP2	PKPab	06 18 11.5	-0.6	
BURAR	**Bucovina Array**	**145.77**	**332**	⇓*i*P	PKPdf	06 18 11.5	+1.7	
GHRR		**145.87**	**328**	⇑*i*P	PKPdf	06 18 11.9	+1.9	
STHS	**Stebnicka Huta**	**145.92**	**338**	*e*PKP2	PKPab	06 18 11.8	-0.9	
STHS	**Stebnicka Huta**	**145.92**	**338**	*e*PKP	PKPdf	06 18 11.8	+1.8	
TESR		**145.93**	**330**	⇓*i*P	PKPdf	06 18 12.1	+2.0	
BR131	**Keskin Array S**	**145.95**	**314**	*e*PKPdf	PKPdf	06 18 10.0	-0.4	
BR131				*e*		06 19 50.1		
BR131				*e*SKPdf	SKPdf	06 21 10.9	+2.9	
BR131				*e*PP	PP	06 21 38.9	+2.1	
BRTR	**Keskin Array B**	**145.95**	**314**	PKPbc	PKPbc	06 18 10.6	-1.3	
	comp=Z,42nm,0.6s,baz=92,slow=1.8,SNR=145							
BRTR				SKPbc	SKPbc	06 21 14.5	+0.5	
	comp=Z,5.3nm,0.6s,baz=136,slow=3.0,SNR=4.5							
BRTR	**Keskin Array B**	**145.95**	**314**	PKPbc	PKPbc	06 18 10.6	-1.3	
BRTR				SKPbc	SKPbc	06 21 14.5	+0.5	
BRTR	**Keskin Array B**	**145.95**	**314**	PKP2	PKPbc	06 18 10.6	-1.2	
ABA1	**Baconsthorpe**	**146.00**	**1**	*e*P	PKPdf	06 18 10.5	+0.5	
FKH	**Fakeheh**	**146.08**	**304**	*e*P	PKPab	06 18 13.0	-0.8	
CFR	**Carcaliu**	**146.11**	**327**	⇑PKP2	PKPab	06 18 12.6	-0.9	
CFR	**Carcaliu**	**146.11**	**327**	⇑*i*P	PKPab	06 18 12.6	-0.9	
HLM1	**Long Mynd**	**146.14**	**6**	*e*P	PKPdf	06 18 08.6	-1.6	
UZH	**Uzhgorod**	**146.18**	**336**	*e*PKP2	PKPab	06 18 12.4	-1.3	
PETR		**146.20**	**328**	⇑*i*P	PKPbc	06 18 12.9	+0.6	
KSP	**Ksiaz**	**146.20**	**344**	*e*PKP	PKPdf	06 18 12.0	+1.6	
KSP				*e*		06 18 13.8		
NIE	**Niedzica**	**146.25**	**339**	*e*PKP	PKPbc	06 18 12.8	+0.5	
NIE	**Niedzica**	**146.25**	**339**	*e*PKP2	PKPbc	06 18 12.8	+0.5	
CRVS	**Cervenica-Dubn**	**146.27**	**337**	*e*PKP2	PKPdf	06 18 11.0	+0.4	
CRVS	**Cervenica-Dubn**	**146.27**	**337**	*e*PKP	PKPdf	06 18 11.0	+0.4	
CRVS				*e*		06 18 13.1		
AEU	**East Anglia Un**	**146.28**	**1**	*e*P	PKPdf	06 18 11.0	+0.5	
VRI	**Vrincioaia**	**146.35**	**329**	PKP2	PKPbc	06 18 13.0	+0.3	
VRI	**Vrincioaia**	**146.35**	**329**	⇓*i*P	PKPbc	06 18 12.8	+0.1	
BBAL	**Bala**	**146.39**	**314**	*i* P	PKPbc	06 18 13.1	0.0	
PLOR	**Plostina**	**146.40**	**329**	⇑PKP2	PKPbc	06 18 13.2	+0.3	
PLOR	**Plostina**	**146.40**	**329**	⇑*i*P	PKPbc	06 18 13.2	+0.3	
**HWQ

MAMC	Mammari	148.22	307	P		PKPbc	06 18 17.1	-1.0
BOLV	Bolvadin	148.26	315	*i* P		PKPbc	06 18 17.9	-0.1
BUD	Budapest	148.35	338	⇓ *e* PKP		PKPbc	06 18 18.0	0.0
ZST	Bratislava	148.36	341	*e* PKP2		PKPbc	06 18 18.5	+0.5
ZST	Bratislava	148.36	341	*e* PKP		PKPbc	06 18 18.5	+0.5
SNF	Seneffe	148.37	358	PKPbc		PKPbc	06 18 17.7	-0.2
SNF				APKPbc			06 19 50.7	
BCLA	Clavier	148.40	356	PKPbc		PKPbc	06 18 17.4	-0.6
BCLA				APKPbc			06 19 50.8	
GRF	Grafenberg Arr	148.41	349	*e* PKPdf		PKPdf	06 18 13.7	-0.4
GRF				*e* PKPbc		PKPbc	06 18 17.9	-0.2
GRF				*e* pPKPbc		pPKPbc	06 19 50.9	+1.0
GRF	Grafenberg Arr	148.41	349	*e* PKHKP		PKPdf	06 18 13.7	-0.4
KHC	Kasperske Hory	148.45	346	*e* PKPdf		PKPdf	06 18 14.0	-0.2
KHC				*e* PKPbc		PKPbc	06 18 18.1	-0.1
KHC	Kasperske Hory	148.45	346	*e* PKHKP		PKPdf	06 18 13.9	-0.3
KHC				*e*			06 18 17.8	
KHC	Kasperske Hory	148.45	346	*e* PKPDF		PKPdf	06 18 13.9	-0.3
KHC				⇑ *e* PKP		PKPbc	06 18 17.8	-0.4
KHC				*ex*		x	06 19 20.0	
KHC				*ep* PKP		pPKPdf	06 19 54.0	+6.9
GAZI	Gazipasa	148.46	309	*i* P		PKPdf	06 18 15.2	+0.6
EIL	Elat	148.49	296	PKPbc		PKPbc	06 18 18.3	-0.6
	comp=Z,71nm,0.7s,baz=44,slow=2.0,SNR=21							
EIL	Elat	148.49	296	PKPbc		PKPbc	06 18 18.3	-0.6
GZR	Gura Zlata	148.56	332	⇓ PKHKP		PKPbc	06 18 18.2	-0.4
GZR	Gura Zlata	148.56	332	⇓ *i* P		PKPbc	06 18 18.2	-0.4
SZAC	Souni-Zanaja	148.64	307	P		PKPbc	06 18 18.2	-1.0
GEC2	GERESS Array S	148.69	346	*e* PKPbc		PKPbc	06 18 18.5	-0.3
GEC2	GERESS Array S	148.69	346	*e* PKP2		PKPbc	06 18 18.5	-0.3
GERES	GERESS Array B	148.69	346	PKPbc		PKPbc	06 18 17.8	-1.0
	comp=Z,18nm,0.6s,baz=27,slow=2.4,SNR=21							
GERES	GERESS Array B	148.69	346	PKPbc		PKPbc	06 18 17.8	-1.0
GERES	GERESS Array B	148.69	346	PKP2		PKPbc	06 18 17.8	-1.0
ALFC	Alevga	148.69	307	P		PKPbc	06 18 18.5	-0.8
	comp=Z,8.7nm,0.6s							
DOU	Dourbes	148.76	357	PKPbc		PKPbc	06 18 18.2	-0.7
DOU				APKPbc			06 19 50.5	
BAIF	Baives	148.82	358	*e* PKIKP		PKPdf	06 18 14.2	-0.5
BZS	Buzias	148.89	333	⇓ PKHKP		PKPdf	06 18 14.5	-0.5
BZS	Buzias	148.89	333	⇓ *i* P		PKPdf	06 18 14.5	-0.5
PVL	Pavlikeni	148.92	326	*i* P		PKPbc	06 18 20.9	+1.3
PVL	Pavlikeni	148.92	326	*i* P		PKPbc	06 18 20.9	+1.3
CONA	Conrad Observa	148.97	342	*i* PKiKP		PKPbc	06 18 19.6	0.0
	SNR=29							
SOP	Sopron	148.98	341	⇑ *e* PKP		PKPbc	06 18 19.5	-0.1
PPCY	Paphos	148.99	307	P		PKPbc	06 18 19.1	-0.9
WLF	Walferdange	149.10	355	PKPbc		PKPbc	06 18 20.1	+0.3
WLF	Walferdange	149.10	355	*e* PKPbc		PKPbc	06 18 20.1	+0.3
WLF	Walferdange	149.10	355	*e* PKPbc		PKPbc	06 18 20.0	+0.3
WLF	Walferdange	149.10	355	*e* PKP2		PKPbc	06 18 20.0	+0.2
PDA	Ponta Delgada	149.14	47	*e* PKP		PKPdf	06 18 15.4	-0.3
DURS	Dursunbey	149.41	318	*i* P		PKPbc	06 18 20.3	-0.6
BART	Pico Bartolome	149.46	46	*e* PKP		PKPdf	06 18 15.7	-0.5
MOA	Molln	149.48	344	*i* PKPbc		PKPbc	06 18 20.5	-0.3
	SNR=12							
JSA	Saint Aubin	149.50	6	*e* P		PKPbc	06 18 18.9	-1.9
DEMI	Demirci	149.57	317	*i* P		PKPbc	06 18 20.8	-0.5
PKSM	Moragy	149.57	337	⇑ PKHKP		PKPdf	06 18 16.8	+0.7
PKSM	Moragy	149.57	337	⇑ *i* P		PKPdf	06 18 16.8	+0.7
LANF	Langenberg	149.61	353	PKP		PKPdf	06 18 16.1	+0.1
STU	Stuttgart	149.63	351	*e* PKPdf		PKPdf	06 18 15.9	-0.2
STU				*e* PKPbc		PKPbc	06 18 20.9	-0.2
STU	Stuttgart	149.63	351	*e* PKPdf		PKPdf	06 18 16.3	+0.2
STU				*e* PKPbc		PKPbc	06 18 21.3	+0.2
STU	Stuttgart	149.63	351	*e* PKHKP		PKPdf	06 18 16.3	+0.2
STU				*e*			06 18 21.3	
ARSA	Arzberg	149.68	342	*i* PKPbc		PKPbc	06 18 21.0	-0.3
	SNR=9.2							
BALY	Balya	149.86	319	*i* P		PKPbc	06 18 21.5	-0.5
KDZ	Kurdzhali	149.95	324	*i* P		PKPbc	06 18 21.8	-0.3
KDZ	Kurdzhali	149.95	324	*i* P		PKPbc	06 18 21.8	-0.3
MANT	Manisa	149.97	316	*i* P		PKPbc	06 18 21.9	-0.4
FLN	La Foliniere	150.06	4	*e* PKIKP		PKPdf	06 18 15.8	-0.9
FLN				*e* R				
	comp=Z,236nm,23.0s							
DNZL	Cakiroluk	150.08	314	*i* P		PKPbc	06 18 22.6	+0.1
ALN	Alexandroupoli	150.09	322	*e* P		PKPbc	06 18 21.1	-1.4
ALN	Alexandroupoli	150.09	322	P		PKPbc	06 18 21.3	-1.2
KOGS	Kog	150.18	340	*e* PKPbc		PKPbc	06 18 21.5	-1.0
BFO	Black Forest	150.19	352	*e* PKPdf		PKPdf	06 18 16.4	-0.6
BFO				*e* PKPbc		PKPbc	06 18 22.1	-0.3
BFO				*e* PKPab		PKPab	06 18 29.4	-0.6
BFO	Black Forest	150.19	352	*e* PKIKP		PKPdf	06 18 16.4	-0.5
BFO				*e*			06 18 29.4	
ROSF	Rostrenen	150.22	8	*e* PKIKP		PKPdf	06 18 15.8	-1.2
CDF	Champ du Feu	150.23	353	*e* PKIKP		PKPdf	06 18 16.1	-0.9
	comp=Z,19nm,1.2s							
PAGF	Fort de Pagny	150.23	355	*e* PKIKP		PKPdf	06 18 16.5	-0.5
AKHS	Akhisar	150.24	317	*i* P		PKPbc	06 18 22.2	-0.7
LDF	La Druitiere	150.25	3	*e* PKIKP		PKPdf	06 18 16.0	-1.0
	comp=Z,11nm,0.8s							
MEZF	Maizieres J'vi	150.33	356	*e* PKIKP		PKPdf	06 18 16.9	-0.3
	comp=Z,48nm,1.2s							
SOKA	Soboth	150.34	342	⇑ *i* PKPdf		PKPdf	06 18 16.7	-0.5
	comp=Z,31nm,1.8s							
SOKA				⇑ *i* PKPbc		PKPbc	06 18 21.8	-1.1
	comp=Z,120nm,1.3s							
PERS	Pernice	150.35	342	*i* PKPbc		PKPbc	06 18 22.0	-0.9
PERS				*e*			06 19 57.6	
SGMF	Saint Gilles	150.39	7	*e* PKIKP		PKPdf	06 18 16.2	-1.1
GRR	Gorron	150.41	4	*e* PKIKP		PKPdf	06 18 16.5	-0.8
	comp=Z,48nm,1.1s							
KBA	Koelnbreinsper	150.43	345	*i* PKPbc		PKPbc	06 18 22.4	-0.7
	SNR=14							
ECH	Echery	150.44	353	*e* PKPdf		PKPdf	06 18 17.0	-0.3
ECH				*e* PKPbc		PKPbc	06 18 22.3	-0.7
ECH				*e* PKPab		PKPab	06 18 30.7	-0.3
ECH	Echery	150.44	353	*e* PKIKP		PKPdf	06 18 17.0	-0.3
ECH				*e*			06 18 30.7	
ECH	Echery	150.44	353	PKP		PKPdf	06 18 16.5	-0.8
VTS	Vitosha	150.46	328	*i* P		PKPbc	06 18 22.9	-0.4
VTS	Vitosha	150.46	328	⇑ PKIKP		PKPbc	06 18 21.7	-1.6
VTS	Vitosha	150.46	328	⇑ *i* P		PKPbc	06 18 21.7	-1.6
VTS	Vitosha	150.46	328	*i* P		PKPbc	06 18 23.2	-0.1
VTS	Vitosha	150.46	328	*i* P		PKPbc	06 18 23.2	-0.1
THEF	They Montfort	150.54	355	PKP		PKPdf	06 18 17.4	-0.1
WATA	Walderalm	150.59	347	*i* PKPbc		PKPbc	06 18 22.8	-0.7
	SNR=20							
RETA	Reutte	150.61	348	⇑ *i* PKPdf		PKPdf	06 18 17.2	-0.4
	comp=Z,14nm,1.3s							
RETA				⇓ *i* PKPbc		PKPbc	06 18 22.8	-0.7
	comp=Z,93nm,1.3s							
SFTF	Sexfontaines	150.63	356	*e* PKIKP		PKPdf	06 18 17.1	-0.5
	comp=Z,52nm,1.2s							
OBKA	Obir	150.63	343	*i* PKPbc		PKPbc	06 18 22.3	-1.2
	SNR=10							
WTTA	Wattenberg	150.65	347	*i* PKiKP		PKiKP	06 18 23.2	-0.9
	SNR=29							
QUIF	Quistinic	150.65	8	*e* PKIKP		PKPdf	06 18 16.6	-1.1
MOTA	Moosalm	150.68	348	D		PKPdf	06 18 17.5	-0.3
	SNR=25							
AYVA	Ayvalik	150.69	319	*i* P		PKPbc	06 18 23.1	-0.8
HAU	Haudompre	150.73	355	*e* PKIKP		PKPdf	06 18 17.0	-0.8
	comp=Z,28nm,1.1s							
HAU				*e* R				
	comp=Z,191nm,21.8s							
MYKA	Terra Mystica	150.77	344	⇑ *i* PKPdf		PKPdf	06 18 16.1	-1.8
	comp=Z,17nm,1.2s							
MYKA				⇓ *i* PKPbc		PKPbc	06 18 22.7	-1.2
	comp=Z,88nm,0.7s							
DIVS	Divibare	150.79	333	P		PKPbc	06 18 23.7	-0.3
MOF	Molkenrain	150.80	353	PKP		PKPdf	06 18 17.6	-0.3
TURN	Turunc	150.80	313	*i* P		PKPbc	06 18 24.8	+0.5
HINF	Hinteralfeld	150.86	354	*e* PKIKP		PKPdf	06 18 17.1	-0.9
	comp=Z,25nm,1.1s							
KAVA	Kavala	150.89	324	P		PKPbc	06 18 23.6	-0.7
MMB	Musomiste	150.91	326	*i* P		PKPbc	06 18 23.5	-0.9
MMB	Musomiste	150.91	326	*i* P		PKPbc	06 18 23.5	-0.9
ABTA	Abfaltersbach	150.94	346	⇑ *i* PKPdf		PKPdf	06 18 17.6	-0.6
	comp=Z,44nm,1.2s							
ABTA				⇑ *i* PKPbc		PKPbc	06 18 23.3	-1.0
	comp=Z,108nm,0.7s							
DAVA	Damuels	150.97	349	*i* PKPbc		PKPbc	06 18 23.9	-0.4
	SNR=17							
PRK	Paraskevi	150.99	320	P		PKPbc	06 18 23.7	-0.9
NVR	Nevrokopi	151.00	325	*e* P		PKPbc	06 18 23.9	-0.7
NVR	Nevrokopi	151.00	325	P		PKPbc	06 18 23.7	-0.9
KKB	Krupnik	151.05	327	*i* P		PKPbc	06 18 23.8	-0.9
KKB	Krupnik	151.05	327	*i* P		PKPbc	06 18 23.8	-0.9
LJU	Ljubljana	151.06	342	*i* PKPdf		PKPdf	06 18 18.1	-0.2
LJU				*e* PKPbc		PKPbc	06 18 23.7	-0.8
FETA	Feichten	151.06	348	⇑ *i* PKPdf		PKPdf	06 18 17.8	-0.5
	comp=Z,29nm,1.0s							
FETA				⇓ *i* PKiKP		PKiKP	06 18 24.2	-0.7
	comp=Z,116nm,1.0s							
LIA	Limnos Island	151.24	322	*e* P		PKPbc	06 18 23.8	-1.4
LIA	Limnos Island	151.24	322	P		PKPbc	06 18 24.1	-1.1
VOY	Vojsko	151.25	343	*e* PKPdf		PKPdf	06 18 19.9	+1.2
VOY				*e*			06 18 23.7	
VOY				*e*			06 18 38.7	
VOY				*e*			06 18 57.6	
VOY				*e*			06 19 11.8	
VOY				*e*			06 19 24.3	
GCAM	G?zelcaml?	151.28	316	*i* P		PKPbc	06 18 24.8	-0.5
SRS	Serrai	151.31	325	P		PKPbc	06 18 23.6	-1.7
LOMF	Lomont	151.33	354	PKP		PKPdf	06 18 18.7	0.0
BOJS	Bojanci	151.34	341	*e* PKPdf		PKPdf	06 18 18.8	0.0
BOJS				*e* PKPbc		PKPbc	06 18 24.9	-0.3
SMG	Samos	151.54	316	*e* P		PKPbc	06 18 24.7	-1.2
TRI	Trieste	151.58	343	*e* PKPbc		PKPbc	06 18 24.4	-1.4
TRI	Trieste	151.58	343	*e* PKIKP		PKPbc	06 18 24.4	-1.4
LOR	Lormes	151.62	358	*e* PKIKP		PKPdf	06 18 18.5	-0.7
	comp=Z,33nm,1.2s							
LOR				*e* R				
	comp=Z,203nm,17.5s							
OUR	Ouranopolis	151.64	324	P		PKPbc	06 18 24.7	-1.4
CHOS	Chios island	151.64	318	*e* P		PKPbc	06 18 25.6	-0.5
CHOS	Chios island	151.64	318	P		PKPbc	06 18 25.4	-0.7
HYF	Humbligny	151.64	360	*e* PKIKP		PKPdf	06 18 18.8	-0.4
SOH	Sokhos	151.65	325	*e* P		PKPbc	06 18 24.4	-1.7
VAY	Valandovo	151.71	327	*i* PKP		PKPbc	06 18 24.6	-1.5
SSF	Saint Saulge	151.84	358	*e* PKIKP		PKPdf	06 18 18.9	-0.6
	comp=Z,18nm,1.1s							
TUE	Stuetta	151.84	350	*e* PKPdf		PKPdf	06 18 19.3	-0.2
TUE				*e* PKPbc		PKPbc	06 18 26.3	0.0
PLG	Polygyros	151.91	324	*e* P		PKPbc	06 18 24.9	-1.8
PLG	Polygyros	151.91	324	P		PKPbc	06 18 24.9	-1.8
NIS1	Nisyros Isl.	151.92	314	P		PKPbc	06 18 25.4	-1.4
AVF	Avril sur Loir	152.11	359	*e* PKIKP		PKPdf	06 18 18.9	-1.0
CABF	La Chapelle	152.13	354	*e* PKIKP		PKPdf	06 18 19.8	-0.2
	comp=Z,99nm,1.7s							
MFF	Saint Martin d	152.24	4	*e* PKIKP		PKPdf	06 18 19.2	-0.9
	comp=Z,29nm,0.9s							
SMF	Signal de Mont	152.24	358	*e* PKIKP		PKPdf	06 18 19.2	-0.9
	comp=Z,61nm,1.5s							
NVLJ	Novalja	152.30	341	P		PKPbc	06 18 26.6	-0.8
KRUS	Krusevo	152.35	328	*i* PKP		PKPbc	06 18 25.9	-1.7
BGF	Bois d'Agland	152.35	359	*e* PKIKP		PKPdf	06 18 19.6	-0.7
	comp=Z,30nm,1.0s							
LIT	Litokhoron	152.62	325	*e* P		PKPbc	06 18 26.7	-1.6
TCF	Toulx Ste Croi	152.62	0	*e* PKIKP		PKPdf	06 18 19.9	-0.8
	comp=Z,20nm,0.9s							
APE	Apeiranthos	152.75	317	*e* P		PKPbc	06 18 27.3	-1.4
APE	Apeiranthos	152.75	317	⇓ PKIKP		PKPbc	06 18 26.8	-1.9
APE	Apeiranthos	152.75	317	⇓ *i* P		PKPbc	06 18 26.8	-1.9
NEO	Neokhori	152.76	323	*e* P		PKPbc	06 18 27.1	-1.5
AGO	Saint Agoulin	152.85	359	PKP		PKPdf	06 18 20.8	-0.2
PLDF	La Plantade	152.92	358	PKP		PKPdf	06 18 21.7	+0.6
LPL	La Plagne	153.15	353	*e* PKIKP		PKPdf	06 18 21.4	-0.1
	comp=Z,62nm,1.6s							
NEST	Nestorio	153.16	327	P		PKPbc	06 18 28.9	-0.5
LPG	La Plagne	153.17	353	*e* PKIKP		PKPdf	06 18 21.8	+0.3
	comp=Z,9.1nm,0.9s							
PTL	Penteli	153.21	320	*e* P		PKPbc	06 18 27.9	-1.7
THL	Klokotos Trika	153.26	325	*e* P		PKPbc	06 18 27.7	-2.0
THL	Klokotos Trika	153.26	325	P		PKPbc	06 18 27.7	-2.0
ATAL	Atalanti	153.29	322	P		PKPbc	06 18 28.3	-1.5
ATHU	Athens Univers	153.31	320	P		PKPbc	06 18 31.4	+1.6
LKR	Lokris	153.33	322	*e* P		PKPbc	06 18 28.9	-0.9
VLY	Voula,Athens	153.38	320	*e* P		PKPbc	06 18 28.7	-1.3
AXAR	Agios Charalam	153.45	323	P		PKPbc	06 18 28.9	-1.2
AGG	Agios Georgios	153.46	323	*e* P		PKPbc	06 18 28.4	-1.7
AGG	Agios Georgios	153.46	323	P		PKPbc	06 18 28.5	-1.6
SSB	Saint Sauveur	153.57	357	*e* PKPdf		PKPdf	06 18 22.1	0.0
SSB				*e* PKPbc		PKPbc	06 18 29.7	-0.4
SSB	Saint Sauveur	153.57	357	*e* PKIKP		PKPdf	06 18 22.1	0.0
MAKR	Makrakomi, Fth	153.58	324	P		PKPbc	06 18 30.2	-0.2
RJF	Les Rejaudoux	153.60	1	*e* PKIKP		PKPdf	06 18 21.4	-0.7
	comp=Z,31nm,0.9s							
RJF				*e* R				
	comp=Z,513nm,21.8s							
BNI	Bardonecchia	153.62	353	*e* PKPdf		PKPdf	06 18 22.8	+0.7
BNI				*e* PKPbc		PKPbc	06 18 30.5	+0.3
BNI				*e* PKPab		PKPab	06 18 45.0	+0.5
BNI	Bardonecchia	153.62	353	*e* PKIKP		PKPdf	06 18 22.8	+0.7
BNI				*e*			06 18 45.0	
LBL	Lubilhac	153.67	359	PKP		PKPdf	06 18 21.5	-0.7
NPS	Neapolis	153.71	313	*e* P		PKPbc	06 18 30.4	-0.4
LTK	Loutraki	153.77	321	*e* P		PKPbc	06 18 29.5	-1.3
LTK	Loutraki	153.77	321	P		PKPbc	06 18 30.8	0.0
ORIF	Oris-en-Rattie	153.83	354	*e* PKIKP		PKPdf	06 18 22.2	-0.3
ORIF				*e* R				
	comp=Z,224nm,23.0s							
MBDF	Montbardon	153.93	353	*e* PKIKP		PKPdf	06 18 22.3	-0.3
	comp=Z,19nm,1.1s							
LFF	La Frestale	153.94	3	*e* PKIKP		PKPdf	06 18 21.9	-0.7
	comp=Z,24nm,0.9s							
DIDY	Didyma	153.97	320	P		PKPbc	06 18 29.3	-2.0
VIVF	Saint-Julien-l	153.99	356	*e* PKIKP		PKPdf	06 18 22.3	-0.4
CAF	Calviac	153.99	0	*e* PKIKP		PKPdf	06 18 22.2	-0.5
	comp=Z,77nm,1.6s							
IDI	Anoyia	154.19	314	*e* P		PKPdf	06 18 25.0	+1.7
IDI	Anoyia	154.19	314	*e* PKPdf		PKPdf	06 18 24.9	+1.7
IDI				*e* PKPbc		PKPbc	06 18 30.8	-1.0
GUR	Goura	154.19	322	*e* P		PKPbc	06 18 30.8	-0.9
GUR	Goura	154.19	322	P		PKPbc	06 18 32.2	+0.5
SAOF	Saorge	154.55	351	PKP		PKPbc	06 18 24.1	+0.6
SBF	Sospel	154.69	351	*e* PKIKP		PKPdf	06 18 22.7	-1.0
	comp=Z,72nm,1.0s							
AQU	L'Aquila	154.75	341	*e* PKPbc		PKPbc	06 18 32.8	0.0
AQU	L'Aquila	154.75	341	*e* PKIKP		PKPbc	06 18 32.8	+0.1
SMRF	Simiane la Rot	154.79	355	*e* PKIKP		PKPdf	06 18 23.6	-0.2
	comp=Z,120nm,1.5s							
LASF	Ste Croix	154.81	357	*e* PKIKP		PKPdf	06 18 23.5	-0.3
	comp=Z,60nm,1.3s							
ITM	Ithomi	154.94	321	*e* P		PKPbc	06 18 34.3	+1.0
PYL	PYLOS	155.24	321	*e* P		PKPbc	06 18 32.9	+8.2
LMR	La Mourre	155.33	353	*e* PKIKP		PKPdf	06 18 23.7	-0.9
	comp=Z,29nm,1.2s							
PCAB	Cabril	155.54	19	*e* PKPab		PKPab	06 18 55.6	+2.8
MTLF	Montolieu	155.57	0	*e* PKIKP		PKPdf	06 18 24.4	-0.5
	comp=Z,44nm,1.4s							
PGF	Pioggiola	155.70	348	*e* PKIKP		PKPdf	06 18 24.2	-0.9
	comp=Z,218nm,1.5s							
PBRG	Braganca	155.83	17	*e* PKPdf		PKPdf	06 18 24.8	-0.5
PBRG	Braganca	155.83	17	*e* PKPab		PKPab	06 18 53.2	-0.9
MVO	Moncorvo	156.34	18	*e* PKPdf		PKPdf	06 18 25.0	-1.0
MVO	Moncorvo	156.34	18	*e* PKPab		PKPab	06 18 56.5	+0.2
PVIS	Viseu	156.49	20	*e* PKPab		PKPab	06 18 57.0	+0.1
MSKU	Masuku	156.82	210	PKPab		PKPab	06 18 58.8	-0.3
	comp=Z,34nm,0.5s,baz=125,slow=3.2,SNR=10							
MSKU				PP		PP	06 22 38.0	+0.3
	comp=Z,12nm,0.6s,baz=135,slow=2.8,SNR=6.9							
MSKU	Masuku	156.82	210	PKPab		PKPab	06 18 58.9	-0.3
MSKU				PP		PP	06 22 38.0	+0.3
PTOM	Tomar	157.30	22	*e* PKPab		PKPab	06 19 00.0	-0.5
PCBR	Castelo Branco	157.41	20	*e* PKPdf		PKPdf	06 18 26.7	-0.7
PCBR	Castelo Branco	157.41	20	*e* PKPab		PKPab	06 19 00.7	-0.3
PMAFR	Mafra	157.55	24	*e* PKPdf		PKPdf	06 18 23.7	-3.9
PMAFR	Mafra	157.55	24	*e* PKPab		PKPab	06 18 59.6	-2.0
PMRV	Marv??o	157.81	20	*e* PKPdf		PKPdf	06 18 28.3	+0.4
PMRV	Marv??o	157.81	20	*e* PKPab		PKPab	06 19 02.5	-0.2
PMTG	Montargil	157.85	22	*e* PKPab		PKPab	06 19 02.1	-0.8
PESTR	Estremoz	158.25	21	*e* PKPdf		PKPdf	06 18 27.6	-0.8
PESTR	Estremoz	158.25	21	*e* PKPab		PKPab	06 19 03.8	-0.9
EVO	Evora	158.40	23	*e* PKIKP		PKPdf	06 18 26.0	-2.6
	comp=Z,38nm,1.1s							
EVO				*e* R				
	comp=Z,338nm,18.8s							
EVO	Evora	158.40	23	*e* PKPab		PKPab	06 19 04.8	-0.5
ESDC	Sonseca Array	158.53	13	PKP		PKPdf	06 18 28.4	-0.3
	comp=Z,1.1nm,0.7s,baz=38,slow=2.6,SNR=5.4							
ESDC				PKPab		PKPab	06 19 05.4	-0.4
	comp=Z,14nm,0.8s,baz=346,slow=4.2,SNR=18							
ESDC	Sonseca Array	158.53	13	PKP		PKPdf	06 18 28.4	-0.3
ESDC				PKPab		PKPab	06 19 05.4	-0.4
PNCL	Nicolau / Gran	158.58	24	*e* PKPab		PKPab	06 19 05.4	-0.7
PBEJ	Beja	158.90	23	*e* PKPdf		PKPdf	06 18 32.0	+2.8
PBEJ	Beja	158.90	23	*e* PKPab		PKPab	06 19 07.0	-0.5
PBAR	Barrancos	159.06	21	*e* PKPdf		PKPdf	06 18 29.1	-0.3
PBAR	Barrancos	159.06	21	*e* PKPab		PKPab	06 19 07.9	-0.3
PCVE	Castro Verde	159.18	24	*e* PKPdf		PKPdf	06 18 29.4	-0.2
PCVE	Castro Verde	159.18	24	*e* PKPab		PKPab	06 19 07.9	-0.8
PVAQ	Vaqueiros	159.51	23	*e* PKPdf		PKPdf	06 18 30.3	+0.4
PVAQ	Vaqueiros	159.51	23	*e* PKPab		PKPab	06 19 09.5	-0.7
KEST	Kesra	162.07	341	PKP		PKPdf	06 18 32.3	-0.4
	comp=Z,3.1nm,0.9s,baz=108,slow=1.2,SNR=4.8							
KEST				PKPab		PKPab	06 19 20.8	-0.6
	comp=Z,7.6nm,0.6s,baz=4.7,slow=2.5,SNR=15							
KEST	Kesra	162.07	341	PKP		PKPdf	06 18 32.3	-0.4
KEST				PKPab		PKPab	06 19 20.8	-0.6
DBIC	Dimbokro	166.01	149	PKP		PKPdf	06 18 35.4	-1.5
	comp=Z,14nm,0.8s,baz=137,slow=0.7,SNR=18							
DBIC				PKPab		PKPab	06 19 39.7	+0.4
	comp=Z,7.5nm,0.8s,baz=158,slow=3.9,SNR=7.0							
DBIC	Dimbokro	166.01	149	*e* PKPdf		PKPdf	06 18 35.3	-1.6
DBIC				*e* PKPab		PKPab	06 19 39.3	0.0
DBIC				PKPab		PKPab	06 19 39.7	+0.4
DBIC	Dimbokro	166.01	149	PKIKP		PKPdf	06 18 35.4	-1.5
DBIC							06 19 39.7	
DBIC				pmax		pmax		
	comp=Z,14nm,0.8s							
DBIC				pmax		pmax		
	comp=Z,8.0nm,0.8s							
TORD	Torodi Ar. Bea	174.31	173	PKP		PKPdf	06 18 39.6	-1.9
	comp=Z,12nm,1.0s,baz=357,slow=0.7,SNR=48							
TORD				PKPab		PKPab	06 20 16.0	+0.1
	comp=Z,6.5nm,0.6s,baz=188,slow=4.2,SNR=16							
TORD				PP		PP	06 24 08.0	+1.1
	comp=Z,86nm,1.4s,baz=182,slow=3.7,SNR=15							
TORD	Torodi Ar. Bea	174.31	173	PKP		PKPdf	06 18 39.6	-1.9
TORD				PKPab		PKPab	06 20 16.0	+0.1
TORD				PP		PP	06 24 08.0	+1.1
TAM	Tamanrasset	175.08	324	*e* PKPdf		PKPdf	06 18 42.0	+0.5

VNWF	**Veniaminof 8**	**1.73**	**273**	P	**Pn**	**06 24 19.3**	**+0.8**
OHAK	**Old Harbor**	**2.08**	**56**	P	**Pn**	**06 24 22.9**	**-0.3**
OHAK				S	**Sn**	**06 24 46.6**	**-1.3**
KABR	**Katmai Barrier**	**2.19**	**21**	P	**Pn**	**06 24 25.0**	**+0.3**
KCE	**Katmai Mt Cerb**	**2.25**	**18**	P	**Pn**	**06 24 26.2**	**+0.6**
KABU	**Katmai Buttres**	**2.26**	**16**	P	**Pn**	**06 24 26.3**	**+0.5**
KABU				S	**Sn**	**06 24 53.9**	**+1.5**
KAKN	**Katmai Knife C**	**2.32**	**19**	P	**Pn**	**06 24 26.9**	**+0.3**
SDPT	**Sand Point**	**2.39**	**253**	P	**Pn**	**06 24 27.8**	**+0.3**
KDAK	**Kodiak Island**	**2.71**	**50**	Pn	**Pn**	**06 24 31.2**	**-0.7**
	12nm,0.3s,baz=225,slow=7.1,SNR=210						
KDAK				Sn	**Sn**	**06 25 01.2**	**-2.2**
	32nm,0.3s,baz=301,slow=15,SNR=4.1						
KDAK	**Kodiak Island**	**2.71**	**50**	P	**Pn**	**06 24 31.4**	**-0.5**
PS4A	**Pavlof South-4**	**3.14**	**258**	P	**Pn**	**06 24 37.7**	**-0.1**
DT1	**Dutton Round H**	**3.45**	**255**	P	**Pn**	**06 24 41.5**	**-0.5**
FALS	**False Pass**	**4.15**	**255**	*e*Pn	**Pn**	**06 24 52.2**	**+0.6**
FALS				*e*Sn	**Sn**	**06 25 38.7**	**0.0**
ILW	**Iliamna West**	**4.34**	**23**	P	**Pn**	**06 24 55.5**	**+1.3**
BRLK	**Bradley Lake**	**4.72**	**37**	P	**Pn**	**06 24 58.6**	**-0.8**
RSO	**Redoubt South**	**4.78**	**23**	P	**Pn**	**06 25 01.3**	**+1.0**
BKG	**Blockade Glaci**	**5.44**	**22**	P	**Pn**	**06 25 09.5**	**+0.2**
SLKM	**Skilak Lake**	**5.50**	**34**	P	**Pn**	**06 25 09.6**	**-0.6**
STLK	**Strandline Lak**	**5.92**	**22**	P	**Pn**	**06 25 16.4**	**+0.6**
RC01	**Rabbit Creek A**	**6.11**	**32**	P	**Pn**	**06 25 17.6**	**-0.8**
SUA	**Susitna One**	**6.14**	**27**	P	**Pn**	**06 25 18.6**	**-0.2**
PAX	**Paxson**	**8.85**	**35**	*e*Pn	**Pn**	**06 25 55.0**	**-1.0**
	6.4nm,0.8s						
ILAR	**Eielson Array**	**9.88**	**25**	Pn	**Pn**	**06 26 06.6**	**-3.4**
	0.5nm,0.3s,baz=215,slow=13,SNR=6.2						
ILAR				Sn	**Sn**	**06 27 52.3**	**-7.0**
	0.2nm,0.3s,baz=206,slow=23,SNR=3.5						
ILAR	**Eielson Array**	**9.88**	**25**	Pn	**Pn**	**06 26 06.6**	**-3.4**
ILAR				Sn	**Sn**	**06 27 52.3**	**-7.0**
TNA	**Tin City**	**10.98**	**334**	*e*Pn	**Pn**	**06 26 25.5**	**+0.4**
	13nm,0.6s						
INK	**Inuvik**	**16.10**	**32**	Pn	**Pn**	**06 27 32.0**	**-1.5**
	0.8nm,0.3s,baz=225,slow=11,SNR=16						
INK	**Inuvik**	**16.10**	**32**	*e*P	**Pn**	**06 27 32.4**	**-1.1**
YKA	**Yellowknife Ar**	**21.97**	**56**	P	**P**	**06 28 40.4**	**+0.3**
	1.0nm,0.4s,mb3.6,baz=272,slow=10,SNR=17						
YKA	**Yellowknife Ar**	**21.97**	**56**	P	**P**	**06 28 40.4**	**+0.3**
NVAR	**Mina Array Bea**	**30.83**	**109**	P	**P**	**06 30 04.9**	**+3.0**
	0.6nm,0.5s,mb3.7,baz=302,slow=7.4,SNR=5.0						
NVAR				PcP	PcP	06 32 58.2	+0.4
	0.6nm,0.4s,baz=290,slow=2.6,SNR=3.9						
NVAR	**Mina Array Bea**	**30.83**	**109**	P	**P**	**06 30 04.9**	**+3.0**
NVAR				PcP	PcP	06 32 58.2	+0.4
PDAR	**Pinedale Array**	**32.62**	**94**	P	**P**	**06 30 19.9**	**+2.3**
	0.6nm,0.6s,mb3.7,baz=324,slow=4.5,SNR=7.1						
PDAR	**Pinedale Array**	**32.62**	**94**	P	**P**	**06 30 19.9**	**+2.3**
ULM	**Lac du Bonnet**	**35.74**	**73**	P	**P**	**06 30 45.7**	**+1.2**
	3.9nm,0.8s,mb4.4,baz=310,slow=7.7,SNR=4.4						
ULM	**Lac du Bonnet**	**35.74**	**73**	P	**P**	**06 30 45.7**	**+1.2**
TXAR	**Lajitas Array**	**45.62**	**103**	P	**P**	**06 32 08.2**	**+2.1**
	0.9nm,0.6s,mb3.9,baz=306,slow=5.0,SNR=12						
TXAR				PcP	PcP	06 33 44.5	+0.8
	0.5nm,0.6s,baz=336,slow=2.0,SNR=9.5						
TXAR	**Lajitas Array**	**45.62**	**103**	P	**P**	**06 32 08.2**	**+2.1**
TXAR				PcP	PcP	06 33 44.5	+0.8
SCHQ	**Schefferville**	**47.34**	**52**	P	**P**	**06 32 19.5**	**+0.2**
	3.7nm,0.5s,mb4.6,baz=316,slow=11,SNR=15						
SCHQ	**Schefferville**	**47.34**	**52**	P	**P**	**06 32 19.5**	**+0.2**
ARCES	**ARCESS Array B**	**54.65**	**359**	P	**P**	**06 33 12.7**	**-1.2**
	1.7nm,0.8s,mb4.1,baz=22,slow=7.8,SNR=4.9						
ARCES	**ARCESS Array B**	**54.65**	**359**	P	**P**	**06 33 12.8**	**-1.2**
SONM	**Songino Array**	**55.58**	**306**	P	**P**	**06 33 18.8**	**-2.1**
	1.3nm,0.6s,mb4.1,baz=48,slow=6.6,SNR=10.0						
SONM	**Songino Array**	**55.58**	**306**	P	**P**	**06 33 18.8**	**-2.1**
FINES	**FINESS Array B**	**62.77**	**359**	P	**P**	**06 34 09.6**	**-0.8**
	1.7nm,0.8s,mb4.2,baz=28,slow=6.3,SNR=4.3						
FINES	**FINESS Array B**	**62.77**	**359**	P	**P**	**06 34 09.6**	**-0.8**
NB2	**NORSAR Subarra**	**62.79**	**7**	P	**P**	**06 34 10.3**	**-0.2**
	comp=Z,0.8nm,0.5s,mb4.1,baz=353,slow=6.9						
NOA	**NORSAR Array B**	**62.79**	**7**	P	**P**	**06 34 10.4**	**-0.1**
	comp=Z,0.9nm,0.6s,mb4.1,baz=351,slow=5.8,SNR=5.0						
NOA	**NORSAR Array B**	**62.79**	**7**	P	**P**	**06 34 10.4**	**-0.1**
KURK	**Kurchatov**	**64.18**	**325**	P	**P**	**06 34 21.0**	**+1.2**
	comp=Z,0.2nm,0.4s,mb3.5,baz=25,slow=6.9,SNR=3.5						
KURK	**Kurchatov**	**64.18**	**325**	P	**P**	**06 34 21.1**	**+1.2**
BVAR	**Borovoye Array**	**64.61**	**331**	P	**P**	**06 34 23.1**	**+0.5**
	comp=Z,0.5nm,0.5s,mb3.8,baz=29,slow=3.3,SNR=2.8						
BVAR	**Borovoye Array**	**64.61**	**331**	P	**P**	**06 34 23.1**	**+0.5**
MKAR	**Makanchi Array**	**66.28**	**320**	P	**P**	**06 34 32.7**	**-0.8**
	comp=Z,0.2nm,0.3s,mb3.6,baz=37,slow=6.8,SNR=5.9						
MKAR	**Makanchi Array**	**66.28**	**320**	P	**P**	**06 34 32.7**	**-0.8**
AKTO	**Aktyubinsk**	**70.03**	**337**	P	**P**	**06 34 56.2**	**-0.7**
	comp=Z,0.4nm,0.3s,mb3.8,baz=17,slow=11,SNR=5.8						
AKTO	**Aktyubinsk**	**70.03**	**337**	P	**P**	**06 34 56.2**	**-0.7**
AKASG	**Malin Array Be**	**73.45**	**356**	P	**P**	**06 35 16.6**	**-0.9**
	comp=Z,1.6nm,0.3s,mb4.4,baz=5.0,slow=5.4,SNR=11						
AKASG	**Malin Array Be**	**73.45**	**356**	P	**P**	**06 35 16.6**	**-0.9**
GERES	**GERESS Array B**	**75.09**	**7**	P	**P**	**06 35 27.4**	**+0.4**
	comp=Z,0.5nm,0.6s,mb3.6,baz=324,slow=4.8,SNR=4.8						
GERES	**GERESS Array B**	**75.09**	**7**	P	**P**	**06 35 27.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**82.72**	**292**	P	**P**	**06 36 09.0**	**-0.3**
	comp=Z,1.1nm,0.5s,mb4.2,baz=19,slow=5.5,SNR=6.2						
CMAR	**Chiang Mai Arr**	**82.72**	**292**	P	**P**	**06 36 09.0**	**-0.3**
BRTR	**Keskin Array B**	**84.15**	**352**	P	**P**	**06 36 16.8**	**+0.5**
	comp=Z,1.1nm,0.6s,mb4.2,baz=356,slow=2.3,SNR=4.6						
BRTR	**Keskin Array B**	**84.15**	**352**	P	**P**	**06 36 16.8**	**+0.5**
WRA	**Warramunga Arr**	**95.37**	**242**	P	**P**	**06 37 08.4**	**-1.1**
	comp=Z,0.1nm,0.4s,mb3.6,baz=37,slow=5.6,SNR=3.4						
WRA	**Warramunga Arr**	**95.37**	**242**	P	**P**	**06 37 08.4**	**-1.1**
QSPA	**South Pole Qui**	**145.89**	**180**	PKPbc	PKPbc	06 43 23.8	+0.9
	comp=Z,4.8nm,0.7s,baz=88,slow=2.4,SNR=25						
QSPA	**South Pole Qui**	**145.89**	**180**	PKPbc	PKPbc	06 43 23.8	+0.9

IDC 29 06:24:53.9±1.5, 30.73N×83.39E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.6/27, mbtmp3.7/8, Error ellipse: s-maj=51.5km s-min=20.7km az=67.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**16.06**	**357**	Pn	Pn	06 28 40.3	-0.7
	0.2nm,0.3s,baz=190,slow=12,SNR=7.7						
KURK	**Kurchatov**	**20.28**	**351**	P	P	06 29 29.3	-1.6
	3.1nm,0.7s,baz=170,slow=10,SNR=24						
ZALV	**Zalesovo Beam**	**23.22**	**2**	P	P	06 30 02.3	-0.1
	0.5nm,0.4s,baz=195,slow=8.8,SNR=3.3						
SONM	**Songino Array**	**24.53**	**39**	P	P	06 30 15.3	+0.4
	1.3nm,0.6s,baz=225,slow=9.4,SNR=9.5						
FINES	**FINESS Array B**	**47.98**	**327**	P	P	06 33 34.2	+0.1
	1.8nm,0.8s,baz=121,slow=15,SNR=3.3						
WRA	**Warramunga Arr**	**70.25**	**129**	P	P	06 36 09.2	+0.1
	0.7nm,0.6s,baz=323,slow=6.4,SNR=9.8						
ASAR	**Alice Springs**	**72.59**	**132**	P	P	06 36 23.3	+0.1
	0.4nm,0.7s,baz=316,slow=5.2,SNR=5.3						
ILAR	**Eielson Array**	**77.08**	**20**	P	P	06 36 48.6	0.0
	0.3nm,0.7s,baz=304,slow=4.9,SNR=6.0						

IDC 29 06:31:35.8±1.4, 28.71N×142.69E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/24, mbtmp3.8/6, Error ellipse: s-maj=44.7km s-min=26.2km az=77.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.67**	**196**	Sn	Sn	06 32 27.4	-1.0
	61nm,0.3s,baz=284,slow=22,SNR=9.1						
SONM	**Songino Array**	**33.88**	**314**	P	P	06 38 18.8	-1.3
	0.3nm,0.4s,baz=95,slow=10,SNR=3.5						
ZALV	**Zalesovo Beam**	**48.57**	**318**	P	P	06 40 21.8	+1.0
	0.7nm,0.4s,baz=89,slow=8.3,SNR=4.8						
WRA	**Warramunga Arr**	**49.04**	**190**	P	P	06 40 24.6	0.0
	0.8nm,0.6s,baz=12,slow=8.6,SNR=13						
KURK	**Kurchatov**	**52.18**	**314**	P	P	06 40 48.5	+0.4
	1.0nm,0.5s,baz=91,slow=7.5,SNR=16						
BVAR	**Borovoye Array**	**57.16**	**317**	P	P	06 41 24.7	+0.4
	1.0nm,0.4s,baz=85,slow=8.8,SNR=5.3						
INK	**Inuvik**	**61.38**	**25**	P	P	06 41 53.1	-0.1
	0.9nm,0.8s,baz=270,slow=5.1,SNR=5.1						

MEX 29 06:40:20.1±1.1, 16.98N×94.89W, h126km±11km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.11**	**3**	*i* P	Pn	06 40 35.7	-1.6
CMIG				*e*S	Sn	06 40 48.0	-2.2
HUIG	**Huatulco**	**1.68**	**224**	*e*P	Pn	06 40 47.8	-2.3
HUIG				*e*S	Sn	06 41 12.1	-0.7
TGIG		**1.70**	**97**	*e*P	Pn	06 40 49.1	-1.2
TGIG				*e*S	Sn	06 41 11.6	-1.8
VHO	**Vista Hermosa**	**1.77**	**273**	*i* P	Pn	06 40 50.9	-0.2
VHO				*i* S	Sn	06 41 14.3	-0.4
PCIG		**2.04**	**128**	*i* P	Pn	06 40 54.3	-0.2
PCIG				*e*S	Sn	06 41 19.0	-1.7
CCIG	**Comitan**	**2.73**	**104**	*e*P	Pn	06 41 02.4	-0.7
CCIG				*i* S	Sn	06 41 34.1	-2.0
TPIG	**Tehuac#an**	**2.76**	**302**	*e*P	Pn	06 41 02.6	-0.8
TPIG				*i* S	Sn	06 41 34.2	-2.6
UTMO	**Huajuapan**	**2.91**	**287**	*e*P	Pn	06 41 04.8	-0.6
UTMO				*i* S	Sn	06 41 37.3	-3.0
PNIG	**Pinotepa**	**3.16**	**260**	*e*P	Pn	06 41 06.2	-2.4
PNIG				*e*S	Sn	06 41 44.7	-1.4

*ISCJB **29** 06:43:17.3±0.3, 38.85N±0.01×23.59E±0.02, h6km±2km, Error ellipse: s-maj=2.5km s-min=2.1km az=29.7*
*ATH **29** 06:43:17.6, 38.86N×23.60E, h22km±1km, ML4.2*
*CSEM **29** 06:43:18.2±0.1, 38.83N×23.56E, h10km, ML3.8/12, Error ellipse: s-maj=2.3km s-min=1.9km az=117.0*
*THE **29** 06:43:18.3, 38.83N×23.55E, h8km±1km, ML3.8/12, Error ellipse: s-maj=1.4km s-min=0.7km az=194.0*

ISC 29 06:43:18.2±0.3, 38.83N±0.01×23.57E±0.02, h8km±2km, n183, σ0s95/248, 10C-9D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKA	**Markates**	**0.13**	**175**	P	**Pg**	**06 43 21.7**	**+0.8**
MRKA				S	**Sg**	**06 43 24.0**	**+1.2**
MRKA	**Markates**	**0.13**	**175**	P	**Pg**	**06 43 21.7**	**+0.8**
MRKA				S	**Sg**	**06 43 24.0**	**+1.2**
AOS	**Alonnisos**	**0.41**	**35**	P	**Pg**	**06 43 26.6**	**+0.4**
AOS				S	**Sg**	**06 43 32.8**	**+1.2**
AOS	**Alonnisos**	**0.41**	**35**	P	**Pg**	**06 43 26.6**	**+0.4**
AOS				S	**Sg**	**06 43 32.8**	**+1.2**
ATAL	**Atalanti**	**0.45**	**252**	P	**Pg**	**06 43 26.8**	**-0.2**
ATAL				S	**Sg**	**06 43 32.9**	**0.0**
ATAL	**Atalanti**	**0.45**	**252**	P	**Pg**	**06 43 26.8**	**-0.2**
ATAL				S	**Sg**	**06 43 32.9**	**0.0**
LKR	**Lokris**	**0.48**	**248**	*e*PN	**Pg**	**06 43 27.3**	**-0.3**
LKR				*e*SN	**Sg**	**06 43 34.7**	**+0.8**
LKR	**Lokris**	**0.48**	**248**	P	**Pg**	**06 43 27.2**	**-0.4**
LKR				S	**Sg**	**06 43 33.6**	**-0.3**
LKR	**Lokris**	**0.48**	**248**	*e*Pn	**Pg**	**06 43 27.3**	**-0.3**
LKR				S	**Sg**	**06 43 33.6**	**-0.3**
NEO	**Neokhori**	**0.55**	**330**	*i* PN	**Pg**	**06 43 29.0**	**+0.3**
NEO				*e*SN	**Sg**	**06 43 36.2**	**+0.3**
NEO	**Neokhori**	**0.55**	**330**	P	**Pg**	**06 43 29.0**	**+0.3**
NEO				S	**Sg**	**06 43 35.9**	**0.0**
NEO	**Neokhori**	**0.55**	**330**	P	**Pg**	**06 43 29.0**	**+0.3**
NEO				S	**Sg**	**06 43 35.9**	**0.0**
AXAR	**Agios Charalam**	**0.72**	**265**	P	**Pg**	**06 43 32.4**	**+0.4**
AXAR				S	**Sg**	**06 43 42.3**	**+1.0**
AXAR	**Agios Charalam**	**0.72**	**265**	P	**Pg**	**06 43 31.6**	**-0.4**
AXAR				S	**Sg**	**06 43 42.3**	**+1.0**
PTL	**Penteli**	**0.82**	**164**	*e*PN	**Pg**	**06 43 33.8**	**0.0**
PTL				*e*SN	**Sg**	**06 43 45.4**	**+1.0**
PTL	**Penteli**	**0.82**	**164**	P	**Pg**	**06 43 33.9**	**+0.1**
PTL				S	**Sg**	**06 43 45.1**	**+0.7**
PTL	**Penteli**	**0.82**	**164**	P	**Pg**	**06 43 33.9**	**+0.1**
PTL				S	**Sg**	**06 43 45.1**	**+0.7**
PTL				*e*Sn	**Sg**	**06 43 45.4**	**+1.0**
ATH	**Athens Observa**	**0.87**	**173**	*e*PN	**Pg**	**06 43 34.9**	**+0.1**
ATH				*e*SN	**Sg**	**06 43 47.2**	**+1.1**
ATH	**Athens Observa**	**0.87**	**173**	P	**Pg**	**06 43 34.6**	**-0.2**
ATH				S	**Sg**	**06 43 47.2**	**+1.1**
ATH	**Athens Observa**	**0.87**	**173**	P	**Pg**	**06 43 34.6**	**-0.2**
ATH	**Athens Observa**	**0.87**	**173**	*e*Pn	**Pg**	**06 43 34.9**	**+0.1**
ATH				S	**Sg**	**06 43 47.2**	**+1.1**
DESF	**Desfina**	**0.92**	**243**	P	**Pg**	**06 43 34.4**	**-1.4**
DESF				S	**Sg**	**06 43 47.7**	**0.0**
DESF	**Desfina**	**0.92**	**243**	P	**Pg**	**06 43 34.4**	**-1.4**
DESF				S	**Sg**	**06 43 47.7**	**0.0**
DSF	**Desfina**	**0.92**	**243**	P	**Pg**	**06 43 34.4**	**-1.5**
DSF				S	**Sg**	**06 43 47.7**	**-0.2**
DSF	**Desfina**	**0.92**	**243**	P	**Pg**	**06 43 34.4**	**-1.5**
DSF				S	**Sg**	**06 43 47.7**	**-0.2**
LTK	**Loutraki**	**0.94**	**211**	*e*PB	**Pg**	**06 43 35.4**	**-0.8**
LTK				*e*SN	**Sn**	**06 43 50.5**	**-0.8**
LTK	**Loutraki**	**0.94**	**211**	P	**Pg**	**06 43 35.3**	**-0.9**
LTK				S	**Sg**	**06 43 48.9**	**+0.5**
LTK	**Loutraki**	**0.94**	**211**	*e*Pb	**Pg**	**06 43 35.4**	**-0.8**
LTK				S	**Sg**	**06 43 48.9**	**+0.5**
LTK				*e*Sn	**Sn**	**06 43 50.5**	**-0.8**
AGG	**Agios Georgios**	**0.99**	**281**	*e*PB	**Pg**	**06 43 36.1**	**-1.1**
AGG				*e*SN	**Sg**	**06 43 51.0**	**+1.0**
AGG	**Agios Georgios**	**0.99**	**281**	P	**Pg**	**06 43 36.1**	**-1.2**
AGG				S	**Sg**	**06 43 50.9**	**-0.1**
AGG	**Agios Georgios**	**0.99**	**281**	*e*Pb	**Pg**	**06 43 36.1**	**-1.1**
AGG				S	**Sg**	**06 43 49.9**	**-0.1**
AGG				*e*Sn	**Sg**	**06 43 51.0**	**+1.0**
VLY	**Voula,Athens**	**0.99**	**170**	*e*PN	**Pg**	**06 43 37.1**	**-0.2**
VLY				*e*SN	**Sg**	**06 43 50.5**	**+0.3**
VLY	**Voula,Athens**	**0.99**	**170**	P	**Pg**	**06 43 37.0**	**-0.3**
VLY				S	**Sg**	**06 43 50.0**	**-0.2**
VLY	**Voula,Athens**	**0.99**	**170**	P	**Pg**	**06 43 37.0**	**-0.3**
VLY				S	**Sg**	**06 43 50.0**	**-0.2**
VLY				*e*Sn	**Sg**	**06 43 50.5**	**+0.3**
MRMA	**Marmari**	**1.00**	**141**	P	**Pg**	**06 43 37.3**	**-0.1**
MRMA				S	**Sg**	**06 43 50.3**	**0.0**
MRMA	**Marmari**	**1.00**	**141**	P	**Pg**	**06 43 37.3**	**-0.1**
MRMA				S	**Sg**	**06 43 50.3**	**0.0**
PAIG	**Paliouri**	**1.10**	**4**	P	**Pg**	**06 43 38.8**	**-0.4**
PAIG				S	**Sg**	**06 43 54.0**	**+0.5**
PAIG	**Paliouri**	**1.10**	**4**	P	**Pg**	**06 43 38.8**	**-0.4**
PAIG				S	**Sg**	**06 43 54.0**	**+0.5**
MAKR	**Makrakomi, Fth**	**1.14**	**280**	P	**Pg**	**06 43 39.0**	**-1.0**
MAKR				S	**Sg**	**06 43 56.2**	**+1.4**
MAKR	**Makrakomi, Fth**	**1.14**	**280**	P	**Pg**	**06 43 39.0**	**-1.0**
MAKR				S	**Sg**	**06 43 56.2**	**+1.4**
KALE	**Kalithea**	**1.21**	**249**	P	**Pb**	**06 43 39.5**	**-1.8**
KALE				S	**Sb**	**06 43 56.5**	**-0.5**
KALE	**Kalithea**	**1.21**	**249**	P	**Pb**	**06 43 39.5**	**-1.8**
KALE				S	**Sb**	**06 43 56.5**	**-0.5**
TRIZ	**Trizonia**	**1.27**	**249**	P	**Pn**	**06 43 39.9**	**-2.3**
TRIZ				S	**Sb**	**06 43 56.9**	**-1.8**
TRIZ	**Trizonia**	**1.27**	**249**	P	**Pn**	**06 43 39.9**	**-2.3**
TRIZ				S	**Sb**	**06 43 56.9**	**-1.8**
GUR	**Goura**	**1.32**	**228**	*e*PN	**Pn**	**06 43 42.6**	**-0.3**
GUR				*e*SN	**Sn**	**06 44 01.4**	**+0.8**
GUR	**Goura**	**1.32**	**228**	P	**Pn**	**06 43 42.5**	**-0.4**
GUR				S	**Sb**	**06 43 59.5**	**-0.7**
GUR	**Goura**	**1.32**	**228**	*e*Pn	**Pn**	**06 43 42.6**	**-0.3**
GUR				S	**Sb**	**06 43 59.5**	**-0.7**
GUR				*e*Sn	**Sn**	**06 44 01.4**	**+0.8**
EVR	**Evrytania**	**1.38**	**274**	*e*PN	**Pn**	**06 43 44.6**	**+0.9**
EVR				*e*SN	**Sn**	**06 44 02.7**	**+0.5**
EVR	**Evrytania**	**1.38**	**274**	*e*Pn	**Pn**	**06 43 44.6**	**+0.9**
EVR				*e*Sn	**Sn**	**06 44 02.7**	**+0.5**
DIDY	**Didyma**	**1.38**	**192**	P	**Pn**	**06 43 43.3**	**-0.5**
DIDY				S	**Sb**	**06 44 01.4**	**-0.7**
DIDY	**Didyma**	**1.38**	**192**	P	**Pn**	**06 43 43.3**	**-0.5**
DIDY				S	**Sb**	**06 44 01.4**	**-0.7**
LAKA	**Lakka**	**1.38**	**245**	P	**Pn**	**06 43 43.7**	**-0.1**
LAKA	**Lakka**	**1.38**	**245**	P	**Pn**	**06 43 43.7**	**-0.1**
THL	**Klokotos Trika**	**1.42**	**302**	*e*PN	**Pn**	**06 43 43.9**	**-0.3**
THL				*e*SN	**Sn**	**06 44 04.2**	**+1.2**
THL	**Klokotos Trika**	**1.42**	**302**	P	**Pn**	**06 43 43.9**	**-0.3**
THL				S	**Sb**	**06 44 02.2**	**-0.8**
THL	**Klokotos Trika**	**1.42**	**302**	P	**Pn**	**06 43 43.9**	**-0.3**
THL				S	**Sb**	**06 44 02.2**	**-0.8**
THL				*e*Sn	**Sn**	**06 44 04.2**	**+1.2**
UPR	**University Cam**	**1.50**	**249**	*e*PN	**Pn**	**06 43 45.9**	**+0.5**
UPR	**University Cam**	**1.50**	**249**	*e*Pn	**Pn**	**06 43 45.9**	**+0.5**
LIT	**Litokhoron**	**1.52**	**327**	*e*PN	**Pn**	**06 43 44.9**	**-0.7**
LIT	**Litokhoron**	**1.52**	**327**	P	**Pn**	**06 43 44.9**	**-0.7**
LIT	**Litokhoron**	**1.52**	**327**	P	**Pn**	**06 43 44.9**	**-0.7**
OUR	**Ouranopolis**	**1.53**	**12**	P	**Pn**	**06 43 45.3**	**-0.5**
OUR				S	**Sn**	**06 44 04.3**	**-1.6**
OUR	**Ouranopolis**	**1.53**	**12**	P	**Pn**	**06 43 45.3**	**-0.5**
OUR				S	**Sn**	**06 44 04.3**	**-1.6**
PLG	**Polygyros**	**1.54**	**356**	*e*PN	**Pn**	**06 43 45.3**	**-0.7**
PLG	**Polygyros**	**1.54**	**356**	P	**Pn**	**06 43 45.2**	**-0.8**
PLG				S	**Sn**	**06 44 04.4**	**-1.8**
PLG	**Polygyros**	**1.54**	**356**	*e*Pn	**Pn**	**06 43 45.3**	**-0.7**
PLG				S	**Sn**	**06 44 04.4**	**-1.8**
LIA	**Limnos Island**	**1.64**	**49**	*e*PN	**Pn**	**06 43 46.7**	**-0.6**
LIA	**Limnos Island**	**1.64**	**49**	P	**Pn**	**06 43 46.6**	**-0.7**
LIA				S	**Sn**	**06 44 10.9**	**+2.3**
LIA	**Limnos Island**	**1.64**	**49**	*e*Pn	**Pn**	**06 43 46.7**	**-0.6**
VLX	**Vlachokerasia**	**1.74**	**213**	*e*PN	**Pn**	**06 43 49.2**	**+0.5**
VLX	**Vlachokerasia**	**1.74**	**213**	P	**Pn**	**06 43 48.8**	**+0.1**
VLX	**Vlachokerasia**	**1.74**	**213**	P	**Pn**	**06 43 48.8**	**+0.1**
VLX	**Vlachokerasia**	**1.74**	**213**	*e*Pn	**Pn**	**06 43 49.2**	**+0.5**
HORT	**Hortiatis**	**1.80**	**348**	P	**Pn**	**06 43 49.2**	**-0.3**
HORT	**Hortiatis**	**1.80**	**348**	P	**Pn**	**06 43 49.2**	**-0.3**
RLS	**Riolos of Patr**	**1.83**	**246**	*e*PN	**Pn**	**06 43 50.4**	**+0.5**
RLS	**Riolos of Patr**	**1.83**	**246**	*e*Pn	**Pn**	**06 43 50.4**	**+0.5**
THE	**Thessaloniki**	**1.86**	**346**	P	**Pn**	**06 43 49.5**	**-0.8**
THE	**Thessaloniki**	**1.86**	**346**	P	**Pn**	**06 43 49.5**	**-0.8**
DSL	**Palaion Diasel**	**1.95**	**280**	P	**Pn**	**06 43 52.5**	**+0.9**
DSL	**Palaion Diasel**	**1.95**	**280**	P	**Pn**	**06 43 52.5**	**+0.9**
SOH	**Sokhos**	**1.99**	**355**	*e*PN	**Pn**	**06 43 52.1**	**-0.1**
SOH	**Sokhos**	**1.99**	**355**	P	**Pn**	**06 43 52.0**	**-0.2**
SOH	**Sokhos**	**1.99**	**355**	P	**Pn**	**06 43 52.0**	**-0.2**
CHOS	**Chios island**	**1.99**	**102**	*e*PN	**Pn**	**06 43 52.4**	**+0.2**
CHOS	**Chios island**	**1.99**	**102**	P	**Pn**	**06 43 52.2**	**0.0**
CHOS	**Chios island**	**1.99**	**102**	P	**Pn**	**06 43 52.2**	**0.0**
KZN	**Kozani**	**2.03**	**317**	*e*PN	**Pn**	**06 43 53.2**	**+0.6**
KZN	**Kozani**	**2.03**	**317**	P	**Pn**	**06 43 52.8**	**+0.2**
KZN	**Kozani**	**2.03**	**317**	P	**Pn**	**06 43 52.8**	**+0.2**
KZN	**Kozani**	**2.03**	**317**	*e*Pn	**Pn**	**06 43 53.2**	**+0.6**
ITM	**Ithomi**	**2.10**	**219**	*e*PN	**Pn**	**06 43 54.9**	**+1.2**
ITM	**Ithomi**	**2.10**	**219**	P	**Pn**	**06 43 54.8**	**+1.1**
ITM	**Ithomi**	**2.10**	**219**	P	**Pn**	**06 43 54.8**	**+1.1**
PRK	**Paraskevi**	**2.14**	**78**	*e*PN	**Pn**	**06 43 53.9**	**-0.3**
PRK	**Paraskevi**	**2.14**	**78**	P	**Pn**	**06 43 54.0**	**-0.2**
PRK	**Paraskevi**	**2.14**	**78**	*e*Pn	**Pn**	**06 43 53.9**	**-0.3**
VLI	**Veliai**	**2.17**	**194**	*e*PN	**Pn**	**06 43 54.4**	**-0.2**
VLI	**Veliai**	**2.17**	**194**	P	**Pn**	**06 43 54.3**	**-0.3**
VLI	**Veliai**	**2.17**	**194**	P	**Pn**	**06 43 54.3**	**-0.3**
GADA	**Gvkgeada**	**2.25**	**52**	*e*PG	**Pn**	**06 43 55.0**	**-0.8**
KAVA	**Kavala**	**2.28**	**18**	P	**Pn**	**06 43 55.0**	**-1.1**
KAVA

KUR pmax pmax
comp=E,60nm,0.5s
KUR pmax pmax
comp=Z,170nm,0.5s
KUR smax
comp=N,180nm,0.9s
KUR smax
comp=E,190nm,0.8s
YSS Yuzh-Sakhalins 8.59 265 *e*Pn **Pn 06 56 10.0 +0.6**
comp=E,21nm,0.3s
YSS Yuzh-Sakhalins 8.59 265 *e*PN **Pn 06 56 10.0 +0.6**
YSS pmax pmax
comp=Z,21nm,0.3s
ASAJ Asahikawa 9.79 249 Pn **Pn 06 56 26.6 +0.7**
comp=Z,9.2nm,0.3s,baz=63,slow=7.3,SNR=28
ASAJ Asahikawa 9.79 249 *e*Pn **Pn 06 56 27.1 +1.2**
comp=Z,19nm,0.7s
ASAJ Asahikawa 9.79 249 PN **Pn 06 56 26.6 +0.7**
ASAJ pmax pmax
comp=Z,9.0nm,0.3s
ERM Erimo 10.69 238 *e*Pn **Pn 06 56 35.9 -2.3**
ERM Erimo 10.69 238 *e*PN **Pn 06 56 35.9 -2.3**
FX1 Attu Island--F 12.18 62 Pn **Pn 06 56 57.8 -0.7**
comp=Z,3.9nm,0.3s,baz=270,slow=2.0,SNR=20
FX1 Sn **Sn 06 59 04.4 -8.3**
comp=Z,1.5nm,0.3s,baz=219,slow=6.5,SNR=6.4
FX1 Attu Island--F 12.18 62 Pn **Pn 06 56 57.8 -0.7**
FX1 Sn **Sn 06 59 04.4 -8.3**
FX1 Attu Island--F 12.18 62 PN **Pn 06 56 57.8 -0.7**
MJAR Matsushiro Arr 17.27 233 P **Pn 06 58 02.2 -3.4**
comp=Z,0.6nm,0.3s,baz=30,slow=12,SNR=6.8
MJAR Matsushiro Arr 17.27 233 P **Pn 06 58 02.2 -3.4**
MJAR Matsushiro Arr 17.27 233 P **Pn 06 58 02.3 -3.4**
KSRS Korea Array 22.72 251 P **P 06 59 04.5 -1.2**
comp=Z,3.7nm,1.0s,mb3.8,baz=43,slow=11,SNR=4.4
KSRS Korea Array 22.72 251 P **P 06 59 04.5 -1.3**
KSRS pmax pmax
comp=Z,4.0nm,1.0s,mb3.8
KSAR Wonju Array Be 22.75 251 P **P 06 59 04.5 -1.6**
KSAR Wonju Array Be 22.75 251 P **P 06 59 04.6 -1.5**
COLA College 33.90 40 *e*P **P 07 00 46.8 +0.7**
comp=Z,2.3nm,0.6s,mb4.3
COLA College 33.90 40 *e*P **P 07 00 46.8 +0.7**
COLA pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
ILAR Eielson Array 34.31 40 P **P 07 00 49.4 -0.2**
comp=Z,0.5nm,0.6s,mb3.6,baz=261,slow=6.1,SNR=8.3
ILAR Eielson Array 34.31 40 P **P 07 00 49.4 -0.2**
ILAR Eielson Array 34.31 40 P **P 07 00 49.4 -0.2**
CMAR Chiang Mai Arr 54.19 257 P **P 07 03 28.7 -0.2**
comp=Z,1.8nm,0.7s,mb4.1,baz=39,slow=7.5,SNR=5.9
CMAR Chiang Mai Arr 54.19 257 P **P 07 03 28.7 -0.2**
CMAR Chiang Mai Arr 54.19 257 P **P 07 03 28.7 -0.2**
PDAR Pinedale Array 62.57 56 P **P 07 04 28.1 +1.0**
comp=Z,0.4nm,0.7s,mb3.6,baz=270,slow=3.3,SNR=3.6
PDAR Pinedale Array 62.57 56 P **P 07 04 28.1 +1.0**
FITZ Fitzroy Crossi 71.33 210 P **P 07 05 22.8 -0.1**
comp=Z,1.9nm,0.6s,mb4.2,baz=16,slow=7.4,SNR=3.8
FITZ Fitzroy Crossi 71.33 210 P **P 07 05 22.8 -0.1**
TXAR Lajitas Array 75.39 62 P **P 07 05 48.0 +1.2**
comp=Z,0.5nm,0.5s,mb3.7,baz=297,slow=5.0,SNR=12
TXAR Lajitas Array 75.39 62 P **P 07 05 48.0 +1.2**
TXAR Lajitas Array 75.39 62 P **P 07 05 48.1 +1.2**

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*LDG **29** 06:54:47.2±2.0,23°.50N×93°.32E,h10km,Mb4.8/29,Error ellipse: s-maj=100.0km s-min=63.4km az=138.0*
*ISCJB **29** 06:54:50.0±0.4,22°.76N±0°.03×93°.86E±0°.02,h69km±4km, mb4.6/103,Error ellipse: s-maj=5.1km s-min=3.4km az=24.5*
*MOS **29** 06:54:50.9±0.9,22°.85N×94°.05E,h77km,mb5.0/31,Error ellipse: s-maj=12.0km s-min=5.1km az=120.5*
*BJI **29** 06:54:52.2,22°.93N×93°.94E,h84km,mB5.1/16,mb4.8/35, Ms4.2/15,Ms7 3.8/15*
*IDC **29** 06:54:53.2±1.5,22°.82N×94°.00E,h85km±13km,mb4.3/27, mb1 4.4/28,mb1mx4.3/35,mbtmp4.3/28,MS3.3/1, Ms1 3.5/1,ms1mx2.6/42,Error ellipse: s-maj=14.8km s-min=8.3km az=54.0*
*NEIC **29** 06:54:53.5±0.6,22°.82N×94°.05E,h87km±5km,mb4.6/28, Error ellipse: s-maj=6.5km s-min=3.4km az=53.0*

ISC 29 06:54:52.0±0.3,22°.80N±0°.03×93°.88E±0°.03,h69km±3km, n299,σ1°03/312,mb4.6/103,15C-19D,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**1.98**	**1**	*e*PKP	**Pn**	**06 55 24.0**	**+0.7**
IMP				*ex*	x	06 55 37.0	
AGT	**Agartala**	**2.65**	**295**	*e*PKP	**Pn**	**06 55 34.0**	**+1.6**
AGT				*ex*	x	06 55 51.0	
SHL	**Shillong**	**3.31**	**327**	*e*PKP	**Pn**	**06 55 41.9**	**+0.5**
SHL				*e*PKP		06 55 44.4	
SHL				*ex*	**Sn**	**06 56 15.0**	**-4.4**
CHG	**Chiang Mai**	**6.18**	**129**	⇑P	**Pn**	**06 56 21.2**	**+0.6**
	175nm,0.7s						
CHTO	**Chiang Mai**	**6.18**	**129**	*e*Pn	**Pn**	**06 56 20.8**	**+0.2**
CHTO				*e*Sn	**Sn**	**06 57 28.8**	**-1.0**
CHTO	**Chiang Mai**	**6.18**	**129**	*e*P	**Pn**	**06 56 20.8**	**+0.2**
CHTO				*e*		06 57 28.8	
CHRT	**Chiangrai**	**6.22**	**117**	PG	**Pn**	**06 56 19.0**	**-2.3**
CHRT				SG	Px	06 56 56.0	
CM31	**Chiang Mai Arr**	**6.41**	**131**	*e*Pn	**Pn**	**06 56 24.2**	**+0.4**
	36nm,0.5s						
CMAR	**Chiang Mai Arr**	**6.41**	**131**	P	**Pn**	**06 56 24.4**	**+0.6**
	5.1nm,0.3s,baz=312,slow=14,SNR=33						
CMAR				S	**Sn**	**06 57 38.5**	**+2.9**
	2.1nm,0.3s,baz=294,slow=21,SNR=4.7						
CMAR				LR	LR	06 59 03.2	
	comp=Z,285nm,20.4s,baz=324,slow=39						
CMAR	**Chiang Mai Arr**	**6.41**	**131**	P	**Pn**	**06 56 24.4**	**+0.6**
CMAR				S	**Sn**	**06 57 38.5**	**+2.9**
CMAR	**Chiang Mai Arr**	**6.41**	**131**	P	**Pn**	**06 56 24.5**	**+0.7**
CMAR				S	**Sn**	**06 57 38.5**	**+2.9**
ODAN	**Odare**	**7.15**	**306**	*e*Pn	**Pn**	**06 56 33.5**	**-0.4**
ODAN				*e*Sn	**Sn**	**06 57 34.5**	**-19**
TAPN	**Taplejung**	**7.20**	**310**	*e*Pn	**Pn**	**06 56 34.1**	**-0.4**
TAPN				*e*Sn	**Sn**	**06 57 35.9**	**-19**
LSA	**Lhasa**	**7.30**	**341**	P	**Pn**	**06 56 36.5**	**+0.6**
LSA	**Lhasa**	**7.30**	**341**	*e*Pn	**Pn**	**06 56 36.9**	**+1.1**
	308nm,0.6s						
LSA				*e*Sn	**Sn**	**06 57 55.1**	**-2.1**
LSA	**Lhasa**	**7.30**	**341**	*e*P	**Pn**	**06 56 36.9**	**+1.0**
LSA				*e*		06 57 55.1	
LSA				pmax	pmax		
	comp=Z,308nm,0.6s						
BDT	**Bhumibol Dam**	**7.33**	**138**	P	**Pn**	**06 56 38.0**	**+1.6**
	comp=Z,58nm,0.9s						
BOK	**Bokaro**	**7.42**	**279**	*e*PKP	**Pn**	**06 56 37.8**	**+0.3**
RAMN	**Ramite**	**7.80**	**304**	*e*Pn	**Pn**	**06 56 42.2**	**-0.5**
RAMN				*e*Sn	**Sn**	**06 57 50.2**	**-19**
	comp=Z,587nm,0.3s						
KMI	**Kunming**	**8.43**	**72**	P	**Pn**	**06 56 54.0**	**+2.6**
KMI				S	**Sn**	**06 58 27.8**	**+2.8**
KMI				pmax	pmax		
	comp=Z,24nm,0.6s						
KMI				smax			
	comp=N,40nm,1.1s						
KMI				smax			
	comp=E,25nm,1.0s						
KMI				LR	LR		
	comp=N,390nm,5.4s						
KMI				LR	LR		
	comp=E,170nm,5.4s						
KMI				LR	LR		
	comp=Z,230nm,7.5s						
JIRN	**Jiri**	**8.48**	**306**	*e*Pn	**Pn**	**06 56 51.8**	**-0.2**
JIRN				*e*Sn	**Sn**	**06 58 07.0**	**-19**
	comp=Z,417nm,0.3s						
GUN	**Gumba**	**8.85**	**307**	*e*Pn	**Pn**	**06 56 56.5**	**-0.6**
GUN				*e*Sn	**Sn**	**06 58 15.9**	**-19**
	comp=Z,987nm,0.5s						
PKI	**Pulchoki**	**9.02**	**304**	*e*Pn	**Pn**	**06 56 58.8**	**-0.7**
NST	**Nakhon Sawan**	**9.22**	**139**	P	**Pn**	**06 57 03.0**	**+0.7**
KKN	**Kakani**	**9.23**	**304**	*e*Pn	**Pn**	**06 57 01.1**	**-1.2**
KKN				*e*Sn	**Sn**	**06 58 25.8**	**-19**
	comp=Z,683nm,0.5s						
DMN	**Daman**	**9.28**	**303**	*e*Pn	**Pn**	**06 57 02.1**	**-0.8**
GKN	**Gorkha**	**9.83**	**304**	*e*Pn	**Pn**	**06 57 09.2**	**-1.3**
KOLN	**Koldanda**	**10.54**	**300**	*e*Pn	**Pn**	**06 57 18.4**	**-1.7**
KOLN				*e*Sn	Sn	06 58 55.1	-21
	comp=Z,888nm,0.5s						
DANN	**Dangsing**	**10.68**	**303**	*e*Pn	**Pn**	**06 57 19.6**	**-2.4**
PYUN	**Piuthan**	**11.16**	**300**	*e*Pn	**Pn**	**06 57 26.1**	**-2.6**
ALBI	**Allahabad**	**11.31**	**285**	*ex*	x	06 57 42.0	
CD2	**Chengdu**	**11.95**	**45**	P	**Pn**	**06 57 41.0**	**+1.5**
CD2				PP		06 57 53.0	
CD2				sP		06 58 05.5	
CD2				S	**Sn**	**06 59 52.3**	**+1.2**
CD2				SS		07 00 09.0	
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				pmax	pmax		
	comp=Z,120nm,5.9s						
CD2				LR	LR		
	comp=N,490nm,6.6s						
CD2				LR	LR		
	comp=Z,330nm,8.9s						
GYA	**Guiyang**	**12.19**	**70**	⇑*i*P	**Pn**	**06 57 44.0**	**+1.3**
GYA				pP		06 57 53.0	
GYA				S	**Sn**	**06 59 53.5**	**-3.3**
GYA				SS		07 00 11.8	
GYA				pmax	pmax		
	comp=Z,30nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,4.3s						
GYA				LR	LR		
	comp=N,470nm,12.3s						
GYA				LR	LR		
	comp=E,380nm,13.9s						
GYA				LR	LR		
	comp=Z,420nm,11.6s						
NGP	**Nagpur**	**13.86**	**266**	*ex*	**Pn**	**06 58 02.3**	**-2.9**
NGP				*ex*	x	06 58 05.5	
	comp=Z,23nm,0.4s						
NGP				*ex*	x	07 00 24.3	
PTH	**Pithoragarh**	**13.98**	**302**	*e*PKP	**Pn**	**06 58 06.8**	**0.0**
PTH				*ex*	x	07 00 33.9	
AGRA	**Agra**	**15.10**	**290**	*ex*	**Pn**	**06 58 24.2**	**+2.8**
BHPL	**Bhopal**	**15.16**	**275**	*e*PKP	**Pn**	**06 58 22.1**	**0.0**
BHPL				AMb	AMB	06 58 23.3	
	comp=Z,28nm,0.4s						
BHPL				*ex*	x	07 01 00.4	
HYB	**Hyderabad**	**15.36**	**252**	*i* P	**Pn**	**06 58 29.0**	**+4.3**
HYB				*e*		07 01 02.5	
HYB				*e*S	**S**	**07 01 15.5**	**-11**
AKL	**Akola**	**15.81**	**266**	*e*PKP	**Pn**	**06 58 32.0**	**+1.6**
AKL				AMb	AMB	06 58 32.4	
	comp=Z,25nm,0.0s						
ENH	**Enshi**	**15.82**	**59**	*e*P	**Pn**	**06 58 29.8**	**-0.7**
	comp=Z,34nm,0.9s						
ENH				*e*S	**S**	**07 01 27.6**	**-8.1**
LZH	**Lanzhou**	**15.82**	**31**	*e*P	**Pn**	**06 58 29.0**	**-1.4**
LZH				pP	pP	06 58 43.8	-3.3
LZH				sP	sP	06 58 55.0	-0.9
LZH				pmax	pmax		
	comp=Z,13nm,1.0s						
DDI	**Dehra Dun**	**16.01**	**301**	*e*PKP	**Pn**	**06 58 32.5**	**-0.4**
DDI				*ex*	x	07 01 14.0	
SONA	**Sohna**	**16.10**	**293**	*e*PKP	**Pn**	**06 58 33.8**	**-0.2**
SONA				AMb	AMB	06 58 38.6	
	comp=Z,46nm,1.0s						
NDI	**New Delhi**	**16.11**	**295**	*e*PKP	**Pn**	**06 58 32.9**	**-1.3**
NDI				AMb	AMB	06 58 36.8	
	comp=Z,68nm,0.8s						
AYAN	**Aya Nagar**	**16.13**	**294**	*e*PKP	**Pn**	**06 58 33.2**	**-1.2**
AYAN				AMb	AMB	06 58 33.9	
	comp=Z,14nm,0.7s						
AYAN				*ex*	x	07 01 15.3	
KUDL	**Kundal**	**16.58**	**292**	*e*PKP	**Pn**	**06 58 38.4**	**-1.7**
KUDL				AMb	AMB	06 58 44.2	
	comp=Z,17nm,1.0s						
LATR	**Latur**	**16.79**	**258**	*e*PKP	**Pn**	**06 58 45.3**	**+2.6**
LATR				AMb	AMB	06 58 51.9	
	comp=Z,33nm,0.7s						
SMLA	**Simla**	**17.04**	**303**	*ex*	x	06 58 58.4	
SMLA				*i* x	x	07 01 41.3	
KHET	**Khetri**	**17.14**	**292**	*e*PKP	**Pn**	**06 58 46.5**	**-0.6**
KHET				AMb	AMB	06 58 50.0	
	comp=Z,31nm,0.8s						
KHET				*ex*	x	07 01 38.2	
GTA	**Gaotai**	**17.32**	**16**	⇑P	**Pn**	**06 58 49.0**	**0.0**
GTA				pP	pP	06 59 03.3	-0.3
GTA				sP	sP	06 59 15.8	+3.4
GTA				S	**S**	**07 01 59.3**	**-6.7**
GTA				sS	sS	07 02 22.0	-7.0
GTA				pmax	pmax		
	comp=Z,11nm,1.3s						
GTA				pmax	pmax		
	comp=Z,83nm,4.3s						
GTA				LR	LR		
	comp=N,110nm,16.4s						
GTA				LR	LR		
	comp=E,260nm,17.3s						
GTA				LR	LR		
	comp=Z,190nm,18.5s						
AJM	**Ajmer**	**17.87**	**286**	*e*PKP	**Pn**	**06 58 57.0**	**+1.1**
POO	**Poona**	**19.21**	**261**	*e*PKP	**Pn**	**06 59 09.1**	**-3.0**
IPM	**Ipoh**	**19.48**	**158**	*e*P	**Pn**	**06 59 11.6**	**-3.7**
	comp=Z,15nm,0.5s						
WHN	**Wuhan**	**19.84**	**63**	P	**Pn**	**06 59 18.3**	**-1.1**
WMQ	**Urumqi**	**21.58**	**348**	P	**P**	**06 59 36.5**	**+0.6**
WMQ				pP		06 59 57.0	
WMQ				PP		07 00 05.8	
WMQ				sP	sP	07 00 09.0	+10
WMQ				pmax	pmax		
	comp=Z,170nm,0.9s,mb5.4						
WMQ				LR	LR		
	comp=N,270nm,20.4s						
WMQ				LR	LR		
	comp=E,86nm,17.4s						
WMQ				LR	LR		
	comp=Z,68nm,26.7s						
KSH	**Kashi**	**22.57**	**322**	⇓*i*P	**P**	**06 59 46.3**	**-0.1**
KSH				pP		07 00 03.5	
KSH				sP	sP	07 00 19.0	+9.2
KSH				PcP	PcP	07 03 38.0	+0.4
KSH				S	**S**	**07 03 40.3**	**-8.7**
KSH				sS	sS	07 04 17.8	+3.2
KSH				SS		07 04 32.3	
KSH				ScP	ScP	07 07 05.3	-3.9
KSH				PcS	PcS	07 07 15.5	-0.9
KSH				pmax	pmax		
	comp=Z,190nm,2.1s,mb5.1						
KSH				LR	LR		
	comp=N,230nm,5.2s						
KSH				LR	LR		
	comp=E,220nm,5.2s						
KSH				LR	LR		
	comp=Z,160nm,5.1s						
HHC	**Hu-ho-hao-te**	**23.37**	**36**	*e*P	**P**	**06 59 53.0**	**-1.4**
HHC				pP		07 00 12.0	
HHC				sP	sP	07 00 23.3	+5.1
HHC				PP		07 00 28.3	
HHC				PcP	PcP	07 03 38.0	-1.2
HHC				S	**S**	**07 03 57.0**	**-5.0**
HHC				sS	sS	07 04 29.8	0.0
HHC				SS		07 04 49.0	
HHC				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.3						
HHC				pmax	pmax		
	comp=Z,170nm,7.1s						
HHC				LR	LR		
	comp=N,170nm,9.0s						
HHC				LR	LR		
	comp=E,230nm,8.7s						
HHC				LR	LR		
	comp=Z,130nm,10.2s						
ULHL	**Ulahol**	**24.35**	**327**	P	**P**	**07 00 05.2**	**+1.9**
	SNR=55						
KBL	**Kabul**	**24.66**	**304**	*e*P	**P**	**07 00 07.6**	**+1.2**
	comp=Z,29nm,0.6s,mb4.9						
KBL	**Kabul**	**24.66**	**304**	*e*P	**P**	**07 00 07.6**	**+1.3**
KBL				pmax	pmax		
	comp=Z,29nm,0.6s,mb4.9						
KZA	**Kyzart**	**24.74**	**325**	P	**P**	**07 00 08.9**	**+2.0**
	SNR=11						
TKM2	**Tokmak 2**	**25.17**	**327**	P	**P**	**07 00 12.5**	**+1.7**
	SNR=38						
TKM2	**Tokmak 2**	**25.17**	**327**	*e*P	**P**	**07 00 12.4**	**+1.7**
	comp=Z,26nm,0.8s,mb4.7						
TKM2	**Tokmak 2**	**25.17**	**327**	*e*P	**P**	**07 00 12.4**	**+1.6**
TKM2				pmax	pmax		
	comp=Z,26nm,0.8s,mb4.7						
KBK	**Karagaybulak**	**25.31**	**326**	P	**P**	**07 00 13.9**	**+1.9**
	SNR=27						
AAK	**Ala-Archa**	**25.53**	**325**	P	**P**	**07 00 16.2**	**+2.2**
	SNR=25						
AAK	**Ala-Archa**	**25.53**	**325**	*e*P	**P**	**07 00 16.1**	**+2.1**
	comp=Z,116nm,0.8s,mb5.4						
AAK	**Ala-Archa**	**25.53**	**325**	*i* P	**P**	**07 00 16.2**	**+2.2**
AAK				pmax	pmax		
	comp=Z,95nm,1.6s,mb5.0						
FRU	**Bishkek**	**25.60**	**326**	⇓*i*P	**P**	**07 00 16.0**	**+1.3**
FRU				pmax	pmax		
	comp=Z,60nm,1.6s,mb4.8						
AML	**Almayashu**	**25.61**	**324**	P	**P**	**07 00 16.9**	**+2.1**
	SNR=35						
CHMS	**Chumysh**	**25.65**	**326**	P	**P**	**07 00 16.4**	**+1.2**
	SNR=6.5						
MK31	**Makanchi Array**	**25.70**	**341**	*e*P	**P**	**07 00 16.1**	**+0.6**
MK31	**Makanchi Array**	**25.70**	**341**	*e*P	**P**	**07 00 16.2**	**+0.6**
MKAR	**Makanchi Array**	**25.70**	**341**	P	**P**	**07 00 16.6**	**+1.0**
	comp=Z,66nm,0.7s,mb5.2,baz=148,slow=10,SNR=299						
EKS2	**Erkin-Say**	**25.93**	**325**	P	**P**	**07 00 19.3**	**+1.6**
	SNR=42						
EKS2	**Erkin-Say**	**25.93**	**325**	*e*P	**P**	**07 00 19.4**	**+1.7**
	comp=Z,63nm,0.6s,mb5.2						
EKS2				*e*	pP	07 00 36.5	+2.5
EKS2	**Erkin-Say**	**25.93**	**325**	*e*P	**P**	**07 00 19.4**	**+1.8**
EKS2				*e*	pP	07 00 36.5	+2.5
SONM	**Songino Array**	**26.92**	**19**	P	**P**	**07 00 25.8**	**-0.7**
	comp=Z,2.5nm,0.7s,mb3.9,baz=200,slow=8.2,SNR=19						
SONM				S	**S**	**07 04 58.4**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=200,slow=16,SNR=4.1						
SONM				ScP	ScP	07 07 19.3	-1.9
	comp=Z,0.8nm,0.7s,baz=220,slow=1.7,SNR=5.1						
SONM	**Songino Array**	**26.92**	**19**	P	**P**	**07 00 25.8**	**-0.7**
SONM				S	**S**	**07 04 58.4**	**+0.1**
SONM				ScP	ScP	07 07 19.3	-1.9
SONM	**Songino Array**	**26.92**	**19**	P	**P**	**07 00 25.8**	**-0.7**
SONM				S	**S**	**07 04 58.4**	**0.0**
ULN	**Ulaanbaatar**	**27.14**	**20**	*e*P	**P**	**07 00 29.2**	**+0.7**
	comp=Z,5.1nm,0.8s,mb4.1						
ULN	**Ulaanbaatar**	**27.14**	**20**	*e*P	**P**	**07 00 29.2**	**+0.7**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
KKAR	**Karatay Array**	**28.02**	**322**	*e*P	**P**	**07 00 37.3**	**+0.8**
	comp=Z,1.5nm,0.4s,mb3.9						
KKAR	**Karatay Array**	**28.02**	**322**	*e*P	**P**	**07 00 37.3**	**+0.8**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.7						
ZAK	**Zakamensk**	**28.50**	**13**	*e*P	**P**	**07 00 40.1**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb3.9						
MOY	**Mondy**	**29.34**	**9**	*e*P	**P**	**07 00 48.7**	**+0.7**
KURK	**Kurchatov**	**30.30**	**341**	P	**P**	**07 00 56.0**	**-0.6**
	comp=Z,11nm,0.6s,mb4.7,baz=156,slow=8.1,SNR=81						
KURK				ScP	ScP	07 07 29.7	-2.1
	comp=Z,0.9nm,0.7s,baz=160,slow=2.6,SNR=7.3						
KURK	**Kurchatov**	**30.30**	**341**	*e*P	**P**	**07 00 56.5**	**0.0**
	comp=Z,12nm,0.7s,mb4.6						
KURK				ScP	ScP	07 07 29.7	-2.1
KURK	**Kurchatov**	**30.30**	**341**	*d* iP	**P**	**07 00 56.7**	**+0.1**
KURK				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.5						
ZAA0	**Zalesovo Array**	**31.85**	**350**	*e*P	**P**	**07 01 10.3**	**+0.1**
ZALV	**Zalesovo Beam**	**31.85**	**350**	P	**P**	**07 01 10.3**	**+0.2**
	comp=Z,15nm,0.5s,mb5.0,baz=167,slow=7.8,SNR=75						
ZALV				S	**S**	**07 06 15.2**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=169,slow=16,SNR=4.1						
ZALV	**Zalesovo Beam**	**31.85**	**350**	P	**P**	**07 01 10.3**	**+0.2**
ZALV				S	**S**	**07 06 15.2**	**-0.4**
ZALV	**Zalesovo Beam**	**31.85**	**350**	P	**P**	**07 01 10.3**	**+0.2**
ZALV				S	**S**	**07 06 15.2**	**-0.4**
NVS	**Novosibirsk**	**32.98**	**349**	⇑*i*P	**P**	**07 01 18.6**	**-1.4**
NVS				*e*S	**S**	**07 06 29.1**	**-4.1**
NVS				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.1						
NVS				pmax	pmax		
	comp=N,15nm,0.5s						
NVS				pmax	pmax		
	comp=E,12nm,0.5s						
NVS				smax			
	comp=N,8.0nm,1.1s						
NVS				smax			
	comp=E,13nm,1.4s						
CN2	**Changchun**	**33.38**	**44**	*e*P	**P**	**07 01 25.3**	**+1.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.8						
BVAR	**Borovoye Array**	**35.09**	**335**	P	**P**	**07 01 38.5**	**+0.2**
	comp=Z,6.4nm,0.7s,mb4.6,baz=146,slow=10,SNR=33						
BVAR				PP	PP	07 03 01.9	+2.9
	comp=Z,4.5nm,1.1s,baz=139,slow=9.8,SNR=4.0						
BVAR	**Borovoye Array**	**35.09**	**335**	P	**P**	**07 01 38.5**	**+0.2**
BVAR				PP	PP	07 03 01.9	+2.9
BVAR	**Borovoye Array**	**35.09**	**335**	P	**P**	**07 01 38.5**	**+0.2**
BVAR						07 03 01.9	
BRVK	**Borovoye**	**35.16**	**335**	*e*P	**P**	**07 01 39.2**	**+0.3**
	comp=Z,6.8nm,0.8s,mb4.5						
BRVK	**Borovoye**	**35.16**	**335**	*e*P	**P**	**07 01 38.8**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
MDJ	**Mudanjiang**	**36.41**	**45**	P	**P**	**07 01 47.5**	**-2.2**
MDJ				pmax	pmax		
	comp=Z,10.0nm,2.2s,mb4.4						
MDJ				pmax	pmax		
	comp=Z,150nm,3.9s						
ABKAR	**Akbulak array**	**37.56**	**323**	*e*P	**P**	**07 02 00.5**	**+1.1**
	comp=Z,9.1nm,0.5s,mb4.9						
AKTO	**Aktyubinsk**	**39.24**	**324**	P	**P**	**07 02 14.3**	**+0.7**
	comp=Z,14nm,0.8s,mb4.9,baz=123,slow=9.9,SNR=40						
AKTO	**Aktyubinsk**	**39.24**	**324**	P	**P**	**07 02 14.3**	**+0.7**
AKTO	**Aktyubinsk**	**39.24**	**324**	P	**P**	**07 02 14.3**	**+0.7**
MAJO	**Matsushiro**	**40.53**	**60**	*e*P	**P**	**07 02 21.4**	**-3.0**
	comp=Z,8.5nm,0.6s,mb4.8						
MAJO	**Matsushiro**	**40.53**	**60**	*e*P	**P**	**07 02 21.5**	**-3.0**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.7						
MJAR	**Matsushiro Arr**	**40.53**	**60**	P	**P**	**07 02 21.9**	**-2.6**
	comp=Z,5.1nm,0.7s,mb4.5,baz=271,slow=11,SNR=11						
MJAR	**Matsushiro Arr**	**40.53**	**60**	P	**P**	**07 02 21.9**	**-2.6**
MJAR	**Matsushiro Arr**	**40.53**	**60**	P	**P**	**07 02 21.9**	**-2.6**
SVE	**Sverdlovsk**	**41.74**	**333**	⇓*i*P	**P**	**07 02 35.2**	**+1.1**
SVE				pmax	pmax		
	comp=Z,42nm,1.0s,mb5.1						
RDF	**Al-Radifah**	**41.93**	**288**	*e*P	**P**	**07 02 37.5**	**+1.5**
RDF				AMb	AMB	07 02 38.4	
	comp=Z,46nm,0.5s,mb5.5						
MIB	**Mutribah**	**42.08**	**290**	*e*P	**P**	**07 02 38.1**	**+0.8**
MIB				AMb	AMB	07 02 39.1	
	comp=Z,31nm,1.2s,mb4.9						
NAY	**Al-Naaiem**	**42.18**	**289**	*e*P	**P**	**07 02 38.5**	**+0.4**
NAY				AMb	AMB	07 02 40.5	
	comp=Z,20nm,0.7s,mb4.9						
ARU	**Arti**	**42.38**	**332**	*e*P	**P**	**07 02 39.6**	**+0.3**
	comp=Z,12nm,0.4s,mb5.0						
ARU	**Arti**	**42.38**	**332**	*d* iP	**P**	**07 02 39.5**	**+0.2**
ARU				*e*		07 04 18.3	
ARU				S	**S**	**07 08 55.4**	**-0.1**
ARU				SS	SS	07 12 04.4	-2.1
ARU				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.7						
SOKR	**Solikamsk**	**45.06**	**334**	*d* iP	**P**	**07 03

comp=Z,19nm,1.2s,mb5.0
KLMR Klimovskoe 53.19 330 *e*P P 07 03 54.3 -8.5
KLMR pmax pmax
comp=Z,33nm,1.7s,mb5.1
BR131 Keskin Array S 53.24 303 *e*P P 07 04 04.2 +0.7
comp=Z,1.5nm,0.5s,mb4.3
BRTR Keskin Array B 53.24 303 P P 07 04 04.0 +0.4
comp=Z,3.2nm,0.9s,mb4.4,baz=111,slow=7.9,SNR=14
BRTR Keskin Array B 53.24 303 P P 07 04 04.0 +0.4
BRTR Keskin Array B 53.24 303 P P 07 04 04.0 +0.5
AKASG Malin Array Be 56.73 317 P P 07 04 27.7 -0.8
comp=Z,11nm,0.6s,mb5.1,baz=84,slow=6.4,SNR=28
AKASG Malin Array Be 56.73 317 P P 07 04 27.7 -0.8
AKASG Malin Array Be 56.73 317 P P 07 04 27.7 -0.8
KIEV Kiev 56.74 317 *e*P P 07 04 27.7 -0.9
comp=Z,8.3nm,0.7s,mb4.9
KIEV Kiev 56.74 317 *e*P P 07 04 27.7 -0.9
KIEV pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
TLCR 56.80 310 ⇓P P 07 04 29.3 +0.2
TLCR 56.80 310 ⇓*i*P P 07 04 29.3 +0.2
JOF Joensuu 57.51 331 *e*P P 07 04 33.2 -0.6
JOF pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
JOF Joensuu 57.51 331 *e*p P 07 04 33.2 -0.6
comp=Z,3.7nm,0.5s,mb4.7
APA Apatity 57.98 337 ⇓*i*P P 07 04 37.4 +0.4
WRA Warramunga Arr 58.00 134 P P 07 04 36.6 -1.2
comp=Z,7.4nm,0.7s,mb4.8,baz=322,slow=7.4,SNR=70
WRA ScP ScP 07 09 19.6 -3.7
comp=Z,0.6nm,0.8s,baz=322,slow=4.4,SNR=4.6
WRA Warramunga Arr 58.00 134 P P 07 04 36.6 -1.2
WRA ScP ScP 07 09 19.6 -3.7
WRA Warramunga Arr 58.00 134 P P 07 04 36.6 -1.2
WRAB Tennant Creek 58.00 134 *e*P P 07 04 36.2 -1.6
comp=Z,16nm,0.8s,mb5.1
WRAB Tennant Creek 58.00 134 *e*P P 07 04 36.2 -1.6
WRAB pmax pmax
comp=Z,16nm,0.8s,mb5.1
VRI Vrincioaia 58.27 311 ⇓P P 07 04 40.6 +1.2
VRI Vrincioaia 58.27 311 ⇓*i*P P 07 04 40.6 +1.2
PLOR Plostina 58.32 311 ⇑P P 07 04 40.7 +0.9
PLOR Plostina 58.32 311 ⇑*i*P P 07 04 40.7 +0.9
MLR Muntele Rosu 58.82 310 ⇓P P 07 04 44.2 +0.9
MLR Muntele Rosu 58.82 310 ⇓*i*P P 07 04 44.2 +0.9
BURAR Bucovina Array 59.28 313 ⇑P P 07 04 46.7 +0.3
BURAR Bucovina Array 59.28 313 ⇑*i*P P 07 04 46.7 +0.3
BUR08 Bucovina Ar. S 59.29 313 *e*P P 07 04 46.7 +0.3
KAF Kangasniemi 59.63 330 *e*P P 07 04 46.9 -1.6
KAF pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
KAF Kangasniemi 59.63 330 *ep* P 07 04 46.9 -1.6
comp=Z,2.0nm,0.6s,mb4.3
FINES FINESS Array B 59.64 329 P P 07 04 48.4 -0.2
comp=Z,6.4nm,0.8s,mb4.7,baz=99,slow=8.7,SNR=9.7
FINES FINESS Array B 59.64 329 P P 07 04 48.4 -0.2
FINES FINESS Array B 59.64 329 P P 07 04 48.4 -0.2
AS31 Alice Springs 60.39 137 *e*P P 07 04 53.8 -0.4
ASAR Alice Springs 60.39 137 P P 07 04 53.8 -0.4
comp=Z,9.0nm,0.8s,mb4.9,baz=320,slow=6.9,SNR=130
ASAR Alice Springs 60.39 137 P P 07 04 53.8 -0.4
ASAR Alice Springs 60.39 137 P P 07 04 53.8 -0.4
KEV Kevo 60.84 338 *e*P P 07 04 55.5 -1.1
KEV pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
KEV Kevo 60.84 338 *ep* P 07 04 55.5 -1.1
comp=Z,7.7nm,0.7s,mb4.8
KWP Kalwaria Pacla 60.90 315 *e*P P 07 04 57.9 +0.4
KWP Kalwaria Pacla 60.90 315 *e*P P 07 04 57.9 +0.5
KWP Kalwaria Pacla 60.90 315 ⇑*i*P P 07 04 57.7 +0.3
VTS Vitosha 60.97 307 ⇓P P 07 04 58.8 +0.8
VTS Vitosha 60.97 307 ⇓*i*P P 07 04 58.8 +0.8
DRGR 61.02 312 ⇑P P 07 04 58.9 +0.6
DRGR 61.02 312 ⇑*i*P P 07 04 58.8 +0.5
ARCES ARCESS Array B 61.30 338 P P 07 04 59.7 -0.1
comp=Z,7.3nm,0.6s,mb4.9,baz=111,slow=7.5,SNR=34
ARCES ARCESS Array B 61.30 338 P P 07 04 59.7 -0.1
ARCES ARCESS Array B 61.30 338 P P 07 04 59.7 -0.1
CRVS Cervenica-Dubn 61.74 314 *e*P P 07 05 04.2 +1.1
CRVS pmax pmax
comp=Z,26nm,2.1s,mb4.9
CRVS Cervenica-Dubn 61.74 314 *e*P P 07 05 04.2 +1.1
STHS Stebnicka Huta 61.86 315 *e*P P 07 05 04.3 +0.4
STHS Stebnicka Huta 61.86 315 *e*P P 07 05 04.2 +0.3
KECS Kecovo 62.41 314 *e*P P 07 05 08.4 +0.8
KECS pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
KECS Kecovo 62.41 314 *e*P P 07 05 08.4 +0.8
FORT Forrest 62.56 147 *e*P P 07 05 14.2 +5.5
comp=Z,7.1nm,0.8s,mb4.7
OJC Ojcow 62.75 316 *e*P P 07 05 09.7 -0.2
OJC Ojcow 62.75 316 *e*P P 07 05 09.7 -0.1
comp=Z,120nm,2.9s,mb5.3
OJC Ojcow 62.75 316 *e*P P 07 05 09.7 -0.2
OJC pmax pmax
comp=Z,120nm,2.9s,mb5.3
PKSM Moragy 63.86 312 ⇑P P 07 05 17.1 -0.2
PKSM Moragy 63.86 312 ⇑*i*P P 07 05 17.1 -0.2
GKP Gorka Klasztor 64.15 320 *e*P P 07 05 10.6 -8.4
GKP Gorka Klasztor 64.15 320 *e*P P 07 05 10.6 -8.4
MORC Moravsky Berou 64.24 316 *e*P P 07 05 20.4 +0.7
comp=Z,5.8nm,0.9s,mb4.4
MORC Moravsky Berou 64.24 316 *e*P P 07 05 20.4 +0.7
MORC pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
MORC Moravsky Berou 64.24 316 ⇓*i*P P 07 05 20.4 +0.7
ZST Bratislava 64.69 314 *e*P P 07 05 22.7 +0.1
ZST pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
ZST Bratislava 64.69 314 *e*P P 07 05 22.7 +0.1
VRAC Vranov 64.90 315 ⇑P P 07 05 24.9 +0.9
VRAC Vranov 64.90 315 ⇑*i*P P 07 05 24.9 +0.9
KSP Ksiaz 64.93 317 *e*P P 07 05 24.6 +0.4
BRG Berggiesshubel 66.41 317 *e*P P 07 05 34.0 +0.3
comp=Z,34nm,1.7s,mb4.9
BRG *e* 07 06 59.0
comp=Z,34nm,1.9s
BRG Berggiesshubel 66.41 317 *e*P P 07 05 34.0 +0.3
BRG pmax pmax
comp=Z,34nm,1.7s,mb4.9
BRG pmax pmax
comp=Z,34nm,1.9s,mb4.8
CTA Charters Tower 66.55 126 P P 07 05 34.0 -1.0
comp=Z,2.1nm,0.7s,mb4.1,baz=300,slow=8.1,SNR=4.9
CTA Charters Tower 66.55 126 P P 07 05 34.0 -1.0
CTA Charters Tower 66.55 126 P P 07 05 34.0 -1.0
NB2 NORSAR Subarra 66.80 328 P P 07 05 34.7 -1.3
comp=Z,1.9nm,0.6s,mb4.1,baz=85,slow=6.5
NOA NORSAR Array B 66.80 328 P P 07 05 35.0 -1.0
comp=Z,4.0nm,0.8s,mb4.3,baz=86,slow=6.4,SNR=11
NOA NORSAR Array B 66.80 328 P P 07 05 35.0 -1.0
NOA NORSAR Array B 66.80 328 P P 07 05 35.0 -1.0
GERES GERESS Array B 66.84 315 P P 07 05 36.8 +0.3
comp=Z,6.2nm,0.7s,mb4.5,baz=78,slow=6.1,SNR=51
GERES GERESS Array B 66.84 315 P P 07 05 36.8 +0.3
GERES GERESS Array B 66.84 315 P P 07 05 36.8 +0.3
CLL Collm 66.94 318 *e*P P 07 05 37.0 0.0
CLL pmax pmax
comp=Z,11nm,1.4s,mb4.5
CLL Collm 66.94 318 *e*P P 07 05 37.0 0.0
comp=Z,11nm,1.4s,mb4.5
DAVOX Davos/Dischmat 69.75 313 P P 07 05 54.4 -0.3
comp=Z,5.4nm,0.7s,mb4.5,baz=114,slow=9.3,SNR=6.2
DAVOX Davos/Dischmat 69.75 313 P P 07 05 54.4 -0.3
STKA Stephens Creek 70.99 138 P P 07 06 01.6 -0.8
comp=Z,6.3nm,0.8s,mb4.5,baz=323,slow=8.5,SNR=10.0
STKA Stephens Creek 70.99 138 *e*P P 07 06 01.8 -0.6
comp=Z,5.5nm,0.9s,mb4.4
STKA Stephens Creek 70.99 138 *e*P P 07 06 01.3 -1.0
comp=Z,1.3nm,0.8s,mb3.8
STKA Stephens Creek 70.99 138 *e*P P 07 06 01.3 -1.1
STKA pmax pmax
comp=Z,1.0nm,0.8s
CDF Champ du Feu 71.11 315 *e*P P 07 06 02.5 -0.5
comp=Z,24nm,1.2s,mb4.6
PGF Pioggiola 71.31 309 *e*P P 07 06 04.0 -0.3
comp=Z,22nm,0.7s,mb4.8
HINF Hinteralfeld 71.53 315 *e*P P 07 06 05.6 +0.1
HAU Haudompre 71.81 315 *e*P P 07 06 06.6 -0.6
comp=Z,21nm,1.1s,mb4.6
PAGF Fort de Pagny 72.08 316 *e*P P 07 06 08.7 -0.1
comp=Z,4.4nm,0.7s,mb4.1
SBF Sospel 72.10 311 *e*P P 07 06 08.7 -0.3
LPG La Plagne 72.16 312 *e*P P 07 06 09.6 +0.3
comp=Z,14nm,0.8s,mb4.5
LPL La Plagne 72.17 312 *e*P P 07 06 09.5 +0.1
comp=Z,15nm,0.6s,mb4.7
GIVF Givet 72.27 317 *e*P P 07 06 09.8 -0.1
CABF La Chapelle 72.33 314 *e*P P 07 06 10.0 -0.3
MBDF Montbardon 72.34 312 *e*P P 07 06 10.6 +0.2
comp=Z,14nm,0.8s,mb4.6
MEZF Maizieres J'vi 72.53 316 *e*P P 07 06 11.2 -0.3
SFTF Sexfontaines 72.61 316 *e*P P 07 06 11.4 -0.6
comp=Z,12nm,0.6s,mb4.6
BAIF Baives 72.67 318 *e*P P 07 06 12.1 -0.1
comp=Z,15nm,0.9s,mb4.5
FRF La Foret Royal 72.73 310 *e*P P 07 06 12.2 -0.5
comp=Z,16nm,0.8s,mb4.6
ORIF Oris-en-Rattie 72.90 312 *e*P P 07 06 13.1 -0.7
EIDS Eidsvold 73.26 127 *e*P P 07 06 15.8 -0.2
comp=Z,11nm,0.9s,mb4.7
SMRF Simiane la Rot 73.36 311 *e*P P 07 06 16.0 -0.5
comp=Z,100nm,1.5s,mb5.1
LOR Lormes 73.63 315 *e*P P 07 06 17.2 -0.8
VIVF Saint-Julien-l 73.75 312 *e*P P 07 06 18.3 -0.4
comp=Z,18nm,0.9s,mb4.5
SMF Signal de Mont 73.81 314 *e*P P 07 06 18.4 -0.7
comp=Z,22nm,0.8s,mb4.6
SSF Saint Saulge 73.92 315 *e*P P 07 06 19.2 -0.5
comp=Z,9.1nm,0.6s,mb4.3
AVF Avril sur Loir 74.09 314 *e*P P 07 06 20.1 -0.6
comp=Z,6.6nm,0.6s,mb4.3
HYF Humbligny 74.42 315 *e*P P 07 06 22.9 +0.3
BGF Bois d'Agland 74.49 314 *e*P P 07 06 22.5 -0.5
comp=Z,16nm,0.8s,mb4.5
LASF Ste Croix 74.53 312 *e*P P 07 06 23.3 0.0
comp=Z,33nm,1.1s,mb4.7
LSZ Lusaka 74.59 246 *e*P P 07 06 25.2 +1.2
comp=Z,4.1nm,0.7s,mb4.3
LSZ Lusaka 74.59 246 *e*P P 07 06 25.2 +1.2
LSZ pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
TCF Toulx Ste Croi 74.99 314 *e*P P 07 06 25.9 0.0
comp=Z,28nm,1.1s,mb4.6
CAF Calviac 75.50 313 *e*P P 07 06 28.9 0.0
comp=Z,9.0nm,0.6s,mb4.3
RJF Les Rejaudoux 75.75 313 *e*P P 07 06 30.6 +0.3
comp=Z,15nm,0.7s,mb4.5
LDF La Druitiere 75.80 317 *e*P P 07 06 29.8 -0.7
comp=Z,4.8nm,0.7s,mb4.0
MTLF Montolieu 75.88 311 *e*P P 07 06 30.8 -0.3
comp=Z,10.0nm,0.7s,mb4.3
LFF La Frestale 76.39 313 *e*P P 07 06 34.1 +0.2
comp=Z,16nm,0.5s,mb4.7
EPF Esparros 77.28 311 *e*P P 07 06 38.4 -0.6
comp=Z,6.4nm,0.7s,mb4.2
SGMF Saint Gilles 77.44 317 *e*P P 07 06 39.6 -0.2
comp=Z,14nm,0.7s,mb4.5
ROSF Rostrenen 77.86 317 *e*P P 07 06 41.8 -0.3
ETSF Etsaut 77.95 311 *e*P P 07 06 42.8 +0.1
comp=Z,5.5nm,0.5s,mb4.2
CNB Canberra Magne 78.12 136 *e*P P 07 06 43.5 -0.1
comp=Z,41nm,0.8s,mb5.2
BPAW Bear Paw Mtn. 79.98 24 *e*P P 07 06 52.5 -0.9
comp=Z,4.6nm,0.7s,mb4.4
COLA College 80.69 22 *e*P P 07 06 56.2 -1.0
comp=Z,1.9nm,0.6s,mb4.1
COLA College 80.69 22 *e*P P 07 06 56.2 -1.0
COLA pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
MCK McKinley 80.94 24 *e*P P 07 06 57.6 -0.9
comp=Z,2.5nm,0.5s,mb4.3
MCK McKinley 80.94 24 *e*P P 07 06 57.6 -1.0
MCK pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
ILAR Eielson Array 81.09 22 P P 07 06 57.5 -1.8
comp=Z,2.0nm,0.6s,mb4.2,baz=292,slow=5.0,SNR=57
ILAR Eielson Array 81.09 22 P P 07 06 57.5 -1.8
ILAR Eielson Array 81.09 22 P P 07 06 57.6 -1.7
ESDC Sonseca Array 81.50 309 P P 07 07 02.2 +0.2
comp=Z,0.6nm,0.5s,mb3.6,baz=81,slow=7.9,SNR=4.7
ESDC Sonseca Array 81.50 309 P P 07 07 02.2 +0.2
LBTB Lobatse 81.50 238 *e*P P 07 07 03.0 +0.8
comp=Z,2.1nm,0.4s,mb4.3
LBTB Lobatse 81.50 238 *e*P P 07 07 03.0 +0.9
LBTB pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
RES Resolute Bay 82.59 2 P P 07 07 06.8 -0.3
comp=Z,1.9nm,0.5s,mb4.2,baz=313,slow=3.9,SNR=10
RES Resolute Bay 82.59 2 P P 07 07 06.8 -0.3
RES Resolute Bay 82.59 2 P P 07 07 06.8 -0.2
KDAK Kodiak Island 82.65 30 P P 07 07 06.7 -1.0
comp=Z,8.0nm,0.8s,mb4.6,baz=306,slow=8.7,SNR=5.7
KDAK Kodiak Island 82.65 30 P P 07 07 06.7 -1.0
KDAK Kodiak Island 82.65 30 P P 07 07 06.7 -1.0
INK Inuvik 82.80 16 P P 07 07 07.5 -0.8
comp=Z,4.1nm,0.7s,mb4.4,baz=326,slow=2.5,SNR=4.5
INK Inuvik 82.80 16 *e*P P 07 07 07.2 -1.0
comp=Z,10nm,1.1s,mb4.6
INK Inuvik 82.80 16 *e*P P 07 07 07.2 -1.0
INK pmax pmax
comp=Z,10.0nm,1.1s
MENT Mentasta 83.31 23 *e*P P 07 07 10.7 -0.3
BOSA Boshof 83.56 235 P P 07 07 13.1 +0.3
comp=Z,1.8nm,0.4s,mb4.2,baz=71,slow=4.3,SNR=11
BOSA Boshof 83.56 235 *e*P P 07 07 13.1 +0.3
comp=Z,2.1nm,0.6s,mb4.1
BOSA Boshof 83.56 235 *e*P P 07 07 13.1 +0.3
BOSA pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
TORD Torodi Ar. Bea 86.97 283 P P 07 07 30.8 +0.6
comp=Z,2.0nm,0.8s,mb4.1,baz=66,slow=4.6,SNR=11
TORD Torodi Ar. Bea 86.97 283 P P 07 07 30.8 +0.6
SNAA Saaae 113.56 200 *e* PKiKP 07 13 27.1 +5.7
VNA2 Neumayer--Watz 115.03 201 *e* PKiKP 07 13 25.7 +1.4
baz=19,slow=2.9
JCT Junction City 125.42 15 *e*PKPdf PKPdf 07 13 44.7 -0.9
JCT Junction City 125.42 15 *e*PKIKP PKPdf 07 13 44.7 -0.9
TXAR Lajitas Array 125.49 19 PKP PKPdf 07 13 45.3 -0.4
comp=Z,0.4nm,0.6s,baz=158,slow=1.0,SNR=5.0
TXAR Lajitas Array 125.49 19 PKP PKPdf 07 13 45.4 -0.4
TXAR Lajitas Array 125.49 19 PKIKP PKPdf 07 13 45.4 -0.4
SDV Santo Domingo 145.05 333 *e*PKPdf PKPdf 07 14 21.9 -0.5
ROSC El Rosal 150.20 336 PKPbc PKPbc 07 14 36.6 +0.6
comp=Z,2.1nm,0.3s,baz=105,slow=20,SNR=3.7
ROSC El Rosal 150.20 336 PKPbc PKPbc 07 14 36.6 +0.6
CPUP Villa Florida 153.60 256 PKPbc PKPbc 07 14 41.8 -1.6
comp=Z,1.1nm,0.6s,baz=90,slow=6.1,SNR=3.2
CPUP Villa Florida 153.60 256 PKPbc PKPbc 07 14 41.8 -1.6

*KRSC **29** 07:08:00.4±1.6,53.°99N×155.°66E,h572km±51km, ML4.3*
*MOS **29** 07:08:03.4±1.0,53.°83N×155.°88E,h557km, mb4.2/2, Error ellipse: s-maj=36.6km s-min=25.3km az=116.6*
*ISCJB **29** 07:08:04.5±1.2,54.°2N±0.°4×155.°6E±0.°6,h529km±39km, mb3.5/4, Error ellipse: s-maj=83.1km s-min=23.7km az=138.2*
*IDC **29** 07:08:04.2±2.8,53.°46N×155.°43E,h544km±54km, mb2.9/4, mb1 2.9/4, mb1mx2.5/26, mbtmp2.9/4, Error ellipse: s-maj=118.7km s-min=51.9km az=134.0*
ISC 29 07:08:05.4±1.3, 54.°1N±0.°4×155.°6E±0.°7, h525km±40km, n25, σ0°95/33, mb3.5/4, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GNL	**Ganaly**	**1.44**	**104**	*e*P	**P**	**07 09 11.1**	**+0.7**
PETK	**Petropavlovsk-**	**1.58**	**127**	P	**P**	**07 09 10.9**	**0.0**
	2.0nm,0.3s,baz=286,slow=1.6,SNR=27						
PETK	**Petropavlovsk-**	**1.58**	**127**	P	**P**	**07 09 11.0**	**0.0**
PETK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MIPR	**Malaya Ipel'ka**	**1.92**	**158**	*e*P	**P**	**07 09 12.8**	**+0.4**
AVH	**Avacha**	**2.03**	**112**	*e*P	**P**	**07 09 14.1**	**+1.2**
PET	**Petropavlovsk**	**2.10**	**119**	*e*P	**P**	**07 09 13.6**	**+0.4**
PET	**Petropavlovsk**	**2.10**	**119**	P	**P**	**07 09 13.6**	**+0.4**
RUS	**Russkaya**	**2.40**	**132**	*e*P	**P**	**07 09 14.9**	**+0.2**
RUS				*i* S	**S**	**07 10 10.4**	**-0.8**
RUS	**Russkaya**	**2.40**	**132**	P	**P**	**07 09 14.9**	**+0.2**
RUS				S	**S**	**07 10 10.4**	**-0.8**
NLC	**Nalytchevo**	**2.41**	**110**	*e*P	**P**	**07 09 15.9**	**+1.2**
NLC				*i* S	**S**	**07 10 10.8**	**-0.5**
NLC	**Nalytchevo**	**2.41**	**110**	P	**P**	**07 09 15.9**	**+1.2**
NLC				S	**S**	**07 10 10.8**	**-0.5**
SPN	**Mys Shipunski**	**2.81**	**108**	*e*P	**P**	**07 09 17.5**	**+0.4**
SPN				*i* S	**S**	**07 10 12.6**	**-3.0**
SPN	**Mys Shipunski**	**2.81**	**108**	P	**P**	**07 09 17.5**	**+0.4**
SPN				S	**S**	**07 10 12.6**	**-3.0**
MKZ	**Mys Kozlova**	**3.63**	**80**	*e*P	**P**	**07 09 22.7**	**+0.2**
MKZ				*i* S	**S**	**07 10 22.5**	**-3.1**
MKZ	**Mys Kozlova**	**3.63**	**80**	P	**P**	**07 09 22.7**	**+0.2**
MKZ				S	**S**	**07 10 22.5**	**-3.1**
KBTR	**Krutoberegovo**	**4.67**	**60**	*e*P	**P**	**07 09 31.2**	**+0.5**
KBTR	**Krutoberegovo**	**4.67**	**60**	P	**P**	**07 09 31.2**	**+0.5**
KURK	**Kurchatov**	**44.93**	**299**	P	**P**	**07 15 32.3**	**-0.5**
	comp=Z,0.3nm,0.3s,mb3.3,baz=56,slow=7.5,SNR=4.4						
KURK	**Kurchatov**	**44.93**	**299**	P	**P**	**07 15 32.3**	**-0.5**
MKAR	**Makanchi Array**	**45.31**	**292**	P	**P**	**07 15 34.5**	**-1.3**
BVAR	**Borovoye Array**	**47.66**	**305**	P	**P**	**07 15 52.8**	**-0.6**
	comp=Z,0.9nm,0.4s,mb3.7,baz=63,slow=6.8,SNR=6.4						
BVAR	**Borovoye Array**	**47.66**	**305**	P	**P**	**07 15 52.8**	**-0.7**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**58.12**	**334**	P	**P**	**07 17 08.7**	**+0.9**
	comp=Z,5.4nm,1.1s,mb3.7,baz=27,slow=9.4,SNR=4.2						
FINES	**FINESS Array B**	**58.12**	**334**	P	**P**	**07 17 08.7**	**+0.8**
FINES				pmax	pmax		
	comp=Z,5.0nm,1.1s						

*ISCJB **29** 07:10:32.9±0.1,63.°16N±0.°02×149.°76W±0.°03, h99km, mb4.7/166, Error ellipse: s-maj=2.5km s-min=2.1km az=28.1*
*MOS **29** 07:10:32.5±0.8,63.°21N×149.°81W, h99km, mb4.9/48, Error ellipse: s-maj=11.2km s-min=5.0km az=97.9*
*BJI **29** 07:10:32.2,63.°43N×149.°95W, h95km, mB5.2/25, mb5.0/41*
*NEIC **29** 07:10:34.0,63.°11N×149.°58W, h95km, mb4.7/99, After AEIC.*
NEIC Felt [III] at Anchorage, Eagle River and Trapper Creek; [II] at Chugiak, Elmendorf AFB, Palmer, Talkeetna, Wasilla and Willow. Also felt at Cantwell, Delta Junction, Denali National Park, Girdwood, Glennallen, Healy, Indian, Kenai, Moose Pass and Sterling.
*IDC **29** 07:10:34.6±0.6,63.°28N×149.°77W, h101km±5km, mb4.2/22, mb1 4.3/25, mb1mx4.3/27, mbtmp4.2/25, Error ellipse: s-maj=9.9km s-min=7.8km az=143.0*
ISC 29 07:10:34.5±0.1, 63.°15N±0.°02×149.°78W±0.°03, h101km, h101km±7km; pP-P, n398, σ1s07/421, mb4.7/166, 10C-4D, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRF	**Thorofare Moun**	**0.38**	**323**	P	**Pn**	**07 10 49.6**	**0.0**
TRF				S	**Sn**	**07 11 00.8**	**0.0**
RND	**Reindeer**	**0.49**	**58**	P	**Pn**	**07 10 49.1**	**-1.1**
RND				S	**Sn**	**07 11 00.4**	**-1.7**
RND	**Reindeer**	**0.49**	**58**	P	**Pn**	**07 10 49.2**	**-1.1**
RND				S	**Sn**	**07 11 00.4**	**-1.7**
MCK	**McKinley**	**0.70**	**33**	P	**Pn**	**07 10 51.1**	**-0.8**
MCK				S	**Sn**	**07 11 04.1**	**-0.9**
MCK	**McKinley**	**0.70**	**33**	P	**Pn**	**07 10 51.1**	**-0.8**
MCK				S	**Sn**	**07 11 04.1**	**-0.9**
TRAP	**Trapper Creek**	**0.85**	**195**	P	**Pn**	**07 10 52.3**	**-1.1**
TRAP				S	**Sn**	**07 11 06.8**	**-0.7**
BPAW	**Bear Paw Mtn.**	**1.09**	**331**	P	**Pn**	**07 10 55.8**	**-0.1**
BPAW				S	**Sn**	**07 11 11.8**	**-0.3**
PPLA	**Purkeypile**	**1.13**	**258**	P	**Pn**	**07 10 56.9**	**+0.6**
PPLA				S	**Sn**	**07 11 14.2**	**+1.4**
SKT	**Skwentna**	**1.43**	**215**	P	**Pn**	**07 10 59.2**	**-0.7**
SKT				S	**Sn**	**07 11 18.8**	**-0.3**
NEA	**Nenana**	**1.47**	**12**	P	**Pn**	**07 10 59.6**	**-0.7**
SML	**Sawmill**	**1.51**	**153**	P	**Pn**	**07 10 59.3**	**-1.5**
SML				S	**Sn**	**07 11 19.2**	**-1.5**
SML	**Sawmill**	**1.51**	**153**	P	**Pn**	**07 10 59.3**	**-1.5**
SML				S	**Sn**	**07 11 19.2**	**-1.6**
WRH	**Wood River Hil**	**1.52**	**29**	P	**Pn**	**07 11 00.2**	**-0.8**
PMR	**Palmer**	**1.59**	**169**	P	**Pn**	**07 11 00.3**	**-1.6**
PMR	**Palmer**	**1.59**	**169**	P	**Pn**	**07 11 00.3**	**-1.6**
CCB	**Clear Creek Bu**	**1.74**	**29**	P	**Pn**	**07 11 02.8**	**-0.9**
SCM	**Sheep Creek Mo**	**1.75**	**138**	P	**Pn**	**07 11 02.1**	**-1.7**
SCM	**Sheep Creek Mo**	**1.75**	**138**	P	**Pn**	**07 11 02.1**	**-1.7**
SUA	**Susitna One**	**1.75**	**195**	P	**Pn**	**07 11 03.1**	**-0.8**
HDA	**Harding Lake**	**1.78**	**44**	P	**Pn**	**07 11 03.2**	**-0.9**
DDM	**Donnelly Dome**	**1.87**	**68**	P	**Pn**	**07 11 04.8**	**-0.6**
STLK	**Strandline Lak**	**1.92**	**211**	P	**Pn**	**07 11 05.3**	**-0.7**
COLA	**College**	**1.93**	**25**	P	**Pn**	**07 11 04.9**	**-1.2**
COLA	**College**	**1.93**	**25**	P	**Pn**	**07 11 04.9**	**-1.2**
MDM	**Murphy Dome**	**1.94**	**20**	P	**Pn**	**07 11 05.8**	**-0.4**
PAX	**Paxson**	**1.97**	**93**	P	**Pn**	**07 11 05.5**	**-1.2**
PAX	**Paxson**	**1.97**	**93**	P	**Pn**	**07 11 05.5**	**-1.1**
FIB	**Fire Island**	**2.00**	**186**	P	**Pn**	**07 11 06.4**	**-0.6**
FIB	**Fire Island**	**2.00**	**186**	P	**Pn**	**07 11 06.4**	**-0.7**
ILAR	**Eielson Array**	**2.07**	**37**	P	**Pn**	**07 11 07.0**	**-0.9**
	863nm,0.3s,baz=219,slow=14						
ILAR				S	**Sn**	**07 11 31.7**	**-1.7**
	405nm,0.3s,baz=221,slow=21,SNR=13						
ILAR	**Eielson Array**	**2.07**	**37**	P	**Pn**	**07 11 07.0**	**-0.9**
ILAR				S	**Sn**	**07 11 31.7**	**-1.7**
ILAR	**Eielson Array**	**2.07**	**37**	P	**Pn**	**07 11 07.0**	**-0.9**
ILAR				S	**Sn**	**07 11 31.7**	**-1.7**
IL1	**Eielson Array**	**2.07**	**37**	P	**Pn**	**07 11 07.0**	**-0.8**
GLM	**Gilmore Dome**	**2.12**	**29**	P	**Pn**	**07 11 08.1**	**-0.5**
SPNW	**Spurr Northwes**	**2.24**	**217**	P	**Pn**	**07 11 09.8**	**-0.3**
SPU	**Mount Spurr**	**2.25**	**209**	*e*Pn	**Pn**	**07 11 09.3**	**-0.9**
CKL	**Chakachamna La**	**2.30**	**213**	P	**Pn**	**07 11 10.2**	**-0.7**
BKG	**Blockade Glaci**	**2.39**	**210**	P	**Pn**	**07 11 11.6**	**-0.6**
KLU	**Klutina**	**2.45**	**131**	P	**Pn**	**07 11 10.7**	**-2.2**
VLZ	**Valdez**	**2.59**	**140**	P	**Pn**	**07 11 12.0**	**-2.8**
DOT	**Dot Lake**	**2.62**	**76**	*e*Pn	**Pn**	**07 11 13.5**	**-1.6**
DOT				*e*Sn	**Sn**	**07 11 39.3**	**-7.0**
SLKM	**Skilak Lake**	**2.66**	**185**	P	**Pn**	**07 11 15.0**	**-0.7**
SLKM	**Skilak Lake**	**2.66**	**185**	P	**Pn**	**07 11 15.0**	**-0.7**
DIV	**Divide**	**2.77**	**135**	P	**Pn**	**07 11 14.3**	**-2.8**
MENT	**Mentasta**	**2.77**	**92**	*e*Pn	**Pn**	**07 11 15.4**	**-1.7**
MENT				*e*Sn	**Sn**	**07 11 51.6**	**+1.8**
TTA	**Tatalina**	**2.85**	**268**	*e*Pn	**Pn**	**07 11 18.4**	**+0.2**
TTA				*e*Sn	**Sn**	**07 11 51.0**	**-0.8**
TTA	**Tatalina**	**2.85**	**268**	*e*P	**Pn**	**07 11 18.4**	**+0.3**
TTA				*e*		07 11 51.0	
TT01	**Tatalina**	**2.86**	**268**	P	**Pn**	**07 11 18.5**	**+0.3**
RDN	**Redoubt North**	**3.00**	**209**	P	**Pn**	**07 11 19.8**	**-0.4**
PRP	**Porcupine Dome**	**3.01**	**36**	P	**Pn**	**07 11 19.8**	**-0.6**
RSO	**Redoubt South**	**3.05**	**209**	P	**Pn**	**07 11 20.9**	**+0.1**
SEW	**Seward**	**3.06**	**177**	P	**Pn**	**07 11 19.4**	**-1.6**
RED	**Redoubt Volcan**	**3.09**	**209**	P	**Pn**	**07 11 20.9**	**-0.5**
EYAK	**Cordova Ski Ar**	**3.23**	**142**	P	**Pn**	**07 11 21.3**	**-2.0**
BMRM	**Bremner River**	**3.28**	**130**	P	**Pn**	**07 11 20.9**	**-3.0**
IM3	**Indian Mountai**	**3.32**	**331**	P	**Pn**	**07 11 24.6**	**+0.2**
IMA2	**Indian Mountai**	**3.38**	**332**	*e*Pn	**Pn**	**07 11 26.3**	**+1.1**
BRLK	**Bradley Lake**	**3.44**	**189**	P	**Pn**	**07 11 25.1**	**-1.0**
MID	**Middleton Isla**	**4.09**	**155**	*e*Pn	**Pn**	**07 11 34.2**	**-0.6**
MID	**Middleton Isla**	**4.09**	**155**	*e*P	**Pn**	**07 11 34.2**	**-0.6**
COLD	**Coldfoot**	**4.10**	**358**	*e*Pn	**Pn**	**07 11 35.4**	**+0.6**
EGAK	**Eagle**	**4.14**	**63**	*e*Pn	**Pn**	**07 11 33.8**	**-1.5

DLBC Dease Lake 10.72 107 *e*Pn **Pn** **07 13 02.8 -1.9**
WRAK Wrangell Islan 11.05 120 *e*Pn **Pn** **07 13 06.9 -2.3**
comp=E,28nm,0.6s
YKA Yellowknife Ar 15.96 77 P **Pn** **07 14 11.2 -1.6**
comp=Z,1.6nm,0.3s,baz=286,slow=10,SNR=26
YKA ScP ScP 07 22 27.5 -0.5
comp=Z,0.2nm,0.3s,baz=293,slow=2.2,SNR=5.6
YKA Yellowknife Ar 15.96 77 P **Pn** **07 14 11.2 -1.6**
YKA ScP ScP 07 22 27.6 -0.5
YKA Yellowknife Ar 15.96 77 P **Pn** **07 14 11.2 -1.6**
BILL Bilibino 18.47 305 *e*P **P** **07 14 43.0 +1.1**
comp=Z,24nm,1.1s
BILL Bilibino 18.47 305 *c i*P **P** **07 14 42.8 +0.9**
BILL pmax pmax
comp=Z,33nm,1.7s
JCW Jim Creek 21.45 121 *e*P **P** **07 15 14.5 +0.3**
JCW *e* 07 15 34.7
RES Resolute Bay 21.82 36 P **P** **07 15 16.8 -1.1**
comp=Z,5.0nm,0.4s,mb4.2,baz=256,slow=12,SNR=54
RES Resolute Bay 21.82 36 *e*P **P** **07 15 18.1 +0.1**
comp=Z,1.1nm,0.4s,mb4.5
RES Resolute Bay 21.82 36 *e*P **P** **07 15 18.1 +0.1**
RES pmax pmax
comp=Z,11nm,0.4s,mb4.5
FX1 Attu Island--F 21.83 259 P **P** **07 15 17.6 -0.7**
comp=Z,6.5nm,0.3s,mb4.4,baz=130,slow=17,SNR=12
FX1 Attu Island--F 21.83 259 P **P** **07 15 17.6 -0.7**
FX1 Attu Island--F 21.83 259 P **P** **07 15 17.6 -0.6**
ETW Entiat 22.55 120 *e*P **P** **07 15 26.7 +0.9**
ETW *e* 07 15 45.8
LON Longmire 22.68 123 *e*P **P** **07 15 27.0 -0.3**
comp=Z,28nm,1.7s,mb4.3
LON *e* 07 15 48.4
LON Longmire 22.68 123 *e*P **P** **07 15 27.0 -0.3**
LON *e* 07 15 48.4
LON pmax pmax
comp=Z,28nm,1.7s,mb4.3
OD2 Odessa Site #2 23.37 118 *e*P **P** **07 15 33.6 0.0**
OD2 *e* 07 15 54.7
HAWA Hanford 23.86 120 *e*P **P** **07 15 37.2 -0.9**
comp=Z,13nm,1.0s,mb4.2
HAWA *e* 07 15 59.3
HOOD Mount Hood Mea 23.94 125 *e*P **P** **07 15 39.5 +0.6**
comp=Z,40nm,0.9s,mb4.8
HOOD *e* 07 16 01.3
BSMT Bassoo Peak 24.62 112 *e*P **P** **07 15 45.2 +0.2**
comp=Z,19nm,1.4s,mb4.3
BLMT Blacktail Moun 24.67 111 *e*P **P** **07 15 45.5 0.0**
comp=Z,26nm,1.0s,mb4.6
JTMT Jette 24.91 112 *e*P **P** **07 15 48.6 +1.0**
YBMT Yellow Bay 24.94 111 *e*P **P** **07 15 47.5 -0.4**
comp=Z,15nm,1.2s,mb4.3
YBMT *e* 07 16 10.1
SWMT Swartz Lake 25.22 112 *e*P **P** **07 15 51.7 +1.3**
SEY Seymchan 25.47 296 *e*P **P** **07 15 52.9 +0.4**
SLMT Seeley Lake 25.64 111 *e*P **P** **07 15 55.5 +1.3**
MSO Missoula 25.78 112 *e*P **P** **07 15 55.8 +0.3**
comp=Z,116nm,3.0s
HUMO Hull Mountain 25.83 130 *e*P **P** **07 15 56.4 +0.4**
comp=Z,11nm,0.9s,mb4.3
HUMO *e* pP 07 16 19.1 +0.9
CHMT Chamberlain Mo 26.00 111 *e*P **P** **07 15 57.5 0.0**
comp=Z,4.6nm,1.1s,mb3.8
BMO Blue Mountains 26.01 119 *e*P **P** **07 15 57.4 -0.2**
comp=Z,13nm,1.0s,mb4.3
BMO *e* pP 07 16 22.4 +2.5
EGMT Eagleton 26.65 106 *e*P **P** **07 16 03.9 +0.6**
comp=Z,19nm,0.9s,mb4.6
EGMT *e* pP 07 16 26.2 +0.6
HRY Holter Researc 26.76 110 *e*P **P** **07 16 05.5 +1.2**
MOD Modoc 27.39 127 *e*P **P** **07 16 09.7 -0.3**
comp=Z,13nm,1.3s,mb4.3
MOD *e* pP 07 16 33.7 +1.3
WVOR Wild Horse Val 27.54 124 *e*P **P** **07 16 12.1 +0.7**
comp=Z,35nm,1.3s,mb4.7
WVOR *e* pP 07 16 34.8 +1.0
WVOR Wild Horse Val 27.54 124 *e*P **P** **07 16 12.1 +0.7**
WVOR *e* pP 07 16 34.8 +1.0
WVOR pmax pmax
comp=Z,35nm,1.3s,mb4.7
BOZ Bozeman (W) 27.69 111 *e*P **P** **07 16 14.0 +1.3**
comp=Z,16nm,1.6s,mb4.3
BOZ *e* pP 07 16 34.9 -0.2
BOZ Bozeman (W) 27.69 111 *e*P **P** **07 16 14.0 +1.3**
BOZ *e* pP 07 16 34.9 -0.2
BOZ pmax pmax
comp=Z,16nm,1.6s,mb4.3
MFID Camas Ranch 27.79 119 *e*P **P** **07 16 13.5 -0.1**
comp=Z,26nm,1.5s,mb4.5
MFID *e* pP 07 16 35.8 -0.3
MCMT McKenzie Canyo 27.84 114 *e*P **P** **07 16 15.0 +1.1**
comp=Z,1.6nm,0.6s,mb3.7
MCMT *e* pP 07 16 33.4 -3.1
HLID Hailey 28.24 117 *e*P **P** **07 16 18.5 +1.0**
comp=Z,3.9nm,0.9s,mb3.9
HLID *e* pP 07 16 40.6 +0.6
QLMT Earthquake Lak 28.43 112 *e*P **P** **07 16 20.9 +1.7**
QLMT *e* pP 07 16 42.3 +0.6
PETK Petropavlovsk- 28.67 274 P **P** **07 16 21.4 +0.1**
comp=Z,11nm,0.8s,mb4.5,baz=62,slow=11,SNR=14
PETK Petropavlovsk- 28.67 274 P **P** **07 16 21.4 +0.1**
PETK Petropavlovsk- 28.67 274 P **P** **07 16 21.4 +0.1**
DGMT Dagmar 28.78 99 *e*P **P** **07 16 21.7 -0.6**
comp=Z,15nm,1.0s,mb4.6
YNR Norris Junctio 28.84 111 *e*P **P** **07 16 25.2 +2.3**
comp=Z,3.5nm,0.6s,mb4.2
RLMT Red Lodge 29.12 109 *e*P **P** **07 16 26.9 +1.6**
comp=Z,23nm,1.3s,mb4.7
RLMT *e* pP 07 16 48.0 +0.2
FLWY Flagg Ranch 29.34 112 *e*P **P** **07 16 29.9 +2.6**
comp=Z,10.0nm,0.9s,mb4.5
FLWY *ep*P pP 07 16 48.9 -1.0
IMW Indian Meadow 29.39 113 *e*P **P** **07 16 29.5 +1.7**
comp=Z,9.7nm,1.0s,mb4.4
IMW *e* pP 07 16 51.4 +1.1
DCID1 Drake Creek 29.54 113 *e*P **P** **07 16 30.0 +0.9**
comp=Z,15nm,0.8s,mb4.7
DCID1 *e* pP 07 16 53.5 +1.9
RRI2 Red Ridge 29.68 114 *e*P **P** **07 16 31.9 +1.5**
comp=Z,11nm,0.8s,mb4.5
RRI2 *e* pP 07 16 54.0 +1.1
TPAW Teton Pass 29.72 113 *e*P **P** **07 16 32.8 +2.1**
comp=Z,12nm,1.1s,mb4.5
LOHW Long Hollow 29.77 112 *e*P **P** **07 16 33.0 +1.9**
comp=Z,5.7nm,1.0s,mb4.2
LOHW *e* pP 07 16 56.5 +2.9
SNOW Snow King Moun 29.82 113 *e*P **P** **07 16 33.2 +1.6**
comp=Z,5.0nm,0.7s,mb4.2
REDW Red Top Meadow 29.87 113 *e*P **P** **07 16 33.9 +1.9**
comp=Z,6.6nm,1.3s,mb4.1
HVU Hansel Valley 30.39 117 *e*P **P** **07 16 38.1 +1.6**
comp=Z,5.5nm,0.8s,mb4.2
HVU *e* pP 07 17 00.8 +1.6
HVU Hansel Valley 30.39 117 *e*P **P** **07 16 38.2 +1.6**
HVU *e* pP 07 17 00.8 +1.6
HVU pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
PD01 Pinedale Array 30.88 112 *e*P **P** **07 16 42.1 +1.2**
PD01 *ep*P pP 07 17 04.7 +1.2
PD02 Pinedale Array 30.88 112 *e*P **P** **07 16 41.4 +0.5**
PD02 *ep*P pP 07 17 04.7 +1.2
BW06 Boulder Array 30.90 112 *e*P **P** **07 16 42.0 +0.9**
comp=Z,12nm,1.1s,mb4.5
BW06 *ep*P pP 07 17 05.0 +1.4
PDAR Pinedale Array 30.90 112 P **P** **07 16 41.8 +0.7**
comp=Z,2.0nm,0.4s,mb4.2,baz=321,slow=7.1,SNR=36
PDAR pP pP 07 17 04.5 +0.8
comp=Z,8.8nm,1.0s,baz=321,slow=7.0,SNR=11
PDAR Pinedale Array 30.90 112 P **P** **07 16 41.8 +0.7**
PDAR pP pP 07 17 04.5 +0.8
HWUT Hardware Ranch 31.03 116 *e*P **P** **07 16 43.6 +1.4**
comp=Z,3.8nm,0.9s,mb4.1
NVAR Mina Array Bea 31.17 128 P **P** **07 16 44.6 +1.1**
comp=Z,1.0nm,0.6s,mb3.7,baz=324,slow=9.0,SNR=9.1
NVAR pP pP 07 17 07.7 +1.6
comp=Z,3.4nm,0.6s,baz=314,slow=8.3,SNR=13
NVAR Mina Array Bea 31.17 128 P **P** **07 16 44.6 +1.1**
NVAR pP pP 07 17 07.7 +1.6
ULM Lac du Bonnet 31.26 89 P **P** **07 16 44.0 -0.1**
comp=Z,3.3nm,0.4s,mb4.4,baz=324,slow=9.5,SNR=5.9
ULM pP pP 07 17 07.0 +0.2
comp=Z,5.6nm,0.9s,baz=318,slow=8.0,SNR=3.6
ULM Lac du Bonnet 31.26 89 *e*P **P** **07 16 44.3 +0.2**
comp=Z,8.4nm,0.9s,mb4.5
ULM *ep*P pP 07 17 07.1 +0.3

ULM Lac du Bonnet 31.26 89 *e*P **P** **07 16 44.3 +0.2**
ULM *e**PP pP 07 17 07.1 +0.4
ULM pmax pmax
comp=Z,8.0nm,0.9s
DUG Dugway 31.72 119 *e*P **P** **07 16 50.3 +2.0**
comp=Z,3.7nm,0.8s,mb4.2
DUG *ep*P pP 07 17 11.8 +0.9
DUG Dugway 31.72 119 *e*P **P** **07 16 50.3 +2.0**
DUG *e**PP pP 07 17 11.8 +0.9
DUG pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
JLU Jordanelle 31.92 117 *e*P **P** **07 16 51.4 +1.4**
comp=Z,22nm,1.7s,mb4.6
JLU *ep*P pP 07 17 15.1 +2.4
DAU Daniels Canyon 32.16 117 *e*P **P** **07 16 52.7 +0.6**
DAU *e*ScP ScP 07 23 20.4 +8.0
DAU Daniels Canyon 32.16 117 *e*P **P** **07 16 52.7 +0.6**
RSSD Black Hills 32.18 104 *e*P **P** **07 16 53.1 +0.8**
comp=Z,6.7nm,0.7s,mb4.5
RSSD *ep*P pP 07 17 16.5 +1.5
RSSD Black Hills 32.18 104 *e*P **P** **07 16 53.1 +0.8**
RSSD *e**PP pP 07 17 16.5 +1.5
RSSD pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
MPU Maple Canyon 32.34 118 *e*P **P** **07 16 54.2 +0.5**
comp=Z,5.9nm,1.0s,mb4.3
MPU *ep*P pP 07 17 18.1 +1.7
AGMN Agassiz Nation 32.67 91 *e*P **P** **07 16 56.9 +0.3**
comp=Z,10nm,1.0s,mb4.6
AGMN *ep*P pP 07 17 19.5 +0.3
MSU Marysvale 33.41 120 *e*P **P** **07 17 04.7 +1.6**
MSU *ep*P pP 07 17 27.6 +1.8
MSU Marysvale 33.41 120 *e*P **P** **07 17 04.7 +1.6**
MSU *e**PP pP 07 17 27.6 +1.8
ARUT Antelope Range 33.55 122 *e*P **P** **07 17 05.5 +1.2**
comp=Z,6.7nm,1.0s,mb4.4
ARUT *ep*P pP 07 17 28.0 +0.9
ARUT Antelope Range 33.55 122 *e*P **P** **07 17 05.5 +1.2**
ARUT *e**PP pP 07 17 28.0 +1.0
ARUT pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
SRU San Rafael 33.56 117 *e*P **P** **07 17 05.9 +1.5**
comp=Z,15nm,1.0s,mb4.8
SRU *ep*P pP 07 17 27.7 +0.6
SRU San Rafael 33.56 117 *e*P **P** **07 17 05.9 +1.5**
SRU *e**PP pP 07 17 27.7 +0.6
SRU pmax pmax
comp=Z,15nm,1.0s,mb4.8
ISA Isabella 33.59 130 *e*P **P** **07 17 04.9 +0.3**
comp=Z,8.4nm,0.9s,mb4.6
ISA *ep*P pP 07 17 26.9 -0.5
ISA Isabella 33.59 130 *e*P **P** **07 17 04.9 +0.3**
ISA *e**PP pP 07 17 26.9 -0.5
ISA pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
CCUT Cedar City 33.78 122 *e*P **P** **07 17 07.2 +0.9**
comp=Z,5.8nm,1.1s,mb4.3
CCUT *ep*P pP 07 17 30.2 +1.1
GSC Goldstone 34.50 128 *e*P **P** **07 17 13.1 +0.6**
comp=Z,12nm,1.0s,mb4.7
GSC *ep*P pP 07 17 36.2 +0.9
GSC Goldstone 34.50 128 *e*P **P** **07 17 13.1 +0.6**
GSC *e**PP pP 07 17 36.2 +0.9
GSC pmax pmax
comp=Z,12nm,1.0s,mb4.7
YAK Yakutsk 34.82 305 *e*P **P** **07 17 14.9 -0.1**
comp=Z,34nm,0.7s,mb5.3
YAK Yakutsk 34.82 305 *e*P **P** **07 17 14.5 -0.5**
YAK pmax pmax
comp=Z,51nm,1.4s,mb5.2
PV04 Paradox Valley 34.83 116 *e*P **P** **07 17 14.7 -0.6**
PV04 *ep*P pP 07 17 39.7 +1.5
EYMN Ely 34.91 88 *e*P **P** **07 17 16.1 +0.1**
comp=Z,17nm,0.8s,mb4.9
EYMN *ep*P pP 07 17 38.6 -0.2
ISCO Idaho Springs 35.02 111 *e*P **P** **07 17 18.6 +1.6**
comp=Z,7.9nm,1.5s,mb4.3
ISCO *ep*P pP 07 17 40.7 +0.9
ISCO Idaho Springs 35.02 111 *e*P **P** **07 17 18.6 +1.7**
ISCO *e**PP pP 07 17 40.7 +0.9
ISCO pmax pmax
comp=Z,8.0nm,1.5s,mb4.3
PV01 Paradox Valley 35.19 116 *e*P **P** **07 17 19.1 +0.7**
comp=Z,2µm,1.3s
PV01 *ep*P pP 07 17 41.8 +0.5
ECSD EROS Data Cent 35.80 97 *e*P **P** **07 17 23.2 -0.4**
comp=Z,11nm,0.4s,mb5.1
ECSD *ep*P pP 07 17 46.2 -0.3
WUAZ Wupatki 36.34 121 *e*P **P** **07 17 29.4 +1.2**
comp=Z,50nm,1.5s,mb5.2
WUAZ *ep*P pP 07 17 52.5 +1.3
SDCO Great Sand Dun 36.79 112 *e*P **P** **07 17 32.9 +0.8**
comp=Z,14nm,1.3s,mb4.7
SDCO *ep*P pP 07 17 56.1 +1.1
SUMG Summit 36.89 28 *e*P **P** **07 17 33.2 +0.7**
comp=Z,6.8nm,0.4s,mb4.9
SUMG Summit 36.89 28 *e*P **P** **07 17 33.2 +0.7**
SUMG pmax pmax
comp=Z,7.0nm,0.4s
SUMG Summit 36.89 28 *i* P **P** **07 17 33.0 +0.5**
comp=Z,7.0nm,0.8s,mb4.6
DAG Danmarks Havn 37.04 17 *i* P **P** **07 17 33.4 -0.4**
DAG pmax pmax
comp=Z,12nm,0.8s,mb4.9
DAG Danmarks Havn 37.04 17 *i* P **P** **07 17 33.4 -0.4**
comp=Z,16nm,0.8s,mb5.0
CBKS Cedar Bluff 38.37 105 *e*P **P** **07 17 45.7 +0.3**
comp=Z,8.5nm,0.8s,mb4.6
CBKS Cedar Bluff 38.37 105 *e*P **P** **07 17 45.7 +0.3**
CBKS pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
SCIA State Center 38.77 96 *e*P **P** **07 17 49.1 +0.4**
comp=Z,50nm,1.4s,mb5.2
SCIA *ep*P pP 07 18 12.1 +0.2
ANMO Albuquerque 38.79 116 *e*P **P** **07 17 50.1 +1.2**
comp=Z,5.0nm,1.2s,mb4.2
ANMO *ep*P pP 07 18 13.3 +1.3
ANMO Albuquerque 38.79 116 *e*P **P** **07 17 50.1 +1.2**
ANMO *e**PP pP 07 18 13.4 +1.3
ANMO pmax pmax
comp=Z,5.0nm,1.2s
LAZ Ladron 38.99 117 *e*P **P** **07 17 52.4 +1.8**
comp=Z,1.3nm,1.0s,mb3.7
LAZ *ep*P pP 07 18 14.2 +0.4
JFWS Jewell Farm 39.32 92 *e*P **P** **07 17 52.8 -0.5**
comp=Z,15nm,0.8s,mb4.9
JFWS Jewell Farm 39.32 92 *e*P **P** **07 17 52.8 -0.4**
JFWS pmax pmax
comp=Z,15nm,0.8s,mb4.9
TUC Tucson 39.40 123 *e*P **P** **07 17 55.0 +1.0**
comp=Z,19nm,1.6s,mb4.7
TUC *ep*P pP 07 18 18.5 +1.3
TUC Tucson 39.40 123 *e*P **P** **07 17 55.0 +1.0**
TUC *e**PP pP 07 18 18.5 +1.3
TUC pmax pmax
comp=Z,19nm,1.6s,mb4.7
BNM Barren Site 39.41 117 *e*P **P** **07 17 55.1 +1.0**
comp=Z,2.4nm,0.9s,mb4.0
BNM *ep*P pP 07 18 17.8 +0.5
KSU1 Kansas State U 39.52 102 *e*P **P** **07 17 54.3 -0.7**
comp=Z,29nm,0.6s,mb5.3
KSU1 *ep*P pP 07 18 17.7 -0.4
YSS Yuzh-Sakhalins 39.80 279 *e*P **P** **07 17 57.9 +0.7**
comp=Z,42nm,1.1s,mb5.2
YSS Yuzh-Sakhalins 39.80 279↓ *e*P **P** **07 17 56.6 -0.6**
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.2
CLNS Chul'man 40.12 302 *e*P **P** **07 17 59.8 +0.1**
CLNS pmax pmax
comp=N,8.0nm,0.9s
CLNS pmax pmax
comp=Z,31nm,1.1s,mb5.0
CLNS pmax pmax
comp=E,20nm,0.9s
SCHQ Schefferville 40.63 62 P **P** **07 18 04.5 +0.6**
comp=E,4.9nm,0.8s,mb4.4,baz=325,slow=10.0,SNR=7.2
SCHQ Schefferville 40.63 62 P **P** **07 18 04.5 +0.6**
AMTX Amarillo 40.84 111 *e*P **P** **07 18 06.6 +0.7**
comp=E,20nm,1.3s,mb4.8
AMTX *ep*P pP 07 18 29.7 +0.5
CPRX Cap Rock 41.52 114 *e*P **P** **07 18 12.2 +0.8**
comp=E,5.2nm,0.8s,mb4.3
CPRX *ep*P pP 07 18 34.9 0.0
ASAJ Asahikawa 42.05 276 P **P** **07 18 16.2 +0.6**
comp=E,3.8nm,0.5s,mb4.4,baz=39,slow=21,SNR=4.3

ASAJ Asahikawa 42.05 276 P **P** **07 18 16.2 +0.6**
MNTX Cornudas Mount 42.06 117 *e*P **P** **07 18 16.2 +0.3**
comp=E,7.1nm,1.3s,mb4.2
MNTX *ep*P pP 07 18 39.8 +0.4
HABR Khabarovsk 42.07 286 *e*P **P** **07 18 15.5 -0.2**
HABR *e**SP sP 07 18 55.0 +4.3
HABR *eS* **S** **07 24 27.1 0.0**
HABR *e* 07 28 05.5
HABR *e*SSS 07 28 27.2
HABR pmax pmax
comp=E,84nm,2.4s
HABR pmax pmax
comp=Z,109nm,2.8s,mb5.1
HABR pmax pmax
comp=N,72nm,2.8s
HABR MLR MLR
comp=Z,190nm,20.0s
CLNB Carlsbad 42.18 115 *e*P **P** **07 18 17.3 +0.5**
comp=Z,0.8nm,0.4s,mb3.8
CLNB *ep*P pP 07 18 39.8 -0.5
WMOK Wichita Mounta 42.21 108 *e*P **P** **07 18 17.1 0.0**
comp=Z,19nm,1.1s,mb4.7
WMOK *ep*P pP 07 18 39.8 -0.7
WMOK Wichita Mounta 42.21 108 *e*P **P** **07 18 17.1 +0.1**
WMOK *e**PP pP 07 18 39.8 -0.7
WMOK pmax pmax
comp=Z,19nm,1.1s,mb4.7
FVM French Village 43.20 97 *e*P **P** **07 18 24.0 -1.0**
comp=Z,13nm,0.6s,mb4.8
FVM *ep*P pP 07 18 47.3 -1.3
FVM French Village 43.20 97 *e*P **P** **07 18 24.0 -1.0**
FVM *e**PP pP 07 18 47.3 -1.3
FVM pmax pmax
comp=Z,13nm,0.6s,mb4.8
OLIL Olney 43.64 94 *e*P **P** **07 18 27.8 -0.8**
comp=Z,18nm,0.8s,mb4.9
OLIL *ep*P pP 07 18 51.7 -0.4
SIUC Southern Illin 43.97 96 *e*P **P** **07 18 31.1 -0.1**
comp=Z,31nm,0.8s,mb5.1
SIUC *ep*P pP 07 18 54.3 -0.5
MIAR Mount Ida 44.65 103 *e*P **P** **07 18 36.4 -0.3**
comp=Z,9.8nm,0.9s,mb4.5
MIAR *ep*P pP 07 18 59.0 -1.3
MIAR Mount Ida 44.65 103 *e*P **P** **07 18 36.4 -0.3**
MIAR *e**PP pP 07 18 59.0 -1.3
MIAR pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
ACSO Alum Creek Sta 44.75 88 *e*P **P** **07 18 37.1 -0.3**
comp=Z,14nm,0.7s,mb4.8
ACSO *ep*P pP 07 19 00.1 -1.0
TXAR Lajitas Array 44.84 117 P **P** **07 18 38.9 +0.7**
comp=Z,4.0nm,0.6s,mb4.3,baz=321,slow=6.8,SNR=95
TXAR pP pP 07 19 01.8 -0.1
comp=Z,3.9nm,0.8s,baz=328,slow=6.6,SNR=6.1
TXAR Lajitas Array 44.84 117 P **P** **07 18 38.9 +0.7**
TXAR pP pP 07 19 01.8 -0.1
TXAR Lajitas Array 44.84 117 P **P** **07 18 38.9 +0.7**
TXAR *P pP 07 19 01.8 -0.1
WCI Wyandotte Cave 44.87 93 *e*P **P** **07 18 38.2 -0.2**
comp=Z,11nm,0.9s,mb4.6
WCI *ep*P pP 07 19 01.0 -1.0
WCI Wyandotte Cave 44.87 93 *e*P **P** **07 18 38.2 -0.2**
WCI *e**PP pP 07 19 01.0 -1.0
WCI pmax pmax
comp=Z,11nm,0.9s,mb4.6
UALR University of 45.01 101 *e*P **P** **07 18 38.7 -0.8**
comp=Z,6.5nm,0.7s,mb4.5
JCT Junction City 45.43 112 *e*P **P** **07 18 43.0 +0.1**
comp=Z,26nm,0.8s,mb5.0
JCT *ep*P pP 07 19 06.0 -0.6
JCT Junction City 45.43 112 *e*P **P** **07 18 43.0 +0.1**
JCT *e**PP pP 07 19 06.0 -0.6
JCT pmax pmax
comp=Z,26nm,0.8s,mb5.0
WVT Waverly 45.90 96 *e*P **P** **07 18 46.5 0.0**
comp=Z,7.6nm,0.7s,mb4.5
WVT *ep*P pP 07 19 09.2 -1.0
WVT Waverly 45.90 96 *e*P **P** **07 18 46.5 0.0**
WVT *e**PP pP 07 19 09.2 -1.1
WVT pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
OXF Oxford 46.54 99 *e*P **P** **07 18 51.2 -0.4**
comp=Z,41nm,0.5s,mb5.4
OXF Oxford 46.54 99 *e*P **P** **07 18 51.2 -0.3**
OXF pmax pmax
comp=Z,41nm,0.5s,mb5.4
SSPA Standing Stone 46.73 83 *e*P **P** **07 18 52.2 -0.7**
comp=Z,40nm,1.4s,mb5.0
PLAL Pickwick Lake 46.74 97 *e*P **P** **07 18 52.5 -0.6**
comp=Z,10nm,0.9s,mb4.5
PLAL *ep*P pP 07 19 15.5 -1.5
KEV Kevo 47.36 2 *e*P **P** **07 18 55.7 -1.7**
KEV pmax pmax
comp=Z,9.0nm,0.5s,mb4.8
KEV Kevo 47.36 2 *ep* **P** **07 18 55.7 -1.7**
comp=Z,9.4nm,0.5s,mb4.8
MDJ Mudanjiang 47.44 287 P **P** **07 18 57.8 -0.6**
MDJ pmax pmax
comp=Z,15nm,1.4s,mb4.5
MDJ pmax pmax
comp=Z,79nm,3.4s
TZTN Tazewell 47.50 92 *e*P **P** **07 18 59.1 +0.1**
comp=Z,158nm,2.3s,mb5.3
TZTN *ep*P pP 07 19 22.1 -0.8
SWET Sewanee 47.52 95 *e*P **P** **07 18 58.4 -0.8**
comp=Z,5.3nm,0.3s,mb4.8
ARCES ARCESS Array B 47.55 2 P **P** **07 18 58.1 -0.9**
comp=Z,10.0nm,0.5s,mb4.9,baz=340,slow=7.6,SNR=61
ARCES PcP PcP 07 20 26.3 -0.8
comp=Z,3.5nm,0.6s,baz=5.7,slow=3.6,SNR=4.3
ARCES ARCESS Array B 47.55 2 P **P** **07 18 58.1 -0.9**
ARCES PcP PcP 07 20 26.3 -0.8
ARCES ARCESS Array B 47.55 2 P **P** **07 18 58.1 -0.9**
ARCES 07 20 26.3
ARE0 ARCESS Array S 47.55 2 *e*P **P** **07 18 58.0 -1.0**
HIA Hailar 47.88 298 *e*P **P** **07 19 02.3 +0.6**
comp=Z,18nm,0.9s,mb4.9
HIA *ep*P pP 07 19 25.2 -0.4
HIA Hailar 47.88 298 *e*P **P** **07 19 02.3 +0.6**
HIA *e**PP pP 07 19 25.2 -0.4
HIA pmax pmax
comp=Z,18nm,0.9s
MVL Millersville 47.94 83 *e*P **P** **07 19 02.4 +0.1**
comp=Z,55nm,1.7s,mb5.1
CPCT Cooper Cave 47.96 93 *e*P **P** **07 19 01.2 -1.4**
TKL Tuckaleechee C 48.13 92 *e*P **P** **07 19 03.8 0.0**
TKL *ep*P pP 07 19 27.4 -0.3
TKL Tuckaleechee C 48.13 92 *e*P **P** **07 19 03.8 0.0**
TKL *e**PP pP 07 19 27.5 -0.3
ELN Prospectdale 48.21 89 *e*P **P** **07 19 03.5 -1.0**
ELN *ep*P pP 07 19 27.1 -1.2
BLA Blacksburg 48.37 88 *e*P **P** **07 19 05.2 -0.5**
comp=Z,10nm,0.7s,mb4.8
BLA *ep*P pP 07 19 29.4 -0.2
BLA Blacksburg 48.37 88 *e*P **P** **07 19 05.2 -0.5**
BLA *e**PP pP 07 19 29.4 -0.2
BLA pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
CBN Corbin 48.94 85 *e*P **P** **07 19 09.7 -0.3**
comp=Z,71nm,0.5s,mb5.8
CBN *ep*P pP 07 19 34.5 +0.5
CN2 Changchun 49.87 289 *e*P **P** **07 19 17.0 0.0**
CN2 *ep*P pP 07 19 43.3 +2.2
CN2 *eS* **S** **07 26 16.8 -2.1**
CN2 pmax pmax
comp=Z,50nm,0.9s,mb5.4
CN2 pmax pmax
comp=Z,200nm,3.0s
MAJO Matsushiro 50.13 274 *e*P **P** **07 19 18.7 -0.4**
comp=Z,18nm,0.8s,mb5.0
MAJO Matsushiro 50.13 274 *e*P **P** **07 19 18.7 -0.3**
MAJO pmax pmax
comp=Z,18nm,0.8s,mb5.0
MAT Matsushiro 50.13 274 P **P** **07 19 19.3 +0.3**
MJAR Matsushiro Arr 50.13 274 P **P** **07 19 19.9 +0.8**
comp=Z,12nm,0.9s,mb4.8,baz=9.0,slow=6.8,SNR=17
MJAR Matsushiro Arr 50.13 274 P **P** **07 19 19.9 +0.8**
MJAR Matsushiro Arr 50.13 274 P **P** **07 19 19.9 +0.9**
ZAK Zakamensk 53.15 310 *e*P **P** **07 19 41.3 0.0**
ZAK *e* 07 20 45.6
ULN Ulaanbaatar 53.91 306 *e*P **P** **07 19 47.8 +0.9**
comp=Z,11nm,0.8s,mb5.0
ULN Ulaanbaatar 53.91 306 *e*P **P** **07 19 47.8 +0.9**
ULN pmax pmax
comp=Z,11nm,0.8s,mb4.9

KSRS	**Korea Array**	**53.99**	**283**	P	**P**	**07 19 48.4**	**+0.7**		
	comp=Z,17nm,0.7s,mb5.2,baz=28,slow=6.9,SNR=31								
KSAR	**Wonju Array Be**	**54.02**	**283**	P	**P**	**07 19 48.4**	**+0.5**		
KSAR	**Wonju Array Be**	**54.02**	**283**	P	**P**	**07 19 48.4**	**+0.6**		
SONM	**Songino Array**	**54.18**	**306**	P	**P**	**07 19 50.0**	**+1.1**		
	comp=Z,11nm,0.8s,mb5.0,baz=20,slow=6.8,SNR=65								
SONM	**Songino Array**	**54.18**	**306**	P	**P**	**07 19 50.0**	**+1.1**		
SONM	**Songino Array**	**54.18**	**306**	P	**P**	**07 19 50.0**	**+1.1**		
JOF	**Joensuu**	**54.24**	**359**	*eP*	**P**	**07 19 47.7**	**-1.4**		
JOF				pmax	pmax				
	comp=Z,5.0nm,0.5s,mb4.8								
JOF	**Joensuu**	**54.24**	**359**	*ep*	**P**	**07 19 47.7**	**-1.4**		
	comp=Z,4.6nm,0.5s,mb4.8								
KAF	**Kangasniemi**	**55.02**	**2**	*eP*	**P**	**07 19 52.0**	**-2.7**		
KAF				pmax	pmax				
	comp=Z,3.0nm,0.6s,mb4.5								
KAF	**Kangasniemi**	**55.02**	**2**	*ep*	**P**	**07 19 52.0**	**-2.7**		
	comp=Z,3.4nm,0.6s,mb4.5								
NB2	**NORSAR Subarra**	**55.29**	**11**	P	**P**	**07 19 56.0**	**-0.7**		
	comp=Z,1.8nm,0.6s,mb4.3,baz=351,slow=7.4								
NOA	**NORSAR Array B**	**55.29**	**11**	P	**P**	**07 19 55.7**	**-1.0**		
	comp=Z,3.3nm,0.8s,mb4.4,baz=352,slow=6.9,SNR=14								
NOA	**NORSAR Array B**	**55.29**	**11**	P	**P**	**07 19 55.8**	**-1.0**		
NOA	**NORSAR Array B**	**55.29**	**11**	P	**P**	**07 19 55.8**	**-0.9**		
NVS	**Novosibirsk**	**55.34**	**326**	*eP*	**P**	**07 19 53.9**	**-3.2**		
NVS				pmax	pmax				
	comp=N,2.0nm,0.5s								
NVS				pmax	pmax				
	comp=E,3.0nm,0.5s								
NVS				pmax	pmax				
	comp=Z,6.0nm,0.5s,mb4.9								
FINES	**FINESS Array B**	**55.68**	**2**	P	**P**	**07 19 58.2**	**-1.3**		
	comp=Z,9.8nm,0.9s,mb4.8,baz=0.0,slow=8.6,SNR=22								
FINES				pP	pP	07 20 23.6	-0.4		
	comp=Z,5.1nm,0.5s,baz=360,slow=8.9,SNR=3.3								
FINES	**FINESS Array B**	**55.68**	**2**	P	**P**	**07 19 58.2**	**-1.3**		
FINES				pP	pP	07 20 23.6	-0.4		
FINES	**FINESS Array B**	**55.68**	**2**	P	**P**	**07 19 58.2**	**-1.3**		
FINES				*PP	pP	07 20 23.6	-0.4		
ZAA0	**Zalesovo Array**	**55.73**	**324**	*eP*	**P**	**07 19 58.9**	**-1.0**		
ZALV	**Zalesovo Beam**	**55.73**	**324**	P	**P**	**07 19 58.9**	**-1.0**		
	comp=Z,6.5nm,0.5s,mb4.9,baz=25,slow=7.2,SNR=34								
ZALV				PcP	PcP	07 20 57.2	-0.7		
	comp=Z,2.7nm,0.8s,baz=11,slow=3.1,SNR=4.1								
ZALV	**Zalesovo Beam**	**55.73**	**324**	P	**P**	**07 19 58.9**	**-1.0**		
ZALV				PcP	PcP	07 20 57.2	-0.7		
ZALV	**Zalesovo Beam**	**55.73**	**324**	P	**P**	**07 19 58.9**	**-1.0**		
ZALV						07 20 57.2			
SOKR	**Solikamsk**	**55.93**	**344**	*d iP*	**P**	**07 20 01.2**	**-0.1**		
SOKR				pmax	pmax				
	comp=Z,30nm,1.1s,mb5.2								
KLMR	**Klimovskoe**	**56.11**	**355**	*eP*	**P**	**07 20 01.0**	**-1.6**		
KLMR				pmax	pmax				
	comp=Z,24nm,1.1s,mb5.1								
BJI	**Beijing**	**56.89**	**294**	P	**P**	**07 20 08.8**	**+0.5**		
BJI				pmax	pmax				
	comp=Z,10.0nm,1.1s,mb4.8								
SVE	**Sverdlovsk**	**58.06**	**341**	↑*iP*	**P**	**07 20 16.6**	**+0.3**		
SVE				pmax	pmax				
	comp=Z,49nm,1.0s,mb5.5								
HHC	**Hu-ho-hao-te**	**58.09**	**298**	*eP*	**P**	**07 20 18.0**	**+1.3**		
HHC				pP	pP	07 20 41.8	+0.4		
HHC				sP	sP	07 20 53.0	+0.4		
HHC				PP	PP	07 22 29.0	+3.0		
HHC				S	**S**	**07 28 08.5**	**-1.0**		
HHC				sS	sS	07 28 50.0	-1.9		
HHC				ScS	ScS	07 29 54.3	-1.8		
HHC				pmax	pmax				
	comp=Z,8.0nm,0.6s,mb4.9								
HHC				pmax	pmax				
	comp=Z,140nm,6.2s								
HHC				LR	LR				
	comp=N,210nm,14.7s								
HHC				LR	LR				
	comp=E,210nm,16.7s								
HHC				LR	LR				
	comp=Z,110nm,16.5s								
VSU	**Vasula**	**58.69**	**2**	*eP*	**P**	**07 20 19.6**	**-1.0**		
VSU				pmax	pmax				
	comp=Z,54nm,1.5s,mb5.4								
ARU	**Arti**	**58.75**	**342**	*eP*	**P**	**07 20 20.1**	**-1.0**		
	comp=Z,33nm,0.6s,mb5.5								
ARU	**Arti**	**58.75**	**342**	*c iP*	**P**	**07 20 20.6**	**-0.5**		
ARU				S	**S**	**07 28 17.1**	**-0.6**		
ARU				SS	SS	07 32 07.3	-3.9		
ARU				pmax	pmax				
	comp=Z,47nm,1.0s,mb5.5								
BRVK	**Borovoye**	**59.96**	**333**	*eP*	**P**	**07 20 28.9**	**-0.6**		
	comp=Z,19nm,0.9s,mb5.1								
BRVK	**Borovoye**	**59.96**	**333**	*c iP*	**P**	**07 20 29.0**	**-0.5**		
BRVK				pmax	pmax				
	comp=Z,25nm,1.0s,mb5.2								
KURK	**Kurchatov**	**60.26**	**327**	*eP*	**P**	**07 20 30.5**	**-1.0**		
	comp=Z,15nm,1.1s,mb4.9								
KURK	**Kurchatov**	**60.26**	**327**	*eP*	**P**	**07 20 30.5**	**-1.1**		
KURK				pmax	pmax				
	comp=Z,15nm,1.1s,mb4.9								
OBN	**Obninsk**	**61.97**	**356**	↑*eP*	**P**	**07 20 41.9**	**-1.1**		
OBN				*e*		07 21 20.1			
OBN				pmax	pmax				
	comp=Z,18nm,0.7s,mb5.2								
NJ2	**Nanjing**	**62.53**	**287**	*eP*	**P**	**07 20 47.8**	**+0.7**		
NJ2				pP	pP	07 21 14.5	+2.4		
NJ2				sP	sP	07 21 27.0	+3.8		
NJ2				S	**S**	**07 29 06.0**	**-0.5**		
NJ2				pmax	pmax				
	comp=Z,60nm,1.0s,mb5.5								
NJ2				pmax	pmax				
	comp=Z,260nm,4.1s								
NJ2				LR	LR				
	comp=N,140nm,10.8s								
NJ2				LR	LR				
	comp=E,290nm,15.7s								
NJ2				LR	LR				
	comp=Z,170nm,16.2s								
MK31	**Makanchi Array**	**62.90**	**322**	*eP*	**P**	**07 20 47.9**	**-1.5**		
MK31	**Makanchi Array**	**62.90**	**322**	*eP*	**P**	**07 20 47.9**	**-1.4**		
MKAR	**Makanchi Array**	**62.90**	**322**	P	**P**	**07 20 48.0**	**-1.4**		
	comp=Z,4.5nm,0.4s,mb4.8,baz=38,slow=6.8,SNR=69								
MKAR	**Makanchi Array**	**62.90**	**322**	*eP*	**P**	**07 20 48.1**	**-1.3**		
MKAR	**Makanchi Array**	**62.90**	**322**	*eP*	**P**	**07 20 48.1**	**-1.2**		
GTA	**Gaotai**	**63.85**	**306**	↑*eP*	**P**	**07 20 56.3**	**+0.6**		
GTA				pP	pP	07 21 21.0	+0.2		
GTA				sP	sP	07 21 32.0	+0.1		
GTA				S	**S**	**07 29 23.5**	**+0.8**		
GTA				sS	sS	07 30 06.0	+0.3		
GTA				pmax	pmax				
	comp=Z,20nm,1.1s,mb4.9								
GTA				pmax	pmax				
	comp=Z,130nm,4.3s								
GTA				LR	LR				
	comp=N,140nm,13.7s								
GTA				LR	LR				
	comp=E,120nm,15.9s								
GTA				LR	LR				
	comp=Z,120nm,16.6s								
WMQ	**Urumqi**	**64.02**	**317**	P	**P**	**07 20 57.3**	**+0.5**		
WMQ				pmax	pmax				
	comp=Z,9.0nm,0.4s,mb5.0								
CLL	**Collm**	**65.08**	**12**	*eP*	**P**	**07 21 03.0**	**-0.6**		
CLL	**Collm**	**65.08**	**12**	*eP*	**P**	**07 21 03.0**	**-0.6**		
CLL				*es*P	sP	07 21 37.0	-2.8		
	comp=Z,21nm,1.7s								
LZH	**Lanzhou**	**65.24**	**301**	*eP*	**P**	**07 21 05.8**	**+0.9**		
LZH				pP	pP	07 21 29.5	-0.5		
LZH				sP	sP	07 21 40.0	-1.1		
LZH				pmax	pmax				
	comp=Z,27nm,1.2s,mb5.0								
LZH				pmax	pmax				
	comp=Z,210nm,4.5s								
BAIF	**Baives**	**65.28**	**18**	*eP*	**P**	**07 21 07.2**	**+2.3**		
	comp=Z,3.3nm,0.5s,mb4.1								
ABKAR	**Akbulak array**	**65.50**	**339**	*eP*	**P**	**07 21 05.2**	**-1.1**		
	comp=Z,17nm,0.5s,mb5.1								
BRG	**Berggiesshubel**	**65.60**	**11**	*eP*	**P**	**07 21 05.4**	**-1.5**		
	comp=Z,16nm,1.6s,mb4.6								
BRG				*e*		07 21 42.4			
	comp=Z,19nm,1.5s								
BRG	**Berggiesshubel**	**65.60**	**11**	*eP*	**P**	**07 21 05.4**	**-1.5**		
BRG				*e*		07 21 42.4			
BRG				pmax	pmax				
	comp=Z,16nm,1.6s,mb4.6								
VSR	**Storozhevoye**	**65.76**	**354**	*eP*	**P**	**07 21 07.0**	**-0.9**		
VSR				pmax	pmax				
	comp=E,5.0nm,0.6s								
VSR				pmax	pmax				
	comp=Z,10.0nm,0.6s,mb4.8								
VSR				pmax	pmax				
	comp=N,10.0nm,0.8s								
WHN	**Wuhan**	**65.77**	**290**	P	**P**	**07 21 08.3**	**0.0**		
LDF	**La Druitiere**	**66.04**	**22**	*eP*	**P**	**07 21 12.1**	**+2.3**		
	comp=N,2.3nm,0.4s,mb4.1								
GRR	**Gorron**	**66.11**	**22**	*eP*	**P**	**07 21 12.6**	**+2.4**		
DPC	**Dobruska-Polom**	**66.31**	**10**	*eP*	**P**	**07 21 12.0**	**+0.5**		
	comp=N,24nm,1.1s,mb4.9								
DPC				*ep*P	pP	07 21 38.4	+1.7		
DPC	**Dobruska-Polom**	**66.31**	**10**	*eP*	**P**	**07 21 12.0**	**+0.5**		
DPC				*e**PP	pP	07 21 38.4	+1.7		
DPC				pmax	pmax				
	comp=Z,24nm,1.1s,mb4.9								
DPC	**Dobruska-Polom**	**66.31**	**10**	*eP*	**P**	**07 21 11.5**	**0.0**		
DPC				*ep*P	pP	07 21 36.6	-0.1		
DPC				*es*P	sP	07 21 45.7	-2.1		
AKASG	**Malin Array Be**	**66.49**	**1**	P	**P**	**07 21 11.2**	**-1.4**		
	comp=Z,2.9nm,0.4s,mb4.5,baz=1.7,slow=6.6,SNR=18								
AKASG	**Malin Array Be**	**66.49**	**1**	P	**P**	**07 21 11.2**	**-1.4**		
AKASG	**Malin Array Be**	**66.49**	**1**	P	**P**	**07 21 11.2**	**-1.4**		
KIEV	**Kiev**	**66.50**	**1**	*eP*	**P**	**07 21 11.5**	**-1.1**		
	comp=Z,71nm,2.3s,mb5.1								
KIEV				*ep*P	pP	07 21 39.9	+1.9		
KIEV	**Kiev**	**66.50**	**1**	*eP*	**P**	**07 21 11.5**	**-1.2**		
KIEV				*e**PP	pP	07 21 39.9	+2.0		
KIEV				pmax	pmax				
	comp=Z,71nm,2.3s,mb5.1								
PAGF	**Fort de Pagny**	**66.96**	**17**	*eP*	**P**	**07 21 18.1**	**+2.5**		
	comp=Z,5.0nm,0.8s,mb4.1								
MORC	**Moravsky Berou**	**66.97**	**9**	↑*iP*	pP	07 21 41.1	+0.1		
SFTF	**Sexfontaines**	**67.21**	**18**	*eP*	**P**	**07 21 19.7**	**+2.5**		
KHC	**Kasperske Hory**	**67.29**	**12**	*eP*	**P**	**07 21 17.2**	**-0.5**		
KHC				*e*	pP	07 21 43.1	+0.1		
KHC				*e*		07 21 53.8			
KHC	**Kasperske Hory**	**67.29**	**12**	*eP*	**P**	**07 21 17.2**	**-0.5**		
KHC				*ep*P	pP	07 21 43.1	+0.1		
KHC				*es*P	sP	07 21 53.8	-0.3		
GERES	**GERESS Array B**	**67.59**	**12**	P	**P**	**07 21 19.1**	**-0.5**		
	comp=Z,0.5nm,0.3s,mb3.8,baz=359,slow=5.4,SNR=9.3								
GERES	**GERESS Array B**	**67.59**	**12**	P	**P**	**07 21 19.1**	**-0.5**		
GERES	**GERESS Array B**	**67.59**	**12**	P	**P**	**07 21 19.1**	**-0.5**		
LOR	**Lormes**	**67.95**	**19**	*eP*	**P**	**07 21 24.2**	**+2.3**		
	comp=Z,2.9nm,0.3s,mb4.2								
ENH	**Enshi**	**68.06**	**294**	*eP*	**P**	**07 21 21.7**	**-1.1**		
	comp=Z,13nm,0.9s,mb4.8								
SSF	**Saint Saulge**	**68.10**	**19**	*eP*	**P**	**07 21 25.5**	**+2.7**		
	comp=Z,4.2nm,0.6s,mb4.2								
USP	**Ospenovka**	**68.22**	**327**	P	**P**	**07 21 23.9**	**+0.2**		
	SNR=11								
TKM2	**Tokmak 2**	**68.27**	**326**	P	**P**	**07 21 23.8**	**-0.1**		
	SNR=17								
TKM2	**Tokmak 2**	**68.27**	**326**	*eP*	**P**	**07 21 24.3**	**+0.3**		
	comp=Z,13nm,0.9s,mb4.8								
TKM2	**Tokmak 2**	**68.27**	**326**	*i P*	**P**	**07 21 23.8**	**-0.2**		
AVF	**Avril sur Loir**	**68.34**	**20**	*eP*	**P**	**07 21 26.8**	**+2.4**		
	comp=Z,3.5nm,0.5s,mb4.1								
CHMS	**Chumysh**	**68.41**	**326**	P	**P**	**07 21 24.9**	**+0.1**		
	SNR=8.1								
BGF	**Bois d'Agland**	**68.50**	**20**	*eP*	**P**	**07 21 27.5**	**+2.2**		
SMF	**Signal de Mont**	**68.56**	**19**	*eP*	**P**	**07 21 28.1**	**+2.4**		
TCF	**Toulx Ste Croi**	**68.66**	**20**	*eP*	**P**	**07 21 27.9**	**+1.6**		
KBK	**Karagaybulak**	**68.68**	**326**	P	**P**	**07 21 26.6**	**+0.1**		
	SNR=14								
ULHL	**Ulahol**	**68.74**	**325**	P	**P**	**07 21 26.7**	**-0.2**		
	SNR=6.9								
AAK	**Ala-Archa**	**68.82**	**326**	P	**P**	**07 21 27.4**	**+0.1**		
	SNR=12								
AAK	**Ala-Archa**	**68.82**	**326**	*eP*	**P**	**07 21 27.2**	**-0.1**		
	comp=Z,63nm,0.9s,mb5.5								
AAK	**Ala-Archa**	**68.82**	**326**	*i P*	**P**	**07 21 27.4**	**0.0**		
AAK				pmax	pmax				
	comp=Z,49nm,1.1s,mb5.2								
TRPA	**Tarpa**	**68.90**	**6**	↑*iP*	**P**	**07 21 28.0**	**+0.2**		
CABF	**La Chapelle**	**68.92**	**18**	*eP*	**P**	**07 21 30.4**	**+2.5**		
	comp=Z,5.7nm,0.6s,mb4.3								
EKS2	**Erkin-Say**	**68.97**	**327**	P	**P**	**07 21 28.5**	**+0.2**		
	SNR=28								
EKS2	**Erkin-Say**	**68.97**	**327**	*eP*	**P**	**07 21 28.3**	**0.0**		
	comp=Z,64nm,0.6s,mb5.6								
EKS2	**Erkin-Say**	**68.97**	**327**	*eP*	**P**	**07 21 28.3**	**0.0**		
EKS2				pmax	pmax				
	comp=Z,64nm,0.6s,mb5.6								
KZA	**Kyzart**	**69.15**	**326**	P	**P**	**07 21 29.7**	**+0.3**		
	SNR=7.2								
KKAR	**Karatay Array**	**69.33**	**330**	*eP*	**P**	**07 21 29.8**	**-0.8**		
	comp=Z,8.4nm,0.8s,mb4.6								
KKAR	**Karatay Array**	**69.33**	**330**	*eP*	**P**	**07 21 29.8**	**-0.7**		
KKAR				pmax	pmax				
	comp=Z,8.0nm,0.8s,mb4.6								
BUR08	**Bucovina Ar. S**	**69.48**	**4**	*eP*	**P**	**07 21 30.8**	**-0.5**		
AML	**Almayashu**	**69.49**	**327**	P	**P**	**07 21 31.6**	**0.0**		
	SNR=17								
BURAR	**Bucovina Array**	**69.51**	**4**	↓*iP*	**P**	**07 21 31.0**	**-0.6**		
CD2	**Chengdu**	**69.83**	**299**	P	**P**	**07 21 34.3**	**+0.5**		
CD2				pP	pP	07 22 00.0	+0.7		
CD2				sP	sP	07 22 11.3	+1.1		
CD2				PP	PP	07 24 11.8	+2.9		
CD2				S	S	07 30 33.5	-1.4		
CD2				sS	sS	07 31 17.8	-0.8		
CD2				SS	SS	07 35 05.3	+0.7		
CD2				pmax	pmax				
	comp=Z,30nm,0.6s,mb5.3								
CD2				pmax	pmax				
	comp=Z,110nm,5.9s								
CD2				LR	LR				
	comp=N,440nm,6.0s								
CD2				LR	LR				
	comp=Z,240nm,6.5s								
CAF	**Calviac**	**69.96**	**21**	*eP*	**P**	**07 21 36.7**	**+2.3**		
VIVF	**Saint-Julien-l**	**70.43**	**19**	*eP*	**P**	**07 21 39.7**	**+2.5**		
	comp=Z,4.4nm,0.5s,mb4.2								
KSH	**Kashi**	**71.36**	**324**	↑*iP*	**P**	**07 21 45.5**	**+2.5**		
KSH				PcP	PcP	07 22 04.8	+2.7		
KSH				pP	pP	07 22 10.5	+2.0		
KSH				sP	sP	07 22 21.5	+2.0		
KSH				PP	PP	07 24 27.3	+5.5		
KSH				S	S	07 30 52.3	-0.2		
KSH				SKS		07 31 35.0			
KSH				ScS	ScS	07 31 37.8	-0.3		
KSH				SS	SS	07 35 33.0	+5.4		
KSH				pmax	pmax				
	comp=Z,16nm,0.8s,mb4.9								
KSH				pmax	pmax				
	comp=Z,120nm,6.2s								
KSH				LR	LR				
	comp=N,69nm,4.6s								
KSH				LR	LR				
	comp=E,75nm,5.2s								
KSH				LR	LR				
	comp=Z,190nm,5.4s								
GYA	**Guiyang**	**72.58**	**294**	↑*iP*	**P**	**07 21 50.3**	**-0.1**		
GYA				sP	sP	07 22 27.0	0.0		
GYA				PP	PP	07 24 35.5	+2.9		
GYA				S	S	07 31 06.3	-0.4		
GYA				SKS		07 31 46.0			
GYA				SS	SS	07 35 48.8	+1.9		
GYA				pmax	pmax				
	comp=Z,20nm,0.9s,mb5.0								
GYA				pmax	pmax				
	comp=Z,110nm,5.0s								
GYA				LR	LR				
	comp=N,470nm,19.4s								
GYA				LR	LR				
	comp=E,380nm,20.9s								
GYA				LR	LR				
	comp=Z,420nm,19.6s								
KIV	**Kislovodsk**	**72.78**	**351**	↓*iP*	**P**	**07 21 50.9**	**-0.4**		
KIV				*e*		07 22 08.9			
KIV				pmax	pmax				
	comp=Z,16nm,0.9s,mb4.8								
ZEI	**Tsey**	**73.86**	**350**	*eP*	**P**	**07 21 55.5**	**-2.2**		
ZEI				pmax	pmax				
	comp=Z,13nm,1.6s,mb4.4								
ESDC	**Sonseca Array**	**73.94**	**27**	P	**P**	**07 21 58.1**	**-0.1**		
	comp=Z,0.5nm,0.5s,mb3.5,baz=348,slow=5.3,SNR=5.1								
ESDC	**Sonseca Array**	**73.94**	**27**	P	**P**	**07 21 58.1**	**-0.1**		
KMI	**Kunming**	**75.37**	**297**	P	**P**	**07 22 06.3**	**-0.4**		
KMI				pmax	pmax				
	comp=Z,12nm,1.3s,mb4.5								
LSA	**Lhasa**	**75.69**	**308**	P	**P**	**07 22 09.8**	**+1.4**		
LSA	**Lhasa**	**75.69**	**308**	*eP*	**P**	**07 22 10.4**	**+2.0**		
	comp=Z,11nm,0.6s,mb4.8								
LSA	**Lhasa**	**75.69**	**308**	*eP*	**P**	**07 22 10.4**	**+2.0**		
LSA				pmax	pmax				
	comp=Z,11nm,0.6s,mb4.8								
SDV	**Santo Domingo**	**77.22**	**96**	*eP*	**P**	**07 22 16.3**	**-0.9**		
	comp=Z,9.0nm,0.8s,mb4.5								
SDV				*ep*P	pP	07 22 42.8	-0.4		
BRTR	**Keskin Array B**	**77.43**	**357**	P	**P**	**07 22 18.1**	**0.0**		
	comp=Z,1.1nm,0.6s,mb3.8,baz=337,slow=3.3,SNR=5.6								
BRTR	**Keskin Array B**	**77.43**	**357**	P	**P**	**07 22 18.1**	**0.0**		
BRTR	**Keskin Array B**	**77.43**	**357**	P	**P**	**07 22 18.2**	**+0.1**		
QIZ	**Qiongzhong**	**77.80**	**288**	P	**P**	**07 22 20.0**	**-0.4**		
QIZ				pP	pP	07 22 47.0	+0.7		
QIZ				sP	sP	07 22 59.0	+1.8		
QIZ				S	S	07 32 03.0	-1.6		
QIZ				pmax	pmax				
	comp=Z,29nm,1.9s,mb4.7								
QIZ				pmax	pmax				
	comp=Z,230nm,5.5s								
KBL	**Kabul**	**77.83**	**328**	*eP*	**P**	**07 22 19.3**	**-1.1**		
	comp=Z,9.6nm,0.9s,mb4.5								
KBL	**Kabul**	**77.83**	**328**	*eP*	**P**	**07 22 19.3**	**-1.1**		
KBL				pmax	pmax				
	comp=Z,10.0nm,0.9s,mb4.5								
TAPN	**Taplejung**	**79.04**	**310**	*eP*	**P**	**07 22 27.6**	**+0.4**		
	comp=Z,66nm,0.6s,mb5.6								
ROSC	**El Rosal**	**79.13**	**101**	*eP*	**P**	**07 22 28.8**	**+1.0**		
ROSC				*ep*P	pP	07 22 52.1	-1.7		
GUN	**Gumba**	**79.15**	**312**	*eP*	**P**	**07 22 28.2**	**+0.4**		
	comp=Z,28nm,0.6s,mb5.3								
JIRN	**Jiri**	**79.28**	**312**	*eP*	**P**	**07 22 29.1**	**+0.6**		
	comp=Z,18nm,0.6s,mb5.1								
DANN	**Dangsing**	**79.45**	**314**	*eP*	**P**	**07 22 29.8**	**+0.4**		
	comp=Z,75nm,0.7s,mb5.6								
KKN	**Kakani**	**79.47**	**312**	*eP*	**P**	**07 22 29.7**	**+0.2**		
GKN	**Gorkha**	**79.48**	**313**	*eP*	**P**	**07 22 29.6**	**0.0**		
	comp=Z,23nm,0.5s,mb5.3								
ODAN	**Odare**	**79.60**	**310**	*eP*	**P**	**07 22 30.5**	**+0.3**		
	comp=Z,32nm,0.8s,mb5.2								
PKI	**Pulchoki**	**79.63**	**312**	*eP*	**P**	**07 22 30.3**	**0.0**		
	comp=Z,15nm,0.5s,mb5.0								
DMN	**Daman**	**79.69**	**312**	*eP*	**P**	**07 22 30.9**	**+0.2**		
	comp=Z,25nm,0.5s,mb5.3								
RAMN	**Ramite**	**79.79**	**311**	*eP*	**P**	**07 22 31.2**	**-0.1**		
	comp=Z,37nm,0.6s,mb5.4								
PYUN	**Piuthan**	**79.94**	**314**	*eP*	**P**	**07 22 31.8**	**-0.2**		
	comp=Z,111nm,1.0s,mb5.6								
KOLN	**Koldanda**	**80.04**	**314**	*eP*	**P**	**07 22 32.4**	**-0.2**		
	comp=Z,20nm,0.7s,mb5.0								
OTAV	**Otavalo**	**81.43**	**107**	*eP*	**P**	**07 22 40.2**	**+0.2**		
	comp=Z,3.2nm,0.8s,mb4.2								
OTAV				*ep*P	pP	07 23 05.3	-1.0		
CMAR	**Chiang Mai Arr**	**82.88**	**297**	P	**P**	**07 22 47.2**	**-0.5**		
	comp=Z,9.1nm,0.9s,mb4.6,baz=5.8,slow=6.3,SNR=36								
CMAR				pP	pP	07 23 13.0	-0.8		
	comp=Z,5.3nm,0.8s,baz=5.3,slow=6.5,SNR=6.3								
CMAR	**Chiang Mai Arr**	**82.88**	**297**	P	**P**	**07 22 47.2**	**-0.5**		
CMAR				pP	pP	07 23 13.0	-0.8		
CMAR	**Chiang Mai Arr**	**82.88**	**297**	P	**P**	**07 22 47.2**	**-0.4**		
CMAR				*PP	pP	07 23 13.0	-0.8		
VNDA	**Vanda**	**143.51**	**196**	*e*PKPdf	PKPdf	07 29 52.8	-2.3		
VNDA	**Vanda**	**143.51**	**196**	*e*PKIKP	PKPdf	07 29 52.8	-2.3		
BOSA	**Boshof**	**145.31**	**8**	PKPbc	PKPbc	07 29 59.5	-0.1		
	comp=Z,29nm,0.9s,baz=348,slow=3.5,SNR=44								
BOSA	**Boshof**	**145.31**	**8**	*e*PKPdf	PKPdf	07 29 59.1	-0.6		
BOSA				PKPbc	PKPbc	07 29 59.5	-0.1		
BOSA	**Boshof**	**145.31**	**8**	*e*PKIKP	PKPdf	07 29 59.1	-0.5		
SUR	**Sutherland**	**148.64**	**15**	*e*PKPbc	PKPbc	07 30 08.8	-0.1		
QSPA	**South Pole Qui**	**152.97**	**180**	*e*PKPbc	PKPbc	07 30 17.7	0.0		

IDC ***29*** *07:18:55.5±1.3,0.˚18N×121.˚66E,h0km,mb4.0/4, mb1 4.2/4,mb1mx3.7/19,mbtmp4.1/4,Error ellipse: s-maj=221.2km s-min=22.0km az=60.0*
ISCJB ***29*** *07:19:08.8±0.6,0.˚44N±0.˚07×122.˚20E±0.˚10,h131km±8km, mb3.9/4, Error ellipse: s-maj=16.1km s-min=11.2km az=172.1*
DJA ***29*** *07:19:11,0.˚45N×122.˚18E,h89km,MLv3.7/3*
ISC 29 07:19:09.9±0.6,0.˚43N±0.˚07×122.˚21E±0.˚10,h124km±8km, n13,σ0°90/13,mb4.0/4,1C,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.28**	**280**	P		**Pn**	**07 19 25.3**	**-1.9**
GTOI	**Gorontalo**	**0.82**	**76**	P		**Pn**	**07 19 30.0**	**-0.7**
LUWI	**Luwuk**	**1.56**	**159**	P		**Pn**	**07 19 38.7**	**+0.3**
TTSI	**Tana Toraja**	**4.20**	**215**	P		**Pn**	**07 20 12.3**	**+0.1**
KDI	**Kendari**	**4.38**	**175**	P		**Pn**	**07 20 14.6**	**0.0**
SPSI	**Sidrap Palu** 16nm,0.6s	**5.00**	**

ISC 29 08:06:25.6±0.3, 20°55N±0.04×100°90E±0.04, h10km, n48, σ1s07/60, mb4.0/15, Laos

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBV	**Dienbien**	**2.15**	**67**	*e*Pg	**Pg**	**08 07 06.2**	**-0.7**
CHG	**Chiang Mai**	**2.53**	**227**	PG	**Pg**	**08 07 12.9**	**-1.2**
CHG				SG	**Sg**	**08 07 47.1**	**+0.2**
CHTO	**Chiang Mai**	**2.53**	**227**	*e*Pn	**Pn**	**08 07 05.8**	**-0.9**
CHTO				*e*Pg	**Pg**	**08 07 13.0**	**-1.1**
CHTO				*e*Sg	**Sg**	**08 07 44.2**	**-2.7**
TGV	**Tuan Giao**	**2.57**	**66**	*e*Pn	**Pn**	**08 07 07.3**	**+0.1**
TGV				*e*Pg	**Pg**	**08 07 14.6**	**-0.2**
TGV				AML	AML	08 07 53.3	
	comp=N,358nm,0.5s						
LCVN	**Lai Chau**	**2.57**	**54**	*e*Pn	**Pn**	**08 07 07.4**	**+0.1**
LCVN				*e*Pg	**Pg**	**08 07 15.1**	**+0.2**
CM31	**Chiang Mai Arr**	**2.78**	**222**	*e*Pn	**Pn**	**08 07 10.2**	**0.0**
CM31				*e*Sg	**Sg**	**08 07 56.2**	**+1.1**
CMAR	**Chiang Mai Arr**	**2.78**	**222**	Pn	**Pn**	**08 07 10.1**	**-0.2**
	comp=N,4.9nm,0.3s,baz=32,slow=12,SNR=48						
CMAR				Pg	**Pg**	**08 07 15.8**	**-3.2**
	comp=N,36nm,0.3s,baz=36,slow=18,SNR=71						
CMAR				Lg		08 07 52.8	
	comp=N,33nm,0.3s,baz=55,slow=39,SNR=14						
CMAR	**Chiang Mai Arr**	**2.78**	**222**	Pn	**Pn**	**08 07 10.1**	**-0.2**
CMAR				Pg	**Pg**	**08 07 15.8**	**-3.2**
CMAR				Lg		08 07 52.8	
SLVN	**Son La**	**2.91**	**74**	*e*Pg	**Pg**	**08 07 19.9**	**-1.5**
MCVV	**Moc Chau**	**3.52**	**85**	*e*Pn	**Pn**	**08 07 21.0**	**+0.7**
MCVV				*e*Pg	**Pb**	**08 07 25.6**	**-2.3**
BDT	**Bhumibol Dam**	**3.75**	**209**	P	**Pn**	**08 07 24.0**	**+0.5**
	comp=N,129nm,0.9s						
CCVB	**Con Cuong**	**4.03**	**111**	*e*Pn	**Pn**	**08 07 29.0**	**+1.7**
CCVB				*e*Pg	**Pb**	**08 07 36.4**	**-0.2**
VTVB	**Vinh Tuy**	**4.09**	**65**	*e*Pn	**Pn**	**08 07 28.6**	**+0.4**
DHV	**Doan Hung**	**4.14**	**74**	*e*Pn	**Pn**	**08 07 29.5**	**+0.7**
HGVB	**Ha Giang**	**4.43**	**58**	*e*Pn	**Pn**	**08 07 34.9**	**+2.0**
HGVB				*e*Pg	**Pg**	**08 07 48.5**	**-2.0**
KKTK	**Khon Kaen**	**4.57**	**156**	P	**Sn**	**08 08 14.0**	**-14**
BCVB	**Bac Can**	**4.73**	**73**	*e*Pg	**Pb**	**08 07 46.4**	**-2.3**
NST	**Nakhon Sawan**	**4.91**	**189**	PG	**Pg**	**08 07 58.0**	**-1.6**
NST				SG	**Sg**	**08 09 11.0**	**+7.8**
SONM	**Songino Array**	**27.58**	**8**	P	**P**	**08 12 13.4**	**+0.6**
	comp=N,2.1nm,1.1s,mb3.7,baz=181,slow=9.0,SNR=9.3						
SONM	**Songino Array**	**27.58**	**8**	P	**P**	**08 12 13.4**	**+0.6**
MK31	**Makanchi Array**	**30.26**	**334**	*e*P	**P**	**08 12 37.0**	**+0.3**
MKAR	**Makanchi Array**	**30.26**	**334**	P	**P**	**08 12 36.9**	**+0.3**
	comp=N,2.7nm,0.7s,mb4.1,baz=141,slow=10,SNR=14						
MKAR	**Makanchi Array**	**30.26**	**334**	P	**P**	**08 12 36.9**	**+0.3**
KURK	**Kurchatov**	**34.85**	**335**	*e*P	**P**	**08 13 16.1**	**-0.7**
	comp=N,1.8nm,0.8s,mb4.1,baz=148,slow=9.1,SNR=9.2						
KURK	**Kurchatov**	**34.85**	**335**	*e*P	**P**	**08 13 18.0**	**+1.3**
	comp=N,2.5nm,0.6s,mb4.3						
ZAA0	**Zalesovo Array**	**35.54**	**344**	*e*P	**P**	**08 13 22.7**	**+0.1**
ZALV	**Zalesovo Beam**	**35.54**	**344**	P	**P**	**08 13 22.6**	**-0.1**
	comp=N,2.2nm,0.8s,mb4.2,baz=153,slow=10.0,SNR=9.4						
ZALV	**Zalesovo Beam**	**35.54**	**344**	P	**P**	**08 13 22.6**	**-0.1**
MJAR	**Matsushiro Arr**	**36.18**	**56**	P	**P**	**08 13 29.4**	**+1.0**
	comp=N,0.8nm,0.8s,mb3.7,baz=282,slow=6.1,SNR=3.4						
MJAR	**Matsushiro Arr**	**36.18**	**56**	P	**P**	**08 13 29.4**	**+1.0**
BVAR	**Borovoye Array**	**40.02**	**332**	P	**P**	**08 14 00.8**	**+0.3**
	comp=N,1.6nm,0.5s,mb4.0,baz=140,slow=7.8,SNR=7.4						
BVAR	**Borovoye Array**	**40.02**	**332**	P	**P**	**08 14 00.8**	**+0.3**
ABKAR	**Akbulak array**	**43.34**	**321**	*e*P	**P**	**08 14 27.3**	**-0.5**
	comp=N,0.9nm,0.5s,mb3.8						
MBWA	**Marble Bar**	**45.36**	**155**	*e*P	**P**	**08 14 46.2**	**+2.0**
	comp=N,3.8nm,0.6s,mb4.4						
WRAB	**Tennant Creek**	**51.87**	**139**	*e*P	**P**	**08 15 35.3**	**+0.9**
	comp=N,3.3nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**51.87**	**139**	P	**P**	**08 15 35.6**	**+1.2**
	comp=N,1.3nm,0.7s,mb3.9,baz=327,slow=7.8,SNR=12						
WRA	**Warramunga Arr**	**51.87**	**139**	P	**P**	**08 15 35.6**	**+1.2**
ASAR	**Alice Springs**	**54.45**	**142**	P	**P**	**08 15 54.8**	**+1.4**
	comp=N,1.0nm,0.8s,mb3.8,baz=322,slow=7.4,SNR=12						
ASAR	**Alice Springs**	**54.45**	**142**	P	**P**	**08 15 54.8**	**+1.4**
FINES	**FINESS Array B**	**64.92**	**329**	P	**P**	**08 17 04.7**	**-0.4**
	comp=N,3.1nm,0.8s,mb4.4,baz=87,slow=6.5,SNR=6.4						
FINES	**FINESS Array B**	**64.92**	**329**	P	**P**	**08 17 04.7**	**-0.4**
STKA	**Stephens Creek**	**65.09**	**142**	P	**P**	**08 17 06.6**	**+0.1**
	comp=N,1.7nm,0.9s,mb4.1,baz=352,slow=3.7,SNR=3.2						
STKA	**Stephens Creek**	**65.09**	**142**	P	**P**	**08 17 06.6**	**+0.1**
NB2	**NORSAR Subarra**	**72.10**	**329**	P	**P**	**08 17 48.7**	**-1.2**
	comp=Z,3.4nm,0.9s,mb4.3,baz=80,slow=6.2						
NOA	**NORSAR Array B**	**72.10**	**329**	P	**P**	**08 17 48.9**	**-1.1**
	comp=Z,2.0nm,0.8s,mb4.1,baz=81,slow=6.0,SNR=6.5						
NOA	**NORSAR Array B**	**72.10**	**329**	P	**P**	**08 17 48.9**	**-1.0**
GERES	**GERESS Array B**	**73.01**	**316**	P	**P**	**08 17 55.7**	**+0.1**
	comp=Z,0.5nm,0.7s,mb3.5,baz=72,slow=6.3,SNR=4.3						
GERES	**GERESS Array B**	**73.01**	**316**	P	**P**	**08 17 55.7**	**+0.1**

*TIR **29** 08:56:43.7, 41°47N×20°56E, h7km, ML3.1*
*ATH **29** 08:56:43.7, 41°50N×20°60E, h17km±10km, MD3.3/9*
*ISCJB **29** 08:56:44.4±0.4, 41°48N±0°02×20°62E±0°03, h5km±4km, Error ellipse: s-maj=4.3km s-min=3.0km az=144.8*
*BEO **29** 08:56:44.0±0.8, 41°43N×20°65E, h7km±8km, ML2.6/7*
*SKO **29** 08:56:44.9, 41°38N×20°64E, h29km, M2.2, ML2.6*
*CSEM **29** 08:56:44.8±0.1, 41°47N×20°63E, h5km, ML3.1, Error ellipse: s-maj=3.9km s-min=2.7km az=55.0*

ISC 29 08:56:45.3±0.4, 41°48N±0°02×20°61E±0°03, h7km±4km, n60, σ0s83/81, 5C-2D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.25**	**328**	*i* PG	**Pg**	**08 56 49.4**	**-0.8**
PHP				*i* SG	**Sg**	**08 56 53.8**	**+0.3**
PHP	**Peshkopia**	**0.25**	**328**	*i* Pg	**Pg**	**08 56 49.4**	**-0.8**
PHP				*i* Sg	**Sg**	**08 56 53.8**	**+0.3**
TIR	**Tirane**	**0.58**	**257**	*i* PG	**Pg**	**08 56 55.3**	**-1.1**
TIR				*i* SG	**Sg**	**08 57 03.8**	**-0.1**
TIR	**Tirane**	**0.58**	**257**	*e*Pg	**Pg**	**08 56 55.1**	**-1.3**
TIR				*e*Sg	**Sg**	**08 57 04.4**	**+0.5**
TIR	**Tirane**	**0.58**	**257**	*i* Pg	**Pg**	**08 56 55.3**	**-1.1**
TIR				*i* Sg	**Sg**	**08 57 03.8**	**-0.1**
BIA	**Bitola**	**0.70**	**130**	*i* Pg	**Pg**	**08 56 57.8**	**-1.0**
BIA				*i* Sg	**Sg**	**08 57 07.9**	**0.0**
BIA				*e*Lg		08 57 09.3	
	comp=N,189nm,0.2s						
BIA				*e*Lg		08 57 09.6	
	comp=E,308nm,0.2s						
BIA	**Bitola**	**0.70**	**130**	*i* Pg	**Pg**	**08 56 57.8**	**-1.0**
BIA				*i* Sg	**Sg**	**08 57 07.9**	**0.0**
BIA				*e*Lg		08 57 09.3	
	comp=E,189nm,0.2s						
PUK	**Puka**	**0.78**	**317**	*i* SG	**Pg**	**08 56 58.8**	**-1.5**
PUK				*i* SG	**Sg**	**08 57 11.4**	**+0.9**
SKO	**Skopje**	**0.79**	**51**	*e*Pg	**Pg**	**08 57 01.8**	**+1.2**
SKO				*i* Sg	**Sg**	**08 57 12.0**	**+1.2**
SKO				*e*Lg		08 57 12.2	
	comp=N,240nm,0.4s						
SKO				*e*Lg		08 57 12.4	
	comp=E,115nm,0.3s						
SKO	**Skopje**	**0.79**	**51**	*e*Pg	**Pg**	**08 57 01.7**	**+1.2**
SKO				*i* Sg	**Sg**	**08 57 12.0**	**+1.2**
SKO				*e*Lg		08 57 12.1	
	comp=E,240nm,0.4s						
KBN	**Korca**	**0.86**	**171**	*i* PG	**Pg**	**08 57 01.3**	**-0.5**
KBN				*i* SG	**Sg**	**08 57 14.8**	**+1.8**
KBN	**Korca**	**0.86**	**171**	*i* Pg	**Pg**	**08 57 01.3**	**-0.5**
BCI	**Bajram Curri**	**0.98**	**336**	*i* PG	**Pg**	**08 57 03.1**	**-1.0**
BCI				*i* SG	**Sg**	**08 57 18.0**	**+1.2**
BCI	**Bajram Curri**	**0.98**	**336**	*i* Pg	**Pg**	**08 57 03.1**	**-1.0**
BCI				*i* Sg	**Sg**	**08 57 18.0**	**+1.2**
PDG	**Podgorica**	**1.39**	**314**	*e*Pg	**Pg**	**08 57 10.9**	**-1.0**
PDG				*e*Sg	**Sg**	**08 57 31.2**	**+1.3**
KZN	**Kozani**	**1.46**	**143**	*e*PN	**Pn**	**08 57 11.8**	**-0.2**
KZN				*e*SN	**Sn**	**08 57 32.8**	**+1.4**
KZN	**Kozani**	**1.46**	**143**	*e*Pn	**Pn**	**08 57 11.8**	**-0.2**
KZN				*e*Sn	**Sn**	**08 57 32.8**	**+1.4**
VAY	**Valandovo**	**1.48**	**95**	*i* Pg	**Pn**	**08 57 11.4**	**-0.9**
VAY				*i* Sg	**Sg**	**08 57 32.7**	**-0.2**
VAY				*e*Lg		08 57 33.3	
	comp=E,53nm,0.5s						
VAY				*e*Lg		08 57 33.5	
	comp=N,48nm,0.3s						
VAY	**Valandovo**	**1.48**	**95**	*i* Pg	**Pn**	**08 57 11.3**	**-1.0**
VAY				*i* Sg	**Sg**	**08 57 32.7**	**-0.2**
VAY				*e*Lg		08 57 33.3	
	comp=N,53nm,0.5s						
BARS	**Barje**	**1.61**	**33**	⇑*i* Pn	**Pn**	**08 57 14.0**	**-0.1**
BARS	**Barje**	**1.61**	**33**	⇑*i* Pn	**Pn**	**08 57 14.0**	**-0.1**
SELS	**Selova**	**1.78**	**12**	*e*Pn	**Pn**	**08 57 16.3**	**-0.2**
JAN	**Janina**	**1.83**	**174**	*e*PN	**Pn**	**08 57 16.3**	**-0.8**
JAN	**Janina**	**1.83**	**174**	*e*Pn	**Pn**	**08 57 16.3**	**-0.8**
SJES	**Sjenica**	**1.85**	**345**	⇑*i* Pn	**Pn**	**08 57 17.7**	**+0.3**
SJES				*e*Sg	**Sg**	**08 57 44.6**	**0.0**
KEK	**Kerkira**	**1.87**	**200**	*e*PN	**Pn**	**08 57 17.8**	**+0.2**
KEK				*e*SN	**Sn**	**08 57 41.8**	**+0.4**
KEK	**Kerkira**	**1.87**	**200**	*e*Pn	**Pn**	**08 57 17.8**	**+0.2**
KEK				*e*Sn	**Sn**	**08 57 41.8**	**+0.4**
LIT	**Litokhoron**	**1.98**	**133**	*e*PN	**Pn**	**08 57 18.7**	**-0.5**
LIT	**Litokhoron**	**1.98**	**133**	*e*Pn	**Pn**	**08 57 18.7**	**-0.5**
IVAS	**Ivanjica**	**2.13**	**351**	⇓*i* Pn	**Pn**	**08 57 20.7**	**-0.5**
IVAS	**Ivanjica**	**2.13**	**351**	⇓*i* Pn	**Pn**	**08 57 20.7**	**-0.5**
SOH	**Sokhos**	**2.17**	**107**	*e*Pn	**Pn**	**08 57 22.2**	**+0.4**
SOH	**Sokhos**	**2.17**	**107**	*e*Pn	**Pn**	**08 57 22.2**	**+0.4**
THL	**Klokotos Trika**	**2.19**	**150**	*e*PB	**Pn**	**08 57 21.5**	**-0.5**
THL	**Klokotos Trika**	**2.19**	**150**	*e*Pb	**Pn**	**08 57 21.5**	**-0.5**
VTS	**Vitosha**	**2.23**	**59**	⇑*i* Pn	**Pn**	**08 57 22.9**	**+0.2**
VTS	**Vitosha**	**2.23**	**59**	⇑*i* Pn	**Pn**	**08 57 22.9**	**+0.2**
ZAPS	**Zavoj**	**2.34**	**39**	*e*Pn	**Pn**	**08 57 23.0**	**-1.1**
ZAPS	**Zavoj**	**2.34**	**39**	*e*Pn	**Pn**	**08 57 23.0**	**-1.1**
PLG	**Polygyros**	**2.41**	**116**	*e*PB	**Pn**	**08 57 25.0**	**-0.1**
PLG	**Polygyros**	**2.41**	**116**	*e*Pb	**Pn**	**08 57 25.0**	**-0.1**
GRUS	**Gruza**	**2.41**	**2**	*e*Pn	**Pn**	**08 57 25.4**	**+0.2**
NVR	**Nevrokopi**	**2.45**	**92**	*e*PN	**Pn**	**08 57 25.2**	**-0.4**
NVR	**Nevrokopi**	**2.45**	**92**	*e*Pn	**Pn**	**08 57 25.2**	**-0.4**
BBLS	**Lazići**	**2.55**	**340**	*e*Pn	**Pn**	**08 57 26.8**	**-0.2**
BBLS	**Lazići**	**2.55**	**340**	*e*Pn	**Pn**	**08 57 26.8**	**-0.2**
STON	**Ston**	**2.58**	**304**	*i* Pn	**Pn**	**08 57 28.3**	**+0.9**
STON	**Ston**	**2.58**	**304**	*i* Pn	**Pn**	**08 57 28.2**	**+0.8**
DIVS	**Divibare**	**2.66**	**350**	*e*Pn	**Pn**	**08 57 28.9**	**+0.3**
DIVS	**Divibare**	**2.66**	**350**	*e*Pn	**Pn**	**08 57 28.9**	**+0.3**
EVR	**Evrytania**	**2.71**	**160**	*e*PB	**Pn**	**08 57 30.9**	**+1.6**
EVR	**Evrytania**	**2.71**	**160**	*e*Pb	**Pn**	**08 57 30.9**	**+1.6**
AGG	**Agios Georgios**	**2.78**	**151**	*e*PN	**Pn**	**08 57 29.3**	**-0.9**
AGG	**Agios Georgios**	**2.78**	**151**	*e*Pn	**Pn**	**08 57 29.3**	**-0.9**
NEO	**Neokhori**	**2.94**	**137**	*e*PN	**Pn**	**08 57 31.7**	**-0.7**
NEO	**Neokhori**	**2.94**	**137**	*e*Pn	**Pn**	**08 57 31.7**	**-0.7**
VLS	**Valsamata**	**3.29**	**180**	*e*PN	**Pn**	**08 57 38.7**	**+1.4**
VLS	**Valsamata**	**3.29**	**180**	*e*Pn	**Pn**	**08 57 38.7**	**+1.4**
NVLJ	**Novalja**	**5.22**	**308**	*i* Pn	**Pn**	**08 58 03.3**	**-0.4**
NVLJ	**Novalja**	**5.22**	**308**	*i* Pn	**Pn**	**08 58 03.3**	**-0.4**

*ISCJB **29** 08:59:24.5±0.7, 40°08N±0°04×24°13E±0°04, h11km±7km, Error ellipse: s-maj=6.4km s-min=4.9km az=25.6*
*CSEM **29** 08:59:24.3±0.1, 40°05N×24°16E, h15km, ML2.3/4, Error ellipse: s-maj=3.2km s-min=2.3km az=7.0*
*ATH **29** 08:59:24.3, 40°02N×24°09E, h31km±4km, MD3.2/5*
*THE **29** 08:59:25.3, 40°08N×24°10E, h13km±1km, ML2.3/4, Error ellipse: s-maj=1.4km s-min=0.7km az=207.0*

ISC 29 08:59:24.9±0.7, 40°07N±0°04×24°13E±0°04, h15km±6km, n22, σ0s44/40, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OUR	**Ouranopolis**	**0.29**	**337**	P	**Pg**	**08 59 31.0**	**0.0**
OUR				S	**Sg**	**08 59 35.1**	**0.0**
OUR	**Ouranopolis**	**0.29**	**337**	P	**Pg**	**08 59 31.0**	**0.0**
OUR				S	**Sg**	**08 59 35.1**	**0.0**
PAIG	**Paliouri**	**0.37**	**248**	P	**Pg**	**08 59 32.7**	**+0.2**
PAIG				S	**Sg**	**08 59 37.5**	**0.0**
PAIG	**Paliouri**	**0.37**	**248**	P	**Pg**	**08 59 32.7**	**+0.2**
PAIG				S	**Sg**	**08 59 37.5**	**0.0**
PLG	**Polygyros**	**0.60**	**300**	*e*PN	**Pg**	**08 59 36.7**	**-0.1**
PLG				*e*SN	**Sg**	**08 59 44.8**	**0.0**
PLG	**Polygyros**	**0.60**	**300**	P	**Pg**	**08 59 36.7**	**-0.1**
PLG				S	**Sg**	**08 59 44.9**	**+0.1**
PLG	**Polygyros**	**0.60**	**300**	P	**Pg**	**08 59 36.7**	**-0.1**
PLG				S	**Sg**	**08 59 44.9**	**+0.1**
LIA	**Limnos Island**	**0.83**	**102**	*e*PN	**Pg**	**08 59 41.2**	**+0.2**
LIA				*e*SN	**Sg**	**08 59 52.5**	**+0.6**
LIA	**Limnos Island**	**0.83**	**102**	P	**Pg**	**08 59 41.0**	**+0.0**
LIA	**Limnos Island**	**0.83**	**102**	*e*Pn	**Pg**	**08 59 41.2**	**+0.2**
LIA				*e*Sn	**Sg**	**08 59 52.5**	**+0.6**
SOH	**Sokhos**	**0.96**	**322**	*e*PN	**Pg**	**08 59 43.6**	**+0.2**
SOH				*e*SN	**Sg**	**08 59 56.3**	**+0.4**
SOH	**Sokhos**	**0.96**	**322**	P	**Pg**	**08 59 43.0**	**-0.4**
SOH				S	**Sg**	**08 59 56.0**	**+0.1**
SOH	**Sokhos**	**0.96**	**322**	P	**Pg**	**08 59 43.0**	**-0.4**
SOH	**Sokhos**	**0.96**	**322**	*e*Pn	**Pg**	**08 59 43.6**	**+0.2**
SOH				S	**Sg**	**08 59 56.0**	**+0.1**
SOH				*e*Sn	**Sg**	**08 59 56.3**	**+0.4**
KAVA	**Kavala**	**0.97**	**18**	P	**Pg**	**08 59 43.3**	**-0.4**
KAVA				S	**Sg**	**08 59 56.8**	**+0.4**
KAVA	**Kavala**	**0.97**	**18**	P	**Pg**	**08 59 43.3**	**-0.4**
KAVA				S	**Sg**	**08 59 56.8**	**+0.4**
SRS	**Serrai**	**1.12**	**339**	P	**Pg**	**08 59 46.0**	**-0.6**
SRS				S	**Sg**	**09 00 01.2**	**0.0**
SRS	**Serrai**	**1.12**	**339**	P	**Pg**	**08 59 46.0**	**-0.6**
SRS				S	**Sg**	**09 00 01.2**	**0.0**
NVR	**Nevrokopi**	**1.29**	**351**	*e*PN	**Pn**	**08 59 48.5**	**0.0**
NVR				*e*SN	**Sn**	**09 00 06.3**	**+0.7**
NVR	**Nevrokopi**	**1.29**	**351**	*e*Pn	**Pn**	**08 59 48.5**	**0.0**
ALN	**Alexandroupoli**	**1.68**	**60**	*e*PB	**Pb**	**08 59 54.3**	**-1.2**
ALN	**Alexandroupoli**	**1.68**	**60**	*e*Pb	**Pb**	**08 59 54.3**	**-1.2**

*ISCJB **29** 09:07:14.7±0.5, 38°04N±0°02×29°08E±0°06, h14km±7km, Error ellipse: s-maj=7.8km s-min=3.9km az=5.2*
*DDA **29** 09:07:15.0, 38°05N×29°08E, h15km±1km, Md2.7*
*ISK **29** 09:07:14.5, 38°03N×29°09E, h14km, MD2.9*
*CSEM **29** 09:07:15.0±0.1, 38°02N×29°10E, h15km, MD2.9, Error ellipse: s-maj=4.4km s-min=2.4km az=92.0*

ISC 29 09:07:15.2±0.5, 38°03N±0°02×29°09E±0°06, h16km±6km, n24, σ0s55/36, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DENT	**Denizli**	**0.28**	**189**	PG	**Pg**	**09 07 20.7**	**-0.4**
DENT				*e*SG	**Sg**	**09 07 25.1**	**0.0**
DENT	**Denizli**	**0.28**	**189**	*i* Pg	**Pg**	**09 07 20.7**	**-0.4**
DENT				*e*Sg	**Sg**	**09 07 25.1**	**0.0**
DNZL	**Cakiroluk**	**0.34**	**185**	*i* P	**Pg**	**09 07 22.2**	**0.0**
DNZL				*i* S	**Sg**	**09 07 27.6**	**+0.7**
DNZL	**Cakiroluk**	**0.34**	**185**	*i* P	**Pg**	**09 07 22.2**	**0.0**
DNZL				*i* S	**Sg**	**09 07 27.6**	**+0.7**
KHAL	**Karahalli**	**0.47**	**43**	*i* P	**Pg**	**09 07 24.4**	**-0.2**
KHAL				*i* S	**Sg**	**09 07 31.9**	**+1.1**
KHAL	**Karahalli**	**0.47**	**43**	*i* P	**Pg**	**09 07 24.4**	**-0.1**
KHAL				*i* S	**Sg**	**09 07 31.9**	**+1.0**
KULA	**Kula-Manisa**	**0.59**	**326**	*e*PG	**Pg**	**09 07 26.5**	**-0.3**
KULA				*e*SG	**Sg**	**09 07 35.2**	**+0.6**
KULA	**Kula-Manisa**	**0.59**	**326**	*e*Pg	**Pg**	**09 07 26.5**	**-0.3**
KULA				*e*Sg	**Sg**	**09 07 35.2**	**+0.5**
MANT	**Manisa**	**0.62**	**318**	*i* P	**Pg**	**09 07 27.4**	**0.0**
MANT	**Manisa**	**0.62**	**318**	*i* P	**Pg**	**09 07 27.4**	**0.0**
GLHS	**Glhisar (BURDU**	**0.93**	**159**	*e*PG	**Pg**	**09 07 32.8**	**-0.4**
GLHS	**Glhisar (BURDU**	**0.93**	**159**	*e*Pg	**Pg**	**09 07 32.8**	**-0.4**
DEMI	**Demirci**	**1.05**	**344**	*i* P	**Pg**	**09 07 36.4**	**+0.8**
DEMI				*i* S	**Sg**	**09 07 48.9**	**-0.4**
DEMI	**Demirci**	**1.05**	**344**	*i* P	**Pg**	**09 07 36.4**	**+0.8**
DEMI				*i* S	**Sg**	**09 07 48.9**	**-0.4**
YER	**Yerkesik**	**1.10**	**216**	*e*PN	**Pg**	**09 07 36.0**	**-0.3**
YER	**Yerkesik**	**1.10**	**216**	*e*Pn	**Pg**	**09 07 36.0**	**-0.4**
GDZ	**Gediz**	**1.10**	**16**	*i* P	**Pg**	**09 07 35.1**	**-1.4**
GDZ				*i* S	**Sg**	**09 07 50.6**	**-0.3**
GDZ	**Gediz**	**1.10**	**16**	*i* P	**Pg**	**09 07 35.1**	**-1.4**
GDZ				*i* S	**Sg**	**09 07 50.6**	**-0.3**
ALT	**Altintas**	**1.30**	**38**	*e*PN	**Pn**	**09 07 38.9**	**+0.2**
ALT	**Altintas**	**1.30**	**38**	*e*Pn	**Pn**	**09 07 38.9**	**+0.2**
AKS	**Akhisar**	**1.31**	**311**	*e*PN	**Pn**	**09 07 39.1**	**+0.2**
AKS	**Akhisar**	**1.31**	**311**	*e*Pn	**Pn**	**09 07 39.1**	**+0.2**
DAT	**Datca**	**1.77**	**223**	*e*PN	**Pn**	**09 07 45.4**	**+0.2**
DAT	**Datca**	**1.77**	**223**	*e*Pn	**Pn**	**09 07 45.4**	**+0.3**

MEX 29 09:23:32.3±0.5, 15°17N×93°07W, h76km±5km, MD3.9, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.55**	**345**	*e*P	Pn	09 23 44.6	-1.5
PCIG				*i* S	Sn	09 23 54.6	-1.7
THIG		**0.82**	**109**	*e*P	Pn	09 23 47.7	-1.3
THIG				*i* S	Sn	09 23 59.4	-2.0
CCIG	**Comitan**	**1.43**	**39**	*e*P	Pn	09 23 56.5	0.0
CCIG				*i* S	Sn	09 24 13.0	-1.7
TGIG		**1.60**	**358**	*e*P	Pn	09 23 57.5	-1.2
TGIG				*i* S	Sn	09 24 17.4	-1.4
SCX	**San Cristobal**	**1.61**	**15**	*i* P	Pn	09 23 56.5	-2.5
SCX				*i* S	Sn	09 24 20.5	+1.4
CMIG	**Matias Romero**	**2.58**	**318**	*e*P	Pn	09 24 10.6	-1.3
CMIG				*i* S	Sn	09 24 40.2	-2.2
HUIG	**Huatulco**	**2.99**	**282**	*i* P	Pn	09 24 16.9	-0.5
HUIG				*i* S	Sn	09 24 50.7	-1.5
VHO	**Vista Hermosa**	**3.99**	**299**	*i* P	Pn	09 24 31.5	+0.4
VHO				*i* S	Sn	09 25 14.8	-1.9
UTMO	**Huajuapan**	**5.25**	**301**	*i* P	Pn	09 24 48.9	+0.6

*IDC **29** 09:27:14.2±1.4, 18°70N×122°70E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/21, mbtmp3.5/4, ML4.4/1, Error ellipse: s-maj=72.2km s-min=19.9km az=71.0*
*ISCJB **29** 09:27:22.0±0.9, 18°0N±0°1×120°3E±0°1, h78km±9km, mb3.4/4, Error ellipse: s-maj=19.2km s-min=16.9km az=1.2*
*MAN **29** 09:27:24, 17°86N×120°27E, h31km, mb4.9, ML3.8, MS3.8*
MAN INTENSITY II - STO. DOMINGO ILOCOS SUR.

ISC 29 09:27:22.9±1.0, 17°9N±0°1×120°3E±0°1, h69km±9km, n12, σ0s85/13, mb3.4/4, 3C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIPP	**Brgy, Tapao**	**0.19**	**93**	⇑*i* P	**Pn**	**09 27 33.1**	**-0.1**
ABRA	**Dolores**	**0.52**	**123**	*e*P	**Pn**	**09 27 34.9**	**-0.8**
PIP	**Pasuquin**	**0.52**	**41**	⇑*i* P	**Pn**	**09 27 36.2**	**+0.4**
APYP	**Conner**	**0.94**	**94**	*e*P	**Pn**	**09 27 41.0**	**+0.4**
APYP				*e*S	**Sn**	**09 27 52.9**	**-0.7**
BCPH	**Baguio City Da**	**1.57**	**169**	⇑*i* P	**Pn**	**09 27 40.7**	**-8.1**
BOLP	**Bolinao**	**1.58**	**192**	*e*P	**Pn**	**09 27 48.9**	**0.0**
CAUP	**Cauayan**	**1.79**	**123**	*e*P	**Pn**	**09 27 54.4**	**+2.7**
TGY	**Tagaytay City**	**3.87**	**170**	Pn	**Pn**	**09 28 29.8**	**+10**
	15nm,0.3s,baz=162,slow=9.6,SNR=2.8						
SONM	**Songino Array**	**31.91**	**342**	P	**P**	**09 33 41.6**	**-0.1**
	0.1nm,0.6s,mb2.7,baz=158,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**40.10**	**159**	P	**P**	**09 34 51.0**	**-0.9**
	0.3nm,0.3s,mb3.6,baz=340,slow=9.3,SNR=9.3						
MKAR	**Makanchi Array**	**42.44**	**321**	P	**P**	**09 35 18.2**	**+7.4**
	1.2nm,0.9s,mb3.6,baz=123,slow=8.8,SNR=5.3						
ASAR	**Alice Springs**	**43.44**	**162**	P	**P**	**09 35 19.6**	**+0.4**
	0.6nm,0.3s,mb3.8,baz=340,slow=7.1,SNR=28						

**IGQ 29 09:32:18.3, 2°02S×78°02W, h209km±4km, M

MMB	**Musomiste**	**0.67**	**118**	*i* Pg	**Pg**	**10 13 41.2**	**+0.2**
VTS	**Vitosha**	**0.72**	**16**	*i*Pg	**Pg**	**10 13 42.0**	**+0.2**
VTS				*e*Sg	**Sg**	**10 13 51.4**	**+0.3**
VTS	**Vitosha**	**0.72**	**16**	P	**Pg**	**10 13 41.9**	**+0.1**
VTS				S	**Sg**	**10 13 50.9**	**-0.2**
VTS	**Vitosha**	**0.72**	**16**	*i* Pg	**Pg**	**10 13 42.4**	**+0.6**
VTS	**Vitosha**	**0.72**	**16**	P	**Pg**	**10 13 41.9**	**+0.1**
VTS				S	**Sg**	**10 13 50.9**	**-0.2**
VTS				*e*Sg	**Sg**	**10 13 51.4**	**+0.3**
KNT	**Kendrikon**	**0.74**	**182**	P	**Pg**	**10 13 42.4**	**+0.1**
KNT				S	**Sg**	**10 13 51.6**	**-0.3**
KNT	**Kendrikon**	**0.74**	**182**	P	**Pg**	**10 13 42.4**	**+0.1**
KNT				S	**Sg**	**10 13 51.6**	**-0.3**
NVR	**Nevrokopi**	**0.89**	**128**	*e*PB	**Pg**	**10 13 44.6**	**-0.5**
NVR				*e*SB	**Sb**	**10 13 56.9**	**-1.2**
NVR	**Nevrokopi**	**0.89**	**128**	P	**Pg**	**10 13 44.6**	**-0.5**
NVR				S	**Sg**	**10 13 56.1**	**-0.5**
NVR	**Nevrokopi**	**0.89**	**128**	P	**Pg**	**10 13 44.6**	**-0.5**
NVR				S	**Sg**	**10 13 56.1**	**-0.5**
NVR				*e*Sb	**Sb**	**10 13 56.9**	**-1.2**
SRS	**Serrai**	**0.93**	**148**	P	**Pg**	**10 13 45.4**	**-0.5**
SRS				S	**Sg**	**10 13 57.9**	**0.0**
SRS	**Serrai**	**0.93**	**148**	P	**Pg**	**10 13 45.4**	**-0.5**
SRS				S	**Sg**	**10 13 57.9**	**0.0**
GRG	**Griva**	**1.03**	**203**	P	**Pg**	**10 13 47.6**	**-0.2**
GRG				S	**Sg**	**10 14 01.6**	**+0.5**
GRG	**Griva**	**1.03**	**203**	P	**Pg**	**10 13 47.6**	**-0.2**
GRG				S	**Sg**	**10 14 01.6**	**+0.5**
PGB	**Panagyurishte**	**1.12**	**54**	*i* Pg	**Pg**	**10 13 49.6**	**+0.1**
PGB	**Panagyurishte**	**1.12**	**54**	*i* Pg	**Pg**	**10 13 49.6**	**+0.1**
SOH	**Sokhos**	**1.13**	**164**	*e*PB	**Pb**	**10 13 49.4**	**-0.6**
SOH				*e*SB	**Sb**	**10 14 05.9**	**+1.0**
SOH	**Sokhos**	**1.13**	**164**	P	**Pg**	**10 13 49.1**	**-0.6**
SOH				S	**Sg**	**10 14 04.7**	**+0.4**
SOH	**Sokhos**	**1.13**	**164**	P	**Pg**	**10 13 49.1**	**-0.6**
SOH	**Sokhos**	**1.13**	**164**	*e*Pb	**Pb**	**10 13 49.4**	**-0.6**
SOH				S	**Sg**	**10 14 04.7**	**+0.4**
SOH				*e*Sb	**Sb**	**10 14 05.9**	**+1.0**
BARS	**Barje**	**1.23**	**318**	⇓*i*Pg	**Pg**	**10 13 51.6**	**-0.1**
BARS				*e*Sg	**Sg**	**10 14 07.8**	**+0.1**
BARS	**Barje**	**1.23**	**318**	⇓*i*Pg	**Pg**	**10 13 51.6**	**-0.1**
HORT	**Hortiatis**	**1.31**	**174**	P	**Pn**	**10 13 52.9**	**-0.1**
HORT				S	**Sg**	**10 14 09.9**	**-0.3**
HORT	**Hortiatis**	**1.31**	**174**	P	**Pn**	**10 13 52.9**	**-0.1**
HORT				S	**Sg**	**10 14 09.9**	**-0.3**
PLD	**Plovdiv**	**1.33**	**81**	*e*Pg	**Pg**	**10 13 53.4**	**-0.2**
PLD				*e*Sg	**Sg**	**10 14 12.2**	**+1.3**
PLD	**Plovdiv**	**1.33**	**81**	*e*Pg	**Pg**	**10 13 53.4**	**-0.2**
PLD				*e*Sg	**Sg**	**10 14 12.2**	**+1.3**
RZN	**Rozhen**	**1.35**	**99**	Pg	**Pg**	**10 13 53.5**	**-0.4**
RZN	**Rozhen**	**1.35**	**99**	Pg	**Pg**	**10 13 53.5**	**-0.4**
ZAPS	**Zavoj**	**1.39**	**351**	⇑*i*Pg	**Pg**	**10 13 54.4**	**-0.2**
ZAPS				*e*Sg	**Sg**	**10 14 11.7**	**-0.9**
KAVA	**Kavala**	**1.49**	**127**	P	**Pn**	**10 13 55.3**	**-0.2**
KAVA				S	**Sn**	**10 14 14.7**	**-0.7**
KAVA	**Kavala**	**1.49**	**127**	P	**Pn**	**10 13 55.3**	**-0.2**
KAVA				S	**Sn**	**10 14 14.7**	**-0.7**
PLG	**Polygyros**	**1.58**	**166**	*e*PG	**Pg**	**10 13 56.5**	**-1.8**
PLG	**Polygyros**	**1.58**	**166**	*e*Pg	**Pg**	**10 13 56.5**	**-1.8**
KDZ	**Kurdzhali**	**1.87**	**97**	P	**Pn**	**10 14 01.8**	**+1.1**
KDZ	**Kurdzhali**	**1.87**	**97**	P	**Pn**	**10 14 01.8**	**+1.1**
SELS	**Selova**	**1.88**	**315**	*e*Pn	**Pn**	**10 13 59.9**	**-0.9**
SELS				*e*Sg	**Sg**	**10 14 28.2**	**-0.2**
RDO	**Rodhopi**	**2.10**	**110**	*e*PN	**Pn**	**10 14 05.4**	**+1.6**
RDO	**Rodhopi**	**2.10**	**110**	*e*Pn	**Pn**	**10 14 05.4**	**+1.6**
GRUS	**Gruza**	**2.57**	**321**	*e*Pn	**Pn**	**10 14 10.2**	**-0.1**
GRUS	**Gruza**	**2.57**	**321**	*e*Pn	**Pn**	**10 14 10.2**	**-0.1**
SJES	**Sjenica**	**2.57**	**303**	*e*Pn	**Pn**	**10 14 11.5**	**+1.2**
IVAS	**Ivanjica**	**2.64**	**310**	⇑*i*Pn	**Pn**	**10 14 11.4**	**+0.1**
DIVS	**Divibare**	**3.08**	**316**	*e*Pn	**Pn**	**10 14 17.0**	**-0.3**
DIVS	**Divibare**	**3.08**	**316**	*e*Pn	**Pn**	**10 14 17.0**	**-0.3**

*ISCJB **29** 10:16:31.9±2.7,4.˚6S±0.˚2×152.˚7E±0.˚1, h91km±29km, mb3.7/7, Error ellipse: s-maj=32.7km s-min=13.2km az=155.4*
*IDC **29** 10:16:34.1±3.1,4.˚71S×152.˚73E, h100km±32km, mb3.6/6, mb1 3.8/8, mb1mx3.6/18, mbtmp3.7/8, Error ellipse: s-maj=37.5km s-min=17.2km az=138.0*
*NEIC **29** 10:16:34.7±1.8,4.˚71S×152.˚74E, h105km±19km, mb3.9/1, Error ellipse: s-maj=24.1km s-min=12.4km az=151.0*
ISC 29 10:16:34.5±2.0, 4.˚7S±0.˚2×152.˚7E±0.˚1, h101km±22km, n19, σ0.˚78/19, mb3.7/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.22**	**229**	P	**Pn**	**10 18 17.6**	**+0.1**
	1.7nm,0.3s,baz=48,slow=8.7,SNR=6.3						
PMG				S	**Sn**	**10 19 37.6**	**-0.4**
	3.0nm,0.3s,baz=119,slow=19,SNR=7.7						
PMG	**Port Moresby**	**7.22**	**229**	P	**Pn**	**10 18 17.6**	**+0.1**
PMG				S	**Sn**	**10 19 37.6**	**-0.4**
HNR	**Honiara**	**8.57**	**124**	P	**Pn**	**10 18 36.0**	**+0.2**
	17nm,0.3s,baz=9.1,slow=19,SNR=3.3						
HNR	**Honiara**	**8.57**	**124**	P	**Pn**	**10 18 36.0**	**+0.2**
WRAB	**Tennant Creek**	**23.43**	**228**	*e*P	**P**	**10 21 35.4**	**+0.7**
	4.3nm,0.8s,mb3.8						
WRA	**Warramunga Arr**	**23.44**	**228**	P	**P**	**10 21 35.0**	**+0.2**
	1.9nm,0.4s,mb3.8,baz=49,slow=9.6,SNR=26						
WRA	**Warramunga Arr**	**23.44**	**228**	P	**P**	**10 21 35.0**	**+0.2**
ASAR	**Alice Springs**	**26.16**	**222**	P	**P**	**10 21 59.9**	**+0.3**
	0.6nm,0.4s,mb3.4,baz=57,slow=9.0,SNR=10						
ASAR	**Alice Springs**	**26.16**	**222**	P	**P**	**10 21 59.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**29.63**	**241**	P	**P**	**10 22 29.5**	**-1.0**
	1.1nm,0.3s,mb4.0,baz=58,slow=7.9,SNR=14						
FITZ	**Fitzroy Crossi**	**29.63**	**241**	P	**P**	**10 22 29.5**	**-1.0**
PETK	**Petropavlovsk-**	**57.75**	**4**	P	**P**	**10 26 14.3**	**-0.4**
	1.6nm,0.5s,mb4.3,baz=165,slow=7.6,SNR=14						
PETK	**Petropavlovsk-**	**57.75**	**4**	P	**P**	**10 26 14.3**	**-0.4**
SONM	**Songino Array**	**66.20**	**328**	P	**P**	**10 27 13.0**	**+1.6**
	0.2nm,0.5s,mb3.2,baz=140,slow=6.6,SNR=3.0						
SONM	**Songino Array**	**66.20**	**328**	P	**P**	**10 27 13.0**	**+1.6**
ILAR	**Eielson Array**	**82.11**	**22**	P	**P**	**10 28 42.2**	**-1.3**
	0.5nm,0.9s,mb3.4,baz=264,slow=4.9,SNR=5.8						
ILAR	**Eielson Array**	**82.11**	**22**	P	**P**	**10 28 42.2**	**-1.3**
TORD	**Torodi Ar. Bea**	**150.20**	**288**	PKPbc	PKPbc	10 36 14.7	-0.1
	0.7nm,0.7s,baz=81,slow=2.3,SNR=6.4						
TORD	**Torodi Ar. Bea**	**150.20**	**288**	PKPbc	PKPbc	10 36 14.7	-0.1

*IDC **29** 10:39:29.3±1.1,30.˚37N×69.˚83E, h0km, mb3.8/9, mb1 3.8/10, mb1mx3.6/29, mbtmp3.8/10, ML3.2/1, MS3.2/4, Ms1 3.3/4, ms1mx2.6/41, Error ellipse: s-maj=27.7km s-min=21.3km az=68.0*
*ISCJB **29** 10:39:30.4±2.6,30.˚40N±0.˚08×70.˚03E±0.˚09, h20km±19km, mb3.8/11, MS3.1/4, Error ellipse: s-maj=17.7km s-min=6.2km az=41.1*
*NEIC **29** 10:39:31.1±0.9,30.˚40N×69.˚82E, h10km, mb3.9/2, Error ellipse: s-maj=17.7km s-min=13.3km az=91.0*
ISC 29 10:39:30.9±2.1, 30.˚39N±0.˚08×69.˚98E±0.˚08, h9km±12km, n51, σ1.˚18/54, mb3.8/11, MS3.1/4, 1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**4.21**	**349**	*e*Pn	**Pn**	**10 40 36.1**	**+0.8**
KHET	**Khetri**	**5.59**	**113**	*e*PKP	**Pn**	**10 40 55.2**	**+0.9**
KHET				*ex*	**Sb**	**10 42 18.1**	**+2.3**
KHET				AML	AML	10 42 44.4	
	comp=E,62nm,0.4s						
KHET				AML	AML	10 42 44.5	
	comp=N,78nm,0.6s						
BHK	**Bhakra**	**5.62**	**78**	*ex*	**Pn**	**10 41 01.6**	**+6.9**
KKR	**Kurukshetra**	**5.94**	**92**	*e*PKP	**Pn**	**10 40 58.7**	**-0.3**
SDNR	**Sundarnagar**	**6.10**	**78**	*ex*	**Pn**	**10 41 08.0**	**+6.7**
SDNR				*ex*	x	10 42 53.0	
KUDL	**Kundal**	**6.11**	**110**	*e*PKP	**Pn**	**10 41 01.9**	**+0.5**
KUDL				*e*S	**Sn**	**10 42 09.4**	**-2.1**
KUDL				AML	AML	10 42 56.7	
	comp=E,55nm,0.4s						
KUDL				AML	AML	10 42 59.8	
	comp=N,75nm,0.7s						
SMLA	**Simla**	**6.23**	**81**	*i* P	**Pn**	**10 41 05.0**	**+2.0**
SMLA				*i* x	**Sn**	**10 42 18.0**	**+3.7**
SMLA				AML	AML	10 42 22.3	
	comp=E,1μm,0.4s						
SMLA				⇓AML	AML	10 42 22.7	
	comp=N,2μm,0.5s						
AYAN	**Aya Nagar**	**6.52**	**105**	*e*PKP	**Pn**	**10 41 07.8**	**+0.8**
NDI	**New Delhi**	**6.53**	**103**	*e*PKP	**Pn**	**10 41 08.7**	**+1.6**
NDI				*e*S	**Sn**	**10 42 20.8**	**-1.0**
NDI				AML	AML	10 43 09.7	
	comp=N,97nm,0.8s						
NDI				AML	AML	10 43 22.0	
	comp=E,105nm,0.1s						
DDI	**Dehra Dun**	**6.98**	**89**	*ex*	**Pg**	**10 41 43.0**	**-1.5**
DDI				*e*S	**Sn**	**10 42 29.0**	**-3.8**
PYUN	**Piuthan**	**11.59**	**98**	*e*P	**Pn**	**10 42 17.1**	**+0.6**
	comp=E,39nm,0.6s						
DANN	**Dangsing**	**12.19**	**96**	*e*P	**Pn**	**10 42 25.5**	**+0.8**
	comp=E,53nm,0.7s						
KOLN	**Koldanda**	**12.20**	**99**	*e*P	**Pn**	**10 42 24.7**	**-0.1**
	comp=E,26nm,0.5s						
KKAR	**Karatay Array**	**12.69**	**2**	*e*Pn	**Pn**	**10 42 30.3**	**-1.3**
	comp=E,3.8nm,0.4s						
KKAR				*e*Sn	**Sn**	**10 44 42.9**	**-10**
AAK	**Ala-Archa**	**12.74**	**15**	*e*Pn	**Pn**	**10 42 31.7**	**-0.5**
	comp=E,24nm,0.4s						
GKN	**Gorkha**	**13.02**	**97**	*e*P	**Pn**	**10 42 36.0**	**-0.1**
	comp=E,28nm,0.5s						
TKM2	**Tokmak 2**	**13.29**	**18**	*e*Pn	**Pn**	**10 42 40.2**	**+0.5**
	comp=E,3.0nm,0.6s						
DMN	**Daman**	**13.53**	**98**	*e*P	**Pn**	**10 42 42.7**	**-0.3**
KKN	**Kakani**	**13.63**	**97**	*e*P	**Pn**	**10 42 44.2**	**-0.2**
	comp=E,34nm,0.6s						
PKI	**Pulchoki**	**13.79**	**98**	*e*P	**Pn**	**10 42 46.2**	**-0.5**
	comp=E,12nm,0.4s						
GUN	**Gumba**	**14.11**	**96**	*e*P	**Pn**	**10 42 50.1**	**-0.9**
	comp=E,74nm,0.4s						
RAMN	**Ramite**	**14.98**	**99**	*e*P	**Pn**	**10 43 00.4**	**-2.5**
	comp=E,28nm,0.6s						
TAPN	**Taplejung**	**15.82**	**97**	*e*P	**Pn**	**10 43 12.9**	**-1.0**
	comp=E,17nm,0.6s						
MKAR	**Makanchi Array**	**18.95**	**27**	P	**Pn**	**10 43 53.8**	**+1.0**
	comp=E,0.1nm,0.3s,baz=203,slow=10,SNR=3.3						
MKAR	**Makanchi Array**	**18.95**	**27**	P	**Pn**	**10 43 53.8**	**+1.0**
ABKAR	**Akbulak array**	**20.32**	**341**	*e*P	**P**	**10 44 06.9**	**-0.3**
	comp=E,1.3nm,0.5s						
KURK	**Kurchatov**	**21.31**	**15**	P	**P**	**10 44 16.5**	**-1.3**
	comp=E,3.2nm,0.8s,mb3.7,baz=205,slow=11,SNR=14						
KURK				LR	LR	10 53 22.9	
	comp=E,63nm,21.9s,MS3.0,baz=50,slow=39						
KURK	**Kurchatov**	**21.31**	**15**	P	**P**	**10 44 16.5**	**-1.3**
AKTO	**Aktyubinsk**	**21.94**	**339**	P	**P**	**10 44 23.6**	**-1.0**
	comp=E,0.8nm,0.4s,mb3.5,baz=172,slow=7.1,SNR=2.9						
AKTO	**Aktyubinsk**	**21.94**	**339**	P	**P**	**10 44 23.6**	**-1.0**
BVAR	**Borovoye Array**	**22.62**	**1**	P	**P**	**10 44 32.3**	**+0.5**
	comp=E,4.2nm,0.7s,mb4.0,baz=182,slow=11,SNR=16						
BVAR	**Borovoye Array**	**22.62**	**1**	P	**P**	**10 44 32.3**	**+0.5**
BRVK	**Borovoye**	**22.65**	**0**	*e*P	**P**	**10 44 34.5**	**+2.3**
	comp=E,7.1nm,0.8s,mb4.2						
ZAA0	**Zalesovo Array**	**25.88**	**20**	*e*P	**P**	**10 45 04.8**	**+2.0**
ZALV	**Zalesovo Beam**	**25.88**	**20**	P	**P**	**10 45 03.6**	**+0.9**
	comp=E,3.4nm,0.4s,mb4.2,baz=220,slow=9.8,SNR=15						
ZALV	**Zalesovo Beam**	**25.88**	**20**	P	**P**	**10 45 03.6**	**+0.9**
ASF	**Jabal al Asfar**	**28.27**	**282**	LR	LR	10 58 40.2	
	comp=E,33nm,21.7s,MS2.9,baz=305,slow=41						
MMAI	**Mount Meron Ar**	**29.46**	**284**	LR	LR	10 58 58.2	
	comp=E,43nm,19.2s,MS3.1,baz=35,slow=40						
SONM	**Songino Array**	**32.81**	**48**	P	**P**	**10 46 10.0**	**+5.6**
	comp=E,1.1nm,0.8s,mb3.8,baz=258,slow=8.8,SNR=9.0						
SONM	**Songino Array**	**32.81**	**48**	P	**P**	**10 46 10.0**	**+5.6**
AKASG	**Malin Array Be**	**36.42**	**316**	P	**P**	**10 46 33.8**	**-1.9**
	comp=E,0.4nm,0.3s,mb3.8,baz=96,slow=7.3,SNR=3.7						
AKASG	**Malin Array Be**	**36.42**	**316**	P	**P**	**10 46 33.8**	**-1.9**
FINES	**FINESS Array B**	**42.22**	**330**	P	**P**	**10 47 22.8**	**-1.1**
	comp=E,2.5nm,0.8s,mb3.9,baz=111,slow=7.6,SNR=3.1						
FINES	**FINESS Array B**	**42.22**	**330**	P	**P**	**10 47 22.8**	**-1.1**
NOA	**NORSAR Array B**	**48.87**	**326**	LR	LR	11 10 59.4	
	comp=E,64nm,19.3s,MS3.6,baz=0,slow=39						
TORD	**Torodi Ar. Bea**	**64.84**	**271**	P	**P**	**10 50 10.6**	**0.0**
	comp=E,0.6nm,0.8s,mb3.7,baz=59,slow=4.5,SNR=4.9						
TORD	**Torodi Ar. Bea**	**64.84**	**271**	P	**P**	**10 50 10.6**	**0.0**
WRA	**Warramunga Arr**	**79.57**	**120**	P	**P**	**10 51 38.5**	**-0.1**
	comp=E,0.6nm,0.7s,mb3.6,baz=322,slow=5.1,SNR=9.5						
WRA	**Warramunga Arr**	**79.57**	**120**	P	**P**	**10 51 38.5**	**-0.1**
ASAR	**Alice Springs**	**81.53**	**124**	P	**P**	**10 51 50.0**	**+1.0**
	comp=E,0.3nm,0.7s,mb3.4,baz=304,slow=5.2,SNR=2.9						
ASAR	**Alice Springs**	**81.53**	**124**	P	**P**	**10 51 50.0**	**+1.0**

MAN 29 10:48:32,9.˚62N×121.˚98E, h20km, mb4.7, ML3.6, MS3.6, 1C, Sulu Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIM	**Jordan**	**1.16**	**31**	*e*P	Pn	10 48 52.7	-0.5
GUIM				*e*S	Sb	10 49 08.8	+0.7
CUYO	**Cuyo Island**	**1.54**	**322**	*e*P	Pn	10 48 59.0	+0.7
TBP	**Tagbilaran**	**1.86**	**88**	*e*P	Pn	10 49 04.7	+1.9
IPIL	**Ipil**	**1.92**	**162**	*e*P	Pn	10 49 03.9	+0.4
RCP	**Roxas**	**2.07**	**21**	⇑*e*P	Pn	10 49 07.7	+2.1
RCP				*e*S	Sn	10 49 33.1	+2.3
PAGZ	**Pagadian**	**2.25**	**142**	*e*P	Pn	10 49 09.7	+1.7
MSLP	**Maasin**	**2.89**	**80**	*e*P	Pn	10 49 18.3	+1.4
BUSP	**Coron**	**2.94**	**324**	*e*P	Pn	10 49 18.6	+1.0
ENPP	**El Nido**	**2.96**	**302**	*e*P	Pn	10 49 19.4	+1.5

*NEIC **29** 10:53:23.2,32.˚45N×115.˚31W, h15km, ML3.3(ECX), ML3.0(PAS), After PAS.*
NEIC Felt near Calexico, California.
ECX 29 10:53:23.9±0.6, 32.˚44N×115.˚31W, h6km, MD3.1, ML3.2, 6C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGL	**Mount Signal**	**0.41**	**300**	⇑*i*P	Pg	10 53 30.9	-1.0
SNR	**Schaffner Ranc**	**0.43**	**345**	⇓*i*P	Pg	10 53 31.7	-0.5
COA	**Coachella**	**0.45**	**20**	⇓*i*P	Pg	10 53 31.9	-0.6
COK	**Cook Ranch**	**0.54**	**319**	⇓*i*P	Pg	10 53 33.2	-1.0
YUH	**Yuha Desert**	**0.56**	**291**	⇑*i*P	Pg	10 53 33.4	-1.3
YMD	**Yuma Desert**	**0.65**	**80**	⇑*i*P	Pg	10 53 35.4	-1.1
CRR	**Carrizo Plain**	**0.71**	**308**	⇓*i*P	Pg	10 53 36.0	-1.6
GLA	**Glamis**	**0.73**	**33**	*e*Pg	Pg	10 53 36.1	-1.8
GLA				*e*Sg	Sg	10 53 45.4	-1.9
ECBX	**El Chinero**	**0.99**	**167**	⇓*e*P	Pg	10 53 41.1	-1.8
ECBX				*e*S	Sg	10 53 54.1	-1.7
ECBX				⇓*e*		10 53 55.1	
	comp=E,368nm,0.8s						
ECBX				⇑*e*		10 53 56.7	
	comp=N,760nm,0.9s						
CBX	**Cerro Bola**	**1.16**	**264**	*e*P	Pg	10 53 44.5	-1.6
CBX				*e*S	Sg	10 53 59.9	-1.2
BAR	**Barrett**	**1.18**	**282**	*e*Pn	Pn	10 53 43.9	-3.0
BAR				*e*Sn	Sn	10 53 59.5	-3.7
SPX	**San Pedro Mart**	**1.40**	**186**	*e*PN	Pn	10 53 50.4	+0.4
SPX				⇑*e*		10 54 11.1	
	comp=N,152nm,0.7s						
PFO	**Pinyon Flat Ob**	**1.51**	**321**	*e*Pn	Pn	10 53 47.1	-4.4
PFO				*e*Sn	Sn	10 54 05.5	-6.0
MWC	**Mount Wilson**	**2.91**	**308**	*e*Pn	Pn	10 54 14.4	+3.7
MWC				*e*Sn	Sn	10 54 52.3	+6.3
PASC	**Pasadena Art C**	**2.96**	**306**	*e*Pn	Pn	10 54 17.6	+6.1
PASC				*e*Sn	Sn	10 54 52.6	+5.2
TUC	**Tucson**	**3.83**	**91**	*e*Pg	Pg	10 54 38.6	+1.3
TUC				*e*Sn	Sn	10 55 21.6	+13
WUAZ	**Wupatki**	**4.48**	**46**	*e*Pn	Pn	10 54 29.6	-2.7

*IDC **29** 10:54:01.4±1.5,6.˚38S×129.˚46E, h0km, mb3.9/3, mb1 3.9/6, mb1mx3.7/16, mbtmp3.8/6, ML3.7/3, Error ellipse: s-maj=80.6km s-min=23.6km az=79.0*
*NEIC **29** 10:54:02.9±0.9,6.˚41S×129.˚50E, h10km, mb4.4/1, Error ellipse: s-maj=26.0km s-min=12.1km az=70.0*
*ISCJB **29** 10:54:03.7±0.8,6.˚66S±0.˚07×129.˚2E±0.˚1, h33km, mb3.9/3, Error ellipse: s-maj=18.3km s-min=9.7km az=174.7*
ISC 29 10:54:06.1±0.8, 6.˚63S±0.˚07×129.˚3E±0.˚1, h35km, n14, σ0.˚70/16, mb3.9/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.94**	**197**	Pn	**Pn**	**10 56 58.9**	**+4.9**
	0.7nm,0.3s,baz=27,slow=14,SNR=20						
FITZ				Sn	**Sn**	**10 59 05.5**	**-0.4**
	0.7nm,0.3s,baz=105,slow=19,SNR=4.1						
FITZ	**Fitzroy Crossi**	**11.94**	**197**	Pn	**Pn**	**10 56 58.9**	**+4.9**
FITZ				Sn	**Sn**	**10 59 05.5**	**-0.4**
WRAB	**Tennant Creek**	**14.12**	**160**	*e*Pn	**Pn**	**10 57 23.3**	**-0.5**
WRAB				*e*Sn	Sx	10 59 47.5	
WRA	**Warramunga Arr**	**14.13**	**160**	Pn	**Pn**	**10 57 24.1**	**+0.3**
	0.2nm,0.3s,baz=338,slow=12,SNR=20						
WRA				Sn	Sx	10 59 49.1	
	0.8nm,0.3s,baz=345,slow=22,SNR=9.7						
WRA	**Warramunga Arr**	**14.13**	**160**	Pn	**Pn**	**10 57 24.1**	**+0.3**
WRA				Sn	Sx	10 59 49.1	
COEN	**Coen**	**15.51**	**119**	*e*Pn	**Pn**	**10 57 42.0**	**-0.4**
	6.8nm,0.3s						
COEN				*e*S	Sx	11 00 09.8	
ASAR	**Alice Springs**	**17.52**	**166**	P	**Pn**	**10 58 08.9**	**+1.1**
	0.3nm,0.3s,baz=345,slow=12,SNR=19						
ASAR				S	Sx	11 01 13.5	
	0.1nm,0.3s,baz=348,slow=26,SNR=4.1						
ASAR	**Alice Springs**	**17.52**	**166**	P	**Pn**	**10 58 08.9**	**+1.1**
ASAR				S	Sx	11 01 13.5	
SONM	**Songino Array**	**57.85**	**342**	P	**P**	**11 03 54.2**	**0.0**
	0.4nm,0.4s,mb3.8,baz=166,slow=8.6,SNR=5.8						
SONM	**Songino Array**	**57.85**	**342**	P	**P**	**11 03 54.2**	**0.0**
MKAR	**Makanchi Array**	**67.51**	**327**	P	**P**	**11 04 59.6**	**+0.9**
	0.9nm,0.4s,mb4.1,baz=119,slow=8.1,SNR=16						
MKAR	**Makanchi Array**	**67.51**	**327**	P	**P**	**11 04 59.6**	**+0.9**
ZALV	**Zalesovo Beam**	**70.92**	**334**	P	**P**	**11 05 18.6**	**-1.0**
	0.7nm,0.5s,mb3.9,baz=122,slow=5.4,SNR=3.5						
ZALV	**Zalesovo Beam**	**70.92**	**334**	P	**P**	**11 05 18.6**	**-1.0**

*ISCJB **29** 10:55:05.7±0.6, 37.˚25N±0.˚04×28.˚20E±0.˚04, h2km±11km, Error ellipse: s-maj=7.8km s-min=4.7km az=30.5*
*CSEM **29** 10:55:05.9±0.1, 37.˚23N×28.˚20E, h5km, ML2.0, Error ellipse: s-maj=2.9km s-min=2.3km az=22.0*
*DDA **29** 10:55:05.8, 37.˚22N×28.˚19E, h7km±1km, Md2.6*
*ISK **29** 10:55:05.3, 37.˚25N×28.˚20E, h7km, ML2.0*
ISC 29 10:55:06.1±0.6, 37.˚25N±0.˚04×28.˚21E±0.˚04, h4km±11km, n20, σ0.˚47/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.13**	**151**	PG	**Pg**	**10 55 08.5**	**-0.1**
YER				*e*SG	**Sg**	**10 55 10.8**	**+0.5**
YER	**Yerkesik**	**0.13**	**151**	*i* Pg	**Pg**	**10 55 08.5**	**-0.1**
YER				*e*Sg	**Sg**	**10 55 10.8**	**+0.5**
MLSB	**Milas**	**0.34**	**278**	*e*PG	**Pg**	**10 55 12.6**	**-0.1**
MLSB				*e*SG	**Sg**	**10 55 17.4**	**+0.2**
MLSB	**Milas**	**0.34**	**278**	*e*Pg	**Pg**	**10 55 12.6**	**-0.1**
MLSB				*e*Sg	**Sg**	**10 55 17.4**	**+0.2**
AYDN	**Tasoluk**	**0.49**	**328**	*i* P	**Pg**	**10 55 15.8**	**+0.3**
AYDN				*i* S	**Sg**	**10 55 21.1**	**-0.6**
AYDN	**Tasoluk**	**0.49**	**328**	*i* P	**Pg**	**10 55 15.8**	**+0.4**
AYDN				*i* S	**Sg**	**10 55 21.1**	**-0.7**
TURN	**Turunc**	**0.49**	**140**	*i* P	**Pg**	**10 55 14.6**	**-0.9**
TURN	**Turunc**	**0.49**	**140**	*i* P	**Pg**	**10 55 14.6**	**-0.9**
DAT	**Datca**	**0.72**	**224**	*e*PG	**Pg**	**10 55 19.8**	**-0.1**
DAT	**Datca**	**0.72**	**224**	*e*Pg	**Pg**	**10 55 19.8**	**-0.1**
BODT	**Bodrum**	**0.74**	**256**	*e*PG	**Pg**	**10 55 19.6**	**-0.6**
BODT				*e*SG	**Sg**	**10 55 30.4**	**+0.6**
BODT	**Bodrum**	**0.74**	**256**	*e*Pg	**Pg**	**10 55 19.6**	**-0.6**
BODT				*e*Sg	**Sg**	**10 55 30.4**	**+0.6**
DNZL	**Cakiroluk**	**0.80**	**56**	*i* P	**Pg**	**10 55 21.9**	**+0.5**
DNZL	**Cakiroluk**	**0.80**	**56**	*i* P	**Pg**	**10 55 22.0**	**+0.6**
GCAM	**G?zelcaml?**	**0.90**	**301**	*i* P	**Pg**	**10 55

KUBR	Kubataba	2.06	287	*e*Pn		Pn	11 07 25.8	-1.4
AKT	Akhty	2.12	146	*e*PN		Pg	11 07 36.0	+2.4
AKT				S		Sg	11 08 01.0	0.0
AKT	Akhty	2.12	146	*e*Pn		Pg	11 07 36.0	+2.4
AKT				Sb		Sg	11 08 01.0	0.0
SHAR	Shatzhatmas	2.57	283	⇑*i*PN		Pn	11 07 33.2	-1.0
SHAR				*i* S		Sn	11 08 03.0	-2.2
SHAR	Shatzhatmas	2.57	283	*i* Pn		Pn	11 07 33.2	-1.0
SHAR				*i* Sn		Sn	11 08 03.0	-2.2
KIV	Kislovodsk	2.61	287	⇑*e*PN		Pn	11 07 32.9	-1.8
KIV				*e*S		Sn	11 08 04.4	-1.7
KIV	Kislovodsk	2.61	287	*e*Pn		Pn	11 07 32.9	-1.8
KIV				*e*Sn		Sn	11 08 04.4	-1.7
AKH	Akhalkalaki	2.68	228	P		Sb	11 08 13.9	+0.6

ISCJB ***29*** *11:22:06.7±0.6,45°.55N±0°.03×15°.84E±0°.04,h14km±6km, Error ellipse: s-maj=5.7km s-min=4.8km az=44.9*
CSEM ***29*** *11:22:06.0±0.2,45°.55N×15°.86E,h30km,ML2.7/6,Error ellipse: s-maj=4.4km s-min=3.8km az=68.0*
LJU ***29*** *11:22:07.0,45°.53N×15°.83E,h4km,ML2.1*
VIE ***29*** *11:22:11.9±0.5,45°.77N×15°.55E,h11km±2km,mb1.9/1, ML1.9/3,Error ellipse: s-maj=3.5km s-min=2.4km az=130.0 23 km SSE of Krsko*

ISC 29 11:22:07.2±0.6, 45°.57N±0°.03×15°.84E±0°.05, h16km±6km, n29,σ0s73/51, 2C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GCIS	Gornji Cirnik	0.34	333	*i* Pg		Pg	11 22 14.1	-0.1
GCIS				*i* Sg		Sg	11 22 19.3	+0.4
GCIS	comp=Z,93nm,0.1s							
GCIS	Gornji Cirnik	0.34	333	*i* Pg		Pg	11 22 14.1	-0.1
GCIS	comp=Z,93nm,0.1s			*i* Sg		Sg	11 22 19.3	+0.3
CRES	Cresnjev	0.37	314	*i* Pg		Pg	11 22 15.1	+0.1
CRES				*i* Sg		Sg	11 22 20.5	+0.4
CRES	comp=Z,78nm,0.1s							
CRES	Cresnjev	0.37	314	*i* Pg		Pg	11 22 15.1	+0.2
CRES	comp=Z,78nm,0.1s			*i* Sg		Sg	11 22 20.5	+0.4
SISC	Sisak	0.38	104	*e*Pg		Pg	11 22 14.6	-0.5
SISC				Sg		Sg	11 22 20.1	-0.2
SISC	Sisak	0.38	104	*e*Pg		Pg	11 22 14.6	-0.5
SISC				Sg		Sg	11 22 20.1	-0.3
BOJS	Bojanci	0.42	261	*i* Pg		Pg	11 22 15.5	-0.3
BOJS				*i* Sg		Sg	11 22 21.2	-0.2
BOJS	comp=Z,47nm,0.1s							
BOJS	Bojanci	0.42	261	*i* Pg		Pg	11 22 15.5	-0.2
BOJS	comp=Z,47nm,0.1s			*i* Sg		Sg	11 22 21.2	-0.3
GOLS	Golise	0.47	341	*i* Pg		Pg	11 22 17.1	+0.5
GOLS				*i* Sg		Sg	11 22 23.8	+0.8
GOLS	comp=Z,15nm,0.1s							
GOLS	Golise	0.47	341	*i* Pg		Pg	11 22 17.1	+0.5
GOLS	comp=Z,15nm,0.1s			*i* Sg		Sg	11 22 23.8	+0.8
LEGS	Legarje	0.53	316	*i* Pg		Pg	11 22 17.9	+0.1
LEGS				*i* Sg		Sg	11 22 25.1	+0.2
LEGS	Legarje	0.53	316	*i* Pg		Pg	11 22 17.9	+0.2
LEGS				*i* Sg		Sg	11 22 25.1	+0.2
DOBS	Dobrina	0.64	336	*i* Pg		Pg	11 22 21.0	+1.2
DOBS	Dobrina	0.64	336	*i* Pg		Pg	11 22 21.0	+1.2
GBRS	Gornja Briga	0.73	267	*i* Pg		Pg	11 22 21.1	-0.3
VISS	Visnje	0.74	289	*i* Pg		Pg	11 22 21.6	-0.1
VISS				*i* Sg		Sg	11 22 32.3	+0.8
VISS	comp=Z,16nm,0.1s							
VISS	Visnje	0.74	289	*i* Pg		Pg	11 22 21.6	-0.1
VISS	comp=Z,16nm,0.1s			*i* Sg		Sg	11 22 32.3	+0.8
PDKS	Podkum	0.77	310	*i* Pg		Pg	11 22 22.4	+0.2
PDKS	Podkum	0.77	310	*i* Pg		Pg	11 22 22.4	+0.1
NVLJ	Novalja	1.22	215	*e*Pg		Pn	11 22 29.4	-0.2
NVLJ				Sg		Sg	11 22 47.0	+0.4
NVLJ	Novalja	1.22	215	*e*Pg		Pn	11 22 29.3	-0.3
NVLJ				Sg		Sg	11 22 47.0	+0.4
SOKA	Soboth	1.25	333	⇓*i*Pg		Pn	11 22 29.8	-0.2
SOKA	comp=Z,4.2nm,0.2s			⇓*i*Sg		Sg	11 22 45.8	-1.7
SOKA	Soboth	1.25	333	Pg		Pn	11 22 29.8	-0.1
SOKA	comp=Z,4.2nm,0.2s			Sg		Sg	11 22 45.8	-1.7
OBKA	Obir	1.30	317	⇓*i*Pg		Pg	11 22 32.2	-0.1
OBKA				⇓*i*Sg		Sg	11 22 45.4	-3.9
OBKA	comp=Z,12nm,0.3s							
OBKA	Obir	1.30	317	Pg		Pg	11 22 32.2	-0.2
OBKA	comp=Z,12nm,0.3s			Sg		Sg	11 22 45.4	-3.9
VOY	Vojsko	1.44	289	*e*Pg		Pn	11 22 33.7	+1.1
VOY	Vojsko	1.44	289	*e*Pg		Pn	11 22 33.7	+1.1
MYKA	Terra Mystica	1.86	306	⇑*i*Pg		Pg	11 22 42.6	-0.4
MYKA	comp=Z,2.5nm,0.3s			⇑*i*Sg		Sg	11 23 04.8	-2.5
MYKA	Terra Mystica	1.86	306	Pg		Pg	11 22 42.6	-0.4
MYKA	comp=Z,2.5nm,0.3s			Sg		Sg	11 23 04.8	-2.4

IDC ***29*** *11:43:39.7±0.6,35°.90N×69°.27E,h0km,mb4.5/21, mb1 4.6/25,mb1mx4.5/29,mbtmp4.5/25,ML4.1/3,MS3.6/17, Ms1 3.6/17,ms1mx3.4/44,Error ellipse: s-maj=15.0km s-min=11.5km az=12.0*
BJI ***29*** *11:43:40.6,36°.24N×68°.93E,h19km,mB5.0/23,mb4.8/37, ML4.8/2,Ms4.5/24,Ms7 4.2/22*
ISCJB ***29*** *11:43:40.5±0.2,36°.04N±0°.02×69°.30E±0°.02,h10km, mb4.7/82,MS3.7/21,Error ellipse: s-maj=3.1km s-min=2.4km az=35.1*
NEIC ***29*** *11:43:41.8±0.3,35°.98N×69°.26E,h10km,mb4.9/15,Error ellipse: s-maj=7.5km s-min=6.6km az=149.0*
NNC ***29*** *11:43:41.4±3.2,36°.20N×68°.91E,h0km,mb4.9,mpv5.0, Error ellipse: s-maj=28.5km s-min=21.8km az=174.0*
MOS ***29*** *11:43:43.7±1.2,36°.07N×69°.33E,h33km,mb5.0/29,Error ellipse: s-maj=6.7km s-min=4.5km az=102.6*

ISC 29 11:43:42.3±0.2, 36°.01N±0°.02×69°.29E±0°.02, h10km, (h13km±1.3km: pP-P), n315,σ15s21/329, mb4.7/82, MS3.7/21, 42C-18D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KBL	Kabul	1.48	188	*e*Pn		Pn	11 44 09.4	+0.5
KBL				*e*Sn		Sn	11 44 27.5	-0.8
KBL	Kabul	1.48	188	*e*P*		Pb	11 44 09.4	-0.4
KBL				*e*			11 44 27.5	
CEP	Cherat	3.06	135	⇑P		Pb	11 44 36.7	-0.1
CEP				S		Sg	11 45 23.0	+2.4
THW	Thamme Wali	3.79	147	P		Pn	11 44 45.2	+4.5
CHCP	Chirah Chowk	4.02	125	⇑P		Pn	11 44 49.6	+5.7
SARP	Sargodha	4.95	144	P		Pn	11 45 00.4	+3.8
KSH	Kashi	6.34	55	Pn		Pn	11 45 15.0	-0.8
KSH				Sn		Sn	11 46 25.0	-3.3
KSH	comp=N,700nm,0.8s			smax				
KSH	comp=E,410nm,0.7s			smax				
KK31	Karatay Array	7.15	7	⇓P		Pn	11 45 27.7	+0.9
KK31	comp=E,66nm,0.8s			⇑S		Sn	11 46 47.4	-0.6
KK31	comp=E,30nm,0.5s							
KK31	Karatay Array	7.15	7	PN		Pn	11 45 27.7	+0.9
KK31	comp=Z,31nm,0.3s			pmax	pmax			
KKAR	Karatay Array	7.15	7	*e*Pn		Pn	11 45 28.0	+1.2
KKAR	Karatay Array	7.15	7	*e*PN		Pn	11 45 28.0	+1.2
UCH	Uchtor	7.42	32	P		Pn	11 45 33.5	+3.0
	SNR=27							
BHK	Bhakra	7.50	126	*ex*		Pn	11 45 37.0	+5.4
BHK				*ex*		x	11 47 31.4	
EKS2	Erkin-Say	7.50	26	P		Pn	11 45 33.9	+2.3
	SNR=65							
EKS2	Erkin-Say	7.50	26	*e*Pn		Pn	11 45 33.9	+2.3
EKS2	Erkin-Say	7.50	26	*e*P		Pn	11 45 33.9	+2.3
KZA	Kyzart	7.63	36	P		Pn	11 45 36.7	+3.3
	SNR=31							
AAK	Ala-Archa	7.75	30	P		Pn	11 45 37.8	+2.8
	SNR=148							
AAK	Ala-Archa	7.75	30	*e*Pn		Pn	11 45 37.5	+2.5
AAK	Ala-Archa	7.75	30	*i* P		Pn	11 45 37.7	+2.7
SDNR	Sundarnagar	7.81	123	*e*PKP		Pn	11 45 40.0	+4.0
SDNR				*ex*		x	11 48 08.0	
KBK	Karagaybulak	7.95	32	P		Pn	11 45 40.6	+2.8
	SNR=49							
FRU	Bishkek	7.96	30	⇑*i*P		Pn	11 45 41.0	+3.0
FRU				*i* S		Sn	11 47 08.0	-0.1
FRU	comp=Z,300nm,2.0s			pmax	pmax			
FRU	comp=E,720nm,1.9s			smax				
CHMS	Chumysh	8.15	29	P		Pn	11 45 42.8	+2.2
	SNR=127							
SMLA	Simla	8.18	124	*i* P		Pn	11 45 43.8	+2.8
SMLA				*i* x		x	11 47 15.1	
SMLA	comp=E,1μm,0.2s			AML	AML		11 47 18.7	
SMLA	comp=N,1μm,0.2s			AML	AML		11 47 18.8	
ULHL	Ulahol	8.24	39	P		Pn	11 45 44.6	+2.8
	SNR=33							
USP	Ospenovka	8.29	27	P		Pn	11 45 44.0	+1.6
	SNR=97							
TKM2	Tokmak 2	8.45	33	P		Pn	11 45 47.0	+2.4
	SNR=136							
TKM2	Tokmak 2	8.45	33	⇑P		Pn	11 45 47.1	+2.4
TKM2	comp=N,103nm,0.9s			⇑S		Sn	11 47 22.0	+2.0
TKM2	comp=N,66nm,0.8s							
TKM2	Tokmak 2	8.45	33	*e*Pn		Pn	11 45 47.0	+2.3
TKM2	Tokmak 2	8.45	33	*i* P		Pn	11 45 47.0	+2.4
KKR	Kurukshetra	8.73	132	*e*PKP		Pn	11 45 51.3	+2.7
DDI	Dehra Dun	9.28	125	*ex*		x	11 46 01.0	
DDI				*ex*		x	11 47 42.5	
KHET	Khetri	9.65	143	*e*PKP		Pn	11 46 00.5	-0.7
KHET				*e*S		Sn	11 47 39.1	-10
NDI	New Delhi	9.91	135	*e*PKP		Pn	11 46 04.3	-0.4
NDI				*e*S		Sn	11 47 44.9	-11
KUDL	Kundal	9.93	140	*e*PKP		Pn	11 46 06.3	+1.3
AYAN	Aya Nagar	10.01	136	*e*PKP		Pn	11 46 05.9	-0.2
PTH	Pithoragarh	11.22	122	*e*PKP		Pn	11 46 26.1	+3.4
PTH				*ex*		x	11 48 31.3	
AGRA	Agra	11.44	138	*e*PKP		Pn	11 46 26.0	+0.4
AGRA				*e*S		Sn	11 48 21.2	-12
AGRA	comp=E,132nm,0.4s			AML	AML		11 48 37.6	
AGRA	comp=N,80nm,0.2s			AML	AML		11 48 39.8	
PYUN	Piuthan	14.03	120	*e*P		Pn	11 47 00.8	-0.3
	comp=N,435nm,1.1s							
DANN	Dangsing	14.43	118	*e*P		Pn	11 47 06.1	-0.4
	comp=N,325nm,1.0s							
MK31	Makanchi Array	14.51	38	⇑P		Pn	11 47 06.1	-1.4
	comp=N,22nm,0.8s							
MK31	Makanchi Array	14.51	38	*e*Pn		Pn	11 47 06.4	-1.2
MK31	Makanchi Array	14.51	38	*e*P		Pn	11 47 06.4	-1.2
MKAR	Makanchi Array	14.51	38	Pn		Pn	11 47 06.0	-1.6
	comp=N,0.6nm,0.3s,baz=225,slow=15,SNR=33							
MKAR				LR		LR	11 53 18.9	
	comp=N,148nm,18.5s,baz=229,slow=40							
MKAR	Makanchi Array	14.51	38	*e*Pn		Pn	11 47 06.5	-1.1
MKAR	Makanchi Array	14.51	38	P		Pn	11 47 06.0	-1.6
MKAR	comp=Z,1.0nm,0.3s			pmax	pmax			
KOLN	Koldanda	14.66	120	*e*P		Pn	11 47 09.2	-0.4
	comp=Z,58nm,0.5s							
AB31	Akbulak array	14.90	336	⇑P		Pn	11 47 08.9	-3.9
	comp=Z,24nm,0.6s,baz=151,slow=13							
AB31				⇑S		Sn	11 49 52.1	-5.9
	comp=Z,26nm,0.8s,baz=152,slow=24							
AB31	Akbulak array	14.90	336	P		Pn	11 47 08.9	-4.0
AB31				S		Sn	11 49 48.3	-10
AB31	comp=Z,31nm,0.6s			pmax	pmax			
AB31	comp=Z,10.0nm,0.4s			smax				
ABKAR	Akbulak array	14.90	336	*e*Pn		Pn	11 47 09.0	-3.8
ABKAR				*e*Sn		Sn	11 49 43.7	-14
GKN	Gorkha	15.26	117	*e*P		Pn	11 47 16.6	-1.1
	comp=Z,628nm,1.0s							
DMN	Daman	15.82	118	*e*P		Pn	11 47 24.0	-1.1
	comp=Z,230nm,0.8s							
KKN	Kakani	15.84	117	*e*P		Pn	11 47 24.4	-1.0
	comp=Z,274nm,0.8s							
KKN				*e*S		Sn	11 50 13.5	-7.6
KURBB	Kurchatov Arra	16.06	22	P		Pn	11 47 24.8	-3.2
	comp=Z,9.2nm,0.7s							
PKI	Pulchoki	16.06	117	*e*P		Pn	11 47 27.2	-1.0
	comp=Z,510nm,0.9s							
PKI				*e*S		Sn	11 50 19.2	-7.2
WMQ	Urumqi	16.11	55	P		Pn	11 47 28.8	+0.1
WMQ				pP	pP		11 47 32.3	-2.6
WMQ				sP	sP		11 47 35.8	-0.4
WMQ				PP			11 47 42.0	
WMQ				S		Sn	11 50 27.0	-0.4
WMQ	comp=Z,27nm,0.9s			pmax	pmax			
WMQ	comp=Z,260nm,5.1s			LR	LR			
WMQ	comp=N,500nm,6.5s			LR	LR			
WMQ	comp=E,330nm,5.7s			LR	LR			
WMQ	comp=Z,170nm,23.2s							
KURK	Kurchatov	16.17	22	Pn		Pn	11 47 24.6	-4.9
	comp=Z,0.2nm,0.3s,baz=210,slow=12,SNR=73							
KURK				LR		LR	11 54 33.4	
	comp=Z,146nm,21.4s,baz=205,slow=40							
KURK	Kurchatov	16.17	22	*e*Pn		Pn	11 47 26.1	-3.4
KURK	Kurchatov	16.17	22	*c i*P		Pn	11 47 25.8	-3.6
KURK	comp=Z,18nm,1.0s			pmax	pmax			
GUN	Gumba	16.21	115	*e*P		Pn	11 47 30.2	+0.1
	comp=Z,338nm,0.9s							
AKTO	Aktyubinsk	16.57	334	⇑P		Pn	11 47 32.2	-2.3
	comp=Z,8.9nm,0.8s							
AKTO				⇑S		Sn	11 50 32.1	-6.3
	comp=Z,2.5nm,0.8s							
AKTO	Aktyubinsk	16.57	334	Pn		Pn	11 47 31.8	-2.7
	comp=Z,1.6nm,0.3s,baz=150,slow=13,SNR=69							
AKTO				Sn		Sn	11 50 31.5	-6.8
	comp=Z,0.8nm,0.3s,baz=15,slow=20,SNR=3.3							
AKTO	Aktyubinsk	16.57	334	Pn		Pn	11 47 31.8	-2.7
AKTO				Sn		Sn	11 50 31.5	-6.8
AKTO	Aktyubinsk	16.57	334	P		Pn	11 47 32.2	-2.3
AKTO	comp=Z,8.0nm,0.6s			pmax	pmax			
JIRN	Jiri	16.58	115	*e*P		Pn	11 47 34.7	-0.1
	comp=Z,60nm,0.7s							
VOSK	Vostochnaya	16.75	4	⇑P		Pn	11 47 34.0	-2.9
	comp=Z,17nm,0.8s							
ZRNK	Zerenda	16.94	359	⇑P		Pn	11 47 36.7	-2.5
	comp=Z,23nm,0.8s							
ZRNK	Zerenda	16.94	359	P		Pn	11 47 35.3	-3.9
ZRNK	comp=Z,23nm,0.8s			pmax	pmax			
BVA0	Borovoye Array	17.03	2	P		Pn	11 47 38.1	-2.2
	comp=Z,4.2nm,1.0s,baz=176,slow=14,SNR=71							
BVA0	Borovoye Array	17.03	2	*i* P		Pn	11 47 38.1	-2.3
BVA0	comp=Z,9.0nm,1.2s			pmax	pmax			
BVAR	Borovoye Array	17.03	2	P		Pn	11 47 37.8	-2.5
	comp=Z,0.8nm,0.3s,baz=178,slow=14,SNR=24							
BVAR				LR		LR	11 55 03.3	
	comp=Z,346nm,18.7s,baz=223,slow=40							
BVAR	Borovoye Array	17.03	2	P		Pn	11 47 37.8	-2.5
BVAR	Borovoye Array	17.03	2	P		Pn	11 47 37.8	-2.6
BRVK	Borovoye	17.06	2	⇑P		Pn	11 47 38.4	-2.3
	comp=Z,90nm,1.4s							
BRVK	Borovoye	17.06	2	*e*Pn		Pn	11 47 38.5	-2.3
	comp=Z,156nm,1.8s							
BRVK	Borovoye	17.06	2	*c i*P		Pn	11 47 37.6	-3.1
BRVK	comp=Z,51nm,1.2s			pmax	pmax			
RAMN	Ramite	17.29	117	*e*P		Pn	11 47 41.6	-2.1
	comp=Z,114nm,0.6s							
TAPN	Taplejung	17.87	114	*e*P		Pn	11 47 50.7	-0.3
	comp=Z,367nm,0.9s							
ODAN	Odare	17.91	116	*e*P		Pn	11 47 51.4	-0.1
	comp=Z,388nm,1.0s							
MAK	Makhachkala	18.17	299	*e*P		Pn	11 47 55.4	+0.9
LSA	Lhasa	19.39	103	P		Pn	11 48 13.0	+3.5
LSA	Lhasa	19.39	103	*e*P		Pn	11 48 13.3	+3.8
	comp=Z,55nm,0.8s							
LSA	Lhasa	19.39	103	*e*P		Pn	11 48 13.3	+3.8
LSA				pmax	pmax			
	comp=Z,55nm,0.8s							
DGRG	David-gareji	19.41	293	P		Pn	11 48 09.5	-0.2
GNI	Garni	19.75	289	P		Pn	11 48 11.5	-2.1
	comp=Z,1.4nm,0.3s,baz=34,slow=9.9,SNR=7.6							
GNI				LR		LR	11 58 11.8	
	comp=Z,105nm,19.0s,baz=78,slow=44							
GNI	Garni	19.75	289	P		Pn	11 48 11.6	-2.1
GNI	Garni	19.75	289	P		Pn	11 48 11.6	-2.0
TBLG	Delisi	19.92	294	*e*P		Pn	11 48 16.2	+0.5
TBLG	Delisi	19.92	294	P		Pn	11 48 16.2	+0.5
HYB	Hyderabad	20.26	154	*i* P		P	11 48 20.0	+2.1
HYB				*e*			11 48 24.5	
HYB				*e*S		S	11 52 05.0	-0.1
BHD	Baghdad	20.67	270	*ex*		x	11 48 15.0	
BHD				*ex*		x	11 51 53.0	
BHD				*ex*		x	11 52 17.0	
BHD				*ex*		x	11 56 51.0	
BHD				*ex*		x	11 58 47.0	
ZEI	Tsey	20.71	297	*e*P		P	11 48 23.9	+1.3
ZEI	comp=Z,9.0nm,0.5s			pmax	pmax			
AKH	Akhalkalaki	20.81	293	P		P	11 48 25.4	+1.7
ZAA0	Zalesovo Array	20.95	26	*e*P		P	11 48 24.9	-0.2
ZALV	Zalesovo Beam	20.95	26	P		P	11 48 24.9	-0.2
	comp=Z,72nm,0.6s,baz=217,slow=10,SNR=232							
ZALV				LR		LR	11 57 29.8	
	comp=Z,185nm,18.9s,MS3.5,baz=138,slow=39							
ZALV	Zalesovo Beam	20.95	26	P		P	11 48 24.9	-0.2
ZALV	Zalesovo Beam	20.95	26	P		P	11 48 24.9	-0.2
ONI	Oni	21.00	296	P		P	11 48 27.6	+1.8
NVS	Novosibirsk	21.15	23	⇑*i*P		P	11 48 25.7	-1.5
NVS				*i* S		S	11 52 19.1	-3.2
NVS	comp=N,39nm,1.0s			pmax	pmax			
NVS	comp=E,15nm,1.0s			pmax	pmax			
NVS	comp=Z,65nm,1.0s,mb4.9			pmax	pmax			
NVS	comp=N,28nm,2.1s			smax				
NVS	comp=E,7.0nm,1.5s			smax				
SVE	Sverdlovsk	21.63	347	⇑*i*P		P	11 48 31.9	-0.5
SVE				*e*S		S	11 52 22.6	-9.0
SVE				*e*			11 52 56.0	
SVE	comp=Z,42nm,1.1s,mb4.8			pmax	pmax			
SVE	comp=Z,531nm,9.0s			MLR	MLR			
ARU	Arti	21.68	344	*e*P		P	11 48 29.1	-3.9
	comp=Z,54nm,0.9s,mb5.0							
ARU	Arti	21.68	344	*d i*P		P	11 48 34.1	+1.1
ARU				*e*			11 48 51.9	
ARU				PPP			11 49 03.9	
ARU				S		S	11 52 32.6	-0.1
ARU				SS			11 52 56.5	
ARU				SSS			11 53 12.3	
ARU	comp=Z,89nm,1.2s,mb5.1			pmax	pmax			
KIV	Kislovodsk	21.81	299	*e*P		P	11 48 36.2	+1.8
	comp=Z,23nm,0.8s,mb4.7							
KIV	Kislovodsk	21.81	299	⇑*i*P		P	11 48 33.5	-1.0
KIV				*e*			11 48 55.3	
KIV	comp=Z,23nm,1.0s,mb4.6			pmax	pmax			
SHL	Shillong	21.97	112	*e*PKP		P	11 48 35.4	-0.9
SHL				*e*S		S	11 52 35.4	-3.5
GTA	Gaotai	24.33	73	*e*P		P	11 49 03.0	+3.0
GTA				pP			11 49 07.8	
GTA				sP	sP		11 49 10.0	+5.7
GTA				S		S	11 53 26.0	+6.8
GTA				sS	sS		11 53 32.8	+8.6
GTA	comp=Z,21nm,1.6s,mb4.3			pmax	pmax			
GTA	comp=Z,190nm,5.7s			pmax	pmax			
GTA	comp=N,220nm,13.3s,MS4.1			LR	LR			
GTA	comp=E,360nm,14.2s,MS4.1			LR	LR			
GTA	comp=Z,330nm,15.4s,MS3.9			LR	LR			
SOKR	Solikamsk	24.94	345	*c i*P		P	11 49 06.0	+0.6
SOKR	comp=Z,30nm,1.0s,mb4.8			pmax	pmax			
ANN	Anapa	25.67	300	*e*P		P	11 49 13.4	+1.2
ANN	comp=Z,49nm,1.0s,mb5.0			pmax	pmax			
VSR	Storozhevoye	26.35	315	*e*P		P	11 49 17.5	-0.7
VSR	comp=N,10.0nm,0.9s			pmax	pmax			
VSR	comp=Z,20nm,0.9s,mb4.7			pmax	pmax			
VSR	comp=E,40nm,1.3s			pmax	pmax			
MOY	Mondy	27.43	45	*e*P		P	11 49 34.4	+6.4
MOY	comp=Z,27nm,1.5s,mb4.6			pmax	pmax			
LZH	Lanzhou	27.85	80	*e*P		P	11 49 34.0	+2.1
LZH				pP	pP		11 49 38.5	+3.5
LZH				sP	sP		11 49 40.5	+4.3
LZH	comp=Z,20nm,1.2s,mb4.6			pmax	pmax			
MMAI	Mount Meron Ar	28.00	274	LR		LR	12 03 56.2	
	comp=Z,40nm,18.4s,MS3.0,baz=75,slow=44							
BR131	Keskin Array S	28.27	288	*e*P		P	11 49 36.4	+0.7
	comp=Z,1.9nm,0.6s,mb3.9							
BRTR	Keskin Array B	28.27	288	P		P	11 49 36.4	+0.7
	comp=Z,2.2nm,0.7s,mb3.9,baz=105,slow=10,SNR=9.2							
BRTR	Keskin Array B	28.27	288	P		P	11 49 36.4	+0.7
BRTR	Keskin Array B	28.27	288	P		P	11 49 36.4	+0.7
ZAK	Zakamensk	28.35	49	⇑*i*P		P	11 49 38.2	+2.0
ZAK				*e*			11 50 31.9	
ZAK	comp=Z,7.0nm,1.0s,mb4.2			pmax	pmax			
CD2	Chengdu	29.10	90	P		P	11 49 44.5	+1.4
CD2				pP	pP		11 49 48.8	+2.6
CD2				sP	sP		11 49 51.5	+4.1
CD2				PP	PP		11 50 38.3	-10
CD2				S	S		11 54 34.5	-0.4
CD2				SS	SS		11 56 03.0	-35
CD2	comp=Z,20nm,0.5s,mb5.1			pmax	pmax			
CD2	comp=Z,190nm,5.9s			pmax	pmax			
CD2	comp=N,400nm,10.7s			LR	LR			
CD2	comp=Z,260nm,10.7s,MS4.1			LR	LR			
MOS	Moscow	29.19	322	*e*P		P	11 49 42.1	-1.5
OBN	Obninsk	29.43	321	P		P	11 49 45.8	0.0
	comp=Z,25nm,0.9s,mb5.0							
OBN	Obninsk	29.43	321	*e*P		P	11 49 45.6	-0.1
OBN				*e*			11 50 40.4	
OBN	comp=Z,50nm,1.6s,mb5.0			pmax	pmax			
OBN	comp=Z,100nm,15.0s,MS3.6			MLR	MLR			
EIL	Elat	29.43	268	LR		LR	12 04 21.5	
	comp=Z,54nm,20.2s,MS3.2,baz=88,slow=42							
SONM	Songino Array	29.75	55	P		P	11 49 49.7	+1.1
	comp=Z,6.8nm,0.8s,mb4.4,baz=258,slow=9.2,SNR=43

CHTO Chiang Mai 31.23 115 *e*P Px 11 50 12.9
KLMR Klimovskoe 31.25 332 *e*P **P** **11 49 58.1 -3.7**
KLMR pmax pmax
comp=Z,24nm,1.1s,mb4.9
CMAR Chiang Mai Arr 31.46 116 P **P** **11 50 04.5 +0.4**
comp=Z,3.6nm,1.0s,mb4.2,baz=295,slow=8.7,SNR=13
CMAR PcP PcP 11 52 56.5 -0.7
comp=Z,1.7nm,0.8s,baz=292,slow=4.3,SNR=5.6
CMAR LR LR 12 05 08.7
comp=Z,68nm,19.5s,MS3.3,baz=350,slow=41
CMAR Chiang Mai Arr 31.46 116 P **P** **11 50 04.5 +0.4**
CMAR PcP PcP 11 52 56.5 -0.7
CMAR Chiang Mai Arr 31.46 116 P **P** **11 50 04.5 +0.5**
CMAR 11 52 56.5
AKASG Malin Array Be 32.19 310 P **P** **11 50 09.4 -0.7**
comp=Z,20nm,0.7s,mb5.0,baz=86,slow=7.3,SNR=50
AKASG Malin Array Be 32.19 310 P **P** **11 50 09.4 -0.7**
AKASG Malin Array Be 32.19 310 P **P** **11 50 09.5 -0.6**
AKBB Malin Array Si 32.19 310 *e*P **P** **11 50 09.6 -0.5**
AKBB Malin Array Si 32.19 310 *e*P **P** **11 50 09.6 -0.5**
KIEV Kiev 32.20 310 *e*P **P** **11 50 09.6 -0.7**
comp=Z,19nm,0.9s,mb4.9
KIEV Kiev 32.20 310 *e*P **P** **11 50 09.6 -0.6**
KIEV pmax pmax
comp=Z,19nm,0.9s,mb4.9
GYA Guiyang 33.17 96 P **P** **11 50 20.0 +1.0**
GYA PP PP 11 51 30.3 -3.7
GYA PcP PcP 11 53 02.8 +1.0
GYA S **S** **11 55 38.0 -0.7**
GYA ScP ScP 11 56 46.0 -0.2
GYA pmax pmax
comp=Z,20nm,0.9s,mb5.0
GYA pmax pmax
comp=Z,120nm,4.6s
GYA LR LR
comp=N,570nm,16.4s,MS4.5
GYA LR LR
comp=E,480nm,17.9s,MS4.5
GYA LR LR
comp=Z,520nm,16.6s,MS4.3
HHC Hu-ho-hao-te 33.23 69 *e*P **P** **11 50 20.0 +0.6**
HHC sP sP 11 50 27.5 +3.8
HHC PP PP 11 51 31.5 -2.9
HHC PcP PcP 11 53 02.5 +0.7
HHC S **S** **11 55 39.5 +0.3**
HHC ScS ScS 12 00 44.0 -2.6
HHC pmax pmax
comp=Z,19nm,0.6s,mb5.2
HHC pmax pmax
comp=Z,79nm,4.5s
HHC LR LR
comp=N,230nm,9.1s
HHC LR LR
comp=E,220nm,11.1s
HHC LR LR
comp=Z,180nm,11.7s,MS4.0
VRI Vrincioaia 33.28 301 ⇑P **P** **11 50 21.1 +1.3**
VRI Vrincioaia 33.28 301 ⇑*i*P **P** **11 50 21.1 +1.3**
PLOR Plostina 33.34 301 ⇓P **P** **11 50 22.1 +1.9**
PLOR Plostina 33.34 301 ⇓*i*P **P** **11 50 22.1 +1.9**
TESR 33.36 302 ⇑*i*P **P** **11 50 20.9 +0.4**
MLR Muntele Rosu 33.82 300 LR LR 12 06 54.0
comp=Z,48nm,18.4s,MS3.2,baz=302,slow=41
MLR Muntele Rosu 33.82 300 ⇓P **P** **11 50 26.9 +2.4**
MLR Muntele Rosu 33.82 300 ⇓*i*P **P** **11 50 26.9 +2.4**
BURAR Bucovina Array 34.40 304 ⇓P **P** **11 50 30.5 +1.0**
BURAR Bucovina Array 34.40 304 ⇓*i*P **P** **11 50 30.5 +1.0**
BUR08 Bucovina Ar. S 34.41 304 *e*P **P** **11 50 30.2 +0.6**
VOIR 34.45 300 ⇑P **P** **11 50 30.5 +0.5**
VOIR 34.45 300 ⇑*i*P **P** **11 50 30.5 +0.5**
LVV L'vov 35.35 307 *e*P **P** **11 50 37.6 -0.1**
JOF Joensuu 35.62 331 *e*P **P** **11 50 38.4 -1.4**
JOF pmax pmax
comp=Z,26nm,0.6s,mb5.3
JOF Joensuu 35.62 331 *ep* **P** **11 50 38.4 -1.4**
comp=Z,26nm,0.6s,mb5.3
VSU Vasula 35.72 322 ⇑*i*P **P** **11 50 40.2 -0.5**
VSU pmax pmax
comp=Z,32nm,1.1s,mb5.2
GZR Gura Zlata 36.05 300 ⇑P **P** **11 50 46.5 +2.8**
GZR Gura Zlata 36.05 300 ⇑*i*P **P** **11 50 46.5 +2.8**
DRGR 36.08 302 ⇑P **P** **11 50 45.1 +1.1**
DRGR 36.08 302 ⇑*i*P **P** **11 50 45.1 +1.1**
BOD Bodaibo 36.60 39 *e*P **P** **11 50 48.9 +0.6**
BOD pmax pmax
comp=Z,17nm,0.9s,mb4.9
BZS Buzias 36.86 300 ⇓P **P** **11 50 49.0 -1.6**
BZS Buzias 36.86 300 ⇓*i*P **P** **11 50 49.0 -1.6**
CRVS Cervenica-Dubn 36.97 306 *e*P **P** **11 50 54.9 +3.4**
CRVS Cervenica-Dubn 36.97 306 *e*P **P** **11 50 54.9 +3.4**
FINES FINESS Array B 37.13 327 P **P** **11 50 51.6 -1.1**
comp=Z,16nm,0.7s,mb5.0,baz=110,slow=11,SNR=31
FINES FINESS Array B 37.13 327 P **P** **11 50 51.6 -1.1**
FINES FINESS Array B 37.13 327 P **P** **11 50 51.7 -1.0**
KAF Kangasniemi 37.30 328 *e*P **P** **11 50 52.4 -1.8**
KAF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
KAF Kangasniemi 37.30 328 *ep* **P** **11 50 52.4 -1.8**
comp=Z,10.0nm,0.7s,mb4.8
KECS Kecovo 37.60 305 *e*P **P** **11 50 58.0 +1.1**
KECS Kecovo 37.60 305 *e*P **P** **11 50 58.0 +1.1**
NIE Niedzica 37.74 306 *e*P **P** **11 50 59.2 +1.2**
NIE Niedzica 37.74 306 *e*P **P** **11 50 59.2 +1.2**
WHN Wuhan 37.80 85 P **P** **11 50 00.0 +1.2**
PSZ Piszkesteto 38.00 304 ⇓P **P** **11 50 01.8 +1.6**
PSZ Piszkesteto 38.00 304 ⇓*i*P **P** **11 50 01.8 +1.6**
OJC Ojcow 38.11 308 *e*P **P** **11 50 01.6 +0.5**
OJC Ojcow 38.11 308 *e*P **P** **11 50 01.6 +0.5**
PKSM Moragy 38.91 301 ⇑P **P** **11 51 07.0 -0.9**
PKSM Moragy 38.91 301 ⇑*i*P **P** **11 51 07.0 -0.9**
MORC Moravsky Berou 39.55 307 *e*P **P** **11 51 14.0 +0.8**
comp=Z,39nm,1.6s,mb4.9
MORC Moravsky Berou 39.55 307 *e*P **P** **11 51 14.0 +0.8**
MORC pmax pmax
comp=Z,39nm,1.6s,mb4.9
MORC Moravsky Berou 39.55 307 ⇓*i*P **P** **11 51 14.2 +1.0**
VRAC Vranov 40.17 306 LR LR 12 09 00.1
comp=Z,96nm,18.2s,MS3.7,baz=262,slow=38
VRAC Vranov 40.17 306 ⇓P **P** **11 51 19.3 +0.9**
VRAC Vranov 40.17 306 ⇓*i*P **P** **11 51 19.3 +0.9**
DPC Dobruska-Polom 40.34 308 *e*P **P** **11 51 20.8 +1.0**
DPC Dobruska-Polom 40.34 308 *e*P **P** **11 51 20.8 +1.0**
DPC *ep*P pP 11 51 23.5 +0.6
UPC Upice 40.54 308 *e*P **P** **11 51 21.7 +0.3**
UPC Upice 40.54 308 *e*P **P** **11 51 21.7 +0.3**
UPC *ep*P pP 11 51 24.6 +0.1
CONA Conrad Observa 40.71 304 ⇓*i*P P 11 51 23.9 -2.0
comp=Z,18nm,1.3s
KEV Kevo 40.76 339 *e*P **P** **11 51 18.6 -4.4**
KEV pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
KEV Kevo 40.76 339 *ep* **P** **11 51 18.6 -4.4**
comp=Z,4.0nm,0.6s,mb4.2
ARCES ARCESS Array B 41.08 338 P **P** **11 51 25.7 0.0**
comp=Z,8.4nm,0.7s,mb4.5,baz=123,slow=8.9,SNR=21
ARCES ARCESS Array B 41.08 338 P **P** **11 51 25.7 0.0**
ARCES ARCESS Array B 41.08 338 P **P** **11 51 25.7 0.0**
SOKA Soboth 41.36 302 ⇑*i*pP pP 11 51 28.4 -3.0
comp=Z,11nm,1.0s
PVCC Panska Ves 41.46 308 *e*P **P** **11 51 29.3 +0.3**
PVCC Panska Ves 41.46 308 *e*P **P** **11 51 29.3 +0.3**
KTK1 Kautokeino 41.52 337 *e*P **P** **11 51 28.9 -0.3**
BRG Berggiesshubel 41.85 309 *e*P **P** **11 51 32.4 +0.2**
comp=Z,19nm,1.3s,mb4.6
BRG *i* pP 11 51 35.5 +0.2
comp=Z,15nm,1.0s
BRG Berggiesshubel 41.85 309 *e*P **P** **11 51 32.4 +0.2**
BRG pmax pmax
comp=Z,19nm,1.3s,mb4.6
BRG pmax pmax
comp=Z,15nm,1.0s,mb4.6
GERES GERESS Array B 42.09 306 P **P** **11 51 34.3 +0.1**
comp=Z,2.2nm,0.9s,mb3.8,baz=90,slow=8.0,SNR=11
GERES LR LR 12 11 50.4
comp=Z,78nm,19.4s,MS3.6,baz=269,slow=40
GERES GERESS Array B 42.09 306 P **P** **11 51 34.3 +0.1**
GERES GERESS Array B 42.09 306 P **P** **11 51 34.3 +0.1**
KHC Kasperske Hory 42.15 306 *e*P **P** **11 51 37.5 +2.8**
KHC Kasperske Hory 42.15 306 *e*P **P** **11 51 37.5 +2.8**
CLL Collm 42.43 309 ⇓*i*P **P** **11 51 36.9 0.0**
CLL pmax pmax
comp=Z,16nm,1.3s,mb4.5
CLL Collm 42.43 309 ⇓*i*P **P** **11 51 36.9 0.0**
comp=Z,16nm,1.3s,mb4.5
CLL *i* pP pP 11 51 40.0 -0.1
HFS Hagfors 42.61 322 LR LR 12 12 06.5
comp=Z,205nm,19.0s,MS4.0,baz=166,slow=40
NKC Novy Kostel 42.83 308 *e*P **P** **11 51 41.3 +1.1**
NKC Novy Kostel 42.83 308 *e*P **P** **11 51 41.3 +1.1**
NKC *ep*P pP 11 51 44.1 +0.8
CN2 Changchun 43.06 62 *e*P **P** **11 51 42.5 +0.4**
CN2 *es*P sP 11 51 49.5 +3.0
CN2 *e*S **S** **11 58 07.3 -0.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
CN2 pmax pmax
comp=Z,200nm,3.0s
MOR8 Moi Rana 43.58 331 *e*P **P** **11 51 44.9 -1.1**
MOR8 *ep*P pP 11 51 47.9 -1.2
NB2 NORSAR Subarra 43.95 323 P **P** **11 51 48.1 -1.0**
comp=Z,22nm,0.9s,mb4.9,baz=97,slow=8.6
NOA NORSAR Array B 43.95 323 P **P** **11 51 48.1 -1.0**
comp=Z,15nm,0.8s,mb4.8,baz=99,slow=8.1,SNR=45
NOA PP PP 11 53 28.0 -3.2
comp=Z,2.5nm,0.9s,baz=94,slow=10.0,SNR=3.7
NOA LR LR 12 13 03.5
comp=Z,88nm,18.9s,MS3.7,baz=75,slow=40
NOA NORSAR Array B 43.95 323 P **P** **11 51 48.1 -1.0**
NOA PP PP 11 53 28.0 -3.2
NOA NORSAR Array B 43.95 323 P **P** **11 51 48.1 -1.0**
NOA 11 53 28.0
STOK Stokkvaagen 44.17 331 *e*P **P** **11 51 50.9 +0.1**
YAK Yakutsk 45.17 35 *e*P **P** **11 51 58.7 -0.1**
comp=Z,38nm,0.8s,mb5.3
YAK Yakutsk 45.17 35 *e*P **P** **11 51 58.5 -0.3**
YAK pmax pmax
comp=Z,25nm,1.1s,mb5.0
MDJ Mudanjiang 45.84 60 P **P** **11 52 02.5 -1.9**
MDJ ScP ScP 11 57 33.5 -1.2
MDJ PcS PcS 11 57 34.8 -0.9
MDJ S **S** **11 58 46.3 -2.0**
MDJ pmax pmax
comp=Z,6.0nm,1.9s,mb4.2
MDJ pmax pmax
comp=Z,29nm,2.7s,mb4.7
MDJ LR LR
comp=N,45nm,21.3s,MS3.6
MDJ LR LR
comp=E,51nm,21.3s,MS3.6
MDJ LR LR
comp=Z,82nm,17.4s,MS3.7
PGF Pioggiola 46.27 297 *e*P **P** **11 52 07.3 -0.5**
comp=Z,25nm,0.7s,mb5.0
KSAR Wonju Array Be 46.32 70 P **P** **11 52 07.6 -0.6**
KSAR Wonju Array Be 46.32 70 P **P** **11 52 07.6 -0.7**
KSRS Korea Array 46.34 70 P **P** **11 52 07.6 -0.8**
comp=Z,5.2nm,1.0s,mb4.4,baz=278,slow=7.5,SNR=7.0
KSRS LR LR 12 13 47.7
comp=Z,134nm,19.1s,MS3.9,baz=50,slow=39
KSRS Korea Array 46.34 70 P **P** **11 52 07.6 -0.9**
KSRS pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
KSRS MLR MLR
comp=Z,134nm,19.1s,MS3.9
CDF Champ du Feu 46.37 306 ⇑*i*P **P** **11 52 08.0 -0.5**
comp=Z,12nm,1.0s,mb4.5
KLR Kul'dur 46.55 53 *e*P **P** **11 52 06.5 -3.4**
HINF Hinteralfeld 46.75 305 ⇑*i*P **P** **11 52 10.9 -0.6**
comp=Z,29nm,1.2s,mb4.8
MEM Membach 46.89 309 P **P** **11 52 13.0 +0.4**
comp=Z,8.5nm,1.0s,mb4.6
WLF Walferdange 46.93 307 P **P** **11 52 14.1 +1.3**
comp=Z,17nm,1.6s,mb4.7
HAU Haudompre 47.05 305 ⇑*i*P **P** **11 52 13.4 -0.4**
comp=Z,35nm,1.1s,mb4.9
HAU *e*R
comp=Z,117nm,17.8s
SBF Sospel 47.09 299 *e*P **P** **11 52 14.0 -0.2**
comp=Z,33nm,0.8s,mb5.0
LPG La Plagne 47.23 302 *e*P **P** **11 52 15.5 +0.2**
comp=Z,29nm,0.9s,mb4.9
LPL La Plagne 47.24 302 *e*P **P** **11 52 15.5 +0.1**
comp=Z,24nm,0.8s,mb4.9
PAGF Fort de Pagny 47.37 306 *e*P **P** **11 52 16.7 +0.4**
comp=Z,22nm,1.3s,mb4.6
MBDF Montbardon 47.38 301 *e*P **P** **11 52 15.8 -0.6**
comp=Z,19nm,0.6s,mb4.9
CABF La Chapelle 47.47 303 *e*P **P** **11 52 17.2 +0.1**
comp=Z,95nm,1.5s,mb5.2
MEZF Maizieres J'vi 47.82 306 *e*P **P** **11 52 19.1 -0.7**
KEST Kesra 47.88 288 P **P** **11 52 21.1 +0.6**
comp=Z,2.3nm,0.6s,mb4.4,baz=50,slow=8.7,SNR=5.6
KEST Kesra 47.88 288 P **P** **11 52 21.1 +0.7**
SFTF Sexfontaines 47.88 306 *e*P **P** **11 52 20.2 -0.1**
comp=Z,35nm,1.0s,mb5.0
SNF Seneffe 48.00 309 P **P** **11 52 21.5 +0.4**
BAIF Baives 48.11 308 *e*P **P** **11 52 22.5 +0.4**
comp=Z,51nm,1.1s,mb5.2
VIVF Saint-Julien-l 48.81 301 *e*P **P** **11 52 27.3 -0.2**
comp=Z,57nm,1.4s,mb5.1
HABR Khabarovsk 48.82 54 P **P** **11 52 27.2 -0.3**
HABR *e**PP pP 11 52 33.2 +2.5
HABR 11 54 20.7
HABR S **S** **11 59 29.3 -1.3**
HABR *e**SS sS 11 59 41.2 +5.4
HABR *e* 12 02 18.2
HABR *e*SSS 12 04 17.3
HABR pmax pmax
comp=N,40nm,2.0s
HABR pmax pmax
comp=Z,50nm,2.0s,mb5.2
HABR pmax pmax
comp=E,54nm,2.0s
HABR MLR MLR
comp=Z,83nm,19.0s,MS3.7
LOR Lormes 48.84 305 *e*P **P** **11 52 27.1 -0.6**
LOR *e*R
comp=Z,136nm,19.2s
SMF Signal de Mont 48.98 304 ⇑*i*P **P** **11 52 28.5 -0.3**
comp=Z,56nm,1.1s,mb5.2
SSF Saint Saulge 49.12 304 *e*P **P** **11 52 29.4 -0.4**
comp=Z,44nm,1.4s,mb5.0
AVF Avril sur Loir 49.28 304 ⇑*i*P **P** **11 52 30.7 -0.4**
comp=Z,23nm,0.9s,mb4.9
LASF Ste Croix 49.56 301 ⇑*i*P **P** **11 52 33.3 +0.1**
TCF Toulx Ste Croi 50.16 304 ⇑*i*P **P** **11 52 37.7 -0.1**
comp=Z,41nm,1.2s,mb5.0
JOW Kunigami 50.50 83 LR LR 12 16 51.7
comp=Z,63nm,18.5s,MS3.7,baz=180,slow=39
CAF Calvino 50.59 302 *e*P **P** **11 52 41.2 +0.1**
comp=Z,12nm,0.8s,mb4.6
MTLF Montolieu 50.90 300 *e*P **P** **11 52 42.9 -0.5**
comp=Z,9.7nm,0.7s,mb4.5
LDF La Druitiere 51.17 307 *e*P **P** **11 52 45.0 -0.4**
comp=Z,9.1nm,0.6s,mb4.5
EPF Esparros 52.30 300 *e*P **P** **11 52 52.3 -1.6**
comp=Z,12nm,0.8s,mb4.5
ETSF Etsaut 52.97 300 *e*P **P** **11 52 58.8 -0.1**
comp=Z,14nm,0.6s,mb4.8
MJAR Matsushiro Arr 54.42 68 P **P** **11 53 08.8 -0.8**
comp=Z,4.1nm,1.0s,mb4.3,baz=286,slow=9.0,SNR=5.6
MJAR Matsushiro Arr 54.42 68 P **P** **11 53 08.8 -0.8**
MJAR Matsushiro Arr 54.42 68 P **P** **11 53 08.8 -0.8**
DAG Danmarks Havn 54.81 344 *i* P **P** **11 53 11.6 -0.3**
DAG pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
DAG Danmarks Havn 54.81 344 *i* P **P** **11 53 11.6 -0.3**
comp=Z,6.1nm,0.9s,mb4.6
ASAJ Asahikawa 54.98 57 LR LR 12 20 19.7
comp=Z,60nm,18.6s,MS3.7,baz=274,slow=40
TAM Tamanrasset 56.21 275 *e*P **P** **11 53 22.9 +0.2**
comp=Z,5.1nm,0.8s,mb4.6
TAM Tamanrasset 56.21 275 *e*P **P** **11 53 22.9 +0.2**
TAM pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ESDC Sonseca Array 56.46 298 P **P** **11 53 23.3 -1.0**
comp=Z,3.3nm,0.6s,mb4.5,baz=64,slow=7.9,SNR=10
ESDC Sonseca Array 56.46 298 P **P** **11 53 23.3 -1.0**
BILL Bilibino 59.65 26 ⇑*e*P **P** **11 53 46.8 +0.7**
BILL pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
SUMG Summit 61.08 341 *e*P **P** **11 53 56.4 +0.6**
comp=Z,8.4nm,0.9s,mb4.9
SUMG Summit 61.08 341 *i* P **P** **11 53 54.4 -1.4**
SUMG pmax pmax
comp=Z,7.0nm,0.9s
SUMG Summit 61.08 341 *i* P **P** **11 53 54.4 -1.4**
comp=Z,6.8nm,0.9s,mb4.8
PETK Petropavlovsk- 61.28 43 P **P** **11 53 56.8 -0.7**
comp=Z,2.7nm,0.8s,mb4.5,baz=315,slow=0.8,SNR=3.1
PETK Petropavlovsk- 61.28 43 P **P** **11 53 56.8 -0.7**
TORD Torodi Ar. Bea 64.32 268 P **P** **11 54 16.2 -2.1**
comp=Z,15nm,0.6s,mb5.2,baz=46,slow=5.8,SNR=56
TORD Torodi Ar. Bea 64.32 268 P **P** **11 54 16.2 -2.1**
DBIC Dimbokro 73.29 266 P **P** **11 55 12.7 -1.6**
comp=Z,7.2nm,0.8s,mb4.7,baz=45,slow=7.3,SNR=7.1
DBIC Dimbokro 73.29 266 P **P** **11 55 12.7 -1.6**
DBIC Dimbokro 73.29 266 P **P** **11 55 12.7 -1.6**
INK Inuvik 74.61 9 *e*P **P** **11 55 21.2 +0.2**
comp=Z,7.8nm,1.0s,mb4.6
INK Inuvik 74.61 9 *e*P **P** **11 55 21.2 +0.2**
INK pmax pmax
comp=Z,8.0nm,1.0s
COLA College 75.33 15 *e*P **P** **11 55 25.1 -0.2**
comp=Z,11nm,1.1s,mb4.7
COLA College 75.33 15 *e*P **P** **11 55 25.1 -0.2**
COLA pmax pmax
comp=Z,11nm,1.1s,mb4.7
ILAR Eielson Array 75.62 15 P **P** **11 55 26.3 -0.7**
comp=Z,2.2nm,1.0s,mb4.1,baz=309,slow=4.3,SNR=17
ILAR Eielson Array 75.62 15 P **P** **11 55 26.3 -0.7**
ILAR Eielson Array 75.62 15 P **P** **11 55 26.3 -0.7**
BOSA Boshof 76.49 219 P **P** **11 55 30.5 -1.8**
comp=Z,2.6nm,0.8s,mb4.2,baz=28,slow=6.1,SNR=3.9
BOSA Boshof 76.49 219 P **P** **11 55 30.5 -1.8**
BOSA Boshof 76.49 219 P **P** **11 55 30.5 -1.8**
YKA Yellowknife Ar 81.79 2 P **P** **11 56 01.0 +0.1**
comp=Z,2.1nm,0.8s,mb4.1,baz=352,slow=5.1,SNR=4.2
YKA Yellowknife Ar 81.79 2 P **P** **11 56 01.0 +0.1**
YKA Yellowknife Ar 81.79 2 P **P** **11 56 01.0 +0.1**
WRA Warramunga Arr 82.91 121 P **P** **11 56 05.4 -2.0**
comp=Z,4.6nm,1.0s,mb4.5,baz=322,slow=4.6,SNR=18
WRA Warramunga Arr 82.91 121 P **P** **11 56 05.4 -2.0**
WRA Warramunga Arr 82.91 121 P **P** **11 56 05.4 -2.0**
WRAB Tennant Creek 82.92 121 *e*P **P** **11 56 06.4 -1.0**
comp=Z,11nm,1.1s,mb4.8
WRAB Tennant Creek 82.92 121 *e*P **P** **11 56 06.4 -1.0**
WRAB pmax pmax
comp=Z,11nm,1.1s,mb4.8
WB2 Warramunga Arr 82.92 121 *e*P **P** **11 56 06.2 -1.3**
AS31 Alice Springs 85.12 124 *e*P **P** **11 56 19.1 +0.5**
ASAR Alice Springs 85.12 124 P **P** **11 56 16.9 -1.6**
comp=Z,3.8nm,0.8s,mb4.6,baz=312,slow=5.0,SNR=21
ASAR Alice Springs 85.12 124 P **P** **11 56 16.9 -1.6**
ASAR Alice Springs 85.12 124 P **P** **11 56 17.0 -1.6**
FORT Forrest 86.34 132 *e*P **P** **11 56 24.3 -0.1**
comp=Z,30nm,0.8s,mb5.6
QSPA South Pole Qui 125.81 180 *e*PKPdf PKPdf 12 02 42.3 -0.5
PMSA Palmer Station 140.11 209 *e*PKPdf PKPdf 12 03 13.4 +3.3
PLCA Paso Flores 148.36 249 PKPbc PKPbc 12 03 28.4 -0.2
comp=Z,6.9nm,1.1s,baz=78,slow=9.3,SNR=6.0
PLCA Paso Flores 148.36 249 PKPbc PKPbc 12 03 28.4 -0.2

ISCJB ***29*** *11:45:33.5±0.8, 13°.16N±0°.09×144°.7E±0°.2, h101km±7km, mb3.8/11, Error ellipse: s-maj=30.8km s-min=15.2km az=5.0*
NEIC ***29*** *11:45:34.7±0.8, 13°.17N×144°.70E, h97km±8km, mb4.2/1, Error ellipse: s-maj=20.8km s-min=10.5km az=96.0*
IDC ***29*** *11:45:34.1±0.6, 13°.20N×144°.73E, h92km±5km, mb3.6/10, mb1 3.9/10, mb1mx3.7/22, mbtmp3.6/10, Error ellipse: s-maj=27.0km s-min=14.1km az=98.0*
ISC 29 11:45:34.7±0.7, 13°.17N±0°.09×144°.7E±0°.2, h96km±7km, n23, σ0°.64/25, mb3.8/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.45**	**22**	P	**Pn**	**11 45 49.9**	**+0.2**
	2μm,0.3s,baz=196,slow=2.2,SNR=1197						
GUMO				S	**Sn**	**11 46 00.9**	**-0.1**
	774nm,0.3s,baz=165,slow=20,SNR=60						
GUMO	**Guam**	**0.45**	**22**	P	**Pn**	**11 45 49.9**	**+0.2**
GUMO				S	**Sn**	**11 46 00.9**	**-0.1**
MJAR	**Matsushiro Arr**	**23.99**	**347**	P	**P**	**11 50 40.1**	**-0.2**
	0.6nm,0.6s,mb3.1,baz=97,slow=15,SNR=5.6						
MJAR	**Matsushiro Arr**	**23.99**	**347**	P	**P**	**11 50 40.1**	**-0.2**
WRAB	**Tennant Creek**	**34.43**	**197**	*e*P	**P**	**11 52 12.8**	**-0.4**
	2.2nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**34.45**	**197**	P	**P**	**11 52 13.0**	**-0.2**
	2.0nm,0.7s,mb4.1,baz=22,slow=9.7,SNR=30						
WRA	**Warramunga Arr**	**34.45**	**197**	P	**P**	**11 52 13.0**	**-0.2**
ASAR	**Alice Springs**	**38.10**	**196**	P	**P**	**11 52 44.5**	**+0.2**
	1.0nm,0.6s,mb3.9,baz=20,slow=11,SNR=23						
ASAR	**Alice Springs**	**38.10**	**196**	P	**P**	**11 52 44.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**44.24**	**283**	P	**P**	**11 53 35.8**	**+0.9**
	0.9nm,0.4s,mb3.8,baz=88,slow=6.3,SNR=5.2						
CMAR	**Chiang Mai Arr**	**44.24**	**283**	P	**P**	**11 53 35.8**	**+0.9**
STKA	**Stephens Creek**	**44.89**	**184**	P	**P**	**11 53 39.5**	**-0.2**
	1.6nm,0.6s,mb3.9,baz=350,slow=11,SNR=7.6						
STKA	**Stephens Creek**	**44.89**	**184**	P	**P**	**11 53 39.5**	**-0.1**
MKAR	**Makanchi Array**	**61.67**	**316**	P	**P**	**11 55 42.0**	**-0.5**
	0.3nm,0.5s,mb3.5,baz=94,slow=9.1,SNR=8.4						
MKAR	**Makanchi Array**	**61.67**	**316**	P	**P**	**11 55 42.0**	**-0.5**
KURK	**Kurchatov**	**64.79**	**320**	P	**P**	**11 56 03.0**	**-0.1**
	0.8nm,0.4s,mb3.9,baz=103,slow=6.8,SNR=4.7						
KURK	**Kurchatov**	**64.79**	**320**	P	**P**	**11 56 03.0**	**0.0**
ILAR	**Eielson Array**	**69.02**	**25**	P	**P**	**11 56 28.7**	**-0.9**
	1.1nm,0.5s,mb4.0,baz=251,slow=5.8,SNR=32						
ILAR	**Eielson Array**	**69.02**	**25**	P	**P**	**11 56 28.7**	**-0.9**
YKA	**Yellowknife Ar**	**83.31**	**27**	P	**P**	**11 57 50.2**	**-0.4**
	0.6nm,0.5s,mb3.7,baz=284,slow=5.1,SNR=2.8						
YKA	**Yellowknife Ar**	**83.31**	**27**	P	**P**	**11 57 50.2**	**-0.4**
NVAR	**Mina Array Bea**	**87.31**	**51**	P	**P**	**11 58 12.9**	**+1.8**
	0.2nm,0.5s,mb3.4,baz=275,slow=5.2,SNR=3.6						
NVAR	**Mina Array Bea**	**87.31**	**51**	P	**P**	**11 58 12.9**	**+1.8**

ISCJB ***29*** *11:51:01.0±0.5, 43°.28N±0°.04×46°.17E±0°.03, h1km±3km, Error ellipse: s-maj=6.7km s-min=2.3km az=25.4*
MOS ***29*** *11:51:01.3±1.3, 43°.23N×46°.13E, h6km, mb4.0/1, Error ellipse: s-maj=9.2km s-min=5.4km az=24.1*
CSEM ***29*** *11:51:01.3, 43°.23N×46°.13E, h6km, mb4.0, After OBN*
ISC 29 11:51:01.2±0.6, 43°.35N±0°.04×46°.23E±0°.03, h8km±3km, n57, σ1°.15/110, 7D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRO	**Groznyy**	**0.35**	**265**	⇓*i*Pg	**Pg**	**11 51 07.9**	**-0.2**
GRO				*i* Sg	**Sg**	**11 51 12.8**	**+0.1**
GRO	**Groznyy**	**0.35**	**265**	*i* Pg	**Pg**	**11 51 07.9**	**-0.2**
GRO				*i* Sg	**Sg**	**11 51 12.8**	**+0.1**
DLMR	**Dylym**	**0.41**	**133**	*e*Pg	**Pg**	**11 51 09.0**	**-0.1**
DLMR				*e*S	**Sg**	**11 51 15.2**	**+0.7**
DLMR	**Dylym**	**0.41**	**133**	*e*Pg	**Pg**	**11 51 09.0**	**-0.1**
DLMR				*e*Sg	**Sg**	**11 51 15.2**	**+0.7**
DBC	**Dubki**	**0.55**	**127**	*e*Pg	**Pg**	**11 51 12.3**	**+0.5**
DBC				*i* S	**Sg**	**11 51 20.0**	**+1.0**
DBC				pmax	pmax		
	comp=Z,83nm,0.1s						
DBC	**Dubki**	**0.55**	**127**	*e*Pg	**Pg**	**11 51 12.3**	**+0.5**
	comp=Z,83nm,0.1s						
DBC				*i* Sg	**Sg**	**11 51 20.0**	**+1.0**
BTLR	**Botlikh**	**0.69**	**180**	*e*Pg	**Pg**	**11 51 12.2**	**-2.2**
BTLR				*e*S	**Sg**	**11 51 20.0**	**-3.3**
BTLR	**Botlikh**	**0.69**	**180**	*e*Pg	**Pg**	**11 51 12.2**	**-2.2**
BTLR				*e*Sg	**Sg**	**11 51 20.0**	**-3.3**
KRNR	**Karanay**	**0.72**	**136**	*e*Pg	**Pg**	**11 51 14.2**	**-0.9**
KRNR				*i* S	**Sg**	**11 51 24.0**	**-0.5**
KRNR				pmax	pmax		
	comp=Z,51nm,0.2s						
KRNR	**Karanay**	**0.72**	**136**	*e*Pg	**Pg**	**11 51 14.2**	**-0.9**
	comp=Z,51nm,0.2s						
KRNR				*i* Sg	**Sg**	**11 51 24.0**	**-0.5**
BUJR	**Buynaksk**	**0.83**	**129**	PG	**Pg**	**11 51 18.0**	**+0.8**
BUJR				*e*S	**Sg**	**11 51 29.5**	**+1.5**
BUJR				pmax	pmax		
	comp=Z,68nm,0.3s						
BUJR	**Buynaksk**	**0.83**	**129**	Pg	**Pg**	**11 51 18.0**	**+0.8**
	comp=Z,68nm,0.3s						
BUJR				*e*Sg	**Sg**	**11 51 29.5**	**+1.5**
XNZR	**Khunzakh**	**0.88**	**156**	*e*Pg	**Pg**	**11 51 16.8**	**-1.3**
XNZR				*e*S	**Sg**	**11 51 28.6**	**-1.0**
XNZR	**Khunzakh**	**0.88**	**156**	*e*Pg	**Pg**	**11 51 16.8**	**-1.3**
XNZR				*e*Sg	**Sg**	**11 51 28.6**	**-1.0**
MAK	**Makhachkala**	**1.01**	**112**	*e*PG	**Pg**	**11 51 24.5**	**+3.8**
MAK				*e*		11 51 38.4	
MAK				pmax	pmax		
	comp=Z,104nm,0.2s						
MAK	**Makhachkala**	**1.01**	**112**	*e*Pg	**Pg**	**11 51 24.5**	**+3.8**
	comp=Z,104nm,0.2s						
MAK				*e*Sg	**Sg**	**11 51 38.4**	**+4.6**
SNJR	**Sundja**	**1.07**	**255**	*e*PG	**Pg**	**11 51 21.0**	**-0.8**

SNJR				*e*S	**Sg**	11 51 35.5	-0.2	
SNJR	**Sundja**	**1.07**	**255**	*e*Pg	**Pg**	11 51 21.0	-0.8	
SNJR				*e*Sg	**Sg**	11 51 35.5	-0.2	
TRKR	**Terskaya**	**1.15**	**289**	⇓*i*PG	**Pg**	11 51 24.1	+0.8	
TRKR				*i* S	**Sg**	11 51 40.7	+2.5	
TRKR	**Terskaya**	**1.15**	**289**	*i* Pg	**Pg**	11 51 24.1	+0.8	
TRKR				*i* Sg	**Sg**	11 51 40.7	+2.5	
VLKR	**Vladikavkaz**	**1.17**	**256**	*e*PG	**Pg**	11 51 23.4	-0.3	
VLKR				*e*S	**Sg**	11 51 39.0	+0.1	
VLKR	**Vladikavkaz**	**1.17**	**256**	*e*Pg	**Pg**	11 51 23.4	-0.3	
VLKR				*e*Sg	**Sg**	11 51 39.0	+0.1	
BTKR	**Batakoyurt**	**1.23**	**272**	*e*PG	**Pg**	11 51 24.4	-0.4	
BTKR				*e*S	**Sg**	11 51 42.0	+1.3	
BTKR	**Batakoyurt**	**1.23**	**272**	*e*Pg	**Pg**	11 51 24.4	-0.4	
BTKR				*e*Sg	**Sg**	11 51 42.0	+1.3	
KMKR	**Kumukh**	**1.38**	**152**	*e*PG	**Pg**	11 51 26.5	-1.1	
KMKR				*e*S	**Sb**	11 51 45.0	+0.1	
KMKR				pmax	pmax			
	comp=Z,119nm,0.2s							
KMKR	**Kumukh**	**1.38**	**152**	*e*Pg	**Pg**	11 51 26.5	-1.1	
	comp=Z,119nm,0.2s							
KMKR				*e*Sg	**Sb**	11 51 45.0	+0.1	
KMSR	**Komsomolskaya**	**1.41**	**272**	*e*PG	**Pg**	11 51 27.5	-0.8	
KMSR				*i* S	**Sg**	11 51 47.1	+0.5	
KMSR	**Komsomolskaya**	**1.41**	**272**	*e*Pg	**Pg**	11 51 27.5	-0.8	
KMSR				*i* Sg	**Sg**	11 51 47.1	+0.5	
ARNR	**Ardon**	**1.43**	**264**	*e*PG	**Pn**	11 51 27.3	-0.1	
ARNR				*e*S	**Sn**	11 51 46.6	+0.2	
ARNR	**Ardon**	**1.43**	**264**	*e*Pn	**Pn**	11 51 27.3	-0.1	
ARNR				*e*Sg	**Sn**	11 51 46.6	+0.2	
PRTR	**Priterechnaya**	**1.47**	**287**	*e*PG	**Pg**	11 51 29.0	-0.4	
PRTR				*e*S	**Sg**	11 51 49.7	+1.2	
PRTR	**Priterechnaya**	**1.47**	**287**	*e*Pg	**Pg**	11 51 29.0	-0.4	
PRTR				*e*Sg	**Sg**	11 51 49.7	+1.2	
LACR	**Lac**	**1.51**	**250**	⇓*i*PG	**Pn**	11 51 26.7	-1.8	
LACR				*i* S	**Sn**	11 51 46.2	-2.1	
LACR	**Lac**	**1.51**	**250**	*i* Pg	**Pn**	11 51 26.7	-1.8	
LACR				*i* Sg	**Sn**	11 51 46.2	-2.1	
URKR	**Urkarakh**	**1.57**	**138**	*e*PG	**Pg**	11 51 31.0	-0.4	
URKR				*i* S	**Sg**	11 51 52.5	+0.8	
URKR				pmax	pmax			
	comp=Z,53nm,0.2s							
URKR	**Urkarakh**	**1.57**	**138**	*e*Pg	**Pg**	11 51 31.0	-0.4	
	comp=Z,53nm,0.2s							
URKR				*i* Sg	**Sg**	11 51 52.5	+0.8	
KORR	**Kora**	**1.60**	**261**	⇓*i*PG	**Pn**	11 51 29.5	-0.3	
KORR				*e*S	**Sn**	11 51 50.7	+0.1	
KORR	**Kora**	**1.60**	**261**	*i* Pg	**Pn**	11 51 29.5	-0.3	
KORR				*e*Sg	**Sn**	11 51 50.7	+0.1	
LSNR	**Lesken**	**1.76**	**268**	*e*PN	**Pn**	11 51 32.5	+0.5	
LSNR				*e*S	**Sn**	11 51 55.6	+1.0	
LSNR	**Lesken**	**1.76**	**268**	*e*Pn	**Pn**	11 51 32.5	+0.5	
LSNR				*e*Sg	**Sn**	11 51 55.6	+1.0	
ZEI	**Tsey**	**1.80**	**252**	*e*PN	**Pn**	11 51 31.3	-1.2	
ZEI				*i* S	**Sn**	11 51 54.4	-1.2	
ZEI	**Tsey**	**1.80**	**252**	*e*Pn	**Pn**	11 51 31.3	-1.2	
ZEI				*i* Sg	**Sn**	11 51 54.4	-1.2	
TBLG	**Delisi**	**1.96**	**215**	*e*PN	**Pn**	11 51 35.0	+0.3	
TBLG				*e*S	**Sn**	11 51 59.6	+0.2	
TBLG	**Delisi**	**1.96**	**215**	P	**Pn**	11 51 35.0	+0.3	
TBLG				S	**Sn**	11 51 59.6	+0.2	
TBLG	**Delisi**	**1.96**	**215**	*e*Pn	**Pn**	11 51 35.0	+0.3	
TBLG				*e*Sg	**Sn**	11 51 59.6	+0.2	
DIGR	**Digorskoe uzhe**	**1.99**	**258**	*e*PN	**Pn**	11 51 35.0	-0.1	
DIGR				*e*S	**Sn**	11 52 00.2	0.0	
DIGR	**Digorskoe uzhe**	**1.99**	**258**	*e*Pn	**Pn**	11 51 35.0	-0.1	
DIGR				*e*Sg	**Sn**	11 52 00.2	0.0	
DGRG	**David-gareji**	**2.00**	**199**	P	**Pn**	11 51 35.9	+0.6	
DGRG				S	**Sn**	11 52 02.6	+2.1	
GOR	**Gori**	**2.07**	**230**	P	**Sn**	11 52 05.9	+3.6	
KUBR	**Kubataba**	**2.10**	**283**	⇓*e*PN	**Pn**	11 51 36.2	-0.4	
KUBR	**Kubataba**	**2.10**	**283**	*e*Pn	**Pn**	11 51 36.2	-0.4	
ONI	**Oni**	**2.17**	**250**	P	**Pn**	11 51 38.8	+1.1	
ONI				S	**Sn**	11 52 07.3	+2.6	
SHAR	**Shatzhatmas**	**2.62**	**280**	⇓*e*PN	**Pn**	11 51 42.8	-0.9	
SHAR				*i* S	**Sn**	11 52 12.9	-2.8	
SHAR	**Shatzhatmas**	**2.62**	**280**	*e*Pn	**Pn**	11 51 42.8	-0.9	
SHAR				*i* Sn	**Sn**	11 52 12.9	-2.8	
KIV	**Kislovodsk**	**2.64**	**284**	⇓*e*PN	**Pn**	11 51 43.7	-0.4	
KIV				*i* S	**Sn**	11 52 13.9	-2.3	
KIV	**Kislovodsk**	**2.64**	**284**	*e*Pn	**Pn**	11 51 43.7	-0.4	
KIV				*i* Sn	**Sn**	11 52 13.9	-2.3	
AKH	**Akhalkalaki**	**2.80**	**227**	P	**Pn**	11 51 49.2	+2.9	
AKH				S	**Sn**	11 52 22.8	+2.5	

BYKL ***29*** *11:56:26.4±0.2,55°.13N×109°.98E*
MOS 29 11:56:26.3±1.2,55°.09N×110°.01E,h12km,mb4.2/1,8C-1D,
Error ellipse: s-maj=17.9km s-min=9.1km az=62.5,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YLYR	**Ulyunkhan**	**0.70**	**107**	*e*PG	Pg	11 56 39.2	-0.6
YLYR				*e*		11 56 47.7	
YLYR				pmax	pmax		
	comp=Z,85nm,0.2s						
YLYR				smax			
	comp=N,555nm,0.3s						
YLYR	**Ulyunkhan**	**0.70**	**107**	⇑*i*Pg	Pg	11 56 39.2	-0.6
YLYR				*e*Sg	Sg	11 56 49.1	+0.1
YLYR				Pmax			
	comp=N,83nm,0.2s						
YLYR				Smax			
	comp=N,552nm,0.5s						
NIZ	**Nizh Angarsk**	**0.74**	**339**	⇑*i*Pg	Pg	11 56 39.2	-1.4
NIZ				*e*Sg	Sg	11 56 49.3	-1.0
NIZ				Pmax			
	comp=N,81nm,0.1s						
NIZ				Smax			
	comp=N,196nm,0.3s						
KMO	**Kumora**	**1.05**	**40**	*e*PG	Pg	11 56 44.7	-1.8
KMO				*e*		11 56 58.4	
KMO				pmax	pmax		
	comp=Z,129nm,0.4s						
KMO				smax			
	comp=N,768nm,0.7s						
KMO	**Kumora**	**1.05**	**40**	⇑*i*Pg	Pg	11 56 44.9	-1.6
KMO				*e*Sg	Sg	11 56 58.9	-1.3
KMO				Pmax			
	comp=N,132nm,0.6s						
KMO				Smax			
	comp=N,791nm,0.9s						
SYVR	**Suvo**	**1.43**	**180**	*e*PG	Pg	11 56 53.0	-0.7
SYVR				*e*		11 57 13.3	
SYVR				pmax	pmax		
	comp=Z,65nm,0.5s						
SYVR				smax			
	comp=N,435nm,0.8s						
SYVR	**Suvo**	**1.43**	**180**	⇓*i*Pg	Pg	11 56 53.1	-0.6
SYVR				*e*Sg	Sg	11 57 13.3	+1.0
SYVR				Pmax			
	comp=N,64nm,0.5s						
SYVR				Smax			
	comp=N,433nm,1.0s						
YOA	**Uoyan**	**1.43**	**42**	*e*PG	Pg	11 56 53.1	-0.7
YOA				*e*		11 57 12.1	
YOA				pmax	pmax		
	comp=Z,420nm,0.2s						
YOA				smax			
	comp=N,3μm,0.5s						
YOA	**Uoyan**	**1.43**	**42**	*e*Pg	Pg	11 56 53.3	-0.5
YOA				*e*Sg	Sg	11 57 11.8	-0.6
YOA				Pmax			
	comp=N,203nm,0.3s						
YOA				Smax			
	comp=N,3μm,0.5s						
MXMB	**Maximikha**	**1.97**	**203**	*e*Pg	Pg	11 57 02.8	-1.3
MXMB				*e*Sg	Sg	11 57 30.3	+0.7
MXMB				Pmax			
	comp=N,52nm,0.6s						
MXMB				Smax			
	comp=N,432nm,0.9s						
OGRR	**Ongureny**	**2.02**	**225**	*e*PN	Pn	11 57 02.2	+2.1
OGRR				*e*		11 57 04.1	
OGRR				*e*		11 57 30.3	
OGRR				pmax	pmax		
	comp=Z,38nm,0.2s						
OGRR				smax			
	comp=E,408nm,0.9s						
OGRR	**Ongureny**	**2.02**	**225**	⇑*i*Pn	Pn	11 57 02.2	+2.1
OGRR				⇑*i*Pg	Pg	11 57 03.3	-1.7
OGRR				*e*Sg	Sg	11 57 29.7	-1.4
OGRR				Pmax			
	comp=E,36nm,0.2s						
OGRR				Smax			
	comp=E,403nm,1.0s						
UKT	**Uakit**	**2.11**	**77**	*e*PN	Pn	11 57 03.5	+2.1
UKT				*e*		11 57 32.2	
UKT				pmax	pmax		
	comp=Z,142nm,0.4s						
UKT				smax			
	comp=N,431nm,0.3s						
UKT	**Uakit**	**2.11**	**77**	⇑*i*Pg	Pg	11 57 03.6	-3.1
UKT				*e*Sg	Sg	11 57 32.5	-1.6
UKT				Pmax			
	comp=N,144nm,0.6s						
UKT				Smax			
	comp=N,436nm,1.1s						
SVKR	**Severomuysk**	**2.27**	**61**	*e*PN	Pn	11 57 06.5	+3.0
SVKR				*e*		11 57 37.4	
SVKR				pmax	pmax		
	comp=Z,178nm,0.5s						
SVKR				smax			
	comp=E,1μm,1.0s						
SVKR	**Severomuysk**	**2.27**	**61**	*e*Pg	Pg	11 57 06.6	-3.1
SVKR				*e*Sg	Sg	11 57 37.7	-1.3
SVKR				Pmax			
	comp=E,181nm,0.7s						
SVKR				Smax			
	comp=E,994nm,0.6s						
ZRHB	**Zarechye**	**3.05**	**215**	*e*Sg	Sg	11 58 01.5	-2.6
ZRHB				Smax			
	comp=E,62nm,0.4s						
TRG	**Tyrgan**	**3.18**	**224**	*e*Pn	Pn	11 57 18.6	+2.6
TRG				*e*Pg	Pg	11 57 23.8	-3.4
TRG				*e*Sn	Sn	11 57 53.4	-0.4
TRG				*e*Sg	Sg	11 58 04.4	-3.9
TRG				Pmax			
	comp=E,10.0nm,0.3s						
TRG				Smax			
	comp=E,74nm,0.4s						
NLYR	**Nelyaty**	**3.51**	**64**	*e*PN	Pn	11 57 22.0	+1.4
NLYR				*e*		11 57 28.6	
NLYR				*e*		11 58 15.6	
NLYR				pmax	pmax		
	comp=Z,53nm,0.7s						
NLYR				smax			
	comp=N,166nm,1.0s						
NLYR	**Nelyaty**	**3.51**	**64**	*e*Pn	Pn	11 57 22.2	+1.6
NLYR				*e*Pg	Pg	11 57 29.0	-4.5
NLYR				*e*Sg	Sg	11 58 15.5	-3.5
NLYR				Pmax			
	comp=N,50nm,1.0s						
NLYR				Smax			
	comp=N,166nm,1.1s						
UUDB	**Ulan-Yde**	**3.52**	**204**	*e*Pg	Pg	11 57 30.9	-2.7
UUDB				*e*Sg	Sg	11 58 17.5	-1.6
UUDB				Pmax			
	comp=N,5.0nm,0.2s						
UUDB				Smax			
	comp=N,68nm,0.8s						
BOD	**Bodaibo**	**3.52**	**37**	*e*PN	Pn	11 57 23.0	+2.2
BOD				*e*		11 57 30.3	
BOD				*e*		11 58 13.7	
BOD				pmax	pmax		
	comp=Z,13nm,0.4s						
BOD				smax			
	comp=E,242nm,1.9s						
BOD	**Bodaibo**	**3.52**	**37**	*e*Pg	Pg	11 57 28.3	-5.5
BOD				*e*Sn	Sn	11 58 01.6	-0.8
BOD				*e*Sg	Sg	11 58 13.5	-5.9
BOD				Pmax			
	comp=E,6.0nm,0.3s						
BOD				Smax			
	comp=E,242nm,1.8s						
FFNB	**Fofonovo**	**3.61**	**214**	*e*Pn	Pn	11 57 24.0	+2.1
FFNB				*e*Pg	Pg	11 57 32.0	-3.3
FFNB				*e*Sg	Sg	11 58 17.6	-4.4
FFNB				Pmax			
	comp=E,8.0nm,0.4s						
FFNB				Smax			
	comp=E,46nm,0.8s						
HRMR	**Khuramsha**	**3.92**	**209**	*e*Pg	Pg	11 57 36.7	-4.6
HRMR				*e*		11 57 43.4	
HRMR				*e*Sn	Sn	11 58 13.5	+1.5
HRMR				*e*Sg	Sg	11 58 27.8	-4.2
HRMR				max			
	comp=E,20nm,0.5s						
HRMR				Smax			
	comp=E,209nm,0.6s						
LSTR	**Listvyanka**	**4.46**	**226**	*e*Pn	Pn	11 57 36.3	+2.6
LSTR				*e*Pg	Pg	11 57 47.4	-4.3
LSTR				*e*Sg	Sg	11 58 44.7	-4.8
LSTR				Pmax			
	comp=E,8.0nm,1.2s						
LSTR				Smax			
	comp=E,190nm,1.8s						
CRS	**Chara**	**4.98**	**65**	*e*PN	Pn	11 57 54.7	+14
CRS				*e*		11 59 00.5	
CRS				pmax	pmax		
	comp=Z,71nm,1.2s						
CRS				smax			
	comp=E,93nm,1.4s						
CRS	**Chara**	**4.98**	**65**	*e*Pn	Pn	11 57 40.9	+0.1
CRS				*e*Pg	Pg	11 57 54.6	-7.0
CRS				*e*Sg	Sg	11 59 00.4	-5.7
CRS				Pmax			
	comp=E,35nm,1.5s						
CRS				Smax			
	comp=E,93nm,1.6s						
TLY	**Talaya**	**5.11**	**231**	*e*PN	Pn	11 57 42.9	+0.3
TLY				*e*		11 57 57.3	
TLY				*e*S	Sn	11 58 40.9	-0.5
TLY				*e*		11 59 02.5	
TLY				pmax	pmax		
	comp=Z,10.0nm,0.5s						
TLY				smax			
	comp=N,78nm,1.4s						
TLY	**Talaya**	**5.11**	**231**	*e*Pn	Pn	11 57 45.4	+2.8
TLY				*e*Pg	Pg	11 57 58.6	-5.5
TLY				*e*		11 58 43.4	
TLY				*e*Sg	Sg	11 59 05.0	-5.2
TLY				Pmax			
	comp=N,3.0nm,0.5s						
TLY				Smax			
	comp=N,79nm,1.6s						
ARS	**Arshan**	**5.53**	**238**	*e*PN	Pn	11 58 07.8	+20
ARS				*e*		11 59 16.2	
ARS				pmax	pmax		
	comp=Z,5.0nm,0.1s						
ARS				smax			
	comp=E,104nm,0.5s						
ARS	**Arshan**	**5.53**	**238**	*e*Pn	Pn	11 57 50.3	+2.0
ARS				*e*Pg	Pg	11 58 06.4	-5.6
ARS				*e*Sn	Sn	11 58 52.4	+0.8
ARS				*e*Sg	Sg	11 59 17.1	-6.4
ARS				Pmax			
	comp=E,18nm,0.8s						
ARS				Smax			
	comp=E,113nm,0.8s						
KPC	**Khapcheranga**	**5.58**	**164**	*e*PN	Pn	11 57 51.9	+2.8
KPC				*e*		11 58 08.8	
KPC				*e*S	Sn	11 58 53.5	+0.4
KPC				*e*		11 59 20.9	
KPC				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KPC				smax			
	comp=E,69nm,1.2s						
KPC	**Khapcheranga**	**5.58**	**164**	*e*Pn	Pn	11 57 52.3	+3.2
KPC				*e*Pg	Pg	11 58 07.8	-5.3
KPC				*e*Sn	Sn	11 58 54.0	+0.9
KPC				*e*Sg	Sg	11 59 19.9	-5.5
KPC				Pmax			
	comp=E,2.0nm,0.5s						
KPC				Smax			
	comp=E,69nm,1.8s						
TUP	**Tupik**	**5.80**	**92**	*e*PN	Pn	11 57 53.2	+1.2
TUP				*e*		11 58 10.5	
TUP				*e*S	Sn	11 58 58.8	+0.4
TUP				*e*		11 59 26.7	
TUP				pmax	pmax		
	comp=Z,10.0nm,0.5s						
TUP				smax			
	comp=N,77nm,0.9s						
TUP	**Tupik**	**5.80**	**92**	*e*Pn	Pn	11 57 53.3	+1.3
TUP				*e*		11 58 02.0	
TUP				*e*Pg	Pg	11 58 10.6	-6.7
TUP				*e*Sg	Sg	11 59 26.8	-5.5
TUP				Pmax			
	comp=N,8.0nm,0.7s						
TUP				Smax			
	comp=N,111nm,1.7s						
ZAK	**Zakamensk**	**6.23**	**224**	*e*Sg	Sg	11 59 38.9	-7.3
ZAK				Smax			
	comp=N,19nm,1.6s						
MOY	**Mondy**	**6.39**	**241**	*e*PN	Pn	11 58 03.3	+3.2
MOY				*e*		11 58 23.4	
MOY				*e*		11 59 45.4	
MOY				pmax	pmax		
	comp=Z,12nm,0.8s						
MOY				smax			
	comp=E,42nm,1.2s						
MOY	**Mondy**	**6.39**	**241**	⇑*i*Pn	Pn	11 58 01.8	+1.7
MOY				*e*		11 59 14.8	
MOY				*e*Sg	Sg	11 59 45.2	-5.9
MOY				max			
	comp=E,3.0nm,0.5s						
MOY				Smax			
	comp=E,37nm,1.5s						
ORL	**Orlik**	**6.55**	**251**	*e*PN	Pn	11 58 04.4	+2.0
ORL				*e*S	Sn	11 59 48.2	+31
ORL				smax			
	comp=N,23nm,0.8s						
ORL	**Orlik**	**6.55**	**251**	⇑*i*Pn	Pn	11 58 05.0	+2.6
ORL				*e*Sg	Sg	11 59 49.7	-6.8
ORL				max			
	comp=N,1.0nm,0.3s						
ORL				Smax			
	comp=N,33nm,1.0s						

ISCJB ***29*** *12:46:55.4±1.4,30°.48S±0°.05×177°.1W±0°.2,h33km,*
mb4.7/15,MS3.8/5,Error ellipse: s-maj=27.7km
s-min=5.8km az=7.8
NEIC ***29*** *12:46:55.5±2.2,30°.18S×177°.44W,h8km±12km,mb5.0/5,*
Error ellipse: s-maj=16.5km s-min=9.4km az=111.0
IDC ***29*** *12:46:55.1±0.7,29°.91S×177°.61W,h0km,mb4.6/8,*
mb1 4.8/8,mb1mx4.5/14,mbtmp4.6/8,MS3.8/6,Ms1 3.8/6,
ms1mx3.4/21,Error ellipse: s-maj=25.5km s-min=21.0km
az=110.0

ISC 29 12:46:56.6±1.3,30°.43S±0°.05×177°.0W±0°.2,h35km,n90,
σ1°.42/58,mb4.7/15,MS3.8/5,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.44**	**324**	*e*Pg	**Pn**	**12 47 15.1**	**-5.2**
RAO				*e*Sg	**Sn**	**12 47 27.0**	**-11**
MXZ	**Matakaoa Point**	**8.13**	**208**	PN	**Pn**	**12 48 52.5**	**+0.4**
PUZ	**Puketiti**	**8.59**	**206**	*e*PN	**Pn**	**12 48 57.9**	**-0.5**
PUZ				*e*SN	**Sn**	**12 50 35.1**	**+1.0**
CNGZ	**Carnagh Statio**	**8.97**	**205**	*e*PN	**Pn**	**12 49 04.3**	**+0.6**
MWZ	**Matawai**	**9.11**	**209**	*e*PN	**Pn**	**12 49 05.1**	**-0.4**
MWZ				*e*SN	**Sn**	**12 50 47.0**	**+0.2**
URZ	**Urewera**	**9.22**	**211**	Pn	**Pn**	**12 49 07.5**	**+0.4**
	0.9nm,0.3s,baz=331,slow=5.4,SNR=12						
URZ				Sn	**Sn**	**12 50 51.9**	**+2.3**
	3.2nm,0.3s,baz=142,slow=22,SNR=7.1						
URZ	**Urewera**	**9.22**	**211**	Pn	**Pn**	**12 49 07.5**	**+0.4**
URZ				Sn	**Sn**	**12 50 51.9**	**+2.3**
URZ	**Urewera**	**9.22**	**211**	*e*PN	**Pn**	**12 49 06.5**	**-0.5**
URZ				*e*SN	**Sn**	**12 50 51.1**	**+1.6**
OUZ	**Omahuta**	**9.27**	**237**	*e*Pn	**Pn**	**12 49 14.8**	**+7.0**
	11nm,0.4s						
PXZ	**Pawanui**	**10.83**	**206**	*e*SN	**Sn**	**12 51 27.0**	**-1.9**
MRZ	**Mangatainoka R**	**11.88**	**209**	*e*SN	**Sn**	**12 51 49.0**	**-5.6**
CTZ	**Chatham Island**	**13.28**	**179**	*e*SN	**Sn**	**12 52 25.4**	**-3.6**
MSVF	**Nonsavu**	**13.43**	**339**	*e*Pn	**Pn**	**12 50 08.2**	**+3.4**
THZ	**Tophouse**	**13.96**	**213**	*e*PN	**Pn**	**12 50 09.4**	**-2.4**
RPZ	**Rata Peaks**	**16.33**	**212**	Pn	**Pn**	**12 50 43.4**	**+0.3**
	1.7nm,0.3s,baz=61,slow=3.9,SNR=8.6						
RPZ				Sn	**Sn**	**12 53 34.7**	**-8.4**
	0.5nm,0.3s,baz=5.6,slow=14,SNR=3.8						
RPZ	**Rata Peaks**	**16.33**	**212**	Pn	**Pn**	**12 50 44.3**	**+1.2**
RPZ				Sn	**Sn**	**12 53 34.7**	**-8.4**
DZM	**Mont Dzumac**	**17.05**	**295**	*e*P	**Pn**	**12 50 54.7**	**+2.4**
	63nm,1.2s						
DZM				*e*LR	LR	12 54 51.0	
	738nm,24.6s						
AFI	**Afiamalu**	**17.12**	**17**	Pn	**Pn**	**12 50 46.1**	**-7.1**
	1.6nm,0.3s,baz=12,slow=19,SNR=5.9						
AFI				Sn	**Sn**	**12 53 46.6**	**-16**
	1.3nm,0.3s,baz=59,slow=21,SNR=4.7						
AFI	**Afiamalu**	**17.12**	**17**	Pn	**Pn**	**12 50 46.1**	**-7.1**
AFI				Sn	**Sn**	**12 53 46.6**	**-16**
RAR	**Rarotonga**	**17.97**	**63**	LR	LR	12 56 38.1	
	comp=Z,151nm,20.8s,baz=286,slow=32						
TBI	**Tubuai**	**25.47**	**81**	*e*LR	LR	12 58 48.6	
	430nm,27.5s						
ARMA	**Armidale**	**27.05**	**262**	*e*P	**P**	**12 52 38.7**	**+3.0**
PPT	**Papeete**	**28.01**	**69**	*e*LR	LR	12 59 51.9	
	352nm,25.5s,baz=236						
CAN	**Canberra**	**28.92**	**251**	*e*P	**P**	**12 52 54.3**	**+1.9**
	52nm,1.5s,mb5.0						
HNR	**Honiara**	**30.01**	**309**	LR	LR	13 02 41.4	
	comp=Z,146nm,18.2s,MS3.7,baz=98,slow=32						
RMQ	**Roma**	**30.33**	**269**	*e*P	**P**	**12 53 06.6**	**+1.6**
	12nm,0.9s,mb4.6						
CTA	**Charters Tower**	**34.70**	**279**	*e*P	**P**	**12 53 42.9**	**-0.3**
	13nm,0.9s,mb4.9						
CTAO	**Charters Tower**	**34.70**	**279**	*e*P	**P**	**12 53 43.0**	**-0.2**
	20nm,0.8s,mb5.1						
STKA	**Stephens Creek**	**35.35**	**257**	P	**P**	**12 53 50.5**	**+1.8**
	9.4nm,0.4s,mb5.1,baz=96,slow=10,SNR=27						
STKA				LR	LR	13 05 39.1	
	comp=Z,162nm,21.4s,MS3.8,baz=24,slow=32						
STKA	**Stephens Creek**	**35.35**	**257**	*e*P	**P**	**12 53 50.5**	**+1.7**
	8.7nm,0.4s,mb5.0						
STKA	**Stephens Creek**	**35.35**	**257**	P	**P**	**12 53 50.5**	**+1.8**
COEN	**Coen**	**40.15**	**285**	*e*P	**P**	**12 54 29.0**	**-0.4**
	17nm,0.7s,mb4.9						
TAOE	**Nuku Hiva Isla**	**40.49**	**66**	*e*LR	LR	13 05 36.8	
	304nm,28.8s						
AS31	**Alice Springs**	**44.01**	**266**	*e*P	**P**	**12 55 00.1**	**-0.8**
ASAR	**Alice Springs**	**44.01**	**266**	P	**P**	**12 54 59.6**	**-1.3**
	3.0nm,0.4s,mb4.4,baz=105,slow=7.4,SNR=138						
ASAR	**Alice Springs**	**44.01**	**266**	P	**P**	**12 54 59.6**	**-1.3**
WB2	**Warramunga Arr**	**44.99**	**272**	*e*P	**P**	**12 55 07.4**	**-1.4**
WRAB	**Tennant Creek**	**45.00**	**272**	*e*P	**P**	**12 55 07.3**	**-1.5**
	14nm,0.3s,mb5.3						
WRA	**Warramunga Arr**	**45.00**	**272**	P	**P**	**12 55 07.3**	**-1.5**
	15nm,0.3s,mb5.3,baz=110,slow=8.1,SNR=392						
WRA				LR	LR	13 13 35.0	
	comp=Z,154nm,19.1s,MS4.0,baz=115,slow=36						
WRA	**Warramunga Arr**	**45.00**	**272**	P	**P**	**12 55 07.3**	**-1.5**
FORT	**Forrest**	**46.91**	**255**	*e*P	**P**	**12 55 21.3**	**-2.5**
	9.3nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**53.26**	**269**	*e*P	**P**	**12 56 11.4**	**-0.7**
	9.4nm,1.0s,mb4.7						
FITZ	**Fitzroy Crossi**	**53.26**	**269**	*e*P	**P**	**12 56 11.6**	**-0.5**
	7.2nm,0.9s,mb4.6						
QSPA	**South Pole Qui**	**59.68**	**180**	P	**P**	**12 57 05.5**	**+8.6**
	6.6nm,1.0s,mb4.6,baz=33,slow=2.0,SNR=32

KEV	**Kevo**	**138.35 348**	*e*pkp	PKPdf	13 06 24.9	+7.6
ARCES	**ARCESS Array B**	**138.81 348**	PKhKP	PKPpre	13 06 12.2	
	2.2nm,0.8s,baz=92,slow=4.3,SNR=9.6					
ARCES			PKP	PKPdf	13 06 18.5	+0.4
	4.9nm,1.1s,baz=41,slow=1.8,SNR=11					
ARCES	**ARCESS Array B**	**138.81 348**	PKPpre	PKPpre	13 06 12.2	
ARCES			PKP	PKPdf	13 06 18.5	+0.4
JOF	**Joensuu**	**142.77 339**	*e*pkp	PKPdf	13 06 21.5	-3.9
KAF	**Kangasniemi**	**144.87 341**	*e*pkp	PKPdf	13 06 28.2	-0.9
FINES	**FINESS Array B**	**145.48 341**	PKP	PKPdf	13 06 31.4	+1.2
	23nm,0.7s,baz=57,slow=3.9,SNR=116					
FINES	**FINESS Array B**	**145.48 341**	PKP	PKPdf	13 06 31.4	+1.2
NB2	**NORSAR Subarra**	**148.91 352**	PKP	PKPbc	13 06 42.0	+2.1
	comp=Z,2.0nm,0.6s,baz=15,slow=2.6					
NOA	**NORSAR Array B**	**148.91 352**	PKPbc	PKPbc	13 06 42.1	+2.2
	comp=Z,3.2nm,0.8s,baz=14,slow=4.1,SNR=10					
NOA	**NORSAR Array B**	**148.91 352**	PKPbc	PKPbc	13 06 42.1	+2.2
HFS	**Hagfors**	**149.45 350**	PKPbc	PKPbc	13 06 43.2	+1.9
	comp=Z,2.8nm,0.5s,baz=44,slow=4.7,SNR=16					
HFS	**Hagfors**	**149.45 350**	PKPbc	PKPbc	13 06 43.2	+1.9
AKASG	**Malin Array Be**	**151.87 323**	PKPbc	PKPbc	13 06 49.0	+1.7
	comp=Z,1.2nm,0.3s,baz=48,slow=2.3,SNR=15					
AKASG			PKPab	PKPab	13 06 55.0	-1.6
	comp=Z,1.3nm,0.3s,baz=46,slow=3.4,SNR=8.5					
AKASG	**Malin Array Be**	**151.87 323**	PKPbc	PKPbc	13 06 49.0	+1.7
AKASG			PKPab	PKPab	13 06 55.0	-1.5
KIEV	**Kiev**	**151.88 323**	*e*PKPbc	PKPbc	13 06 49.1	+1.8
BRTR	**Keskin Array B**	**153.41 299**	PKPbc	PKPbc	13 06 53.0	+1.9
	comp=Z,5.3nm,1.1s,baz=129,slow=4.0,SNR=9.0					
BRTR			PKPab	PKPab	13 07 04.3	+0.9
	comp=Z,1.2nm,0.7s,baz=60,slow=2.4,SNR=3.0					
BRTR	**Keskin Array B**	**153.41 299**	PKPbc	PKPbc	13 06 53.0	+1.9
BRTR			PKPab	PKPab	13 07 04.3	+0.9
DBIC	**Dimbokro**	**155.23 161**	PKPbc	PKPdf	13 07 03.2	+16
	comp=Z,4.4nm,0.9s,baz=107,slow=3.5,SNR=3.3					
CLL	**Collm**	**157.87 343**	*i* PKPab	PKPab	13 07 23.1	+1.1
	comp=Z,8.0nm,0.8s					
VRAC	**Vranov**	**158.53 335**	PKPab	PKPab	13 07 26.8	+1.9
	comp=Z,0.8nm,0.5s,baz=9.6,slow=3.9,SNR=3.0					
VRAC	**Vranov**	**158.53 335**	PKPab	PKPab	13 07 26.8	+1.9
KHC	**Kasperske Hory**	**159.68 340**	*e*PKPAB	PKPab	13 07 29.0	-1.0
GERES	**GERESS Array B**	**159.90 339**	PKPab	PKPab	13 07 32.0	+1.1
	comp=Z,0.7nm,0.7s,baz=35,slow=3.3,SNR=6.5					
GERES	**GERESS Array B**	**159.90 339**	PKPab	PKPab	13 07 32.0	+1.1
TORD	**Torodi Ar. Bea**	**162.76 176**	PKPab	PKPab	13 07 49.9	+5.7
	comp=Z,0.9nm,0.5s,baz=167,slow=3.8,SNR=5.4					
TORD	**Torodi Ar. Bea**	**162.76 176**	PKPab	PKPab	13 07 49.9	+5.7
DAVOX	**Davos/Dischmat**	**162.84 344**	PKPab	PKPab	13 07 45.8	+2.0
	comp=Z,2.2nm,0.5s,baz=39,slow=3.6,SNR=5.5					
DAVOX	**Davos/Dischmat**	**162.84 344**	PKPab	PKPab	13 07 45.8	+2.0

*IDC **29** 13:45:35.0±2.4, 22.76S×175.10W, h0km, mb4.2/5, mb1 4.4/6, mb1mx4.1/17, mbtmp4.2/6, ML2.6/1, Error ellipse: s-maj=99.1km s-min=24.7km az=148.0*
*NEIC **29** 13:45:35.0±1.0, 23.18S×175.05W, h10km, mb4.6/1, Error ellipse: s-maj=28.3km s-min=19.7km az=165.0*
*ISCJB **29** 13:45:36.9±1.4, 23.0S±0.2×175.1W±0.2, h33km, mb4.2/6, Error ellipse: s-maj=29.6km s-min=24.0km az=166.1*

ISC 29 13:45:38.9±1.3, 23.1S±0.2×175.1W±0.2, h35km, n20, σ1s06/16, mb4.2/6, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**8.36**	**308**	Pn	**Pn**	**13 47 37.4**	**-0.2**
	29nm,1.1s						
AFI	**Afiamalu**	**9.66**	**20**	Pn	**Pn**	**13 47 49.0**	**-6.4**
	3.5nm,0.3s,baz=207,slow=6.8,SNR=7.1						
AFI				Sn	Sx	13 49 24.5	
	1.6nm,0.3s,baz=54,slow=23,SNR=2.7						
AFI	**Afiamalu**	**9.66**	**20**	Pn	**Pn**	**13 47 49.0**	**-6.4**
AFI				Sn	Sx	13 49 24.5	
CTA	**Charters Tower**	**36.00**	**267**	P	**P**	**13 52 38.1**	**+1.3**
	3.2nm,0.7s,mb4.4,baz=98,slow=11,SNR=8.8						
CTA	**Charters Tower**	**36.00**	**267**	P	**P**	**13 52 38.1**	**+1.3**
AS31	**Alice Springs**	**46.62**	**259**	*e*P	**P**	**13 54 02.7**	**-1.2**
ASAR	**Alice Springs**	**46.62**	**259**	P	**P**	**13 54 04.7**	**+0.8**
	3.7nm,0.8s,mb4.4,baz=93,slow=8.0,SNR=37						
ASAR	**Alice Springs**	**46.62**	**259**	P	**P**	**13 54 04.7**	**+0.8**
WB2	**Warramunga Arr**	**46.96**	**264**	*e*P	**P**	**13 54 05.6**	**-1.0**
WRAB	**Tennant Creek**	**46.96**	**264**	*e*P	**P**	**13 54 05.9**	**-0.8**
	4.4nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**46.97**	**264**	P	**P**	**13 54 07.0**	**+0.2**
	2.0nm,0.8s,mb4.1,baz=90,slow=5.9,SNR=40						
WRA	**Warramunga Arr**	**46.97**	**264**	P	**P**	**13 54 07.0**	**+0.2**
NVAR	**Mina Array Bea**	**81.09**	**42**	P	**P**	**13 57 50.1**	**-0.4**
	0.4nm,0.7s,mb3.4,baz=234,slow=7.4,SNR=4.0						
NVAR	**Mina Array Bea**	**81.09**	**42**	P	**P**	**13 57 50.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**93.52**	**288**	P	**P**	**13 58 54.4**	**+2.8**
	1.2nm,0.8s,mb4.4,baz=120,slow=3.3,SNR=8.0						
CMAR	**Chiang Mai Arr**	**93.52**	**288**	P	**P**	**13 58 54.4**	**+2.8**
AKASG	**Malin Array Be**	**146.58**	**332**	PKPbc	PKPbc	14 05 17.6	+1.2
	2.0nm,0.6s,baz=40,slow=3.4,SNR=9.6						
AKASG	**Malin Array Be**	**146.58**	**332**	PKPbc	PKPbc	14 05 17.6	+1.2
BRTR	**Keskin Array B**	**150.58**	**311**	PKPbc	PKPbc	14 05 28.6	+1.5
	1.3nm,0.8s,baz=121,slow=4.1,SNR=4.3						
BRTR				PKPab	PKPab	14 05 35.7	+1.8
	1.0nm,0.7s,baz=22,slow=4.5,SNR=3.7						
BRTR	**Keskin Array B**	**150.58**	**311**	PKPbc	PKPbc	14 05 28.6	+1.5
BRTR				PKPab	PKPab	14 05 35.7	+1.8

*ISCJB **29** 13:50:20.1±0.6, 67.10N±0.05×142.3W±0.1, h10km, Error ellipse: s-maj=8.2km s-min=5.7km az=154.4*
*NEIC **29** 13:50:23.7, 67.11N×142.45W, h40km, ML2.6(AEIC), After AEIC.*
*PGC **29** 13:50:27.5±1.9, 66.79N×140.79W, h1km, ML2.9/2, 284km west of Fort McPherson, Nt Northern Yukon Territory, Canada*

ISC 29 13:50:21.6±0.6, 67.12N±0.05×142.4W±0.1, h10km, n19, σ0s89/25, 1D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BM3	**Burnt Mountain**	**0.92**	**290**	P	**Pg**	**13 50 40.2**	**+0.9**
EGAK	**Eagle**	**2.40**	**168**	P	**Pn**	**13 50 59.5**	**-1.3**
EGAK				S	**Sn**	**13 51 31.4**	**+1.1**
IL1	**Eielson Array**	**3.00**	**220**	P	**Pn**	**13 51 08.3**	**-0.7**
IL1				S	**Sn**	**13 51 46.5**	**+1.6**
COLD	**Coldfoot**	**3.06**	**276**	P	**Pn**	**13 51 10.2**	**+0.3**
COLA	**College**	**3.18**	**227**	P	**Pn**	**13 51 11.0**	**-0.5**
COLA				S	**Sn**	**13 51 53.9**	**+4.4**
MDM	**Murphy Dome**	**3.23**	**231**	P	**Pn**	**13 51 12.0**	**-0.3**
DAWY	**Dawson**	**3.30**	**157**	P	**Pn**	**13 51 12.4**	**-0.9**
DAWY	**Dawson**	**3.30**	**157**	⇑Pn	**Pn**	**13 51 13.4**	**+0.2**
HDA	**Harding Lake**	**3.32**	**217**	P	**Pn**	**13 51 13.0**	**-0.5**
WRH	**Wood River Hil**	**3.55**	**224**	P	**Pn**	**13 51 15.8**	**-0.9**
INK	**Inuvik**	**3.58**	**66**	*e*Pn	**Pn**	**13 51 18.1**	**+1.1**
INK				*e*Sn	**Sn**	**13 52 00.5**	**+1.3**
INK	**Inuvik**	**3.58**	**66**	⇑Pn	**Pn**	**13 51 18.3**	**+1.3**
INK				⇓Sn	**Sn**	**13 51 58.4**	**-0.8**
BCA3	**Beaver Creek A**	**4.08**	**176**	P	**Pn**	**13 51 24.1**	**+0.2**
MENT	**Mentasta**	**4.24**	**188**	*e*Pn	**Pn**	**13 51 25.7**	**-0.4**
PAX	**Paxson**	**4.37**	**199**	P	**Pn**	**13 51 27.9**	**0.0**
BPAW	**Bear Paw Mtn.**	**4.68**	**234**	*e*Pn	**Pn**	**13 51 30.8**	**-1.4**
HYT	**Haines Junctio**	**6.67**	**159**	⇑Pn	**Pn**	**13 52 00.5**	**+1.1**
RSO	**Redoubt South**	**8.10**	**219**	*e*Pn	**Pn**	**13 52 19.7**	**+0.6**
	45nm,0.4s						
CTLN	**Castor Lake**	**11.11**	**92**	⇑Pn	**Pn**	**13 52 59.2**	**-1.0**
CTLN				⇑Sn	**Sn**	**13 54 54.8**	**-9.4**

*IDC **29** 14:20:28.9±4.9, 5.34S×150.08E, h97km±44km, mb3.4/3, mb1 3.8/5, mb1mx3.4/15, mbtmp3.6/5, Error ellipse: s-maj=90.3km s-min=32.2km az=127.0*
*ISCJB **29** 14:20:30.2±2.6, 5.65S±0.2×150.1E±0.1, h128km±20km, mb3.9/4, Error ellipse: s-maj=27.5km s-min=18.5km az=145.7*
*NEIC **29** 14:20:32.9±2.3, 5.36S×149.60E, h139km±17km, mb4.7/1, Error ellipse: s-maj=27.3km s-min=19.8km az=109.0*

ISC 29 14:20:31.6±2.7, 5.5S±0.2×150.0E±0.2, h127km±20km, n28, σ1s20/29, mb3.9/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.78**	**215**	P	**Sn**	**14 21 42.3**	**+0.7**
	28nm,0.3s,baz=24,slow=4.7,SNR=70						
PMG				S	**Sn**	**14 22 36.9**	**+0.7**
	91nm,0.3s,baz=169,slow=14,SNR=12						
PMG	**Port Moresby**	**4.78**	**215**	P	**Pn**	**14 21 42.3**	**+0.6**
PMG				S	**Sn**	**14 22 36.9**	**+0.7**
COEN	**Coen**	**10.74**	**218**	*e*Pn	**Pn**	**14 23 00.6**	**-1.3**
	390nm,0.1s						
COEN				*e*Sn	**Sn**	**14 24 59.7**	**-0.7**
CTA	**Charters Tower**	**14.95**	**194**	P	**Pn**	**14 23 59.4**	**+2.8**
	0.2nm,0.3s,baz=15,slow=12,SNR=5.1						
CTA	**Charters Tower**	**14.95**	**194**	*e*P	**Pn**	**14 23 59.9**	**+3.3**
	3.5nm,0.9s						
CTA	**Charters Tower**	**14.95**	**194**	P	**Pn**	**14 23 59.4**	**+2.8**
CTAO	**Charters Tower**	**14.95**	**194**	*e*Pn	**Pn**	**14 23 57.3**	**+0.7**
EIDS	**Eidsvold**	**19.80**	**177**	*e*P	**P**	**14 24 51.0**	**-1.2**
	29nm,0.4s						
WRAB	**Tennant Creek**	**20.89**	**225**	*e*P	**P**	**14 25 03.2**	**-0.7**
	3.9nm,0.8s						
WB2	**Warramunga Arr**	**20.90**	**225**	*e*P	**P**	**14 25 02.0**	**-2.0**
WRA	**Warramunga Arr**	**20.90**	**225**	P	**P**	**14 25 06.2**	**+2.1**
	1.7nm,0.4s,baz=52,slow=11,SNR=32						
WRA	**Warramunga Arr**	**20.90**	**225**	P	**P**	**14 25 06.2**	**+2.1**
RMQ	**Roma**	**20.91**	**183**	*e*P	**P**	**14 25 03.7**	**-0.4**
	16nm,1.2s						
DZM	**Mont Dzumac**	**22.95**	**137**	*e*P	**P**	**14 25 20.8**	**-4.3**
AS31	**Alice Springs**	**23.78**	**219**	*e*P	**P**	**14 25 31.7**	**-0.9**
ASAR	**Alice Springs**	**23.78**	**219**	P	**P**	**14 25 35.0**	**+2.4**
	1.6nm,0.4s,mb3.7,baz=55,slow=8.9,SNR=47						
ASAR	**Alice Springs**	**23.78**	**219**	P	**P**	**14 25 35.0**	**+2.4**
STKA	**Stephens Creek**	**27.40**	**196**	P	**P**	**14 26 05.0**	**-0.2**
	2.6nm,0.5s,mb4.0,baz=35,slow=14,SNR=14						
STKA	**Stephens Creek**	**27.40**	**196**	*e*P	**P**	**14 26 04.5**	**-0.7**
	1.8nm,0.4s,mb4.0						
STKA	**Stephens Creek**	**27.40**	**196**	P	**P**	**14 26 05.0**	**-0.2**
FORT	**Forrest**	**32.50**	**217**	*e*P	**P**	**14 26 51.8**	**+1.5**
	7.5nm,0.6s,mb4.7						
FORT	**Forrest**	**32.50**	**217**	*e*P	**P**	**14 26 49.8**	**-0.5**
	9.1nm,0.7s,mb4.7						
VNDA	**Vanda**	**72.27**	**177**	*e*P	**P**	**14 31 43.3**	**+0.6**
ILAR	**Eielson Array**	**83.87**	**23**	P	**P**	**14 32 46.3**	**-0.4**
	0.3nm,0.8s,mb3.2,baz=250,slow=5.3,SNR=3.9						
ILAR	**Eielson Array**	**83.87**	**23**	P	**P**	**14 32 46.3**	**-0.4**
QSPA	**South Pole Qui**	**84.48**	**180**	*e*P	**P**	**14 32 50.4**	**+0.7**
TORD	**Torodi Ar. Bea**	**147.79**	**286**	PKPbc	PKPbc	14 40 03.0	+0.3
	0.2nm,0.5s,baz=96,slow=0.8,SNR=3.1						
TORD	**Torodi Ar. Bea**	**147.79**	**286**	PKPbc	PKPbc	14 40 03.0	+0.3

ISC 29 14:46:04.0±2.5, 38.3N±0.2×73.7E±0.2, h35km, n8, σ0s91/11, 3C, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**2.17**	**54**	Pg	**Pn**	**14 46 36.3**	**-1.3**
KSH				Sg	**Sn**	**14 46 56.3**	**-7.0**
KSH				smax			
	comp=N,120nm,0.3s						
KSH				smax			
	comp=E,100nm,0.4s						
AML	**Almayashu**	**3.87**	**360**	P	**Pn**	**14 47 01.5**	**+0.6**
	SNR=7.2						
KZA	**Kyzart**	**3.99**	**17**	P	**Pn**	**14 47 03.6**	**+0.9**
	SNR=6.5						
EKS2	**Erkin-Say**	**4.40**	**1**	P	**Pn**	**14 47 08.4**	**+0.2**
	SNR=9.6						
ULHL	**Ulahol**	**4.43**	**25**	P	**Pn**	**14 47 09.7**	**+1.0**
	SNR=6.0						
TKM2	**Tokmak 2**	**4.88**	**17**	P	**Pn**	**14 47 15.4**	**+0.6**
	SNR=5.5						
TKM2	**Tokmak 2**	**4.88**	**17**	⇑Pn	**Pn**	**14 47 15.2**	**+0.5**
	comp=E,3.0nm,0.7s						
TKM2				⇑Sn	**Sn**	**14 48 09.2**	**-0.7**
	comp=E,1.8nm,0.8s						
KK31	**Karatay Array**	**5.41**	**334**	Pn	**Pn**	**14 47 20.8**	**-1.3**
	comp=E,0.6nm,0.3s,baz=143,slow=12,SNR=12						
KK31				⇑Sn	**Sn**	**14 48 16.9**	**-6.2**
	comp=E,3.5nm,0.3s,baz=153,slow=22,SNR=26						

*DDA **29** 14:55:30.3, 40.66N×36.99E, h15km, Md3.3*
*ISCJB **29** 14:55:31.6±0.3, 40.63N±0.03×36.99E±0.02, h10km, Error ellipse: s-maj=3.8km s-min=2.4km az=20.7*
*CSEM **29** 14:55:31.5±0.1, 40.64N×36.99E, h2km, MD3.3, Error ellipse: s-maj=4.7km s-min=2.9km az=12.0*
*ISK **29** 14:55:31.1, 40.65N×36.98E, h6km, ML3.5*

ISC 29 14:55:32.3±0.3, 40.63N±0.02×36.96E±0.02, h10km, n76, σ1s12/100, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERBA	**Erbaa**	**0.16**	**288**	*i* P	**Pg**	**14 55 35.1**	**-0.8**
ERBA				*i* S	**Sg**	**14 55 38.0**	**-0.3**
ERBA	**Erbaa**	**0.16**	**288**	*i* P	**Pg**	**14 55 35.1**	**-0.8**
ERBA				*i* S	**Sg**	**14 55 38.0**	**-0.3**
RSDY	**Resadiye-TOKAT**	**0.36**	**129**	*e*PG	**Pg**	**14 55 38.7**	**-0.8**
RSDY				*e*SG	**Sg**	**14 55 44.0**	**-0.4**
RSDY	**Resadiye-TOKAT**	**0.36**	**129**	*e*Pg	**Pg**	**14 55 38.7**	**-0.8**
RSDY				*e*Sg	**Sg**	**14 55 44.0**	**-0.3**
TOKA	**Tokat**	**0.48**	**230**	*i* P	**Pg**	**14 55 40.5**	**-1.1**
TOKA	**Tokat**	**0.48**	**230**	*i* P	**Pg**	**14 55 40.5**	**-1.1**
SCER	**sogukcermik**	**0.78**	**170**	*i* P	**Pg**	**14 55 45.7**	**-1.6**
SCER				*i* S	**Sg**	**14 55 57.6**	**+0.1**
SCER	**sogukcermik**	**0.78**	**170**	*i* P	**Pg**	**14 55 45.7**	**-1.6**
SCER				*i* S	**Sg**	**14 55 57.6**	**+0.1**
KVT	**Kavak**	**0.83**	**303**	*e*PG	**Pg**	**14 55 47.6**	**-0.7**
KVT				*e*SG	**Sg**	**14 55 59.0**	**-0.1**
KVT	**Kavak**	**0.83**	**303**	*e*Pg	**Pg**	**14 55 47.6**	**-0.6**
KVT				*e*Sg	**Sg**	**14 55 59.0**	**0.0**
GRSN	**GIRESUNGRSN**	**1.04**	**73**	*i* P	**Pg**	**14 55 49.4**	**-2.9**
GRSN				*i* S	**Sg**	**14 56 02.7**	**-3.0**
GRSN	**GIRESUNGRSN**	**1.04**	**73**	*i* P	**Pg**	**14 55 49.4**	**-2.9**
GRSN				*i* S	**Sg**	**14 56 02.7**	**-3.0**
SUSE	**Susehri**	**1.04**	**113**	*i* P	**Pg**	**14 55 49.8**	**-2.4**
SUSE				*i* S	**Sg**	**14 56 04.0**	**-1.7**
SUSE	**Susehri**	**1.04**	**113**	*i* P	**Pg**	**14 55 49.8**	**-2.5**
SUSE				*i* S	**Sg**	**14 56 04.0**	**-1.8**
ESPY	**Espiye-Giresun**	**1.37**	**77**	*e*PN	**Pn**	**14 55 56.2**	**-1.3**
ESPY	**Espiye-Giresun**	**1.37**	**77**	*e*Pn	**Pn**	**14 55 56.2**	**-1.3**
YOZ	**Yozgat**	**1.60**	**232**	*e*PN	**Pn**	**14 56 00.6**	**-0.1**
YOZ	**Yozgat**	**1.60**	**232**	*e*Pn	**Pn**	**14 56 00.5**	**-0.1**
DIKM	**Dikmen**	**1.64**	**309**	*e*PN	**Pb**	**14 56 01.6**	**-1.0**
DIKM	**Dikmen**	**1.64**	**309**	*e*Pn	**Pb**	**14 56 01.6**	**-1.0**
CTKT	**Corum**	**1.65**	**270**	*i* P	**Pn**	**14 56 00.5**	**-0.8**
CTKT				*i* S	**Sn**	**14 56 22.0**	**-0.6**
CTKT	**Corum**	**1.65**	**270**	*i* P	**Pn**	**14 56 00.5**	**-0.8**
BOYT	**Boyabat**	**1.74**	**298**	*i* P	**Pn**	**14 56 02.5**	**-0.1**
BOYT				*i* S	**Sg**	**14 56 27.4**	**-1.0**
BOYT	**Boyabat**	**1.74**	**298**	*i* P	**Pn**	**14 56 02.5**	**-0.1**
BOYT				*i* S	**Sg**	**14 56 27.4**	**-1.0**
KEMA	**Kemaliye**	**1.80**	**139**	*i* P	**Pb**	**14 56 04.0**	**-1.4**
KEMA				*i* S	**Sg**	**14 56 28.9**	**-1.3**
KEMA	**Kemaliye**	**1.80**	**139**	*i* P	**Pb**	**14 56 04.0**	**-1.3**
KEMA				*i* S	**Sg**	**14 56 28.9**	**-1.2**
CORM	**Corum**	**1.83**	**257**	*e*PN	**Pn**	**14 56 04.0**	**+0.1**
CORM	**Corum**	**1.83**	**257**	*e*Pn	**Pn**	**14 56 04.0**	**+0.1**
GUMT	**Gumushane**	**1.93**	**94**	*e*PN	**Pn**	**14 56 05.2**	**0.0**
GUMT	**Gumushane**	**1.93**	**94**	*e*Pn	**Pn**	**14 56 05.2**	**+0.1**
SARI	**SarD1z-Kayseri**	**1.96**	**186**	*e*PN	**Pg**	**14 56 10.8**	**+0.9**
SARI	**SarD1z-Kayseri**	**1.96**	**186**	*e*Pn	**Pg**	**14 56 10.8**	**+0.9**
BNN	**Bunyan**	**1.97**	**206**	*e*PN	**Pn**	**14 56 06.0**	**+0.3**
BNN	**Bunyan**	**1.97**	**206**	*e*Pn	**Pn**	**14 56 06.0**	**+0.3**
EZC	**Erzincan**	**2.03**	**115**	*e*PN	**Pn**	**14 56 06.8**	**+0.2**
EZC	**Erzincan**	**2.03**	**115**	*e*Pn	**Pn**	**14 56 06.8**	**+0.2**
KTUT	**Trabzon**	**2.16**	**80**	*e*PN	**Pn**	**14 56 08.5**	**+0.1**
KTUT	**Trabzon**	**2.16**	**80**	*e*Pn	**Pn**	**14 56 08.5**	**+0.2**
TOS	**Tosya**	**2.27**	**281**	*e*PN	**Pn**	**14 56 10.6**	**+0.9**
TOS	**Tosya**	**2.27**	**281**	*e*Pn	**Pn**	**14 56 10.6**	**+0.8**
ERZN	**Erzincan**	**2.36**	**115**	*e*PN	**Pn**	**14 56 11.8**	**+0.7**
BAYT	**Ayd¨–ntepe-Bay**	**2.44**	**95**	*e*PN	**Pn**	**14 56 12.7**	**+0.5**
BAYT	**Ayd¨–ntepe-Bay**	**2.44**	**95**	*e*Pn	**Pn**	**14 56 12.7**	**+0.6**
AKCD	**Akcadag**	**2.45**	**162**	*i* P	**Pn**	**14 56 12.9**	**+0.6**
AKCD				*i* S	**Sg**	**14 56 51.5**	**+0.5**
AKCD	**Akcadag**	**2.45**	**162**	*i* P	**Pn**	**14 56 12.9**	**+0.6**
AVNT	**Avonos**	**2.46**	**222**	*i* P	**Pn**	**14 56 13.4**	**+1.0**
AVNT				*i* S	**Sg**	**14 56 49.5**	**-1.8**
AVNT	**Avonos**	**2.46**	**222**	*i* P	**Pn**	**14 56 13.4**	**+1.0**
PTK	**Pertek**	**2.56**	**132**	*e*PN	**Pn**	**14 56 13.3**	**-0.4**
PTK	**Pertek**	**2.56**	**132**	*e*Pn	**Pn**	**14 56 13.3**	**-0.5**
MALT	**Malatya**	**2.58**	**153**	*e*PN	**Pn**	**14 56 14.9**	**+0.9**
MALT	**Malatya**	**2.58**	**153**	*e*Pn	**Pn**	**14 56 15.0**	**+0.9**
BZK	**Bozkurt**	**2.59**	**302**	*e*PN	**Pn**	**14 56 15.4**	**+1.1**
BZK	**Bozkurt**	**2.59**	**302**	*e*Pn	**Pn**	**14 56 15.4**	**+1.1**
ELDT	**Eldivan**	**2.69**	**268**	*i* P	**Pn**	**14 56 16.0**	**+0.3**
ELDT	**Eldivan**	**2.69**	**268**	*i* P	**Pn**	**14 56 16.0**	**+0.3**
KOPT	**Kop Dagi**	**2.77**	**102**	*i* P	**Pb**	**14 56 23.6**	**+1.6**
BALT	**Daday**	**2.85**	**290**	*i* P	**Pn**	**14 56 18.9**	**+1.1**
BALT				*i* S	**Sg**	**14 57 01.9**	**-1.9**
BALT	**Daday**	**2.85**	**290**	*i* P	**Pn**	**14 56 18.9**	**+1.1**
KMRS	**Kahramanmaras**	**3.12**	**181**	*e*PN	**Pn**	**14 56 22.5**	**+1.0**
KMRS	**Kahramanmaras**	**3.12**	**181**	*e*Pn	**Pn**	**14 56 22.5**	**+1.0**
AFSR	**Af¨ar-Bala (A**	**3.21**	**250**	*e*PN	**Pn**	**14 56 23.9**	**+1.2**
AFSR	**Af¨ar-Bala (A**	**3.21**	**250**	*e*Pn	**Pn**	**14 56 23.9**	**+1.1**
KOZT	**Kozan**	**3.27**	**196**	*e*PN	**Pn**	**14 56 24.7**	**+1.2**
SAFT	**Safranbolu**	**3.29**	**282**	*e*PN	**Pn**	**14 56 25.3**	**+1.4**
SAFT	**Safranbolu**	**3.29**	**282**	*e*Pn	**Pn**	**14 56 25.3**	**+1.4**
SULT	**Sultanhani-AKS**	**3.61**	**229**	*e*PN	**Pn**	**14 56 29.9**	**+1.6**
SULT	**Sultanhani-AKS**	**3.61**	**229**	*e*Pn	**Pn**	**14 56 29.9**	**+1.7**
BCA	**Borcka**	**3.62**	**75**	*e*PN	**Pn**	**14 56 29.1**	**+0.7**
BCA	**Borcka**	**3.62**	**75**	*e*Pn	**Pn**	**14 56 29.1**	**+0.7**
DDEM	**Demirkent**	**3.65**	**84**	*i* P	**Pn**	**14 56 31.4**	**+2.6**
DDEM				*i* S	**Sn**	**14 57 16.5**	**+4.6**
DDEM	**Demirkent**	**3.65**	**84**	*i* P	**Pn**	**14 56 31.4**	**+2.6**
DAGI	**Agillar**	**3.79**	**82**	*i* P	**Pn**	**14 56 32.9**	**+2.3**
ARTV	**Artvin**	**3.81**	**80**	*i* P	**Pn**	**14 56 31.9**	**+1.0**
ARTV				*i* S	**Sn**	**14 57 15.8**	**0.0**
ARTV	**Artvin**	**3.81**	**80**	*i* P	**Pn**	**14 56 31.9**	**+0.9**
ARTV				*i* S	**Sn**	**14 57 15.8**	**0.0**
AKH	**Akhalkalaki**	**5.00**	**79**	P	**Pn**	**14 56 52.0**	**+4.5**
ONI	**Oni**	**5.25**	**66**	P	**Pn**	**14 56 51.8**	**+1.0**
ONI				S	**Sn**	**14 57 50.7**	**-0.6**

*ISCJB **29** 14:58:09.1±0.6, 56.3S±0.1×25.0W±0.2, h10km, mb4.2/5, Error ellipse: s-maj=15.9km s-min=13.8km az=135.2*
*IDC **29** 14:58:10.0±1.1, 56.31S×24.81W, h0km, mb4.2/3, mb1 4.2/3, mb1mx3.9/12, mbtmp4.1/3, Error ellipse: s-maj=50.6km s-min=39.2km az=49.0*
*NEIC **29** 14:58:14.5±0.5, 56.31S×25.00W, h35km, mb4.2/3, Error ellipse: s-maj=13.9km s-min=12.1km az=208.0*

ISC 29 14:58:11.2±0.7, 56.3S±0.1×24.9W±0.2, h10km, n20, σ0s77/14, mb4.2/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**18.01**	**157**	*e*Pn	**Pn**	**15 02 22.2**	**+1.0**
	11nm,1.3s						
EFI	**East Falkland**	**19.94**	**269**	*e*P	**Pn**	**15 02 40.3**	**-4.3**
	481nm,1.8s						
PMSA	**Palmer Station**	**20.74**	**230**	P	**P**	**15 02 50.1**	**-1.5**
QSPA	**South Pole Qui**	**33.96**	**180**	*e*Pn	**P**	**15 04 54.5**	**+0.4**
	6.2nm,0.5s,mb4.8						
CPUP	**Villa Florida**	**37.97**	**308**	P	**P**	**15 05 29.4**	**+0.5**

mb3.2/3, Error ellipse: s-maj=28.6km s-min=16.8km az=154.3
*NEIC **29** 15:28:33.0±0.9, 19°.57S×66°.46W, h249km±11km, Error ellipse: s-maj=21.8km s-min=12.6km az=64.0*
ISC 29 15:28:33.4±1.1, 19°.65S±0°.1×66°.4W±0°.2, h254km±14km, n11, σ0s33/9, mb3.3/3, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.65**	**334**		*e*P	**Pn**	**15 29 33.5**	**+0.1**
LCO	**Las Campanas**	**10.16**	**202**		*e*Pn	**Pn**	**15 30 54.0**	**+0.2**
CPUP	**Villa Florida**	**10.75**	**130**		*e*Pn	**Pn**	**15 31 01.0**	**-0.3**
TXAR	**Lajitas Array**	**60.45**	**323**	P		**P**	**15 38 16.0**	**-0.6**
	0.2nm,0.6s,mb3.0,baz=134,slow=8.9,SNR=2.8							
TXAR	**Lajitas Array**	**60.45**	**323**	P		**P**	**15 38 16.0**	**-0.6**
PDAR	**Pinedale Array**	**73.65**	**328**	P		**P**	**15 39 39.2**	**+0.2**
	0.3nm,0.5s,mb3.2,baz=120,slow=6.3,SNR=4.2							
PDAR	**Pinedale Array**	**73.65**	**328**	P		**P**	**15 39 39.2**	**+0.2**
TORD	**Torodi Ar. Bea**	**74.53**	**70**	P		**P**	**15 39 45.2**	**+0.4**
	0.7nm,0.4s,mb3.6,baz=254,slow=5.5,SNR=11							
TORD	**Torodi Ar. Bea**	**74.53**	**70**	P		**P**	**15 39 45.2**	**+0.4**
SONM	**Songino Array**	**151.22**	**10**	PKPbc		PKPbc	15 47 58.1	+1.6
	0.4nm,0.5s,baz=341,slow=3.4,SNR=3.8							
SONM	**Songino Array**	**151.22**	**10**	PKPbc		PKPbc	15 47 58.1	+1.6

MAN 29 15:45:01, 17°.89N×120°.71E, h14km, mb4.6, ML3.5, MS3.5, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.24**	**179**		*e*P	Pg	15 45 07.3	+1.0
ABRA					*e*S	Sg	15 45 21.0	+11
PIP	**Pasuquin**	**0.44**	**349**	↑	*i*P	Pg	15 45 10.5	+0.7
APYP	**Conner**	**0.51**	**93**		*e*P	Pg	15 45 11.6	+0.5
CAUP	**Cauayan**	**1.42**	**131**		*e*P	Pn	15 45 27.3	+0.9

IDC 29 15:46:39.4±2.4, 5°.40N×124°.44E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/21, mbtmp3.7/4, Error ellipse: s-maj=234.6km s-min=26.9km az=62.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.00**	**159**	P		P	15 52 24.9	+1.7
	0.5nm,0.7s,baz=340,slow=9.0,SNR=4.5							
ASAR	**Alice Springs**	**30.33**	**163**	P		P	15 52 52.7	-0.1
	0.4nm,0.6s,baz=340,slow=6.5,SNR=27							
STKA	**Stephens Creek**	**40.51**	**157**	P		P	15 54 18.5	-1.8
	1.4nm,0.7s,baz=327,slow=10,SNR=3.7							
AKTO	**Aktyubinsk**	**70.94**	**322**	P		P	15 57 58.9	+0.2
	0.7nm,0.5s,baz=124,slow=11,SNR=4.4							

*MAN **29** 15:47:22, 5°.76N×125°.75E, h179km, mb4.4, ML3.3, MS3.1*
*ISCJB **29** 15:47:23.3±0.4, 5°.92N±0°.04×125°.7E±0°.1, h191km±3km, mb4.1/15, Error ellipse: s-maj=18.3km s-min=5.4km az=164.5*
*IDC **29** 15:47:24.8±0.6, 5°.99N×125°.70E, h185km±7km, mb3.7/11, mb1 3.9/11, mb1mx3.6/23, mbtmp3.7/11, Error ellipse: s-maj=44.8km s-min=9.8km az=69.0*
*NEIC **29** 15:47:24.6±0.8, 5°.98N×125°.72E, h186km±8km, mb4.7/3, Error ellipse: s-maj=32.0km s-min=7.9km az=65.0*
*DJA **29** 15:47:26, 5°.85N×126°.12E, h154km, MLv4.4/4*
ISC 29 15:47:24.4±0.4, 5°.89N±0°.04×125°.7E±0°.1, h183km±3km, n43, σ1s01/51, mb4.1/15, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.78**	**284**	↓	*i*P	**Pn**	**15 47 49.9**	**-1.0**
GSPH					*e*S	**Sn**	**15 48 09.3**	**-2.0**
DAV	**Davao City (W)**	**1.18**	**354**		P	**Pn**	**15 47 53.7**	**0.0**
	181nm,0.3s,baz=240,slow=1.9,SNR=33							
DAV					S	**Sn**	**15 48 16.2**	**-0.3**
	120nm,0.3s,baz=107,slow=20,SNR=7.4							
DAV	**Davao City (W)**	**1.18**	**354**		*e*Pn	**Pn**	**15 47 53.7**	**-0.1**
DAV					P		15 47 53.8	
DAV					S	**Sn**	**15 48 16.2**	**-0.3**
DAV	**Davao City (W)**	**1.18**	**354**		P	**Pn**	**15 47 54.1**	**+0.4**
MATI	**Mati**	**1.18**	**27**		*e*P	**Pn**	**15 47 53.3**	**-0.4**
MATI					*e*S	**Sn**	**15 48 06.5**	**-10**
KCP	**Kidapawan**	**1.27**	**331**	↑	*e*P	**Pn**	**15 47 56.3**	**+1.8**
KCP					*i* S	**Sn**	**15 48 19.6**	**+1.8**
CTBH	**Cotabato--PC H**	**1.96**	**312**	↓	*i*P	**Pn**	**15 48 00.9**	**-0.3**
BUKP	**Musuan**	**2.08**	**342**		*e*P	**Pn**	**15 48 02.6**	**+0.1**
SGSI	**Sangihe**	**2.20**	**185**	P		**Pn**	**15 48 04.6**	**+0.7**
SGSI					S	**Sn**	**15 48 34.6**	**0.0**
PAGZ	**Pagadian**	**3.02**	**310**		*e*P	**Pn**	**15 48 13.6**	**+0.2**
TNTI	**Ternate**	**5.35**	**162**	P		**Pn**	**15 48 43.1**	**+0.1**
	0.8nm3μm120nm,1.2s							
TNTI					S	**Sn**	**15 49 44.1**	**-0.7**
	0.8nm3μm120nm,1.2s							
GTOI	**Gorontalo**	**5.88**	**207**	P		**Pn**	**15 48 52.5**	**+2.6**
	0.1nm38nm,1.2s							
LUWI	**Luwuk**	**7.49**	**203**	P		**Pn**	**15 49 15.3**	**+4.3**
	41nm,1.2s							
NLAI	**Namlea**	**9.18**	**171**	P		**Pn**	**15 49 32.1**	**-1.1**
NLAI					S	**Sn**	**15 51 14.2**	**-1.5**
FITZ	**Fitzroy Crossi**	**23.84**	**180**	P		**P**	**15 52 22.3**	**+1.3**
	6.5nm,0.3s,mb4.6,baz=2.4,slow=8.5,SNR=63							
FITZ	**Fitzroy Crossi**	**23.84**	**180**	P		**P**	**15 52 22.3**	**+1.3**
COEN	**Coen**	**26.25**	**139**		*e*P	**P**	**15 52 43.4**	**+0.5**
	8.1nm,0.5s,mb4.6							
WRA	**Warramunga Arr**	**27.04**	**162**	P		**P**	**15 52 50.0**	**+0.2**
	0.6nm,0.3s,mb3.6,baz=333,slow=11,SNR=18							
WRA	**Warramunga Arr**	**27.04**	**162**	P		**P**	**15 52 50.0**	**+0.2**
CMAR	**Chiang Mai Arr**	**28.94**	**298**	P		**P**	**15 53 07.1**	**+0.3**
	0.3nm,0.6s,mb3.2,baz=111,slow=8.1,SNR=3.5							
CMAR	**Chiang Mai Arr**	**28.94**	**298**	P		**P**	**15 53 07.0**	**+0.3**
AS31	**Alice Springs**	**30.45**	**165**		*e*P	**P**	**15 53 19.3**	**-0.6**
ASAR	**Alice Springs**	**30.45**	**165**	P		**P**	**15 53 20.9**	**+0.9**
	2.3nm,0.5s,mb4.2,baz=339,slow=6.9,SNR=45							
ASAR	**Alice Springs**	**30.45**	**165**	P		**P**	**15 53 20.9**	**+0.9**
STKA	**Stephens Creek**	**40.50**	**159**	P		**P**	**15 54 47.1**	**+1.6**
	3.0nm,0.5s,mb4.2,baz=334,slow=9.7,SNR=9.9							
STKA	**Stephens Creek**	**40.50**	**159**	P		**P**	**15 54 47.1**	**+1.6**
SONM	**Songino Array**	**44.94**	**342**	P		**P**	**15 55 21.9**	**+0.9**
	0.2nm,0.5s,mb3.0,baz=164,slow=5.8,SNR=3.9							
SONM	**Songino Array**	**44.94**	**342**	P		**P**	**15 55 21.9**	**+0.9**
AAK	**Ala-Archa**	**58.09**	**317**		*e*P	**P**	**15 56 58.2**	**-0.4**
	11nm,0.5s,mb5.0							
ZALV	**Zalesovo Beam**	**58.21**	**333**	P		**P**	**15 56 57.8**	**-1.4**
	1.1nm,0.3s,mb4.1,baz=113,slow=7.9,SNR=4.4							
ZALV	**Zalesovo Beam**	**58.21**	**333**	P		**P**	**15 56 57.8**	**-1.4**
EKS2	**Erkin-Say**	**58.58**	**317**		*e*P	**P**	**15 56 54.9**	**-7.2**
	7.4nm,0.9s,mb4.5							
KURK	**Kurchatov**	**59.38**	**327**	P		**P**	**15 57 06.3**	**-1.0**
	1.7nm,0.6s,mb4.0,baz=123,slow=6.6,SNR=14							
KURK	**Kurchatov**	**59.38**	**327**	P		**P**	**15 57 06.3**	**-1.0**
SNZO	**South Karori**	**64.87**	**141**		*e*P	**P**	**15 57 39.2**	**-4.8**
BVAR	**Borovoye Array**	**64.97**	**327**	P		**P**	**15 57 43.8**	**-0.6**
	0.5nm,0.6s,mb3.5,baz=133,slow=10,SNR=4.4							
BVAR	**Borovoye Array**	**64.97**	**327**	P		**P**	**15 57 43.8**	**-0.6**
AKTO	**Aktyubinsk**	**71.34**	**321**	P		**P**	**15 58 23.2**	**-1.0**
	0.7nm,0.4s,mb3.8,baz=97,slow=8.1,SNR=5.1							
AKTO	**Aktyubinsk**	**71.34**	**321**	P		**P**	**15 58 23.2**	**-1.0**
ARCES	**ARCESS Array B**	**88.08**	**340**	P		**P**	**15 59 54.1**	**+0.4**
	6.2nm,1.0s,mb4.4,baz=61,slow=6.3,SNR=3.3							
ARCES	**ARCESS Array B**	**88.08**	**340**	P		**P**	**15 59 54.1**	**+0.4**
FINES	**FINESS Array B**	**89.46**	**332**	P		**P**	**15 59 59.5**	**-0.9**
	3.3nm,0.9s,mb4.2,baz=66,slow=5.0,SNR=7.8							
FINES	**FINESS Array B**	**89.46**	**332**	P		**P**	**15 59 59.5**	**-0.9**

KRSC 29 15:52:16.0±1.3, 55°.43N×160°.48E, h193km±43km, ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**0.24**	**232**		*e*P	Pn	15 52 43.1	+1.6
MKZ	**Mys Kozlova**	**1.13**	**140**		*e*P	Pn	15 52 47.1	+1.1
MKZ					*e*S	Sn	15 53 09.7	+0.6
KBTR	**Krutoberegovo**	**1.53**	**58**		*e*P	Pn	15 52 50.2	+0.9
KBTR					*e*S	Sn	15 53 15.1	0.0
GNL	**Ganaly**	**2.28**	**221**		*e*P	Pn	15 52 58.9	+1.9
SPN	**Mys Shipunski**	**2.35**	**187**		*e*P	Pn	15 52 58.6	+0.8
SPN					*e*S	Sn	15 53 29.5	-0.7
NLC	**Nalytchevo**	**2.36**	**197**		*e*S	Sn	15 53 30.8	+0.5
AVH	**Avacha**	**2.40**	**206**		*e*P	Pn	15 53 00.8	+2.6
BKI	**Bering**	**3.15**	**92**		*e*P	Pn	15 53 09.8	+2.9
BKI					*e*S	Sn	15 53 48.4	+1.7

*IDC **29** 16:24:06.8±1.2, 6°.23S×131°.76E, h0km, mb3.8/4, mb1 4.1/8, mb1mx3.9/15, mbtmp3.9/8, ML4.3/3, Error ellipse: s-maj=52.5km s-min=20.7km az=68.0*
*ISCJB **29** 16:24:08.2±0.4, 6°.28S±0°.03×132°.10E±0°.04, h33km, mb3.8/5, Error ellipse: s-maj=5.7km s-min=4.9km az=157.5*
*DJA **29** 16:24:11, 5°.93S×132°.25E, h66km, MLv4.5/9*
*NEIC **29** 16:24:13.4±0.8, 6°.46S×131°.73E, h60km, mb4.0/3, Error ellipse: s-maj=20.1km s-min=11.0km az=65.0*
ISC 29 16:24:10.0±0.4, 6°.32S±0°.03×132°.10E±0°.04, h35km, n38, σ1s28/51, mb3.8/5, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TLE	**Tual**	**0.93**	**43**	P		**Pn**	**16 24 27.0**	**+0.4**
TLE				S		**Sn**	**16 24 36.8**	**-1.9**
BNDI	**Bandanaira**	**2.82**	**309**	P		**Pn**	**16 24 52.4**	**-0.2**
BNDI				S		**Sn**	**16 25 25.3**	**0.0**
FAKI	**Fak Fak**	**3.38**	**3**	P		**Pn**	**16 24 57.0**	**-3.3**
FAKI				S		**Sn**	**16 25 30.8**	**-8.4**
MSAI	**Masohi**	**4.32**	**313**	P		**Pn**	**16 25 12.4**	**-0.8**
AAI	**Ambon**	**4.68**	**304**	P		**Pn**	**16 25 18.2**	**0.0**
SWI	**Sorong**	**5.48**	**351**	P		**Pn**	**16 25 25.9**	**-3.3**
	1.8nm45nm,0.4s							
NLAI	**Namlea**	**5.84**	**301**	P		**Pn**	**16 25 34.9**	**+0.7**
	0.4nm2μm59nm,0.5s							
BAKI	**Biak**	**6.48**	**38**	S		**Sn**	**16 26 46.6**	**-9.0**
WAMI	**Wamena**	**7.02**	**70**	P		**Pn**	**16 25 50.1**	**-0.2**
	1.0nm2μm73nm,0.6s							
WAMI				S		**Sn**	**16 27 10.2**	**+1.2**
	1.0nm2μm73nm,0.6s							
TNTI	**Ternate**	**8.48**	**326**	P		**Pn**	**16 26 07.8**	**-2.6**
	42nm,1.4s							
KDI	**Kendari**	**9.73**	**284**	P		**Pn**	**16 26 29.2**	**+1.7**
FITZ	**Fitzroy Crossi**	**13.30**	**208**	Pn		**Pn**	**16 27 16.7**	**+0.4**
	1.7nm,0.3s,baz=35,slow=11,SNR=50							
FITZ				Sn		**Sn**	**16 29 37.3**	**-5.7**
	3.8nm,0.3s,baz=203,slow=13,SNR=12							
FITZ	**Fitzroy Crossi**	**13.30**	**208**	Pn		**Pn**	**16 27 16.7**	**+0.4**
FITZ				Sn		**Sn**	**16 29 37.3**	**-5.7**
WRAB	**Tennant Creek**	**13.71**	**171**	*e*Pn		**Pn**	**16 27 23.2**	**+1.2**
	6.3nm,0.6s							
WRAB				*e*Sn		**Sn**	**16 29 51.1**	**-1.9**
WRA	**Warramunga Arr**	**13.72**	**171**	Pn		**Pn**	**16 27 22.6**	**+0.5**
	1.5nm,0.3s,baz=357,slow=13,SNR=57							
WRA				Sn		**Sn**	**16 29 51.4**	**-1.8**
	2.6nm,0.3s,baz=356,slow=23,SNR=8.1							
WRA	**Warramunga Arr**	**13.72**	**171**	Pn		**Pn**	**16 27 22.6**	**+0.5**
WRA				Sn		**Sn**	**16 29 51.4**	**-1.8**
WB2	**Warramunga Arr**	**13.72**	**171**	*e*Pn		**Pn**	**16 27 22.9**	**+0.8**
WB2				*e*Sn		**Sn**	**16 29 51.1**	**-2.2**
PMG	**Port Moresby**	**15.23**	**103**	*e*Pn		**Pn**	**16 27 45.8**	**+3.2**
AS31	**Alice Springs**	**17.33**	**174**	*e*Pn		**Pn**	**16 28 11.1**	**+1.8**
AS31				*e*Sn		**Sn**	**16 31 13.4**	**-7.8**
ASAR	**Alice Springs**	**17.34**	**174**	P		**Pn**	**16 28 10.9**	**+1.7**
	0.8nm,0.3s,baz=356,slow=14,SNR=93							
ASAR				S		**S**	**16 31 21.2**	**-7.8**
	0.7nm,0.3s,baz=356,slow=26,SNR=9.5							
ASAR	**Alice Springs**	**17.34**	**174**	P		**Pn**	**16 28 10.9**	**+1.7**
ASAR				S		**S**	**16 31 21.2**	**-7.8**
MBWA	**Marble Bar**	**19.00**	**218**	*e*P		**Pn**	**16 28 24.5**	**-5.2**
CTA	**Charters Tower**	**19.40**	**136**	P		**Pn**	**16 28 39.4**	**+4.9**
	baz=314,slow=14,SNR=4.0							
CTA	**Charters Tower**	**19.40**	**136**	P		**Pn**	**16 28 39.4**	**+4.9**
CTAO	**Charters Tower**	**19.40**	**136**	P		**Pn**	**16 28 39.8**	**+5.4**
	4.0nm,0.8s							
KKM	**Kota Kinabalu**	**20.05**	**307**	*e*P		**P**	**16 28 36.0**	**-4.4**
	36nm,1.2s							
CM31	**Chiang Mai Arr**	**40.93**	**308**	P		**P**	**16 31 48.7**	**-0.6**
	1.9nm,0.8s,mb3.8							
CMAR	**Chiang Mai Arr**	**40.93**	**308**	P		**P**	**16 31 49.4**	**0.0**
	0.9nm,0.6s,mb3.6,baz=135,slow=7.1,SNR=11							
CMAR	**Chiang Mai Arr**	**40.93**	**308**	P		**P**	**16 31 49.4**	**0.0**
CHTO	**Chiang Mai**	**41.13**	**308**	*e*P		**P**	**16 31 50.0**	**-0.9**
ULN	**Ulaanbaatar**	**58.29**	**340**	P		**P**	**16 34 05.5**	**+4.3**
SONM	**Songino Array**	**58.49**	**340**	P		**P**	**16 34 03.4**	**+0.9**
	0.4nm,0.6s,mb3.6,baz=141,slow=4.8,SNR=2.6							
SONM	**Songino Array**	**58.49**	**340**	P		**P**	**16 34 03.4**	**+0.9**
MK31	**Makanchi Array**	**68.82**	**326**	*e*P		**P**	**16 35 11.3**	**+0.6**
MKAR	**Makanchi Array**	**68.82**	**326**	P		**P**	**16 35 11.4**	**+0.7**
	0.8nm,0.3s,mb4.1,baz=112,slow=7.5,SNR=31							
MKAR	**Makanchi Array**	**68.82**	**326**	P		**P**	**16 35 11.4**	**+0.7**
ZALV	**Zalesovo Beam**	**71.91**	**333**	P		**P**	**16 35 29.4**	**-0.1**
	0.7nm,0.5s,mb3.8,baz=148,slow=6.8,SNR=4.3							
ZALV	**Zalesovo Beam**	**71.91**	**333**	P		**P**	**16 35 29.4**	**-0.1**

*ISCJB **29** 16:41:56.2±0.2, 29°.87S±0°.02×71°.43W±0°.06, h62km, mb4.7/54, Error ellipse: s-maj=7.1km s-min=3.1km az=173.9*
*IDC **29** 16:41:56.9±0.5, 29°.99S×71°.35W, h62km±4km, mb4.2/13, mb1 4.3/15, mb1mx4.3/18, mbtmp4.2/15, MS3.7/8, Ms1 3.7/8, ms1mx3.5/16, Error ellipse: s-maj=21.3km s-min=12.4km az=72.0*
*NEIC **29** 16:41:57.1±0.2, 29°.92S×71°.19W, mb4.7/43, MD4.5(GUC), Error ellipse: s-maj=9.1km s-min=5.2km az=60.0*
NEIC Felt [III] at La Higuera and La Serena and [II] at Ovalle.
*BJI **29** 16:41:57.7, 29°.90S×71°.20W, h63km, mB5.0/3, Ms5.4/1, Ms7 4.9/1*
*GUC **29** 16:41:57.9±0.6, 29°.88S×71°.20W, h64km±3km, MD4.5, ML4.7*
ISC 29 16:41:57.9±0.2, 29°.88S±0°.02×71°.27W±0°.06, h64km, h64km±7km: pP-P, n126, σ0s80/109, mb4.7/54, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.04**	**140**	↓	*i*P	**Pn**	**16 42 07.4**	**+0.1**
LSCH					*i* S	**Sn**	**16 42 14.6**	**+0.6**
LSCH					AML	AML	16 42 15.1	
	comp=E,54μm,0.3s							
TLL	**Tololo Astrono**	**0.50**	**125**	↓	*i*P	**Pn**	**16 42 02.9**	**-7.3**
TLL					*i* S	**Sn**	**16 42 12.4**	**-6.7**
TLL					AML	AML	16 42 16.0	
	comp=E,71μm,0.6s							
OVCH	**Ovalle**	**0.73**	**175**	↓	*i*P	**Pn**	**16 42 12.9**	**+0.1**
OVCH					*i* S	**Sn**	**16 42 24.1**	**+0.5**
OVCH					AML	AML	16 42 25.3	
	comp=N,74μm,0.4s							
LCO	**Las Campanas**	**1.00**	**30**		*e*Pn	**Pn**	**16 42 15.8**	**-0.3**
LCO					*e*Sn	**Sn**	**16 42 28.6**	**-1.0**
LCO	**Las Campanas**	**1.00**	**30**		*i* P	**Pn**	**16 42 16.5**	**+0.4**
LCO					*i* S	**Sn**	**16 42 30.9**	**+1.3**
LCO					AML	AML	16 42 32.0	
	comp=E,37μm,0.3s							
VACH	**Vallenar**	**1.37**	**19**		*i* P	**Pn**	**16 42 21.2**	**+0.1**
VACH					*i* S	**Sn**	**16 42 39.1**	**+0.8**
VACH					AML	AML	16 42 40.1	
	comp=N,45μm,0.5s							
CHNG	**Los Chungos**	**2.01**	**186**	↑	*i*P	**Pn**	**16 42 28.9**	**-0.6**
CHNG					*i* S	**Sn**	**16 42 53.1**	**-0.5**
CHNG					AML	AML	16 43 04.5	
	comp=E,4μm,0.4s							
CPCH	**Copiapo**	**2.64**	**18**	↑	*i*P	**Pn**	**16 42 37.9**	**-0.2**
CPCH					*i* S	**Sn**	**16 43 08.8**	**-0.2**
JACH	**Jahuel**	**2.85**	**168**		*e*P	**Pn**	**16 42 42.0**	**+0.9**
CFAA	**Coronel Fontan**	**3.13**	**124**	P		**Pn**	**16 42 47.5**	**+2.7**
	comp=E,46nm,0.3s,baz=304,slow=11,SNR=776							
CFAA					S	**Sn**	**16 43 26.1**	**+5.1**
	comp=E,27nm,0.3s,baz=79,slow=19,SNR=6.9							
CFAA	**Coronel Fontan**	**3.13**	**124**	P		**Pn**	**16 42 47.5**	**+2.7**
CFAA					S	**Sn**	**16 43 26.1**	**+5.1**
CLCH	**Cerro Calan**	**3.56**	**170**	↑	*i*P	**Pn**	**16 42 51.5**	**+0.8**
CLCH					*i* S	**Sn**	**16 43 32.1**	**+0.5**
TACH	**Talagante**	**3.77**	**176**		*e*P	**Pn**	**16 42 53.8**	**+0.2**
PCH	**Pirque**	**3.79**	**170**		*e*P	**Pn**	**16 42 54.2**	**+0.4**
LMEL	**Las Melosas**	**4.06**	**167**	↑	*i*P	**Pn**	**16 42 58.4**	**+0.9**
LMEL					*i* S	**Sn**	**16 43 43.9**	**+0.2**
PLCA	**Paso Flores**	**10.85**	**177**	P		**Pn**	**16 44 27.9**	**-2.4**
	comp=E,0.8nm,0.3s,baz=351,slow=13,SNR=6.8							
PLCA					LR	LR	16 48 50.9	
	comp=E,174nm,19.2s,baz=334,slow=39							
TRQA	**Tornquist**	**11.22**	**139**		*e*Pn	**Pn**	**16 44 34.5**	**-0.9**
CPUP	**Villa Florida**	**12.80**	**77**	P		**Pn**	**16 44 55.5**	**-1.6**
	comp=E,1.1nm,0.3s,baz=234,slow=11,SNR=8.5							
CPUP					LR	LR	16 50 23.4	
	comp=E,286nm,21.9s,baz=223,slow=39							
CPUP	**Villa Florida**	**12.80**	**77**		*e*Pn	**Pn**	**16 44 53.0**	**-4.1**
LPAZ	**La Paz**	**13.83**	**13**		*e*Pn	**Pn**	**16 45 12.8**	**+1.8**
NNA	**Nana**	**18.54**	**343**	LR		LR	16 51 35.5	
	comp=E,162nm,20.7s,baz=57,slow=31							

USHA	**Ushuaia**	**25.02**	**176**	P		**P**	**16 47 12.1**	**-3.6**
	comp=E,11nm,0.7s,mb4.5,baz=342,slow=8.1,SNR=8.0							
USHA				pP		pP	16 47 27.7	-3.3
	comp=E,12nm,0.6s,baz=314,slow=6.3,SNR=4.3							
USHA	**Ushuaia**	**25.02**	**176**	P		**P**	**16 47 12.1**	**-3.6**
USHA				pP		pP	16 47 27.7	-3.3
OTAV	**Otavalo**	**30.72**	**346**		*e*P	**P**	**16 48 05.9**	**-1.2**
	comp=E,4.3nm,0.9s,mb4.3							
ROSC	**El Rosal**	**34.86**	**355**	LR		LR	17 01 45.1	
	comp=E,37nm,19.3s,baz=2.6,slow=34							
PMSA	**Palmer Station**	**35.21**	**175**	P		**P**	**16 48 45.7**	**0.0**
	comp=E,34nm,1.1s,mb5.2							
SDV	**Santo Domingo**	**38.55**	**1**	P		**P**	**16 49 10.7**	**-3.8**
	comp=E,6.4nm,0.9s,mb4.3							
CMIG	**Matias Romero**	**51.95**	**331**	P		**P**	**16 51 00.4**	**-0.2**
	comp=E,1.5nm,0.5s,mb4.2,baz=84,slow=4.7,SNR=5.0							
CMIG	**Matias Romero**	**51.95**	**331**	P		**P**	**16 51 00.4**	**-0.2**
TEIG	**Tepich**	**52.44**	**340**	P		**P**	**16 51 03.7**	**-0.5**
	comp=E,15nm,0.6s,mb5.1,baz=141,slow=0.7,SNR=10							
TEIG	**Tepich**	**52.44**	**340**		*e*P	**P**	**16 51 03.2**	**-0.9**
	comp=E,18nm,0.6s,mb5.2							
SNAA	**Sanae**	**55.17**	**159**	P		**P**	**16 51 23.3**	**-0.1**
	comp=E,0.8nm,0.5s,mb4.0,baz=283,slow=8.2,SNR=22							
SNAA				pP		pP	16 51 39.5	-0.6
	comp=E,1.0nm,0.5s,baz=272,slow=11,SNR=3.7							
SNAA	**Sanae**	**55.17**	**159**		*e*P	**P**	**16 51 22.7**	**-0.8**
	comp=E,6.0nm,0.9s,mb4.6							
SNAA				pP		pP	16 51 39.5	-0.6
QSPA	**South Pole Qui**	**60.35**	**180**		*e*P	**P**	**16 51 59.5**	**-0.2**
	comp=E,10nm,0.7s,mb5.0							
QSPA					*e*	pP	16 52 16.3	-0.3
JCT	**Junction City**	**65.88**	**333**		*e*P	**P**	**16 52 36.9**	**0.0**
	comp=E,15nm,0.8s,mb5.1							
JCT					*e*	pP	16 52 54.5	+0.5
JCT					*e*		16 53 01.6	
SWET	**Sewanee**	**66.20**	**347**		*e*P	**P**	**16 52 38.2**	**-0.7**
TKL	**Tuckaleechee C**	**66.24**	**349**	P		**P**	**16 52 37.8**	**-1.4**
	comp=E,2.1nm,0.8s,mb4.2,baz=160,slow=4.4,SNR=4.5							
TKL	**Tuckaleechee C**	**66.24**	**349**	P		**P**	**16 52 37.8**	**-1.4**
OXF	**Oxford**	**66.29**	**344**		*e*P	**P**	**16 52 37.1**	**-2.4**
	comp=E,39nm,1.1s,mb5.3							
TXAR	**Lajitas Array**	**66.50**	**329**	P		**P**	**16 52 40.9**	**0.0**
	comp=E,5.0nm,0.7s,mb4.6,baz=152,slow=8.3,SNR=37							
TXAR	**Lajitas Array**	**66.50**	**329**	P		**P**	**16 52 40.9**	**0.0**
MIAR	**Mount Ida**	**67.45**	**340**		*e*P	**P**	**16 52 45.9**	**-0.9**
	comp=E,11nm,1.1s,mb4.8							
MIAR					*e*pP	pP	16 53 03.2	-0.7
WVT	**Waverly**	**67.48**	**346**		*e*P	**P**	**16 52 45.7**	**-1.2**
	comp=E,20nm,1.4s,mb5.0							
WVT					*e*pP	pP	16 53 02.6	-1.5
WVT					*e*sP	sP	16 53 10.1	-1.1
CLNB	**Carlsbad**	**69.11**	**331**		*e*P	**P**	**16 52 57.4**	**+0.1**
	comp=E,4.6nm,0.7s,mb4.5							
MNTX	**Cornudas Mount**	**69.28**	**329**		*e*P	**P**	**16 52 56.8**	**-1.5**
	comp=E,6.2nm,0.8s,mb4.6							
SIUC	**Southern Illin**	**69.31**	**345**		*e*P	**P**	**16 52 57.9**	**-0.5**
	comp=E,18nm,0.6s,mb5.2							
WMOK	**Wichita Mounta**	**69.31**	**336**		*e*P	**P**	**16 52 57.4**	**-1.1**
	comp=E,6.1nm,1.1s,mb4.4							
CPRX	**Cap Rock**	**69.77**	**331**		*e*P	**P**	**16 53 01.5**	**+0.2**
	comp=E,23nm,1.1s,mb5.0						

LBTB					*e*pP		pP	16 54 35.8	-0.7
SCHQ	**Schefferville**	**84.45**	**3**		P		**P**	**16 54 22.2**	**-0.8**
	comp=E,5.2nm,1.0s,mb4.6,baz=174,slow=9.2,SNR=3.0								
SCHQ	**Schefferville**	**84.45**	**3**		P		**P**	**16 54 22.2**	**-0.8**
MOD	**Modoc**	**84.53**	**326**		*e*P		**P**	**16 54 23.7**	**-0.1**
	comp=E,1.6nm,0.6s,mb4.3								
JTMT	**Jette**	**86.39**	**333**		*e*P		**P**	**16 54 33.0**	**+0.1**
BSMT	**Bassoo Peak**	**86.68**	**332**		*e*P		**P**	**16 54 34.2**	**-0.2**
	comp=E,2.1nm,0.8s,mb4.4								
LSZ	**Lusaka**	**90.46**	**108**		*e*P		**P**	**16 54 53.4**	**+0.3**
	comp=E,5.8nm,1.1s,mb4.8								
ASAR	**Alice Springs**	**121.52**	**207**		PKP	PKPdf		17 00 42.9	-1.9
	comp=E,0.6nm,0.5s,baz=130,slow=1.7,SNR=22								
ASAR					pPKP	pPKPdf		17 01 00.8	-2.5
	comp=E,0.8nm,0.8s,baz=140,slow=2.3,SNR=4.9								
ASAR	**Alice Springs**	**121.52**	**207**		PKP	PKPdf		17 00 42.9	-1.9
ASAR					pPKP	pPKPdf		17 01 00.8	-2.5
WRA	**Warramunga Arr**	**124.66**	**210**		PKP	PKPdf		17 00 49.2	-1.6
	comp=E,1.2nm,0.5s,baz=154,slow=1.7,SNR=34								
WRA					pPKP	pPKPdf		17 01 07.5	-1.8
	comp=E,1.7nm,0.6s,baz=159,slow=1.5,SNR=7.6								
WRA	**Warramunga Arr**	**124.66**	**210**		PKP	PKPdf		17 00 49.2	-1.6
WRA					pPKP	pPKPdf		17 01 07.5	-1.8
YAK	**Yakutsk**	**145.03**	**343**		*e*PKPdf	PKPdf		17 01 25.9	-1.3
YAK					*ep*PKPdf	pPKPdf		17 01 44.1	-1.6
YAK					*es*PKPdf			17 01 51.7	
KKAR	**Karatay Array**	**146.85**	**56**		*e*PKPbc	PKPbc		17 01 32.5	-0.4
EKS2	**Erkin-Say**	**149.29**	**56**		*e*PKPbc	PKPbc		17 01 39.6	+0.3
KURK	**Kurchatov**	**149.34**	**39**		PKPbc	PKPbc		17 01 38.9	-0.3
	comp=E,1.1nm,0.5s,baz=295,slow=3.0,SNR=11								
KURK					pPKPbc	pPKPbc		17 01 57.2	-0.4
	comp=E,2.7nm,0.5s,baz=305,slow=3.2,SNR=7.6								
KURK	**Kurchatov**	**149.34**	**39**		PKPbc	PKPbc		17 01 38.9	-0.3
KURK					pPKPbc	pPKPbc		17 01 57.2	-0.4
AAK	**Ala-Archa**	**149.81**	**56**		*e*PKPbc	PKPbc		17 01 41.0	+0.4
AAK					*e*PKPab	PKPab		17 01 46.9	+0.6
ZAA0	**Zalesovo Array**	**150.36**	**29**		*e*PKPbc	PKPbc		17 01 41.0	-0.5
ZAA0					*e*PKPab	PKPab		17 01 46.9	-1.2
ZAA0					*ep*PKPbc	pPKPbc		17 01 58.8	-1.2
ZALV	**Zalesovo Beam**	**150.36**	**29**		PKPbc	PKPbc		17 01 41.2	-0.3
	comp=E,9.5nm,0.7s,baz=299,slow=3.1,SNR=36								
ZALV					pPKPbc	pPKPbc		17 01 58.8	-1.2
	comp=E,8.7nm,0.6s,baz=308,slow=3.5,SNR=8.6								
ZALV	**Zalesovo Beam**	**150.36**	**29**		PKPbc	PKPbc		17 01 41.2	-0.3
ZALV					pPKPbc	pPKPbc		17 01 58.8	-1.2
TKM2	**Tokmak 2**	**150.53**	**55**		*e*PKPbc	PKPbc		17 01 42.5	+0.2
TKM2					*e*PKPab	PKPab		17 01 48.3	-0.9
KSH	**Kashi**	**151.54**	**61**		PKPbc	PKPbc		17 01 45.0	+0.2
KSH					pPKP	pPKPdf		17 01 55.8	-1.3
KSH					PKPab	PKPab		17 01 57.0	+3.5
KSH					sPKP			17 01 59.3	
KSH					PKS			17 05 18.3	
KSH					PP	PP		17 05 26.0	+0.8
KSH					SKS	SKSdf		17 08 47.5	+7.0
KSH					SKKS	SKKSac		17 12 10.5	+0.7
KSH					SS	SS		17 24 35.3	-10
KSH					AMB	AMB			
	comp=Z,210nm,5.0s								
KSH					LR	LR			
	comp=N,14nm,3.0s								
KSH					LR	LR			
	comp=E,11nm,2.1s								
KSH					LR	LR			
	comp=Z,120nm,5.9s								
MKAR	**Makanchi Array**	**153.44**	**43**		PKPbc	PKPbc		17 01 47.4	-1.4
	comp=Z,0.3nm,0.5s,baz=323,slow=2.2,SNR=3.5								
MKAR					pPKPbc	pPKPbc		17 02 06.3	-1.0
	comp=Z,1.5nm,0.8s,baz=297,slow=3.0,SNR=6.4								
MKAR	**Makanchi Array**	**153.44**	**43**		PKPbc	PKPbc		17 01 47.4	-1.4
MKAR					pPKPbc	pPKPbc		17 02 06.3	-1.0
MJAR	**Matsushiro Arr**	**154.52**	**293**		PKPab	PKPab		17 02 04.8	-1.3
	comp=Z,2.6nm,0.9s,baz=109,slow=1.2,SNR=3.5								
MJAR	**Matsushiro Arr**	**154.52**	**293**		PKPab	PKPab		17 02 04.8	-1.3
WMQ	**Urumqi**	**158.24**	**44**		PKP	PKPdf		17 01 46.5	-1.1
CN2	**Changchun**	**160.76**	**321**		*e*PKP	PKPdf		17 01 46.0	-4.5
SONM	**Songino Array**	**161.98**	**5**		PKPab	PKPab		17 02 35.8	-2.1
	comp=Z,0.7nm,0.8s,baz=330,slow=3.5,SNR=3.8								
SONM	**Songino Array**	**161.98**	**5**		PKPab	PKPab		17 02 35.8	-2.1
HHC	**Hu-ho-hao-te**	**168.81**	**349**		*e*PKP	PKPdf		17 01 57.0	-0.5
HHC					pPKP	pPKPdf		17 02 16.5	+0.3
HHC					sPKP			17 02 25.8	
HHC					PKS			17 05 28.5	
HHC					PP	PP		17 07 00.3	+3.4
HHC					SKS	SKSdf		17 08 53.8	-1.8
HHC					SS	SS		17 27 45.0	+0.4
HHC					AMB	AMB			
	comp=Z,140nm,8.0s								
HHC					LR	LR			
	comp=N,190nm,16.5s								
HHC					LR	LR			
	comp=E,240nm,15.6s								
HHC					LR	LR			
	comp=Z,190nm,21.2s								
KMI	**Kunming**	**172.88**	**130**		PKP	PKPdf		17 02 00.8	+0.6
CD2	**Chengdu**	**175.59**	**75**		PKP	PKPdf		17 01 59.5	-1.4
GYA	**Guiyang**	**176.14**	**151**		*e*PKP	PKPdf		17 02 00.3	-0.9
GYA					pPKP	pPKPdf		17 02 19.0	-0.8
GYA					PKPab	PKPab		17 03 42.0	+0.9
GYA					PKS			17 05 31.5	
GYA					PP	PP		17 07 35.8	+2.6
GYA					AMB	AMB			
	comp=Z,110nm,8.0s								

IDC 29 17:12:54.8±1.3, 23°.36N×143°.07E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/22, mbtmp3.6/5, Error ellipse: s-maj=42.7km s-min=26.8km az=86.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.87**	**192**	P	P	17 21 02.9	-0.2
	0.2nm,0.3s,baz=6.3,slow=7.9,SNR=12						
MKAR	**Makanchi Array**	**53.51**	**312**	P	P	17 22 17.3	+0.3
	0.4nm,0.4s,baz=86,slow=9.2,SNR=17						
KURK	**Kurchatov**	**56.20**	**316**	P	P	17 22 36.8	+0.3
	0.3nm,0.5s,baz=92,slow=8.2,SNR=4.6						
ILAR	**Eielson Array**	**60.62**	**28**	P	P	17 23 06.7	-0.4
	0.2nm,0.7s,baz=274,slow=5.3,SNR=4.1						
BVAR	**Borovoye Array**	**61.35**	**319**	P	P	17 23 12.5	+0.3
	1.1nm,0.6s,baz=98,slow=8.5,SNR=7.6						

*ISCJB **29** 17:36:47.5±0.5, 61°.45N±0°.03×156°.08E±0°.06, h10km, mb3.8/8, Error ellipse: s-maj=4.7km s-min=3.9km az=5.7*
*IDC **29** 17:36:47.8±1.7, 61°.48N×156°.04E, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.6/24, mbtmp3.6/6, ML3.0/1, Error ellipse: s-maj=60.9km s-min=22.0km az=124.0*
*MOS **29** 17:36:47.8±0.9, 61°.43N×156°.48E, h10km, mb4.0/4, Error ellipse: s-maj=29.9km s-min=18.0km az=106.4*
*NERS **29** 17:36:48.1, 61°.44N×156°.35E, h5km*

ISC 29 17:36:49.7±0.5, 61°.49N±0°.03×156°.11E±0°.06, h10km, n26, σ1.132/46, mb3.8/8, 6C-2D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OMS	**Omsukchan**	**1.04**	**351**	*e*Pg	**Pg**	**17 37 09.3**	**-0.5**
OMS				Pgmax		17 37 10.7	
	1μm,0.3s						
OMS				*e*Sg	**Sg**	**17 37 24.1**	**+0.8**
OMS				Sgmax		17 37 28.9	
	6μm,0.4s						
OMS				Sgmax		17 37 28.9	
	2μm,0.2s						
EVEN	**Evensk**	**1.55**	**73**	⇓*i*P	**Pn**	**17 37 14.5**	**-2.8**
EVEN				*e*Pg	**Pg**	**17 37 15.3**	**-4.0**
EVEN				Pgmax		17 37 15.7	
	620nm,0.3s						
EVEN				*e*Sg	**Sg**	**17 37 34.5**	**-4.9**
EVEN				Sgmax		17 37 35.5	
	740nm,0.3s						
TLAR	**Talaya**	**1.83**	**260**	*e*P	**Pg**	**17 37 23.6**	**-1.1**
TLAR				*e*		17 37 49.8	
TLAR				pmax	pmax		
	comp=Z,400nm,0.3s						
TLAR				smax			
	comp=E,5μm,0.3s						
TLAR	**Talaya**	**1.83**	**260**	*e*Pg	**Pg**	**17 37 23.6**	**-1.1**
TLAR				Pgmax		17 37 27.8	
	comp=E,400nm,0.3s						
TLAR				*e*Sg	**Sg**	**17 37 49.8**	**+1.4**
TLAR				Sgmax		17 37 51.9	
	comp=E,5μm,0.3s						
TLAR				Sgmax		17 37 51.9	
	comp=E,1μm,0.2s						
SEY	**Seymchan**	**2.27**	**311**	⇑*e*P	**Pn**	**17 37 28.4**	**+1.2**
SEY				*e*		17 38 03.6	
SEY				pmax	pmax		
	comp=Z,390nm,0.4s						
SEY				smax			
	comp=N,1μm,0.2s						
SEY				smax			
	comp=E,640nm,0.2s						
SEY	**Seymchan**	**2.27**	**311**	*e*P	**Pn**	**17 37 28.4**	**+1.2**
SEY				*e*		17 37 31.7	
SEY				⇑*i*Pg	**Pg**	**17 37 32.6**	**-0.6**
SEY				Pgmax		17 37 33.2	
	comp=E,390nm,0.4s						
SEY				*e*Sg	**Sg**	**17 38 03.6**	**+1.0**
SEY				Sgmax		17 38 08.5	
	comp=E,1μm,0.2s						
SEY				Sgmax		17 38 08.5	
	comp=E,640nm,0.2s						
SNGR	**Sinegor'e**	**2.77**	**285**	*e*P	**Pn**	**17 37 35.5**	**+1.4**
SNGR				*e*Pg	**Pg**	**17 37 41.2**	**-1.6**
SNGR				Pgmax		17 37 42.3	
	comp=E,40nm,0.2s						
SNGR				*e*S	**Sn**	**17 38 04.1**	**-3.5**
SNGR				*e*Sg	**Sg**	**17 38 17.9**	**-0.9**
SNGR				Sgmax		17 38 23.2	
	comp=E,910nm,0.3s						
MGD	**Magadan 1**	**3.01**	**244**	*e*P	**Pn**	**17 37 38.3**	**+0.9**
MGD				*e*		17 37 42.5	
MGD				*e*Pg	**Pg**	**17 37 45.4**	**-1.9**
MGD				Pgmax		17 37 46.1	
	comp=E,80nm,0.4s						
MGD				*e*		17 38 10.3	
MGD				*e*Sg	**Sg**	**17 38 22.5**	**-3.8**
MGD				Sgmax		17 38 24.0	
	comp=E,810nm,0.3s						
MGD				Sgmax		17 38 24.0	
	comp=E,330nm,0.3s						
OCHR	**Omchak**	**3.95**	**276**	⇑*i*P	**Pn**	**17 37 52.4**	**+2.2**
OCHR				*e*Pg	**Pg**	**17 38 03.3**	**-1.9**
OCHR				Pmax		17 38 04.2	
	comp=E,80nm,0.2s						
OCHR				*e*S	**Sn**	**17 38 37.3**	**+0.8**
OCHR				*e*Sg	**Sg**	**17 38 55.9**	**-0.4**
OCHR				Sgmax		17 38 59.7	
	comp=E,800nm,0.3s						
OCHR				Sgmax		17 38 59.7	
	comp=E,600nm,0.3s						
SUUS	**Susuman**	**3.95**	**293**	⇑*e*P	**Pn**	**17 37 52.2**	**+2.0**
SUUS				pmax	pmax		
	comp=Z,50nm,0.3s						
SUUS				pmax	pmax		
	comp=Z,90nm,0.3s						
SUUS	**Susuman**	**3.95**	**293**	⇑*i*P	**Pn**	**17 37 52.2**	**+2.0**
SUUS				Pmax		17 37 53.0	
	comp=Z,50nm,0.3s						
SUUS				⇑*i*Pg	**Pg**	**17 38 03.4**	**-1.9**
SUUS				Pgmax		17 38 03.6	
	comp=Z,90nm,0.3s						
SUUS				*e*S	**Pg**	**17 38 03.6**	**-1.7**
SUUS				*e*Sg	**Sg**	**17 38 55.1**	**-1.3**
SUUS				Sgmax		17 39 01.1	
	comp=Z,1μm,0.6s						
OHTR	**Okhotsk**	**6.68**	**257**	*e*	**Sg**	**17 40 27.7**	**+3.9**
OHTR				Sgmax		17 40 36.0	
	comp=Z,170nm,0.5s						
OHTR				Sgmax		17 40 36.0	
	comp=Z,180nm,0.5s						
BILL	**Bilibino**	**7.87**	**29**	*e*P	**Pn**	**17 38 43.3**	**-0.7**
BILL				*e*		17 38 52.6	
BILL				*e*		17 39 14.7	
BILL				*e*S	**Sn**	**17 40 25.9**	**+13**
BILL				*e*		17 40 44.8	
BILL				*e*Sg	Sn	17 40 55.9	+43
BILL				Sgmax		17 41 03.9	
	comp=Z,70nm,1.1s						
BILL				Sgmax		17 41 03.9	
	comp=Z,80nm,1.1s						
PETK	**Petropavlovsk-**	**8.45**	**173**	Pn	**Pn**	**17 38 50.9**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=340,slow=13,SNR=12						
PETK				Sn	**Sn**	**17 40 28.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=348,slow=13,SNR=2.4						
PETK	**Petropavlovsk-**	**8.45**	**173**	P	**Pn**	**17 38 50.9**	**-1.0**
PETK						17 40 28.0	
ILAR	**Eielson Array**	**25.22**	**58**	P	**P**	**17 42 14.2**	**-0.9**
	comp=Z,2.3nm,0.8s,mb3.8,baz=280,slow=8.2,SNR=37						
ILAR	**Eielson Array**	**25.22**	**58**	P	**P**	**17 42 14.2**	**-0.9**
ILAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZAK	**Zakamensk**	**30.73**	**273**	*e*P	**P**	**17 43 07.2**	**+2.7**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.6s,mb3.7						
KURK	**Kurchatov**	**41.99**	**292**	*e*P	**P**	**17 44 41.7**	**+1.2**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb3.8						
ARU	**Arti**	**46.01**	**310**	*d i*P	**P**	**17 45 13.2**	**+0.5**
ARU				*e*		17 46 58.5	
ARU				S	**S**	**17 51 57.8**	**+0.5**
ARU				SS	SS	17 55 21.5	0.0
ARU				pmax	pmax		
	comp=Z,8.0nm,2.5s,mb4.2						
NVAR	**Mina Array Bea**	**55.10**	**73**	P	**P**	**17 46 22.7**	**+1.1**
	comp=Z,0.6nm,0.7s,mb3.7,baz=308,slow=7.8,SNR=4.1						
PDAR	**Pinedale Array**	**55.47**	**63**	P	**P**	**17 46 24.2**	**+0.1**
	comp=Z,0.5nm,0.6s,mb3.7,baz=348,slow=3.9,SNR=4.9						
WRA	**Warramunga Arr**	**83.01**	**201**	P	**P**	**17 49 13.9**	**-0.9**
	comp=Z,0.4nm,0.9s,mb3.5,baz=16,slow=6.8,SNR=2.5						
WRA	**Warramunga Arr**	**83.01**	**201**	P	**P**	**17 49 13.9**	**-0.8**
ASAR	**Alice Springs**	**86.72**	**200**	P	**P**	**17 49 33.6**	**+0.3**
	comp=Z,0.3nm,0.6s,mb3.7,baz=9.3,slow=4.0,SNR=7.7						
ASAR	**Alice Springs**	**86.72**	**200**	*e*P	**P**	**17 49 34.5**	**+1.1**

MAN 29 17:53:30, 11°.84N×124°.14E, h22km, mb5.1, ML4.0, MS4.1, 2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.71**	**316**	*e*P	Pb	17 53 41.7	-2.1
MMPH				*e*S	Sb	17 53 52.0	-1.2
CNP	**Catarman**	**0.84**	**38**	*e*P	Pb	17 53 45.4	-0.5
CNP				*e*S	Sb	17 53 58.1	+1.3
OCLP	**Ormoc**	**0.92**	**149**	*e*P	Pb	17 53 46.8	-0.4
PLP	**Palo**	**1.07**	**129**	⇓*e*P	Pn	17 53 49.2	-0.4
PLP				*i* S	Sb	17 54 07.0	+3.6
RCP	**Roxas**	**1.39**	**258**	⇓*e*P	Pn	17 53 53.1	-1.0
RCP				*i* S	Sn	17 54 12.4	+0.6
LLP	**Lapu-Lapu**	**1.53**	**186**	*e*P	Pn	17 53 56.1	+0.2
LLP				*e*S	Sn	17 54 15.6	+0.4
PVCP	**Virac**	**1.74**	**1**	*e*P	Pn	17 53 59.9	+0.9
MSLP	**Maasin**	**1.84**	**157**	*e*P	Pn	17 54 01.6	+1.3
GUIM	**Jordan**	**1.94**	**232**	*e*P	Pn	17 54 02.9	+1.3
AUQP	**San Andres**	**2.05**	**316**	*e*P	Pn	17 54 05.3	+2.1
OTRP	**Odiongan**	**2.13**	**284**	*e*P	Pn	17 54 04.8	+0.6
BOAC	**Boac**	**2.75**	**306**	*e*P	Pn	17 54 14.1	+1.2
CUYO	**Cuyo Island**	**3.21**	**252**	*e*P	Pn	17 54 20.8	+1.6
BUSP	**Coron**	**3.85**	**273**	*e*P	Pn	17 54 29.5	+1.5

*ISK **29** 17:56:45.6, 39°.99N×39°.97E, h12km, MD2.8*
*ISCJB **29** 17:56:46.0±0.6, 39°.98N±0°.03×39°.94E±0°.04, h2km±6km, Error ellipse: s-maj=5.4km s-min=4.0km az=137.6*
*CSEM **29** 17:56:46.2±0.2, 39°.98N×39°.94E, h8km, MD2.9, Error ellipse: s-maj=5.0km s-min=4.1km az=145.0*
*DDA **29** 17:56:46.2, 40°.01N×40°.00E, h7km±7km, Md2.9*

ISC 29 17:56:46.6±0.5, 39°.97N±0°.03×39°.93E±0°.04, h7km±5km, n25, σ0.991/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERZN	**Erzincan**	**0.42**	**203**	*e*Pg	**Pg**	**17 56 54.4**	**-0.3**
ERZN				*e*Sg	**Sg**	**17 57 01.6**	**+1.4**
KOPT	**Kop Dagi**	**0.43**	**84**	*i* P	**Pg**	**17 56 54.7**	**-0.3**
KOPT				*i* S	**Sg**	**17 57 02.6**	**+1.9**
KOPT	**Kop Dagi**	**0.43**	**84**	*i* P	**Pg**	**17 56 54.7**	**-0.3**
BAYT	**Ayd¨–ntepe-Bay**	**0.45**	**21**	*e*PG	**Pg**	**17 56 54.4**	**-0.9**
BAYT				*e*SG	**Sg**	**17 57 01.0**	**-0.2**
BAYT	**Ayd¨–ntepe-Bay**	**0.45**	**21**	*e*Pg	**Pg**	**17 56 54.4**	**-0.9**
BAYT				*e*Sg	**Sg**	**17 57 01.0**	**-0.2**
EZC	**Erzincan**	**0.50**	**244**	*e*PG	**Pg**	**17 56 56.4**	**+0.2**
EZC	**Erzincan**	**0.50**	**244**	*e*Pg	**Pg**	**17 56 56.4**	**+0.2**
EZC				*e*Sg	**Sg**	**17 57 01.6**	**-1.1**
GUMT	**Gumushane**	**0.60**	**325**	*e*PG	**Pg**	**17 56 57.9**	**-0.2**
GUMT				*e*SG	**Sg**	**17 57 06.9**	**+1.0**
GUMT	**Gumushane**	**0.60**	**325**	*e*Pg	**Pg**	**17 56 57.9**	**-0.2**
GUMT				*e*Sg	**Sg**	**17 57 06.9**	**+1.0**
MACK	**Trabzon**	**0.98**	**353**	*i* P	**Pg**	**17 57 05.2**	**-0.2**
MACK				*i* S	**Sg**	**17 57 18.9**	**+0.8**
MACK	**Trabzon**	**0.98**	**353**	*i* P	**Pg**	**17 57 05.2**	**-0.2**
MACK				*i* S	**Sg**	**17 57 18.9**	**+0.8**
KTUT	**Trabzon**	**1.02**	**353**	*e*PG	**Pg**	**17 57 05.3**	**-0.9**
KTUT	**Trabzon**	**1.02**	**353**	*e*Pg	**Pg**	**17 57 05.3**	**-0.9**
EZM	**Erzurum**	**1.10**	**93**	*e*PG	**Pg**	**17 57 06.9**	**-0.8**
PTK	**Pertek**	**1.16**	**201**	*e*PN	**Pn**	**17 57 08.5**	**-0.8**
PTK	**Pertek**	**1.16**	**201**	*e*Pn	**Pn**	**17 57 08.5**	**-0.8**
KEMA	**Kemaliye**	**1.32**	**238**	*i* P	**Pn**	**17 57 11.9**	**+0.5**
KEMA				*i* S	**Sb**	**17 57 33.1**	**+4.4**
KEMA	**Kemaliye**	**1.32**	**238**	*i* P	**Pn**	**17 57 11.9**	**+0.5**
ESPY	**Espiye-Giresun**	**1.32**	**316**	*e*PN	**Pn**	**17 57 10.4**	**-1.0**
ESPY	**Espiye-Giresun**	**1.32**	**316**	*e*Pn	**Pn**	**17 57 10.4**	**-1.1**
SUSE	**Susehri**	**1.35**	**281**	*i* P	**Pn**	**17 57 11.3**	**-0.6**
SUSE				*i* S	**Sb**	**17 57 31.4**	**+1.7**
SUSE	**Susehri**	**1.35**	**281**	*i* P	**Pn**	**17 57 11.3**	**-0.6**
SUSE				*i* S	**Sb**	**17 57 31.4**	**+1.7**
DAGI	**Agillar**	**1.87**	**53**	*i* P	**Pn**	**17 57 19.4**	**+0.4**
DAGI				*i* S	**Sn**	**17 57 43.9**	**+0.9**
BCA	**Borcka**	**1.95**	**41**	*e*PN	**Pn**	**17 57 19.0**	**-1.2**
BCA	**Borcka**	**1.95**	**41**	*e*Pn	**Pn**	**17 57 19.0**	**-1.2**

*ATH **29** 18:09:59.6, 39°.58N×28°.82E, h12km±7km, MD3.8/9*
*DDA **29** 18:10:00.2, 39°.57N×28°.82E, h23km±1km, Md3.3*
*ISK **29** 18:10:00.6, 39°.58N×28°.84E, h7km, ML3.6*
*ISCJB **29** 18:10:00.3±0.3, 39°.58N±0°.01×28°.83E±0°.02, h2km±2km, Error ellipse: s-maj=2.3km s-min=2.1km az=26.7*
*CSEM **29** 18:10:00.9±0.1, 39°.57N×28°.84E, h2km, ML3.6, Error ellipse: s-maj=1.5km s-min=1.4km az=39.0*
*THE **29** 18:10:04.7, 39°.65N×28°.81E, h28km±45km, ML3.5/4, Error ellipse: s-maj=47.3km s-min=3.5km az=95.0*

ISC 29 18:10:01.0±0.3, 39°.58N±0°.01×28°.84E±0°.02, h2km±2km, n211, σ0.973/269, 9C-9D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	**Dursunbey**	**0.17**	**280**	PG	**Pg**	**18 10 04.6**	**+0.3**
DST	**Dursunbey**	**0.17**	**280**	*i* Pg	**Pg**	**18 10 04.6**	**+0.3**
DURS	**Dursunbey**	**0.28**	**275**	*i* P	**Pg**	**18 10 06.8**	**+0.4**
DURS				*i* S	**Sg**	**18 10 10.7**	**+0.7**
DURS	**Dursunbey**	**0.28**	**275**	*i* P	**Pg**	**18 10 06.8**	**+0.4**
DURS				*i* S	**Sg**	**18 10 10.7**	**+0.7**
DEMI	**Demirci**	**0.54**	**190**	*i* P	**Pg**	**18 10 11.6**	**+0.2**
DEMI				*i* S	**Sg**	**18 10 18.3**	**-0.1**
DEMI	**Demirci**	**0.54**	**190**	*i* P	**Pg**	**18 10 11.6**	**+0.3**
DEMI				*i* S	**Sg**	**18 10 18.3**	**0.0**
ULDT	**Uludag**	**0.61**	**22**	*i* P	**Pg**	**18 10 12.2**	**-0.5**
ULDT				*i* S	**Sg**	**18 10 20.5**	**-0.1**
ULDT	**Uludag**	**0.61**	**22**	*i* P	**Pg**	**18 10 12.2**	**-0.5**
ULDT				*i* S	**Sg**	**18 10 20.5**	**-0.2**
GDZ	**Gediz**	**0.70**	**134**	*i* P	**Pg**	**18 10 13.5**	**-0.8**
GDZ				*i* S	**Sg**	**18 10 22.2**	**-1.2**
GDZ	**Gediz**	**0.70**	**134**	*i* P	**Pg**	**18 10 13.5**	**-0.9**
GDZ				*i* S	**Sg**	**18 10 22.2**	**-1.2**
BALB	**Balikesir**	**0.74**	**275**	*e*PG	**Pg**	**18 10 15.4**	**+0.2**
BALB				*e*SG	**Sg**	**18 10 25.9**	**+1.1**
BALB	**Balikesir**	**0.74**	**275**	*e*Pg	**Pg**	**18 10 15.4**	**+0.2**
BALB				*e*Sg	**Sg**	**18 10 25.9**	**+1.1**
KCTX	**Karacabey (Bur**	**0.78**	**332**	*e*PG	**Pg**	**18 10 16.3**	**+0.4**
KCTX				*e*SG	**Sg**	**18 10 27.0**	**+0.9**
KCTX	**Karacabey (Bur**	**0.78**	**332**	*e*Pg	**Pg**	**18 10 16.3**	**+0.3**
KCTX				*e*Sg	**Sg**	**18 10 27.0**	**+0.9**
MDNY	**Mudanya-Bursa**	**0.79**	**3**	*e*PG	**Pg**	**18 10 16.5**	**+0.3**
MDNY	**Mudanya-Bursa**	**0.79**	**3**	*e*Pg	**Pg**	**18 10 16.5**	**+0.3**
GEMT	**Gemlik**	**0.90**	**17**	*e*PG	**Pg**	**18 10 18.6**	**+0.3**
GEMT	**Gemlik**	**0.90**	**17**	*e*Pg	**Pg**	**18 10 18.6**	**+0.3**
BALY	**Balya**	**0.95**	**280**	*i* P	**Pg**	**18 10 19.2**	**-0.1**
BALY				*i* S	**Sg**	**18 10 31.2**	**-0.4**
BALY	**Balya**	**0.95**	**280**	*i* P	**Pg**	**18 10 19.2**	**-0.1**
BALY				*i* S	**Sg**	**18 10 31.2**	**-0.4**
ARMT	**Armutlu**	**0.99**	**1**	*e*PG	**Pg**	**18 10 20.1**	**+0.2**
ARMT	**Armutlu**	**0.99**	**1**	*e*Pg	**Pg**	**18 10 20.1**	**+0.1**
CAVI	**Cavuskoy**	**1.00**	**51**	*e*PG	**Pg**	**18 10 19.7**	**-0.4**
CAVI	**Cavuskoy**	**1.00**	**51**	*e*Pg	**Pg**	**18 10 19.7**	**-0.4**
GONE	**Gonen-Balikesi**	**1.00**	**298**	*e*PG	**Pg**	**18 10 20.2**	**0.0**
GONE	**Gonen-Balikesi**	**1.00**	**298**	*e*Pg	**Pg**	**18 10 20.2**	**0.0**
BNT	**Bandirma**	**1.05**	**318**	*e*PG	**Pg**	**18 10 21.4**	**+0.3**

IZM	Izmir	1.70	227	*e*Pn		Pn	18 10 29.8	-1.8
SLVT	Silivri	1.72	344	*e*PN		Pn	18 10 31.8	-0.1
SLVT	Silivri	1.72	344	*e*Pn		Pn	18 10 31.8	-0.1
TKR	Tekirdag	1.73	325	*e*PN		Pn	18 10 32.0	0.0
TKR	Tekirdag	1.73	325	*e*Pn		Pn	18 10 32.0	0.0
CRLT	Corlu	1.76	332	*e*PN		Pn	18 10 32.5	0.0
CRLT	Corlu	1.76	332	*e*Pn		Pn	18 10 32.5	0.0
LPK	Lapseki	1.78	297	*e*PN		Pn	18 10 32.6	-0.1
LPK	Lapseki	1.78	297	*e*Pn		Pn	18 10 32.6	-0.2
DENT	Denizli	1.83	175	*e*PN		Pn	18 10 33.1	-0.3
DENT	Denizli	1.83	175	*e*Pn		Pn	18 10 33.1	-0.3
BLCB	Balcova	1.83	230	*e*PN		Pn	18 10 33.3	-0.2
BLCB	Balcova	1.83	230	*e*Pn		Pn	18 10 33.3	-0.2
BOLV	Bolvadin	1.85	117	*i* P		Pn	18 10 33.9	+0.1
BOLV				*i* S		Sn	18 11 00.8	+3.0
BOLV	Bolvadin	1.85	117	*i* Pn		Pn	18 10 33.9	+0.1
BOLV				*i* S		Sn	18 11 00.8	+3.0
DNZL	Cakiroluk	1.89	175	*i* P		Pn	18 10 33.6	-0.6
DNZL				*i* S		Sn	18 10 59.5	+0.8
DNZL	Cakiroluk	1.89	175	*i* P		Pn	18 10 33.7	-0.6
DNZL				*i* S		Sn	18 10 59.5	+0.8
CTYL	Yal??k??y-??at	1.94	348	*e*PN		Pn	18 10 35.0	0.0
CTYL	Yal??k??y-??at	1.94	348	*e*Pn		Pn	18 10 35.0	0.0
EZN	Ezine	1.95	278	*e*PN		Pn	18 10 35.2	+0.1
EZN	Ezine	1.95	278	*e*Pn		Pn	18 10 35.2	+0.1
GELI	Tayfur-Gelibol	1.99	295	*e*PN		Pn	18 10 35.9	+0.2
GELI	Tayfur-Gelibol	1.99	295	*e*Pn		Pn	18 10 35.9	+0.2
HENT	Hendek	2.01	51	*i* P		Pn	18 10 37.5	+1.5
HENT				*i* S		Sn	18 11 02.3	+0.7
HENT	Hendek	2.01	51	*i* P		Pn	18 10 37.5	+1.5
HENT				*i* S		Sn	18 11 02.3	+0.6
PRK	Paraskevi	2.01	261	*e*PN		Pn	18 10 35.8	-0.2
PRK				*e*SN		Sn	18 11 01.8	+0.1
PRK	Paraskevi	2.01	261	P		Pn	18 10 35.8	-0.2
PRK				S		Sn	18 11 00.2	-1.5
PRK	Paraskevi	2.01	261	P		Pn	18 10 35.8	-0.2
PRK				S		Sn	18 11 00.2	-1.5
PRK				*e*Sn		Sn	18 11 01.8	+0.1
MDU	Mudurnu	2.03	63	*e*PN		Pn	18 10 36.2	0.0
MDU	Mudurnu	2.03	63	*e*Pn		Pn	18 10 36.2	0.0
AYDN	Tasoluk	2.05	202	*i* P		Pn	18 10 35.3	-1.2
AYDN				*i* S		Sn	18 11 04.8	+2.1
AYDN	Tasoluk	2.05	202	*i* P		Pn	18 10 35.3	-1.2
AYDN				*i* S		Sn	18 11 04.8	+2.1
SVRH	Sivrihisar-ESK	2.08	93	*e*PN		Pn	18 10 37.1	+0.2
SVRH	Sivrihisar-ESK	2.08	93	*e*Pn		Pn	18 10 37.1	+0.2
ERIK	Erikli-Kesan	2.09	302	*e*PN		Pn	18 10 37.4	+0.4
ERIK	Erikli-Kesan	2.09	302	*e*Pn		Pn	18 10 37.4	+0.4
BOZC	Bozcaada	2.16	278	*i* P		Pn	18 10 37.8	-0.2
BOZC				*i* S		Sn	18 11 05.1	-0.3
SIGR	SIGRI	2.34	262	P		Pn	18 10 40.2	-0.2
SIGR				S		Sn	18 11 08.9	-0.8
SIGR	SIGRI	2.34	262	P		Pn	18 10 40.2	-0.2
SIGR				S		Sn	18 11 08.9	-0.8
GADA	Gvkgeada	2.34	286	*e*PN		Pn	18 10 40.7	+0.2
GADA	Gvkgeada	2.34	286	*e*Pn		Pn	18 10 40.7	+0.2
ENEZ	Enez	2.36	300	*e*PN		Pn	18 10 40.5	-0.2
ENEZ	Enez	2.36	300	*e*Pn		Pn	18 10 40.5	-0.2
MLSB	Milas	2.42	200	*e*PN		Pn	18 10 41.6	0.0
MLSB	Milas	2.42	200	*e*Pn		Pn	18 10 41.7	+0.1
SMG	Samos	2.43	221	*e*PN		Pn	18 10 41.6	-0.1
SMG	Samos	2.43	221	*e*Pn		Pn	18 10 41.6	-0.1
KIZT	Kizilcal	2.46	105	*e*PN		Pn	18 10 42.4	+0.2
KIZT	Kizilcal	2.46	105	*e*Pn		Pn	18 10 42.4	+0.2
CHOS	Chios island	2.47	242	*e*PB		Pb	18 10 41.5	-4.6
CHOS	Chios island	2.47	242	P		Pn	18 10 41.3	-1.0
CHOS	Chios island	2.47	242	P		Pn	18 10 41.3	+1.0
GLHS	Glhisar (BURDU	2.47	168	*e*PN		Pn	18 10 42.3	+0.1
GLHS	Glhisar (BURDU	2.47	168	*e*Pn		Pn	18 10 42.3	0.0
YER	Yerkesik	2.48	190	*e*PN		Pn	18 10 42.4	+0.1
YER	Yerkesik	2.48	190	*e*Pn		Pn	18 10 42.4	+0.1
ALN	Alexandroupoli	2.51	303	*e*PN		Pn	18 10 42.5	-0.3
ALN				*e*SB		Sn	18 11 13.2	-0.8
ALN	Alexandroupoli	2.51	303	P		Pn	18 10 42.4	-0.4
ALN				S		Sb	18 11 19.1	+1.0
ALN	Alexandroupoli	2.51	303	*e*Pn		Pn	18 10 42.5	-0.3
ALN				*e*Sb		Sn	18 11 13.2	-0.8
BCK	Bucak	2.52	146	*e*PN		Pn	18 10 43.1	+0.2
BCK	Bucak	2.52	146	*e*Pn		Pn	18 10 43.1	+0.2
KDHN	Kadinhani	2.76	111	*i* P		Pn	18 10 46.3	0.0
KDHN				*i* S		Sg	18 11 29.0	-0.7
KDHN	Kadinhani	2.76	111	*i* P		Pn	18 10 46.3	0.0
EDRB	Edirne	2.77	326	*e*PN		Pn	18 10 46.0	-0.4
EDRB	Edirne	2.77	326	*e*Pn		Pn	18 10 46.0	-0.4
BODT	Bodrum	2.78	206	*e*PN		Pn	18 10 46.8	+0.3
BODT	Bodrum	2.78	206	*e*Pn		Pn	18 10 46.8	+0.3
LIA	Limnos Island	2.83	278	*e*PN		Pn	18 10 47.0	-0.3
LIA				*e*SN		Sn	18 11 21.7	-0.3
LIA	Limnos Island	2.83	278	P		Pn	18 10 47.1	-0.2
LIA	Limnos Island	2.83	278	P		Pn	18 10 47.1	-0.2
LIA				*e*Sn		Sn	18 11 21.7	-0.3
ELL	Elmali	2.95	163	*e*PN		Pn	18 10 49.1	+0.3
ELL	Elmali	2.95	163	*e*Pn		Pn	18 10 49.1	+0.3
RDO	Rodhopi	2.97	303	*e*PN		Pn	18 10 49.0	-0.1
RDO	Rodhopi	2.97	303	P		Pn	18 10 49.0	-0.1
RDO	Rodhopi	2.97	303	P		Pn	18 10 49.0	-0.1
DAT	Datca	3.01	200	*e*PN		Pn	18 10 50.1	+0.5
DAT	Datca	3.01	200	*e*Pn		Pn	18 10 50.1	+0.4
LOD	Lodumlu	3.04	83	*e*PN		Pn	18 10 50.7	+0.5
LOD	Lodumlu	3.04	83	*e*Pn		Pn	18 10 50.7	+0.5
LADK	Ladik-KONYA	3.08	115	*e*PN		Pn	18 10 51.0	+0.4
LADK	Ladik-KONYA	3.08	115	*e*Pn		Pn	18 10 51.0	+0.4
KONT	Konya--Tatoy	3.20	119	*e*PN		Pn	18 10 52.8	+0.5
KONT	Konya--Tatoy	3.20	119	*e*Pn		Pn	18 10 52.8	+0.5
AFSR	Af˙ar-Bala (A	3.28	91	*e*PN		Pn	18 10 53.9	+0.5
AFSR	Af˙ar-Bala (A	3.28	91	*e*Pn		Pn	18 10 53.9	+0.5
KAVA	Kavala	3.60	295	P		Pn	18 10 57.4	-0.3
KAVA				S		Sn	18 11 37.0	-3.8
KAVA	Kavala	3.60	295	P		Pn	18 10 57.4	-0.3
KAVA				S		Sn	18 11 37.0	-3.8
APE	Apeiranthos	3.61	227	*e*PN		Pn	18 10 59.2	+1.3
APE	Apeiranthos	3.61	227	⇑*i* P		Pg	18 11 09.5	-0.6
APE	Apeiranthos	3.61	227	S		Sg	18 11 57.3	+0.4
APE	Apeiranthos	3.61	227	*e*Pn		Pn	18 10 59.2	+1.3
CANT	Cankiri	3.81	73	*e*PN		Pn	18 11 01.7	+1.0
HDMB	Hadim	3.88	131	*e*PN		Pn	18 11 02.5	+0.9
HDMB	Hadim	3.88	131	*e*Pn		Pn	18 11 02.5	+0.9
SULT	Sultanhani-AKS	3.90	109	*e*PN		Pn	18 11 02.8	+0.9
SULT	Sultanhani-AKS	3.90	109	*e*Pn		Pn	18 11 02.8	+0.9
NVR	Nevrokopi	4.19	297	*e*PN		Pn	18 11 05.8	0.0
NVR	Nevrokopi	4.19	297	P		Pn	18 11 05.7	-0.1
NVR	Nevrokopi	4.19	297	*e*Pn		Pn	18 11 05.8	0.0
PLG	Polygyros	4.22	283	*e*PN		Pn	18 11 06.4	+0.1
PLG	Polygyros	4.22	283	*e*Pn		Pn	18 11 06.4	+0.1
SRS	Serrai	4.29	293	P		Pn	18 11 06.9	-0.4
SRS	Serrai	4.29	293	P		Pn	18 11 06.9	-0.4
SOH	Sokhos	4.38	288	*e*PN		Pn	18 11 09.7	+1.2
SOH	Sokhos	4.38	288	*e*Pn		Pn	18 11 09.7	+1.2
CORM	Corum	4.50	80	*e*PN		Pn	18 11 10.9	+0.8
CORM	Corum	4.50	80	*e*Pn		Pn	18 11 10.9	+0.8
TIRR	Tirgusor	4.89	356	⇓*i* P		Pn	18 11 15.2	-0.3
TIRR	Tirgusor	4.89	356	⇓*i* P		Pn	18 11 15.2	-0.3
TIRR				S		Sn	18 12 08.6	-4.0
LIT	Litokhoron	4.91	278	*e*PN		Pn	18 11 16.2	+0.4
LIT	Litokhoron	4.91	278	*e*Pn		Pn	18 11 16.2	+0.4
VTS	Vitosha	5.21	307	⇑*i* P		Pn	18 11 22.6	+2.7
VTS	Vitosha	5.21	307	⇑*i* P		Pn	18 11 22.6	+2.7
VTS				S		Sn	18 12 21.2	+0.7
TLCR		5.61	360	⇑*i* Pn		Pn	18 11 25.3	0.0
TLCR		5.61	360	⇑*i* P		Pn	18 11 25.3	0.0
BARS	Barje	6.21	304	⇓*i* Pn		Pn	18 11 34.0	+0.4
MLR	Muntele Rosu	6.28	341	⇑*i* P		Pn	18 11 35.2	+0.6
MLR	Muntele Rosu	6.28	341	S		Sn	18 12 44.3	-2.7
MLR	Muntele Rosu	6.28	341	⇑*i* P		Pn	18 11 35.2	+0.6
PLOR	Plostina	6.47	346	⇓*i* P		Pn	18 11 38.1	+0.9
PLOR	Plostina	6.47	346	⇓*i* P		Pn	18 11 38.1	+0.9
VRI	Vrincioaia	6.47	347	⇓*i* P		Pn	18 11 37.0	-0.3
VRI	Vrincioaia	6.47	347	⇓*i* P		Pn	18 11 37.0	-0.3
BZS	Buzias	8.05	321	⇓*i* P		Pn	18 12 00.0	+1.2
BZS	Buzias	8.05	321	⇓*i* P		Pn	18 12 00.0	+1.2
BURAR	Bucovina Array	8.45	343	⇑*i* P		Pn	18 12 05.7	+1.3
BURAR	Bucovina Array	8.45	343	⇑*i* P		Pn	18 12 05.7	+1.3

*ISCJB **29** 18:14:16.5±1.0, 30˚.50N±0˚.10×67˚.8E±0˚.2, h10km, mb3.5/7, Error ellipse: s-maj=20.4km s-min=13.6km az=11.7*
*IDC **29** 18:14:16.6±1.1, 30˚.40N×67˚.69E, h0km, mb3.5/7, mb1 3.6/8, mb1mx3.4/29, mbtmp3.5/8, Error ellipse: s-maj=29.9km s-min=23.2km az=95.0*
*NEIC **29** 18:14:18.1±1.1, 30˚.48N×67˚.77E, h10km, mb3.5/2, Error ellipse: s-maj=22.1km s-min=14.6km az=100.0*

ISC 29 18:14:18.2±1.0, **30˚.48N**±0˚.09×**67˚.8E**±0˚.2, **h10**km, **n25**, σ1°.**19**/26, **mb3.5/7, Pakistan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KBL	Kabul	4.19	14	Pn		Pn	18 15 23.3	+1.2
KKAR	Karatay Array	12.79	9	P		Pn	18 17 18.4	-1.6
EKS2	Erkin-Say	13.07	20	*e*P		Pn	18 17 25.4	+1.6
	2.4nm,0.5s							
AAK	Ala-Archa	13.27	22	*e*Pn		Pn	18 17 26.7	+0.2
	11nm,0.6s							
AAK				*e*Sn		Sn	18 19 34.1	-20
TKM2	Tokmak 2	13.90	25	*e*Pn		Pn	18 17 34.4	-0.7
	4.6nm,0.7s							
ABKAR	Akbulak array	19.68	345	*e*Pn		Pn	18 18 48.4	-0.3
	1.5nm,0.8s							
MK31	Makanchi Array	19.79	31	*e*Pn		Pn	18 18 48.5	-1.4
MKAR	Makanchi Array	19.79	31	P		Pn	18 18 49.5	-0.5
	0.3nm,0.3s,baz=207,slow=10,SNR=9.7							
MKAR	Makanchi Array	19.79	31	P		Pn	18 18 49.5	-0.5
AKTO	Aktyubinsk	21.25	343	P		P	18 19 05.1	+0.9
	0.8nm,0.6s,mb3.2,baz=166,slow=12,SNR=3.8							
AKTO	Aktyubinsk	21.25	343	P		P	18 19 05.1	+0.9
KURK	Kurchatov	21.78	19	P		P	18 19 08.4	-1.5
	0.4nm,0.5s,mb3.1,baz=216,slow=7.9,SNR=2.7							
KURK	Kurchatov	21.78	19	P		P	18 19 07.8	-2.2
	3.8nm,1.2s,mb3.7							
BVAR	Borovoye Array	22.61	4	P		P	18 19 19.0	+0.2
	1.3nm,0.7s,mb3.5,baz=160,slow=8.7,SNR=7.3							
BVAR	Borovoye Array	22.61	4	P		P	18 19 19.0	+0.2
BRVK	Borovoye	22.64	4	P		P	18 19 19.3	+0.2
ZAA0	Zalesovo Array	26.49	23	P		P	18 19 59.0	+3.5
ZALV	Zalesovo Beam	26.49	23	P		P	18 19 57.7	+2.3
	2.0nm,0.5s,mb3.9,baz=218,slow=11,SNR=7.0							
ZALV	Zalesovo Beam	26.49	23	P		P	18 19 57.7	+2.2
TORD	Torodi Ar. Bea	62.95	270	P		P	18 24 44.6	-0.7
	0.2nm,0.5s,mb3.5,baz=66,slow=7.6,SNR=2.1							
TORD	Torodi Ar. Bea	62.95	270	P		P	18 24 44.6	-0.7
WRA	Warramunga Arr	81.24	119	P		P	18 26 36.0	+1.3
	0.3nm,0.8s,mb3.3,baz=323,slow=5.0,SNR=2.9							
WRA	Warramunga Arr	81.24	119	P		P	18 26 36.0	+1.3
ASAR	Alice Springs	83.15	122	P		P	18 26 43.6	-1.0
	0.3nm,0.7s,mb3.4,baz=301,slow=4.8,SNR=4.2							
ASAR	Alice Springs	83.15	122	P		P	18 26 43.6	-1.0

MEX 29 18:30:19.8±1.0, **16˚.30N**×**99˚.17W**, **h5**km±15km, **MD3.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ACX	Acapulco	0.87	311	*e*P		Pg	18 30 34.6	-1.9
ACX				*i* S		Sg	18 30 48.0	+0.1
PNIG	Pinotepa	1.01	84	*e*P		Pg	18 30 37.0	-2.2
PNIG				*e*S		Sg	18 30 49.7	-2.5
CAIG	El Cayaco	1.29	306	*e*P		Pn	18 30 41.5	-3.0
CAIG				*e*S		Sg	18 30 56.4	-4.9
MEIG	Mezcala	1.68	345	*e*P		Pn	18 30 45.8	-4.0
MEIG				*i* S		Sn	18 31 07.2	-4.5

*IDC **29** 18:36:03.6±0.9, 1˚.82N×127˚.29E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.7/19, mbtmp3.7/8, ML3.7/1, Error ellipse: s-maj=56.5km s-min=15.5km az=76.0*
*NEIC **29** 18:36:08.6±0.7, 1˚.87N×127˚.63E, h35km, mb4.0/2, Error ellipse: s-maj=29.5km s-min=11.3km az=73.0*
*ISCJB **29** 18:36:16.0±0.9, 1˚.71N±0˚.07×127˚.16E±0˚.06, h128km±7km, mb3.7/9, Error ellipse: s-maj=12.0km s-min=8.1km az=32.9*
*DJA **29** 18:36:17, 1˚.90N×127˚.08E, h92km, MLv3.9/7*

ISC 29 18:36:16.4±1.0, **1˚.72N**±0˚.07×**127˚.22E**±0˚.07, **h113**km±10km, **n30**, σ0°.**86**/34, **mb3.7**/9, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	Ternate	0.95	171	P		Pn	18 36 38.0	+0.5
TNTI				S		Sn	18 36 57.0	+3.7
MNI	Manado	2.39	263	P		Pn	18 36 52.5	-2.1
MNI				S		Sn	18 37 22.8	-1.1
SGSI	Sangihe	2.58	319	S		Sn	18 37 23.0	-5.2
KMSI	Cibinong	3.43	251	S		Sn	18 37 49.1	+0.8
GTOI	Gorontalo	4.34	256	P		Pn	18 37 21.7	+1.2
NLAI	Namlea	4.93	181	P		Pn	18 37 29.3	+0.9
	0.2nm1μm23nm,1.0s							
NLAI				S		Sn	18 38 23.8	-0.5
	0.2nm1μm23nm,1.0s							
LUWI	Luwuk	5.22	238	P		Pn	18 37 32.4	0.0
	0.3nm1μm55nm,1.1s							
LUWI				S		Sn	18 38 31.8	+0.3
	0.3nm1μm55nm,1.1s							
MRSI	Marisa	5.42	257	P		Pn	18 37 34.9	-0.1
	0.0nm8.5nm,1.4s							
KDI	Kendari	7.28	219	P		Pn	18 37 59.9	-0.3
	0.0nm5.4nm,0.6s							
TTSI	Tana Toraja	8.78	237	P		Pn	18 38 20.4	-0.2
	12nm,0.6s							
SPSI	Sidrap Palu	9.35	233	P		Pn	18 38 28.4	+0.2
	13nm,0.8s							
MTNI	Mataram	15.07	227	P		Pn	18 39 47.3	+3.7
FITZ	Fitzroy Crossi	19.76	184	P		P	18 40 37.0	-0.6
	0.2nm,0.3s,baz=274,slow=22,SNR=11							
FITZ	Fitzroy Crossi	19.76	184	P		P	18 40 37.0	-0.6
WRAB	Tennant Creek	22.63	162	*e*P		P	18 41 07.8	-0.4
	2.6nm,0.6s,mb3.7							
WRA	Warramunga Arr	22.64	162	P		P	18 41 08.1	-0.1
	1.4nm,0.3s,mb3.7,baz=340,slow=10,SNR=24							
WRA	Warramunga Arr	22.64	162	P		P	18 41 08.1	-0.1
PMG	Port Moresby	22.73	119	P		P	18 41 03.1	-6.1
	8.3nm,0.9s,mb4.1							
ASAR	Alice Springs	26.06	166	P		P	18 41 39.7	+0.3
	0.4nm,0.5s,mb3.1,baz=343,slow=8.1,SNR=8.1							
ASAR	Alice Springs	26.06	166	P		P	18 41 39.7	+0.3
STKA	Stephens Creek	36.09	159	P		P	18 43 06.7	-0.6
	0.6nm0.4s,mb3.9,baz=330,slow=14,SNR=4.0							
STKA	Stephens Creek	36.09	159	P		P	18 43 06.7	-0.6
MJAR	Matsushiro Arr	36.11	15	P		P	18 43 06.3	-1.2
	2.6nm,1.1s,mb4.1,baz=189,slow=7.1,SNR=3.9							
MJAR	Matsushiro Arr	36.11	15	P		P	18 43 06.3	-1.2
SONM	Songino Array	49.34	342	P		P	18 44 55.6	+1.5
	0.2nm,0.5s,mb3.3,baz=148,slow=12,SNR=2.5							
SONM	Songino Array	49.34	342	P		P	18 44 55.6	+1.5
MKAR	Makanchi Array	59.48	326	P		P	18 46 08.2	+0.8
	0.3nm,0.5s,mb3.6,baz=122,slow=8.7,SNR=4.9							
MKAR	Makanchi Array	59.48	326	P		P	18 46 08.2	+0.8
KURK	Kurchatov	63.69	328	P		P	18 46 35.6	-0.1
	0.9nm,0.5s,mb3.8,baz=128,slow=6.0,SNR=7.6							
KURK	Kurchatov	63.69	328	P		P	18 46 35.6	-0.1

*ISCJB **29** 18:39:08.1±0.4, 30˚.18N±0˚.04×67˚.63E±0˚.04, h10km, mb3.9/30, MS3.5/12, Error ellipse: s-maj=6.3km s-min=4.2km az=33.2*
*IDC **29** 18:39:09.0±0.8, 30˚.23N×67˚.50E, h0km, mb3.8/19, mb1 4.0/19, mb1mx3.9/30, mbtmp3.9/19, MS3.5/12, Ms1 3.6/12, ms1mx3.3/35, Error ellipse: s-maj=20.1km s-min=14.4km az=22.0*
*NEIC **29** 18:39:10.2±0.6, 30˚.27N×67˚.54E, h10km, mb4.4/3, Error ellipse: s-maj=11.3km s-min=10.7km az=169.0*
*MOS **29** 18:39:12.9±1.5, 30˚.37N×67˚.69E, h33km, mb4.3/10, Error ellipse: s-maj=12.7km s-min=6.7km az=82.4*
*NNC **29** 18:39:13.3±2.0, 30˚.63N×67˚.52E, h0km, mb4.0, Error ellipse: s-maj=26.8km s-min=17.9km az=175.0*

ISC 29 18:39:09.7±0.4, **30˚.15N**±0˚.04×**67˚.59E**±0˚.04, **h10**km, **n126**, σ1°.**24**/129, **mb3.9**/30, **MS3.5**/12, **3C-8D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
THW	Thamme Wali	4.42	52	P		Pn	18 40 17.9	+1.0
KBL	Kabul	4.55	15	*e*Pn		Pn	18 40 19.5	+0.9
KBL	Kabul	4.55	15	*e*P		Pn	18 40 19.5	+0.9
CEP	Cherat	5.18	44	P		Pn	18 40 28.8	+1.4
CEP				S		Sn	18 41 27.0	-0.2
CHCP	Chirah Chowk	5.96	53	P		Pn	18 40 39.6	+1.6
AJM	Ajmer	7.21	119	*e*PKP		Pn	18 40 57.0	+1.8
AJM				*ex*		Sn	18 42 22.0	+4.8
SDNR	Sundarnagar	8.18	78	*e*PKP		Pn	18 41 10.0	+1.5
SDNR				*ex*		x	18 42 49.0	
SMLA	Simla	8.31	81	*i* P		Pn	18 41 11.2	+1.0
SMLA				*i* S		Sn	18 42 42.5	-1.7
SMLA					AML	AML	18 42 50.3	
	comp=E,362nm,0.3s							
SMLA					AML	AML	18 42 50.3	
	comp=N,387nm,0.3s							
NDI	New Delhi	8.52	97	*e*PKP		Pn	18 41 17.0	+3.8
NDI				*e*S		Sn	18 42 49.5	+0.1
DDI	Dehra Dun	9.06	86	*e*PKP		Pn	18 41 24.0	+3.5
DDI				*ex*		x	18 43 38.0	
POO	Poona	12.89	152	*ex*		x	18 42 27.0	
KK31	Karatay Array	13.14	9	⇓P		Pn	18 42 15.5	-0.8
	comp=N,2.4nm,0.7s,baz=190,slow=12,SNR=19							
KK31				⇓S		Sn	18 44 38.0	-4.5
	comp=N,3.6nm,0.8s,baz=193,slow=24							
KKAR	Karatay Array	13.14	9	*e*Pn		Pn	18 42 13.9	-2.5
KKAR	Karatay Array	13.14	9	*e*P		Pn	18 42 13.9	-2.4
EKS2	Erkin-Say	13.44	20	*e*Pn		Pn	18 42 19.0	-1.4
EKS2				*e*S		Sn	18 44 50.8	+1.0
EKS2	Erkin-Say	13.44	20	*e*P		Pn	18 42 19.0	-1.4
EKS2				*e*S		Sn	18 44 50.8	+1.0
PYUN	Piuthan	13.62	95	*e*P		Pn	18 42 22.6	-0.4
	comp=N,30nm,0.3s							
PYUN				*e*S		Sn	18 44 48.3	-6.0
AAK	Ala-Archa	13.64	22	*e*Pn		Pn	18 42 22.1	-1.0
AAK				*e*S		Sn	18 44 56.8	+2.1
AAK	Ala-Archa	13.64	22	*c i* P		Pn	18 42 22.3	-0.8
FRU	Bishkek	13.86	22	*e*P		Pn	18 42 28.0	+1.9
FRU				*e*			18 44 58.0	
KOLN	Koldanda	14.22	96	*e*P		Pn	18 42 30.4	-0.7
	comp=N,31nm,0.7s							
DANN	Dangsing	14.23	93	*e*P		Pn	18 42 29.9	-1.4
	comp=N,86nm,0.6s							
TKM2	Tokmak 2	14.27	25	⇓P		Pn	18 42 30.6	-1.2
	comp=N,18nm,0.8s							
TKM2	Tokmak 2	14.27	25	*e*Pn		Pn	18 42 30.5	-1.3
TKM2	Tokmak 2	14.27	25	*e*P		Pn	18 42 30.5	-1.3
GKN	Gorkha	15.06	94	*e*P		Pn	18 42 40.7	-1.9
	comp=N,32nm,0.5s							
DMN	Daman	15.55	95	*e*P		Pn	18 42 48.4	-0.7
	comp=N,24nm,0.6s							
KKN	Kakani	15.66	94	*e*P		Pn	18 42 49.0	-1.5
	comp=N,40nm,0.7s							
KKN				*e*S		Sn	18 45 37.0	-7.2
PKI	Pulchoki	15.82	95	*e*P		Pn	18 42 52.1	-0.5
HYB	Hyderabad	16.15	139	*i* P		Pn	18 43 03.0	+6.1
GUN	Gumba	16.15	93	*e*P		Pn	18 42 55.0	-1.9
	comp=N,119nm,0.7s							
GUN				*e*S		Sn	18 45 48.9	-7.2
JIRN	Jiri	16.48	94	*e*P		Pn	18 43 00.2	-0.8
	comp=N,10nm,0.4s							
RAMN	Ramite	17.00	96	*e*P		Pn	18 43 07.3	-0.4
	comp=N,56nm,0.7s							
RAMN				*e*S		Sn	18 46 09.5	-7.3
ODAN	Odare	17.71	96	*e*P		Pn	18 43 15.6	-0.9
	comp=N,73nm,0.7s							
TAPN	Taplejung	17.86	94	*e*P		Pn	18 43 17.8	-0.6
AB31	Akbulak array	19.95	345	⇑P		Pn	18 43 42.3	-1.1
	comp=N,4.4nm,0.8s							

JOF	**Joensuu**	**40.19**	**335**	*ep*	**P**	**18 46 44.4**	**-1.5**
	comp=Z,3.0nm,0.7s,mb4.1							
PSZ	**Piszkesteto**	**40.37**	**310**	*eP*	**P**	**18 46 44.5**	**-3.0**
	comp=Z,8.1nm,0.9s,mb4.5							
PSZ	**Piszkesteto**	**40.37**	**310**	*eP*	**P**	**18 46 44.5**	**-3.1**
PSZ				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.5							
FINES	**FINESS Array B**	**41.42**	**331**	P	**P**	**18 46 57.0**	**+1.0**
	comp=Z,1.9nm,0.8s,mb3.8,baz=116,slow=8.7,SNR=5.7							
FINES	**FINESS Array B**	**41.42**	**331**	P	**P**	**18 46 57.0**	**+1.0**
FINES	**FINESS Array B**	**41.42**	**331**	P	**P**	**18 46 57.0**	**+1.0**
KAF	**Kangasniemi**	**41.66**	**332**	*eP*	**P**	**18 46 57.6**	**-0.4**
KAF				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.0							
KAF	**Kangasniemi**	**41.66**	**332**	*ep*	**P**	**18 46 57.6**	**-0.4**
	comp=Z,2.1nm,0.5s,mb4.0							
GERES	**GERESS Array B**	**44.57**	**310**	P	**P**	**18 47 21.8**	**0.0**
	comp=Z,0.5nm,0.7s,mb3.5,baz=95,slow=11,SNR=3.2							
GERES	**GERESS Array B**	**44.57**	**310**	P	**P**	**18 47 21.8**	**0.0**
GERES	**GERESS Array B**	**44.57**	**310**	P	**P**	**18 47 21.8**	**0.0**
ARCES	**ARCESS Array B**	**46.06**	**341**	P	**P**	**18 47 32.2**	**-1.0**
	comp=Z,4.4nm,0.9s,mb4.4,baz=128,slow=7.9,SNR=9.5							
ARCES				LR	LR	19 07 49.3		
	comp=Z,69nm,18.4s,MS3.6,baz=33,slow=37							
ARCES	**ARCESS Array B**	**46.06**	**341**	P	**P**	**18 47 32.2**	**-1.0**
ARCES	**ARCESS Array B**	**46.06**	**341**	P	**P**	**18 47 32.3**	**-1.0**
DAVOX	**Davos/Dischmat**	**47.08**	**307**	LR	LR	19 09 45.7		
	comp=Z,139nm,20.0s,MS3.9,baz=260,slow=39							
NOA	**NORSAR Array B**	**47.94**	**327**	LR	LR	19 10 27.2		
	comp=Z,53nm,20.7s,MS3.5,baz=65,slow=39							
KSAR	**Wonju Array Be**	**49.90**	**65**	P	**P**	**18 48 03.7**	**+0.2**
KSAR	**Wonju Array Be**	**49.90**	**65**	P	**P**	**18 48 03.7**	**+0.2**
KSRS	**Korea Array**	**49.92**	**65**	P	**P**	**18 48 03.7**	**0.0**
	comp=Z,1.5nm,1.0s,mb4.0,baz=287,slow=7.9,SNR=2.5							
KSRS	**Korea Array**	**49.92**	**65**	P	**P**	**18 48 03.7**	**0.0**
KSRS				pmax	pmax			
	comp=Z,2.0nm,1.0s,mb4.1							
ESDC	**Sonseca Array**	**58.04**	**300**	P	**P**	**18 49 02.4**	**-0.6**
	comp=Z,0.4nm,0.4s,mb3.8,baz=72,slow=9.5,SNR=4.2							
ESDC	**Sonseca Array**	**58.04**	**300**	P	**P**	**18 49 02.4**	**-0.6**
TORD	**Torodi Ar. Bea**	**62.77**	**270**	P	**P**	**18 49 34.9**	**-0.8**
	comp=Z,1.9nm,0.8s,mb4.3,baz=59,slow=6.5,SNR=9.1							
TORD				LR	LR	19 18 46.0		
	comp=Z,78nm,18.3s,MS3.9,baz=315,slow=38							
TORD	**Torodi Ar. Bea**	**62.77**	**270**	P	**P**	**18 49 34.9**	**-0.8**
DBIC	**Dimbokro**	**71.51**	**267**	LR	LR	19 25 02.1		
	comp=Z,83nm,18.5s,MS4.0,baz=42,slow=38							
WRA	**Warramunga Arr**	**81.24**	**119**	P	**P**	**18 51 28.3**	**+2.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=323,slow=4.8,SNR=12							
WRA	**Warramunga Arr**	**81.24**	**119**	P	**P**	**18 51 28.3**	**+2.1**
WRA	**Warramunga Arr**	**81.24**	**119**	P	**P**	**18 51 28.3**	**+2.1**
ILAR	**Eielson Array**	**81.64**	**14**	P	**P**	**18 51 29.6**	**+1.9**
	comp=Z,3.9nm,0.5s,mb3.5,baz=323,slow=4.1,SNR=5.4							
ILAR	**Eielson Array**	**81.64**	**14**	P	**P**	**18 51 29.6**	**+1.9**
ILAR	**Eielson Array**	**81.64**	**14**	P	**P**	**18 51 29.6**	**+2.0**
ASAR	**Alice Springs**	**83.13**	**122**	P	**P**	**18 51 37.9**	**+1.8**
	comp=Z,1.0nm,0.8s,mb3.9,baz=309,slow=5.3,SNR=9.8							
ASAR	**Alice Springs**	**83.13**	**122**	P	**P**	**18 51 37.9**	**+1.8**
ASAR	**Alice Springs**	**83.13**	**122**	P	**P**	**18 51 37.9**	**+1.8**
JLU	**Jordanelle**	**109.60**	**359**	*e*Pdif	Pdif	18 53 37.7	-0.1
HOPS	**Hopland**	**110.50**	**9**	*e*PKPdf	PKiKP	18 57 40.0	-2.5

*ISCJB **29** 18:43:57.2±0.2, 44.58N±0.01×6.79E±0.02, h14km±1km, Error ellipse: s-maj=2.1km s-min=1.5km az=144.4*
*GEN **29** 18:43:57.9, 44.55N×6.79E, h8km, ML2.4*
*ROM **29** 18:43:57.9±0.3, 44.58N×6.85E, h9km±1km, Md2.4/9, Ml2.4/7, Error ellipse: s-maj=3.4km s-min=1.4km az=68.0*
*STR **29** 18:43:58.9±0.2, 44.55N×6.83E, h5km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*CSEM **29** 18:43:58.0±0.1, 44.57N×6.84E, h10km, ML3.0/35, Error ellipse: s-maj=1.6km s-min=1.1km az=51.0*
*LDG **29** 18:43:59.2±0.1, 44.55N×6.85E, h2km, Md2.8/3, Ml2.9/34, Error ellipse: s-maj=1.6km s-min=0.9km az=65.0*

ISC 29 18:43:58.1±0.2, 44.57N±0.01×6.83E±0.02, h14km±1km, n154, σ0.93/276, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.09**	**188**	Pg	**Pg**	**18 44 00.6**	**-0.5**
SURF				Sg	**Sg**	**18 44 02.3**	**-0.9**
SURF	**Saint Ours**	**0.09**	**188**	Pg	**Pg**	**18 44 00.6**	**-0.5**
SURF				Sg	**Sg**	**18 44 02.3**	**-0.9**
MBDF	**Montbardon**	**0.16**	**345**	*e*Pg	**Pg**	**18 44 01.7**	**-0.3**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**18 44 04.1**	**-0.7**
	3µm,0.3s						
MBDF	**Montbardon**	**0.16**	**345**	*e*Pg	**Pg**	**18 44 01.7**	**-0.3**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**18 44 04.1**	**-0.7**
	2µm,0.3s						
PZZ	**Stroppo**	**0.21**	**108**	Pg	**Pg**	**18 44 02.9**	**+0.1**
PZZ				Sg	**Sg**	**18 44 06.2**	**+0.1**
	4µm,0.3s						
PZZ	**Stroppo**	**0.21**	**108**	P	**Pg**	**18 44 02.9**	**+0.1**
PZZ				S	**Sg**	**18 44 06.2**	**+0.1**
OG22	**Abries**	**0.26**	**18**	Pg	**Pg**	**18 44 03.8**	**+0.1**
OG22				Sg	**Sg**	**18 44 07.7**	**+0.2**
OG22	**Abries**	**0.26**	**18**	Pg	**Pg**	**18 44 03.8**	**+0.1**
OG22				Sg	**Sg**	**18 44 07.7**	**+0.2**
STV	**Sant Anna di V**	**0.48**	**132**	Pg	**Pg**	**18 44 07.4**	**-0.2**
STV				Sg	**Sg**	**18 44 14.7**	**+0.6**
	276nm,0.2s						
STV	**Sant Anna di V**	**0.48**	**132**	Pg	**Pg**	**18 44 07.4**	**-0.2**
STV				S	**Sg**	**18 44 13.7**	**-0.4**
STV				Sg	**Sg**	**18 44 14.7**	**+0.6**
	276nm,0.2s						
BNI	**Bardonecchia**	**0.49**	**347**	Pg	**Pg**	**18 44 07.8**	**0.0**
BNI				Sg	**Sg**	**18 44 14.7**	**+0.3**
	84nm,0.4s						
BNI	**Bardonecchia**	**0.49**	**347**	Pg	**Pg**	**18 44 07.8**	**0.0**
BNI				Sg	**Sg**	**18 44 14.7**	**+0.3**
	84nm,0.4s						
OG25	**Le Caire**	**0.58**	**250**	Pg	**Pg**	**18 44 09.7**	**+0.3**
OG25				Sg	**Sg**	**18 44 17.1**	**0.0**
OG25	**Le Caire**	**0.58**	**250**	Pg	**Pg**	**18 44 09.7**	**+0.3**
OG25				Sg	**Sg**	**18 44 17.1**	**0.0**
TOUF	**Mont Tournerai**	**0.63**	**152**	Pg	**Pg**	**18 44 10.6**	**+0.1**
TOUF	**Mont Tournerai**	**0.63**	**152**	Pg	**Pg**	**18 44 10.6**	**+0.1**
RSP	**Reno Superiore**	**0.65**	**28**	Pg	**Pg**	**18 44 10.9**	**0.0**
RSP				Sg	**Sg**	**18 44 19.9**	**+0.4**
	135nm,0.2s						
RSP	**Reno Superiore**	**0.65**	**28**	P	**Pg**	**18 44 10.9**	**0.0**
RSP				S	**Sg**	**18 44 19.7**	**+0.2**
MVIF	**Mont Vial**	**0.71**	**161**	Pg	**Pg**	**18 44 12.0**	**0.0**
MVIF				Sg	**Sg**	**18 44 22.4**	**+1.0**
MVIF	**Mont Vial**	**0.71**	**161**	Pg	**Pg**	**18 44 12.0**	**0.0**
MVIF				Sg	**Sg**	**18 44 22.4**	**+1.0**
AUTN	**L'Aution**	**0.72**	**143**	Pg	**Pg**	**18 44 12.0**	**-0.1**
AUTN				Sg	**Sg**	**18 44 21.8**	**+0.3**
AUTN	**L'Aution**	**0.72**	**143**	Pg	**Pg**	**18 44 12.0**	**-0.1**
AUTN				Sg	**Sg**	**18 44 21.8**	**+0.3**
ORIF	**Oris-en-Rattie**	**0.76**	**297**	*e*Pg	**Pg**	**18 44 12.4**	**-0.5**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**18 44 22.1**	**-0.8**
	104nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.76**	**297**	*e*Pg	**Pg**	**18 44 12.4**	**-0.5**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**18 44 22.1**	**-0.8**
	52nm,0.2s						
LUCF	**Luceram**	**0.77**	**151**	Pg	**Pg**	**18 44 13.3**	**+0.2**
LUCF				Sg	**Sg**	**18 44 23.5**	**+0.2**
LUCF	**Luceram**	**0.77**	**151**	Pg	**Pg**	**18 44 13.3**	**+0.2**
LUCF				Sg	**Sg**	**18 44 23.5**	**+0.2**
SAOF	**Saorge**	**0.78**	**138**	Pg	**Pg**	**18 44 13.2**	**-0.1**
SAOF				Sg	**Sg**	**18 44 24.2**	**+0.6**
SAOF	**Saorge**	**0.78**	**138**	Pg	**Pg**	**18 44 13.2**	**-0.1**
SAOF				Sg	**Sg**	**18 44 24.2**	**+0.6**
CALN	**Calern**	**0.82**	**177**	Pg	**Pg**	**18 44 14.5**	**+0.5**
CALN				Sg	**Sg**	**18 44 25.1**	**+0.4**
CALN	**Calern**	**0.82**	**177**	Pg	**Pg**	**18 44 14.5**	**+0.5**
CALN				Sg	**Sg**	**18 44 25.1**	**+0.4**
MONE	**Monesi**	**0.83**	**126**	P	**Pg**	**18 44 13.6**	**-0.5**
MONE				S	**Sg**	**18 44 24.0**	**-0.9**
SBF	**Sospel**	**0.83**	**148**	*e*Pg	**Pg**	**18 44 14.2**	**0.0**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**18 44 25.2**	**+0.1**
	204nm,0.3s,SNR=1.0						
SBF	**Sospel**	**0.83**	**148**	*e*Pg	**Pg**	**18 44 14.2**	**0.0**
	SNR=1.0						
SBF				*e*Sg	**Sg**	**18 44 25.2**	**+0.1**
	102nm,0.3s,SNR=1.0						
STOF	**St-Etienne Org**	**0.88**	**229**	Pn	**Pn**	**18 44 16.1**	**+0.1**
STOF	**St-Etienne Org**	**0.88**	**229**	Pg	**Pg**	**18 44 18.2**	**+3.1**
RONM	**Roccetta Nervi**	**0.89**	**141**	P	**Pg**	**18 44 14.9**	**-0.4**
RONM				S	**Sg**	**18 44 25.7**	**-1.2**
LSD	**Lago del Serru**	**0.91**	**14**	Pg	**Pg**	**18 44 15.3**	**-0.5**
LSD				Sg	**Sg**	**18 44 28.0**	**+0.3**
	90nm,0.3s						
LSD	**Lago del Serru**	**0.91**	**14**	P	**Pb**	**18 44 15.5**	**-0.2**
LSD				S	**Sg**	**18 44 27.5**	**-0.2**
LSD				Sg	**Sg**	**18 44 28.0**	**+0.3**
	90nm,0.3s						
REVF	**Revere**	**0.92**	**155**	Pg	**Pg**	**18 44 16.4**	**+0.6**
REVF	**Revere**	**0.92**	**155**	Pg	**Pg**	**18 44 16.4**	**+0.6**
LPG	**La Plagne**	**0.93**	**357**	*e*Pg	**Pg**	**18 44 15.8**	**-0.3**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**18 44 29.0**	**+0.8**
	108nm,0.3s,SNR=1.0						
LPG	**La Plagne**	**0.93**	**357**	*e*Pg	**Pg**	**18 44 15.8**	**-0.3**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**18 44 29.0**	**+0.8**
	54nm,0.3s,SNR=1.0						
MONC	**Moncucco Torin**	**0.93**	**57**	Pg	**Pg**	**18 44 16.8**	**+0.8**
MONC	**Moncucco Torin**	**0.93**	**57**	Pg	**Pg**	**18 44 16.8**	**+0.8**
LPL	**La Plagne**	**0.95**	**356**	*e*Pg	**Pg**	**18 44 16.1**	**-0.3**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**18 44 29.7**	**+0.9**
	71nm,0.4s						
LPL	**La Plagne**	**0.95**	**356**	*e*Pg	**Pg**	**18 44 16.1**	**-0.3**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**18 44 29.7**	**+0.9**
	36nm,0.4s						
NEGI	**Seborga**	**0.96**	**139**	P	**Pb**	**18 44 15.9**	**-0.6**
NEGI				S	**Sb**	**18 44 27.5**	**-1.5**
RORO	**Rocca Rossa**	**1.00**	**117**	Pg	**Pg**	**18 44 16.6**	**-0.8**
RORO				Sg	**Sg**	**18 44 30.3**	**-0.1**
	65nm,0.2s						
RORO	**Rocca Rossa**	**1.00**	**117**	P	**Pb**	**18 44 16.3**	**-0.9**
RORO	**Rocca Rossa**	**1.00**	**117**	Pg	**Pg**	**18 44 16.6**	**-0.8**
RORO				S	**Sb**	**18 44 28.7**	**-1.5**
RORO				Sg	**Sg**	**18 44 30.3**	**-0.1**
	65nm,0.2s						
IMI	**Imperia**	**1.01**	**131**	Pg	**Pg**	**18 44 17.0**	**-0.6**
IMI				Sg	**Sg**	**18 44 31.1**	**+0.3**
	184nm,0.4s						
IMI	**Imperia**	**1.01**	**131**	Pg	**Pg**	**18 44 17.0**	**-0.6**
IMI				S	**Sb**	**18 44 29.1**	**-1.4**
IMI				Sg	**Sg**	**18 44 31.1**	**+0.3**
	184nm,0.4s						
FRF	**La Foret Royal**	**1.02**	**188**	*e*Pg	**Pg**	**18 44 17.4**	**-0.4**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**18 44 31.0**	**-0.1**
	99nm,0.2s,SNR=1.0						
FRF	**La Foret Royal**	**1.02**	**188**	*e*Pg	**Pg**	**18 44 17.4**	**-0.4**
	SNR=1.0						
FRF				*e*Sg	**Sg**	**18 44 31.0**	**-0.1**
	50nm,0.2s,SNR=1.0						
GRN	**Grenoble**	**1.02**	**311**	Pn	**Pn**	**18 44 17.9**	**-0.1**
GRN				Sg	**Sg**	**18 44 31.9**	**+0.7**
GRN	**Grenoble**	**1.02**	**311**	Pn	**Pn**	**18 44 17.9**	**-0.1**
GRN				Sg	**Sg**	**18 44 31.9**	**+0.7**
FIN	**Finale Ligure**	**1.05**	**110**	P	**Pb**	**18 44 18.8**	**+0.7**
FIN				S	**Sb**	**18 44 34.0**	**+2.3**
SMRF	**Simiane la Rot**	**1.08**	**237**	*e*Pg	**Pg**	**18 44 19.3**	**+0.4**
SMRF				*e*Sg	**Sg**	**18 44 33.5**	**+0.5**
	66nm,0.4s,SNR=1.0						
SMRF	**Simiane la Rot**	**1.08**	**237**	*e*Pg	**Pg**	**18 44 19.3**	**+0.4**
SMRF				*e*Sg	**Sg**	**18 44 33.5**	**+0.5**
	33nm,0.4s,SNR=1.0						
ROTM	**Rocchetta Tana**	**1.12**	**75**	P	**Pb**	**18 44 19.5**	**+0.3**
ROTM				S	**Sb**	**18 44 34.2**	**+0.5**
TRAV	**Traversella**	**1.14**	**34**	Pg	**Pb**	**18 44 19.1**	**-0.6**
TRAV				Sg	**Sg**	**18 44 34.3**	**-0.7**
TRAV	**Traversella**	**1.14**	**34**	P	**Pb**	**18 44 19.1**	**-0.6**
TRAV				S	**Sb**	**18 44 33.5**	**-0.9**
TRAV				Sg	**Sg**	**18 44 34.3**	**-0.7**
PCP	**Piancastagn**	**1.23**	**91**	P	**Pn**	**18 44 20.5**	**-0.3**
PCP				S	**Sb**	**18 44 36.0**	**-0.7**
LMR	**La Mourre**	**1.26**	**191**	*e*Pg	**Pg**	**18 44 21.6**	**-0.7**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**18 44 38.4**	**-0.3**
	103nm,0.2s						
LMR	**La Mourre**	**1.26**	**191**	*e*Pg	**Pg**	**18 44 21.6**	**-0.7**
	SNR=1.0						
LMR				*e*Sg	**Sg**	**18 44 38.4**	**-0.3**
	52nm,0.2s						
VIVF	**Saint-Julien-l**	**1.56**	**281**	*e*Pn	**Pn**	**18 44 26.5**	**+1.0**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**1.56**	**281**	*e*Pg	**Pg**	**18 44 28.6**	**+0.4**
VIVF				*e*Sn	**Sn**	**18 44 46.4**	**+0.9**
	50nm,0.3s						
VIVF	**Saint-Julien-l**	**1.56**	**281**	*e*Pn	**Pn**	**18 44 26.5**	**+1.0**
	SNR=1.0						
VIVF	**Saint-Julien-l**	**1.56**	**281**	*e*Pg	**Pg**	**18 44 28.6**	**+0.4**
VIVF				*e*Sn	**Sn**	**18 44 46.4**	**+0.9**
	25nm,0.3s						
SC2M	**Scurtabo**	**1.94**	**94**	P	**Pn**	**18 44 30.7**	**0.0**
SC2M				S	**Sn**	**18 44 53.1**	**-1.7**
CABF	**La Chapelle**	**2.10**	**346**	*e*Pn	**Pn**	**18 44 34.9**	**+2.0**
	SNR=1.0						
CABF	**La Chapelle**	**2.10**	**346**	*e*Pg	**Pg**	**18 44 38.1**	**-0.4**
CABF				*e*Sg	**Sg**	**18 45 06.4**	**+0.6**
	29nm,0.5s						
CABF	**La Chapelle**	**2.10**	**346**	*e*Pn	**Pn**	**18 44 34.9**	**+2.0**
	SNR=1.0						
CABF	**La Chapelle**	**2.10**	**346**	*e*Pg	**Pg**	**18 44 38.1**	**-0.4**
CABF				*e*Sg	**Sg**	**18 45 06.4**	**+0.6**
	14nm,0.5s						
LASF	**Ste Croix**	**2.19**	**258**	*e*Pn	**Pn**	**18 44 34.7**	**+0.6**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**18 45 01.3**	**+0.3**
	10nm,0.3s,SNR=1.0						
LASF	**Ste Croix**	**2.19**	**258**	*e*Pn	**Pn**	**18 44 34.7**	**+0.6**
	SNR=1.0						
LASF				*e*Sn	**Sn**	**18 45 01.3**	**+0.3**
	5.1nm,0.3s,SNR=1.0						
GRAM	**Graiana**	**2.31**	**91**	P	**Pn**	**18 44 35.9**	**+0.1**
PGF	**Pioggiola**	**2.56**	**141**	*e*Pn	**Pn**	**18 44 39.6**	**+0.4**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**18 45 09.4**	**-0.8**
	11nm,0.2s,SNR=1.0						
PGF	**Pioggiola**	**2.56**	**141**	*e*Pn	**Pn**	**18 44 39.6**	**+0.4**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**18 45 09.4**	**-0.8**
	5.4nm,0.2s,SNR=1.0						
LBL	**Lubilhac**	**2.63**	**286**	Pn	**Pn**	**18 44 41.5**	**+1.4**
LBL	**Lubilhac**	**2.63**	**286**	Pn	**Pn**	**18 44 41.5**	**+1.4**
LOMF	**Lomont**	**2.78**	**360**	Pn	**Pn**	**18 44 44.2**	**+2.0**
LOMF	**Lomont**	**2.78**	**360**	Pn	**Pn**	**18 44 44.2**	**+2.0**
PYM	**Petit Puy Mans**	**2.95**	**295**	Pn	**Pn**	**18 44 45.7**	**+1.2**
PYM	**Petit Puy Mans**	**2.95**	**295**	Pn	**Pn**	**18 44 45.7**	**+1.2**
SMF	**Signal de Mont**	**2.95**	**316**	*e*Pn	**Pn**	**18 44 46.1**	**+1.6**
	SNR=1.0						
SMF	**Signal de Mont**	**2.95**	**316**	*e*Pg	**Pg**	**18 44 53.4**	**-1.2**
SMF				*e*Sn	**Sn**	**18 45 19.8**	**+0.1**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**18 45 32.7**	**-0.1**
	11nm,0.3s						
SMF	**Signal de Mont**	**2.95**	**316**	*e*Pn	**Pn**	**18 44 46.1**	**+1.6**
	SNR=1.0						
SMF	**Signal de Mont**	**2.95**	**316**	*e*Pg	**Pg**	**18 44 53.4**	**-1.2**
SMF				*e*Sn	**Sn**	**18 45 19.8**	**+0.1**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**18 45 32.7**	**-0.1**
	5.7nm,0.3s						
AGO	**Saint Agoulin**	**3.00**	**301**	Pn	**Pn**	**18 44 47.1**	**+1.9**
AGO	**Saint Agoulin**	**3.00**	**301**	Pn	**Pn**	**18 44 47.1**	**+1.9**
HINF	**Hinteralfeld**	**3.25**	**0**	*e*Pn	**Pn**	**18 44 49.2**	**+0.6**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**18 45 26.8**	**-0.2**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**18 45 42.1**	**-0.2**
	4.5nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**3.25**	**0**	*e*Pn	**Pn**	**18 44 49.2**	**+0.6**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**18 45 26.8**	**-0.2**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**18 45 42.1**	**-0.2**
	2.2nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**3.30**	**314**	*e*Pn	**Pn**	**18 44 50.9**	**+1.6**
	SNR=1.0						
AVF	**Avril sur Loir**	**3.30**	**314**	*e*Pg	**Pg**	**18 45 00.4**	**-0.8**
AVF				*e*Sg	**Sg**	**18 45 43.5**	**-0.4**
	14nm,0.6s						
AVF	**Avril sur Loir**	**3.30**	**314**	*e*Pn	**Pn**	**18 44 50.9**	**+1.6**
	SNR=1.0						
AVF	**Avril sur Loir**	**3.30**	**314**	*e*Pg	**Pg**	**18 45 00.4**	**-0.8**
AVF				*e*Sg	**Sg**	**18 45 43.5**	**-0.4**
	6.8nm,0.6s						
LOR	**Lormes**	**3.40**	**323**	*e*Pn	**Pn**	**18 44 52.4**	**+1.7**
	baz=143,SNR=1.0						
LOR	**Lormes**	**3.40**	**323**	*e*Pn	**Pn**	**18 45 02.2**	**-1.1**
	baz=144						
LOR				*e*Sg	**Sg**	**18 45 46.9**	**-0.4**
	6.0nm,0.4s,baz=152						
LOR	**Lormes**	**3.40**	**323**	*e*Pn	**Pn**	**18 44 52.4**	**+1.7**
	baz=143,SNR=1.0						
LOR	**Lormes**	**3.40**	**323**	*e*Pg	**Pg**	**18 45 02.2**	**-1.1**
	baz=144						
LOR				*e*Sg	**Sg**	**18 45 46.9**	**-0.4**
	3.0nm,0.4s,baz=152						
SSF	**Saint Saulge**	**3.41**	**318**	*e*Pn	**Pn**	**18 44 52.6**	**+1.8**
	SNR=1.0						
SSF	**Saint Saulge**	**3.41**	**318**	*e*Pg	**Pg**	**18 45 02.3**	**-1.0**
SSF				*e*Sg	**Sg**	**18 45 47.0**	**-0.5**
	3.7nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**3.41**	**318**	*e*Pn	**Pn**	**18 44 52.6**	**+1.8**
	SNR=1.0						
SSF	**Saint Saulge**	**3.41**	**318**	*e*Pg	**Pg**	**18 45 02.3**	**-1.0**
SSF				*e*Sg	**Sg**	**18 45 47.0**	**-0.5**
	1.9nm,0.3s,SNR=1.0						
CAF	**Calviac**	**3.41**	**278**	*e*Pn	**Pn**	**18 44 51.7**	**+0.8**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**18 45 30.7**	**-0.5**
	5.6nm,0.4s,SNR=1.0						
CAF	**Calviac**	**3.41**	**278**	*e*Pn	**Pn**	**18 44 51.7**	**+0.8**
	SNR=1.0						
CAF				*e*Sn	**Sn**	**18 45 30.7**	**-0.5**
	2.8nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**3.43**	**307**	*e*Pn	**Pn**	**18 44 53.0**	**+1.9**
	SNR=1.0						
BGF	**Bois d'Agland**	**3.43**	**307**	*e*Pg	**Pg**	**18 45 02.6**	**-1.2**
BGF				*e*Sn	**Sn**	**18 45 31.3**	**-0.3**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**18 45 48.0**	**-0.3**
	36nm,0.5s						
BGF	**Bois d'Agland**	**3.43**	**307**	*e*Pn	**Pn**	**18 44 53.0**	**+1.9**
	SNR=1.0						
BGF	**Bois d'Agland**	**3.43**	**307**	*e*Pg	**Pg**	**18 45 02.6**	**-1.2**
BGF				*e*Sn	**Sn**	**18 45 31.3**	**-0.3**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**18 45 48.0**	**-0.3**
	18nm,0.5s						
HAU	**Haudompre**	**3.45**	**355**	*e*Pn	**Pn**	**18 44 52.4**	**+1.0**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**18 45 31.9**	**-0.2**
	9.7nm,0.3s,SNR=1.0						
HAU	**Haudompre**	**3.45**	**355**	*e*Pn	**Pn**	**18 44 52.4**	**+1.0**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**18 45 31.9**	**-0.2**
	4.8nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**3.55**	**251**	*e*Pn	**Pn**	**18 44 53.3**	**+0.5**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**18 45 33.7**	**-0.8**
	4.1nm,0.3s,SNR=1.0						
MTLF	**Montolieu**	**3.55**	**251**	*e*Pn	**Pn**	**18 44 53.3**	**+0.5**
	SNR=1.0						
MTLF				*e*Sn	**Sn**	**18 45 33.7**	**-0.8**
	2.0nm,0.3s,SNR=1.0						
ECH	**Echery**	**3.65**	**3**	Pn	**Pn**	**18 44 55.5**	**+1.3**
ECH	**Echery**	**3.65**	**3**	Pn	**Pn**	**18 44 55.5**	**+1.3**
TCF	**Toulx Ste Croi**	**3.68**	**299**	*e*Pn	**Pn**	**18 44 56.3**	**+1.8**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**18 45 37.2**	**-0.5**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**18 45 55.6**	**-0.6**
	3.1nm,0.4s						
TCF	**Toulx Ste Croi**	**3.68**	**299**	*e*Pn	**Pn**	**18 44 56.3**	**+1.8**
	SNR=1.0						
TCF				*e*Sn	**Sn**	**18 45 37.2**	**-0.5**
	SNR=1.0			

FLN	**La Foliniere**	**6.55**	**312**	*e*Pn	**Pn**	**18 45 34.5**	**+0.6**
	baz=124						
FLN				*e*Sn	**Sn**	**18 46 45.7**	**-2.6**
	1.3nm,0.4s						
FLN	**La Foliniere**	**6.55**	**312**	*e*Pn	**Pn**	**18 45 34.5**	**+0.6**
	baz=124						

TAP ***29*** *18:45:50.8, 24°.64N × 122°.34E, h97km, ML3.2, C*
ISCJB ***29*** *18:45:51.3±0.7, 24°.59N±0°.04 × 122°.39E±0°.02, h88km±6km, Error ellipse: s-maj=7.3km s-min=3.4km az=174.2*
JMA ***29*** *18:45:51.4±0.2, 24°.76N × 122°.45E, h90km, M1.7*
ISC 29 18:45:51.8±0.7, 24°.59N±0°.04 × 122°.39E±0°.02, h87km±6km, n37, σ0s61/62, 3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.49**	**272**	P	**Pn**	**18 46 06.0**	**-0.2**
	baz=266						
TWC				S	**Sn**	**18 46 16.5**	**-0.3**
	baz=266						
YOJ	**Yonaguni jima**	**0.58**	**103**	P	**Pn**	**18 46 06.9**	**0.0**
YOJ				*e*S	**Sn**	**18 46 18.6**	**+0.5**
ENA	**Nanau**	**0.61**	**255**	P	**Pn**	**18 46 07.3**	**+0.2**
	baz=246						
ENA				S	**Sn**	**18 46 19.7**	**+1.1**
	baz=246						
TWE	**Neicheng**	**0.67**	**281**	⇓*i* P	**Pn**	**18 46 07.6**	**-0.1**
	baz=277						
TWE				*i* S	**Sn**	**18 46 19.6**	**0.0**
	baz=277						
ENTT	**Nioudou**	**0.75**	**274**	P	**Pn**	**18 46 08.9**	**+0.4**
	baz=268						
ENTT				*e*S	**Sn**	**18 46 21.6**	**+0.6**
	baz=268						
TWA	**Mucha**	**0.83**	**298**	*e*P	**Pn**	**18 46 08.7**	**-0.7**
	baz=289						
TWA				S	**Sn**	**18 46 21.5**	**-1.0**
	baz=289						
TWD	**Chiawan**	**0.89**	**235**	*e*P	**Pn**	**18 46 09.6**	**-0.4**
	baz=227						
TWD				*e*S	**Sn**	**18 46 23.6**	**+0.1**
	baz=227						
NNS	**Nan Shan**	**0.94**	**261**	P	**Pn**	**18 46 10.7**	**+0.1**
	baz=252						
NNS				*e*S	**Sn**	**18 46 24.8**	**+0.2**
	baz=252						
NSK	**Sanguang**	**0.94**	**275**	P	**Pn**	**18 46 10.6**	**0.0**
	baz=265						
NSK				S	**Sn**	**18 46 24.6**	**0.0**
	baz=265						
TWS1	**Kuangyinshan**	**1.02**	**300**	P	**Pn**	**18 46 10.8**	**-0.6**
	baz=299						
TWS1				*e*S	**Sn**	**18 46 25.4**	**-0.8**
	baz=299						
WHF	**Hehuan Shan**	**1.12**	**247**	⇓*i* P	**Pn**	**18 46 13.0**	**+0.3**
	baz=243						
WHF				S	**Sn**	**18 46 28.8**	**+0.5**
	baz=243						
TWT	**Tachien**	**1.16**	**253**	P	**Pn**	**18 46 13.7**	**+0.6**
	baz=244						
TWT				S	**Sn**	**18 46 30.0**	**+0.9**
	baz=244						
ESL	**Shilin**	**1.17**	**229**	⇓*i* P	**Pn**	**18 46 12.4**	**-0.9**
	baz=234						
ESL				*e*S	**Sn**	**18 46 28.1**	**-1.2**
	baz=234						
IRIF	**Iriomote-Funau**	**1.25**	**102**	P	**Pn**	**18 46 14.1**	**-0.1**
IRIF				*e*S	**Sn**	**18 46 31.1**	**0.0**
NSTT	**Nanjuang**	**1.27**	**272**	P	**Pn**	**18 46 14.1**	**-0.3**
	baz=270						
NSTT				S	**Sn**	**18 46 31.3**	**-0.2**
	baz=270						
HATJ	**Hateruma jima**	**1.40**	**112**	*e*S	**Sn**	**18 46 35.0**	**+0.6**
EHY	**Hungye**	**1.46**	**222**	*e*P	**Pn**	**18 46 16.1**	**-0.8**
	baz=228						
EHY				*e*S	**Sn**	**18 46 35.8**	**0.0**
	baz=228						
TWQ1	**Liyutan**	**1.49**	**261**	*e*P	**Pn**	**18 46 17.1**	**-0.2**
	baz=259						
TWQ1				*e*S	**Sn**	**18 46 36.6**	**0.0**
	baz=259						
JKRS	**Kuro-shima**	**1.52**	**103**	P	**Pn**	**18 46 17.7**	**+0.1**
JKRS				*e*S	**Sn**	**18 46 37.3**	**+0.1**
SMLT	**Sun Moon Lake**	**1.53**	**243**	P	**Pn**	**18 46 18.5**	**+0.7**
	baz=235						
TYC	**Yuchr**	**1.56**	**244**	P	**Pn**	**18 46 18.9**	**+0.8**
	baz=239						
TYC				*e*S	**Sn**	**18 46 38.3**	**+0.2**
	baz=239						
TWF1	**Yuli**	**1.59**	**219**	P	**Pn**	**18 46 17.7**	**-0.8**
	baz=224						
TWF1				*e*S	**Sn**	**18 46 39.3**	**+0.6**
	baz=224						
JIJ	**Ishigaki jima**	**1.61**	**98**	P	**Pn**	**18 46 18.5**	**-0.3**
JIJ				*e*S	**Sn**	**18 46 38.5**	**-0.8**
WNT	**Mingjian**	**1.71**	**246**	*e*P	**Pn**	**18 46 20.7**	**+0.6**
	baz=253						
YUS	**Yu-Shan**	**1.71**	**230**	*e*P	**Pn**	**18 46 20.8**	**+0.7**
	baz=221						
YUS				*e*S	**Sn**	**18 46 41.2**	**-0.4**
	baz=221						
CHKT	**Chengkung**	**1.76**	**212**	*e*P	**Pn**	**18 46 19.9**	**-0.9**
	baz=203						
CHKT				*e*S	**Sn**	**18 46 41.2**	**-1.5**
	baz=203						
ALS	**Alishan**	**1.81**	**234**	P	**Pn**	**18 46 22.2**	**+0.9**
	baz=224						
CHN5	**Tsauling**	**1.85**	**238**	P	**Pn**	**18 46 22.8**	**+0.8**
	baz=245						
ELDTW	**Lidau**	**1.88**	**222**	P	**Pn**	**18 46 21.6**	**-0.7**
	baz=220						
ELDTW				S	**Sn**	**18 46 44.9**	**-0.6**
	baz=220						
WGK	**Gukeng**	**1.90**	**242**	*e*P	**Pn**	**18 46 22.2**	**-0.3**
	baz=250						
STYT	**Tauyuan**	**2.06**	**227**	*e*P	**Pn**	**18 46 25.9**	**+1.1**
	baz=224						
JTJ	**Tarama**	**2.10**	**88**	P	**Pn**	**18 46 25.4**	**+0.1**
JTJ				*e*S	**Sn**	**18 46 51.1**	**+0.3**
WTP	**Ta-pu**	**2.11**	**231**	*e*P	**Pn**	**18 46 25.9**	**+0.6**
	baz=228						
TWG	**Pinlang**	**2.14**	**215**	*e*P	**Pn**	**18 46 24.5**	**-1.2**
	baz=212						
SGST	**Jiashian**	**2.24**	**228**	*e*P	**Pn**	**18 46 28.1**	**+1.1**
	baz=225						
ECL	**Taimali**	**2.38**	**214**	P	**Pn**	**18 46 29.0**	**0.0**
	baz=205						
SSD	**Sandimen**	**2.44**	**222**	*e*P	**Pn**	**18 46 30.2**	**+0.4**
	baz=219						

ISCJB ***29*** *18:50:50.1±0.4, 38°.99N±0°.02 × 42°.73E±0°.04, h10km, Error ellipse: s-maj=4.0km s-min=3.0km az=177.7*
CSEM ***29*** *18:50:50.7±0.2, 39°.02N × 42°.68E, h2km, MD3.0, Error ellipse: s-maj=4.7km s-min=4.2km az=72.0*
DDA ***29*** *18:50:50.5, 39°.01N × 42°.74E, h7km±5km, Md3.0*
ISK ***29*** *18:50:50.5, 39°.07N × 42°.72E, h5km, ML2.3*
ISC 29 18:50:50.8±0.4, 39°.01N±0°.02 × 42°.70E±0°.03, h10km, n34, σ1s13/53, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUTA	**Tutak**	**0.40**	**12**	*i* P	**Pg**	**18 50 58.4**	**-0.2**
TUTA				*i* S	**Sg**	**18 51 04.5**	**+0.6**
TUTA	**Tutak**	**0.40**	**12**	*i* P	**Pg**	**18 50 58.4**	**-0.2**
TUTA				*i* S	**Sg**	**18 51 04.6**	**+0.6**
TATV	**Tatvan**	**0.61**	**214**	*i* P	**Pg**	**18 51 01.5**	**-1.0**
TATV				*i* S	**Sg**	**18 51 10.6**	**+0.2**
TATV	**Tatvan**	**0.61**	**214**	*i* P	**Pg**	**18 51 01.5**	**-1.0**
TATV				*i* S	**Sg**	**18 51 10.6**	**+0.2**
AGRB	**Hanur-Agry**	**0.61**	**22**	*e*PG	**Pg**	**18 51 02.2**	**-0.3**
AGRB				*e*SG	**Sg**	**18 51 11.1**	**+0.6**
AGRB	**Hanur-Agry**	**0.61**	**22**	*e*Pg	**Pg**	**18 51 02.3**	**-0.3**
AGRB				*e*Sg	**Sg**	**18 51 11.1**	**+0.6**
VANB	**Van**	**0.68**	**127**	*e*PG	**Pg**	**18 51 05.2**	**+1.3**
VANB				*e*SG	**Sg**	**18 51 16.1**	**+3.4**
VANB	**Van**	**0.68**	**127**	*e*Pg	**Pg**	**18 51 05.2**	**+1.3**
VANB				*e*Sg	**Sg**	**18 51 16.2**	**+3.5**
TVAN	**Van**	**0.73**	**131**	*i* P	**Pg**	**18 51 03.9**	**-1.0**
TVAN				*i* S	**Sg**	**18 51 16.3**	**+1.9**
TVAN	**Van**	**0.73**	**131**	*i* P	**Pg**	**18 51 03.9**	**-1.0**
TVAN				*i* S	**Sg**	**18 51 16.3**	**+1.9**
GEVA	**Gevas**	**0.75**	**158**	*i* P	**Pg**	**18 51 04.4**	**-0.8**
GEVA				*i* S	**Sg**	**18 51 15.2**	**+0.2**
GEVA	**Gevas**	**0.75**	**158**	*i* P	**Pg**	**18 51 04.4**	**-0.8**
GEVA				*i* S	**Sg**	**18 51 15.2**	**+0.2**
DYDN	**Diyadin**	**0.93**	**55**	*i* P	**Pg**	**18 51 08.3**	**-0.4**
DYDN				*i* S	**Sg**	**18 51 21.0**	**+0.1**
DYDN	**Diyadin**	**0.93**	**55**	*i* P	**Pg**	**18 51 08.3**	**-0.4**
DYDN				*i* S	**Sg**	**18 51 21.0**	**+0.1**
CLDR	**Caldiran**	**0.95**	**82**	*e*PG	**Pg**	**18 51 09.4**	**+0.3**
CLDR	**Caldiran**	**0.95**	**82**	*e*Pg	**Pg**	**18 51 09.4**	**+0.3**
VRTB	**Varto-Mus**	**0.98**	**279**	*e*PG	**Pg**	**18 51 10.4**	**+0.7**
VRTB	**Varto-Mus**	**0.98**	**279**	*e*Pg	**Pg**	**18 51 10.4**	**+0.8**
HOMI	**Horasan**	**1.20**	**329**	*i* P	**Pb**	**18 51 13.1**	**-0.6**
HOMI				*i* S	**Sb**	**18 51 32.0**	**+2.8**
ERZM	**Erzurum**	**1.37**	**311**	*i* P	**Pn**	**18 51 16.4**	**+0.5**
ERZM				*i* S	**Sg**	**18 51 32.0**	**-2.8**
ERZM	**Erzurum**	**1.37**	**311**	*i* P	**Pn**	**18 51 16.4**	**+0.5**
ERZM				*i* S	**Sg**	**18 51 32.0**	**-2.8**
EZM	**Erzurum**	**1.37**	**311**	*e*PN	**Pn**	**18 51 17.1**	**+1.2**
BNGB	**Bingˆ¶**	**1.58**	**270**	*e*PN	**Pg**	**18 51 20.9**	**-0.1**
KARS	**Kars**	**1.64**	**10**	*e*PN	**Pg**	**18 51 21.1**	**-1.1**
KARS	**Kars**	**1.64**	**10**	*e*Pn	**Pg**	**18 51 21.1**	**-1.2**
HAKT	**HAKKARI**	**1.65**	**151**	*i* P	**Pg**	**18 51 21.0**	**-1.5**
HAKT				*i* S	**Sg**	**18 51 43.8**	**0.0**
HAKT	**HAKKARI**	**1.65**	**151**	*i* P	**Pg**	**18 51 21.0**	**-1.4**
HAKT				*i* S	**Sg**	**18 51 43.8**	**0.0**
BINT	**Bingol**	**1.73**	**266**	*e*Pn	**Pn**	**18 51 20.9**	**0.0**
CUKT	**Cukurca**	**1.90**	**158**	*e*PN	**Pg**	**18 51 26.3**	**-0.9**
CUKT	**Cukurca**	**1.90**	**158**	*e*Pn	**Pg**	**18 51 26.3**	**-0.9**
GNI	**Garni**	**1.94**	**54**	*e*PN	**Pg**	**18 51 26.0**	**-2.0**
GNI	**Garni**	**1.94**	**54**	*e*Pn	**Pg**	**18 51 26.0**	**-2.0**
PTK	**Pertek**	**2.58**	**268**	*e*PN	**Pn**	**18 51 35.1**	**+2.5**
PTK	**Pertek**	**2.58**	**268**	*e*Pn	**Pn**	**18 51 35.1**	**+2.5**

IDC 29 19:30:44.1±7.1, 15°.99S × 175°.87W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.7/15, mbtmp3.8/3, Error ellipse: s-maj=313.3km s-min=36.7km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.39**	**257**	P	P	19 39 20.9	+0.4
	0.5nm,0.5s,baz=92,slow=7.1,SNR=13						
ASAR	**Alice Springs**	**47.67**	**252**	P	P	19 39 22.1	-0.4
	2.3nm,0.6s,baz=88,slow=9.1,SNR=48						
ILAR	**Eielson Array**	**83.49**	**12**	P	P	19 43 13.3	0.0
	0.2nm,0.7s,baz=223,slow=6.2,SNR=5.1						

IDC 29 19:54:38.7±5.9, 19°.89S × 176°.02W, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.6/15, mbtmp3.6/3, Error ellipse: s-maj=283.4km s-min=35.9km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.47**	**256**	P	P	20 03 08.6	+0.8
	1.1nm,0.4s,baz=89,slow=8.4,SNR=32						
WRA	**Warramunga Arr**	**46.53**	**261**	P	P	20 03 07.2	-1.1
	0.2nm,0.5s,baz=98,slow=6.2,SNR=6.3						
ILAR	**Eielson Array**	**87.32**	**12**	P	P	20 07 27.8	+0.9
	0.3nm,0.9s,baz=217,slow=5.3,SNR=4.4						
GERES	**GERESS Array B**	**150.07**	**347**	PKPbc	PKPbc	20 14 30.1	-1.1
	0.3nm,0.5s,baz=12,slow=5.1,SNR=4.6						

BJI ***29*** *21:14:07.0, 36°.00N × 117°.30W, h10km, mB5.3/3, mb4.9/5, Ms4.8/2, Ms7 4.5/3*
ISCJB ***29*** *21:14:08.5±0.3, 35°.97N±0°.02 × 117°.33W±0°.03, h10km, Error ellipse: s-maj=3.4km s-min=3.0km az=18.9*
NEIC ***29*** *21:14:09.1, 35°.97N × 117°.33W, h1km, MW4.1(PAS), After PAS.*
NEIC Felt [II] at Trona.
IDC ***29*** *21:14:10.1±1.9, 36°.00N × 117°.28W, h0km, mb1 3.5/4, mb1mx3.4/23, mbtmp3.1/4, ML3.3/4, Error ellipse: s-maj=26.3km s-min=10.2km az=50.0*
ISC 29 21:14:09.6±0.3, 35°.96N±0°.02 × 117°.34W±0°.02, h10km, n34, σ0s96/55, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSC	**Goldstone**	**0.79**	**146**	*i* Pg	**Pg**	**21 14 24.0**	**-0.8**
GSC				*e*Sg	**Sg**	**21 14 34.2**	**-0.8**
ISA	**Isabella**	**0.97**	**252**	*i* Pg	**Pg**	**21 14 27.4**	**-0.8**
ISA				*e*Sg	**Sg**	**21 14 39.9**	**-1.0**
OSI	**Osito Adit**	**1.76**	**221**	*e*Pn	**Pn**	**21 14 40.0**	**-0.1**
OSI				*e*Sn	**Sn**	**21 15 03.7**	**+1.2**
MWC	**Mount Wilson**	**1.83**	**199**	*e*Pn	**Pn**	**21 14 41.1**	**0.0**
MWC				*e*Sg	**Sg**	**21 15 08.6**	**+0.2**
PASC	**Pasadena Art C**	**1.92**	**201**	*e*Pn	**Pn**	**21 14 42.4**	**+0.1**
PASC				*e*Sg	**Sg**	**21 15 10.7**	**-0.5**
LDFC	**Landfair**	**2.02**	**115**	*e*Pn	**Pn**	**21 14 43.7**	**0.0**
LDFC				*e*Sn	**Sn**	**21 15 08.9**	**-0.1**
PFO	**Pinyon Flat Ob**	**2.46**	**163**	*e*Pn	**Pn**	**21 14 49.1**	**-0.6**
PFO				*e*Sn	**Sn**	**21 15 20.8**	**+1.0**
NVAR	**Mina Array Bea**	**2.58**	**343**	Pn	**Pn**	**21 14 51.7**	**+0.3**
	5.1nm,0.3s,baz=168,slow=15,SNR=51						
NVAR				Pg	**Pg**	**21 14 57.9**	**-1.2**
	39nm,0.3s,baz=161,slow=18,SNR=99						
NVAR				Lg		21 15 32.3	
	66nm,0.3s,baz=154,slow=29,SNR=14						
NVAR	**Mina Array Bea**	**2.58**	**343**	Pn	**Pn**	**21 14 51.7**	**+0.3**
NVAR				Pg	**Pg**	**21 14 57.9**	**-1.2**
NVAR				Lg		21 15 32.3	
CMB	**Columbia Colle**	**3.20**	**311**	*e*Pb	**Pb**	**21 15 05.8**	**-0.7**
CMB				*e*Sb	**Sb**	**21 15 46.8**	**+1.3**
BAR	**Barrett**	**3.32**	**170**	*e*Pn	**Pn**	**21 15 01.4**	**-0.2**
BAR				*e*Sn	**Sn**	**21 15 41.8**	**+0.7**
SAO	**San Andreas Ge**	**3.41**	**285**	*e*Pn	**Pn**	**21 15 03.6**	**+0.8**
SAO				*e*Sg	**Sg**	**21 15 58.2**	**-1.0**
CCUT	**Cedar City**	**3.56**	**62**	*e*Pn	**Pn**	**21 15 05.3**	**+0.4**
CCUT				*e*Sg	**Sg**	**21 16 03.4**	**-0.7**
GLA	**Glamis**	**3.57**	**144**	*e*Pn	**Pn**	**21 15 03.5**	**-1.5**
GLA				*e*Sg	**Sg**	**21 16 03.3**	**-0.9**
ARUT	**Antelope Range**	**3.62**	**59**	*e*Pn	**Pn**	**21 15 05.7**	**0.0**
ARUT				Sg	**Sg**	**21 16 05.3**	**-0.5**
WCN	**Washoe City**	**3.85**	**331**	*e*Pn	**Pn**	**21 15 09.2**	**+0.4**
WCN				*e*Sg	**Sg**	**21 16 13.2**	**+0.1**
BMN	**Battle Mountai**	**4.46**	**1**	*e*Pn	**Pn**	**21 15 18.1**	**+0.8**
BMN				*e*Sg	**Sg**	**21 16 31.2**	**-1.7**
MOD	**Modoc**	**6.37**	**340**	*e*Pg	**Pg**	**21 16 10.2**	**-1.2**
	24nm,1.1s						
MOD				*e*Sg	**Sg**	**21 17 34.0**	**+0.2**
DAU	**Daniels Canyon**	**6.53**	**45**	*e*Pg	**Pg**	**21 16 13.6**	**-1.1**
	69nm,1.1s						
DAU				*e*Sg	**Sg**	**21 17 38.7**	**-0.5**
HVU	**Hansel Valley**	**6.81**	**30**	*e*Pn	**Pn**	**21 15 52.7**	**+3.2**
	11nm,0.5s						
HVU				Sg	**Sg**	**21 17 43.6**	**-4.6**
PV04	**Paradox Valley**	**7.16**	**68**	*e*Pn	**Pn**	**21 15 55.3**	**+1.0**
MVCO	**Mesa Verde**	**7.22**	**77**	*e*Pb	**Pb**	**21 16 14.5**	**-0.5**
	135nm,1.1s						
MVCO				*e*Sb	**Sb**	**21 17 41.7**	**+0.5**
PV01	**Paradox Valley**	**7.34**	**70**	*e*Pn	**Pn**	**21 15 57.7**	**+0.9**
	3µm,0.8s						
RRI2	**Red Ridge**	**8.71**	**30**	*e*Pn	**Pn**	**21 16 16.3**	**+0.7**
	13nm,1.7s						
RRI2				*e*Sg	Sn	21 18 49.1	+55
ANMO	**Albuquerque**	**8.93**	**93**	Pn	**Pn**	**21 16 20.6**	**+1.9**
	0.1nm,0.3s,baz=312,slow=19,SNR=3.4						
ANMO				Pg	Pn	21 16 51.8	+33
	0.1nm,0.3s,baz=289,slow=14,SNR=10						
ANMO				Lg		21 18 46.9	
	0.1nm,0.3s,baz=96,slow=16,SNR=4.8						
ANMO	**Albuquerque**	**8.93**	**93**	Pn	**Pn**	**21 16 20.6**	**+1.9**
ANMO				Pg	Pn	21 16 51.8	+33
ANMO				Lg		21 18 46.9	
PDAR	**Pinedale Array**	**9.08**	**39**	Pn	**Pn**	**21 16 24.1**	**+3.5**
	0.1nm,0.3s,baz=230,slow=12,SNR=6.7						
PDAR				Lg		21 18 51.2	
	0.1nm,0.3s,baz=218,slow=24,SNR=3.9						
PDAR	**Pinedale Array**	**9.08**	**39**	Pn	**Pn**	**21 16 24.1**	**+3.5**
PDAR				Lg		21 18 51.2	
TXAR	**Lajitas Array**	**13.27**	**116**	Pn	**Pn**	**21 17 23.2**	**+5.1**
	0.1nm,0.3s,baz=290,slow=13,SNR=3.0						
TXAR				Lg		21 21 11.2	
	0.1nm,0.3s,baz=287,slow=27,SNR=3.2						
TXAR	**Lajitas Array**	**13.27**	**116**	Pn	**Pn**	**21 17 23.2**	**+5.1**
TXAR				Lg		21 21 11.2	
MDJ	**Mudanjiang**	**79.50**	**318**	P	**P**	**21 26 13.3**	**-3.1**
MDJ				pmax	pmax		
	comp=Z,9.0nm,1.7s						
MDJ				pmax	pmax		
	comp=Z,160nm,5.0s						
CN2	**Changchun**	**82.26**	**319**	*e*P	**P**	**21 26 32.3**	**+1.2**
HHC	**Hu-ho-hao-te**	**91.35**	**325**	*e*P	**P**	**21 27 16.5**	**+0.9**
HHC				PP	PP	21 30 55.5	+3.3
HHC				SKS		21 37 48.3	
HHC				S	S	21 38 13.0	-1.7
HHC				SS	SS	21 44 19.3	+0.9
HHC				pmax	pmax		
	comp=Z,15nm,0.7s						
HHC				pmax	pmax		
	comp=Z,82nm,6.2s						
HHC				LR	LR		
	comp=N,230nm,15.7s						
HHC				LR	LR		
	comp=E,180nm,16.0s						
HHC				LR	LR		
	comp=Z,140nm,15.9s						
WMQ	**Urumqi**	**97.39**	**342**	*e*P	**P**	**21 27 45.0**	**+1.8**

ISCJB ***29*** *21:30:01.3±0.5, 84°.56N±0°.06 × 7°.2E±1°.0, h10km, mb3.4/12, MS3.5/8, Error ellipse: s-maj=14.3km s-min=7.4km az=156.6*
IDC ***29*** *21:30:01.5±0.8, 84°.74N × 8°.30E, h0km, mb3.5/10, mb1 3.7/12, mb1mx3.6/27, mbtmp3.6/12, ML4.0/2, MS3.5/11, Ms1 3.5/11, ms1mx3.3/29, Error ellipse: s-maj=27.5km s-min=13.2km az=59.0*
NEIC ***29*** *21:30:02.9±0.5, 84°.63N × 7°.78E, h10km, mb4.0/3, Error ellipse: s-maj=13.4km s-min=8.2km az=60.0*
CSEM ***29*** *21:30:02.6±0.4, 84°.58N × 7°.87E, h10km, mb4.0/3, Error ellipse: s-maj=22.2km s-min=12.0km az=65.0*
NAO ***29*** *21:30:07.0±10.0, 84°.40N × 2°.52E, h31km±81km*
ISC 29 21:30:03.2±0.5, 84°.55N±0°.05 × 7°.6E±1°.0, h10km, n66, σ1s20/72, mb3.4/12, MS3.5/8, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**5.69**	**171**	Pn	**Pn**	**21 31 28.1**	**+0.5**
KBS				Sn	**Sn**	**21 32 31.5**	**-1.3**
KBS	**Kingsbay**	**5.69**	**171**	*e*P	**Pn**	**21 31 28.1**	**+0.5**
KBS				*e*S	**Sn**	**21 32 31.7**	**-1.1**
KBS				AML	AML	21 32 34.6	
	comp=Z,8.4nm,0.2s						
KBS	**Kingsbay**	**5.69**	**171**	*e*Pn	**Pn**	**21 31 28.3**	**+0.7**
KBS	**Kingsbay**	**5.69**	**171**	Pn	**Pn**	**21 31 28.1**	**+0.5**
KBS				*e*S	**Sn**	**21 32 31.7**	**-1.1**
	comp=Z,8.4nm,0.2s,SNR=49						
SPB4	**Spitsbergen Ar**	**6.53**	**164**	*e*Pn	**Pn**	**21 31 39.7**	**+0.6**
SPB4	**Spitsbergen Ar**	**6.53**	**164**	*e*Pn	**Pn**	**21 31 39.7**	**+0.6**
SPA0	**Spitsbergen Ar**	**6.53**	**164**	Pn	**Pn**	**21 31 39.7**	**+0.6**
	baz=9.5,slow=11						
SPA0				Sn	**Sn**	**21 32 51.3**	**-2.2**
	baz=353,slow=16						
SPA0	**Spitsbergen Ar**	**6.53**	**164**	Pn	**Pn**	**21 31 39.7**	**+0.6**
	SNR=50						
SPA0				Sn	**Sn**	**21 32 51.3**	**-2.2**
	SNR=50						
SPITS	**Spitsbergen Ar**	**6.53**	**164**	Pn	**Pn**	**21 31 39.7**	**+0.6**
	baz=17,slow=6.1,SNR=76						
SPITS				Sn	**Sn**	**21 32 51.4**	**-2.1**
	baz=320,slow=36,SNR=2.1						
SPITS				LR	LR	21 34 04.7	
	comp=Z,446nm,20.5s,baz=0.0,slow=36						
SPITS	**Spitsbergen Ar**	**6.53**	**164**	Pn	**Pn**	**21 31 39.7**	**+0.6**
SPITS				Sn	**Sn**	**21 32 51.4**	**-2.1**
SPITS	**Spitsbergen Ar**	**6.53**	**164**	Pn	**Pn**	**21 31 39.7**	**+0.6**
SPITS				Sn	**Sn**	**21 32 51.4**	**-2.1**
SUMG	**Summit**	**14.26**	**242**	*e*Pn	**Pn**	**21 33 26.1**	**+1.3**
	comp=Z,10.0nm,1.1s						
SUMG	**Summit**	**14.26**	**242**	*i* P	**Pn**	**21 33 29.5**	**+4.7**
	comp=Z,5.7nm,1.0s						
SUMG	**Summit**	**14.26**	**242**	*e*Pn	**Pn**	**21 33 26.1**	**+1.3**
	comp=Z,10.0nm,1.1s						
KEV	**Kevo**	**15.30**	**154**	*e*Pn	**Pn**	**21 33 39.3**	**+0.6**
KEV	**Kevo**	**15.30**	**154**	*e*p	**Pn**	**21 33 38.7**	**-0.1**
	comp=Z,2.4nm,0.3s						
KEV	**Kevo**	**15.30**	**154**	*e*Pn	**Pn**	**21 33 39.3**	**+0.5**
ARA0	**ARCESS Array S**	**15.46**	**156**	Pn	**Pn**	**21 33 40.0**	**-0.9**
	baz=1.8,slow=10						
ARA0	**ARCESS Array S**	**15.46**	**156**	Pn	**Pn**	**21 33 40.0**	**-0.9**
	SNR=50						
ARCES	**ARCESS Array B**	**15.46**	**156**	Pn	**Pn**	**21 33 39.0**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=0.2,slow=13,SNR=28						
ARCES				Sn	**Sn**	**21 36 21.6**	**-10**
	comp=Z,0.1nm,0.3s,baz=40,slow=26,SNR=2.5						
ARCES				LR	LR	21 39 26.3	
	comp=Z,106nm,21.2s,baz=344,slow=36						
ARCES	**ARCESS Array B**	**15.46**	**156**	Pn	**Pn**	**21 33 39.0**	**-1.8**
ARCES				Sn	**Sn**	**21 36 21.6**	**-10**
ARE0	**ARCESS Array S**	**15.46**	**156**	*e*Pn	**Pn**	**21 33 41.6**	**+0.7**
ARE0	**ARCESS Array S**	**15.46**	**156**	*e*Pn	**Pn**	**21 33 41.6**	**+0.7**
RES	**Resolute Bay**	**17.42**	**300**	P	**Pn**	**21 33 59.8**	**-6.0**
	comp=Z,0.2nm,0.3s,baz=34,slow=10,SNR=8.3						
RES				LR	LR	21 40 43.4	
	comp=Z,249nm,19.4s,baz=24,slow=37						
RES	**Resolute Bay**	**17.42**	**300**	*e*Pn	**Pn**	**21 33 59.8**	**-6.0**
	comp=Z,4.9nm,1.0s						
JOF	**Joensuu**	**22.32**	**151**	*e*p	**P**	**21 35 01.2**	**+0.9**
	comp=Z,0.3nm,0.4s,mb3.1						
FIA0	**FINESS Array S**	**23.57**	**158**	P	**P**	**21 35 15.0**	**+1.4**
	baz=9.7,slow=11						
FIA0	**FINESS Array S**	**23.57**	**158**	P	**P**	**21 35 15.0**	**+1.4**
	SNR=47						
FINES	**FINESS Array B**	**23.

TORD	**Torodi Ar. Bea**	**71.48**	**186**	P		**P**	**21 41 24.1**	**+0.5**
TORD	**Torodi Ar. Bea**	**71.48**	**186**	P		**P**	**21 41 24.1**	**+0.5**

AUST 29 21:41:30.3, 42°52S × 145°98E, h8km, ML3.6, Tasmania region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOO	**Moorlands**	**0.90**	**86**	*e*P	Pg	21 41 47.6	+0.1
MOO				*e*S	Sg	21 42 00.1	+1.0
	3µm,0.2s						
TOO	**Toolangi**	**4.95**	**355**	*e*P	Pn	21 42 47.0	+2.1
TOO				*e*S	Sn	21 43 42.9	+0.5
	23nm,0.3s						
MILA	**Mila**	**5.98**	**25**	*e*P	Pn	21 43 00.9	+1.9
MILA				*e*S	Sn	21 44 07.1	-0.5
	62nm,1.5s						
ARPS	**Mount Arapiles**	**6.57**	**330**	*e*P	Pn	21 43 09.3	+2.2
ARPS				*e*S	Sn	21 43 57.9	-24
CNB	**Canberra Magne**	**7.66**	**21**	*e*P	Pn	21 43 24.7	+2.6

*ISCJB **29** 21:43:59.6±0.3, 6°.75N±0°.04×72°.95W±0°.05, h172km±4km, mb3.8/15, Error ellipse: s-maj=9.3km s-min=4.5km az=41.2*
*IDC **29** 21:43:59.7±1.3, 6°.66N×72°.90W, h161km±13km, mb3.6/13, mb1 3.8/17, mb1mx3.7/23, mbtmp3.7/17, Error ellipse: s-maj=17.0km s-min=12.7km az=77.0*
*FUNV **29** 21:43:59.4, 6°.68N×73°.23W, h162km, MW4.2*
*NEIC **29** 21:44:00.7±0.6, 6°.65N×72°.93W, h171km±6km, mb4.3/3, Error ellipse: s-maj=9.5km s-min=6.2km az=105.0*

ISC 29 21:44:00.5±0.3, 6°.74N±0°.04×72°.94W±0°.05, h165km±4km, n75, σ0s92/79, mb3.8/15, 2C-9D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.28**	**29**	⇑*i*P	**Pn**	**21 44 30.0**	**+0.8**
CAPV				*e*S	**Sn**	**21 44 51.2**	**-0.1**
ROSC	**El Rosal**	**2.32**	**217**	P	**Pn**	**21 44 41.3**	**+1.0**
	338nm,0.3s,baz=109,slow=7.7,SNR=224						
ROSC				S	**Sn**	**21 45 09.9**	**-1.2**
	299nm,0.3s,baz=112,slow=17,SNR=7.0						
ROSC	**El Rosal**	**2.32**	**217**	*e*Pn	**Pn**	**21 44 41.3**	**+1.0**
ROSC				*e*S	**Sn**	**21 45 12.1**	**+1.0**
SOCV	**Socops**	**2.58**	**53**	⇓*i*P	**Pn**	**21 44 44.5**	**+1.2**
SOCV				*e*S	**Sn**	**21 45 16.5**	**+0.1**
VIGV	**El Vigia**	**2.61**	**37**	⇓*i*P	**Pn**	**21 44 44.3**	**+0.6**
VIGV				*e*S	**Sn**	**21 45 16.4**	**-0.8**
SDV	**Santo Domingo**	**3.13**	**47**	*e*Pn	**Pn**	**21 44 51.4**	**+1.3**
SDV				*e*S	**Sn**	**21 45 29.3**	**+0.7**
ELOV	**Elorza**	**3.44**	**85**	⇑*e*P	**Pn**	**21 44 55.9**	**+1.9**
VIRV	**Villa del Rosa**	**3.78**	**8**	⇓*i*P	**Pn**	**21 44 56.9**	**-1.5**
VIRV				*e*S	**Sn**	**21 45 39.3**	**-4.2**
QARV	**Quebrada Arrib**	**4.20**	**35**	⇓*i*P	**Pn**	**21 45 04.2**	**+0.5**
QARV				*e*S	**Sn**	**21 45 51.4**	**-1.6**
SANV	**Sanarito**	**4.35**	**51**	*e*P	**Pn**	**21 45 06.2**	**+0.5**
SANV				*e*S	**Sn**	**21 45 56.4**	**-0.2**
CURV	**Curarigua**	**4.39**	**42**	⇓*e*P	**Pn**	**21 45 06.5**	**+0.3**
CURV				*e*S	**Sn**	**21 45 57.0**	**-0.6**
DABV	**Dabajuro**	**4.74**	**29**	⇓*i*P	**Pn**	**21 45 10.7**	**-0.1**
DABV				*e*S	**Sn**	**21 46 03.0**	**-2.8**
TEPV	**Terepaima**	**4.90**	**49**	⇓*i*P	**Pn**	**21 45 13.3**	**+0.4**
TEPV				*e*S	**Sn**	**21 46 09.1**	**-0.5**
SIQV	**Siquisique**	**4.97**	**38**	⇓*i*P	**Pn**	**21 45 13.7**	**-0.1**
BAUV	**El Baul**	**5.33**	**65**	*e*P	**Pn**	**21 45 18.2**	**-0.3**
MAPV	**Macapo**	**5.40**	**55**	⇓*e*P	**Pn**	**21 45 19.7**	**+0.3**
JACV	**Jacura**	**5.93**	**43**	*e*P	**Pn**	**21 45 26.8**	**+0.3**
IMOV	**Isla Los Monje**	**5.94**	**20**	*e*P	**Pn**	**21 45 25.8**	**-0.7**
MONV	**Montecano**	**5.96**	**29**	*e*P	**Pn**	**21 45 25.9**	**-0.9**
TURV	**Turiamo**	**6.25**	**53**	*e*P	**Pn**	**21 45 30.4**	**-0.2**
MERV	**Las Mercedes**	**7.04**	**69**	*e*P	**Pn**	**21 45 40.8**	**-0.3**
FUNV	**FUNVISIS**	**7.11**	**58**	*e*P	**Pn**	**21 45 41.8**	**-0.2**
BCIP	**Isla Barro Col**	**7.24**	**290**	*e*Pn	**Pn**	**21 45 39.5**	**-4.3**
BIRV	**Birongo**	**7.57**	**60**	*e*P	**Pn**	**21 45 48.5**	**+0.3**
CUPV	**Cœpira**	**7.81**	**65**	*e*P	**Pn**	**21 45 51.0**	**-0.4**
OTAV	**Otavalo**	**8.48**	**221**	*e*Pn	**Pn**	**21 45 58.7**	**-1.5**
	6.1nm,0.6s						
OTAV				*e*S	**Sn**	**21 47 33.9**	**-0.9**
PCRV	**Puerto La Cruz**	**8.90**	**67**	*e*P	**Pn**	**21 46 06.1**	**+0.4**
MTDJ	**Mount Denham**	**12.27**	**339**	*e*Pn	**Pn**	**21 46 51.3**	**+1.5**
	39nm,0.5s						
JTS	**JuntasAbangare**	**12.39**	**287**	P	**Pn**	**21 46 51.7**	**+0.2**
	0.8nm,0.3s,baz=128,slow=19,SNR=3.0						
JTS	**JuntasAbangare**	**12.39**	**287**	P		**21 46 51.6**	**+0.2**
SJG	**San Juan**	**13.10**	**30**	P	**Pn**	**21 47 00.1**	**-0.4**
	3.7nm,0.3s,baz=351,slow=23,SNR=5.9						
SJG	**San Juan**	**13.10**	**30**	P	**Pn**	**21 47 00.1**	**-0.4**
GTBY	**Guantanamo Bay**	**13.28**	**351**	*e*Pn	**Pn**	**21 47 05.5**	**+2.7**
GTBY				*e*S	**Sn**	**21 49 21.3**	**-8.8**
CBYP	**Canovanas**	**13.38**	**30**	*e*Pn	**Pn**	**21 47 05.0**	**+0.9**
NNA	**Nana**	**19.00**	**192**	P	**P**	**21 48 10.1**	**+0.4**
	1.7nm,0.3s,baz=5.7,slow=10,SNR=3.5						
NNA	**Nana**	**19.00**	**192**	P	**P**	**21 48 10.1**	**+0.4**
LPAZ	**La Paz**	**23.37**	**168**	*e*P	**P**	**21 48 55.4**	**+1.1**
	3.4nm,0.7s,mb3.9						
CPUP	**Villa Florida**	**36.19**	**156**	P	**P**	**21 50 44.9**	**-2.5**
	1.1nm,0.6s,mb3.6,baz=339,slow=8.6,SNR=3.9						
CPUP	**Villa Florida**	**36.19**	**156**	P	**P**	**21 50 44.9**	**-2.5**
TXAR	**Lajitas Array**	**36.65**	**312**	P	**P**	**21 50 50.7**	**-0.6**
	0.3nm,0.4s,mb3.3,baz=122,slow=9.1,SNR=6.3						
TXAR	**Lajitas Array**	**36.65**	**312**	P	**P**	**21 50 50.7**	**-0.6**
PLCA	**Paso Flores**	**47.28**	**178**	P	**P**	**21 52 15.6**	**-1.6**
	1.2nm,0.6s,mb3.7,baz=281,slow=7.4,SNR=3.2						
PLCA	**Paso Flores**	**47.28**	**178**	P	**P**	**21 52 15.6**	**-1.6**
SCHQ	**Schefferville**	**48.21**	**5**	P	**P**	**21 52 25.4**	**+1.3**
	8.0nm,0.5s,mb4.6,baz=193,slow=6.6,SNR=25						
SCHQ	**Schefferville**	**48.21**	**5**	P	**P**	**21 52 25.4**	**+1.3**
PDAR	**Pinedale Array**	**48.25**	**324**	P	**P**	**21 52 24.6**	**-0.1**
	0.6nm,0.5s,mb3.5,baz=127,slow=8.3,SNR=5.7						
PDAR	**Pinedale Array**	**48.25**	**324**	P	**P**	**21 52 24.6**	**-0.1**
YKA	**Yellowknife Ar**	**63.40**	**340**	P	**P**	**21 54 12.0**	**-0.1**
	3.0nm,0.6s,mb4.3,baz=133,slow=6.6,SNR=12						
YKA	**Yellowknife Ar**	**63.40**	**340**	P	**P**	**21 54 12.0**	**-0.1**
DBIC	**Dimbokro**	**67.56**	**86**	P	**P**	**21 54 39.0**	**-0.7**
	3.2nm,1.0s,mb4.0,baz=276,slow=5.1,SNR=5.0						
DBIC	**Dimbokro**	**67.56**	**86**	P	**P**	**21 54 39.0**	**-0.7**
SUMG	**Summit**	**69.04**	**11**	*e*P	**P**	**21 54 49.1**	**+1.3**
	7.1nm,0.6s,mb4.6						
SUMG	**Summit**	**69.04**	**11**	*i*P	**P**	**21 54 49.1**	**+1.3**
	8.4nm,0.8s,mb4.5						
INK	**Inuvik**	**73.17**	**340**	P	**P**	**21 55 12.8**	**+0.1**
	1.3nm,0.6s,mb3.8,baz=68,slow=3.1,SNR=8.8						
INK	**Inuvik**	**73.17**	**340**	P	**P**	**21 55 12.8**	**+0.1**
TORD	**Torodi Ar. Bea**	**73.58**	**78**	P	**P**	**21 55 15.6**	**-0.5**
	0.3nm,0.3s,mb3.5,baz=284,slow=6.6,SNR=11						
TORD	**Torodi Ar. Bea**	**73.58**	**78**	P	**P**	**21 55 15.6**	**-0.5**
ILAR	**Eielson Array**	**77.11**	**335**	P	**P**	**21 55 35.4**	**+0.1**
	0.3nm,0.5s,mb3.2,baz=106,slow=4.6,SNR=6.4						
ILAR	**Eielson Array**	**77.11**	**335**	P	**P**	**21 55 35.4**	**+0.1**
NOA	**NORSAR Array B**	**81.31**	**29**	P	**P**	**21 55 57.6**	**-0.6**
	0.6nm,0.6s,mb3.4,baz=268,slow=5.3,SNR=2.4						
NOA	**NORSAR Array B**	**81.31**	**29**	P	**P**	**21 55 57.6**	**-0.6**
GERES	**GERESS Array B**	**82.77**	**42**	P	**P**	**21 56 06.1**	**+0.1**
	0.4nm,0.6s,mb3.3,baz=248,slow=5.2,SNR=3.3						
GERES	**GERESS Array B**	**82.77**	**42**	P	**P**	**21 56 06.1**	**+0.1**
ARCES	**ARCESS Array B**	**86.69**	**20**	P	**P**	**21 56 25.8**	**+0.5**
	7.4nm,1.2s,mb4.4,baz=268,slow=2.6,SNR=2.8						
ARCES	**ARCESS Array B**	**86.69**	**20**	P	**P**	**21 56 25.8**	**+0.5**
MKAR	**Makanchi Array**	**122.34**	**20**	PKP	PKPdf	22 02 35.7	-0.4
	0.1nm,0.3s,baz=343,slow=2.9,SNR=5.7						
MKAR	**Makanchi Array**	**122.34**	**20**	PKP	PKPdf	22 02 35.7	-0.4
SONM	**Songino Array**	**125.66**	**1**	PKP	PKPdf	22 02 43.4	+1.0
	0.2nm,0.4s,baz=316,slow=1.3,SNR=4.6						
SONM	**Songino Array**	**125.66**	**1**	PKP	PKPdf	22 02 43.4	+1.0
ASAR	**Alice Springs**	**149.21**	**234**	PKP	PKPdf	22 03 26.4	+0.5
	0.9nm,0.5s,baz=125,slow=3.1,SNR=8.4						
ASAR				PKPbc	PKPbc	22 03 30.1	-0.2
	0.9nm,0.5s,baz=116,slow=3.4,SNR=18						
ASAR	**Alice Springs**	**149.21**	**234**	PKP	PKPdf	22 03 26.4	+0.5
ASAR				PKPbc	PKPbc	22 03 30.1	-0.2
WRA	**Warramunga Arr**	**150.45**	**241**	PKP	PKPdf	22 03 26.9	-1.0
	0.2nm,0.3s,baz=106,slow=2.6,SNR=4.5						
WRA				PKPbc	PKPbc	22 03 33.0	-0.4
	0.8nm,0.3s,baz=111,slow=2.4,SNR=8.4						
WRA	**Warramunga Arr**	**150.45**	**241**	PKP	PKPdf	22 03 26.9	-1.0
WRA				PKPbc	PKPbc	22 03 33.0	-0.4
CMAR	**Chiang Mai Arr**	**153.72**	**18**	PKPbc	PKPbc	22 03 41.4	+0.6
	0.5nm,0.6s,baz=324,slow=3.5,SNR=4.0						
CMAR	**Chiang Mai Arr**	**153.72**	**18**	PKPbc	PKPbc	22 03 41.4	+0.6

*IDC **29** 22:11:26.5±0.8, 39°.38N×73°.79E, h0km, mb3.8/12, mb1 3.9/15, mb1mx3.8/28, mbtmp3.8/15, ML3.5/2, MS2.9/1, Ms1 2.9/1, ms1mx2.2/53, Error ellipse: s-maj=20.2km s-min=16.3km az=48.0*
*ISCJB **29** 22:11:28.9±1.2, 39°.18N±0°.04×73°.53E±0°.07, h33km±9km, mb3.7/14, Error ellipse: s-maj=9.9km s-min=5.3km az=153.3*
*NEIC **29** 22:11:28.2±0.8, 39°.35N×73°.58E, h10km, Error ellipse: s-maj=12.7km s-min=11.5km az=157.0*

ISC 29 22:11:29.2±2.0, 39°.20N±0°.04×73°.51E±0°.07, h19km±13km, n67, σ1s28/72, mb3.7/14, 2C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.93**	**3**	P	**Pn**	**22 12 13.7**	**-1.0**
	SNR=142						
UCH	**Uchtor**	**3.12**	**14**	P	**Pn**	**22 12 17.6**	**+0.4**
	SNR=17						
KZA	**Kyzart**	**3.17**	**24**	P	**Pn**	**22 12 19.4**	**+1.5**
	SNR=85						
EKS2	**Erkin-Say**	**3.46**	**3**	P	**Pn**	**22 12 21.3**	**-0.7**
	SNR=26						
EKS2	**Erkin-Say**	**3.46**	**3**	*e*Pn	**Pn**	**22 12 21.1**	**-0.9**
EKS2				*e*S	**Sn**	**22 13 02.1**	**-0.4**
AAK	**Ala-Archa**	**3.51**	**12**	P	**Pn**	**22 12 21.9**	**-0.7**
	SNR=33						
AAK	**Ala-Archa**	**3.51**	**12**	*e*Pn	**Pn**	**22 12 21.9**	**-0.7**
AAK				*e*S	**Sn**	**22 13 07.7**	**+4.1**
KBK	**Karagaybulak**	**3.62**	**17**	P	**Pn**	**22 12 23.9**	**-0.2**
	SNR=32						
ULHL	**Ulahol**	**3.68**	**33**	P	**Pn**	**22 12 25.2**	**+0.2**
	SNR=8.2						
CHMS	**Chumysh**	**3.91**	**13**	P	**Pn**	**22 12 30.2**	**+2.1**
	SNR=16						
TKM2	**Tokmak 2**	**4.04**	**22**	P	**Pn**	**22 12 29.0**	**-0.9**
	SNR=15						
TKM2	**Tokmak 2**	**4.04**	**22**	⇑Pn	**Pn**	**22 12 31.3**	**+1.4**
	15nm,0.6s						
TKM2				⇑Pg	**Pb**	**22 12 40.4**	**+0.8**
	16nm,0.6s						
TKM2				⇓Lg		22 13 24.6	
	52nm,0.7s						
TKM2	**Tokmak 2**	**4.04**	**22**	*e*Pn	**Pn**	**22 12 29.0**	**-0.9**
USP	**Ospenovka**	**4.13**	**10**	P	**Pn**	**22 12 33.9**	**+2.7**
	SNR=11						
KK31	**Karatay Array**	**4.51**	**331**	Pn	**Pn**	**22 12 36.9**	**+0.5**
	2.1nm,0.3s,baz=129,slow=11,SNR=91						
KK31				⇓Pg	**Pb**	**22 12 47.4**	**-0.2**
	14nm,0.6s,baz=149,slow=16,SNR=8.5						
KK31				⇓Sn	**Sn**	**22 13 30.6**	**+2.4**
	9.4nm,0.5s,baz=45,slow=75,SNR=4.3						
KK31				⇓Lg		22 13 42.9	
	21nm,0.5s,baz=156,slow=29,SNR=4.1						
KKAR	**Karatay Array**	**4.51**	**331**	*e*Pn	**Pn**	**22 12 36.7**	**+0.3**
KBL	**Kabul**	**5.87**	**219**	*e*Pn	**Pb**	**22 13 05.4**	**-5.4**
MK31	**Makanchi Array**	**9.94**	**37**	*e*Pn	**Pn**	**22 13 53.7**	**+2.8**
MKAR	**Makanchi Array**	**9.94**	**37**	Pn	**Pn**	**22 13 52.1**	**+1.2**
	0.0nm,0.3s,baz=210,slow=14,SNR=4.5						
MKAR				Lg		22 16 28.2	
	0.1nm,0.3s,baz=162,slow=41,SNR=3.8						
MKAR	**Makanchi Array**	**9.94**	**37**	Pn	**Pn**	**22 13 52.1**	**+1.2**
KURK	**Kurchatov**	**12.06**	**16**	Pn	**Pn**	**22 14 18.0**	**-1.9**
	0.0nm,0.3s,baz=204,slow=12,SNR=8.0						
KURK				Lg		22 17 33.0	
	0.0nm,0.3s,baz=210,slow=24,SNR=7.3						
KURK	**Kurchatov**	**12.06**	**16**	Pn	**Pn**	**22 14 18.0**	**-1.9**
PYUN	**Piuthan**	**13.59**	**142**	*e*P	**Pn**	**22 14 40.9**	**+0.1**
	14nm,0.6s						
DANN	**Dangsing**	**13.76**	**139**	*e*P	**Pn**	**22 14 42.5**	**-0.7**
ABKAR	**Akbulak array**	**13.97**	**320**	*e*Pn	**Pn**	**22 14 44.0**	**-1.8**
	1.4nm,0.5s						
ABKAR				*e*S	**Sn**	**22 17 14.9**	**-5.3**
BVAR	**Borovoye Array**	**13.99**	**352**	Pn	**Pn**	**22 14 42.1**	**-4.1**
	0.2nm,0.3s,baz=161,slow=12,SNR=18						
BVAR				Lg		22 18 43.8	
	0.2nm,0.3s,baz=140,slow=25,SNR=5.2						
BVAR	**Borovoye Array**	**13.99**	**352**	Pn	**Pn**	**22 14 42.1**	**-4.1**
BRVK	**Borovoye**	**14.04**	**352**	*e*Pn	**Pn**	**22 14 43.4**	**-3.5**
	3.3nm,0.6s						
KOLN	**Koldanda**	**14.16**	**141**	*e*P	**Pn**	**22 14 48.3**	**-0.3**
	7.7nm,0.5s						
GKN	**Gorkha**	**14.50**	**137**	*e*P	**Pn**	**22 14 51.9**	**-1.4**
KKN	**Kakani**	**15.01**	**136**	*e*P	**Pn**	**22 14 59.9**	**-0.4**
PKI	**Pulchoki**	**15.26**	**136**	*e*P	**Pn**	**22 15 04.2**	**+0.8**
JIRN	**Jiri**	**15.62**	**134**	*e*P	**Pn**	**22 15 10.0**	**+1.8**
	1.7nm,0.5s						
AKTO	**Aktyubinsk**	**15.68**	**321**	Pn	**Pn**	**22 15 08.1**	**-0.8**
	0.2nm,0.3s,baz=120,slow=14,SNR=14						
AKTO	**Aktyubinsk**	**15.68**	**321**	Pn	**Pn**	**22 15 08.1**	**-0.8**
ZALV	**Zalesovo Beam**	**16.64**	**24**	Pn	**Pn**	**22 15 18.5**	**-2.7**
	0.1nm,0.3s,baz=212,slow=10,SNR=7.2						
ZALV				Lg		22 20 09.5	
	0.3nm,0.3s,baz=204,slow=24,SNR=3.6						
ZALV	**Zalesovo Beam**	**16.64**	**24**	Pn	**Pn**	**22 15 18.4**	**-2.7**
ODAN	**Odare**	**16.91**	**133**	*e*P	**Pn**	**22 15 28.6**	**+3.9**
	6.4nm,0.6s						
ONI	**Oni**	**22.91**	**288**	P	**P**	**22 16 36.0**	**+4.3**
SONM	**Songino Array**	**25.20**	**59**	P	**P**	**22 16 52.3**	**-1.1**
	0.3nm,0.8s,mb2.9,baz=262,slow=10.0,SNR=3.5						
SONM	**Songino Array**	**25.20**	**59**	P	**P**	**22 16 52.3**	**-1.1**
BRTR	**Keskin Array B**	**30.61**	**284**	P	**P**	**22 17 44.4**	**+2.5**
	1.3nm,1.0s,mb3.7,baz=99,slow=7.9,SNR=5.0						
BRTR	**Keskin Array B**	**30.61**	**284**	P	**P**	**22 17 44.4**	**+2.5**
AKASG	**Malin Array Be**	**32.91**	**305**	P	**P**	**22 18 02.2**	**+0.3**
	0.1nm,0.3s,mb3.2,baz=87,slow=6.5,SNR=4.7						
AKASG	**Malin Array Be**	**32.91**	**305**	P	**P**	**22 18 02.2**	**+0.3**
EIL	**Elat**	**32.98**	**265**	LR	LR	22 34 31.0	
	comp=Z,22nm,20.4s,baz=251,slow=42						
JOF	**Joensuu**	**34.60**	**327**	*ep*	**P**	**22 18 15.5**	**-1.0**
	2.6nm,0.8s,mb4.0						
FINES	**FINESS Array B**	**36.43**	**323**	P	**P**	**22 18 31.9**	**-0.3**
	2.7nm,0.8s,mb4.2,baz=112,slow=9.3,SNR=9.5						
FINES	**FINESS Array B**	**36.43**	**323**	P	**P**	**22 18 31.9**	**-0.3**
KAF	**Kangasniemi**	**36.51**	**325**	*ep*	**P**	**22 18 31.9**	**-1.0**
	0.3nm,0.3s,mb3.6						
ARCES	**ARCESS Array B**	**39.46**	**336**	P	**P**	**22 18 56.9**	**-0.7**
	1.7nm,0.7s,mb3.9,baz=108,slow=8.9,SNR=13						
ARCES	**ARCESS Array B**	**39.46**	**336**	P	**P**	**22 18 56.9**	**-0.7**
GERES	**GERESS Array B**	**43.05**	**303**	P	**P**	**22 19 28.9**	**+1.4**
	0.5nm,0.6s,mb3.4,baz=66,slow=7.5,SNR=5.0						
GERES	**GERESS Array B**	**43.05**	**303**	P	**P**	**22 19 28.9**	**+1.4**
NB2	**NORSAR Subarra**	**43.47**	**321**	P	**P**	**22 19 30.7**	**0.0**
	comp=Z,0.7nm,0.6s,mb3.6,baz=91,slow=8.6						
NOA	**NORSAR Array B**	**43.47**	**321**	P	**P**	**22 19 30.2**	**-0.5**
	comp=Z,1.7nm,0.8s,mb3.8,baz=90,slow=8.0,SNR=3.9						
NOA	**NORSAR Array B**	**43.47**	**321**	P	**P**	**22 19 30.2**	**-0.5**
TORD	**Torodi Ar. Bea**	**67.76**	**269**	P	**P**	**22 22 27.4**	**+1.6**
	comp=Z,0.6nm,0.6s,mb3.8,baz=48,slow=5.4,SNR=14						
TORD	**Torodi Ar. Bea**	**67.76**	**269**	P	**P**	**22 22 27.4**	**+1.6**
INK	**Inuvik**	**70.91**	**10**	P	**P**	**22 22 42.6**	**-1.9**
	comp=Z,0.5nm,0.7s,mb3.6,baz=346,slow=4.2,SNR=4.0						
INK	**Inuvik**	**70.91**	**10**	P	**P**	**22 22 42.6**	**-1.9**
ILAR	**Eielson Array**	**71.63**	**17**	P	**P**	**22 22 46.9**	**-2.0**
	comp=Z,0.4nm,0.8s,mb3.4,baz=349,slow=7.4,SNR=5.5						
ILAR	**Eielson Array**	**71.63**	**17**	P	**P**	**22 22 46.9**	**-2.0**
WRA	**Warramunga Arr**	**81.78**	**124**	P	**P**	**22 23 47.4**	**+0.6**
	comp=Z,0.9nm,0.7s,mb3.8,baz=323,slow=5.0,SNR=5.5						
WRA	**Warramunga Arr**	**81.78**	**124**	P	**P**	**22 23 47.4**	**+0.6**
ASAR	**Alice Springs**	**84.22**	**127**	P	**P**	**22 23 59.9**	**+0.5**
	comp=Z,0.6nm,0.6s,mb3.9,baz=318,slow=5.0,SNR=11						
ASAR	**Alice Springs**	**84.22**	**127**	P	**P**	**22 23 59.9**	**+0.5**

*NNC **29** 22:21:52.1±4.5, 39°.33N×71°.46E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=34.7km s-min=21.9km az=11.0*

ISC 29 22:21:46.3±2.4, 38°.8N±0°.2×71°.37E±0°.09, h9km±22km, n11, σ0s97/17, 6C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.77**	**27**	P	**Pn**	**22 22 44.3**	**-0.4**
	SNR=37						
EKS2	**Erkin-Say**	**4.27**	**25**	P	**Pn**	**22 22 51.4**	**-0.1**
	SNR=5.6						
KK31	**Karatay Array**	**4.35**	**352**	⇓Pn	**Pn**	**22 22 55.0**	**+2.4**
	2.4nm,0.3s,baz=143,slow=11,SNR=152						
KK31				⇑Pg	**Pb**	**22 23 03.1**	**+0.2**
	6.7nm,0.6s,baz=168,slow=18,SNR=30						
KK31				⇓Sn	**Sn**	**22 23 44.4**	**+0.9**
	4.9nm,0.5s,baz=169,slow=24,SNR=5.1						
KK31				⇓Lg		22 23 55.9	
	19nm,0.7s						
KZA	**Kyzart**	**4.41**	**41**	P	**Pn**	**22 22 52.7**	**-0.7**
	SNR=6.1						
AAK	**Ala-Archa**	**4.51**	**31**	P	**Pn**	**22 22 55.6**	**+0.9**
	SNR=8.7						
KBK	**Karagaybulak**	**4.72**	**34**	P	**Pn**	**22 22 58.7**	**+1.1**
	SNR=5.5						
CHMS	**Chumysh**	**4.92**	**30**	P	**Pn**	**22 22 60.0**	**-0.4**
	SNR=8.6						
USP	**Ospenovka**	**5.05**	**27**	P	**Pn**	**22 23 01.9**	**-0.3**
	SNR=11						
TKM2	**Tokmak 2**	**5.22**	**36**	⇑Pn	**Pn**	**22 23 04.2**	**-0.3**
	2.4nm,0.8s						
TKM2				⇑Pg	**Pb**	**22 23 16.2**	**-1.5**
	2.0nm,0.4s						
TKM2				⇓Sn	**Sn**	**22 24 04.8**	**+0.1**
	5.1nm,0.8s						
TKM2				⇑Lg		22 24 18.0	
	6.8nm,0.7s						
AB31	**Akbulak array**	**13.29**	**326**	⇑P	**Pn**	**22 24 55.3**	**+0.3**
	0.2nm,0.3s,baz=132,slow=13,SNR=17						
AB31				⇓S	**Sn**	**22 27 22.1**	**-0.6**
	0.5nm,0.4s,baz=132,slow=26,SNR=8.0						
AKTO	**Aktyubinsk**	**15.00**	**325**	⇑P	**Pn**	**22 25 25.9**	**+7.5**
	0.4nm,0.8s						
AKTO				⇓S	**Sn**	**22 28 01.4**	**-3.1**
	0.3nm,0.8s						

GUC 29 22:46:21.7±0.3, 36°.23S × 72°.95W, h24km±2km, MD3.5, ML3.4, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.16**	**55**	⇓*i*P	Pb	22 46 26.7	-0.1
COCH				*i*S	Sb	22 46 30.5	+0.3
COCH				AML	AML	22 46 31.1	
	comp=N,9µm,0.3s						
CNCO	**Chanco**	**0.59**	**35**	⇑*i*P	Pb	22 46 33.0	-0.4
CNCO				*i*S	Sb	22 46 41.4	0.0
CCHI	**Chillan**	**0.80**	**118**	⇓*i*P	Pb	22 46 36.2	-0.7
CCHI				*i*S	Sb	22 46 47.2	-0.1
CCHI				AML	AML	22 46 53.3	
	comp=E,2µm,0.3s						
LNCH	**Linares**	**1.16**	**71**	⇑*i*P	Pn	22 46 41.8	-0.6
LNCH				*i*S	Sn	22 46 57.3	-0.1
LNCH				AML	AML	22 47 00.5	
	comp=N,3µm,0.5s						
TALC	**Talca**	**1.35**	**53**	*e*P	Pn	22 46 45.0	0.0
TALC				*i*S	Sn	22 47 02.6	+0.3

IDC 29 22:53:19.9±5.0, 30°.29N×67°.94E, h0km, mb3.3/4, mb1 3.3/5, mb1mx3.1/28, mbtmp3.3/5, Error ellipse: s-maj=148.2km s-min=27.4km az=137.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**19.89**	**30**	P	Pn	22 57 51.5	-2.8
	0.1nm,0.3s,baz=213,slow=9.8,SNR=7.1						
KURK	**Kurchatov**	**21.92**	**18**	P	P	22 58 13.3	-1.4
	0.3nm,0.6s,baz=209,slow=10,SNR=4.0						
BVAR	**Borovoye Array**	**22.79**	**4**	P	P	22 58 23.9	0.0
	0.5nm,0.7s,baz=177,slow=10,SNR=2.9						
ZALV	**Zalesovo Beam**	**26.61**	**23

0.9nm,0.6s,mb4.0,baz=120,slow=6.7,SNR=6.9
BVAR Borovoye Array 62.41 326 P **P** **23 08 29.1 +0.1**
ABKAR Akbulak array 67.57 319 *e*P **P** **23 09 02.1 -0.5**
0.5nm,0.6s,mb3.5
ILAR Eielson Array 80.19 26 P **P** **23 10 16.8 +0.7**
0.3nm,0.6s,mb3.3,baz=278,slow=8.7,SNR=5.8
ILAR Eielson Array 80.19 26 P **P** **23 10 16.8 +0.7**
JOF Joensuu 83.98 333 *e*p **P** **23 10 35.1 -0.8**
2.1nm,0.6s,mb4.1
ARCES ARCESS Array B 85.02 340 P **P** **23 10 41.1 +0.1**
2.4nm,0.5s,mb4.4,baz=87,slow=6.9,SNR=21
ARCES ARCESS Array B 85.02 340 P **P** **23 10 41.1 +0.1**
KAF Kangasniemi 86.42 332 *e*p **P** **23 10 47.6 -0.4**
2.1nm,0.5s,mb4.3
FINES FINESS Array B 86.68 332 P **P** **23 10 49.2 -0.1**
1.9nm,0.4s,mb4.3,baz=70,slow=3.9,SNR=19
FINES FINESS Array B 86.68 332 P **P** **23 10 49.2 -0.1**
AKASG Malin Array Be 87.27 321 P **P** **23 10 52.4 0.0**
0.2nm,0.3s,mb3.5,baz=69,slow=4.7,SNR=3.0
AKASG Malin Array Be 87.27 321 P **P** **23 10 52.4 0.0**
NOA NORSAR Array B 93.56 334 P **P** **23 11 21.2 -0.3**
0.7nm,0.7s,mb4.1,baz=54,slow=2.1,SNR=3.4
NOA NORSAR Array B 93.56 334 P **P** **23 11 21.2 -0.3**
TORD Torodi Ar. Bea 120.64 291 PKP PKPdf 23 16 58.6 +0.4
0.4nm,0.6s,baz=82,slow=1.2,SNR=4.2
TORD Torodi Ar. Bea 120.64 291 PKP PKPdf 23 16 58.6 +0.4

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*IDC **29** 23:00:51.3±0.9, 1.41N×128.71E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/18, mbtmp4.0/7, Error ellipse: s-maj=70.4km s-min=17.0km az=73.0*
*ISCJB **29** 23:00:55.5±0.9, 1.34N±0.05×128.68E±0.04, h46km±11km, mb4.0/7, Error ellipse: s-maj=9.1km s-min=5.8km az=28.9*
*DJA **29** 23:00:56, 1.32N×128.66E, h36km, MLv4.4/11*
ISC 29 23:00:57.1±0.8, 1.34N±0.05×128.69E±0.04, h40km±11km, n23, σ1s09/32, mb4.0/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.44**	**247**	P		**Pn**	**23 01 19.9**	**-0.8**
TNTI				S		**Sn**	**23 01 36.9**	**-1.5**
LBMI	**Labuha**	**2.30**	**211**	P		**Pn**	**23 01 31.4**	**-1.1**
LBMI				S		**Sn**	**23 01 58.9**	**-0.7**
SWI	**Sorong**	**3.38**	**130**	P		**Pn**	**23 01 47.0**	**-0.3**
SWI				S		**Sn**	**23 02 27.4**	**+1.2**
SGSI	**Sangihe**	**3.92**	**306**	P		**Pn**	**23 01 54.0**	**-0.9**
SGSI				S		**Sn**	**23 02 41.2**	**+1.5**
MSAI	**Masohi**	**4.66**	**177**	P		**Pn**	**23 02 06.5**	**+1.5**
KMSI	**Cibinong**	**4.77**	**261**	P		**Pn**	**23 02 09.6**	**+3.1**
KMSI				S		**Sn**	**23 03 01.6**	**+1.0**
NLAI	**Namlea**	**4.82**	**199**	P		**Pn**	**23 02 06.6**	**-0.6**
AAI	**Ambon**	**5.02**	**186**	P		**Pn**	**23 02 08.9**	**-1.0**
FAKI	**Fak Fak**	**5.53**	**140**	P		**Pn**	**23 02 16.8**	**-0.1**
	0.2nm33nm,0.8s							
GTOI	**Gorontalo**	**5.72**	**263**	P		**Pn**	**23 02 22.7**	**+3.1**
GTOI				S		**Sn**	**23 03 28.2**	**+4.2**
BNDI	**Bandanaira**	**5.95**	**168**	P		**Pn**	**23 02 23.3**	**+0.6**
	0.4nm76nm,1.2s							
BNDI				S		**Sn**	**23 03 37.6**	**+7.9**
	0.4nm76nm,1.2s							
LUWI	**Luwuk**	**6.37**	**248**	P		**Pn**	**23 02 26.7**	**-1.8**
	0.3nm1µm52nm,0.9s							
LUWI				S		**Sn**	**23 03 47.7**	**+7.6**
	0.3nm1µm52nm,0.9s							
KDI	**Kendari**	**8.03**	**229**	P		**Pn**	**23 02 50.3**	**-1.0**
	0.1nm28nm,0.9s							
KDI				S		**Sn**	**23 04 22.8**	**+1.9**
	0.1nm28nm,0.9s							
TTSI	**Tana Toraja**	**9.88**	**244**	P		**Pn**	**23 03 15.7**	**-1.0**
	51nm,0.9s							
SPSI	**Sidrap Palu**	**10.36**	**239**	P		**Pn**	**23 03 22.8**	**-0.4**
	32nm,0.5s							
BKSI	**Bulukumba**	**10.82**	**232**	P		**Pn**	**23 03 30.9**	**+1.4**
WRA	**Warramunga Arr**	**21.86**	**166**	P		**P**	**23 05 46.5**	**0.0**
	3.4nm,0.5s,mb4.0,baz=343,slow=11,SNR=13							
ASAR	**Alice Springs**	**25.37**	**169**	P		**P**	**23 06 20.9**	**+0.3**
	1.6nm,0.7s,mb3.7,baz=344,slow=9.0,SNR=12							
STKA	**Stephens Creek**	**35.23**	**161**	P		**P**	**23 07 48.1**	**+0.4**
	1.4nm,0.7s,mb4.0,baz=331,slow=15,SNR=2.3							
MJAR	**Matsushiro Arr**	**36.12**	**13**	P		**P**	**23 07 54.3**	**-1.0**
	1.1nm,0.7s,mb3.9,baz=190,slow=11,SNR=3.2							
SONM	**Songino Array**	**50.18**	**341**	P		**P**	**23 09 48.7**	**0.0**
	0.7nm,0.7s,mb3.8,baz=153,slow=10,SNR=3.6							
MKAR	**Makanchi Array**	**60.62**	**325**	P		**P**	**23 11 03.9**	**0.0**
	0.9nm,0.6s,mb4.0,baz=113,slow=7.9,SNR=12							
KURK	**Kurchatov**	**64.79**	**327**	P		**P**	**23 11 31.2**	**-0.3**
	2.1nm,0.6s,mb4.4,baz=128,slow=6.0,SNR=21							

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*IDC **29** 23:10:11.5±0.8, 1.38N×128.76E, h0km, mb4.0/9, mb1 4.2/10, mb1mx4.0/18, mbtmp4.0/10, ML3.4/1, MS3.3/4, Ms1 3.3/4, ms1mx2.9/27, Error ellipse: s-maj=47.8km s-min=14.7km az=81.0*
*ISCJB **29** 23:10:13.7±2.1, 1.38N±0.04×128.68E±0.05, h25km±16km, mb4.2/15, MS3.3/3, Error ellipse: s-maj=8.0km s-min=6.4km az=155.0*
*DJA **29** 23:10:15, 1.22N×128.63E, h6km, MLv4.5/10*
*NEIC **29** 23:10:16.9±0.3, 1.34N×128.65E, h35km, mb4.3/7, Error ellipse: s-maj=11.3km s-min=6.0km az=81.0*
ISC 29 23:10:16.6±2.2, 1.36N±0.04×128.68E±0.05, h30km±17km, n53, σ1s05/52, mb4.2/15, MS3.3/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.44**	**246**	P		**Pn**	**23 10 37.6**	**-2.9**
TNTI				S		**Sn**	**23 10 57.4**	**-1.0**
LBMI	**Labuha**	**2.31**	**211**	S		**Sn**	**23 11 20.6**	**+0.7**
SWI	**Sorong**	**3.40**	**131**	P		**Pn**	**23 11 08.1**	**+0.6**
MNI	**Manado**	**3.84**	**271**	P		**Pn**	**23 11 14.9**	**+1.3**
SGSI	**Sangihe**	**3.90**	**306**	S		**Sn**	**23 12 05.1**	**+5.8**
MSAI	**Masohi**	**4.68**	**177**	P		**Pn**	**23 11 25.8**	**+0.6**
MSAI				S		**Sn**	**23 12 20.5**	**+2.0**
KMSI	**Cibinong**	**4.76**	**261**	P		**Pn**	**23 11 26.4**	**+0.1**
NLAI	**Namlea**	**4.83**	**199**	P		**Pn**	**23 11 26.5**	**-0.8**
FAKI	**Fak Fak**	**5.55**	**140**	P		**Pn**	**23 11 37.1**	**0.0**
	0.2nm49nm,0.9s							
GTOI	**Gorontalo**	**5.71**	**263**	P		**Pn**	**23 11 40.7**	**+1.3**
	0.3nm1µm87nm,0.7s							
LUWI	**Luwuk**	**6.37**	**248**	P		**Pn**	**23 11 48.3**	**-0.1**
	0.5nm1µm84nm,0.9s							
MRSI	**Marisa**	**6.79**	**263**	P		**Pn**	**23 11 55.0**	**+0.8**
	0.2nm57nm,0.9s							
KDI	**Kendari**	**8.04**	**229**	P		**Pn**	**23 12 10.3**	**-1.0**
	468nm38nm,1.0s							
TTSI	**Tana Toraja**	**9.88**	**244**	P		**Pn**	**23 12 35.4**	**-1.2**
	1µm99nm,0.7s							
SPSI	**Sidrap Palu**	**10.36**	**239**	P		**Pn**	**23 12 43.2**	**+0.1**
	40nm,1.2s							
BKSI	**Bulukumba**	**10.82**	**232**	P		**Pn**	**23 12 50.3**	**+0.8**
	480nm23nm,0.8s							
MYLDM	**Lahad Datu**	**10.85**	**291**	P		**Pn**	**23 12 52.6**	**+2.7**
KAPI	**Kappang**	**10.94**	**235**	*e*Pn		**Pn**	**23 12 50.5**	**-0.6**
	16nm,0.5s							
KSM	**Kuching**	**18.37**	**271**	Pn		**Pn**	**23 14 28.0**	**-1.1**
FITZ	**Fitzroy Crossi**	**19.57**	**189**	P		**Pn**	**23 14 40.8**	**-2.8**
	0.1nm,0.3s,baz=9.5,slow=18,SNR=3.4							
FITZ				LR		LR	23 23 15.5	
	comp=Z,61nm,19.9s,baz=17,slow=40							
FITZ	**Fitzroy Crossi**	**19.57**	**189**	P		**Pn**	**23 14 40.8**	**-2.8**
WRAB	**Tennant Creek**	**21.88**	**166**	*e*P		**P**	**23 15 06.5**	**-0.6**
	16nm,0.9s,mb4.5							
WRA	**Warramunga Arr**	**21.89**	**166**	P		**P**	**23 15 06.6**	**-0.6**
	8.5nm,0.7s,mb4.3,baz=343,slow=11,SNR=15							
WRA	**Warramunga Arr**	**21.89**	**166**	P		**P**	**23 15 06.6**	**-0.6**
WB2	**Warramunga Arr**	**21.89**	**166**	*e*P		**P**	**23 15 06.7**	**-0.5**
JOW	**Kunigami**	**25.33**	**359**	LR		LR	23 25 22.9	
	comp=Z,96nm,20.4s,MS3.3,baz=196,slow=36							
AS31	**Alice Springs**	**25.39**	**169**	*e*P		**P**	**23 15 43.2**	**+1.9**
ASAR	**Alice Springs**	**25.39**	**169**	P		**P**	**23 15 40.7**	**-0.7**
	1.9nm,0.6s,mb3.8,baz=352,slow=10,SNR=21							
ASAR	**Alice Springs**	**25.39**	**169**	P		**P**	**23 15 40.7**	**-0.7**
STKA	**Stephens Creek**	**35.25**	**161**	P		**P**	**23 17 08.1**	**-0.4**
	1.8nm,0.7s,mb4.1,baz=330,slow=9.6,SNR=4.1							
STKA	**Stephens Creek**	**35.25**	**161**	*e*P		**P**	**23 17 08.5**	**0.0**
	0.5nm,0.8s,mb3.5							
KSAR	**Wonju Array Be**	**35.91**	**359**	P		**P**	**23 17 13.9**	**-0.2**
KSRS	**Korea Array**	**35.92**	**359**	P		**P**	**23 17 13.9**	**-0.3**
	1.2nm,0.6s,mb4.0,baz=175,slow=9.8,SNR=3.7							
KSRS				LR		LR	23 32 11.8	
	comp=Z,28nm,20.6s,MS3.0,baz=261,slow=37							
MJAR	**Matsushiro Arr**	**36.10**	**13**	P		**P**	**23 17 15.0**	**-0.7**
	4.8nm,0.6s,mb4.6,baz=186,slow=9.4,SNR=16							
MJAR	**Matsushiro Arr**	**36.10**	**13**	P		**P**	**23 17 15.0**	**-0.7**
MAJO	**Matsushiro**	**36.10**	**13**	P		**P**	**23 17 16.2**	**+0.5**
	9.1nm,1.0s,mb4.7							
MAT	**Matsushiro**	**36.10**	**13**	P		**P**	**23 17 19.3**	**+3.5**
SHL	**Shillong**	**42.85**	**307**	*e*PKP		**P**	**23 18 15.0**	**+2.8**
ULN	**Ulaanbaatar**	**49.97**	**341**	*e*P		**P**	**23 19 08.4**	**+0.7**
	3.7nm,0.9s,mb4.4							
SONM	**Songino Array**	**50.16**	**341**	P		**P**	**23 19 09.0**	**-0.2**
	1.2nm,0.6s,mb4.1,baz=151,slow=7.4,SNR=7.4							
SONM	**Songino Array**	**50.16**	**341**	P		**P**	**23 19 09.0**	**-0.2**
PETK	**Petropavlovsk-**	**56.92**	**20**	P		**P**	**23 19 56.9**	**-1.8**
	1.4nm,0.8s,mb4.0,baz=243,slow=8.9,SNR=3.0							
PETK	**Petropavlovsk-**	**56.92**	**20**	P		**P**	**23 19 56.9**	**-1.8**
MK31	**Makanchi Array**	**60.60**	**325**	*e*P		**P**	**23 20 24.1**	**-0.3**
MKAR	**Makanchi Array**	**60.60**	**325**	P		**P**	**23 20 24.0**	**-0.4**
	2.4nm,0.5s,mb4.6,baz=118,slow=8.4,SNR=24							
MKAR				LR		LR	23 47 30.0	
	comp=Z,43nm,20.2s,MS3.6,baz=165,slow=37							
MKAR	**Makanchi Array**	**60.60**	**325**	P		**P**	**23 20 24.0**	**-0.4**
ZALV	**Zalesovo Beam**	**63.57**	**333**	P		**P**	**23 20 44.8**	**+0.7**
	0.4nm,0.3s,mb3.9,baz=129,slow=4.6,SNR=2.1							
ZALV	**Zalesovo Beam**	**63.57**	**333**	P		**P**	**23 20 44.8**	**+0.7**
EKS2	**Erkin-Say**	**63.90**	**318**	*e*P		**P**	**23 20 47.0**	**+0.4**
	1.2nm,0.8s,mb4.0							
KURK	**Kurchatov**	**64.77**	**327**	*e*P		**P**	**23 20 52.0**	**-0.2**
	5.3nm,0.7s,mb4.7							
ABKAR	**Akbulak array**	**75.20**	**321**	*e*P		**P**	**23 21 56.0**	**-0.2**
	0.9nm,0.7s,mb3.8							
TORD	**Torodi Ar. Bea**	**125.49**	**287**	PKP		PKPdf	23 29 15.5	-0.3
	0.2nm,0.6s,baz=96,slow=2.6,SNR=4.0							
TORD	**Torodi Ar. Bea**	**125.49**	**287**	PKP		PKPdf	23 29 15.5	-0.3

IDC 29 23:11:38.0±1.4, 5.17N×77.43W, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/17, mbtmp3.5/3, Error ellipse: s-maj=58.0km s-min=26.4km az=18.0, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ROSC	**El Rosal**	**3.11**	**96**	Pg		Pg	23 12 35.0	-2.6
	4.6nm,0.3s,baz=265,slow=2.8,SNR=11							
PDAR	**Pinedale Array**	**47.02**	**328**	P		P	23 20 11.6	+0.5
	0.4nm,0.7s,baz=128,slow=13,SNR=3.0							
ILAR	**Eielson Array**	**76.66**	**336**	P		P	23 23 30.4	-0.1
	0.3nm,0.7s,baz=119,slow=4.9,SNR=5.3							
ILAR				pP			23 23 37.2	
	0.2nm,0.6s,baz=123,slow=3.9,SNR=2.1							
TORD	**Torodi Ar. Bea**	**78.28**	**78**	P		P	23 23 40.8	+0.2
	0.4nm,0.7s,baz=273,slow=6.1,SNR=3.8							
ASAR	**Alice Springs**	**144.66**	**236**	PKP		PKPdf	23 31 16.0	-1.6
	1.8nm,0.8s,baz=116,slow=3.5,SNR=13							
WRA	**Warramunga Arr**	**145.78**	**242**	PKPbc		PKPbc	23 31 19.7	-0.3
	2.3nm,1.2s,baz=105,slow=3.6,SNR=6.1							

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*IDC **29** 23:41:43.1±4.1, 22.80S×66.72W, h163km±37km, mb3.4/5, mb1 3.4/7, mb1mx3.3/16, mbtmp3.3/7, Error ellipse: s-maj=26.9km s-min=20.1km az=97.0*
*ISCJB **29** 23:41:45.5±1.3, 23.05S±0.05×67.0W±0.2, h203km±16km, mb3.5/5, Error ellipse: s-maj=33.6km s-min=8.1km az=6.5*
*NEIC **29** 23:41:46.0±1.4, 23.00S×66.82W, h189km±15km, mb4.3/3, Error ellipse: s-maj=33.1km s-min=12.5km az=94.0*
ISC 29 23:41:46.0±1.2, 23.05S±0.05×67.0W±0.2, h190km±16km, n22, σ1s25/20, mb3.6/5, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LCO	**Las Campanas**	**6.81**	**209**	*e*Pn		**Pn**	**23 43 23.4**	**-0.3**
	11nm,0.3s							
LCO				*e*S		**Sn**	**23 44 39.5**	**-1.5**
LPAZ	**La Paz**	**6.81**	**351**	*e*Pn		**Pn**	**23 43 25.4**	**+1.6**
	3.9nm,0.3s							
LPAZ				*e*S		**Sn**	**23 44 40.8**	**-0.5**
CFAA	**Coronel Fontan**	**8.59**	**187**	P		**Pn**	**23 43 48.0**	**+1.0**
	0.1nm,0.3s,baz=0.3,slow=11,SNR=12							
CFAA				S		**Sn**	**23 45 17.9**	**-5.4**
	0.2nm,0.3s,baz=352,slow=18,SNR=7.2							
CFAA	**Coronel Fontan**	**8.59**	**187**	P		**Pn**	**23 43 48.0**	**+1.0**
CFAA				S		**Sn**	**23 45 17.9**	**-5.4**
PLCA	**Paso Flores**	**17.89**	**189**	P		**Pn**	**23 45 43.5**	**+0.4**
	0.3nm,0.3s,baz=3.3,slow=13,SNR=3.6							
PLCA	**Paso Flores**	**17.89**	**189**	P		**Pn**	**23 45 43.5**	**+0.4**
SNAA	**Sanae**	**60.23**	**161**	P		**P**	**23 51 34.7**	**+1.0**
	0.3nm,0.7s,mb3.2,baz=310,slow=7.9,SNR=5.3							
SNAA	**Sanae**	**60.23**	**161**	P		**P**	**23 51 34.7**	**+1.0**
TXAR	**Lajitas Array**	**62.92**	**324**	P		**P**	**23 51 52.0**	**-0.2**
	0.2nm,0.6s,mb3.1,baz=146,slow=6.6,SNR=2.9							
TXAR	**Lajitas Array**	**62.92**	**324**	P		**P**	**23 51 52.0**	**-0.2**
QSPA	**South Pole Qui**	**67.15**	**180**	P		**P**	**23 52 21.2**	**+2.4**
	3.3nm,0.5s,mb4.4,baz=148,slow=1.5,SNR=25							
QSPA	**South Pole Qui**	**67.15**	**180**	*e*P		**P**	**23 52 21.1**	**+2.3**
	4.1nm,0.7s,mb4.4							
DBIC	**Dimbokro**	**67.49**	**72**	P		**P**	**23 52 20.6**	**-1.5**
	1.6nm,0.8s,mb3.9,baz=225,slow=8.6,SNR=2.7							
DBIC	**Dimbokro**	**67.49**	**72**	P		**P**	**23 52 20.6**	**-1.5**
TORD	**Torodi Ar. Bea**	**76.21**	**69**	P		**P**	**23 53 11.9**	**-2.0**
	0.6nm,0.4s,mb3.5,baz=254,slow=5.8,SNR=21							
TORD	**Torodi Ar. Bea**	**76.21**	**69**	P		**P**	**23 53 11.9**	**-2.0**
ASAR	**Alice Springs**	**129.32**	**205**	PKP		PKPdf	00 00 32.8	+0.3
	0.2nm,0.4s,baz=137,slow=1.9,SNR=4.9							
ASAR	**Alice Springs**	**129.32**	**205**	PKP		PKPdf	00 00 32.8	+0.3
WRA	**Warramunga Arr**	**132.47**	**208**	PKP		PKPdf	00 00 39.1	+0.5
	0.3nm,0.4s,baz=155,slow=1.7,SNR=2.5							
WRA	**Warramunga Arr**	**132.47**	**208**	PKP		PKPdf	00 00 39.0	+0.5
MKAR	**Makanchi Array**	**145.78**	**39**	PKPbc		PKPbc	00 01 01.2	-1.5
	0.2nm,0.6s,baz=321,slow=3.1,SNR=4.1							
MKAR	**Makanchi Array**	**145.78**	**39**	PKPbc		PKPbc	00 01 01.2	-1.5

IDC 29 23:43:49.4±2.2, 7.38S×126.86E, h0km, mb3.3/1, mb1 4.2/3, mb1mx3.7/15, mbtmp3.9/3, ML4.1/2, Error ellipse: s-maj=217.1km s-min=32.7km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.44**	**151**	Pn		Pn	23 47 14.4	-0.8
	0.7nm,0.3s,baz=324,slow=14,SNR=15							
WRA				Sn		Sn	23 49 40.7	-15
	0.7nm,0.3s,baz=331,slow=22,SNR=7.0							
ASAR	**Alice Springs**	**17.55**	**158**	P		Pn	23 47 56.1	+0.6
	1.0nm,0.3s,baz=338,slow=11,SNR=70							
ASAR				S		Sn	23 50 59.5	-12
	0.2nm,0.3s,baz=317,slow=22,SNR=6.7							
MKAR	**Makanchi Array**	**66.88**	**328**	P		P	23 54 43.4	+0.1
	0.2nm,0.7s,baz=117,slow=6.7,SNR=3.1							

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*MAN **29** 23:58:43, 9.41N×125.51E, h34km, mb4.6, ML3.5, MS3.4 MAN INTENSITY II - MAINIT SURIGAO DEL NORTE.*
*NEIC **29** 23:58:48.6±2.3, 9.27N×125.49E, h71km±20km, mb4.1/1, Error ellipse: s-maj=35.9km s-min=13.0km az=62.0*
NEIC Felt [III PIVS] at Cabadbaran and [II PIVS] at Mainit.
*IDC **29** 23:58:50.1±3.2, 9.20N×125.26E, h84km±29km, mb3.6/8, mb1 3.8/9, mb1mx3.5/21, mbtmp3.7/9, MS3.4/5, Ms1 3.4/5, ms1mx3.0/31, Error ellipse: s-maj=61.5km s-min=19.0km az=71.0*
ISC 29 23:58:40.3±2.1, 9.38N±0.06×125.55E±0.06, h3km±13km, n34, σ0s84/34, mb3.9/10, MS3.3/4, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CGP	**Cagayan de Oro**	**1.25**	**223**	↓*i*P		**Pg**	**23 59 03.5**	**-0.7**
CGP				*i* S		**Sg**	**23 59 20.7**	**+0.3**
BUKP	**Musuan**	**1.57**	**198**	*e*P		**Pn**	**23 59 08.9**	**-0.2**
TBP	**Tagbilaran**	**1.69**	**281**	*e*P		**Pn**	**23 59 10.1**	**-0.6**
TBP				*e*S		**Sn**	**23 59 32.9**	**-0.1**
LLP	**Lapu-Lapu**	**1.81**	**301**	↑*e*P		**Pn**	**23 59 12.0**	**-0.5**
LLP				*e*S		**Sn**	**23 59 36.5**	**+0.4**
PLP	**Palo**	**1.86**	**343**	↓*e*P		**Pn**	**23 59 13.9**	**+0.8**
PLP				*i* S		Px	23 59 21.3	
DAV	**Davao City (W)**	**2.29**	**179**	P		**Pn**	**23 59 24.2**	**+5.1**
	105nm,0.3s,baz=336,slow=3.5,SNR=18							
DAV				S		**Sn**	**23 59 58.4**	**+10**
	14nm,0.3s,baz=192,slow=20,SNR=3.1							
DAV	**Davao City (W)**	**2.29**	**179**	*e*Pn		**Pn**	**23 59 22.6**	**+3.4**
DAV				S		**Sn**	**23 59 58.4**	**+10**
MATI	**Mati**	**2.52**	**164**	*e*P		**Pn**	**23 59 23.6**	**+1.4**
MATI				*e*S		**Sn**	**23 59 44.0**	**-9.4**
PAGZ	**Pagadian**	**2.63**	**235**	*e*P		**Pn**	**23 59 24.3**	**+0.6**
JOW	**Kunigami**	**17.55**	**8**	LR		LR	00 09 10.0	
	comp=Z,82nm,20.4s,baz=286,slow=35							
FITZ	**Fitzroy Crossi**	**27.31**	**180**	P		**P**	**00 04 25.9**	**-0.6**
	2.5nm,0.9s,mb3.7,baz=325,slow=12,SNR=2.9							
FITZ	**Fitzroy Crossi**	**27.31**	**180**	P		**P**	**00 04 25.9**	**-0.6**
CMAR	**Chiang Mai Arr**	**27.32**	**292**	P		**P**	**00 04 28.4**	**+1.8**
	0.4nm,0.3s,mb3.4,baz=122,slow=9.7,SNR=3.6							
CMAR				LR		LR	00 15 48.3	
	comp=Z,62nm,18.3s,MS3.2,baz=100,slow=38							
CMAR	**Chiang Mai Arr**	**27.32**	**292**	P		**P**	**00 04 28.4**	**+1.8**
KSRS	**Korea Array**	**28.03**	**4**	LR		LR	00 14 24.7	
	comp=Z,53nm,21.1s,MS3.1,baz=195,slow=33							
MJAR	**Matsushiro Arr**	**29.38**	**21**	LR		LR	00 14 33.6	
	comp=Z,77nm,19.1s,MS3.3,baz=135,slow=32							
WRA	**Warramunga Arr**	**30.40**	**163**	P		**P**	**00 04 54.6**	**+0.7**
	0.4nm,0.5s,mb3.4,baz=343,slow=9.4,SNR=4.9							
WRA	**Warramunga Arr**	**30.40**	**163**	P		**P**	**00 04 54.6**	**+0.7**
ASAR	**Alice Springs**	**33.84**	**166**	P		**P**	**00 05 22.5**	**-1.7**
	0.4nm,0.6s,mb3.5,baz=344,slow=6.9,SNR=6.9							
ASAR	**Alice Springs**	**33.84**	**166**	P		**P**	**00 05 22.5**	**-1.7**
STKA	**Stephens Creek**	**43.80**	**160**	P		**P**	**00 06 47.2**	**-0.3**
	4.6nm,1.0s,mb4.2,baz=337,slow=7.7,SNR=2.9							
STKA	**Stephens Creek**	**43.80**	**160**	P		**P**	**00 06 47.2**	**-0.3**
PETK	**Petropavlovsk-**	**50.74**	**24**	LR		LR	00 28 18.4	
	comp=Z,55nm,19.5s,MS3.6,baz=218,slow=35							
MKAR	**Makanchi Array**	**52.31**	**323**	P		**P**	**00 07 52.6**	**-0.6**
	1.2nm,0.7s,mb3.9,baz=124,slow=7.8,SNR=9.3							
MKAR	**Makanchi Array**	**52.31**	**323**	P		**P**	**00 07 52.6**	**-0.6**
KKAR	**Karatay Array**	**58.37**	**315**	*e*P		**P**	**00 08 36.2**	**-0.9**
	1.4nm,0.9s,mb4.0							
ILAR	**Eielson Array**	**80.55**	**26**	P		**P**	**00 10 54.5**	**+0.7**
	0.5nm,0.8s,mb3.5,baz=253,slow=5.9,SNR=4.9							
ILAR	**Eielson Array**	**80.55**	**26**	P		**P**	**00 10 54.5**	**+0.7**
ARCES	**ARCESS Array B**	**84.78**	**340**	P		**P**	**00 11 15.2**	**-0.6**
	3.2nm,0.9s,mb4.4,baz=64,slow=6.2,SNR=5.6							
ARCES	**ARCESS Array B**	**84.78**	**340**	P		**P**	**00 11 15.2**	**-0.6**
FINES	**FINESS Array B**	**86.33**	**332**	P		**P**	**00 11 23.5**	**-0.1**
	3.1nm,0.8s,mb4.6,baz=90,slow=6.9,SNR=3.7							
FINES	**FINESS Array B**	**86.33**	**332**	P		**P**	**00 11 23.5**	**-0.1**
TORD	**Torodi Ar. Bea**	**119.93**	**291**	PKP		PKPdf	00 17 31.2	-2.1
	0.3nm,0.6s,baz=62,slow=3.7,SNR=3.8							
TORD	**Torodi Ar. Bea**	**119.93**	**291**	PKP		PKPdf	00 17 31.2	-2.1

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*ISCJB **30** 00:21:27.2±0.7, 2.50N±0.04×128.58E±0.06, h236km±5km, mb4.4/26, Error ellipse: s-maj=9.8km s-min=6.4km az=154.6*
*NEIC **30** 00:21:27.9±1.3, 2.49N×128.69E, h234km±12km, mb4.3/7, Error ellipse: s-maj=20.5km s-min=6.3km az=70.0*
*IDC **30** 00:21:29.8±1.5, 2.26N×127.80E, h241km±15km, mb3.9/12, mb1 4.0/13, mb1mx3.8/19, mbtmp3.9/13, Error ellipse: s-maj=27.4km s-min=8.5km az=75.0*
*DJA **30** 00:21:29, 2.54N×128.49E, h219km, mb4.3/7*
ISC 30 00:21:28.6±0.6, 2.44N±0.04×128.52E±0.06, h232km±5km, n72, σ0s99/75, mb4.4/26, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**2.02**	**215**	P		**Pn**	**00 22 10.3**	**+0.5**
TNTI				S		**S**	**00 22 42.7**	**+0.6**
SGSI	**Sangihe**	**3.23**	**293**	P		**Pn**	**00 22 21.8**	**-0.8**
SGSI				S		**S**	**00 23 03.9**	**-1.2**
MNI	**Manado**	**3.81**	**255**	P		**Pn**	**00 22 29.2**	**-0.1**
MNI				S		**S**	**00 23 16.4**	**-0.9**
DAV	**Davao City (W)**	**5.45**	**328**	P		**Pn**	**00 22 48.7**	**-0.

ZALV	**Zalesovo Beam**	**62.54**	**333**	P	**P**	**00 31 26.2**	**-1.4**
	1.4nm,0.3s,mb4.0,baz=115,slow=5.7,SNR=7.7						
ZALV	**Zalesovo Beam**	**62.54**	**333**	P	**P**	**00 31 26.2**	**-1.4**
KURK	**Kurchatov**	**63.78**	**327**	*e*P	**P**	**00 31 35.5**	**-0.4**
	12nm,0.8s,mb4.6						
KKAR	**Karatay Array**	**65.38**	**317**	*e*P	**P**	**00 31 45.7**	**-0.7**
	1.8nm,0.6s,mb3.9						
BRVK	**Borovoye**	**69.44**	**327**	*e*P	**P**	**00 32 10.9**	**-0.6**
ARCES	**ARCESS Array B**	**92.26**	**340**	P	**P**	**00 34 10.6**	**-1.3**
	1.1nm,0.4s,mb4.1,baz=82,slow=6.1,SNR=11						
ARCES	**ARCESS Array B**	**92.26**	**340**	P	**P**	**00 34 10.6**	**-1.3**
FINES	**FINESS Array B**	**93.80**	**332**	P	**P**	**00 34 17.3**	**-1.8**
	1.6nm,0.8s,mb4.1,baz=64,slow=9.4,SNR=4.0						
FINES	**FINESS Array B**	**93.80**	**332**	P	**P**	**00 34 17.3**	**-1.8**
AKASG	**Malin Array Be**	**94.01**	**321**	P	**P**	**00 34 17.3**	**-3.0**
	0.4nm,0.4s,mb3.8,baz=68,slow=4.9,SNR=4.6						
AKASG	**Malin Array Be**	**94.01**	**321**	P	**P**	**00 34 17.3**	**-3.0**
TORD	**Torodi Ar. Bea**	**125.01**	**288**	PKP	PKPdf	00 40 01.6	-0.6
	0.5nm,0.6s,baz=111,slow=1.3,SNR=5.0						
TORD	**Torodi Ar. Bea**	**125.01**	**288**	PKP	PKPdf	00 40 01.6	-0.6

*ISCJB **30** 00:23:56.3±0.5, 39.55N±0.03×28.81E±0.04, h10km, Error ellipse: s-maj=5.1km s-min=4.0km az=41.8*
*CSEM **30** 00:23:56.5±0.1, 39.53N×28.83E, h2km, MD2.6, Error ellipse: s-maj=3.5km s-min=2.8km az=46.0*
*ISK **30** 00:23:56.6, 39.56N×28.78E, h7km, MD2.6*
*DDA **30** 00:23:58.7, 39.44N×28.53E, h7km×3km, Ml2.6*
ISC 30 00:23:56.9±0.6, 39.55N±0.03×28.83E±0.04, h1km±17km, **n24,σ0°46/36,Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DST	**Dursunbey**	**0.17**	**290**	PG	**Pg**	**00 23 59.9**	**-0.2**
DST				*e*SG	**Sg**	**00 24 02.7**	**+0.3**
DST	**Dursunbey**	**0.17**	**290**	*i* Pg	**Pg**	**00 23 59.9**	**-0.2**
DST				*e*Sg	**Sg**	**00 24 02.7**	**+0.4**
DURS	**Dursunbey**	**0.28**	**282**	*i* P	**Pg**	**00 24 02.1**	**-0.1**
DURS				*i* S	**Sg**	**00 24 05.9**	**+0.1**
DURS	**Dursunbey**	**0.28**	**282**	*i* P	**Pg**	**00 24 02.1**	**-0.1**
DURS				*i* S	**Sg**	**00 24 05.9**	**+0.1**
DEMI	**Demirci**	**0.51**	**190**	*i* P	**Pg**	**00 24 07.0**	**+0.3**
DEMI				*i* S	**Sg**	**00 24 13.8**	**+0.6**
DEMI	**Demirci**	**0.51**	**190**	*i* P	**Pg**	**00 24 07.0**	**+0.4**
DEMI				*i* S	**Sg**	**00 24 13.8**	**+0.6**
GDZ	**Gediz**	**0.68**	**132**	*i* P	**Pg**	**00 24 08.6**	**-1.3**
GDZ	**Gediz**	**0.68**	**132**	*i* P	**Pg**	**00 24 08.6**	**-1.4**
BALB	**Balikesir**	**0.74**	**278**	*e*PG	**Pg**	**00 24 10.7**	**-0.3**
BALB				*e*SG	**Sg**	**00 24 20.4**	**-0.1**
BALB	**Balikesir**	**0.74**	**278**	*e*Pg	**Pg**	**00 24 10.7**	**-0.3**
BALB				*e*Sg	**Sg**	**00 24 20.4**	**-0.1**
KCTX	**Karacabey (Bur**	**0.81**	**334**	*e*PG	**Pg**	**00 24 11.8**	**-0.5**
KCTX				*e*SG	**Sg**	**00 24 22.8**	**+0.1**
KCTX	**Karacabey (Bur**	**0.81**	**334**	*e*Pg	**Pg**	**00 24 11.8**	**-0.5**
KCTX				*e*Sg	**Sg**	**00 24 22.8**	**+0.1**
MDNY	**Mudanya-Bursa**	**0.82**	**3**	*e*PG	**Pg**	**00 24 13.3**	**+0.7**
MDNY	**Mudanya-Bursa**	**0.82**	**3**	*e*Pg	**Pg**	**00 24 13.3**	**+0.6**
GEMT	**Gemlik**	**0.93**	**17**	*e*PG	**Pg**	**00 24 15.1**	**+0.3**
GEMT	**Gemlik**	**0.93**	**17**	*e*Pg	**Pg**	**00 24 15.1**	**+0.4**
GONE	**Gonen-Balikesi**	**1.01**	**300**	*e*PG	**Pg**	**00 24 15.7**	**-0.6**
GONE				*e*SG	**Sg**	**00 24 29.4**	**0.0**
GONE	**Gonen-Balikesi**	**1.01**	**300**	*e*Pg	**Pg**	**00 24 15.7**	**-0.6**
GONE				*e*Sg	**Sg**	**00 24 29.4**	**0.0**
ARMT	**Armutlu**	**1.02**	**2**	*e*PG	**Pg**	**00 24 16.6**	**+0.2**
ARMT	**Armutlu**	**1.02**	**2**	*e*Pg	**Pg**	**00 24 16.6**	**+0.2**
ALT	**Altintas**	**1.11**	**116**	*e*PN	**Pg**	**00 24 18.5**	**+0.3**
ALT	**Altintas**	**1.11**	**116**	*e*Pn	**Pg**	**00 24 18.5**	**+0.3**
GULT	**Gulveren**	**1.57**	**55**	*e*PN	**Pn**	**00 24 26.0**	**+0.1**
GULT	**Gulveren**	**1.57**	**55**	*e*Pn	**Pn**	**00 24 26.0**	**+0.1**

*NEIC **30** 00:38:54.1±0.1, 18.02N×146.99E, h14km, mb5.4/128, MS5.3/162, MW5.5, MW5.4, Error ellipse: s-maj=4.5km s-min=3.9km az=136.0, Moment Tensor Solution. s27 Moment tensor: Scale 10^17 Nm; Mrr 1.04; Mθθ -1.26; Mφφ 0.22; Mrθ -0.52; Mθφ 0.68; Mφr 0.42; Best double couple: M0 1.50000×10^17 NP1:φs 305.00000°, δ 60.00000°, λ 107.00000°. NP2:φs 94.00000°, δ 34.00000°, λ 64.00000°. Principal axes: T 1.2400, Plg 70.0000°, Azm 251.0000°; N 0.4400, Plg 14.0000°, Azm 116.0000°; P -1.6800, Plg 13.0000°, Azm 22.0000°;*
*ISCJB **30** 00:38:54.2±0.9, 18.06N±0.02×146.92E±0.03, h24km±6km, mb5.2/245, MS5.2/212 Error ellipse: s-maj=4.3km s-min=3.7km az=39.3*
*MOS **30** 00:38:55.1±1.1, 18.03N×146.86E, h33km, mb5.5/69, MS5.2/39, Error ellipse: s-maj=8.7km s-min=5.3km az=106.7*
*IDC **30** 00:38:57.6±1.2, 18.12N×147.04E, h38km±9km, mb4.6/32, mb1 4.7/35, mb1mx4.7/35, mbtmp4.7/35, ML4.6/3, MS5.1/28, Ms1 5.1/28, ms1mx5.0/37, Error ellipse: s-maj=12.9km s-min=7.4km az=96.0*
*GCMT **30** 00:38:59.0±0.1, 18.12N×147.21E, h17km, MW5.6, Moment Tensor Solution. s81,c139; s20,c21; Moment tensor: Scale 10^17 Nm; Mrr 1.32±.04; Mθθ -0.69±.03; Mφφ -0.63±.03; Mrθ -1.97±.11; Mθφ 1.16±.02; Mφr 1.07±.09; Best double couple: M0 2.80000×10^17 NP1:φs 155.00000°, δ 20.00000°, λ 124.00000°. NP2:φs 300.00000°, δ 73.00000°, λ 78.00000°. Principal axes: T 2.5600, Plg 60.0000°, Azm 193.0000°; N 0.3800, Plg 11.0000°, Azm 303.0000°; P -2.9400, Plg 27.0000°, Azm 39.0000°; Data Used: II IU CN IC G. Surface waves: sta=101, comp=188, per= 50.*
*BJI **30** 00:38:59.5, 18.00N×146.92E, h53km, mB5.2/41, mb4.9/51, Ms5.3/53, Ms7 5.0/53*
*DJA **30** 00:38:59, 17.96N×147.14E, h52km, mb5.4/48*
*TEH **30** 00:39:00.0, 18.00N×146.92E, h58km*
ISC 30 00:38:58.2±0.7, 18.08N±0.02×146.94E±0.03, h41km±6km, **h54**km±2.7km**:pP-P,n651,σ1♀08/539,mb5.2**/245**,MS5.2**/212**, 16C-13D,Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.89**	**204**	Pn	**Pn**	**00 40 10.8**	**+1.6**
	108nm,0.3s,baz=107,slow=5.1,SNR=40						
GUMO				Sn	**Sn**	**00 41 08.2**	**+3.6**
	46nm,0.3s,baz=331,slow=19,SNR=2.4						
GUMO				LR	LR	00 42 08.0	
	comp=Z,30μm,19.2s,baz=35,slow=38						
GUMO	**Guam**	**4.89**	**204**	*e*Pn	**Pn**	**00 40 10.8**	**+1.5**
GUMO				*e*S	**Sn**	**00 41 08.1**	**+3.5**
GUMO	**Guam**	**4.89**	**204**	*e*P	**Pn**	**00 40 10.8**	**+1.6**
GUMO				*e*S	**Sn**	**00 41 08.1**	**+3.5**
GUMO	**Guam**	**4.89**	**204**	P	**Pn**	**00 40 11.9**	**+2.7**
CBIJ	**Chichi jima**	**9.99**	**335**	Pn	**Pn**	**00 41 18.3**	**-0.9**
	8.7nm,0.3s,baz=93,slow=23,SNR=4.3						
CBIJ				Sn	**Sn**	**00 43 05.5**	**-4.5**
	24nm,0.3s,baz=279,slow=20,SNR=5.8						
CBIJ	**Chichi jima**	**9.99**	**335**	Pn	**Pn**	**00 41 18.3**	**-0.9**
CBIJ				Sn	**Sn**	**00 43 05.5**	**-4.5**
JOW	**Kunigami**	**19.31**	**300**	P	**Pn**	**00 43 22.5**	**+1.4**
	2.0nm,0.3s,baz=84,slow=17,SNR=5.0						
JOW				LR	LR	00 50 08.6	
	comp=Z,6μm,18.1s,baz=130,slow=35						
JOW	**Kunigami**	**19.31**	**300**	P	**Pn**	**00 43 22.5**	**+1.4**
MJAR	**Matsushiro Arr**	**19.94**	**339**	P	**Pn**	**00 43 27.0**	**-1.5**
	1.7nm,0.3s,baz=168,slow=10,SNR=53						
MJAR				S	**S**	**00 47 07.2**	**-1.6**
	0.3nm,0.3s,baz=165,slow=13,SNR=4.0						
MJAR	**Matsushiro Arr**	**19.94**	**339**	P	**Pn**	**00 43 27.0**	**-1.5**
MJAR				S	**S**	**00 47 07.2**	**-1.6**
MJAR	**Matsushiro Arr**	**19.94**	**339**	P	**Pn**	**00 43 27.0**	**-1.5**
MJAR				S	**S**	**00 47 07.2**	**-1.5**
MAJO	**Matsushiro**	**19.94**	**339**	*e*P	**Pn**	**00 43 26.8**	**-1.8**
	89nm,1.0s						
MAJO				*e*S	**S**	**00 47 09.4**	**+0.7**
MAJO	**Matsushiro**	**19.94**	**339**	*e*P	**Pn**	**00 43 26.8**	**-1.7**
MAJO				*e*S	**S**	**00 47 09.4**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,89nm,1.0s						
MAT	**Matsushiro**	**19.94**	**339**	P	**Pn**	**00 43 26.2**	**-2.3**
MAT				*e*S	**S**	**00 47 09.1**	**+0.4**
JNU	**Nakatsue**	**20.79**	**319**	*e*P	**P**	**00 43 37.3**	**+1.4**
	comp=Z,56nm,1.1s						
JAY	**Jayapura**	**21.36**	**197**	P	**P**	**00 43 42.7**	**+0.5**
	comp=Z,4μmcomp=Z,122nm,1.6s,mb5.0						
SMPI	**Sarmi**	**21.53**	**203**	P	**P**	**00 43 44.1**	**+0.2**
	comp=Z,3μmcomp=Z,152nm,1.1s,mb5.3						
BAKI	**Biak**	**21.92**	**210**	P	**P**	**00 43 50.6**	**+2.5**
	comp=Z,2μmcomp=Z,115nm,1.6s,mb5.1						

DAV	**Davao City (W)**	**23.51**	**245**	P	**P**	**00 44 05.9**	**+1.1**
	comp=Z,73nm,0.4s,mb5.5,baz=90,slow=8.1,SNR=2.7						
DAV				LR	LR	00 52 12.7	
	comp=Z,8μm,19.8s,MS5.2,baz=260,slow=34						
DAV	**Davao City (W)**	**23.51**	**245**	*e*P	**P**	**00 44 04.7**	**0.0**
	comp=Z,44nm,0.4s,mb5.2						
TBP	**Tagbilaran**	**23.88**	**253**	*e*P	**P**	**00 44 09.2**	**+1.0**
ERM	**Erimo**	**24.07**	**353**	PFAKE		00 44 20.0	+10
ERM				LR	LR		
	comp=Z,5μm,19.0s,MS5.0						
YULB	**Yu-li**	**24.54**	**287**	*e*P	**P**	**00 44 15.3**	**+1.2**
	comp=Z,20nm,0.6s,mb4.8						
TATO	**Taipei**	**24.62**	**291**	PFAKE		00 44 30.0	+15
TATO				LR	LR		
	comp=Z,3μm,20.0s,MS4.7						
YHNB	**Yeheng**	**24.67**	**290**	*e*P	**P**	**00 44 16.1**	**+0.9**
	comp=Z,26nm,0.6s,mb4.9						
YHNB				LR	LR		
	comp=Z,5μm,20.0s,MS5.0						
TWG	**Pinlang**	**24.68**	**285**	*e*P	**P**	**00 44 16.0**	**+0.6**
	comp=Z,19nm,0.5s,mb4.9						
SSLB	**Suanglung**	**24.91**	**288**	*e*P	**P**	**00 44 18.2**	**+0.8**
	comp=Z,48nm,0.5s,mb5.3						
TGY	**Tagaytay City**	**25.28**	**265**	P	**P**	**00 44 23.2**	**+2.3**
	comp=Z,120nm,0.4s,mb5.8,baz=126,slow=7.5,SNR=4.3						
TGY				LR	LR	00 53 10.3	
	comp=Z,20nm,19.2s,baz=192,slow=34						
TGY	**Tagaytay City**	**25.28**	**265**	P	**P**	**00 44 23.2**	**+2.3**
TGY	**Tagaytay City**	**25.28**	**265**	P	**P**	**00 44 23.2**	**+2.3**
FAKI	**Fak Fak**	**25.39**	**216**	P	**P**	**00 44 20.9**	**-1.0**
	comp=Z,1μmcomp=Z,72nm,1.1s,mb5.1						
KSRS	**Korea Array**	**25.51**	**323**	P	**P**	**00 44 23.6**	**+0.8**
	comp=Z,33nm,0.8s,mb4.9,baz=148,slow=9.1,SNR=76						
KSRS				ScP	ScP	00 51 29.5	-0.3
	comp=Z,1.6nm,0.7s,baz=141,slow=4.8,SNR=5.1						
KSRS				LR	LR	00 54 03.3	
	comp=Z,7μm,21.4s,MS5.1,baz=130,slow=35						
KSAR	**Wonju Array Be**	**25.53**	**323**	P	**P**	**00 44 23.6**	**+0.6**
KSAR				ScP	ScP	00 51 29.5	-0.3
KSAR	**Wonju Array Be**	**25.53**	**323**	P	**P**	**00 44 23.6**	**+0.7**
YUK	**Yuzh-Kuril'sk**	**25.89**	**358**	*i* P	**P**	**00 44 20.8**	**-5.3**
YUK				*i*		00 45 15.1	
YUK				MLR	MLR		
	comp=N,2μm,20.0s						
YUK				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.5						
ASAJ	**Asahikawa**	**26.21**	**353**	P	**P**	**00 44 29.8**	**+0.8**
	comp=Z,44nm,1.0s,mb5.0,baz=160,slow=21,SNR=10						
ASAJ				LR	LR	00 54 06.6	
	comp=Z,30μm,20.2s,MS4.9,baz=179,slow=35						
ASAJ	**Asahikawa**	**26.21**	**353**	P	**P**	**00 44 29.8**	**+0.8**
INCN	**Inchon**	**26.29**	**321**	*e*P	**P**	**00 44 29.2**	**-0.6**
	comp=Z,34nm,0.8s,mb4.9						
INCN				LR	LR		
	comp=Z,7μm,19.0s,MS5.2						
SSE	**Sheshan**	**26.68**	**304**	P	**P**	**00 44 33.0**	**-0.5**
SSE				pP	pP	00 44 46.0	+1.3
SSE				S	**S**	**00 49 07.5**	**+1.4**
SSE				sS	sS	00 49 30.0	+5.1
SSE				pmax	pmax		
	comp=Z,22nm,0.6s,mb4.9						
SSE				pmax	pmax		
	comp=Z,280nm,5.3s						
SSE				LR	LR		
	comp=N,3μm,17.2s,MS5.1						
SSE				LR	LR		
	comp=E,3μm,17.2s,MS5.1						
SSE				LR	LR		
	comp=Z,3μm,16.9s,MS4.9						
MMPI	**Merauke**	**27.16**	**194**	P	**P**	**00 44 35.9**	**-1.9**
MNI	**Manado**	**27.28**	**235**	P	**P**	**00 44 44.4**	**+5.5**
	comp=Z,159nm,1.0s,mb5.5						
PMG	**Port Moresby**	**27.31**	**180**	P	**P**	**00 44 38.3**	**-0.9**
	comp=Z,59nm,0.7s,mb5.2,baz=7.5,slow=6.1,SNR=24						
PMG	**Port Moresby**	**27.31**	**180**	*e*P	**P**	**00 44 37.7**	**-1.5**
	comp=Z,162nm,1.1s,mb5.5						
PMG				LR	LR		
	comp=Z,2μm,20.0s,MS4.7						
PMG	**Port Moresby**	**27.31**	**180**	*c i* P	**P**	**00 44 37.4**	**-1.8**
PMG				pmax	pmax		
	comp=Z,92nm,1.0s						
PMG	**Port Moresby**	**27.31**	**180**	P	**P**	**00 44 38.2**	**-1.0**
	comp=Z,2μmcomp=Z,146nm,1.1s,mb5.4						
TLE	**Tual**	**27.42**	**212**	P	**P**	**00 44 42.7**	**+2.5**
	comp=Z,62nm,1.3s,mb5.0						
MSAI	**Masohi**	**27.72**	**222**	P	**P**	**00 44 42.5**	**-0.4**
	comp=Z,3μmcomp=Z,18nm,1.0s,mb4.7						
VLA	**Vladivostok**	**28.03**	**336**	*e*P	**P**	**00 44 44.7**	**-0.6**
VLA				*e*S	**S**	**00 49 26.6**	**-0.4**
VLA				pmax	pmax		
	comp=Z,162nm,1.3s,mb5.5						
AAI	**Ambon**	**28.45**	**222**	P	**P**	**00 44 46.4**	**-3.0**
	comp=Z,80nm,0.8s,mb5.4						
KMSI	**Cibinong**	**28.49**	**235**	P	**P**	**00 44 59.5**	**+10**
NJ2	**Nanjing**	**28.89**	**304**	*e*P	**P**	**00 44 56.0**	**+2.8**
NJ2				PP	PP	00 45 50.0	-8.9
NJ2				S	**S**	**00 49 45.0**	**+4.2**
NJ2				SS	SS	00 51 13.5	-31
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.7						
NJ2				pmax	pmax		
	comp=Z,270nm,6.8s						
NJ2				LR	LR		
	comp=N,4μm,18.0s,MS5.2						
NJ2				LR	LR		
	comp=E,4μm,18.8s,MS5.2						
NJ2				LR	LR		
	comp=Z,3μm,23.8s,MS4.8						
YSS	**Yuzh-Sakhalins**	**29.00**	**354**	PFAKE		00 45 10.0	+16
YSS				LR	LR		
	comp=Z,887nm,19.0s,MS4.4						
GTOI	**Gorontalo**	**29.21**	**236**	P	**P**	**00 44 56.5**	**+0.3**
	comp=Z,1μmcomp=Z,37nm,1.1s,mb5.0						
MRSI	**Marisa**	**30.16**	**237**	P	**P**	**00 45 04.9**	**+0.3**
	comp=Z,1μmcomp=Z,53nm,1.0s,mb5.2						
MDJ	**Mudanjiang**	**30.19**	**335**	P	**P**	**00 45 06.3**	**+1.8**
MDJ				S	**S**	**00 50 02.8**	**+1.9**
MDJ				pmax	pmax		
	comp=Z,41nm,1.4s,mb5.0						
MDJ				pmax	pmax		
	comp=Z,410nm,5.0s						
MDJ				LR	LR		
	comp=N,2μm,29.8s,MS4.8						
MDJ				LR	LR		
	comp=E,3μm,30.9s,MS4.8						
MDJ				LR	LR		
	comp=Z,2μm,22.4s						
MDJ	**Mudanjiang**	**30.19**	**335**	*e*P	**P**	**00 45 04.3**	**-0.2**
	comp=Z,78nm,1.3s,mb5.3						
MDJ				LR	LR		
	comp=Z,3μm,22.0s,MS4.9						
HNR	**Honiara**	**30.20**	**154**	LR	LR	00 55 49.1	
	comp=Z,7μm,19.8s,MS5.3,baz=320,slow=34						
LUWI	**Luwuk**	**30.44**	**234**	P	**P**	**00 45 06.0**	**-1.1**
	comp=Z,1μmcomp=Z,115nm,1.1s,mb5.5						
TARA	**Tarawa**	**30.45**	**120**	PFAKE		00 45 20.0	+13
TARA				LR	LR		
	comp=Z,2μm,22.0s,MS4.7						
MYLDM	**Lahad Datu**	**30.60**	**249**	P	pP	00 45 19.7	-0.1
SNY	**Shenyang**	**30.95**	**325**	P	**P**	**00 45 16.8**	**+5.5**
SNY				S	**S**	**00 50 04.3**	**-8.6**
SNY				ScS	ScS	00 55 40.0	-3.3
SNY				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.0						
SNY				pmax	pmax		
	comp=Z,340nm,5.1s						
SNY				LR	LR		
	comp=N,3μm,19.4s,MS5.1						
SNY				LR	LR		
	comp=E,3μm,18.8s,MS5.1						
SNY				LR	LR		
	comp=Z,4μm,20.8s,MS5.0						
CN2	**Changchun**	**31.39**	**329**	*e*P	**P**	**00 45 17.0**	**+1.9**
CN2				*es*P	sP	00 45 38.0	+6.6
CN2				*e*S	**S**	**00 50 19.0**	**-0.7**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
CN2				pmax	pmax		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,3μm,21.0s,MS5.0						
CN2				LR	LR		
	comp=E,2μm,21.0s,MS5.0						
CN2				LR	LR		
	comp=Z,3μm,21.0s,MS4.9						
HABR	**Khabarovsk**	**31.82**	**345**	*ce*P	**P**	**00 45 15.0**	**-3.8**

HABR				*e**PP	pP	00 45 29.7	-0.5
HABR				*e*		00 48 06.3	
HABR				*e*S	**S**	**00 50 23.2**	**-3.1**
HABR				*e*SS	SS	00 52 19.0	-25
HABR				*e*		00 55 43.6	
HABR				pmax	pmax		
	comp=N,124nm,3.8s						
HABR				pmax	pmax		
	comp=E,117nm,2.7s						
HABR				pmax	pmax		
	comp=Z,95nm,2.4s,mb5.2						
HABR				MLR	MLR		
	comp=Z,2μm,20.0s,MS4.8						
COEN	**Coen**	**32.05**	**187**	*e*P	**P**	**00 45 20.3**	**-0.8**
COEN	**Coen**	**32.05**	**187**	P	**P**	**00 45 20.2**	**-0.9**
	comp=Z,997nmcomp=Z,63nm,1.2s,mb5.3						
WHN	**Wuhan**	**32.07**	**299**	P	**P**	**00 45 29.0**	**+7.7**
WHN				S	**S**	**00 50 23.5**	**-7.1**
WHN				LR	LR		
	comp=N,3μm,14.0s,MS5.2						
WHN				LR	LR		
	comp=E,1μm,12.3s,MS5.2						
WHN				LR	LR		
	comp=Z,7μm,20.8s						
KKM	**Kota Kinabalu**	**32.27**	**252**	*e*P	**P**	**00 45 23.6**	**+0.4**
	comp=Z,30nm,0.7s,mb5.2						
KKM				LR	LR		
	comp=Z,4μm,21.0s,MS5.1						
KKM	**Kota Kinabalu**	**32.27**	**252**	P	**P**	**00 45 24.2**	**+1.0**
	comp=Z,71nm,0.9s,mb5.5						
KDI	**Kendari**	**32.47**	**230**	P	**P**	**00 45 25.4**	**+0.5**
	comp=Z,28nm,1.2s,mb5.0						
KLR	**Kul'dur**	**33.41**	**342**	*e*P	**P**	**00 45 28.8**	**-4.0**
KLR				*e*	pP	00 45 37.5	-6.6
KLR				*e*		00 46 43.5	
KLR				MLR	MLR		
	comp=E,2μm,14.0s						
KLR				MLR	MLR		
	comp=Z,7μm,14.0s,MS5.5						
BBSI	**Bau Bau**	**33.56**	**228**	P	**P**	**00 45 35.6**	**+1.1**
	comp=Z,52nm,2.0s,mb5.1						
TTSI	**Tana Toraja**	**33.98**	**235**	P	**P**	**00 45 39.2**	**+1.1**
	comp=Z,2μmcomp=Z,102nm,0.9s,mb5.8						
BJT	**Baijiatuan**	**34.39**	**316**	PFAKE		00 45 50.0	+8.6
BJT				LR	LR		
	comp=Z,3μm,19.0s,MS5.0						
BJI	**Beijing**	**34.39**	**316**	P	**P**	**00 45 40.8**	**-0.6**
BJI				pP	pP	00 45 55.3	+2.5
BJI				sP	sP	00 46 02.0	+4.2
BJI				PP	PP	00 47 01.5	+1.7
BJI				S	**S**	**00 51 06.0**	**-0.5**
BJI				sS	sS	00 51 30.5	+5.0
BJI				pmax	pmax		
	comp=Z,13nm,0.5s,mb5.1						
BJI				pmax	pmax		
	comp=Z,320nm,5.1s						
BJI				LR	LR		
	comp=N,2μm,19.4s,MS5.1						
BJI				LR	LR		
	comp=E,3μm,15.6s,MS5.1						
BJI				LR	LR		
	comp=Z,2μm,21.8s						
SPSI	**Sidrap Palu**	**34.60**	**233**	P	**P**	**00 45 43.2**	**-0.3**
	comp=Z,1μmcomp=Z,78nm,1.1s,mb5.5						
QIZ	**Qiongzhong**	**35.14**	**278**	P	**P**	**00 45 46.8**	**-1.3**
QIZ				pP	pP	00 46 01.5	+2.0
QIZ				sP	sP	00 46 07.5	+3.0
QIZ				S	**S**	**00 51 18.0**	**-0.5**
QIZ				sS	sS	00 51 40.3	+2.8
QIZ				pmax	pmax		
	comp=Z,39nm,2.0s,mb5.0						
QIZ				LR	LR		
	comp=N,1μm,18.4s,MS4.8						
QIZ				LR	LR		
	comp=E,960nm,17.6s,MS4.8						
QIZ				LR	LR		
	comp=Z,3μm,19.8s,MS5.0						
QIZ	**Qiongzhong**	**35.14**	**278**	PFAKE		00 46 00.0	+12
QIZ				LR	LR		
	comp=Z,3μm,19.0s,MS5.0						
BKSI	**Bulukumba**	**35.22**	**231**	P	**P**	**00 45 49.0**	**+0.2**
	comp=Z,741nmcomp=Z,34nm,1.1s,mb5.2						
KAPI	**Kappang**	**35.30**	**232**	*e*P	**P**	**00 45 48.2**	**-1.2**
	comp=Z,40nm,1.0s,mb5.3						
KAPI				LR	LR		
	comp=Z,2μm,21.0s,MS4.8						
PETK	**Petropavlovsk-**	**35.95**	**11**	P	**P**	**00 45 54.5**	**-0.1**
	comp=Z,7.5nm,0.8s,mb4.7,baz=189,slow=7.9,SNR=9.1						
PETK				PcP	PcP	00 48 20.3	-0.4
	comp=Z,4.7nm,0.8s,baz=194,slow=5.9,SNR=3.1						
PETK				LR	LR	00 59 45.7	
	comp=Z,2μm,19.7s,MS4.9,baz=192,slow=35						
PETK	**Petropavlovsk-**	**35.95**	**11**	P	**P**	**00 45 54.5**	**-0.1**
PETK				PcP	PcP	00 48 20.4	-0.4
PETK	**Petropavlovsk-**	**35.95**	**11**	P	**P**	**00 45 54.6**	**0.0**
PETK						00 48 20.4	
MMRI	**Maumere**	**36.05**	**225**	P	**P**	**00 45 54.1**	**-1.8**
	comp=Z,79nm,1.0s,mb5.6						
PET	**Petropavlovsk**	**36.05**	**12**	PFAKE		00 46 10.0	+14
PET				LR	LR		
	comp=Z,3μm,19.0s,MS5.0						
PET	**Petropavlovsk**	**36.05**	**12**	*e*P	**P**	**00 45 52.9**	**-2.6**
PET				*e*S	**S**	**00 51 30.9**	**-0.8**
PET				pmax	pmax		
	comp=Z,38nm,1.1s,mb5.2						
PET				MLR	MLR		
	comp=Z,3μm,19.0s,MS5.0						
PET				MLR	MLR		
	comp=Z,2μm,20.0s						
ENH	**Enshi**	**36.10**	**297**	PFAKE		00 46 10.0	+14
ENH				LR	LR		
	comp=Z,3μm,19.0s,MS5.0						
KBKI	**Kotabaru**	**37.03**	**238**	P	**P**	**00 46 00.7**	**-3.

CTAO	**Charters Tower**	**37.94**	**181**	P	**P**	**00 46 11.2**	**-0.6**		
	comp=Z,804nmcomp=Z,30nm,2.1s,mb4.7								
GYA	**Guiyang**	**38.07**	**290**	P	**P**	**00 46 15.3**	**+2.3**		
GYA				pP	pP	00 46 29.0	+4.5		
GYA				sP	sP	00 46 36.5	+7.1		
GYA				PP	PP	00 47 45.5	+5.0		
GYA				PcP	PcP	00 48 29.0	+1.3		
GYA				S	**S**	**00 52 02.8**	**-0.2**		
GYA				ScP	ScP	00 52 09.5	-2.8		
GYA				PcS	PcS	00 52 17.0	+0.2		
GYA				sS	sS	00 52 28.5	+6.4		
GYA				SS	SS	00 54 41.3	-10		
GYA				pmax	pmax				
	comp=Z,20nm,0.8s,mb4.9								
GYA				pmax	pmax				
	comp=Z,140nm,4.9s								
GYA				LR	LR				
	comp=N,870nm,15.4s,MS4.8								
GYA				LR	LR				
	comp=E,680nm,17.9s,MS4.8								
GYA				LR	LR				
	comp=Z,820nm,17.6s,MS4.6								
HIA	**Hailar**	**38.07**	**331**	*e*P	**P**	**00 46 12.1**	**-0.5**		
	comp=Z,82nm,1.1s,mb5.4								
HIA				*e*pP	pP	00 46 19.9	-4.2		
HIA				LR	LR				
	comp=Z,3μm,20.0s,MS5.1								
HIA	**Hailar**	**38.07**	**331**	*e*P	**P**	**00 46 12.1**	**-0.6**		
HIA				*e**PP	pP	00 46 19.9	-4.2		
HIA				pmax	pmax				
	comp=Z,82nm,1.1s								
HIA				MLR	MLR				
	comp=Z,3μm,20.0s								
BMNI	**Bima**	**38.44**	**229**	P	**P**	**00 46 15.7**	**-0.5**		
	comp=Z,45nm,1.0s,mb5.1								
BTO	**Baotou**	**38.83**	**313**	*e*P	**P**	**00 46 18.5**	**-0.7**		
STKI	**Sintang**	**39.18**	**247**	P	**P**	**00 46 30.2**	**+7.7**		
	comp=Z,0.8nmcomp=Z,8μmcomp=Z,51nm,1.1s,mb5.2								
STKI	**Sintang**	**39.18**	**247**	P	**P**	**00 46 22.5**	**0.0**		
	comp=Z,51nm,1.1s,mb5.2								
KSM	**Kuching**	**39.56**	**249**	*e*P	**P**	**00 46 25.0**	**-0.6**		
	comp=Z,25nm,0.7s,mb5.1								
KSM				*e*pP	pP	00 46 32.5	-4.6		
KSM				LR	LR				
	comp=Z,1μm,19.0s,MS4.7								
KSM	**Kuching**	**39.56**	**249**	P	**P**	**00 46 25.5**	**-0.1**		
	comp=Z,0.2nmcomp=Z,50nm,1.0s,mb5.2								
KSM	**Kuching**	**39.56**	**249**	P	**P**	**00 46 25.3**	**-0.3**		
	comp=Z,50nm,1.0s,mb5.2								
WRAB	**Tennant Creek**	**39.74**	**199**	*e*P	**P**	**00 46 25.6**	**-1.4**		
	comp=Z,93nm,1.1s,mb5.4								
WRAB				LR	LR				
	comp=Z,3μm,20.0s,MS5.1								
WRAB	**Tennant Creek**	**39.74**	**199**	*e*P	**P**	**00 46 25.6**	**-1.4**		
WRAB				pmax	pmax				
	comp=Z,93nm,1.1s,mb5.4								
WRAB				MLR	MLR				
	comp=Z,3μm,20.0s,MS5.1								
WRAB	**Tennant Creek**	**39.74**	**199**	P	**P**	**00 46 26.0**	**-1.0**		
	comp=Z,303nm,1.1s,mb5.9,SNR=40								
WRAB	**Tennant Creek**	**39.74**	**199**	P	**P**	**00 46 26.0**	**-1.0**		
	comp=Z,2μmcomp=Z,124nm,1.1s,mb5.5								
WB2	**Warramunga Arr**	**39.75**	**199**	*e*P	**P**	**00 46 25.6**	**-1.4**		
WRA	**Warramunga Arr**	**39.76**	**199**	P	**P**	**00 46 25.6**	**-1.5**		
	comp=Z,30nm,0.7s,mb5.1,baz=22,slow=9.0,SNR=72								
WRA				PcP	PcP	00 48 32.6	-0.4		
	comp=Z,4.1nm,0.6s,baz=15,slow=3.4,SNR=5.5								
WRA				ScP	ScP	00 52 18.7	0.0		
	comp=Z,2.3nm,0.8s,baz=14,slow=3.8,SNR=5.7								
WRA				S	**S**	**00 52 31.5**	**+3.1**		
	comp=Z,3.1nm,0.9s,baz=20,slow=15,SNR=5.2								
WRA				LR	LR	01 03 36.7			
	comp=Z,2μm,20.5s,MS5.0,baz=25,slow=37								
WRA	**Warramunga Arr**	**39.76**	**199**	P	**P**	**00 46 25.6**	**-1.5**		
WRA				PcP	PcP	00 48 32.6	-0.3		
WRA				ScP	ScP	00 52 18.7	0.0		
WRA				S	**S**	**00 52 31.4**	**+3.1**		
WRA	**Warramunga Arr**	**39.76**	**199**	P	**P**	**00 46 25.6**	**-1.5**		
WRA						00 48 32.6			
WRA				S	**S**	**00 52 31.5**	**+3.2**		
FX1	**Attu Island--F**	**40.31**	**24**	P	**P**	**00 46 31.6**	**+0.2**		
	comp=Z,18nm,0.8s,mb4.8,baz=243,slow=9.0,SNR=1.9								
FX1	**Attu Island--F**	**40.31**	**24**	P	**P**	**00 46 31.6**	**+0.2**		
FX1	**Attu Island--F**	**40.31**	**24**	P	**P**	**00 46 31.6**	**+0.2**		
MTNI	**Mataram**	**40.34**	**231**	P	**P**	**00 46 31.7**	**-0.4**		
	comp=Z,119nm,1.1s,mb5.5								
KHKI	**Kahang-Kahang**	**40.59**	**232**	P	**P**	**00 46 33.9**	**-0.2**		
	comp=Z,1μmcomp=Z,148nm,1.3s,mb5.5								
SRBI	**Singaraja**	**40.70**	**233**	P	**P**	**00 46 35.9**	**+0.8**		
	comp=Z,2μmcomp=Z,101nm,1.1s,mb5.4								
CD2	**Chengdu**	**41.08**	**296**	P	**P**	**00 46 39.5**	**+1.5**		
CD2				pP	pP	00 46 54.5	+4.9		
CD2				sP	sP	00 47 01.5	+7.0		
CD2				PP	PP	00 48 18.3	+5.0		
CD2				S	**S**	**00 52 47.5**	**-0.5**		
CD2				sS	sS	00 53 13.3	+6.0		
CD2				SS	SS	00 55 47.3	-4.2		
CD2				pmax	pmax				
	comp=Z,20nm,0.7s,mb4.9								
CD2				pmax	pmax				
	comp=Z,310nm,7.7s								
CD2				LR	LR				
	comp=N,3μm,17.8s								
CD2				LR	LR				
	comp=Z,3μm,18.1s,MS5.2								
KMI	**Kunming**	**41.54**	**288**	P	**P**	**00 46 41.3**	**-0.6**		
KMI				pP	pP	00 46 57.3	+3.8		
KMI				sP	sP	00 47 05.3	+6.9		
KMI				PP	PP	00 48 23.0	+4.6		
KMI				S	**S**	**00 52 54.3**	**-0.8**		
KMI				sS	sS	00 53 19.0	+4.6		
KMI				SS	SS	00 55 53.8	-7.2		
KMI				pmax	pmax				
	comp=Z,8.0nm,1.8s,mb4.0								
KMI				pmax	pmax				
	comp=Z,150nm,6.8s								
KMI				LR	LR				
	comp=N,500nm,18.1s,MS4.9								
KMI				LR	LR				
	comp=E,1μm,16.6s,MS4.9								
KMI				LR	LR				
	comp=Z,1μm,15.5s,MS4.9								
FITZ	**Fitzroy Crossi**	**41.61**	**211**	LR	LR	01 06 00.2			
	comp=Z,900nm,18.4s,MS4.7,baz=34,slow=39								
FITZ	**Fitzroy Crossi**	**41.61**	**211**	*e*P	**P**	**00 46 41.3**	**-1.1**		
	comp=Z,16nm,0.6s,mb4.8								
FITZ				*e*S	**S**	**00 53 00.8**	**+4.8**		
FITZ	**Fitzroy Crossi**	**41.61**	**211**	*e*P	**P**	**00 46 41.3**	**-1.1**		
	comp=Z,31nm,1.2s,mb4.8								
FITZ	**Fitzroy Crossi**	**41.61**	**211**	P	**P**	**00 46 41.2**	**-1.2**		
	comp=Z,20nm,1.2s,mb4.6								
LZH	**Lanzhou**	**41.97**	**304**	*e*P	**P**	**00 46 52.0**	**+6.8**		
LZH				S	**S**	**00 53 05.5**	**+4.4**		
LZH				pmax	pmax				
	comp=Z,32nm,1.2s,mb4.8								
LZH				pmax	pmax				
	comp=Z,170nm,6.0s								
LZH				LR	LR				
	comp=N,3μm,14.0s,MS5.4								
LZH				LR	LR				
	comp=E,2μm,13.1s,MS5.4								
LZH				LR	LR				
	comp=Z,4μm,15.5s,MS5.3								
CLNS	**Chul'man**	**42.08**	**342**	*e*P	**P**	**00 46 47.2**	**+1.4**		
CLNS				*e*		00 48 29.0			
CLNS				*e*		00 48 40.2			
CLNS				*e*PPP		00 48 56.5			
CLNS				*e*S	**S**	**00 53 06.4**	**+4.3**		
CLNS				pmax	pmax				
	comp=N,19nm,1.3s								
CLNS				pmax	pmax				
	comp=Z,31nm,1.1s,mb4.8								
CLNS				pmax	pmax				
	comp=E,12nm,1.2s								
CLNS				pmax	pmax				
	comp=E,10.0nm,1.2s								
CLNS				pmax	pmax				
	comp=Z,16nm,1.2s,mb4.5								
CLNS				pmax	pmax				
	comp=N,20nm,1.3s								
CLNS				smax					
	comp=E,595nm,15.1s								
CLNS				smax					
	comp=N,410nm,13.0s								
CLNS				MLR	MLR				
	comp=E,1μm,16.0s,MS5.0								
CLNS				MLR	MLR				
	comp=Z,2μm,17.0s,MS5.0								
CLNS				MLR	MLR				
	comp=N,2μm,17.0s,MS5.0								
SJI	**Sawahan**	**43.17**	**237**	P	**P**	**00 46 55.0**	**-0.2**		
	comp=N,131nm,0.9s,mb5.7								
PWJI	**Pagerwojo**	**43.31**	**236**	P	**P**	**00 46 56.1**	**-0.3**		
	comp=N,162nm,0.7s,mb5.8								
EIDS	**Eidsvold**	**43.37**	**175**	*e*P	**P**	**00 46 55.0**	**-1.7**		
	comp=N,35nm,1.2s,mb5.0								
AS31	**Alice Springs**	**43.40**	**198**	*e*P	**P**	**00 46 56.3**	**-0.6**		
ASAR	**Alice Springs**	**43.40**	**198**	P	**P**	**00 46 56.1**	**-0.8**		
	comp=N,14nm,0.7s,mb4.8,baz=20,slow=7.7,SNR=153								
ASAR				PcP	PcP	00 48 45.8	+0.9		
	comp=N,4.4nm,0.6s,baz=37,slow=2.9,SNR=4.3								
ASAR				S	**S**	**00 53 23.5**	**+1.3**		
	comp=N,1.2nm,1.0s,baz=22,slow=20,SNR=4.0								
ASAR	**Alice Springs**	**43.40**	**198**	P	**P**	**00 46 56.1**	**-0.8**		
ASAR				PcP	PcP	00 48 45.8	+0.9		
ASAR				S	**S**	**00 53 23.5**	**+1.3**		
ASAR	**Alice Springs**	**43.40**	**198**	P	**P**	**00 46 56.1**	**-0.8**		
ASAR						00 48 45.8			
ASAR				S	**S**	**00 53 23.5**	**+1.3**		
TPI	**Tanjungpandan**	**43.89**	**246**	P	**P**	**00 47 09.2**	**+8.1**		
	comp=N,512nmcomp=N,46nm,0.9s,mb5.2								
ULN	**Ulaanbaatar**	**43.98**	**322**	*e*P	**P**	**00 47 02.0**	**+0.6**		
ULN				LR	LR				
	comp=Z,4μm,21.0s,MS5.3								
ULN	**Ulaanbaatar**	**43.98**	**322**	*e*P	**P**	**00 47 02.0**	**+0.6**		
ULN				MLR	MLR				
	comp=Z,4μm,21.0s,MS5.3								
ULN	**Ulaanbaatar**	**43.98**	**322**	P	**P**	**00 47 01.8**	**+0.4**		
	comp=Z,583nmcomp=Z,44nm,1.2s,mb5.1								
ULN	**Ulaanbaatar**	**43.98**	**322**	P	**P**	**00 47 08.1**	**+6.7**		
	SNR=16								
DZM	**Mont Dzumac**	**44.23**	**154**	*e*S	**S**	**00 53 37.2**	**+2.7**		
	comp=Z,493nm,28.6s								
DZM				*e*LR	LR	00 59 28.5			
	comp=Z,6μm,21.9s								
UGM	**Wanagama**	**44.26**	**237**	*e*P	**P**	**00 47 11.0**	**+6.9**		
SONM	**Songino Array**	**44.36**	**321**	P	**P**	**00 47 04.8**	**+0.4**		
	comp=Z,5.3nm,0.6s,mb4.5,baz=136,slow=9.3,SNR=26								
SONM				PcP	PcP	00 48 48.8	+1.0		
	comp=Z,4.2nm,0.7s,baz=135,slow=4.1,SNR=2.7								
SONM				ScP	ScP	00 52 36.2	-0.5		
	comp=Z,4.8nm,1.2s,baz=155,slow=4.9,SNR=5.2								
SONM				LR	LR	01 07 31.8			
	comp=Z,5μm,18.6s,MS5.4,baz=117,slow=39								
SONM	**Songino Array**	**44.36**	**321**	P	**P**	**00 47 04.8**	**+0.4**		
SONM				PcP	PcP	00 48 48.8	+1.0		
SONM				ScP	ScP	00 52 36.2	-0.5		
SONM	**Songino Array**	**44.36**	**321**	P	**P**	**00 47 04.8**	**+0.4**		
SONM						00 48 48.8			
NST	**Nakhon Sawan**	**44.76**	**274**	P	**P**	**00 47 09.6**	**+1.6**		
SEY	**Seymchan**	**44.97**	**4**	⇑*i*P	**P**	**00 47 09.0**	**0.0**		
MYKOM	**Kota Tinggi**	**45.26**	**254**	P	**P**	**00 47 20.4**	**+8.4**		
MYKOM	**Kota Tinggi**	**45.26**	**254**	P	**P**	**00 47 13.3**	**+1.3**		
	comp=Z,46nm,0.9s,mb5.3								
CHTO	**Chiang Mai**	**45.42**	**279**	*e*P	**P**	**00 47 13.4**	**+0.2**		
	comp=Z,3.4nm,0.6s,mb4.3								
CHTO				LR	LR				
	comp=Z,1μm,19.0s,MS4.9								
CHTO	**Chiang Mai**	**45.42**	**279**	*e*P	**P**	**00 47 13.5**	**+0.2**		
CHTO				pmax	pmax				
	comp=Z,3.0nm,0.6s,mb4.3								
CHTO				MLR	MLR				
	comp=Z,1μm,19.0s,MS4.9								
CHTO	**Chiang Mai**	**45.42**	**279**	P	**P**	**00 47 20.5**	**+7.2**		
	comp=Z,12nm,1.2s,mb4.6								
CM31	**Chiang Mai Arr**	**45.47**	**278**	*e*P	**P**	**00 47 14.1**	**+0.5**		
	comp=Z,6.2nm,0.4s,mb4.8								
CM31				LR	LR				
	comp=Z,1μm,20.0s,MS4.8								
CMAR	**Chiang Mai Arr**	**45.47**	**278**	P	**P**	**00 47 14.7**	**+1.0**		
	comp=Z,10nm,0.7s,mb4.8,baz=70,slow=6.9,SNR=47								
CMAR	**Chiang Mai Arr**	**45.47**	**278**	P	**P**	**00 47 14.7**	**+1.0**		
CMAR	**Chiang Mai Arr**	**45.47**	**278**	P	**P**	**00 47 14.7**	**+1.1**		
YAK	**Yakutsk**	**45.55**	**349**	*e*P	**P**	**00 47 14.3**	**+0.7**		
	comp=Z,70nm,0.8s,mb5.6								
YAK				LR	LR				
	comp=Z,2μm,19.0s,MS5.0								
YAK	**Yakutsk**	**45.55**	**349**	*e*P	**P**	**00 47 13.1**	**-0.5**		
YAK				*e**PP	pP	00 47 25.4	+0.1		
YAK				*e*		00 48 52.9			
YAK				*e*S	**S**	**00 53 51.2**	**-1.4**		
YAK				*e**SS	sS	00 54 08.6	-3.5		
YAK				*e*		00 57 09.5			
YAK				pmax	pmax				
	comp=Z,44nm,1.4s,mb5.2								
YAK				pmax	pmax				
	comp=N,26nm,1.4s								
YAK				pmax	pmax				
	comp=E,7.0nm,1.6s								
YAK				smax					
	comp=N,123nm,2.7s								
YAK				smax					
	comp=E,207nm,3.5s								
YAK				MLR	MLR				
	comp=Z,2μm,22.0s,MS5.0								
YAK				MLR	MLR				
	comp=N,1μm,16.0s								
YAK				MLR	MLR				
	comp=E,401nm,20.0s								
BDT	**Bhumibol Dam**	**45.58**	**277**	⇑P	**P**	**00 47 16.0**	**+1.5**		
GTA	**Gaotai**	**45.86**	**308**	*e*P	**P**	**00 47 17.0**	**+0.6**		
GTA				pP	pP	00 47 32.8	+4.7		
GTA				sP	sP	00 47 39.8	+6.8		
GTA				S	**S**	**00 54 01.5**	**+3.8**		
GTA				pmax	pmax				
	comp=Z,4.0nm,1.2s,mb4.2								
GTA				pmax	pmax				
	comp=Z,190nm,5.2s								
GTA				LR	LR				
	comp=N,3μm,19.9s,MS5.3								
GTA				LR	LR				
	comp=E,1μm,19.0s,MS5.3								
GTA				LR	LR				
	comp=Z,2μm,19.7s,MS5.0								
BOD	**Bodaibo**	**46.54**	**336**	*e*P	**P**	**00 47 21.4**	**-0.1**		
BOD				pmax	pmax				
	comp=Z,55nm,2.1s,mb5.1								
IPM	**Ipoh**	**46.86**	**259**	P	**P**	**00 47 26.9**	**+2.3**		
	comp=Z,68nm,1.2s,mb5.5								
IPM	**Ipoh**	**46.86**	**259**	P	**P**	**00 47 26.9**	**+2.3**		
	comp=Z,68nm,1.2s,mb5.5								
KULM	**Kulim**	**46.94**	**260**	*e*P	**P**	**00 47 27.0**	**+1.8**		
KULM				LR	LR				
	comp=Z,2μm,19.0s,MS5.0								
KULM	**Kulim**	**46.94**	**260**	P	**P**	**00 47 27.7**	**+2.5**		
	comp=Z,67nm,1.1s,mb5.5								
KULM	**Kulim**	**46.94**	**260**	P	**P**	**00 47 27.0**	**+1.8**		
	comp=Z,67nm,1.1s,mb5.5								
MSVF	**Nonsavu**	**46.94**	**138**	*e*P	**P**	**00 47 22.9**	**-2.1**		
	comp=Z,50nm,1.2s,mb5.3								
MSVF				LR	LR				
	comp=Z,2μm,19.0s,MS5.1								
MSVF	**Nonsavu**	**46.94**	**138**	*e*P	**P**	**00 47 23.0**	**-2.1**		
MSVF				pmax	pmax				
	comp=Z,50nm,1.2s,mb5.3								
MSVF				MLR	MLR				
	comp=Z,2μm,19.0s,MS5.1								
MBWA	**Marble Bar**	**47.24**	**216**	*e*P	**P**	**00 47 26.1**	**-1.2**		
	comp=Z,9.8nm,0.6s,mb4.9								
MBWA				LR	LR				
	comp=Z,923nm,19.0s,MS4.8								
ZAK	**Zakamensk**	**47.35**	**323**	*e*P	**P**	**00 47 28.2**	**+0.3**		
ZAK				pmax	pmax				
	comp=Z,17nm,1.3s,mb4.8								
KLI	**Kotabumi**	**47.35**	**245**	P	sP	00 47 44.2	-0.8		
	comp=Z,110nm,1.0s								
IRK	**Irkutsk**	**47.67**	**326**	*e*P	**P**	**00 47 32.3**	**+1.9**		
IRK				pmax	pmax				
	comp=Z,79nm,1.6s,mb5.5								
MDSI	**Maura Dua**	**47.75**	**246**	P	**P**	**00 47 31.6**	**0.0**		
	comp=Z,752nmcomp=Z,30nm,1.2s,mb5.2								
ARMA	**Armidale**	**48.43**	**175**	*e*P	**P**	**00 47 36.2**	**-0.2**		
ARMA	**Armidale**	**48.43**	**175**	*e*P	**P**	**00 47 35.7**	**-0.7**		
	comp=Z,25nm,1.1s,mb5.2								
KSI	**Kapahiang**	**48.75**	**248**	P	**P**	**00 47 45.7**	**+6.5**		
	comp=Z,153nm,1.1s,mb6.0								
MOY	**Mondy**	**49.21**	**324**	*e*P	**P**	**00 47 43.2**	**+1.0**		
PPI	**Padang Panjang**	**49.32**	**253**	P	**P**	**00 47 52.4**	**+8.8**		
PPI	**Padang Panjang**	**49.32**	**253**	P	**P**	**00 47 43.3**	**-0.3**		
	comp=Z,683nmcomp=Z,34nm,1.1s,mb5.3								
PSI	**Prapat**	**49.42**	**258**	P	**P**	**00 47 46.1**	**+1.7**		
	comp=Z,728nmcomp=Z,50nm,1.0s,mb5.5								
PSI	**Prapat**	**49.42**	**258**	P	**P**	**00 47 45.7**	**+1.3**		
	comp=Z,726nmcomp=Z,50nm,1.2s,mb5.4								
PDSI	**Padang**	**49.45**	**253**	P	**P**	**00 47 50.1**	**+5.5**		
	comp=Z,79nm,0.8s,mb5.8								
MNSI	**Mandailing Nat**	**49.57**	**255**	P	**P**	**00 47 46.9**	**+1.4**		
	comp=Z,1μmcomp=Z,77nm,1.1s,mb5.7								
MNSI	**Mandailing Nat**	**49.57**	**255**	P	**P**	**00 47 46.1**	**+0.6**		
	comp=Z,1μmcomp=Z,77nm,1.1s,mb5.7								
XMIS	**Christmas Isla**	**49.66**	**238**	*e*P	**P**	**00 47 45.3**	**-0.9**		
STKA	**Stephens Creek**	**49.93**	**186**	P	**P**	**00 47 47.0**	**-0.9**		
	comp=Z,8.6nm,0.5s,mb5.1,baz=11,slow=9.9,SNR=11								
STKA				LR	LR	01 10 53.9			
	comp=Z,2μm,18.3s,MS5.2,baz=2.1,slow=38								
STKA	**Stephens Creek**	**49.93**	**186**	*e*P	**P**	**00 47 46.8**	**-1.1**		
	comp=Z,7.1nm,0.5s,mb5.0								
STKA				*e*S	**S**	**00 54 55.2**	**-0.2**		
STKA	**Stephens Creek**	**49.93**	**186**	*e*P	**P**	**00 47 46.8**	**-1.1**		
	comp=Z,1.8nm,0.6s,mb4.3								
STKA	**Stephens Creek**	**49.93**	**186**	*e*P	**P**	**00 47 46.8**	**-1.1**		
SISI	**Saibi**	**50.87**	**253**	P	**P**	**00 47 59.7**	**+4.3**		
SISI	**Saibi**	**50.87**	**253**	P	**P**	**00 47 54.6**	**-0.8**		
	comp=Z,111nm,1.0s,mb5.8								
BILL	**Bilibino**	**51.43**	**9**	*e*P	**P**	**00 47 58.0**	**-0.8**		
	comp=Z,129nm,1.6s,mb5.6								
BILL				LR	LR				
	comp=Z,2μm,21.0s,MS5.0								
BILL	**Bilibino**	**51.43**	**9**κ	*e*P	**P**	**00 47 58.1**	**-0.7**		
BILL				*i*	pP	00 48 07.6	-3.0		
BILL				*e*S	**S**	**00 55 17.7**	**+2.3**		
BILL				pmax	pmax				
	comp=Z,39nm,1.7s,mb5.1								
BILL				MLR	MLR				
	comp=Z,1μm,19.0s,MS4.9								
BBOO	**Buckleboo**	**51.66**	**192**	*e*P	**P**	**00 48 00.5**	**-0.4**		
	comp=Z,2μm,0.8s								
FORT	**Forrest**	**51.86**	**201**	*e*P	**P**	**00 48 00.6**	**-1.8**		
	comp=Z,36nm,0.6s,mb5.5								
FORT	**Forrest**	**51.86**	**201**	*e*P	**P**	**00 48 03.0**	**+0.6**		
LSA	**Lhasa**	**51.87**	**294**	P	**P**	**00 48 05.5**	**+2.8**		
LSA	**Lhasa**	**51.87**	**294**	*e*P	**P**	**00 48 04.5**	**+1.7**		
	comp=Z,21nm,0.9s,mb5.1								
LSA				LR	LR				
	comp=Z,965nm,20.0s,MS4.8								
LSA	**Lhasa**	**51.87**	**294**	*e*P	**P**	**00 48 04.5**	**+1.8**		
LSA				pmax	pmax				
	comp=Z,21nm,0.9s,mb5.1								
LSA				MLR	MLR				
	comp=Z,965nm,20.0s,MS4.8								
CAN	**Canberra**	**53.14**	**178**	PFAKE		00 48 20.0	+8.2		
CAN				LR	LR				
	comp=Z,2μm,22.0s,MS5.2								
CNB	**Canberra Magne**	**53.15**	**178**	*e*P	**P**	**00 48 11.9**	**0.0**		
	comp=Z,83nm,0.9s,mb5.7								
GAMB	**Gambell**	**53.59**	**21**	*e*P	**P**	**00 48 15.7**	**+0.9**		
	comp=Z,44nm,1.2s,mb5.3								
TAPN	**Taplejung**	**54.98**	**291**	*e*P	**P**	**00 48 26.2**	**+0.6**		
	comp=Z,182nm,1.4s,mb5.9								
ODAN	**Odare**	**55.30**	**290**	*e*P	**P**	**00 48 28.1**	**+0.2**		
TOO	**Toolangi**	**55.37**	**181**	*e*P	**P**	**00 48 27.4**	**-0.6**		
	comp=Z,122nm,1.0s,mb5.9								
WMQ	**Urumqi**	**55.60**	**311**	P	**P**	**00 48 31.0**	**+1.2**		
WMQ				PP	PP	00 50 36.5	+2.4		
WMQ				S	**S**	**00 56 13.5**	**+0.8**		
WMQ				pmax	pmax				
	comp=Z,46nm,1.3s,mb5.3								
WMQ				LR	LR				
	comp=N,1μm,16.9s,MS5.2								
WMQ				LR	LR				
	comp=E,1μm,18.0s,MS5.2								
WMQ				LR	LR				
	comp=Z,2μm,20.5s,MS5.2								
TNA	**Tin City**	**55.97**	**21**	*e*P	**P**	**00 48 31.4**	**-0.6**		
	comp=Z,47nm,1.3s,mb5.4								
RAMN	**Ramite**	**56.00**	**291**	*e*P	**P**	**00 48 32.0**	**-0.9**		
JIRN	**Jiri**	**56.31**	**292**	*e*P	**P**	**00 48 34.9**	**-0.2**		
	comp=Z,12nm,0.7s,mb5.0								
GUN	**Gumba**	**56.56**	**292**	*e*P	**P**	**00 48 37.3**	**+0.4**		
	comp=Z,176nm,1.4s,mb5.9								
KLBR	**Kellerberrin**	**56.77**	**210**	*e*P	**P**	**00 48 36.6**	**-1.6**		
	comp=Z,40nm,1.3s,mb5.3								
XMAS	**Kiritimati**	**56.78**	**100**	PFAKE		00 48 50.0	+11		
XMAS				LR	LR				
	comp=Z,3μm,19.0s,MS5.3								
PKI	**Pulchoki**	**57.01**	**292**	*e*P	**P**	**00 48 39.9**	**-0.2**		
KKN	**Kakani**	**57.10**	**292**	*e*P	**P**	**00 48 40.2**	**-0.5**		
DMN	**Daman**	**57.27**	**292**	*e*P	**P**	**00 48 42.2**	**+0.3**		
GKN	**Gorkha**	**57.65**	**292**	*e*P	**P**	**00 48 43.2**	**-1.4**		
	comp=Z,90nm,1.1s,mb5.7								
COCO	**West Island**	**57.87**	**242**	PFAKE		00 49 00.0	+14		
COCO				LR	LR				
	comp=Z,558nm,19.0s,MS4.7								
NWAO	**Narrogin (SRO)**	**58.13**	**209**	LR	LR	01 16 18.0			
	comp=Z,2μm,18.2s,MS5.3,baz=35,slow=38								
DANN	**Dangsing**	**58.40**	**293**	*e*P	**P**	**00 48 49.2**	**-0.6**		
	comp=Z,108nm,0.6s,

comp=Z,4μm,19.0s,MS5.6
KURK Kurchatov 62.52 318 *c i* P **P 00 49 16.7 -0.8**
KURK pmax pmax
comp=Z,33nm,1.2s,mb5.3
KURK Kurchatov 62.52 318 P **P 00 49 17.4 -0.1**
comp=Z,254nm,1.3s,mb6.2,SNR=20
MCK McKinley 62.55 27 *e* P **P 00 49 17.0 -0.5**
comp=Z,54nm,1.2s,mb5.5
MCK McKinley 62.55 27 *e* P **P 00 49 17.0 -0.5**
MCK pmax pmax
comp=Z,54nm,1.2s,mb5.5
COLD Coldfoot 63.06 23 *e* P **P 00 49 20.3 -0.5**
comp=Z,20nm,1.0s,mb5.2
DDI Dehra Dun 63.17 295 *ex* **P 00 49 23.0 +0.7**
COLA College 63.31 26 *e* P **P 00 49 22.6 0.0**
comp=Z,20nm,1.1s,mb5.2
COLA LR LR
comp=Z,3μm,21.0s,MS5.4
COLA College 63.31 26 *e* P **P 00 49 22.6 +0.1**
COLA pmax pmax
comp=Z,21nm,1.1s,mb5.2
COLA MLR MLR
comp=Z,3μm,21.0s,MS5.4
ILAR Eielson Array 63.68 26 P **P 00 49 22.7 -2.3**
comp=Z,6.3nm,0.9s,mb4.6,baz=261,slow=5.3,SNR=32
ILAR LR LR 01 16 21.9
comp=Z,2μm,19.0s,MS5.2,baz=272,slow=35
ILAR PKP2bc 01 18 24.3
comp=Z,0.5nm,1.0s,baz=164,slow=2.0,SNR=4.1
ILAR Eielson Array 63.68 26 P **P 00 49 22.7 -2.3**
ILAR ⇑ *e* 01 18 24.3
ILAR Eielson Array 63.68 26 P **P 00 49 22.7 -2.3**
KSH Kashi 64.19 306 P **P 00 49 31.5 +2.7**
KSH pP pP 00 49 48.0 +7.0
KSH sP sP 00 49 54.8 +9.1
KSH PcP PcP 00 50 05.5 +2.0
KSH PP PP 00 51 55.5 +5.3
KSH ScP 00 54 01.5
KSH PcS 00 54 08.0
KSH S **S 00 58 02.0 -1.2**
KSH sS sS 00 58 31.5 +8.0
KSH ScS ScS 00 59 16.5 -3.2
KSH SS SS 01 02 16.3 +3.4
KSH pmax pmax
comp=Z,22nm,1.2s,mb5.1
KSH pmax pmax
comp=Z,180nm,6.4s
KSH LR LR
comp=N,810nm,16.4s,MS5.1
KSH LR LR
comp=E,570nm,13.4s,MS5.1
KSH LR LR
comp=Z,830nm,14.9s,MS5.0
TKM2 Tokmak 2 64.35 309 *e* P **P 00 49 29.4 -0.5**
comp=Z,14nm,1.0s,mb4.9
TKM2 LR LR
comp=Z,2μm,20.0s,MS5.2
TKM2 Tokmak 2 64.35 309 *e* P **P 00 49 29.4 -0.4**
TKM2 pmax pmax
comp=Z,14nm,1.0s,mb5.0
TKM2 MLR MLR
comp=Z,2μm,20.0s,MS5.2
SNZO South Karori 64.45 157 PFAKE 00 49 40.0 +10
SNZO LR LR
comp=Z,1μm,20.0s,MS5.0
DOT Dot Lake 64.65 27 *e* P **P 00 49 30.0 -1.3**
comp=Z,11nm,0.9s,mb4.9
HYB Hyderabad 64.77 281 *i* P **P 00 49 34.0 +1.1**
HYB *e*S **S 00 58 12.0 +0.9**
FRU Bishkek 65.07 309 *e* P **P 00 49 34.0 -0.5**
FRU *i* pP 00 49 48.0 +1.3
FRU pmax pmax
comp=Z,60nm,1.7s,mb5.3
AAK Ala-Archa 65.17 309 *e* P **P 00 49 35.8 +0.6**
comp=Z,88nm,1.4s,mb5.6
AAK LR LR
comp=Z,2μm,21.0s,MS5.2
AAK Ala-Archa 65.17 309 *d i* P **P 00 49 35.4 +0.2**
AAK pmax pmax
comp=Z,18nm,1.2s,mb5.0
AAK Ala-Archa 65.17 309 P **P 00 49 35.6 +0.4**
comp=Z,47nm,1.4s,mb5.3
EKS2 Erkin-Say 65.70 309 *e* P **P 00 49 38.8 +0.2**
comp=Z,29nm,1.5s,mb5.1
EKS2 LR LR
comp=Z,1μm,19.0s,MS5.2
EKS2 Erkin-Say 65.70 309 *e* P **P 00 49 38.8 +0.2**
EKS2 pmax pmax
comp=Z,29nm,1.5s,mb5.1
EKS2 MLR MLR
comp=Z,1μm,19.0s,MS5.2
EGAK Eagle 66.09 26 *e* P **P 00 49 39.6 -1.1**
comp=Z,21nm,1.0s,mb5.1
EGAK LR LR
comp=Z,2μm,19.0s,MS5.4
DAWY Dawson 66.76 27 *e* P **P 00 49 44.1 -0.9**
VOSK Vostochnaya 67.34 320 P **P 00 49 45.4 -3.5**
VOSK pmax pmax
comp=Z,59nm,1.5s,mb5.4
BVA0 Borovoye Array 67.70 321 *i* P **P 00 49 50.5 -0.6**
BVA0 pmax pmax
comp=Z,23nm,1.6s,mb5.0
BVAR Borovoye Array 67.70 321 P **P 00 49 51.0 -0.1**
comp=Z,16nm,0.6s,mb5.2,baz=97,slow=8.1,SNR=52
BVAR Borovoye Array 67.70 321 P **P 00 49 51.0 -0.1**
BVAR Borovoye Array 67.70 321 P **P 00 49 51.0 -0.1**
BRVK Borovoye 67.76 321 *e* P **P 00 49 50.7 -0.8**
comp=Z,53nm,1.0s,mb5.5
BRVK LR LR
comp=Z,2μm,20.0s,MS5.4
BRVK Borovoye 67.76 321 P **P 00 49 51.3 -0.2**
comp=Z,259nm,1.2s,mb6.1,SNR=12
BRVK Borovoye 67.76 321 ⇑ *i* P **P 00 49 50.8 -0.7**
BRVK pmax pmax
comp=Z,32nm,1.2s,mb5.2
KK31 Karatay Array 68.07 310 *ce* P **P 00 49 52.9 -0.7**
KK31 pmax pmax
comp=Z,17nm,0.8s,mb5.1
KKAR Karatay Array 68.07 310 *e* P **P 00 49 53.3 -0.3**
comp=Z,14nm,0.8s,mb5.0
KKAR Karatay Array 68.07 310 *e* P **P 00 49 53.3 -0.3**
KKAR pmax pmax
comp=Z,14nm,0.8s,mb5.0
TRD Trivandrum 68.44 272 ⇑ *e* PKP **P 00 50 02.0 +5.5**
INK Inuvik 69.48 23 P **P 00 50 00.9 -1.0**
comp=Z,8.5nm,0.9s,mb4.7,baz=258,slow=7.6,SNR=22
INK Inuvik 69.48 23 *e* P **P 00 50 00.6 -1.4**
comp=Z,19nm,1.1s,mb4.9
INK Inuvik 69.48 23 *e* P **P 00 50 00.6 -1.4**
INK pmax pmax
comp=Z,19nm,1.1s
KBL Kabul 70.20 301 *e* P **P 00 50 06.7 -0.3**
comp=Z,24nm,0.9s,mb5.1
KBL Kabul 70.20 301 *e* P **P 00 50 06.7 -0.3**
KBL pmax pmax
comp=Z,24nm,0.9s,mb5.1
DLBC Dease Lake 71.16 33 P **P 00 50 11.6 -0.8**
comp=Z,8.2nm,0.9s,mb4.7,baz=275,slow=7.1,SNR=9.5
DLBC LR LR 01 15 37.7
comp=Z,977nm,21.5s,MS5.0,baz=319,slow=31
DLBC Dease Lake 71.16 33 P **P 00 50 11.6 -0.8**
PPT Papeete 71.79 116 *e* S S 00 59 33.4 -1.2
comp=Z,185nm,24.2s
PPT *e* LQ 01 08 32.0
comp=Z,2μm,29.8s
PPT *e* LR LR 01 12 05.1
comp=Z,1μm,21.0s,baz=300
SVE Sverdlovsk 73.06 325 ⇑ *i* P **P 00 50 23.9 +0.1**
SVE *e* 00 53 05.9
SVE *e* PPP 00 54 58.1
SVE *e* S S 00 59 48.2 +0.2
SVE *e* SS SS 01 04 25.0 -3.9
SVE pmax pmax
comp=Z,64nm,1.4s,mb5.4
SVE MLR MLR
comp=Z,1μm,17.0s,MS5.3
ARU Arti 74.25 325 *e* P **P 00 50 30.7 -0.1**
comp=Z,54nm,1.0s,mb5.4
ARU LR LR
comp=Z,1μm,19.0s,MS5.2
ARU Arti 74.25 325 *c i* P **P 00 50 30.3 -0.5**
ARU *e**PP pP 00 50 45.4 +2.2
ARU *e* 00 53 13.5
ARU PPP 00 54 56.1
ARU S S 01 00 01.3 -0.1
ARU SS SS 01 04 43.2 -3.9
ARU pmax pmax
comp=Z,22nm,1.0s,mb5.0
ARU MLR MLR
comp=Z,1μm,19.0s,MS5.2
ARU Arti 74.25 325 P **P 00 50 30.2 -0.6**
comp=Z,294nm,1.5s,mb6.0,SNR=11
TBI Tubuai 74.50 121 *e* S S 01 00 04.0 -1.3
comp=Z,946nm,30.0s
TBI *e* LR LR 01 13 31.1
comp=Z,379nm,21.5s
AB31 Akbulak array 74.59 317 *ce* P **P 00 50 31.7 -1.2**
AB31 pmax pmax
comp=Z,19nm,0.8s,mb5.1
ABKAR Akbulak array 74.59 317 *e* P **P 00 50 32.1 -0.8**
comp=Z,13nm,0.8s,mb4.9
SOKR Solikamsk 74.68 328 ⇓ *i* P **P 00 50 33.5 +0.3**
SOKR S S 01 00 14.5 +8.4
SOKR pmax pmax
comp=Z,50nm,1.1s,mb5.4
AKTO Aktyubinsk 75.61 319 *i* P **P 00 50 38.8 +0.1**
NLWA Neilton Lookou 76.38 44 *e* P **P 00 50 44.4 +1.1**
comp=Z,57nm,1.2s,mb5.4
NLWA LR LR
comp=Z,2μm,19.0s,MS5.4
PGC Sidney 76.40 43 *e* P **P 00 50 42.9 -0.4**
comp=Z,1.2nm,0.9s,mb3.8
TAOE Nuku Hiva Isla 76.76 104 *e* LR LR 01 14 11.0
comp=Z,1μm,20.7s
IMYA Miami 77.03 304 *e* P **P 00 50 47.3 +0.2**
GNW Green Mountain 77.04 44 *e* P **P 00 50 46.8 -0.2**
comp=Z,21nm,1.0s,mb5.0
JCW Jim Creek 77.49 43 *e* P **P 00 50 50.4 +1.0**
comp=Z,77nm,0.9s,mb5.6
ISRO Mashad 77.54 304 *e* P **P 00 50 49.8 -0.2**
DGAR Diego Garcia 77.71 258 PFAKE 00 51 00.0 +8.7
DGAR LR LR
comp=Z,864nm,22.0s,MS5.0
IEMG Emamgholi 77.92 306 *e* P **P 00 50 51.9 -0.2**
YKA Yellowknife Ar 77.98 28 P **P 00 50 50.5 -1.3**
comp=Z,9.3nm,0.8s,mb4.8,baz=290,slow=5.6,SNR=13
YKA LR LR 01 24 46.1
comp=Z,203nm,20.9s,MS4.4,baz=330,slow=35
YKA Yellowknife Ar 77.98 28 P **P 00 50 50.5 -1.3**
YKA Yellowknife Ar 77.98 28 P **P 00 50 50.6 -1.3**
IDAH Dahanechah 78.05 301 *e* P **P 00 50 53.0 +0.1**
IKRD Kardeh 78.18 305 *e* P **P 00 50 50.0 -3.5**
HOOD Mount Hood Mea 78.34 46 *e* P **P 00 50 54.9 +0.7**
comp=Z,47nm,1.0s,mb5.4
YBH Yreka Blue Hor 78.45 50 *e* P **P 00 50 55.8 +0.8**
comp=Z,28nm,1.1s,mb5.1
YBH Yreka Blue Hor 78.45 50 *e* P **P 00 50 55.8 +0.9**
YBH pmax pmax
comp=Z,29nm,1.1s
ISFR Sfrayin 78.51 305 *e* P **P 00 50 55.6 +0.2**
ETW Entiat 78.67 44 *e* P **P 00 50 56.4 +0.4**
comp=Z,46nm,0.9s,mb5.4
IKOO Kooshah 78.84 301 *e* P **P 00 50 57.8 +0.6**
ITEG Tejag 78.93 301 *e* P **P 00 50 57.8 +0.1**
RSW Rattlesnake Hi 79.47 45 *e* P **P 00 51 01.2 +0.8**
comp=Z,26nm,0.9s,mb5.2
HAWA Hanford 79.51 45 *e* P **P 00 51 00.9 +0.3**
comp=Z,37nm,1.2s,mb5.2
HAWA LR LR
comp=Z,2μm,19.0s,MS5.4
RES Resolute Bay 79.74 14 P **P 00 51 01.5 +0.2**
comp=Z,8.5nm,0.9s,mb4.7,baz=318,slow=7.2,SNR=17
RES LR LR 01 24 27.6
comp=Z,680nm,21.7s,MS5.0,baz=122,slow=34
RES Resolute Bay 79.74 14 *e* P **P 00 51 00.8 -0.5**
comp=Z,58nm,1.5s,mb5.3
RES Resolute Bay 79.74 14 *e* P **P 00 51 00.9 -0.5**
RES pmax pmax
comp=Z,58nm,1.5s,mb5.3
OD2 Odessa Site #2 79.79 44 *e* P **P 00 51 02.4 +0.3**
comp=Z,96nm,1.5s,mb5.5
SPA0 Spitsbergen Ar 79.97 351 *e* P **P 00 51 04.5 +2.0**
SPA0 *e*S S 01 01 07.2 +4.3
SPITS Spitsbergen Ar 79.97 351 P **P 00 51 02.9 +0.4**
comp=Z,19nm,1.1s,mb4.9,baz=34,slow=9.3,SNR=4.5
SPITS Spitsbergen Ar 79.97 351 P **P 00 51 02.9 +0.4**
SPITS Spitsbergen Ar 79.97 351 P **P 00 51 02.9 +0.4**
KBS Kingsbay 80.06 352 *e* P **P 00 51 05.2 +2.1**
KBS *e*S S 01 01 06.9 +3.0
KBS *e*SS SS 01 06 15.4 +1.6
KBS Kingsbay 80.06 352 PFAKE 00 51 10.0 +7.0
KBS LR LR
comp=Z,559nm,19.0s,MS4.9
KBS Kingsbay 80.06 352 *e* P **P 00 51 02.8 -0.2**
KBS pmax pmax
comp=Z,35nm,1.2s,mb5.2
MOD Modoc 80.15 49 *e* P **P 00 51 04.5 +0.3**
comp=Z,49nm,1.4s,mb5.2
LNOR Lincton Mounta 80.48 45 *e* P **P 00 51 07.9 +2.0**
comp=Z,27nm,1.3s,mb5.0
LNOR Lincton Mounta 80.48 45 *e* P **P 00 51 07.9 +2.0**
LNOR pmax pmax
comp=Z,27nm,1.3s,mb5.0
NEW Newport 80.58 42 *e* P **P 00 51 05.7 -0.7**
comp=Z,27nm,0.9s,mb5.2
NEW LR LR
comp=Z,2μm,19.0s,MS5.6
NEW Newport 80.58 42 *e* P **P 00 51 05.7 -0.6**
NEW pmax pmax
comp=Z,27nm,0.9s
NEW MLR MLR
comp=Z,2μm,19.0s
CMB Columbia Colle 81.13 53 *e* P **P 00 51 09.9 +0.3**
comp=Z,44nm,1.1s,mb5.3
CMB Columbia Colle 81.13 53 *e* P **P 00 51 09.9 +0.4**
CMB pmax pmax
comp=Z,43nm,1.1s,mb5.3
WVOR Wild Horse Val 81.20 48 *e* P **P 00 51 10.4 +0.6**
comp=Z,62nm,1.4s,mb5.3
WVOR LR LR
comp=Z,1μm,19.0s,MS5.4
WVOR Wild Horse Val 81.20 48 *e* P **P 00 51 10.4 +0.6**
WVOR pmax pmax
comp=Z,62nm,1.4s,mb5.3
WVOR MLR MLR
comp=Z,1μm,19.0s,MS5.4
WCN Washoe City 81.26 52 *e* P **P 00 51 10.0 -0.2**
comp=Z,30nm,1.2s,mb5.1
WCN Washoe City 81.26 52 *e* P **P 00 51 10.0 -0.2**
WCN pmax pmax
comp=Z,30nm,1.2s,mb5.1
LVZ Lovozero 81.43 339 PFAKE 00 51 20.0 +9.5
LVZ LR LR
comp=Z,1μm,20.0s,MS5.2
LVZ Lovozero 81.43 339 *e* P **P 00 51 10.6 +0.1**
LVZ pmax pmax
comp=Z,70nm,1.6s,mb5.3
BMO Blue Mountains 81.43 46 *e* P **P 00 51 11.2 +0.2**
comp=Z,40nm,1.2s,mb5.2
BMO LR LR
comp=Z,728nm,21.0s,MS5.0
BMO Blue Mountains 81.43 46 *e* P **P 00 51 11.2 +0.2**
BMO pmax pmax
comp=Z,40nm,1.2s,mb5.2
BMO MLR MLR
comp=Z,728nm,21.0s,MS5.0
IBAF Bafgh 81.87 300 *e* P **P 00 51 13.3 -0.3**
APA Apatity 82.01 339 ⇓ *i* P **P 00 51 15.0 +1.5**
APA *i* S S 01 01 26.0 +1.6
APA *i* PS 01 02 10.0
APA MLR MLR
comp=Z,2μm,17.0s,MS5.4
IANJ Anjilo 82.11 305 *e* P **P 00 51 13.6 -1.2**
BSMT Bassoo Peak 82.20 42 *e* P **P 00 51 15.4 +0.5**
comp=Z,58nm,1.2s,mb5.4
ISHM Shahmirzad 82.50 305 *e* P **P 00 51 17.5 +0.7**
JTMT Jette 82.55 42 *e* P **P 00 51 17.1 +0.3**
comp=Z,23nm,1.2s,mb5.1
KLMR Klimovskoe 82.56 332 *e* P **P 00 51 14.0 -2.5**
KLMR *e* 00 54 33.9
KLMR S S 01 01 30.6 +0.3
KLMR pmax pmax
comp=Z,109nm,1.5s,mb5.7
KLMR pmax pmax
comp=Z,166nm,6.1s
KLMR MLR MLR
comp=Z,2μm,20.0s,MS5.4
NVAR Mina Array Bea 82.59 52 P **P 00 51 17.4 +0.2**
comp=Z,7.1nm,0.8s,mb4.8,baz=271,slow=5.0,SNR=26
NVAR LR LR 01 27 18.9
comp=Z,637nm,18.5s,MS5.0,baz=257,slow=35
NVAR Mina Array Bea 82.59 52 P **P 00 51 17.4 +0.2**
HOQ Hoqain 82.62 292 P **P 00 51 17.9 +0.2**
SNR=27
YBMT Yellow Bay 82.69 42 *e* P **P 00 51 17.9 +0.4**
comp=Z,26nm,1.2s,mb5.1
BMN Battle Mountai 82.80 50 *e* P **P 00 51 19.4 +1.1**
comp=Z,36nm,1.3s,mb5.2
BMN LR LR
comp=Z,2μm,20.0s,MS5.5
BMN Battle Mountai 82.80 50 *e* P **P 00 51 19.4 +1.2**
BMN pmax pmax
comp=Z,36nm,1.3s,mb5.2
BMN MLR MLR
comp=Z,2μm,20.0s,MS5.5
SWMT Swartz Lake 82.81 42 *e* P **P 00 51 18.4 +0.3**
comp=Z,13nm,1.1s,mb4.9
BANOM Banah 82.84 295 P **P 00 51 19.4 +0.6**
SNR=9.0
KEV Kevo 82.88 342 *e* P **P 00 51 17.8 -0.3**
comp=Z,8.1nm,0.6s,mb4.9
KEV LR LR
comp=Z,2μm,19.0s,MS5.4
KEV Kevo 82.88 342 *e* P **P 00 51 17.6 -0.5**
KEV Kevo 82.88 342 *e* p **P 00 51 17.6 -0.5**
MFID Camas Ranch 82.88 47 *e* P **P 00 51 19.1 +0.5**
comp=Z,56nm,1.2s,mb5.5
BSY Bisya 82.96 292 P **P 00 51 20.0 +0.6**
SNR=12
MSO Missoula 83.07 43 PFAKE 00 51 30.0 +11
MSO LR LR
comp=Z,2μm,19.0s,MS5.4
SLMT Seeley Lake 83.22 43 *e* P **P 00 51 23.2 +2.9**
comp=Z,20nm,1.1s,mb5.1
ISA Isabella 83.28 55 *e* P **P 00 51 19.4 -1.4**
comp=Z,24nm,1.1s,mb5.1
ISA Isabella 83.28 55 *e* P **P 00 51 19.4 -1.4**
ISA pmax pmax
comp=Z,23nm,1.1s,mb5.1
HATD Hatta, Dubai 83.30 294 P **P 00 51 21.1 0.0**
SNR=7.4
ASHO Ashiyiah 83.41 294 P **P 00 51 22.0 +0.3**
SNR=11
ARCES ARCESS Array B 83.44 342 P **P 00 51 21.1 +0.1**
comp=Z,6.5nm,0.5s,mb4.9,baz=81,slow=3.8,SNR=39
ARCES LR LR 01 34 15.1
comp=Z,963nm,19.6s,MS5.2,baz=62,slow=40
ARCES ARCESS Array B 83.44 342 P **P 00 51 21.1 +0.1**
ARCES ARCESS Array B 83.44 342 P **P 00 51 21.1 +0.1**
ARE0 ARCESS Array S 83.44 342 *e* P **P 00 51 23.4 +2.4**
ARE0 *e*S S 01 01 39.0 0.0
ARE0 ARCESS Array S 83.44 342 *e* P **P 00 51 20.6 -0.4**
CHMT Chamberlain Mo 83.49 43 *e* P **P 00 51 21.8 +0.1**
comp=Z,6.1nm,1.1s,mb4.5
TPH Tonopah 83.51 52 PFAKE 00 51 30.0 +8.0
TPH LR LR
comp=Z,1μm,20.0s,MS5.3
HLID Hailey 83.81 46 PFAKE 00 51 30.0 +6.6
HLID LR LR
comp=Z,2μm,20.0s,MS5.4
PASC Pasadena Art C 83.95 56 *e* P **P 00 51 23.8 -0.5**
comp=Z,86nm,1.6s,mb5.6
PASC *ep*P pP 00 51 31.8 -5.0
PASC *es*P sP 00 51 36.6 -5.0
MWC Mount Wilson 84.03 56 *e* P **P 00 51 23.2 -1.5**
comp=Z,11nm,1.0s,mb5.0
MWC *es*P sP 00 51 37.2 -4.8
MWC Mount Wilson 84.03 56 *e* P **P 00 51 23.2 -1.5**
MWC *e**SP sP 00 51 37.2 -4.8
MWC pmax pmax
comp=Z,11nm,1.0s,mb4.9
IZEF Zefreh 84.12 303 *e* P **P 00 51 24.9 -0.3**
IR3 Iran Long-Peri 84.36 305 *e* P **P 00 51 25.4 -1.0**
LRM Limekiln Ridge 84.38 44 *e* P **P 00 51 26.3 +0.1**
comp=Z,225nm,1.2s,mb6.2
KTK1 Kautokeino 84.40 342 *e* P **P 00 51 27.2 +1.3**
KTK1 *e*SKS 01 01 47.3
MCMT McKenzie Canyo 84.45 45 *e* P **P 00 51 27.1 +0.4**
comp=Z,8.0nm,1.1s,mb4.8
IPAR Pars 84.45 299 *e* P **P 00 51 25.9 -1.0**
HRY Holter Researc 84.47 43 *e* P **P 00 51 27.3 +0.6**
comp=Z,61nm,1.4s,mb5.5
MAK Makhachkala 84.55 313 *e* P **P 00 51 25.0 -2.1**
MAK *i* 00 54 46.7
MAK *e*S S 01 01 45.3 -5.8
IKLH Kolahrood 84.59 303 *e* P **P 00 51 27.8 +0.2**
DRV Dumont d'Urvil 84.65 183 P **P 00 51 33.0 +6.1**
DRV Dumont d'Urvil 84.65 183 PP PP 00 54 41.0 -2.4
DRV S S 01 01 56.0 +5.2
DRV SS SS 01 07 22.0 -1.4
DRV R 01 20 00.0
GSC Goldstone 84.68 55 *e* P **P 00 51 28.6 +0.6**
comp=Z,37nm,1.1s,mb5.4
GSC Goldstone 84.68 55 *e* P **P 00 51 28.6 +0.6**
GSC pmax pmax
comp=Z,37nm,1.1s,mb5.4
DAG Danmarks Havn 84.95 357 *e* P **P 00 51 34.8 +6.3**
DAG pmax pmax
comp=Z,18nm,1.0s,mb5.2
DAG Danmarks Havn 84.95 357 *i* P **P 00 51 34.8 +6.3**
comp=Z,18nm,1.0s,mb5.2
BOZ Bozeman (W) 84.98 44 PFAKE 00 51 40.0 +11
BOZ LR LR
comp=Z,886nm,21.0s,MS5.1
JOF Joensuu 85.07 336 *e* P **P 00 51 28.1 -1.2**
JOF pmax pmax
comp=Z,39nm,0.7s,mb5.7
JOF Joensuu 85.07 336 *ep* P **P 00 51 28.1 -1.2**
comp=Z,39nm,0.7s,mb5.6
TRO Tromso 85.19 344 *e* P **P 00 51 32.0 +2.2**
TRO *e*SKS 01 01 54.9
EGMT Eagleton 85.32 41 *e* P **P 00 51 30.1 -0.8**
comp=Z,66nm,1.2s,mb5.6
EGMT LR LR
comp=Z,2μm,20.0s,MS5.4
QLMT Earthquake Lak 85.40 44 *e* P **P 00 51 32.5 +1.2**
comp=Z,5.1nm,1.2s,mb4.5
PFO Pinyon Flat Ob 85.49 56 *e* P **P 00 51 31.7 -0.3**
comp=Z,40nm,1.3s,mb5.4
PFO *ep*P pP 00 51 39.1 -5.5
PFO *es*P sP 00 51 44.4 -4.9
PFO LR LR
comp=Z,847nm,20.0s,MS5.1
PFO Pinyon Flat Ob 85.49 56 *e* P **P 00 51 31.7 -0.4**
PFO *e**PP pP 00 51 39.1 -5.6
PFO *e**SP sP 00 51 44.4 -5.0
PFO pmax pmax
comp=Z,40nm,1.3s,mb5.4
PFO MLR MLR
comp=Z,847nm,20.0s,MS5.1
HVU Hansel Valley 85.55 48 *e* P **P 00 51 32.8 +0.6**
comp=Z,94nm,1.5s,mb5.8
HVU Hansel Valley 85.55 48 *e* P **P 00 51 32.8 +0.6**
HVU pmax pmax
comp=Z,95nm,1.5s,mb5.8
YMR Madison River 85.77 44 *e* P **P 00 51 34.2 +1.0**
comp=Z,86nm,1.3s,mb5.8
YFT Old Faithful 85.93 45 *e* P **P 00 51 36.1 +2.1**
comp=Z,73nm,1.4s,mb5.7
YNR Norris Junctio 85.94 44 *e* P **P 00 51 36.5 +2.4**
comp=Z,88nm,1.3s,mb5.8
RRI2 Red Ridge 86.00 46 *e* P **P 00 51 35.4 +1.0**
comp=Z,47nm,1.3s,mb5.6
IMW Indian Meadow 86.06 45 *e* P **P 00 51 35.9 +1.2**
comp=Z,47nm,1.3s,mb5.5
DUG Dugway 86.06 49 *e* P **P 00 51 35.3 +0.5**
comp=Z,43nm,1.1s,mb5.6
DUG LR LR
comp=Z,2μm,19.0s,MS5.4
DUG Dugway 86.06 49 *e* P **P 00 51 35.3 +0.5**
DUG pmax pmax
comp=Z,43nm,1.1s,mb5.6
DUG MLR MLR
comp=Z,2μm,19.0s,MS5.4
FLWY Flagg Ranch 86.16 45 *e* P **P 00 51 36.7 +1.6**
comp=Z,79nm,1.3s,mb5.8
LKWY Lake 86.18 44 *e* P **P 00 51 36.9 +1.6**
comp=Z,64nm,1.3s,mb5.7
LKWY LR LR
comp=Z,1μm,19.0s,MS5.3
LKWY Lake 86.18 44 *e* P **P 00 51 36.9 +1.7**
LKWY pmax pmax
comp=Z,64nm,1.3s,mb5.7
LKWY MLR MLR
comp=Z,1μm,19.0s,MS5.3
TPAW Teton Pass 86.20 45 *e* P **P 00 51 36.4 +1.0**
comp=Z,37nm,1.3s,mb5.5
MOOW Moose Ponds 86.25 45 *e* P **P 00 51 36.4 +0.8**

comp=Z,28nm,1.4s,mb5.3
REDW Red Top Meadow 86.31 46 *e*P **P 00 51 37.2 +1.3**
comp=Z,67nm,1.5s,mb5.7
AHID Auburn Hatcher 86.36 46 *e*P **P 00 51 37.0 +0.8**
comp=Z,63nm,1.3s,mb5.7
AHID LR LR
comp=Z,1μm,19.0s,MS5.2
LOHW Long Hollow 86.39 45 *e*P **P 00 51 36.8 +0.5**
comp=Z,27nm,1.3s,mb5.3
ARUT Antelope Range 86.43 52 *e*P **P 00 51 37.4 +0.8**
comp=Z,35nm,1.0s,mb5.5
ARUT Antelope Range 86.43 52 *e*P **P 00 51 37.4 +0.8**
ARUT pmax pmax
comp=Z,35nm,1.0s,mb5.5
OBN Obninsk 86.43 327 *e*P **P 00 51 35.5 -0.8**
comp=Z,43nm,1.1s,mb5.6
OBN LR LR
comp=Z,1μm,19.0s,MS5.4
OBN Obninsk 86.43 327⇑ *i*P **P 00 51 35.8 -0.5**
OBN *i* 00 51 44.7
OBN 00 55 00.0
OBN *e* 01 02 01.9
OBN *e* 01 02 08.9
OBN PS 01 03 08.0
OBN *e*SS SS 01 07 55.1 +6.2
OBN pmax pmax
comp=Z,30nm,1.6s,mb5.3
OBN MLR MLR
comp=Z,1μm,18.0s,MS5.3
HWUT Hardware Ranch 86.45 47 *e*P **P 00 51 36.0 -0.7**
comp=Z,45nm,1.1s,mb5.6
HWUT LR LR
comp=Z,1μm,20.0s,MS5.3
IHRS Heris 86.45 309 *e*P **P 00 51 35.1 -1.6**
DGRG David-gareji 86.56 312 P **P 00 51 36.0 -1.2**
CCUT Cedar City 86.57 52 *e*P **P 00 51 38.3 +1.0**
comp=Z,57nm,1.4s,mb5.6
RLMT Red Lodge 86.72 44 PFAKE 00 51 50.0 +12
RLMT LR LR
comp=Z,1μm,19.0s,MS5.4
VSR Storozhevoye 86.72 323 *e*P **P 00 51 36.1 -1.7**
VSR pmax pmax
comp=Z,9.0nm,0.7s,mb5.1
VSR pmax pmax
comp=N,7.0nm,1.0s
VSR pmax pmax
comp=E,10.0nm,1.1s
MTA Mtatsminda 86.88 313 P **P 00 51 37.5 -1.2**
JLU Jordanelle 86.89 48 *e*P **P 00 51 39.2 +0.4**
comp=E,55nm,1.3s,mb5.6
TBLG Delisi 86.90 313 *e*P **P 00 51 37.6 -1.2**
TBLG Delisi 86.90 313 P **P 00 51 37.6 -1.2**
MPU Maple Canyon 86.97 49 *e*P **P 00 51 39.9 +0.7**
comp=E,40nm,1.3s,mb5.5
FFC Flin Flon 86.98 33 *e*P **P 00 51 38.3 -0.6**
comp=E,27nm,0.9s,mb5.5
FFC LR LR
comp=Z,892nm,21.0s,MS5.2
FFC Flin Flon 86.98 33 *i*P **P 00 51 39.4 +0.5**
FFC Flin Flon 86.98 33 P **P 00 51 38.4 -0.5**
comp=Z,180nm,0.8s,mb6.3,SNR=5.2
MVU Marysvale 87.09 50 PFAKE 00 51 50.0 +10
MVU LR LR
comp=Z,2μm,19.0s,MS5.4
ZEI Tsey 87.10 314 *e*P **P 00 51 38.1 -1.7**
ZEI pmax pmax
comp=Z,15nm,1.0s,mb5.2
DAU Daniels Canyon 87.10 48 *e*P **P 00 51 40.4 +0.6**
comp=Z,31nm,1.1s,mb5.5
DAU Daniels Canyon 87.10 48 *e*P **P 00 51 40.4 +0.5**
DAU pmax pmax
comp=Z,31nm,1.1s,mb5.5
MSU Marysvale 87.11 50 *e*P **P 00 51 41.0 +1.0**
comp=Z,36nm,1.4s,mb5.4
MSU Marysvale 87.11 50 *e*P **P 00 51 41.0 +1.0**
MSU pmax pmax
comp=Z,36nm,1.4s,mb5.4
STEI Steigen 87.34 344 *e*P **P 00 51 42.5 +2.1**
PD01 Pinedale Array 87.39 46 *e*P **P 00 51 41.2 0.0**
PD02 Pinedale Array 87.41 46 *e*P **P 00 51 41.0 -0.2**
BW06 Boulder Array 87.42 46 PFAKE 00 51 50.0 +8.7
BW06 LR LR
comp=Z,1μm,19.0s,MS5.3
PDAR Pinedale Array 87.42 46 P **P 00 51 41.0 -0.3**
comp=Z,1.3nm,0.6s,mb4.3,baz=235,slow=2.6,SNR=9.7
PDAR PP PP 00 55 22.1 +16
comp=Z,1.3nm,1.1s,baz=286,slow=5.5,SNR=4.5
PDAR LR LR 01 26 40.0
comp=Z,540nm,19.1s,MS5.0,baz=300,slow=33
PDAR Pinedale Array 87.42 46 P **P 00 51 41.0 -0.3**
PDAR PP PP 00 55 22.1 +16
KAF Kangasniemi 87.46 336 *e*P **P 00 51 39.5 -1.6**
KAF pmax pmax
comp=Z,20nm,0.9s,mb5.3
KAF Kangasniemi 87.46 336 *e*p **P 00 51 39.5 -1.6**
comp=Z,20nm,0.9s,mb5.3
KIV Kislovodsk 87.47 316 *e*P **P 00 51 38.7 -2.9**
comp=Z,14nm,0.9s,mb5.2
KIV LR LR
comp=Z,2μm,20.0s,MS5.6
KIV Kislovodsk 87.47 316 *e*P **P 00 51 40.8 -0.7**
KIV *e* 01 02 03.4
KIV *e*SS SS 01 08 07.3 +2.6
KIV *e*SSS 01 11 42.0
KIV pmax pmax
comp=Z,13nm,1.0s,mb5.1
KIV MLR MLR
comp=Z,2μm,19.0s,MS5.6
ONI Oni 87.47 314 P **P 00 51 42.6 +1.0**
GNI Garni 87.47 311 *e*P **P 00 51 38.1 -3.5**
comp=Z,20nm,1.1s,mb5.2
GNI LR LR
comp=Z,586nm,21.0s,MS5.0
GNI Garni 87.47 311 *e*P **P 00 51 40.4 -1.3**
GNI pmax pmax
comp=Z,7.0nm,1.3s
ISHB Shabestar 87.52 309 *e*P **P 00 51 39.7 -2.2**
AKH Akhalkalaki 87.89 313 P **P 00 51 39.1 -4.5**
FINES FINESS Array B 87.94 336 P **P 00 51 41.9 -1.5**
comp=Z,10nm,0.6s,mb5.3,baz=64,slow=5.1,SNR=32
FINES LR LR 01 31 32.9
comp=Z,1μm,21.8s,MS5.3,baz=252,slow=36
FINES FINESS Array B 87.94 336 P **P 00 51 41.9 -1.5**
FINES FINESS Array B 87.94 336 P **P 00 51 41.9 -1.5**
LAO LASA Array 88.05 41 *e*P **P 00 51 45.0 +0.8**
comp=Z,56nm,1.1s,mb5.7
LAO LR LR
comp=Z,2μm,19.0s,MS5.5
SRU San Rafael 88.10 49 *e*P **P 00 51 45.0 +0.3**
comp=Z,36nm,1.1s,mb5.5
SRU San Rafael 88.10 49 *e*P **P 00 51 45.0 +0.3**
SRU pmax pmax
comp=Z,36nm,1.1s,mb5.5
DGMT Dagmar 88.54 39 PFAKE 00 52 00.0 +13
DGMT LR LR
comp=Z,2μm,20.0s,MS5.5
WUAZ Wupatki 88.79 53 *e*P **P 00 51 48.7 +0.7**
comp=Z,49nm,1.0s,mb5.8
WUAZ LR LR
comp=Z,779nm,20.0s,MS5.1
RWWY Rawlins 89.44 46 *e*P **P 00 51 51.8 +0.9**
comp=Z,50nm,1.4s,mb5.7
SUMG Summit 89.50 2 *e*P **P 00 51 51.8 +1.2**
comp=Z,20nm,1.2s,mb5.3
SUMG Summit 89.50 2 *e*P **P 00 51 51.8 +1.2**
SUMG pmax pmax
comp=Z,20nm,1.2s
SUMG Summit 89.50 2 *i*P **P 00 51 53.5 +2.9**
comp=Z,8.8nm,1.0s,mb5.0
PV04 Paradox Valley 89.55 50 *e*P **P 00 51 51.7 +0.2**
SOC Sochi 89.58 316 *e*P **P 00 51 57.6 +6.0**
SOC *e*SS SS 01 08 32.8 -2.7
SOC pmax pmax
comp=Z,22nm,1.2s,mb5.4
PV01 Paradox Valley 89.89 50 *e*P **P 00 51 53.0 -0.1**
comp=Z,2μm,1.1s
BHD Baghdad 90.28 305 *ex* x 00 52 05.0
BHD *i* x x 01 02 14.0
BHD *ex* x 01 03 01.0
MVCO Mesa Verde 90.30 51 *e*P **P 00 51 54.8 -0.2**
comp=Z,43nm,1.3s,mb5.6
MVCO LR LR
comp=Z,1μm,19.0s,MS5.3
TUC Tucson 90.41 56 *e*P **P 00 51 55.5 -0.2**
comp=Z,22nm,1.2s,mb5.4
TUC *e*PP PP 00 55 32.9 +2.7
TUC LR LR
comp=Z,837nm,20.0s,MS5.2
TUC Tucson 90.41 56 *e*P **P 00 51 55.5 -0.2**
TUC *e* 00 55 32.9
TUC pmax pmax
comp=Z,22nm,1.2s,mb5.4
TUC MLR MLR
comp=Z,837nm,20.0s,MS5.2
RSSD Black Hills 90.54 43 *e*P **P 00 51 57.4 +1.5**
comp=Z,19nm,1.1s,mb5.3
RSSD Black Hills 90.54 43 *e*P **P 00 51 57.4 +1.4**
RSSD pmax pmax
comp=Z,19nm,1.1s,mb5.3
ANN Anapa 90.55 318 *e*P **P 00 52 03.3 +7.3**
ANN *e**PP pP 00 52 17.8 +9.1
SMCO Snowmass 90.62 48 *e*P **P 00 51 57.1 +0.7**
comp=Z,47nm,1.3s,mb5.7
PHWY Pilot Hill 90.80 46 *e*P **P 00 51 57.8 +0.5**
comp=Z,39nm,1.4s,mb5.5
MICGM Minsk 91.09 329‖ *e*P **P 00 51 55.0 -3.3**
MNK Minsk 91.11 329‖ *e*P **P 00 51 55.0 -3.4**
IZAR Zarasai 91.15 331 *e*P **P 00 51 58.4 -0.2**
IZAR AMB AMB 00 52 10.9
comp=Z,30nm,1.2s,mb5.5
ISAL Salakas 91.31 331 *e*P **P 00 51 59.2 -0.1**
ISAL AMB AMB 00 52 09.7
comp=Z,20nm,2.4s,mb5.0
ISCO Idaho Springs 91.32 47 *e*P **P 00 52 00.6 +0.8**
comp=Z,26nm,1.4s,mb5.4
ISCO LR LR
comp=Z,2μm,19.0s,MS5.5
ISCO Idaho Springs 91.32 47 *e*P **P 00 52 00.6 +0.9**
ISCO pmax pmax
comp=Z,26nm,1.4s,mb5.4
ISCO MLR MLR
comp=Z,2μm,19.0s,MS5.5
SCO Scoresbysund 91.33 356 *e*P **P 00 52 05.9 +6.8**
SCO pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
IIGN Ignalina 91.39 331 *e*P **P 00 51 59.5 -0.2**
IIGN AMB AMB 00 52 08.8
comp=Z,16nm,1.2s,mb5.2
SDCO Great Sand Dun 92.26 49 *e*P **P 00 52 03.9 -0.3**
comp=Z,16nm,1.3s,mb5.2
SDCO LR LR
comp=Z,2μm,19.0s,MS5.5
LAZ Ladron 92.42 53 *e*P **P 00 52 06.0 +1.0**
comp=Z,4.7nm,1.0s,mb4.8
AKASG Malin Array Be 92.48 326 P **P 00 52 02.8 -2.0**
comp=Z,1.0nm,0.5s,mb4.4,baz=53,slow=4.5,SNR=6.4
AKASG LR LR 01 36 16.6
comp=Z,1μm,19.5s,MS5.3,baz=65,slow=37
AKASG Malin Array Be 92.48 326 P **P 00 52 02.8 -2.0**
AKASG Malin Array Be 92.48 326 P **P 00 52 02.8 -2.0**
KIEV Kiev 92.49 326 PFAKE 00 52 20.0 +15
KIEV LR LR
comp=Z,1μm,19.0s,MS5.3
ANMO Albuquerque 92.72 52 P **P 00 52 06.3 0.0**
comp=Z,1.6nm,0.8s,mb4.5,baz=254,slow=3.8,SNR=5.3
ANMO PP PP 00 55 52.8 +4.6
comp=Z,3.8nm,1.1s,baz=288,slow=8.0,SNR=4.7
ANMO Albuquerque 92.72 52 *e*P **P 00 52 06.7 +0.4**
comp=Z,0.5nm,0.8s,mb4.0
ANMO PP PP 00 55 52.8 +4.6
ANMO LR LR
comp=Z,854nm,21.0s,MS5.2
ANMO Albuquerque 92.72 52 *e*P **P 00 52 06.7 +0.4**
ANMO 00 55 52.8
ANMO MLR MLR
comp=Z,854nm,21.0s
MSEY Mahe Island 92.81 266 PFAKE 00 52 20.0 +13
MSEY LR LR
comp=Z,497nm,21.0s,MS4.9
BNM Barren Site 92.91 53 *e*P **P 00 52 08.2 +1.0**
comp=Z,23nm,1.7s,mb5.3
OGNE Ogallala 93.28 45 PFAKE 00 52 20.0 +11
OGNE LR LR
comp=Z,1μm,21.0s,MS5.3
AGMN Agassiz Nation 93.48 37 *e*P **P 00 52 09.5 0.0**
comp=Z,18nm,1.1s,mb5.4
AGMN LR LR
comp=Z,1μm,20.0s,MS5.4
NOA NORSAR Array B 93.56 340 P **P 00 52 08.5 -1.1**
comp=Z,1.4nm,0.6s,mb4.6,baz=47,slow=4.6,SNR=6.3
NOA PP PP 00 55 56.3 +2.5
comp=Z,1.8nm,0.8s,baz=21,slow=6.8,SNR=4.0
NOA LR LR 01 41 09.6
comp=Z,617nm,18.4s,MS5.1,baz=50,slow=40
NOA NORSAR Array B 93.56 340 P **P 00 52 08.5 -1.1**
NOA PP PP 00 55 56.3 +2.5
NOA NORSAR Array B 93.56 340 P **P 00 52 08.5 -1.1**
NOA 00 55 56.3
SUW Suwalki 93.61 331 *e*P **P 00 52 08.8 -1.2**
SUW *e* 00 52 16.7
SUW Suwalki 93.61 331 *e*P **P 00 52 08.8 -1.1**
comp=Z,105nm,1.1s,mb6.2
SUW Suwalki 93.61 331 *e*P **P 00 52 08.8 -1.2**
SUW *e* 00 52 16.7
SFJD Kangerlussuaq 94.18 7 PFAKE 00 52 20.0 +7.7
SFJD LR LR
comp=Z,1μm,22.0s,MS5.3
SFJD Kangerlussuaq 94.18 7 *e*P **P 00 52 18.1 +5.8**
SFJD pmax pmax
comp=Z,19nm,0.9s,mb5.5
SFJD MLR MLR
comp=Z,770nm,19.0s,MS5.2
SFJD Kangerlussuaq 94.18 7 *i*P **P 00 52 18.1 +5.8**
comp=Z,19nm,1.0s,mb5.5
SFJD
comp=Z,760nm,19.0s
MNTX Cornudas Mount 94.87 55 *e*P **P 00 52 15.5 -0.8**
comp=Z,20nm,1.5s,mb5.3
MNTX LR LR
comp=Z,718nm,20.0s,MS5.1
KONO Kongsberg 95.14 340 PFAKE 00 52 30.0 +13
KONO LR LR
comp=Z,1μm,20.0s,MS5.3
BR131 Keskin Array S 95.38 315 *e*P **P 00 52 17.2 -1.3**
comp=Z,3.0nm,0.8s,mb4.8
BR131 LR LR
comp=Z,608nm,19.0s,MS5.1
BRTR Keskin Array B 95.38 315 P **P 00 52 17.1 -1.3**
comp=Z,2.7nm,0.8s,mb4.8,baz=101,slow=1.3,SNR=14
BRTR LR LR 01 40 54.2
comp=Z,610nm,19.1s,MS5.1,baz=37,slow=39
BRTR Keskin Array B 95.38 315 P **P 00 52 17.1 -1.3**
BRTR Keskin Array B 95.38 315 P **P 00 52 17.1 -1.3**
ECSD EROS Data Cent 95.43 41 PFAKE 00 52 30.0 +11
ECSD LR LR
comp=Z,1μm,19.0s,MS5.3
VNDA Vanda 95.80 177 PFAKE 00 52 30.0 +11
VNDA LR LR
comp=Z,560nm,20.0s,MS5.0
CBKS Cedar Bluff 95.84 46 PFAKE 00 52 30.0 +9.5
CBKS LR LR
comp=Z,975nm,21.0s,MS5.3
EYMN Ely 96.11 35 PFAKE 00 52 30.0 +8.4
EYMN LR LR
comp=Z,1μm,19.0s,MS5.4
AMTX Amarillo 96.29 50 PFAKE 00 52 30.0 +7.3
AMTX LR LR
comp=Z,1μm,22.0s,MS5.3
BUR08 Bucovina Ar. S 96.38 325 *e*P **P 00 52 22.1 -0.6**
BURAR Bucovina Array 96.39 325‖ *i*P **P 00 52 22.0 -0.8**
SBA Scott Base 96.42 176 PFAKE 00 52 30.0 +7.8
SBA LR LR
comp=Z,654nm,20.0s,MS5.1
KWP Kalwaria Pacla 96.52 327 PFAKE 00 52 30.0 +6.6
KWP LR LR
comp=Z,1μm,20.0s,MS5.4
TXAR Lajitas Array 97.21 56 P **P 00 52 27.0 +0.1**
comp=Z,0.4nm,0.9s,mb3.9,baz=18,slow=1.6,SNR=4.4
TXAR PP PP 00 56 34.1 +11
comp=Z,0.5nm,1.0s,baz=308,slow=6.2,SNR=3.5
TXAR PKKPbc PKKPbc 01 09 11.9 +5.8
comp=Z,0.3nm,0.7s,baz=148,slow=5.3,SNR=4.2
TXAR LR LR 01 31 11.5
comp=Z,693nm,18.4s,MS5.2,baz=320,slow=32
TXAR Lajitas Array 97.21 56 P **P 00 52 27.0 +0.1**
TXAR PP PP 00 56 34.1 +11
TXAR PKKPbc PKKPbc 01 09 11.9 +5.8
TXAR Lajitas Array 97.21 56 P **P 00 52 27.0 +0.1**
KSU1 Kansas State U 97.81 45 PFAKE 00 52 40.0 +11
KSU1 LR LR
comp=Z,1μm,20.0s,MS5.3
CSS Prodhromos 97.87 311 PFAKE 00 52 40.0 +10
CSS LR LR
comp=Z,1μm,20.0s,MS5.4
DRGR 98.25 325‖ *i*P **P 00 52 34.8 +3.6**
WMOK Wichita Mounta 98.46 49 PFAKE 00 52 40.0 +7.5
WMOK LR LR
comp=Z,738nm,21.0s,MS5.2
SCIA State Center 98.52 41 PFAKE 00 52 40.0 +7.4
SCIA LR LR
comp=Z,1μm,19.0s,MS5.3
OKC Ostrava-Krasne 98.67 329 AMS AMS 01 42 00.0
comp=Z,900nm,18.0s
PSZ Piszkesteto 99.05 327 PFAKE 00 52 50.0 +15
PSZ LR LR
comp=Z,1μm,22.0s,MS5.3
DPC Dobruska-Polom 99.20 330 *e*P **P 00 52 41.7 +6.3**
DPC MLR MLR
comp=Z,2μm,17.8s,MS5.5
DPC Dobruska-Polom 99.20 330 *e*pP pP 00 52 41.7 -6.4
DPC AMS AMS 01 42 20.0
comp=Z,2μm,17.8s
UPC Upice 99.24 331 *e*P pP 00 52 46.0 -2.3
UPC Upice 99.24 331 *e*pP pP 00 52 46.0 -2.3
JCT Junction City 99.71 54 PFAKE 00 52 50.0 +12
JCT LR LR
comp=Z,884nm,19.0s,MS5.3
JFWS Jewell Farm 99.76 39 PFAKE 00 52 50.0 +12
JFWS LR LR
comp=Z,2μm,19.0s,MS5.7
PVCC Panska Ves 99.89 331 *e*P Pdif 00 52 47.6 +9.2
PVCC MLR MLR
comp=Z,1μm,19.1s,MS5.3
PVCC Panska Ves 99.89 331 *e*pP 00 52 47.6
PVCC AMS AMS 01 43 00.0
comp=Z,1μm,19.1s
BRG Berggiesshubel 99.93 332 *e*PKP Pdif 00 52 49.7 +11
comp=Z,6.6nm,1.2s
BRG *e* 00 56 48.0
comp=Z,36nm,1.6s
BRG SDIFF SKSac 01 03 15.0 +0.9
BRG
comp=N,1μm,15.6s
BRG
comp=E,641nm,18.5s
BRG
comp=Z,1μm,13.1s
BRG Berggiesshubel 99.93 332 *e*P Pdif 00 52 49.7 +11
BRG *e* 00 56 48.0
BRG S SKSac 01 03 15.0 +0.9
BRG pmax pmax
comp=Z,7.0nm,1.3s,mb4.9
BRG pmax pmax
comp=Z,36nm,1.6s,mb5.5
BRG MLR MLR
comp=N,1μm,15.6s,MS5.5
BRG MLR MLR
comp=E,641nm,18.5s,MS5.5
BRG MLR MLR
comp=Z,1μm,13.1s
CLL Collm 100.03 333 *e*P Pdif 00 52 38.0 -1.0
CLL *e* 00 56 43.0
CLL *e* 01 03 09.0
CLL *e*S Sdif 01 04 07.0 -3.6
CLL MLR MLR
comp=Z,1μm,20.5s,MS5.5
CLL Collm 100.03 333 *e*Pdif Pdif 00 52 38.0 -1.0
CLL *e*PP PP 00 56 43.0 -0.9
CLL *i*PP 00 56 53.4
comp=Z,41nm,1.7s
CLL *e*SKSac SKSac 01 03 13.0 -1.6
CLL *e*Sdif Sdif 01 04 10.0 -0.6
CLL *e*PS PS 01 05 37.0 -6.7
CLL *e*SS SS 01 11 03.0 -0.1
CLL *e* 01 12 42.0
CLL *e*SSSS 01 18 06.0
CLL *e* 01 19 18.0
CLL Lm 01 41 00.0
comp=N,800nm,20.8s
CLL Lm 01 41 00.0
comp=E,600nm,18.3s
CLL Lm 01 41 00.0
comp=Z,1μm,20.5s
TREC Trest 100.32 330 AMS AMS 01 41 00.0
comp=Z,900nm,17.7s
NKC Novy Kostel 101.05 332 AMS AMS 01 41 20.0
comp=Z,1μm,19.6s
KHC Kasperske Hory 101.33 331 *e*PP PP 00 56 50.0 -3.7
KHC AMS AMS 01 43 40.0
comp=Z,2μm,19.2s
GERES GERESS Array B 101.47 331 P Pdif 00 52 44.2 -1.2
comp=Z,0.3nm,0.5s,baz=64,slow=3.1,SNR=3.6
GERES PP PP 00 56 59.2 +4.3
comp=Z,2.0nm,0.9s,baz=25,slow=7.3,SNR=5.9
GERES GERESS Array B 101.47 331 P Pdif 00 52 44.2 -1.2
GERES PP PP 00 56 59.2 +4.3
GERES GERESS Array B 101.47 331 P Pdif 00 52 44.3 -1.1
GERES 00 56 59.2
HDIL Hopedale 101.72 40 PFAKE 00 53 00.0 +13
HDIL LR LR
comp=Z,1μm,19.0s,MS5.4
GLMI Grayling 101.78 35 PFAKE 00 53 00.0 +13
GLMI LR LR
comp=Z,1μm,21.0s,MS5.4
SCHQ Schefferville 101.88 19 PFAKE 00 53 00.0 +13
SCHQ LR LR
comp=Z,2μm,19.0s,MS5.6
MIAR Mount Ida 102.26 47 PFAKE 00 53 00.0 +11
MIAR LR LR
comp=Z,2μm,20.0s,MS5.6
KVTX Kingsville 102.55 55 PFAKE 00 53 00.0 +10
KVTX LR LR
comp=Z,855nm,19.0s,MS5.3
ESK Eskdalemuir 102.62 343 PFAKE 00 53 00.0 +9.5
ESK LR LR
comp=Z,869nm,22.0s,MS5.2
NATX Nacogdoches 102.94 50 PFAKE 00 53 00.0 +8.1
NATX LR LR
comp=Z,1μm,19.0s,MS5.5
TIR Tirane 103.22 322 PFAKE 00 53 00.0 +6.8
TIR LR LR
comp=Z,922nm,19.0s,MS5.3
TRI Trieste 103.65 328 PFAKE 00 53 10.0 +15
TRI LR LR
comp=Z,950nm,20.0s,MS5.3
WLF Walferdange 104.15 335 PFAKE 00 53 10.0 +13
WLF LR LR
comp=Z,1μm,20.0s,MS5.4
BFO Black Forest 104.27 333 PFAKE 00 53 10.0 +12
BFO LR LR
comp=Z,1μm,22.0s,MS5.4
ABPO Ambohimpanom 104.58 254 PFAKE 00 53 10.0 +11
ABPO LR LR
comp=Z,398nm,21.0s,MS4.9
CDF Champ du Feu 104.66 334 *e*PKIKP PKiKP 00 57 12.7 -2.6
comp=Z,51nm,1.6s
ECH Echery 104.86 333 PFAKE 00 53 10.0 +9.5
ECH LR LR
comp=Z,905nm,20.0s,MS5.3
OXF Oxford 105.15 45 PFAKE 00 57 30.0 +13
OXF LR LR
comp=Z,1μm,19.0s,MS5.5
TUE Stuetta 105.22 331 PFAKE 00 57 30.0 +14
TUE LR LR
comp=Z,2μm,19.0s,MS5.7
VBMS Vicksburg 105.67 48 PFAKE 00 57 30.0 +12
VBMS LR LR
comp=Z,1μm,20.0s,MS5.4
ACSO Alum Creek Sta 105.69 37 PFAKE 00 57 30.0 +13
ACSO LR LR
comp=Z,2μm,20.0s,MS5.7
SFTF Sexfontaines 105.75 335 *e*PKIKP PKiKP 00 57 13.8 -3.5
comp=Z,94nm,1.6s
PLAL Pickwick Lake 105.77 44 PFAKE 00 57 30.0 +12
PLAL LR LR
comp=Z,949nm,20.0s,MS5.3
ERPA Erie 106.10 34 PFAKE 00 57 30.0 +12
ERPA LR LR
comp=Z,1μm,19.0s,MS5.5
AQU L'Aquila 106.18 326 PFAKE 00 57 30.0 +12
AQU LR LR
comp=Z,985nm,20.0s,MS5.4
VLC Villacollemand 106.44 329 PFAKE 00 57 30.0 +11
VLC LR LR
comp=Z,1μm,20.0s,MS5.4
CUC Castrocucco 106.45 323 PFAKE 00 57 30.0 +11
CUC LR LR

comp=Z,506nm,20.0s,MS5.1
LONY Lake Ozonia 107.02 30 PFAKE 00 57 30.0 +10
LONY LR LR
comp=Z,1μm,22.0s,MS5.4
SSF Saint Saulge 107.29 335 *e*PKIKP PKiKP 00 57 17.8 -2.4
comp=Z,47nm,1.5s
BNI Bardonecchia 107.51 332 PFAKE 00 57 30.0 +9.4
BNI LR LR
comp=Z,2μm,19.0s,MS5.6
CEL Celeste 107.55 321 PFAKE 00 57 30.0 +9.1
CEL LR LR
comp=Z,697nm,20.0s,MS5.2
MBDF Montbardon 107.72 331 *e*PKIKP PKiKP 00 57 17.8 -3.2
comp=Z,126nm,1.7s
QSPA South Pole Qui 107.89 180 PFAKE 00 57 30.0 +10
QSPA LR LR
comp=Z,1μm,19.0s,MS5.4
BINY Binghamton 108.13 32 PFAKE 00 57 30.0 +8.1
BINY LR LR
comp=Z,2μm,20.0s,MS5.6
SSB Saint Sauveur 108.28 333 PFAKE 00 57 30.0 +7.9
SSB LR LR
comp=Z,911nm,22.0s,MS5.3
LBNH Lisbon 108.54 28 PFAKE 00 57 30.0 +7.4
LBNH LR LR
comp=Z,1μm,22.0s,MS5.5
BRAL Brewton 108.78 47 PFAKE 00 57 30.0 +6.6
BRAL LR LR
comp=Z,2μm,19.0s,MS5.6
PKME Peaks-Kenny Pk 108.88 26 PFAKE 00 57 30.0 +6.8
PKME LR LR
comp=Z,1μm,20.0s,MS5.4
KMBO Kilima Mbogo 109.05 275 PFAKE 00 57 40.0 +16
KMBO LR LR
comp=Z,547nm,20.0s,MS5.1
BLA Blacksburg 109.19 38 PFAKE 00 57 40.0 +16
BLA LR LR
comp=Z,2μm,21.0s,MS5.6
CBN Corbin 110.26 36 PFAKE 00 57 40.0 +14
CBN LR LR
comp=Z,3μm,20.0s,MS5.8
CNNC Cliffs of the 112.03 39 PFAKE 00 57 40.0 +11
CNNC LR LR
comp=Z,2μm,20.0s,MS5.6
NHSC New Hope 112.06 42 PFAKE 00 57 40.0 +10
NHSC LR LR
comp=Z,1μm,19.0s,MS5.5
TEIG Tepich 113.81 57 PFAKE 00 57 40.0 +6.8
TEIG LR LR
comp=Z,659nm,21.0s,MS5.2
MBAR Mbarara 115.03 278 PFAKE 00 57 50.0 +14
MBAR LR LR
comp=Z,664nm,20.0s,MS5.2
ESLA Sonseca Array 116.45 335 PFAKE 00 57 50.0 +12
ESLA LR LR
comp=Z,4μm,20.0s,MS6.0
PAB San Pablo 116.71 335 PFAKE 00 57 50.0 +12
PAB LR LR
comp=Z,948nm,19.0s,MS5.4
TGUH Tegucigalpa,Un 117.74 63 PFAKE 00 57 50.0 +9.1
TGUH LR LR
comp=Z,644nm,20.0s,MS5.2
SFS San Fernando 120.11 335 PFAKE 00 58 00.0 +15
SFS LR LR
comp=Z,2μm,20.0s,MS5.8
PAYG Puerto Ayora 121.23 79 PFAKE 00 58 00.0 +12
PAYG LR LR
comp=Z,385nm,20.0s,MS5.0
BBSR BB Station 121.40 31 PFAKE 00 58 00.0 +12
BBSR LR LR
comp=Z,899nm,22.0s,MS5.4
LSZ Lusaka 121.49 263 *e*PKPdf PKPdf 00 57 47.8 -0.2
LSZ LR LR
comp=Z,507nm,20.0s,MS5.2
LSZ Lusaka 121.49 263 *e*PKIKP PKPdf 00 57 47.8 -0.2
LSZ MLR MLR
comp=Z,507nm,20.0s,MS5.2
JTS JuntasAbangare 121.53 65 PFAKE 00 58 00.0 +12
JTS LR LR
comp=Z,453nm,20.0s,MS5.1
SNAA Sanae 123.55 191 *e*PKPdf PKPdf 00 57 49.7 -0.7
SNAA *e* 00 59 46.1
SNAA Sanae 123.55 191 *e*PKPdf PKPdf 00 57 49.5 -0.8
SNAA Sanae 123.55 191 *e*PKIKP PKPdf 00 57 49.5 -0.9
TAM Tamanrasset 124.57 316 *e*PKPdf PKPdf 00 57 54.2 +0.4
TAM LR LR
comp=Z,468nm,22.0s,MS5.1
TAM Tamanrasset 124.57 316 *e*PKIKP PKPdf 00 57 54.2 +0.4
TAM MLR MLR
comp=Z,468nm,22.0s,MS5.1
VNA2 Neumayer--Watz 124.97 190 *e*PKPdf PKPdf 00 57 52.9 -0.2
baz=315,slow=0.8
VNA3 Neumayer Olymp 125.05 189 *e*PKPdf PKPdf 00 57 52.6 -0.7
VNA3 *e* 00 59 40.2
LBTB Lobatse 125.35 252 PFAKE 00 58 10.0 +15
LBTB LR LR
comp=Z,503nm,21.0s,MS5.2
BOSA Boshof 125.89 247 PFAKE 00 58 10.0 +14
BOSA LR LR
comp=Z,414nm,20.0s,MS5.1
BCIP Isla Barro Col 126.47 63 PFAKE 00 58 10.0 +12
BCIP LR LR
comp=Z,513nm,21.0s,MS5.2
SDDR Presa de Saban 127.40 47 PFAKE 00 58 10.0 +11
SDDR LR LR
comp=Z,776nm,19.0s,MS5.4
SUR Sutherland 129.71 243 PFAKE 00 58 20.0 +17
SUR LR LR
comp=Z,270nm,19.0s,MS5.0
SJG San Juan 131.50 44 PFAKE 00 58 20.0 +13
SJG LR LR
comp=Z,808nm,19.0s,MS5.5
OTAV Otavalo 131.82 73 PFAKE 00 58 20.0 +12
OTAV LR LR
comp=Z,407nm,20.0s,MS5.1
TSUM Tsumeb 132.14 260 PFAKE 00 58 20.0 +12
TSUM LR LR
comp=Z,391nm,20.0s,MS5.1
TORD Torodi Ar. Bea 133.76 310 PKP PKPdf 00 58 10.9 -0.6
comp=Z,2.2nm,0.6s,baz=32,slow=1.6,SNR=21
TORD PP PP 01 00 51.2 +11
comp=Z,1.6nm,1.0s,baz=24,slow=7.4,SNR=3.7
TORD SKPbc SKPbc 01 01 35.3 -1.9
comp=Z,3.4nm,1.1s,baz=45,slow=2.6,SNR=6.0
TORD Torodi Ar. Bea 133.76 310 PKP PKPdf 00 58 10.9 -0.6
TORD PP PP 01 00 51.2 +11
TORD SKPbc SKPbc 01 01 35.3 -1.9
SDV Santo Domingo 134.24 57 *e*PKPdf PKPdf 00 58 12.6 +0.1
FDF Fort de France 137.22 42 PFAKE 00 58 30.0 +12
FDF LR LR
comp=Z,894nm,22.0s,MS5.5
NNA Nana 137.36 88 PFAKE 00 58 30.0 +12
NNA LR LR
comp=Z,426nm,19.0s,MS5.2
GRGR Grenville 138.80 45 PFAKE 00 58 30.0 +9.1
GRGR LR LR
comp=Z,982nm,21.0s,MS5.5
BBGH Gun Hill 139.43 42 PFAKE 00 58 30.0 +8.0
BBGH LR LR
comp=Z,2μm,21.0s,MS5.8
PLCA Paso Flores 140.72 133 PKhKP PKPpre 00 58 16.6
comp=Z,1.5nm,0.7s,baz=350,slow=4.9,SNR=3.1
PLCA PKP PKPdf 00 58 24.5 +0.9
comp=Z,2.6nm,0.8s,baz=151,slow=4.7,SNR=3.6
PLCA Paso Flores 140.72 133 PKPpre PKPpre 00 58 16.6
PLCA PKP PKPdf 00 58 24.5 +0.9
PLCA Paso Flores 140.72 133 PKHKP PKPpre 00 58 16.6
PLCA 00 58 24.5
DBIC Dimbokro 142.85 309 PKP PKPdf 00 58 25.2 -3.0
comp=Z,4.6nm,0.6s,baz=335,slow=6.1,SNR=8.2
DBIC SKP 01 01 59.2
comp=Z,3.4nm,0.9s,baz=74,slow=3.3,SNR=4.0
DBIC Dimbokro 142.85 309 *e*PKPpre PKPpre 00 58 23.6
DBIC PKP PKPdf 00 58 25.2 -3.0
DBIC *e*PKPdf PKPdf 00 58 26.4 -1.8
DBIC SKP 01 01 59.2
DBIC LR LR
comp=Z,450nm,22.0s,MS5.2
LCO Las Campanas 143.96 115 *e*PKPdf PKPdf 00 58 27.5 -2.2
LCO LR LR
comp=Z,508nm,20.0s,MS5.3
SACV Santiago Islan 145.86 344 PFAKE 00 58 40.0 +6.6
SACV LR LR
comp=Z,407nm,19.0s,MS5.2
LPAZ La Paz 146.48 92 *e*PKPbc PKPbc 00 58 35.9 +0.1
LPAZ LR LR
comp=Z,518nm,20.0s,MS5.3
LPAZ La Paz 146.48 92 *e*PKP2 PKPab 00 58 35.9 -0.9
LPAZ MLR MLR
comp=Z,518nm,20.0s
TRQA Tornquist 147.85 134 PFAKE 00 58 50.0 +14
TRQA LR LR
comp=Z,561nm,19.0s,MS5.4
CPUP Villa Florida 156.11 114 PKPab PKPab 00 59 17.5 +1.1
comp=Z,1.5nm,0.6s,baz=304,slow=7.3,SNR=3.3
CPUP Villa Florida 156.11 114 PKPab PKPab 00 59 17.5 +1.1
CPUP LR LR
comp=Z,112nm,19.0s,MS4.7
CPUP Villa Florida 156.11 114 PKP2 PKPab 00 59 17.5 +1.1
CPUP MLR MLR
comp=Z,112nm,19.0s
SPB Sao Paulo 165.49 115 PFAKE 00 59 10.0 +11
SPB LR LR
comp=Z,15nm,21.0s
RCBR Riachuelo 167.51 13 PFAKE 00 59 10.0 +9.2
RCBR LR LR
comp=Z,568nm,19.0s

IDC 30 00:49:26.6±2.8, 18°27N×147°83E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.8/22, mbtmp3.9/7, ML4.4/1, MS4.5/1, Ms1 4.5/1, ms1mx3.5/34, Error ellipse: s-maj=103.5km s-min=21.4km az=88.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.46**	**212**	Pn	Pn	00 50 49.2	0.0
	11nm,0.3s,baz=34,slow=18,SNR=3.4						
GUMO				Sn	Sn	00 51 46.8	-6.0
	8.2nm,0.3s,baz=14,slow=22,SNR=2.0						
FX1	**Attu Island--F**	**39.79**	**24**	LR	LR	01 12 46.6	
	comp=Z,668nm,18.4s,baz=154,slow=35						
WRA	**Warramunga Arr**	**40.22**	**200**	P	P	00 57 04.5	-0.5
	0.8nm,0.5s,baz=24,slow=8.8,SNR=5.2						
ASAR	**Alice Springs**	**43.84**	**199**	P	P	00 57 35.1	+0.4
	0.6nm,0.6s,baz=21,slow=7.6,SNR=6.2						
ZALV	**Zalesovo Beam**	**59.59**	**322**	P	P	00 59 32.7	+0.6
	0.5nm,0.3s,baz=90,slow=10,SNR=1.5						
MKAR	**Makanchi Array**	**60.22**	**314**	P	P	00 59 37.1	+0.6
	0.1nm,0.3s,baz=96,slow=7.1,SNR=7.2						
BVAR	**Borovoye Array**	**68.09**	**321**	P	P	01 00 26.6	-1.5
	0.4nm,0.5s,baz=75,slow=6.1,SNR=2.9						
FINES	**FINESS Array B**	**88.11**	**336**	P	P	01 02 19.8	+0.9
	3.4nm,1.0s,baz=74,slow=4.9,SNR=3.4						

WEL 30 01:02:11.2±0.5, 38°16S×176°16E, h149km±4km, ML3.7/4, Error ellipse: s-maj=3.5km s-min=2.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARZ	**Mount Tarawera**	**0.28**	**105**	PN	Pn	01 02 31.9	+0.5
URZ	**Urewera**	**0.76**	**98**	PN	Pn	01 02 33.4	-0.4
URZ				SN	Sn	01 02 50.7	-0.5
BKZ	**Black Stump Fm**	**1.04**	**166**	PN	Pn	01 02 36.1	0.0
BKZ				SN	Sn	01 02 54.1	-1.1
RAHZ	**Arahi**	**1.05**	**136**	PN	Pn	01 02 36.5	+0.4
RAHZ				SN	Sn	01 02 55.3	0.0
NMHZ	**Naumai**	**1.06**	**152**	PN	Pn	01 02 37.2	+0.9
TWVZ	**Taurewa**	**1.07**	**212**	PN	Pn	01 02 35.9	-0.4
OTVZ	**Oturere**	**1.07**	**201**	PN	Pn	01 02 37.1	+0.7
MWZ	**Matawai**	**1.09**	**100**	PN	Pn	01 02 36.4	-0.2
TUVZ	**Tukino**	**1.17**	**200**	PN	Pn	01 02 37.8	+0.5
FWVZ	**Far West T-bar**	**1.19**	**203**	PN	Pn	01 02 37.1	-0.4
WNVZ	**Wahianoa**	**1.25**	**200**	PN	Pn	01 02 38.3	+0.3
MOVZ	**Moawhango**	**1.28**	**194**	PN	Pn	01 02 38.2	-0.2
PKVZ	**Pokaka**	**1.29**	**209**	PN	Pn	01 02 38.7	+0.2
BHHZ	**Black Hill Sta**	**1.33**	**183**	PN	Pn	01 02 38.6	-0.2
MTVZ	**Mangateitei**	**1.34**	**204**	PN	Pn	01 02 39.1	+0.2
MCH2	**McNeill Hill**	**1.35**	**162**	PN	Pn	01 02 39.5	+0.5
KNZ	**Kokohu**	**1.46**	**126**	PN	Pn	01 02 39.9	-0.3
PRGZ	**Paritu Road**	**1.55**	**120**	PN	Pn	01 02 40.9	-0.2
CNGZ	**Carnagh Statio**	**1.64**	**102**	PN	Pn	01 02 42.4	+0.3
PUZ	**Puketiti**	**1.66**	**88**	PN	Pn	01 02 41.6	-0.7
CKHZ	**Cape Kidnapper**	**1.66**	**155**	PN	Pn	01 02 42.3	0.0
MHGZ	**Mahia Peninsul**	**1.69**	**126**	PN	Pn	01 02 42.5	-0.1
KAHZ	**Kahuranaki**	**1.72**	**161**	PN	Pn	01 02 43.0	0.0
PNHZ	**Pukenui**	**1.75**	**179**	PN	Pn	01 02 42.8	-0.5
MXZ	**Matakaoa Point**	**1.80**	**71**	PN	Pn	01 02 43.7	-0.1
WAZ	**Wanganui**	**1.84**	**210**	PN	Pn	01 02 44.2	-0.1
TSZ	**Takapari Road**	**1.90**	**185**	PN	Pn	01 02 44.2	-0.8
WPHZ	**Waipukurau**	**1.91**	**174**	PN	Pn	01 02 44.5	-0.6
PXZ	**Pawanui**	**1.95**	**164**	PN	Pn	01 02 45.1	-0.5
PRHZ	**Porangahau**	**2.13**	**170**	PN	Pn	01 02 46.9	-0.9
DVHZ	**Dannevirke**	**2.14**	**180**	PN	Pn	01 02 46.5	-1.2
POWZ	**Post Office Ro**	**2.25**	**188**	PN	Pn	01 02 47.7	-1.4
BFZ	**Birch Farm**	**2.52**	**179**	PN	Pn	01 02 50.7	-1.6
MRZ	**Mangatainoka R**	**2.54**	**190**	PN	Pn	01 02 50.8	-1.8
TIWZ	**Tintock**	**2.62**	**185**	PN	Pn	01 02 51.9	-1.7
OGWZ	**Otaki Gorge**	**2.76**	**196**	PN	Pn	01 02 53.5	-1.9
HOWZ	**Holdsworth Sta**	**2.78**	**190**	PN	Pn	01 02 53.4	-2.2
KIW	**Kapiti Island**	**2.87**	**199**	PN	Pn	01 02 54.3	-2.4
TMWZ	**Te Maipa**	**2.95**	**184**	PN	Pn	01 02 55.4	-2.4
MTW	**Mount Morrison**	**3.04**	**189**	PN	Pn	01 02 56.2	-2.7
CAW	**Cannon Point**	**3.06**	**196**	PN	Pn	01 02 56.8	-2.4
DUWZ	**D'Urville Isla**	**3.16**	**213**	PN	Pn	01 02 58.2	-2.2
TRWZ	**Traveller**	**3.25**	**186**	PN	Pn	01 02 58.9	-2.7
PAWZ	**Paruwai Farm**	**3.27**	**190**	PN	Pn	01 02 58.9	-2.9
MSWZ	**Moikau Station**	**3.32**	**192**	PN	Pn	01 02 59.6	-2.9
SNZO	**South Karori**	**3.34**	**199**	PN	Pn	01 02 59.7	-3.0
TCW	**Tory Channel**	**3.38**	**205**	PN	Pn	01 03 00.5	-2.7
BHW	**Baring Head**	**3.39**	**197**	PN	Pn	01 03 00.3	-3.1
PLWZ	**Palliser**	**3.48**	**191**	PN	Pn	01 03 01.3	-3.2
TUWZ	**Tuamarina**	**3.68**	**207**	PN	Pn	01 03 04.1	-3.1
NNZ	**Nelson**	**3.73**	**214**	PN	Pn	01 03 04.9	-2.9
QRZ	**Quartz Range**	**3.87**	**225**	PN	Pn	01 03 06.4	-3.3
BSWZ	**Blackbirch Sta**	**3.96**	**206**	PN	Pn	01 03 07.7	-3.1
THZ	**Tophouse**	**4.38**	**214**	PN	Pn	01 03 13.2	-3.1
KHZ	**Kahutara**	**4.70**	**204**	PN	Pn	01 03 16.9	-3.6
DSZ	**Denniston Nort**	**4.90**	**222**	PN	Pn	01 03 18.9	-4.2
MQZ	**McQueen's Vall**	**6.14**	**204**	PN	Pn	01 03 34.1	-5.6
ODZ	**Otahua Downs**	**8.02**	**209**	PN	Pn	01 03 59.6	-5.2

*IDC **30** 01:05:22.1±9.5, 34°06N×71°11E, h0km, mb3.7/2, mb1 3.6/4, mb1mx3.3/26, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=296.3km s-min=28.1km az=135.0*
*ISCJB **30** 01:05:35.6±3.0, 36°10N±0°05×68°9E±0°1, h29km±26km, mb3.4/2, Error ellipse: s-maj=18.3km s-min=6.8km az=12.1*
*NEIC **30** 01:05:35.3±6.7, 36°03N×68°83E, h12km±49km, Error ellipse: s-maj=21.4km s-min=10.6km az=99.0*

ISC 30 01:05:36.4±3.0, 36°04N±0°05×68°8E±0°1, h19km±20km, n15, σ0s81/19, mb3.4/2, 3C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**1.50**	**173**	*e*Pn	**Pn**	**01 06 02.1**	**-0.1**
KBL				*e*Sn	**Sn**	**01 06 21.1**	**-0.2**
KK31	**Karatay Array**	**7.18**	**10**	⇑P	**Pn**	**01 07 20.5**	**+0.3**
	0.4nm,0.3s,baz=196,slow=13						
KK31				⇑S	**Sn**	**01 08 40.3**	**-0.8**
	0.7nm,0.3s,baz=196,slow=24						
KKAR	**Karatay Array**	**7.18**	**10**	*e*Pn	**Pn**	**01 07 21.1**	**+0.9**
	1.2nm,0.3s						
AAK	**Ala-Archa**	**7.92**	**32**	*e*Pn	**Pn**	**01 07 31.0**	**+0.7**
	15nm,0.4s						
AAK				*e*Sn	**Sn**	**01 09 00.6**	**+1.3**
TKM2	**Tokmak 2**	**8.64**	**35**	⇑P	**Pn**	**01 07 39.2**	**-1.0**
	2.1nm,0.8s						
TKM2				⇓S	**Sn**	**01 09 16.5**	**-0.6**
	2.0nm,0.7s						
TKM2	**Tokmak 2**	**8.64**	**35**	*e*Pn	**Pn**	**01 07 39.7**	**-0.5**
ABKAR	**Akbulak array**	**14.72**	**337**	*e*P	**Pn**	**01 09 02.6**	**-0.8**
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**14.73**	**39**	Pn	**Pn**	**01 08 59.7**	**-3.8**
	baz=225,slow=14,SNR=2.1						
MKAR	**Makanchi Array**	**14.73**	**39**	Pn	**Pn**	**01 08 59.7**	**-3.8**
KURK	**Kurchatov**	**16.29**	**23**	Pn	**Pn**	**01 09 24.5**	**+0.6**
	0.1nm,0.3s,baz=212,slow=9.9,SNR=3.0						
KURK	**Kurchatov**	**16.29**	**23**	Pn	**Pn**	**01 09 24.5**	**+0.6**
ZALV	**Zalesovo Beam**	**21.09**	**27**	P	**P**	**01 10 18.6**	**-0.9**
	2.2nm,0.6s,mb3.7,baz=214,slow=10,SNR=5.1						
ZALV	**Zalesovo Beam**	**21.09**	**27**	P	**P**	**01 10 18.6**	**-0.9**
TORD	**Torodi Ar. Bea**	**63.95**	**268**	P	**P**	**01 16 09.4**	**+0.9**
	0.1nm,0.4s,mb3.2,baz=48,slow=6.3,SNR=8.0						
TORD	**Torodi Ar. Bea**	**63.95**	**268**	P	**P**	**01 16 09.4**	**+0.9**

*IDC **30** 01:07:50.8±1.4, 23°81N×125°43E, h0km, mb3.2/3, mb1 3.5/4, mb1mx3.3/21, mbtmp3.3/4, ML3.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/12, Error ellipse: s-maj=46.4km s-min=26.5km az=78.0*
*ISCJB **30** 01:07:53.9±2.6, 23°74N±0°08×125°35E±0°06, h33km±23km, mb3.1/3, Error ellipse: s-maj=13.4km s-min=8.4km az=21.6*
*JMA **30** 01:07:53.8±0.4, 23°73N×125°19E, h7km, M3.1*

ISC 30 01:07:53.9±2.4, 23°77N±0°10×125°31E±0°06, h20km±18km, n12, σ0s75/18, mb3.1/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**0.99**	**5**	P	**Pn**	**01 08 13.6**	**+1.0**
JTJ	**Tarama**	**1.03**	**328**	P	**Pn**	**01 08 12.6**	**-0.6**
JTJ				S	**Sb**	**01 08 26.4**	**+0.3**
JMJ	**Miyako jima 2**	**1.04**	**359**	P	**Pn**	**01 08 14.7**	**+1.4**
JIJ	**Ishigaki jima**	**1.22**	**299**	P	**Pn**	**01 08 15.4**	**-0.4**
JIJ				S	**Sn**	**01 08 31.1**	**-0.6**
JKRS	**Kuro-shima**	**1.28**	**292**	P	**Pn**	**01 08 16.7**	**+0.1**
JKRS				S	**Sn**	**01 08 33.4**	**+0.3**
HATJ	**Hateruma jima**	**1.41**	**282**	P	**Pn**	**01 08 18.2**	**-0.2**
HATJ				S	**Sn**	**01 08 36.1**	**-0.2**
IRIF	**Iriomote-Funau**	**1.55**	**292**	P	**Pn**	**01 08 20.1**	**-0.2**
IRIF				S	**Sn**	**01 08 40.0**	**+0.1**
YOJ	**Yonaguni jima**	**2.21**	**289**	P	**Pn**	**01 08 29.4**	**0.0**
JOW	**Kunigami**	**4.06**	**41**	Pn	**Pn**	**01 08 53.0**	**-1.9**
	3.7nm,0.3s,baz=134,slow=15,SNR=16						
JOW				Sn	**Sn**	**01 09 35.8**	**-6.0**
	2.4nm,0.3s,baz=94,slow=26,SNR=3.0						
JOW				LR	LR	01 10 00.5	
	comp=Z,473nm,21.4s,baz=305,slow=33						
MKAR	**Makanchi Array**	**41.29**	**315**	P	**P**	**01 15 38.1**	**+0.3**
	0.1nm,0.4s,mb2.8,baz=100,slow=8.7,SNR=4.7						
WRA	**Warramunga Arr**	**44.33**	**168**	P	**P**	**01 16 02.0**	**-0.7**
	0.5nm,0.4s,mb3.6,baz=350,slow=9.3,SNR=4.0						
ASAR	**Alice Springs**	**47.88**	**169**	P	**P**	**01 16 32.0**	**+1.4**
	0.1nm,0.6s,mb3.0,baz=353,slow=13,SNR=4.4						

RSPR 30 01:38:27.0, 18°24N×66°41W, h32km±2km, MD2.5/6, 12C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CELP	**Cerrillos**	**0.23**	**225**	⇑*e*P	Pb	01 38 33.1	-0.7
CELP	**Cerrillos**	**0.23**	**225**	⇓*e*P	Pb	01 38 33.1	-0.7
OBIP	**Obispado Ponce**	**0.27**	**224**	⇑*e*P	Pb	01 38 34.0	-0.2
OBIP	**Obispado Ponce**	**0.27**	**224**	⇓*e*P	Pb	01 38 34.2	-0.1
OBIP				*e*S	Sb	01 38 38.8	-0.4
SJG	**San Juan**	**0.28**	**116**	⇑*e*P	Pb	01 38 33.3	-1.1
SJG	**San Juan**	**0.28**	**116**	⇓*e*P	Pb	01 38 33.5	-0.9
SJG	**San Juan**	**0.28**	**116**	⇑*e*P	Pb	01 38 33.3	-1.1
SJG	**San Juan**	**0.28**	**116**	⇓*e*P	Pb	01 38 33.5	-0.9
SJG				*e*S	Sb	01 38 38.7	-0.7
AOPR	**Arecibo Observ**	**0.34**	**289**	⇓*e*P	Pb	01 38 34.2	-1.1
AOPR	**Arecibo Observ**	**0.34**	**289**	⇓*e*P	Pb	01 38 34.2	-1.1
AOPR				*e*S	Sb	01 38 40.2	-0.7
CBYP	**Canovanas**	**0.53**	**86**	⇑*e*P	Pb	01 38 37.3	-0.7
CBYP	**Canovanas**	**0.53**	**86**	⇑*e*P	Pb	01 38 37.3	-0.7
CBYP				*e*S	Sb	01 38 44.8	-0.7
HUMP	**Col San Antoni**	**0.54**	**100**	⇑*e*P	Pb	01 38 36.7	-1.5
HUMP	**Col San Antoni**	**0.54**	**100**	⇑*e*P	Pb	01 38 36.7	-1.5
HUMP				*e*S	Sb	01 38 44.6	-1.3
MTP	**Monte Pirata**	**0.83**	**99**	⇑*e*P	Pn	01 38 40.8	-1.6
MTP	**Monte Pirata**	**0.83**	**99**	⇑*e*P	Pn	01 38 40.8	-1.6
MTP				*e*S	Sn	01 38 51.7	-1.8

IDC 30 01:41:34.4±1.2, 18°17N×148°20E, h0km, mb3.7/7, mb1 4.0/8, mb1mx3.8/21, mbtmp3.8/8, ML4.6/1, Error ellipse: s-maj=43.8km s-min=18.9km az=96.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.57**	**216**	Pn	Pn	01 42 57.9	-0.6
	18nm,0.3s,baz=39,slow=18,SNR=6.5						
GUMO				Sn	Sn	01 43 53.6	-10
	9.1nm,0.3s,baz=191,slow=22,SNR=2.5						
WRA	**Warramunga Arr**	**40.24**	**200**	P	P	01 49 13.4	+0.4
	1.8nm,0.7s,baz=21,slow=9.4,SNR=11						
ASAR	**Alice Springs**	**43.86**	**199**	P	P	01 49 42.4	-0.2
	0.3nm,0.3s,baz=30,slow=7.3,SNR=11						
SONM	**Songino Array**	**45.05**	**321**	P	P	01 49 52.2	+0.3
	0.2nm,0.3s,baz=134,slow=7.8,SNR=3.0						
ZALV	**Zalesovo Beam**	**59.89**	**322**	P	P	01 51 42.1	+0.2
	0.5nm,0.3s,baz=84,slow=4.5,SNR=2.4						
MKAR	**Makanchi Array**	**60.54**	**314**	P	P	01 51 47.0	+0.5
	0.4nm,0.7s,baz=96,slow=6.3,SNR=6.5						
ILAR	**Eielson Array**	**63.08**	**26**	P	P	01 52 03.6	+0.3
	0.2nm,0.9s,baz=265,slow=5.2,SNR=2.6						
FINES	**FINESS Array B**	**88.35**	**336**	P	P	01 54 26.5	-1.4
	5.3nm,1.1s,baz=54,slow=7.1,SNR=2.5						

*IDC **30** 01:42:12.2±3.3, 29°27S×177°41W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.6/13, mbtmp3.5/2, Error ellipse: s-maj=217.4km s-min=37.4km az=161.0*

NEIC 30 01:42:39.1±2.6, 28°31S×178°25W, h191km±34km, Error ellipse: s-maj=126.6km s-min=21.3km az=168.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.98**	**163**	*e*Pn	Pn	01 43 07.8	0.0
AS31	**Alice Springs**	**43.04**	**265**	*e*P	P	01 50 21.9	+1.8
ASAR	**Alice Springs**	**43.05**	**265**	P	P	01 50 18.8	-1.3
	0.4nm,0.6s,baz=102,slow=6.6,SNR=6.1						
ASAR	**Alice Springs**	**43.05**	**265**	P	P	01 50 18.8	-1.3
WRA	**Warramunga Arr**	**43.84**	**270**	P	P	01 50 26.2	-0.3
	0.4nm,0.3s,baz=112,slow=7.0,SNR=3.1						
WRA	**Warramunga Arr**	**43.84**	**270**	P	P	01 50 26.2	-0.3
MK31	**Makanchi Array**	**116.26**	**311**	*e*PKPdf	PKPdf	02 00 59.0	-0.4
MKAR	**Makanchi Array**	**116.26**	**311**	PKP	PKPdf	02 00 58.5	-0.8
	0.3nm,0.5s,baz=187,slow=0.5,SNR=7.1						
MKAR	**Makanchi Array**	**116.26**	**311**	PKP	PKPdf	02 00 58.5	-0.8
TKM2	**Tokmak 2**	**120.02**	**305**	*e*PKPdf	PKPdf	02 01 06.9	+0.2
BVAR	**Borovoye Array**	**124.75**	**317**	PKP	PKPdf	02 01 15.3	-0.1
	0.8nm,0.5s,baz=120,slow=1.6,SNR=5.6						
BVAR	**Borovoye Array**	**124.75**	**317**	PKP	PKPdf	02 01 15.3	-0.1
ARCES	**ARCESS Array B**	**136.51**	**348**	PKP	PKPdf	02 01 37.6	+0.4
	3.0nm,0.9s,baz=90,slow=1.2,SNR=5.2						
ARCES	**ARCESS Array B**	**136.51**	**348**	PKP	PKPdf	02 01 37.6	+0.4
FINES	**FINESS Array B**	**143.11**	**341**	PKP	PKPdf	02 01 47.2	-2.2
	2.3nm,0.5s,baz=39,slow=4.6,SNR=16						
FINES	**FINESS Array B**	**143.11**	**341**	PKP	PKPdf	02 01 47.2	-2.2
NOA	**NORSAR Array B**	**146.66**	**352**	PKPbc	PKPbc	02 01 58.2	+0.7
	1.7nm,0.6s,baz=14,slow=4.5,SNR=6.6						
NOA	**NORSAR Array B**	**146.66**	**352**	PKPbc	PKPbc	02 01 58.2	+0.7
HFS	**Hagfors**	**147.16**	**349**	PKPbc	PKPbc	02 01 58.5	-0.4
	2.6nm,0.6s,baz=298,slow=3.2,SNR=11						
HFS	**Hagfors**	**147.16**	**349**	PKPbc	PKPbc

SIGR	SIGRI	0.36	346	P	Pg	01 42 57.8	+0.8
SIGR				S	Sg	01 43 02.9	+1.1
PRK	Paraskevi	0.46	31⇑	iPB	Pg	01 42 58.3	-0.4
PRK				eSB	Sg	01 43 04.3	-0.4
PRK	Paraskevi	0.46	31	P	Pg	01 42 58.3	-0.4
PRK				S	Sg	01 43 04.0	-0.7
PRK	Paraskevi	0.46	31	P	Pg	01 42 58.3	-0.4
PRK				S	Sg	01 43 04.0	-0.7
PRK				eSb	Sg	01 43 04.3	-0.4
CHOS	Chios island	0.47	172	ePB	Pg	01 42 59.7	+0.6
CHOS				eSB	Sg	01 43 06.8	+1.5
CHOS	Chios island	0.47	172	P	Pg	01 42 59.5	+0.4
CHOS				S	Sg	01 43 06.4	+1.1
CHOS	Chios island	0.47	172	P	Pg	01 42 59.5	+0.4
CHOS				S	Sg	01 43 06.4	+1.1
CHOS				eSb	Sg	01 43 06.8	+1.5
URLA	Izmir	0.70	135	iP	Pg	01 43 01.5	-1.9
URLA				iS	Sg	01 43 13.3	+0.9
URLA	Izmir	0.70	135	iP	Pg	01 43 01.5	-1.9
URLA				iS	Sg	01 43 13.3	+0.9
AYVA	Ayvalik	0.72	51	iP	Pg	01 43 02.8	-1.0
AYVA				iS	Sg	01 43 12.1	-1.0
AYVA	Ayvalik	0.72	51	iP	Pg	01 43 02.8	-1.0
AYVA				iS	Sg	01 43 12.1	-1.1
BLCB	Balcova	0.96	119	PG	Pg	01 43 07.9	-0.6
BLCB	Balcova	0.96	119	iPg	Pg	01 43 07.9	-0.6
BOZC	Bozcaada	0.99	4	iP	Pg	01 43 08.3	-0.6
BOZC				iS	Sg	01 43 21.6	-0.1
EZN	Ezine	1.01	16	PG	Pg	01 43 08.4	-0.9
EZN				eSG	Sg	01 43 22.6	+0.3
EZN	Ezine	1.01	16	iPg	Pg	01 43 08.4	-0.9
EZN				eSg	Sg	01 43 22.6	+0.3
IZM	Izmir	1.11	114	ePN	Pg	01 43 10.5	-0.8
IZM	Izmir	1.11	114	ePn	Pg	01 43 10.5	-0.8
LIA	Limnos Island	1.21	330	ePN	Pn	01 43 12.9	-0.5
LIA				eSN	Sn	01 43 29.5	-0.6
LIA	Limnos Island	1.21	330	P	Pg	01 43 12.7	-0.4
LIA				S	Sg	01 43 29.6	+0.9
LIA	Limnos Island	1.21	330	ePn	Pn	01 43 12.9	-0.5
LIA				eSn	Sn	01 43 29.5	-0.6
GADA	Gvkgeada	1.33	358	ePN	Pn	01 43 14.1	-1.0
GADA	Gvkgeada	1.33	358	ePn	Pn	01 43 14.1	-1.1
SMG	Samos	1.33	149	ePN	Pn	01 43 13.0	-2.2
SMG				eSN	Sn	01 43 32.3	-1.0
SMG	Samos	1.33	149	ePn	Pn	01 43 13.0	-2.2
SMG				eSn	Sn	01 43 32.3	-1.0
AKHS	Akhisar	1.44	89	iP	Pn	01 43 14.3	-2.3
AKHS				iS	Sb	01 43 36.3	+0.4
AKHS	Akhisar	1.44	89	iP	Pn	01 43 14.3	-2.3
AKHS				iS	Sb	01 43 36.3	+0.5
AKS	Akhisar	1.44	89	ePN	Pn	01 43 16.6	0.0
AKS	Akhisar	1.44	89	ePn	Pn	01 43 16.6	0.0
MRMA	Marmari	1.48	238	P	Pn	01 43 16.6	-0.6
MRMA	Marmari	1.48	238	P	Pn	01 43 16.6	-0.6
GCAM	G?zlcaml?	1.52	139	iP	Pn	01 43 18.1	+0.4
GCAM				iS	Sn	01 43 37.3	-0.7
GCAM	G?zlcaml?	1.52	139	iP	Pn	01 43 18.1	+0.3
GCAM				iS	Sn	01 43 37.3	-0.6
BALY	Balya	1.56	55	iP	Pn	01 43 16.2	-2.0
BALY				iS	Sn	01 43 38.4	-0.3
BALY	Balya	1.56	55	iP	Pn	01 43 16.2	-2.0
BALY				iS	Sn	01 43 38.4	-0.3
GELI	Tayfur-Gelibol	1.59	14	ePN	Pn	01 43 18.2	-0.5
GELI	Tayfur-Gelibol	1.59	14	ePn	Pn	01 43 18.2	-0.5
LPK	Lapseki	1.63	22	ePN	Pn	01 43 18.6	-0.7
LPK	Lapseki	1.63	22	ePn	Pn	01 43 18.6	-0.7
AOS	Alonnisos	1.66	282	P	Pn	01 43 19.5	-0.1
AOS	Alonnisos	1.66	282	P	Pn	01 43 19.5	-0.1
GONE	Gonen-Balikesi	1.78	48	ePN	Pn	01 43 21.4	0.0
GONE	Gonen-Balikesi	1.78	48	ePn	Pn	01 43 21.4	+0.1
APE	Apeiranthos	1.82	191	ePN	Pn	01 43 20.7	-1.1
APE	Apeiranthos	1.82	191	P	Pn	01 43 20.1	-1.7
APE	Apeiranthos	1.82	191⇑	iP	Pn	01 43 20.0	-1.8
APE	Apeiranthos	1.82	191	P	Pn	01 43 20.1	-1.7
APE	Apeiranthos	1.82	191	ePn	Pn	01 43 20.7	-1.1
PTL	Penteli	1.84	245	ePN	Pn	01 43 21.8	-0.3
PTL				eSN	Sn	01 43 45.2	-0.5
PTL	Penteli	1.84	245	P	Pn	01 43 21.5	-0.6
PTL	Penteli	1.84	245	P	Pn	01 43 21.5	-0.6
PTL	Penteli	1.84	245	ePn	Pn	01 43 21.8	-0.3
PTL				eSn	Sn	01 43 45.2	-0.5
KRBG	Karabiga-Canak	1.85	33	ePN	Pn	01 43 20.6	-1.6
KRBG	Karabiga-Canak	1.85	33	ePn	Pn	01 43 20.6	-1.6
ERIK	Erikli-Kesan	1.86	13	ePN	Pn	01 43 22.0	-0.4
ERIK	Erikli-Kesan	1.86	13	ePn	Pn	01 43 22.0	-0.4
MRKA	Markates	1.87	266	P	Pn	01 43 22.4	-0.1
MRKA	Markates	1.87	266	P	Pn	01 43 22.4	-0.1
ENEZ	Enez	1.88	4	ePN	Pn	01 43 22.0	-0.7
ENEZ	Enez	1.88	4	ePn	Pn	01 43 22.0	-0.7
AYDN	Tasoluk	1.92	128	eP	Pn	01 43 22.2	-1.0
AYDN	Tasoluk	1.92	128	eP	Pn	01 43 22.2	-1.0
SKIA	Skiathos	1.97	280	P	Pn	01 43 24.1	+0.1
SKIA	Skiathos	1.97	280	P	Pn	01 43 24.1	+0.1
ATH	Athens Observa	1.98	244	ePN	Pn	01 43 23.7	-0.3
ATH	Athens Observa	1.98	244	ePn	Pn	01 43 23.7	-0.3
VLY	Voula,Athens	1.98	240	ePN	Pn	01 43 24.0	-0.1
VLY	Voula,Athens	1.98	240	P	Pn	01 43 23.7	-0.4
VLY	Voula,Athens	1.98	240	P	Pn	01 43 23.7	-0.4
VLY	Voula,Athens	1.98	240	ePn	Pn	01 43 24.0	-0.1
ALN	Alexandroupoli	2.04	2	ePB	Pn	01 43 23.7	-1.2
ALN				eSN	Sn	01 43 48.9	-1.7
ALN	Alexandroupoli	2.04	2	P	Sn	01 43 23.4	-1.5
ALN				S	Sn	01 43 49.5	-1.1
ALN	Alexandroupoli	2.04	2	P	Pn	01 43 23.4	-1.5
ALN	Alexandroupoli	2.04	2	ePb	Pn	01 43 23.7	-1.2
ALN				eSn	Sn	01 43 48.9	-1.7
ALN				S	Sn	01 43 49.5	-1.1
RKY	Sarkoy-Tekirda	2.05	27	ePN	Pn	01 43 24.9	-0.1
RKY	Sarkoy-Tekirda	2.05	27	ePn	Pn	01 43 24.9	-0.1
SART	Tekirdag	2.05	27	iP	Pn	01 43 22.6	-2.5
SART				iS	Sn	01 43 52.5	+1.5
SART	Tekirdag	2.05	27	iP	Pn	01 43 22.6	-2.5
SART				iS	Sn	01 43 52.5	+1.5
PAIG	Paliouri	2.07	302	P	Pn	01 43 24.8	-0.5
PAIG	Paliouri	2.07	302	P	Pn	01 43 24.8	-0.5
BODT	Bodrum	2.08	149	ePN	Pn	01 43 25.9	+0.4
BODT	Bodrum	2.08	149	ePn	Pn	01 43 25.9	+0.5
DURS	Dursunbey	2.08	68	iP	Pn	01 43 23.7	-1.8
DURS	Dursunbey	2.08	68	iP	Pn	01 43 23.7	-1.8
MLSB	Milas	2.11	137	ePN	Pn	01 43 26.8	+0.9
MLSB	Milas	2.11	137	ePn	Pn	01 43 26.8	+0.9
BNT	Bandirma	2.12	45	ePN	Pn	01 43 24.4	-1.6
BNT	Bandirma	2.12	45	ePn	Pn	01 43 24.4	-1.6
OUR	Ouranopolis	2.13	315	P	Pn	01 43 25.8	-0.3
OUR	Ouranopolis	2.13	315	P	Pn	01 43 25.8	-0.3
KULA	Kula-Manisa	2.13	98	ePN	Pn	01 43 27.0	+0.8
KULA	Kula-Manisa	2.13	98	ePn	Pn	01 43 27.0	+0.8
MRMT	Marmara Adasi	2.15	35	ePN	Pn	01 43 26.5	+0.2
MRMT	Marmara Adasi	2.15	35	ePn	Pn	01 43 26.5	+0.1
DEMI	Demirci	2.15	84	iP	Pn	01 43 24.8	-1.6
DEMI	Demirci	2.15	84	iP	Pn	01 43 24.8	-1.6
MFT	Murefte	2.18	27	ePN	Pn	01 43 27.0	+0.3
MFT	Murefte	2.18	27	ePn	Pn	01 43 27.0	+0.2
DST	Dursunbey	2.19	69	ePN	Pn	01 43 27.5	+0.6
DST	Dursunbey	2.19	69	ePn	Pn	01 43 27.5	+0.6
NAIG	Nisos Aigina	2.24	241	ePN	Pn	01 43 27.6	0.0
NAIG	Nisos Aigina	2.24	241	ePn	Pn	01 43 27.6	0.0
RDO	Rodhopi	2.31	352⇑	iPN	Pn	01 43 27.9	-0.7
RDO	Rodhopi	2.31	352	P	Pn	01 43 27.5	-1.1
RDO	Rodhopi	2.31	352	P	Pn	01 43 27.5	-1.1
RDO	Rodhopi	2.31	352⇑	iPn	Pn	01 43 27.9	-0.7
KCTX	Karacabey (Bur	2.32	52	ePN	Pn	01 43 26.9	-1.8
KCTX	Karacabey (Bur	2.32	52	ePn	Pn	01 43 26.9	-1.8
LKR	Lokris	2.33	266	ePN	Pn	01 43 28.8	-0.1
LKR	Lokris	2.33	266	ePn	Pn	01 43 28.8	-0.1
KAVA	Kavala	2.41	333	P	Pn	01 43 29.3	-0.7
KAVA	Kavala	2.41	333	P	Pn	01 43 29.3	-0.7
THR2	Thira island,	2.44	190	P	Pn	01 43 28.6	-1.8
THR2	Thira island,	2.44	190	P	Pn	01 43 28.6	-1.8
TKR	Tekirdag	2.45	29	ePN	Pn	01 43 30.8	+0.3
TKR	Tekirdag	2.45	29	ePn	Pn	01 43 30.8	+0.3
PLG	Polygyros	2.47	309	ePN	Pn	01 43 30.7	-0.1
PLG	Polygyros	2.47	309	P	Pn	01 43 30.6	-0.2
PLG	Polygyros	2.47	309	P	Pn	01 43 30.6	-0.2
DAT	Datca	2.48	149	ePN	Pn	01 43 31.6	+0.7
DAT	Datca	2.48	149	ePn	Pn	01 43 31.6	+0.7
THR3	Thira Island,	2.48	191	P	Pn	01 43 30.5	-0.5
THR3	Thira Island,	2.48	191	P	Pn	01 43 30.5	-0.5
YER	Yerkesik	2.51	133	ePN	Pn	01 43 32.2	+0.8
YER	Yerkesik	2.51	133	ePn	Pn	01 43 32.2	+0.9
THR1	Thera Island	2.52	189	P	Pn	01 43 29.7	-1.7
THR1	Thera Island	2.52	189	P	Pn	01 43 29.7	-1.7
DID	Didima	2.54	239	P	Pn	01 43 32.0	+0.3
DID	Didima	2.54	239	P	Pn	01 43 32.0	+0.3
AXAR	Agios Charalam	2.59	269	P	Pn	01 43 32.7	+0.3
AXAR	Agios Charalam	2.59	269	P	Pn	01 43 32.7	+0.3
CRLT	Corlu	2.65	30	ePN	Pn	01 43 33.6	+0.4
CRLT	Corlu	2.65	30	ePn	Pn	01 43 33.6	+0.4
DENT	Denizli	2.65	114	ePN	Pn	01 43 34.2	+1.0
DENT	Denizli	2.65	114	ePn	Pn	01 43 34.2	+0.9
MDNY	Mudanya-Bursa	2.71	55	ePN	Pn	01 43 34.8	+0.7
MDNY	Mudanya-Bursa	2.71	55	ePn	Pn	01 43 34.8	+0.7
DESF	Desfina	2.73	262	P	Pn	01 43 34.3	0.0
DESF	Desfina	2.73	262	P	Pn	01 43 34.3	0.0
GDZ	Gediz	2.75	84	ePN	Pn	01 43 33.0	-1.6
GDZ	Gediz	2.75	84	ePn	Pn	01 43 33.0	-1.6
ULDT	Uludag	2.77	61	iP	Pn	01 43 34.8	-0.1
ULDT	Uludag	2.77	61	iP	Pn	01 43 34.8	-0.1
KHAL	Karahalli	2.80	99	ePN	Pn	01 43 34.9	-0.4
KHAL	Karahalli	2.80	99	ePn	Pn	01 43 34.9	-0.5
ARMT	Armutlu	2.81	52	ePN	Pn	01 43 36.2	+0.8
ARMT	Armutlu	2.81	52	ePn	Pn	01 43 36.3	+0.9
SOH	Sokhos	2.81	315	ePN	Pn	01 43 35.7	+0.2
SOH	Sokhos	2.81	315	P	Pn	01 43 35.6	+0.1
SOH	Sokhos	2.81	315	P	Pn	01 43 35.6	+0.1
KDZ	Kurdzhali	2.82	352	iP	Pn	01 43 35.0	-0.6
KDZ	Kurdzhali	2.82	352	iP	Pn	01 43 35.0	-0.6
AGG	Agios Georgios	2.84	274	ePN	Pn	01 43 36.6	+0.7
AGG	Agios Georgios	2.84	274	ePn	Pn	01 43 36.6	+0.7
SRS	Serrai	2.90	322	P	Pn	01 43 36.5	-0.2
SRS	Serrai	2.90	322	P	Pn	01 43 36.5	-0.2
SLVT	Silivri	2.93	35	ePN	Pn	01 43 37.9	+0.8
SLVT	Silivri	2.93	35	ePn	Pn	01 43 37.9	+0.8
GEMT	Gemlik	2.94	57	ePN	Pn	01 43 38.2	+0.9
GEMT	Gemlik	2.94	57	ePn	Pn	01 43 38.2	+0.9
LIT	Litokhoron	2.96	296	ePN	Pn	01 43 38.2	+0.6
LIT	Litokhoron	2.96	296	ePn	Pn	01 43 38.2	+0.6
NVR	Nevrokopi	2.97	328	ePN	Pn	01 43 37.4	-0.2
NVR	Nevrokopi	2.97	328	P	Pn	01 43 37.1	-0.5
NVR	Nevrokopi	2.97	328	P	Pn	01 43 37.1	-0.5
NVR	Nevrokopi	2.97	328	ePn	Pn	01 43 37.4	-0.2
RZN	Rozhen	2.99	342	iP	Pn	01 43 38.0	+0.1
RZN	Rozhen	2.99	342	iP	Pn	01 43 38.0	+0.1
GUR	Goura	2.99	253	P	Pn	01 43 38.1	+0.1
GUR	Goura	2.99	253	P	Pn	01 43 38.1	+0.1
EDRB	Edirne	3.04	11	ePN	Pn	01 43 37.2	-1.5
EDRB	Edirne	3.04	11	ePn	Pn	01 43 37.2	-1.5
CTKS	Kestanelik-??a	3.07	39	ePN	Pn	01 43 39.5	+0.4
CTKS	Kestanelik-??a	3.07	39	ePn	Pn	01 43 39.5	+0.4
YLV	Yalova	3.13	56	ePN	Pn	01 43 40.6	+0.7
YLV	Yalova	3.13	56	ePn	Pn	01 43 40.6	+0.7
ARG	Arkhangelos	3.15	146	ePN	Pn	01 43 39.6	-0.5
ARG	Arkhangelos	3.15	146	ePn	Pn	01 43 39.6	-0.5
THL	Klokotos Trika	3.15	284⇑	iPN	Pn	01 43 40.9	+0.8
THL	Klokotos Trika	3.15	284⇑	iPn	Pn	01 43 40.9	+0.8
CTYL	Yal??k??y-??at	3.16	33	ePN	Pn	01 43 40.7	+0.4
CTYL	Yal??k??y-??at	3.16	33	ePn	Pn	01 43 40.7	+0.4
BGKT	Bogazkoy	3.17	42	ePN	Pn	01 43 39.2	-1.1
BGKT	Bogazkoy	3.17	42	ePn	Pn	01 43 39.2	-1.2
DIM	Dimitrovgrad	3.21	354	iP	Pn	01 43 40.1	-0.8
DIM	Dimitrovgrad	3.21	354	iP	Pn	01 43 40.1	-0.8
VLI	Veliai	3.21	229	ePN	Pn	01 43 40.8	-0.2
VLI	Veliai	3.21	229	ePn	Pn	01 43 40.8	-0.2
ALT	Altintas	3.24	85	ePN	Pn	01 43 40.3	-1.0
ALT	Altintas	3.24	85	iP	Pn	01 43 38.4	-2.9
ALT				S	Sn	01 43 56.1	+6.0
ALT	Altintas	3.24	85	ePn	Pn	01 43 40.3	-1.0
EVR	Evrytania	3.25	272	ePN	Pn	01 43 43.1	+1.6
EVR	Evrytania	3.25	272	ePn	Pn	01 43 43.1	+1.6
GLHS	Glhisar (BURDU	3.27	120	ePN	Pn	01 43 42.6	+0.9
GLHS	Glhisar (BURDU	3.27	120	ePn	Pn	01 43 42.6	+0.9
CAVI	Cavuskoy	3.28	65	ePN	Pn	01 43 42.8	+0.8
CAVI	Cavuskoy	3.28	65	ePn	Pn	01 43 42.8	+0.8
ADVT	Abdulvahap	3.31	60	ePN	Pn	01 43 43.1	+0.8
ADVT	Abdulvahap	3.31	60	ePn	Pn	01 43 43.1	+0.8
KLYT	Kilyos	3.36	44	ePN	Pn	01 43 43.6	+0.6
KLYT	Kilyos	3.36	44	ePn	Pn	01 43 43.6	+0.6
KARP	Karpathos	3.44	164	ePN	Pn	01 43 42.5	-1.6
KARP	Karpathos	3.44	164	ePn	Pn	01 43 42.5	-1.6
GRG	Griva	3.45	309	P	Pn	01 43 45.0	+0.7
GRG	Griva	3.45	309	P	Pn	01 43 45.0	+0.7
KYTH	Kithira	3.47	223	ePN	Pn	01 43 44.2	-0.3
KYTH	Kithira	3.47	223	ePn	Pn	01 43 44.2	-0.3
VAY	Valandovo	3.58	314	iPn	Pg	01 43 45.1	-0.6
VAY				eSn	Sg	01 43 45.1	-0.0
SHUT	Suhut-Afyon	3.60	93	ePN	Pn	01 43 47.4	+1.1
SHUT	Suhut-Afyon	3.60	93	ePn	Pn	01 43 47.4	+1.1
NPS	Neapolis	3.60	185	ePN	Pn	01 43 45.3	-1.0
NPS	Neapolis	3.60	185	ePn	Pn	01 43 45.3	-1.0
ITM	Ithomi	3.60	244	ePN	Pn	01 43 48.1	+1.7
ITM	Ithomi	3.60	244	ePn	Pn	01 43 48.1	+1.7
RLS	Riolos of Patr	3.62	259	ePN	Pn	01 43 48.0	+1.4
RLS	Riolos of Patr	3.62	259	ePn	Pn	01 43 48.0	+1.4
SILT	Sile	3.64	50	ePN	Pn	01 43 47.5	+0.7
SILT	Sile	3.64	50	ePn	Pn	01 43 47.5	+0.7
GPA	Golpazari	3.65	66	ePN	Pn	01 43 48.0	+1.0
GPA	Golpazari	3.65	66	ePn	Pn	01 43 48.0	+1.0
VAM	Vamos	3.72	203	ePN	Pn	01 43 49.0	+1.0
VAM	Vamos	3.72	203	ePn	Pn	01 43 49.0	+1.0
KKB	Krupnik	3.73	325	P	Pn	01 43 48.7	+0.6
KKB	Krupnik	3.73	325	P	Pn	01 43 48.7	+0.6
ELL	Elmali	3.76	123	ePN	Pn	01 43 50.2	+1.6
ELL	Elmali	3.76	123	ePn	Pn	01 43 50.2	+1.6
SPNC	Sapanca-Adapaz	3.81	60	ePN	Pn	01 43 50.4	+1.2
SPNC	Sapanca-Adapaz	3.81	60	ePn	Pn	01 43 50.4	+1.2
GULT	Gulveren	3.85	64	ePN	Pn	01 43 51.4	+1.7
GULT	Gulveren	3.85	64	ePn	Pn	01 43 51.4	+1.7
ESKT	Eskisehir	3.85	79	ePN	Pn	01 43 51.4	+1.7
ESKT	Eskisehir	3.85	79	ePn	Pn	01 43 51.4	+1.6
BCK	Bucak	3.90	110	ePN	Pn	01 43 52.0	+1.5
BCK	Bucak	3.90	110	ePn	Pn	01 43 52.0	+1.6
PGB	Panagyurishte	3.94	340	P	Pn	01 43 50.2	-0.7
PGB	Panagyurishte	3.94	340	P	Pn	01 43 50.2	-0.7
VTS	Vitosha	4.28	332	P	Pn	01 43 56.5	+0.9
VTS	Vitosha	4.28	332⇓	iP	Pn	01 43 56.3	+0.7
VTS	Vitosha	4.28	332	S	Sg	01 45 08.6	+1.2
VTS	Vitosha	4.28	332	iP	Pn	01 43 56.4	+0.8
VTS	Vitosha	4.28	332	iP	Pn	01 43 56.4	+0.8
MDU	Mudurnu	4.36	67	ePN	Pn	01 43 58.6	+1.9
MDU	Mudurnu	4.36	67	ePn	Pn	01 43 58.6	+1.9
SVRH	Sivrihisar-ESK	4.36	80	ePN	Pn	01 43 58.1	+1.4
SVRH	Sivrihisar-ESK	4.36	80	ePn	Pn	01 43 58.1	+1.4
KIZT	Kizilcal	4.62	88	ePN	Pn	01 44 01.8	+1.6
KIZT	Kizilcal	4.62	88	ePn	Pn	01 44 01.8	+1.5
BARS	Barje	5.06	323⇓	iPn	Pn	01 44 06.9	+0.6
LOD	Lodumlu	5.37	77	ePN	Pn	01 44 12.6	+2.0
LOD	Lodumlu	5.37	77	ePn	Pn	01 44 12.6	+2.0
AFSR	Af˘ar-Bala (A	5.55	82	ePN	Pn	01 44 15.3	+2.2
AFSR	Af˘ar-Bala (A	5.55	82	ePn	Pn	01 44 15.3	+2.2
BOLS	Boljevac	5.81	330	ePn	Pn	01 44 15.9	-0.8
TIRR	Tirgusor	5.89	17⇓	iP	Pn	01 44 17.1	-0.6
TIRR	Tirgusor	5.89	17⇓	iP	Pn	01 44 17.1	-0.6
GRUS	Gruza	6.39	324	iPn	Pn	01 44 24.9	+0.2
IVAS	Ivanjica	6.44	319⇑	iPn	Pn	01 44 26.1	+0.8
CFR	Carcaliu	6.52	14⇑	iP	Pn	01 44 29.1	+2.7
MLR	Muntele Rosu	6.63	360⇓	iP	Pn	01 44 28.7	+0.8
MLR	Muntele Rosu	6.63	360⇓	iP	Pn	01 44 28.7	+0.8
TLCR		6.67	18⇑	iP	Pn	01 44 27.8	-0.7
TLCR		6.67	18⇑	iP	Pn	01 44 27.8	-0.7
LOT	Lotru	6.79	347⇑	iP	Pn	01 44 30.0	-0.1
LOT	Lotru	6.79	347⇑	iP	Pn	01 44 30.0	-0.1
DIVS	Divibare	6.89	321	ePn	Pn	01 44 31.8	+0.2
GZR	Gura Zlata	6.95	341⇑	iP	Pn	01 44 31.5	-0.8
GZR	Gura Zlata	6.95	341⇑	iP	Pn	01 44 31.5	-0.8
PLOR	Plostina	7.01	4⇓	iP	Pn	01 44 33.7	+0.6
PLOR	Plostina	7.01	4⇓	iP	Pn	01 44 33.7	+0.6
VRI	Vrincioaia	7.03	4⇓	iP	Pn	01 44 34.4	+1.0
VRI	Vrincioaia	7.03	4⇓	iP	Pn	01 44 34.4	+1.0
BZS	Buzias	7.49	336⇓	iP	Pn	01 44 39.0	-0.7
BZS	Buzias	7.49	336⇓	iP	Pn	01 44 39.0	-0.7
TESR		7.67	4⇑	iP	Pn	01 44 42.3	+0.2
TESR		7.67	4⇑	iP	Pn	01 44 42.3	+0.2
DRGR		8.28	344⇑	iP	Pn	01 44 50.2	-0.4
DRGR		8.28	344⇑	iP	Pn	01 44 50.2	-0.4
BURAR	Bucovina Array	8.77	357⇓	iP	Pn	01 44 58.2	+0.9
BURAR	Bucovina Array	8.77	357⇓	iP	Pn	01 44 58.2	+0.9

IDC 30 02:26:52.9±6.3, 5°.84S×148°.12E, h128km±56km, mb3.1/1, mb1 3.4/3, mb1mx3.1/15, mbtmp3.2/3, Error ellipse: s-maj=106.7km s-min=51.1km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.67**	**195**	P	Pn	02 27 49.3	+1.0
	3.3nm,0.3s,baz=325,slow=5.3,SNR=9.7						
PMG				S	Sn	02 28 31.3	+0.1
	9.6nm,0.3s,baz=195,slow=17,SNR=16						
WRA	**Warramunga Arr**	**19.39**	**222**	P	P	02 31 09.3	+0.4
	0.3nm,0.3s,baz=49,slow=11,SNR=12						
ASAR	**Alice Springs**	**22.39**	**216**	P	P	02 31 41.4	+0.4
	0.8nm,0.4s,baz=49,slow=9.0,SNR=16						
TORD	**Torodi Ar. Bea**	**146.13**	**285**	PKPbc	PKPbc	02 46 17.7	-1.4
	0.9nm,1.1s,baz=70,slow=3.6,SNR=3.5						

*ISCJB **30** 02:31:12.6±0.8, 34°.89N±0°.04×16°.70W±0°.07, h10km, Error ellipse: s-maj=10.1km s-min=2.9km az=31.7*
*MDD **30** 02:31:13.8±2.9, 35°.04N×17°.52W, h120km±60km, mb3.1/13, Error ellipse: s-maj=42.3km s-min=10.5km az=117.0, PRIMO*
*CSEM **30** 02:31:14.4±0.5, 35°.00N×17°.30W, h60km, ML3.7/7, Error ellipse: s-maj=14.8km s-min=4.2km az=112.0*
*INMG **30** 02:31:15.7±2.2, 35°.12N×17°.61W, h10km, ML3.0, Error ellipse: s-maj=17.7km s-min=3.6km az=112.0*

ISC 30 02:31:14.1±0.8, 34°.91N±0°.04×16°.85W±0°.07, h10km, n81, σ1°66/119, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPS	**Porto Santo**	**1.89**	**167**	ePn	Pn	02 31 48.3	+1.8
PMPS				eSn	Sn	02 32 12.3	+1.9
	41nm,1.0s						
PMPS	**Porto Santo**	**1.89**	**167**	ePn	Pn	02 31 48.3	+1.8
PMPS				eSn	Sn	02 32 12.3	+1.9
PMPS				A		02 32 17.5	
	41nm,1.0s						
PMOZ	**Porto Moniz, M**	**2.10**	**188**	ePn	Pn	02 31 48.9	-0.4
PMOZ				eSn	Sn	02 32 12.5	-2.9
	100nm,0.5s						
PMOZ	**Porto Moniz, M**	**2.10**	**188**	ePn	Pn	02 31 48.9	-0.4
PMOZ				eSn	Sn	02 32 12.5	-2.9
PMOZ				A		02 32 19.8	
	100nm,0.5s						
PMAR	**Madeira**	**2.18**	**181**	ePn	Pn	02 31 50.0	-0.4
PMAR				eSn	Sn	02 32 15.9	-1.5
	123nm,0.2s						
PMAR	**Madeira**	**2.18**	**181**	ePn	Pn	02 31 50.0	-0.4

	4.1nm,0.8s							
PTOM	**Tomar**	**8.21**	**53**	*e*Sn	**Sn**	**02 34 43.5**	**-2.5**
PTOM	**Tomar**	**8.21**	**53**	*e*Sn	**Sn**	**02 34 43.5**	**-2.5**
PESTR	**Estremoz**	**8.41**	**59**	*e*Pn	**Pn**	**02 33 19.8**	**+3.8**
PESTR				*e*Sn	**Sn**	**02 34 48.1**	**-2.8**
	3.7nm,1.0s						
PESTR	**Estremoz**	**8.41**	**59**	*e*Pn	**Pn**	**02 33 19.8**	**+3.8**
PESTR				*e*Sn	**Sn**	**02 34 48.1**	**-2.8**
PESTR				A		02 35 08.3	
	3.7nm,1.0s						
PBAR	**Barrancos**	**8.54**	**65**	*e*Sn	**Sn**	**02 34 53.4**	**-0.9**
	1.9nm,0.7s						
PBAR	**Barrancos**	**8.54**	**65**	*e*Sn	**Sn**	**02 34 53.4**	**-0.9**
PBAR				A		02 34 58.1	
	1.9nm,0.7s						
EMIN	**Mina Concepcio**	**8.70**	**68**	P	**Pn**	**02 33 22.1**	**+2.2**
	0.9nm,0.4s,SNR=7.9						
EMIN				S	**Sn**	**02 34 58.1**	**+0.1**
	6.3nm,0.9s,SNR=7.9						
EMIN	**Mina Concepcio**	**8.70**	**68**	P	**Pn**	**02 33 22.1**	**+2.2**
	0.9nm,0.4s,SNR=7.9						
EBAD	**Badajoz**	**8.77**	**61**	P	**Pn**	**02 33 22.5**	**+1.5**
	3.2nm,0.4s,SNR=7.9						
EBAD				S	**Sn**	**02 34 58.3**	**-1.6**
	2.3nm,1.1s,SNR=7.9						
EBAD	**Badajoz**	**8.77**	**61**	P	**Pn**	**02 33 22.5**	**+1.5**
	3.2nm,0.4s,SNR=7.9						
PMRV	**Marv??o**	**8.80**	**56**	*e*Sn	**Sn**	**02 34 57.9**	**-2.6**
	2.8nm,0.7s						
PMRV	**Marv??o**	**8.80**	**56**	*e*Sn	**Sn**	**02 34 57.9**	**-2.6**
PMRV				A		02 35 04.8	
	2.8nm,0.7s						
PCBR	**Castelo Branco**	**8.94**	**54**	*e*Sn	**Sn**	**02 35 01.1**	**-2.9**
	2.4nm,0.7s						
PCBR	**Castelo Branco**	**8.94**	**54**	*e*Sn	**Sn**	**02 35 01.1**	**-2.9**
PCBR				A		02 35 05.6	
	2.4nm,0.7s						
ESPR	**Espera**	**9.14**	**74**	P	**Pn**	**02 33 28.4**	**+2.5**
	1.0nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**02 35 09.6**	**+0.7**
	4.2nm,0.7s,SNR=7.9						
ESPR	**Espera**	**9.14**	**74**	P	**Pn**	**02 33 28.4**	**+2.4**
	1.0nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**02 35 12.3**	**+3.5**
	4.2nm,0.7s,SNR=7.9						
MTE	**Manteigas**	**9.19**	**51**	*e*Sn	**Sn**	**02 35 05.1**	**-5.1**
MTE	**Manteigas**	**9.19**	**51**	*e*Sn	**Sn**	**02 35 05.1**	**-5.1**
POLO	**Lamas de Olo**	**9.62**	**45**	*e*Sn	**Sn**	**02 35 13.5**	**-7.2**
POLO	**Lamas de Olo**	**9.62**	**45**	*e*Sn	**Sn**	**02 35 13.5**	**-7.2**
PCAB	**Cabril**	**9.70**	**43**	*e*Sn	**Sn**	**02 35 14.7**	**-8.0**
	3.4nm,0.3s						
PCAB	**Cabril**	**9.70**	**43**	*e*Sn	**Sn**	**02 35 14.7**	**-8.0**
PCAB				A		02 35 21.3	
	3.4nm,0.3s						
PGAV	**Gavieira, Arco**	**9.74**	**41**	*e*Pn	**Pn**	**02 33 32.7**	**-1.5**
PGAV				*e*Sn	**Sn**	**02 35 14.8**	**-8.9**
	6.1nm,0.7s						
PGAV	**Gavieira, Arco**	**9.74**	**41**	*e*Pn	**Pn**	**02 33 32.7**	**-1.5**
PGAV				*e*Sn	**Sn**	**02 35 14.8**	**-8.9**
PGAV				A		02 35 20.4	
	6.1nm,0.7s						
ELOB	**Lobios**	**9.79**	**42**	P	**Pn**	**02 33 35.0**	**+0.1**
	0.1nm,0.3s,SNR=7.9						
ELOB				S	**Sn**	**02 35 17.7**	**-7.1**
	7.4nm,0.8s,SNR=7.9						
ELOB	**Lobios**	**9.79**	**42**	P	**Pn**	**02 33 35.0**	**+0.1**
	0.1nm,0.3s,SNR=7.9						
MVO	**Moncorvo**	**9.95**	**48**	P	**Pn**	**02 33 37.2**	**+0.1**
	0.5nm,0.3s,SNR=7.9						
MVO				S	**Sn**	**02 35 21.6**	**-7.2**
	4.4nm,0.8s,SNR=5.7						
MVO	**Moncorvo**	**9.95**	**48**	P	**Pn**	**02 33 37.2**	**+0.1**
	0.5nm,0.3s,SNR=7.9						
MVO				*e*Sn	**Sn**	**02 35 22.3**	**-6.5**
	2.8nm,0.9s						
MVO	**Moncorvo**	**9.95**	**48**	*e*Sn	**Sn**	**02 35 22.3**	**-6.5**
MVO				A		02 35 36.0	
	2.8nm,0.9s						
EMAZ	**Mazaricos**	**10.10**	**35**	P	**Pn**	**02 33 36.6**	**-2.5**
	0.2nm,0.2s,SNR=7.9						
EMAZ	**Mazaricos**	**10.10**	**35**	P	**Pn**	**02 33 36.6**	**-2.6**
	0.2nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**10.40**	**68**	P	**Pn**	**02 33 44.8**	**+1.5**
	0.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**10.40**	**68**	P	**Pn**	**02 33 44.8**	**+1.5**
	0.2nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**10.59**	**45**	P	**Pn**	**02 33 46.5**	**+0.7**
	0.8nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**10.59**	**45**	P	**Pn**	**02 33 46.5**	**+0.6**
	0.8nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**11.31**	**61**	P	**Pn**	**02 33 57.5**	**+1.7**
	0.1nm,0.2s,baz=249,slow=13,SNR=4.3						
ESDC	**Sonseca Array**	**11.31**	**61**	P	**Pn**	**02 33 57.5**	**+1.7**
	0.1nm,0.2s,baz=249,slow=13,SNR=4.3						
EQES	**Quesada**	**11.48**	**71**	P	**Pn**	**02 33 59.9**	**+1.8**
	0.5nm,0.4s,SNR=7.9						
EQES	**Quesada**	**11.48**	**71**	P	**Pn**	**02 33 59.9**	**+1.8**
	0.5nm,0.4s,SNR=7.9						

*IDC **30** 03:00:27.6±4.0,36°.37N×70°.47E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.3/25, mbtmp3.5/4, ML2.9/1, Error ellipse: s-maj=92.7km s-min=32.6km az=141.0*
*NNC **30** 03:00:49.3±9.1,37°.01N×70°.91E, h144km±133km, mb2.8, mpv3.7, Error ellipse: s-maj=79.7km s-min=46.7km az=7.0*
*ISCJB **30** 03:00:51.1±3.1,37°.2N±0°.2×71°.1E±0°.2, h209km±27km, mb3.2/3, Error ellipse: s-maj=31.4km s-min=19.1km az=22.8*

ISC 30 03:00:49.9±4.2,37°.0N±0°.3×71°.2E±0°.2,h189km±33km,n8, σ0s68/11,mb3.5/3,2C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.10**	**355**	⇑P	**Pn**	**03 02 18.4**	**+0.2**
	3.1nm,0.3s,baz=180,slow=14,SNR=101						
KK31				⇓S	**Sn**	**03 03 27.3**	**-0.7**
	1.2nm,0.3s,baz=181,slow=24,SNR=13						
TKM2	**Tokmak 2**	**6.79**	**28**	⇓P	**Pn**	**03 02 27.6**	**+0.5**
	2.3nm,0.5s						
TKM2				⇓S	**Sn**	**03 03 44.7**	**+0.6**
	2.7nm,0.7s						
MKAR	**Makanchi Array**	**12.77**	**37**	Pn	**Pn**	**03 03 43.4**	**-1.3**
	0.1nm,0.3s,baz=225,slow=14,SNR=3.1						
AB31	**Akbulak array**	**14.72**	**330**	⇑P	**Pn**	**03 04 08.9**	**0.0**
	1.0nm,0.7s,baz=142,slow=12,SNR=7.3						
AB31				S	**Sn**	**03 06 42.6**	**-10**
	0.2nm,0.3s,baz=149,slow=15,SNR=5.9						
AKTO	**Aktyubinsk**	**16.42**	**329**	⇓P	**Pn**	**03 04 29.9**	**+0.3**
	0.2nm,0.5s						
ARCES	**ARCESS Array B**	**40.73**	**337**	P	**P**	**03 08 12.6**	**+0.8**
	2.7nm,0.9s,mb3.9,baz=112,slow=8.9,SNR=4.0						
NOA	**NORSAR Array B**	**44.07**	**323**	P	**P**	**03 08 38.3**	**-0.4**
	0.6nm,0.7s,mb3.3,baz=98,slow=7.7,SNR=3.3						
TORD	**Torodi Ar. Bea**	**65.90**	**269**	P	**P**	**03 11 11.6**	**-4.1**
	0.2nm,0.5s,mb3.2,baz=56,slow=5.7,SNR=4.2						

DJA 30 03:19:24,10°.81S×111°.83E,h10km,MLv3.9/11,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCJI	**Pacitan**	**2.68**	**346**	P	Pn	03 20 07.2	0.0
KRKI	**Karangkates**	**2.71**	**13**	P	Pn	03 20 08.1	+0.5
PWJI	**Pagerwojo**	**2.77**	**359**	P	Pn	03 20 08.0	-0.5
PWJI				S	Sn	03 20 45.1	+3.1
GMJI	**Gumukmas**	**2.98**	**32**	P	Pn	03 20 13.2	+1.8
GMJI				S	Sn	03 20 49.3	+2.1
SJI	**Sawahan**	**3.06**	**359**	P	Pn	03 20 15.5	+3.1
UGM	**Wanagama**	**3.15**	**336**	P	Pn	03 20 14.4	+0.6
UGM				S	Sn	03 20 53.4	+1.9
JAGI	**Jajag, Banyuwa**	**3.26**	**45**	P	Pn	03 20 17.5	+2.2
JAGI				S	Sn	03 20 55.0	+0.8
BYJI	**Banyuwangi**	**3.59**	**44**	P	Pn	03 20 19.5	-0.2
KHKI	**Kahang-Kahang**	**4.45**	**57**	P	Pn	03 20 31.9	+0.3
MTNI	**Mataram**	**4.79**	**64**	P	Pn	03 20 37.2	+0.9
CISI	**Cisompet, Garu**	**5.12**	**309**	P	Pn	03 20 40.5	-0.2

*ISCJB **30** 03:32:37.5±0.4,39°.05N±0°.02×29°.74E±0°.03, h10km, Error ellipse: s-maj=3.7km s-min=3.1km az=148.2*
*CSEM **30** 03:32:37.6±0.1,39°.05N×29°.77E, h2km, MD2.9, Error ellipse: s-maj=3.5km s-min=2.8km az=159.0*

*ISK **30** 03:32:37.5,39°.02N×29°.74E, h5km, MD2.8*
*DDA **30** 03:32:38.6,39°.09N×29°.64E, h6km±2km, Md2.9*

ISC 30 03:32:38.0±0.4,39°.06N±0°.03×29°.75E±0°.03,h10km,n50, σ1s17/72,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GDZ	**Gediz**	**0.21**	**278**	*i* P	**Pg**	**03 32 40.7**	**-1.7**
GDZ				*i* S	**Sg**	**03 32 44.1**	**-1.2**
GDZ	**Gediz**	**0.21**	**278**	*i* P	**Pg**	**03 32 40.7**	**-1.7**
GDZ				*i* S	**Sg**	**03 32 44.1**	**-1.2**
KHAL	**Karahalli**	**0.72**	**196**	*i* P	**Pg**	**03 32 51.5**	**-0.3**
KHAL				*i* S	**Sg**	**03 33 01.8**	**+0.6**
KHAL	**Karahalli**	**0.72**	**196**	*i* P	**Pg**	**03 32 51.5**	**-0.3**
KHAL				*i* S	**Sg**	**03 33 01.8**	**+0.6**
DEMI	**Demirci**	**0.80**	**269**	*i* P	**Pg**	**03 32 53.2**	**-0.2**
DEMI				*i* S	**Sg**	**03 33 03.8**	**-0.2**
DEMI	**Demirci**	**0.80**	**269**	*i* P	**Pg**	**03 32 53.2**	**-0.3**
DEMI				*i* S	**Sg**	**03 33 03.8**	**-0.1**
SHUT	**Suhut-Afyon**	**0.81**	**129**	*e*Pg	**Pg**	**03 32 53.4**	**-0.1**
SHUT	**Suhut-Afyon**	**0.81**	**129**	*e*Pg	**Pg**	**03 32 53.4**	**-0.1**
ESKT	**Eskisehir**	**0.97**	**61**	*i* P	**Pg**	**03 32 54.8**	**-1.9**
ESKT				*i* S	**Sg**	**03 33 07.3**	**-2.0**
SEYT	**Eskypehyr**	**0.97**	**61**	*i* P	**Pg**	**03 32 54.8**	**-1.9**
SEYT				*i* S	**Sg**	**03 33 07.3**	**-2.0**
BORA	**Eskisehir**	**0.98**	**33**	*i* P	**Pg**	**03 32 55.5**	**-1.4**
BORA				*i* S	**Sg**	**03 33 08.5**	**-1.2**
BORA	**Eskisehir**	**0.98**	**33**	*i* P	**Pg**	**03 32 55.5**	**-1.4**
BORA				*i* S	**Sg**	**03 33 08.5**	**-1.3**
KULA	**Kula-Manisa**	**1.01**	**238**	*e*PG	**Pg**	**03 32 56.9**	**-0.5**
KULA				*e*SG	**Sg**	**03 33 10.7**	**+0.2**
KULA	**Kula-Manisa**	**1.01**	**238**	*e*Pg	**Pg**	**03 32 56.9**	**-0.5**
KULA				*e*Sg	**Sg**	**03 33 10.7**	**+0.2**
DST	**Dursunbey**	**1.03**	**302**	*e*PG	**Pg**	**03 32 58.2**	**+0.4**
DST				*e*SG	**Sg**	**03 33 13.1**	**+1.9**
DST	**Dursunbey**	**1.03**	**302**	*e*Pg	**Pg**	**03 32 58.2**	**+0.4**
DST				*e*Sg	**Sg**	**03 33 13.1**	**+1.9**
MANT	**Manisa**	**1.09**	**239**	*i* P	**Pg**	**03 32 58.7**	**-0.2**
MANT	**Manisa**	**1.09**	**239**	*i* P	**Pg**	**03 32 58.7**	**-0.2**
DURS	**Dursunbey**	**1.13**	**299**	*i* P	**Pg**	**03 32 59.2**	**-0.4**
DURS				*i* S	**Sg**	**03 33 15.6**	**+1.3**
DURS	**Dursunbey**	**1.13**	**299**	*i* P	**Pg**	**03 32 59.2**	**-0.4**
DURS				*i* S	**Sg**	**03 33 15.6**	**+1.3**
ULDT	**Uludag**	**1.18**	**337**	*i* P	**Pb**	**03 33 00.0**	**-0.4**
ULDT				*i* S	**Sb**	**03 33 15.1**	**-0.7**
ULDT	**Uludag**	**1.18**	**337**	*i* P	**Pb**	**03 33 00.0**	**-0.5**
ULDT				*i* S	**Sb**	**03 33 15.1**	**-0.7**
GPA	**Golpazari**	**1.30**	**19**	*e*PN	**Pn**	**03 33 03.5**	**+1.3**
GPA	**Golpazari**	**1.30**	**19**	*e*Pn	**Pn**	**03 33 03.5**	**+1.3**
ADVT	**Abdulvahap**	**1.37**	**360**	*e*PN	**Pn**	**03 33 04.2**	**+1.0**
ADVT				*e*SN	**Sg**	**03 33 24.1**	**+2.0**
ADVT	**Abdulvahap**	**1.37**	**360**	*e*Pn	**Pn**	**03 33 04.2**	**+1.0**
ADVT				*e*Sn	**Sg**	**03 33 24.1**	**+2.0**
SVRH	**Sivrihisar-ESK**	**1.43**	**74**	*e*PN	**Pn**	**03 33 05.0**	**+1.0**
SVRH	**Sivrihisar-ESK**	**1.43**	**74**	*e*Pn	**Pn**	**03 33 05.0**	**+1.0**
MDNY	**Mudanya-Bursa**	**1.47**	**333**	*e*PN	**Pn**	**03 33 05.5**	**+1.0**
MDNY	**Mudanya-Bursa**	**1.47**	**333**	*e*Pn	**Pn**	**03 33 05.5**	**+1.0**
GULT	**Gulveren**	**1.49**	**23**	*e*PN	**Pn**	**03 33 06.1**	**+1.2**
GULT	**Gulveren**	**1.49**	**23**	*e*Pn	**Pn**	**03 33 06.1**	**+1.3**
BALB	**Balikesir**	**1.56**	**292**	*e*PN	**Pn**	**03 33 06.4**	**+0.7**
BALB	**Balikesir**	**1.56**	**292**	*e*Pn	**Pn**	**03 33 06.4**	**+0.6**
KCTX	**Karacabey (Bur**	**1.61**	**319**	*e*PN	**Pg**	**03 33 07.6**	**-1.3**
KCTX	**Karacabey (Bur**	**1.61**	**319**	*e*Pn	**Pg**	**03 33 07.6**	**-1.3**
ARMT	**Armutlu**	**1.65**	**336**	*e*PN	**Pg**	**03 33 08.2**	**-1.4**
ARMT	**Armutlu**	**1.65**	**336**	*e*Pn	**Pg**	**03 33 08.3**	**-1.4**
KIZT	**Kizilcal**	**1.67**	**95**	*e*PN	**Pn**	**03 33 08.3**	**+1.1**
KIZT	**Kizilcal**	**1.67**	**95**	*e*Pn	**Pn**	**03 33 08.3**	**+1.0**
BALY	**Balya**	**1.78**	**293**	*i* P	**Pg**	**03 33 10.3**	**-1.9**
BALY				*i* S	**Sg**	**03 33 33.4**	**-1.9**
BALY	**Balya**	**1.78**	**293**	*i* P	**Pg**	**03 33 10.3**	**-1.9**
BALY				*i* S	**Sg**	**03 33 33.4**	**-1.9**
MDU	**Mudurnu**	**1.80**	**38**	*e*PN	**Pn**	**03 33 10.5**	**+1.4**
MDU	**Mudurnu**	**1.80**	**38**	*e*Pn	**Pn**	**03 33 10.5**	**+1.4**
GONE	**Gonen-Balikesi**	**1.87**	**302**	*e*PN	**Pn**	**03 33 10.9**	**+0.9**
GONE	**Gonen-Balikesi**	**1.87**	**302**	*e*Pn	**Pn**	**03 33 10.9**	**+0.8**
KRBG	**Karabiga-Canak**	**2.31**	**306**	*e*PN	**Pn**	**03 33 17.2**	**+1.1**
KRBG	**Karabiga-Canak**	**2.31**	**306**	*e*Pn	**Pn**	**03 33 17.2**	**+1.1**
CTKS	**Kestanelik-??a**	**2.37**	**337**	*e*PN	**Pn**	**03 33 18.5**	**+1.5**
CTKS	**Kestanelik-??a**	**2.37**	**337**	*e*Pn	**Pn**	**03 33 18.5**	**+1.6**

*IDC **30** 03:40:32.2±0.8, 18°.14N×147°.15E, h0km, mb4.1/14, mb1 4.2/16, mb1mx4.1/24, mbtmp4.1/16, ML4.1/1, MS3.4/4, Ms1 3.4/4, ms1mx2.9/30, Error ellipse: s-maj=26.3km s-min=15.7km az=91.0*
*ISCJB **30** 03:40:37.4±2.4, 18°.06N±0°.07×147°.1E±0°.1, h52km±21km, mb4.1/21, MS3.3/3, Error ellipse: s-maj=23.5km s-min=10.7km az=175.2*
*NEIC **30** 03:40:39.0±1.7, 18°.06N×147°.12E, h52km±15km, mb4.2/9, Error ellipse: s-maj=15.9km s-min=7.5km az=86.0*

ISC 30 03:40:39.1±2.1,18°.03N±0°.06×147°.1E±0°.1,h52km±19km, n47,σ0s90/46,mb4.1/21,MS3.3/3,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.91**	**206**	Pn	**Pn**	**03 41 50.7**	**+0.3**
	6.5nm,0.3s,baz=8.6,slow=19,SNR=4.2						
GUMO				Sn	**Sn**	**03 42 42.5**	**-3.5**
	3.5nm,0.3s,baz=4.3,slow=22,SNR=1.4						
GUMO	**Guam**	**4.91**	**206**	Pn	**Pn**	**03 41 50.7**	**+0.3**
GUMO				Sn	**Sn**	**03 42 42.5**	**-3.5**
JOW	**Kunigami**	**19.46**	**300**	LR	LR	03 51 19.8	
	comp=Z,128nm,19.4s,baz=48,slow=33						
MJAR	**Matsushiro Arr**	**20.04**	**339**	P	**P**	**03 45 06.2**	**-1.7**
	0.2nm,0.3s,baz=165,slow=10,SNR=5.7						
MJAR				LR	LR	03 52 26.3	
	comp=Z,58nm,19.1s,MS2.9,baz=60,slow=36						
MJAR	**Matsushiro Arr**	**20.04**	**339**	P	**P**	**03 45 06.2**	**-1.7**
MAJO	**Matsushiro**	**20.04**	**339**	*e*P	**P**	**03 45 09.6**	**+1.6**
	9.2nm,0.4s						
MAT	**Matsushiro**	**20.04**	**339**	P	**P**	**03 45 10.8**	**+2.9**
KSRS	**Korea Array**	**25.65**	**323**	P	**P**	**03 46 04.0**	**0.0**
	3.1nm,0.8s,mb3.9,baz=152,slow=9.4,SNR=12						
KSRS				LR	LR	03 55 49.1	
	comp=Z,99nm,19.6s,MS3.3,baz=130,slow=36						
KSAR	**Wonju Array Be**	**25.66**	**323**	P	**P**	**03 46 04.0**	**-0.1**
WRAB	**Tennant Creek**	**39.75**	**199**	*e*P	**P**	**03 48 06.8**	**-0.2**
	6.5nm,1.0s,mb4.3						
WB2	**Warramunga Arr**	**39.76**	**199**	*e*P	**P**	**03 48 07.4**	**+0.4**
WRA	**Warramunga Arr**	**39.76**	**199**	P	**P**	**03 48 06.8**	**-0.2**
	3.3nm,0.7s,mb4.2,baz=25,slow=8.9,SNR=29						
WRA	**Warramunga Arr**	**39.76**	**199**	P	**P**	**03 48 06.8**	**-0.2**
AS31	**Alice Springs**	**43.40**	**198**	*e*P	**P**	**03 48 37.2**	**+0.5**
ASAR	**Alice Springs**	**43.40**	**198**	P	**P**	**03 48 37.7**	**+0.9**
	1.3nm,0.7s,mb3.8,baz=22,slow=8.2,SNR=26						
ASAR				PcP	PcP	03 50 26.3	+1.7
	0.3nm,0.6s,baz=24,slow=2.7,SNR=4.1						
ASAR	**Alice Springs**	**43.40**	**198**	P	**P**	**03 48 37.7**	**+0.9**
ASAR				PcP	PcP	03 50 26.3	+1.7
ULN	**Ulaanbaatar**	**44.12**	**322**	*e*P	**P**	**03 48 42.4**	**0.0**
	1.5nm,0.6s,mb3.9						
SONM	**Songino Array**	**44.49**	**321**	P	**P**	**03 48 44.6**	**-0.8**
	1.0nm,0.6s,mb3.7,baz=138,slow=9.0,SNR=7.0						
SONM				PcP	PcP	03 50 29.0	+1.0
	0.8nm,0.7s,baz=151,slow=4.6,SNR=4.4						
SONM				LR	LR	04 08 39.3	
	comp=Z,71nm,18.6s,MS3.6,baz=172,slow=38						
SONM	**Songino Array**	**44.49**	**321**	P	**P**	**03 48 44.6**	**-0.8**
SONM				PcP	PcP	03 50 29.0	+1.0
CMAR	**Chiang Mai Arr**	**45.63**	**278**	P	**P**	**03 48 54.9**	**+0.1**
	0.6nm,0.3s,mb4.0,baz=76,slow=6.6,SNR=5.5						
CMAR	**Chiang Mai Arr**	**45.63**	**278**	P	**P**	**03 48 54.9**	**+0.1**
ZAA0	**Zalesovo Array**	**59.35**	**323**	*e*P	**P**	**03 50 35.6**	**-0.3**
ZALV	**Zalesovo Beam**	**59.35**	**323**	P	**P**	**03 50 35.2**	**-0.6**
	0.8nm,0.4s,mb4.1,baz=109,slow=8.0,SNR=4.8						
ZALV	**Zalesovo Beam**	**59.35**	**323**	P	**P**	**03 50 35.2**	**-0.6**
MKAR	**Makanchi Array**	**59.88**	**314**	P	**P**	**03 50 40.4**	**+0.7**
	0.6nm,0.7s,mb3.8,baz=92,slow=8.4,SNR=5.8						
MKAR				PcP	PcP	03 51 26.6	+1.0
	0.9nm,0.8s,baz=79,slow=6.3,SNR=4.9						
MKAR	**Makanchi Array**	**59.88**	**314**	P	**P**	**03 50 40.4**	**+0.8**
MKAR				PcP	PcP	03 51 26.6	+1.0
KURK	**Kurchatov**	**62.65**	**318**	P	**P**	**03 50 57.4**	**-0.9**
	1.2nm,0.6s,mb4.2,baz=96,slow=7.1,SNR=13						
KURK	**Kurchatov**	**62.65**	**318**	P	**P**	**03 50 57.4**	**-0.9**
ILAR	**Eielson Array**	**63.66**	**26**	P	**P**	**03 51 03.6**	**-1.0**
	0.8nm,0.9s,mb3.8,baz=252,slow=5.2,SNR=5.2						
ILAR	**Eielson Array**	**63.66**	**26**	P	**P**	**03 51 03.6**	**-1.0**
AAK	**Ala-Archa**	**65.32**	**309**	*e*P	**P**	**03 51 15.4**	**-0.6**
	2.5nm,0.5s,mb4.5						
EKS2	**Erkin-Say**	**65.85**	**309**	*e*P	**P**	**03 51 20.4**	**+1.0**
	1.0nm,0.7s,mb4.0						
BVAR	**Borovoye Array**	**67.83**	**321**	P	**P**	**03 51 31.7**	**-0.1**
	2.5nm,0.6s,mb4.4,baz=91,slow=7.4,SNR=17						
BVAR	**Borovoye Array**	**67.83**	**321**	P	**P**	**03 51 31.7**	**-0.1**
BRVK	**Borovoye**	**67.90**	**321**	*e*P	**P**	**03 51 32.2**	**0.0**
	2.2nm,0.6s,mb4.4						
INK	**Inuvik**	**69.47**	**23**	P	**P**	**03 51 41.4**	**-0.3**
	1.3nm,1.0s,mb3.8,baz=230,slow=7.2,SNR=3.2						
INK	**Inuvik**	**69.47**	**23**	*e*P	**P**	**03 51 41.6**	**-0.1**
	5.5nm,1.4s,mb4.3						
ABKAR	**Akbulak array**	**74.73**	**317**	*e*P	**P**	**03 52 13.4**	**-0.1**
	0.3nm,0.4s,mb3.6						
NVAR	**Mina Array Bea**	**82.50**	**52**	P	**P**	**03 52 57.1**	**+0.6**
	0.9nm,0.8s,mb3.8,baz=258,slow=7.4,SNR=5.7						
NVAR	**Mina Array Bea**	**82.50**	**52**	P	**P**	**03 52 57.1**	**+0.6**
ARCES	**ARCESS Array B**	**83.53**	**342**	P	**P**	**03 53 03.2**	**+2.0**
	2.1nm,0.7s,mb4.4,baz=61,slow=8.6,SNR=4.9						
ARCES	**ARCESS Array B**	**83.53**	**342**	P	**P**	**03 53 03.2**	**+2.0**
FFC	**Flin Flon**	**86.94**	**33**	*e*P	**P**	**03 53 17.6**	**-0.9**
	8.3nm,1.3s,mb4.8						
FINES	**FINESS Array B**	**88.04**	**336**	P	**P**	**03 53 22.8**	**-0.9**
	6.4nm,1.1s,mb4.8,baz=44,slow=6.2,SNR=6.7						
FINES	**FINESS Array B**	**88.04**	**336**	P	**P**	**03 53 22.8**	**-0.9**
TORD	**Torodi Ar. Bea**	**133.91**	**310**	PKP	PKPdf	03 59 51.1	-0.3
	0.4nm,0.8s,baz=327,slow=1.8,SNR=6.1						
TORD	**Torodi Ar. Bea**	**133.91**	**310**	PKP	PKPdf	03 59 51.1	-0.3

*IPEC **30** 04:02:52.2±0.3,51°.59N×16°.22E, h0km, ML2.0/3, Error ellipse: s-maj=2.0km s-min=1.5km az=36.0*
*ISCJB **30** 04:02:53.2±0.8,51°.42N±0°.04×16°.08E±0°.04, h0km, Error ellipse: s-maj=6.1km s-min=3.2km az=20.9*
*CSEM **30** 04:02:54.6±0.4,51°.43N×16°.07E, h2km, ML3.2/7, Error ellipse: s-maj=6.3km s-min=3.4km az=10.0*
*WAR **30** 04:02:54.7,51°.49N×16°.11E, ML2.5, Mining Induced*
*PRU **30** 04:02:55.6,51°.42N×16°.13E, h0km*

ISC 30 04:02:53.5±0.7,51°.49N±0°.04×16°.10E±0°.04,h0km,n26, σ0s82/48,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.66**	**169**	*e*Pg	**Pg**	**04 03 06.7**	**+0.6**
KSP				*e*Sg	**Sg**	**04 03 15.9**	**+1.2**
KSP	**Ksiaz**	**0.66**	**169**	*e*Pg	**Pg**	**04 03 06.7**	**+0.6**
KSP				*e*Sg	**Sg**	**04 03 15.9**	**+1.3**
KSP	**Ksiaz**	**0.66**	**169**	*e*Pg	**Pg**	**04 03 06.6**	**+0.5**
	baz=356						
KSP				*e*Sg	**Sg**	**04 03 15.9**	**+1.3**
UPC	**Upice**	**0.99**	**183**	*e*PG	**Pg**	**04 03 13.0**	**+0.6**
UPC	**Upice**	**0.99**	**183**	Pg	**Pg**	**04 03 13.0**	**+0.6**
DPC	**Dobruska-Polom**	**1.15**	**173**	*e*PG	**Pg**	**04 03 15.6**	**+0.1**
DPC				*e*SG	**Sg**	**04 03 30.2**	**-0.2**
	comp=Z,20nm,0.3s						
DPC	**Dobruska-Polom**	**1.15**	**173**	*e*Pg	**Pg**	**04 03 15.6**	**+0.1**
	baz=357						
DPC				Sg	**Sg**	**04 03 30.2**	**-0.2**
	comp=Z,20nm,0.3s						
PVCC	**Panska Ves**	**1.37**	**226**	*e*PG	**Pg**	**04 03 20.3**	**+0.6**
PVCC				*e*SG

KKN	**Kakani**	**58.42**	**293**	*e*P	**P**	**04 14 43.6**	**+0.6**
DMN	**Daman**	**58.58**	**293**	*e*P	**P**	**04 14 44.1**	**-0.1**
	9.6nm,0.5s,mb5.1						
GKN	**Gorkha**	**58.98**	**294**	*e*P	**P**	**04 14 47.0**	**0.0**
DANN	**Dangsing**	**59.74**	**294**	*e*P	**P**	**04 14 52.7**	**+0.5**
	28nm,0.6s,mb5.4						
KOLN	**Koldanda**	**59.91**	**293**	*e*P	**P**	**04 14 53.3**	**-0.1**
	11nm,0.8s,mb4.9						
PYUN	**Piuthan**	**60.43**	**294**	*e*P	**P**	**04 14 56.9**	**-0.1**
	9.8nm,0.8s,mb4.9						
ZALV	**Zalesovo Beam**	**61.66**	**323**	P	**P**	**04 15 04.5**	**-0.3**
	2.3nm,0.8s,mb4.4,baz=112,slow=6.9,SNR=7.8						
ZALV	**Zalesovo Beam**	**61.66**	**323**	P	**P**	**04 15 04.5**	**-0.3**
MK31	**Makanchi Array**	**61.92**	**315**	*e*P	**P**	**04 15 06.8**	**+0.1**
MKAR	**Makanchi Array**	**61.92**	**315**	P	**P**	**04 15 07.0**	**+0.3**
	2.6nm,0.5s,mb4.6,baz=93,slow=7.9,SNR=33						
MKAR	**Makanchi Array**	**61.92**	**315**	P	**P**	**04 15 07.0**	**+0.3**
KURK	**Kurchatov**	**64.83**	**319**	P	**P**	**04 15 26.0**	**+0.1**
	3.3nm,0.4s,mb4.7,baz=98,slow=7.2,SNR=46						
KURK	**Kurchatov**	**64.83**	**319**	P	**P**	**04 15 26.0**	**+0.1**
ILAR	**Eielson Array**	**66.19**	**25**	P	**P**	**04 15 34.0**	**-0.4**
	1.9nm,0.9s,mb4.1,baz=252,slow=5.9,SNR=18						
ILAR	**Eielson Array**	**66.19**	**25**	P	**P**	**04 15 34.0**	**-0.4**
TKM2	**Tokmak 2**	**66.38**	**310**	*e*P	**P**	**04 15 36.3**	**+0.3**
	1.2nm,0.5s,mb4.2						
AAK	**Ala-Archa**	**67.19**	**310**	*e*P	**P**	**04 15 40.7**	**-0.5**
	4.5nm,0.6s,mb4.7						
BVAR	**Borovoye Array**	**70.08**	**321**	P	**P**	**04 15 58.5**	**-0.6**
	1.8nm,0.6s,mb4.2,baz=114,slow=7.2,SNR=10.0						
BVAR	**Borovoye Array**	**70.08**	**321**	P	**P**	**04 15 58.5**	**-0.6**
KKAR	**Karatay Array**	**70.10**	**311**	*e*P	**P**	**04 15 59.0**	**-0.4**
	3.3nm,0.8s,mb4.3						
BRVK	**Borovoye**	**70.15**	**321**	*e*P	**P**	**04 15 59.6**	**+0.2**
	2.5nm,0.6s,mb4.3						
INK	**Inuvik**	**72.06**	**23**	P	**P**	**04 16 12.3**	**+1.6**
	2.1nm,0.9s,mb4.0,baz=242,slow=6.0,SNR=7.0						
INK	**Inuvik**	**72.06**	**23**	*e*P	**P**	**04 16 12.4**	**+1.7**
	3.7nm,1.1s,mb4.2						
ABKAR	**Akbulak array**	**76.87**	**318**	*e*P	**P**	**04 16 38.0**	**-1.1**
	1.6nm,0.7s,mb4.1						
NVAR	**Mina Array Bea**	**84.20**	**52**	P	**P**	**04 17 20.3**	**+1.7**
	1.1nm,0.9s,mb4.0,baz=258,slow=7.4,SNR=5.3						
NVAR	**Mina Array Bea**	**84.20**	**52**	P	**P**	**04 17 20.3**	**+1.7**
ARCES	**ARCESS Array B**	**86.26**	**343**	P	**P**	**04 17 28.1**	**-0.2**
	6.7nm,1.0s,mb4.8,baz=39,slow=9.8,SNR=2.9						
ARCES	**ARCESS Array B**	**86.26**	**343**	P	**P**	**04 17 28.1**	**-0.2**
FINES	**FINESS Array B**	**90.66**	**336**	P	**P**	**04 17 47.7**	**-1.6**
	2.7nm,0.8s,mb4.6,baz=86,slow=6.1,SNR=5.1						
FINES	**FINESS Array B**	**90.66**	**336**	P	**P**	**04 17 47.7**	**-1.6**
TORD	**Torodi Ar. Bea**	**135.74**	**308**	PKP	PKPdf	04 24 08.8	+0.4
	0.3nm,0.7s,baz=58,slow=0.3,SNR=1.5						
TORD	**Torodi Ar. Bea**	**135.74**	**308**	PKP	PKPdf	04 24 08.8	+0.4
DBIC	**Dimbokro**	**144.79**	**306**	PKP	PKPdf	04 24 23.9	-0.9
	4.9nm,0.6s,baz=57,slow=4.1,SNR=17						
DBIC	**Dimbokro**	**144.79**	**306**	PKP	PKPdf	04 24 23.9	-0.9

CASC 30 04:33:21.0±2.9, 13°38N×90°70W, h90km±23km, MD3.7, ML3.1, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PSG	**Pto de San Jos**	**0.58**	**351**	*e*P		Pn	04 33 36.1	-0.3
PSG				*e*S		Sn	04 33 48.9	+1.1
PCG	**Pacaya**	**1.02**	**5**	*e*P		Pn	04 33 41.7	+0.8
PCG				*e*S		Sn	04 33 57.4	+1.6
FUG	**Fuego 3**	**1.08**	**352**	*e*P		Pn	04 33 42.1	+0.5
FUG				*e*S		Sn	04 33 57.0	-0.1
SBLS	**San Blas**	**1.14**	**66**	*e*P		Pn	04 33 42.3	-0.1
SBLS				*e*S		Sn	04 34 00.3	+2.0
RTR	**El Retiro**	**1.15**	**63**	*e*P		Pn	04 33 42.3	-0.1
SNJE	**San Jose**	**1.17**	**65**	*e*P		Pn	04 33 42.3	-0.4
FG6		**1.19**	**351**	*e*P		Pn	04 33 43.8	+0.9
FG6				*e*S		Sn	04 34 01.4	+1.9
RBDL	**Robledal**	**1.23**	**53**	*e*P		Pn	04 33 43.7	+0.4
NBG	**Las Nubes**	**1.25**	**16**	*e*P		Pn	04 33 46.1	+2.5
NBG				*e*S		Sn	04 34 02.4	+1.7
JAT	**Jato**	**1.31**	**316**	*e*P		Pn	04 33 44.8	+0.4
JAT				*e*S		Sn	04 34 03.7	+1.7
BOQS	**Boqueron**	**1.42**	**75**	*e*P		Pn	04 33 46.0	+0.3
BOQS				*e*S		Sn	04 34 04.6	+0.1
BOQS					AML	AML	04 34 09.1	
	comp=Z,207nm,0.6s							
TP2	**Tecpan 2**	**1.44**	**347**	*e*P		Pn	04 33 43.8	-2.1
TP2				*e*S		Sn	04 34 07.6	+2.8
SNET	**Serv Nac Est T**	**1.46**	**78**	*e*P		Pn	04 33 46.8	+0.6
SNET				*e*S		Sn	04 34 07.4	+2.2
LFRS	**El Faro**	**1.61**	**81**	*e*P		Pn	04 33 48.3	+0.2
LFRS				*e*S		Sn	04 34 12.5	+3.8
MTO2	**Montecristo 2**	**1.65**	**52**	*e*P		Pn	04 33 50.0	+1.3
SNVI	**San Vicente**	**1.82**	**82**	*e*P		Pn	04 33 52.2	+1.3
CAHU	**Cacacuatique**	**2.45**	**80**	*e*P		Pn	04 34 00.3	+1.2
CNCH	**Conchagua**	**2.79**	**92**	*e*P		Pn	04 34 05.3	+1.6
CRIN	**San Cristobal**	**3.62**	**100**	*e*P		Pn	04 34 16.9	+2.0
CRIN				*e*S		Sn	04 34 55.6	-0.9
CRIN					AML	AML	04 35 03.1	
	comp=N,68nm,0.2s							

*ROM **30** 05:05:25.3±0.6, 42°12N×16°26E, h6km, Md2.5/5, Ml2.8/1, Error ellipse: s-maj=7.1km s-min=5.0km az=55.0*
*ISCJB **30** 05:05:26.0±1.1, 42°18N±0°05×16°18E±0°07, h15km±14km, Error ellipse: s-maj=9.2km s-min=7.6km az=34.2*
*CSEM **30** 05:05:26.0±0.4, 42°14N×16°15E, h15km, MD2.5/5, Error ellipse: s-maj=7.7km s-min=6.8km az=131.0*

ISC 30 05:05:26.3±0.6, 42°13N±0°04×16°14E±0°05, h19km±6km, n22, σ1°9⁄5°/32, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MS1	**Monte Sant'Ang**	**0.45**	**200**	*e*Pg		**Pg**	**05 05 36.9**	**+1.4**
MS1				*e*Sg		**Sg**	**05 05 42.0**	**+0.4**
MSAG	**Monte S. Angel**	**0.45**	**203**	Pg		**Pg**	**05 05 36.4**	**+0.9**
MSAG				Sg		**Sg**	**05 05 43.2**	**+1.5**
	582nm,0.2s							
MSAG	**Monte S. Angel**	**0.45**	**203**	Pg		**Pg**	**05 05 36.4**	**+0.9**
MSAG				Sg		**Sg**	**05 05 43.2**	**+1.5**
	582nm,0.2s							
SGRT	**San Giovanni R**	**0.48**	**219**	Pg		**Pg**	**05 05 36.5**	**+0.5**
SGRT	**San Giovanni R**	**0.48**	**219**	Pg		**Pg**	**05 05 36.5**	**+0.5**
RGNG	**Rignano Grg**	**0.62**	**223**	Pg		**Pg**	**05 05 38.6**	**+0.1**
RGNG	**Rignano Grg**	**0.62**	**223**	Pg		**Pg**	**05 05 38.6**	**+0.1**
FG2	**Serracapriola**	**0.80**	**246**	Pg		**Pg**	**05 05 41.9**	**0.0**
	183nm,0.2s							
FG2	**Serracapriola**	**0.80**	**246**	Pg		**Pg**	**05 05 41.9**	**0.0**
	183nm,0.2s							
CDT	**Castel del Mon**	**1.05**	**175**	*e*Pg		**Pg**	**05 05 45.4**	**-1.3**
MRVN	**Minervino Murg**	**1.07**	**178**	Pg		**Pg**	**05 05 45.4**	**-1.6**
MRVN	**Minervino Murg**	**1.07**	**178**	Pg		**Pg**	**05 05 45.4**	**-1.6**
BAI	**Bari**	**1.16**	**151**	*e*Pg		**Pg**	**05 05 47.4**	**-1.3**
BAI				*e*Sg		**Sg**	**05 06 03.7**	**-0.3**
SG1	**Sgolgore (BA)**	**1.35**	**162**	*e*Pn		**Pn**	**05 05 52.8**	**+2.8**
STON	**Ston**	**1.37**	**57**	*i* Pg		**Pg**	**05 05 52.0**	**-0.7**
STON				Sg		**Sg**	**05 06 11.4**	**+0.8**
STON	**Ston**	**1.37**	**57**	*i* Pg		**Pg**	**05 05 52.0**	**-0.7**
STON				Sg		**Sg**	**05 06 11.3**	**+0.7**
PE1	**Pezze di Greco**	**1.64**	**144**	*e*Pn		**Pn**	**05 05 54.0**	**0.0**
SDI	**San Donato**	**1.79**	**257**	Pg		**Pg**	**05 05 58.7**	**-2.0**
SDI				Sg		**Sg**	**05 06 23.3**	**-0.7**
	7.0nm,0.2s							
SDI	**San Donato**	**1.79**	**257**	Pg		**Pg**	**05 05 58.7**	**-2.0**
SDI				Sg		**Sg**	**05 06 23.3**	**-0.7**
	7.0nm,0.2s							
TAR1	**Taranto**	**1.82**	**151**	*e*Pn		**Pn**	**05 05 56.0**	**-0.5**
NVLJ	**Novalja**	**2.60**	**340**	*e*Pn		**Pn**	**05 06 08.1**	**+0.8**
NVLJ				Sn		**Sn**	**05 06 38.5**	**+0.1**
NVLJ	**Novalja**	**2.60**	**340**	*e*Pn		**Pn**	**05 06 08.1**	**+0.8**
NVLJ				Sn		**Sn**	**05 06 38.4**	**0.0**

*ISCJB **30** 05:08:24.3±0.2, 40°53S±0°03×173°29E±0°04, h194km±2km, mb4.0/10, Error ellipse: s-maj=6.2km s-min=3.1km az=36.7*
*IDC **30** 05:08:24.2±0.6, 40°48S×173°43E, h185km±5km, mb4.0/7, mb1 4.2/9, mb1mx4.1/12, mbtmp4.0/9, Error ellipse: s-maj=13.5km s-min=9.0km az=129.0*
*NEIC **30** 05:08:24.9±0.4, 40°45S×173°25E, mb4.6/2, Error ellipse: s-maj=12.3km s-min=9.3km az=90.0*
NEIC Felt at Wellington.
*WEL **30** 05:08:26.1±0.3, 40°48S×173°32E, h188km±2km, ML5.3/23, Error ellipse: s-maj=1.6km s-min=0.7km az=90.0, reported intensity MM 4.*
WEL Felt from Taranaki to Canterbury, and from West Coast to Wairarapa, maximum.

ISC 30 05:08:25.2±0.2, 40°53S±0°03×173°30E±0°04, h190km±2km, n153, σ0°90/147, mb4.1/10, 5C-2D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DUWZ	**D'Urville Isla**	**0.55**	**121**	⇑P	N	**Pn**	**05 08 52.3**	**+1.1**
DUWZ					S	**Sn**	**05 09 11.5**	**+0.2**
QRZ	**Quartz Range**	**0.66**	**242**	⇑P	N	**Pn**	**05 08 52.7**	**+1.0**
QRZ					S	**Sn**	**05 09 12.2**	**0.0**
NNZ	**Nelson**	**0.69**	**175**	P	N	**Pn**	**05 08 52.9**	**+1.0**
NNZ					S	**Sn**	**05 09 13.2**	**+0.4**
TCW	**Tory Channel**	**1.01**	**133**	P	N	**Pn**	**05 08 55.2**	**+1.3**
TUWZ	**Tuamarina**	**1.03**	**152**	⇑P	N	**Pn**	**05 08 55.1**	**+1.1**
TUWZ					S	**Sn**	**05 09 16.8**	**+0.4**
BSWZ	**Blackbirch Sta**	**1.27**	**160**	P	N	**Pn**	**05 08 57.1**	**+1.3**
KIW	**Kapiti Island**	**1.27**	**106**	P	N	**Pn**	**05 08 56.7**	**+0.8**
THZ	**Tophouse**	**1.27**	**193**	⇑P	N	**Pn**	**05 08 57.1**	**+1.2**
THZ					S	**Sn**	**05 09 19.7**	**-0.2**
NRZ	**Ngariki Road**	**1.28**	**23**	P	N	**Pn**	**05 08 56.4**	**+0.4**
SNZO	**South Karori**	**1.32**	**127**	⇑P	N	**Pn**	**05 08 57.2**	**+0.9**
SNZO	**South Karori**	**1.32**	**127**	*e*Pg		**Pn**	**05 08 57.3**	**+1.0**
SNZO				*e*Sn		**Sn**	**05 09 20.1**	**-0.4**
NWEZ	**Newall Road**	**1.32**	**19**	⇓P	N	**Pn**	**05 08 56.6**	**+0.2**
DFE	**Dawson Falls**	**1.35**	**28**	P	N	**Pn**	**05 08 56.8**	**+0.2**
WEL	**Wellington**	**1.35**	**125**	P	N	**Pn**	**05 08 57.4**	**+0.9**
NEZ	**North Egmont**	**1.40**	**26**	P	N	**Pn**	**05 08 57.1**	**+0.1**
CMWZ	**Cape Campbell**	**1.40**	**151**	P	N	**Pn**	**05 08 58.6**	**+1.6**
PKE	**Pukeiti**	**1.43**	**22**	⇓P	N	**Pn**	**05 08 57.5**	**+0.1**
OGWZ	**Otaki Gorge**	**1.45**	**102**	P	N	**Pn**	**05 08 58.4**	**+1.0**
CAW	**Cannon Point**	**1.46**	**114**	P	N	**Pn**	**05 08 58.5**	**+0.9**
BHW	**Baring Head**	**1.48**	**127**	P	N	**Pn**	**05 08 58.4**	**+0.7**
RAEZ	**Rainy Point**	**1.50**	**35**	P	N	**Pn**	**05 08 56.8**	**-1.1**
DREZ	**Durham Road**	**1.50**	**28**	P	N	**Pn**	**05 08 58.2**	**+0.2**
WAZ	**Wanganui**	**1.50**	**60**	P	N	**Pn**	**05 08 58.6**	**+0.7**
MHEZ	**Mangahewa**	**1.65**	**29**	P	N	**Pn**	**05 08 59.8**	**+0.4**
DSZ	**Denniston Nort**	**1.66**	**222**	P	N	**Pn**	**05 09 00.0**	**+0.6**
DSZ					S	**Sn**	**05 09 25.2**	**-0.8**
MSWZ	**Moikau Station**	**1.73**	**122**	P	N	**Pn**	**05 09 00.7**	**+0.6**
HOWZ	**Holdsworth Sta**	**1.73**	**103**	P	N	**Pn**	**05 09 00.8**	**+0.7**
MRZ	**Mangatainoka R**	**1.74**	**95**	P	N	**Pn**	**05 09 00.6**	**+0.4**
MTW	**Mount Morrison**	**1.79**	**111**	P	N	**Pn**	**05 09 01.3**	**+0.6**
VRZ	**Vera Road**	**1.79**	**39**	P	N	**Pn**	**05 09 00.5**	**-0.3**
PLWZ	**Palliser**	**1.81**	**126**	P	N	**Pn**	**05 09 01.5**	**+0.6**
PAWZ	**Paruwai Farm**	**1.82**	**119**	P	N	**Pn**	**05 09 01.6**	**+0.6**
POWZ	**Post Office Ro**	**1.89**	**87**	P	N	**Pn**	**05 09 02.4**	**+0.7**
KHZ	**Kahutara**	**1.90**	**175**	P	N	**Pn**	**05 09 02.4**	**+0.7**
KHZ	**Kahutara**	**1.90**	**175**	*e*Pn		**Pn**	**05 09 02.5**	**+0.7**
KHZ				*e*Sn		**Sn**	**05 09 28.1**	**-2.3**
TIWZ	**Tintock**	**1.98**	**98**	P	N	**Pn**	**05 09 03.4**	**+0.7**
PKVZ	**Pokaka**	**2.00**	**53**	P	N	**Pn**	**05 09 01.8**	**-1.1**
TRWZ	**Traveller**	**2.01**	**117**	P	N	**Pn**	**05 09 03.7**	**+0.7**
MTVZ	**Mangateitei**	**2.02**	**56**	P	N	**Pn**	**05 09 03.1**	**0.0**
TMWZ	**Te Maipa**	**2.05**	**107**	P	N	**Pn**	**05 09 04.1**	**+0.7**
TSZ	**Takapari Road**	**2.09**	**78**	P	N	**Pn**	**05 09 04.2**	**+0.4**
WNVZ	**Wahianoa**	**2.13**	**57**	P	N	**Pn**	**05 09 04.3**	**-0.1**
DRZ	**Dome Shelter**	**2.14**	**55**	P	N	**Pn**	**05 09 04.8**	**+0.4**
FWVZ	**Far West T-bar**	**2.15**	**55**	P	N	**Pn**	**05 09 04.3**	**-0.1**
WPVZ	**Whakapapa**	**2.17**	**53**	P	N	**Pn**	**05 09 04.6**	**-0.2**
MOVZ	**Moawhango**	**2.19**	**60**	P	N	**Pn**	**05 09 04.5**	**-0.5**
TWVZ	**Taurewa**	**2.20**	**49**	P	N	**Pn**	**05 09 04.4**	**-0.6**
DVHZ	**Dannevirke**	**2.20**	**85**	P	N	**Pn**	**05 09 05.3**	**+0.3**
TUVZ	**Tukino**	**2.20**	**56**	P	N	**Pn**	**05 09 05.2**	**+0.1**
NGZ	**Ngauruhoe**	**2.23**	**54**	P	N	**Pn**	**05 09 05.1**	**-0.2**
BFZ	**Birch Farm**	**2.25**	**95**	P	N	**Pn**	**05 09 05.7**	**+0.2**
WTVZ	**West Tongariro**	**2.26**	**52**	P	N	**Pn**	**05 09 05.3**	**-0.4**
OTVZ	**Oturere**	**2.27**	**54**	P	N	**Pn**	**05 09 05.8**	**0.0**
KRVZ	**Karewarewa**	**2.30**	**52**	P	N	**Pn**	**05 09 05.7**	**-0.4**
PNHZ	**Pukenui**	**2.30**	**76**	P	N	**Pn**	**05 09 06.3**	**+0.1**
HIZ	**Hauiti**	**2.34**	**31**	P	N	**Pn**	**05 09 05.9**	**-0.7**
BHHZ	**Black Hill Sta**	**2.36**	**65**	P	N	**Pn**	**05 09 06.2**	**-0.6**
LTZ	**Lake Taylor**	**2.38**	**199**	P	N	**Pn**	**05 09 07.5**	**+0.5**
KATZ	**Kakaramea**	**2.41**	**51**	P	N	**Pn**	**05 09 07.2**	**-0.2**
WPHZ	**Waipukurau**	**2.45**	**80**	P	N	**Pn**	**05 09 08.2**	**+0.4**
RITZ	**Rihia Road**	**2.51**	**53**	P	N	**Pn**	**05 09 08.4**	**-0.1**
RATZ	**Rangitukua**	**2.53**	**50**	P	N	**Pn**	**05 09 08.7**	**0.0**
PRHZ	**Porangahau**	**2.56**	**85**	P	N	**Pn**	**05 09 09.6**	**+0.5**
WATZ	**Wairara**	**2.61**	**47**	P	N	**Pn**	**05 09 09.5**	**-0.2**
WHTZ	**Whakaora**	**2.77**	**49**	P	N	**Pn**	**05 09 11.5**	**0.0**
PXZ	**Pawanui**	**2.77**	**81**	P	N	**Pn**	**05 09 11.5**	**0.0**
BKZ	**Black Stump Fm**	**2.81**	**62**	P	N	**Pn**	**05 09 10.8**	**-1.2**
MCHZ	**McNeill Hill**	**2.83**	**69**	P	N	**Pn**	**05 09 12.2**	**0.0**
KAHZ	**Kahuranaki**	**2.84**	**76**	P	N	**Pn**	**05 09 12.5**	**+0.2**
CKHZ	**Cape Kidnapper**	**3.03**	**75**	P	N	**Pn**	**05 09 14.6**	**+0.1**
NMHZ	**Naumai**	**3.06**	**63**	P	N	**Pn**	**05 09 14.9**	**0.0**
ALRZ	**Allen Road**	**3.06**	**51**	P	N	**Pn**	**05 09 13.8**	**-1.2**
CRLZ	**Canterbury Las**	**3.09**	**189**	P	N	**Pn**	**05 09 15.0**	**-0.3**
PRRZ	**Plateau Road**	**3.13**	**51**	P	N	**Pn**	**05 09 14.8**	**-1.1**
WVZ	**Waitaha Valley**	**3.19**	**216**	P	N	**Pn**	**05 09 16.4**	**0.0**
RAHZ	**Arahi**	**3.33**	**62**	P	N	**Pn**	**05 09 17.6**	**-0.7**
TARZ	**Mount Tarawera**	**3.38**	**48**	P	N	**Pn**	**05 09 18.2**	**-0.6**
RPZ	**Rata Peaks**	**3.60**	**207**	P	N	**Pn**	**05 09 21.5**	**+0.1**
RPZ	**Rata Peaks**	**3.60**	**207**	P		**Pn**	**05 09 21.7**	**+0.2**
	39nm,0.3s,baz=290,slow=0.7,SNR=51							
RPZ					S	**Sn**	**05 10 05.2**	**-0.5**
	110nm,0.3s,baz=123,slow=22,SNR=20							
RPZ	**Rata Peaks**	**3.60**	**207**	P		**Pn**	**05 09 21.7**	**+0.2**
RPZ					S	**Sn**	**05 10 05.2**	**-0.5**
EDRZ	**Edgecumbe**	**3.60**	**49**	P	N	**Pn**	**05 09 20.8**	**-0.8**
KNZ	**Kokohu**	**3.69**	**67**	P	N	**Pn**	**05 09 21.4**	**-1.2**
MKAZ	**Moumakai**	**3.71**	**24**	P	N	**Pn**	**05 09 22.8**	**-0.1**
URZ	**Urewera**	**3.72**	**54**	P	N	**Pn**	**05 09 21.0**	**-2.1**
URZ	**Urewera**	**3.72**	**54**	P		**Pn**	**05 09 21.0**	**-2.1**
	100nm,0.3s,baz=254,slow=7.9,SNR=176							
URZ					S	**Sn**	**05 10 04.1**	**-4.3**
	83nm,0.3s,baz=226,slow=8.3,SNR=9.4							
URZ	**Urewera**	**3.72**	**54**	P		**Pn**	**05 09 21.0**	**-2.0**
URZ					S	**Sn**	**05 10 04.1**	**-4.3**
MHGZ	**Mahia Peninsul**	**3.80**	**70**	P	N	**Pn**	**05 09 23.6**	**-0.4**
PRGZ	**Paritu Road**	**3.88**	**67**	P	N	**Pn**	**05 09 23.9**	**-1.1**
MWZ	**Matawai**	**3.94**	**58**	P	N	**Pn**	**05 09 24.1**	**-1.6**
FOZ	**Fox Glacier**	**4.05**	**220**	P	N	**Pn**	**05 09 25.4**	**-1.8**
KUZ	**Kuaotunu**	**4.22**	**27**	P	N	**Pn**	**05 09 28.4**	**-1.0**
CNGZ	**Carnagh Statio**	**4.31**	**63**	P	N	**Pn**	**05 09 29.6**	**-0.8**
LBZ	**Lake Benmore**	**4.49**	**210**	P	N	**Pn**	**05 09 31.9**	**-0.8**
PUZ	**Puketiti**	**4.56**	**59**	P	N	**Pn**	**05 09 31.7**	**-2.0**
WCZ	**Waipu Caves**	**4.65**	**11**	P	N	**Pn**	**05 09 34.8**	**0.0**
JCZ	**Jackson Bay**	**4.89**	**222**	P	N	**Pn**	**05 09 37.1**	**-0.7**
MXZ	**Matakaoa Point**	**4.89**	**54**	P	N	**Pn**	**05 09 36.0**	**-1.9**
ODZ	**Otahua Downs**	**4.92**	**202**	P	N	**Pn**	**05 09 38.2**	**+0.1**
ODZ	**Otahua Downs**	**4.92**	**202**	P	N	**Pn**	**05 09 38.1**	**0.0**
ODZ					eSn	**Sn**	**05 10 31.7**	**-4.0**
OUZ	**Omahuta**	**5.30**	**3**	*e*Pn		**Pn**	**05 09 43.5**	**+0.3**
	194nm,1.6s							
OUZ					*e*Sn	**Sn**	**05 10 46.6**	**+1.9**
WKZ	**Wanaka**	**5.33**	**215**	P	N	**Pn**	**05 09 41.2**	**-2.3**
EAZ	**Earnscleugh**	**5.54**	**211**	P	N	**Pn**	**05 09 44.5**	**-1.7**
MSZ	**Milford Sound**	**5.73**	**222**	P	N	**Pn**	**05 09 48.0**	**-0.7**
TUZ	**Tuapeka**	**6.05**	**205**	P	N	**Pn**	**05 09 52.4**	**-0.4**
MLZ	**Mavora Lakes**	**6.11**	**216**	P	N	**Pn**	**05 09 53.2**	**-0.4**
WHZ	**Wether Hill Ro**	**6.64**	**214**	P	N	**Pn**	**05 09 59.0**	**-1.4**
SYZ	**Scrubby Hill**	**6.73**	**205**	P	N	**Pn**	**05 10 01.0**	**-0.6**
APZ	**The Paps**	**7.38**	**210**	P	N	**Pn**	**05 10 08.9**	**-1.3**
PYZ	**Puysegur Point**	**7.42**	**218**	P	N	**Pn**	**05 10 09.5**	**-1.2**
CTZ	**Chatham Island**	**8.15**	**116**	P	N	**Pn**	**05 10 21.3**	**+1.1**
STKA	**Stephens Creek**	**26.89**	**279**	P		**P**	**05 13 51.4**	**+3.0**
	3.8nm,1.0s,mb4.0,baz=123,slow=22,SNR=3.2							
STKA	**Stephens Creek**	**26.89**	**279**	P		**P**	**05 13 51.4**	**+3.0**
CTA	**Charters Tower**	**30.78**	**303**	P		**P**	**05 14 25.1**	**+2.2**
	1.7nm,0.6s,mb4.0,baz=168,slow=14,SNR=2.4							
CTA	**Charters Tower**	**30.78**	**303**	P		**P**	**05 14 25.1**	**+2.2**
ASAR	**Alice Springs**	**37.02**	**285**	P		**P**	**05 15 17.0**	**+0.4**
	1.1nm,0.5s,mb3.8,baz=122,slow=7.0,SNR=24							
ASAR					pP	pP	05 15 55.8	-0.7
	3.6nm,1.1s,baz=119,slow=6.6,SNR=4.0							
ASAR					PcP	PcP	05 17 32.1	-1.1
	1.4nm,0.5s,baz=121,slow=4.1,SNR=7.9							
ASAR	**Alice Springs**	**37.02**	**285**	P		**P**	**05 15 17.0**	**+0.4**
ASAR					pP	pP	05 15 55.8	-0.7
ASAR					PcP	PcP	05 17 32.1	-1.1
WB2	**Warramunga Arr**	**39.00**	**290**	*e*P		**P**	**05 15 33.4**	**+0.3**
WRAB	**Tennant Creek**	**39.00**	**290**	*e*P		**P**	**05 15 33.4**	**+0.1**
	2.5nm,0.6s,mb4.0							
WRA	**Warramunga Arr**	**39.01**	**290**	P		**P**	**05 15 33.4**	**+0.1**
	2.2nm,0.5s,mb4.0,baz=126,slow=8.4,SNR=44							
WRA					pP	pP	05 16 13.1	-0.4
	1.5nm,0.8s,baz=128,slow=7.8,SNR=3.3							
WRA					PcP	PcP	05 17 38.0	-1.5
	0.8nm,0.6s,baz=134,slow=3.2,SNR=5.4							
WRA	**Warramunga Arr**	**39.01**	**290**	P		**P**	**05 15 33.4**	**+0.1**
WRA					pP	pP	05 16 13.1	-0.4
WRA					PcP	PcP	05 17 38.0	-1.5
QSPA	**South Pole Qui**	**49.60**	**180**	P		**P**	**05 16 58.4**	**+2.0**
	14nm,0.6s,mb4.8,baz=19,slow=1.0,SNR=76							
QSPA	**South Pole Qui**	**49.60**	**180**	P		**P**	**05 16 58.4**	**+2.0**
SNAA	**Sanae**	**68.08**	**181**	*e*		**P**	**05 19 02.9**	**-0.7**
VNA3	**Neumayer Olymp**	**68.52**	**179**	*e*		**P**	**05 19 04.8**	**-1.6**
VNA2	**Neumayer--Watz**	**68.86**	**180**	*e*		**P**	**05 19 07.1**	**-1.4**
	baz=164,slow=5.0							
PLCA	**Paso Flores**	**80.48**	**136**	P		**P**	**05 20 17.3**	**+1.5**
	2.2nm,1.0s,mb3.8,baz=308,slow=7.5,SNR=4.7							
PLCA	**Paso Flores**	**80.48**	**136**	P		**P**	**05 20 17.3**	**+1.5**
MJAR	**Matsushiro Ar**	**83.19**	**332**	P		**P**	**05 20 31.2**	**+1.5**
	1.0nm,0.7s,mb3.7,baz=164,slow=5.4,SNR=4.5							
MJAR	**Matsushiro Ar**	**83.19**	**332**	P		**P**	**05 20 31.2**	**+1.5**
KSRS	**Korea Array**	**88.04**	**325**	P		**P**	**05 20 54.6**	**+1.1**
	6.7nm,0.8s,mb4.5,baz=146,slow=5.4,SNR=16							
KSAR	**Wonju Array Be**	**88.05**	**325**	P		**P**	**05 20 54.6**	**+1.0**
CMAR	**Chiang Mai Arr**	**90.49**	**294**	P		**P**	**05 21 06.8**	**+1.4**
	1.1nm,0.4s,mb4.2,baz=148,slow=4.1,SNR=4.6							
CMAR	**Chiang Mai Arr**	**90.49**	**294**	P		**P**	**05 21 06.8**	**+1.4**
MKAR	**Mak

1C-1D, Error ellipse: s-maj=1.4km s-min=1.2km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.14**	**353**	⇑PG	Pg	06 46 37.1	+0.1
CMWZ				SG	Sg	06 46 40.8	+1.4
BSWZ	**Blackbirch Sta**	**0.32**	**303**	⇓PG	Pg	06 46 39.8	-0.3
BSWZ				SG	Sg	06 46 44.9	+0.4
TUWZ	**Tuamarina**	**0.51**	**334**	PG	Pg	06 46 43.6	0.0
TUWZ				*e*SG	Sg	06 46 50.4	+0.1
BHW	**Baring Head**	**0.68**	**45**	P*	Pb	06 46 47.5	+0.2
BHW				SG	Sg	06 46 58.7	+3.1
SNZO	**South Karori**	**0.68**	**31**	P*	Pb	06 46 47.3	0.0
SNZO				*e*SG	Sg	06 46 58.1	+2.5
TCW	**Tory Channel**	**0.68**	**2**	P*	Pb	06 46 46.7	-0.6
WEL	**Wellington**	**0.72**	**34**	P*	Pb	06 46 48.2	+0.1
KHZ	**Kahutara**	**0.74**	**224**	P*	Pb	06 46 48.1	-0.3
PLWZ	**Palliser**	**0.83**	**68**	P*	Pb	06 46 50.2	+0.3
MSWZ	**Moikau Station**	**0.89**	**58**	P*	Pb	06 46 51.1	+0.1
NNZ	**Nelson**	**0.93**	**316**	P*	Pb	06 46 50.9	-0.7
CAW	**Cannon Point**	**1.00**	**39**	P*	Pb	06 46 52.9	+0.1
CAW				*e*SG	Sg	06 47 06.9	+1.0
THZ	**Tophouse**	**1.00**	**277**	P*	Pb	06 46 52.2	-0.7
PAWZ	**Paruwai Farm**	**1.02**	**61**	P*	Pb	06 46 52.7	-0.6
DUWZ	**D'Urville Isla**	**1.11**	**348**	P*	Pb	06 46 54.1	-0.6
KIW	**Kapiti Island**	**1.14**	**26**	P*	Pb	06 46 55.3	0.0
TRWZ	**Traveller**	**1.19**	**66**	P*	Pb	06 46 54.7	-1.4
MTW	**Mount Morrison**	**1.20**	**53**	P*	Pb	06 46 55.1	-1.1
OGWZ	**Otaki Gorge**	**1.28**	**34**	P*	Pb	06 46 57.1	-0.5
HOWZ	**Holdsworth Sta**	**1.38**	**45**	P*	Pb	06 46 58.0	-1.3
TMWZ	**Te Maipa**	**1.47**	**58**	P*	Pb	06 46 58.4	-2.4
MRZ	**Mangatainoka R**	**1.59**	**40**	PN	Pn	06 47 00.9	-0.7
TIWZ	**Tintock**	**1.67**	**49**	PN	Pn	06 47 02.2	-0.4
QRZ	**Quartz Range**	**1.67**	**309**	PN	Pn	06 47 03.6	+1.0
LTZ	**Lake Taylor**	**1.71**	**238**	PN	Pn	06 47 02.7	-0.5
DSZ	**Dennistoun Nort**	**1.82**	**274**	PN	Pn	06 47 05.5	+0.8
POWZ	**Post Office Ro**	**1.89**	**38**	PN	Pn	06 47 05.2	-0.5
DVHZ	**Dannevirke**	**2.16**	**43**	PN	Pn	06 47 07.7	-1.6
MQZ	**McQueen's Vall**	**2.16**	**212**	PN	Pn	06 47 07.8	-1.5
WAZ	**Wanganui**	**2.21**	**15**	PN	Pn	06 47 11.3	+1.3
PNHZ	**Pukenui**	**2.47**	**38**	PN	Pn	06 47 12.7	-1.0
DREZ	**Durham Road**	**2.70**	**359**	PN	Pn	06 47 19.4	+2.7
PKVZ	**Pokaka**	**2.73**	**18**	PN	Pn	06 47 18.3	+1.1
MOVZ	**Moawhango**	**2.73**	**25**	PN	Pn	06 47 17.1	-0.2
WNVZ	**Wahianoa**	**2.76**	**22**	PN	Pn	06 47 18.5	+0.8
BHHZ	**Black Hill Sta**	**2.77**	**31**	PN	Pn	06 47 17.4	-0.3
TRVZ	**Turoa**	**2.77**	**22**	PN	Pn	06 47 19.0	+1.2
VRZ	**Vera Road**	**2.79**	**8**	PN	Pn	06 47 19.7	+1.6
FWVZ	**Far West T-bar**	**2.81**	**21**	PN	Pn	06 47 19.4	+1.0
TUVZ	**Tukino**	**2.83**	**23**	PN	Pn	06 47 19.3	+0.7
WPVZ	**Whakapapa**	**2.86**	**21**	PN	Pn	06 47 20.4	+1.4
NGZ	**Ngauruhoe**	**2.90**	**21**	PN	Pn	06 47 20.5	+0.9
OTVZ	**Olurere**	**2.93**	**22**	PN	Pn	06 47 20.4	+0.5
WTVZ	**West Tongariro**	**2.96**	**21**	PN	Pn	06 47 21.1	+0.7
KRVZ	**Karewarewa**	**2.99**	**21**	PN	Pn	06 47 21.6	+0.9
KATZ	**Kakaramea**	**3.12**	**21**	PN	Pn	06 47 29.2	+6.6
HIZ	**Hauiti**	**3.40**	**8**	PN	Pn	06 47 28.1	+1.6
ODZ	**Otahua Downs**	**4.10**	**218**	PN	Pn	06 47 34.0	-2.0
MKAZ	**Moumakai**	**4.83**	**9**	PN	Pn	06 47 47.0	+1.0

WEL 30 06:48:29.5±0.8, 36°.67S×177°.65E, h133km±13km, ML3.5/8, Error ellipse: s-maj=11.3km s-min=10.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.04**	**150**	PN	Pn	06 48 52.6	-0.4
MXZ				SN	Sn	06 49 12.2	+1.3
MXZ				SN	Sn	06 49 12.3	+1.3
PUZ	**Puketiti**	**1.49**	**161**	PN	Pn	06 48 57.8	+0.2
PUZ				SN	Sn	06 49 18.0	-1.1
URZ	**Urewera**	**1.65**	**195**	PN	Pn	06 48 59.9	+0.5
URZ				SN	Sn	06 49 21.8	-0.6
MWZ	**Matawai**	**1.67**	**183**	PN	Pn	06 48 59.6	-0.1
MWZ				SN	Sn	06 49 22.4	-0.4
CNGZ	**Carnagh Statio**	**1.87**	**166**	PN	Pn	06 49 02.3	+0.3
KNZ	**Kokohu**	**2.35**	**180**	PN	Pn	06 49 07.1	-0.8
MHGZ	**Mahia Peninsul**	**2.49**	**175**	PN	Pn	06 49 09.1	-0.6
CKHZ	**Cape Kidnapper**	**3.02**	**188**	PN	Pn	06 49 14.8	-1.6
BHHZ	**Black Hill Sta**	**3.08**	**203**	PN	Pn	06 49 16.4	-0.8
PXZ	**Pawanui**	**3.42**	**190**	PN	Pn	06 49 18.0	-2.6
MRZ	**Mangatainoka R**	**4.31**	**201**	PN	Pn	06 49 29.5	-3.8
HOWZ	**Holdsworth Sta**	**4.54**	**201**	PN	Pn	06 49 32.5	-3.9
KIW	**Kapiti Island**	**4.70**	**206**	PN	Pn	06 49 35.1	-3.6

*ISCJB **30** 07:11:23.0±0.5, 29°.29N×0°.06×139°.6E±0°.2, h449km±8km, mb3.6/5, Error ellipse: s-maj=22.2km s-min=6.7km az=163.6*
*NEIC **30** 07:11:23.7±1.2, 29°.22N×139°.46E, h434km±17km, mb3.7/1, Error ellipse: s-maj=40.2km s-min=14.5km az=81.0*
*IDC **30** 07:11:23.7±2.8, 29°.23N×139°.45E, h432km±31km, mb3.4/4, mb1 3.4/6, mb1mx3.0/22, mbtmp3.2/6, Error ellipse: s-maj=101.8km s-min=16.7km az=83.0*
*JMA **30** 07:11:24.0±0.1, 29°.29N×139°.67E, h446km, M3.7*

ISC 30 07:11:24.1±0.5, 29°.29N±0°.06×139°.7E±0°.2, h442km±8km, n27, σ1s00/32, mb3.6/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.10**	**134**	P	**P**	**07 12 32.5**	**+1.2**
CBIJ				*e*S	**S**	**07 13 25.2**	**-0.7**
JHHJ	**Haha-jima-NKT**	**3.44**	**140**	P	**P**	**07 12 33.9**	**-0.2**
JHHJ				*e*S	**S**	**07 13 30.5**	**-0.3**
BSO1	**Boso 1**	**5.46**	**11**	S	**S**	**07 14 04.7**	**+0.1**
BSO3	**Boso 3**	**5.54**	**7**	P	**P**	**07 12 55.9**	**+2.6**
BSO3				*e*S	**S**	**07 14 04.3**	**-1.8**
JIE	**Ise**	**5.68**	**334**	P	**P**	**07 12 56.3**	**+1.6**
HMMJ	**Hamamatsu 2**	**5.79**	**344**	P	**P**	**07 12 56.8**	**+0.9**
JNY	**Yasuok**	**6.25**	**346**	P	**P**	**07 13 01.5**	**+1.0**
JEG	**Eigenji**	**6.46**	**335**	P	**P**	**07 13 04.6**	**+1.8**
JRY	**Ryogami san**	**6.74**	**355**	P	**P**	**07 13 05.7**	**0.0**
JRY				*e*S	**S**	**07 14 25.5**	**-3.4**
JTO	**Tosashimizu**	**6.90**	**303**	P	**P**	**07 13 06.9**	**-0.5**
JYT	**Yasato**	**6.93**	**3**	*e*S	**S**	**07 14 28.0**	**-4.6**
JAG	**Ashikaga**	**7.12**	**358**	P	**P**	**07 13 09.1**	**-0.6**
JAG				*e*S	**S**	**07 14 29.8**	**-6.5**
MJAR	**Matsushiro Arr**	**7.34**	**351**	P	**P**	**07 13 11.7**	**-0.4**
	1.7nm,0.3s,baz=175,slow=12,SNR=16						
MJAR	**Matsushiro Arr**	**7.34**	**351**	P	**P**	**07 13 11.7**	**-0.4**
MAJO	**Matsushiro**	**7.34**	**351**	*e*P	**P**	**07 13 12.3**	**+0.3**
MAT	**Matsushiro**	**7.34**	**351**	P	**P**	**07 13 11.8**	**-0.3**
KSRS	**Korea Array**	**12.76**	**313**	P	**P**	**07 14 10.1**	**-1.1**
	0.1nm,0.3s,baz=121,slow=12,SNR=5.2						
KSAR	**Wonju Array Be**	**12.78**	**313**	P	**P**	**07 14 10.1**	**-1.3**
WRAB	**Tennant Creek**	**49.21**	**187**	*e*P	**P**	**07 19 30.1**	**-0.4**
	1.2nm,0.3s,mb3.7						
WRA	**Warramunga Arr**	**49.22**	**187**	P	**P**	**07 19 29.9**	**-0.7**
	1.8nm,0.3s,mb3.9,baz=1.6,slow=7.7,SNR=74						
WRA	**Warramunga Arr**	**49.22**	**187**	P	**P**	**07 19 29.9**	**-0.7**
ASAR	**Alice Springs**	**52.94**	**187**	P	**P**	**07 19 58.0**	**+0.3**
	0.4nm,0.5s,mb2.9,baz=17,slow=11,SNR=11						
ASAR	**Alice Springs**	**52.94**	**187**	P	**P**	**07 19 58.0**	**+0.3**
ARCES	**ARCESS Array B**	**70.75**	**340**	P	**P**	**07 21 54.6**	**+0.8**
	3.2nm,0.9s,mb3.9,baz=61,slow=9.9,SNR=4.7						
ARCES	**ARCESS Array B**	**70.75**	**340**	P	**P**	**07 21 54.6**	**+0.8**
FINES	**FINESS Array B**	**75.01**	**333**	P	**P**	**07 22 18.6**	**-0.1**
	3.0nm,0.9s,mb3.9,baz=36,slow=4.9,SNR=1.6						
FINES	**FINESS Array B**	**75.01**	**333**	P	**P**	**07 22 18.6**	**-0.1**

RSPR 30 07:11:49.0, 17°.82N×65°.60W, h8km±2km, MD2.4/4, 6C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTP	**Monte Pirata**	**0.28**	**9**	⇑*e*P	Pg	07 11 54.6	+0.1
MTP	**Monte Pirata**	**0.28**	**9**	⇑*e*P	Pg	07 11 54.6	+0.1
MTP				*e*S	Sg	07 11 59.1	+0.7
CPD	**Cerro la Pandu**	**0.37**	**306**	⇓*e*P	Pg	07 11 56.3	+0.1
CPD	**Cerro la Pandu**	**0.37**	**306**	⇓*e*P	Pg	07 11 56.3	+0.1
CPD				*e*S	Sg	07 12 01.9	+0.7
HUMP	**Col San Antoni**	**0.40**	**324**	⇑*e*P	Pg	07 11 56.6	-0.2
HUMP	**Col San Antoni**	**0.40**	**324**	⇑*e*P	Pg	07 11 56.6	-0.2
HUMP				*e*S	Sg	07 12 02.7	+0.5
CBYP	**Canovanas**	**0.52**	**331**	⇑*e*P	Pg	07 11 59.2	+0.3
CBYP	**Canovanas**	**0.52**	**331**	⇑*e*P	Pg	07 11 59.2	+0.3
CBYP				*e*S	Sg	07 12 06.9	+1.2
STVI	**Saint Thomas**	**0.81**	**49**	⇓*e*P	Pg	07 12 03.4	-1.2
STVI	**Saint Thomas**	**0.81**	**49**	⇓*e*P	Pg	07 12 03.4	-1.2
STVI				*e*S	Sg	07 12 14.8	-0.4

*IDC **30** 07:23:54.4±1.0, 11°.74N×125°.25E, h0km, mb4.0/11, mb1 4.1/11, mb1mx3.9/21, mbtmp4.0/11, Error ellipse: s-maj=55.8km s-min=16.4km az=68.0*
*ISCJB **30** 07:24:06.0±0.8, 11°.57N±0°.06×125°.1E±0°.1, h108km±5km, mb4.2/17, Error ellipse: s-maj=17.2km s-min=9.9km az=171.5*
*MAN **30** 07:24:07, 11°.60N×125°.05E, h80km, mb5.0, ML3.9, MS4.0*

ISC 30 07:24:07.0±0.7, 11°.59N±0°.06×125°.1E±0°.1, h102km±5km, n27, σ0s45/31, mb4.2/17, 2C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.44**	**197**	⇓*i*P	**Pn**	**07 24 22.8**	**+0.1**
PLP				*i* S	**Sn**	**07 24 34.0**	**-0.3**
CNP	**Catarman**	**1.01**	**334**	*e*P	**Pn**	**07 24 27.8**	**0.0**
CNP				*e*S	**Sn**	**07 24 33.4**	**-10**
LLP	**Lapu-Lapu**	**1.69**	**222**	⇑*i*P	**Pn**	**07 24 35.9**	**+0.1**
LLP				*i* S	**Sn**	**07 24 57.0**	**-0.6**
PVCP	**Virac**	**2.20**	**335**	*e*P	**Pn**	**07 24 42.5**	**+0.2**
PVCP				*e*S	**Sn**	**07 24 53.7**	**-16**
TBP	**Tagbilaran**	**2.25**	**213**	*e*P	**Pn**	**07 24 44.0**	**+1.0**
RCP	**Roxas**	**2.32**	**270**	⇑*e*P	**Pn**	**07 24 43.5**	**-0.3**
CMAR	**Chiang Mai Arr**	**26.16**	**288**	P	**P**	**07 29 32.0**	**0.0**
	2.3nm,0.6s,mb3.8,baz=98,slow=7.8,SNR=8.1						
FITZ	**Fitzroy Crossi**	**29.51**	**179**	P	**P**	**07 30 01.8**	**0.0**
	1.0nm,0.6s,mb3.6,baz=267,slow=21,SNR=2.1						
WRA	**Warramunga Arr**	**32.62**	**164**	P	**P**	**07 30 29.2**	**-0.1**
	0.1nm,0.3s,mb3.1,baz=341,slow=8.6,SNR=8.0						
ASAR	**Alice Springs**	**36.08**	**166**	P	**P**	**07 30 59.4**	**+0.4**
	0.3nm,0.3s,mb3.6,baz=340,slow=7.3,SNR=11						
TAPN	**Taplejung**	**38.41**	**300**	*e*P	**P**	**07 31 18.3**	**-0.5**
	7.7nm,0.6s,mb4.7						
ODAN	**Odare**	**38.55**	**299**	*e*P	**P**	**07 31 20.3**	**+0.3**
	14nm,0.5s,mb5.0						
RAMN	**Ramite**	**39.25**	**299**	*e*P	**P**	**07 31 26.5**	**+0.7**
	6.4nm,0.4s,mb4.8						
SONM	**Songino Array**	**39.40**	**340**	P	**P**	**07 31 26.8**	**+0.1**
	0.7nm,0.5s,mb3.7,baz=161,slow=11,SNR=2.7						
JIRN	**Jiri**	**39.79**	**299**	*e*P	**P**	**07 31 30.8**	**+0.5**
	5.9nm,0.4s,mb4.8						
GUN	**Gumba**	**40.12**	**300**	*e*P	**P**	**07 31 33.1**	**0.0**
PKI	**Pulchoki**	**40.44**	**299**	*e*P	**P**	**07 31 36.0**	**+0.4**
KOLN	**Koldanda**	**42.04**	**299**	*e*P	**P**	**07 31 49.0**	**+0.2**
	4.7nm,0.3s,mb4.8						
DANN	**Dangsing**	**42.05**	**300**	*e*P	**P**	**07 31 48.7**	**-0.1**
	11nm,0.5s,mb4.8						
PYUN	**Piuthan**	**42.64**	**299**	*e*P	**P**	**07 31 53.8**	**+0.1**
MKAR	**Makanchi Array**	**50.29**	**323**	P	**P**	**07 32 53.7**	**+0.5**
	2.0nm,0.6s,mb4.2,baz=118,slow=8.4,SNR=26						
ZALV	**Zalesovo Beam**	**52.93**	**331**	P	**P**	**07 33 12.3**	**-0.3**
	0.6nm,0.3s,mb4.1,baz=108,slow=8.0,SNR=5.0						
JOF	**Joensuu**	**81.50**	**332**	*e*p	**P**	**07 36 13.1**	**+0.2**
ARCES	**ARCESS Array B**	**82.57**	**340**	P	**P**	**07 36 18.5**	**+0.1**
	2.8nm,1.0s,mb4.1,baz=77,slow=6.2,SNR=12						
BRTR	**Keskin Array B**	**83.82**	**309**	P	**P**	**07 36 24.4**	**-1.1**
	1.1nm,0.7s,mb3.8,baz=81,slow=3.6,SNR=6.1						
FINES	**FINESS Array B**	**84.20**	**332**	P	**P**	**07 36 26.2**	**-0.7**
	5.0nm,1.0s,mb4.3,baz=29,slow=4.4,SNR=6.6						
AKASG	**Malin Array Be**	**84.83**	**321**	P	**P**	**07 36 29.3**	**-1.0**
	1.0nm,0.5s,mb4.0,baz=67,slow=4.8,SNR=6.5						

IDC 30 07:48:41.4±1.7, 19°.33N×145°.46E, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.5/20, mbtmp3.5/4, Error ellipse: s-maj=166.7km s-min=23.7km az=113.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.52**	**196**	P	P	07 56 22.1	-0.3
	0.6nm,0.5s,baz=18,slow=8.7,SNR=10						
ASAR	**Alice Springs**	**44.20**	**195**	P	P	07 56 52.6	+0.3
	0.2nm,0.4s,baz=19,slow=12,SNR=5.3						
ILAR	**Eielson Array**	**63.18**	**26**	P	P	07 59 11.0	0.0
	0.4nm,0.6s,baz=251,slow=5.4,SNR=8.9						
NVAR	**Mina Array Bea**	**82.93**	**52**	P	P	08 01 08.9	+0.4
	0.5nm,0.7s,baz=230,slow=3.7,SNR=3.9						

*ISCJB **30** 07:54:37.1±0.8, 21°.01S±0°.06×178°.87W±0°.06, h616km±10km, mb4.4/49, Error ellipse: s-maj=9.9km s-min=7.5km az=142.6*
*NEIC **30** 07:54:38.7±0.7, 20°.83S×178°.89W, h619km±7km, mb4.4/32, Error ellipse: s-maj=9.0km s-min=5.7km az=148.0*
*IDC **30** 07:54:39.4±1.8, 20°.91S×178°.86W, h629km±22km, mb3.7/16, mb1 3.9/17, mb1mx3.8/20, mbtmp3.7/17, Error ellipse: s-maj=18.6km s-min=9.9km az=159.0*
*BGS **30** 07:54:39.4±4.4, 20°.83S×178°.89W, h619km, mb4.4(NEIC)*
*BJI **30** 07:54:40.3, 20°.03S×179°.05W, h615km, mB5.0/14, mb4.7/19*

ISC 30 07:54:38.3±0.8, 20°.97S±0°.06×178°.85W±0°.06, h614km±10km, h617km±7.2km: pP-P, n191, σ0s87/104, mb4.4/49, 20C-8D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.35**	**317**	*e*Pn	**P**	**07 56 06.7**	**-0.6**
AFI	**Afiamalu**	**9.74**	**45**	P	**P**	**07 56 49.4**	**-5.4**
	11nm,0.3s,baz=23,slow=3.3,SNR=21						
AFI				S	**S**	**07 58 36.1**	**-11**
	6.0nm,0.3s,baz=197,slow=21,SNR=5.9						
AFI	**Afiamalu**	**9.74**	**45**	P	**P**	**07 56 49.4**	**-5.4**
AFI				S	**S**	**07 58 36.1**	**-11**
OUZ	**Omahuta**	**15.68**	**203**	*e*P	**P**	**07 57 54.5**	**+2.6**
	145nm,0.8s						
URZ	**Urewera**	**17.58**	**191**	P	**P**	**07 58 08.5**	**-0.8**
	9.2nm,0.3s,baz=354,slow=2.3,SNR=46						
URZ	**Urewera**	**17.58**	**191**	P	**P**	**07 58 08.5**	**-0.8**
	16nm,0.8s						
SNZO	**South Karori**	**21.00**	**194**	PN	**P**	**07 58 39.3**	**-0.9**
QRZ	**Quartz Range**	**21.11**	**198**	PN	**P**	**07 58 41.8**	**+0.6**
NNZ	**Nelson**	**21.24**	**196**	PN	**P**	**07 58 41.5**	**-0.7**
NNZ				SN	**S**	**08 01 55.7**	**-3.0**
THZ	**Tophouse**	**21.87**	**197**	PN	**P**	**07 58 47.0**	**-0.9**
THZ				SN	**S**	**08 02 07.1**	**-1.6**
KHZ	**Kahutara**	**22.32**	**195**	PN	**P**	**07 58 50.9**	**-1.0**
WHZ	**Wether Hill Ro**	**27.12**	**200**	*e*P	**P**	**07 59 35.6**	**+1.5**
CTA	**Charters Tower**	**32.65**	**265**	P	**P**	**08 00 22.8**	**+0.9**
	3.5nm,0.4s,mb4.3,baz=92,slow=11,SNR=11						
CTA	**Charters Tower**	**32.65**	**265**	P	**P**	**08 00 22.8**	**+0.9**
PMG	**Port Moresby**	**34.67**	**284**	P	**P**	**08 00 39.1**	**+0.2**
	18nm,0.8s,mb4.8,baz=126,slow=6.2,SNR=8.9						
PMG	**Port Moresby**	**34.67**	**284**	*e*P	**P**	**08 00 39.1**	**+0.3**
	23nm,0.9s,mb4.8						
COEN	**Coen**	**36.82**	**275**	*e*P	**P**	**08 00 56.9**	**+0.4**
	727nm,2.1s						
STKA	**Stephens Creek**	**36.87**	**245**	P	**P**	**08 00 57.2**	**+0.5**
	4.0nm,0.7s,mb4.0,baz=86,slow=9.1,SNR=9.8						
STKA	**Stephens Creek**	**36.87**	**245**	P	**P**	**08 00 57.2**	**+0.5**
STKA				*e*PcP	PcP	08 03 02.5	+1.3
AS31	**Alice Springs**	**43.63**	**257**	*e*P	**P**	**08 01 51.0**	**+0.6**
ASAR	**Alice Springs**	**43.64**	**257**	P	**P**	**08 01 51.1**	**+0.7**
	8.1nm,0.7s,mb4.4,baz=96,slow=7.4,SNR=128						
ASAR				PcP	PcP	08 03 23.9	+0.3
	3.4nm,0.8s,baz=100,slow=3.9,SNR=14						
ASAR				S	**S**	**08 07 36.6**	**-0.5**
	5.6nm,0.8s,baz=94,slow=16,SNR=26						
ASAR	**Alice Springs**	**43.64**	**257**	P	**P**	**08 01 51.1**	**+0.7**
ASAR				PcP	PcP	08 03 23.9	+0.3
ASAR				S	**S**	**08 07 36.6**	**-0.5**
WB2	**Warramunga Arr**	**43.74**	**263**	*e*P	**P**	**08 01 51.1**	**-0.2**
WRAB	**Tennant Creek**	**43.74**	**263**	*e*P	**P**	**08 01 51.2**	**-0.1**
	20nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**43.75**	**263**	P	**P**	**08 01 51.2**	**-0.1**
	4.5nm,0.3s,mb4.4,baz=97,slow=7.8,SNR=219						
WRA				S	**S**	**08 07 38.1**	**-0.7**
	1.5nm,0.8s,baz=98,slow=11,SNR=8.5						
WRA	**Warramunga Arr**	**43.75**	**263**	P	**P**	**08 01 51.2**	**-0.1**
WRA				S	**S**	**08 07 38.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**52.18**	**263**	P	**P**	**08 02 54.4**	**+0.5**
	3.1nm,0.5s,mb3.9,baz=110,slow=14,SNR=21						
FITZ	**Fitzroy Crossi**	**52.18**	**263**	*e*P	**P**	**08 02 54.6**	**+0.7**
	8.0nm,1.0s,mb4.0						
FITZ	**Fitzroy Crossi**	**52.18**	**263**	P	**P**	**08 02 54.4**	**+0.5**
MBWA	**Marble Bar**	**56.97**	**258**	*e*P	**P**	**08 03 27.0**	**-0.3**
	6.7nm,0.6s,mb4.0						
QSPA	**South Pole Qui**	**69.10**	**180**	*e*P	**P**	**08 04 45.5**	**+1.8**
	10nm,1.3s,mb4.1						
MJAR	**Matsushiro Arr**	**70.11**	**324**	P	**P**	**08 04 49.5**	**-0.8**
	5.6nm,0.7s,mb4.1,baz=162,slow=6.6,SNR=15						
MJAR	**Matsushiro Arr**	**70.11**	**324**	P	**P**	**08 04 49.5**	**-0.8**
MAT	**Matsushiro**	**70.12**	**324**	P	**P**	**08 04 49.4**	**-0.9**
KSM	**Kuching**	**72.69**	**278**	*e*P	**P**	**08 05 06.4**	**+0.6**
	15nm,0.8s,mb4.6						
NACB	**Ninganchiao**	**73.28**	**305**	*e*P	**P**	**08 05 07.2**	**-1.7**
	48nm,0.6s,mb5.2						
PETK	**Petropavlovsk-**	**76.52**	**346**	P	**P**	**08 05 25.2**	**-1.0**
	8.3nm,0.7s,mb4.3,baz=150,slow=9.1,SNR=10						
PETK	**Petropavlovsk-**	**76.52**	**346**	P	**P**	**08 05 25.2**	**-1.0**
KSRS	**Korea Array**	**76.71**	**319**	P	**P**	**08 05 27.9**	**+0.2**
	2.2nm,0.7s,mb3.7,baz=129,slow=6.3,SNR=6.3						
KSAR	**Wonju Array Be**	**76.73**	**319**	P	**P**	**08 05 27.9**	**+0.2**
NJ2	**Nanjing**	**79.56**	**310**	*e*P	**P**	**08 05 43.8**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s,mb4.6						
ISA	**Isabella**	**80.23**	**46**	*e*P	**P**	**08 05 46.9**	**+0.4**
	comp=Z,8.9nm,1.0s,mb4.0						
CMB	**Columbia Colle**	**80.34**	**43**	*e*P	**P**	**08 05 47.2**	**+0.2**
	comp=Z,7.8nm,1.1s,mb4.0						
MDJ	**Mudanjiang**	**80.44**	**325**	P	**P**	**08 05 44.5**	**-2.8**
MDJ				pP	pP	08 07 56.3	+0.6
MDJ				sP	sP	08 08 53.8	-3.8
MDJ				pmax	pmax		
	comp=Z,150nm,4.3s						
WDC	**Whiskeytown Da**	**80.54**	**40**	*e*P	**P**	**08 05 48.5**	**+0.6**
	comp=Z,7.6nm,0.9s,mb4.1						
MTUM	**Tungsten Hills**	**81.13**	**44**	*e*P	**P**	**08 05 51.4**	**+0.4**
GSC	**Goldstone**	**81.16**	**47**	*e*P	**P**	**08 05 50.5**	**-0.7**
	comp=Z,12nm,1.3s,mb4.2						
WCN	**Washoe City**	**81.49**	**42**	*e*P	**P**	**08 05 53.2**	**+0.4**
	comp=Z,9.8nm,1.0s,mb4.2						
HUMO	**Hull Mountain**	**81.55**	**38**	*e*P	**P**	**08 05 52.9**	**-0.2**
	comp=Z,20nm,1.1s,mb4.6						
NVAR	**Mina Array Bea**	**81.91**	**44**	P	**P**	**08 05 55.1**	**+0.1**
	comp=Z,6.9nm,0.8s,mb4.2,baz=224,slow=8.2,SNR=49						
NVAR	**Mina Array Bea**	**81.91**	**44**	P	**P**	**08 05 55.1**	**+0.1**
WHN	**Wuhan**	**82.08**	**307**	P	**P**	**08 05 56.5**	**+0.5**
CN2	**Changchun**	**82.18**	**323**	*e*P	**P**	**08 05 56.5**	**+0.3**
MOD	**Modoc**	**82.68**	**40**	*e*P	**P**	**08 05 59.0**	**+0.2**
	comp=Z,8.6nm,0.8s,mb4.3						
TUC	**Tucson**	**83.89**	**52**	*e*P	**P**	**08 06 05.8**	**+0.8**
WVOR	**Wild Horse Val**	**84.00**	**40**	*e*P	**P**	**08 06 05.1**	**-0.2**
	comp=Z,7.3nm,1.0s,mb4.2						
CCUT	**Cedar City**	**84.71**	**47**	*e*P	**P**	**08 06 09.1**	**+0.2**
	comp=Z,3.0nm,0.8s,mb4.0						
ENH	**Enshi**	**85.64**	**305**	*e*P	**P**	**08 06 13.8**	**+0.3**
	comp=Z,7.2nm,0.5s,mb4.6						
HAWA	**Hanford**	**85.80**	**37**	*e*P	**P**	**08 06 13.9**	**+0.1**
	comp=Z,11nm,0.9s,mb4.5						
MSU	**Marysvale**	**86.00**	**46**	*e*P	**P**	**08 06 16.0**	**+1.0**
ETW	**Entiat**	**86.08**	**35**	*e*P	**P**	**08 06 15.2**	**+0.1**
GYA	**Guiyang**	**86.19**	**300**	*e*P	**P**	**08 06 16.5**	**+0.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.4						
MFID	**Camas Ranch**	**86.25**	**41**	*e*P	**P**	**08 06 16.0**	**-0.1**
	comp=Z,9.5nm

KIS	Kishinev	145.68	326	*e*UNK		PKPdf	08 13 08.0	+0.2
XAL	Allendale	146.06	3	*e*P		PKPdf	08 13 09.5	+1.3
XDE	Dent Fell	146.33	5	*e*P		PKPdf	08 13 09.6	+1.0
BR131	Keskin Array S	146.55	311	*e*PKPbc	PKPbc		08 13 11.5	-0.7
BRTR	Keskin Array B	146.55	311	PKPbc	PKPbc		08 13 11.6	-0.6
	comp=Z,5.9nm,0.7s,baz=137,slow=5.0,SNR=28							
BRTR	Keskin Array B	146.55	311	PKPbc	PKPbc		08 13 11.6	-0.6
KWP	Kalwaria Pacla	146.66	334⇑	*i*P	PKPdf		08 13 10.3	+0.9
BUR08	Bucovina Ar. S	147.05	330	*e*PKPbc	PKPbc		08 13 13.8	+0.5
BURAR	Bucovina Array	147.07	329⇑	*i*P	PKPbc		08 13 12.8	-0.5
TESR		147.12	327⇓	*i*P	PKPbc		08 13 13.0	-0.5
OJC	Ojcow	147.29	338	*e*PKP	PKPbc		08 13 13.2	-0.6
KOLS	Kolonicke sedl	147.38	334	*e*PKP	PKPbc		08 13 14.3	+0.2
STHS	Stebnicka Huta	147.41	335	*e*PKP	PKPbc		08 13 14.5	+0.3
TIRR	Tirgusor	147.48	322⇑	*i*P	PKPbc		08 13 14.3	-0.2
VRI	Vrincioaia	147.51	326⇑	*i*P	PKPbc		08 13 14.1	-0.4
CRVS	Cervenica-Dubn	147.74	335	*e*PKP	PKPbc		08 13 14.8	-0.2
CRVS				*e*			08 13 19.8	
NIE	Niedzica	147.77	336	*e*PKP	PKPbc		08 13 15.2	+0.1
KSP	Ksiaz	147.89	342	*e*PKP	PKPbc		08 13 14.9	-0.4
TRPA	Tarpa	147.90	333⇑	*i*P	PKPbc		08 13 15.2	-0.2
FOEL	Foel Wylfa	147.96	5	*e*P	PKPdf		08 13 13.3	+1.9
DOPR	Dopca	148.13	327⇑	*i*P	PKPbc		08 13 16.0	-0.1
MLR	Muntele Rosu	148.17	326⇑	*i*P	PKPbc		08 13 15.9	-0.3
OKC	Ostrava-Krasne	148.19	339⇑	*e*PKP	PKPbc		08 13 15.7	-0.4
UPC	Upice	148.27	342⇑	*e*PKP	PKPbc		08 13 16.1	-0.2
UPC				*e*PKPAB	PKPab		08 13 21.5	-0.3
DPC	Dobruska-Polom	148.32	341⇑	*e*PKP	PKPbc		08 13 16.4	0.0
DPC				*e*PKPAB	PKPab		08 13 22.2	+0.2
CLL	Collm	148.33	346⇓	*i*PKPbc	PKPbc		08 13 16.0	-0.4
	comp=Z,22nm,0.9s							
CLL				*i* PKPab	PKPab		08 13 20.9	-1.1
	comp=Z,13nm,1.2s							
MORC	Moravsky Berou	148.44	340⇑	*i*P	PKPbc		08 13 16.7	0.0
KECS	Kecovo	148.46	335	*e*PKP	PKPbc		08 13 16.9	+0.1
KECS				*e*			08 13 22.6	
BRG	Berggiesshubel	148.50	344	*i* PKP	PKPbc		08 13 16.6	-0.3
	comp=Z,17nm,1.1s							
PVCC	Panska Ves	148.66	343⇑	*e*PKP	PKPbc		08 13 17.2	0.0
PVCC				*e*PKPAB	PKPab		08 13 23.5	+0.1
DRGR		148.83	331⇓	*i*P	PKPbc		08 13 17.5	-0.3
PSZ	Piszkesteto	149.15	335⇑	*i*P	PKPbc		08 13 18.6	+0.1
VRAC	Vranov	149.16	340⇑	*i*P	PKPbc		08 13 18.5	0.0
KOLL	Kolacno	149.17	337	*e*PKP	PKPbc		08 13 18.7	+0.2
KOLL				*e*			08 13 26.3	
LOT	Lotru	149.31	328⇑	*i*P	PKPbc		08 13 17.6	-1.4
NKC	Novy Kostel	149.46	346⇑	*e*PKP	PKPbc		08 13 18.8	-0.3
NKC				*e*PKPAB	PKPab		08 13 26.3	-0.4
TREC	Trest	149.51	341⇑	*e*PKP	PKPbc		08 13 19.0	-0.3
TREC				*e*PKPAB	PKPab		08 13 26.9	-0.1
GZR	Gura Zlata	149.84	329⇓	*i*P	PKPbc		08 13 19.6	-0.6
MEM	Membach	150.17	354	PKPbc	PKPbc		08 13 20.3	-0.5
KHC	Kasperske Hory	150.19	343	*e*PKPdf	PKPdf		08 13 15.4	+0.3
KHC				*e*PKPbc	PKPbc		08 13 20.4	-0.5
KHC				*e*PKPab	PKPab		08 13 29.7	-0.1
KHC	Kasperske Hory	150.19	343⇑	*e*PKP	PKPbc		08 13 20.7	-0.2
KHC				*e*PKPAB	PKPab		08 13 29.6	-0.2
BZS	Buzias	150.22	330⇓	*i*P	PKPbc		08 13 20.5	-0.6
SNF	Seneffe	150.41	356	PKPbc	PKPbc		08 13 20.8	-0.6
GERES	GERESS Array B	150.42	345	PKPbc	PKPbc		08 13 20.9	-0.5
	comp=Z,5.9nm,0.8s,baz=36,slow=2.5,SNR=19							
GERES				PKPab	PKPab		08 13 29.6	-1.2
	comp=Z,1.1nm,0.8s,baz=2.2,slow=7.1,SNR=4.0							
GERES	GERESS Array B	150.42	343	PKPbc	PKPbc		08 13 20.9	-0.5
GERES				PKPab	PKPab		08 13 29.6	-1.2
BCLA	Clavier	150.43	355	PKPbc	PKPbc		08 13 21.2	-0.2
CONA	Conrad Observa	150.60	340⇓	*i*PKiKP	PKiKP		08 13 21.8	-0.5
	comp=Z,11nm,0.8s							
GIVF	Givet	150.78	355	*e*PKP1	PKPbc		08 13 21.6	-0.6
	comp=Z,27nm,0.8s							
DOU	Dourbes	150.80	355	PKPbc	PKPbc		08 13 21.8	-0.5
BAIF	Baives	150.87	356	*e*PKP1	PKPbc		08 13 21.9	-0.5
	comp=Z,25nm,1.0s							
PKSM	Moragy	151.04	334⇓	*i*P	PKPbc		08 13 22.3	-0.6
WLF	Walferdange	151.09	353	PKPbc	PKPbc		08 13 22.9	0.0
MOA	Molln	151.16	342⇑	*i*PKPbc	PKPbc		08 13 22.2	-0.9
	comp=Z,2.3nm,0.5s							
VTS	Vitosha	151.58	324⇑	*i*P	PKPbc		08 13 24.0	-0.3
PERS	Pernice	151.97	339	*i* PKPbc	PKPbc		08 13 23.8	-1.2
CDF	Champ du Feu	152.18	351	*e*PKP1	PKPbc		08 13 24.6	-0.8
	comp=Z,10nm,0.7s							
PAGF	Fort de Pagny	152.23	353	*e*PKP1	PKPbc		08 13 25.1	-0.4
FLN	La Foliniere	152.24	2	*e*PKP1	PKPbc		08 13 24.4	-1.1
MEZF	Maizieres J'vi	152.35	354	*e*PKP1	PKPbc		08 13 25.3	-0.5
	comp=Z,21nm,0.8s							
LDF	La Druitiere	152.42	2	*e*PKP1	PKPbc		08 13 24.6	-1.3
WTTA	Wattenberg	152.42	344⇓	*i*PKPbc	PKPbc		08 13 25.5	-0.4
	comp=Z,10nm,1.0s							
GRR	Gorron	152.59	3	*e*PKP1	PKPbc		08 13 25.4	-0.9
SFTF	Sexfontaines	152.65	354	*e*PKP1	PKPbc		08 13 25.7	-0.7
	comp=Z,23nm,0.8s							
HAU	Haudompre	152.70	352	*e*PKP1	PKPbc		08 13 25.6	-1.0
VISS	Visnje	152.80	339	*i* PKPbc	PKPbc		08 13 26.4	-0.5
HINF	Hinteralfeld	152.82	352	*e*PKP1	PKPbc		08 13 25.8	-1.0
	comp=Z,10nm,0.8s							
BOJS	Bojanci	152.92	338	*i* PKPbc	PKPbc		08 13 26.7	-0.4
LOR	Lormes	153.67	356	*e*PKP1	PKPbc		08 13 28.7	+0.1
SSF	Saint Saulge	153.90	356	*e*PKP1	PKPbc		08 13 28.9	-0.2
ESDC	Sonseca Array	160.85	12	PKPab	PKPab		08 14 15.5	-0.5
	comp=Z,0.3nm,0.5s,baz=341,slow=4.3,SNR=5.4							
ESDC	Sonseca Array	160.85	12	PKPab	PKPab		08 14 15.5	-0.5
TORD	Torodi Ar. Bea	172.21	184	PKP	PKPdf		08 13 37.3	-1.3
	comp=Z,1.6nm,0.9s,baz=1.9,slow=1.1,SNR=8.4							
TORD	Torodi Ar. Bea	172.21	184	PKP	PKPdf		08 13 37.3	-1.3

*IDC **30** 07:57:58.6±0.8, 8.°96S×158.°15E, h0km, mb4.3/9, mb1 4.5/10, mb1mx4.3/16, mbtmp4.2/10, ML3.9/1, MS3.4/7, Ms1 3.4/7, ms1mx3.3/19, Error ellipse: s-maj=27.8km s-min=19.2km az=149.0*

*ISCJB **30** 07:58:02.8±0.6, 8.°89S±0.°10×157.°94E±0.°06, h33km, mb4.1/9, MS3.4/6, Error ellipse: s-maj=14.3km s-min=9.2km az=178.2*

ISC 30 07:58:04.6±0.6, 8.°89S±0.°10×157.°97E±0.°07, h35km, n22, σ0s92/16, mb4.1/9, MS3.4/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.03**	**106**	Pn	**Pn**	**07 58 30.6**	**-5.7**
	73nm,0.3s,baz=264,slow=5.3,SNR=15						
HNR				Sn	**Sn**	**07 59 00.6**	**+0.2**
	679nm,0.3s,baz=119,slow=20,SNR=17						
HNR	**Honiara**	**2.03**	**106**	Sn	**Sn**	**07 59 00.6**	**+0.2**
DZM	**Mont Dzumac**	**15.44**	**149**	*e*LR	LR	08 05 02.1	
	81nm,20.7s						
CTA	**Charters Tower**	**15.88**	**224**	Pn	**Pn**	**08 01 44.1**	**-1.5**
	0.3nm,0.3s,baz=53,slow=14,SNR=4.4						
CTA				LR	LR	08 06 08.1	
	comp=Z,70nm,21.4s,baz=52,slow=31						
CTA	**Charters Tower**	**15.88**	**224**	*e*P	**Pn**	**08 01 45.3**	**-0.3**
	4.7nm,0.9s						
ARMA	**Armidale**	**22.22**	**195**	*e*P	**P**	**08 02 58.8**	**+0.6**
WRA	**Warramunga Arr**	**25.35**	**242**	P	**P**	**08 03 28.1**	**-0.4**
	5.3nm,0.7s,mb4.2,baz=66,slow=9.2,SNR=4.7						
WRA				LR	LR	08 12 46.6	
	comp=Z,136nm,19.4s,MS3.5,baz=55,slow=35						
GUMO	**Guam**	**25.84**	**330**	LR	LR	08 12 19.3	
	comp=Z,23nm,19.0s,MS2.7,baz=139,slow=33						
ASAR	**Alice Springs**	**27.31**	**235**	P	**P**	**08 03 45.1**	**-1.0**
	1.9nm,1.0s,mb3.6,baz=70,slow=9.0,SNR=6.1						
STKA	**Stephens Creek**	**27.47**	**211**	P	**P**	**08 03 48.2**	**+0.7**
	6.5nm,0.7s,mb4.2,baz=49,slow=14,SNR=9.8						
STKA				LR	LR	08 14 52.9	
	comp=Z,170nm,18.3s,MS3.7,baz=25,slow=37						
STKA	**Stephens Creek**	**27.47**	**211**	*e*P	**P**	**08 03 49.0**	**+1.5**
	4.7nm,0.6s,mb4.2						
AFI	**Afiamalu**	**30.06**	**102**	LR	LR	08 13 45.8	
	comp=Z,142nm,18.1s,MS3.6,baz=166,slow=32						
URZ	**Urewera**	**33.95**	**152**	LR	LR	08 15 53.3	
	comp=Z,46nm,19.4s,MS3.2,baz=340,slow=32						
PPT	**Papeete**	**51.65**	**105**	*e*LR	LR	08 21 56.1	
	78nm,22.8s						
PPT	**Papeete**	**51.65**	**105**	*e*LR	LR	08 06 20.7	
	59nm,24.5s						
PETK	**Petropavlovsk-**	**61.75**	**360**	LR	LR	08 31 42.6	
	comp=Z,56nm,20.8s,MS3.7,baz=309,slow=33						
CMAR	**Chiang Mai Arr**	**64.25**	**295**	P	**P**	**08 08 38.0**	**+1.3**
	0.7nm,0.4s,mb4.0,baz=255,slow=21,SNR=1.6						
SONM	**Songino Array**	**72.52**	**326**	P	**P**	**08 09 28.8**	**+1.0**
	0.3nm,0.4s,mb3.6,baz=186,slow=40,SNR=3.7						
ILAR	**Eielson Array**	**84.07**	**21**	P	**P**	**08 10 30.0**	**-1.3**
	1.1nm,1.0s,mb4.0,baz=246,slow=5.5,SNR=4.6						
MKAR	**Makanchi Array**	**86.76**	**318**	P	**P**	**08 10 45.3**	**+0.1**
	1.1nm,0.8s,mb4.2,baz=100,slow=5.9,SNR=6.8						
NVAR	**Mina Array Bea**	**90.59**	**51**	P	**P**	**08 11 04.0**	**+0.5**
	2.8nm,0.8s,mb4.6,baz=242,slow=7.1,SNR=18						
PDAR	**Pinedale Array**	**97.78**	**48**	P	**P**	**08 11 35.1**	**-1.2**
	0.9nm,1.0s,mb4.3,baz=259,slow=3.0,SNR=4.3						

DJA 30 08:20:08,1.°02N×122.°21E, h10km, MLv3.9/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.60**	**207**	P	Pg	08 20 18.8	-0.9
MRSI				S	Sg	08 20 28.1	+0.5
GTOI	**Gorontalo**	**0.89**	**115**	P	Pg	08 20 24.3	-0.8
GTOI				S	Sg	08 20 37.3	+0.6
KMSI	**Cibinong**	**1.82**	**104**	P	Pn	08 20 42.3	+2.8
APSI	**Ampana**	**2.00**	**196**	P	Pn	08 20 42.7	+0.8
APSI				S	Sn	08 21 11.7	+4.8
LUWI	**Luwuk**	**2.12**	**165**	P	Pn	08 20 44.8	+1.2
LUWI				S	Sn	08 21 19.2	+9.2

DJA 30 08:52:26,9.°85S×114.°44E, h18km, MLv3.5/9, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGBI	**Denpasar**	**1.24**	**34**	P	Pn	08 52 47.9	-0.5
IGBI				S	Sb	08 53 04.4	-0.1
JAGI	**Jajag, Banyuwa**	**1.40**	**348**	P	Pn	08 52 49.2	-1.5
JAGI				S	Sn	08 53 06.9	-1.8
NBBI	**Negara**	**1.48**	**7**	S	Sn	08 53 11.1	+0.4
BYJI	**Banyuwangi**	**1.63**	**357**	P	Pn	08 52 52.6	-1.2
BYJI				S	Sn	08 53 15.4	+1.1
GMJI	**Gumukmas**	**1.85**	**328**	S	Sn	08 53 17.6	-2.2
KHKI	**Kahang-Kahang**	**1.87**	**38**	P	Pn	08 52 57.2	0.0
KHKI				S	Sn	08 53 20.3	-0.1
SRBI	**Singaraja**	**1.91**	**24**	P	Pn	08 52 57.7	0.0
SRBI				S	Sn	08 53 22.7	+1.4
MTNI	**Mataram**	**2.09**	**55**	P	Pn	08 53 00.5	+0.3
MTNI				S	Sn	08 53 25.9	+0.1
BLJI	**Banyuglugur**	**2.25**	**338**	P	Pn	08 53 02.6	+0.2
BLJI				S	Sn	08 53 31.2	+1.5
KMMI	**Kalianget**	**2.82**	**350**	P	Pn	08 53 09.9	-0.3
PWJI	**Pagerwojo**	**3.17**	**305**	P	Pn	08 53 15.3	+0.2

*ISCJB **30** 09:25:58.5±0.8, 49.°80S±0.°10×125.°5E±0.°3, h10km, mb4.3/9, MS3.6/7, Error ellipse: s-maj=25.3km s-min=13.2km az=15.0*

*IDC **30** 09:25:58.5±1.0, 49.°78S×125.°66E, h0km, mb4.1/6, mb1 4.3/7, mb1mx4.1/14, mbtmp4.2/7, ML1.8/1, MS3.7/8, Ms1 3.6/8, ms1mx3.3/22, Error ellipse: s-maj=46.6km s-min=18.3km az=100.0*

ISC 30 09:26:00.5±0.8, 49.°79S±0.°10×125.°4E±0.°3, h10km, n18, σ0s93/13, mb4.3/9, MS3.6/7, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**17.92**	**337**	P	**Pn**	**09 30 10.0**	**+0.4**
	0.2nm,0.3s,baz=165,slow=12,SNR=4.8						
NWAO				LR	LR	09 35 56.7	
	comp=Z,98nm,18.8s,baz=148,slow=33						
BBOO	**Buckleboo**	**18.71**	**29**	*e*P	**Pn**	**09 30 19.2**	**-0.2**
	42nm,0.8s						
STKA	**Stephens Creek**	**21.59**	**40**	P	**P**	**09 30 48.6**	**-1.7**
	4.1nm,0.9s,mb3.9,baz=229,slow=10,SNR=4.8						
STKA				LR	LR	09 37 43.6	
	comp=Z,182nm,20.4s,MS3.5,baz=206,slow=33						
STKA	**Stephens Creek**	**21.59**	**40**	*e*P	**P**	**09 30 50.2**	**-0.1**
	5.9nm,0.9s,mb4.0						
MORW	**Morawa**	**21.89**	**337**	*e*P	**P**	**09 30 47.6**	**-6.0**
	106nm,0.9s,mb5.3						
CMSA	**Cobar Meteorol**	**23.71**	**47**	*e*P	**P**	**09 31 16.1**	**+3.5**
	31nm,1.0s,mb4.7						
ASAR	**Alice Springs**	**26.91**	**17**	P	**P**	**09 31 40.8**	**-0.9**
	6.5nm,0.9s,mb4.2,baz=193,slow=9.1,SNR=53						
QLP	**Quilpie**	**27.33**	**39**	*e*P	**P**	**09 31 46.8**	**+1.4**
WRA	**Warramunga Arr**	**30.62**	**17**	P	**P**	**09 32 13.3**	**-1.4**
	2.4nm,0.9s,mb4.0,baz=193,slow=8.0,SNR=14						
WRA				LR	LR	09 43 27.0	
	comp=Z,187nm,20.7s,MS3.7,baz=185,slow=34						
FITZ	**Fitzroy Crossi**	**31.61**	**0**	LR	LR	09 43 56.7	
	comp=Z,160nm,20.5s,MS3.7,baz=264,slow=34						
CTA	**Charters Tower**	**33.96**	**37**	LR	LR	09 45 53.8	
	comp=Z,119nm,18.2s,MS3.7,baz=118,slow=35						
MTSU	**Mount Surprise**	**35.04**	**32**	*e*P	**P**	**09 32 54.0**	**+0.7**
	9.6nm,0.9s,mb4.7						
MAW	**Mawson**	**35.13**	**216**	LR	LR	09 45 04.2	
	comp=Z,66nm,19.4s,MS3.4,baz=262,slow=32						
QSPA	**South Pole Qui**	**40.33**	**180**	P	**P**	**09 33 37.4**	**-0.1**
	3.5nm,1.0s,mb4.0,baz=347,slow=5.5,SNR=5.7						
HNR	**Honiara**	**49.39**	**47**	LR	LR	09 53 47.1	
	comp=Z,94nm,18.4s,MS3.8,baz=130,slow=34						
SNAA	**Sanae**	**53.46**	**198**	P	**P**	**09 35 19.9**	**-0.2**
	1.8nm,1.0s,mb4.0,baz=163,slow=8.7,SNR=9.1						
PMSA	**Palmer Station**	**65.54**	**176**	LR	LR	10 02 31.3	
	comp=Z,53nm,19.7s,MS3.8,baz=7.2,slow=34						
CMAR	**Chiang Mai Arr**	**71.88**	**334**	P	**P**	**09 37 24.0**	**+0.5**
	2.4nm,0.7s,mb4.2,baz=184,slow=5.5,SNR=13						

*IDC **30** 09:34:17.8±0.8, 22.°36S×171.°47E, h0km, mb4.4/13, mb1 4.5/14, mb1mx4.4/19, mbtmp4.4/14, ML4.1/1, MS3.9/14, Ms1 4.0/14, ms1mx3.6/23, Error ellipse: s-maj=24.3km s-min=19.2km az=153.0*

*ISCJB **30** 09:34:22.9±1.6, 22.°40S±0.°08×171.°37E±0.°07, h42km±13km, mb4.5/21, MS4.0/12, Error ellipse: s-maj=15.2km s-min=9.7km az=30.0*

*NOU **30** 09:34:23.2±0.9, 19.°72S×170.°77E, h30km, ML4.1*

*NEIC **30** 09:34:27.6±1.2, 22.°50S×171.°36E, h74km±12km, mb4.3/11, Error ellipse: s-maj=12.4km s-min=9.9km az=172.0*

ISC 30 09:34:24.4±1.4, 22.°36S±0.°09×171.°41E±0.°07, h42km±12km, n81, σ1s05/59, mb4.5/22, MS4.0/12, 5C-4D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**4.20**	**272**	*e*P	**Pn**	**09 35 26.5**	**+0.5**
BAYA				*e*S	**Sn**	**09 36 13.0**	**-0.7**
BAYA				AMP		09 36 24.1	
	comp=Z,38nm,6.9s						
DZM	**Mont Dzumac**	**4.61**	**273**	*e*Pn	**Pn**	**09 35 31.9**	**+0.3**
	comp=Z,122nm,0.2s						
DZM				*e*Sn	**Sn**	**09 36 17.9**	**-6.0**
	comp=Z,594nm,0.8s						
DZM	**Mont Dzumac**	**4.61**	**273**	*e*P	**Pn**	**09 35 31.4**	**-0.2**
DZM				*e*S	**Sn**	**09 36 21.0**	**-2.9**
DZM				AMP		09 36 32.8	
	comp=Z,3μm,4.3s						
DZM	**Mont Dzumac**	**4.61**	**273**	*e*Pn	**Pn**	**09 35 31.6**	**0.0**
DZM				*e*Sn	**Sn**	**09 36 22.6**	**-1.3**
NOUC	**Port Laguerre**	**4.74**	**272**	*e*P	**Pn**	**09 35 32.8**	**-0.6**
NOUC				AMP		09 36 32.0	
	comp=Z,155nm,3.8s						
MSVF	**Nonsavu**	**7.76**	**55**	*e*Pn	**Pn**	**09 36 21.5**	**+6.7**
	comp=Z,90nm,1.0s						
OUZ	**Omahuta**	**12.95**	**172**	*e*Pn	**Pn**	**09 37 27.3**	**+1.4**
URZ	**Urewera**	**16.59**	**164**	Pn	**Pn**	**09 38 12.3**	**-1.6**
	comp=Z,0.7nm,0.3s,baz=336,slow=7.4,SNR=7.2						
URZ				LR	LR	09 43 12.5	
	comp=Z,446nm,21.6s,baz=346,slow=32						
URZ	**Urewera**	**16.59**	**164**	*e*P	**Pn**	**09 38 11.9**	**-1.9**
	comp=Z,12nm,0.8s						
AFI	**Afiamalu**	**18.04**	**65**	LR	LR	09 44 00.9	
	comp=Z,235nm,20.9s,baz=236,slow=32						
EIDS	**Eidsvold**	**18.83**	**257**	*e*P	**Pn**	**09 38 43.6**	**+2.0**
	comp=Z,32nm,0.7s						
EIDS				*e*S	**S**	**09 42 15.7**	**+3.2**
EIDS	**Eidsvold**	**18.83**	**257**	*e*P	**Pn**	**09 38 43.0**	**+1.4**
	comp=Z,9.9nm,0.8s						
ARMA	**Armidale**	**19.43**	**241**	*e*P	**Pn**	**09 38 49.6**	**+0.8**
	comp=Z,14nm,0.9s						
RMQ	**Roma**	**21.02**	**254**	*e*P	**P**	**09 39 06.8**	**+2.2**
	comp=Z,24nm,0.8s,mb4.6						
RPZ	**Rata Peaks**	**21.30**	**181**	P	**P**	**09 39 07.1**	**-0.3**
	comp=Z,29nm,0.9s,mb4.6,baz=40,slow=6.7,SNR=6.0						
RPZ				LR	LR	09 46 27.4	
	comp=Z,179nm,19.0s,MS3.5,baz=22,slow=34						
RPZ	**Rata Peaks**	**21.30**	**181**	*e*P	**P**	**09 39 06.6**	**-0.8**
	comp=Z,33nm,0.8s,mb4.7						
YNG	**Young**	**23.43**	**234**	*e*P	**P**	**09 39 29.6**	**-0.4**
	comp=Z,10nm,1.6s,mb4.0						
CTA	**Charters Tower**	**23.55**	**271**	P	**P**	**09 39 31.8**	**+0.6**
	comp=Z,4.4nm,0.8s,mb3.9,baz=98,slow=9.9,SNR=5.8						
CTA	**Charters Tower**	**23.55**	**271**	P	**P**	**09 39 31.8**	**+0.6**
CTAO	**Charters Tower**	**23.55**	**271**	*e*P	**P**	**09 39 32.4**	**+1.1**
	comp=Z,4.9nm,0.9s,mb3.9						
CMSA	**Cobar Meteorol**	**24.63**	**243**	*e*P	**P**	**09 39 41.0**	**0.0**
	comp=Z,77nm,0.6s,mb5.4						
QLP	**Quilpie**	**25.07**	**255**	*e*P	**P**	**09 39 45.0**	**0.0**
MTSU	**Mount Surprise**	**25.75**	**274**	*e*P	**P**	**09 39 52.3**	**+1.0**
	comp=Z,51nm,0.7s,mb5.2						
PMG	**Port Moresby**	**26.59**	**295**	P	**P**	**09 39 59.6**	**+0.7**
	comp=Z,18nm,0.8s,mb4.7,baz=167,slow=5.5,SNR=5.8						
PMG	**Port Moresby**	**26.59**	**295**	P	**P**	**09 39 59.6**	**+0.7**
COEN	**Coen**	**28.06**	**282**	*e*P	**P**	**09 40 13.2**	**+1.1**
	comp=Z,36nm,0.8s,mb5.0						
COEN	**Coen**	**28.06**	**282**	*e*P	**P**	**09 40 12.5**	**+0.4**
	comp=Z,49nm,0.8s,mb5.2						
STKA	**Stephens Creek**	**28.10**	**244**	P	**P**	**09 40 11.8**	**-0.5**
	comp=Z,6.5nm,0.9s,mb4.2,baz=100,slow=7.7,SNR=3.6						
STKA				LR	LR	09 50 23.0	
	comp=Z,169nm,18.7s,MS3.7,baz=34,slow=34						
STKA	**Stephens Creek**	**28.10**	**244**	*e*P	**P**	**09 40 08.0**	**-4.3**
	comp=Z,4.0nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**28.10**	**244**	*e*P	**P**	**09 40 12.3**	**0.0**
	comp=Z,1.5nm,0.9s,mb3.6						
AS31	**Alice Springs**	**34.48**	**260**	*e*P	**P**	**09 41 08.0**	**-0.5**
ASAR	**Alice Springs**	**34.48**	**260**	P	**P**	**09 41 07.8**	**-0.7**
	comp=Z,12nm,0.8s,mb4.9,baz=87,slow=8.2,SNR=68						
ASAR				ScP	ScP	09 47 27.3	+2.2
	comp=Z,0.8nm,1.0s,baz=123,slow=3.4,SNR=4.1						
ASAR	**Alice Springs**	**34.48**	**260**	P	**P**	**09 41 07.8**	**-0.7**
ASAR				ScP	ScP	09 47 27.3	+2.2
WB2	**Warramunga Arr**	**34.59**	**267**	*e*P	**P**	**09 41 08.3**	**-1.3**
WRAB	**Tennant Creek**	**34.59**	**267**	*e*P	**P**	**09 41 08.2**	**-1.4**
	comp=Z,2.1nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**34.60**	**267**	P	**P**	**09 41 08.4**	**-1.2**
	comp=Z,1.3nm,0.4s,mb4.2,baz=98,slow=8.2,SNR=44						
WRA				LR	LR	09 54 47.6	
	comp=Z,152nm,18.6s,MS3.8,baz=145,slow=36						
WRA	**Warramunga Arr**	**34.60**	**267**	P	**P**	**09 41 08.4**	**-1.2**
PPT	**Papeete**	**36.91**	**90**	*e*LR	LR	09 51 49.1	
	comp=Z,72nm,24.5s						
FITZ	**Fitzroy Crossi**	**43.03**	**267**	LR	LR	10 00 27.1	
	comp=Z,102nm,18.2s,MS3.8,baz=101,slow=36						
FITZ	**Fitzroy Crossi**	**43.03**	**267**	*e*P	**P**	**09 42 20.5**	**+0.3**
	comp=Z,9.7nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**43.03**	**267**	*e*P	**P**	**09 42 20.4**	**+0.2**
	comp=Z,7.0nm,0.8s,mb4.4						
NWAO	**Narrogin (SRO)**	**48.67**	**245**	P	**P**	**09 43 04.0**	**-0.6**
	comp=Z,8.8nm,0.8s,mb4.8,baz=79,slow=7.5,SNR=5.1						
NWAO	**Narrogin (SRO)**	**48.67**	**245**	P	**P**	**09 43 04.0**	**-0.6**
MJAR	**Matsushiro Arr**	**66.45**	**331**	P	**P**	**09 45 08.5**	**-1.0**
	comp=Z,2.0nm,0.8s,mb4.2,baz=167,slow=7.4,SNR=4.5						
MJAR				LR	LR	10 08 50.1	
	comp=Z,91nm,19.6s,MS4.0,baz=55,slow=31						
MJAR	**Matsushiro Arr**	**66.45**	**331**	P	**P**	**09 45 08.5**	**-1.0**
QSPA	**South Pole Qui**	**67.71**	**180**	LR	LR	10 10 25.3	
	comp=Z,87nm,20.7s,MS4.0,baz=75,slow=32						
QSPA	**South Pole Qui**	**67.71**	**180**	*e*P	**P**	**09 45 16.6**	**-0.3**
	comp=Z,11nm,1.2s,mb4.8						
PETK	**

NACB				*e*Sg	**Sb**	09 39 36.9	-1.1
YUS	**Yu-Shan**	**0.73**	**269**	⇓*i*P	**Pb**	09 39 30.0	+0.3
	baz=274						
YUS				S	**Sb**	09 39 39.0	-0.2
	baz=274						
ELDTW	**Lidau**	**0.74**	**245**	⇓*i*P	**Pb**	09 39 29.2	-0.7
	baz=239						
WHF	**Hehuan Shan**	**0.78**	**326**	P	**Pb**	09 39 29.9	-0.6
	baz=329						
WHF				*e*S	**Sb**	09 39 41.0	+0.3
	baz=329						
SSLB	**Suanglung**	**0.78**	**292**	*e*Pg	**Pb**	09 39 29.6	-1.0
SSLB				*e*Sg	**Sb**	09 39 40.0	-0.8
ALS	**Alishan**	**0.86**	**271**	*e*P	**Pb**	09 39 32.2	+0.2
	baz=268						
SMLT	**Sun Moon Lake**	**0.86**	**296**	⇑*i*P	**Pb**	09 39 31.6	-0.4
	baz=300						
SMLT				*e*S	**Sb**	09 39 41.7	-1.4
	baz=300						
TYC	**Yuchr**	**0.91**	**296**	⇑*i*P	**Pb**	09 39 32.2	-0.6
	baz=296						
TYC				*e*S	**Sb**	09 39 44.0	-0.4
	baz=296						
TWT	**Tachien**	**0.91**	**325**	⇑*i*P	**Pb**	09 39 32.7	-0.2
	baz=327						
TWT				S	**Sb**	09 39 43.4	-1.1
	baz=327						
TWG	**Pinlang**	**0.92**	**223**	*e*Pn	**Pn**	09 39 31.3	-2.1
TWG	**Pinlang**	**0.92**	**223**	⇓*i*P	**Pb**	09 39 31.6	-1.4
	baz=225						
TWG				*e*S	**Sb**	09 39 42.2	-2.5
	baz=225						
ENA	**Nanau**	**0.92**	**360**	⇓*i*P	**Pb**	09 39 32.6	-0.5
	baz=5.0						
ENA				*e*S	**Sb**	09 39 44.0	-0.9
	baz=5.0						
STYT	**Tauyuan**	**0.97**	**250**	⇓*i*P	**Pb**	09 39 33.4	-0.4
	baz=240						
STYT				S	**Sb**	09 39 45.5	-0.6
	baz=240						
CHN5	**Tsauling**	**0.98**	**276**	⇓P	**Pb**	09 39 34.3	+0.2
	baz=274						
CHN5				S	**Sb**	09 39 46.5	-0.1
	baz=274						
NNS	**Nan Shan**	**0.99**	**340**	*e*P	**Pb**	09 39 33.4	-0.8
	baz=344						
NNS				*e*S	**Sb**	09 39 45.2	-1.8
	baz=344						
WNT	**Mingjian**	**1.04**	**291**	*e*P	**Pn**	09 39 35.2	+0.1
	baz=290						
WNT				*e*S	**Sb**	09 39 48.3	0.0
	baz=290						
TPUB	**Ta-pu**	**1.04**	**259**	*e*Pn	**Pn**	09 39 34.7	-0.5
TPUB				*e*Sn	**Sn**	09 39 48.8	-0.3
WTP	**Ta-pu**	**1.07**	**256**	⇓*i*P	**Pn**	09 39 35.4	-0.1
	baz=253						
WTP				*e*S	**Sb**	09 39 49.7	+0.7
	baz=253						
WGK	**Gukeng**	**1.10**	**280**	*e*P	**Pn**	09 39 36.5	+0.6
	baz=279						
WGK				*e*S	**Sb**	09 39 50.1	+0.2
	baz=279						
TWC	**Suao**	**1.11**	**5**	P	**Pn**	09 39 35.6	-0.4
	baz=9.0						
TWC				S	**Sb**	09 39 49.4	-0.8
	baz=9.0						
ENTT	**Nioudou**	**1.15**	**352**	P	**Pn**	09 39 35.9	-0.6
	baz=345						
ENTT				*e*S	**Sb**	09 39 50.4	-0.9
	baz=345						
ECL	**Taimali**	**1.16**	**219**	*e*P	**Pn**	09 39 34.6	-2.1
	baz=215						
CHN1	**Nanshi**	**1.16**	**255**	⇓*i*P	**Pn**	09 39 37.1	+0.3
	baz=252						
CHN1				S	**Sb**	09 39 52.8	+1.1
	baz=252						
CHN2	**Minshiung**	**1.17**	**272**	*e*P	**Pn**	09 39 37.2	+0.4
	baz=270						
CHN2				*e*S	**Sn**	09 39 52.8	+0.8
	baz=270						
TCU	**Taichung**	**1.17**	**304**	*e*P	**Pn**	09 39 37.5	+0.6
	baz=303						
CHY	**Chiayi**	**1.21**	**270**	*e*P	**Pn**	09 39 38.0	+0.6
	baz=268						
CHY				*e*S	**Sn**	09 39 53.3	0.0
	baz=268						
YHNB	**Yeheng**	**1.21**	**344**	*e*Pn	**Pn**	09 39 36.8	-0.7
YHNB				*e*Sn	**Sn**	09 39 51.9	-1.4
TWE	**Neicheng**	**1.22**	**357**	*e*P	**Pn**	09 39 37.1	-0.4
	baz=350						
TWE				*e*S	**Sn**	09 39 52.6	-0.8
	baz=350						
NSK	**Sanguang**	**1.22**	**343**	⇑*i*P	**Pn**	09 39 37.3	-0.3
	baz=346						
NSK				*e*S	**Sn**	09 39 51.6	-1.9
	baz=346						
TWQ1	**Liyutan**	**1.23**	**314**	⇑*i*P	**Pn**	09 39 38.4	+0.7
	baz=322						
TWQ1				*e*S	**Sn**	09 39 54.3	+0.7
	baz=322						
SSD	**Sandimen**	**1.27**	**234**	*e*P	**Pn**	09 39 37.5	-0.8
	baz=225						
NSY	**Sanyi**	**1.28**	**316**	P	**Pn**	09 39 39.1	+0.7
	baz=329						
NSY				*e*S	**Sn**	09 39 55.9	+1.0
	baz=329						
NSTT	**Nanjuang**	**1.31**	**329**	*e*P	**Pn**	09 39 39.6	+0.8
	baz=340						
NSTT				*e*S	**Sn**	09 39 54.6	-1.2
	baz=340						
CHN3	**Shinhua**	**1.34**	**252**	*e*P	**Pn**	09 39 40.6	+1.5
	baz=263						
CHN3				*e*S	**Sn**	09 39 59.6	+3.3
	baz=263						
TAW	**Tawu**	**1.38**	**215**	*e*P	**Pn**	09 39 39.8	0.0
	baz=218						
EAST	**Anshuo**	**1.39**	**217**	*e*P	**Pn**	09 39 38.1	-1.7
	baz=204						
SGLT	**Jiouru**	**1.39**	**236**	*e*P	**Pn**	09 39 41.9	+2.0
	baz=233						
WTCT	**Ta-ch'eng**	**1.39**	**285**	*e*P	**Pn**	09 39 40.1	+0.2
	baz=275						
WTCT				*e*S	**Sn**	09 39 58.2	+0.6
	baz=275						
TWM1	**Shoushan**	**1.39**	**241**	*e*P	**Pn**	09 39 41.7	+1.8
	baz=238						
CHN8	**Yiju**	**1.42**	**264**	*e*P	**Pn**	09 39 39.8	-0.5
	baz=263						
CHN8				*e*S	**Sn**	09 39 58.4	+0.1
	baz=263						
LAY	**Lan-yu**	**1.47**	**187**	*e*P	**Pn**	09 39 39.0	-2.0
	baz=184						
HSN	**Hsinchu**	**1.48**	**332**	*e*P	**Pn**	09 39 42.6	+1.5
	baz=320						
HSN				*e*S	**Sn**	09 40 01.2	+1.4
	baz=320						
TWA	**Mucha**	**1.48**	**354**	*e*P	**Pn**	09 39 40.9	-0.3
	baz=357						
TATO	**Taipei**	**1.49**	**351**	*e*Pn	**Pn**	09 39 41.4	+0.1
TATO				*e*Sn	**Sn**	09 40 00.9	+0.9
YOJ	**Yonaguni jima**	**1.50**	**50**	⇑*i*P	**Pn**	09 39 42.0	+0.5
	baz=53						
YOJ				*e*S	**Sn**	09 39 60.0	-0.5
	baz=53						
YOJ	**Yonaguni jima**	**1.50**	**50**	P	**Pn**	09 39 41.9	+0.4
YOJ				*e*S	**Sn**	09 40 00.7	+0.3
TWB1	**Santiao Chiao**	**1.52**	**8**	*e*P	**Pn**	09 39 42.0	+0.3
	baz=12						
NCU	**National Centr**	**1.55**	**341**	*e*P	**Pn**	09 39 43.1	+1.1
	baz=342						
NWF	**Wu-fen Shan**	**1.56**	**1**	*e*P	**Pn**	09 39 43.2	+0.9
	baz=349						
NWF				*e*S	**Sn**	09 40 02.6	+0.7
	baz=349						
TWS1	**Kuangyinshan**	**1.62**	**349**	*e*P	**Pn**	09 39 43.9	+0.8
	baz=351						
TWK1	**Hengchun**	**1.78**	**209**	*e*P	**Pn**	09 39 45.5	+0.3
	baz=198						
WDGT	**Dungji**	**1.93**	**263**	*e*P	**Pn**	09 39 46.8	-0.5
	baz=262						
HATJ	**Hateruma jima**	**1.97**	**73**	P	**Pn**	09 39 48.2	+0.3
HATJ				*e*S	**Sn**	09 40 11.7	-0.2
IRIF	**Iriomote-Funau**	**2.00**	**65**	P	**Pn**	09 39 49.0	+0.7
IRIF				*e*S	**Sn**	09 40 13.2	+0.5
PNG	**Penghu**	**2.01**	**272**	*e*P	**Pn**	09 39 47.8	-0.6
	baz=272						
PNG				*e*S	**Sn**	09 40 11.1	-1.9
	baz=272						
JKRS	**Kuro-shima**	**2.20**	**70**	P	**Pn**	09 39 51.9	+0.9
JKRS				*e*S	**Sn**	09 40 17.8	+0.2
JIJ	**Ishigaki jima**	**2.36**	**68**	P	**Pn**	09 39 53.6	+0.4
JIJ				*e*S	**Sn**	09 40 20.9	-0.6
JTJ	**Tarama**	**2.93**	**67**	P	**Pn**	09 40 02.1	+1.0
JTJ				*e*S	**Sn**	09 40 35.7	0.0

*IDC **30** 09:40:01.6±3.0,35°.97N×72°.10E,h0km,mb3.9/7,*
mb1 3.9/10,mb1mx3.6/28,mbtmp3.8/10,ML3.7/3,Error
ellipse: s-maj=59.1km s-min=26.8km az=136.0
*ISCJB **30** 09:40:18.8±0.6,36°.54N±0°.03×71°.92E±0°.07,h137km±8km,*
mb3.8/6,Error ellipse: s-maj=9.1km s-min=4.6km
az=162.7
*NNC **30** 09:40:22.1±5.7,36°.94N×71°.08E,h128km±84km,mb3.1,*
mpv3.9,Error ellipse: s-maj=48.6km s-min=31.4km az=3.0

ISC 30 09:40:19.9±0.6,36°.53N±0°.03×71°.92E±0°.07,h131km±7km,
n37,σ0s95/43,mb3.8/6,3C-2D,Afghanistan-Tajikistan
border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**2.70**	**180**	P	**Pn**	**09 41 02.0**	**-0.7**
CEP				S	**Sn**	**09 41 36.0**	**+0.3**
CHCP	**Chirah Chowk**	**3.07**	**159**	P	**Pn**	**09 41 09.3**	**+1.8**
THW	**Thamme Wali**	**3.73**	**182**	P	**Pn**	**09 41 14.9**	**-1.2**
AML	**Almayashu**	**5.76**	**13**	P	**Pn**	**09 41 42.6**	**-0.5**
	SNR=88						
UCH	**Uchtor**	**6.03**	**19**	P	**Sn**	**09 42 54.1**	**-0.5**
	SNR=7.7						
EKS2	**Erkin-Say**	**6.29**	**13**	P	**Pn**	**09 41 50.1**	**-0.1**
	SNR=9.5						
AAK	**Ala-Archa**	**6.41**	**17**	P	**Pn**	**09 41 51.9**	**+0.1**
	SNR=11						
SDNR	**Sundarnagar**	**6.54**	**139**	*e*PKP	**Pn**	**09 41 56.0**	**+2.3**
SDNR				*e*S	**Sn**	**09 43 08.0**	**+1.1**
KK31	**Karatay Array**	**6.65**	**351**	⇓P	**Pn**	**09 41 51.4**	**-3.6**
	9.4nm,0.3s,baz=179,slow=14,SNR=173						
KK31				⇑S	**Sn**	**09 43 01.6**	**-7.9**
	4.5nm,0.4s,baz=176,slow=23,SNR=5.0						
CHMS	**Chumysh**	**6.82**	**18**	P	**Pn**	**09 41 56.8**	**-0.5**
	SNR=5.8						
TKM2	**Tokmak 2**	**6.98**	**23**	P	**Pn**	**09 42 00.2**	**+0.7**
	SNR=6.6						
TKM2	**Tokmak 2**	**6.98**	**23**	⇓P	**Pn**	**09 42 00.2**	**+0.6**
	2.0nm,0.6s						
TKM2				⇑S	**Sn**	**09 43 18.5**	**+1.0**
	5.5nm,0.9s						
PYUN	**Piuthan**	**12.58**	**129**	*e*P	**Pn**	**09 43 13.6**	**-0.6**
	22nm,0.3s						
MKAR	**Makanchi Array**	**12.84**	**34**	Pn	**Pn**	**09 43 09.9**	**-7.6**
	0.1nm,0.3s,baz=249,slow=4.0,SNR=4.5						
DANN	**Dangsing**	**12.90**	**126**	*e*P	**Pn**	**09 43 18.2**	**-0.2**
	13nm,0.3s						
DANN				*e*S	**Sn**	**09 45 37.6**	**-3.1**
KOLN	**Koldanda**	**13.19**	**128**	*e*P	**Pn**	**09 43 22.1**	**-0.1**
	12nm,0.3s						
GKN	**Gorkha**	**13.71**	**125**	*e*P	**Pn**	**09 43 28.8**	**0.0**
	19nm,0.3s						
KKN	**Kakani**	**14.27**	**124**	*e*P	**Pn**	**09 43 35.8**	**-0.2**
	15nm,0.6s						
DMN	**Daman**	**14.28**	**125**	*e*P	**Pn**	**09 43 36.1**	**+0.1**
DMN				*e*S	**Sn**	**09 46 09.2**	**-4.7**
PKI	**Pulchoki**	**14.50**	**124**	*e*P	**Pn**	**09 43 38.5**	**-0.4**
GUN	**Gumba**	**14.60**	**122**	*e*P	**Pn**	**09 43 39.6**	**-0.5**
JIRN	**Jiri**	**14.97**	**122**	*e*P	**Pn**	**09 43 44.0**	**-0.8**
	5.3nm,0.3s						
AB31	**Akbulak array**	**15.42**	**329**	P	**Pn**	**09 43 43.8**	**-6.4**
	1.1nm,0.5s,baz=140,slow=13,SNR=64						
AB31				S	S	09 46 23.2	-24
	1.4nm,0.6s,baz=155,slow=23,SNR=3.5						
RAMN	**Ramite**	**15.71**	**123**	*e*P	**Pn**	**09 43 53.6**	**-0.3**
	13nm,0.4s						
TAPN	**Taplejung**	**16.22**	**120**	*e*P	**Pn**	**09 44 00.3**	**+0.1**
	18nm,0.7s						
ODAN	**Odare**	**16.30**	**122**	*e*P	**Pn**	**09 44 01.4**	**+0.2**
	14nm,0.6s						
BVAR	**Borovoye Array**	**16.53**	**357**	P	**Pn**	**09 44 02.2**	**-1.6**
	0.2nm,0.3s,baz=158,slow=12,SNR=4.8						
AKTO	**Aktyubinsk**	**17.13**	**329**	⇑P	**Pn**	**09 44 06.3**	**-4.8**
	0.6nm,0.8s						
AKTO	**Aktyubinsk**	**17.13**	**329**	P	**Pn**	**09 44 07.8**	**-3.2**
	0.9nm,0.3s,baz=162,slow=11,SNR=10						
ZALV	**Zalesovo Beam**	**19.59**	**23**	P	**P**	**09 44 38.0**	**+0.6**
	0.9nm,0.3s,baz=219,slow=10,SNR=3.6						
AKASG	**Malin Array Be**	**33.50**	**309**	P	**P**	**09 46 47.5**	**+1.0**
	1.4nm,0.6s,mb3.9,baz=79,slow=7.4,SNR=6.0						
FINES	**FINESS Array B**	**37.87**	**326**	P	**P**	**09 47 24.3**	**+0.7**
	2.4nm,0.8s,mb3.9,baz=125,slow=9.6,SNR=7.3						
ARCES	**ARCESS Array B**	**41.40**	**337**	P	**P**	**09 47 54.2**	**+1.5**
	1.7nm,0.8s,mb3.7,baz=112,slow=9.1,SNR=6.7						
HFS	**Hagfors**	**43.50**	**322**	P	**P**	**09 48 10.3**	**+0.5**
	1.5nm,0.5s,mb3.9,baz=98,slow=11,SNR=12						
NB2	**NORSAR Subarra**	**44.80**	**323**	P	**P**	**09 48 20.4**	**+0.3**
	comp=Z,1.1nm,0.6s,mb3.7,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**44.80**	**323**	P	**P**	**09 48 20.7**	**+0.6**
	comp=Z,0.7nm,0.5s,mb3.6,baz=97,slow=7.7,SNR=4.6						
TORD	**Torodi Ar. Bea**	**66.46**	**269**	P	**P**	**09 50 53.9**	**-1.6**
	comp=Z,0.8nm,0.5s,mb3.8,baz=52,slow=6.1,SNR=12						

*GUC **30** 09:50:43.9±0.6,23°.06S×70°.48W,h45km±1km,ML4.1*
*IDC **30** 09:50:52.2±4.4,23°.53S×69°.88W,h83km±38km,mb3.7/5,*
mb1 3.7/7,mb1mx3.5/16,mbtmp3.5/7,MS3.7/2,Ms1 3.6/2,
ms1mx2.9/18,Error ellipse: s-maj=35.4km s-min=23.9km
az=76.0

ISC 30 09:50:44.5±1.3,23°.09S±0°.06×70°.6W±0°.2,h38km±7km,n18,
σ0s64/19,mb4.1/5,5C-1D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MECH	**Mejillones**	**0.13**	**95**	⇓*i*P	**Pn**	**09 50 50.7**	**-0.4**
MECH				*i* S	**Sn**	**09 50 56.0**	**+0.4**
MECH				AML	AML	09 50 57.0	
	comp=E,61μm,0.6s						
ANCH	**Antofagasta**	**0.61**	**165**	⇑*i*P	**Pn**	**09 50 56.7**	**+0.1**
ANCH				*i* S	**Sn**	**09 51 05.8**	**+0.4**
MACH	**Maria Elena**	**1.18**	**41**	⇑*i*P	**Pn**	**09 51 04.3**	**-0.1**
MACH				*i* S	**Sn**	**09 51 19.4**	**+0.2**
PB04	**Plate Boundary**	**1.31**	**51**	⇑*i*P	**Pn**	**09 50 59.4**	**-6.9**
PB04				*i* S	**Sn**	**09 51 10.9**	**-12**
PB04				AML	AML	09 51 13.9	
	comp=E,12μm,0.7s						
PB07	**Plate Boundary**	**1.51**	**26**	⇑*i*P	**Pn**	**09 51 08.7**	**-0.3**
PB07				*i* S	**Sn**	**09 51 27.9**	**+0.6**
PB07				AML	AML	09 51 31.5	
	comp=N,4μm,0.8s						
PB01	**Plate Boundary**	**2.28**	**27**	⇑*i*P	**Pn**	**09 51 19.5**	**-0.1**
PB01				*e*S	**Sn**	**09 51 46.1**	**-0.4**
PB01				AML	AML	09 51 59.1	
	comp=E,2μm,0.1s						
CFAA	**Coronel Fontan**	**8.73**	**167**	P	**Pn**	**09 52 46.6**	**-1.6**
	comp=E,0.1nm,0.3s,baz=342,slow=14,SNR=9.2						
CPUP	**Villa Florida**	**12.47**	**108**	LR	LR	09 59 02.3	
	comp=E,168nm,18.8s,baz=90,slow=42						
PLCA	**Paso Flores**	**17.59**	**180**	P	**Pn**	**09 54 47.3**	**+0.7**
	comp=E,0.1nm,0.3s,baz=359,slow=9.8,SNR=2.8						
TXAR	**Lajitas Array**	**61.08**	**327**	P	**P**	**10 01 03.4**	**+8.8**
	comp=E,0.3nm,0.8s,mb3.5,baz=134,slow=7.8,SNR=3.0						
SNAA	**Sanae**	**61.30**	**160**	P	**P**	**10 00 54.6**	**-1.0**
	comp=E,0.7nm,0.8s,mb3.9,baz=307,slow=7.7,SNR=6.8						
QSPA	**South Pole Qui**	**67.11**	**180**	P	**P**	**10 01 34.8**	**+1.3**
	comp=E,2.1nm,0.5s,mb4.4,baz=120,slow=2.2,SNR=8.5						
TORD	**Torodi Ar. Bea**	**79.35**	**71**	P	**P**	**10 02 46.9**	**+0.1**
	comp=E,1.7nm,0.5s,mb4.2,baz=254,slow=5.3,SNR=23						
BOSA	**Boshof**	**84.07**	**118**	P	**P**	**10 03 11.6**	**0.0**
	comp=E,6.2nm,1.2s,mb4.6,baz=177,slow=12,SNR=4.2						
BOSA				LR	LR	10 33 45.9	
	comp=E,73nm,19.3s,baz=268,slow=31						
ASAR	**Alice Springs**	**127.78**	**209**	PKP	PKPdf	10 09 47.1	+0.6
	comp=E,0.6nm,0.8s,baz=145,slow=1.9,SNR=8.3						
WRA	**Warramunga Arr**	**130.80**	**212**	PKP	PKPdf	10 09 53.0	+0.7
	comp=E,0.4nm,0.7s,baz=158,slow=1.6,SNR=5.9						
ZALV	**Zalesovo Beam**	**144.04**	**25**	PKP	PKPdf	10 10 15.6	0.0
	comp=E,0.8nm,0.5s,baz=317,slow=3.4,SNR=4.0						
MKAR	**Makanchi Array**	**147.83**	**36**	PKPbc	PKPbc	10 10 26.0	+0.8
	comp=E,1.5nm,0.7s,baz=330,slow=2.8,SNR=9.2						

*IDC **30** 09:55:38.4±0.8,31°.28N×103°.78E,h0km,mb3.9/10,*
mb1 4.0/11,mb1mx3.8/25,mbtmp3.9/11,ML2.6/1,Error
ellipse: s-maj=36.0km s-min=15.9km az=54.0
*ISCJB **30** 09:55:40.8±0.8,31°.28N±0°.04×103°.69E±0°.08,h28km±6km,*
mb4.0/9,Error ellipse: s-maj=11.1km s-min=6.3km
az=178.7
*BJI **30** 09:55:41.8,31°.25N×103°.84E,h21km,mb3.9/2,ML3.8/20,*
Ms3.5/2,Ms7 3.4/2

ISC 30 09:55:41.0±0.8,31°.30N±0°.03×103°.76E±0°.08,h13km±5km,
n18,σ1s05/27,mb4.0/9,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.39**	**180**	Pg	**Pg**	**09 55 49.0**	**+0.3**
CD2				Sg	**Sg**	**09 55 54.0**	**+0.1**
CD2				smax			
	comp=N,14μm,0.7s						
CD2				smax			
	comp=E,16μm,1.0s						
LZH	**Lanzhou**	**4.78**	**1**	Pg	**Pg**	**09 57 12.0**	**-0.5**
LZH				Sn	**Sn**	**09 57 54.0**	**+6.0**
LZH				Sg	**Sg**	**09 58 15.0**	**+0.6**
LZH				smax			
	comp=N,82nm,0.8s						
LZH				smax			
	comp=E,120nm,1.0s						
LZH				LR	LR		
	comp=N,470nm,6.7s						
LZH				LR	LR		
	comp=E,290nm,4.1s						
LZH				LR	LR		
	comp=Z,510nm,6.9s						
XAN	**Xi'an**	**5.14**	**57**	Pn	**Pn**	**09 56 58.0**	**+0.3**
XAN				Pg	**Pb**	**09 57 12.5**	**+1.7**
XAN				Sn	**Sn**	**09 58 01.0**	**+4.0**
XAN				Sg	**Sg**	**09 58 18.3**	**-7.8**
XAN				smax			
	comp=N,140nm,0.6s						
XAN				smax			
	comp=E,55nm,0.8s						
GYA	**Guiyang**	**5.45**	**151**	Pn	**Pn**	**09 57 03.3**	**+1.3**
GYA				Sn	**Sn**	**09 58 05.8**	**+1.1**
GYA				Sg	**Sg**	**09 58 33.8**	**-2.3**
GYA				smax			
	comp=N,200nm,0.6s						
GYA				smax			
	comp=E,160nm,0.8s						
KMI	**Kunming**	**6.22**	**189**	Pn	**Pn**	**09 57 13.0**	**+0.5**
KMI				Sn	**Sn**	**09 58 24.5**	**+1.0**
KMI				smax			
	comp=N,27nm,1.0s						
KMI				smax			
	comp=E,34nm,1.0s						
KMI				LR	LR		
	comp=N,270nm,9.6s						
KMI				LR	LR		
	comp=E,220nm,11.7s						
KMI				LR	LR		
	comp=Z,180nm,9.6s						
GTA	**Gaotai**	**8.71**	**339**	*e*P	**Pn**	**09 57 48.8**	**+2.1**
GTA				pP		09 57 53.0	
GTA				sP		09 57 56.0	
GTA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**13.51**	**200**	Pn	**Pn**	**09 58 47.5**	**-4.9**
	comp=Z,0.5nm,0.3s,baz=120,slow=14,SNR=7.8						
SONM	**Songino Array**	**16.64**	**6**	Pn	**Pn**	**09 59 32.4**	**-1.5**
	comp=Z,0.0nm,0.3s,baz=197,slow=14,SNR=3.6						
KSRS	**Korea Array**	**20.84**	**66**	P	**P**	**10 00 22.3**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=261,slow=10,SNR=8.3						
MKAR	**Makanchi Array**	**22.64**	**319**	P	**P**	**10 00 42.4**	**+0.8**
	comp=Z,1.4nm,0.5s,mb3.7,baz=120,slow=10,SNR=17						
ZALV	**Zalesovo Beam**	**26.42**	**334**	P	**P**	**10 01 17.4**	**+0.1**
	comp=Z,2.8nm,0.8s,mb3.9,baz=134,slow=8.5,SNR=11						
KURK	**Kurchatov**	**26.91**	**323**	P	**P**	**10 01 22.1**	**+0.3**
	comp=Z,2.5nm,0.9s,mb3.8,baz=128,slow=10,SNR=20						
ARCES	**ARCESS Array B**	**56.96**	**336**	P	**P**	**10 05 25.1**	**-0.7**
	comp=Z,4.8nm,1.1s,mb4.5,baz=89,slow=7.7,SNR=7.2						
ARCES				PcP	PcP	10 06 20.9	0.0
	comp=Z,3.8nm,1.0s,baz=65,slow=6.8,SNR=5.0						
FINES	**FINESS Array B**	**57.24**	**326**	P	**P**	**10 05 26.4**	**-1.5**
	comp=Z,3.2nm,1.0s,mb4.3,baz=105,slow=12,SNR=5.8						
WRA	**Warramunga Arr**	**58.80**	**146**	P	**P**	**10 05 38.7**	**-0.5**
	comp=Z,2.4nm,0.5s,mb4.5,baz=338,slow=7.8,SNR=65						
ASAR	**Alice Springs**	**61.81**	**149**	P	**P**	**10 05 58.9**	**-0.9**
	comp=Z,0.3nm,0.4s,mb3.8,baz=331,slow=7.0,SNR=11						
HFS	**Hagfors**	**63.45**	**326**	P	**P**	**10 06 09.0**	**-1.3**
	comp=Z,2.2nm,0.8s,mb4.3,baz=111,slow=7.9,SNR=3.9						
ILAR	**Eielson Array**	**69.79**	**26**	P	**P**	**10 06 49.8**	**-1.0**
	comp=Z,0.2nm,0.6s,mb3.2,baz=288,slow=3.9,SNR=4.2						

*ISCJB **30** 09:58:57.7±0.5,37°.92N±0°.02×27°.12E±0°.05,h3km±6km,*
Error ellipse: s-maj=6.3km s-min=3.7km az=1.5
*ISK **30** 09:58:57.7,37°.92N×27°.16E,h6km,MD2.9*
*CSEM **30** 09:58:58.3±0.1,37°.91N×27°.11E,h10km,MD2.9,Error*
ellipse: s-maj=4.0km s-min=2.9km az=88.0
*DDA **30** 09:58:58.6,37°.96N×27°.10E,h7km±4km,Md3.0*
*ATH **30** 09:58:58.8,37°.90N×27°.04E,h12km,MD3.1/4*

ISC 30 09:58:58.3±0.5,37°.92N±0°.02×27°.09E±0°.05,h7km±6km,
n40,σ0s62/52,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMG	**Samos**	**0.29**	**224**	*e*PG	**Pg**	**09 59 04.0**	**+0.1**
SMG	**Samos**	**0.29**	**224**	*e*Pg	**Pg**	**09 59 04.0**	**+0.1**
BLCB	**Balcova**	**0.47**	**356**	*e*PG	**Pg**	**09 59 07.6**	**+0.2**
BLCB	**Balcova**	**0.47**	**356**	*e*Pg	**Pg**	**09 59 07.6**	**+0.2**
IZM	**Izmir**	**0.50**	**16**	*e*PG	**Pg**	**09 59 07.8**	**-0.2**
IZM				*e*SG	**Sg**	**09 59 15.1**	**+0.6**
IZM	**Izmir**	**0.50**	**16**	*e*Pg	**Pg**	**09 59 07.8**	**-0.2**
IZM				*e*Sg	**Sg**	**09 59 15.1**	**+0.6**
AYDN	**Tasoluk**	**0.68**	**112**	*i* P	**Pg**	**09 59 10.9**	**-0.4**
AYDN				*i* S	**Sg**	**09 59 22.6**	**+2.5**
AYDN	**Tasoluk**	**0.68**	**112**	*i* P	**Pg**	**09 59 10

az=11.0

ISC 30 10:06:04.5±0.4, 36°45'N±0°03'×70°91'E±0°07, h173km±6km, n44, σ1°03/53, 7C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	2.44	219	*e*Pn		**Pn**	**10 06 46.2**	**0.0**
KBL				*e*Sn		**Sn**	**10 07 17.1**	**-1.3**
CEP	**Cherat**	2.75	162	⇓P		**Pn**	**10 06 51.0**	**+1.2**
CEP				S		**Sn**	**10 07 26.0**	**+1.1**
CHCP	**Chirah Chowk**	3.39	145	P		**Pn**	**10 06 59.0**	**+1.3**
THW	**Thamme Wali**	3.71	169	P		**Pn**	**10 07 02.3**	**+0.5**
SARP	**Sargodha**	4.75	162	P		**Pn**	**10 07 15.0**	**-0.1**
KSH	**Kashi**	5.03	51	P		**Pn**	**10 07 16.3**	**-2.3**
KSH				S		**Sn**	**10 08 08.0**	**-8.7**
KSH				smax				
	comp=N,250nm,0.7s							
KSH				smax				
	comp=E,220nm,0.7s							
AML	**Almayashu** SNR=132	6.07	20	P		**Pn**	**10 07 33.1**	**+1.0**
UCH	**Uchtor** SNR=9.7	6.40	25	P		**Sn**	**10 08 48.1**	**-1.0**
KZA	**Kyzart** SNR=8.9	6.54	30	P		**Pn**	**10 07 38.6**	**+0.2**
EKS2	**Erkin-Say** SNR=8.0	6.58	19	P		**Pn**	**10 07 40.0**	**+1.1**
EKS2	**Erkin-Say**	6.58	19	*e*Pn		**Pn**	**10 07 40.0**	**+1.0**
KK31	**Karatay Array** comp=E,1.6nm,0.3s	6.65	357	⇑P		**Pn**	**10 07 39.7**	**-0.1**
KK31				⇑S		**Sn**	**10 08 49.9**	**-5.0**
	comp=E,16nm,0.6s							
KKAR	**Karatay Array**	6.65	357	*e*Pn		**Pn**	**10 07 40.1**	**+0.3**
KKAR				*e*Sn		**Sn**	**10 08 50.0**	**-4.9**
AAK	**Ala-Archa** SNR=9.4	6.76	23	P		**Pn**	**10 07 42.4**	**+1.1**
AAK	**Ala-Archa**	6.76	23	*e*Pn		**Pn**	**10 07 41.6**	**+0.3**
AAK				*e*Sn		**Sn**	**10 08 57.5**	**-0.1**
SDNR	**Sundarnagar**	7.05	133	*e*PKP		**Pn**	**10 07 45.0**	**-0.2**
SDNR				*e*S		**Sn**	**10 09 00.0**	**-4.6**
CHMS	**Chumysh** SNR=6.4	7.17	23	P		**Pn**	**10 07 47.2**	**+0.5**
TKM2	**Tokmak 2** SNR=16	7.40	28	P		**Pn**	**10 07 50.7**	**+1.0**
TKM2	**Tokmak 2** comp=E,15nm,0.9s	7.40	28	⇑P		**Pn**	**10 07 50.3**	**+0.6**
TKM2				⇑S		**Sn**	**10 09 10.5**	**-2.3**
	comp=E,4.5nm,0.8s							
TKM2	**Tokmak 2**	7.40	28	*e*Pn		**Pn**	**10 07 50.7**	**+1.0**
PYUN	**Piuthan**	13.17	126	*e*P		**Pn**	**10 09 02.9**	**-2.1**
MK31	**Makanchi Array** comp=E,3.2nm,0.7s,baz=213,slow=8.7,SNR=21	13.37	36	⇓P		**Pn**	**10 09 07.8**	**+0.5**
MK31	**Makanchi Array**	13.37	36	*e*Pn		**Pn**	**10 09 07.7**	**+0.4**
MKAR	**Makanchi Array**	13.37	36	*e*Pn		**Pn**	**10 09 08.1**	**+0.7**
DANN	**Dangsing**	13.52	123	*e*P		**Pn**	**10 09 07.5**	**-1.9**
KOLN	**Koldanda** comp=E,15nm,0.4s	13.79	125	*e*P		**Pn**	**10 09 11.6**	**-1.3**
GKN	**Gorkha** comp=E,28nm,0.4s	14.34	122	*e*P		**Pn**	**10 09 18.8**	**-0.8**
DMN	**Daman**	14.91	122	*e*P		**Pn**	**10 09 26.7**	**0.0**
KKN	**Kakani** comp=E,38nm,0.6s	14.91	121	*e*P		**Pn**	**10 09 26.4**	**-0.4**
AB31	**Akbulak array** comp=E,0.5nm,0.2s	15.09	331	⇑P		**Pn**	**10 09 27.4**	**-1.4**
ABKAR	**Akbulak array** comp=E,2.1nm,0.3s	15.09	331	*e*P		**Pn**	**10 09 27.1**	**-1.6**
PKI	**Pulchoki** comp=E,60nm,0.6s	15.14	122	*e*P		**Pn**	**10 09 30.0**	**+0.4**
GUN	**Gumba** comp=E,16nm,0.3s	15.25	120	*e*P		**Pn**	**10 09 30.5**	**-0.5**
KURK	**Kurchatov** comp=E,2.2nm,0.8s	15.30	19	*e*P		**Pn**	**10 09 32.7**	**+1.4**
JIRN	**Jiri** comp=E,9.9nm,0.5s	15.62	120	*e*P		**Pn**	**10 09 35.5**	**0.0**
VOSK	**Vostochnaya** comp=E,1.5nm,0.8s	16.27	0	⇑P		**Pn**	**10 09 44.2**	**+1.2**
RAMN	**Ramite** comp=E,26nm,0.6s	16.35	121	*e*P		**Pn**	**10 09 44.1**	**-0.2**
BVA0	**Borovoye Array** comp=E,0.5nm,1.0s,baz=154,slow=13,SNR=6.6	16.57	359	P		**Pn**	**10 09 47.5**	**+0.8**
AKTO	**Aktyubinsk** comp=E,0.7nm,0.8s	16.79	330	⇑P		**Pn**	**10 09 49.0**	**-0.3**
AKTO	**Aktyubinsk** comp=E,3.3nm,0.6s,baz=141,slow=11,SNR=19	16.79	330	PKhKP		**Pn**	**10 09 49.3**	**0.0**
TAPN	**Taplejung**	16.89	118	*e*P		**Pn**	**10 09 51.1**	**+0.4**
ODAN	**Odare**	16.96	120	*e*P		**Pn**	**10 09 53.5**	**+1.9**
ZAA0	**Zalesovo Array**	19.98	25	*e*P		**P**	**10 10 23.7**	**+0.4**
MDJ	**Mudanjiang**	44.49	61	P		**P**	**10 13 57.5**	**-0.9**
MDJ				pP		pP	10 14 34.5	-1.8
MDJ				PcS		PcS	10 19 32.0	-0.1
MDJ				S		**S**	**10 20 21.8**	**+1.6**
MDJ				sS		sS	10 21 24.5	-2.0

*CSEM **30** 11:23:49.8±0.6, 37°.70N×19°.73E, h2km, ML2.7/1, Error ellipse: s-maj=11.2km s-min=6.6km az=65.0*
*ATH **30** 11:23:49.2, 37°.55N×19°.83E, h9km±9km, MD3.5/5*
*THE **30** 11:23:50.6, 37°.77N×19°.71E, h0km±8km, ML2.7/1, Error ellipse: s-maj=8.8km s-min=2.7km az=250.0*

ISC 30 11:23:49.1±1.8, 37°.68N±0°.07×19°.68E±0°.08, h1km±10km, n48, σ1°03/56, 2D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	0.87	55	*e*PB		**Pg**	**11 24 04.4**	**-1.5**
VLS				*e*SB		**Sg**	**11 24 18.5**	**+1.3**
VLS	**Valsamata**	0.87	55	P		**Pg**	**11 24 04.4**	**-1.5**
VLS	**Valsamata**	0.87	55	P		**Pg**	**11 24 04.4**	**-1.5**
VLS				*e*Sb		**Sg**	**11 24 18.5**	**+1.3**
KFL	**Anninata**	0.98	64	P		**Pg**	**11 24 06.3**	**-1.6**
KFL				S		**Sg**	**11 24 21.7**	**+1.2**
KFL	**Anninata**	0.98	64	P		**Pg**	**11 24 06.3**	**-1.6**
KFL				S		**Sg**	**11 24 21.7**	**+1.2**
LKD2	**Lefkada island**	1.35	35	P		**Pg**	**11 24 14.6**	**-0.4**
LKD2				S		**Sg**	**11 24 33.0**	**+0.5**
LKD2	**Lefkada island**	1.35	35	P		**Pg**	**11 24 14.6**	**-0.4**
LKD2				S		**Sg**	**11 24 33.0**	**+0.5**
RLS	**Riolos of Patr**	1.46	75	⇓*i*PB		**Pb**	**11 24 15.8**	**-1.4**
RLS				*e*SB		**Sb**	**11 24 34.8**	**-1.5**
RLS	**Riolos of Patr**	1.46	75	⇓*i*Pb		**Pb**	**11 24 15.8**	**-1.4**
RLS				*e*Sb		**Sb**	**11 24 34.8**	**-1.5**
RGA	**Parga**	1.72	18	P		**Pn**	**11 24 19.9**	**-0.4**
RGA	**Parga**	1.72	18	P		**Pn**	**11 24 19.9**	**-0.4**
PYL	**PYLOS**	1.82	115	P		**Pn**	**11 24 22.1**	**+0.5**
PYL	**PYLOS**	1.82	115	P		**Pn**	**11 24 22.1**	**+0.5**
DSL	**Palaion Diasel**	1.83	37	P		**Pn**	**11 24 21.4**	**-0.3**
DSL	**Palaion Diasel**	1.83	37	P		**Pn**	**11 24 21.4**	**-0.3**
ITM	**Ithomi**	1.86	105	*e*Pn		**Pn**	**11 24 22.0**	**-0.1**
ITM	**Ithomi**	1.86	105	*e*Pn		**Pn**	**11 24 22.0**	**-0.1**
LAKA	**Lakka**	1.90	72	P		**Pn**	**11 24 23.0**	**+0.3**
LAKA	**Lakka**	1.90	72	P		**Pn**	**11 24 23.0**	**+0.3**
IGT	**Igoumenitsa**	1.92	15	P		**Pn**	**11 24 21.7**	**-1.3**
IGT	**Igoumenitsa**	1.92	15	P		**Pn**	**11 24 21.7**	**-1.3**
KEK	**Kerkira**	2.03	3	*e*PG		**Pg**	**11 24 28.6**	**+0.5**
KEK	**Kerkira**	2.03	3	*e*Pg		**Pg**	**11 24 28.6**	**+0.5**
KALE	**Kalithea**	2.07	69	P		**Pn**	**11 24 25.3**	**+0.3**
KALE	**Kalithea**	2.07	69	P		**Pn**	**11 24 25.3**	**+0.3**
EVR	**Evrytania**	2.08	53	*e*PB		**Pb**	**11 24 25.1**	**-2.6**
EVR	**Evrytania**	2.08	53	P		**Pn**	**11 24 26.5**	**+1.3**
EVR	**Evrytania**	2.08	53	*e*Pb		**Pb**	**11 24 25.1**	**-2.6**
EVR	**Evrytania**	2.08	53	P		**Pn**	**11 24 26.5**	**+1.3**
GUR	**Goura**	2.12	82	*e*PN		**Pn**	**11 24 25.7**	**-0.1**
GUR	**Goura**	2.12	82	P		**Pn**	**11 24 26.7**	**+0.9**
GUR	**Goura**	2.12	82	*e*Pn		**Pn**	**11 24 25.7**	**-0.1**
GUR	**Goura**	2.12	82	P		**Pn**	**11 24 26.7**	**+0.9**
JAN	**Janina**	2.17	25	*e*PG		**Pg**	**11 24 31.7**	**+0.9**
JAN	**Janina**	2.17	25	*e*Pg		**Pg**	**11 24 31.7**	**+0.9**
DSF	**Desfina**	2.36	71	P		**Pn**	**11 24 28.9**	**-0.2**
DSF	**Desfina**	2.36	71	P		**Pn**	**11 24 28.9**	**-0.2**
AGG	**Agios Georgios**	2.48	56	*e*PN		**Pn**	**11 24 31.5**	**+0.8**
AGG	**Agios Georgios**	2.48	56	*e*Pn		**Pn**	**11 24 31.5**	**+0.8**
THL	**Klokotos Trika**	2.62	43	*e*PB		**Pn**	**11 24 33.3**	**+0.6**
THL	**Klokotos Trika**	2.62	43	P		**Pn**	**11 24 33.3**	**+0.6**
THL	**Klokotos Trika**	2.62	43	P		**Pn**	**11 24 33.3**	**+0.6**
LTK	**Loutraki**	2.62	82	*e*PN		**Pn**	**11 24 33.0**	**+0.3**
LTK	**Loutraki**	2.62	82	*e*Pn		**Pn**	**11 24 33.0**	**+0.3**
VLI	**Veliai**	2.77	109	*e*PN		**Pn**	**11 24 34.2**	**-0.5**
VLI	**Veliai**	2.77	109	*e*Pn		**Pn**	**11 24 34.2**	**-0.5**
LKR	**Lokris**	2.79	69	*e*PB		**Pb**	**11 24 34.3**	**-5.5**
KYTH	**Kithira**	3.03	116	P		**Pn**	**11 24 40.5**	**+2.3**

GUC 30 11:34:06.9±1.0, 41°.26S×73°.28W, h53km±8km, ML4.1,

2C-2D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMCH	**Puerto Montt**	0.37	128	⇑*i*P		Pn	11 34 17.4	+0.4
PMCH				*i* S		Sn	11 34 24.7	+0.6
PMCH				AML		AML	11 34 25.6	
	comp=N,23μm,0.5s							
OSCH	**Osorno**	0.69	10	*e*P		Pn	11 34 20.8	+0.1
OSCH				*i* S		Sn	11 34 31.1	+0.4
OSCH				AML		AML	11 34 39.3	
	comp=E,11μm,0.3s							
PUYE	**Entre Lagos**	0.77	42	⇑*i*P		Pn	11 34 22.6	+0.9
PUYE				*i* S		Sn	11 34 33.5	+1.1
PUYE				AML		AML	11 34 34.3	
	comp=E,20μm,0.2s							
HOCH	**HornopirØn**	0.92	135	⇓*i*P		Pn	11 34 24.1	+0.5
HOCH				*i* S		Sn	11 34 36.9	+1.0
HOCH				AML		AML	11 34 37.7	
	comp=E,15μm,0.4s							
ILCA	**Isla Las Cabra**	0.98	145	⇓*i*P		Pn	11 34 24.7	+0.4
ILCA				*i* S		Sn	11 34 37.6	+0.4
ILCA				AML		AML	11 34 38.5	
	comp=N,7μm,0.3s							

*ISCJB **30** 11:58:19.9±1.0, 37°.95N±0°.03×26°.76E±0°.08, h1km±10km, Error ellipse: s-maj=10.5km s-min=4.9km az=165.0*
*CSEM **30** 11:58:19.9±0.3, 37°.94N×26°.72E, h5km, MD2.5, Error ellipse: s-maj=7.6km s-min=3.5km az=74.0*
*ISK **30** 11:58:19.9, 37°.95N×26°.83E, h5km, MD2.7*
*DDA **30** 11:58:20.3, 37°.99N×26°.81E, h10km±1km, Md2.5*

ISC 30 11:58:20.4±1.0, 37°.96N±0°.03×26°.75E±0°.08, h6km±8km, n14, σ0°60/26, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	0.42	343	*i* P		**Pg**	**11 58 28.0**	**-0.6**
URLA				*i* S		**Sg**	**11 58 34.7**	**+0.7**
URLA	**Izmir**	0.42	343	*i* P		**Pg**	**11 58 28.0**	**-0.6**
URLA				*i* S		**Sg**	**11 58 34.7**	**+0.6**
GCAM	**G?zelcaml?**	0.46	124	*i* P		**Pg**	**11 58 29.3**	**+0.1**
GCAM				*i* S		**Sg**	**11 58 35.8**	**+0.6**
GCAM	**G?zelcaml?**	0.46	124	*i* P		**Pg**	**11 58 29.3**	**+0.1**
GCAM				*i* S		**Sg**	**11 58 35.8**	**+0.6**
BLCB	**Balcova**	0.48	28	*e*PG		**Pg**	**11 58 29.7**	**0.0**
BLCB				*e*SG		**Sg**	**11 58 35.9**	**-0.2**
BLCB	**Balcova**	0.48	28	*e*Pg		**Pg**	**11 58 29.7**	**-0.1**
BLCB				*e*Sg		**Sg**	**11 58 35.9**	**-0.2**
IZM	**Izmir**	0.60	42	*e*PG		**Pg**	**11 58 31.7**	**-0.2**
IZM				*e*SG		**Sg**	**11 58 39.6**	**0.0**
IZM	**Izmir**	0.60	42	*e*Pg		**Pg**	**11 58 31.7**	**-0.2**
IZM				*e*Sg		**Sg**	**11 58 39.6**	**-0.1**
BODT	**Bodrum**	1.00	153	*e*PG		**Pg**	**11 58 38.3**	**-1.2**
BODT				*e*SG		**Sg**	**11 58 52.7**	**+0.3**
BODT	**Bodrum**	1.00	153	*e*Pg		**Pg**	**11 58 38.3**	**-1.2**
BODT				*e*Sg		**Sg**	**11 58 52.7**	**+0.3**
MANT	**Manisa**	1.52	69	*i* P		**Pn**	**11 58 49.1**	**+1.0**
MANT				*i* S		**Sn**	**11 59 07.3**	**-0.9**
MANT	**Manisa**	1.52	69	*i* P		**Pn**	**11 58 49.1**	**+1.0**
MANT				*i* S		**Sn**	**11 59 07.3**	**-0.9**
KULA	**Kula-Manisa**	1.60	69	*e*PN		**Pn**	**11 58 49.8**	**+0.5**
KULA	**Kula-Manisa**	1.60	69	*e*Pn		**Pn**	**11 58 49.8**	**+0.5**

*ATH **30** 11:59:35.8, 36°.61N×26°.67E, h167km±10km*
*ISCJB **30** 11:59:38.6±0.9, 36°.59N±0°.05×26°.63E±0°.05, h133km±8km, Error ellipse: s-maj=8.9km s-min=5.6km az=162.0*
*ISK **30** 11:59:38.9, 36°.63N×26°.70E, h133km, ML2.0*
*CSEM **30** 11:59:39.2±0.5, 36°.51N×26°.64E, h133km±6km, ML2.0, Error ellipse: s-maj=8.2km s-min=4.5km az=169.0*
*THE **30** 11:59:40.3, 36°.49N×26°.61E, h173km±5km, ML3.2/2, Error ellipse: s-maj=5.9km s-min=1.3km az=155.0*

ISC 30 11:59:39.1±1.0, 36°.60N±0°.05×26°.63E±0°.04, h133km±9km, n47, σ0°87/64, 4C-2D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	0.71	50	*e*PG		**Pn**	**11 59 59.2**	**-0.5**
BODT				*e*SG		**Sn**	**12 00 15.3**	**-0.1**
BODT	**Bodrum**	0.71	50	*e*Pg		**Pn**	**11 59 59.3**	**-0.5**
DAT	**Datca**	0.77	80	*e*PG		**Pn**	**11 59 59.9**	**-0.3**
DAT				*e*SG		**Sn**	**12 00 15.9**	**-0.4**
DAT	**Datca**	0.77	80	*e*Pg		**Pn**	**11 59 59.9**	**-0.3**
THR1	**Thera Island**	0.97	257	P		**Pn**	**12 00 03.0**	**+1.1**
THR1	**Thera Island**	0.97	257	P		**Pn**	**12 00 03.0**	**+1.1**
THR2	**Thira island,**	0.98	261	P		**Pn**	**12 00 03.2**	**+1.2**
THR2	**Thira island,**	0.98	261	P		**Pn**	**12 00 03.2**	**+1.2**
APE	**Apeiranthos**	1.00	298	*e*PG		**Pn**	**12 00 03.2**	**+1.1**
APE				*e*SG		**Sn**	**12 00 19.9**	**+0.2**
APE	**Apeiranthos**	1.00	298	⇑*i*P		**Pn**	**12 00 03.4**	**+1.3**
APE	**Apeiranthos**	1.00	298	P		**Pn**	**12 00 03.3**	**+1.2**
APE	**Apeiranthos**	1.00	298	*e*Pg		**Pn**	**12 00 03.2**	**+1.1**
APE	**Apeiranthos**	1.00	298	⇑*i*P		**Pn**	**12 00 03.4**	**+1.3**
APE				*e*Sg		**Sn**	**12 00 19.9**	**+0.2**
THR3	**Thira Island,**	1.01	259	P		**Pn**	**12 00 03.4**	**+1.1**
THR3	**Thira Island,**	1.01	259	P		**Pn**	**12 00 03.4**	**+1.1**
THR6	**Thira Island,**	1.02	256	P		**Pn**	**12 00 03.5**	**+1.1**
THR6	**Thira Island,**	1.02	256	P		**Pn**	**12 00 03.5**	**+1.1**
THR5	**Thira Island,**	1.05	260	P		**Pn**	**12 00 04.1**	**+1.5**
THR5	**Thira Island,**	1.05	260	P		**Pn**	**12 00 04.1**	**+1.5**
SMG	**Samos**	1.12	8	⇓*i*P		**Pn**	**12 00 03.6**	**+0.3**
SMG	**Samos**	1.12	8	⇓*i*P		**Pn**	**12 00 03.6**	**+0.3**
KARP	**Karpathos**	1.14	158	*e*P		**Pn**	**12 00 03.6**	**+0.1**
KARP	**Karpathos**	1.14	158	P		**Pn**	**12 00 03.5**	**0.0**
KARP				S		**Sn**	**12 00 22.1**	**0.0**
KARP	**Karpathos**	1.14	158	P		**Pn**	**12 00 03.5**	**0.0**
KARP				S		**Sn**	**12 00 22.1**	**0.0**
MLSB	**Milas**	1.15	53	*e*PN		**Pn**	**12 00 03.4**	**-0.2**
MLSB	**Milas**	1.15	53	*e*Pn		**Pn**	**12 00 03.4**	**-0.2**
ARG	**Arkhangelos**	1.27	107	*e*P		**Pn**	**12 00 05.3**	**+0.5**
ARG	**Arkhangelos**	1.27	107	P		**Pn**	**12 00 05.1**	**+0.3**
ARG	**Arkhangelos**	1.27	107	P		**Pn**	**12 00 05.1**	**+0.3**
YER	**Yerkesik**	1.43	68	*e*PN		**Pn**	**12 00 07.0**	**+0.5**
YER				*e*SN		**Sn**	**12 00 25.5**	**-1.9**
YER	**Yerkesik**	1.43	68	*e*Pn		**Pn**	**12 00 07.0**	**+0.5**
NPS	**Neapolis**	1.57	212	*e*P		**Pn**	**12 00 08.2**	**+0.1**
NPS	**Neapolis**	1.57	212	P		**Pn**	**12 00 08.2**	**+0.1**
NPS				S		**Sn**	**12 00 30.3**	**0.0**
NPS	**Neapolis**	1.57	212	P		**Pn**	**12 00 08.2**	**+0.1**
NPS				S		**Sn**	**12 00 30.3**	**0.0**
IDI	**Anoyia**	1.93	228	⇑*i*P		**Pn**	**12 00 12.3**	**0.0**
IDI	**Anoyia**	1.93	228	P		**Pn**	**12 00 12.2**	**-0.1**
IDI				S		**Sn**	**12 00 36.9**	**-0.8**
IDI	**Anoyia**	1.93	228	⇑*i*P		**Pn**	**12 00 12.3**	**0.0**
IDI				S		**Sn**	**12 00 36.9**	**-0.8**
VAM	**Vamos**	2.31	240	P		**Pn**	**12 00 16.8**	**-0.1**
VAM				S		**Sn**	**12 00 44.8**	**-1.1**
VAM	**Vamos**	2.31	240	P		**Pn**	**12 00 16.8**	**-0.1**
VAM				S		**Sn**	**12 00 44.8**	**-1.1**
KSL	**Kastellorizon**	2.42	100	*e*P		**Pn**	**12 00 17.8**	**-0.6**
KSL	**Kastellorizon**	2.42	100	*e*P		**Pn**	**12 00 17.8**	**-0.6**
KYTH	**Kithira**	2.92	265	P		**Pn**	**12 00 25.1**	**+0.4**
KYTH	**Kithira**	2.92	265	P		**Pn**	**12 00 25.1**	**+0.4**
VLI	**Veliai**	2.97	273	P		**Pn**	**12 00 26.0**	**+0.6**
VLI				S		**Sn**	**12 00 59.6**	**-1.5**
VLI	**Veliai**	2.97	273	P		**Pn**	**12 00 26.0**	**+0.6**
VLI				S		**Sn**	**12 00 59.6**	**-1.5**
PYL	**PYLOS**	3.94	276	P		**Pn**	**12 00 37.3**	**-0.7**
PYL				S		**Sn**	**12 01 21.4**	**-2.3**
PYL	**PYLOS**	3.94	276	P		**Pn**	**12 00 37.3**	**-0.7**
PYL				S		**Sn**	**12 01 21.4**	**-2.3**

*DJA **30** 12:04:51, 19°.42N×145°.67E, h200km, mb5.1/19*
*BJI **30** 12:04:52.5, 19°.20N×145°.40E, h205km, mB4.9/25, mb4.5/34*
*ISCJB **30** 12:04:53.2±0.8, 19°.20N±0°.03×145°.34E±0°.03, h204km±7km, mb4.8/198, Error ellipse: s-maj=4.6km s-min=3.9km az=32.3*
*MOS **30** 12:04:53.1±0.9, 19°.22N×145°.15E, h208km, mb5.1/44, Error ellipse: s-maj=8.8km s-min=5.3km az=89.8*
*IDC **30** 12:04:54.6±0.6, 19°.23N×145°.40E, h208km±5km, mb4.5/24, mb1 4.6/27, mb1mx4.6/28, mbtmp4.5/27, Error ellipse: s-maj=11.7km s-min=5.9km az=95.0*
*NEIC **30** 12:04:55.0±0.1, 19°.19N×145°.34E, mb5.0/140, Error ellipse: s-maj=3.8km s-min=3.2km az=128.0*
*GCMT **30** 12:04:56.4±0.4, 19°.30N×145°.58E, h183km±3km, MW5.0, Moment Tensor Solution. s16,c19; s70,c99; Moment tensor: Scale 10^{16}Nm; M_{rr}=1.64±.14; $M_{\theta\theta}$2.88±.12; $M_{\phi\phi}$-1.25±.14; $M_{r\theta}$-1.66±.12; $M_{r\phi}$-0.17±.15; $M_{\theta\phi}$2.02±.12; Best double couple: $M_0$3.60000×10^{16} NP1:ϕ_s239.00000°, δ37.00000°, λ-152.00000°. NP2:ϕ_s126.00000°, δ74.00000°, λ-56.00000°. Principal axes: T 3.5700, Plg21.0000°, Azm191.0000°; N 0.0900, Plg32.0000°, Azm296.0000°; P -3.6800, Plg50.0000°, Azm74.0000°; Data Used: IU II IC G CN.*

ISC 30 12:04:55.1±0.8, 19°.22N±0°.03×145°.34E±0°.03, h207km±7km, h210km±1.6km; pP-P, n434, σ0°94/433, mb4.8/198, 3C-8D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	5.62	185	P		**Pn**	**12 06 16.3**	**-1.3**
	33nm,0.3s,baz=338,slow=0.2,SNR=26							
GUMO	**Guam**	5.62	185	*e*Pn		**Pn**	**12 06 17.0**	**-0.6**
GUMO	**Guam**	5.62	185	*e*P		**Pn**	**12 06 17.0**	**-0.6**
GUMO	**Guam**	5.62	185	P		**Pn**	**12 06 16.6**	**-1.0**
	5.7nm2μm,1.2s							
CBIJ	**Chichi jima**	8.36	340	P		**Pn**	**12 06 51.0**	**-1.9**
	99nm,0.3s,baz=105,slow=23,SNR=46							
CBIJ				S		**Sn**	**12 08 21.1**	**-6.0**
	85nm,0.3s,baz=271,slow=23,SNR=8.2							
CBIJ	**Chichi jima**	8.36	340	P		**Pn**	**12 06 51.0**	**-1.9**
CBIJ				S		**Sn**	**12 08 21.1**	**-6.0**
MJAR	**Matsushiro Arr**	18.36	342	P		**P**	**12 08 53.3**	**-0.9**
	7.4nm,0.3s,baz=158,slow=9.4,SNR=60							
MJAR				S		**S**	**12 12 11.7**	**-1.4**
	0.7nm,0.3s,baz=294,slow=29,SNR=6.8							
MJAR	**Matsushiro Arr**	18.36	342	P		**P**	**12 08 53.3**	**-0.9**
MJAR				S		**S**	**12 12 11.7**	**-1.4**
MJAR	**Matsushiro Arr**	18.36	342	P		**P**	**12 08 53.3**	**-0.9**
MJAR				S		**S**	**12 12 11.7**	**-1.3**
MAJO	**Matsushiro** 66nm,0.8s	18.36	342	*e*P		**P**	**12 08 54.0**	**-0.3**
MAJO	**Matsushiro**	18.36	342	*e*P		**P**	**12 08 54.0**	**-0.2**
MAJO				pmax	pmax			
	comp=Z,66nm,0.8s							
MAT	**Matsushiro**	18.36	342	P		**P**	**12 08 53.2**	**-1.0**
MAT				S		**S**	**12 12 11.7**	**-1.4**
JNU	**Nakatsue** comp=Z,19nm,1.2s	18.94	320	*e*P		**P**	**12 09 02.5**	**+1.9**
SMPI	**Sarmi** comp=Z,3μmcomp=Z,179nm,1.7s,mb5.3	22.06	198	P		**P**	**12 09 33.9**	**+0.5**
JAY	**Jayapura** comp=Z,123nm,1.3s,mb5.3	22.07	192	P		**P**	**12 09 32.7**	**-0.8**
NACB	**Ninganchiao** comp=Z,96nm,1.2s,mb5.2	22.59	287	*e*P		**P**	**12 09 39.1**	**+0.9**
YULB	**Yu-li** comp=Z,28nm,0.9s,mb4.8	22.77	285	*e*P		**P**	**12 09 40.9**	**+1.1**
ERM	**Erimo** comp=Z,58nm,1.0s,mb5.1	22.80	356	*e*P		**P**	**12 09 41.2**	**+1.4**
ERM	**Erimo**	22.80	356	*e*P		**P**	**12 09 41.3**	**+1.5**
ERM				pmax	pmax			
	comp=Z,58nm,1.0s,mb5.1							
YHNB	**Yeheng** comp=Z,107nm,0.8s,mb5.4	22.86	288	*e*P		**P**	**12 09 41.8**	**+1.2**
TWG	**Pinlang** comp=Z,0nm,0.6s,mb4.8	22.92	283	*e*P		**P**	**12 09 41.5**	**+0.3**
SSLB	**Suanglung** comp=Z,48nm,0.8s,mb5.1	23.12	286	*e*P		**P**	**12 09 44.4**	**+1.3**
TPUB	**Ta-pu** comp=Z,311nm,1.9s,mb5.5	23.37	284	*e*P		**P**	**12 09 45.8**	**+0.5**
KSRS	**Korea Array** comp=Z,40nm,0.8s,mb5.1,baz=145,slow=9.1,SNR=45	23.70	324	P		**P**	**12 09 48.1**	**0.0**
KSRS					ScP	ScP	12 16 43.7	-1.3
	comp=Z,4.3nm,1.0s,baz=132,slow=1.8,SNR=7.0							
KSAR	**Wonju Array Be**	23.71	324	P		**P**	**12 09 48.1**	**-0.1**
KSAR					ScP	ScP	12 16 43.7	-1.4
KSAR	**Wonju Array Be**	23.71	324	P		**P**	**12 09 48.1**	**-0.1**
WAMI	**Wamena**	23.87	197	P		**P**	**12 09 54.0**	**+4.1**
ASAJ	**Asahikawa** comp=Z,15nm,0.6s,mb4.8,baz=234,slow=22,SNR=10	24.93	355	P		**P**	**12 10 00.1**	**+1.0**
AS

HHC PcP PcP 12 13 59.0 +0.9
HHC S **S** **12 16 59.3 0.0**
HHC SS SS 12 19 37.0 -8.6
HHC pmax pmax
comp=Z,15nm,0.7s,mb4.6
HHC pmax pmax
comp=Z,190nm,5.9s
HHC LR LR
comp=N,210nm,13.5s
HHC LR LR
comp=E,270nm,14.1s
HHC LR LR
comp=Z,230nm,15.3s
GYA Guiyang 36.26 289 P **P** **12 11 40.0 +1.3**
GYA pP pP 12 12 25.5 +3.9
GYA sP sP 12 12 49.0 +3.8
GYA PP PP 12 13 10.5 +4.8
GYA PcP PcP 12 14 01.3 +2.1
GYA S **S** **12 17 04.8 +1.1**
GYA ScP ScP 12 17 26.5 +0.5
GYA PcS PcS 12 17 47.0 -0.3
GYA ScS ScS 12 21 32.0 -0.7
GYA pmax pmax
comp=Z,20nm,0.8s,mb4.7
GYA pmax pmax
comp=Z,120nm,4.8s
SBUM Sibu 36.42 247 P **P** **12 11 41.6 +1.4**
comp=Z,34nm,0.9s,mb4.9
MTSU Mount Surprise 37.13 182 *eP* **P** **12 11 45.3 -0.8**
comp=Z,34nm,0.6s,mb5.1
CTA Charters Tower 39.08 179 *eP* **P** **12 12 01.0 -1.2**
comp=Z,7.1nm,0.7s,mb4.3
CTAO Charters Tower 39.08 179 *eP* **P** **12 12 00.9 -1.4**
comp=Z,11nm,0.9s,mb4.4
CTAO Charters Tower 39.08 179 *eP* **P** **12 12 00.9 -1.3**
CTAO pmax pmax
comp=Z,11nm,0.9s,mb4.4
CTAO Charters Tower 39.08 179 P **P** **12 12 01.0 -1.2**
comp=Z,13nm,1.3s,mb4.3
CD2 Chengdu 39.21 296 P **P** **12 12 04.0 +0.6**
CD2 pP pP 12 12 49.0 +2.2
CD2 sP sP 12 13 13.0 +2.7
CD2 PP PP 12 13 42.5 +4.7
CD2 S **S** **12 17 48.0 -0.1**
CD2 sS sS 12 19 07.0 +2.1
CD2 SS SS 12 20 44.3 -5.9
CD2 pmax pmax
comp=Z,20nm,0.5s,mb4.9
CD2 pmax pmax
comp=Z,140nm,5.4s
KMI Kunming 39.76 286 P **P** **12 12 10.0 +2.0**
KMI pP pP 12 12 55.0 +3.5
KMI S **S** **12 17 56.8 +0.4**
KMI sS sS 12 19 15.5 +2.2
KMI pmax pmax
comp=Z,6.0nm,0.6s,mb4.2
KMI LR LR
comp=N,190nm,15.9s
KMI LR LR
comp=E,130nm,10.1s
KMI LR LR
comp=Z,130nm,11.5s
FX1 Attu Island--F 39.94 26 *eP* **P** **12 12 10.4 +1.4**
FX1 Attu Island--F 39.94 26 *eP* **P** **12 12 10.4 +1.4**
LZH Lanzhou 40.07 304 *eP* **P** **12 12 14.0 +3.6**
LZH pP pP 12 12 51.5 -2.5
LZH sP sP 12 13 17.5 0.0
LZH pmax pmax
comp=Z,13nm,1.0s,mb4.3
KHKI Kahang-Kahang 40.12 230 P **P** **12 12 11.1 +0.1**
comp=Z,901nmcomp=Z,90nm,1.1s,mb5.1
WRAB Tennant Creek 40.37 196 *eP* **P** **12 12 12.8 -0.1**
comp=Z,147nm,0.7s,mb5.5
WRAB *e*ScP ScP 12 17 40.8 -0.8
WRAB Tennant Creek 40.37 196 *eP* **P** **12 12 12.9 0.0**
WRAB pmax pmax
comp=Z,147nm,0.7s,mb5.5
WRAB Tennant Creek 40.37 196 P **P** **12 12 12.0 -0.9**
comp=Z,727nm,0.7s,SNR=88
WRAB Tennant Creek 40.37 196 P **P** **12 12 12.7 -0.2**
comp=Z,2µmcomp=Z,223nm,1.2s,mb5.5
WB2 Warramunga Arr 40.38 196 *eP* **P** **12 12 12.8 -0.3**
WB2 *e*ScP ScP 12 17 41.1 -0.6
WRA Warramunga Arr 40.38 196 P **P** **12 12 12.2 -0.9**
comp=Z,59nm,0.7s,mb5.1,baz=16,slow=8.9,SNR=187
WRA PcP PcP 12 14 11.4 -0.7
comp=Z,5.0nm,0.6s,baz=14,slow=3.2,SNR=5.2
WRA ScP ScP 12 17 40.5 -1.2
comp=Z,3.6nm,0.7s,baz=16,slow=4.4,SNR=11
WRA S **S** **12 18 04.3 -1.2**
comp=Z,6.0nm,1.0s,baz=15,slow=15,SNR=5.4
WRA Warramunga Arr 40.38 196 P **P** **12 12 12.2 -0.9**
WRA PcP PcP 12 14 11.4 -0.7
WRA ScP ScP 12 17 40.5 -1.2
WRA S **S** **12 18 04.3 -1.2**
WRA Warramunga Arr 40.38 196 P **P** **12 12 12.2 -0.8**
WRA 12 14 11.4
WRA S **S** **12 18 04.4 -1.2**
FITZ Fitzroy Crossi 41.83 209 P **P** **12 12 25.0 +0.2**
comp=Z,50nm,0.8s,mb5.0,baz=32,slow=8.6,SNR=84
FITZ S **S** **12 18 29.6 +2.7**
comp=Z,6.4nm,0.9s,baz=323,slow=20,SNR=8.2
FITZ Fitzroy Crossi 41.83 209 *eP* **P** **12 12 24.8 -0.1**
comp=Z,46nm,0.8s,mb5.0
ULN Ulaanbaatar 42.15 322 *eP* **P** **12 12 27.4 +0.3**
comp=Z,8.7nm,1.1s,mb4.1
ULN Ulaanbaatar 42.15 322 *eP* **P** **12 12 27.4 +0.3**
SONM Songino Array 42.52 321 P **P** **12 12 30.2 +0.1**
comp=Z,3.5nm,0.4s,mb4.1,baz=124,slow=6.4,SNR=26
SONM pP pP 12 13 14.0 -0.2
comp=Z,3.2nm,0.8s,baz=123,slow=8.4,SNR=2.1
SONM PcP PcP 12 14 19.5 +0.8
comp=Z,1.6nm,0.5s,baz=141,slow=2.6,SNR=4.2
SONM ScP ScP 12 17 47.3 -2.5
comp=Z,1.8nm,1.0s,baz=128,slow=2.4,SNR=6.6
SONM Songino Array 42.52 321 P **P** **12 12 30.2 +0.1**
SONM pP pP 12 13 14.0 -0.2
SONM PcP PcP 12 14 19.5 +0.8
SONM ScP ScP 12 17 47.3 -2.5
SONM Songino Array 42.52 321 P **P** **12 12 30.2 +0.1**
SONM *PP pP 12 13 14.0 -0.2
SONM 12 14 19.5
SJI Sawahan 42.56 234 P **P** **12 12 31.5 +0.6**
comp=Z,55nm,0.8s,mb5.0
PWJI Pagerwojo 42.72 234 P **P** **12 12 31.9 -0.2**
CHTO Chiang Mai 43.76 277 *eP* **P** **12 12 41.5 +1.0**
comp=Z,6.3nm,1.0s,mb3.9
CHTO Chiang Mai 43.76 277 *eP* **P** **12 12 41.5 +1.1**
CM31 Chiang Mai Arr 43.81 277 *eP* **P** **12 12 42.6 +1.7**
comp=Z,10nm,0.7s,mb4.3
CMAR Chiang Mai Arr 43.81 277 P **P** **12 12 42.6 +1.8**
comp=Z,18nm,0.9s,mb4.4,baz=68,slow=6.6,SNR=72
CMAR Chiang Mai Arr 43.81 277 P **P** **12 12 42.6 +1.8**
CMAR Chiang Mai Arr 43.81 277 P **P** **12 12 42.7 +1.8**
SEY Seymchan 43.95 5 *i*P **P** **12 12 41.6 +0.4**
GTA Gaotai 43.96 307 *eP* **P** **12 12 44.3 +2.6**
GTA pP pP 12 13 28.5 +2.4
GTA sP sP 12 13 51.3 +1.9
GTA S **S** **12 18 59.3 +1.6**
GTA sS sS 12 20 17.0 +1.3
GTA SS SS 12 22 13.5 -7.9
GTA pmax pmax
comp=Z,4.0nm,1.3s
GTA pmax pmax
comp=Z,120nm,5.2s
GTA LR LR
comp=N,200nm,9.5s
GTA LR LR
comp=E,58nm,8.5s
GTA LR LR
comp=Z,81nm,8.1s
AS31 Alice Springs 44.06 195 *eP* **P** **12 12 42.4 -0.2**
ASAR Alice Springs 44.06 195 P **P** **12 12 42.3 -0.3**
comp=Z,18nm,0.7s,mb4.5,baz=17,slow=8.4,SNR=251
ASAR PcP PcP 12 14 22.9 -1.4
comp=Z,3.1nm,0.7s,baz=28,slow=4.7,SNR=4.6
ASAR ScP ScP 12 17 55.0 -1.3
comp=Z,2.5nm,1.0s,baz=22,slow=4.8,SNR=6.7
ASAR S **S** **12 18 59.5 +0.2**
comp=Z,1.9nm,0.8s,baz=17,slow=22,SNR=8.3
ASAR Alice Springs 44.06 195 P **P** **12 12 42.3 -0.3**
ASAR PcP PcP 12 14 22.9 -1.4
ASAR ScP ScP 12 17 55.0 -1.3
ASAR S **S** **12 18 59.5 +0.2**
ASAR Alice Springs 44.06 195 P **P** **12 12 42.3 -0.3**

ASAR S **S** 12 14 22.9
ASAR S **S** **12 18 59.5 +0.2**
YAK Yakutsk 44.15 349 *eP* **P** **12 12 42.1 -0.8**
comp=Z,58nm,0.7s,mb5.0
YAK Yakutsk 44.15 349 *eP* **P** **12 12 41.1 -1.7**
YAK *e* 12 14 25.5
YAK *eS* **S** **12 18 58.9 -0.8**
YAK pmax pmax
comp=Z,36nm,0.8s,mb4.8
YAK pmax pmax
comp=E,30nm,0.9s
YAK pmax pmax
comp=N,15nm,1.1s
YAK smax
comp=E,159nm,4.2s
YAK smax
comp=N,400nm,4.4s
KGM Kluang 44.52 253 P **P** **12 12 48.0 +1.5**
BOD Bodaibo 44.90 337 *eP* **P** **12 12 46.8 -2.0**
ZAK Zakamensk 45.53 323 *eP* **P** **12 12 53.4 -0.5**
ZAK *e* pP 12 13 36.2 -2.3
QLP Quilpie 45.54 181 ǁ *i*P **P** **12 12 52.0 -2.3**
IPM Ipoh 45.61 257 P **P** **12 12 56.9 +1.8**
KULM Kulim 45.65 258 P **P** **12 12 57.4 +1.9**
KULM Kulim 45.65 258 *eP* **P** **12 12 57.4 +2.0**
comp=N,12nm,0.7s,mb4.3
DZM Mont Dzumac 45.94 152 *eP* **P** **12 12 56.0 -1.4**
MBWA Marble Bar 47.31 213 *eP* **P** **12 13 08.1 0.0**
MBWA Marble Bar 47.31 213 *eP* **P** **12 13 08.1 0.0**
comp=N,22nm,0.9s,mb4.5
MSVF Nonsavu 48.80 137 *eP* **P** **12 13 19.5 -0.1**
comp=N,18nm,0.9s,mb4.4
MSVF Nonsavu 48.80 137 *eP* **P** **12 13 19.5 -0.1**
MSVF pmax pmax
comp=Z,18nm,0.9s,mb4.4
ARMA Armidale 49.72 173 *eP* **P** **12 13 25.1 -1.2**
ARMA Armidale 49.72 173 *eP* **P** **12 13 25.3 -1.1**
comp=Z,12nm,1.1s,mb4.2
LSA Lhasa 50.03 293 P **P** **12 13 30.0 +1.2**
UNV Unalaska Valle 50.43 35 *eP* **P** **12 13 31.0 -0.4**
comp=Z,94nm,0.9s,mb5.1
BILL Bilibino 50.57 10 *eP* **P** **12 13 32.3 +0.1**
comp=Z,67nm,0.9s,mb5.1
BILL Bilibino 50.57 10κ *i*P **P** **12 13 32.5 +0.3**
BILL *PP pP 12 14 17.1 -0.6
BILL *e* 12 14 45.4
BILL pmax pmax
comp=Z,89nm,1.1s,mb5.1
STKA Stephens Creek 50.93 184 P **P** **12 13 34.1 -1.2**
comp=Z,8.8nm,0.7s,mb4.3,baz=347,slow=7.1,SNR=17
STKA Stephens Creek 50.93 184 *eP* **P** **12 13 34.3 -1.1**
comp=Z,8.3nm,0.9s,mb4.2
STKA Stephens Creek 50.93 184 *eP* **P** **12 13 34.5 -0.9**
comp=Z,2.8nm,0.9s,mb3.7
STKA Stephens Creek 50.93 184 *eP* **P** **12 13 34.5 -0.9**
AKUT Akutan 50.94 35 *eP* **P** **12 13 35.1 -0.1**
comp=Z,116nm,0.5s,mb5.6
FORT Forrest 52.41 199 *eP* **P** **12 13 45.5 -0.9**
comp=Z,87nm,1.0s,mb5.1
MEEK Meekatharra 52.44 211 *eP* **P** **12 13 46.2 -0.5**
comp=Z,51nm,0.8s,mb5.0
FALS False Pass 52.48 35 *eP* **P** **12 13 45.8 -0.8**
comp=Z,200nm,0.6s,mb5.7
KIP Kipapa 52.93 77 ǁ *i*P **P** **12 13 50.6 +0.2**
GAMB Gambell 53.10 22 *eP* **P** **12 13 51.3 +0.4**
comp=Z,28nm,0.9s,mb4.7
YNG Young 53.30 177 *eP* **P** **12 13 52.2 -0.6**
comp=Z,15nm,0.7s,mb4.5
WMQ Urumqi 53.71 311 P **P** **12 13 57.0 +1.3**
WMQ pP pP 12 14 43.0 +1.2
WMQ sP sP 12 15 05.5 +0.8
WMQ PP PP 12 16 02.0 +3.2
WMQ pmax pmax
comp=Z,7.0nm,0.7s,mb4.3
WMQ pmax pmax
comp=Z,170nm,4.6s
WMQ LR LR
comp=N,56nm,24.3s
WMQ LR LR
comp=E,47nm,16.4s
WMQ LR LR
comp=Z,48nm,19.8s
SDPT Sand Point 54.24 35 *eP* **P** **12 13 59.1 -0.2**
comp=Z,230nm,0.7s,mb5.8
TNA Tin City 55.46 22 *eP* **P** **12 14 08.1 +0.2**
comp=Z,33nm,0.9s,mb4.9
POHA Pohakuloa 55.49 79 *eP* **P** **12 14 10.0 +1.1**
comp=Z,140nm,0.8s,mb5.5
KHU Kahuku 55.50 79 *eP* **P** **12 14 09.5 +0.5**
KHU Kahuku 55.50 79 *eP* **P** **12 14 09.5 +0.5**
CHGN Chignik 55.65 34 *eP* **P** **12 14 08.5 -0.9**
MORW Morawa 55.72 211 *eP* **P** **12 14 09.8 -0.5**
comp=Z,86nm,0.7s,mb5.4
KLBR Kellerberrin 57.03 208 *eP* **P** **12 14 19.1 -0.4**
comp=Z,14nm,0.9s,mb4.6
ZAA0 Zalesovo Array 57.39 322 *eP* **P** **12 14 20.7 -1.1**
ZALV Zalesovo Beam 57.39 322 P **P** **12 14 20.7 -1.1**
comp=Z,4.5nm,0.4s,mb4.4,baz=105,slow=8.2,SNR=21
ZALV pP pP 12 15 07.8 -0.6
comp=Z,2.8nm,0.4s,baz=102,slow=7.9,SNR=2.2
ZALV Zalesovo Beam 57.39 322 P **P** **12 14 20.7 -1.1**
ZALV pP pP 12 15 07.8 -0.6
ZALV Zalesovo Beam 57.39 322 P **P** **12 14 20.7 -1.1**
ZALV *PP pP 12 15 07.9 -0.6
MK31 Makanchi Array 57.85 314 *eP* **P** **12 14 24.8 -0.3**
MK31 *ePcP PcP 12 15 15.5 +0.3
MK31 Makanchi Array 57.85 314 *i* P **P** **12 14 24.9 -0.2**
MKAR Makanchi Array 57.85 314 P **P** **12 14 25.1 0.0**
comp=Z,2.5nm,0.5s,mb4.1,baz=87,slow=8.6,SNR=39
MKAR pP pP 12 15 12.7 +0.8
comp=Z,4.2nm,0.7s,baz=101,slow=6.6,SNR=3.8
MKAR Makanchi Array 57.85 314 *eP* **P** **12 14 25.2 +0.1**
MKAR pP pP 12 15 12.7 +0.8
MKAR Makanchi Array 57.85 314 *eP* **P** **12 14 25.2 +0.1**
MKAR *PP pP 12 15 12.7 +0.8
NWAO Narrogin (SRO) 58.40 208 P **P** **12 14 29.1 +0.1**
comp=Z,7.4nm,0.6s,mb4.5,baz=70,slow=6.6,SNR=8.0
NWAO Narrogin (SRO) 58.40 208 *eP* **P** **12 14 29.1 +0.2**
comp=Z,6.4nm,0.6s,mb4.4
NWAO Narrogin (SRO) 58.40 208 *eP* **P** **12 14 29.2 +0.2**
NWAO pmax pmax
comp=Z,6.0nm,0.6s
NVS Novosibirsk 58.49 323 *eP* **P** **12 14 26.6 -2.7**
NVS pmax pmax
comp=Z,28nm,2.0s,mb4.5
OHAK Old Harbor 58.61 34 *eP* **P** **12 14 30.4 +0.3**
comp=Z,73nm,0.8s,mb5.4
TTA Tatalina 58.94 27 *eP* **P** **12 14 32.7 +0.4**
TTA Tatalina 58.94 27 *eP* **P** **12 14 32.7 +0.4**
KDAK Kodiak Island 59.11 33 P **P** **12 14 33.7 +0.1**
comp=Z,43nm,0.6s,mb5.3,baz=264,slow=2.8,SNR=50
KDAK Kodiak Island 59.11 33 *eP* **P** **12 14 33.8 +0.2**
comp=Z,59nm,0.8s,mb5.3
KDAK Kodiak Island 59.11 33 *i* P **P** **12 14 33.3 -0.3**
KDAK Kodiak Island 59.11 33 P **P** **12 14 33.0 -0.6**
comp=Z,440nm,0.9s,SNR=28
RSO Redoubt South 59.69 30 *eP* **P** **12 14 37.4 0.0**
SPU Mount Spurr 60.21 30 *eP* **P** **12 14 40.9 -0.1**
PPLA Purkeypile 60.60 28 *eP* **P** **12 14 44.3 +0.6**
comp=Z,196nm,1.9s,mb5.4
KURK Kurchatov 60.66 318 *eP* **P** **12 14 43.3 -0.9**
comp=Z,3.7nm,0.4s,mb4.4
KURK Kurchatov 60.66 318 ǁ *i*P **P** **12 14 43.1 -1.1**
KURK pmax pmax
comp=Z,14nm,1.6s,mb4.3
KURK Kurchatov 60.66 318 P **P** **12 14 43.2 -1.0**
comp=Z,45nm,0.6s,mb5.3,SNR=5.6
SLKM Skilak Lake 60.92 31 *eP* **P** **12 14 44.9 -0.9**
SLKM Skilak Lake 60.92 31 *eP* **P** **12 14 44.9 -0.9**
SEW Seward 61.21 31 *eP* **P** **12 14 47.5 -0.2**
comp=Z,109nm,0.9s,mb5.5
BPAW Bear Paw Mtn. 61.45 27 *eP* **P** **12 14 49.6 +0.3**
comp=Z,93nm,0.9s,mb5.4
TRF Thorofare Moun 61.58 27 *eP* **P** **12 14 49.8 -0.4**
comp=Z,85nm,1.0s,mb5.3
PMR Palmer 61.67 30 *eP* **P** **12 14 49.9 -0.9**
comp=Z,67nm,1.0s,mb5.2
PMR Palmer 61.67 30 *eP* **P** **12 14 49.9 -0.9**
PMR pmax pmax
comp=Z,67nm,1.0s,mb5.2
SML Sawmill 62.09 29 *eP* **P** **12 14 53.6 0.0**
comp=Z,42nm,1.0s,mb5.0
SML Sawmill 62.09 29 *eP* **P** **12 14 53.6 0.0**
SML pmax pmax
comp=Z,42nm,1.0s,mb5.0

MCK McKinley 62.23 27 *eP* **P** **12 14 53.8 -0.7**
comp=Z,48nm,1.1s,mb5.0
MCK McKinley 62.23 27 *eP* **P** **12 14 53.8 -0.7**
MCK pmax pmax
comp=Z,48nm,1.1s,mb5.0
KSH Kashi 62.29 305 P **P** **12 14 58.0 +2.6**
KSH PcP PcP 12 15 36.0 +2.8
KSH pP pP 12 15 45.5 +2.7
KSH sP sP 12 16 07.8 +2.5
KSH PP PP 12 17 19.5 +4.6
KSH ScP ScP 12 19 16.5 +1.2
KSH PcS PcS 12 19 37.8 +1.2
KSH S **S** **12 23 02.5 -2.5**
KSH ScS ScS 12 24 25.8 -1.4
KSH pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
KSH pmax pmax
comp=Z,140nm,5.7s
KSH LR LR
comp=N,110nm,5.7s
KSH LR LR
comp=E,130nm,4.2s
KSH LR LR
comp=Z,130nm,6.0s
TKM2 Tokmak 2 62.46 309 *eP* **P** **12 14 57.1 +0.7**
comp=Z,7.0nm,0.8s,mb4.3
TKM2 *e* pP 12 15 44.4 +0.5
TKM2 Tokmak 2 62.46 309 *i* P **P** **12 14 56.6 +0.2**
TKM2 pmax pmax
comp=Z,6.0nm,1.3s,mb4.1
COLD Coldfoot 62.61 23 *eP* **P** **12 14 57.6 +0.7**
comp=Z,28nm,1.0s,mb4.8
COLA College 62.95 26 *eP* **P** **12 14 58.6 -0.6**
comp=Z,24nm,0.7s,mb4.9
COLA College 62.95 26 *eP* **P** **12 14 58.7 -0.6**
COLA pmax pmax
comp=Z,24nm,0.7s,mb4.9
DIV Divide 63.18 30 *eP* **P** **12 15 01.2 +0.5**
comp=Z,64nm,1.2s,mb5.1
AAK Ala-Archa 63.28 309 *eP* **P** **12 15 01.8 -0.1**
comp=Z,4.3nm,0.5s,mb4.3
AAK Ala-Archa 63.28 309 ǁ *eP* **P** **12 15 01.0 -0.8**
AAK pmax pmax
comp=Z,8.0nm,1.5s,mb4.1
ILAR Eielson Array 63.33 26 P **P** **12 15 00.3 -1.4**
comp=Z,32nm,0.8s,mb5.0,baz=252,slow=6.0,SNR=422
ILAR PcP PcP 12 15 35.6 -1.3
comp=Z,1.7nm,0.9s,baz=293,slow=4.7,SNR=4.4
ILAR Eielson Array 63.33 26 P **P** **12 15 00.3 -1.4**
ILAR PcP PcP 12 15 35.6 -1.3
ILAR Eielson Array 63.33 26 P **P** **12 15 00.4 -1.4**
ILAR 12 15 35.7
PAX Paxson 63.61 28 *eP* **P** **12 15 03.7 +0.1**
comp=Z,35nm,0.6s,mb5.2
PAX Paxson 63.61 28 *eP* **P** **12 15 03.7 +0.1**
PAX pmax pmax
comp=Z,35nm,0.6s,mb5.2
BMRM Bremner River 63.72 31 *eP* **P** **12 15 05.0 +0.7**
comp=Z,127nm,1.2s,mb5.4
DOT Dot Lake 64.35 28 *eP* **P** **12 15 08.5 +0.1**
comp=Z,26nm,0.8s,mb4.9
MENT Mentasta 64.40 29 *eP* **P** **12 15 08.9 +0.1**
EGAK Eagle 65.76 27 *eP* **P** **12 15 17.1 -0.3**
comp=Z,24nm,1.1s,mb4.8
BVA0 Borovoye Array 65.86 320 *i* P **P** **12 15 17.2 -1.1**
BRVK Borovoye 65.92 320 *eP* **P** **12 15 18.0 -0.7**
comp=Z,11nm,0.8s,mb4.5
BRVK Borovoye 65.92 320 P **P** **12 15 18.5 -0.2**
comp=Z,89nm,0.6s,mb5.6,SNR=11
BRVK Borovoye 65.92 320 ǁ *i*P **P** **12 15 17.7 -1.0**
BRVK pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
KK31 Karatay Array 66.17 309 *i* P **P** **12 15 20.0 -0.5**
KK31 pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
KKAR Karatay Array 66.17 309 *eP* **P** **12 15 20.4 -0.1**
KKAR Karatay Array 66.17 309 *eP* **P** **12 15 20.4 -0.1**
DAWY Dawson 66.45 28 *eP* **P** **12 15 22.1 +0.2**
RPZ Rata Peaks 66.92 160 *eP* **P** **12 15 24.5 -0.6**
comp=Z,35nm,0.9s,mb5.0
SKAG Skagway 68.25 33 *eP* **P** **12 15 34.3 +1.1**
comp=Z,25nm,0.8s,mb4.9
KBL Kabul 68.31 300 *eP* **P** **12 15 34.2 +0.1**
comp=Z,11nm,0.8s,mb4.5
KBL Kabul 68.31 300 *eP* **P** **12 15 34.2 +0.1**
KBL pmax pmax
comp=Z,11nm,0.8s,mb4.5
INK Inuvik 69.03 23 *eP* **P** **12 15 37.4 -0.5**
comp=Z,28nm,0.8s,mb4.9
INK Inuvik 69.03 23 *eP* **P** **12 15 37.4 -0.5**
INK pmax pmax
comp=Z,27nm,0.8s
DLBC Dease Lake 71.05 34 *eP* **P** **12 15 51.0 +0.6**
SVE Sverdlovsk 71.25 325 *eP* **P** **12 15 51.2 -0.4**
ARU Arti 72.44 324 *eP* **P** **12 15 57.5 -1.2**
comp=Z,25nm,1.4s,mb4.7
ARU *e* pP 12 16 48.3 +0.7
ARU Arti 72.44 324 *d i*P **P** **12 15 57.5 -1.2**
ARU *e*PP pP 12 16 47.4 -0.2
ARU 12 18 39.1
ARU PPP 12 20 22.3
ARU S S 12 25 07.2 +1.9
ARU SS SS 12 29 46.7 -1.1
ARU pmax pmax
comp=Z,20nm,1.7s,mb4.5
AB31 Akbulak array 72.73 317 *i* P **P** **12 15 59.4 -1.1**
AB31 pmax pmax
comp=Z,7.0nm,0.4s,mb4.6
ABKAR Akbulak array 72.73 317 *eP* **P** **12 15 59.5 -1.0**
comp=Z,12nm,0.6s,mb4.7
ABKAR *e* pP 12 16 49.3 -0.1
BBB Bella Bella 72.97 40 P **P** **12 16 00.8 -1.0**
comp=Z,14nm,0.9s,mb4.6,baz=260,slow=9.3,SNR=3.7
BBB Bella Bella 72.97 40 P **P** **12 16 00.8 -1.0**
AKTO Aktyubinsk 73.75 318 *i* P **P** **12 16 05.1 -1.4**
PGC Sidney 76.61 43 *eP* **P** **12 16 23.2 +0.4**
comp=Z,0.5nm,0.6s
NLWA Neilton Lookou 76.63 44 *eP* **P** **12 16 24.1 +1.1**
comp=Z,51nm,1.1s,mb5.1
GNW Green Mountain 77.28 44 *eP* **P** **12 16 27.6 +1.0**
comp=Z,26nm,1.0s,mb4.8
BMW Boistfort Moun 77.28 45 *eP* **P** **12 16 27.4 +0.8**
BMW Boistfort Moun 77.28 45 *eP* **P** **12 16 27.4 +0.8**
ALE Alert 77.61 4 P **P** **12 16 28.0 +0.1**
comp=Z,148nm,1.2s,mb5.5,SNR=11
YKA Yellowknife Ar 77.69 28 P **P** **12 16 28.0 -0.6**
comp=Z,22nm,0.6s,mb5.0,baz=288,slow=5.7,SNR=65
YKA pP pP 12 17 17.2 -0.9
comp=Z,4.9nm,0.7s,baz=289,slow=5.5,SNR=3.6
YKA Yellowknife Ar 77.69 28 P **P** **12 16 28.0 -0.6**
YKA pP pP 12 17 17.2 -0.9
YKA Yellowknife Ar 77.69 28 P **P** **12 16 28.0 -0.5**
YKA *PP pP 12 17 17.2 -0.9
JCW Jim Creek 77.70 43 *eP* **P** **12 16 29.6 +0.7**
RPW Rockport 77.90 43 *eP* **P** **12 16 26.0 -4.0**
LON Longmire 78.16 45 *eP* **P** **12 16 31.6 +0.2**
comp=Z,17nm,0.9s,mb4.7
LON Longmire 78.16 45 *eP* **P** **12 16 31.6 +0.2**
LON pmax pmax
comp=Z,17nm,0.9s,mb4.7
KHMM Horse Mountain 78.37 51 *eP* **P** **12 16 34.0 +1.3**
comp=Z,15nm,0.6s,mb4.8
HUMO Hull Mountain 78.47 49 *eP* **P** **12 16 34.3 +1.0**
comp=Z,109nm,1.7s,mb5.2
SPITS Spitsbergen Ar 78.60 351 P **P** **12 16 32.2 -1.1**
comp=Z,6.4nm,0.8s,mb4.3,baz=141,slow=11,SNR=13
SPITS Spitsbergen Ar 78.60 351 P **P** **12 16 32.2 -1.1**
SPITS Spitsbergen Ar 78.60 351 P **P** **12 16 32.2 -1.1**
HOOD Mount Hood Mea 78.65 46 *eP* **P** **12 16 34.8 +0.6**
comp=Z,37nm,0.8s,mb5.1
KBS Kingsbay 78.72 352 *eP* **P** **12 16 34.0 0.0**
KCPM Cahto Peak 78.79 52 *eP* **P** **12 16 35.7 +0.6**
comp=Z,29nm,0.6s,mb5.1
KIPM Iron Peak 78.84 52 *eP* **P** **12 16 36.0 +0.7**
comp=Z,101nm,1.5s,mb5.2
YBH Yreka Blue Hor 78.88 50 *eP* **P** **12 16 36.3 +0.8**
comp=Z,21nm,0.8s,mb4.8
YBH Yreka Blue Hor 78.88 50 *eP* **P** **12 16 36.3 +0.8**
YBH pmax pmax
comp=Z,21nm,0.8s
ETW Entiat 78.90 43 *eP* **P** **12 16 35.8 +0.3**
RES Resolute Bay 79.00 14 *eP* **P** **12 16 35.1 -0.5**
comp=Z,12nm,0.9s,mb4.5
RES *e* pP 12 17 25.7 +0.5
RES Resolute Bay 79.00 14 *eP* **P** **12 16 35.1 -0.4**

RES *e* pP 12 17 25.7 +0.5
RES pmax pmax
comp=Z,12nm,0.9s,mb4.5
WDC Whiskeytown Da 79.32 51 *e*P **P 12 16 38.4 +0.5**
comp=Z,18nm,1.1s,mb4.6
WDC Whiskeytown Da 79.32 51 *e*P **P 12 16 38.4 +0.5**
WDC pmax pmax
comp=Z,18nm,1.1s,mb4.6
RSW Rattlesnake Hi 79.73 44 *e*P **P 12 16 40.4 +0.5**
comp=Z,59nm,0.9s,mb5.2
HAWA Hanford 79.77 44 *e*P **P 12 16 40.6 +0.5**
comp=Z,32nm,0.6s,mb5.1
OD2 Odessa Site #2 80.01 43 *e*P **P 12 16 41.3 -0.1**
APA Apatity 80.40 339 ǁ *i*P **P 12 16 42.0 -1.2**
APA pmax pmax
comp=Z,43nm,1.2s,mb5.0
APA MLR MLR
comp=Z,600nm,17.0s
MOD Modoc 80.56 49 *e*P **P 12 16 44.8 +0.3**
comp=Z,25nm,0.8s,mb4.9
LNOR Lincton Mounta 80.75 45 *e*P **P 12 16 46.0 +0.5**
LNOR Lincton Mounta 80.75 45 *e*P **P 12 16 46.0 +0.6**
NEW Newport 80.76 42 *e*P **P 12 16 45.6 +0.1**
comp=Z,28nm,0.8s,mb5.0
NEW Newport 80.76 42 *e*P **P 12 16 45.6 +0.2**
NEW pmax pmax
comp=Z,28nm,0.8s
KLMR Klimovskoe 80.84 332 *e*P **P 12 16 41.5 -4.1**
KLMR pmax pmax
comp=Z,13nm,1.1s,mb4.5
KEV Kevo 81.33 342 *e*P **P 12 16 47.1 -0.9**
KEV Kevo 81.33 342 *e*p **P 12 16 47.1 -0.9**
WVOR Wild Horse Val 81.58 48 *e*P **P 12 16 50.0 +0.2**
comp=Z,26nm,0.8s,mb4.9
WVOR Wild Horse Val 81.58 48 *e*P **P 12 16 50.0 +0.1**
WVOR pmax pmax
comp=Z,26nm,0.8s,mb4.9
CMB Columbia Colle 81.66 53 *e*P **P 12 16 50.6 +0.2**
comp=Z,44nm,0.6s,mb5.3
CMB Columbia Colle 81.66 53 *e*P **P 12 16 50.6 +0.2**
CMB pmax pmax
comp=Z,44nm,0.6s,mb5.3
BMO Blue Mountains 81.73 45 *e*P **P 12 16 50.6 0.0**
comp=Z,27nm,0.9s,mb4.9
BMO Blue Mountains 81.73 45 *e*P **P 12 16 50.6 0.0**
BMO pmax pmax
comp=Z,27nm,0.9s,mb4.9
WCN Washoe City 81.74 51 *e*P **P 12 16 51.4 +0.6**
comp=Z,30nm,1.1s,mb4.8
WCN Washoe City 81.74 51 *e*P **P 12 16 51.4 +0.6**
WCN pmax pmax
comp=Z,31nm,1.1s,mb4.8
ARCES ARCESS Array B 81.89 342 P **P 12 16 50.3 -0.7**
comp=Z,15nm,0.7s,mb4.8,baz=86,slow=7.8,SNR=56
ARCES ARCESS Array B 81.89 342 P **P 12 16 50.3 -0.7**
ARCES ARCESS Array B 81.89 342 P **P 12 16 50.3 -0.7**
ARE0 ARCESS Array S 81.89 342 *e*P **P 12 16 49.7 -1.3**
BSMT Bassoo Peak 82.38 42 *e*P **P 12 16 54.4 +0.5**
WALA Waterton Lakes 82.50 41 *e*P **P 12 16 54.8 +0.3**
comp=Z,0.7nm,1.1s
BLMT Blacktail Moun 82.59 42 *e*P **P 12 16 55.9 +0.9**
JTMT Jette 82.73 42 *e*P **P 12 16 55.9 +0.1**
KTK1 Kautokeino 82.86 342 *e*P **P 12 16 55.5 -0.5**
YBMT Yellow Bay 82.86 42 *e*P **P 12 16 56.9 +0.4**
SWMT Swartz Lake 82.99 42 *e*P **P 12 16 56.7 -0.4**
NVAR Mina Array Bea 83.09 52 P **P 12 16 58.4 +0.6**
comp=Z,60nm,0.7s,mb5.5,baz=267,slow=6.0,SNR=471
NVAR Mina Array Bea 83.09 52 P **P 12 16 58.4 +0.6**
MFID Camas Ranch 83.20 46 *e*P **P 12 16 58.1 -0.2**
comp=Z,34nm,0.8s,mb5.1
BMN Battle Mountai 83.23 50 *e*P **P 12 16 58.8 +0.4**
comp=Z,15nm,0.6s,mb4.9
BMN Battle Mountai 83.23 50 *e*P **P 12 16 58.8 +0.3**
BMN pmax pmax
comp=Z,15nm,0.6s,mb4.9
MSO Missoula 83.27 43 *e*P **P 12 16 57.9 -0.7**
comp=Z,27nm,2.0s,mb4.6
JOF Joensuu 83.40 335 *e*P **P 12 16 57.8 -1.1**
JOF pmax pmax
comp=Z,30nm,0.5s,mb5.3
JOF Joensuu 83.40 335 *e*p **P 12 16 57.8 -1.1**
comp=Z,30nm,0.5s,mb5.3
SLMT Seeley Lake 83.41 42 *e*P **P 12 16 59.0 -0.3**
TRO Tromso 83.67 344 *e*P **P 12 16 58.6 -1.5**
CHMT Chamberlain Mo 83.68 43 *e*P **P 12 17 00.3 -0.3**
DAG Danmarks Havn 83.73 356 *i*P **P 12 16 59.3 -1.0**
DAG *i* pP 12 17 52.4 +1.8
DAG pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
DAG Danmarks Havn 83.73 356 *i*P **P 12 16 59.3 -1.0**
comp=Z,5.4nm,0.8s,mb4.3
DAG *i* pP 12 17 52.4 +1.8
ISA Isabella 83.86 55 *e*P **P 12 17 01.1 -0.7**
comp=Z,10.0nm,1.0s,mb4.5
ISA Isabella 83.86 55 *e*P **P 12 17 01.1 -0.7**
ISA pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
OSI Osito Adit 84.01 56 *e*P **P 12 17 03.0 +0.4**
comp=Z,19nm,0.7s,mb4.9
HLID Hailey 84.12 46 *e*P **P 12 17 03.1 +0.2**
comp=Z,11nm,0.7s,mb4.7
LRM Limekiln Ridge 84.60 43 *e*P **P 12 17 05.4 +0.2**
MWC Mount Wilson 84.66 56 *e*P **P 12 17 05.8 0.0**
comp=Z,11nm,0.8s,mb4.6
MWC Mount Wilson 84.66 56 *e*P **P 12 17 05.9 +0.1**
MWC pmax pmax
comp=Z,11nm,0.8s,mb4.6
HRY Holter Researc 84.66 42 *e*P **P 12 17 05.8 +0.2**
DLMT Dillon 84.68 44 *e*P **P 12 17 05.7 0.0**
comp=Z,63nm,1.6s,mb5.1
MCMT McKenzie Canyo 84.71 44 *e*P **P 12 17 05.9 +0.1**
comp=Z,4.3nm,0.7s,mb4.3
VSR Storozhevoye 84.90 323 *e*P **P 12 17 04.7 -1.9**
VSR pmax pmax
comp=N,6.0nm,0.5s
VSR pmax pmax
comp=Z,10.0nm,0.5s,mb4.8
VSR pmax pmax
comp=E,10.0nm,1.0s
BOZ Bozeman (W) 85.20 43 *e*P **P 12 17 08.4 +0.1**
comp=E,16nm,0.7s,mb4.9
BOZ Bozeman (W) 85.20 43 *e*P **P 12 17 08.4 +0.1**
BOZ pmax pmax
comp=Z,16nm,0.7s,mb4.9
GSC Goldstone 85.26 54 *e*P **P 12 17 08.9 +0.1**
comp=Z,33nm,1.1s,mb5.0
GSC Goldstone 85.26 54 *e*P **P 12 17 08.9 +0.1**
GSC pmax pmax
comp=Z,33nm,1.1s,mb5.0
EGMT Eagleton 85.45 41 *e*P **P 12 17 09.5 +0.1**
comp=Z,19nm,0.8s,mb4.9
QLMT Earthquake Lak 85.64 44 *e*P **P 12 17 11.3 +0.8**
KAF Kangasniemi 85.80 336 *e*P **P 12 17 08.4 -2.5**
KAF Kangasniemi 85.80 336 *e*p **P 12 17 08.4 -2.5**
HVU Hansel Valley 85.89 47 *e*P **P 12 17 12.3 +0.5**
comp=Z,55nm,1.2s,mb5.2
HVU Hansel Valley 85.89 47 *e*P **P 12 17 12.3 +0.5**
HVU pmax pmax
comp=Z,55nm,1.2s,mb5.2
YMR Madison River 86.01 44 *e*P **P 12 17 13.5 +1.2**
comp=Z,80nm,0.8s,mb5.5
PFO Pinyon Flat Ob 86.12 56 *e*P **P 12 17 12.9 -0.2**
comp=Z,10.0nm,0.8s,mb4.6
PFO Pinyon Flat Ob 86.12 56 *e*P **P 12 17 12.9 -0.2**
PFO pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
PFO Pinyon Flat Ob 86.12 56 P **P 12 17 12.0 -1.1**
comp=Z,82nm,1.0s,mb5.4,SNR=6.5
YNR Norris Junctio 86.18 44 *e*P **P 12 17 15.2 +2.1**
comp=Z,48nm,0.9s,mb5.2
YFT Old Faithful 86.18 44 *e*P **P 12 17 15.8 +2.6**
comp=Z,36nm,0.8s,mb5.2
FINES FINESS Array B 86.27 335 P **P 12 17 10.8 -2.4**
comp=Z,12nm,0.4s,mb5.0,baz=68,slow=5.0,SNR=214
FINES pP pP 12 18 03.2 -0.5
comp=Z,4.9nm,0.5s,baz=58,slow=5.4,SNR=2.6
FINES FINESS Array B 86.27 335 P **P 12 17 10.8 -2.4**
FINES pP pP 12 18 03.2 -0.5
FINES FINESS Array B 86.27 335 P **P 12 17 10.8 -2.4**
FINES *PP pP 12 18 03.2 -0.5
BAR Barrett 86.27 57 *e*P **P 12 17 13.4 -0.4**
comp=Z,6.6nm,0.9s,mb4.4
DCID1 Drake Creek 86.28 45 *e*P **P 12 17 14.7 +1.0**
comp=Z,36nm,1.0s,mb5.0
RRI2 Red Ridge 86.29 45 *e*P **P 12 17 14.3 +0.6**
comp=Z,26nm,0.8s,mb5.0

IMW Indian Meadow 86.33 45 *e*P **P 12 17 14.8 +0.9**
comp=Z,24nm,0.8s,mb5.0
GCMT Greycliff 86.41 43 *e*P **P 12 17 14.4 +0.2**
comp=Z,12nm,0.9s,mb4.6
FLWY Flagg Ranch 86.42 44 *e*P **P 12 17 15.3 +1.1**
comp=Z,37nm,0.8s,mb5.2
LKWY Lake 86.42 44 *e*P **P 12 17 16.4 +2.1**
comp=Z,9.0nm,0.6s,mb4.7
LKWY Lake 86.42 44 *e*P **P 12 17 16.4 +2.1**
LKWY pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
DUG Dugway 86.46 49 *e*P **P 12 17 14.1 -0.5**
comp=Z,31nm,0.8s,mb5.1
DUG Dugway 86.46 49 *e*P **P 12 17 14.1 -0.5**
DUG pmax pmax
comp=Z,31nm,0.8s,mb5.1
TPAW Teton Pass 86.48 45 *e*P **P 12 17 15.3 +0.7**
comp=Z,9.7nm,0.6s,mb4.7
MOOW Moose Ponds 86.52 45 *e*P **P 12 17 15.6 +0.8**
comp=Z,16nm,0.9s,mb4.8
REDW Red Top Meadow 86.60 45 *e*P **P 12 17 15.4 +0.2**
comp=Z,10.0nm,1.1s,mb4.5
SNOW Snow King Moun 86.62 45 *e*P **P 12 17 15.9 +0.6**
comp=Z,6.1nm,0.8s,mb4.4
AHID Auburn Hatcher 86.67 46 *e*P **P 12 17 15.8 +0.3**
comp=Z,40nm,1.2s,mb5.0
LOHW Long Hollow 86.67 45 *e*P **P 12 17 15.8 +0.3**
comp=Z,19nm,1.4s,mb4.6
NOQ North Oquirrh 86.78 48 *e*P **P 12 17 16.5 +0.4**
comp=Z,25nm,0.9s,mb4.9
HWUT Hardware Ranch 86.80 47 *e*P **P 12 17 16.3 +0.1**
comp=Z,33nm,0.8s,mb5.1
FFC Flin Flon 86.84 32 *e*P **P 12 17 15.9 -0.2**
comp=Z,37nm,1.0s,mb5.1
FFC Flin Flon 86.84 32 *i*P **P 12 17 16.0 -0.1**
FFC Flin Flon 86.84 32 P **P 12 17 15.6 -0.5**
comp=Z,182nm,1.0s,mb5.8,SNR=10.0
ARUT Antelope Range 86.91 51 *e*P **P 12 17 17.2 +0.4**
comp=Z,22nm,0.8s,mb4.9
ARUT Antelope Range 86.91 51 *e*P **P 12 17 17.2 +0.4**
ARUT pmax pmax
comp=Z,22nm,0.8s,mb4.9
RLMT Red Lodge 86.94 43 *e*P **P 12 17 17.5 +0.8**
comp=Z,6.5nm,0.5s,mb4.6
CCUT Cedar City 87.05 51 *e*P **P 12 17 18.2 +0.7**
comp=Z,15nm,0.8s,mb4.8
JLU Jordanelle 87.27 48 *e*P **P 12 17 18.8 +0.3**
comp=Z,33nm,0.8s,mb5.1
MPU Maple Canyon 87.37 49 *e*P **P 12 17 18.4 -0.5**
comp=Z,22nm,1.1s,mb4.8
DAU Daniels Canyon 87.48 48 *e*P **P 12 17 20.2 +0.8**
DAU Daniels Canyon 87.48 48 *e*P **P 12 17 20.3 +0.8**
MSU Marysvale 87.56 50 *e*P **P 12 17 20.5 +0.6**
MSU Marysvale 87.56 50 *e*P **P 12 17 20.5 +0.6**
GLA Glamis 87.59 56 *e*P **P 12 17 20.3 +0.2**
comp=Z,30nm,0.7s,mb5.2
GLA Glamis 87.59 56 *e*P **P 12 17 20.3 +0.1**
GLA pmax pmax
comp=Z,30nm,0.7s,mb5.2
PD01 Pinedale Array 87.69 45 *e*P **P 12 17 19.8 -0.6**
PD02 Pinedale Array 87.70 45 *e*P **P 12 17 19.7 -0.7**
BW06 Boulder Array 87.71 45 *e*P **P 12 17 20.2 -0.2**
comp=Z,4.6nm,0.5s,mb4.6
PDAR Pinedale Array 87.71 45 P **P 12 17 20.0 -0.5**
comp=Z,5.0nm,0.5s,mb4.6,baz=196,slow=1.3,SNR=42
PDAR Pinedale Array 87.71 45 P **P 12 17 20.0 -0.5**
TMUT Trail Mountain 87.95 49 *e*P **P 12 17 21.8 0.0**
comp=Z,22nm,1.0s,mb4.9
SUMG Summit 88.40 1 *e*P **P 12 17 23.4 +0.3**
comp=Z,9.9nm,0.6s,mb4.8
SUMG Summit 88.40 1 *i*P **P 12 17 23.6 +0.5**
SUMG pmax pmax
comp=Z,11nm,0.8s
SUMG Summit 88.40 1 *i*P **P 12 17 23.6 +0.5**
comp=Z,11nm,0.8s,mb4.8
SRU San Rafael 88.51 49 *e*P **P 12 17 24.3 0.0**
comp=Z,16nm,0.7s,mb5.0
SRU San Rafael 88.51 49 *e*P **P 12 17 24.3 -0.1**
SRU pmax pmax
comp=Z,16nm,0.7s,mb5.0
WUAZ Wupatki 89.31 53 *e*P **P 12 17 28.8 +0.6**
comp=Z,38nm,0.8s,mb5.3
IZAR Zarasai 89.42 330 *e*P **P 12 17 27.0 -1.2**
IZAR AMB AMB 12 17 27.6
comp=Z,10nm,0.8s,mb4.7
ISAL Salakas 89.58 330 *e*P **P 12 17 27.6 -1.4**
ISAL AMB AMB 12 17 28.3
comp=Z,7.1nm,1.2s,mb4.4
IIGN Ignalina 89.66 330 *e*P **P 12 17 27.9 -1.4**
IIGN AMB AMB 12 17 28.6
comp=Z,8.3nm,0.8s,mb4.6
RWWY Rawlins 89.74 46 *e*P **P 12 17 29.6 -0.5**
comp=Z,21nm,1.1s,mb4.9
PV10 Paradox Valley 89.87 49 *e*P **P 12 17 31.0 +0.2**
comp=Z,589nm,0.8s
PV04 Paradox Valley 89.96 49 *e*P **P 12 17 31.4 +0.2**
SCO Scoresbysund 90.09 356 *i*P **P 12 17 30.6 -0.5**
SCO pmax pmax
comp=Z,4.0nm,1.1s,mb4.2
PV01 Paradox Valley 90.31 49 *e*P **P 12 17 32.4 -0.4**
comp=Z,2µm,0.6s
AKASG Malin Array Be 90.68 325 P **P 12 17 30.9 -3.3**
comp=Z,1.7nm,0.5s,mb4.2,baz=53,slow=4.9,SNR=7.5
AKASG Malin Array Be 90.68 325 P **P 12 17 30.9 -3.3**
AKASG Malin Array Be 90.68 325 P **P 12 17 30.9 -3.3**
RSSD Black Hills 90.73 42 *e*P **P 12 17 34.0 -0.6**
comp=Z,6.7nm,0.6s,mb4.8
RSSD Black Hills 90.73 42 *e*P **P 12 17 34.0 -0.6**
RSSD pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
MVCO Mesa Verde 90.75 50 *e*P **P 12 17 35.3 +0.5**
comp=Z,8.1nm,0.7s,mb4.8
TUC Tucson 91.03 55 *e*P **P 12 17 35.8 -0.4**
comp=Z,28nm,1.4s,mb5.0
TUC Tucson 91.03 55 *e*P **P 12 17 35.8 -0.4**
TUC pmax pmax
comp=Z,28nm,1.4s,mb5.0
PHWY Pilot Hill 91.09 45 *e*P **P 12 17 36.6 +0.3**
comp=Z,11nm,0.9s,mb4.8
ISCO Idaho Springs 91.66 47 *e*P **P 12 17 39.6 +0.5**
comp=Z,11nm,0.8s,mb4.8
ISCO Idaho Springs 91.66 47 *e*P **P 12 17 39.6 +0.6**
ISCO pmax pmax
comp=Z,11nm,0.8s,mb4.8
SUW Suwalki 91.87 330 *e*P **P 12 17 37.2 -2.5**
SUW Suwalki 91.87 330 *e*P **P 12 17 37.3 -2.3**
comp=Z,38nm,1.1s,mb5.2
SUW Suwalki 91.87 330 *e*P **P 12 17 37.3 -2.4**
SUW pmax pmax
comp=Z,38nm,1.1s,mb5.2
NB2 NORSAR Subarra 91.97 340 P **P 12 17 37.5 -2.4**
comp=Z,1.2nm,0.7s,mb3.9,baz=48,slow=4.6
NOA NORSAR Array B 91.97 340 P **P 12 17 37.5 -2.4**
comp=Z,1.7nm,0.7s,mb4.1,baz=47,slow=4.8,SNR=6.9
NOA NORSAR Array B 91.97 340 P **P 12 17 37.5 -2.4**
NOA NORSAR Array B 91.97 340 P **P 12 17 37.5 -2.4**
SDCO Great Sand Dun 92.66 49 *e*P **P 12 17 43.7 +0.1**
comp=Z,2.5nm,0.6s,mb4.4
LAZ Ladron 92.94 52 *e*P **P 12 17 45.3 +0.3**
comp=Z,5.8nm,1.2s,mb4.5
ANMO Albuquerque 93.20 51 *e*P **P 12 17 46.9 +0.6**
comp=Z,11nm,1.1s,mb4.8
ANMO Albuquerque 93.20 51 *e*P **P 12 17 46.9 +0.7**
ANMO pmax pmax
comp=Z,11nm,1.1s
SFJD Kangerlussuaq 93.22 6 *i*P **P 12 17 44.6 -1.0**
SFJD pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
SFJD Kangerlussuaq 93.22 6 *i*P **P 12 17 44.6 -1.0**
comp=Z,10nm,0.9s,mb4.9
AGMN Agassiz Nation 93.46 36 *e*P **P 12 17 46.0 -1.2**
comp=Z,11nm,0.9s,mb4.9
BRTR Keskin Array B 93.50 314 P **P 12 17 45.9 -1.6**
comp=Z,1.4nm,0.7s,mb4.1,baz=97,slow=4.1,SNR=7.0
BRTR Keskin Array B 93.50 314 P **P 12 17 45.9 -1.6**
BRTR Keskin Array B 93.50 314 P **P 12 17 45.9 -1.6**
MNTX Cornudas Mount 95.44 54 *e*P **P 12 17 56.4 -0.2**
comp=Z,4.2nm,0.8s,mb4.6
TXAR Lajitas Array 97.83 55 P **P 12 18 07.1 -0.2**
comp=Z,0.6nm,0.5s,mb4.2,baz=269,slow=3.2,SNR=22
TXAR PP PP 12 22 08.5 +0.4
comp=Z,0.3nm,0.6s,baz=278,slow=3.7,SNR=4.0
TXAR Lajitas Array 97.83 55 P **P 12 18 07.1 -0.2**
TXAR PP PP 12 22 08.5 +0.4
TXAR Lajitas Array 97.83 55 P **P 12 18 07.1 -0.3**
TXAR 12 22 08.5

WMOK Wichita Mounta 98.87 49 *e*P **P 12 18 11.0 -0.9**
comp=Z,2.2nm,0.7s,mb4.6
WMOK Wichita Mounta 98.87 49 *e*P **P 12 18 11.0 -0.9**
WMOK pmax pmax
comp=Z,2.0nm,0.7s,mb4.6
SNAA Sanae 124.36 192 *e*PKPdf PKPdf 12 23 21.3 -7.3
SNAA *e* 12 23 27.1
SNAA Sanae 124.36 192 PKP PKPdf 12 23 27.1 -1.5
comp=Z,0.9nm,0.6s,baz=198,slow=4.9,SNR=15
SNAA Sanae 124.36 192 PKP PKPdf 12 23 27.1 -1.5
SNAA Sanae 124.36 192 PKIKP PKPdf 12 23 27.1 -1.5
VNA2 Neumayer--Watz 125.82 191 *e*PKPdf PKPdf 12 23 28.9 -2.5
baz=18,slow=0.7
VNA3 Neumayer Olymp 125.92 190 *e*PKPdf PKPdf 12 23 29.2 -2.4
TORD Torodi Ar. Bea 131.86 309 PKP PKPdf 12 23 43.5 -1.1
comp=Z,1.7nm,0.9s,baz=20,slow=1.2,SNR=6.8
TORD SKPbc SKPbc 12 26 48.3 -2.8
comp=Z,0.8nm,0.6s,baz=36,slow=3.9,SNR=6.1
TORD Torodi Ar. Bea 131.86 309 PKP PKPdf 12 23 43.5 -1.1
TORD SKPbc SKPbc 12 26 48.3 -2.8
SDV Santo Domingo 134.87 55 *e*PKPdf PKPdf 12 23 49.5 -0.8
DBIC Dimbokro 140.96 308 PKHKP PKPpre 12 23 54.1
comp=Z,2.2nm,0.5s,baz=26,slow=6.1,SNR=5.0
DBIC SKPbc SKPbc 12 27 16.6 -2.1
comp=Z,1.6nm,0.7s,baz=92,slow=3.9,SNR=3.9
DBIC Dimbokro 140.96 308 PKPpre PKPpre 12 23 54.1
DBIC SKPbc SKPbc 12 27 16.6 -2.2
DBIC Dimbokro 140.96 308 PKHKP PKPpre 12 23 54.2
PLCA Paso Flores 142.61 133 PKHKP PKPpre 12 23 60.0
comp=Z,2.5nm,0.8s,baz=344,slow=2.0,SNR=8.8
PLCA SKPbc SKPbc 12 27 21.5 -0.5
comp=Z,3.2nm,1.0s,baz=44,slow=2.1,SNR=4.0
PLCA Paso Flores 142.61 133 *e*PKPdf PKPpre 12 23 59.9
PLCA SKPbc SKPbc 12 27 21.5 -0.5
PLCA Paso Flores 142.61 133 *e*PKIKP PKPpre 12 23 59.9
PLCA 12 27 21.5
LCO Las Campanas 145.81 114 *e*PKPdf PKPdf 12 24 10.0 +0.5
LPAZ La Paz 148.02 90 *e*PKPdf PKPdf 12 24 14.0 +0.4
LPAZ *e*PKPbc PKPbc 12 24 17.2 +0.3
LPAZ La Paz 148.02 90 *e*PKIKP PKPdf 12 24 14.0 +0.5
LPAZ *e* 12 24 17.2
TRQA Tornquist 149.73 134 *e*PKPbc PKPbc 12 24 19.1 -1.5
CPUP Villa Florida 157.96 113 PKPab PKPab 12 25 01.8 -0.1
comp=Z,9.7nm,0.8s,baz=256,slow=4.8,SNR=22
CPUP Villa Florida 157.96 113 PKPab PKPab 12 25 01.8 -0.1
CPUP Villa Florida 157.96 113 PKP2 PKPab 12 25 01.8 -0.1

ISK ***30*** *12:26:45.9,37.°03N×28.°42E,h5km,ML2.1*
ISCJB ***30*** *12:26:46.5±0.9,37.°05N±0.°06×28.°37E±0.°04,h14km±10km, Error ellipse: s-maj=10.6km s-min=5.1km az=168.5*
CSEM ***30*** *12:26:46.6±0.2,37.°04N×28.°41E,h8km,ML2.1,Error ellipse: s-maj=6.0km s-min=3.2km az=166.0*
DDA ***30*** *12:26:46.4,37.°05N×28.°32E,h7km±3km,Md2.9*
ISC 30 12:26:47.4±0.9,37.°05N±0.°06×28.°36E±0.°04,h10km±11km, n16,σ1°02/26,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YER	**Yerkesik**	**0.11**	**324**	*e*Pg	**Pg**	**12 26 49.2**	**-1.0**
YER				*e*Sg	**Sg**	**12 26 52.3**	**+0.2**
YER	**Yerkesik**	**0.11**	**324**	*e*PG	**Pg**	**12 26 49.2**	**-1.0**
YER				*e*SG	**Sg**	**12 26 52.2**	**+0.1**
MLSB	**Milas**	**0.53**	**298**	*e*PG	**Pg**	**12 26 58.1**	**+0.3**
MLSB	**Milas**	**0.53**	**298**	*e*Pg	**Pg**	**12 26 58.1**	**+0.4**
DAT	**Datca**	**0.70**	**244**	*e*PG	**Pg**	**12 27 00.6**	**-0.4**
DAT	**Datca**	**0.70**	**244**	*e*Pg	**Pg**	**12 27 00.6**	**-0.4**
AYDN	**Tasoluk**	**0.72**	**328**	*i*P	**Pg**	**12 27 00.8**	**-0.6**
AYDN				*i*S	**Sg**	**12 27 10.8**	**-0.1**
AYDN	**Tasoluk**	**0.72**	**328**	*i*P	**Pg**	**12 27 00.8**	**-0.6**
AYDN				*i*S	**Sg**	**12 27 10.8**	**-0.1**
DNZL	**Cakiroluk**	**0.84**	**40**	*i*P	**Pg**	**12 27 02.6**	**-1.0**
DNZL				*i*S	**Sg**	**12 27 16.2**	**+1.6**
DNZL	**Cakiroluk**	**0.84**	**40**	*i*P	**Pg**	**12 27 02.6**	**-1.0**
DNZL				*i*S	**Sg**	**12 27 16.2**	**+1.6**
BODT	**Bodrum**	**0.84**	**271**	*e*PG	**Pg**	**12 27 03.4**	**-0.2**
BODT				*e*SG	**Sg**	**12 27 16.6**	**+2.0**
BODT	**Bodrum**	**0.84**	**271**	*e*Pg	**Pg**	**12 27 03.4**	**-0.2**
BODT				*e*Sg	**Sg**	**12 27 16.6**	**+2.0**
DENT	**Denizli**	**0.89**	**37**	*e*PG	**Pg**	**12 27 03.4**	**-1.1**
DENT	**Denizli**	**0.89**	**37**	*e*Pg	**Pg**	**12 27 03.4**	**-1.1**
GOLH	**Golhisar**	**0.98**	**78**	*i*P	**Pg**	**12 27 05.2**	**-1.0**
GOLH				*i*S	**Sg**	**12 27 20.6**	**+1.7**
GOLH	**Golhisar**	**0.98**	**78**	*i*P	**Pg**	**12 27 05.2**	**-1.0**
GOLH				*i*S	**Sg**	**12 27 20.6**	**+1.7**

IDC ***30*** *12:37:21.4±3.5,4.°33S×101.°90E,h0km,mb3.5/6, mb1 3.6/6,mb1mx3.5/20,mbtmp3.5/6,MS3.6/2,Ms1 3.6/2, ms1mx2.5/33,Error ellipse: s-maj=147.2km s-min=20.0km az=56.0*
ISCJB ***30*** *12:37:28.8±2.5,4.°2S±0.°2×102.°1E±0.°3,h67km±15km, mb3.5/6,Error ellipse: s-maj=55.9km s-min=11.9km az=138.5*
DJA ***30*** *12:37:29,4.°15S×102.°13E,h27km,MLv3.7/5*
ISC 30 12:37:30.2±2.3,4.°1S±0.°2×102.°2E±0.°3,h59km±14km,n15, σ0°85/12,mb3.5/6,MS3.7/2,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSI	**Kapahiang**	**0.64**	**43**	P	**Pn**	**12 37 43.2**	**-0.4**
MNAI	**Manna**	**0.83**	**107**	P	**Pn**	**12 37 45.2**	**-0.8**
MDSI	**Maura Dua**	**2.04**	**100**	P	**Pn**	**12 38 01.5**	**-0.8**
LWLI	**Liwa**	**2.09**	**115**	P	**Pn**	**12 38 03.5**	**+0.6**
KLSI		**2.62**	**103**	P	**Pn**	**12 38 12.1**	**+1.9**
PDSI	**Padang**	**3.61**	**332**	P	**Pn**	**12 38 24.1**	**+0.4**
CMAR	**Cisiang Mai Arr**	**22.66**	**352**	P	**P**	**12 42 25.6**	**-1.0**
	0.9nm,0.9s,mb3.2,baz=176,slow=8.8,SNR=5.1						
WRA	**Warramunga Arr**	**35.07**	**119**	P	**P**	**12 44 17.2**	**-0.7**
	0.1nm,0.5s,mb3.0,baz=303,slow=9.0,SNR=3.0						
ASAR	**Alice Springs**	**36.27**	**125**	P	**P**	**12 44 27.9**	**-0.3**
	0.1nm,0.7s,mb2.8,baz=301,slow=8.0,SNR=3.9						
CTA	**Charters Tower**	**45.76**	**114**	LR	LR	13 07 18.8	
	comp=Z,51nm,18.0s,MS3.5,baz=54,slow=39						
SONM	**Songino Array**	**51.87**	**4**	P	**P**	**12 46 33.9**	**+1.4**
	0.8nm,0.6s,mb3.9,baz=188,slow=9.4,SNR=7.9						
MKAR	**Makanchi Array**	**53.65**	**343**	P	**P**	**12 46 45.8**	**+0.1**
	0.6nm,0.4s,mb3.9,baz=146,slow=8.5,SNR=9.9						
ZALV	**Zalesovo Beam**	**59.65**	**348**	P	**P**	**12 47 27.9**	**-0.3**
	1.0nm,0.4s,mb4.2,baz=184,slow=5.9,SNR=5.0						
SUR	**Sutherland**	**80.50**	**238**	LR	LR	13 17 42.1	
	comp=Z,56nm,22.0s,MS3.9,baz=264,slow=30						
TXAR	**Lajitas Array**	**144.96**	**41**	PKPbc	PKPdf	12 57 00.8	-0.6
	0.4nm,0.4s,baz=280,slow=1.0,SNR=22						

IDC 30 12:51:41.6±9.2,19°21S×175°81W,h328km±9km,mb3.8/5, mb1 3.9/6,mb1mx3.4/18,mbtmp3.8/6,Error ellipse: s-maj=168.1km s-min=28.3km az=61.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**19.96**	**197**	P	P	12 55 50.3	0.0
	0.4nm,0.3s,baz=356,slow=13,SNR=4.1						
CTA	**Charters Tower**	**35.69**	**262**	P	P	12 58 10.8	+0.8
	8.1nm,0.4s,baz=91,slow=10,SNR=24						
CTA	**Charters Tower**	**35.69**	**262**	*e*P	P	12 58 10.8	+0.8
	6.3nm,0.4s						
QLP	**Quilpie**	**37.42**	**251**	*e*P	P	12 58 24.0	-0.4
COEN	**Coen**	**39.59**	**271**	*e*P	P	12 58 44.3	+1.8
	13nm,0.4s						
STKA	**Stephens Creek**	**40.21**	**243**	P	P	12 58 47.5	+0.2
	2.9nm,0.5s,baz=107,slow=11,SNR=9.1						
STKA	**Stephens Creek**	**40.21**	**243**	*e*P	P	12 58 47.2	-0.1
	2.3nm,0.5s						
BBOO	**Buckleboo**	**44.97**	**243**	*e*P	P	12 59 24.7	-0.6
	44nm,0.5s						
ASAR	**Alice Springs**	**46.83**	**255**	P	P	12 59 39.3	-0.5
	6.1nm,0.5s,baz=87,slow=8.7,SNR=262						
ASAR				pP	pP	13 00 47.7	+0.7
	1.8nm,0.6s,baz=83,slow=8.1,SNR=6.1						
WRA	**Warramunga Arr**	**46.84**	**260**	P	P	12 59 39.1	-0.8
	4.5nm,0.5s,baz=97,slow=8.2,SNR=168						
WRA				pP	pP	13 00 45.6	-1.5
	0.6nm,0.6s,baz=93,slow=7.8,SNR=2.7						
WRA				sP	sP	13 01 24.5	+0.7
	0.2nm,0.6s,baz=102,slow=14,SNR=1.2						
FITZ	**Fitzroy Crossi**	**55.26**	**261**	P	P	13 00 42.0	-0.1
	1.3nm,0.5s,baz=96,slow=4.4,SNR=14						

CSEM ***30*** *12:57:51.4±0.2,39.°55N×27.°86E,h8km,MD2.7,Error*

ellipse: s-maj=6.1km s-min=3.3km az=101.0

ISK 30 12:57:50.9, 39.55N×27.82E, h7km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BALB	**Balikesir**	**0.11**	**28**	*e*Pg	Pg	12 57 54.2	+1.0
BALB				*e*Sg	Sg	12 57 56.3	+1.4
BALB	**Balikesir**	**0.11**	**28**	*e*Pg	Pg	12 57 54.2	+0.9
BALB				*e*Sg	Sg	12 57 56.3	+1.4
GONE	**Gonen-Balikesi**	**0.51**	**349**	*e*Pg	Pg	12 58 01.4	+0.7
GONE				*e*SG	Sg	12 58 08.9	+1.5
GONE	**Gonen-Balikesi**	**0.51**	**349**	*e*Pg	Pg	12 58 01.4	+0.7
GONE				*e*Sg	Sg	12 58 08.9	+1.5
AKS	**Akhisar**	**0.67**	**180**	*e*PG	Pg	12 58 04.1	+0.4
AKS	**Akhisar**	**0.67**	**180**	*e*Pg	Pg	12 58 04.1	+0.4
BNT	**Bandirma**	**0.81**	**6**	*e*PG	Pg	12 58 06.8	+0.3
BNT				*e*SG	Sg	12 58 18.1	+1.0
BNT	**Bandirma**	**0.81**	**6**	*e*Pg	Pg	12 58 06.8	+0.3
BNT				*e*Sg	Sg	12 58 18.1	+1.0
KCTX	**Karacabey (Bur**	**0.83**	**30**	*e*PG	Pg	12 58 06.4	-0.5
KCTX	**Karacabey (Bur**	**0.83**	**30**	*e*Pg	Pg	12 58 06.4	-0.5
KRBG	**Karabiga-Canak**	**0.93**	**335**	*e*PG	Pg	12 58 09.4	+0.5
KRBG				*e*SG	Sg	12 58 22.7	+1.7
KRBG	**Karabiga-Canak**	**0.93**	**335**	*e*Pg	Pg	12 58 09.4	+0.6
KRBG				*e*Sg	Sg	12 58 22.7	+1.7
MRMT	**Marmara Adasi**	**1.07**	**351**	*e*PG	Pg	12 58 11.5	+0.1
MRMT				*e*SG	Sg	12 58 26.8	+1.5
MRMT	**Marmara Adasi**	**1.07**	**351**	*e*Pg	Pg	12 58 11.5	+0.1
MRMT				*e*Sg	Sg	12 58 26.8	+1.5
RKY	**Sarkoy-Tekirda**	**1.24**	**337**	*e*PN	Pn	12 58 14.8	+0.2
RKY	**Sarkoy-Tekirda**	**1.24**	**337**	*e*Pn	Pn	12 58 14.8	+0.2
MFT	**Murefte**	**1.30**	**342**	*e*PN	Pn	12 58 16.1	+0.6
MFT	**Murefte**	**1.30**	**342**	*e*Pn	Pn	12 58 16.1	+0.6
BLCB	**Balcova**	**1.31**	**208**	*e*PN	Pn	12 58 16.1	+0.6
BLCB	**Balcova**	**1.31**	**208**	*e*Pn	Pn	12 58 16.1	+0.6
GELI	**Tayfur-Gelibol**	**1.34**	**310**	*e*PN	Pn	12 58 16.8	+0.9
GELI	**Tayfur-Gelibol**	**1.34**	**310**	*e*Pn	Pn	12 58 16.8	+0.9
GEMT	**Gemlik**	**1.38**	**50**	*e*PN	Pn	12 58 16.6	+0.1
GEMT	**Gemlik**	**1.38**	**50**	*e*Pn	Pn	12 58 16.6	+0.1
YLV	**Yalova**	**1.57**	**49**	*e*PN	Pn	12 58 20.1	+1.0
YLV	**Yalova**	**1.57**	**49**	*e*Pn	Pn	12 58 20.2	+1.0

*CSEM **30** 12:58:30.6±0.6, 37.68N×20.83E, h2km, ML2.2/1, Error ellipse: s-maj=12.9km s-min=5.5km az=64.0*
*ATH **30** 12:58:30.3, 37.68N×20.74E, h15km±2km, MD3.3/10*

THE 30 12:58:30.7, 37.69N×20.77E, h9km±3km, ML2.2/1, 2D, Error ellipse: s-maj=5.1km s-min=1.3km az=240.0, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KFL	**Anninata**	**0.42**	**2**	P	Pg	12 58 38.6	-0.4
KFL				S	Sg	12 58 45.8	+1.2
KFL	**Anninata**	**0.42**	**2**	P	Pg	12 58 38.6	-0.4
KFL				S	Sg	12 58 45.8	+1.2
VLS	**Valsamata**	**0.51**	**344**	*e*PN	Pg	12 58 39.9	-0.7
VLS				*e*SN	Sg	12 58 48.2	+0.8
VLS	**Valsamata**	**0.51**	**344**	P	Pg	12 58 39.9	-0.7
VLS				S	Sg	12 58 48.2	+0.8
VLS	**Valsamata**	**0.51**	**344**	P	Pg	12 58 39.9	-0.7
VLS				S	Sg	12 58 48.2	+0.8
RLS	**Riolos of Patr**	**0.66**	**56**	*i*PB	Pb	12 58 43.2	-1.3
RLS				*e*SN	Sg	12 58 53.4	+1.2
RLS	**Riolos of Patr**	**0.66**	**56**	*i*Pb	Pb	12 58 43.2	-1.3
ITM	**Ithomi**	**1.05**	**118**	*e*PN	Pn	12 58 51.0	-0.6
ITM	**Ithomi**	**1.05**	**118**	P	Pg	12 58 50.1	-0.7
ITM				S	Sg	12 59 06.0	+1.5
ITM	**Ithomi**	**1.05**	**118**	P	Pn	12 58 50.1	-0.7
ITM	**Ithomi**	**1.05**	**118**	*e*Pn	Pn	12 58 51.0	-0.6
LAKA	**Lakka**	**1.10**	**59**	P	Pg	12 58 50.9	-1.0
LAKA	**Lakka**	**1.10**	**59**	P	Pg	12 58 50.9	-1.0
PYL	**PYLOS**	**1.10**	**135**	*e*PN	Pn	12 58 51.5	-0.8
PYL				*e*SN	Sn	12 59 07.4	-0.3
PYL	**PYLOS**	**1.10**	**135**	P	Pg	12 58 51.0	-0.9
PYL	**PYLOS**	**1.10**	**135**	P	Pg	12 58 51.0	-0.9
PYL	**PYLOS**	**1.10**	**135**	*e*Pn	Pn	12 58 51.5	-0.8
PYL				*e*Sn	Sn	12 59 07.4	-0.3
LKD2	**Lefkada island**	**1.11**	**355**	P	Pg	12 58 50.3	-1.6
LKD2				S	Sg	12 59 08.6	+2.3
LKD2	**Lefkada island**	**1.11**	**355**	P	Pg	12 58 50.3	-1.6
LKD2				S	Sg	12 59 08.6	+2.3
EFP	**Efpalio**	**1.16**	**50**	*e*PN	Pn	12 58 52.0	-1.1
EFP	**Efpalio**	**1.16**	**50**	P	Pb	12 58 51.9	-1.0
EFP	**Efpalio**	**1.16**	**50**	P	Pb	12 58 51.9	-1.0
TRIZ	**Trizonia**	**1.23**	**56**	P	Pn	12 58 52.0	-2.1
TRIZ	**Trizonia**	**1.23**	**56**	P	Pn	12 58 52.0	-2.1
GUR	**Goura**	**1.27**	**78**	*e*PB	Pb	12 58 53.9	-0.9
GUR	**Goura**	**1.27**	**78**	P	Pb	12 58 53.7	-0.9
GUR	**Goura**	**1.27**	**78**	*e*Pb	Pb	12 58 53.9	-0.9
KALE	**Kalithea**	**1.29**	**56**	P	Pn	12 58 53.9	-1.0
KALE	**Kalithea**	**1.29**	**56**	P	Pn	12 58 53.9	-1.0
VLX	**Vlachokerasia**	**1.32**	**103**	*e*PN	Pn	12 58 56.1	+0.9
VLX	**Vlachokerasia**	**1.32**	**103**	*e*Pn	Pn	12 58 56.1	+0.9
EVR	**Evrytania**	**1.48**	**33**	*e*PN	Pn	12 58 59.6	+2.2
EVR	**Evrytania**	**1.48**	**33**	*e*Pn	Pn	12 58 59.6	+2.2
LTK	**Loutraki**	**1.77**	**78**	*e*PN	Pn	12 59 02.5	+1.0
LTK	**Loutraki**	**1.77**	**78**	*e*Pn	Pn	12 59 02.5	+1.0
AGG	**Agios Georgios**	**1.81**	**42**	*e*PN	Pn	12 59 04.3	+2.2
AGG	**Agios Georgios**	**1.81**	**42**	*e*Pn	Pn	12 59 04.3	+2.2
DID	**Didima**	**1.97**	**94**	*e*PB	Pb	12 59 04.1	-2.6
DID	**Didima**	**1.97**	**94**	*e*Pb	Pb	12 59 04.1	-2.6
VLI	**Veliai**	**1.98**	**119**	*e*PN	Pn	12 59 05.6	+1.2
VLI	**Veliai**	**1.98**	**119**	*e*Pn	Pn	12 59 05.6	+1.2
LKR	**Lokris**	**2.00**	**61**	*e*PB	Pb	12 59 05.4	-1.9
LKR	**Lokris**	**2.00**	**61**	*e*Pb	Pb	12 59 05.4	-1.9
THL	**Klokotos Trika**	**2.11**	**27**	*e*PN	Pn	12 59 08.7	+2.5
THL	**Klokotos Trika**	**2.11**	**27**	*e*Pn	Pn	12 59 08.7	+2.5
KYTH	**Kithira**	**2.29**	**127**	P	Pn	12 59 10.0	+1.3
KYTH	**Kithira**	**2.29**	**127**	P	Pn	12 59 10.0	+1.3
VLY	**Voula,Athens**	**2.40**	**85**	*e*PB	Pb	12 59 11.5	-2.6
VLY	**Voula,Athens**	**2.40**	**85**	*e*Pb	Pb	12 59 11.5	-2.6

*BJI **30** 13:03:04.5, 36.02N×117.54W, h5km, mB5.3/4, mb5.1/5, Ms5.2/2, Ms7 4.9/3*
*ISCJB **30** 13:03:06.0±0.3, 35.95N±0.03×117.34W±0.04, h10km, Error ellipse: s-maj=4.7km s-min=3.2km az=38.2*
*IDC **30** 13:03:05.7±2.0, 35.83N×117.40W, h0km, mb1 3.6/4, mb1mx3.4/23, mbtmp3.2/4, ML3.3/3, Error ellipse: s-maj=26.7km s-min=10.7km az=52.0*
*NEIC **30** 13:03:07.3, 35.97N×117.32W, h4km, ML4.0(PAS), After PAS.*
NEIC Felt at Inyokern, Lancaster, Ridgecrest and Trona.

ISC 30 13:03:07.2±0.3, 35.97N±0.02×117.37W±0.03, h10km, n36, σ1s20/52, Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSC	**Goldstone**	**0.81**	**145**	*e*Pg	**Pg**	**13 03 22.0**	**-0.9**
GSC				*e*Sg	**Sg**	**13 03 35.6**	**+2.2**
ISA	**Isabella**	**0.95**	**251**	*e*Pn	**Pn**	**13 03 25.7**	**-0.9**
ISA				*e*Sn	**Sn**	**13 03 37.9**	**-2.2**
OSI	**Osito Adit**	**1.75**	**220**	*e*Pn	**Pn**	**13 03 38.1**	**+0.6**
OSI				*e*Sg	**Sg**	**13 04 02.9**	**-0.5**
MWC	**Mount Wilson**	**1.83**	**198**	*e*Pn	**Pn**	**13 03 39.0**	**+0.2**
MWC				*e*Sg	**Sg**	**13 04 06.1**	**0.0**
PASC	**Pasadena Art C**	**1.91**	**201**	*e*Pn	**Pn**	**13 03 40.1**	**+0.2**
PASC				*e*Sg	**Sg**	**13 04 09.0**	**+0.3**
LDFC	**Landfair**	**2.05**	**115**	*e*Pn	**Pn**	**13 03 39.8**	**-2.0**
LDFC				*e*S	**Sn**	**13 04 08.5**	**+1.2**
PFO	**Pinyon Flat Ob**	**2.47**	**162**	*e*Pn	**Pn**	**13 03 47.1**	**-0.4**
NVAR	**Mina Array Bea**	**2.57**	**343**	Pn	**Pn**	**13 03 49.7**	**+0.8**
	3.4nm,0.3s,baz=167,slow=16,SNR=45						
NVAR				Pg	**Pg**	**13 03 55.1**	**-1.3**
	48nm,0.3s,baz=162,slow=18,SNR=127						
NVAR				Lg		13 04 32.2	
	48nm,0.3s,baz=151,slow=28,SNR=8.9						
NVAR	**Mina Array Bea**	**2.57**	**343**	Pn	**Pn**	**13 03 49.7**	**+0.8**
NVAR				Pg	**Pg**	**13 03 55.1**	**-1.3**
NVAR				Lg		13 04 32.2	
CMB	**Columbia Colle**	**3.17**	**311**	Pn	**Pn**	**13 03 58.4**	**+1.2**
BAR	**Barrett**	**3.33**	**170**	*e*Pn	**Pn**	**13 03 59.3**	**-0.1**
BAR				*e*Pg	**Pg**	**13 04 06.9**	**-4.2**
BAR				*e*Sg	**Sg**	**13 04 49.5**	**-4.7**
SAO	**San Andreas Ge**	**3.38**	**285**	*e*Pn	**Pn**	**13 04 00.7**	**+0.6**
CCUT	**Cedar City**	**3.59**	**63**	*e*Pn	**Pn**	**13 04 03.4**	**+0.5**
CCUT				*e*Pg	**Pg**	**13 04 14.2**	**-1.7**
GLA	**Glamis**	**3.59**	**143**	*e*Pn	**Pn**	**13 04 01.5**	**-1.4**
ARUT	**Antelope Range**	**3.64**	**59**	*e*Pn	**Pn**	**13 04 03.6**	**0.0**
ARUT				*e*Pg	**Pg**	**13 04 14.7**	**-2.2**
ARUT				*e*Sg	**Sg**	**13 05 03.1**	**-1.0**
WCN	**Washoe City**	**3.83**	**331**	Pn	**Pn**	**13 04 06.0**	**-0.2**
BMN	**Battle Mountai**	**4.46**	**1**	*e*Pn	**Pn**	**13 04 14.8**	**0.0**
MSU	**Marysvale**	**4.86**	**57**	*e*Pn	**Pn**	**13 04 20.1**	**-0.2**
MSU				*e*Pg	**Pg**	**13 04 37.1**	**-3.2**
WUAZ	**Wupatki**	**4.90**	**94**	*e*Pn	**Pn**	**13 04 21.7**	**+0.7**
WUAZ				*e*Pg	**Pg**	**13 04 36.3**	**-4.8**
DUG	**Dugway**	**5.54**	**39**	*e*Pn	**Pn**	**13 04 31.0**	**+1.2**
	56nm,0.8s						
DUG				*e*Pg	**Pg**	**13 04 50.5**	**-2.9**
SRU	**San Rafael**	**6.28**	**58**	*e*Pn	**Pn**	**13 04 41.0**	**+1.1**
	38nm,0.6s						
JLU	**Jordanelle**	**6.56**	**43**	P	**Pn**	**13 04 46.7**	**+3.0**
	17nm,0.7s						
TUC	**Tucson**	**6.57**	**122**	*e*Pn	**Pn**	**13 04 43.2**	**-0.7**
	9.4nm,0.7s						
HVU	**Hansel Valley**	**6.82**	**30**	P	**Pn**	**13 04 49.7**	**+2.4**
	18nm,0.9s						
PV04	**Paradox Valley**	**7.18**	**68**	*e*Pn	**Pn**	**13 04 52.5**	**+0.3**
MVCO	**Mesa Verde**	**7.25**	**78**	*e*Pn	**Pn**	**13 04 53.6**	**+0.4**
	63nm,0.8s						
PV01	**Paradox Valley**	**7.36**	**70**	*e*Pn	**Pn**	**13 04 54.5**	**-0.3**
	2um,0.5s						
ANMO	**Albuquerque**	**8.96**	**93**	Pn	**Pn**	**13 05 16.6**	**-0.1**
	0.1nm,0.3s,baz=279,slow=12,SNR=2.6						
ANMO	**Albuquerque**	**8.96**	**93**	Pn	**Pn**	**13 05 16.6**	**-0.1**
PDAR	**Pinedale Array**	**9.09**	**39**	Pn	**Pn**	**13 05 21.7**	**+3.3**
	0.1nm,0.3s,baz=224,slow=9.9,SNR=9.0						
PDAR				Lg		13 07 54.6	
	0.2nm,0.3s,baz=225,slow=20,SNR=5.8						
PDAR	**Pinedale Array**	**9.09**	**39**	Pn	**Pn**	**13 05 21.7**	**+3.3**
PDAR				Lg		13 07 54.6	
TXAR	**Lajitas Array**	**13.30**	**116**	Pn	**Pn**	**13 06 19.5**	**+3.4**
	0.0nm,0.3s,baz=299,slow=11,SNR=5.6						
TXAR				Lg		13 10 08.3	
	0.1nm,0.3s,baz=280,slow=29,SNR=8.9						
TXAR	**Lajitas Array**	**13.30**	**116**	Pn	**Pn**	**13 06 19.5**	**+3.4**
TXAR				Lg		13 10 08.3	
MDJ	**Mudanjiang**	**79.48**	**318**	P	**P**	**13 15 14.0**	**+0.1**
MDJ				pmax	pmax		
	comp=Z,110nm,5.3s						
HHC	**Hu-ho-hao-te**	**91.33**	**325**	*e*P	**P**	**13 16 13.5**	**+0.3**
HHC				PP	PP	13 19 52.5	+2.8
HHC				SKS		13 26 44.5	
HHC				S	S	13 27 10.0	-2.2
HHC				SS	SS	13 33 16.5	+0.7
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,170nm,6.0s						
HHC				LR	LR		
	comp=N,170nm,19.1s						
HHC				LR	LR		
	comp=E,370nm,18.1s						
HHC				LR	LR		
	comp=Z,150nm,18.6s						
WMQ	**Urumqi**	**97.38**	**342**	*e*P	**P**	**13 16 42.3**	**+1.5**

*IDC **30** 13:11:47.3±1.0, 12.96S×166.90E, h0km, mb4.1/10, mb1 4.2/10, mb1mx4.0/17, mbtmp4.0/10, Error ellipse: s-maj=31.3km s-min=20.6km az=107.0*
*ISCJB **30** 13:12:05.6±3.7, 13.25S±0.2×166.76E±0.1, h168km±38km, mb3.8/12, Error ellipse: s-maj=30.2km s-min=20.5km az=147.1*
*NEIC **30** 13:12:06.2±2.9, 13.14S×166.75E, h159km±29km, mb3.7/2, Error ellipse: s-maj=20.9km s-min=15.2km az=148.0*

ISC 30 13:12:06.4±3.5, 13.25S±0.2×166.8E±0.1, h160km±36km, n27, σ0s79/27, mb3.8/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.87**	**182**	*e*P	**Pn**	**13 14 11.2**	**-0.1**
EIDS	**Eidsvold**	**19.11**	**228**	*e*P	**P**	**13 16 18.8**	**+1.7**
URZ	**Urewera**	**26.65**	**162**	P	**P**	**13 17 30.2**	**0.0**
	2.5nm,0.7s,mb4.0,baz=287,slow=17,SNR=6.9						
URZ	**Urewera**	**26.65**	**162**	P	**P**	**13 17 30.2**	**0.0**
STKA	**Stephens Creek**	**29.66**	**227**	P	**P**	**13 17 57.5**	**+0.6**
	4.4nm,0.6s,mb4.4,baz=58,slow=6.8,SNR=13						
STKA	**Stephens Creek**	**29.66**	**227**	P	**P**	**13 17 57.5**	**+0.6**
WB2	**Warramunga Arr**	**31.74**	**253**	*e*P	**P**	**13 18 14.8**	**-0.6**
WRAB	**Tennant Creek**	**31.74**	**253**	*e*P	**P**	**13 18 14.6**	**-0.9**
	0.9nm,0.6s,mb3.7						
WRA	**Warramunga Arr**	**31.75**	**253**	P	**P**	**13 18 15.2**	**-0.4**
	0.4nm,0.4s,mb3.5,baz=84,slow=9.0,SNR=13						
WRA	**Warramunga Arr**	**31.75**	**253**	P	**P**	**13 18 15.2**	**-0.4**
AS31	**Alice Springs**	**32.79**	**247**	*e*P	**P**	**13 18 23.7**	**-0.9**
ASAR	**Alice Springs**	**32.79**	**247**	P	**P**	**13 18 23.9**	**-0.8**
	0.5nm,0.6s,mb3.5,baz=75,slow=9.5,SNR=21						
ASAR				PcP	PcP	13 21 05.7	-0.4
	0.4nm,0.6s,baz=74,slow=2.4,SNR=5.9						
ASAR	**Alice Springs**	**32.79**	**247**	P	**P**	**13 18 23.9**	**-0.8**
ASAR				PcP	PcP	13 21 05.7	-0.4
MJAR	**Matsushiro Arr**	**56.28**	**332**	P	**P**	**13 21 30.0**	**-0.3**
	0.9nm,0.6s,mb3.8,baz=178,slow=6.6,SNR=4.0						
MJAR	**Matsushiro Arr**	**56.28**	**332**	P	**P**	**13 21 30.0**	**-0.3**
PETK	**Petropavlovsk-**	**66.45**	**354**	P	**P**	**13 22 38.7**	**+0.5**
	3.1nm,0.9s,mb4.2,baz=147,slow=6.3,SNR=5.0						
PETK	**Petropavlovsk-**	**66.45**	**354**	P	**P**	**13 22 38.7**	**+0.5**
CMAR	**Chiang Mai Arr**	**73.85**	**294**	P	**P**	**13 23 25.2**	**+1.2**
	0.5nm,0.3s,mb3.7,baz=114,slow=4.4,SNR=3.6						
CMAR	**Chiang Mai Arr**	**73.85**	**294**	P	**P**	**13 23 25.2**	**+1.2**
ULN	**Ulaanbaatar**	**80.57**	**324**	*e*P	**P**	**13 24 01.4**	**+0.6**
	1.2nm,0.7s,mb3.6						
SONM	**Songino Array**	**80.93**	**324**	P	**P**	**13 24 03.2**	**+0.5**
	0.6nm,0.8s,mb3.2,baz=134,slow=8.4,SNR=3.5						
SONM	**Songino Array**	**80.93**	**324**	P	**P**	**13 24 03.2**	**+0.5**
ILAR	**Eielson Array**	**85.19**	**18**	P	**P**	**13 24 22.6**	**-1.6**
	0.3nm,0.4s,mb3.3,baz=241,slow=5.1,SNR=8.0						
ILAR	**Eielson Array**	**85.19**	**18**	P	**P**	**13 24 22.6**	**-1.6**
MK31	**Makanchi Array**	**95.72**	**317**	*e*P	**P**	**13 25 14.2**	**+0.1**
MKAR	**Makanchi Array**	**95.72**	**317**	P	**P**	**13 25 14.4**	**+0.4**
	0.5nm,0.6s,mb4.0,baz=90,slow=5.2,SNR=8.3						
MKAR	**Makanchi Array**	**95.72**	**317**	P	**P**	**13 25 14.4**	**+0.4**

*ISCJB **30** 13:13:13.9±0.6, 13.19N±0.10×57.56E±0.09, h10km, mb4.1/20, MS3.6/14, Error ellipse: s-maj=14.0km s-min=12.4km az=170.8*
*IDC **30** 13:13:13.9±1.0, 13.16N×57.56E, h0km, mb4.0/14, mb1 4.1/14, mb1mx3.9/27, mbtmp4.0/14, MS3.6/14, Ms1 3.6/14, ms1mx3.4/38, Error ellipse: s-maj=25.7km s-min=17.6km az=25.0*
*NEIC **30** 13:13:15.8±0.6, 13.17N×57.57E, h10km, mb4.2/5, Error ellipse: s-maj=14.3km s-min=12.3km az=149.0*

ISC 30 13:13:15.8±0.6, 13.18N±0.09×57.61E±0.09, h10km, n47, σ1s07/40, mb4.1/20, MS3.6/14, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMBO	**Kilima Mbogo**	**24.69**	**236**	*e*P	**P**	**13 18 39.1**	**+1.9**
	43nm,1.7s,mb4.7						
EIL	**Elat**	**26.64**	**312**	LR	LR	13 29 05.6	
	comp=Z,99nm,18.6s,MS3.4,baz=94,slow=36						
ASF	**Jabal al Asfar**	**26.79**	**318**	P	**P**	**13 18 57.0**	**+0.9**
	1.4nm,0.7s,mb3.6,baz=90,slow=2.3,SNR=4.6						
ASF				LR	LR	13 29 48.6	
	comp=Z,82nm,18.2s,MS3.3,baz=276,slow=37						
ASF	**Jabal al Asfar**	**26.79**	**318**	P	**P**	**13 18 57.0**	**+0.9**
MMAI	**Mount Meron Ar**	**28.30**	**318**	LR	LR	13 30 45.5	
	comp=Z,53nm,19.8s,MS3.1,baz=75,slow=37						
GNI	**Garni**	**29.16**	**339**	LR	LR	13 32 41.0	
	comp=Z,86nm,18.4s,MS3.4,baz=304,slow=40						
MBAR	**Mbarara**	**29.96**	**245**	P	**P**	**13 19 23.7**	**-0.9**
KKAR	**Karatay Array**	**31.83**	**18**	*e*P	**P**	**13 19 42.6**	**+1.8**
	1.0nm,0.7s,mb3.8						
AAK	**Ala-Archa**	**32.79**	**23**	*e*P	**P**	**13 19 52.4**	**+3.2**
	26nm,1.1s,mb5.1						
KIV	**Kislovodsk**	**33.24**	**340**	*e*P	**P**	**13 19 52.9**	**-0.2**
BRTR	**Keskin Array B**	**33.84**	**326**	P	**P**	**13 19 58.2**	**-0.2**
	0.3nm,0.3s,mb3.7,baz=103,slow=6.2,SNR=3.9						
BRTR	**Keskin Array B**	**33.84**	**326**	P	**P**	**13 19 58.2**	**-0.2**
ABKAR	**Akbulak array**	**36.02**	**3**	*e*P	**P**	**13 20 16.8**	**-0.3**
	2.0nm,0.8s,mb4.1						
AKTO	**Aktyubinsk**	**37.16**	**0**	P	**P**	**13 20 26.1**	**-0.7**
	2.4nm,0.7s,mb4.2,baz=255,slow=19,SNR=6.3						
AKTO				LR	LR	13 36 02.2	
	comp=Z,78nm,21.4s,MS3.5,baz=351,slow=37						
AKTO	**Aktyubinsk**	**37.16**	**0**	P	**P**	**13 20 26.1**	**-0.7**
MK31	**Makanchi Array**	**39.41**	**27**	P	**P**	**13 20 46.5**	**+0.7**
MKAR	**Makanchi Array**	**39.41**	**27**	P	**P**	**13 20 46.5**	**+0.8**
	1.0nm,0.8s,mb3.6,baz=213,slow=8.9,SNR=9.0						
MKAR				LR	LR	13 38 43.3	
	comp=Z,80nm,19.0s,MS3.6,baz=164,slow=39						
MKAR	**Makanchi Array**	**39.41**	**27**	P	**P**	**13 20 46.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**40.05**	**77**	P	**P**	**13 20 53.5**	**+2.0**
	0.8nm,0.3s,mb3.9,baz=273,slow=8.1,SNR=14						
CMAR				LR	LR	13 35 24.7	
	comp=Z,62nm,21.6s,MS3.4,baz=317,slow=33						
CMAR	**Chiang Mai Arr**	**40.05**	**77**	P	**P**	**13 20 53.5**	**+2.0**
BVAR	**Borovoye Array**	**41.04**	**12**	PcP	PcP	13 22 58.7	-0.3
	1.3nm,0.8s,baz=223,slow=6.1,SNR=4.9						
BVAR				LR	LR	13 39 29.1	
	comp=Z,66nm,18.1s,MS3.5,baz=11,slow=38						
BVAR	**Borovoye Array**	**41.04**	**12**	PcP	PcP	13 22 58.7	-0.3
KURK	**Kurchatov**	**41.16**	**20**	P	**P**	**13 20 59.7**	**-0.5**
	2.0nm,1.1s,mb3.7,baz=218,slow=8.1,SNR=12						
KURK				PcP	PcP	13 22 58.1	-1.3
	0.3nm,0.6s,baz=241,slow=2.4,SNR=4.2						
KURK	**Kurchatov**	**41.16**	**20**	*e*P	**P**	**13 20 59.5**	**-0.7**
	3.0nm,1.1s,mb3.8						
KURK				PcP	PcP	13 22 58.1	-1.3
ZALV	**Zalesovo Beam**	**45.99**	**22**	P	**P**	**13 21 38.2**	**-0.9**
	1.7nm,0.8s,mb4.1,baz=228,slow=7.8,SNR=8.5						
ZALV				LR	LR	13 43 11.0	
	comp=Z,79nm,18.7s,MS3.7,baz=165,slow=39						
ZALV	**Zalesovo Beam**	**45.99**	**22**	P	**P**	**13 21 38.2**	**-0.9**
GERES	**GERESS Array B**	**50.68**	**324**	P	**P**	**13 22 13.5**	**-2.0**
	0.5nm,0.6s,mb3.6,baz=134,slow=8.4,SNR=4.1						
GERES				PcP	PcP	13 23 31.1	-1.6
	0.5nm,0.7s,baz=129,slow=4.3,SNR=3.6						
GERES	**GERESS Array B**	**50.68**	**324**	P	**P**	**13 22 13.5**	**-2.0**
GERES				PcP	PcP	13 23 31.1	-1.6
PGF	**Pioggiola**	**51.06**	**315**	*e*P	**P**	**13 22 09.2**	**-9.2**
	293nm,1.7s						
BOSA	**Boshof**	**52.01**	**217**	LR	LR	13 41 48.2	
	comp=Z,145nm,19.6s,MS4.0,baz=346,slow=33						
SONM	**Songino Array**	**53.15**	**39**	P	**P**	**13 22 34.0**	**+0.2**
	1.3nm,1.0s,mb3.8,baz=234,slow=5.2,SNR=8.2						
SONM				LR	LR	13 44 18.0	
	comp=Z,64nm,19.1s,MS3.7,baz=279,slow=35						
SONM	**Songino Array**	**53.15**	**39**	P	**P**	**13 22 34.0**	**+0.2**
FINES	**FINESS Array B**	**53.30**	**342**	P	**P**	**13 22 34.9**	**+0.2**
	3.7nm,0.9s,mb4.3,baz=183,slow=3.2,SNR=3.5						
FINES	**FINESS Array B**	**53.30**	**342**	P	**P**	**13 22 34.9**	**+0.2**
MBDF	**Montbardon**	**53.32**	**316**	*e*P	**P**	**13 22 26.7**	**-8.5**
LPG	**La Plagne**	**53.60**	**317**	*e*P	**P**	**13 22 30.0**	**-7.2**
	47nm,1.4s,mb4.9						
LPL	**La Plagne**	**53.62**	**317**	*e*P	**P**	**13 22 30.1**	**-7.3**
	45nm,1.5s,mb4.9						
TORD	**Torodi Ar. Bea**	**54.34**	**277**	P	**P**	**13 22 43.7**	**+0.6**
	0.5nm,0.8s,mb3.5,baz=81,slow=5.4,SNR=3.3						
TORD				LR	LR	13 47 19.5	
	comp=Z,44nm,19.8s,MS3.5,baz=145,slow=38						
TORD	**Torodi Ar. Bea**	**54.34**	**277**	P	**P**	**13 22 43.7**	**+0.6**
KSAR	**Wonju Array Be**	**66.50**	**55**	P	**P**	**13 24 04.8**	**-1.2**
KSRS	**Korea Array**	**66.53**	**55**	P	**P**	**13 24 04.8**	**-1.4**
	1.9nm,0.8s,mb4.2,baz=86,slow=28,SNR=5.4						
KSRS				LR	LR	13 55 30.6

JMDO	**Jabal Madar**		**4.92**	**155**	P		**Pn**	**13 47 29.2**	**+1.6**
	SNR=31									
SLWS			**5.09**	**247**	P		**Pn**	**13 47 30.6**	**+0.6**
SLWS			**5.09**	**247**	P		**Pn**	**13 47 30.6**	**+0.6**
SLWS					S		**Sn**	**13 48 29.9**	**+1.0**
WBK	**Wadi Bani Khal**		**5.10**	**145**	P		**Pn**	**13 47 29.7**	**-0.4**
	SNR=24									
WBK	**Wadi Bani Khal**		**5.10**	**145**	P		**Pn**	**13 47 29.7**	**-0.4**
	SNR=24									
ZHSF	**Zahedan**		**5.16**	**57**	*e*P		**Pn**	**13 47 36.0**	**+5.1**
ZHSF					*e*Sg		**Sg**	**13 48 59.0**	**-0.4**
ZHSF	**Zahedan**		**5.16**	**57**	*e*Pn		**Pn**	**13 47 36.2**	**+5.3**
ZHSF					*e*Sg		**Sg**	**13 48 59.1**	**-0.3**
ZHSF					AML		AML	13 49 21.6		
	comp=N,37nm,0.5s									
ZHSF	**Zahedan**		**5.16**	**57**	*e*P		**Pn**	**13 47 36.0**	**+5.1**
ZHSF					*e*Sg		**Sg**	**13 48 59.0**	**-0.4**
BTHS			**5.29**	**239**	P		**Pn**	**13 47 33.1**	**+0.4**
BTHS			**5.29**	**239**	P		**Pn**	**13 47 33.2**	**+0.4**
ISAD	**Sadrabad**		**5.38**	**340**	*e*Pn		**Pn**	**13 47 36.1**	**+2.3**
ISAD					*e*			13 47 45.9		
	comp=Z,3μm,0.3s									
ISAD					*e*Sn		**Sn**	**13 48 33.3**	**-2.5**
ISAD	**Sadrabad**		**5.38**	**340**	*e*Pn		**Pn**	**13 47 36.1**	**+2.3**
ISAD					*e*Sn		**Sn**	**13 48 33.3**	**-2.5**
ICHK	**Chekchek**		**5.51**	**347**	*e*Pn		**Pn**	**13 47 37.8**	**+2.1**
ICHK					*e*			13 47 42.7		
	comp=Z,4μm,0.3s									
ICHK	**Chekchek**		**5.51**	**347**	*e*Pn		**Pn**	**13 47 37.8**	**+2.1**
BOQSS			**5.87**	**262**	S		**Sn**	**13 48 48.3**	**+0.5**
BOQSS			**5.87**	**262**	P		**Pn**	**13 47 41.7**	**+1.1**
IKOO	**Kooshah**		**6.20**	**26**	*e*Pn		**Pn**	**13 47 46.3**	**+1.1**
IKOO					*e*			13 50 08.9		
	comp=Z,1μm,0.4s									
IKOO	**Kooshah**		**6.20**	**26**	*e*Pn		**Pn**	**13 47 46.3**	**+1.1**
IGAR	**Gharneh**		**6.43**	**330**	*e*Pn		**Pn**	**13 47 49.8**	**+1.4**
IGAR					*e*Sn		**Sn**	**13 48 58.8**	**-3.1**
NASN	**Na'in**		**6.48**	**337**	*e*Pn		**Pn**	**13 47 49.0**	**0.0**
NASN	**Na'in**		**6.48**	**337**	*e*Pn		**Pn**	**13 47 49.9**	**+0.9**
NASN	**Na'in**		**6.48**	**337**	*e*Pn		**Pn**	**13 47 49.0**	**0.0**
ITEG	**Tejag**		**6.54**	**22**	*e*Pn		**Pn**	**13 47 52.3**	**+2.5**
ITEG					*e*			13 50 24.0		
	comp=Z,2μm,0.5s									
ITEG	**Tejag**		**6.54**	**22**	*e*Pn		**Pn**	**13 47 52.3**	**+2.5**
IDAH	**Dahanechah**		**6.84**	**30**	*e*Pn		**Pn**	**13 47 55.7**	**+1.8**
IDAH					*e*			13 50 11.7		
	comp=Z,1μm,0.6s									
IDAH	**Dahanechah**		**6.84**	**30**	*e*Pn		**Pn**	**13 47 55.7**	**+1.8**
TABS	**Tabas**		**6.87**	**9**	*e*Pn		**Pn**	**13 47 56.8**	**+2.5**
HRDDS			**6.97**	**237**	S		**Sn**	**13 49 14.3**	**-0.9**
HRDDS			**6.97**	**237**	P		**Pn**	**13 47 55.4**	**-0.4**
KFJS			**7.12**	**283**	P		**Pn**	**13 47 58.7**	**+0.9**
QRN	**Al-Qurain**		**7.25**	**287**	*e*P		**Pn**	**13 48 00.5**	**+0.9**
QRN					AML		AML	13 49 23.3		
	comp=Z,169nm,0.3s									
KBD	**Kabd**		**7.55**	**290**	*e*P		**Pn**	**13 48 04.9**	**+1.2**
KBD	**Kabd**		**7.55**	**290**	*e*P		**Pn**	**13 48 04.9**	**+1.2**
RDF	**Al-Radifah**		**7.61**	**288**	*e*P		**Pn**	**13 48 05.0**	**+0.5**
RDF					AML		AML	13 49 30.8		
	comp=Z,102nm,0.4s									
RDF	**Al-Radifah**		**7.61**	**288**	*e*P		**Pn**	**13 48 05.0**	**+0.5**
UMR	**Umm Al-Rimmam**		**7.64**	**292**	*e*P		**Pn**	**13 48 05.8**	**+0.8**
UMR					AML		AML	13 49 29.2		
	comp=Z,97nm,0.5s									
UMR	**Umm Al-Rimmam**		**7.64**	**292**	*e*P		**Pn**	**13 48 05.8**	**+0.8**
NAY	**Al-Naaiem**		**7.95**	**289**	*e*P		**Pn**	**13 48 10.2**	**+1.1**
NAY	**Al-Naaiem**		**7.95**	**289**	*e*P		**Pn**	**13 48 10.2**	**+1.0**
SHGR	**Shooshtar-Gavs**		**8.05**	**312**	*e*Pn		**Pn**	**13 48 10.0**	**-0.6**
SHGR	**Shooshtar-Gavs**		**8.05**	**312**	*e*Pn		**Pn**	**13 48 10.7**	**+0.1**
SHGR	**Shooshtar-Gavs**		**8.05**	**312**	*e*Pn		**Pn**	**13 48 10.0**	**-0.6**
GHVR	**GHOM**		**8.54**	**334**	*e*Pn		**Pn**	**13 48 18.0**	**+0.7**
GHVR	**GHOM**		**8.54**	**334**	*e*Pn		**Pn**	**13 48 18.4**	**+1.1**
GHVR	**GHOM**		**8.54**	**334**	*e*Pn		**Pn**	**13 48 18.0**	**+0.7**
IANJ	**Anjilo**		**8.74**	**350**	*e*Pn		**Pn**	**13 48 22.2**	**+2.2**
IANJ	**Anjilo**		**8.74**	**350**	*e*Pn		**Pn**	**13 48 22.2**	**+2.2**
IVRN	**Varamin**		**8.84**	**338**	*e*Pn		**Pn**	**13 48 22.2**	**+0.8**
IVRN					*e*Pn		**Pn**	**13 48 22.3**	**+0.9**
IVRN	**Varamin**		**8.84**	**338**	*e*Pn		**Pn**	**13 48 22.3**	**+0.9**
ILAS	**Lasjerd**		**8.85**	**345**	*e*Pn		**Pn**	**13 48 23.0**	**+1.5**
ILAS	**Lasjerd**		**8.85**	**345**	*e*Pn		**Pn**	**13 48 23.0**	**+1.5**
ASAO	**Ashtian**		**9.15**	**328**	*e*Pn		**Pn**	**13 48 26.0**	**+0.4**
ASAO	**Ashtian**		**9.15**	**328**	*e*Pn		**Pn**	**13 48 26.4**	**+0.8**
ASAO	**Ashtian**		**9.15**	**328**	*e*Pn		**Pn**	**13 48 26.0**	**+0.4**
ISHM	**Shahmirzad**		**9.18**	**347**	*e*Pn		**Pn**	**13 48 27.6**	**+1.5**
ISHM					*e*			13 48 34.4		
	comp=Z,1μm,0.3s									
ISHM	**Shahmirzad**		**9.18**	**347**	*e*Pn		**Pn**	**13 48 27.6**	**+1.5**
IDMV	**Damavand**		**9.28**	**340**	*e*Pn		**Pn**	**13 48 28.7**	**+1.3**
IDMV					*e*			13 48 34.3		
	comp=Z,435nm,0.3s									
IDMV	**Damavand**		**9.28**	**340**	*e*Pn		**Pn**	**13 48 28.7**	**+1.3**
DAMV	**Damavand**		**9.35**	**340**	*e*Pn		**Pn**	**13 48 29.0**	**+0.6**
DAMV	**Damavand**		**9.35**	**340**	*e*Pn		**Pn**	**13 48 29.6**	**+1.3**
DAMV	**Damavand**		**9.35**	**340**	*e*Pn		**Pn**	**13 48 29.0**	**+0.6**
RBK	**Rabkut**		**9.43**	**189**	P		**Pn**	**13 48 30.8**	**+1.3**
	SNR=6.4									
RBK	**Rabkut**		**9.43**	**189**	P		**Pn**	**13 48 30.8**	**+1.3**
	SNR=6.4									
IKIA	**Kiasar**		**9.50**	**349**	*e*Pn		**Pn**	**13 48 34.4**	**+3.9**
IKIA	**Kiasar**		**9.50**	**349**	*e*Pn		**Pn**	**13 48 34.4**	**+3.9**
IR3	**Iran Long-Peri**		**9.53**	**336**	*e*Pn		**Pn**	**13 48 31.5**	**+0.7**
IR3	**Iran Long-Peri**		**9.53**	**336**	*e*Pn		**Pn**	**13 48 31.5**	**+0.7**
ABTO	**Aybut**		**9.74**	**194**	P		**Pn**	**13 48 33.6**	**-0.2**
	SNR=7.0									
ABTO	**Aybut**		**9.74**	**194**	P		**Pn**	**13 48 33.6**	**-0.2**
	SNR=7.0									
IGLO	**Ghaloghah**		**9.77**	**351**	*e*Pn		**Pn**	**13 48 35.7**	**+1.6**
IPRN	**Peran**		**9.82**	**343**	*e*Pn		**Pn**	**13 48 37.2**	**+2.4**
IPRN					*e*			13 48 41.9		
	comp=Z,2μm,0.4s									
IMHD	**Mahdasht**		**9.84**	**335**	*e*Pn		**Pn**	**13 48 35.5**	**+0.3**
IMHD	**Mahdasht**		**9.84**	**335**	*e*Pn		**Pn**	**13 48 35.5**	**+0.3**
ISRO	**Mashad**		**9.93**	**17**	*e*Sg		Sx	13 51 27.1		
ISRO	**Mashad**		**9.93**	**17**	*e*Sg		Sx	13 51 27.1		
IPAY	**Payeh**		**9.94**	**15**	*e*Pn		**Pn**	**13 48 39.4**	**+2.9**
IPAY	**Payeh**		**9.94**	**15**	*e*Pn		**Pn**	**13 48 39.4**	**+2.9**
IAKL	**Akhelmad**		**10.03**	**14**	*e*Pn		**Pn**	**13 48 40.4**	**+2.6**
IMYA	**Miami**		**10.14**	**20**	*e*Pn		**Pn**	**13 48 41.7**	**+2.5**
IMYA	**Miami**		**10.14**	**20**	*e*Pn		**Pn**	**13 48 41.7**	**+2.5**
IKRD	**Kardeh**		**10.15**	**12**	*e*Pn		**Pn**	**13 48 45.1**	**+5.7**
IKRD					*e*			13 52 19.1		
	comp=Z,154nm,0.6s									
IKRD	**Kardeh**		**10.15**	**12**	*e*Pn		**Pn**	**13 48 45.1**	**+5.7**
ISFR	**Sfrayin**		**10.34**	**10**	*e*Pn		**Pn**	**13 48 44.5**	**+2.6**
ISFR					*e*			13 49 39.2		
	comp=Z,164nm,0.3s									
ISFR	**Sfrayin**		**10.34**	**10**	*e*Pn		**Pn**	**13 48 44.5**	**+2.6**
IVIS	**Veis**		**10.86**	**317**	*e*Pn		**Pn**	**13 48 48.5**	**-0.6**
IVIS					*e*			13 50 29.9		
	comp=Z,720nm,0.0s									
IVIS					*e*Sn		**Sn**	**13 50 41.5**	**-9.3**
IVIS	**Veis**		**10.86**	**317**	*e*Pn		**Pn**	**13 48 48.5**	**-0.6**
IVIS					*e*Sn		**Sn**	**13 50 41.5**	**-9.3**
IGHG	**Ghaleghazi**		**10.91**	**315**	*e*Pn		**Pn**	**13 48 47.4**	**-2.3**
IGHG					*e*			13 48 58.0		
	comp=Z,1μm,0.1s									
IGHG	**Ghaleghazi**		**10.91**	**315**	*e*Pn		**Pn**	**13 48 47.4**	**-2.3**
ILIN	**Lien**		**11.06**	**319**	*e*Pn		**Pn**	**13 48 51.9**	**0.0**
ILIN					*e*			13 48 57.1		
	comp=Z,1μm,0.1s									
ILIN	**Lien**		**11.06**	**319**	*e*Pn		**Pn**	**13 48 51.9**	**0.0**
IDHR	**Dehrash**		**11.26**	**316**	*e*Pn		**Pn**	**13 48 54.1**	**-0.5**
IDHR					*e*			13 49 03.4		
	comp=Z,2μm,0.2s									
IDHR	**Dehrash**		**11.26**	**316**	*e*Pn		**Pn**	**13 48 54.1**	**-0.5**
KBL	**Kabul**		**13.71**	**53**	P		**Pn**	**13 49 34.3**	**+6.3**
	comp=Z,14nm,0.8s									
KBL	**Kabul**		**13.71**	**53**	P		**Pn**	**13 49 34.3**	**+6.3**
KBL					pmax		pmax			
	comp=Z,14nm,0.8s									
ISHB	**Shabestar**		**14.27**	**326**	*e*Pn		**Pn**	**13 49 35.7**	**+0.1**
ISHB	**Shabestar**		**14.27**	**326**	*e*Pn		**Pn**	**13 49 35.7**	**+0.1**
GNI	**Garni**		**16.14**	**328**	Pn		**Pn**	**13 50 04.2**	**+3.7**
	comp=Z,0.5nm,0.3s,baz=150,slow=8.1,SNR=4.3									
GNI	**Garni**		**16.14**	**328**	*e*P		**Pn**	**13 50 04.3**	**+3.7**
	comp=Z,72nm,0.8s									
GNI	**Garni**		**16.14**	**328**	*d i*P		**Pn**	**13 50 03.0**	**+2.5**
GNI					pmax		pmax			
	comp=Z,27nm,1.5s									
GNI	**Garni**		**16.14**	**328**	*i* P		**Pn**	**13 50 03.0**	**+2.5**
	comp=Z,27nm,1.5s									
DGRG	**David-gareji**		**16.91**	**332**	P		**Pn**	**13 50 13.6**	**+3.2**
ASF	**Jabal al Asfar**		**17.30**	**292**	P		**Pn**	**13 50 16.4**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=327,slow=5.4,SNR=7.1									
ASF					S		**Sn**	**13 53 17.9**	**-10**
	comp=Z,0.5nm,0.3s,baz=162,slow=20,SNR=3.5									
ASF					LR		LR	13 58 37.6		
	comp=Z,53nm,20.5s,baz=347,slow=43									
ASF	**Jabal al Asfar**		**17.30**	**292**	P		**Pn**	**13 50 16.4**	**+1.1**
ASF					S		**Sn**	**13 53 17.9**	**-10**
ASF	**Jabal al Asfar**		**17.30**	**292**	P		**Pn**	**13 50 16.4**	**+1.2**
ASF					S		**Sn**	**13 53 17.9**	**-10**
EIL	**Elat**		**18.60**	**284**	P		**Pn**	**13 50 32.4**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=47,slow=9.7,SNR=6.8									
EIL					LR		LR	13 58 50.0		
	comp=Z,116nm,19.0s,baz=270,slow=41									
EIL	**Elat**		**18.60**	**284**	P		**Pn**	**13 50 32.4**	**+1.1**
EIL	**Elat**		**18.60**	**284**	P		**Pn**	**13 50 32.4**	**+1.1**
ZEI	**Tsey**		**18.62**	**332**	*e*P		**Pn**	**13 50 33.8**	**+2.4**
ZEI					pmax		pmax			
	comp=Z,70nm,0.9s									
ONI	**Oni**		**18.67**	**330**	P		**Pn**	**13 50 38.9**	**+6.9**
MMAI	**Mount Meron Ar**		**18.72**	**294**	P		**Pn**	**13 50 33.6**	**+0.9**
	comp=Z,1.3nm,0.3s,baz=99,slow=19,SNR=8.8									
MMAI					LR		LR	13 58 16.9		
	comp=Z,46nm,21.6s,baz=0.0,slow=39									
MMAI	**Mount Meron Ar**		**18.72**	**294**	P		**Pn**	**13 50 33.6**	**+0.9**
MMAI	**Mount Meron Ar**		**18.72**	**294**	P		**Pn**	**13 50 33.6**	**+0.9**
ATD	**Arta Tunnel**		**19.53**	**221**	P		**Pn**	**13 50 43.8**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=273,slow=21,SNR=4.6									
ATD					LR		LR	13 59 02.7		
	comp=Z,111nm,21.9s,baz=26,slow=40									
ATD	**Arta Tunnel**		**19.53**	**221**	P		**Pn**	**13 50 43.8**	**+1.2**
ATD	**Arta Tunnel**		**19.53**	**221**	P		**Pn**	**13 50 43.8**	**+1.2**
KIV	**Kislovodsk**		**20.10**	**331**	*e*P		**P**	**13 50 49.1**	**+1.8**
	comp=Z,51nm,0.7s									
KIV	**Kislovodsk**		**20.10**	**331**	*e*P		**P**	**13 50 48.4**	**+1.1**
KIV					*e*S		**S**	**13 54 30.6**	**-2.4**
KIV					pmax		pmax			
	comp=Z,66nm,1.0s									
KIV	**Kislovodsk**		**20.10**	**331**	*e*P		**P**	**13 50 48.4**	**+1.1**
	comp=Z,66nm,1.0s									
KIV					*e*S		**S**	**13 54 30.6**	**-2.4**
KK31	**Karatay Array**		**20.14**	**33**	P		**P**	**13 50 47.5**	**-0.3**
KK31					pmax		pmax			
	comp=Z,7.0nm,0.7s									
KK31	**Karatay Array**		**20.14**	**33**	P		**P**	**13 50 47.5**	**-0.3**
	comp=Z,7.0nm,0.7s									
KKAR	**Karatay Array**		**20.14**	**33**	*e*P		**P**	**13 50 46.2**	**-1.5**
	comp=Z,8.8nm,0.7s									
KKAR	**Karatay Array**		**20.14**	**33**	*e*P		**P**	**13 50 46.3**	**-1.5**
KKAR					pmax		pmax			
	comp=Z,9.0nm,0.7s									
KKAR	**Karatay Array**		**20.14**	**33**	*e*P		**P**	**13 50 46.2**	**-1.6**
	comp=Z,8.8nm,0.7s									
CSS	**Prodhromos**		**20.89**	**298**	*e*P		**P**	**13 50 56.1**	**+0.1**
	comp=Z,15nm,0.8s									
CSS	**Prodhromos**		**20.89**	**298**	*e*P		**P**	**13 50 56.2**	**+0.2**
	comp=Z,15nm,0.8s									
KSH	**Kashi**		**21.01**	**48**	*i*P		**P**	**13 50 49.5**	**-7.8**
KSH					PcP		PcP	13 55 07.0	+2.8	
KSH					ScP		ScP	13 58 41.5	+0.3	
KSH					PcS		PcS	13 58 43.0	+0.8	
KSH					pmax		pmax			
	comp=Z,8.0nm,0.9s,mb4.0									
KSH					pmax		pmax			
	comp=Z,58nm,3.5s									
KSH					LR		LR			
	comp=N,130nm,5.9s									
KSH					LR		LR			
	comp=E,180nm,4.8s									
KSH					LR		LR			
	comp=Z,100nm,6.4s									
AML	**Almayashu**		**21.13**	**39**	P		**P**	**13 50 57.0**	**-1.5**
	SNR=13									
SOC	**Sochi**		**21.19**	**326**	*e*P		**P**	**13 51 02.0**	**+2.8**
SOC					*e*S		**S**	**13 54 59.2**	**+4.5**
SOC					pmax		pmax			
	comp=Z,66nm,1.0s,mb4.9									
SOC					MLR		MLR			
	comp=Z,166nm,11.0s,MS3.7									
EKS2	**Erkin-Say**		**21.52**	**38**	P		**P**	**13 51 02.7**	**-0.1**
	SNR=15									
EKS2	**Erkin-Say**		**21.52**	**38**	*e*P		**P**	**13 51 02.2**	**-0.6**
	comp=Z,24nm,0.9s,mb4.6									
EKS2	**Erkin-Say**		**21.52**	**38**	*e*P		**P**	**13 51 02.2**	**-0.6**
EKS2					pmax		pmax			
	comp=Z,24nm,0.9s,mb4.6									
EKS2	**Erkin-Say**		**21.52**	**38**	*e*P		**P**	**13 51 02.2**	**-0.6**
	comp=Z,24nm,0.9s,mb4.6									
AAK	**Ala-Archa**		**21.91**	**39**	P		**P**	**13 51 10.7**	**+3.8**
	SNR=8.7									
AAK	**Ala-Archa**		**21.91**	**39**	*e*P		**P**	**13 51 06.3**	**-0.6**
	comp=Z,150nm,1.1s,mb5.3									
AAK	**Ala-Archa**		**21.91**	**39**	*d i*P		**P**	**13 51 06.6**	**-0.3**
AAK					pmax		pmax			
	comp=Z,15nm,1.0s,mb4.4									
AAK	**Ala-Archa**		**21.91**	**39**	*e*P		**P**	**13 51 06.3**	**-0.6**
	comp=Z,150nm,1.1s,mb5.3									
KZA	**Kyzart**		**22.00**	**41**	P		**P**	**13 51 11.1**	**+3.3**
	SNR=14									
FRU	**Bishkek**		**22.11**	**39**	*e*P		**P**	**13 51 11.0**	**+2.0**
FRU					pmax		pmax			
	comp=Z,40nm,2.0s,mb4.5									
KBK	**Karagaybulak**		**22.18**	**40**	P		**P**	**13 51 10.4**	**+0.6**
	SNR=7.8									
USP	**Ospenovka**		**22.32**	**38**	P		**P**	**13 51 12.8**	**+1.6**
	SNR=9.4									
BRTR	**Keskin Array B**		**22.48**	**310**	P		**P**	**13 51 13.8**	**+0.8**
	comp=Z,4.5nm,0.8s,mb4.0,baz=132,slow=12,SNR=12									
BRTR	**Keskin Array B**		**22.48**	**310**	P		**P**	**13 51 13.8**	**+0.8**
BRTR	**Keskin Array B**		**22.48**	**310**	P		**P**	**13 51 13.9**	**+0.9**
BRTR	**Keskin Array B**		**22.48**	**310**	P		**P**	**13 51 13.9**	**+0.9**
BR131	**Keskin Array S**		**22.48**	**310**	*e*P		**P**	**13 51 13.4**	**+0.4**
	comp=Z,16nm,0.8s,mb4.5									
BR131	**Keskin Array S**		**22.48**	**310**	*e*P		**P**	**13 51 13.4**	**+0.4**
	comp=Z,16nm,0.8s,mb4.5									
AB31	**Akbulak array**		**22.59**	**7**	P		**P**	**13 51 12.7**	**-1.4**
AB31					pmax		pmax			
	comp=Z,16nm,0.8s,mb4.5									
AB31	**Akbulak array**		**22.59**	**7**	P		**P**	**13 51 12.7**	**-1.4**
	comp=Z,16nm,0.8s,mb4.5									
ABKAR	**Akbulak array**		**22.59**	**7**	*e*P		**P**	**13 51 12.6**	**-1.5**
	comp=Z,11nm,0.7s,mb4.4									
ABKAR	**Akbulak array**		**22.59**	**7**	*e*P		**P**	**13 51 12.6**	**-1.5**
	comp=Z,11nm,0.7s,mb4.4									
TKM2	**Tokmak 2**		**22.72**	**40**	P		**P**	**13 51 16.7**	**+1.2**
	SNR=8.1									
TKM2	**Tokmak 2**		**22.72**	**40**	*e*P		**P**	**13 51 14.1**	**-1.4**
	comp=Z,7.6nm,0.9s,mb4.1									
TKM2	**Tokmak 2**		**22.72**	**40**	*i* P		**P**	**13 51 16.7**	**+1.2**
TKM2	**Tokmak 2**		**22.72**	**40**	*e*P		**P**	**13 51 14.1**	**-1.4**
	comp=Z,7.6nm,0.9s,mb4.1									
ANN	**Anapa**		**23.21**	**325**	*e*P		**P**	**13 51 15.8**	**-4.9**
ANN					pmax		pmax			
	comp=Z,178nm,5.3s									
AKTK	**Aktyubinsk**		**23.61**	**4**	P		**P**	**13 51 23.5**	**-1.2**
AKTO	**Aktyubinsk**		**23.61**	**4**	P		**P**	**13 51 23.5**	**-1.2**
	comp=Z,5.7nm,0.6s,mb4.2,baz=171,slow=9.1,SNR=17									
AKTO					LR		LR	14 01 30.3		
	comp=Z,93nm,19.6s,MS3.3,baz=170,slow=39									
AKTO	**Aktyubinsk**		**23.61**	**4**	P		**P**	**13 51 23.5**	**-1.2**
AKTO	**Aktyubinsk**		**23.61**	**4**	P		**P**	**13 51 23.5**	**-1.2**
AKTO	**Aktyubinsk**		**23.61**	**4**	P		**P**	**13 51 23.5**	**-1.2**
PYUN	**Piuthan**		**24.12**	**81**	*e*P		**P**	**13 51 29.9**	**+0.3**
	comp=Z,46nm,1.2s,mb4.8									
KOLN	**Koldanda**		**24.68**	**81**	*e*P		**P**	**13 51 35.3**	**+0.5**
	comp=Z,20nm,0.8s,mb4.7									
DANN	**Dangsing**		**24.79**	**80**	*e*P		**P**	**13 51 36.4**	**+0.7**
	comp=Z,42nm,0.7s,mb5.1									
GKN	**Gorkha**		**25.58**	**81**	*e*P		**P**	**13 51 43.8**	**+0.9**
DMN	**Daman**		**26.03**	**82**	*e*P		**P**	**13 51 47.2**	**+0.2**
KKN	**Kakani**		**26.16**	**81**	*e*P		**P**	**13 51 48.5**	**+0.3**
	comp=Z,14nm,0.8s,mb4.6									
PKI	**Pulchoki**		**26.30**	**82**	*e*P		**P**	**13 51 49.4**	**0.0**
GUN	**Gumba**		**26.68**	**81**	*e*P		**P**	**13 51 52.8**	**-0.1**
	comp=Z,35nm,0.8s,mb4.9									
JIRN	**Jiri**		**26.98**	**81**	*e*P		**P**	**13 51 55.6**	**0.0**
	comp=Z,3.6nm,0.7s,mb4.0									
RAMN	**Ramite**		**27.42**	**83**	*e*P		**P**	**13 51 58.9**	**-0.6**
VSR	**Storozhevoye**		**27.42**	**337**	*e*P		**P**	**13 52 00.5**	**+1.2**
VSR					pmax		pmax			
	comp=Z,7.0nm,1.2s,mb4.1									
VSR					pmax		pmax			
	comp=N,3.0nm,0.7s									
VSR					pmax		pmax			
	comp=E,8.0nm,0.9s									
VSR	**Storozhevoye**		**27.42**	**337**	*e*P		**P**	**13 52 00.5**	**+1.2**
	comp=E,3.0nm,0.7s,mb3.9									
ODAN	**Odare**		**28.13**	**83**	*e*P		**P**	**13 52 06.2**	**+0.3**
BRVK	**Borovoye**		**28.31**	**19**	P		**P**	**13 52 05.3**	**-1.9**
	comp=E,9.3nm,0.9s,mb4.4									
BRVK	**Borovoye**		**28.31**	**19**	⇑*i*P		**P**	**13 52 06.4**	**-0.8**
BRVK					pmax		pmax			
	comp=Z,7.0nm,0.9s,mb4.3									
BRVK	**Borovoye**		**28.31**	**19**	P		**P**	**13 52 05.3**	**-1.9**
	comp=Z,9.3nm,0.9s,mb4.4									
BVA0	**Borovoye Array**		**28.31**	**19**	*i* P		**P**	**13 52 06.1**	**-1.1**
BVA0					pmax		pmax			
	comp=Z,1.0nm,0.7s,mb3.5									
BVA0	**Borovoye Array**		**28.31**	**19**	*i* P		**P**	**13 52 06.1**	**-1.1**
	comp=Z,1.0nm,0.7s,mb3.5									
BVAR	**Borovoye Array**		**28.31**	**19**	P		**P**	**13 52 06.6**	**-0.7**
	comp=Z,7.4nm,0.6s,mb4.5,baz=201,slow=8.4,SNR=70									
BVAR					LR		LR	14 04 09.6		
	comp=Z,90nm,18.7s,MS3.4,baz=215,slow=38									
BVAR	**Borovoye Array**		**28.31**	**19**	P		**P**	**13 52 06.6**	**-0.7**
BVAR	**Borovoye Array**		**28.31**	**19**	P		**P**	**13 52 06.6**	**-0.6**
BVAR	**Borovoye Array**		**28.31**	**19**	P		**P**	**13 52 06.6**	**-0.6**
TAPN	**Taplejung**		**28.35**	**82**	*e*P		**P**	**13 52 07.0**	**-0.9**
MK31	**Makanchi Array**		**28.84**	**39**	*e*P		**P**	**13 52 11.4**	**-0.7**
MK31	**Makanchi Array**		**28.84**	**39**	*e*P		**P**	**13 52 11.4**	**-0.6**
MK31	**Makanchi Array**		**28.84**	**39**	*e*P		**P**	**13 52 11.4**	**-0.6**
MKAR	**Makanchi Array**		**28.84**	**39**	P		**P**	**13 52 11.4**	**-0.7**
	comp=Z,1.9nm,0.8s,mb3.9,baz=224,slow=8.0,SNR=24									
MKAR	**Makanchi Array**		**28.84**	**39**	P		**P**	**13 52 11.4**	**-0.7**
MKAR	**Makanchi Array**		**28.84**	**39**	P		**P**	**13 52 11.4**	**-0.6**
MKAR	**Makanchi Array**		**28.84**	**39**	P		**P**	**13 52 11.4**	**-0.6**
KURK	**Kurchatov**		**29.50**	**30**	P		**P**	**13 52 16.4**	**-1.4**
	comp=Z,2.7nm,0.7s,mb4.1,baz=230,slow=8.4,SNR=33					

TREC	**Trest**		**38.24**	**317**	*eP*		**P**	**13 53 33.4**	**-0.2**
MOA	**Molln**		**38.52**	**314**	⇓*iP*		**P**	**13 53 35.6**	**-0.5**
	comp=Z,4.6nm,0.8s,mb4.2								
MOA	**Molln**		**38.52**	**314**	P		**P**	**13 53 35.6**	**-0.4**
	comp=Z,4.6nm,0.8s,mb4.2								
GTA	**Gaotai**		**38.55**	**60**	*eP*		**P**	**13 53 36.3**	**-0.2**
GTA					pP	pP		13 53 40.5	+0.9
GTA					sP	sP		13 53 43.8	+3.0
GTA					pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.4								
KBA	**Koelnbreinsper**		**38.89**	**313**	⇑*iP*		**P**	**13 53 39.2**	**0.0**
	comp=Z,4.4nm,0.7s,mb4.3								
KBA	**Koelnbreinsper**		**38.89**	**313**	P		**P**	**13 53 39.2**	**0.0**
	comp=Z,4.4nm,0.7s,mb4.3								
GERES	**GERESS Array B**		**39.19**	**315**	P		**P**	**13 53 41.0**	**-0.6**
	comp=Z,0.8nm,0.5s,mb3.8,baz=96,slow=6.3,SNR=14								
GERES	**GERESS Array B**		**39.19**	**315**	P		**P**	**13 53 41.0**	**-0.6**
GERES	**GERESS Array B**		**39.19**	**315**	P		**P**	**13 53 41.0**	**-0.6**
GERES	**GERESS Array B**		**39.19**	**315**	P		**P**	**13 53 41.0**	**-0.6**
ABTA	**Abfaltersbach**		**39.35**	**312**	⇓*iP*		**P**	**13 53 42.7**	**-0.3**
	comp=Z,3.5nm,0.6s,mb4.3								
ABTA	**Abfaltersbach**		**39.35**	**312**	P		**P**	**13 53 42.7**	**-0.4**
	comp=Z,3.5nm,0.6s,mb4.3								
KHC	**Kasperske Hory**		**39.36**	**316**	*eP*		**P**	**13 53 42.1**	**-0.9**
	comp=Z,14nm,1.3s,mb4.5								
KHC	**Kasperske Hory**		**39.36**	**316**	*eP*		**P**	**13 53 42.1**	**-0.9**
KHC					pmax	pmax			
	comp=Z,14nm,1.3s,mb4.5								
KHC	**Kasperske Hory**		**39.36**	**316**	*eP*		**P**	**13 53 42.3**	**-0.7**
KHC					*e*pP	pP		13 53 49.0	+2.9
KHC					*ex*	x		13 54 12.5	
KHC	**Kasperske Hory**		**39.36**	**316**	*eP*		**P**	**13 53 42.1**	**-0.9**
	comp=Z,14nm,1.3s,mb4.5								
JOF	**Joensuu**		**39.51**	**343**	*eP*		**P**	**13 53 44.1**	**0.0**
JOF	**Joensuu**		**39.51**	**343**	*ep*		**P**	**13 53 44.1**	**0.0**
JOF	**Joensuu**		**39.51**	**343**	*eP*		**P**	**13 53 44.1**	**0.0**
BRG	**Berggiesshubel**		**39.73**	**319**	*eP*		**P**	**13 53 45.1**	**-1.0**
	comp=Z,2.8nm,0.6s,mb4.1								
BRG					*e*	pP		13 53 49.6	+0.4
	comp=Z,5.0nm,1.0s								
BRG	**Berggiesshubel**		**39.73**	**319**	*eP*		**P**	**13 53 45.2**	**-0.9**
BRG					pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.2								
BRG	**Berggiesshubel**		**39.73**	**319**	*eP*		**P**	**13 53 45.2**	**-0.9**
	comp=Z,3.0nm,0.6s,mb4.2								
FINES	**FINESS Array B**		**39.94**	**338**	P		**P**	**13 53 47.0**	**-0.7**
	comp=Z,4.7nm,0.5s,mb4.5,baz=140,slow=9.6,SNR=39								
FINES	**FINESS Array B**		**39.94**	**338**	P		**P**	**13 53 47.0**	**-0.7**
FINES	**FINESS Array B**		**39.94**	**338**	P		**P**	**13 53 47.0**	**-0.7**
FINES	**FINESS Array B**		**39.94**	**338**	P		**P**	**13 53 47.0**	**-0.7**
WTTA	**Wattenberg**		**40.07**	**312**	⇓*iP*		**P**	**13 53 48.1**	**-0.9**
	comp=Z,8.3nm,0.6s,mb4.6								
WTTA	**Wattenberg**		**40.07**	**312**	P		**P**	**13 53 48.1**	**-0.9**
	comp=Z,8.3nm,0.6s,mb4.6								
KAF	**Kangasniemi**		**40.35**	**339**	*eP*		**P**	**13 53 51.1**	**0.0**
KAF	**Kangasniemi**		**40.35**	**339**	*ep*		**P**	**13 53 51.1**	**0.0**
KAF	**Kangasniemi**		**40.35**	**339**	*eP*		**P**	**13 53 51.1**	**0.0**
KEST	**Kesra**		**40.38**	**294**	P		**P**	**13 53 52.8**	**+1.1**
	comp=Z,3.3nm,0.9s,mb4.1,baz=351,slow=1.8,SNR=4.6								
KEST	**Kesra**		**40.38**	**294**	P		**P**	**13 53 52.8**	**+1.1**
KEST	**Kesra**		**40.38**	**294**	P		**P**	**13 53 52.8**	**+1.1**
CHTO	**Chiang Mai**		**40.39**	**92**	*eP*		**P**	**13 53 51.1**	**-0.9**
	comp=Z,26nm,1.7s,mb4.7								
CHTO	**Chiang Mai**		**40.39**	**92**	*eP*		**P**	**13 53 51.1**	**-0.9**
CHTO					pmax	pmax			
	comp=Z,26nm,1.7s,mb4.7								
CHTO	**Chiang Mai**		**40.39**	**92**	*eP*		**P**	**13 53 51.1**	**-0.9**
	comp=Z,26nm,1.7s,mb4.7								
MOTA	**Moosalm**		**40.44**	**312**	⇓*iP*		**P**	**13 53 50.7**	**-1.3**
	comp=Z,4.2nm,0.5s,mb4.4								
MOTA	**Moosalm**		**40.44**	**312**	P		**P**	**13 53 50.7**	**-1.3**
	comp=Z,4.2nm,0.5s,mb4.4								
CLL	**Collm**		**40.44**	**319**	*eP*		**P**	**13 53 50.0**	**-2.0**
CLL					*e*			13 54 01.0	
CLL	**Collm**		**40.44**	**319**	*eP*		**P**	**13 53 50.0**	**-2.0**
CLL					*e*(sP)		sP	13 54 01.0	+4.6
CLL					LmV			14 15 00.0	
	comp=Z,100nm,18.8s								
CLL	**Collm**		**40.44**	**319**	*eP*		**P**	**13 53 50.0**	**-2.0**
CMAR	**Chiang Mai Arr**		**40.51**	**93**	P		**P**	**13 53 53.2**	**+0.3**
	comp=Z,0.5nm,0.6s,mb3.4,baz=283,slow=8.5,SNR=3.5								
CMAR	**Chiang Mai Arr**		**40.51**	**93**	P		**P**	**13 53 53.2**	**+0.3**
CMAR	**Chiang Mai Arr**		**40.51**	**93**	P		**P**	**13 53 53.2**	**+0.2**
CMAR	**Chiang Mai Arr**		**40.51**	**93**	P		**P**	**13 53 53.2**	**+0.2**
FETA	**Feichten**		**40.61**	**312**	⇑*iP*		**P**	**13 53 52.4**	**-1.0**
	comp=Z,6.8nm,0.6s,mb4.4								
FETA	**Feichten**		**40.61**	**312**	P		**P**	**13 53 52.4**	**-1.1**
	comp=Z,6.8nm,0.6s,mb4.4								
RETA	**Reutte**		**40.70**	**313**	⇓*iP*		**P**	**13 53 52.8**	**-1.4**
	comp=Z,3.1nm,0.6s,mb4.1								
RETA	**Reutte**		**40.70**	**313**	P		**P**	**13 53 52.8**	**-1.4**
	comp=Z,3.1nm,0.6s,mb4.1								
PGF	**Pioggiola**		**41.02**	**305**	*eP*		**P**	**13 53 55.0**	**-2.0**
DAVA	**Damuels**		**41.23**	**312**	⇓*iP*		**P**	**13 53 57.6**	**-1.0**
	comp=Z,22nm,0.5s,mb5.0								
DAVA	**Damuels**		**41.23**	**312**	P		**P**	**13 53 57.6**	**-1.0**
	comp=Z,22nm,0.5s,mb5.0								
LZH	**Lanzhou**		**41.63**	**65**	*eP*		**P**	**13 54 02.0**	**0.0**
LZH					pP	pP		13 54 05.5	+0.4
LZH					pmax	pmax			
	comp=Z,13nm,1.0s,mb4.5								
CD2	**Chengdu**		**41.92**	**73**	P		**P**	**13 54 07.3**	**+2.8**
CD2					pP	pP		13 54 12.3	+4.7
CD2					sP	sP		13 54 15.0	+6.2
CD2					PP	PP		13 55 48.0	+6.6
CD2					S	**S**		**14 00 25.3**	**+2.4**
CD2					sS	sS		14 00 34.0	+6.0
CD2					SS	SS		14 03 27.0	-2.4
CD2					pmax	pmax			
	comp=Z,20nm,0.5s,mb5.0								
CD2					pmax	pmax			
	comp=Z,100nm,5.9s								
CD2					LR	LR			
	comp=N,310nm,5.9s								
CD2					LR	LR			
	comp=Z,240nm,6.0s								
KMI	**Kunming**		**42.02**	**81**	P		**P**	**13 54 09.8**	**+4.4**
KMI					pP	pP		13 54 15.0	+6.5
KMI					sP	sP		13 54 16.5	+6.7
KMI					pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.3								
SBF	**Sospel**		**42.32**	**307**	*eP*		**P**	**13 54 06.3**	**-1.3**
	comp=Z,75nm,1.0s,mb5.0								
APA	**Apatity**		**42.96**	**348**	⇑*eP*		**P**	**13 54 10.0**	**-2.4**
APA					MLR	MLR			
	comp=Z,700nm,19.0s,MS4.6								
APA	**Apatity**		**42.96**	**348**	*eP*		**P**	**13 54 10.0**	**-2.4**
	comp=Z,700nm,19.0s								
LPG	**La Plagne**		**43.03**	**309**	*eP*		**P**	**13 54 11.9**	**-1.4**
	comp=Z,16nm,0.9s,mb4.5								
LPL	**La Plagne**		**43.04**	**309**	*eP*		**P**	**13 54 11.9**	**-1.5**
CABF	**La Chapelle**		**43.65**	**310**	*eP*		**P**	**13 54 17.3**	**-1.0**
IRK	**Irkutsk**		**44.05**	**41**	*e*		**P**	**13 54 20.6**	**-0.9**
IRK					pmax	pmax			
	comp=Z,36nm,0.8s,mb5.2								
SONM	**Songino Array**		**44.42**	**48**	P		**P**	**13 54 24.5**	**+0.1**
	comp=Z,4.0nm,0.9s,mb4.2,baz=259,slow=8.5,SNR=32								
SONM					LR	LR		14 14 58.3	
	comp=Z,141nm,18.0s,MS3.9,baz=190,slow=39								
SONM	**Songino Array**		**44.42**	**48**	P		**P**	**13 54 24.5**	**+0.1**
SONM	**Songino Array**		**44.42**	**48**	P		**P**	**13 54 24.5**	**+0.1**
SONM	**Songino Array**		**44.42**	**48**	P		**P**	**13 54 24.5**	**+0.1**
SFTF	**Sexfontaines**		**44.62**	**312**	*eP*		**P**	**13 54 24.9**	**-1.1**
ULN	**Ulaanbaatar**		**44.86**	**48**	*eP*		**P**	**13 54 27.2**	**-0.8**
	comp=Z,5.2nm,0.8s,mb4.4								
ULN	**Ulaanbaatar**		**44.86**	**48**	*eP*		**P**	**13 54 27.2**	**-0.8**
ULN					pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.4								
ULN	**Ulaanbaatar**		**44.86**	**48**	*eP*		**P**	**13 54 27.2**	**-0.8**
	comp=Z,5.0nm,0.8s,mb4.4								
GYA	**Guiyang**		**45.19**	**78**	*eP*		**P**	**13 54 33.8**	**+2.9**
GYA					pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.7								
SMF	**Signal de Mont**		**45.19**	**310**	*eP*		**P**	**13 54 29.2**	**-1.4**
	comp=Z,28nm,1.0s,mb4.7								
NB2	**NORSAR Subarra**		**45.41**	**331**	P		**P**	**13 54 30.6**	**-1.5**
	comp=Z,5.0nm,0.9s,mb4.3,baz=118,slow=7.9								
NB2	**NORSAR Subarra**		**45.41**	**331**	P		**P**	**13 54 30.6**	**-1.5**
	comp=Z,5.0nm,0.9s,mb4.3,baz=118,slow=7.7,SNR=8.0								
NOA	**NORSAR Array B**		**45.41**	**331**	P		**P**	**13 54 30.5**	**-1.6**
	comp=Z,1.0nm,0.7s,mb3.8,baz=116,slow=7.9,SNR=4.0								
NOA	**NORSAR Array B**		**45.41**	**331**	P		**P**	**13 54 30.5**	**-1.6**
NOA	**NORSAR Array B**		**45.41**	**331**	P		**P**	**13 54 30.5**	**-1.6**
NOA	**NORSAR Array B**		**45.41**	**331**	P		**P**	**13 54 30.5**	**-1.6**
SSF	**Saint Saulge**		**45.47**	**311**	*eP*		**P**	**13 54 31.5**	**-1.3**
	comp=Z,36nm,1.2s,mb4.8								
BAIF	**Baives**		**45.49**	**315**	*eP*		**P**	**13 54 32.8**	**-0.1**
	comp=Z,4.3nm,0.5s,mb4.2								
AVF	**Avril sur Loir**		**45.54**	**310**	*eP*		**P**	**13 54 31.7**	**-1.7**
	comp=Z,12nm,0.8s,mb4.6								
TAM	**Tamanrasset**		**45.60**	**276**	*eP*		**P**	**13 54 34.5**	**+0.3**
	comp=Z,8.5nm,1.0s,mb4.6								
TAM	**Tamanrasset**		**45.60**	**276**	*eP*		**P**	**13 54 34.5**	**+0.3**
TAM					pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.7								
TAM	**Tamanrasset**		**45.60**	**276**	*eP*		**P**	**13 54 34.5**	**+0.3**
	comp=Z,9.0nm,1.0s,mb4.7								
XAN	**Xi'an**		**45.91**	**68**	P		**P**	**13 54 35.0**	**-1.5**
XAN					pmax	pmax			
	comp=Z,29nm,3.8s								
ARCES	**ARCESS Array B**		**46.23**	**346**	P		**P**	**13 54 37.5**	**-1.0**
	comp=Z,1.5nm,0.5s,mb4.2,baz=142,slow=7.0,SNR=15								
ARCES	**ARCESS Array B**		**46.23**	**346**	P		**P**	**13 54 37.5**	**-1.0**
ARCES	**ARCESS Array B**		**46.23**	**346**	P		**P**	**13 54 37.5**	**-1.0**
ARCES	**ARCESS Array B**		**46.23**	**346**	P		**P**	**13 54 37.5**	**-1.0**
CAF	**Calviac**		**46.26**	**308**	*eP*		**P**	**13 54 38.2**	**-0.9**
HHC	**Hu-ho-hao-te**		**47.60**	**58**	*eP*		**P**	**13 54 51.3**	**+1.6**
HHC					PcP	PcP		13 56 21.3	+1.9
HHC					PP	PP		13 56 42.3	+1.2
HHC					PcS	PcS		14 00 15.0	+0.3
HHC					S	**S**		**14 01 45.5**	**+0.4**
HHC					sS	sS		14 01 53.3	+3.0
HHC					ScS	ScS		14 04 41.3	-2.4
HHC					pmax	pmax			
	comp=Z,20nm,0.6s,mb5.3								
HHC					pmax	pmax			
	comp=Z,140nm,6.5s								
HHC					LR	LR			
	comp=N,160nm,16.3s,MS4.4								
HHC					LR	LR			
	comp=E,290nm,16.6s,MS4.4								
HHC					LR	LR			
	comp=Z,130nm,16.9s,MS4.0								
LDF	**La Druitiere**		**48.08**	**312**	*eP*		**P**	**13 54 51.2**	**-2.0**
	comp=Z,13nm,0.8s,mb4.7								
MSKU	**Masuku**		**49.57**	**242**	LR	LR		14 15 30.6	
	comp=Z,34nm,19.6s,MS3.4,baz=325,slow=36								
ESDC	**Sonseca Array**		**50.75**	**301**	P		**P**	**13 55 12.3**	**-1.5**
	comp=Z,1.7nm,0.6s,mb4.2,baz=72,slow=7.3,SNR=11								
ESDC	**Sonseca Array**		**50.75**	**301**	P		**P**	**13 55 12.3**	**-1.5**
ESDC	**Sonseca Array**		**50.75**	**301**	P		**P**	**13 55 12.3**	**-1.5**
BOD	**Bodaibo**		**50.83**	**36**	*eP*		**P**	**13 55 12.0**	**-2.1**
BOD					pmax	pmax			
	comp=Z,12nm,1.2s,mb4.7								
BOD	**Bodaibo**		**50.83**	**36**	*eP*		**P**	**13 55 12.0**	**-2.1**
	comp=Z,12nm,1.2s,mb4.7								
BJI	**Beijing**		**51.16**	**59**	P		**P**	**13 55 19.5**	**+2.6**
BJI					pmax	pmax			
	comp=Z,8.0nm,0.7s,mb4.8								
BJI					LR	LR			
	comp=Z,48nm,18.4s,MS3.5								
TORD	**Torodi Ar. Bea**		**52.30**	**266**	P		**P**	**13 55 24.7**	**-1.0**
	comp=Z,8.8nm,0.4s,mb5.0,baz=69,slow=7.3,SNR=141								
TORD	**Torodi Ar. Bea**		**52.30**	**266**	P		**P**	**13 55 24.7**	**-1.0**
TORD	**Torodi Ar. Bea**		**52.30**	**266**	P		**P**	**13 55 24.7**	**-1.0**
SPITS	**Spitsbergen Ar**		**54.42**	**351**	P		**P**	**13 55 39.9**	**-0.5**
	comp=Z,3.3nm,0.6s,mb4.4,baz=135,slow=13,SNR=7.8								
SPITS	**Spitsbergen Ar**		**54.42**	**351**	P		**P**	**13 55 39.9**	**-0.5**
SPITS	**Spitsbergen Ar**		**54.42**	**351**	P		**P**	**13 55 39.9**	**-0.5**
SPITS	**Spitsbergen Ar**		**54.42**	**351**	P		**P**	**13 55 39.9**	**-0.5**
NJ2	**Nanjing**		**54.46**	**68**	*eP*		**P**	**13 55 46.5**	**+5.1**
NJ2					pmax	pmax			
	comp=Z,10.0nm,0.7s,mb4.8								
CN2	**Changchun**		**57.65**	**53**	*eP*		**P**	**13 56 03.3**	**-0.7**
CN2					pmax	pmax			
	comp=Z,20nm,0.9s,mb5.2								
YAK	**Yakutsk**		**59.12**	**32**	*eP*		**P**	**13 56 15.3**	**+1.4**
YAK					pmax	pmax			
	comp=Z,11nm,1.1s,mb4.8								
YAK					pmax	pmax			
	comp=E,5.0nm,1.2s								
YAK	**Yakutsk**		**59.12**	**32**	*eP*		**P**	**13 56 15.3**	**+1.4**
	comp=E,11nm,1.1s,mb4.8								
LBTB	**Lobatse**		**59.24**	**212**	LR	LR		14 21 58.2	
	comp=E,52nm,18.7s,MS3.7,baz=90,slow=36								
LBTB	**Lobatse**		**59.24**	**212**	*eP*		**P**	**13 56 15.2**	**0.0**
	comp=E,18nm,0.9s,mb5.1								
LBTB	**Lobatse**		**59.24**	**212**	*eP*		**P**	**13 56 15.2**	**0.0**
LBTB					pmax	pmax			
	comp=Z,18nm,0.9s,mb5.1								
LBTB	**Lobatse**		**59.24**	**212**	*eP*		**P**	**13 56 15.2**	**0.0**
	comp=Z,18nm,0.9s,mb5.1								
MDJ	**Mudanjiang**		**60.48**	**52**	P		**P**	**13 56 25.5**	**+1.9**
MDJ					pmax	pmax			
	comp=Z,130nm,4.3s								
DAG	**Danmarks Havn**		**60.51**	**345**	*i* P		**P**	**13 56 29.5**	**+6.2**
DAG					pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.4								
DAG	**Danmarks Havn**		**60.51**	**345**	*i* P		**P**	**13 56 29.5**	**+6.2**
	comp=Z,3.4nm,0.7s,mb4.6								
KSAR	**Wonju Array Be**		**60.59**	**60**	P		**P**	**13 56 23.1**	**-1.4**
KSAR	**Wonju Array Be**		**60.59**	**60**	P		**P**	**13 56 23.2**	**-1.4**
KSAR	**Wonju Array Be**		**60.59**	**60**	P		**P**	**13 56 23.1**	**-1.5**
KSRS	**Korea Array**		**60.62**	**60**	P		**P**	**13 56 23.1**	**-1.6**
	comp=Z,3.4nm,0.6s,mb4.7,baz=280,slow=6.5,SNR=19								
KSRS					LR	LR		14 26 19.9	
	comp=Z,43nm,18.4s,MS3.6,baz=310,slow=40								
KSRS	**Korea Array**		**60.62**	**60**	P		**P**	**13 56 23.2**	**-1.6**
KSRS					pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.6								
KSRS					MLR	MLR			
	comp=Z,43nm,18.4s,MS3.6								
KSRS	**Korea Array**		**60.62**	**60**	P		**P**	**13 56 23.2**	**-1.6**
	comp=Z,43nm,18.4s								
DBIC	**Dimbokro**		**60.89**	**262**	P		**P**	**13 56 25.9**	**-1.1**
	comp=Z,6.0nm,0.8s,mb4.8,baz=23,slow=8.1,SNR=8.6								
DBIC					LR	LR		14 23 15.1	
	comp=Z,77nm,19.0s,MS3.9,baz=211,slow=36								
DBIC	**Dimbokro**		**60.89**	**262**	P		**P**	**13 56 25.9**	**-1.1**
DBIC	**Dimbokro**		**60.89**	**262**	P		**P**	**13 56 25.9**	**-1.0**
DBIC	**Dimbokro**		**60.89**	**262**	P		**P**	**13 56 25.9**	**-1.0**
KLR	**Kul'dur**		**61.20**	**47**	*eP*		**P**	**13 56 23.7**	**-4.8**
BOSA	**Boshof**		**62.47**	**210**	P		**P**	**13 56 36.5**	**-0.6**
	comp=Z,3.7nm,0.4s,mb4.9,baz=15,slow=6.6,SNR=27								
BOSA	**Boshof**		**62.47**	**210**	P		**P**	**13 56 36.5**	**-0.6**
BOSA	**Boshof**		**62.47**	**210**	P		**P**	**13 56 36.6**	**-0.5**
BOSA	**Boshof**		**62.47**	**210**	P		**P**	**13 56 36.5**	**-0.6**
SUMG	**Summit**		**65.90**	**341**	*eP*		**P**	**13 57 00.7**	**+1.6**
SUMG					pmax	pmax			
	comp=Z,4.0nm,1.0s								
SUMG	**Summit**		**65.90**	**341**	*i* P		**P**	**13 57 00.7**	**+1.6**
	comp=Z,3.9nm,1.0s,mb4.4								
SUMG	**Summit**		**65.90**	**341**	*eP*		**P**	**13 57 00.7**	**+1.6**
	comp=Z,4.0nm,1.0s,mb4.4								
FITZ	**Fitzroy Crossi**		**81.12**	**115**	P		**P**	**13 58 28.1**	**-1.4**
	comp=Z,5.1nm,0.8s,mb4.5,baz=229,slow=5.0,SNR=6.0								
FITZ	**Fitzroy Crossi**		**81.12**	**115**	P		**P**	**13 58 28.1**	**-1.4**
FITZ	**Fitzroy Crossi**		**81.12**	**115**	P		**P**	**13 58 28.1**	**-1.4**
COLD	**Coldfoot**		**84.19**	**10**	*eP*		**P**	**13 58 42.3**	**-2.5**
	comp=Z,4.9nm,0.8s,mb4.7								
COLD	**Coldfoot**		**84.19**	**10**	*eP*		**P**	**13 58 42.3**	**-2.4**
	comp=Z,4.9nm,0.8s,mb4.7								
INK	**Inuvik**		**84.88**	**3**	LR	LR		14 39 54.3	
	comp=Z,90nm,19.9s,MS4.2,baz=54,slow=38								
BPAW	**Bear Paw Mtn.**		**86.94**	**11**	*eP*		**P**	**13 58 57.4**	**-1.1**
	comp=Z,37nm,1.3s,mb5.5								
BPAW	**Bear Paw Mtn.**		**86.94**	**11**	*eP*		**P**	**13 58 57.3**	**-1.2**
	comp=Z,37nm,1.3s,mb5.5								
ILAR	**Eielson Array**		**86.98**	**10**	P		**P**	**13 58 57.0**	**-1.7**
	comp=Z,1.9nm,0.7s,mb4.5,baz=321,slow=4.4,SNR=36								
ILAR	**Eielson Array**		**86.98**	**10**	P		**P**	**13 58 57.0**	**-1.7**
ILAR	**Eielson Array**		**86.98**	**10**	P		**P**	**13 58 57.0**	**-1.7**
ILAR	**Eielson Array**		**86.98**	**10**	P		**P**	**13 58 57.0**	**-1.7**
PPLA	**Pyrgspile**		**87.82**	**12**	P		**P**	**13 58 59.2**	**-3.5**
WRA	**Warramunga Arr**		**89.14**	**113**	P		**P**	**13 59 08.4**	**-1.3**
	comp=Z,1.3nm,1.0s,mb4.2,baz=308,slow=3.8,SNR=11								
WRA	**Warramunga Arr**		**89.14**	**113**	P		**P**	**13 59 08.4**	**-1.3**
WRA	**Warramunga Arr**		**89.14**	**113**	P		**P**	**13 59 08.4**	**-1.3**
WRA	**Warramunga Arr**		**89.14**	**113**	P		**P**	**13 59 08.4**	**-1.3**
ASAR	**Alice Springs**		**90.58**	**116**	P		**P**	**13 59 14.8**	**-1.6**
	comp=Z,0.6nm,0.7s,mb4.0,baz=301,slow=4.9,SNR=15								
ASAR	**Alice Springs**		**90.58**	**116**	P		**P**	**13 59 14.8**	**-1.6**
ASAR	**Alice Springs**		**90.58**	**116**	P		**P**	**13 59 14.8**	**-1.6**
ASAR	**Alice Springs**		**90.58**	**116**	P		**P**	**13 59 14.8**	**-1.6**
RCBR	**Riachuelo**		**94.13**	**266**	LR	LR		14 41 25.0	
	comp=Z,50nm,18.6s,MS4.0,baz=228,slow=35								
TXAR	**Lajitas Array**		**120.77**	**339**	PKP	PKPdf		14 05 05.2	-1.2
	comp=Z,0.2nm,0.5s,baz=47,slow=0.5,SNR=5.7								
TXAR	**Lajitas Array**		**120.77**	**339**	PKP	PKPdf		14 05 05.2	-1.2
TXAR	**Lajitas Array**		**120.77**	**339**	PKIKP	PKPdf		14 05 05.3	-1.1

*IDC **30** 13:54:49.8±0.7,5.°07N×126.°88E,h0km,mb3.7/10, mb1 3.9/10,mb1mx3.7/22,mbtmp3.7/10,MS3.0/1, Ms1 3.0/1,ms1mx2.5/32,Error ellipse: s-maj=39.2km s-min=14.5km az=74.0*

*ISCJB **30** 13:54:53.7±1.9,5.°11N±0.°07×127.°0E±0.°1,h40km±18km, mb3.8/13,Error ellipse: s-maj=24.5km s-min=10.3km az=163.6*

*NEIC **30** 13:55:00.7±4.7,5.°01N×126.°92E,h90km±46km,mb3.9/4, Error ellipse: s-maj=23.1km s-min=9.5km az=64.0*

ISC 30 13:54:54.6±5.0,5.°10N±0.°08×127.°0E±0.°1,h31km±37km, n32,σ1°915/31,mb3.8/13,2C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**2.27**	**296**	⇑*iP*			**Pn**	**13 55 29.2**	**-0.8**
CTBH	**Cotabato--PC H**	**3.46**	**308**	⇑*iP*			**Pn**	**13 55 49.5**	**+3.1**
CGP	**Cagayan de Oro**	**4.05**	**326**	⇓*eP*			**Pn**	**13 55 53.0**	**-1.5**
KSM	**Kuching**	**17.05**	**258**	*eP*			**Pn**	**13 58 52.5**	**+1.6**
GUMO	**Guam**	**19.53**	**63**	LR			LR	14 06 39.0	
	comp=Z,42nm,18.4s,baz=167,slow=36								
FITZ	**Fitzroy Crossi**	**23.09**	**183**	P			**P**	**13 59 57.1**	**-0.8**
	3.2nm,0.7s,mb3.9,baz=342,slow=8.6,SNR=4.4								
FITZ	**Fitzroy Crossi**	**23.09**	**183**	*eP*			**P**	**13 59 57.5**	**-0.4**
	2.9nm,0.6s,mb3.9								
WRAB	**Tennant Creek**	**25.90**	**164**	*eP*			**P**	**14 00 24.4**	**+0.4**
	2.8nm,0.8s,mb3.8								
WRA	**Warramunga Arr**	**25.91**	**164**	P			**P**	**14 00 23.0**	**-1.0**
	1.4nm,0.7s,mb3.6,baz=342,slow=10,SNR=9.1								
WRA	**Warramunga Arr**	**25.91**	**164**	P			**P**	**14 00 23.0**	**-1.0**
WB2	**Warramunga Arr**	**25.91**	**164**	*eP*			**P**	**14 00 23.8**	**-0.2**
CBIJ	**Chichi jima**	**26.23**	**32**	P			**P**	**14 00 28.4**	**+1.4**
	25nm,0.4s,baz=277,slow=22,SNR=5.6								
CBIJ	**Chichi jima**	**26.23**	**32**	P			**P**	**14 00 28.4**	**+1.4**
ASAR	**Alice Springs**	**29.37**	**167**	P			**P**	**14 00 56.0**	**+1.0**
	0.6nm,1.0s,mb3.3,baz=337,slow=6.3,SNR=6.5								
ASAR	**Alice Springs**

DGMT	**Dagmar**	**79.65**	**336**	*e*P		**P**		**14 07 09.6**	**+0.3**
	31nm,1.1s,mb4.9								
GCMT	**Greycliff**	**79.74**	**331**	*e*P		**P**		**14 07 09.7**	**-0.2**
	4.8nm,0.9s,mb4.1								
HLID	**Hailey**	**80.29**	**327**	*e*P		**P**		**14 07 13.8**	**+0.9**
	8.4nm,0.9s,mb4.4								
BOSA	**Boshof**	**80.52**	**117**	P		**P**		**14 07 14.2**	**-0.4**
	2.4nm,0.8s,mb3.9,baz=165,slow=8.2,SNR=7.3								
BOSA	**Boshof**	**80.52**	**117**	P		**P**		**14 07 14.2**	**-0.4**
MAW	**Mawson**	**81.26**	**163**	P		**P**		**14 07 18.2**	**+0.5**
	6.5nm,0.9s,mb4.3,baz=77,slow=23,SNR=4.5								
MAW	**Mawson**	**81.26**	**163**	P		**P**		**14 07 18.2**	**+0.5**
LBTB	**Lobatse**	**82.17**	**114**	P		**P**		**14 07 22.9**	**-0.5**
	4.7nm,0.8s,mb4.2,baz=253,slow=5.6,SNR=5.9								
LBTB	**Lobatse**	**82.17**	**114**	P		**P**		**14 07 22.9**	**-0.5**
SWMT	**Swartz Lake**	**82.99**	**330**	*e*P		**P**		**14 07 26.8**	**-0.1**
	2.6nm,0.9s,mb4.0								
JTMT	**Jette**	**83.29**	**330**	*e*P		**P**		**14 07 28.3**	**-0.1**
	3.0nm,0.8s,mb4.1								
BSMT	**Bassoo Peak**	**83.60**	**330**	*e*P		**P**		**14 07 30.0**	**0.0**
	4.0nm,0.9s,mb4.2								
TAM	**Tamanrasset**	**84.30**	**62**	*e*P		**P**		**14 07 34.5**	**+0.3**
	3.0nm,0.8s,mb4.1								
OD2	**Odessa Site #2**	**85.14**	**328**	*e*P		**P**		**14 07 37.4**	**-0.4**
	22nm,1.1s,mb4.8								
ETW	**Entiat**	**86.08**	**327**	*e*P		**P**		**14 07 42.3**	**-0.1**
	20nm,1.3s,mb4.7								
JCW	**Jim Creek**	**87.28**	**327**	*e*P		**P**		**14 07 47.2**	**-1.0**
	12nm,1.2s,mb4.6								
LSZ	**Lusaka**	**88.30**	**106**	*e*P		**P**		**14 07 55.4**	**+1.5**
	11nm,1.3s,mb4.5								
YKA	**Yellowknife Ar**	**94.30**	**340**	P		**P**		**14 08 19.8**	**-0.7**
	2.4nm,0.6s,mb4.5,baz=132,slow=4.4,SNR=11								
YKA	**Yellowknife Ar**	**94.30**	**340**	P		**P**		**14 08 19.8**	**-0.7**
ASAR	**Alice Springs**	**128.41**	**204**	PKP		PKPdf		14 14 07.7	-0.5
	3.0nm,0.8s,baz=143,slow=2.0,SNR=33								
ASAR	**Alice Springs**	**128.41**	**204**	PKP		PKPdf		14 14 07.7	-0.5
WRA	**Warramunga Arr**	**131.59**	**207**	PKP		PKPdf		14 14 13.9	-0.3
	0.9nm,0.2s,baz=153,slow=2.0,SNR=75								
WRA	**Warramunga Arr**	**131.59**	**207**	PKP		PKPdf		14 14 13.9	-0.3
PETK	**Petropavlovsk-**	**135.82**	**323**	PKP		PKPdf		14 14 21.8	+0.8
	4.4nm,1.0s,baz=98,slow=3.3,SNR=5.7								
PETK	**Petropavlovsk-**	**135.82**	**323**	PKP		PKPdf		14 14 21.8	+0.8
BVAR	**Borovoye Array**	**136.79**	**37**	PKP		PKPdf		14 14 23.3	+0.5
	1.0nm,0.8s,baz=238,slow=1.4,SNR=5.6								
BVAR	**Borovoye Array**	**136.79**	**37**	PKP		PKPdf		14 14 23.3	+0.5
KURK	**Kurchatov**	**142.38**	**36**	PKP		PKPdf		14 14 33.4	+0.3
	1.0nm,0.7s,baz=300,slow=3.0,SNR=7.3								
KURK	**Kurchatov**	**142.38**	**36**	PKP		PKPdf		14 14 33.4	+0.3
ZAA0	**Zalesovo Array**	**143.42**	**28**	*e*PKPpre		PKPpre		14 14 32.3	
ZALV	**Zalesovo Beam**	**143.42**	**28**	PKP		PKPdf		14 14 31.9	-3.0
	3.5nm,0.6s,baz=316,slow=4.1,SNR=21								
ZALV	**Zalesovo Beam**	**143.42**	**28**	PKP		PKPdf		14 14 31.9	-3.0
KSH	**Kashi**	**145.13**	**55**	PKP		PKPdf		14 14 38.0	-0.3
KSH				sPKP				14 15 37.3	
KSH				PKS				14 18 13.0	
KSH				SKS		SKSdf		14 21 31.5	+1.0
KSH				AMB		AMB			
	comp=Z,170nm,4.8s								
KSH				LR		LR			
	comp=N,14nm,3.3s								
KSH				LR		LR			
	comp=E,35nm,4.0s								
KSH				LR		LR			
	comp=Z,80nm,6.3s								
MK31	**Makanchi Array**	**146.51**	**40**	*e*PKPdf		PKPdf		14 14 40.1	-0.3
MKAR	**Makanchi Array**	**146.51**	**40**	PKPbc		PKPbc		14 14 40.6	-1.5
	comp=Z,5.1nm,0.7s,baz=311,slow=2.7,SNR=40								
MKAR	**Makanchi Array**	**146.51**	**40**	PKPbc		PKPbc		14 14 40.6	-1.5
WMQ	**Urumqi**	**151.33**	**40**	PKPbc		PKPdf		14 14 47.5	-0.7
MDJ	**Mudanjiang**	**155.57**	**331**	PKP		PKPdf		14 14 52.0	-2.3
MDJ				AMB		AMB			
	comp=Z,120nm,3.7s								
SONM	**Songino Array**	**155.73**	**11**	PKP		PKPdf		14 14 55.7	+1.4
	comp=Z,0.5nm,0.8s,baz=289,slow=1.7,SNR=4.3								
SONM				PKPab		PKPab		14 15 21.7	+0.1
	comp=Z,1.0nm,0.7s,baz=329,slow=4.4,SNR=8.1								
SONM	**Songino Array**	**155.73**	**11**	PKP		PKPdf		14 14 55.7	+1.4
SONM				PKPab		PKPab		14 15 21.7	+0.1
HHC	**Hu-ho-hao-te**	**163.27**	**4**	*e*PKP		PKPdf		14 15 02.0	-1.2
HHC				pPKP		pPKPdf		14 15 46.0	-4.4
HHC				sPKP				14 16 01.0	
HHC				PKS				14 18 34.5	
HHC				PP		PP		14 19 41.5	+2.3
HHC				SKS		SKSdf		14 21 48.5	-2.4
HHC				SKKS		SKKSac		14 26 11.0	+0.6
HHC				SS		SS		14 39 50.3	+1.2
HHC				AMB		AMB			
	comp=Z,100nm,9.3s								
CMAR	**Chiang Mai Arr**	**165.57**	**110**	PKPab		PKPab		14 16 06.1	+0.5
	comp=Z,1.6nm,0.8s,baz=250,slow=5.5,SNR=8.7								
CMAR	**Chiang Mai Arr**	**165.57**	**110**	PKPab		PKPab		14 16 06.1	+0.5
CD2	**Chengdu**	**169.25**	**49**	PKP		PKPdf		14 15 07.0	-1.2
KMI	**Kunming**	**170.44**	**82**	PKP		PKPdf		14 15 07.8	-1.3
NJ2	**Nanjing**	**170.66**	**329**	*e*PKP		PKPdf		14 15 09.3	+0.3
GYA	**Guiyang**	**173.65**	**67**	*e*PKP		PKPdf		14 15 08.5	-2.0
GYA				pPKP		pPKPdf		14 15 54.0	-3.7
GYA				sPKP				14 16 12.5	
GYA				PKPab		PKPab		14 16 41.8	+0.6
GYA				PKS				14 18 40.3	
GYA				PP		PP		14 20 34.0	+0.4
GYA				AMB		AMB			
	comp=Z,90nm,8.0s								

*ISCJB **30** 13:58:42.0±0.4,40°.63N±0°.02×29°.01E±0°.03,h5km±4km,*
Error ellipse: s-maj=4.0km s-min=3.8km az=18.9
*DDA **30** 13:58:41.9,40°.61N×29°.01E,h14km±1km,Md2.4*
*ISK **30** 13:58:41.6,40°.60N×29°.03E,h8km,MD2.8*
*CSEM **30** 13:58:42.1±0.1,40°.62N×29°.01E,h8km,MD2.8,Error*
ellipse: s-maj=2.1km s-min=1.8km az=15.0

ISC 30 13:58:42.3±0.4,40°.62N±0°.02×29°.01E±0°.03,h8km±4km,
n44,σ0°56/62,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARMT	**Armutlu**	**0.13**	**245**	*e*PG	**Pg**	**13 58 45.5**	**+0.4**
ARMT				*e*SG	**Sg**	**13 58 47.2**	**+0.3**
ARMT	**Armutlu**	**0.13**	**245**	*e*Pg	**Pg**	**13 58 45.5**	**+0.4**
ARMT				*e*Sg	**Sg**	**13 58 47.2**	**+0.2**
GEMT	**Gemlik**	**0.23**	**144**	*e*PG	**Pg**	**13 58 46.4**	**-0.5**
GEMT				*e*SG	**Sg**	**13 58 49.4**	**-0.5**
GEMT	**Gemlik**	**0.23**	**144**	*e*Pg	**Pg**	**13 58 46.4**	**-0.5**
GEMT				*e*Sg	**Sg**	**13 58 49.4**	**-0.5**
BUY	**Buyukada**	**0.25**	**19**	*i* P	**Pg**	**13 58 47.9**	**+0.6**
BUY				*i* S	**Sg**	**13 58 51.9**	**+1.3**
BUY	**Buyukada**	**0.25**	**19**	*i* P	**Pg**	**13 58 47.9**	**+0.7**
BUY				*i* S	**Sg**	**13 58 51.9**	**+1.3**
MDNY	**Mudanya-Bursa**	**0.27**	**202**	*e*PG	**Pg**	**13 58 47.8**	**+0.2**
MDNY				*e*SG	**Sg**	**13 58 51.2**	**0.0**
MDNY	**Mudanya-Bursa**	**0.27**	**202**	*e*Pg	**Pg**	**13 58 47.8**	**+0.2**
MDNY				*e*Sg	**Sg**	**13 58 51.2**	**0.0**
YLV	**Yalova**	**0.28**	**101**	*e*PG	**Pg**	**13 58 47.6**	**-0.2**
YLV				*e*SG	**Sg**	**13 58 51.5**	**0.0**
YLV	**Yalova**	**0.28**	**101**	*e*Pg	**Pg**	**13 58 47.6**	**-0.2**
YLV				*e*Sg	**Sg**	**13 58 51.5**	**-0.1**
ADVT	**Abdulvahap**	**0.58**	**108**	*e*PG	**Pg**	**13 58 53.1**	**-0.5**
ADVT	**Abdulvahap**	**0.58**	**108**	*e*Pg	**Pg**	**13 58 53.1**	**-0.5**
KCTX	**Karacabey (Bur**	**0.61**	**235**	*e*PG	**Pg**	**13 58 53.6**	**-0.5**
KCTX	**Karacabey (Bur**	**0.61**	**235**	*e*Pg	**Pg**	**13 58 53.6**	**-0.5**
KLYT	**Kilyos**	**0.64**	**2**	*e*PG	**Pg**	**13 58 54.4**	**-0.2**
KLYT	**Kilyos**	**0.64**	**2**	*e*Pg	**Pg**	**13 58 54.4**	**-0.1**
ELBA	**Catalca**	**0.69**	**320**	*i* P	**Pg**	**13 58 55.0**	**-0.6**
ELBA				*i* S	**Sg**	**13 59 04.1**	**-0.4**
ELBA	**Catalca**	**0.69**	**320**	*i* P	**Pg**	**13 58 55.0**	**-0.6**
ELBA				*i* S	**Sg**	**13 59 04.1**	**-0.4**
CTKS	**Kestanelik-??a**	**0.73**	**328**	*e*PG	**Pg**	**13 58 56.4**	**+0.1**
CTKS	**Kestanelik-??a**	**0.73**	**328**	*e*Pg	**Pg**	**13 58 56.4**	**+0.1**
BNT	**Bandirma**	**0.87**	**253**	*e*PG	**Pg**	**13 58 58.6**	**-0.4**
BNT	**Bandirma**	**0.87**	**253**	*e*Pg	**Pg**	**13 58 58.6**	**-0.5**
CTYL	**Yal??k??y-??at**	**1.02**	**328**	*e*PG	**Pg**	**13 59 01.7**	**-0.1**
CTYL	**Yal??k??y-??at**	**1.02**	**328**	*e*Pg	**Pg**	**13 59 01.7**	**-0.1**
MRMT	**Marmara Adasi**	**1.08**	**270**	*e*PN	**Pn**	**13 59 02.9**	**-0.8**
MRMT	**Marmara Adasi**	**1.08**	**270**	*e*Pn	**Pn**	**13 59 02.9**	**-0.8**
DURS	**Dursunbey**	**1.10**	**202**	*i* P	**Pg**	**13 59 03.0**	**-0.4**
DURS				*i* S	**Sg**	**13 59 18.4**	**+0.8**
DURS	**Dursunbey**	**1.10**	**202**	*i* P	**Pg**	**13 59 03.0**	**-0.3**
DURS				*i* S	**Sg**	**13 59 18.4**	**+0.8**
GULT	**Gulveren**	**1.16**	**99**	*e*PN	**Pn**	**13 59 04.0**	**-0.8**
GULT	**Gulveren**	**1.16**	**99**	*e*Pn	**Pn**	**13 59 04.0**	**-0.8**
GONE	**Gonen-Balikesi**	**1.16**	**241**	*e*PN	**Pn**	**13 59 04.3**	**-0.5**
GONE	**Gonen-Balikesi**	**1.16**	**241**	*e*Pn	**Pn**	**13 59 04.3**	**-0.5**
BORA	**Eskisehir**	**1.33**	**123**	*i* P	**Pn**	**13 59 07.1**	**0.0**
BORA				*i* S	**Sb**	**13 59 25.4**	**+0.9**
BORA	**Eskisehir**	**1.33**	**123**	*i* P	**Pn**	**13 59 07.1**	**0.0**
BORA				*i* S	**Sb**	**13 59 25.4**	**+0.9**
KRBG	**Karabiga-Canak**	**1.33**	**261**	*e*PN	**Pn**	**13 59 07.2**	**+0.2**
KRBG	**Karabiga-Canak**	**1.33**	**261**	*e*Pn	**Pn**	**13 59 07.2**	**+0.1**
MFT	**Murefte**	**1.33**	**278**	*e*PN	**Pn**	**13 59 07.2**	**+0.2**
MFT	**Murefte**	**1.33**	**278**	*e*Pn	**Pn**	**13 59 07.2**	**+0.1**
BALY	**Balya**	**1.38**	**231**	*i* P	**Pn**	**13 59 07.3**	**-0.5**
BALY				*i* S	**Sb**	**13 59 27.6**	**+1.5**
BALY	**Balya**	**1.38**	**231**	*i* P	**Pn**	**13 59 07.3**	**-0.5**
BALY				*i* S	**Sb**	**13 59 27.6**	**+1.5**
RKY	**Sarkoy-Tekirda**	**1.40**	**273**	*e*PN	**Pn**	**13 59 08.2**	**+0.1**
RKY	**Sarkoy-Tekirda**	**1.40**	**273**	*e*Pn	**Pn**	**13 59 08.2**	**+0.2**
HENT	**Hendek**	**1.45**	**81**	*i* P	**Pn**	**13 59 09.1**	**+0.4**
HENT	**Hendek**	**1.45**	**81**	*i* P	**Pn**	**13 59 09.1**	**+0.4**

*NOU **30** 14:10:53.5±1.1,20°.45S×170°.67E,h30km,MD3.2,ML2.9*
*IDC **30** 14:10:54.9±1.2,22°.32S×170°.50E,h0km,mb4.0/8,*
mb1 4.2/8,mb1mx4.0/17,mbtmp4.0/8,MS3.5/6,Ms1 3.5/6,
ms1mx3.2/22,Error ellipse: s-maj=39.9km s-min=27.4km
az=170.0
*ISCJB **30** 14:10:59.4±1.4,22°.3S±0°.1×170°.57E±0°.06,h39km±12km,*
mb4.1/10,MS3.5/4,Error ellipse: s-maj=23.5km
s-min=9.1km az=170.1
*NEIC **30** 14:11:02.3±1.7,22°.26S×170°.47E,h51km±15km,mb4.1/2,*
Error ellipse: s-maj=31.3km s-min=12.4km az=161.0

ISC 30 14:11:01.9±1.2,22°.3S±0°.1×170°.53E±0°.07,h47km±11km,
n42,σ1°35/37,mb4.1/10,MS3.5/4,Southeast of Loyalty
Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYA	**Yate Dam**	**3.38**	**271**	*e*S	**Sn**	**14 12 33.6**	**+2.5**
PLUM	**Mont Dore**	**3.61**	**269**	*e*P	**Pn**	**14 11 53.7**	**-1.6**
PLUM				*e*S	**Sn**	**14 12 37.9**	**+1.3**
NORM	**Noumea**	**3.75**	**270**	*e*P	**Pn**	**14 11 55.8**	**-1.4**
NORM				*e*S	**Sn**	**14 12 41.4**	**+1.2**
DZM	**Mont Dzumac**	**3.80**	**272**	*e*P	**Pn**	**14 11 56.4**	**-1.4**
DZM				*e*S	**Sn**	**14 12 39.2**	**-2.1**
NOUC	**Port Laguerre**	**3.92**	**272**	*e*P	**Pn**	**14 11 58.3**	**-1.3**
NOUC				*e*S	**Sn**	**14 12 46.1**	**+1.7**
NOUC				AMP		14 12 55.0	
	comp=Z,45nm,0.0s						
MSVF	**Nonsavu**	**8.38**	**59**	*e*P	**Pn**	**14 13 02.4**	**+1.6**
HNR	**Honiara**	**16.32**	**320**	LR	LR	14 20 06.3	
	comp=Z,88nm,21.1s,baz=142,slow=34						
URZ	**Urewera**	**16.91**	**162**	LR	LR	14 19 43.0	
	comp=Z,288nm,19.5s,baz=350,slow=31						
EIDS	**Eidsvold**	**18.06**	**256**	P	**Pn**	**14 15 10.4**	**+1.0**
	comp=Z,9.8nm,1.0s						
ARMA	**Armidale**	**18.77**	**240**	*e*P	**Pn**	**14 15 16.4**	**-1.5**
RMQ	**Roma**	**20.27**	**254**	*e*P	**P**	**14 15 35.8**	**+2.3**
	comp=Z,17nm,0.9s						
RPZ	**Rata Peaks**	**21.39**	**179**	LR	LR	14 22 59.2	
	comp=Z,153nm,18.7s,MS3.4,baz=353,slow=34						
CTA	**Charters Tower**	**22.74**	**271**	P	**P**	**14 16 00.1**	**0.0**
	comp=Z,2.4nm,0.7s,mb3.7,baz=100,slow=9.3,SNR=5.3						
CTA				LR	LR	14 23 32.2	
	comp=Z,108nm,21.1s,MS3.3,baz=278,slow=33						
CTA	**Charters Tower**	**22.74**	**271**	P	**P**	**14 16 00.1**	**0.0**
CTAO	**Charters Tower**	**22.74**	**271**	P	**P**	**14 16 02.3**	**+2.3**
CMSA	**Cobar Meteorol**	**23.95**	**242**	*e*P	**P**	**14 16 11.6**	**-0.2**
	comp=Z,48nm,0.7s,mb5.0						
QLP	**Quilpie**	**24.31**	**255**	*e*P	**P**	**14 16 15.3**	**+0.2**
MTSU	**Mount Surprise**	**24.93**	**275**	*e*P	**P**	**14 16 21.5**	**+0.7**
	comp=Z,30nm,1.7s,mb4.5						
ASAR	**Alice Springs**	**33.70**	**260**	P	**P**	**14 17 36.3**	**-2.4**
	comp=Z,2.5nm,0.9s,mb4.1,baz=87,slow=8.9,SNR=18						
ASAR	**Alice Springs**	**33.70**	**260**	P	**P**	**14 17 36.3**	**-2.4**
WRA	**Warramunga Arr**	**33.80**	**267**	P	**P**	**14 17 37.9**	**-1.7**
	comp=Z,0.2nm,0.3s,mb3.5,baz=97,slow=8.4,SNR=6.9						
WRA	**Warramunga Arr**	**33.80**	**267**	P	**P**	**14 17 37.9**	**-1.7**
FITZ	**Fitzroy Crossi**	**42.23**	**267**	P	**P**	**14 18 50.6**	**0.0**
	comp=Z,6.1nm,0.8s,mb4.3,baz=125,slow=12,SNR=5.7						
FITZ	**Fitzroy Crossi**	**42.23**	**267**	P	**P**	**14 18 51.7**	**+1.1**
NWAO	**Narrogin (SRO)**	**47.98**	**245**	LR	LR	14 40 50.9	
	comp=Z,86nm,18.9s,MS3.8,baz=246,slow=38						
QSPA	**South Pole Qui**	**67.80**	**180**	P	**P**	**14 21 54.3**	**0.0**
	comp=Z,3.3nm,1.0s,mb4.3,baz=31,slow=2.0,SNR=4.1						
QSPA	**South Pole Qui**	**67.80**	**180**	*e*P	**P**	**14 21 54.7**	**+0.4**
	comp=Z,4.7nm,1.1s,mb4.4						
KSRS	**Korea Array**	**71.68**	**325**	LR	LR	14 53 39.7	
	comp=Z,19nm,18.9s,MS3.4,baz=165,slow=36						
CMAR	**Chiang Mai Arr**	**80.84**	**294**	P	**P**	**14 23 11.3**	**+0.1**
	comp=Z,0.7nm,0.7s,mb3.7,baz=121,slow=3.5,SNR=5.0						
CMAR	**Chiang Mai Arr**	**80.84**	**294**	P	**P**	**14 23 11.3**	**+0.1**
SNAA	**Sanae**	**86.20**	**182**	*e*	**P**	**14 23 39.2**	**+1.5**
VNA3	**Neumayer Olymp**	**86.74**	**180**	*e*	**P**	**14 23 34.8**	**-5.6**
VNA2	**Neumayer--Watz**	**87.05**	**181**	*e*	**P**	**14 23 35.3**	**-6.6**
	baz=196,slow=3.7						
NVAR	**Mina Array Bea**	**89.90**	**48**	P	**P**	**14 23 56.3**	**+0.4**
	comp=Z,0.2nm,0.4s,mb3.8,baz=228,slow=6.6,SNR=3.8						
NVAR	**Mina Array Bea**	**89.90**	**48**	P	**P**	**14 23 56.3**	**+0.4**
ULN	**Ulaanbaatar**	**90.00**	**323**	*e*P	**P**	**14 23 55.1**	**-1.0**
SONM	**Songino Array**	**90.36**	**323**	P	**P**	**14 23 56.8**	**-0.9**
	comp=Z,1.5nm,1.0s,mb4.3,baz=143,slow=5.2,SNR=8.0						
SONM	**Songino Array**	**90.36**	**323**	P	**P**	**14 23 56.8**	**-0.9**
BRG	**Berggiesshubel**	**146.11**	**333**	*e*P	PKPdf	14 30 35.5	0.0
	comp=Z,12nm,1.4s						
BRG				*e*		14 30 39.3	
	comp=Z,5.9nm,1.0s						
CLL	**Collm**	**146.16**	**334**	*e*PKPbc	PKPbc	14 30 37.0	+0.4
GERES	**GERESS Array B**	**147.72**	**331**	PKPbc	PKPbc	14 30 42.1	+1.0
	comp=Z,2.1nm,0.8s,baz=49,slow=2.5,SNR=10						
GERES	**GERESS Array B**	**147.72**	**331**	PKPbc	PKPbc	14 30 42.1	+1.0

*ISCJB **30** 14:28:08.5±2.1,59°.61S±0°.08×26°.5W±0°.1,h49km±20km,*
mb4.7/16,MS3.7/6,Error ellipse: s-maj=14.4km
s-min=9.9km az=38.1
*NEIC **30** 14:28:11.7±0.3,59°.55S×26°.42W,mb4.8/6,Error ellipse:*
s-maj=10.0km s-min=8.2km az=220.0
*IDC **30** 14:28:11.7±0.5,59°.60S×26°.60W,h68km±4km,mb4.4/13,*
mb1 4.5/15,mb1mx4.4/18,mbtmp4.5/15,MS3.6/8,
Ms1 3.6/8,ms1mx3.5/15,Error ellipse: s-maj=16.4km
s-min=13.0km az=41.0

ISC 30 14:28:10.5±1.4,59°.63S±0°.08×26°.5W±0°.1,h52km±14km,
n85,σ0°84/47,mb4.7/16,MS3.7/6,South Sandwich
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.36**	**153**	*e*P	**Pn**	**14 31 16.6**	**-0.4**
VNA1				*e*S	**Sn**	**14 33 34.9**	**-8.8**
VNA3	**Neumayer Olymp**	**13.51**	**156**	*e*P	**Pn**	**14 31 18.4**	**-0.6**
VNA3				*e*S	**Sn**	**14 33 34.0**	**-13**
VNA3				*e*		14 33 39.5	
VNA2	**Neumayer--Watz**	**13.76**	**153**	*e*P	**Pn**	**14 31 21.3**	**-1.1**
	baz=310,slow=17						
VNA2				*e*S	**Sn**	**14 33 42.8**	**-11**
SNAA	**Sanae**	**15.35**	**151**	*e*P	**Pn**	**14 31 44.7**	**+1.4**
SNAA				*e*S	**S**	**14 34 25.3**	**-21**
SNAA	**Sanae**	**15.35**	**151**	P	**Pn**	**14 31 45.1**	**+1.8**
	13nm,0.3s,baz=315,slow=14,SNR=316						
SNAA				S	S	14 34 19.6	-26
	0.3nm,0.3s,baz=255,slow=14,SNR=3.1						
SNAA				LR	LR	14 36 28.3	
	comp=Z,45nm,20.1s,baz=11,slow=32						
SNAA	**Sanae**	**15.35**	**151**	*e*P	**Pn**	**14 31 44.0**	**+0.7**
SNAA				S	S	14 34 17.1	-29
PMSA	**Palmer Station**	**18.06**	**237**	P	**Pn**	**14 32 16.8**	**-0.3**
	1.2nm,0.3s,baz=39,slow=13,SNR=4.7						
PMSA				LR	LR	14 38 06.6	
	comp=Z,170nm,20.9s,baz=162,slow=33						
PMSA	**Palmer Station**	**18.06**	**237**	*e*P	**Pn**	**14 32 19.9**	**+2.8**
MAIT	**Maitri**	**19.11**	**141**	*e*P	**Pn**	**14 32 29.6**	**-0.1**
MAIT				*e*S	**S**	**14 35 41.9**	**-20**
EFI	**East Falkland**	**19.36**	**280**	*e*P	**Pn**	**14 32 33.1**	**+0.2**
	61nm,0.7s						
TRIS	**Tristan da Cun**	**24.35**	**28**	*e*P	**P**	**14 33 24.0**	**+0.9**
QSPA	**South Pole Qui**	**30.61**	**180**	P	**P**	**14 34 20.6**	**+1.8**
	11nm,0.5s,mb4.9,baz=209,slow=2.9,SNR=50						
QSPA	**South Pole Qui**	**30.61**	**180**	*e*P	**P**	**14 34 20.1**	**+1.3**
TRQA	**Tornquist**	**31.22**	**298**	*e*P	**P**	**14 34 24.7**	**+0.2**
PLCA	**Paso Flores**	**33.15**	**285**	P	**P**	**14 34 41.0**	**-0.4**
	6.2nm,0.6s,mb4.7,baz=140,slow=7.4,SNR=32						
PLCA				LR	LR	14 46 17.9	
	comp=Z,102nm,21.5s,MS3.5,baz=14,slow=33						
PLCA	**Paso Flores**	**33.15**	**285**	*e*P	**P**	**14 34 40.8**	**-0.6**
MAW	**Mawson**	**37.08**	**141**	P	**P**	**14 35 15.9**	**+1.0**
	12nm,1.0s,mb4.7,baz=258,slow=10,SNR=4.7						
MAW	**Mawson**	**37.08**	**141**	P	**P**	**14 35 15.9**	**+1.0**
CFAA	**Coronel Fontan**	**39.42**	**296**	P	**P**	**14 35 34.7**	**-0.3**
	1.3nm,0.5s,mb3.9,baz=168,slow=7.9,SNR=26						
CFAA				PcP	PcP	14 37 40.2	-1.9
	0.3nm,0.5s,baz=152,slow=4.2,SNR=3.4						
CFAA	**Coronel Fontan**	**39.42**	**296**	P	**P**	**14 35 34.7**	**-0.3**
CFAA				PcP	PcP	14 37 40.2	-1.9
CPUP	**Villa Florida**	**39.52**	**314**	P	**P**	**14 35 35.4**	**-0.5**
	1.9nm,0.3s,mb4.3,baz=138,slow=8.6,SNR=13						
CPUP				LR	LR	14 50 57.8	
	comp=Z,60nm,20.2s,MS3.4,baz=316,slow=35						
CPUP	**Villa Florida**	**39.52**	**314**	P	**P**	**14 35 35.4**	**-0.5**
SUR	**Sutherland**	**41.35**	**70**	LR	LR	14 48 05.9	
	comp=Z,158nm,18.9s,MS3.9,baz=260,slow=29						
VNDA	**Vanda**	**43.01**	**183**	*e*P	**P**	**14 36 05.5**	**+1.6**
	27nm,1.4s,mb4.8						
VNDA				*e*		14 36 24.8	
BOSA	**Boshof**	**46.60**	**72**	P	**P**	**14 36 33.7**	**+0.7**
	3.1nm,0.5s,mb4.5,baz=214,slow=8.8,SNR=14						
BOSA				LR	LR	14 51 18.2	
	comp=Z,85nm,19.6s,MS3.7,baz=50,slow=30						
BOSA	**Boshof**	**46.60**	**72**	*e*P	**P**	**14 36 33.1**	**+0.1**
	2.8nm,0.5s,mb4.5						
LBTB	**Lobatse**	**49.79**	**70**	P	**P**	**14 36 58.0**	**+0.4**
	6.2nm,0.7s,mb4.8,baz=225,slow=7.2,SNR=9.4						
LBTB	**Lobatse**	**49.79**	**70**	*e*P	**P**	**14 36 57.3**	**-0.3**
	5.5nm,0.7s,mb4.7						
LPAZ	**La Paz**	**52.80**	**307**	*e*P	**P**	**14 37 20.5**	**+0.3**
	5.6nm,0.5s,mb4.8						
LSZ	**Lusaka**	**59.39**	**66**	*e*P	**P**	**14 38 07.6**	**+0.3**
	3.4nm,0.6s,mb4.5						
DBIC	**Dimbokro**	**68.29**	**23**	P	**P**	**14 39 05.1**	**-0.6**
	1.6nm,0.3s,mb4.5,baz=182,slow=9.3,SNR=6.3						
DBIC	**Dimbokro**	**68.29**	**23**	P	**P**	**14 39 05.1**	**-0.6**
ROSC	**El Rosal**	**74.50**	**310**	LR	LR	15 12 27.7	
	comp=Z,57nm,18.5s,MS3.9,baz=18,slow=36						
TORD	**Torodi Ar. Bea**	**76.01**	**28**	P	**P**	**14 39 52.0**	**+0.2**
	15nm,0.4s,mb5.3,baz=198,slow=6.3,SNR=282						
TORD				LR	LR	15 07 24.4	
	comp=Z,59nm,19.9s,MS3.9,baz=275,slow=31						
TORD	**Torodi Ar. Bea**	**76.01**	**28**	P	**P**	**14 39 52.0**	**+0.2**
NWAO	**Narrogin (SRO)**	**83.02**	**150**	P	**P**	**14 40 29.6**	**-0

*DDA **30** 14:29:35.7, 36°24.N × 36°11.E, h7km ± 4km, Md2.7*
ISC 30 14:29:35.3 ± 2.1, 36°18.N ± 0°09 × 36°4.E ± 0°2, h5km ± 21km, n13, σ 19 06/17, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HTY	**Hatay**	**0.18**	**252**	*e*PG		**Pg**	**14 29 37.6**	**-1.3**
HTY				*e*SG		**Sg**	**14 29 41.6**	**+0.3**
HTY	**Hatay**	**0.18**	**252**	*e*Pg		**Pg**	**14 29 37.6**	**-1.3**
HTY				*e*Sg		**Sg**	**14 29 41.6**	**+0.3**
YAYL	**Yayladag**	**0.24**	**234**	*i* P		**Pg**	**14 29 39.4**	**-0.7**
YAYL				*i* S		**Sg**	**14 29 44.3**	**+1.0**
YAYL	**Yayladag**	**0.24**	**234**	*i* P		**Pg**	**14 29 39.4**	**-0.7**
YAYL				*i* S		**Sg**	**14 29 44.3**	**+1.0**
COBT	**Iskenderun**	**0.35**	**347**	*i* P		**Pg**	**14 29 41.5**	**-0.6**
COBT	**Iskenderun**	**0.35**	**347**	*i* P		**Pg**	**14 29 41.5**	**-0.6**
KRTS	**Karatas**	**0.88**	**297**	*e*PG		**Pg**	**14 29 52.3**	**+0.1**
KRTS	**Karatas**	**0.88**	**297**	*e*Pg		**Pg**	**14 29 52.3**	**+0.1**
GAZ	**Gaziantep**	**1.21**	**35**	*e*PN		**Pn**	**14 30 00.5**	**+1.5**
GAZ	**Gaziantep**	**1.21**	**35**	*e*Pn		**Pn**	**14 30 00.5**	**+1.5**
KOZT	**Kozan**	**1.37**	**342**	*e*PN		**Pg**	**14 30 02.8**	**+1.3**
SARI	**SarD1z-Kayseri**	**2.51**	**6**	*e*PN		**Pn**	**14 30 15.2**	**-1.7**
SARI	**SarD1z-Kayseri**	**2.51**	**6**	*e*Pn		**Pn**	**14 30 15.2**	**-1.7**

*ISCJB **30** 14:31:35.1 ± 0.5, 65°.44N ± 0°.06 × 162°.09W ± 0°.08, h10km, mb3.5/4, Error ellipse: s-maj=8.6km s-min=5.0km az=2.2*
*NEIC **30** 14:31:36.1, 65°.42N × 162°.01W, h8km, ML3.7(AEIC), After AEIC.*
*IDC **30** 14:31:38.0 ± 1.2, 65°.57N × 162°.34W, h0km, mb3.6/4, mb1 3.9/8, mb1mx3.7/26, mbtmp3.7/8, ML3.4/4, MS3.3/1, Ms1 3.3/1, ms1mx2.5/31, Error ellipse: s-maj=24.8km s-min=13.8km az=20.0*
ISC 30 14:31:36.7 ± 0.4, 65°.45N ± 0°.06 × 162°.22W ± 0°.07, h10km, n40, σ 19 04/49, mb3.5/4, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TNA	**Tin City**	**2.38**	**275**	*e*Pn		**Pn**	**14 32 14.4**	**-1.4**
TNA				*e*Pg		**Pg**	**14 32 22.1**	**-0.2**
TNA				*e*Sg		**Sg**	**14 32 51.4**	**-1.7**
IM3	**Indian Mountai**	**3.54**	**77**	P		**Pn**	**14 32 30.7**	**-0.9**
IM3				S		**Sn**	**14 33 13.3**	**-0.1**
TT01	**Tatalina**	**3.72**	**130**	P		**Pn**	**14 32 33.1**	**-1.1**
GAMB	**Gambell**	**4.42**	**252**	P		**Pn**	**14 32 45.1**	**+1.5**
CHUM	**Lake Minchumin**	**4.54**	**106**	P		**Pn**	**14 32 45.3**	**0.0**
CHUM				S		**Sn**	**14 33 38.5**	**+0.5**
BPAW	**Bear Paw Mtn.**	**4.99**	**101**	P		**Pn**	**14 32 51.0**	**-0.6**
PPLA	**Purkeypile**	**5.08**	**116**	*e*P		**Pn**	**14 32 52.2**	**-0.6**
COLD	**Coldfoot** 22nm,0.6s	**5.16**	**64**	*e*Pn		**Pn**	**14 32 54.1**	**+0.2**
COLD				Pg		**Pg**	**14 33 10.4**	**-5.0**
COLD				*e*Sg		**Sg**	**14 34 17.5**	**-4.6**
TRF	**Thorofare Moun**	**5.54**	**106**	P		**Pn**	**14 32 58.9**	**-0.2**
NEA	**Nenana**	**5.64**	**93**	P		**Pn**	**14 33 00.1**	**-0.3**
SKT	**Skwentna**	**5.88**	**121**	P		**Pn**	**14 33 03.4**	**-0.4**
MDM	**Murphy Dome**	**5.91**	**88**	P		**Pn**	**14 33 03.7**	**-0.4**
SPNW	**Spurr Northwes**	**5.96**	**129**	P		**Pn**	**14 33 05.2**	**+0.3**
MCK	**McKinley**	**5.97**	**101**	*e*P		**Pn**	**14 33 04.4**	**-0.6**
COLA	**College**	**6.08**	**88**	P		**Pn**	**14 33 06.2**	**-0.3**
STLK	**Strandline Lak**	**6.11**	**126**	P		**Pn**	**14 33 06.8**	**-0.1**
RND	**Reindeer**	**6.14**	**103**	P		**Pn**	**14 33 07.3**	**0.0**
CCB	**Clear Creek Bu**	**6.15**	**91**	P		**Pn**	**14 33 06.5**	**-1.0**
BKG	**Blockade Glaci**	**6.28**	**130**	P		**Pn**	**14 33 09.3**	**0.0**
ILAR	**Eielson Array** 1.0nm,0.3s,baz=278,slow=14,SNR=64	**6.51**	**89**	Pn		**Pn**	**14 33 11.2**	**-1.1**
ILAR				Sn		**Sn**	**14 34 23.1**	**-3.5**
	1.1nm,0.3s,baz=287,slow=23,SNR=7.5							
ILAR				Lg			14 35 03.1	
	1.1nm,0.3s,baz=283,slow=29,SNR=7.1							
ILAR	**Eielson Array**	**6.51**	**89**	Pn		**Pn**	**14 33 11.2**	**-1.1**
ILAR				Sn		**Sn**	**14 34 23.1**	**-3.5**
ILAR				Lg			14 35 03.1	
IL1	**Eielson Array**	**6.51**	**89**	P		**Pn**	**14 33 11.6**	**-0.8**
RSO	**Redoubt South** 45nm,0.7s	**6.60**	**135**	*e*Pn		**Pn**	**14 33 13.3**	**-0.4**
PMR	**Palmer**	**7.01**	**117**	*e*Pn		**Pn**	**14 33 18.9**	**-0.3**
SML	**Sawmill** 5.2nm,0.7s	**7.18**	**114**	*e*Pn		**Pn**	**14 33 22.1**	**+0.5**
KDAK	**Kodiak Island** 0.6nm,0.3s,baz=342,slow=13,SNR=5.6	**8.95**	**145**	Pn		**Pn**	**14 33 47.8**	**+2.0**
KDAK	**Kodiak Island**	**8.95**	**145**	Pn		**Pn**	**14 33 47.8**	**+2.0**
INK	**Inuvik** 0.0nm,0.3s,baz=270,slow=9.1,SNR=3.1	**11.57**	**63**	Pn		**Pn**	**14 34 23.8**	**+2.1**
INK				Sn		**Sn**	**14 36 31.1**	**+0.3**
	0.1nm,0.3s,baz=218,slow=29,SNR=1.9							
INK	**Inuvik**	**11.57**	**63**	Pn		**Pn**	**14 34 23.8**	**+2.1**
INK				Sn		**Sn**	**14 36 31.1**	**+0.3**
DLBC	**Dease Lake** 0.1nm,0.3s,baz=315,slow=11,SNR=5.6	**16.53**	**100**	Pn		**Pn**	**14 35 32.1**	**+3.9**
DLBC	**Dease Lake**	**16.53**	**100**	Pn		**Pn**	**14 35 32.1**	**+3.9**
NVAR	**Mina Array Bea** 0.2nm,0.4s,mb3.3,baz=320,slow=8.3,SNR=4.9	**36.99**	**115**	P		**P**	**14 38 48.2**	**+2.3**
NVAR	**Mina Array Bea**	**36.99**	**115**	P		**P**	**14 38 48.2**	**+2.3**
SONM	**Songino Array** comp=Z,36nm,20.9s,baz=229,slow=37	**48.35**	**296**	LR		LR	15 01 27.0	
TXAR	**Lajitas Array** 0.2nm,0.5s,mb3.3,baz=328,slow=4.5,SNR=5.3	**50.72**	**106**	P		**P**	**14 40 37.8**	**+1.5**
TXAR	**Lajitas Array**	**50.72**	**106**	P		**P**	**14 40 37.8**	**+1.5**
MKAR	**Makanchi Array** 0.5nm,0.7s,mb3.7,baz=21,slow=8.3,SNR=5.9	**57.55**	**313**	P		**P**	**14 41 28.8**	**+2.9**
MKAR	**Makanchi Array**	**57.55**	**313**	P		**P**	**14 41 28.8**	**+2.9**
AKASG	**Malin Array Be** 0.4nm,0.4s,mb3.8,baz=4.7,slow=6.0,SNR=4.2	**63.85**	**352**	P		**P**	**14 42 10.1**	**+1.4**
AKASG	**Malin Array Be**	**63.85**	**352**	P		**P**	**14 42 10.1**	**+1.4**

MEX 30 14:44:12.6 ± 0.4, 17°.90N × 101°.51W, h6km ± 6km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.29**	**172**	*e*P		Pg	14 44 18.0	-0.3
ZIIG				*i* S		Sg	14 44 22.2	0.0
CAIG	**El Cayaco**	**1.46**	**125**	*e*P		Pn	14 44 35.6	-3.8
CAIG				*i* S		Sn	14 44 53.4	-5.5
MMIG	**Aquila**	**1.79**	**283**	*i* P		Pn	14 44 41.4	-2.6
MMIG				*i* S		Sn	14 45 01.8	-5.3
ACX	**Acapulco**	**1.88**	**123**	*i* P		Pn	14 44 41.8	-3.5
ACX				*i* S		Sn	14 45 04.3	-5.0
PPM	**Popocatepetl**	**2.97**	**67**	*i* P		Pn	14 44 57.0	-3.3
PPM				*i* S		Sn	14 45 33.6	-2.7
UTMO	**Huajuapan**	**3.53**	**91**	*i* P		Pn	14 45 04.8	-3.2
UTMO				*i* S		Sn	14 45 45.8	-4.2
PNIG	**Pinotepa**	**3.56**	**114**	*i* P		Pn	14 45 06.2	-2.3
PNIG				*i* S		Sn	14 45 47.0	-3.9

*DDA **30** 14:46:26.3, 37°.44N × 36°.76E, h7km ± 5km, Md2.8*
*ISCJB **30** 14:46:27.5 ± 0.6, 37°.40N ± 0°.03 × 36°.81E ± 0°.04, h9km ± 5km, Error ellipse: s-maj=5.7km s-min=5.0km az=28.3*
*CSEM **30** 14:46:27.2 ± 0.2, 37°.42N × 36°.77E, h5km, ML1.6, Error ellipse: s-maj=6.0km s-min=4.6km az=120.0*
*ISK **30** 14:46:27.1, 37°.40N × 36°.83E, h7km, ML1.6*
ISC 30 14:46:27.8 ± 0.6, 37°.41N ± 0°.03 × 36°.82E ± 0°.04, h9km ± 6km, n20, σ 08 87/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KMRS	**Kahramanmaras**	**0.12**	**36**	*e*PG		**Pg**	**14 46 30.2**	**-0.3**
KMRS				*e*SG		**Sg**	**14 46 32.3**	**-0.1**
KMRS	**Kahramanmaras**	**0.12**	**36**	*e*Pg		**Pg**	**14 46 30.3**	**-0.2**
KMRS				*e*Sg		**Sg**	**14 46 32.3**	**-0.2**
GAZ	**Gaziantep**	**0.40**	**127**	*e*PG		**Pg**	**14 46 35.6**	**0.0**
GAZ				*e*SG		**Sg**	**14 46 40.6**	**-0.2**
GAZ	**Gaziantep**	**0.40**	**127**	*e*Pg		**Pg**	**14 46 35.6**	**+0.1**
GAZ				*e*Sg		**Sg**	**14 46 40.6**	**-0.2**
KUZU	**Kuzuini**	**0.67**	**162**	*i* P		**Pg**	**14 46 41.9**	**+1.1**
KUZU				*i* S		**Sg**	**14 46 50.6**	**+1.2**
KUZU	**Kuzuini**	**0.67**	**162**	*i* P		**Pg**	**14 46 41.9**	**+1.2**
KUZU				*i* S		**Sg**	**14 46 50.6**	**+1.1**
KOZT	**Kozan**	**0.79**	**275**	*e*PG		**Pg**	**14 46 42.4**	**-0.6**
KOZT				*e*SG		**Sg**	**14 46 55.0**	**+1.7**
KOZT	**Kozan**	**0.79**	**275**	*e*Pg		**Pg**	**14 46 42.4**	**-0.6**
KOZT				*e*Sg		**Sg**	**14 46 55.0**	**+1.7**
COBT	**Iskenderun**	**1.00**	**207**	*i* P		**Pg**	**14 46 45.0**	**-2.0**
COBT				*i* S		**Sg**	**14 46 58.8**	**-1.0**
COBT	**Iskenderun**	**1.00**	**207**	*i* P		**Pg**	**14 46 45.0**	**-1.9**
COBT				*i* S		**Sg**	**14 46 58.8**	**-1.1**
AKCD	**Akcadag**	**1.24**	**44**	*i* P		**Pn**	**14 46 50.6**	**-0.7**
AKCD				*i* S		**Sb**	**14 47 07.2**	**-0.3**
AKCD	**Akcadag**	**1.24**	**44**	*i* P		**Pn**	**14 46 50.6**	**-0.7**
AKCD				*i* S		**Sb**	**14 47 07.2**	**-0.3**
SARI	**SarD1z-Kayseri**	**1.27**	**356**	*e*PG		**Pg**	**14 46 46.7**	**-5.5**
SARI	**SarD1z-Kayseri**	**1.27**	**356**	*e*Pg		**Pg**	**14 46 46.7**	**-5.5**
MALT	**Malatya**	**1.56**	**54**	*e*PN		**Pn**	**14 46 56.1**	**+0.4**
MALT	**Malatya**	**1.56**	**54**	*e*Pn		**Pn**	**14 46 56.1**	**+0.4**
MYA	**Malatasya**	**1.57**	**54**	*e*PN		**Pn**	**14 46 56.2**	**+0.4**
MYA	**Malatasya**	**1.57**	**54**	*e*Pn		**Pn**	**14 46 56.2**	**+0.5**
BNN	**Bunyan**	**1.63**	**332**	*e*PN		**Pn**	**14 46 56.8**	**+0.2**
BNN	**Bunyan**	**1.63**	**332**	*e*Pn		**Pn**	**14 46 56.8**	**+0.2**

IDC 30 14:59:05.4 ± 46.0, 12°.79S × 178°.33W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/15, mbtmp3.8/3, MS3.7/1, Ms1 3.7/1, ms1mx2.7/18, Error ellipse: s-maj=853.3km s-min=166.6km az=72.0, North of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 2.3nm,1.0s,baz=102,slow=9.3,SNR=3.5	**41.35**	**236**	P	P		15 06 52.9	-0.5
WRA	**Warramunga Arr** 0.5nm,0.6s,baz=87,slow=8.1,SNR=12	**45.84**	**255**	P	P		15 07 30.0	+0.3
WRA				LR	LR		15 22 52.6	
	comp=Z,93nm,21.0s,baz=190,slow=31							
ASAR	**Alice Springs** 1.1nm,0.7s,baz=83,slow=8.4,SNR=32	**46.45**	**249**	P	P		15 07 34.2	-0.2

WEL 30 15:35:17.8 ± 0.3, 36°.68S × 177°.16E, h33km, ML4.2/12, Error ellipse: s-maj=2.8km s-min=1.6km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.85**	**178**	P*		Pb	15 35 32.2	-2.0
WIZ				S*		Sb	15 35 43.5	-1.8
MYRZ	**Mayor Island**	**0.95**	**230**	P*		Pb	15 35 34.1	-1.7
KUZ	**Kuaotunu**	**1.16**	**266**	PN		Pn	15 35 35.9	-1.7
KUZ				SN		Sn	15 35 50.4	-1.9
OPRZ	**Ohinepanea**	**1.26**	**202**	P*		Pb	15 35 38.2	-2.9
TGRZ	**Tauranga**	**1.27**	**214**	P*		Pb	15 35 38.6	-2.6
MXZ	**Matakaoa Point**	**1.28**	**134**	P*		Pb	15 35 38.8	-2.5
MXZ				S*		Sb	15 35 55.4	-2.0
MARZ	**Manawahe**	**1.36**	**196**	P*		Pb	15 35 39.8	-2.9
KARZ	**Kaharoa**	**1.53**	**208**	P*		Pb	15 35 42.6	-2.9
MKRZ	**Makatiti**	**1.56**	**200**	P*		Pb	15 35 43.8	-2.3
URZ	**Urewera**	**1.58**	**181**	P*		Pb	15 35 43.1	-3.3
PUZ	**Puketiti**	**1.65**	**148**	PN		Pn	15 35 46.2	+1.8
MKAZ	**Moumakai**	**1.65**	**254**	PN		Pn	15 35 44.1	-0.4
MWZ	**Matawai**	**1.68**	**170**	P*		Pb	15 35 44.5	-3.6
TOZ	**Tahuroa Road**	**1.69**	**231**	P*		Pb	15 35 45.1	-3.1
MTAZ	**Motutapu**	**1.81**	**266**	PN		Pn	15 35 47.4	+0.8
OTAZ	**Otara**	**1.81**	**261**	PN		Pn	15 35 47.3	+0.6
RVAZ	**Riverhead Bore**	**2.07**	**267**	PN		Pn	15 35 50.3	+0.1
WTAZ	**Waiatarua**	**2.09**	**262**	PN		Pn	15 35 50.5	+0.1
WCZ	**Waipu Caves**	**2.39**	**287**	PN		Pn	15 35 54.1	-0.5
HIZ	**Hauiti**	**2.59**	**224**	PN		Pn	15 35 58.0	+0.7
OUZ	**Omahuta**	**3.23**	**296**	PN		Pn	15 36 06.1	0.0

*IDC **30** 15:36:17.2 ± 5.7, 32°.55S × 179°.57E, h443km ± 68km, mb2.7/3, mb1 2.8/3, mb1mx2.8/13, mbtmp2.7/3, Error ellipse: s-maj=81.4km s-min=33.8km az=15.0*
*NEIC **30** 15:36:17.6 ± 2.8, 32°.79S × 179°.68E, h461km ± 23km, mb3.4/2, Error ellipse: s-maj=48.0km s-min=18.7km az=224.0*
ISC 30 15:36:18.3 ± 0.9, 32°.5S ± 0°.1 × 179°.2E ± 0°.3, h419km ± 25km, n48, σ 08 89/57, mb3.1/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**5.63**	**188**	PN		**P**	**15 37 46.8**	**-0.7**
PUZ				SN		**S**	**15 38 58.9**	**-1.5**
URZ	**Urewera** 21nm,0.3s,baz=15,slow=2.5,SNR=27	**6.01**	**196**	P		**P**	**15 37 52.9**	**+1.4**
URZ				S		**S**	**15 39 07.5**	**-0.2**
	9.8nm,0.3s,baz=64,slow=22,SNR=10							
URZ	**Urewera**	**6.01**	**196**	*e*P		**P**	**15 37 50.5**	**-1.0**
URZ				S		**S**	**15 39 07.5**	**-0.2**
URZ	**Urewera**	**6.01**	**196**	PN		**P**	**15 37 49.7**	**-1.8**
URZ				SN		**S**	**15 39 06.8**	**-0.9**
CNGZ	**Carnagh Statio**	**6.05**	**187**	PN		**P**	**15 37 51.6**	**-0.3**
PRGZ	**Paritu Road**	**6.52**	**189**	PN		**P**	**15 37 57.6**	**+0.6**
KNZ	**Kokohu**	**6.64**	**190**	PN		**P**	**15 37 58.4**	**+0.1**
KNZ				SN		**S**	**15 39 16.2**	**-3.9**
RAHZ	**Arahi**	**6.65**	**194**	PN		**P**	**15 37 58.6**	**+0.3**
MHGZ	**Mahia Peninsul**	**6.74**	**189**	PN		**P**	**15 38 00.2**	**+0.9**
NMHZ	**Naumai**	**6.88**	**196**	PN		**P**	**15 38 01.1**	**+0.2**
NMHZ				SN		**S**	**15 39 26.4**	**+1.5**
BKZ	**Black Stump Fm**	**7.03**	**197**	PN		**P**	**15 38 01.5**	**-0.9**
BKZ				SN		**S**	**15 39 28.7**	**+1.0**
MCHZ	**McNeill Hill**	**7.24**	**196**	PN		**P**	**15 38 04.4**	**-0.4**
WNVZ	**Wahianoa**	**7.43**	**202**	PN		**P**	**15 38 07.6**	**+0.7**
BHHZ	**Black Hill Sta**	**7.44**	**199**	PN		**P**	**15 38 05.6**	**-1.4**
KAHZ	**Kahuranaki**	**7.54**	**194**	PN		**P**	**15 38 08.2**	**+0.1**
PXZ	**Pawanui**	**7.77**	**193**	PN		**P**	**15 38 10.0**	**-0.6**
PXZ				SN		**S**	**15 39 42.4**	**-0.4**
PNHZ	**Pukenui**	**7.80**	**197**	PN		**P**	**15 38 10.3**	**-0.7**
WPHZ	**Waipukurau**	**7.89**	**196**	PN		**P**	**15 38 12.9**	**+0.9**
TSZ	**Takapari Road**	**8.00**	**198**	PN		**P**	**15 38 12.6**	**-0.6**
TSZ				SN		**S**	**15 39 46.8**	**-0.8**
PRHZ	**Porangahau**	**8.04**	**194**	PN		**P**	**15 38 14.1**	**+0.5**
PRHZ				SN		**S**	**15 39 49.9**	**+1.6**
DVHZ	**Dannevirke**	**8.18**	**197**	PN		**P**	**15 38 14.9**	**-0.2**
ANWZ	**Angora Road**	**8.26**	**195**	PN		**P**	**15 38 13.9**	**-2.2**
BFZ	**Birch Farm**	**8.52**	**195**	PN		**P**	**15 38 19.0**	**+0.1**
MRZ	**Mangatainoka R**	**8.67**	**199**	PN		**P**	**15 38 20.3**	**-0.2**
MRZ				SN		**S**	**15 39 58.0**	**-3.1**
TIWZ	**Tintock**	**8.70**	**197**	PN		**P**	**15 38 21.6**	**+0.7**
HOWZ	**Holdsworth Sta**	**8.91**	**198**	PN		**P**	**15 38 23.5**	**+0.3**
OGWZ	**Otaki Gorge**	**8.93**	**200**	PN		**P**	**15 38 23.1**	**-0.3**
OGWZ				SN		**S**	**15 40 06.1**	**-0.3**
KIW	**Kapiti Island**	**9.05**	**201**	PN		**P**	**15 38 25.1**	**+0.4**
TCW	**Tory Channel**	**9.56**	**203**	PN		**P**	**15 38 29.9**	**-0.6**
TUWZ	**Tuamarina**	**9.87**	**204**	PN		**P**	**15 38 34.5**	**+0.7**
NNZ	**Nelson**	**9.89**	**206**	SN		**S**	**15 40 25.0**	**-0.9**
THZ	**Tophouse**	**10.54**	**207**	PN		**P**	**15 38 42.2**	**+1.0**
THZ				SN		**S**	**15 40 38.3**	**-0.7**
KHZ	**Kahutara**	**10.89**	**203**	PN		**P**	**15 38 46.2**	**+1.1**
KHZ				SN		**S**	**15 40 47.3**	**+1.2**
CTA	**Charters Tower** 1.0nm,0.6s,mb3.3,baz=104,slow=12,SNR=4.7	**31.88**	**285**	P		**P**	**15 42 07.9**	**+0.8**
CTA	**Charters Tower**	**31.88**	**285**	P		**P**	**15 42 07.9**	**+0.8**
CTAO	**Charters Tower** 0.7nm,0.4s,mb3.3	**31.88**	**285**	*e*P		**P**	**15 42 08.1**	**+1.0**
ASAR	**Alice Springs** 0.3nm,0.8s,mb2.6,baz=109,slow=7.8,SNR=3.4	**40.67**	**271**	P		**P**	**15 43 19.2**	**-1.1**
ASAR	**Alice Springs**	**40.67**	**271**	P		**P**	**15 43 19.2**	**-1.1**
WB2	**Warramunga Arr**	**41.84**	**276**	*e*P		**P**	**15 43 29.4**	**-0.4**
WRAB	**Tennant Creek**	**41.85**	**276**	*e*P		**P**	**15 43 30.2**	**+0.4**
WRA	**Warramunga Arr** 0.2nm,0.2s,mb3.0,baz=113,slow=8.0,SNR=10	**41.85**	**276**	P		**P**	**15 43 29.6**	**-0.2**
WRA	**Warramunga Arr**	**41.85**	**276**	P		**P**	**15 43 29.6**	**-0.2**
VNDA	**Vanda** 0.9nm,0.6s,mb3.3	**45.80**	**185**	*e*P		**P**	**15 43 54.2**	**-5.7**
JOF	**Joensuu**	**143.40**	**336**	*e*p		PKPpre	15 54 45.3	
JOF	**Joensuu**	**143.40**	**336**	*e*P		PKPpre	15 54 45.3	
KAF	**Kangasniemi**	**145.63**	**338**	*e*p		PKPdf	15 55 02.8	-4.0
FINES	**FINESS Array B** 3.5nm,0.6s,baz=37,slow=3.5,SNR=19	**146.19**	**337**	PKPbc	PKPbc		15 55 05.8	-3.9
FINES	**FINESS Array B**	**146.19**	**337**	PKPbc	PKPbc		15 55 05.8	-3.9

*ISCJB **30** 15:38:51.4 ± 0.6, 24°.84N ± 0°.03 × 121°.93E ± 0°.03, h107km ± 4km, Error ellipse: s-maj=5.7km s-min=3.5km az=157.9*
*TAP **30** 15:38:51.0, 24°.85N × 121°.89E, h110km, ML3.4, C*
*JMA **30** 15:38:52.5 ± 0.1, 24°.86N × 121°.98E, h103km, M2.6*
ISC 30 15:38:51.8 ± 0.7, 24°.85N ± 0°.03 × 121°.93E ± 0°.03, h106km ± 4km, n43, σ 05 55/82, 2C-6D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao** baz=34	**0.17**	**20**	*i* P		**Pn**	**15 39 06.7**	**0.0**
TWB1				S		**Sn**	**15 39 17.5**	**-0.2**
	baz=34							
TWC	**Suao** baz=183	**0.25**	**196**	⇑*i*P		**Pn**	**15 39 07.1**	**+0.2**
TWC				S		**Sn**	**15 39 18.4**	**+0.3**
	baz=183							
NWF	**Wu-fen Shan** baz=339	**0.26**	**329**	P		**Pn**	**15 39 06.8**	**-0.1**
NWF				*e*S		**Sn**	**15 39 17.8**	**-0.4**
	baz=339							
TWE	**Neicheng** baz=234	**0.27**	**241**	⇑*i*P		**Pn**	**15 39 07.3**	**+0.3**
TWE				S		**Sn**	**15 39 18.6**	**+0.4**
	baz=234							
TWA	**Mucha** baz=296	**0.34**	**293**	*i* P		**Pn**	**15 39 07.1**	**-0.1**
TWA				S		**Sn**	**15 39 18.8**	**0.0**
	baz=296							
ENTT	**Nioudou** baz=242	**0.39**	**237**	⇓*i*P		**Pn**	**15 39 07.6**	**+0.1**
ENTT				S		**Sn**	**15 39 20.4**	**+1.1**
	baz=242							
TAP1	**Taipei** baz=304	**0.41**	**297**	P		**Pn**	**15 39 07.7**	**+0.1**
TAP1				S		**Sn**	**15 39 19.8**	**+0.4**
	baz=304							
ENA	**Nanau** baz=190	**0.45**	**202**	P		**Pn**	**15 39 08.1**	**+0.2**
ENA				*e*S		**Sn**	**15 39 20.9**	**+1.0**
	baz=190							
TWY	**Chenhua** baz=330	**0.52**	**325**	P		**Pn**	**15 39 08.1**	**-0.3**
TWY				S		**Sn**	**15 39 20.6**	**-0.1**
	baz=330							
TWS1	**Kuangyinshan** baz=305	**0.52**	**298**	*i* P		**Pn**	**15 39 08.5**	**+0.1**
TWS1				S		**Sn**	**15 39 21.2**	**+0.4**
	baz=305							
NSK	**Sanguang** baz=239	**0.55**	**251**	⇓*i*P		**Pn**	**15 39 08.1**	**-0.5**
NSK				S		**Sn**	**15 39 20.2**	**-0.9**
	baz=239							
NNS	**Nan Shan** baz=221	**0.65**	**231**	⇓*i*P		**Pn**	**15 39 09.4**	**+0.1**
NNS				*e*S		**Sn**	**15 39 22.8**	**+0.3**
	baz=221							
NCU	**National Centr** baz=281	**0.68**	**280**	*e*P		**Pn**	**15 39 09.5**	**-0.1**
NCU				*e*S		**Sn**	**15 39 22.9**	**-0.1**
	baz=281							
TWD	**Chiawan** baz=204	**0.82**	**201**	*e*P		**Pn**	**15 39 10.2**	**-0.8**
TWD				*e*S		**Sn**	**15 39 24.6**	**-0.6**
	baz=204							
NSTT	**Nanjuang** baz=247	**0.87**	**256**	⇓*i*P		**Pn**	**15 39 11.0**	**-0.3**
NSTT				*e*S		**Sn**	**15 39 25.3**	**-0.7**
	baz=247							
HSN	**Hsinchu** baz=261	**0.87**	**267**	*e*P		**Pn**	**15 39 10.8**	**-0.6**
HSN				*e*S		**Sn**	**15 39 25.0**	**-1.0**
	baz=261							
TWT	**Tachien** baz=226	**0.91**	**229**	⇓*i*P		**Pn**	**15 39 12.3**	**+0.6**
TWT				*e*S		**Sn**	**15 39 27.2**	**+0.6**
	baz=226							
WHF	**Hehuan Shan** baz=211	**0.93**	**221**	P		**Pn**	**15 39 12.4**	**+0.5**
WHF				*e*S		**Sn**	**15 39 27.6**	**+0.6**
	baz=211							
YOJ	**Yonaguni jima**	**1.06**	**111**	P		**Pn**	**15 39 13.4**	**+0.1**
YOJ				*e*S		**Sn**	**15 39 29.1**	**-0.4**
ESL	**Shilin** baz=198	**1.13**	**204**	*e*P		**Pn**	**15 39 12.7**	**-1.4**
NSY	**Sanyi** baz=246	**1.15**	**248**	P		**Pn**	**15 39 14.2**	**0.0**
NSY				*e*S		**Sn**	**15 39 31.2**	**0.0**
	baz=246							
TWQ1	**Liyutan** baz=242	**1.16**	**245**	P		**Pn**	**15 39 14.1**	**-0.4**
TWQ1				*e*S		**Sn**	**15 39 30.7**	**-0.9**
	baz=242							
SMLT	**Sun Moon Lake** baz=227	**1.34**	**224**	P		**Pn**	**15 39 16.8**	**+0.3**
SMLT				*e*S		**Sn**	**15 39 35.8**	**+0.6**
	baz=227							
TYC	**Yuchr** baz=230	**1.36**	**226**	P		**Pn**	**15 39 16.7**	**0.0**
TYC				*e*S		**Sn**	**15 39 35.5**	**0.0**
	baz=230							
EHY	**Hungye** baz=193	**1.45**	**202**	*e*P		**Pn**	**15 39 16.9**	**-0.9**
E

	15nm,0.2s							
DZM				*e*Sn	**Sn**	15 45 15.4	-5.0	
	4.3nm,0.2s							
DZM				*e*LR	LR	15 45 50.6		
	694nm,24.8s							
DZM	**Mont Dzumac**	**11.10**	**178**	*e*P	**Pn**	**15 43 17.9**	**+0.2**	
	10.0nm,0.4s							
FUNA	**Funafuti**	**13.20**	**81**	P	**Pn**	**15 43 38.2**	**-8.2**	
MSVF	**Nonsavu**	**13.48**	**122**	P	**Pn**	**15 43 59.2**	**+9.0**	
	18nm,0.8s							
EIDS	**Eidsvold**	**20.18**	**223**	*e*P	**P**	**15 45 13.4**	**+1.7**	
	53nm,0.8s							
EIDS	**Eidsvold**	**20.18**	**223**	*e*P	**P**	**15 45 13.1**	**+1.4**	
	19nm,1.0s							
CTA	**Charters Tower**	**21.10**	**242**	P	**P**	**15 45 22.4**	**+0.7**	
	3.9nm,0.6s,mb3.9,baz=72,slow=12,SNR=14							
CTA				LR	LR	15 52 21.9		
	comp=Z,284nm,18.6s,MS3.7,baz=80,slow=33							
CTA	**Charters Tower**	**21.10**	**242**	*e*P	**P**	**15 45 22.3**	**+0.6**	
	3.1nm,0.6s,mb3.8							
CTA	**Charters Tower**	**21.10**	**242**	P	**P**	**15 45 22.4**	**+0.7**	
CTAO	**Charters Tower**	**21.10**	**242**	*e*P	**P**	**15 45 22.3**	**+0.6**	
	3.7nm,0.6s,mb3.9							
AFI	**Afiamalu**	**21.88**	**100**	P	**P**	**15 45 28.8**	**-1.4**	
	8.0nm,0.7s,mb4.3,baz=281,slow=5.2,SNR=2.3							
AFI				LR	LR	15 52 42.7		
	comp=Z,169nm,18.5s,MS3.5,baz=246,slow=33							
AFI	**Afiamalu**	**21.88**	**100**	P	**P**	**15 45 28.8**	**-1.4**	
MTSU	**Mount Surprise**	**22.19**	**249**	*e*P	**P**	**15 45 33.8**	**+0.4**	
	18nm,0.7s,mb4.6							
ARMA	**Armidale**	**23.57**	**212**	*e*P	**P**	**15 45 48.4**	**+1.1**	
URZ	**Urewera**	**28.98**	**162**	P	**P**	**15 46 34.7**	**-1.3**	
	2.1nm,0.3s,mb4.4,baz=341,slow=9.4,SNR=6.4							
URZ	**Urewera**	**28.98**	**162**	*e*P	**P**	**15 46 34.9**	**-1.1**	
STKA	**Stephens Creek**	**30.72**	**224**	P	**P**	**15 46 50.0**	**-1.5**	
	1.7nm,0.9s,mb3.9,baz=54,slow=19,SNR=3.1							
STKA				LR	LR	15 58 26.9		
	comp=Z,232nm,18.8s,MS3.9,baz=22,slow=35							
STKA	**Stephens Creek**	**30.72**	**224**	*e*P	**P**	**15 46 52.2**	**+0.7**	
WRAB	**Tennant Creek**	**31.77**	**250**	*e*P	**P**	**15 47 00.4**	**-0.5**	
	5.1nm,0.7s,mb4.5							
WB2	**Warramunga Arr**	**31.77**	**250**	*e*P	**P**	**15 46 60.0**	**-1.0**	
WRA	**Warramunga Arr**	**31.78**	**250**	P	**P**	**15 47 00.3**	**-0.7**	
	6.6nm,0.8s,mb4.5,baz=81,slow=9.2,SNR=53							
WRA				PcP	PcP	15 49 51.4	+0.1	
	0.8nm,0.8s,baz=74,slow=3.0,SNR=5.7							
WRA				ScP	ScP	15 53 32.4	+2.3	
	0.8nm,1.0s,baz=72,slow=3.9,SNR=3.9							
WRA	**Warramunga Arr**	**31.78**	**250**	P	**P**	**15 47 00.3**	**-0.7**	
WRA				PcP	PcP	15 49 51.4	+0.1	
WRA				ScP	ScP	15 53 32.4	+2.3	
RPZ	**Rata Peaks**	**32.97**	**173**	P	**P**	**15 47 11.5**	**+0.5**	
	39nm,0.9s,mb5.3,baz=42,slow=2.9,SNR=6.8							
RPZ	**Rata Peaks**	**32.97**	**173**	P	**P**	**15 47 11.5**	**+0.5**	
AS31	**Alice Springs**	**33.09**	**243**	*e*P	**P**	**15 47 11.4**	**-1.0**	
ASAR	**Alice Springs**	**33.09**	**243**	P	**P**	**15 47 11.4**	**-1.0**	
	2.7nm,0.6s,mb4.3,baz=62,slow=10,SNR=68							
ASAR				PcP	PcP	15 49 54.6	-0.3	
	0.9nm,0.8s,baz=63,slow=2.8,SNR=7.9							
ASAR	**Alice Springs**	**33.09**	**243**	P	**P**	**15 47 11.4**	**-1.0**	
ASAR				PcP	PcP	15 49 54.6	-0.3	
FITZ	**Fitzroy Crossi**	**39.68**	**255**	*e*P	**P**	**15 48 08.2**	**-0.5**	
	9.7nm,0.6s,mb4.7							
FITZ	**Fitzroy Crossi**	**39.68**	**255**	*e*P	**P**	**15 48 08.2**	**-0.4**	
	6.2nm,0.7s,mb4.5							
PPT	**Papeete**	**43.46**	**104**	*e*LR	LR	16 01 04.9		
	210nm,27.2s							
TBI	**Tubuai**	**44.13**	**112**	*e*LR	LR	16 01 34.8		
	275nm,28.2s							
MEH	**Mehetia**	**44.91**	**104**	*e*Pg	sP	15 49 13.9	+1.4	
	93nm,0.1s							
MJAR	**Matsushiro Arr**	**53.98**	**332**	P	**P**	**15 49 59.4**	**-0.7**	
	1.4nm,0.8s,mb4.0,baz=170,slow=8.2,SNR=5.2							
MJAR	**Matsushiro Arr**	**53.98**	**332**	P	**P**	**15 49 59.4**	**-0.7**	
RKT	**Rikitea**	**57.38**	**110**	*e*LR	LR	16 07 30.0		
	162nm,29.2s							
KSRS	**Korea Array**	**59.92**	**325**	P	**P**	**15 50 42.9**	**+0.8**	
	0.6nm,0.6s,mb3.8,baz=135,slow=7.0,SNR=3.0							
KSAR	**Wonju Array Be**	**59.94**	**325**	P	**P**	**15 50 42.9**	**+0.7**	
SBA	**Scott Base**	**66.93**	**180**	*e*P	**P**	**15 51 28.2**	**+0.5**	
	11nm,1.1s,mb4.8							
CMAR	**Chiang Mai Arr**	**72.31**	**293**	P	**P**	**15 52 02.5**	**+0.5**	
	2.5nm,0.8s,mb4.2,baz=115,slow=4.2,SNR=16							
CMAR	**Chiang Mai Arr**	**72.31**	**293**	P	**P**	**15 52 02.5**	**+0.5**	
ULN	**Ulaanbaatar**	**78.36**	**324**	*e*P	**P**	**15 52 36.5**	**+0.5**	
SONM	**Songino Array**	**78.72**	**324**	P	**P**	**15 52 37.7**	**-0.3**	
	0.6nm,0.4s,mb3.8,baz=147,slow=6.0,SNR=3.9							
SONM	**Songino Array**	**78.72**	**324**	P	**P**	**15 52 37.7**	**-0.3**	
QSPA	**South Pole Qui**	**79.09**	**180**	*e*P	**P**	**15 52 39.1**	**-0.5**	
	8.5nm,1.1s,mb4.6							
ILAR	**Eielson Array**	**83.30**	**18**	P	**P**	**15 53 01.9**	**-0.1**	
	2.6nm,0.6s,mb4.4,baz=236,slow=5.3,SNR=35							
ILAR	**Eielson Array**	**83.30**	**18**	P	**P**	**15 53 01.9**	**-0.1**	
MAW	**Mawson**	**84.94**	**202**	P	**P**	**15 53 11.4**	**+1.0**	
	6.9nm,1.0s,mb4.7,baz=91,slow=7.7,SNR=5.1							
MAW	**Mawson**	**84.94**	**202**	P	**P**	**15 53 11.4**	**+0.9**	
EGAK	**Eagle**	**85.16**	**20**	*e*P	**P**	**15 53 11.8**	**+0.3**	
	5.5nm,0.8s,mb4.7							
NVAR	**Mina Array Bea**	**85.73**	**50**	P	**P**	**15 53 15.5**	**+0.6**	
	1.3nm,0.9s,mb4.2,baz=234,slow=8.3,SNR=7.4							
NVAR	**Mina Array Bea**	**85.73**	**50**	P	**P**	**15 53 15.5**	**+0.6**	
HLID	**Hailey**	**89.99**	**46**	*e*P	**P**	**15 53 35.8**	**+0.7**	
	0.8nm,0.8s,mb4.1							
PDAR	**Pinedale Array**	**93.26**	**47**	P	**P**	**15 53 51.2**	**+0.8**	
	0.3nm,0.5s,mb4.0,baz=293,slow=4.7,SNR=2.7							
PDAR	**Pinedale Array**	**93.26**	**47**	P	**P**	**15 53 51.2**	**+0.8**	
ZALV	**Zalesovo Beam**	**93.61**	**324**	P	**P**	**15 53 51.3**	**-0.4**	
	0.3nm,0.3s,mb4.2,baz=123,slow=5.3,SNR=4.7							
ZALV	**Zalesovo Beam**	**93.61**	**324**	P	**P**	**15 53 51.3**	**-0.4**	
MK31	**Makanchi Array**	**93.61**	**317**	*e*P	**P**	**15 53 51.1**	**-0.8**	
MKAR	**Makanchi Array**	**93.61**	**317**	P	**P**	**15 53 51.4**	**-0.5**	
	2.4nm,0.7s,mb4.7,baz=160,slow=6.0,SNR=23							
MKAR	**Makanchi Array**	**93.61**	**317**	P	**P**	**15 53 51.4**	**-0.4**	
TXAR	**Lajitas Array**	**95.53**	**61**	LR	LR	16 28 01.0		
	comp=Z,110nm,21.9s,MS4.3,baz=300,slow=30							
ARCES	**ARCESS Array B**	**116.28**	**346**	PKP	PKPdf	15 59 17.2	-1.1	
	0.8nm,0.4s,baz=60,slow=2.2,SNR=19							
ARCES	**ARCESS Array B**	**116.28**	**346**	PKP	PKPdf	15 59 17.2	-1.1	
BOSA	**Boshof**	**125.40**	**223**	PKP	PKPdf	15 59 38.8	+1.7	
	2.4nm,0.9s,baz=153,slow=2.3,SNR=3.5							
BOSA	**Boshof**	**125.40**	**223**	PKP	PKPdf	15 59 38.8	+1.7	
AKASG	**Malin Array Be**	**126.90**	**327**	PKP	PKPdf	15 59 38.2	-1.0	
	0.4nm,0.5s,baz=62,slow=2.7,SNR=4.0							
AKASG	**Malin Array Be**	**126.90**	**327**	PKP	PKPdf	15 59 38.2	-1.0	
GERES	**GERESS Array B**	**135.71**	**334**	PKP	PKPdf	15 59 55.2	-0.7	
	0.6nm,0.8s,baz=35,slow=3.3,SNR=4.1							
GERES	**GERESS Array B**	**135.71**	**334**	PKP	PKPdf	15 59 55.2	-0.7	
KEST	**Kesra**	**147.48**	**323**	PKPbc	PKPbc	16 00 20.2	+0.3	
	2.3nm,0.7s,baz=342,slow=7.1,SNR=5.0							
KEST	**Kesra**	**147.48**	**323**	PKPbc	PKPbc	16 00 20.2	+0.3	
ESDC	**Sonseca Array**	**150.01**	**344**	PKPbc	PKPbc	16 00 25.3	-1.0	
	0.7nm,0.5s,baz=25,slow=3.5,SNR=5.6							
ESDC				PKPab	PKPab	16 00 32.3	+0.3	
	0.9nm,0.6s,baz=14,slow=4.0,SNR=3.9							
ESDC	**Sonseca Array**	**150.01**	**344**	PKPbc	PKPbc	16 00 25.3	-1.0	
ESDC				PKPab	PKPab	16 00 32.3	+0.3	
TORD	**Torodi Ar. Bea**	**164.51**	**280**	PKP	PKPdf	16 00 39.7	-0.4	
	0.5nm,0.7s,baz=100,slow=1.4,SNR=2.9							
TORD				PKPab	PKPab	16 01 33.4	-1.8	
	0.6nm,1.0s,baz=149,slow=3.0,SNR=2.6							
TORD	**Torodi Ar. Bea**	**164.51**	**280**	PKP	PKPdf	16 00 39.7	-0.4	
TORD				PKPab	PKPab	16 01 33.4	-1.8	

*ISCJB **30** 15:44:35.1±0.8, 36°.63N±0°.07×70°.3E±0°.2, h161km±39km, Error ellipse: s-maj=26.4km s-min=10.3km az=13.5*
*NNC **30** 15:44:40.2±4.5, 36°.93N×70°.42E, h198km±61km, mb2.6, mpv3.9, Error ellipse: s-maj=44.2km s-min=24.9km az=15.0*

ISC 30 15:44:36.0±0.8, 36°.64N±0°.06×70°.2E±0°.2, h149km±34km, n12, σ0s85/15, 5C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.13**	**153**	⇑P	**Pn**	**15 45 25.2**	**+0.1**
CEP				S	**Sn**	**15 46 03.0**	**0.0**
THW	**Thamme Wali**	**4.04**	**161**	⇓P	**Pn**	**15 45 35.7**	**-1.0**
AML	**Almayashu**	**6.12**	**25**	P	**Pn**	**15 46 05.2**	**+1.0**
	SNR=102						
KK31	**Karatay Array**	**6.46**	**2**	⇑P	**Pn**	**15 46 09.7**	**+0.8**
	2.2nm,0.4s,baz=170,slow=9.8,SNR=79						
KK31				⇑S	**Sn**	**15 47 20.7**	**-0.9**
	2.0nm,0.5s						
EKS2	**Erkin-Say**	**6.62**	**23**	P	**Pn**	**15 46 11.8**	**+0.9**
	SNR=8.6						
KZA	**Kyzart**	**6.69**	**34**	P	**Pn**	**15 46 12.2**	**+0.3**
	SNR=6.2						
AAK	**Ala-Archa**	**6.84**	**28**	P	**Pn**	**15 46 14.8**	**+0.9**
	SNR=8.3						
USP	**Ospenovka**	**7.40**	**25**	P	**Pn**	**15 46 21.4**	**+0.1**
	SNR=6.5						
TKM2	**Tokmak 2**	**7.53**	**32**	P	**Pn**	**15 46 23.0**	**+0.1**
	SNR=27						
TKM2	**Tokmak 2**	**7.53**	**32**	⇓P	**Pn**	**15 46 22.7**	**-0.2**
	8.7nm,0.5s						
TKM2				⇓S	**Sn**	**15 47 45.3**	**-1.6**
	3.9nm,0.8s						
AB31	**Akbulak array**	**14.66**	**333**	⇑P	**Pn**	**15 47 56.7**	**+0.6**
	0.3nm,0.3s,baz=149,slow=12,SNR=25						
AKTO	**Aktyubinsk**	**16.35**	**331**	⇑P	**Pn**	**15 48 15.4**	**-1.4**
	0.4nm,1.4s						

*ISCJB **30** 15:49:55.2±0.7, 43°.59N±0°.04×46°.36E±0°.03, h5km±3km, Error ellipse: s-maj=6.6km s-min=3.0km az=25.9*
*CSEM **30** 15:49:56.8±0.3, 43°.48N×46°.24E, h2km, mb3.9, Error ellipse: s-maj=7.4km s-min=3.4km az=28.0*
*MOS **30** 15:49:58.6±0.6, 43°.32N×46°.17E, h9km, mb3.9/1, Error ellipse: s-maj=10.5km s-min=6.4km az=27.2*

ISC 30 15:49:56.9±0.7, 43°.55N±0°.04×46°.34E±0°.03, h7km±4km, n48, σ1s04/88, 7C-4D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DLMR	**Dylym**	**0.52**	**156**	*e*PG	**Pg**	**15 50 10.0**	**+3.0**
DLMR				pmax	pmax		
	comp=Z,242nm,0.4s						
DLMR	**Dylym**	**0.52**	**156**	*e*Pg	**Pg**	**15 50 10.0**	**+3.0**
	comp=Z,242nm,0.4s						
DBC	**Dubki**	**0.64**	**146**	*e*PG	**Pg**	**15 50 10.5**	**+1.3**
DBC				*e*S	**Sg**	**15 50 19.5**	**+2.0**
DBC				pmax	pmax		
	comp=Z,62nm,0.2s						
DBC	**Dubki**	**0.64**	**146**	*e*Pg	**Pg**	**15 50 10.5**	**+1.3**
	comp=Z,62nm,0.2s						
DBC				*e*Sg	**Sg**	**15 50 19.5**	**+2.0**
KRNR	**Karanay**	**0.83**	**150**	*e*PG	**Pg**	**15 50 12.8**	**-0.1**
KRNR				*e*S	**Sg**	**15 50 25.0**	**+1.4**
KRNR				pmax	pmax		
	comp=Z,30nm,0.3s						
KRNR	**Karanay**	**0.83**	**150**	*e*Pg	**Pg**	**15 50 12.8**	**-0.1**
	comp=Z,30nm,0.3s						
KRNR				*e*Sg	**Sg**	**15 50 25.0**	**+1.4**
UNCR	**Uncukul**	**0.90**	**158**	*e*PG	**Pg**	**15 50 13.0**	**-1.1**
UNCR				*e*S	**Sg**	**15 50 24.0**	**-1.8**
UNCR				pmax	pmax		
	comp=Z,61nm,0.2s						
UNCR	**Uncukul**	**0.90**	**158**	*e*Pg	**Pg**	**15 50 13.0**	**-1.1**
	comp=Z,61nm,0.2s						
UNCR				*e*Sg	**Sg**	**15 50 24.0**	**-1.8**
XNZR	**Khunzakh**	**1.04**	**165**	*e*PG	**Pg**	**15 50 15.5**	**-1.4**
XNZR				*e*S	**Sg**	**15 50 30.0**	**-0.3**
XNZR	**Khunzakh**	**1.04**	**165**	*e*Pg	**Pg**	**15 50 15.5**	**-1.4**
XNZR				*e*Sg	**Sg**	**15 50 30.0**	**-0.3**
ARKR	**Arakani**	**1.06**	**153**	PG	**Pg**	**15 50 16.7**	**-0.5**
ARKR				*e*S	**Sg**	**15 50 30.5**	**-0.5**
ARKR				pmax	pmax		
	comp=Z,69nm,0.2s						
ARKR	**Arakani**	**1.06**	**153**	Pg	**Pg**	**15 50 16.7**	**-0.5**
	comp=Z,69nm,0.2s						
ARKR				*e*Sg	**Sg**	**15 50 30.5**	**-0.5**
TRKR	**Terskaya**	**1.18**	**279**	*e*PG	**Pg**	**15 50 18.9**	**-0.6**
TRKR				*e*S	**Sg**	**15 50 36.4**	**+1.6**
TRKR	**Terskaya**	**1.18**	**279**	*e*Pg	**Pg**	**15 50 18.9**	**-0.6**
TRKR				*e*Sg	**Sg**	**15 50 36.4**	**+1.6**
SNJR	**Sundja**	**1.21**	**247**	*e*PG	**Pg**	**15 50 18.9**	**-1.2**
SNJR				*e*S	**Sg**	**15 50 36.3**	**+0.4**
SNJR	**Sundja**	**1.21**	**247**	*e*Pg	**Pg**	**15 50 18.9**	**-1.2**
SNJR				*e*Sg	**Sg**	**15 50 36.3**	**+0.4**
VLKR	**Vladikavkaz**	**1.31**	**248**	*e*PG	**Pg**	**15 50 20.8**	**-1.2**
VLKR				*i* S	**Sg**	**15 50 39.3**	**+0.3**
VLKR	**Vladikavkaz**	**1.31**	**248**	*e*Pg	**Pg**	**15 50 20.8**	**-1.2**
VLKR				*i* Sg	**Sg**	**15 50 39.3**	**+0.3**
BTKR	**Batakoyurt**	**1.32**	**263**	*i*PG	**Pg**	**15 50 21.2**	**-1.0**
BTKR				*i* S	**Sg**	**15 50 40.2**	**+0.9**
BTKR	**Batakoyurt**	**1.32**	**263**	*i* Pg	**Pg**	**15 50 21.2**	**-1.0**
BTKR				*i* Sg	**Sg**	**15 50 40.2**	**+0.9**
KMSR	**Komsomolskaya**	**1.50**	**264**	*i*PG	**Pn**	**15 50 24.0**	**-0.2**
KMSR				*e*S	**Sg**	**15 50 45.4**	**+0.3**
KMSR	**Komsomolskaya**	**1.50**	**264**	*i* Pg	**Pn**	**15 50 24.0**	**-0.2**
KMSR				*e*Sg	**Sg**	**15 50 45.4**	**+0.3**
PRTR	**Priterechnaya**	**1.51**	**279**	*e*PG	**Pn**	**15 50 24.1**	**-0.2**
PRTR				*i* S	**Sg**	**15 50 45.5**	**+0.2**
PRTR	**Priterechnaya**	**1.51**	**279**	*e*Pg	**Pn**	**15 50 24.1**	**-0.2**
PRTR				*i* Sg	**Sg**	**15 50 45.5**	**+0.2**
KMKR	**Kumukh**	**1.52**	**158**	*e*PG	**Pn**	**15 50 24.5**	**+0.0**
KMKR				*e*S	**Sg**	**15 50 46.5**	**+0.7**
KMKR				pmax	pmax		
	comp=Z,56nm,0.2s						
KMKR	**Kumukh**	**1.52**	**158**	*e*Pg	**Pn**	**15 50 24.5**	**0.0**
	comp=Z,56nm,0.2s						
KMKR				*e*Sg	**Sg**	**15 50 46.5**	**+0.7**
LACR	**Lac**	**1.66**	**245**	*i*PG	**Pn**	**15 50 25.3**	**-1.0**
LACR				*i* S	**Sn**	**15 50 47.6**	**-0.2**
LACR	**Lac**	**1.66**	**245**	*i* Pg	**Pn**	**15 50 25.3**	**-1.0**
LACR				*i* Sg	**Sn**	**15 50 47.6**	**-0.2**
URKR	**Urkarakh**	**1.68**	**145**	*e*PG	**Pg**	**15 50 35.5**	**+6.5**
URKR				*e*S	**Sg**	**15 50 57.0**	**+6.2**
URKR	**Urkarakh**	**1.68**	**145**	*e*Pg	**Pg**	**15 50 35.5**	**+6.5**
URKR				*e*Sg	**Sg**	**15 50 57.0**	**+6.2**
KORR	**Kora**	**1.72**	**255**	*e*PG	**Pg**	**15 50 26.7**	**-3.2**
KORR				*e*S	**Sn**	**15 50 49.7**	**+0.3**
KORR	**Kora**	**1.72**	**255**	*e*Pg	**Pg**	**15 50 26.7**	**-3.2**
KORR				*e*Sg	**Sn**	**15 50 49.7**	**+0.3**
LSNR	**Lesken**	**1.86**	**262**	*i*PN	**Pn**	**15 50 29.2**	**+0.1**
LSNR				*e*S	**Sn**	**15 50 53.9**	**+1.1**
LSNR	**Lesken**	**1.86**	**262**	*i* Pn	**Pn**	**15 50 29.2**	**+0.1**
LSNR				*e*Sg	**Sn**	**15 50 53.9**	**+1.1**
ZEI	**Tsey**	**1.95**	**247**	*i*PN	**Pn**	**15 50 29.3**	**-1.0**
ZEI				*i* S	**Sn**	**15 50 55.1**	**+0.1**
ZEI	**Tsey**	**1.95**	**247**	*i* Pn	**Pn**	**15 50 29.3**	**-1.0**
ZEI				*i* Sg	**Sn**	**15 50 55.1**	**+0.1**
DIGR	**Digorskoe uzhe**	**2.12**	**253**	*e*PN	**Pn**	**15 50 32.3**	**-0.3**
DIGR				*e*S	**Sn**	**15 50 59.6**	**+0.4**
DIGR	**Digorskoe uzhe**	**2.12**	**253**	*e*Pn	**Pn**	**15 50 32.3**	**-0.3**
DIGR				*e*Sg	**Sn**	**15 50 59.6**	**+0.4**
KUBR	**Kubataba**	**2.14**	**278**	*i*PN	**Pn**	**15 50 36.7**	**+3.7**
KUBR	**Kubataba**	**2.14**	**278**	*i* Pn	**Pn**	**15 50 36.7**	**+3.7**
SHAR	**Shatzhatmas**	**2.67**	**275**	*i*PN	**Pn**	**15 50 40.9**	**+0.6**
SHAR	**Shatzhatmas**	**2.67**	**275**	*e*Pn	**Pn**	**15 50 40.9**	**+0.6**
KIV	**Kislovodsk**	**2.68**	**280**	*i*PN	**Pn**	**15 50 42.6**	**+2.3**
KIV				*i* S	**Sn**	**15 51 11.5**	**-1.5**
KIV	**Kislovodsk**	**2.68**	**280**	*i* Pn	**Pn**	**15 50 42.6**	**+2.3**
KIV				*i* Sn	**Sn**	**15 51 11.5**	**-1.5**
AKTO	**Aktyubinsk**	**10.53**	**45**	⇑P	**Pn**	**15 52 28.6**	**+0.5**
	comp=Z,0.5nm,1.4s						
AKTO				⇓S	**Sn**	**15 54 19.4**	**-6.9**
	comp=Z,0.2nm,0.6s						
AKTO	**Aktyubinsk**	**10.53**	**45**	P	**Pn**	**15 52 28.6**	**+0.5**
	comp=Z,0.5nm,1.4s						
AB31	**Akbulak array**	**10.99**	**54**	P	**Pn**	**15 52 33.8**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=244,slow=12,SNR=11						
AB31				⇑S	**Sn**	**15 54 31.0**	**-6.4**
	comp=Z,0.2nm,0.3s,baz=246,slow=24,SNR=5.6						
AB31	**Akbulak array**	**10.99**	**54**	P	**Pn**	**15 52 33.8**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=244,SNR=11						

WEL 30 16:02:07.2±0.4, 36°.70S×177°.13E, h33km, ML4.3/13, Error ellipse: s-maj=3.2km s-min=2.1km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.83**	**177**	P*	Pb	16 02 21.7	-1.5
WIZ				S*	Sb	16 02 32.2	-2.0
MYRZ	**Mayor Island**	**0.92**	**230**	P*	Pb	16 02 22.7	-1.9
MYRZ				S*	Sb	16 02 34.7	-1.9
KUZ	**Kuaotunu**	**1.13**	**267**	PN	Pn	16 02 25.0	-1.6
KUZ				SN	Sn	16 02 39.1	-1.9
OPRZ	**Ohinepanea**	**1.24**	**201**	P*	Pb	16 02 27.7	-2.3
TGRZ	**Tauranga**	**1.24**	**214**	P*	Pb	16 02 27.8	-2.2
MXZ	**Matakaoa Point**	**1.28**	**133**	P*	Pb	16 02 28.0	-2.7
MXZ				S*	Sb	16 02 44.6	-2.2
MARZ	**Manawahe**	**1.34**	**195**	P*	Pb	16 02 28.2	-3.5
KARZ	**Kaharoa**	**1.50**	**208**	P*	Pb	16 02 32.0	-2.4
URZ	**Urewera**	**1.56**	**180**	P*	Pb	16 02 32.3	-3.2
MKAZ	**Moumakai**	**1.62**	**255**	PN	Pn	16 02 33.0	-0.5
PUZ	**Puketiti**	**1.64**	**147**	PN	Pn	16 02 35.2	+1.5
UTU	**Utuhina**	**1.66**	**206**	P*	Pb	16 02 37.8	+0.7
TOZ	**Tahuroa Road**	**1.66**	**231**	P*	Pb	16 02 34.4	-2.7
MWZ	**Matawai**	**1.67**	**169**	P*	Pb	16 02 33.9	-3.3
MTAZ	**Motutapu**	**1.78**	**266**	PN	Pn	16 02 36.7	+1.1
OTAZ	**Otara**	**1.79**	**261**	PN	Pn	16 02 36.6	+0.9
ABAZ	**Army Bay**	**1.85**	**272**	PN	Pn	16 02 36.6	+0.1
KAAZ	**Kauri Point**	**1.95**	**266**	PN	Pn	16 02 39.2	+1.3
CNGZ	**Carnagh Statio**	**1.98**	**155**	PN	Pn	16 02 41.1	+2.7
RVAZ	**Riverhead Bore**	**2.05**	**267**	PN	Pn	16 02 39.6	+0.4
WTAZ	**Waiatarua**	**2.06**	**263**	PN	Pn	16 02 39.8	+0.3
WCZ	**Waipu Caves**	**2.37**	**288**	PN	Pn	16 02 43.2	-0.5
HIZ	**Hauiti**	**2.56**	**224**	PN	Pn	16 02 47.1	+0.9
OUZ	**Omahuta**	**3.22**	**296**	PN	Pn	16 02 55.2	-0.1
TSZ	**Takapari Road**	**3.48**	**195**	PN	Pn	16 03 00.7	+1.8

MAN 30 16:09:15, 8°.98N×125°.68E, h14km, mb4.5, ML3.3, MS3.2, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.05**	**259**	*e*P	Pg	16 09 18.5	+0.8
BUTP				*e*S	Sg	16 09 23.9	+4.4
CGP	**Cagayan de Oro**	**1.10**	**242**	⇑*i*P	Pb	16 09 34.9	-0.9
CGP				*i* S	Sb	16 09 51.3	+1.3
BUKP	**Musuan**	**1.25**	**209**	*e*P	Pn	16 09 36.9	-1.2
BUKP				*e*S	Sb	16 09 47.1	-7.3

RSPR 30 16:09:56.5, 19°.08N×64°.89W, h32km±13km, MD3.0/3, 10C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TBVI	**Tortola**	**0.71**	**159**	⇓*e*P	Pn	16 10 08.8	-1.5
TBVI	**Tortola**	**0.71**	**159**	⇓*e*P	Pn	16 10 08.8	-1.5
TBVI				*e*S	Sb	16 10 18.9	-1.1
TBVI	**Tortola**	**0.71**	**159**	⇓*e*P	Pn	16 10 08.8	-1.5
TBVI				*e*S	Sb	16 10 18.9	-1.1
STVI	**Saint Thomas**	**0.73**	**185**	⇓*e*P	Pn	16 10 08.9	-1.7
STVI	**Saint Thomas**	**0.73**	**185**	⇑*e*P	Pn	16 10 08.9	-1.7
STVI	**Saint Thomas**	**0.73**	**185**	⇑*e*P	Pn	16 10 08.9	-1.7
STVI	**Saint Thomas**	**0.73**	**185**	⇑*e*P	Pn	16 10 08.9	-1.7
STVI	**Saint Thomas**	**0.73**	**185**	⇑*e*P	Pn	16 10 08.9	-1.7
STVI				*e*S	Sb	16 10 18.7	-1.8
STVI				*e*S	Sb	16 10 19.1	-1.4
MTP	**Monte Pirata**	**1.16**	**213**	⇑*e*P	Pn	16 10 15.3	-1.3
MTP	**Monte Pirata**	**1.16**	**213**	⇑*e*P	Pn	16 10 15.7	-0.8
MTP	**Monte Pirata**	**1.16**	**213**	*e*S	Sn	16 10 30.4	-0.9
MTP	**Monte Pirata**	**1.16**	**213**	⇑*e*P	Pn	16 10 15.3

GEVA	**Gevas**	**1.55**	**303**	*i* P		**Pn**	**16 57 54.4**	**-5.0**
GEVA				*i* S		**Sn**	**16 58 20.6**	**+1.0**
IBST	**Bostanabad**	**1.74**	**82**⇑	*e*Pn		**Pn**	**16 58 02.0**	**0.0**
IBST				*e*Sg		**Sg**	**16 58 25.9**	**-1.7**
IBST				*e*			16 58 27.3	
	comp=Z,20µm,0.3s							
IBST	**Bostanabad**	**1.74**	**82**⇑	*e*Pn		**Pn**	**16 58 02.0**	**0.0**
IBST				*e*Sg		**Sg**	**16 58 25.9**	**-1.7**
SIRN	**S¨–rnak**	**1.83**	**271**	*i* P		**Pn**	**16 58 01.1**	**-2.2**
SIRN				*i* S		**Sn**	**16 58 29.4**	**+2.8**
SIRN	**S¨–rnak**	**1.83**	**271**	*i* P		**Pn**	**16 58 01.1**	**-2.2**
SIRN				*i* S		**Sn**	**16 58 29.4**	**+2.8**
MAKU	**Maku**	**1.86**	**359**	*e*Pg		**Pn**	**16 58 04.0**	**+0.3**
MAKU	**Maku**	**1.86**	**359**	*e*Pg		**Pn**	**16 58 04.7**	**+1.0**
MAKU				AML		AML	16 58 39.5	
	comp=N,246nm,0.8s							
MAKU	**Maku**	**1.86**	**359**	*e*Pg		**Pn**	**16 58 04.7**	**+1.0**
TATV	**Tatvan**	**2.19**	**298**	*i* P		**Pn**	**16 58 08.0**	**-0.2**
TATV				*i* S		**Sn**	**16 58 37.5**	**+2.2**
TATV	**Tatvan**	**2.19**	**298**	*i* P		**Pn**	**16 58 08.0**	**-0.2**
TATV				*i* S		**Sn**	**16 58 37.5**	**+2.2**
ISRB	**Sarab**	**2.36**	**81**	*e*Pn		**Pn**	**16 58 12.0**	**+1.4**
ISRB				*e*Sg		**Sg**	**16 58 46.5**	**-1.2**
ISRB				*e*			16 58 50.5	
	comp=Z,11µm,0.3s							
ISRB	**Sarab**	**2.36**	**81**	*e*Pn		**Pn**	**16 58 12.0**	**+1.4**
ISRB				*e*Sg		**Sg**	**16 58 46.5**	**-1.2**
TUTA	**Tutak**	**2.43**	**323**	*i* P		**Pn**	**16 58 11.2**	**-0.2**
TUTA				*i* S		**Sn**	**16 58 44.6**	**+3.4**
TUTA	**Tutak**	**2.43**	**323**	*i* P		**Pn**	**16 58 11.2**	**-0.2**
TUTA				*i* S		**Sn**	**16 58 44.6**	**+3.4**
AGRB	**Hanur-Agry**	**2.49**	**328**	*e*PN		**Pn**	**16 58 12.9**	**+0.7**
AGRB	**Hanur-Agry**	**2.49**	**328**	*e*PN		**Pn**	**16 58 12.9**	**+0.6**
GNI	**Garni**	**2.66**	**0**	*e*PN		**Pn**	**16 58 17.8**	**+3.1**
GNI	**Garni**	**2.66**	**0**	Pn		**Pn**	**16 58 18.6**	**+4.0**
	comp=Z,16nm,0.3s,baz=272,slow=1.0,SNR=78							
GNI				Lg			16 59 00.4	
	comp=Z,18nm,0.3s,baz=294,slow=9.3,SNR=6.9							
GNI	**Garni**	**2.66**	**0**	*e*P		**Pn**	**16 58 17.1**	**+2.5**
GNI				Lg			16 59 00.4	
GNI	**Garni**	**2.66**	**0**	P		**Pn**	**16 58 18.6**	**+4.0**
GNI				pmax		pmax		
	comp=Z,16nm,0.3s							
GNI	**Garni**	**2.66**	**0**	*e*P		**Pn**	**16 58 17.1**	**+2.5**
GNI	**Garni**	**2.66**	**0**	*e*Pn		**Pn**	**16 58 17.8**	**+3.2**
GNI				Lg			16 59 00.4	
GRMI	**Germi**	**2.83**	**61**	*e*P		**Pn**	**16 58 18.0**	**+1.0**
GRMI	**Germi**	**2.83**	**61**	*e*Pn		**Pn**	**16 58 18.9**	**+2.0**
GRMI	**Germi**	**2.83**	**61**	*e*P		**Pn**	**16 58 18.0**	**+1.0**
VRTB	**Varto-Mus**	**3.06**	**304**	*e*PN		**Pn**	**16 58 19.0**	**-1.2**
VRTB	**Varto-Mus**	**3.06**	**304**	*e*Pn		**Pn**	**16 58 19.0**	**-1.2**
IDHR	**Dehrash**	**3.09**	**154**⇓	*e*Pn		**Pn**	**16 58 23.2**	**+2.6**
IDHR				*e*			16 58 24.2	
	comp=Z,9µm,0.1s							
IDHR	**Dehrash**	**3.09**	**154**⇓	*e*Pn		**Pn**	**16 58 23.2**	**+2.6**
ILIN	**Lien**	**3.14**	**144**	*e*Pn		**Pn**	**16 58 23.8**	**+2.6**
ILIN				*e*Sg		**Sg**	**16 59 16.8**	**+4.2**
ILIN				*e*			16 59 30.9	
	comp=Z,4µm,0.4s							
ILIN	**Lien**	**3.14**	**144**	*e*Pn		**Pn**	**16 58 23.8**	**+2.6**
ILIN				*e*Sg		**Sg**	**16 59 16.8**	**+4.2**
SNGE	**Sanandaj**	**3.20**	**138**	*e*Pn		**Pn**	**16 58 25.0**	**+3.0**
SNGE				*e*Sg		**Sg**	**16 59 14.0**	**-0.4**
SNGE	**Sanandaj**	**3.20**	**138**	*e*Pn		**Pn**	**16 58 25.6**	**+3.6**
SNGE				*e*Sg		**Sg**	**16 59 14.2**	**-0.2**
SNGE				AML		AML	16 59 20.7	
	comp=E,285nm,0.7s							
SNGE	**Sanandaj**	**3.20**	**138**	*e*Pn		**Pn**	**16 58 25.0**	**+3.0**
SNGE				*e*Sg		**Sg**	**16 59 14.0**	**-0.4**
ZNJK	**Zanjan**	**3.27**	**103**	*e*Pn		**Pn**	**16 58 25.0**	**+1.9**
ZNJK				*e*Sg		**Sg**	**16 59 14.0**	**-2.9**
ZNJK	**Zanjan**	**3.27**	**103**	*e*Pn		**Pn**	**16 58 25.7**	**+2.6**
ZNJK				*e*Sg		**Sg**	**16 59 14.8**	**-2.1**
ZNJK	**Zanjan**	**3.27**	**103**	*e*Pn		**Pn**	**16 58 25.0**	**+1.9**
ZNJK				*e*Sg		**Sg**	**16 59 14.8**	**-2.1**
KARS	**Kars**	**3.39**	**338**	*e*PN		**Pn**	**16 58 26.0**	**+1.4**
KARS	**Kars**	**3.39**	**338**	*e*Pn		**Pn**	**16 58 26.0**	**+1.4**
IVIS	**Veis**	**3.42**	**149**	*e*Pn		**Pn**	**16 58 27.7**	**+2.6**
IVIS				*e*			16 58 44.8	
	comp=Z,3µm,0.2s							
IVIS	**Veis**	**3.42**	**149**	*e*Pn		**Pn**	**16 58 27.7**	**+2.6**
IGHG	**Ghaleghazi**	**3.49**	**154**	*e*Pn		**Pn**	**16 58 28.9**	**+2.8**
IGHG				*e*			16 59 42.8	
	comp=Z,7µm,0.4s							
IGHG	**Ghaleghazi**	**3.49**	**154**	*e*Pn		**Pn**	**16 58 28.9**	**+2.8**
BNGB	**Bing¨ll**	**3.52**	**296**	*e*PN		**Pn**	**16 58 25.4**	**-1.1**
EZM	**Erzurum**	**3.57**	**314**	*e*PN		**Pn**	**16 58 26.6**	**-0.5**
BINT	**Bingol**	**3.61**	**294**	*e*Pn		**Pn**	**16 58 25.4**	**-2.3**
DGRG	**David-gareji**	**3.99**	**7**	P		**Pg**	**16 58 45.4**	**-2.8**
DGRG				S		**Sg**	**16 59 53.0**	**+13**
AKH	**Akhalkalaki**	**4.03**	**347**	P		**Pg**	**16 58 42.8**	**-6.2**
AKH				S		**Sg**	**16 59 47.1**	**+6.0**
MTA	**Mtatsminda**	**4.20**	**1**	P		**Pg**	**16 58 47.6**	**-4.6**
MTA				S		**Sg**	**16 59 47.1**	**+0.5**
BHD	**Baghdad**	**4.22**	**184**	*ex*		x	16 58 34.0	
BHD				*ex*		x	16 59 26.0	
BHD	**Baghdad**	**4.22**	**184**	*e*Pn		**Pn**	**16 58 34.0**	**-2.1**
TBLG	**Delisi**	**4.24**	**0**	*e*P		**Pb**	**16 58 49.2**	**+2.9**
TBLG	**Delisi**	**4.24**	**0**	P		**Pb**	**16 58 49.2**	**+2.9**
TBLG				S		**Sg**	**16 59 48.3**	**+0.5**
PTK	**Pertek**	**4.42**	**290**	*e*PN		**Pn**	**16 58 38.3**	**-0.6**
PTK	**Pertek**	**4.42**	**290**	*e*Pn		**Pn**	**16 58 38.3**	**-0.6**
GOR	**Gori**	**4.52**	**354**	P		**Pb**	**16 58 48.1**	**-3.0**
BAYT	**Ayd¨–ntepe-Bay**	**4.60**	**311**	*e*PN		**Pn**	**16 58 41.3**	**0.0**
BAYT	**Ayd¨–ntepe-Bay**	**4.60**	**311**	*e*Pn		**Pn**	**16 58 41.3**	**0.0**
BCA	**Borcka**	**4.62**	**330**	*e*PN		**Pn**	**16 58 43.0**	**+1.4**
BCA	**Borcka**	**4.62**	**330**	*e*Pn		**Pn**	**16 58 43.0**	**+1.4**
MALT	**Malatya**	**5.04**	**281**	*e*PN		**Pn**	**16 58 47.4**	**0.0**
MALT	**Malatya**	**5.04**	**281**	*e*Pn		**Pn**	**16 58 47.4**	**0.0**
MYA	**Malatya**	**5.05**	**281**	*e*PN		**Pn**	**16 58 46.5**	**-0.9**
MYA	**Malatya**	**5.05**	**281**	*e*Pn		**Pn**	**16 58 46.6**	**-0.9**
IMHD	**Mahdasht**	**5.11**	**109**	*e*Pn		**Pn**	**16 58 48.6**	**+0.2**
IMHD				*e*			16 59 37.1	
	comp=Z,248nm,0.2s							
IMHD	**Mahdasht**	**5.11**	**109**	*e*Pn		**Pn**	**16 58 48.6**	**+0.2**
ONI	**Oni**	**5.19**	**350**	P		**Pn**	**16 58 55.6**	**+6.2**
ONI				S		**Pg**	**16 59 22.7**	**+12**
ASAO	**Ashtian**	**5.21**	**123**	*e*Pn		**Pn**	**16 58 53.0**	**+3.4**
ASAO	**Ashtian**	**5.21**	**123**	*e*Pn		**Pn**	**16 58 53.1**	**+3.4**
ASAO	**Ashtian**	**5.21**	**123**	*e*Pn		**Pn**	**16 58 53.0**	**+3.4**
ZEI	**Tsey**	**5.31**	**353**	*e*P		**Pn**	**16 58 57.1**	**+6.0**
ZEI				pmax		pmax		
	comp=Z,2.0nm,0.6s							
KMRS	**Kahramanmaras**	**6.22**	**273**	*e*PN		**Pn**	**16 59 03.0**	**-0.6**
KMRS	**Kahramanmaras**	**6.22**	**273**	*e*Pn		**Pn**	**16 59 03.0**	**-0.5**
SARI	**SarD1z-Kayseri**	**6.44**	**283**	*e*PN		**Pn**	**16 59 08.8**	**+2.3**
KIV	**Kislovodsk**	**6.64**	**347**	*e*P		**Pn**	**16 59 09.1**	**-0.3**
KIV				pmax		pmax		
	comp=Z,5.0nm,0.9s							
KIV	**Kislovodsk**	**6.64**	**347**	*e*P		**Pn**	**16 59 09.1**	**-0.3**
	comp=Z,5.0nm,0.9s							
IKLH	**Kolahrood**	**6.97**	**125**	*e*Pn		**Pn**	**16 59 17.6**	**+3.7**
IKLH				*e*			16 59 49.7	
	comp=Z,321nm,0.5s							
IKLH	**Kolahrood**	**6.97**	**125**	*e*Pn		**Pn**	**16 59 17.6**	**+3.7**
BNN	**Bunyan**	**7.12**	**284**	*e*PN		**Pn**	**16 59 16.6**	**+0.6**
BNN	**Bunyan**	**7.12**	**284**	*e*Pn		**Pn**	**16 59 16.6**	**+0.6**
SOC	**Sochi**	**7.18**	**330**	*e*P		**Pn**	**16 59 19.3**	**+2.6**
SOC				pmax		pmax		
	comp=Z,26nm,0.9s							
SOC				pmax		pmax		
	comp=N,20nm,0.9s							
MIB	**Mutribah**	**7.97**	**163**	*e*P		**Pn**	**16 59 27.1**	**-0.5**
MIB				AML		AML	17 01 00.2	
	comp=Z,21nm,0.4s							
MIB	**Mutribah**	**7.97**	**163**	*e*P		**Pn**	**16 59 27.1**	**-0.5**
UMR	**Umm Al-Rimmam**	**8.30**	**162**	*e*P		**Pn**	**16 59 31.6**	**-0.6**
UMR				AML		AML	17 01 08.1	
	comp=Z,18nm,0.4s							
UMR	**Umm Al-Rimmam**	**8.30**	**162**	*e*P		**Pn**	**16 59 31.6**	**-0.5**
ASF	**Jabal al Asfar**	**8.33**	**233**	Pn		**Pn**	**16 59 31.5**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=281,slow=10,SNR=6.2							
ASF				Lg			17 01 50.7	
	comp=Z,0.8nm,0.3s,baz=99,slow=23,SNR=6.9							
ASF				LR		LR	17 03 19.7	
	comp=Z,67nm,18.3s,baz=265,slow=42							
ASF	**Jabal al Asfar**	**8.33**	**233**	Pn		**Pn**	**16 59 31.5**	**-1.1**
ASF				Lg			17 01 50.7	
ASF	**Jabal al Asfar**	**8.33**	**233**	P		**Pn**	**16 59 31.5**	**-1.1**
NAY	**Al-Naaiem**	**8.48**	**165**	*e*P		**Pn**	**16 59 34.2**	**-0.4**
NAY				AML		AML	17 01 10.9	
	comp=Z,6.9nm,0.5s							

NAY	**Al-Naaiem**	**8.48**	**165**	*e*P		**Pn**	**16 59 34.2**	**-0.4**
MMAI	**Mount Meron Ar**	**8.83**	**242**	Pn		**Pn**	**16 59 38.9**	**-0.5**
	comp=Z,1.5nm,0.3s,baz=65,slow=14,SNR=9.4							
MMAI				Lg			17 02 09.0	
	comp=Z,0.6nm,0.3s,baz=56,slow=35,SNR=2.6							
MMAI				LR		LR	17 03 38.1	
	comp=Z,89nm,18.1s,baz=50,slow=42							
MMAI	**Mount Meron Ar**	**8.83**	**242**	Pn		**Pn**	**16 59 38.9**	**-0.5**
MMAI				Lg			17 02 09.0	
MMAI	**Mount Meron Ar**	**8.83**	**242**	Pn		**Pn**	**16 59 38.9**	**-0.5**
BR131	**Keskin Array S**	**8.96**	**288**	*e*P		**Pn**	**16 59 39.9**	**-1.2**
	comp=Z,2.3nm,0.8s							
BR131	**Keskin Array S**	**8.96**	**288**	*e*P		**Pn**	**16 59 39.9**	**-1.2**
	comp=Z,2.3nm,0.8s							
BRTR	**Keskin Array B**	**8.96**	**288**	Pn		**Pn**	**16 59 40.3**	**-0.8**
	baz=126,slow=14,SNR=2.6							
BRTR				Pg		Pn	17 00 17.9	+37
	comp=Z,0.0nm,0.3s,baz=104,slow=12,SNR=2.6							
BRTR	**Keskin Array B**	**8.96**	**288**	Pn		**Pn**	**16 59 40.3**	**-0.8**
BRTR				Pg		Pn	17 00 17.9	+37
BRTR	**Keskin Array B**	**8.96**	**288**	P		**Pn**	**16 59 40.3**	**-0.8**
BRTR	**Keskin Array B**	**8.96**	**288**	P		**Pn**	**16 59 40.3**	**-0.8**
QRN	**Al-Qurain**	**9.12**	**162**	*e*P		**Pn**	**16 59 42.9**	**-0.5**
EIL	**Elat**	**11.27**	**229**	Pn		**Pn**	**17 00 12.0**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=6.3,slow=9.2,SNR=2.6							
EIL				Pg		Pn	17 00 54.7	+42
	comp=Z,0.3nm,0.3s,baz=48,slow=18,SNR=2.7							
EIL				Lg			17 03 26.5	
	comp=Z,0.6nm,0.3s,baz=104,slow=12,SNR=3.0							
EIL				LR		LR	17 04 43.8	
	comp=Z,72nm,18.3s,baz=273,slow=39							
EIL	**Elat**	**11.27**	**229**	Pn		**Pn**	**17 00 12.0**	**-0.8**
EIL				Pg		Pn	17 00 54.7	+42
EIL				Lg			17 03 26.5	
EIL	**Elat**	**11.27**	**229**	Pn		**Pn**	**17 00 12.0**	**-0.8**
IPAY	**Payeh**	**11.47**	**91**	*e*Pn		**Pn**	**17 00 16.6**	**+1.1**
IPAY	**Payeh**	**11.47**	**91**	*e*Pn		**Pn**	**17 00 16.6**	**+1.1**
VSR	**Storozhevoye**	**14.28**	**346**	*e*P		**Pn**	**17 01 00.8**	**+6.9**
VSR				pmax		pmax		
	comp=Z,10.0nm,1.8s							
VSR				pmax		pmax		
	comp=N,7.0nm,0.8s							
VSR				pmax		pmax		
	comp=E,7.0nm,1.5s							
VSR	**Storozhevoye**	**14.28**	**346**	*e*P		**Pn**	**17 01 00.8**	**+6.9**
	comp=E,7.0nm,0.8s							
AKTO	**Aktyubinsk**	**16.06**	**32**	Pn		**Pn**	**17 01 18.1**	**+0.5**
	comp=E,0.1nm,0.3s,baz=195,slow=13,SNR=2.7							
AKTO	**Aktyubinsk**	**16.06**	**32**	Pn		**Pn**	**17 01 18.1**	**+0.5**
AKTO	**Aktyubinsk**	**16.06**	**32**	P		**Pn**	**17 01 18.1**	**+0.5**
AKTO	**Aktyubinsk**	**16.06**	**32**	Pn		**Pn**	**17 01 18.0**	**+0.4**
ABKAR	**Akbulak array**	**16.11**	**38**	Pn		**Pn**	**17 01 17.4**	**-0.8**
	comp=E,1.0nm,0.6s							
ABKAR	**Akbulak array**	**16.11**	**38**	Pn		**Pn**	**17 01 17.4**	**-0.8**
	comp=E,0.9nm,0.6s							
MLR	**Muntele Rosu**	**16.16**	**306**	Pn		**Pn**	**17 01 19.1**	**+0.3**
	comp=E,0.0nm,0.3s,baz=163,slow=17,SNR=1.9							
MLR	**Muntele Rosu**	**16.16**	**306**	Pn		**Pn**	**17 01 19.1**	**+0.3**
MLR	**Muntele Rosu**	**16.16**	**306**	P		**Pn**	**17 01 19.1**	**+0.3**
MLR	**Muntele Rosu**	**16.16**	**306**	Pn		**Pn**	**17 01 19.1**	**+0.3**
AKASG	**Malin Array Be**	**17.23**	**325**	P		**Pn**	**17 01 30.0**	**-2.3**
	comp=E,0.4nm,0.3s,baz=131,slow=12,SNR=5.6							
AKASG	**Malin Array Be**	**17.23**	**325**	P		**Pn**	**17 01 30.0**	**-2.3**
AKASG	**Malin Array Be**	**17.23**	**325**	P		**Pn**	**17 01 30.0**	**-2.3**
KKAR	**Karatay Array**	**20.42**	**66**	*e*P		**P**	**17 02 10.5**	**+1.6**
KKAR	**Karatay Array**	**20.42**	**66**	*e*P		**P**	**17 02 10.5**	**+1.6**
KKAR	**Karatay Array**	**20.42**	**66**	*e*P		**P**	**17 02 10.5**	**+1.6**
ARU	**Arti**	**21.10**	**22**	P		**P**	**17 02 19.7**	**+3.6**
EKS2	**Erkin-Say**	**22.77**	**68**	*e*P		**P**	**17 02 35.5**	**+1.3**
	comp=E,6.0nm,1.2s,mb3.9							
EKS2	**Erkin-Say**	**22.77**	**68**	*e*P		**P**	**17 02 35.5**	**+1.4**
EKS2				pmax		pmax		
	comp=Z,6.0nm,1.2s,mb3.9							
EKS2	**Erkin-Say**	**22.77**	**68**	*e*P		**P**	**17 02 35.5**	**+1.4**
	comp=Z,6.0nm,1.2s,mb3.9							
VRAC	**Vranov**	**23.46**	**309**	P		**P**	**17 02 42.0**	**+0.7**
	comp=Z,2.3nm,0.3s,mb4.0,baz=96,slow=9.2,SNR=3.5							
VRAC	**Vranov**	**23.46**	**309**	P		**P**	**17 02 42.0**	**+0.7**
VRAC	**Vranov**	**23.46**	**309**	P		**P**	**17 02 42.0**	**+0.6**
VRAC	**Vranov**	**23.46**	**309**	P		**P**	**17 02 42.0**	**+0.6**
BVAR	**Borovoye Array**	**23.65**	**41**	P		**P**	**17 02 43.5**	**+0.4**
	comp=Z,1.2nm,0.9s,mb3.3,baz=224,slow=10,SNR=4.2							
BVAR	**Borovoye Array**	**23.65**	**41**	P		**P**	**17 02 43.5**	**+0.4**
BVAR	**Borovoye Array**	**23.65**	**41**	P		**P**	**17 02 43.5**	**+0.4**
BVAR	**Borovoye Array**	**23.65**	**41**	P		**P**	**17 02 43.5**	**+0.4**
GERES	**GERESS Array B**	**25.14**	**307**	P		**P**	**17 02 56.2**	**-0.6**
	comp=Z,1.1nm,0.7s,mb3.5,baz=115,slow=11,SNR=6.7							
GERES	**GERESS Array B**	**25.14**	**307**	P		**P**	**17 02 56.2**	**-0.6**
GERES	**GERESS Array B**	**25.14**	**307**	P		**P**	**17 02 56.2**	**-0.6**
KHC	**Kasperske Hory**	**25.29**	**307**	*e*P		**P**	**17 03 00.0**	**+1.8**
KHC	**Kasperske Hory**	**25.29**	**307**	*e*P		**P**	**17 03 00.0**	**+1.8**
KHC	**Kasperske Hory**	**25.29**	**307**	*e*P		**P**	**17 03 00.0**	**+1.8**
FINES	**FINESS Array B**	**26.67**	**340**	P		**P**	**17 03 11.3**	**+0.8**
	comp=Z,4.4nm,1.1s,mb3.9,baz=204,slow=4.2,SNR=3.4							
FINES	**FINESS Array B**	**26.67**	**340**	P		**P**	**17 03 11.3**	**+0.8**
FINES	**FINESS Array B**	**26.67**	**340**	P		**P**	**17 03 11.3**	**+0.8**
FINES	**FINESS Array B**	**26.67**	**340**	P		**P**	**17 03 11.3**	**+0.8**
KURK	**Kurchatov**	**27.44**	**50**	P		**P**	**17 03 17.3**	**-0.2**
	comp=Z,0.6nm,0.7s,mb3.2,baz=263,slow=9.2,SNR=5.7							
KURK	**Kurchatov**	**27.44**	**50**	P		**P**	**17 03 17.3**	**-0.2**
KURK	**Kurchatov**	**27.44**	**50**	P		**P**	**17 03 17.3**	**-0.2**
KURK	**Kurchatov**	**27.44**	**50**	P		**P**	**17 03 17.3**	**-0.2**
MK31	**Makanchi Array**	**29.13**	**59**	P		**P**	**17 03 35.1**	**+2.4**
MK31	**Makanchi Array**	**29.13**	**59**	P		**P**	**17 03 35.1**	**+2.4**
MK31	**Makanchi Array**	**29.13**	**59**	P		**P**	**17 03 35.1**	**+2.4**
MKAR	**Makanchi Array**	**29.13**	**59**	P		**P**	**17 03 33.1**	**+0.5**
	comp=Z,0.5nm,0.7s,mb3.3,baz=250,slow=6.3,SNR=4.1							
MKAR				LR		LR	17 17 34.5	
	comp=Z,37nm,18.4s,MS3.0,baz=66,slow=41							
MKAR	**Makanchi Array**	**29.13**	**59**	P		**P**	**17 03 33.1**	**+0.5**
MKAR	**Makanchi Array**	**29.13**	**59**	P		**P**	**17 03 33.2**	**+0.5**
MKAR	**Makanchi Array**	**29.13**	**59**	P		**P**	**17 03 33.2**	**+0.5**
HFS	**Hagfors**	**30.02**	**329**	P		**P**	**17 03 40.0**	**-0.5**
	comp=Z,1.5nm,0.5s,mb4.0,baz=116,slow=10,SNR=9.9							
HFS	**Hagfors**	**30.02**	**329**	P		**P**	**17 03 40.0**	**-0.5**
HFS	**Hagfors**	**30.02**	**329**	P		**P**	**17 03 40.0**	**-0.4**
HFS	**Hagfors**	**30.02**	**329**	P		**P**	**17 03 40.0**	**-0.4**
NOA	**NORSAR Array B**	**31.55**	**329**	LR		LR	17 17 19.8	
	comp=Z,28nm,18.1s,MS3.0,baz=140,slow=38							
ZALV	**Zalesovo Beam**	**31.95**	**46**	LR		LR	17 17 30.2	
	comp=Z,9.3nm,18.8s,MS2.5,baz=20,slow=37							
TORD	**Torodi Ar. Bea**	**45.30**	**249**	P		**P**	**17 05 49.6**	**-0.2**
	comp=Z,0.9nm,1.0s,mb3.6,baz=63,slow=5.6,SNR=5.0							
TORD	**Torodi Ar. Bea**	**45.30**	**249**	P		**P**	**17 05 49.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**45.30**	**249**	P		**P**	**17 05 49.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**50.79**	**96**	P		**P**	**17 06 32.3**	**-0.1**
	comp=Z,1.1nm,0.6s,mb3.9,baz=297,slow=8.8,SNR=10							
CMAR	**Chiang Mai Arr**	**50.79**	**96**	P		**P**	**17 06 32.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**50.79**	**96**	P		**P**	**17 06 32.3**	**-0.1**
CMAR	**Chiang Mai Arr**	**50.79**	**96**	P		**P**	**17 06 32.3**	**-0.1**
BOSA	**Boshof**	**68.24**	**198**	P		**P**	**17 08 31.8**	**-0.7**
	comp=Z,3.2nm,0.9s,mb4.3,baz=30,slow=8.1,SNR=3.0							
BOSA				LR		LR	17 38 04.1	
	comp=Z,50nm,18.2s,MS3.8,baz=174,slow=36							
BOSA	**Boshof**	**68.24**	**198**	P		**P**	**17 08 31.8**	**-0.7**
BOSA	**Boshof**	**68.24**	**198**	P		**P**	**17 08 31.8**	**-0.7**
BOSA	**Boshof**	**68.24**	**198**	P		**P**	**17 08 31.8**	**-0.7**

*IDC **30** 17:04:40.9±3.2, 32°.38N×105°.67E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/23, mbtmp3.2/3, Error ellipse: s-maj=416.9km s-min=27.4km az=51.0*
*BJI **30** 17:04:40.7, 32°.61N×105°.22E, h8km, ML3.2/11, Ms3.6/1, Ms7 3.4/1*

ISC 30 17:04:40.3±1.4, 32°.56N±0°.05×105°.29E±0°.08, h2km±13km, n6, σ1°12/12, mb3.3/3, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**2.10**	**219**	Pn	**Pn**	**17 05 17.3**	**+0.8**
CD2				Pg	**Pg**	**17 05 20.3**	**-0.3**
CD2				Sg	**Sg**	**17 05 48.0**	**+0.1**
CD2				smax			
	comp=N,830nm,0.6s						
CD2				smax			
	comp=E,460nm,0.7s						
XAN	**Xi'an**	**3.38**	**63**	Pn	**Pn**	**17 05 35.0**	**+1.0**
XAN				Pg	**Pb**	**17 05 41.5**	**+0.6**
XAN				Sn	**Sn**	**17 06 14.0**	**-0.7**
XAN				Sg	**Sb**	**17 06 22.5**	**+0.1**
XAN				smax			
	comp=N,100nm,0.9s						
XAN				smax			
	comp=E,38nm,0.9s						
LZH	**Lanzhou**	**3.71**	**342**	Pn	**Pn**	**17 05 41.5**	**+2.8**
LZH				Sg	**Sg**	**17 06 37.8**	**-1.8**
LZH				smax			
	comp=N,250nm,0.6s						
LZH				smax			
	comp=E,440nm,0.6s						
LZH				LR	LR		
	comp=N,240nm,4.3s						
LZH				LR	LR		
	comp=E,410nm,4.8s						
LZH				LR	LR		
	comp=Z,280nm,5.6s						
MKAR	**Makanchi Array**	**22.59**	**316**	P	**P**	**17 09 46.6**	**+4.6**
	comp=Z,0.3nm,0.6s,mb2.9,baz=122,slow=12,SNR=2.7						
WRA	**Warramunga Arr**	**59.14**	**148**	P	**P**	**17 14 41.2**	**-1.4**
	comp=Z,0.3nm,0.5s,mb3.6,baz=340,slow=7.5,SNR=6.2						
ASAR	**Alice Springs**	**62.23**	**150**	P	**P**	**17 15 02.4**	**-1.2**
	comp=Z,0.2nm,0.6s,mb3.4,baz=331,slow=6.5,SNR=6.0						

MAN 30 17:16:54, 8°.92N×125°.73E, h11km, mb4.8, ML3.8, MS3.8, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.11**	**293**	*e*P	Pg	17 16 58.2	+1.3
CGP	**Cagayan de Oro**	**1.12**	**246**⇓	*i*P	Pb	17 17 14.4	-1.0
CGP				*i* S	Sb	17 17 30.9	+0.9
BUKP	**Musuan**	**1.23**	**212**	*e*P	Pn	17 17 16.2	-0.9
BUKP				*e*S	Sb	17 17 35.9	+2.8
MSLP	**Maasin**	**1.48**	**325**	*e*P	Pn	17 17 20.2	-0.3
TBP	**Tagbilaran**	**1.99**	**293**	*e*P	Pn	17 17 27.6	0.0
MATI	**Mati**	**2.03**	**165**	*e*P	Pn	17 17 28.0	-0.2
CTBH	**Cotabato--PC H**	**2.24**	**221**⇑	*i*P	Pn	17 17 32.2	+1.2

*IDC **30** 17:21:40.8±0.7, 13°.83N×58°.49W, h0km, mb3.9/13, mb1 4.1/14, mb1mx4.0/22, mbtmp3.9/14, ML6.1/1, Error ellipse: s-maj=21.0km s-min=18.6km az=22.0*
*ISCJB **30

n82,σ0°84/80, mb4.4/33, 2C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.35**	**266**	*eP*	**Pn**	**17 39 43.2**	**-1.4**
MATI	**Mati**	**2.24**	**199**	*eP*	**Pn**	**17 39 55.2**	**-1.4**
BUKP	**Musuan**	**2.25**	**238**	*eP*	**Pn**	**17 39 59.5**	**+2.8**
MSLP	**Maasin**	**2.35**	**297**	*eP*	**Pn**	**17 39 57.3**	**-0.8**
CGP	**Cagayan de Oro**	**2.35**	**255**	*eP*	**Pn**	**17 39 59.8**	**+1.6**
CGP				*eS*	**Sn**	**17 40 31.7**	**+5.9**
DAV	**Davao City (W)**	**2.43**	**215**	Pn	**Pn**	**17 39 59.7**	**+0.5**
	14nm,0.3s,baz=25,slow=7.0,SNR=2.9						
DAV				Lg		17 40 30.2	
	33nm,0.3s,baz=64,slow=23,SNR=6.7						
DAV	**Davao City (W)**	**2.43**	**215**	*ePg*	**Pn**	**17 39 59.4**	**+0.1**
DAV				Lg		17 40 30.2	
TBP	**Tagbilaran**	**3.15**	**281**	*eP*	**Pn**	**17 40 08.4**	**-0.6**
LLP	**Lapu-Lapu**	**3.23**	**293**	*eP*	**Pn**	**17 40 09.1**	**-1.0**
LLP				*eS*	**Sn**	**17 40 46.7**	**-0.6**
CTBH	**Cotabato--PC H**	**3.28**	**236**	*iP*	**Pn**	**17 40 12.8**	**+2.0**
SNPH	**Sibulan**	**3.71**	**274**	*iP*	**Pn**	**17 40 17.5**	**+0.7**
SNPH				*i S*	**Sn**	**17 41 01.2**	**+1.8**
GUIM	**Jordan**	**4.60**	**290**	*eP*	**Pn**	**17 40 28.1**	**-0.8**
RCP	**Roxas**	**4.85**	**301**	*eP*	**Pn**	**17 40 32.2**	**-0.2**
PVCP	**Virac**	**5.28**	**329**	*eP*	**Pn**	**17 40 38.6**	**+0.3**
GUMO	**Guam**	**18.09**	**74**	LR	LR	17 48 46.0	
	comp=Z,60nm,18.9s,baz=110,slow=32						
KSM	**Kuching**	**18.23**	**246**	*eP*	**Pn**	**17 43 30.9**	**-0.4**
FITZ	**Fitzroy Crossi**	**27.04**	**183**	P	**P**	**17 44 59.3**	**+0.2**
	3.7nm,0.5s,mb4.1,baz=14,slow=12,SNR=8.5						
FITZ	**Fitzroy Crossi**	**27.04**	**183**	*eP*	**P**	**17 44 59.3**	**+0.1**
	8.2nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**27.04**	**183**	*eP*	**P**	**17 44 59.2**	**0.0**
KSAR	**Wonju Array Be**	**28.25**	**2**	P	**P**	**17 45 09.9**	**+0.1**
KSRS	**Korea Array**	**28.26**	**2**	P	**P**	**17 45 09.9**	**0.0**
	2.0nm,0.9s,mb3.8,baz=176,slow=9.9,SNR=5.3						
CMAR	**Chiang Mai Arr**	**28.75**	**292**	P	**P**	**17 45 14.8**	**+0.2**
	1.2nm,0.9s,mb3.6,baz=100,slow=7.2,SNR=5.8						
CMAR	**Chiang Mai Arr**	**28.75**	**292**	P	**P**	**17 45 14.8**	**+0.2**
WRAB	**Tennant Creek**	**29.72**	**166**	*eP*	**P**	**17 45 22.4**	**-0.7**
	3.4nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**29.73**	**166**	P	**P**	**17 45 22.4**	**-0.7**
	2.6nm,0.6s,mb4.2,baz=347,slow=9.4,SNR=19						
WRA	**Warramunga Arr**	**29.73**	**166**	P	**P**	**17 45 22.4**	**-0.7**
WB2	**Warramunga Arr**	**29.73**	**166**	*eP*	**P**	**17 45 22.2**	**-0.9**
MBWA	**Marble Bar**	**30.88**	**193**	*eP*	**P**	**17 45 32.6**	**-0.7**
MBWA	**Marble Bar**	**30.88**	**193**	*eP*	**P**	**17 45 33.0**	**-0.3**
QIS	**Mount Isa**	**31.95**	**157**	*eP*	**P**	**17 45 42.9**	**+0.1**
AS31	**Alice Springs**	**33.23**	**168**	*eP*	**P**	**17 45 53.5**	**-0.4**
ASAR	**Alice Springs**	**33.24**	**168**	P	**P**	**17 45 53.8**	**-0.2**
	1.9nm,0.5s,mb4.3,baz=350,slow=7.2,SNR=52						
ASAR				PcP	PcP	17 48 36.5	+0.9
	1.0nm,0.6s,baz=347,slow=2.7,SNR=9.0						
ASAR	**Alice Springs**	**33.24**	**168**	P	**P**	**17 45 53.8**	**-0.2**
ASAR				PcP	PcP	17 48 36.5	+0.9
MEEK	**Meekatharra**	**36.42**	**193**	*eP*	**P**	**17 46 21.8**	**+0.5**
	62nm,0.9s,mb5.5						
QLP	**Quilpie**	**39.20**	**155**	*eP*	**P**	**17 46 44.0**	**-0.8**
FORT	**Forrest**	**39.64**	**179**	*eP*	**P**	**17 46 49.0**	**+0.6**
	22nm,1.0s,mb4.8						
TAPN	**Taplejung**	**41.27**	**301**	*eP*	**P**	**17 47 01.6**	**-0.4**
	6.0nm,0.4s,mb4.6						
ODAN	**Odare**	**41.39**	**301**	*eP*	**P**	**17 47 02.6**	**-0.4**
	8.7nm,0.5s,mb4.7						
RAMN	**Ramite**	**42.09**	**300**	*eP*	**P**	**17 47 08.5**	**-0.2**
	4.1nm,0.3s,mb4.5						
ULN	**Ulaanbaatar**	**42.18**	**340**	*eP*	**P**	**17 47 09.8**	**+0.7**
	2.1nm,0.5s,mb4.0						
SONM	**Songino Array**	**42.38**	**339**	P	**P**	**17 47 11.4**	**+0.6**
	2.1nm,0.6s,mb3.9,baz=154,slow=9.0,SNR=6.6						
SONM	**Songino Array**	**42.38**	**339**	P	**P**	**17 47 11.4**	**+0.6**
BBOO	**Buckleboo**	**42.54**	**169**	*eP*	**P**	**17 47 12.7**	**+0.5**
	33nm,0.4s,mb5.4						
JIRN	**Jiri**	**42.65**	**301**	*eP*	**P**	**17 47 13.1**	**-0.2**
	3.9nm,0.6s,mb4.3						
GUN	**Gumba**	**42.98**	**301**	*eP*	**P**	**17 47 15.8**	**-0.2**
	13nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**43.05**	**162**	P	**P**	**17 47 16.9**	**+0.5**
	4.3nm,0.5s,mb4.4,baz=334,slow=8.4,SNR=17						
STKA	**Stephens Creek**	**43.05**	**162**	*eP*	**P**	**17 47 16.9**	**+0.5**
	3.0nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**43.05**	**162**	*eP*	**P**	**17 47 16.6**	**+0.3**
	0.9nm,0.5s,mb3.8						
KKN	**Kakani**	**43.46**	**301**	*eP*	**P**	**17 47 18.9**	**-0.9**
	4.5nm,0.6s,mb4.4						
DMN	**Daman**	**43.55**	**301**	*eP*	**P**	**17 47 19.8**	**-0.8**
GKN	**Gorkha**	**44.06**	**301**	*eP*	**P**	**17 47 23.7**	**-1.0**
CMSA	**Cobar Meteorol**	**44.17**	**157**	*eP*	**P**	**17 47 26.1**	**+0.7**
	44nm,1.1s,mb5.1						
KOLN	**Koldanda**	**44.88**	**300**	*eP*	**P**	**17 47 30.7**	**-0.5**
	7.7nm,0.7s,mb4.7						
DANN	**Dangsing**	**44.90**	**301**	*eP*	**P**	**17 47 30.7**	**-0.7**
	6.7nm,0.4s,mb4.8						
PYUN	**Piuthan**	**45.49**	**301**	*eP*	**P**	**17 47 35.5**	**-0.5**
	10nm,0.6s,mb4.8						
PETK	**Petropavlovsk-**	**50.43**	**24**	P	**P**	**17 48 16.0**	**+2.2**
	4.2nm,1.0s,mb4.4,baz=213,slow=6.9,SNR=3.0						
PETK	**Petropavlovsk-**	**50.43**	**24**	P	**P**	**17 48 16.0**	**+2.2**
MK31	**Makanchi Array**	**53.40**	**323**	*eP*	**P**	**17 48 36.1**	**+0.1**
MKAR	**Makanchi Array**	**53.40**	**323**	P	**P**	**17 48 36.2**	**+0.1**
	2.0nm,0.5s,mb4.3,baz=124,slow=7.8,SNR=50						
MKAR	**Makanchi Array**	**53.40**	**323**	P	**P**	**17 48 36.2**	**+0.1**
ZALV	**Zalesovo Beam**	**56.01**	**331**	P	**P**	**17 48 54.1**	**-0.7**
	0.6nm,0.3s,mb4.0,baz=126,slow=9.1,SNR=2.4						
ZALV	**Zalesovo Beam**	**56.01**	**331**	P	**P**	**17 48 54.1**	**-0.7**
KURK	**Kurchatov**	**57.45**	**326**	*eP*	**P**	**17 49 05.0**	**0.0**
	4.6nm,0.9s,mb4.5						
RPZ	**Rata Peaks**	**66.00**	**146**	P	**P**	**17 50 02.2**	**-0.5**
	15nm,0.9s,mb5.0,baz=353,slow=12,SNR=5.3						
RPZ	**Rata Peaks**	**66.00**	**146**	P	**P**	**17 50 02.2**	**-0.5**
ABKAR	**Akbulak array**	**68.24**	**319**	*eP*	**P**	**17 50 16.5**	**-0.3**
	0.9nm,0.6s,mb4.0						
ILAR	**Eielson Array**	**80.20**	**26**	P	**P**	**17 51 26.1**	**-0.1**
	0.4nm,0.6s,mb3.5,baz=248,slow=4.7,SNR=15						
ILAR	**Eielson Array**	**80.20**	**26**	P	**P**	**17 51 26.1**	**-0.1**
JOF	**Joensuu**	**84.57**	**333**	*ep*	**P**	**17 51 50.4**	**+1.4**
ARCES	**ARCESS Array B**	**85.55**	**340**	P	**P**	**17 51 54.3**	**+0.5**
	3.5nm,0.9s,mb4.6,baz=70,slow=7.8,SNR=7.3						
ARCES	**ARCESS Array B**	**85.55**	**340**	P	**P**	**17 51 54.3**	**+0.5**
KAF	**Kangasniemi**	**87.01**	**332**	*ep*	**P**	**17 52 03.1**	**+2.0**
FINES	**FINESS Array B**	**87.27**	**332**	P	**P**	**17 52 03.5**	**+1.1**
	1.1nm,0.5s,mb4.4,baz=56,slow=4.8,SNR=9.4						
FINES	**FINESS Array B**	**87.27**	**332**	P	**P**	**17 52 03.5**	**+1.1**
HFS	**Hagfors**	**93.43**	**333**	P	**P**	**17 52 31.0**	**-0.2**
	1.5nm,0.6s,mb4.6,baz=97,slow=6.0,SNR=11						
HFS	**Hagfors**	**93.43**	**333**	P	**P**	**17 52 31.0**	**-0.2**
NOA	**NORSAR Array B**	**94.14**	**334**	P	**P**	**17 52 34.6**	**+0.2**
	0.6nm,0.7s,mb4.1,baz=64,slow=4.7,SNR=4.3						
NOA	**NORSAR Array B**	**94.14**	**334**	P	**P**	**17 52 34.6**	**+0.2**
TORD	**Torodi Ar. Bea**	**121.36**	**291**	PKP	PKPdf	17 58 10.3	+0.3
	0.6nm,0.8s,baz=96,slow=3.5,SNR=3.3						
TORD	**Torodi Ar. Bea**	**121.36**	**291**	PKP	PKPdf	17 58 10.3	+0.3
PLCA	**Paso Flores**	**144.84**	**157**	PKP	PKPdf	17 58 54.5	+1.4
	2.8nm,1.0s,baz=222,slow=4.2,SNR=8.1						
PLCA	**Paso Flores**	**144.84**	**157**	PKP	PKPdf	17 58 54.5	+1.4

DJA 30 17:51:06,1°.61N×121°.57E,h10km,MLv3.6/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.19**	**162**	P	Pb	17 51 27.9	-0.7
GTOI	**Gorontalo**	**1.73**	**124**	P	Pn	17 51 38.3	+2.1
GTOI				S	Sn	17 51 59.5	+1.1
LUWI	**Luwuk**	**2.90**	**155**	P	Pn	17 51 56.6	+4.4
LUWI				S	Sn	17 52 31.5	+4.4
TTSI	**Tana Toraja**	**4.94**	**201**	P	Pn	17 52 21.0	+0.6

*CSEM **30** 18:12:07.9±0.1,41°.96N×23°.14E,h2km, MD2.7, Error ellipse: s-maj=3.2km s-min=2.5km az=80.0*
*SOF **30** 18:12:08.1,41°.99N×23°.24E,h1km, MD2.7*
*THE **30** 18:12:08.2,41°.95N×23°.17E,h2km×3km, ML2.5/6, Error ellipse: s-maj=3.5km s-min=1.4km az=265.0*
*BEO **30** 18:12:10.0±0.8, 42°.03N×23°.14E,h9km×5km, ML2.1/5*

ISC 30 18:12:08.1±0.4,41°.96N±0°.02×23°.13E±0°.03,h4km×4km, n58,σ0°71/81,3C-1D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.10**	**200**	*i* Pg	**Pg**	**18 12 11.6**	**+1.6**
KKB	**Krupnik**	**0.10**	**200**	*i* Pg	**Pg**	**18 12 11.6**	**+1.6**
KKB	**Krupnik**	**0.10**	**200**	*i* Pg	**Pg**	**18 12 11.6**	**+1.6**
MMB	**Musomiste**	**0.58**	**129**	*i* Pg	**Pg**	**18 12 19.6**	**+0.4**
MMB	**Musomiste**	**0.58**	**129**	*i* Pg	**Pg**	**18 12 19.6**	**+0.4**
VTS	**Vitosha**	**0.64**	**5**	*ePg*	**Pg**	**18 12 19.8**	**-0.5**
VTS				*eSg*	**Sg**	**18 12 28.9**	**+0.3**
VTS	**Vitosha**	**0.64**	**5**	P	**Pg**	**18 12 19.9**	**-0.4**
VTS				S	**Sg**	**18 12 28.4**	**-0.2**
VTS	**Vitosha**	**0.64**	**5**	*i* Pg	**Pg**	**18 12 20.5**	**+0.2**
VTS	**Vitosha**	**0.64**	**5**	*i* Pg	**Pg**	**18 12 20.5**	**+0.2**
VTS	**Vitosha**	**0.64**	**5**	*i* Pg	**Pg**	**18 12 20.5**	**+0.2**
VTS				S	**Sg**	**18 12 28.4**	**-0.2**
VTS				*eSg*	**Sg**	**18 12 28.9**	**+0.3**
VAY	**Valandovo**	**0.76**	**214**	*iPg*	**Pg**	**18 12 22.7**	**+0.1**
VAY				*i* Sg	**Sg**	**18 12 33.0**	**+0.6**
VAY	**Valandovo**	**0.76**	**214**	*iPg*	**Pg**	**18 12 22.7**	**+0.1**
VAY				*i* Sg	**Sg**	**18 12 33.0**	**+0.5**
KNT	**Kendrikon**	**0.81**	**192**	P	**Pg**	**18 12 23.6**	**0.0**
KNT				S	**Sg**	**18 12 34.3**	**+0.2**
KNT	**Kendrikon**	**0.81**	**192**	P	**Pg**	**18 12 23.6**	**0.0**
KNT				S	**Sg**	**18 12 34.3**	**+0.2**
NVR	**Nevrokopi**	**0.82**	**137**	P	**Pg**	**18 12 23.3**	**-0.4**
NVR				S	**Sg**	**18 12 33.9**	**-0.4**
NVR	**Nevrokopi**	**0.82**	**137**	P	**Pg**	**18 12 23.3**	**-0.4**
NVR				S	**Sg**	**18 12 33.9**	**-0.4**
SRS	**Serrai**	**0.91**	**157**	P	**Pg**	**18 12 25.2**	**-0.3**
SRS				S	**Sg**	**18 12 37.6**	**+0.4**
PGB	**Panagyurishte**	**0.97**	**52**	*i* Pg	**Pg**	**18 12 25.5**	**-1.2**
PGB	**Panagyurishte**	**0.97**	**52**	*i* Pg	**Pg**	**18 12 25.5**	**-1.2**
PGB	**Panagyurishte**	**0.97**	**52**	*i* Pg	**Pg**	**18 12 25.5**	**-1.2**
GRG	**Griva**	**1.14**	**209**	P	**Pg**	**18 12 29.5**	**-0.4**
GRG	**Griva**	**1.14**	**209**	P	**Pg**	**18 12 29.5**	**-0.4**
SOH	**Sokhos**	**1.15**	**171**	P	**Pg**	**18 12 29.6**	**-0.4**
SOH				S	**Sg**	**18 12 45.0**	**+0.1**
SOH	**Sokhos**	**1.15**	**171**	P	**Pg**	**18 12 29.6**	**-0.4**
SOH				S	**Sg**	**18 12 45.0**	**+0.1**
PLD	**Plovdiv**	**1.18**	**82**	*iPg*	**Pg**	**18 12 30.8**	**+0.1**
PLD				*eSg*	**Sg**	**18 12 47.4**	**+1.3**
PLD	**Plovdiv**	**1.18**	**82**	Pg	**Pg**	**18 12 30.9**	**+0.2**
PLD	**Plovdiv**	**1.18**	**82**	Pg	**Pg**	**18 12 30.9**	**+0.2**
PLD	**Plovdiv**	**1.18**	**82**	Pg	**Pg**	**18 12 30.9**	**+0.2**
PLD				*eSg*	**Sg**	**18 12 47.4**	**+1.3**
RZN	**Rozhen**	**1.22**	**102**	Pg	**Pg**	**18 12 30.9**	**-0.5**
RZN	**Rozhen**	**1.22**	**102**	Pg	**Pg**	**18 12 30.9**	**-0.5**
RZN	**Rozhen**	**1.22**	**102**	Pg	**Pg**	**18 12 30.9**	**-0.5**
BARS	**Barje**	**1.30**	**312**	*ePg*	**Pg**	**18 12 32.4**	**-0.5**
BARS				*eSg*	**Sg**	**18 12 50.3**	**+0.5**
BARS	**Barje**	**1.30**	**312**	*ePg*	**Pg**	**18 12 32.4**	**-0.5**
BARS				*eSg*	**Sg**	**18 12 50.3**	**+0.5**
HORT	**Hortiatis**	**1.36**	**181**	P	**Pn**	**18 12 33.7**	**-0.1**
HORT	**Hortiatis**	**1.36**	**181**	P	**Pn**	**18 12 33.7**	**-0.1**
ZAPS	**Zavoj**	**1.37**	**345**	*iPg*	**Pg**	**18 12 34.0**	**-0.3**
ZAPS				*eSg*	**Sg**	**18 12 51.7**	**-0.3**
KAVA	**Kavala**	**1.42**	**132**	P	**Pn**	**18 12 33.9**	**-0.7**
KAVA				S	**Sb**	**18 12 52.3**	**-1.1**
MPEP	**Malo Peshtene**	**1.47**	**18**	P	**Pn**	**18 12 35.9**	**+0.5**
MPEP	**Malo Peshtene**	**1.47**	**18**	P	**Pn**	**18 12 35.9**	**+0.5**
PLG	**Polygyros**	**1.60**	**171**	P	**Pn**	**18 12 36.6**	**-0.5**
PLG	**Polygyros**	**1.60**	**171**	P	**Pn**	**18 12 36.6**	**-0.5**
OUR	**Ouranopolis**	**1.74**	**158**	P	**Pn**	**18 12 38.3**	**-0.8**
OUR	**Ouranopolis**	**1.74**	**158**	P	**Pn**	**18 12 38.3**	**-0.8**
DIM	**Dimitrovgrad**	**1.80**	**86**	Pg	**Pg**	**18 12 42.0**	**-0.5**
DIM	**Dimitrovgrad**	**1.80**	**86**	Pg	**Pg**	**18 12 42.0**	**-0.5**
DIM	**Dimitrovgrad**	**1.80**	**86**	Pg	**Pg**	**18 12 42.0**	**-0.5**
SELS	**Selova**	**1.95**	**311**	*ePn*	**Pn**	**18 12 42.9**	**+1.0**
SELS				*eSn*	**Sn**	**18 13 06.5**	**-0.3**
SELS	**Selova**	**1.95**	**311**	*ePn*	**Pn**	**18 12 42.9**	**+1.0**
SELS				*eSn*	**Sn**	**18 13 06.5**	**-0.3**
RDO	**Rodhopi**	**1.98**	**113**	P	**Pn**	**18 12 43.8**	**+1.4**
RDO				S	**Sn**	**18 13 09.4**	**+1.7**
RDO	**Rodhopi**	**1.98**	**113**	P	**Pn**	**18 12 43.8**	**+1.4**
RDO				S	**Sn**	**18 13 09.4**	**+1.7**
PVL	**Pavlikeni**	**2.06**	**52**	P	**Pn**	**18 12 43.8**	**+0.3**
PVL	**Pavlikeni**	**2.06**	**52**	P	**Pn**	**18 12 43.8**	**+0.3**
PVL	**Pavlikeni**	**2.06**	**52**	P	**Pn**	**18 12 43.8**	**+0.3**
PAIG	**Paliouri**	**2.07**	**168**	P	**Pn**	**18 12 42.5**	**-1.1**
PAIG	**Paliouri**	**2.07**	**168**	P	**Pn**	**18 12 42.5**	**-1.1**
GRUS	**Gruza**	**2.62**	**318**	*eSg*	**Sg**	**18 13 32.1**	**-0.1**
GRUS	**Gruza**	**2.62**	**318**	*eSg*	**Sg**	**18 13 32.1**	**-0.1**

IDC 30 18:17:15.8±3.8,5°.58S×131°.68E,h0km,mb3.3/1, mb1 3.3/3,mb1mx3.2/14,mbtmp3.1/3,ML2.8/2,MS3.4/1, Ms1 3.4/1,ms1mx2.3/11, Error ellipse: s-maj=252.7km s-min=31.8km az=73.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.51**	**170**	Pn	**Pn**	**18 20 42.6**	**+0.1**
	0.0nm,0.3s,baz=350,slow=12,SNR=5.2						
WRA				Sn	Sn	18 23 10.1	-14
	0.2nm,0.3s,baz=347,slow=24,SNR=11						
ASAR	**Alice Springs**	**18.11**	**173**	P	**Pn**	**18 21 28.9**	**-0.1**
	0.1nm,0.3s,baz=352,slow=11,SNR=13						
ASAJ	**Asahikawa**	**50.43**	**10**	LR	LR	18 45 55.9	
	comp=Z,44nm,21.7s,baz=354,slow=34						
MKAR	**Makanchi Array**	**67.98**	**326**	P	P	**18 28 16.8**	**+0.1**
	0.2nm,0.4s,baz=110,slow=8.2,SNR=4.9						

*CSEM **30** 18:24:36.0,39°.55N×28°.76E,h8km, MD2.5, After ISK*

ISK 30 18:24:36.0,39°.55N×28°.76E,h8km, MD2.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	**Dursunbey**	**0.12**	**297**	*ePG*	Pg	18 24 39.0	+0.4
DST				*eSG*	Sg	18 24 42.1	+1.6
DST	**Dursunbey**	**0.12**	**297**	*ePg*	Pg	18 24 39.0	+0.3
DST				*eSg*	Sg	18 24 42.1	+1.6
KCTX	**Karacabey (Bur**	**0.78**	**337**	*ePG*	Pg	18 24 51.7	+0.7
KCTX				*eSG*	Sg	18 25 02.4	+1.3
KCTX	**Karacabey (Bur**	**0.78**	**337**	*ePg*	Pg	18 24 51.7	+0.7
KCTX				*eSg*	Sg	18 25 02.4	+1.3
GONE	**Gonen-Balikesi**	**0.96**	**301**	*ePG*	Pg	18 24 55.3	+0.9
GONE				*eSG*	Sg	18 25 08.1	+1.2
GONE	**Gonen-Balikesi**	**0.96**	**301**	*ePg*	Pg	18 24 55.3	+0.8
GONE				*eSg*	Sg	18 25 08.1	+1.1
ARMT	**Armutlu**	**1.02**	**5**	*ePG*	Pg	18 24 56.5	+1.0
ARMT	**Armutlu**	**1.02**	**5**	*ePg*	Pg	18 24 56.6	+1.0
BNT	**Bandirma**	**1.03**	**322**	*ePG*	Pg	18 24 55.4	-0.4
BNT	**Bandirma**	**1.03**	**322**	*ePg*	Pg	18 24 55.4	-0.4
KULA	**Kula-Manisa**	**1.04**	**184**	*ePG*	Pg	18 24 56.5	+0.6
KULA	**Kula-Manisa**	**1.04**	**184**	*ePg*	Pg	18 24 56.5	+0.6
CAVI	**Cavuskoy**	**1.06**	**52**	*ePG*	Pg	18 24 56.7	+0.4
CAVI	**Cavuskoy**	**1.06**	**52**	*ePg*	Pg	18 24 56.7	+0.3
ALT	**Altintas**	**1.16**	**115**	*ePN*	Pn	18 24 57.7	-0.8
ALT	**Altintas**	**1.16**	**115**	*ePn*	Pn	18 24 57.7	-0.8
MRMT	**Marmara Adasi**	**1.38**	**320**	*ePN*	Pn	18 25 01.8	+0.3
MRMT	**Marmara Adasi**	**1.38**	**320**	*ePn*	Pn	18 25 01.8	+0.3
GULT	**Gulveren**	**1.61**	**56**	*ePN*	Pn	18 25 06.1	+1.3
GULT	**Gulveren**	**1.61**	**56**	*ePn*	Pn	18 25 06.1	+1.3

IDC 30 18:24:44.0±2.6,11°.77S×169°.66E,h0km,mb4.0/4, mb1 4.2/4,mb1mx3.8/16,mbtmp4.0/4, Error ellipse: s-maj=123.0km s-min=29.4km az=135.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**32.69**	**228**	P	P	18 31 18.2	+0.1
	0.7nm,0.3s,baz=59,slow=10,SNR=8.9						
WRA	**Warramunga Arr**	**34.88**	**252**	P	P	18 31 37.7	+0.3
	1.0nm,0.3s,baz=83,slow=8.2,SNR=43						
ASAR	**Alice Springs**	**35.95**	**246**	P	P	18 31 46.1	-0.5
	1.9nm,0.5s,baz=73,slow=8.9,SNR=90						
ILAR	**Eielson Array**	**83.01**	**17**	P	P	18 37 10.9	+0.1
	0.4nm,0.9s,baz=232,slow=5.1,SNR=7.1						

*ISK **30** 18:26:07.8, 37°.45N×44°.61E, h5km, ML2.8*
*DDA **30** 18:26:15.3, 37°.53N×44°.42E, h4km, Md3.2*

CSEM 30 18:26:08.1±1.3,37°.38N×44°.65E,h2km, MD3.2, Error ellipse: s-maj=27.2km s-min=12.8km az=145.0, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAKT	**HAKKARI**	**0.77**	**283**	*i* P	Pg	18 26 20.9	-2.0
HAKT				*i* S	Sg	18 26 35.0	+2.1
HAKT	**HAKKARI**	**0.77**	**283**	*i* P	Pg	18 26 20.9	-2.0
HAKT				*i* S	Sg	18 26 35.0	+2.1
CUKT	**Cukurca**	**0.84**	**261**	PG	Pg	18 26 24.5	+0.2
CUKT				SG	Sg	18 26 37.5	+2.3
CUKT	**Cukurca**	**0.84**	**261**	*i* Pg	Pg	18 26 24.5	+0.2
CUKT				*i* Sg	Sg	18 26 37.5	+2.3
TVAN	**Van**	**1.51**	**320**	*i* P	Pn	18 26 34.6	-1.6
TVAN				*i* S	Sn	18 26 56.9	+0.5
TVAN	**Van**	**1.51**	**320**	*i* P	Pn	18 26 34.6	-1.6
TVAN				*i* S	Sn	18 26 56.9	+0.5
GEVA	**Gevas**	**1.57**	**307**	*i* P	Pn	18 26 37.0	0.0
GEVA				*i* S	Sn	18 26 59.6	+1.8
GEVA	**Gevas**	**1.57**	**307**	*i* P	Pn	18 26 37.0	+0.1
GEVA				*i* S	Sn	18 26 59.6	+1.8
VANB	**Van**	**1.57**	**321**	*ePN*	Pn	18 26 36.1	-0.9
VANB				*eSN*	Sn	18 26 57.8	-0.1
VANB	**Van**	**1.57**	**321**	*ePn*	Pn	18 26 36.1	-0.9
VANB				*eSn*	Sn	18 26 57.8	-0.1
SIRN	**S¯–rnak**	**1.79**	**274**	*i* P	Pn	18 26 48.0	+8.0
SIRN				*i* S	Sn	18 27 09.1	+5.9
CLDR	**Caldiran**	**1.85**	**342**	*ePN*	Pn	18 26 41.1	+0.3
CLDR	**Caldiran**	**1.85**	**342**	*ePn*	Pn	18 26 41.1	+0.3
AGRB	**Hanur-Agry**	**2.55**	**330**	*ePN*	Pn	18 26 51.2	+0.8
AGRB	**Hanur-Agry**	**2.55**	**330**	*ePn*	Pn	18 26 51.2	+0.8
GNI	**Garni**	**2.77**	**1**	*ePN*	Pn	18 26 54.8	+1.4
GNI	**Garni**	**2.77**	**1**	*ePn*	Pn	18 26 54.8	+1.4
VRTB	**Varto-Mus**	**3.08**	**306**	*ePN*	Pn	18 26 58.4	+0.7
VRTB	**Varto-Mus**	**3.08**	**306**	*ePn*	Pn	18 26 58.4	+0.7
BNGB	**Bing¶‖**	**3.52**	**298**	*ePN*	Pn	18 27 04.8	+1.1
BINT	**Bingol**	**3.60**	**296**	*ePn*	Pn	18 27 04.8	-0.2
PTK	**Pertek**	**4.41**	**292**	*ePN*	Pn	18 27 18.3	+2.3
PTK	**Pertek**	**4.41**	**292**	*ePn*	Pn	18 27 18.3	+2.3

*ISCJB **30** 18:37:02.7±0.5,37°.32N±0°.04×44°.67E±0°.03, h10km, Error ellipse: s-maj=6.1km s-min=3.0km az=10.4*
*ISK **30** 18:37:03.2,37°.41N×44°.70E, h5km, ML3.0*
*CSEM **30** 18:37:04.8±1.1,37°.41N×44°.66E, h2km, MD3.2, Error ellipse: s-maj=22.2km s-min=10.7km az=142.0*
*TEH **30** 18:37:09.0,37°.74N×44°.69E, h17km*
*DDA **30** 18:37:12.2,37°.63N×44°.15E, h2km, Md3.2*

ISC 30 18:37:03.8±0.4,37°.32N±0°.04×44°.69E±0°.03,h10km,n35, σ1°54/49,1D,Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAKT	**HAKKARI**	**0.82**	**287**	*i* P	**Pg**	**18 37 17.6**	**-2.0**
HAKT				*i* S	**Sg**	**18 37 30.5**	**+0.3**
HAKT	**HAKKARI**	**0.82**	**287**	*i* P	**Pg**	**18 37 17.6**	**-2.0**
HAKT				*i* S	**Sg**	**18 37 30.5**	**+0.3**
CUKT	**Cukurca**	**0.87**	**265**	PG	**Pg**	**18 37 21.0**	**+0.5**
CUKT				*e*SG	**

KSAR	Wonju Array Be	18.34	241	P		P	18 46 03.0	+0.5
KSAR	Wonju Array Be	18.34	241	P		P	18 46 03.0	+0.6
HIA	Hailar	18.70	284	*eP*		P	18 46 04.6	-1.4
NACB	Ninganchiao	31.94	230	*eP*		P	18 48 03.3	-1.4
COLA	College	37.04	40	*eP*		P	18 48 47.3	+0.1
ILAR	Eielson Array	37.46	40	P		P	18 48 50.8	+0.1
	comp=E,1.1nm,0.7s,mb3.3,baz=271,slow=8.1,SNR=13							
ILAR	Eielson Array	37.46	40	P		P	18 48 50.8	+0.1
ILAR	Eielson Array	37.46	40	P		P	18 48 50.8	+0.1
INK	Inuvik	42.15	33	*eP*		P	18 49 28.7	0.0
INK	Inuvik	42.15	33	*eP*		P	18 49 28.7	0.0
MKAR	Makanchi Array	43.23	294	P		P	18 49 38.4	+0.9
	comp=E,0.5nm,0.8s,mb2.9,baz=72,slow=7.5,SNR=4.4							
MKAR	Makanchi Array	43.23	294	P		P	18 49 38.4	+0.9
MKAR	Makanchi Array	43.23	294	P		P	18 49 38.4	+0.9
KURK	Kurchatov	43.68	300	⇑*iP*		P	18 49 40.7	-0.3
KURK				pmax		pmax		
	comp=Z,1.0nm,1.1s,mb3.1							
FINES	FINESS Array B	61.14	332	P		P	18 51 47.0	-0.1
	comp=Z,4.0nm,0.9s,mb3.8,baz=35,slow=7.0,SNR=4.7							
FINES	FINESS Array B	61.14	332	P		P	18 51 47.0	-0.1
FINES	FINESS Array B	61.14	332	P		P	18 51 47.0	-0.1
COEN	Coen	62.15	185	*eP*		P	18 51 54.0	-0.3
NVAR	Mina Array Bea	64.63	60	P		P	18 52 11.1	+0.8
	comp=Z,0.8nm,0.7s,mb3.4,baz=285,slow=5.5,SNR=7.1							
NVAR	Mina Array Bea	64.63	60	P		P	18 52 11.1	+0.8
NOA	NORSAR Array B	65.60	339	P		P	18 52 16.1	+0.2
	comp=Z,0.6nm,0.8s,mb3.3,baz=40,slow=5.1,SNR=3.2							
NOA	NORSAR Array B	65.60	339	P		P	18 52 16.1	+0.2
NOA	NORSAR Array B	65.60	339	P		P	18 52 16.1	+0.2
WRAB	Tennant Creek	69.05	194	*eP*		P	18 52 38.8	+1.0
WRAB	Tennant Creek	69.05	194	*eP*		P	18 52 38.8	+1.0
WRA	Warramunga Arr	69.06	194	P		P	18 52 36.5	-1.3
	comp=Z,0.3nm,0.6s,mb3.1,baz=11,slow=6.5,SNR=7.1							
WRA	Warramunga Arr	69.06	194	P		P	18 52 36.5	-1.3
WRA	Warramunga Arr	69.06	194	P		P	18 52 36.5	-1.3
ASAR	Alice Springs	72.78	194	P		P	18 52 59.6	-0.2
	comp=Z,0.6nm,0.9s,mb3.1,baz=2.8,slow=4.9,SNR=8.0							
ASAR	Alice Springs	72.78	194	P		P	18 52 59.6	-0.2
ASAR	Alice Springs	72.78	194	*eP*		P	18 53 00.1	+0.3
ASAR				pmax		pmax		
	comp=Z,1.0nm,0.9s							
GERES	GERESS Array B	75.51	331	P		P	18 53 15.8	+0.6
	comp=Z,0.2nm,0.3s,mb3.2,baz=62,slow=4.8,SNR=2.8							
GERES	GERESS Array B	75.51	331	P		P	18 53 15.8	+0.6
GERES	GERESS Array B	75.51	331	P		P	18 53 15.8	+0.6
TXAR	Lajitas Array	79.57	58	P		P	18 53 37.9	+0.1
	comp=Z,0.7nm,0.6s,mb3.4,baz=287,slow=4.3,SNR=7.4							
TXAR	Lajitas Array	79.57	58	P		P	18 53 37.9	+0.1
TXAR	Lajitas Array	79.57	58	P		P	18 53 37.9	+0.1

WEL 30 19:37:30.6±0.5, 36°55.55S×177°16.16E, h33km, ML3.6/6, Error ellipse: s-maj=4.7km s-min=3.1km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYRZ	**Mayor Island**	**1.04**	**225**	P*	Pb	19 37 48.6	-1.5
MYRZ				S*	Sb	19 38 00.7	-2.7
KUZ	**Kuaotunu**	**1.18**	**260**	PN	Pn	19 37 49.8	-0.9
KUZ				SN	Sn	19 38 04.3	-1.3
MXZ	**Matakaoa Point**	**1.36**	**138**	P*	Pb	19 37 52.6	-3.0
MXZ				S*	Sb	19 38 09.5	-3.2
MKAZ	**Moumakai**	**1.70**	**250**	PN	Pn	19 37 57.8	-0.1
MKAZ				SN	Sn	19 38 17.3	-1.1
WCZ	**Waipu Caves**	**2.36**	**284**	PN	Pn	19 38 08.3	+1.3

IDC 30 20:07:35.9±1.4, 12°35N×141°89E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=42.1km s-min=29.2km az=99.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.94**	**193**	P	P	20 14 12.3	+0.1
	0.9nm,0.7s,baz=14,slow=9.5,SNR=9.4						
CMAR	**Chiang Mai Arr**	**41.77**	**284**	P	P	20 15 27.6	+0.3
	0.7nm,0.7s,baz=88,slow=5.7,SNR=4.6						
MKAR	**Makanchi Array**	**60.38**	**317**	P	P	20 17 47.3	+0.4
	0.4nm,0.7s,baz=118,slow=7.5,SNR=2.6						
ILAR	**Eielson Array**	**70.92**	**25**	P	P	20 18 55.1	+0.4
	0.4nm,0.7s,baz=250,slow=5.7,SNR=7.2						
FINES	**FINESS Array B**	**91.03**	**334**	P	P	20 20 40.6	-1.4
	5.9nm,0.9s,baz=72,slow=4.5,SNR=3.7						

IDC 30 20:10:34.5±4.8, 55°87S×142°44W, h0km, mb3.9/2, mb1 4.1/2, mb1mx3.8/10, mbtmp3.9/2, Error ellipse: s-maj=355.0km s-min=54.5km az=157.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBI	**Tubuai**	**32.90**	**348**	*e*LR	LR	20 26 48.5	
	128nm,30.2s						
RKT	**Rikitea**	**33.17**	**13**	*e*LR	LR	20 26 54.5	
	121nm,28.0s						
PPT	**Papeete**	**38.62**	**349**	*e*LR	LR	20 29 29.1	
	95nm,26.2s						
ASAR	**Alice Springs**	**67.25**	**261**	P	P	20 21 29.9	-0.7
	1.5nm,1.0s,baz=137,slow=7.3,SNR=7.9						
WRA	**Warramunga Arr**	**69.96**	**264**	P	P	20 21 47.6	0.0
	1.0nm,1.0s,baz=148,slow=5.5,SNR=5.1						
ILAR	**Eielson Array**	**120.36**	**358**	PKP	PKPdf	20 29 24.4	-1.6
	2.6nm,1.0s,baz=202,slow=1.9,SNR=18						
ZALV	**Zalesovo Beam**	**153.18**	**286**	PKPbc	PKPbc	20 30 35.0	+2.1
	0.2nm,0.3s,baz=153,slow=4.7,SNR=2.1						
ZALV				PKPab	PKPab	20 30 45.1	+0.4
	1.1nm,0.8s,baz=126,slow=4.2,SNR=6.3						

WEL 30 20:33:56.2±0.3, 37°40S×177°26E, h113km±2km, ML3.8/6, 2C, Error ellipse: s-maj=2.4km s-min=1.8km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.14**	**204**	PN	Pn	20 34 11.4	-0.5
OPRZ	**Ohinepanea**	**0.72**	**231**	⇑PN	Pn	20 34 14.9	-0.1
OPRZ				SN	Sn	20 34 28.4	-0.8
MARZ	**Manawahe**	**0.75**	**218**	⇑PN	Pn	20 34 15.4	+0.1
MXZ	**Matakaoa Point**	**0.85**	**102**	PN	Pn	20 34 16.2	+0.1
MXZ				SN	Sn	20 34 32.4	+1.3
URZ	**Urewera**	**0.87**	**188**	PN	Pn	20 34 16.3	-0.1
URZ				SN	Sn	20 34 32.2	+0.6
MWZ	**Matawai**	**0.96**	**168**	PN	Pn	20 34 17.4	+0.2
MKRZ	**Makatiti**	**0.97**	**220**	PN	Pn	20 34 18.3	+0.9
TARZ	**Mount Tarawera**	**1.03**	**215**	PN	Pn	20 34 18.3	+0.4
PUZ	**Puketiti**	**1.04**	**131**	PN	Pn	20 34 17.6	-0.4
PRRZ	**Plateau Road**	**1.30**	**212**	PN	Pn	20 34 21.2	+0.3
CNGZ	**Carnagh Statio**	**1.32**	**146**	PN	Pn	20 34 21.1	+0.1
ALRZ	**Allen Road**	**1.37**	**212**	PN	Pn	20 34 22.0	+0.3
PRGZ	**Paritu Road**	**1.60**	**162**	PN	Pn	20 34 24.5	+0.1
KNZ	**Kokohu**	**1.65**	**169**	PN	Pn	20 34 24.4	-0.6
MKAZ	**Moumakai**	**1.70**	**279**	PN	Pn	20 34 26.2	+0.7
NMHZ	**Mahia Peninsul**	**1.70**	**192**	PN	Pn	20 34 27.6	+1.6
MHGZ	**Mahia Peninsul**	**1.83**	**164**	PN	Pn	20 34 26.9	-0.2
MCHZ	**McNeill Hill**	**2.09**	**192**	PN	Pn	20 34 30.7	+0.3
KRVZ	**Karewarewa**	**2.12**	**216**	PN	Pn	20 34 32.4	+1.5
WTVZ	**West Tongariro**	**2.17**	**217**	PN	Pn	20 34 33.5	+2.1
OTVZ	**Oturere**	**2.17**	**215**	PN	Pn	20 34 32.4	+1.0
TWVZ	**Taurewa**	**2.21**	**220**	PN	Pn	20 34 33.0	+1.1
NGZ	**Ngauruhoe**	**2.21**	**216**	PN	Pn	20 34 33.4	+1.4
WPVZ	**Whakapapa**	**2.26**	**216**	PN	Pn	20 34 33.3	+0.7
TUVZ	**Tukino**	**2.26**	**214**	PN	Pn	20 34 34.3	+1.7
CKHZ	**Cape Kidnapper**	**2.26**	**184**	PN	Pn	20 34 32.0	-0.7
BHHZ	**Black Hill Sta**	**2.29**	**204**	PN	Pn	20 34 32.8	-0.2
FWVZ	**Far West T-bar**	**2.29**	**215**	PN	Pn	20 34 34.8	+1.8
WNVZ	**Wahianoa**	**2.33**	**214**	PN	Pn	20 34 34.5	+0.9
MOVZ	**Moawhango**	**2.33**	**210**	PN	Pn	20 34 33.4	-0.1
KAHZ	**Kahuranaki**	**2.42**	**187**	PN	Pn	20 34 33.9	-0.7
PNHZ	**Pukenui**	**2.65**	**198**	PN	Pn	20 34 36.5	-1.1
PXZ	**Pawanui**	**2.65**	**187**	PN	Pn	20 34 36.0	-1.7
PXZ				PN	Pn	20 34 36.2	-1.4
TSZ	**Takapari Road**	**2.85**	**201**	PN	Pn	20 34 39.1	-1.2
PRHZ	**Porangahau**	**2.91**	**190**	PN	Pn	20 34 39.3	-1.8
DVHZ	**Dannevirke**	**3.02**	**196**	PN	Pn	20 34 41.4	-1.2
BFZ	**Birch Farm**	**3.38**	**193**	PN	Pn	20 34 44.9	-2.3
MRZ	**Mangatainoka R**	**3.52**	**201**	PN	Pn	20 34 46.8	-2.3
TIWZ	**Tintock**	**3.54**	**197**	PN	Pn	20 34 47.5	-2.0
HOWZ	**Holdsworth Sta**	**3.75**	**201**	PN	Pn	20 34 49.6	-2.7
OGWZ	**Otaki Gorge**	**3.79**	**205**	PN	Pn	20 34 50.4	-2.3
TMWZ	**Te Maipa**	**3.86**	**196**	PN	Pn	20 34 50.6	-3.0
KIW	**Kapiti Island**	**3.92**	**207**	PN	Pn	20 34 52.3	-2.1
CAW	**Cannon Point**	**4.08**	**204**	PN	Pn	20 34 53.7	-2.9
PLWZ	**Palliser**	**4.45**	**200**	PN	Pn	20 34 57.8	-3.8
TCW	**Tory Channel**	**4.46**	**210**	PN	Pn	20 34 59.2	-2.5
QRZ	**Quartz Range**	**5.03**	**226**	PN	Pn	20 35 07.1	-2.3
KHZ	**Kahutara**	**5.77**	**209**	PN	Pn	20 35 17.9	-1.6
LTZ	**Lake Taylor**	**6.60**	**214**	PN	Pn	20 35 26.4	-4.3

ATH ***30*** *20:34:42.8, 37.91N×21.42E, h23km±1km, MD3.3/13*
ISCJB ***30*** *20:34:43.9±0.5, 37.92N±0.03×21.47E±0.03, h18km±5km, Error ellipse: s-maj=4.8km s-min=4.2km az=21.2*
CSEM ***30*** *20:34:43.4±0.2, 37.92N×21.46E, h20km, MD3.3, Error ellipse: s-maj=5.0km s-min=4.7km az=54.0*
THE ***30*** *20:34:43.3, 37.93N×21.49E, h11km±2km, ML2.5/3, Error ellipse: s-maj=2.1km s-min=0.7km az=106.0*
ISC 30 20:34:43.5±0.5, 37.91N±0.03×21.47E±0.03, h14km±4km, n54, σ1s05/81, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.15**	**359**	*e*PB	Pg	20 34 47.7	+0.4
RLS				*e*SB	Sg	20 34 51.6	+1.6
RLS	**Riolos of Patr**	**0.15**	**359**	*e*Pb	Pg	20 34 47.7	+0.4
RLS				*e*Sb	Sg	20 34 51.6	+1.6
UPR	**University Cam**	**0.45**	**34**	*e*PB	Pg	20 34 52.2	-0.2
UPR				*e*SB	Sg	20 35 00.4	+2.0
UPR	**University Cam**	**0.45**	**34**	*e*Pb	Pg	20 34 52.2	-0.2
UPR				*e*Sb	Sg	20 35 00.4	+2.0
LAKA	**Lakka**	**0.52**	**50**	P	Pg	20 34 53.3	-0.4
LAKA				S	Sg	20 35 00.8	+0.2
LAKA	**Lakka**	**0.52**	**50**	P	Pg	20 34 53.3	-0.4
LAKA				S	Sg	20 35 00.8	+0.2
KFL	**Anninata**	**0.57**	**290**	P	Pg	20 34 54.4	-0.4
KFL				S	Sg	20 35 03.7	+1.3
KFL	**Anninata**	**0.57**	**290**	P	Pg	20 34 54.4	-0.4
KFL				S	Sg	20 35 03.7	+1.3
TRIZ	**Trizonia**	**0.66**	**46**	P	Pg	20 34 54.4	-1.9
TRIZ				S	Sg	20 35 05.5	+0.5
TRIZ	**Trizonia**	**0.66**	**46**	P	Pg	20 34 54.4	-1.9
TRIZ				S	Sg	20 35 05.5	+0.5
GUR	**Goura**	**0.69**	**88**	*e*PB	Pg	20 34 56.1	-0.8
GUR				*e*SN	Sg	20 35 07.6	+1.6
GUR	**Goura**	**0.69**	**88**	P	Pg	20 34 55.9	-1.0
GUR				S	Sg	20 35 06.5	+0.5
GUR	**Goura**	**0.69**	**88**	P	Pg	20 34 55.9	-1.0
GUR				S	Sg	20 35 06.5	+0.5
GUR				*e*Sn	Sg	20 35 07.6	+1.6
KALE	**Kalithea**	**0.71**	**48**	P	Pg	20 34 56.4	-1.0
KALE				S	Sg	20 35 07.1	+0.3
KALE	**Kalithea**	**0.71**	**48**	P	Pg	20 34 56.4	-1.0
KALE				S	Sg	20 35 07.1	+0.3
VLS	**Valsamata**	**0.74**	**291**	*e*PN	Pg	20 34 56.9	-1.1
VLS	**Valsamata**	**0.74**	**291**	P	Pg	20 34 56.7	-1.3
VLS	**Valsamata**	**0.74**	**291**	P	Pg	20 34 56.7	-1.3
ITM	**Ithomi**	**0.81**	**154**	*e*PN	Pg	20 34 58.9	-0.4
ITM				*e*SN	Sg	20 35 10.9	+0.9
ITM	**Ithomi**	**0.81**	**154**	P	Pg	20 34 58.9	-0.4
ITM				S	Sg	20 35 10.8	+0.8
ITM	**Ithomi**	**0.81**	**154**	P	Pg	20 34 58.9	-0.4
ITM				*e*Sn	Sg	20 35 10.9	+0.9
VLX	**Vlachokerasia**	**0.90**	**127**	*e*PN	Pg	20 35 00.5	-0.4
VLX	**Vlachokerasia**	**0.90**	**127**	P	Pg	20 35 01.2	+0.3
VLX				S	Sg	20 35 14.1	+1.4
VLX	**Vlachokerasia**	**0.90**	**127**	*e*Pn	Pg	20 35 00.5	-0.4
VLX	**Vlachokerasia**	**0.90**	**127**	P	Pg	20 35 01.2	+0.3
VLX				S	Sg	20 35 14.1	+1.4
DSF	**Desfina**	**0.97**	**59**	P	Pg	20 35 00.7	-1.6
DSF				S	Sg	20 35 14.4	-0.6
DSF	**Desfina**	**0.97**	**59**	P	Pg	20 35 00.7	-1.6
DSF				S	Sg	20 35 14.4	-0.6
DESF	**Desfina**	**0.97**	**59**	P	Pg	20 35 00.8	-1.5
DESF				S	Sg	20 35 14.7	-0.4
DESF	**Desfina**	**0.97**	**59**	P	Pg	20 35 00.8	-1.5
DESF				S	Sg	20 35 14.7	-0.4
PYL	**PYLOS**	**1.04**	**168**	*e*PN	Pg	20 35 02.7	-0.8
PYL	**PYLOS**	**1.04**	**168**	P	Pg	20 35 02.4	-1.1
PYL	**PYLOS**	**1.04**	**168**	P	Pg	20 35 02.4	-1.1
PYL	**PYLOS**	**1.04**	**168**	*e*Pn	Pg	20 35 02.7	-0.8
EVR	**Evrytania**	**1.04**	**15**	*e*PN	Pg	20 35 02.4	-1.1
EVR	**Evrytania**	**1.04**	**15**	P	Pg	20 35 02.3	-1.2
EVR	**Evrytania**	**1.04**	**15**	P	Pg	20 35 02.3	-1.2
LKD2	**Lefkada island**	**1.08**	**324**	P	Pg	20 35 03.1	-1.3
LKD2				S	Sg	20 35 19.6	+1.0
LKD2	**Lefkada island**	**1.08**	**324**	P	Pg	20 35 03.1	-1.3
LKD2				S	Sg	20 35 19.6	+1.0
LTK	**Loutraki**	**1.19**	**84**	P	Pn	20 35 04.4	-1.0
LTK	**Loutraki**	**1.19**	**84**	P	Pn	20 35 04.6	-1.0
MAKR	**Makrakomi, Fth**	**1.22**	**25**	P	Pn	20 35 05.7	-0.3
MAKR	**Makrakomi, Fth**	**1.22**	**25**	P	Pn	20 35 05.7	-0.3
AGG	**Agios Georgios**	**1.30**	**31**	*e*PN	Pn	20 35 07.4	+0.3
AGG	**Agios Georgios**	**1.30**	**31**	P	Pn	20 35 06.6	-0.5
AGG	**Agios Georgios**	**1.30**	**31**	P	Pn	20 35 06.6	-0.5
AGG	**Agios Georgios**	**1.30**	**31**	*e*Pn	Pn	20 35 07.4	+0.3
LKR	**Lokris**	**1.41**	**58**	*e*PN	Pn	20 35 09.6	+0.9
LKR	**Lokris**	**1.41**	**58**	*e*Pn	Pn	20 35 09.6	+0.9
DID	**Didima**	**1.46**	**106**	*e*PN	Pn	20 35 10.4	+1.1
DID	**Didima**	**1.46**	**106**	*e*Pn	Pn	20 35 10.4	+1.1
THL	**Klokotos Trika**	**1.71**	**14**	*e*PN	Pn	20 35 14.1	+1.4
THL	**Klokotos Trika**	**1.71**	**14**	*e*Pn	Pn	20 35 14.1	+1.4
VLY	**Voula,Athens**	**1.84**	**91**	*e*PN	Pn	20 35 16.2	+1.6
VLY	**Voula,Athens**	**1.84**	**91**	*e*Pn	Pn	20 35 16.2	+1.6

WEL 30 21:08:39.2±0.4, 36°57S×177°12E, h12km, ML3.8/5, Error ellipse: s-maj=3.7km s-min=1.8km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MYRZ	**Mayor Island**	**1.00**	**224**	*e*P*	Pb	21 08 57.0	-1.4
MYRZ				S*	Sb	21 09 08.8	-2.7
KUZ	**Kuaotunu**	**1.14**	**260**	P*	Pb	21 08 59.5	-1.2
KUZ				S*	Sb	21 09 14.6	-0.9
KUZ				S*	Sb	21 09 14.8	-0.7
MXZ	**Matakaoa Point**	**1.38**	**137**	P*	Pb	21 09 01.9	-3.0
MXZ				S*	Sb	21 09 18.1	-4.3
MKAZ	**Moumakai**	**1.66**	**250**	PN	Pn	21 09 07.6	-0.4
PUZ	**Puketiti**	**1.76**	**149**	PN	Pn	21 09 09.8	+0.3
MWZ	**Matawai**	**1.80**	**170**	P*	Pb	21 09 08.3	-3.7

IDC ***30*** *21:19:08.8±0.8, 1.84N×99.19E, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.0/23, mbtmp4.1/11, ML3.6/1, MS3.5/7, Ms1 3.5/7, ms1mx3.2/36, Error ellipse: s-maj=42.5km s-min=17.0km az=55.0*
NEIC ***30*** *21:19:11.9±2.3, 1.75N×99.08E, h21km±16km, mb4.4/10, Error ellipse: s-maj=8.8km s-min=5.7km az=63.0*
NEIC Felt [III] at Sibolga.
DJA ***30*** *21:19:11, 1.83N×99.02E, h10km, MLv4.6/17*
MOS ***30*** *21:19:11.5±0.9, 1.74N×99.09E, h33km, mb4.8/13, Error ellipse: s-maj=14.4km s-min=7.1km az=110.1*
ISCJB ***30*** *21:19:13.7±0.5, 1.82N±0.03×99.04E±0.04, h51km±5km, mb4.4/23, MS3.5/6, Error ellipse: s-maj=7.6km s-min=4.6km az=157.1*
ISC 30 21:19:15.1±0.5, 1.82N±0.03×99.03E±0.04, h44km±5km, n137, σ1s12/131, mb4.4/23, MS3.5/6, 2C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**0.98**	**354**	P	Pn	21 19 26.7	-5.8
MNSI	**Mandailing Nat**	**1.15**	**151**	P	Pn	21 19 31.7	-3.1
MNSI				S	Sn	21 19 49.9	+0.5
TSI	**Tuntungan**	**1.74**	**345**	P	Pn	21 19 42.9	0.0
TPTI		**2.34**	**308**	P	Pn	21 19 49.2	-1.9
TPTI				S	Sn	21 20 22.4	+3.8
BKNI	**Bangkinang**	**2.50**	**126**	P	Pn	21 19 55.6	+2.3
PPI	**Padang Panjang**	**2.64**	**149**	P	Pn	21 19 57.9	+2.7
PDSI	**Padang**	**3.06**	**152**	P	Pn	21 20 00.5	+0.6
SISI	**Saibi**	**3.12**	**179**	P	Pn	21 20 00.8	-1.1
IPM	**Ipoh**	**3.31**	**37**	P	Pn	21 20 04.6	+0.1
IPM	**Ipoh**	**3.31**	**37**	*e*Pn	Pn	21 20 04.2	-0.4
IPM				*e*Sn	Sn	21 20 42.7	0.0
IPM	**Ipoh**	**3.31**	**37**	P	Pn	21 20 04.4	-0.1
SDSI	**Sungai Dareh**	**3.63**	**139**	P	Pn	21 20 12.1	+3.2
SDSI				S	Sn	21 20 52.2	+1.6
KULM	**Kulim**	**3.81**	**25**	P	Pn	21 20 10.7	-0.6
KULM	**Kulim**	**3.81**	**25**	*e*Pn	Pn	21 20 10.3	-1.0
KULM				*e*Sn	Sn	21 20 54.8	-0.2
KULM	**Kulim**	**3.81**	**25**	P	Pn	21 20 10.5	-0.9
KULM				S	Sn	21 20 57.9	+2.9
RGRI	**Rengat**	**3.94**	**123**	P	Pn	21 20 16.6	+3.4
RGRI				S	Sn	21 21 15.9	+18
LHMI	**Lhok Sumawe**	**3.98**	**329**	P	Pn	21 20 14.0	+0.4
KGM	**Kluang**	**4.29**	**87**	P	Pn	21 20 18.1	+0.1
MYKOM	**Kota Tinggi**	**4.82**	**90**	P	Pn	21 20 25.5	+0.3
MYKOM	**Kota Tinggi**	**4.82**	**90**	P	Pn	21 20 24.2	-1.0
BSI	**Banda Aceh**	**5.22**	**315**	P	Pn	21 20 29.8	-0.9
	0.7nm2µm139nm,1.0s						
KSI	**Kapahiang**	**6.50**	**147**	P	Pn	21 20 45.8	-2.4
	0.5nm3µm91nm,1.1s						
MDSI	**Maura Dua**	**8.10**	**141**	P	Pn	21 21 11.3	+1.0
	30nm,1.3s						
PPBI	**Pangkal Pinang**	**8.13**	**119**	P	Pn	21 21 11.8	+1.1
PPBI				S	Px	21 21 46.7	
KLSI		**8.62**	**139**	P	Px	21 21 28.2	
COCO	**West Island**	**14.08**	**189**	*e*Pn	Pn	21 22 29.3	-2.8
COCO	**West Island**	**14.08**	**189**	*e*P	Pn	21 22 29.3	-2.8
CM31	**Chiang Mai Arr**	**16.54**	**360**	*e*Pn	Pn	21 23 04.1	+0.1
	11nm,1.0s						
CMAR	**Chiang Mai Arr**	**16.54**	**360**	Pn	Pn	21 23 04.0	0.0
	0.1nm,0.3s,baz=197,slow=12,SNR=10						
CMAR				LR	LR	21 29 24.5	
	comp=Z,186nm,19.1s,baz=180,slow=37						
CMAR	**Chiang Mai Arr**	**16.54**	**360**	Pn	Pn	21 23 04.0	0.0
CMAR	**Chiang Mai Arr**	**16.54**	**360**	P	Pn	21 23 04.1	+0.1
BBKI	**Banjar Baru**	**16.65**	**108**	P	Pn	21 23 12.5	+7.0
CHTO	**Chiang Mai**	**16.89**	**360**	*e*Pn	Pn	21 23 08.2	-0.3
	12nm,1.2s						
CHTO	**Chiang Mai**	**16.89**	**360**	*e*P	Pn	21 23 08.2	-0.3
CHTO				pmax	pmax		
	comp=Z,12nm,1.2s						
CHTO	**Chiang Mai**	**16.89**	**360**	P	Pn	21 23 14.4	+5.9
KKM	**Kota Kinabalu**	**17.65**	**76**	Pn	Pn	21 23 16.8	-1.1
KHKI	**Kahang-Kahang**	**19.38**	**122**	P	Pn	21 23 43.7	+4.8
MYLDM	**Lahad Datu**	**19.72**	**80**	P	pP	21 23 55.7	+3.9
LUWI	**Luwuk**	**23.91**	**97**	P	P	21 24 32.2	+7.1
HYB	**Hyderabad**	**25.40**	**309**	*i* P	P	21 24 39.5	+0.9
LSA	**Lhasa**	**28.73**	**346**	*eP*	P	21 25 08.3	-0.1
	comp=Z,1.8nm,0.4s,mb4.2						
LSA	**Lhasa**	**28.73**	**346**	*eP*	P	21 25 08.3	-0.1
LSA				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.2						
NACB	**Ninganchiao**	**31.15**	**43**	*eP*	P	21 25 29.6	-0.4
JOW	**Kunigami**	**37.50**	**46**	LR	LR	21 39 39.3	
	comp=Z,41nm,20.8s,MS3.2,baz=83,slow=33						
WRA	**Warramunga Arr**	**40.83**	**124**	P	P	21 26 50.6	-2.2
	comp=Z,3.8nm,0.9s,mb4.0,baz=303,slow=9.1,SNR=25						
WRA	**Warramunga Arr**	**40.83**	**124**	P	P	21 26 50.6	-2.2
WRA	**Warramunga Arr**	**40.83**	**124**	P	P	21 26 50.6	-2.2
WRAB	**Tennant Creek**	**40.84**	**124**	*eP*	P	21 26 50.7	-2.1
	comp=Z,4.7nm,0.8s,mb4.2						
WRAB	**Tennant Creek**	**40.84**	**124**	*eP*	P	21 26 50.7	-2.1
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
WB2	**Warramunga Arr**	**40.84**	**124**	*eP*	P	21 26 52.3	-0.5
ASAR	**Alice Springs**	**42.33**	**129**	P	P	21 27 02.9	-2.1
	comp=Z,0.4nm,0.5s,mb3.3,baz=303,slow=7.9,SNR=8.6						
ASAR				PcP	PcP	21 28 57.8	-0.3
	comp=Z,0.4nm,0.5s,baz=310,slow=2.7,SNR=5.4						
ASAR	**Alice Springs**	**42.33**	**129**	P	P	21 27 02.9	-2.1
ASAR				PcP	PcP	21 28 57.8	-0.3
ASAR	**Alice Springs**	**42.33**	**129**	P	P	21 27 02.9	-2.1
ASAR						21 28 57.8	
KBL	**Kabul**	**42.91**	**323**	*eP*	P	21 27 10.0	+0.4
KBL	**Kabul**	**42.91**	**323**	*eP*	P	21 27 10.0	+0.4
KSRS	**Korea Array**	**44.32**	**33**	LR	LR	21 47 00.6	
	comp=Z,41nn,21.1s,MS3.3,baz=212,slow=38						
TKM2	**Tokmak 2**	**45.97**	**336**	*eP*	P	21 27 34.1	+0.2
	comp=Z,14nn,1.2s,mb4.8						
TKM2	**Tokmak 2**	**45.97**	**336**	*eP*	P	21 27 34.1	+0.2
TKM2				pmax	pmax	

comp=Z,1.1nm,0.4s,mb4.1
BRTR Keskin Array B 70.06 312 P **P** 21 30 21.9 -0.8
comp=Z,1.2nm,0.6s,mb4.0,baz=131,slow=6.4,SNR=9.9
BRTR Keskin Array B 70.06 312 P **P** 21 30 21.9 -0.8
BRTR Keskin Array B 70.06 312 P **P** 21 30 21.9 -0.8
OBN Obninsk 73.07 328 P **P** 21 30 41.0 +0.5
OBN *e* pP 21 30 53.6 +0.1
OBN pmax pmax
comp=Z,24nm,1.7s,mb4.8
MAW Mawson 73.73 194 LR LR 22 00 14.9
comp=Z,87nm,18.6s,MS4.1,baz=272,slow=33
LBTB Lobatse 75.80 244 P **P** 21 30 57.3 +0.3
LBTB Lobatse 75.80 244 P **P** 21 30 57.3 +0.3
AKASG Malin Array Be 75.89 322 P **P** 21 30 56.1 -0.9
comp=Z,1.2nm,0.7s,mb4.0,baz=97,slow=4.3,SNR=5.4
AKASG Malin Array Be 75.89 322 P **P** 21 30 56.1 -0.9
AKASG Malin Array Be 75.89 322 P **P** 21 30 56.1 -0.9
BOSA Boshof 76.67 240 *eP* **P** 21 31 02.2 +0.3
BOSA Boshof 76.67 240 *eP* **P** 21 31 02.2 +0.3
BUR08 Bucovina Ar. S 77.79 318 *eP* **P** 21 31 09.3 +1.5
FINES FINESS Array B 80.31 332 P **P** 21 31 21.9 +0.7
comp=Z,1.8nm,0.6s,mb4.2,baz=108,slow=3.1,SNR=6.1
FINES FINESS Array B 80.31 332 P **P** 21 31 21.9 +0.7
FINES FINESS Array B 80.31 332 P **P** 21 31 21.9 +0.7
ARCES ARCESS Array B 82.58 340 P **P** 21 31 34.7 +1.6
comp=Z,7.9nm,1.1s,mb4.7,baz=101,slow=6.3,SNR=5.4
ARCES ARCESS Array B 82.58 340 P **P** 21 31 34.7 +1.6
ARCES ARCESS Array B 82.58 340 P **P** 21 31 34.7 +1.6
NOA NORSAR Array B 87.36 331 P **P** 21 31 59.6 +2.4
comp=Z,3.2nm,1.1s,mb4.5,baz=93,slow=4.6,SNR=3.3
NOA NORSAR Array B 87.36 331 P **P** 21 31 59.6 +2.4
NOA NORSAR Array B 87.36 331 P **P** 21 31 59.7 +2.4
MCK McKinley 97.97 25 *eP* **P** 21 32 46.5 +0.3
MCK McKinley 97.97 25 *eP* **P** 21 32 46.5 +0.3
NVAR Mina Array Bea 127.21 37 PKP PKPdf 21 38 17.1 +1.9
comp=Z,0.5nm,0.8s,baz=316,slow=3.8,SNR=2.5
NVAR Mina Array Bea 127.21 37 PKP PKPdf 21 38 17.1 +1.9
TXAR Lajitas Array 142.17 33 PKP PKPdf 21 38 43.0 -0.4
comp=Z,0.7nm,1.0s,baz=27,slow=4.2,SNR=3.7
TXAR Lajitas Array 142.17 33 PKP PKPdf 21 38 43.0 -0.3
TXAR Lajitas Array 142.17 33 PKIKP PKPdf 21 38 43.0 -0.3
CPUP Villa Florida 146.68 221 PKPbc PKPbc 21 38 55.3 +2.5
comp=Z,3.2nm,0.7s,baz=88,slow=2.5,SNR=8.5
CPUP Villa Florida 146.68 221 PKPbc PKPbc 21 38 55.3 +2.5

WEL 30 21:22:35.0±0.5, 39.68S×174.05E, h203km±4km, ML3.5/15, Error ellipse: s-maj=3.6km s-min=2.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAZ	**Wanganui**	**0.73**	**96**	PN	Pn	21 23 04.2	+0.8
WAZ				SN	Sn	21 23 25.9	+0.5
DUWZ	**D'Urville Isla**	**1.13**	**185**	PN	Pn	21 23 06.1	+0.2
DUWZ				SN	Sn	21 23 28.9	-1.2
TWVZ	**Taurewa**	**1.23**	**61**	PN	Pn	21 23 06.1	-0.7
WNVZ	**Wahianoa**	**1.25**	**74**	PN	Pn	21 23 07.1	+0.2
WNVZ				SN	Sn	21 23 30.5	-1.0
TUVZ	**Tukino**	**1.31**	**72**	PN	Pn	21 23 07.5	+0.2
TUVZ				SN	Sn	21 23 32.6	+0.3
MOVZ	**Moawhango**	**1.34**	**79**	PN	Pn	21 23 07.3	-0.3
MOVZ				SN	Sn	21 23 30.2	-2.6
KIW	**Kapiti Island**	**1.35**	**151**	PN	Pn	21 23 07.8	+0.1
OGWZ	**Otaki Gorge**	**1.43**	**143**	PN	Pn	21 23 08.6	+0.3
OGWZ				SN	Sn	21 23 32.3	-1.9
TSZ	**Takapari Road**	**1.52**	**105**	PN	Pn	21 23 09.2	+0.1
TSZ				SN	Sn	21 23 34.3	-1.3
MRZ	**Mangatainoka R**	**1.53**	**130**	PN	Pn	21 23 09.2	0.0
TCW	**Tory Channel**	**1.54**	**174**	PN	Pn	21 23 09.7	+0.4
BHHZ	**Black Hill Sta**	**1.57**	**84**	PN	Pn	21 23 09.1	-0.4
NNZ	**Nelson**	**1.62**	**198**	PN	Pn	21 23 09.8	-0.1
CAW	**Cannon Point**	**1.63**	**152**	PN	Pn	21 23 10.1	0.0
QRZ	**Quartz Range**	**1.63**	**225**	PN	Pn	21 23 09.3	-0.8
HOWZ	**Holdsworth Sta**	**1.66**	**136**	PN	Pn	21 23 10.2	-0.1
PNHZ	**Pukenui**	**1.67**	**99**	PN	Pn	21 23 10.6	+0.1
SNZO	**South Karori**	**1.71**	**163**	PN	Pn	21 23 10.6	-0.2
DVHZ	**Dannevirke**	**1.74**	**112**	PN	Pn	21 23 11.1	0.0
TUWZ	**Tuamarina**	**1.75**	**183**	PN	Pn	21 23 11.2	+0.1
TIWZ	**Tintock**	**1.78**	**129**	PN	Pn	21 23 11.6	+0.1
BHW	**Baring Head**	**1.84**	**160**	PN	Pn	21 23 11.6	-0.4
MTW	**Mount Morrison**	**1.85**	**144**	PN	Pn	21 23 11.9	-0.2
BFZ	**Birch Farm**	**1.96**	**121**	PN	Pn	21 23 13.2	-0.1
BKZ	**Black Stump Fm**	**1.96**	**76**	PN	Pn	21 23 12.7	-0.6
BKZ				SN	Sn	21 23 40.5	-2.6
PAWZ	**Paruwai Farm**	**2.00**	**149**	PN	Pn	21 23 13.4	-0.2
TMWZ	**Te Maipa**	**2.00**	**136**	PN	Pn	21 23 13.6	-0.1
BSWZ	**Blackbirch Sta**	**2.04**	**184**	PN	Pn	21 23 14.3	+0.2
PRHZ	**Porangahau**	**2.07**	**107**	PN	Pn	21 23 14.7	+0.3
PLWZ	**Palliser**	**2.10**	**154**	PN	Pn	21 23 14.1	-0.5
TRWZ	**Traveller**	**2.12**	**145**	PN	Pn	21 23 14.7	-0.3
KAHZ	**Kahuranaki**	**2.18**	**94**	PN	Pn	21 23 16.0	+0.4
PXZ	**Pawanui**	**2.19**	**100**	PN	Pn	21 23 15.5	-0.2
THZ	**Tophouse**	**2.26**	**202**	PN	Pn	21 23 15.7	-0.6
DSZ	**Denniston Nort**	**2.68**	**219**	PN	Pn	21 23 20.0	-0.9
KHZ	**Kahutara**	**2.76**	**188**	PN	Pn	21 23 21.4	-0.5
LTZ	**Lake Taylor**	**3.38**	**203**	PN	Pn	21 23 28.0	-1.2

IDC 30 21:36:26.5±2.7, 6.82N×91.85E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.3/24, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=92.1km s-min=27.0km az=64.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.48**	**30**	Pn	Pn	21 39 40.5	+1.3
	0.1nm,0.3s,baz=234,slow=15,SNR=7.0						
MKAR	**Makanchi Array**	**40.67**	**350**	P	P	21 44 08.3	-0.2
	0.9nm,1.0s,baz=169,slow=10,SNR=3.4						
WRA	**Warramunga Arr**	**49.54**	**123**	P	P	21 45 18.7	-0.8
	0.5nm,0.8s,baz=305,slow=9.2,SNR=5.8						
ASAR	**Alice Springs**	**51.03**	**128**	P	P	21 45 31.4	+0.7
	0.2nm,0.5s,baz=305,slow=7.4,SNR=3.9						

*ISCJB **30** 21:37:11.9±0.5, 51.48N±0.03×16.12E±0.03, h0km, Error ellipse: s-maj=3.8km s-min=2.4km az=12.5*
*CSEM **30** 21:37:12.7±0.2, 51.56N×16.11E, h2km, ML3.4/11, Error ellipse: s-maj=4.0km s-min=3.4km az=20.0*
*IPEC **30** 21:37:12.1±0.2, 51.62N×16.22E, h0km, ML2.3/3, Error ellipse: s-maj=1.6km s-min=1.5km az=74.0*
*WAR **30** 21:37:14.5, 51.53N×16.10E, ML2.7, Mining Induced*
*IDC **30** 21:37:14.8±0.7, 51.50N×16.01E, h0km, mb1 3.4/6, mb1mx3.2/24, mbtmp3.3/6, ML2.7/6, Error ellipse: s-maj=13.9km s-min=6.9km az=110.0*
*PRU **30** 21:37:15.3, 51.46N×16.16E, h0km*
*VIE **30** 21:37:16.0±0.4, 51.34N×16.04E, h0km, mb2.4/4, ML2.7/5, Error ellipse: s-maj=4.0km s-min=2.6km az=101.0 72 km WNW of Wroclaw Suspected Mining induced.*

ISC 30 21:37:12.5±0.4, 51.57N±0.02×16.12E±0.03, h0km, n53, σ0.89/96, 7C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**171**	*e*Pg	**Pg**	**21 37 27.3**	**+0.7**
KSP				*e*Sg	**Sg**	**21 37 36.6**	**+0.5**
KSP	**Ksiaz**	**0.73**	**171**	*i* Pg	**Pg**	**21 37 27.3**	**+0.7**
KSP				*e*Sg	**Sg**	**21 37 36.6**	**+0.6**
KSP	**Ksiaz**	**0.73**	**171**	*e*Pg	**Pg**	**21 37 27.2**	**+0.6**
	baz=357						
KSP				*e*Sg	**Sg**	**21 37 36.5**	**+0.5**
	baz=357						
UPC	**Upice**	**1.06**	**184**	*e*PG	**Pg**	**21 37 33.3**	**+0.4**
UPC	**Upice**	**1.06**	**184**	Pg	**Pg**	**21 37 33.3**	**+0.4**
DPC	**Dobruska-Polom**	**1.23**	**174**	*e*PG	**Pg**	**21 37 36.1**	**+0.1**
DPC				*e*SG	**Sg**	**21 37 50.7**	**-1.1**
	comp=Z,47nm,0.6s						
DPC	**Dobruska-Polom**	**1.23**	**174**	*e*Pg	**Pg**	**21 37 36.1**	**+0.1**
	baz=357						
DPC				*e*Sg	**Sg**	**21 37 51.7**	**-0.1**
	baz=357						
PVCC	**Panska Ves**	**1.43**	**224**	*e*PG	**Pg**	**21 37 39.9**	**0.0**
PVCC				*e*SG	**Sg**	**21 37 59.4**	**+1.0**
	comp=Z,187nm,0.3s						
PVCC	**Panska Ves**	**1.43**	**224**	Pg	**Pg**	**21 37 39.9**	**0.0**
PVCC				Sg	**Sg**	**21 37 59.4**	**+1.0**
	comp=Z,187nm,0.3s						
BRG	**Berggiesshubel**	**1.54**	**244**	PN	**Pn**	**21 37 41.1**	**0.0**
BRG				PG	**Pg**	**21 37 42.0**	**+0.1**
BRG				SG	**Sg**	**21 38 02.6**	**+0.8**
	comp=Z,103nm,0.4s						
GKP	**Gorka Klasztor**	**1.84**	**21**	*e*Pn	**Pn**	**21 37 53.4**	**+8.1**
GKP				*e*Pg	**Pg**	**21 37 58.0**	**+10**
GKP				*e*Sn	**Sn**	**21 38 16.3**	**+7.1**
CLL	**Collm**	**1.97**	**264**	*e*Pn	**Pn**	**21 37 47.0**	**-0.1**
CLL				*e*Pg	**Pg**	**21 37 50.0**	**-0.2**
CLL				*e*		21 37 54.0	
CLL				*i* Sg	**Sg**	**21 38 16.1**	**+0.4**
	comp=Z,27nm,0.4s						
MORC	**Moravsky Berou**	**2.01**	**153**	*e*Pn	**Pn**	**21 37 47.5**	**-0.1**
	baz=336						
MORC				*e*Sg	**Sg**	**21 38 15.9**	**-1.1**
	comp=Z,24nm,0.4s,baz=336						
OKC	**Ostrava-Krasne**	**2.16**	**143**	*e*PG	**Pg**	**21 37 53.5**	**-0.4**
OKC				*e*SG	**Sg**	**21 38 20.2**	**-1.6**
	comp=Z,27nm,0.6s						
OKC	**Ostrava-Krasne**	**2.16**	**143**	Pg	**Pg**	**21 37 53.5**	**-0.4**
OKC				Sg	**Sg**	**21 38 20.2**	**-1.6**
	comp=Z,27nm,0.6s						
VRAC	**Vranov**	**2.28**	**172**	Pn	**Pn**	**21 37 52.5**	**+1.1**
	comp=Z,1.5nm,0.3s,baz=354,slow=17,SNR=11						
VRAC				Lg		21 38 25.1	
	comp=Z,5.0nm,0.3s,baz=82,slow=20,SNR=8.3						
VRAC	**Vranov**	**2.28**	**172**	*e*Pn	**Pn**	**21 37 52.3**	**+0.9**
	baz=354						
VRAC				*e*Sg	**Sg**	**21 38 24.7**	**-1.1**
	comp=Z,13nm,0.2s,baz=354						
TREC	**Trest**	**2.31**	**190**	*e*PN	**Pn**	**21 37 52.4**	**+0.6**
TREC				*e*PG	**Pg**	**21 37 55.9**	**-0.9**
TREC	**Trest**	**2.31**	**190**	Pn	**Pn**	**21 37 52.4**	**+0.6**
TREC	**Trest**	**2.31**	**190**	Pg	**Pg**	**21 37 55.9**	**-0.9**
KRUC	**Moravsky**	**2.52**	**176**	*e*Pn	**Pn**	**21 37 55.4**	**+0.8**
	baz=358						
KRUC				*e*Sg	**Sg**	**21 38 31.9**	**-1.4**
	comp=Z,9.5nm,0.3s,baz=358						
NKC	**Novy Kostel**	**2.68**	**242**	*e*PN	**Pn**	**21 37 57.6**	**+0.7**
NKC				*e*PG	**Pg**	**21 38 03.5**	**-0.4**
NKC				*e*SG	**Sg**	**21 38 38.8**	**+0.2**
	comp=Z,89nm,0.3s						
NKC	**Novy Kostel**	**2.68**	**242**	Pn	**Pn**	**21 37 57.6**	**+0.7**
OJC	**Ojcow**	**2.69**	**119**	*e*Pg	**Pg**	**21 38 05.0**	**+0.9**
OJC				*e*Sg	**Sg**	**21 38 40.3**	**+1.3**
OJC	**Ojcow**	**2.69**	**119**	*e*Pn	**Pn**	**21 37 55.7**	**-1.3**
	baz=303						
OJC	**Ojcow**	**2.69**	**119**	*e*Pg	**Pg**	**21 38 05.0**	**+0.9**
OJC				*e*Sg	**Sg**	**21 38 40.3**	**+1.3**
KHC	**Kasperske Hory**	**2.93**	**215**	*e*PN	**Pn**	**21 38 00.6**	**+0.3**
KHC				*e*PG	**Pg**	**21 38 06.8**	**-1.9**
KHC				*e*SG	**Sg**	**21 38 45.0**	**-1.7**
	comp=Z,8.9nm,0.4s						
KHC	**Kasperske Hory**	**2.93**	**215**	Pn	**Pn**	**21 38 00.6**	**+0.3**
KHC	**Kasperske Hory**	**2.93**	**215**	Pg	**Pg**	**21 38 06.8**	**-1.9**
KHC				Sg	**Sg**	**21 38 45.0**	**-1.7**
	comp=Z,8.9nm,0.4s						
GERES	**GERESS Array B**	**3.14**	**211**	Pn	**Pn**	**21 38 04.2**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=29,slow=13,SNR=29						
GERES				Pg	**Pg**	**21 38 10.7**	**-1.9**
	comp=Z,1.6nm,0.3s,baz=30,slow=17,SNR=25						
GERES				Lg		21 38 49.8	
	comp=Z,2.3nm,0.3s,baz=35,slow=28,SNR=6.6						
SMOL	**Smolenice**	**3.17**	**164**	*e*PG	**Pg**	**21 38 13.3**	**0.0**
SMOL				*e*SG	**Sg**	**21 38 54.5**	**+0.2**
KOLL	**Kolacno**	**3.33**	**153**	*e*PG	**Pg**	**21 38 16.5**	**+0.1**
KOLL				*e*SG	**Sg**	**21 39 01.1**	**+1.5**
ZST	**Bratislava**	**3.43**	**169**	*e*SG	**Sg**	**21 39 02.9**	**+0.1**
ZST	**Bratislava**	**3.43**	**169**	*e*Sg	**Sg**	**21 39 02.9**	**+0.1**
NIE	**Niedzica**	**3.44**	**127**	*e*P	**Pg**	**21 39 18.7**	**0.0**
NIE				*e*S	**Sg**	**21 39 02.6**	**-0.2**
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P	**Pn**	**21 38 09.3**	**-0.5**
CONA	**Conrad Observa**	**3.65**	**183**	⇑*i*Pn	**Pn**	**21 38 10.3**	**+0.2**
CONA				⇑*i*Sg	**Sg**	**21 39 08.6**	**-1.0**
	comp=Z,14nm,0.3s						
CONA	**Conrad Observa**	**3.65**	**183**	Pn	**Pn**	**21 38 10.3**	**+0.2**
CONA				Sg	**Sg**	**21 39 08.6**	**-1.0**
	comp=Z,14nm,0.3s						
MOA	**Molln**	**3.91**	**199**	⇑*i*Pn	**Pn**	**21 38 14.5**	**+0.8**
MOA				⇓*i*Sg	**Sg**	**21 39 17.9**	**-0.2**
	comp=Z,14nm,0.5s						
MOA	**Molln**	**3.91**	**199**	Pn	**Pn**	**21 38 14.5**	**+0.7**
MOA				Sg	**Sg**	**21 39 17.9**	**-0.2**
	comp=Z,14nm,0.5s						
STHS	**Stebnicka Huta**	**3.92**	**121**	*e*PG	**Pg**	**21 38 28.5**	**+1.0**
STHS				*e*SG	**Sg**	**21 39 22.7**	**+4.4**
KECS	**Kecovo**	**4.18**	**136**	*e*PG	**Pg**	**21 38 33.8**	**+1.3**
KECS				*e*SG	**Sg**	**21 39 27.0**	**+0.3**
ARSA	**Arzberg**	**4.34**	**185**	⇑*i*Pn	**Pn**	**21 38 19.7**	**+0.1**
ARSA				⇑*i*Sg	**Sg**	**21 39 31.8**	**-0.1**
	comp=Z,16nm,0.6s						
ARSA	**Arzberg**	**4.34**	**185**	Pn	**Pn**	**21 38 19.7**	**0.0**
ARSA				Sg	**Sg**	**21 39 31.8**	**0.0**
	comp=Z,16nm,0.6s						
CRVS	**Cervenica-Dubn**	**4.34**	**126**	*e*PG	**Pg**	**21 38 39.0**	**+3.3**
CRVS				*e*SG	**Sg**	**21 39 36.4**	**+4.4**
KWP	**Kalwaria Pacla**	**4.62**	**112**	*e*Pn	**Pg**	**21 38 38.5**	**-2.6**
KWP				*e*Pg	**Sn**	**21 39 06.2**	**-12**
KOLS	**Kolonicke sedl**	**4.75**	**121**	*e*	**Pg**	**21 38 43.8**	**+0.3**
KBA	**Koelnbreinsper**	**4.84**	**203**	⇑*i*Pn	**Pn**	**21 38 27.7**	**+1.1**
KBA				⇑*i*Sg	**Sg**	**21 39 49.0**	**+0.9**
	comp=Z,6.5nm,0.5s						
KBA	**Koelnbreinsper**	**4.84**	**203**	Pn	**Pn**	**21 38 27.7**	**+1.1**
KBA				Sg	**Sg**	**21 39 49.0**	**+0.9**
	comp=Z,6.5nm,0.5s						
AKASG	**Malin Array Be**	**8.29**	**91**	Pn	**Pn**	**21 39 13.6**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=279,slow=12,SNR=4.0						
HFS	**Hagfors**		**8.69 352**	Pn	**Pn**	**21 39 19.1**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=161,slow=18,SNR=4.1						
FINES	**FINESS Array B**	**11.31**	**25**	Pn	**Pn**	**21 39 54.2**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=208,slow=11,SNR=3.4						
FINES				Sn	**Sn**	**21 41 56.8**	**-5.2**
	comp=Z,0.1nm,0.3s,baz=205,slow=22,SNR=3.5						
ARCES	**ARCESS Array B**	**18.57**	**10**	Pn	**Pn**	**21 41 29.9**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=192,slow=12,SNR=3.5						

*TRN **30** 21:40:51.2, 16.17N×61.63W, h202km, MD3.2*
*ISCJB **30** 21:40:53.7±1.6, 16.09N±0.10×61.9W±0.1, h180km±16km, Error ellipse: s-maj=26.0km s-min=6.4km az=143.8*
*RSPR **30** 21:40:53.8, 20.30N×62.02W, h229km±13km, MD4.5/5*

ISC 30 21:40:54.1±1.6, 16.10N±0.09×61.8W±0.1, h180km±14km, n25, σ0.99/34, 6C-4D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZG	**Guadaloupe-1**	**0.06**	**49**	*e*P	**Pn**	**21 41 17.9**	**0.0**
SCG	**Saint Claude**	**0.15**	**116**	*e*P	**Pn**	**21 41 18.7**	**+0.7**
PHG	**Guadaloupe-2**	**0.20**	**115**	*e*P	**Pn**	**21 41 18.9**	**+0.8**
BCG	**Bois Riant Cap**	**0.20**	**94**	*e*P	**Pn**	**21 41 18.7**	**+0.7**
DOG	**Dongo Capester**	**0.21**	**108**	*e*P	**Pn**	**21 41 18.6**	**+0.6**
TBG	**Guadaloupe-3**	**0.30**	**145**	*e*P	**Pn**	**21 41 18.7**	**+0.4**
MGG	**Marie-Galante**	**0.52**	**110**	*e*P	**Pn**	**21 41 19.5**	**+0.5**
DEG	**La Desirade**	**0.77**	**74**	*e*P	**Pn**	**21 41 20.6**	**+0.3**
DEG				*e*S	**Sn**	**21 41 40.5**	**+0.1**
BPA	**Boggy Peak**	**0.94**	**358**	*e*P	**Pn**	**21 41 21.5**	**0.0**
BPA				*e*S	**Sn**	**21 41 41.3**	**-1.4**
SLB	**Belfond**	**2.38**	**161**	*e*P	**Pn**	**21 41 35.8**	**+0.3**
SLB				*e*S	**Sn**	**21 42 06.7**	**-0.9**
MCLT	**Moule a Chique**	**2.52**	**160**	*e*P	**Pn**	**21 41 36.7**	**-0.4**
SVV	**Soufriere Volc**	**2.83**	**168**	*e*P	**Pn**	**21 41 40.2**	**-0.5**
SVB	**Belmont**	**2.86**	**169**	*e*P	**Pn**	**21 41 40.6**	**-0.6**
TBVI	**Tortola**	**3.52**	**311**	⇑*e*P	**Pn**	**21 41 47.6**	**-1.6**
TBVI				*e*S	**Sn**	**21 42 28.7**	**-3.6**
TBVI	**Tortola**	**3.52**	**311**	⇑*e*P	**Pn**	**21 41 47.6**	**-1.6**
TBVI				*e*S	**Sn**	**21 42 28.7**	**-3.6**
STVI	**Saint Thomas**	**3.74**	**307**	⇑*e*P	**Pn**	**21 41 50.8**	**-1.1**
STVI	**Saint Thomas**	**3.74**	**307**	⇑*e*P	**Pn**	**21 41 50.8**	**-1.1**
STVI				*e*S	**Sn**	**21 42 34.6**	**-2.4**
MTP	**Monte Pirata**	**4.08**	**300**	⇓*e*P	**Pn**	**21 41 57.9**	**+1.6**
MTP	**Monte Pirata**	**4.08**	**300**	⇓*e*P	**Pn**	**21 41 57.9**	**+1.6**
MTP				*e*S	**Sn**	**21 42 49.5**	**+4.6**
HUMP	**Col San Antoni**	**4.35**	**298**	⇓*e*P	**Pn**	**21 42 00.7**	**+1.0**
HUMP	**Col San Antoni**	**4.35**	**298**	*e*S	**Sn**	**21 42 53.3**	**+2.2**
HUMP	**Col San Antoni**	**4.35**	**298**	⇓*e*P	**Pn**	**21 42 00.7**	**+1.0**
HUMP				*e*S	**Sn**	**21 42 53.3**	**+2.2**
CBYP	**Canovanas**	**4.42**	**300**	⇑*e*P	**Pn**	**21 42 00.5**	**-0.1**
CBYP	**Canovanas**	**4.42**	**300**	*e*S	**Sn**	**21 42 52.4**	**-0.3**
CBYP	**Canovanas**	**4.42**	**300**	⇑*e*P	**Pn**	**21 42 00.5**	**-0.1**
CBYP				*e*S	**Sn**	**21 42 52.4**	**-0.3**

*IDC **30** 21:54:59.0±1.4, 11.83N×125.59E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.6/21, mbtmp3.7/7, MS3.9/6, Ms1 3.9/6, ms1mx3.2/28, Error ellipse: s-maj=160.4km s-min=19.3km az=69.0*
*ISCJB **30** 21:55:05.3±1.7, 11.66N±0.08×125.4E±0.2, h61km±14km, mb3.7/7, Error ellipse: s-maj=36.3km s-min=12.2km az=169.6*

ISC 30 21:55:06.2±2.0, 11.68N±0.08×125.4E±0.2, h52km±17km, n15, σ0.83/14, mb3.7/7, MS3.9/6, 1C-1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.66**	**219**	⇑*eP*	**Pn**	**21 55 19.0**	**-0.6**
PLP				*i* S	**Sn**	**21 55 28.9**	**-0.3**
CNP	**Catarman**	**1.10**	**319**	*e*P	**Pn**	**21 55 24.6**	**-0.8**
CNP				*e*S	**Sn**	**21 55 29.7**	**-10**
PVCP	**Virac**	**2.26**	**328**	*e*P	**Pn**	**21 55 42.3**	**+1.1**
PVCP				*e*S	**Sn**	**21 55 55.2**	**-13**
RCP	**Roxas**	**2.61**	**268**	⇓*eP*	**Pn**	**21 55 47.0**	**+1.1**
WRA	**Warramunga Arr**	**32.63**	**164**	P	**P**	**22 01 32.8**	**-0.4**
	0.4nm,0.9s,mb3.3,baz=344,slow=9.3,SNR=2.7						
ASAR	**Alice Springs**	**36.10**	**167**	P	**P**	**22 02 04.8**	**+1.7**
	0.2nm,0.3s,mb3.5,baz=343,slow=6.8,SNR=5.0						
SONM	**Songino Array**	**39.41**	**340**	P	**P**	**22 02 31.2**	**+0.3**
	0.1nm,0.3s,mb3.0,baz=151,slow=9.6,SNR=2.3						
MKAR	**Makanchi Array**	**50.40**	**322**	P	**P**	**22 03 58.3**	**0.0**
	0.3nm,0.7s,mb3.5,baz=130,slow=8.5,SNR=4.0						
MKAR				LR	LR	22 25 07.3	
	comp=Z,98nm,22.0s,MS3.8,baz=152,slow=36						
KURK	**Kurchatov**	**54.43**	**325**	P	**P**	**22 04 27.8**	**-0.3**
	0.6nm,0.6s,mb3.7,baz=124,slow=7.6,SNR=7.7						
KURK				LR	LR	22 28 04.7	
	comp=Z,172nm,20.3s,MS4.1,baz=100,slow=36						
BVAR	**Borovoye Array**	**60.03**	**325**	LR	LR	22 31 10.3	
	comp=Z,64nm,20.5s,MS3.8,baz=310,slow=36						
ARCES	**ARCESS Array B**	**82.58**	**340**	P	**P**	**22 07 23.1**	**-0.2**
	5.2nm,1.1s,mb4.5,baz=76,slow=6.4,SNR=4.7						
BRTR	**Keskin Array B**	**83.99**	**309**	LR	LR	22 45 39.7	
	comp=Z,38nm,18.6s,MS3.8,baz=50,slow=36						
FINES	**FINESS Array B**	**84.25**	**332**	P	**P**	**22 07 30.7**	**-1.4**
	3.9nm,1.1s,mb4.5,baz=90,slow=6.9,SNR=4.0						
AKASG	**Malin Array Be**	**84.94**	**321**	LR	LR	22 48 49.7	
	comp=Z,72nm,18.0s,MS4.1,baz=75,slow=38						
GERES	**GERESS Array B**	**95.06**	**322**	LR	LR	22 55 33.6	
	comp=Z,60nm,18.5s,MS4.1,baz=312,slow=38						

*ISCJB **30** 22:01:11.4±0.5, 37.93N±0.02×21.46E±0.03, h6km±4km, Error ellipse: s-maj=4.3km s-min=3.5km az=168.8*
*CSEM **30** 22:01:11.4±0.2, 37.91N×21.45E, h10km, MD3.4, Error ellipse: s-maj=3.7km s-min=3.3km az=64.0*
*ATH **30** 22:01:11.2, 37.95N×21.42E, h28km±1km, MD3.4/15*
*THE **30** 22:01:11.9, 37.94N×21.49E, h0km±3km, ML2.6/5, Error ellipse: s-maj=3.0km s-min=0.8km az=253.0*

ISC 30 22:01:12.2±0.5, 37.94N±0.02×21.46E±0.03, h13km±3km, n71, σ1.03/103, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.12**	**1**	*e*PB	**Pg**	**22 01 16.5**	**+1.1**
RLS				*e*SB	**Sg**	**22 01 19.8**	**+2.0**
RLS	**Riolos of Patr**	**0.12**	**1**	*e*Pb	**Pg**	**22 01 16.5**	**+1.1**
RLS				*e*Sb	**Sg**	**22 01 19.8**	**+2.0**
LAKA	**Lakka**	**0.51**	**53**	P	**Pg**	**22 01 21.9**	**-0.2**
LAKA				S	**Sg**	**22 01 29.4**	**+0.5**
LAKA	**Lakka**	**0.51**	**53**	P	**Pg**	**22 01 21.9**	**-0.2**
LAKA				S	**Sg**	**22 01 29.4**	**+0.5**
KFL	**Anninata**	**0.56**	**288**	P	**Pg**	**22 01 23.1**	**0.0**
KFL	**Anninata**	**0.56**	**288**	P	**Pg**	**22 01 23.1**	**0.0**
EFP	**Efpalio**	**0.60**	**35**	*e*PN	**Pg**	**22 01 23.5**	**-0.4**
EFP				*e*SN	**Sg**	**22 01 33.4**	**+1.5**
EFP	**Efpalio**	**0.60**	**35**	P	**Pg**	**22 01 23.4**	**-0.5**
EFP				S	**Sg**	**22 01 32.5**	**+0.6**
EFP	**Efpalio**	**0.60**	**35**	P	**Pg**	**22 01 23.4**	**-0.5**
EFP				S	**Sg**	**22

*ISCJB **30** 22:07:51.2±0.6,20˚41S±0˚08×177˚69W±0˚08, h520km±9km, mb4.3/14, Error ellipse: s-maj=12.7km s-min=10.3km az=143.3*

*NEIC **30** 22:07:51.9±0.6,20˚48S×177˚70W,h519km±6km, mb4.2/7, Error ellipse: s-maj=11.8km s-min=9.4km az=138.0*

*IDC **30** 22:07:51.5±1.7,20˚48S×177˚67W,h510km±18km, mb3.6/6, mb1 3.8/8, mb1mx3.5/19, mbtmp3.7/8, Error ellipse: s-maj=19.1km s-min=11.6km az=128.0*

ISC 30 22:07:52.2±0.8, 20˚50S±0˚09×177˚74W±0˚10, h514km±8km, n68, σ0s84/43, mb4.3/14, 1C-7D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MSVF	**Nonsavu**	**4.84**	**304**	*eP*		**P**	**22 09 19.9**	**+1.3**
MSVF				*eS*		**S**	**22 10 28.9**	**-0.1**
AFI	**Afiamalu**	**8.68**	**42**	P		**P**	**22 09 55.0**	**-1.1**
	5.6nm,0.3s,baz=40,slow=6.7,SNR=12							
AFI				S		**S**	**22 11 31.9**	**-5.9**
	2.9nm,0.3s,baz=206,slow=23,SNR=4.6							
AFI	**Afiamalu**	**8.68**	**42**	P		**P**	**22 09 55.0**	**-1.1**
AFI				S		**S**	**22 11 31.9**	**-5.9**
RAO	**Raoul Island**	**8.71**	**181**	*eP*		**P**	**22 09 55.5**	**-0.6**
URZ	**Urewera**	**18.25**	**193**	P		**P**	**22 11 35.4**	**+1.5**
	3.7nm,0.3s,baz=320,slow=2.7,SNR=20							
URZ				S		**S**	**22 14 32.8**	**-1.8**
	0.1nm,0.3s,baz=310,slow=23,SNR=4.4							
URZ	**Urewera**	**18.25**	**193**	*eP*		**P**	**22 11 34.0**	**+0.1**
URZ				S		**S**	**22 14 32.8**	**-1.8**
ARMA	**Armidale**	**29.29**	**244**	*eP*		**P**	**22 13 14.0**	**+1.5**
ARMA	**Armidale**	**29.29**	**244**	*eP*		**P**	**22 13 12.6**	**+0.1**
	4.4nm,0.5s,mb4.3							
CTA	**Charters Tower**	**33.73**	**264**	P		**P**	**22 13 50.8**	**+0.1**
	8.3nm,0.3s,mb4.7,baz=88,slow=11,SNR=21							
CTA	**Charters Tower**	**33.73**	**264**	‖	*iP*	**P**	**22 13 50.7**	**0.0**
	6.4nm,0.3s,mb4.6							
CTA	**Charters Tower**	**33.73**	**264**	P		**P**	**22 13 50.8**	**+0.1**
CTAO	**Charters Tower**	**33.73**	**264**	*eP*		**P**	**22 13 50.3**	**-0.4**
	3.2nm,0.6s,mb4.0							
CMSA	**Cobar Meteorol**	**34.50**	**244**	*eP*		**P**	**22 13 57.5**	**+0.5**
	25nm,0.6s,mb4.9							
COEN	**Coen**	**37.82**	**274**	*eP*		**P**	**22 14 24.3**	**-0.4**
	15nm,0.5s,mb4.8							
COEN	**Coen**	**37.82**	**274**	*eP*		**P**	**22 14 24.4**	**-0.3**
	17nm,0.4s,mb4.9							
STKA	**Stephens Creek**	**38.01**	**244**	P		**P**	**22 14 27.1**	**+1.1**
	3.8nm,0.5s,mb4.2,baz=81,slow=11,SNR=12							
STKA	**Stephens Creek**	**38.01**	**244**	*eP*		**P**	**22 14 26.9**	**+0.9**
	2.5nm,0.4s,mb4.1							
STKA	**Stephens Creek**	**38.01**	**244**	*eP*		**P**	**22 14 25.0**	**-1.0**
	0.6nm,0.4s,mb3.5							
BBOO	**Buckleboo**	**42.76**	**244**	*eP*		**P**	**22 15 04.3**	**+0.2**
	32nm,0.4s,mb5.2							
AS31	**Alice Springs**	**44.75**	**257**	*eP*		**P**	**22 15 18.7**	**-0.9**
ASAR	**Alice Springs**	**44.75**	**257**	P		**P**	**22 15 19.6**	**0.0**
	11nm,0.7s,mb4.5,baz=88,slow=8.4,SNR=126							
ASAR				PcP		PcP	22 16 51.2	+0.2
	2.0nm,0.6s,baz=101,slow=3.9,SNR=9.3							
ASAR	**Alice Springs**	**44.75**	**257**	P		**P**	**22 15 19.6**	**0.0**
ASAR				PcP		PcP	22 16 51.2	+0.2
WRAB	**Tennant Creek**	**44.83**	**262**	*eP*		**P**	**22 15 19.2**	**-1.1**
	3.3nm,0.6s,mb4.0							
WRA	**Warramunga Arr**	**44.84**	**262**	P		**P**	**22 15 19.5**	**-0.9**
	5.7nm,0.5s,mb4.3,baz=98,slow=8.5,SNR=146							
WRA				PcP		PcP	22 16 51.7	+0.4
	1.4nm,0.8s,baz=92,slow=3.7,SNR=4.7							
WRA	**Warramunga Arr**	**44.84**	**262**	P		**P**	**22 15 19.5**	**-0.9**
WRA				PcP		PcP	22 16 51.7	+0.4
FORT	**Forrest**	**49.52**	**247**	*eP*		**P**	**22 15 55.1**	**-0.4**
	12nm,0.6s,mb4.5							
FITZ	**Fitzroy Crossi**	**53.27**	**262**	P		**P**	**22 16 22.8**	**-0.1**
	2.4nm,0.5s,mb3.8,baz=83,slow=8.4,SNR=20							
FITZ	**Fitzroy Crossi**	**53.27**	**262**	*eP*		**P**	**22 16 22.8**	**0.0**
	5.2nm,0.5s,mb4.1							
FITZ	**Fitzroy Crossi**	**53.27**	**262**	P		**P**	**22 16 22.8**	**-0.1**
VNDA	**Vanda**	**57.93**	**185**	*eP*		**P**	**22 16 57.9**	**+3.6**
QSPA	**South Pole Qui**	**69.57**	**180**	*eP*		**P**	**22 18 09.6**	**+1.0**
	5.0nm,1.0s,mb4.0							
SNAA	**Sanae**	**88.00**	**178**	*eP*		**P**	**22 19 46.7**	**-0.1**
VNA3	**Neumayer Olymp**	**88.12**	**176**	*e*		**P**	**22 19 47.7**	**+0.3**
ILAR	**Eielson Array**	**88.26**	**13**	P		**P**	**22 19 47.2**	**-0.6**
	0.4nm,0.6s,mb3.3,baz=219,slow=5.2,SNR=9.6							
ILAR	**Eielson Array**	**88.26**	**13**	P		**P**	**22 19 47.2**	**-0.6**
VNA2	**Neumayer--Watz**	**88.57**	**177**	*e*		**P**	**22 19 49.8**	**+0.4**
	baz=201,slow=3.6							
VNA1	**Neumayer--Stat**	**88.80**	**177**	*e*		**P**	**22 19 51.5**	**+1.0**
CHTO	**Chiang Mai**	**90.47**	**290**	*eP*		**P**	**22 20 00.1**	**+0.8**
	7.0nm,1.1s,mb4.4							
MKAR	**Makanchi Array**	**111.37**	**313**	PKiKP		PKiKP	22 25 26.6	-0.8
	0.5nm,0.6s,baz=246,slow=0.9,SNR=8.2							
MKAR	**Makanchi Array**	**111.37**	**313**	PKiKP		PKiKP	22 25 26.6	-0.8
KURK	**Kurchatov**	**114.16**	**317**	PKiKP		PKiKP	22 25 31.0	-1.6
	0.6nm,0.5s,baz=70,slow=1.9,SNR=4.1							
KURK	**Kurchatov**	**114.16**	**317**	PKiKP		PKiKP	22 25 31.0	-1.6
BVAR	**Borovoye Array**	**119.23**	**320**	PKP		PKPdf	22 25 41.4	-0.9
	1.1nm,0.3s,baz=130,slow=2.0,SNR=12							
BVAR	**Borovoye Array**	**119.23**	**320**	PKP		PKPdf	22 25 41.4	-0.9
ARCES	**ARCESS Array B**	**128.97**	**350**	PKP		PKPdf	22 26 00.4	-0.1
	3.3nm,0.9s,baz=346,slow=2.5,SNR=5.1							
ARCES	**ARCESS Array B**	**128.97**	**350**	PKP		PKPdf	22 26 00.4	-0.1
FINES	**FINESS Array B**	**135.84**	**344**	PKP		PKPdf	22 26 13.4	-0.2
	2.4nm,0.9s,baz=56,slow=7.1,SNR=4.1							
FINES	**FINESS Array B**	**135.84**	**344**	PKP		PKPdf	22 26 13.4	-0.2
AKASG	**Malin Array Be**	**143.13**	**331**	PKP		PKPdf	22 26 24.3	-2.9
	2.5nm,0.6s,baz=43,slow=4.5,SNR=22							
AKASG	**Malin Array Be**	**143.13**	**331**	PKP		PKPdf	22 26 24.3	-2.9
BRTR	**Keskin Array B**	**147.02**	**312**	PKPbc		PKPbc	22 26 36.7	-0.4
	1.8nm,0.6s,baz=136,slow=5.0,SNR=14							
BRTR	**Keskin Array B**	**147.02**	**312**	PKPbc		PKPbc	22 26 36.7	-0.4
BURAR	**Bucovina Array**	**147.18**	**331**	‖	*iP*	PKPbc	22 26 37.9	+0.6
STHS	**Stebnicka Huta**	**147.41**	**337**	*ePKP*		PKPab	22 26 42.8	+1.3
KOLS	**Kolonicke sedl**	**147.41**	**335**	*ePKP*		PKPbc	22 26 38.4	+0.6
CRVS	**Cervenica-Dubn**	**147.75**	**336**	*ePKP*		PKPbc	22 26 38.8	+0.1
CLL	**Collm**	**148.12**	**347**	‖	*iPKPbc*	PKPbc	22 26 39.6	0.0
	comp=Z,7.0nm,0.6s							
MLR	**Muntele Rosu**	**148.36**	**327**	‖	*iP*	PKPbc	22 26 40.8	+0.5
KECS	**Kecovo**	**148.47**	**337**	*ePKP*		PKPbc	22 26 41.1	+0.6
DRGR		**148.92**	**332**	‖	*iP*	PKPbc	22 26 42.9	+1.2
KOLL	**Kolacno**	**149.13**	**339**	*ePKP*		PKPbc	22 26 39.1	-3.0
KHC	**Kasperske Hory**	**150.03**	**345**	⊓	*ePKP*	PKPbc	22 26 44.0	-0.3
GERES	**GERESS Array B**	**150.27**	**345**		PKPbc	PKPbc	22 26 44.9	+0.1
	comp=Z,1.1nm,0.6s,baz=22,slow=1.4,SNR=9.9							
GERES					PKPab	PKPab	22 26 53.0	-0.2
	comp=Z,0.2nm,0.5s,baz=18,slow=4.1,SNR=3.1							
GERES	**GERESS Array B**	**150.27**	**345**		PKPbc	PKPbc	22 26 44.9	+0.1
GERES					PKPab	PKPab	22 26 53.0	-0.2
BZS	**Buzias**	**150.31**	**332**	‖	*iP*	PKPbc	22 26 44.6	-0.4
PKSM	**Moragy**	**151.05**	**336**	‖	*iP*	PKPbc	22 26 46.5	-0.2
TORD	**Torodi Ar. Bea**	**172.67**	**176**	PKP		PKPdf	22 27 02.7	-0.1
	comp=Z,1.0nm,1.0s,baz=150,slow=34,SNR=4.9							
TORD					PKPab	PKPab	22 28 33.3	+1.6
	comp=Z,0.4nm,0.8s,baz=192,slow=4.3,SNR=3.4							
TORD	**Torodi Ar. Bea**	**172.67**	**176**	PKP		PKPdf	22 27 02.7	-0.1
TORD					PKPab	PKPab	22 28 33.4	+1.6

*IDC **30** 22:16:07.7±1.0,34˚20N×93˚29E,h0km,mb3.7/5, mb1 3.8/9,mb1mx3.6/27,mbtmp3.7/9,ML3.6/4,MS3.5/4, Ms1 3.5/4,ms1mx3.1/23,Error ellipse: s-maj=49.3km s-min=17.9km az=59.0*

*ISCJB **30** 22:16:08.1±0.4,34˚34N±0˚04×93˚25E±0˚06,h10km, mb3.7/4,MS3.5/3,Error ellipse: s-maj=7.3km s-min=5.0km az=36.7*

*BJI **30** 22:16:08.2,34˚38N×93˚22E,h9km,mB4.4/1,mb4.4/4, ML4.0/6,Ms4.1/3,Ms7.3/4*

*NEIC **30** 22:16:09.0±0.4,34˚23N×93˚23E,h10km,mb3.6/7,Error ellipse: s-maj=9.9km s-min=6.3km az=219.0*

ISC 30 22:16:10.3±0.4, 34˚40N±0˚04×93˚27E±0˚06, h10km, n42, σ1s18/46, mb3.7/4, MS3.5/3, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LSA	**Lhasa**	**5.02**	**202**	Pn		**Pn**	**22 17 27.0**	**+1.3**
LSA				Sg		**Sg**	**22 18 47.5**	**-4.1**
LSA				LR		LR		
	comp=Z,1μm,8.9s							
LSA	**Lhasa**	**5.02**	**202**	*ePn*		**Pn**	**22 17 26.0**	**+0.3**
LSA				*eS*		**Sb**	**22 18 42.8**	**+4.1**
GTA	**Gaotai**	**7.24**	**44**	*ePn*		**Pn**	**22 17 59.3**	**+3.1**
GTA				Sn		**Sn**	**22 19 24.3**	**+5.8**
GTA				LR		LR		
	comp=N,1μm,14.7s							
GTA				LR		LR		
	comp=E,1μm,14.0s							
GTA				LR		LR		
	comp=Z,330nm,13.5s							
TAPN	**Taplejung**	**8.50**	**216**	*eP*		**Pn**	**22 18 15.3**	**+1.9**
	comp=Z,14nm,1.0s							
LZH	**Lanzhou**	**8.82**	**76**	*eP*		**Pn**	**22 18 19.0**	**+1.2**
LZH				pP			22 18 25.0	
LZH				sP			22 18 27.0	
LZH				*eS*		**Sn**	**22 19 51.0**	**-6.2**
LZH				pmax		pmax		
	comp=Z,15nm,1.1s							
LZH				pmax		pmax		
	comp=Z,63nm,4.3s							
LZH				smax				
	comp=N,36nm,1.3s							
LZH				smax				
	comp=E,47nm,1.4s							
LZH				LR		LR		
	comp=N,3μm,15.9s							
LZH				LR		LR		
	comp=E,550nm,6.9s							
LZH				LR		LR		
	comp=Z,470nm,8.3s							
SHL	**Shillong**	**8.89**	**188**	*e*	PKP	**Pn**	**22 18 21.5**	**+2.7**
GUN	**Gumba**	**9.05**	**226**	*eP*		**Pn**	**22 18 21.2**	**+0.2**
	comp=Z,30nm,1.1s							
JIRN	**Jiri**	**9.05**	**224**	*eP*		**Pn**	**22 18 21.3**	**+0.2**
	comp=Z,11nm,1.0s							
ODAN	**Odare**	**9.06**	**215**	*eP*		**Pn**	**22 18 22.4**	**+1.2**
	comp=Z,12nm,0.8s							
RAMN	**Ramite**	**9.38**	**219**	*eP*		**Pn**	**22 18 25.4**	**-0.2**
KKN	**Kakani**	**9.50**	**228**	*eP*		**Pn**	**22 18 27.2**	**0.0**
	comp=Z,13nm,0.8s							
PKI	**Pulchoki**	**9.58**	**227**	*eP*		**Pn**	**22 18 28.3**	**0.0**
	comp=Z,20nm,0.9s							
DMN	**Daman**	**9.74**	**228**	*eP*		**Pn**	**22 18 30.9**	**+0.4**
GKN	**Gorkha**	**9.76**	**232**	*eP*		**Pn**	**22 18 29.7**	**-1.1**
DANN	**Dangsing**	**10.12**	**236**	*eP*		**Pn**	**22 18 36.2**	**+0.5**
KOLN	**Koldanda**	**10.60**	**234**	*eP*		**Pn**	**22 18 41.8**	**-0.4**
	comp=Z,7.1nm,0.8s							
PYUN	**Piuthan**	**10.80**	**237**	*eP*		**Pn**	**22 18 45.8**	**+0.7**
	comp=Z,22nm,1.2s							
ENH	**Enshi**	**14.32**	**102**	*ePn*		**Pn**	**22 19 31.5**	**-1.6**
	comp=Z,4.5nm,0.5s							
MKAR	**Makanchi Array**	**14.90**	**329**	Pn		**Pn**	**22 19 40.0**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=136,slow=14,SNR=6.1							
MKAR	**Makanchi Array**	**14.90**	**329**	Pn		**Pn**	**22 19 40.0**	**-1.0**
TKM2	**Tokmak 2**	**16.19**	**307**	*eP*		**Pn**	**22 19 57.9**	**+0.1**
	comp=Z,5.8nm,1.1s							
SONM	**Songino Array**	**16.64**	**32**	Pn		**Pn**	**22 20 04.4**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=216,slow=14,SNR=7.9							
SONM				LR		LR	22 27 22.4	
	comp=Z,146nm,18.5s,baz=308,slow=40							
SONM	**Songino Array**	**16.64**	**32**	Pn		**Pn**	**22 20 04.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**16.67**	**161**	Pn		**Pn**	**22 20 00.7**	**-3.4**
	comp=Z,0.2nm,0.3s,baz=334,slow=10,SNR=15							
CMAR	**Chiang Mai Arr**	**16.67**	**161**	Pn		**Pn**	**22 20 00.7**	**-3.4**
AAK	**Ala-Archa**	**16.81**	**305**	*ePn*		**Pn**	**22 20 04.7**	**-1.0**
	comp=Z,28nm,1.3s							
ULN	**Ulaanbaatar**	**16.95**	**33**	*eP*		**Pn**	**22 20 08.1**	**+0.5**
	comp=Z,2.5nm,0.8s							
EKS2	**Erkin-Say**	**17.31**	**304**	*ePn*		**Pn**	**22 20 12.7**	**+0.7**
	comp=Z,2.4nm,0.7s							
KURK	**Kurchatov**	**19.49**	**331**	P		**Pn**	**22 20 37.0**	**-1.5**
	comp=Z,0.0nm,0.3s,baz=141,slow=11,SNR=17							
KURK	**Kurchatov**	**19.49**	**331**	*eP*		**Pn**	**22 20 37.6**	**-1.0**
	comp=Z,2.3nm,0.7s							
KKAR	**Karaty Array**	**19.71**	**303**	*eP*		**Pn**	**22 20 40.0**	**-1.3**
	comp=Z,2.4nm,1.1s							
KBL	**Kabul**	**19.96**	**277**	*eP*		**Pn**	**22 20 40.6**	**-3.8**
	comp=Z,15nm,1.1s							
ZALV	**Zalesovo Beam**	**20.43**	**346**	P		**P**	**22 20 48.6**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=156,slow=11,SNR=4.7							
ZALV				LR		LR	22 29 08.1	
	comp=Z,23nm,22.0s,MS2.5,baz=71,slow=38							
ZALV	**Zalesovo Beam**	**20.43**	**346**	P		**P**	**22 20 48.6**	**+1.1**
BVAR	**Borovoye Array**	**24.72**	**326**	P		**P**	**22 21 32.4**	**+0.9**
	comp=Z,1.9nm,0.8s,mb3.6,baz=148,slow=12,SNR=6.7							
BVAR	**Borovoye Array**	**24.72**	**326**	P		**P**	**22 21 32.4**	**+0.9**
WRA	**Warramunga Arr**	**66.69**	**138**	P		**P**	**22 26 59.7**	**-1.8**
	comp=Z,0.5nm,0.8s,mb3.6,baz=333,slow=7.3,SNR=4.5							
WRA				LR		LR	22 57 22.3	
	comp=Z,41nm,19.1s,MS3.7,baz=150,slow=37							
WRA	**Warramunga Arr**	**66.69**	**138**	P		**P**	**22 26 59.7**	**-1.8**
ASAR	**Alice Springs**	**69.46**	**140**	P		**P**	**22 27 16.8**	**-2.1**
	comp=Z,0.7nm,0.8s,mb3.6,baz=330,slow=6.4,SNR=4.0							
ASAR	**Alice Springs**	**69.46**	**140**	P		**P**	**22 27 16.8**	**-2.1**
TORD	**Torodi Ar. Bea**	**83.97**	**282**	P		**P**	**22 28 40.5**	**-0.7**
	comp=Z,0.8nm,0.9s,mb3.8,baz=81,slow=3.3,SNR=4.3							
TORD				LR		LR	23 10 46.1	
	comp=Z,94nm,18.8s,MS4.2,baz=295,slow=39							
TORD	**Torodi Ar. Bea**	**83.97**	**282**	P		**P**	**22 28 40.5**	**-0.7**

TRN 30 22:20:49.0, 13˚87N×60˚44W, h24km, MD3.3, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MCLT	**Moule a Chique**	**0.51**	**252**	*eP*		Pb	22 21 00.9	+1.6
MCLT				*eS*		Sb	22 21 09.8	+3.4
SLB	**Belfond**	**0.58**	**266**	*eP*		Pb	22 21 02.7	+2.1
SLB				*eS*		Sb	22 21 11.7	+3.3
BHS	**Barnard House**	**0.87**	**230**	*eS*		Sb	22 21 20.2	+3.4
SVV	**Soufriere Volc**	**0.93**	**234**	*eP*		Pb	22 21 07.8	+1.3
SVV				*eS*		Sb	22 21 21.0	+2.6
SVB	**Belmont**	**0.98**	**233**	*eP*		Pn	22 21 08.0	+0.6
SVB				*eS*		Sb	22 21 23.2	+3.3
FCV	**Fort Charlotte**	**1.05**	**228**	*eP*		Pn	22 21 09.3	+1.0
FCV				*eS*		Sb	22 21 24.2	+2.3

*ISCJB **30** 22:40:02.8±0.5,36˚97N±0˚03×36˚67E±0˚04,h5km±7km, Error ellipse: s-maj=6.3km s-min=4.4km az=145.3*

*ISK **30** 22:40:02.8,36˚99N×36˚69E,h7km,ML2.1*

*DDA **30** 22:40:02.8,36˚96N×36˚69E,h7km±5km,Md3.1*

*CSEM **30** 22:40:03.3±0.1,36˚96N×36˚69E,h8km,MD3.1,Error ellipse: s-maj=3.6km s-min=2.5km az=146.0*

ISC 30 22:40:03.4±0.5, 36˚97N±0˚03×36˚68E±0˚04, h8km±6km, n29, σ0s54/39, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KUZU	**Kuzuini**	**0.37**	**122**	*i*	P	**Pg**	**22 40 10.8**	**+0.2**
KUZU				*i*	S	**Sg**	**22 40 16.2**	**+0.6**
KUZU	**Kuzuini**	**0.37**	**122**	*i*	P	**Pg**	**22 40 10.8**	**+0.1**
KUZU				*i*	S	**Sg**	**22 40 16.2**	**+0.6**
GAZ	**Gaziantep**	**0.47**	**65**	*ePG*		**Pg**	**22 40 12.0**	**-0.5**
GAZ				*eSG*		**Sg**	**22 40 19.1**	**+0.5**
GAZ	**Gaziantep**	**0.47**	**65**	*ePg*		**Pg**	**22 40 12.0**	**-0.5**
GAZ				*eSg*		**Sg**	**22 40 19.1**	**+0.5**
KMRS	**Kahramanmaras**	**0.56**	**18**	*ePG*		**Pg**	**22 40 13.7**	**-0.5**
KMRS				*eSG*		**Sg**	**22 40 21.7**	**+0.1**
KMRS	**Kahramanmaras**	**0.56**	**18**	*ePg*		**Pg**	**22 40 13.7**	**-0.5**
KMRS				*eSg*		**Sg**	**22 40 21.7**	**+0.1**
CEYT	**Ceyhan**	**0.75**	**273**	*ePG*		**Pg**	**22 40 17.4**	**-0.5**
CEYT	**Ceyhan**	**0.75**	**273**	*ePg*		**Pg**	**22 40 17.4**	**-0.5**
KOZT	**Kozan**	**0.85**	**307**	*ePG*		**Pg**	**22 40 20.2**	**+0.4**
HTY	**Hatay**	**0.96**	**208**	*ePG*		**Pg**	**22 40 21.8**	**0.0**
HTY	**Hatay**	**0.96**	**208**	*ePg*		**Pg**	**22 40 21.8**	**0.0**
YAYL	**Yayladag**	**1.05**	**207**	*i*	P	**Pg**	**22 40 23.1**	**-0.4**
YAYL				*i*	S	**Sg**	**22 40 37.0**	**-0.1**
YAYL	**Yayladag**	**1.05**	**207**	*i*	P	**Pg**	**22 40 23.1**	**-0.4**
YAYL				*i*	S	**Sg**	**22 40 37.0**	**-0.1**
KRTS	**Karatas**	**1.12**	**250**	*ePN*		**Pg**	**22 40 24.9**	**-0.1**
KRTS	**Karatas**	**1.12**	**250**	*ePn*		**Pg**	**22 40 24.9**	**-0.1**
ATAB	**Bozova**	**1.38**	**68**	*i*	P	**Pn**	**22 40 28.5**	**-0.5**
ATAB				*i*	S	**Sb**	**22 40 45.9**	**-1.3**
ATAB	**Bozova**	**1.38**	**68**	*i*	P	**Pn**	**22 40 28.5**	**-0.5**
ATAB				*i*	S	**Sb**	**22 40 45.9**	**-1.3**
SARI	**SarD1z-Kayseri**	**1.70**	**0**	*ePN*		**Pn**	**22 40 29.1**	**-4.3**
SARI	**SarD1z-Kayseri**	**1.70**	**0**	*ePn*		**Pn**	**22 40 29.1**	**-4.3**
MERS	**Mersin**	**1.74**	**267**	*ePN*		**Pn**	**22 40 34.3**	**+0.4**
MERS	**Mersin**	**1.74**	**267**	*ePn*		**Pn**	**22 40 34.3**	**+0.4**
MALT	**Malatya**	**1.93**	**45**	*ePN*		**Pn**	**22 40 37.5**	**+1.0**
MALT	**Malatya**	**1.93**	**45**	*ePn*		**Pn**	**22 40 37.5**	**+1.0**
MYA	**Malataya**	**1.93**	**45**	*ePN*		**Pn**	**22 40 37.0**	**+0.4**
MYA	**Malataya**	**1.93**	**45**	*ePn*		**Pn**	**22 40 37.0**	**+0.4**
BNN	**Bunyan**	**1.99**	**341**	*ePN*		**Pn**	**22 40 37.6**	**+0.3**
BNN	**Bunyan**	**1.99**	**341**	*ePn*		**Pn**	**22 40 37.6**	**+0.2**
DARE	**Darende-Malaty**	**2.17**	**24**	*ePN*		**Pn**	**22 40 33.6**	**-6.2**
DARE	**Darende-Malaty**	**2.17**	**24**	*ePn*		**Pn**	**22 40 33.6**	**-6.2**

IDC 30 22:46:23.9±11.0, 2˚32N×93˚77W, h0km, mb3.4/2, mb1 3.8/2, mb1mx3.6/16, mbtmp3.4/2, MS3.4/3, Ms1 3.4/3, ms1mx2.8/16, Error ellipse: s-maj=951.2km s-min=54.9km az=84.0, Galapagos Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMIG	**Matias Romero**	**14.71**	**356**	LR		LR	22 54 27.1	
	comp=Z,148nm,20.2s,baz=9.0,slow=33							
TXAR	**Lajitas Array**	**28.46**	**342**	P		P	22 52 21.0	+0.2
	0.5nm,0.7s,baz=157,slow=9.6,SNR=4.7							
TXAR				LR		LR	23 03 04.0	
	comp=Z,41nm,21.8s,baz=5.0,slow=35							
PLCA	**Paso Flores**	**47.81**	**156**	LR		LR	23 11 17.8	
	comp=Z,99nm,20.3s,baz=318,slow=31							
ILAR	**Eielson Array**	**72.94**	**339**	P		P	22 57 55.0	+0.1
	0.5nm,0.8s,baz=146,slow=4.5,SNR=7.4							
WRA	**Warramunga Arr**	**129.89**	**246**	PKP		PKPdf	23 05 36.2	-0.3
	0.3nm,0.8s,baz=94,slow=2.4,SNR=4.2							

*IDC **30** 23:01:59.8±0.7,28˚54S×177˚48W,h0km,mb4.3/7, mb1 4.5/8,mb1mx4.3/15,mbtmp4.2/8,ML3.7/1,Error ellipse: s-maj=26.9km s-min=21.8km az=138.0*

*NEIC **30** 23:02:08.9±1.1,28˚75S×177˚53W,h70km±9km,mb4.4/5, Error ellipse: s-maj=17.4km s-min=10.8km az=175.0*

*ISCJB **30** 23:02:09.9±0.8,29˚01S±0˚08×177˚7W±0˚1,h85km±5km, mb4.2/10,Error ellipse: s-maj=15.7km s-min=12.9km az=2.1*

ISC 30 23:02:10.4±1.0, 28˚96S±0˚08×177˚6W±0˚1, h77km±6km, n56, σ0s88/32, mb4.2/10, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**0.38**	**221**	*eP*		**Pn**	**23 02 22.5**	**-0.4**
RAO				*eS*		**Sn**	**23 02 33.3**	**+1.2**
URZ	**Urewera**	**10.25**	**204**	Pn		**Pn**	**23 04 32.0**	**-2.6**
	0.5nm,0.3s,baz=0.0,slow=10,SNR=3.0							
URZ				Sn		**Sn**	**23 06 27.2**	**-0.6**
	2.7nm,0.3s,baz=160,slow=22,SNR=12							
URZ	**Urewera**	**10.25**	**204**	Pn		**Pn**	**23 04 32.0**	**-2.6**
URZ				Sn		**Sn**	**23 06 27.2**	**-0.6**
DZM	**Mont Dzumac**	**15.92**	**292**	*e*	LR	LR	23 09 18.0	
	252nm,26.8s							
DZM	**Mont Dzumac**	**15.92**	**292**	*eP*		**Pn**	**23 05 48.4**	**-1.5**
DZM				*eS*		Px	23 06 31.3	
TBI	**Tubuai**	**25.86**	**84**	*eT*			23 34 06.8	
	27nm,0.4s							
ARMA	**Armidale**	**26.71**	**259**	*eP*		**P**	**23 07 42.9**	**+0.3**
PAE	**Paea**	**28.04**	**73**	*eT*			23 36 43.2	
	4.7nm,0.3s							
PPT2	**Papeete2**	**28.07**	**72**	*eT*			23 36 46.6	
	5.2nm,0.4s							
PPT	**Papeete**	**28.09**	**72**	*e*	LR	LR	23 14 56.5	
	120nm,26.0s							
CTAO	**Charters Tower**	**33.92**	**277**	*eP*		**P**	**23 08 45.4**	**-0.9**
	2.0nm,0.4s,mb4.3							
STKA	**Stephens Creek**	**35.14**	**255**	P	

LANU	**Lannavaara**	**0.72**	**77**	PG	Pg	23 25 12.6	-2.5
	baz=260						
LANU				SG	Sg	23 25 21.9	-2.5
LANU				RG		23 25 25.2	
KIF	**Kilpisjarvi**	**1.14**	**12**	PG	Pg	23 25 23.6	+0.5
	baz=198						
KIF				SG	Sg	23 25 39.0	+1.2
KIF				MSG		23 25 39.0	
	comp=Z,0.8nm,0.4s						
KIF				RG		23 25 43.2	
HEF	**Hetta**	**1.42**	**67**	PG	Pg	23 25 27.9	-0.6
HEF				SG	Sg	23 25 50.3	+3.5
HEF				MSG		23 25 50.3	
	comp=Z,1.6nm,0.2s						
HEF				RG		23 25 51.6	
HEF				RG		23 25 51.6	
ARA0	**ARCESS Array S**	**2.56**	**48**	PN	Pn	23 25 43.5	-0.5
	baz=224						
ARA0				SG	Sg	23 26 19.5	-3.9
ARA0				MSG		23 26 19.5	
	comp=Z,0.4nm,0.2s						
ARA0				SG	Sg	23 26 21.5	-1.9
ARA0				MSG		23 26 21.5	
	comp=Z,1.0nm,0.3s						
RNF	**Rovaniemi**	**2.63**	**117**	PN	Pn	23 25 45.3	+0.3
RNF				SG	Sg	23 26 20.2	-5.6
RNF				MSG		23 26 20.2	
	comp=Z,0.8nm,0.2s						

ISC Computed Locations for November 2008

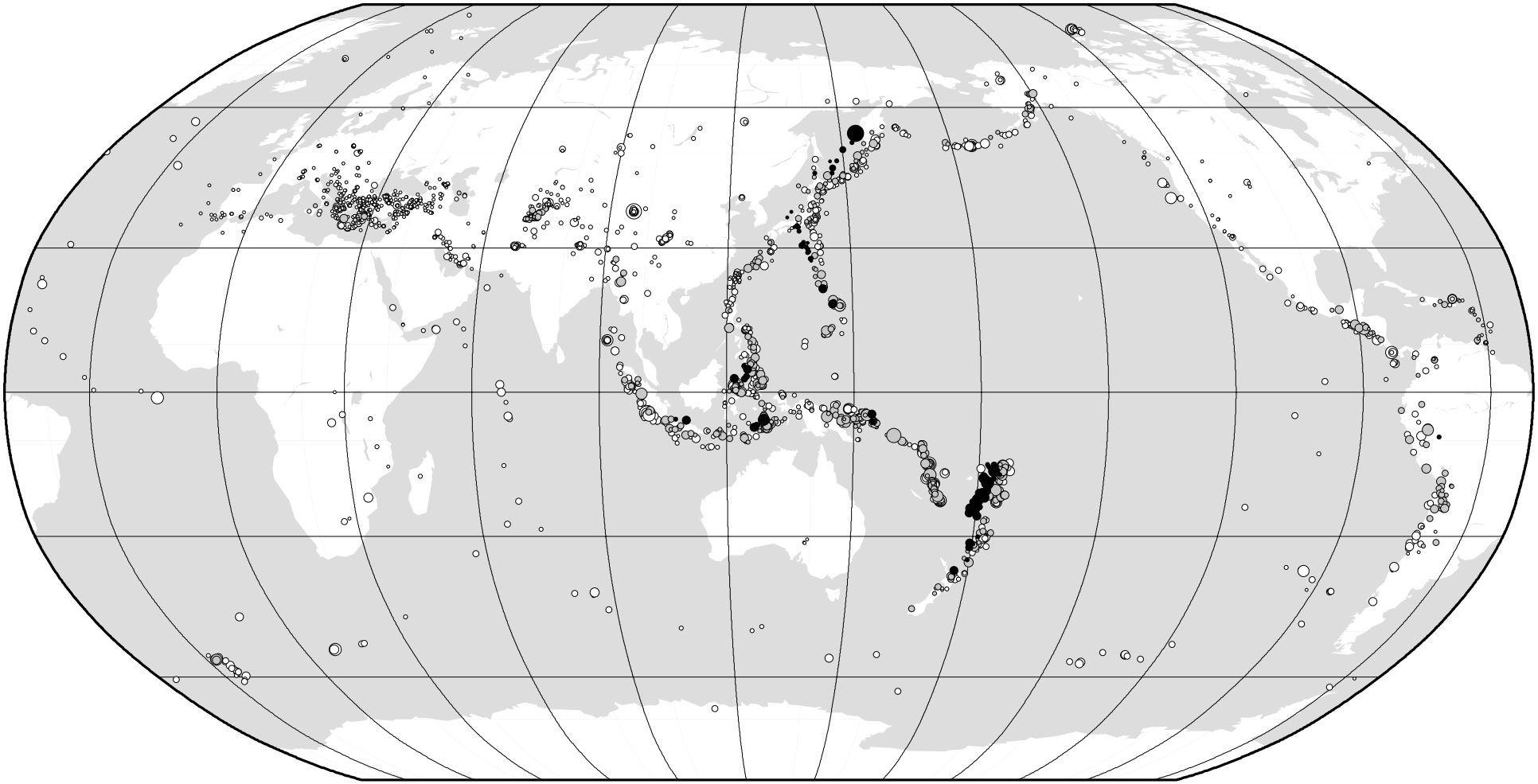

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

2523 Events